

AIEE
WINTER
GENERAL MEETING
Jan. 31 - Feb. 4, 1949



PROGRAM

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POINTS OF INTEREST



MEETING HEADQUARTERS
Hotel Statler

Future AIEE Meetings

AIEE Conference on the Textile Industry

Atlanta, Ga.
Spring, 1949

AIEE Conference on the Rubber and Plastics Industry

Akron, Ohio
March, 1949

AIEE Conference on the Industrial Applications of Electron Tubes

Buffalo, N. Y.
April 11-12, 1949

South West District Meeting

Baker Hotel, Dallas, Tex.
April 19-21, 1949
(Final date for submitting papers—closed)

AIEE Conference on the Textile Industry

Boston, Mass.
May 4, 1949

Summer General Meeting

New Ocean House, Swampscott, Mass.
June 20-24, 1949
(Final date for submitting papers—February 20)

Pacific General Meeting

Fairmont Hotel, San Francisco, Calif.
August 23-26, 1949
(Final date for submitting papers—April 23)

Midwest General Meeting

Netherland Plaza Hotel, Cincinnati, Ohio
October 17-21, 1949
(Final date for submitting papers—June 17)

Winter General Meeting

New York, N. Y.
January 30-February 3, 1950
(Final date for submitting papers—September 30)

GENERAL INFORMATION

The Technical Program, the largest in the history of the Institute, is a manifestation of the efforts of the technical committees of the AIEE to cover the electrical field completely. The program is comprised of 55 technical sessions and conferences presenting a total of 226 papers.

The Edison Medal presentation ceremonies will take place at the General Session, Wednesday morning. There will also be talks by Charles E. Wilson, President, General Electric and our President Everett S. Lee.

A group of inspection trips has also been arranged, closely allied with the subject matter of several sessions. On the social side, there will be a dinner-dance, a smoker, theater tickets for out-of-towners and special entertainment for the ladies.

REGISTRATION FEES REQUIRED. Members and nonmembers should register promptly on arrival at the meeting. In accordance with the policy as set up by the Board of Directors, a registration fee of \$3.00 will be required for members and a fee of \$5.00 for nonmembers. This is to help make the meeting self-supporting and obviate the need for raising the annual dues. Enrolled students and the immediate families of members will not be required to pay any fee.

Information on all features may be obtained at the registration desk. Press headquarters will be in Cf. Room 8. The Institute rooms and offices on the 10th floor of the Engineering Societies Building are open to all members. Efforts will be made to deliver telegrams and messages promptly. Members who expect to receive mail are asked to collect same promptly at the mail and telegram desk. Please check this desk frequently.

BROADCAST TICKETS have been obtained for many of the principal broadcasts in various evenings during the week. These are available at the entertainment desk. Some prior reservations and theater tickets are still available.

TECHNICAL SESSIONS AND DISCUSSIONS are covered by the "Conduct of Technical Sessions" at the discretion of the presiding officers. Usually 10 minutes will be allowed for the presentation of each paper and 5 minutes for each discussion. To receive consideration for publication, discussions must be left with the chairman or sent to Edward C. Day, AIEE, 33 West 39th Street, New York 18, N. Y., before February 18. Discussions received later will be returned. The original typewritten double-spaced copy, together with original illustrations with photostats or blueprints should be submitted.

Authors and discussers should make their presentations as effective as possible. Remember your audience. Stress the salient features of the paper which are new or novel. When using slides, please turn toward the audience before speaking and raise your voice. Extemporaneous delivery is preferable to reading unless done slowly and emphasis is put in the proper places.

ADVANCE COPIES OF PAPERS may be purchased by members at the registration desk at the uniform price of \$.30 each (\$.60 each to nonmembers). Only numbered papers are available. Conference papers denoted by CP are intended for presentation only and are not available. Mail orders, particularly from out-of-town members, are advisable, inasmuch as an adequate supply of each paper at the meeting cannot be assured. Coupon books in \$9.00 denominations are available for those who wish to avoid remittance by check or otherwise. Mail orders should be addressed to the AIEE Order Department, 33 West 39th Street, New York 18, N. Y. Most of the papers will ultimately be published as AIEE Proceedings and in the Transactions.

SCHEDULE OF EVENTS
For Entertainment, Inspection Trips and Points of Interest, See Separate Folder

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<p>10.30 A.M. Conf. on Applied Math. (<i>Keystone Room</i>)</p> <p>Home Radio Receivers and Broadcasting (<i>Grand Ballroom</i>)</p> <p>D.C. Machinery (A) (<i>Penn Top North</i>)</p> <p>Instruments & Meas. (<i>Parlor 1</i>)</p> <p>Chem., Electrochem. & Electrotherm. Conf. (<i>Penn Top South</i>)</p>	<p>9.30 A.M. D.C. Machinery (C) (<i>Penn Top North</i>)</p> <p>Land Transportation (<i>Parlor 2</i>)</p> <p>Communication Switching (<i>Parlor 1</i>)</p> <p>Electronic Instruments (<i>Penn Top South</i>)</p> <p>Conf. on Magnetics (<i>Keystone Room</i>)</p> <p>Electrical Tests on Dielectrics in the Field Conference (<i>Salle Moderne</i>)</p> <p>Recovery Rates on Distribution Systems (<i>Georgian Room</i>)</p>	<p>9.30 A.M. General Session</p> <p>Edison Medal Presentation</p> <p>Address, Charles E. Wilson (<i>Grand Ballroom</i>)</p>	<p>9.30 A.M. Relays (<i>Grand Ballroom</i>)</p> <p>Industry's Active Part in Education (<i>Penn Top North</i>)</p> <p>Protection of Electronic Power Converters (<i>Georgian Room</i>)</p> <p>F. H. Machinery (<i>Parlor 1</i>)</p> <p>Sym. on Gas Turbines (<i>Salle Moderne</i>)</p> <p>System Engineering (<i>Penn Top South</i>)</p> <p>Electrostatic Precipitation (<i>Parlor 2</i>)</p> <p>Industrial Control (<i>Keystone Room</i>)</p>	<p>9.30 A.M. Servomechanisms (<i>Georgian Room</i>)</p> <p>Insulated Conductors (<i>Keystone Room</i>)</p> <p>Switchgear (<i>Penn Top South</i>)</p> <p>New Electronic Devices (<i>Salle Moderne</i>)</p>

