

LanlGeoMag
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File Index

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/home/mgh/LanlGeoMag/libLanlGeoMag/ quicksort.c	530
/home/mgh/LanlGeoMag/libLanlGeoMag/ SbIntegral.c	532
/home/mgh/LanlGeoMag/libLanlGeoMag/ T87.c	534
/home/mgh/LanlGeoMag/libLanlGeoMag/ T89.c	536
/home/mgh/LanlGeoMag/libLanlGeoMag/ T96_MOD_MGH.c	538
/home/mgh/LanlGeoMag/libLanlGeoMag/ T96mod.f	539
/home/mgh/LanlGeoMag/libLanlGeoMag/ TraceLine.c	554
/home/mgh/LanlGeoMag/libLanlGeoMag/ TraceToEarth.c	558
/home/mgh/LanlGeoMag/libLanlGeoMag/ TraceToMinBSurf.c	559
/home/mgh/LanlGeoMag/libLanlGeoMag/ TraceToMinRdotB.c	560
/home/mgh/LanlGeoMag/libLanlGeoMag/ TraceToMirrorPoint2.c	561
/home/mgh/LanlGeoMag/libLanlGeoMag/ TraceToSMEquat.c	562
/home/mgh/LanlGeoMag/libLanlGeoMag/ TS04.c	563
/home/mgh/LanlGeoMag/libLanlGeoMag/ Tsyg2004.c	564
/home/mgh/LanlGeoMag/libLanlGeoMag/ Tsyg2004.f	576
/home/mgh/LanlGeoMag/libLanlGeoMag/ vec.c	583
/home/mgh/LanlGeoMag/libLanlGeoMag/ W.c	587
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_AE8_AP8.h	141
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_CTrans.h	144
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_Eop.h	217
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_FieldIntInfo.h	220
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_IGRF.h	223
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_LeapSeconds.h	224
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_LstarInfo.h	226
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_MagEphemInfo.h	236
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_MagModelInfo.h	238
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_Octree.h	265
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_QuadPack.h	272
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_Quat.h	277
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_Sgp.h	283
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_Vec.h	292
/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/ Lgm_WGS84.h	297

Chapter 3

Data Structure Documentation

3.1 _CB_BIRKPAR Struct Reference

Data Fields

- double XKAPPA1
- double XKAPPA2

3.1.1 Detailed Description

Definition at line 78 of file Tsyg2004.c.

3.1.2 Field Documentation

3.1.2.1 double XKAPPA1

Definition at line 78 of file Tsyg2004.c.

3.1.2.2 double XKAPPA2

Definition at line 78 of file Tsyg2004.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Tsyg2004.c

3.2 _CB_DPHI_B_RHO0 Struct Reference

Data Fields

- double DPHI
- double B
- double RHO_0
- double XKAPPA

3.2.1 Detailed Description

Definition at line 82 of file Tsyg2004.c.

3.2.2 Field Documentation

3.2.2.1 double B

Definition at line 82 of file Tsyg2004.c.

3.2.2.2 double DPHI

Definition at line 82 of file Tsyg2004.c.

3.2.2.3 double RHO_0

Definition at line 82 of file Tsyg2004.c.

3.2.2.4 double XKAPPA

Definition at line 82 of file Tsyg2004.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Tsyg2004.c

3.3 _CB_DTHETA Struct Reference

Data Fields

- double DTHETA

3.3.1 Detailed Description

Definition at line 84 of file Tsyg2004.c.

3.3.2 Field Documentation

3.3.2.1 double DTHETA

Definition at line 84 of file Tsyg2004.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Tsyg2004.c](#)

3.4 _CB_G Struct Reference

Data Fields

- double [G](#)

3.4.1 Detailed Description

Definition at line 80 of file Tsyg2004.c.

3.4.2 Field Documentation

3.4.2.1 double G

Definition at line 80 of file Tsyg2004.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Tsyg2004.c](#)

3.5 _CB_MODENUM Struct Reference

Data Fields

- int [M](#)

3.5.1 Detailed Description

Definition at line 83 of file [Tsyg2004.c](#).

3.5.2 Field Documentation

3.5.2.1 int M

Definition at line 83 of file [Tsyg2004.c](#).

The documentation for this struct was generated from the following file:

- [/home/mgh/LanlGeoMag/libLanlGeoMag/Tsyg2004.c](#)

3.6 _CB_RCPAR Struct Reference

Data Fields

- double [SC_SY](#)
- double [SC_AS](#)
- double [PHI](#)

3.6.1 Detailed Description

Definition at line 79 of file [Tsyg2004.c](#).

3.6.2 Field Documentation

3.6.2.1 double PHI

Definition at line 79 of file [Tsyg2004.c](#).

3.6.2.2 double SC_AS

Definition at line 79 of file [Tsyg2004.c](#).

3.6.2.3 double SC_SY

Definition at line 79 of file [Tsyg2004.c](#).

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Tsyg2004.c](#)

3.7 _CB_RH0 Struct Reference

Data Fields

- double RH0

3.7.1 Detailed Description

Definition at line 81 of file Tsyg2004.c.

3.7.2 Field Documentation

3.7.2.1 double RH0

Definition at line 81 of file Tsyg2004.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Tsyg2004.c](#)

3.8 _CB_TAIL Struct Reference

Data Fields

- double DXSHIFT1
- double DXSHIFT2
- double D
- double DELTADY

3.8.1 Detailed Description

Definition at line 77 of file Tsyg2004.c.

3.8.2 Field Documentation

3.8.2.1 double D

Definition at line 77 of file Tsyg2004.c.

3.8.2.2 double DELTADY

Definition at line 77 of file Tsyg2004.c.

3.8.2.3 double DXSHIFT1

Definition at line 77 of file Tsyg2004.c.

3.8.2.4 double DXSHIFT2

Definition at line 77 of file Tsyg2004.c.

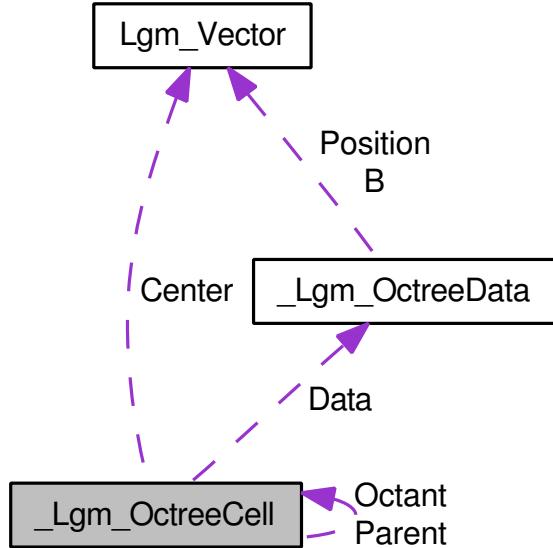
The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Tsyg2004.c

3.9 _Lgm_OctreeCell Struct Reference

```
#include <Lgm_Octree.h>
```

Collaboration diagram for _Lgm_OctreeCell:



Data Fields

- `unsigned int xLocationCode`
- `unsigned int yLocationCode`
- `unsigned int zLocationCode`
- `unsigned int Level`
- `Lgm_Vector Center`
- `double h`
- `struct _Lgm_OctreeCell * Parent`
- `struct _Lgm_OctreeCell * Octant`
- `unsigned long int nDataBelow`
- `unsigned long int nData`
- `Lgm_OctreeData * Data`

3.9.1 Detailed Description

Definition at line 36 of file `Lgm_Octree.h`.

3.9.2 Field Documentation

3.9.2.1 Lgm_Vector Center

Definition at line 44 of file `Lgm_Octree.h`.

3.9.2.2 Lgm_OctreeData* Data

Definition at line 53 of file Lgm_Octree.h.

3.9.2.3 double h

Definition at line 45 of file Lgm_Octree.h.

3.9.2.4 unsigned int Level

Definition at line 42 of file Lgm_Octree.h.

3.9.2.5 unsigned long int nData

Definition at line 52 of file Lgm_Octree.h.

3.9.2.6 unsigned long int nDataBelow

Definition at line 51 of file Lgm_Octree.h.

3.9.2.7 struct _Lgm_OctreeCell* Octant [read]

Definition at line 48 of file Lgm_Octree.h.

3.9.2.8 struct _Lgm_OctreeCell* Parent [read]

Definition at line 47 of file Lgm_Octree.h.

3.9.2.9 unsigned int xLocationCode

Definition at line 38 of file Lgm_Octree.h.

3.9.2.10 unsigned int yLocationCode

Definition at line 39 of file Lgm_Octree.h.

3.9.2.11 unsigned int zLocationCode

Definition at line 40 of file Lgm_Octree.h.

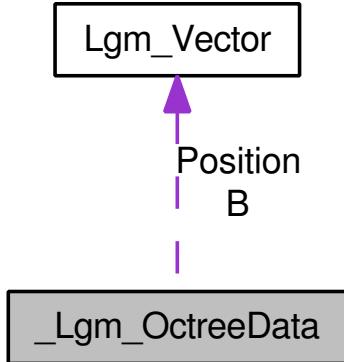
The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_Octree.h](#)

3.10 _Lgm_OctreeData Struct Reference

```
#include <Lgm_Octree.h>
```

Collaboration diagram for _Lgm_OctreeData:



Data Fields

- [Lgm_Vector Position](#)
- [Lgm_Vector B](#)
- double [Dist2](#)

3.10.1 Detailed Description

Definition at line 22 of file Lgm_Octree.h.

3.10.2 Field Documentation

3.10.2.1 Lgm_Vector B

Definition at line 25 of file Lgm_Octree.h.

3.10.2.2 double Dist2

Definition at line 26 of file Lgm_Octree.h.

3.10.2.3 Lgm_Vector Position

Definition at line 24 of file Lgm_Octree.h.

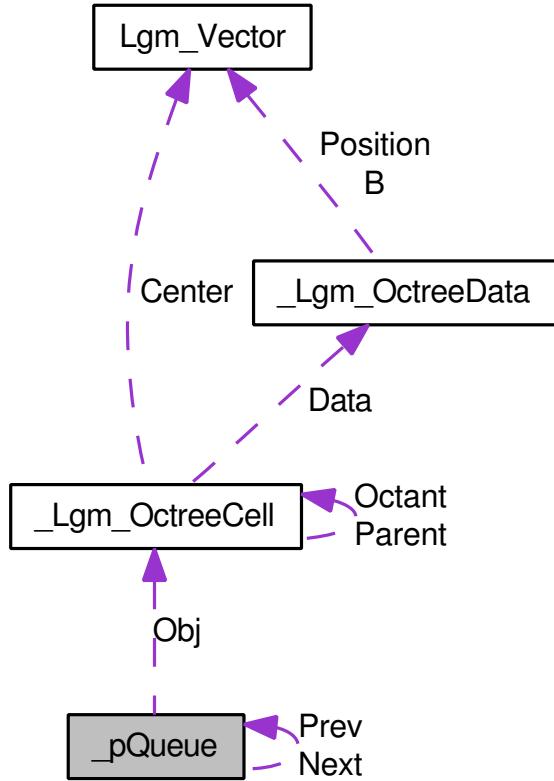
The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_Octree.h](#)

3.11 _pQueue Struct Reference

```
#include <Lgm_Octree.h>
```

Collaboration diagram for _pQueue:



Data Fields

- `Lgm_OctreeCell * Obj`
- double `MinDist2`
- int `IsPoint`
- int `j`
- struct `_pQueue * Prev`
- struct `_pQueue * Next`

3.11.1 Detailed Description

Definition at line 59 of file `Lgm_Octree.h`.

3.11.2 Field Documentation

3.11.2.1 int IsPoint

Definition at line 65 of file `Lgm_Octree.h`.

3.11.2.2 int j

Definition at line 67 of file Lgm_Octree.h.

3.11.2.3 double MinDist2

Definition at line 62 of file Lgm_Octree.h.

3.11.2.4 struct _pQueue* Next [read]

Definition at line 70 of file Lgm_Octree.h.

3.11.2.5 Lgm_OctreeCell* Obj

Definition at line 61 of file Lgm_Octree.h.

3.11.2.6 struct _pQueue* Prev [read]

Definition at line 69 of file Lgm_Octree.h.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_Octree.h](#)

3.12 _SgpInfo Struct Reference

```
#include <Lgm_Sgp.h>
```

Data Fields

- int IFLAG
- double XMO
- double XNODEO
- double OMEGAO
- double EO
- double XINCL
- double XNO
- double XNDT2O
- double XNDD6O
- double BSTAR
- double XDOT
- double YDOT
- double ZDOT
- double EPOCH
- double DS50
- double argpdot
- double argpo
- double atime
- double aycof
- double bstar
- double cc1
- double cc4
- double cc5
- double con41
- double d2
- double d2201
- double d2211
- double d3
- double d3210
- double d3222
- double d4
- double d4410
- double d4422
- double d5220
- double d5232
- double d5421
- double d5433
- double dedt
- double del1
- double del2
- double del3
- double delmo
- double didt

- double `dmdt`
- double `dndot`
- double `domdt`
- double `e3`
- double `ecco`
- double `ee2`
- double `error`
- double `eta`
- double `gsto`
- double `inclo`
- double `mdot`
- double `mo`
- double `no`
- double `nodecf`
- double `nodedot`
- double `nodeo`
- double `omgcof`
- double `peo`
- double `pgho`
- double `pho`
- double `pinco`
- double `plo`
- double `se2`
- double `se3`
- double `sgh2`
- double `sgh3`
- double `sgh4`
- double `sh2`
- double `sh3`
- double `si2`
- double `si3`
- double `sinmao`
- double `sl2`
- double `sl3`
- double `sl4`
- double `t`
- double `t2cof`
- double `t3cof`
- double `t4cof`
- double `t5cof`
- double `x1mth2`
- double `x7thm1`
- double `xfact`
- double `xgh2`
- double `xgh3`
- double `xgh4`
- double `xh2`
- double `xh3`
- double `xi2`
- double `xi3`

- double `xl2`
- double `xl3`
- double `xl4`
- double `xlamo`
- double `xlcof`
- double `xli`
- double `xmcof`
- double `xni`
- double `zmol`
- double `zmos`
- int `GravConst`
- int `irez`
- char `init`
- char `method`
- char `isimp`
- double `X`
- double `Y`
- double `Z`
- double `VX`
- double `VY`
- double `VZ`

3.12.1 Detailed Description

Definition at line 105 of file Lgm_Sgp.h.

3.12.2 Field Documentation

3.12.2.1 double argpdot

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.2 double argpo

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.3 double atime

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.4 double aycof

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.5 double bstar

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.6 double BSTAR

Definition at line 119 of file Lgm_Sgp.h.

3.12.2.7 double cc1

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.8 double cc4

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.9 double cc5

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.10 double con41

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.11 double d2

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.12 double d2201

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.13 double d2211

Definition at line 132 of file Lgm_Sgp.h.

3.12.2.14 double d3

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.15 double d3210

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.16 double d3222

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.17 double d4

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.18 double d4410

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.19 double d4422

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.20 double d5220

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.21 double d5232

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.22 double d5421

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.23 double d5433

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.24 double dedt

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.25 double del1

Definition at line 133 of file Lgm_Sgp.h.

3.12.2.26 double del2

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.27 double del3

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.28 double delmo

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.29 double didt

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.30 double dmdt

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.31 double dnodt

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.32 double domdt

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.33 double DS50

Definition at line 127 of file Lgm_Sgp.h.

3.12.2.34 double e3

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.35 double ecco

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.36 double ee2

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.37 double EO

Definition at line 114 of file Lgm_Sgp.h.

3.12.2.38 double EPOCH

Definition at line 126 of file Lgm_Sgp.h.

3.12.2.39 double error

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.40 double eta

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.41 int GravConst

Definition at line 144 of file Lgm_Sgp.h.

3.12.2.42 double gsto

Definition at line 134 of file Lgm_Sgp.h.

3.12.2.43 int IFLAG

Definition at line 110 of file Lgm_Sgp.h.

3.12.2.44 double inclo

Definition at line 135 of file Lgm_Sgp.h.

3.12.2.45 char init

Definition at line 145 of file Lgm_Sgp.h.

3.12.2.46 int irez

Definition at line 144 of file Lgm_Sgp.h.

3.12.2.47 char isimp

Definition at line 145 of file Lgm_Sgp.h.

3.12.2.48 double mdot

Definition at line 135 of file Lgm_Sgp.h.

3.12.2.49 char method

Definition at line 145 of file Lgm_Sgp.h.

3.12.2.50 double mo

Definition at line 135 of file Lgm_Sgp.h.

3.12.2.51 double no

Definition at line 135 of file Lgm_Sgp.h.

3.12.2.52 double nodecf

Definition at line 135 of file Lgm_Sgp.h.

3.12.2.53 double nodedot

Definition at line 135 of file Lgm_Sgp.h.

3.12.2.54 double nodeo

Definition at line 135 of file Lgm_Sgp.h.

3.12.2.55 double OMEGA0

Definition at line 113 of file Lgm_Sgp.h.

3.12.2.56 double omgcof

Definition at line 135 of file Lgm_Sgp.h.

3.12.2.57 double peo

Definition at line 135 of file Lgm_Sgp.h.

3.12.2.58 double pgho

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.59 double pho

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.60 double pinco

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.61 double plo

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.62 double se2

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.63 double se3

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.64 double sgh2

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.65 double sgh3

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.66 double sgh4

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.67 double sh2

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.68 double sh3

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.69 double si2

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.70 double si3

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.71 double sinmao

Definition at line 136 of file Lgm_Sgp.h.

3.12.2.72 double sl2

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.73 double sl3

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.74 double sl4

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.75 double t

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.76 double t2cof

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.77 double t3cof

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.78 double t4cof

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.79 double t5cof

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.80 double VX

Definition at line 151 of file Lgm_Sgp.h.

3.12.2.81 double VY

Definition at line 152 of file Lgm_Sgp.h.

3.12.2.82 double VZ

Definition at line 153 of file Lgm_Sgp.h.

3.12.2.83 double X

Definition at line 147 of file Lgm_Sgp.h.

3.12.2.84 double x1mth2

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.85 double x7thm1

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.86 double XDOT

Definition at line 123 of file Lgm_Sgp.h.

3.12.2.87 double xfact

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.88 double xgh2

Definition at line 137 of file Lgm_Sgp.h.

3.12.2.89 double xgh3

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.90 double xgh4

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.91 double xh2

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.92 double xh3

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.93 double xi2

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.94 double xi3

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.95 double XINCL

Definition at line 115 of file Lgm_Sgp.h.

3.12.2.96 double xl2

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.97 double xl3

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.98 double xl4

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.99 double xlamo

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.100 double xlcof

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.101 double xli

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.102 double xmcof

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.103 double XMO

Definition at line 111 of file Lgm_Sgp.h.

3.12.2.104 double XNDD6O

Definition at line 118 of file Lgm_Sgp.h.

3.12.2.105 double XNDT20

Definition at line 117 of file Lgm_Sgp.h.

3.12.2.106 double xni

Definition at line 138 of file Lgm_Sgp.h.

3.12.2.107 double XNO

Definition at line 116 of file Lgm_Sgp.h.

3.12.2.108 double XNODEO

Definition at line 112 of file Lgm_Sgp.h.

3.12.2.109 double Y

Definition at line 148 of file Lgm_Sgp.h.

3.12.2.110 double YDOT

Definition at line 124 of file Lgm_Sgp.h.

3.12.2.111 double Z

Definition at line 149 of file Lgm_Sgp.h.

3.12.2.112 double ZDOT

Definition at line 125 of file Lgm_Sgp.h.

3.12.2.113 double zmol

Definition at line 139 of file Lgm_Sgp.h.

3.12.2.114 double zmos

Definition at line 139 of file Lgm_Sgp.h.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_Sgp.h](#)

3.13 _SgpTLE Struct Reference

```
#include <Lgm_Sgp.h>
```

Data Fields

- char `Line0` [80]
- char `Line1` [80]
- char `Line2` [80]
- char `Name` [80]
- int `IdNumber`
- char `ElsetClass`
- char `IntDesig` [20]
- double `ElementSetEpoch`
- double `dMMdT1`
- double `dMMdT2`
- double `BstarDrag`
- int `ElementSetType`
- int `ElementSetNum`
- int `Line1CheckSum`
- double `Inclination`
- double `RAofAscNode`
- double `Eccentricity`
- double `ArgOfPerigee`
- double `MeanAnomaly`
- double `MeanMotion`
- int `RevNumAtEpoch`
- int `Line2CheckSum`
- long int `Date`
- double `UT`
- int `Year`
- int `Month`
- int `Day`
- int `Doy`
- char `Dow` [5]
- double `JD`
- double `Period`
- char `IntDesig2` [20]
- char `ObjectType` [20]
- char `EpochStr` [20]
- double `YYYYDDDdFRAC`

3.13.1 Detailed Description

Definition at line 47 of file Lgm_Sgp.h.

3.13.2 Field Documentation

3.13.2.1 double ArgOfPerigee

Definition at line 76 of file Lgm_Sgp.h.

3.13.2.2 double BstarDrag

Definition at line 66 of file Lgm_Sgp.h.

3.13.2.3 long int Date

Definition at line 83 of file Lgm_Sgp.h.

3.13.2.4 int Day

Definition at line 87 of file Lgm_Sgp.h.

3.13.2.5 double dMMdT1

Definition at line 64 of file Lgm_Sgp.h.

3.13.2.6 double dMMdT2

Definition at line 65 of file Lgm_Sgp.h.

3.13.2.7 char Dow[5]

Definition at line 89 of file Lgm_Sgp.h.

3.13.2.8 int Doy

Definition at line 88 of file Lgm_Sgp.h.

3.13.2.9 double Eccentricity

Definition at line 75 of file Lgm_Sgp.h.

3.13.2.10 double ElementSetEpoch

Definition at line 63 of file Lgm_Sgp.h.

3.13.2.11 int ElementSetNum

Definition at line 68 of file Lgm_Sgp.h.

3.13.2.12 int ElementType

Definition at line 67 of file Lgm_Sgp.h.

3.13.2.13 char ElsetClass

Definition at line 61 of file Lgm_Sgp.h.

3.13.2.14 char EpochStr[20]

Definition at line 94 of file Lgm_Sgp.h.

3.13.2.15 int IdNumber

Definition at line 60 of file Lgm_Sgp.h.

3.13.2.16 double Inclination

Definition at line 73 of file Lgm_Sgp.h.

3.13.2.17 char IntDesig[20]

Definition at line 62 of file Lgm_Sgp.h.

3.13.2.18 char IntDesig2[20]

Definition at line 92 of file Lgm_Sgp.h.

3.13.2.19 double JD

Definition at line 90 of file Lgm_Sgp.h.

3.13.2.20 char Line0[80]

Definition at line 50 of file Lgm_Sgp.h.

3.13.2.21 char Line1[80]

Definition at line 51 of file Lgm_Sgp.h.

3.13.2.22 int Line1CheckSum

Definition at line 69 of file Lgm_Sgp.h.

3.13.2.23 char Line2[80]

Definition at line 52 of file Lgm_Sgp.h.

3.13.2.24 int Line2CheckSum

Definition at line 80 of file Lgm_Sgp.h.

3.13.2.25 double MeanAnomaly

Definition at line 77 of file Lgm_Sgp.h.

3.13.2.26 double MeanMotion

Definition at line 78 of file Lgm_Sgp.h.

3.13.2.27 int Month

Definition at line 86 of file Lgm_Sgp.h.

3.13.2.28 char Name[80]

Definition at line 56 of file Lgm_Sgp.h.

3.13.2.29 char ObjectType[20]

Definition at line 93 of file Lgm_Sgp.h.

3.13.2.30 double Period

Definition at line 91 of file Lgm_Sgp.h.

3.13.2.31 double RAofAscNode

Definition at line 74 of file Lgm_Sgp.h.

3.13.2.32 int RevNumAtEpoch

Definition at line 79 of file Lgm_Sgp.h.

3.13.2.33 double UT

Definition at line 84 of file Lgm_Sgp.h.

3.13.2.34 int Year

Definition at line 85 of file Lgm_Sgp.h.

3.13.2.35 double YYYYDDDdFRAC

Definition at line 95 of file Lgm_Sgp.h.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_Sgp.h](#)

3.14 _TS04Info Struct Reference

Data Fields

- int IOPGEN
- int IOPT
- int IOPB
- int IOPR
- int NTOT
- double A [70]
- double PDYN
- double DST
- double BXIMF
- double BYIMF
- double BZIMF
- double W1
- double W2
- double W3
- double W4
- double W5
- double W6
- double PS
- double X
- double Y
- double Z
- double BXCF
- double BYCF
- double BZCF
- double BXT1
- double BYT1
- double BZT1
- double BXT2
- double BYT2
- double BZT2
- double BXSRC
- double BYSRC
- double BZSRC
- double BXPRC
- double BYPRC
- double BZPRC
- double BXR11
- double BYR11
- double BZR11
- double BXR12
- double BYR12
- double BZR12
- double BXR21
- double BYR21
- double BZR21
- double BXR22

- double BYR22
- double BZR22
- double HXIMF
- double HYIMF
- double HZIMF
- double BX
- double BY
- double BZ

3.14.1 Detailed Description

Definition at line 161 of file Tsyg2004.c.

3.14.2 Field Documentation

3.14.2.1 double A[70]

Definition at line 165 of file Tsyg2004.c.

3.14.2.2 double BX

Definition at line 180 of file Tsyg2004.c.

3.14.2.3 double BXCF

Definition at line 170 of file Tsyg2004.c.

3.14.2.4 double BXIMF

Definition at line 166 of file Tsyg2004.c.

3.14.2.5 double BXPRC

Definition at line 174 of file Tsyg2004.c.

3.14.2.6 double BXR11

Definition at line 175 of file Tsyg2004.c.

3.14.2.7 double BXR12

Definition at line 176 of file Tsyg2004.c.

3.14.2.8 double BXR21

Definition at line 177 of file Tsyg2004.c.

3.14.2.9 double BXR22

Definition at line 178 of file Tsyg2004.c.

3.14.2.10 double BXSRC

Definition at line 173 of file Tsyg2004.c.

3.14.2.11 double BXT1

Definition at line 171 of file Tsyg2004.c.

3.14.2.12 double BXT2

Definition at line 172 of file Tsyg2004.c.

3.14.2.13 double BY

Definition at line 180 of file Tsyg2004.c.

3.14.2.14 double BYCF

Definition at line 170 of file Tsyg2004.c.

3.14.2.15 double BYIMF

Definition at line 166 of file Tsyg2004.c.

3.14.2.16 double BYPRC

Definition at line 174 of file Tsyg2004.c.

3.14.2.17 double BYR11

Definition at line 175 of file Tsyg2004.c.

3.14.2.18 double BYR12

Definition at line 176 of file Tsyg2004.c.

3.14.2.19 double BYR21

Definition at line 177 of file Tsyg2004.c.

3.14.2.20 double BYR22

Definition at line 178 of file Tsyg2004.c.

3.14.2.21 double BYSRC

Definition at line 173 of file Tsyg2004.c.

3.14.2.22 double BYT1

Definition at line 171 of file Tsyg2004.c.

3.14.2.23 double BYT2

Definition at line 172 of file Tsyg2004.c.

3.14.2.24 double BZ

Definition at line 180 of file Tsyg2004.c.

3.14.2.25 double BZCF

Definition at line 170 of file Tsyg2004.c.

3.14.2.26 double BZIMF

Definition at line 166 of file Tsyg2004.c.

3.14.2.27 double BZPRC

Definition at line 174 of file Tsyg2004.c.

3.14.2.28 double BZR11

Definition at line 175 of file Tsyg2004.c.

3.14.2.29 double BZR12

Definition at line 176 of file Tsyg2004.c.

3.14.2.30 double BZR21

Definition at line 177 of file Tsyg2004.c.

3.14.2.31 double BZR22

Definition at line 178 of file Tsyg2004.c.

3.14.2.32 double BZSRC

Definition at line 173 of file Tsyg2004.c.

3.14.2.33 double BZT1

Definition at line 171 of file Tsyg2004.c.

3.14.2.34 double BZT2

Definition at line 172 of file Tsyg2004.c.

3.14.2.35 double DST

Definition at line 166 of file Tsyg2004.c.

3.14.2.36 double HXIMF

Definition at line 179 of file Tsyg2004.c.

3.14.2.37 double HYIMF

Definition at line 179 of file Tsyg2004.c.

3.14.2.38 double HZIMF

Definition at line 179 of file Tsyg2004.c.

3.14.2.39 int IOPB

Definition at line 163 of file Tsyg2004.c.

3.14.2.40 int IOPGEN

Definition at line 163 of file Tsyg2004.c.

3.14.2.41 int IOPR

Definition at line 163 of file Tsyg2004.c.

3.14.2.42 int IOPT

Definition at line 163 of file Tsyg2004.c.

3.14.2.43 int NTOT

Definition at line 164 of file Tsyg2004.c.

3.14.2.44 double PDYN

Definition at line 166 of file Tsyg2004.c.

3.14.2.45 double PS

Definition at line 168 of file Tsyg2004.c.

3.14.2.46 double W1

Definition at line 167 of file Tsyg2004.c.

3.14.2.47 double W2

Definition at line 167 of file Tsyg2004.c.

3.14.2.48 double W3

Definition at line 167 of file Tsyg2004.c.

3.14.2.49 double W4

Definition at line 167 of file Tsyg2004.c.

3.14.2.50 double W5

Definition at line 167 of file Tsyg2004.c.

3.14.2.51 double W6

Definition at line 167 of file Tsyg2004.c.

3.14.2.52 double X

Definition at line 169 of file Tsyg2004.c.

3.14.2.53 double Y

Definition at line 169 of file Tsyg2004.c.

3.14.2.54 double Z

Definition at line 169 of file Tsyg2004.c.

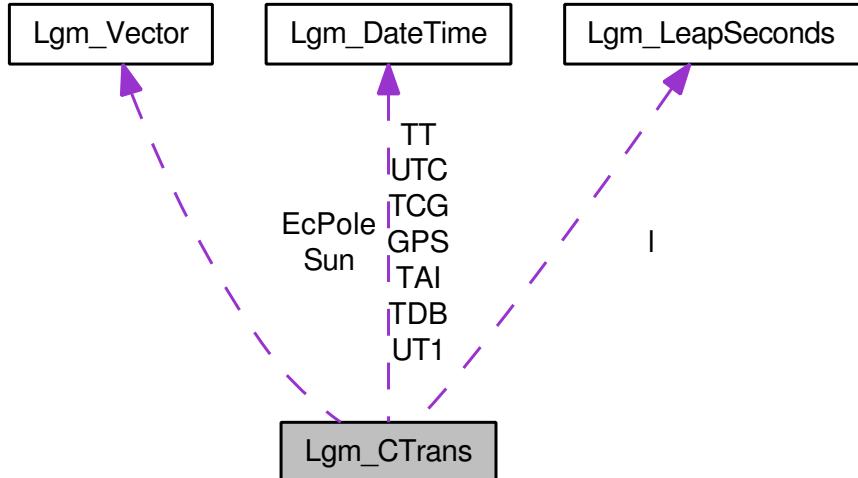
The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Tsyg2004.c](#)

3.15 Lgm_CTrans Struct Reference

```
#include <Lgm_CTrans.h>
```

Collaboration diagram for Lgm_CTrans:



Data Fields

- int `Verbose`
- `Lgm_LeapSeconds` `l`
- `Lgm_DateTime` `UT1`
- `Lgm_DateTime` `UTC`
- double `DUT1`
- double `LOD`
- `Lgm_DateTime` `TAI`
- `Lgm_DateTime` `GPS`
- double `DAT`
- `Lgm_DateTime` `TT`
- `Lgm_DateTime` `TDB`
- `Lgm_DateTime` `TCG`
- double `gmst`
- double `gast`
- double `xp`
- double `yp`
- double `epsilon`
- double `epsilon_true`
- double `eccentricity`
- double `lambda_sun`
- double `earth_sun_dist`
- double `RA_sun`
- double `DEC_sun`
- double `lambda_sun_ha`
- double `r_sun_ha`

- double `beta_sun_ha`
- double `RA_sun_ha`
- double `DEC_sun_ha`
- `Lgm_Vector Sun`
- `Lgm_Vector EcPole`
- double `psi`
- double `sin_psi`
- double `cos_psi`
- double `tan_psi`
- double `RA_moon`
- double `DEC_moon`
- double `MoonPhase`
- double `EarthMoonDistance`
- double `M_cd`
- double `M_cd_McIllwain`
- double `CD_gcolat`
- double `CD_glon`
- double `ED_x0`
- double `ED_y0`
- double `ED_z0`
- double `Zeta`
- double `Theta`
- double `Zee`
- int `nNutationTerms`
- double `dPsi`
- double `dEps`
- double `dPsiCosEps`
- double `dPsiSinEps`
- double `ddPsi`
- double `ddEps`
- double `EQ_Eq`
- double `OmegaMoon`
- double `dX`
- double `dY`
- double `Agei_to_mod` [3][3]
- double `Amod_to_gei` [3][3]
- double `Amod_to_tod` [3][3]
- double `Atod_to_mod` [3][3]
- double `Ateme_to_pef` [3][3]
- double `Apef_to_teme` [3][3]
- double `Apef_to_tod` [3][3]
- double `Atod_to_pef` [3][3]
- double `Awgs84_to_pef` [3][3]
- double `Apef_to_wgs84` [3][3]
- double `Agse_to_mod` [3][3]
- double `Amod_to_gse` [3][3]
- double `Asm_to_gsm` [3][3]
- double `Agsm_to_sm` [3][3]
- double `Agsm_to_mod` [3][3]
- double `Amod_to_gsm` [3][3]

- double [Agsm_to_gse](#) [3][3]
- double [Agse_to_gsm](#) [3][3]
- double [Awgs84_to_mod](#) [3][3]
- double [Amod_to_wgs84](#) [3][3]
- double [Awgs84_to_gei](#) [3][3]
- double [Agei_to_wgs84](#) [3][3]
- double [Agsm_to_wgs84](#) [3][3]
- double [Awgs84_to_gsm](#) [3][3]
- double [Awgs84_to_cd mag](#) [3][3]
- double [Acd mag_to_wgs84](#) [3][3]
- int [Lgm_IGRF_FirstCall](#)
- double [Lgm_IGRF_OldYear](#)
- double [Lgm_IGRF_g](#) [13][13]
- double [Lgm_IGRF_h](#) [13][13]
- double [Lgm_IGRF_R](#) [13][13]
- double [Lgm_IGRF_K](#) [13][13]
- double [Lgm_IGRF_S](#) [13][13]
- double [Lgm_IGRF_TwoNm1_Over_NmM](#) [13][13]
- double [Lgm_IGRF_NpMm1_Over_NmM](#) [13][13]
- double [Lgm_IGRF_SqrtnM1](#) [13][13]
- double [Lgm_IGRF_SqrtnM2](#) [13][13]

3.15.1 Detailed Description

Definition at line 481 of file Lgm_CTrans.h.

3.15.2 Field Documentation

3.15.2.1 double Acdmag_to_wgs84[3][3]

Definition at line 686 of file Lgm_CTrans.h.

3.15.2.2 double Agei_to_mod[3][3]

Definition at line 661 of file Lgm_CTrans.h.

3.15.2.3 double Agei_to_wgs84[3][3]

Definition at line 682 of file Lgm_CTrans.h.

3.15.2.4 double Agse_to_gsm[3][3]

Definition at line 678 of file Lgm_CTrans.h.

3.15.2.5 double Agse_to_mod[3][3]

Definition at line 671 of file Lgm_CTrans.h.

3.15.2.6 double Agsm_to_gse[3][3]

Definition at line 677 of file Lgm_CTrans.h.

3.15.2.7 double Agsm_to_mod[3][3]

Definition at line 675 of file Lgm_CTrans.h.

3.15.2.8 double Agsm_to_sm[3][3]

Definition at line 674 of file Lgm_CTrans.h.

3.15.2.9 double Agsm_to_wgs84[3][3]

Definition at line 683 of file Lgm_CTrans.h.

3.15.2.10 double Amod_to_gei[3][3]

Definition at line 662 of file Lgm_CTrans.h.

3.15.2.11 double Amod_to_gse[3][3]

Definition at line 672 of file Lgm_CTrans.h.

3.15.2.12 double Amod_to_gsm[3][3]

Definition at line 676 of file Lgm_CTrans.h.

3.15.2.13 double Amod_to_tod[3][3]

Definition at line 663 of file Lgm_CTrans.h.

3.15.2.14 double Amod_to_wgs84[3][3]

Definition at line 680 of file Lgm_CTrans.h.

3.15.2.15 double Apef_to_teme[3][3]

Definition at line 666 of file Lgm_CTrans.h.

3.15.2.16 double Apef_to_tod[3][3]

Definition at line 667 of file Lgm_CTrans.h.

3.15.2.17 double Apef_to_wgs84[3][3]

Definition at line 670 of file Lgm_CTrans.h.

3.15.2.18 double Asm_to_gsm[3][3]

Definition at line 673 of file Lgm_CTrans.h.

3.15.2.19 double Ateme_to_pef[3][3]

Definition at line 665 of file Lgm_CTrans.h.

3.15.2.20 double Atod_to_mod[3][3]

Definition at line 664 of file Lgm_CTrans.h.

3.15.2.21 double Atod_to_pef[3][3]

Definition at line 668 of file Lgm_CTrans.h.

3.15.2.22 double Awgs84_to_cdmag[3][3]

Definition at line 685 of file Lgm_CTrans.h.

3.15.2.23 double Awgs84_to_gei[3][3]

Definition at line 681 of file Lgm_CTrans.h.

3.15.2.24 double Awgs84_to_gsm[3][3]

Definition at line 684 of file Lgm_CTrans.h.

3.15.2.25 double Awgs84_to_mod[3][3]

Definition at line 679 of file Lgm_CTrans.h.

3.15.2.26 double Awgs84_to_pef[3][3]

Definition at line 669 of file Lgm_CTrans.h.

3.15.2.27 double beta_sun_ha

Definition at line 604 of file Lgm_CTrans.h.

3.15.2.28 double CD_gcolat

Definition at line 627 of file Lgm_CTrans.h.

3.15.2.29 double CD_glon

Definition at line 628 of file Lgm_CTrans.h.

3.15.2.30 double cos_psi

Definition at line 612 of file Lgm_CTrans.h.

3.15.2.31 double DAT

Definition at line 535 of file Lgm_CTrans.h.

3.15.2.32 double ddEps

Definition at line 650 of file Lgm_CTrans.h.

3.15.2.33 double ddPsi

Definition at line 649 of file Lgm_CTrans.h.

3.15.2.34 double DEC_moon

Definition at line 615 of file Lgm_CTrans.h.

3.15.2.35 double DEC_sun

Definition at line 600 of file Lgm_CTrans.h.

3.15.2.36 double DEC_sun_ha

Definition at line 606 of file Lgm_CTrans.h.

3.15.2.37 double dEps

Definition at line 646 of file Lgm_CTrans.h.

3.15.2.38 double dPsi

Definition at line 645 of file Lgm_CTrans.h.

3.15.2.39 double dPsiCosEps

Definition at line 647 of file Lgm_CTrans.h.

3.15.2.40 double dPsiSinEps

Definition at line 648 of file Lgm_CTrans.h.

3.15.2.41 double DUT1

Definition at line 509 of file Lgm_CTrans.h.

3.15.2.42 double dX

Definition at line 653 of file Lgm_CTrans.h.

3.15.2.43 double dY

Definition at line 654 of file Lgm_CTrans.h.

3.15.2.44 double earth_sun_dist

Definition at line 598 of file Lgm_CTrans.h.

3.15.2.45 double EarthMoonDistance

Definition at line 617 of file Lgm_CTrans.h.

3.15.2.46 double eccentricity

Definition at line 595 of file Lgm_CTrans.h.

3.15.2.47 Lgm_Vector EcPole

Definition at line 609 of file Lgm_CTrans.h.

3.15.2.48 double ED_x0

Definition at line 629 of file Lgm_CTrans.h.

3.15.2.49 double ED_y0

Definition at line 630 of file Lgm_CTrans.h.

3.15.2.50 double ED_z0

Definition at line 631 of file Lgm_CTrans.h.

3.15.2.51 double epsilon

Definition at line 575 of file Lgm_CTrans.h.

3.15.2.52 double epsilon_true

Definition at line 579 of file Lgm_CTrans.h.

3.15.2.53 double EQ_Eq

Definition at line 651 of file Lgm_CTrans.h.

3.15.2.54 double gast

Definition at line 565 of file Lgm_CTrans.h.

3.15.2.55 double gmst

Definition at line 561 of file Lgm_CTrans.h.

3.15.2.56 Lgm_DateTime GPS

Definition at line 531 of file Lgm_CTrans.h.

3.15.2.57 Lgm_LeapSeconds l

structure containing Leap Second Info

Definition at line 485 of file Lgm_CTrans.h.

3.15.2.58 double lambda_sun

Definition at line 597 of file Lgm_CTrans.h.

3.15.2.59 double lambda_sun_ha

Definition at line 602 of file Lgm_CTrans.h.

3.15.2.60 int Lgm_IGRF_FirstCall

Definition at line 693 of file Lgm_CTrans.h.

3.15.2.61 double Lgm_IGRF_g[13][13]

Definition at line 695 of file Lgm_CTrans.h.

3.15.2.62 double Lgm_IGRF_h[13][13]

Definition at line 696 of file Lgm_CTrans.h.

3.15.2.63 double Lgm_IGRF_K[13][13]

Definition at line 698 of file Lgm_CTrans.h.

3.15.2.64 double Lgm_IGRF_NpMm1_Over_NmM[13][13]

Definition at line 701 of file Lgm_CTrans.h.

3.15.2.65 double Lgm_IGRF_OldYear

Definition at line 694 of file Lgm_CTrans.h.

3.15.2.66 double Lgm_IGRF_R[13][13]

Definition at line 697 of file Lgm_CTrans.h.

3.15.2.67 double Lgm_IGRF_S[13][13]

Definition at line 699 of file Lgm_CTrans.h.

3.15.2.68 double Lgm_IGRF_SqrtNM1[13][13]

Definition at line 702 of file Lgm_CTrans.h.

3.15.2.69 double Lgm_IGRF_SqrtNM2[13][13]

Definition at line 703 of file Lgm_CTrans.h.

3.15.2.70 double Lgm_IGRF_TwoNm1_Over_NmM[13][13]

Definition at line 700 of file Lgm_CTrans.h.

3.15.2.71 double LOD

Definition at line 522 of file Lgm_CTrans.h.

3.15.2.72 double M_cd

Definition at line 625 of file Lgm_CTrans.h.

3.15.2.73 double M_cd_McIllwain

Definition at line 626 of file Lgm_CTrans.h.

3.15.2.74 double MoonPhase

Definition at line 616 of file Lgm_CTrans.h.

3.15.2.75 int nNutationTerms

Definition at line 644 of file Lgm_CTrans.h.

3.15.2.76 double OmegaMoon

Definition at line 652 of file Lgm_CTrans.h.

3.15.2.77 double psi

Definition at line 610 of file Lgm_CTrans.h.

3.15.2.78 double r_sun_ha

Definition at line 603 of file Lgm_CTrans.h.

3.15.2.79 double RA_moon

Definition at line 614 of file Lgm_CTrans.h.

3.15.2.80 double RA_sun

Definition at line 599 of file Lgm_CTrans.h.

3.15.2.81 double RA_sun_ha

Definition at line 605 of file Lgm_CTrans.h.

3.15.2.82 double sin_psi

Definition at line 611 of file Lgm_CTrans.h.

3.15.2.83 Lgm_Vector Sun

Definition at line 608 of file Lgm_CTrans.h.

3.15.2.84 Lgm_DateTime TAI

Definition at line 527 of file Lgm_CTrans.h.

3.15.2.85 double tan_psi

Definition at line 613 of file Lgm_CTrans.h.

3.15.2.86 Lgm_DateTime TCG

Definition at line 555 of file Lgm_CTrans.h.

3.15.2.87 Lgm_DateTime TDB

Definition at line 550 of file Lgm_CTrans.h.

3.15.2.88 double Theta

Definition at line 638 of file Lgm_CTrans.h.

3.15.2.89 Lgm_DateTime TT

Definition at line 542 of file Lgm_CTrans.h.

3.15.2.90 Lgm_DateTime UT1

UT is the mean solar time at Greenwich. UT0 is a version of UT that uses data from many different ground stations. UT1 is a version of UT0 in which corrections for polar motion have been made so that time is independant of observing location. There is also a UT2, but we wont use UT0 or UT2 here. Units: Decimal hours

Definition at line 489 of file Lgm_CTrans.h.

3.15.2.91 Lgm_DateTime UTC

Definition at line 501 of file Lgm_CTrans.h.

3.15.2.92 int Verbose

Definition at line 483 of file Lgm_CTrans.h.

3.15.2.93 double xp

Definition at line 570 of file Lgm_CTrans.h.

3.15.2.94 double yp

Definition at line 570 of file Lgm_CTrans.h.

3.15.2.95 double Zee

Definition at line 639 of file Lgm_CTrans.h.

3.15.2.96 double Zeta

Definition at line 637 of file Lgm_CTrans.h.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_CTrans.h](#)

3.16 Lgm_DateTime Struct Reference

```
#include <Lgm_CTrans.h>
```

Data Fields

- long int **Date**

In basic ISO format (YYYYMMDD or YYYYDDD) Represented as a single long int.

- int **Year**

4-digit year

- int **Month**

[1-12]

- int **Day**

Day Of Month [1-31].

- int **Doy**

Day Of Year [1-31].

- double **Time**

Decimal value of time in hours.

- int **Hour**

Hours [0-23].

- int **Minute**

Minutes [0-59].

- double **Second**

Seconds [0-60] (the 60 accommodates leap seconds).

- int **Week**

ISO Week number [1-53].

- int **Dow**

ISO Day Of Week number [1-7].

- char **DowStr** [10]

ISO Day Of Week number [1-7].

- double **fYear**

Decimal year (e.g. 2004.2345).

- double **JD**

Julian Date.

- double **T**

- double DaySeconds

Number of seconds in the day.

- int TimeSystem

e.g. LGM_UTC, LGM_UTI, LGM_TAI, LGM_GPS, LGM_TT, LGM_TDB, LGM_TCG, etc..

3.16.1 Detailed Description

Definition at line 440 of file Lgm_CTrans.h.

3.16.2 Field Documentation

3.16.2.1 long int Date

In basic ISO format (YYYYMMDD or YYYYDDD) Represented as a single long int.

Definition at line 442 of file Lgm_CTrans.h.

3.16.2.2 int Day

Day Of Month [1-31].

Definition at line 448 of file Lgm_CTrans.h.

3.16.2.3 double DaySeconds

Number of seconds in the day.

Definition at line 473 of file Lgm_CTrans.h.

3.16.2.4 int Dow

ISO Day Of Week number [1-7].

Definition at line 462 of file Lgm_CTrans.h.

3.16.2.5 char DowStr[10]

ISO Day Of Week number [1-7].

Definition at line 464 of file Lgm_CTrans.h.

3.16.2.6 int Doy

Day Of Year [1-31].

Definition at line 450 of file Lgm_CTrans.h.

3.16.2.7 double fYear

Decimal year (e.g. 2004.2345).

Definition at line 466 of file Lgm_CTrans.h.

3.16.2.8 int Hour

Hours [0-23].

Definition at line 454 of file Lgm_CTrans.h.

3.16.2.9 double JD

Julian Date.

Definition at line 468 of file Lgm_CTrans.h.

3.16.2.10 int Minute

Minutes [0-59].

Definition at line 456 of file Lgm_CTrans.h.

3.16.2.11 int Month

[1-12]

Definition at line 446 of file Lgm_CTrans.h.

3.16.2.12 double Second

Seconds [0-60] (the 60 accommodates leap seconds).

Definition at line 458 of file Lgm_CTrans.h.

3.16.2.13 double T

Julian Centuries since J2000 for this time system

Definition at line 470 of file Lgm_CTrans.h.

3.16.2.14 double Time

Decimal value of time in hours.

Definition at line 452 of file Lgm_CTrans.h.

3.16.2.15 int TimeSystem

e.g. LGM_UTC, LGM_UT1, LGM_TAI, LGM_GPS, LGM_TT, LGM_TDB, LGM_TCG, etc..

Definition at line 475 of file Lgm_CTrans.h.

3.16.2.16 int Week

ISO Week number [1-53].

Definition at line 460 of file Lgm_CTrans.h.

3.16.2.17 int Year

4-digit year

Definition at line 444 of file Lgm_CTrans.h.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_CTrans.h](#)

3.17 Lgm_Eop Struct Reference

```
#include <Lgm_Eop.h>
```

Data Fields

- long int **Size**
- long int **nEopVals**
- int **Verbosity**
- long int * **Date**
- double * **MJD**
- double * **xp**
- double * **yp**
- double * **DUT1**
- double * **LOD**
- double * **dPsi**
- double * **dEps**
- double * **dX**
- double * **dY**
- double * **DAT**

3.17.1 Detailed Description

Definition at line 28 of file Lgm_Eop.h.

3.17.2 Field Documentation

3.17.2.1 double* DAT

Definition at line 43 of file Lgm_Eop.h.

3.17.2.2 long int* Date

Definition at line 33 of file Lgm_Eop.h.

3.17.2.3 double* dEps

Definition at line 40 of file Lgm_Eop.h.

3.17.2.4 double* dPsi

Definition at line 39 of file Lgm_Eop.h.

3.17.2.5 double* DUT1

Definition at line 37 of file Lgm_Eop.h.

3.17.2.6 double* dX

Definition at line 41 of file Lgm_Eop.h.

3.17.2.7 double* dY

Definition at line 42 of file Lgm_Eop.h.

3.17.2.8 double* LOD

Definition at line 38 of file Lgm_Eop.h.

3.17.2.9 double* MJD

Definition at line 34 of file Lgm_Eop.h.

3.17.2.10 long int nEopVals

Definition at line 31 of file Lgm_Eop.h.

3.17.2.11 long int Size

Definition at line 30 of file Lgm_Eop.h.

3.17.2.12 int Verbosity

Definition at line 32 of file Lgm_Eop.h.

3.17.2.13 double* xp

Definition at line 35 of file Lgm_Eop.h.

3.17.2.14 double* yp

Definition at line 36 of file Lgm_Eop.h.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_Eop.h](#)

3.18 Lgm_EopOne Struct Reference

```
#include <Lgm_Eop.h>
```

Data Fields

- long int **Date**
- double **JD**
- double **MJD**
- double **UTC**
- double **xp**
- double **yp**
- double **DUT1**
- double **LOD**
- double **dPsi**
- double **dEps**
- double **dX**
- double **dY**
- double **DAT**

3.18.1 Detailed Description

Definition at line 47 of file Lgm_Eop.h.

3.18.2 Field Documentation

3.18.2.1 double DAT

Definition at line 61 of file Lgm_Eop.h.

3.18.2.2 long int Date

Definition at line 49 of file Lgm_Eop.h.

3.18.2.3 double dEps

Definition at line 58 of file Lgm_Eop.h.

3.18.2.4 double dPsi

Definition at line 57 of file Lgm_Eop.h.

3.18.2.5 double DUT1

Definition at line 55 of file Lgm_Eop.h.

3.18.2.6 double dX

Definition at line 59 of file Lgm_Eop.h.

3.18.2.7 double dY

Definition at line 60 of file Lgm_Eop.h.

3.18.2.8 double JD

Definition at line 50 of file Lgm_Eop.h.

3.18.2.9 double LOD

Definition at line 56 of file Lgm_Eop.h.

3.18.2.10 double MJD

Definition at line 51 of file Lgm_Eop.h.

3.18.2.11 double UTC

Definition at line 52 of file Lgm_Eop.h.

3.18.2.12 double xp

Definition at line 53 of file Lgm_Eop.h.

3.18.2.13 double yp

Definition at line 54 of file Lgm_Eop.h.

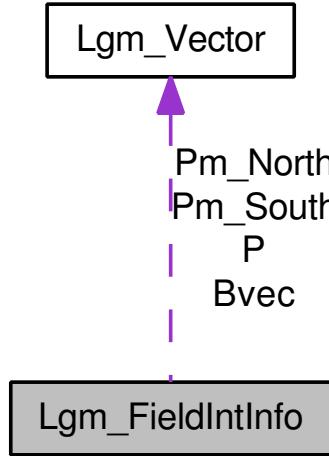
The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_Eop.h](#)

3.19 Lgm_FieldIntInfo Struct Reference

```
#include <Lgm_FieldIntInfo.h>
```

Collaboration diagram for Lgm_FieldIntInfo:



Data Fields

- double KineticEnergy
- double Mass
- double PitchAngle
- Lgm_Vector Pm_South
- Lgm_Vector Pm_North
- double Bm
- double Sm_South
- double Sm_North
- int FirstCall
- int n_I_integrand_Calls
- int n_Sb_integrand_Calls
- double epsabs
- double epsrel
- double s [1000]
- Lgm_Vector P [1000]
- Lgm_Vector Bvec [1000]
- double Bmag [1000]
- int nPnts
- int VerbosityLevel

3.19.1 Detailed Description

Definition at line 18 of file Lgm_FieldIntInfo.h.

3.19.2 Field Documentation

3.19.2.1 double Bm

Definition at line 26 of file Lgm_FieldIntInfo.h.

3.19.2.2 double Bmag[1000]

Definition at line 38 of file Lgm_FieldIntInfo.h.

3.19.2.3 Lgm_Vector Bvec[1000]

Definition at line 37 of file Lgm_FieldIntInfo.h.

3.19.2.4 double epsabs

Definition at line 30 of file Lgm_FieldIntInfo.h.

3.19.2.5 double epsrel

Definition at line 30 of file Lgm_FieldIntInfo.h.

3.19.2.6 int FirstCall

Definition at line 27 of file Lgm_FieldIntInfo.h.

3.19.2.7 double KineticEnergy

Definition at line 20 of file Lgm_FieldIntInfo.h.

3.19.2.8 double Mass

Definition at line 21 of file Lgm_FieldIntInfo.h.

3.19.2.9 int n_I_integrand_Calls

Definition at line 28 of file Lgm_FieldIntInfo.h.

3.19.2.10 int n_Sb_integrand_Calls

Definition at line 29 of file Lgm_FieldIntInfo.h.

3.19.2.11 int nPnts

Definition at line 39 of file Lgm_FieldIntInfo.h.

3.19.2.12 Lgm_Vector P[1000]

Definition at line 36 of file Lgm_FieldIntInfo.h.

3.19.2.13 double PitchAngle

Definition at line 22 of file Lgm_FieldIntInfo.h.

3.19.2.14 Lgm_Vector Pm_North

Definition at line 25 of file Lgm_FieldIntInfo.h.

3.19.2.15 Lgm_Vector Pm_South

Definition at line 24 of file Lgm_FieldIntInfo.h.

3.19.2.16 double s[1000]

Definition at line 35 of file Lgm_FieldIntInfo.h.

3.19.2.17 double Sm_North

Definition at line 26 of file Lgm_FieldIntInfo.h.

3.19.2.18 double Sm_South

Definition at line 26 of file Lgm_FieldIntInfo.h.

3.19.2.19 int VerbosityLevel

Definition at line 45 of file Lgm_FieldIntInfo.h.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_FieldIntInfo.h](#)

3.20 Lgm_LeapSeconds Struct Reference

```
#include <Lgm_CTrans.h>
```

Data Fields

- int [nLeapSecondDates](#)
- long int * [LeapSecondDates](#)
- double * [LeapSecondJDs](#)
- double * [LeapSeconds](#)

3.20.1 Detailed Description

Definition at line 420 of file Lgm_CTrans.h.

3.20.2 Field Documentation

3.20.2.1 long int * LeapSecondDates

Array for holdin the Dates on which leap seconds were added

Definition at line 425 of file Lgm_CTrans.h.

3.20.2.2 double * LeapSecondJDs

Array for holdin the Julian Dates on which leap seconds were added

Definition at line 428 of file Lgm_CTrans.h.

3.20.2.3 double * LeapSeconds

The actual number of leap seconds that went into effect on the given date

Definition at line 433 of file Lgm_CTrans.h.

3.20.2.4 int nLeapSecondDates

Number of leap second dates.

Definition at line 422 of file Lgm_CTrans.h.

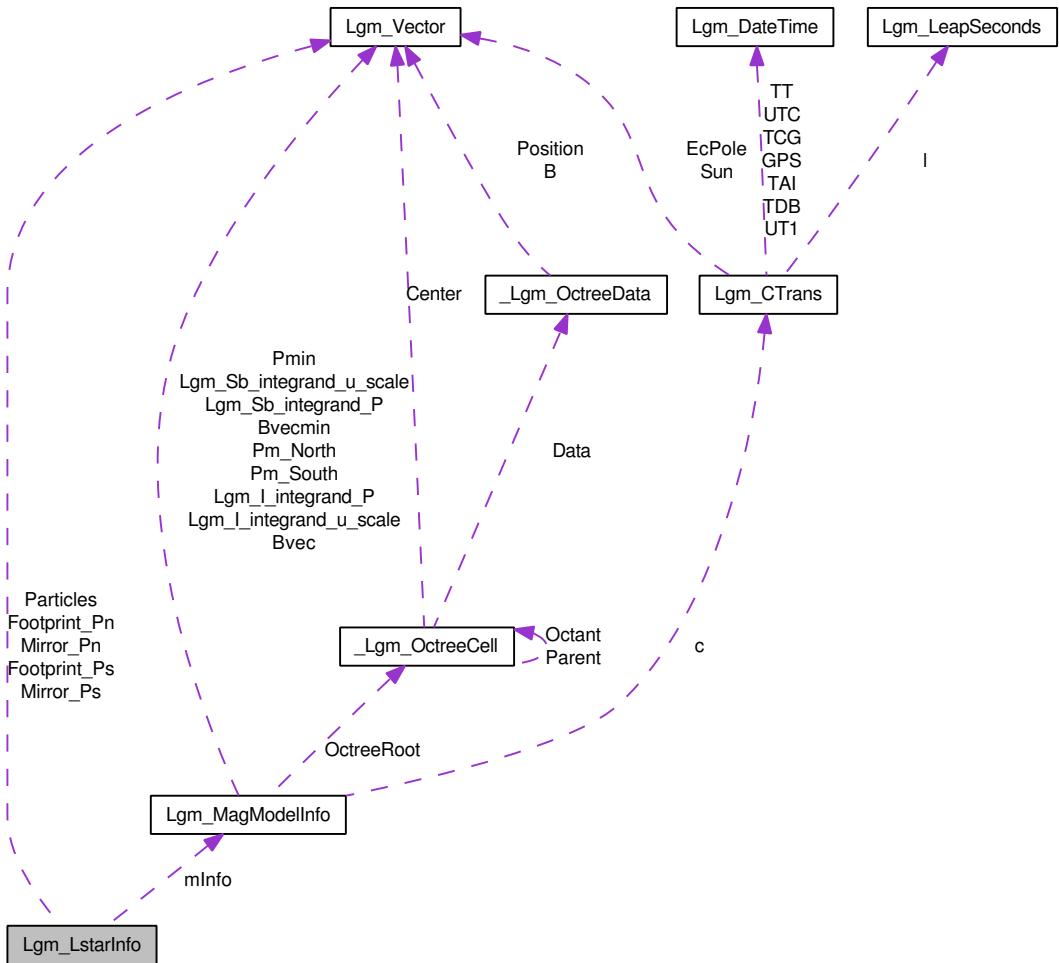
The documentation for this struct was generated from the following files:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_CTrans.h](#)
- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_LeapSeconds.h](#)

3.21 Lgm_LstarInfo Struct Reference

```
#include <Lgm_LstarInfo.h>
```

Collaboration diagram for Lgm_LstarInfo:



Data Fields

- double `KineticEnergy`
- double `Mass`
- double `PitchAngle`
- double `LSimpleMax`
- `Lgm_MagModelInfo` * `mInfo`
- int `SaveShellLines`
- int `nFieldPnts` [100]
- double `s_gsm` [100][1000]
- double `Bmag` [100][1000]
- double `x_gsm` [100][1000]
- double `y_gsm` [100][1000]
- double `z_gsm` [100][1000]

- int **nPnts**
- double **MLT** [100]
- double **mlat** [100]
- **Lgm_Vector Footprint_Pn** [100]
- **Lgm_Vector Mirror_Pn** [100]
- **Lgm_Vector Footprint_Ps** [100]
- **Lgm_Vector Mirror_Ps** [100]
- double **PhiVal** [100]
- double **AngularVelocity** [100]
- double **I** [100]
- int **nSplnPnts**
- double **xa** [500]
- double **ya** [500]
- double **y2** [500]
- double **Phi**
- **gsl_interp_accel * acc**
- **gsl_interp * pspline**
- int **VerbosityLevel**
- char **PreStr** [64]
- char **PostStr** [64]
- double **LS**
- double **LS_dip_approx**
- double **LS_McIlwain_M**
- int **m**
- double **xma** [500]
- double **yma** [500]
- double **ym2** [500]
- int **nParticles**
- **Lgm_Vector Particles** [5000]

3.21.1 Detailed Description

Definition at line 22 of file Lgm_LstarInfo.h.

3.21.2 Field Documentation

3.21.2.1 **gsl_interp_accel* acc**

Definition at line 61 of file Lgm_LstarInfo.h.

3.21.2.2 **double AngularVelocity[100]**

Definition at line 53 of file Lgm_LstarInfo.h.

3.21.2.3 **double Bmag[100][1000]**

Definition at line 38 of file Lgm_LstarInfo.h.

3.21.2.4 Lgm_Vector Footprint_Pn[100]

Definition at line 49 of file Lgm_LstarInfo.h.

3.21.2.5 Lgm_Vector Footprint_Ps[100]

Definition at line 51 of file Lgm_LstarInfo.h.

3.21.2.6 double I[100]

Definition at line 54 of file Lgm_LstarInfo.h.

3.21.2.7 double KineticEnergy

Definition at line 24 of file Lgm_LstarInfo.h.

3.21.2.8 double LS

Definition at line 72 of file Lgm_LstarInfo.h.

3.21.2.9 double LS_dip_approx

Definition at line 73 of file Lgm_LstarInfo.h.

3.21.2.10 double LS_McIlwain_M

Definition at line 74 of file Lgm_LstarInfo.h.

3.21.2.11 double LSimpleMax

Definition at line 27 of file Lgm_LstarInfo.h.

3.21.2.12 int m

Definition at line 76 of file Lgm_LstarInfo.h.

3.21.2.13 double Mass

Definition at line 25 of file Lgm_LstarInfo.h.

3.21.2.14 Lgm_MagModelInfo* mInfo

Definition at line 30 of file Lgm_LstarInfo.h.

3.21.2.15 Lgm_Vector Mirror_Pn[100]

Definition at line 50 of file Lgm_LstarInfo.h.

3.21.2.16 Lgm_Vector Mirror_Ps[100]

Definition at line 52 of file Lgm_LstarInfo.h.

3.21.2.17 double mlat[100]

Definition at line 48 of file Lgm_LstarInfo.h.

3.21.2.18 double MLT[100]

Definition at line 48 of file Lgm_LstarInfo.h.

3.21.2.19 int nFieldPnts[100]

Definition at line 36 of file Lgm_LstarInfo.h.

3.21.2.20 int nParticles

Definition at line 84 of file Lgm_LstarInfo.h.

3.21.2.21 int nPnts

Definition at line 47 of file Lgm_LstarInfo.h.

3.21.2.22 int nSplnPnts

Definition at line 56 of file Lgm_LstarInfo.h.

3.21.2.23 Lgm_Vector Particles[5000]

Definition at line 85 of file Lgm_LstarInfo.h.

3.21.2.24 double Phi

Definition at line 59 of file Lgm_LstarInfo.h.

3.21.2.25 double PhiVal[100]

Definition at line 53 of file Lgm_LstarInfo.h.

3.21.2.26 double PitchAngle

Definition at line 26 of file Lgm_LstarInfo.h.

3.21.2.27 char PostStr[64]

Definition at line 70 of file Lgm_LstarInfo.h.

3.21.2.28 char PreStr[64]

Definition at line 70 of file Lgm_LstarInfo.h.

3.21.2.29 gsl_interp* pspline

Definition at line 62 of file Lgm_LstarInfo.h.

3.21.2.30 double s_gsm[100][1000]

Definition at line 37 of file Lgm_LstarInfo.h.

3.21.2.31 int SaveShellLines

Definition at line 35 of file Lgm_LstarInfo.h.

3.21.2.32 int VerbosityLevel

Definition at line 69 of file Lgm_LstarInfo.h.

3.21.2.33 double x_gsm[100][1000]

Definition at line 39 of file Lgm_LstarInfo.h.

3.21.2.34 double xa[500]

Definition at line 57 of file Lgm_LstarInfo.h.

3.21.2.35 double xma[500]

Definition at line 77 of file Lgm_LstarInfo.h.

3.21.2.36 double y2[500]

Definition at line 57 of file Lgm_LstarInfo.h.

3.21.2.37 double y_gsm[100][1000]

Definition at line 40 of file Lgm_LstarInfo.h.

3.21.2.38 double ya[500]

Definition at line 57 of file Lgm_LstarInfo.h.

3.21.2.39 double ym2[500]

Definition at line 77 of file Lgm_LstarInfo.h.

3.21.2.40 double yma[500]

Definition at line 77 of file Lgm_LstarInfo.h.

3.21.2.41 double z_gsm[100][1000]

Definition at line 41 of file Lgm_LstarInfo.h.

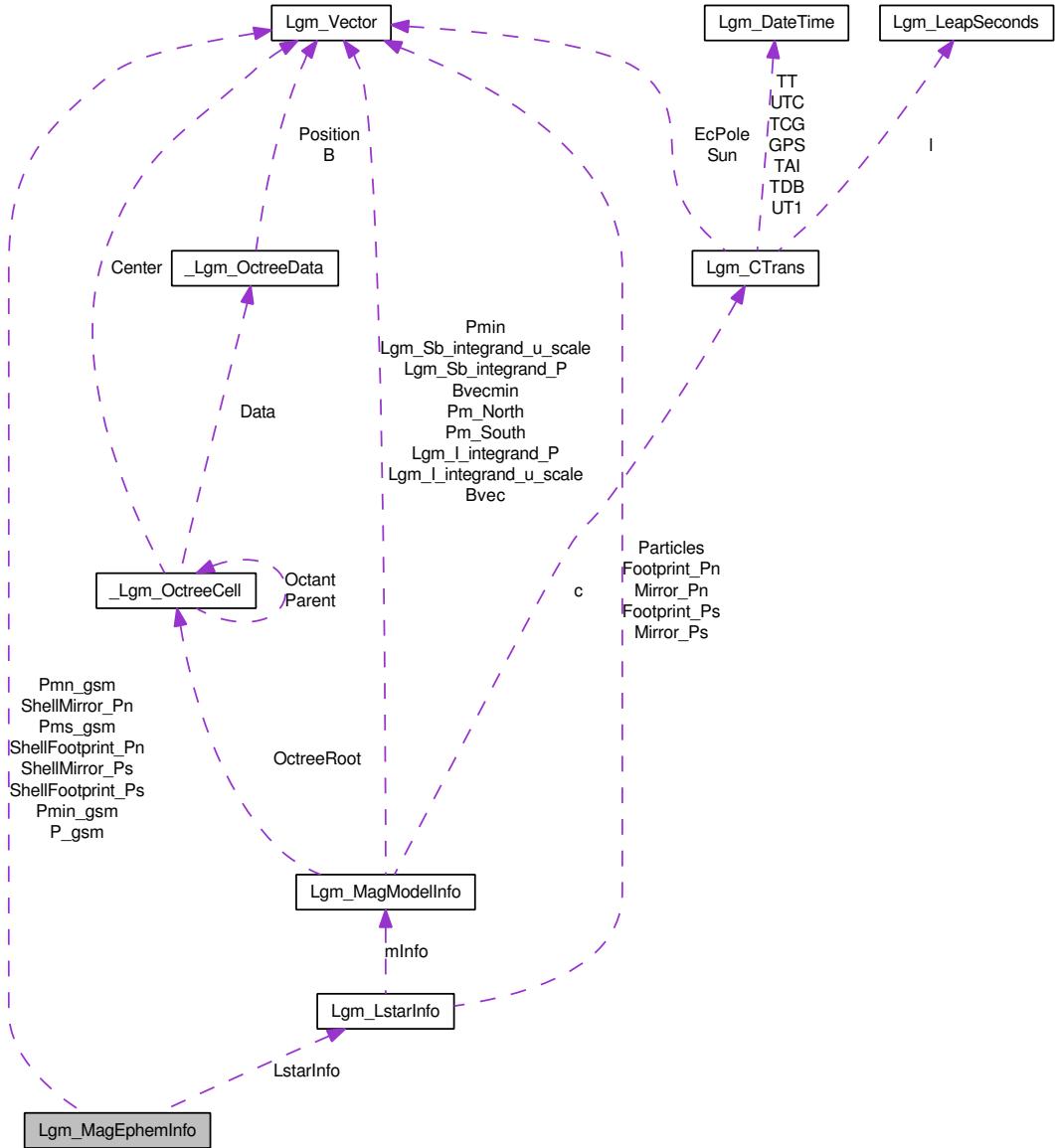
The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_LstarInfo.h](#)

3.22 Lgm_MagEphemInfo Struct Reference

```
#include <Lgm_MagEphemInfo.h>
```

Collaboration diagram for Lgm_MagEphemInfo:



Data Fields

- `Lgm_LstarInfo * LstarInfo`
- `int LstarQuality`
- `int SaveShellLines`
- `long int Date`
- `double UTC`
- `double Lat`

- double `Lon`
- double `Rad`
- `Lgm_Vector P_gsm`
- double `B`
- `Lgm_Vector Pmin_gsm`
- double `Bmin`
- int `UseInterpRoutines`
- int `nAlpha`
- double `Alpha` [MAX_PITCH_ANGLES]
- `Lgm_Vector Pmn_gsm` [MAX_PITCH_ANGLES]
- `Lgm_Vector Pms_gsm` [MAX_PITCH_ANGLES]
- double `Bm` [MAX_PITCH_ANGLES]
- double `I` [MAX_PITCH_ANGLES]
- double `Sb` [MAX_PITCH_ANGLES]
- double `Tb` [MAX_PITCH_ANGLES]
- double `K` [MAX_PITCH_ANGLES]
- int `nShellPoints` [MAX_PITCH_ANGLES]
- `Lgm_Vector ShellFootprint_Pn` [MAX_PITCH_ANGLES][100]
- `Lgm_Vector ShellFootprint_Ps` [MAX_PITCH_ANGLES][100]
- `Lgm_Vector ShellMirror_Pn` [MAX_PITCH_ANGLES][100]
- `Lgm_Vector ShellMirror_Ps` [MAX_PITCH_ANGLES][100]
- double `ShellMirror_Sn` [MAX_PITCH_ANGLES][100]
- double `ShellMirror_Ss` [MAX_PITCH_ANGLES][100]
- double `Shelli` [MAX_PITCH_ANGLES][100]
- int `nFieldPnts` [MAX_PITCH_ANGLES][48]
- double `s_gsm` [MAX_PITCH_ANGLES][48][1000]
- double `Bmag` [MAX_PITCH_ANGLES][48][1000]
- double `x_gsm` [MAX_PITCH_ANGLES][48][1000]
- double `y_gsm` [MAX_PITCH_ANGLES][48][1000]
- double `z_gsm` [MAX_PITCH_ANGLES][48][1000]
- double `Mcurr`
- double `Mref`
- double `Mused`
- double `LHilton` [MAX_PITCH_ANGLES]
- double `LMcIlwain` [MAX_PITCH_ANGLES]
- double `Lstar` [MAX_PITCH_ANGLES]

3.22.1 Detailed Description

Definition at line 15 of file Lgm_MagEphemInfo.h.

3.22.2 Field Documentation

3.22.2.1 double Alpha[MAX_PITCH_ANGLES]

Definition at line 42 of file Lgm_MagEphemInfo.h.

3.22.2.2 double B

Definition at line 28 of file Lgm_MagEphemInfo.h.

3.22.2.3 double Bm[MAX_PITCH_ANGLES]

Definition at line 45 of file Lgm_MagEphemInfo.h.

3.22.2.4 double Bmag[MAX_PITCH_ANGLES][48][1000]

Definition at line 66 of file Lgm_MagEphemInfo.h.

3.22.2.5 double Bmin

Definition at line 31 of file Lgm_MagEphemInfo.h.

3.22.2.6 long int Date

Definition at line 21 of file Lgm_MagEphemInfo.h.

3.22.2.7 double I[MAX_PITCH_ANGLES]

Definition at line 46 of file Lgm_MagEphemInfo.h.

3.22.2.8 double K[MAX_PITCH_ANGLES]

Definition at line 49 of file Lgm_MagEphemInfo.h.

3.22.2.9 double Lat

Definition at line 23 of file Lgm_MagEphemInfo.h.

3.22.2.10 double LHilton[MAX_PITCH_ANGLES]

Definition at line 74 of file Lgm_MagEphemInfo.h.

3.22.2.11 double LMcIlwain[MAX_PITCH_ANGLES]

Definition at line 75 of file Lgm_MagEphemInfo.h.

3.22.2.12 double Lon

Definition at line 24 of file Lgm_MagEphemInfo.h.

3.22.2.13 double Lstar[MAX_PITCH_ANGLES]

Definition at line 76 of file Lgm_MagEphemInfo.h.

3.22.2.14 Lgm_LstarInfo* LstarInfo

Definition at line 17 of file Lgm_MagEphemInfo.h.

3.22.2.15 int LstarQuality

Definition at line 18 of file Lgm_MagEphemInfo.h.

3.22.2.16 double Mcurr

Definition at line 71 of file Lgm_MagEphemInfo.h.

3.22.2.17 double Mref

Definition at line 72 of file Lgm_MagEphemInfo.h.

3.22.2.18 double Mused

Definition at line 73 of file Lgm_MagEphemInfo.h.

3.22.2.19 int nAlpha

Definition at line 41 of file Lgm_MagEphemInfo.h.

3.22.2.20 int nFieldPnts[MAX_PITCH_ANGLES][48]

Definition at line 64 of file Lgm_MagEphemInfo.h.

3.22.2.21 int nShellPoints[MAX_PITCH_ANGLES]

Definition at line 51 of file Lgm_MagEphemInfo.h.

3.22.2.22 Lgm_Vector P_gsm

Definition at line 27 of file Lgm_MagEphemInfo.h.

3.22.2.23 Lgm_Vector Pmin_gsm

Definition at line 30 of file Lgm_MagEphemInfo.h.

3.22.2.24 Lgm_Vector Pmn_gsm[MAX_PITCH_ANGLES]

Definition at line 43 of file Lgm_MagEphemInfo.h.

3.22.2.25 Lgm_Vector Pms[MAX_PITCH_ANGLES]

Definition at line 44 of file Lgm_MagEphemInfo.h.

3.22.2.26 double Rad

Definition at line 25 of file Lgm_MagEphemInfo.h.

3.22.2.27 double s_gsm[MAX_PITCH_ANGLES][48][1000]

Definition at line 65 of file Lgm_MagEphemInfo.h.

3.22.2.28 int SaveShellLines

Definition at line 19 of file Lgm_MagEphemInfo.h.

3.22.2.29 double Sb[MAX_PITCH_ANGLES]

Definition at line 47 of file Lgm_MagEphemInfo.h.

3.22.2.30 Lgm_Vector ShellFootprint_Pn[MAX_PITCH_ANGLES][100]

Definition at line 52 of file Lgm_MagEphemInfo.h.

3.22.2.31 Lgm_Vector ShellFootprint_Ps[MAX_PITCH_ANGLES][100]

Definition at line 53 of file Lgm_MagEphemInfo.h.

3.22.2.32 double ShellI[MAX_PITCH_ANGLES][100]

Definition at line 58 of file Lgm_MagEphemInfo.h.

3.22.2.33 Lgm_Vector ShellMirror_Pn[MAX_PITCH_ANGLES][100]

Definition at line 54 of file Lgm_MagEphemInfo.h.

3.22.2.34 Lgm_Vector ShellMirror_Ps[MAX_PITCH_ANGLES][100]

Definition at line 55 of file Lgm_MagEphemInfo.h.

3.22.2.35 double ShellMirror_Sn[MAX_PITCH_ANGLES][100]

Definition at line 56 of file Lgm_MagEphemInfo.h.

3.22.2.36 double ShellMirror_Ss[MAX_PITCH_ANGLES][100]

Definition at line 57 of file Lgm_MagEphemInfo.h.

3.22.2.37 double Tb[MAX_PITCH_ANGLES]

Definition at line 48 of file Lgm_MagEphemInfo.h.

3.22.2.38 int UseInterpRoutines

Definition at line 36 of file Lgm_MagEphemInfo.h.

3.22.2.39 double UTC

Definition at line 22 of file Lgm_MagEphemInfo.h.

3.22.2.40 double x_gsm[MAX_PITCH_ANGLES][48][1000]

Definition at line 67 of file Lgm_MagEphemInfo.h.

3.22.2.41 double y_gsm[MAX_PITCH_ANGLES][48][1000]

Definition at line 68 of file Lgm_MagEphemInfo.h.

3.22.2.42 double z_gsm[MAX_PITCH_ANGLES][48][1000]

Definition at line 69 of file Lgm_MagEphemInfo.h.

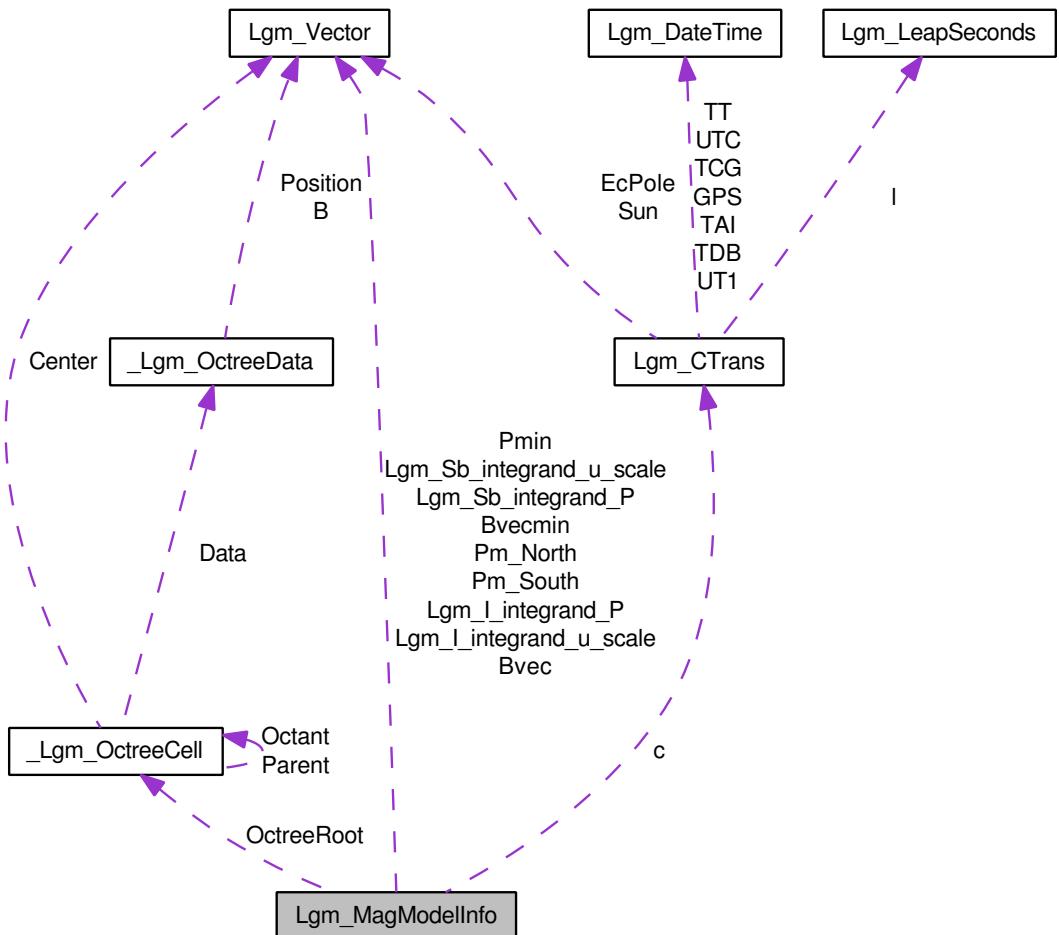
The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_MagEphemInfo.h](#)

3.23 Lgm_MagModelInfo Struct Reference

```
#include <Lgm_MagModelInfo.h>
```

Collaboration diagram for Lgm_MagModelInfo:



Data Fields

- `Lgm_CTrans * c`
- long int `nFunc`
- int(* `Bfield`)()
- int `SavePoints`
- double `Hmax`
- FILE * `fp`
- double `W` [6]
- int `Kp`
- double `Dst`
- double `P`
- double `Bx`
- double `By`

- double `Bz`
- double `T96MOD_V` [11]
- double `Trace_s`
- double `B0`
- double `B1`
- double `B2`
- int `InternalModel`
- double `KineticEnergy`
- double `Mass`
- double `PitchAngle`
- `Lgm_Vector Pm_South`
- `Lgm_Vector Pm_North`
- double `Bm`
- double `Sm_South`
- double `Sm_North`
- double `Blocal`
- int `FirstCall`
- double `s` [LGM_MAX_INTERP_PNTS]
- double `Px` [LGM_MAX_INTERP_PNTS]
- double `Py` [LGM_MAX_INTERP_PNTS]
- double `Pz` [LGM_MAX_INTERP_PNTS]
- `Lgm_Vector Bvec` [LGM_MAX_INTERP_PNTS]
- double `Bmag` [LGM_MAX_INTERP_PNTS]
- double `BminusBcdip` [LGM_MAX_INTERP_PNTS]
- int `nPnts`
- double `ds`
- double `smin`
- double `Bmin`
- `Lgm_Vector Bvecmin`
- `Lgm_Vector Pmin`
- double `d2B_ds2`
- double `Sb0`
- int `imin1`
- int `imin2`
- `gsl_interp_accel * acc`
- `gsl_interp_accel * accPx`
- `gsl_interp_accel * accPy`
- `gsl_interp_accel * accPz`
- `gsl_spline * spline`
- `gsl_spline * splinePx`
- `gsl_spline * splinePy`
- `gsl_spline * splinePz`
- int `VerbosityLevel`
- int `UseInterpRoutines`
- double `Lgm_MagStep_eps_old`
- int `Lgm_MagStep_FirstTimeThrough`
- int `Lgm_MagStep_kmax`
- int `Lgm_MagStep_kopt`
- double `Lgm_MagStep_snew`
- double `Lgm_MagStep_A` [LGM_MAGSTEP_JMAX+1]

- double `Lgm_MagStep_alpha` [LGM_MAGSTEP_IMAX+1][LGM_MAGSTEP_IMAX+1]
- double `Lgm_MagStep_d` [LGM_MAGSTEP_JMAX][LGM_MAGSTEP_JMAX]
- double `Lgm_MagStep_x` [LGM_MAGSTEP_JMAX]
- int `Lgm_I_integrand_FirstCall`
- int `Lgm_I_integrand_JumpMethod`
- double `Lgm_I_integrand_S`
- `Lgm_Vector Lgm_I_integrand_P`
- `Lgm_Vector Lgm_I_integrand_u_scale`
- int `Lgm_n_I_integrand_Calls`
- int `Lgm_I_Integrator`
- double `Lgm_I_Integrator_epsrel`
- double `Lgm_I_Integrator_epsabs`
- int `Lgm_Sb_integrand_FirstCall`
- double `Lgm_Sb_integrand_S`
- `Lgm_Vector Lgm_Sb_integrand_P`
- `Lgm_Vector Lgm_Sb_integrand_u_scale`
- int `Lgm_n_Sb_integrand_Calls`
- int `Lgm_Sb_Integrator`
- double `Lgm_Sb_Integrator_epsrel`
- double `Lgm_Sb_Integrator_epsabs`
- int `Lgm_MagFlux_Integrator`
- double `Lgm_MagFlux_Integrator_epsrel`
- double `Lgm_MagFlux_Integrator_epsabs`
- int `Lgm_LambdaIntegral_Integrator`
- double `Lgm_LambdaIntegral_Integrator_epsrel`
- double `Lgm_LambdaIntegral_Integrator_epsabs`
- double `Lgm_FindBmRadius_Tol`
- double `Lgm_FindShellLine_I_Tol`
- double `Lgm_TraceToMirrorPoint_Tol`
- `Lgm_OctreeCell * OctreeRoot`
- int `Octree_kNN_k`
- int `Octree_kNN_InterpMethod`
- double `Octree_kNN_MaxDist`
- double `OctreeScaleMin`
- double `OctreeScaleMax`
- double `OctreeScaleDiff`
- double `OpenLimit_xMin`
- double `OpenLimit_xMax`
- double `OpenLimit_yMin`
- double `OpenLimit_yMax`
- double `OpenLimit_zMin`
- double `OpenLimit_zMax`

3.23.1 Detailed Description

Definition at line 75 of file `Lgm_MagModelInfo.h`.

3.23.2 Field Documentation

3.23.2.1 `gsl_interp_accel* acc`

Definition at line 141 of file Lgm_MagModelInfo.h.

3.23.2.2 `gsl_interp_accel* accPx`

Definition at line 142 of file Lgm_MagModelInfo.h.

3.23.2.3 `gsl_interp_accel* accPy`

Definition at line 143 of file Lgm_MagModelInfo.h.

3.23.2.4 `gsl_interp_accel* accPz`

Definition at line 144 of file Lgm_MagModelInfo.h.

3.23.2.5 `double B0`

Definition at line 92 of file Lgm_MagModelInfo.h.

3.23.2.6 `double B1`

Definition at line 92 of file Lgm_MagModelInfo.h.

3.23.2.7 `double B2`

Definition at line 92 of file Lgm_MagModelInfo.h.

3.23.2.8 `int(* Bfield)()`

3.23.2.9 `double Blocl`

Definition at line 111 of file Lgm_MagModelInfo.h.

3.23.2.10 `double Bm`

Definition at line 111 of file Lgm_MagModelInfo.h.

3.23.2.11 `double Bmag[LGM_MAX_INTERP_PNTS]`

Definition at line 123 of file Lgm_MagModelInfo.h.

3.23.2.12 `double Bmin`

Definition at line 130 of file Lgm_MagModelInfo.h.

3.23.2.13 double BminusBcdip[LGM_MAX_INTERP_PNTS]

Definition at line 124 of file Lgm_MagModelInfo.h.

3.23.2.14 Lgm_Vector Bvec[LGM_MAX_INTERP_PNTS]

Definition at line 122 of file Lgm_MagModelInfo.h.

3.23.2.15 Lgm_Vector Bvecmin

Definition at line 131 of file Lgm_MagModelInfo.h.

3.23.2.16 double Bx

Definition at line 87 of file Lgm_MagModelInfo.h.

3.23.2.17 double By

Definition at line 87 of file Lgm_MagModelInfo.h.

3.23.2.18 double Bz

Definition at line 87 of file Lgm_MagModelInfo.h.

3.23.2.19 Lgm_CTrans* c

Definition at line 77 of file Lgm_MagModelInfo.h.

3.23.2.20 double d2B_ds2

Definition at line 133 of file Lgm_MagModelInfo.h.

3.23.2.21 double ds

Definition at line 126 of file Lgm_MagModelInfo.h.

3.23.2.22 double Dst

Definition at line 85 of file Lgm_MagModelInfo.h.

3.23.2.23 int FirstCall

Definition at line 112 of file Lgm_MagModelInfo.h.

3.23.2.24 FILE* fp

Definition at line 82 of file Lgm_MagModelInfo.h.

3.23.2.25 double Hmax

Definition at line 81 of file Lgm_MagModelInfo.h.

3.23.2.26 int imin1

Definition at line 135 of file Lgm_MagModelInfo.h.

3.23.2.27 int imin2

Definition at line 136 of file Lgm_MagModelInfo.h.

3.23.2.28 int InternalModel

Definition at line 98 of file Lgm_MagModelInfo.h.

3.23.2.29 double KineticEnergy

Definition at line 105 of file Lgm_MagModelInfo.h.

3.23.2.30 int Kp

Definition at line 84 of file Lgm_MagModelInfo.h.

3.23.2.31 double Lgm_FindBmRadius_Tol

Definition at line 224 of file Lgm_MagModelInfo.h.

3.23.2.32 double Lgm_FindShellLine_I_Tol

Definition at line 225 of file Lgm_MagModelInfo.h.

3.23.2.33 int Lgm_I_integrand_FirstCall

Definition at line 178 of file Lgm_MagModelInfo.h.

3.23.2.34 int Lgm_I_integrand_JumpMethod

Definition at line 179 of file Lgm_MagModelInfo.h.

3.23.2.35 Lgm_Vector Lgm_I_integrand_P

Definition at line 181 of file Lgm_MagModelInfo.h.

3.23.2.36 double Lgm_I_integrand_S

Definition at line 180 of file Lgm_MagModelInfo.h.

3.23.2.37 Lgm_Vector Lgm_I_integrand_u_scale

Definition at line 182 of file Lgm_MagModelInfo.h.

3.23.2.38 int Lgm_I_Integrator

Definition at line 184 of file Lgm_MagModelInfo.h.

3.23.2.39 double Lgm_I_Integrator_epsabs

Definition at line 186 of file Lgm_MagModelInfo.h.

3.23.2.40 double Lgm_I_Integrator_epsrel

Definition at line 185 of file Lgm_MagModelInfo.h.

3.23.2.41 int Lgm_LambdaIntegral_Integrator

Definition at line 215 of file Lgm_MagModelInfo.h.

3.23.2.42 double Lgm_LambdaIntegral_Integrator_epsabs

Definition at line 218 of file Lgm_MagModelInfo.h.

3.23.2.43 double Lgm_LambdaIntegral_Integrator_epsrel

Definition at line 217 of file Lgm_MagModelInfo.h.

3.23.2.44 int Lgm_MagFlux_Integrator

Definition at line 206 of file Lgm_MagModelInfo.h.

3.23.2.45 double Lgm_MagFlux_Integrator_epsabs

Definition at line 209 of file Lgm_MagModelInfo.h.

3.23.2.46 double Lgm_MagFlux_Integrator_epsrel

Definition at line 208 of file Lgm_MagModelInfo.h.

3.23.2.47 double Lgm_MagStep_A[LGM_MAGSTEP_JMAX+1]

Definition at line 168 of file Lgm_MagModelInfo.h.

3.23.2.48 double Lgm_MagStep_alpha[LGM_MAGSTEP_IMAX+1][LGM_MAGSTEP_-IMAX+1]

Definition at line 169 of file Lgm_MagModelInfo.h.

3.23.2.49 double Lgm_MagStep_d[LGM_MAGSTEP_JMAX][LGM_MAGSTEP_JMAX]

Definition at line 170 of file Lgm_MagModelInfo.h.

3.23.2.50 double Lgm_MagStep_eps_old

Definition at line 163 of file Lgm_MagModelInfo.h.

3.23.2.51 int Lgm_MagStep_FirstTimeThrough

Definition at line 164 of file Lgm_MagModelInfo.h.

3.23.2.52 int Lgm_MagStep_kmax

Definition at line 165 of file Lgm_MagModelInfo.h.

3.23.2.53 int Lgm_MagStep_kopt

Definition at line 166 of file Lgm_MagModelInfo.h.

3.23.2.54 double Lgm_MagStep_snew

Definition at line 167 of file Lgm_MagModelInfo.h.

3.23.2.55 double Lgm_MagStep_x[LGM_MAGSTEP_JMAX]

Definition at line 171 of file Lgm_MagModelInfo.h.

3.23.2.56 int Lgm_n_I_integrand_Calls

Definition at line 183 of file Lgm_MagModelInfo.h.

3.23.2.57 int Lgm_n_Sb_integrand_Calls

Definition at line 196 of file Lgm_MagModelInfo.h.

3.23.2.58 int Lgm_Sb_integrand_FirstCall

Definition at line 192 of file Lgm_MagModelInfo.h.

3.23.2.59 Lgm_Vector Lgm_Sb_integrand_P

Definition at line 194 of file Lgm_MagModelInfo.h.

3.23.2.60 double Lgm_Sb_integrand_S

Definition at line 193 of file Lgm_MagModelInfo.h.

3.23.2.61 Lgm_Vector Lgm_Sb_integrand_u_scale

Definition at line 195 of file Lgm_MagModelInfo.h.

3.23.2.62 int Lgm_Sb_Integrator

Definition at line 197 of file Lgm_MagModelInfo.h.

3.23.2.63 double Lgm_Sb_Integrator_epsabs

Definition at line 200 of file Lgm_MagModelInfo.h.

3.23.2.64 double Lgm_Sb_Integrator_epsrel

Definition at line 199 of file Lgm_MagModelInfo.h.

3.23.2.65 double Lgm_TraceToMirrorPoint_Tol

Definition at line 226 of file Lgm_MagModelInfo.h.

3.23.2.66 double Mass

Definition at line 106 of file Lgm_MagModelInfo.h.

3.23.2.67 long int nFunc

Definition at line 78 of file Lgm_MagModelInfo.h.

3.23.2.68 int nPnts

Definition at line 125 of file Lgm_MagModelInfo.h.

3.23.2.69 int Octree_kNN_InterpMethod

Definition at line 235 of file Lgm_MagModelInfo.h.

3.23.2.70 int Octree_kNN_k

Definition at line 234 of file Lgm_MagModelInfo.h.

3.23.2.71 double Octree_kNN_MaxDist

Definition at line 236 of file Lgm_MagModelInfo.h.

3.23.2.72 Lgm_OctreeCell* OctreeRoot

Definition at line 233 of file Lgm_MagModelInfo.h.

3.23.2.73 double OctreeScaleDiff

Definition at line 239 of file Lgm_MagModelInfo.h.

3.23.2.74 double OctreeScaleMax

Definition at line 238 of file Lgm_MagModelInfo.h.

3.23.2.75 double OctreeScaleMin

Definition at line 237 of file Lgm_MagModelInfo.h.

3.23.2.76 double OpenLimit_xMax

Definition at line 246 of file Lgm_MagModelInfo.h.

3.23.2.77 double OpenLimit_xMin

Definition at line 245 of file Lgm_MagModelInfo.h.

3.23.2.78 double OpenLimit_yMax

Definition at line 248 of file Lgm_MagModelInfo.h.

3.23.2.79 double OpenLimit_yMin

Definition at line 247 of file Lgm_MagModelInfo.h.

3.23.2.80 double OpenLimit_zMax

Definition at line 250 of file Lgm_MagModelInfo.h.

3.23.2.81 double OpenLimit_zMin

Definition at line 249 of file Lgm_MagModelInfo.h.

3.23.2.82 double P

Definition at line 86 of file Lgm_MagModelInfo.h.

3.23.2.83 double PitchAngle

Definition at line 107 of file Lgm_MagModelInfo.h.

3.23.2.84 Lgm_Vector Pm_North

Definition at line 110 of file Lgm_MagModelInfo.h.

3.23.2.85 Lgm_Vector Pm_South

Definition at line 109 of file Lgm_MagModelInfo.h.

3.23.2.86 Lgm_Vector Pmin

Definition at line 132 of file Lgm_MagModelInfo.h.

3.23.2.87 double Px[LGM_MAX_INTERP_PNTS]

Definition at line 119 of file Lgm_MagModelInfo.h.

3.23.2.88 double Py[LGM_MAX_INTERP_PNTS]

Definition at line 120 of file Lgm_MagModelInfo.h.

3.23.2.89 double Pz[LGM_MAX_INTERP_PNTS]

Definition at line 121 of file Lgm_MagModelInfo.h.

3.23.2.90 double s[LGM_MAX_INTERP_PNTS]

Definition at line 118 of file Lgm_MagModelInfo.h.

3.23.2.91 int SavePoints

Definition at line 80 of file Lgm_MagModelInfo.h.

3.23.2.92 double Sb0

Definition at line 134 of file Lgm_MagModelInfo.h.

3.23.2.93 double Sm_North

Definition at line 111 of file Lgm_MagModelInfo.h.

3.23.2.94 double Sm_South

Definition at line 111 of file Lgm_MagModelInfo.h.

3.23.2.95 double smin

Definition at line 129 of file Lgm_MagModelInfo.h.

3.23.2.96 gsl_spline* spline

Definition at line 145 of file Lgm_MagModelInfo.h.

3.23.2.97 gsl_spline* splinePx

Definition at line 146 of file Lgm_MagModelInfo.h.

3.23.2.98 gsl_spline* splinePy

Definition at line 147 of file Lgm_MagModelInfo.h.

3.23.2.99 gsl_spline* splinePz

Definition at line 148 of file Lgm_MagModelInfo.h.

3.23.2.100 double T96MOD_V[11]

Definition at line 88 of file Lgm_MagModelInfo.h.

3.23.2.101 double Trace_s

Definition at line 90 of file Lgm_MagModelInfo.h.

3.23.2.102 int UseInterpRoutines

Definition at line 156 of file Lgm_MagModelInfo.h.

3.23.2.103 int VerbosityLevel

Definition at line 155 of file Lgm_MagModelInfo.h.

3.23.2.104 double W[6]

Definition at line 83 of file Lgm_MagModelInfo.h.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_MagModelInfo.h](#)

3.24 Lgm_NgaEopp Struct Reference

```
#include <Lgm_Eop.h>
```

Data Fields

- double `ta`
- double `A`
- double `B`
- double `C1`
- double `C2`
- double `D1`
- double `D2`
- double `P1`
- double `P2`
- double `E`
- double `F`
- double `G1`
- double `G2`
- double `H1`
- double `H2`
- double `Q1`
- double `Q2`
- double `tb`
- double `I`
- double `J`
- double `K1`
- double `K2`
- double `K3`
- double `K4`
- double `L1`
- double `L2`
- double `L3`
- double `L4`
- double `R1`
- double `R2`
- double `R3`
- double `R4`
- int `dat`
- int `EOPPWk`
- int `teff`

3.24.1 Detailed Description

Definition at line 18 of file Lgm_Eop.h.

3.24.2 Field Documentation

3.24.2.1 double A

Definition at line 20 of file Lgm_Eop.h.

3.24.2.2 double B

Definition at line 20 of file Lgm_Eop.h.

3.24.2.3 double C1

Definition at line 20 of file Lgm_Eop.h.

3.24.2.4 double C2

Definition at line 20 of file Lgm_Eop.h.

3.24.2.5 double D1

Definition at line 20 of file Lgm_Eop.h.

3.24.2.6 double D2

Definition at line 20 of file Lgm_Eop.h.

3.24.2.7 int dat

Definition at line 24 of file Lgm_Eop.h.

3.24.2.8 double E

Definition at line 21 of file Lgm_Eop.h.

3.24.2.9 int EOPPWk

Definition at line 24 of file Lgm_Eop.h.

3.24.2.10 double F

Definition at line 21 of file Lgm_Eop.h.

3.24.2.11 double G1

Definition at line 21 of file Lgm_Eop.h.

3.24.2.12 double G2

Definition at line 21 of file Lgm_Eop.h.

3.24.2.13 double H1

Definition at line 21 of file Lgm_Eop.h.

3.24.2.14 double H2

Definition at line 21 of file Lgm_Eop.h.

3.24.2.15 double I

Definition at line 22 of file Lgm_Eop.h.

3.24.2.16 double J

Definition at line 22 of file Lgm_Eop.h.

3.24.2.17 double K1

Definition at line 22 of file Lgm_Eop.h.

3.24.2.18 double K2

Definition at line 22 of file Lgm_Eop.h.

3.24.2.19 double K3

Definition at line 22 of file Lgm_Eop.h.

3.24.2.20 double K4

Definition at line 22 of file Lgm_Eop.h.

3.24.2.21 double L1

Definition at line 23 of file Lgm_Eop.h.

3.24.2.22 double L2

Definition at line 23 of file Lgm_Eop.h.

3.24.2.23 double L3

Definition at line 23 of file Lgm_Eop.h.

3.24.2.24 double L4

Definition at line 23 of file Lgm_Eop.h.

3.24.2.25 double P1

Definition at line 20 of file Lgm_Eop.h.

3.24.2.26 double P2

Definition at line 21 of file Lgm_Eop.h.

3.24.2.27 double Q1

Definition at line 21 of file Lgm_Eop.h.

3.24.2.28 double Q2

Definition at line 21 of file Lgm_Eop.h.

3.24.2.29 double R1

Definition at line 23 of file Lgm_Eop.h.

3.24.2.30 double R2

Definition at line 23 of file Lgm_Eop.h.

3.24.2.31 double R3

Definition at line 23 of file Lgm_Eop.h.

3.24.2.32 double R4

Definition at line 23 of file Lgm_Eop.h.

3.24.2.33 double ta

Definition at line 20 of file Lgm_Eop.h.

3.24.2.34 double tb

Definition at line 22 of file Lgm_Eop.h.

3.24.2.35 int teff

Definition at line 24 of file Lgm_Eop.h.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_Eop.h](#)

3.25 Lgm_Vector Struct Reference

```
#include <Lgm_Vec.h>
```

Data Fields

- double [x](#)
- double [y](#)
- double [z](#)

3.25.1 Detailed Description

Definition at line 3 of file Lgm_Vec.h.

3.25.2 Field Documentation

3.25.2.1 double x

Definition at line 4 of file Lgm_Vec.h.

3.25.2.2 double y

Definition at line 5 of file Lgm_Vec.h.

3.25.2.3 double z

Definition at line 6 of file Lgm_Vec.h.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_Vec.h](#)

3.26 LgmPosition Struct Reference

```
#include <Lgm_Vec.h>
```

Data Fields

- double [x](#)
- double [y](#)
- double [z](#)

3.26.1 Detailed Description

Definition at line 9 of file Lgm_Vec.h.

3.26.2 Field Documentation

3.26.2.1 double x

Definition at line 10 of file Lgm_Vec.h.

3.26.2.2 double y

Definition at line 11 of file Lgm_Vec.h.

3.26.2.3 double z

Definition at line 12 of file Lgm_Vec.h.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/[Lgm_Vec.h](#)

3.27 PySwigClientData Struct Reference

Data Fields

- PyObject * [klass](#)
- PyObject * [newraw](#)
- PyObject * [newargs](#)
- PyObject * [destroy](#)
- int [delargs](#)
- int [implicitconv](#)

3.27.1 Detailed Description

Definition at line 1218 of file Lgm_CTrans_wrap.c.

3.27.2 Field Documentation

3.27.2.1 int [delargs](#)

Definition at line 1223 of file Lgm_CTrans_wrap.c.

3.27.2.2 PyObject* [destroy](#)

Definition at line 1222 of file Lgm_CTrans_wrap.c.

3.27.2.3 int [implicitconv](#)

Definition at line 1224 of file Lgm_CTrans_wrap.c.

3.27.2.4 PyObject* [klass](#)

Definition at line 1219 of file Lgm_CTrans_wrap.c.

3.27.2.5 PyObject* [newargs](#)

Definition at line 1221 of file Lgm_CTrans_wrap.c.

3.27.2.6 PyObject* [newraw](#)

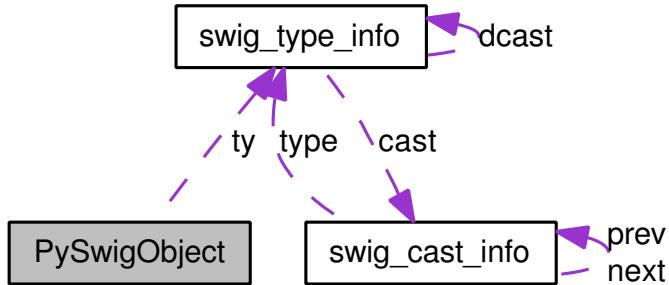
Definition at line 1220 of file Lgm_CTrans_wrap.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Lgm_CTrans_wrap.c](#)

3.28 PySwigObject Struct Reference

Collaboration diagram for PySwigObject:



Data Fields

- PyObject_HEAD void * **ptr**
- **swig_type_info** * **ty**
- int **own**
- PyObject * **next**

3.28.1 Detailed Description

Definition at line 1305 of file Lgm_CTrans_wrap.c.

3.28.2 Field Documentation

3.28.2.1 PyObject* **next**

Definition at line 1310 of file Lgm_CTrans_wrap.c.

3.28.2.2 int **own**

Definition at line 1309 of file Lgm_CTrans_wrap.c.

3.28.2.3 PyObject_HEAD void* **ptr**

Definition at line 1307 of file Lgm_CTrans_wrap.c.

3.28.2.4 **swig_type_info*** **ty**

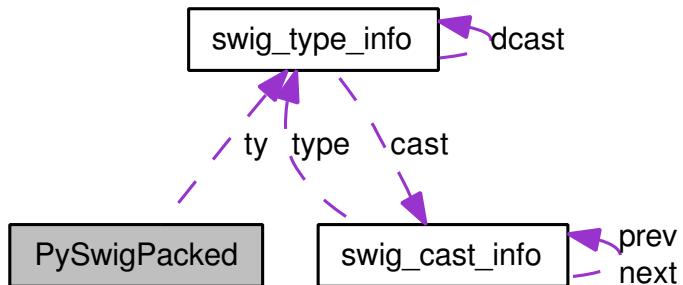
Definition at line 1308 of file Lgm_CTrans_wrap.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Lgm_CTrans_wrap.c](#)

3.29 PySwigPacked Struct Reference

Collaboration diagram for PySwigPacked:



Data Fields

- PyObject_HEAD void * `pack`
- `swig_type_info * ty`
- `size_t size`

3.29.1 Detailed Description

Definition at line 1705 of file Lgm_CTrans_wrap.c.

3.29.2 Field Documentation

3.29.2.1 PyObject_HEAD void* pack

Definition at line 1707 of file Lgm_CTrans_wrap.c.

3.29.2.2 size_t size

Definition at line 1709 of file Lgm_CTrans_wrap.c.

3.29.2.3 swig_type_info* ty

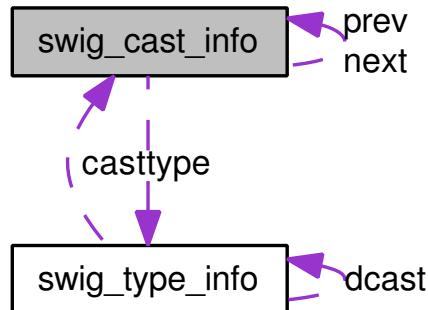
Definition at line 1708 of file Lgm_CTrans_wrap.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Lgm_CTrans_wrap.c](#)

3.30 `swig_cast_info` Struct Reference

Collaboration diagram for `swig_cast_info`:



Data Fields

- `swig_type_info * type`
- `swig_converter_func converter`
- `struct swig_cast_info * next`
- `struct swig_cast_info * prev`

3.30.1 Detailed Description

Definition at line 325 of file Lgm_CTrans_wrap.c.

3.30.2 Field Documentation

3.30.2.1 `swig_converter_func converter`

Definition at line 327 of file Lgm_CTrans_wrap.c.

3.30.2.2 `struct swig_cast_info* next [read]`

Definition at line 328 of file Lgm_CTrans_wrap.c.

3.30.2.3 `struct swig_cast_info* prev [read]`

Definition at line 329 of file Lgm_CTrans_wrap.c.

3.30.2.4 `swig_type_info* type`

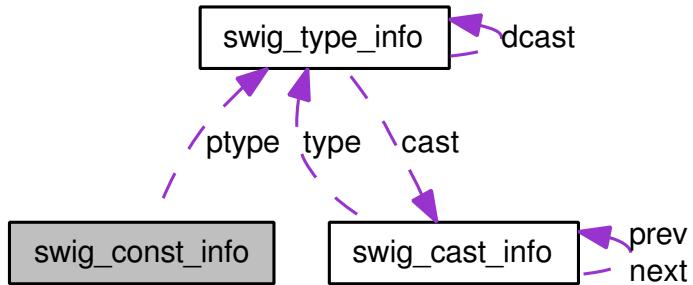
Definition at line 326 of file Lgm_CTrans_wrap.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Lgm_CTrans_wrap.c](#)

3.31 `swig_const_info` Struct Reference

Collaboration diagram for `swig_const_info`:



Data Fields

- int `type`
- char * `name`
- long `lvalue`
- double `dvalue`
- void * `pvalue`
- `swig_type_info ** ptype`

3.31.1 Detailed Description

Definition at line 959 of file Lgm_CTrans_wrap.c.

3.31.2 Field Documentation

3.31.2.1 double `dvalue`

Definition at line 963 of file Lgm_CTrans_wrap.c.

3.31.2.2 long `lvalue`

Definition at line 962 of file Lgm_CTrans_wrap.c.

3.31.2.3 char* `name`

Definition at line 961 of file Lgm_CTrans_wrap.c.

3.31.2.4 `swig_type_info** ptype`

Definition at line 965 of file Lgm_CTrans_wrap.c.

3.31.2.5 void* pvalue

Definition at line 964 of file Lgm_CTrans_wrap.c.

3.31.2.6 int type

Definition at line 960 of file Lgm_CTrans_wrap.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Lgm_CTrans_wrap.c](#)

3.32 `swig_globalvar` Struct Reference

Collaboration diagram for `swig_globalvar`:



Data Fields

- `char * name`
- `PyObject *(* get_attr)(void)`
- `int(* set_attr)(PyObject *)`
- `struct swig_globalvar * next`

3.32.1 Detailed Description

Definition at line 12862 of file `Lgm_CTrans_wrap.c`.

3.32.2 Field Documentation

3.32.2.1 `PyObject*(* get_attr)(void)`

3.32.2.2 `char* name`

Definition at line 12863 of file `Lgm_CTrans_wrap.c`.

3.32.2.3 `struct swig_globalvar* next [read]`

Definition at line 12866 of file `Lgm_CTrans_wrap.c`.

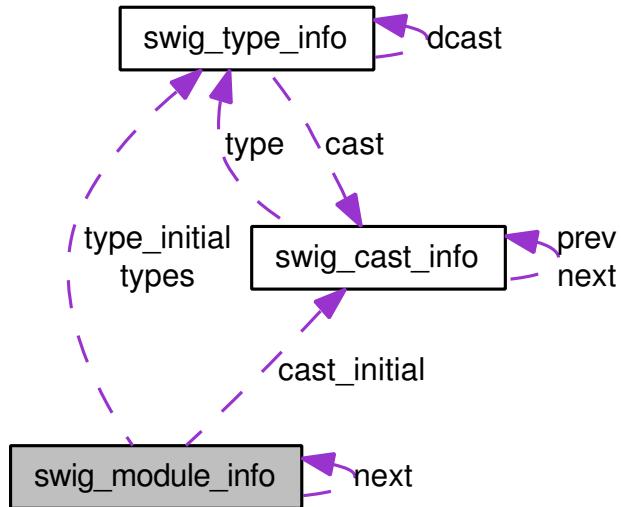
3.32.2.4 `int(* set_attr)(PyObject *)`

The documentation for this struct was generated from the following file:

- `/home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_CTrans_wrap.c`

3.33 `swig_module_info` Struct Reference

Collaboration diagram for `swig_module_info`:



Data Fields

- `swig_type_info ** types`
- `size_t size`
- `struct swig_module_info * next`
- `swig_type_info ** type_initial`
- `swig_cast_info ** cast_initial`
- `void * clientdata`

3.33.1 Detailed Description

Definition at line 335 of file Lgm_CTrans_wrap.c.

3.33.2 Field Documentation

3.33.2.1 `swig_cast_info** cast_initial`

Definition at line 340 of file Lgm_CTrans_wrap.c.

3.33.2.2 `void* clientdata`

Definition at line 341 of file Lgm_CTrans_wrap.c.

3.33.2.3 `struct swig_module_info* next [read]`

Definition at line 338 of file Lgm_CTrans_wrap.c.

3.33.2.4 size_t size

Definition at line 337 of file Lgm_CTrans_wrap.c.

3.33.2.5 swig_type_info type_initial**

Definition at line 339 of file Lgm_CTrans_wrap.c.

3.33.2.6 swig_type_info types**

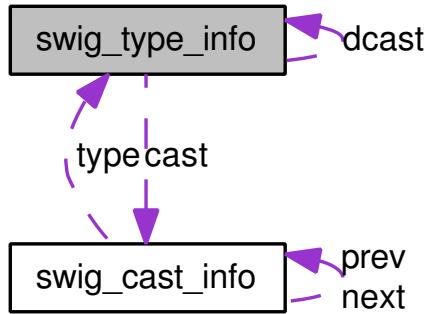
Definition at line 336 of file Lgm_CTrans_wrap.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Lgm_CTrans_wrap.c](#)

3.34 swig_type_info Struct Reference

Collaboration diagram for swig_type_info:



Data Fields

- const char * `name`
- const char * `str`
- `swig_dycast_func dcast`
- struct `swig_cast_info` * `cast`
- void * `clientdata`
- int `owndata`

3.34.1 Detailed Description

Definition at line 315 of file Lgm_CTrans_wrap.c.

3.34.2 Field Documentation

3.34.2.1 struct swig_cast_info* cast [read]

Definition at line 319 of file Lgm_CTrans_wrap.c.

3.34.2.2 void* clientdata

Definition at line 320 of file Lgm_CTrans_wrap.c.

3.34.2.3 swig_dycast_func dcast

Definition at line 318 of file Lgm_CTrans_wrap.c.

3.34.2.4 const char* name

Definition at line 316 of file Lgm_CTrans_wrap.c.

3.34.2.5 int owndata

Definition at line 321 of file Lgm_CTrans_wrap.c.

3.34.2.6 const char* str

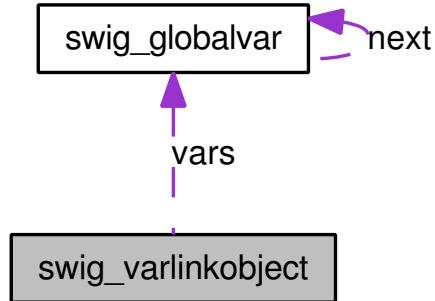
Definition at line 317 of file Lgm_CTrans_wrap.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Lgm_CTrans_wrap.c](#)

3.35 swig_varlinkobject Struct Reference

Collaboration diagram for swig_varlinkobject:



Data Fields

- PyObject_HEAD [swig_globalvar * vars](#)

3.35.1 Detailed Description

Definition at line 12869 of file Lgm_CTrans_wrap.c.

3.35.2 Field Documentation

3.35.2.1 PyObject_HEAD swig_globalvar* vars

Definition at line 12871 of file Lgm_CTrans_wrap.c.

The documentation for this struct was generated from the following file:

- /home/mgh/LanlGeoMag/libLanlGeoMag/[Lgm_CTrans_wrap.c](#)

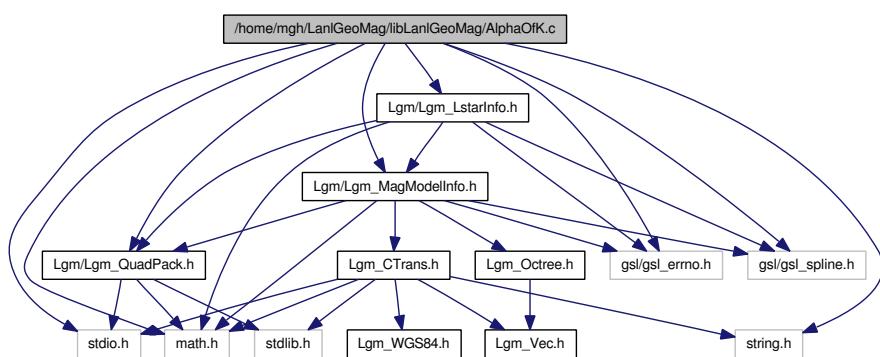
Chapter 4

File Documentation

4.1 /home/mgh/LanlGeoMag/libLanlGeoMag/AlphaOfK.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "Lgm/Lgm_QuadPack.h"
#include "Lgm/Lgm_MagModelInfo.h"
#include "Lgm/Lgm_LstarInfo.h"
#include <gsl/gsl_errno.h>
#include <gsl/gsl_spline.h>
#include <string.h>
```

Include dependency graph for AlphaOfK.c:



Defines

- #define TRACE_TOL 1e-7
- #define GOLD 0.38197

Functions

- double [Func](#) (double Kt, double Alpha, [Lgm_LstarInfo](#) *LstarInfo)
- double [AlphaOfK](#) (double K, [Lgm_LstarInfo](#) *LstarInfo)

4.1.1 Define Documentation

4.1.1.1 #define GOLD 0.38197

Definition at line 11 of file AlphaOfK.c.

4.1.1.2 #define TRACE_TOL 1e-7

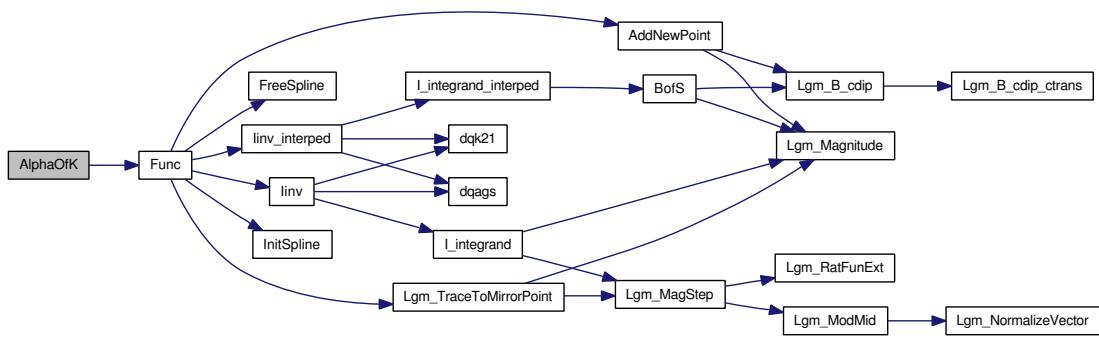
Definition at line 10 of file AlphaOfK.c.

4.1.2 Function Documentation

4.1.2.1 double AlphaOfK (double K, Lgm_LstarInfo * LstarInfo)

Definition at line 24 of file AlphaOfK.c.

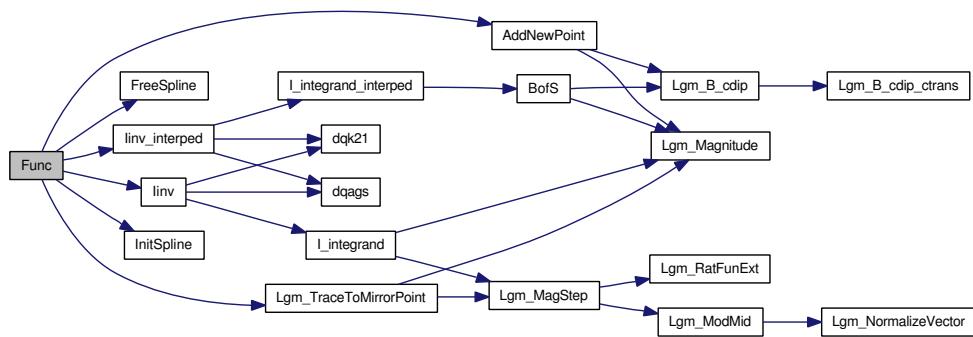
Here is the call graph for this function:



4.1.2.2 double Func (double Kt, double Alpha, Lgm_LstarInfo * LstarInfo)

Definition at line 109 of file AlphaOfK.c.

Here is the call graph for this function:



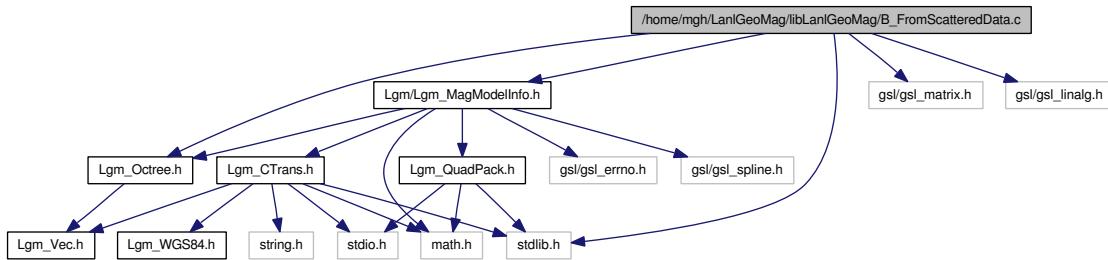
Here is the caller graph for this function:



4.2 /home/mgh/LanlGeoMag/libLanlGeoMag/B_- FromScatteredData.c File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
#include "Lgm/Lgm_Octree.h"
#include <stdlib.h>
#include <gsl/gsl_matrix.h>
#include <gsl/gsl_linalg.h>
```

Include dependency graph for B_FromScatteredData.c:



Functions

- void [DFI_BasisFuncLin](#) (double *b, [Lgm_Vector](#) *P)
- void [DFI_FuncLin](#) ([Lgm_Vector](#) *P, [gsl_vector](#) *C, [Lgm_Vector](#) *V)
- void [DFI_DivBasisFuncLin](#) (double *bdiv, [Lgm_Vector](#) *P)
- void [DFI_BasisFunc](#) (double *b, [Lgm_Vector](#) *P)
- void [DFI_Func](#) ([Lgm_Vector](#) *P, [gsl_vector](#) *C, [Lgm_Vector](#) *V)
- void [DFI_DivBasisFunc](#) (double *bdiv, [Lgm_Vector](#) *P)
- int [Lgm_DivFreeInterp](#) ([Lgm_Vector](#) *q, [Lgm_OctreeData](#) *kNN, int K, [Lgm_Vector](#) *v)
- int [Lgm_DivFreeInterp2](#) ([Lgm_Vector](#) *q, [Lgm_OctreeData](#) *kNN, int K, [Lgm_Vector](#) *v)
- int [Lgm_B_FromScatteredData](#) ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_MagModelInfo](#) *Info)

4.2.1 Function Documentation

4.2.1.1 void [DFI_BasisFunc](#) (double * b, [Lgm_Vector](#) * P)

Definition at line 58 of file B_FromScatteredData.c.

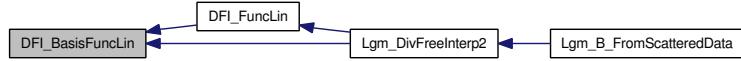
Here is the caller graph for this function:



4.2.1.2 void [DFI_BasisFuncLin](#) (double * b, [Lgm_Vector](#) * P)

Definition at line 28 of file B_FromScatteredData.c.

Here is the caller graph for this function:



4.2.1.3 void DFI_DivBasisFunc (double * *bdiv*, Lgm_Vector * *P*)

Definition at line 79 of file B_FromScatteredData.c.

4.2.1.4 void DFI_DivBasisFuncLin (double * *bdiv*, Lgm_Vector * *P*)

Definition at line 42 of file B_FromScatteredData.c.

Here is the caller graph for this function:



4.2.1.5 void DFI_Func (Lgm_Vector * *P*, gsl_vector * *C*, Lgm_Vector * *V*)

Definition at line 65 of file B_FromScatteredData.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.2.1.6 void DFI_FuncLin (Lgm_Vector * *P*, gsl_vector * *C*, Lgm_Vector * *V*)

Definition at line 32 of file B_FromScatteredData.c.

Here is the call graph for this function:



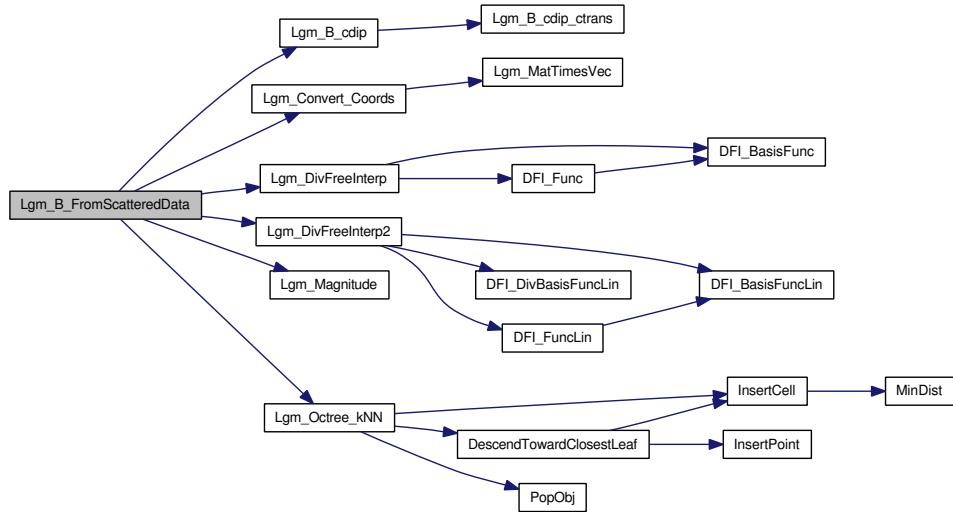
Here is the caller graph for this function:



4.2.1.7 int Lgm_B_FromScatteredData (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)

Definition at line 448 of file B_FromScatteredData.c.

