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A Sharp Divergence Theorem

In this talk I will discuss a version of the Divergence Theorem for vector fields which may lack any type of continuity and for which the boundary trace is taken in a strong, nontangential pointwise sense. These features of our brand of Divergence Theorem make it an effective tool in dealing with problems arising in various areas of mathematics, including Harmonic Analysis, Complex Analysis, Potential Analysis, and Partial Differential Equations. A few such applications will be presented.