

Global Stability Of Nonlinear Itô Equations And N. V. Azbelev's W-method

Authors : Arcady Ponosov., Ramazan Kadiev

Abstract : The work studies the global moment stability of solutions of systems of nonlinear differential Itô equations with delays. A modified regularization method (W-method) for the analysis of various types of stability of such systems, based on the choice of the auxiliary equations and applications of the theory of positive invertible matrices, is proposed and justified. Development of this method for deterministic functional differential equations is due to N.V. Azbelev and his students. Sufficient conditions for the moment stability of solutions in terms of the coefficients for sufficiently general as well as specific classes of Itô equations are given.

Keywords : asymptotic stability, delay equations, operator methods, stochastic noise

Conference Title : ICNSA 2022 : International Conference on Nonlinear Sciences and Applications

Conference Location : London, United Kingdom

Conference Dates : August 16-17, 2022