My Project

Generated by Doxygen 1.8.11

Contents

Chapter 1

Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 2

File Index

2.1 File List

Here is a list of all documented files with brief descriptions:

Chapter 3

Class Documentation

3.1 Heat Class Reference

Public Member Functions

- void set_size (int)
  设置进程总数
- void set_rank (int)
  设置进程编号
- void set_f (const RHS &)
  设置右端项*f*
- void set_Initial (const RHF &)
  设置初值
- void set_Boundrary (int, const RHS &)
  设置边值
- void set_N (int)
  设置网格密度
- void set_t (double)
  设置计算终止时间
- void set_CFL (double)
  设置*CFL*条件数
- void set_Solution (const RHS &)
  设置真解，可以用来对有真解的情况测试误差.
- double error ()
  计算误差的一个测试函数
- std::vector< double > solve ()
  求解函数

3.1.1 Member Function Documentation

3.1.1.1 double Heat::error ( )

计算误差的一个测试函数

Returns

L2误差

3.1.1.2 void Heat::set_Boundrary (int *flag*, const RHS & *fun*)

设置边值

Parameters

flag	标志， DIRICHLET 或者 NEUMANN
fun	

3.1.1.3 void Heat::set_CFL (double *CFL1*)

设置CFL条件数

Parameters

CFL1	

3.1.1.4 void Heat::set_f (const RHS & *fun*)

设置右端项f

Parameters

fun	

3.1.1.5 void Heat::set_Initial (const RHF & *fun*)

设置初值

Parameters

fun	

3.1.1.6 void Heat::set_N (int *N1*)

设置网格密度

Parameters

N1	

3.1.1.7 void Heat::set_rank (int *rank1*)

设置进程编号

Parameters

rank1	

3.1.1.8 void Heat::set_size (int *size1*)

设置进程总数

Parameters

size1	

3.1.1.9 void Heat::set_Solution (const RHS & *uu*)

设置真解，可以用来对有真解的情况测试误差.

Parameters

uu	

3.1.1.10 void Heat::set_t (double *t1*)

设置计算终止时间

Parameters

t1	

3.1.1.11 std::vector< double > Heat::solve ( )

求解函数

Returns

0号进程返回整个解，其余进程返回各自负责的区域的解。

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

- Heat.h
- Heat.cpp
- Heat1.cpp

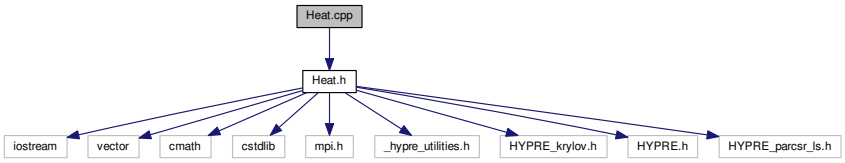
Chapter 4

File Documentation

4.1 Heat.cpp File Reference

```
#include "Heat.h"
```

Include dependency graph for Heat.cpp:



4.1.1 Detailed Description

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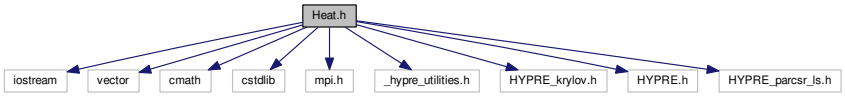
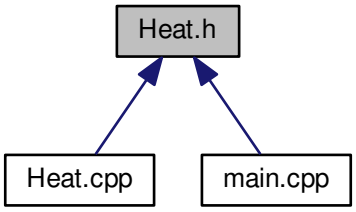
4.2 Heat.h File Reference

```
#include <iostream>
#include <vector>
#include <cmath>
#include <cstdlib>
#include "mpi.h"
#include "_hypre_utilities.h"
#include "HYPRE_krylov.h"
#include "HYPRE.h"
#include "HYPRE_parcsr_ls.h"
```

Include dependency graph for Heat.h:



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



Classes

- class Heat

Enumerations

- enum { **DIRICHLET** = 1, **NEUMANN** = 2 }

4.2.1 Detailed Description

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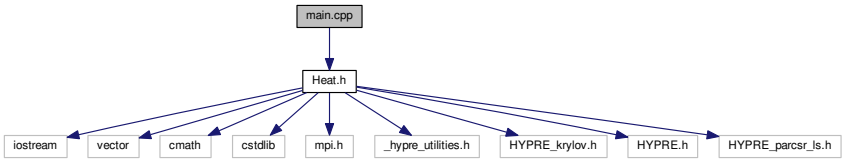
2016-12-31

4.3 main.cpp File Reference

```
#include "Heat.h"
```

Include dependency graph for main.cpp:



Functions

- double **u** (double x, double y, double z, double t)
- double **f** (double x, double y, double z, double t)
- double **u0** (double x, double y, double z)
- double **g_up** (double x, double y, double z, double t)
- double **g_down** (double x, double y, double z, double t)
- int **transform** (int i, int j, int k, int N)
- int **main** (int argc, char ∗argv[ ])

4.3.1 Detailed Description

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Date

2016-12-31

Index