APPROACHING MARKOV-MODULATED BROWNIAN MOTIONS VIA MATRIX-ANALYTIC METHODS

Giang Nguyen, The University of Adelaide, Australia, giang.nguyen@adelaide.edu.au

We obtain Markov-modulated Brownian motions (MMBM) as the limit of a family of Markov-modulated linear fluid processes. This weak convergence enables us to apply matrix-analytic methods to Markov-modulated Brownian motions with boundaries. In particular, we revisit the stationary distribution of reflected Markov-modulated Brownian motions, and discuss a direct formula for the stationary distribution of two-sided MMBM.