

Help

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#ifndef _BS1D_PAD_H
#define _BS1D_PAD_H

#include "bs1d.h"
#include "pad.h"

#include "mathtools.h"
#include "random.h"
#include "transopt.h"
#include "numfunc.h"
#include "complex.h"
#include "moments.h"
/* -----
   ----- */
/* Analytic formula used if K'<0. */
/* -----
   ----- */

static int Analytic_KemnaVorst(double pseudo_stock, double pseudo_strike, double time_spent,
    NumFunc_2 *p, double t, double r, double divid,
    double *ptprice, double *ptdelta)
{
    double b;

    b= r-divid;

    /* Put Case */
    if ((p->Compute) == &Put_OverSpot2)
    {
        *ptprice=0.;
        *ptdelta=0.;
    }
    /* Call case */
    else
    {
        /* Case r=d */
        if(b==0.)
        {
            *ptprice= exp(-r*t)*(pseudo_stock-pseudo_strike)

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    ike);
    *ptdelta= exp(-r*t)*(1.-time_spent);
}
    /* Case r <> d */
    else
    {
        *ptprice= exp(-r*t)*(pseudo_stock*(1.0/(b*t)
        )*(exp(b*t)-1)-pseudo_strike);
        *ptdelta= exp(-r*t)*((1-time_spent)/(b*t)*
        exp(b*t)-1));
    }
}
return OK;
}

#endif
```

References