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Fiducial Reference Measurements for Greenhouse Gases (FRM4GHG)

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Abstract

TCCON is the reference measurement network for ground based remote sensing of greenhouse gas measurements, widely used e.g. for validating satellite measurements. TCCON sites are expensive, not portable and difficult to set up in remote places. For a possible supplement of TCCON, a campaign (ESA project FRM4GHG) has been performed at Sodankylä, Finland, where a selection of instruments has been installed beside the existing TCCON site. The IUP contributes to the campaign with a Bruker Vertex 70.

The FRM4GHG campaign started early in 2017, measurements have been performed from April to October 2017 and are ongoing. The results from the different instruments have been compared to the TCCON measurements and have assessed in stability and accuracy. Results of the different instruments will be discussed. As example, the measurements of the Vertex 70 could be significantly improved during this campaign and show a very good agreement to the TCCON measurements.