

# Raman-shifted Eye-safe Aerosol Lidar (REAL)

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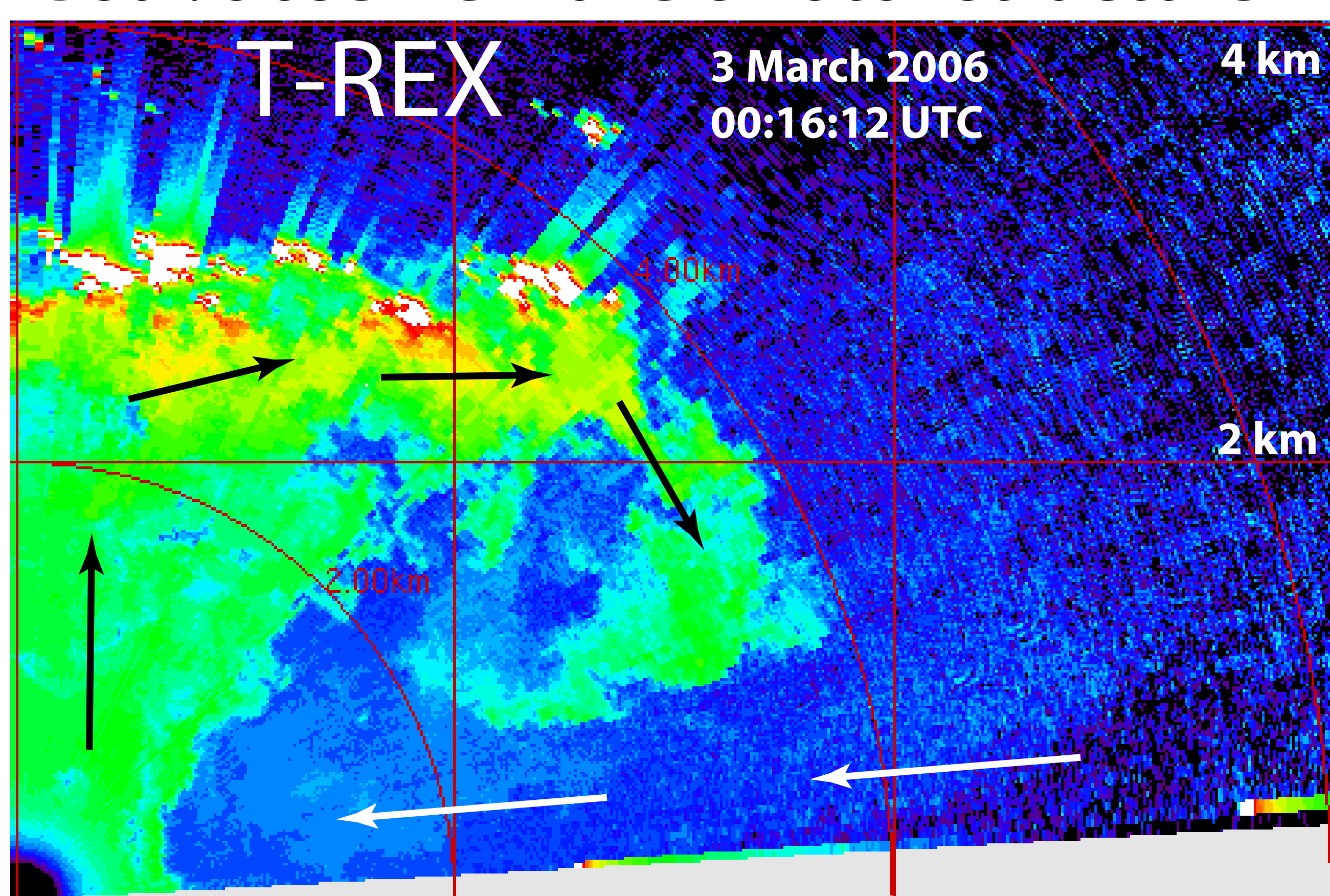
1.54-microns wavelength, rapid-scanning, eye-safe, aerosol lidar

