

ICEPRO: Ice Properties and Processes

Purpose: To better characterize ice physical properties and their uncertainties to improve models across all scales and remote sensing algorithms.

Objectives (planned activities):

- 1) Derive from in situ observations representations of ice particle and PSD properties and their uncertainties.
- 2) Utilize ground-based remote sensing instruments to develop retrieval techniques to infer ice particle shapes.
- 3) Conduct spectral radiative closure studies to provide constraints on ice particle physical and optical properties.
- 4) Determine the sensitivity of model outputs to representation of ice physical properties. Improve models.

5) Strong synergy with QUICR (improving remote sensing)

New objectives/planned action from breakout session:

6) Determine the controlling factors for m-D/A-D relations and/or particle shape (Jerry Harrington)

7) Conduct studies of ice processes using remote sensing (Alain Protat)

Suggestion: Improve estimation of asymmetry parameter g by developing ice particle aspect ratio relationships for ice particles common to cirrus clouds using in situ data.