

# cir1d

## 1 Description

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

$$dr_t = k(\theta - r_t)dt + \sigma \sqrt{r_t}dW(t)$$

## 2 Code Implementation

```
#ifndef _Cir1D_H
#define _Cir1D_H

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

#define TYPEMOD Cir1D

/*1D Cir World*/
typedef struct TYPEMOD
{
    VAR T;
    VAR r0;
    VAR k;
    VAR Sigma;
    VAR theta;
} TYPEMOD;

#endif
```