

KAZR-ARSCCL Update

*Karen L. Johnson
P. Kollias, H. Kalesse, E. Luke,
D. Troyan, S. Giangrande, M. Jensen*

*ASR Science Team Meeting
Radar Focus Group
2012-03-13*

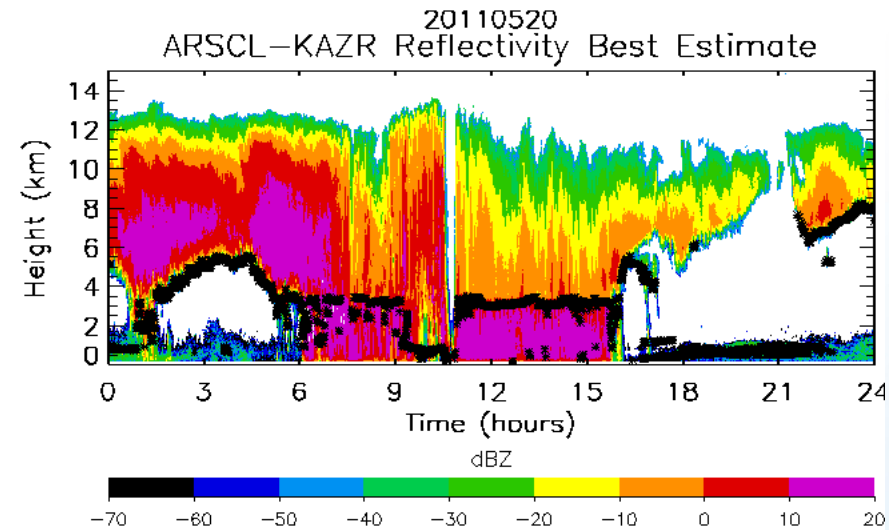


U.S. DEPARTMENT OF
ENERGY

Office of
Science

KAZR-ARSCl VAP

cloud radar, micropulse lidar, ceilometer
+ interpolated sonde
+ rain gauge
+ microwave radiometer



Why a *new* VAP?

- New radar operating modes → Simpler mode merging
- Improved polarization modes → LDR used in insect detection
- Insect detection algorithm expanded (LWP, temperature,...)
- Reflectivities corrected for water vapor attenuation
- Improved velocity dealiasing algorithm
- New KAZR-ARSCl software easier to maintain, update
- More timely processing

KAZR-ARSCCL

Proposed Data Products

... feedback welcome*

Full output file: arscclkazr 1kollias

Cloud boundaries only: arscclkazr bnd 1kollias

* Corrected individual radar mode products?

- e.g., kazrgecor, kazrblcor, ...
- Significant detection mask
- Data artifacts flagged

* Data Flags of interest?

insects, artifacts, precip, bad data, ?

* Level 2 product using MicroARSCCL as an input?

- Improve moment estimation using spectra
- Higher-order moments: kurtosis, skewness
- Insect identification more precise
- Level 2 product, e.g., `arscclkazr1kolliasCx.c2`

Ideas for Historic MMCR Calibration

Years of data: SGP 15, NSA 13, Manus 11+, Nauru 10+, Darwin 5+

- Noise power trends
- Cirrus minimum observed reflectivity
- Polarimetric CDR drift
- Insect average power
- Lowest height maximum reflectivity
- Comparisons to WACR, guest radars