

Classification of solutions for some semilinear doubly critical elliptic systems

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This talk will be focused on the study of a family of semilinear elliptic systems defined in \mathbb{R}^n , which is doubly critical since it involves Sobolev critical exponents and Hardy-type potentials. We aim to provide qualitative properties of positive solutions for these Gross-Pitaevskii type systems. In particular, we shall deduce that solutions are symmetric about the origin. In order to do it, we apply a suitable version of the moving planes technique for cooperative singular systems. Finally, we are able to provide a classification result for these kind of problems.

This is based on a joint work with Rafael López-Soriano (University of Granada, Spain) and Berardino Sciunzi (University of Calabria, Italy).