

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: From Fundamentals to Applications

German-Israeli Minerva School

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
MgB₂**

**M. R. Eskildsen: Structural Studies of Single Vortices and the Vortex-
Lattice in MgB₂**

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. K pfer: 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**