

Comments to the quality flag information in the HATPRO Microwave Radiometer Dataset

The microwave radiometer *Humidity And Temperature PROfiler (HATPRO)* provides in addition to liquid water path (LWP) and integrated water vapour (IWV) also a data quality information. The quality flag indicates for every time step if the data are trustful or not. When the flag is greater than zero the data should not be used for different reasons. A major reason is the occurrence of rain that causes scattering of microwave radiation which is not considered in the retrievals.

The Flag is a binary variable, so that different flags are additive. The meanings of the flags in this dataset are:

1. The rain sensor indicates rain
2. Manual post-processing revealed doubtful data which were not detected by automatic quality check procedures.
4. The channels in the oxygen absorption band fail
8. The brightness temperature thresholds are exceeded in the water vapour absorption band
16. The brightness temperature thresholds are exceeded in the oxygen absorption band

Unusually high values and also negative values are not deleted in the dataset. When no flag is set all retrieved values are within a reasonable error range (IWV < 1 kg/m², LWP < 30 g/m²)

In the case of further question please contact:

bernhard.pospichal@uni-leipzig.de or
macke@tropos.de