

Dynkin games for Lévy processes

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We obtain a verification theorem for solving a Dynkin game driven by a Lévy process. The result requires finding two averaging functions that, composed respectively with the supremum and the infimum of the process, summed, and taked the expectation, provide the value function of the game. The optimal stopping rules are the respective hitting times of the support sets of the averaging functions. The proof relies on fluctuation identities of the underlying Lévy process. We illustrate our result with three new simple examples, where the smooth pasting property of the solutions is not always present.

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