

CONTENTS TO PARTS I AND II – CONTRIBUTED PAPERS

| | |
|--|-----|
| Preface | v |
| Conference committees – Sponsors – Supporters – Exhibitors | vii |

PART I: CONTRIBUTED PAPERS

(first volume, pages 1–710)

AC – TEXTURES AND VORTICES IN SUPERFLUID $^3\text{HELIUM I}$

| | | |
|------|---|---|
| AC 1 | GAMMEL, P.L. and REPPY, J.D., Persistent superflow in superfluid ^3He | 1 |
| AC 2 | LING, R., BETTS, D.S. and BREWER, D.F., Dissipation at low velocities in oscillatory flow of superfluid $^3\text{He-B}$ | 3 |
| AC 3 | VOLLHARDT, D., Exact solution of the spin dynamics of superfluid $^3\text{He-A}$ in zero magnetic field | 5 |

AD – SUPERCONDUCTIVITY AND MAGNETISM I

| | | |
|------|--|----|
| AD 1 | HÜSER, D., NIEUWENHUYSEN, G.J. and MYDOSH, J.A., Coexistence of superconductivity and random magnetic freezing in $(\text{Th}_{0.67}\text{Nd}_{0.33})\text{Ru}_2$ | 7 |
| AD 2 | BULAEVSKII, L.N., BUZDIN, A.I., KULIĆ, M.L. and PANJUKOV, S.V., Coexistence phase in ferromagnetic superconductors | 9 |
| AD 3 | FUKASE, T., TACHIKI, M., TOYOTA, N., KOIKE, Y. and NAKANOMY, T., Ultrasonic attenuation in $(\text{Er}_{1-x}\text{Ho}_x)\text{Rh}_4\text{B}_4$ ($x \leq 0.15$) at low temperatures | 11 |

AE – NUCLEAR MAGNETIC ORDERING

| | | |
|------|--|----|
| AE 1 | COLCLOUGH, M.S. and FORGAN, E.M., Magnetic ordering in praseodymium | 13 |
| AE 2 | KUBOTA, M., MUELLER, R.M. and FISCHER, K.J., Study of magnetic ordering in metallic Pr compounds: is simplest candidate PrS? | 15 |
| AE 3 | SUZUKI, H., OHTSUKA, T., KAWARAZAKI, S., KUNITOMI, N., MOON, R.M. and NICKLOW, R.M., A neutron diffraction study of the hyperfine enhanced nuclear antiferromagnet HoVO_4 | 17 |

AF – MICROFABRICATION

| | | |
|------|--|----|
| AF 1 | DE LOZANNE, A.L., ANKLAM, W.J. and BEASLEY, M.R., Series arrays of refractory SNS microbridges | 19 |
| AF 2 | KONISHI, H., NOYA, A. and KURIKI, S., On the role of amorphous-silicon barrier in Nb_3Ge Josephson tunnel junctions | 21 |
| AF 3 | KLEIN, K.-D. and LUTHER, H., Small planar SNS Josephson-junctions in niobium-copper technique | 23 |
| AF 4 | RINGGER, M., HIDBER, H.R., SCHLÖGL, R., OELHAFEN, P., GÜNTHERODT, H.-J., WANDEL, K. and ERTL, G., Vacuum tunneling applied to the surface topography of a Pd (100) surface | 25 |

AG – TEXTURES AND VORTICES IN SUPERFLUID $^3\text{HELIUM II}$

| | | |
|------|---|----|
| AG 1 | NEWBURY, R., SAUNDERS, J. and BREWER, D.F., Direct observations of thermal counterflow in superfluid $^3\text{He-A}$; evidence for superflow collapse? | 27 |
| AG 2 | WHITEHURST, E.P., HALL, H.E., GAMMEL, P.L. and REPPY, J.D., Superfluid dissipation in rotating ^3He | 29 |
| AG 3 | LING, R., BETTS, D.S. and BREWER, D.F., Pressure and temperature dependence of D.C critical currents in $^3\text{He B}$ | 31 |
| AG 4 | LING, R., BETTS, D.S. and BREWER, D.F., D.C. critical currents in $^3\text{He-A}$ in a rectangular channel | 33 |

CONTENTS TO PART I AND II

| | | |
|-------|---|----|
| AG 5 | PEKOLA, J.P., SIMOLA, J.T., NUMMILA, K.K., LOUNASMAA, O.V., and PACKARD, R.E., Persistent current experiments on superfluid ^3He | 35 |
| AG 6 | EASTOP, A.D., HALL, H.E. and HOOK, J.R., Measurement of the inertia associated with rotation of ℓ in $^3\text{He-A}$ | 37 |
| AG 7 | MINEEV, V.P. and VOLOVIK, G.E., Supercurrent and angular momentum in $^3\text{He-B}$ induced by magnetic field | 39 |
| AG 8 | SEPPÄLÄ, H.K., Continuous vortices in rotating $^3\text{He-A}$ in transverse magnetic field | 41 |
| AG 9 | MAKI, K. and ZOTOS, X., Vortex pair state in rotating superfluid $^3\text{He-A}$ | 43 |
| AG 10 | MUZIKAR, P., Intrinsic angular momentum in superfluid $^3\text{He-B}$ | 45 |
| AG 11 | COMBESCOT, R. and DOMBRE, T., Stability of the zero energy excitations in $^3\text{He-A}$ | 47 |
| AG 12 | HAKONEN, P.J., KRUSIUS, M., MAMNIASHVILI, G. and SIMOLA, J.T., Textural orienting energies of vortices in $^3\text{He-B}$ | 49 |
| AG 13 | BATES, D.M., YTTERBOE, S.N., GOULD, C.M. and BOZLER, H.M., Flow induced textures in $^3\text{He-A}$ | 51 |
| AG 14 | DOW, R.C.M. and HOOK, J.R., Stability of the uniform texture for $^3\text{He-A}$ in finite geometries | 53 |

AH – SOUND IN LIQUID $^4\text{HELIUM}$ AND MIXTURES

| | | |
|-------|---|----|
| AH 1 | PASIERB, F., SINGER, D., RUEL, R. and KOJIMA, H., Sound propagation in superfluid He II saturated porous media | 55 |
| AH 2 | SMITH, D.T., LIEBL, M., BUMMER, M.D. and HALLOCK, R.B., Pulsed third sound on substrates of known contamination | 57 |
| AH 3 | HEINRICHS, R.M. and HALLOCK, R.B., Studies of $^3\text{He}-^4\text{He}$ mixture films by third sound resonance | 59 |
| AH 4 | DESIDERI, J.P. and LAHEURTE, J.P., Two-phase sound in $^3\text{He}-^4\text{He}$ mixtures at low temperatures | 61 |
| AH 5 | LEA, M.J., SPENCER, D.S. and FOZOONI, P., The transverse acoustic impedance of ^4He above the critical temperature | 63 |
| AH 6 | TORCZYNSKI, J.R., Spherical second sound shock waves | 65 |
| AH 7 | TORCZYNSKI, J.R., GERTHSEN, D. and ROESGEN, T., Flow visualization of shock waves in liquid helium II | 67 |
| AH 8 | ROESGEN, T., Second sound scattering using focusing cavities | 69 |
| AH 9 | IZNANKIN, A.Yu. and MEZHOV-DEGLIN, L.P., Shock waves of strong second sound in He II | 71 |
| AH 10 | DALY, K. and PACKARD, R., A silicon fourth sound resonator | 73 |
| AH 11 | SOBOLEV, V.I. and POGORELOV, L.A., New mechanism of relaxation in superfluid helium kinetics | 75 |

