

1132-35-332

Wojbor A Woyczynski* (waw@case.edu), 10900 Euclid Avenue, Cleveland, OH 44106.

Nonlinear and nonlocal evolution equations driven by Levy diffusions.

We will discuss the interplay between the nonlinear and nonlocal components of the evolution equations. In the particular case of supercritical multifractal conservation laws (CL) the asymptotic behavior, as $t \rightarrow \infty$, is dictated by the linearized case. For $\alpha < 1$, the equations driven by infinitesimal generators of Lévy α -stable diffusions the solution exhibit shocks (for bounded, odd, and convex on \mathbb{R}_+ , initial data) which disappear over a finite time. For Lévy α -Linnik diffusions, $0 < \alpha < 2$, the local behavior is strikingly different. The relevant CLs display shocks that do not dissipate over time. (Received July 25, 2017)