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# purejump1d

## 1 Description

We consider the following market model:

$$dS_t = rS_t dt + \sigma S_{t-} (\beta_{N_t-} dN_t - \nu dt),$$

where  $(N_t)_{t \in \mathbb{R}_+}$  is a Poisson process with constant intensity  $\lambda$ ,  $(\beta_k)_{k \in \mathbb{N}}$  is a sequence of random variables independent of  $(N_t)_{t \in \mathbb{R}_+}$ , and  $r$  represents the interest rate.

## 2 Code Implementation

```
#ifndef _PUREJUMP1D_H
#define _PUREJUMP1D_H

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

#define TYPEMOD PUREJUMP1D

/*1D Pure Jump World*/
typedef struct TYPEMOD
{
    VAR T;
    VAR S0;
    VAR Mu;
    VAR Sigma;
    /*VAR Divid;*/
    VAR R;
    VAR Beta;
```

```
    VAR Nu;  
} TYPEMOD;  
  
#endif
```