

# The Storm Peak Lab Cloud Property Validation Experiment (StormVEx)

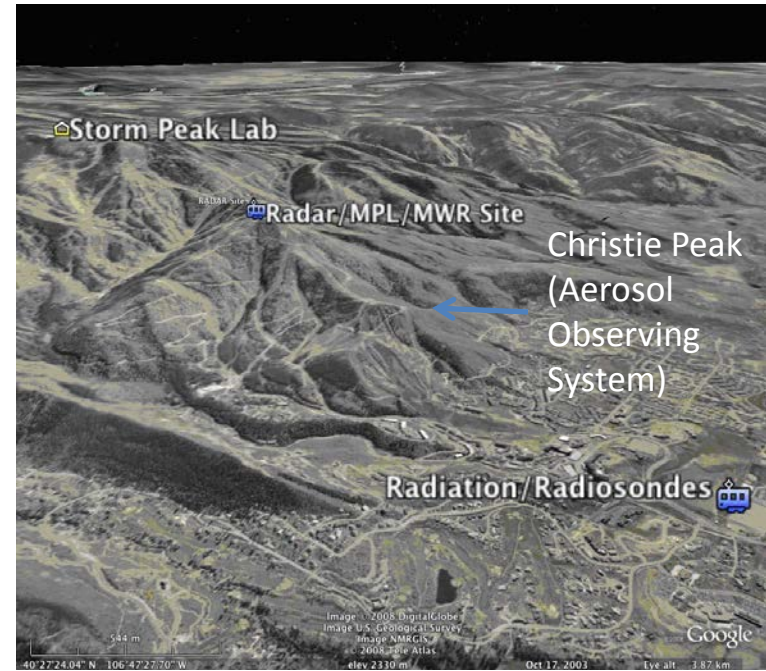
<http://meteo04.chpc.utah.edu:8080/stormvex/>

StormVEx: Deployment of 2<sup>nd</sup> ARM Mobile Facility to Steamboat Springs Colorado during Winter 2010-11 to collect coincident remote and in situ data in a region of complex terrain.

Also, NSF supported 100 hours of Wyoming King Air flights over the region

New Wisconsin HSRL installed during January

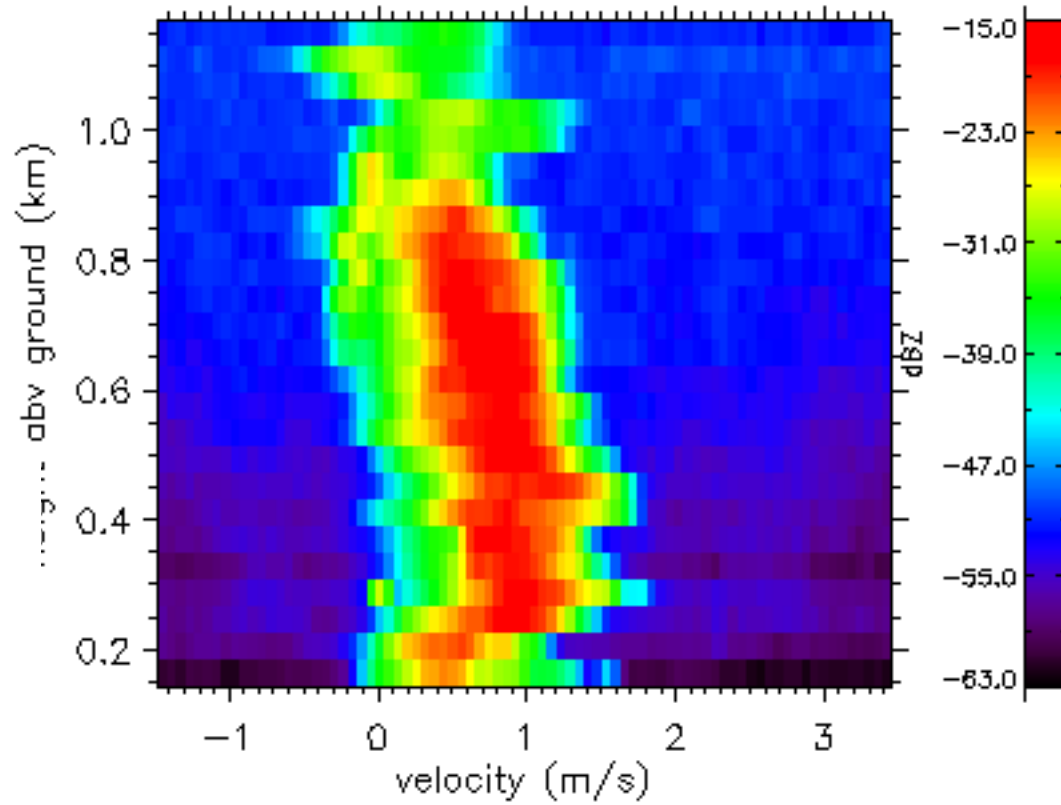
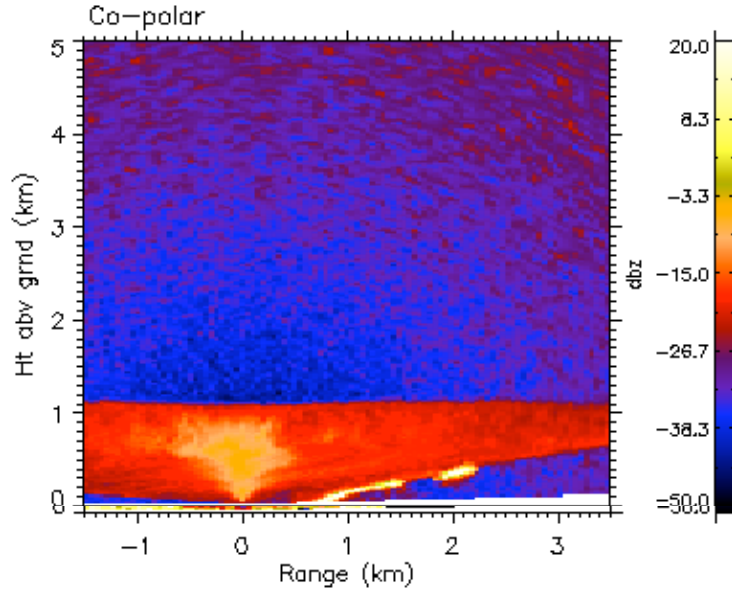
JPL ACR ran during January into February



