A Least Squares Monte Carlo method for problems of optimal stochastic control with convex value functions

Dingerkus Stefan[1], Juri Hinz[2]

[1]ZHAW, Jaegerstrasse 2/LT 510, CH-8401 Winterthur
[2]National University of Singapore, 10 Lower Kent Ridge Road, 119076 Singapore

We present a method for optimal policy calculation of stochastic control problems whose value functions are convex. Problems of this type appear in many applications and encompass important examples arising in the area of optimal stopping and in the framework of control, based on partial observations. Given convexity of value functions, we suggest a basis-free modification
of the classical least-squares approach.