AI – SUPERCONDUCTIVITY AND MAGNETISM II: THEORY / BORIDES

| | | |
|-------|---|-----|
| AI 1 | BULAEVSKII, L.N., BUZDIN, A.I. and KULIĆ, M.L., Upper critical field of ferromagnetic superconductors | 77 |
| AI 2 | STAMPFLI, P. and RICE, T.M., A new structure for ferromagnetic superconductors | 79 |
| AI 3 | HU, C., Neutron-scattering signature of a new SAVL phase for the coexistence of superconductivity and ferromagnetism | 81 |
| AI 4 | KLEIN, U., Coexistence of superconductivity and ferromagnetism in thin films | 83 |
| AI 5 | CRISAN, M., GULACSI, M. and GULACSI, Z., The phase diagram of a ferromagnetic superconductor in the mixed state | 85 |
| AI 6 | IWASAKI, H., IKEBE, M. and MUTO, Y., New type metamagnetic transition in a BCT ErRh_4B_4 single crystal | 87 |
| AI 7 | IWASAKI, H., IKEBE, M. and MUTO, Y., On large anisotropy of H_{c2} in a BCT ErRh_4B_4 single crystal | 89 |
| AI 8 | KUMAGAI, K., HONDA, Y. and FRADIN, F.Y., NMR study on local density of state of B in BCT $\text{RE}(\text{Rh}_{1-x}\text{Ru}_x)_4\text{B}_4$ | 91 |
| AI 9 | KUMAGAI, K., HONDA, Y. and FRADIN, F.Y., Effect of crystalline electric fields on spin dynamics in $(\text{Y}_{1-x}\text{RE}_x)\text{Rh}_4\text{B}_4$ ($\text{RE} = \text{Tb}, \text{Dy}, \text{Ho}$) | 93 |
| AI 10 | ADRIAN, H., THOMÄ, A., KANDOLF, B. and SAEMANN-ISCHENKO, G., Phase-diagram, magnetization and critical fields of the pseudoternary bct system $\text{Ho}(\text{Rh}_{1-x}\text{Ru}_x)_4\text{B}_4$ | 95 |
| AI 11 | KNAUF, R., MÜLLER, R., ADRIAN, H., SAEMANN-ISCHENKO, G. and JOHNSON, R.L., High resolution photoemission studies on the pseudoternary pt $\text{Ho}(\text{Rh}_{1-x}\text{Ir}_x)_4\text{B}_4$ system | 97 |
| AI 12 | MÜLLER, R., THOMÄ, A., THEILER, T., ADRIAN, H., SAEMANN-ISCHENKO, G. and STEINER, M., Nature of the magnetic order in HoRu_4B_4 below 4.2K | 99 |
| AI 13 | DEPUYDT, J.M. and DAHLBERG, E.D., Specific heat-measurements of an ErRh_4B_4 single crystal | 101 |
| AI 14 | SVEDLINDH, P., SANDLUND, L., BLANK, D.H.A. and FLOKSTRA, J., Dynamic susceptibility studies on ErRh_4B_4 | 103 |
| AI 15 | KU, H.C., Low temperature phase diagram of ternary magnetic superconductors | 105 |

AK – REFRactories AND OTHER TRANSITION METAL COMPOUNDS

| | | |
|-------|--|-----|
| AK 1 | KOBAYASHI, N., KAUFMANN, R. and LINKER, G., Superconducting transition temperature and structure of ion irradiated NbC thin films | 107 |
| AK 2 | JUNG, V., Ar ⁺⁺ irradiation effects in superconducting NbN sputtered layers | 109 |
| AK 3 | GEERK, J., GOMPF, F. and LINKER, G., Tunneling and neutron scattering experiments on superconducting TiN | 111 |
| AK 4 | RUZICKA, J., HAASE, E.L. and MEYER, O., Annealing and irradiation studies of MoC layers | 113 |
| AK 5 | GAVALER, J.R., GREGGI, J. and SCHREURS, J., Solid state epitaxial growth of single crystal NbN on sapphire | 115 |
| AK 6 | MORAWSKI, A., High pressure method for obtaining NbN superconductor | 117 |
| AK 7 | JARLBORG, T., PICTET, O., DACOROGNA, M. and PETER, M., Alloying effects on low temperature properties in V _x Nb _(1-x) and V _x Nb _(1-x) N | 119 |
| AK 8 | GEIBEL, C., KEIBER, H., RENKER, B., RIETSCHEL, H., SCHMIDT, H., WÜHL, H. and STEWART, G.R., Electronic density of states and superconductivity in the C15 compound V ₂ Zr | 121 |
| AK 9 | DÄUMER, W., KHAN, H.R. and LÜDERS, K., Superconductivity and NMR investigations on cubic Laves phase hydrides of V ₂ Hf _{0.5} Zr _{0.5} H _x (0 ≤ x ≤ 2) | 123 |
| AK 10 | SEDEE, A.P., DING, D.T., KLAASSEN, T.O. and POULIS, N.J., Knightshift and nuclear spin relaxation in the HfV ₂ ·(H,D) _x system | 125 |
| AK 11 | TRAVERSE, A., CHAUMONT, J., BENYAGOUB, A., BERNAS, H., NEDELLEC, P. and BURGER, J.P., Experimental study of the electron-phonon interaction in AgD _x prepared by implantation | 127 |
| AK 12 | PAPACONSTANTOPOULOS, D.A., Electron-phonon interaction in transition metal dihydrides | 129 |
| AK 13 | KLEIN, B.M., BOYER, L.L., KRAKAUER, H. and WANG, C.S., Theoretical lattice constant of the predicted high-T _c compound: B1-structure MoN | 131 |

AL – MAGNETISM I

| | | |
|-------|---|-----|
| AL 1 | HUIKU, M.T., LOPONEN, M.T., JYRKKIÖ, T.A., KYYNÄRÄINEN, J.M., OJA, A.S., and SOINI, J.K., Impurities and the anomalous spin-lattice relaxation in copper at submillikelvin temperatures | 133 |
| AL 2 | HIRSCHFELD, P.J. and STEIN, D.L., Paramagnon contribution to nuclear spin relaxation in nearly magnetic fermi systems | 135 |
| AL 3 | ERNST, H.J., GRUHL, H., KRUG, T. and WINZER, K., Specific heat and thermoelectric power of (La, Ce)B ₆ | 137 |
| AL 4 | SATO, N., MORI, H., YASHIMA, H., SATOH, T., HIROYOSHI, H. and TAKEI, H., Anisotropic behavior of the dense kondo state in Ce-Si single crystals | 139 |
| AL 5 | HAMZIĆ, A. and ZLATIĆ, V., The magneto resistivity of dilute RhFe alloys | 141 |
| AL 6 | RAY, J. and GIRISH CHANDRA., Effect of Au and Rh impurities in spin fluctuating PtFe alloys | 143 |
| AL 7 | VAN RUITENBEEK, J.M., MYRON, H.W., VAN DER HEIJDEN, R.W. and SMITH, J.L., Spinfluctuation suppression in the magneto resistivity of TiBe ₂ | 145 |
| AL 8 | SPRINGFORD, M., WISE, P., ROELAND, L.W., TAL, A. and WOLFRAT, J.C., De Haas-Van Alphen effect in Pd(Ni) alloys | 147 |
| AL 9 | ROJEK, A., SULKOWSKI, C., ZYGMUNT, A. and KOZŁOWSKI, G., Electrical resistivity and susceptibility of GdRh _{1.1} Sn _{4.2} compound | 149 |
| AL 10 | HORN, S., LIEKE, W., LOEWENHAUPT, M. and STEGLICH, F., Reorientation in ferromagnetic TmAl ₂ | 151 |
| AL 11 | THOLENCE, J.L. and CAMPBELL, I.A., Canted ferromagnetism in dilute PdMn alloys | 153 |
| AL 12 | PAVESE, F., Ferromagnetic transition and negative magnetoresistivity in dilute Pt-Co alloys | 155 |
| AL 13 | BARCLAY, J.A., OVERTON, W.C., Jr., and ZIMM, C.B., Thermomagnetic properties of GdPd | 157 |
| AL 14 | DUDĀŠ, J. and FEHÉR, A., Electrical resistance of thin dysprosium films at low temperatures | 159 |
| AL 15 | LIU, F. and JIANG, Q., 1-D systems with local magnetic moment | 161 |
| AL 17 | GUESSOUS, A. and MATHO, K., On the susceptibility of rare earth ions in random crystal fields | 163 |
| AL 18 | SRIRAM SHAstry, B., Monte Carlo molecular dynamics study of iron | 165 |

