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Nevena Maric* (maric@math.ums1.edu), MO. *Fleming-Viot particle system driven by a random walk on naturals.*

Random walk on naturals with negative drift and absorption at 0, when conditioned on survival, has uncountably many invariant measures (quasi-stationary distributions, qsd). We study a Fleming-Viot (FV) particle system driven by this process. In this particle system there are N particles where each particle evolves as the random walk described above. As soon as one particle is absorbed, it reappears, choosing a new position according to the empirical measure at that time. Between the absorptions, the particles move independently of each other. Our focus is in the relation of empirical measure of the FV process with qsds of the random walk. Firstly, mean normalized densities of the FV unique stationary measure converge to the minimal qsd, as N goes to infinity. Moreover, every other qsd of the random walk corresponds to a metastable state of the FV particle system. (Received August 25, 2013)