Huang, Xuan; Zhou, Jieming
General draw-down times for refracted spectrally negative Lévy processes. (English)

Summary: In this paper, we prove several results involving a general draw-down time from the running maximum for refracted spectrally negative Lévy processes. Using an approximation method, which is excursion theory at its heart, we find expressions for the Laplace transforms for the two-sided exit problems which are related to the draw-down time and an expression for the associated potential measure. The results are expressed in terms of scale functions.

MSC:
91B05 Risk models (general)
60G40 Stopping times; optimal stopping problems; gambling theory
60G51 Processes with independent increments; Lévy processes
60J25 Continuous-time Markov processes on general state spaces

Keywords:
refracted spectrally negative Lévy processes; draw-down time; exit problems; potential measure

Full Text: DOI

References:
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