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```
#include "cir2d.h"
#include "chk.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 = 0.0;
        pt->T.Viter = ALLOW;
        model->nvar++;

        pt->x01.Vname = "Current X1";
        pt->x01.Vtype = PDOUBLE;
        pt->x01.Val.V_PDOUBLE = 0.04;
        pt->x01.Viter = ALLOW;
        model->nvar++;

        pt->x02.Vname = "Current X2";
        pt->x02.Vtype = PDOUBLE;
        pt->x02.Val.V_PDOUBLE = 0.02;
        pt->x02.Viter = ALLOW;
        model->nvar++;

        pt->k1.Vname = "Speed of Mean Reversion 1";
        pt->k1.Vtype = PDOUBLE;
        pt->k1.Val.V_PDOUBLE = 0.02;
        pt->k1.Viter = ALLOW;
        model->nvar++;
    }
}
```

```
pt->k2.Vname = "Speed of Mean Reversion 2";
pt->k2.Vtype = PDOUBLE;
pt->k2.Val.V_PDOUBLE = 0.02;
pt->k2.Viter = ALLOW;
model->nvar++;

pt->theta1.Vname = "Long Term Mean 1";
pt->theta1.Vtype = PDOUBLE;
pt->theta1.Val.V_PDOUBLE = 0.03;
pt->theta1.Viter = ALLOW;
model->nvar++;

pt->theta2.Vname = "Long Term Mean 2";
pt->theta2.Vtype = PDOUBLE;
pt->theta2.Val.V_PDOUBLE = 0.01;
pt->theta2.Viter = ALLOW;
model->nvar++;

pt->Sigma1.Vname = "Volatility 1";
pt->Sigma1.Vtype = PDOUBLE;
pt->Sigma1.Val.V_PDOUBLE = 0.04;
pt->Sigma1.Viter = ALLOW;
model->nvar++;

pt->Sigma2.Vname = "Volatility 2";
pt->Sigma2.Vtype = PDOUBLE;
pt->Sigma2.Val.V_PDOUBLE = 0.02;
pt->Sigma2.Viter = ALLOW;
model->nvar++;

pt->shift.Vname = "Initial Shift";
pt->shift.Vtype = PDOUBLE;
pt->shift.Val.V_PDOUBLE = 0.02;
pt->shift.Viter = ALLOW;
model->nvar++;

}
return OK;
}
TYPEMOD Cir2d;
```

```
MAKEMOD(Cir2d);
```