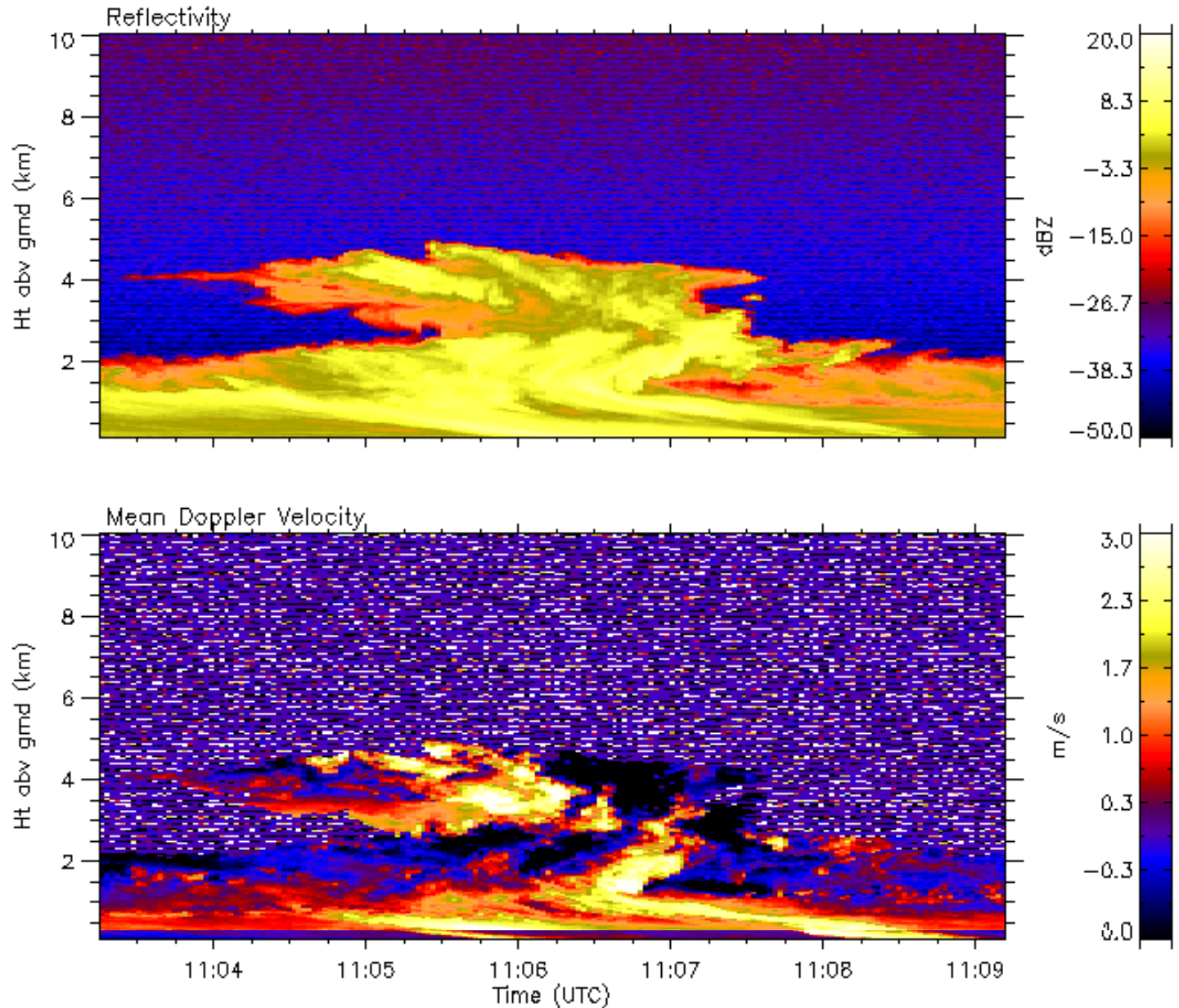
Summary of Clouds and Precip	December	January	February	March to 3/18
% Cloud Cover ( SWACR)	<b>71%</b>	<b>75%</b>	<b>60%</b>	<b>57%</b>
Hours of Cloud Probe operation at SPL	<b>140</b>	<b>127</b>	<b>64</b>	<b>82</b>
Days with measured Snowfall at Summit	<b>24</b>	<b>23</b>	<b>16</b>	
Days with Snow > 6"	<b>11</b>	<b>10</b>	<b>11</b>	
Total Accumulated snow during month	<b>152"</b>	<b>165"</b>	<b>182"</b>	