<p>2.00 P.M. Conf. on Fluorescent Lighting (<i>Georgian Room</i>)</p> <p>Radio Communication Systems (<i>Keystone Room</i>)</p> <p>D.C. Machinery (B) (<i>Penn Top North</i>)</p> <p>Instruments & Meas. (<i>Parlor 1</i>)</p> <p>Basic Sciences (<i>Salle Moderne</i>)</p> <p>Chem., Electrochem. & Electrotherm. Conf. (<i>Penn Top South</i>)</p>	<p>2.00 P.M. Land Transportation (<i>Parlor 2</i>)</p> <p>Transmission & Distribution (<i>Georgian Room</i>)</p> <p>Wire Communication Systems (<i>Parlor 1</i>)</p> <p>Rotating Machinery (E) (<i>Penn Top North</i>)</p> <p>Electronic Instruments (<i>Penn Top South</i>)</p> <p>Conf. on Magnetics (<i>Keystone Room</i>)</p> <p>Electrical Tests on Dielectrics in the Field Conference (<i>Parlor B</i>)</p> <p>7.00 P.M. Dinner Dance Hotel Statler</p>	<p>2.00 P.M. Conf. on Safety (<i>Parlor 1</i>)</p> <p>Carrier Current (<i>Salle Moderne</i>)</p> <p>Special Communication Applications (<i>Keystone Room</i>)</p> <p>Conf. on Energy Sources (<i>Grand Ballroom</i>)</p> <p>Lighting and Corona (<i>Georgian Room</i>)</p> <p>Conf. on D.C. Motor Test Program (<i>Penn Top North</i>)</p> <p>Conf. on Heat Balance in Chemical Plants (<i>Parlor 2</i>)</p> <p>Membership Committee (<i>Penn Top South</i>)</p>	<p>2.00 P.M. Conf. on Back-up Protection (<i>Georgian Room</i>)</p> <p>Conf. on Education in Power Electronics (<i>Parlor 1</i>)</p> <p>Symposium on Gas Turbines (<i>Salle Moderne</i>)</p> <p>High Frequency Cables (<i>Penn Top South</i>)</p> <p>Conf. on Nuclronics (<i>Grand Ballroom</i>)</p> <p>Industrial Control (<i>Keystone Room</i>)</p> <p>5.30 P.M. The Smoker Hotel Commodore</p>	<p>2.00 P.M. Conf. on Textile Industry (<i>Penn Top South</i>)</p> <p>Symposium on New Tools for Research (<i>Georgian Room</i>)</p> <p>Conf. on Computing Devices (<i>Penn Top North</i>)</p> <p>Electronics (<i>Salle Moderne</i>)</p> <p>Domestic and Commercial Applications (<i>Keystone Room</i>)</p>
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Monday, January 31

8:30 a.m.—Registration

10:30 a.m.—Conference on Applied Mathematics
(Sponsored jointly with the American Mathematical Society)

Keystone Room
RICHARD COURANT
P. L. ALGER, Presiding

- **CP. The Teaching of Field Theory to Engineers. L. V. Bewley, Lehigh University.
- **CP. Calculation of Flux Distribution with Saturation. H. Poritsky, General Electric Company.
- **CP. Tables of Green's Functions, Fourier Series, and Impulse Functions for Rectangular Coordinate Systems. J. J. Smith, General Electric Company.
- **CP. Recent European Developments in Applied Mathematics. Richard Courant, New York University.

10:30 a.m.—Home Radio Receivers and Broadcasting

Grand Ballroom
R. E. SHELBY, Presiding

- **CP. Brightness and Contrast in Television. P. C. Goldmark, Columbia Broadcasting Studios.
- **CP. Development of Large Screen Metal Kinescope for Television. H. P. Steier, Radio Corporation of America.
- **CP. Progress Report on Ultra High Frequency Television. T. T. Goldsmith, Allen B. DuMont Laboratories, Inc.
- **CP. Input Power Requirements of Television Receivers. S. C. Spielman, Philco Corporation.
- **CP. Large Screen Projection Television. R. V. Little, Jr. Radio Corporation of America.

10:30 a.m.—D-C Machinery (A)

Penn Top North
C. B. HATHAWAY, Presiding

- 49-15. Development of a Small Integral Horsepower D-C Motor. *ACO. Lanier Greer, J. A. Clark, The Reliance Electric and Engineering Company.
- **CP. The Design of Direct Current Motors for Use in Automatic Control Systems. Paul Lebenbaum, Jr., General Electric Company.
- 49-17. An Improved Dual Circuit D-C Generator. D. B. Hoover, *ACO. Westinghouse Electric Corporation.
- **CP. Limitations in Design of D-C Adjustable Speed Motors. L. G. Opel, Westinghouse Electric Corporation.
- 49-39. Solid Short Circuit of D-C Motors and Generators. T. M. Linville, H. C. Ward, General Electric Company.

10:30 a.m.—Wattour Meters and Miscellaneous Instruments

Parlor 1
W. G. KNICKERBOCKER, Presiding

- 49-20. Surge Protection in a Modern Wattour Meter. F. H. Busch, G. D. Williams, General Electric Company.
- **CP. A New Device for Calibrating Wattour Meters. H. F. Robison, W. H. Wickham, Commonwealth Edison Company.
- 49-22. A New Thermal Volt Ampere Demand Meter. M. E. Douglass, W. H. Morong, General Electric Company.
- 49-23. A New Type Instrument for Measuring Air Velocity. C. E. *ACO. Hastings, Hastings Instrument Company, Inc.

49-24. An Electrooptical Shutter for Photographic Purposes. A. M. Zarem, Stanford Research Institute; F. R. Marshall, F. L. Poole, U. S. Naval Ordnance Test Station.

10:30 a.m.—Conference on Chemical, Electrochemical, and Electrothermal Processes

Penn Top South
F. R. BENEDICT, Presiding

- **CP. Electrical Distribution Systems for Chemical Plants. L. W. Roush, Carbide and Carbon Chemicals Company.
- **CP. Power Cable Distribution for a Gulf Coast Chemical Plant. B. J. Nankervis, Dow Chemical Company.
- **CP. Du Pont Company experience with Electric Power Distribution Lines. W. N. Livermore, E. I. du Pont de Nemours and Company.

The Eta Kappa Nu Dinner

The Eta Kappa Nu Association will hold its Annual Recognition Dinner at the Henry Hudson Hotel, 353 West 57th Street, New York, New York, on Monday evening, January 31, 1949. This dinner will be held at 6:30 p.m. in the Tudor Room, and the cost will be \$5.00

At this dinner, Dr. A. M. Zarem, Director of the Los Angeles Division of the Stanford Research Institute, will receive the Eta Kappa Nu plaque in commemoration of his being chosen the Most Outstanding Young Electrical Engineer for 1948. Honorable Mention certificates will be awarded to Mr. J. W. Forrester of Massachusetts Institute of Technology and Mr. M. E. Mohr of the Bell Telephone Laboratories. These gentlemen were selected from among 50 candidates for the 1948 recognition by a jury consisting of Dr. E. L. Moreland, Chairman, Dean O. W. Eshbach, Mr. J. E. Murdoch, Mr. C. F. Craig, Mr. R. W. Wilbraham, Dr. S. R. Warren and Dean N. S. Hibshman.

Columbia Engineers Dinner

The Columbia Electrical Engineers dinner will be held at 6:30 p.m., Monday, January 31, at the Old Timer's Grill, 7 East 40th Street. Informal.

2:00 p.m.—Conference on Fluorescent Lighting—Summary of a Decade of Progress

Georgian Room
HARRIS REINHARDT, Presiding

- **CP. Trends in Fluorescent Lamps. W. C. Brown, General Electric Company.
- **CP. Economic Considerations. R. G. Slauer, Sylvania Electric Products, Inc.
- **CP. Trends in Application Techniques. Marshall Waterman, Westinghouse Electric Corporation.

2:00 p.m.—Radio Communication Systems

Keystone Room
E. C. PORTS, Presiding

- 49-25. A Time Division Multiplexing System. W. P. Boothroyd, E. M. Creamer, Jr., Philco Corporation.
- **CP. Clampers in Video Transmission. S. Doba, Jr., J. W. Ricke, Bell Telephone Laboratories, Inc.
- **CP. The Transistor, a New Solid State Amplifier. J. A. Becker, J. M. Shive, Bell Telephone Laboratories, Inc.
- **CP. The Coaxial Transistor. W. E. Kock, R. L. Wallace, Jr., Bell Telephone Laboratories, Inc.

2:00 p.m.—D-C Machinery (B)

Penn Top North
T. M. LINVILLE, Presiding

- 49-27. Oscillographing Commutation. M. J. Baldwin, General Electric Company.

Tuesday, February 1

- 49-28. Commutation of D-C Machines and Its Effects on Radio Influence Voltage Generation. D. P. Motter, General Electric Company.
- 49-29. Effects of Commutator Surface Film Conditions on Commutation. C. Lynn, H. M. Elsey, Westinghouse Electric Corporation.
- 49-30. Electrical Noise at the Sliding Contact. V. P. Hessler, University of Illinois; M. C. Cotton, University of Kansas.
- 49-31. Measuring Commutation with an Indicating Instrument. R. T. Lundy, General Electric Company.

