

Help

```

#if defined(PremiaCurrentVersion) && PremiaCurrentVersion < (2008+2) //The "#els
#else
/*****
*   CPS - A simple C PDE solver                               *
*                                                           *
*   Copyright (c) 2007,                                       *
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*                                                           *
*****/
#ifndef PROBLEM_SOLVER_H
#define PROBLEM_SOLVER_H

#include "laspack/qmatrix.h"
#include "laspack/highdim_vector.h"
#include "laspack/itersolv.h"
#include "laspack/operats.h"
#include "laspack/errhandl.h"
#include "laspack/rtc.h"

#include "cps_types.h"

#define SOLVER_MODE_IMP 0xF1
#define SOLVER_MODE_EXP 0xF0

#define SOLVER_ALG_CG 0xA1
#define SOLVER_ALG_GMRES 0xA2
#define SOLVER_ALG_BICGS 0xA3

#define MAX_MAIN_SOLVER_ITERATIONS 20
#define MAX_BACKUP_SOLVER_ITERATIONS 100

#define FULL_CORRECTION 0xC1
#define FAST_CORRECTION 0xC2

struct problem_solver_t
{

```

```
int mode;
int step;
int algorithm;
int correction_mode;
pde_problem *problem;
QMatrix Dc, Dn;
Vector uc, un, bc;
IterProcType iterative_solver;
};

int problem_solver_create(problem_solver **);
int problem_solver_destroy(problem_solver **);
int problem_solver_setup(problem_solver *, pde_problem *);
int problem_solver_reset(problem_solver *);
int problem_solver_set_mode(problem_solver *, int);
int problem_solver_set_correction_mode(problem_solver *, int);
int problem_solver_set_algorithm(problem_solver *, int);
int problem_solver_step(problem_solver *);
int problem_solver_get_solution_element(problem_solver *, unsigned int, double *)
#endif

#endif //PremiaCurrentVersion
```