

PUBLICATIONS AND REPORTS  
MEETING PAPERS PRESENTED

Symposium on the Engineering Significance of the Biological Sciences, Carnegie Institute of Technology, Pittsburgh, Pennsylvania

January 25-27, 1967

W. S. McCulloch, Some Remarks on What Is New with Us (invited)

First Rock Island Arsenal Biomechanics Symposium, Augustana College, Rock Island, Illinois

April 5-6, 1967

W. S. McCulloch, Control of Posture and Motion (invited)

IEEE Conference on Laser Engineering and Applications, Washington, D. C.

June 6-9, 1967

E. V. Hoversten and R. S. Kennedy, The Turbulent Atmosphere as an Optical Communication Channel

T. S. Huang, The Use of Digital Computers in Optical Image Processing

IEEE International Conference on Communication, University of Minnesota, Minneapolis, Minnesota

June 12-14, 1967

A. B. Baggeroer, A State Variable Technique for the Solution of Fredholm Integral Equations

T. S. Huang and Y. Yamaguchi, Noise Power in Binary Transmission

American Astronomical Society Meeting, Yerkes Observatory, Williams Bay, Wisconsin

June 12-15, 1967

J. M. Moran, A. H. Barrett, B. F. Burke, P. P. Crowther, J. A. Ball, J. C. Carter, A. E. E. Rogers, and C. Bare, OH Interferometry Using Independent Time Standards at Stations Separated by 845 cm

University of Maryland and Atomic Energy Commission Summer Laboratory Workshop in Plasma Properties, University of Maryland, College Park, Maryland

June 13, 1967

A. Bers, Wave Propagation in Plasmas (invited)

Division of Plasma Physics, American Physical Society, Meeting, Toronto, Canada

June 21-23, 1967

G. Bekefi, A. Bers, and S. R. J. Brueck, Microwave Emission from n-type Indium Antimonide at 4.2°K and 77°K

K. Chung and D. J. Rose, Interpretation of Fluctuations in the Discharge Arc Column

M. Hudis, K. Chung, and D. J. Rose, Ion Temperature in a Hollow-Cathode Arc Plasma Column

M. D. Lubin and D. J. Rose, Internal Gaseous Electronics and Emission Mechanism of the Hollow-Cathode Discharge

R. W. Moir and L. M. Lidsky, Experimental Studies of Resonant Diffusion

MEETING PAPERS PRESENTED (continued)

American Physical Society Meeting, Toronto, Canada

June 21-23, 1967

T. K. Gustafson, F. De Martini, and C. H. Townes, The Evolution of Intense Short Pulses in Nonlinear Optical Media

Twenty-fifth Annual Conference on Electron Device Research, McGill University, Montreal, Canada

June 21-23, 1967

A. Bers, G. Bekefi, and S. R. J. Brueck, Microwave Emission from InSb and Acoustic Wave Generation

T. K. Gustafson, F. De Martini, C. H. Townes, and P. L. Kelley, The Evolution of Intense Short Pulses in Nonlinear Optical Media

H. A. Haus, P. L. Kelley, and T. K. Gustafson, Thermodynamics of Optical Pulse Interactions

P. W. Hoff, T. J. Bridges, and H. Kogelnik, Amplification of Short CO<sub>2</sub> Laser Pulses

Society of Photo-optical Instrumentation Engineers Seminar on Computerized Imaging Technique, Washington, D. C.

June 26-27, 1967

T. S. Huang, The Combined Use of Digital Computers and Coherent Optics in Image Processing

Symposium on Fluctuations and Diffusion in Plasmas, Princeton University

June 26-30, 1967

L. M. Lidsky, Experimental Studies of Resonant Diffusion

NATO High School on "Information Processing in the Central Nervous System," Naples, Italy

