



SPECTRAL CHARACTERIZATION FOR HYER-ULAM STABILITY

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We prove that a square complex matrix is Hyers-Ulam stable if and only if it has no eigenvalues on the imaginary axis . Further on, we show that the linear scalar differential equation of order n , is Hyers-Ulam stable if and only if the algebraic equation associated to it has no roots on the imaginary axis. This latter result contains a lot of particular cases in the already existing literature. To the best of knowledge these results are new and of scientific novelty.

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