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Individual Ergodic Theorems for Perturbed Alternating Regenerative Processes

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Abstract

The paper presents results of complete analysis and classification of individual ergodic theorems for perturbed alternating regenerative processes with semi-Markov modulation. New short, long and super-long time ergodic theorems for regularly and singular type perturbed alternating regenerative processes are presented.

Key words: Regenerative process, Alternating regenerative process, Semi-Markov modulation, Renewal equation, Regular perturbation, Singular Perturbation, Super-singular perturbation, Ergodic theorem, Individual ergodic theorem, Quasi-ergodic theorem, Time scaling, Time compression, Short time ergodic theorem, Long time ergodic theorem, Super-long time ergodic theorem.

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