July 10-20, 1967

J. L. Simões da Fonseca, Linearization of Nonlinear Shift Registers - Basis of Reliability of Memory

Physics Division Colloquium, Argonne National Laboratory, Argonne, Illinois

July 21, 1967

S. C. Brown, Microwave Discharges and Afterglows

Linguistic Society of America Summer Meeting, Ann Arbor, Michigan

July 27-29, 1967

P. Kiparsky, Syntactic Relationships among Complement Types in English

Gordon Research Conference, Seattle, Washington

August 14-18, 1967

G. Bekefi, Afterglow Measurements of a Laser-Produced Helium Plasma

7th International Conference on Medical and Biological Engineering, Stockholm, Sweden

August 14-19, 1967

D. E. Troxel, F. F. Lee, and S. J. Mason, A Reading Machine for the Blind

MEETING PAPERS PRESENTED (continued)

Passive Microwave Meeting, University of Nevada, Reno, Nevada  
August 15-16, 1967

D. H. Staelin, Interpretation of Passive Microwave Data (invited)

Western Electronic Show and Convention, San Francisco, California  
August 16, 1967

J. E. Schindall, Static and Dynamic Analysis of a Feedback-Controlled Two-State Modulation System

Lecture, Summer Course on Advanced Electromagnetic Theory, University of Colorado, Boulder, Colorado

August 19, 1967

G. D. Bernard, Optics of the Compound Eye (invited)

Eighth International Conference on Phenomena in Ionized Gases, Vienna, Austria  
August 27 - September 2, 1967

S. C. Brown, High Frequency Discharges and Afterglow (invited)

L. D. Smullin, Recent Results on the Beam-Plasma Discharge

Conference on High Frequency Generation and Amplification, Cornell University, Ithaca, New York

August 29-31, 1967

R. P. Rafuse, Low Noise and Dynamic Range in Symmetric Mixer Circuits (invited)

JOURNAL PAPERS ACCEPTED FOR PUBLICATION

(Reprints, if available, may be obtained from the Document Room, 26-327, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139)

G. Bekefi, A. Bers, and S. R. J. Brueck, Microwave Instabilities in n-type Indium Antimonide (IEEE Trans. (PGED Special Issue))

D. Cohen, Optimization of Seasonal Migratory Behavior (Am. Naturalist)

P. Elias, Networks of Gaussian Channels with Applications to Feedback Systems (IEEE Trans.)

P. R. Gray, Conditional Probability Analyses of the Spike Activity of Single Neurons (Biophys. J.)

R. D. Hall, Habituation of Evoked Potentials in the Rat under Conditions of Behavioral Control (EEG Clin. Neurophysiol.)

H. A. Haus, Electrodynamics of Quadrupolar Media (Ann. Phys.)

K. R. Ingham, Spelled Speech As an Output for Computers and Reading Machines for the Blind (IEEE Trans. (HFE))

J. J. Katz and E. Martin, Jr., The Synonymy of Actives and Passives (Philos. Rev.)

JOURNAL PAPERS ACCEPTED FOR PUBLICATION (continued)

- J. M. Moran, P. P. Crowther, B. F. Burke, A. H. Barrett, A. E. E. Rogers, J. A. Ball, J. C. Carter, and C. C. Bare, Spectral Line Interferometry with Independent Time Standards at Stations Separated by 845 Kilometers (Science)
- J. M. Moran, A. H. Barrett, B. F. Burke, P. P. Crowther, J. A. Ball, J. C. Carter, A. E. E. Rogers, and C. Bare, OH Interferometry Using Independent Time Standards at Stations Separated by 845 km (Abstract) (Astron. J.)
- E. C. Reifenstein III, T. L. Wilson, B. F. Burke, and P. G. Mezger, Recombination Line Survey of Galactic H II Regions (Abstract) (Astron. J.)
- D. L. Snyder, The State Variable Approach to the Continuous Nonlinear Filtering Problem (IEEE Trans. (IT))
- J. S. Waugh and C. H. Wang, Multiple Spin Echoes in Dipolar Solids (Phys. Rev.)
- E. F. Young and C. H. Perry, Infrared Studies of Some Perovskite Fluorides I. Fundamental Lattice Vibrations (J. Appl. Phys.)
- E. F. Young and C. H. Perry, Infrared Studies of Some Perovskite Fluorides II. Multiphonon Spectra (J. Appl. Phys.)

