

cir2d

1 Description

Two factor Cox-Ingersoll-Ross model [?] is defined by an EDS which describes the evolution of the spot rate r_t :

$$\begin{cases} dx_i(t) = -\kappa_i(\theta_i - x_i(t))dt + \sigma_i\sqrt{x_i(t)}dz_i^Q(t) & i \in \{1, 2\}, \\ r(t) = \delta + \sum_{i=1}^2 x_i(t), \end{cases}$$

2 Code Implementation

```
#ifndef _Cir2D_H
#define _Cir2D_H

#include "optype.h"
#include "var.h"
#include "error_msg.h"

#define TYPEMOD Cir2D

/*2D Cir World*/
typedef struct TYPEMOD
{
    VAR T;
    VAR x01;
    VAR x02;
    VAR k1;
    VAR k2;
    VAR Sigma1;
    VAR Sigma2;
    VAR theta1;
```

```
VAR theta2;  
VAR shift;  
} TYPEMOD;
```

```
#endif
```