



EarthCARE 2026 Science and Validation workshop

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Validation Recommendations: Radiation

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Radiation observations (BM-RAD, BMA-FLX)

- In orbit evaluation against CERES (Velazquez) and stability (Aebi)
- Validation against geostationary (Aebi)

Surface evaluation

- Broadband (Gressløs, Gschwind, Madenach)
- Spectral thermal (Liu) and spectral solar (Papachristopoulou)

Radiation computation and radiative closure

- Independent broadband radiative transfer calculations (Papachristopoulou, Kouklaki, Gressløs, Ezaki)
- Comparison with CERES datasets (Kato)
- Closure evaluation (Salas-Molar, Suzuki, Iwabuchi)
- MSI closure and sensitivity to assumptions (Pery, Ewald)
- Scene reconstruction methods (Williams, Kouklaki)

Radiation (BMA-FLX and BM-RAD)

- Continue comparisons with CERES and geostationary satellites

Scene reconstruction

- It would be useful to explore existing validation data for suitable measurements
 - Also consider measurements (side-pointing instruments, in-situ) and flights for future campaigns
- Compare ACMB-3D with other methods for common cases

Radiation transfer and closure method validation

- Continue input about sensitivities (clouds, aerosols, surface, atmospheric state)
- Validation as function of scene classification, e.g., cloud and aerosol conditions, surface types
- 1D and 3D RT for diverse cases are helpful but systematic calculations for select cases would be very helpful