

Contributed Papers

4. **The Contribution of the Joint Program of the Office of Naval Research and the Atomic Energy Commission to the Supply of Trained Scientific Workers.** William E. Wright, Office of Naval Research.
5. **Some Considerations of an Employer Hiring Physicists for Applied Research.** Sevelle Chapman, Cornell Aeronautical Laboratory.

Invited Papers

- C. **Ultrasonics.** H. K. Schilling, Pennsylvania State College.
- D. **Phase Difference Between Ordinary and Extraordinary Beams (Demonstration).** J. G. Winans, University of Wisconsin.
- E. **National Educational Programs.** (a) The National Science Foundation: Its Organization and Purposes. Alan T. Waterman, Director, National Science Foundation. (b) The Fulbright Program. Walter Johnson, University of Chicago.

Friday Evening, October 26, at 8:00

HOTEL SHERMAN, BAL TABARIN ROOM

(P. E. Klopsteg, presiding)

Principles of Color Photography (Demonstrations and Slides). Adrian Terlouw, Eastman Kodak Company.

Saturday Morning, October 27, at 9:30

HOTEL SHERMAN, BAL TABARIN ROOM

(Duane Roller, presiding)

Contributed Papers (10 minutes each)

6. **Modes, Nodes and Antinodes.** R. W. Young, U. S. Navy Electronics Laboratory.
7. **The Use of Cine-loope in Physics Teaching.** Francis E. Throw, Cornell College.
8. **Apparatus for Radioactivity.** Measurements in the Undergraduate Laboratory. Ralph A. Loring, University of Pennsylvania.

Invited Papers

- F. **Some Notes on Flight at and near the Speed of Sound.** Herbert A. Hoover, NACA Langley Aeronautical Laboratory.
- G. **Panel—Cooperation of High Schools and Colleges on Problems of Physics Teaching.** (a) William F. Einbecker, Highland Park, Illinois, High School. (b) Ralph Lefler, Purdue University. (c) V. L. Bollman, Occidental College.

Saturday Afternoon, October 27, at 1:30

HOTEL SHERMAN, BAL TABARIN ROOM

(R. F. Paton, presiding)

Contributed Papers (10 minutes each)

9. **Animated Diagrams for Physics Demonstrations.** Robert Petry, University of the South.
10. **Intermediate Laboratory Experiments in the Kinetic Theory of Gas.** Carl E. Adams and E. G. Andresen, University of Louisville.
11. **How to Solve a Physics Problem—A Suggestion.** Leo Seren, Naval Research Laboratory.
12. **Ultrasonics as a Subject in the Physics Curriculum.** Paul J. Ernst and Charles W. Hoffman, Temple University.
13. **An Undergraduate Course in Radiation Physics.** Clayton M. Zieman, Wabash College.
14. **Bibliography with Annotations for Science in General Education at the College Level.** Vaden W. Miles, Wayne University.
15. **From Simple Harmonic to Wave Motion.** C. J. Overbeck, Northwestern University.
16. **A Wave Motion "Slide Rule".** J. D. Richards, Northwestern University.
17. **Modification of Hebb's Method of Measuring the Open Air Velocity of Sound.** Harald C. Jensen, Lake Forest College.
18. **Dissecting the Cathode Ray Oscilloscope.** William J. Shonka and John J. Spokas, St. Procopius College.
19. **Demonstration of the Timbre of Sound.** Rose A. Carney and John J. Spokas, St. Procopius College.

AMERICAN CRYSTALLOGRAPHIC ASSOCIATION

OCTOBER 22-27, 1951

TENTATIVE PROGRAM

Monday Evening, October 22, at 7:00

HOTEL SHERMAN, PARLORS M AND O

JOINT COMMITTEE ON CHEMICAL ANALYSIS BY
X-RAY DIFFRACTION METHODS

Wednesday Morning, October 24, at 10:00

HOTEL SHERMAN, WEST ROOM

GENERAL DIFFRACTION STUDIES

1. **Powder Pattern Geometry.** K. L. Yudowitch, Florida State University.

2. Studies of Imperfections and Disorientations in Single Crystals by a Recording Double Crystal Spectrometer. Lo Ching Chang, Columbia University School of Mines.
3. The Quantum Theory of X-ray Propagation in Crystals. H. Ekstein, Armour Research Foundation.

