

Nonlinear Beltrami Equations II: Regularity and Positivity of the Jacobian

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The talk is based on joint work with Kari Astala, Albert Clop, Daniel Faraco and Jarmo Jääskeläinen

We study recent new regularity results for *nonlinear Beltrami equations*. In particular we explain the Schauder-type regularity results for these equations and, under this regularity, obtain the closely related positivity of the Jacobian determinant for homeomorphic solutions. A key observation in this theory is that one must first study the regularity of the so-called *autonomous Beltrami equation*, a special class of Beltrami equation whose regularity theory turns out to be surprisingly delicate. This talk is a loose continuation of the talk of Jarmo Jääskeläinen.