

Rigidity and symmetry results of some elliptic problems in punctured domains

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The aim of this talk is to show qualitative properties of solutions to some nonlinear elliptic problems. The presentation is divided into two parts.

In the first part, we will focus on semilinear elliptic problems. Specifically, we will present a recent rigidity result, inspired by a seminal paper of J. Serrin, but considering the case of singular solutions to some semilinear overdetermined elliptic problems in punctured domains. The proofs rely on a refined application of the moving planes method, as developed by Serrin and Gidas-Ni-Nirenberg.

The second part of the talk will be addressed to quasilinear elliptic problems and potential developments.

This talk is based on some joint papers in collaboration with S. Biagi, A. Farina, L. Montoro, B. Sciunzi, N. Soave and E. Vecchi.