PREFACE

Boron, Borides, and Related Compounds

Proceedings of the 12th International Symposium on Boron, Borides, and Related Compounds

Baden bei Wien, Austria, 1996

DEDICATED TO PROF. DR. TECHN. DR. MONT. H.C. HANS NOWOTNY. IN MEMORIAM

The International Symposium on Boron, Borides, and Related Compounds, which was held at Schloss Weikersdorf in Baden bei Wien, August 25–30, 1996, was the 12th and the most recent in a series of symposia that began with the Conference of Boron at Asbury Park, New Jersey in 1959, followed by Boron Conferences in Paris, France in 1964 and in Warsaw, Poland in 1968. At the Tbilisi symposion (USSR—Georgia, 1972) the scope was enlarged to cover boron-rich borides and at the meetings in Bordeaux, France in 1975 and in Varna, Bulgaria in 1978 borides were generally adopted in the title of the symposion. The seventh symposion in Uppsala, Sweden in 1981 and all symposia thereafter, i.e., in Tbilisi, Georgia in 1984, in Duisburg, Germany in 1987, and in Tsukuba, Japan in 1993, were run under the present title, also accepting contributions on related compounds such as carbides, silicides, nitrides, and phosphides. The next (13th) meeting in 1999 is scheduled to be organized by the University of Rennes in France.

This volume constitutes the Proceedings of the 12th International Symposium on Boron, Borides, and Related Compounds. Sixty-four written contributions out of 53 oral and 83 poster conference presentations by more than 90 participating scientists from 12 countries portray the diversity of scientific contributions: novel methods of preparation and synthesis, crystal chemistry, chemical bonding and thermochemistry, crystal growth and physicochemical properties (electrical, magnetic, and optical) of boron-rich compounds, superconductivity and magnetism of quaternary and higher order boron carbide and boron nitride compounds, and metastable phases and thin film characterization, as well as mechanical properties and industrial applications.

The proceedings are published as part of the regular issues of the *Journal of Solid State Chemistry* and all manuscripts were refereed according to the requirements of the Journal.

This symposium could only be held with the financial support of educational, governmental, and industrial sponsors, which is most gratefully acknowledged.

It has been a great personal pleasure to assist in the organization of the proceedings and the review of the papers. The efforts of the referees, the cooperation of the authors, and last, but not least, the great effort of the competent and kind staff of the publishing house are greatly appreciated.

Peter Rogl Proceedings Editor 4 PREFACE

Organizing Committee of the 12th International Symposium on Boron, Borides, and Related Compounds

Rogl, Peter (Chairman)
Flandorfer, Hans (Secretary)
Leithe-Jasper, Andreas (Secretary)

Rogl, Gerda (Accompanying Persons Programme)

International Scientific Committee of the International Symposium on Boron, Borides, and Related Compounds, 1996–1999

Andrievski, R. A. (Russia)

Antadze, M. (Georgia)

Aselage, T. L. (USA)

Paderno, Yu. B. (Ukraine)

Peshev, P. (Bulgaria)

Pohl, R. O. (USA)

Bauer, J. (Vice Chairman) (France)

Beauvy, M. (France)

Bray, P. (USA)

Bullett, D. W. (UK)

Emin, D. (USA)

Gurin, V. N. (Russia)

Higashi, I. (Japan)

Rogl, P. (Chairman) (Austria)

Schwetz, K. A. (Germany)

Takagi, K. (Japan)

Tanaka, T. (Japan)

Telle, R. (Germany)

Thévenor, F. (France)

Higashi, I. (Japan)

Tienary, M. (USA)

Jung, W. (Germany) Tsagareishvili, G. V. (Georgia) Kimura, K. (Japan) Tsiskarishvili, G. P. (Georgia)

Korsukova, M. M. (Russia) Werheit, H. (Germany)
Kuznetsov, N. T. (Russia) Will, G. (Germany)
Lundström, T. (Sweden) Zuppiroli, L. (Switzerland)

Ownby, P. D. (USA)