Population dynamics with immigration

Dan Han

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Abstract

The dissertation contains the complete analysis of the Galton-Watson models with immigration, including the processes in the random environment, stationary or nonstationary ones. We also study the branching random walk on with immigration and prove the existence of the limits for the first two correlation functions. Additional results concern the Lyapunov stability of the moments with respect to small perturbations of the parameters of the model such as mortality rate, birth rate, and immigration rate.

Department of Mathematics, UNC Charlotte, Charlotte, NC 28223