
A new criterion on stability in distribution for hybrid neutral stochastic delay systems

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Résumé

For a category of highly nonlinear hybrid stochastic delay systems, its stability in distribution is investigated. To allow the model to better capture the dependence of the system on past states, the structure with unbounded non-differentiable time delay and neutral term is further considered. The global solution, as an essential step in studying stochastic systems, a generalized Hasminskii-type theorem is initially formulated to explain its existence and uniqueness. Then, we present several significant lemmas to explore the stability in distribution of this system and propose some sufficient conditions. The results obtained are confirmed using examples to ensure their precision and credibility

Mots-Clés: Stability in distribution, unbounded non, differentiable time delay, neutral term, statistical analysis

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