SIMULATION OF PICKANDS CONSTANTS

K. Burnecki
Z. Michna

Abstract: Pickands constants appear in the asymptotic formulas for extremes of Gaussian processes. The explicit formula of Pickands constants does not exist. Moreover, in the literature there is no numerical approximation. In this paper we compute numerically Pickands constants by the use of change of measure technique. To this end we apply two different algorithms to simulate fractional Brownian motion. Finally, we compare the approximations with a theoretical hypothesis and a recently obtained lower bound on the constants. The results justify the hypothesis.

2000 AMS Mathematics Subject Classification: Primary 60G70; Secondary 60G15, 60G18.

Key words and phrases: Pickands constant, fractional Brownian motion, change of measure, Cholesky factorization, fGp algorithm.