



Photothermal Spectroscopy Methods, 2nd Edition

Stephen E. Bialkowski, Nelson G.C. Astrath, Mikhail A. Proskurnin

E-Book	ISBN: 978-1-119-27909-9	March 2019	\$156.99
Hardcover	ISBN: 978-1-119-27907-5	July 2019	\$195.00
O-Book	ISBN: 978-1-119-27910-5	March 2019	Available on Wiley Online Library

DESCRIPTION

Covers the advantages of using photothermal spectroscopy over conventional absorption spectroscopy, including facilitating extremely sensitive measurements and non-destructive analysis

This unique guide to the application and theory of photothermal spectroscopy has been newly revised and updated to include new methods and applications and expands on applications to chemical analysis and material science. The book covers the subject from the ground up, lists all practical considerations needed to obtain accurate results, and provides a working knowledge of the various methods in use.

Photothermal Spectroscopy Methods, Second Edition includes the latest methods of solid state and materials analysis, and describes new chemical analysis procedures and apparatuses in the analytical chemistry sections. It offers a detailed look at the optics, physical principles of heat transfer, and signal analysis. Information in the temperature change and optical elements in homogeneous samples and photothermal spectroscopy in homogeneous samples has been updated with a better description of diffraction effects and calculations. Chapters on analytical measurement and data processing and analytical applications are also updated and include new information on modern applications and photothermal microscopy. Finally, the Photothermal Spectroscopy of Heterogeneous Sample chapter has been expanded to incorporate new methods for materials analysis.

- New edition updates and expands on applications to chemical analysis and materials science, including new methods of solid state and materials analysis

- Includes new chemical analysis procedures and apparatuses
- Provides an unmatched resource that develops a consistent mathematical basis for signal description, consolidates previous theories, and provides invaluable insight into laser technology

Photothermal Spectroscopy Methods, Second Edition will appeal to researchers from both academia and industry (graduate students, postdocs, research scientists, and professors) in the general field of analytical chemistry, optics, and materials science, and researchers and engineers at scientific instrument developers in fields related to photonics and spectroscopy.

ABOUT THE AUTHOR

Stephen E. Bialkowski, PhD, is Professor of Chemical Analysis at Utah State University with interests in atmospheric chemistry, spectroscopy, nonlinear optics, and chemometrics.

Nelson G. C. Astrath, PhD, is Associate Professor in the Department of Physics at Universidade Estadual de Maringá with interests in photothermal sciences and light and matter interaction effects.

Mikhail A. Proskurnin, PhD, is Professor in Analytical Chemistry in the Department of Chemistry at Lomonosov Moscow State University with interests in photonics, analytical spectroscopy, and photothermal spectroscopy in analytical and physical chemistry and applied materials science and biomedical research.

SERIES

[Chemical Analysis: A Series of Monographs on Analytical Chemistry and Its Applications](#)

For additional product details, please visit <https://www.wiley.com/en-io>