



## Semiconductors and Semimetals, Volume 70: Recent Trends in Thermoelectric Materials Research, Part Two

Terry Tritt, Editor (2000)

### **Description:**

Since its inception in 1966, the series of numbered volumes known as Semiconductors and Semimetals has distinguished itself through the careful selection of well-known authors, editors, and contributors. The Willardson and Beer series, as it is widely known, has succeeded in producing numerous landmark volumes and chapters. Not only did many of these volumes make an impact at the time of their publication, but they continue to be well-cited years after their original release. Recently, Professor Eicke R. Weber of the University of California at Berkeley joined as a co-editor of the series. Professor Weber, a well-known expert in the field of semiconductor materials, will further contribute to continuing the series' tradition of publishing timely, highly relevant, and long-impacting volumes. Some of the recent volumes, such as Hydrogen in Semiconductors, Imperfections in III/V Materials, Epitaxial Microstructures, High-Speed Heterostructure Devices, Oxygen in Silicon, and others promise that this tradition will be maintained and even expanded.

Thermoelectric materials may be used for solid state refrigeration or power generation applications via the large Peltier effect in these materials. To be an effective thermoelectric material, a material must possess a large Seebeck coefficient, a low resistivity and a low thermal conductivity. Due to increased need for alternative energy sources providing environmentally friendly refrigeration and power generation, thermoelectric materials research experienced a rebirth in the mid 1990's. Semiconductors and Semimetals, Volume 70: Recent Trends in Thermoelectric Materials Research: Part Two provides an overview of much of this research in thermoelectric materials during the decade of the 1990's. New materials and new material concepts such as quantum well and superlattice structures gave hope to the possibilities that might be achieved. An effort was made to focus on these new materials and not on materials such as BiTe alloys, since such recent reviews are available. Experts in the field who were active researchers during this period were the primary authors to this series of review articles.

At the time of publication, this is the most complete collection of review articles that are primarily focused on new materials and new concepts.

**Publication and Pricing:**

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**Our recommended reading list:**

- [CRC Handbook of Thermoelectrics \(1995\)](#)
- [Principles of Thermoelectrics: Basics and New Materials Development \(2001\)](#)
- [Thermoelectric Materials 2000 - The Next Generation Materials for Small-Scale Refrigeration and Power Generation \(2001\)](#)
- [Semiconductors and Semimetals, Volume 69: Recent Trends in Thermoelectric Materials Research, Part One \(2000\)](#)
- Semiconductors and Semimetals, Volume 70: Recent Trends in Thermoelectric Materials Research, Part Two (2000)
- [Semiconductors and Semimetals, Volume 71: Recent Trends in Thermoelectric Materials Research: Part Three \(2000\)](#)
  - [Thermoelectric Materials - New Directions & Approaches \(1997\)](#)