## T-REX: March-April 2006

Independence, CA



Goal: observe wave & rotor structure



## CHATS: March-June 2007

Dixon, CA

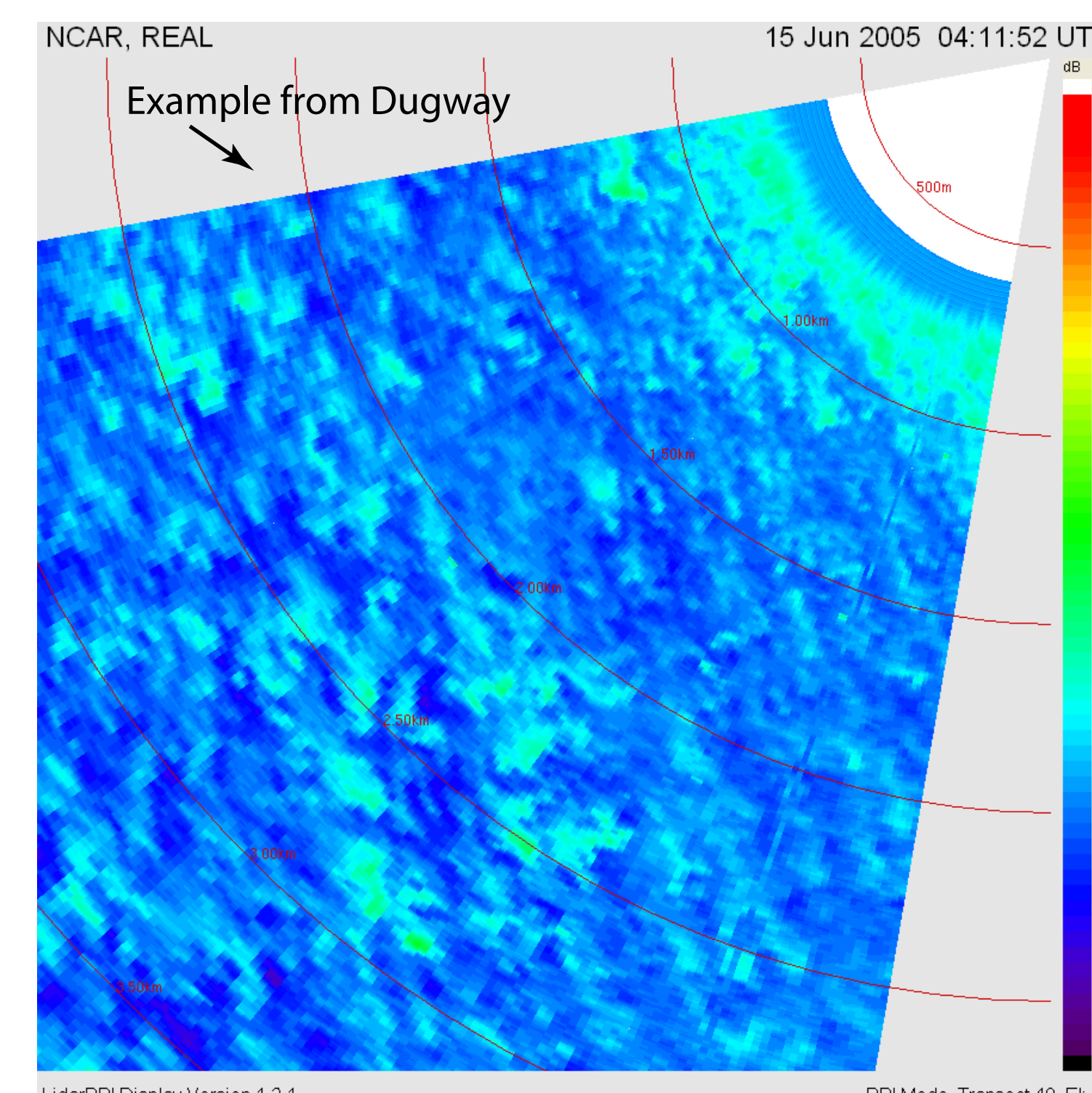


Goal: Observe turbulent coherent structures above and in an orchard canopy



This project just started on March 17.

