

THURSDAY SEPTEMBER 8

Morning

OPENING SESSION (10:00-11:30)

I-8a

Opening Address

T. Muto (10:00-10:30)

I-8a**

Opening Lecture

Quantum Transport in High Magnetic Fields

C. Herring (10:30-11:30)

** review paper

THURSDAY SEPTEMBER 8

Afternoon

BAND THEORY (13:00-17:00)

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|----------|---|---------------|
| I-8p-1** | Electronic Structures of Covalent Crystals J.C. Phillips | (13:00-13:50) |
| I-8p-2* | New Studies of the Band Structure of the Diamond- Type Crystals F. Herman, R.L. Kortum, C.D. Kuglin and R.A. Short | (14:00-14:30) |
| I-8p-3 | Energy Band Structure of CdS Using Self-Consistent OPW and Pseudopotential Methods T.C. Collins, R.N. Euwema and J.S. DeWitt | (14:30-14:50) |
| I-8p-4 | Band Structure of GaAs, GaP, InP, and AlSb: the k.p Method F.H. Pollak, C.W. Higginbotham and M. Cardona | (14:50-15:10) |
| I-8p-5 | Band Structure of the Semiconducting Layer Com- pounds H. Kamimura and K. Nakao | (15:10-15:30) |
| I-8p-6 | Experimental Evidence Concerning the Conduction Band of SrTiO ₃ H.P.R. Frederikse, W.R. Hosler and W.R. Thurber | (15:30-15:50) |
| I-8p-7* | Structure Due to Transport Effects in Photoelectric Energy Distributions E.O. Kane | (16:10-16:40) |
| I-8p-8 | Photoemission Studies on Strontium Titanate R.H. Tredgold and R.H. Williams | (16:40-17:00) |

** review paper

* invited paper

THURSDAY SEPTEMBER 8

Afternoon

QUANTUM TRANSPORT (14:00-17:00)

- II-8p-1 Cyclotron Resonance Line Width of Germanium and Silicon in the Quantum Limit
R. Ito, M. Fukai and I. Imai (14:00-14:20)
- II-8p-2 Magnetoresistance Oscillations Due to Inelastic Scattering of Electrons on Optical Phonons
I.M. Tsidilkovski and M.M. Akselrod (14:20-14:40)
- II-8p-3 Low Temperature Transport Effects in n-Type GaSb at High Magnetic Field
W.M. Becker and T.O. Yep (14:40-15:00)
- II-8p-4 Shubnikov-de Haas Effect and Electron Band Structure of Cadmium Arsenide
I. Rosenman (15:00-15:20)
- II-8p-5 Magnetoresistance Studies of HgTe at Low Temperatures
R.A. Stradling and G.A. Antcliffe (15:20-15:40)
- II-8p-6 Schubnikow-de Haas Effect in Tellurium
E. Braun and G. Landwehr (16:00-16:20)
- II-8p-7 The Fermi Surface of Tin Telluride by Means of Shubnikov-de Haas Effect
J.R. Burke, Jr., B. Houston, H.T. Savage,
J. Babiskin and P.G. Siebenmann (16:20-16:40)
- II-8p-8 Quantum Effects on Capacitance of p-n Junctions
J.C. Thuillier and J.M. Thuillier (16:40-17:00)

THURSDAY SEPTEMBER 8

Evening

TUNNELING (19:00-20:50)

- I-8e-1** Tunneling Studies on the Group V Semimetals and
the IV-VI Semiconductors
 L. Esaki (19:00-19:50)
- I-8e-2 Contact Effects in the Degenerate Semiconductors
at Low Temperature
 B.M. Vul, E.I. Zavaritskaya and N.V.
 Zavaritsky (19:50-20:10)
- I-8e-3 Reverse Characteristics of GaSb Tunnel Diodes
 R.P. Nanavati and M. Eisencraft (20:10-20:30)
- I-8e-4 Optical Absorption and Tunnel Current in Crossed
Electric and Magnetic Fields
 A.G. Aronov and G.E. Pikus (20:30-20:50)

