

Abstract Submitted
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Optical Laser Pulse Scattering in the Atmosphere NIMMI

SHARMA, Central Connecticut State University — At Central Connecticut State University optical atmospheric remote sensing is conducted by studying the scattering of laser light pulses by atmospheric constituents. Using a technique known as laser radar (also called lidar), laser light is transmitted vertically into the atmosphere and the fraction of the resultant light scattered back towards a detector by components in the atmosphere (e.g. air molecules, aerosols such as soot, etc.) is collected and analyzed. Atmospheric parameters which influence the detected signal include aerosol altitudes, types, sizes, shapes, and phase functions. Through combining multiple instruments and/or appropriate assumptions, the portion of the detected signal that is caused by air molecules can be separated from that caused by aerosols, small particulates suspended in the atmosphere. The derived information on aerosols may then be useful for a wide variety of studies including air pollution monitoring and compliance, weather, and atmospheric dynamics.

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