[www.lidar.ucar.edu](http://www.lidar.ucar.edu) to see near real-time data

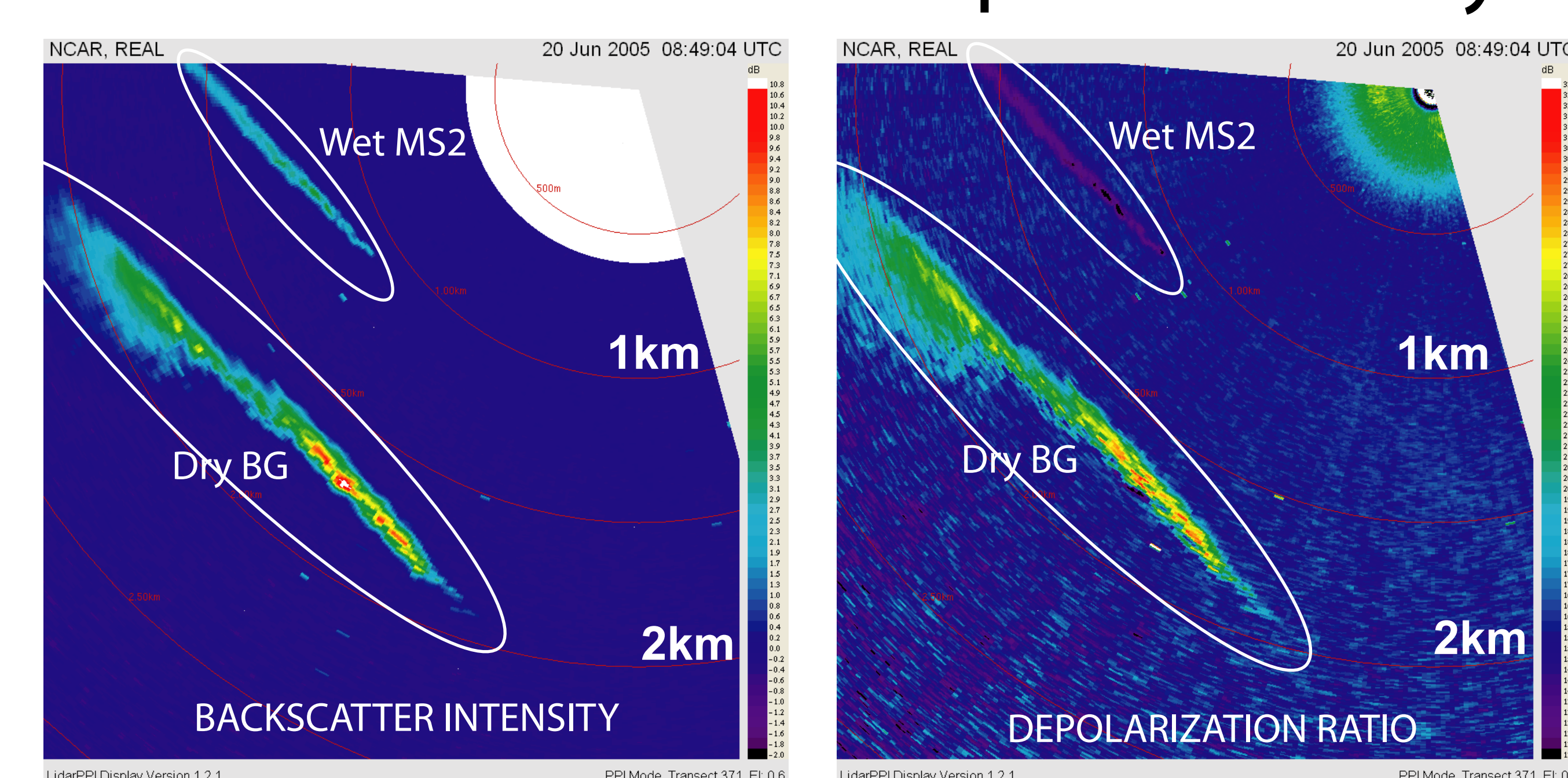


## Dugway Proving Ground, UT

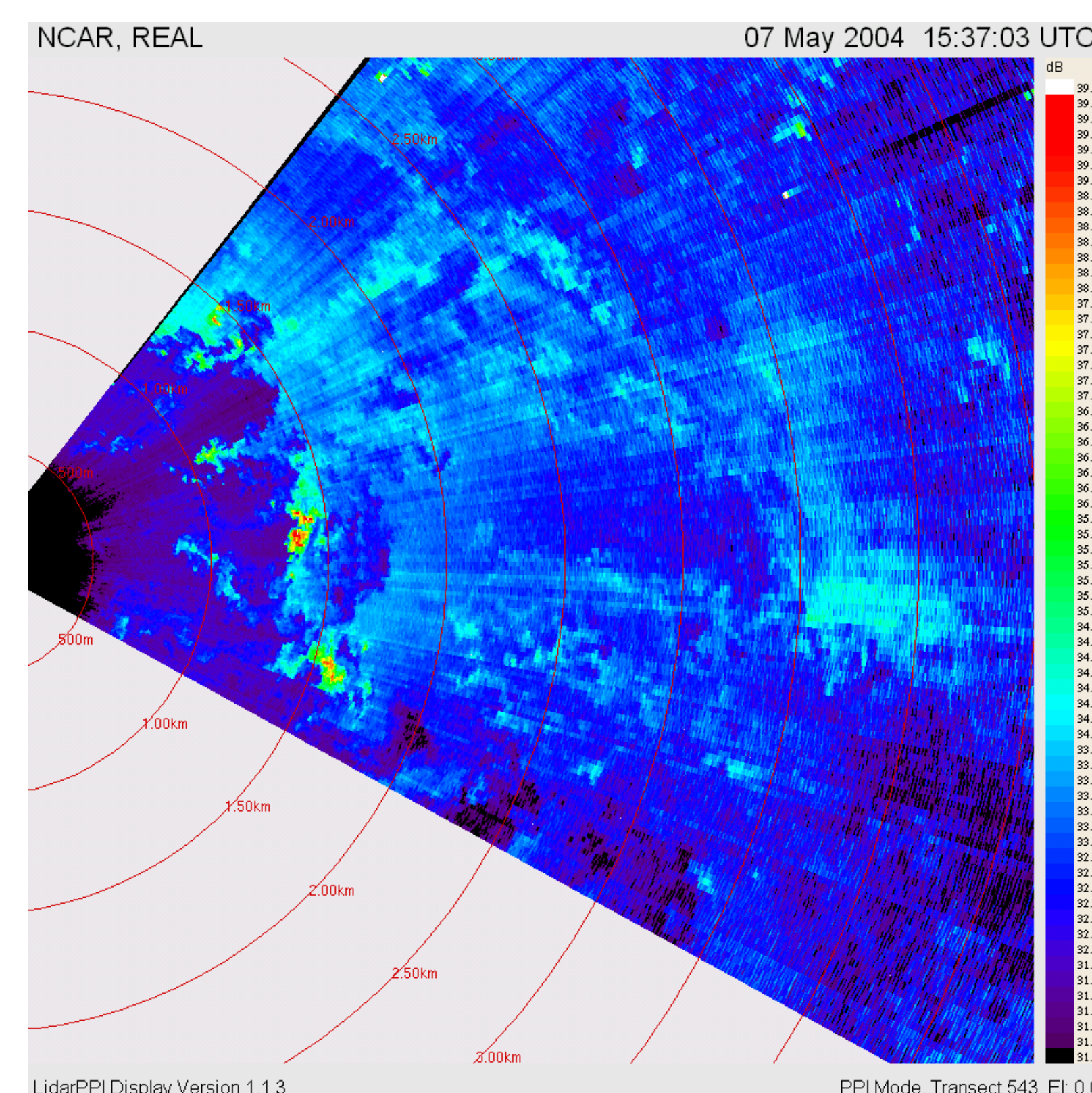
October 2004 and June 2005



