

Analysseminariet

Evgeni Doubtsov, S:t Petersburg: The uncertainty principle, the Boole formula, and Hankel operators.

Abstract: Let m be a measure on the complex sphere. Denote by $m(p, q)$ the projection of m on $H(p, q)$, the space of complex spherical harmonics. We obtain quantitative versions of the following general Uncertainty Principle: if the polynomials $m(p, q)$ are sufficiently small, then m is absolutely continuous with respect to Lebesgue measure on the sphere. In the proofs we apply a Boole type formula and certain compactness properties of Hankel operators. Also, we discuss the sharpness of the results obtained.

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