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Titolo	Photoemission spectroscopy on high temperature superconductor : a study of Bi <sub>2</sub> Sr <sub>2</sub> CaCu <sub>2</sub> O <sub>8</sub> by laser-based angle-resolved photoemission // Wentao Zhang
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Descrizione fisica	1 online resource (146 p.)
Collana	Springer theses
Disciplina	539.744
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Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Angle-Resolved Photoemission Spectroscopy -- Growth of Bi <sub>2</sub> Sr <sub>2</sub> Ca <sub>1</sub> xDy <sub>x</sub> Cu <sub>2</sub> O <sub>8</sub> <sup>+</sup> Single Crystals -- Nodal Electron Coupling in the Bi <sub>2</sub> Sr <sub>2</sub> Ca <sub>1</sub> Cu <sub>2</sub> O <sub>8</sub> <sup>+</sup> -- High Energy Dispersion in Bi <sub>2</sub> Sr <sub>2</sub> Ca <sub>1</sub> Cu <sub>2</sub> O <sub>8</sub> <sup>+</sup> -- Normal Electron Self-Energy and Pairing Self-Energy in Bi <sub>2</sub> Sr <sub>2</sub> CaCu <sub>2</sub> O <sub>8</sub> -- Superconducting Gap and Pseudogap in Bi <sub>2</sub> Sr <sub>2</sub> CaCu <sub>2</sub> O <sub>8</sub> <sup>+</sup> -- Summary.
Sommario/riassunto	This book mainly focuses on the study of the high-temperature superconductor Bi <sub>2</sub> Sr <sub>2</sub> CaCu <sub>2</sub> O <sub>8</sub> by vacuum, ultra-violet, laser-based, angle-resolved photoemission spectroscopy (ARPES). A new form of electron coupling has been identified in Bi2212, which occurs in the superconducting state. For the first time, the Bogoliubov quasiparticle dispersion with a clear band back-bending has been observed with two peaks in the momentum distribution curve in the superconducting state at a low temperature. Readers will find useful information about the technique of angle-resolved photoemission and the study of high-temperature superconductors using this technique. Dr. Wentao Zhang received his PhD from the Institute of Physics at the Chinese Academy of Sciences.