

# Subgroup for Radiative Transfer and Surface Property Models

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Louis Garand (MSC), Paul van Delst (JCSDA)

# RTSP-WG

## Action Items from ITSC-15

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- 24 action items from ITSC-15.
- All but two addressed/completed.
  - IASI balloon instrument data
  - Incorporation of PROSPECT model in CRTM
- Some parts of items partially completed.
- Web page updates have been submitted.

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## Action Item Summary

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- Profile datasets
  - 1) 83 profile, 101 level ECWMF data.
  - 2) 396 profile, 71 level COSPAR data.
  
- Instrument characteristics
  - 3) Inquire on the availability of the IASI balloon instrument ISRF data. This information should become available from CNES. **Incomplete.**
  - 4) MetOp instrument data.
    - In general, instrument data is difficult to track down; links expire, or the data is not relevant (e.g. spec rather than measured), or in a strange/different format. Frequency information for microwave instruments are especially difficult to obtain.
    - Recommend setting up a more formal “clearing house” for IR SRF and MW frequency information. Standard format?

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## Action Item Summary

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- Line-by-line modeling
  - 6) Marco Matricardi's LBL model comparison report.
- Fast RT Modeling
  - 7) Level-to-layer conversion methodologies. Some software added, but no TL/AD yet. This aspect needs attention, in particular the inverse problem.
    - Consider a community repository for utility software? SourceForge-like? (subject to the various licensing schemes of contributor organisations)
  - 8) Rochon et.al.(2007) vertical interpolator information. Standalone code to be added post-ITSC-16.
  - 9) Links for cloud/aerosol optical property data added. CRTM-related only. Request input from wider community.
    - Again: "clearing house" for this data? Common format?
  - 10) Initial report on CRTM/PCRTM comparison.
  - 11) Yong Han's Zeeman model available online.

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## Action Item Summary

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- Surface Property Modeling
  - 12) Emissivity data source via NWP-SAF link.
  - 13) Global comparisons of LST. **In Progress.**
  - 14) Feasibility of incorporating PROSPECT emissivity model in CRTM. **Incomplete.**
  - 15) AIRS Science Team emissivity retrieval presentations.
  - 16) NWP surface emissivity definitions.
    - Essentially, all centres used standard codes for ocean IR+MW emissivity. See RTSP-12 for land.
  - 17) LMD surface emissivity database access. **In Progress.**
  - 18) Soil type database for emissivity modeling.
  - 19) JCSDA snow emissivity research.

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## Action Item Summary

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- Model Intercomparisons
  - 20) CompactOPTRAN/RTTOV transmittance model comparison in CRTM.
  - 21) Una O'Keefe's RRTOV/DOTLRT comparison.
  - 22) Datasets for cloud/scattering RT model input. Link to Satellite Atmospheric Science Group project at Luleå University of Technology.
- Validation Datasets
  - 23) Nicole Jacquinet provided information on validation datasets. Needs to be updated for latest field experiments.
  - 24) Link to EAQUATE website at BADC.