

SOBOLEV TOPOLOGY, GINZBURG-LANDAU ENERGY AND ELLIPTIC SYSTEMS REGULARITY

JEAN VAN SCHAFTINGEN

Abstract

Jean Bourgain has obtained with his collaborators deep and delicate constructions of liftings of Sobolev mappings over the universal covering of the circle and estimates of the topological degree of Sobolev mappings, which have aroused subsequent results for coverings over other covering spaces and for the Hopf invariant to which I have participated. In the study of the lifting problem and the analysis of the Ginzburg–Landau equation, Jean Bourgain and his collaborators have also obtained striking new endpoint estimates for elliptic systems, which were the seed of the theory of elliptic canceling operators that I have developed.