

ON THE SYMMETRIZATION OF CAUCHY-LIKE KERNELS

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In this talk I will present new symmetrization identities for a family of Cauchy-like kernels in complex dimension one.

Symmetrization identities of this kind were first employed in geometric measure theory by P. Mattila, M. Melnikov, X. Tolsa, J. Verdera et al., to obtain a new proof of $L^2(\mu)$ regularity of the Cauchy transform (with μ a positive Radon measure in \mathbb{C}), which ultimately led to the a partial resolution of a long-standing open problem known as Vitushkins conjecture.

Here we extend this analysis to a class of integration kernels that are more closely related to the holomorphic reproducing kernels that arise in complex function theory.

This is joint work with Malabika Pramanik (U. British Columbia).