2:00 p.m.—Miscellaneous Instruments

Parlor 1

E. I. GREEN, Presiding

- **CP. Resistance Wire Strain Gages As Elements of the Wheatstone Bridge. Vincent Petrucelly, Jr., American Machine and Foundry Company.
- **CP. A Study of Slidewire Contact Resistances. W. E. Belcher, Jr. The Brown Instrument Company.
- 49-34. Dielectric-Loss Measurement with a New Deflecting-Meter *ACO. Circuit. E. H. Povey, Doble Engineering Company.
- **CP. Theoretical Considerations in the Use of an Ergometer. J. Schroder, Naval Ordnance Laboratory.
- **CP. General Electric Metals Comparator. D. E. Bovey, General Electric Company.

2:00 p.m.—Basic Sciences

Salle Moderne

WALTHER RICHTER, Presiding

- **CP. Natural Electrical Phenomena of the Atmosphere. O. H. Gish, Carnegie Institute of Washington.
- **CP. The Brain as a Computing Machine. W. S. McCulloch, University of Illinois.
- **CP. Basic Theory, and Experimental Verification, of the Percent Limit Resistance Bridge. T. J. Higgins, University of Wisconsin.
- **CP. Magnetic Amplifier Analysis Using Ideal Magnetization Curves. P. M. Kintner, University of Illinois.
- **CP. Fundamentals of Contact Resistance. Ragnar Holm, Stackpole Carbon Company.

2:00 p.m.—Conference on Chemical, Electrochemical, and Electrothermal Processes

Penn Top South

T. R. BENEDICT, Presiding

- **CP. Power Wiring in Petroleum Refineries. W. H. Dickinson, Standard Oil Development Company.
- **CP. Sixty Years of Electrical Distribution in a Petroleum Refinery. J. A. Britton, W. J. O'Meara, The Atlantic Refinery Company.
- **CP. The Use of Electric Power in the Transportation of Natural Gas through the Former Big and Little Inch Pipe Lines. W. T. Thagard, Texas Eastern Transmission Corporation.

9:30 a.m.—D.C. Machinery (C)

Penn Top North

T. M. LINVILLE, Presiding

- **CP. Direct-Current Motors in Coal Mining Machinery. F. R. Ter-rant, Lanier Greer, The Reliance Electric and Engineering Company.
- **CP. Use of Magnetic Growler in Locating All Leads in a Finished Armature. Roy Stott, Jr., Westinghouse Electric Corporation.
- **CP. Transient Inductance of Interpole Windings. F. M. Scott, Allis-Chalmers Manufacturing Company.
- **CP. Linestarting Direct-Current Motors. E. C. Watson, Westinghouse Electric Corporation.
- **CP. Use of Cumulative and Differential Series Fields in the Parallel Operation of Motors. A. W. Kimball, Westinghouse Electric Corporation.

9:30 a.m.—Land Transportation

Parlor 2

J. C. AYDELOTT, Presiding

- 49-42. Application Engineering on Diesel-Electric Locomotives in Railroad Service. G. T. Bevan, General Electric Company.
- 49-43. Twenty-five Years Progress in the Design of Traction Motors. M. J. Baldwin, General Electric Company.
- 49-44. The Renaissance of Electric Motive Power. A. H. Candee, Westinghouse Electric Corporation.
- 49-45. Electrical Equipment for Chesapeake and Ohio Railway Co. Steam Turbine-Electric Locomotives. C. A. Atwell, C. E. Baston, Westinghouse Electric Corporation.
- 49-46. Selenium Rectifiers in Motor Vehicle Power Systems. Glen Ramsey, Fansteel Metallurgical Corporation.

9:30 a.m.—Communication Switching

Parlor 1

A. J. BUSCH, Presiding

- 49-99. Vibrating Reed Selectors for Mobile Radio Systems. A. C. Keller, L. G. Bostwick, Bell Telephone Laboratories, Inc.
- 49-100. Vibrating Reed Selective Signaling System for Mobile Telephone Use. H. M. Pruden, D. F. Hoth, Bell Telephone Laboratories, Inc.
- 49-101. Application of Multi-Frequency Pulsing in Switching. C. A. Dahlbom, A. W. Horton, Jr., D. L. Moody, Bell Telephone Laboratories, Inc.
- **CP. Tape-to-Page Translator. A. E. Frost, The Western Union Telegraph Company.

9:30 a.m.—Electronic Instruments

Penn Top South

J. G. REID, JR., Presiding

- 49-120. A Square-Law Power-Level Recorder. W. R. Clark, Leeds and Northrup Company; W. R. Turner, Naval Ordnance Laboratory; A. J. Williams, Leeds and Northrup Company.
- 49-47. Polar Vector Indicator. A. H. Waynick, E. A. Walker, P. G. Sulzer, The Pennsylvania State College.
- **CP. A Regulated, Adjustable Low Voltage D-C Supply for Electrolysis and Other Use. M. L. Greenough, W. E. Williams, National Bureau of Standards.

**CP. A Cathode Ray Oscillograph with Amplifier and Attenuator Uniform to 30MCps. R. U. Nathe, C. F. West, Raytheon Manufacturing Company.

9:30 a.m.—Symposium on Magnetics

Keystone Room

T. D. YENSEN, Presiding

**CP. Recent Advances in Magnetic Theory. R. M. Bozorth, Bell Telephone Laboratories, Inc.

**CP. Materials with Preferred Grain and Domain Orientation.

(A) Iron-Silicon Alloys. G. H. Cole. Armco Steel Corporation.
(B) Iron-Nickel and Other Alloys. E. A. Gaugler. Naval Ordnance Laboratories.

(C) Crystal Orientation in Magnetic Alloys. M. F. Littman. Armco Steel Corporation.

**CP. Fe-Co Alloys for High Induction Applications. J. K. Stanley. Westinghouse Research Laboratories.

9:30 a.m.—Conference on Electrical Tests on Dielectrics in the Field

Salle Moderne

F. C. DOBLE, Presiding

**CP. Practices and Trends in Low Voltage D-C Tests on Dielectrics in the Field. E. B. Curdts, James G. Biddle Company.

**CP. Insulation Resistance Tests on Low-Tension D-C Cables. Reginal Middleton, Massachusetts Transit Authority.

**CP. High-Voltage Direct-Current Testing. L. A. Gray, Simplex Wire and Cable Company.

**CP. Potential Distribution Tests. F. C. Doble, Doble Engineering Company.

9:30 a.m.—Recovery Rates on Distribution Systems

Georgian Room

S. B. CRARY and H. R. STEWART, Presiding

**CP. Short Circuit Currents and Recovery Voltages on Rural Distribution Systems. W. H. Eason, I. B. Johnson, J. W. Kalb, General Electric Company; H. A. Peterson, University of Wisconsin.

49-53. Voltage Recovery Characteristics of Distribution Systems. R. L. Witzke, Westinghouse Electric Corporation.

2:00 p.m.—Land Transportation

Parlor 2

J. C. AYDELOTT, Presiding

49-104. Trackless Trolley Operations in Rhode Island. H. R. Blomquist, United Electric Railways Company.

49-105. Trolley Coaches Replace Buses. A. B. McMillon, General Electric Company.
(Presentation of these two papers will be followed by a meeting of the Land Transportation Committee.)

2:00 p.m.—Transmission and Distribution

Georgian Room

C. F. WAGNER, Presiding

49-3. Hy-Therm Copper—An Improved Overhead-Line Conductor. L. F. Hickernell, A. A. Jones, C. J. Snyder, Anaconda Wire and Cable Company.

