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```
#ifndef _VARSWAP3D_STD_H
#define _VARSWAP3D_STD_H

#include "varswap3d/varswap3d.h"
#include "std/std.h"
#include "numfunc.h"
#include "transopt.h"
#include "pnl/pnl_random.h"

typedef struct VARSWAP3D_MOD
{
    int Nb_factor;
    int is_call;
    int Strike;
    double T;
    double S0;
    double Divid;
    double R;
    double F0;
    double Bond;
    double V0;
    double V0_time;
    double V0_sqr;
    PnlVect *Beta;
    PnlVect *MeanReversion;
    PnlVect *SqrtMeanReversion;
    double Rho;
    double Sum_Beta;
} VARSWAP3D_MOD;

VARSWAP3D_MOD *svs_model_create_from_Model(VARSWAP3D *Model);
void svs_model_initialise_from_Option(VARSWAP3D_MOD *M, TYPEOPT *ptOpt);
void svs_model_initialise(VARSWAP3D_MOD *M);
void svs_sigma_time(VARSWAP3D_MOD *M, double T);
void svs_model_free(VARSWAP3D_MOD **M);

#endif
```