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**PUBLICATIONS AND PRESENTATIONS** (great majority invited papers and plenary presentations)**Physics and Chemistry**

1. The Ovonic Switch as an Amorphous Switching Device, Presented at IV Symposium on Vitreous Chalcogenide Semiconductors, Academy of Sciences of the USSR, Leningrad (May 23-27, 1967).
2. Ovonic Switching Devices, Presented at the International Colloquium on Amorphous and Liquid Semiconductors, Academy of the Socialist Republic of Romania, Bucharest (September 28-October 3, 1967).
3. Ovonic Switching Devices, Presented at the 2<sup>nd</sup> Conference on the Characterization of Materials, Rochester, NY (November 8-10, 1967).
4. Reversible Electrical Switching Phenomena in Disordered Structures, *Phys. Rev. Lett.* **21**, 1450 (1968).
5. Ovonic Switching Devices, Presented at the American Ceramic Society Meeting, Chicago, IL (April 20-25, 1968).
6. Ovonic Switching Devices, Presented at the 1968 Electronic Components Conference, Washington, D.C. (May 9, 1968) p. 313.
7. Radiation Hardness of Ovonic Devices (with E. Evans, D. Nelson and H. Fritzsche), *IEEE Trans. Nuclear Sci.* **NS-15**, 311 (1968).
8. Ovonic Switches and Their Applications (with D. Nelson), Proceedings of IEEE International Convention, New York (March 1969).
9. Switching Devices, Presented at the Dalhousie Seminars on Solid State Physics, Dalhousie University, Halifax, Nova Scotia (June 30-July 2, 1969) p. 76.
10. Amorphous Semiconductors, *Science Journal* **5A**, 73 (August 1969).
11. The Ovshinsky Switch, Proceedings of the 5th Annual National Conference on Industrial Research, Chicago, IL (September 1969) p. 86.
12. Amorphous Semiconductors, *Electronic Material* (Japan) **8**, 30 (1969).
13. Simple Band Model for Amorphous Semiconducting Alloys (with M.H. Cohen and H. Fritzsche), *Phys. Rev. Lett.* **22**, 1065 (1969).
14. Hopping Conduction in an Amorphous Chalcogenide Alloy Film (with E.A. Fagen and H. Fritzsche), *Bull. Am. Phys. Soc. II* **14**, 311 (1969).
15. Photostimulated Conductivity in an Amorphous Chalcogenide Alloy Film (with H. Fritzsche and E.A. Fagen), *ibid.*
16. Electronic Conduction in Amorphous Semiconductors and the Physics of the Switching and Memory Phenomena (with H. Fritzsche), Presented at SEAS Symposium, NYC (May 14-17, 1969); *J. Non-Cryst. Solids* **2**, 393 (1970).
17. An Introduction to Ovonic Research, *ibid.*, p. 99.
18. Reversible Conductivity Transformations in Chalcogenide Alloy Films (with E.J. Evans and J.H. Helbers), *ibid.*, p. 334.

