

SYMMETRY AND SYMMETRY BREAKING FOR OPTIMIZERS OF FUNCTIONAL INEQUALITIES

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In this talk I will present a series of results on the symmetry properties of optimizers of functional inequalities which are invariant under a certain symmetry group. The symmetry issue is of big importance in many of the applications of those inequalities, and also in the study of many physical systems for which knowing when the symmetry is broken is of the utmost importance.

The results presented in this talk are mainly theoretical, showing in which cases one can prove symmetry and symmetry breaking, and by which methods. But in order to understand some of the results, some numerical computations can be very useful and therefore I will also explain the numerics done for this purpose and what kind of new results they suggest.