

Status of Radar Doppler Spectra Collection

Edward Luke

Radar Doppler Spectra Breakout Session

2016 ARM/ASR Joint User Facility and PI Meeting

May 5, 2016

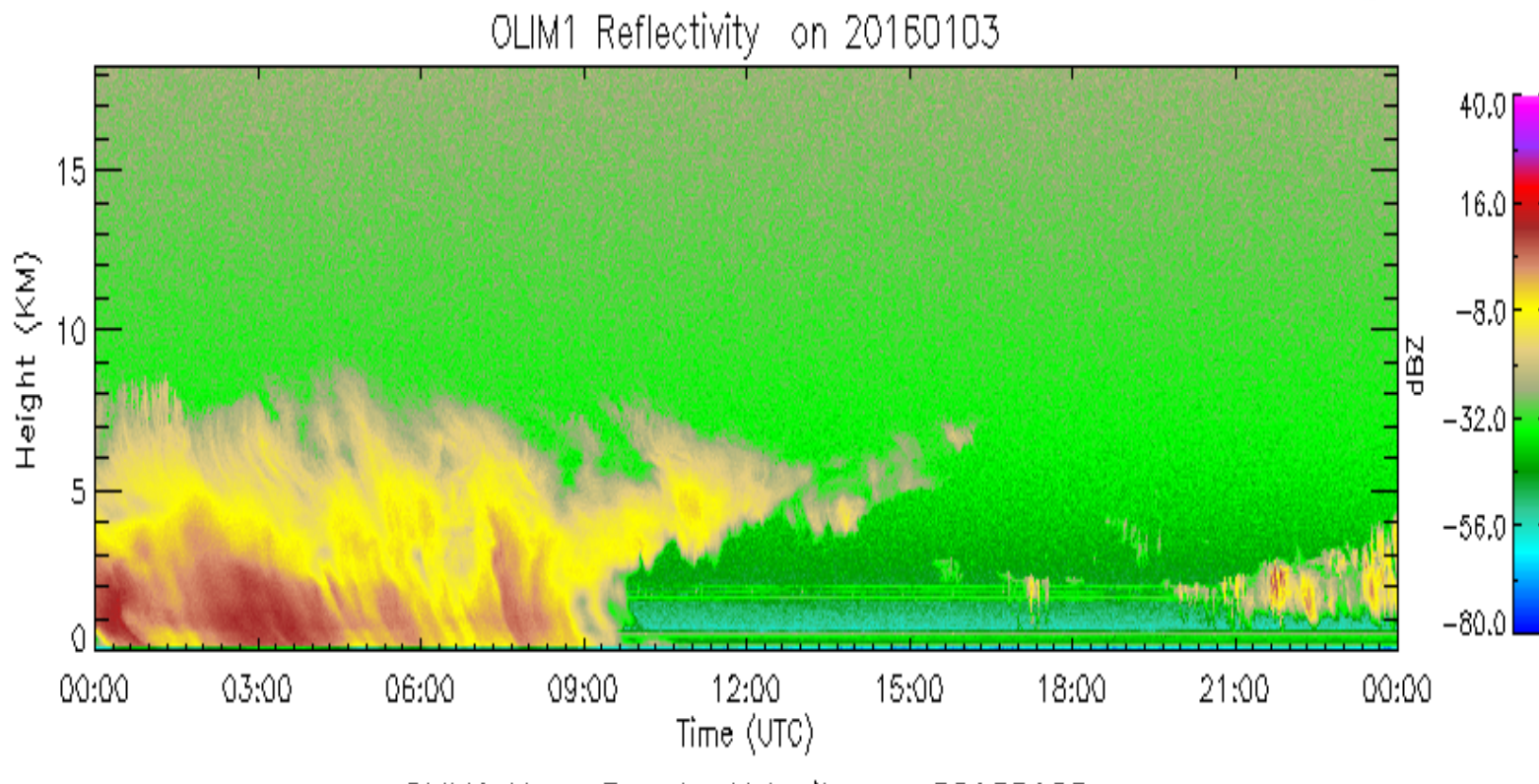
BROOKHAVEN
