

Help

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#if defined(PremiaCurrentVersion) && PremiaCurrentVersion <
    (2008+2) //The "#else" part of the code will be freely av
    ailable after the (year of creation of this file + 2)
#else
/*****
    *****/
/*
    */
/*****
    *****/
/*
    */
/* Multi-Level SOLVers
    */
/*
    */
/* Copyright (C) 1992-1995 Tomas Skalicky. All rights res
    erved.
    */
/*
    */
/*****
    *****/
/*
    */
/*      ANY USE OF THIS CODE CONSTITUTES ACCEPTANCE OF TH
    E TERMS
    */
/*      OF THE COPYRIGHT NOTICE (SEE FILE copyright.h
    )
    */
/*
    */
/*****
    *****/

#endif
#define MLSOLV_H

#include "laspack/highdim\_vector.h"
#include "laspack/highdim\_matrix.h"
#include "laspack/qmatrix.h"
#include "laspack/itersolv.h"

```

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#include "laspack/copyright.h"

Vector *MGStep(int NoLevels, QMatrix *A, Vector *x, Vector
    *b,
    Matrix *R, Matrix *P, int Level, int Gamma,
    IterProcType SmoothProc, int Nu1, int Nu2,
    PrecondProcType PrecondProc, double Omega,
    IterProcType SolvProc, int NuC,
    PrecondProcType PrecondProcC, double OmegaC);
Vector *MGIter(int NoLevels, QMatrix *A, Vector *x, Vector
    *b,
    Matrix *R, Matrix *P, int MaxIter, int Gamma,
    IterProcType SmoothProc, int Nu1, int Nu2,
    PrecondProcType PrecondProc, double Omega,
    IterProcType SolvProc, int NuC,
    PrecondProcType PrecondProcC, double OmegaC);
Vector *NestedMGIter(int NoLevels, QMatrix *A, Vector *x,
    Vector *b,
    Matrix *R, Matrix *P, int Gamma,
    IterProcType SmoothProc, int Nu1, int Nu2,
    PrecondProcType PrecondProc, double Omega,
    IterProcType SolvProc, int NuC,
    PrecondProcType PrecondProcC, double OmegaC);
Vector *MGPCGIter(int NoLevels, QMatrix *A, Vector *x, Vec
    tor *b,
    Matrix *R, Matrix *P, int MaxIter, int NoMGIter,
    int Gamma,
    IterProcType SmoothProc, int Nu1, int Nu2,
    PrecondProcType PrecondProc, double Omega,
    IterProcType SolvProc, int NuC,
    PrecondProcType PrecondProcC, double OmegaC);
Vector *BPXPrecond(int NoLevels, QMatrix *A, Vector *y, Vec
    tor *c,
    Matrix *R, Matrix *P, int Level,
    IterProcType SmoothProc, int Nu,
    PrecondProcType PrecondProc, double Omega,
    IterProcType SmoothProcC, int NuC,
    PrecondProcType PrecondProcC, double OmegaC);
Vector *BPXPCGIter(int NoLevels, QMatrix *A, Vector *x, Vec
    tor *b,
    Matrix *R, Matrix *P, int MaxIter,

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        IterProcType SmoothProc, int Nu,  
        PrecondProcType PrecondProc, double Omega,  
        IterProcType SmoothProcC, int NuC,  
        PrecondProcType PrecondProcC, double OmegaC);  
  
#endif /* MLSOLV_H */  
  
#endif //PremiaCurrentVersion
```

References