Subgroup for Radiative Transfer and Surface Property Models

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Action Items from ITSC-15

- 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.
RTSP-WG
Action Item Summary

• 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?
• **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)
  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

• Surface Property Modeling
  12) Emissivity data source via NWP-SAIF 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

• 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 Jacquinot provided information on validation datasets. Needs to be updated for latest field experiments.
  24) Link to EAQUATE website at BADC.