

Non-Positivity and Oscillations of Solutions of Nonlinear Stochastic Difference Equations with State-Dependent Noise

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ABSTRACT: Non-positivity and oscillations of nonlinear stochastic difference equations are discussed to characterize the long-term behavior of their solutions in almost sure sense. Moreover, we present results on non-positivity with probability less than one and give numerous examples satisfying our main hypotheses.

Key words and phrases. stochastic difference equations; almost sure non-positivity; almost sure oscillations; positivity with probability

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