NATIONAL LABORATORY

a passion for discovery

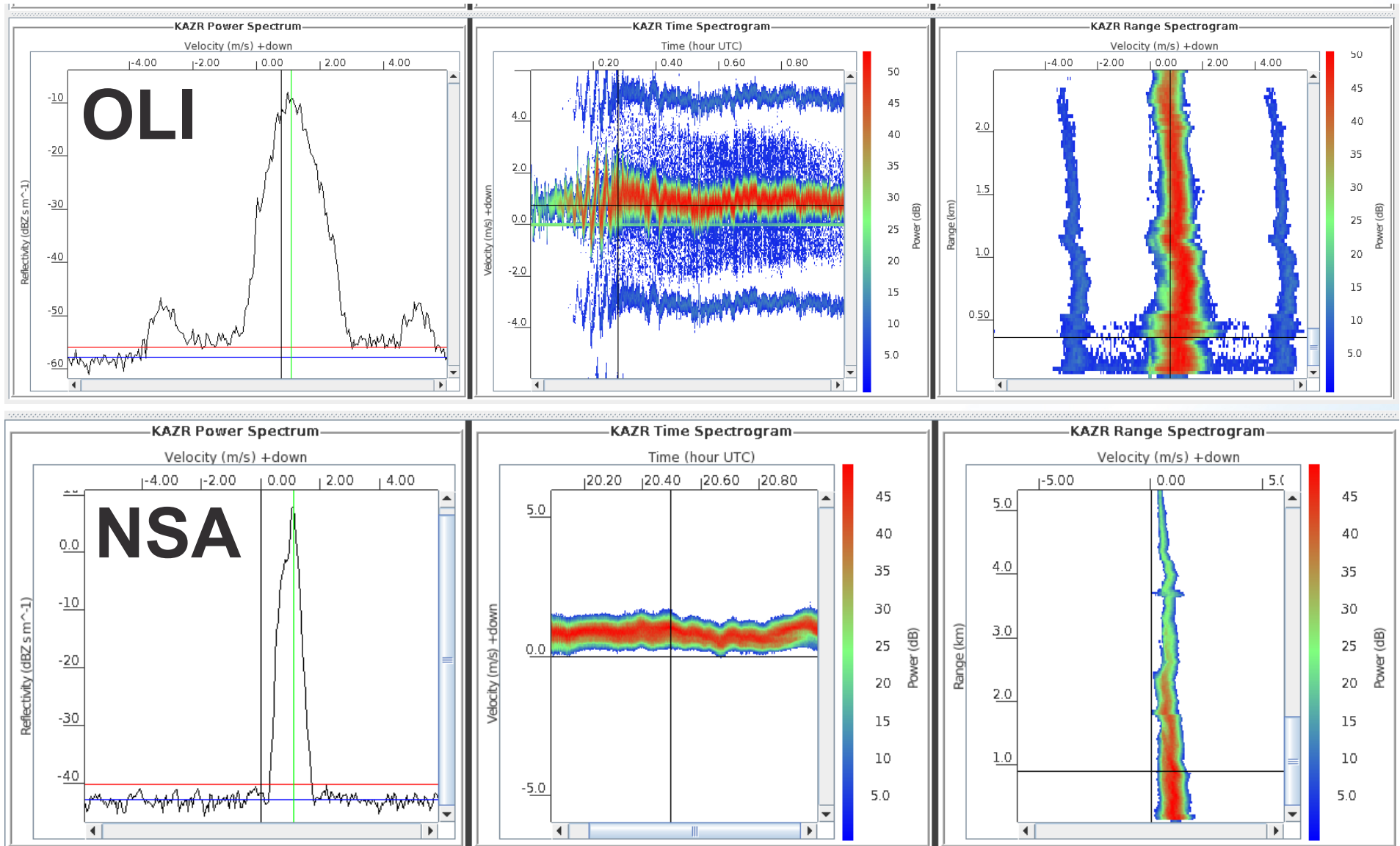
 **Office of Science**
U.S. DEPARTMENT OF ENERGY



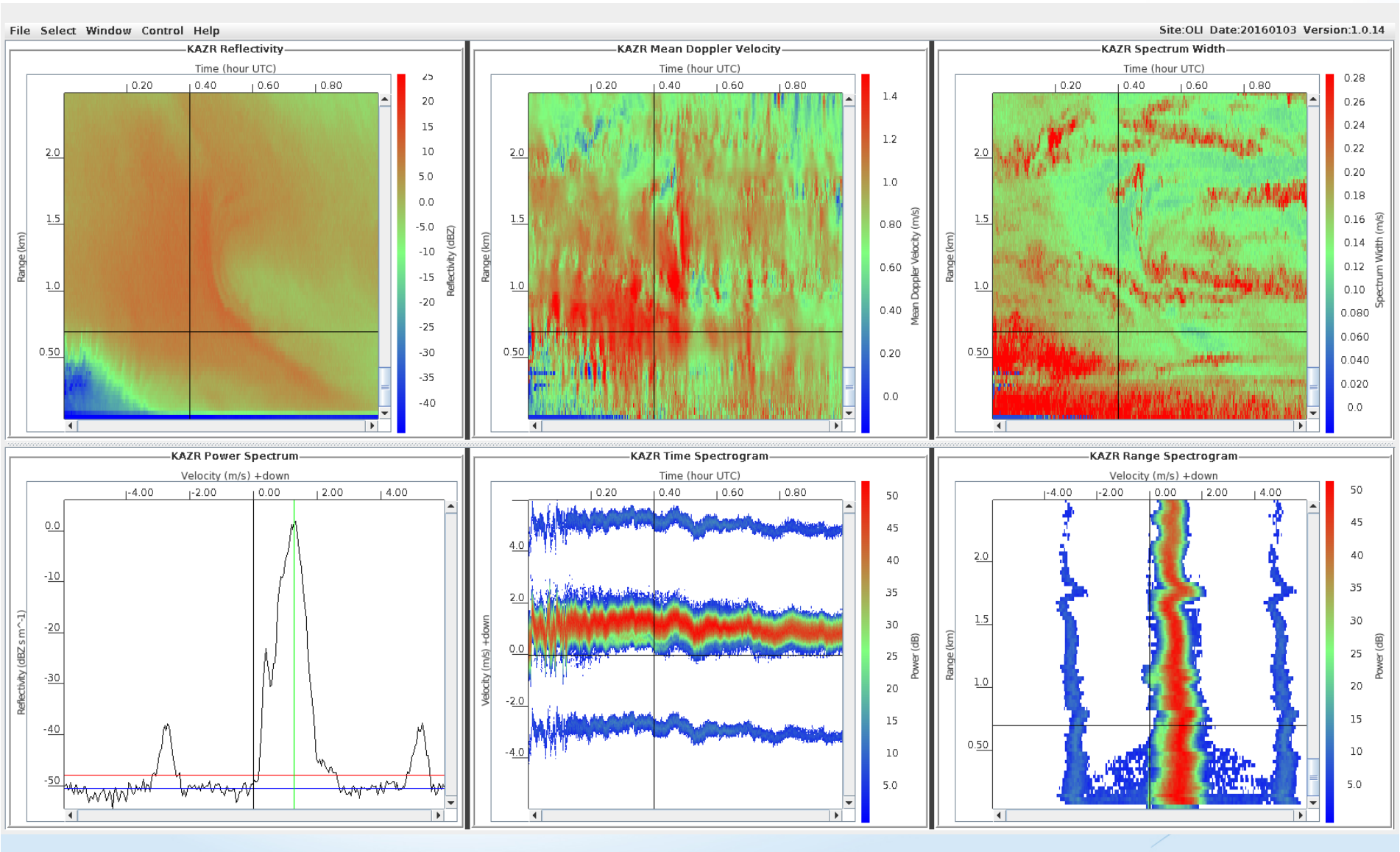
KAZR2 Reflectivity at Oliktok on 20160103



