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INTERNATIONAL CONFERENCE ON THE METAL–NONMETAL TRANSITION

For two and a half days in mid-March (14–16) nearly 200 physicists, chemists, and other scientists gathered at the Sir Francis Drake Hotel in San Francisco to assess the current status of understanding of the phenomena known collectively as metal–nonmetal transitions, of which the Mott transition is a subclass. The conference was a Topical Conference of The American Physical Society and was sponsored by the International Union of Pure and Applied Physics. Financial support was provided by the Advanced Research Projects Agency of the DOD, by the National Science Foundation, and by The University of Texas at Austin. The Steering Committee for the conference consisted of

HARVEY BROOKS, *Harvard University*
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The Conference was held in San Francisco, in March, so that conferees might concentrate their travel by attending the "March" meeting of the APS, held in Berkeley the following week.

This was the first conference devoted to this subject, though brief symposia on this subject have been held at several recent meetings of The American Physical Society. The rapid development of the topic since it received its major impetus in a classic paper by N. F. Mott in 1961 led the organizers to believe that the state of development of the subject is such that it would be extremely useful to bring together *just now* all of those who are working on this subject. The attendance exceeded the original estimates by almost a factor of two. M. H. Cohen brought out that the topic was much older than had been imagined, having been broached by K. M. Herzfeld in a paper in the *Physical Review* in 1927.

The conference was divided into five sessions: three devoted to electrons in narrow bands, the subject of Mott's 1961 paper; one to transition metal oxides, sulfides, etc., which can, in some cases at least, be understood in terms of conventional Bloch–Wilson band theory; and the other session to the excitonic insulator and related topics involving wide bands and divalent materials. Experimental work on narrow-band systems has been concentrated on disordered systems such as doped semiconductors, mercury vapor, and metal–ammonia solutions. In contrast, most theory, from Mott's paper on solid atomic hydrogen in 1949 on up to the latest work on the Hubbard Hamiltonian, has been directed toward ordered arrays. It is clearly too early to determine unambiguously the points of contact between theory and experiment.

The conference began with a general survey of the subject by Sir Nevill Mott. These proceedings include all of the papers and discussion from the conference, though as a result of space limitations the contributed papers are brief, and in three cases represented by abstracts only. One contributed paper presented was later withdrawn by the author. Each participant was given an opportunity to edit his contribution to the discussion, which was originally transcribed from magnetic tape. A general review of the conference, given by Morrel Cohen on Saturday morning, relieves this editor of the necessity of summarizing the conference here. It appears on page 839 of this Journal.

The expert secretarial assistance of Mrs. Marion Wood is gratefully acknowledged. Mrs. Janette Whitset transcribed the discussion.

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for the Steering Committee

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International Conference on Metal–Nonmetal Transitions, San Francisco, California, 14–16 March 1968

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