Karlsruhe Institute of Technology

Seminar of the Work Group
Nonlinear Partial Differential Equations
WS 2020/21

Speaker: Simon Kohler
December 11, 2020, 14:00 - 15:30,
Zoom Link: https://kit-lecture.zoom.us/j/7143665630
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Existence of ground States for some indefinite functionals and applications to wave-guide-like examples

Abstract

In this talk we will see, how we can obtain ground state solutions for some semilinear wave-guide-like examples. With "wave-guide-like" we mean an elliptic outer region and a hyperbolic inner region. One main obstacle is to find a suitable domain for the indefinite wave operator. This was adressed in my last talk and will be briefly summarized. Another main obstacle is to find some compactness argument. In this talk we will see two strategies for this: decay and symmetry. If time permits, we can have a look on a third idea (which is work in progress): comparison with the "problem at infinity" using dual variational methods.

This talk is based on joint work with W. Reichel.