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Muckenhoupt Hamiltonians, triangular factorization, and Krein orthogonal entire functions

Abstract

According to classical results by M. G. Krein and L. de Branges, for every positive measure μ on the real line $\mathbb{R}$ such that $\int_{\mathbb{R}} \frac{d\mu(t)}{1+t^2} < \infty$ there exists a Hamiltonian H such that μ is the spectral measure for the corresponding canonical Hamiltonian system $JX' = zHX$. In the case where μ is an even measure from Steklov class on $\mathbb{R}$, we show that the Hamiltonian H normalized by $\det H = 1$ belongs to the classical Muckenhoupt class A_2. Applications of this result to triangular factorizations of Wiener-Hopf operators and Krein orthogonal entire functions will be also discussed.

Talk time: 2016-07-18 15:30— 2016-07-18 15:50
Talk location: Cupples I Room 115

Session: Operator theory, singular integral equations, and PDEs. Organized by R. Duduchava, E. Shargorodsky, and J. Lang