SWACR Spectra  
Animation of a gently  
snowing stratus layer....

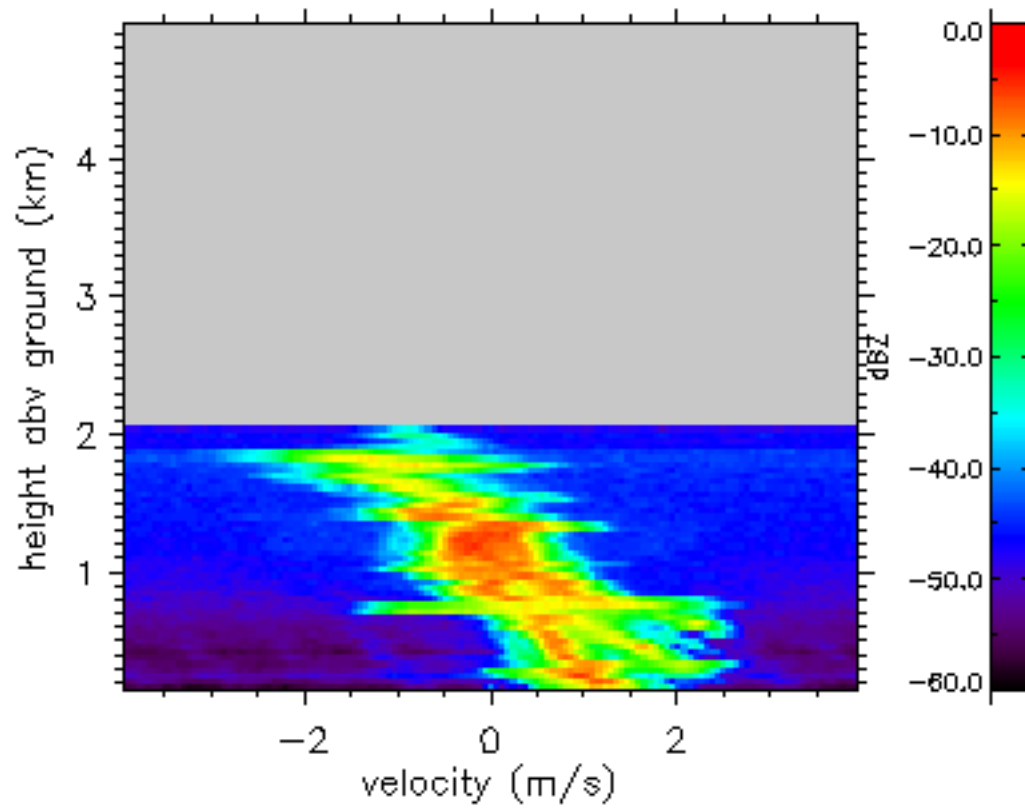
Reflectivity for: 2011-01-12 19:30:39 UTC (SPL)  
Azimuth: 87deg Scan: HSRHI Alt: 2759.00m