49-9. Detection of Over-Heated Transmission Line Joints by Means of a Bolometer. J. R. Leslie, J. R. Wait, Hydro-Electric Power Commission of Ontario.

49-10. Distribution Transformer and Secondary Conductor Economics. Bryce Brady, Oklahoma Gas and Electric Company.

**CP. Overcurrent Investigation on a Rural Distribution Systems. G. F. Lincks, General Electric Company; D. R. Edge, Graybar Electric Company, Inc.; W. C. McKinley, Central Electric Cooperative, Inc.; J. H. Leh, General Electric Company.

2:00 p.m.—Wire Communication Systems

Parlor 1

H. A. AFFEL, Presiding

49-26. The Distinction Between Effective and Circuit Bandwidths. W. J. Kessler, University of Florida.

**CP. A Carrier System for 8,000-Cycle Program Transmission. R. A. Leconte, D. B. Penick, C. W. Schramm, A. J. Wier, Bell Telephone Laboratories, Inc.

**CP. Delay Equalization of 8-Kc Carrier Program Circuits. C. H. Dagnall, P. W. Rounds, Bell Telephone Laboratories, Inc.

**CP. Band Pass Filter. Band Elimination Filter and Phase Simulator Network for Carrier Program Systems. F. S. Farkas, F. J. Hallenback, F. E. Stehlik, Bell Telephone Laboratories, Inc.

49-59. Rubber Insulators for Pole Lines. H. H. Wheeler, W. F. Markley, The Western Union Telegraph Company.

2:00 p.m.—Rotating Machinery (E)

Penn Top North

C. E. KILBOURNE, Presiding

49-49. Vaporization Cooling of Large Electrical Machines. Th. de *ACO. Koning.

49-50. A Semi-Empirical Approach to Voltage Dip. L. T. Rosenberg, Allis-Chalmers Manufacturing Company.

49-51. The Geometric Loci of the Synchronous Tie. L. A. Finzi, Carnegie Institute of Technology; L. C. Wellard, Molded Insulation Company.

**CP. Differential Leakage of the Different Patterns of a Fractional Slot Winding. M. M. Liwschitz, Polytechnic Institute of Brooklyn.

49-35. Methods for Determining the Effect of Contaminants on Electrical Insulation. K. N. Mathes, General Electric Company; L. E. Sieffert, H. P. Walker, U. S. Navy Department; R. H. Lindsey, General Electric Company.

2:00 p.m.—Electronic Digital Computer Instrumentation

Penn Top South

G. V. ELTGROTH and S. N. ALEXANDER, Presiding

**CP. Application of Electronic Digital Computers in the Public Domain—the Interests of the United States Government. S. N. Alexander, National Bureau of Standards.

**CP. Outlook for Electronic Digital Computers—The Scope of the Engineering Involved. J. W. Forrester, Massachusetts Institute of Technology.

**CP. The Ultimate Digital Storage Capacity for Ultrasonic Delay Lines. C. F. West, H. N. Beveridge, John DeTurk, Raytheon Manufacturing Company.

**CP. An Octal System Automatic Computer. J. R. Weiner, Eckert Mauchly Computer Corporation.

**CP. The EDVAC. R. L. Snyder, University of Pennsylvania.

2:00 p.m.—Symposium on Magnetism

Keystone Room

T. D. YENSEN, Presiding

- **CP. Materials for High Frequency Application.
 - (A) Thin Gage Iron-Silicon Alloys. D. C. Dieterly, Armco Steel Corp.
 - (B) Ferrites (Ferroxcubes). Frank Brockman, Phillips Labs.
- **CP. Magnetic Properties at High Operating Temperatures. M. L. Manning, Kuhlman Electric Co.
- **CP. Permanent Magnet Materials. A. H. Geisler, General Electric Research Labs.

2:00 p.m.—Conference on Electrical Tests on Dielectrics in the Field

Room 502

Engineering Societies Building

F. C. DOBLE, Presiding

- **CP. Low-Voltage Alternating-Current Testing. I. G. Easton, General Radio Company.
- **CP. Intermediate-Voltage Alternating Current Tests. E. D. Doyle, Leeds and Northrup Company.
- **CP. Intermediate-Voltage Alternating Current Tests. I. W. Gross, American Gas and Electric Service Corporation.
- **CP. High-Voltage Alternating-Current Tests. A. L. Brownlee, Commonwealth Edison Company.

Wednesday, February 2

10:00 a.m.—General Meeting

EVERETT S. LEE, Presiding

Grand Ballroom

"Our Institute"—Everett S. Lee, President AIEE.
 Edison Medal Presentation.
 "The Professional Estate," Charles E. Wilson, President, General Electric Company.

2:00 p.m.—Conference on Control of Electric Hazards in Rural Areas

Parlor 1

ROBIN BEACH, Presiding

- **CP. Electric Shock Hazards on the Farm. W. B. Buchanan, Hydro-Electric Power Commission of Ontario.
- **CP. Grounding Conditions in Rural Areas. J. H. Waghorne, Hydro-Electric Power Commission of Ontario.
- **CP. Protective Grounding of Electrical Installations on Customer's Premises. A. H. Schirmer, Bell Telephone Laboratories, Inc.
- **CP. Electric Fences—Their Hazards, Effective Design and Safe Application. C. F. Dalziel, University of California.

2:00 p.m.—Carrier Current

Salle Moderne

L. F. KENNEDY and S. C. LEYLAND, Presiding

- 49-6. Line Tuning Equipment Used with Coaxial Cable for Carrier Current Installation on Power-Lines. H. J. Sutton, Gulf States Utilities Company.
- 49-5. Microwave Channels for Power System Applications. Carrier Current Committee.
- **CP. Symposium on Tests of Power Cables at Carrier Current Frequencies.
 - (a) C. S. Murray, Consolidated Edison Company.
 - (b) A. A. Sackler, Ebasco Services, Inc.
 - (c) A. H. Burkhalter, Ebasco Services, Inc.
 - (d) T. A. Cramer, General Electric Company.

- **CP. Loss Measurements made on Overhead Conductor—Underground Cable 132KV Line, H. A. Cornelius, Public Service Co. of Northern Illinois. B. W. Storer, Commonwealth Edison Co.

2:00 p.m.—Special Communication Applications

Keystone Room

J. D. BOOTH, Presiding

- 49-54. The Mechanism of the Supersonic Bias. Angelo Montani, *ACO. W M Instrument Corporation.
- 49-107. Application of Experimental Test Procedures and Methods of Analysis of Results to Research Problems in Magnetic Recording. C. S. Thompson, Bala-Cynwyd, Pa.
- 49-108. Considerations on Facsimile Transmission Speed. H. F. Burkhard, Signal Corps. By title only.
- 49-109. Control Chart Methods Applied to Frequency Response Curves. A. B. Mundel, Sonotone Corporation.
- **CP. An Overall Inspection Program. H. M. Wolfson, Western Electric Company.

2:00 p.m.—Conference on Energy Sources

Grand Ballroom

W. A. LEWIS, Presiding

- **CP. Effects of Electricity on the Human Body. W. B. Kouwenhoven, Dean of the School of Engineering of The Johns Hopkins University.
- **CP. Electric Fishes. Dr. C. W. Coates, Curator and Aquarist, New York Aquarium.
- **CP. Chemical Mechanism of Nerve Electricity. David Nachmansohn, M.D., College of Physicians and Surgeons, Neurological Department of Columbia University.
- **CP. Analysis of the Electric Discharge of the Electric Eel. Dr. M. V. Brown, Department of Physics, City College of the College of the City of New York.

