

## Investigation of the Marine LAS with an Airborne Doppler Wind Lidar

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This presentation discussed an investigation of the marine LAS (layer adjacent to surface) with an airborne Doppler wind lidar. The LAS contains transient aerosols, and the challenge is to be able to sort out the motion of these from vertical wave motions and surface currents. Data obtained on March 2, 2002 with the TODWL making 30 degree scanning featured double-peaked spectra - one for water and one for LAS. The spectral peaks are especially clearly revealed using a sliding range gate approach. A hard target can range with much better precision than one delimited by pulse length, due to the sharp change in intensity. Hence, he is confident that it is possible to discriminate between water and air returns. Wave data were available from a NOAA Buoy. Time series analysis of LOS velocities from TODWL, subjected to low pass filtering, indicated comparable (200 m) swell wavelength (assuming that consecutive peaks in the TODWL return are the result of maxima from a crest/trough pair).

### Notes

Dave was asked about the quality of weather prediction around Monterrey, where these flights were made. He stated that it is poor; the army cant predict winds confidently for burning, and hence wants TODWL winds to support Naval Postgraduate School's MM5 output during controlled burning.