Simulator Prospects for LASSO*

*LES ARM Symbiotic Simulation and Observation Workflow

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LASSO Webpage: https://www.arm.gov/capabilities/modeling

LASSO e-mail list sign up: http://eepurl.com/bCS8s5
Basic simulators

- **Cloud properties**
  - LWP
    - Generate a 2-D map of LWP & apply a 2 gm\(^{-2}\) threshold (AERIoe)
  - Cloud fraction
    - A q\(_l\) threshold can make a CF overestimation by 0.2
    - Base it on the LWP 2-D map – NOT on q\(_l\) threshold

- **AERIoe T & WV profiles (from Dave Turner)**
  - Apply kernel weighting to model profile to coarsen levels to AERIoe

![Graph showing temperature profile with labels Thin=Native and Thick=Kernel-weighted]
Questions going forward

ARSCL simulator (from Mariko & Pavlos)

- How does one apply the simulator to properly account for the ARSCL representing only one 2-D subsample of the LES domain?
- Can the simulator help account for uncertainties in the LES microphysics?
  - E.g., Assumed size distribution of ice particles etc.

Visible methods

- TSI cloud/sky fraction
- Stereo photogrammetry cloud volumes (Romps/Öktem)
- How to compare these to LES output?