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ALDO MORO

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Ground state solutions to Born-Infeld type equations

Prof. Norihisa Ikoma, Keio University, Japan

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ABSTRACT

This talk is devoted to the existence of ground state solutions to Born-Infeld equations. Here ground state solutions mean a solution which has the least energy among all nontrivial solutions. The Born-Infeld operator is a singular elliptic operator and the corresponding energy functional is not smooth. Thus, the arguments used for the scalar field equations are not applicable straightforwardly. In particular, even if there is a minimizer on the Pohozaev set, it is not clear whether this minimizer satisfies the equation due to the singularity of the operator (or the nonsmoothness of the functional). Here we give an idea how to prove that the minimizers satisfy the equations.

This talk is based on joint work with Bartosz Bieganowski (University of Warsaw) and Jarosław Mederski (Institute of Mathematics, Polish Academy of Sciences).

Organizers

Prof.ssa Silvia Cingolani

Dr. Natalino Borgia