Analysis Seminar

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Toeplitz operators, asymptotic Bergman projections, and second microlocalization

Abstract:
In the first part of the talk (based on joint work with L.Coburn, J. Sjöstrand, and F. White) we discuss continuity conditions for Toeplitz operators acting on spaces of entire functions with quadratic exponential weights (Bargmann spaces), in connection with a conjecture by C. Berger and L. Coburn, relating Toeplitz and Weyl quantizations. In the second part of the talk (based on joint work in progress with J. Sjöstrand), we discuss elements of a semiglobal approach to analytic second microlocalization with respect to a hypersurface, in the semiclassical case, based on the study of the heat evolution semigroup for large times. We describe properties of the associated exponentially weighted spaces of holomorphic functions with (h-dependent) plurisubharmonic exponents and construct asymptotic Bergman projections in such spaces.

Host: Peter Ebenfelt

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