

CONTENTS VOL. 1

PLENARY SESSIONS

LONDON AWARD CITATION. P.M. Marcus	1
LONDON AWARD LECTURE. W.M. Fairbank	5
P1. TWO-DIMENSIONAL HELIUM. J.G. Dash	17
P2. DYNAMICAL SCALING THEORY OF THE LAMBDA TRANSITION IN LIQUID HELIUM. R.A. Ferrell	27
P3. LONG-RANGE ORDER AT THE SUPERCONDUCTING TRANSITION. P.C. Hohenberg	33
P4. RADIO FREQUENCY SIZE EFFECTS IN METALS. Dr. V.F. Gantmakher	45
P5. SPIN WAVE EXCITATION IN NON-FERROMAGNETIC METALS. P.M. Platzman	46
P6. MAGNETIC ORDERING AT LOW TEMPERATURES. A.H. Cooke	57
P7. NUCLEAR COOLING. O.G. Symko	66
P8. CURRENT STATUS OF LIQUID He ³ : THEORY AND EXPERIMENT. S. Doniach	76
P9. HELIUM DILUTION REFRIGERATORS: SOME TECHNICAL PROBLEMS. H. London and E. Mendoza	86
P10. THE PROXIMITY EFFECT BETWEEN SUPERCONDUCTORS AND NORMAL METALS. John Clarke	95
P11. DIRECT OBSERVATION OF FLUX-LINE ARRANGEMENTS IN SUPERCONDUCTORS. U. Essmann.	105
P12. ECONOMICS AND THE CONSERVATION OF HELIUM. C.A. Price DISCUSSION (Plenary Papers).....	112 119

SECTION A. ⁴He, ³He AND MIXTURES

A1. <u>ADSORBED HELIUM FILMS</u>	
A1.1 ADSORBED FILMS OF He ³ -He ⁴ MIXTURES. A. Evenson, D.F. Brewer, and A.L. Thomson	125
(A1.2, A1.3); DISCUSSION A1	129
A2. <u>CRITICAL VELOCITIES AND TURBULENCE IN He II</u>	
I.A2 <u>ONSET OF RESISTANCE IN A SUPERFLUID NEAR THE TRANSITION. J.S. Langer.</u>	130
A2.1 DECAY OF SUPERFLUID PERSISTENT CURRENTS IN FINE PORES. G. Kukich, R.P. Henkel and J.D. Reppy.	140
A2.2 EXPERIMENTS ON CRITICAL VELOCITIES IN SUPERFLUID HELIUM. M. Jagger and W.F. Vinen	146
A2.3 ENERGY DISSIPATION IN SUPERFLUID HELIUM. W.M. van Alphen, R. de Bruyn Ouboter, K.W. Taconis and W. de Haas	150
A2.4 TURBULENT FLUCTUATIONS OF SUPERFLOW IN HeII. David Y. Chung	154

