

Abstract Submitted
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Empirical Model to Reduce Thermal-Bias Errors in Returned Laser Scatter Signals JALAL BUTT, S. JAKE ATKINS, NIMMI SHARMA, Central Connecticut State University — Laser radar (also called LIDAR) has proven to be a very effective tool in understanding the earth's atmosphere remotely. The Micro-Pulse Lidar System is a single frequency system that utilizes a coaxial transmitter and receiver. Distinctive oscillations were observed in a Micro-Pulse Lidar System's laser scatter signals and were determined to be majorly influenced by the Micro-Pulse Lidar System's host laboratory's [small] thermal gradients. An empirical model was developed to reduce signal errors induced by thermal fluctuations. Results offer a general method to reduce thermally induced signal oscillations found in Micro-Pulse Lidar-type systems.

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