

SAIP 2011



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CSIR-NLC mobile LIDAR for atmospheric remote sensing

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Content :

Light Detection and Ranging (LIDAR) studies on particulate matter (Aerosols) and pollutants; elucidate their distribution and concentration in the atmosphere. Particulate matter plays a key role in atmospheric physical and chemical processes from local to global scale. The complexity of these processes have been largely reviewed in literatures and LIDAR measurements have mostly contributed to a better understanding the role of atmosphere dynamics and particle microphysics. The atmospheric backscatter measurements of Aerosols (solid particles floating in the air and formed by combination of different pollutants), can be used to identify the stratification of pollutants and will enable the classification of the source regions, such as industrial, biological and anthropogenic sources. A mobile LIDAR system is developed at the Council for Scientific and Industrial Research (CSIR) National Laser Centre NLC), Pretoria (25° 44' S; 28° 11' E), South Africa. The system currently employed for atmospheric remote sensing including aerosols, clouds, boundary and mixed layers and other meteorological applications. The LIDAR is operated at 532 nm and 355 nm wavelength and capable of providing the backscatter information from ground to 40 km with the range resolution of 10 m (see. Fig.1). In this presentation, we shall present the results obtained from LIDAR and further ongoing research activities.

Level (Hons, MSc, PhD, other)? :

Prof.

Consider for a student award (Yes / No)? :

NO

Short Paper :

YES

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