

ASYMPTOTIC STABILITY OF DELAY-DIFFERENCE SYSTEM WITH TIME-VARYING DELAY VIA MATRIX INEQUALITIES

KREANGKRI RATCHAGIT

Abstract

In this paper, we derive a sufficient condition for asymptotic stability of the zero solution of delay-difference system with time-varying delay in terms of certain matrix inequalities by using a discrete analog of the Lyapunov second method.

Key Words and Phrases : Asymptotic stability, Delay-di_erence system, Time-varying delay, Lyapunov function, Matrix inequalities.