Wednesday Afternoon, October 24, at 2:00

HOTEL SHERMAN, GREY ROOM

INSTRUMENTATION, CHEMICAL ANALYSIS

1. A New Micro-focus X-ray Unit. F. Brech, Jarrell-Ash Company.
2. Crystal Monochromators with Fine Focus. Thomas C. Furnas, Jr., and Richard S. Bear, Massachusetts Institute of Technology.
3. The Use of Hollerith Punch Cards for Indexing X-ray Diffraction Powder Data. L. E. Kuentzel, Wyandotte Chemicals Corporation. (Presentation will include demonstrations with I.B.M. Sorter.)
4. The Fluorescent X-ray Spectrograph for the Analysis of Minerals and Alloys. Howard F. Carl and William J. Campbell, Bureau of Mines, Maryland.

Friday Morning, October 26, at 9:00

HOTEL MORRISON, CASINO

CRYSTAL STRUCTURE, METHODS, AND COMPUTING AIDS

Computing Aids and Methods

1. Improved Structure Factor Computations on I.B.M. Punched-Card Equipment. J. D. Grandine, 2nd, E. I. du Pont de Nemours and Company.
2. Derivation of the Unit Cell from Powder Patterns of the Monoclinic System. C. M. Mitchell, Department of Mines and Technical Surveys, Canada.
3. Some Aspects of the Phase Problem in Crystal Analysis. R. Pepinsky and A. Calderon, The Pennsylvania State College.
4. A New Method for Determining Crystal Structures with Many Degrees of Freedom. W. H. Zachariasen, University of Chicago.

Structures, Inorganic

1. The Crystal Structure of Meta Boric Acid, HBO_2 . W. H. Zachariasen, University of Chicago.
2. The Structure of $\text{Zr}(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}$. Joseph Singer, Los Alamos Scientific Laboratory.
3. The Crystal Structure of UF_6 . R. D. Burbank, Union Carbide and Carbon Corporation.
4. The Crystal Structure Analysis of Tetragonal Barium Titanate. H. T. Evans, Jr., Philips Laboratories, Inc.

5. The Structure of Beryllium Chloride and the Nature of Halogen Bridge Bonds. P. Lewis and R. E. Rundle, Iowa State College.

Friday Afternoon, October 26, at 2:00

HOTEL MORRISON, CASINO

Structures, Inorganic (continued)

6. The Structure of the Paratungstate Ion. Ingvar Lindquist, University of Uppsala and the Pennsylvania State College.
7. The Crystal and Molecular Structure of Nitric Oxide Dimer. William J. Dulmage, Edward Meyers, and William N. Lipscomb, University of Minnesota.
8. The Crystal Structure of Nitramide. C. H. Church, P. F. Eiland, and R. Pepinsky, The Pennsylvania State College.
9. Structural Analogies Between Viséite and Analcime: Isomorphic Substitution of Linked PO_4 and H_2O Groups in a Tectosilicate. Duncan McConnell, The Ohio State University.
10. Short Range Order in Anorthite, $\text{Ca Al}_2 \text{Si}_2 \text{O}_{10}$. F. Laves and J. R. Goldsmith, University of Chicago.
11. On the Superstructure of Gallium and Germanium Containing Anorthites. J. R. Goldsmith and F. Laves, University of Chicago.
12. The Structure of Some MoBe_{12} or $_{13}$ Compounds. Richard R. Rauehle, Naval Research Laboratory.
13. X-ray Diffraction Study of the Formation of Some NiZn Ferrites. H. Kedesdy and G. Katz, Squier Signal Laboratory.
14. Oriented Overgrowths of Alkali Halides on Silver Substrates. L. G. Schulz, University of Chicago.

Saturday Morning, October 27, at 9:00

HOTEL MORRISON, CASINO

Structures, Organic

1. The Crystal Structure of Kojic Acid. H. A. McKinstry, P. F. Eiland and R. Pepinsky, The Pennsylvania State College.
2. The Crystal Structure of 4-Methyl 1-2 Dithia-4-cyclopentene-3-thione. G. A. Jeffrey,* W. L. Kehl, and D. Wahl, Gulf Research and Development Company.
3. The Crystal Structure of β -Hexachlorethane. T. Watanabe and M. Atoji, Osaka University and the Pennsylvania State College.
4. Comparison of Bis-nitramenoethane with its Disodium Salt. George F. Wright, University of Toronto.
5. The Structure of Nickel Dimethylglyoxime, and the Possibility of a Symmetrical Hydrogen Bond. U. E. Godycki and R. E. Rundle, Iowa State College.

* Visiting Professor at the University of Pittsburgh.

