

TABLE OF CONTENTS

Foreword	vii
A Tribute to LEF by D. Heiman	xi
Historical Remarks	xiii
Conference Program	xxi

KEYNOTE ADDRESS

EXPERIMENTAL CONSTRAINTS ON THEORIES OF HIGH T_c SUPERCONDUCTORS	3
<i>W. A. Little</i>	

ELEMENTARY EXCITATIONS

MAGNETISM VERSUS HIGH TEMPERATURE SUPERCONDUCTIVITY — THE ROLE OF COMPETING HYBRIDIZATION	7
<i>B. R. Cooper</i>	
LOCAL DENSITY ELECTRONIC STRUCTURE AND EXCITONIC SUPERCONDUCTIVITY IN THE HIGH T_c Cu-OXIDES	17
<i>A. J. Freeman, J. Yu & S. Massidda</i>	
MECHANISM IN HIGH- T_c SUPERCONDUCTIVITY	46
<i>J. B. Goodenough</i>	
ELECTRON CORRELATIONS AND MAGNETIC INTERACTIONS IN HIGH T_c SUPERCONDUCTORS	64
<i>C. S. Wang</i>	
PLASMONS IN THE CUPRATES AND THE PHONON-PLASMON MECHANISM OF HIGH T_c	86
<i>V. Z. Kresin & H. Morawitz</i>	

APPLICABILITY OF CONVENTIONAL BAND THEORY AND THE ROLE OF PHONONS IN HIGH T_c SUPERCONDUCTORS	93
<i>R. E. Cohen, W. E. Pickett, H. Krakauer, D. Singh, D. A. Papaconstantopoulos & P. B. Allen</i>	
CRYSTAL-FIELD-MODEL INTERPRETATION OF MAGNETIC RESONANCE DATA IN HIGH- T_c SUPERCONDUCTORS: LOCATION OF CHARGE-CARRYING HOLES	106
<i>F. J. Adrian</i>	
ROLE OF RARE EARTH SUBSTITUTED FOR Y IN HIGH- T_c $Y_1Ba_2Cu_3O_{7-\delta}$ SUPERCONDUCTOR: POLARIZING OF FLUCTUATIONS FROM ANTIFERROMAGNETISM; BREAKDOWN OF COOPER PAIRING AT CLOSE PROXIMITY; HALL EFFECT	116
<i>G. C. Vezzoli, B. M. Moon, B. Lalevic & A. Safari</i>	
ROLE OF Cu-O PLANES IN SUPERCONDUCTORS	154
<i>J. Ruvalds, C. Y. Lin, M. Rilee & A. Virosztek</i>	
EXPERIMENTAL AND APPLICATIONS	
MAGNETIZATION, TRANSPORT AND STRUCTURAL STUDIES OF Tl-Ca-Ba-Cu-O: BULK CERAMICS, SINGLE CRYSTALS, AND POLYCRYSTALLINE THIN FILMS	169
<i>E. L. Venturini, J. F. Kwak, D. S. Ginley, B. Morosin & R. J. Baughman</i>	
MODELING OF CRITICAL CURRENTS IN GRANULAR HIGH- T_c SUPERCONDUCTORS	190
<i>R. L. Peterson & J. W. Ekin</i>	
IS THERE A FERMI SURFACE IN HIGH T_c SUPERCONDUCTORS? A BRIEF REVIEW OF POSITRON ANNIHILATION RESULTS	196
<i>S. Berko</i>	
MUON SPIN ROTATION STUDIES OF MAGNETIC ORDER AND STRONG MAGNETIC CORRELATIONS IN MAGNETIC AND SUPERCONDUCTING SYSTEMS BASED ON THE HIGH T_c COPPER OXIDE STRUCTURES	206
<i>J. I. Budnick, B. Chamberland, A. Weidinger, Ch. Niedermayer, A. Golnik, R. Simon, E. Recknagel & C. Baines</i>	