2:00 p.m.—Lightning and Corona

Georgian Room

J. T. LUSIGNAN, Presiding

- 49-110. Lightning Investigation on a Rural Distribution System. D. D. MacCarthy, D. A. Stann, General Electric Company; D. R. Edge, Graybar Electric Company, Inc.; W. C. McKinley, Central Electric Cooperative, Inc.
- 49-111. Transmission Line Design and Performance Based on Direct Lightning Strokes. E. L. Harder, J. M. Clayton, Westinghouse Electric Corporation.
- 49-60. Radio Influence from High-Voltage Corona. G. R. Slemmon, The Hydro-Electric Power Commission of Ontario.
- 49-61. Advances in Technique of Lightning Measurements. Theodore Brownlee, General Electric Company.

2:00 p.m.—Conference on D.C. Motor Test Program

Penn Top North

W. R. HOUGH, Presiding

- 49-62. Temperature Rise Values for Direct-Current Machines. Subcommittee on D-C Machines, Rotating Machinery Committee. AIEE, presented by Mrs. F. Buckland, General Electric Company.
- 49-63. Stray Load Losses Measured in D-C Motors. Subcommittee on D-C Machines, Rotating Machinery Committee, AIEE, presented by L. G. Opel, Westinghouse Electric Corporation.

**CP. Progress Report on AIEE Test Code for Electric Brushes. Joint Subcommittee on Electric Brushes.

2:00 p.m.—Conference on Heat Balance in Chemical Plants
Parlor 2
C. R. JOHNSON, Presiding

**CP. By Product Power Via Topping Turbines. J. B. Glasby, The Atlantic Refining Company.

**CP. Steam and Electrical Balance in Chemical Plants. L. W. Roush, Carbide and Carbon Chemicals Corporation.

2.00 p.m.—Membership Committee—Open Session
Penn Top South

Thursday, February 3

9:30 a.m.—Relays

Grand Ballroom
W. R. BROWNLEE, Presiding

49-65. Protection of Stations without High-Voltage Switching. Project Committee, Relay Committee, AIEE.

**CP. Sensitive Ground Protection. Project Committee, Relay Committee, AIEE.

49-7. Shipshaw Relay Protection. J. T. Madill, F. H. Duffy, Aluminum Company of Canada.

49-66. Electronic Relay Developments. J. J. Loving, Jr., Airborne Instruments Laboratory, Inc.

9:30 a.m.—Industry's Active Part in Education

Penn Top North
B. R. TEARE, JR., Presiding

**CP. Cooperative Education at the Undergraduate Level. E. M. Strong, Cornell University.

**CP. Industry's Cooperation in Graduate Education. W. A. Lewis, Illinois Institute of Technology.

**CP. Internship for the Engineering Graduate. K. B. McEachron, Jr., General Electric Company.

**CP. Professional Development of the Young Engineer in Industry. Guy Kleis, J. C. McKeon, Westinghouse Electric Corporation.

9:30 a.m.—Protection of Electronic Power Converters

Georgian Room
H. WINOGRAD, Presiding

49-67. Protection of Electronic Power Converters. Subcommittee on Electronic Converter Circuits, Committee on Electronic Power Converters, AIEE, presented by C. C. Herskind.

49-68. Rectifier Fault Currents II. C. C. Herskind, A. Schmidt, Jr., C. E. Rettig, General Electric Company.

**CP. Rectifier Transformer Characteristics. Rectifier Transformer Subcommittee, Electronic Power Converter Committee, AIEE, presented by A. J. Moslin.

**CP. Current Practice on Rectifier Switchgear. M. E. Reagan, H. V. Nye, D. C. Hoffmann.

9:30 a.m.—Fractional Horsepower Machinery

Parlor 1
M. L. SCHMIDT, Presiding

49-69. Die Cast Rotors for Induction Motors. L. C. Packer, Westinghouse Electric Corporation.

49-70. Armature Iron Losses in Series Motors. S. S. L. Chang, J. H. Karr, Robbins and Myers, Inc.

49-71. Fundamental Theory of Inherent-Overheating Protection Under Running Overload Conditions. C. G. Veinott, L. C. Schaefer, Westinghouse Electric Corporation.

49-72. The Field Fluxes of the Shaded-Pole Motor. E. E. Kimberly, The Ohio State University.

**CP. An Automatic Test Board for Fractional Horsepower Motors. S. S. Wolff, Century Electric Company.

9:30 a.m.—Symposium on Gas Turbines for Power Generation

Salle Moderne
B. G. A. SKROTZKI, Presiding

49-112. Outage Rates of Steam Turbines and Boilers and Hydro Units for the Calculation of Generating Capacity Reserves. Joint Subcommittee on Application of Probability Methods to Capacity Problems. Presentation by title only.

48-282. Performance Characteristics of Speed Governors on Automatic Extraction Turbines Driving Electric Generators. L. B. Wales, General Electric Company. Presentation by title only.

**CP. Brief Review of Gas Turbine Fundamentals. B. G. A. Skrotzki, "Power," McGraw-Hill Publishing Company.

**CP. A Review of High-Speed Drives for Gas-Turbine Test Plant. D. W. Knowles, A. V. Roe, Canada, Limited.

49-113. A 3,000 Horsepower Gas Turbine Power Plant. J. S. Haverstick, DeLaval Steam Turbine Company.

**CP. Elliott Gas Turbine Developments Applicable to Power Generation. E. S. Dennison, Elliott Company.

**CP. A Design of Gas Turbine Suitable for Peak-Load and End-of-Transmission-Line Operation. W. B. Tucker, Allis-Chalmers Manufacturing Company.

9:30 a.m.—System Engineering

Penn Top South
R. BRANDT, Presiding

49-96. Equivalent Circuits for Power Flow Studies. J. B. Ward, Purdue University.

**CP. An Operating View of the Problem of Fluctuating Loads on Steam Plants. G. H. McDaniel, American Gas and Electric Service Corporation.

49-97. Design of Boilers and Control for Fluctuating Loads. P. S. Dickey, P. R. Loughin, The Babcock and Wilcox Company.

49-98. Effect of Fluctuating Load on Steam Turbines. R. L. Reynolds, Westinghouse Electric Corporation.

**CP. Are Modern High Pressure, High Temperature Turbines Suitable for Use with System Speed and Load Control? E. E. Parker, C. W. Ellston, General Electric Company.

**CP. Status of Automatic Load and Frequency Control Equipment. Subcommittee on System Controls. Presentation by title only.

9:30 a.m.—Electrostatic Precipitation

Parlor 2
C. W. PENNEY, Presiding

49-74. Electrically Charged Dust in Rooms. G. W. Penney, Carnegie Institute of Technology; G. W. Hewitt, Westinghouse Research Laboratories.

**CP. Kenotron Tubes for Industrial Precipitation Applications. D. W. Hawkins, General Electric Company.

**CP. Characteristics of Power Supplies for Electrostatic Precipitation. W. F. Strong, General Electric Company.

**CP. Electrostatic Painting. E. P. Miller.

9:30 a.m.—Industrial Control

Keystone Room
G. W. HEUMANN, Presiding

49-116. Air Core Reactors Used to Raise the Fault Capacity of Existing Motor Starting Equipment. T. W. Haymes, Jr., Shell Oil Company.

49-117. The Use of Air-Core Reactors as Fault Limiting Means on High Interrupting Capacity Controllers. J. D. Leitch, The Electric Controller and Manufacturing Company.

**CP. Prediction of Ultimate Temperature Rise from Early Heat-Run Data. J. E. Ryan, General Electric Company.

49-119. Wound Rotor Induction Motors for Synchronized Drives. *ACO. E. L. Schwarz-Kast, The University of Chicago.

