

## PUBLICATIONS AND REPORTS

### MEETING PAPERS PRESENTED

IBM, Yorktown Heights, New York

March 4, 1970

W. M. Siebert, Signals and Noise in the Auditory System (invited)

American Physical Society Meeting, Dallas, Texas

March 23-26, 1970

R. N. Wallace and A. Bers, Microwave Emission from Indium Antimonide Loops

Symposium on Very Long Baseline Interferometry, National Radio Astronomy Observatory, Charlottesville, Virginia

April 13-14, 1970

B. F. Burke, S. H. Knowles, M. L. Meeks, J. M. Moran, D. C. Papa, G. D. Papadopoulos, P. R. Schwartz, and W. T. Sullivan III, Long Baseline Interferometry on H<sub>2</sub>O Sources

General Electric Company, Saratoga Springs, New York

April 21-24, 1970

W. M. Siebert, Modern Engineering Course (invited lectures)

79th Meeting, Acoustical Society of America, Atlantic City, New Jersey

April 21-24, 1970

Kay Atkinson-King, Children's Perception of Stress Contrasts

A. J. M. Houtsma, Perception of Musical Pitch

A. W. F. Huggins, The Perception of Temporal Phenomena in Speech (invited)

A. W. F. Huggins, What Is the Baseline for the Perception of Phoneme Duration?

U. Ingard, Variational Principles and Techniques (invited)

U. Ingard and J. A. Ross, Jr., The Acoustic Fountain Effect

C. Krischer and U. Ingard, Effect of Trapping on the Ultrasonic Velocity in a CdS Acoustic Amplifier

Industrial Liaison Symposium on Noise and Vibration, Massachusetts Institute of Technology

May 14, 1970

U. Ingard, Absorption of High-Intensity Sound (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. B. Anderson and T. S. Huang, Frequency-Domain Image Errors (Pattern Recognition)

JOURNAL PAPERS ACCEPTED FOR PUBLICATION (continued)

- R. A. Blanken, T. H. Stix, and A. F. Kuckes, Relativistic Cyclotron Instabilities (Plasma Phys.)
- R. A. Blanken and A. F. Kuckes, Synchrotron Deceleration of Electrons in a Plasma and the Generation of Electromagnetic Radiation (Plasma Phys.)
- A. A. Borbély and R. D. Hall, Effects of Pentobarbital and Chlorpromazine on Acoustically Evoked Potentials in the Rat (Int. J. Neuropharmacol.)
- C. T. Dum and T. H. Dupree, Nonlinear Stabilization of High Frequency Instabilities in a Magnetic Field (Phys. Fluids)
- M. S. Ewing, R. A. Batchelor, D. H. Staelin, and R. D. Friefeld, Narrow-Band Spectra of Pulsars (Abstract) (Bull. Am. Astron. Soc.)
- D. L. Fehrs and R. E. Stickney, Contact Potential Measurements of the Adsorption of Alkali Metals on Ta(110) and W(100) Crystals (Surface Sci.)
- M. O. Ham and J. L. Kinsey, Long-Lived Collision Complex in Molecular Beam Scattering Experiments (J. Chem. Phys.)
- M. E. Hellman, The Nearest Neighbor Classification Rule with a Reject Option (IEEE Trans. System Sci. and Cybernetics)
- C. W. Helstrom, Jane W. S. Liu, and J. P. Gordon, Quantum-Mechanical Communication Theory (Proc. IEEE)
- A. W. F. Huggins, Apparatus : An Electronic Tape-Splicer and Synchronizer (Quart. J. exp. Psychol.)
- B. R. Kusse and A. Bers, Interactions of a Plasma with a Spiraling Electron Beam (Phys. Fluids)
- W. H. Lee, Sampled Fourier Transform Hologram Generated by Computer (Appl. Opt.)
- P. H. Lieberman, D. H. Klatt, and W. H. Wilson, Vocal Tract Limitations on the Vowel Repertoires of Rhesus Monkey and Other Nonlinear Primates (Science)
- A. Natapoff, How Symmetry Restricts Symmetric Choice (J. Math. Psychol.)
- R. L. Mozzi and B. E. Warren, The Structure of Vitreous Boron Oxide (J. Appl. Crystallog.)
- J. Nolte and J. E. Brown, The Spectral Sensitivities of Single Receptor Cells in the Lateral, Median, and Ventral Eyes of Normal and White-Eyed Limulus (J. Gen. Physiol.)
- A. A. Offenberger and D. J. Rose, Roles of Helium and Nitrogen in CO<sub>2</sub> Laser Excitation (J. Appl. Phys.)
- L. D. Partridge and J. E. Brown, Receptive Fields of Rat Retinal Ganglion Cells (Vision Res.)
- P. Penfield, Jr., R. Spence, and S. Duinker, A Generalized Form of Tellegen's Theorem (IEEE Trans. (CT))

