

Symmetry breaking for the Jacobian Equation

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The Jacobian equation is a fully nonlinear, underdetermined, 1st order PDE that appears naturally in Optimal Transport and Geometry. In order to study the optimal regularity of solutions we consider energy minimizers. We show that the minimizers are sometimes symmetric, sometimes not, depending on the data; in particular, this answers a question posed by Hélein in 1994. This talk is based on joint work with Lukas Koch (Oxford) and Sauli Lindberg (Aalto).