



National Physical Laboratory

GRUAN ICM-8 Scheduling Task Team Summary

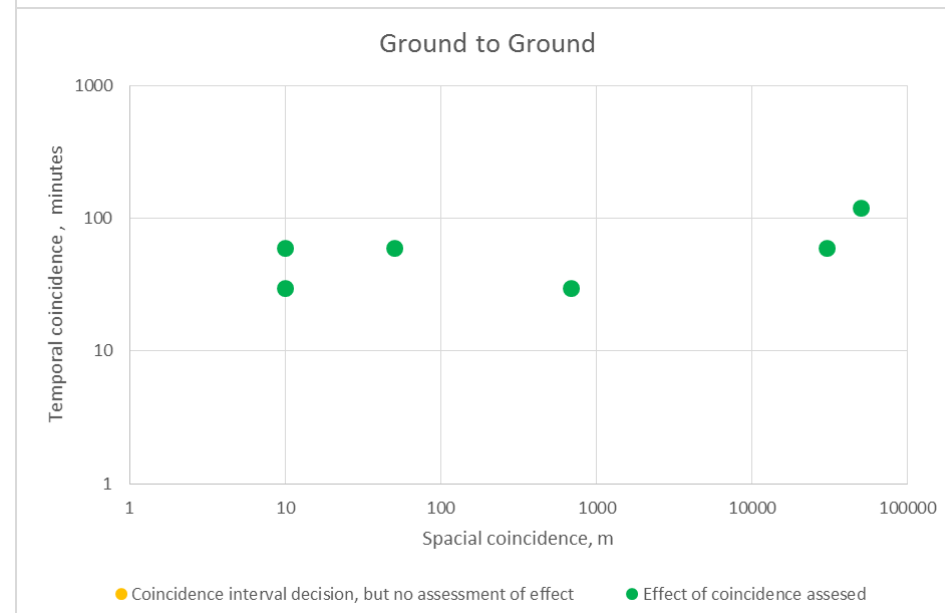
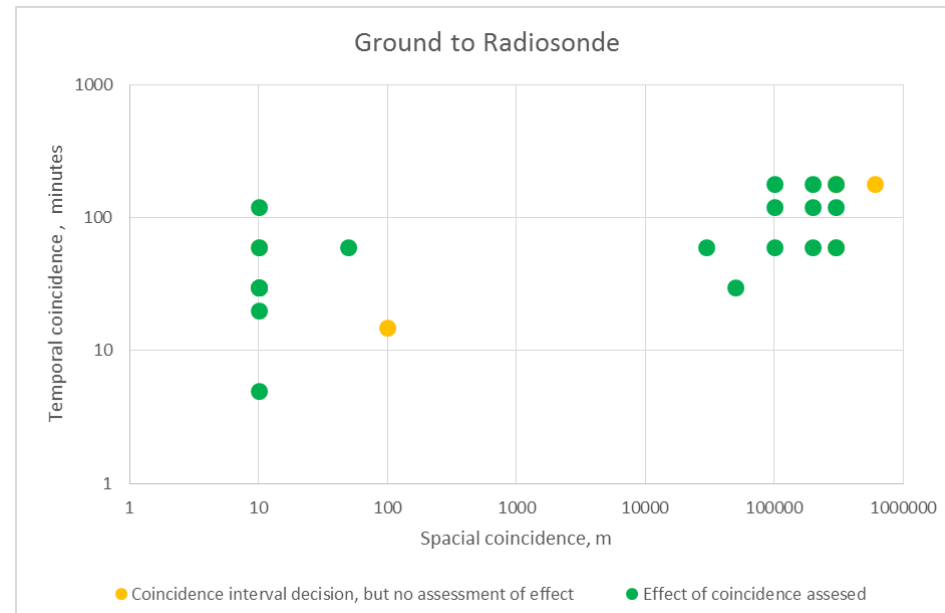
Tom Gardiner and Dave Whiteman

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Diamond, Rigel Kivi

Boulder, 25th April, 2016

Summary of activities

- Work on lower stratospheric water vapour trend detection currently on hold until more information is available on the causes of the on-going disagreement between balloon-borne frostpoint hygrometer (FPH) results and satellite data from the Microwave Limb Sounder (MLS).
- Review of peer-reviewed literature (~40 papers) covering coincidence criteria and uncertainty between ground-based, sonde and satellite measurement methods. Plan to publish as a GRUAN Technical Note.