AM – MAGNETISM II

| | | |
|------|--|-----|
| AM 1 | RUDIGIER, H. and OTT, H.R., Hyperfine magnetic fields in UP, UAs, USb, USe and UTe from low temperature specific heat measurements | 167 |
| AM 2 | ARZOUMANIAN, C., DE GOËR, A.M., SALCE, B. and HOLTZBERG, F., A study of the thermal conductivity of ferromagnetic EuS | 169 |
| AM 3 | EREMENKO, V.V., NAUMENKO, V.M. and PISHKO, V.V., The delocalization of impurity magnetic excitations at external fields | 171 |

| | | |
|-------|--|-----|
| AM 4 | LUKIERSKA-WALASEK, K., Quantum crossover at low temperature in the transverse Ising model | 173 |
| AM 5 | DYAKONOV, V.P., LEVCHENKO, G.G. and FITA, I.M., Effect of concentration and pressure on the spin-hamiltonian parameters of $\text{NiSiF}_6 \cdot 6\text{H}_2\text{O}$ | 175 |
| AM 6 | BOON, W. and VAN GERVEN, L., Very high field magnetization at low temperatures in the spin system of the free radical DPPH | 177 |
| AM 7 | BOS, W.G., KLAASSEN, T.O. and POULIS, N.J., Indirect nuclear spin-spin interaction in $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ | 179 |
| AM 8 | CHIRWA, M. and FLOKSTRA, J., Relaxation at the spin-flop transition of the linear-chain antiferromagnet $\text{CsMnCl}_3 \cdot 2\text{H}_2\text{O}$ | 181 |
| AM 9 | FROESE, A. and KÖTZLER, J., Critical dynamics below T_c of the uniaxial ferromagnet LiTbF_4 | 183 |
| AM 10 | GERMAN, B.R., DJAKONOV, V.P. and MARKOVICH, V.I., Pressure and magnetic field effects on phase transitions in Heisenberg ferromagnets | 185 |
| AM 11 | SIMIZU, S., BELLESIS, G.H. and FRIEDBERG, S.A., Magnetic ordering in $\text{Dy}(\text{BrO}_3)_3 \cdot 9\text{H}_2\text{O}$ below 170 mK | 187 |
| AM 12 | TURRELL, B.G., NMR of oriented ^{54}Mn nuclei in antiferromagnetic $\text{MnBr}_2 \cdot 4\text{H}_2\text{O}$ | 189 |
| AM 13 | DANIELS, J.M., SABBAS, A.M., CHEN, M.E., KRAVITZ, P.S., GAVILANO, J., GROVES, J.L. and WU, C.S., A nuclear orientation study of a single crystal of the β -phase of iron-germanium | 191 |
| AM 14 | MASUDA, Y., SUZUKI, H., OHTSUKA, T. and WALKER, P.J., Experimental studies on the enhanced nuclear spin system in $\text{Cs}_2\text{NaTbCl}_6$ and $\text{Cs}_2\text{NaTmCl}_6$ | 193 |

AN – PROPERTIES AND TECHNOLOGY OF JOSEPHSON JUNCTIONS

| | | |
|-------|---|-----|
| AN 1 | SERFATY, A.M. and OCTAVIO, M., A step edge superconductor-semiconductor-superconductor Josephson junction | 195 |
| AN 2 | BERTHEL, K.-H. and DETTMANN, F., Planar thin-film dc SQUID, fabrication and measuring system | 197 |
| AN 3 | BONDARENKO, S.I., KRAVCHENKO, V.V., GOLOVANEV, E.A. and LEMESHKO, N.M., Thin-film dc SQUIDs for superconducting magnetometer devices | 199 |
| AN 4 | KLEIN, K.-D., KOCH, H. and LUTHER, H., Fabrication of niobium variable-thickness bridges for DC-SQUID applications | 201 |
| AN 5 | GERMAIN, R.S., ROUKES, M.L., FREEMAN, M.R., RICHARDSON, R.C. and KETCHEN, M.B., Source impedance effects on dc SQUID performance | 203 |
| AN 6 | AOMINE, T. and YONEKURA, A., Magnetic hysteresis of critical currents in superconducting granular aluminum bridges | 205 |
| AN 7 | LUU, J., CHUI, T.C.P. and LIPA, J.A., Thermal coefficients of SQUID magnetometers | 207 |
| AN 8 | HERWIG, R., Saturation thickness for Josephson tunnel oxide on niobium by ion beam oxidation | 209 |
| AN 9 | KURIKI, S., SUEHIRO, M. and KONISHI, H., Cylindrical rf-SQUIDS made of Nb_3Ge films | 211 |
| AN 11 | OLSSON, H. and CLAESON, T., High frequency response of the self-resonant current step of a Josephson tunnel junction | 213 |
| AN 12 | PATERNO, G., Resonant modes for a Josephson junction coupled to a stripline resonator | 215 |
| AN 13 | RIEDEL, M., MEYER, H.-G., KRECH, W., SEIDEL, P. and BERTHEL, K.-H., The inverse ac Josephson effect in Josephson tunnel junctions at energy gap frequencies | 217 |
| AN 14 | BRUNK, G., LÜBBIG, H. and ZURBRÜGG, Ch., Self-capacitance effect on plasma oscillations in a Josephson sis tunnel junction | 219 |

BB – CHARGES AND MOLECULES AT LIQUID HELIUM SURFACES

| | | |
|------|--|-----|
| BB 1 | WILEN, L. and GIANNETTA, R., Electrically charged superfluid films | 221 |
| BB 2 | MEHROTRA, R., GUO, C.J., RUAN, Y.Z., MAST, D.B. and DAHM, A.J., Possible correlation effects in the density dependent mobility of a two-dimensional electron fluid | 223 |
| BB 3 | DEVILLE, G., VALDES, A., ANDREI, E.Y. and WILLIAMS, F.I.B., Observation of a propagating shear mode in the 2d electron solid on liquid helium | 225 |

BC – HEAVY FERMION SUPERCONDUCTORS I

| | | |
|------|--|-----|
| BC 1 | CLARK, W.G., FISK, Z., GLOVER, K., LAN, M.D., MACLAUGHLIN, D.E., SMITH, J.L. and TIEN, C., Nuclear spin relaxation and dynamic magnetic behavior of the heavy-fermion superconductor UBe_{13} | 227 |
| BC 2 | GIORGIO, A.L., FISK, Z., WILLIS, J.O., STEWART, G.R. and SMITH, J.L., Substitution of Ga, Cu and B in Be sublattice of heavy fermion superconductor UBe_{13} | 229 |

- BC 3** RAUCHSCHWALBE, U., AHLHEIM, U., GOTTWICK, U., LIEKE, W. and STEGLICH, F., Coexistence of superconductivity and intermediate valence in CeRu_3Si_2 231

BD – MULTILAYERS, SUPERLATTICES

- BD 1** VILLEGIER, J.C., BLANCHARD, B. and LOBORDE, O., Composition modulation measurements in thin 2d-superconducting multilayers 233
BD 2 SEVENHANS, W., LOQUET, J.-P., GILABERT, A. and BRUYNSERAED, Y., Superconducting Nb/Cu multilayers prepared in a dual electron beam evaporator 235

BE – MAGNETIC PROPERTIES OF SOLID $^3\text{HELIUM}$ I

- BE 1** CHAPELLIER, M., BASSOU, M., DEVORET, M. and DELRIEU, J.M., A new nuclear spin-lattice relaxation mechanism in bcc ^3He 237
BE 2 SAWADA, A., KATO, M., YANO, H. and MASUDA, Y., Specific heat measurement of bcc solid ^3He through the nuclear magnetic ordering temperature 239
BE 3 TSUBOTA, M. and TSUNETO, T., Non-linear spin dynamics in the uudd phase of solid ^3He 241
BE 4 ROGER, M., Multiple exchange in ^3He and in the Wigner Solid 243

BF – HEAVY FERMION SUPERCONDUCTORS II

- BF 1** WILLIS, J.O., FISK, Z., SMITH, J.L., CHEN, J.W., LAMBERT, S.E. and MAPLE, M.B., Initial slope of the upper critical field of the heavy fermion superconductor UPt_3 245
BF 2 GREWE, N., Coherence and superconductivity in Kondo lattice systems 247
BF 3 RICE, T.M. and UEDA, K., Theory of heavy electron superconductors 251

BG – LOW ENERGY EXCITATIONS IN GLASSES

- BG 1** RÜSING, H. and LÖHNEYSEN, H.v., Reversible change of the density of tunneling states after structural relaxation of a glass 253
BG 2 KRSNIK, R., BABIĆ, E. and LIEBERMANN, H.H., Resistivity minima in $\text{Fe}_x\text{Ni}_{80-x}\text{B}_{18}\text{Si}_2$ alloys 255
BG 3 WILLER, J. and HAKE, R.R., Anomalous electrical resistivity and magnetoresistivity of titanium-copper metallic glasses: evidence for weak electron localization 257
BG 4 ISAWA, Y., Logarithmic temperature dependence of the resistivity in amorphous metals 259

BH – SMALL CRYOCOOLERS AND HIGH SENSITIVITY MEASURING DEVICES

- BH 1** ALBRECHT, G., HABERKORN, W., KIRSCH, G., NOWAK, H. and ZACH, H.G., Recent results of biomagnetic measurements with a DC-SQUID-system 261
BH 2 TESCHE, C.D., BROWN, K.H., CALLEGARI, A.C., CHEN, M.M., GREINER, J.H., JONES, H.C., KETCHEN, M.B., KIM, K.K., KLEINSASSER, A.W., NOTARYS, H.A., PROTO, G., WANG, R.H. and YOGI, T., Well coupled DC SQUID with extremely low $1/f$ noise 263
BH 3 WENNBERG, A.K.M., FRIEDMAN, L.J. and BOZLER, H.M., Pulsed NMR using a DC SQUID 265
BH 4 FREEMAN, M.R., ROUKES, M.L., GERMAIN, R.S. and RICHARDSON, R.C., dc SQUID small signal amplifiers for NMR 267