A2.5	SECOND CRITICAL VELOCITY OF HELIUM II IN A NARROW ANNULUS. B.G. Jinchvelashvili, L.V. Kiknadze, Yu. G. Mamaladze, J.S. Tsakadze.....	158
(A2.6	- A2.10); DISCUSSION A2	162
A3.	<u>CRITICAL VELOCITIES, SUPERFLOW AND THE HeII FILM</u>	
A3.1	<u>SUPERFLUID HELIUM FLOW THROUGH LARGE ORIFICES. W. Trella</u>	164
A3.2	a.c. QUANTUM PHASE EFFECTS IN SUPERFLUID HELIUM. B.M. Khorana and D.H. Douglass	169
A3.3	HEAT TRANSPORT BY HELIUM II BELOW 1 K. P.L.J. Cornelissen and H.C. Kramers	174
A3.4	PERSISTENT CURRENTS IN He ⁴ FILMS. R.P. Henkel, G. Kukich and J.D. Reppy.	178
A3.5	MISCELLANEOUS OBSERVATIONS ON FILM FLOW. L.J. Campbell, E.F. Hammel, D.M. Jones and W.E. Keller	182
A3.6	QUARTZ CRYSTAL MEASUREMENT OF HELIUM FILM THICKNESS. J.B. Brown and M.G. Tong.	189
(A3.7	- A3.9); DISCUSSION A3.	193
A4.	<u>He II NEAR THE LAMBDA TRANSITION</u>	
A4.1	GENERALIZED LANDAU-GINZBURG THEORY FOR HE. D.J. Amit	195
A4.2	LANDAU THEORY OF THE λ - TRANSITION OF HeII. H. Stenschke and G. Falk	199
A4.3	THERMAL CONDUCTIVITY OF He I NEAR T _{λ} . G ünter Ahlers	203
A4.4	THE THERMAL CONDUCTIVITY OF He ⁴ I NEAR THE λ -LINE AND OF He ³ NEAR THE LIQUID-VAPOR CRITICAL POINT. J.F. Kerrisk and W.E. Keller	207
A4.5	THERMAL TRANSPORT IN HELIUM I NEAR THE λ POINT. M. Archibald, J.M. Mochel and L. Weaver.	211
A4.6	CRITICAL REGION SECOND SOUND VELOCITY IN HeII. J.A. Tyson and D.H. Douglass	215
(A4.7)	DISCUSSION A4	221
A5.	<u>CRITICAL AND OTHER PHENOMENA IN ³He and ⁴He</u>	
A5.1	CRITICAL INDICES OF ³ He. C.E. Chase and G.O. Zimmerman	224
A5.2	EQUATION OF STATE OF HELIUM FOUR. M.H. Edwards	231
A5.3	THE DIELECTRIC POLARIZABILITY OF ³ He. E.C. Kerr and R.H. Sherman	236
(A5.4, A5.5);	DISCUSSION A5	240
A6.	<u>IONS IN ROTATING HELIUM</u>	
I.A6	<u>IONS IN ROTATING LIQUID HELIUM. K.R. Atkins and E. Athanassiou</u>	241
A6.1	MOBILITY AND ESCAPE OF IONS ON VORTICES IN ROTATING SUPERFLUID HELIUM. R.L. Douglass.....	250
A6.2	TRAPPING LIFETIME OF NEGATIVE IONS IN ROTATING SUPERFLUID HELIUM. W.P. Pratt and W. Zimmermann.	254

A7.	<u>IONS AND VORTICES IN LIQUID HELIUM</u>	
A7.1	MOTION OF IONS ALONG QUANTIZED VORTEX LINES. R.J. Donnelly, D.M. Strayer and W.I. Glaberson	260
A7.2	CAPTURE OF IONS BY CHARGED VORTEX RINGS. G. Gamota and T.M. Sanders	261
A7.3	ANNIHILATION OF QUANTIZED VORTEX RINGS IN SUPERFLUID HELIUM. S. Cunsolo and B. Maraviglia	265
A7.4	VORTEX RING FORMATION BY NEGATIVE IONS IN HeII UNDER PRESSURE. D.A. Neeper and L. Meyer.	270
A7.5	CRITICAL FIELDS AND VELOCITIES FOR CHARGED VORTEX RINGS FORMATION IN SUPERFLUID HELIUM. S. Cunsolo and B. Maraviglia	274
A7.6	ION MOBILITY DISCONTINUITIES IN SUPERFLUID HELIUM: A TEST OF THE HUANG-OLINTO THEORY. D.L. Goodstein, U. Buontempo and M. Cerdonio	280
A7.7	SIMULTANEOUS MEASUREMENT OF ION MOBILITY IN ^4He BY THE MAGNETIC-DEFLECTION AND TIME-OF-FLIGHT METHODS. C.E. Chase, F. Dupre and M.V. Ricci	284
A7.8	ION MOTION IN DILUTE He^3 - He^4 SOLUTIONS. L. Meyer and D.A. Neeper	287
A7.9	THE NEGATIVE ION AS A VARIABLE RADIUS PROBE IN HeII. B.E. Springett.....	291
A7.10	STRUCTURE OF ELECTRON BUBBLES IN LIQUID HELIUM FROM PHOTO-EJECTION UNDER PRESSURE. C. Zipfel, T.M. Sanders	296
(A7.11);	DISCUSSION A7	300
A8.	<u>BUBBLES AND EXCITATIONS IN LIQUID HeII</u>	
A8.1	ZERO-POINT BUBBLES IN LIQUID AND SOLID HELIUM. W. Triftshäuser, J. Legg, A.T. Stewart and C.V. Briscoe	304
A8.2	STABILITY AND RUPTURE OF HELIUM II AT NEGATIVE PRESSURES: ANOMALOUS VAPOR PHASE NUCLEATION. C.F. Mate and K.L. McCloud.	308
A8.3	A NEW KIND OF ENERGETIC NEUTRAL EXCITATION IN SUPERFLUID HELIUM. F. Reif and C.M. Surko.....	312
	DISCUSSION A8	316
A9.	<u>ROTATING LIQUID He II</u>	
A9.1	STATISTICAL MECHANICS OF ROTATING QUANTUM FLUIDS A. Widom	319
A9.2	ON THE He I-He II TRANSITION IN ROTATING LIQUID HELIUM. R.A. Bablidze, G.Z. Magalashvily.	323
(A9.3 - A9.5);	DISCUSSION A9	327
A10	<u>SOLID ^3He and ^3He-^4He (MAINLY N.M.R.)</u>	
I.A10	SHORT-RANGE CORRELATIONS AND EXCHANGE IN CRYSTALLINE He^3 . L.H. Nosanow	329

