

Numerical solution for the non-linear Dirichlet problem of a branching process

Oana Lupascu

ABSTRACT. We give a probabilistic numerical approach for the nonlinear Dirichlet problem associated with a branching process. It is used the probabilistic representation of the solution with the measure-valued branching process, as well as specific techniques for the nonlinear stochastic analysis, introduced and developed by Milstein and Tretyakov, and Monte Carlo methods.