

Title: A condition sufficient for partial regularity of minimizers in two-dimensional nonlinear elasticity

Abstract: Given a body of elastic material, a basic problem in elastostatics is to find a deformation of this body that displaces the body's surface in some prescribed manner and minimizes a given energy functional. To preclude, as possible minimizers, those deformations that reverse the orientation of the material in a part of the body or compress a part to a region with zero volume, it is physically reasonable that the energy functional be equal to infinity for these types of deformations. In this talk, I will present a condition on a minimizer of a physically reasonable energy functional that is sufficient for ensuring the minimizer is partially regular.