1. Record Nr. UNINA9910707607103321

Autore	Robinson David W.
Titolo	Development of a device to deploy fluid droplets in microgravity / / David W. Robinson and An-Ti Chai
Pubbl/distr/stampa	Cleveland, Ohio : , : National Aeronautics and Space Administration, Lewis Research Center, , July 1997
Descrizione fisica	1 online resource (17 pages) : illustrations
Collana	NASA TM ; ; 107460
Soggetti	Microgravity Drops (liquids) Bubbles Injectors Heat transfer Dispensers
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"July 1997"--Report documentation page. "Performing organization: National Aeronautics and Space Administration, Lewis Research Center"--Report documentation page.

2. Record Nr. UNINA9910595032003321

Autore	Restrepo Francisco
Titolo	Angle-Resolved Photoemission Spectroscopy Study of Spin Fluctuations in the Cuprate Superconductors / / by Francisco Restrepo
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022
ISBN	9783031109799 9783031109782
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (113 pages)
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5061
Disciplina	537.623 543.62
Soggetti	Superconductivity Superconductors Superconductors - Chemistry Spectrum analysis Quantum electrodynamics Spectroscopy Quantum Electrodynamics, Relativistic and Many-body Calculations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Doctoral Thesis accepted by the University of Illinois at Chicago, USA."
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1. Introduction -- Chapter 2. Superconductivity and the cuprates -- Chapter 3. Angle-Resolved Photoemission Spectroscopy -- Chapter 4. Experimental Details -- Chapter 5. Results -- Chapter 6. Conclusions.
Sommario/riassunto	This thesis makes significant advances towards an understanding of superconductivity in the cuprate family of unconventional, high-temperature superconductors. Even though the high-temperature superconductors were discovered over 35 years ago, there is not yet a general consensus on an acceptable theory of superconductivity in these materials. One of the early proposals suggested that collective magnetic excitations of the conduction electrons could lead them to form pairs, which in turn condense to form the superconducting state at a critical temperature Tc. Quantitative calculations of Tc using

experimental data were, however, not available to verify the applicability of this magnetic mechanism. In this thesis, the author constructed an angle-resolved photoemission apparatus that could provide sufficiently accurate data of the electronic excitation spectra of samples in the normal state, data which was furthermore unusually devoid of any surface contamination. The author also applied the Bethe-Salpeter method to his uncommonly pristine and precise normal state data, and was able to predict the approximate superconducting transition temperatures of different samples. This rare combination of experiment with sophisticated theoretical calculations leads to the conclusion that antiferromagnetic correlations are a viable candidate for the pairing interaction in the cuprate superconductors.