# A Convective Event in Early March



SWACR Spectra for: 20110303.110315.00

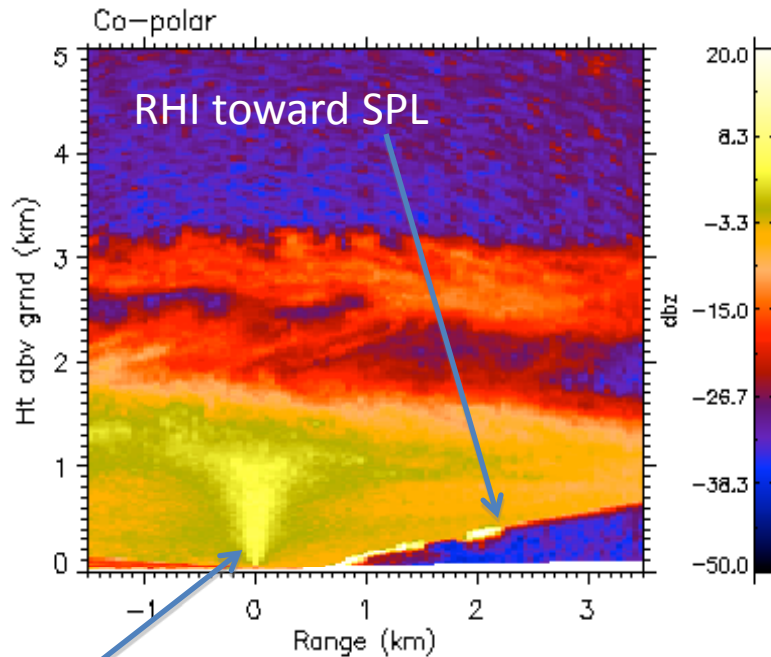


# The Storm Peak Lab Cloud Property Validation Experiment (StormVEx)

## Documenting Snowflake Orientation Sensitivity in W-Band Backscatter

Reflectivity for: 2011-01-25 19:25:36 UTC (SPL)

Azimuth: 87deg Scan: HSRHI Alt: 2759.00m



>5 db enhancement  
when 2d particles are  
observed in quiescent  
conditions.

