

Intercomparison of Condensation Particle Counter

Project No.: CPC-2016-3-4

Basic information:

Location of the quality assurance: TROPOS, lab: 130

Delivery date: -

Setup in the laboratory: April 26, 2016

Comparison period: April 26, 2016

| Principal Investigator | Home Institution | Participant | Instrument |
|------------------------|---|-------------|--|
| Markus Wallasch | UBA Wörlitzer Platz1 06844 Dessau-Roßlau GERMANY | - | DE-UBA TROPOS MPSS Schauinsland TSI CPC Model 3772 # 70738095 |

TROPOS Reference Instrument: Electrometer: TSI model 3068B
#3068133002
Last calibration in April 2016

Additional Equipment:

- Bubble flow meter 'Gilibrator', Gilian (Sensidyne)

Summary of Intercomparison:

Pre-status:

The TSI CPC Model 3772 was in good condition.

Final status:

The TSI CPC Model 3772 passed the quality standards of ACTRIS and GAW.

On April 26, 2016, the DE-UBA TROPOS MPSS Schauinsland 3772 #70738095 participated in the TROPOS ACTRIS-2 CPC-Workshop.

1. Status of the wick: The wick was not clean.
2. Status of the optics: Laser current was fine, optics needed to be cleaned.
3. General status of the CPC: The CPC was working properly. The counting efficiency at 40 nm was 95%.
4. Final CPC-Workshop: The TSI CPC Model 3772 reached 97% efficiency at 40 nm after being cleaned. The Dp50 is at 8.4 nm. The CPC efficiency curve corresponds to the standard.

pre-status: 26.04.2016

| Dp in nm | counting efficiency |
|----------|---------------------|
| 40 | 0.95 |
| 30 | 0.94 |
| 20 | 0.88 |
| 15 | 0.8 |
| 13 | 0.75 |
| 11 | 0.65 |
| 10 | 0.59 |
| 9 | 0.52 |
| 8 | 0.43 |
| 7 | 0.29 |
| 6 | 0.1 |

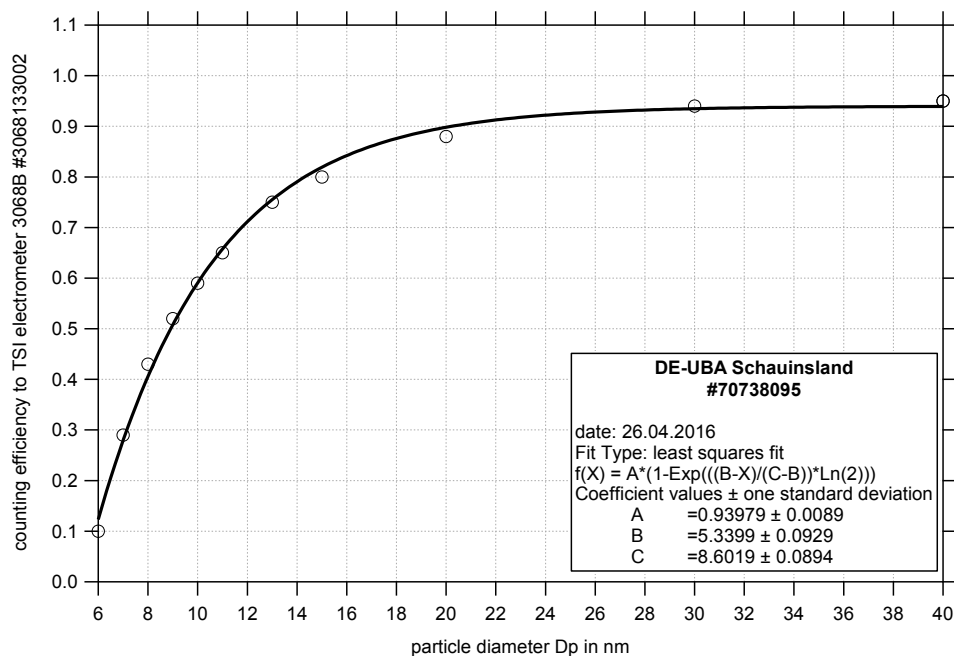


Figure 01: CPC efficiency curve (pre-status). Based on Electrometer TSI 3068B. Serial number: 3068133002

final status: 26.04.2016

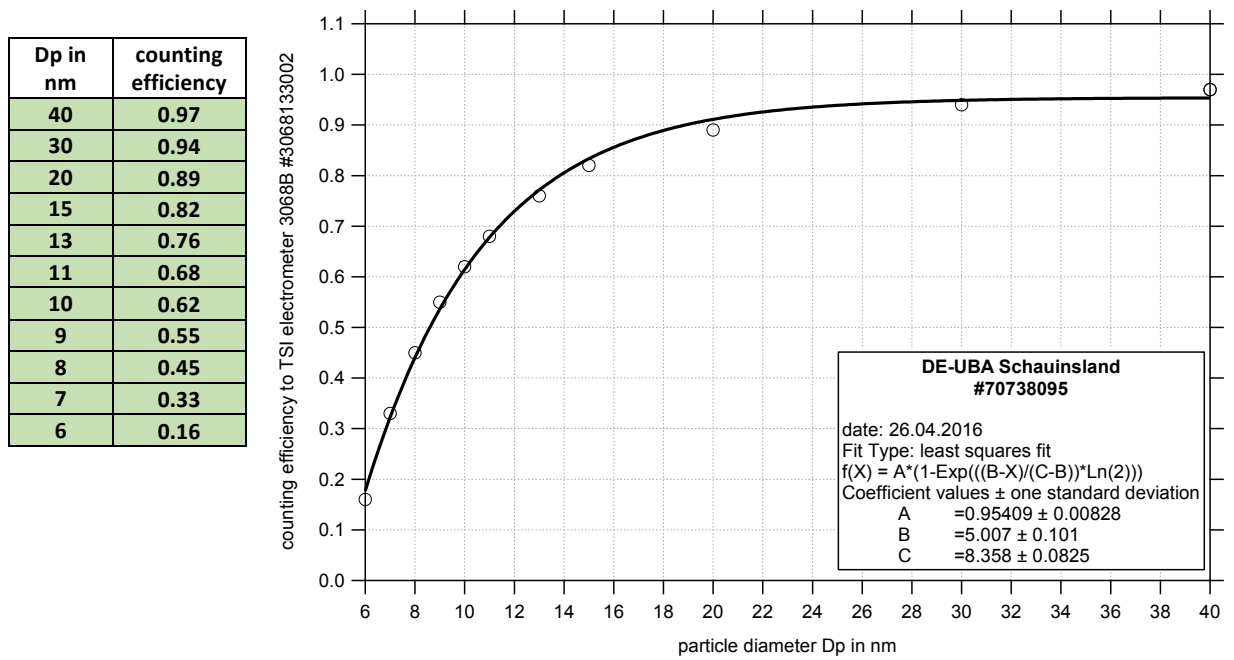


Figure 02: CPC efficiency curve. Based on Electrometer TSI 3068B. Serial number: 3068133002