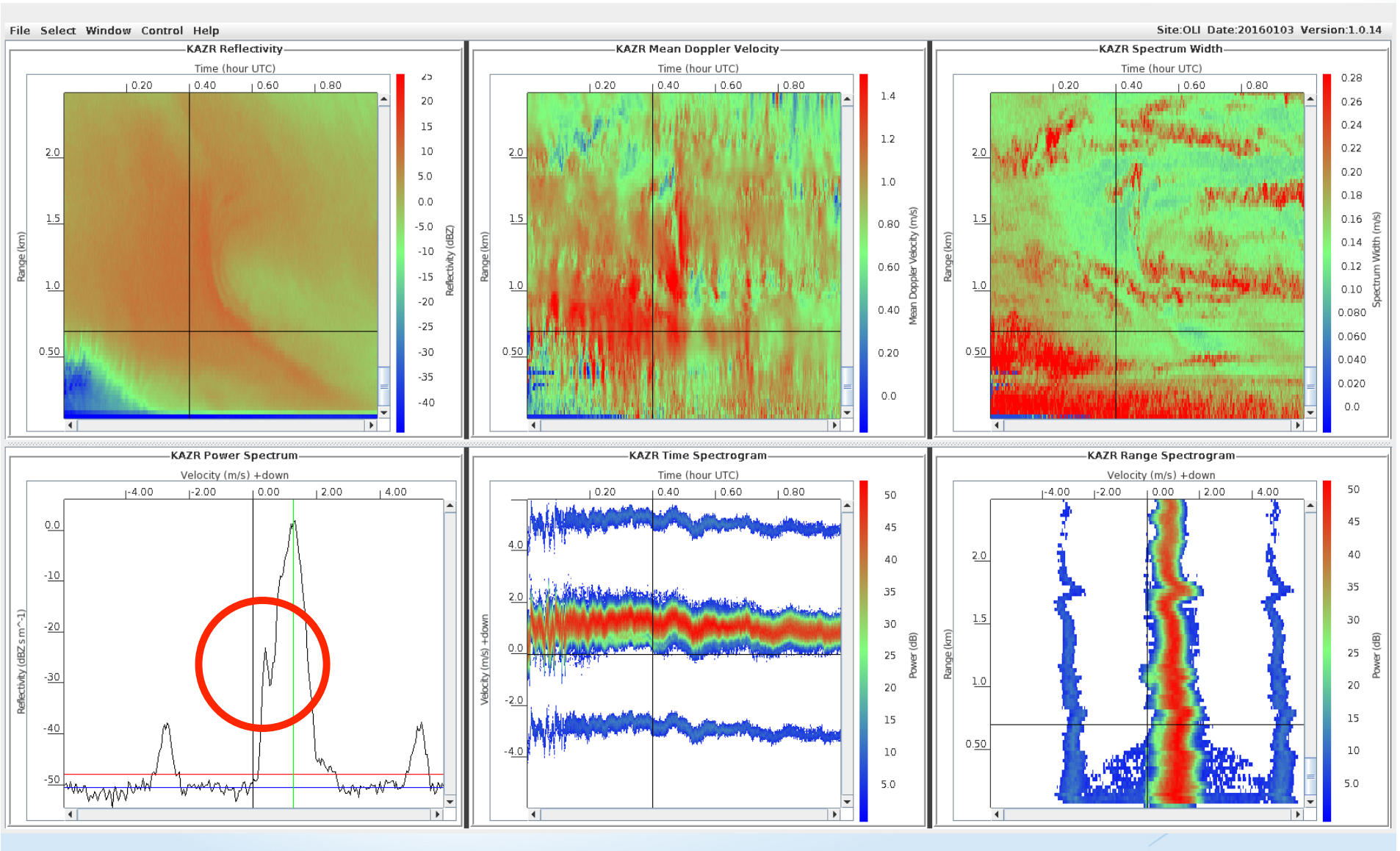
KAZR at OLI and NSA (20160103)



