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Atmospheric Lidar Fundamentals

Laser Light Scattering from Atoms and Linear
Molecules

Chiao-Yao She

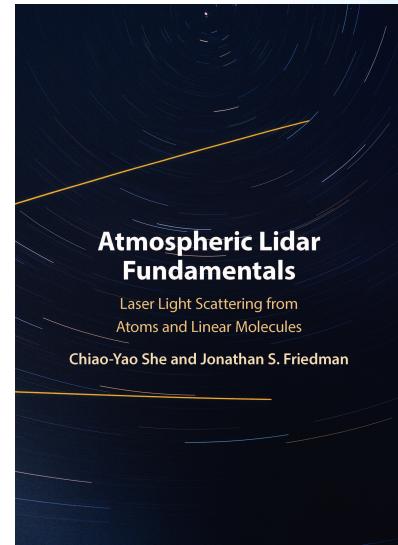
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Lidar is a remote sensing technique that employs laser beams to produce a high-resolution, four-dimensional probe, with important applications in atmospheric science. Suitable as a detailed reference or an advanced textbook for interdisciplinary courses, this book discusses the underlying principles of light-scattering theory and describes widely used lidar systems in current research, exploring how they can be employed effectively for atmospheric profiling. This self-contained text provides a solid grounding in the essential physics of light-matter interactions and the fundamentals of atmospheric lidars through a discussion of the principles that govern light-matter interactions and an exploration of both historical and recent scientific developments in lidar technology. This is an essential resource for physicists, optical engineers and other researchers in atmospheric science and remote sensing.

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