

Stochastic invariance of closed sets with non-Lipschitz coefficients

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This paper provides a new characterization of the stochastic invariance of a closed set with respect to a diffusion. We extend the well-known inward pointing Stratonovich drift condition to the case where the diffusion matrix can fail to be differentiable: we only assume that the covariance matrix is. In particular, our result can be directly applied to construct affine and polynomial diffusions on any arbitrary closed set.