High Temperature Superconductivity: From Fundamentals to Applications

German-Israeli Minerva School

Organized by R. P. Huebener

Heinrich-Fabri-Institute, Blaubeuren (Germany)
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High Temperature Superconductivity: 
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Program  (25/03/2003)

Monday 28. 04. 2003

Session 1:  9:00 -  11:00
   Welcome
   Th. Dahm:  Upper Critical Field and Two-Band Superconductivity in MgB$_2$
   M. R. Eskildsen:  Structural Studies of Single Vortices and the Vortex-Lattice in MgB$_2$

Session 2:  11:30 – 12:30
   K. Scharnberg:  Order Parameter Symmetries in High-Temperature Superconductors

Session 3:  14:00 – 16:00
   B. Chesca:  Phase-Sensitive Tests of Pairing Symmetry
   G. Koren:  Studies of the Symmetry of the Order Parameter in Underdoped YBCO Junctions
   L. Shkedy:  Conductance Spectra of Underdoped YBCO junctions with Ga-doped barrier

Session 4:  16:30 – 18:30
   O. Millo:  Scanning Tunneling Spectroscopy of YBCO – Effects of Doping and Nanomorphology
   A. Sawa:  Electric Field Effect Studies of the Normal and the Superconducting State of the High-$T_C$ Cuprates
Tuesday 29.04.2003

Session 5: 9:00 – 11:00

A. Auerbach: Boson Fermion Model for the Cuprates
A. Keren: Common Energy Scale for Magnetism and Superconductivity in Cuprates

Session 6: 11:30 – 12:30

G. Deutscher: The Preformed Pairs Scenario
A. Kohen: Andreev Reflections on YCaBaCuO: Evidence for an unusual Proximity effect
R. Beck: Effect of the Bean Livingston Barrier and Node Removal in YBCO under applied magnetic fields

Session 7: 14:00 – 16:00

J. Oppenlaender: Superconducting Quantum Interference Filters
R. Mints: Splintered Josephson Vortices in Thin YBCO Films

Session 8: 16:30 – 18:30

A. Weber: Optimization of Grain Boundaries in Coated Conductors by Doping
S. Reich: Measurement of Corrosion Content of Archeological Lead Artifacts by their Meissner Response in the Superconducting State
A. Maniv: The Astrophysical Scenario and Zurek effect in YBCO films
Wednesday 30.04.2003

Session 9: 9:00 – 11:00
L. Alff: What Can We Learn About High Temperature Superconductivity By Studying Electron Doping?
W. Lang: Superconducting Transition in High Current Densities and High Electric Fields

Session 10: 11:30 – 12:30
B. Kalisky: Transient Vortex States near the Order-Disorder Vortex Transition

Session 11: 14:00 – 16:00
S. Graser / C. Iniotakis: Spectrum of Low-Energy Excitations in the Vortex State: Comparison of the Doppler-Shift Method to a Quasiclassical Approach
H. Castro: Non Fermi Liquid Behavior of Strongly Overdoped HTSC from Hall Effect Measurements
H. Küpfer: Vortex Order-Disorder Transition Metastability and Correlation with the Symmetry of the Crystal Lattice in V₃Si

Session 12: 16:30 – 18:30
E. H. Brandt: Effect of Pinning on the Melting Line in Type-II Superconductors
J. Albrecht: Magnetic Pinning in SrRuO₃ – YBCO Bilayers
B. Horovitz: Edge States and Quantum Hall Effects in Superconductors with Broken Time-Reversal Symmetry