Here is the call graph for this function:



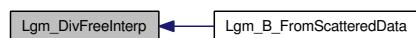
4.2.1.8 int Lgm_DivFreeInterp (Lgm_Vector * q, Lgm_OctreeData * kNN, int K, Lgm_Vector * v)

Definition at line 93 of file B_FromScatteredData.c.

Here is the call graph for this function:



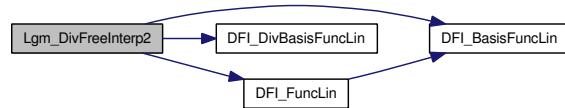
Here is the caller graph for this function:



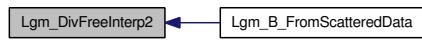
4.2.1.9 int Lgm_DivFreeInterp2 (Lgm_Vector * q, Lgm_OctreeData * kNN, int K, Lgm_Vector * v)

Definition at line 294 of file B_FromScatteredData.c.

Here is the call graph for this function:



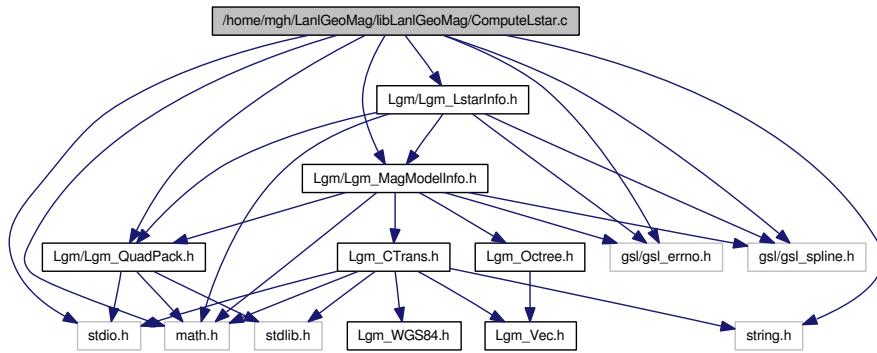
Here is the caller graph for this function:



4.3 /home/mgh/LanlGeoMag/libLanlGeoMag/ComputeLstar.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "Lgm/Lgm_QuadPack.h"
#include "Lgm/Lgm_MagModelInfo.h"
#include "Lgm/Lgm_LstarInfo.h"
#include <gsl/gsl_errno.h>
#include <gsl/gsl_spline.h>
#include <string.h>
```

Include dependency graph for ComputeLstar.c:



Defines

- #define DeltaMLT 1.0

Functions

- void [PredictMlat1](#) (double *MirrorMLT, double *MirrorMlat, int k, double MLT, double *pred_mlat, double *pred_delta_mlat, double *delta)
- void [PredictMlat2](#) (double *MirrorMLT, double *MirrorMlat, int k, double MLT, double *pred_mlat, double *pred_delta_mlat, double *delta, [Lgm_LstarInfo](#) *LstarInfo)
- void [SetLstarTolerances](#) (int Quality, [Lgm_LstarInfo](#) *s)
- [Lgm_LstarInfo](#) * [InitLstarInfo](#) (int VerbosityLevel)
- void [FreeLstarInfo](#) ([Lgm_LstarInfo](#) *s)
- [Lgm_LstarInfo](#) * [Lgm_CopyLstarInfo](#) ([Lgm_LstarInfo](#) *s)
- void [NewTimeLstarInfo](#) (long int Date, double UT, double PitchAngle, int(*Mag)([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *), [Lgm_LstarInfo](#) *LstarInfo)
- int [Lstar](#) ([Lgm_Vector](#) *vin, [Lgm_LstarInfo](#) *LstarInfo)
- double [MagFluxIntegrand](#) (double Phi, [_qpInfo](#) *qpInfo)
- double [MagFlux](#) ([Lgm_LstarInfo](#) *LstarInfo)
- double [LambdaIntegrand](#) (double Lambda, [_qpInfo](#) *qpInfo)
- double [LambdaIntegral](#) ([Lgm_LstarInfo](#) *LstarInfo)

- double `MagFluxIntegrand2` (double Phi, `_qpInfo` *qpInfo)
- double `MagFlux2` (`Lgm_LstarInfo` *LstarInfo)

4.3.1 Define Documentation

4.3.1.1 #define DeltaMLT 1.0

Definition at line 10 of file ComputeLstar.c.

4.3.2 Function Documentation

4.3.2.1 void FreeLstarInfo (`Lgm_LstarInfo` * s)

Definition at line 221 of file ComputeLstar.c.

Here is the call graph for this function:



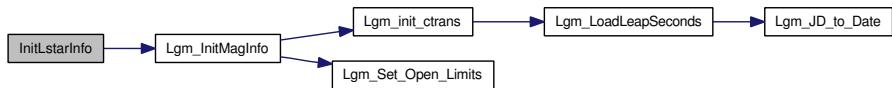
Here is the caller graph for this function:



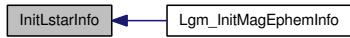
4.3.2.2 `Lgm_LstarInfo*` InitLstarInfo (int *VerbosityLevel*)

Definition at line 189 of file ComputeLstar.c.

Here is the call graph for this function:



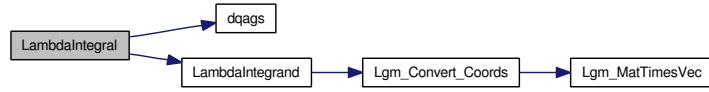
Here is the caller graph for this function:



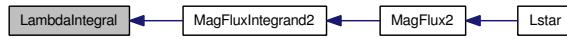
4.3.2.3 double LambdaIntegral (`Lgm_LstarInfo` * *LstarInfo*)

Definition at line 945 of file ComputeLstar.c.

Here is the call graph for this function:



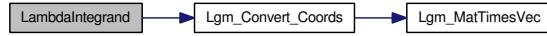
Here is the caller graph for this function:



4.3.2.4 double LambdaIntegrand (double *Lambda*, _qpInfo * *qpInfo*)

Definition at line 909 of file ComputeLstar.c.

Here is the call graph for this function:



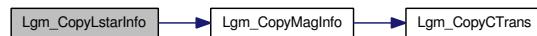
Here is the caller graph for this function:



4.3.2.5 Lgm_LstarInfo* Lgm_CopyLstarInfo (Lgm_LstarInfo * *s*)

Definition at line 235 of file ComputeLstar.c.

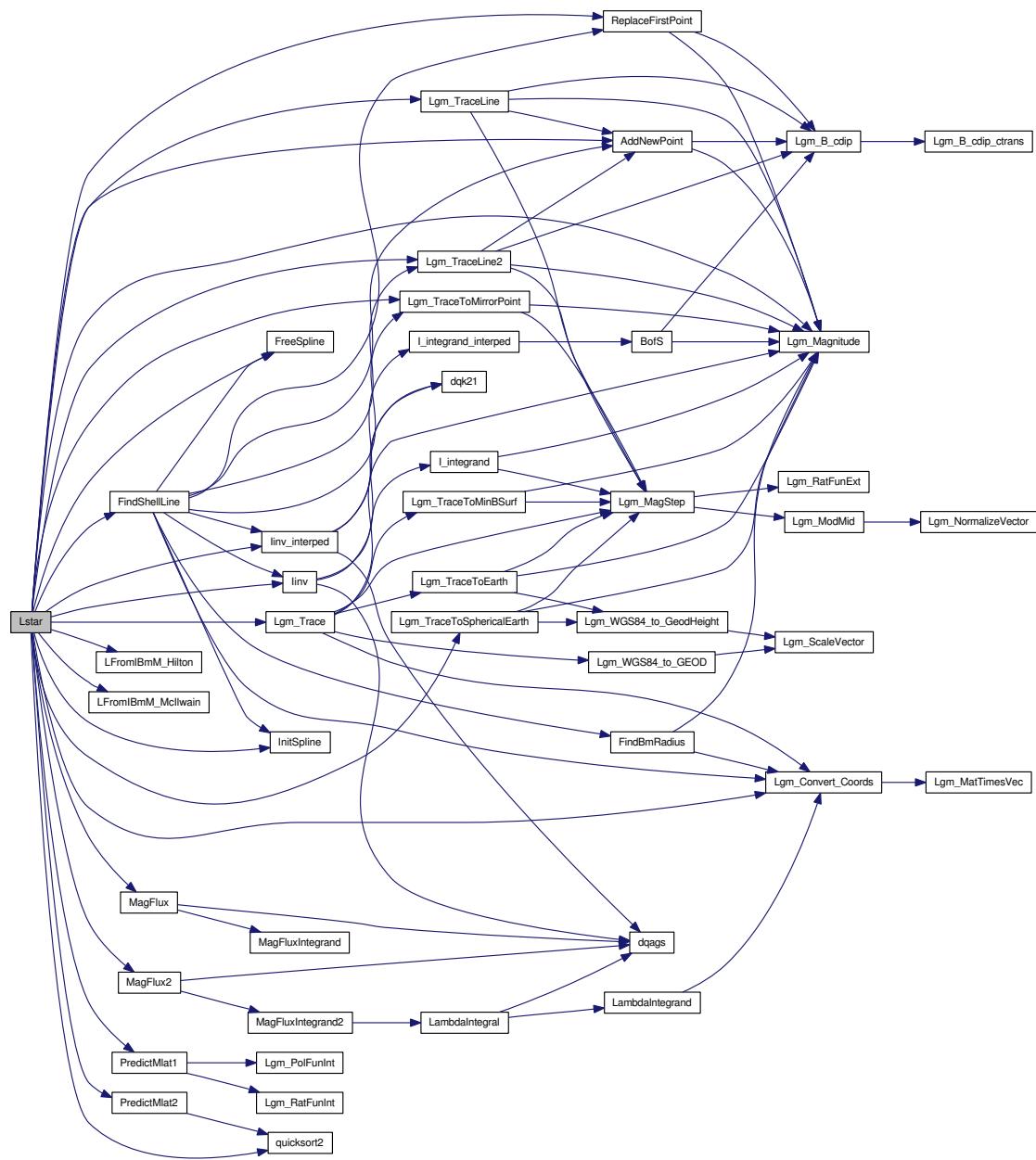
Here is the call graph for this function:



4.3.2.6 int Lstar (Lgm_Vector * *vin*, Lgm_LstarInfo * *LstarInfo*)

Definition at line 307 of file ComputeLstar.c.

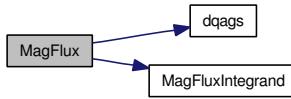
Here is the call graph for this function:



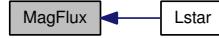
4.3.2.7 double MagFlux (Lgm_LstarInfo * LstarInfo)

Definition at line 842 of file ComputeLstar.c.

Here is the call graph for this function:



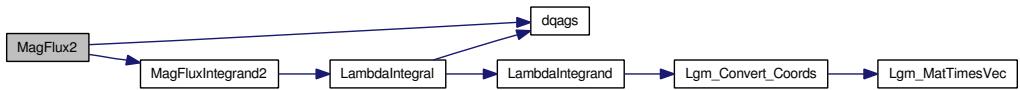
Here is the caller graph for this function:



4.3.2.8 double MagFlux2 (*Lgm_LstarInfo * LstarInfo*)

Definition at line 1023 of file ComputeLstar.c.

Here is the call graph for this function:



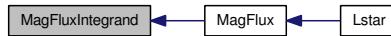
Here is the caller graph for this function:



4.3.2.9 double MagFluxIntegrand (double *Phi*, *_qpInfo * qpInfo*)

Definition at line 815 of file ComputeLstar.c.

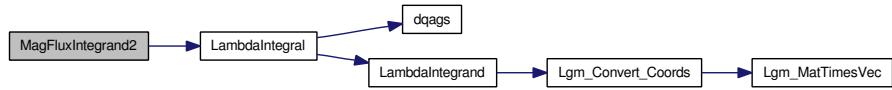
Here is the caller graph for this function:



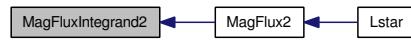
4.3.2.10 double MagFluxIntegrand2 (double *Phi*, *_qpInfo * qpInfo*)

Definition at line 1005 of file ComputeLstar.c.

Here is the call graph for this function:



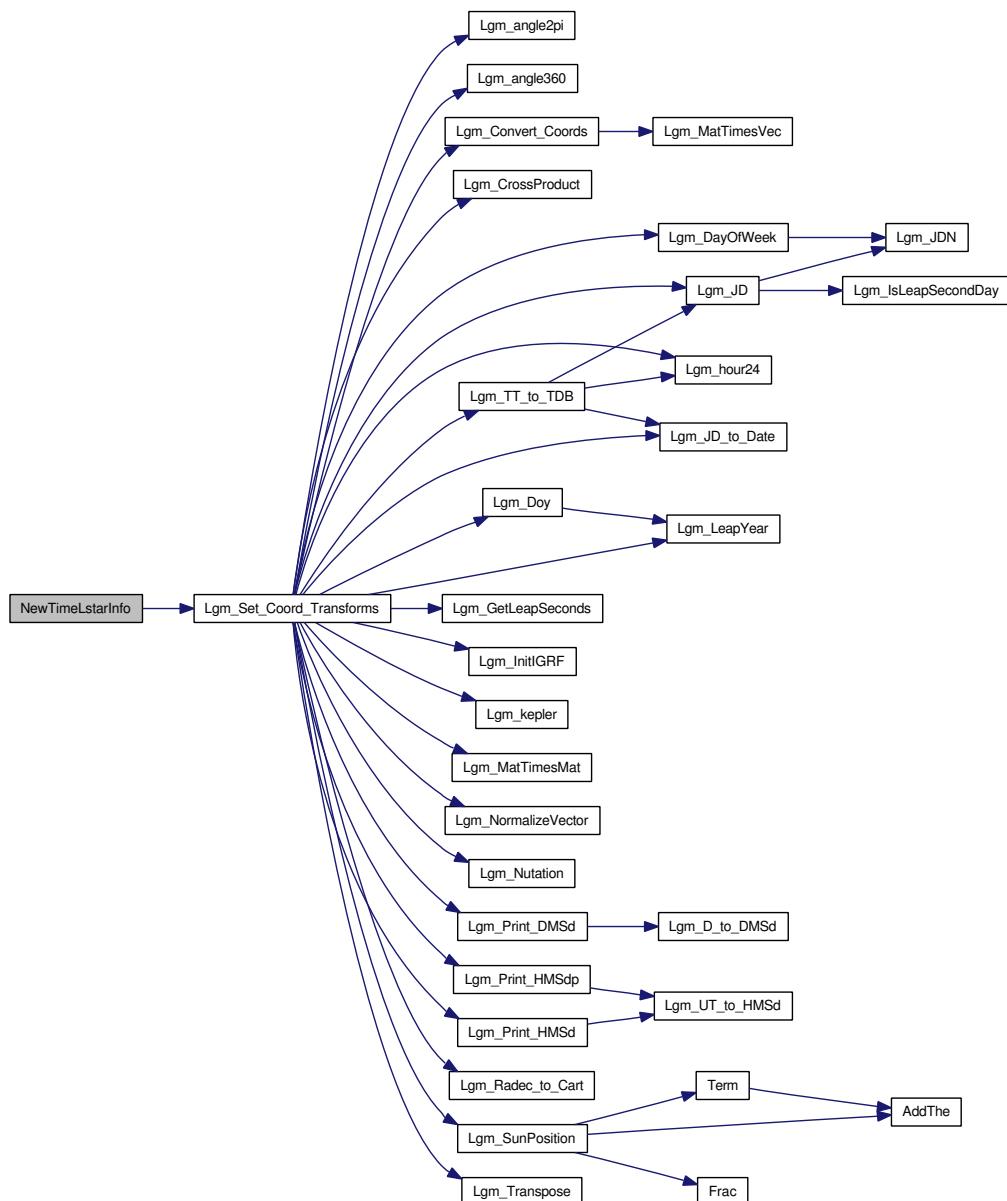
Here is the caller graph for this function:



**4.3.2.11 void NewTimeLstarInfo (long int *Date*, double *UT*, double *PitchAngle*,
int(*)(Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *) *Mag*, Lgm_LstarInfo *
LstarInfo)**

Definition at line 281 of file ComputeLstar.c.

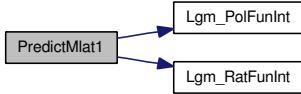
Here is the call graph for this function:



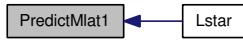
4.3.2.12 void PredictMlat1 (double * MirrorMLT, double * MirrorMlat, int k, double MLT, double * pred_mlat, double * pred_delta_mlat, double * delta)

Definition at line 1072 of file ComputeLstar.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.3.2.13 void PredictMlat2 (double * MirrorMLT, double * MirrorMlat, int k, double MLT, double * pred_mlat, double * pred_delta_mlat, double * delta, Lgm_LstarInfo * LstarInfo)

Definition at line 1151 of file ComputeLstar.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.3.2.14 void SetLstarTolerances (int Quality, Lgm_LstarInfo * s)

Definition at line 21 of file ComputeLstar.c.

4.4 /home/mgh/LanlGeoMag/libLanlGeoMag/dqagi.f File Reference

Functions

- subroutine **DQAGI** (F, BOUND, INF, EPSABS, EPSREL, RESULT, ABSERR, NEVAL, IER, LIMIT, LENW, LAST, IWORK, WORK)

4.4.1 Function Documentation

4.4.1.1 subroutine **DQAGI** (DOUBLE PRECISION,external *F*, DOUBLE PRECISION *BOUND*, INTEGER *INF*, DOUBLE PRECISION *EPSABS*, DOUBLE PRECISION *EPSREL*, DOUBLE PRECISION *RESULT*, DOUBLE PRECISION *ABSERR*, INTEGER *NEVAL*, INTEGER *IER*, INTEGER *LIMIT*, INTEGER *LENW*, INTEGER *LAST*, INTEGER, dimension(*),dimension *IWORK*, DOUBLE PRECISION, dimension(*),dimension *WORK*)

Definition at line 2 of file dqagi.f.

Here is the call graph for this function:



4.5 /home/mgh/LanlGeoMag/libLanlGeoMag/dqagie.f File Reference

Functions

- subroutine **DQAGIE** (F, BOUND, INF, EPSABS, EPSREL, LIMIT, RESULT, ABSERR, NEVAL, IER, ALIST, BLIST, RLIST, ELIST, IORD, LAST)

4.5.1 Function Documentation

4.5.1.1 subroutine **DQAGIE** (DOUBLE PRECISION,external *F*, DOUBLE PRECISION *BOUND*, INTEGER *INF*, DOUBLE PRECISION *EPSABS*, DOUBLE PRECISION *EPSREL*, INTEGER *LIMIT*, DOUBLE PRECISION *RESULT*, DOUBLE PRECISION *ABSERR*, INTEGER *NEVAL*, INTEGER *IER*, DOUBLE PRECISION,dimension(*),dimension *ALIST*, DOUBLE PRECISION,dimension(*),dimension *BLIST*, DOUBLE PRECISION,dimension(*),dimension *RLIST*, DOUBLE PRECISION,dimension(*),dimension *ELIST*, INTEGER,dimension(*),dimension *IORD*, INTEGER *LAST*)

Definition at line 2 of file dqagie.f.

Here is the caller graph for this function:



4.6 /home/mgh/LanlGeoMag/libLanlGeoMag/dqagp.f File Reference

Functions

- subroutine **DQAGP** (F, A, B, NPTS2, POINTS, EPSABS, EPSREL, RESULT, ABSERR, NEVAL, IER, LENIW, LENW, LAST, IWORK, WORK)

4.6.1 Function Documentation

4.6.1.1 subroutine **DQAGP** (DOUBLE PRECISION,external *F*, DOUBLE PRECISION *A*, DOUBLE PRECISION *B*, INTEGER *NPTS2*, DOUBLE PRECISION,dimension(*),dimension *POINTS*, DOUBLE PRECISION *EPSABS*, DOUBLE PRECISION *EPSREL*, DOUBLE PRECISION *RESULT*, DOUBLE PRECISION *ABSERR*, INTEGER *NEVAL*, INTEGER *IER*, INTEGER *LENIW*, INTEGER *LENW*, INTEGER *LAST*, INTEGER,dimension(*),dimension *IWORK*, DOUBLE PRECISION,dimension(*),dimension *WORK*)

Definition at line 2 of file dqagp.f.

Here is the call graph for this function:



4.7 /home/mgh/LanlGeoMag/libLanlGeoMag/dqagpe.f File Reference

Functions

- subroutine **DQAGPE** (F, A, B, NPTS2, POINTS, EPSABS, EPSREL, LIMIT, RESULT, ABSERR, NEVAL, IER, ALIST, BLIST, RLIST, ELIST, PTS, IORD, LEVEL, NDIN, LAST)

4.7.1 Function Documentation

4.7.1.1 subroutine DQAGPE (DOUBLE PRECISION,external *F*, DOUBLE PRECISION *A*, DOUBLE PRECISION *B*, INTEGER *NPTS2*, DOUBLE PRECISION,dimension(*),dimension *POINTS*, DOUBLE PRECISION *EPSABS*, DOUBLE PRECISION *EPSREL*, INTEGER *LIMIT*, DOUBLE PRECISION *RESULT*, DOUBLE PRECISION *ABSERR*, INTEGER *NEVAL*, INTEGER *IER*, DOUBLE PRECISION,dimension(*),dimension *ALIST*, DOUBLE PRECISION,dimension(*),dimension *BLIST*, DOUBLE PRECISION,dimension(*),dimension *RLIST*, DOUBLE PRECISION,dimension(*),dimension *ELIST*, DOUBLE PRECISION,dimension(*),dimension *PTS*, INTEGER,dimension(*),dimension *IORD*, INTEGER,dimension(*),dimension *LEVEL*, INTEGER,dimension(*),dimension *NDIN*, INTEGER *LAST*)

Definition at line 2 of file dqagpe.f.

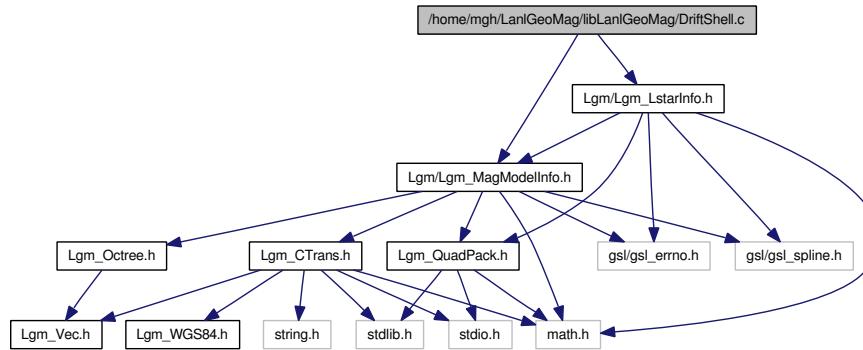
Here is the caller graph for this function:



4.8 /home/mgh/LanlGeoMag/libLanlGeoMag/DriftShell.c File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
#include "Lgm/Lgm_LstarInfo.h"
```

Include dependency graph for DriftShell.c:



Functions

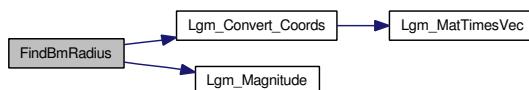
- int [FindShellLine](#) (double I0, double *Ifound, double Bm, double MLT, double *mlat, double *rad, double mlat0, double mlat1, [Lgm_LstarInfo](#) *LstarInfo)
- int [FindBmRadius](#) (double Bm, double MLT, double mlat, double *r, double tol, [Lgm_LstarInfo](#) *LstarInfo)

4.8.1 Function Documentation

4.8.1.1 int FindBmRadius (double *Bm*, double *MLT*, double *mlat*, double **r*, double *tol*, [Lgm_LstarInfo](#) **LstarInfo*)

Definition at line 344 of file DriftShell.c.

Here is the call graph for this function:



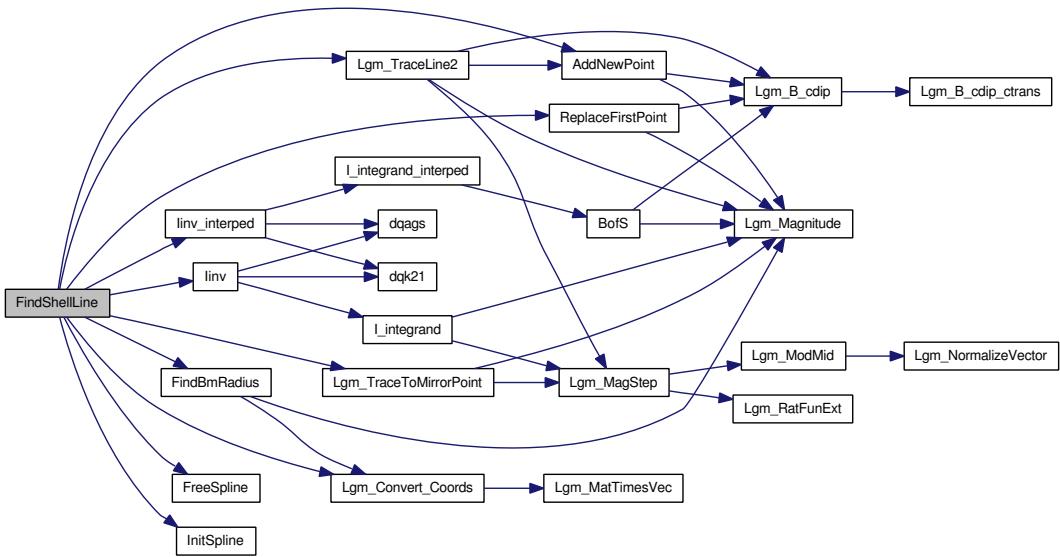
Here is the caller graph for this function:



4.8.1.2 int FindShellLine (double *I0*, double **Ifound*, double *Bm*, double *MLT*, double **mlat*, double **rad*, double *mlat0*, double *mlatI*, Lgm_LstarInfo **LstarInfo*)

Definition at line 36 of file DriftShell.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.9 /home/mgh/LanlGeoMag/libLanlGeoMag/field_t96mod_MGH.f File Reference

Functions

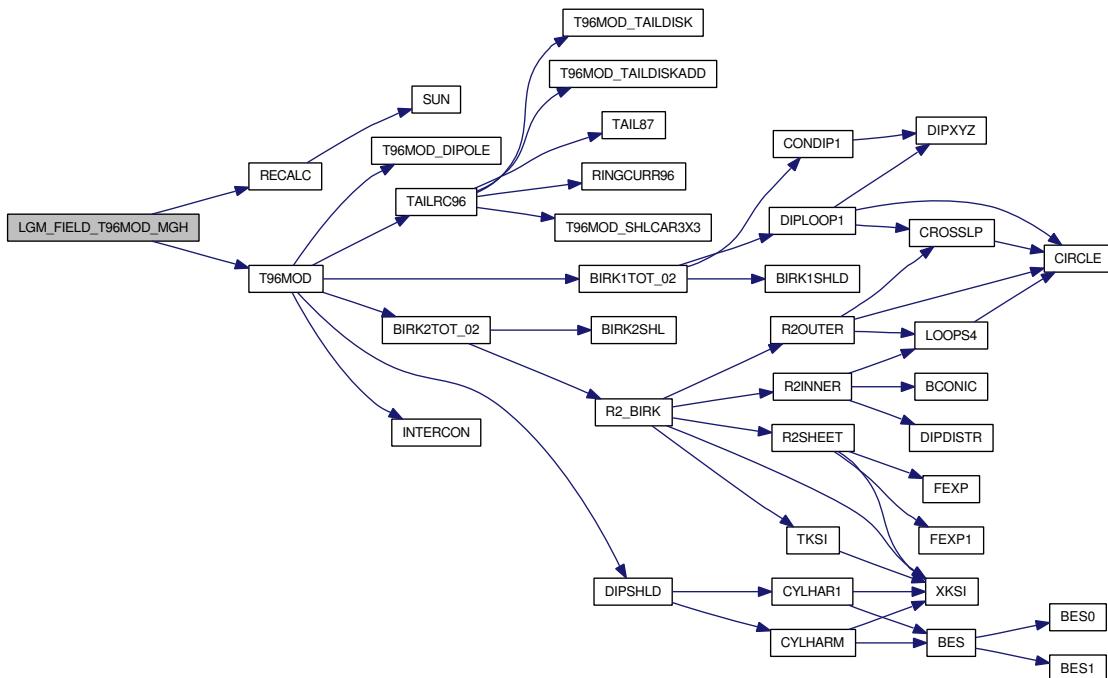
- subroutine **LGM_FIELD_T96MOD_MGH** (PARMOD, AMDFIN, IYEAR, IDAY, IH, IM,*SEC, X, Y, Z, BX, BY, BZ)

4.9.1 Function Documentation

4.9.1.1 subroutine LGM_FIELD_T96MOD_MGH (REAL*8,dimension(10) *PARMOD*, REAL*8,dimension(10) *AMDFIN*, IYEAR, IDAY, IH, IM, * SEC, X, Y, Z, BX, BY, BZ)

Definition at line 1 of file field_t96mod_MGH.f.

Here is the call graph for this function:



4.10 /home/mgh/LanlGeoMag/libLanlGeoMag/Geopack_2003.f File Reference

Functions

- subroutine **IGRF_GSM** (XGSM, YGSM, ZGSM, HXGSM, HYGSM, HZGSM)
- subroutine **IGRF_GEO** (R, THETA, PHI, BR, BTHETA, BPHI)
- subroutine **DIP** (XGSM, YGSM, ZGSM, BXGSM, BYGSM, BZGSM)
- subroutine **SUN** (IYEAR, IDAY, IHOUR, MINUTE, ISEC, GST, SLONG, SRASN, SDEC)
- subroutine **SPHCAR** (R, THETA, PHI, X, Y, Z, J)
- subroutine **BSPCAR** (THETA, PHI, BR, BTHETA, BPHI, BX, BY, BZ)
- subroutine **BCARSP** (X, Y, Z, BX, BY, BZ, BR, BTHETA, BPHI)
- subroutine **RECALC** (IYEAR, IDAY, IHOUR, MINUTE, ISEC)
- subroutine **GEOMAG** (XGEO, YGEO, ZGEO, XMAG, YMAG, ZMAG, J)
- subroutine **GEIGEO** (XGEI, YGEI, ZGEI, XGEO, YGEO, ZGEO, J)
- subroutine **MAGSM** (XMAG, YMAG, ZMAG, XSM, YSM, ZSM, J)
- subroutine **GSMGSE** (XGSM, YGSM, ZGSM, XGSE, YGSE, ZGSE, J)
- subroutine **SMGSM** (XSM, YSM, ZSM, XGSM, YGSM, ZGSM, J)
- subroutine **GEOGSM** (XGEO, YGEO, ZGEO, XGSM, YGSM, ZGSM, J)
- subroutine **RHAND** (X, Y, Z, R1, R2, R3, IOPT, PARMOD, EXNAME, INNAME)
- subroutine **STEP** (X, Y, Z, DS, ERRIN, IOPT, PARMOD, EXNAME, INNAME)
- subroutine **TRACE** (XI, YI, ZI, DIR, RLIM, R0, IOPT, PARMOD, EXNAME, INNAME,*XF, YF, ZF, XX, YY, ZZ, L)
- subroutine **SHUETAL_MGNP** (XN_PD, VEL, BZIMF, XGSM, YGSM, ZGSM,*XMGNP, YMGNP, ZMGNP, DIST, ID)
- subroutine **T96_MGNP** (XN_PD, VEL, XGSM, YGSM, ZGSM, XMNP, YMNP, ZMNP,*DIST, ID)

4.10.1 Function Documentation

4.10.1.1 subroutine BCARSP (X, Y, Z, BX, BY, BZ, BR, BTHETA, BPHI)

Definition at line 475 of file Geopack_2003.f.

4.10.1.2 subroutine BSPCAR (THETA, PHI, BR, BTHETA, BPHI, BX, BY, BZ)

Definition at line 450 of file Geopack_2003.f.

4.10.1.3 subroutine DIP (XGSM, YGSM, ZGSM, BXGSM, BYGSM, BZGSM)

Definition at line 325 of file Geopack_2003.f.

4.10.1.4 subroutine GEIGEO (XGEI, YGEI, ZGEI, XGEO, YGEO, ZGEO, J)

Definition at line 1017 of file Geopack_2003.f.

4.10.1.5 subroutine GEOGSM (XGEO, YGEO, ZGEO, XGSM, YGSM, ZGSM, J)

Definition at line 1153 of file Geopack_2003.f.

Here is the caller graph for this function:



4.10.1.6 subroutine GEOMAG (XGEO, YGEO, ZGEO, XMAG, YMAG, ZMAG, J)

Definition at line 981 of file Geopack_2003.f.

4.10.1.7 subroutine GSMGSE (XGSM, YGSM, ZGSM, XGSE, YGSE, ZGSE, J)

Definition at line 1085 of file Geopack_2003.f.

4.10.1.8 subroutine IGRF_GEO (R, THETA, PHI, BR, BTHETA, BPHI)

Definition at line 214 of file Geopack_2003.f.

4.10.1.9 subroutine IGRF_GSM (XGSM, YGSM, ZGSM, HXGSM, HYGSM, HZGSM)

Definition at line 87 of file Geopack_2003.f.

Here is the call graph for this function:



4.10.1.10 subroutine MAGSM (XMAG, YMAG, ZMAG, XSM, YSM, ZSM, J)

Definition at line 1051 of file Geopack_2003.f.

4.10.1.11 subroutine RECALC (IYEAR, IDAY, IHOUR, MINUTE, ISEC)

Definition at line 514 of file Geopack_2003.f.

Here is the call graph for this function:



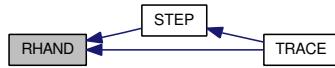
Here is the caller graph for this function:



4.10.1.12 subroutine RHAND (X, Y, Z, R1, R2, R3, IOPT, PARMOD, EXNAME, INNAME)

Definition at line 1188 of file Geopack_2003.f.

Here is the caller graph for this function:



4.10.1.13 subroutine SHUETAL_MGNP (XN_PD, VEL, BZIMF, XGSM, YGSM, ZGSM, * XMGNP, YMGNP, ZMGNP, DIST, ID)

Definition at line 1416 of file Geopack_2003.f.

Here is the call graph for this function:



4.10.1.14 subroutine SMGSM (XSM, YSM, ZSM, XGSM, YGSM, ZGSM, J)

Definition at line 1119 of file Geopack_2003.f.

4.10.1.15 subroutine SPHCAR (R, THETA, PHI, X, Y, Z, J)

Definition at line 408 of file Geopack_2003.f.

4.10.1.16 subroutine STEP (X, Y, Z, DS, ERRIN, IOPT, PARMOD, EXNAME, INNAME)

Definition at line 1220 of file Geopack_2003.f.

Here is the call graph for this function:



Here is the caller graph for this function:



4.10.1.17 subroutine SUN (IYEAR,>IDAY, IHOUR, MINUTE, ISEC, GST, SLONG, SRASN, SDEC)

Definition at line 358 of file Geopack_2003.f.

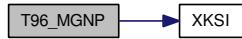
Here is the caller graph for this function:



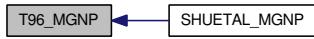
4.10.1.18 subroutine T96_MGNP (XN_PD, VEL, XGSM, YGSM, ZGSM, XMNP, YMNP, ZMNP, * DIST, ID)

Definition at line 1535 of file Geopack_2003.f.

Here is the call graph for this function:



Here is the caller graph for this function:



4.10.1.19 subroutine TRACE (XI, YI, ZI, DIR, RLIM, R0, IOPT, PARMOD, EXNAME, INNAME, * XF, YF, ZF, XX, YY, ZZ, L)

Definition at line 1264 of file Geopack_2003.f.

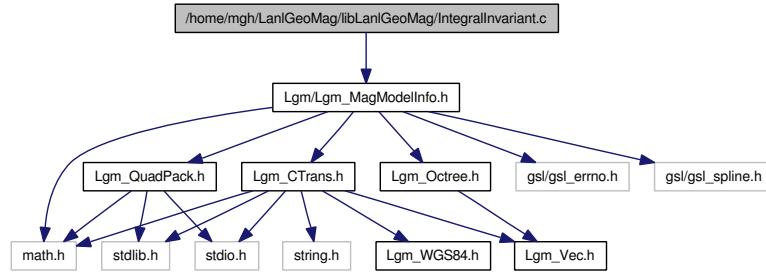
Here is the call graph for this function:



4.11 /home/mgh/LanlGeoMag/libLanlGeoMag/IntegralInvariant.c File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
```

Include dependency graph for IntegralInvariant.c:



Defines

- #define JUMP_METHOD 0
- #define USE_SIX_POINT 0
- #define USE_FOUR_POINT 1
- #define USE_TWO_POINT 2
- #define DIFF_SCHEME USE_TWO_POINT

Functions

- double `Iinv (Lgm_MagModelInfo *fInfo)`
- double `Iinv_interped (Lgm_MagModelInfo *fInfo)`
- double `I_integrand_interped (double s, _qpInfo *qpInfo)`
- double `I_integrand (double s, _qpInfo *qpInfo)`
- int `Grad_I (Lgm_Vector *v0, Lgm_Vector *GradI, Lgm_MagModelInfo *fInfo)`

4.11.1 Define Documentation

4.11.1.1 #define DIFF_SCHEME USE_TWO_POINT

Definition at line 10 of file IntegralInvariant.c.

4.11.1.2 #define JUMP_METHOD 0

Definition at line 4 of file IntegralInvariant.c.

4.11.1.3 #define USE_FOUR_POINT 1

Definition at line 7 of file IntegralInvariant.c.

4.11.1.4 #define USE_SIX_POINT 0

Definition at line 6 of file IntegralInvariant.c.

4.11.1.5 #define USE_TWO_POINT 2

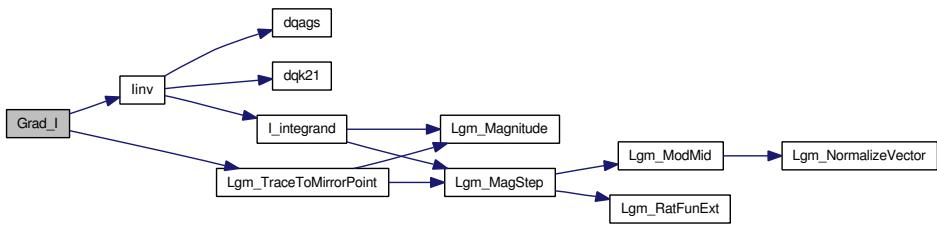
Definition at line 8 of file IntegralInvariant.c.

4.11.2 Function Documentation

4.11.2.1 int Grad_I (Lgm_Vector * v0, Lgm_Vector * GradI, Lgm_MagModelInfo * fInfo)

Definition at line 336 of file IntegralInvariant.c.

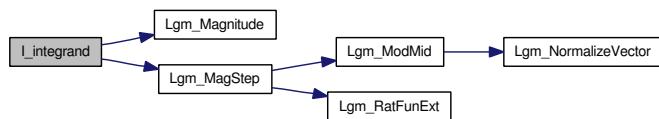
Here is the call graph for this function:



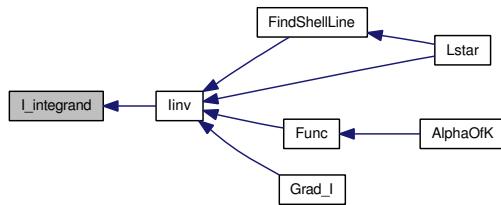
4.11.2.2 double I_integrand (double s, _qpInfo * qpInfo)

Definition at line 217 of file IntegralInvariant.c.

Here is the call graph for this function:



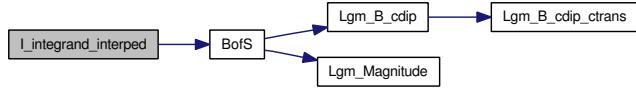
Here is the caller graph for this function:



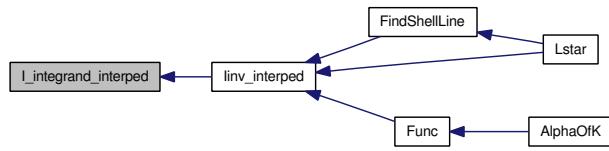
4.11.2.3 double I_integrand_interped (double s, _qpInfo * qpInfo)

Definition at line 189 of file IntegralInvariant.c.

Here is the call graph for this function:



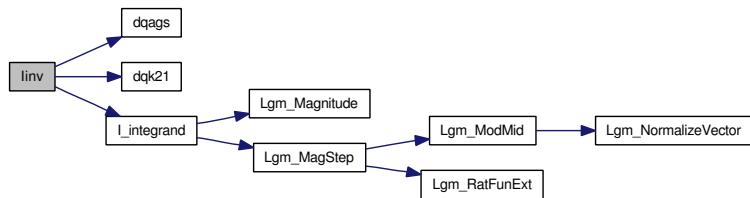
Here is the caller graph for this function:



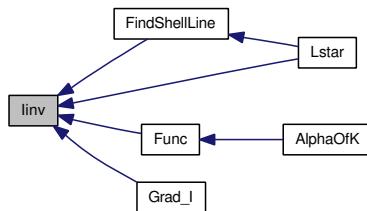
4.11.2.4 double linv (Lgm_MagModelInfo * fInfo)

Definition at line 42 of file IntegralInvariant.c.

Here is the call graph for this function:



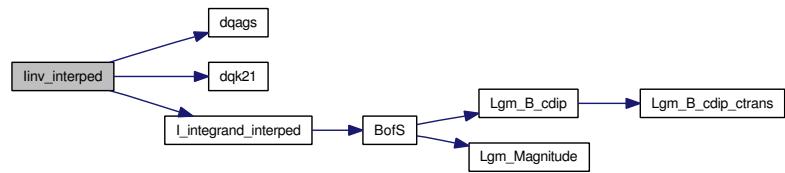
Here is the caller graph for this function:



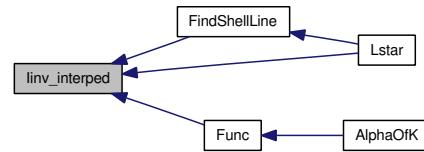
4.11.2.5 double linv_interped (Lgm_MagModelInfo * fInfo)

Definition at line 119 of file IntegralInvariant.c.

Here is the call graph for this function:



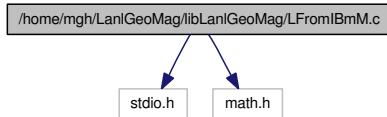
Here is the caller graph for this function:



4.12 /home/mgh/LanlGeoMag/libLanlGeoMag/LFromIBmM.c File Reference

```
#include <stdio.h>
#include <math.h>
```

Include dependency graph for LFromIBmM.c:



Functions

- double [LFromIBmM_Hilton](#) (double I, double Bm, double M)
- double [IFromLBmM_Hilton](#) (double L, double Bm, double M)
- double [LFromIBmM_McIlwain](#) (double I, double Bm, double M)
- double [IFromLBmM_McIlwain](#) (double L, double Bm, double M)

4.12.1 Function Documentation

4.12.1.1 double [IFromLBmM_Hilton](#) (double *L*, double *Bm*, double *M*)

Definition at line 38 of file LFromIBmM.c.

4.12.1.2 double [IFromLBmM_McIlwain](#) (double *L*, double *Bm*, double *M*)

Definition at line 175 of file LFromIBmM.c.

4.12.1.3 double [LFromIBmM_Hilton](#) (double *I*, double *Bm*, double *M*)

Definition at line 13 of file LFromIBmM.c.

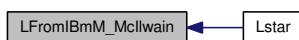
Here is the caller graph for this function:



4.12.1.4 double [LFromIBmM_McIlwain](#) (double *I*, double *Bm*, double *M*)

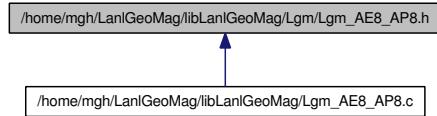
Definition at line 126 of file LFromIBmM.c.

Here is the caller graph for this function:



4.13 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_AE8_AP8.h File Reference

This graph shows which files directly or indirectly include this file:



Defines

- #define [LGM_AP8MAX](#) 1
- #define [LGM_AP8MIN](#) 2
- #define [LGM_AE8MAX](#) 7
- #define [LGM_AE8MIN](#) 8
- #define [LGM_INTEGRAL_FLUX](#) 1
- #define [LGM_DIFFERENTIAL_FLUX](#) 2

Functions

- void [TRARA1](#) (int DESCRI[], int MAP[], double FL, double BB0, double E[], double F[], int N)
- double [TRARA2](#) (int MAP[], int IL, int IB, double FSTEP)
- double [Lgm_AE8_AP8_Flux](#) (double L, double BB0, int MODEL, int FLUXTYPE, double E1, double E2)
- double [Lgm_AE8_AP8_FluxFromPos](#) ([Lgm_Vector](#) *u, int MODEL, int FLUXTYPE, double E1, double E2, [Lgm_MagModelInfo](#) *m)

4.13.1 Define Documentation

4.13.1.1 #define LGM_AE8MAX 7

Definition at line 18 of file Lgm_AE8_AP8.h.

4.13.1.2 #define LGM_AE8MIN 8

Definition at line 19 of file Lgm_AE8_AP8.h.

4.13.1.3 #define LGM_AP8MAX 1

Definition at line 16 of file Lgm_AE8_AP8.h.

4.13.1.4 #define LGM_AP8MIN 2

Definition at line 17 of file Lgm_AE8_AP8.h.

4.13.1.5 #define LGM_DIFFERENTIAL_FLUX 2

Definition at line 21 of file Lgm_AE8_AP8.h.

4.13.1.6 #define LGM_INTEGRAL_FLUX 1

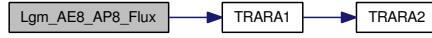
Definition at line 20 of file Lgm_AE8_AP8.h.

4.13.2 Function Documentation

4.13.2.1 double Lgm_AE8_AP8_Flux (double *L*, double *BB0*, int *MODEL*, int *FLUXTYPE*, double *E1*, double *E2*)

Definition at line 5155 of file Lgm_AE8_AP8.c.

Here is the call graph for this function:



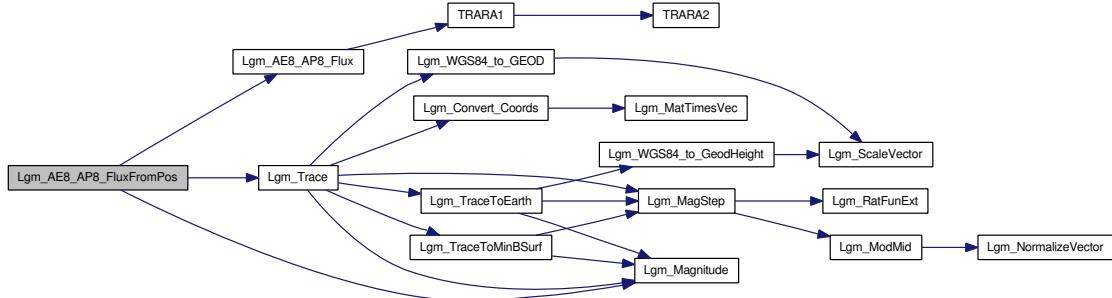
Here is the caller graph for this function:



4.13.2.2 double Lgm_AE8_AP8_FluxFromPos (Lgm_Vector * *u*, int *MODEL*, int *FLUXTYPE*, double *E1*, double *E2*, Lgm_MagModelInfo * *m*)

Definition at line 5701 of file Lgm_AE8_AP8.c.

Here is the call graph for this function:



4.13.2.3 void TRARA1 (int *DESCR*[], int *MAP*[], double *FL*, double *BB0*, double *E*[], double *F*[], int *N*)

Definition at line 5357 of file Lgm_AE8_AP8.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.13.2.4 double TRARA2 (int MAP[], int IL, int IB, double FISTEP)

Definition at line 5464 of file Lgm_AE8_AP8.c.

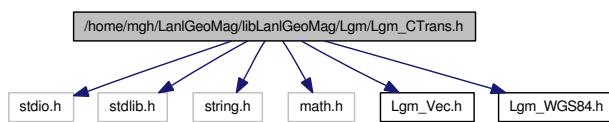
Here is the caller graph for this function:



4.14 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_- CTrans.h File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "Lgm_Vec.h"
#include "Lgm_WGS84.h"
```

Include dependency graph for Lgm_CTrans.h:



This graph shows which files directly or indirectly include this file:

Data Structures

- struct [Lgm_LeapSeconds](#)
 - struct [Lgm_DateTime](#)
 - struct [Lgm_CTrans](#)

fines

 - #define [STRINGIFY\(x\)](#) #x
 - #define [EXPAND\(x\)](#) STRINGIFY(x)
 - #define [DegPerRad](#) 57.295779513082320876798154814105
 - #define [RadPerDeg](#) 0.017453292519943295769236907568
 - #define [RadPerArcSec](#) 4.848136811095359935899141023579e-6
 - #define [M_SQRTPI](#) 1.772453850905516027298167483341
 - #define [M_SQRTPI_2](#) 0.886226925452758013649083741671
 - #define [M_1_SQRTPI](#) 0.564189583547756286948079451561
 - #define [M_2PI](#) 6.283185307179586476925286766559
 - #define [M_OneThird](#) 0.33333333333333333333333333333333
 - #define [FALSE](#) 0
 - #define [TRUE](#) 1
 - #define [Re](#) 6378.137
 - #define [AU](#) 149.5978700e6
 - #define [LGM_GOLD](#) 1.61803398874989484820
 - #define [LGM_1O_GOLD](#) 0.61803398874989484820

- #define **LGM_1M_10_GOLD** 0.38196601125010515180
- #define **LGM_ERROR** -1
- #define **LGM_JD_J2000** 2451545.0
- #define **LGM_JD_GPS0** 2444245.0
- #define **LGM_JD_TAI0** 2436205.0
- #define **LGM_TIME_SYS_UTC** 0
- #define **LGM_TIME_SYS_TAI** 1
- #define **LGM_TIME_SYS_GPS** 2
- #define **LGM_TIME_SYS_TT** 3
- #define **LGM_TIME_SYS_TDB** 4
- #define **LGM_TIME_SYS_UT1** 5
- #define **EME2000_COORDS** 1

Earth Mean Equator and Equinox of Epoch J2000 (EME2000 system).

- #define **ICRF2000_COORDS** 1
aka International Celestial Reference Frame (ICRF)

- #define **GEI2000_COORDS** 1
- #define **MOD_COORDS** 2
- #define **TOD_COORDS** 3
- #define **TEME_COORDS** 4
- #define **PEF_COORDS** 5
- #define **WGS84_COORDS** 6
- #define **IRTF_COORDS** 6
- #define **GEO_COORDS** 6
- #define **GSE_COORDS** 7
- #define **GSM_COORDS** 8
- #define **SM_COORDS** 9
- #define **EDMAG_COORDS** 10
- #define **CDMAG_COORDS** 11
- #define **EME2000_TO_EME2000** 101
- #define **EME2000_TO_ICRF2000** 101
- #define **EME2000_TO_GEI2000** 101
- #define **EME2000_TO_MOD** 102
- #define **EME2000_TO_TOD** 103
- #define **EME2000_TO_TEME** 104
- #define **EME2000_TO_PEF** 105
- #define **EME2000_TO_WGS84** 106
- #define **EME2000_TO_ITRF** 106
- #define **EME2000_TO_GEO** 106
- #define **EME2000_TO_GSE** 107
- #define **EME2000_TO_GSM** 108
- #define **EME2000_TO_SM** 109
- #define **EME2000_TO_EDMAG** 110
- #define **EME2000_TO_CDMAG** 111
- #define **ICRF2000_TO_EME2000** 101
- #define **ICRF2000_TO_ICRF2000** 101
- #define **ICRF2000_TO_GEI2000** 101
- #define **ICRF2000_TO_MOD** 102
- #define **ICRF2000_TO_TOD** 103

- #define **ICRF2000_TO_TEME** 104
- #define **ICRF2000_TO_PEF** 105
- #define **ICRF2000_TO_WGS84** 106
- #define **ICRF2000_TO_ITRF** 106
- #define **ICRF2000_TO_GEO** 106
- #define **ICRF2000_TO_GSE** 107
- #define **ICRF2000_TO_GSM** 108
- #define **ICRF2000_TO_SM** 109
- #define **ICRF2000_TO_EDMAG** 110
- #define **ICRF2000_TO_CDMAG** 111
- #define **GEI2000_TO_EME2000** 101
- #define **GEI2000_TO_ICRF2000** 101
- #define **GEI2000_TO_GEI2000** 101
- #define **GEI2000_TO_MOD** 102
- #define **GEI2000_TO_TOD** 103
- #define **GEI2000_TO_TEME** 104
- #define **GEI2000_TO_PEF** 105
- #define **GEI2000_TO_WGS84** 106
- #define **GEI2000_TO_ITRF** 106
- #define **GEI2000_TO_GEO** 106
- #define **GEI2000_TO_GSE** 107
- #define **GEI2000_TO_GSM** 108
- #define **GEI2000_TO_SM** 109
- #define **GEI2000_TO_EDMAG** 110
- #define **GEI2000_TO_CDMAG** 111
- #define **MOD_TO_EME2000** 201
- #define **MOD_TO_ICRF2000** 201
- #define **MOD_TO_GEI2000** 201
- #define **MOD_TO_MOD** 202
- #define **MOD_TO_TOD** 203
- #define **MOD_TO_TEME** 204
- #define **MOD_TO_PEF** 205
- #define **MOD_TO_WGS84** 206
- #define **MOD_TO_ITRF** 206
- #define **MOD_TO_GEO** 206
- #define **MOD_TO_GSE** 207
- #define **MOD_TO_GSM** 208
- #define **MOD_TO_SM** 209
- #define **MOD_TO_EDMAG** 210
- #define **MOD_TO_CDMAG** 211
- #define **TOD_TO_EME2000** 301
- #define **TOD_TO_ICRF2000** 301
- #define **TOD_TO_GEI2000** 301
- #define **TOD_TO_MOD** 302
- #define **TOD_TO_TOD** 303
- #define **TOD_TO_TEME** 304
- #define **TOD_TO_PEF** 305
- #define **TOD_TO_WGS84** 306
- #define **TOD_TO_ITRF** 306
- #define **TOD_TO_GEO** 306

- #define **TOD_TO_GSE** 307
- #define **TOD_TO_GSM** 308
- #define **TOD_TO_SM** 309
- #define **TOD_TO_EDMAG** 310
- #define **TOD_TO_CDMAG** 311
- #define **TEME_TO_EME2000** 401
- #define **TEME_TO_ICRF2000** 401
- #define **TEME_TO_GEI2000** 401
- #define **TEME_TO_MOD** 402
- #define **TEME_TO_TOD** 403
- #define **TEME_TO_TEME** 404
- #define **TEME_TO_PEF** 405
- #define **TEME_TO_WGS84** 406
- #define **TEME_TO_ITRF** 406
- #define **TEME_TO_GEO** 406
- #define **TEME_TO_GSE** 407
- #define **TEME_TO_GSM** 408
- #define **TEME_TO_SM** 409
- #define **TEME_TO_EDMAG** 410
- #define **TEME_TO_CDMAG** 411
- #define **PEF_TO_EME2000** 501
- #define **PEF_TO_ICRF2000** 501
- #define **PEF_TO_GEI2000** 501
- #define **PEF_TO_MOD** 502
- #define **PEF_TO_TOD** 503
- #define **PEF_TO_TEME** 504
- #define **PEF_TO_PEF** 505
- #define **PEF_TO_WGS84** 506
- #define **PEF_TO_ITRF** 506
- #define **PEF_TO_GEO** 506
- #define **PEF_TO_GSE** 507
- #define **PEF_TO_GSM** 508
- #define **PEF_TO_SM** 509
- #define **PEF_TO_EDMAG** 510
- #define **PEF_TO_CDMAG** 511
- #define **WGS84_TO_EME2000** 601
- #define **WGS84_TO_ICRF2000** 601
- #define **WGS84_TO_GEI2000** 601
- #define **WGS84_TO_MOD** 602
- #define **WGS84_TO_TOD** 603
- #define **WGS84_TO_TEME** 604
- #define **WGS84_TO_PEF** 605
- #define **WGS84_TO_WGS84** 606
- #define **WGS84_TO_ITRF** 606
- #define **WGS84_TO_GEO** 606
- #define **WGS84_TO_GSE** 607
- #define **WGS84_TO_GSM** 608
- #define **WGS84_TO_SM** 609
- #define **WGS84_TO_EDMAG** 610
- #define **WGS84_TO_CDMAG** 611

- #define ITRF_TO_EME2000 601
- #define ITRF_TO_ICRF2000 601
- #define ITRF_TO_GEI2000 601
- #define ITRF_TO_MOD 602
- #define ITRF_TO_TOD 603
- #define ITRF_TO_TEME 604
- #define ITRF_TO_PEF 605
- #define ITRF_TO_WGS84 606
- #define ITRF_TO_ITRF 606
- #define ITRF_TO_GEO 606
- #define ITRF_TO_GSE 607
- #define ITRF_TO_GSM 608
- #define ITRF_TO_SM 609
- #define ITRF_TO_EDMAG 610
- #define ITRF_TO_CDMAG 611
- #define GEO_TO_EME2000 601
- #define GEO_TO_ICRF2000 601
- #define GEO_TO_GEI2000 601
- #define GEO_TO_MOD 602
- #define GEO_TO_TOD 603
- #define GEO_TO_TEME 604
- #define GEO_TO_PEF 605
- #define GEO_TO_WGS84 606
- #define GEO_TO_ITRF 606
- #define GEO_TO_GEO 606
- #define GEO_TO_GSE 607
- #define GEO_TO_GSM 608
- #define GEO_TO_SM 609
- #define GEO_TO_EDMAG 610
- #define GEO_TO_CDMAG 611
- #define GSE_TO_EME2000 701
- #define GSE_TO_ICRF2000 701
- #define GSE_TO_GEI2000 701
- #define GSE_TO_MOD 702
- #define GSE_TO_TOD 703
- #define GSE_TO_TEME 704
- #define GSE_TO_PEF 705
- #define GSE_TO_WGS84 706
- #define GSE_TO_ITRF 706
- #define GSE_TO_GEO 706
- #define GSE_TO_GSE 707
- #define GSE_TO_GSM 708
- #define GSE_TO_SM 709
- #define GSE_TO_EDMAG 710
- #define GSE_TO_CDMAG 711
- #define GSM_TO_EME2000 801
- #define GSM_TO_ICRF2000 801
- #define GSM_TO_GEI2000 801
- #define GSM_TO_MOD 802
- #define GSM_TO_TOD 803

- #define [GSM_TO_TEME](#) 804
- #define [GSM_TO_PEF](#) 805
- #define [GSM_TO_WGS84](#) 806
- #define [GSM_TO_ITRF](#) 806
- #define [GSM_TO_GEO](#) 806
- #define [GSM_TO_GSE](#) 807
- #define [GSM_TO_GSM](#) 808
- #define [GSM_TO_SM](#) 809
- #define [GSM_TO_EDMAG](#) 810
- #define [GSM_TO_CDMAG](#) 811
- #define [SM_TO_EME2000](#) 901
- #define [SM_TO_ICRF2000](#) 901
- #define [SM_TO_GEI2000](#) 901
- #define [SM_TO_MOD](#) 902
- #define [SM_TO_TOD](#) 903
- #define [SM_TO_TEME](#) 904
- #define [SM_TO_PEF](#) 905
- #define [SM_TO_WGS84](#) 906
- #define [SM_TO_ITRF](#) 906
- #define [SM_TO_GEO](#) 906
- #define [SM_TO_GSE](#) 907
- #define [SM_TO_GSM](#) 908
- #define [SM_TO_SM](#) 909
- #define [SM_TO_EDMAG](#) 910
- #define [SM_TO_CDMAG](#) 911
- #define [EDMAG_TO_EME2000](#) 1001
- #define [EDMAG_TO_ICRF2000](#) 1001
- #define [EDMAG_TO_GEI2000](#) 1001
- #define [EDMAG_TO_MOD](#) 1002
- #define [EDMAG_TO_TOD](#) 1003
- #define [EDMAG_TO_TEME](#) 1004
- #define [EDMAG_TO_PEF](#) 1005
- #define [EDMAG_TO_WGS84](#) 1006
- #define [EDMAG_TO_ITRF](#) 1006
- #define [EDMAG_TO_GEO](#) 1006
- #define [EDMAG_TO_GSE](#) 1007
- #define [EDMAG_TO_GSM](#) 1008
- #define [EDMAG_TO_SM](#) 1009
- #define [EDMAG_TO_EDMAG](#) 1010
- #define [EDMAG_TO_CDMAG](#) 1011
- #define [CDMAG_TO_EME2000](#) 1101
- #define [CDMAG_TO_ICRF2000](#) 1101
- #define [CDMAG_TO_GEI2000](#) 1101
- #define [CDMAG_TO_MOD](#) 1102
- #define [CDMAG_TO_TOD](#) 1103
- #define [CDMAG_TO_TEME](#) 1104
- #define [CDMAG_TO_PEF](#) 1105
- #define [CDMAG_TO_WGS84](#) 1106
- #define [CDMAG_TO_ITRF](#) 1106
- #define [CDMAG_TO_GEO](#) 1106

- #define **CDMAG_TO_GSE** 1107
- #define **CDMAG_TO_GSM** 1108
- #define **CDMAG_TO_SM** 1109
- #define **CDMAG_TO_EDMAG** 1110
- #define **CDMAG_TO_CDMAG** 1111

Functions

- void **Lgm_free_ctrans** (**Lgm_CTrans** *c)
- **Lgm_CTrans** * **Lgm_init_ctrans** (int)
- **Lgm_CTrans** * **Lgm_CopyCTrans** (**Lgm_CTrans** *s)
- void **Lgm_Radec_to_Cart** (double, double, **Lgm_Vector** *)
- double **Lgm_angle2pi** (double)
- double **Lgm_angle360** (double)
- int **Lgm_LeapYear** (int)
- long int **Lgm_JDN** (int Year, int Month, int Day)
- double **Lgm_JD** (int Year, int Month, int Day, double Time, int TimeSystem, **Lgm_CTrans** *c)
- long int **Lgm_JD_to_Date** (double jd, int *ny, int *nm, int *nd, double *UT)
- double **Lgm_Date_to_JD** (long int Date, double UT, **Lgm_CTrans** *c)
- void **Lgm_jd_to_ymdh** (double JD, long int *Date, int *year, int *month, int *day, double *UT)
- int **Lgm_DayOfYear** (int year, int month, int day, **Lgm_CTrans** *c)
- double **Lgm_MJD** (int Year, int Month, int Day, double Time, int TimeSystem, **Lgm_CTrans** *c)
- long int **Lgm_MJD_to_Date** (double mjd, int *ny, int *nm, int *nd, double *UT)
- void **Lgm_mjd_to_ymdh** (double MJD, long int *Date, int *year, int *month, int *day, double *UT)
- double **Lgm_hour24** (double)
- double **Lgm_kepler** (double, double)
- int **Lgm_DayofWeek** (int, int, int, char *, **Lgm_CTrans** *c)
- void **Lgm_Set_Coord_Transforms** (long int, double, **Lgm_CTrans** *)
- void **Lgm_Convert_Coords** (**Lgm_Vector** *, **Lgm_Vector** *, int, **Lgm_CTrans** *)
- int **Lgm_IsValidDate** (long int)
- int **Lgm_Doy** (long int, int *, int *, int *, int *)
- void **Lgm_UT_to_hmsms** (double UT, int *HH, int *MM, int *SS, int *MilliSec)
- void **Lgm_UT_to_HMS** (double UT, int *HH, int *MM, int *SS)
- void **Lgm_UT_to_HMSd** (double UT, int *sgn, int *HH, int *MM, double *SS)
- void **Lgm_D_to_DMS** (double D, int *DD, int *MM, int *SS)
- void **Lgm_D_to_DMSd** (double D, int *sgn, int *DD, int *MM, double *SS)
- void **Lgm_Print_HMS** (double d)
- void **Lgm_Print_HMSd** (double d)
- void **Lgm_Print_HMSdp** (double d, int UnicodeHMS, int p)
- void **Lgm_Print_DMS** (double d)
- void **Lgm_Print_DMSd** (double d)
- double **Lgm_GetCurrentJD** (**Lgm_CTrans** *c)
- double **Lgm_GetCurrentMJD** (**Lgm_CTrans** *c)
- void **Lgm_SunPosition** (double T, double *l, double *r, double *b)
- void **Lgm_GLATLON_TO_CDMLATLONMLT** (double GLAT, double GLON, double *MLAT, double *MLON, double *MLT, **Lgm_CTrans** *c)
- void **Lgm_GLATLON_TO_EDMLATLONMLT** (double GLAT, double GLON, double *MLAT, double *MLON, double *MLT, **Lgm_CTrans** *c)
- void **Lgm_CDMAG_to_R_MLAT_MLON_MLT** (**Lgm_Vector** *u, double *R, double *MLAT, double *MLON, double *MLT, **Lgm_CTrans** *c)

- void [Lgm_R_MLAT_MLT_to_CDMAG](#) (double R, double MLAT, double MLT, [Lgm_Vector](#) *u, [Lgm_CTrans](#) *c)
- void [Lgm_EDMAG_to_R_MLAT_MLON_MLT](#) ([Lgm_Vector](#) *u, double *R, double *MLAT, double *MLON, double *MLT, [Lgm_CTrans](#) *c)
- void [Lgm_R_MLAT_MLT_to_EDMAG](#) (double R, double MLAT, double MLT, [Lgm_Vector](#) *u, [Lgm_CTrans](#) *c)
- void [Lgm_WGS84_to_GEOD](#) ([Lgm_Vector](#) *uin, double *GeodLat, double *GeodLong, double *GeodHieght)
- void [Lgm_WGS84_to_GeodHeight](#) ([Lgm_Vector](#) *uin, double *GeodHieght)
- void [Lgm_GEOD_to_WGS84](#) (double GeodLat, double GeodLong, double GeodHieght, [Lgm_Vector](#) *v)
- void [Lgm_Nutation](#) (double T_TT, double nTerms, double *dPSi, double *dEps)
- void [ParseTimeStr](#) (char *Str, int *Year, int *Month, int *Day, int *hh, int *mm, double *ss, long int *Date, double *H)
- int [MonthStrToNum](#) (char *str)
- char * [Lgm_StrToLower](#) (char *str, int nmax)
- char * [Lgm_StrToUpper](#) (char *str, int nmax)
- [Lgm_DateTime](#) * [Lgm_DateTime_Create](#) (int Year, int Month, int Day, double Time, int TimeSystem, [Lgm_CTrans](#) *c)
- int [Lgm_Make_UTC](#) (long int Date, double Time, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- int [Lgm_LoadLeapSeconds](#) ([Lgm_CTrans](#) *c)
- double [Lgm_GetLeapSeconds](#) (double JD, [Lgm_CTrans](#) *c)
- int [Lgm_IsLeapSecondDay](#) (long int Date, double *SecondsInDay, [Lgm_CTrans](#) *c)
- void [Lgm_UTC_to_TAI](#) ([Lgm_DateTime](#) *UTC, [Lgm_DateTime](#) *TAI, [Lgm_CTrans](#) *c)
- void [Lgm_TAI_to_UTC](#) ([Lgm_DateTime](#) *TAI, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- void [Lgm_TT_to_TAI](#) ([Lgm_DateTime](#) *TT, [Lgm_DateTime](#) *TAI, [Lgm_CTrans](#) *c)
- void [Lgm_TAI_to_TT](#) ([Lgm_DateTime](#) *TAI, [Lgm_DateTime](#) *TT, [Lgm_CTrans](#) *c)
- void [Lgm_TT_to_TDB](#) ([Lgm_DateTime](#) *TT, [Lgm_DateTime](#) *TDB, [Lgm_CTrans](#) *c)
- void [Lgm_TDB_to_TT](#) ([Lgm_DateTime](#) *TDB, [Lgm_DateTime](#) *TT, [Lgm_CTrans](#) *c)
- void [Lgm_UTC_to_TT](#) ([Lgm_DateTime](#) *UTC, [Lgm_DateTime](#) *TT, [Lgm_CTrans](#) *c)
- void [Lgm_TT_to_UTC](#) ([Lgm_DateTime](#) *TT, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- void [Lgm_TAI_to_GPS](#) ([Lgm_DateTime](#) *TAI, [Lgm_DateTime](#) *GPS, [Lgm_CTrans](#) *c)
- void [Lgm_GPS_to_TAI](#) ([Lgm_DateTime](#) *GPS, [Lgm_DateTime](#) *TAI, [Lgm_CTrans](#) *c)
- void [Lgm_UTC_to_GPS](#) ([Lgm_DateTime](#) *UTC, [Lgm_DateTime](#) *GPS, [Lgm_CTrans](#) *c)
- void [Lgm_GPS_to_UTC](#) ([Lgm_DateTime](#) *GPS, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- void [Lgm_Print_DateTime](#) ([Lgm_DateTime](#) DT, int Style, int p)
- void [Lgm_DateTimeToString](#) (char *Str, [Lgm_DateTime](#) DT, int Style, int p)
- void [Lgm_Print_SimpleTime](#) ([Lgm_DateTime](#) *DT, int p, char *)
- int [Lgm_DayOfWeek](#) (int Year, int Month, int Day, char *dowstr)
- double [Lgm_RemapTime](#) (double Time, double SecondsInADay)
- double [Lgm_GPS_to_GpsSeconds](#) ([Lgm_DateTime](#) *GPS)
- void [Lgm_GpsSeconds_to_GPS](#) (double GpsSeconds, [Lgm_DateTime](#) *GPS)
- void [Lgm_GpsSeconds_to_UTC](#) (double GpsSeconds, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- double [Lgm_UTC_to_GpsSeconds](#) ([Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- double [Lgm_TAI_to_TaiSeconds](#) ([Lgm_DateTime](#) *TAI)
- void [Lgm_TaiSeconds_to_GPS](#) (double TaiSeconds, [Lgm_DateTime](#) *TAI)
- void [Lgm_TaiSeconds_to_UTC](#) (double TaiSeconds, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- double [Lgm_UTC_to_TaiSeconds](#) ([Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- double [TAISecondsSinceJ2000](#) (double UTCDaysSinceJ2000, [Lgm_CTrans](#) *c)
- double [UTCDaysSinceJ2000](#) (double TAI, [Lgm_CTrans](#) *c)
- double [Lgm_TDBSecSinceJ2000](#) ([Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)

- void [Lgm_B_igrf_ctrans](#) ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_CTrans](#) *)
- void [Lgm_B_cdip_ctrans](#) ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_CTrans](#) *)
- void [Lgm_B_edip_ctrans](#) ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_CTrans](#) *c)
- double [Lgm_Factorial](#) (int)
- void [Lgm_InitIGRF](#) (double g[13][13], double h[13][13], int N, int Flag, [Lgm_CTrans](#) *c)
- void [Lgm_InitPnm](#) (double ct, double st, double R[13][13], double P[13][13], double dP[13][13], int N, [Lgm_CTrans](#) *c)
- void [Lgm_InitTrigmp](#) (double, double, double *, double *, int)
- void [Lgm_PolFunInt](#) (double *, double *, int, double, double *, double *)
- void [Lgm_RatFunInt](#) (double *, double *, int, double, double *, double *)
- void [Lgm_IGRF](#) ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_CTrans](#) *)
- void [_Lgm_IGRF](#) ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_CTrans](#) *)
- void [_Lgm_IGRF2](#) ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_CTrans](#) *)
- void [_Lgm_IGRF3](#) ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_CTrans](#) *)
- void [_Lgm_IGRF4](#) ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_CTrans](#) *)
- void [Lgm_InitdPnm](#) (double P[13][13], double dP[13][13], int N, [Lgm_CTrans](#) *c)
- void [Lgm_InitSqrtFuncs](#) (double SqrtNM1[13][13], double SqrtNM2[13][13], int N)
- void [Lgm_InitK](#) (double K[13][13], int N)
- void [Lgm_InitS](#) (double S[13][13], int N)

4.14.1 Define Documentation

4.14.1.1 #define AU 149.5978700e6

Definition at line 30 of file Lgm_CTrans.h.

4.14.1.2 #define CDMAG_COORDS 11

Definition at line 169 of file Lgm_CTrans.h.

4.14.1.3 #define CDMAG_TO_CDMAG 1111

Definition at line 418 of file Lgm_CTrans.h.

4.14.1.4 #define CDMAG_TO_EDMAG 1110

Definition at line 417 of file Lgm_CTrans.h.

4.14.1.5 #define CDMAG_TO_EME2000 1101

Definition at line 404 of file Lgm_CTrans.h.

4.14.1.6 #define CDMAG_TO_GEI2000 1101

Definition at line 406 of file Lgm_CTrans.h.

4.14.1.7 #define CDMAG_TO_GEO 1106

Definition at line 413 of file Lgm_CTrans.h.

4.14.1.8 #define CDMAG_TO_GSE 1107

Definition at line 414 of file Lgm_CTrans.h.

4.14.1.9 #define CDMAG_TO_GSM 1108

Definition at line 415 of file Lgm_CTrans.h.

4.14.1.10 #define CDMAG_TO_ICRF2000 1101

Definition at line 405 of file Lgm_CTrans.h.

4.14.1.11 #define CDMAG_TO_ITRF 1106

Definition at line 412 of file Lgm_CTrans.h.

4.14.1.12 #define CDMAG_TO_MOD 1102

Definition at line 407 of file Lgm_CTrans.h.

4.14.1.13 #define CDMAG_TO_PEF 1105

Definition at line 410 of file Lgm_CTrans.h.

4.14.1.14 #define CDMAG_TO_SM 1109

Definition at line 416 of file Lgm_CTrans.h.

4.14.1.15 #define CDMAG_TO_TEME 1104

Definition at line 409 of file Lgm_CTrans.h.

4.14.1.16 #define CDMAG_TO_TOD 1103

Definition at line 408 of file Lgm_CTrans.h.

4.14.1.17 #define CDMAG_TO_WGS84 1106

Definition at line 411 of file Lgm_CTrans.h.

4.14.1.18 #define DegPerRad 57.295779513082320876798154814105

Definition at line 15 of file Lgm_CTrans.h.

4.14.1.19 #define EDMAG_COORDS 10

Definition at line 167 of file Lgm_CTrans.h.

4.14.1.20 #define EDMAG_TO_CDMAG 1011

Definition at line 402 of file Lgm_CTrans.h.

4.14.1.21 #define EDMAG_TO_EDMAG 1010

Definition at line 401 of file Lgm_CTrans.h.

4.14.1.22 #define EDMAG_TO_EME2000 1001

Definition at line 388 of file Lgm_CTrans.h.

4.14.1.23 #define EDMAG_TO_GEI2000 1001

Definition at line 390 of file Lgm_CTrans.h.

4.14.1.24 #define EDMAG_TO_GEO 1006

Definition at line 397 of file Lgm_CTrans.h.

4.14.1.25 #define EDMAG_TO_GSE 1007

Definition at line 398 of file Lgm_CTrans.h.

4.14.1.26 #define EDMAG_TO_GSM 1008

Definition at line 399 of file Lgm_CTrans.h.

4.14.1.27 #define EDMAG_TO_ICRF2000 1001

Definition at line 389 of file Lgm_CTrans.h.

4.14.1.28 #define EDMAG_TO_ITRF 1006

Definition at line 396 of file Lgm_CTrans.h.

4.14.1.29 #define EDMAG_TO_MOD 1002

Definition at line 391 of file Lgm_CTrans.h.

4.14.1.30 #define EDMAG_TO_PEF 1005

Definition at line 394 of file Lgm_CTrans.h.

4.14.1.31 #define EDMAG_TO_SM 1009

Definition at line 400 of file Lgm_CTrans.h.

4.14.1.32 #define EDMAG_TO_TEME 1004

Definition at line 393 of file Lgm_CTrans.h.

4.14.1.33 #define EDMAG_TO_TOD 1003

Definition at line 392 of file Lgm_CTrans.h.

4.14.1.34 #define EDMAG_TO_WGS84 1006

Definition at line 395 of file Lgm_CTrans.h.

4.14.1.35 #define EME2000_COORDS 1

Earth Mean Equator and Equinox of Epoch J2000 (EME2000 system).

Definition at line 66 of file Lgm_CTrans.h.

4.14.1.36 #define EME2000_TO_CDMAG 111

Definition at line 194 of file Lgm_CTrans.h.

4.14.1.37 #define EME2000_TO_EDMAG 110

Definition at line 193 of file Lgm_CTrans.h.

4.14.1.38 #define EME2000_TO_EME2000 101

Definition at line 180 of file Lgm_CTrans.h.

4.14.1.39 #define EME2000_TO_GEI2000 101

Definition at line 182 of file Lgm_CTrans.h.

4.14.1.40 #define EME2000_TO_GEO 106

Definition at line 189 of file Lgm_CTrans.h.

4.14.1.41 #define EME2000_TO_GSE 107

Definition at line 190 of file Lgm_CTrans.h.

4.14.1.42 #define EME2000_TO_GSM 108

Definition at line 191 of file Lgm_CTrans.h.

4.14.1.43 #define EME2000_TO_ICRF2000 101

Definition at line 181 of file Lgm_CTrans.h.

4.14.1.44 #define EME2000_TO_ITRF 106

Definition at line 188 of file Lgm_CTrans.h.

4.14.1.45 #define EME2000_TO_MOD 102

Definition at line 183 of file Lgm_CTrans.h.

4.14.1.46 #define EME2000_TO_PEF 105

Definition at line 186 of file Lgm_CTrans.h.

4.14.1.47 #define EME2000_TO_SM 109

Definition at line 192 of file Lgm_CTrans.h.

4.14.1.48 #define EME2000_TO_TEME 104

Definition at line 185 of file Lgm_CTrans.h.

4.14.1.49 #define EME2000_TO_TOD 103

Definition at line 184 of file Lgm_CTrans.h.

4.14.1.50 #define EME2000_TO_WGS84 106

Definition at line 187 of file Lgm_CTrans.h.

4.14.1.51 #define EXPAND(x) STRINGIFY(x)

Definition at line 5 of file Lgm_CTrans.h.

4.14.1.52 #define FALSE 0

Definition at line 24 of file Lgm_CTrans.h.

4.14.1.53 #define GEI2000_COORDS 1

aka GEI (Geocentric Equatorial Inertial) at Epoch J2000 Z-axis - parallel to mean rot axis of Earth at fixed epoch J2000 X-axis - points to direction of mean vernal equinox at the fixed epoch J2000 Y-axis - completes right handed system

Definition at line 68 of file Lgm_CTrans.h.

4.14.1.54 #define GEI2000_TO_CDMAG 111

Definition at line 226 of file Lgm_CTrans.h.

4.14.1.55 #define GEI2000_TO_EDMAG 110

Definition at line 225 of file Lgm_CTrans.h.

4.14.1.56 #define GEI2000_TO_EME2000 101

Definition at line 212 of file Lgm_CTrans.h.

4.14.1.57 #define GEI2000_TO_GEI2000 101

Definition at line 214 of file Lgm_CTrans.h.

4.14.1.58 #define GEI2000_TO_GEO 106

Definition at line 221 of file Lgm_CTrans.h.

4.14.1.59 #define GEI2000_TO_GSE 107

Definition at line 222 of file Lgm_CTrans.h.

4.14.1.60 #define GEI2000_TO_GSM 108

Definition at line 223 of file Lgm_CTrans.h.

4.14.1.61 #define GEI2000_TO_ICRF2000 101

Definition at line 213 of file Lgm_CTrans.h.

4.14.1.62 #define GEI2000_TO_ITRF 106

Definition at line 220 of file Lgm_CTrans.h.

4.14.1.63 #define GEI2000_TO_MOD 102

Definition at line 215 of file Lgm_CTrans.h.

4.14.1.64 #define GEI2000_TO_PEF 105

Definition at line 218 of file Lgm_CTrans.h.

4.14.1.65 #define GEI2000_TO_SM 109

Definition at line 224 of file Lgm_CTrans.h.

4.14.1.66 #define GEI2000_TO_TEME 104

Definition at line 217 of file Lgm_CTrans.h.

4.14.1.67 #define GEI2000_TO_TOD 103

Definition at line 216 of file Lgm_CTrans.h.

4.14.1.68 #define GEI2000_TO_WGS84 106

Definition at line 219 of file Lgm_CTrans.h.

4.14.1.69 #define GEO_COORDS 6

Definition at line 135 of file Lgm_CTrans.h.

4.14.1.70 #define GEO_TO_CDMAG 611

Definition at line 338 of file Lgm_CTrans.h.

4.14.1.71 #define GEO_TO_EDMAG 610

Definition at line 337 of file Lgm_CTrans.h.

4.14.1.72 #define GEO_TO_EME2000 601

Definition at line 324 of file Lgm_CTrans.h.

4.14.1.73 #define GEO_TO_GEI2000 601

Definition at line 326 of file Lgm_CTrans.h.

4.14.1.74 #define GEO_TO_GEO 606

Definition at line 333 of file Lgm_CTrans.h.

4.14.1.75 #define GEO_TO_GSE 607

Definition at line 334 of file Lgm_CTrans.h.

4.14.1.76 #define GEO_TO_GSM 608

Definition at line 335 of file Lgm_CTrans.h.

4.14.1.77 #define GEO_TO_ICRF2000 601

Definition at line 325 of file Lgm_CTrans.h.

4.14.1.78 #define GEO_TO_ITRF 606

Definition at line 332 of file Lgm_CTrans.h.

4.14.1.79 #define GEO_TO_MOD 602

Definition at line 327 of file Lgm_CTrans.h.

4.14.1.80 #define GEO_TO_PEF 605

Definition at line 330 of file Lgm_CTrans.h.

4.14.1.81 #define GEO_TO_SM 609

Definition at line 336 of file Lgm_CTrans.h.

4.14.1.82 #define GEO_TO_TEME 604

Definition at line 329 of file Lgm_CTrans.h.

4.14.1.83 #define GEO_TO_TOD 603

Definition at line 328 of file Lgm_CTrans.h.

4.14.1.84 #define GEO_TO_WGS84 606

Definition at line 331 of file Lgm_CTrans.h.

4.14.1.85 #define GSE_COORDS 7

Definition at line 161 of file Lgm_CTrans.h.

4.14.1.86 #define GSE_TO_CDMAG 711

Definition at line 354 of file Lgm_CTrans.h.

4.14.1.87 #define GSE_TO_EDMAG 710

Definition at line 353 of file Lgm_CTrans.h.

4.14.1.88 #define GSE_TO_EME2000 701

Definition at line 340 of file Lgm_CTrans.h.

4.14.1.89 #define GSE_TO_GEI2000 701

Definition at line 342 of file Lgm_CTrans.h.

4.14.1.90 #define GSE_TO_GEO 706

Definition at line 349 of file Lgm_CTrans.h.

4.14.1.91 #define GSE_TO_GSE 707

Definition at line 350 of file Lgm_CTrans.h.

4.14.1.92 #define GSE_TO_GSM 708

Definition at line 351 of file Lgm_CTrans.h.

4.14.1.93 #define GSE_TO_ICRF2000 701

Definition at line 341 of file Lgm_CTrans.h.

4.14.1.94 #define GSE_TO_ITRF 706

Definition at line 348 of file Lgm_CTrans.h.

4.14.1.95 #define GSE_TO_MOD 702

Definition at line 343 of file Lgm_CTrans.h.

4.14.1.96 #define GSE_TO_PEF 705

Definition at line 346 of file Lgm_CTrans.h.

4.14.1.97 #define GSE_TO_SM 709

Definition at line 352 of file Lgm_CTrans.h.

4.14.1.98 #define GSE_TO_TEME 704

Definition at line 345 of file Lgm_CTrans.h.

4.14.1.99 #define GSE_TO_TOD 703

Definition at line 344 of file Lgm_CTrans.h.

4.14.1.100 #define GSE_TO_WGS84 706

Definition at line 347 of file Lgm_CTrans.h.

4.14.1.101 #define GSM_COORDS 8

Definition at line 163 of file Lgm_CTrans.h.

4.14.1.102 #define GSM_TO_CDMAG 811

Definition at line 370 of file Lgm_CTrans.h.

4.14.1.103 #define GSM_TO_EDMAG 810

Definition at line 369 of file Lgm_CTrans.h.

4.14.1.104 #define GSM_TO_EME2000 801

Definition at line 356 of file Lgm_CTrans.h.

4.14.1.105 #define GSM_TO_GEI2000 801

Definition at line 358 of file Lgm_CTrans.h.

4.14.1.106 #define GSM_TO_GEO 806

Definition at line 365 of file Lgm_CTrans.h.

4.14.1.107 #define GSM_TO_GSE 807

Definition at line 366 of file Lgm_CTrans.h.

4.14.1.108 #define GSM_TO_GSM 808

Definition at line 367 of file Lgm_CTrans.h.

4.14.1.109 #define GSM_TO_ICRF2000 801

Definition at line 357 of file Lgm_CTrans.h.

4.14.1.110 #define GSM_TO_ITRF 806

Definition at line 364 of file Lgm_CTrans.h.

4.14.1.111 #define GSM_TO_MOD 802

Definition at line 359 of file Lgm_CTrans.h.

4.14.1.112 #define GSM_TO_PEF 805

Definition at line 362 of file Lgm_CTrans.h.

4.14.1.113 #define GSM_TO_SM 809

Definition at line 368 of file Lgm_CTrans.h.

4.14.1.114 #define GSM_TO_TEME 804

Definition at line 361 of file Lgm_CTrans.h.

4.14.1.115 #define GSM_TO_TOD 803

Definition at line 360 of file Lgm_CTrans.h.

4.14.1.116 #define GSM_TO_WGS84 806

Definition at line 363 of file Lgm_CTrans.h.

4.14.1.117 #define ICRF2000_COORDS 1

aka International Celestial Reference Frame (ICRF)

Definition at line 67 of file Lgm_CTrans.h.

4.14.1.118 #define ICRF2000_TO_CDMAG 111

Definition at line 210 of file Lgm_CTrans.h.

4.14.1.119 #define ICRF2000_TO_EDMAG 110

Definition at line 209 of file Lgm_CTrans.h.

4.14.1.120 #define ICRF2000_TO_EME2000 101

Definition at line 196 of file Lgm_CTrans.h.

4.14.1.121 #define ICRF2000_TO_GEI2000 101

Definition at line 198 of file Lgm_CTrans.h.

4.14.1.122 #define ICRF2000_TO_GEO 106

Definition at line 205 of file Lgm_CTrans.h.

4.14.1.123 #define ICRF2000_TO_GSE 107

Definition at line 206 of file Lgm_CTrans.h.

4.14.1.124 #define ICRF2000_TO_GSM 108

Definition at line 207 of file Lgm_CTrans.h.

4.14.1.125 #define ICRF2000_TO_ICRF2000 101

Definition at line 197 of file Lgm_CTrans.h.

4.14.1.126 #define ICRF2000_TO_ITRF 106

Definition at line 204 of file Lgm_CTrans.h.

4.14.1.127 #define ICRF2000_TO_MOD 102

Definition at line 199 of file Lgm_CTrans.h.

4.14.1.128 #define ICRF2000_TO_PEF 105

Definition at line 202 of file Lgm_CTrans.h.

4.14.1.129 #define ICRF2000_TO_SM 109

Definition at line 208 of file Lgm_CTrans.h.

4.14.1.130 #define ICRF2000_TO_TEME 104

Definition at line 201 of file Lgm_CTrans.h.

4.14.1.131 #define ICRF2000_TO_TOD 103

Definition at line 200 of file Lgm_CTrans.h.

4.14.1.132 #define ICRF2000_TO_WGS84 106

Definition at line 203 of file Lgm_CTrans.h.

4.14.1.133 #define ITRF_COORDS 6

Definition at line 134 of file Lgm_CTrans.h.

4.14.1.134 #define ITRF_TO_CDMAG 611

Definition at line 322 of file Lgm_CTrans.h.

4.14.1.135 #define ITRF_TO_EDMAG 610

Definition at line 321 of file Lgm_CTrans.h.

4.14.1.136 #define ITRF_TO_EME2000 601

Definition at line 308 of file Lgm_CTrans.h.

4.14.1.137 #define ITRF_TO_GEI2000 601

Definition at line 310 of file Lgm_CTrans.h.

4.14.1.138 #define ITRF_TO_GEO 606

Definition at line 317 of file Lgm_CTrans.h.

4.14.1.139 #define ITRF_TO_GSE 607

Definition at line 318 of file Lgm_CTrans.h.

4.14.1.140 #define ITRF_TO_GSM 608

Definition at line 319 of file Lgm_CTrans.h.

4.14.1.141 #define ITRF_TO_ICRF2000 601

Definition at line 309 of file Lgm_CTrans.h.

4.14.1.142 #define ITRF_TO_ITRF 606

Definition at line 316 of file Lgm_CTrans.h.

4.14.1.143 #define ITRF_TO_MOD 602

Definition at line 311 of file Lgm_CTrans.h.

4.14.1.144 #define ITRF_TO_PEF 605

Definition at line 314 of file Lgm_CTrans.h.

4.14.1.145 #define ITRF_TO_SM 609

Definition at line 320 of file Lgm_CTrans.h.

4.14.1.146 #define ITRF_TO_TEME 604

Definition at line 313 of file Lgm_CTrans.h.

4.14.1.147 #define ITRF_TO_TOD 603

Definition at line 312 of file Lgm_CTrans.h.

4.14.1.148 #define ITRF_TO_WGS84 606

Definition at line 315 of file Lgm_CTrans.h.

4.14.1.149 #define LGM_1M_1O_GOLD 0.38196601125010515180

Definition at line 35 of file Lgm_CTrans.h.

4.14.1.150 #define LGM_1O_GOLD 0.61803398874989484820

Definition at line 34 of file Lgm_CTrans.h.

4.14.1.151 #define LGM_ERROR -1

Definition at line 37 of file Lgm_CTrans.h.

4.14.1.152 #define LGM_GOLD 1.61803398874989484820

Definition at line 33 of file Lgm_CTrans.h.

4.14.1.153 #define LGM_JD_GPS0 2444245.0

Definition at line 40 of file Lgm_CTrans.h.

4.14.1.154 #define LGM_JD_J2000 2451545.0

Definition at line 39 of file Lgm_CTrans.h.

4.14.1.155 #define LGM_JD_TAI0 2436205.0

Definition at line 41 of file Lgm_CTrans.h.

4.14.1.156 #define LGM_TIME_SYS_GPS 2

Definition at line 50 of file Lgm_CTrans.h.

4.14.1.157 #define LGM_TIME_SYS_TAI 1

Definition at line 49 of file Lgm_CTrans.h.

4.14.1.158 #define LGM_TIME_SYS_TDB 4

Definition at line 52 of file Lgm_CTrans.h.

4.14.1.159 #define LGM_TIME_SYS_TT 3

Definition at line 51 of file Lgm_CTrans.h.

4.14.1.160 #define LGM_TIME_SYS_UT1 5

Definition at line 53 of file Lgm_CTrans.h.

4.14.1.161 #define LGM_TIME_SYS_UTC 0

Definition at line 48 of file Lgm_CTrans.h.

4.14.1.162 #define M_1_SQRTPI 0.564189583547756286948079451561

Definition at line 20 of file Lgm_CTrans.h.

4.14.1.163 #define M_2PI 6.283185307179586476925286766559

Definition at line 21 of file Lgm_CTrans.h.

4.14.1.164 #define M_OneThird 0.33333333333333333333333333333333

Definition at line 22 of file Lgm_CTrans.h.

4.14.1.165 #define M_SQRTPI 1.772453850905516027298167483341

Definition at line 18 of file Lgm_CTrans.h.

4.14.1.166 #define M_SQRTPI_2 0.886226925452758013649083741671

Definition at line 19 of file Lgm_CTrans.h.

4.14.1.167 #define MOD_COORDS 2

Mean Of Date (MOD) system. This is same as EME2000_COORDS, except that the mean rotation axis and mean equinox of date are used to define the system. Transforming between J2000 and MOD involves rotations using the so-called Precession angles (Zeta, Zee, Theta). The sun position (and other quantities) that we compute natively comes out in MOD coords. Transformation between MOD and EME2000 Umod = Rz(-Zee)Ry(Theta)Rz(-Zeta) Ueme2000

Definition at line 77 of file Lgm_CTrans.h.

4.14.1.168 #define MOD_TO_CDMAG 211

Definition at line 242 of file Lgm_CTrans.h.

4.14.1.169 #define MOD_TO_EDMAG 210

Definition at line 241 of file Lgm_CTrans.h.

4.14.1.170 #define MOD_TO_EME2000 201

Definition at line 228 of file Lgm_CTrans.h.

4.14.1.171 #define MOD_TO_GEI2000 201

Definition at line 230 of file Lgm_CTrans.h.

4.14.1.172 #define MOD_TO_GEO 206

Definition at line 237 of file Lgm_CTrans.h.

4.14.1.173 #define MOD_TO_GSE 207

Definition at line 238 of file Lgm_CTrans.h.

4.14.1.174 #define MOD_TO_GSM 208

Definition at line 239 of file Lgm_CTrans.h.

4.14.1.175 #define MOD_TO_ICRF2000 201

Definition at line 229 of file Lgm_CTrans.h.

4.14.1.176 #define MOD_TO_ITRF 206

Definition at line 236 of file Lgm_CTrans.h.

4.14.1.177 #define MOD_TO_MOD 202

Definition at line 231 of file Lgm_CTrans.h.

4.14.1.178 #define MOD_TO_PEF 205

Definition at line 234 of file Lgm_CTrans.h.

4.14.1.179 #define MOD_TO_SM 209

Definition at line 240 of file Lgm_CTrans.h.

4.14.1.180 #define MOD_TO_TEME 204

Definition at line 233 of file Lgm_CTrans.h.

4.14.1.181 #define MOD_TO_TOD 203

Definition at line 232 of file Lgm_CTrans.h.

4.14.1.182 #define MOD_TO_WGS84 206

Definition at line 235 of file Lgm_CTrans.h.

4.14.1.183 #define PEF_COORDS 5

Pseudo Earth Fixed (PEF) system This system has Z-axis aligned with instantaneous rotation axis of the Earth and X-axis to Greenwich meridian. Its closely related to TOD system. PEF to TOD are related by a single rotation around z-axis by angle corresponding to true sidereal time. This is called Pseudo-Fixed because in reality the rotation axis moves slightly relative to the ground (pole wander). So its not a truly Earth-fixed system. Transformation: Upf = Rz(Theta) Utod (Theta is true sidereal time; Theta = Mean Theta + Eqn or Equinoxes)

Definition at line 116 of file Lgm_CTrans.h.

4.14.1.184 #define PEF_TO_CDMAG 511

Definition at line 290 of file Lgm_CTrans.h.

4.14.1.185 #define PEF_TO_EDMAG 510

Definition at line 289 of file Lgm_CTrans.h.

4.14.1.186 #define PEF_TO_EME2000 501

Definition at line 276 of file Lgm_CTrans.h.

4.14.1.187 #define PEF_TO_GEI2000 501

Definition at line 278 of file Lgm_CTrans.h.

4.14.1.188 #define PEF_TO_GEO 506

Definition at line 285 of file Lgm_CTrans.h.

4.14.1.189 #define PEF_TO_GSE 507

Definition at line 286 of file Lgm_CTrans.h.

4.14.1.190 #define PEF_TO_GSM 508

Definition at line 287 of file Lgm_CTrans.h.

4.14.1.191 #define PEF_TO_ICRF2000 501

Definition at line 277 of file Lgm_CTrans.h.

4.14.1.192 #define PEF_TO_ITRF 506

Definition at line 284 of file Lgm_CTrans.h.

4.14.1.193 #define PEF_TO_MOD 502

Definition at line 279 of file Lgm_CTrans.h.

4.14.1.194 #define PEF_TO_PEF 505

Definition at line 282 of file Lgm_CTrans.h.

4.14.1.195 #define PEF_TO_SM 509

Definition at line 288 of file Lgm_CTrans.h.

4.14.1.196 #define PEF_TO_TEME 504

Definition at line 281 of file Lgm_CTrans.h.

4.14.1.197 #define PEF_TO_TOD 503

Definition at line 280 of file Lgm_CTrans.h.

4.14.1.198 #define PEF_TO_WGS84 506

Definition at line 283 of file Lgm_CTrans.h.

4.14.1.199 #define RadPerArcSec 4.848136811095359935899141023579e-6

Definition at line 17 of file Lgm_CTrans.h.

4.14.1.200 #define RadPerDeg 0.017453292519943295769236907568

Definition at line 16 of file Lgm_CTrans.h.

4.14.1.201 #define Re 6378.137

Definition at line 27 of file Lgm_CTrans.h.

4.14.1.202 #define SM_COORDS 9

Definition at line 165 of file Lgm_CTrans.h.

4.14.1.203 #define SM_TO_CDMAG 911

Definition at line 386 of file Lgm_CTrans.h.

4.14.1.204 #define SM_TO_EDMAG 910

Definition at line 385 of file Lgm_CTrans.h.

4.14.1.205 #define SM_TO_EME2000 901

Definition at line 372 of file Lgm_CTrans.h.

4.14.1.206 #define SM_TO_GEI2000 901

Definition at line 374 of file Lgm_CTrans.h.

4.14.1.207 #define SM_TO_GEO 906

Definition at line 381 of file Lgm_CTrans.h.

4.14.1.208 #define SM_TO_GSE 907

Definition at line 382 of file Lgm_CTrans.h.

4.14.1.209 #define SM_TO_GSM 908

Definition at line 383 of file Lgm_CTrans.h.

4.14.1.210 #define SM_TO_ICRF2000 901

Definition at line 373 of file Lgm_CTrans.h.

4.14.1.211 #define SM_TO_ITRF 906

Definition at line 380 of file Lgm_CTrans.h.

4.14.1.212 #define SM_TO_MOD 902

Definition at line 375 of file Lgm_CTrans.h.

4.14.1.213 #define SM_TO_PEF 905

Definition at line 378 of file Lgm_CTrans.h.

4.14.1.214 #define SM_TO_SM 909

Definition at line 384 of file Lgm_CTrans.h.

4.14.1.215 #define SM_TO_TEME 904

Definition at line 377 of file Lgm_CTrans.h.

4.14.1.216 #define SM_TO_TOD 903

Definition at line 376 of file Lgm_CTrans.h.

4.14.1.217 #define SM_TO_WGS84 906

Definition at line 379 of file Lgm_CTrans.h.

4.14.1.218 #define STRINGIFY(x) #x

Definition at line 4 of file Lgm_CTrans.h.

4.14.1.219 #define TEME_COORDS 4

True Equator, Mean Equinox (of Date). This is a hybrid system using true equat., but mean equinox. This is the system that the output of the SGP4 orbit propagator uses implicitly. The system comes about implicitly when mean sidereal time is used in place of true sidereal time when transforming between an earth-fixed system and an inertial one. Its not a system we would necessarily want to work in, but its what SGP4 (implicitly) outputs due to the nature of how the TLEs and orbit calculations are done. Transformation between TEME and TOD Utod = Rz(dPsi cos(Eps)) Uteme

Definition at line 99 of file Lgm_CTrans.h.

4.14.1.220 #define TEME_TO_CDMAG 411

Definition at line 274 of file Lgm_CTrans.h.

4.14.1.221 #define TEME_TO_EDMAG 410

Definition at line 273 of file Lgm_CTrans.h.

4.14.1.222 #define TEME_TO_EME2000 401

Definition at line 260 of file Lgm_CTrans.h.

4.14.1.223 #define TEME_TO_GEI2000 401

Definition at line 262 of file Lgm_CTrans.h.

4.14.1.224 #define TEME_TO_GEO 406

Definition at line 269 of file Lgm_CTrans.h.

4.14.1.225 #define TEME_TO_GSE 407

Definition at line 270 of file Lgm_CTrans.h.

4.14.1.226 #define TEME_TO_GSM 408

Definition at line 271 of file Lgm_CTrans.h.

4.14.1.227 #define TEME_TO_JCRF2000 401

Definition at line 261 of file Lgm_CTrans.h.

4.14.1.228 #define TEME_TO_ITRF 406

Definition at line 268 of file Lgm_CTrans.h.

4.14.1.229 #define TEME_TO_MOD 402

Definition at line 263 of file Lgm_CTrans.h.

4.14.1.230 #define TEME_TO_PEF 405

Definition at line 266 of file Lgm_CTrans.h.

4.14.1.231 #define TEME_TO_SM 409

Definition at line 272 of file Lgm_CTrans.h.

4.14.1.232 #define TEME_TO_TEME 404

Definition at line 265 of file Lgm_CTrans.h.

4.14.1.233 #define TEME_TO_TOD 403

Definition at line 264 of file Lgm_CTrans.h.

4.14.1.234 #define TEME_TO_WGS84 406

Definition at line 267 of file Lgm_CTrans.h.

4.14.1.235 #define TOD_COORDS 3

True Of Date (TOD) system. This is same as MOD, except that the true rotation axis and true equinox of date are used to define the system. Transforming between MOD and TOD involves rotations using the Nutation corrections delta-Psi and delta-Eps. Transformation between TOD and MOD Utod = Rx(-(Eps+dEps))Rz(-dPsi)Rx(Eps) Umod

Definition at line 89 of file Lgm_CTrans.h.

4.14.1.236 #define TOD_TO_CDMAG 311

Definition at line 258 of file Lgm_CTrans.h.

4.14.1.237 #define TOD_TO_EDMAG 310

Definition at line 257 of file Lgm_CTrans.h.

4.14.1.238 #define TOD_TO_EME2000 301

Definition at line 244 of file Lgm_CTrans.h.

4.14.1.239 #define TOD_TO_GEI2000 301

Definition at line 246 of file Lgm_CTrans.h.

4.14.1.240 #define TOD_TO_GEO 306

Definition at line 253 of file Lgm_CTrans.h.

4.14.1.241 #define TOD_TO_GSE 307

Definition at line 254 of file Lgm_CTrans.h.

4.14.1.242 #define TOD_TO_GSM 308

Definition at line 255 of file Lgm_CTrans.h.

4.14.1.243 #define TOD_TO_ICRF2000 301

Definition at line 245 of file Lgm_CTrans.h.

4.14.1.244 #define TOD_TO_ITRF 306

Definition at line 252 of file Lgm_CTrans.h.

4.14.1.245 #define TOD_TO_MOD 302

Definition at line 247 of file Lgm_CTrans.h.

4.14.1.246 #define TOD_TO_PEF 305

Definition at line 250 of file Lgm_CTrans.h.

4.14.1.247 #define TOD_TO_SM 309

Definition at line 256 of file Lgm_CTrans.h.

4.14.1.248 #define TOD_TO_TEME 304

Definition at line 249 of file Lgm_CTrans.h.

4.14.1.249 #define TOD_TO_TOD 303

Definition at line 248 of file Lgm_CTrans.h.

4.14.1.250 #define TOD_TO_WGS84 306

Definition at line 251 of file Lgm_CTrans.h.

4.14.1.251 #define TRUE 1

Definition at line 25 of file Lgm_CTrans.h.

4.14.1.252 #define WGS84_COORDS 6

Definition at line 133 of file Lgm_CTrans.h.

4.14.1.253 #define WGS84_TO_CDMAG 611

Definition at line 306 of file Lgm_CTrans.h.

4.14.1.254 #define WGS84_TO_EDMAG 610

Definition at line 305 of file Lgm_CTrans.h.

4.14.1.255 #define WGS84_TO_EME2000 601

Definition at line 292 of file Lgm_CTrans.h.

4.14.1.256 #define WGS84_TO_GEI2000 601

Definition at line 294 of file Lgm_CTrans.h.

4.14.1.257 #define WGS84_TO_GEO 606

Definition at line 301 of file Lgm_CTrans.h.

4.14.1.258 #define WGS84_TO_GSE 607

Definition at line 302 of file Lgm_CTrans.h.

4.14.1.259 #define WGS84_TO_GSM 608

Definition at line 303 of file Lgm_CTrans.h.

4.14.1.260 #define WGS84_TO_ICRF2000 601

Definition at line 293 of file Lgm_CTrans.h.

4.14.1.261 #define WGS84_TO_ITRF 606

Definition at line 300 of file Lgm_CTrans.h.

4.14.1.262 #define WGS84_TO_MOD 602

Definition at line 295 of file Lgm_CTrans.h.

4.14.1.263 #define WGS84_TO_PEF 605

Definition at line 298 of file Lgm_CTrans.h.

4.14.1.264 #define WGS84_TO_SM 609

Definition at line 304 of file Lgm_CTrans.h.

4.14.1.265 #define WGS84_TO_TEME 604

Definition at line 297 of file Lgm_CTrans.h.

4.14.1.266 #define WGS84_TO_TOD 603

Definition at line 296 of file Lgm_CTrans.h.

4.14.1.267 #define WGS84_TO_WGS84 606

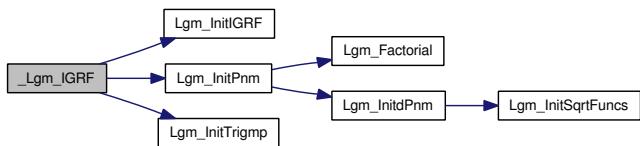
Definition at line 299 of file Lgm_CTrans.h.

4.14.2 Function Documentation

4.14.2.1 void _Lgm_IGRF (Lgm_Vector *, Lgm_Vector *, Lgm_CTrans *)

Definition at line 84 of file Lgm_IGRF.c.

Here is the call graph for this function:



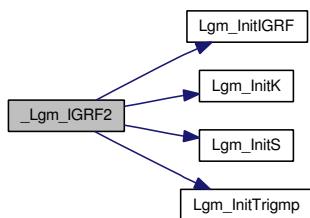
Here is the caller graph for this function:



4.14.2.2 void _Lgm_IGRF2 (Lgm_Vector *, Lgm_Vector *, Lgm_CTrans *)

Definition at line 211 of file Lgm_IGRF.c.

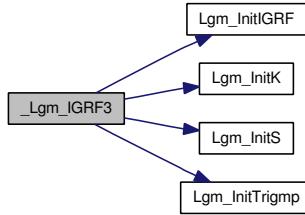
Here is the call graph for this function:



4.14.2.3 void _Lgm_IGRF3 (Lgm_Vector *, Lgm_Vector *, Lgm_CTrans *)

Definition at line 354 of file Lgm_IGRF.c.

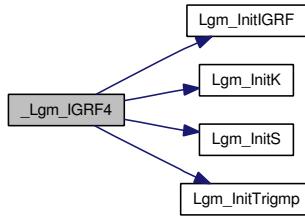
Here is the call graph for this function:



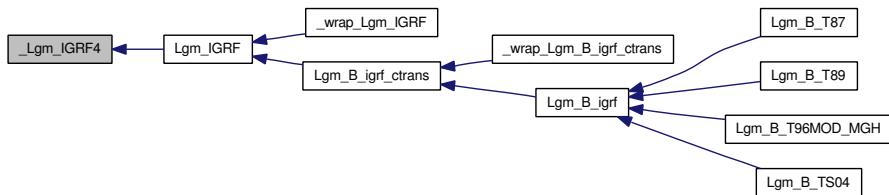
4.14.2.4 void _Lgm_IGRF4 (Lgm_Vector *, Lgm_Vector *, Lgm_CTrans *)

Definition at line 527 of file Lgm_IGRF.c.

Here is the call graph for this function:



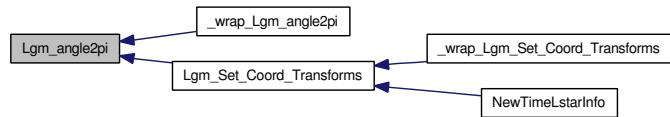
Here is the caller graph for this function:



4.14.2.5 double Lgm_angle2pi (double)

Definition at line 136 of file Lgm_CTrans.c.

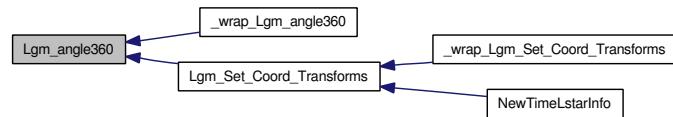
Here is the caller graph for this function:



4.14.2.6 double Lgm_angle360 (double)

Definition at line 153 of file Lgm_CTrans.c.

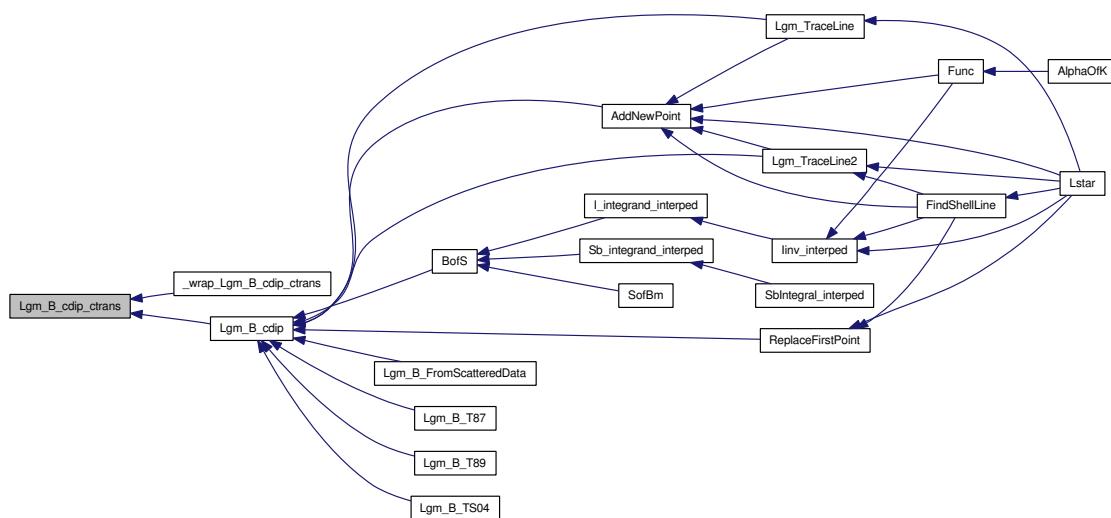
Here is the caller graph for this function:



4.14.2.7 void Lgm_B_cdip_ctrans (Lgm_Vector *, Lgm_Vector *, Lgm_CTrans *)

Definition at line 1374 of file Lgm_CTrans.c.

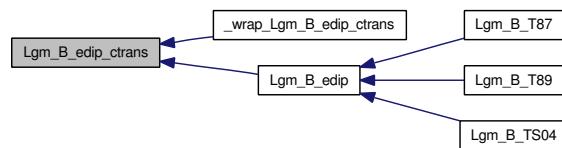
Here is the caller graph for this function:



4.14.2.8 void Lgm_B_edip_ctrans (Lgm_Vector * v, Lgm_Vector * B, Lgm_CTrans * c)

Definition at line 1435 of file Lgm_CTrans.c.

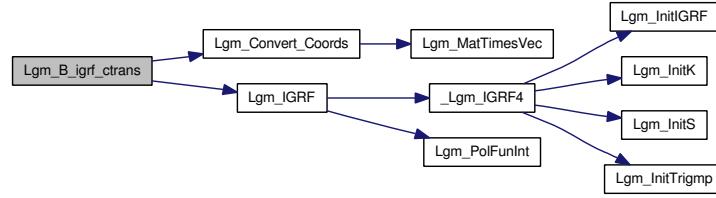
Here is the caller graph for this function:



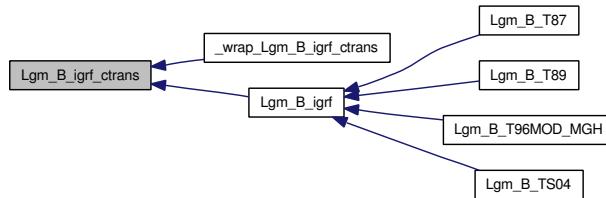
4.14.2.9 void Lgm_B_igrf_ctrans (Lgm_Vector *, Lgm_Vector *, Lgm_CTrans *)

Definition at line 1322 of file Lgm_CTrans.c.

Here is the call graph for this function:



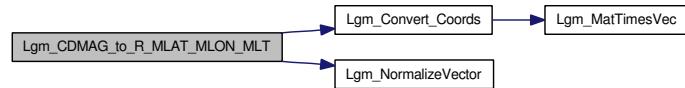
Here is the caller graph for this function:



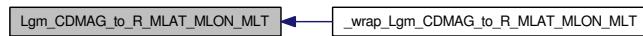
4.14.2.10 void Lgm_CDMAG_to_R_MLAT_MLON_MLT (Lgm_Vector * u , double * R , double * $MLAT$, double * $MLON$, double * MLT , Lgm_CTrans * c)

Definition at line 1827 of file Lgm_CTrans.c.

Here is the call graph for this function:



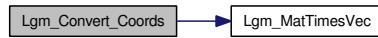
Here is the caller graph for this function:



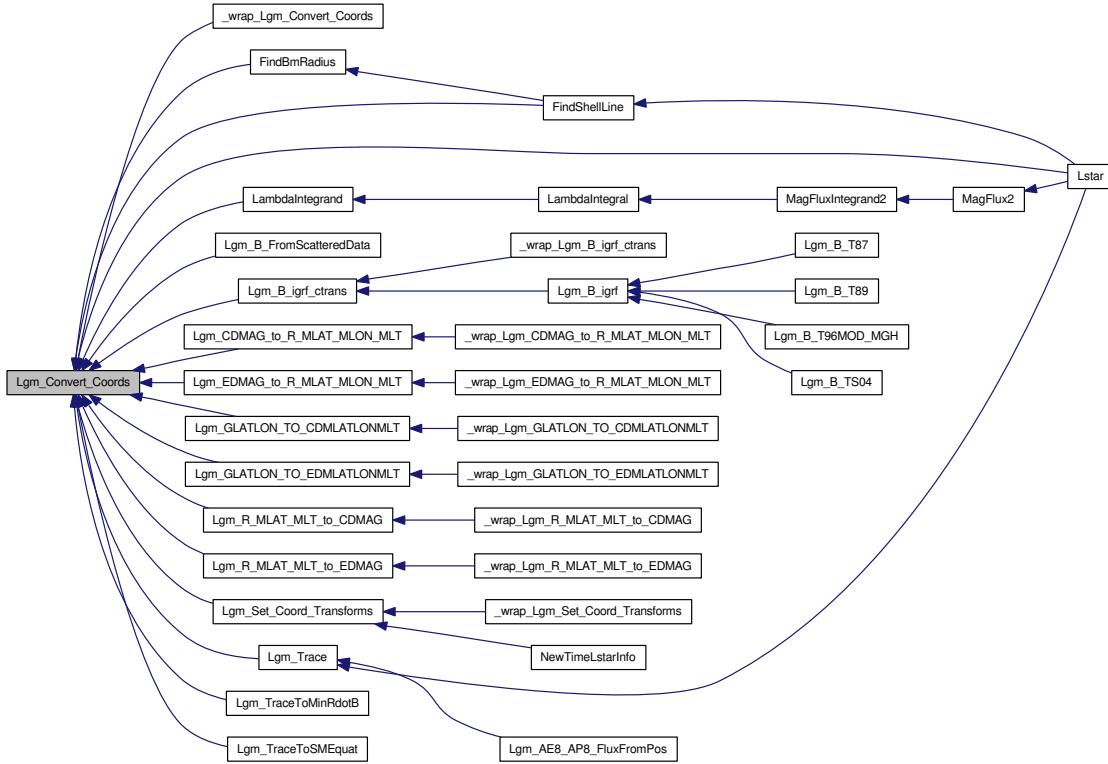
4.14.2.11 void Lgm_Convert_Coords (Lgm_Vector *, Lgm_Vector *, int, Lgm_CTrans *)

Definition at line 1086 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.14.2.12 Lgm_CTrans* Lgm_CopyCTrans (Lgm_CTrans * s)

The `Lgm_CTrans` structure has pointers in it, so simple assignments (e.g. `*t = *s`) are dangerous. Here we make sure that the target gets an independent copy of the structure.

Definition at line 68 of file `Lgm_CTrans.c`.

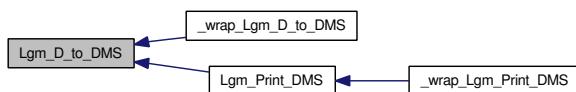
Here is the caller graph for this function:



4.14.2.13 void Lgm_D_to_DMS (double D, int * DD, int * MM, int * SS)

Definition at line 1645 of file `Lgm_CTrans.c`.

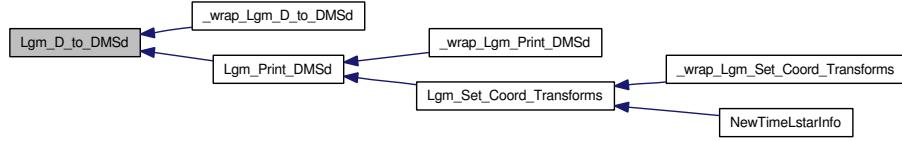
Here is the caller graph for this function:



4.14.2.14 void Lgm_D_to_DMSd (double D , int * sgn , int * DD , int * MM , double * SS)

Definition at line 1681 of file Lgm_CTrans.c.

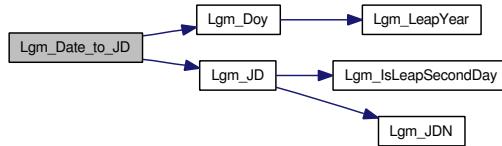
Here is the caller graph for this function:



4.14.2.15 double Lgm_Date_to_JD (long int $Date$, double UT , Lgm_CTrans * c)

Definition at line 1189 of file Lgm_DateAndTime.c.

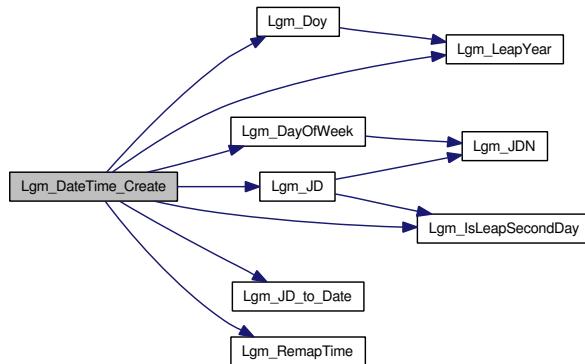
Here is the call graph for this function:



4.14.2.16 Lgm_DateTime* Lgm_DateTime_Create (int $Year$, int $Month$, int Day , double $Time$, int $TimeSystem$, Lgm_CTrans * c)

Definition at line 868 of file Lgm_DateAndTime.c.

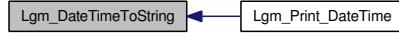
Here is the call graph for this function:



4.14.2.17 void Lgm_DateTimeToString (char * Str , Lgm_DateTime DT , int $Style$, int p)

Definition at line 957 of file Lgm_DateAndTime.c.

Here is the caller graph for this function:



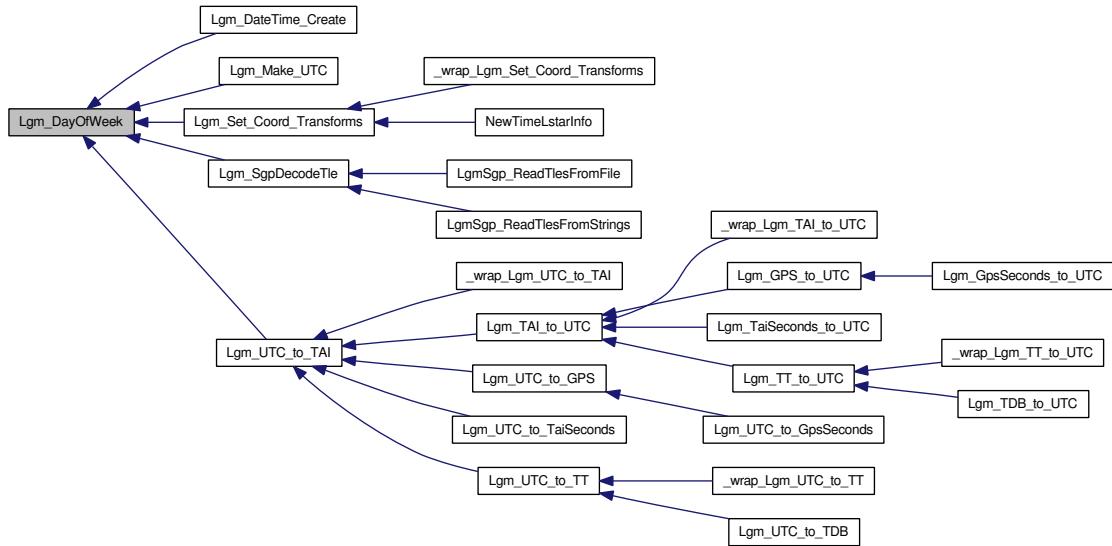
4.14.2.18 int Lgm_DayOfWeek (int Year, int Month, int Day, char * dowstr)

Definition at line 1205 of file Lgm_DateAndTime.c.

Here is the call graph for this function:

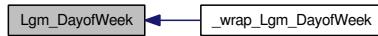


Here is the caller graph for this function:



4.14.2.19 int Lgm_DayofWeek (int, int, int, char *, Lgm_CTrans * c)

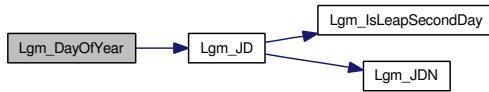
Here is the caller graph for this function:



4.14.2.20 int Lgm_DayOfYear (int year, int month, int day, Lgm_CTrans * c)

Definition at line 1198 of file Lgm_DateAndTime.c.

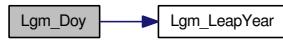
Here is the call graph for this function:



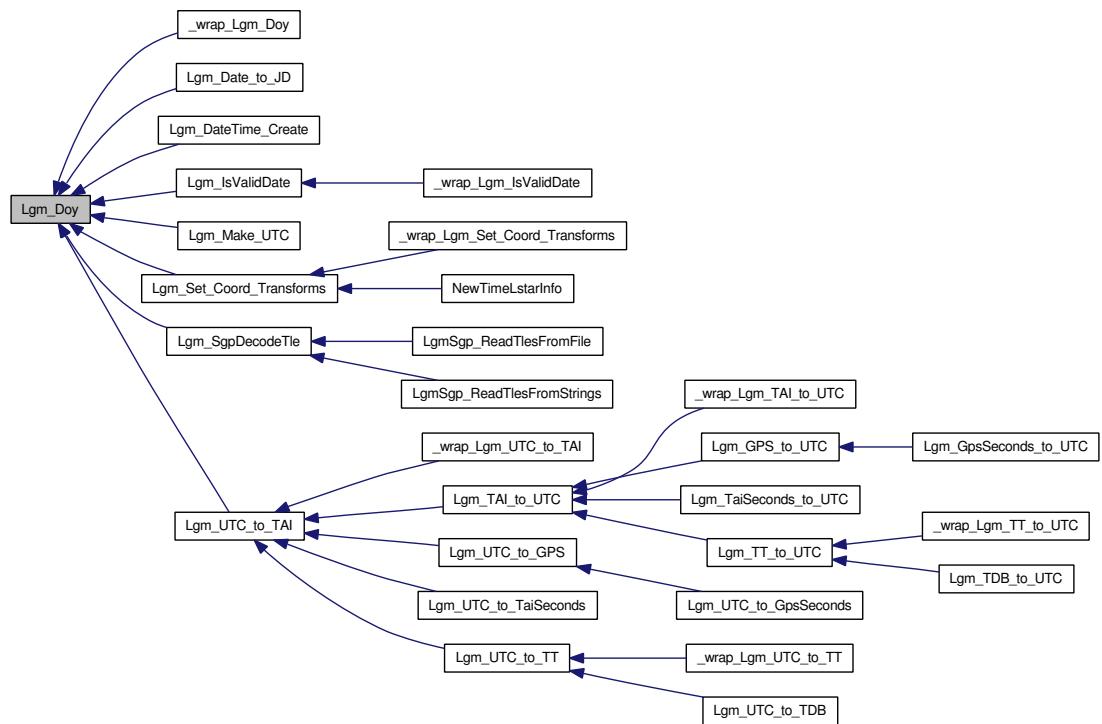
4.14.2.21 int Lgm_Doy (long *int*, int *, int *, int *, int *)

Definition at line 1242 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.14.2.22 void Lgm_EDMAG_to_R_MLAT_MLON_MLT (Lgm_Vector * *u*, double * *R*, double * *MLAT*, double * *MLON*, double * *MLT*, Lgm_CTrans * *c*)

Definition at line 1889 of file Lgm_CTrans.c.

Here is the call graph for this function:



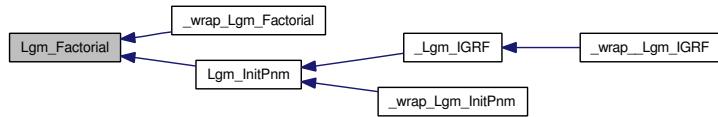
Here is the caller graph for this function:



4.14.2.23 double Lgm_Factorial (int)

Definition at line 879 of file Lgm_IGRF.c.

