NOAA Aerosols and Ocean Science Expeditions (AEROSE) and Satellite Sounder EDR Validation

**AEROSE**
- NOAA Aerosols and Ocean Science Expeditions (AEROSE)
  - Trans-disciplinary intensive field campaigns conducted aboard the NOAA Ship Ronald H. Brown
  - Nov-Dec 2013
  - The campaign was designed to study aerosols, clouds, and their interactions with the oceanic and atmospheric environment

**AEROSE Truth Datasets**
- NASA Radiance Interferometer
- Ship-based FTS
- Broadband pyranometers and pyrgeometers (downwelling LW and SW Fluxes)
- GPS Winds, CTD, SST
- Helium
- shipboard FTS
- calibrated IR spectra
- High accuracy skin SST

**AEROSOM**
- Marine Atmospheric Emitted Radiance Interferometer (MARI)
  - Ship-based FTs that measure downwelling and upwelling calibrated IR spectra (Akhmin et al. 2001)
  - High accuracy calibration using 2 NIST-traceable blackbodies

**Other Shipboard Data**
- Mip-Dop-A
- NOAA-Unique IASI EDR
- Aqua AIRS Science Team EDR (dedicated RAOBs for S-NPP)
- SNPP CrIMSS NUCAPS Stages 1-3 Validated Maturities

**Satellite Sounder Environmental Data Record (EDR) Validation Over Open Ocean**

**Summary**
- AEROSE has compiled a number of ship-based, marine in situ microphysical measurements to substantially increase the understanding of the properties of aerosols and clouds and their interactions with the oceanic and atmospheric environment

**Future Work**
- SNPP, OMI/MICAP, NCMAP, and IASI EDI performance assessments versus AEROSOM dedicated RAOB data

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**Selected References**
- Hanafin and Minnett (2001)