

## Partial differential equations: analytical and numerical methods

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20447787&lokasi=lokal>

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### Abstrak

Partial differential equations (PDEs) are essential for modeling many physical phenomena. This undergraduate textbook introduces students to the topic with a unique approach that emphasizes the modern finite element method alongside the classical method of Fourier analysis.

Additional features of this new edition include broader coverage of PDE methods and applications, with new chapters on the method of characteristics, Sturmliouville problems, and Green functions, and a new section on the finite difference method for the wave equation. The author continues to emphasize Fourier series and finite element methods, which were the primary scope of the first edition.