

Fast RTM Technical Subgroup – Summary

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Session Structure & Participants

- Three core model updates + open discussion (~45 min total)
- Participation from CRTM, RTTOV, ARMS developers and users
- Focused on fast RTM architecture, validation, and consistency

Model Highlights

- CRTM: v3.x updates with netCDF, ARTS scattering, CAMELv3 support, added support for visible reflectance simulation in all-sky conditions
- RTTOV: v14 release with modular interface, scattering options, TL/AD consistency
- ARMS: MW-focused architecture, CAMELv3 integration, AI speed-up explorations

Technical Topics Discussed

- Need for consistent SRF handling across all fast models
- Scattering models: consistency in phase functions and mixed-phase handling
- Validation under cloud/aerosol scenarios
- Analytic Jacobians & use of NN surrogates (emissivity, RT)

Key Outcomes & Actions

- Initiate intercomparison with shared test profiles (via RTSP working group)
- Promote use of CAMELv3 and shared input datasets
- Encourage building a shared repository for test cases and validation data