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**Wojbor A Woyczynski\*** ([waw@case.edu](mailto:waw@case.edu)). *Multiscale conservation laws driven by Lévy stable and Linnik diffusions: asymptotics, explicit representations, shock creation, preservation and dissolution.*

Asymptotic behavior of supercritical multifractal fractal conservation laws (CLs) with  $L_1$  initial conditions is dictated by the linearized case. Thus obtaining explicit solutions of the latter is of interest. For  $\alpha < 1$ , CLs driven by Lévy  $\alpha$ -stable diffusions exhibit shocks for bounded, odd, and convex on  $R^+$ , initial data. For Lévy  $\alpha$ -Linnik diffusions,  $0 < \alpha \leq 2$ , the local behavior is strikingly different. The relevant CLs display shocks that do not dissipate over time while those for  $\alpha$ -stable diffusion ( $0 < \alpha \leq 1$ ) do. (Received August 07, 2018)