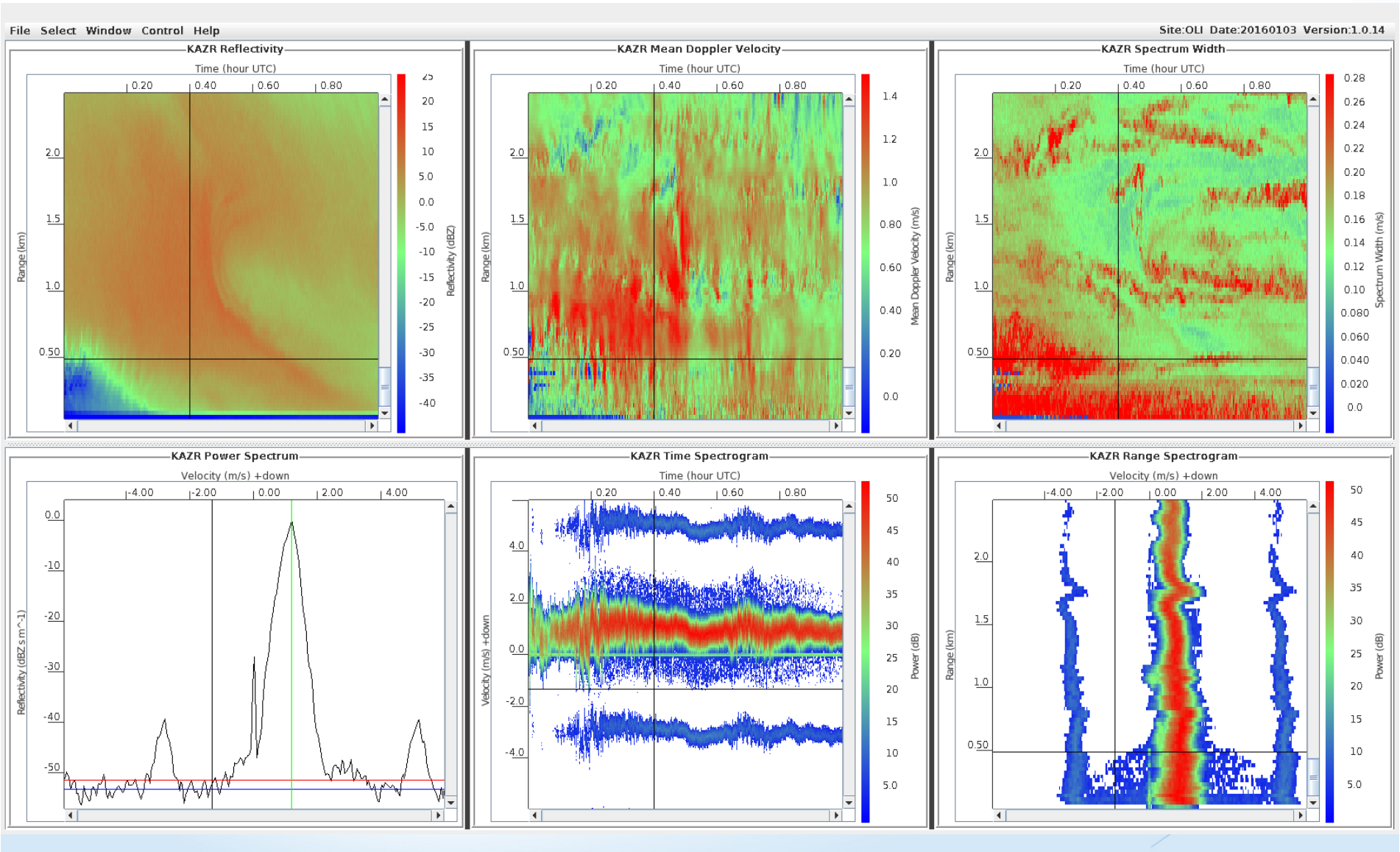
Spectra with Supercooled Liquid



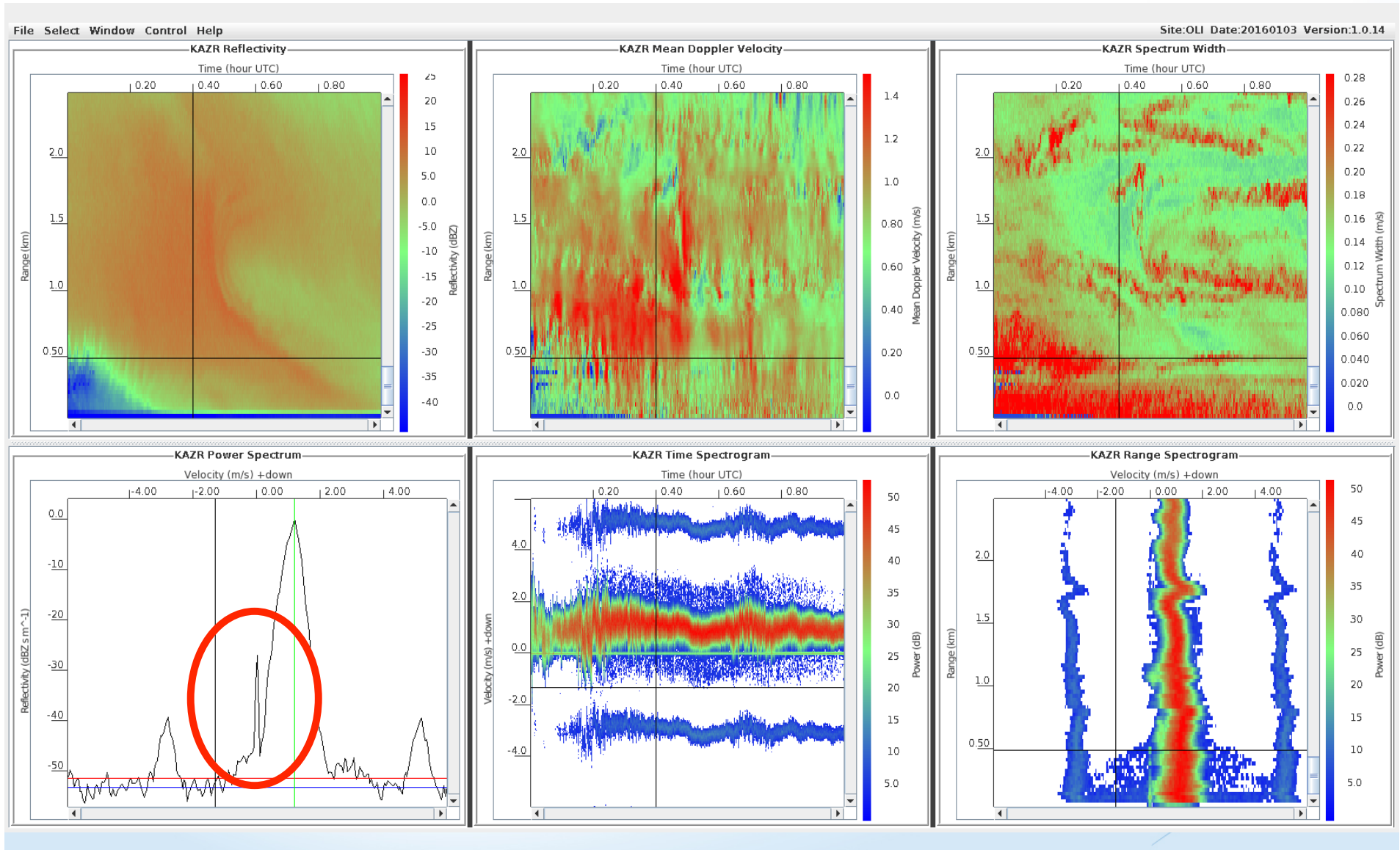
