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Lévy Risk Processes

A Lévy process is a stochastic process with stationary independent increments. Its fluctuation behavior is relatively well understood when such a process allows only one-sided jumps. In this talk we are going to review several applications of the fluctuation theory for spectrally one-sided Lévy processes to risk models. In particular, we are going to discuss three classes of risk processes, the risk processes with dividend barriers, the risk processes with taxes and the risk processes with random observations.