Characterization of stability of contractions

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The talk is based upon a joint work with my supervisor László Kérchy. We characterize those sequences of bounded analytic functions $\{h_n\}_{n=1}^{\infty} \subset H^{\infty}$ which have the property that an absolutely continuous contraction T is stable (that is the powers T^n converge to zero) exactly when the operators $h_n(T)$ converge to zero in the strong operator topology. Our result is extended to polynomially bounded operators, too.