Stanford Department of Mathematics Colloquium

February 17
4:15 p.m.
Bldg. 380, Room 380-W.

The principal eigenvalue of an elliptic operator in unbounded domains

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Abstract

I will describe notions that extend the classical principal eigenvalue of an elliptic operator with Dirichlet condition in a bounded domain to the case of unbounded domains. Starting with a formulation introduced in earlier work with L. Nirenberg and S. Varadhan, I will give new definitions and derive various properties of these generalized eigenvalues. Applications will be given to the validity of the maximum principle as well as to the study of semi-linear elliptic equations in unbounded domains. In this talk, I report on joint work with Luca Rossi.