

TEUBNER-TEXTE zur Mathematik Band 134

L. Jentsch/F. Tröltzsch (Hrsg.)

Problems and Methods
in Mathematical Physics

TEUBNER-TEXTE zur Mathematik

Herausgegeben von
Prof. Dr. Jochen Brüning, Augsburg
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Die Reihe soll ein Forum für Beiträge zu aktuellen Problemstellungen der Mathematik sein. Besonderes Anliegen ist die Veröffentlichung von Darstellungen unterschiedlicher methodischer Ansätze, die das Wechselspiel zwischen Theorie und Anwendungen sowie zwischen Lehre und Forschung reflektieren. Thematische Schwerpunkte sind Analysis, Geometrie und Algebra.

In den Texten sollen sich sowohl Lebendigkeit und Originalität von Spezialvorlesungen und Seminaren als auch Diskussionsergebnisse aus Arbeitsgruppen widerspiegeln.

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Problems and Methods in Mathematical Physics

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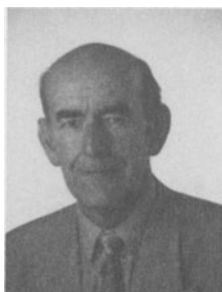
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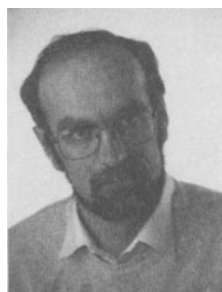
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Preface

This Teubner-Text contains selected contributions to the "10th Conference on Problems and Methods in Mathematical Physics (10th TMP)", held at the Technical University of Chemnitz-Zwickau in Chemnitz, Germany, September 13 – 17, 1993. The main topics of the conference were

Scientific Computing in Solid and Fluid Mechanics

Problems with Singularities

Boundary Integral Methods

Multilevel Finite Element Methods

Free Boundary Value Problems and Optimal Control

Numerical Functional Analysis.

The conference brought together more than 170 experts from 17 countries, and the 18 plenary and invited lectures as well as the 120 short lectures were devoted to plenty of problems and latest results in applied mathematical research. Undoubtedly, the majority of these contributions would have deserved publication. However, this volume does not intend to reflect the whole scientific contents of the conference in the usual form of proceedings. It is rather aiming at giving a survey of some recent trends in fields covered by the topics of this meeting. The organizing committee hopes that this Teubner-Text reflects the main spirit of the 10th TMP.

The conference was sponsored by Sächsisches Staatsministerium für Wissenschaft und Kunst, Deutsche Forschungsgemeinschaft (DFG), Commission of the European Communities (Directorate General for Science, Research and

Development), Stiftungsfond IBM Deutschland, Sparkasse Chemnitz, Parsytec Chemnitz, and International Science Foundation. The scientific committee, the organizing committee and the Faculty of Mathematics of the Technical University of Chemnitz-Zwickau express their most sincere gratitude to these institutions. Thanks to them, we were enabled to invite many mathematicians from eastern countries, in particular from countries belonging to the former Soviet Union.

Moreover, we would like to express our sincere thanks to the 19 authors, who delivered excellent papers in camera-ready form. The editors are indebted to the colleagues of the Chemnitz Faculty of Mathematics, Prof. A. Böttcher, Dr. H. Goldberg, Dipl.-Math. A. Unger and Mrs. G. Weise for technical assistance in preparing this volume.

Chemnitz, April 1994

L. Jentsch

F. Tröltzsch

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