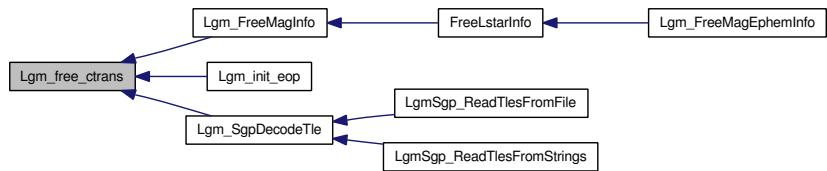
Here is the caller graph for this function:



4.14.2.24 void Lgm_free_ctrans (Lgm_CTrans * c)

Definition at line 14 of file Lgm_CTrans.c.

Here is the caller graph for this function:



4.14.2.25 void Lgm_GEOD_to_WGS84 (double GeodLat, double GeodLong, double GeodHieght, Lgm_Vector * v)

Definition at line 1233 of file Lgm_CTrans.c.

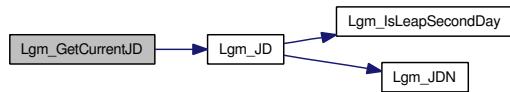
Here is the caller graph for this function:



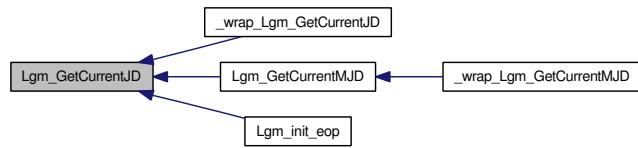
4.14.2.26 double Lgm_GetCurrentJD (Lgm_CTrans * c)

Definition at line 1699 of file Lgm_CTrans.c.

Here is the call graph for this function:



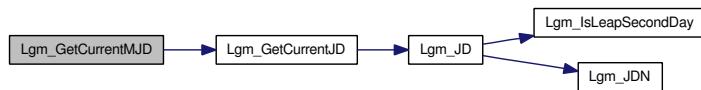
Here is the caller graph for this function:



4.14.2.27 double Lgm_GetCurrentMJD (Lgm_CTrans * c)

Definition at line 1715 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.14.2.28 double Lgm_GetLeapSeconds (double JD, Lgm_CTrans * c)

Routines for dealing with leap seconds. Also time conversions that require knowledge about leap seconds.

[Lgm_GetLeapSeconds\(\)](#) [Lgm_IsLeapSecondDay\(\)](#) [Lgm_LoadLeapSeconds\(\)](#)

Leap seconds are added when necessary. First preference is given to opportunities at the end of December and the end of June. However, secondary preference is also given to opportunities at the end of March and September if needed. Since leap seconds were introduced in 1972, only dates in December and June have been used to include leap seconds.

Needed to convert between TT or TAI, TDB and UTC. Some defs:

JD – Julian Date
 MJD – Modified Julian Date (JD - 2400000.5)
 UT – Universal Time (before 1960 astro calcs were done with UT)
 ET – Ephemeris Time (then ET replaced it)
 TDT – Terrestrial Dynamical Time (TDT replaced ET in 1981)
 TT – Terrestrial Time (in 1991 TDT was renamed to be TT)
 UTC – Universal

Time Coordinated TAI – International Atomic Time
TDB – Terrestrial Barycentric Time
UT1 – Universal Time (UT1 is a corrected version of UTO)
UTO – Universal Time (not used in this uncorrected form)
dT – different between TT and UT1 (i.e. $dT = TT - UT1$) (this was 32.184s when TAI was introduced in 1958 – hence the definitions below).

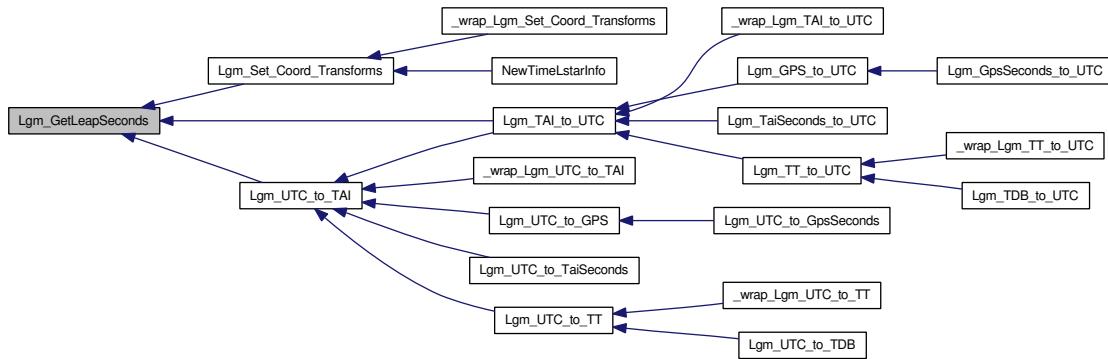
Related by:

$$TAI = UTC + dAT \quad TT = TAI + 32.184 \quad (\text{i.e. } TT = UTC + dAT + 32.184)$$

This routine simply determined what the dAT value should be for a given JD. Note that after 1972 they are just leap seconds, but before they are non-integral (leap seconds (werent invented yet?)

Definition at line 70 of file Lgm_DateAndTime.c.

Here is the caller graph for this function:



4.14.2.29 void Lgm_GLATLON_TO_CDMLATLONMLT (double GLAT, double GLON, double * MLAT, double * MLON, double * MLT, Lgm_CTrans * c)

Definition at line 1948 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



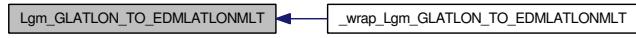
4.14.2.30 void Lgm_GLATLON_TO_EDMLATLONMLT (double GLAT, double GLON, double * MLAT, double * MLON, double * MLT, Lgm_CTrans * c)

Definition at line 1981 of file Lgm_CTrans.c.

Here is the call graph for this function:



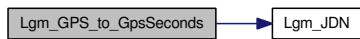
Here is the caller graph for this function:



4.14.2.31 double Lgm_GPS_to_GpsSeconds (Lgm_DateTime * GPS)

Definition at line 344 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



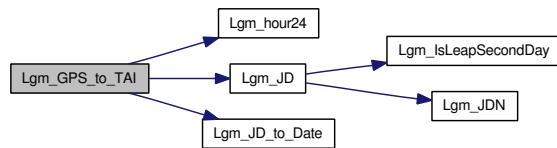
Here is the caller graph for this function:



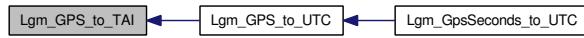
4.14.2.32 void Lgm_GPS_to_TAI (Lgm_DateTime * GPS, Lgm_DateTime * TAI, Lgm_CTrans * c)

Definition at line 282 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



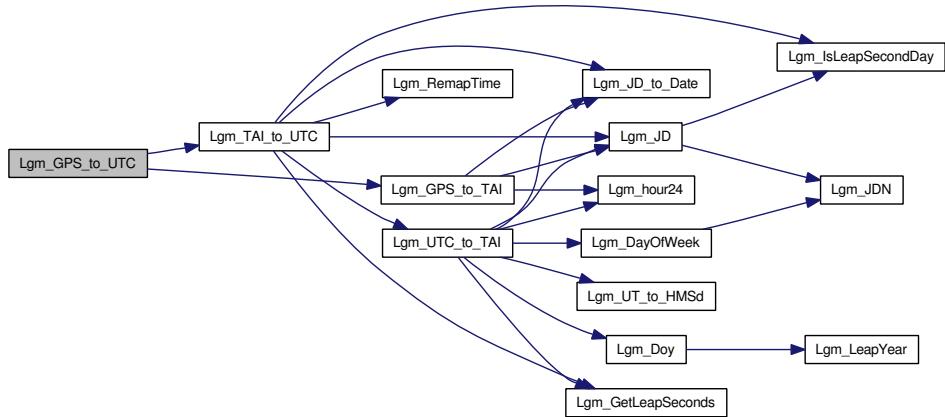
Here is the caller graph for this function:



4.14.2.33 void Lgm_GPS_to_UTC (Lgm_DateTime * GPS, Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 317 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.14.2.34 void Lgm_GpsSeconds_to_GPS (double *GpsSeconds*, Lgm_DateTime * *GPS*)

Definition at line 351 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



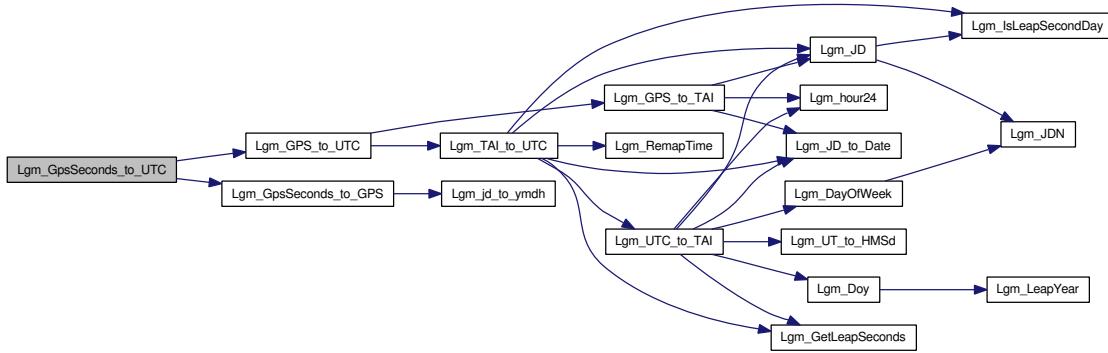
Here is the caller graph for this function:



4.14.2.35 void Lgm_GpsSeconds_to_UTC (double *GpsSeconds*, Lgm_DateTime * *UTC*, Lgm_CTrans * *c*)

Definition at line 366 of file Lgm_DateAndTime.c.

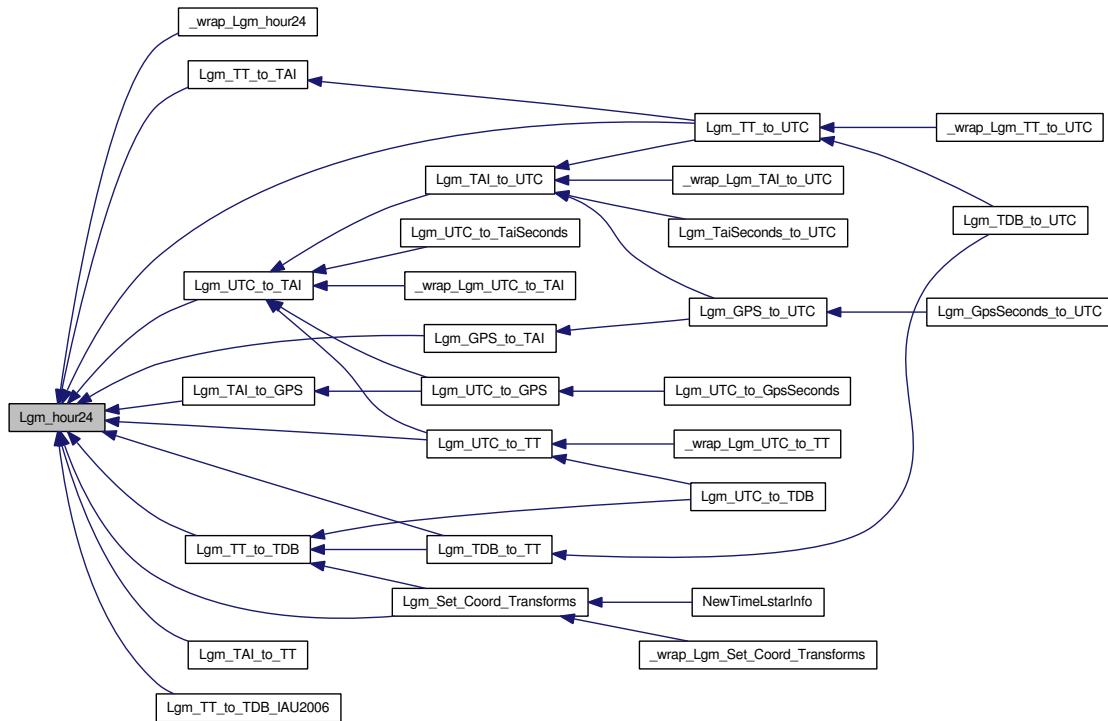
Here is the call graph for this function:



4.14.2.36 double Lgm_hour24 (double)

Definition at line 227 of file Lgm_CTrans.c.

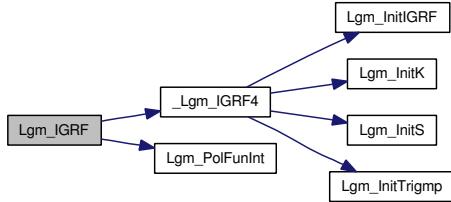
Here is the caller graph for this function:



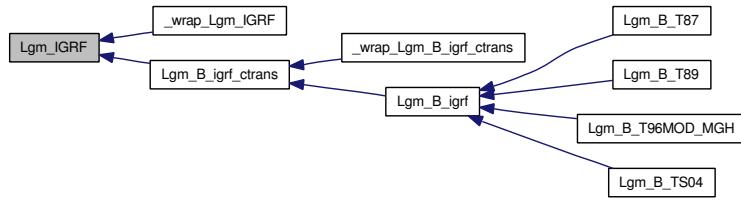
4.14.2.37 void Lgm_IGRF (Lgm_Vector *, Lgm_Vector *, Lgm_CTrans *)

Definition at line 46 of file Lgm_IGRF.c.

Here is the call graph for this function:



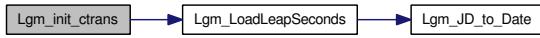
Here is the caller graph for this function:



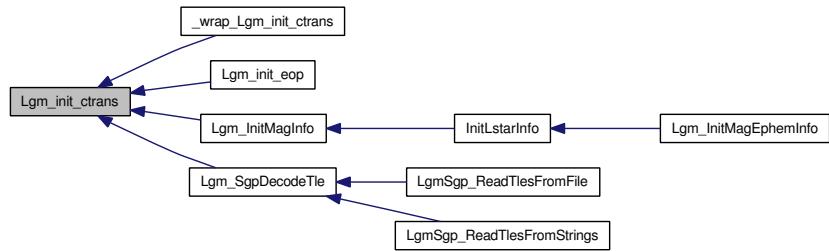
4.14.2.38 Lgm_CTrans* Lgm_init_ctrans (int)

Definition at line 27 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



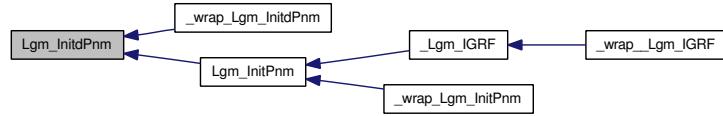
4.14.2.39 void Lgm_InitdPnm (double P[13][13], double dP[13][13], int N, Lgm_CTrans * c)

Definition at line 808 of file Lgm_IGRF.c.

Here is the call graph for this function:



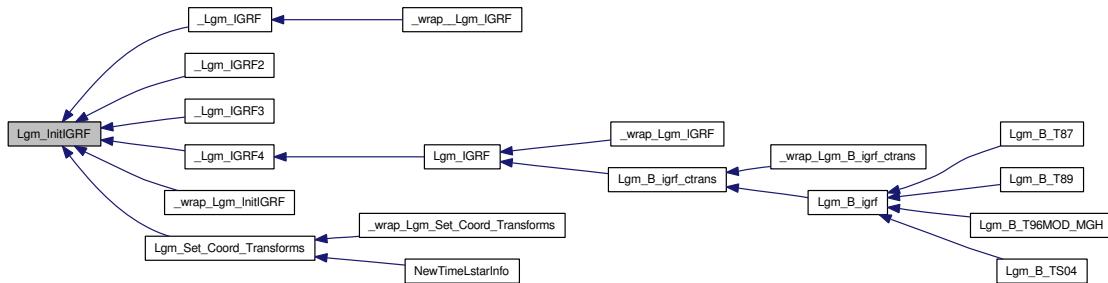
Here is the caller graph for this function:



4.14.2.40 void Lgm_InitIGRF (double g[13][13], double h[13][13], int N, int Flag, Lgm_CTrans * c)

Definition at line 982 of file Lgm_IGRF.c.

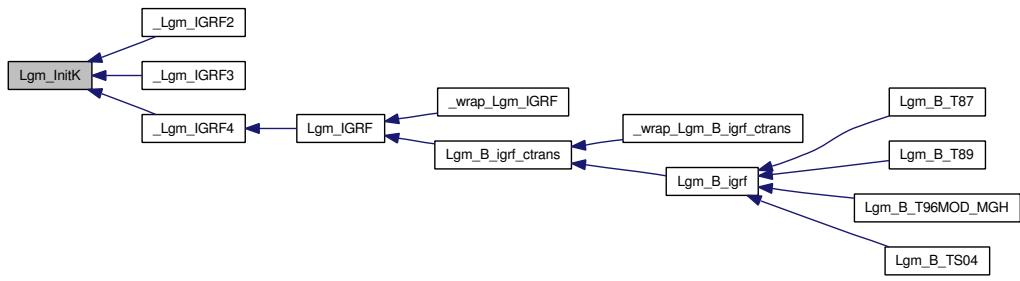
Here is the caller graph for this function:



4.14.2.41 void Lgm_InitK (double K[13][13], int N)

Definition at line 960 of file Lgm_IGRF.c.

Here is the caller graph for this function:



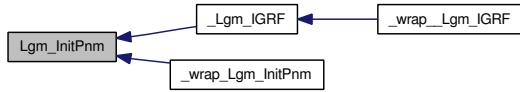
4.14.2.42 void Lgm_InitPnm (double ct, double st, double R[13][13], double P[13][13], double dP[13][13], int N, Lgm_CTrans * c)

Definition at line 677 of file Lgm_IGRF.c.

Here is the call graph for this function:



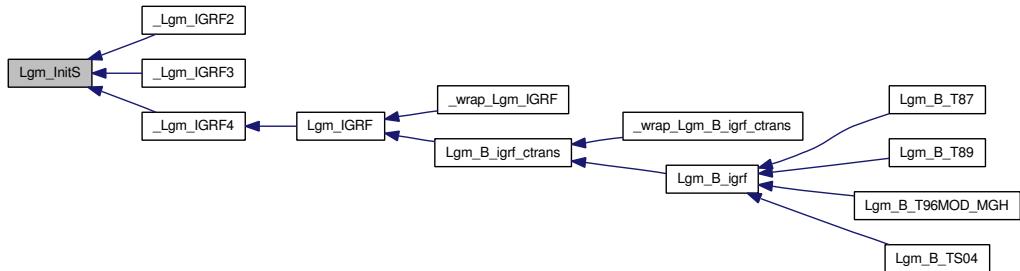
Here is the caller graph for this function:



4.14.2.43 void Lgm_InitS (double S[13][13], int N)

Definition at line 925 of file Lgm_IGRF.c.

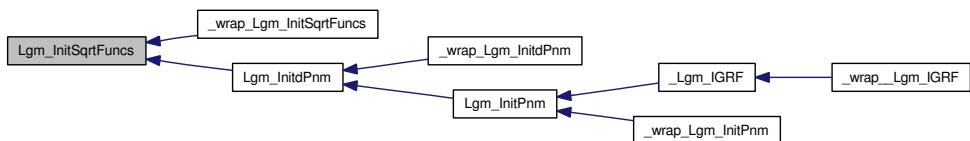
Here is the caller graph for this function:



4.14.2.44 void Lgm_InitSqrtFuncs (double SqrtNM1[13][13], double SqrtNM2[13][13], int N)

Definition at line 848 of file Lgm_IGRF.c.

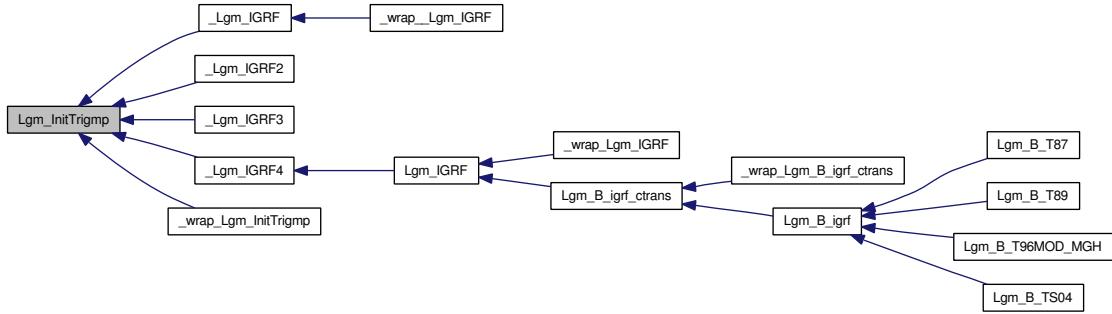
Here is the caller graph for this function:



4.14.2.45 void Lgm_InitTrigmp (double, double, double *, double *, int)

Definition at line 900 of file Lgm_IGRF.c.

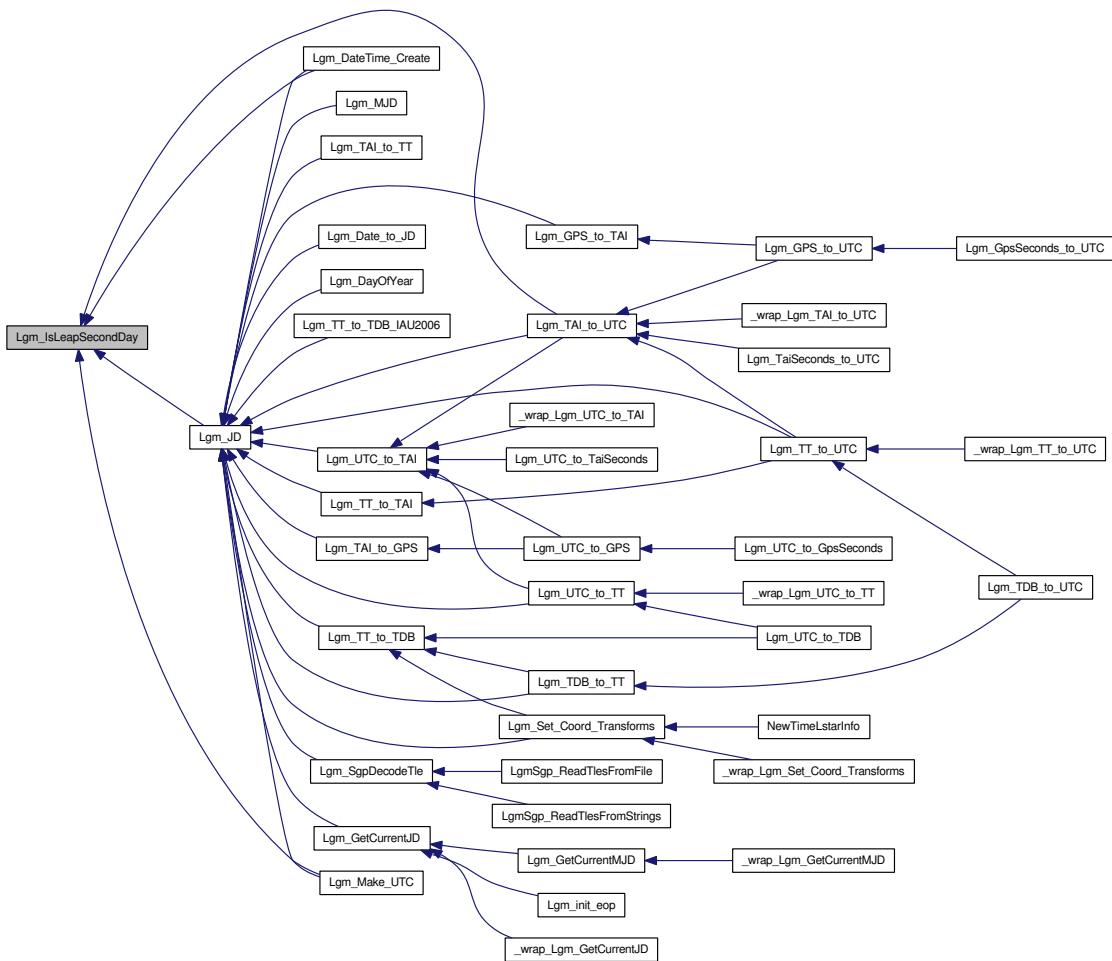
Here is the caller graph for this function:



4.14.2.46 `int Lgm_IsLeapSecondDay (long int Date, double * SecondsInDay, Lgm_CTrans * c)`

Definition at line 121 of file Lgm_DateAndTime.c.

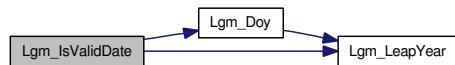
Here is the caller graph for this function:



4.14.2.47 int Lgm_IsValidDate (long int)

Definition at line 1298 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



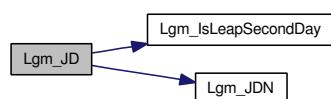
Here is the caller graph for this function:



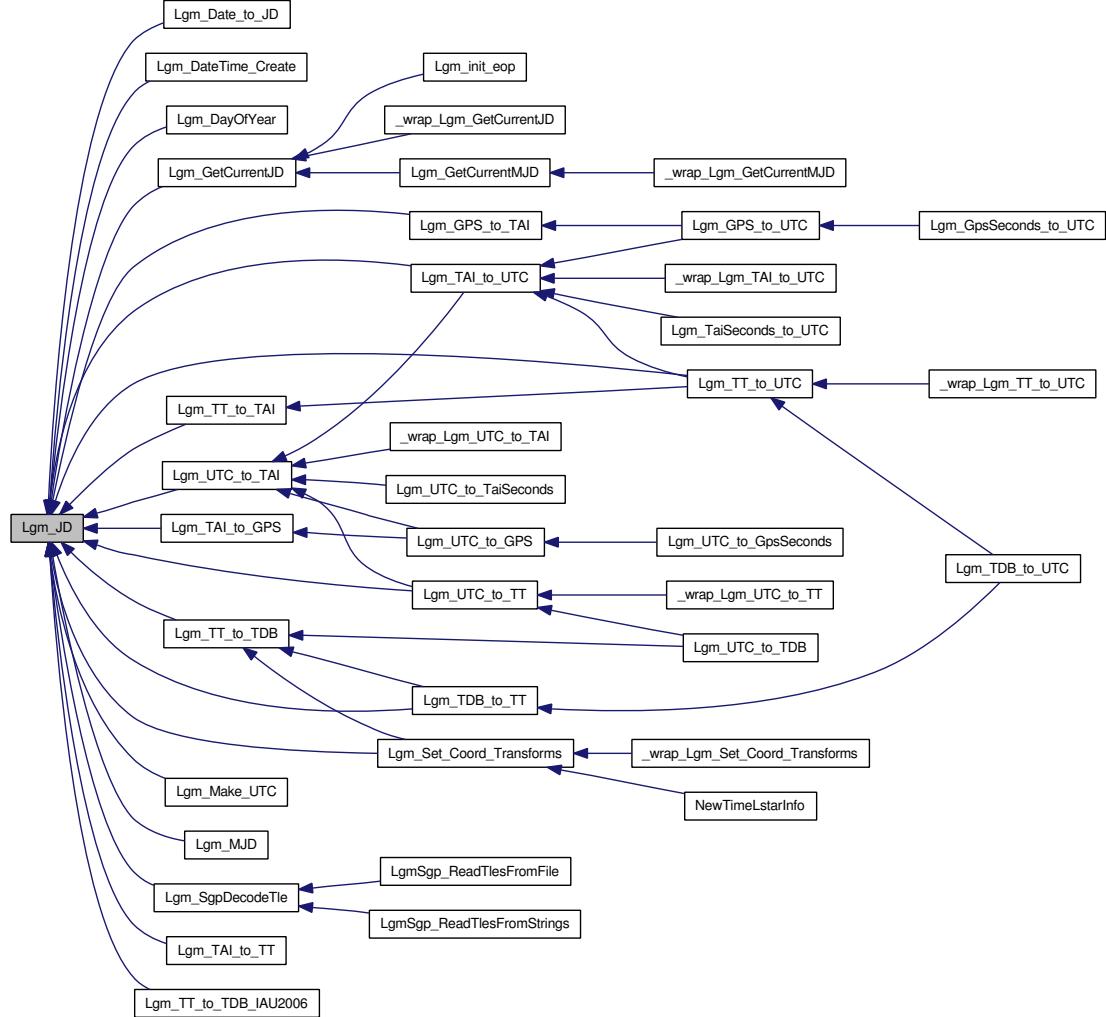
4.14.2.48 double Lgm_JD (int Year, int Month, int Day, double Time, int TimeSystem, Lgm_CTrans * c)

Definition at line 1133 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



Here is the caller graph for this function:

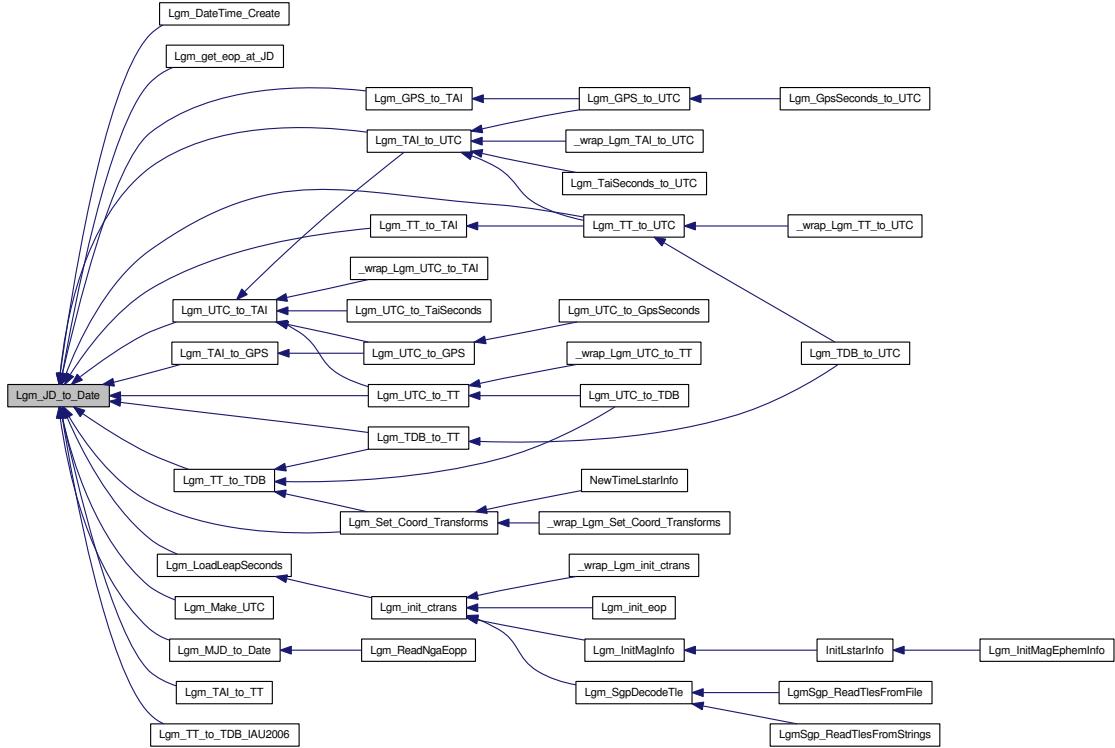


4.14.2.49 long int Lgm_JD_to_Date (double jd, int * ny, int * nm, int * nd, double * UT)

Compute the Julian Day number for the given date. Julian Date is the number of days since noon of Jan 1 4713 B.C.

Definition at line 175 of file `Lgm_CTrans.c`.

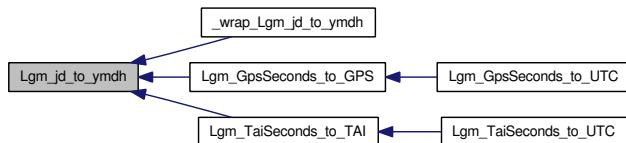
Here is the caller graph for this function:



4.14.2.50 void Lgm_jd_to_ymdh (double *JD*, long int * *Date*, int * *year*, int * *month*, int * *day*, double * *UT*)

Definition at line 1509 of file Lgm_CTrans.c.

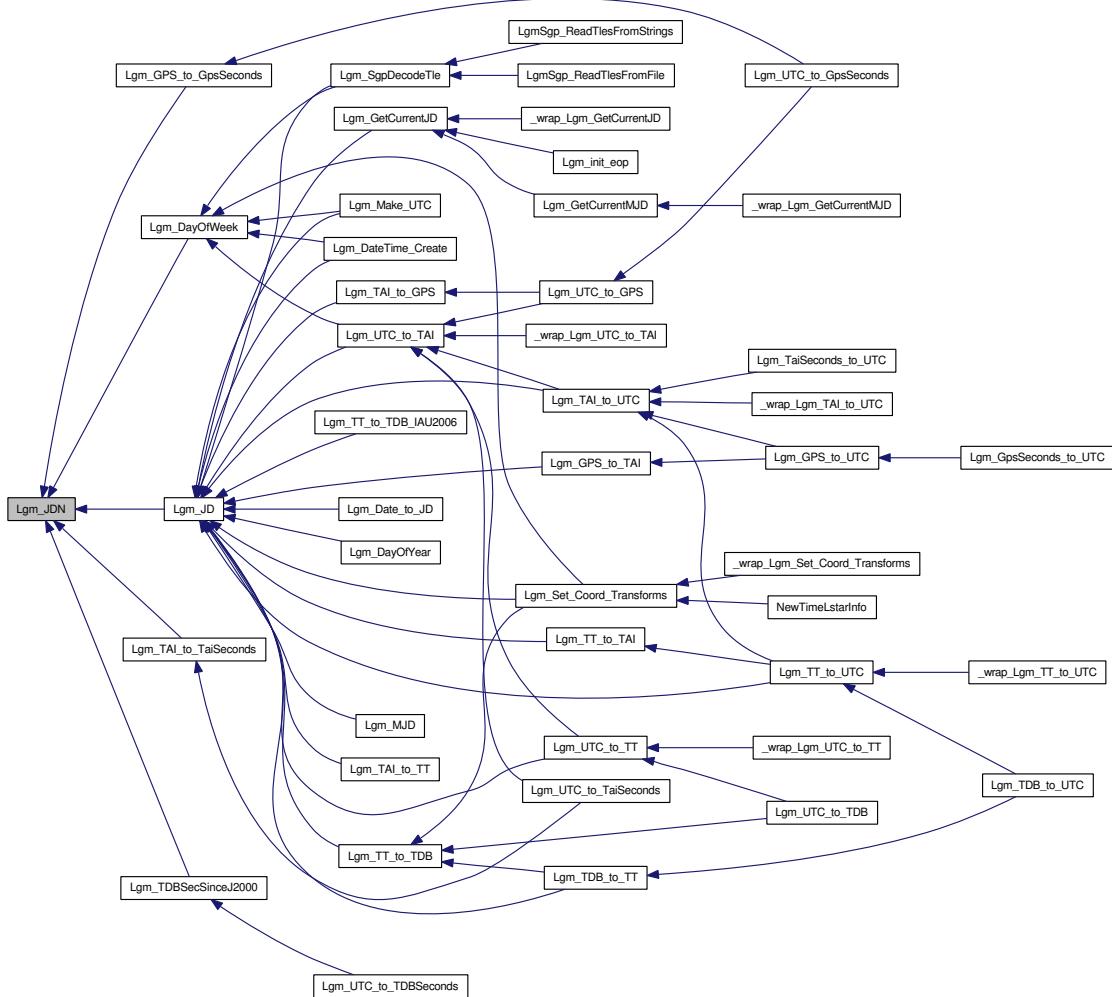
Here is the caller graph for this function:



4.14.2.51 long int Lgm_JDN (int *Year*, int *Month*, int *Day*)

Definition at line 1175 of file Lgm_DateAndTime.c.

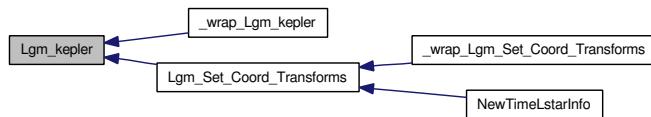
Here is the caller graph for this function:



4.14.2.52 double Lgm_kepler (double, double)

Definition at line 241 of file Lgm_CTrans.c.

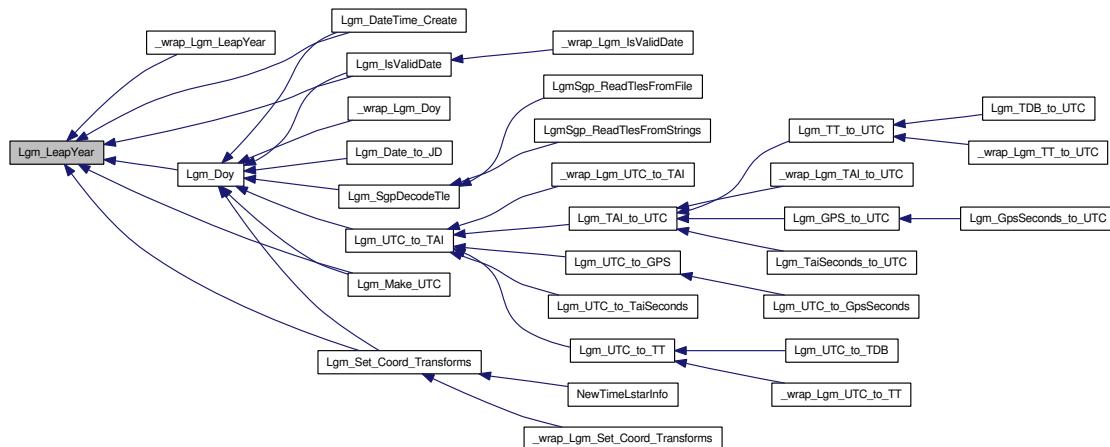
Here is the caller graph for this function:



4.14.2.53 int Lgm_LeapYear (int)

Definition at line 16 of file Lgm_DateAndTime.c.

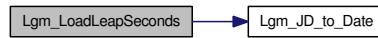
Here is the caller graph for this function:



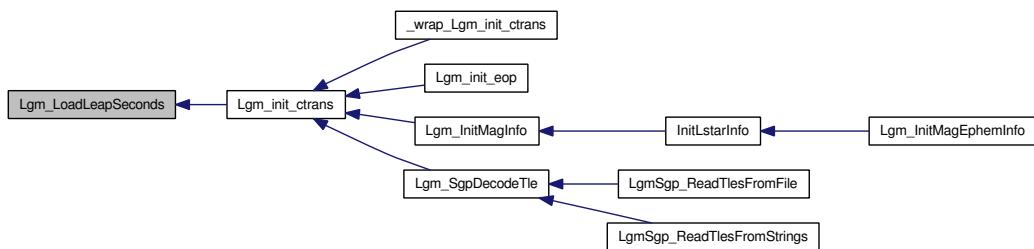
4.14.2.54 int Lgm_LoadLeapSeconds (Lgm_CTrans * c)

Definition at line 155 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



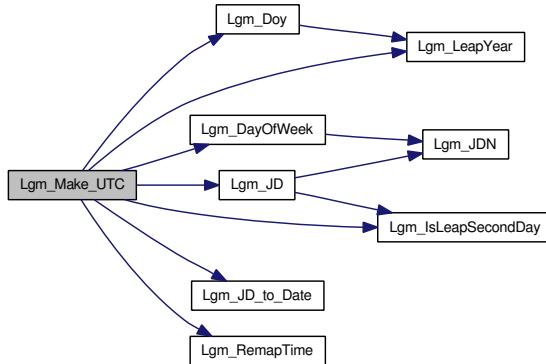
Here is the caller graph for this function:



4.14.2.55 int Lgm_Make_UTC (long int *Date*, double *Time*, Lgm_DateTime * *UTC*, Lgm_CTrans * *c*)

Definition at line 907 of file Lgm_DateAndTime.c.

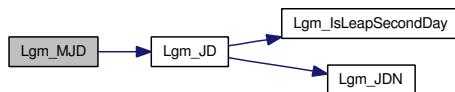
Here is the call graph for this function:



4.14.2.56 double Lgm_MJD (int Year, int Month, int Day, double Time, int TimeSystem, Lgm_CTrans * c)

Definition at line 1184 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



4.14.2.57 long int Lgm_MJD_to_Date (double mjd, int * ny, int * nm, int * nd, double * UT)

Definition at line 223 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



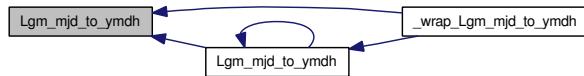
4.14.2.58 void Lgm_mjd_to_ymdh (double MJD, long int * Date, int * year, int * month, int * day, double * UT)

Definition at line 1551 of file Lgm_CTrans.c.

Here is the call graph for this function:



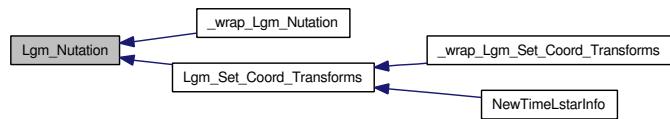
Here is the caller graph for this function:



4.14.2.59 void Lgm_Nutation (double *T_TT*, double *nTerms*, double * *dPSi*, double * *dEps*)

Definition at line 225 of file `Lgm_Nutation.c`.

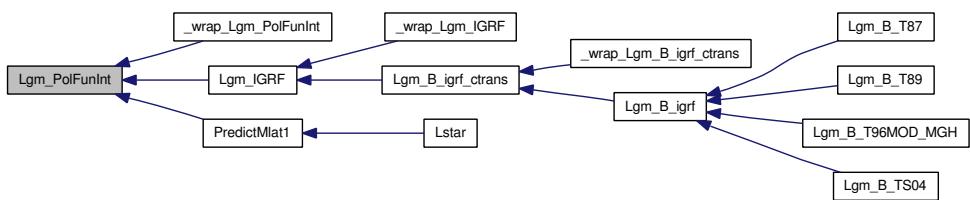
Here is the caller graph for this function:



4.14.2.60 void Lgm_PolFunInt (double *, double *, int, double, double *, double *)

Definition at line 1086 of file `Lgm_IGRF.c`.

Here is the caller graph for this function:



4.14.2.61 void Lgm_Print_DateTime (Lgm_DateTime *DT*, int *Style*, int *p*)

Definition at line 951 of file `Lgm_DateAndTime.c`.

Here is the call graph for this function:



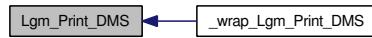
4.14.2.62 void Lgm_Print_DMS (double *d*)

Definition at line 1802 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



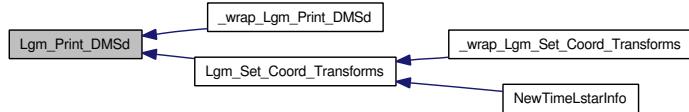
4.14.2.63 void Lgm_Print_DMSd (double *d*)

Definition at line 1810 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.14.2.64 void Lgm_Print_HMS (double *d*)

Definition at line 1721 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



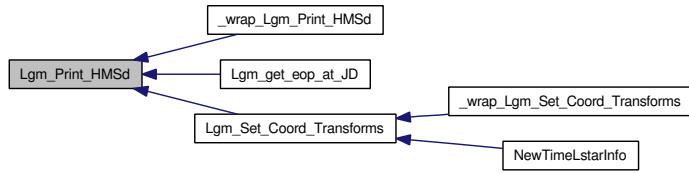
4.14.2.65 void Lgm_Print_HMSd (double d)

Definition at line 1786 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.14.2.66 void Lgm_Print_HMSdp (double d , int $UnicodeHMS$, int p)

Definition at line 1737 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.14.2.67 void Lgm_Print_SimpleTime (Lgm_DateTime * DT , int p , char *)

Definition at line 1053 of file Lgm_DateAndTime.c.

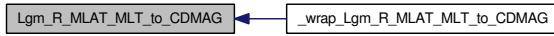
4.14.2.68 void Lgm_R_MLAT_MLT_to_CDMAG (double R , double $MLAT$, double MLT , Lgm_Vector * u , Lgm_CTrans * c)

Definition at line 1861 of file Lgm_CTrans.c.

Here is the call graph for this function:



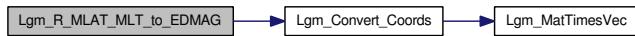
Here is the caller graph for this function:



4.14.2.69 void Lgm_R_MLAT_MLT_to_EDMAG (double R , double $MLAT$, double MLT , Lgm_Vector * u , Lgm_CTrans * c)

Definition at line 1920 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:

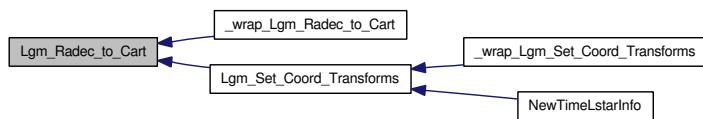


4.14.2.70 void Lgm_Radec_to_Cart (double ra , double dec , Lgm_Vector * r)

Converts RA and DEC to unit vector in cartesian coords

Definition at line 114 of file Lgm_CTrans.c.

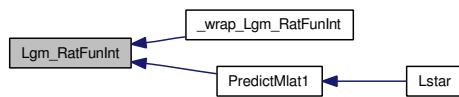
Here is the caller graph for this function:



4.14.2.71 void Lgm_RatFunInt (double *, double *, int, double, double *, double *)

Definition at line 1126 of file Lgm_IGRF.c.

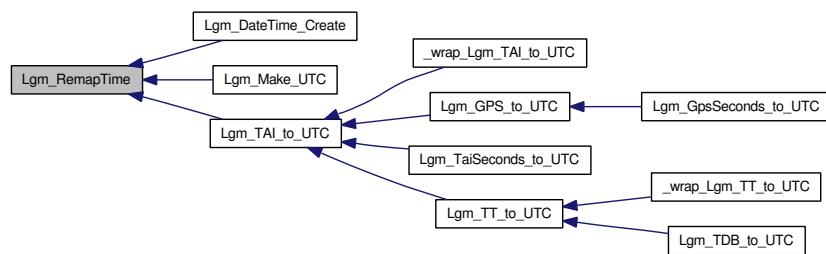
Here is the caller graph for this function:



4.14.2.72 double Lgm_RemapTime (double *Time*, double *SecondsInADay*)

Definition at line 1325 of file Lgm_DateAndTime.c.

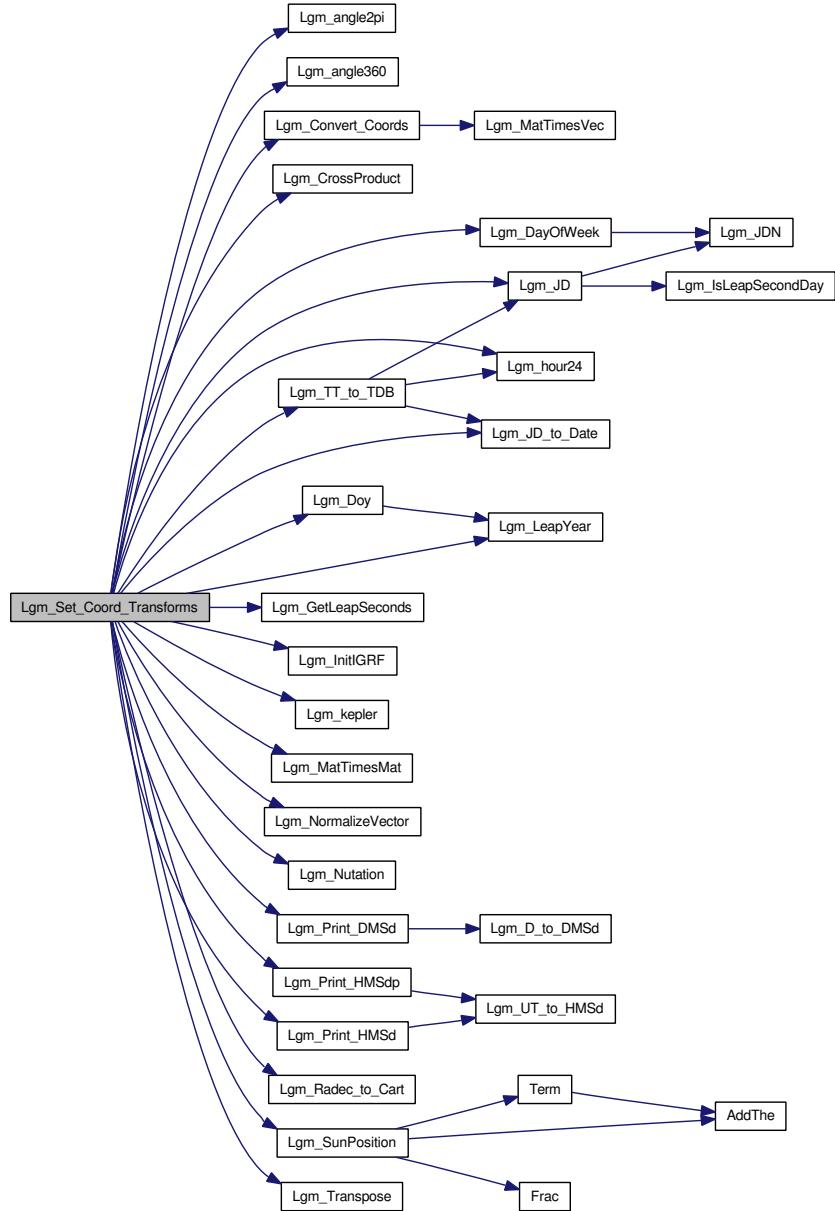
Here is the caller graph for this function:



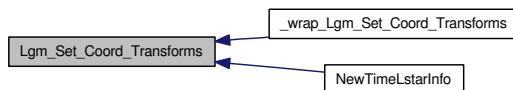
4.14.2.73 void Lgm_Set_Coord_Transforms (long *int*, double, Lgm_CTrans *)

Definition at line 264 of file Lgm_CTrans.c.

Here is the call graph for this function:



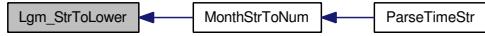
Here is the caller graph for this function:



4.14.2.74 `char* Lgm_StrToLower (char * str, int nmax)`

Definition at line 2041 of file Lgm_CTrans.c.

Here is the caller graph for this function:



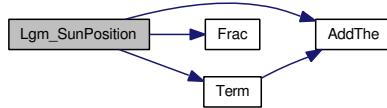
4.14.2.75 `char* Lgm_StrToUpper (char * str, int nmax)`

Definition at line 2052 of file Lgm_CTrans.c.

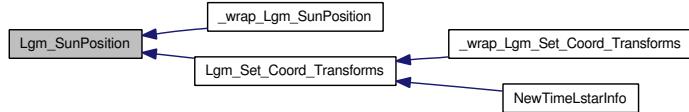
4.14.2.76 `void Lgm_SunPosition (double T, double * l, double * r, double * b)`

Definition at line 36 of file Lgm_SunPosition.c.

Here is the call graph for this function:



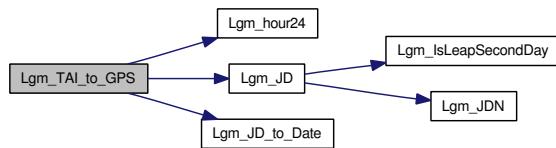
Here is the caller graph for this function:



4.14.2.77 `void Lgm_TAI_to_GPS (Lgm_DateTime * TAI, Lgm_DateTime * GPS, Lgm_CTrans * c)`

Definition at line 267 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.14.2.78 double Lgm_TAI_to_TaiSeconds (Lgm_DateTime * TAI)

Definition at line 392 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



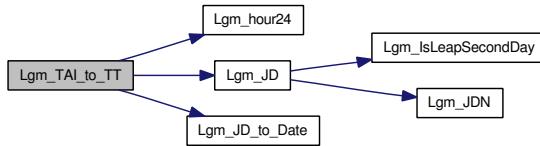
Here is the caller graph for this function:



4.14.2.79 void Lgm_TAI_to_TT (Lgm_DateTime * TAI, Lgm_DateTime * TT, Lgm_CTrans * c)

Definition at line 614 of file Lgm_DateAndTime.c.

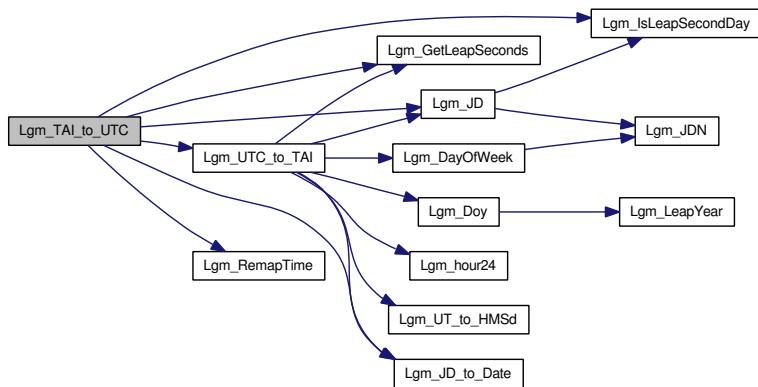
Here is the call graph for this function:



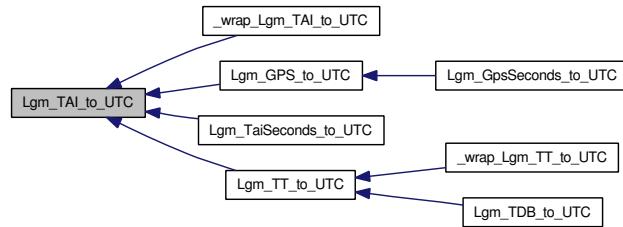
4.14.2.80 void Lgm_TAI_to_UTC (Lgm_DateTime * TAI, Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 513 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



Here is the caller graph for this function:

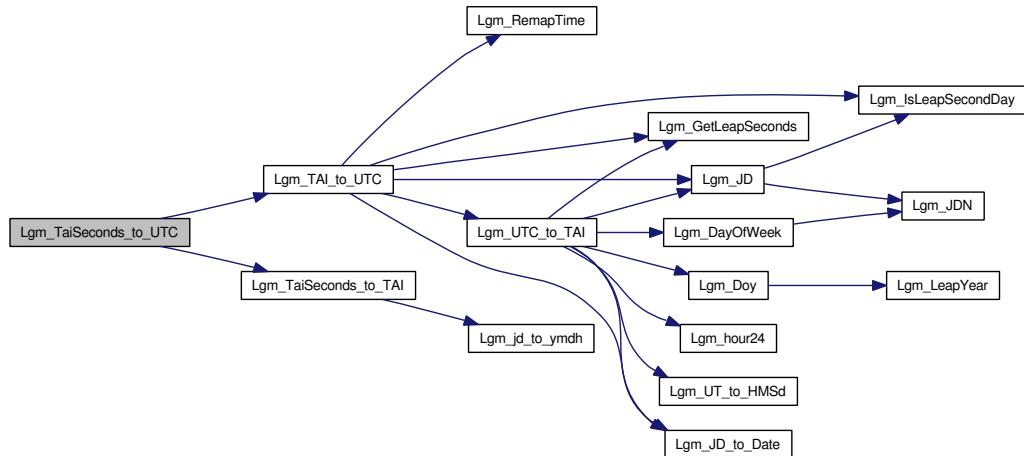


4.14.2.81 void Lgm_TaiSeconds_to_GPS (double *TaiSeconds*, Lgm_DateTime * *TAI*)

4.14.2.82 void Lgm_TaiSeconds_to_UTC (double *TaiSeconds*, Lgm_DateTime * *UTC*, Lgm_CTrans * *c*)

Definition at line 414 of file Lgm_DateAndTime.c.

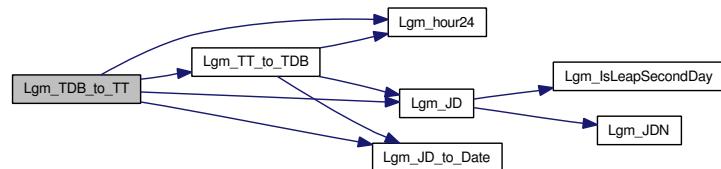
Here is the call graph for this function:



4.14.2.83 void Lgm_TDB_to_TT (Lgm_DateTime * *TDB*, Lgm_DateTime * *TT*, Lgm_CTrans * *c*)

Definition at line 691 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



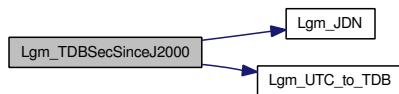
Here is the caller graph for this function:



4.14.2.84 double Lgm_TDBSecSinceJ2000 (Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 1350 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



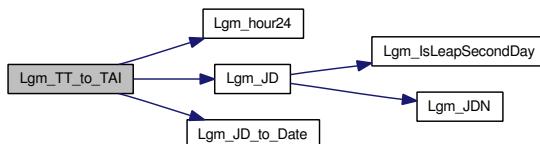
Here is the caller graph for this function:



4.14.2.85 void Lgm_TT_to_TAI (Lgm_DateTime * TT, Lgm_DateTime * TAI, Lgm_CTrans * c)

Definition at line 592 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



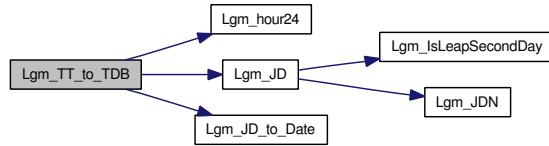
Here is the caller graph for this function:



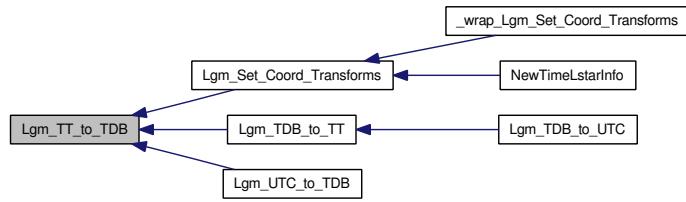
4.14.2.86 void Lgm_TT_to_TDB (Lgm_DateTime * TT, Lgm_DateTime * TDB, Lgm_CTrans * c)

Definition at line 642 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



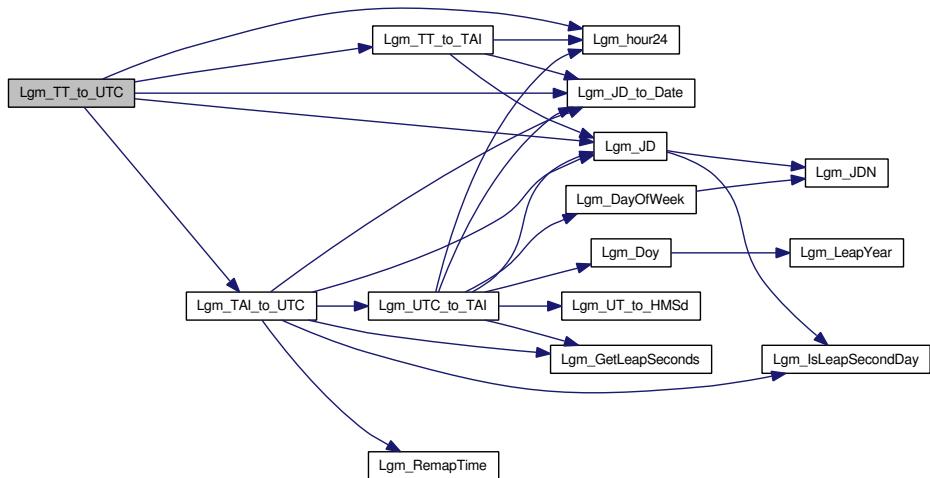
Here is the caller graph for this function:



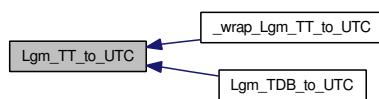
4.14.2.87 void Lgm_TT_to_UTC (Lgm_DateTime * TT, Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 810 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



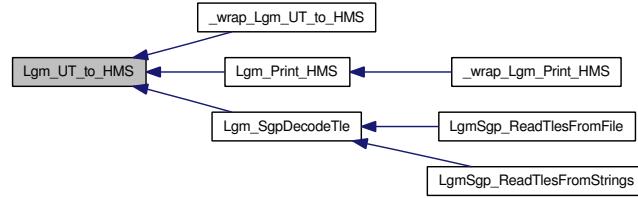
Here is the caller graph for this function:



4.14.2.88 void Lgm_UT_to_HMS (double *UT*, int * *HH*, int * *MM*, int * *SS*)

Definition at line 1587 of file Lgm_CTrans.c.

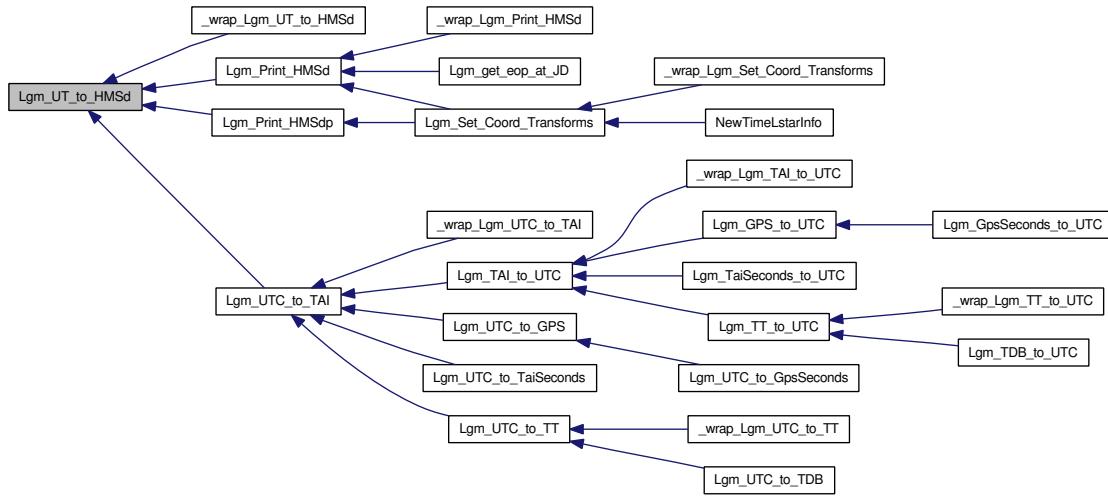
Here is the caller graph for this function:



4.14.2.89 void Lgm_UT_to_HMSd (double *UT*, int * *sgn*, int * *HH*, int * *MM*, double * *SS*)

Definition at line 1609 of file Lgm_CTrans.c.

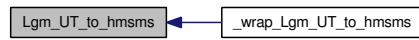
Here is the caller graph for this function:



4.14.2.90 void Lgm_UT_to_hmsms (double *UT*, int * *HH*, int * *MM*, int * *SS*, int * *MilliSec*)

Definition at line 1560 of file Lgm_CTrans.c.

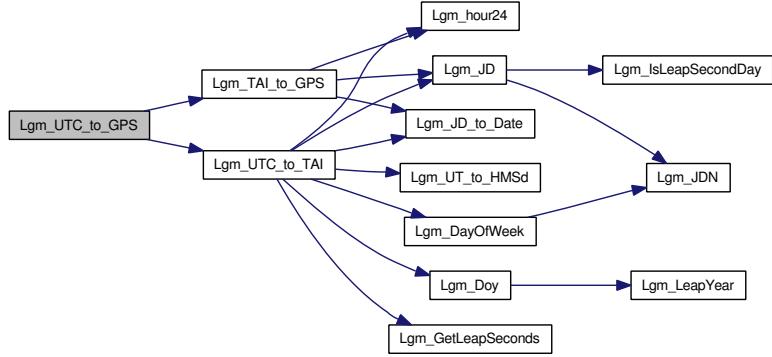
Here is the caller graph for this function:



4.14.2.91 void Lgm_UTC_to_GPS (Lgm_DateTime * UTC, Lgm_DateTime * GPS, Lgm_CTrans * c)

Definition at line 303 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



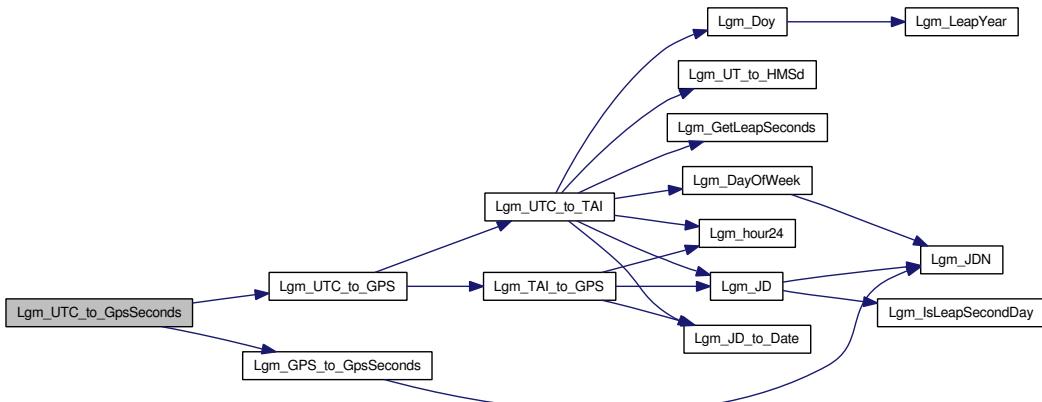
Here is the caller graph for this function:



4.14.2.92 double Lgm_UTC_to_GpsSeconds (Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 373 of file Lgm_DateAndTime.c.

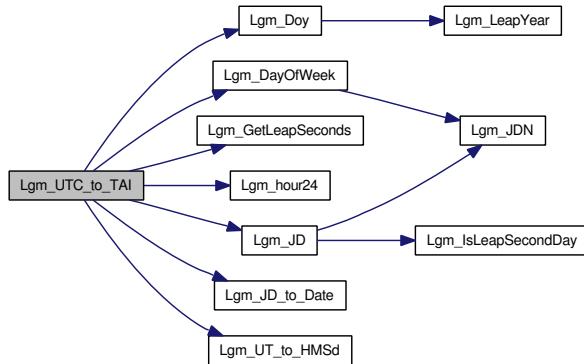
Here is the call graph for this function:



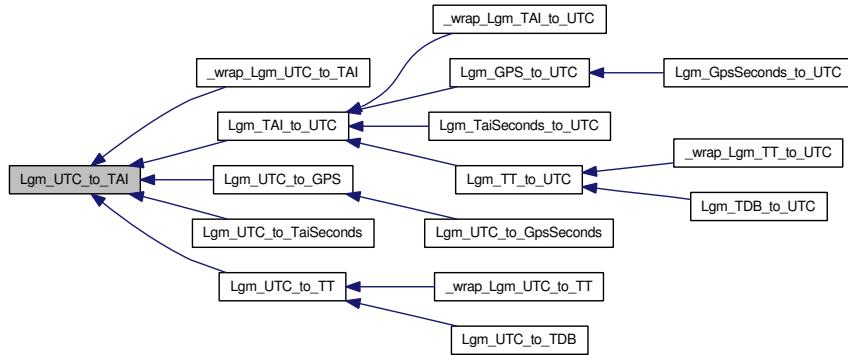
4.14.2.93 void Lgm_UTC_to_TAI (Lgm_DateTime * UTC, Lgm_DateTime * TAI, Lgm_CTrans * c)

Definition at line 438 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



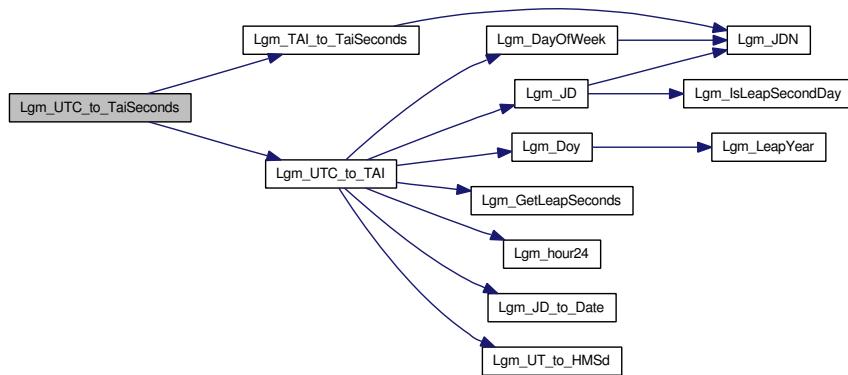
Here is the caller graph for this function:



4.14.2.94 double Lgm_UTC_to_TaiSeconds (Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 421 of file Lgm_DateAndTime.c.

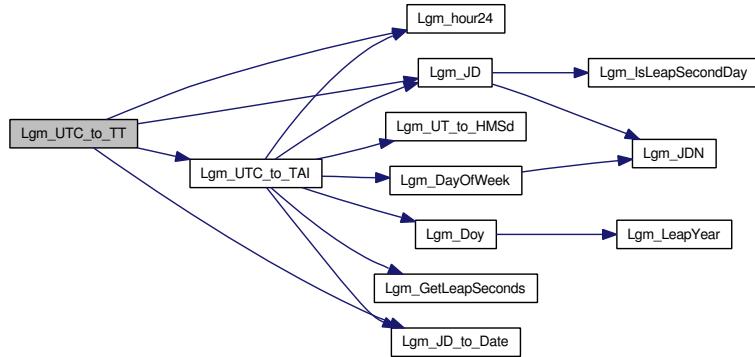
Here is the call graph for this function:



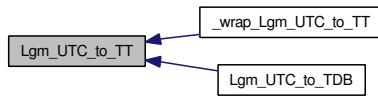
4.14.2.95 void Lgm_UTC_to_TT (Lgm_DateTime * *UTC*, Lgm_DateTime * *TT*, Lgm_CTrans * *c*)

Definition at line 786 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



Here is the caller graph for this function:



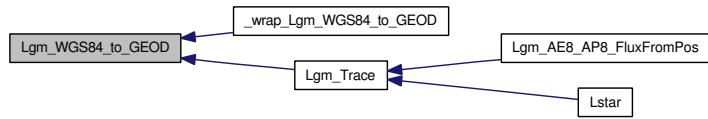
4.14.2.96 void Lgm_WGS84_to_GEOD (Lgm_Vector * *uin*, double * *GeodLat*, double * *GeodLong*, double * *GeodHieght*)

Definition at line 1251 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



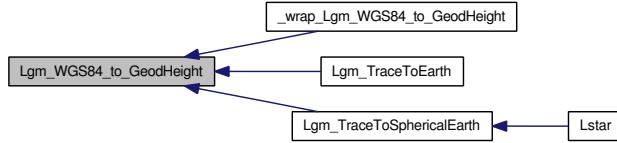
4.14.2.97 void Lgm_WGS84_to_GeodHeight (Lgm_Vector * *uin*, double * *GeodHieght*)

Definition at line 1285 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



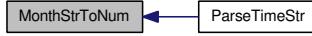
4.14.2.98 int MonthStrToNum (char * str)

Definition at line 2023 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.14.2.99 void ParseTimeStr (char * Str, int * Year, int * Month, int * Day, int * hh, int * mm, double * ss, long int * Date, double * H)

Definition at line 2012 of file Lgm_CTrans.c.

Here is the call graph for this function:



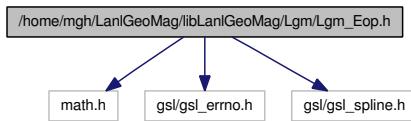
4.14.2.100 double TAISecondsSinceJ2000 (double UTCDaysSinceJ2000, Lgm_CTrans * c)

4.14.2.101 double UTCDaysSinceJ2000 (double TAI, Lgm_CTrans * c)

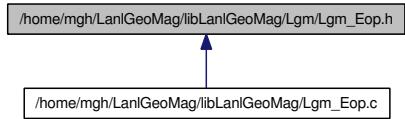
4.15 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_Eop.h File Reference

```
#include <math.h>
#include <gsl/gsl_errno.h>
#include <gsl/gsl_spline.h>
```

Include dependency graph for Lgm_Eop.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Lgm_NgaEopp](#)
- struct [Lgm_Eop](#)
- struct [Lgm_EopOne](#)

Defines

- #define [M_2PI](#) 6.283185307179586476925286766559

Functions

- [Lgm_Eop * Lgm_init_eop](#) (int Verbose)
- void [Lgm_destroy_eop](#) ([Lgm_Eop](#) *e)
- void [Lgm_read_eop](#) ([Lgm_Eop](#) *e)
- void [Lgm_NgaEoppPred](#) (double JD, [Lgm_EopOne](#) *eop, [Lgm_NgaEopp](#) *e)
- int [Lgm_ReadNgaEopp](#) ([Lgm_NgaEopp](#) *e, int Verbosity)
- void [Lgm_get_eop_at_JD](#) (double JD, [Lgm_EopOne](#) *eop, [Lgm_Eop](#) *e)
- void [Lgm_set_eop](#) ([Lgm_EopOne](#) *eop, [Lgm_CTrans](#) *c)
- void [Lgm_unset_eop](#) ([Lgm_EopOne](#) *eop, [Lgm_CTrans](#) *c)

4.15.1 Define Documentation

4.15.1.1 #define M_2PI 6.283185307179586476925286766559

Definition at line 9 of file Lgm_Eop.h.

4.15.2 Function Documentation

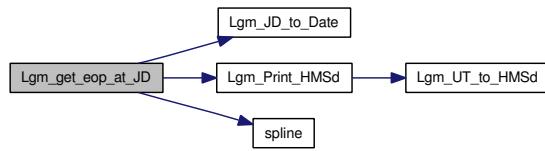
4.15.2.1 void Lgm_destroy_eop (Lgm_Eop * e)

Definition at line 52 of file Lgm_Eop.c.

4.15.2.2 void Lgm_get_eop_at_JD (double JD, Lgm_EopOne * eop, Lgm_Eop * e)

Definition at line 122 of file Lgm_Eop.c.

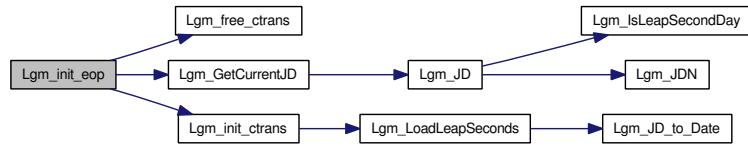
Here is the call graph for this function:



4.15.2.3 Lgm_Eop* Lgm_init_eop (int Verbose)

Definition at line 14 of file Lgm_Eop.c.

Here is the call graph for this function:



4.15.2.4 void Lgm_NgaEoppPred (double JD, Lgm_EopOne * eop, Lgm_NgaEopp * e)

Definition at line 283 of file Lgm_Eop.c.

4.15.2.5 void Lgm_read_eop (Lgm_Eop * e)

Definition at line 75 of file Lgm_Eop.c.

4.15.2.6 int Lgm_ReadNgaEopp (Lgm_NgaEopp * e, int Verbosity)

Definition at line 310 of file Lgm_Eop.c.

Here is the call graph for this function:



4.15.2.7 void Lgm_set_eop (Lgm_EopOne * *eop*, Lgm_CTrans * *c*)

Definition at line 249 of file Lgm_Eop.c.

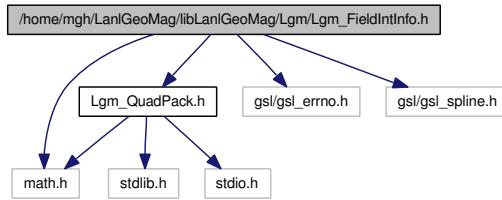
4.15.2.8 void Lgm_unset_eop (Lgm_EopOne * *eop*, Lgm_CTrans * *c*)

Definition at line 261 of file Lgm_Eop.c.

4.16 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_-FieldIntInfo.h File Reference

```
#include <math.h>
#include "Lgm_QuadPack.h"
#include "gsl/gsl_errno.h"
#include "gsl/gsl_spline.h"

Include dependency graph for Lgm_FieldIntInfo.h:
```



Data Structures

- struct [Lgm_FieldIntInfo](#)

Defines

- #define [ELECTRON_MASS](#) (9.10938188e-31)
- #define [AMU](#) (1.660538e-27)
- #define [PROTON_MASS](#) (1.00794*AMU)
- #define [OXYGEN_MASS](#) (15.9994*AMU)
- #define [RE](#) (6378.135e3)
- #define [CC](#) (2.99792458e8)
- #define [EE](#) (1.6022e-19)

Functions

- double [Iinv](#) ([Lgm_FieldIntInfo](#) *[Lgm_FieldIntInfo](#))
- double [I_integrand](#) (double s, [_qpInfo](#) *qpInfo)
- double [SbIntegral](#) ([Lgm_FieldIntInfo](#) *[Lgm_FieldIntInfo](#))
- double [Sb_integrand](#) (double s, [_qpInfo](#) *qpInfo)
- void [ratint](#) (double *xa, double *ya, int n, double x, double *y, double *dy)
- void [polint](#) (double *xa, double *ya, int n, double x, double *y, double *dy)
- void [Interp](#) (double xa[], double ya[], long int n, double x, double *y)
- void [Interp2](#) (double xa[], double ya[], long int n, double x, double *y)
- double [LFromIBmM_Hilton](#) (double I, double Bm, double M)
- double [IFromLBmM_Hilton](#) (double L, double Bm, double M)
- double [LFromIBmM_McIlwain](#) (double I, double Bm, double M)
- double [IFromLBmM_McIlwain](#) (double L, double Bm, double M)

4.16.1 Define Documentation

4.16.1.1 #define AMU (1.660538e-27)

Definition at line 7 of file Lgm_FieldIntInfo.h.

4.16.1.2 #define CC (2.99792458e8)

Definition at line 11 of file Lgm_FieldIntInfo.h.

4.16.1.3 #define EE (1.6022e-19)

Definition at line 12 of file Lgm_FieldIntInfo.h.

4.16.1.4 #define ELECTRON_MASS (9.10938188e-31)

Definition at line 6 of file Lgm_FieldIntInfo.h.

4.16.1.5 #define OXYGEN_MASS (15.9994*AMU)

Definition at line 9 of file Lgm_FieldIntInfo.h.

4.16.1.6 #define PROTON_MASS (1.00794*AMU)

Definition at line 8 of file Lgm_FieldIntInfo.h.

4.16.1.7 #define RE (6378.135e3)

Definition at line 10 of file Lgm_FieldIntInfo.h.

4.16.2 Function Documentation

4.16.2.1 double L_integrand (double s, _qpInfo * qpInfo)

Definition at line 217 of file IntegralInvariant.c.

4.16.2.2 double IFromLBmM_Hilton (double L, double Bm, double M)

Definition at line 38 of file LFromIBmM.c.

4.16.2.3 double IFromLBmM_McIlwain (double L, double Bm, double M)

Definition at line 175 of file LFromIBmM.c.

4.16.2.4 double Iinv (Lgm_FieldIntInfo * *Lgm_FieldIntInfo*)

4.16.2.5 void Interp (double *xa*[], double *ya*[], long int *n*, double *x*, double * *y*)

4.16.2.6 void Interp2 (double *xa*[], double *ya*[], long int *n*, double *x*, double * *y*)

4.16.2.7 double LFromIBmM_Hilton (double *I*, double *Bm*, double *M*)

Definition at line 13 of file LFromIBmM.c.

4.16.2.8 double LFromIBmM_McIlwain (double *I*, double *Bm*, double *M*)

Definition at line 126 of file LFromIBmM.c.

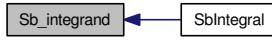
4.16.2.9 void polint (double * *xa*, double * *ya*, int *n*, double *x*, double * *y*, double * *dy*)

4.16.2.10 void ratint (double * *xa*, double * *ya*, int *n*, double *x*, double * *y*, double * *dy*)

4.16.2.11 double Sb_integrand (double *s*, _qpInfo * *qpInfo*)

Definition at line 174 of file SbIntegral.c.

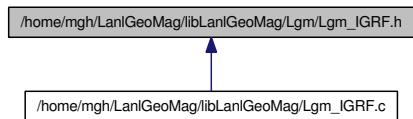
Here is the caller graph for this function:



4.16.2.12 double SbIntegral (Lgm_FieldIntInfo * *Lgm_FieldIntInfo*)

4.17 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_IGRF.h File Reference

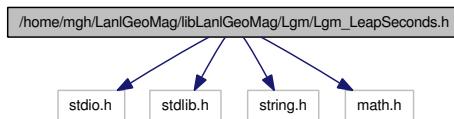
This graph shows which files directly or indirectly include this file:



4.18 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_- LeapSeconds.h File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
```

Include dependency graph for Lgm_LeapSeconds.h:



Data Structures

- struct [Lgm_LeapSeconds](#)

Defines

- #define [STRINGIFY\(x\)](#) #x
- #define [EXPAND\(x\)](#) STRINGIFY(x)
- #define [FALSE](#) 0
- #define [TRUE](#) 1

Functions

- int [Lgm_LoadLeapSeconds](#) ([Lgm_LeapSeconds](#) *)
- double [Lgm_GetLeapSeconds](#) (double JD, [Lgm_LeapSeconds](#) *)
- int [Lgm_IsLeapSecondDay](#) (long int Date, [Lgm_LeapSeconds](#) *)
- double [Lgm_UTC_to_TAI](#) (double JD, double UTC, [Lgm_LeapSeconds](#) *)
- double [Lgm_TAI_to_UTC](#) (double JD, double TAI, [Lgm_LeapSeconds](#) *)
- double [Lgm_UTC_to_TT](#) (double JD, double UTC, [Lgm_LeapSeconds](#) *)
- double [Lgm_TT_to_UTC](#) (double JD, double TT, [Lgm_LeapSeconds](#) *)
- double [Lgm_TT_to_TDB](#) (double JD, double TT, [Lgm_LeapSeconds](#) *)
- double [Lgm_TDB_to_TT](#) (double JD, double TDB, [Lgm_LeapSeconds](#) *)
- double [Lgm_UTC_to_TDB](#) (double JD, double UTC, [Lgm_LeapSeconds](#) *)
- double [Lgm_TDB_to_UTC](#) (double JD, double TDB, [Lgm_LeapSeconds](#) *)

4.18.1 Define Documentation

4.18.1.1 #define EXPAND(x) STRINGIFY(x)

Definition at line 5 of file Lgm_LeapSeconds.h.

4.18.1.2 #define FALSE 0

Definition at line 13 of file Lgm_LeapSeconds.h.

4.18.1.3 #define STRINGIFY(x) #x

Definition at line 4 of file Lgm_LeapSeconds.h.

4.18.1.4 #define TRUE 1

Definition at line 14 of file Lgm_LeapSeconds.h.

4.18.2 Function Documentation

4.18.2.1 double Lgm_GetLeapSeconds (double *JD*, Lgm_LeapSeconds * *l*)

4.18.2.2 int Lgm_IsLeapSecondDay (long int *Date*, Lgm_LeapSeconds * *l*)

4.18.2.3 int Lgm_LoadLeapSeconds (Lgm_LeapSeconds * *l*)

4.18.2.4 double Lgm_TAI_to_UTC (double *JD*, double *TAI*, Lgm_LeapSeconds * *l*)

4.18.2.5 double Lgm_TDB_to_TT (double *JD*, double *TDB*, Lgm_LeapSeconds * *l*)

4.18.2.6 double Lgm_TDB_to_UTC (double *JD*, double *TDB*, Lgm_LeapSeconds * *l*)

4.18.2.7 double Lgm_TT_to_TDB (double *JD*, double *TT*, Lgm_LeapSeconds * *l*)

4.18.2.8 double Lgm_TT_to_UTC (double *JD*, double *TT*, Lgm_LeapSeconds * *l*)

4.18.2.9 double Lgm_UTC_to_TAI (double *JD*, double *UTC*, Lgm_LeapSeconds * *l*)

4.18.2.10 double Lgm_UTC_to_TDB (double *JD*, double *UTC*, Lgm_LeapSeconds * *l*)

Here is the caller graph for this function:

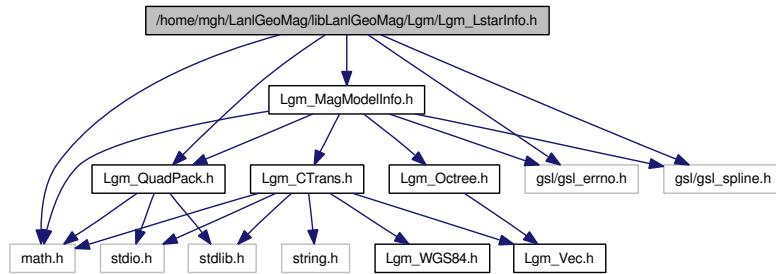


4.18.2.11 double Lgm_UTC_to_TT (double *JD*, double *UTC*, Lgm_LeapSeconds * *l*)

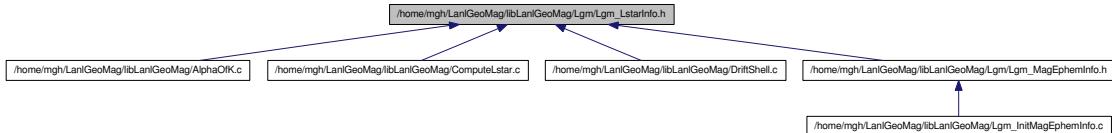
4.19 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_LstarInfo.h File Reference

```
#include <math.h>
#include "Lgm_QuadPack.h"
#include "Lgm_MagModelInfo.h"
#include <gsl/gsl_errno.h>
#include <gsl/gsl_spline.h>
```

Include dependency graph for Lgm_LstarInfo.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Lgm_LstarInfo](#)

Defines

- #define **ELECTRON_MASS** (9.10938188e-31)
- #define **AMU** (1.660538e-27)
- #define **PROTON_MASS** (1.00794*AMU)
- #define **OXYGEN_MASS** (15.9994*AMU)
- #define **RE** (6378.135e3)
- #define **CC** (2.99792458e8)
- #define **EE** (1.6022e-19)

Functions

- void [SetLstarTolerances](#) (int Quality, [Lgm_LstarInfo](#) *LstarInfo)
- [Lgm_LstarInfo](#) * [InitLstarInfo](#) (int VerbosityLevel)

- void [FreeLstarInfo](#) ([Lgm_LstarInfo](#) *LstarInfo)
- [Lgm_LstarInfo](#) * [Lgm_CopyLstarInfo](#) ([Lgm_LstarInfo](#) *s)
- double [AlphaOfK](#) (double K, [Lgm_LstarInfo](#) *LstarInfo)
- int [Grad_I](#) ([Lgm_Vector](#) *vin, [Lgm_Vector](#) *Gradi, [Lgm_LstarInfo](#) *LstarInfo)
- int [ComputeVcg](#) ([Lgm_Vector](#) *vin, [Lgm_Vector](#) *Vcg, [Lgm_LstarInfo](#) *LstarInfo)
- int [FindBmRadius](#) (double Bm, double MLT, double mlat, double *r, double tol, [Lgm_LstarInfo](#) *LstarInfo)
- int [FindShellLine](#) (double I0, double *Ifound, double Bm, double MLT, double *mlat, double *rad, double mlat0, double mlat1, [Lgm_LstarInfo](#) *LstarInfo)
- void [spline](#) (double *x, double *y, int n, double yp1, double ypn, double *y2)
- void [splint](#) (double *xa, double *ya, double *y2a, int n, double x, double *y)
- void [quicksort](#) (unsigned long n, double *arr)
- void [quicksort2](#) (unsigned long n, double *arr, double *brr)
- [Lgm_MagModelInfo](#) * [init_info](#) ()
- void [NewTimeLstarInfo](#) (long int Date, double UT, double PitchAngle, int(*Mag)([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *), [Lgm_LstarInfo](#) *LstarInfo)
- int [Lstar](#) ([Lgm_Vector](#) *vin, [Lgm_LstarInfo](#) *LstarInfo)
- double [MagFlux](#) ([Lgm_LstarInfo](#) *LstarInfo)
- double [MagFlux2](#) ([Lgm_LstarInfo](#) *LstarInfo)
- double [MagFluxIntegrand](#) (double Phi, [_qpInfo](#) *qpInfo)
- double [MagFluxIntegrand2](#) (double Phi, [_qpInfo](#) *qpInfo)
- double [LambdaIntegrand](#) (double Lambda, [_qpInfo](#) *qpInfo)
- double [LambdaIntegral](#) ([Lgm_LstarInfo](#) *LstarInfo)
- double [AngVelInv](#) (double Phi)

4.19.1 Define Documentation

4.19.1.1 #define AMU (1.660538e-27)

Definition at line 11 of file Lgm_LstarInfo.h.

4.19.1.2 #define CC (2.99792458e8)

Definition at line 15 of file Lgm_LstarInfo.h.

4.19.1.3 #define EE (1.6022e-19)

Definition at line 16 of file Lgm_LstarInfo.h.

4.19.1.4 #define ELECTRON_MASS (9.10938188e-31)

Definition at line 10 of file Lgm_LstarInfo.h.

4.19.1.5 #define OXYGEN_MASS (15.9994*AMU)

Definition at line 13 of file Lgm_LstarInfo.h.

4.19.1.6 #define PROTON_MASS (1.00794*AMU)

Definition at line 12 of file Lgm_LstarInfo.h.

4.19.1.7 #define RE (6378.135e3)

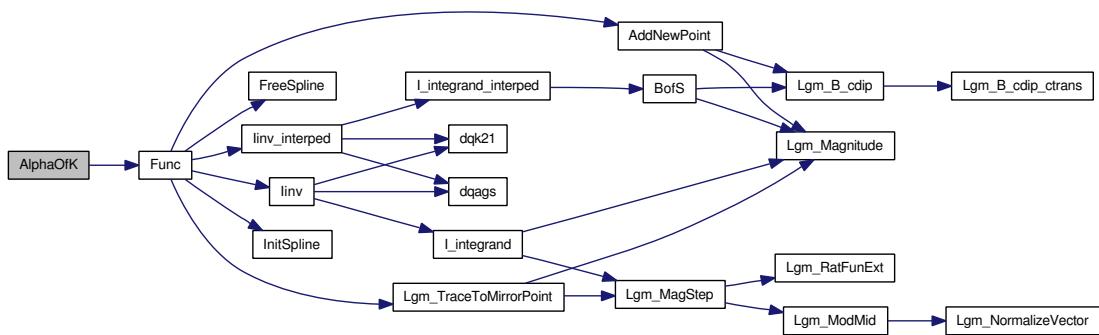
Definition at line 14 of file Lgm_LstarInfo.h.

4.19.2 Function Documentation

4.19.2.1 double AlphaOfK (double K , Lgm_LstarInfo * $LstarInfo$)

Definition at line 24 of file AlphaOfK.c.

Here is the call graph for this function:



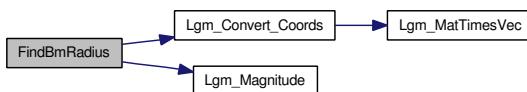
4.19.2.2 double AngVelInv (double Φ)

4.19.2.3 int ComputeVcg (Lgm_Vector * vin , Lgm_Vector * Vcg , Lgm_LstarInfo * $LstarInfo$)

4.19.2.4 int FindBmRadius (double Bm , double MLT , double $mlat$, double * r , double tol , Lgm_LstarInfo * $LstarInfo$)

Definition at line 344 of file DriftShell.c.

Here is the call graph for this function:



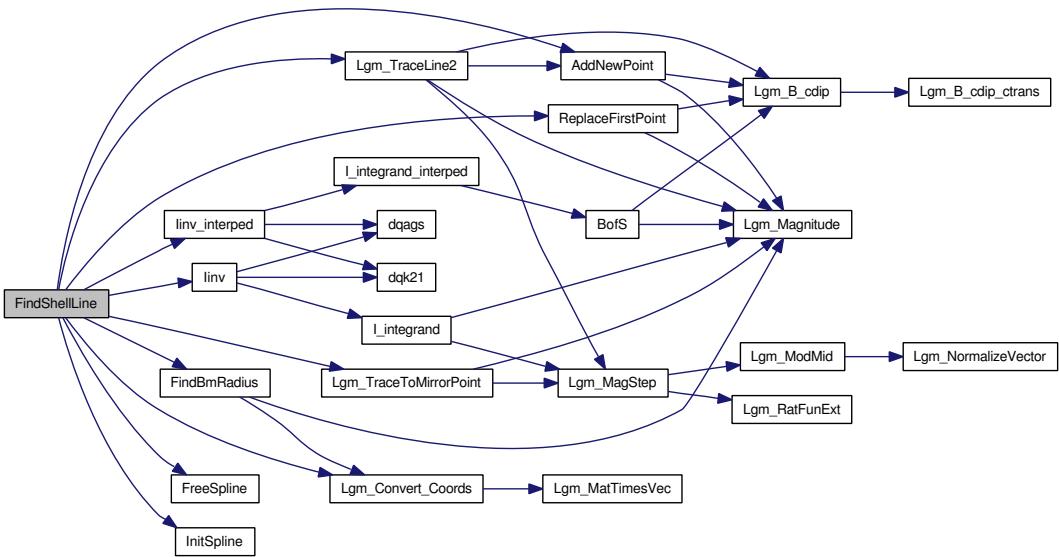
Here is the caller graph for this function:



4.19.2.5 int FindShellLine (double *I0*, double * *Ifound*, double *Bm*, double *MLT*, double * *mlat*, double * *rad*, double *mlat0*, double *mlat1*, Lgm_LstarInfo * *LstarInfo*)

Definition at line 36 of file DriftShell.c.

Here is the call graph for this function:



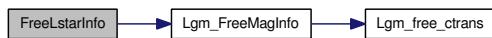
Here is the caller graph for this function:



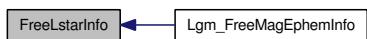
4.19.2.6 void FreeLstarInfo (Lgm_LstarInfo * *LstarInfo*)

Definition at line 221 of file ComputeLstar.c.

Here is the call graph for this function:



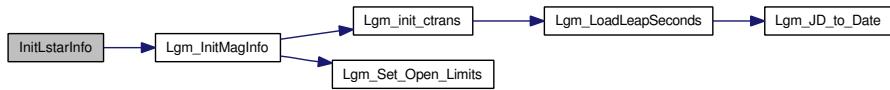
Here is the caller graph for this function:



4.19.2.7 int Grad_I (Lgm_Vector * *vin*, Lgm_Vector * *GradI*, Lgm_LstarInfo * *LstarInfo*)

Definition at line 189 of file ComputeLstar.c.

Here is the call graph for this function:



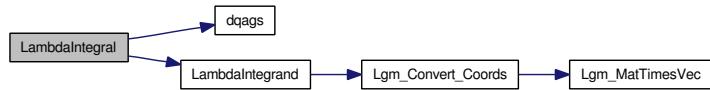
Here is the caller graph for this function:



4.19.2.10 double LambdaIntegral (Lgm_LstarInfo * *LstarInfo*)

Definition at line 945 of file ComputeLstar.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.19.2.11 double LambdaIntegrand (double *Lambda*, _qpInfo * *qpInfo*)

Definition at line 909 of file ComputeLstar.c.

Here is the call graph for this function:



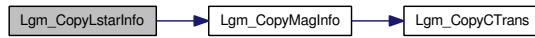
Here is the caller graph for this function:



4.19.2.12 Lgm_LstarInfo* Lgm_CopyLstarInfo (Lgm_LstarInfo * s)

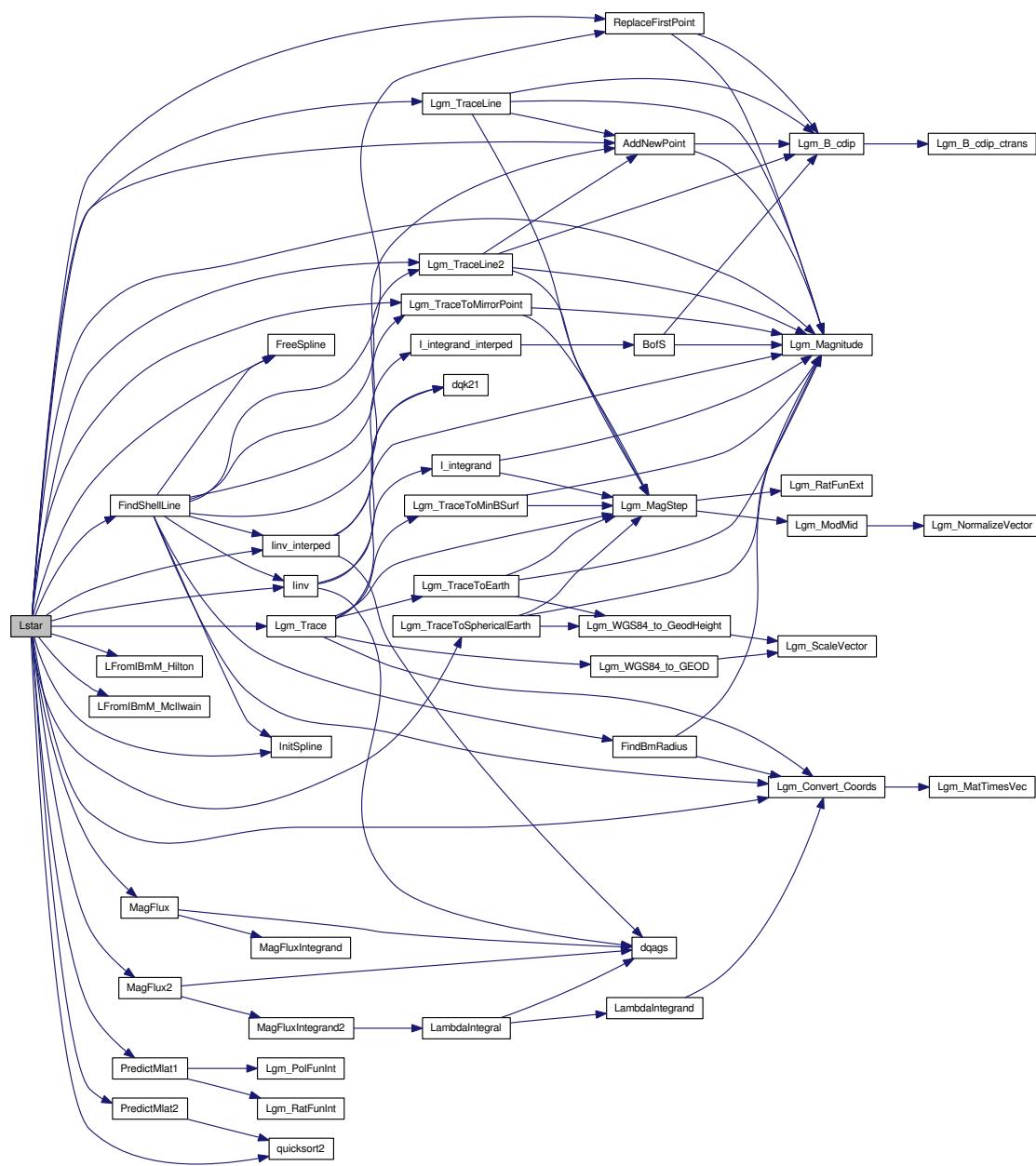
Definition at line 235 of file ComputeLstar.c.

Here is the call graph for this function:

**4.19.2.13 int Lstar (Lgm_Vector * vin, Lgm_LstarInfo * LstarInfo)**

Definition at line 307 of file ComputeLstar.c.

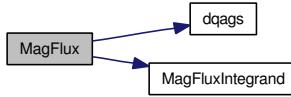
Here is the call graph for this function:



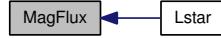
4.19.2.14 double MagFlux (`Lgm_LstarInfo * LstarInfo`)

Definition at line 842 of file ComputeLstar.c.

Here is the call graph for this function:



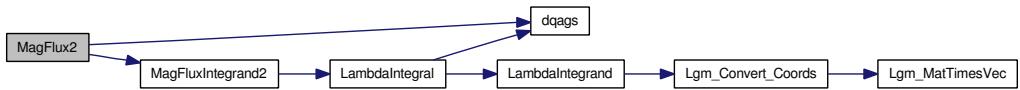
Here is the caller graph for this function:



4.19.2.15 double MagFlux2 (*Lgm_LstarInfo * LstarInfo*)

Definition at line 1023 of file ComputeLstar.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.19.2.16 double MagFluxIntegrand (double *Phi*, *_qpInfo * qpInfo*)

Definition at line 815 of file ComputeLstar.c.

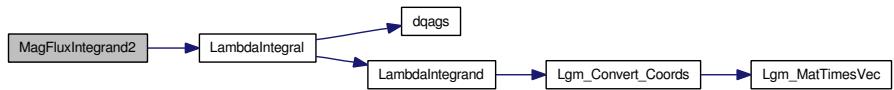
Here is the caller graph for this function:



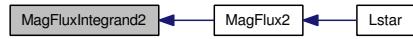
4.19.2.17 double MagFluxIntegrand2 (double *Phi*, *_qpInfo * qpInfo*)

Definition at line 1005 of file ComputeLstar.c.

Here is the call graph for this function:



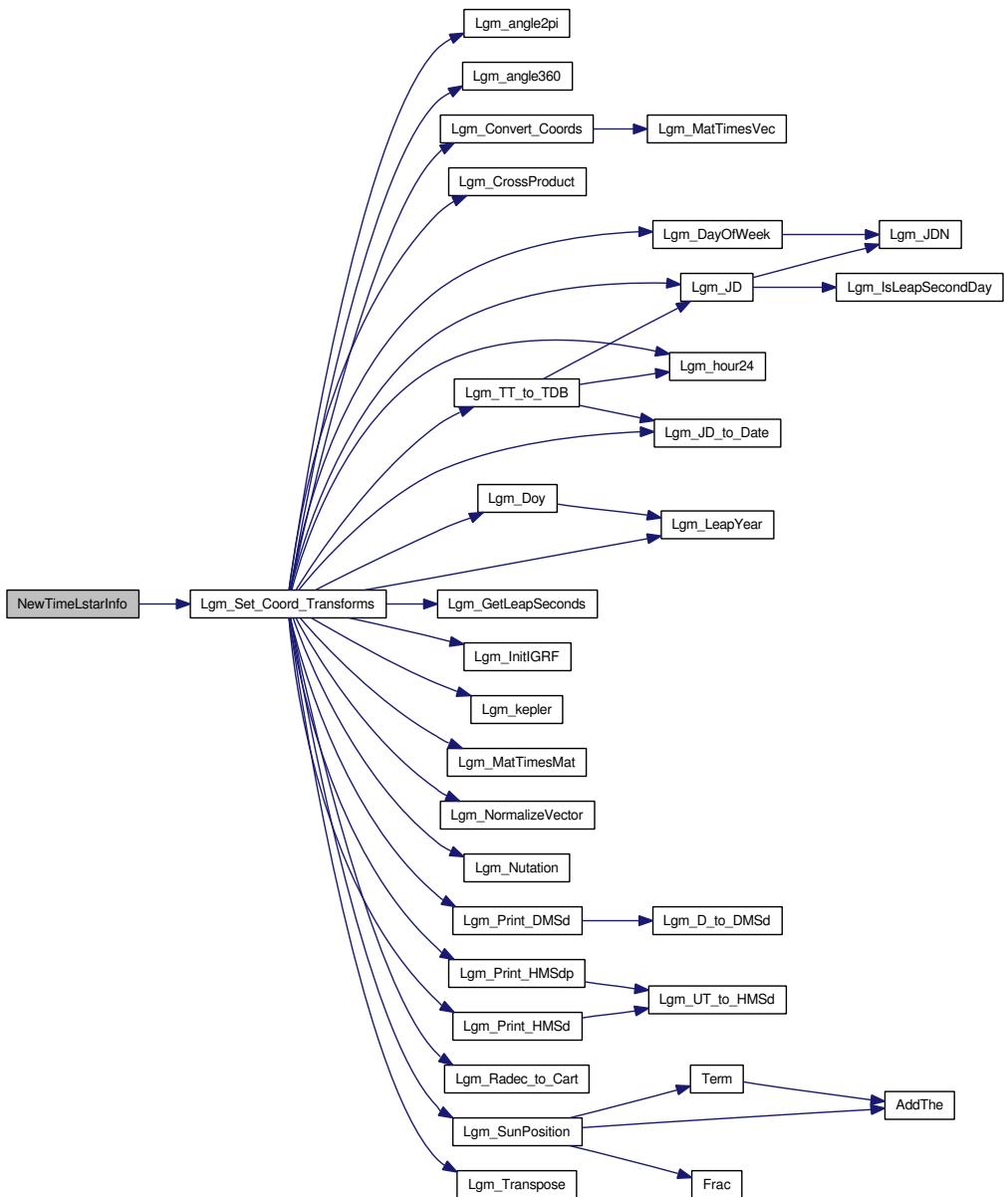
Here is the caller graph for this function:



**4.19.2.18 void NewTimeLstarInfo (long int *Date*, double *UT*, double *PitchAngle*,
int(*)(Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *) *Mag*, Lgm_LstarInfo *
LstarInfo)**

Definition at line 281 of file ComputeLstar.c.

Here is the call graph for this function:



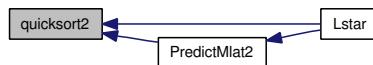
4.19.2.19 void quicksort (unsigned long *n*, double * *arr*)

Definition at line 7 of file quicksort.c.

4.19.2.20 void quicksort2 (unsigned long *n*, double * *arr*, double * *brr*)

Definition at line 74 of file quicksort.c.

Here is the caller graph for this function:

**4.19.2.21 void SetLstarTolerances (int *Quality*, Lgm_LstarInfo * *LstarInfo*)**

Definition at line 21 of file ComputeLstar.c.

4.19.2.22 void spline (double * *x*, double * *y*, int *n*, double *yp1*, double *ypn*, double * *y2*)

Here is the caller graph for this function:

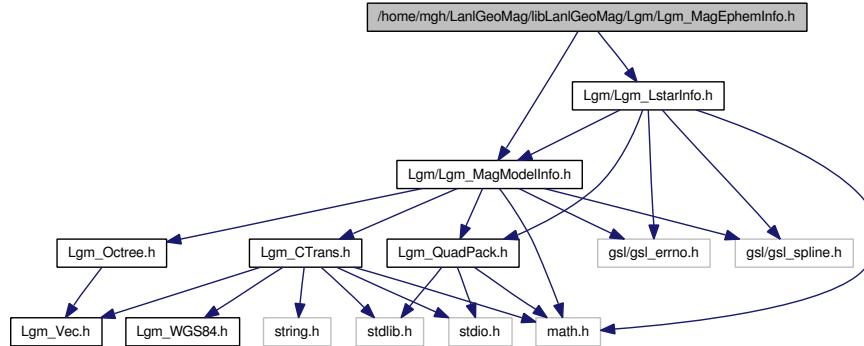
**4.19.2.23 void splint (double * *xa*, double * *ya*, double * *y2a*, int *n*, double *x*, double * *y*)**

4.20 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_MagEphemInfo.h File Reference

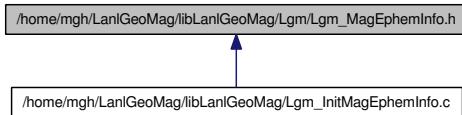
```
#include <Lgm/Lgm_MagModelInfo.h>
```

```
#include <Lgm/Lgm_LstarInfo.h>
```

Include dependency graph for Lgm_MagEphemInfo.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Lgm_MagEphemInfo](#)

Defines

- #define [MAX_PITCHANGLES](#) 900

Functions

- double [j_to_fp_1](#) (double j, double Ek)
- double [j_to_fp_2](#) (double j, double Ek0, double Ek1)
- double [Ek_to_mu_1](#) (double Ek, double alpha, double B)
- double [Ek_to_mu_2](#) (double Ek0, double Ek1, double alpha, double B)
- double [Ek_to_v](#) (double Ek, int Species)
- void [ComputeFieldLineQuantities](#) (long int Date, double UTC, [Lgm_Vector](#) *u, int nAlpha, double *Alpha, int Quality, [Lgm_MagEphemInfo](#) *MagEphemInfo)
- [Lgm_MagEphemInfo](#) * [Lgm_InitMagEphemInfo](#) (int Verbosity)
- void [Lgm_FreeMagEphemInfo](#) ([Lgm_MagEphemInfo](#) *Info)

4.20.1 Define Documentation

4.20.1.1 #define MAX_PITCH_ANGLES 900

Definition at line 7 of file Lgm_MagEphemInfo.h.

4.20.2 Function Documentation

4.20.2.1 void ComputeFieldLineQuantities (long int *Date*, double *UTC*, Lgm_Vector * *u*, int *nAlpha*, double * *Alpha*, int *Quality*, Lgm_MagEphemInfo * *MagEphemInfo*)

4.20.2.2 double Ek_to_mu_1 (double *Ek*, double *alpha*, double *B*)

4.20.2.3 double Ek_to_mu_2 (double *Ek0*, double *Ek1*, double *alpha*, double *B*)

4.20.2.4 double Ek_to_v (double *Ek*, int *Species*)

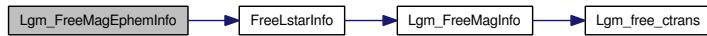
4.20.2.5 double j_to_fp_1 (double *j*, double *Ek*)

4.20.2.6 double j_to_fp_2 (double *j*, double *Ek0*, double *Ek1*)

4.20.2.7 void Lgm_FreeMagEphemInfo (Lgm_MagEphemInfo * *Info*)

Definition at line 20 of file Lgm_InitMagEphemInfo.c.

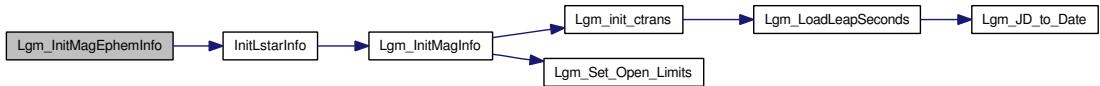
Here is the call graph for this function:



4.20.2.8 Lgm_MagEphemInfo* Lgm_InitMagEphemInfo (int *Verbosity*)

Definition at line 8 of file Lgm_InitMagEphemInfo.c.

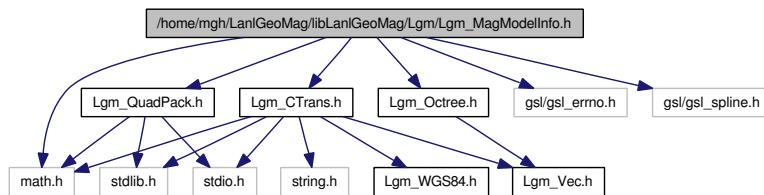
Here is the call graph for this function:



4.21 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_- MagModelInfo.h File Reference