BI – MAGNETIC PROPERTIES OF SOLID $^3\text{HELIUM}$ II

- BI 1** BERNIER, M.E.R., Low temperature spin lattice relaxation in bcc ^3He 269
BI 2 KUSUMOTO, T., ISHIKAWA, O., MIZUSAKI, T. and HIRAI, A., Anomalous NMR free induction decay in nuclear ordered solid ^3He 271

| | | |
|------|--|-----|
| BI 3 | KIRK, W.P., OLEJNICZAK, Z., KOBIELA, P.S. and GIBSON, A.A.V., Magnetic susceptibility anomaly in low density bcc solid ^3He | 273 |
| BI 4 | FUKUYAMA, H., SAWADA, A., MIWA, Y. and MASUDA, Y., Thermodynamic properties of bcc solid ^3He in a low magnetic field | 275 |
| BI 5 | MAMIYA, T., WILDES, D.G., FREEMAN, M.R. and RICHARDSON, R.C., Measurement of the pressure of hcp solid ^3He at low temperatures in a magnetic field | 277 |
| BI 6 | UHLIG, K., ADAMS, E.D., HAAS, G.E., ROSENBAUM, R., MORII, Y. and KRAL, S.F., Pressure measurements of magnetically ordered solid ^3He | 279 |
| BI 7 | WILDES, D.G., FREEMAN, M.R., SAUNDERS, J. and RICHARDSON, R.C., Constant-volume pressure measurements on bcc solid ^3He below 25 mK | 281 |
| BI 8 | BHATT, R.N. and CROSS, M.C., A quantum spin- $\frac{1}{2}$ model of bcc ^3He | 283 |

BK – IONS AND FILMS

| | | |
|------|--|-----|
| BK 1 | NANCOLAS, G.G., BOWLEY, R.M. and McCLINTOCK, P.V.E., Quantum desorption of ^3He atoms from negative ions in HeII | 285 |
| BK 2 | ELLIS, T. and McCLINTOCK, P.V.E., Anomalous behaviour of negative ions in HeII | 287 |
| BK 3 | AWSCHALOM, D.D. and SCHWARZ, K.W., Field-dependent ion trapping on remanent vortex lines | 289 |
| BK 4 | SMITH, C.W., Stochastic noise of an electron current in turbulent superfluid helium-4 | 291 |
| BK 5 | MUIRHEAD, C.M., VINEN, W.F. and DONNELLY, R.J., The theory of the nucleation of vorticity by negative ions in very dilute solutions of ^3He in superfluid ^4He | 293 |
| BK 6 | ETZ, H., GOMBERT, W. and LEIDERER, P., Stability of electrons on superfluid ^4He films | 295 |
| BK 7 | HANNAHS, S.T., WILLIAMS, G.A. and SALOMAA, M.M., Multiply charged ions in liquid helium and in helium vapor | 297 |
| BK 8 | KIM, M. and GLABERSON, W.I., Vortex motion in helium films | 299 |
| BK 9 | ELLIS, T. and McCLINTOCK, P.V.E., Pressure dependence of the Landau critical velocity in HeII: a progress report | 301 |

BL – FLOW AND TURBULENCE

| | | |
|------|---|-----|
| BL 1 | OKUYAMA, M., SATOH, T., SATOH, T., OHTSUKA, T., SATO, T. and SAITO, S., Adiabatic flow of HeII and motion of ^3He in HeII | 303 |
| BL 2 | DORSCHEIDT, A.G.F., FREDERKING, T.H.K., VAN KEMPEN, H. and WYDER, P., Mutual friction evolution near the He II–HE I lambda transition | 305 |
| BL 3 | GIORDANO, N., Observation of critical velocity effects in vibrating superleak second sound transducers | 307 |
| BL 4 | GIORDANO, N. and MUZIKAR, P., Theory of critical velocity effects in vibrating superleak second sound transducers | 309 |
| BL 5 | GINZBURG, V.L. and SOBYANIN, A.A., Thermocirculation effect and quantum interference phenomena in superfluid helium | 311 |
| BL 6 | ANDERSON, B.J., BEECKEN, B.P. and ZIMMERMANN, W., Jr., The order-parameter phase difference at the critical rate of flow of superfluid ^4He through a tiny orifice | 313 |
| BL 7 | MAREES, G. and BEELEN, H.v., Superfluid flow of helium II at low velocities | 315 |
| BL 8 | TOUGH, J.T. and BAEHR, M.L., The effect of normal fluid flow on the transition to superfluid turbulence | 317 |
| BL 9 | BROCKEN, M.G.M., VAN ANDEL, I., STIKVOORT, D.P. and VAN BEELEN, H., The Kontorovich effect in unsaturated ^4He films | 319 |

BM – HEAVY FERMION SYSTEMS

| | | |
|------|--|-----|
| BM 1 | STEWART, G.R., FISK, Z. and SMITH, J.L., High magnetic field normal state properties of the heavy fermion superconductor UBe_{13} | 321 |
| BM 2 | THOMPSON, J.D., FISK, Z. and WILLIS, J.O., Pressure-dependent resistive behavior of YbBe_{13} | 323 |
| BM 3 | CHEN, J.W., LAMBERT, S.E., MAPLE, M.B., FISK, Z., SMITH, J.L. and OTT, H.R., Pressure dependence of the superconducting transition temperature of CeCu_2Si_2 and UBe_{13} | 325 |
| BM 4 | BREDL, C.D., GREWE, N., STEGLICH, F. and UMLAUF, E., Low temperature properties of Kondo lattice systems | 327 |
| BM 5 | TORIKACHVILI, M.S., MAPLE, M.B. and MEISNER, G.P., Low temperature properties of CeOs_2 | 329 |
| BM 6 | VAISHNAVA, P.P., STRELECKY, C.A., DWIGHT, A.E., KIMBALL, C.W. and FRADIN, F.Y., Lattice vibrational behavior of the exchange enhanced superconductor U_6Fe | 331 |

BN – SUPERCONDUCTIVITY AND MAGNETISM III: CHEVREL COMPOUNDS AND OTHERS

| | | |
|-------|---|-----|
| BN 1 | DECROUX, M., LAMBERT, S.E., MAPLE, M.B., GUERTIN, R.P., BAILLIF, R. and FISCHER, Ø., Superconducting properties of EuMo_6S_8 under pressure | 333 |
| BN 2 | FUJITA, T., IKEGAWA, S. and OHTSUKA, T., Magnetization of sputtered HoMo_6S_8 films | 335 |
| BN 3 | ROSSEL, C., DECROUX, M. and FISCHER, Ø., Search for superconductivity in BaMo_6S_8 | 337 |
| BN 4 | FURUYAMA, M., KOBAYASHI, N., NOTO, K. and MUTO, Y., Low temperature specific heat of Chevrel phase compound AgMo_6S_8 | 339 |
| BN 5 | KIMBALL, C.W., VAISHNAVA, P.P., DUNLAP, B.D., FRADIN, F.Y., HINKS, D.G. and SHENOY, G.K., Lattice vibrational behavior of SnMo_6S_8 and oxygen defected $\text{SnMo}_6\text{S}_{7.8}\text{O}_{0.2}$ | 341 |
| BN 6 | BALAKRISHNAN, G., SRINIVASAN, R., SANKARANARAYANAN, V., RANGARAJAN, G., JANAKI, R. and SUBBA RAO, G.V., Thermoelectric power of PbMo_6S_8 and EuMo_6S_8 | 343 |
| BN 7 | REEVES, M.E., MILLER, W.M., GINSBERG, D.M. and BROWN, F.C., Measurements of magnetic susceptibility and superconducting transition temperature of some pure and Mn-doped Chevrel compounds | 345 |
| BN 8 | TAKANO, S., TOMITA, E. and MASE, S., Superconducting properties of $\text{Pb}_{1-x}\text{M}_x\text{Mo}_6\text{S}_8$ ($\text{M} = \text{Nb}, \text{Y}$ and La) | 347 |
| BN 9 | ADRIAN, H., HOLTER, G., SÖLDNER, L. and SAEMANN-ISCHENKO, G., Dependence of Hall-effect, superconductivity and electrical resistivity on atomic order in Chevrel phase PbMo_6S_8 films | 349 |
| BN 10 | CRUCEANU, E. and MIU, L., New PbMo_6S_8 -based granular superconductors | 351 |
| BN 11 | JUNOD, A., BAILLIF, R., SEEBER, B., FISCHER, Ø. and MULLER, J., Specific heat of non-superconducting PbMo_6S_8 | 353 |
| BN 12 | SAVITSKY, E.M., BYCHKOVA, M.I. and LACHENKOV, S.A., Effect of copper additions on the composition and properties of the PbMo_6S_8 | 355 |
| BN 13 | ALEKSEEVSKII, N.E., Superconductivity of cluster compounds | 357 |
| BN 14 | KOŁODZIEJCZYK, A. and SUŁKOWSKI, C., Superconducting, band and exchange parameters of magnetic superconductor Y_3Co_7 | 359 |

