

[Help](#)

```
#ifndef _WIENERHOPFRS_H
#define _WIENERHOPFRS_H

#include <stdlib.h>
#include <
href../../common/math/cdo/cdo_math_h_src.pdfmath.h>

#include "pnl/pnl_vector.h"
#include "pnl/pnl_matrix.h"
#include "pnl/pnl_fft.h"
// #include "vector.h"
// #include "dft.h"

/*////////////////////////////////////////*/
void realfastfouriertransform(PnlVect *a, int tnn, int inversefft);

int readparamskou_rs(int *nstates, PnlVect **rr, PnlVect **divi, PnlVect **sigma,

int readparamstsl_rs(int *nstates, PnlVect **rr, PnlVect **divi, PnlVect **nums,

int fastwienerhopfamerican_rs(int model, long int Nr, PnlVect *mu, PnlVect *qu,
                               int ifCall, double Spot, PnlVect *lm1, PnlVect *lp1,
                               PnlVect *num, PnlVect *nup, PnlVect *cnum, PnlVect
                               PnlVect *r, PnlVect *divid, PnlMat *lam,
                               double T, double h, PnlVect *Strike1,
                               double er, long int step, double eps,
                               PnlVect *ptprice, PnlVect *ptdelta);

int fastwienerhopf_rs(int model, long int Nr, PnlVect *mu, PnlVect *qu, double o
                       int ifCall, double Spot, PnlVect *lm1, PnlVect *lp1,
                       PnlVect *num, PnlVect *nup, PnlVect *cnum, PnlVect *cnup,
                       PnlVect *r, PnlVect *divid, PnlMat *lam,
                       double T, double h, PnlVect *Strike1,
                       double bar, PnlVect *rebate,
                       double er, long int step, double eps,
                       PnlVect *ptprice, PnlVect *ptdelta);
int fastwienerhopf_hs(int model, long int Nr, PnlVect *mu, PnlVect *qu, double o
```

```

        int ifCall, double Spot, double lm1, double lp1,
        PnlVect *sg, PnlVect *num, PnlVect *nup, double cnum, double
        double r, double divid, PnlMat *lam,
        double T, double h, double Strike1,
        double bar, double rebate,
        double er, long int step, PnlVect *ptprice, PnlVect *ptdel
int fastwienerhopfamer_hs(int model, long int Nr, PnlVect *mu, PnlVect *qu, double
        int ifCall, double Spot, double lm1, double lp1,
        PnlVect *sg, PnlVect *num, PnlVect *nup, double cnum,
        double r, double divi, PnlMat *lam,
        double T, double h, double Strike1,
        double er, long int step, PnlVect *ptprice, PnlVect *p
#endif

```