A10.1	MAGNETIC SUSCEPTIBILITY OF ISOTOPIC MIXTURES OF SOLID HELIUM. J.M. Homer and M.G. Richards	340
A10.2	NMR INVESTIGATION OF BCC SOLID He ³ . W. Senghaphan and G.O. Zimmerman	344
	DISCUSSION A10	350
A11	<u>LIQUID ³He-⁴He MIXTURES</u>	
I.A11	<u>DILUTE SOLUTIONS OF He³ IN He⁴ AT LOW TEMPERATURES.</u> D.O. Edwards	352
A11.1	THE HEAT OF MIXING AND GROUND STATE ENERGY OF LIQUID He ³ -He ⁴ MIXTURES. P. Seligmann, D.O. Edwards R.E. Sarwinski and J.T. Tough	362
A11.2	SURFACE TENSION OF DILUTE SOLUTIONS OF He ³ IN He ⁴ . K.N. Zinovyeva and S.T. Boldarev.	367
A11.3	SOME SINGULARITIES OF THERMODYNAMIC PROPERTIES OF He ³ -He ⁴ SOLUTIONS AT HeI-HeII TRANSITION. V.N. Grigorev, B.N. Eselson, E.A. Masimov, G.A. Mikhailov, P.S. Novikov.	371
A11.4	EXPERIMENTAL INFORMATION ON THE PHONON- ³ He INTERACTION IN DILUTE SOLUTIONS OF ³ He IN ⁴ He. C.G. Niels-Hakkenberg and H.C. Kramers	375
A11.5	MEASUREMENT AND ANALYSIS OF THE VELOCITY OF SECOND SOUND IN CONCENTRATED ³ He- ⁴ He SOLUTIONS: P.V.E. McClintock, K.H. Mueller, R.A. Guyer, and H.A. Fairbank.....	379
A11.6	NON-LINEAR CONCENTRATION DEPENDENCE OF SONIC VELOCITY IN DILUTE SOLUTIONS OF ³ He IN ⁴ He. Y. Eckstein, B.M. Abraham and J.B. Ketterson.	384
A11.7	FIRST SOUND VELOCITY IN DILUTE SOLUTIONS OF He ³ IN SUPERFLUID He ⁴ . G. Baym	385
A11.8	PECULARITIES OF SOUND PROPAGATION IN SUPERFLUID HELIUM DUE TO CLAMPED NORMAL FLUID. N.E. Dyumin, B.N. Eselson, E.Yu. Rudavsky, I.A. Servin.....	389
	(A11.9); DISCUSSION A11	393
A12	<u>LIQUID ³He THEORY</u>	
A12.1	LOW TEMPERATURE DEPENDENCE OF THE SUSCEPTIBILITY OF LIQUID He ³ IN THE PARAMAGNON MODEL. M.T. Béal-Monod, S.K. Ma and D.R. Fredkin	396
A12.2	SPIN ECHOES IN VERY DEGENERATE FERMI SYSTEMS. A.J. Leggett	400
A12.3	SUPERFLUID TRANSITION IN LIQUID He ³ . A. Layzer, D. Fay (A12.4) ; DISCUSSION A12	404
		409
A13	<u>LIQUID ⁴He EXCITATIONS AND MICROSCOPIC THEORY</u>	
A13.1	ON THE LOW-TEMPERATURE BEHAVIOUR OF THE NUMBER OF PARTICLES IN THE CONDENSATE OF A BOSE LIQUID. K. Kehr	411