LETTERS TO THE EDITOR ACCEPTED FOR PUBLICATION

- J. M. Andrews, Jr. and M. W. P. Strandberg, Bolometric Detection of Coherent 9-GHz Longitudinal Phonons in x-Cut Quartz (Appl. Phys.)
- G. Bekefi, A. Bers, and S. R. J. Brueck, Microwave Emission from n-Type Indium Antimonide at 4.2°K and 77°K (Phys. Rev. Letters)
- S. Ezekiel, Determination of Auxiliary Mirror Curvature in a Michelson-type Single Longitudinal Mode Resonator (J. Quant. Electronics)
- J. W. Gadzuk, Screening of a Point Impurity in the Surface Region of a Gas (Solid State Communs.)
- U. Ingard, Nonlinear Attenuation of Sound in a Duct (J. Acoust. Soc. Am.)
- U. Ingard and M. Schulz, Errata : Acoustic Wave Mode in a Weakly Ionized Gas (Phys. Rev. 158, 106-112 (5 June 1967) (Phys. Rev.)
- R. H. Katyl and U. Ingard, Line Broadening of Light Scattered from a Liquid Surface (Phys. Rev. Letters)
- W. M. Manheimer, Proposed Modification to Harris' Quasi-linear Equations (Phys. Fluids)
- J. S. Waugh and Lee M. Huber, Method for Observing Chemical Shifts in Solids (J. Chem. Phys.)
- J. C. Woo and D. J. Rose, Universal Instability of a Resistive Plasma Column (Phys. Rev. Letters)

## TECHNICAL REPORTS PUBLISHED

(These and previously published technical reports, if available, may be obtained from the Document Room, 26-327, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139)

- 447 Jonny Andersen, Realizability Conditions for New Classes of Three-Element-Kind Networks
- 449 Gerald B. Kliman, Axisymmetric Modes in Hydromagnetic Waveguide
- 456 Donald E. Nelsen, Statistics of Switching-Time Jitter for a Tunnel Diode Threshold-Crossing Detector
- 459 Arthur B. Baggeroer, A State-Variable Approach to the Solution of Fredholm Integral Equations

## SPECIAL TECHNICAL REPORTS PUBLISHED

- Number 14 Paul Penfield, Jr. and Hermann A. Haus, Electrodynamics of Moving Media (Research Monograph No. 40, The M.I.T. Press, Cambridge, Mass., 1967)
- Number 16 John H. Hewitt and Helen L. Thomas, Publications - Research Laboratory of Electronics, 1946-1966

## SPECIAL PUBLICATIONS

- G. A. Brown and K. S. Lee, A Liquid Metal MHD Power Generation Cycle Using a Condensing Ejector (Proc. International Symposium on Magnetohydrodynamic Electrical Power Generation, E.N.E.A., Paris, 1964)
- G. A. Brown and E. K. Levy, Liquid Metal MHD Power Generation with Condensing Ejector Cycles (Electricity from MHD, Vol. II, p. 1091, I. A. E. A., Vienna, 1966)
- W. D. Jackson and G. A. Brown, Space Vehicle Power System with Liquid Metal MHD Generators (Proc. XV International Congress of Astronautics, Warsaw, 1964)
- W. D. Jackson, E. S. Pierson, and R. P. Porter, Design Considerations for MHD Induction Generators (Proc. International Symposium on Magnetohydrodynamic Electrical Power Generation, E.N.E.A., Paris, 1964)
- R. E. Stickney, Atomic and Molecular Scattering from Solid Surfaces (in Vol. III, Advances in Atomic and Molecular Physics, edited by D. R. Bates and I. Estermann, Academic Press, New York, 1967)
- F. Bitter, Histoire des Champs Magnétiques Intenses, et de leurs Contributions à la Physique (Proc. International Conference of the Centre National de la Recherche Scientifique on 'High Magnetic Fields, Their Production and Applications,' Grenoble (Isère), France, September 18-21, 1966, pp. 19-29)