WP3 Task 3: Advanced data quality-check tools from station operation to data submission

3.3.1 Quality assurance / closure studies for particle number concentration measured by mobility spectrometers (*Wiedensohler*)

3.3.2 Closure studies for particle light scattering coefficient (*Fiebig*)

Mature automatic QA/QC checks for incoming VOC and NOx data. (*Reimann*)

Reactive trace gases consistency checks, using trace gas ratio and chemical concepts (*Reimann*)

3.3.3 Development and implementation of automatic and interactive sanity and consistency checks for in situ surface-based data submission (*Fjæraa*)

"3.3.4" Increasing the number of NRT stations and instruments (*Fiebig*)

Online Checks For Incoming (NRT) Data: Current Status

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Online Outlier Check for Incoming Data

- Original plan: online check of VOC concentration ratios – proves difficult to specify.
- Plan B: implement outlier check for data submitted via submission portal
- Check will be based on comparison with running percentiles.
- Outliers found will need to be flagged valid (flag 110 - Episode data checked and accepted by data originator) or removed as invalid for file to be accepted.
- Fine-tuning threshold for outliers will be based on feedback from submitters.

BUT:

- How do we proceed with online check of VOC ratios?

Closure studies for particle light scattering coefficient

- Slowly degrading instrument performance often difficult to diagnose.
- Closure of scattering coefficient between nephelometer measurement and calculation from size distribution can help to diagnose instrument performance.
- Focus on NRT submissions, option for use on regular (annual) data submissions.
- Additional incentive to participate in NRT programme

Elaborate implementation options:

- Conditions at stations (observed size ranges, occurrence of coarse-mode particles) too heterogeneous to set strict thresholds for alerts.
- Instead, users receive weekly scatter plot of scattering coefficient measured over calculated from MPSS.