A13.2	SELF-CONSISTENT PAIRING THEORY OF THE BOSE SUPERFLUID. W.A.B. Evans and Y. Imry	415
A13.3	THREE PHONON THEORY OF SOUND ATTENUATION AND DISPERSION IN LIQUID HELIUM 4 AND IN SOLIDS. N.S. Shiren	421
A13.4	PROPAGATION OF EXCITATIONS IN HELIUM II BELOW 300m°K. R.W. Guernsey and K. Luszczynski	428
A13.5	BROKEN SYMMETRIES AND RESPONSE FUNCTIONS IN HeII. F. de Pasquale and E. Tabet	433
(A13.6	- A13.8); DISCUSSION A13	437
A14	<u>SOLID ⁴He and ³He-⁴He MIXTURES</u>	
A14.1	THEORY OF SOLID HELIUM. R.D. Ethers	440
A14.2	DISPERSIVE ANHARMONIC EFFECTS IN THE LATTICE DYNAMICS OF SOLID HELIUM. Günther Meissner	444
A14.3	THE PHONON DISPERSION RELATION FOR HCP He ⁴ WITH A MOLAR VOLUME OF 21.1 cm ³ . T.A. Kitchens, V.J. Minkiewicz, F.P. Lipschultz, G. Shirane, R. Nathans	449
A14.4	THERMODYNAMIC PROPERTIES OF bcc He ⁴ . J.K. Hoffer, W.R. Gardner, C.G. Waterfield and N.E. Phillips.	453
A14.5	THERMAL CONDUCTIVITY OF ORIENTED SINGLE CRYSTALS OF HCP He ⁴ . E.M. Hogan, R.A. Guyer, H.A. Fairbank	457
A14.6	PHASE SEPARATIONS IN MIXTURES OF SOLID He ³ -He ⁴ . E.D. Adams, M.F. Panczyk, R.A. Scribner, J.R. Gonano	461
A14.7	SOLID He ³ -He ⁴ MIXTURES. R.A. Guyer	465
(A14.8)	; DISCUSSION A14	469

SECTION D. EXPERIMENTAL METHODS BELOW 0.1°K.
OTHER L.T. PHENOMENA

D1.	<u>THERMOMETRY(GENERAL) AND CERIUM MAGNESIUM NITRATE</u>	
D1.1	NOISE THERMOMETRY FEASIBILITY STUDIES. R.R. Wagner, B. Bertman, T.S. Giuffrida, and W.H. van den Berg	472
D1.2	CRYOGENIC THERMOCOUPLE RESEARCH. R.L. Powell, and L.L. Sparks	477
D1.3	PRECISION INTERPOLATION OF A FILMTYPE CARBON RESISTANCE THERMOMETER BETWEEN 1.2 and 80 K: J.E. van Dam, W.M. Star and C. van Baarle	481
D1.4	ANOMALOUS HIGH-FIELD MAGNETIZATION OF SINGLE- CRYSTAL CEROUS MAGNESIUM NITRATE. S.J. Williamson and J.A. Cape	485
D1.5	CERIUM MAGNESIUM NITRATE, THERMAL AND MAGNETIC PROPERTIES BELOW 0.1 K. K.W. Mess, J. Lubbers, L. Niesen and W.J. Huiskamp	489

