Title: Tail asymptotics for the first-passage times of Levy processes.

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Abstract: We study the exact asymptotics for the distribution of the first time a Levy process crosses a fixed negative level. First, we reduce the problem (without making a difference between light- and heav-tailed distributions of the increments of the process) to a large-deviations problem for random walks. Then, using known large-deviations results, we obtain exact tail asymptotics for the first-passage times explicitly in both light- and heavy-tailed cases. The results are then applied to the busy-period of an M/G/1 queue and to a risk-reserve process.