19. Structural Studies of Amorphous Semiconductors (with A. Bienenstock and F. Betts), *ibid.*, p. 347.
20. Conduction and Switching Phenomena in Covalent Alloy Semiconductors (with H. Fritzsche), Proceedings of the International Conference on Amorphous and Liquid Semiconductors, Cavendish Laboratory, Cambridge, England (September 24-27, 1969); *J. Non-Cryst. Solids* **4**, 464 (1970).
21. A Qualitative Theory of Electrical Switching Processes in Monostable Amorphous Structures (with H.K. Henisch and E.A. Fagen), *ibid.*, p. 538.
22. Radial Distribution Studies of Amorphous  $\text{Ge}_x\text{Te}_{1-x}$  Alloys (with F. Betts and A. Bienenstock), *ibid.*, p. 554.
23. Reflectivity Studies of the Te (Ge, As)-Based Amorphous Semiconductor in the Conducting and Insulating States (with J. Feinleib), *ibid.*, p. 564.
24. Time Delay for Reversible Electric Switching in Semiconducting Glasses (with K.W. Boer and G. Doehler), *ibid.*, p. 573.
25. Physics and Device Applications of Switching and Memory Effects in Vitreous Semiconductors (with H. Fritzsche), Presented at V Symposium on Vitreous Chalcogenide Semiconductors, Leningrad, USSR (May 25-29, 1970).
26. Switching Effects in Amorphous Semiconductor Thin Films (with H.K. Henisch and R.W. Pryor), Presented at the International Congress on Thin Films, Cannes, France (October 5-10, 1970).
27. Development and Application of Amorphous Semiconductors (with R.G. Neale), Presented at 4th International Congress Microelectronics, Munich, Germany (November 9-11, 1970).
28. Ovonics and Its Applications, Presented at 1970 International Hybrid Microelectronics Symposium, Beverly Hills, CA (November 16-18, 1970).
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30. Analog Models for Information Storage and Transmission in Physiological Systems (with Iris M. Ovshinsky), *Mat. Res. Bull.* **5**, 681 (1970). (Mott Festschrift)
31. Calorimetric and Dilatometric Studies on Chalcogenide Alloy Glasses (with H. Fritzsche), *J. Non-Cryst. Solids* **2**, 148 (1970).
32. Electrical Conductivity of Amorphous Chalcogenide Alloy Films (with E.A. Fagen and H. Fritzsche), *ibid.*, p. 170.
33. Electrothermal Initiation of an Electronic Switching Mechanism in Semiconducting Glasses (with K.W. Boer), *Appl. Phys.* **41**, 2675 (1970).
34. Reversible High-Speed High-Resolution Imaging in Amorphous Semiconductors (with P.H. Klose), Presented at 1971 Society for Information Display International Symposium, Philadelphia, PA (May 4-6, 1971); Digest of Technical Papers (May 1971) p. 58.
35. Glass Switch, McGraw-Hill Encyclopedia of Science and Technology **13**, 360 (1971).
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37. Rapid Reversible Light-Induced Crystallization of Amorphous Semiconductors (with J. Feinleib, J. deNeufville and S.C. Moss), *Appl. Phys. Lett.* **18**, 254 (1971).
  38. Reversible Structural Transformations in Amorphous Semiconductors for Memory and Logic (with H. Fritzsche), *Metallurgical Transactions* **2**, 641 (1971).
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  40. Reversible Optical Effects in Amorphous Semiconductors (with J. Feinleib, S. Iwasa, S.C. Moss and J.P. deNeufville), *ibid.*, p. 909.
  41. The Transmission, Storage and Control of Information in Amorphous Materials, Presented at 4th Annual Spring Meeting of the Metallurgical Society of AIME, Boston, MA (May 8-11, 1972).
  42. New Thin-Film Tunnel Triode Using Amorphous Semiconductors (with R.F. Shaw, H. Fritzsche, M. Silver, P. Smejtek and S. Holmberg), *Appl. Phys. Lett* **20**, 241 (1972).
  43. Ovonics Revisited, *Industrial Research* **14**, 48 (1972).
  44. Optical Information Encoding in Amorphous Semiconductors, Presented at the Topical Meeting on Optical Storage of Digital Data, Aspen, CO (March 19-21, 1973).

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47. Mechanism of Reversible Optical Storage in Evaporated Amorphous AsSe and  $\text{Ge}_{10}\text{As}_{40}\text{Se}_{50}$  (with J.P. deNeufville, R. Seguin and S.C. Moss), Proceedings of the 5th International Amorphous and Liquid Semiconductors Conference, Garmisch-Partenkirchen, Germany (September 1973), edited by J. Stuke & W. Brenig (Taylor and Francis, London, 1974) p.737.
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58. Amorphous Materials as Interactive Systems, Proceedings of the 6th International Conference on Amorphous and Liquid Semiconductors, Leningrad (November 18-24, 1975) p. 426.
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66. Modification of SiO<sub>x</sub> (with K. Sapru and K. Dec), Proceedings of the International Topical Conference on the Physics of SiO<sub>2</sub> and its Interfaces, Yorktown Heights, NY (March 22-24, 1978) p. 304.
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71. A New Amorphous Silicon-Based Alloy for Electronic Applications (with A. Madan), *Nature* **276**, 482 (November 30, 1978).
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73. New Amorphous Materials for Computer Use, Presented at the 18th IEEE Computer Society International Conference, San Francisco, CA (February 26-March 1, 1979) p. 158.
74. The Inventor as a Catalyst, Proceedings of the 33rd National Conference on the Advancement of Research, Pennsylvania State University State College, Pennsylvania (October 7-10, 1979).
75. An Innovative Approach to New Sources of Energy Through Amorphous Materials, Presented at the UNITAR Conference on Long Term Energy Resources, Montreal, Canada (November 26-December 7, 1979) p. 783.

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81. The Chemistry of Glassy Materials and Their Relevance to Energy Conversion, Proceedings of the International Conference: Frontiers of Glass Science, Los Angeles, CA (July 16-18, 1980); *J. Non-Cryst. Solids* **42**, 335 (1980).
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