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978-1-107-41122-7 - Rapidly Solidified Alloys and Their Mechanical and Magnetic Properties

Edited by B. C. Giessen, D. E. Polk and A. I. Taub

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Rapidly Solidified Alloys and Their Mechanical and Magnetic Properties

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Preface

The papers in this volume comprise 70 contributions on rapidly solidified alloys invited or submitted for oral or poster presentation at the 1985 Fall Meeting of the Materials Research Society, held in Boston December 2-7, 1985.

Since the initiation of the MRS Symposia Proceedings series, this book is the third to be devoted to rapid solidification processing (RSP) and the alloys prepared or treated by methods falling within this category. The two previous volumes are Rapidly Solidified Amorphous and Crystalline Alloys, MRS Symposia Proceedings Vol. 8 (1982), edited by B.H. Kear, B.C. Giessen, and M. Cohen and Rapidly Solidified Metastable Materials, MRS Symposia Proceedings Vol. 28 (1984), edited by B.H. Kear and B.C. Giessen. With the present volume, the Materials Research Society continues its effort to promote the exchange of information in this field. A related symposium is planned for next year's meeting, to be arranged by W. Johnson, L. Tanner and M. Tenhover.

While the emphasis in this symposium was on the mechanical and magnetic properties of rapidly solidified alloys, the papers cover a much wider spectrum of topics including new processing techniques and amorphous alloy formation and phase transformation. Recent developments in the field of rapid solidification were reflected in the large number of papers in two new areas: iron-rare earth permanent magnets and quasicrystals.

The papers are arranged into five sections: Processing, Amorphous Alloys, Crystalline Magnetic Materials, Quasicrystals, and Microstructure and Properties of Crystalline RSP Alloys. A subject index is provided at the back of the book.

The editors and participants are indebted to the following companies for financial support of the symposium:

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