

FESTKÖRPERPROBLEME XV

ADVANCES IN SOLID STATE PHYSICS

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**ADVANCES IN
SOLID STATE
PHYSICS**

Plenary Lectures of the Divisions
"Semiconductor Physics",
"Low Temperature Physics",
"Metal Physics"
of the German Physical Society
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Foreword

This volume presents a selection of invited papers which demonstrate the close interactions between the various branches of the solid state sciences. Several papers review the recent success in materials preparation and in the remarkable structural and compositional control, especially for semiconductors and laser materials, but also for solid electrolytes. Theory and experiment have greatly advanced the understanding of point defects and their utilization for doping. Surfaces and interfaces are no longer just inevitable perturbations, instead they are used for quantization studies and device applications. The interaction with light remains an active topic; solid laser sources as well as novel optical characterization techniques are covered here.

The manuscripts were submitted at the meeting; only twelve weeks later this book is published, despite double proof-reading. My compliments and thanks to publisher and authors alike! This publication of updated reviews with abundant reference to latest work – at the speed of a letter journal – should hopefully benefit the solid state community.

From next year on, the fun and excitement of editing this series goes to *Joachim Treusch*, the elected successor as chairman of the semiconductor division.

Hans-Joachim Queisser

Stuttgart, May 1975

Contents

<i>Karl-Heinz Zschau</i> Liquid-Phase Epitaxy of GaAs and the Incorporation of Impurities	1
<i>Raymond Dingle</i> Confined Carrier Quantum States in Ultrathin Semiconductor Heterostructures	21
<i>Gottfried Landwehr</i> Quantum Transport in Silicon Inversion Layers	49
<i>J. Frederick Koch</i> The Dynamics of Conduction Electrons in Surface Space Charge Layers	79
<i>Erio Tosatti</i> Electronic Superstructures of Semiconductor Surfaces and of Layered Transition-Metal Compounds	113
<i>Sokrates T. Pantelides</i> Theory of Impurity States in Semiconductors	149
<i>John Sandercock</i> Some Recent Applications of Brillouin Scattering in Solid State Physics	183
<i>Ruprecht Haensel</i> Synchrotron Radiation in Solid State Physics	203
<i>Joachim Hesse and Horst Preier</i> Lead Salt Laser Diodes	229
<i>Hans Günter Danielmeyer</i> Stoichiometric Laser Materials	253

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<i>Hans Herrmann, Heinz Herzer, and Erhard Sirtl</i> Modern Silicon Technology	279
<i>Günter Holzäpfel and Hans Rickert</i> High Ionic Conductivity in Solids – Theoretical Aspects and Applications	318
<i>Klaus Heime</i> Field-Effect Transistors	351
<i>Werner Triftshäuser</i> Positron Studies of Metals	381
<i>Ludwig Tewordt</i> Free Energy and Spin Waves in Superfluid ^3He	411