BO – AMORPHOUS MATERIALS, TWO-LEVEL SYSTEMS

| | | |
|-------|--|-----|
| BO 1 | LABORDE, O., LASJAUNIAS, J.-C. and CHOUTEAU, G., Resistivity measurements of $\text{Zr}_{76}\text{Fe}_{24}$ amorphous alloys | 361 |
| BO 2 | SUCK, J.-B., RUDIN, H. and GUENTHERODT, H.-J., Temperature dependence of the vibrational density of states of the metallic glass $\text{Zr}_{75}\text{Rh}_{25}$ | 363 |
| BO 3 | TIETJE, H., SCHICKFUS, M.v., GMELIN, E. and GÜNTHERODT, H.J., Low frequency elastic loss and thermoelastic effect in metallic glasses | 365 |
| BO 4 | BABIĆ, E., HAMZIĆ, A. and MILJAK, M., Interference effects in $\text{Ni}_{80}\text{P}_{14}\text{B}_6$ alloy | 367 |
| BO 5 | SCHULTE, A., FRITSCH, G. and LÜSCHER, E., Low temperature Hall effect and magnetoresistance in NiSiB metallic glasses | 369 |
| BO 6 | MOODY, D.E. and NG, T.K., Low temperature specific heats of amorphous Cu-Ti alloys | 371 |
| BO 7 | ARMBRÜSTER, H., DELGADO, R., NAUGLE, D.G., TSAI, C.L., JOHNSON, W.L. and WILLIAMS, A.R., Thermopower measurements and the electron-phonon interaction in $\text{La}_{1-x}\text{Al}_x$ metallic glasses | 373 |
| BO 8 | ORBACH, R. and ROSENBERG, H.M., The phonon-fraction density of states. An explanation of the plateau in the thermal conductivity and the specific heat behavior of amorphous materials | 375 |
| BO 9 | CRISAN, M. and KOSZTIN, I., Dynamical conductivity of simple metallic-glasses | 377 |
| BO 11 | ARNOLD, W., DOUSSINEAU, P., LEVELUT, A. and ZIOLKIEWICZ, S., Elastic low-energy excitations in LiTaO_3 | 379 |
| BO 12 | TOKUMOTO, H., KAJIMURA, K., YAMASAKI, S. and TANAKA, K., Observation of two-level tunneling states in amorphous silicon by surface acoustic waves | 381 |
| BO 13 | GOTO, T., KANDA, E., YAMADA, H., SUTO, S., TANAKA, S., FUJITA, T. and FUJIMURA, T., Quadrupolar response for tunneling excitation of OH^- ion in NaCl | 383 |
| BO 14 | KASPER, G. and RÖHRING, V., Ultrasonic study of the electrolyte-glass $\text{LiCl} \cdot 7\text{H}_2\text{O}$ | 385 |
| BO 15 | KASSNER, K. and REINEKER, P., Optical absorption by impurities in amorphous hosts | 387 |
| BO 16 | GOLDING, B. and BROER, M.M., Optical dephasing by tunneling systems in glass | 389 |
| BO 18 | GRAEBNER, J.E., ALLEN, L.C. and GOLDING, B., Molecular hydrogen in a-Si:H | 391 |
| BO 19 | LÖHNEYSEN, H.v., SCHINK, H.J. and BEYER, W., Specific heat of molecular solid hydrogen in a-Si:H | 393 |

BP – STANDARDS AND PRECISION MEASUREMENTS

| | | |
|------|---|-----|
| BP 1 | COLWELL, J.H., FOGLE, W.E. and SOULEN, R.J., Jr., The NBS temperature scale in the range 15 to 200 mK | 395 |
| BP 2 | GROHMAN, K. and KOCH, H., A dielectric constant gas thermometer | 397 |

| | | |
|-------|---|-----|
| BP 3 | RUSBY, R.L. and DURIEUX, M., New ${}^3\text{He}$ and ${}^4\text{He}$ vapour pressure equations | 399 |
| BP 4 | McCONVILLE, G.T., Helium-4 second virial in low temperature gas thermometry: comparison of measured and calculated values | 401 |
| BP 5 | SCHUSTER, G., HOFFMANN, A., WOLBER, L., BUCK, W. and MARCH, J.-F., Test of some temperature scales below 1 K with absolute thermometry | 403 |
| BP 6 | DOI, H., NARAHARA, Y., ODA, Y. and NAGANO, H., New resistance thermometer with small magnetic field dependence for low temperature measurements | 405 |
| BP 7 | MOODY, M.V., CHAN, H.A., PAIK, H.J. and STEPHENS, C., A superconducting penetration depth thermometer | 407 |
| BP 8 | SCHOOLEY, J.F. and COLWELL, J.H., Superconductive temperature reference points above 0.5 K | 409 |
| BP 10 | BLIEK, L., BRAUN, E., MELCHERT, F., WARNECKE, P., SCHLAPP, W., WEIMANN, G., PLOOG, K., EBERT, G. and DORDA, G., Reference resistance based on the quantum Hall effect | 411 |
| BP 11 | NIEMEYER, J., HINKEN, J.H. and KAUTZ, R.L., Millimeter wave induced Josephson voltage steps above 1.0 volt with a 1474 junctions array | 413 |
| BP 12 | SPENCER, G.F. and IHAS, G.G., A sensitive differential manometer for measurement of superflow in ${}^3\text{He}$ | 415 |
| BP 13 | HENDRY, P.C. and McCLINTOCK, P.V.E., ${}^3\text{He}/{}^4\text{He}$ isotopic ratio measurements to below the 10^{-12} level | 417 |
| BP 14 | SCHMITT, D.-R. and GEY, W., High pressure anomaly of superconductivity of tin and pressure scales | 419 |
| BP 15 | LUCAS, W., SCHON, K. and HINKEN, J.H., A superconducting rectangular cavity resonator for the measurement of high dc voltages | 421 |

CA – INTERFACES AND SURFACES

| | | |
|------|---|-----|
| CA 1 | CARMI, Y., BALFOUR, L.S. and LIPSON, S.G., The surface anisotropy of solid ${}^4\text{He}$ in the region of a roughening transition | 423 |
| CA 2 | PUECH, L., BONFAIT, G., THOULOUZE, D. and CASTAING, B., Mobility of the liquid solid ${}^3\text{He}$ interface | 427 |

CB – NON-EQUILIBRIUM SUPERCONDUCTIVITY I

| | | |
|------|--|-----|
| CB 1 | YEN, Y. and LEMBERGER, T.R., Charge-imbalance in Superconductor-Insulator-Normal metal tunnel junctions | 429 |
| CB 2 | GROSS, R., KOYANAGI, M., SEIFERT, H. and HUEBENER, R.P., Two-dimensional imaging of hotspots in superconducting tunnel junctions by low temperature scanning electron microscopy | 431 |
| CB 3 | HOHL, F. and VOSS, G., Nonequilibrium phenomena in normal metal/superconductor point contacts | 433 |
| CB 4 | BINDSLEV HANSEN, J., TINKHAM, M. and OCTAVIO, M., Subharmonic energy gap structure and excess current in niobium point contacts | 435 |

CC – SPIN GLASSES

| | | |
|------|--|-----|
| CC 1 | FISHER, R.A., HORNUNG, E.W., PHILLIPS, N.E. and VAN CUREN, J., Magnetic susceptibility of CuMn : Curie-Weiss parameters and the effect of annealing | 437 |
| CC 2 | PREJEAN, J.-J. and SOULETIE, J., Scaled magnetization in nickel vs. scaled “equivalent magnetization” in CuMn spin-glass | 439 |

