

# On measure-changing-techniques for optimal stopping of diffusions

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**Abstract.** We consider problems of optimal stopping where the driving process is a (one- or multi-dimensional) diffusion. Our approach is based on change of measure-techniques and gives a characterization of the optimal stopping set in terms of harmonic functions for one-dimensional diffusions. The generalization to multi-dimensional diffusions uses the theory of Martin boundaries. A lot of applications, including exchange-options, are given. It is shown that in various examples, halfspaces which are plausible candidates for optimal stopping sets are in fact strict subsets of those.

**Keywords** optimal stopping; multi-dimensional diffusions; change of measure; Martin boundary