

and problems to elucidate the essential points, with many of the mathematical details being relegated to the appendices or left as exercises for the student. Summaries of some of the basic results of quantum mechanics and solid-state physics are also given in the appendices. This approach is especially helpful to the student. Unfortunately, the experimental examples chosen for illustration are sometimes outdated and not representative of present capabilities and techniques. For instance, to illustrate the measurement of phonon dispersion rela-

tions, the author discusses the time-of-flight technique, whereas this method has not generally been used for this purpose since shortly after Bertram N. Brockhouse developed the constant- Q triple-axis spectrometer in the late 1950's. Some of the newer fields and techniques in which newcomers might be especially interested, such as phase transitions and critical phenomena, small-angle scattering, spin-echo spectrometry, ultracold neutrons and pulsed-neutron sources, are covered in only a cursory manner or not at all. Nevertheless, the book could be

useful to the thermal-neutron-scattering community as an introductory text.

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book notes

Constants of Diatomic Molecules. K. P. Huber, G. Herzberg. 716 pp. Van Nostrand Reinhold, New York, 1979. \$27.50

This fourth volume in the Herzberg series on molecular spectra and structure contains a compilation of information on over 900 diatomic molecules and ions. Assembled from more than 200 scientific journals and monographs, the tables include electronic energies, vibrational and rotational constants and observed transitions. Footnotes indicate the reliability of the listed information and provide supplementary data on potential energy curves, spin-coupling constants, lambda-type doubling, perturbations between electronic states, hyperfine structures, rotational g factors, dipole moments, radiative lifetimes and oscillator strengths. Dissociation energies and ionization potentials are also provided in many cases. Theoretical calculations are frequently included both for comparative purposes and to close gaps in existing experimental data. Klaus-Peter Huber and Gerhard Herzberg have used a variety of experimental research as sources: electronic emission and absorption spectra, rotation-vibration spectra, rotation spectra, molecular-beam resonance studies, esr spectra, photofragment, photoion and photoelectron spectra, scattering experiments, mass spectrometry, flame photometry, and thermochemical studies. This compendium is intended for use in studies of atomic interactions, molecular structure, spectroscopy, chemical kinetics, thermochemistry and astronomy.

Man's View of the Universe.

G. E. Tauber. 352 pp. Crown, New York, 1979. \$19.95

Through the ages, Man's developing knowledge has led to increasingly complex theories of the nature of the universe. Gerald Tauber explores the chronological development of these concepts in *Man's View of the Universe*. Written for the layman in non-technical language, the book traces astronomical thought from the Chaldeans, Egyptians and Greeks through the Dark Ages to the scientific revolutions of Copernicus, Kepler, Newton and the modern cosmologies. Included are descriptions of the scientific discoveries that have influenced cosmological theories and biographical sketches of the scientists who developed them. Tauber's history is well-illustrated

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