Spectra with Supercooled Liquid



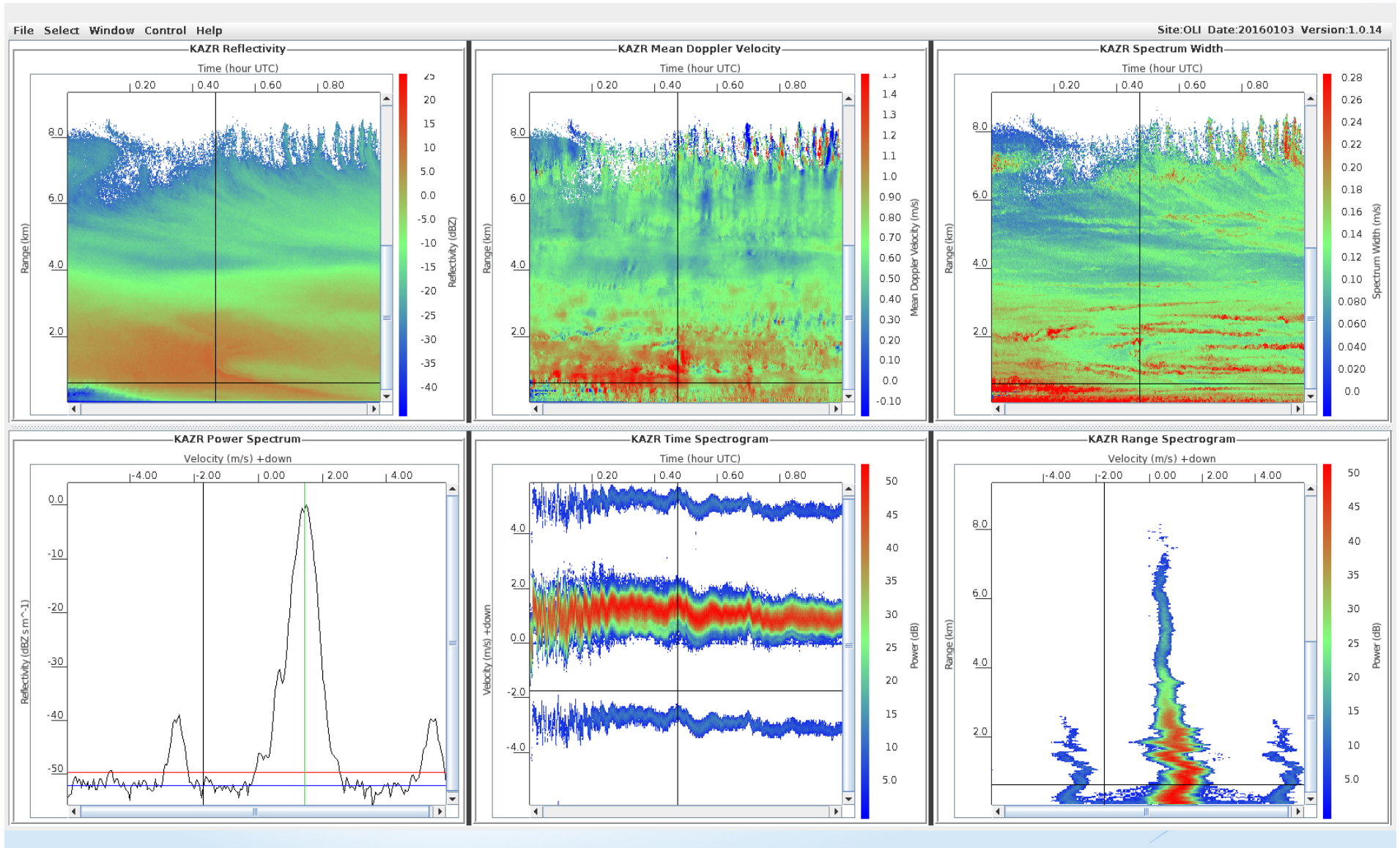
Spectra with DC Artifact



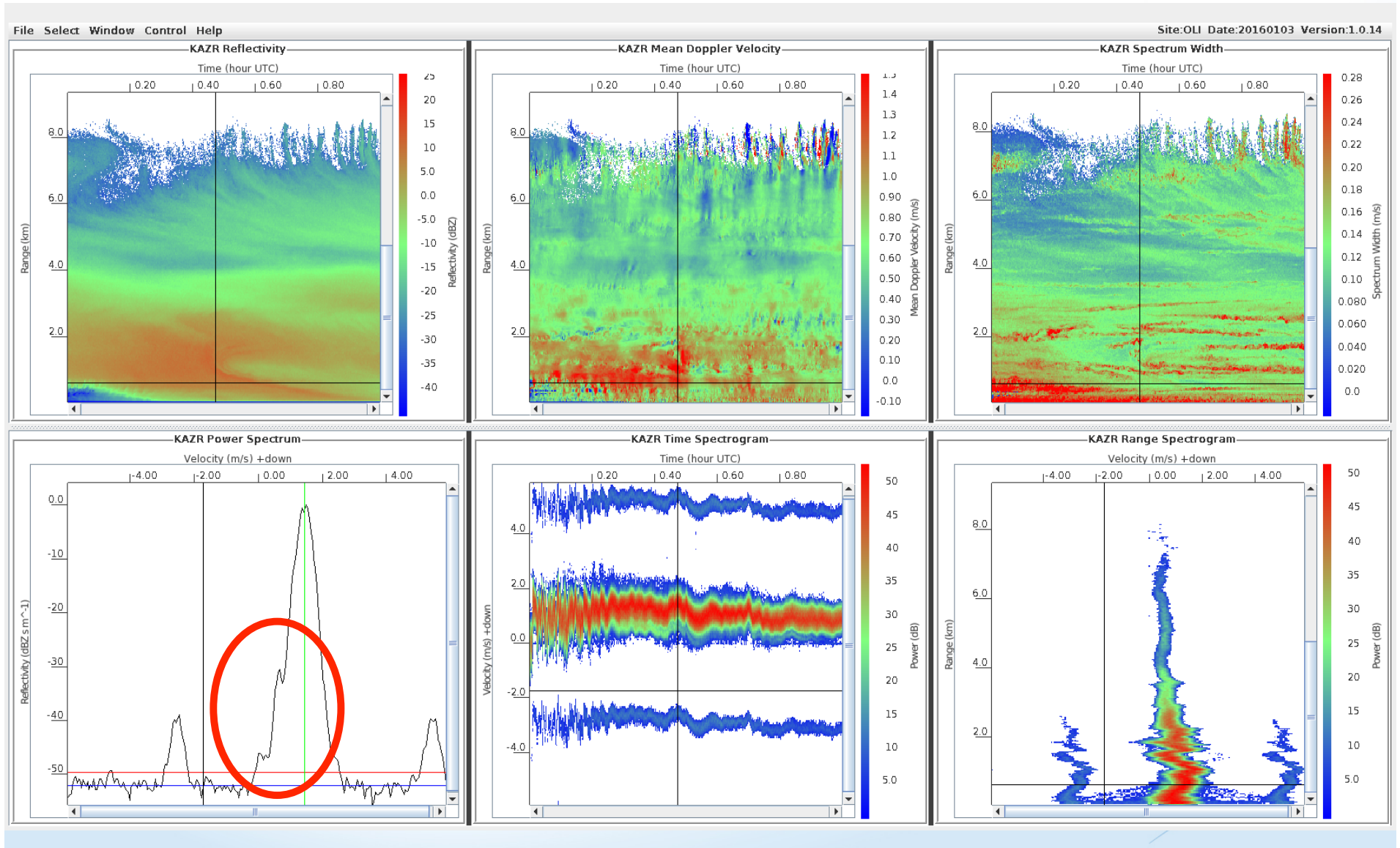
