

Two questions about radial Hörmander algebras of entire functions

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The talk is based on the joint work with María J. Beltrán and Carmen Fernández

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In this lecture we consider two questions on radial Hörmander algebras $A_p(C)$ and $A_p^0(C)$ of entire functions on the complex plane:

1. Characterizations of interpolating multiplicity varieties V for Hörmander algebras of entire functions were obtained by Berenstein, Li and Vidras in 1995 for a radial subharmonic weight p with the doubling property. If a multiplicity variety V is not necessarily interpolating on a radial Hörmander algebra $A_p(C)$ (resp. $A_p^0(C)$), then the restriction map needs not be surjective. Let $q \leq p$ be another weight. We investigate conditions to ensure that the sequence space canonically associated with the interpolation for $A_q(C)$ (resp. $A_q^0(C)$) is contained in the range of the restriction map defined on the bigger space $A_p(C)$ (resp. $A_p^0(C)$). Our results complement work by Ounaies in 2008 and Massaneda, Ortega-Cerdà and Ounaies in 2009.
2. We investigate the dynamics of the integration operator $Jf(z) = \int_0^z f(\zeta)d\zeta$, the differentiation operator $Df(z) = f'(z)$ and differential operators $\phi(D) = \sum_{n=0}^{\infty} a_n D^n$, with $\phi(z) = \sum_{n=0}^{\infty} a_n z^n$ an entire function of exponential type, on radial Hörmander algebras $A_p(C)$ and $A_p^0(C)$ of entire functions. This continues recent work by Beltrán, Bonilla, C. Fernández and the speaker.