



Fundamentals of Fourier Transform Infrared Spectroscopy, Second Edition

By Brian C. Smith

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Reflecting the myriad changes and advancements in the technologies involved in FTIR, particularly the development of diamond ATRs, this second edition of **Fundamentals of Fourier Transform Infrared Spectroscopy** has been extensively rewritten and expanded to include new topics and figures as well as updates of existing chapters.

Designed for those new to FTIR, but with enough reference material to appeal to journeyman and expert spectroscopists, this book does not demand any extensive familiarity with chemistry or physics. Specializing in concise and comprehensible explanations of FTIR topics, the author introduces the field of infrared spectroscopy, including the strengths and weaknesses of FTIR as a chemical analysis technique. He then describes the instrument itself and explores topics such as how an interferometer generates a spectrum, optimization of spectral quality, and which tests are used to monitor instrument health.

The book discusses how to properly use spectral processing to increase the information of a spectrum without damaging the data and takes considerable care in instructing on sample preparation, as good sample preparation constitutes half the battle in extracting good data. The final chapters examine single analyte quantitative analysis and conclude with an overview of infrared microscopy.

Drawing on the experience and knowledge of the author as both a professor and practitioner, **Fundamentals of Fourier Transform Infrared Spectroscopy** offers up-to-date information given in clear, easily understood language to appeal to beginner and expert spectroscopists alike.

The author maintains a website and blog with supplemental material. His training course schedule is also available online.

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Editorial Review

About the Author

Dr. Brian C. Smith founded Spectros Associates in 1992. He has practiced spectroscopy for over 30 years, and has worked for companies such as Bell Labs and Bio-Rad. Dr. Smith is also an experienced trainer and thousands of people have benefited from his spectroscopy and software training. Dr. Smith is the author of *Fundamentals of Fourier Transform Spectroscopy* and *Infrared Spectral Interpretation*, published by CRC Press, and *Quantitative Spectroscopy: Theory and Practice*, published by Academic Press. Dr. Smith earned his Ph.D. in Chemistry from Dartmouth College, and graduated summa cum laude from Rochester Institute of Technology with a B.S. in Chemistry.

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