2:00 p.m.—Conference on Back-Up Protection

Georgian Room
E. L. HARDER, Presiding

**CP. Practice and Extent of Back-Up Protection. W. L. Ridenhour.

**CP. Back-Up Protection Studies. Lee Marts.

**CP. Back-Up Protection and Bus Splitting, Canadian Practices. H. W. Haberl.

2:00 p.m.—Conference on Education in Power Electronics

Parlor 1
J. D. RYDER, Presiding

**CP. Scope of Power Electronics and Its Industrial Applications. H. Winograd, Allis-Chalmers Mfg. Co.

**CP. Power Electronics As An Educational Medium. C. H. Willis, Princeton University.

**CP. Power Electronics Courses in Electrical Engineering Education. Georgia School of Technology, M. A. Hounell and F. O. Nottingham. Ohio State University, W. L. Davis. Iowa State College, A. W. Swago.

**CP. Assistance by AIEE Committees to Educators in Power Electronics. W. C. White, General Electric Co.

**CP. Bibliography on Electronic Power Converters. C. R. Marcum, Westinghouse Electric Corp.

2:00 p.m.—Symposium on Gas Turbines for Power Generation

Salle Moderne
B. G. A. SKROTZKI, Presiding

49-114. Two Gas Turbines for Power Generation and Other Applications. Alan Howard, General Electric Company.

49-115. Gas Turbines in Stationary Power Generation. F. T. Hague, Westinghouse Electric Corporation.

2:00 p.m.—High Frequency Cables

Penn Top South
E. W. GREENFIELD, Presiding

49-76. Coaxial Line Supports of Optimum V.S.W.R. Performance. *ACO. J. W. E. Griemsmann, Polytechnic Institute of Brooklyn.

49-77. Heating of Radio-Frequency Cables. W. W. Macalpine, Federal Telecommunication Laboratories, Inc.

49-78. The Power Rating of Radio-Frequency Cables. R. C. Mildner, The Telegraph Construction and Maintenance Company, Ltd.

2:00 p.m.—Conference on Nucleonics

Grand Ballroom
W. E. BARBOUR, JR. and R. D. EVANS, Presiding

**CP. Radioisotopes in Industrial Process Control. A. P. Schreiber, Tracerlab, Inc.

**CP. Radioactive Tracers in the Study of Friction. John Burwell, Massachusetts Institute of Technology.

**CP. The Protection of Industrial Workers from Radiation. K. Z. Morgan, Oak Ridge National Laboratory.

**CP. Quantitative Dosage Measurements by Autoradiographic Techniques. R. A. Dudley, Massachusetts Institute of Technology.

2:00 p.m.—Industrial Control and Servomechanisms

Keystone Room
J. D. LEITCH, Presiding

**CP. A Servomechanism Analysis of Photo-Electric Loop Control. L. U. C. Kelling, General Electric Company.

**CP. Regulated System Performance. H. Gayek, General Electric Company.

49-55. Some Fundamentals of D-C Controlled Reactors with Resistive Load. H. F. Storm, General Electric Company.

**CP. Improvements in the Characteristics of A-C Lead Networks for Servomechanisms. Donald McDonald, University of Michigan.

Friday, February 4

9:30 a.m. Servomechanisms

Georgian Room
G. S. BROWN, Presiding

49-79. Damper Stabilized Instrument Servomechanisms. A. C. Hall, Massachusetts Institute of Technology.

49-80. Graphical Determination of Transfer Function Loci for Servomechanism Components and Systems. E. C. Easton, Rutgers University; C. H. Thomas, Harvard University.

49-81. Operating Characteristics of Two-Phase Servo Motors. R. J. W. Koopman, Washington University.

**CP. A New Field, Systems Engineering. H. T. Marcy.

9:30 a.m.—Insulated Conductors

Keystone Room
L. F. HICKERNELL, Presiding

**CP. A New Technique in the Manufacture of Soldered Porcelain Potheads. A. E. Papp, J. H. Nicholas, G and W Electric Specialty Company.

49-84. High-Pressure, Gas-Filled Cable Impregnated with Extra-High Viscosity Oil. Joseph Sticher, G. H. Doan, The Detroit Edison Company; R. W. Atkinson, Louis Meyerhoff, General Cable Corporation.

49-2. The Temperature Rise of Buried Cables and Pipes. J. H. Neher, Philadelphia Electric Company.

49-83. The Thermal Movement of Moisture in Soil. A. S. Mickley, Philadelphia Electric Company.

9:30 a.m.—Switchgear

Penn Top South
F. A. LANE, Presiding

**CP. A New 69-Kv Oil-Blast Circuit Breaker. E. B. Rietz, C. J. Ballentine, General Electric Company.

49-93. A Manually Operated Spring Mechanism for Medium Voltage Oilless Circuit Breakers. B. W. Wyman, E. J. Casey, General Electric Company.

- 49-94. A New 69-Kv Compressed Air Circuit Breaker. B. P. Baker, E. Frisch, Westinghouse Electric Corporation.
- **CP. Development and Testing of an Improved High-Voltage High-Capacity Impulse Breaker. E. B. Rietz, General Electric Company.

9:30 a.m.—New Electronic Devices

Salle Moderne
W. C. WHITE, Presiding

- **CP. Synchronized Micro Time Photographic Techniques. A. M. Zarem, Stanford Research Institute.
- **CP. A Sub-miniature Tube Application. W. W. Snyder, Sylvania Electric Products, Inc.
- **CP. Close-spaced Triodes for Operation as Broadband Amplifiers at 4000 Mc. Dr. R. M. Ryder, Bell Telephone Laboratories, Inc.
- **CP. The Type H Leak Detector. J. E. Bigelow, General Electric Company.
- **CP. Ultrafax. D. S. Bond, RCA Laboratories.

2:00 p.m.—Conference on Textile Industry

Penn Top South
F. D. SNYDER, Presiding

- **CP. Contribution of Electricity in the Development of Synthetic Fibers. A. W. Frankenfield, E. I. DuPont de Nemours Company.
- 49-86. Selection of Electric Drives for Looms. R. J. Demartini, A. F. Lukens, General Electric Company by title only.
- **CP. History and Development of the Rayon Spinning Motor. H. D. Else, Westinghouse Electric Corporation.
- **CP. Traverse Drives for Rayon Spinning Frames. R. R. Prechter, H. I. Kintz, General Electric Company.

2:00 p.m.—Symposium on New Tools for Research

Georgian Room
C. G. SUITS, Presiding

- **CP. Electronic Digital Computers. H. H. Aiken, Harvard University.
- **CP. Microwave Spectroscopy. D. K. Coles, Westinghouse Electric Corporation.
- **CP. Use of Nuclear Spin Techniques to Measure and Control Magnetic Fields. J. L. Lawson, General Electric Company.
- **CP. Mass Spectrometer as a Research Tool. H. W. Washburn.
- **CP. X-Ray Spectroscopy. O. S. Duffendack, Phillips Lab., Inc.
- **CP. Electron Microscope. James Hillier, RCA Laboratories.
- **CP. Application of High Speed Photography to Research. J. H. Waddell, Bell Telephone Laboratories, Inc.

2:00 p.m.—Conference on Computing Devices

Penn Top North
E. L. HARDER, Presiding

- **CP. Application of the Cal Tech Electric Analog Computer to Nonlinear Mechanics and Servo Mechanisms. G. D. McCann, C. H. Wilts, B. N. Locanthi, California Institute of Technology.
- 49-13. Comparison of Long Time and Short Time Analog Computers. Victor Paschkis, Columbia University.

