How ARM meets the needs of ASR Science Goals

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My perspective:
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ARM/ASR researcher for 22 years
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PI for the MC3E, TRACER campaigns
Main research interests in:
1) deep convective and
2) marine boundary layer cloud processes
What is ARM doing well? What can be improved?

Strengths:
- Main instrument datastreams (KAZR, Radiosonde, RWP, Disdrometer, MWR) are robust.
- Long-term consistency in these datasets
- Support for SatCorps datasets
- Consideration of diversity of data user groups

Need improvement
- Thermodynamic profiling at ENA site
- Insects still remain a problem for shallow cumulus for KAZR
- Use of long-term ARM datasets
- For convective studies, need to sample ample convection (TWP, GoAmazon, CACTI, TRACER)
What are critical measurements?

Depends on the science questions.

Don’t forget about the baseline measurements (i.e., the is still a lot to learn from the “soda straw”)

Measurements of the thermodynamic environment is critical.
Balance long-term (fixed sites) vs. field campaign (IOP/AMF)

For data processing:

Prioritize baseline VAPS (that are mostly operational).

For complicated (different instrumentation, adaptive scanning), concentration should be on quality-controlled, calibrated (b1 level) data. Higher-level products should be responsibility of researchers.

More sharing of PI products