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```
#ifndef __carr__
#define __carr__

#include "tool_box.h"
#include "finance_tool_box.h"
#include "levy_process.h"
#include "levy_diffusion.h"
#include "pnl/pnl_complex.h"

extern int CarrMethod_VectStrike(PnlVect *K,
                                PnlVect *Price,
                                double S0,
                                double T,
                                double Kstep,
                                double CallPut,
                                double r,
                                double divid,
                                double sigma,
                                void *Model,
                                dcomplex(*ln_phi)(dcomplex u, double t, void *m
);

extern int CarrMethod_onStrikeList(PnlVect *K,
                                   PnlVect *Price,
                                   double S0,
                                   double T,
                                   double CallPut,
                                   double r,
                                   double divid,
                                   double sigma,
                                   Levy_diffusion *Model);

extern int CarrMethod(double S0,
                      double T,
                      double K,
                      double CallPut,
                      double r,
                      double divid,
                      double sigma,
```

```
        //Levy_diffusion * Model,
        void *Model,
        dcomplex(*ln_phi)(dcomplex u, double t, void *model),
        double *ptprice,
        double *ptdelta);

extern int CarrMethod_Vanilla_option(Option_Eqd *opt,
                                     double sigma,
                                     Levy_process *Model);

extern int CarrMethod_Vanilla_option_LD(Option_Eqd *opt,
                                       double sigma,
                                       Levy_diffusion *Model);

extern int AttariMethod_Vanilla_option(Option_Eqd *opt,
                                       double sigma,
                                       Levy_process *Model);

extern int AttariMethod_Vanilla_option_LD(Option_Eqd *opt,
    double sigma,
    Levy_diffusion *Model);

extern int Var_Swap_Price_option(Option_Eqd *opt, Levy_process *Model);
extern int Var_Swap_Price_option_LD(Option_Eqd *opt, Levy_diffusion *Model);

#endif
```