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2.4.2.1. Magnetic tunnel junctions (MTJs)
 2.4.2.2. Resistivity
 2.4.2.3. Hall conductivity; 2.4.3. Half-metallic properties; 2.4.3.1. Spin-polarized angle-resolved photoemission spectroscopy (ARPES); 2.4.3.2. Ferromagnet-superconductor tunneling; 2.4.3.3. Andreev reflection; 2.4.3.4. Curie temperature TC; 2.5 Theoretical Methods; 2.5.1. Density functional theory (DFT); 2.5.1.1. Hohenberg-Kohn theorem I; 2.5.1.2. Hohenberg-Kohn theorem II; 2.5.2. Kohn-Sham equations; 2.5.2.1. Local density approximation (LDA); 2.5.2.2. Spin-polarized Kohn-Sham equations; 2.5.2.3. Generalized gradient approximation (GGA)
 2.5.3. Methods of calculating electronic properties
 2.5.3.1. Linearized augmented plane wave (LAPW) method; 2.5.3.2. Korringa-Kohn-Rostoker (KKR) method; 2.5.3.3. Pseudopotential method; 2.5.3.4. LDA+U; 2.5.4. Methods of calculating Curie temperature TC; 2.5.4.1. Determination of the dominant excitation; 2.5.4.2. Basic idea; 2.5.4.3. Comments on practical calculations; 3. Heusler Alloys; 3.1 Introduction; 3.2 Half-Heusler and Full-Heusler Alloys; 3.3 Methods of Growing Heusler Alloys; 3.3.1. Bulk Heusler alloys; 3.3.1.1. Arc-melting method; 3.3.1.2. Tri-arc Czochralski method
 3.3.2. Thin films
 3.3.2.1. MBE method; 3.3.2.2. Radio frequency magnetron sputtering method; 3.3.2.3. Pulsed laser deposition (PLD); 3.4 Characterization of Heusler Alloys; 3.4.1. Bulk Heusler alloys; 3.4.2. Thin films; 3.4.2.1. Auger electron spectroscopy (AES); 3.4.2.2. Low-energy electron diffraction (LEED); 3.5 Physical Properties of Bulk Heusler Alloys; 3.5.1. Magnetic moments and the Slater-Pauling rule; 3.5.2. Insulating gap in half-metallic Heusler alloys; 3.5.2.1. Half-Heusler alloys; 3.5.2.2. Full-Heusler alloys; 3.5.3. Polarization at EF; 3.5.4. Magnetic moments
 3.5.5. Curie temperature TC

Sommario/riassunto

This volume provides a detailed treatment of half-metallic materials and their properties from both an experimental and theoretical point of view. It discusses the methods used to understand and predict the properties of half-metals and the gamut of other materials amenable to these techniques. It also offers an expansive bibliography to facilitate further and deeper research. This book provides the precise definitions of all key terminology used in the vast and varied literature. This is the first comprehensive monograph on the subject and will serve as a starting point for graduate students a

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