

Proceedings of the XXVIII International School  
on Physics of Semiconducting Compounds  
Jaszowiec, Poland, June 6–11, 1999

*Editor of the Proceedings*

Wojciech Szuszkiewicz

**WARSAW**

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## Preface

Continuing the tradition of more than a quarter of the century, the XXVIII International School on Physics of Semiconductors "Jaszowiec'99" was organized in Ustroń-Jaszowiec, a resort place in the hilly part of Southern Poland. The School was organized by the Institute of Physics of the Polish Academy of Sciences, the Faculty of Physics of Warsaw University and the High Pressure Research Center of the Polish Academy of Sciences. In total about 150 physicists from 16 countries participated in the School. There were 13 invited talks and about 80 contributed, both oral and poster presentations. As usual, certain problems of semiconductor physics were particularly represented. This year these were: low dimensional physics, defects, GaN problems, and diluted magnetic semiconductors.

The School was preceded by the special Tutorial Session, providing an introduction to the School itself.

This issue of *Acta Physica Polonica A* collects the papers of some invited talks (those whose manuscripts were submitted to the editor; one of them could not have been presented but nevertheless it is also included here), as well as some lectures presented during the Tutorial Session.

Both the School and Tutorial Session are kindly supported by many institutions. In 1999, the financial support was provided by:

- Committee for Scientific Research,
- Ministry of National Education,
- Polish Academy of Sciences (Committee on Physics and Office of International Relations),
- Foundation *Pro Physica*,
- Polish Physical Society,
- Leopold Kronenberg Foundation.

This support is greatly appreciated.

Finally, I would like to take this opportunity to thank all the colleagues who helped to organize the School. In particular, I address my special thanks to Dr. W. Szuskiewicz, Secretary of the School, as well as the members of the Organizing Committee: E. Łusakowska, U. Raczyńska, B. Sułek, B. Wiczorek, J. Wołoszyn, and K. Zatyb.

Andrzej Twardowski  
*Chairman of the School*

### The list of lectures presented during the Tutorial Session:

1. **J. Gaj** (Warsaw) — *Semimagnetic Semiconductors*
2. **J.K. Furdyna** (Notre Dame) — *Optical Non-Reciprocal Devices*
3. **B. Hennion** (Saclay) — *Structural and Magnetic Dynamical Properties of Solids. Experimental Approach with Inelastic Neutron Scattering*
4. **P.-O. Nilsson** (Göteborg) — *Electronic and Atomic Structure of Semiconductor Interfaces*
5. **C.G. Van de Walle** (Palo Alto) — *Theory of Point Defects and Impurities in Semiconductors*
6. **W. Zawadzki** (Warsaw) — *Density of States for Ballistic Electrons in Electric and Magnetic Fields*

### The list of invited talks of the School:

1. **R. André** (Grenoble) — *Cavity-Polariton Effects in II-VI Microcavities*
2. **J. Baranowski** (Warsaw) — *Gallium Nitride — Technology, Physics, Applications*
3. **A. Fujimori** (Tokyo) — *Photoemission Study of the Electronic Structure of Semiconducting Compounds*
4. **S.D. Ganichev** (Regensburg/St. Petersburg) — *Excitation of Deep Defects by Intense Terahertz Radiation*
5. **D. Heitmann** (Hamburg) — *Spectroscopy of Few-Electron Quantum Dots*
6. **J. Jaroszyński** (Warsaw) — *Transport in Quantum Structures of Diluted Magnetic Semiconductors*
7. **J.P. Kotthaus** (Munich) — *Manipulating Electrons in Nanostructured Semiconductors*
8. **B.D. McCombe** (Buffalo) — *Spectroscopy of Charged Donors and Many-Electron Effects in Semiconductor Quantum Wells*
9. **J. Spalek** (Cracow) — *Kondo-Lattice Metals and Semiconductors with Compensated Magnetic Moments: a Brief Overview*
10. **G. Springholz** (Linz) — *Technology of Low Dimensional Structures and their Characterization by X-Ray Techniques*
11. **C.G. Van de Walle** (Palo Alto) — *Defects and Defect Reactions in Semiconductor Nitrides*
12. **L. Viña** (Madrid) — *Ultrafast Processes in Semiconductor Structures*
13. **A. Wojs** (Knoxville) — *Composite Fermions and the Fractional Quantum Hall Effect*