Spectra with DC Artifact



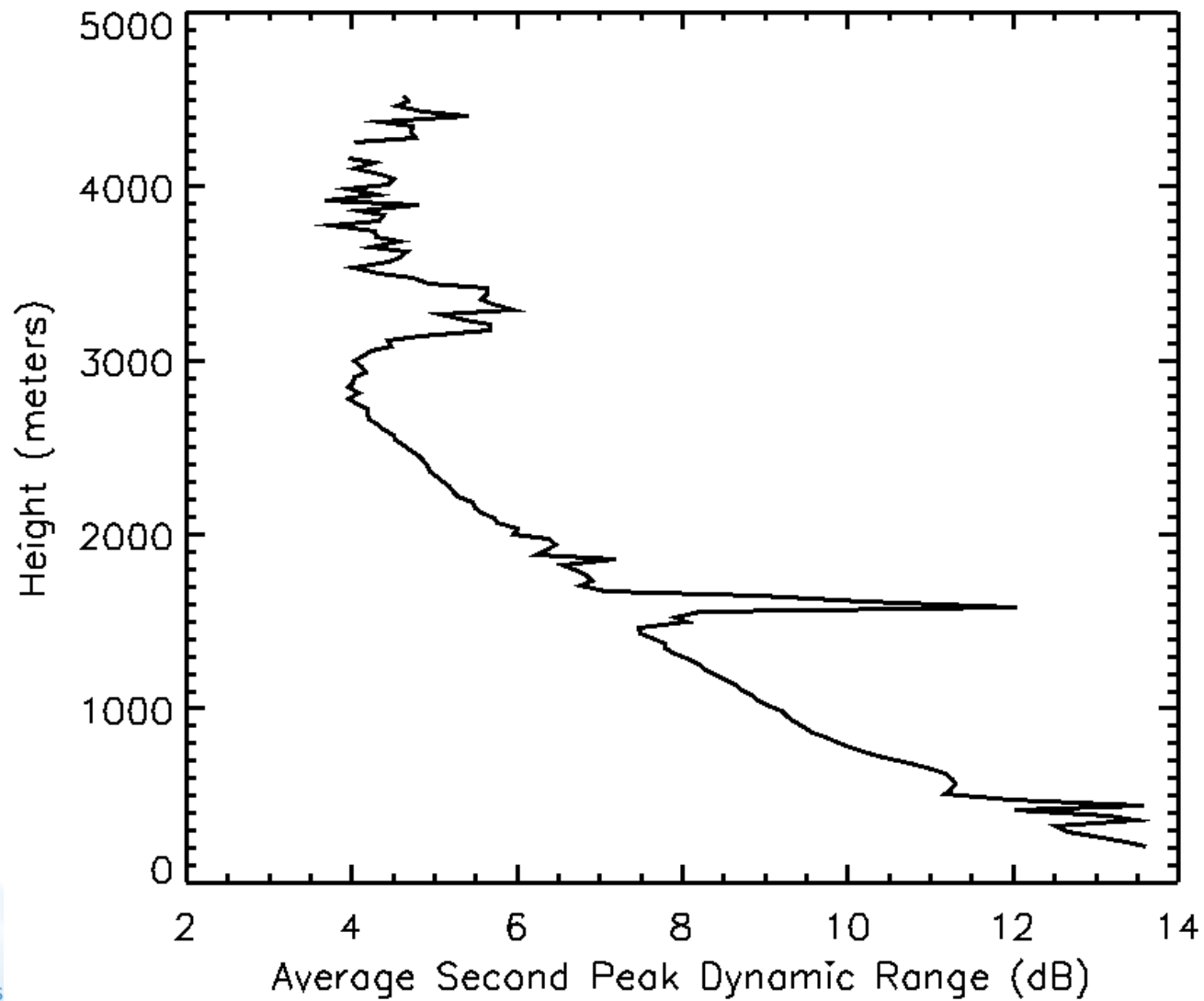
Spectra with Supercooled Liquid and DC Artifact



