



CRC Handbook of Thermoelectrics

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Description:

Thermoelectrics is the science and technology associated with thermoelectric converters, that is, the generation of electrical power by the Seebeck effect and refrigeration by the Peltier effect. Thermoelectric generators are being used in increasing numbers to provide electrical power in medical, military, and deep space applications where combinations of their desirable properties outweigh their relatively high cost and low generating efficiency. In recent years there also has been an increase in the requirement for thermoelectric coolers (Peltier devices) for use in infrared detectors and in optical communications. Information on thermoelectrics is not readily available as it is widely scattered throughout the literature. The Handbook centralizes this information in a convenient format under a single cover.

Sixty of the world's foremost authorities on thermoelectrics have contributed to this Handbook. It is comprised of fifty-five chapters, a number of which contain previously unpublished material. The contents are arranged in eight sections: general principles and theoretical considerations, material preparation, measurement of thermoelectric properties, thermoelectric materials, thermoelectric generation, generator applications, thermoelectric refrigeration, and applications of thermoelectric cooling.

The CRC Handbook of Thermoelectrics has a broad-based scope. It will interest researchers, technologists, and manufacturers, as well as students and the well-informed, non-specialist reader.

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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 \(1997\)](#)