



MODERN OPTICAL METHODS IN GAS DYNAMIC RESEARCH

Edited by **Darshan S. Dosanjh**,
Syracuse University

This book brings together in one volume detailed reviews of many aspects of current optical methods in the study of high-speed and high-temperature gaseous flow. The emphasis on existing and potential uses of lasers should make this an exceptionally useful reference work. Proceedings of an International Symposium held at Syracuse University, Syracuse, New York, May 25-26, 1970, supported by The New York State Science and Technology Foundation.

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SOLID STATE PHYSICS LITERATURE GUIDES*

Vol. 2: SEMICONDUCTORS—PREPARATION, CRYSTAL GROWTH, AND SELECTED PROPERTIES

Compiled by **T. F. Connolly**, *Oak Ridge National Laboratory, Tennessee*

This volume is primarily a bibliography on the preparation and crystal growth of semiconductors, containing references to the properties of the compounds. The main section of the bibliography is arranged according to the chemical groups of materials and also by individual compounds or elements. There are separate sections covering amorphous semiconductors and the ion-implantation doping of semiconductors. Preceding the main section are lists of information centers and other services, major journals, reviews on crystal growth in general, and a list of reviews and bibliographies on semiconductors.

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contributed) is treated fairly extensively, but there is no treatment of the synchrotron emission of barely relativistic electrons, of coherent plasma processes, of maser amplification of line radiation or of radio emission from solid surfaces or planetary atmospheres. The burgeoning field of radio-line emission is covered in 19 pages.

I was also disappointed to find some contentious matter in the elementary definitions. Thus the generally accepted definition of flux density would not require the $\cos \theta$ in equation 1.6. Nor does it seem desirable to replace the "equivalence" definitions of antenna temperature and brightness temperature by equations 1.24 and 1.25, which restrict the concept to the region of validity of the Rayleigh-Jeans approximation. The statement on page 13 that "the physical meaning of the brightness temperature is very limited . . ." surely obscures some great physical truths, including the fact that for incoherent processes the radiating particles must have energies $\geq kT_B$. Finally, I react against the use of "flux" for "flux density," "beam area" for "beam solid angle," "apparent flux" for a quantity that involves the properties of the antenna and other similar usages.

J. A. Roberts

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new books

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Accurate Characterization of the High-Pressure Environment (Conf. proc. National Bureau of Standards, Gaithersburg, Md., 14-18 Oct. 1968). E. C. Lloyd, ed. 343 pp. US Department of Commerce, National Bureau of Standards, Washington, D. C., 1971. \$4.50

Interstellar Gas Dynamics (Conf. proc. No. 39, International Astronomical Union, Yalta, The Crimea, USSR, 8-18 Sept. 1969). H. J. Habing, ed. 388 pp. Springer-Verlag, New York, 1971. \$25.00

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Physics in India—Challenges and Opportunities (Conf. proc. Conference on Physics Education and Research, 21-30 June 1970, Srinagar, India). 323 pp. INSDOC, Delhi,

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Trunk Telecommunications by Guided Waves (Conf. proc. 29 Sept.-2 Oct. 1970, IEE). 364 pp. Institute of Electrical Engineers, London, UK, 1970. £8.60

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