```
#include <math.h>
#include "Lgm_QuadPack.h"
#include "Lgm_CTrans.h"
#include "Lgm_Octree.h"
#include "gsl/gsl_errno.h"
#include "gsl/gsl_spline.h"
```

Include dependency graph for Lgm_MagModelInfo.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Lgm_MagModelInfo](#)

Defines

- #define [ELECTRON_MASS](#) (9.10938188e-31)
- #define [AMU](#) (1.660538e-27)
- #define [PROTON_MASS](#) (1.00794*AMU)
- #define [OXYGEN_MASS](#) (15.9994*AMU)
- #define [RE](#) (6378.135e3)
- #define [CC](#) (2.99792458e8)
- #define [EE](#) (1.6022e-19)
- #define [LGM_OPEN_IMF](#) 0
- #define [LGM_CLOSED](#) 1
- #define [LGM_OPEN_N_LOBE](#) 2
- #define [LGM_OPEN_S_LOBE](#) 3
- #define [LGM_INSIDE_EARTH](#) -1
- #define [LGM_TARGET_HEIGHT_UNREACHABLE](#) -2
- #define [LGM_MAGSTEP_KMAX](#) 9
- #define [LGM_MAGSTEP_IMAX](#) (LGM_MAGSTEP_KMAX+1)
- #define [LGM_MAGSTEP_JMAX](#) (LGM_MAGSTEP_KMAX+2)

- #define **LGM_MAGSTEP_REDMAX** 1.0e-5
- #define **LGM_MAGSTEP_REDMIN** 0.7
- #define **LGM_MAGSTEP_SCLMAX** 0.1
- #define **LGM_MAGSTEP_SAFE1** 0.25
- #define **LGM_MAGSTEP_SAFE2** 0.70
- #define **DQAGS** 0
- #define **DQAGP** 1
- #define **DQK21** 2
- #define **LINEAR** 0
- #define **LINEAR_DFI** 1
- #define **QUADRATIC** 2
- #define **QUADRATIC_DFI** 3
- #define **NEWTON_INTERP** 4
- #define **LGM_CDIP** 0
- #define **LGM_EDIP** 1
- #define **LGM_IGRF** 2
- #define **LGM_MAX_INTERP_PNTS** 10000
- #define **LGM_RELATIVE_JUMP_METHOD** 0
- #define **LGM_ABSOLUTE_JUMP_METHOD** 1

Functions

- **Lgm_MagModelInfo * Lgm_InitMagInfo ()**
- void **Lgm_FreeMagInfo (Lgm_MagModelInfo *Info)**
- **Lgm_MagModelInfo * Lgm_CopyMagInfo (Lgm_MagModelInfo *s)**
- int **Lgm_Trace (Lgm_Vector *u, Lgm_Vector *v1, Lgm_Vector *v2, Lgm_Vector *v3, double Height, double TOL1, double TOL2, Lgm_MagModelInfo *Info)**
- int **Lgm_TraceToMinBSurf (Lgm_Vector *, Lgm_Vector *, double, double, Lgm_MagModelInfo *)**
- int **Lgm_TraceToSMEquat (Lgm_Vector *, Lgm_Vector *, double, Lgm_MagModelInfo *)**
- int **Lgm_TraceToEarth (Lgm_Vector *, Lgm_Vector *, double, double, double, Lgm_MagModelInfo *)**
- int **Lgm_TraceToSphericalEarth (Lgm_Vector *, Lgm_Vector *, double, double, double, Lgm_MagModelInfo *)**
- int **Lgm_TraceLine (Lgm_Vector *, Lgm_Vector *, double, double, double, int, Lgm_MagModelInfo *)**
- int **Lgm_TraceLine2 (Lgm_Vector *, Lgm_Vector *, double, double, double, double, int, Lgm_MagModelInfo *)**
- void **ReplaceFirstPoint (double s, double B, Lgm_Vector *P, Lgm_MagModelInfo *Info)**
- void **AddNewPoint (double s, double B, Lgm_Vector *P, Lgm_MagModelInfo *Info)**
- void **InitSpline (Lgm_MagModelInfo *Info)**
- void **FreeSpline (Lgm_MagModelInfo *Info)**
- int **Lgm_TraceToMinRdotB (Lgm_Vector *, Lgm_Vector *, double, Lgm_MagModelInfo *)**
- int **Lgm_TraceIDL (int, void *argv[])**
- int **Lgm_TraceToMirrorPoint (Lgm_Vector *u, Lgm_Vector *v, double *Sm, double H0, double Bm, double sgn, double tol, Lgm_MagModelInfo *Info)**
- void **Lgm_ModMid (Lgm_Vector *, Lgm_Vector *, double, int, double, int(*Mag)(Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *), Lgm_MagModelInfo *)**
- void **Lgm_RatFunExt (int, double, Lgm_Vector *, Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)**

- int Lgm_MagStep ([Lgm_Vector](#) *, [Lgm_Vector](#) *, double, double *, double *, double, double *, int *, int(*Mag)([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *), [Lgm_MagModelInfo](#) *)
- int Lgm_B_igrf ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_B_cdip ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_B_edip ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_B1_T87 ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_B2_T87 ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_B3_T87 ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_B_T87 ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_BM_T89 ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_BT_T89 ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_BRC_T89 ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_BC_T89 ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_B_T89 ([Lgm_Vector](#) *, [Lgm_Vector](#) *, [Lgm_MagModelInfo](#) *)
- int Lgm_B_T96MOD_MGH ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_MagModelInfo](#) *Info)
- void [lgm_field_t96mod_mgh_](#) (double *, double *, int *IYEAR, int *IDAY, int *IH, int *IM, double *SEC, double *X, double *Y, double *Z, double *BX, double *BY, double *BZ)
- void [lgm_field_t96mod_mgh_](#) (double *PARMOD, double *AMDF, int *IYEAR, int *IDAY, int *IH, int *IM, double *SEC, double *X, double *Y, double *Z, double *BX, double *BY, double *BZ)
- void [lgm_field_t96mod_](#) (int *, int *, int *, int *, double *, double *, double *, double *, double *, double *)
- int Lgm_B_TS04 ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_MagModelInfo](#) *Info)
- void Lgm_ComputeW (double W[], int i, double Nk[], double Vk[], double Bsk[], int nk)
- void Lgm_T04_s (int IOPT, double *PARMOD, double PS, double SINPS, double COSPS, double X, double Y, double Z, double *BX, double *BY, double *BZ)
- void Lgm_EXTERN (int IOPGEN, int IOPT, int IOPB, int IOPR, double *A, int NTOT, double PDYN, double DST, double BXIMF, double BYIMF, double BZIMF, double W1, double W2, double W3, double W4, double W5, double W6, double PS, double X, double Y, double Z, double *BXCF, double *BYCF, double *BZCF, double *BXT1, double *BYT1, double *BZT1, double *BXT2, double *BYT2, double *BZT2, double *BXSRC, double *BYSRC, double *BZSRC, double *BXPRC, double *BYPYC, double *BZPRC, double *BXR11, double *BYR11, double *BZR11, double *BXR12, double *BYR12, double *BZR12, double *BXR21, double *BYR21, double *BZR21, double *BXR22, double *BYR22, double *BZR22, double *HXIMF, double *HYIMF, double *HZIMF, double *BBX, double *BBY, double *BBZ)
- int Lgm_B_FromScatteredData ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_MagModelInfo](#) *Info)
- int Lgm_SimplifiedMead ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_MagModelInfo](#) *Info)
- double [linv](#) ([Lgm_MagModelInfo](#) *fInfo)
- double [l_integrand](#) (double s, [_qpInfo](#) *qpInfo)
- double [linv_interped](#) ([Lgm_MagModelInfo](#) *fInfo)
- double [l_integrand_interped](#) (double s, [_qpInfo](#) *qpInfo)
- double [SbIntegral](#) ([Lgm_MagModelInfo](#) *fInfo)
- double [Sb_integrand](#) (double s, [_qpInfo](#) *qpInfo)
- double [SbIntegral_interped](#) ([Lgm_MagModelInfo](#) *fInfo)
- double [Sb_integrand_interped](#) (double s, [_qpInfo](#) *qpInfo)
- void [ratint](#) (double *xa, double *ya, int n, double x, double *y, double *dy)
- void [polint](#) (double *xa, double *ya, int n, double x, double *y, double *dy)
- void [Interp](#) (double xa[], double ya[], long int n, double x, double *y)
- void [Interp2](#) (double xa[], double ya[], long int n, double x, double *y)
- double [LFromIBmM_Hilton](#) (double I, double Bm, double M)

- double [IFromLBmM_Hilton](#) (double L, double Bm, double M)
- double [LFromIBmM_McIlwain](#) (double I, double Bm, double M)
- double [IFromLBmM_McIlwain](#) (double L, double Bm, double M)
- double [BofS](#) (double s, [Lgm_MagModelInfo](#) *Info)
- int [SofBm](#) (double Bm, double *ss, double *sn, [Lgm_MagModelInfo](#) *Info)
- void [Lgm_MagModelInfo_Set_Psw](#) (double Psw, [Lgm_MagModelInfo](#) *m)
- void [Lgm_MagModelInfo_Set_Kp](#) (double Kp, [Lgm_MagModelInfo](#) *m)
- void [Lgm_Set_Octree_kNN_InterpMethod](#) ([Lgm_MagModelInfo](#) *m, int Method)
- void [Lgm_Set_Octree_kNN_k](#) ([Lgm_MagModelInfo](#) *m, int k)
- void [Lgm_Set_Octree_kNN_MaxDist](#) ([Lgm_MagModelInfo](#) *m, double MaxDist)
- void [Lgm_Set_Open_Limits](#) ([Lgm_MagModelInfo](#) *m, double xmin, double xmax, double ymin, double ymax, double zmin, double zmax)

4.21.1 Define Documentation

4.21.1.1 #define AMU (1.660538e-27)

Definition at line 12 of file [Lgm_MagModelInfo.h](#).

4.21.1.2 #define CC (2.99792458e8)

Definition at line 16 of file [Lgm_MagModelInfo.h](#).

4.21.1.3 #define DQAGP 1

Definition at line 49 of file [Lgm_MagModelInfo.h](#).

4.21.1.4 #define DQAGS 0

Definition at line 48 of file [Lgm_MagModelInfo.h](#).

4.21.1.5 #define DQK21 2

Definition at line 50 of file [Lgm_MagModelInfo.h](#).

4.21.1.6 #define EE (1.6022e-19)

Definition at line 17 of file [Lgm_MagModelInfo.h](#).

4.21.1.7 #define ELECTRON_MASS (9.10938188e-31)

Definition at line 11 of file [Lgm_MagModelInfo.h](#).

4.21.1.8 #define LGM_ABSOLUTE_JUMP_METHOD 1

Definition at line 72 of file [Lgm_MagModelInfo.h](#).

4.21.1.9 #define LGM_CDIP 0

Definition at line 65 of file Lgm_MagModelInfo.h.

4.21.1.10 #define LGM_CLOSED 1

Definition at line 32 of file Lgm_MagModelInfo.h.

4.21.1.11 #define LGM_EDIP 1

Definition at line 66 of file Lgm_MagModelInfo.h.

4.21.1.12 #define LGM_IGRF 2

Definition at line 67 of file Lgm_MagModelInfo.h.

4.21.1.13 #define LGM_INSIDE_EARTH -1

Definition at line 35 of file Lgm_MagModelInfo.h.

4.21.1.14 #define LGM_MAGSTEP_IMAX (LGM_MAGSTEP_KMAX+1)

Definition at line 40 of file Lgm_MagModelInfo.h.

4.21.1.15 #define LGM_MAGSTEP_JMAX (LGM_MAGSTEP_KMAX+2)

Definition at line 41 of file Lgm_MagModelInfo.h.

4.21.1.16 #define LGM_MAGSTEP_KMAX 9

Definition at line 39 of file Lgm_MagModelInfo.h.

4.21.1.17 #define LGM_MAGSTEP_REDMAX 1.0e-5

Definition at line 42 of file Lgm_MagModelInfo.h.

4.21.1.18 #define LGM_MAGSTEP_REDMIN 0.7

Definition at line 43 of file Lgm_MagModelInfo.h.

4.21.1.19 #define LGM_MAGSTEP_SAFE1 0.25

Definition at line 45 of file Lgm_MagModelInfo.h.

4.21.1.20 #define LGM_MAGSTEP_SAFE2 0.70

Definition at line 46 of file Lgm_MagModelInfo.h.

4.21.1.21 #define LGM_MAGSTEP_SCLMAX 0.1

Definition at line 44 of file Lgm_MagModelInfo.h.

4.21.1.22 #define LGM_MAX_INTERP_PNTS 10000

Definition at line 69 of file Lgm_MagModelInfo.h.

4.21.1.23 #define LGM_OPEN_IMF 0

Definition at line 31 of file Lgm_MagModelInfo.h.

4.21.1.24 #define LGM_OPEN_N_LOBE 2

Definition at line 33 of file Lgm_MagModelInfo.h.

4.21.1.25 #define LGM_OPEN_S_LOBE 3

Definition at line 34 of file Lgm_MagModelInfo.h.

4.21.1.26 #define LGM_RELATIVE_JUMP_METHOD 0

Definition at line 71 of file Lgm_MagModelInfo.h.

4.21.1.27 #define LGM_TARGET_HEIGHT_UNREACHABLE -2

Definition at line 36 of file Lgm_MagModelInfo.h.

4.21.1.28 #define LINEAR 0

Definition at line 59 of file Lgm_MagModelInfo.h.

4.21.1.29 #define LINEAR_DFI 1

Definition at line 60 of file Lgm_MagModelInfo.h.

4.21.1.30 #define NEWTON_INTERP 4

Definition at line 63 of file Lgm_MagModelInfo.h.

4.21.1.31 #define OXYGEN_MASS (15.9994*AMU)

Definition at line 14 of file Lgm_MagModelInfo.h.

4.21.1.32 #define PROTON_MASS (1.00794*AMU)

Definition at line 13 of file Lgm_MagModelInfo.h.

4.21.1.33 #define QUADRATIC 2

Definition at line 61 of file Lgm_MagModelInfo.h.

4.21.1.34 #define QUADRATIC_DFI 3

Definition at line 62 of file Lgm_MagModelInfo.h.

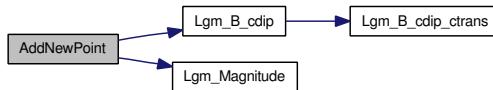
4.21.1.35 #define RE (6378.135e3)

Definition at line 15 of file Lgm_MagModelInfo.h.

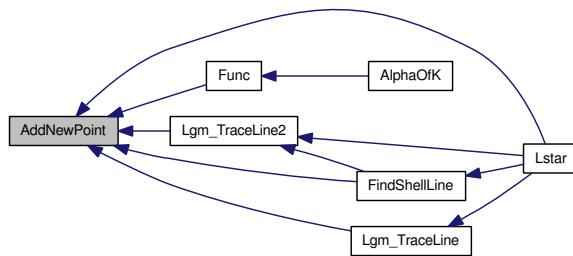
4.21.2 Function Documentation**4.21.2.1 void AddNewPoint (double s, double B, Lgm_Vector * P, Lgm_MagModelInfo * Info)**

Definition at line 595 of file TraceLine.c.

Here is the call graph for this function:

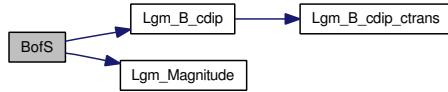


Here is the caller graph for this function:

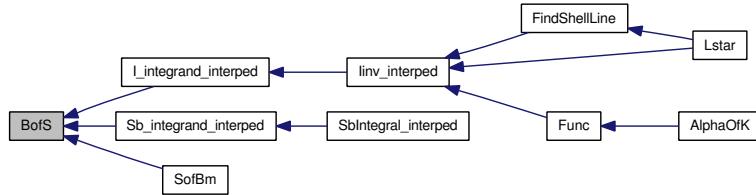
**4.21.2.2 double BofS (double s, Lgm_MagModelInfo * Info)**

Definition at line 736 of file TraceLine.c.

Here is the call graph for this function:



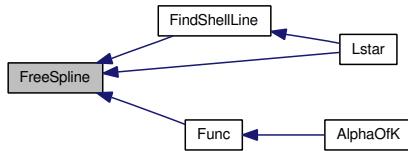
Here is the caller graph for this function:



4.21.2.3 void FreeSpline (Lgm_MagModelInfo * Info)

Definition at line 716 of file TraceLine.c.

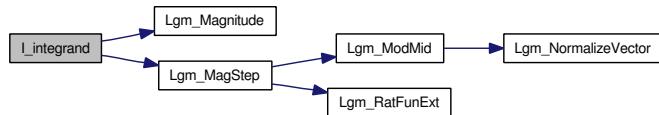
Here is the caller graph for this function:



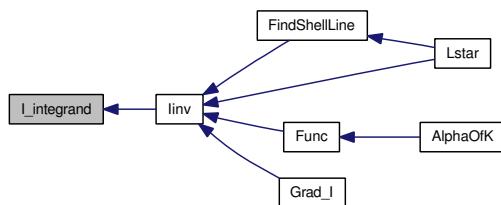
4.21.2.4 double I_integrand (double s, _qpInfo * qpInfo)

Definition at line 217 of file IntegralInvariant.c.

Here is the call graph for this function:



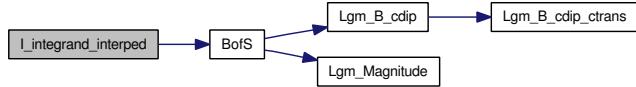
Here is the caller graph for this function:



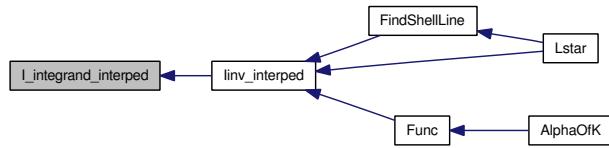
4.21.2.5 double I_integrand_interped (double s, _qpInfo * qpInfo)

Definition at line 189 of file IntegralInvariant.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.21.2.6 double IFromLBmM_Hilton (double L, double Bm, double M)

Definition at line 38 of file LFromIBmM.c.

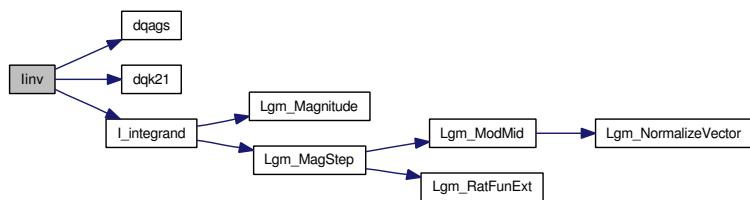
4.21.2.7 double IFromLBmM_McIlwain (double L, double Bm, double M)

Definition at line 175 of file LFromIBmM.c.

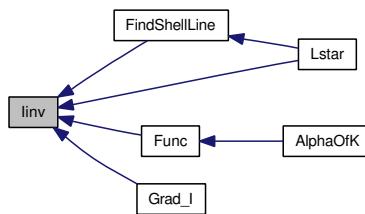
4.21.2.8 double linv (Lgm_MagModelInfo * fInfo)

Definition at line 42 of file IntegralInvariant.c.

Here is the call graph for this function:



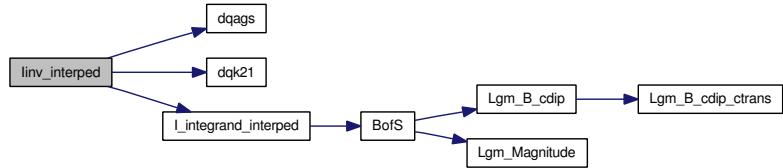
Here is the caller graph for this function:



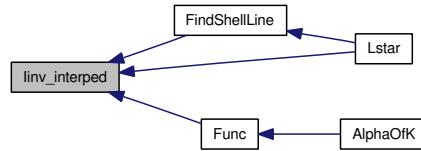
4.21.2.9 double linv_interped (Lgm_MagModelInfo **fInfo*)

Definition at line 119 of file IntegralInvariant.c.

Here is the call graph for this function:

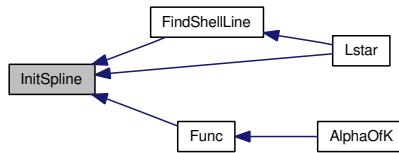


Here is the caller graph for this function:

**4.21.2.10 void InitSpline (Lgm_MagModelInfo **Info*)**

Definition at line 667 of file TraceLine.c.

Here is the caller graph for this function:

**4.21.2.11 void Interp (double *xa*[], double *ya*[], long int *n*, double *x*, double **y*)****4.21.2.12 void Interp2 (double *xa*[], double *ya*[], long int *n*, double *x*, double **y*)****4.21.2.13 double LFromIBmM_Hilton (double *I*, double *Bm*, double *M*)**

Definition at line 13 of file LFromIBmM.c.

Here is the caller graph for this function:



4.21.2.14 double LFromIBmM_McIlwain (double *I*, double *Bm*, double *M*)

Definition at line 126 of file LFromIBmM.c.

Here is the caller graph for this function:



4.21.2.15 int Lgm_B1_T87 (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 102 of file T87.c.

Here is the caller graph for this function:



4.21.2.16 int Lgm_B2_T87 (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 173 of file T87.c.

Here is the caller graph for this function:



4.21.2.17 int Lgm_B3_T87 (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 294 of file T87.c.

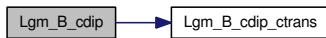
Here is the caller graph for this function:



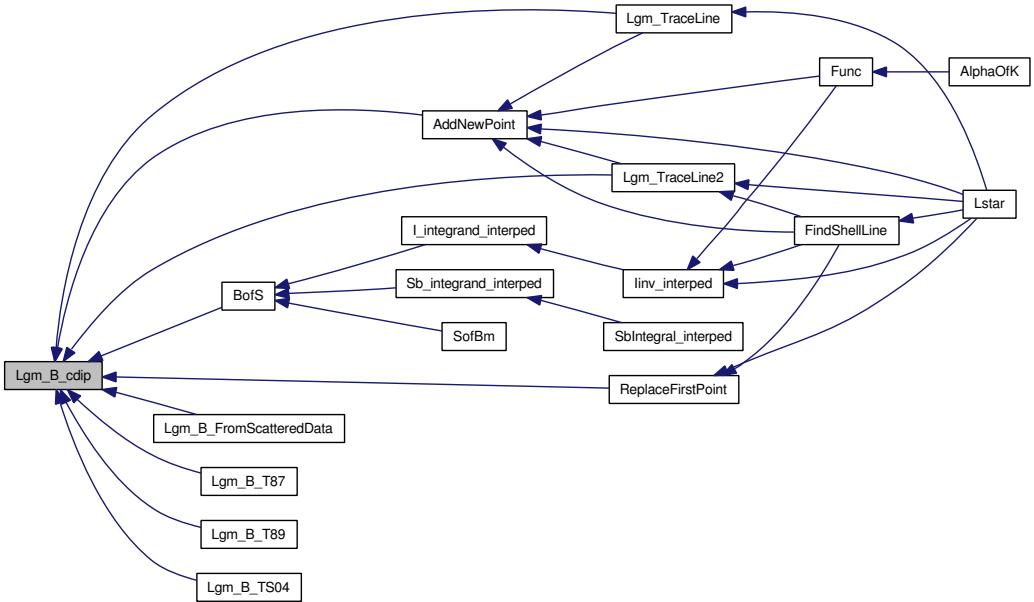
4.21.2.18 int Lgm_B_cdip (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 8 of file Lgm_B_internal.c.

Here is the call graph for this function:



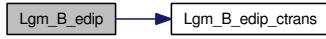
Here is the caller graph for this function:



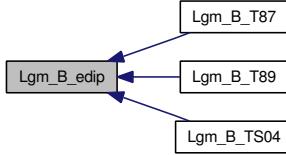
4.21.2.19 int Lgm_B_edip (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 13 of file Lgm_B_internal.c.

Here is the call graph for this function:



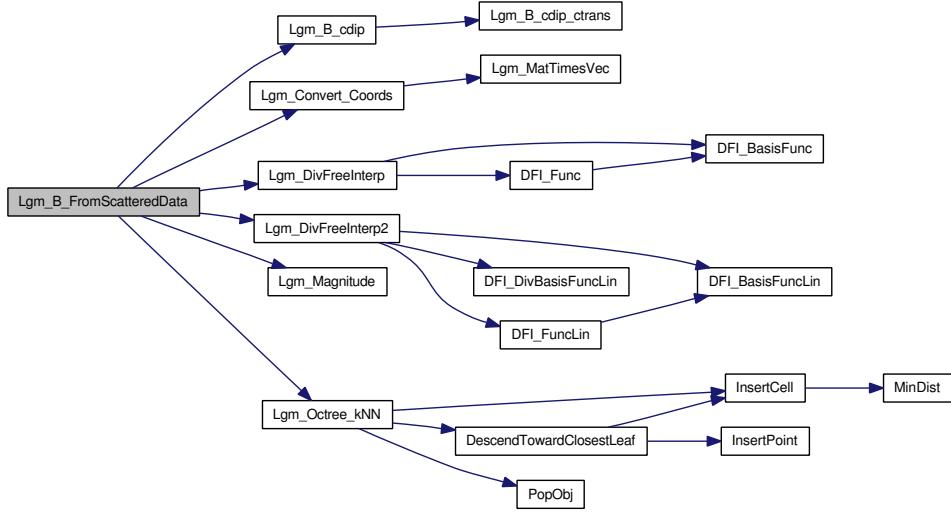
Here is the caller graph for this function:



4.21.2.20 int Lgm_B_FromScatteredData (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)

Definition at line 448 of file B_FromScatteredData.c.

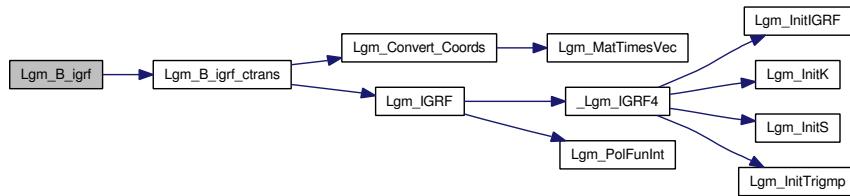
Here is the call graph for this function:



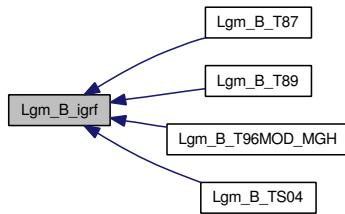
4.21.2.21 int Lgm_B_igrf (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 3 of file Lgm_B_internal.c.

Here is the call graph for this function:



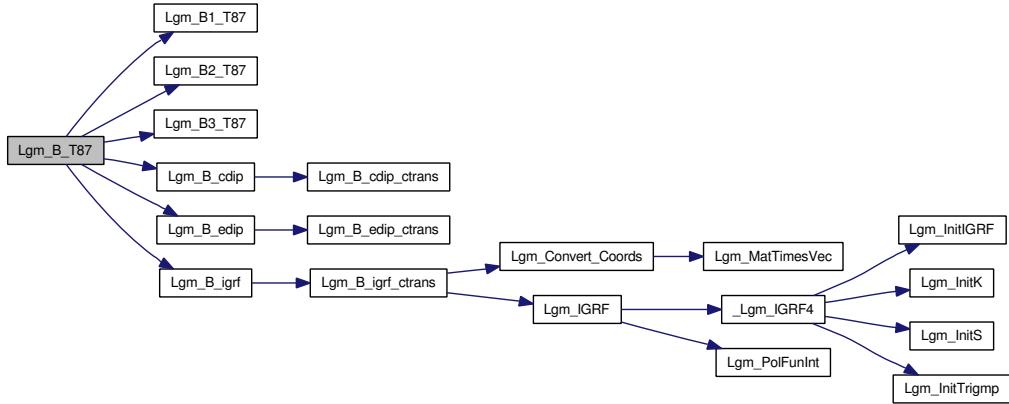
Here is the caller graph for this function:



4.21.2.22 int Lgm_B_T87 (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 325 of file T87.c.

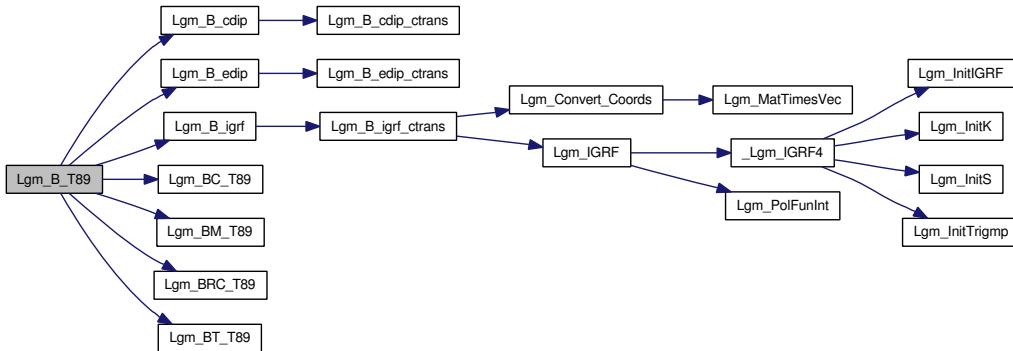
Here is the call graph for this function:



4.21.2.23 int Lgm_B_T89 (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 429 of file T89.c.

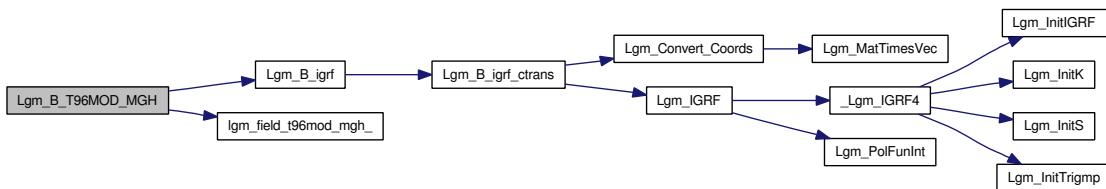
Here is the call graph for this function:



4.21.2.24 int Lgm_B_T96MOD_MGH (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)

Definition at line 2 of file T96_MOD_MGH.c.

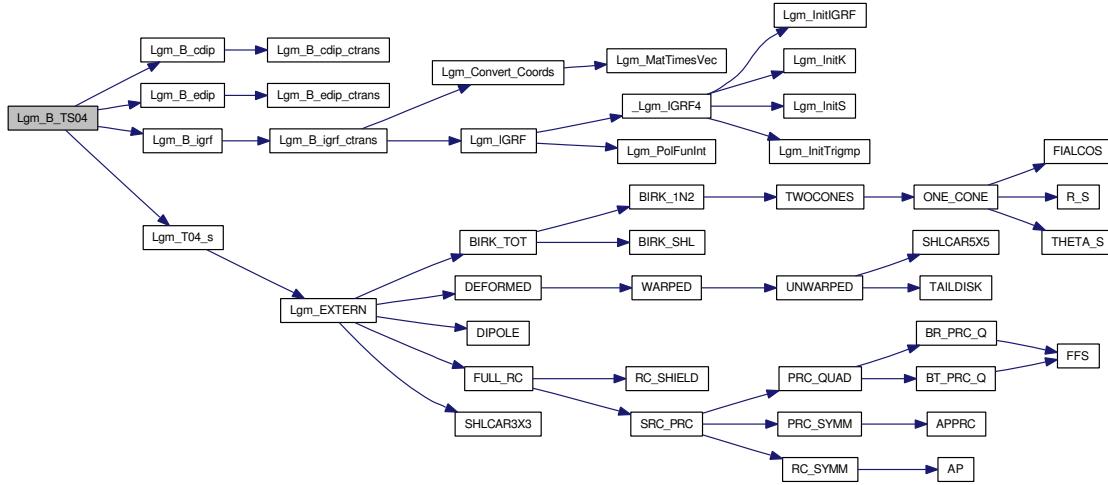
Here is the call graph for this function:



4.21.2.25 int Lgm_B_TS04 (Lgm_Vector * *v*, Lgm_Vector * *B*, Lgm_MagModelInfo * *Info*)

Definition at line 2 of file TS04.c.

Here is the call graph for this function:



4.21.2.26 int Lgm_BC_T89 (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 348 of file T89.c.

Here is the caller graph for this function:



4.21.2.27 int Lgm_BM_T89 (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 322 of file T89.c.

Here is the caller graph for this function:



4.21.2.28 int Lgm_BRC_T89 (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 217 of file T89.c.

Here is the caller graph for this function:



4.21.2.29 int Lgm_BT_T89 (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 93 of file T89.c.

Here is the caller graph for this function:

**4.21.2.30 void Lgm_ComputeW (double W[], int i, double Nk[], double Vk[], double Bsk[], int nk)**

Definition at line 4 of file W.c.

4.21.2.31 Lgm_MagModelInfo* Lgm_CopyMagInfo (Lgm_MagModelInfo * s)

Definition at line 90 of file Lgm_InitMagInfo.c.

Here is the call graph for this function:

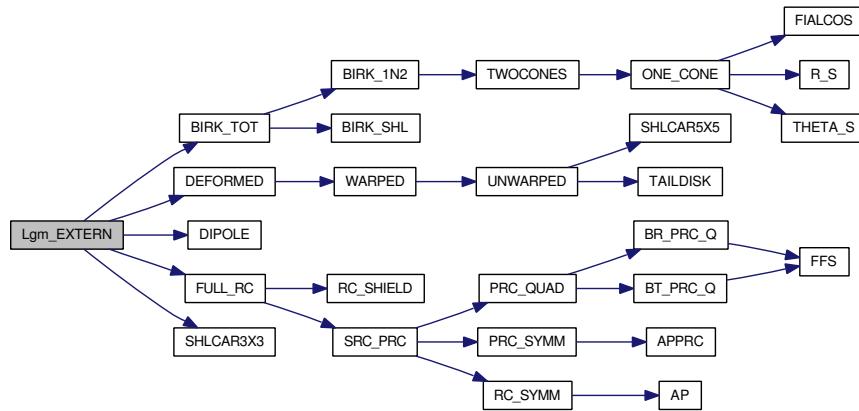


Here is the caller graph for this function:

**4.21.2.32 void Lgm_EXTERN (int IOPGEN, int IOPT, int IOPB, int IOPR, double * A, int NTOT, double PDYN, double DST, double BXIMF, double BYIMF, double BZIMF, double W1, double W2, double W3, double W4, double W5, double W6, double PS, double X, double Y, double Z, double * BXCF, double * BYCF, double * BZCF, double * BXT1, double * BYT1, double * BZT1, double * BXT2, double * BYT2, double * BZT2, double * BXSRC, double * BYSRC, double * BZSRC, double * BXPRC, double * BYPRC, double * BZPRC, double * BXR11, double * BYR11, double * BZR11, double * BXR12, double * BYR12, double * BZR12, double * BXR21, double * BYR21, double * BZR21, double * BXR22, double * BYR22, double * BZR22, double * HXIMF, double * HYIMF, double * HZIMF, double * BBX, double * BBY, double * BBZ)**

Definition at line 302 of file Tsyg2004.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.21.2.33 void `lgm_field_t96mod_`(int *, int *, int *, int *, double *, double *, double *, double *, double *, double *)

4.21.2.34 void `lgm_field_t96mod_mgh_`(double *, double *, int * *IYEAR*, int * *IDAY*, int * *IH*, int * *IM*, double * *SEC*, double * *X*, double * *Y*, double * *Z*, double * *BX*, double * *BY*, double * *BZ*)

Here is the caller graph for this function:



4.21.2.35 void `lgm_field_t96mod_mgh_`(double * *PARMOD*, double * *AMDF*, int * *IYEAR*, int * *IDAY*, int * *IH*, int * *IM*, double * *SEC*, double * *X*, double * *Y*, double * *Z*, double * *BX*, double * *BY*, double * *BZ*)

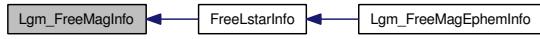
4.21.2.36 void `Lgm_FreeMagInfo`(`Lgm_MagModelInfo` * *Info*)

Definition at line 75 of file `Lgm_InitMagInfo.c`.

Here is the call graph for this function:



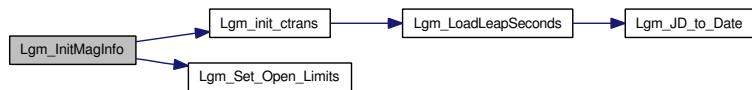
Here is the caller graph for this function:



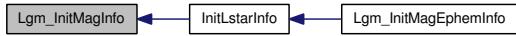
4.21.2.37 Lgm_MagModelInfo* Lgm_InitMagInfo ()

Definition at line 8 of file Lgm_InitMagInfo.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.21.2.38 void Lgm_MagModelInfo_Set_Kp (double *Kp*, Lgm_MagModelInfo * *m*)

Definition at line 132 of file Lgm_InitMagInfo.c.

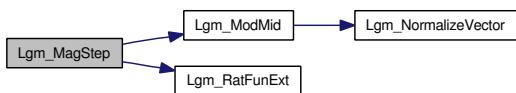
4.21.2.39 void Lgm_MagModelInfo_Set_Psw (double *Psw*, Lgm_MagModelInfo * *m*)

Definition at line 129 of file Lgm_InitMagInfo.c.

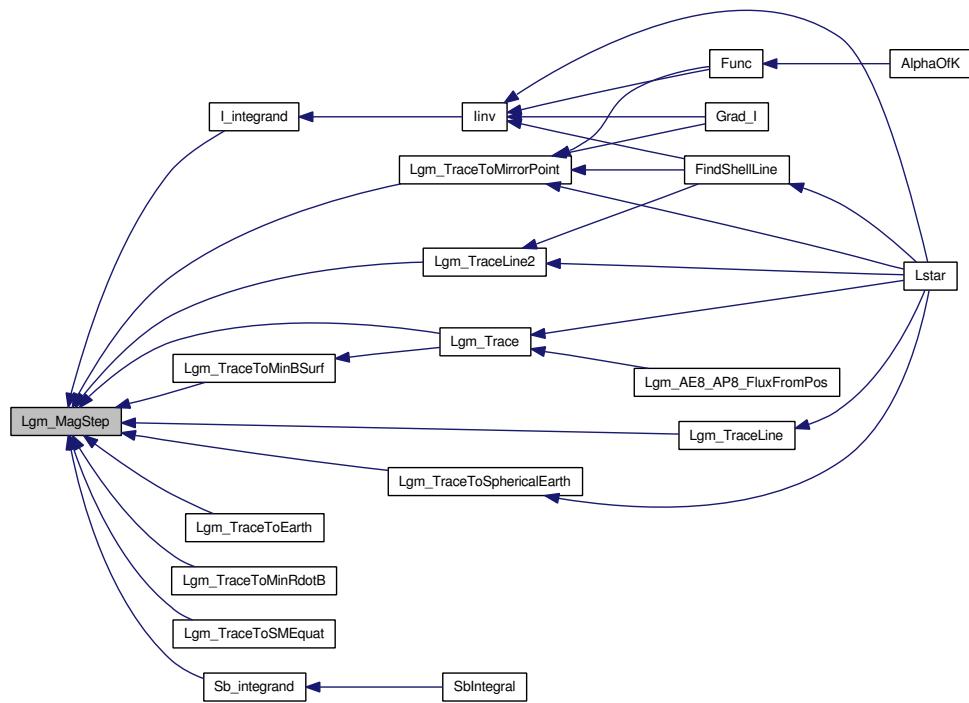
4.21.2.40 int Lgm_MagStep (Lgm_Vector *, Lgm_Vector *, double, double *, double *, double, double, double *, int *, int(*) (Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *) *Mag*, Lgm_MagModelInfo *)

Definition at line 157 of file MagStep.c.

Here is the call graph for this function:



Here is the caller graph for this function:



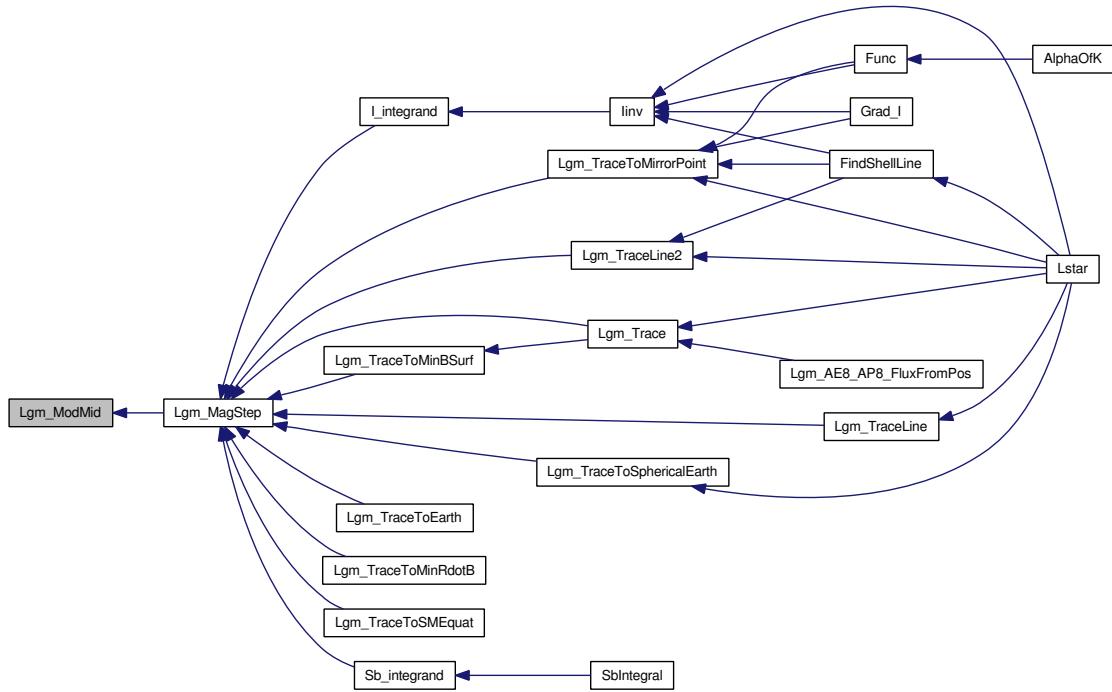
4.21.2.41 void Lgm_ModMid (Lgm_Vector *, Lgm_Vector *, double, int, double, int(*)(Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *) Mag, Lgm_MagModelInfo *)

Definition at line 17 of file MagStep.c.

Here is the call graph for this function:



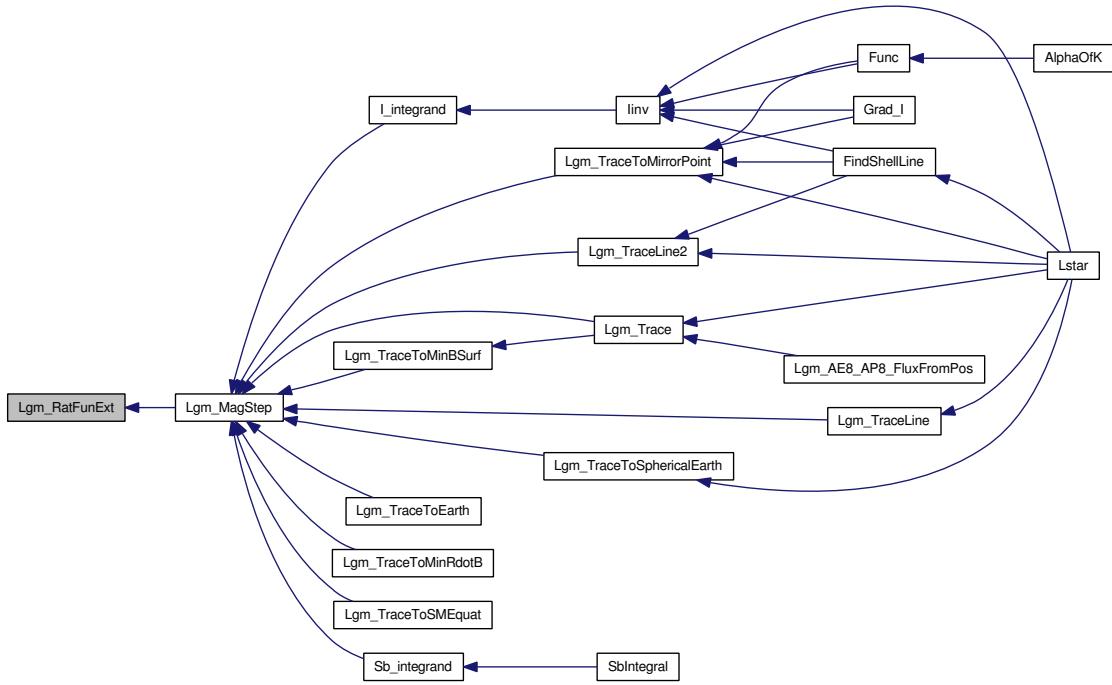
Here is the caller graph for this function:



4.21.2.42 void Lgm_RatFunExt (int, double, Lgm_Vector *, Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *)

Definition at line 85 of file MagStep.c.

Here is the caller graph for this function:



4.21.2.43 void Lgm_Set_Octree_kNN_InterpMethod (Lgm_MagModelInfo **m*, int *Method*)

Definition at line 139 of file Lgm_InitMagInfo.c.

4.21.2.44 void Lgm_Set_Octree_kNN_k (Lgm_MagModelInfo * m, int k)

Definition at line 143 of file Lgm_InitMagInfo.c.

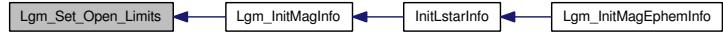
4.21.2.45 void Lgm_Set_Octree_kNN_MaxDist (Lgm_MagModelInfo * *m*, double *MaxDist*)

Definition at line 147 of file Lgm_InitMagInfo.c.

4.21.2.46 void Lgm_Set_Open_Limits (Lgm_MagModelInfo * m, double xmin, double xmax, double ymin, double ymax, double zmin, double zmax)

Definition at line 153 of file Lgm_InitMagInfo.c.

Here is the caller graph for this function:



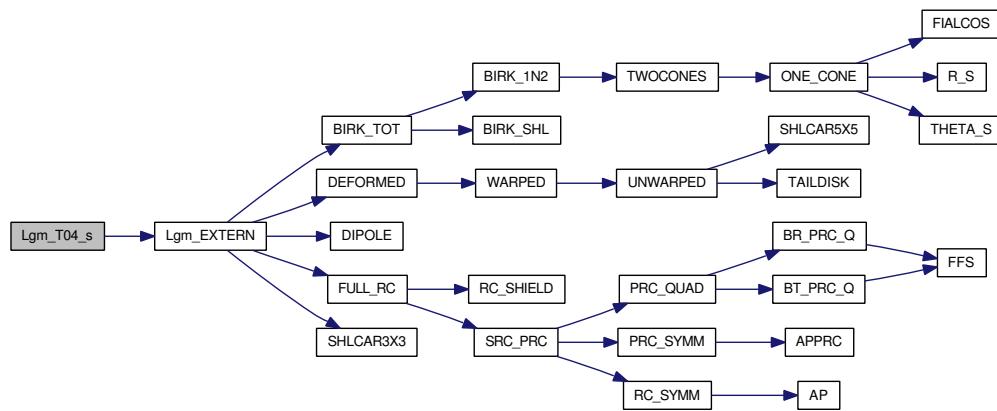
4.21.2.47 `int Lgm_SimplifiedMead (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)`

Definition at line 25 of file Lgm_SimplifiedMead.c.

4.21.2.48 void Lgm_T04_s (int *IOPT*, double * *PARMOD*, double *PS*, double *SINPS*, double *COSPS*, double *X*, double *Y*, double *Z*, double * *BX*, double * *BY*, double * *BZ*)

Definition at line 198 of file Tsyg2004.c.

Here is the call graph for this function:



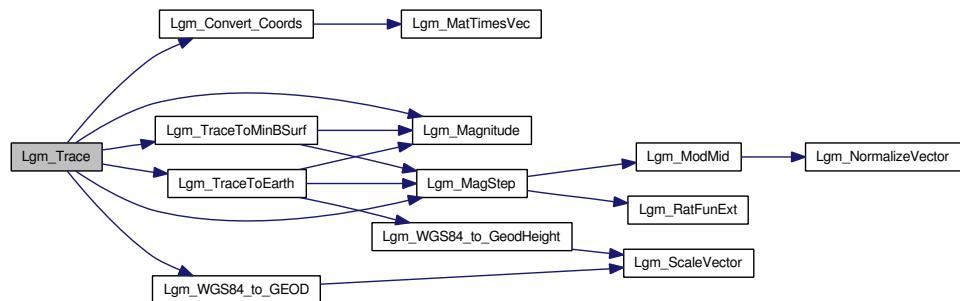
Here is the caller graph for this function:



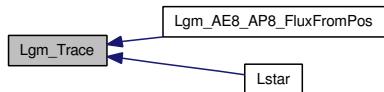
4.21.2.49 `int Lgm_Trace (Lgm_Vector * u, Lgm_Vector * v1, Lgm_Vector * v2, Lgm_Vector * v3, double Height, double TOL1, double TOL2, Lgm_MagModelInfo * Info)`

Definition at line 49 of file Lgm_Trace.c.

Here is the call graph for this function:



Here is the caller graph for this function:

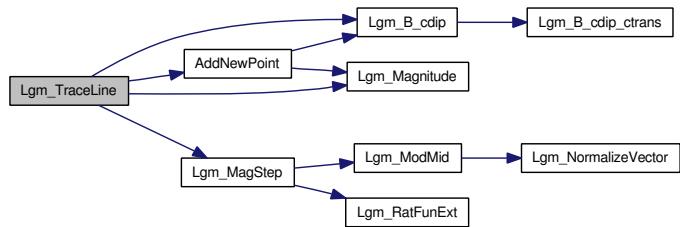


4.21.2.50 int Lgm_TraceIDL (int, void * *argv*[])

4.21.2.51 int Lgm_TraceLine (Lgm_Vector *, Lgm_Vector *, double, double, double, int, Lgm_MagModelInfo *)

Definition at line 55 of file TraceLine.c.

Here is the call graph for this function:



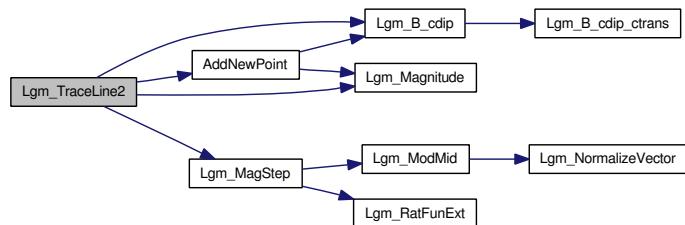
Here is the caller graph for this function:



4.21.2.52 int Lgm_TraceLine2 (Lgm_Vector *, Lgm_Vector *, double, double, double, double, int, Lgm_MagModelInfo *)

Definition at line 340 of file TraceLine.c.

Here is the call graph for this function:



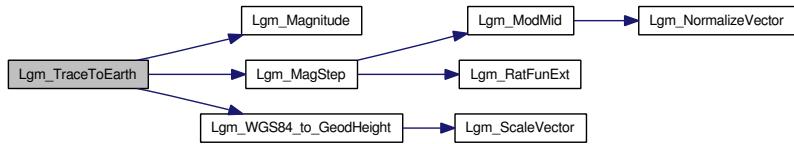
Here is the caller graph for this function:



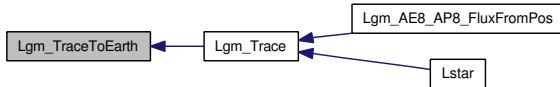
4.21.2.53 int Lgm_TraceToEarth (Lgm_Vector *, Lgm_Vector *, double, double, double, Lgm_MagModelInfo *)

Definition at line 25 of file Lgm_TraceToEarth.c.

Here is the call graph for this function:



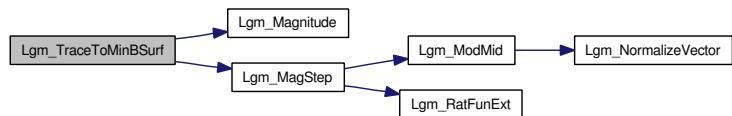
Here is the caller graph for this function:



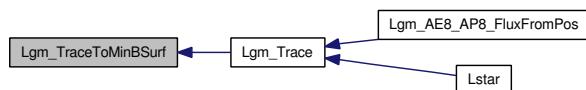
4.21.2.54 int Lgm_TraceToMinBSurf (Lgm_Vector *, Lgm_Vector *, double, double, Lgm_MagModelInfo *)

Definition at line 21 of file TraceToMinBSurf.c.

Here is the call graph for this function:



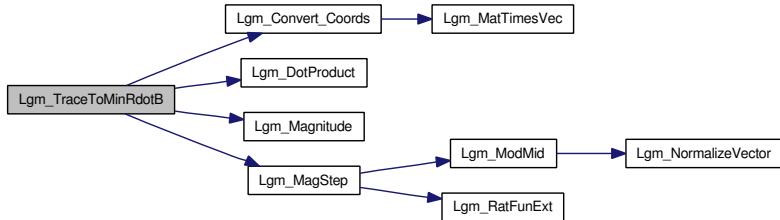
Here is the caller graph for this function:



4.21.2.55 int Lgm_TraceToMinRdotB (Lgm_Vector *, Lgm_Vector *, double, Lgm_MagModelInfo *)

Definition at line 21 of file TraceToMinRdotB.c.

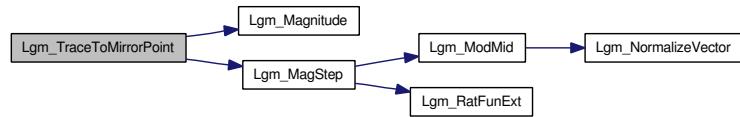
Here is the call graph for this function:



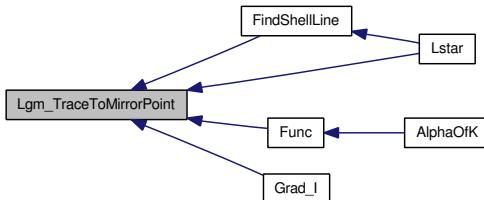
4.21.2.56 int Lgm_TraceToMirrorPoint (Lgm_Vector * u, Lgm_Vector * v, double * Sm, double H0, double Bm, double sgn, double tol, Lgm_MagModelInfo * Info)

Definition at line 25 of file TraceToMirrorPoint2.c.

Here is the call graph for this function:



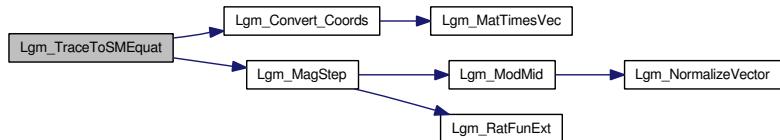
Here is the caller graph for this function:



4.21.2.57 int Lgm_TraceToSMEquat (Lgm_Vector *, Lgm_Vector *, double, Lgm_MagModelInfo *)

Definition at line 23 of file TraceToSMEquat.c.

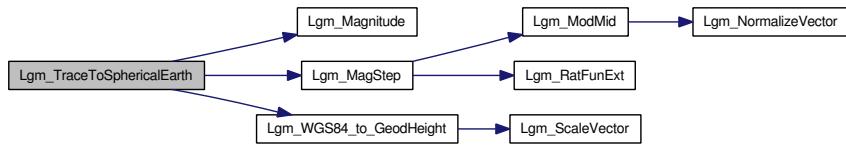
Here is the call graph for this function:



4.21.2.58 int Lgm_TraceToSphericalEarth (Lgm_Vector *, Lgm_Vector *, double, double, double, Lgm_MagModelInfo *)

Definition at line 32 of file Lgm_TraceToSphericalEarth.c.

Here is the call graph for this function:



Here is the caller graph for this function:



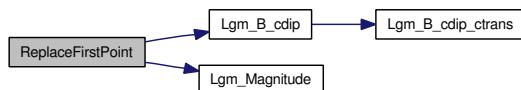
4.21.2.59 void polint (double *xa, double *ya, int n, double x, double *y, double *dy)

4.21.2.60 void ratint (double *xa, double *ya, int n, double x, double *y, double *dy)

4.21.2.61 void ReplaceFirstPoint (double s, double B, Lgm_Vector *P, Lgm_MagModelInfo *Info)

Definition at line 580 of file TraceLine.c.

Here is the call graph for this function:



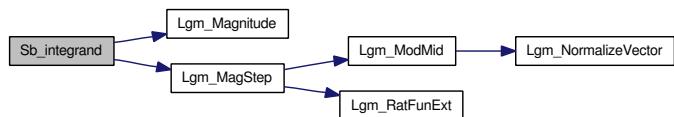
Here is the caller graph for this function:



4.21.2.62 double Sb_integrand (double s, _qpInfo *qpInfo)

Definition at line 174 of file SbIntegral.c.

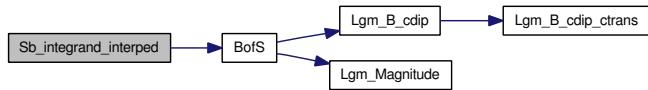
Here is the call graph for this function:



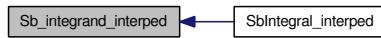
4.21.2.63 double Sb_integrand_interped (double s , _qpInfo * $qpInfo$)

Definition at line 154 of file SbIntegral.c.

Here is the call graph for this function:



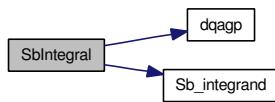
Here is the caller graph for this function:



4.21.2.64 double SbIntegral (Lgm_MagModelInfo * $fInfo$)

Definition at line 36 of file SbIntegral.c.

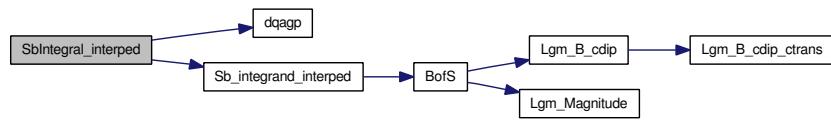
Here is the call graph for this function:



4.21.2.65 double SbIntegral_interped (Lgm_MagModelInfo * $fInfo$)

Definition at line 101 of file SbIntegral.c.

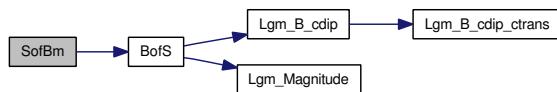
Here is the call graph for this function:



4.21.2.66 int SofBm (double Bm , double * ss , double * sn , Lgm_MagModelInfo * $Info$)

Definition at line 835 of file TraceLine.c.

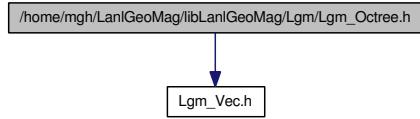
Here is the call graph for this function:



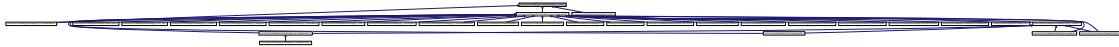
4.22 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_Octree.h File Reference

```
#include "Lgm_Vec.h"
```

Include dependency graph for Lgm_Octree.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [_Lgm_OctreeData](#)
- struct [_Lgm_OctreeCell](#)
- struct [_pQueue](#)

Defines

- #define [OCTREE_MAX_LEVELS](#) 16
- #define [OCTREE_ROOT_LEVEL](#) 15
- #define [OCTREE_MAX_VAL](#) (32768.0)
- #define [OCTREE_MAX_DATA_PER_OCTANT](#) 10
- #define [TRUE](#) 1
- #define [FALSE](#) 0
- #define [OCTREE_KNN_SUCCESS](#) 1
- #define [OCTREE_KNN_TOO_FEW_NNS](#) 0
- #define [OCTREE_KNN_NOT_ENOUGH_DATA](#) -1
- #define [OCTREE_IS_NULL](#) -2

Typedefs

- typedef struct [_Lgm_OctreeData](#) [Lgm_OctreeData](#)
- typedef struct [_Lgm_OctreeCell](#) [Lgm_OctreeCell](#)
- typedef struct [_pQueue](#) [pQueue](#)

Functions

- void [Binary](#) (unsigned int n, char *Str)
- void [Lgm_OctreeFreeBranch](#) ([Lgm_OctreeCell](#) *Cell)
- void [Lgm_FreeOctree](#) ([Lgm_OctreeCell](#) *ot)

- `Lgm_OctreeCell * Lgm_CreateOctreeRoot ()`
- `Lgm_OctreeCell * Lgm_OctreeTraverseToLocCode (Lgm_OctreeCell *Cell, unsigned int ChildLevel, unsigned int xLocationCode, unsigned int yLocationCode, unsigned int zLocationCode)`
- `Lgm_OctreeCell * Lgm_LocateNearestCell (Lgm_OctreeCell *Root, Lgm_Vector *q)`
- `double MinDist (Lgm_OctreeCell *Cell, Lgm_Vector *q)`
- `double InsertCell (Lgm_OctreeCell *Cell, Lgm_Vector *q, pQueue **PQ, double MaxDist2)`
- `void InsertPoint (Lgm_OctreeCell *Cell, int j, Lgm_Vector *q, pQueue **PQ)`
- `Lgm_OctreeCell * DescendTowardClosestLeaf (Lgm_OctreeCell *Node, pQueue **PQ, Lgm_Vector *q, double MaxDist2)`
- `pQueue * PopObj (pQueue **PQ)`
- `int Lgm_Octree_kNN (Lgm_Vector *q, Lgm_OctreeCell *Root, int K, int *Kgot, double MaxDist2, Lgm_OctreeData *kNN)`
- `Lgm_OctreeCell * CreateNewOctants (Lgm_OctreeCell *Parent)`
- `void SubDivideVolume (Lgm_OctreeCell *Vol)`
- `Lgm_OctreeCell * Lgm_InitOctree (Lgm_Vector *ObjectPoints, Lgm_Vector *ObjectData, unsigned long int N, double *Min, double *Max, double *Diff)`

4.22.1 Define Documentation

4.22.1.1 #define FALSE 0

Definition at line 12 of file Lgm_Octree.h.

4.22.1.2 #define OCTREE_IS_NULL -2

Definition at line 19 of file Lgm_Octree.h.

4.22.1.3 #define OCTREE_KNN_NOT_ENOUGH_DATA -1

Definition at line 17 of file Lgm_Octree.h.

4.22.1.4 #define OCTREE_KNN_SUCCESS 1

Definition at line 15 of file Lgm_Octree.h.

4.22.1.5 #define OCTREE_KNN_TOO_FEW_NNS 0

Definition at line 16 of file Lgm_Octree.h.

4.22.1.6 #define OCTREE_MAX_DATA_PER_OCTANT 10

Definition at line 9 of file Lgm_Octree.h.

4.22.1.7 #define OCTREE_MAX_LEVELS 16

Definition at line 6 of file Lgm_Octree.h.

4.22.1.8 #define OCTREE_MAX_VAL (32768.0)

Definition at line 8 of file Lgm_Octree.h.

4.22.1.9 #define OCTREE_ROOT_LEVEL 15

Definition at line 7 of file Lgm_Octree.h.

4.22.1.10 #define TRUE 1

Definition at line 11 of file Lgm_Octree.h.

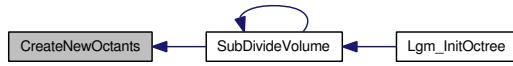
4.22.2 Typedef Documentation**4.22.2.1 typedef struct _Lgm_OctreeCell Lgm_OctreeCell****4.22.2.2 typedef struct _Lgm_OctreeData Lgm_OctreeData****4.22.2.3 typedef struct _pQueue pQueue****4.22.3 Function Documentation****4.22.3.1 void Binary (unsigned int *n*, char * *Str*)**

Definition at line 13 of file Lgm_Octree.c.

4.22.3.2 Lgm_OctreeCell* CreateNewOctants (Lgm_OctreeCell * *Parent*)

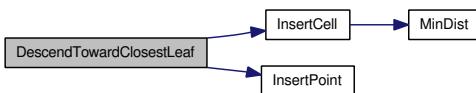
Definition at line 585 of file Lgm_Octree.c.

Here is the caller graph for this function:

**4.22.3.3 Lgm_OctreeCell* DescendTowardClosestLeaf (Lgm_OctreeCell * *Node*, pQueue ** *PQ*, Lgm_Vector * *q*, double *MaxDist2*)**

Definition at line 350 of file Lgm_Octree.c.

Here is the call graph for this function:



Here is the caller graph for this function:



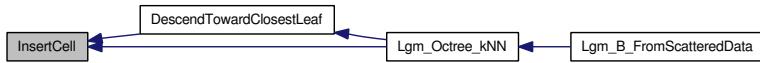
4.22.3.4 double InsertCell (Lgm_OctreeCell * *Cell*, Lgm_Vector * *q*, pQueue ** *PQ*, double *MaxDist2*)

Definition at line 198 of file Lgm_Octree.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.22.3.5 void InsertPoint (Lgm_OctreeCell * *Cell*, int *j*, Lgm_Vector * *q*, pQueue ** *PQ*)

Definition at line 282 of file Lgm_Octree.c.

Here is the caller graph for this function:



4.22.3.6 Lgm_OctreeCell* Lgm_CreateOctreeRoot ()

Definition at line 64 of file Lgm_Octree.c.

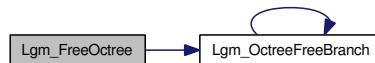
Here is the caller graph for this function:



4.22.3.7 void Lgm_FreeOctree (Lgm_OctreeCell * *ot*)

Definition at line 58 of file Lgm_Octree.c.

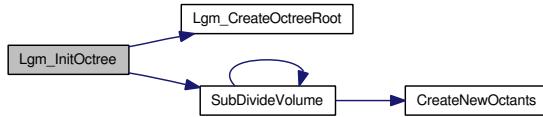
Here is the call graph for this function:



4.22.3.8 Lgm_OctreeCell* Lgm_InitOctree (Lgm_Vector * *ObjectPoints*, Lgm_Vector * *ObjectData*, unsigned long int *N*, double * *Min*, double * *Max*, double * *Diff*)

Definition at line 767 of file Lgm_Octree.c.

Here is the call graph for this function:



4.22.3.9 Lgm_OctreeCell* Lgm_LocateNearestCell (Lgm_OctreeCell * *Root*, Lgm_Vector * *q*)

Definition at line 127 of file Lgm_Octree.c.

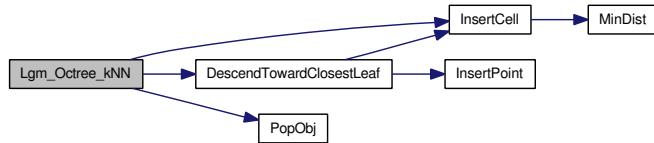
Here is the call graph for this function:



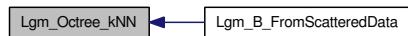
4.22.3.10 int Lgm_Octree_kNN (Lgm_Vector * *q*, Lgm_OctreeCell * *Root*, int *K*, int * *Kgot*, double *MaxDist2*, Lgm_OctreeData * *kNN*)

Definition at line 474 of file Lgm_Octree.c.

Here is the call graph for this function:



Here is the caller graph for this function:



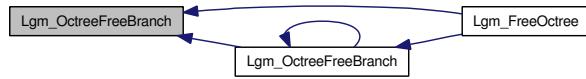
4.22.3.11 void Lgm_OctreeFreeBranch (Lgm_OctreeCell * *Cell*)

Definition at line 30 of file Lgm_Octree.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.22.3.12 **Lgm_OctreeCell* Lgm_OctreeTraverseToLocCode (Lgm_OctreeCell * Cell, unsigned int ChildLevel, unsigned int xLocationCode, unsigned int yLocationCode, unsigned int zLocationCode)**

Definition at line 99 of file Lgm_Octree.c.

Here is the caller graph for this function:



4.22.3.13 **double MinDist (Lgm_OctreeCell * Cell, Lgm_Vector * q)**

Definition at line 162 of file Lgm_Octree.c.

Here is the caller graph for this function:



4.22.3.14 **pQueue* PopObj (pQueue ** PQ)**

Definition at line 423 of file Lgm_Octree.c.

Here is the caller graph for this function:



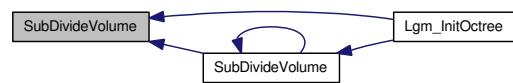
4.22.3.15 **void SubDivideVolume (Lgm_OctreeCell * Vol)**

Definition at line 654 of file Lgm_Octree.c.

Here is the call graph for this function:



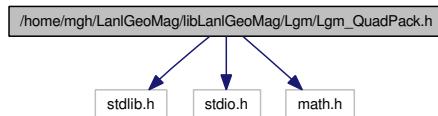
Here is the caller graph for this function:



4.23 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_-QuadPack.h File Reference

```
#include <stdlib.h>
#include <stdio.h>
#include <math.h>
```

Include dependency graph for Lgm_QuadPack.h:



This graph shows which files directly or indirectly include this file:



Defines

- #define [LGM_QUADPACK_H](#) 1
- #define [TRUE](#) 1
- #define [FALSE](#) 0
- #define [dmax1](#)(a, b) ((a) > (b)) ? (a) : (b))
- #define [dmin1](#)(a, b) ((a) < (b)) ? (a) : (b))

Typedefs

- typedef int [_qpInfo](#)

Functions

- double [d1mach](#) (int i)
- int [dqags](#) (double(*f)(double, [_qpInfo](#) *), [_qpInfo](#) *qpInfo, double a, double b, double epsabs, double epsrel, double *result, double *abserr, int *neval, int *ier, int limit, int lenw, int *last, int *iwork, double *work)
- int [dqagse](#) (double(*f)(double, [_qpInfo](#) *), [_qpInfo](#) *qpInfo, double a, double b, double epsabs, double epsrel, int limit, double *result, double *abserr, int *neval, int *ier, double *alist, double *blist, double *rlist, double *elist, int *iord, int *last)
- int [dqagp](#) (double(*f)(double, [_qpInfo](#) *), [_qpInfo](#) *qpInfo, double a, double b, int npts2, double *points, double epsabs, double epsrel, double *result, double *abserr, int *neval, int *ier, int leniw, int lenw, int *last, int *iwork, double *work)
- int [dqagpe](#) (double(*f)(double, [_qpInfo](#) *), [_qpInfo](#) *qpInfo, double a, double b, int npts2, double *points, double epsabs, double epsrel, int limit, double *result, double *abserr, int *neval, int *ier, double *alist, double *blist, double *rlist, double *elist, double *pts, int *iord, int *level, int *ndin, int *last)

- int `dqk21` (double(*f)(double, `_qpInfo` *), `_qpInfo` *qpInfo, double a, double b, double *result, double *abserr, double *resabs, double *resasc)
- int `dqelg` (int n, double epstab[], double *result, double *abserr, double res3la[], int *nres)
- int `dqpsrt` (int limit, int last, int *maxerr, double *ermax, double elist[], int iord[], int *nrmax)

4.23.1 Define Documentation

4.23.1.1 #define dmax1(a, b) (((a) > (b)) ? (a) : (b))

Definition at line 15 of file Lgm_QuadPack.h.

4.23.1.2 #define dmin1(a, b) (((a) < (b)) ? (a) : (b))

Definition at line 16 of file Lgm_QuadPack.h.

4.23.1.3 #define FALSE 0

Definition at line 14 of file Lgm_QuadPack.h.

4.23.1.4 #define LGM_QUADPACK_H 1

Definition at line 2 of file Lgm_QuadPack.h.

4.23.1.5 #define TRUE 1

Definition at line 13 of file Lgm_QuadPack.h.

4.23.2 Typedef Documentation

4.23.2.1 typedef int _qpInfo

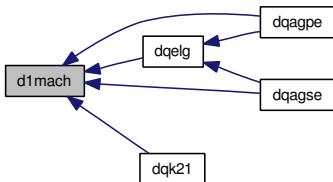
Definition at line 20 of file Lgm_QuadPack.h.

4.23.3 Function Documentation

4.23.3.1 double d1mach (int i)

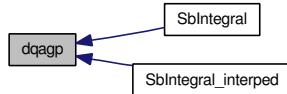
Definition at line 1588 of file Lgm_QuadPack.c.

Here is the caller graph for this function:



4.23.3.2 int dqagp (double(*)(double, _qpInfo *)*f*, _qpInfo * *qpInfo*, double *a*, double *b*, int *npts2*, double * *points*, double *epsabs*, double *epsrel*, double * *result*, double * *abserr*, int * *neval*, int * *ier*, int *leniw*, int *lenw*, int * *last*, int * *iwork*, double * *work*)

Here is the caller graph for this function:



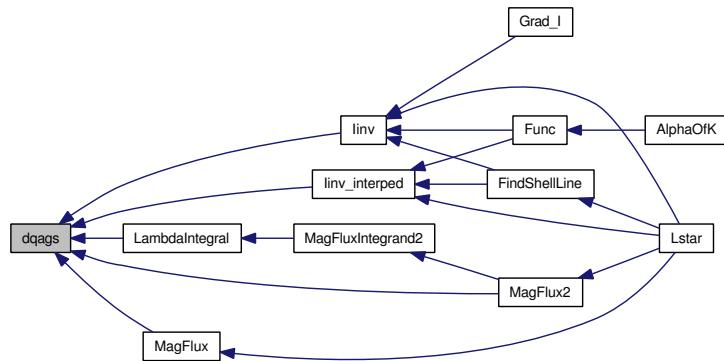
4.23.3.3 int dqagpe (double(*)(double, _qpInfo *)*f*, _qpInfo * *qpInfo*, double *a*, double *b*, int *npts2*, double * *points*, double *epsabs*, double *epsrel*, int *limit*, double * *result*, double * *abserr*, int * *neval*, int * *ier*, double * *alist*, double * *blist*, double * *rlist*, double * *elist*, double * *pts*, int * *iord*, int * *level*, int * *ndin*, int * *last*)

Here is the caller graph for this function:



4.23.3.4 int dqags (double(*)(double, _qpInfo *)*f*, _qpInfo * *qpInfo*, double *a*, double *b*, double *epsabs*, double *epsrel*, double * *result*, double * *abserr*, int * *neval*, int * *ier*, int *limit*, int *lenw*, int * *last*, int * *iwork*, double * *work*)

Here is the caller graph for this function:



4.23.3.5 int dqagse (double(*)(double, _qpInfo *)*f*, _qpInfo * *qpInfo*, double *a*, double *b*, double *epsabs*, double *epsrel*, int *limit*, double * *result*, double * *abserr*, int * *neval*, int * *ier*, double * *alist*, double * *blist*, double * *rlist*, double * *elist*, int * *iord*, int * *last*)

Here is the caller graph for this function:



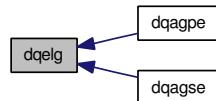
4.23.3.6 int dqelg (int *n*, double *epstab*[], double * *result*, double * *abserr*, double *res3la*[], int * *nres*)

Definition at line 868 of file Lgm_QuadPack.c.

Here is the call graph for this function:

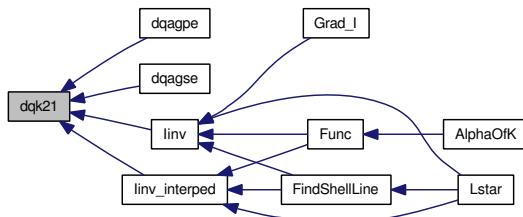


Here is the caller graph for this function:



4.23.3.7 int dqk21 (double(*)(double, _qpInfo *)*f*, _qpInfo * *qpInfo*, double *a*, double *b*, double * *result*, double * *abserr*, double * *resabs*, double * *resasc*)

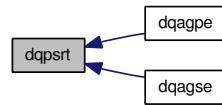
Here is the caller graph for this function:



4.23.3.8 int dqpsrt (int *limit*, int *last*, int * *maxerr*, double * *ermax*, double *elist*[], int *iord*[], int * *nrmax*)

Definition at line 1375 of file Lgm_QuadPack.c.

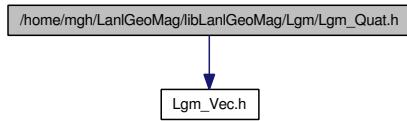
Here is the caller graph for this function:



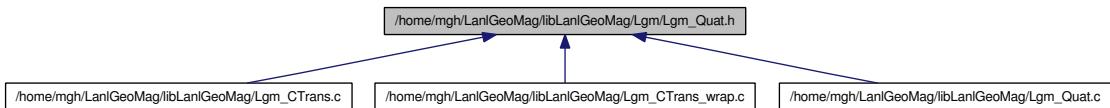
4.24 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_Quat.h File Reference

```
#include "Lgm_Vec.h"
```

Include dependency graph for Lgm_Quat.h:



This graph shows which files directly or indirectly include this file:



Defines

- #define `DegPerRad` 57.29577951308232087680
- #define `RadPerDeg` 0.01745329251994329576

Functions

- double `Lgm_Norma`lize`Quat` (double *Q)
- double `Lgm_Mat`rix`Trace` (double A[3][3])
- void `Lgm_Mat`rix`ToQuat` (double A[3][3], double *Q)
- void `Lgm_Quat`_`To_Mat`rix (double Q[4], double A[3][3])
- void `Lgm_Quat``ToAxisAngle` (double *Q, double *Angle, `Lgm_Vec`tor *u)
- void `Lgm_AxisAngle``ToQuat` (`Lgm_Vec`tor *u, double Angle, double *Q)
- void `Lgm_Quat``RotateVector` (double *Q, `Lgm_Vec`tor *v, `Lgm_Vec`tor *vp)
- double `Lgm_Quat``Magnitude` (double *Q)
- double `Lgm_Quat``VecLength` (double *v)
- double `Lgm_Quat``VecDot` (double *v1, double *v2)
- void `Lgm_Quat``VecZero` (double *v)
- void `Lgm_Quat``VecSet` (double *v, double x, double y, double z)
- void `Lgm_Quat``VecAdd` (double *a, double *b, double *c)
- void `Lgm_Quat``VecSub` (double *a, double *b, double *c)
- void `Lgm_Quat``VecCopy` (double *v1, double *v2)
- void `Lgm_Quat``VecScale` (double *v, double f)
- void `Lgm_Quat``VecNormalize` (double *v)
- void `Lgm_Quat``VecCross` (double *a, double *b, double *result)
- void `Lgm_Quat``CombineQuats` (double Q1[4], double Q2[4], double Q[4])

4.24.1 Define Documentation

4.24.1.1 #define DegPerRad 57.29577951308232087680

Definition at line 6 of file Lgm_Quat.h.

4.24.1.2 #define RadPerDeg 0.01745329251994329576

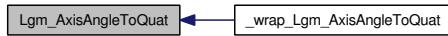
Definition at line 9 of file Lgm_Quat.h.

4.24.2 Function Documentation

4.24.2.1 void Lgm_AxisAngleToQuat (Lgm_Vector * *u*, double *Angle*, double * *Q*)

Definition at line 113 of file Lgm_Quat.c.

Here is the caller graph for this function:



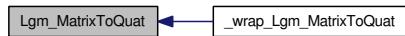
4.24.2.2 void Lgm_MatrixToQuat (double A[3][3], double * *Q*)

Definition at line 40 of file Lgm_Quat.c.

Here is the call graph for this function:



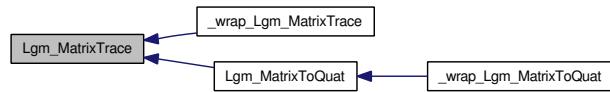
Here is the caller graph for this function:



4.24.2.3 double Lgm_MatrixTrace (double A[3][3])

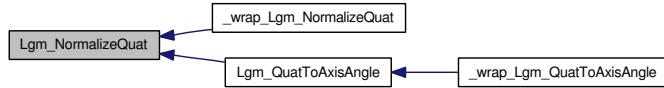
Definition at line 29 of file Lgm_Quat.c.

Here is the caller graph for this function:



4.24.2.4 double Lgm_NormalizeQuat (double * Q)

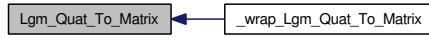
Here is the caller graph for this function:



4.24.2.5 void Lgm_Quat_To_Matrix (double $Q[4]$, double $A[3][3]$)

Definition at line 85 of file Lgm_Quat.c.

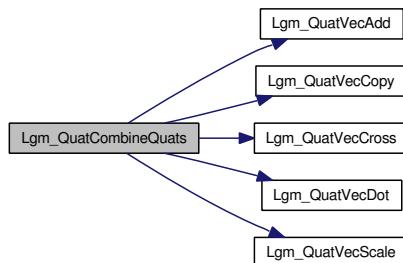
Here is the caller graph for this function:



4.24.2.6 void Lgm_QuatCombineQuats (double $Q1[4]$, double $Q2[4]$, double $Q[4]$)

Definition at line 247 of file Lgm_Quat.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.24.2.7 double Lgm_QuatMagnitude (double * Q)

Definition at line 227 of file Lgm_Quat.c.

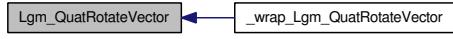
Here is the caller graph for this function:



4.24.2.8 void Lgm_QuatRotateVector (double * Q , Lgm_Vector * v , Lgm_Vector * vp)

Definition at line 198 of file Lgm_Quat.c.

Here is the caller graph for this function:



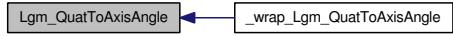
4.24.2.9 void Lgm_QuatToAxisAngle (double * Q , double * $Angle$, Lgm_Vector * u)

Definition at line 142 of file Lgm_Quat.c.

Here is the call graph for this function:



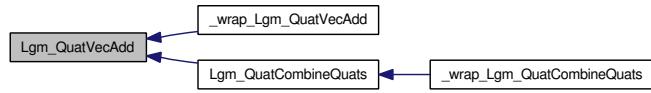
Here is the caller graph for this function:



4.24.2.10 void Lgm_QuatVecAdd (double * a , double * b , double * c)

Definition at line 235 of file Lgm_Quat.c.

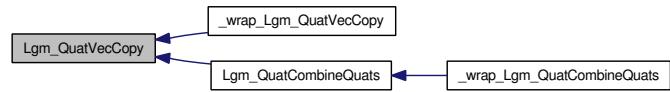
Here is the caller graph for this function:



4.24.2.11 void Lgm_QuatVecCopy (double * $v1$, double * $v2$)

Definition at line 237 of file Lgm_Quat.c.

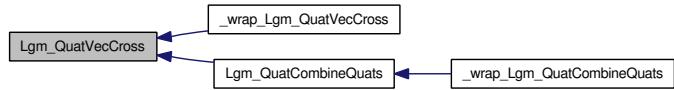
Here is the caller graph for this function:



4.24.2.12 void Lgm_QuatVecCross (double * *a*, double * *b*, double * *result*)

Definition at line 241 of file Lgm_Quat.c.

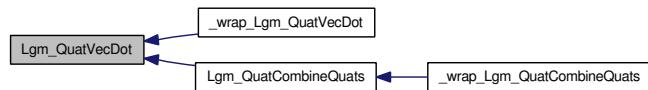
Here is the caller graph for this function:



4.24.2.13 double Lgm_QuatVecDot (double * *v1*, double * *v2*)

Definition at line 232 of file Lgm_Quat.c.

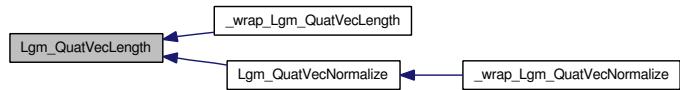
Here is the caller graph for this function:



4.24.2.14 double Lgm_QuatVecLength (double * *v*)

Definition at line 231 of file Lgm_Quat.c.

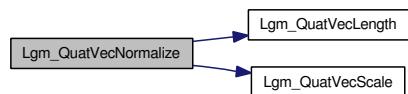
Here is the caller graph for this function:



4.24.2.15 void Lgm_QuatVecNormalize (double * *v*)

Definition at line 239 of file Lgm_Quat.c.

Here is the call graph for this function:



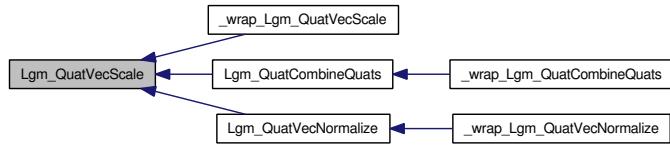
Here is the caller graph for this function:



4.24.2.16 void Lgm_QuatVecScale (double * v, double f)

Definition at line 238 of file Lgm_Quat.c.

Here is the caller graph for this function:



4.24.2.17 void Lgm_QuatVecSet (double * v, double x, double y, double z)

Definition at line 234 of file Lgm_Quat.c.

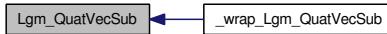
Here is the caller graph for this function:



4.24.2.18 void Lgm_QuatVecSub (double * a, double * b, double * c)

Definition at line 236 of file Lgm_Quat.c.

Here is the caller graph for this function:



4.24.2.19 void Lgm_QuatVecZero (double * v)

Definition at line 233 of file Lgm_Quat.c.

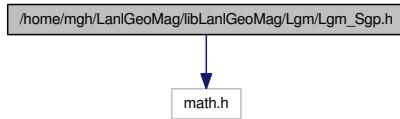
Here is the caller graph for this function:



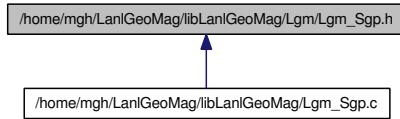
4.25 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_Sgp.h File Reference

```
#include <math.h>
```

Include dependency graph for Lgm_Sgp.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct `_SgpTLE`
- struct `_SgpInfo`

Defines

- #define `TRUE` 1
- #define `FALSE` 0
- #define `SGP_CK2` 5.413080e-4
- #define `SGP_CK4` 0.62098875e-6
- #define `SGP_E6A` 1.0e-6
- #define `SGP_QOMS2T` 1.88027916e-9
- #define `SGP_S` 1.01222928
- #define `SGP_TOHRD` 0.66666667
- #define `SGP_XJ3` (-0.253881e-5)
- #define `SGP_XKE` 0.743669161e-1
- #define `SGP_XKMPER` 6378.135
- #define `SGP_XMNPDA` 1440.0
- #define `SGP_AE` 1.0
- #define `SGP_DE2RA` 0.174532925e-1
- #define `SGP_PI` 3.14159265
- #define `SGP_PIO2` 1.57079633
- #define `SGP_TWOPI` 6.2831853
- #define `SGP_X3PIO2` 4.71238898
- #define `SGP_wgs72old` 0
- #define `SGP_wgs72` 1
- #define `SGP_wgs84` 2
- #define `M_PI` 3.141592653589793238462643
- #define `M_2PI` 6.283185307179586476925287

Functions

- int [LgmSgp_TleChecksum](#) (char *Line)
- void [Lgm_SgpDecodeTle](#) (char *Line0, char *Line1, char *Line2, [_SgpTLE](#) *TLE, int Verbosity)
- int [LgmSgp_ReadTlesFromFile](#) (char *Filename, int *nTLEs, [_SgpTLE](#) *TLEs, int Verbosity)
- int [LgmSgp_ReadTlesFromStrings](#) (char *Line0, char *Line1, char *Line2, int *nTLEs, [_SgpTLE](#) *TLEs, int Verbosity)
- void [LgmSgp_InitElements](#) ([_SgpInfo](#) *s, [_SgpTLE](#) *t)
- int [LgmSgp_SGP_STR3](#) (double TSINCE, [_SgpInfo](#) *s)
- int [LgmSgp_SGP4_STR3](#) (double TSINCE, [_SgpInfo](#) *s)
- int [LgmSgp_SDP4_STR3](#) (double TSINCE, [_SgpInfo](#) *s)
- int [LgmSgp_SGP8_STR3](#) (double TSINCE, [_SgpInfo](#) *s)
- int [LgmSgp_SDP8_STR3](#) (double TSINCE, [_SgpInfo](#) *s)
- int [LgmSgp_SGP4](#) (double TSINCE, [_SgpInfo](#) *s)
- int [LgmSgp_SGP4_Init](#) ([_SgpInfo](#) *s, [_SgpTLE](#) *t)
- void [LgmSgp_GetGravConst](#) (int whichconst, double *tumin, double *radiusearthkm, double *xke, double *j2, double *j3, double *j4, double *j3oj2)
- void [LgmSgp_dpper](#) (double inclo, char init, double *ep, double *inclp, double *nodep, double *argpp, double *mp, [_SgpInfo](#) *s)
- void [LgmSgp_dspace](#) (double tc, double *atime, double *em, double *argpm, double *inclm, double *xli, double *mm, double *xni, double *nadem, double *dndt, double *nm, [_SgpInfo](#) *s)
- void [LgmSgp_initl](#) (int satn, int whichconst, double ecco, double epoch, double inclo, double *no, char *method, double *ainv, double *ao, double *con41, double *con42, double *cosio, double *cosio2, double *eccsq, double *omeosq, double *posq, double *rp, double *rteosq, double *sinio, double *gsto)
- void [LgmSgp_dscom](#) (double epoch, double ep, double argpp, double tc, double inclp, double nodep, double np, double *snodm, double *cnodm, double *simim, double *cosim, double *sinomm, double *cosomm, double *day, double *e3, double *ee2, double *em, double *emsq, double *gam, double *peo, double *pgho, double *pho, double *pinco, double *plo, double *rtemsq, double *se2, double *se3, double *sgh2, double *sgh3, double *sgh4, double *sh2, double *sh3, double *si2, double *si3, double *sl2, double *sl3, double *sl4, double *s1, double *s2, double *s3, double *s4, double *s5, double *ss6, double *s7, double *ss1, double *ss2, double *ss3, double *ss4, double *ss5, double *ss6, double *ss7, double *sz1, double *sz2, double *sz3, double *sz11, double *sz12, double *sz13, double *sz21, double *sz22, double *sz23, double *sz31, double *sz32, double *sz33, double *xgh2, double *xgh3, double *xgh4, double *xh2, double *xh3, double *xi2, double *xi3, double *xl2, double *xl3, double *xl4, double *nm, double *z1, double *z2, double *z3, double *z11, double *z12, double *z13, double *z21, double *z22, double *z23, double *z31, double *z32, double *z33, double *zmol, double *zmos)
- void [LgmSgp_dsinit](#) (int whichconst, double cosim, double emsq, double argpo, double s1, double s2, double s3, double s4, double s5, double sinim, double ss1, double ss2, double ss3, double ss4, double ss5, double sz1, double sz3, double sz11, double sz13, double sz21, double sz23, double sz31, double sz33, double sz31, double sz33, double t, double tc, double gsto, double mo, double mdot, double no, double nodeo, double nodedot, double xpidot, double z1, double z3, double z11, double z13, double z21, double z23, double z31, double z33, double ecco, double eccsq, double *em, double *argpm, double *inclm, double *mm, double *nm, double *nadem, int *irez, double *atime, double *d2201, double *d2211, double *d3210, double *d3222, double *d4410, double *d4422, double *d5220, double *d5232, double *d5421, double *d5433, double *dedit, double *didt, double *dmdt, double *dndt, double *dnodt, double *domdt, double *dell1, double *del2, double *del3, double *xfact, double *xlamo, double *xli, double *xni)
- double [LgmSgp_gstime](#) (double jdut1)

4.25.1 Define Documentation

4.25.1.1 #define FALSE 0

Definition at line 164 of file Lgm_Sgp.h.

4.25.1.2 #define M_2PI 6.283185307179586476925287

Definition at line 202 of file Lgm_Sgp.h.

4.25.1.3 #define M_PI 3.141592653589793238462643

Definition at line 198 of file Lgm_Sgp.h.

4.25.1.4 #define SGP_AE 1.0

Definition at line 182 of file Lgm_Sgp.h.

4.25.1.5 #define SGP_CK2 5.413080e-4

Definition at line 172 of file Lgm_Sgp.h.

4.25.1.6 #define SGP_CK4 0.62098875e-6

Definition at line 173 of file Lgm_Sgp.h.

4.25.1.7 #define SGP_DE2RA 0.174532925e-1

Definition at line 183 of file Lgm_Sgp.h.

4.25.1.8 #define SGP_E6A 1.0e-6

Definition at line 174 of file Lgm_Sgp.h.

4.25.1.9 #define SGP_PI 3.14159265

Definition at line 184 of file Lgm_Sgp.h.

4.25.1.10 #define SGP_PIO2 1.57079633

Definition at line 185 of file Lgm_Sgp.h.

4.25.1.11 #define SGP_QOMS2T 1.88027916e-9

Definition at line 175 of file Lgm_Sgp.h.

4.25.1.12 #define SGP_S 1.01222928

Definition at line 176 of file Lgm_Sgp.h.

4.25.1.13 #define SGP_TOTHR 0.66666667

Definition at line 177 of file Lgm_Sgp.h.

4.25.1.14 #define SGP_TWOPI 6.2831853

Definition at line 186 of file Lgm_Sgp.h.

4.25.1.15 #define SGP_wgs72 1

Definition at line 193 of file Lgm_Sgp.h.

4.25.1.16 #define SGP_wgs72old 0

Definition at line 192 of file Lgm_Sgp.h.

4.25.1.17 #define SGP_wgs84 2

Definition at line 194 of file Lgm_Sgp.h.

4.25.1.18 #define SGP_X3PIO2 4.71238898

Definition at line 187 of file Lgm_Sgp.h.

4.25.1.19 #define SGP_XJ3 (-0.253881e-5)

Definition at line 178 of file Lgm_Sgp.h.

4.25.1.20 #define SGP_XKE 0.743669161e-1

Definition at line 179 of file Lgm_Sgp.h.

4.25.1.21 #define SGP_XKMPER 6378.135

Definition at line 180 of file Lgm_Sgp.h.

4.25.1.22 #define SGP_XMNPDA 1440.0

Definition at line 181 of file Lgm_Sgp.h.

4.25.1.23 #define TRUE 1

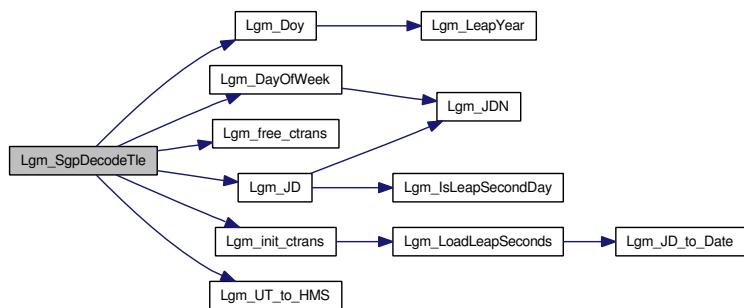
Definition at line 161 of file Lgm_Sgp.h.

4.25.2 Function Documentation

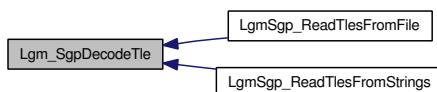
4.25.2.1 void Lgm_SgpDecodeTle (char * *Line0*, char * *Line1*, char * *Line2*, _SgpTLE * *TLE*, int *Verbosity*)

Definition at line 239 of file Lgm_Sgp.c.

Here is the call graph for this function:



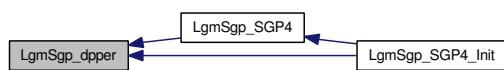
Here is the caller graph for this function:



4.25.2.2 void LgmSgp_dpper (double *inlo*, char *init*, double * *ep*, double * *inclp*, double * *nodep*, double * *argpp*, double * *mp*, _SgpInfo * *s*)

Definition at line 462 of file Lgm_Sgp.c.

Here is the caller graph for this function:



4.25.2.3 void LgmSgp_dscom (double epoch, double ep, double argpp, double tc, double inclp, double nodep, double np, double * snodm, double * cnodm, double * sinim, double * cosim, double * sinomm, double * cosomm, double * day, double * e3, double * ee2, double * em, double * emsq, double * gam, double * peo, double * pgho, double * pho, double * pinco, double * plo, double * rtemsq, double * se2, double * se3, double * sgh2, double * sgh3, double * sgh4, double * sh2, double * sh3, double * si2, double * si3, double * sl2, double * sl3, double * sl4, double * s1, double * s2, double * s3, double * s4, double * s5, double * s6, double * s7, double * ss1, double * ss2, double * ss3, double * ss4, double * ss5, double * ss6, double * ss7, double * sz1, double * sz2, double * sz3, double * sz11, double * sz12, double * sz13, double * sz21, double * sz22, double * sz23, double * sz31, double * sz32, double * sz33, double * xgh2, double * xgh3, double * xgh4, double * xh2, double * xh3, double * xi2, double * xi3, double * xl2, double * xl3, double * xl4, double * nm, double * z1, double * z2, double * z3, double * z11, double * z12, double * z13, double * z21, double * z22, double * z23, double * z31, double * z32, double * z33, double * zmol, double * zmos)

Definition at line 649 of file Lgm_Sgp.c.

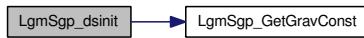
Here is the caller graph for this function:



4.25.2.4 void LgmSgp_dsinit (int whichconst, double cosim, double argpo, double s1, double s2, double s3, double s4, double s5, double sinim, double ss1, double ss2, double ss3, double ss4, double ss5, double sz1, double sz3, double sz11, double sz13, double sz21, double sz23, double sz31, double sz33, double t, double tc, double gsto, double mo, double mdot, double no, double nodeo, double nodedot, double xpidot, double z1, double z3, double z11, double z13, double z21, double z23, double z31, double z33, double ecco, double eccsq, double * em, double * argpm, double * inclm, double * mm, double * nm, double * nodem, int * irez, double * atime, double * d2201, double * d2211, double * d3210, double * d3222, double * d4410, double * d4422, double * d5220, double * d5232, double * d5421, double * d5433, double * dedit, double * didt, double * dmddt, double * dndt, double * dnodt, double * domdt, double * dell, double * del2, double * del3, double * xfact, double * xlamo, double * xli, double * xni)

Definition at line 902 of file Lgm_Sgp.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.25.2.5 void LgmSgp_dspace (double *tc*, double * *atime*, double * *em*, double * *argpm*, double * *inclm*, double * *xli*, double * *mm*, double * *xni*, double * *nodem*, double * *dndt*, double * *nm*, _SgpInfo * *s*)

Definition at line 1176 of file Lgm_Sgp.c.

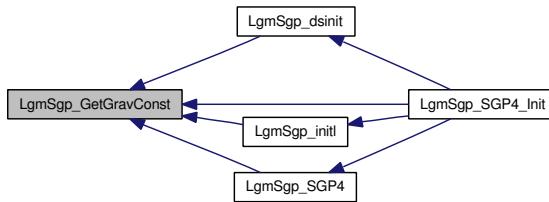
Here is the caller graph for this function:



4.25.2.6 void LgmSgp_GetGravConst (int *whichconst*, double * *tumin*, double * *radiusearthkm*, double * *xke*, double * *j2*, double * *j3*, double * *j4*, double * *j3oj2*)

Definition at line 1740 of file Lgm_Sgp.c.

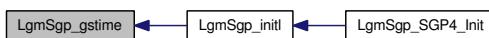
Here is the caller graph for this function:



4.25.2.7 double LgmSgp_gstime (double *jdutl*)

Definition at line 414 of file Lgm_Sgp.c.

Here is the caller graph for this function:

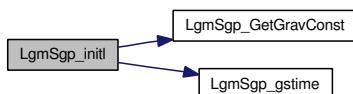


4.25.2.8 void LgmSgp_InitElements (_SgpInfo * *s*, _SgpTLE * *t*)

4.25.2.9 void LgmSgp_initl (int *satn*, int *whichconst*, double *ecco*, double *epoch*, double *inclo*, double * *no*, char * *method*, double * *ainv*, double * *ao*, double * *con41*, double * *con42*, double * *cosio*, double * *cosio2*, double * *eccsq*, double * *omeosq*, double * *posq*, double * *rp*, double * *rteosq*, double * *sinio*, double * *gsto*)

Definition at line 1365 of file Lgm_Sgp.c.

Here is the call graph for this function:



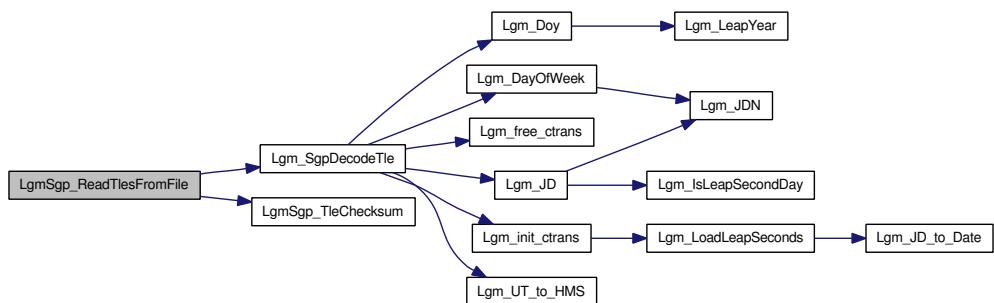
Here is the caller graph for this function:



4.25.2.10 int LgmSgp_ReadTlesFromFile (char * *Filename*, int * *nTLEs*, _SgpTLE * *TLEs*, int *Verbosity*)

Definition at line 27 of file Lgm_Sgp.c.

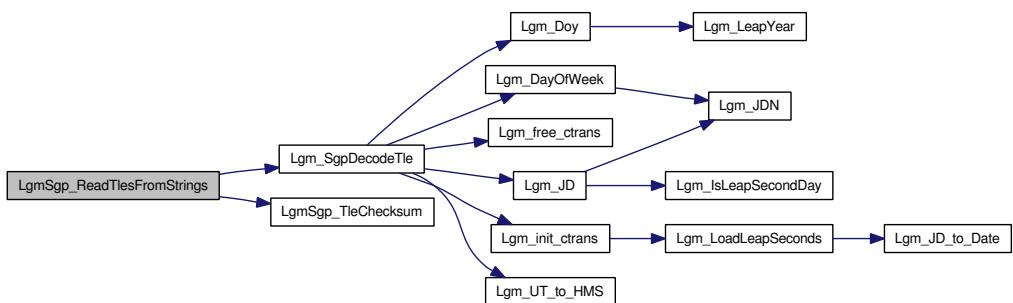
Here is the call graph for this function:



4.25.2.11 int LgmSgp_ReadTlesFromStrings (char * *Line0*, char * *Line1*, char * *Line2*, int * *nTLEs*, _SgpTLE * *TLEs*, int *Verbosity*)

Definition at line 151 of file Lgm_Sgp.c.

Here is the call graph for this function:



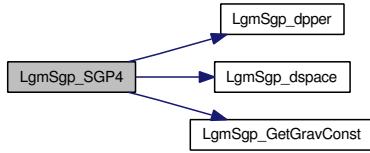
4.25.2.12 int LgmSgp_SD4_STR3 (double *TSINCE*, _SgpInfo * *s*)

4.25.2.13 int LgmSgp_SD8_STR3 (double *TSINCE*, _SgpInfo * *s*)

4.25.2.14 int LgmSgp_SGP4 (double *TSINCE*, _SgpInfo * *s*)

Definition at line 1842 of file Lgm_Sgp.c.

Here is the call graph for this function:



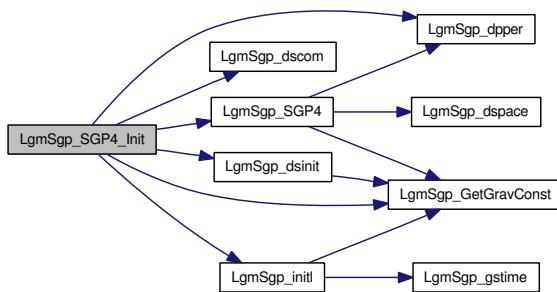
Here is the caller graph for this function:



4.25.2.15 int LgmSgp_SGP4_Init (_SgpInfo * s, _SgpTLE * t)

Definition at line 1461 of file Lgm_Sgp.c.

Here is the call graph for this function:



4.25.2.16 int LgmSgp_SGP4_STR3 (double TSINCE, _SgpInfo * s)

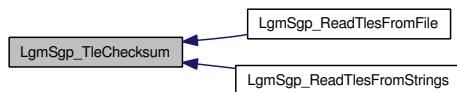
4.25.2.17 int LgmSgp_SGP8_STR3 (double TSINCE, _SgpInfo * s)

4.25.2.18 int LgmSgp_SGP_STR3 (double TSINCE, _SgpInfo * s)

4.25.2.19 int LgmSgp_TleChecksum (char * Line)

Definition at line 10 of file Lgm_Sgp.c.

Here is the caller graph for this function:



4.26 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_Vec.h File Reference

This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Lgm_Vector](#)
- struct [LgmPosition](#)

Functions

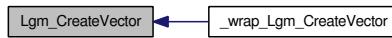
- [Lgm_Vector * Lgm_CreateVector \(double x, double y, double z\)](#)
- void [Lgm_CrossProduct \(Lgm_Vector *, Lgm_Vector *, Lgm_Vector *\)](#)
- double [Lgm_DotProduct \(Lgm_Vector *, Lgm_Vector *\)](#)
- double [Lgm_NormalizeVector \(Lgm_Vector *\)](#)
- void [Lgm_ScaleVector \(Lgm_Vector *, double\)](#)
- double [Lgm_Magnitude \(Lgm_Vector *\)](#)
- void [Lgm_ForceMagnitude \(Lgm_Vector *, double\)](#)
- void [Lgm_MatTimesVec \(double A\[3\]\[3\], Lgm_Vector *, Lgm_Vector *\)](#)
- void [Lgm_MatTimesMat \(double A\[3\]\[3\], double B\[3\]\[3\], double R\[3\]\[3\]\)](#)
- void [Lgm_VecSub \(Lgm_Vector *c, Lgm_Vector *a, Lgm_Vector *b\)](#)
- void [Lgm_VecAdd \(Lgm_Vector *c, Lgm_Vector *a, Lgm_Vector *b\)](#)
- double [Lgm_VecDiffMag \(Lgm_Vector *a, Lgm_Vector *b\)](#)
- void [Lgm_Transpose \(double A\[3\]\[3\], double B\[3\]\[3\]\)](#)

4.26.1 Function Documentation

4.26.1.1 [Lgm_Vector* Lgm_CreateVector \(double x, double y, double z\)](#)

Definition at line 7 of file [Lgm_Vec.c](#).

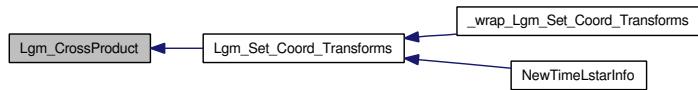
Here is the caller graph for this function:



4.26.1.2 [void Lgm_CrossProduct \(Lgm_Vector *, Lgm_Vector *, Lgm_Vector *\)](#)

Definition at line 20 of file [Lgm_Vec.c](#).

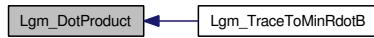
Here is the caller graph for this function:



4.26.1.3 double Lgm_DotProduct (Lgm_Vector *, Lgm_Vector *)

Definition at line 31 of file `Lgm_Vec.c`.

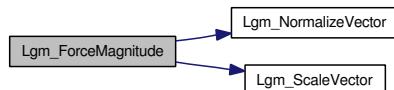
Here is the caller graph for this function:



4.26.1.4 void Lgm_ForceMagnitude (Lgm_Vector *, double)

Definition at line 108 of file `Lgm_Vec.c`.

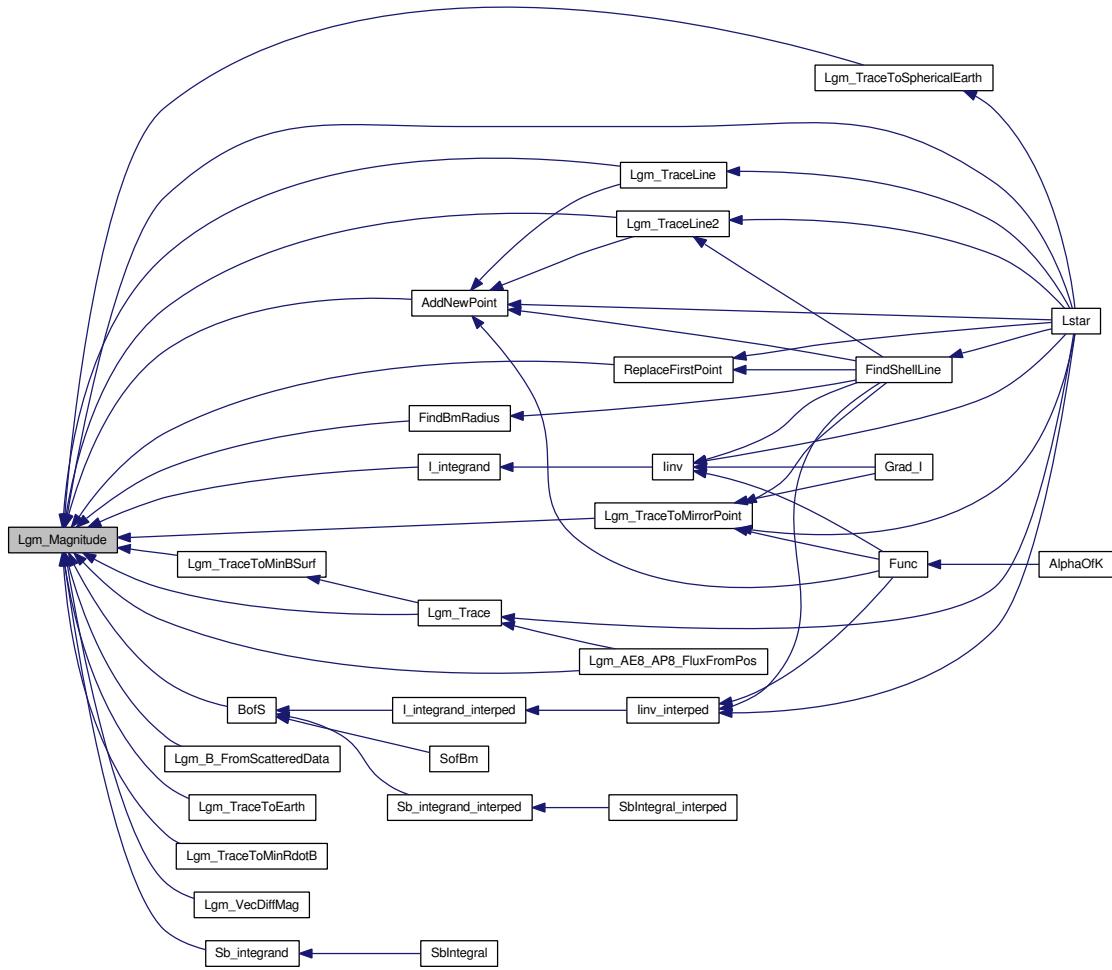
Here is the call graph for this function:



4.26.1.5 double Lgm_Magnitude (Lgm_Vector *)

Definition at line 71 of file `Lgm_Vec.c`.

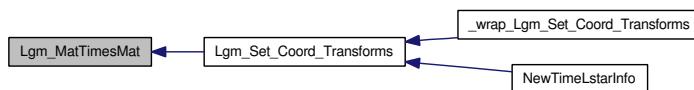
Here is the caller graph for this function:



4.26.1.6 void Lgm_MatTimesMat (double A[3][3], double B[3][3], double R[3][3])

Definition at line 148 of file `Lgm_Vec.c`.

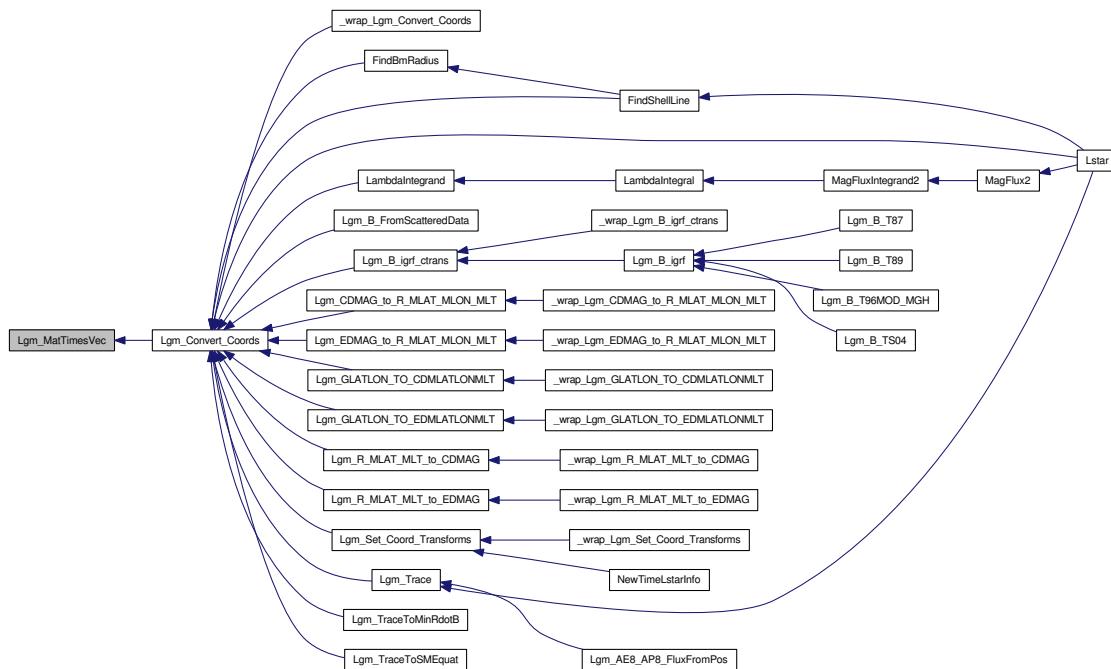
Here is the caller graph for this function:



4.26.1.7 void Lgm_MatTimesVec (double A[3][3], Lgm_Vector *, Lgm_Vector *)

Definition at line 120 of file `Lgm_Vec.c`.

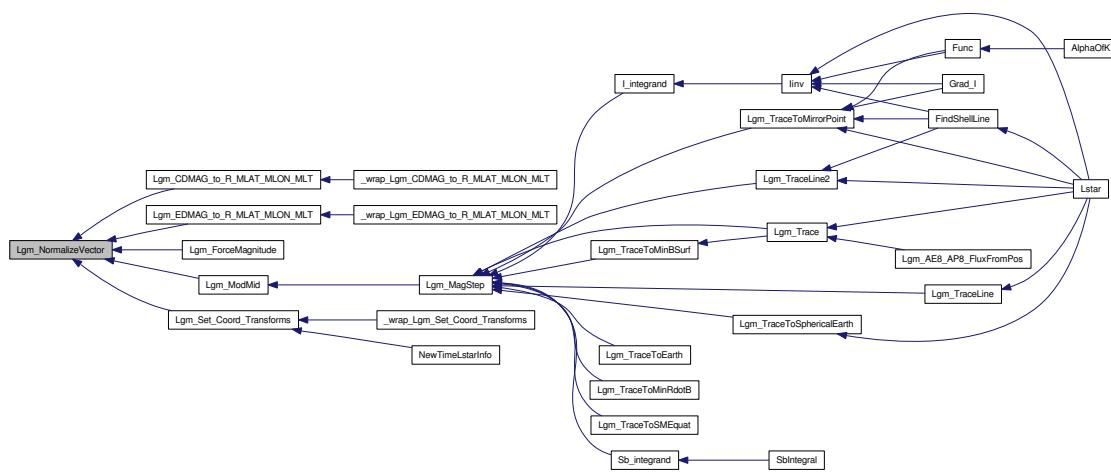
Here is the caller graph for this function:



4.26.1.8 double Lgm NormalizeVector (Lgm Vector *)

Definition at line 40 of file Lgm_Vec.c.

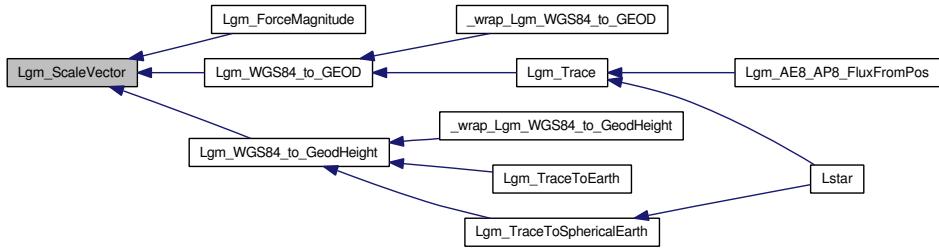
Here is the caller graph for this function:



4.26.1.9 void Lgm_ScaleVector (Lgm_Vector *, double)

Definition at line 59 of file Lgm_Vec.c.

Here is the caller graph for this function:



4.26.1.10 void Lgm_Transpose (double A[3][3], double B[3][3])

Definition at line 129 of file Lgm_Vec.c.

Here is the caller graph for this function:



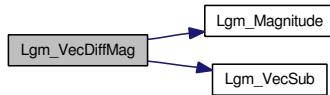
4.26.1.11 void Lgm_VecAdd (Lgm_Vector * c, Lgm_Vector * a, Lgm_Vector * b)

Definition at line 90 of file Lgm_Vec.c.

4.26.1.12 double Lgm_VecDiffMag (Lgm_Vector * a, Lgm_Vector * b)

Definition at line 99 of file Lgm_Vec.c.

Here is the call graph for this function:



4.26.1.13 void Lgm_VecSub (Lgm_Vector * c, Lgm_Vector * a, Lgm_Vector * b)

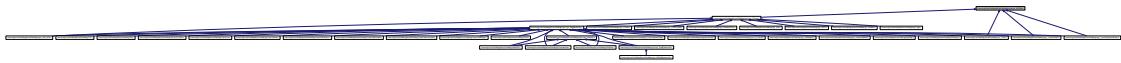
Definition at line 80 of file Lgm_Vec.c.

Here is the caller graph for this function:



4.27 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm/Lgm_WGS84.h File Reference

This graph shows which files directly or indirectly include this file:



Defines

- #define [WGS84_A](#) 6378.1370
- #define [WGS84_B](#) 6356.7523142
- #define [WGS84_F](#) 0.0033528106718309896
- #define [WGS84_FINV](#) 298.2572229328697
- #define [WGS84_E2](#) 0.00669437999014
- #define [WGS84_E](#) 0.08181919092890624
- #define [WGS84_EP2](#) 0.006739496756586903
- #define [WGS84_EP](#) 0.08209443803685366
- #define [WGS84_A2](#) 40680631.59076899
- #define [WGS84_B2](#) 40408299.98408706
- #define [WGS84_A2mB2](#) 272331.6066819355
- #define [WGS84_E4](#) 4.481472364144719e-05
- #define [WGS84_1mE2](#) 0.993305619995739

4.27.1 Define Documentation

4.27.1.1 #define WGS84_1mE2 0.993305619995739

Definition at line 18 of file Lgm_WGS84.h.

4.27.1.2 #define WGS84_A 6378.1370

Definition at line 5 of file Lgm_WGS84.h.

4.27.1.3 #define WGS84_A2 40680631.59076899

Definition at line 14 of file Lgm_WGS84.h.

4.27.1.4 #define WGS84_A2mB2 272331.6066819355

Definition at line 16 of file Lgm_WGS84.h.

4.27.1.5 #define WGS84_B 6356.7523142

Definition at line 6 of file Lgm_WGS84.h.

4.27.1.6 #define WGS84_B2 40408299.98408706

Definition at line 15 of file Lgm_WGS84.h.

4.27.1.7 #define WGS84_E 0.08181919092890624

Definition at line 11 of file Lgm_WGS84.h.

4.27.1.8 #define WGS84_E2 0.00669437999014

Definition at line 10 of file Lgm_WGS84.h.

4.27.1.9 #define WGS84_E4 4.481472364144719e-05

Definition at line 17 of file Lgm_WGS84.h.

4.27.1.10 #define WGS84_EP 0.08209443803685366

Definition at line 13 of file Lgm_WGS84.h.

4.27.1.11 #define WGS84_EP2 0.006739496756586903

Definition at line 12 of file Lgm_WGS84.h.

4.27.1.12 #define WGS84_F 0.0033528106718309896

Definition at line 7 of file Lgm_WGS84.h.

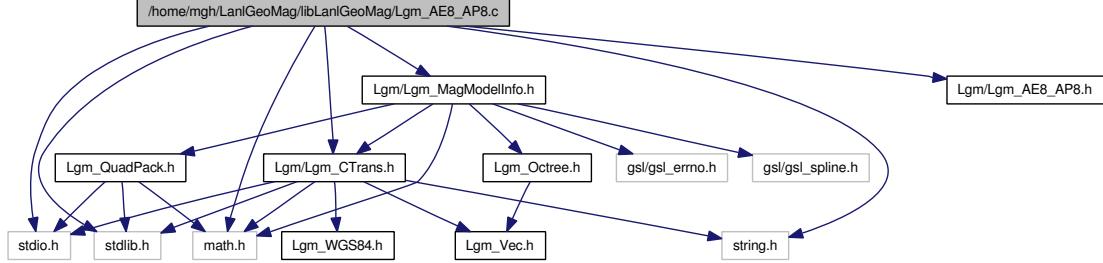
4.27.1.13 #define WGS84_FINV 298.2572229328697

Definition at line 8 of file Lgm_WGS84.h.

4.28 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_AE8_AP8.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "Lgm/Lgm_CTrans.h"
#include "Lgm/Lgm_MagModelInfo.h"
#include "Lgm/Lgm_AE8_AP8.h"
```

Include dependency graph for Lgm_AE8_AP8.c:



Defines

- #define TRUE 1
- #define FALSE 0
- #define AMIN1(a, b) ((a)<(b))?(a):(b)
- #define AMAX1(a, b) ((a)>(b))?(a):(b)

Functions

- double Lgm_AE8_AP8_Flux (double Lin, double BB0in, int MODEL, int FLUXTYPE, double E1, double E2)
- void TRARA1 (int DESCR[], int MAP[], double FL, double BB0, double E[], double F[], int N)
- double TRARA2 (int MAP[], int IL, int IB, double FSTEP)
- double Lgm_AE8_AP8_FluxFromPos (Lgm_Vector *u, int MODEL, int FLUXTYPE, double E1, double E2, Lgm_MagModelInfo *m)

4.28.1 Define Documentation

4.28.1.1 #define AMAX1(a, b) ((a)>(b))?(a):(b)

Definition at line 4996 of file Lgm_AE8_AP8.c.

4.28.1.2 #define AMIN1(a, b) ((a)<(b))?(a):(b)

Definition at line 4995 of file Lgm_AE8_AP8.c.

4.28.1.3 #define FALSE 0

Definition at line 4994 of file Lgm_AE8_AP8.c.

4.28.1.4 #define TRUE 1

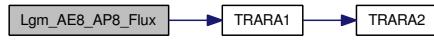
Definition at line 4993 of file Lgm_AE8_AP8.c.

4.28.2 Function Documentation

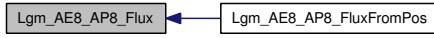
4.28.2.1 double Lgm_AE8_AP8_Flux (double *Lin*, double *BB0in*, int *MODEL*, int *FLUXTYPE*, double *E1*, double *E2*)

Definition at line 5155 of file Lgm_AE8_AP8.c.

Here is the call graph for this function:



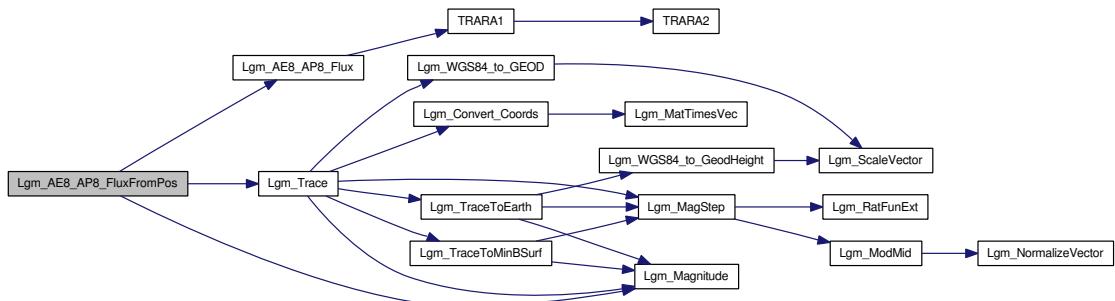
Here is the caller graph for this function:



4.28.2.2 double Lgm_AE8_AP8_FluxFromPos (Lgm_Vector * *u*, int *MODEL*, int *FLUXTYPE*, double *E1*, double *E2*, Lgm_MagModelInfo * *m*)

Definition at line 5701 of file Lgm_AE8_AP8.c.

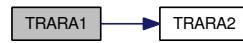
Here is the call graph for this function:



4.28.2.3 void TRARA1 (int *DESCR*[], int *MAP*[], double *FL*, double *BB0*, double *E*[], double *F*[], int *N*)

Definition at line 5357 of file Lgm_AE8_AP8.c.

Here is the call graph for this function:



Here is the caller graph for this function:

**4.28.2.4 double TRARA2 (int *MAP*[], int *IL*, int *IB*, double *FISTEP*)**

Definition at line 5464 of file Lgm_AE8_AP8.c.

