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**R. Khasminskii** and **N. Potsepun\*** ([nadya@math.wayne.edu](mailto:nadya@math.wayne.edu)), Detroit, MI 48202. *On the Replicator Dynamics behavior under Stratonovich type random perturbations.*

Our paper studies the behavior of replicator dynamics systems under White Gaussian Noise (WGN) perturbations in the Stratonovich form. The long-run behavior is described for the systems with two pure strategies. The method of Lyapunov functions is used to find the sufficient conditions for asymptotic stability and strong instability of the pure strategies for the systems with an arbitrary number of pure strategies. Extinction of strictly dominated pure strategies is proven for any level of the noises. (Received September 25, 2006)