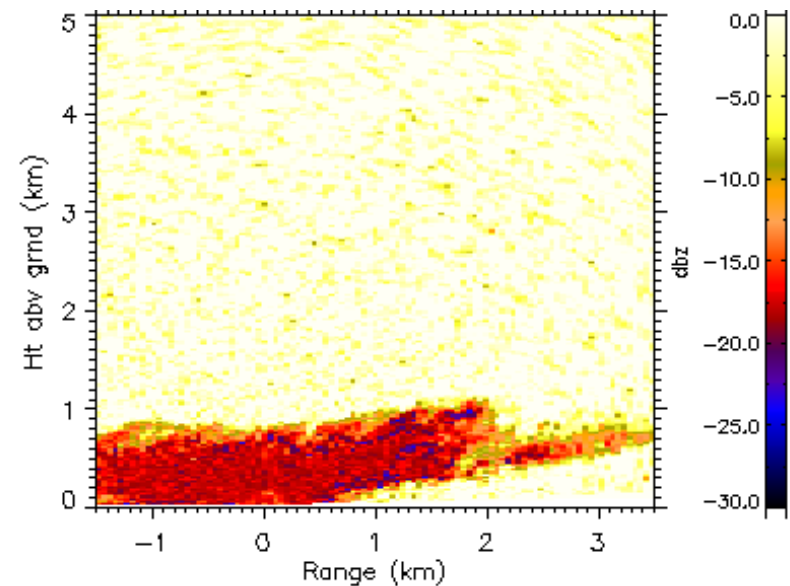
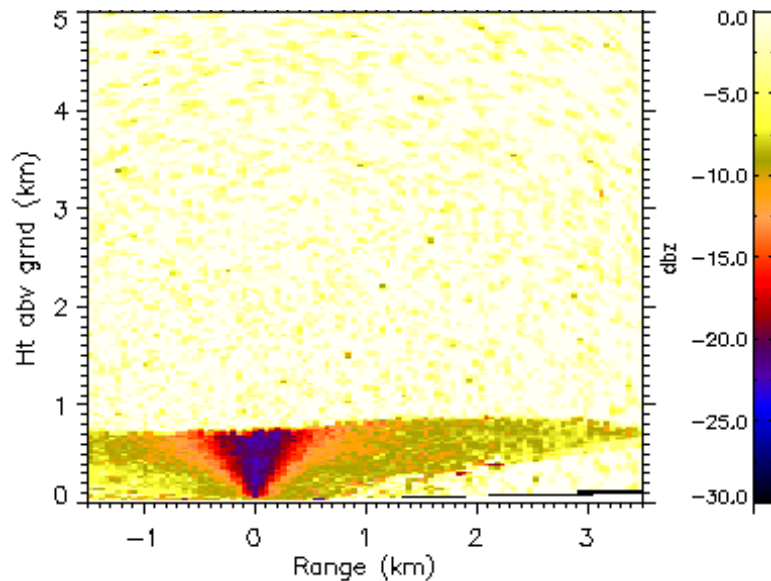


