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EXPONENTIAL STABILITY OF NEUTRAL TIME DELAY DIFFERENTIAL SYSTEMS WITH LMI APPROACH

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Abstract: In this paper we developed the analyzed and the globally exponentially stability of Neutral Time Delay-differential systems. Based on a novel Lyapunov kravoski's functional method (LKF) and linear matrix inequality (LMI) a new delay dependent stability criterion is derived. The stability conditions which are in the form of LMI and it can be solved by the help of some standard numerical MATLAB algorithms.

Keywords and Phrases: Exponential stability, Delay-dependent stability, Linear Matrix Inequality, Lyapunov- Krasovskii functional, Time-varying delay.

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1. Introduction