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Standard Humidity Chamber (SHC)

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- Create a stable reference environment to get pre-flight info on RH uncertainty (traceability)
- Elementary GRUAN-tool for independent ground-check
- 18 GRUAN sites employ SHC



➤ Instructive example:

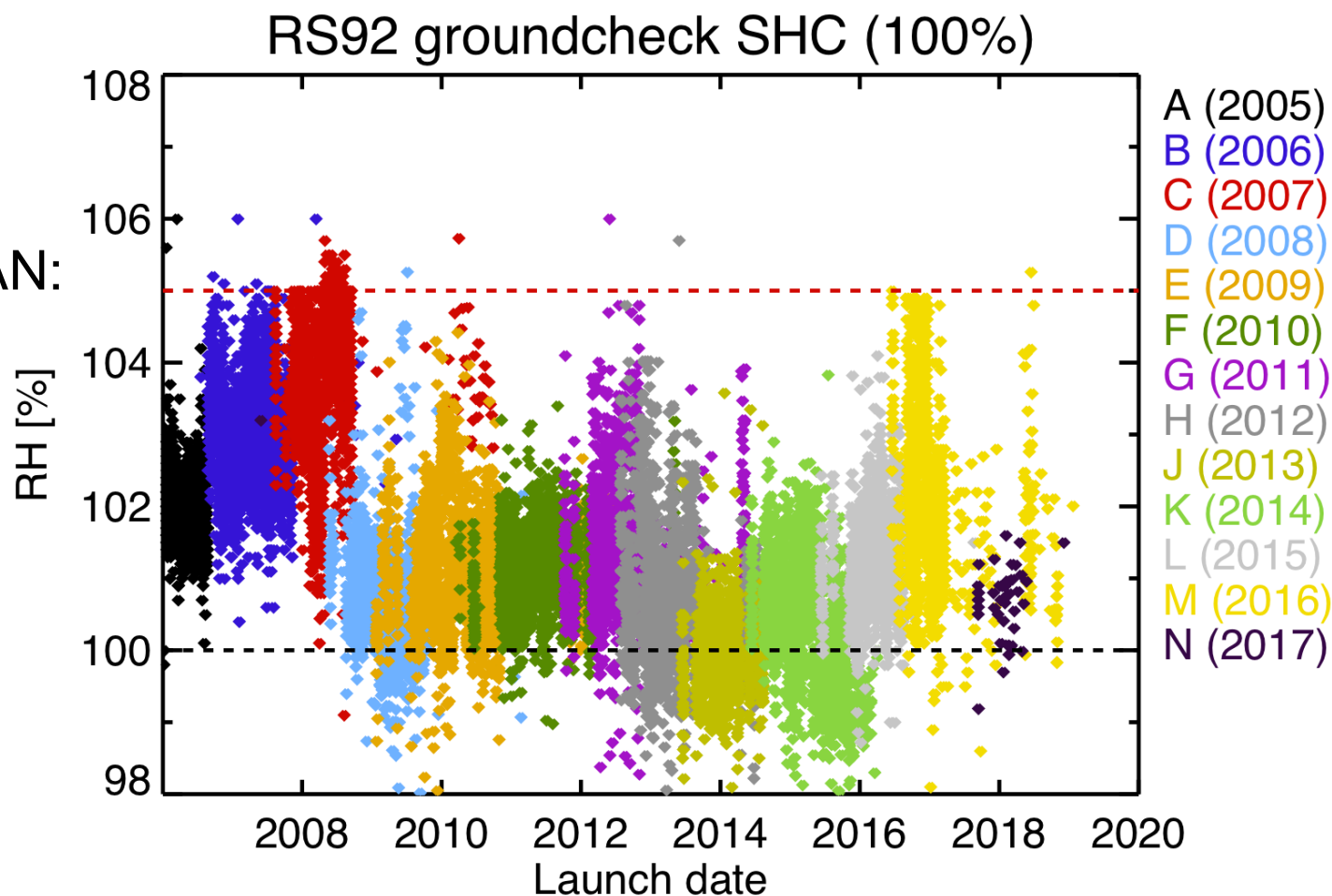
- Independent check of calibration
- Production stability
- Production changes
- Drift detection

➤ Current use in GRUAN:

- Pre-flight check
- Additional uncertainty estimate of RH in RS41-GDP.1

➤ Extended:

- Characterisation of RS (5 - 6 RH levels)
- UAI2022



Activities:

- **Paper** to justify the use of the SHC in terms of the data quality and the benefits and including need for standardisation of operating procedures.
- **TN** to describe procedural requirements (e.g. operational procedure; quality of the applied references in the SHC).
- Complete TN and submit paper.

initiated

not started

not done

Responsibility:

- Richard Querel, David Smyth, TT-sites, Lead Centre

- Extensive use during WMO radiosounding campaign 2022
- Pre-flight ground check of all participant sondes using SHC (100 %RH)
- Intensive calibration check using 6 SHCs (0, 11, 33, 75, 96, 100 %RH)



- Lead author(s) → ??? → e.g. Ruud, (Michael)
- Co-authors → ???
- Topic and goal → Laboratory characterisation and operational pre-flight check of calibration of humidity sensors of radiosondes – benefits to long-term measurements
- Scope and structure → SHC description, lab experiments, long-term pre-flight GC, issues, results, benefits, ...
- Time schedule
 - define scope and structure
 - robust analysis of data
 - writing... (with contributions from co-authors)
 - internal review... (all authors+)
 - submit before end of 2023

- Lead author(s) → ??? → e.g. Michael, (Ruud)
- Co-authors → ???
- Topic and goal → Usage of SHC in GRUAN operational manual soundings and suggestions for application in autolaunchers
- Scope and structure → SHC description, operational procedures, requirements, experience, examples, benefit, ...
- Time schedule
 - define scope and structure
 - writing... (with contributions from co-authors)
 - internal review... (all authors+)
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- Finally determine → Lead authors of paper and TN
- Search & find → two team of authors (maybe overlapping)
- New schedule date(s) → end of **2023**

ICM-14

End of 2022

Thank you for your attention.