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#include "mrc2d_std2d.h"

#if defined(PremiaCurrentVersion) && PremiaCurrentVersion <
    (2012+2) //The "#else" part of the code will be freely available after the (year of creation of this file + 2)
static int CHK_OPT(MC_WISHART)(void *Opt, void *Mod)
{
    return NONACTIVE;
}
int CALC(AP_EXPANSION_MRC2D)(void*Opt,void *Mod,Pricing
    Method *Met)
{
    return AVAILABLE_IN_FULL_PREMIA;
}
#else
//NumFunc_2d *p
static int ap_expansion_mrc2d(double t,double s1,double s2,
    double r,double kappa,double c,double a,double *ptprice)
{
    *ptprice=0.;

    return OK;
}

int CALC(AP_EXPANSION_MRC2D)(void *Opt,void *Mod,Pricing
    Method *Met)
{
    TYPEOPT* ptOpt=(TYPEOPT*)Opt;
    TYPEMOD* ptMod=(TYPEMOD*)Mod;

    double r;

    r=log(1.+ptMod->R.Val.V_DOUBLE/100.);
    //ptOpt->PayOff.Val.V_NUMFUNC_2,
    return ap_expansion_mrc2d(
        ptOpt->Maturity.Val.V_DATE-ptMod->T.
        Val.V_DATE,
        ptMod->S01.Val.V_PDOUBLE,ptMod->S02.
        Val.V_PDOUBLE,
        r,
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        ptMod->kappa.Val.V_PDOUBLE,
        ptMod->c.Val.V_PDOUBLE,
        ptMod->a.Val.V_PDOUBLE,
        &(Met->Res[0].Val.V_DOUBLE)
    );
}

static int CHK_OPT(AP_EXPANSION_MRC2D)(void *Opt, void *
    Mod)
{
    if ((strcmp( ((Option*)Opt)->Name,"CallMaximumEuro")==0))
        return OK;
    return WRONG;
}

#endif //PremiaCurrentVersion

static int MET(Init)(PricingMethod *Met,Option *Opt)
{
    //int type_generator;
    if ( Met->init == 0)
    {
        Met->init=1;
    }

    return OK;
}

PricingMethod MET(AP_EXPANSION_MRC2D)=
{
    "AP_EXPANSION_MRC2D",
    {" ",PREMIA_NULLTYPE,{0},FORBID}},
    CALC(AP_EXPANSION_MRC2D),
    {"Price",DOUBLE,{100},FORBID}},
    CHK_OPT(AP_EXPANSION_MRC2D),
    CHK_ok,
    MET(Init)
};

```

## References