

Nonstandard phenomena in the qualitative analysis of stationary problems governed by non-homogeneous differential operators

Vicentiu Radulescu
Mathematics Institute "Simion Stoilow"
of the Romanian Academy, Bucharest
and
Department of Mathematics,
University of Craiova,
200585 Craiova, Romania
vicentiu.radulescu@math.cnrs.fr,
vicentiu.radulescu@u-picardie.fr
<http://inf.ucv.ro/radulescu>

We analyze several classes of nonlinear eigenvalue problems associated to non-homogeneous differential operators. We point out some striking results with respect to the classical theory of linear differential operators. The proofs rely mainly on variational methods (Ekeland's variational principle, semi-continuity arguments). Some open problems are also raised during the lectures.