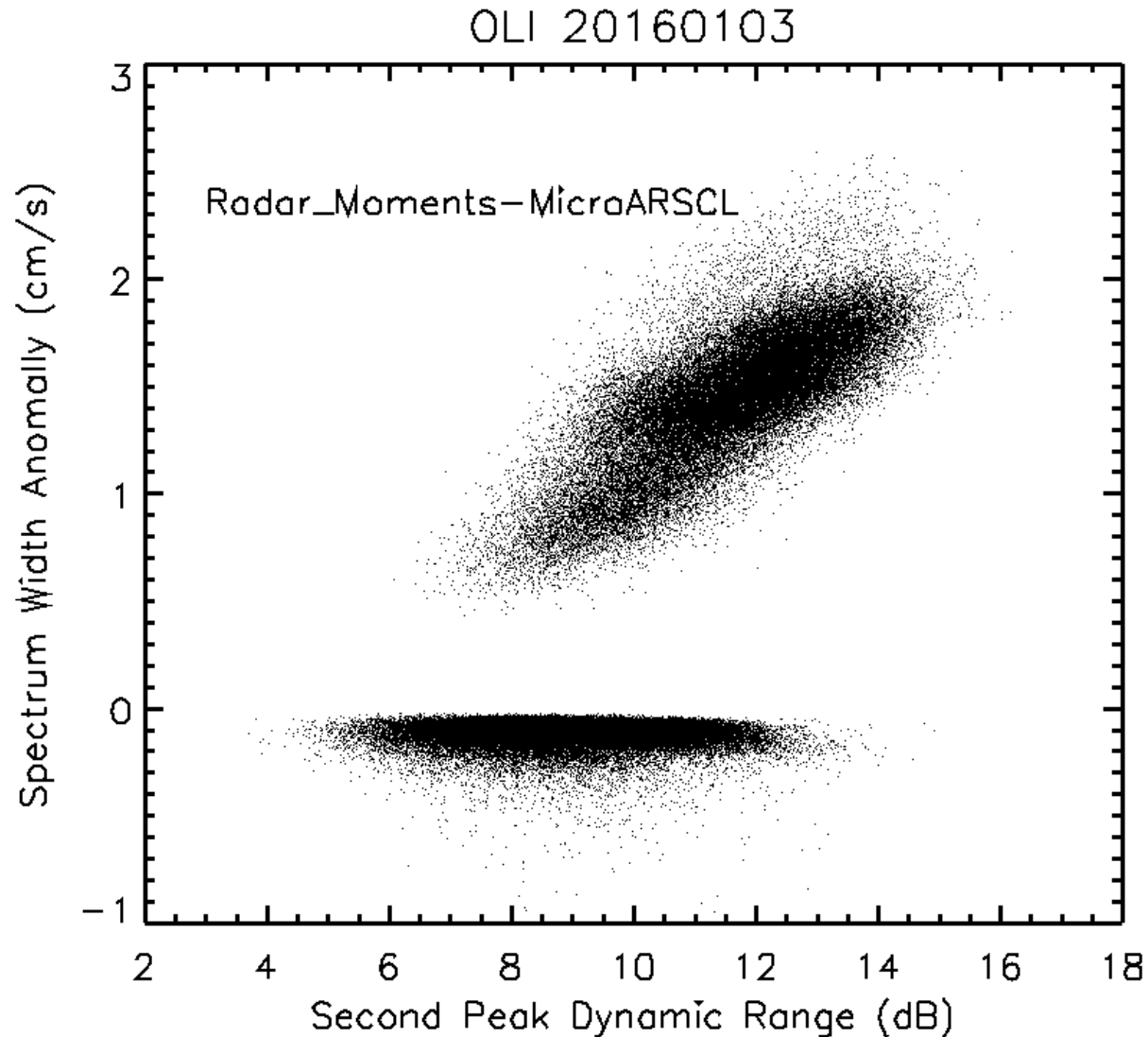
Spectra with Supercooled Liquid and DC Artifact



