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Title: Singular elliptic problems and beyond

Abstract: We are concerned with several types of singular phenomena arising in the theory of nonlinear elliptic equations. We describe sufficient conditions for the existence or the uniqueness of solutions and we establish asymptotic properties of solutions. We also establish that no monotonicity hypotheses are necessary in the statement of some classical theorems. Various types of comparison principles play a crucial role in the arguments developed in this talk. Several open problems are raised in the final part of this lecture.
