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**Sinopsis**

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This book is the first of two volumes which contain the proceedings of the Workshop on Nonlinear Partial Differential Equations, held from May 28-June 1, 2012, at the University of Perugia in honor of Patrizia Pucci's 60th birthday.

The workshop brought together leading experts and researchers in nonlinear partial differential equations to promote research and to stimulate interactions among the participants. The workshop program testified to the wide ranging influence of Professor Pucci on the field of nonlinear analysis and partial differential equations.

In her own work, Patrizia Pucci has been a seminal influence in many important areas: the maximum principle, qualitative analysis of solutions to many classes of nonlinear PDEs (Kirchhoff problems, polyharmonic systems), mountain pass theorem in the critical case, critical exponents, variational identities, as well as various degenerate or singular phenomena in mathematical physics. This same breadth is reflected in the mathematical papers included in this volume.

The companion volume (Contemporary Mathematics, Volume 595) is devoted to stationary problems in nonlinear partial differential equations.

Readership

Graduate students and research mathematicians interested in nonlinear partial differential equations.

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