Abstract Submitted
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A laser radar atmospheric studies collaboration to investigate air pollution and atmospheric characteristics in the Bahamas JALAL BUTT, CHRIS OVILLE, NIMMI SHARMA, Central Connecticut State University, AMIN KABIR, University of The Bahamas, JOHN BARNES, NOAA/ESRL/Global Monitoring Division — Light Detection And Ranging (Lidar) is a remote sensing technique used to measure and profile atmospheric aerosols. Atmospheric lidar systems do this by detecting laser-light scatter off aerosols, air molecules, and other atmospheric constituents, and subtracting and correcting for non-aerosol and -cloud signals. The CCD-Camera Lidar (CLidar) is a bistatic lidar system capable of high-resolution measurements near the ground – a feature conventional monostatic lidar systems do not share due to field-of-view overlap errors that affect near-ground measurements. Developments in low-altitude remote sensing with the CLidar system allow for robust and relatively low-cost atmospheric profiling. A CLidar system was built and employed to profile atmospheric aerosols in the Bahamas. Semi-continuous atmospheric profiling with the CLidar permits short- and long-term studies of the Bahamas' atmospheric variability and higher-level aerosol structure, the future potential for which will be presented.

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