CD – DIGITAL APPLICATIONS OF TUNNEL JUNCTIONS

| | | |
|------|--|-----|
| CD 1 | GALLAGHER, W.J., Model for nonequilibrium superconducting double junction structures | 441 |
| CD 2 | HOSOGI, S. and AOMINE, T., Dynamic properties of a triangular loop containing three Dayem bridges | 443 |
| CD 3 | OKABE, Y., INOUE, A. and SUGANO, T., Self-biasing logic/memory cell with wide margin | 445 |
| CD 4 | CHI, C.C., KRUSIN-ELBAUM, L., TSUEI, C.C., TESCHE, C.D., BROWN, K.H., CALLEGARI, A.C., CHEN, M.M., GREINER, J.H., JONES, H.C., KIM, K.K., KLEINSASSER, A.W., NOTARYS, H.A., PROTO, G., WANG, R.H. and YOGI, T., Threshold characteristics of mutually coupled SQUIDs | 447 |

CE – SPIN-POLARIZED HYDROGEN

| | | |
|------|--|-----|
| CE 1 | BELL, D.A., KOCHANSKI, G.P., POLLACK, L., HESS, H.F., KLEPPNER, D. and GREYTAK, T.J., Role of electron depolarization in gas phase three-body recombination of spin-polarized hydrogen | 449 |
|------|--|-----|

CONTENTS TO PART I AND II

xvii

| | | |
|------|---|-----|
| CE 2 | JOHNSON, B.R., BIGELOW, N., DENKER, J.S., LÉVY, L.P., FREED, J.H. and LEE, D.M., Observation of spin waves in spin polarized hydrogen | 451 |
| CE 3 | TOMMILA, T., JAAKKOLA, S., KRUSIUS, M., SALONEN, K. and TJUKANOV, E., Compression and explosion of spin-polarized hydrogen | 453 |
| CE 4 | MAYER, R. and SEIDEL, G., Low temperature recombination and relaxation mechanisms of atomic hydrogen and atomic deuterium | 455 |

CF – PINNING

| | | |
|------|--|-----|
| CF 1 | KES, P.H. and WÖRDENWEBER, R., Peak effect in two dimensional collective flux pinning | 457 |
| CF 2 | BRANDT, E.H., Collective pinning simulated on the computer | 459 |
| CF 3 | THUNEBERG, E.V., KURKIJÄRVI, J. and RAINER, D., The elementary pinning potential of vortices to small objects in type II superconductors | 461 |
| CF 4 | KERCHNER, H.R., CHRISTEN, D.K., DAS GUPTA, A., SEKULA, S.T., CAI, B.C. and CHOU, Y.T., Flux-line pinning by the grain boundary in niobium bicrystals | 463 |

CG – MONOCHROMATIC PHONONS, ACOUSTIC MICROSCOPY, AND KAPITZA RESISTANCE

| | | |
|------|--|-----|
| CG 1 | BASSO, H.C., DIETSCHE, W. and KINDER, H., Interaction of adsorbed atoms with phonon pulses | 465 |
| CG 2 | MAREK, D., MOTA, A.C., WEBER, J.C. and VAN HOUT, F.J., Magnetic heat conductance between a CMN single crystal and liquid ^3He | 467 |

CH – JOSEPHSON JUNCTIONS

| | | |
|------|---|-----|
| CH 1 | SAMUELSEN, M.R. and VASENKO, S.A., Long and narrow overlap Josephson junctions with a realistic bias current distribution | 469 |
| CH 2 | YOSHIDA, K., UCHIDA, N., ENPUKU, K., TANAKA, T. and IRIE, F., Estimation of the critical-current density distribution in Josephson tunnel junctions | 471 |
| CH 3 | MEEPAGALA, S.C., SHEN, W.D., KUO, P.K. and CHEN, J.T., The effect of a scanning laser beam on a dynamic vortex mode of a Josephson junction | 473 |
| CH 4 | CIRILLO, M., COSTABILE, G., PACE, S. and SAVO, B., Zero-field steps and Fiske modes in long Josephson junctions | 475 |

CI – SPIN-POLARIZED ^3He AND ^3He - ^4He MIXTURES

| | | |
|------|---|-----|
| CI 1 | STEIN, D.L., LANGER, S.A. and DeCONDE, K., Theory of dynamic polarization of liquid ^3He | 477 |
| CI 2 | NACHER, P.J., TASTEVIN, G., LEDUC, M., CRAMPTON, S.B. and LALOË, F., Observation of spin waves in gaseous ^3He ↑ | 479 |
| CI 3 | BONFAIT, G., PUECH, L., GREENBERG, A.S., ESKA, G., CASTAING, B. and THOULOUZE, D., A measurement of the melting curve lowering from strongly polarized liquid ^3He | 481 |
| CI 4 | GULLY, W.J., MULLIN, W.J., MCGURRIN, M. and SCHMIEDESHOFF, G., Experiments on a partially polarized dilute mixture | 483 |

CK – A15 COMPOUNDS I

| | | |
|------|--|-----|
| CK 1 | KAHN, L.M. and RUVALDS, J., Electron-phonon coupling in Nb_3Sn and V_3Si : a tight-binding approach | 485 |
| CK 2 | GUTFREUND, H., WEGER, M. and ENTIN-WOHLMAN, O., Degradation of T_c in disordered A-15 compounds | 487 |
| CK 3 | SCHNEIDER, U., GEERK, J. and RIETSCHEL, H., Tunnel spectroscopy on superconducting Nb_3Sn with artificial tunnel barriers | 489 |
| CK 4 | NÖLSCHER, C., ADRIAN, H., MÜLLER, R., SCHAUER, W., WÜCHNER, F. and SAEMANN-ISCHENKO, G., Superconductivity in hydrogenated and disordered A15 Nb_3Ge | 491 |

CL – LOCALIZATION I

| | | |
|------|---|-----|
| CL 1 | GORDON, J.M., LOBB, C.J. and TINKHAM, M., Electron localization and interaction effects in aluminum films at temperatures just above the superconducting transition | 493 |
| CL 2 | SANTHANAM, P., WIND, S. and PROBER, D.E., Localization and superconductivity in narrow metallic wires | 495 |
| CL 3 | ESCHNER, W., GEY, W. and WARNECKE, P., Inelastic life-time of conduction electrons in 3D copper based alloys | 497 |

CM – HELIUM CRYSTAL GROWTH AND MELTING

| | | |
|-------|---|-----|
| CM 1 | BOWLEY, R.M., GRAF, M.J. and MARIS, H.J., Kapitza conductance between solid ^4He and ^3He - ^4He solutions | 499 |
| CM 2 | GALLET, F., WOLF, P.E. and BALIBAR, S., Universal jump of the curvature of ^4He crystals at the roughening transition | 501 |
| CM 3 | WOLF, P.E., GALLET, F. and BALIBAR, S., Growth kinetics of hcp ^4He facets | 503 |
| CM 4 | GRIDIN, V., ECKSTEIN, Y. and POLTURAK, E., Layer by layer growth of solid ^4He on Grafoil | 505 |
| CM 5 | BALFOUR, L.S. and LIPSON, S.G., Dendritic growth of crystals of dilute ^3He - ^4He mixtures | 507 |
| CM 6 | HIKI, Y., KANAYA, Y. and TSURUOKA, F., Ultrasonic study on melting and freezing of helium-4 | 511 |
| CM 7 | ADAMS, E.D., UHLIG, K., TANG, Y.-H. and HAAS, G.E., Freezing, melting, and superfluidity of ^4He in Vycor | 513 |
| CM 8 | UWAHA, M., Sound propagation in a superleak and crystal growth of ^4He | 515 |
| CM 9 | DYUMIN, N.E., GRIGOR'EV, V.N. and SVATKO, S.V., Sound transformation at the solid ^4He -He II interface | 517 |
| CM 10 | FRANCK, J.P., GLEESON, J.T., KORNELSEN, K.E. and McGREER, K.A., The morphology of thin films of solid ^4He deposited on sapphire and the transformation hcp \rightleftharpoons fcc ^4He | 519 |
| CM 11 | WADA, N., KATO, H., SHIRATAKI, H., TAKAYANAGI, S., ITO, T. and WATANABE, T., Phase change of helium adsorbed on Y zeolites | 521 |
| CM 12 | WADA, N., KATO, H., SATO, S., TAKAYANAGI, S., ITO, T. and WATANABE, T., Heat capacity of ^4He adsorbed on the one-dimensional void channel of K-L zeolite | 523 |
| CM 13 | THOMSON, A.L., BREWER, D.F. and HAYNES, S.R., The shifted solidification curve of helium in small pores | 525 |
| CM 14 | LEVCHENKO, A.A. and MEZHOV-DEGLIN, L.P., Phonon scattering on dislocations and recovery processes in plastically deformed ^4He crystals | 527 |
| CM 15 | GOLOV, A.I., EFIMOV, V.B. and MEZHOV-DEGLIN, L.P., Specific features in the motion of positive charges in solid ^4He (1,2) | 529 |
| CM 16 | IWASA, I. and SUZUKI, H., Diffusion of ^3He atoms in phase-separated solid helium | 531 |
| CM 17 | MIKHIEV, V.A., MAIDANOV, V.A. and MIKHIN, N.P., The quantum diffusion of ^3He in the hcp phase of ^3He - ^4He solid solutions at low temperatures | 533 |