MAGNETICALLY MODULATED MICROWAVE ABSORPTION METHOD FOR STUDYING SUPERCONDUCTORS: DISTINCTION BETWEEN INTRINSIC AND EXTRINSIC RESPONSES	225
<i>K. Moorjani, B. F. Kim, F. J. Adrian & J. Bohandy</i>	
MAGNETICALLY MODULATED MICROWAVE REFLECTION (MMR) CHARACTERIZATION OF HIGH T_c SUPERCONDUCTORS	239
<i>T. A. Mahl, J. P. DeLooze, P. K. Kahol & N. S. Dalal</i>	
FIELD MODULATED MICROWAVE ABSORPTION IN $YBa_2Cu_3O_{7-x}$ NEAR T_c	250
<i>R. Karim, S. A. Oliver, A. Widom, C. Vittoria, G. Balestrino, S. Barbanera & P. Paroli</i>	
MAGNETIC PROPERTIES OF A CHEMICALLY SYNTHESIZED Bi(Pb)SrCaCuO SUPERCONDUCTOR	263
<i>D. R. Lundy, J. J. Ritter, L. J. Swartzendruber, R. D. Shull & L. H. Bennett</i>	
CRITICAL CURRENT VS TEMPERATURE IN THE HIGH- T_c $Y_1Ba_2Cu_3O_{7-6}$ SUPERCONDUCTOR	269
<i>G. C. Vezzoli, T. Burke, M. Moon, B. Lalevic, A. Safari & A. Sundar</i>	
SOME NORMAL STATE PROPERTIES OF HIGH T_c COMPOUNDS	292
<i>M. Rubinstein, M. Z. Harford, T. K. Chaki, L. J. Swartzendruber & L. H. Bennett</i>	
MEASUREMENT OF MAGNETIC PROPERTIES IN A MELT CAST Bi-Ca-Sr-Cu-O SUPERCONDUCTOR	303
<i>L. J. Swartzendruber, L. H. Bennett & C. F. Gallo</i>	
ANALYSIS OF MICROWAVE SURFACE RESISTANCE IN HIGH T_c SUPERCONDUCTORS	309
<i>P. J. Walsh</i>	
^{57}Fe MOSSBAUER STUDY OF A Ti-Ca-Ba-Cu-O HIGH- T_c SUPERCONDUCTOR	319
<i>A. H. Morrish, X. Z. Zhou & Y. L. Luo</i>	

MAGNETIC LEVITATION BY <u>ATTRACTION</u> IN SOME HIGH T_c SUPERCONDUCTORS	328
<i>R. D. Shull, L. J. Swartzendruber, C. K. Chiang, M. K. Wu, P. N. Peters & C. Y. Huang</i>	
MAGNETIC MEASUREMENTS ON POLYMER-HIGH T_c SUPERCONDUCTOR COMPOSITES	340
<i>A. S. De Reggi, C. K. Chiang, L. Swartzendruber & G. T. Davis</i>	
THE GROWTH OF VERY THIN HIGH TEMPERATURE SUPERCONDUCTING WIRES	346
<i>D. Gazit & R. S. Feigelson</i>	
OPTICAL EXCITATIONS IN THIN FILM $YBa_2Cu_3O_7$	347
<i>K. Kamarás, S. L. Herr, C. D. Porter & D. B. Tanner</i>	
PANEL SUMMARIES	
HIGH- T_c THEORIES — ELEMENTARY EXCITATIONS	367
<i>J. Ashkenazi</i>	
SPACE APPLICATION OF HIGH- T_c SUPERCONDUCTORS	378
<i>Y. Flom</i>	
THIN FILM APPLICATIONS	382
<i>J. Brasunas</i>	
PATENTS AND SUPERCONDUCTIVITY	385
<i>G. Goldberg</i>	
MEASUREMENT METHODS	393
<i>N. S. Dalal</i>	
CONCLUDING REMARKS	
<i>V. Z. Kresin</i>	399
Author Index	403