

undergraduate or beginning graduate level. Written by a physicist, one of the more attractive features is the use of relevant physical examples, many of which are taken from electromagnetic theory and quantum mechanics. The book appears eminently suitable for its intended purpose, and should be given serious consideration by instructors planning courses of this nature.

The format is especially attractive (see for example the handsome picture of toroidal coordinates, p.104). One question: shouldn't prospective physicists be exposed to the concept of a linear space and some of its consequences?

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Nonlocal Problems of the Theory of Oscillations, by V.A. Pliss. Academic Press, New York, 1966. Translation edited by H.Herman. xii + 306 pages. \$13.50.

In recent years, the study of nonlocal problems in the theory of differential equations has been intensively cultivated. One of the distinguished contributors is the author of the present book; fortunately for the mathematical world, men of his stature are willing to devote considerable effort to the production of monographs incorporating in a systematic way the results of this research. The problems here considered center on the existence of periodic solutions and their stability in the large. The book comprises three chapters: the first on multidimensional periodic systems includes general properties of dissipative systems, sufficient conditions that certain specific systems be dissipative, multidimensional nondissipative periodic systems, systems with convergence (i.e., with a periodic solution which is stable in the large). The second chapter treats first- and second-order periodic systems; most of the theorems proved do not generalize to higher order systems. The third chapter on autonomous systems includes general theorems on periodic solutions, a detailed study of a third-order equation with a nonlinearity satisfying a generalized Hurwitz criterion, and sufficient conditions for the existence of periodic solutions. The author is careful to point out that an exposition of all topics was not intended; for example, no discussion is given of two-dimensional autonomous systems, these being thoroughly treated in the book by Andronov, Witt and Chaikin.

The specialist in differential equations, with interests in nonlocal problems, will be amply rewarded by the close and painstaking study demanded by a work of this nature.

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