CN – SPIN-POLARIZED SYSTEMS

| | | |
|-------|---|-----|
| CN 1 | SHRIVASTAVA, K.N., Dispersion of the spin-polarized atomic hydrogen floating on the superfluid helium | 535 |
| CN 2 | SHRIVASTAVA, K.N., Third sound induced proton-spin-atomic interaction in spin-polarized hydrogen on superfluid helium | 537 |
| CN 3 | ANDERSON, K.E., CRAMPTON, S.B., JONES, K.M., NUNES, G., Jr., and SOUZA, S.P., Hydrogen atom adsorption on solid neon | 539 |
| CN 4 | BELL, D.A., KOCHANSKI, G.P., KLEPPNER, D. and GREYTAK, T.J., Orientation dependence of surface three-body recombination in spin-polarized hydrogen | 541 |
| CN 5 | SALONEN, K., JAAKKOLA, S., KARHUNEN, M., TJUKANOV, E. and TOMMILA, T., Thermal accomodation of atomic hydrogen on saturated ^4He film | 543 |
| CN 6 | TOMMILA, T., JAAKKOLA, S., KRUSIUS, M., SALONEN, K. and TJUKANOV, E., Critical window in the transmission of hydrogen atoms to low temperatures | 545 |
| CN 8 | DENKER, J.S. and BIGELOW, N., Spin transport in $\text{H}\downarrow$, a dilute spin-polarized quantum gas | 547 |
| CN 9 | DENKER, J.S., BIGELOW, N., THOMPSON, D., FREED, J.H. and LEE, D.M., Spin echoes in spin polarized hydrogen | 549 |
| CN 10 | OWERS-BRADLEY, J.R., BOWLEY, R.M. and MAIN, P.C., Static properties of spin-polarised ^3He - ^4He mixtures | 551 |
| CN 11 | GENG, Q. and RASMUSSEN, F.B., On temperature variations during ^3He polarization experiments in Pomeranchuk cells | 553 |
| CN 12 | MASUHARA, N., CANDELA, D., COMBESCOT, R., EDWARDS, D.O., HOYT, R.F., SCHOLZ, H.N. and SHERRILL, D.S., Measurements of spin waves in normal liquid ^3He | 555 |
| CN 13 | DOW, R.C.M. and PICKETT, G.R., Spin-lattice relaxation times of thermodynamically polarized liquid ^3He | 557 |

| | | |
|-------|---|-----|
| CN 14 | HIMBERT, M. and DUPONT-ROC, J., Spin relaxation of gaseous polarized ^3He on a surface coated by a thin ^4He film | 559 |
| CN 15 | ARCHIE, C.N. and BEDELL, K.S., Internal energies of the ^3He phases | 561 |

CO – PINNING, VORTEX STRUCTURES

| | | |
|-------|---|-----|
| CO 1 | TAKÁCS, S., Pinning on grain boundaries by transformation of the flux line lattice | 563 |
| CO 2 | PAN, V.M., PROKHOROV, V.G., KAMINSKY, G.G. and TRETIATCHENKO, K.G., On the pinning by grain boundaries in superconducting Nb-based films | 565 |
| CO 3 | VASSILEV, P., Threshold criterion and single-particle pinning on He voids in Nb-Ti alloys | 567 |
| CO 4 | KÜPFER, H., MEIER-HIRMER, R., BRANDENBUSCH, M. and SCHEURER, H., Collective flux line pinning and related history-effects | 569 |
| CO 5 | BRANDT, E.H. and SEEGER, A., The diffusion of positive muons investigated by muon spin rotation in Type-II superconductors | 571 |
| CO 6 | PATTHEY, F., RACINE, G.-A., LEEMANN, C., BECK, H. and MARTINOLI, P., Dynamics of commensurate and incommensurate phases of a 2D lattice of superconducting vortices | 573 |
| CO 7 | MÜHLEMEIER, B., PARISI, J., HUEBENER, R.P. and BUCK, W., Time-resolved measurements of the flux-flow voltage in current-biased thin-film superconductors | 575 |
| CO 8 | GAUSS, S., KLEIN, W., HUEBENER, R.P. and PARISI, J., Nonlinearity in the flux-flow behavior at high velocities | 577 |
| CO 9 | KADIN, A.M., BURKHARDT, R.W., CHEN, J.T., KEEM, J.E. and OVSHINSKY, S.R., Asymmetric flux-flow behavior in superconducting multilayered composites | 579 |
| CO 10 | BUCK, W., PARISI, J. and MÜHLEMEIER, B., Computer simulation of flux-tube motion in thin-film superconductors | 581 |
| CO 11 | CLEM, J.R. and PEREZ-GONZALEZ, A., Theory of the double critical state in type-II superconductors | 583 |
| CO 12 | KRZYSZTOŃ, T., On the flux penetration into antiferromagnetic superconductor with induced ferromagnetism | 585 |
| CO 13 | ASWATHY, K., RANGARAJAN, G., SRINIVASAN, R. and MUKHERJEE, B.K., Magnetic flux diffusion into long Type-I superconducting cylinders: an experimental study | 587 |
| CO 14 | TEKIEL, P., Nonhomogeneous mixed state in type II superconductors | 589 |
| CO 15 | KIRSCHNER, I. and MARTINÁS, K., Chaotic behaviour of the pinning-vortex interaction in superconductors | 591 |
| CO 16 | GLAZMAN, L.I. and FOGL', N.Ya., The vortex lattice melting phenomenon in dual superconducting films | 593 |

CP – A15 COMPOUNDS II

| | | |
|-------|--|-----|
| CP 1 | PINTSCHOVIUS, L., REICHARDT, W., AKER, E., POLITIS, C. and SMITH, H.G., Soft modes in Nb_3Ga | 595 |
| CP 2 | REICHARDT, W., SMITH, H.G. and CHANG, Y.K., Electron phonon interaction in V_3Ge | 597 |
| CP 3 | MÜLLER, P., BUCHENAU, U., NÜCKER, N., RENKER, B. and MÜLLER, A., Elastic constants of A15 - Nb_3Ge | 599 |
| CP 4 | MORITA, S., IMAI, S., YAMASHITA, S., MIKOSHIBA, N., TOYOTA, N., FUKASE, T. and NAKANOMYO, T., Measurement of the superconducting energy gap in single crystal V_3Si | 601 |
| CP 5 | GEERK, J. and BANGERT, W., Electron tunneling into Nb_3Al using Al_2O_3 tunneling barriers | 603 |
| CP 6 | MÜLLER-HEINZERLING, Th., WEBER, W., FINK, J. and PFLÜGER, J., Electronic structure of high- T_c A15 superconductors from electron energy-loss spectroscopy | 605 |
| CP 7 | SOLLEDER, T., KRONMÜLLER, H. and ESSMANN, U., The influence of neutron irradiation on the paramagnetic susceptibility and the upper critical field of V_3Ge single crystals | 607 |
| CP 8 | FLÜKIGER, R., Nonequilibrium states in A15 type compounds after low temperature irradiation | 609 |
| CP 9 | SCHNEIDER, R., LINKER, G., MEYER, O., KRAATZ, M. and WÜCHNER, F., The influence of radiation induced disordering on the superconducting transition temperature of Nb_3Ir films | 611 |
| CP 10 | SUZUKI, M., ANAYAMA, T., NOTO, K. and WATANABE, K., Critical current density and upper critical field in sputtered Nb_3Ge films | 613 |
| CP 11 | KITANO, Y., NISSEN, H.-U., SCHAUER, W. and YIN, D., Study of textures in high- T_c Nb_3Ge films by atomic resolution electron microscopy | 615 |
| CP 12 | PEREIRA, R.F.R., SILVEIRA, M.F. da. and MEYER, E., Production of A-15 compounds by condenser discharge | 617 |
| CP 13 | SANKARANARAYANAN, V., RANGARAJAN, G., SRINIVASAN, R. and RAMA RAO, K.V.S., Normal state electrical resistivity of the A-15 superconductor, Ti_3Sb | 619 |

