

# Geometric nonlinearities in PDEs for Cosserat elasticity

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## Abstract

In order to wrap up the first funding period, we summarize our results concerning the existence of “very singular solutions” of a geometrically nonlinear Cosserat elasticity model for solids and focus on improved partial regularity results that had been still open questions during last year’s meeting. We compare this with recent results by Li & Wang and show a helpful boundary monotonicity formula, which is of interest itself.

We close our talk by mentioning some open problems and difficulties that lie at the core of our research plans for the second funding period, as we want to understand better, how the geometric nonlinearities in the PDEs for Cosserat elasticity affect the regularity of solutions.

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