Applied Analysis Seminar

Thursday, July 13th, 2017 Institut für Angewandte Mathematik
14:15, SR 1 Mathematikon

Fractional div-curl quantities and applications to nonlocal geometric equations

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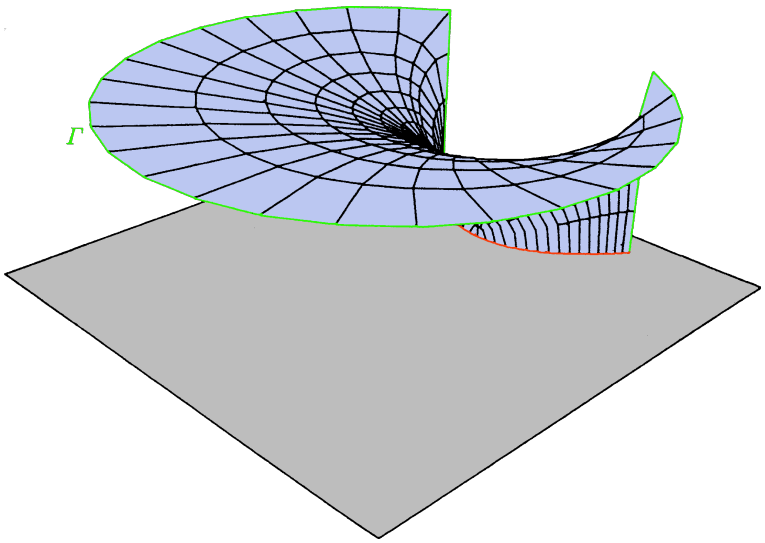

We investigate a fractional notion of gradient and divergence operator. We generalize the div-curl estimate by Coifman-Lions-Meyer-Semmes to fractional div-curl quantities. We demonstrate how these quantities appear naturally in nonlocal geometric equations, which can be used to obtain a regularity theory for fractional harmonic maps and critical systems with nonlocal antisymmetric potential. Joint work with Armin Schikorra.