JOURNAL PAPERS ACCEPTED FOR PUBLICATION (continued)

- R. M. Price, A Measurement of the Sky Brightness Temperature at 408 MHz (Australian J. Phys.)
- G. L. Rogoff and S. C. Brown, Thin Fused Quartz Window for Far Infrared Radiation (Rev. Sci. Instr.)
- D. H. Steinbrecher and D. F. Peterson, Small-Signal Model with Frequency-Independent Elements for the Avalanche Region of a Microwave Negative-Resistance Diode (IEEE Trans. (ED))
- D. W. Swain, Boxcar Integrator Attachment for Oscilloscopes (Rev. Sci. Instr.)
- H. D. Toong and D. H. Staelin, Passive Microwave Spectrum Measurements of Atmospheric Water Vapor and Clouds (J. Atmos. Sci.)
- M. L. Wiederhold, Variations in the Effects of Electric Stimulation of the Crossed Olivocochlear Bundle on Cat Single Auditory-Nerve Fiber Responses to Tone Bursts (J. Acoust. Soc. Am.)
- M. L. Wiederhold and N. Y. S. Kiang, The Effects of Electric Stimulation of the Crossed Olivocochlear Bundle on Single Auditory-Nerve Fibers in the Cat (J. Acoust. Soc. Am.)
- S. Yamamoto and R. E. Stickney, Molecular Beam Study of the Scattering of Rare Gases from the (110) Face of a Tungsten Crystal (J. Chem. Phys.)

LETTERS TO THE EDITOR ACCEPTED FOR PUBLICATION

- B. F. Burke, D. C. Papa, G. D. Papadopoulos, P. R. Schwartz, S. H. Knowles, W. T. Sullivan, M. L. Meeks, and J. M. Moran, Studies of  $H_2O$  Sources by means of a Very Long Baseline Interferometer (Astrophys. J.)<sup>2</sup>
- B. Coppi and A. Ferrari, Collective Modes of Plasma Surrounding a Collapsed Star (Astrophys. J.)
- B. Coppi and A. Ferrari, High-Energy Emission from X Stars and Pulsars (Nuovo cimento)
- B. Howland and A. F. Proll, Apparatus for the Accurate Determination of Flange Focal Distance (Appl. Opt.)
- U. Ingard, Nonlinear Distortion of Sound Transmitted through an Orifice (J. Acoust. Soc. Am.)
- C. Krischer and U. Ingard, Enhancement of the Piezoelectrically Stiffened Ultrasonic Velocity by Electron Trapping in CdS (Phys. Letters (A))
- D. J. Rose, Hazards of Tritium from Controlled Fusion (Health Phys.)
- P. R. Schwartz, Erratum : Observations of Water-Vapor Emission Associated with Infrared Stars (Astrophys. J.)

## TECHNICAL REPORTS PUBLISHED

(This 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)

- 475 Peter Elias, Bounds on Performance of Optimum Quantizers
- 476 Jeffrey H. Shapiro, Optimal Spatial Modulation for Reciprocal Channels
- 477 Stewart D. Personick, Efficient Analog Communication over Quantum Channels

## SPECIAL PUBLICATIONS

- G. B. Anderson and T. S. Huang, Errors in Frequency-Domain Processing of Images (Proc. Spring Joint Computer Conference, Boston, Massachusetts, May 14-16, 1969)
- J. Simões da Fonseca (ed.), Signification and Intention (Seven papers to honour the memory of Warren S. McCulloch. Edition sponsored by Gulbenkian Foundation, Lisbon, Portugal, April 1970)
- G. W. Grams, Laser Radar Measurements of the Aerosol Content of the Atmosphere, in Atmospheric Exploration by Remote Probes, Vol. 2, pp. 207-212 (Final Report of the Panel on Remote Atmospheric Probing to the Committee on Atmospheric Sciences, National Academy of Sciences, National Research Council, January 1969)
- R. H. Katyl and U. Ingard, Light Scattering from Thermal Fluctuations of a Liquid Surface (Chap. 6 in In Honor of Philip M. Morse, Herman Feshbach and K. Uno Ingard (eds.). The M.I.T. Press, Cambridge, Mass., 1969, pp. 70-97)
- B. R. Kusse and A. Bers, Interactions of a Plasma with a Spiraling Electron Beam (Proc. Third European Conference on Controlled Fusion. Wolters-Nordhoff Publishing, Utrecht, The Netherlands, 1969), p. 25