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| Nota di bibliografia    | Includes bibliographical references and index.  |
| Nota di contenuto       | 1. An introduction to analytical atomic spectrometry -- 1.1 Basic interactions of electromagnetic radiation with atoms for chemical analysis -- 1.2 Atomic line spectra and their origin -- 1.3 Atomic line characteristics -- 1.4 Atomic line spectral width -- 1.4.1 Natural broadening of lines -- 1.4.2 Doppler broadening -- 1.4.3 Lorentz |

broadening -- 1.4.4 Self-absorption effects -- 1.4.5 Other broadening processes -- 1.5 A comparative overview of analytical atomic spectrometric techniques -- 1.5.1 Dissolved sample analysis techniques -- 1.5.2 Direct solid analysis techniques --

2. Theory and basic concepts in atomic absorption spectrometry -- 2.1 General introduction -- 2.2 The basic atomic absorption spectrometry experiment -- 2.3 The absorption coefficient concept -- 2.4 Quantitative analysis by atomic absorption spectrometry -- 2.5 Interferences in flame analytical atomic spectrometry techniques -- 2.5.1 Spectral interferences -- 2.5.2 Physical (transport) interferences -- 2.5.3 Chemical interferences -- 2.5.4 Ionization interferences -- 2.5.5 Temperature variations in the atomizer -- 2.5.6 Light scattering and unspecific absorptions -- 2.5.7 Quenching of the fluorescence -- 2.6 Analytical performance characteristics of AAS -- 2.6.1 Sensitivity and detection limits -- 2.6.2 Selectivity of the three flame-based techniques -- 2.6.3 Accuracy and precision -- 2.6.4 Analytical linear range -- 2.6.5 Versatility and sample throughput -- 2.6.7 Robustness and availability of well-proven methodologies --

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## Sommario/riassunto

We have restricted the scope of this tutorial book to the study of fundamentals and practical use of such popular and efficient atomic absorption techniques. An up-to-date account of AAS fundamentals, instrumentation, special techniques, and elemental analysis applications is provided here. To do so, the atomic absorption experiment and the photophysical law governing such photon absorption processes are revised first. Then, the main components or units, that, when adequately assembled, constitute an AAS instrument, are described in detail to set the foundations of modern spectrometers for AAS measurements.

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