CQ – PROPERTIES OF SPIN GLASSES

| | | |
|-------|--|-----|
| CQ 1 | BRODALE, G.E., FISHER, R.A., FOGLE, W.E., PHILLIPS, N.E. and VAN CUREN, J., Effects of concentration and annealing on the specific heat anomaly associated with spin-glass ordering in CuMn | 621 |
| CQ 3 | HENGER, U. and KORN, D., Magnetic and electrical properties of Sn Films with 3at% Mn | 623 |
| CQ 4 | THOMPSON, J.R., ELLIS, J.T. and THOMSON, J.O., Spin freezing temperatures in dilute noble metal-Mn spin glasses: mean free path effects | 625 |
| CQ 5 | BARNARD, R.D., Spin-orbit coupling and the magnetoresistance of the spin-glasses Au-8at%Mn and Cu-4.6at%Mn | 627 |
| CQ 7 | BANSAL, C. and SRINIVASAN, V., Low temperature behaviour of amorphous magnetic systems | 629 |
| CQ 8 | SCHULTZ, S., New experimental results for metallic spin glasses | 631 |
| CQ 9 | BRADLEY, D.I., GUENAUT, A.M., KEITH, V., KENNEDY, C.J., MUSSETT, S.G. and PICKETT, G.R., Magnetic ordering of dilute palladium-iron alloys at millikelvin temperatures | 633 |
| CQ 10 | CHANDRA, G., MAURER, M. and FRIEDT, J.M., Anomaly of the ^{57}Fe hyperfine field distribution at the reentrant spin-glass transition in PdFeMn | 635 |
| CQ 11 | VAN CAUTEREN, J. and ROTS, M., PAC study of magnetic behaviour in Au ₇₄ Fe ₂₆ | 637 |
| CQ 12 | CROOK, R.H., DAHLBERG, E.D. and RAO, K.V., Transport properties studies of the ferro- to spin glass transition in amorphous Fe-Ni based alloys | 639 |
| CQ 13 | HEDGCOCK, F.T., SULLIVAN, P.C. and BARTKOWSKI, M., Magnetic properties of gadolinium doped lead telluride | 641 |
| CQ 14 | BONJOUR, E., CALEMczuk, R., CAUDRON, R., SAFA, H., GANDIT, P. and MONOD, P., Calorimetric investigation of the Y-Er magnetic phase diagram | 643 |
| CQ 15 | BARNES, S.E., MALOZEMOFF, A.P. and BARBARA, B., Non-mean field generalization of the Gabay-Toulouse line | 645 |
| CQ 16 | GODINHO, M., THOLENCE, J.L., MAUGER, A., ESCORNE, M. and KATTY, A., Spin-glass phase in the low concentration range of the semiconductor system: Sn _{1-x} Mn _x Te | 647 |
| CQ 17 | PAPPA, C., HAMMANN, J. and JACOBONI, C., Evidence for a spin glass scaling function in the disordered insulator CsNiFeF ₆ | 649 |
| CQ 18 | DOUSSINEAU, P., LEVELUT, A., MATECKI, M., SCHÖN, W. and WALLACE, W.D., Ultrasonic measurements in the amorphous spin glass (MnF ₂) _{.65} (NaPO ₃) _{.15} (BaF ₂) _{.20} | 651 |
| CQ 19 | HAMIDA, J.A. and WILLIAMSON, S.J., Onset of hysteresis in Al ₂ Mn ₃ Si ₃ O ₁₂ spin glass in finite magnetic fields | 653 |
| CQ 20 | GODFRIN, H., LAMARCHE, G., GILCHRIST, J. and THOULOUZE, D., Spin glass-like dynamical behavior around the freezing temperature of KCl OH | 655 |
| CQ 21 | DEVILLE, A., BLANCHARD, C. and LANDI, A., Dynamical aspects of E.S.R. in the insulating spin-glass Eu _{0.4} Sr _{0.6} S | 657 |

CR – PHONON PHENOMENA

| | | |
|-------|--|-----|
| CR 1 | BURGER, S., EISENMENGER, W. and LASSMANN, K., Specular and diffusive scattering of high frequency phonons at sapphire surfaces related to surface treatment | 659 |
| CR 2 | WU, C.C., Amplification of surface-mode phonons in n-type InSb films | 661 |
| CR 3 | BERBERICH, P. and KINDER, H., The phonon spectra emitted by superconducting Pb and PbBi tunnel junctions | 663 |
| CR 4 | SCHREYER, H., DIETSCHKE, W. and KINDER, H., Laser induced nonequilibrium superconductivity – a spatially resolving phonon detector | 665 |
| CR 6 | KNAAK, W. and MEISSNER, M., Time-resolved specific heat measurements on high-purity single crystals between 50 mK and 1 K | 667 |
| CR 7 | SEEDEL, M., EWERT, S., SCHMIDT, H. and LENZ, D., Point defect relaxation in LaAl ₂ | 669 |
| CR 8 | GOLDING, B. and HAEMMERLE, W.H., Phonon echoes from acceptors in silicon | 671 |
| CR 9 | FINLAYSON, D.M. and MASON, P.J., Structure scattering of phonons in a semi-crystalline solid at very low temperatures | 673 |
| CR 11 | VAN VUCHT, R.J.M., SCHROEDER, P.A., VAN KEMPEN, H. and WYDER, P., The lattice thermal conductivity of potassium measured by the Corbino method | 675 |
| CR 12 | ANTSYGINA, T.N., SLUSAREV, V.A., FREIMAN, Yu.A. and ERENBURG, A.I., Dynamics of librational motion and phase transitions in N ₂ -type crystals | 677 |
| CR 13 | LAMBERT, C.J., A scaled model for the low energy vibrational modes of a sinter | 679 |
| CR 14 | PAGE, J.H., HARRISON, J.P. and MALIEPAARD, M., Vibrational modes of sintered metal powder | 681 |
| CR 15 | ROGACKI, K., KUBOTA, M., SYSKAKIS, E.G., MUELLER, R.M. and POBELL, F., Well characterized sintered material formed from submicron CU powder for low temperature heat exchanger | 683 |
| CR 16 | NOTHDURFT, E.E. and LUSZCZYNSKI, K., Angular dependence of phonon flux transmission from He II into solid at 0.1 K | 685 |
| CR 17 | XU YUN-HUI, ZHENG JIA-QI and GUAN WEI-YAN, Kapitza resistance of single crystal Gd ₃ Ga ₅ O ₁₂ | 687 |

CS – SPATIAL STRUCTURES IN JOSEPHSON JUNCTIONS

| | | |
|-------|---|-----|
| CS 1 | MATSUDA, A. and KAWAKAMI, T., Observation of fluxon and antifluxon collision in a Josephson transmission line | 689 |
| CS 2 | DUEHOLM, B., DAVIDSON, A., TSUEI, C.C., BRADY, M.J., BROWN, K.H., CALLEGARI, A.C., CHEN, M.M., GREINER, J.H., JONES, H.C., KIM, K.K., KLEINSASSER, A.W., NOTARYS, H.A., PROTO, G., WANG, R.H. and YOGI, T., Fluxon dynamics in the absence of boundary collisions | 691 |
| CS 3 | SUGAHARA, M., Fluxon-pair state in Josephson junction | 693 |
| CS 4 | SOBOLEWSKI, R., GIERŁOWSKI, P. and LEWANDOWSKI, S.J., Nonlinear propagation of fluxons in long, cross-type Josephson junctions | 695 |
| CS 5 | GALPERN, Yu.S. and VYSTAVKIN, A.N., Localization of fluxons on inhomogeneities in long Josephson junctions | 697 |
| CS 6 | BINDSLEV HANSEN, J., ERIKSEN, G.F., MYGIND, J., SAMUELSEN, M.R. and VASENKO, S.A., On the magnetic field dependence of the supercurrent in a Josephson junction of intermediate size | 699 |
| CS 7 | NEVIRKOVETS, I.P. and RUDENKO, E.M., I-V characteristics of two dimensional Josephson tunnel junctions containing many vortices | 701 |
| CS 8 | CIRILLO, M., PACE, S. and SAVO, B., Maximum current amplitude of zero-field singularities in long Josephson junctions | 703 |
| CS 9 | WATANABE, K. and ISHII, C., Perturbed fluxon state and current step in Josephson junction | 705 |
| CS 10 | SOERENSEN, M.P. and PARMENTIER, R.D., Josephson junction dynamics by multimode theory and numerical simulation | 707 |
| CS 11 | KOFOED, B., MYGIND, J., PEDERSEN, N.F., SAMUELSEN, M.R., WELNER, D. and WINTHER, C.A.D., A new method to determine Josephson junction parameters | 709 |