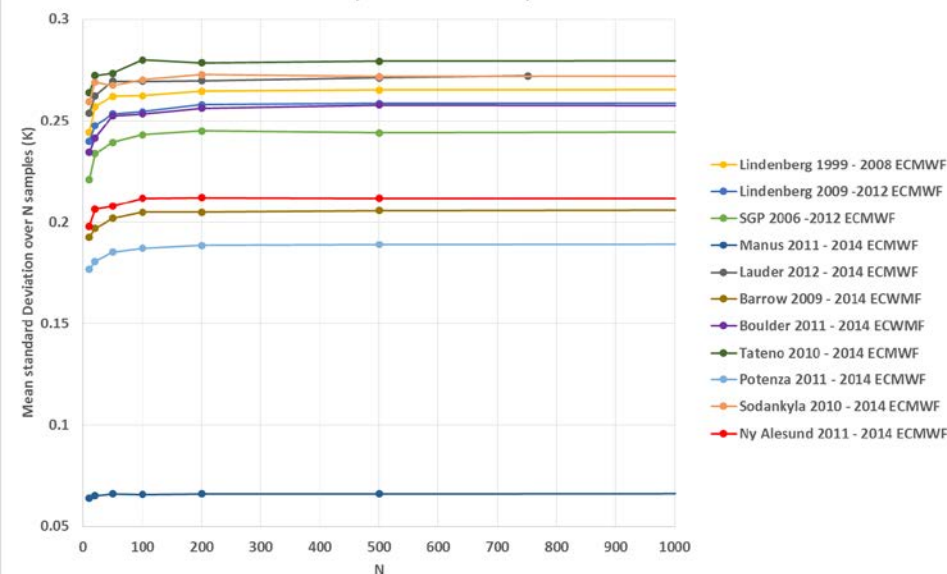


Summary of activities

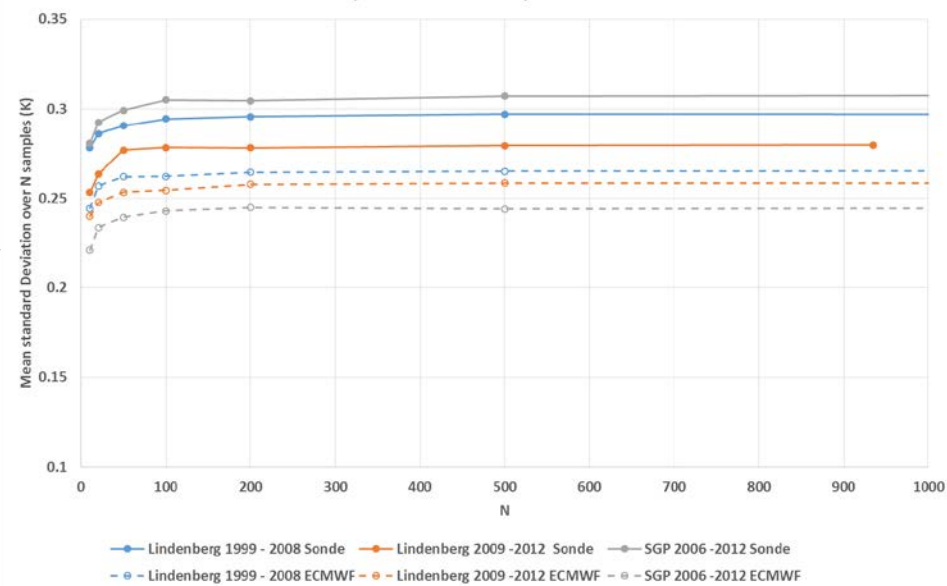
- On going work on extending uncertainty in sonde temperature measurements due to temporal mismatch (*Butterfield, D. and Gardiner, T; AMT; 2015*) to other GRUAN sites based on ECMWF reanalysis data. Also looking at water vapour mismatch uncertainties.

Comparison between measured and modelled tropospheric variability

Variability as a function of sample number at 5 km



Variability as a function of sample number at 5 km



Variation in tropospheric variability across sites