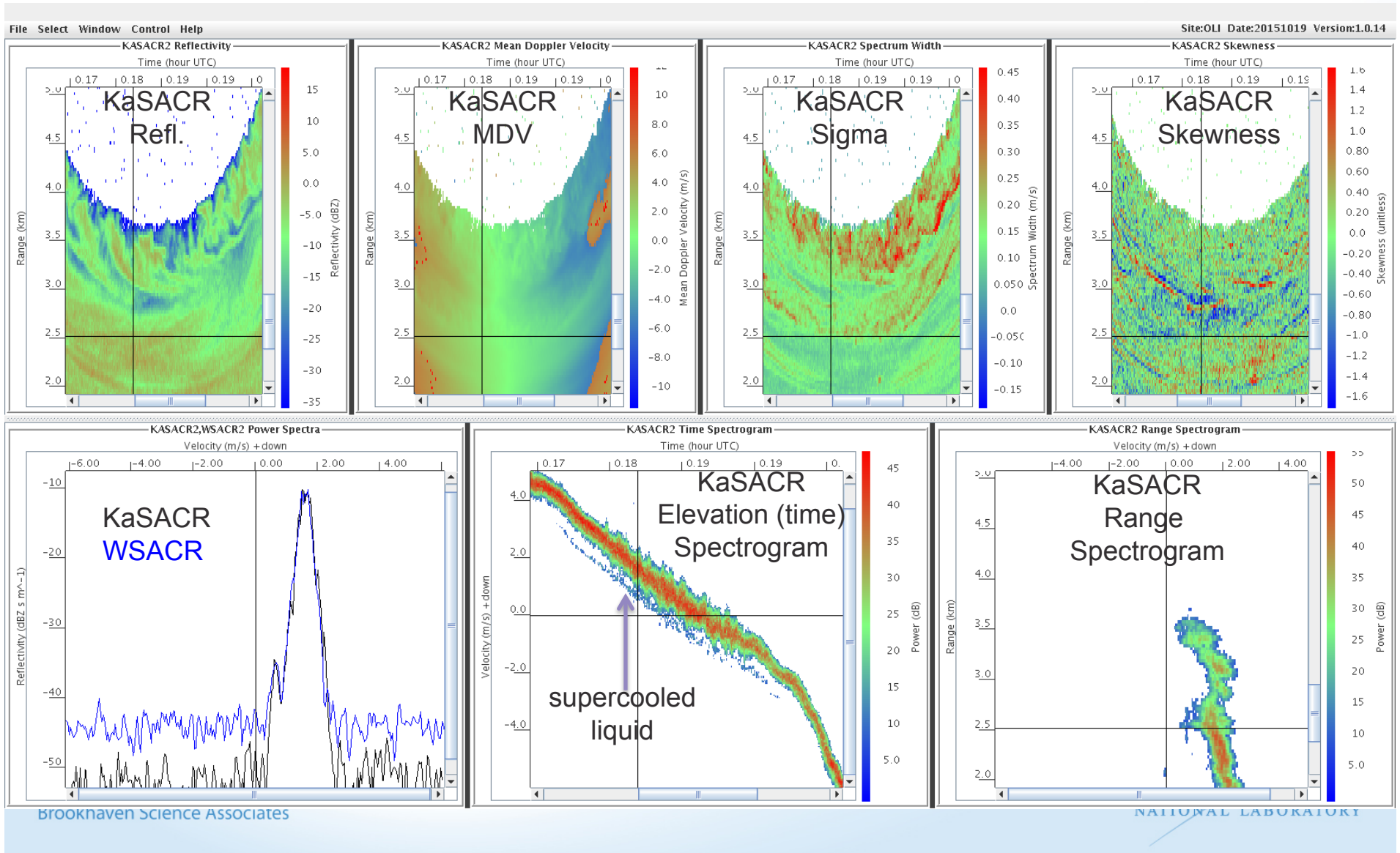
Average Sidelobe Dynamic Range vs Height



OLI KAZR2 Moments Spectrum Width Bias vs Sidelobe Artifact Dynamic Range



ARM's First Experimental Spectra Collected during Scanning at Olightok CGA, October 2015

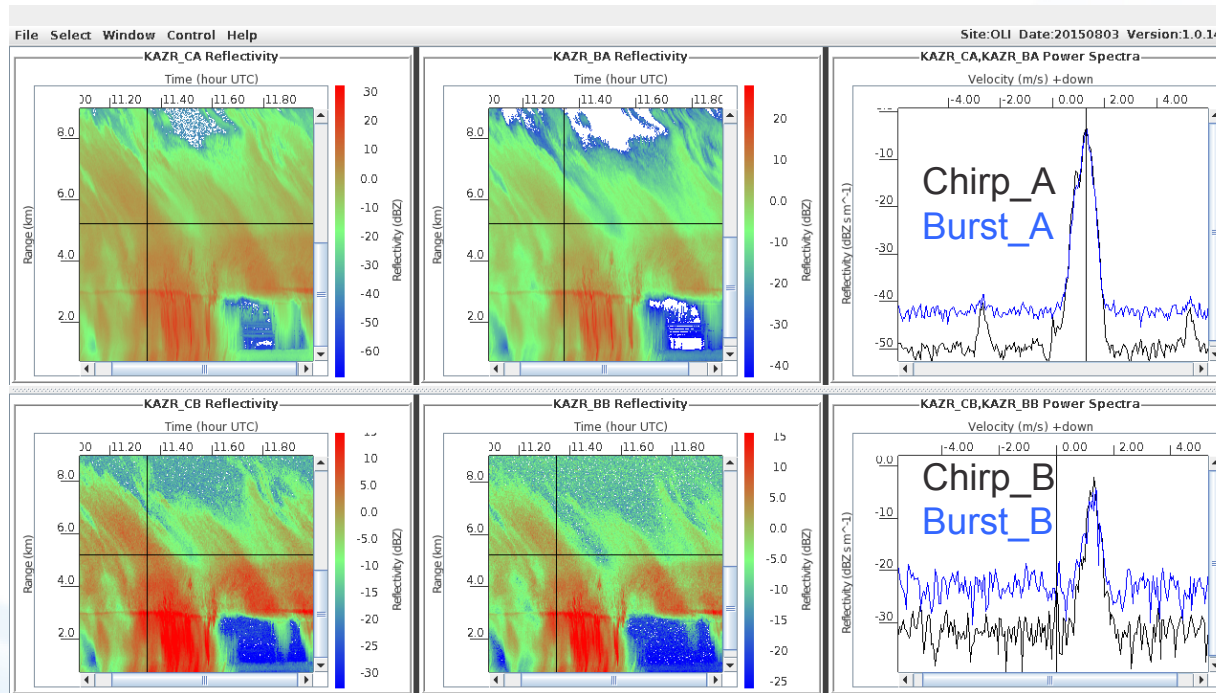
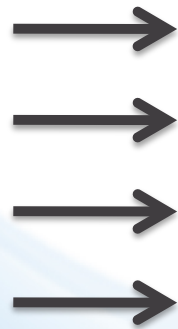


Proposal to Perform Onsite Real-time Spectra Merging

When spectra from multiple radar modes are available, use only the **best** spectrum from each gate and time step for MicroARSCAL processing. The baseline definition of **best** spectrum will be the one having the highest SNR that is not saturated. Additional criteria involving spectrum quality can also be applied.

Example

KAZR2
spectra
streams



Choose One
e.g., Chirp A