D1.6	MAGNETIC PROPERTIES OF CEROUS MAGNESIUM NITRATE IN THE MILLIDEGREE REGION. G.O. Zimmerman, D.J. Abeshouse, E. Maxwell and D. Kelland	493
D1.7	ON THE TEMPERATURE SCALE OF A CYLINDER OF POWDERED CMN WITH DIAMETER EQUAL TO HEIGHT. L. Niesen and W.J. Huiskamp	497
D1.8	THE CMN TEMPERATURE SCALE. R.P. Hudson	501
	DISCUSSION D1	505
	DISCUSSION ON TEMPERATURE SCALE BELOW 10mK. N. Kurti ..	510
D2	<u>HYPERFINE INTERACTIONS</u>	
D2.1	THE SPECIFIC HEAT OF ANTIMONY AND BISMUTH IN THE TEMPERATURE RANGE 0.03-0.4°K. H.K.S. Collan, M. Krusius and G.R. Pickett	513
D2.2	NUCLEAR SPECIFIC HEAT OF "NON-MAGNETIC" CUBIC ALLOYS. D.L. Martin	517
D2.3	HYPERFINE NUCLEAR SPECIFIC HEATS IN GOLD WITH TRANSITION IMPURITIES. N. Dreyfus, D. Thoulouze ...	518
D2.4	THE SPECIFIC HEAT OF FIVE ORDERED Au-Mn ALLOYS BELOW 4°K. P. Lynam, W. Proctor and R.G. Scurlock ..	519
D2.5	THE MAGNETIC HYPERFINE FIELD AND NUCLEAR SPIN LATTICE RELAXATION TIME FOR ⁶⁵ Zn IN Fe. O.A. Chilashvili, C.J. Sanctuary and N.J. Stone ..	523
D2.6	THE MAGNETIC FIELDS AT Co ⁶⁰ AND Sn ¹¹⁹ NUCLEI AND ELECTRON POLARIZATION IN CoPd and FePd ALLOYS. A. Balabanov, N. Delyagin, A. Erzinkyan, V. Parfenova and V. Shpinel	527
D2.7	MÖSSBAUER STUDIES OF SEVERAL Eu ²⁺ COMPOUNDS BELOW 1°K. G.J. Ehnholm, T.E. Katila, O.V. Lounasmaa, P. Reivari and G.M. Kalvius	528
D2.8	MÖSSBAUER MEASUREMENTS WITH ⁶¹ Ni IN 3d TRANSITION METAL ALLOYS. F.E. Obenshain, J.C. Love, G. Czjzek..	532
D2.9	ON DIRECT DETERMINATION OF THE MAGNETIC CRYSTALLINE FIELD STRUCTURE ON NUCLEI HAVING MÖSSBAUER ISOTOPES. V.A. Belyakov, Yu. M. Aivazyan	536
D2.10	BETA DECAY OF ORIENTED Re ¹⁸⁸ NUCLEI. M. Scott, N.J. Stone, J.E. Templeton and M. Vinduska	537
(D2.11);	DISCUSSION D2	538
D3	<u>DIELECTRIC CRYSTALS</u>	
D3.1	THERMAL EXPANSION OF SODIUM CHLORIDE AND OTHER CRYSTALS. G.K. White	541
D3.2	SPECIFIC HEAT OF N AND P-TYPE Bi ₂ Te ₃ FROM 1.3 TO 90°K. G.E. Shoemake, J.A. Rayne, and R.W. Ure	545
D3.3	LOW TEMPERATURE SPECIFIC HEATS OF SOLID NEON ISOTOPES. E. Somoza and H. Fenichel	549

D3.4	THERMODYNAMIC PROPERTIES OF SOLID Ar, Kr AND Xe. M.L. Klein and G.K. Horton	553
D3.5	FAR-INFRARED ABSORPTION IN NaCl:OH ⁻ BELOW 1°K. R.D. Kirby, A.E. Hughes and A.J. Sievers	558
	DISCUSSION D3	561
D4.	<u>KAPITZA RESISTANCE</u>	
D4.1	THE ELECTRONIC COMPONENT OF THE KAPITZA CONDUCTANCE BETWEEN METALS AND LIQUID HELIUM II. L.J. Challis and J.D.N. Cheeke	563
D4.2	THE KAPITZA CONDUCTANCE OF LEAD. J.D.N. Cheeke	567
D4.3	SECOND SOUND MEASUREMENTS OF THE KAPITZA BOUNDARY CONDUCTANCE TO LEAD. L.J. Challis, R.A. Sherlock ...	571
D4.4	THE MODIFICATION OF THE KAPITZA RESISTANCE DUE TO A SURFACE FILM. M.F. Whelan and D.V. Osborne	575
D4.5	THE KAPITZA EFFECT IN THE LIQUID AND VAPOR PHASES OF ³ He AND ⁴ He. C.F. Mate and S.P. Sawyer	579
	DISCUSSION D4	582
D5.	<u>RELAXATION AND THERMAL CONDUCTIVITY</u>	
D5.1	LOW TEMPERATURE THERMAL TRANSPIRATION AND MOLECULAR ROTATIONAL RELAXATION. R.A. Watkins, W.L. Taylor and G.T. McConville	585
D5.2	LOW TEMPERATURE THERMAL CONDUCTIVITY OF AMORPHOUS SOLIDS. B. Dreyfus, N.C. Fernandes, R. Maynard	589
D5.3	EVIDENCE OF COLLOIDS IN THE BELOW 1°K THERMAL CONDUCTIVITY OF γ -IRRADIATED KCl. R.A. Guenther and H. Weinstock	593
D5.4	THE THERMAL MAGNETORESISTANCE OF RUBY. L.J. Challis, M.A. McConachie and D.J. Williams	597
D5.5	MAGNETIC FIELD DEPENDENCE OF THE THERMAL CONDUCTIVITY OF COBALT CHLORIDE THIOUREA. C. Ni and H. Weinstock ..	601
(D5.6,	D5.7); DISCUSSION D5	605
D6.	<u>HYDROGEN AND DEUTERIUM</u>	
I.D6	THE EFFECT OF PHONON INTERACTIONS ON THE ORIENTATIONAL STATE OF SOLID H ₂ . A. Brooks Harris	608
D6.1	CONCENTRATION DEPENDENCE OF THE CRYSTAL FIELD SPLITTING OF ORTHOHYDROGEN IN PARAHYDROGEN. J.R. Gaines, E.A. Hartzler and J.A. Kaeck	615
D6.2	A LINESHAPE STUDY OF A MAGNETICALLY DILUTED SPIN SYSTEM. J.H. Constable, E.A. Hartzler, J.R. Gaines	618
D6.3	ORIENTATIONAL ORDERING IN HCP SOLID HYDROGEN. W.M. Fairbairn, W.S. Lounds and M.R. Steel	623
D6.4	ANGULAR MOMENTUM WAVES IN SOLID ORTHO-HYDROGEN F.G. Mertens, W. Biem and H. Hahn	627

