

George Morrison (NYU Shanghai)

The Interplay of Two Euler-Lagrange Equations in the Context of Self Maps of the Annulus

Abstract

The objective of this talk is to classify all critical points of an energy functional associated to an incompressible elastic deformation of an annulus. We principally consider a sub-class of self maps of the domain in the form of whirls. After a study of the relationship between two Euler-Lagrange systems we resolve the main question in the context of a weighted Dirichlet energy. Of particular interest here is a striking discrepancy in the solution sets depending on whether the underlying spatial dimension is odd or even. This is joint work with Dr. Ali Taheri.