- 49-8. The Transient Behavior of the Two-Stage Rototrol Main Exciter Voltage Regulating System As Determined by Electrical Analogy. J. T. Carleton, Westinghouse Electric Corporation.
- **CP. Summary of Transformations Useful in Constructing Electrical Analogs of Linear Vibration Problems. J. P. Corbett, Northwestern University.
- **CP. A Large Scale Analog Computer for Flight Simulation. A. C. Hall, Massachusetts Institute of Technology.

2:00 p.m.—Electronics

Salle Moderne
T. B. KINN, Presiding

- 49-106. Transconductance as a Criterion of Electron Tube Performance. T. Slonczewski, Bell Telephone Laboratories, Inc.
- **CP. A New Standard Frequency Source with Power Output Up to 10 Kw. J. J. Larew, General Electric Company.
- 49-88. High-Voltage Rectifier Tubes with Thoriated Tungsten Filaments. Z. J. Atlee, Dunlee Corporation.
- 49-4. Universal Curves for D-C Controllable Reactors. W. C. Johnson, Princeton University; B. C. Merrell, Proctor and Gamble, Inc.
- **CP. Compact Radiographic Tubhead Using Forced Oil Cooling. Samuel Gilman, Joseph Lempert, Westinghouse Electric Corporation.

2:00 p.m.—Symposium on the Control and Protection of Household Equipment

Keystone Room
M. M. BRANDON, Presiding

- **CP. Evolution of the Modern Automatic Iron. B. F. Parr, Westinghouse Electric Corporation.
- **CP. Mercury Solenoid Relays, K. L. Considine, Durakool, Inc.
- **CP. Flame Detectors for Domestic Fuel Burner Safety Devices. J. A. Deubel, Perfex Corporation.
- **CP. Synthetic Load for Testing Rectifiers. C. L. Tetherow, Underwriters Laboratories, Inc.
- 49-1. Heat Pump—Its Significance as a Potential Residential Electrical Load. Constantine Bary, Philadelphia Electric Company. Presentation by title only.
- **CP. Appliance Design As A Field for Engineers. C. F. Scott, General Electric Company.
- **CP. Types of Electrical Controls Encountered in Domestic Appliances. R. Knotek and N. R. Pugh, Sears Roebuck and Company.
- **CP. The Automatic Protection of Refrigerating Machines. T. C. Johnson, General Electric Company.
- **CP. Conference paper; no advance copies are available; not intended for publication in Transactions.
- *ACO. Advance copies only available; not intended for publication in Transactions.

AIEE Winter General Meeting Equipment

The Winter General Meeting Committee wishes to acknowledge the cooperation of the following firms in lending equipment used during the meetings:—

Kimac Co., Old Greenwich, Conn.—Slide Projectors
Victor Animatograph Corp., New York—Motion Picture Projectors
National Cash Register Co., New York—Cash Registers

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COMMITTEE MEETINGS

Sunday, January 30

10:00 a.m.—Capacitor Subcomm. of T & D Comm. . . . Conf. Rm. 7

Monday, January 31

9:30 a.m.—Interior Wiring Design Subcomm. Parlor C
 9:30 a.m.—Metallic Rectifiers Subcomm. Conf. Rm. 7
 9:30 a.m.—Prod. & Appl. of Light Comm. Parlor A
 9:30 a.m.—Transmission & Distribution Comm. Parlor 2
 10:00 a.m.—Magnetic Amplifiers Subcomm. Parlor B
 2:00 p.m.—Working Group—Pr. Sys. Fault Limitations . . . Room 127
 2:00 p.m.—Metallic Rectifiers Subcomm. Conf. Rm. 7
 2:00 p.m.—Substations Comm. Parlor B
 2:00 p.m.—Nominating Committee Parlor A
 2:30 p.m.—Distribution Subcommittee Parlor 2
 3:30 p.m.—Working Group—Guide for Loading of Reg.
 *AIEE Rm. 1001
 4:30 p.m.—Com. & Science Coordinating Comm. Parlor C
 5:00 p.m.—Finance Committee Parlor A
 5:30 p.m.—Sections Committee and Representatives Informal
 Get-Together
 Georgian Rm.

8:00 p.m.—Electronics Comm. Parlor 2

Tuesday, February 1

9:00 a.m.—Chemical, Electrochemical and Electrothermal
 Committee *AIME Rm. 903
 9:30 a.m.—Aircraft Rotating Apparatus Subcomm.
 *AIEE Rm. 1001
 9:30 a.m.—Publication Comm. Parlor B
 9:30 a.m.—Carrier Current Comm. Parlor A
 9:30 a.m.—Metallic Rectifiers Subcomm. Conf. Rm. 7
 9:30 a.m.—Working Group—Appl. Guide for Grounding
 of Generator Systems *ASME Rm. 1101
 12:00 Noon—Luncheon-Spec. Comm. on Inst. Dues Parlor C
 12:30 p.m.—Luncheon—D.C. Machinery Subcomm. Rms. 111/112
 1:30 p.m.—Sections Comm. Salle Moderne
 2:00 p.m.—Metallic Rectifiers Subcomm. Conf. Rm. 7
 2:00 p.m.—Jt. Subcomm. on Carbon Brushes Parlor A
 2:00 p.m.—Comm. on Registration of Engrs. Parlor C
 2:00 p.m.—Fault Limiting Devices Subcomm. *AIEE Rm. 1001
 2:00 p.m.—Working Group—Lightning Protective Devices
 *ASME Rm. 1105
 4:30 p.m.—Communication Committee Parlor C

Wednesday, February 2

7:00 a.m.—Industry Coordinating Comm. Parlor A
 7:30 a.m.—Electrolytic Processes Subcomm. RMS. 111/112
 8:30 a.m.—Electronic Power Converters Comm. Conf. Rm. 7
 8:30 a.m.—Mining & Metal Comm. Parlor B
 9:30 a.m.—Edison Medal Group-Pictures Parlor C
 12:00 Noon—Luncheon-Power Generation Comm. Parlor C
 12:30 p.m.—Luncheon-Edison Medal Group Rms. 111/112
 2:00 p.m.—Membership Committee—Open Session . . . Penn Top South
 2:00 p.m.—Education Comm. Parlor B
 2:00 p.m.—Subcomm. #7, ASA Sectional Comm. C42
 *AIEE Rm. 1001
 2:00 p.m.—Servomechanisms Joint Subcomm. *AIME Rm. 903
 2:30 p.m.—Planning & Coordination Comm Conf. Rm. 7
 4:00 p.m.—Relay Comm. Parlor A
 4:30 p.m.—Electron Tubes Subcomm. Rms. 111/112
 7:30 p.m.—Technical Program Committee Parlor C

