

VIRTUAL EAST-WEST SCV SEMINAR

November 9, 2021

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INVARIANT THEORY FOR THE SZEGÖ KERNEL

C. Fefferman initiated Parabolic invariant theory to describe asymptotic expansion of the Bergman kernel. When we consider its analogue for the Szegö kernel, we should start with the construction of geometric invariants of the pseudo-hermitian structures that are invariant under CR pluriharmonic scalings. In this talk, I give a normal form for pseudo-hermitian structures and explain how to construct invariant polynomials by using normal form coefficients. In 3-dimensions, I give first few terms of the expansion of the Szegö kernel; in some cases, the vanishing of these terms imply the pseudo-Einstein condition and CR flatness.
