

## Intercomparison of Condensation Particle Counter

Project No.: CPC-2016-3-8

### 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
Harald Flentje	DWD Albin-Schwaiger-Weg 10 D-82383 Hohenpeißenberg Germany	-	DE-DWD total CPC Hohenpeißenberg TSI CPC Model 3772 # 70838335

**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:**

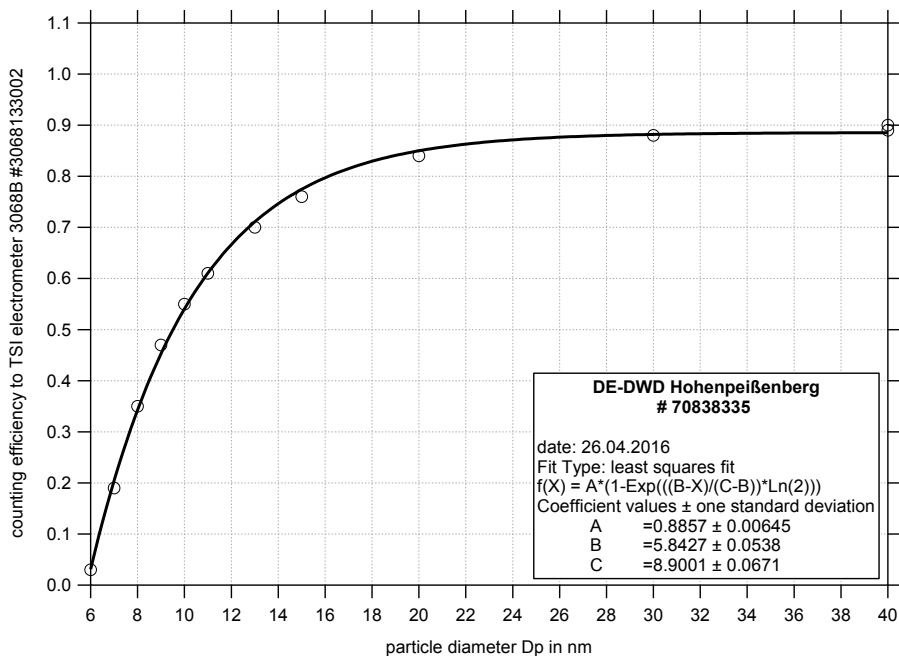
The TSI CPC Model 3772 passed the quality standards of ACTRIS and GAW.

On April 26, 2016, the DE-DWD total CPC Hohenpeißenberg 3772 #70838335 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, but the counting efficiency at 40 nm was only 90%.
4. Final CPC-Workshop: The TSI CPC Model 3772 reached 97% efficiency at 40 nm after being cleaned. The Dp50 is at 9.3 nm. The CPC efficiency curve corresponds to the standard.

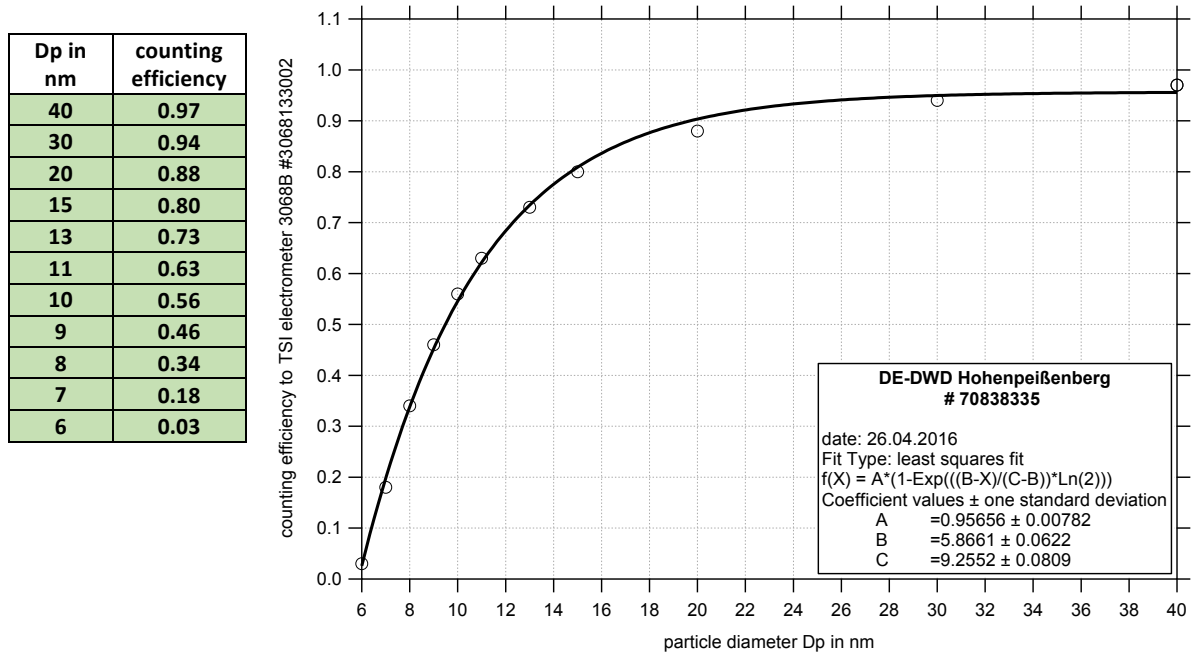
**pre-status: 26.04.2016**

Dp in nm	counting efficiency
40	0.90
30	0.88
20	0.84
15	0.76
13	0.7
11	0.61
10	0.55
9	0.47
8	0.35
7	0.19
6	0.03



**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: 70838596