** review paper

FRIDAY SEPTEMBER 9

Morning

SEMIMETALS (9:00-11:30)

- I-9a-1* Analysis of dc Transport Phenomena in Bismuth
 G.E. Smith and R. Wolfe (9:00-9:30)
- I-9a-2 Cyclotron Resonance in Arsenic
 W.R. Datars and J. Vanderkooy (9:30-9:50)
- I-9a-3 Experimental Determination of Fermi Surface in
 Pure and Doped Arsenic through de Haas-van
 Alphen Effect
 S. Tanuma, Y. Ishizawa and S. Ishiguro (9:50-10:10)
- I-9a-4 Shubnikov-de Haas Investigations of the $\text{Bi}_{1-x}\text{Sb}_x$
 ($0 < x < 0.3$) System
 M.R. Ellett, R.B. Horst, L.R. Williams and
 K.F. Cuff (10:30-10:50)
- I-9a-5 Galvanomagnetic Studies of Sn-Doped Bi
 R.T. Bate and N.G. Einspruch (10:50-11:10)
- I-9a-6 Electron Transport Phenomena in Thin Films of
 Bismuth
 Y.H. Kao (11:10-11:30)

* invited paper

FRIDAY SEPTEMBER 9

Morning

EXCITON (9:00-11:30)

- II-9a-1* Coexistence of Local and Band Structures in the
Absorption Spectra of Solids
Y. Toyozawa, M. Inoue, T. Inui, M. Okazaki
and E. Hanamura (9:00-9:30)
- II-9a-2 A Mechanism for Energy Transport by Excitons
D. Redfield (9:30-9:50)
- II-9a-3 Sharp Line Emission Due to Preferential Pairing
in ZnO Crystals
D.C. Reynolds, C.W. Litton, Y.S. Park and
T.C. Collins (9:50-10:10)
- II-9a-4 The Exciton and Magneto-Oscillatory Absorption
of Cu₂O
G. Kuwabara, A. Misu and H. Sasaki (10:30-10:50)
- II-9a-5 Metastable Excitons in CdI₂ and PbI₂
D.L. Greenaway and G. Harbeke (10:50-11:10)
- II-9a-6 Optical Absorption, Photoconductivity, Spontaneous
and Stimulated Recombination Radiation Due to
Exciton States in CdTe
V.S. Vavilov, S.N. Maximovsky, S.A. Medvedev,
E.L. Nolle, A.F. Plotnikov and A.A.
Sokolova (11:10-11:30)

* invited paper

FRIDAY SEPTEMBER 9

Afternoon

MAGNETO-PLASMA AND MAGNETO-ACOUSTIC PHENOMENA (13:00-17:40)

