

Abstract Submitted
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Measurement of Water Vapor in the Lower Troposphere Using LIDAR FRANCIS MENSAH¹, Virginia Union University, Richmond, VA, PETER INSTIFUL², Prairie View A M University, Houston, TX, ARTHUR THORPE³, Howard University — Water vapor is an important atmospheric variable which plays a key role in air quality, global warming, and climate change. It is known as a highly variable atmospheric constituent. Moreover, water vapor remains one of the most poorly characterized meteorological parameters. For example, water vapor measurements have proven to be difficult below 500 m in the lower troposphere. The overlap which exists between the incident laser beam and the receiver FOV is a factor affecting the lidar observation in the near field range. Because of its particular importance in tropospheric processes and the extraordinary ability of Raman Lidar through the SOLEX system to sense accurately its high temporal and spatial structure in the atmosphere, we present here some particular details about the use of Raman Lidar SOLEX system to measure water vapor at lower atmosphere at several fixed ranges. A comparison is made between data obtained from the laser system and the ones obtained from calibrated temperature and relative humidity's sensors at the same location.

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