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Monthly report / November 2009

WP 4210: Verification

Raman scattering:

The verification as planned in the verification plan has been finished. The agreement between the uvspec implementation of rotational Raman scattering and earlier published results is overall very good. Some discrepancies are noted for optically very thin clouds.

Polarization, spherical geometry and refraction:

The intercomparison study for models that handle polarization in spherical geometry is still in progress. The study is beyond the scope of ESASLight and results will not be available until PM7 (delivery of verification report) because several groups take part and it takes time until everybody has delivered the results.

The model intercomparison study for polarized radiative transfer in plane-parallel media with Rayleigh, aerosol, and cloud scattering is finished and a manuscript about it has been submitted to JQSRT.

All cases proposed in the verification plan have been finished.

Test suite:

A first version of test suite B is running on the office cluster at LMU. This test suite runs a large number of tests (currently 110, will be extended) and compares the results to pre-calculated results from a stable libRadtran version. The test suite runs continuously always using the most recent development version of libRadtran, thus allowing to rapidly discover undesired changes and bugs and to eliminate them as quickly as possible.

Status: ongoing

WP 4220: Verification report

The verification report is (D10) currently being written. All test cases that have been proposed in the verification plan have been finished. Some additional tests have been performed and will be added to the verification report:

- Polarization: Comparison against benchmark results by deHaan (1987), inhomogeneous atmosphere)
- Surface: Verification of polarized reflection (water BPDF)

Status: ongoing

WP 5000: Documentation

Writing of final ATBDs (D11) in progress.

Several new examples have been added, in particular one for Raman scattering and one for polarized radiative transfer in MYSTIC.

The document describing the libRadtran solvers (D13) is in writing.

Status: ongoing

WP6000: Recommendations

A first version of the "Recommendations for future development of libRadtran" (D15) has been delivered for discussion.

Status: ongoing

The documents D10-D15 will be delivered by the end of the week (11th of December) and are to be discussed at the progress meeting PM7 (17th of December 2009, LMU Munich).