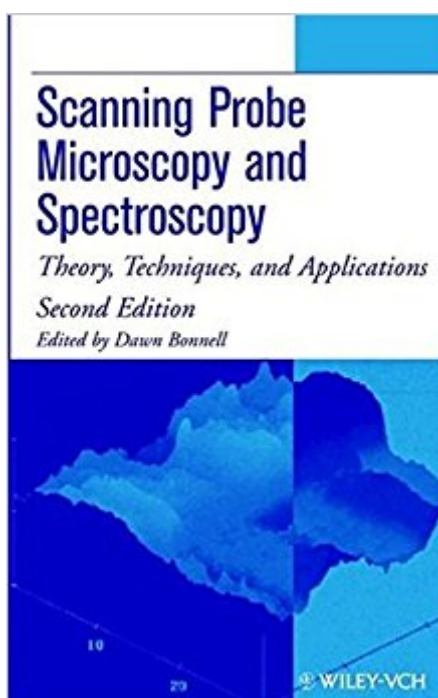


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# Scanning Probe Microscopy And Spectroscopy: Theory, Techniques, And Applications



## Synopsis

A practical introduction to basic theory and contemporary applications across a wide range of research disciplines. Over the past two decades, scanning probe microscopies and spectroscopies have gained acceptance as indispensable characterization tools for an array of disciplines. This book provides novices and experienced researchers with a highly accessible treatment of basic theory, alongside detailed examples of current applications of both scanning tunneling and force microscopies and spectroscopies. Like its popular predecessor, *Scanning Probe Microscopy and Spectroscopy, Second Edition* features contributions from distinguished scientists working in a wide range of specialties at university, commercial, and government research labs around the world. Chapters have been edited for clarity, conciseness, and uniformity of presentation to provide professionals with a concise working reference to scanning probe microscopic and spectroscopic principles, techniques, and practices. This Second Edition has been substantially revised and expanded to reflect important advances and new applications. In addition to numerous examples, the Second Edition features expanded coverage of electrostatic and magnetic force microscopies, near-field optical microscopies, and new applications of buried interfaces in nanomechanics, electrochemistry, and biology. *Scanning Probe Microscopy and Spectroscopy, Second Edition* is an indispensable working resource for surface scientists, microscopists, and spectroscopists in materials science, chemistry, engineering, biochemistry, physics, and the life sciences. It is also an unparalleled reference text for advanced undergraduates and graduate students in those fields.

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"Recommended for upper-division undergraduates through professional scientists in chemistry, materials science, physics, and biology." (Choice, Vol. 38, No. 10, June 2001) "My overall impression of this book was positive." (The Alchemist, 4 September, 2001)

A practical introduction to basic theory and contemporary applications across a wide range of research disciplines. Over the past two decades, scanning probe microscopies and spectroscopies have gained acceptance as indispensable characterization tools for an array of disciplines. This book provides novices and experienced researchers with a highly accessible treatment of basic theory, alongside detailed examples of current applications of both scanning tunneling and force microscopies and spectroscopies. Like its popular predecessor, *Scanning Probe Microscopy and Spectroscopy, Second Edition* features contributions from distinguished scientists working in a wide range of specialties at university, commercial, and government research labs around the world. Chapters have been edited for clarity, conciseness, and uniformity of presentation to provide professionals with a concise working reference to scanning probe microscopic and spectroscopic principles, techniques, and practices. This Second Edition has been substantially revised and expanded to reflect important advances and new applications. In addition to numerous examples, the Second Edition features expanded coverage of electrostatic and magnetic force microscopies, near-field optical microscopies, and new applications of buried interfaces in nanomechanics, electrochemistry, and biology. *Scanning Probe Microscopy and Spectroscopy, Second Edition* is an indispensable working resource for surface scientists, microscopists, and spectroscopists in materials science, chemistry, engineering, biochemistry, physics, and the life sciences. It is also an unparalleled reference text for advanced undergraduates and graduate students in those fields.

This book mainly focus on STM. However, it doesn't cover much on AFM. The use of AFM has become increasingly popular in recent years in research investigation in various areas, including cell biology, DNA research, material science, nanotechnology, and so on. The editor may consider include detailed discussion on AFM in next edition (if any).

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