

Upper and Lower Bounds for Pathwise Approximation of Scalar SDEs with Reflection

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For scalar SDEs with a one-sided reflection we study pathwise approximation, globally on a compact time interval or at a single time point. We consider algorithms based on sequential evaluations of the driving Brownian motion and establish upper and lower bounds for the minimal errors. Exploiting the relation to a reflected Ornstein-Uhlenbeck process, we also provide a new upper bound for a Cox-Ingersoll-Ross process.