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

Symmetrization identities 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 $\mu$ a positive Radon measure in $\mathbb{C}$), which ultimately led to the a partial resolution of a long-standing open problem known as the Vitushkin’s conjecture.

Here we extend this analysis to a family of kernels which are more closely related to the classical kernels in complex function theory.

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