Positivity, complex FIOs, and Toeplitz operators

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Abstract

After reviewing the notion of positivity of complex Lagrangian spaces and some of its recent uses in non-selfadjoint spectral theory, we discuss a characterization of complex linear canonical transformations that are positive with respect to a pair of strictly plurisubharmonic weight functions. Applications are given to the problem of boundedness of Toeplitz operators on Bargmann spaces, in connection with the Berger-Coburn conjecture. This is joint work with Lewis Coburn and Johannes Sj[']ostrand.

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