Here is the caller graph for this function:

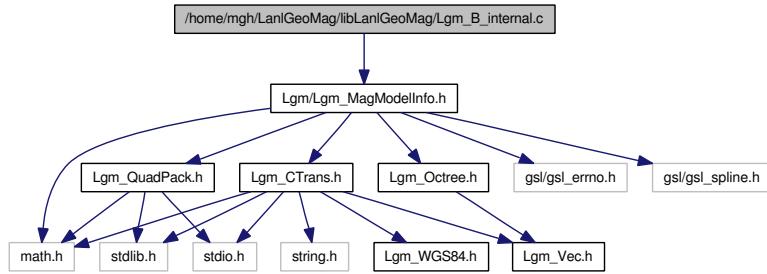


4.29 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_B_internal.c

File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
```

Include dependency graph for Lgm_B_internal.c:



Functions

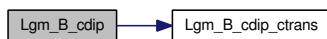
- int Lgm_B_igrf (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *MagInfo)
- int Lgm_B_cdip (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *MagInfo)
- int Lgm_B_edip (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *MagInfo)

4.29.1 Function Documentation

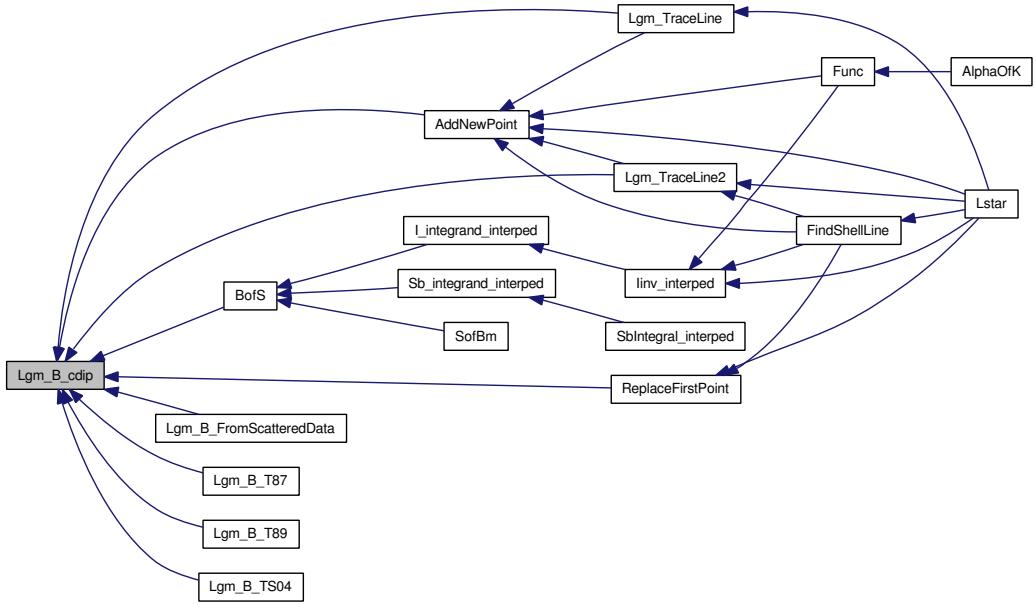
4.29.1.1 int Lgm_B_cdip (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * MagInfo)

Definition at line 8 of file Lgm_B_internal.c.

Here is the call graph for this function:



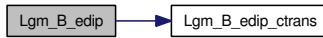
Here is the caller graph for this function:



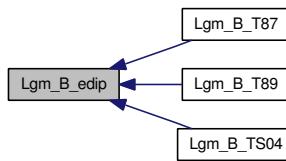
4.29.1.2 int Lgm_B_edip (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * MagInfo)

Definition at line 13 of file Lgm_B_internal.c.

Here is the call graph for this function:



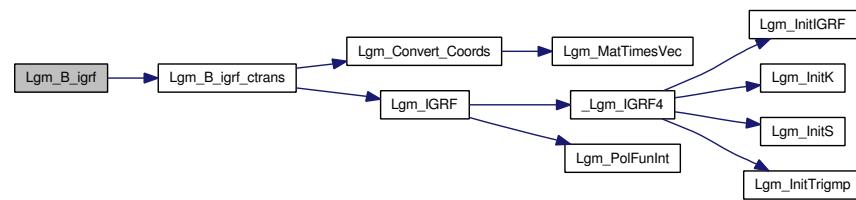
Here is the caller graph for this function:



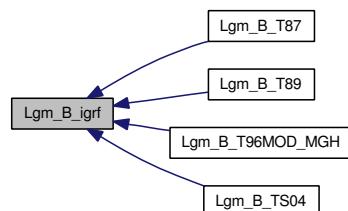
4.29.1.3 int Lgm_B_igrf (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * MagInfo)

Definition at line 3 of file Lgm_B_internal.c.

Here is the call graph for this function:



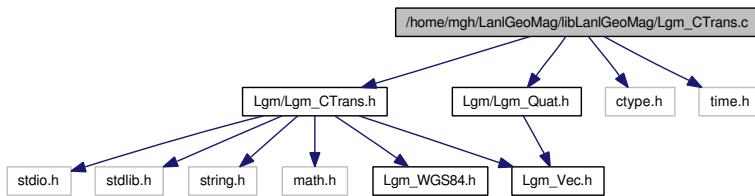
Here is the caller graph for this function:



4.30 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_CTrans.c File Reference

```
#include "Lgm/Lgm_CTrans.h"
#include "Lgm/Lgm_Quat.h"
#include <ctype.h>
#include <time.h>
```

Include dependency graph for Lgm_CTrans.c:



Defines

- #define USE_HIGH_ACCURACY_SUN 1
- #define LGM_EOP_DATA_DIR /usr/local/share/LanlGeoMag/EopData

Functions

- void [Lgm_free_ctrans](#) (Lgm_CTrans *c)
- [Lgm_CTrans * Lgm_init_ctrans](#) (int Verbose)
- [Lgm_CTrans * Lgm_CopyCTrans](#) (Lgm_CTrans *s)
- void [Lgm_Radec_to_Cart](#) (double ra, double dec, [Lgm_Vector](#) *r)
- double [Lgm_angle2pi](#) (double angle)
- double [Lgm_angle360](#) (double angle)
- long int [Lgm_JD_to_Date](#) (double jd, int *ny, int *nm, int *nd, double *UT)
- long int [Lgm_MJD_to_Date](#) (double mjd, int *ny, int *nm, int *nd, double *UT)
- double [Lgm_hour24](#) (double hour)
- double [Lgm_kepler](#) (double M, double e)
- void [Lgm_Set_Coord_Transforms](#) (long int date, double UTC, [Lgm_CTrans](#) *c)
- void [Lgm_Convert_Coords](#) ([Lgm_Vector](#) *u, [Lgm_Vector](#) *v, int flag, [Lgm_CTrans](#) *c)
- void [Lgm_GEOD_to_WGS84](#) (double GeodLat, double GeodLong, double GeodHeight, [Lgm_Vector](#) *v)
- void [Lgm_WGS84_to_GEOD](#) ([Lgm_Vector](#) *uin, double *GeodLat, double *GeodLong, double *GeodHeight)
- void [Lgm_WGS84_to_GeodHeight](#) ([Lgm_Vector](#) *uin, double *GeodHeight)
- void [Lgm_B_igrf_ctrans](#) ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_CTrans](#) *c)
- void [Lgm_B_cdip_ctrans](#) ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_CTrans](#) *c)
- void [Lgm_B_edip_ctrans](#) ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_CTrans](#) *c)
- void [Lgm_jd_to_ymdh](#) (double JD, long int *Date, int *year, int *month, int *day, double *UT)
- void [Lgm_mjd_to_ymdh](#) (double MJD, long int *Date, int *year, int *month, int *day, double *UT)
- void [Lgm_UT_to_hmsms](#) (double UT, int *Hour, int *Min, int *Sec, int *MilliSec)
- void [Lgm_UT_to_HMS](#) (double UT, int *HH, int *MM, int *SS)

- void `Lgm_UT_to_HMSd` (double UT, int *sgn, int *HH, int *MM, double *SS)
- void `Lgm_D_to_DMS` (double D, int *DD, int *MM, int *SS)
- void `Lgm_D_to_DMSd` (double D, int *sgn, int *DD, int *MM, double *SS)
- double `Lgm_GetCurrentJD` (`Lgm_CTrans` *c)
- double `Lgm_GetCurrentMJD` (`Lgm_CTrans` *c)
- void `Lgm_Print_HMS` (double d)
- void `Lgm_Print_HMSdp` (double d, int UnicodeHMS, int p)
- void `Lgm_Print_HMSd` (double d)
- void `Lgm_Print_DMS` (double d)
- void `Lgm_Print_DMSd` (double d)
- void `Lgm_CDMAG_to_R_MLAT_MLON_MLT` (`Lgm_Vector` *u, double *R, double *MLAT, double *MLON, double *MLT, `Lgm_CTrans` *c)
- void `Lgm_R_MLAT_MLT_to_CDMAG` (double R, double MLAT, double MLT, `Lgm_Vector` *u, `Lgm_CTrans` *c)
- void `Lgm_EDMAG_to_R_MLAT_MLON_MLT` (`Lgm_Vector` *u, double *R, double *MLAT, double *MLON, double *MLT, `Lgm_CTrans` *c)
- void `Lgm_R_MLAT_MLT_to_EDMAG` (double R, double MLAT, double MLT, `Lgm_Vector` *u, `Lgm_CTrans` *c)
- void `Lgm_GLATLON_TO_CDMLATLONMLT` (double GLAT, double GLON, double *MLAT, double *MLON, double *MLT, `Lgm_CTrans` *c)
- void `Lgm_GLATLON_TO_EDMLATLONMLT` (double GLAT, double GLON, double *MLAT, double *MLON, double *MLT, `Lgm_CTrans` *c)
- void `ParseTimeStr` (char *Str, int *Year, int *Month, int *Day, int *hh, int *mm, double *ss, long int *Date, double *H)
- int `MonthStrToNum` (char *str)
- char * `Lgm_StrToLower` (char *str, int nmax)
- char * `Lgm_StrToUpper` (char *str, int nmax)

4.30.1 Define Documentation

4.30.1.1 #define LGM_EOP_DATA_DIR /usr/local/share/LanlGeoMag/EopData

Definition at line 9 of file `Lgm_CTrans.c`.

4.30.1.2 #define USE_HIGH_ACCURACY_SUN 1

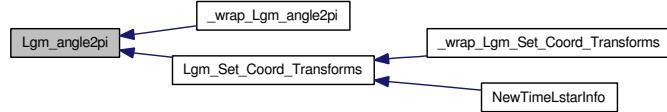
Definition at line 6 of file `Lgm_CTrans.c`.

4.30.2 Function Documentation

4.30.2.1 double `Lgm_angle2pi` (double *angle*)

Definition at line 136 of file `Lgm_CTrans.c`.

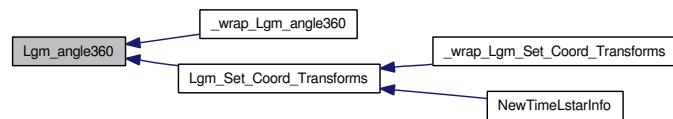
Here is the caller graph for this function:



4.30.2.2 double Lgm_angle360 (double angle)

Definition at line 153 of file Lgm_CTrans.c.

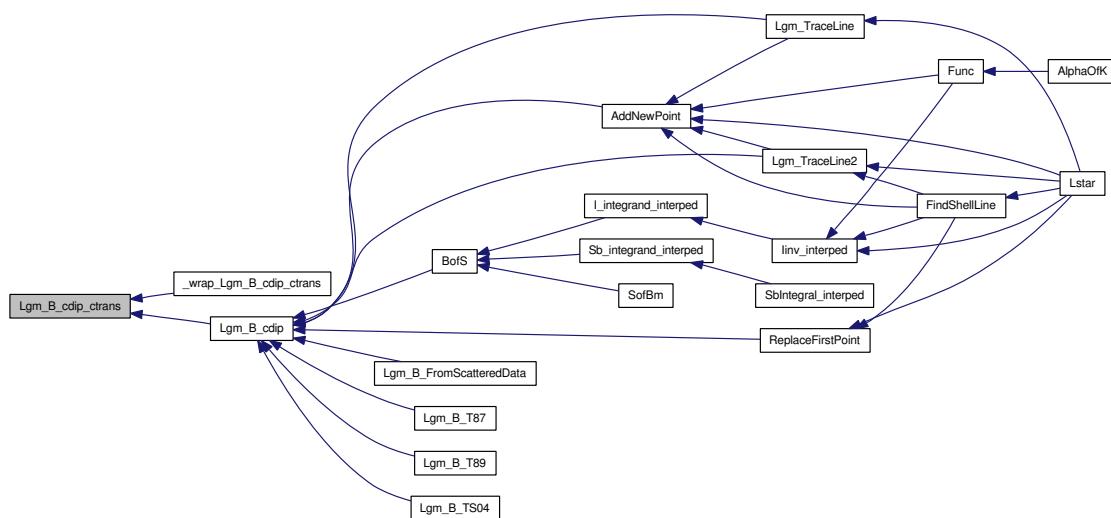
Here is the caller graph for this function:



4.30.2.3 void Lgm_B_cdip_ctrans (Lgm_Vector * v, Lgm_Vector * B, Lgm_CTrans * c)

Definition at line 1374 of file Lgm_CTrans.c.

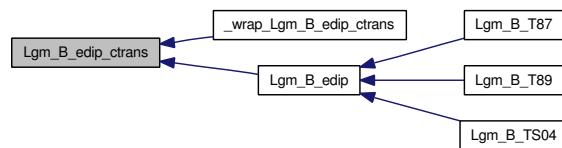
Here is the caller graph for this function:



4.30.2.4 void Lgm_B_edip_ctrans (Lgm_Vector * v, Lgm_Vector * B, Lgm_CTrans * c)

Definition at line 1435 of file Lgm_CTrans.c.

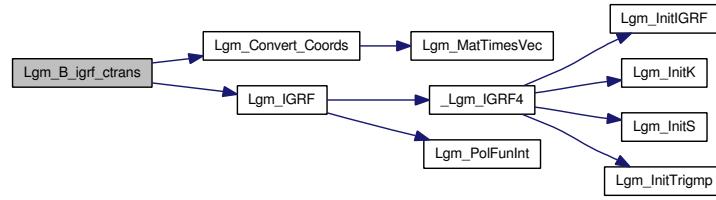
Here is the caller graph for this function:



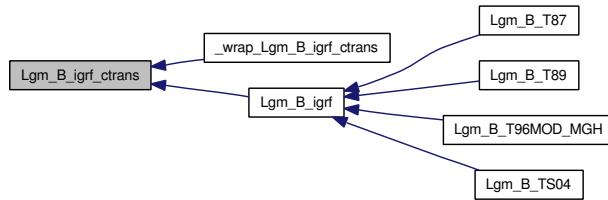
4.30.2.5 void Lgm_B_igrf_ctrans (Lgm_Vector * v , Lgm_Vector * B , Lgm_CTrans * c)

Definition at line 1322 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



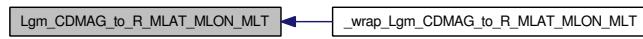
4.30.2.6 void Lgm_CDMAG_to_R_MLAT_MLON_MLT (Lgm_Vector * u , double * R , double * $MLAT$, double * $MLON$, double * MLT , Lgm_CTrans * c)

Definition at line 1827 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



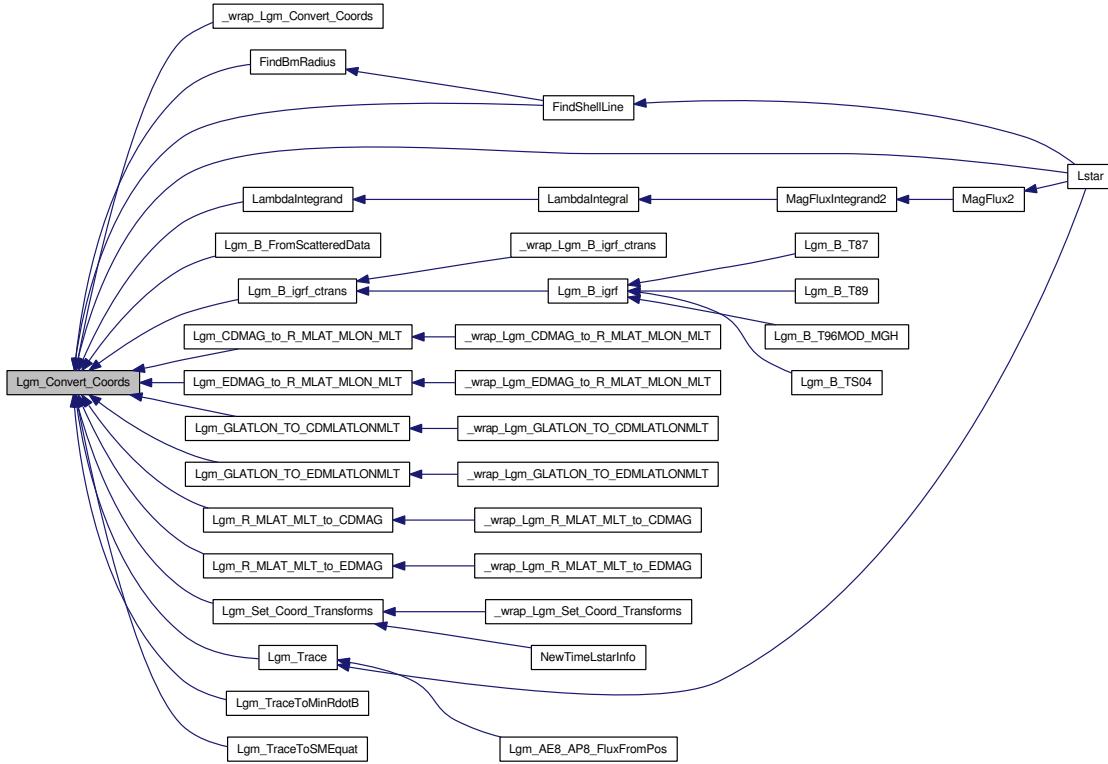
4.30.2.7 void Lgm_Convert_Coords (Lgm_Vector * u , Lgm_Vector * v , int $flag$, Lgm_CTrans * c)

Definition at line 1086 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.30.2.8 Lgm_CTrans* Lgm_CopyCTrans (Lgm_CTrans * s)

The `Lgm_CTrans` structure has pointers in it, so simple assignments (e.g. `*t = *s`) are dangerous. Here we make sure that the target gets an independent copy of the structure.

Definition at line 68 of file `Lgm_CTrans.c`.

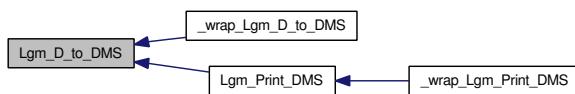
Here is the caller graph for this function:



4.30.2.9 void Lgm_D_to_DMS (double D, int * DD, int * MM, int * SS)

Definition at line 1645 of file `Lgm_CTrans.c`.

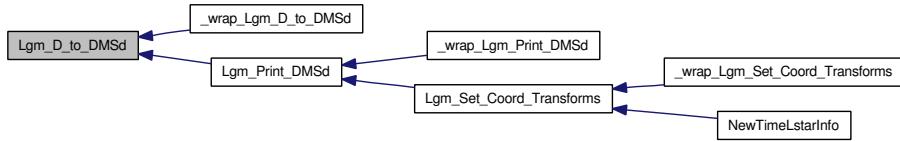
Here is the caller graph for this function:



4.30.2.10 void Lgm_D_to_DMSd (double D , int * sgn , int * DD , int * MM , double * SS)

Definition at line 1681 of file Lgm_CTrans.c.

Here is the caller graph for this function:



4.30.2.11 void Lgm_EDMAG_to_R_MLAT_MLON_MLT (Lgm_Vector * u , double * R , double * $MLAT$, double * $MLON$, double * MLT , Lgm_CTrans * c)

Definition at line 1889 of file Lgm_CTrans.c.

Here is the call graph for this function:



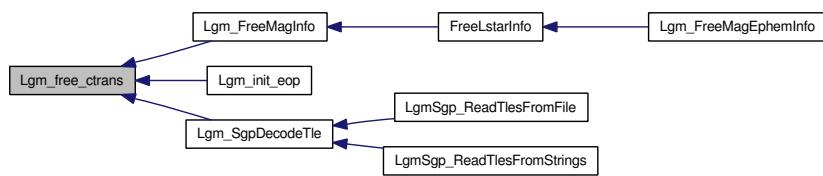
Here is the caller graph for this function:



4.30.2.12 void Lgm_free_ctrans (Lgm_CTrans * c)

Definition at line 14 of file Lgm_CTrans.c.

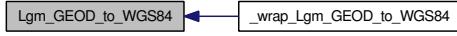
Here is the caller graph for this function:



4.30.2.13 void Lgm_GEOID_to_WGS84 (double $GeodLat$, double $GeodLong$, double $GeodHeight$, Lgm_Vector * v)

Definition at line 1233 of file Lgm_CTrans.c.

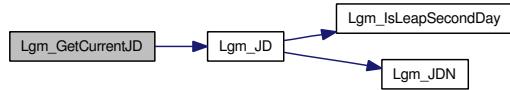
Here is the caller graph for this function:



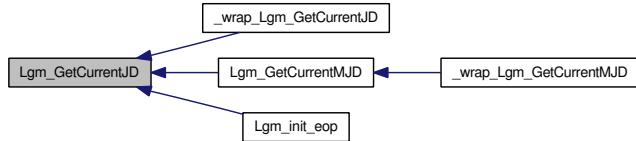
4.30.2.14 double Lgm_GetCurrentJD (Lgm_CTrans * c)

Definition at line 1699 of file Lgm_CTrans.c.

Here is the call graph for this function:



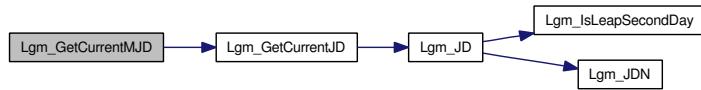
Here is the caller graph for this function:



4.30.2.15 double Lgm_GetCurrentMJD (Lgm_CTrans * c)

Definition at line 1715 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



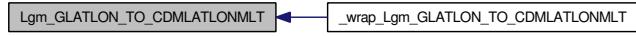
4.30.2.16 void Lgm_GLATLON_TO_CDMLATLONMLT (double GLAT, double GLON, double * MLAT, double * MLON, double * MLT, Lgm_CTrans * c)

Definition at line 1948 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



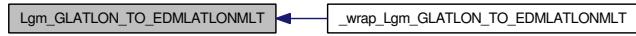
4.30.2.17 void Lgm_GLATLON_TO_EDMLATLONMLT (double *GLAT*, double *GLON*, double * *MLAT*, double * *MLon*, double * *MLT*, Lgm_CTrans * *c*)

Definition at line 1981 of file Lgm_CTrans.c.

Here is the call graph for this function:



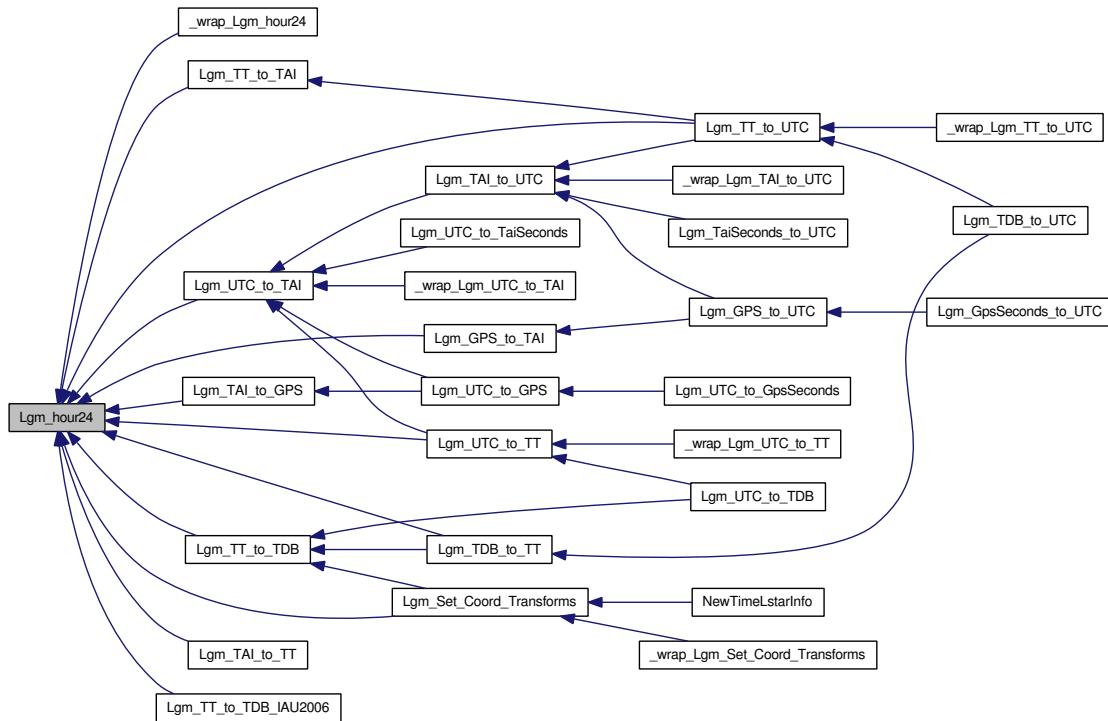
Here is the caller graph for this function:



4.30.2.18 double Lgm_hour24 (double *hour*)

Definition at line 227 of file Lgm_CTrans.c.

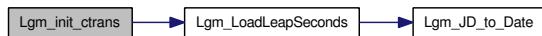
Here is the caller graph for this function:



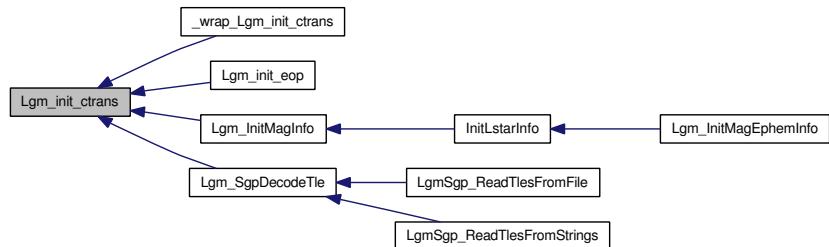
4.30.2.19 Lgm_CTrans* Lgm_init_ctrans (int Verbose)

Definition at line 27 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:

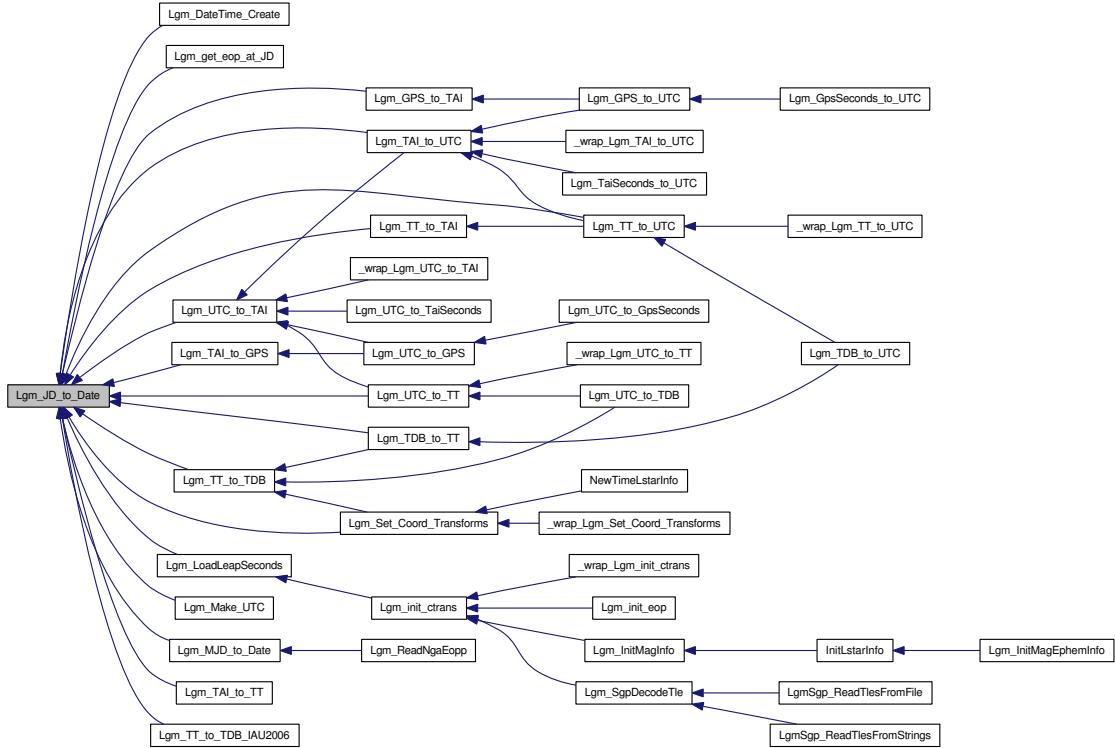


4.30.2.20 long int Lgm_JD_to_Date (double jd, int *ny, int *nm, int *nd, double *UT)

Compute the Julian Day number for the given date. Julian Date is the number of days since noon of Jan 1 4713 B.C.

Definition at line 175 of file Lgm_CTrans.c.

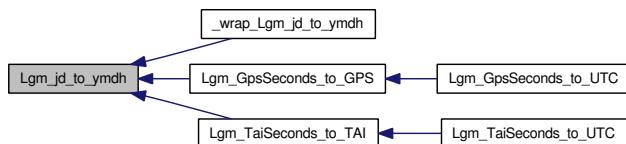
Here is the caller graph for this function:



4.30.2.21 void Lgm_jd_to_ymdh (double JD, long int * Date, int * year, int * month, int * day, double * UT)

Definition at line 1509 of file Lgm_CTrans.c.

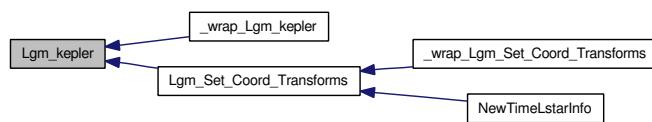
Here is the caller graph for this function:



4.30.2.22 double Lgm_kepler (double M, double e)

Definition at line 241 of file Lgm_CTrans.c.

Here is the caller graph for this function:



4.30.2.23 long int Lgm_MJD_to_Date (double *mjd*, int * *ny*, int * *nm*, int * *nd*, double * *UT*)

Definition at line 223 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



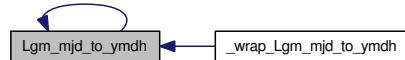
4.30.2.24 void Lgm_mjd_to_ymdh (double *MJD*, long int * *Date*, int * *year*, int * *month*, int * *day*, double * *UT*)

Definition at line 1551 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.30.2.25 void Lgm_Print_DMS (double *d*)

Definition at line 1802 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



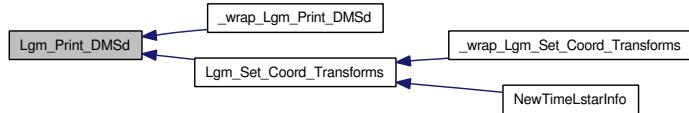
4.30.2.26 void Lgm_Print_DMSd (double d)

Definition at line 1810 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



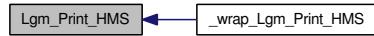
4.30.2.27 void Lgm_Print_HMS (double d)

Definition at line 1721 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



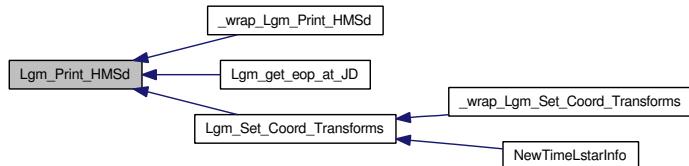
4.30.2.28 void Lgm_Print_HMSd (double d)

Definition at line 1786 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.30.2.29 void Lgm_Print_HMSdp (double d , int $UnicodeHMS$, int p)

Definition at line 1737 of file Lgm_CTrans.c.

Here is the call graph for this function:



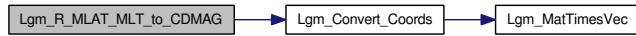
Here is the caller graph for this function:



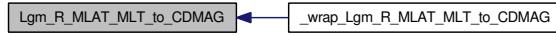
4.30.2.30 void Lgm_R_MLAT_MLT_to_CDMAG (double R , double $MLAT$, double MLT , Lgm_Vector * u , Lgm_CTrans * c)

Definition at line 1861 of file Lgm_CTrans.c.

Here is the call graph for this function:



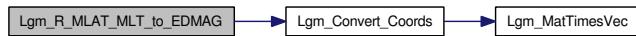
Here is the caller graph for this function:



4.30.2.31 void Lgm_R_MLAT_MLT_to_EDMAG (double R , double $MLAT$, double MLT , Lgm_Vector * u , Lgm_CTrans * c)

Definition at line 1920 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.30.2.32 void Lgm_Radec_to_Cart (double *ra*, double *dec*, Lgm_Vector * *r*)

Converts RA and DEC to unit vector in cartesian coords

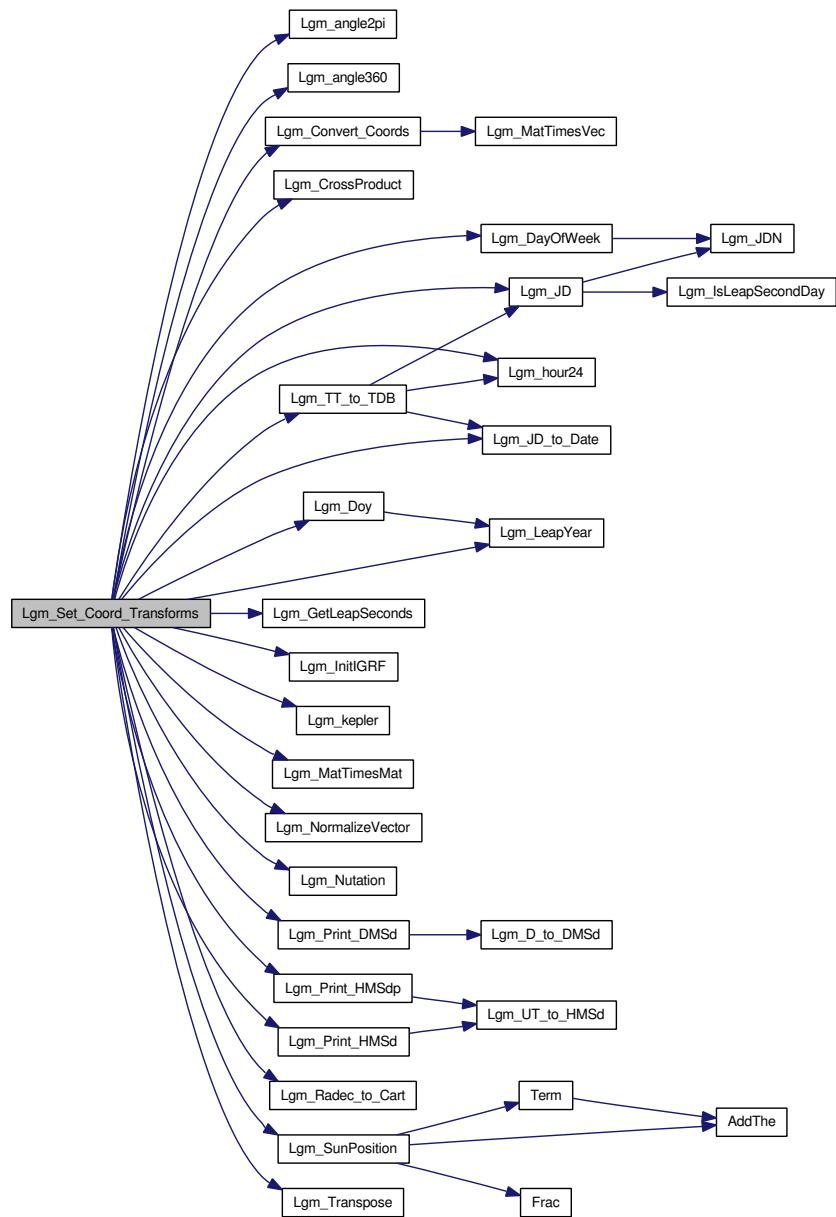
Definition at line 114 of file Lgm_CTrans.c.

Here is the caller graph for this function:

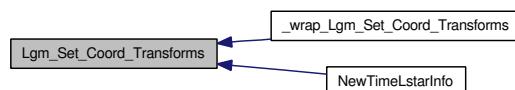
**4.30.2.33 void Lgm_Set_Coord_Transforms (long int *date*, double *UTC*, Lgm_CTrans * *c*)**

Definition at line 264 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.30.2.34 `char* Lgm_StrToLower (char * str, int nmax)`

Definition at line 2041 of file Lgm_CTrans.c.

Here is the caller graph for this function:



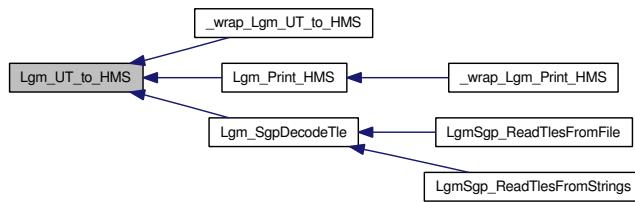
4.30.2.35 `char* Lgm_StrToUpper (char * str, int nmax)`

Definition at line 2052 of file Lgm_CTrans.c.

4.30.2.36 `void Lgm_UT_to_HMS (double UT, int * HH, int * MM, int * SS)`

Definition at line 1587 of file Lgm_CTrans.c.

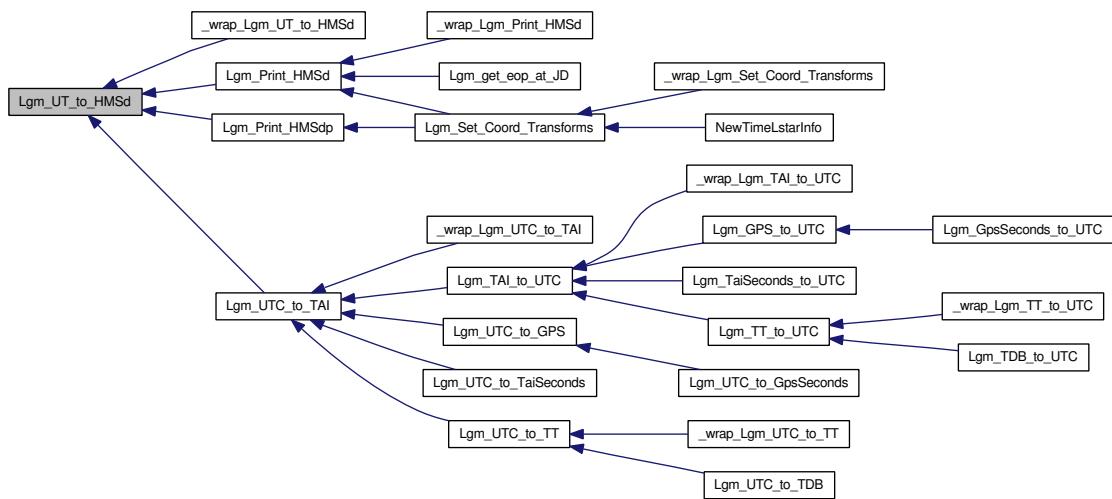
Here is the caller graph for this function:



4.30.2.37 `void Lgm_UT_to_HMSd (double UT, int * sgn, int * HH, int * MM, double * SS)`

Definition at line 1609 of file Lgm_CTrans.c.

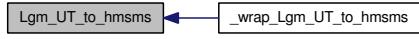
Here is the caller graph for this function:



4.30.2.38 void Lgm_UT_to_hmsms (double *UT*, int * *Hour*, int * *Min*, int * *Sec*, int * *MilliSec*)

Definition at line 1560 of file Lgm_CTrans.c.

Here is the caller graph for this function:



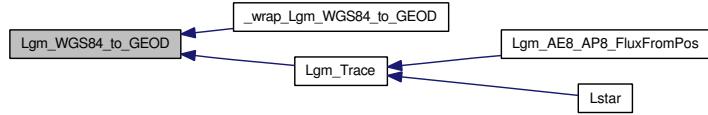
4.30.2.39 void Lgm_WGS84_to_GEOD (Lgm_Vector * *uin*, double * *GeodLat*, double * *GeodLong*, double * *GeodHeight*)

Definition at line 1251 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



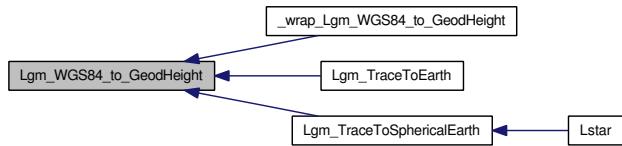
4.30.2.40 void Lgm_WGS84_to_GeodHeight (Lgm_Vector * *uin*, double * *GeodHeight*)

Definition at line 1285 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



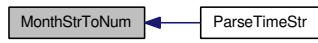
4.30.2.41 int MonthStrToNum (char * *str*)

Definition at line 2023 of file Lgm_CTrans.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.30.2.42 void ParseTimeStr (char * *Str*, int * *Year*, int * *Month*, int * *Day*, int * *hh*, int * *mm*, double * *ss*, long int * *Date*, double * *H*)

Definition at line 2012 of file Lgm_CTrans.c.

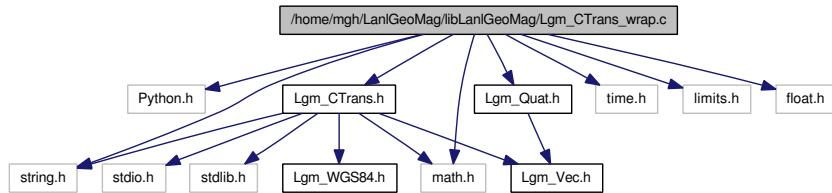
Here is the call graph for this function:



4.31 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_CTrans_wrap.c File Reference

```
#include <Python.h>
#include <string.h>
#include "Lgm_CTrans.h"
#include "Lgm_Quat.h"
#include <time.h>
#include <limits.h>
#include <float.h>
#include <math.h>
```

Include dependency graph for Lgm_CTrans_wrap.c:



Data Structures

- struct [swig_type_info](#)
- struct [swig_cast_info](#)
- struct [swig_module_info](#)
- struct [swig_const_info](#)
- struct [PySwigClientData](#)
- struct [PySwigObject](#)
- struct [PySwigPacked](#)
- struct [swig_globalvar](#)
- struct [swig_varlinkobject](#)

Defines

- #define [SWIGPYTHON](#)
- #define [SWIG_PYTHON_DIRECTOR_NO_VTABLE](#)
- #define [SWIGTEMPLATEDISAMBIGUATOR](#)
- #define [SWIGINLINE](#)
- #define [SWIGUNUSED](#)
- #define [SWIGUNUSEDPARM\(p\)](#) p SWIGUNUSED
- #define [SWIGINTERN](#) static SWIGUNUSED
- #define [SWIGINTERNINLINE](#) SWIGINTERN SWIGINLINE
- #define [SWIGEXPORT](#)
- #define [SWIGSTDCALL](#)
- #define [SWIG_RUNTIME_VERSION](#) "4"

- #define **SWIG_TYPE_TABLE_NAME**
- #define **SWIGRUNTIME** SWIGINTERN
- #define **SWIGRUNTIMEINLINE** SWIGRUNTIME SWIGINLINE
- #define **SWIG_BUFFER_SIZE** 1024
- #define **SWIG_POINTER_DISOWN** 0x1
- #define **SWIG_CAST_NEW_MEMORY** 0x2
- #define **SWIG_POINTER_OWN** 0x1
- #define **SWIG_OK** (0)
- #define **SWIG_ERROR** (-1)
- #define **SWIG_IsOK**(r) (r >= 0)
- #define **SWIG_ArgError**(r) ((r != SWIG_ERROR) ? r : SWIG_TypeError)
- #define **SWIG_CASTRANKLIMIT** (1 << 8)
- #define **SWIG_NEWOBJMASK** (SWIG_CASTRANKLIMIT << 1)
- #define **SWIG_TMPOBJMASK** (SWIG_NEWOBJMASK << 1)
- #define **SWIG_BADOBJ** (SWIG_ERROR)
- #define **SWIG_OLDOBJ** (SWIG_OK)
- #define **SWIG_NEWOBJ** (SWIG_OK | SWIG_NEWOBJMASK)
- #define **SWIG_TMPOBJ** (SWIG_OK | SWIG_TMPOBJMASK)
- #define **SWIG_AddNewMask**(r) (SWIG_IsOK(r) ? (r | SWIG_NEWOBJMASK) : r)
- #define **SWIG_DelNewMask**(r) (SWIG_IsOK(r) ? (r & ~SWIG_NEWOBJMASK) : r)
- #define **SWIG_IsNewObj**(r) (SWIG_IsOK(r) && (r & SWIG_NEWOBJMASK))
- #define **SWIG_AddTmpMask**(r) (SWIG_IsOK(r) ? (r | SWIG_TMPOBJMASK) : r)
- #define **SWIG_DelTmpMask**(r) (SWIG_IsOK(r) ? (r & ~SWIG_TMPOBJMASK) : r)
- #define **SWIG_IsTmpObj**(r) (SWIG_IsOK(r) && (r & SWIG_TMPOBJMASK))
- #define **SWIG_AddCast**
- #define **SWIG_CheckState**(r) (SWIG_IsOK(r) ? 1 : 0)
- #define **SWIG_TypeCheck_Template**(comparison, ty)
- #define **SWIG_UnknownError** -1
- #define **SWIG_IOError** -2
- #define **SWIG_RuntimeError** -3
- #define **SWIG_IndexError** -4
- #define **SWIG_TypeError** -5
- #define **SWIG_DivisionByZero** -6
- #define **SWIG_OverflowError** -7
- #define **SWIG_SyntaxError** -8
- #define **SWIG_ValueError** -9
- #define **SWIG_SystemError** -10
- #define **SWIG_AttributeError** -11
- #define **SWIG_MemoryError** -12
- #define **SWIG_NullReferenceError** -13
- #define **PyOS_snprintf** snprintf
- #define **SWIG_PYBUFFER_SIZE** 1024
- #define **PyObject_Del**(op) PyMem_DEL((op))
- #define **PyObject_DEL** PyObject_Del
- #define **PyExc_StopIteration** PyExc_RuntimeError
- #define **PyObject_GenericGetAttr** 0
- #define **Py_NotImplemented** PyExc_RuntimeError
- #define **PyString_AsStringAndSize**(obj, s, len) {*s = PyString_AsString(obj); *len = *s ? strlen(*s) : 0;}
- #define **PySequence_Size** PySequence_Length

```
• #define PY_SSIZE_T_MAX INT_MAX
• #define PY_SSIZE_T_MIN INT_MIN
• #define SWIG_PYTHON_INITIALIZE_THREADS
• #define SWIG_PYTHON_THREAD_BEGIN_BLOCK
• #define SWIG_PYTHON_THREAD_END_BLOCK
• #define SWIG_PYTHON_THREAD_BEGIN_ALLOW
• #define SWIG_PYTHON_THREAD_END_ALLOW
• #define SWIG_PY_POINTER 4
• #define SWIG_PY_BINARY 5
• #define SWIG_Python_ConvertPtr(obj, pptr, type, flags) SWIG_Python_ConvertPtrAndOwn(obj,
pptr, type, flags, 0)
• #define SWIG_ConvertPtr(obj, pptr, type, flags) SWIG_Python_ConvertPtr(obj, pptr, type, flags)
• #define SWIG_ConvertPtrAndOwn(obj, pptr, type, flags, own) SWIG_Python_-
ConvertPtrAndOwn(obj, pptr, type, flags, own)
• #define SWIG_NewPointerObj(ptr, type, flags) SWIG_Python_NewPointerObj(ptr, type, flags)
• #define SWIG_CheckImplicit(ty) SWIG_Python_CheckImplicit(ty)
• #define SWIG_AcquirePtr(ptr, src) SWIG_Python_AcquirePtr(ptr, src)
• #define swig_owntype int
• #define SWIG_ConvertPacked(obj, ptr, sz, ty) SWIG_Python_ConvertPacked(obj, ptr, sz, ty)
• #define SWIG_NewPackedObj(ptr, sz, type) SWIG_Python_NewPackedObj(ptr, sz, type)
• #define SWIG_ConvertInstance(obj, pptr, type, flags) SWIG_ConvertPtr(obj, pptr, type, flags)
• #define SWIG_NewInstanceObj(ptr, type, flags) SWIG_NewPointerObj(ptr, type, flags)
• #define SWIG_ConvertFunctionPtr(obj, pptr, type) SWIG_Python_ConvertFunctionPtr(obj, pptr,
type)
• #define SWIG_NewFunctionPtrObj(ptr, type) SWIG_Python_NewPointerObj(ptr, type, 0)
• #define SWIG_ConvertMember(obj, ptr, sz, ty) SWIG_Python_ConvertPacked(obj, ptr, sz, ty)
• #define SWIG_NewMemberObj(ptr, sz, type) SWIG_Python_NewPackedObj(ptr, sz, type)
• #define SWIG_GetModule(clientdata) SWIG_Python_GetModule()
• #define SWIG_SetModule(clientdata, pointer) SWIG_Python_SetModule(pointer)
• #define SWIG_NewClientData(obj) PySwigClientData_New(obj)
• #define SWIG_SetErrorObj SWIG_Python_SetErrorObj
• #define SWIG_SetErrorMsg SWIG_Python_SetErrorMsg
• #define SWIG_ErrorType(code) SWIG_Python_ErrorType(code)
• #define SWIG_Error(code, msg) SWIG_Python_SetErrorMsg(SWIG_ErrorType(code), msg)
• #define SWIG_fail goto fail
• #define SWIG_Python_Raise(obj, type, desc) SWIG_Python_SetErrorObj(SWIG_Python_-
ExceptionType(desc), obj)
• #define SWIG_Python_CallFunctor(functor, obj) PyObject_CallFunction(functor, "O", obj);
• #define SWIG_STATIC_POINTER(var) var = 0; if (!var) var
• #define SWIG_POINTER_NOSHADOW (SWIG_POINTER_OWN << 1)
• #define SWIG_POINTER_NEW (SWIG_POINTER_NOSHADOW | SWIG_POINTER_OWN)
• #define SWIG_POINTER_IMPLICIT_CONV (SWIG_POINTER_DISOWN << 1)
• #define SWIG_POINTER_EXCEPTION 0
• #define SWIG_arg_fail(arg) SWIG_Python_ArgFail(arg)
• #define SWIG_MustGetPtr(p, type, argnum, flags) SWIG_Python_MustGetPtr(p, type, argnum,
flags)
• #define SWIG_exception_fail(code, msg) do { SWIG_Error(code, msg); SWIG_fail; } while(0)
• #define SWIG_contract_assert(expr, msg) if (!expr) { SWIG_Error(SWIG_RuntimeError, msg);
SWIG_fail; } else
• #define SWIGTYPE_p_Lgm_CTrans swig_types[0]
```

- #define **SWIGTYPE_p_Lgm_Vector** swig_types[1]
- #define **SWIGTYPE_p_a_13_double** swig_types[2]
- #define **SWIGTYPE_p_a_3_double** swig_types[3]
- #define **SWIGTYPE_p_char** swig_types[4]
- #define **SWIGTYPE_p_double** swig_types[5]
- #define **SWIGTYPE_p_int** swig_types[6]
- #define **SWIGTYPE_p_long** swig_types[7]
- #define **SWIG_TypeQuery**(name) SWIG_TypeQueryModule(&swig_module, &swig_module, name)
- #define **SWIG_MangledTypeQuery**(name) SWIG_MangledTypeQueryModule(&swig_module, &swig_module, name)
- #define **SWIG_init** init_Lgm_CTrans
- #define **SWIG_name** "_Lgm_CTrans"
- #define **SWIGVERSION** 0x010336
- #define **SWIG_VERSION** SWIGVERSION
- #define **SWIG_as_voidptr**(a) (void *)((const void *)(a))
- #define **SWIG_as_voidptrptr**(a) ((void)SWIG_as_voidptr(*a),(void**)(a))
- #define **USE_HIGH_ACCURACY_SUN** 1
- #define **LGM_EOP_DATA_DIR** /home/mgh/DREAM/Dream/libLanlGeoMag/EopData
- #define **SWIG_From_long** PyInt_FromLong
- #define **SWIG_From_double** PyFloat_FromDouble
- #define **SWIG_newvarlink**() SWIG_Python_newvarlink()
- #define **SWIG_addvarlink**(p, name, get_attr, set_attr) SWIG_Python_addvarlink(p, name, get_attr, set_attr)
- #define **SWIG_InstallConstants**(d, constants) SWIG_Python_InstallConstants(d, constants)

Typedefs

- typedef void *(***swig_converter_func**) (void *, int *)
- typedef struct **swig_type_info** *(***swig_dycast_func**) (void **)
- typedef int **Py_ssize_t**

Functions

- SWIGRUNTIME int **SWIG_TypeNameComp** (const char *f1, const char *l1, const char *f2, const char *l2)
- SWIGRUNTIME int **SWIG_TypeEquiv** (const char *nb, const char *tb)
- SWIGRUNTIME int **SWIG_TypeCompare** (const char *nb, const char *tb)
- SWIGRUNTIME **swig_cast_info** * **SWIG_TypeCheck** (const char *c, **swig_type_info** *ty)
- SWIGRUNTIME **swig_cast_info** * **SWIG_TypeCheckStruct** (**swig_type_info** *from, **swig_type_info** *into)
- SWIGRUNTIMEINLINE void * **SWIG_TypeCast** (**swig_cast_info** *ty, void *ptr, int *newmemory)
- SWIGRUNTIME **swig_type_info** * **SWIG_TypeDynamicCast** (**swig_type_info** *ty, void **ptr)
- SWIGRUNTIMEINLINE const char * **SWIG_TypeName** (const **swig_type_info** *ty)
- SWIGRUNTIME const char * **SWIG_TypePrettyName** (const **swig_type_info** *type)
- SWIGRUNTIME void **SWIG_TypeClientData** (**swig_type_info** *ti, void *clientdata)
- SWIGRUNTIME void **SWIG_TypeNewClientData** (**swig_type_info** *ti, void *clientdata)
- SWIGRUNTIME **swig_type_info** * **SWIG_MangledTypeQueryModule** (**swig_module_info** *start, **swig_module_info** *end, const char *name)

- SWIGRUNTIME `swig_type_info * SWIG_TypeQueryModule (swig_module_info *start, swig_module_info *end, const char *name)`
- SWIGRUNTIME `char * SWIG_PackData (char *c, void *ptr, size_t sz)`
- SWIGRUNTIME `const char * SWIG_UnpackData (const char *c, void *ptr, size_t sz)`
- SWIGRUNTIME `char * SWIG_PackVoidPtr (char *buff, void *ptr, const char *name, size_t bsz)`
- SWIGRUNTIME `const char * SWIG_UnpackVoidPtr (const char *c, void **ptr, const char *name)`
- SWIGRUNTIME `char * SWIG_PackDataName (char *buff, void *ptr, size_t sz, const char *name, size_t bsz)`
- SWIGRUNTIME `const char * SWIG_UnpackDataName (const char *c, void *ptr, size_t sz, const char *name)`
- SWIGRUNTIME `PyObject * SWIG_Python_ErrorType (int code)`
- SWIGRUNTIME `void SWIG_Python_AddErrorMsg (const char *msg)`
- SWIGINTERN `void SWIG_Python_SetErrorObj (PyObject *errtype, PyObject *obj)`
- SWIGINTERN `void SWIG_Python_SetErrorMsg (PyObject *errtype, const char *msg)`
- SWIGINTERN `void SWIG_Python_SetConstant (PyObject *d, const char *name, PyObject *obj)`
- SWIGINTERN `PyObject * SWIG_Python_AppendOutput (PyObject *result, PyObject *obj)`
- SWIGINTERN `int SWIG_Python_UnpackTuple (PyObject *args, const char *name, Py_ssize_t min, Py_ssize_t max, PyObject **objs)`
- SWIGRUNTIMEINLINE `PyObject * SWIG_Py_Void (void)`
- SWIGRUNTIMEINLINE `int SWIG_Python_CheckImplicit (swig_type_info *ty)`
- SWIGRUNTIMEINLINE `PyObject * SWIG_Python_ExceptionType (swig_type_info *desc)`
- `PySwigClientData * PySwigClientData_New (PyObject *obj)`
- `SWIGRUNTIME void PySwigClientData_Del (PySwigClientData *data)`
- `SWIGRUNTIME PyObject * PySwigObject_long (PySwigObject *v)`
- `SWIGRUNTIME PyObject * PySwigObject_format (const char *fmt, PySwigObject *v)`
- `SWIGRUNTIME PyObject * PySwigObject_oct (PySwigObject *v)`
- `SWIGRUNTIME PyObject * PySwigObject_hex (PySwigObject *v)`
- `SWIGRUNTIME PyObject * PySwigObject_repr (PySwigObject *v, PyObject *args)`
- `SWIGRUNTIME int PySwigObject_print (PySwigObject *v, FILE *fp, int SWIGUNUSED-PARM(flags))`
- `SWIGRUNTIME PyObject * PySwigObject_str (PySwigObject *v)`
- `SWIGRUNTIME int PySwigObject_compare (PySwigObject *v, PySwigObject *w)`
- `SWIGRUNTIME PyTypeObject * _PySwigObject_type (void)`
- `SWIGRUNTIME PyTypeObject * PySwigObject_type (void)`
- `SWIGRUNTIMEINLINE int PySwigObject_Check (PyObject *op)`
- `SWIGRUNTIME PyObject * PySwigObject_New (void *ptr, swig_type_info *ty, int own)`
- `SWIGRUNTIME void PySwigObject_dealloc (PyObject *v)`
- `SWIGRUNTIME PyObject * PySwigObject_append (PyObject *v, PyObject *next)`
- `SWIGRUNTIME PyObject * PySwigObject_next (PyObject *v, PyObject *v, PyObject *SWIGUNUSEDPARM(args))`
- `SWIGINTERN PyObject * PySwigObject_disown (PyObject *v, PyObject *v, PyObject *SWIGUNUSEDPARM(args))`
- `SWIGINTERN PyObject * PySwigObject_acquire (PyObject *v, PyObject *v, PyObject *SWIGUNUSEDPARM(args))`
- `SWIGINTERN PyObject * PySwigObject_own (PyObject *v, PyObject *args)`
- `SWIGINTERN PyObject * PySwigObject_getattr (PySwigObject *sobj, char *name)`
- `SWIGRUNTIME int PySwigPacked_print (PySwigPacked *v, FILE *fp, int SWIGUNUSED-PARM(flags))`
- `SWIGRUNTIME PyObject * PySwigPacked_repr (PySwigPacked *v)`
- `SWIGRUNTIME PyObject * PySwigPacked_str (PySwigPacked *v)`
- `SWIGRUNTIME int PySwigPacked_compare (PySwigPacked *v, PySwigPacked *w)`

- SWIGRUNTIME PyTypeObject * `_PySwigPacked_type` (void)
- SWIGRUNTIME PyTypeObject * `PySwigPacked_type` (void)
- SWIGRUNTIMEINLINE int `PySwigPacked_Check` (PyObject *op)
- SWIGRUNTIME void `PySwigPacked_dealloc` (PyObject *v)
- SWIGRUNTIME PyObject * `PySwigPacked_New` (void *ptr, size_t size, `swig_type_info` *ty)
- SWIGRUNTIME `swig_type_info` * `PySwigPacked_UnpackData` (PyObject *obj, void *ptr, size_t size)
- SWIGRUNTIMEINLINE PyObject * `_SWIG_This` (void)
- SWIGRUNTIME PyObject * `SWIG_This` (void)
- SWIGRUNTIME PyObject * `SWIG_Python_GetSwigThis` (PyObject *pyobj)
- SWIGRUNTIME int `SWIG_Python_AcquirePtr` (PyObject *obj, int own)
- SWIGRUNTIME int `SWIG_Python_ConvertPtrAndOwn` (PyObject *obj, void **ptr, `swig_type_info` *ty, int flags, int *own)
- SWIGRUNTIME int `SWIG_Python_ConvertFunctionPtr` (PyObject *obj, void **ptr, `swig_type_info` *ty)
- SWIGRUNTIME int `SWIG_Python_ConvertPacked` (PyObject *obj, void *ptr, size_t sz, `swig_type_info` *ty)
- SWIGRUNTIME PyObject * `SWIG_Python_NewShadowInstance` (`PySwigClientData` *data, PyObject *swig_this)
- SWIGRUNTIME void `SWIG_Python_SetSwigThis` (PyObject *inst, PyObject *swig_this)
- SWIGINTERN PyObject * `SWIG_Python_InitShadowInstance` (PyObject *args)
- SWIGRUNTIME PyObject * `SWIG_Python_NewPointerObj` (void *ptr, `swig_type_info` *type, int flags)
- SWIGRUNTIMEINLINE PyObject * `SWIG_Python_NewPackedObj` (void *ptr, size_t sz, `swig_type_info` *type)
- SWIGRUNTIME `swig_module_info` * `SWIG_Python_GetModule` (void)
- SWIGINTERN int `PyModule_AddObject` (PyObject *m, char *name, PyObject *o)
- SWIGRUNTIME void `SWIG_Python_DestroyModule` (void *vptr)
- SWIGRUNTIME void `SWIG_Python_SetModule` (`swig_module_info` *swig_module)
- SWIGRUNTIME PyObject * `SWIG_Python_TypeCache` (void)
- SWIGRUNTIME `swig_type_info` * `SWIG_Python_TypeQuery` (const char *type)
- SWIGRUNTIME int `SWIG_Python_AddErrMesg` (const char *mesg, int infront)
- SWIGRUNTIME int `SWIG_Python_ArgFail` (int argnum)
- SWIGRUNTIMEINLINE const char * `PySwigObject_GetDesc` (PyObject *self)
- SWIGRUNTIME void `SWIG_Python_TypeError` (const char *type, PyObject *obj)
- SWIGRUNTIME void * `SWIG_Python_MustGetPtr` (PyObject *obj, `swig_type_info` *ty, int argnum, int flags)
- SWIGINTERN int `SWIG_AsVal_double` (PyObject *obj, double *val)
- SWIGINTERNINLINE int `SWIG_CanCastAsInteger` (double *d, double min, double max)
- SWIGINTERN int `SWIG_AsVal_long` (PyObject *obj, long *val)
- SWIGINTERN int `SWIG_AsVal_int` (PyObject *obj, int *val)
- SWIGINTERNINLINE PyObject * `SWIG_From_int` (int value)
- SWIGINTERN `swig_type_info` * `SWIG_pchar_descriptor` (void)
- SWIGINTERN int `SWIG_AsCharPtrAndSize` (PyObject *obj, char **cptr, size_t *psize, int *alloc)
- SWIGINTERN int `SWIG_AsCharArray` (PyObject *obj, char *val, size_t size)
- SWIGINTERNINLINE PyObject * `SWIG_FromCharPtrAndSize` (const char *carry, size_t size)
- SWIGINTERN PyObject * `_wrap_new_intp` (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * `_wrap_copy_intp` (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_delete_intp](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_intp_assign](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_intp_value](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_new_doublep](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_copy_doublep](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_delete_doublep](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_doublep_assign](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_doublep_value](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_jd_to_date](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Verbose_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Verbose_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_UT1_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_UT1_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_UTC_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_UTC_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_DUT1_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_DUT1_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_LOD_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_LOD_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_TAI_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_TAI_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_DAT_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_DAT_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_TT_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_TT_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_TDB_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_TDB_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_TCG_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_TCG_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_JD_UTC_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_JD_UTC_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_JD_UT1_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_JD_UT1_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_JD_TT_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_JD_TT_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_gmst_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_gmst_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_gast_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_gast_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_T_UT1_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_T_UT1_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_T_TT_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_T_TT_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_xp_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_xp_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_yp_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_yp_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_epsilon_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_epsilon_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_epsilon_true_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_epsilon_true_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_fYear_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_fYear_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Date_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Date_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_year_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_year_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_month_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_month_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_day_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_day_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_doy_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_doy_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dow_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dow_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dowstr_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dowstr_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_eccentricity_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_eccentricity_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_lambda_sun_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_lambda_sun_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_earth_sun_dist_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_earth_sun_dist_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_RA_sun_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_RA_sun_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_DEC_sun_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_DEC_sun_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_lambda_sun_ha_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_lambda_sun_ha_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_r_sun_ha_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_r_sun_ha_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_beta_sun_ha_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_beta_sun_ha_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_RA_sun_ha_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_RA_sun_ha_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_DEC_sun_ha_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_DEC_sun_ha_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Sun_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Sun_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_EcPole_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_EcPole_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_psi_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_psi_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_sin_psi_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_sin_psi_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_cos_psi_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_cos_psi_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_tan_psi_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_tan_psi_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_RA_moon_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_RA_moon_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_DEC_moon_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_DEC_moon_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_MoonPhase_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_MoonPhase_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_EarthMoonDistance_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_EarthMoonDistance_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_M_cd_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_M_cd_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_M_cd_McIllwain_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_M_cd_McIllwain_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_CD_gcolat_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_CD_gcolat_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_CD_glon_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_CD_glon_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_ED_x0_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_ED_x0_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_ED_y0_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_ED_y0_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_ED_z0_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_ED_z0_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Zeta_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Zeta_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Theta_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Theta_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Zee_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Zee_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_nNutationTerms_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_nNutationTerms_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dPsi_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dPsi_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dEps_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dEps_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dPsiCosEps_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dPsiCosEps_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dPsiSinEps_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dPsiSinEps_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_ddPsi_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_ddPsi_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_ddEps_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_ddEps_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_EQ_Eq_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_EQ_Eq_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_OmegaMoon_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_OmegaMoon_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dX_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dX_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dY_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_dY_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agei_to_mod_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agei_to_mod_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Amod_to_gei_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Amod_to_gei_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Amod_to_tod_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Amod_to_tod_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Atod_to_mod_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Atod_to_mod_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Ateme_to_pef_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Ateme_to_pef_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Apef_to_teme_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Apef_to_teme_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Apef_to_tod_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Apef_to_tod_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Atod_to_pef_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Atod_to_pef_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Awgs84_to_pef_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Awgs84_to_pef_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Apef_to_wgs84_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Apef_to_wgs84_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agse_to_mod_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agse_to_mod_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Amod_to_gse_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Amod_to_gse_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Asm_to_gsm_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Asm_to_gsm_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agsm_to_sm_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agsm_to_sm_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agsm_to_mod_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agsm_to_mod_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Amod_to_gsm_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Amod_to_gsm_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agsm_to_gse_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agsm_to_gse_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agse_to_gsm_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agse_to_gsm_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Awgs84_to_mod_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Awgs84_to_mod_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Amod_to_wgs84_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Amod_to_wgs84_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Awgs84_to_gei_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Awgs84_to_gei_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agei_to_wgs84_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agei_to_wgs84_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agsm_to_wgs84_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Agsm_to_wgs84_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Awgs84_to_gsm_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Awgs84_to_gsm_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Awgs84_to_cdmag_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Awgs84_to_cdmag_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Acdmag_to_wgs84_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Acdmag_to_wgs84_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_FirstCall_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_FirstCall_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_OldYear_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_OldYear_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_g_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_g_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_h_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_h_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_R_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_R_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_TwoNm1_Over_NmM_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_TwoNm1_Over_NmM_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_NpMm1_Over_NmM_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_NpMm1_Over_NmM_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_SqrtNM1_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_SqrtNM1_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_SqrtNM2_set](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CTrans_Lgm_IGRF_SqrtNM2_get](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_new_Lgm_CTrans](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_delete_Lgm_CTrans](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [Lgm_CTrans_swigregister](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_init_ctrans](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_LeapYear](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_LeapSeconds](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_UTC_to_TAI](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_TAI_to_UTC](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_UTC_to_TT](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_TT_to_UTC](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_Radec_to_Cart](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_angle2pi](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_angle360](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_jd](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_mjd](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_Lgm_date_to_jd](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_mjd_to_date](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_hour24](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_kepler](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_DayofYear](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_DayofWeek](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_Set_Coord_Transforms](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_Convert_Coords](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_IsValidDate](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_Doy](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_jd_to_ymdh](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_mjd_to_ymdh](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_UT_to_hmsms](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_UT_to_HMS](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_UT_to_HMSd](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_D_to_DMS](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_D_to_DMSd](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_Print_HMS](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_Print_HMSd](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_Print_DMS](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_Print_DMSd](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_GetCurrentJD](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_GetCurrentMJD](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_SunPosition](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_GLATLON_TO_CDMLATLONMLT](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_GLATLON_TO_EDMLATLONMLT](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_Lgm_CDMAG_to_R_MLAT_MLON_MLT](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_R_MLAT_MLT_to_CDMAG](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_EDMAG_to_R_MLAT_MLON_MLT](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_R_MLAT_MLT_to_EDMAG](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_WGS84_to_GEOD](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_WGS84_to_GeodHeight](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_GEOD_to_WGS84](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_Nutation](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_B_igrf_ctrans](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_B_cdip_ctrans](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_B_edip_ctrans](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_Factorial](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_InitIGRF](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_InitPnm](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_InitTrigmp](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_PolFunInt](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_RatFunInt](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_IGRF](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_IGRF](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_InitdPnm](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_InitSqrtFuncs](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_NormalizeQuat](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_MatrixTrace](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_MatrixToQuat](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_Quat_To_Matrix](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatToAxisAngle](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)

- SWIGINTERN PyObject * [_wrap_Lgm_AxisAngleToQuat](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatRotateVector](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatMagnitude](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatVecLength](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatVecDot](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatVecZero](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatVecSet](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatVecAdd](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatVecSub](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatVecCopy](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatVecScale](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatVecNormalize](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatVecCross](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_QuatCombineQuats](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGINTERN PyObject * [_wrap_Lgm_CreateVector](#) (PyObject *SWIGUNUSEDPARM(self), PyObject *args)
- SWIGRUNTIME void [SWIG_InitializeModule](#) (void *clientdata)
- SWIGRUNTIME void [SWIG_PropagateClientData](#) (void)
- SWIGINTERN PyObject * [swig_varlink_repr](#) (swig_varlinkobject *SWIGUNUSEDPARM(v))
- SWIGINTERN PyObject * [swig_varlink_str](#) (swig_varlinkobject *v)
- SWIGINTERN int [swig_varlink_print](#) (swig_varlinkobject *v, FILE *fp, int SWIGUNUSEDPARM(flags))
- SWIGINTERN void [swig_varlink_dealloc](#) (swig_varlinkobject *v)
- SWIGINTERN PyObject * [swig_varlink_getattr](#) (swig_varlinkobject *v, char *n)
- SWIGINTERN int [swig_varlink_setattr](#) (swig_varlinkobject *v, char *n, PyObject *p)
- SWIGINTERN PyTypeObject * [swig_varlink_type](#) (void)
- SWIGINTERN PyObject * [SWIG_Python_newvarlink](#) (void)
- SWIGINTERN void [SWIG_Python_addvarlink](#) (PyObject *p, char *name, PyObject *(*get_attr)(void), int(*set_attr)(PyObject *p))
- SWIGINTERN PyObject * [SWIG_globals](#) (void)
- SWIGINTERN void [SWIG_Python_InstallConstants](#) (PyObject *d, swig_const_info constants[])
- SWIGINTERN void [SWIG_Python_FixMethods](#) (PyMethodDef *methods, swig_const_info *const_table, swig_type_info **types, swig_type_info **types_initial)
- SWIGEXPORT void [SWIG_init](#) (void)

4.31.1 Define Documentation

4.31.1.1 #define LGM_EOP_DATA_DIR /home/mgh/DREAM/Dream/libLanlGeoMag/EopData

Definition at line 2526 of file Lgm_CTrans_wrap.c.

4.31.1.2 #define Py_NotImplemented PyExc_RuntimeError

Definition at line 762 of file Lgm_CTrans_wrap.c.

4.31.1.3 #define PY_SSIZE_T_MAX INT_MAX

Definition at line 798 of file Lgm_CTrans_wrap.c.

4.31.1.4 #define PY_SSIZE_T_MIN INT_MIN

Definition at line 799 of file Lgm_CTrans_wrap.c.

4.31.1.5 #define PyExc_StopIteration PyExc_RuntimeError

Definition at line 753 of file Lgm_CTrans_wrap.c.

4.31.1.6 #define PyObject_DEL PyObject_Del

Definition at line 747 of file Lgm_CTrans_wrap.c.

4.31.1.7 #define PyObject_Del(op) PyMem_DEL((op))

Definition at line 744 of file Lgm_CTrans_wrap.c.

4.31.1.8 #define PyObject_GenericGetAttr 0

Definition at line 756 of file Lgm_CTrans_wrap.c.

4.31.1.9 #define PyOS_snprintf snprintf

Definition at line 719 of file Lgm_CTrans_wrap.c.

4.31.1.10 #define PySequence_Size PySequence_Length

Definition at line 777 of file Lgm_CTrans_wrap.c.

**4.31.1.11 #define PyString_AsStringAndSize(obj, s, len) {*s = PyString_AsString(obj); *len = *s
? strlen(*s) : 0;}**

Definition at line 770 of file Lgm_CTrans_wrap.c.

4.31.1.12 #define SWIG_AcquirePtr(ptr, src) SWIG_Python_AcquirePtr(ptr, src)

Definition at line 996 of file Lgm_CTrans_wrap.c.

4.31.1.13 #define SWIG_AddCast

Definition at line 298 of file Lgm_CTrans_wrap.c.

4.31.1.14 #define SWIG_AddNewMask(r) (SWIG_IsOK(r) ? (r | SWIG_NEWOBJMASK) : r)

Definition at line 273 of file Lgm_CTrans_wrap.c.

4.31.1.15 #define SWIG_AddTmpMask(r) (SWIG_IsOK(r) ? (r | SWIG_TMPOBJMASK) : r)

Definition at line 276 of file Lgm_CTrans_wrap.c.

4.31.1.16 #define SWIG_addvarlink(p, name, get_attr, set_attr) SWIG_Python_addvarlink(p, name, get_attr, set_attr)

Definition at line 12855 of file Lgm_CTrans_wrap.c.

4.31.1.17 #define SWIG_arg_fail(arg) SWIG_Python_ArgFail(arg)

Definition at line 2365 of file Lgm_CTrans_wrap.c.

4.31.1.18 #define SWIG_ArgError(r) ((r != SWIG_ERROR) ? r : SWIG_TypeError)

Definition at line 259 of file Lgm_CTrans_wrap.c.

4.31.1.19 #define SWIG_as_voidptr(a) (void *)((const void *)(a))

Definition at line 2515 of file Lgm_CTrans_wrap.c.

4.31.1.20 #define SWIG_as_voidptrptr(a) ((void)SWIG_as_voidptr(*a),(void) (a))**

Definition at line 2516 of file Lgm_CTrans_wrap.c.

4.31.1.21 #define SWIG_AttributeError -11

Definition at line 707 of file Lgm_CTrans_wrap.c.

4.31.1.22 #define SWIG_BADOBJ (SWIG_ERROR)

Definition at line 268 of file Lgm_CTrans_wrap.c.

4.31.1.23 #define SWIG_BUFFER_SIZE 1024

Definition at line 165 of file Lgm_CTrans_wrap.c.

4.31.1.24 #define SWIG_CAST_NEW_MEMORY 0x2

Definition at line 170 of file Lgm_CTrans_wrap.c.

4.31.1.25 #define SWIG_CASTRANKLIMIT (1 << 8)

Definition at line 262 of file Lgm_CTrans_wrap.c.

4.31.1.26 #define SWIG_CheckImplicit(ty) SWIG_Python_CheckImplicit(ty)

Definition at line 995 of file Lgm_CTrans_wrap.c.

4.31.1.27 #define SWIG_CheckState(r) (SWIG_IsOK(r) ? 1 : 0)

Definition at line 299 of file Lgm_CTrans_wrap.c.

4.31.1.28 #define SWIG_contract_assert(expr, msg) if (!(expr)) { SWIG_Error(SWIG_RuntimeError, msg); SWIG_fail; } else

Definition at line 2477 of file Lgm_CTrans_wrap.c.

4.31.1.29 #define SWIG_ConvertFunctionPtr(obj, pptr, type) SWIG_Python_ConvertFunctionPtr(obj, pptr, type)

Definition at line 1008 of file Lgm_CTrans_wrap.c.

4.31.1.30 #define SWIG_ConvertInstance(obj, pptr, type, flags) SWIG_ConvertPtr(obj, pptr, type, flags)

Definition at line 1004 of file Lgm_CTrans_wrap.c.

4.31.1.31 #define SWIG_ConvertMember(obj, ptr, sz, ty) SWIG_Python_ConvertPacked(obj, ptr, sz, ty)

Definition at line 1012 of file Lgm_CTrans_wrap.c.

4.31.1.32 #define SWIG_ConvertPacked(obj, ptr, sz, ty) SWIG_Python_ConvertPacked(obj, ptr, sz, ty)

Definition at line 1000 of file Lgm_CTrans_wrap.c.

4.31.1.33 #define SWIG_ConvertPtr(obj, pptr, type, flags) SWIG_Python_ConvertPtr(obj, pptr, type, flags)

Definition at line 992 of file Lgm_CTrans_wrap.c.

4.31.1.34 #define SWIG_ConvertPtrAndOwn(obj, pptr, type, flags, own) SWIG_Python_ConvertPtrAndOwn(obj, pptr, type, flags, own)

Definition at line 993 of file Lgm_CTrans_wrap.c.

4.31.1.35 #define SWIG_DelNewMask(r) (SWIG_IsOK(r) ? (r & ~SWIG_NEWOBJMASK) : r)

Definition at line 274 of file Lgm_CTrans_wrap.c.

4.31.1.36 #define SWIG_DelTmpMask(r) (SWIG_IsOK(r) ? (r & ~SWIG_TMPOBJMASK) : r)

Definition at line 277 of file Lgm_CTrans_wrap.c.

4.31.1.37 #define SWIG_DivisionByZero -6

Definition at line 702 of file Lgm_CTrans_wrap.c.

4.31.1.38 #define SWIG_Error(code, msg) SWIG_Python_SetErrorMsg(SWIG_ErrorType(code), msg)

Definition at line 1025 of file Lgm_CTrans_wrap.c.

4.31.1.39 #define SWIG_ERROR (-1)

Definition at line 257 of file Lgm_CTrans_wrap.c.

4.31.1.40 #define SWIG_ErrorType(code) SWIG_Python_ErrorType(code)

Definition at line 1024 of file Lgm_CTrans_wrap.c.

4.31.1.41 #define SWIG_exception_fail(code, msg) do { SWIG_Error(code, msg); SWIG_fail; } while(0)

Definition at line 2475 of file Lgm_CTrans_wrap.c.

4.31.1.42 #define SWIG_fail goto fail

Definition at line 1026 of file Lgm_CTrans_wrap.c.

4.31.1.43 #define SWIG_From_double PyFloat_FromDouble

Definition at line 2729 of file Lgm_CTrans_wrap.c.

4.31.1.44 #define SWIG_From_long PyInt_FromLong

Definition at line 2698 of file Lgm_CTrans_wrap.c.

4.31.1.45 #define SWIG_GetModule(clientdata) SWIG_Python_GetModule()

Definition at line 1018 of file Lgm_CTrans_wrap.c.

4.31.1.46 #define SWIG_IndexError -4

Definition at line 700 of file Lgm_CTrans_wrap.c.

4.31.1.47 #define SWIG_init init_Lgm_CTrans

Definition at line 2507 of file Lgm_CTrans_wrap.c.

4.31.1.48 #define SWIG_InstallConstants(d, constants) SWIG_Python_InstallConstants(d, constants)

Definition at line 12856 of file Lgm_CTrans_wrap.c.

4.31.1.49 #define SWIG_IOError -2

Definition at line 698 of file Lgm_CTrans_wrap.c.

4.31.1.50 #define SWIG_IsNewObj(r) (SWIG_IsOK(r) && (r & SWIG_NEWOBJMASK))

Definition at line 275 of file Lgm_CTrans_wrap.c.

4.31.1.51 #define SWIG_IsOK(r) (r >= 0)

Definition at line 258 of file Lgm_CTrans_wrap.c.

4.31.1.52 #define SWIG_IsTmpObj(r) (SWIG_IsOK(r) && (r & SWIG_TMPOBJMASK))

Definition at line 278 of file Lgm_CTrans_wrap.c.

4.31.1.53 #define SWIG_MangledTypeQuery(name) SWIG_MangledTypeQueryModule(&swig_module, &swig_module, name)

Definition at line 2494 of file Lgm_CTrans_wrap.c.

4.31.1.54 #define SWIG_MemoryError -12

Definition at line 708 of file Lgm_CTrans_wrap.c.

4.31.1.55 #define SWIG_MustGetPtr(p, type, argnum, flags) SWIG_Python_MustGetPtr(p, type, argnum, flags)

Definition at line 2366 of file Lgm_CTrans_wrap.c.

4.31.1.56 #define SWIG_name "_Lgm_CTrans"

Definition at line 2509 of file Lgm_CTrans_wrap.c.

4.31.1.57 #define SWIG_NewClientData(obj) PySwigClientData_New(obj)

Definition at line 1020 of file Lgm_CTrans_wrap.c.

4.31.1.58 #define SWIG_NewFunctionPtrObj(ptr, type) SWIG_Python_NewPointerObj(ptr, type, 0)

Definition at line 1009 of file Lgm_CTrans_wrap.c.

4.31.1.59 #define SWIG_NewInstanceObj(ptr, type, flags) SWIG_NewPointerObj(ptr, type, flags)

Definition at line 1005 of file Lgm_CTrans_wrap.c.

4.31.1.60 #define SWIG_NewMemberObj(ptr, sz, type) SWIG_Python_NewPackedObj(ptr, sz, type)

Definition at line 1013 of file Lgm_CTrans_wrap.c.

4.31.1.61 #define SWIG_NEWOBJ (SWIG_OK | SWIG_NEWOBJMASK)

Definition at line 270 of file Lgm_CTrans_wrap.c.

4.31.1.62 #define SWIG_NEWOBJMASK (SWIG_CASTRANKLIMIT << 1)

Definition at line 264 of file Lgm_CTrans_wrap.c.

4.31.1.63 #define SWIG_NewPackedObj(ptr, sz, type) SWIG_Python_NewPackedObj(ptr, sz, type)

Definition at line 1001 of file Lgm_CTrans_wrap.c.

4.31.1.64 #define SWIG_NewPointerObj(ptr, type, flags) SWIG_Python_NewPointerObj(ptr, type, flags)

Definition at line 994 of file Lgm_CTrans_wrap.c.

4.31.1.65 #define SWIG_newvarlink() SWIG_Python_newvarlink()

Definition at line 12854 of file Lgm_CTrans_wrap.c.

4.31.1.66 #define SWIG_NullReferenceError -13

Definition at line 709 of file Lgm_CTrans_wrap.c.

4.31.1.67 #define SWIG_OK (0)

Definition at line 256 of file Lgm_CTrans_wrap.c.

4.31.1.68 #define SWIG_OLDOBJ (SWIG_OK)

Definition at line 269 of file Lgm_CTrans_wrap.c.

4.31.1.69 #define SWIG_OverflowError -7

Definition at line 703 of file Lgm_CTrans_wrap.c.

4.31.1.70 #define swig_owntype int

Definition at line 997 of file Lgm_CTrans_wrap.c.

4.31.1.71 #define SWIG_POINTER_DISOWN 0x1

Definition at line 169 of file Lgm_CTrans_wrap.c.

4.31.1.72 #define SWIG_POINTER_EXCEPTION 0

Definition at line 2364 of file Lgm_CTrans_wrap.c.

4.31.1.73 #define SWIG_POINTER_IMPLICIT_CONV (SWIG_POINTER_DISOWN << 1)

Definition at line 1168 of file Lgm_CTrans_wrap.c.

4.31.1.74 #define SWIG_POINTER_NEW (SWIG_POINTER_NOSHADOW | SWIG_POINTER_OWN)

Definition at line 1166 of file Lgm_CTrans_wrap.c.

4.31.1.75 #define SWIG_POINTER_NOSHADOW (SWIG_POINTER_OWN << 1)

Definition at line 1165 of file Lgm_CTrans_wrap.c.

4.31.1.76 #define SWIG_POINTER_OWN 0x1

Definition at line 173 of file Lgm_CTrans_wrap.c.

4.31.1.77 #define SWIG_PY_BINARY 5

Definition at line 956 of file Lgm_CTrans_wrap.c.

4.31.1.78 #define SWIG_PY_POINTER 4

Definition at line 955 of file Lgm_CTrans_wrap.c.

4.31.1.79 #define SWIG_PYBUFFER_SIZE 1024

Definition at line 727 of file Lgm_CTrans_wrap.c.

4.31.1.80 #define SWIG_Python_CallFunctor(functor, obj) PyObject_CallFunction(functor, "O", obj);

Definition at line 1147 of file Lgm_CTrans_wrap.c.

4.31.1.81 #define SWIG_Python_ConvertPtr(obj, pptr, type, flags) SWIG_Python_ConvertPtrAndOwn(obj, pptr, type, flags, 0)

Definition at line 991 of file Lgm_CTrans_wrap.c.

4.31.1.82 #define SWIG_PYTHON_DIRECTOR_NO_VTABLE

Definition at line 12 of file Lgm_CTrans_wrap.c.

4.31.1.83 #define SWIG_PYTHON_INITIALIZE_THREADS

Definition at line 932 of file Lgm_CTrans_wrap.c.

4.31.1.84 #define SWIG_Python_Raise(obj, type, desc) SWIG_Python_SetErrorObj(SWIG_Python_ExceptionType(desc), obj)

Definition at line 1048 of file Lgm_CTrans_wrap.c.

4.31.1.85 #define SWIG_PYTHON_THREAD_BEGIN_ALLOW

Definition at line 935 of file Lgm_CTrans_wrap.c.

4.31.1.86 #define SWIG_PYTHON_THREAD_BEGIN_BLOCK

Definition at line 933 of file Lgm_CTrans_wrap.c.

4.31.1.87 #define SWIG_PYTHON_THREAD_END_ALLOW

Definition at line 936 of file Lgm_CTrans_wrap.c.

4.31.1.88 #define SWIG_PYTHON_THREAD_END_BLOCK

Definition at line 934 of file Lgm_CTrans_wrap.c.

4.31.1.89 #define SWIG_RUNTIME_VERSION "4"

Definition at line 135 of file Lgm_CTrans_wrap.c.

4.31.1.90 #define SWIG_RuntimeError -3

Definition at line 699 of file Lgm_CTrans_wrap.c.

4.31.1.91 #define SWIG_SetErrorMsg SWIG_Python_SetErrorMsg

Definition at line 1023 of file Lgm_CTrans_wrap.c.

4.31.1.92 #define SWIG_SetErrorObj SWIG_Python_SetErrorObj

Definition at line 1022 of file Lgm_CTrans_wrap.c.

4.31.1.93 #define SWIG_SetModule(clientdata, pointer) SWIG_Python_SetModule(pointer)

Definition at line 1019 of file Lgm_CTrans_wrap.c.

4.31.1.94 #define SWIG_STATIC_POINTER(var) var = 0; if (!var) var

Definition at line 1157 of file Lgm_CTrans_wrap.c.

4.31.1.95 #define SWIG_SyntaxError -8

Definition at line 704 of file Lgm_CTrans_wrap.c.

4.31.1.96 #define SWIG_SystemError -10

Definition at line 706 of file Lgm_CTrans_wrap.c.

4.31.1.97 #define SWIG_TMPOBJ (SWIG_OK | SWIG_TMPOBJMASK)

Definition at line 271 of file Lgm_CTrans_wrap.c.

4.31.1.98 #define SWIG_TMPOBJMASK (SWIG_NEWOBJMASK << 1)

Definition at line 266 of file Lgm_CTrans_wrap.c.

4.31.1.99 #define SWIG_TYPE_TABLE_NAME

Definition at line 143 of file Lgm_CTrans_wrap.c.

4.31.1.100 #define SWIG_TypeCheck_Template(comparison, ty)

Value:

```
if (ty) {
    swig_cast_info *iter = ty->cast;
    while (iter) {
        if (comparison) {
            if (iter == ty->cast) return iter;
            /* Move iter to the top of the linked list */
            iter->prev->next = iter->next;
            if (iter->next)
                iter->next->prev = iter->prev;
            iter->next = ty->cast;
            iter->prev = 0;
            if (ty->cast) ty->cast->prev = iter;
            ty->cast = iter;
            return iter;
        }
        iter = iter->next;
    }
}
return 0
```

Definition at line 402 of file Lgm_CTrans_wrap.c.

4.31.1.101 #define SWIG_TypeError -5

Definition at line 701 of file Lgm_CTrans_wrap.c.

4.31.1.102 #define SWIG_TypeQuery(name) SWIG_TypeQueryModule(&swig_module, &swig_module, name)

Definition at line 2493 of file Lgm_CTrans_wrap.c.

4.31.1.103 #define SWIG_UnknownError -1

Definition at line 697 of file Lgm_CTrans_wrap.c.

4.31.1.104 #define SWIG_ValueError -9

Definition at line 705 of file Lgm_CTrans_wrap.c.

4.31.1.105 #define SWIG_VERSION SWIGVERSION

Definition at line 2512 of file Lgm_CTrans_wrap.c.

4.31.1.106 #define SWIGEXPORT

Definition at line 97 of file Lgm_CTrans_wrap.c.

4.31.1.107 #define SWIGINLINE

Definition at line 36 of file Lgm_CTrans_wrap.c.

4.31.1.108 #define SWIGINTERN static SWIGUNUSED

Definition at line 71 of file Lgm_CTrans_wrap.c.

4.31.1.109 #define SWIGINTERNINLINE SWIGINTERN SWIGINLINE

Definition at line 76 of file Lgm_CTrans_wrap.c.

4.31.1.110 #define SWIGPYTHON

Definition at line 11 of file Lgm_CTrans_wrap.c.

4.31.1.111 #define SWIGRUNTIME SWIGINTERN

Definition at line 156 of file Lgm_CTrans_wrap.c.

4.31.1.112 #define SWIGRUNTIMEINLINE SWIGRUNTIME SWIGINLINE

Definition at line 160 of file Lgm_CTrans_wrap.c.

4.31.1.113 #define SWIGSTDCALL

Definition at line 107 of file Lgm_CTrans_wrap.c.

4.31.1.114 #define SWIGTEMPLATEDISAMBIGUATOR

Definition at line 27 of file Lgm_CTrans_wrap.c.

4.31.1.115 #define SWIGTYPE_p_a_13_double swig_types[2]

Definition at line 2485 of file Lgm_CTrans_wrap.c.

4.31.1.116 #define SWIGTYPE_p_a_3_double swig_types[3]

Definition at line 2486 of file Lgm_CTrans_wrap.c.

4.31.1.117 #define SWIGTYPE_p_char swig_types[4]

Definition at line 2487 of file Lgm_CTrans_wrap.c.

4.31.1.118 #define SWIGTYPE_p_double swig_types[5]

Definition at line 2488 of file Lgm_CTrans_wrap.c.

4.31.1.119 #define SWIGTYPE_p_int swig_types[6]

Definition at line 2489 of file Lgm_CTrans_wrap.c.

4.31.1.120 #define SWIGTYPE_p_Lgm_CTrans swig_types[0]

Definition at line 2483 of file Lgm_CTrans_wrap.c.

4.31.1.121 #define SWIGTYPE_p_Lgm_Vector swig_types[1]

Definition at line 2484 of file Lgm_CTrans_wrap.c.

4.31.1.122 #define SWIGTYPE_p_long swig_types[7]

Definition at line 2490 of file Lgm_CTrans_wrap.c.

4.31.1.123 #define SWIGUNUSED

Definition at line 51 of file Lgm_CTrans_wrap.c.

4.31.1.124 #define SWIGUNUSEDPARM(p) p SWIGUNUSED

Definition at line 65 of file Lgm_CTrans_wrap.c.

4.31.1.125 #define SWIGVERSION 0x010336

Definition at line 2511 of file Lgm_CTrans_wrap.c.

4.31.1.126 #define USE_HIGH_ACCURACY_SUN 1

Definition at line 2523 of file Lgm_CTrans_wrap.c.

4.31.2 Typedef Documentation

4.31.2.1 `typedef int Py_ssize_t`

Definition at line 797 of file Lgm_CTrans_wrap.c.

4.31.2.2 `typedef void*(* swig_converter_func)(void *, int *)`

Definition at line 311 of file Lgm_CTrans_wrap.c.

4.31.2.3 `typedef struct swig_type_info*(* swig_dycast_func)(void **)`

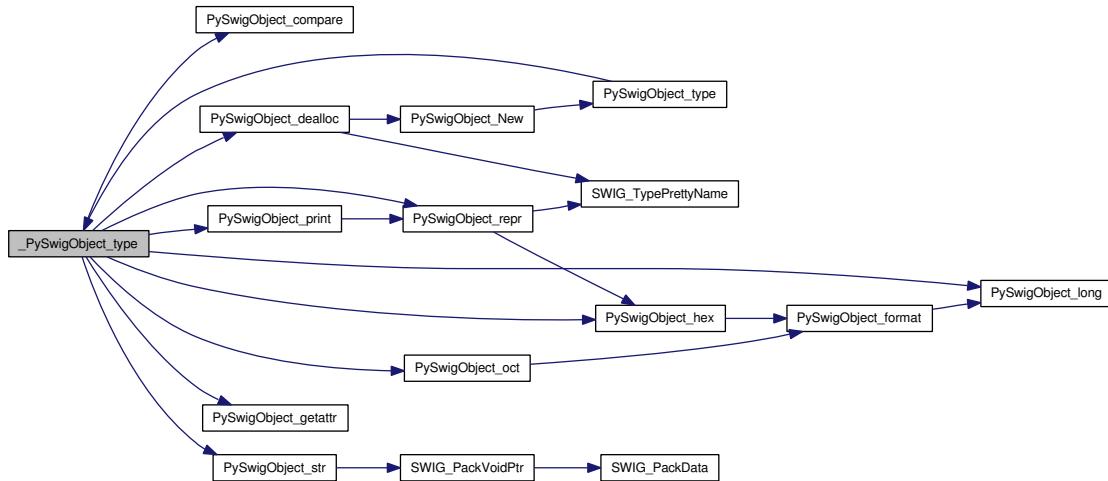
Definition at line 312 of file Lgm_CTrans_wrap.c.

4.31.3 Function Documentation

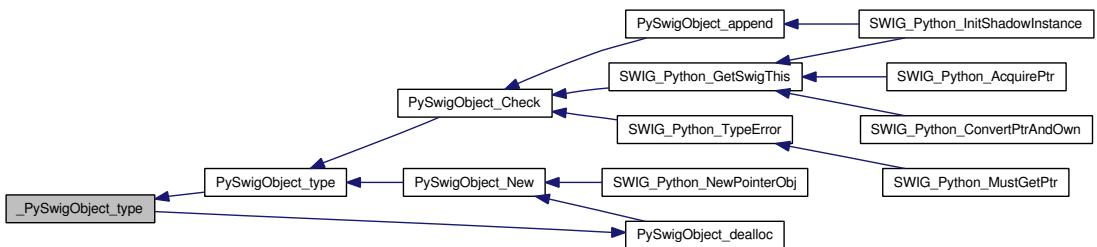
4.31.3.1 SWIGRUNTIME `PyTypeObject * _PySwigObject_type (void)`

Definition at line 1581 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



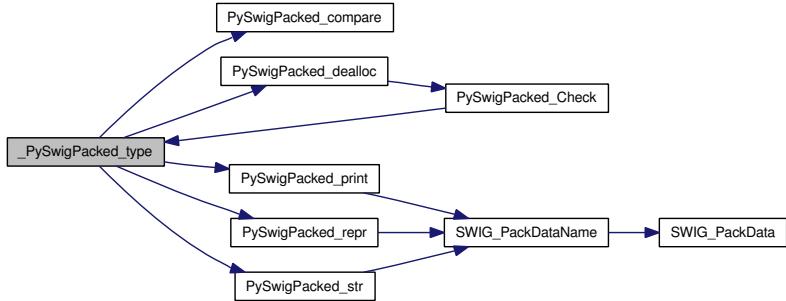
Here is the caller graph for this function:



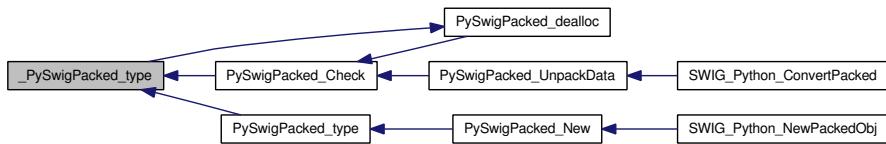
4.31.3.2 SWIGRUNTIME PyTypeObject * _PySwigPacked_type (void)

Definition at line 1782 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



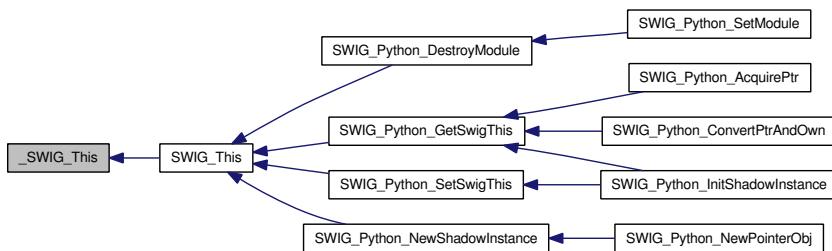
Here is the caller graph for this function:



4.31.3.3 SWIGRUNTIMEINLINE PyObject* _SWIG_This (void)

Definition at line 1888 of file Lgm_CTrans_wrap.c.

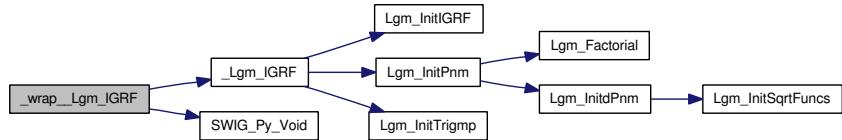
Here is the caller graph for this function:



4.31.3.4 SWIGINTERN PyObject* _wrap__Lgm_IGRF (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11483 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.5 SWIGINTERN PyObject* `_wrap_copy_doublep` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 2964 of file Lgm_CTrans_wrap.c.

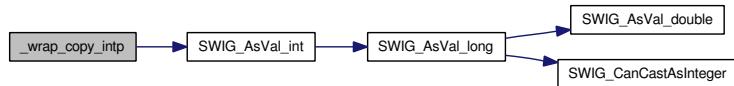
Here is the call graph for this function:



4.31.3.6 SWIGINTERN PyObject* `_wrap_copy_intp` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 2856 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.7 SWIGINTERN PyObject* `_wrap_delete_doublep` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 2986 of file Lgm_CTrans_wrap.c.

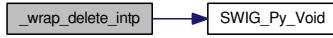
Here is the call graph for this function:



4.31.3.8 SWIGINTERN PyObject* `_wrap_delete_intp` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 2878 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.9 SWIGINTERN PyObject* _wrap_delete_Lgm_CTrans (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9075 of file Lgm_CTrans_wrap.c.

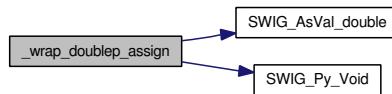
Here is the call graph for this function:



4.31.3.10 SWIGINTERN PyObject* _wrap_doublep_assign (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 3007 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



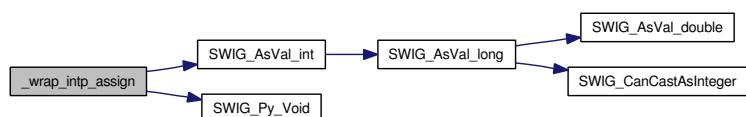
4.31.3.11 SWIGINTERN PyObject* _wrap_doublep_value (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 3037 of file Lgm_CTrans_wrap.c.

4.31.3.12 SWIGINTERN PyObject* _wrap_intp_assign (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 2899 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.13 SWIGINTERN PyObject* _wrap_intp_value (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 2929 of file Lgm_CTrans_wrap.c.

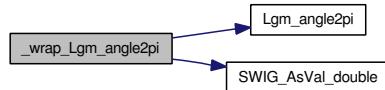
Here is the call graph for this function:



4.31.3.14 SWIGINTERN PyObject* _wrap_Lgm_angle2pi (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 9332 of file Lgm_CTrans_wrap.c.

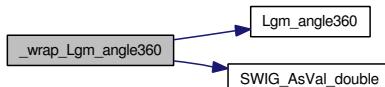
Here is the call graph for this function:



4.31.3.15 SWIGINTERN PyObject* _wrap_Lgm_angle360 (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 9354 of file Lgm_CTrans_wrap.c.

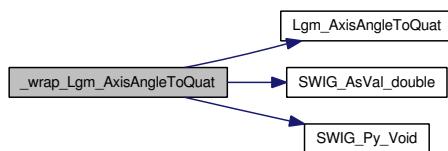
Here is the call graph for this function:



4.31.3.16 SWIGINTERN PyObject* _wrap_Lgm_AxisAngleToQuat (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 11752 of file Lgm_CTrans_wrap.c.

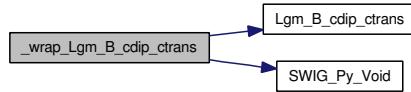
Here is the call graph for this function:



4.31.3.17 SWIGINTERN PyObject* _wrap_Lgm_B_cdip_ctrans (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11023 of file Lgm_CTrans_wrap.c.

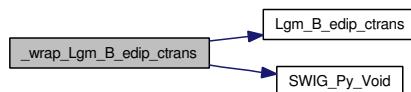
Here is the call graph for this function:



4.31.3.18 SWIGINTERN PyObject* _wrap_Lgm_B_edip_ctrans (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11062 of file Lgm_CTrans_wrap.c.

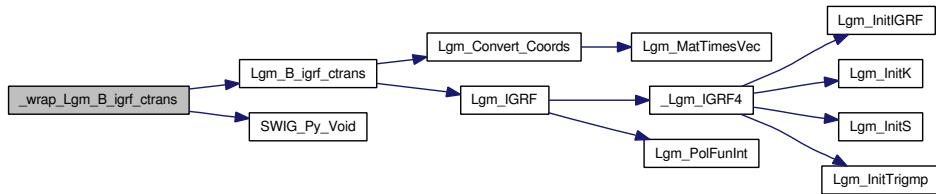
Here is the call graph for this function:



4.31.3.19 SWIGINTERN PyObject* _wrap_Lgm_B_igrf_ctrans (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10984 of file Lgm_CTrans_wrap.c.

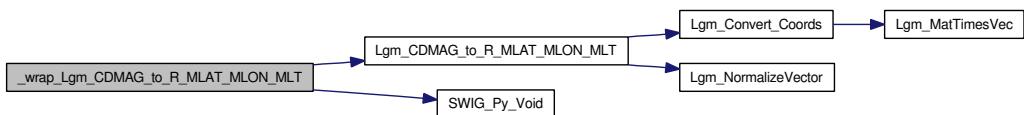
Here is the call graph for this function:



4.31.3.20 SWIGINTERN PyObject* _wrap_Lgm_CDMAG_to_R_MLAT_MLON_MLT (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10564 of file Lgm_CTrans_wrap.c.

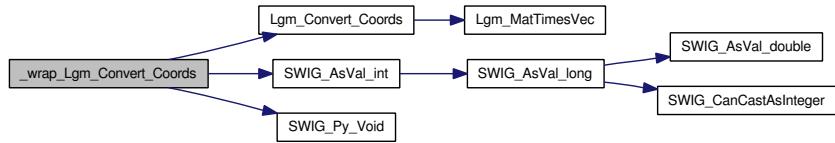
Here is the call graph for this function:



4.31.3.21 SWIGINTERN PyObject* _wrap_Lgm_Convert_Coords (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9747 of file Lgm_CTrans_wrap.c.

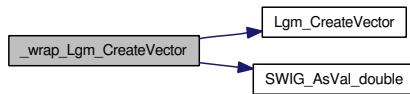
Here is the call graph for this function:



4.31.3.22 SWIGINTERN PyObject* _wrap_Lgm_CreateVector (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 12211 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.23 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Acdmag_to_wgs84_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 8474 of file Lgm_CTrans_wrap.c.

4.31.3.24 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Acdmag_to_wgs84_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 8430 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.25 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agei_to_mod_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 6824 of file Lgm_CTrans_wrap.c.

**4.31.3.26 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agei_to_mod_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6780 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.27 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agei_to_wgs84_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8210 of file Lgm_CTrans_wrap.c.

**4.31.3.28 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agei_to_wgs84_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8166 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



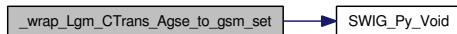
**4.31.3.29 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agse_to_gsm_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7946 of file Lgm_CTrans_wrap.c.

**4.31.3.30 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agse_to_gsm_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7902 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.31 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agse_to_mod_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7484 of file Lgm_CTrans_wrap.c.

**4.31.3.32 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agse_to_mod_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7440 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



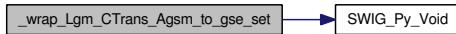
**4.31.3.33 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agsm_to_gse_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7880 of file Lgm_CTrans_wrap.c.

**4.31.3.34 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agsm_to_gse_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7836 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



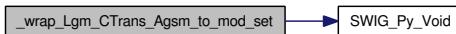
**4.31.3.35 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agsm_to_mod_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7748 of file Lgm_CTrans_wrap.c.

**4.31.3.36 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agsm_to_mod_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7704 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



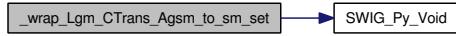
**4.31.3.37 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agsm_to_sm_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7682 of file Lgm_CTrans_wrap.c.

**4.31.3.38 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agsm_to_sm_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7638 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



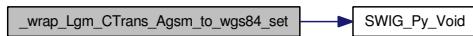
**4.31.3.39 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agsm_to_wgs84_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8276 of file Lgm_CTrans_wrap.c.

**4.31.3.40 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Agsm_to_wgs84_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8232 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.41 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Amod_to_gei_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6890 of file Lgm_CTrans_wrap.c.

**4.31.3.42 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Amod_to_gei_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6846 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.43 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Amod_to_gse_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7550 of file Lgm_CTrans_wrap.c.

**4.31.3.44 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Amod_to_gse_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7506 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.45 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Amod_to_gsm_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7814 of file Lgm_CTrans_wrap.c.

**4.31.3.46 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Amod_to_gsm_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7770 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



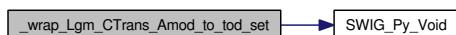
**4.31.3.47 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Amod_to_tod_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6956 of file Lgm_CTrans_wrap.c.

**4.31.3.48 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Amod_to_tod_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6912 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.49 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Amod_to_wgs84_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8078 of file Lgm_CTrans_wrap.c.

**4.31.3.50 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Amod_to_wgs84_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8034 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.51 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Apef_to_teme_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7154 of file Lgm_CTrans_wrap.c.

**4.31.3.52 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Apef_to_teme_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7110 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.53 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Apef_to_tod_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7220 of file Lgm_CTrans_wrap.c.

**4.31.3.54 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Apef_to_tod_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7176 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.55 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Apef_to_wgs84_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7418 of file Lgm_CTrans_wrap.c.

**4.31.3.56 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Apef_to_wgs84_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7374 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.57 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Asm_to_gsm_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7616 of file Lgm_CTrans_wrap.c.

**4.31.3.58 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Asm_to_gsm_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7572 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



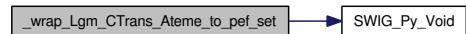
**4.31.3.59 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Ateme_to_pef_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7088 of file Lgm_CTrans_wrap.c.

**4.31.3.60 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Ateme_to_pef_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7044 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.61 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Atod_to_mod_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7022 of file Lgm_CTrans_wrap.c.

**4.31.3.62 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Atod_to_mod_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6978 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.63 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Atod_to_pef_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7286 of file Lgm_CTrans_wrap.c.

**4.31.3.64 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Atod_to_pef_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7242 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.65 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Awgs84_to_cdmag_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8408 of file Lgm_CTrans_wrap.c.

**4.31.3.66 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Awgs84_to_cdmag_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8364 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



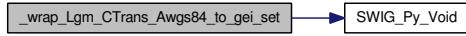
**4.31.3.67 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Awgs84_to_gei_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8144 of file Lgm_CTrans_wrap.c.

**4.31.3.68 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Awgs84_to_gei_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8100 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.69 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Awgs84_to_gsm_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8342 of file Lgm_CTrans_wrap.c.

**4.31.3.70 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Awgs84_to_gsm_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8298 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



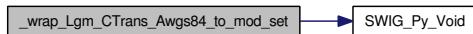
**4.31.3.71 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Awgs84_to_mod_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8012 of file Lgm_CTrans_wrap.c.

**4.31.3.72 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Awgs84_to_mod_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7968 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.73 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Awgs84_to_pef_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7352 of file Lgm_CTrans_wrap.c.

**4.31.3.74 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Awgs84_to_pef_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 7308 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



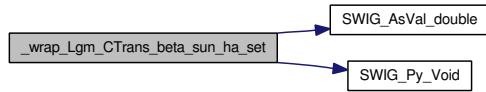
**4.31.3.75 SWIGINTERN PyObject* _wrap_Lgm_CTrans_beta_sun_ha_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5030 of file Lgm_CTrans_wrap.c.

**4.31.3.76 SWIGINTERN PyObject* _wrap_Lgm_CTrans_beta_sun_ha_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5000 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



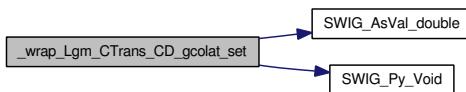
**4.31.3.77 SWIGINTERN PyObject* _wrap_Lgm_CTrans_CD_gcolat_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5822 of file Lgm_CTrans_wrap.c.

**4.31.3.78 SWIGINTERN PyObject* _wrap_Lgm_CTrans_CD_gcolat_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5792 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



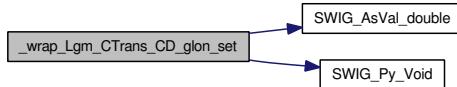
**4.31.3.79 SWIGINTERN PyObject* _wrap_Lgm_CTrans_CD_glon_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5874 of file Lgm_CTrans_wrap.c.

4.31.3.80 SWIGINTERN PyObject* _wrap_Lgm_CTrans_CD_glon_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 5844 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



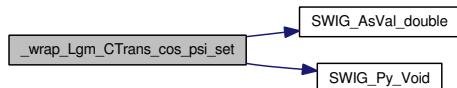
4.31.3.81 SWIGINTERN PyObject* _wrap_Lgm_CTrans_cos_psi_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 5406 of file Lgm_CTrans_wrap.c.

4.31.3.82 SWIGINTERN PyObject* _wrap_Lgm_CTrans_cos_psi_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 5376 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



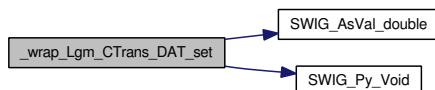
4.31.3.83 SWIGINTERN PyObject* _wrap_Lgm_CTrans_DAT_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 3463 of file Lgm_CTrans_wrap.c.

4.31.3.84 SWIGINTERN PyObject* _wrap_Lgm_CTrans_DAT_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 3433 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



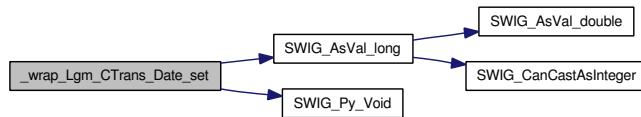
**4.31.3.85 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Date_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4295 of file Lgm_CTrans_wrap.c.

**4.31.3.86 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Date_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4265 of file Lgm_CTrans_wrap.c.

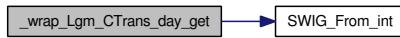
Here is the call graph for this function:



**4.31.3.87 SWIGINTERN PyObject* _wrap_Lgm_CTrans_day_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4451 of file Lgm_CTrans_wrap.c.

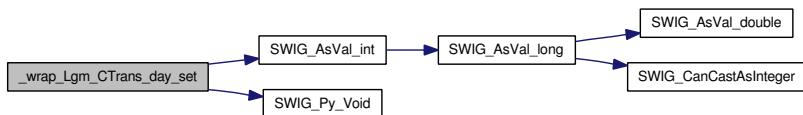
Here is the call graph for this function:



**4.31.3.88 SWIGINTERN PyObject* _wrap_Lgm_CTrans_day_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4421 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



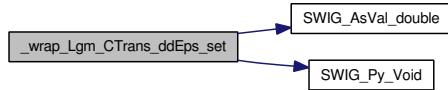
**4.31.3.89 SWIGINTERN PyObject* _wrap_Lgm_CTrans_ddEps_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6550 of file Lgm_CTrans_wrap.c.

4.31.3.90 SWIGINTERN PyObject* _wrap_Lgm_CTrans_ddEps_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 6520 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



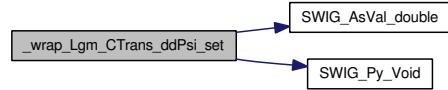
4.31.3.91 SWIGINTERN PyObject* _wrap_Lgm_CTrans_ddPsi_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 6498 of file Lgm_CTrans_wrap.c.

4.31.3.92 SWIGINTERN PyObject* _wrap_Lgm_CTrans_ddPsi_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 6468 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



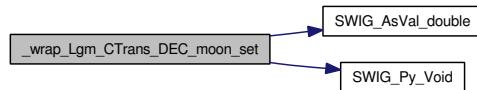
4.31.3.93 SWIGINTERN PyObject* _wrap_Lgm_CTrans_DEC_moon_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 5562 of file Lgm_CTrans_wrap.c.

4.31.3.94 SWIGINTERN PyObject* _wrap_Lgm_CTrans_DEC_moon_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 5532 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.95 SWIGINTERN PyObject* _wrap_Lgm_CTrans_DEC_sun_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4874 of file Lgm_CTrans_wrap.c.

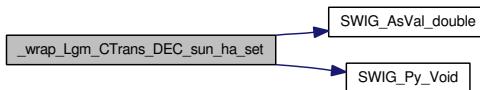
**4.31.3.96 SWIGINTERN PyObject* _wrap_Lgm_CTrans_DEC_sun_ha_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5134 of file Lgm_CTrans_wrap.c.

**4.31.3.97 SWIGINTERN PyObject* _wrap_Lgm_CTrans_DEC_sun_ha_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5104 of file Lgm_CTrans_wrap.c.

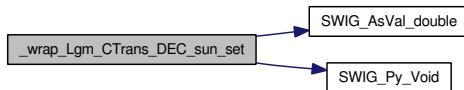
Here is the call graph for this function:



**4.31.3.98 SWIGINTERN PyObject* _wrap_Lgm_CTrans_DEC_sun_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4844 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



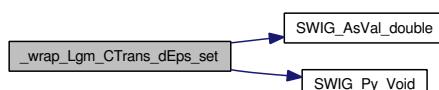
**4.31.3.99 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dEps_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6342 of file Lgm_CTrans_wrap.c.

**4.31.3.100 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dEps_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6312 of file Lgm_CTrans_wrap.c.

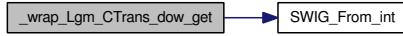
Here is the call graph for this function:



4.31.3.101 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dow_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 4555 of file Lgm_CTrans_wrap.c.

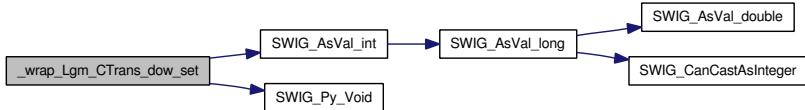
Here is the call graph for this function:



4.31.3.102 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dow_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 4525 of file Lgm_CTrans_wrap.c.

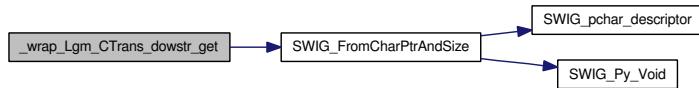
Here is the call graph for this function:



4.31.3.103 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dowstr_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 4608 of file Lgm_CTrans_wrap.c.

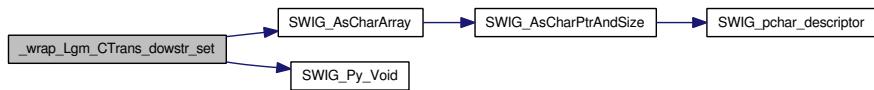
Here is the call graph for this function:



4.31.3.104 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dowstr_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 4577 of file Lgm_CTrans_wrap.c.

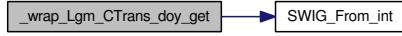
Here is the call graph for this function:



**4.31.3.105 SWIGINTERN PyObject* _wrap_Lgm_CTrans_doy_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4503 of file Lgm_CTrans_wrap.c.

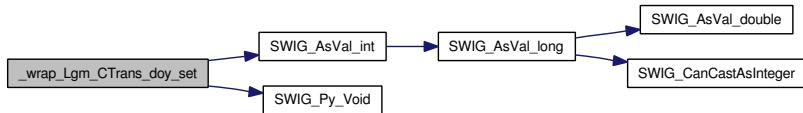
Here is the call graph for this function:



**4.31.3.106 SWIGINTERN PyObject* _wrap_Lgm_CTrans_doy_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4473 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



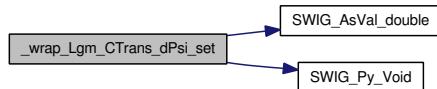
**4.31.3.107 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dPsi_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6290 of file Lgm_CTrans_wrap.c.

**4.31.3.108 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dPsi_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6260 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.109 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dPsiCosEps_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6394 of file Lgm_CTrans_wrap.c.

**4.31.3.110 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dPsiCosEps_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6364 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.111 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dPsiSinEps_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 6446 of file Lgm_CTrans_wrap.c.

4.31.3.112 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dPsiSinEps_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 6416 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



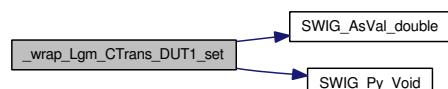
4.31.3.113 SWIGINTERN PyObject* _wrap_Lgm_CTrans_DUT1_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 3307 of file Lgm_CTrans_wrap.c.

4.31.3.114 SWIGINTERN PyObject* _wrap_Lgm_CTrans_DUT1_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 3277 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



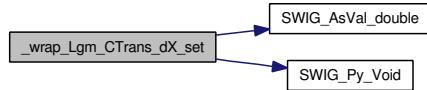
4.31.3.115 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dX_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 6706 of file Lgm_CTrans_wrap.c.

**4.31.3.116 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dX_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6676 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



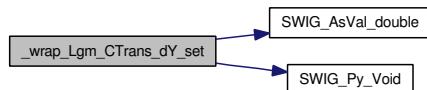
**4.31.3.117 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dY_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6758 of file Lgm_CTrans_wrap.c.

**4.31.3.118 SWIGINTERN PyObject* _wrap_Lgm_CTrans_dY_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6728 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



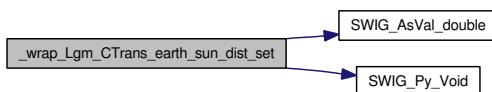
**4.31.3.119 SWIGINTERN PyObject* _wrap_Lgm_CTrans_earth_sun_dist_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4770 of file Lgm_CTrans_wrap.c.

**4.31.3.120 SWIGINTERN PyObject* _wrap_Lgm_CTrans_earth_sun_dist_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4740 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



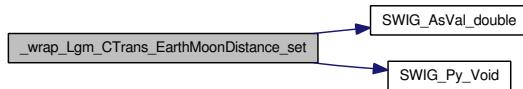
**4.31.3.121 SWIGINTERN PyObject* _wrap_Lgm_CTrans_EarthMoonDistance_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5666 of file Lgm_CTrans_wrap.c.

**4.31.3.122 SWIGINTERN PyObject* _wrap_Lgm_CTrans_EarthMoonDistance_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5636 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



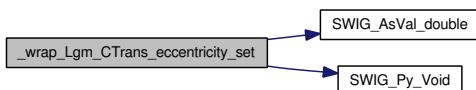
**4.31.3.123 SWIGINTERN PyObject* _wrap_Lgm_CTrans_eccentricity_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4666 of file Lgm_CTrans_wrap.c.

**4.31.3.124 SWIGINTERN PyObject* _wrap_Lgm_CTrans_eccentricity_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4636 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



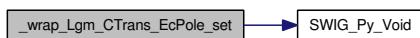
**4.31.3.125 SWIGINTERN PyObject* _wrap_Lgm_CTrans_EcPole_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5250 of file Lgm_CTrans_wrap.c.

**4.31.3.126 SWIGINTERN PyObject* _wrap_Lgm_CTrans_EcPole_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5214 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



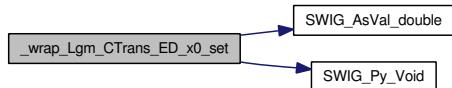
**4.31.3.127 SWIGINTERN PyObject* _wrap_Lgm_CTrans_ED_x0_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5926 of file Lgm_CTrans_wrap.c.

**4.31.3.128 SWIGINTERN PyObject* _wrap_Lgm_CTrans_ED_x0_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5896 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



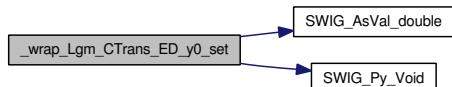
**4.31.3.129 SWIGINTERN PyObject* _wrap_Lgm_CTrans_ED_y0_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5978 of file Lgm_CTrans_wrap.c.

**4.31.3.130 SWIGINTERN PyObject* _wrap_Lgm_CTrans_ED_y0_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5948 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



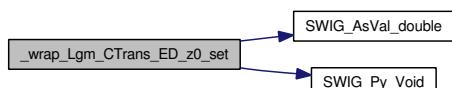
**4.31.3.131 SWIGINTERN PyObject* _wrap_Lgm_CTrans_ED_z0_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6030 of file Lgm_CTrans_wrap.c.

**4.31.3.132 SWIGINTERN PyObject* _wrap_Lgm_CTrans_ED_z0_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6000 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



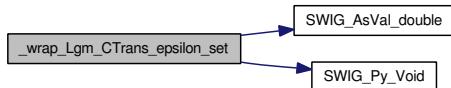
**4.31.3.133 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_epsilon_get` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4139 of file Lgm_CTrans_wrap.c.

**4.31.3.134 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_epsilon_set` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4109 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



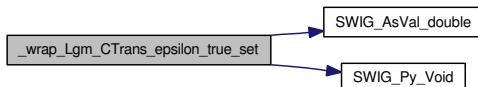
**4.31.3.135 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_epsilon_true_get` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4191 of file Lgm_CTrans_wrap.c.

**4.31.3.136 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_epsilon_true_set` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4161 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



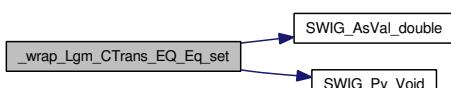
**4.31.3.137 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_EQ_Eq_get` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6602 of file Lgm_CTrans_wrap.c.

**4.31.3.138 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_EQ_Eq_set` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6572 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



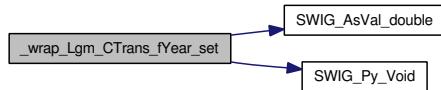
**4.31.3.139 SWIGINTERN PyObject* _wrap_Lgm_CTrans_fYear_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4243 of file Lgm_CTrans_wrap.c.

**4.31.3.140 SWIGINTERN PyObject* _wrap_Lgm_CTrans_fYear_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4213 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



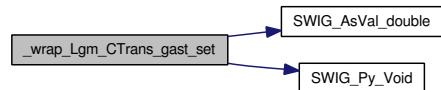
**4.31.3.141 SWIGINTERN PyObject* _wrap_Lgm_CTrans_gast_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3879 of file Lgm_CTrans_wrap.c.

**4.31.3.142 SWIGINTERN PyObject* _wrap_Lgm_CTrans_gast_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3849 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



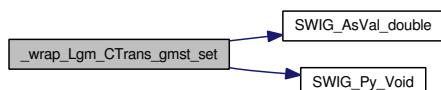
**4.31.3.143 SWIGINTERN PyObject* _wrap_Lgm_CTrans_gmst_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3827 of file Lgm_CTrans_wrap.c.

**4.31.3.144 SWIGINTERN PyObject* _wrap_Lgm_CTrans_gmst_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3797 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



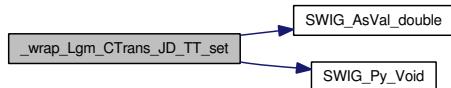
**4.31.3.145 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_JD_TT_get` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3775 of file Lgm_CTrans_wrap.c.

**4.31.3.146 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_JD_TT_set` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3745 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



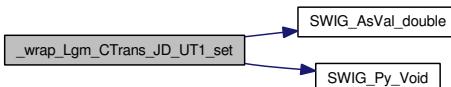
**4.31.3.147 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_JD_UT1_get` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3723 of file Lgm_CTrans_wrap.c.

**4.31.3.148 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_JD_UT1_set` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3693 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



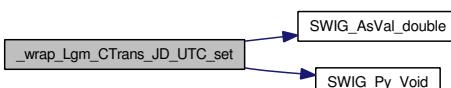
**4.31.3.149 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_JD_UTC_get` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3671 of file Lgm_CTrans_wrap.c.

**4.31.3.150 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_JD_UTC_set` (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3641 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.151 SWIGINTERN PyObject* _wrap_Lgm_CTrans_lambda_sun_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4718 of file Lgm_CTrans_wrap.c.

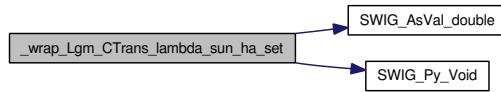
**4.31.3.152 SWIGINTERN PyObject* _wrap_Lgm_CTrans_lambda_sun_ha_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4926 of file Lgm_CTrans_wrap.c.

**4.31.3.153 SWIGINTERN PyObject* _wrap_Lgm_CTrans_lambda_sun_ha_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4896 of file Lgm_CTrans_wrap.c.

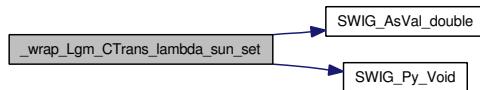
Here is the call graph for this function:



**4.31.3.154 SWIGINTERN PyObject* _wrap_Lgm_CTrans_lambda_sun_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4688 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.155 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Lgm_IGRF_FirstCall_get (PyObject *
* SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8526 of file Lgm_CTrans_wrap.c.

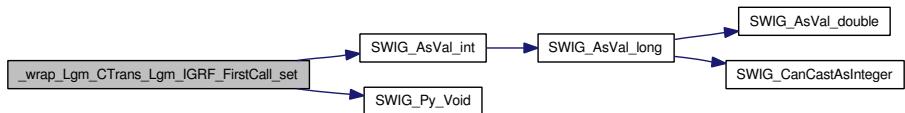
Here is the call graph for this function:



**4.31.3.156 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Lgm_IGRF_FirstCall_set (PyObject *
* SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 8496 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.157 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_Lgm_IGRF_g_get` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8644 of file Lgm_CTrans_wrap.c.

4.31.3.158 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_Lgm_IGRF_g_set` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8600 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.159 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_Lgm_IGRF_h_get` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8710 of file Lgm_CTrans_wrap.c.

4.31.3.160 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_Lgm_IGRF_h_set` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8666 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.161 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_Lgm_IGRF_NpMm1_Over_NmM_get` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8908 of file Lgm_CTrans_wrap.c.

4.31.3.162 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Lgm_IGRF_NpMm1_-Over_NmM_set (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8864 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.163 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Lgm_IGRF_OldYear_get (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8578 of file Lgm_CTrans_wrap.c.

4.31.3.164 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Lgm_IGRF_OldYear_set (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8548 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.165 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Lgm_IGRF_R_get (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8776 of file Lgm_CTrans_wrap.c.

4.31.3.166 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Lgm_IGRF_R_set (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8732 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.167 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Lgm_IGRF_SqrtNM1_get (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8974 of file Lgm_CTrans_wrap.c.

4.31.3.168 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_Lgm_IGRF_SqrtNM1_set` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8930 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.169 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_Lgm_IGRF_SqrtNM2_get` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 9040 of file Lgm_CTrans_wrap.c.

4.31.3.170 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_Lgm_IGRF_SqrtNM2_set` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8996 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.171 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_Lgm_IGRF_TwoNm1_Over_NmM_get` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8842 of file Lgm_CTrans_wrap.c.

4.31.3.172 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_Lgm_IGRF_TwoNm1_Over_NmM_set` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 8798 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.173 SWIGINTERN PyObject* `_wrap_Lgm_CTrans_LOD_get` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 3359 of file Lgm_CTrans_wrap.c.

**4.31.3.174 SWIGINTERN PyObject* _wrap_Lgm_CTrans_LOD_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3329 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.175 SWIGINTERN PyObject* _wrap_Lgm_CTrans_M_cd_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5718 of file Lgm_CTrans_wrap.c.

**4.31.3.176 SWIGINTERN PyObject* _wrap_Lgm_CTrans_M_cd_McIllwain_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5770 of file Lgm_CTrans_wrap.c.

**4.31.3.177 SWIGINTERN PyObject* _wrap_Lgm_CTrans_M_cd_McIllwain_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5740 of file Lgm_CTrans_wrap.c.

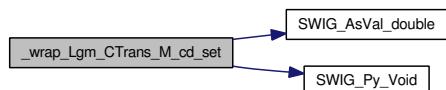
Here is the call graph for this function:



**4.31.3.178 SWIGINTERN PyObject* _wrap_Lgm_CTrans_M_cd_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5688 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.179 SWIGINTERN PyObject* _wrap_Lgm_CTrans_month_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 4399 of file Lgm_CTrans_wrap.c.

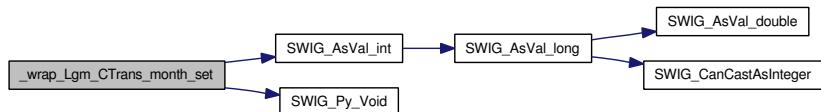
Here is the call graph for this function:



4.31.3.180 SWIGINTERN PyObject* _wrap_Lgm_CTrans_month_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 4369 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



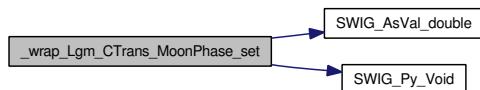
4.31.3.181 SWIGINTERN PyObject* _wrap_Lgm_CTrans_MoonPhase_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 5614 of file Lgm_CTrans_wrap.c.

4.31.3.182 SWIGINTERN PyObject* _wrap_Lgm_CTrans_MoonPhase_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 5584 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.183 SWIGINTERN PyObject* _wrap_Lgm_CTrans_nNutationTerms_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 6238 of file Lgm_CTrans_wrap.c.

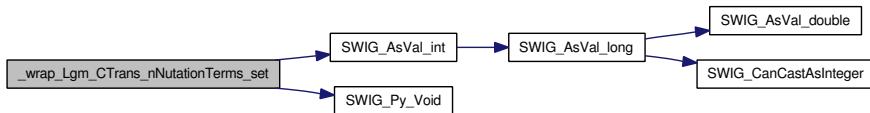
Here is the call graph for this function:



**4.31.3.184 SWIGINTERN PyObject* _wrap_Lgm_CTrans_nNutationTerms_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6208 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



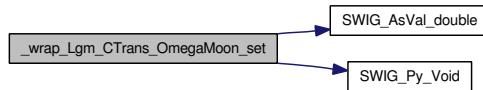
**4.31.3.185 SWIGINTERN PyObject* _wrap_Lgm_CTrans_OmegaMoon_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6654 of file Lgm_CTrans_wrap.c.

**4.31.3.186 SWIGINTERN PyObject* _wrap_Lgm_CTrans_OmegaMoon_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6624 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



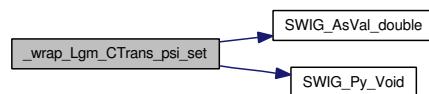
**4.31.3.187 SWIGINTERN PyObject* _wrap_Lgm_CTrans_psi_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5302 of file Lgm_CTrans_wrap.c.

**4.31.3.188 SWIGINTERN PyObject* _wrap_Lgm_CTrans_psi_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5272 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



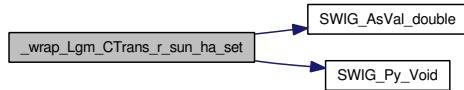
**4.31.3.189 SWIGINTERN PyObject* _wrap_Lgm_CTrans_r_sun_ha_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4978 of file Lgm_CTrans_wrap.c.

**4.31.3.190 SWIGINTERN PyObject* _wrap_Lgm_CTrans_r_sun_ha_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4948 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



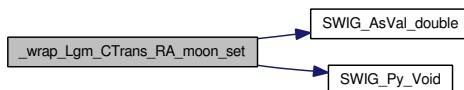
**4.31.3.191 SWIGINTERN PyObject* _wrap_Lgm_CTrans_RA_moon_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5510 of file Lgm_CTrans_wrap.c.

**4.31.3.192 SWIGINTERN PyObject* _wrap_Lgm_CTrans_RA_moon_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5480 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.193 SWIGINTERN PyObject* _wrap_Lgm_CTrans_RA_sun_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4822 of file Lgm_CTrans_wrap.c.

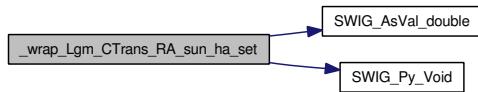
**4.31.3.194 SWIGINTERN PyObject* _wrap_Lgm_CTrans_RA_sun_ha_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5082 of file Lgm_CTrans_wrap.c.

**4.31.3.195 SWIGINTERN PyObject* _wrap_Lgm_CTrans_RA_sun_ha_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5052 of file Lgm_CTrans_wrap.c.

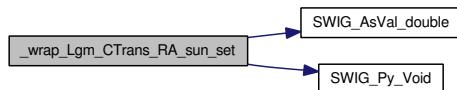
Here is the call graph for this function:



4.31.3.196 SWIGINTERN PyObject* _wrap_Lgm_CTrans_RA_sun_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 4792 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



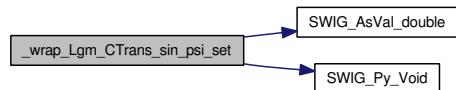
4.31.3.197 SWIGINTERN PyObject* _wrap_Lgm_CTrans_sin_psi_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 5354 of file Lgm_CTrans_wrap.c.

4.31.3.198 SWIGINTERN PyObject* _wrap_Lgm_CTrans_sin_psi_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 5324 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



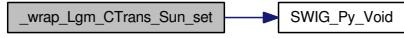
4.31.3.199 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Sun_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 5192 of file Lgm_CTrans_wrap.c.

4.31.3.200 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Sun_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 5156 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



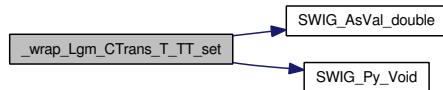
4.31.3.201 SWIGINTERN PyObject* _wrap_Lgm_CTrans_T_TT_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 3983 of file Lgm_CTrans_wrap.c.

4.31.3.202 SWIGINTERN PyObject* _wrap_Lgm_CTrans_T_TT_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 3953 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



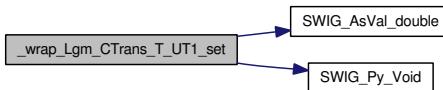
4.31.3.203 SWIGINTERN PyObject* _wrap_Lgm_CTrans_T_UT1_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 3931 of file Lgm_CTrans_wrap.c.

4.31.3.204 SWIGINTERN PyObject* _wrap_Lgm_CTrans_T_UT1_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 3901 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



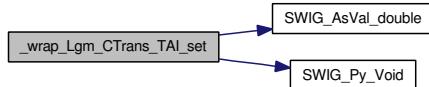
4.31.3.205 SWIGINTERN PyObject* _wrap_Lgm_CTrans_TAI_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 3411 of file Lgm_CTrans_wrap.c.

**4.31.3.206 SWIGINTERN PyObject* _wrap_Lgm_CTrans_TAI_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3381 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



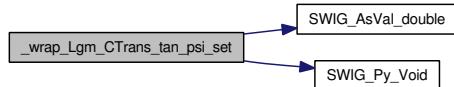
**4.31.3.207 SWIGINTERN PyObject* _wrap_Lgm_CTrans_tan_psi_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5458 of file Lgm_CTrans_wrap.c.

**4.31.3.208 SWIGINTERN PyObject* _wrap_Lgm_CTrans_tan_psi_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 5428 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



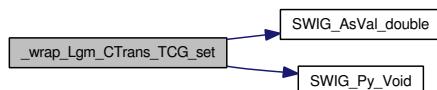
**4.31.3.209 SWIGINTERN PyObject* _wrap_Lgm_CTrans_TCG_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3619 of file Lgm_CTrans_wrap.c.

**4.31.3.210 SWIGINTERN PyObject* _wrap_Lgm_CTrans_TCG_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3589 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



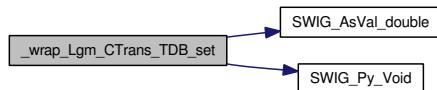
**4.31.3.211 SWIGINTERN PyObject* _wrap_Lgm_CTrans_TDB_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3567 of file Lgm_CTrans_wrap.c.

**4.31.3.212 SWIGINTERN PyObject* _wrap_Lgm_CTrans_TDB_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3537 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



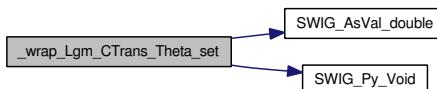
**4.31.3.213 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Theta_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6134 of file Lgm_CTrans_wrap.c.

**4.31.3.214 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Theta_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6104 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



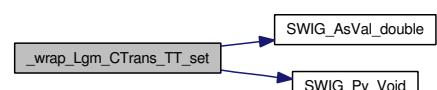
**4.31.3.215 SWIGINTERN PyObject* _wrap_Lgm_CTrans_TT_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3515 of file Lgm_CTrans_wrap.c.

**4.31.3.216 SWIGINTERN PyObject* _wrap_Lgm_CTrans_TT_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3485 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



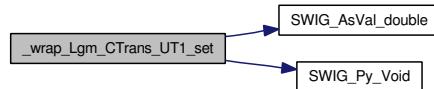
**4.31.3.217 SWIGINTERN PyObject* _wrap_Lgm_CTrans_UT1_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3203 of file Lgm_CTrans_wrap.c.

**4.31.3.218 SWIGINTERN PyObject* _wrap_Lgm_CTrans_UT1_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3173 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



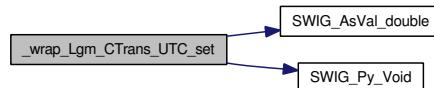
**4.31.3.219 SWIGINTERN PyObject* _wrap_Lgm_CTrans_UTC_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3255 of file Lgm_CTrans_wrap.c.

**4.31.3.220 SWIGINTERN PyObject* _wrap_Lgm_CTrans_UTC_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3225 of file Lgm_CTrans_wrap.c.

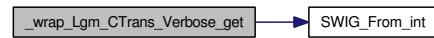
Here is the call graph for this function:



**4.31.3.221 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Verbose_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3151 of file Lgm_CTrans_wrap.c.

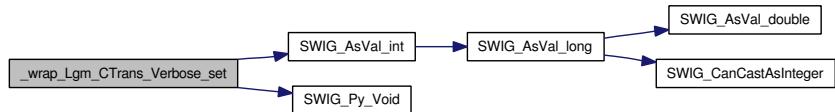
Here is the call graph for this function:



**4.31.3.222 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Verbose_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 3121 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



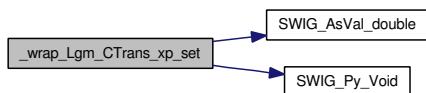
4.31.3.223 SWIGINTERN PyObject* _wrap_Lgm_CTrans_xp_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 4035 of file Lgm_CTrans_wrap.c.

4.31.3.224 SWIGINTERN PyObject* _wrap_Lgm_CTrans_xp_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 4005 of file Lgm_CTrans_wrap.c.

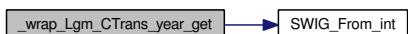
Here is the call graph for this function:



4.31.3.225 SWIGINTERN PyObject* _wrap_Lgm_CTrans_year_get (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 4347 of file Lgm_CTrans_wrap.c.

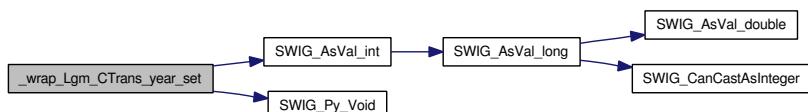
Here is the call graph for this function:



4.31.3.226 SWIGINTERN PyObject* _wrap_Lgm_CTrans_year_set (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 4317 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



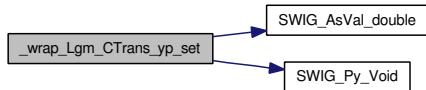
**4.31.3.227 SWIGINTERN PyObject* _wrap_Lgm_CTrans_yp_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4087 of file Lgm_CTrans_wrap.c.

**4.31.3.228 SWIGINTERN PyObject* _wrap_Lgm_CTrans_yp_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 4057 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



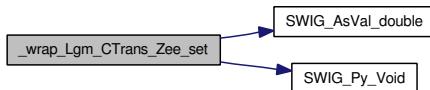
**4.31.3.229 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Zee_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6186 of file Lgm_CTrans_wrap.c.

**4.31.3.230 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Zee_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6156 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



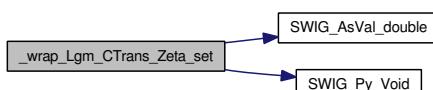
**4.31.3.231 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Zeta_get (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6082 of file Lgm_CTrans_wrap.c.

**4.31.3.232 SWIGINTERN PyObject* _wrap_Lgm_CTrans_Zeta_set (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 6052 of file Lgm_CTrans_wrap.c.

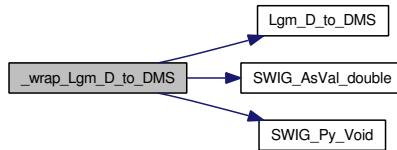
Here is the call graph for this function:



4.31.3.233 SWIGINTERN PyObject* `_wrap_Lgm_D_to_DMS` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10169 of file Lgm_CTrans_wrap.c.

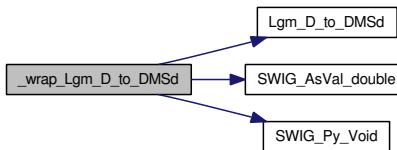
Here is the call graph for this function:



4.31.3.234 SWIGINTERN PyObject* `_wrap_Lgm_D_to_DMSd` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10217 of file Lgm_CTrans_wrap.c.

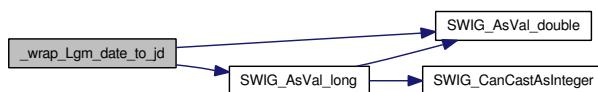
Here is the call graph for this function:



4.31.3.235 SWIGINTERN PyObject* `_wrap_Lgm_date_to_jd` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9474 of file Lgm_CTrans_wrap.c.

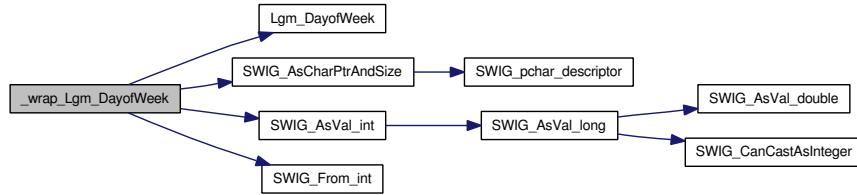
Here is the call graph for this function:



4.31.3.236 SWIGINTERN PyObject* `_wrap_Lgm_DayofWeek` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9656 of file Lgm_CTrans_wrap.c.

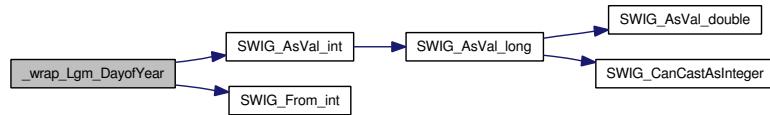
Here is the call graph for this function:



4.31.3.237 SWIGINTERN PyObject* _wrap_Lgm_DayofYear (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9616 of file Lgm_CTrans_wrap.c.

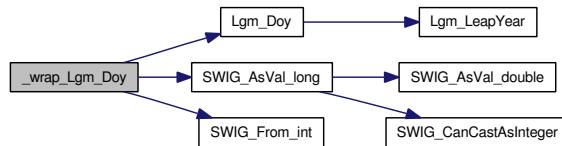
Here is the call graph for this function:



4.31.3.238 SWIGINTERN PyObject* _wrap_Lgm_Doy (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9817 of file Lgm_CTrans_wrap.c.

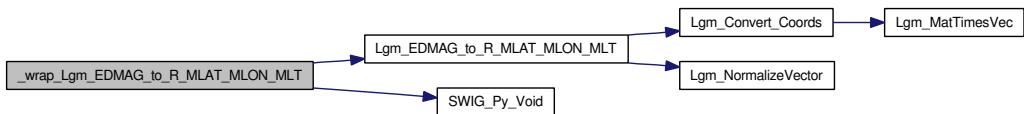
Here is the call graph for this function:



4.31.3.239 SWIGINTERN PyObject* _wrap_Lgm_EDMAG_to_R_MLAT_MLON_MLT (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10687 of file Lgm_CTrans_wrap.c.

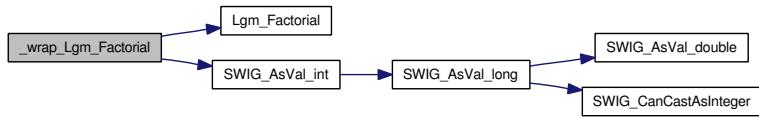
Here is the call graph for this function:



4.31.3.240 SWIGINTERN PyObject* `_wrap_Lgm_Factorial` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11101 of file Lgm_CTrans_wrap.c.

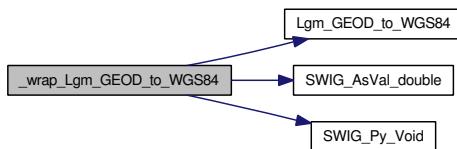
Here is the call graph for this function:



4.31.3.241 SWIGINTERN PyObject* `_wrap_Lgm_GEOD_to_WGS84` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10888 of file Lgm_CTrans_wrap.c.

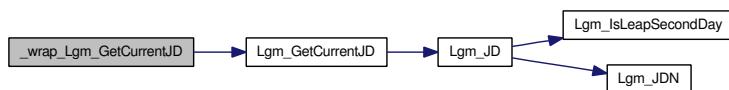
Here is the call graph for this function:



4.31.3.242 SWIGINTERN PyObject* `_wrap_Lgm_GetCurrentJD` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10358 of file Lgm_CTrans_wrap.c.

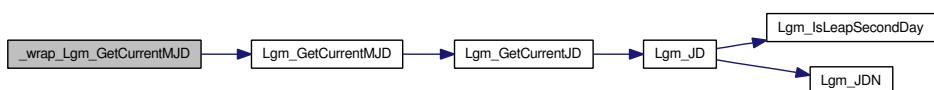
Here is the call graph for this function:



4.31.3.243 SWIGINTERN PyObject* `_wrap_Lgm_GetCurrentMJD` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10371 of file Lgm_CTrans_wrap.c.

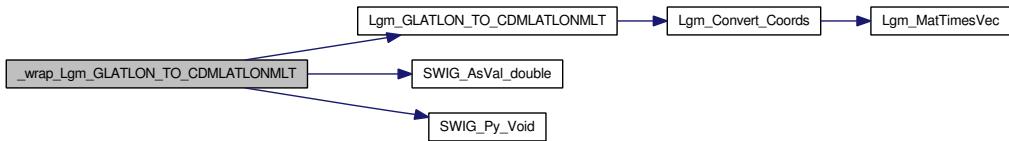
Here is the call graph for this function:



4.31.3.244 SWIGINTERN PyObject* `_wrap_Lgm_GLATLON_TO_CDMLATLONMLT` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 10432 of file Lgm_CTrans_wrap.c.

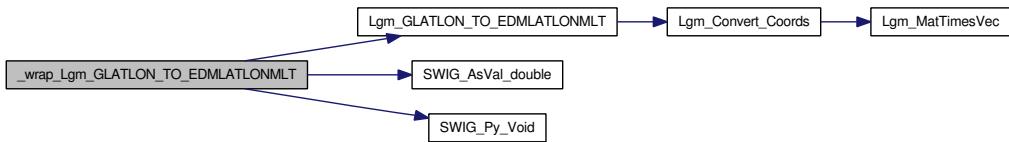
Here is the call graph for this function:



4.31.3.245 SWIGINTERN PyObject* `_wrap_Lgm_GLATLON_TO_EDMLATLONMLT` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 10498 of file Lgm_CTrans_wrap.c.

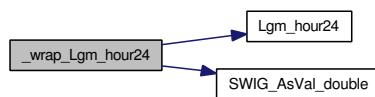
Here is the call graph for this function:



4.31.3.246 SWIGINTERN PyObject* `_wrap_Lgm_hour24` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 9563 of file Lgm_CTrans_wrap.c.

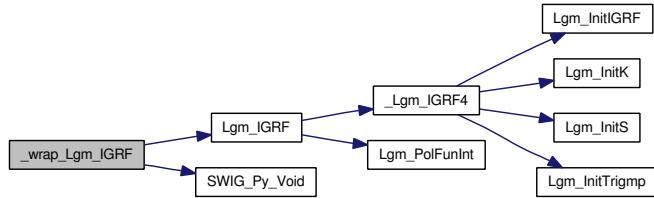
Here is the call graph for this function:



4.31.3.247 SWIGINTERN PyObject* `_wrap_Lgm_IGRF` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 11444 of file Lgm_CTrans_wrap.c.

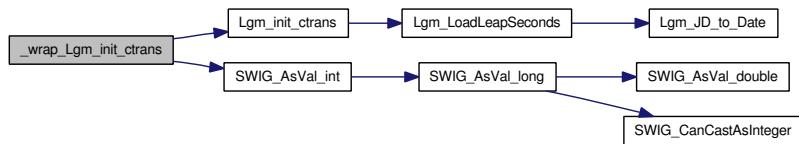
Here is the call graph for this function:



4.31.3.248 SWIGINTERN PyObject* _wrap_Lgm_init_ctrans (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9103 of file Lgm_CTrans_wrap.c.

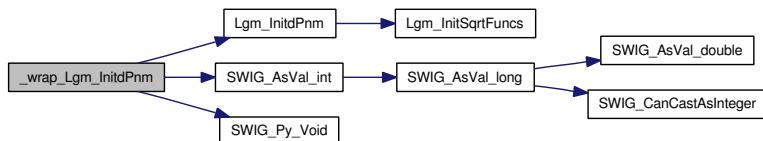
Here is the call graph for this function:



4.31.3.249 SWIGINTERN PyObject* _wrap_Lgm_InitdPnm (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11522 of file Lgm_CTrans_wrap.c.

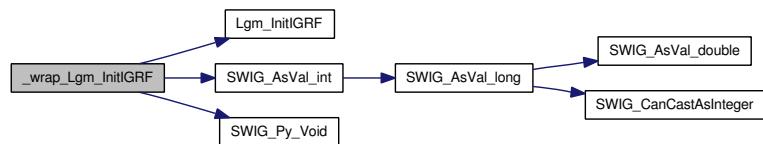
Here is the call graph for this function:



4.31.3.250 SWIGINTERN PyObject* _wrap_Lgm_InitIGRF (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11123 of file Lgm_CTrans_wrap.c.

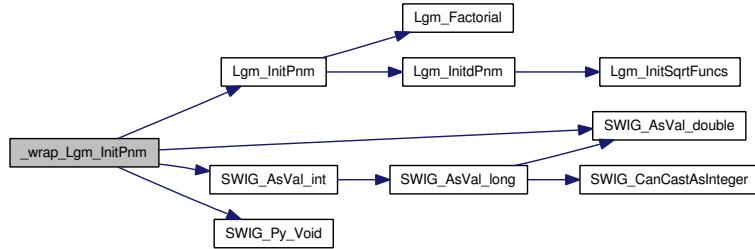
Here is the call graph for this function:



4.31.3.251 SWIGINTERN PyObject* `_wrap_Lgm_InitPnm (PyObject *` `SWIGUNUSEDPARMself, PyObject * args)`

Definition at line 11180 of file Lgm_CTrans_wrap.c.

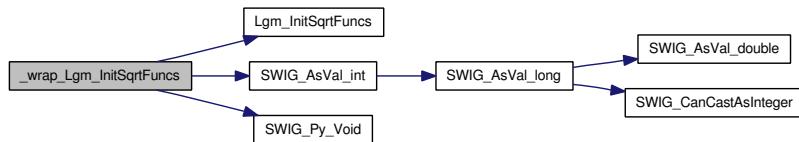
Here is the call graph for this function:



4.31.3.252 SWIGINTERN PyObject* `_wrap_Lgm_InitSqrtFuncs (PyObject *` `SWIGUNUSEDPARMself, PyObject * args)`

Definition at line 11570 of file Lgm_CTrans_wrap.c.

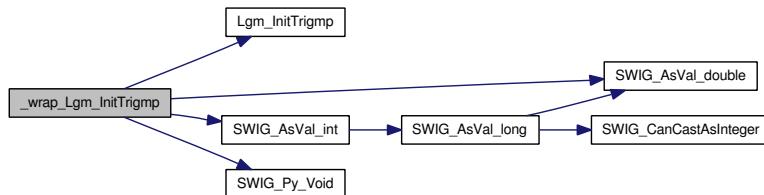
Here is the call graph for this function:



4.31.3.253 SWIGINTERN PyObject* `_wrap_Lgm_InitTrigmp (PyObject *` `SWIGUNUSEDPARMself, PyObject * args)`

Definition at line 11255 of file Lgm_CTrans_wrap.c.

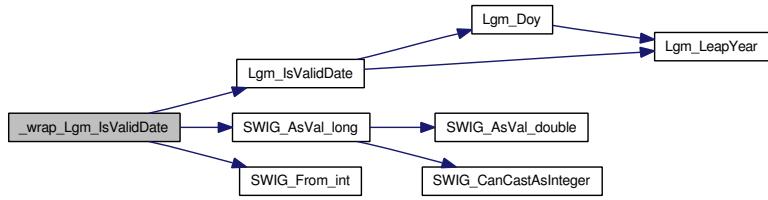
Here is the call graph for this function:



4.31.3.254 SWIGINTERN PyObject* `_wrap_Lgm_IsValidDate (PyObject *` `SWIGUNUSEDPARMself, PyObject * args)`

Definition at line 9795 of file Lgm_CTrans_wrap.c.

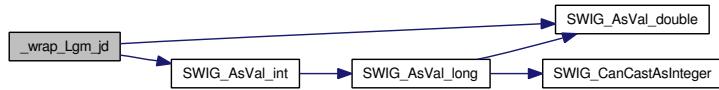
Here is the call graph for this function:



4.31.3.255 SWIGINTERN PyObject* `_wrap_Lgm_jd` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 9376 of file Lgm_CTrans_wrap.c.

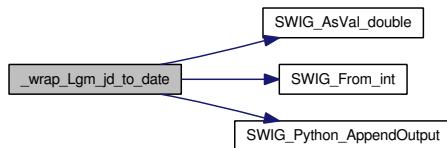
Here is the call graph for this function:



4.31.3.256 SWIGINTERN PyObject* `_wrap_Lgm_jd_to_date` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 3059 of file Lgm_CTrans_wrap.c.

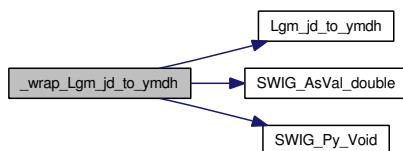
Here is the call graph for this function:



4.31.3.257 SWIGINTERN PyObject* `_wrap_Lgm_jd_to_ymdh` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 9875 of file Lgm_CTrans_wrap.c.

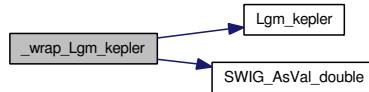
Here is the call graph for this function:



4.31.3.258 SWIGINTERN PyObject* `_wrap_Lgm_kepler` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 9585 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.259 SWIGINTERN PyObject* `_wrap_Lgm_LeapSeconds` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 9147 of file Lgm_CTrans_wrap.c.

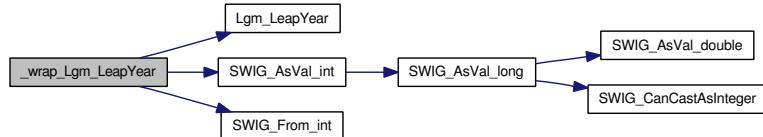
Here is the call graph for this function:



4.31.3.260 SWIGINTERN PyObject* `_wrap_Lgm_LeapYear` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 9125 of file Lgm_CTrans_wrap.c.

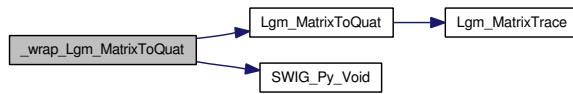
Here is the call graph for this function:



4.31.3.261 SWIGINTERN PyObject* `_wrap_Lgm_MatrixToQuat` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 11653 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.262 SWIGINTERN PyObject* `_wrap_Lgm_MatrixTrace` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11631 of file Lgm_CTrans_wrap.c.

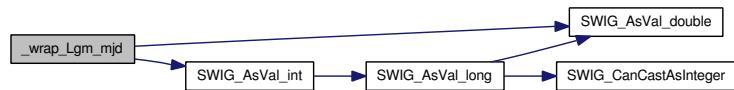
Here is the call graph for this function:



4.31.3.263 SWIGINTERN PyObject* `_wrap_Lgm_mjd` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9425 of file Lgm_CTrans_wrap.c.

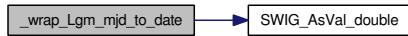
Here is the call graph for this function:



4.31.3.264 SWIGINTERN PyObject* `_wrap_Lgm_mjd_to_date` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9505 of file Lgm_CTrans_wrap.c.

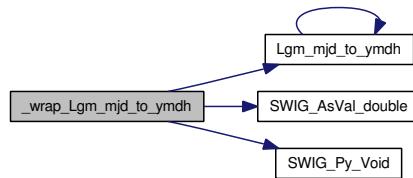
Here is the call graph for this function:



4.31.3.265 SWIGINTERN PyObject* `_wrap_Lgm_mjd_to_ymdh` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9941 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.266 SWIGINTERN PyObject* _wrap_Lgm_NormalizeQuat (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 11609 of file Lgm_CTrans_wrap.c.

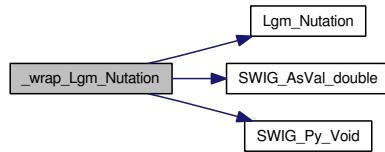
Here is the call graph for this function:



**4.31.3.267 SWIGINTERN PyObject* _wrap_Lgm_Nutation (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 10936 of file Lgm_CTrans_wrap.c.

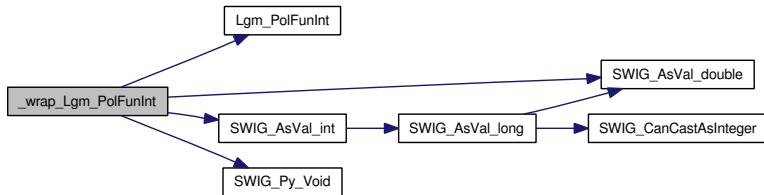
Here is the call graph for this function:



**4.31.3.268 SWIGINTERN PyObject* _wrap_Lgm_PolFunInt (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 11312 of file Lgm_CTrans_wrap.c.

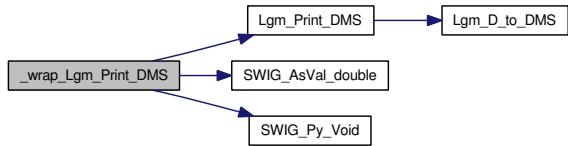
Here is the call graph for this function:



**4.31.3.269 SWIGINTERN PyObject* _wrap_Lgm_Print_DMS (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 10316 of file Lgm_CTrans_wrap.c.

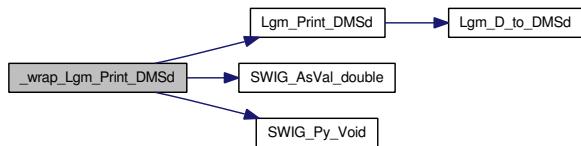
Here is the call graph for this function:



4.31.3.270 SWIGINTERN PyObject* `_wrap_Lgm_Print_DMSSd` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10337 of file Lgm_CTrans_wrap.c.

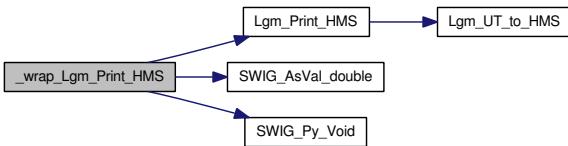
Here is the call graph for this function:



4.31.3.271 SWIGINTERN PyObject* `_wrap_Lgm_Print_HMS` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10274 of file Lgm_CTrans_wrap.c.

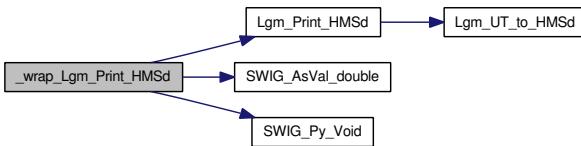
Here is the call graph for this function:



4.31.3.272 SWIGINTERN PyObject* `_wrap_Lgm_Print_HMSSd` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10295 of file Lgm_CTrans_wrap.c.

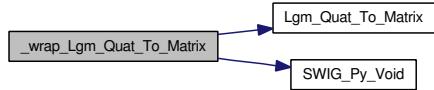
Here is the call graph for this function:



4.31.3.273 SWIGINTERN PyObject* `_wrap_Lgm_Quat_To_Matrix` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11683 of file Lgm_CTrans_wrap.c.

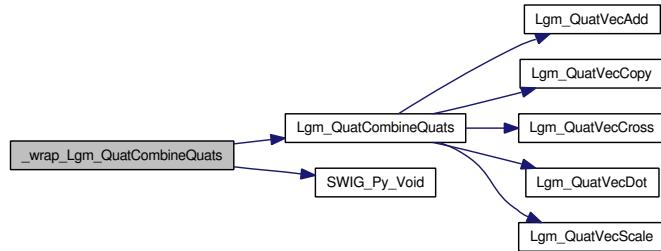
Here is the call graph for this function:



4.31.3.274 SWIGINTERN PyObject* `_wrap_Lgm_QuatCombineQuats` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 12172 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.275 SWIGINTERN PyObject* `_wrap_Lgm_QuatMagnitude` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11830 of file Lgm_CTrans_wrap.c.

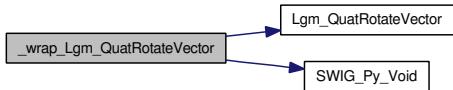
Here is the call graph for this function:



4.31.3.276 SWIGINTERN PyObject* `_wrap_Lgm_QuatRotateVector` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11791 of file Lgm_CTrans_wrap.c.

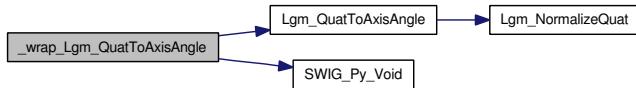
Here is the call graph for this function:



4.31.3.277 SWIGINTERN PyObject* `_wrap_Lgm_QuatToAxisAngle` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11713 of file Lgm_CTrans_wrap.c.

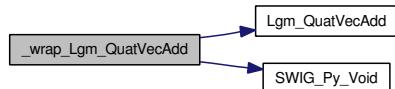
Here is the call graph for this function:



4.31.3.278 SWIGINTERN PyObject* `_wrap_Lgm_QuatVecAdd` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11974 of file Lgm_CTrans_wrap.c.

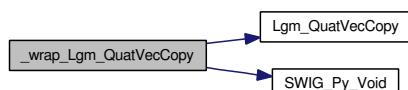
Here is the call graph for this function:



4.31.3.279 SWIGINTERN PyObject* `_wrap_Lgm_QuatVecCopy` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 12052 of file Lgm_CTrans_wrap.c.

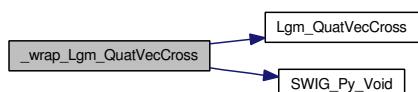
Here is the call graph for this function:



4.31.3.280 SWIGINTERN PyObject* `_wrap_Lgm_QuatVecCross` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 12133 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.281 SWIGINTERN PyObject* _wrap_Lgm_QuatVecDot (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 11874 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.282 SWIGINTERN PyObject* _wrap_Lgm_QuatVecLength (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 11852 of file Lgm_CTrans_wrap.c.

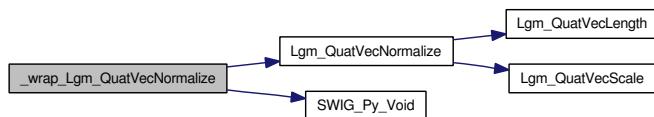
Here is the call graph for this function:



**4.31.3.283 SWIGINTERN PyObject* _wrap_Lgm_QuatVecNormalize (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 12112 of file Lgm_CTrans_wrap.c.

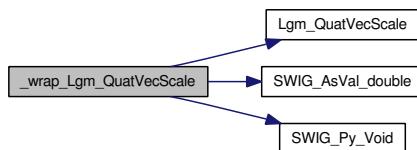
Here is the call graph for this function:



**4.31.3.284 SWIGINTERN PyObject* _wrap_Lgm_QuatVecScale (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 12082 of file Lgm_CTrans_wrap.c.

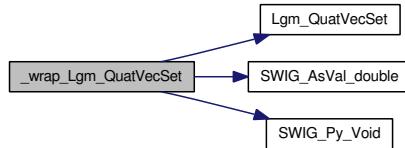
Here is the call graph for this function:



4.31.3.285 SWIGINTERN PyObject* `_wrap_Lgm_QuatVecSet` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11926 of file Lgm_CTrans_wrap.c.

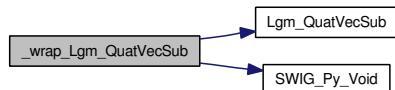
Here is the call graph for this function:



4.31.3.286 SWIGINTERN PyObject* `_wrap_Lgm_QuatVecSub` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 12013 of file Lgm_CTrans_wrap.c.

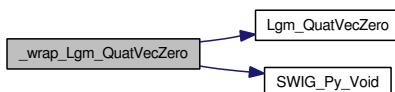
Here is the call graph for this function:



4.31.3.287 SWIGINTERN PyObject* `_wrap_Lgm_QuatVecZero` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11905 of file Lgm_CTrans_wrap.c.

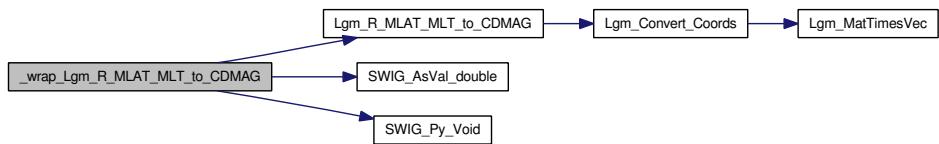
Here is the call graph for this function:



4.31.3.288 SWIGINTERN PyObject* `_wrap_Lgm_R_MLAT_MLT_to_CDMAG` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10630 of file Lgm_CTrans_wrap.c.

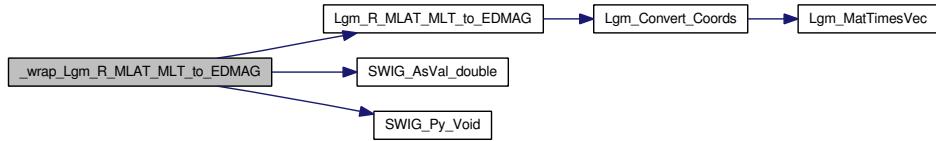
Here is the call graph for this function:



4.31.3.289 SWIGINTERN PyObject* `_wrap_Lgm_R_MLAT_MLT_to_EDMAG` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 10753 of file Lgm_CTrans_wrap.c.

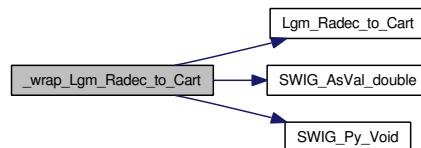
Here is the call graph for this function:



4.31.3.290 SWIGINTERN PyObject* `_wrap_Lgm_Radec_to_Cart` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9293 of file Lgm_CTrans_wrap.c.

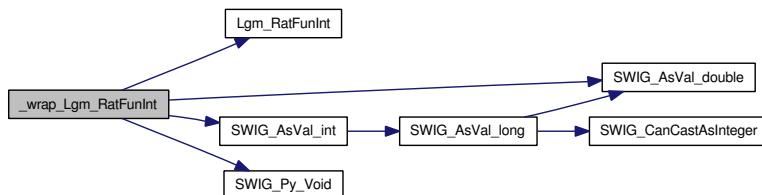
Here is the call graph for this function:



4.31.3.291 SWIGINTERN PyObject* `_wrap_Lgm_RatFunInt` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 11378 of file Lgm_CTrans_wrap.c.

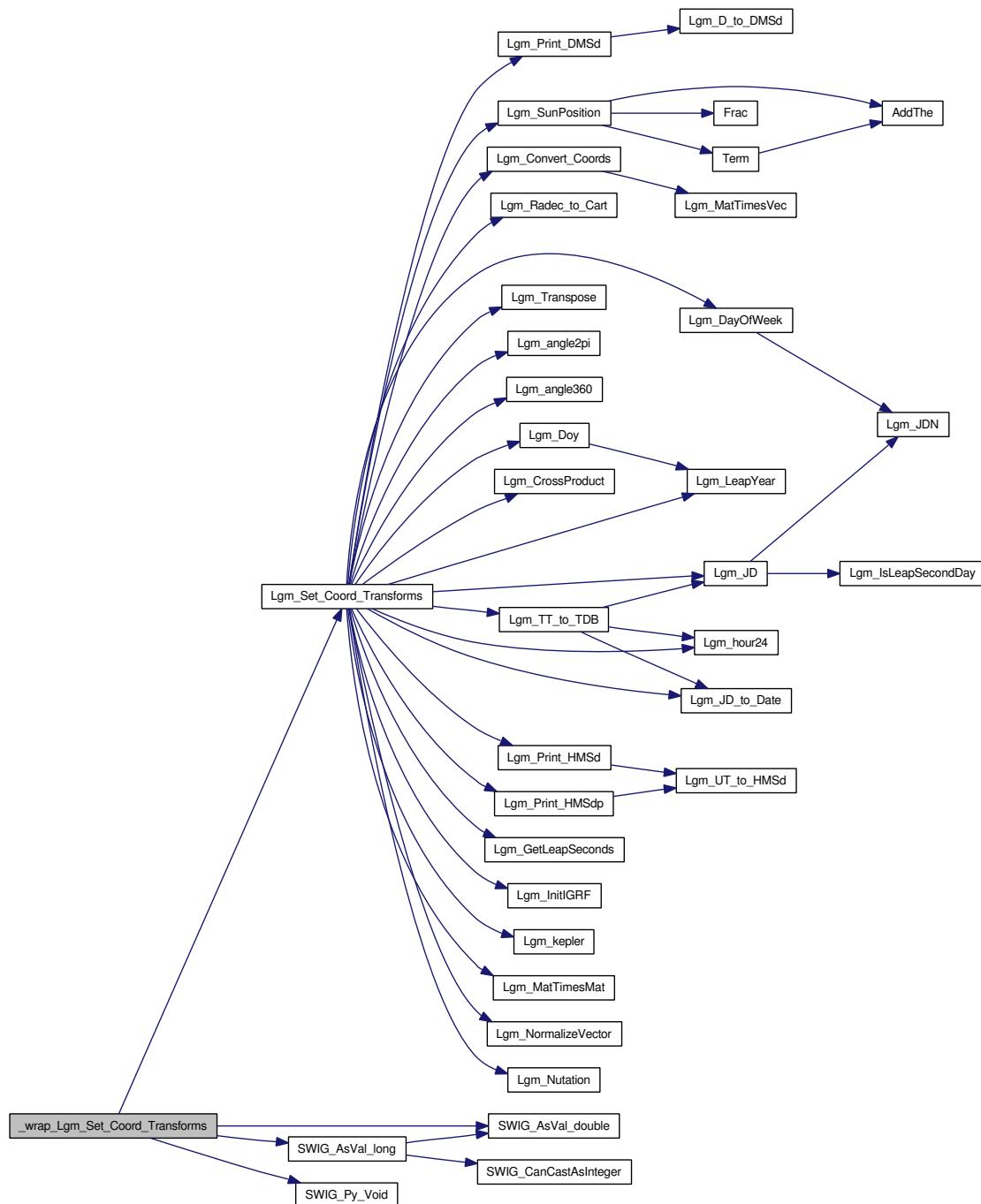
Here is the call graph for this function:



4.31.3.292 SWIGINTERN PyObject* `_wrap_Lgm_Set_Coord_Transforms` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9708 of file Lgm_CTrans_wrap.c.

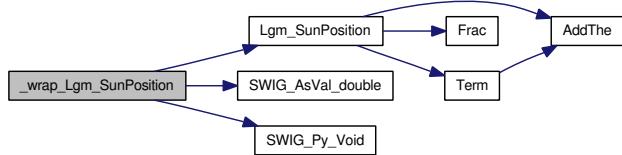
Here is the call graph for this function:



4.31.3.293 SWIGINTERN PyObject* _wrap_Lgm_SunPosition (PyObject * SWIGUNUSEDPARMself, PyObject *args)

Definition at line 10384 of file Lgm_CTrans_wrap.c.

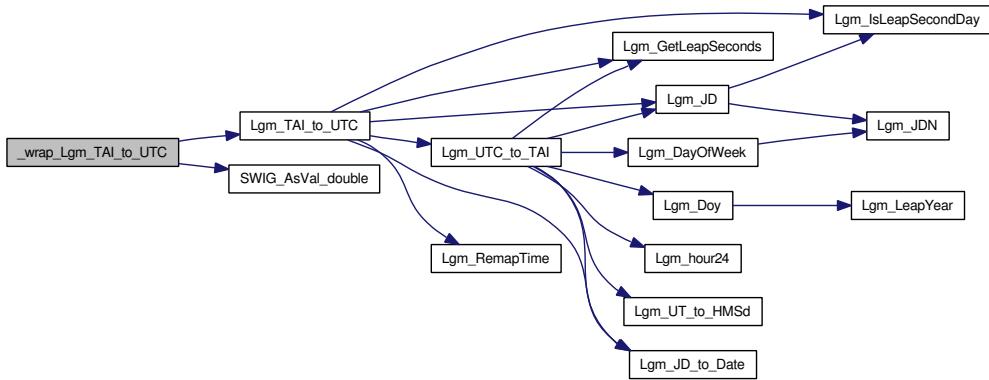
Here is the call graph for this function:



4.31.3.294 SWIGINTERN PyObject* `_wrap_Lgm_TAI_to_UTC` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9200 of file Lgm_CTrans_wrap.c.

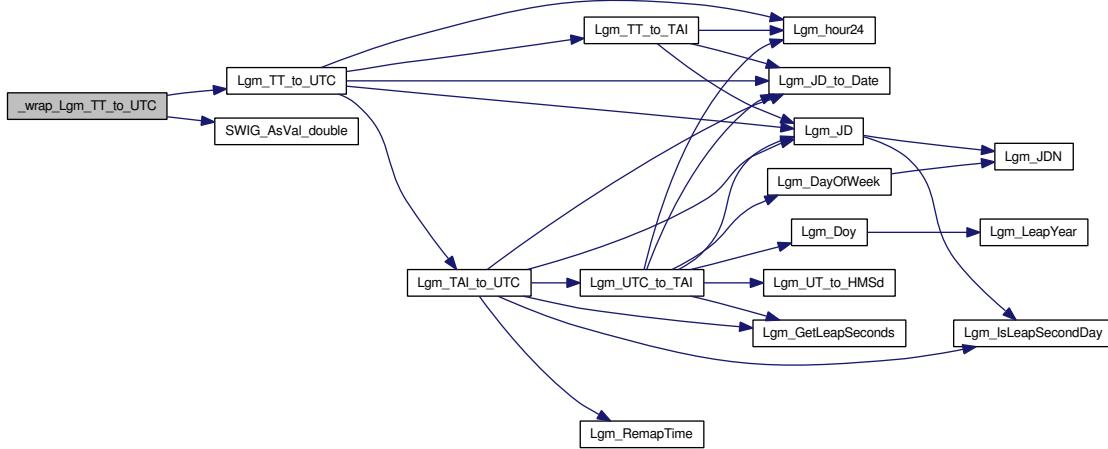
Here is the call graph for this function:



4.31.3.295 SWIGINTERN PyObject* `_wrap_Lgm_TT_to_UTC` (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9262 of file Lgm_CTrans_wrap.c.

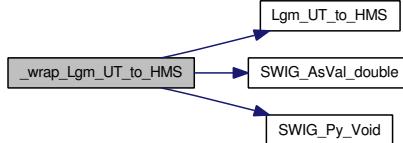
Here is the call graph for this function:



4.31.3.296 SWIGINTERN PyObject* `_wrap_Lgm_UT_to_HMS` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 10064 of file `Lgm_CTrans_wrap.c`.

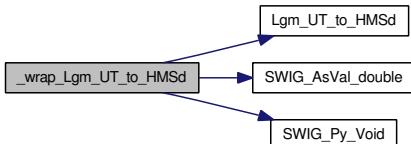
Here is the call graph for this function:



4.31.3.297 SWIGINTERN PyObject* `_wrap_Lgm_UT_to_HMSd` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 10112 of file `Lgm_CTrans_wrap.c`.

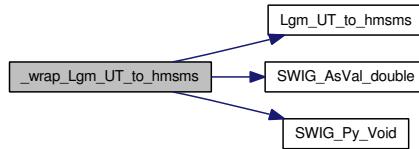
Here is the call graph for this function:



4.31.3.298 SWIGINTERN PyObject* `_wrap_Lgm_UT_to_hmsms` (PyObject * *SWIGUNUSEDPARMself*, PyObject * *args*)

Definition at line 10007 of file `Lgm_CTrans_wrap.c`.

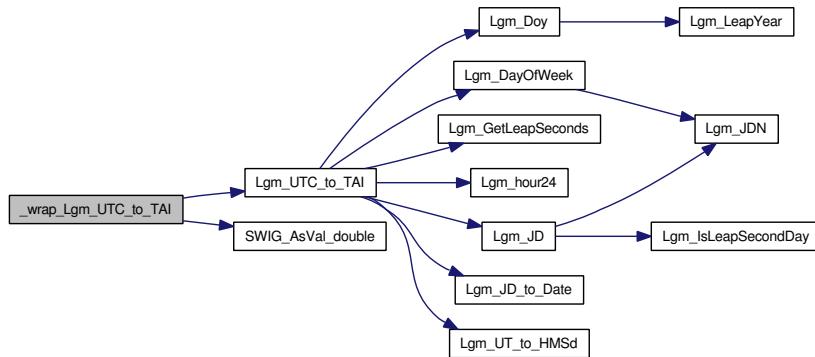
Here is the call graph for this function:



4.31.3.299 SWIGINTERN PyObject* _wrap_Lgm_UTC_to_TAI (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9169 of file Lgm_CTrans_wrap.c.

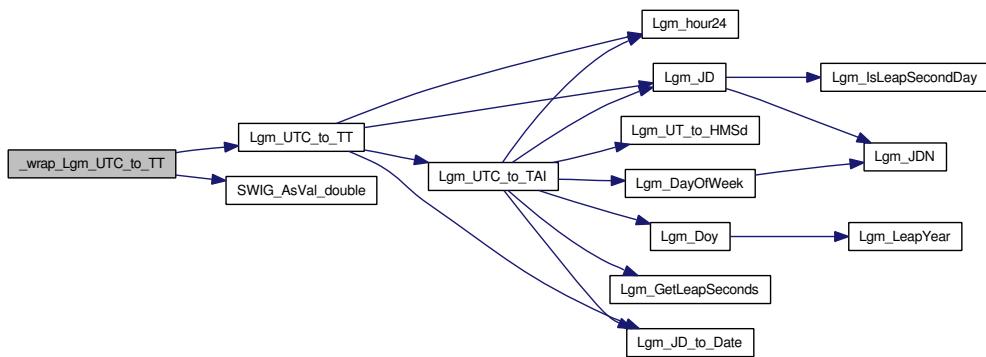
Here is the call graph for this function:



4.31.3.300 SWIGINTERN PyObject* _wrap_Lgm_UTC_to_TT (PyObject * SWIGUNUSEDPARMself, PyObject * args)

Definition at line 9231 of file Lgm_CTrans_wrap.c.

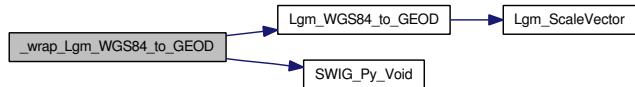
Here is the call graph for this function:



**4.31.3.301 SWIGINTERN PyObject* _wrap_Lgm_WGS84_to_GEOD (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 10810 of file Lgm_CTrans_wrap.c.

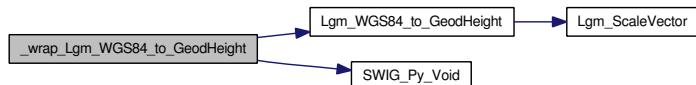
Here is the call graph for this function:



**4.31.3.302 SWIGINTERN PyObject* _wrap_Lgm_WGS84_to_GeodHeight (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 10858 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.303 SWIGINTERN PyObject* _wrap_new_doublep (PyObject * SWIGUNUSEDPARMself,
PyObject * args)**

Definition at line 2951 of file Lgm_CTrans_wrap.c.

**4.31.3.304 SWIGINTERN PyObject* _wrap_new_intp (PyObject * SWIGUNUSEDPARMself,
PyObject * args)**

Definition at line 2843 of file Lgm_CTrans_wrap.c.

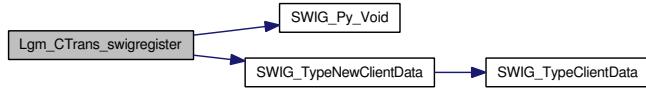
**4.31.3.305 SWIGINTERN PyObject* _wrap_new_Lgm_CTrans (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 9062 of file Lgm_CTrans_wrap.c.

**4.31.3.306 SWIGINTERN PyObject* Lgm_CTrans_swigregister (PyObject *
SWIGUNUSEDPARMself, PyObject * args)**

Definition at line 9096 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.307 SWIGINTERN int PyModule_AddObject (PyObject * *m*, char * *name*, PyObject * *o*)

Definition at line 2274 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



4.31.3.308 SWIGRUNTIME void PySwigClientData_Del (PySwigClientData * *data*)

Definition at line 1296 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



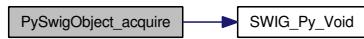
4.31.3.309 SWIGRUNTIME PySwigClientData* PySwigClientData_New (PyObject * *obj*)

Definition at line 1243 of file Lgm_CTrans_wrap.c.

4.31.3.310 SWIGINTERN PyObject* PySwigObject_acquire (PyObject * *v*, PyObject * *SWIGUNUSEDPARMargs*)

Definition at line 1505 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



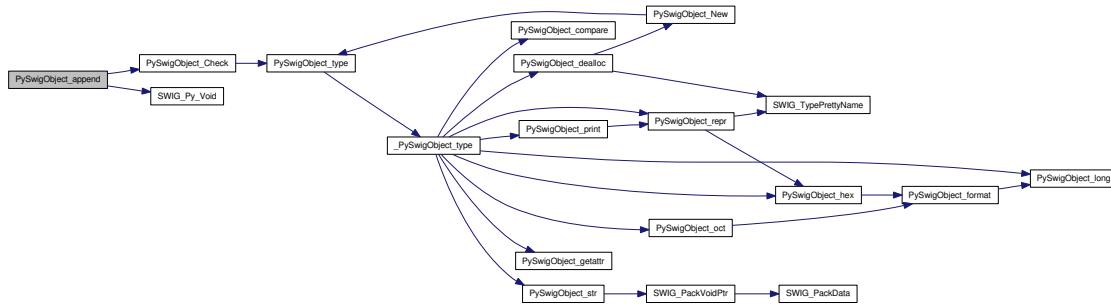
Here is the caller graph for this function:



4.31.3.311 SWIGRUNTIME PyObject* PySwigObject_append (PyObject * *v*, PyObject * *next*)

Definition at line 1457 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



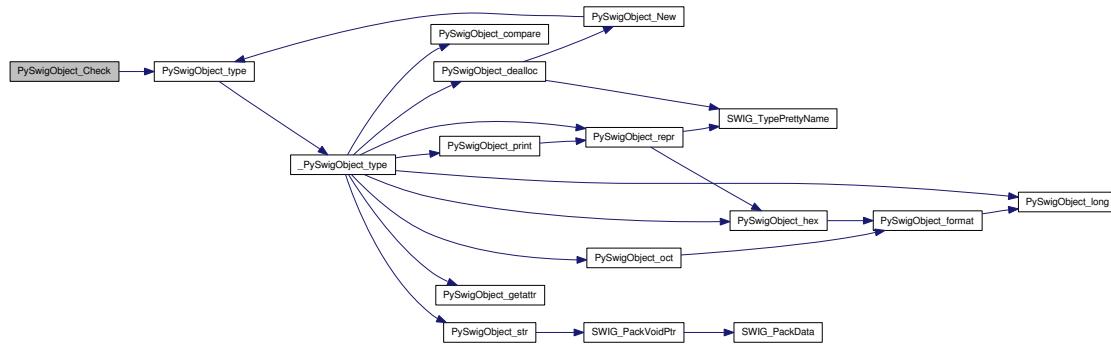
Here is the caller graph for this function:



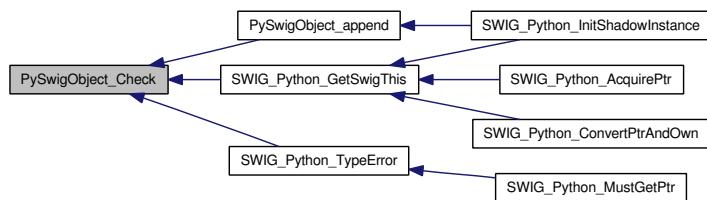
4.31.3.312 SWIGRUNTIMEINLINE int PySwigObject_Check (PyObject * op)

Definition at line 1413 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



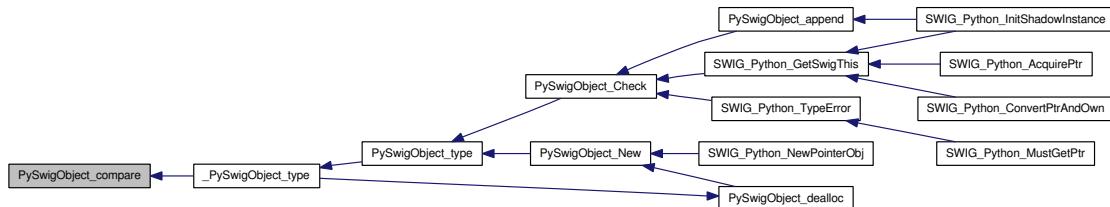
Here is the caller graph for this function:



4.31.3.313 SWIGRUNTIME int PySwigObject_compare (PySwigObject * v, PySwigObject * w)

Definition at line 1397 of file Lgm_CTrans_wrap.c.

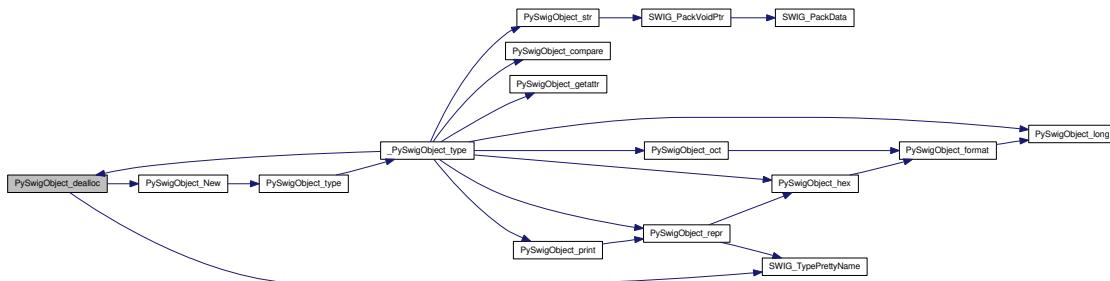
Here is the caller graph for this function:



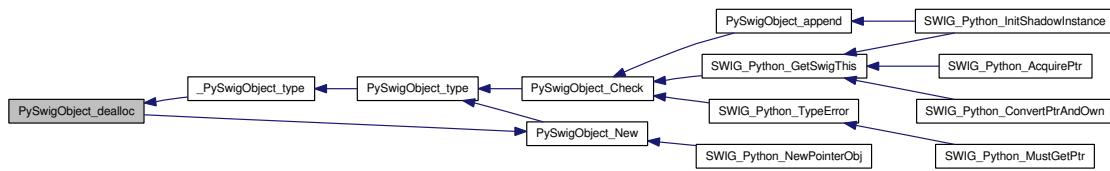
4.31.3.314 SWIGRUNTIME void PySwigObject_dealloc (PyObject * v)

Definition at line 1422 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



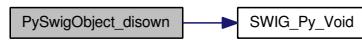
Here is the caller graph for this function:



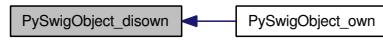
4.31.3.315 SWIGINTERN PyObject* PySwigObject_Disown (PyObject * v, PyObject * SWIGUNUSEDPARMargs)

Definition at line 1493 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



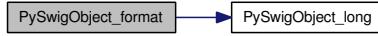
Here is the caller graph for this function:



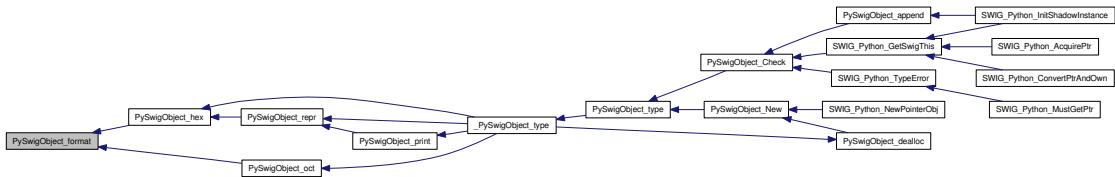
4.31.3.316 SWIGRUNTIME PyObject* PySwigObject_format (const char *fmt, PySwigObject *v)

Definition at line 1320 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



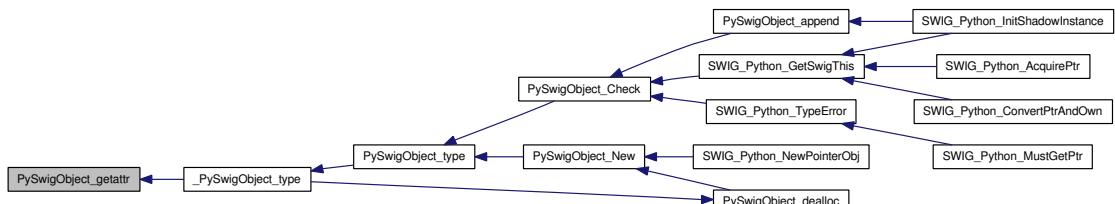
Here is the caller graph for this function:



4.31.3.317 SWIGINTERN PyObject* PySwigObject_getattr (PySwigObject *sobj, char *name)

Definition at line 1574 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



4.31.3.318 SWIGRUNTIMEINLINE const char* PySwigObject_GetDesc (PyObject *self)

Definition at line 2407 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



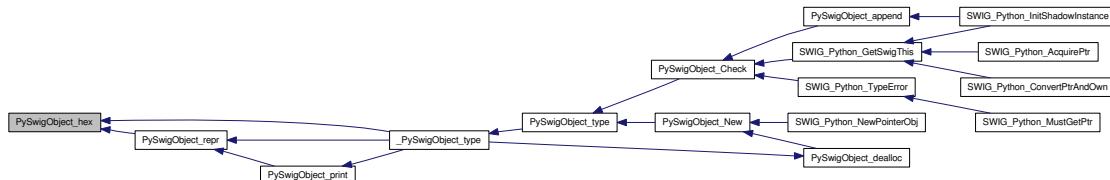
4.31.3.319 SWIGRUNTIME PyObject* PySwigObject_hex (PySwigObject *v)

Definition at line 1344 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



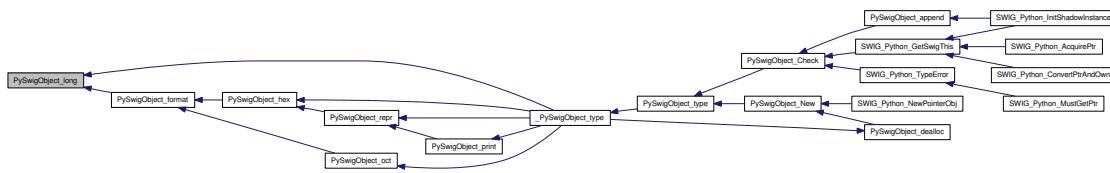
Here is the caller graph for this function:



4.31.3.320 SWIGRUNTIME PyObject* PySwigObject_long (PySwigObject * v)

Definition at line 1314 of file Lgm_CTrans_wrap.c.

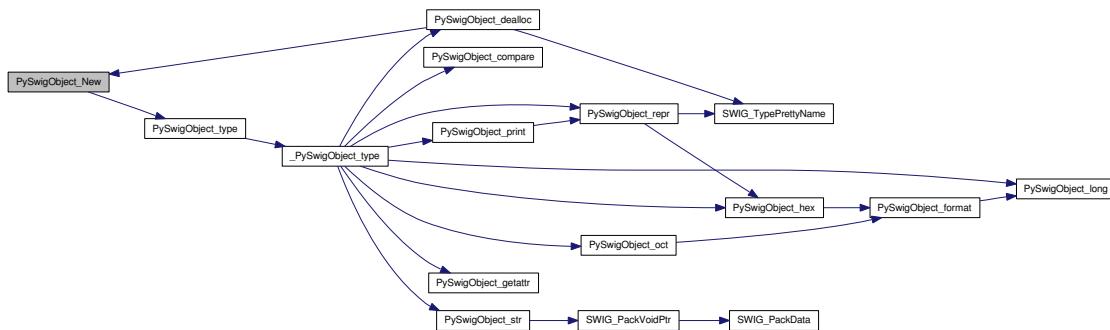
Here is the caller graph for this function:



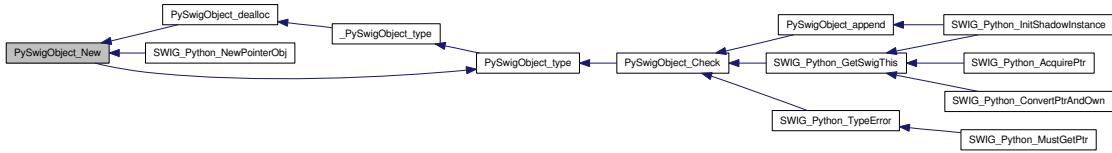
4.31.3.321 SWIGRUNTIME PyObject * PySwigObject_New (void *ptr, swig_type_info *ty, int own)

Definition at line 1689 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



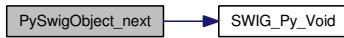
Here is the caller graph for this function:



4.31.3.322 SWIGRUNTIME PyObject* PySwigObject_next (PyObject * v, PyObject * SWIGUNUSEDPARMargs)

Definition at line 1477 of file Lgm_CTrans_wrap.c.

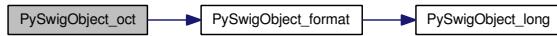
Here is the call graph for this function:



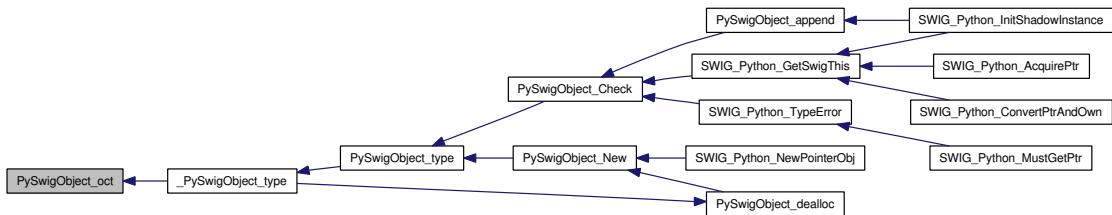
4.31.3.323 SWIGRUNTIME PyObject* PySwigObject_oct (PySwigObject * v)

Definition at line 1338 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



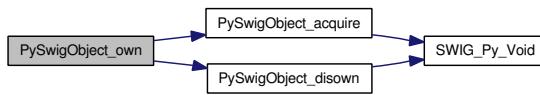
Here is the caller graph for this function:



4.31.3.324 SWIGINTERN PyObject* PySwigObject_own (PyObject * v, PyObject * args)

Definition at line 1514 of file Lgm_CTrans_wrap.c.

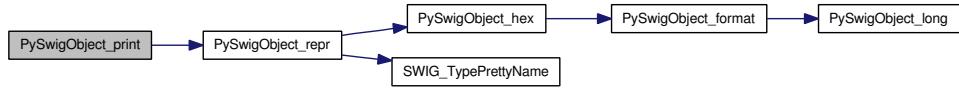
Here is the call graph for this function:



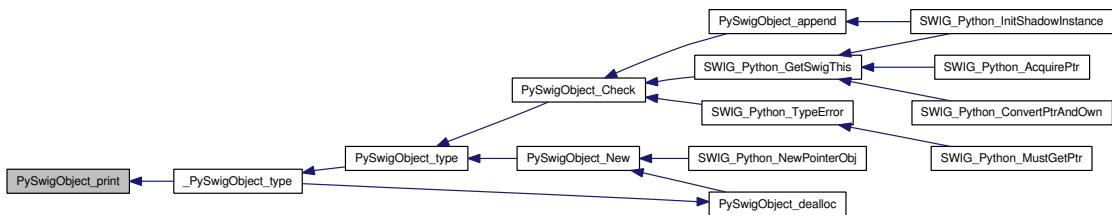
4.31.3.325 SWIGRUNTIME int PySwigObject_print (PySwigObject * v, FILE * fp, int SWIGUNUSEDPARMflags)

Definition at line 1372 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



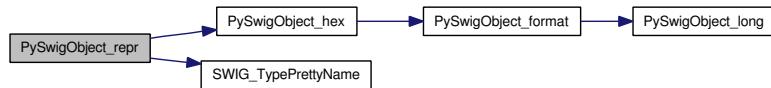
Here is the caller graph for this function:



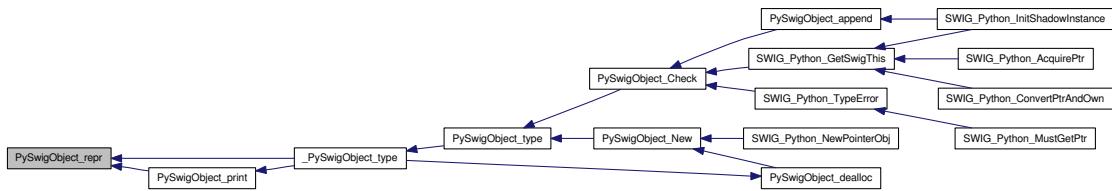
4.31.3.326 SWIGRUNTIME PyObject* PySwigObject_repr (PySwigObject * v, PyObject * args)

Definition at line 1353 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



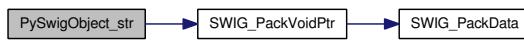
Here is the caller graph for this function:



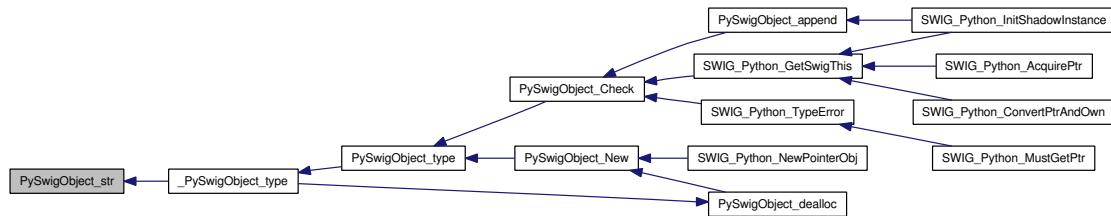
4.31.3.327 SWIGRUNTIME PyObject* PySwigObject_str (PySwigObject * v)

Definition at line 1389 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



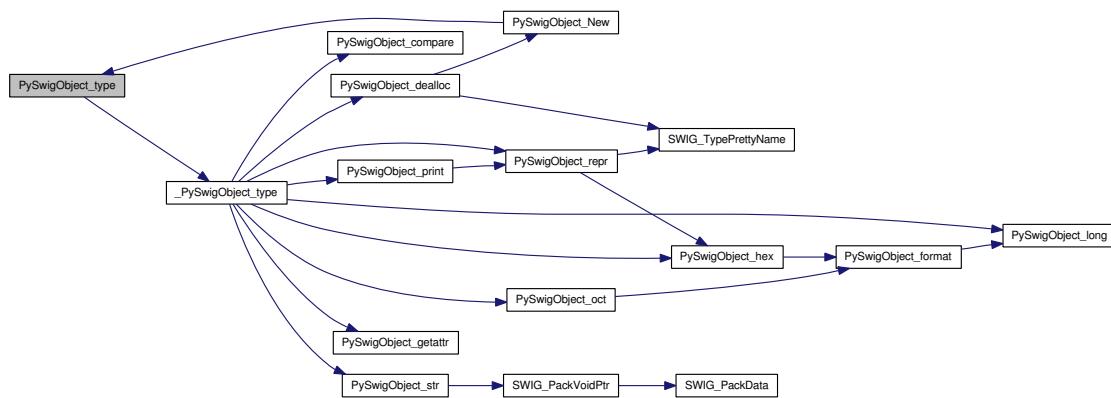
Here is the caller graph for this function:



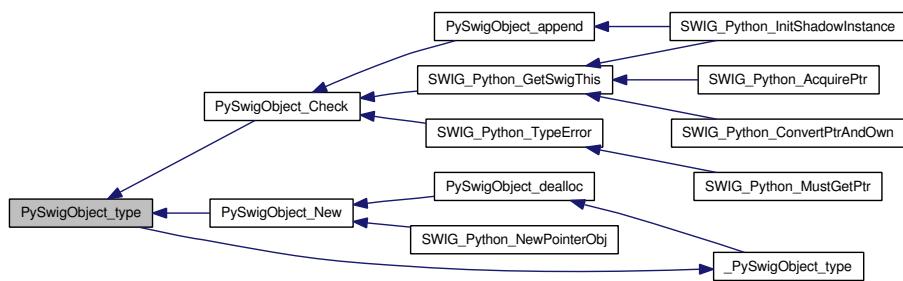
4.31.3.328 SWIGRUNTIME PyTypeObject* PySwigObject_type (void)

Definition at line 1407 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



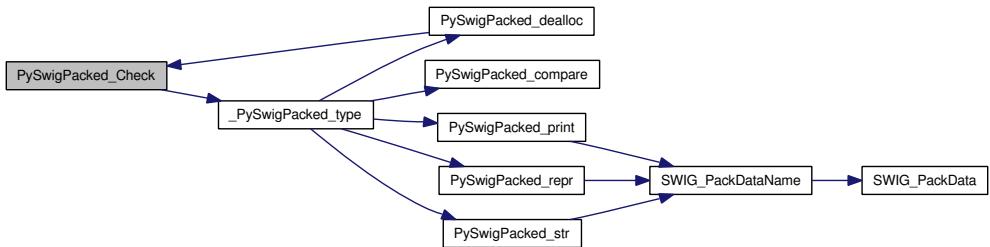
Here is the caller graph for this function:



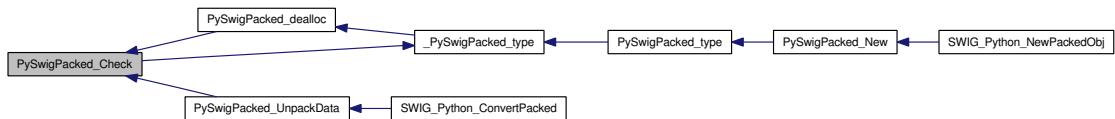
4.31.3.329 SWIGRUNTIMEINLINE int PySwigPacked_Check (PyObject * op)

Definition at line 1766 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



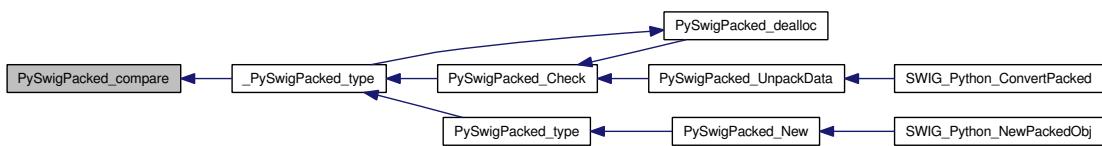
Here is the caller graph for this function:



4.31.3.330 SWIGRUNTIME int PySwigPacked_compare (PySwigPacked * v, PySwigPacked * w)

Definition at line 1749 of file Lgm_CTrans_wrap.c.

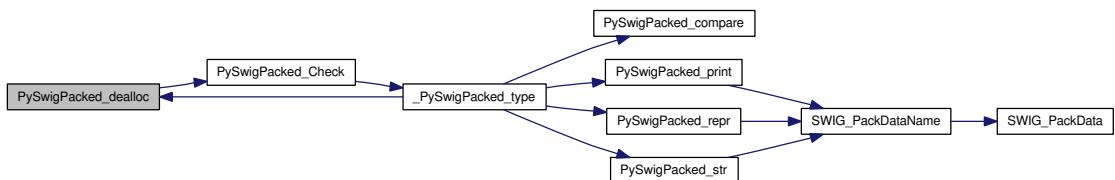
Here is the caller graph for this function:



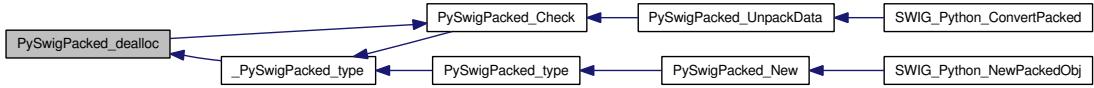
4.31.3.331 SWIGRUNTIME void PySwigPacked_dealloc (PyObject * v)

Definition at line 1772 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



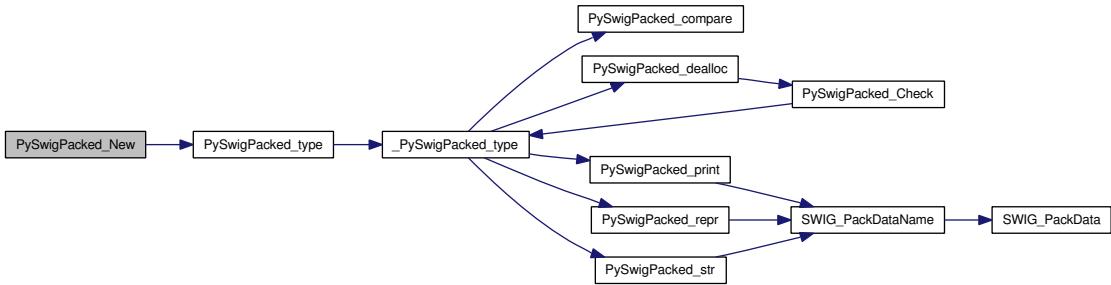
Here is the caller graph for this function:



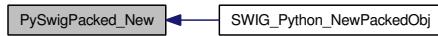
4.31.3.332 SWIGRUNTIME PyObject* PySwigPacked_New (void * ptr, size_t size, swig_type_info * ty)

Definition at line 1852 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



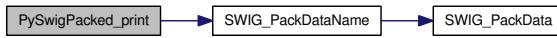
Here is the caller graph for this function:



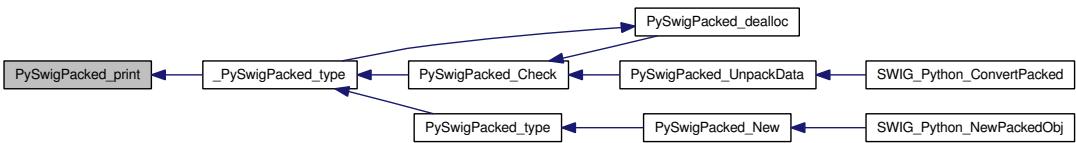
4.31.3.333 SWIGRUNTIME int PySwigPacked_print (PySwigPacked * v, FILE * fp, int SWIGUNUSEDPARMflags)

Definition at line 1713 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



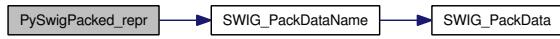
Here is the caller graph for this function:



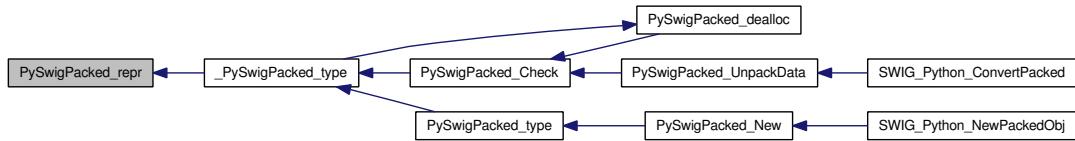
4.31.3.334 SWIGRUNTIME PyObject* PySwigPacked_repr (PySwigPacked * v)

Definition at line 1727 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Here is the caller graph for this function:



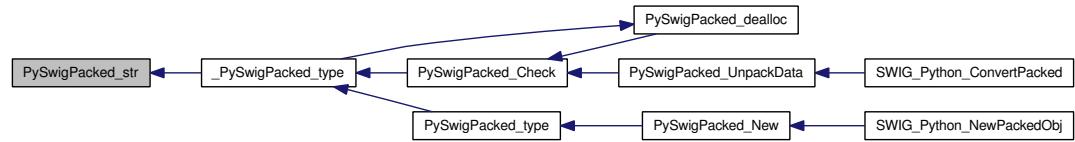
4.31.3.335 SWIGRUNTIME PyObject* PySwigPacked_str (PySwigPacked * v)

Definition at line 1738 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



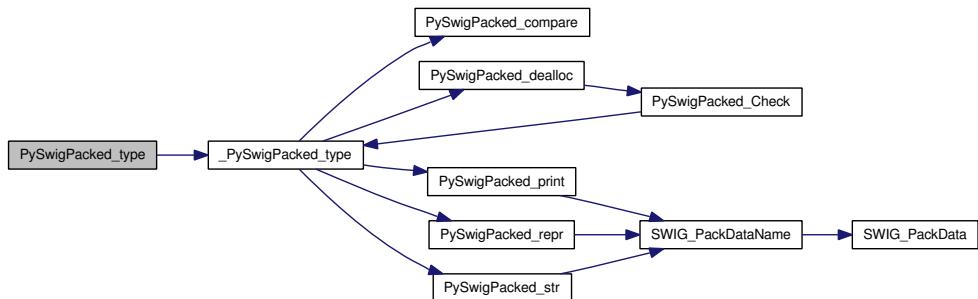
Here is the caller graph for this function:



4.31.3.336 SWIGRUNTIME PyTypeObject* PySwigPacked_type (void)

Definition at line 1760 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



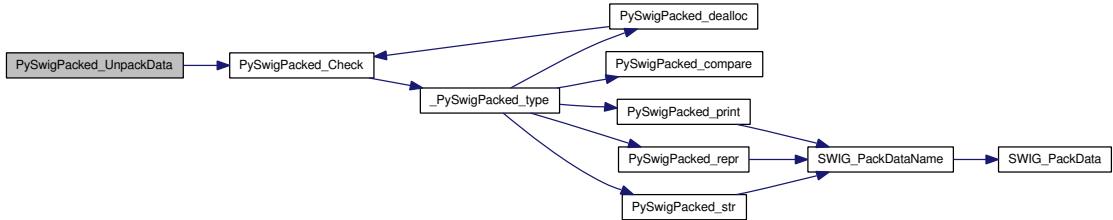
Here is the caller graph for this function:



4.31.3.337 SWIGRUNTIME swig_type_info* PySwigPacked_UnpackData (PyObject * *obj*, void * *ptr*, size_t *size*)

Definition at line 1871 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



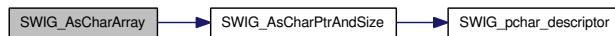
Here is the caller graph for this function:



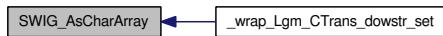
4.31.3.338 SWIGINTERN int SWIG_AsCharArray (PyObject * *obj*, char * *val*, size_t *size*)

Definition at line 2798 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



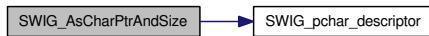
Here is the caller graph for this function:



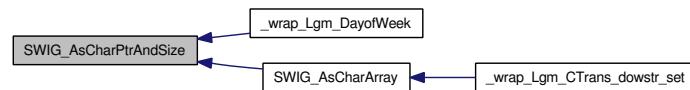
4.31.3.339 SWIGINTERN int SWIG_AsCharPtrAndSize (PyObject * *obj*, char ** *cptr*, size_t * *psize*, int * *alloc*)

Definition at line 2746 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Here is the caller graph for this function:



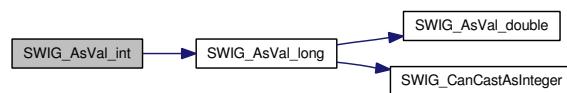
4.31.3.340 SWIGINTERN int SWIG_AsVal_double (PyObject * *obj*, double * *val*)

Definition at line 2564 of file Lgm_CTrans_wrap.c.

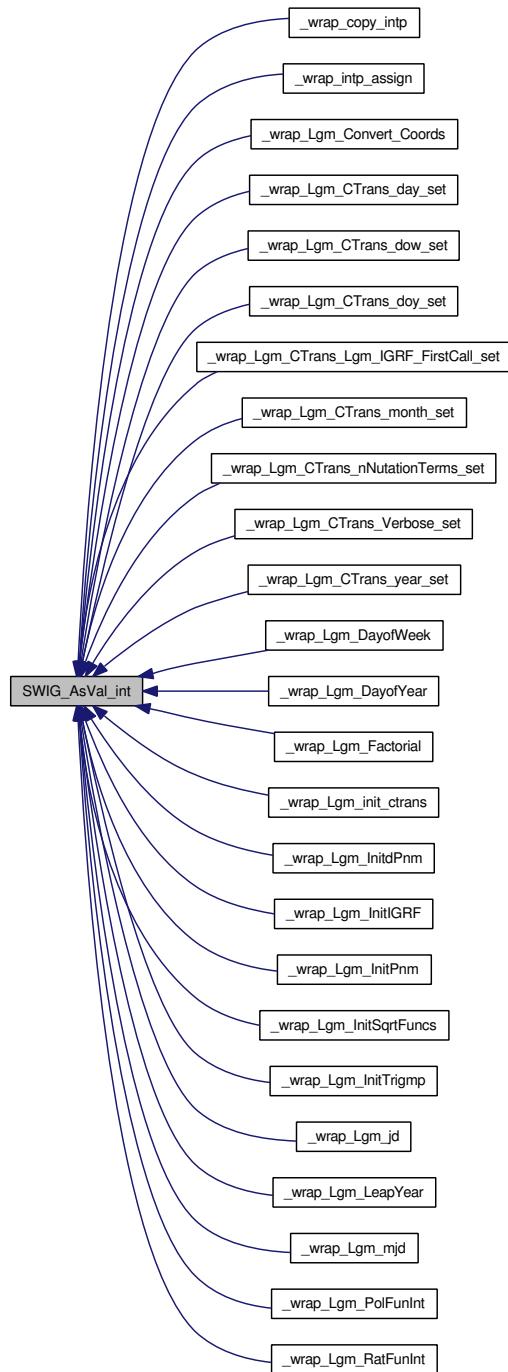
4.31.3.341 SWIGINTERN int SWIG_AsVal_int (PyObject * *obj*, int * *val*)

Definition at line 2683 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



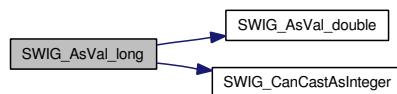
Here is the caller graph for this function:



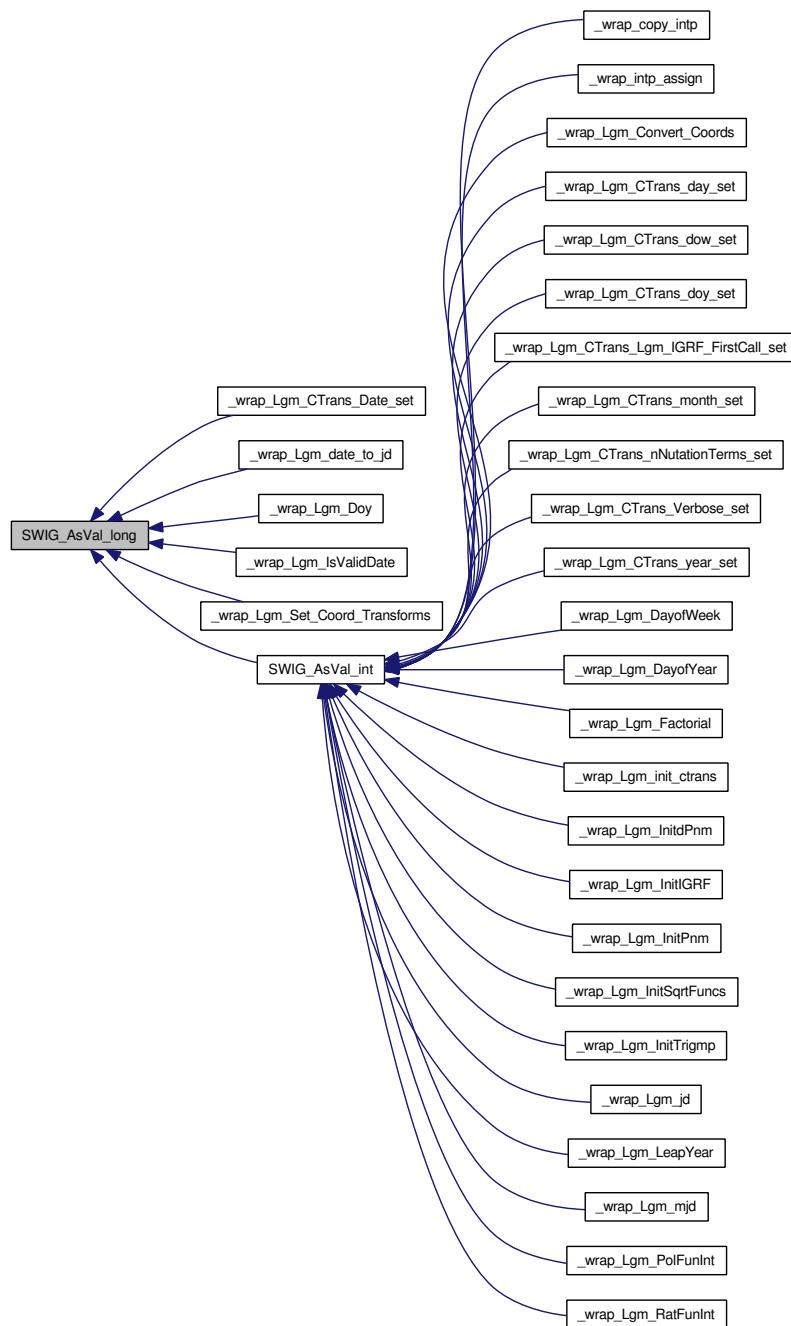
4.31.3.342 SWIGINTERN int SWIG_AsVal_long (PyObject * *obj*, long * *val*)

Definition at line 2644 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



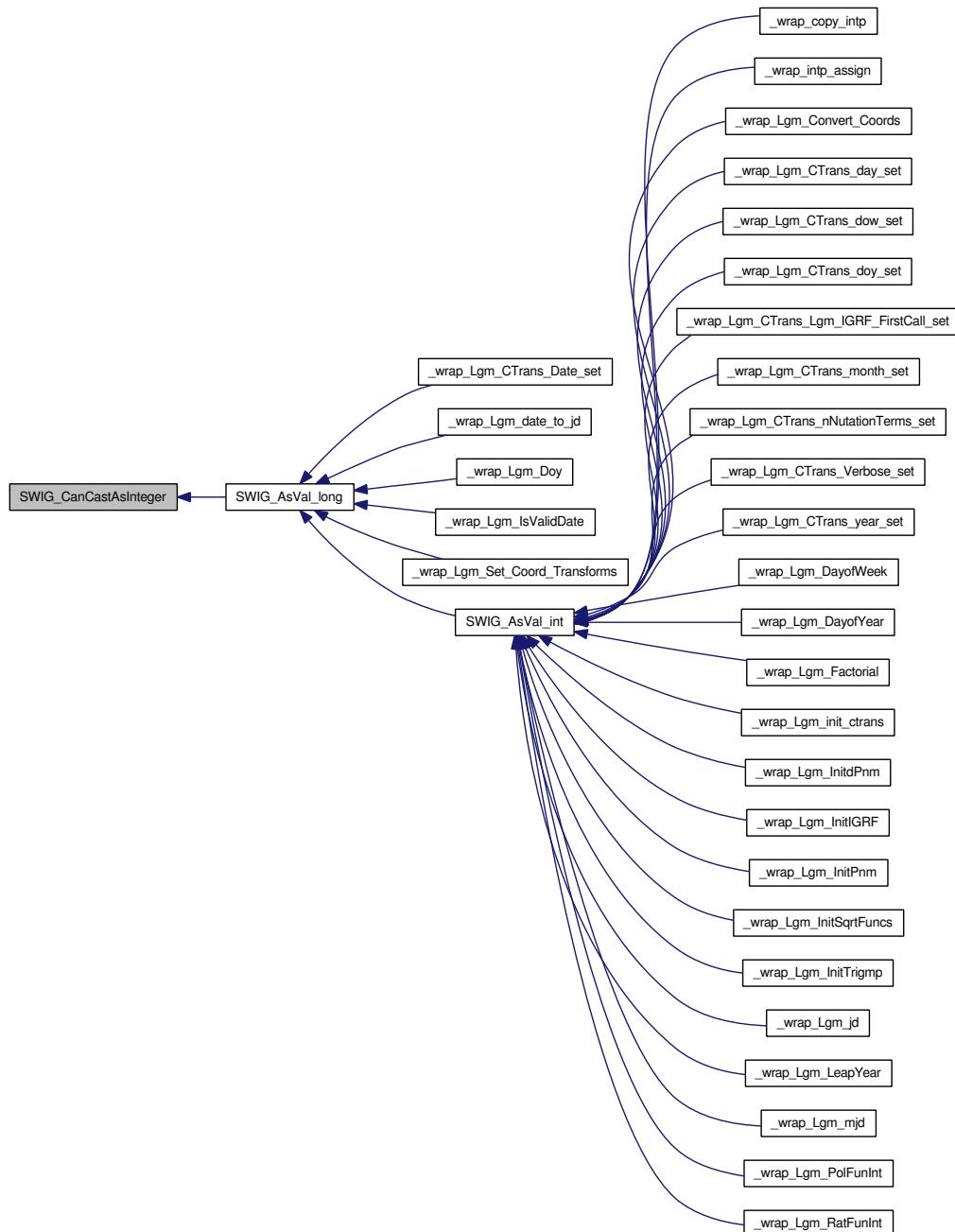
Here is the caller graph for this function:



4.31.3.343 SWIGINTERNINLINE int SWIG_CanCastAsInteger (double * d, double min, double max)

Definition at line 2614 of file Lgm_CTrans_wrap.c.

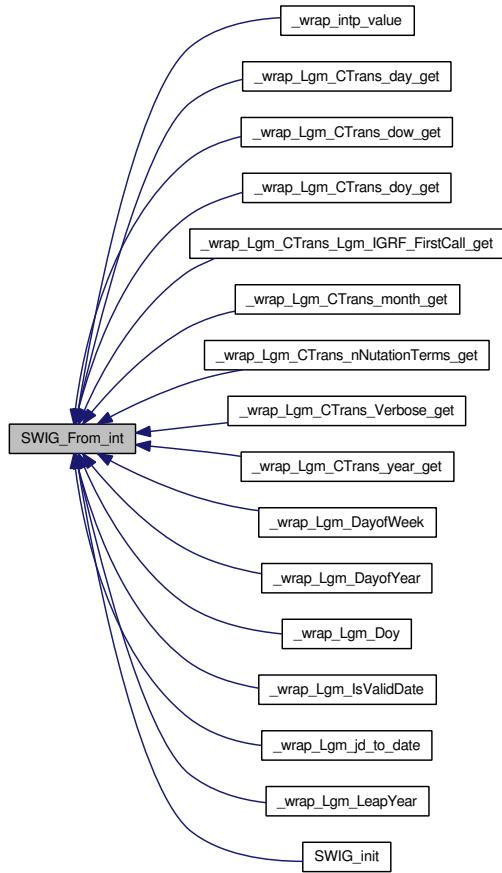
Here is the caller graph for this function:



4.31.3.344 SWIGINTERNINLINE PyObject* SWIG_From_int (int *value*)

Definition at line 2702 of file Lgm_CTrans_wrap.c.

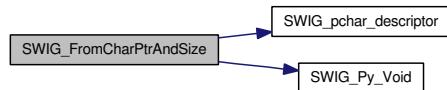
Here is the caller graph for this function:



4.31.3.345 SWIGINTERNINLINE PyObject* SWIG_FromCharPtrAndSize (const char * *array*, size_t *size*)

Definition at line 2822 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Here is the caller graph for this function:



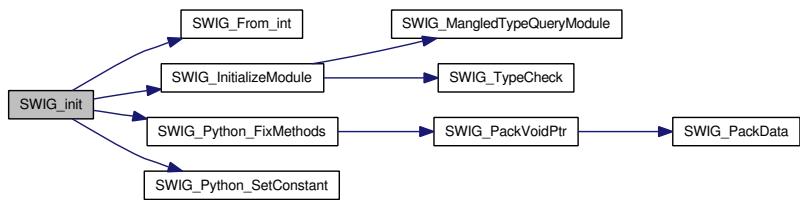
4.31.3.346 SWIGINTERN PyObject* SWIG_globals (void)

Definition at line 13024 of file Lgm_CTrans_wrap.c.

4.31.3.347 SWIGEXPORT void SWIG_init (void)

Definition at line 13115 of file Lgm_CTrans_wrap.c.

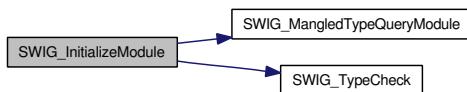
Here is the call graph for this function:



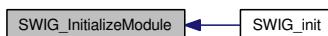
4.31.3.348 SWIGRUNTIME void SWIG_InitializeModule (void * *clientdata*)

Definition at line 12664 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



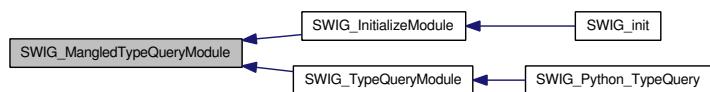
Here is the caller graph for this function:



4.31.3.349 SWIGRUNTIME swig_type_info* SWIG_MangledTypeQueryModule (swig_module_info * *start*, swig_module_info * *end*, const char * *name*)

Definition at line 523 of file Lgm_CTrans_wrap.c.

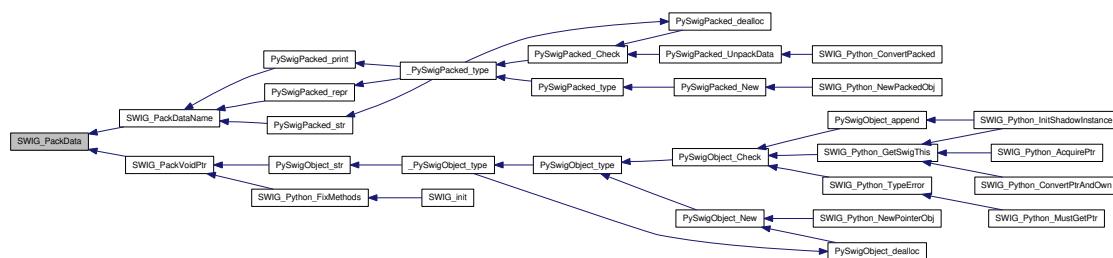
Here is the caller graph for this function:



4.31.3.350 SWIGRUNTIME char* SWIG_PackData (char * c, void * ptr, size_t sz)

Definition at line 597 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



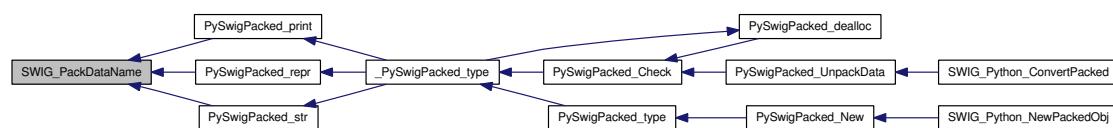
4.31.3.351 SWIGRUNTIME char* SWIG_PackDataName (char * *buf*, void * *ptr*, size_t *sz*, const char * *name*, size_t *bsz*)

Definition at line 665 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Here is the caller graph for this function:



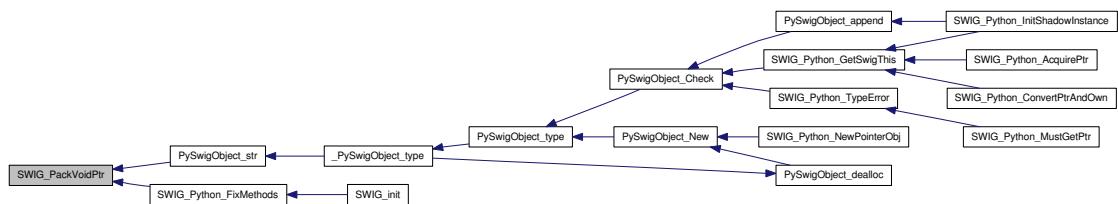
4.31.3.352 SWIGRUNTIME char* SWIG_PackVoidPtr (char * *buff*, void * *ptr*, const char * *name*, size_t *bsz*)

Definition at line 641 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



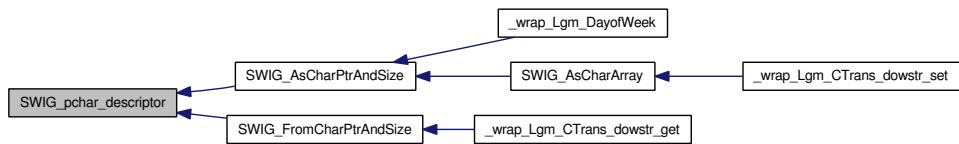
Here is the caller graph for this function:



4.31.3.353 SWIGINTERN swig_type_info* SWIG_pchar_descriptor (void)

Definition at line 2733 of file Lgm_CTrans_wrap.c.

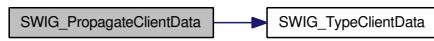
Here is the caller graph for this function:



4.31.3.354 SWIGRUNTIME void SWIG_PropagateClientData (void)

Definition at line 12817 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



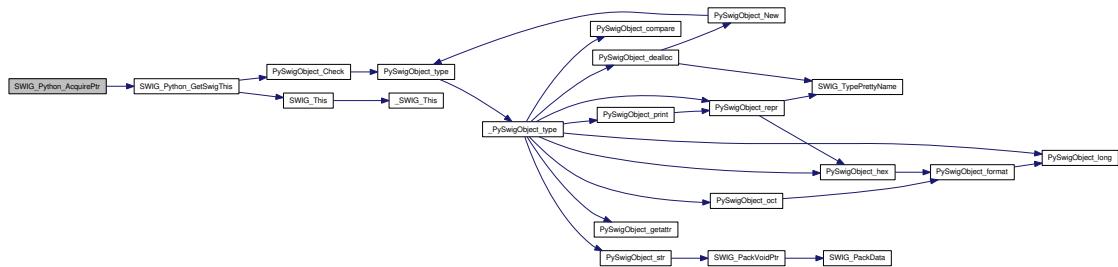
4.31.3.355 SWIGRUNTIMEINLINE PyObject* SWIG_Py_Void (void)

Definition at line 1209 of file Lgm_CTrans_wrap.c.

4.31.3.356 SWIGRUNTIME int SWIG_Python_AcquirePtr (PyObject * *obj*, int *own*)

Definition at line 1954 of file Lgm_CTrans_wrap.c.

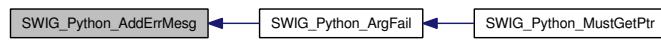
Here is the call graph for this function:



4.31.3.357 SWIGRUNTIME int SWIG_Python_AddErrMess (const char * *mesg*, int *infront*)

Definition at line 2369 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



4.31.3.358 SWIGRUNTIME void SWIG_Python_AddErrorMsg (const char * msg)

Definition at line 851 of file Lgm_CTrans_wrap.c.

4.31.3.359 SWIGINTERN void SWIG_Python_addvarlink (PyObject **p*, char **name*, PyObject *(*)(void) *get_attr*, int(*)(PyObject **p*) *set_attr*)

Definition at line 13007 of file Lgm_CTrans_wrap.c.

4.31.3.360 SWIGINTERN PyObject* SWIG_Python_AppendOutput (PyObject * *result*, PyObject * *obj*)

Definition at line 1061 of file Lgm_CTrans_wrap.c.

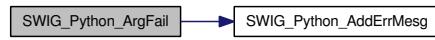
Here is the caller graph for this function:



4.31.3.361 SWIGRUNTIME int SWIG_Python_ArgFail (int argnum)

Definition at line 2394 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Here is the caller graph for this function:



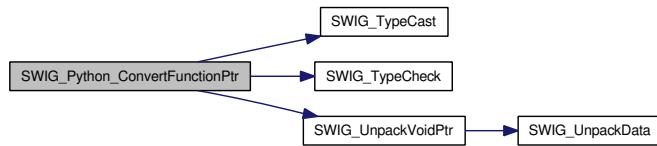
4.31.3.362 SWIGRUNTIMEINLINE int SWIG_Python_CheckImplicit (swig_type_info * ty)

Definition at line 1228 of file Lgm_CTrans_wrap.c.

4.31.3.363 SWIGRUNTIME int SWIG_Python_ConvertFunctionPtr (PyObject * obj, void ** ptr, swig_type_info * ty)

Definition at line 2060 of file Lgm_CTrans_wrap.c.

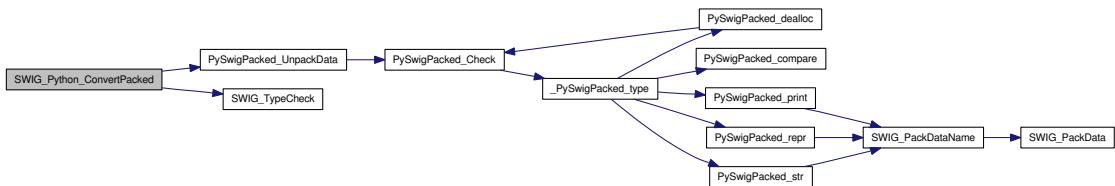
Here is the call graph for this function:



4.31.3.364 SWIGRUNTIME int SWIG_Python_ConvertPacked (PyObject * obj, void * ptr, size_t sz, swig_type_info * ty)

Definition at line 2092 of file Lgm_CTrans_wrap.c.

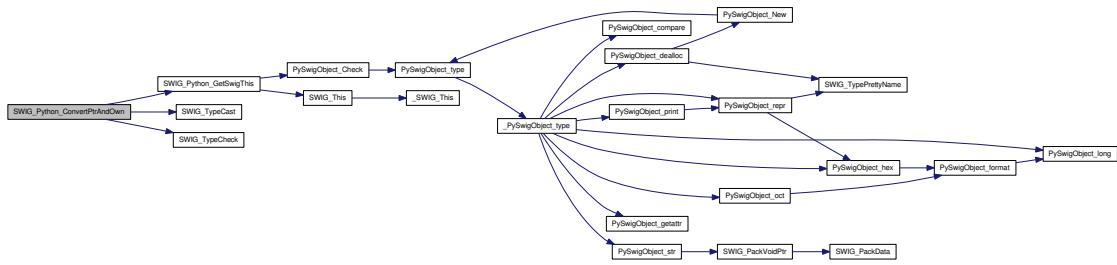
Here is the call graph for this function:



4.31.3.365 SWIGRUNTIME int SWIG_Python_ConvertPtrAndOwn (PyObject * obj, void ** ptr, swig_type_info * ty, int flags, int * own)

Definition at line 1969 of file Lgm_CTrans_wrap.c.

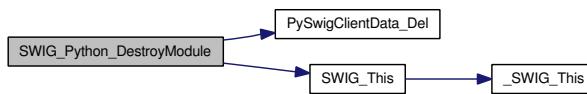
Here is the call graph for this function:



4.31.3.366 SWIGRUNTIME void SWIG_Python_DestroyModule (void * vptr)

Definition at line 2303 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.31.3.367 SWIGRUNTIME PyObject* SWIG_Python_ErrorType (int code)

Definition at line 807 of file Lgm_CTrans_wrap.c.

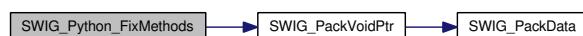
4.31.3.368 SWIGRUNTIMEINLINE PyObject* SWIG_Python_ExceptionType (swig_type_info * desc)

Definition at line 1235 of file Lgm_CTrans_wrap.c.

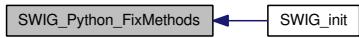
4.31.3.369 SWIGINTERN void SWIG_Python_FixMethods (PyMethodDef * methods, swig_const_info * const_table, swig_type_info ** types, swig_type_info ** types_initial)

Definition at line 13063 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.31.3.370 SWIGRUNTIME swig_module_info* SWIG_Python_GetModule (void)

Definition at line 2252 of file Lgm_CTrans_wrap.c.

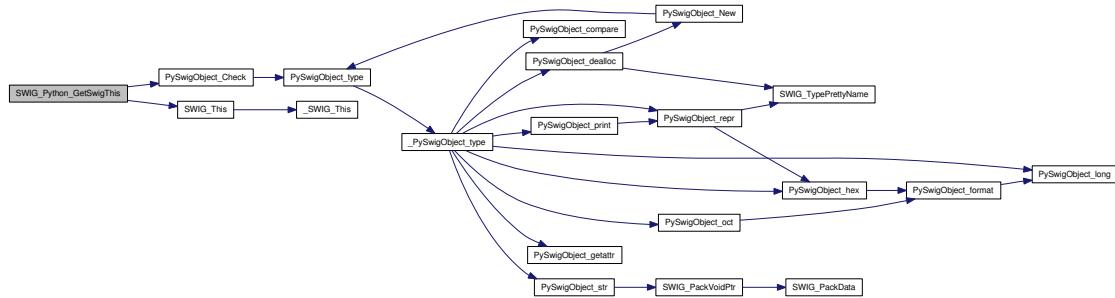
Here is the caller graph for this function:



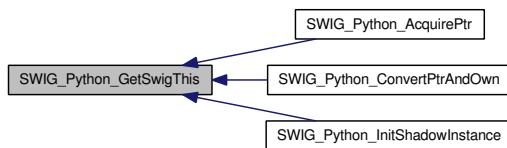
4.31.3.371 SWIGRUNTIME PySwigObject* SWIG_Python_GetSwigThis (PyObject *pyobj)

Definition at line 1903 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



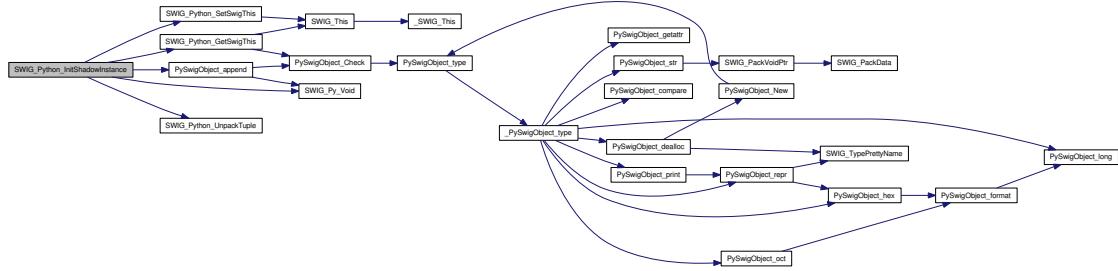
Here is the caller graph for this function:



4.31.3.372 SWIGINTERN PyObject* SWIG_Python_InitShadowInstance (PyObject * args)

Definition at line 2200 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



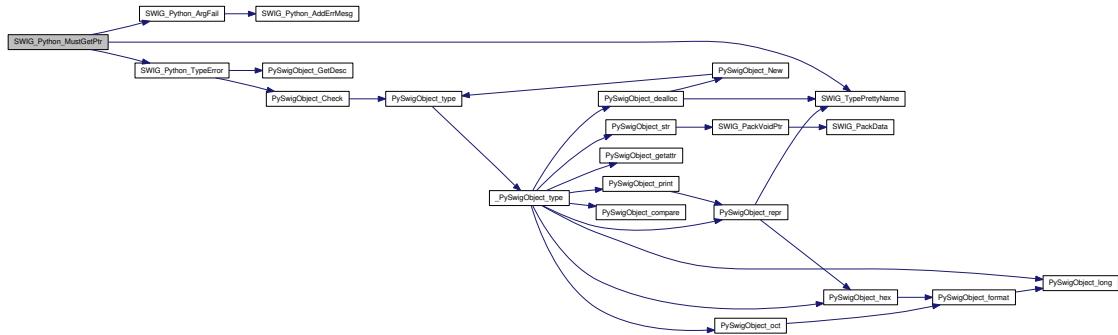
4.31.3.373 SWIGINTERN void SWIG_Python_InstallConstants (PyObject * d, swig_const_info constants[])

Definition at line 13036 of file Lgm_CTrans_wrap.c.

4.31.3.374 SWIGRUNTIME void* SWIG_Python_MustGetPtr (PyObject * *obj*, swig_type_info * *ty*, int *argnum*, int *flags*)

Definition at line 2453 of file Lgm_CTrans_wrap.c.

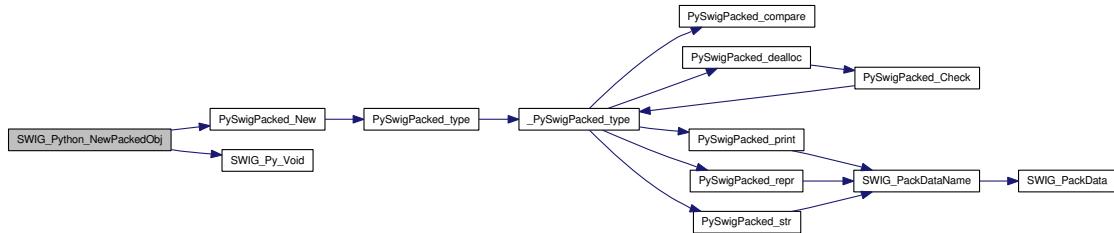
Here is the call graph for this function:



4.31.3.375 SWIGRUNTIMEINLINE PyObject* SWIG_Python_NewPackedObj (void *ptr, size_t sz, swig_type_info * type)

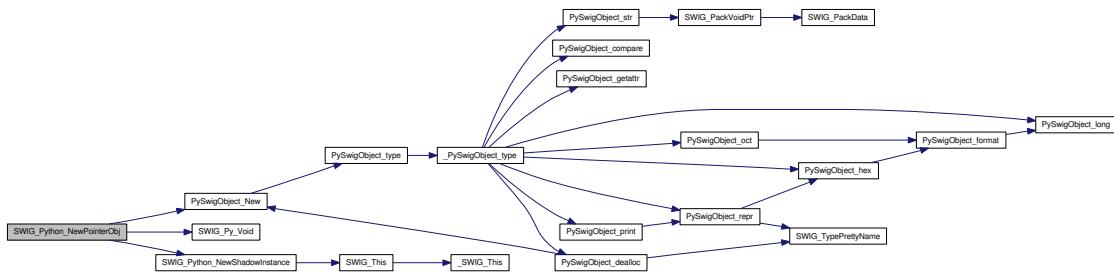
Definition at line 2239 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Definition at line 2218 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



**4.31.3.377 SWIGRUNTIME PyObject* SWIG_Python_NewShadowInstance (PySwigClientData *
* data, PyObject * swig_this)**

Definition at line 2115 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



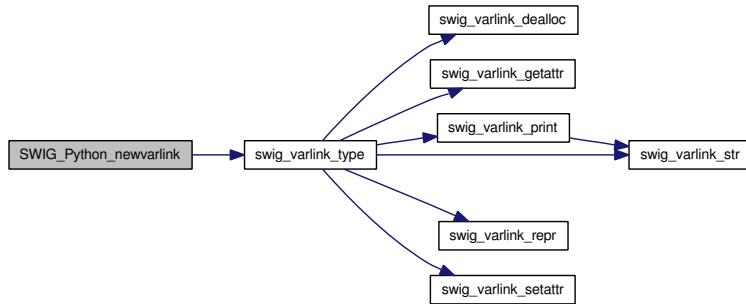
Here is the caller graph for this function:



4.31.3.378 SWIGINTERN PyObject* SWIG_Python_newvarlink (void)

Definition at line 12998 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.379 SWIGINTERN void SWIG_Python_SetConstant (PyObject * *d*, const char * *name*, PyObject * *obj*)

Definition at line 1053 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



4.31.3.380 SWIGINTERN void SWIG_Python_SetErrorMsg (PyObject * *errtype*, const char * *msg*)

Definition at line 1042 of file Lgm_CTrans_wrap.c.

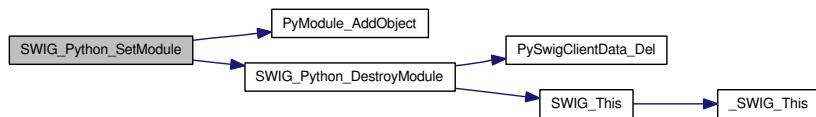
4.31.3.381 SWIGINTERN void SWIG_Python_SetErrorObj (PyObject * *errtype*, PyObject * *obj*)

Definition at line 1034 of file Lgm_CTrans_wrap.c.

4.31.3.382 SWIGRUNTIME void SWIG_Python_SetModule (swig_module_info * *swig_module*)

Definition at line 2319 of file Lgm_CTrans_wrap.c.

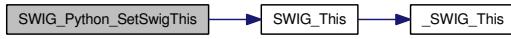
Here is the call graph for this function:



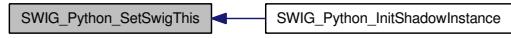
4.31.3.383 SWIGRUNTIME void SWIG_Python_SetSwigThis (PyObject * *inst*, PyObject * *swig_this*)

Definition at line 2178 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.31.3.384 SWIGRUNTIME PyObject* SWIG_Python_TypeCache (void)

Definition at line 2334 of file Lgm_CTrans_wrap.c.

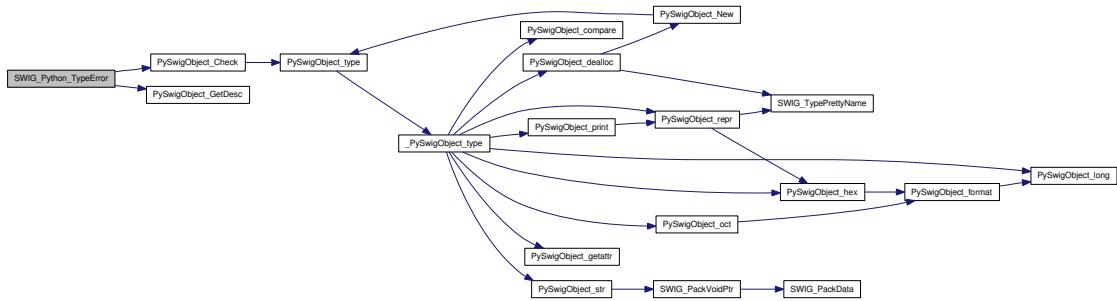
Here is the caller graph for this function:



4.31.3.385 SWIGRUNTIME void SWIG_Python_TypeError (const char * type, PyObject * obj)

Definition at line 2415 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



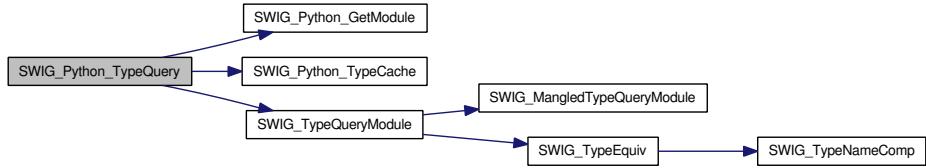
Here is the caller graph for this function:



4.31.3.386 SWIGRUNTIME swig_type_info* SWIG_Python_TypeQuery (const char * type)

Definition at line 2340 of file Lgm_CTrans_wrap.c.

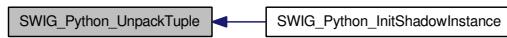
Here is the call graph for this function:



4.31.3.387 SWIGINTERN int SWIG_Python_UnpackTuple (PyObject * args, const char * name, Py_ssize_t min, Py_ssize_t max, PyObject ** objs)

Definition at line 1106 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



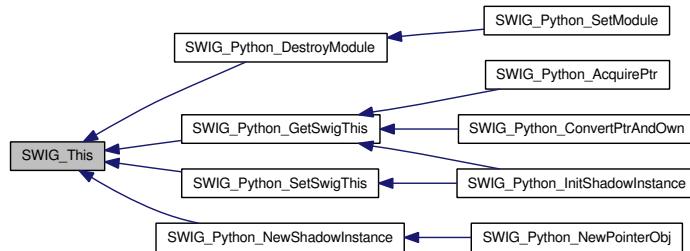
4.31.3.388 SWIGRUNTIME PyObject* SWIG_This (void)

Definition at line 1894 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



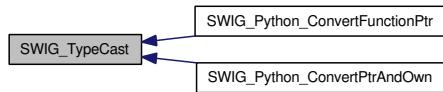
Here is the caller graph for this function:



4.31.3.389 SWIGRUNTIMEINLINE void* SWIG_TypeCast (swig_cast_info * ty, void * ptr, int * newmemory)

Definition at line 441 of file Lgm_CTrans_wrap.c.

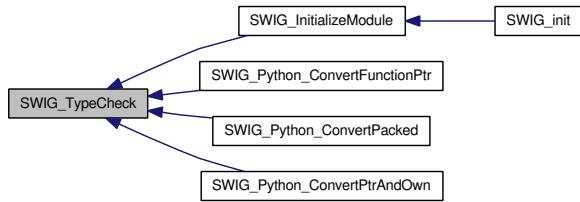
Here is the caller graph for this function:



4.31.3.390 SWIGRUNTIME `swig_cast_info*` SWIG_TypeCheck (`const char * c, swig_type_info * ty`)

Definition at line 427 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



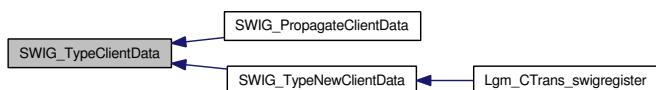
4.31.3.391 SWIGRUNTIME `swig_cast_info*` SWIG_TypeCheckStruct (`swig_type_info * from, swig_type_info * into`)

Definition at line 433 of file Lgm_CTrans_wrap.c.

4.31.3.392 SWIGRUNTIME void SWIG_TypeClientData (`swig_type_info * ti, void * clientdata`)

Definition at line 493 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



4.31.3.393 SWIGRUNTIME int SWIG_TypeCompare (`const char * nb, const char * tb`)

Definition at line 386 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



4.31.3.394 SWIGRUNTIME swig_type_info* SWIG_TypeDynamicCast (swig_type_info * *ty*, void ** *ptr*)

Definition at line 449 of file Lgm_CTrans_wrap.c.

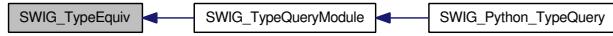
4.31.3.395 SWIGRUNTIME int SWIG_TypeEquiv (const char * *nb*, const char * *tb*)

Definition at line 367 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Here is the caller graph for this function:



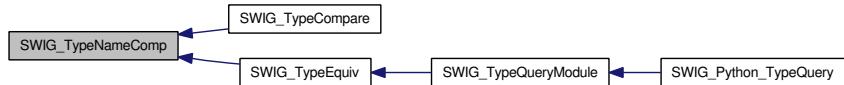
4.31.3.396 SWIGRUNTIMEINLINE const char* SWIG_TypeName (const swig_type_info * *ty*)

Definition at line 463 of file Lgm_CTrans_wrap.c.

4.31.3.397 SWIGRUNTIME int SWIG_TypeNameComp (const char * *f1*, const char * *l1*, const char * *f2*, const char * *l2*)

Definition at line 352 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



4.31.3.398 SWIGRUNTIME void SWIG_TypeNewClientData (swig_type_info * *ti*, void * *clientdata*)

Definition at line 509 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



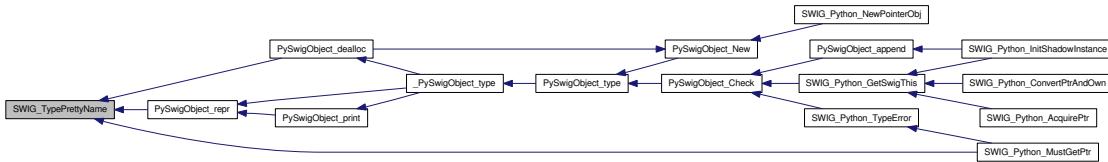
Here is the caller graph for this function:



4.31.3.399 SWIGRUNTIME const char* SWIG_TypePrettyName(const swig_type_info * type)

Definition at line 472 of file Lgm_CTrans_wrap.c.

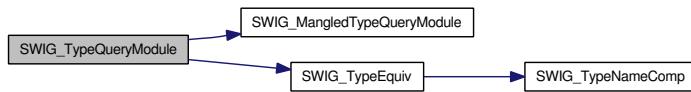
Here is the caller graph for this function:



4.31.3.400 SWIGRUNTIME swig_type_info* SWIG_TypeQueryModule (swig_module_info * start, swig_module_info * end, const char * name)

Definition at line 568 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



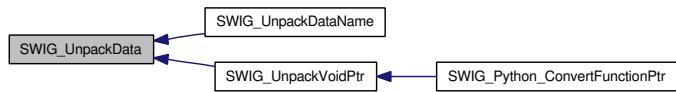
Here is the caller graph for this function:



4.31.3.401 SWIGRUNTIME const char* SWIG_UnpackData (const char * c, void * ptr, size_t sz)

Definition at line 613 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



4.31.3.402 SWIGRUNTIME const char* SWIG_UnpackDataName (const char * *c*, void * *ptr*, size_t *sz*, const char * *name*)

Definition at line 680 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



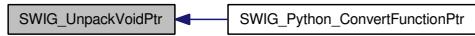
4.31.3.403 SWIGRUNTIME const char* SWIG_UnpackVoidPtr (const char * *c*, void ** *ptr*, const char * *name*)

Definition at line 652 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.31.3.404 SWIGINTERN void swig_varlink_dealloc (swig_varlinkobject * *v*)

Definition at line 12901 of file Lgm_CTrans_wrap.c.

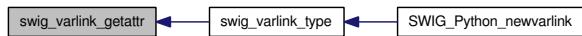
Here is the caller graph for this function:



4.31.3.405 SWIGINTERN PyObject* swig_varlink_getattr (swig_varlinkobject * *v*, char * *n*)

Definition at line 12912 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



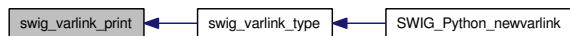
4.31.3.406 SWIGINTERN int swig_varlink_print (swig_varlinkobject * *v*, FILE * *fp*, int SWIGUNUSEDPARMflags)

Definition at line 12892 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.31.3.407 SWIGINTERN PyObject* swig_varlink_repr (swig_varlinkobject * SWIGUNUSEDPARMv)

Definition at line 12875 of file Lgm_CTrans_wrap.c.

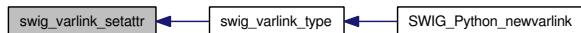
Here is the caller graph for this function:



4.31.3.408 SWIGINTERN int swig_varlink_setattr (swig_varlinkobject * v, char * n, PyObject * p)

Definition at line 12929 of file Lgm_CTrans_wrap.c.

Here is the caller graph for this function:



4.31.3.409 SWIGINTERN PyObject* swig_varlink_str (swig_varlinkobject * v)

Definition at line 12880 of file Lgm_CTrans_wrap.c.

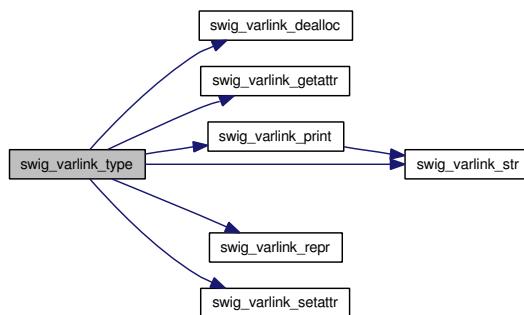
Here is the caller graph for this function:



4.31.3.410 SWIGINTERN PyTypeObject* swig_varlink_type (void)

Definition at line 12946 of file Lgm_CTrans_wrap.c.

Here is the call graph for this function:



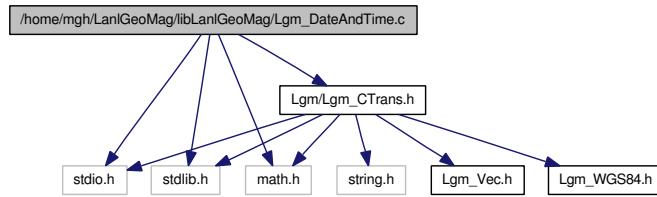
Here is the caller graph for this function:



4.32 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_-DateAndTime.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "Lgm/Lgm_CTrans.h"
```

Include dependency graph for Lgm_DateAndTime.c:



Functions

- int [Lgm_LeapYear](#) (int year)
- double [Lgm_GetLeapSeconds](#) (double JD, [Lgm_CTrans](#) *c)
- int [Lgm_IsLeapSecondDay](#) (long int Date, double *SecondsInDay, [Lgm_CTrans](#) *c)
- int [Lgm_LoadLeapSeconds](#) ([Lgm_CTrans](#) *c)
- void [Lgm_TAI_to_GPS](#) ([Lgm_DateTime](#) *TAI, [Lgm_DateTime](#) *GPS, [Lgm_CTrans](#) *c)
- void [Lgm_GPS_to_TAI](#) ([Lgm_DateTime](#) *GPS, [Lgm_DateTime](#) *TAI, [Lgm_CTrans](#) *c)
- void [Lgm_UTC_to_GPS](#) ([Lgm_DateTime](#) *UTC, [Lgm_DateTime](#) *GPS, [Lgm_CTrans](#) *c)
- void [Lgm_GPS_to_UTC](#) ([Lgm_DateTime](#) *GPS, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- double [Lgm_GPS_to_GpsSeconds](#) ([Lgm_DateTime](#) *GPS)
- void [Lgm_GpsSeconds_to_GPS](#) (double GpsSeconds, [Lgm_DateTime](#) *GPS)
- void [Lgm_GpsSeconds_to_UTC](#) (double GpsSeconds, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- double [Lgm_UTC_to_GpsSeconds](#) ([Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- double [Lgm_TAI_to_TaiSeconds](#) ([Lgm_DateTime](#) *TAI)
- void [Lgm_TaiSeconds_to_TAI](#) (double TaiSeconds, [Lgm_DateTime](#) *TAI)
- void [Lgm_TaiSeconds_to_UTC](#) (double TaiSeconds, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- double [Lgm_UTC_to_TaiSeconds](#) ([Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- void [Lgm_UTC_to_TAI](#) ([Lgm_DateTime](#) *UTC, [Lgm_DateTime](#) *TAI, [Lgm_CTrans](#) *c)
- void [Lgm_TAI_to_UTC](#) ([Lgm_DateTime](#) *TAI, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- void [Lgm_TT_to_TAI](#) ([Lgm_DateTime](#) *TT, [Lgm_DateTime](#) *TAI, [Lgm_CTrans](#) *c)
- void [Lgm_TAI_to_TT](#) ([Lgm_DateTime](#) *TAI, [Lgm_DateTime](#) *TT, [Lgm_CTrans](#) *c)
- void [Lgm_TT_to_TDB](#) ([Lgm_DateTime](#) *TT, [Lgm_DateTime](#) *TDB, [Lgm_CTrans](#) *c)
- void [Lgm_TT_to_TDB_IAU2006](#) ([Lgm_DateTime](#) *TT, [Lgm_DateTime](#) *TDB, [Lgm_CTrans](#) *c)
- void [Lgm_TDB_to_TT](#) ([Lgm_DateTime](#) *TDB, [Lgm_DateTime](#) *TT, [Lgm_CTrans](#) *c)
- void [Lgm_UTC_to_TT](#) ([Lgm_DateTime](#) *UTC, [Lgm_DateTime](#) *TT, [Lgm_CTrans](#) *c)
- void [Lgm_TT_to_UTC](#) ([Lgm_DateTime](#) *TT, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- void [Lgm_UTC_to_TDB](#) ([Lgm_DateTime](#) *UTC, [Lgm_DateTime](#) *TDB, [Lgm_CTrans](#) *c)
- void [Lgm_TDB_to_UTC](#) ([Lgm_DateTime](#) *TDB, [Lgm_DateTime](#) *UTC, [Lgm_CTrans](#) *c)
- [Lgm_DateTime](#) * [Lgm_DateTime_Create](#) (int Year, int Month, int Day, double Time, int TimeSystem, [Lgm_CTrans](#) *c)

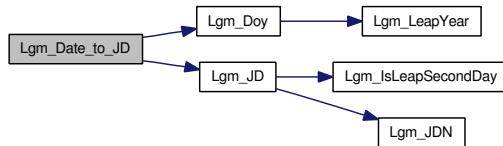
- int `Lgm_Make_UTC` (long int Date, double Time, `Lgm_DateTime` *UTC, `Lgm_CTrans` *c)
- void `Lgm_Print_DateTime` (`Lgm_DateTime` DT, int Style, int p)
- void `Lgm_DateTimeToString` (char *Str, `Lgm_DateTime` DT, int Style, int p)
- void `Lgm_Print_SimpleTime` (`Lgm_DateTime` *DT, int p, char *Str)
- double `Lgm_JD` (int Year, int Month, int Day, double Time, int TimeSystem, `Lgm_CTrans` *c)
- long int `Lgm_JDN` (int Year, int Month, int Day)
- double `Lgm_MJD` (int ny, int nm, int nd, double UT, int TimeSystem, `Lgm_CTrans` *c)
- double `Lgm_Date_to_JD` (long int Date, double UT, `Lgm_CTrans` *c)
- int `Lgm_DayOfYear` (int year, int month, int day, `Lgm_CTrans` *c)
- int `Lgm_DayOfWeek` (int Year, int Month, int Day, char *dowstr)
- int `Lgm_Doy` (long int date, int *YY, int *MM, int *DD, int *DOY)
- int `Lgm_IsValidDate` (long int Date)
- double `Lgm_RemapTime` (double Time, double SecondsInADay)
- double `Lgm_UTC_to_TDBSeconds` (`Lgm_DateTime` *UTC, `Lgm_CTrans` *c)
- double `Lgm_TDBSecSinceJ2000` (`Lgm_DateTime` *UTC, `Lgm_CTrans` *c)

4.32.1 Function Documentation

4.32.1.1 double `Lgm_Date_to_JD` (long int *Date*, double *UT*, `Lgm_CTrans` * *c*)

Definition at line 1189 of file `Lgm_DateAndTime.c`.

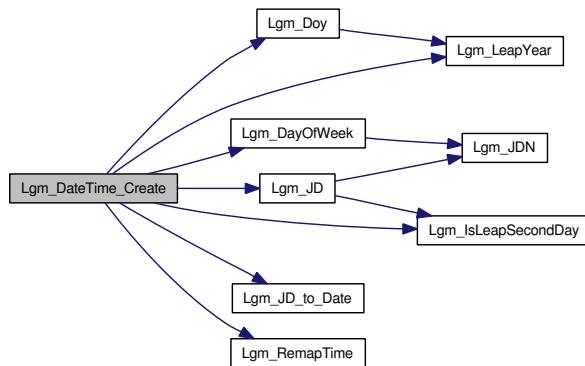
Here is the call graph for this function:



4.32.1.2 `Lgm_DateTime*` `Lgm_DateTime_Create` (int *Year*, int *Month*, int *Day*, double *Time*, int *TimeSystem*, `Lgm_CTrans` * *c*)

Definition at line 868 of file `Lgm_DateAndTime.c`.

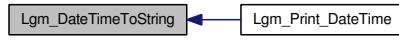
Here is the call graph for this function:



4.32.1.3 void Lgm_DateTimeToString (char * Str, Lgm_DateTime DT, int Style, int p)

Definition at line 957 of file Lgm_DateAndTime.c.