Goal: distinguish wet and dry biological aerosol releases with depol sensitivity



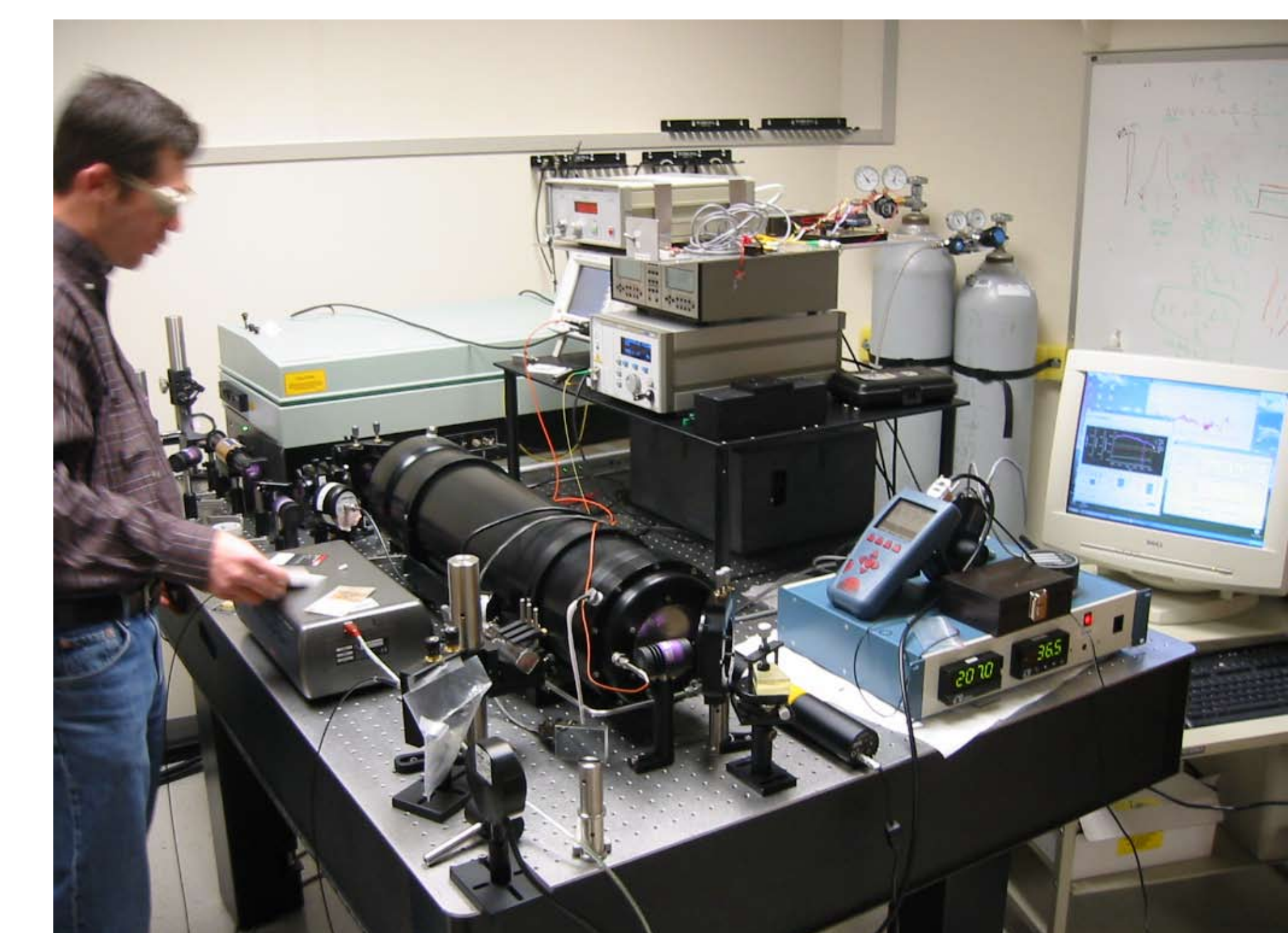
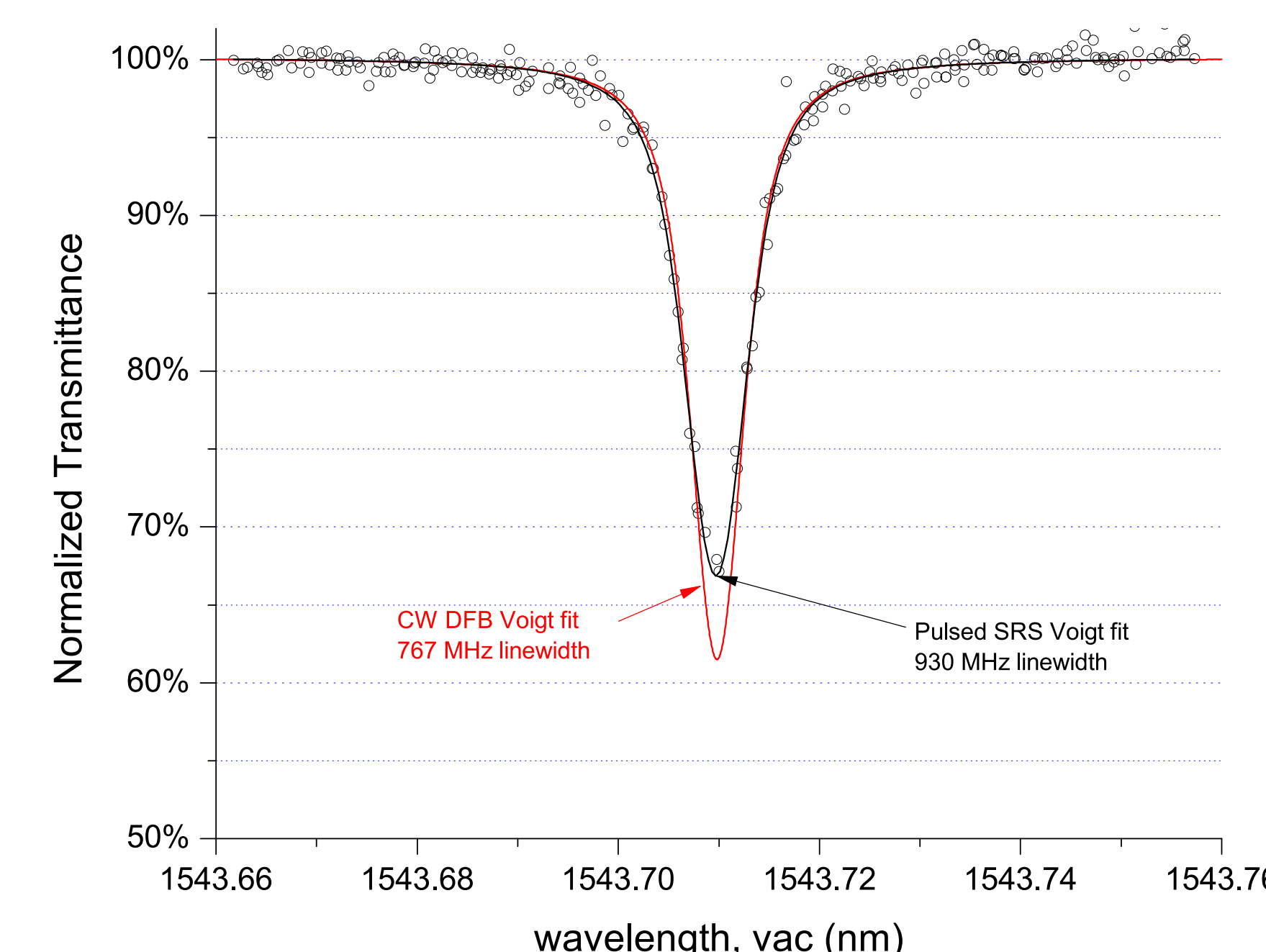
## REAL v2 for urban aerosol plume search & track



Under a tech-transfer licensing agreement with UCAR, REAL v2s are currently produced by a contractor for urban aerosol surveillance.

## Present REAL Developments at NCAR

1. Vector wind fields via the correlation method
2. Absolute backscatter depolarization ratio
3. Higher pulse energy and rep-rate for longer range, faster scans, and better cloud penetration
4. Calibrated aerosol backscatter using HCN and the HSRL technique at 1.5 microns.



The NCAR REAL is available for use. Please contact [shane@ucar.edu](mailto:shane@ucar.edu) or go to [www.lidar.ucar.edu](http://www.lidar.ucar.edu)