

1093-60-68

Dan Pirjol* (dpirjol@gmail.com). *Moment explosion in the Hull-White stochastic volatility model in discrete time.*

The talk considers moment explosion in the Hull-White stochastic volatility model with log-normally distributed instantaneous volatility (log-normal SABR model) with zero correlation, under a time discretization given by the Euler-Maruyama scheme. The positive integer moments can be computed exactly and are found to have explosive behavior at certain critical values of the vol of vol parameter. The explosion and its properties can be related to the position of the complex zeros of a polynomial, which is similar to the Lee, Yang picture of the phase transitions in statistical mechanics. The known continuous time results are recovered in the limit of a very small time step. (Received July 27, 2013)