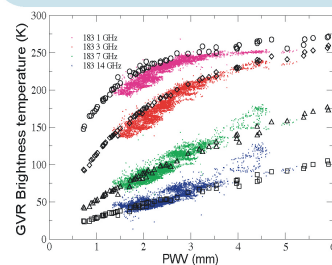


1. GVR: 183.3-GHz Radiometer

Operating Frequencies: 183.3 ± 1, 183.3 ± 3, 183.3 ± 7, and 183.3 ± 14 GHz.

Sensitivity: Low amounts of precipitable water vapor (PWV < 5 mm).
Low amounts of liquid water (LWP < 50 g/m²).

Retrieval: Non-Linear physical retrieval. Computationally intensive + temperature profile needed

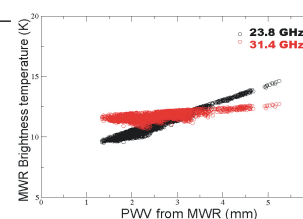


2. MWR: 22.8 and 31.4-GHz

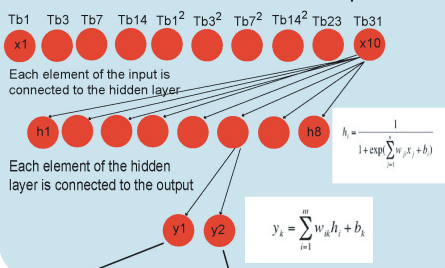
Operating Frequencies: 22.8 and 31.4 GHz.

Sensitivity: Precipitable water vapor and liquid water. Higher retrieval accuracy for PWV > 3 mm and LWP > 50 g/m²

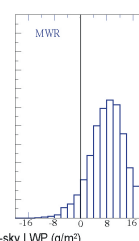
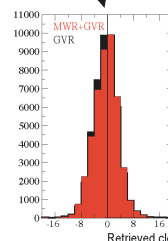
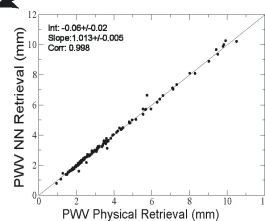
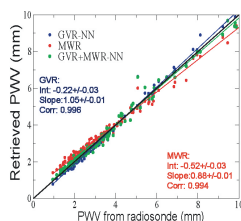
Retrieval: Linear Statistical



3. Neural Network



4. Retrieval results



5. Conclusions and future work

- Neural-network retrievals can be used to combine measurements from multiple instruments
- When combining GVR and MWR measurements, the MWR does not contribute significantly to the retrieval
- GVR preliminary NN retrievals are in good agreement with results of the physical retrieval and with radiosonde measurements.
- We plan to include 90/150-GHz measurements to improve LWP retrievals