

atom⁻¹ over a hydrostatic pressure range of 1–150 atmospheres! Another obligation of an author is to call the attention of his readers to recent theoretical advances in his field. Of the work of N. B. Slater, Vineyard, Rice, LeClaire, and Manning to mention a few, however, there is not a word.

Dynamics of Charged Particles. By Bo Lehnert. 300 pp. (North-Holland, Amsterdam) Interscience, New York, 1964. \$11.50.

Reviewed by Harold P. Furth, Lawrence Radiation Laboratory.

The subject matter of this book is somewhat less general than the title may suggest. There is a marked specialization in hydromagnetics and associated topics in single-particle motion. Those readers whose interest in the dynamics of charged particles relates to accelerators or microwave devices will find themselves in unfamiliar territory.

Within its range of coverage, the presentation is conscientious and well organized, and one can readily join in the author's own description: "With a few exceptions (the book) should give a complete line of deductions all the way to the final results. Much space has been devoted to clarify conceptual difficulties. . . . The results are illuminated by simple physical interpretations."

A brief discussion of the laws of classical electrodynamics and the Hamiltonian formulation leads into orbit theory and adiabatic invariants, and finally links up with hydromagnetics. The subsequent sections on waves and instabilities are somewhat sketchy, except in respect to the flute instability; and the vast area of non-hydromagnetic modes is left untouched. The section on particle confinement refers mainly to the single-particle picture. Partly because of the light treatment of the stability question, the motivation for the various plasma-confinement geometries is not brought out.

In the areas in which Lehnert's book specializes, it should prove a useful reference work for advanced students. The space-plasma physicist may be the ideal reader.