VIRTUAL EAST-WEST SCV SEMINAR

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Bergman kernels of Paley-Wiener spaces and the Mahler conjecture

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The Mahler volume of a convex body, $|K|$, is the product $M(K) := |K||K^\circ|$ of the volume of a convex body in n-dimensional Euclidean space with the volume of its dual, K°. The Bourgain-Milman theorem says that

$$M(K) \geq c^n/n!,$$

for some absolute constant c. The (still unproven) Mahler conjecture says that you can take $c = 4$, if K is centrally symmetric. Roughly ten years ago, Nazarov gave an interesting proof of the Bourgain-Milman theorem by relating the volume of a convex body to the Bergman kernel of its associated Paley-Wiener space. In this talk we will give an alternative approach to Nazarov's estimate of Bergman kernels and also mention some generalities on the relation between Paley-Wiener spaces and Bergman spaces.