D6.5	OBSERVATION OF MOLECULAR MOTION IN SOLID H ₂ BELOW 4.2°K. L.I. Amstutz, J.R. Thompson and H. Meyer	631
D6.6	NUCLEAR MAGNETIC SPIN-LATTICE RELAXATION IN SOLID DEUTERIUM BELOW T _λ . M.J. Smith, D. White, J.R. Gaines	635
D6.7	TRANSLATIONAL-ROTATIONAL RELAXATION IN HD BETWEEN 20 AND 40 K. H.F.P. Knaap, G.J. Prangmsma, J.P.J. Heemskerck and J.J.M. Beenakker	639
D6.8	TRANSVERSE HEAT TRANSPORT UNDER THE INFLUENCE OF A MAGNETIC FIELD IN GASEOUS HYDROGEN ISOTOPES. H.F.P. Knaap, L.J.F. Hermans, A. Schutte and J.J.M. Beenakker	643
(D6.9, D6.10);	DISCUSSION D6	647
D7.	³ He- ⁴ He, He II (MAINLY REFRIGERATION)	
D7.1	MEASUREMENT OF THE PHASE-EQUILIBRIUM OSMOTIC PRESSURE OF He-3 AND POSSIBLE OCCURRENCE OF SELF-EXCITED SECOND SOUND OSCILLATIONS. H. London, D. Phillips and G.P. Thomas	649
D7.2	HELIUM SINGLE-CYCLE DILUTION REFRIGERATORS. V.P. Peshkov	653
D7.3	A He ³ /He ⁴ DILUTION REFRIGERATOR FOR MÖSSBAUER EXPERIMENTS. G.J. Ehnholm, T.E. Katila, O.V. Lounasmaa, and P. Reivari	657
D7.4	OPERATION OF A DILUTION REFRIGERATOR. S.C. Whitmore, T.M. Sanders, S.R. Ryan	661
D7.5	³ He PURIFICATION. J.R.G. Keyston, J.P. Laheurte ...	665
(D7.6);	DISCUSSION D7	669
D8.	<u>MISCELLANEOUS APPLICATIONS AND PHENOMENA</u>	
D8.1	THERMAL SWITCH USING ⁴ He. J.N. Haasbroek, J.A. Konter	671
D8.2	CHARACTERISTICS OF SUPERFLUID HELIUM DIODES AND TRIODES. F.L. Hereford, F.E. Moss, G.E. Spangler ...	674
D8.3	HOT ELECTRON INJECTION INTO LIQUID HELIUM-4. M. Silver and D.G. Onn	678
D8.4	INVESTIGATION OF THE NON-ISOTHERMAL SUPERCONDUCTING BOLOMETER. V.A. Konovodchenko, S.K. Komarevsky, I.M. Dmitrenko, V.M. Dmitriev, A.V. Trubitsin, V.I. Karamushko	682
D8.5	SOME PROPERTIES OF POINT CONTACT JOSEPHSON JUNCTION ARRAYS. T.D. Clark	686
D8.6	QUANTIZED FLUX AND EXPERIMENTS IN ZERO MAGNETIC FIELD. W.O. Hamilton, D.K. Rose, A. Hebard, G.B. Hess and B. Cabrera	690
(D8.7, D8.8);	DISCUSSION D8	694
	AUTHOR INDEX :::::	697