METRICS ON THE PHASE SPACE AND SOME APPLICATIONS TO THE ANALYSIS OF PDES

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Abstract

In this talk we present some applications to the analysis of PDEs by introducing suitable metrics on the phase-space. We start by giving a brief description of some basic notions of the Hörmander's $S(m, g)$ calculus. As applications we establish first the well-posedness for a class of degenerate Schrödinger equations with irregular potentials and secondly some spectral properties for a class of anharmonic oscillators by mean of the membership to corresponding Schatten-von Neumann ideals. Both results correspond to recent joint work with Duvan Cardona, Marianna Chatzakou and Michael Ruzhansky.