- I-9p-1** The Interaction of Electromagnetic and Acoustic Waves with Plasmas in a Magnetic Field
E. Burstein (13:00-13:50)
- I-9p-2 Observation of Quantum, Spin and High Field Damping Effects in Microwave Helicon Propagation in Degenerate Semiconductor Plasmas
J.K. Furdyna (14:00-14:20)
- I-9p-3 Helicon Effect in InSb and HgTe by a Resonant-Cavity Method
J.P. Jamet, B. Lemaire, V. Cagan and C. Verié (14:20-14:40)
- I-9p-4 Helicon-Phonon Interaction in a Multi-Valley Semiconductor
P.R. Antoniewicz and S. Rodriguez (14:40-15:00)
- I-9p-5 Large Quantum Oscillations Associated with Helicon Waves in Bi-Te Dilute Alloys
T. Yamada (15:00-15:20)
- I-9p-6 Determinations of Fermi Velocity and Effective Mass from Cyclotron Damping of Magneto-Plasma Waves in Bismuth
H. Kawamura, S. Nagata, S. Takano and J. Nakahara (15:40-16:00)
- I-9p-7 Transmission Studies of Plasma-Resonance and Plasma-Cyclotron Resonance in Thin Film Polar Semiconductors
S. Iwasa, Y. Sawada, E. Burstein and E.D. Palik (16:00-16:20)
- I-9p-8 Giant Oscillations in the Magnetoacoustic Attenuation of Bismuth
S. Mase, Y. Fujimori and H. Mori (16:20-16:40)
- I-9p-9 Determination of the Energy Band Parameters of Bismuth by Giant Quantum Attenuation of Sound Waves
Y. Sawada, E. Burstein and L. Testardi (16:40-17:00)
- I-9p-10 Magnetoacoustic Resonances in Antimony
T. Fukase and T. Fukuroi (17:00-17:20)
- I-9p-11 Magneto-Acoustic Measurements on n-InSb at 9GHz
K.W. Nill and A.L. McWhorter (17:20-17:40)
- I-9p-12[†] Microwave Phase Shift Due to Magnetoplasma Resonance
R. Hirota and K. Suzuki
- I-9p-13[†] The Possibility of the Coupling of Magneto-Plasma Waves with Optical Phonons in Polar Semiconductors
I. Yokota

** review paper
† read by title

FRIDAY SEPTEMBER 9

Afternoon

IMPURITY CONDUCTION (14:00-17:30)

- II-9p-1* Negative Magnetoresistance in the Metallic Impurity Conduction
W. Sasaki (14:00-14:30)
- II-9p-2* Electron Spin Resonance of Impurities in Semiconductors
J.M. Winter (14:30-15:00)
- II-9p-3 Magnetoresistance of Heavily Doped n-Type Silicon
M. Balkanski and A. Geismar (15:00-15:20)
- II-9p-4 Transport Properties and Localized Spins in n-Type InSb
R.P. Khosla and R.J. Sladek (15:40-16:00)
- II-9p-5 Electron Spin Resonance of Phosphorus Doped Silicon in the Metallic Conduction Region
S. Maekawa (16:00-16:15)
- II-9p-6 Effect of Doping on the Electron Spin Resonance in Phosphorus Doped Silicon
H. Kodera (16:15-16:30)
- II-9p-7 Electric Field Effect on the Spin-Lattice Relaxation of Donor Electrons in Silicon
K. Morigaki and J.M. Winter (16:30-16:50)
- II-9p-8 Excitation and Relaxation of Ionized Impurity Pairs in Silicon
S. Tanaka, M. Kobayashi, K. Uchinokura and A. Koma (16:50-17:10)
- II-9p-9 Far Infrared Resonant Absorption in n-Type Silicon
L.J. Neuringer, R.C. Milward and R.L. Aggarwal (17:10-17:30)
- II-9p-10[†] An Experimental Investigation of the Hall Effect in the Hopping Region
M. Amitay and M. Pollak
- II-9p-11[†] Annealing of Neutron-Irradiation-Induced Changes in Impurity Conduction in Antimony-Doped Germanium
E.L. Wolf and W.D. Compton

* invited paper

† read by title

FRIDAY SEPTEMBER 9

Evening

PLASMA INSTABILITY (19:30-21:20)

- I-9e-1** Instabilities in Solid State Plasma
 J. Bok (19:30-20:20)
- I-9e-2 Avalanche Plasma Production and Instabilities on
 Subnanosecond Time Scales
 B. Ancker-Johnson (20:20-20:40)
- I-9e-3 Instability of Electron-Hole Plasma in Semicon-
 ductor, Caused by Non-Linearity of Voltage-
 Current Characteristics
 M.I. Iglisin, E.G. Pel, L. Ya. Pervova and
 V.I. Fistul (20:40-21:00)
- I-9e-4 Magnetic Field Effects on the Static Shielding of
 an Impurity Charge by an Electron Plasma
 N.J. Horing (21:00-21:20)

** review paper