EXPONENTIAL STABILITY FOR DIFFERENCE EQUATIONS WITH MAXIMUM: THEORETICAL STUDY AND COMPUTER SIMULATIONS

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Abstract. *Difference equations with a special type of delay is studied. This type of delay is characterized by the maximum value of the unknown function on the past time interval with a constant length. It is studied the exponential stability. Some sufficient conditions are theoretically proved and computer simulated on several examples. The influence of the type of the coefficients is illustrated.*

Key words: difference equations, maximum, exponential stability, Lyapunov functional.

Mathematics Subject Classification: 34D20, 34D40, 34K20.

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