

Min-max methods and the space of solutions of the Allen-Cahn equation on closed manifolds

MARCO A. M. GUARACO ¹

¹ IMPA

Resumo/Abstract:

The energy functional for phase transitions behaves as a desingularization of the area functional for hypersurfaces. This connection, pointed out by De Giorgi in the late 70s, have been exploited in many directions ever since. In this talk I will explain how recent techniques used to study the space of minimal hypersurfaces from a global variational point of view, give also a better understanding of the space of solutions to the Allen-Cahn on a closed manifold (e.g. existence of solutions, non-trivial solutions with least energy, sublinear energy estimates).