Workshop dedicated to the memory of Professor Gabriela Kohr
(3rd edition)
Geometric Function Theory in Several Complex Variables and Complex Banach Spaces

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A Sharp Divergence Theorem with Non-tangential Traces

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Abstract

The Integration by Parts Formula, which is equivalent with the Divergence Theorem, is one of the most basic tools in Analysis. Originating in the works of Gauss, Ostrogradsky, and Stokes, the search for an optimal version of this fundamental result continues through this day and these efforts have been the driving force in shaping up entire sub-branches of mathematics, like Geometric Measure Theory.

In this talk, I will review some of these developments (starting from elementary considerations to more sophisticated versions) and I will discuss recent results regarding a sharp divergence theorem with non-tangential traces. This is joint work with Dorina Mitrea and Marius Mitrea.