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Nota di contenuto	Front Cover; Superconductivity; Copyright Page; Table of Contents; Preface to the First Edition; Preface to the Second Edition; Chapter 1 Properties of the Normal State; I. Introduction; II. Conduction Electron Transport; III. Chemical Potential and Screening; IV. Electrical Conductivity; V. Frequency Dependent Electrical Conductivity; VI. Electron-Phonon Interaction; VII. Resistivity; VIII. Thermal Conductivity; IX. Fermi Surface; X. Energy Gap and Effective Mass; XI. Electronic Specific Heat; XII. Phonon Specific Heat; XIII. Electromagnetic Fields; XIV. Boundary Conditions XV. Magnetic SusceptibilityXVI. Hall Effect; Further Reading; Problems; Chapter 2 Phenomenon of Superconductivity; I. Introduction; II. Brief History; III. Resistivity; A. Resistivity above T <sub>c</sub> ; B. Resistivity Anisotropy; C. Anisotropy Determination; D. Sheet Resistance of Films: Resistance Quantum; IV. Zero Resistance; A. Resistivity Drop at T <sub>c</sub> ; B. Persistent Currents below T <sub>c</sub> ; V. Transition Temperature; VI. Perfect Diamagnetism; VII. Magnetic Fields Inside a Superconductor; VIII. Shielding Current; IX. Hole in Superconductor; X. Perfect Conductivity; XI. Transport Current XII. Critical Field and CurrentXIII. Temperature Dependences; XIV. Two

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IV. Specific Heat below TCV. Density of States and Debye Temperature; VI. Thermodynamic Variables; VII. Thermodynamics of a Normal Conductor; VIII. Thermodynamics of a Superconductor; IX. Superconductor in Zero Field; X. Superconductor in a Magnetic Field; XI. Normalized Thermodynamic Equations; XII. Specific Heat in a Magnetic Field; XIII. Further Discussion of the Specific Heat; XIV. Order of the Transition; XV. Thermodynamic Conventions; XVI. Concluding Remarks; Problems; Chapter 5 Magnetic Properties; I. Introduction; II. Susceptibility; III. Magnetization and Magnetic Moment  
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XIX. Magnets

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### Sommario/riassunto

Superconductivity, 2E is an encyclopedic treatment of all aspects of the subject, from classic materials to fullerenes. Emphasis is on balanced coverage, with a comprehensive reference list and significant graphics from all areas of the published literature. Widely used theoretical approaches are explained in detail. Topics of special interest include high temperature superconductors, spectroscopy, critical states, transport properties, and tunneling. This book covers the whole field of superconductivity from both the theoretical and the experimental point of view.- Comprehensive

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