

[Help](#)

```
#include "fps2d.h"
#include "chk.h"
#include "error_msg.h"
#include "model.h"

extern char *path_sep;

static int MOD(Init)(Model *model)
{
    TYPEMOD *pt = (TYPEMOD *) (model->TypeModel);

    if (model->init == 0)
    {
        model->init = 1;
        model->nvar = 0;
        pt->T.Vname = "Current Date";
        pt->T.Vtype = DATE;
        pt->T.Val.V_DATE = 0.;
        pt->T.Viter = ALLOW;
        model->nvar++;

        pt->S0.Vname = "Spot";
        pt->S0.Vtype = PDOUBLE;
        pt->S0.Val.V_PDOUBLE = 100.;
        pt->S0.Viter = ALLOW;
        model->nvar++;

        pt->Divid.Vname = "Annual Dividend Rate";
        pt->Divid.Vtype = DOUBLE;
        pt->Divid.Val.V_DOUBLE = 0.;
        pt->Divid.Viter = ALLOW;
        model->nvar++;

        pt->R.Vname = "Annual Interest Rate";
        pt->R.Vtype = DOUBLE;
        pt->R.Val.V_DOUBLE = 10.;
        pt->R.Viter = ALLOW;
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model->nvar++;

pt->InitialSlow.Vname = "Current Y";
pt->InitialSlow.Vtype = DOUBLE;
pt->InitialSlow.Val.V_DOUBLE = -1.;
pt->InitialSlow.Viter = ALLOW;
model->nvar++;

pt->InitialFast.Vname = "Current Z";
pt->InitialFast.Vtype = DOUBLE;
pt->InitialFast.Val.V_DOUBLE = -1.;
pt->InitialFast.Viter = ALLOW;
model->nvar++;

pt->SigmaSlow.Vname = "Sigma Y";
pt->SigmaSlow.Vtype = DOUBLE;
pt->SigmaSlow.Val.V_DOUBLE = 0.8;
pt->SigmaSlow.Viter = ALLOW;
model->nvar++;

pt->SigmaFast.Vname = "Sigma Z";
pt->SigmaFast.Vtype = DOUBLE;
pt->SigmaFast.Val.V_DOUBLE = 0.5;
pt->SigmaFast.Viter = ALLOW;
model->nvar++;

pt->MeanReversionSlow.Vname = "Speed of Mean Reversion Slow";
pt->MeanReversionSlow.Vtype = DOUBLE;
pt->MeanReversionSlow.Val.V_DOUBLE = 0.01;
pt->MeanReversionSlow.Viter = ALLOW;
model->nvar++;

pt->MeanReversionFast.Vname = "Speed of Mean Reversion Fast";
pt->MeanReversionFast.Vtype = DOUBLE;
pt->MeanReversionFast.Val.V_DOUBLE = 100.;
pt->MeanReversionFast.Viter = ALLOW;
model->nvar++;

pt->LongRunVarianceSlow.Vname = "Long-Run Term Slow";
pt->LongRunVarianceSlow.Vtype = DOUBLE;
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    pt->LongRunVarianceSlow.Val.V_DOUBLE = -0.8;
    pt->LongRunVarianceSlow.Viter = ALLOW;
    model->nvar++;

    pt->LongRunVarianceFast.Vname = "Long-Run Term Fast";
    pt->LongRunVarianceFast.Vtype = DOUBLE;
    pt->LongRunVarianceFast.Val.V_DOUBLE = -0.8;
    pt->LongRunVarianceFast.Viter = ALLOW;
    model->nvar++;

    pt->Rho1.Vname = "Rho 1";
    pt->Rho1.Vtype = RGDOUBLEM11;
    pt->Rho1.Val.V_RGDOUBLEM11 = -0.2;
    pt->Rho1.Viter = ALLOW;
    model->nvar++;

    pt->Rho2.Vname = "Rho 2";
    pt->Rho2.Vtype = RGDOUBLEM11;
    pt->Rho2.Val.V_RGDOUBLEM11 = -0.2;
    pt->Rho2.Viter = ALLOW;
    model->nvar++;

    pt->Rho12.Vname = "Rho 12";
    pt->Rho12.Vtype = RGDOUBLEM11;
    pt->Rho12.Val.V_RGDOUBLEM11 = 0.;
    pt->Rho12.Viter = ALLOW;
    model->nvar++;

    model->HelpFilenameHint = "FPS2D";
}

return OK;
}

TYPEMOD FPS2dim;

MAKEMOD(FPS2dim);

```