



CRTM Working Group Report



Role of CRTM Working Group

Role of CRTM Working Group and how it should evolve:

Haven't had a WG meeting in 1 year. Should we have regular WG meetings?

- Meetings not efficient, disrupts work
- The group is small enough so that it is more efficient to talk directly with individual partners
- Partners find they have enough interaction with CRTM development staff through direct communication
- A teleconference could be used when there's a specific problem that needs discussion
- Partners who are coding should commit code to the repository more often



CRTM User Communication/Testing

How do we communicate with CRTM users outside of the “core” JCSDA investigators?

- Answering user problems is very time consuming.
- CRTM now has a Support Email for fielding user questions
- User support could be moved to DTC?
 - How to have DTC handle user support?
 - CRTM developer group still in loop, but questions are fielded by DTC support staff

That question leads to one where DTC tests the CRTM.

- DTC to do testing of CRTM releases? (like Community GSI)



Feedback from Community (What we have so far)



Ultraviolet sensors

- Use LBLRTM for UV
- Aerosol optical properties for UV
- Need instrument parameters for UV instruments (SBUV, OMI, OMPS, GOME)
- Need community to give instrument parameters to CRTM developers

Limb Sounding

- Radiative transfer for Limb Sounding?
- Assimilate Limb Sounder radiances or retrievals?



How do we rate CRTM activities?

- Keep funding spectroscopy work
 - methane line overlapping
 - profile set for other trace gases (CO₂, NO_x, SO₂, CFC, etc)
 - Improvements in LBL codes
 - Solar irradiance: switch from Kurucz to Fontenla (available from AER website)
- Keep funding CRTM validation studies



CRTM Validation

- Validation with AIRS profiles (Ping Yang)
- Future validation with MODIS
- Field validation, with in-situ data
 - Collocation of in-situ data with AIRS, etc
- Use of NCEP & ECMWF profiles don't have cloud contamination
- Also validate visible channels (MODIS, ABI)?
 - Yes, users will benefit from knowing CRTM accuracy in visible
- Validate CRTM Jacobians



OSS



- Update current OSS implementation with new version
- Speed issue
- Already have forward and Jacobian models
- Need tangent linear and adjoint models



Workshop Feedback

- Workshop is productive to meet and discuss issues with the JCSDA partners
- Get input from CRTM users on data assimilation performance
- Anyone have comments/feedback on CRTM v2.0? More feedback would be helpful.
 - How do users give feedback? Website?
 - Action Item: Add CRTM feedback option to STAR website



Recommendations to JCSDA Management



- Include half-day CRTM user training in JCSDA Summer Course