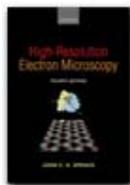


***High-Resolution Electron Microscopy, Fourth Edition, John C. H. Spence, Oxford University Press, Oxford, 2017, 432 pp., ISBN: 978-0-19-879583-4***



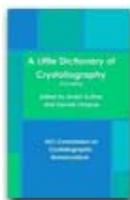
The author of this textbook is the Richard Snell Professor of Physics at Arizona State University, a fellow of both the Royal Society and the ACA. The first edition was originally published in 1980. The fourth edition was published in 2013 as a hard cover and in 2017 as a paperback. There are some references dated between 2013 and 2017, inclusive, that suggest the book is bit more current than the copyright page indicates.

Spence goes into each area of electron microscopy in great mathematical detail with the exception of the first chapter, which covers some basics and history. The next three chapters (2-4) cover electron optics, wave optics, and coherence and Fourier optics. The following two chapters (5-6) cover the types of experiments one can perform with electron microscopy: transmission electron microscopy of thin crystals and imaging molecules, including the hot topic of CryoEM.

The next six chapters (7-12) cover the practical aspects of the instrumentation: image processing, super-resolution and diffractive imaging, scanning transmission electron microscopy, source and detectors, electron-optical parameters, stability and experimental methods. The last chapter examines ancillary techniques.

Overall, Spence offers over four decades of expertise and refinement in one source. If you are looking for a book that will provide a detailed reference for electron microscopy, this is the one for you.

***A Little Dictionary of Crystallography, 2<sup>nd</sup> Edition, Andre Authier and Gervais Chapuis, Editors, 2017, International Union of Crystallography, 300 pages.***



To call this book a dictionary is a bit of a misnomer. About the only entry that fits this definition is the entry for crystallography itself. Over 300 terms are defined and expounded upon in the book. In addition to a definition of a specific term that might cover a page or more, you may find French, German, Italian, Spanish, Russian and even Japanese (日本語) translations, examples, historical notes, references and cross-references within ALDOC. Given all this, I might call this a handbook. ALDOC covers a wide range of terms, with the majority related to the fundamentals of the science of crystallography. In addition, there are entries from the fields of chemical and macromolecular crystallography, as well as entries relevant to X-ray spectroscopic methods (EXAFS, IXS, XAFS, etc.). There are more than 20 entries on the subject of twinning, providing clear explanations of all the nomenclature. Is every crystallography term included? No, but you will find most here and in sufficient detail to settle any argument, or conversely start an argument.

This book is not available on Amazon because it is a nonstandard size. However, it is currently available on a print-on-demand basis from Lulu (<https://tinyurl.com/aldoc-2e>). It is printed in a size smaller than a conventional IUCr text but larger than a paperback. It is also quite inexpensive and well worth the cost.

*Reviews by Joseph Ferrara  
Deputy Director, X-ray Research Laboratory, Rigaku*