

Chesney, Marc; Jeanblanc-Picqué, Monique; Yor, Marc
Brownian excursions and Parisian barrier options. (English) Zbl 0882.60042
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Summary: We study a new kind of option, called hereinafter a Parisian barrier option. This option is the following variant of the so-called barrier option: a down-and-out barrier option becomes worthless as soon as a barrier is reached, whereas a down-and-out Parisian barrier option is lost by the owner if the underlying asset reaches a prespecified level and remains constantly below this level for a time interval longer than a fixed number, called the window. Properties of durations of Brownian excursions play an essential role. We also study another kind of option, called here a cumulative Parisian option, which becomes worthless if the total time spent below a certain level is too long.

MSC:

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