Lindenberg site report

➔ GRUAN operational program
➔ GRUAN data processing
➔ GRUAN research
Lindenberg - GRUAN operational program

- Daily radiosoundings (4x), with GC and 100% pot U and T check + GRUAN protocol using GRUAN Launch client - since 1. February 2011
  - Reference measurements (T,U) at launch site (Thygan + HMP)

- Weekly Ozone sonde (Vaisala RS92 + Science-Pump 6a ECC)

- Research (since September 2010)
  - CFH ( + ECC + COBALD )
    - 1 monthly since 1.9.2009
    - from March 2011: 2 x monthly, one day and one night
    - Instruments are recovered (using locator + forecast)
  - RS92FN once weekly, GDB, no GRUAN processing available
  - 1 weekly dual launch (starting this year)
Following recommendation from TT1 this might be changed to a 97%-pot using $\text{K}_2\text{SO}_4$. 

100 % pot
Ancilliary measurements

- MW GPS is available
- Lidar (measuring during CFH-COBALD launches)
- Ceilometers, Cloud radar, etc
- BSRN radiation
- Sun and star photometer (Aerosol water vapor)
GRUAN data processing in Lindenberg

- RS92 data product GRUAN: T, U wind. Starting operationally all GRUAN sites bets testing
- CFH stratospheric and tropospheric humidity (uncertainty estimation is pending)

- Ancilliary processing tools:
  - Radiosonde trajectory forecast (->ETH paper)
  - Intercomparison and validation tools (RS - GPS, RS92 - CFH)
Radiation effect on Temperature sensor (RS92, Graw DFM-06/9, Intermet) and humidity sensor (RS92) determined in lab.

Climate chamber for testing/ calibrating humidity sensors ( CFH, RS92, WVSS)

MTR Campaign in Nov 2010
  • Balloon wake and contamination effect.
  • Temperature reference

FLASH -B, test of RS92 version, October 2010

Cloud and aerosol detection, COBALD, other options are tested.
  • Detection of supercooled liquid clouds important in routine sounding.
MTR campaign
Plans and perspectives

➔ Reprocess radiosonde (RS92) data from 2004
➔ Level 3 dataproduct: RS92 + CFH + GPS consistent H2O Profile.