

4th workshop on assimilating satellite cloud and precipitation observations for NWP



Contribution ID: 54

Type: **Poster presentation**

Development of an active sensor module for the RTTOV-SCATT radiative transfer simulator

Active microwave sensors are becoming widely used observations within the Numerical Weather Prediction community, either for validating model forecasts or for assimilation purposes. Like for the forward simulation of passive microwave observations, radar data simulations require to make assumptions on the scattering properties of hydrometeors. With the objective of simulating both active and passive microwave instruments within a single framework using the same radiative transfer assumptions into a widely-used tool in the NWP community, an active sensor module is currently under development within the RTTOV-SCATT software. The first simulations of the Cloudsat/CPR instrument with this simulator will be shown, based on the ARPEGE global model running operationally at Météo-France. In particular, the usefulness of specifying profiles of hydrometeor fractions within the observation operator will be discussed. Then, an inter-comparison of Cloudsat observations with cloud forecasts from two versions of the ARPEGE model using two different convection schemes will be shown.

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Session Classification: Poster session with self-serve tea and coffee

Track Classification: 4th workshop on assimilating satellite cloud and precipitation observations for NWP