Here is the caller graph for this function:



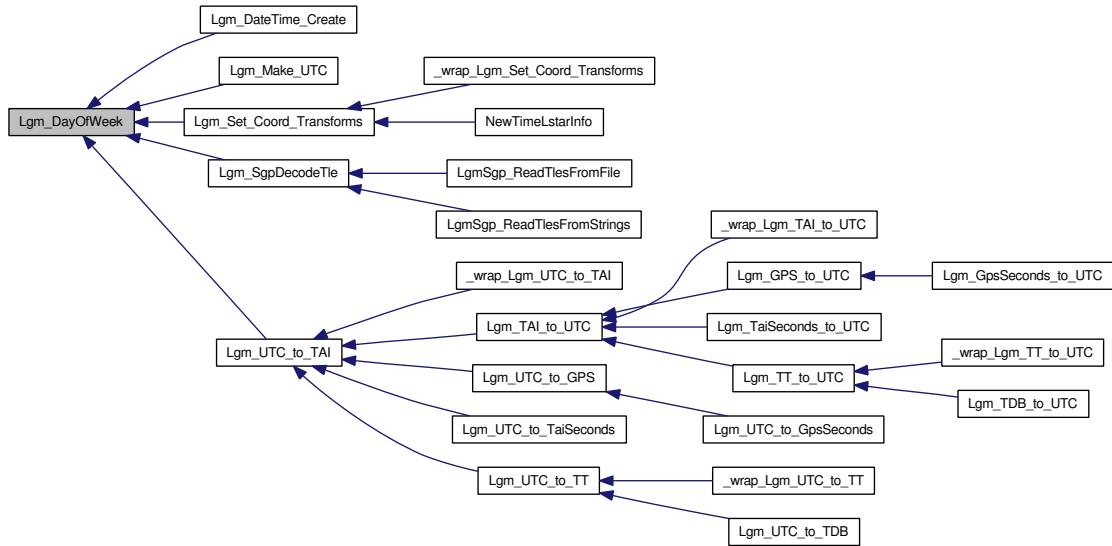
4.32.1.4 int Lgm_DayOfWeek (int Year, int Month, int Day, char * dowstr)

Definition at line 1205 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



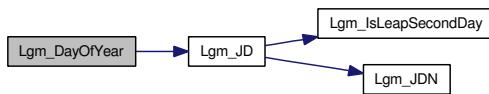
Here is the caller graph for this function:



4.32.1.5 int Lgm_DayOfYear (int year, int month, int day, Lgm_CTrans * c)

Definition at line 1198 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



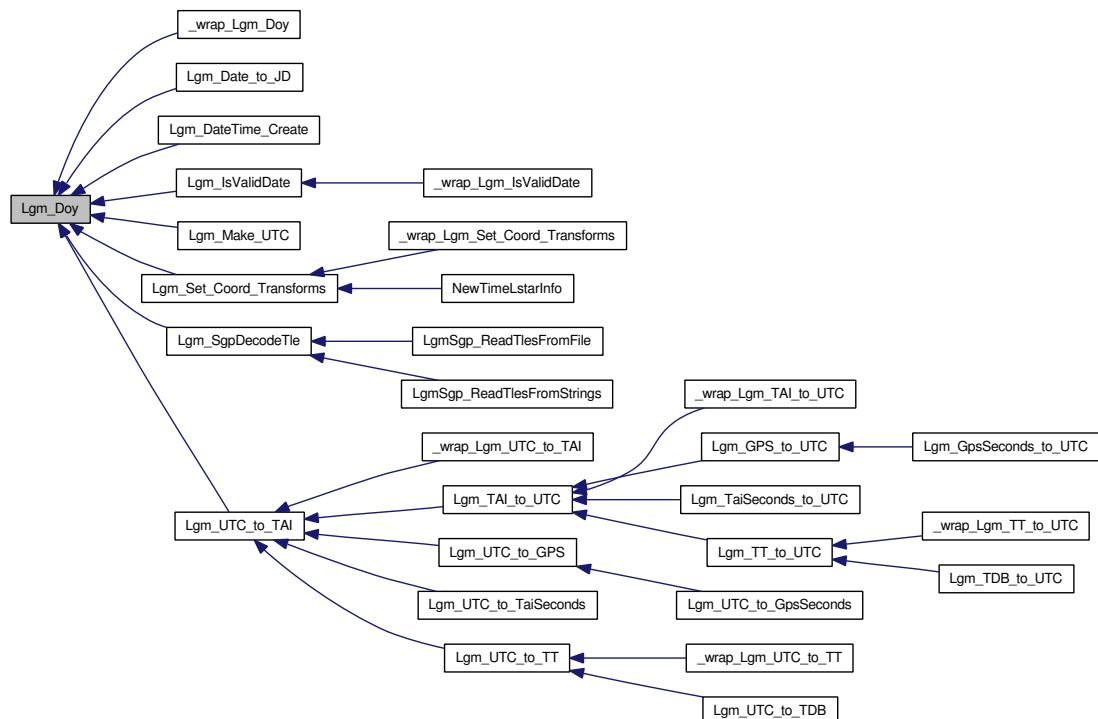
4.32.1.6 int Lgm_Doy (long int *date*, int * *YY*, int * *MM*, int * *DD*, int * *DOY*)

Definition at line 1242 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.32.1.7 double Lgm_GetLeapSeconds (double *JD*, Lgm_CTrans * *c*)

Routines for dealing with leap seconds. Also time conversions that require knowledge about leap seconds.

Lgm_GetLeapSeconds() Lgm_IsLeapSecondDay() Lgm_LoadLeapSeconds()

Leap seconds are added when necessary. First preference is given to opportunities at the end of December and the end of June. However, secondary preference is also given to opportunities at the end of March and September if needed. Since leap seconds were introduced in 1972, only dates in December and June have been used to include leap seconds.

Needed to convert between TT or TAI, TDB and UTC. Some defs:

JD – Julian Date MJD – Modified Julian Date (JD - 2400000.5) UT – Universal Time (before 1960 astro calcs were done with UT) ET – Ephemeris Time (then ET replaced it) TDT – Terrestrial Dynamical Time (TDT replaced ET in 1981) TT – Terrestrial Time (in 1991 TDT was renamed to be TT) UTC – Universal Time Coordinated TAI – International Atomic Time TDB – Terrestrial Barycentric Time UT1 – Universal Time (UT1 is a corrected version of UT0) UT0 – Universal Time (not used in this uncorrected form) dT –

different between TT and UT1 (i.e. $dT = TT - UT1$) (this was 32.184s when TAI was introduced in 1958 – hence the definitions below).

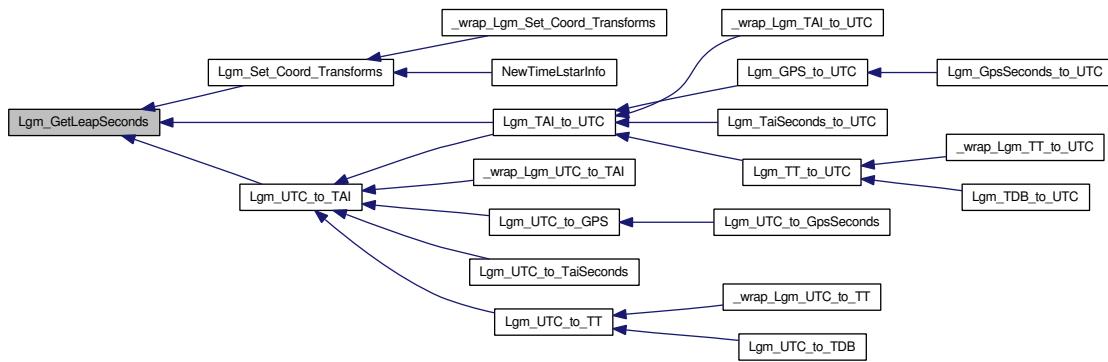
Related by:

$$TAI = UTC + dAT \quad TT = TAI + 32.184 \text{ (i.e. } TT = UTC + dAT + 32.184\text{)}$$

This routine simply determined what the dAT value should be for a given JD. Note that after 1972 they are just leap seconds, but before they are non-integral (leap seconds (werent invented yet?)

Definition at line 70 of file Lgm_DateAndTime.c.

Here is the caller graph for this function:



4.32.1.8 double Lgm_GPS_to_GpsSeconds (Lgm_DateTime * GPS)

Definition at line 344 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



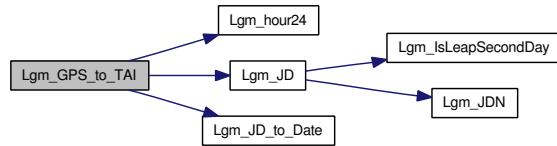
Here is the caller graph for this function:



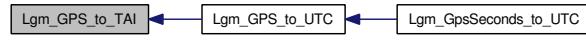
4.32.1.9 void Lgm_GPS_to_TAI (Lgm_DateTime * GPS, Lgm_DateTime * TAI, Lgm_CTrans * c)

Definition at line 282 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



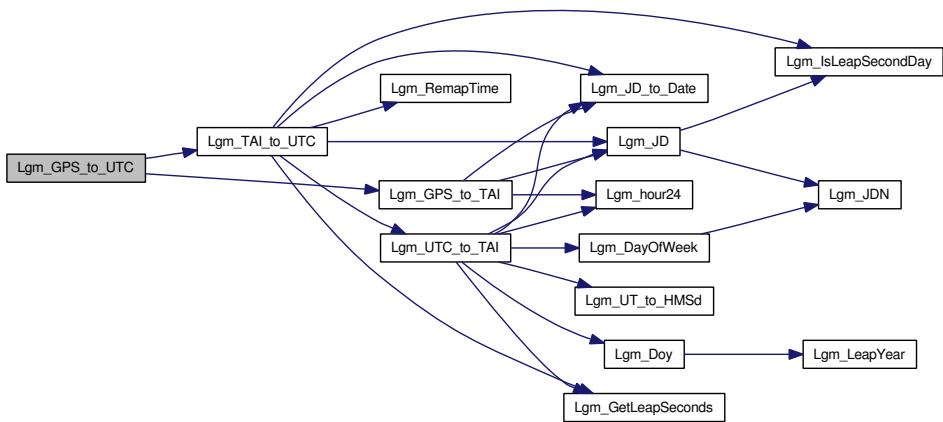
Here is the caller graph for this function:



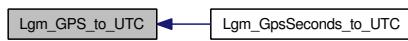
4.32.1.10 void Lgm_GPS_to_UTC (Lgm_DateTime * GPS, Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 317 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.32.1.11 void Lgm_GpsSeconds_to_GPS (double GpsSeconds, Lgm_DateTime * GPS)

Definition at line 351 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



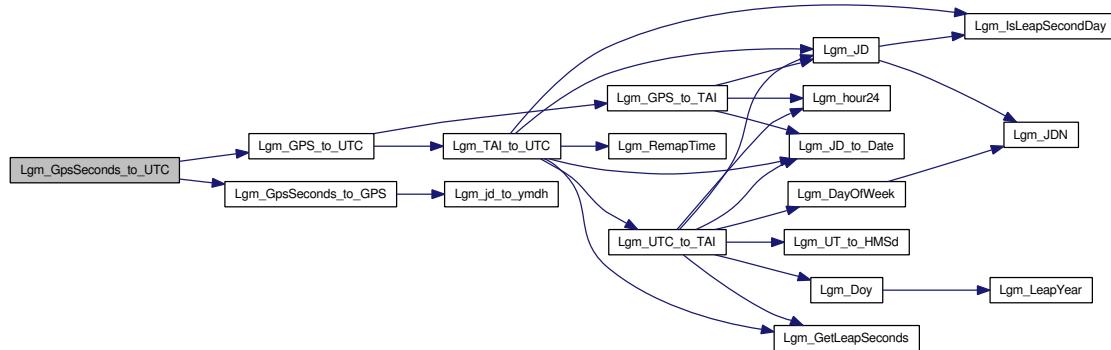
Here is the caller graph for this function:



4.32.1.12 void Lgm_GpsSeconds_to_UTC (double *GpsSeconds*, Lgm_DateTime * *UTC*, Lgm_CTrans * *c*)

Definition at line 366 of file Lgm_DateAndTime.c.

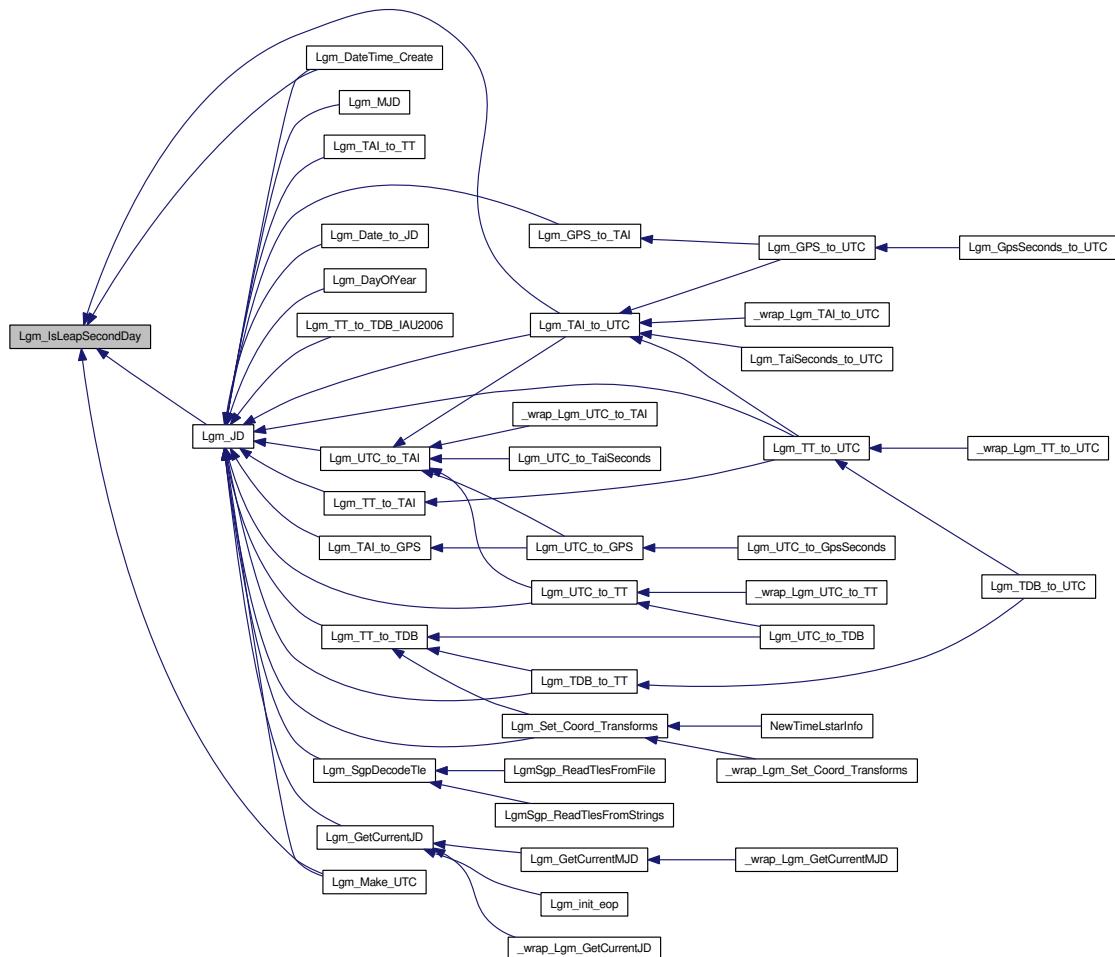
Here is the call graph for this function:



4.32.1.13 int Lgm_IsLeapSecondDay (long int *Date*, double * *SecondsInDay*, Lgm_CTrans * *c*)

Definition at line 121 of file Lgm_DateAndTime.c.

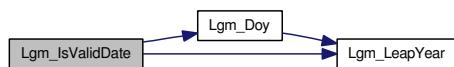
Here is the caller graph for this function:



4.32.1.14 int Lgm_IsValidDate (long int *Date*)

Definition at line 1298 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



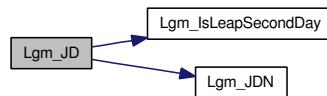
Here is the caller graph for this function:



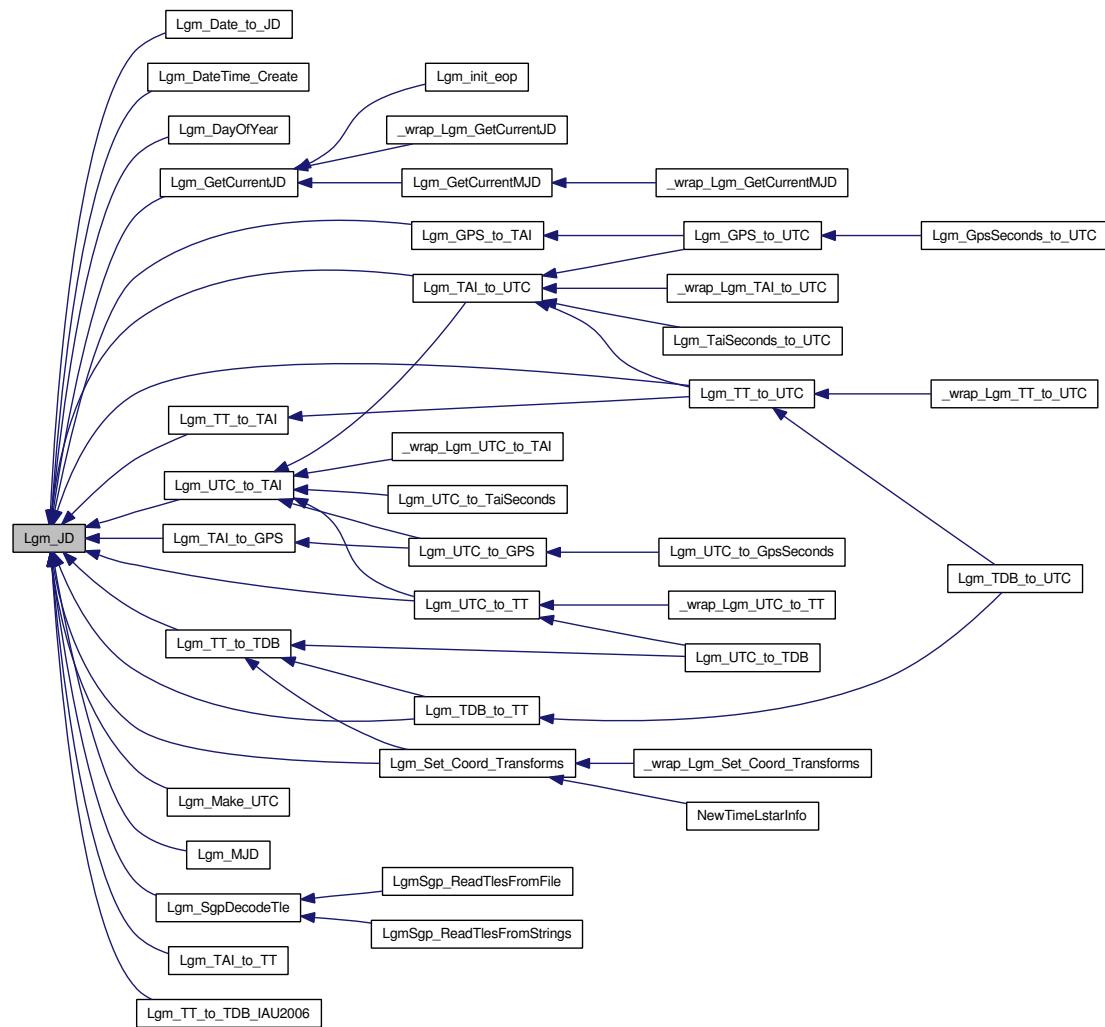
4.32.1.15 double Lgm_JD (int Year, int Month, int Day, double Time, int TimeSystem, Lgm_CTrans * c)

Definition at line 1133 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



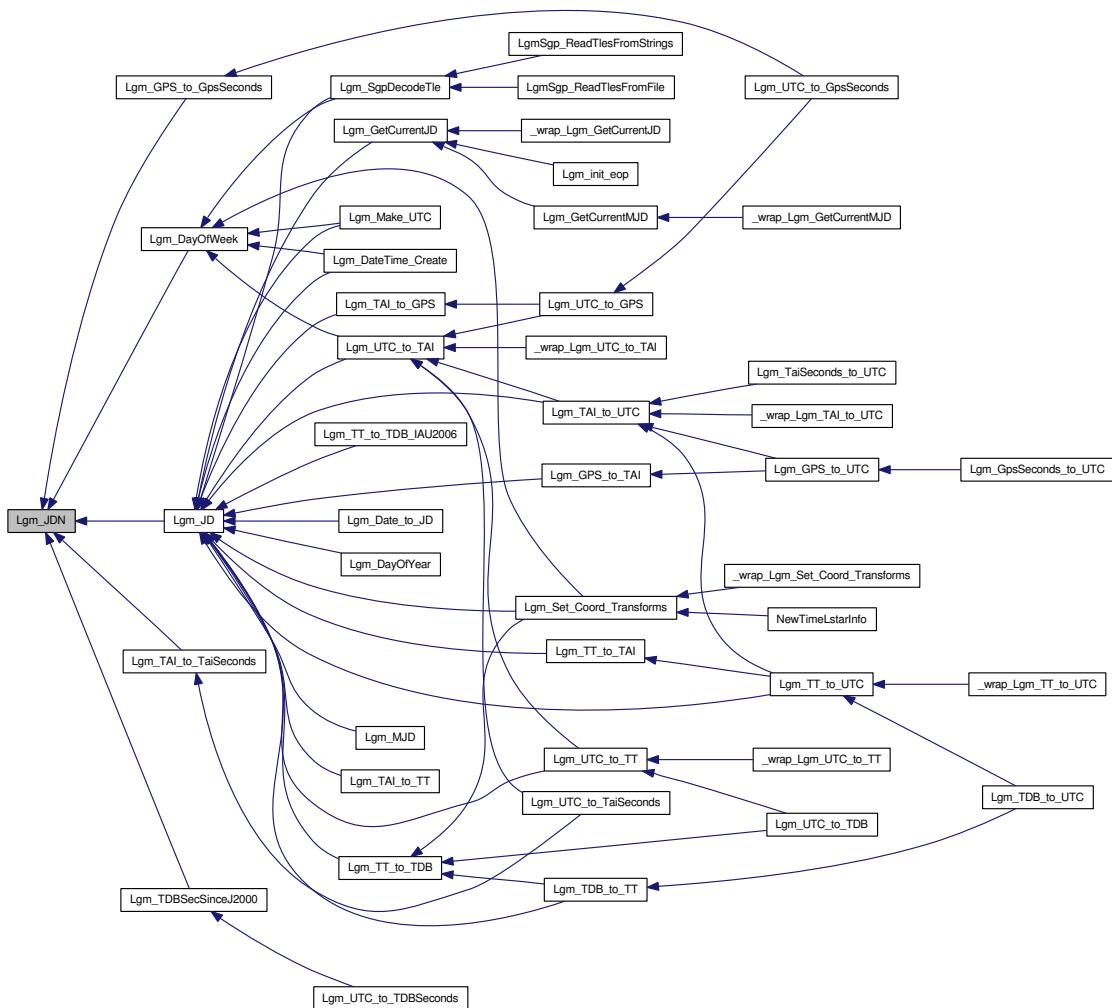
Here is the caller graph for this function:



4.32.1.16 long int Lgm_JDN (int Year, int Month, int Day)

Definition at line 1175 of file Lgm_DateAndTime.c.

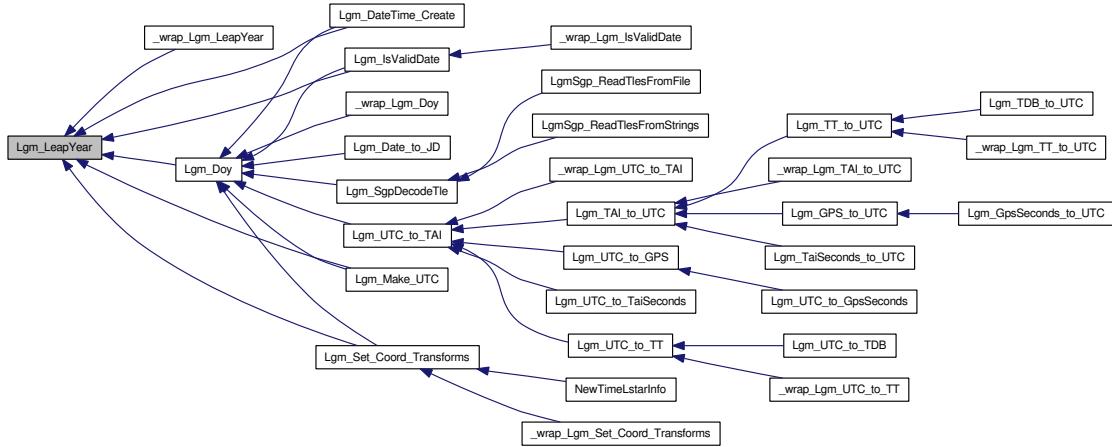
Here is the caller graph for this function:



4.32.1.17 int Lgm_LeapYear (int year)

Definition at line 16 of file Lgm_DateAndTime.c.

Here is the caller graph for this function:



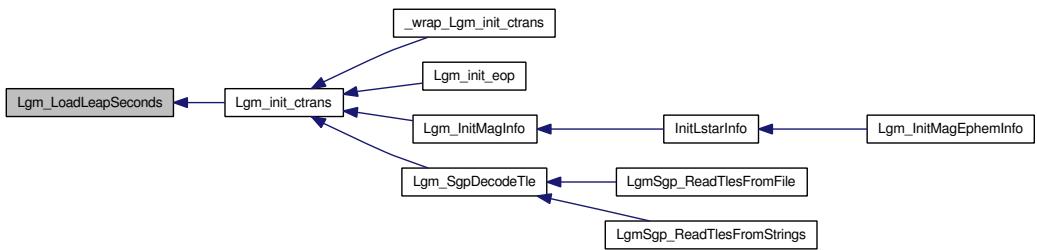
4.32.1.18 int Lgm_LoadLeapSeconds (Lgm_CTrans * c)

Definition at line 155 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



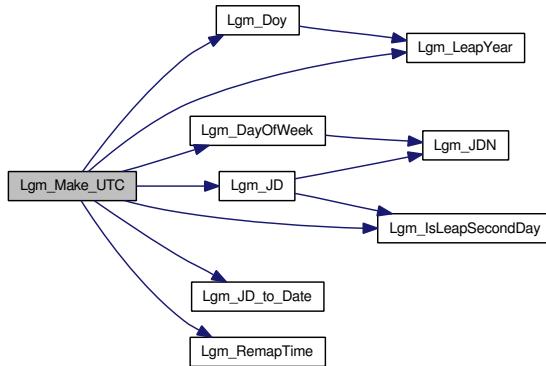
Here is the caller graph for this function:



4.32.1.19 int Lgm_Make_UTC (long int Date, double Time, Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 907 of file Lgm_DateAndTime.c.

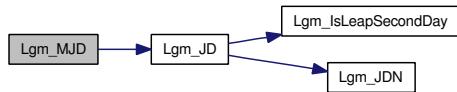
Here is the call graph for this function:



4.32.1.20 double Lgm_MJD (int ny, int nm, int nd, double UT, int TimeSystem, Lgm_CTrans * c)

Definition at line 1184 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



4.32.1.21 void Lgm_Print_DateTime (Lgm_DateTime DT, int Style, int p)

Definition at line 951 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



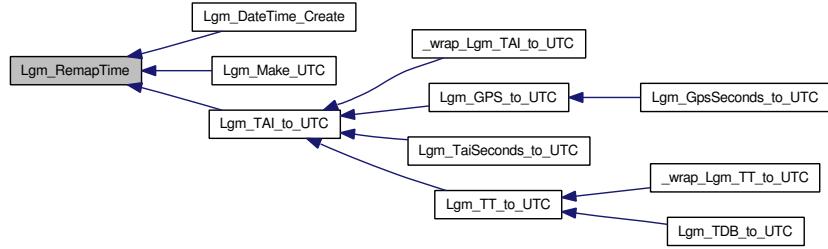
4.32.1.22 void Lgm_Print_SimpleTime (Lgm_DateTime * DT, int p, char * Str)

Definition at line 1053 of file Lgm_DateAndTime.c.

4.32.1.23 double Lgm_RemapTime (double Time, double SecondsInADay)

Definition at line 1325 of file Lgm_DateAndTime.c.

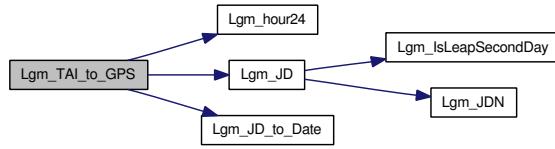
Here is the caller graph for this function:



4.32.1.24 void Lgm_TAI_to_GPS (Lgm_DateTime * TAI, Lgm_DateTime * GPS, Lgm_CTrans * c)

Definition at line 267 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.32.1.25 double Lgm_TAI_to_TaiSeconds (Lgm_DateTime * TAI)

Definition at line 392 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



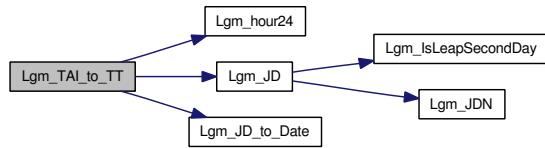
Here is the caller graph for this function:



4.32.1.26 void Lgm_TAI_to_TT (Lgm_DateTime * TAI, Lgm_DateTime * TT, Lgm_CTrans * c)

Definition at line 614 of file Lgm_DateAndTime.c.

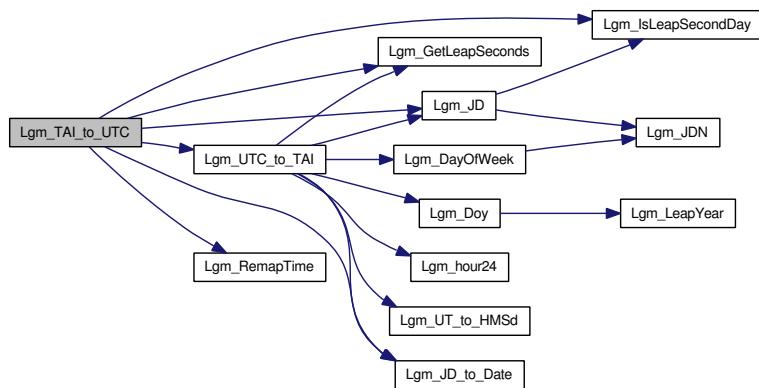
Here is the call graph for this function:



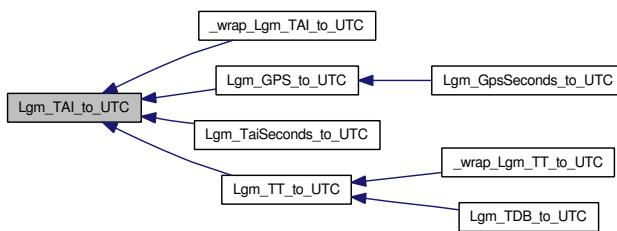
4.32.1.27 void Lgm_TAI_to_UTC (Lgm_DateTime * TAI, Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 513 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.32.1.28 void Lgm_TaiSeconds_to_TAI (double TaiSeconds, Lgm_DateTime * TAI)

Definition at line 399 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



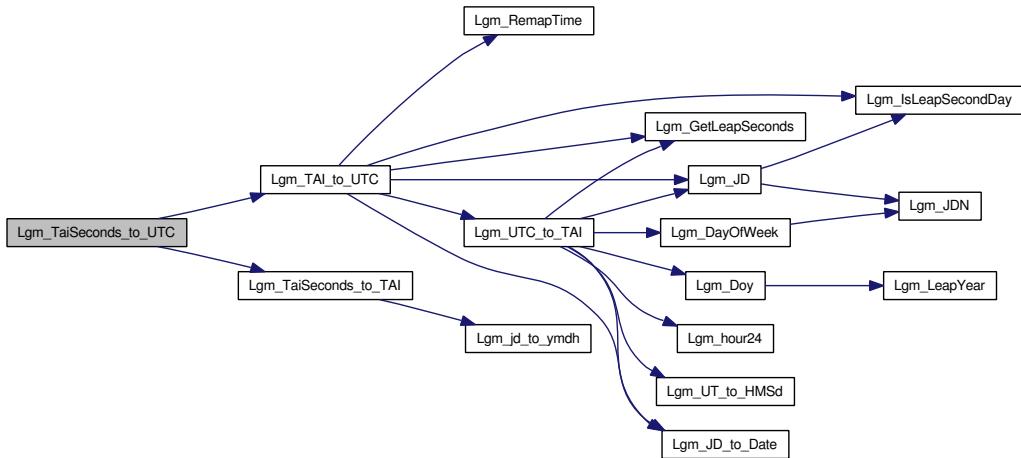
Here is the caller graph for this function:



4.32.1.29 void Lgm_TaiSeconds_to_UTC (double *TaiSeconds*, Lgm_DateTime * *UTC*, Lgm_CTrans * *c*)

Definition at line 414 of file Lgm_DateAndTime.c.

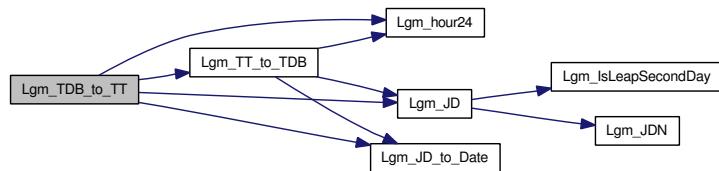
Here is the call graph for this function:



4.32.1.30 void Lgm_TDB_to_TT (Lgm_DateTime * *TDB*, Lgm_DateTime * *TT*, Lgm_CTrans * *c*)

Definition at line 691 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



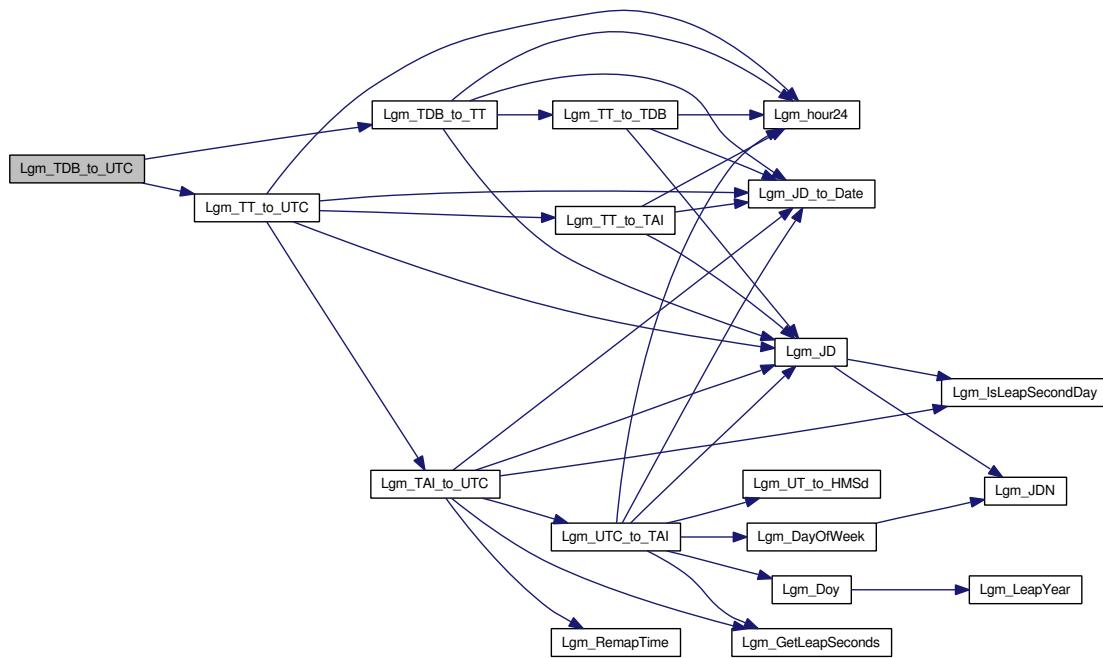
Here is the caller graph for this function:



4.32.1.31 void Lgm_TDB_to_UTC (Lgm_DateTime * *TDB*, Lgm_DateTime * *UTC*, Lgm_CTrans * *c*)

Definition at line 848 of file Lgm_DateAndTime.c.

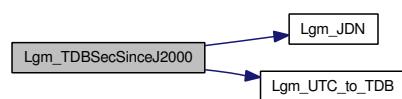
Here is the call graph for this function:



4.32.1.32 double Lgm_TDBSecSinceJ2000 (Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 1350 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



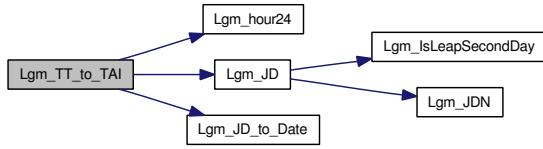
Here is the caller graph for this function:



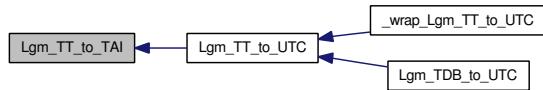
4.32.1.33 void Lgm_TT_to_TAI (Lgm_DateTime * TT, Lgm_DateTime * TAI, Lgm_CTrans * c)

Definition at line 592 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



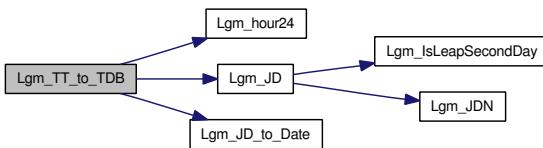
Here is the caller graph for this function:



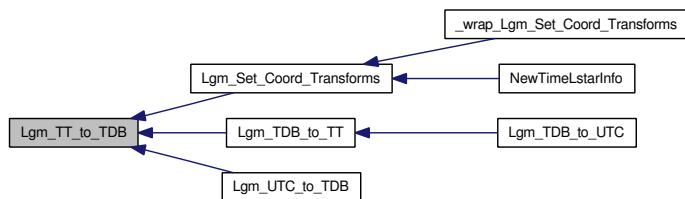
4.32.1.34 void Lgm_TT_to_TDB (Lgm_DateTime * TT, Lgm_DateTime * TDB, Lgm_CTrans * c)

Definition at line 642 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



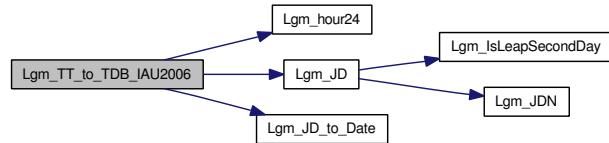
Here is the caller graph for this function:



4.32.1.35 void Lgm_TT_to_TDB_IAU2006 (Lgm_DateTime * TT, Lgm_DateTime * TDB, Lgm_CTrans * c)

Definition at line 665 of file Lgm_DateAndTime.c.

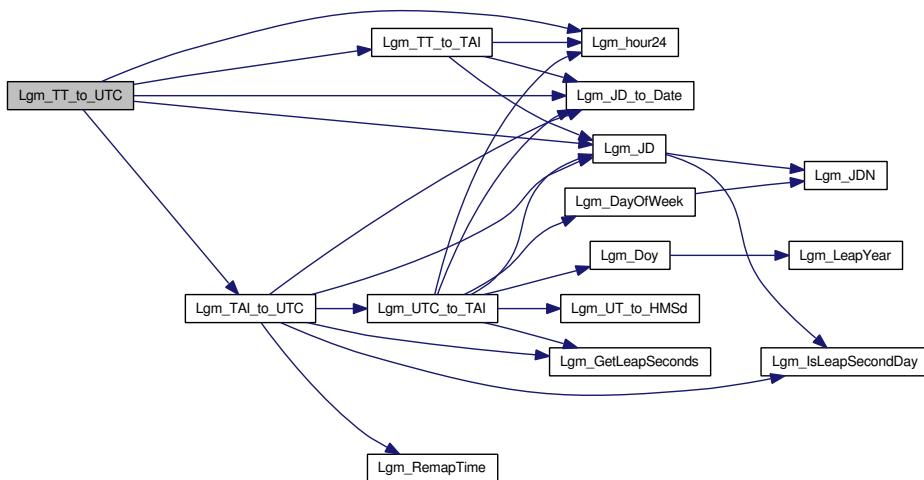
Here is the call graph for this function:



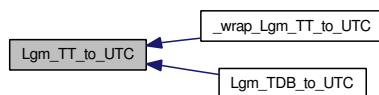
4.32.1.36 void Lgm_TT_to_UTC (Lgm_DateTime * TT, Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 810 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



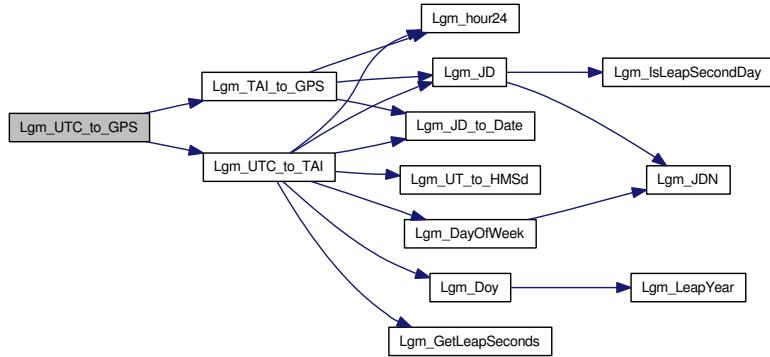
Here is the caller graph for this function:



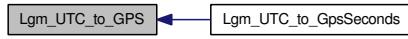
4.32.1.37 void Lgm_UTC_to_GPS (Lgm_DateTime * UTC, Lgm_DateTime * GPS, Lgm_CTrans * c)

Definition at line 303 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



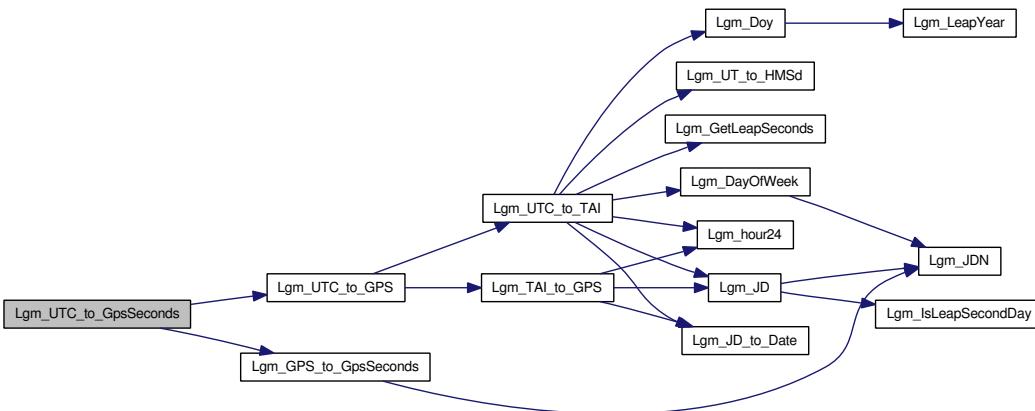
Here is the caller graph for this function:



4.32.1.38 double Lgm_UTC_to_GpsSeconds (Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 373 of file Lgm_DateAndTime.c.

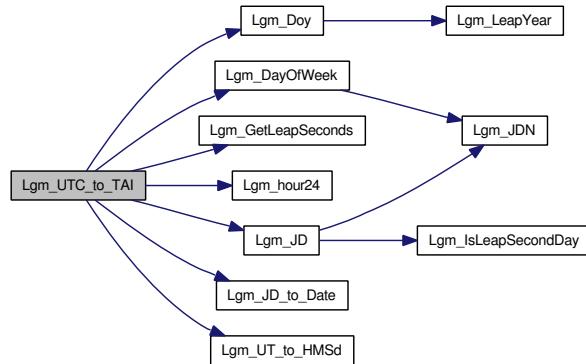
Here is the call graph for this function:



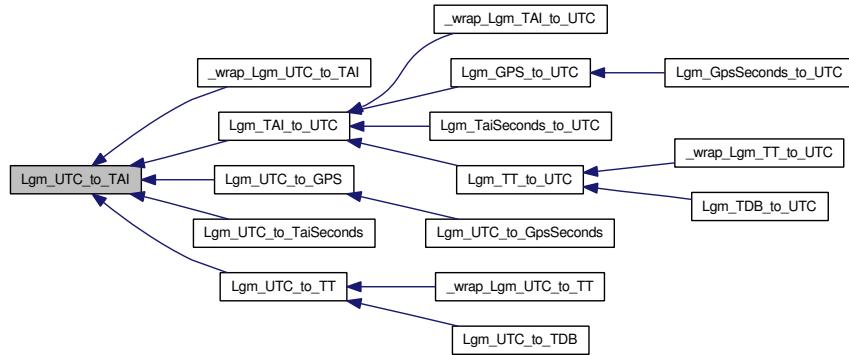
4.32.1.39 void Lgm_UTC_to_TAI (Lgm_DateTime * UTC, Lgm_DateTime * TAI, Lgm_CTrans * c)

Definition at line 438 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



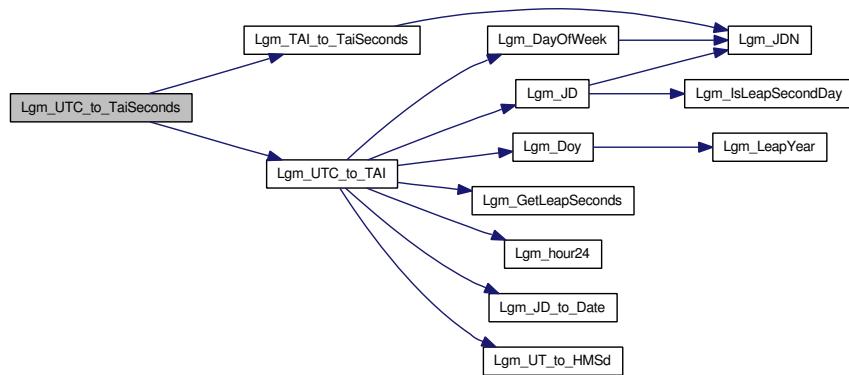
Here is the caller graph for this function:



4.32.1.40 double Lgm_UTC_to_TaiSeconds (Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 421 of file Lgm_DateAndTime.c.

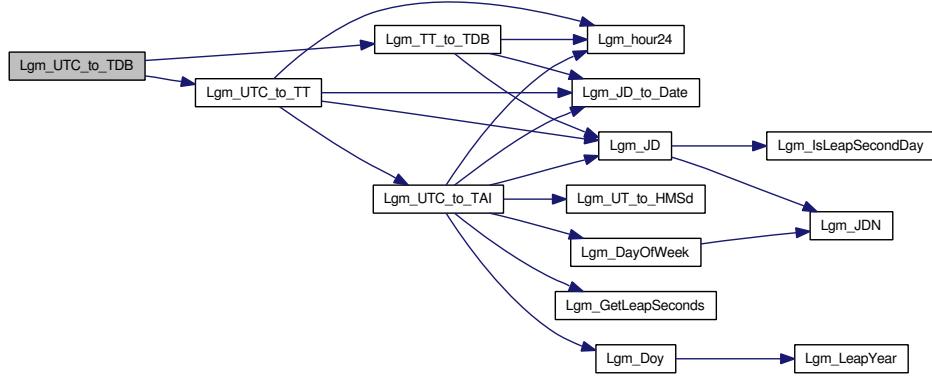
Here is the call graph for this function:



4.32.1.41 void Lgm_UTC_to_TDB (Lgm_DateTime * UTC, Lgm_DateTime * TDB, Lgm_CTrans * c)

Definition at line 837 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



4.32.1.42 double Lgm_UTC_to_TDBSeconds (Lgm_DateTime * UTC, Lgm_CTrans * c)

Definition at line 1347 of file Lgm_DateAndTime.c.

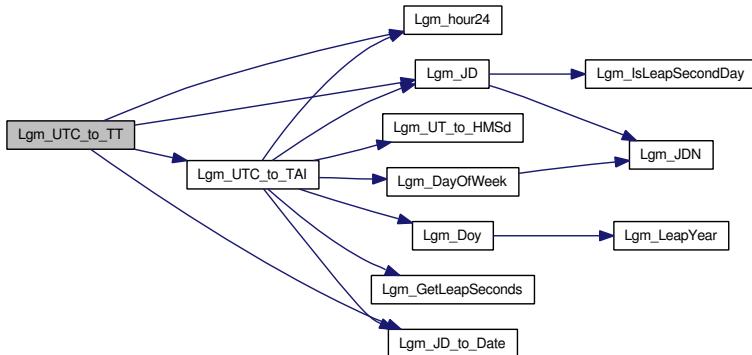
Here is the call graph for this function:



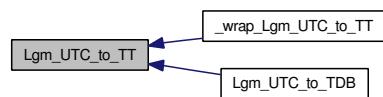
4.32.1.43 void Lgm_UTC_to_TT (Lgm_DateTime * UTC, Lgm_DateTime * TT, Lgm_CTrans * c)

Definition at line 786 of file Lgm_DateAndTime.c.

Here is the call graph for this function:



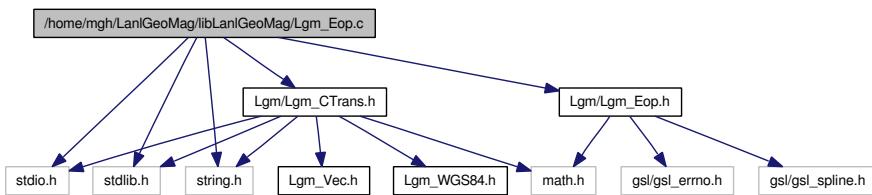
Here is the caller graph for this function:



4.33 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_Eop.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include "Lgm/Lgm_CTrans.h"
#include "Lgm/Lgm_Eop.h"
```

Include dependency graph for Lgm_Eop.c:



Defines

- #define JD1962 2437665.5

Functions

- [Lgm_Eop * Lgm_init_eop \(int Verbose\)](#)
- void [Lgm_destroy_eop \(Lgm_Eop *e\)](#)
- void [Lgm_read_eop \(Lgm_Eop *e\)](#)
- void [Lgm_get_eop_at_JD \(double JD, Lgm_EopOne *eop, Lgm_Eop *e\)](#)
- void [Lgm_set_eop \(Lgm_EopOne *eop, Lgm_CTrans *c\)](#)
- void [Lgm_unset_eop \(Lgm_EopOne *eop, Lgm_CTrans *c\)](#)
- void [Lgm_NgaEoppPred \(double JD, Lgm_EopOne *eop, Lgm_NgaEopp *e\)](#)
- int [Lgm_ReadNgaEopp \(Lgm_NgaEopp *e, int Verbosity\)](#)

4.33.1 Define Documentation

4.33.1.1 #define JD1962 2437665.5

Definition at line 11 of file Lgm_Eop.c.

4.33.2 Function Documentation

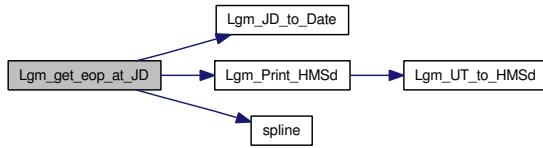
4.33.2.1 void Lgm_destroy_eop (Lgm_Eop * e)

Definition at line 52 of file Lgm_Eop.c.

4.33.2.2 void Lgm_get_eop_at_JD (double *JD*, Lgm_EopOne * *eop*, Lgm_Eop * *e*)

Definition at line 122 of file Lgm_Eop.c.

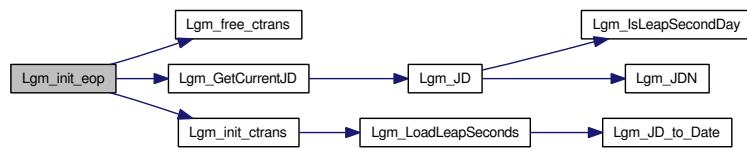
Here is the call graph for this function:



4.33.2.3 Lgm_Eop* Lgm_init_eop (int *Verbose*)

Definition at line 14 of file Lgm_Eop.c.

Here is the call graph for this function:



4.33.2.4 void Lgm_NgaEoppPred (double *JD*, Lgm_EopOne * *eop*, Lgm_NgaEopp * *e*)

Definition at line 283 of file Lgm_Eop.c.

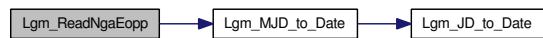
4.33.2.5 void Lgm_read_eop (Lgm_Eop * *e*)

Definition at line 75 of file Lgm_Eop.c.

4.33.2.6 int Lgm_ReadNgaEopp (Lgm_NgaEopp * *e*, int *Verbosity*)

Definition at line 310 of file Lgm_Eop.c.

Here is the call graph for this function:



4.33.2.7 void Lgm_set_eop (Lgm_EopOne * *eop*, Lgm_CTrans * *c*)

Definition at line 249 of file Lgm_Eop.c.

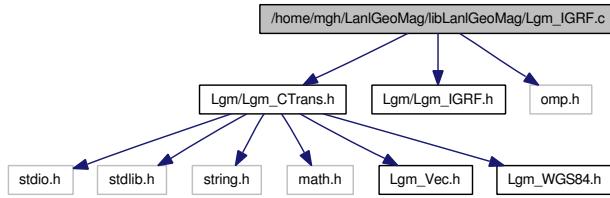
4.33.2.8 void Lgm_unset_eop (Lgm_EopOne * *eop*, Lgm_CTrans * *c*)

Definition at line 261 of file Lgm_Eop.c.

4.34 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_IGRF.c File Reference

```
#include "Lgm/Lgm_CTrans.h"
#include "Lgm/Lgm_IGRF.h"
#include <omp.h>
```

Include dependency graph for Lgm_IGRF.c:



Defines

- #define TINY 1.0e-25

Functions

- void [Lgm_IGRF](#) ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_CTrans](#) *c)
- void [_Lgm_IGRF](#) ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_CTrans](#) *c)
- void [_Lgm_IGRF2](#) ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_CTrans](#) *c)
- void [_Lgm_IGRF3](#) ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_CTrans](#) *c)
- void [_Lgm_IGRF4](#) ([Lgm_Vector](#) *v, [Lgm_Vector](#) *B, [Lgm_CTrans](#) *c)
- void [Lgm_InitPnm](#) (double ct, double st, double R[13][13], double P[13][13], double dP[13][13], int N, [Lgm_CTrans](#) *c)
- void [Lgm_InitdPnm](#) (double P[13][13], double dP[13][13], int N, [Lgm_CTrans](#) *c)
- void [Lgm_InitSqrtFuncs](#) (double SqrtNM1[13][13], double SqrtNM2[13][13], int N)
- double [Lgm_Factorial](#) (int k)
- void [Lgm_InitTrigmp](#) (double cp, double sp, double *Cmp, double *Smp, int N)
- void [Lgm_InitS](#) (double S[13][13], int N)
- void [Lgm_InitK](#) (double K[13][13], int N)
- void [Lgm_InitIGRF](#) (double g[13][13], double h[13][13], int N, int Flag, [Lgm_CTrans](#) *c)
- void [Lgm_PolFunInt](#) (double *xa, double *ya, int n, double x, double *y, double *dy)
- void [Lgm_RatFunInt](#) (double *xa, double *ya, int n, double x, double *y, double *dy)

4.34.1 Define Documentation

4.34.1.1 #define TINY 1.0e-25

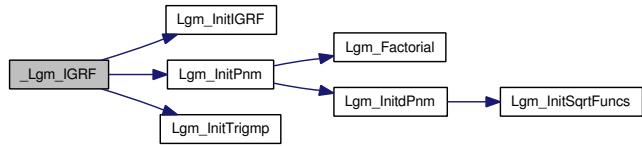
Definition at line 39 of file Lgm_IGRF.c.

4.34.2 Function Documentation

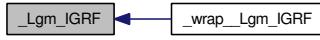
4.34.2.1 void _Lgm_IGRF (Lgm_Vector * *v*, Lgm_Vector * *B*, Lgm_CTrans * *c*)

Definition at line 84 of file Lgm_IGRF.c.

Here is the call graph for this function:



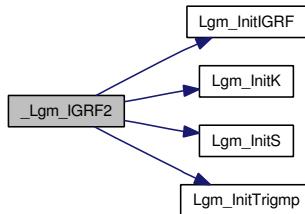
Here is the caller graph for this function:



4.34.2.2 void _Lgm_IGRF2 (Lgm_Vector * *v*, Lgm_Vector * *B*, Lgm_CTrans * *c*)

Definition at line 211 of file Lgm_IGRF.c.

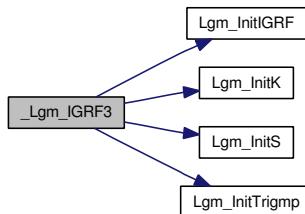
Here is the call graph for this function:



4.34.2.3 void _Lgm_IGRF3 (Lgm_Vector * *v*, Lgm_Vector * *B*, Lgm_CTrans * *c*)

Definition at line 354 of file Lgm_IGRF.c.

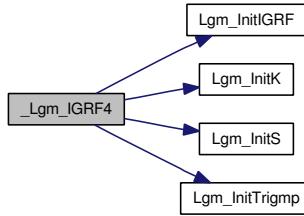
Here is the call graph for this function:



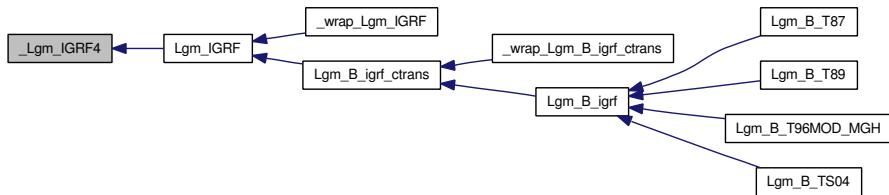
4.34.2.4 void _Lgm_IGRF4 (Lgm_Vector * v , Lgm_Vector * B , Lgm_CTrans * c)

Definition at line 527 of file Lgm_IGRF.c.

Here is the call graph for this function:



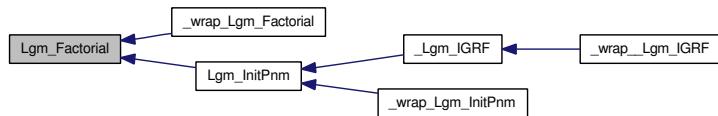
Here is the caller graph for this function:



4.34.2.5 double Lgm_Factorial (int k)

Definition at line 879 of file Lgm_IGRF.c.

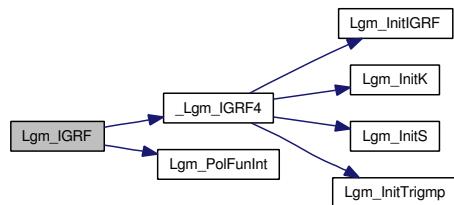
Here is the caller graph for this function:



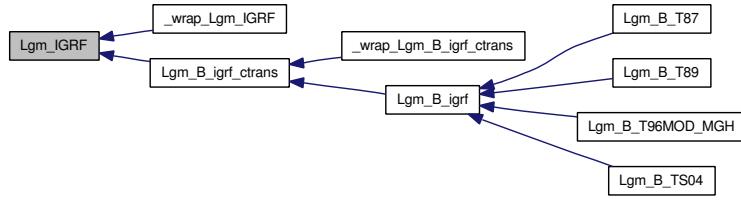
4.34.2.6 void Lgm_IGRF (Lgm_Vector * v , Lgm_Vector * B , Lgm_CTrans * c)

Definition at line 46 of file Lgm_IGRF.c.

Here is the call graph for this function:



Here is the caller graph for this function:



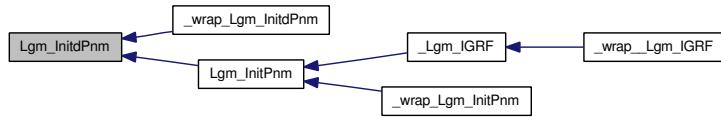
4.34.2.7 void Lgm_InitdPnm (double P[13][13], double dP[13][13], int N, Lgm_CTrans * c)

Definition at line 808 of file Lgm_IGRF.c.

Here is the call graph for this function:



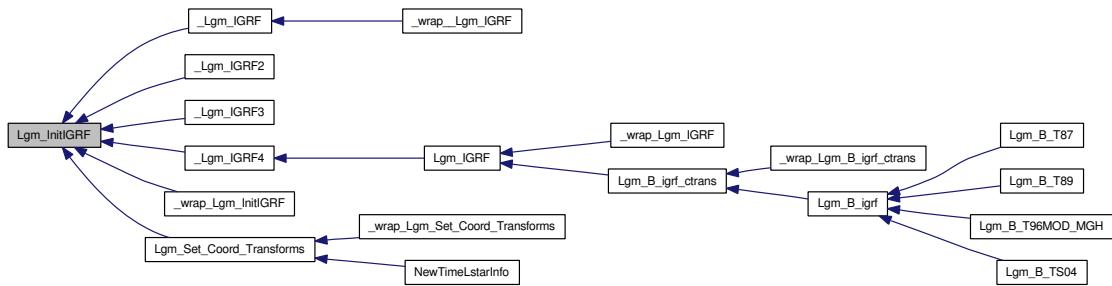
Here is the caller graph for this function:



4.34.2.8 void Lgm_InitIGRF (double g[13][13], double h[13][13], int N, int Flag, Lgm_CTrans * c)

Definition at line 982 of file Lgm_IGRF.c.

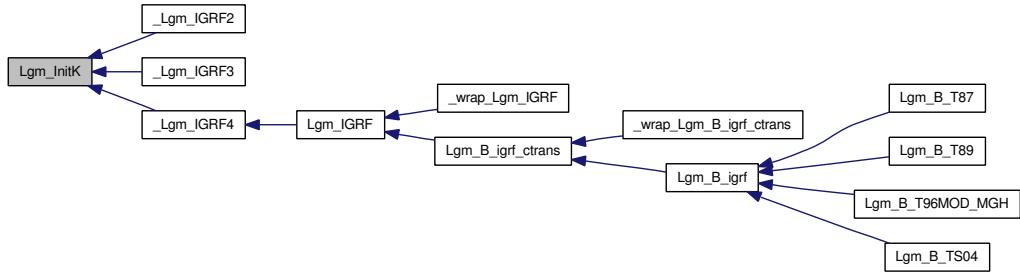
Here is the caller graph for this function:



4.34.2.9 void Lgm_InitK (double K[13][13], int N)

Definition at line 960 of file Lgm_IGRF.c.

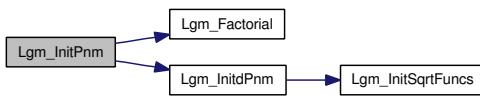
Here is the caller graph for this function:



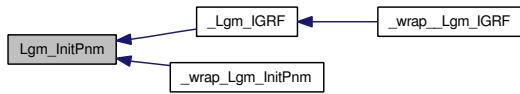
4.34.2.10 void Lgm_InitPnm (double ct , double st , double $R[13][13]$, double $P[13][13]$, double $dP[13][13]$, int N , Lgm_CTrans * c)

Definition at line 677 of file Lgm_IGRF.c.

Here is the call graph for this function:



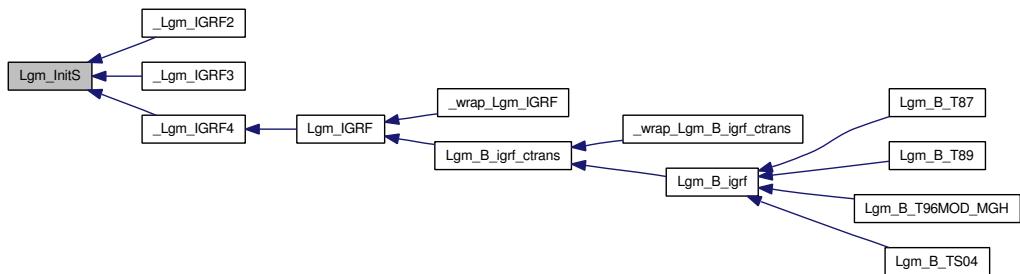
Here is the caller graph for this function:



4.34.2.11 void Lgm_InitS (double $S[13][13]$, int N)

Definition at line 925 of file Lgm_IGRF.c.

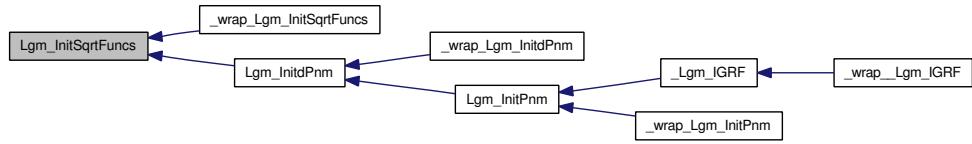
Here is the caller graph for this function:



4.34.2.12 void Lgm_InitSqrtFuncs (double SqrtNM1[13][13], double SqrtNM2[13][13], int N)

Definition at line 848 of file Lgm_IGRF.c.

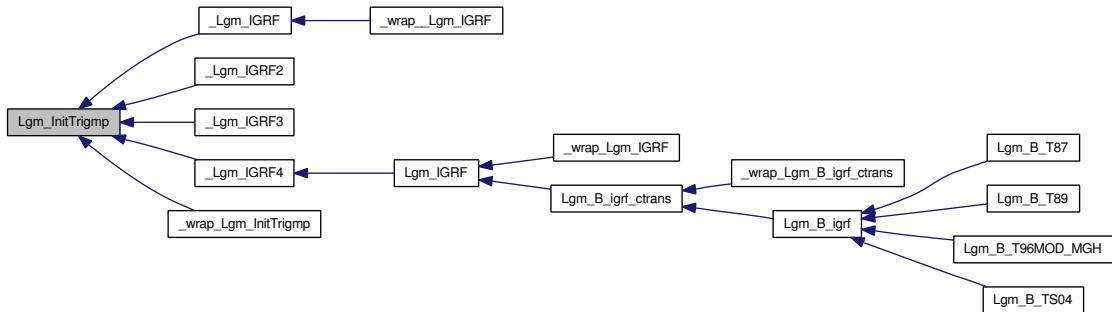
Here is the caller graph for this function:



4.34.2.13 void Lgm_InitTrigmp (double cp, double sp, double * Cmp, double * Smp, int N)

Definition at line 900 of file Lgm_IGRF.c.

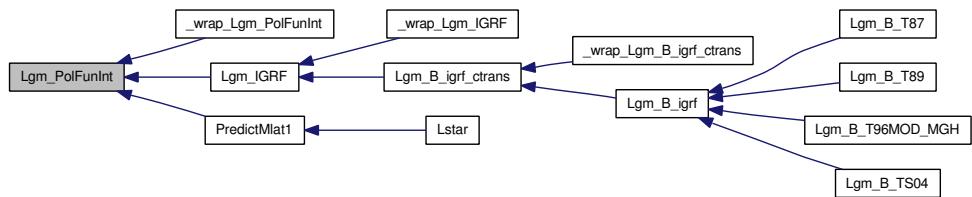
Here is the caller graph for this function:



4.34.2.14 void Lgm_PolFunInt (double * xa, double * ya, int n, double x, double * y, double * dy)

Definition at line 1086 of file Lgm_IGRF.c.

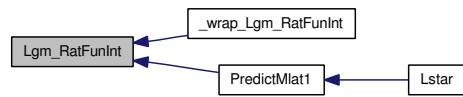
Here is the caller graph for this function:



4.34.2.15 void Lgm_RatFunInt (double * xa, double * ya, int n, double x, double * y, double * dy)

Definition at line 1126 of file Lgm_IGRF.c.

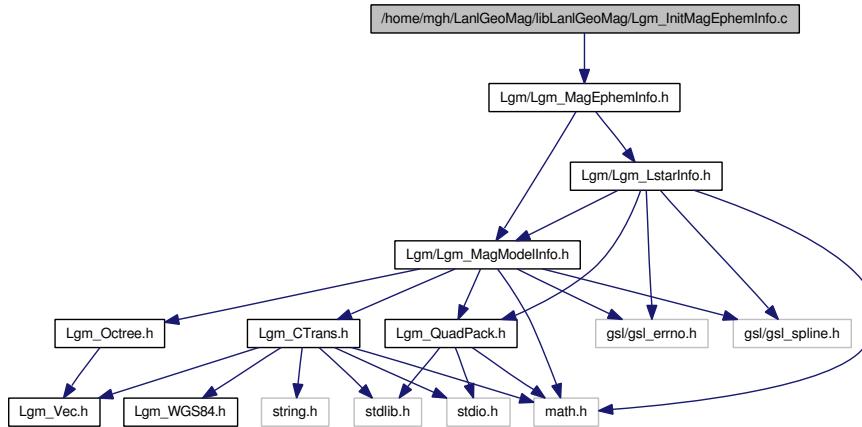
Here is the caller graph for this function:



4.35 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_InitMagEphemInfo.c File Reference

```
#include "Lgm/Lgm_MagEphemInfo.h"
```

Include dependency graph for Lgm_InitMagEphemInfo.c:



Functions

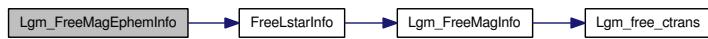
- [Lgm_MagEphemInfo * Lgm_InitMagEphemInfo \(int Verbosity\)](#)
- void [Lgm_FreeMagEphemInfo \(Lgm_MagEphemInfo *Info\)](#)

4.35.1 Function Documentation

4.35.1.1 void Lgm_FreeMagEphemInfo (Lgm_MagEphemInfo * Info)

Definition at line 20 of file Lgm_InitMagEphemInfo.c.

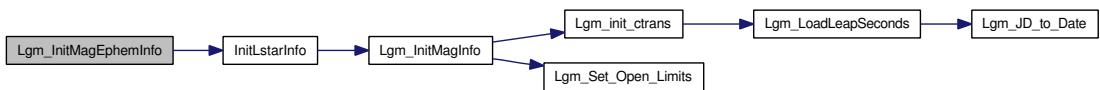
Here is the call graph for this function:



4.35.1.2 Lgm_MagEphemInfo* Lgm_InitMagEphemInfo (int Verbosity)

Definition at line 8 of file Lgm_InitMagEphemInfo.c.

Here is the call graph for this function:

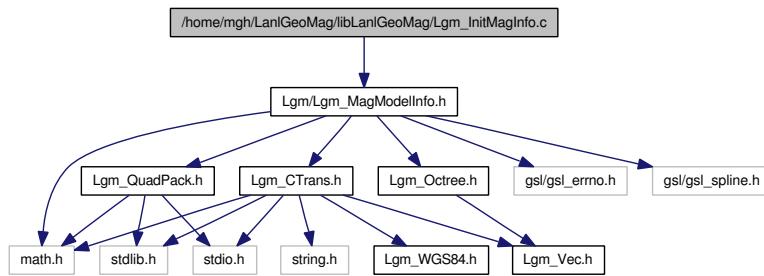


4.36 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_InitMagInfo.c

File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
```

Include dependency graph for Lgm_InitMagInfo.c:



Functions

- [Lgm_MagModelInfo * Lgm_InitMagInfo \(\)](#)
- void [Lgm_FreeMagInfo \(Lgm_MagModelInfo *Info\)](#)
- [Lgm_MagModelInfo * Lgm_CopyMagInfo \(Lgm_MagModelInfo *s\)](#)
- void [Lgm_MagModelInfo_Set_Psw \(double Psw, Lgm_MagModelInfo *m\)](#)
- void [Lgm_MagModelInfo_Set_Kp \(double Kp, Lgm_MagModelInfo *m\)](#)
- void [Lgm_Set_Octree_kNN_InterpMethod \(Lgm_MagModelInfo *m, int Method\)](#)
- void [Lgm_Set_Octree_kNN_k \(Lgm_MagModelInfo *m, int k\)](#)
- void [Lgm_Set_Octree_kNN_MaxDist \(Lgm_MagModelInfo *m, double MaxDist\)](#)
- void [Lgm_Set_Open_Limits \(Lgm_MagModelInfo *m, double xmin, double xmax, double ymin, double ymax, double zmin, double zmax\)](#)

4.36.1 Function Documentation

4.36.1.1 Lgm_MagModelInfo* Lgm_CopyMagInfo (Lgm_MagModelInfo * s)

Definition at line 90 of file Lgm_InitMagInfo.c.

Here is the call graph for this function:



Here is the caller graph for this function:



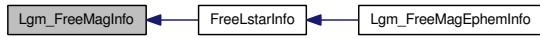
4.36.1.2 void Lgm_FreeMagInfo (Lgm_MagModelInfo * *Info*)

Definition at line 75 of file Lgm_InitMagInfo.c.

Here is the call graph for this function:



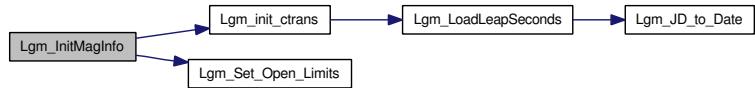
Here is the caller graph for this function:



4.36.1.3 Lgm_MagModelInfo* Lgm_InitMagInfo ()

Definition at line 8 of file Lgm_InitMagInfo.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.36.1.4 void Lgm_MagModelInfo_Set_Kp (double *Kp*, Lgm_MagModelInfo * *m*)

Definition at line 132 of file Lgm_InitMagInfo.c.

4.36.1.5 void Lgm_MagModelInfo_Set_Psw (double *Psw*, Lgm_MagModelInfo * *m*)

Definition at line 129 of file Lgm_InitMagInfo.c.

4.36.1.6 void Lgm_Set_Octree_kNN_InterpMethod (Lgm_MagModelInfo * *m*, int *Method*)

Definition at line 139 of file Lgm_InitMagInfo.c.

4.36.1.7 void Lgm_Set_Octree_kNN_k (Lgm_MagModelInfo * *m*, int *k*)

Definition at line 143 of file Lgm_InitMagInfo.c.

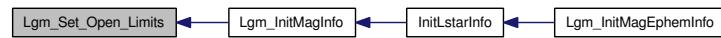
4.36.1.8 void Lgm_Set_Octree_kNN_MaxDist (Lgm_MagModelInfo * *m*, double *MaxDist*)

Definition at line 147 of file Lgm_InitMagInfo.c.

4.36.1.9 void Lgm_Set_Open_Limits (Lgm_MagModelInfo * *m*, double *xmin*, double *xmax*, double *ymin*, double *ymax*, double *zmin*, double *zmax*)

Definition at line 153 of file Lgm_InitMagInfo.c.

Here is the caller graph for this function:



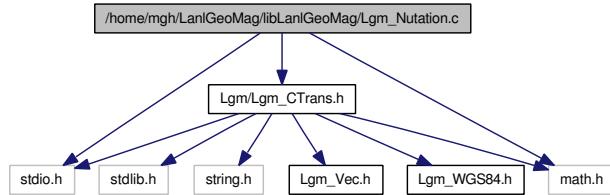
4.37 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_Nutation.c File Reference

```
#include "Lgm/Lgm_CTrans.h"
```

```
#include <stdio.h>
```

```
#include <math.h>
```

Include dependency graph for Lgm_Nutation.c:



Functions

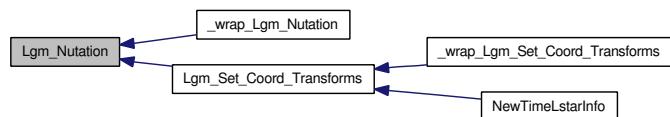
- void [Lgm_Nutation](#) (double T_TT, double nTerms, double *dPsi, double *dEps)

4.37.1 Function Documentation

4.37.1.1 void [Lgm_Nutation](#) (double *T_TT*, double *nTerms*, double **dPsi*, double **dEps*)

Definition at line 225 of file Lgm_Nutation.c.

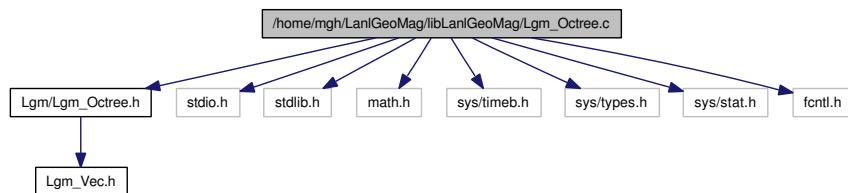
Here is the caller graph for this function:



4.38 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_Octree.c File Reference

```
#include "Lgm_Octree.h"
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include <sys/timeb.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <fcntl.h>
```

Include dependency graph for Lgm_Octree.c:



Functions

- double [Elapsed Time2](#) (struct timeb StartTime)
- void [Binary](#) (unsigned int n, char *Str)
- void [Lgm_OctreeFreeBranch](#) (Lgm_OctreeCell *Cell)
- void [Lgm_FreeOctree](#) (Lgm_OctreeCell *ot)
- [Lgm_OctreeCell * Lgm_CreateOctreeRoot](#) ()
- [Lgm_OctreeCell * Lgm_OctreeTraverseToLocCode](#) (Lgm_OctreeCell *Cell, unsigned int ChildLevel, unsigned int xLocationCode, unsigned int yLocationCode, unsigned int zLocationCode)
- [Lgm_OctreeCell * Lgm_LocateNearestCell](#) (Lgm_OctreeCell *Root, Lgm_Vector *q)
- double [MinDist](#) (Lgm_OctreeCell *Cell, Lgm_Vector *q)
- double [InsertCell](#) (Lgm_OctreeCell *Cell, Lgm_Vector *q, pQueue **PQ, double MaxDist2)
- void [InsertPoint](#) (Lgm_OctreeCell *Cell, int j, Lgm_Vector *q, pQueue **PQ)
- [Lgm_OctreeCell * DescendTowardClosestLeaf](#) (Lgm_OctreeCell *Node, pQueue **PQ, Lgm_Vector *q, double MaxDist2)
- void [PrintPQ](#) (pQueue **PQ)
- [pQueue * PopObj](#) (pQueue **PQ)
- int [Lgm_Octree_kNN](#) (Lgm_Vector *q, Lgm_OctreeCell *Root, int K, int *Kgot, double MaxDist2, Lgm_OctreeData *kNN)
- [Lgm_OctreeCell * CreateNewOctants](#) (Lgm_OctreeCell *Parent)
- void [SubDivideVolume](#) (Lgm_OctreeCell *Vol)
- void [Lgm_OctreeScalePoint](#) (Lgm_Vector *u, Lgm_Vector *v, double Min, double Diff)
- [Lgm_OctreeCell * Lgm_InitOctree](#) (Lgm_Vector *ObjectPoints, Lgm_Vector *ObjectData, unsigned long int N, double *Min, double *Max, double *Diff)

Variables

- struct timeb [StartTime](#)

4.38.1 Function Documentation

4.38.1.1 void Binary (unsigned int *n*, char * *Str*)

Definition at line 13 of file Lgm_Octree.c.

4.38.1.2 Lgm_OctreeCell* CreateNewOctants (Lgm_OctreeCell * *Parent*)

Definition at line 585 of file Lgm_Octree.c.

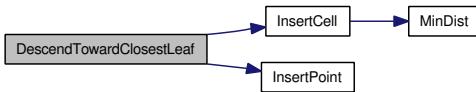
Here is the caller graph for this function:



4.38.1.3 Lgm_OctreeCell* DescendTowardClosestLeaf (Lgm_OctreeCell * *Node*, pQueue ** *PQ*, Lgm_Vector * *q*, double *MaxDist2*)

Definition at line 350 of file Lgm_Octree.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.38.1.4 double ElapsedTime2 (struct timeb *StartTime*)

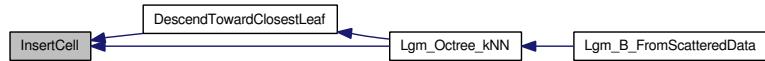
4.38.1.5 double InsertCell (Lgm_OctreeCell * *Cell*, Lgm_Vector * *q*, pQueue ** *PQ*, double *MaxDist2*)

Definition at line 198 of file Lgm_Octree.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.38.1.6 void InsertPoint (Lgm_OctreeCell * *Cell*, int *j*, Lgm_Vector * *q*, pQueue ** *PQ*)

Definition at line 282 of file Lgm_Octree.c.

Here is the caller graph for this function:



4.38.1.7 Lgm_OctreeCell* Lgm_CreateOctreeRoot ()

Definition at line 64 of file Lgm_Octree.c.

Here is the caller graph for this function:



4.38.1.8 void Lgm_FreeOctree (Lgm_OctreeCell * *ot*)

Definition at line 58 of file Lgm_Octree.c.

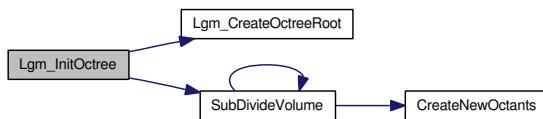
Here is the call graph for this function:



4.38.1.9 Lgm_OctreeCell* Lgm_InitOctree (Lgm_Vector * *ObjectPoints*, Lgm_Vector * *ObjectData*, unsigned long int *N*, double * *Min*, double * *Max*, double * *Diff*)

Definition at line 767 of file Lgm_Octree.c.

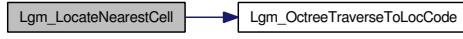
Here is the call graph for this function:



4.38.1.10 Lgm_OctreeCell* Lgm_LocateNearestCell (Lgm_OctreeCell * Root, Lgm_Vector * q)

Definition at line 127 of file Lgm_Octree.c.

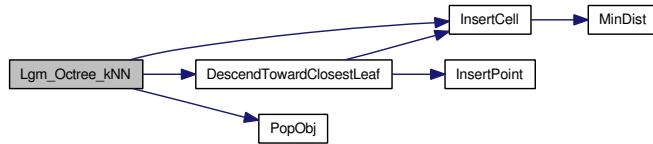
Here is the call graph for this function:



4.38.1.11 int Lgm_Octree_kNN (Lgm_Vector * q, Lgm_OctreeCell * Root, int K, int * Kgot, double MaxDist2, Lgm_OctreeData * kNN)

Definition at line 474 of file Lgm_Octree.c.

Here is the call graph for this function:



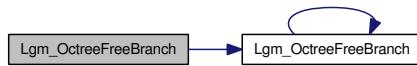
Here is the caller graph for this function:



4.38.1.12 void Lgm_OctreeFreeBranch (Lgm_OctreeCell * Cell)

Definition at line 30 of file Lgm_Octree.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.38.1.13 void Lgm_OctreeScalePoint (Lgm_Vector * u, Lgm_Vector * v, double Min, double Diff)

Definition at line 740 of file Lgm_Octree.c.

4.38.1.14 Lgm_OctreeCell* Lgm_OctreeTraverseToLocCode (Lgm_OctreeCell * *Cell*, unsigned int *ChildLevel*, unsigned int *xLocationCode*, unsigned int *yLocationCode*, unsigned int *zLocationCode*)

Definition at line 99 of file Lgm_Octree.c.

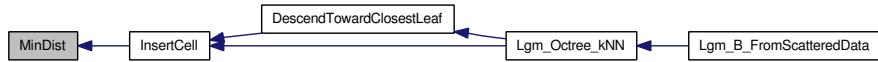
Here is the caller graph for this function:



4.38.1.15 double MinDist (Lgm_OctreeCell * *Cell*, Lgm_Vector * *q*)

Definition at line 162 of file Lgm_Octree.c.

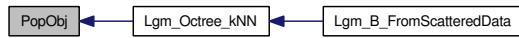
Here is the caller graph for this function:



4.38.1.16 pQueue* PopObj (pQueue ** *PQ*)

Definition at line 423 of file Lgm_Octree.c.

Here is the caller graph for this function:



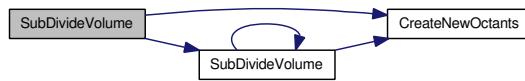
4.38.1.17 void PrintPQ (pQueue ** *PQ*)

Definition at line 399 of file Lgm_Octree.c.

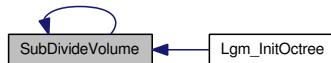
4.38.1.18 void SubDivideVolume (Lgm_OctreeCell * *Vol*)

Definition at line 654 of file Lgm_Octree.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.38.2 Variable Documentation

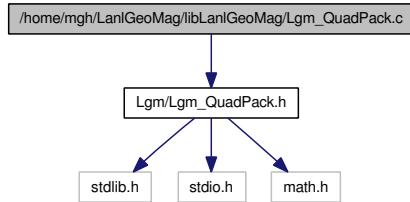
4.38.2.1 struct timeb StartTime

Definition at line 10 of file Lgm_Octree.c.

4.39 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_QuadPack.c File Reference

```
#include "Lgm/Lgm_QuadPack.h"
```

Include dependency graph for Lgm_QuadPack.c:



Functions

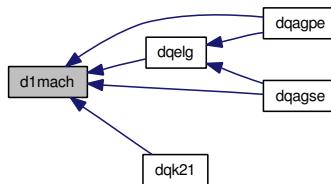
- int `dqags` (double *f, `_qpInfo` *qpInfo, double a, double b, double epsabs, double epsrel, double *result, double *abserr, int *neval, int *ier, int limit, int lenw, int *last, int *iwork, double *work)
- int `dqagse` (double *f, `_qpInfo` *qpInfo, double a, double b, double epsabs, double epsrel, int limit, double *result, double *abserr, int *neval, int *ier, double *alist, double *blist, double *rlist, double *elist, int *iord, int *last)
- int `dqelg` (int n, double epstab[], double *result, double *abserr, double res3la[], int *nres)
- int `dqk21` (double *f, `_qpInfo` *qpInfo, double a, double b, double *result, double *abserr, double *resabs, double *resasc)
- int `dqpsrt` (int limit, int last, int *maxerr, double *ermax, double elist[], int iord[], int *nrmax)
- double `d1mach` (int i)

4.39.1 Function Documentation

4.39.1.1 double d1mach (int i)

Definition at line 1588 of file `Lgm_QuadPack.c`.

Here is the caller graph for this function:



4.39.1.2 int dqags (double *f, `_qpInfo` *qpInfo, double a, double b, double epsabs, double epsrel, double *result, double *abserr, int *neval, int *ier, int limit, int lenw, int *last, int *iwork, double *work)

Definition at line 6 of file `Lgm_QuadPack.c`.

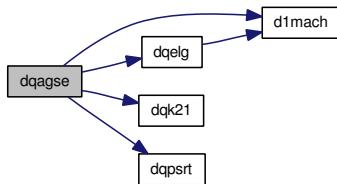
Here is the call graph for this function:



4.39.1.3 int dqagse (double **f*, _qpInfo **qpInfo*, double *a*, double *b*, double *epsabs*, double *epsrel*, int *limit*, double **result*, double **abserr*, int **neval*, int **ier*, double **alist*, double **blist*, double **rlist*, double **elist*, int **iord*, int **last*)

Definition at line 252 of file Lgm_QuadPack.c.

Here is the call graph for this function:



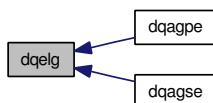
4.39.1.4 int dqelg (int *n*, double *epstab*[], double **result*, double **abserr*, double *res3la*[], int **nres*)

Definition at line 868 of file Lgm_QuadPack.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.39.1.5 int dqk21 (double **f*, _qpInfo **qpInfo*, double *a*, double *b*, double **result*, double **abserr*, double **resabs*, double **resasc*)

Definition at line 1130 of file Lgm_QuadPack.c.

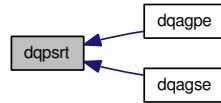
Here is the call graph for this function:



4.39.1.6 int dqpsrt (int *limit*, int *last*, int * *maxerr*, double * *ermax*, double *elist*[], int *iord*[], int * *nrmax*)

Definition at line 1375 of file Lgm_QuadPack.c.

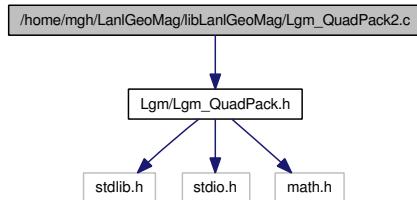
Here is the caller graph for this function:



4.40 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_QuadPack2.c File Reference

```
#include "Lgm/Lgm_QuadPack.h"
```

Include dependency graph for Lgm_QuadPack2.c:



Functions

- int `dqagi` (double *f, `_qpInfo` *qpInfo, double bound, int inf, double epsabs, double epsrel, double *result, double *abserr, int *neval, int *ier, int limit, int lenw, int *last, int *iwork, double *work)
- int `dqagse` (double *f, `_qpInfo` *qpInfo, bound, inf, double epsabs, double epsrel, int limit, double *result, double *abserr, int *neval, int *ier, double *alist, double *blist, double *rlist, double *elist, int *iord, int *last)

4.40.1 Function Documentation

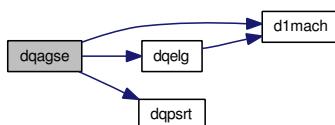
4.40.1.1 int dqagi (double *f, `_qpInfo` * *qpInfo*, double *bound*, int *inf*, double *epsabs*, double *epsrel*, double * *result*, double * *abserr*, int * *neval*, int * *ier*, int *limit*, int *lenw*, int * *last*, int * *iwork*, double * *work*)

Definition at line 6 of file Lgm_QuadPack2.c.

4.40.1.2 int dqagse (double *f, `_qpInfo` * *qpInfo*, *bound*, *inf*, double *epsabs*, double *epsrel*, int *limit*, double * *result*, double * *abserr*, int * *neval*, int * *ier*, double * *alist*, double * *blist*, double * *rlist*, double * *elist*, int * *iord*, int * *last*)

Definition at line 262 of file Lgm_QuadPack2.c.

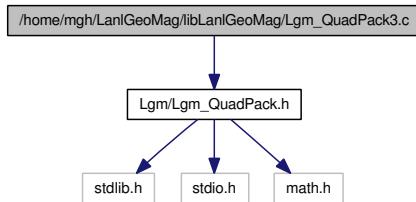
Here is the call graph for this function:



4.41 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_QuadPack3.c File Reference

```
#include "Lgm/Lgm_QuadPack.h"
```

Include dependency graph for Lgm_QuadPack3.c:



Functions

- int `dqagp` (double *f, `_qpInfo` *qpInfo, double a, double b, int npts2, double *points, double epsabs, double epsrel, double *result, double *abserr, int *neval, int *ier, int leniw, int lenw, int *last, int *iwork, double *work)
- int `dqagpe` (double *f, `_qpInfo` *qpInfo, double a, double b, int npts2, double *points, double epsabs, double epsrel, int limit, double *result, double *abserr, int *neval, int *ier, double *alist, double *blist, double *rlist, double *elist, double *pts, int *iord, int *level, int *ndin, int *last)

4.41.1 Function Documentation

4.41.1.1 int dqagp (double *f, `_qpInfo` * qpInfo, double a, double b, int npts2, double * points, double epsabs, double epsrel, double * result, double * abserr, int * neval, int * ier, int leniw, int lenw, int * last, int * iwork, double * work)

Definition at line 6 of file Lgm_QuadPack3.c.

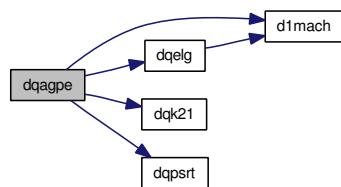
Here is the call graph for this function:



4.41.1.2 int dqagpe (double *f, `_qpInfo` * qpInfo, double a, double b, int npts2, double * points, double epsabs, double epsrel, int limit, double * result, double * abserr, int * neval, int * ier, double * alist, double * blist, double * rlist, double * elist, double * pts, int * iord, int * level, int * ndin, int * last)

Definition at line 292 of file Lgm_QuadPack3.c.

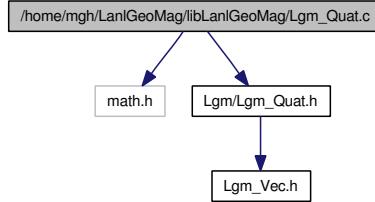
Here is the call graph for this function:



4.42 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_Quat.c File Reference

```
#include <math.h>
#include "Lgm/Lgm_Quat.h"
```

Include dependency graph for Lgm_Quat.c:



Functions

- double [Lgm_NormalizeQuat](#) (double Q[4])
- double [Lgm_MatrixTrace](#) (double A[3][3])
- void [Lgm_MatrixToQuat](#) (double A[3][3], double *Q)
- void [Lgm_Quat_To_Matrix](#) (double Q[4], double A[3][3])
- void [Lgm_AxisAngleToQuat](#) ([Lgm_Vector](#) *u, double Angle, double *Q)
- void [Lgm_QuatToAxisAngle](#) (double *Q, double *Angle, [Lgm_Vector](#) *u)
- void [Lgm_QuatRotateVector](#) (double *Q, [Lgm_Vector](#) *v, [Lgm_Vector](#) *vp)
- double [Lgm_QuatMagnitude](#) (double *Q)
- double [Lgm_QuatVecLength](#) (double *v)
- double [Lgm_QuatVecDot](#) (double *v1, double *v2)
- void [Lgm_QuatVecZero](#) (double *v)
- void [Lgm_QuatVecSet](#) (double *v, double x, double y, double z)
- void [Lgm_QuatVecAdd](#) (double *a, double *b, double *c)
- void [Lgm_QuatVecSub](#) (double *a, double *b, double *c)
- void [Lgm_QuatVecCopy](#) (double *v1, double *v2)
- void [Lgm_QuatVecScale](#) (double *v, double f)
- void [Lgm_QuatVecNormalize](#) (double *v)
- void [Lgm_QuatVecCross](#) (double *a, double *b, double *c)
- void [Lgm_QuatCombineQuats](#) (double Q1[4], double Q2[4], double Q[4])

4.42.1 Function Documentation

4.42.1.1 void [Lgm_AxisAngleToQuat](#) ([Lgm_Vector](#) * *u*, double *Angle*, double * *Q*)

Definition at line 113 of file Lgm_Quat.c.

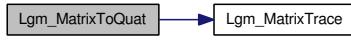
Here is the caller graph for this function:



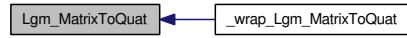
4.42.1.2 void Lgm_MatrixToQuat (double A[3][3], double * Q)

Definition at line 40 of file Lgm_Quat.c.

Here is the call graph for this function:



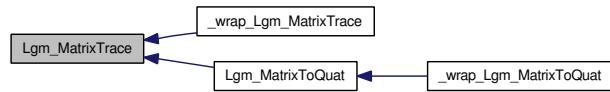
Here is the caller graph for this function:



4.42.1.3 double Lgm_MatrixTrace (double A[3][3])

Definition at line 29 of file Lgm_Quat.c.

Here is the caller graph for this function:



4.42.1.4 double Lgm_NormalizeQuat (double Q[4])

Definition at line 4 of file Lgm_Quat.c.

4.42.1.5 void Lgm_Quat_To_Matrix (double Q[4], double A[3][3])

Definition at line 85 of file Lgm_Quat.c.

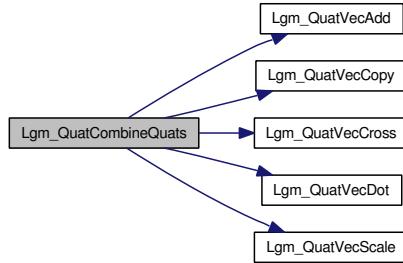
Here is the caller graph for this function:



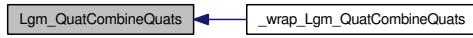
4.42.1.6 void Lgm_QuatCombineQuats (double Q1[4], double Q2[4], double Q[4])

Definition at line 247 of file Lgm_Quat.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.42.1.7 double Lgm_QuatMagnitude (double * Q)

Definition at line 227 of file Lgm_Quat.c.

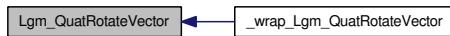
Here is the caller graph for this function:



4.42.1.8 void Lgm_QuatRotateVector (double * Q , Lgm_Vector * v , Lgm_Vector * vp)

Definition at line 198 of file Lgm_Quat.c.

Here is the caller graph for this function:



4.42.1.9 void Lgm_QuatToAxisAngle (double * Q , double * $Angle$, Lgm_Vector * u)

Definition at line 142 of file Lgm_Quat.c.

Here is the call graph for this function:



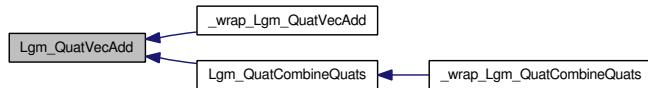
Here is the caller graph for this function:



4.42.1.10 void Lgm_QuatVecAdd (double * a , double * b , double * c)

Definition at line 235 of file Lgm_Quat.c.

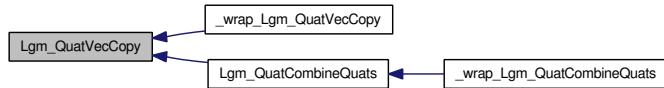
Here is the caller graph for this function:



4.42.1.11 void Lgm_QuatVecCopy (double * $v1$, double * $v2$)

Definition at line 237 of file Lgm_Quat.c.

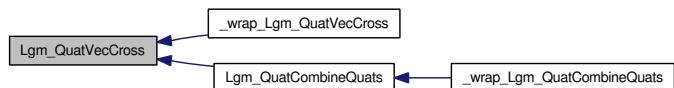
Here is the caller graph for this function:



4.42.1.12 void Lgm_QuatVecCross (double * a , double * b , double * c)

Definition at line 241 of file Lgm_Quat.c.

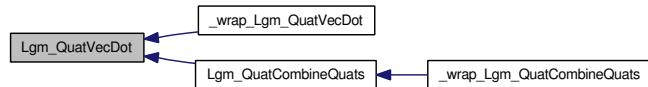
Here is the caller graph for this function:



4.42.1.13 double Lgm_QuatVecDot (double * $v1$, double * $v2$)

Definition at line 232 of file Lgm_Quat.c.

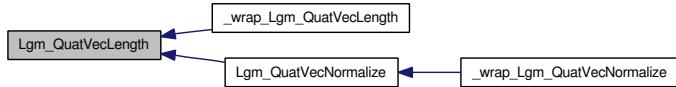
Here is the caller graph for this function:



4.42.1.14 double Lgm_QuatVecLength (double * v)

Definition at line 231 of file Lgm_Quat.c.

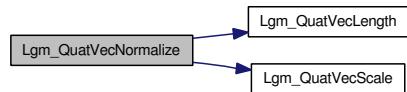
Here is the caller graph for this function:



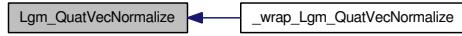
4.42.1.15 void Lgm_QuatVecNormalize (double * v)

Definition at line 239 of file Lgm_Quat.c.

Here is the call graph for this function:



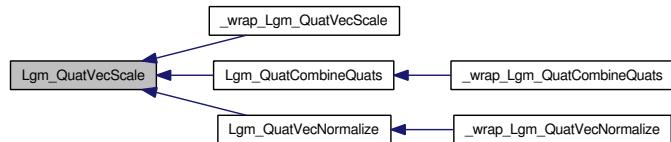
Here is the caller graph for this function:



4.42.1.16 void Lgm_QuatVecScale (double * v, double f)

Definition at line 238 of file Lgm_Quat.c.

Here is the caller graph for this function:



4.42.1.17 void Lgm_QuatVecSet (double * v, double x, double y, double z)

Definition at line 234 of file Lgm_Quat.c.

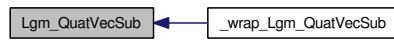
Here is the caller graph for this function:



4.42.1.18 void Lgm_QuatVecSub (double * a, double * b, double * c)

Definition at line 236 of file Lgm_Quat.c.

Here is the caller graph for this function:

**4.42.1.19 void Lgm_QuatVecZero (double * v)**

Definition at line 233 of file Lgm_Quat.c.

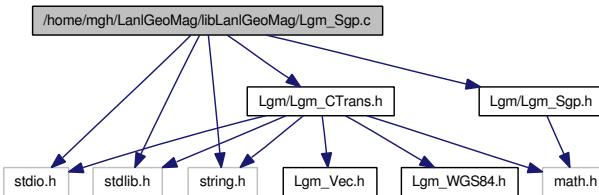
Here is the caller graph for this function:



4.43 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_Sgp.c File Reference

```
#include "Lgm/Lgm_CTrans.h"
#include "Lgm/Lgm_Sgp.h"
#include <string.h>
#include <stdio.h>
#include <stdlib.h>
```

Include dependency graph for Lgm_Sgp.c:



Functions

- int [LgmSgp_TleChecksum](#) (char *Line)
- int [LgmSgp_ReadTlesFromFile](#) (char *Filename, int *nTLEs, [_SgpTLE](#) *TLEs, int Verbosity)
- int [LgmSgp_ReadTlesFromStrings](#) (char *Line0, char *Line1, char *Line2, int *nTLEs, [_SgpTLE](#) *TLEs, int Verbosity)
- void [Lgm_SgpDecodeTle](#) (char *Line0, char *Line1, char *Line2, [_SgpTLE](#) *TLE, int Verbosity)
- double [LgmSgp_gstime](#) (double jdut1)
- void [LgmSgp_dpper](#) (double inclo, char init, double *ep, double *inclp, double *nodep, double *argpp, double *mp, [_SgpInfo](#) *s)
- void [LgmSgp_dscom](#) (double epoch, double ep, double argpp, double tc, double inclp, double nodep, double np, double *snodm, double *cnodm, double *sinim, double *cosim, double *sinomm, double *cosomm, double *day, double *e3, double *ee2, double *em, double *emsq, double *gam, double *peo, double *pho, double *pinco, double *plo, double *rtemsq, double *se2, double *se3, double *sgh2, double *sgh3, double *sgh4, double *sh2, double *sh3, double *si2, double *si3, double *sl2, double *sl3, double *sl4, double *s1, double *s2, double *s3, double *s4, double *s5, double *s6, double *s7, double *ss1, double *ss2, double *ss3, double *ss4, double *ss5, double *ss6, double *ss7, double *sz1, double *sz2, double *sz3, double *sz11, double *sz12, double *sz13, double *sz21, double *sz22, double *sz23, double *sz31, double *sz32, double *sz33, double *xgh2, double *xgh3, double *xgh4, double *xh2, double *xh3, double *xi2, double *xi3, double *xl2, double *xl3, double *xl4, double *nm, double *z1, double *z2, double *z3, double *z11, double *z12, double *z13, double *z21, double *z22, double *z23, double *z31, double *z32, double *z33, double *zmol, double *zmos)
- void [LgmSgp_dsinit](#) (int whichconst, double cosim, double emsq, double argpo, double s1, double s2, double s3, double s4, double s5, double sinim, double ss1, double ss2, double ss3, double ss4, double ss5, double sz1, double sz3, double sz11, double sz13, double sz21, double sz23, double sz31, double sz33, double t, double tc, double gsto, double mo, double mdot, double no, double nodeo, double nodedot, double xpidot, double z1, double z3, double z11, double z13, double z21, double z23, double z31, double z33, double ecco, double eccsq, double *em, double *argpm, double *inclm, double *mm, double *nm, double *nodem, int *irez, double *atime, double *d2201, double *d2211, double *d3210, double *d3222, double *d4410, double *d4422, double *d5220, double *zmol, double *zmos)

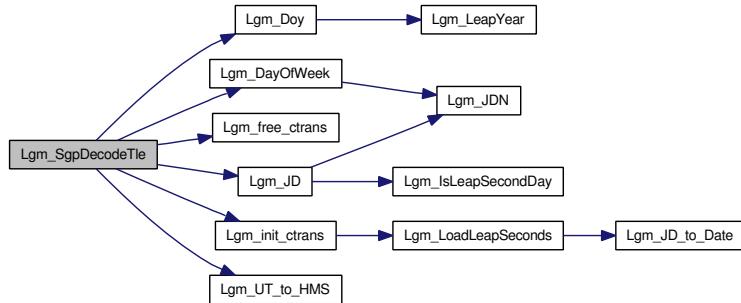
- *d5232, double *d5421, double *d5433, double *dedt, double *didt, double *dmdt, double *dnndt, double *dnodt, double *domdt, double *dell1, double *del2, double *del3, double *xfact, double *xalamo, double *xli, double *xni)
- void [LgmSgp_dspace](#) (double tc, double *atime, double *em, double *argpm, double *incls, double *xli, double *mm, double *xni, double *node, double *dnndt, double *nm, [_SgpInfo](#) *s)
- void [LgmSgp_initl](#) (int satn, int whichconst, double ecco, double epoch, double incl, double *no, char *method, double *ainv, double *ao, double *con41, double *con42, double *cosio, double *cosio2, double *eccsq, double *omeosq, double *posq, double *rp, double *rteosq, double *sinio, double *gsto)
- int [LgmSgp_SGP4_Init](#) ([_SgpInfo](#) *s, [_SgpTLE](#) *t)
- void [LgmSgp_GetGravConst](#) (int whichconst, double *tumin, double *radiusearthkm, double *xke, double *j2, double *j3, double *j4, double *j3oj2)
- int [LgmSgp_SGP4](#) (double tsince, [_SgpInfo](#) *s)

4.43.1 Function Documentation

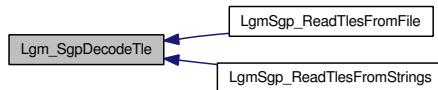
4.43.1.1 void [Lgm_SgpDecodeTle](#) (char * *Line0*, char * *Line1*, char * *Line2*, [_SgpTLE](#) * *TLE*, int *Verbosity*)

Definition at line 239 of file Lgm_Sgp.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.43.1.2 void [LgmSgp_dpper](#) (double *incl*, char *init*, double * *ep*, double * *inclp*, double * *nodep*, double * *argpp*, double * *mp*, [_SgpInfo](#) * *s*)

Definition at line 462 of file Lgm_Sgp.c.

Here is the caller graph for this function:



4.43.1.3 void LgmSgp_dscom (double epoch, double ep, double argpp, double tc, double inclp, double nodep, double np, double * snodm, double * cnodm, double * sinim, double * cosim, double * sinomm, double * cosomm, double * day, double * e3, double * ee2, double * em, double * emsq, double * gam, double * peo, double * pgho, double * pho, double * pinco, double * plo, double * rtemsq, double * se2, double * se3, double * sgh2, double * sgh3, double * sgh4, double * sh2, double * sh3, double * si2, double * si3, double * sl2, double * sl3, double * sl4, double * s1, double * s2, double * s3, double * s4, double * s5, double * s6, double * s7, double * ss1, double * ss2, double * ss3, double * ss4, double * ss5, double * ss6, double * ss7, double * sz1, double * sz2, double * sz3, double * sz11, double * sz12, double * sz13, double * sz21, double * sz22, double * sz23, double * sz31, double * sz32, double * sz33, double * xgh2, double * xgh3, double * xgh4, double * xh2, double * xh3, double * xi2, double * xi3, double * xl2, double * xl3, double * xl4, double * nm, double * z1, double * z2, double * z3, double * z11, double * z12, double * z13, double * z21, double * z22, double * z23, double * z31, double * z32, double * z33, double * zmol, double * zmos)

Definition at line 649 of file Lgm_Sgp.c.

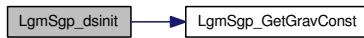
Here is the caller graph for this function:



4.43.1.4 void LgmSgp_dsinit (int whichconst, double cosim, double argpo, double s1, double s2, double s3, double s4, double s5, double sinim, double ss1, double ss2, double ss3, double ss4, double ss5, double sz1, double sz3, double sz11, double sz13, double sz21, double sz23, double sz31, double sz33, double t, double tc, double gsto, double mo, double mdot, double no, double nodeo, double nodedot, double xpidot, double z1, double z3, double z11, double z13, double z21, double z23, double z31, double z33, double ecco, double eccsq, double * em, double * argpm, double * inclm, double * mm, double * nm, double * nodem, int * irez, double * atime, double * d2201, double * d2211, double * d3210, double * d3222, double * d4410, double * d4422, double * d5220, double * d5232, double * d5421, double * d5433, double * dedit, double * didt, double * dmddt, double * dndt, double * dnodt, double * domdt, double * dell, double * del2, double * del3, double * xfact, double * xlamo, double * xli, double * xni)

Definition at line 902 of file Lgm_Sgp.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.43.1.5 void LgmSgp_dspace (double *tc*, double * *atime*, double * *em*, double * *argpm*, double * *inclm*, double * *xli*, double * *mm*, double * *xni*, double * *nodem*, double * *dndt*, double * *nm*, _SgpInfo * *s*)

Definition at line 1176 of file Lgm_Sgp.c.

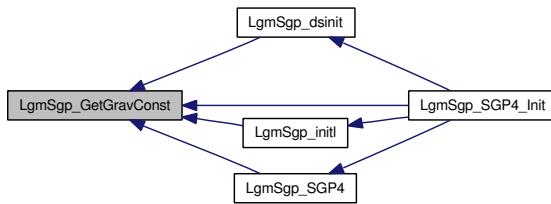
Here is the caller graph for this function:



4.43.1.6 void LgmSgp_GetGravConst (int *whichconst*, double * *tumin*, double * *radiusearthkm*, double * *xke*, double * *j2*, double * *j3*, double * *j4*, double * *j3oj2*)

Definition at line 1740 of file Lgm_Sgp.c.

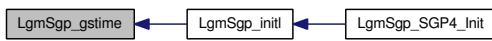
Here is the caller graph for this function:



4.43.1.7 double LgmSgp_gstime (double *jutl*)

Definition at line 414 of file Lgm_Sgp.c.

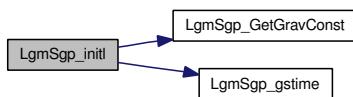
Here is the caller graph for this function:



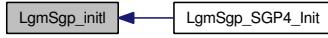
4.43.1.8 void LgmSgp_initl (int *satn*, int *whichconst*, double *ecco*, double *epoch*, double *incl0*, double * *no*, char * *method*, double * *ainv*, double * *ao*, double * *con41*, double * *con42*, double * *cosio*, double * *cosio2*, double * *eccsq*, double * *omeosq*, double * *posq*, double * *rp*, double * *rteosq*, double * *sinio*, double * *gst0*)

Definition at line 1365 of file Lgm_Sgp.c.

Here is the call graph for this function:



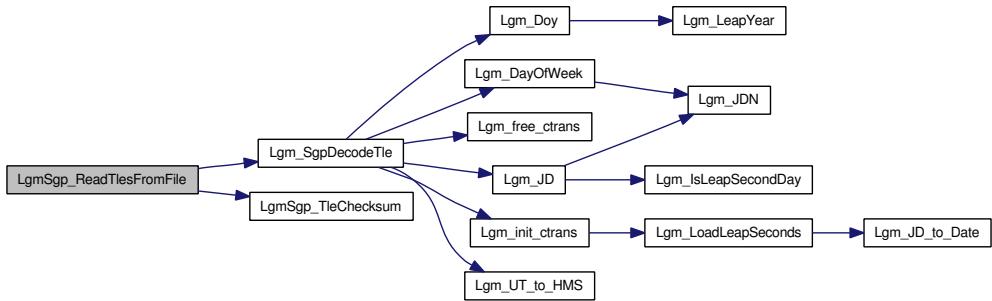
Here is the caller graph for this function:



4.43.1.9 int LgmSgp_ReadTlesFromFile (char * *Filename*, int * *nTLEs*, _SgpTLE * *TLEs*, int *Verbosity*)

Definition at line 27 of file Lgm_Sgp.c.

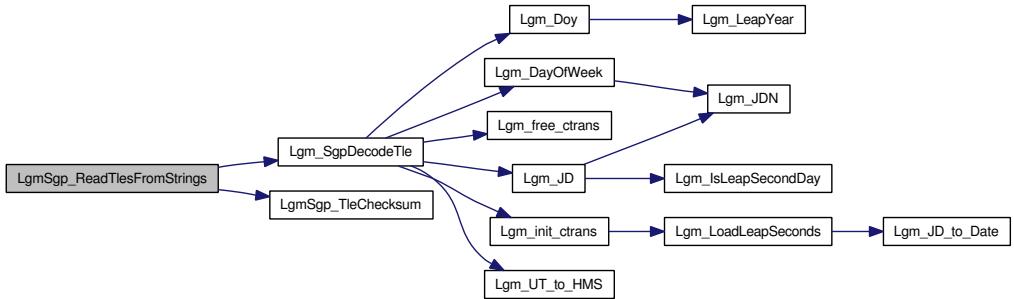
Here is the call graph for this function:



4.43.1.10 int LgmSgp_ReadTlesFromStrings (char * *Line0*, char * *Line1*, char * *Line2*, int * *nTLEs*, _SgpTLE * *TLEs*, int *Verbosity*)

Definition at line 151 of file Lgm_Sgp.c.

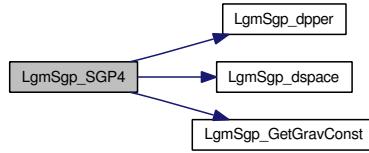
Here is the call graph for this function:



4.43.1.11 int LgmSgp_SGP4 (double *tsince*, _SgpInfo * *s*)

Definition at line 1842 of file Lgm_Sgp.c.

Here is the call graph for this function:



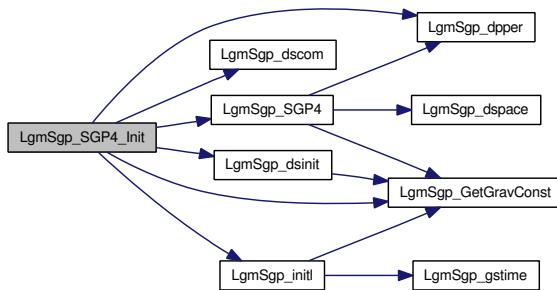
Here is the caller graph for this function:



4.43.1.12 int LgmSgp_SGP4_Init (_SgpInfo * s, _SgpTLE * t)

Definition at line 1461 of file Lgm_Sgp.c.

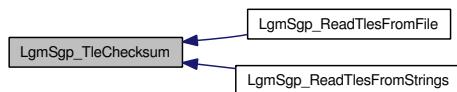
Here is the call graph for this function:



4.43.1.13 int LgmSgp_TleChecksum (char * Line)

Definition at line 10 of file Lgm_Sgp.c.

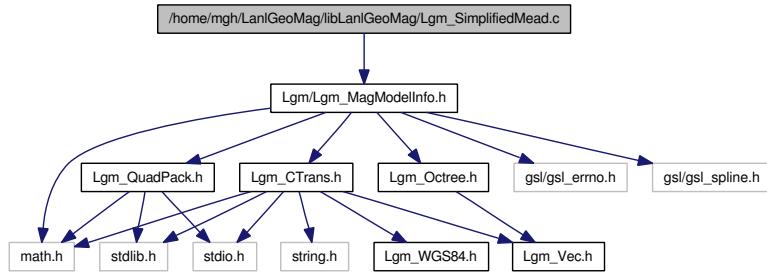
Here is the caller graph for this function:



4.44 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_- SimplifiedMead.c File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
```

Include dependency graph for Lgm_SimplifiedMead.c:



Functions

- int Lgm_SimplifiedMead (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *Info)

4.44.1 Function Documentation

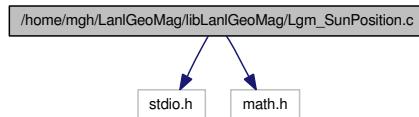
4.44.1.1 int Lgm_SimplifiedMead (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)

Definition at line 25 of file Lgm_SimplifiedMead.c.

4.45 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_SunPosition.c File Reference

```
#include <stdio.h>
#include <math.h>
```

Include dependency graph for Lgm_SunPosition.c:



Defines

- #define INCLUDE_PERTURBATIONS 1

Functions

- double Frac (double x)
- void AddThe (double c1, double s1, double c2, double s2, double *c, double *s)
- void Term (double T, int i1, int i, int it, double dlc, double dls, double drc, double drs, double dbc, double dbs, double c3[], double s3[], double c[], double s[], double *dl, double *dr, double *db)
- void Lgm_SunPosition (double T, double *l, double *r, double *b)

4.45.1 Define Documentation

4.45.1.1 #define INCLUDE_PERTURBATIONS 1

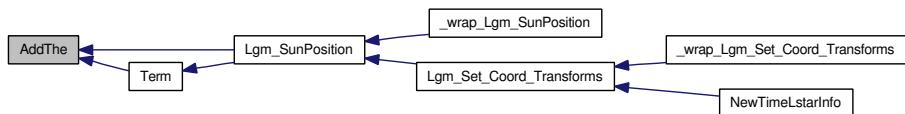
Definition at line 3 of file Lgm_SunPosition.c.

4.45.2 Function Documentation

4.45.2.1 void AddThe (double c1, double s1, double c2, double s2, double * c, double * s)

Definition at line 14 of file Lgm_SunPosition.c.

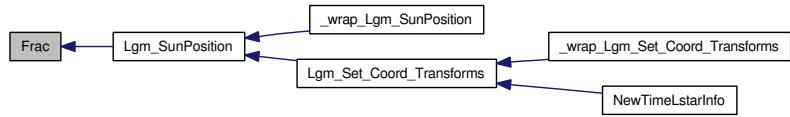
Here is the caller graph for this function:



4.45.2.2 double Frac (double x)

Definition at line 5 of file Lgm_SunPosition.c.

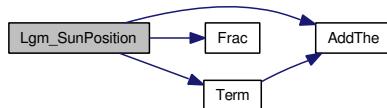
Here is the caller graph for this function:



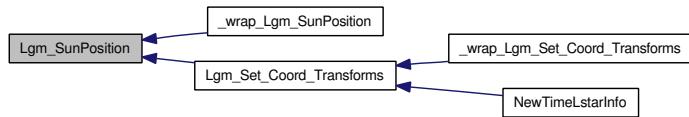
4.45.2.3 void Lgm_SunPosition (double T, double *l, double *r, double *b)

Definition at line 36 of file Lgm_SunPosition.c.

Here is the call graph for this function:



Here is the caller graph for this function:



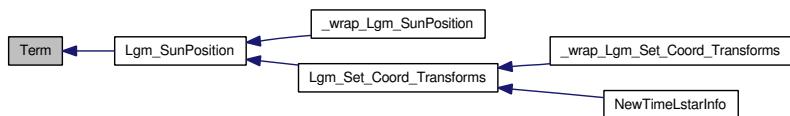
4.45.2.4 void Term (double T, int iI, int i, int it, double dlc, double dls, double drc, double drs, double dbc, double dbs, double c3[], double s3[], double c[], double s[], double *dl, double *dr, double *db)

Definition at line 19 of file Lgm_SunPosition.c.

Here is the call graph for this function:



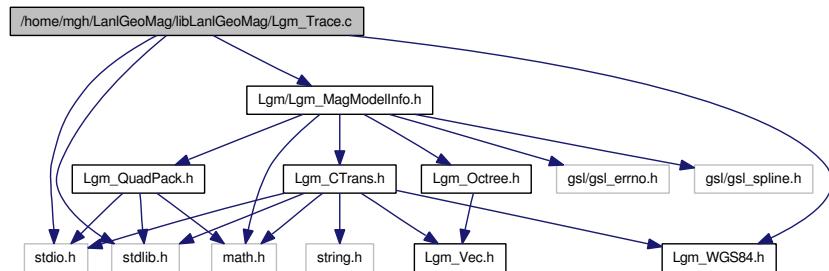
Here is the caller graph for this function:



4.46 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_Trace.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "Lgm/Lgm_MagModelInfo.h"
#include "Lgm/Lgm_WGS84.h"
```

Include dependency graph for Lgm_Trace.c:



Functions

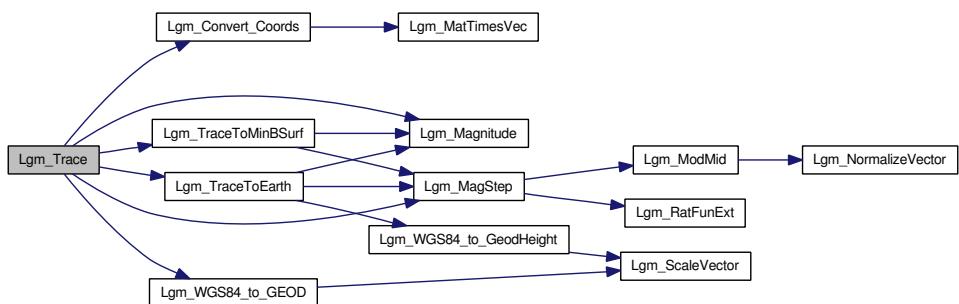
- int [Lgm_Trace \(Lgm_Vector *u, Lgm_Vector *v1, Lgm_Vector *v2, Lgm_Vector *v3, double Height, double TOL1, double TOL2, Lgm_MagModelInfo *Info\)](#)

4.46.1 Function Documentation

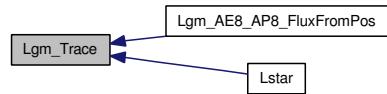
4.46.1.1 int Lgm_Trace (Lgm_Vector * u, Lgm_Vector * v1, Lgm_Vector * v2, Lgm_Vector * v3, double Height, double TOL1, double TOL2, Lgm_MagModelInfo * Info)

Definition at line 49 of file Lgm_Trace.c.

Here is the call graph for this function:



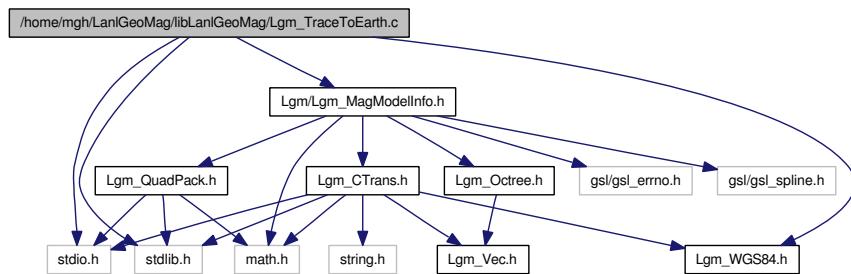
Here is the caller graph for this function:



4.47 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_TraceToEarth.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "Lgm/Lgm_MagModelInfo.h"
#include "Lgm/Lgm_WGS84.h"
```

Include dependency graph for Lgm_TraceToEarth.c:



Functions

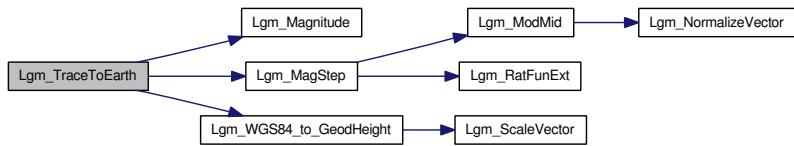
- int Lgm_TraceToEarth (Lgm_Vector *u, Lgm_Vector *v, double TargetHeight, double sgn, double tol, Lgm_MagModelInfo *Info)

4.47.1 Function Documentation

4.47.1.1 int Lgm_TraceToEarth (Lgm_Vector * *u*, Lgm_Vector * *v*, double *TargetHeight*, double *sgn*, double *tol*, Lgm_MagModelInfo * *Info*)

Definition at line 25 of file Lgm_TraceToEarth.c.

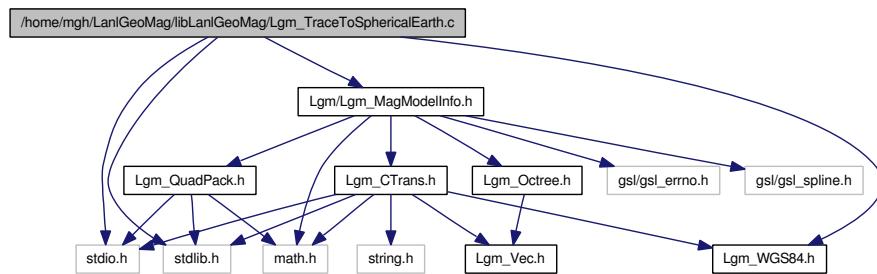
Here is the call graph for this function:



4.48 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_-TraceToSphericalEarth.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "Lgm/Lgm_MagModelInfo.h"
#include "Lgm/Lgm_WGS84.h"
```

Include dependency graph for Lgm_TraceToSphericalEarth.c:



Functions

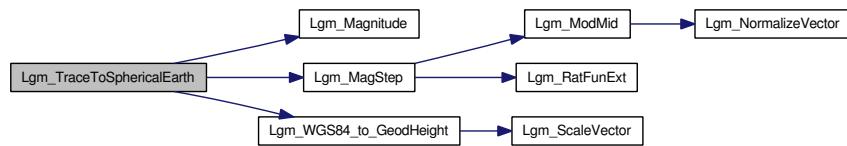
- int Lgm_TraceToSphericalEarth (Lgm_Vector *u, Lgm_Vector *v, double TargetHeight, double sgn, double tol, Lgm_MagModelInfo *Info)

4.48.1 Function Documentation

4.48.1.1 int Lgm_TraceToSphericalEarth (Lgm_Vector * *u*, Lgm_Vector * *v*, double *TargetHeight*, double *sgn*, double *tol*, Lgm_MagModelInfo * *Info*)

Definition at line 32 of file Lgm_TraceToSphericalEarth.c.

