the applied problems (models of molecular band absorption and continuum radiation in stellar atmospheres).

The other five chapters deal mainly with the upper atmosphere; infrared, ultraviolet, and x-ray spectroscopy of planetary atmospheres; the sun and stars; radio astronomy; and some miscellaneous applications of atomic physics, including the laser, ionization equilibria of gases, and the reentry problem.

On the premise that the educational philosophy behind this text is a desirable one, I think the authors have turned out quite a respectable work. But the philosophy is the debatable issue. There is no doubt some advantage to integrating the study of fundamental physics with the more applied subjects of geophysics, astrophysics, or space physics, even at the elementary and intermediate levels. Astronomy departments, for example, have long lived with the problem and have handled it in various ways. Some feel that if an astronomy student can acquire his advanced physics in astronomy courses, rather than in the curriculum of the physics department, some needless duplication is avoided and the student saves a great deal of time. And since the physics is always illustrated with practical problems anyway, why should not the problems in plasma physics involve the solar corona, say, instead of controlled nuclear fusion?

One obvious disadvantge in covering too wide a spectrum in a course or book is that it cannot be covered very thoroughly. In this book, space limitations often require the use of such statements as "it can be shown," and one wonders how much genuine understanding a student can gain when much of the physics is developed sketchily or is merely stated. Thus, there is a trade off between enticing the interested student into space physics early and providing him with more thorough instruction in fundamentals.

If you adopt the former view, this book should serve your purposes rather well, although some of the sections on space physics give the impression of having been put together hastily. But I suppose one's main reaction will be a matter of individual preference. As Bernard Shaw's Devil would say, "It takes all sorts to make a universe. There is no accounting for tastes."

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Physical Inorganic Chemistry Series

Elements of Inorganic Chemistry. Robert A. Plane and Ronald E. Hester. Benjamin, New York, 1965. xvi + 188 pp. Illus. Paper, $3.95; cloth, $8.

The avowed purpose of this book is to serve in conjunction with *Physical Inorganic Chemistry* by Sienko and Plane (Benjamin, New York, 1963) as "a text for a one-term advanced inorganic chemistry course." If such a course is at the upper-division undergraduate level, this book will be adequate and useful; however, it is difficult to envision it as the text for an inorganic chemistry course at the graduate level. Basically, the content is descriptive chemistry, with all of the chemical families receiving coverage that ranges from scant, in the case of the lanthanides and actinides, to moderately comprehensive in the case of the halogens. This great variation in emphasis stems from the impossible task that the authors have undertaken —that of adequately describing the chemistry of the elements in 188 pages. To achieve the necessary condensation, Plane and Hester have made numerous omissions that seem arbitrary, but such criticism probably could be leveled at any inorganic chemistry text of less than several thousand pages in length.

A more serious criticism concerns the cursory treatment of certain topics that has crept into the book along with the condensation. It would have been better to omit some sections than to present them in their present form. The first paragraph in section 4-5, on complexes, and the discussion of nuclear magnetic resonance in section 1-1 may be cited as examples. The latter topic would seem more suited to extensive treatment in the text by Sienko and Plane.

On the positive side, the descriptive chemistry is well fortified with clearly presented experimental data, and heavy reliance on these data is made to establish a basis for descriptive concepts. Furthermore, the book is up to date, and an obvious effort has been made to present inorganic chemistry as a fascinating and active area of endeavor.

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Techniques and Instrumentation

Telemetry Systems. LeRoy E. Foster. Wiley, New York, 1965. x + 308 pp. Illus. $12.75.

This book fills much of the long existing need for a primer on telemetry and instrumentation systems. The well-written chapters on practical fundamentals will be useful to engineers and technicians in their first work with telemetry and instrumentation. A valuable set of "ground rules" for the instrumentation engineer and test sponsor is included. These rules clearly show the author's familiarity with practical telemetry and instrumentation problems, and they will give the reader an appreciation of those problems. The discussions of tracking, telemetering, recording, and data-processing systems, including the descriptions of the hardware used, will help make intelligible much of the telemetry jargon in use today.

The preface includes a statement that this is intended to be a comprehensive reference work for the engineer who is experienced in the use telemetry systems as well as an introduction to telemetering systems and techniques. Unfortunately, the lack of rigor in the analyses, the failure to include descriptions or even mention of numerous current telemetry techniques and operating characteristics, and the misleading descriptions of equipment make this book of little value as a comprehensive reference source. Twenty-eight pages are devoted to a comparison of modulation techniques in which two samples per data cycle are used as the basis of comparison for digital techniques. Three pages later, it is noted that at least four or five samples per data cycle are required in practical systems. This is indeed true; thus, the comparison presented can be misleading. There is no discussion of phase lock, frequency modulation with feedback, predetection recording, and many other techniques that have been developed in the past few years and