

**On the classification of solutions for Hardy-Sobolev doubly critical systems****Authors:**

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**Abstract:** 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.

**References:**

- [1] F. ESPOSITO, R. LÓPEZ SORIANO, AND B. SCIUNZI Classification of solutions to Hardy-Sobolev Doubly Critical Systems. To appear on *JMPA*. [arxiv.org/pdf/2304.11066.pdf](https://arxiv.org/pdf/2304.11066.pdf).