Snow Captured at Storm Peak  
Lab at 1930 UTC

# SWACR RHI towards the SPL

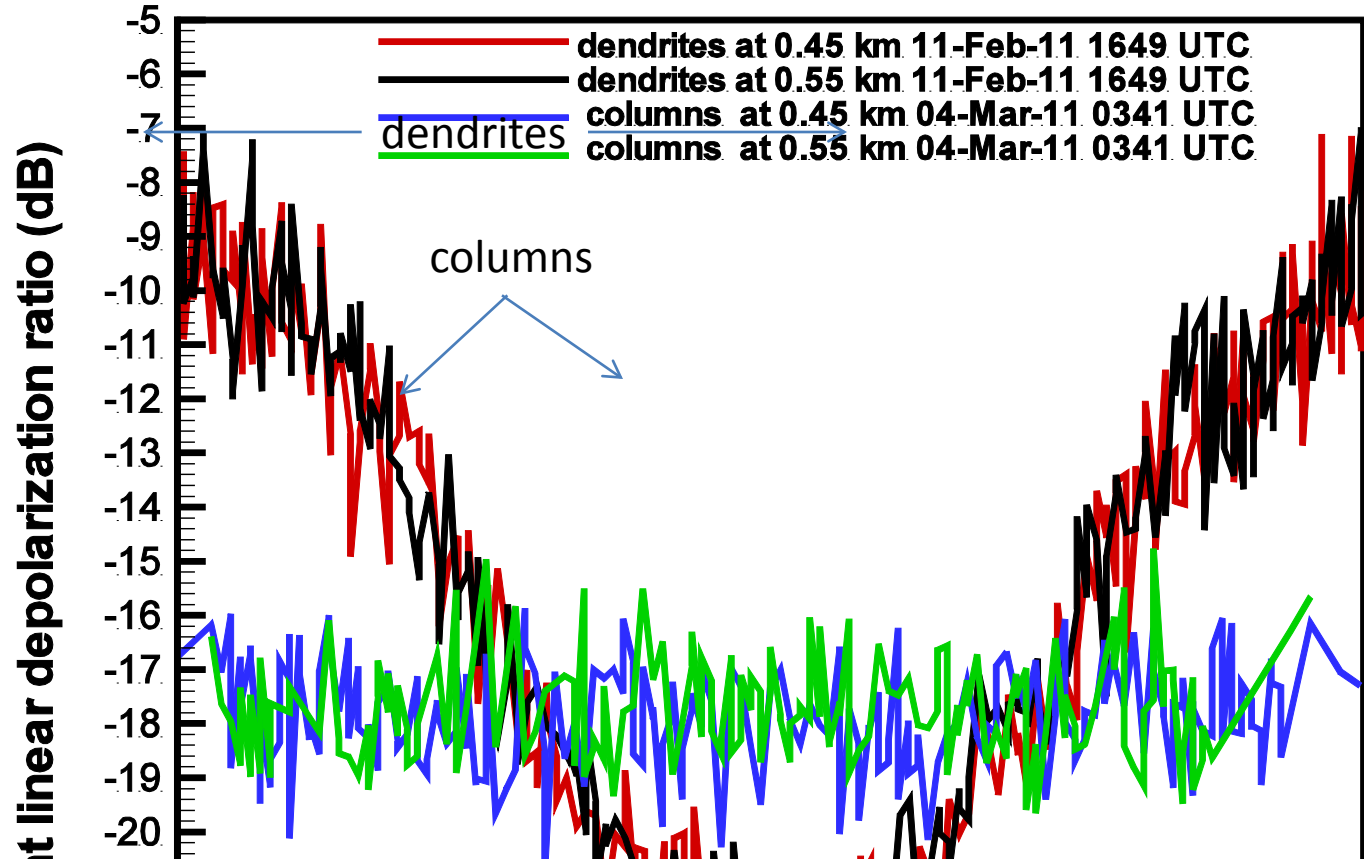
SLDR dendrite case  
11-Feb-11 1649 UTC

SLDR column case  
4-Mar-11 0349 UTC



Courtesy: Sergey Matrosov

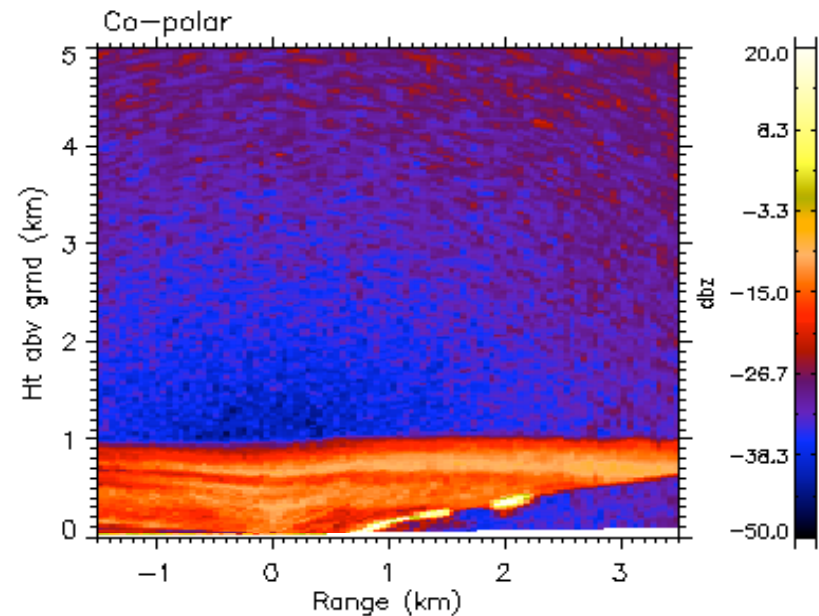
Slant linear depolarization ratio (SLDR) trends with pointing angle at constant altitude allow differentiation between planar crystals (e.g., dendrites) and columnar crystals





87 SWACR RHI from Thunderhead (0km) to SPL (arrow) when the photo at left was captured.

Reflectivity for: 2011-02-10 17:15:42 UTC (SPL)  
Azimuth: 87deg Scan: HSRHI Alt: 2759.00m





## The Storm Peak Lab Cloud Property Validation Experiment (StormVEx)

- Mace (Summary and Teasers...)
- Gannet Hallar (CAMPS Summary and SPL data collection and operations - 20 minutes)
- Ed Eloranta (HSRL during StormVEx)
- Art Sedlack (aerosol summary 20 minutes)
- Roj Marchand (radar statistics 15 minutes)
- Matt Shupe (“Something really important” or “thoughts on cloud-aerosol interactions” 15 minutes)
- Nitin/Kevin (SWACR update 15 minutes)

Discussion (30 minutes - topic what next? Meeting in the fall? BAMS Article and then Special Issue?)