Partial Differential Equations: An Introduction

This book is an introduction to the basic properties of partial differential equations (PDEs) and the main methods for their study. The presentation is self-contained and leads from basic material to current research topics within the field. The book also contains a large number of exercises that supplement the material and range in difficulty from routine exercises to more challenging problems.

1. Basic Notions
2. First-Order Equations
3. Second-Order Elliptic Equations
4. The Heat Equation
5. The Wave Equation
6. The Laplace Equation
7. Variational Methods
8. Linear and Nonlinear Equations
9. Qualitative Properties
10. Extensions and Applications

Appendices

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