about the book . . .

This **reference/text** presents a complete and thorough examination of the **latest advances** in the instrumentation, evaluation, and implementation of UV technology for reliable and efficient data acquisition and analysis—providing **real-world** applications in expanding fields such as chemical physics, plasma science, photolithography, laser spectroscopy, astronomy, and atmospheric science, and highlighting important UV and VUV laser light generation issues.

Detailing **modern** approaches and hardware requirements for absorption, emission, and fluorescence spectroscopies, as well as various sources of directed UV power, *Ultraviolet Spectroscopy and UV Lasers* covers the nature of radiant energy in the UV range and its interaction with matter...tunable UV and VUV radiation generation methods... characteristics and properties of UV and VUV laser sources...current design of UV optical systems and damage thresholds for optical components...laser spectroscopy of small molecules, ions, and free radicals in the UV region...generation and amplification of ultrashort pulses in UV...and more.

about the editors . . .

PRABHAKAR MISRA is Professor of Physics and Head of the Laser Spectroscopy Laboratory at Howard University, Washington, D.C. The author or coauthor of numerous well-cited publications, he is a Fellow of the American Society for Laser Medicine and Surgery and a member of the American Physical Society, the Optical Society of America, and the New York Academy of Sciences, among others. He was a recipient of the NASA Administrator's Fellowship Program Award (1999–2001), which enabled him to conduct lidar-related research at the Goddard Flight Center in Greenbelt, Maryland, and coordinate and direct a study on commercial breakthrough technologies for commercial supersonic aircraft at the National Academy of Sciences, Washington, D.C. He received the M.Sc. degree (1978) in physics from the University of Calcutta, India, the M.S. degree (1981) in physics from Carnegie Mellon University, Pittsburgh, Pennsylvania, and the Ph.D. degree (1986) from The Ohio State University, Columbus.

MARK A. DUBINSKII is Chief Scientist at Magnon, Inc., Reisterstown, Maryland. Previously, he worked at various universities and government laboratories, and in the optical and telecommunication industries in Russia and the United States. The author or coauthor of numerous publications, he is a member of the American Physical Society, the Optical Society of America, and the IEEE/LEOS, among others. The recipient of the Kapitza Fellowship from the Royal Society (UK) and the International Science Foundation (USA) Award for Excellence in Science, he is a reviewer for many journals. He received the M.S. degree in radio-physics and electronics and the Ph.D degree in physics and math from Kazan State University, Russia.

Printed in the United States of America

Marcel Dekker, Inc. New York • Basel

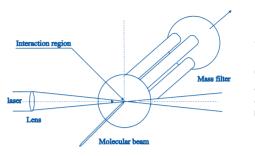


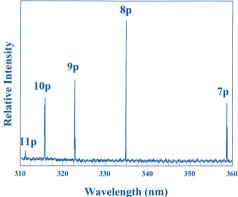
Ultraviolet Spectrosco and UV Lasers

Misra

•
Dubinskii







Ultraviolet Spectroscopy and UV Lasers

edited by Prabhakar Misra Mark A. Dubinskii