

9.3A RECENT RESULTS AT THE SUNSET RADAR

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The Sunset radar is a VHF, pulsed Doppler radar located in a narrow canyon near the Sunset townsite 15 km west of Boulder, CO. This facility is operated by the Aeronomy Laboratory, ERL, NOAA, exclusively for meteorological research and the development of the MST and ST radar technique. A description of this facility can be found in the HANDBOOK FOR MAP, VOL. 9, 1983.

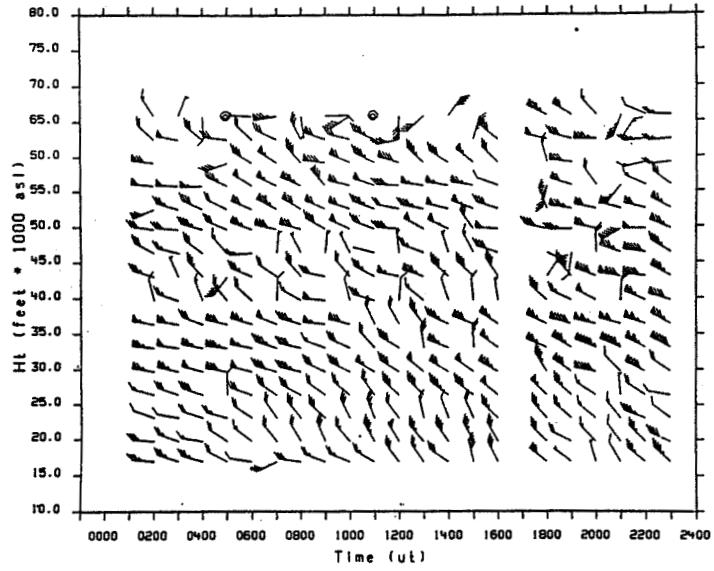
Recent results include a measurement of all three components of wind velocity for the Federal Aviation Administration. An example of this measurement is shown in Figure 1 (horizontal velocities) and Figure 2 (vertical velocities).

A comparison was made with a double star scintillometer located just 100 m from the center of the Sunset antenna. The scintillometer was constructed and operated by Jean Vernin, Universite of Nice, France. The importance of this comparison was that C^2 was simultaneously measured by two instruments that used radically different wavelengths of electromagnetic radiation and based on different physical principles. An example of this comparison is shown in Figure 3. A correction for the response of the VHF radar to water vapor is indicated on this figure by separate symbols labeled Hum Cor. Other comparisons were not as consistent in the upper troposphere as this example, but in every case there was close agreement in the lower stratosphere

PUBLICATIONS RELATED TO THE SUNSET RADAR, 1983-84

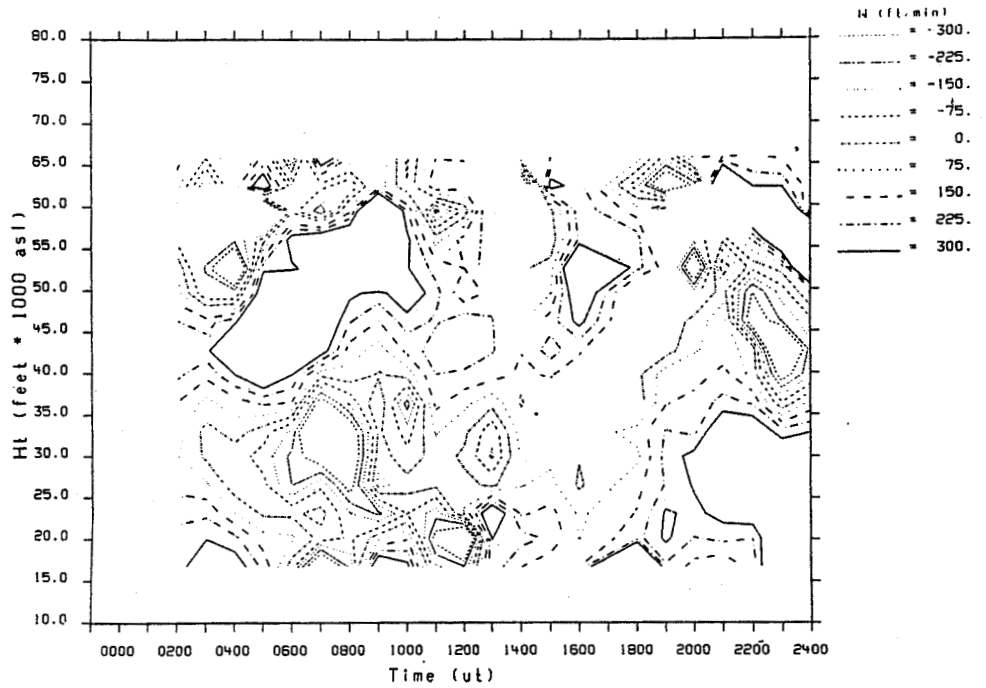
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ORIGINAL FACETS OF POOR QUALITY



SUNSET RADAR WIND PROFILES
84/01/18 UT PL = 1049.3

Figure 1.



SUNSET RADAR - VERTICAL VELOCITY
84/01/18 UT PL = 1049.3

Figure 2.

ORIGINAL FACINGS
OF POOR QUALITY.

Sunset Radar Plotted 1984-05-22 21:35:25

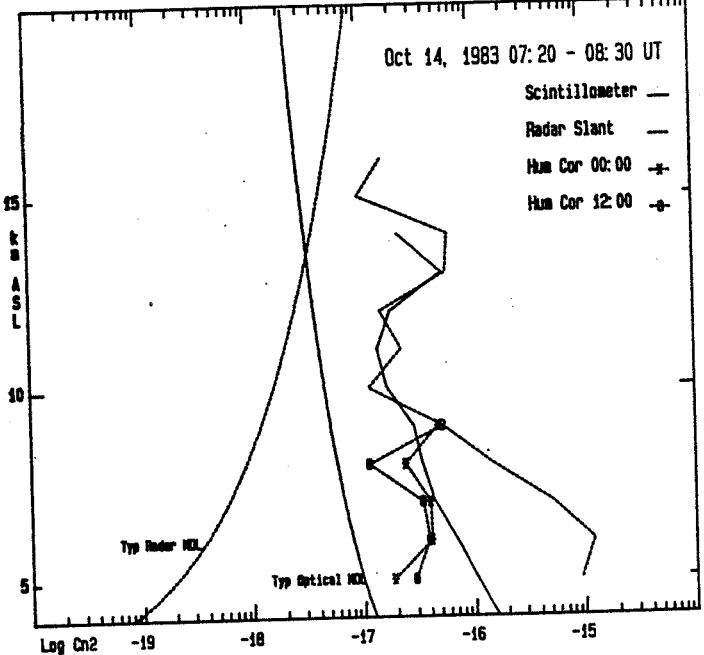


Figure 3.