

Comparing and Contrasting the Optical Autocovariance Wind Lidar (OAWL) and Coherent Detection Wind Lidar. Sara Tucker and Carl Weimer, Ball Aerospace & Technologies Corporation (USA).

ABSTRACT

The Ball Aerospace Optical Autocovariance Wind Lidar (OAWL) uses a modified Mach Zehnder interferometer approach to measuring Doppler shifts from aerosol-backscattered laser illumination. We will briefly review the history of this approach and the development that led to the first full OAWL system funded by Ball Aerospace and Technologies Corp and by the NASA Earth Science and Technology Office. We will present preliminary performance results from a comparison between OAWL and a NOAA-built Coherent Detection system and outline the pros and cons of the two different approaches to wind measurement.