Here is the call graph for this function:



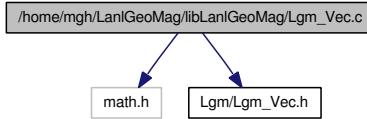
Here is the caller graph for this function:



4.49 /home/mgh/LanlGeoMag/libLanlGeoMag/Lgm_Vec.c File Reference

```
#include <math.h>
#include "Lgm/Lgm_Vec.h"
```

Include dependency graph for Lgm_Vec.c:



Functions

- `Lgm_Vector * Lgm_CreateVector (double x, double y, double z)`
- `void Lgm_CrossProduct (Lgm_Vector *a, Lgm_Vector *b, Lgm_Vector *c)`
- `double Lgm_DotProduct (Lgm_Vector *a, Lgm_Vector *b)`
- `double Lgm_NormalizeVector (Lgm_Vector *a)`
- `void Lgm_ScaleVector (Lgm_Vector *a, double value)`
- `double Lgm_Magnitude (Lgm_Vector *a)`
- `void Lgm_VecSub (Lgm_Vector *c, Lgm_Vector *a, Lgm_Vector *b)`
- `void Lgm_VecAdd (Lgm_Vector *c, Lgm_Vector *a, Lgm_Vector *b)`
- `double Lgm_VecDiffMag (Lgm_Vector *a, Lgm_Vector *b)`
- `void Lgm_ForceMagnitude (Lgm_Vector *a, double mag)`
- `void Lgm_MatTimesVec (double A[3][3], Lgm_Vector *V, Lgm_Vector *Result)`
- `void Lgm_Transpose (double A[3][3], double B[3][3])`
- `void Lgm_MatTimesMat (double A[3][3], double B[3][3], double R[3][3])`

4.49.1 Function Documentation

4.49.1.1 `Lgm_Vector* Lgm_CreateVector (double x, double y, double z)`

Definition at line 7 of file Lgm_Vec.c.

Here is the caller graph for this function:



4.49.1.2 `void Lgm_CrossProduct (Lgm_Vector * a, Lgm_Vector * b, Lgm_Vector * c)`

Definition at line 20 of file Lgm_Vec.c.

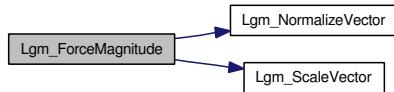
4.49.1.3 `double Lgm_DotProduct (Lgm_Vector * a, Lgm_Vector * b)`

Definition at line 31 of file Lgm_Vec.c.

4.49.1.4 void Lgm_ForceMagnitude (Lgm_Vector * *a*, double *mag*)

Definition at line 108 of file Lgm_Vec.c.

Here is the call graph for this function:



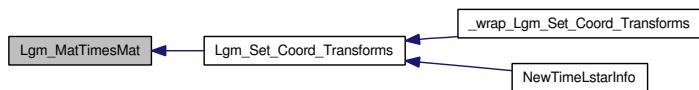
4.49.1.5 double Lgm_Magnitude (Lgm_Vector * *a*)

Definition at line 71 of file Lgm_Vec.c.

4.49.1.6 void Lgm_MatTimesMat (double *A*[3][3], double *B*[3][3], double *R*[3][3])

Definition at line 148 of file Lgm_Vec.c.

Here is the caller graph for this function:



4.49.1.7 void Lgm_MatTimesVec (double *A*[3][3], Lgm_Vector * *V*, Lgm_Vector * *Result*)

Definition at line 120 of file Lgm_Vec.c.

4.49.1.8 double Lgm_NormalizeVector (Lgm_Vector * *a*)

Definition at line 40 of file Lgm_Vec.c.

4.49.1.9 void Lgm_ScaleVector (Lgm_Vector * *a*, double *value*)

Definition at line 59 of file Lgm_Vec.c.

4.49.1.10 void Lgm_Transpose (double *A*[3][3], double *B*[3][3])

Definition at line 129 of file Lgm_Vec.c.

Here is the caller graph for this function:



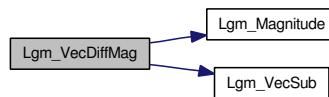
4.49.1.11 void Lgm_VecAdd (Lgm_Vector * *c*, Lgm_Vector * *a*, Lgm_Vector * *b*)

Definition at line 90 of file Lgm_Vec.c.

4.49.1.12 double Lgm_VecDiffMag (Lgm_Vector * *a*, Lgm_Vector * *b*)

Definition at line 99 of file Lgm_Vec.c.

Here is the call graph for this function:

**4.49.1.13 void Lgm_VecSub (Lgm_Vector * *c*, Lgm_Vector * *a*, Lgm_Vector * *b*)**

Definition at line 80 of file Lgm_Vec.c.

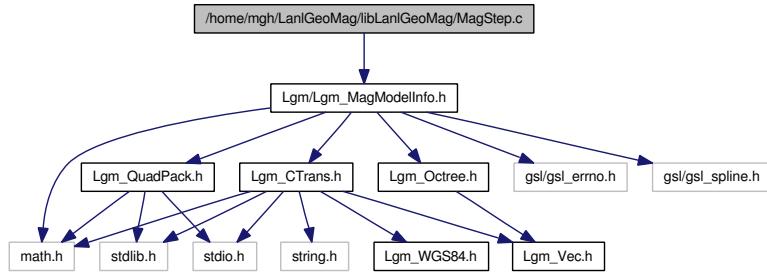
Here is the caller graph for this function:



4.50 /home/mgh/LanlGeoMag/libLanlGeoMag/MagStep.c File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
```

Include dependency graph for MagStep.c:



Functions

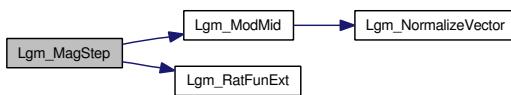
- void `Lgm_ModMid (Lgm_Vector *u, Lgm_Vector *v, double H, int n, double sgn, int(*Mag)(Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *), Lgm_MagModelInfo *Info)`
- void `Lgm_RatFunExt (int k, double x_k, Lgm_Vector *u_k, Lgm_Vector *w, Lgm_Vector *dw, Lgm_MagModelInfo *Info)`
- int `Lgm_MagStep (Lgm_Vector *u, Lgm_Vector *u_scale, double Htry, double *Hdid, double *Hnext, double eps, double sgn, double *s, int *reset, int(*)(Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *), Lgm_MagModelInfo *Info)`

4.50.1 Function Documentation

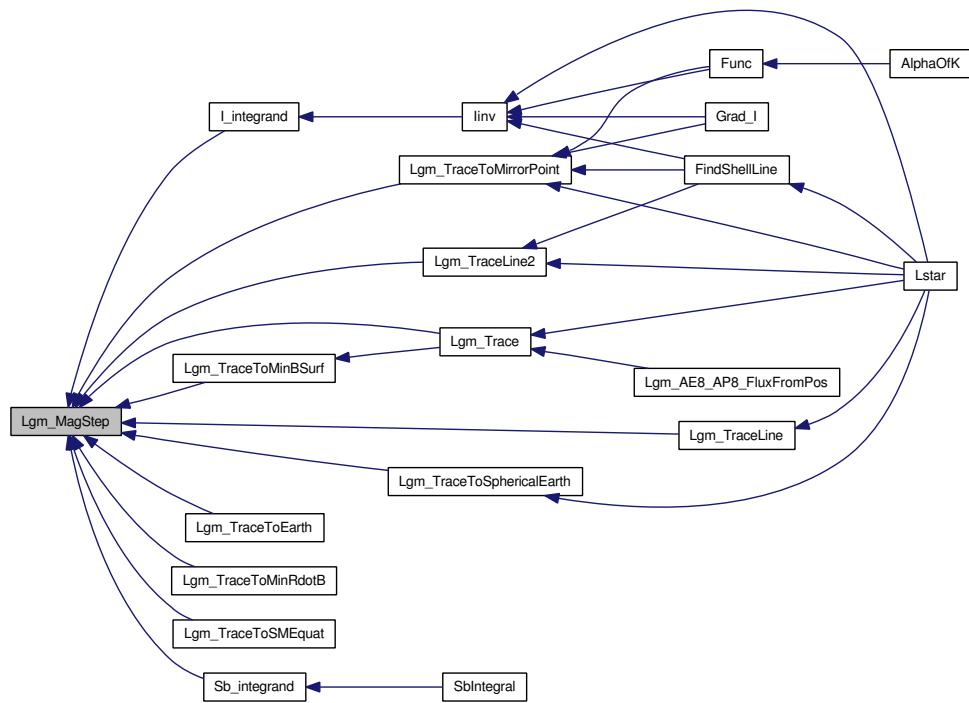
4.50.1.1 int Lgm_MagStep (Lgm_Vector * u, Lgm_Vector * u_scale, double Htry, double * Hdid, double * Hnext, double eps, double sgn, double * s, int * reset, int(*)(Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *) Mag, Lgm_MagModelInfo * Info)

Definition at line 157 of file MagStep.c.

Here is the call graph for this function:



Here is the caller graph for this function:



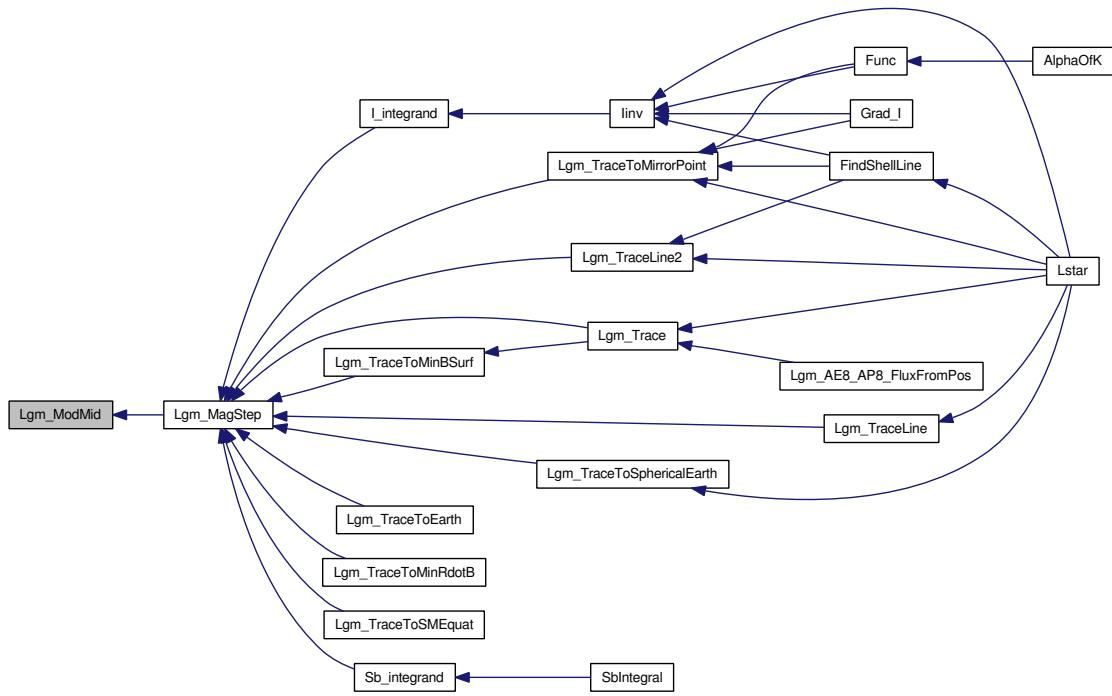
4.50.1.2 void Lgm_ModMid (Lgm_Vector * *u*, Lgm_Vector * *v*, double *H*, int *n*, double *sgn*, int(*)(Lgm_Vector *, Lgm_Vector *, Lgm_MagModelInfo *) *Mag*, Lgm_MagModelInfo * *Info*)

Definition at line 17 of file MagStep.c.

Here is the call graph for this function:



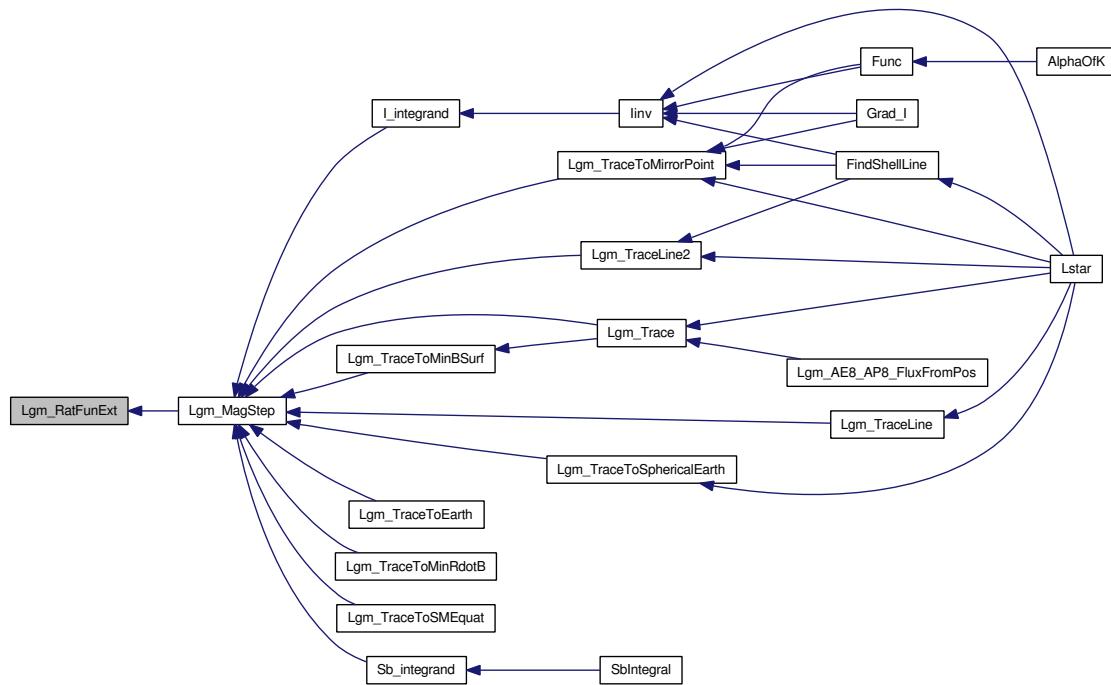
Here is the caller graph for this function:



4.50.1.3 void Lgm_RatFunExt (int *k*, double *x_k*, Lgm_Vector * *u_k*, Lgm_Vector * *w*, Lgm_Vector * *dw*, Lgm_MagModelInfo * *Info*)

Definition at line 85 of file MagStep.c.

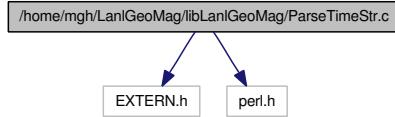
Here is the caller graph for this function:



4.51 /home/mgh/LanlGeoMag/libLanlGeoMag/ParseTimeStr.c File Reference

```
#include <EXTERN.h>
#include <perl.h>
```

Include dependency graph for ParseTimeStr.c:



Defines

- #define ISO_YYYYMMDDTHHMMSS 1
- #define ISO_YYYYWwwDTHHMMSS 2
- #define ISO_YYYYMMDDTHHMM 3
- #define ISO_YYYYWwwDTHHMM 4
- #define ISO_YYYYMMDD 5
- #define ISO_YYYYWwwD 6
- #define ISO_YYYYMM 7
- #define ISO_YYYYWwww 8

Functions

- ParseTimeString (char *TimeString)
- main (int argc, char **argv, char **env)

4.51.1 Define Documentation

4.51.1.1 #define ISO_YYYYMM 7

Definition at line 9 of file ParseTimeStr.c.

4.51.1.2 #define ISO_YYYYMMDD 5

Definition at line 7 of file ParseTimeStr.c.

4.51.1.3 #define ISO_YYYYMMDDTHHMM 3

Definition at line 5 of file ParseTimeStr.c.

4.51.1.4 #define ISO_YYYYMMDDTHHMMSS 1

Definition at line 3 of file ParseTimeStr.c.

4.51.1.5 #define ISO_YYYYWww 8

Definition at line 10 of file ParseTimeStr.c.

4.51.1.6 #define ISO_YYYYWwwD 6

Definition at line 8 of file ParseTimeStr.c.

4.51.1.7 #define ISO_YYYYWwwDTHHMM 4

Definition at line 6 of file ParseTimeStr.c.

4.51.1.8 #define ISO_YYYYWwwDTHHMMSS 2

Definition at line 4 of file ParseTimeStr.c.

4.51.2 Function Documentation

4.51.2.1 main (int argc, char ** argv, char ** env)

Definition at line 230 of file ParseTimeStr.c.

Here is the call graph for this function:



4.51.2.2 ParseTimeString (char * *TimeString*)

Definition at line 14 of file ParseTimeStr.c.

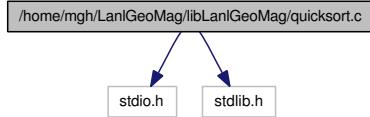
Here is the caller graph for this function:



4.52 /home/mgh/LanlGeoMag/libLanlGeoMag/quicksort.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
```

Include dependency graph for quicksort.c:



Defines

- #define **SWAP**(a, b) temp=(a);(a)=(b);(b)=temp;
- #define **M** 7
- #define **NSTACK** 2001

Functions

- void **quicksort** (unsigned long n, double *arr)
- void **quicksort2** (unsigned long n, double *arr, double *brr)

4.52.1 Define Documentation

4.52.1.1 #define M 7

Definition at line 4 of file quicksort.c.

4.52.1.2 #define NSTACK 2001

Definition at line 5 of file quicksort.c.

4.52.1.3 #define SWAP(a, b) temp=(a);(a)=(b);(b)=temp;

Definition at line 3 of file quicksort.c.

4.52.2 Function Documentation

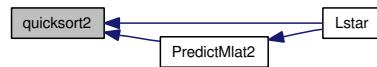
4.52.2.1 void quicksort (unsigned long *n*, double * *arr*)

Definition at line 7 of file quicksort.c.

4.52.2.2 void quicksort2 (**unsigned long n**, **double * arr**, **double * brr**)

Definition at line 74 of file quicksort.c.

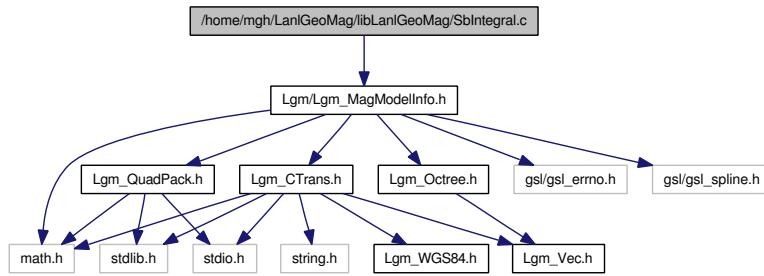
Here is the caller graph for this function:



4.53 /home/mgh/LanlGeoMag/libLanlGeoMag/SbIntegral.c File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
```

Include dependency graph for SbIntegral.c:



Defines

- #define JUMP_METHOD 1

Functions

- double [SbIntegral](#) ([Lgm_MagModelInfo](#) *fInfo)
- double [SbIntegral_interped](#) ([Lgm_MagModelInfo](#) *fInfo)
- double [Sb_integrand_interped](#) (double s, [_qpInfo](#) *qpInfo)
- double [Sb_integrand](#) (double s, [_qpInfo](#) *qpInfo)

4.53.1 Define Documentation

4.53.1.1 #define JUMP_METHOD 1

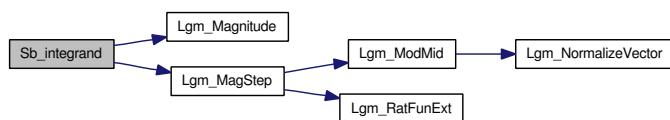
Definition at line 2 of file SbIntegral.c.

4.53.2 Function Documentation

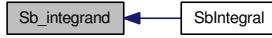
4.53.2.1 double Sb_integrand (double s, _qpInfo * qpInfo)

Definition at line 174 of file SbIntegral.c.

Here is the call graph for this function:



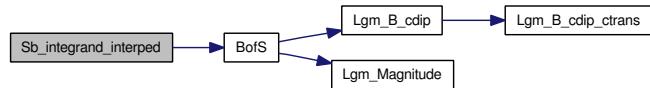
Here is the caller graph for this function:



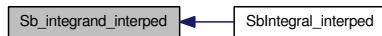
4.53.2.2 double Sb_integrand_interped (double s, _qpInfo * qpInfo)

Definition at line 154 of file SbIntegral.c.

Here is the call graph for this function:



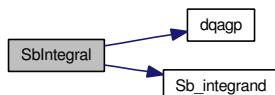
Here is the caller graph for this function:



4.53.2.3 double SbIntegral (Lgm_MagModelInfo * fInfo)

Definition at line 36 of file SbIntegral.c.

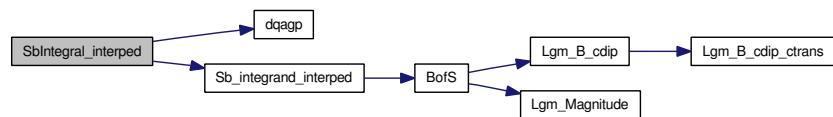
Here is the call graph for this function:



4.53.2.4 double SbIntegral_interped (Lgm_MagModelInfo * fInfo)

Definition at line 101 of file SbIntegral.c.

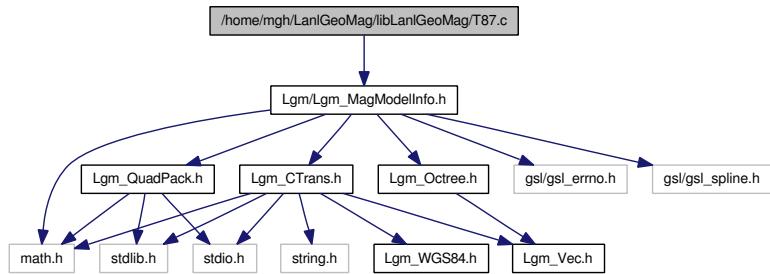
Here is the call graph for this function:



4.54 /home/mgh/LanlGeoMag/libLanlGeoMag/T87.c File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
```

Include dependency graph for T87.c:



Functions

- int Lgm_B1_T87 (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *Info)
- int Lgm_B2_T87 (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *Info)
- int Lgm_B3_T87 (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *Info)
- int Lgm_B_T87 (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *Info)

4.54.1 Function Documentation

4.54.1.1 int Lgm_B1_T87 (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)

Definition at line 102 of file T87.c.

Here is the caller graph for this function:



4.54.1.2 int Lgm_B2_T87 (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)

Definition at line 173 of file T87.c.

Here is the caller graph for this function:



4.54.1.3 int Lgm_B3_T87 (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)

Definition at line 294 of file T87.c.

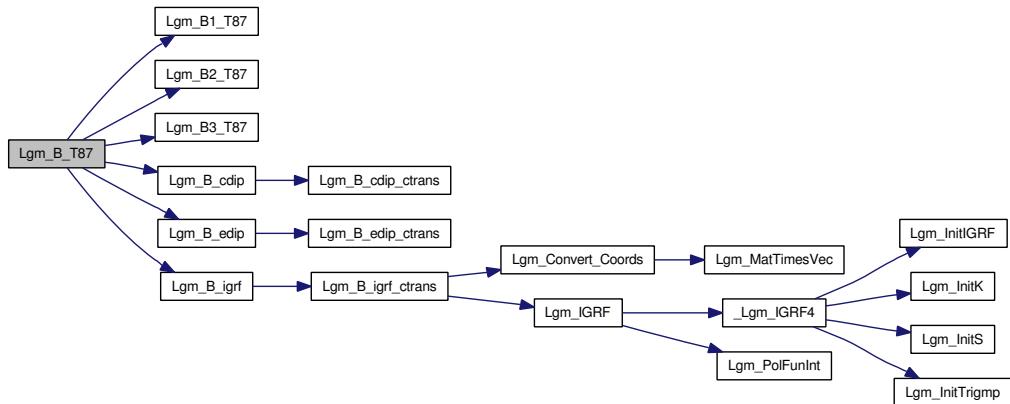
Here is the caller graph for this function:



4.54.1.4 int Lgm_B_T87 (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)

Definition at line 325 of file T87.c.

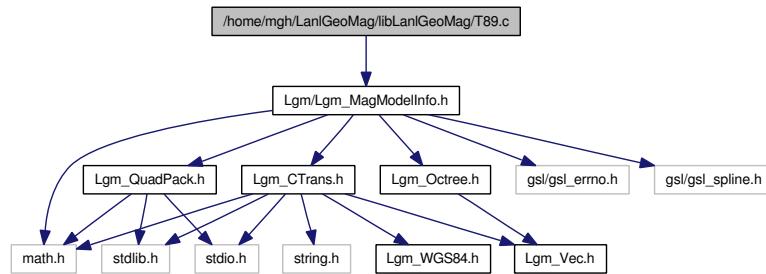
Here is the call graph for this function:



4.55 /home/mgh/LanlGeoMag/libLanlGeoMag/T89.c File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
```

Include dependency graph for T89.c:



Functions

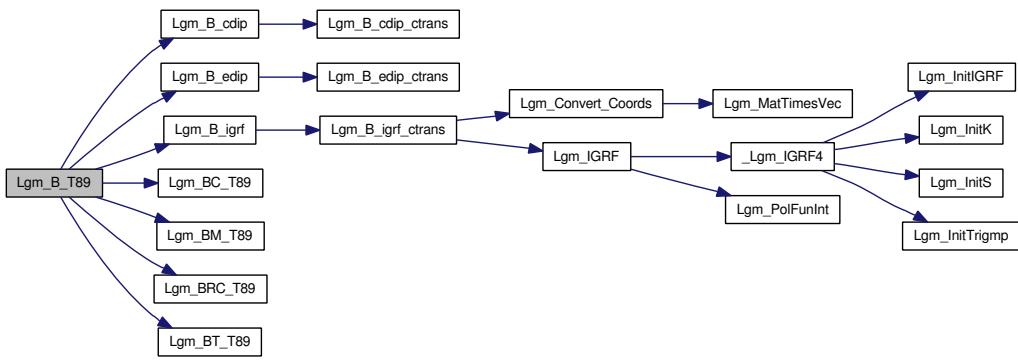
- int Lgm_BT_T89 (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *Info)
- int Lgm_BRC_T89 (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *Info)
- int Lgm_BM_T89 (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *Info)
- int Lgm_BC_T89 (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *Info)
- int Lgm_B_T89 (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *Info)

4.55.1 Function Documentation

4.55.1.1 int Lgm_B_T89 (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)

Definition at line 429 of file T89.c.

Here is the call graph for this function:



4.55.1.2 int Lgm_BC_T89 (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)

Definition at line 348 of file T89.c.

Here is the caller graph for this function:



4.55.1.3 int Lgm_BM_T89 (Lgm_Vector * *v*, Lgm_Vector * *B*, Lgm_MagModelInfo * *Info*)

Definition at line 322 of file T89.c.

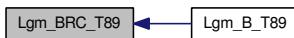
Here is the caller graph for this function:



4.55.1.4 int Lgm_BRC_T89 (Lgm_Vector * *v*, Lgm_Vector * *B*, Lgm_MagModelInfo * *Info*)

Definition at line 217 of file T89.c.

Here is the caller graph for this function:



4.55.1.5 int Lgm_BT_T89 (Lgm_Vector * *v*, Lgm_Vector * *B*, Lgm_MagModelInfo * *Info*)

Definition at line 93 of file T89.c.

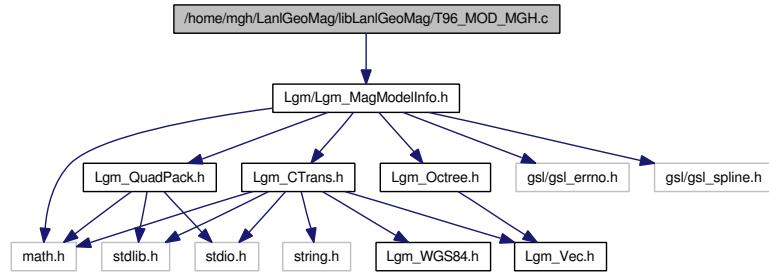
Here is the caller graph for this function:



4.56 /home/mgh/LanlGeoMag/libLanlGeoMag/T96_MOD_MGH.c File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
```

Include dependency graph for T96_MOD_MGH.c:



Functions

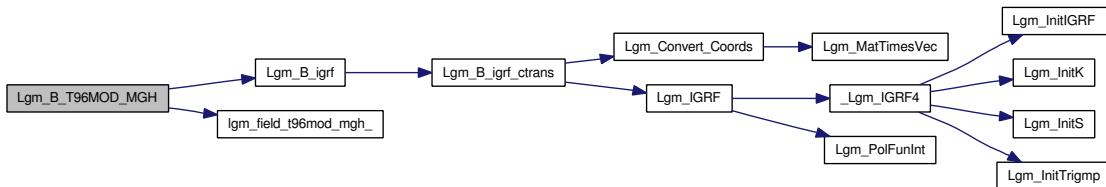
- int Lgm_B_T96MOD_MGH (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *MagInfo)

4.56.1 Function Documentation

4.56.1.1 int Lgm_B_T96MOD_MGH (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * MagInfo)

Definition at line 2 of file T96_MOD_MGH.c.

Here is the call graph for this function:



4.57 /home/mgh/LanlGeoMag/libLanlGeoMag/T96mod.f File Reference

Functions

- subroutine [T96MOD](#) (IOPT, PARMOD, PS, X, Y, Z, BX, BY, BZ)
- subroutine [T96_01](#) (IOPT, PARMOD, PS, X, Y, Z, BX, BY, BZ)
- subroutine [DIPSHLD](#) (PS, X, Y, Z, BX, BY, BZ)
- subroutine [CYLHARM](#) (A, X, Y, Z, BX, BY, BZ)
- subroutine [CYLHAR1](#) (A, X, Y, Z, BX, BY, BZ)
- DOUBLE PRECISION [BES](#) (X, K)
- DOUBLE PRECISION [BES0](#) (X)
- DOUBLE PRECISION [BES1](#) (X)
- subroutine [INTERCON](#) (X, Y, Z, BX, BY, BZ)
- subroutine [TAILRC96](#) (DMODIF, SPS, X, Y, Z, BXRC, BYRC, BZRC, BXT2, BYT2,*BZT2, BXT3, BYT3, BZT3, BXT2ADD, BYT2ADD, BZT2ADD)
- subroutine [RINGCURR96](#) (X, Y, Z, BX, BY, BZ)
- subroutine [T96MOD_TAILDISK](#) (X, Y, Z, BX, BY, BZ)
- subroutine [T96MOD_TAILDISKADD](#) (DMODIF, X, Y, Z, BX, BY, BZ)
- subroutine [TAIL87](#) (X, Z, BX, BZ)
- subroutine [T96MOD_SHLCAR3X3](#) (A, X, Y, Z, SPS, HX, HY, HZ)
- subroutine [BIRK1TOT_02](#) (PS, X, Y, Z, BX, BY, BZ)
- subroutine [DIPLOOP1](#) (XI, D)
- subroutine [CIRCLE](#) (X, Y, Z, RL, BX, BY, BZ)
- subroutine [CROSSLP](#) (X, Y, Z, BX, BY, BZ, XC, RL, AL)
- subroutine [DIPXYZ](#) (X, Y, Z, BXX, BYX, BZX, BXY, BYY, BZY, BXZ, BYZ, BZZ)
- subroutine [CONDIP1](#) (XI, D)
- subroutine [BIRK1SHLD](#) (PS, X, Y, Z, BX, BY, BZ)
- subroutine [BIRK2TOT_02](#) (PS, X, Y, Z, BX, BY, BZ)
- subroutine [BIRK2SHL](#) (X, Y, Z, PS, HX, HY, HZ)
- subroutine [R2_BIRK](#) (X, Y, Z, PS, BX, BY, BZ)
- subroutine [R2INNER](#) (X, Y, Z, BX, BY, BZ)
- subroutine [BCONIC](#) (X, Y, Z, CBX, CBY, CBZ, NMAX)
- subroutine [DIPDISTR](#) (X, Y, Z, BX, BY, BZ, MODE)
- subroutine [R2OUTER](#) (X, Y, Z, BX, BY, BZ)
- subroutine [LOOPS4](#) (X, Y, Z, BX, BY, BZ, XC, YC, ZC, R, THETA, PHI)
- subroutine [R2SHEET](#) (X, Y, Z, BX, BY, BZ)
- DOUBLE PRECISION [XKSI](#) (X, Y, Z)
- function [FEXP](#) (S, A)
- function [FEXP1](#) (S, A)
- DOUBLE PRECISION [TKSI](#) (XKSI, XKS0, DXKSI)
- subroutine [T96MOD_DIPOLE](#) (PS, X, Y, Z, BX, BY, BZ)

4.57.1 Function Documentation

4.57.1.1 subroutine BCONIC (X, Y, Z, CBX, CBY, CBZ, NMAX)

Definition at line 2348 of file T96mod.f.

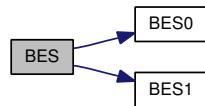
Here is the caller graph for this function:



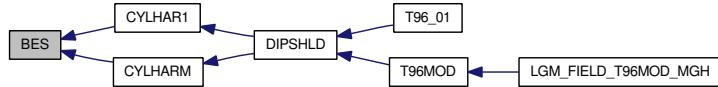
4.57.1.2 DOUBLE PRECISION BES (X, K)

Definition at line 545 of file T96mod.f.

Here is the call graph for this function:



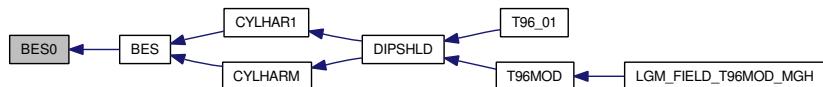
Here is the caller graph for this function:



4.57.1.3 DOUBLE PRECISION BES0 (X)

Definition at line 609 of file T96mod.f.

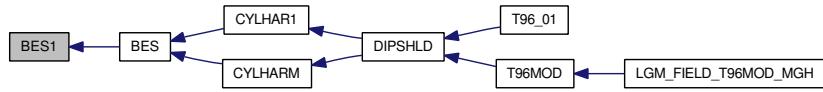
Here is the caller graph for this function:



4.57.1.4 DOUBLE PRECISION BES1 (X)

Definition at line 633 of file T96mod.f.

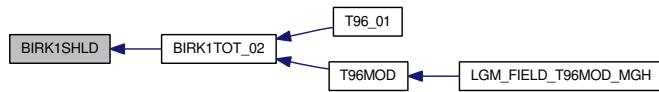
Here is the caller graph for this function:



4.57.1.5 subroutine BIRK1SHLD (PS, X, Y, Z, BX, BY, BZ)

Definition at line 2028 of file T96mod.f.

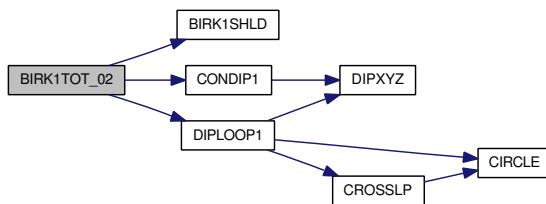
Here is the caller graph for this function:



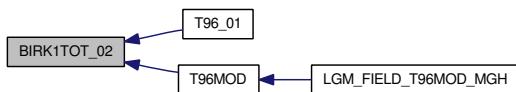
4.57.1.6 subroutine BIRK1TOT_02 (PS, X, Y, Z, BX, BY, BZ)

Definition at line 1377 of file T96mod.f.

Here is the call graph for this function:



Here is the caller graph for this function:



4.57.1.7 subroutine BIRK2SHL (X, Y, Z, PS, HX, HY, HZ)

Definition at line 2151 of file T96mod.f.

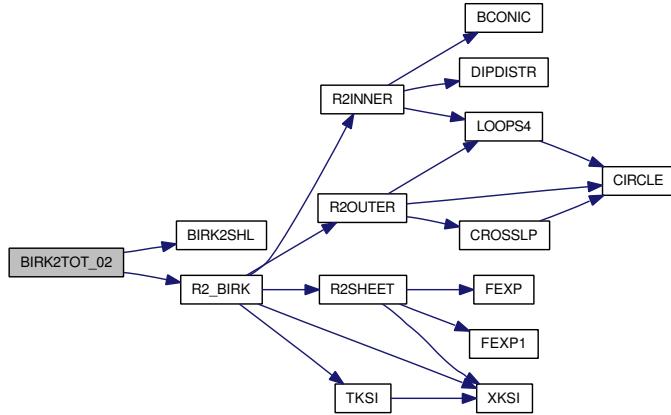
Here is the caller graph for this function:



4.57.1.8 subroutine BIRK2TOT_02 (PS, X, Y, Z, BX, BY, BZ)

Definition at line 2135 of file T96mod.f.

Here is the call graph for this function:



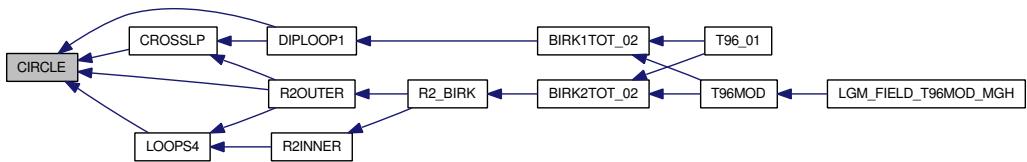
Here is the caller graph for this function:



4.57.1.9 subroutine CIRCLE (X, Y, Z, RL, BX, BY, BZ)

Definition at line 1771 of file T96mod.f.

Here is the caller graph for this function:



4.57.1.10 subroutine CONDIP1 (XI, D)

Definition at line 1868 of file T96mod.f.

Here is the call graph for this function:



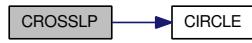
Here is the caller graph for this function:



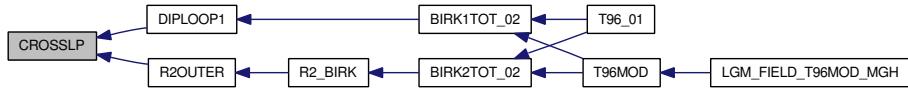
4.57.1.11 subroutine CROSSLP (X, Y, Z, BX, BY, BZ, XC, RL, AL)

Definition at line 1811 of file T96mod.f.

Here is the call graph for this function:



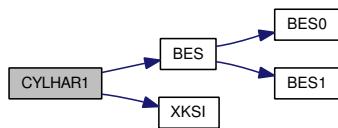
Here is the caller graph for this function:



4.57.1.12 subroutine CYLHAR1 (A, X, Y, Z, BX, BY, BZ)

Definition at line 475 of file T96mod.f.

Here is the call graph for this function:



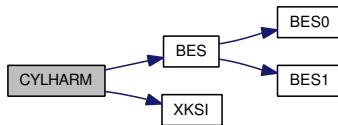
Here is the caller graph for this function:



4.57.1.13 subroutine CYLHARM (A, X, Y, Z, BX, BY, BZ)

Definition at line 402 of file T96mod.f.

Here is the call graph for this function:



Here is the caller graph for this function:



4.57.1.14 subroutine DIPDISTR (X, Y, Z, BX, BY, BZ, MODE)

Definition at line 2395 of file T96mod.f.

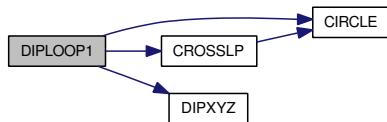
Here is the caller graph for this function:



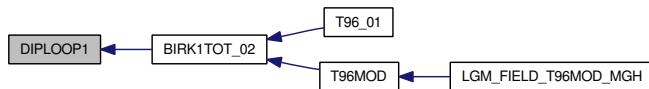
4.57.1.15 subroutine DIPLOOP1 (XI, D)

Definition at line 1652 of file T96mod.f.

Here is the call graph for this function:



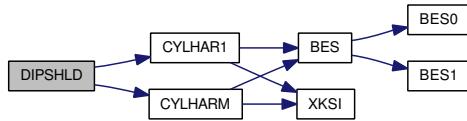
Here is the caller graph for this function:



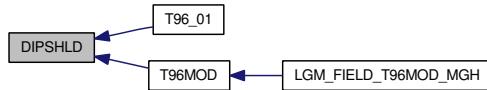
4.57.1.16 subroutine DIPSHLD (PS, X, Y, Z, BX, BY, BZ)

Definition at line 375 of file T96mod.f.

Here is the call graph for this function:



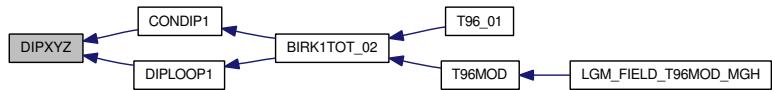
Here is the caller graph for this function:



4.57.1.17 subroutine DIPXYZ (X, Y, Z, BXX, BYX, BZX, BXY, BYY, BZY, BXZ, BYZ, BZZ)

Definition at line 1838 of file T96mod.f.

Here is the caller graph for this function:



4.57.1.18 function FEXP (S, A)

Definition at line 2788 of file T96mod.f.

Here is the caller graph for this function:



4.57.1.19 function FEXP1 (S, A)

Definition at line 2797 of file T96mod.f.

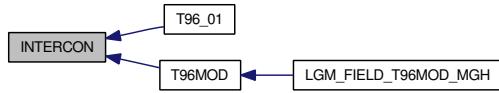
Here is the caller graph for this function:



4.57.1.20 subroutine INTERCON (X, Y, Z, BX, BY, BZ)

Definition at line 657 of file T96mod.f.

Here is the caller graph for this function:



4.57.1.21 subroutine LOOPS4 (X, Y, Z, BX, BY, BZ, XC, YC, ZC, R, THETA, PHI)

Definition at line 2464 of file T96mod.f.

Here is the call graph for this function:



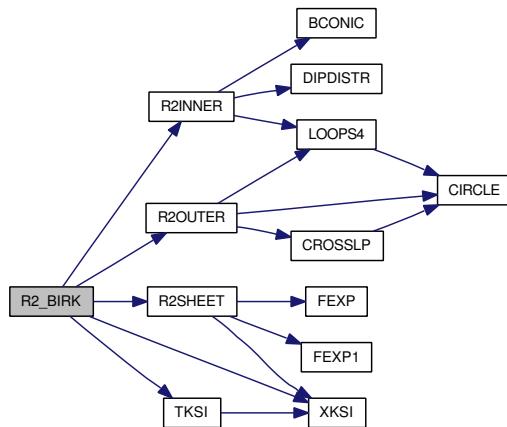
Here is the caller graph for this function:



4.57.1.22 subroutine R2_BIRK (X, Y, Z, PS, BX, BY, BZ)

Definition at line 2249 of file T96mod.f.

Here is the call graph for this function:



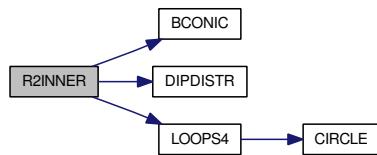
Here is the caller graph for this function:



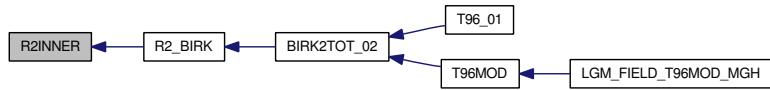
4.57.1.23 subroutine R2INNER (X, Y, Z, BX, BY, BZ)

Definition at line 2315 of file T96mod.f.

Here is the call graph for this function:



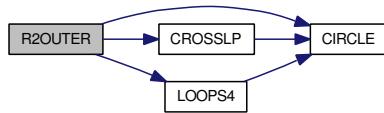
Here is the caller graph for this function:



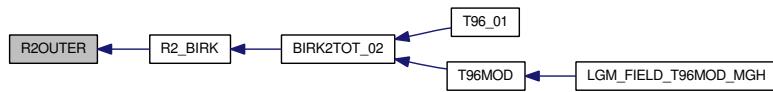
4.57.1.24 subroutine R2OUTER (X, Y, Z, BX, BY, BZ)

Definition at line 2427 of file T96mod.f.

Here is the call graph for this function:



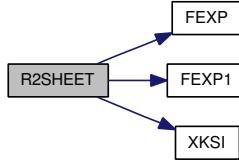
Here is the caller graph for this function:



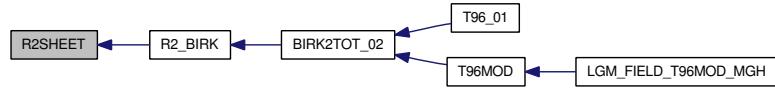
4.57.1.25 subroutine R2SHEET (X, Y, Z, BX, BY, BZ)

Definition at line 2540 of file T96mod.f.

Here is the call graph for this function:



Here is the caller graph for this function:



4.57.1.26 subroutine RINGCURR96 (X, Y, Z, BX, BY, BZ)

Definition at line 872 of file T96mod.f.

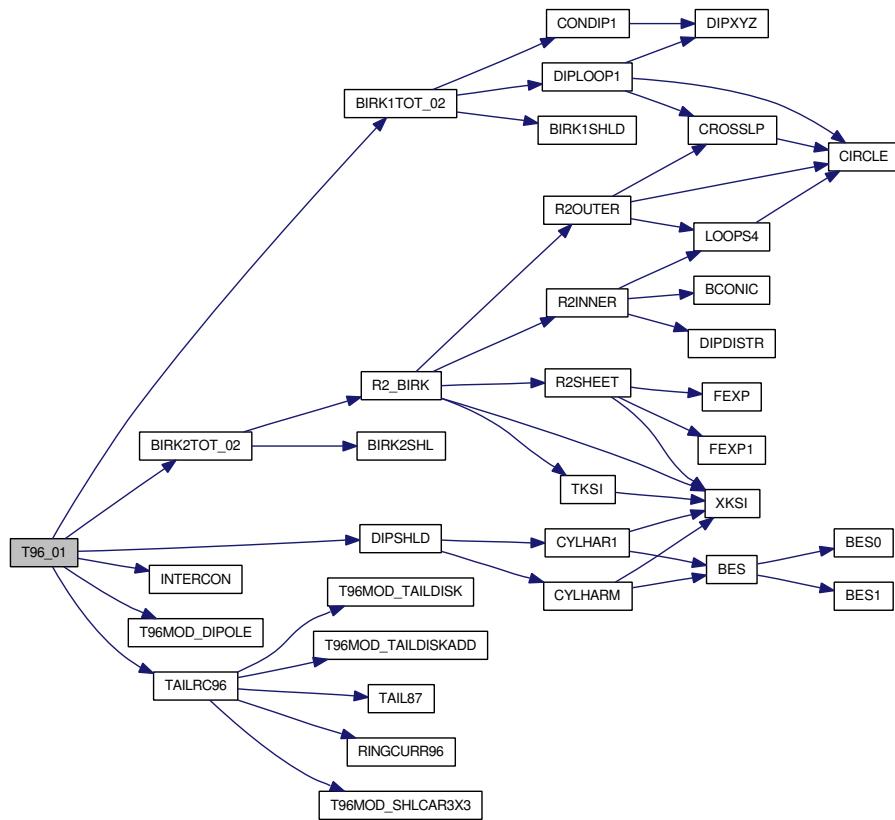
Here is the caller graph for this function:



4.57.1.27 subroutine T96_01 (IOPT, REAL*8,dimension(10) PARMOD, REAL*8 PS, REAL*8 X, REAL*8 Y, REAL*8 Z, REAL*8 BX, REAL*8 BY, REAL*8 BZ)

Definition at line 197 of file T96mod.f.

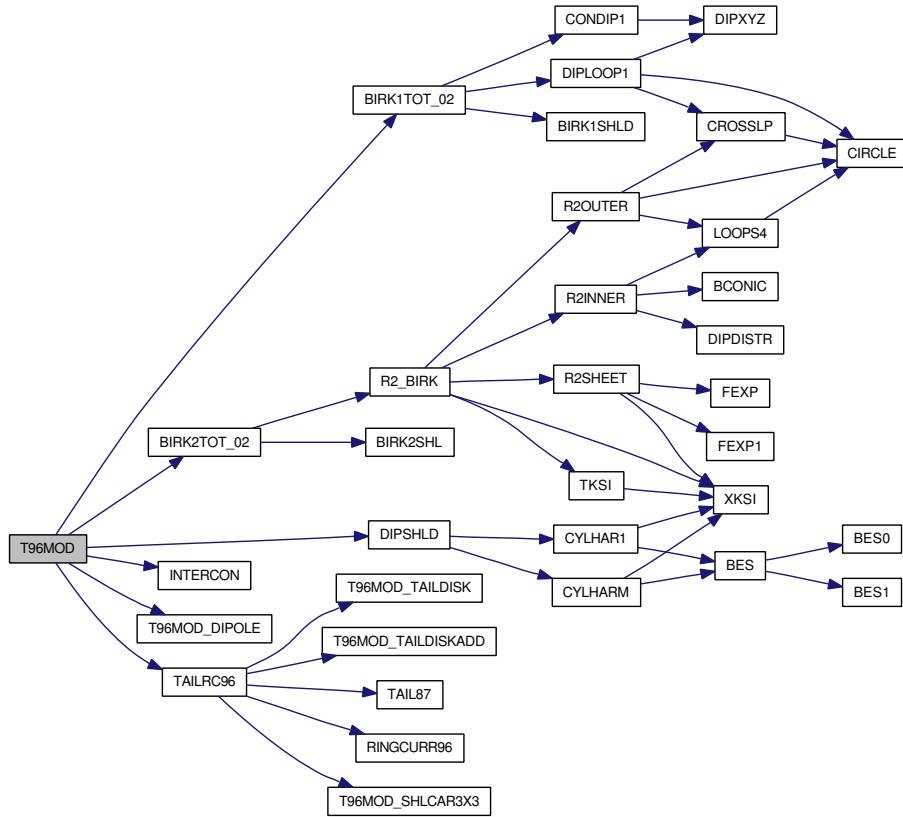
Here is the call graph for this function:



4.57.1.28 subroutine T96MOD (IOPT, REAL*8,dimension(10) PARMOD, REAL*8 PS, REAL*8 X, REAL*8 Y, REAL*8 Z, REAL*8 BX, REAL*8 BY, REAL*8 BZ)

Definition at line 8 of file T96mod.f.

Here is the call graph for this function:



Here is the caller graph for this function:



4.57.1.29 subroutine T96MOD_DIPOLE (REAL*8 PS, REAL*8 X, REAL*8 Y, REAL*8 Z, REAL*8 BX, REAL*8 BY, REAL*8 BZ)

Definition at line 2833 of file T96mod.f.

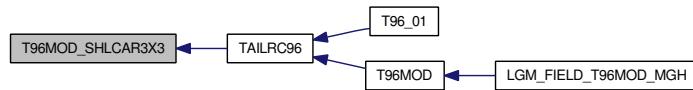
Here is the caller graph for this function:



4.57.1.30 subroutine T96MOD_SHLCAR3X3 (A, X, Y, Z, SPS, HX, HY, HZ)

Definition at line 1284 of file T96mod.f.

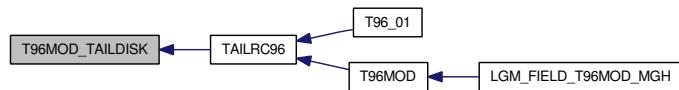
Here is the caller graph for this function:



4.57.1.31 subroutine T96MOD_TAILDISK (X, Y, Z, BX, BY, BZ)

Definition at line 974 of file T96mod.f.

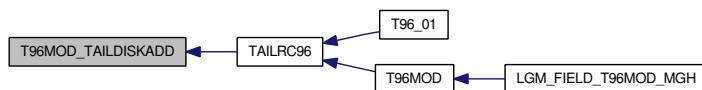
Here is the caller graph for this function:



4.57.1.32 subroutine T96MOD_TAILDISKADD (DMODIF, X, Y, Z, BX, BY, BZ)

Definition at line 1063 of file T96mod.f.

Here is the caller graph for this function:



4.57.1.33 subroutine TAIL87 (X, Z, BX, BZ)

Definition at line 1163 of file T96mod.f.

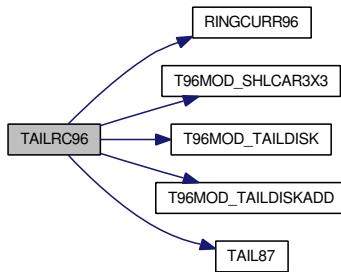
Here is the caller graph for this function:



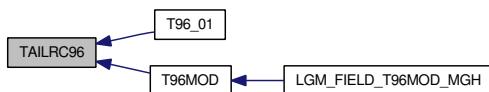
4.57.1.34 subroutine TAILRC96 (DMODIF, SPS, X, Y, Z, BXRC, BYRC, BZRC, BXT2, BYT2, *BZT2, BXT3, BYT3, BZT3, BXT2ADD, BYT2ADD, BZT2ADD)

Definition at line 744 of file T96mod.f.

Here is the call graph for this function:



Here is the caller graph for this function:



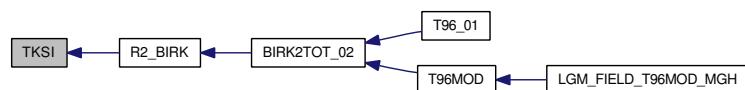
4.57.1.35 DOUBLE PRECISION TKSI (XKSI, XKS0, DXKSI)

Definition at line 2806 of file T96mod.f.

Here is the call graph for this function:



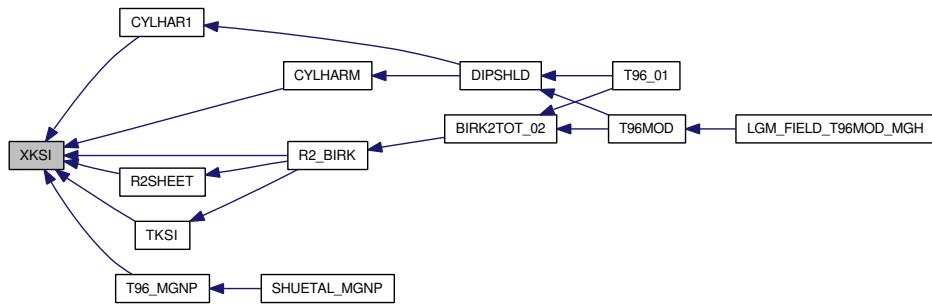
Here is the caller graph for this function:



4.57.1.36 DOUBLE PRECISION Xksi (X, Y, Z)

Definition at line 2734 of file T96mod.f.

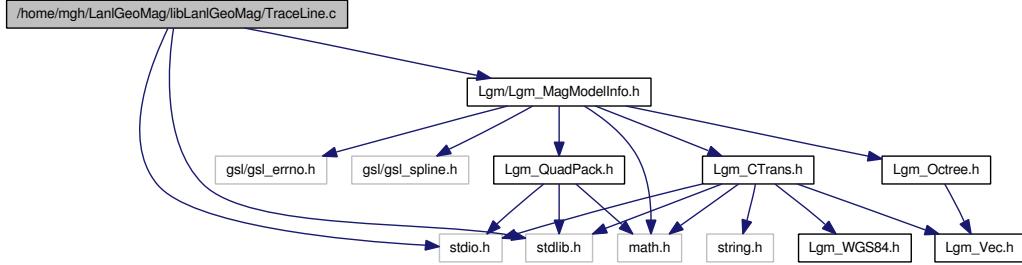
Here is the caller graph for this function:



4.58 /home/mgh/LanlGeoMag/libLanlGeoMag/TraceLine.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "Lgm/Lgm_MagModelInfo.h"
```

Include dependency graph for TraceLine.c:



Defines

- `#define GSL_INTERP gsl_interp_cspline`

Functions

- `int Lgm_TraceLine (Lgm_Vector *u, Lgm_Vector *v, double H0, double sgn, double tol, int AddBminPoint, Lgm_MagModelInfo *Info)`
- `int Lgm_TraceLine2 (Lgm_Vector *u, Lgm_Vector *v, double H0, double MinDist, double sgn, double tol, int AddBminPoint, Lgm_MagModelInfo *Info)`
- `void ReplaceFirstPoint (double s, double B, Lgm_Vector *P, Lgm_MagModelInfo *Info)`
- `void AddNewPoint (double s, double B, Lgm_Vector *P, Lgm_MagModelInfo *Info)`
- `void InitSpline (Lgm_MagModelInfo *Info)`
- `void FreeSpline (Lgm_MagModelInfo *Info)`
- `double BofS (double s, Lgm_MagModelInfo *Info)`
- `int SofBm (double Bm, double *ss, double *sn, Lgm_MagModelInfo *Info)`

4.58.1 Define Documentation

4.58.1.1 #define GSL_INTERP gsl_interp_cspline

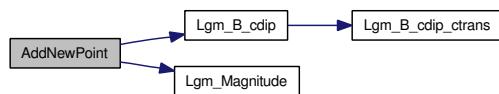
Definition at line 50 of file TraceLine.c.

4.58.2 Function Documentation

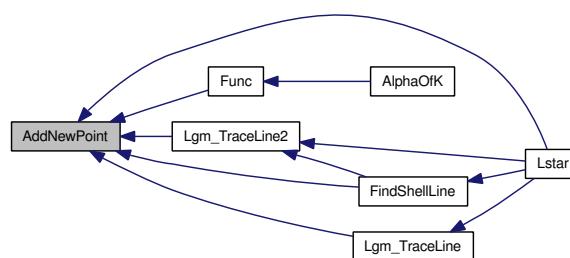
4.58.2.1 void AddNewPoint (double s, double B, Lgm_Vector * P, Lgm_MagModelInfo * Info)

Definition at line 595 of file TraceLine.c.

Here is the call graph for this function:



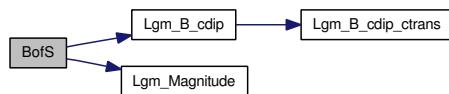
Here is the caller graph for this function:



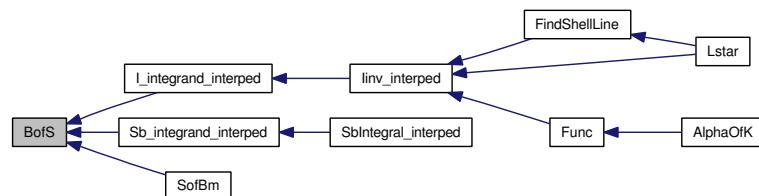
4.58.2.2 double BofS (double s, Lgm_MagModelInfo * Info)

Definition at line 736 of file TraceLine.c.

Here is the call graph for this function:



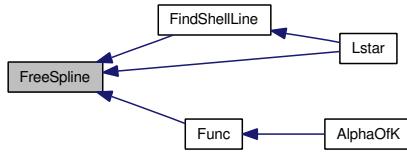
Here is the caller graph for this function:



4.58.2.3 void FreeSpline (Lgm_MagModelInfo * Info)

Definition at line 716 of file TraceLine.c.

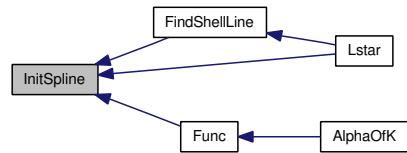
Here is the caller graph for this function:



4.58.2.4 void InitSpline (Lgm_MagModelInfo * Info)

Definition at line 667 of file TraceLine.c.

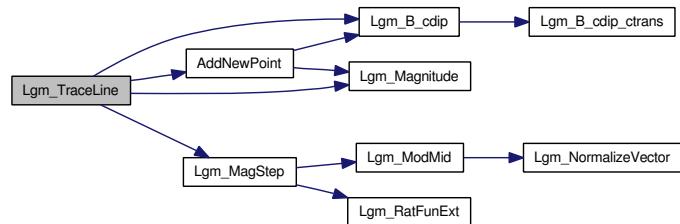
Here is the caller graph for this function:



4.58.2.5 int Lgm_TraceLine (Lgm_Vector * u, Lgm_Vector * v, double H0, double sgn, double tol, int AddBminPoint, Lgm_MagModelInfo * Info)

Definition at line 55 of file TraceLine.c.

Here is the call graph for this function:



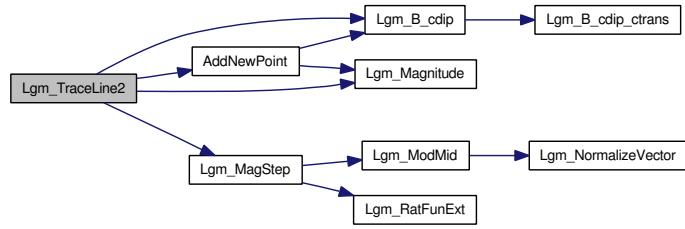
Here is the caller graph for this function:



4.58.2.6 int Lgm_TraceLine2 (Lgm_Vector * u, Lgm_Vector * v, double H0, double MinDist, double sgn, double tol, int AddBminPoint, Lgm_MagModelInfo * Info)

Definition at line 340 of file TraceLine.c.

Here is the call graph for this function:



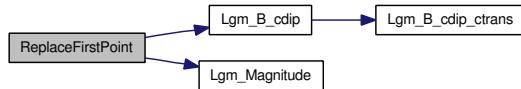
Here is the caller graph for this function:



4.58.2.7 void ReplaceFirstPoint (double *s*, double *B*, Lgm_Vector * *P*, Lgm_MagModelInfo * *Info*)

Definition at line 580 of file TraceLine.c.

Here is the call graph for this function:



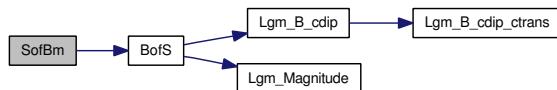
Here is the caller graph for this function:



4.58.2.8 int SofBm (double *Bm*, double * *ss*, double * *sn*, Lgm_MagModelInfo * *Info*)

Definition at line 835 of file TraceLine.c.

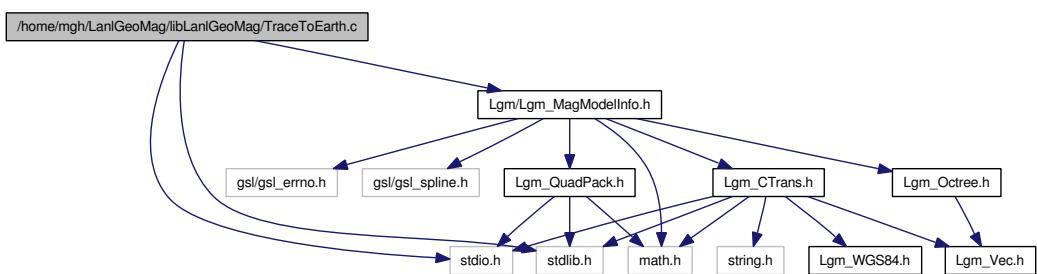
Here is the call graph for this function:



4.59 /home/mgh/LanlGeoMag/libLanlGeoMag/TraceToEarth.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "Lgm/Lgm_MagModelInfo.h"

Include dependency graph for TraceToEarth.c:
```



Functions

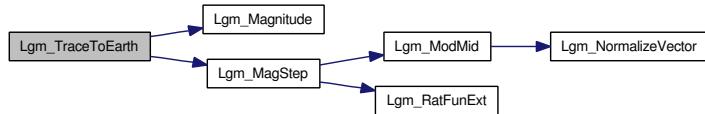
- int Lgm_TraceToEarth (Lgm_Vector *u, Lgm_Vector *v, double H0, double sgn, double tol, Lgm_MagModelInfo *Info)

4.59.1 Function Documentation

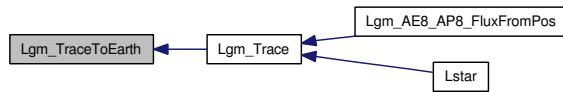
4.59.1.1 int Lgm_TraceToEarth (Lgm_Vector * u, Lgm_Vector * v, double H0, double sgn, double tol, Lgm_MagModelInfo * Info)

Definition at line 23 of file TraceToEarth.c.

Here is the call graph for this function:



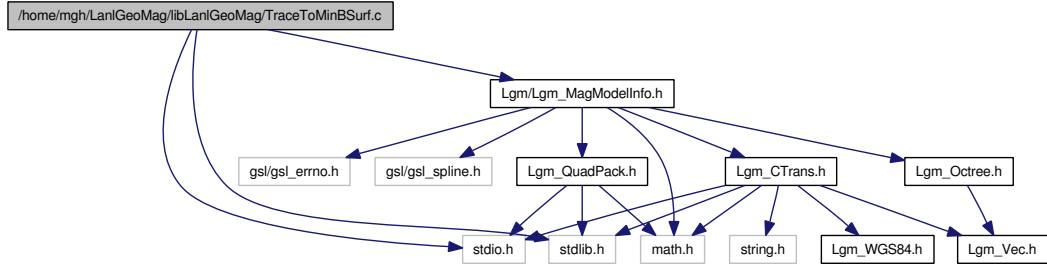
Here is the caller graph for this function:



4.60 /home/mgh/LanlGeoMag/libLanlGeoMag/TraceToMinBSurf.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "Lgm/Lgm_MagModelInfo.h"

Include dependency graph for TraceToMinBSurf.c:
```



Functions

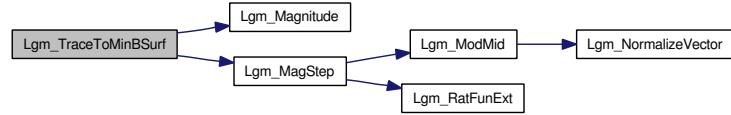
- int [Lgm_TraceToMinBSurf](#) ([Lgm_Vector](#) **u*, [Lgm_Vector](#) **v*, double *Htry*, double *tol*, [Lgm_MagModelInfo](#) **Info*)

4.60.1 Function Documentation

4.60.1.1 int Lgm_TraceToMinBSurf ([Lgm_Vector](#) **u*, [Lgm_Vector](#) **v*, double *Htry*, double *tol*, [Lgm_MagModelInfo](#) **Info*)

Definition at line 21 of file TraceToMinBSurf.c.

Here is the call graph for this function:



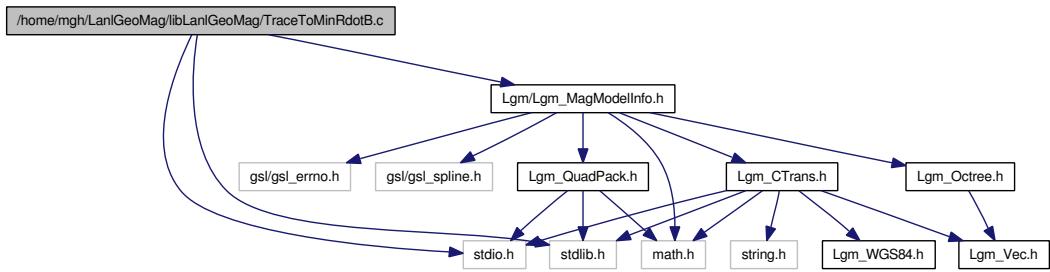
Here is the caller graph for this function:



4.61 /home/mgh/LanlGeoMag/libLanlGeoMag/TraceToMinRdotB.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "Lgm/Lgm_MagModelInfo.h"

Include dependency graph for TraceToMinRdotB.c:
```



Functions

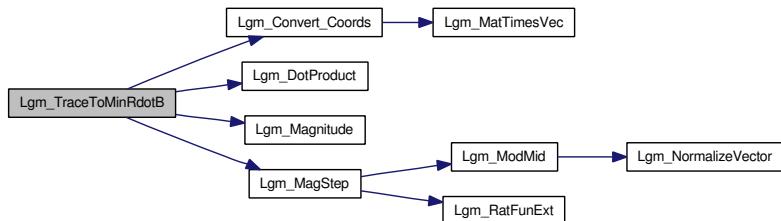
- int [Lgm_TraceToMinRdotB](#) ([Lgm_Vector](#) **u*, [Lgm_Vector](#) **v*, double *tol*, [Lgm_MagModelInfo](#) **Info*)

4.61.1 Function Documentation

4.61.1.1 int [Lgm_TraceToMinRdotB](#) ([Lgm_Vector](#) **u*, [Lgm_Vector](#) **v*, double *tol*, [Lgm_MagModelInfo](#) **Info*)

Definition at line 21 of file TraceToMinRdotB.c.

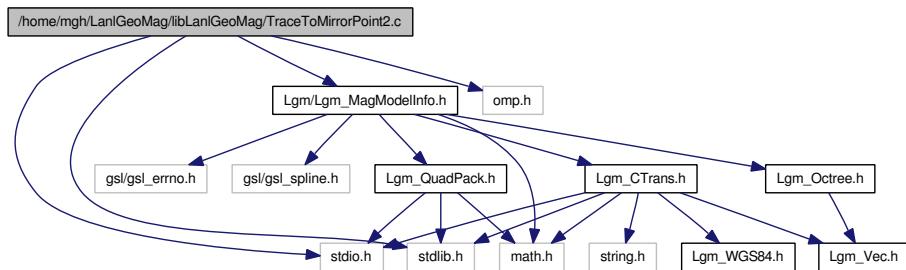
Here is the call graph for this function:



4.62 /home/mgh/LanlGeoMag/libLanlGeoMag/TraceToMirrorPoint2.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "Lgm/Lgm_MagModelInfo.h"
#include <omp.h>
```

Include dependency graph for TraceToMirrorPoint2.c:



Functions

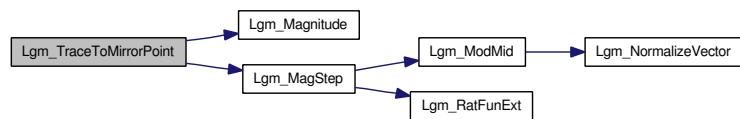
- int `Lgm_TraceToMirrorPoint (Lgm_Vector *u, Lgm_Vector *v, double *Sm, double H0, double Bm, double sgn, double tol, Lgm_MagModelInfo *Info)`

4.62.1 Function Documentation

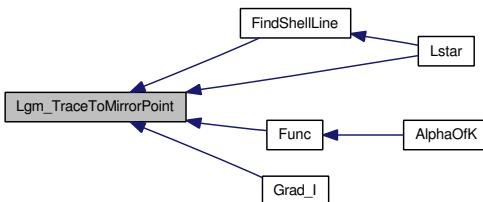
4.62.1.1 int `Lgm_TraceToMirrorPoint (Lgm_Vector * u, Lgm_Vector * v, double * Sm, double H0, double Bm, double sgn, double tol, Lgm_MagModelInfo * Info)`

Definition at line 25 of file TraceToMirrorPoint2.c.

Here is the call graph for this function:



Here is the caller graph for this function:

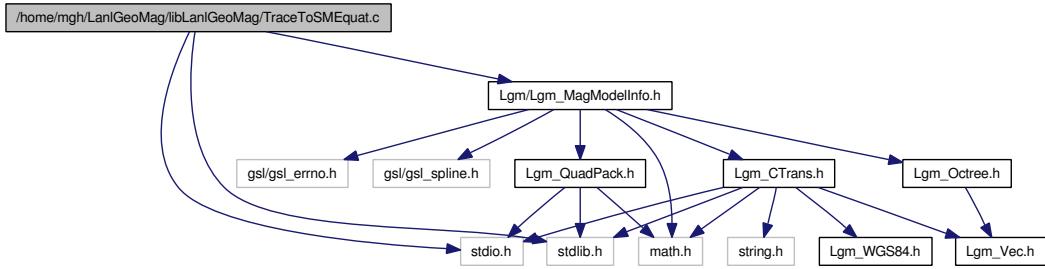


4.63 /home/mgh/LanlGeoMag/libLanlGeoMag/TraceToSMEquat.c

File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "Lgm/Lgm_MagModelInfo.h"

Include dependency graph for TraceToSMEquat.c:
```



Functions

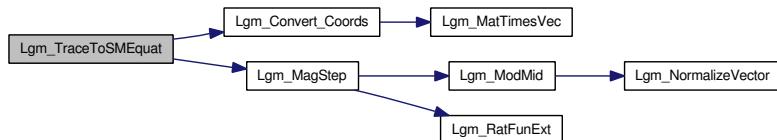
- int [Lgm_TraceToSMEquat](#) ([Lgm_Vector](#) **u*, [Lgm_Vector](#) **v*, double *tol*, [Lgm_MagModelInfo](#) **Info*)

4.63.1 Function Documentation

4.63.1.1 int [Lgm_TraceToSMEquat](#) ([Lgm_Vector](#) **u*, [Lgm_Vector](#) **v*, double *tol*, [Lgm_MagModelInfo](#) **Info*)

Definition at line 23 of file TraceToSMEquat.c.

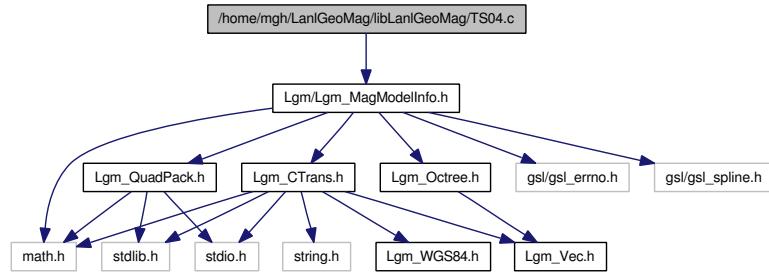
Here is the call graph for this function:



4.64 /home/mgh/LanlGeoMag/libLanlGeoMag/TS04.c File Reference

```
#include "Lgm/Lgm_MagModelInfo.h"
```

Include dependency graph for TS04.c:



Functions

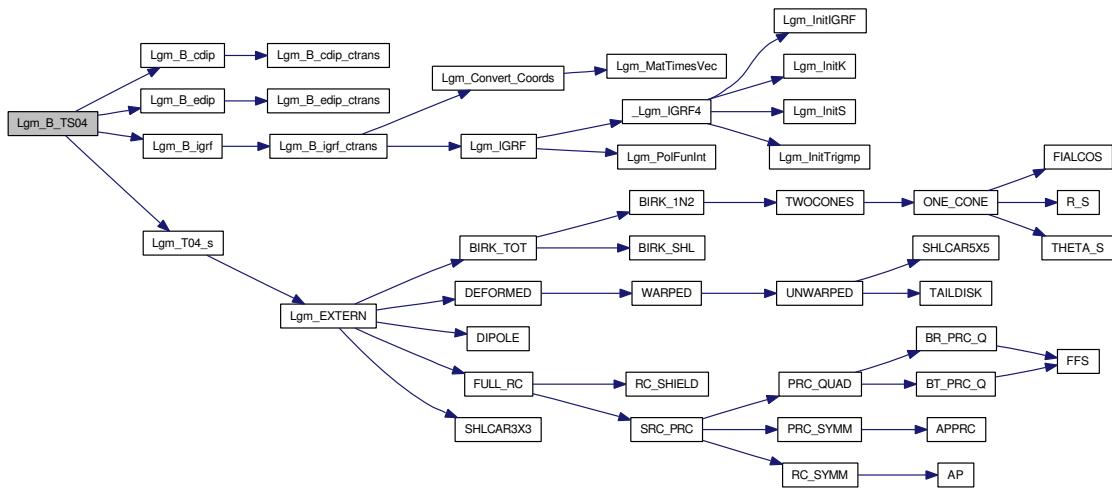
- int Lgm_B_TS04 (Lgm_Vector *v, Lgm_Vector *B, Lgm_MagModelInfo *Info)

4.64.1 Function Documentation

4.64.1.1 int Lgm_B_TS04 (Lgm_Vector * v, Lgm_Vector * B, Lgm_MagModelInfo * Info)

Definition at line 2 of file TS04.c.

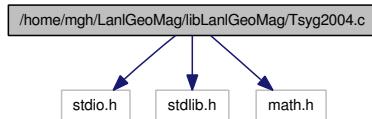
Here is the call graph for this function:



4.65 /home/mgh/LanlGeoMag/libLanlGeoMag/Tsyg2004.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
```

Include dependency graph for Tsyg2004.c:



Data Structures

- struct [_CB_TAIL](#)
- struct [_CB_BIRKPAR](#)
- struct [_CB_RCPAR](#)
- struct [_CB_G](#)
- struct [_CB_RH0](#)
- struct [_CB_DPHI_B_RHO0](#)
- struct [_CB_MODENUM](#)
- struct [_CB_DTHETA](#)
- struct [_TS04Info](#)

Defines

- #define [TRUE](#) 1
- #define [FALSE](#) 0

Functions

- void [Lgm_EXTERN](#) (int IOPGEN, int IOPT, int IOPB, int IOPR, double *A, int NTOT, double PDYN, double DST, double BXIMF, double BYIMF, double BZIMF, double W1, double W2, double W3, double W4, double W5, double W6, double PS, double X, double Y, double Z, double *BXCF, double *BYCF, double *BZCF, double *BXT1, double *BYT1, double *BZT1, double *BXT2, double *BYT2, double *BZT2, double *BXSRC, double *BYSRC, double *BZSRC, double *BXPRC, double *BYPYC, double *BZPRC, double *BXR11, double *BYR11, double *BZR11, double *BXR12, double *BYR12, double *BZR12, double *BXR21, double *BYR21, double *BZR21, double *BXR22, double *BYR22, double *BZR22, double *HXIMF, double *HYIMF, double *HZIMF, double *BBX, double *BBY, double *BBZ)
- void [SHLCAR3X3](#) (double X, double Y, double Z, double PS, double *BX, double *BY, double *BZ)
- void [DEFORMED](#) (int IOPT, double PS, double X, double Y, double Z, double *BX1, double *BY1, double *BZ1, double *BX2, double *BY2, double *BZ2)
- void [WARPED](#) (int IOPT, double PS, double X, double Y, double Z, double *BX1, double *BY1, double *BZ1, double *BX2, double *BY2, double *BZ2)

- void **UNWARPED** (int IOPT, double X, double Y, double Z, double *BX1, double *BY1, double *BZ1, double *BX2, double *BY2, double *BZ2)
- void **TAILDISK** (double D0, double DELTADX, double DELTADY, double X, double Y, double Z, double *BX, double *BY, double *BZ)
- void **SHLCAR5X5** (double *A, double X, double Y, double Z, double DSHIFT, double *HX, double *HY, double *HZ)
- void **BIRK_TOT** (int IOPB, double PS, double X, double Y, double Z, double *BX11, double *BY11, double *BZ11, double *BX12, double *BY12, double *BZ12, double *BX21, double *BY21, double *BZ21, double *BX22, double *BY22, double *BZ22)
- void **BIRK_1N2** (int NUMB, int MODE, double PS, double X, double Y, double Z, double *BX, double *BY, double *BZ)
- void **TWOCONES** (double *A, double X, double Y, double Z, double *BX, double *BY, double *BZ)
- void **ONE_CONE** (double *A, double X, double Y, double Z, double *BX, double *BY, double *BZ)
- double **THETA_S** (double *A, double R, double THETA)
- double **R_S** (double *A, double R, double THETA)
- void **FIALCOS** (double R, double THETA, double PHI, double *BTHETA, double *BPHI, int N, double THETA0, double DT)
- void **BIRK_SHL** (int, int, int, int, int, double *A, double PS, double X_SC, double X, double Y, double Z, double *BX, double *BY, double *BZ)
- void **FULL_RC** (int IOPR, double PS, double X, double Y, double Z, double *BXSRC, double *BYSRC, double *BZSRC, double *BZPRC, double *BZPRC)
- void **SRC_PRC** (int IOPR, double SC_SY, double SC_PR, double PHI, double PS, double X, double Y, double Z, double *BXSRC, double *BYSRC, double *BZSRC, double *BZPRC, double *BZPRC)
- void **RC_SYMM** (double X, double Y, double Z, double *BX, double *BY, double *BZ)
- double **AP** (double R, double SINT, double COST)
- void **PRC_SYMM** (double X, double Y, double Z, double *BX, double *BY, double *BZ)
- double **APPRC** (double R, double SINT, double COST)
- void **PRC_QUAD** (double X, double Y, double Z, double *BX, double *BY, double *BZ)
- double **BR_PRC_Q** (double R, double SINT, double COST)
- double **BT_PRC_Q** (double R, double SINT, double COST)
- void **FFS** (double A, double A0, double DA, double *F, double *FA, double *FS)
- void **RC_SHIELD** (double *A, double PS, double X_SC, double X, double Y, double Z, double *BX, double *BY, double *BZ)
- void **DIPOLE** (double PS, double X, double Y, double Z, double *BX, double *BY, double *BZ)
- **_TS04Info * init_TS04Info ()**
- void **Lgm_T04_s** (int IOPT, double *PARMOD, double PS, double SINPS, double COSPS, double X, double Y, double Z, double *BX, double *BY, double *BZ)

Variables

- double **sin_psi**
- double **cos_psi**

4.65.1 Define Documentation

4.65.1.1 #define FALSE 0

Definition at line 11 of file Tsyg2004.c.

4.65.1.2 #define TRUE 1

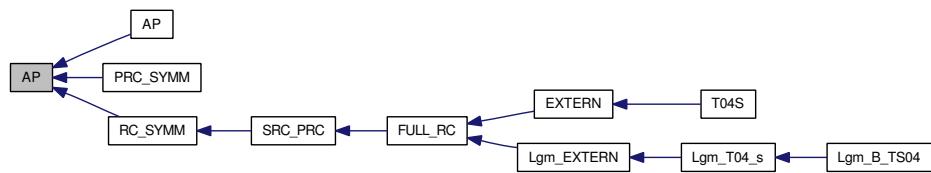
Definition at line 10 of file Tsyg2004.c.

4.65.2 Function Documentation

4.65.2.1 double AP (double *R*, double *SINT*, double *COST*)

Definition at line 2292 of file Tsyg2004.c.

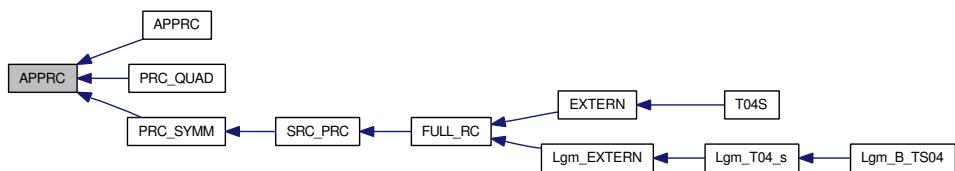
Here is the caller graph for this function:



4.65.2.2 double APPRC (double *R*, double *SINT*, double *COST*)

Definition at line 2476 of file Tsyg2004.c.

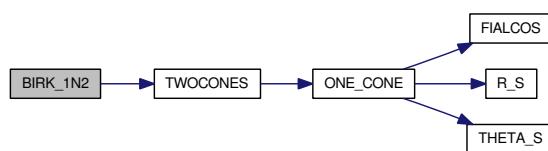
Here is the caller graph for this function:



4.65.2.3 void BIRK_1N2 (int *NUMB*, int *MODE*, double *PS*, double *X*, double *Y*, double *Z*, double * *BX*, double * *BY*, double * *BZ*)

Definition at line 1469 of file Tsyg2004.c.

Here is the call graph for this function:



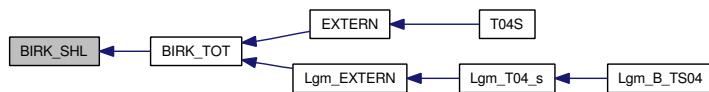
Here is the caller graph for this function:



4.65.2.4 void BIRK_SHL (int *J*, int *PSChanged*, int *XChanged*, int *YChanged*, int *ZChanged*, double * *A*, double *PS*, double *X_SC*, double *X*, double *Y*, double *Z*, double * *BX*, double * *BY*, double * *BZ*)

Definition at line 1828 of file Tsyg2004.c.

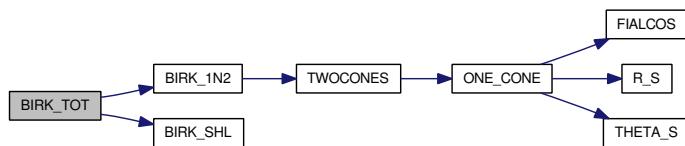
Here is the caller graph for this function:



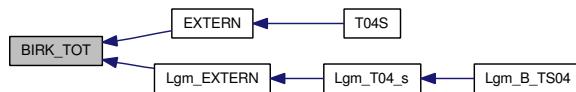
4.65.2.5 void BIRK_TOT (int *IOPB*, double *PS*, double *X*, double *Y*, double *Z*, double * *BX11*, double * *BY11*, double * *BZ11*, double * *BX12*, double * *BY12*, double * *BZ12*, double * *BX21*, double * *BY21*, double * *BZ21*, double * *BX22*, double * *BY22*, double * *BZ22*)

Definition at line 1319 of file Tsyg2004.c.

Here is the call graph for this function:



Here is the caller graph for this function:



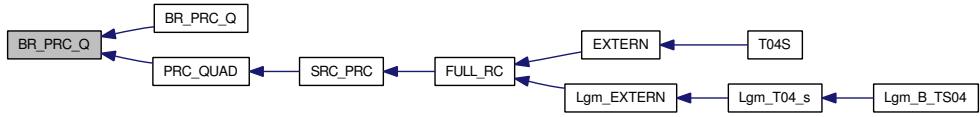
4.65.2.6 double BR_PRC_Q (double *R*, double *SINT*, double *COST*)

Definition at line 2693 of file Tsyg2004.c.

Here is the call graph for this function:



Here is the caller graph for this function:



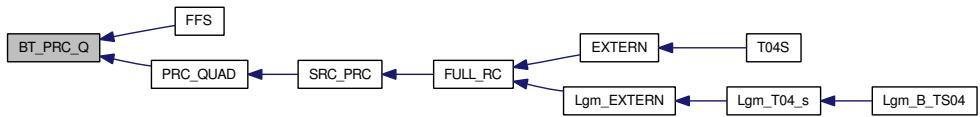
4.65.2.7 double BT_PRC_Q (double R , double $SINT$, double $COST$)

Definition at line 2780 of file Tsyg2004.c.

Here is the call graph for this function:



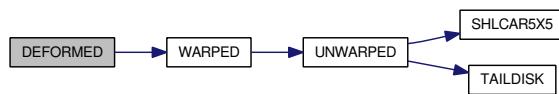
Here is the caller graph for this function:



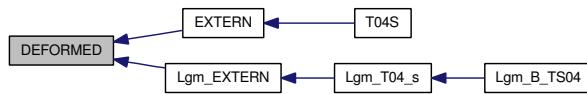
4.65.2.8 void DEFORMED (int $IOPT$, double PS , double X , double Y , double Z , double * $BX1$, double * $BY1$, double * $BZ1$, double * $BX2$, double * $BY2$, double * $BZ2$)

Definition at line 884 of file Tsyg2004.c.

Here is the call graph for this function:



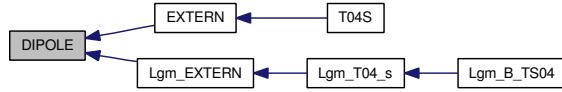
Here is the caller graph for this function:



4.65.2.9 void DIPOLE (double PS , double X , double Y , double Z , double * BX , double * BY , double * BZ)

Definition at line 3036 of file Tsyg2004.c.

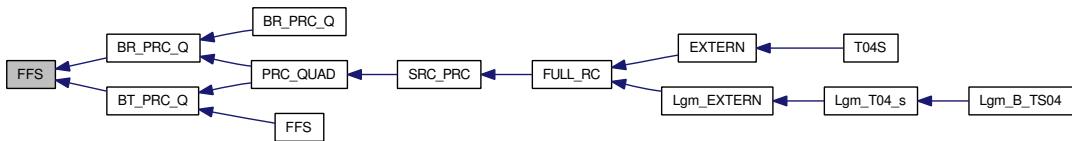
Here is the caller graph for this function:



4.65.2.10 void FFS (double A, double A0, double DA, double * F, double * FA, double * FS)

Definition at line 2856 of file Tsyg2004.c.

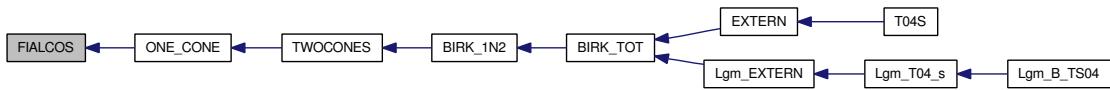
Here is the caller graph for this function:



4.65.2.11 void FIALCOS (double R, double THETA, double PHI, double * BTHETA, double * BPHI, int N, double THETA0, double DT)

Definition at line 1742 of file Tsyg2004.c.

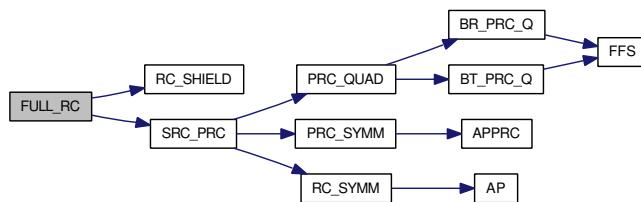
Here is the caller graph for this function:



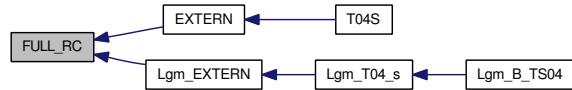
4.65.2.12 void FULL_RC (int IOPR, double PS, double X, double Y, double Z, double * BXSRC, double * BYSRC, double * BZSRC, double * BXPRC, double * BYPRC, double * BZPRC)

Definition at line 2051 of file Tsyg2004.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.65.2.13 _TS04Info* init_TS04Info ()

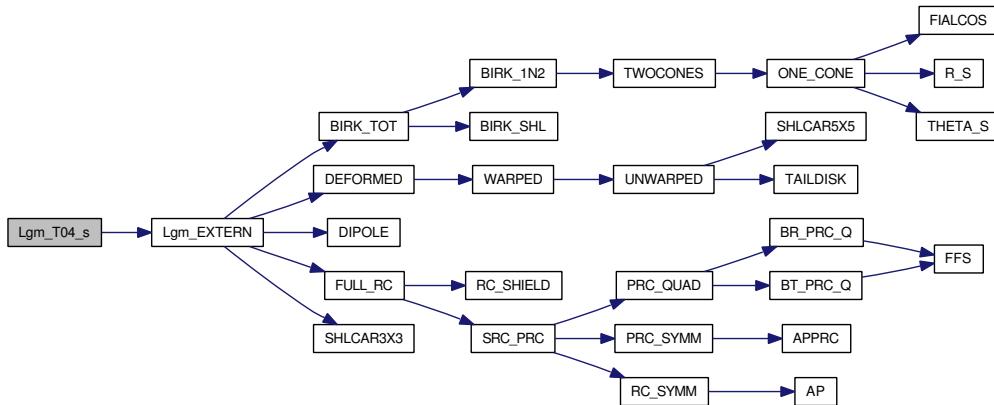
Definition at line 185 of file Tsyg2004.c.

4.65.2.14 void Lgm_EXTERN (int IOPGEN, int IOPT, int IOPB, int IOPR, double *A, int NTOT, double PDYN, double DST, double BXIMF, double BYIMF, double BZIMF, double W1, double W2, double W3, double W4, double W5, double W6, double PS, double X, double Y, double Z, double *BXCF, double *BYCF, double *BZCF, double *BXT1, double *BYT1, double *BZT1, double *BXT2, double *BYT2, double *BZT2, double *BXSRC, double *BYSRC, double *BZSRC, double *BXPRC, double *BYPRC, double *BZPRC, double *BXR11, double *BYR11, double *BZR11, double *BXR12, double *BYR12, double *BZR12, double *BXR21, double *BYR21, double *BZR21, double *BXR22, double *BYR22, double *BZR22, double *HXIMF, double *HYIMF, double *HZIMF, double *BBX, double *BBY, double *BBZ)

4.65.2.15 void Lgm_T04_s (int IOPT, double *PARMOD, double PS, double SINPS, double COSPS, double X, double Y, double Z, double *BX, double *BY, double *BZ)

Definition at line 198 of file Tsyg2004.c.

Here is the call graph for this function:



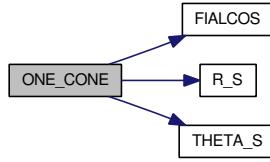
Here is the caller graph for this function:



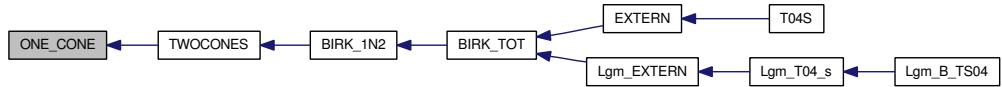
4.65.2.16 void ONE_CONE (double *A, double X, double Y, double Z, double *BX, double *BY, double *BZ)

Definition at line 1627 of file Tsyg2004.c.

Here is the call graph for this function:



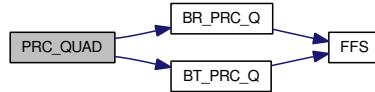
Here is the caller graph for this function:



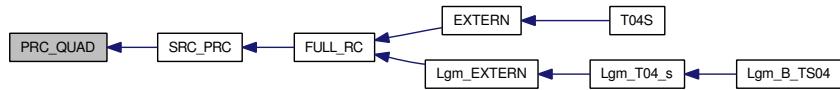
4.65.2.17 void PRC_QUAD (double X, double Y, double Z, double *BX, double *BY, double *BZ)

Definition at line 2628 of file Tsyg2004.c.

Here is the call graph for this function:



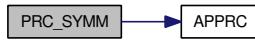
Here is the caller graph for this function:



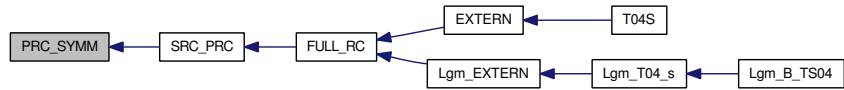
4.65.2.18 void PRC_SYMM (double X, double Y, double Z, double *BX, double *BY, double *BZ)

Definition at line 2428 of file Tsyg2004.c.

Here is the call graph for this function:



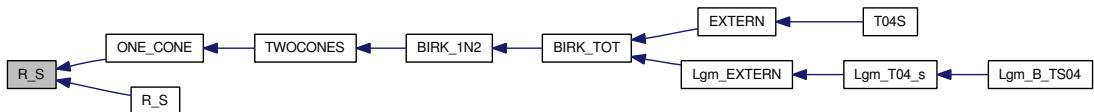
Here is the caller graph for this function:



4.65.2.19 double R_S (double * A, double R, double THETA)

Definition at line 1701 of file Tsyg2004.c.

Here is the caller graph for this function:



4.65.2.20 void RC_SHIELD (double * A, double PS, double X_SC, double X, double Y, double Z, double * BX, double * BY, double * BZ)

Definition at line 2876 of file Tsyg2004.c.

Here is the caller graph for this function:



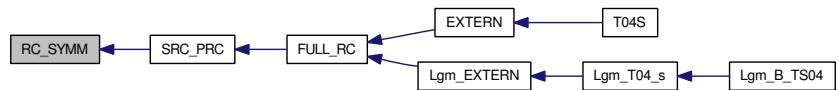
4.65.2.21 void RC_SYMM (double X, double Y, double Z, double * BX, double * BY, double * BZ)

Definition at line 2242 of file Tsyg2004.c.

Here is the call graph for this function:



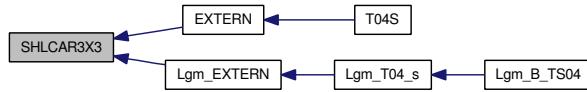
Here is the caller graph for this function:



4.65.2.22 void SHLCAR3X3 (double X , double Y , double Z , double PS , double * BX , double * BY , double * BZ)

Definition at line 569 of file Tsyg2004.c.

Here is the caller graph for this function:



4.65.2.23 void SHLCAR5X5 (double * A , double X , double Y , double Z , double $DSHIFT$, double * HX , double * HY , double * HZ)

Definition at line 1249 of file Tsyg2004.c.

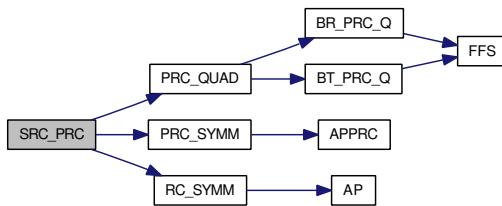
Here is the caller graph for this function:



4.65.2.24 void SRC_PRC (int $IOPR$, double SC_SY , double SC_PR , double PHI , double PS , double X , double Y , double Z , double * $BXSRC$, double * $BYSRC$, double * $BZSRC$, double * $BXPRC$, double * $BYPRC$, double * $BZPRC$)

Definition at line 2146 of file Tsyg2004.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.65.2.25 void TAILDISK (double *D0*, double *DELTADX*, double *DELTADY*, double *X*, double *Y*, double *Z*, double * *BX*, double * *BY*, double * *BZ*)

Definition at line 1150 of file Tsyg2004.c.

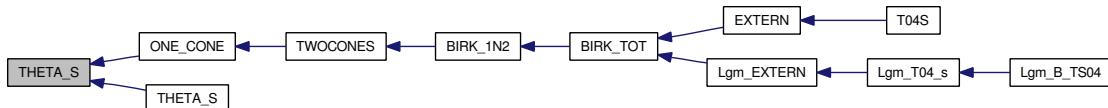
Here is the caller graph for this function:



4.65.2.26 double THETA_S (double * *A*, double *R*, double *THETA*)

Definition at line 1721 of file Tsyg2004.c.

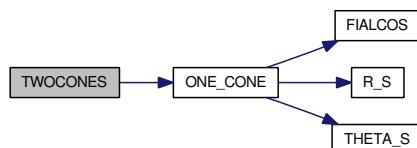
Here is the caller graph for this function:



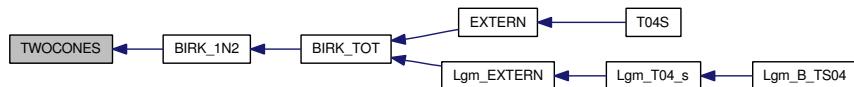
4.65.2.27 void TWOCONES (double * *A*, double *X*, double *Y*, double *Z*, double * *BX*, double * *BY*, double * *BZ*)

Definition at line 1605 of file Tsyg2004.c.

Here is the call graph for this function:



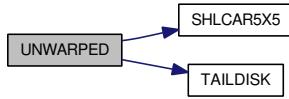
Here is the caller graph for this function:



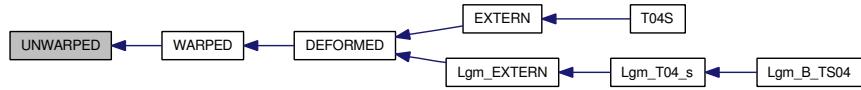
4.65.2.28 void UNWARPED (int *IOPT*, double *X*, double *Y*, double *Z*, double * *BX1*, double * *BY1*, double * *BZ1*, double * *BX2*, double * *BY2*, double * *BZ2*)

Definition at line 1048 of file Tsyg2004.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.65.2.29 void WARPED (int *IOPt*, double *PS*, double *X*, double *Y*, double * *BX1*, double * *BY1*, double * *BZ1*, double * *BX2*, double * *BY2*, double * *BZ2*)

Definition at line 958 of file Tsyg2004.c.

Here is the call graph for this function:



Here is the caller graph for this function:



4.65.3 Variable Documentation

4.65.3.1 double cos_psi

Definition at line 108 of file Tsyg2004.c.

4.65.3.2 double sin_psi

Definition at line 108 of file Tsyg2004.c.

4.66 /home/mgh/LanlGeoMag/libLanlGeoMag/Tsyg2004.f File Reference

Functions

- subroutine [T04S](#) (IOPT, PARMOD, PS, X, Y, Z, BX, BY, BZ)
- subroutine [EXTERN](#) (IOPGEN, IOPT, IOPB, IOPR, A, NTOT,*PDYN, DST, BXIMF, BYIMF, BZIMF, W1, W2, W3, W4, W5, W6, PS, X, Y, Z,*BXCF, BYCF, BZCF, BXT1, BYT1, BZT1, BXT2, BYT2, BZT2,*BXSRC, BYSRC, BZSRC, BXPRC, BYPRC, BZPRC, BXR11, BYR11, BZR11,*BXR12, BYR12, BZR12, BXR21, BYR21, BZR21, BXR22, BYR22, BZR22, HXIMF,*HYIMF, HZIMF, BX, BY, BZ)
- subroutine [SHLCAR3X3](#) (X, Y, Z, PS, BX, BY, BZ)
- subroutine [DEFORMED](#) (IOPT, PS, X, Y, Z, BX1, BY1, BZ1, BX2, BY2, BZ2)
- subroutine [WARPED](#) (IOPT, PS, X, Y, Z, BX1, BY1, BZ1, BX2, BY2, BZ2)
- subroutine [UNWARPED](#) (IOPT, X, Y, Z, BX1, BY1, BZ1, BX2, BY2, BZ2)
- subroutine [TAILDISK](#) (D0, DELTADX, DELTADY, X, Y, Z, BX, BY, BZ)
- subroutine [SHLCAR5X5](#) (A, X, Y, Z, DSHIFT, HX, HY, HZ)
- subroutine [BIRK_TOT](#) (IOPB, PS, X, Y, Z, BX11, BY11, BZ11, BX12, BY12, BZ12,*BX21, BY21, BZ21, BX22, BY22, BZ22)
- subroutine [BIRK_1N2](#) (NUMB, MODE, PS, X, Y, Z, BX, BY, BZ)
- subroutine [TWOCONES](#) (A, X, Y, Z, BX, BY, BZ)
- subroutine [ONE_CONE](#) (A, X, Y, Z, BX, BY, BZ)
- DOUBLE PRECISION [R_S](#) (A, R, THETA)
- DOUBLE PRECISION [THETA_S](#) (A, R, THETA)
- subroutine [FIALCOS](#) (R, THETA, PHI, BTHETA, BPHI, N, THETA0, DT)
- subroutine [BIRK_SHL](#) (A, PS, X_SC, X, Y, Z, BX, BY, BZ)
- subroutine [FULL_RC](#) (IOPR, PS, X, Y, Z, BXSRC, BYSRC, BZSRC, BXPRC, BYPRC,*BZPRC)
- subroutine [SRC_PRC](#) (IOPR, SC_SY, SC_PR, PHI, PS, X, Y, Z, BXSRC, BYSRC,*BZSRC, BX-PRC, BYPRC, BZPRC)
- subroutine [RC_SYMM](#) (X, Y, Z, BX, BY, BZ)
- DOUBLE PRECISION [AP](#) (R, SINT, COST)
- subroutine [PRC_SYMM](#) (X, Y, Z, BX, BY, BZ)
- DOUBLE PRECISION [APPRC](#) (R, SINT, COST)
- subroutine [PRC_QUAD](#) (X, Y, Z, BX, BY, BZ)
- DOUBLE PRECISION [BR_PRC_Q](#) (R, SINT, COST)
- DOUBLE PRECISION [BT_PRC_Q](#) (R, SINT, COST)
- subroutine [FFS](#) (A, A0, DA, F, FA, FS)
- subroutine [RC_SHIELD](#) (A, PS, X_SC, X, Y, Z, BX, BY, BZ)
- subroutine [DIPOLE](#) (PS, X, Y, Z, BX, BY, BZ)

4.66.1 Function Documentation

4.66.1.1 DOUBLE PRECISION AP (R, SINT, COST)

Definition at line 2126 of file Tsyg2004.f.

Here is the call graph for this function:



4.66.1.2 DOUBLE PRECISION APPRC (R, SINT, COST)

Definition at line 2291 of file Tsyg2004.f.

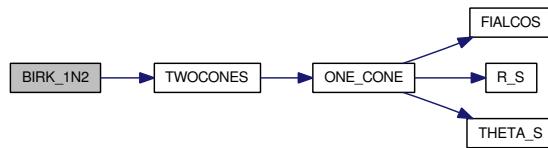
Here is the call graph for this function:



4.66.1.3 subroutine BIRK_1N2 (NUMB, MODE, PS, X, Y, Z, BX, BY, BZ)

Definition at line 1363 of file Tsyg2004.f.

Here is the call graph for this function:



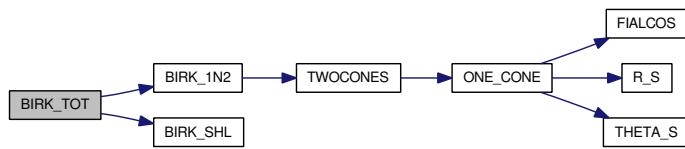
4.66.1.4 subroutine BIRK_SHL (A, PS, X_SC, X, Y, Z, BX, BY, BZ)

Definition at line 1719 of file Tsyg2004.f.

4.66.1.5 subroutine BIRK_TOT (IOPB, PS, X, Y, Z, BX11, BY11, BZ11, BX12, BY12, BZ12, * BX21, BY21, BZ21, BX22, BY22, BZ22)

Definition at line 1137 of file Tsyg2004.f.

Here is the call graph for this function:



4.66.1.6 DOUBLE PRECISION BR_PRC_Q (R, SINT, COST)

Definition at line 2470 of file Tsyg2004.f.

Here is the call graph for this function:



4.66.1.7 DOUBLE PRECISION BT_PRC_Q (R, SINT, COST)

Definition at line 2544 of file Tsyg2004.f.

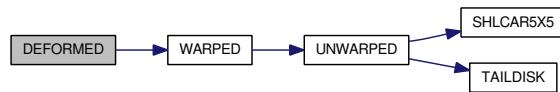
Here is the call graph for this function:



4.66.1.8 subroutine DEFORMED (IOPT, PS, X, Y, Z, BX1, BY1, BZ1, BX2, BY2, BZ2)

Definition at line 709 of file Tsyg2004.f.

Here is the call graph for this function:



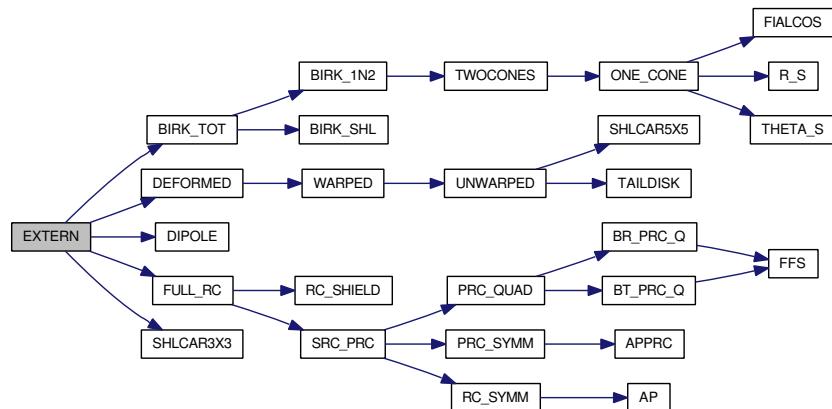
4.66.1.9 subroutine DIPOLE (PS, X, Y, Z, BX, BY, BZ)

Definition at line 2760 of file Tsyg2004.f.

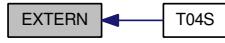
4.66.1.10 subroutine EXTERN (IOPGEN, IOPT, IOPB, IOPR, A, NTOT, *PDYN, DST, BXIMF, BYIMF, BZIMF, W1, W2, W3, W4, W5, W6, PS, X, Y, Z, *BXCF, BYCF, BZCF, BXT1, BYT1, BZT1, BXT2, BYT2, BZT2, *BXSRC, BYSRC, BZSRC, BXPRC, BYPRC, BZPRC, BXR11, BYR11, BZR11, *BXR12, BYR12, BZR12, BXR21, BYR21, BZR21, BXR22, BYR22, BZR22, HXIMF, *HYIMF, HZIMF, BX, BY, BZ)

Definition at line 123 of file Tsyg2004.f.

Here is the call graph for this function:



Here is the caller graph for this function:



4.66.1.11 subroutine FFS (A, A0, DA, F, FA, FS)

Definition at line 2607 of file Tsyg2004.f.

Here is the call graph for this function:



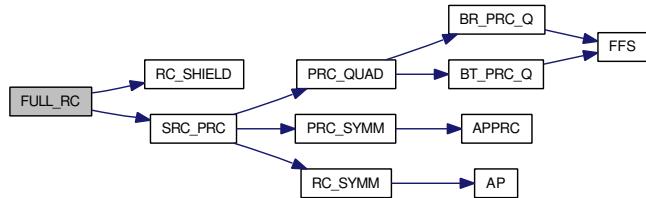
4.66.1.12 subroutine FIALCOS (R, THETA, PHI, BTHETA, BPHI, N, THETA0, DT)

Definition at line 1641 of file Tsyg2004.f.

4.66.1.13 subroutine FULL_RC (IOPR, PS, X, Y, Z, BXSRC, BYSRC, BZSRC, BXPRC, BYPRC, *BZPRC)

Definition at line 1856 of file Tsyg2004.f.

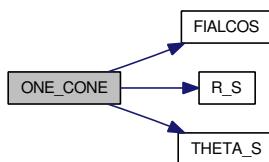
Here is the call graph for this function:



4.66.1.14 subroutine ONE_CONE (A, X, Y, Z, BX, BY, BZ)

Definition at line 1548 of file Tsyg2004.f.

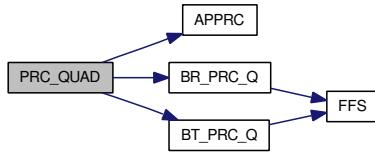
Here is the call graph for this function:



4.66.1.15 subroutine PRC_QUAD (X, Y, Z, BX, BY, BZ)

Definition at line 2413 of file Tsyg2004.f.

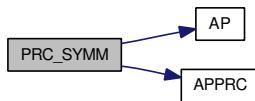
Here is the call graph for this function:



4.66.1.16 subroutine PRC_SYMM (X, Y, Z, BX, BY, BZ)

Definition at line 2245 of file Tsyg2004.f.

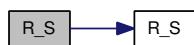
Here is the call graph for this function:



4.66.1.17 DOUBLE PRECISION R_S (A, R, THETA)

Definition at line 1611 of file Tsyg2004.f.

Here is the call graph for this function:



4.66.1.18 subroutine RC_SHIELD (A, PS, X_SC, X, Y, Z, BX, BY, BZ)

Definition at line 2622 of file Tsyg2004.f.

4.66.1.19 subroutine RC_SYMM (X, Y, Z, BX, BY, BZ)

Definition at line 2080 of file Tsyg2004.f.

Here is the call graph for this function:



4.66.1.20 subroutine SHLCAR3X3 (X, Y, Z, PS, BX, BY, BZ)

Definition at line 362 of file Tsyg2004.f.

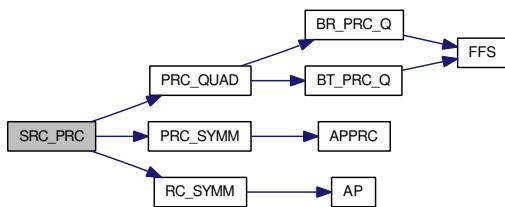
4.66.1.21 subroutine SHLCAR5X5 (A, X, Y, Z, DSHIFT, HX, HY, HZ)

Definition at line 1082 of file Tsyg2004.f.

4.66.1.22 subroutine SRC_PRC (IOPR, SC_SY, SC_PR, PHI, PS, X, Y, Z, BXSRC, BYSRC, * BZSRC, BXPRC, BYPRC, BZPRC)

Definition at line 1995 of file Tsyg2004.f.

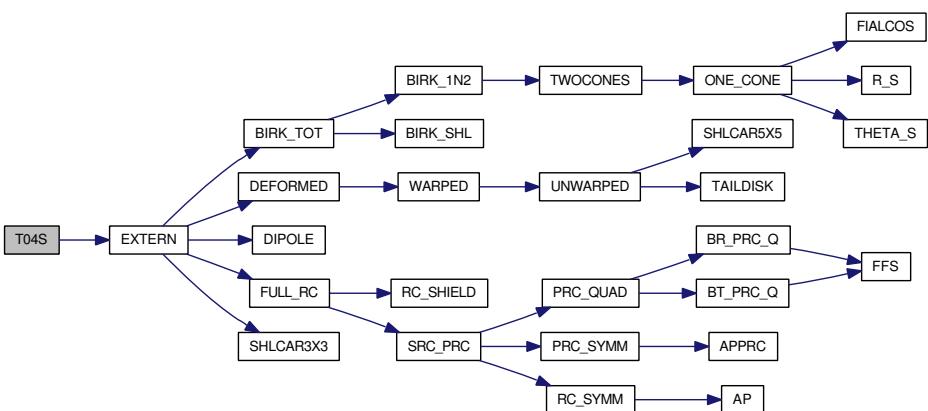
Here is the call graph for this function:



4.66.1.23 subroutine T04S (IOPT, REAL*8,dimension(10) PARMOD, REAL*8 PS, REAL*8 X, REAL*8 Y, REAL*8 Z, REAL*8 BX, REAL*8 BY, REAL*8 BZ)

Definition at line 5 of file Tsyg2004.f.

Here is the call graph for this function:



4.66.1.24 subroutine TAILDISK (D0, DELTADX, DELTADY, X, Y, Z, BX, BY, BZ)

Definition at line 991 of file Tsyg2004.f.

4.66.1.25 DOUBLE PRECISION THETA_S (A, R, THETA)

Definition at line 1626 of file Tsyg2004.f.

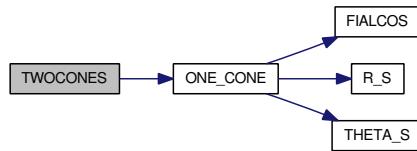
Here is the call graph for this function:



4.66.1.26 subroutine TWOCONES (A, X, Y, Z, BX, BY, BZ)

Definition at line 1528 of file Tsyg2004.f.

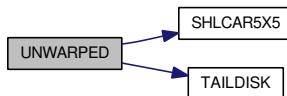
Here is the call graph for this function:



4.66.1.27 subroutine UNWARPED (IOPT, X, Y, Z, BX1, BY1, BZ1, BX2, BY2, BZ2)

Definition at line 852 of file Tsyg2004.f.

Here is the call graph for this function:



4.66.1.28 subroutine WARPED (IOPT, PS, X, Y, Z, BX1, BY1, BZ1, BX2, BY2, BZ2)

Definition at line 779 of file Tsyg2004.f.

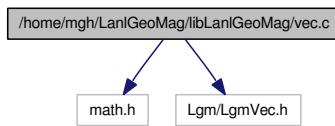
Here is the call graph for this function:



4.67 /home/mgh/LanlGeoMag/libLanlGeoMag/vec.c File Reference

```
#include <math.h>
#include "Lgm/LgmVec.h"
```

Include dependency graph for vec.c:



Functions

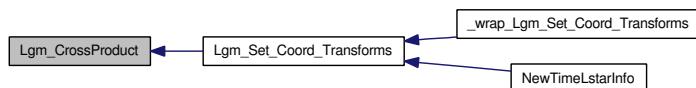
- void [Lgm_CrossProduct \(Lgm_Vector *a, Lgm_Vector *b, Lgm_Vector *c\)](#)
- double [Lgm_DotProduct \(Lgm_Vector *a, Lgm_Vector *b\)](#)
- double [Lgm_NormalizeVector \(Lgm_Vector *a\)](#)
- void [Lgm_ScaleVector \(Lgm_Vector *a, double value\)](#)
- double [Lgm_Magnitude \(Lgm_Vector *a\)](#)
- void [Lgm_ForceMagnitude \(Lgm_Vector *a, double mag\)](#)
- void [Lgm_MatTimesVec \(double A\[3\]\[3\], Lgm_Vector *V, Lgm_Vector *Result\)](#)
- void [Lgm_MatTimeMat \(double A\[3\]\[3\], double B\[3\]\[3\], double Result\[3\]\[3\]\)](#)

4.67.1 Function Documentation

4.67.1.1 void Lgm_CrossProduct (Lgm_Vector * a, Lgm_Vector * b, Lgm_Vector * c)

Definition at line 7 of file vec.c.

Here is the caller graph for this function:



4.67.1.2 double Lgm_DotProduct (Lgm_Vector * a, Lgm_Vector * b)

Definition at line 18 of file vec.c.

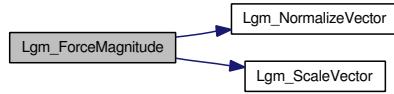
Here is the caller graph for this function:



4.67.1.3 void Lgm_ForceMagnitude (Lgm_Vector * a , double mag)

Definition at line 64 of file vec.c.

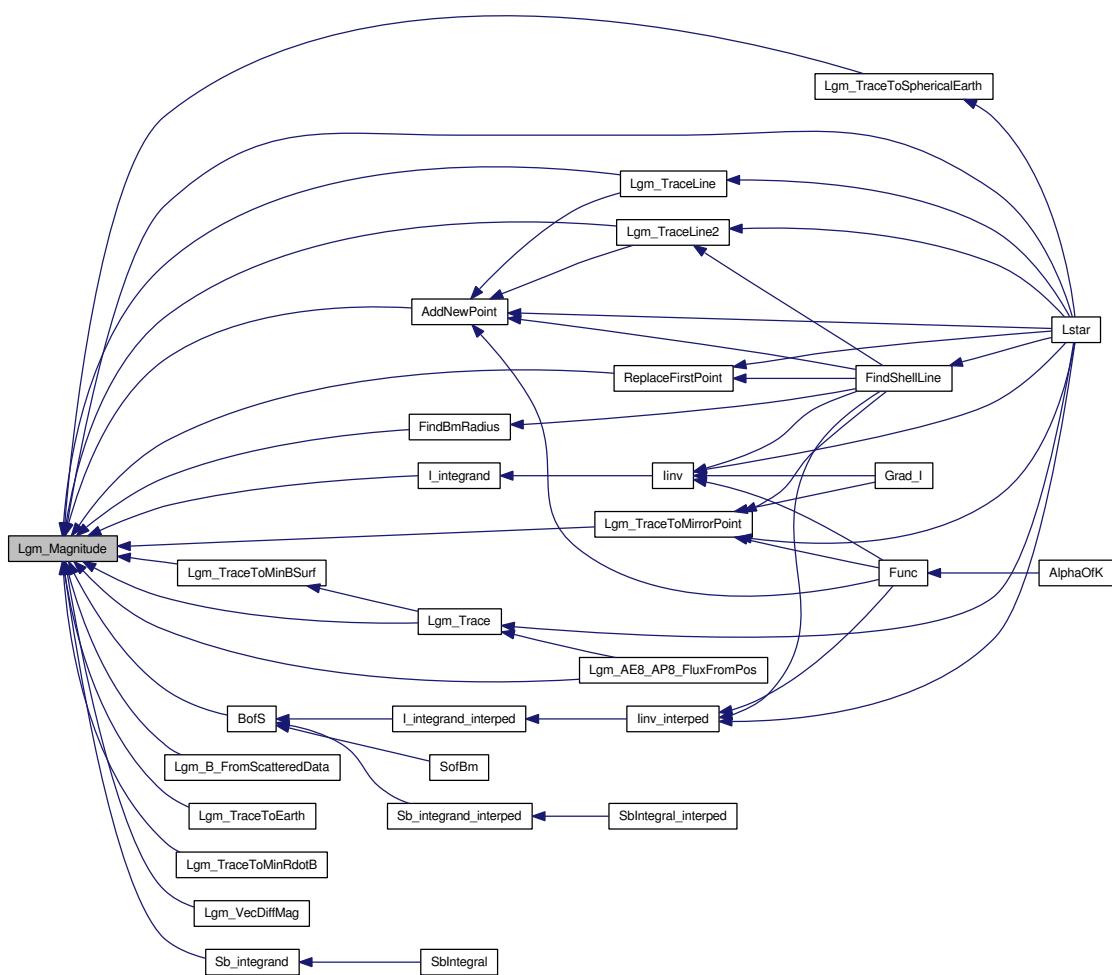
Here is the call graph for this function:



4.67.1.4 double Lgm_Magnitude (Lgm_Vector * a)

Definition at line 56 of file vec.c.

Here is the caller graph for this function:



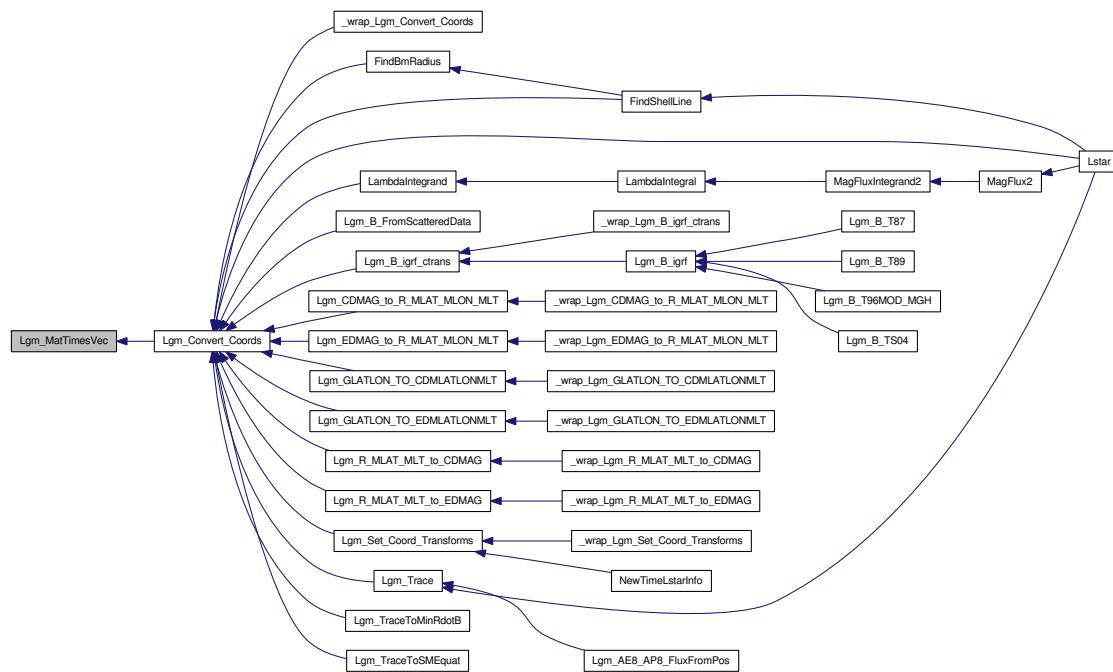
4.67.1.5 void Lgm_MatTimeMat (double $A[3][3]$, double $B[3][3]$, double $Result[3][3]$)

Definition at line 88 of file vec.c.

4.67.1.6 void Lgm_MatTimesVec (double $A[3][3]$, Lgm_Vector * V , Lgm_Vector * $Result$)

Definition at line 76 of file vec.c.

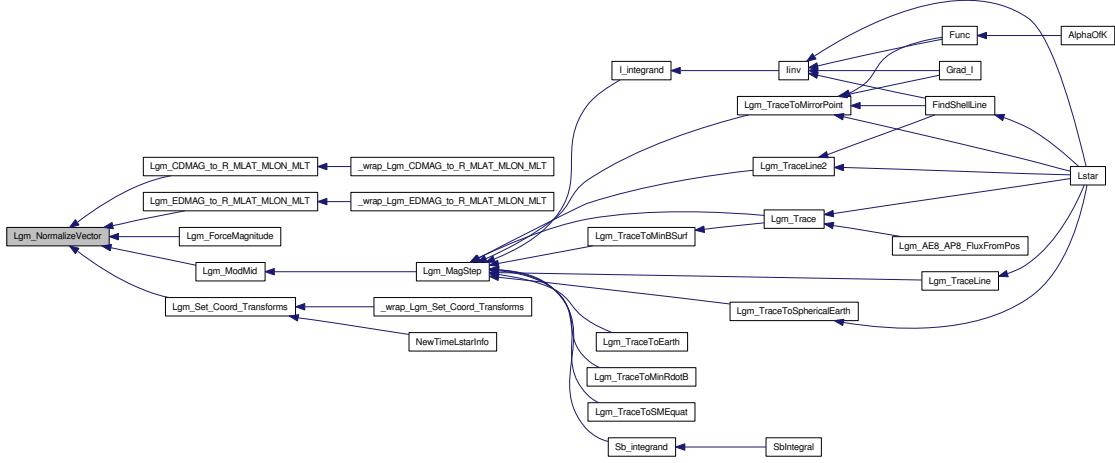
Here is the caller graph for this function:



4.67.1.7 double Lgm_NormalizeVector (Lgm_Vector * a)

Definition at line 27 of file vec.c.

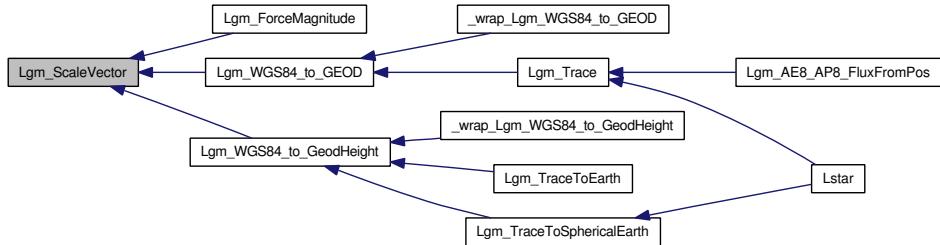
Here is the caller graph for this function:



4.67.1.8 void Lgm_ScaleVector (Lgm_Vector **a*, double *value*)

Definition at line 46 of file vec.c.

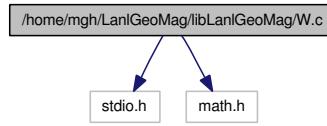
Here is the caller graph for this function:



4.68 /home/mgh/LanlGeoMag/libLanlGeoMag/W.c File Reference

```
#include <stdio.h>
#include <math.h>
```

Include dependency graph for W.c:



Functions

- void [Lgm_ComputeW](#) (double W[], int i, double Nk[], double Vk[], double Bsk[], int nk)

4.68.1 Function Documentation

4.68.1.1 void Lgm_ComputeW (double W[], int i, double Nk[], double Vk[], double Bsk[], int nk)

Definition at line 4 of file W.c.

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