Lyons, Terence J.; **Zheng, Weian**

A crossing estimate for the canonical process on a Dirichlet space and a tightness result. (English) Zbl 0654.60059

Les processus stochastiques, Coll. Paul Lévy, Palaiseau/Fr. 1987, Astérisque 157-158, 249-271 (1988).

[For the entire collection see Zbl 0649.00017.]

A uniformly elliptic operator in divergence form has a diffusion process associated with it even if the coefficients are only bounded and measurable. However the associated process is not a semi-martingale and the Ito calculus is not appropriate for integration along paths.

This paper explains how an extension of Stratanovich's integral can be defined and works rather smoothly. The authors also established tightness results for these processes which would allow one to construct them through approximating sequences of proceses associated with operators having smooth coefficients.

Reviewer: T.J.Lyons

MSC:

60J60 Diffusion processes
60H99 Stochastic analysis

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