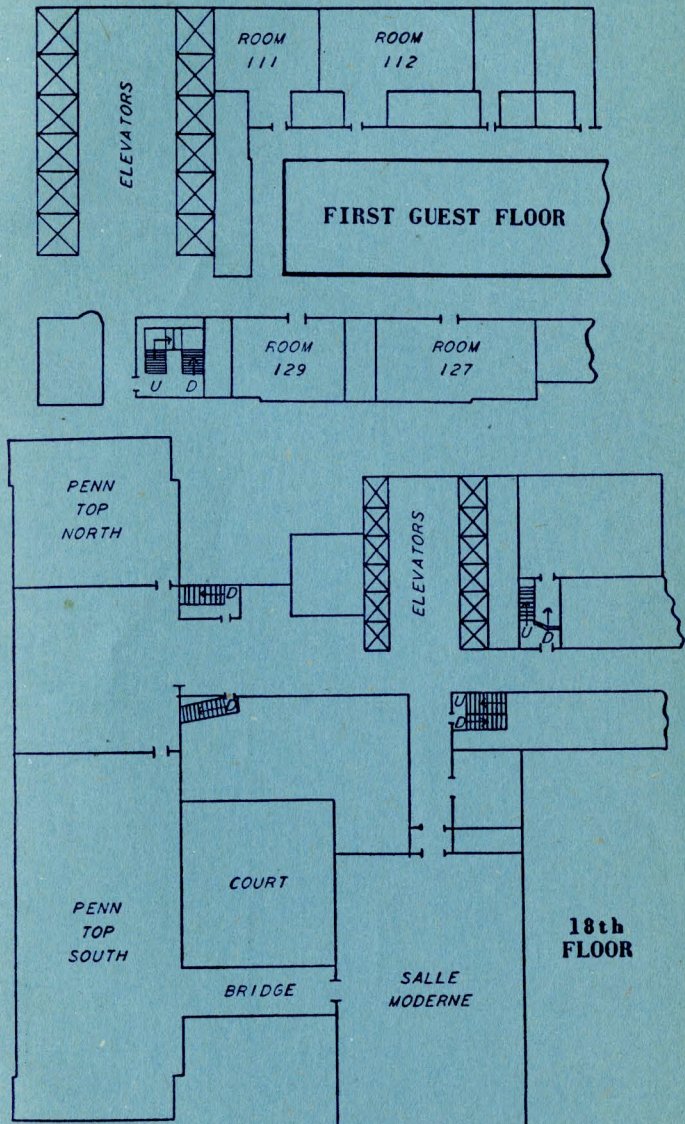
Thursday, February 3

- 7:00 a.m.—Industrial Controls Comm. Parlor B
 9:00 a.m.—Aircraft Control Subcomm. Rm. 129
 9:00 a.m.—Test Code 500 Special Subcomm. *ASME Rm. 1105
 9:30 a.m.—Hot-Cathode Pwr. Converter Subcomm.
 *ASCE Rm. 1501
 9:30 a.m.—Nucleonics Committee Parlor B
 9:30 a.m.—Industrial Pwr. Systems Comm. Parlor A
 9:30 a.m.—Comm. on Award of Inst. Prizes Conf. Rm. 7
 9:30 a.m.—Basic Sciences Comm. Parlor C
 9:30 a.m.—Analog Computers Subcomm. *SAE Rm. 817
 9:30 a.m.—Board of Directors *AIEE Rm. 1001
 10:30 a.m.—Electronic Heating Subcomm. *ASME Rm. 1101
 12:00 Noon—Luncheon—Insulated Conductor Administrative
 Subcomm. Rm. 127
 12:00-2:00 p.m.—Luncheon—General Industry Applications
 Committee, Hotel Governor Clinton Rm. K
 2:00 p.m.—Joint Meeting of Working Group on Current
 Transformers and Current Transformer.
 Test Codes Subcomm. *AIME Rm. 903
 2:00 p.m.—Board of Directors *AIEE Rm. 1001
 2:00 p.m.—Electric Heating Comm. Parlor A
 2:00 p.m.—Subcomm. on Single Phase & Frac. Hp Motors
 Conf. Rm. 7
 2:00 p.m.—Technical Activities Subcomm. Parlor B
 2:00 p.m.—System Engr. Comm. Parlor C
 2:00 p.m.—Induction Machinery Subcomm. Parlor 2
 2:00 p.m.—Electrostatic Precipitation Subcomm. *ASME Rm. 1101
 2:00 p.m.—Hot-Cathode Power Converters Subcomm.
 *ASCE Rm. 1501
 4:00 p.m.—Rotating Machinery Comm. Parlor 2
 4:00 p.m.—Sensitive Ground Protection Project Comm.
 *ASME Rm. 1105

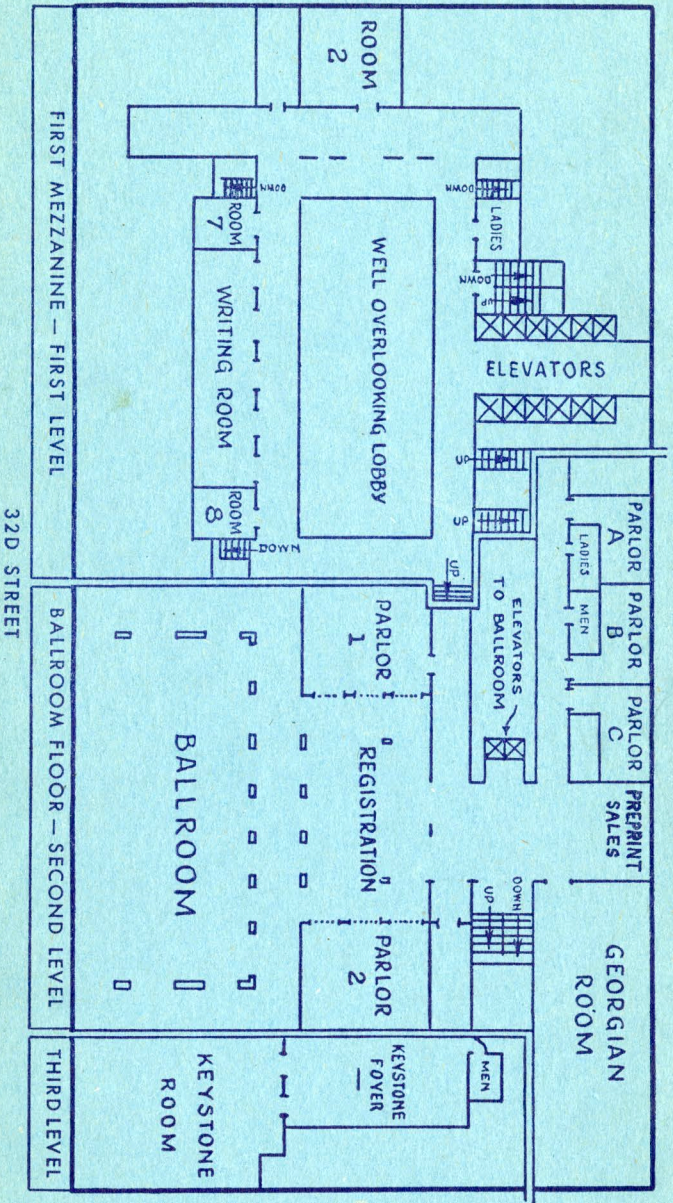
Friday, February 4

- 9:00 a.m.—Electronic Pwr. Converter Circuits Subcomm. Parlor C
 9:30 a.m.—Trans. Magnetization Characteristics Subcomm.
 *ASME Rm. 1101
 9:30 a.m.—Public Relations Comm. Parlor A
 9:30 a.m.—Student Branches Comm. Parlor 2
 9:30 a.m.—Test Code Coordination Subcomm. Parlor B
 9:30 a.m.—Subcomm. #1 of C42 *AIEE Rm. 1001
 10:00 a.m.—Lamme Medal Comm. Room 127
 10:00 a.m.—Computing Devices Comm. Conf. Rm. 7
 10:00 a.m.—Domestic & Comm. Appl. Comm. Parlor 1
 2:00 p.m.—Power Coordinating Comm. Parlor C
 2:00 p.m.—Subcomm. #1 of C42 *AIEE Rm. 1001
 Ladies Reception Room Conference Rm. 2
 Press Room Conference Rm. 8
 Headquarters Staff Room Parlor off Rotunda
 * Indicated Room Assignments at Engineering Societies Building,
 33 West 39 Street.

SPECIAL NOTE: The Tuesday morning conference on Electrical Tests of Dielectrics in the Field will be held in Room 502 of the Engineering Societies Building, 33 West 39th Street, instead of the Salle Moderne Room mentioned on page 8.



SEVENTH AVENUE



HOTEL STATLER