Uncertainties in ARM data products

- Obtaining knowledge of the spread of possible values around a single point of a retrieval is often more difficult than the retrieval.
- Many retrievals are non-linear/variational so error can only really be estimated by Monte-Carlo.
- Uncertainties include carried error from the original data stream, assumptions in the retrieval, numerical error and natural, system intrinsic variability (over sample both in space and time).
Uncertainties in ARM data products

- How do ASR data users use uncertainty, in a time of limited resources what is good enough (expert opinion vrs numerical study).
- What data providers are actively studying uncertainties, how to propagate these and represent these in VAPS?