ULAM-HYERS STABILITY AND EXPONENTIAL DICHOTOMY

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Ulam-Hyers stability of a given equation is its property of having a solution sufficiently near each approximate solution (roughly speaking). It is known that the Ulam-Hyers stability of a linear differential system with constant coefficients it is equivalent to its property of having an exponential dichotomy (in this case this means simply that the spectrum of the matrix of the system does not intersect the imaginary axis). In this talk, we discuss the Ulam-Hyers stability of linear systems with periodic and, more general, bounded coefficients. We prove that Ulam-Hyers stability of a linear differential equation with periodic coefficients is equivalent to the Ulam-Hyers stability of an equivalent differential system. We also present some results for nonlinear equations involving abstract evolution operators.