Record Nr. UNINA9910465553203321 **Titolo** Superconducting cuprates [[electronic resource]]: properties, preparation and applications / / Koenraad N. Courtlandt, editor Pubbl/distr/stampa New York,: Nova Science Publishers, c2009 **ISBN** 1-61324-087-2 Descrizione fisica 1 online resource (401 p.) Altri autori (Persone) CourtlandtKoenraad N 621.3/5 Disciplina Soggetti High temperature superconductors - Materials Copper compounds Superconductivity Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto ""SUPERCONDUCTING CUP RATES: PROPERTIES, PREPARATION AND APPLICATIONS""; ""SUPERCONDUCTING CUP RATES: PROPERTIES, PREPARATION AND APPLICATIONS ""; ""CONTENTS""; ""PREFACE""; ""ANTIADIABATIC THEORY OF THE ELECTRONIC GROUND STATE OF SUPERCONDUCTORS?""; ""Abstract""; ""I. Introduction""; ""II. Preliminaries""; ""II.1. Crude- adiabatic approximation: Standard manybody picture of molecular physics""; ""II.2. Adiabatic approximation""; "III. Base transformation introduction of new dynamical variables"": "III. 1. Q-dependent adiabatic transformation"" ""III.2. P-dependent nonadiabatic transformation"""IV. Dependence of electronic energy on nuclear vibration displacements and momenta"; ""IV.1. Correction to electronic ground state energy zero-particle term correction""; ""IV.2. Corrections to one-particle term""; ""IV.3. Twoparticle term correction. Correction to electron correlation energy""; ""V. Antiadiabatic state - ground electronic state of superconductors"; ""VI. Correction to electron correlation energy""; ""VII. Effective attractive electron-electron interactions, Cooperspairs and bipolarons""; ""VIII.

""Appendix A""""Appendix B""; ""Appendix C""; ""Appendix D"";

""Appendix E""; ""Appendix F""; ""Acknowledgements""; ""References"";

""DIPOLON THEORY OF KINK STRUCTURE OF QUASI-PARTICLE ENERGY

Conclusion""

DISPERSION OBSERVED IN PHOTOE MISSION SPECTRA OF HIGH TEMPERATURE SUPERCONDUCTORS"; ""Abstract""; ""1. Introduction""; ""2. Theory""; ""3. Calculations""; ""4. Discussion""; ""5. Conclusion""; ""References""; ""PERSISTENT PHOTO CONDUCTIVITY IN YBa2Cu3Ox AND OTHER HIGH-TEMPERATURE SUPERCONDUCTORS""; ""Abstract""; ""1. Introduction""; ""2. Persistent Photoconductivity in oxygen-deficient YBCO""

- ""2.1. Crystal structure and electronic properties of YBCO"""2.2. Photo-induced superconductivity""; ""2.3. Photo-induced enhancement of the electrical conductivity""; ""2.4. Photo-induced changes of the crystal structure""; ""2.5. Spectral dependence of photodoping""; ""2.6. Hall effect and magneto resistance""; ""2.7. PPC relaxation and infrared quenching""; ""2.8. Optical, infrared and Raman measurements""; ""2.9. Models for the PPC in YBCO""; ""3. Photo-induced effects in other high-temperature superconducting systems""; ""3.1. Ca-substituted YBCO""; ""3.2. Ion-irradiated YBCO""
- ""3.3. Bi-based superconductors""; ""4. Conclusion""; ""References""; ""3.5. Nd-based superconductors""; ""4. Conclusion""; ""References""; ""ANDREEV REFLECTIONS AND TRANSPORT PHENOMENA IN CUP RATE SUPERCONDUCTORS AT THE INTERFACE WITH FERROMAGNETS AND NORMAL METAL""; ""Abstract""; ""1. Introduction"; ""1.1. Andreev reflections in s-wave and d-wave superconductors"; ""2. Andreev reflections in an intrinsic F/S system: RuSr2GdCu2O8""; ""2.1. Experimental conductance curves and theoretical fittings""; ""2.2. Role of the intergrain coupling""
- ""2.3. Temperature dependence of the conductance spectra""