Abstract: "Toward a coherent Monte Carlo simulation of CVA"

This work is devoted to the simulation of the Credit Valuation Adjustment (CVA) using a pure Monte Carlo technique with Malliavin Calculus (MCM). The procedure presented is based on a general theoretical framework that includes a large number of models as well as various contracts, and allows both the computation of CVA and its sensitivity with respect to the different assets. Moreover, we provide the expression of the backward conditional density of assets vector that can be simulated off-line in order to reduce the variance of the CVA estimator. Regarding computational aspects, both complexity and accuracy are studied for MCM and regression methods and compared to the square Monte Carlo benchmark.