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Book review

L.H.J. Lajunen, P. Peramaki, Review of Spectrochemical Analysis by Atomic Absorption and Emission, 2nd ed.

The preface indicated the book describes the basic theory of atomic spectroscopy and with the common techniques (flame AAS, graphite furnace AAS, plasma AES, AFS, and ICP–MS) that are used for trace element analysis in many laboratories. Sample introduction is highlighted as well as the common possible interference effects involved in the different techniques. Hyphenated techniques are also briefly discussed. The book of 340 pages is touted as being useful to teach these analytical methods for both undergraduate students and graduate students and suits well for those who already use these techniques and want to learn more about methods and theories.

This reviewer has serious reservations concerning the intended use of the book. First, the book is not appropriate for graduate students or for those who already have something about the methods and wish to learn more about the methods and theories. The reasoning behind this view is that there is precious little presented on the theories, the instrumentation, the methodologies, and the applications. In fact, the outstanding book (over a decade old) by Ingle and Crouch on "Spectrochemical Analysis" is far more detailed, more rigorous, particularly on principles, instrumentation, and methodologies and so it is more appropriate for graduate students and those in academia, industries, etc., who wish to learn more.

Second, the book is misnamed since it covers more than AES and AAS. In addition certain topics, such as laser excitation in AFS, diode lasers in AAS, and other laser ionization techniques as well as the cavity methods are virtually not discussed. Also atomization processes, including present theories, are not discussed in an academic and useful manner. Also, the overview seems to be primarily a repeat of the content seen in so many books during the past several decades.

Third, if the book is intended for undergraduate students or those with no background in atomic spectroscopic methods, then the book is probably suitable although the material given is not much more thorough than in many of the modern instrumental methods of analysis books, such as the one by Skoog, Holler, and Nieman.

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