Intercomparison of Condensation Particle Counter

Project No.: CPC-2016-4-10b

Basic information:

Location of the quality assurance: TROPOS, lab: 130

Delivery date: -

Setup in the laboratory: May 19, 2016

Comparison period: May 19, 2016

Principal Investigator	Home Institution	Participant	Instrument
A. Wiedensohler	Leibniz-Institut für Troposphärenforschung Permoserstraße 15 04318	-	DE-TROPOS_Referenz3772_SN71011008

TROPOS Reference Instrument: Electrometer: TSI model 3068B
70838596
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 May 19, 2016, the DE-TROPOS_Referenz3772_SN71011008 participated in the TROPOS ACTRIS-2 CPC-Workshop.

1. Status of the wick: The wick was clean.
2. Status of the CPC: The CPC was working properly.
3. Final CPC-Workshop: The TSI CPC Model 3772 reached 98% efficiency at 40 nm. The Dp50 for pulse output is at 8.7 nm. The CPC efficiency curve corresponds to the standard.

final-status: 19.05.2016

Status	DE-TROPOS_Referenz3772_SN71011008
T SAT	39,0
T CON	22,0
T OPT	40,0
T CAB	37,4
P AMB	100,0
P OR	76,3
P NO	2,5
LASER	52mA
LV	full

Dp in nm	counting efficiency (pulse output)	counting efficiency (serial output)
40	**0.98**	**0.92**
30	**0.97**	**0.92**
20	**0.92**	**0.88**
15	**0.85**	**0.81**
13	**0.80**	**0.76**
11	**0.70**	**0.66**
10	**0.63**	**0.59**
9	**0.52**	**0.50**
8	**0.39**	**0.37**
7	**0.23**	**0.22**
6	**0.98**	**0.92**

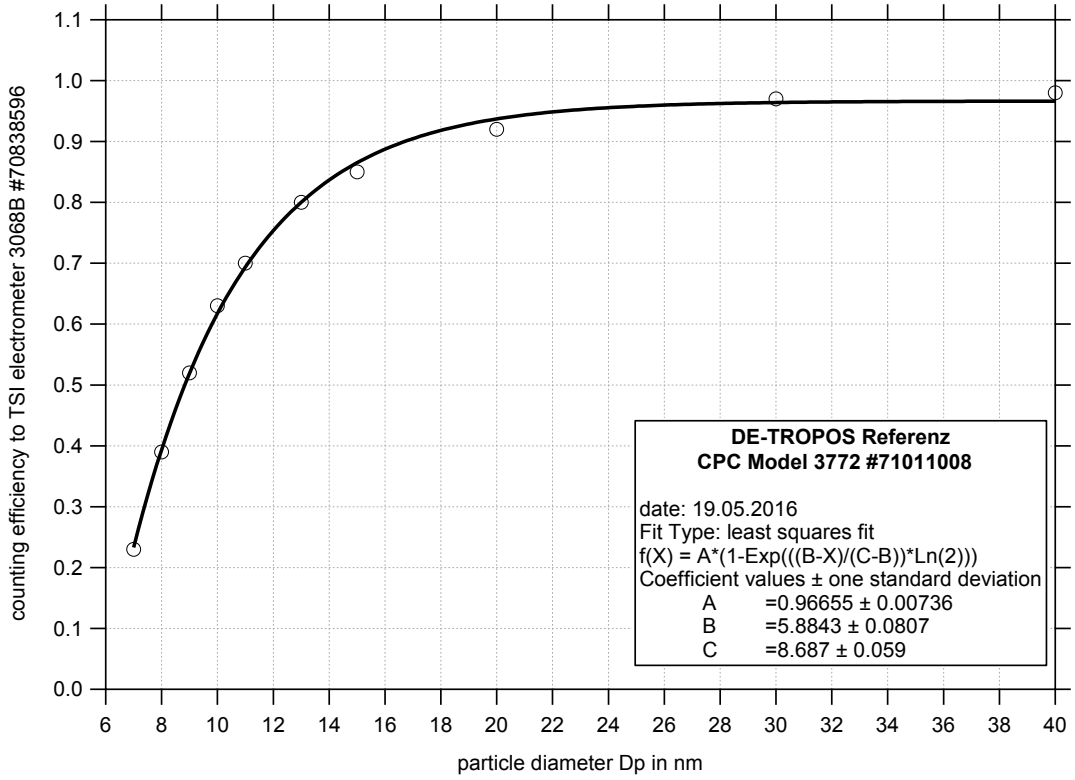

Figure 01: CPC efficiency curve (pulse output). Based on Electrometer TSI 3068B. Serial number: 70838596

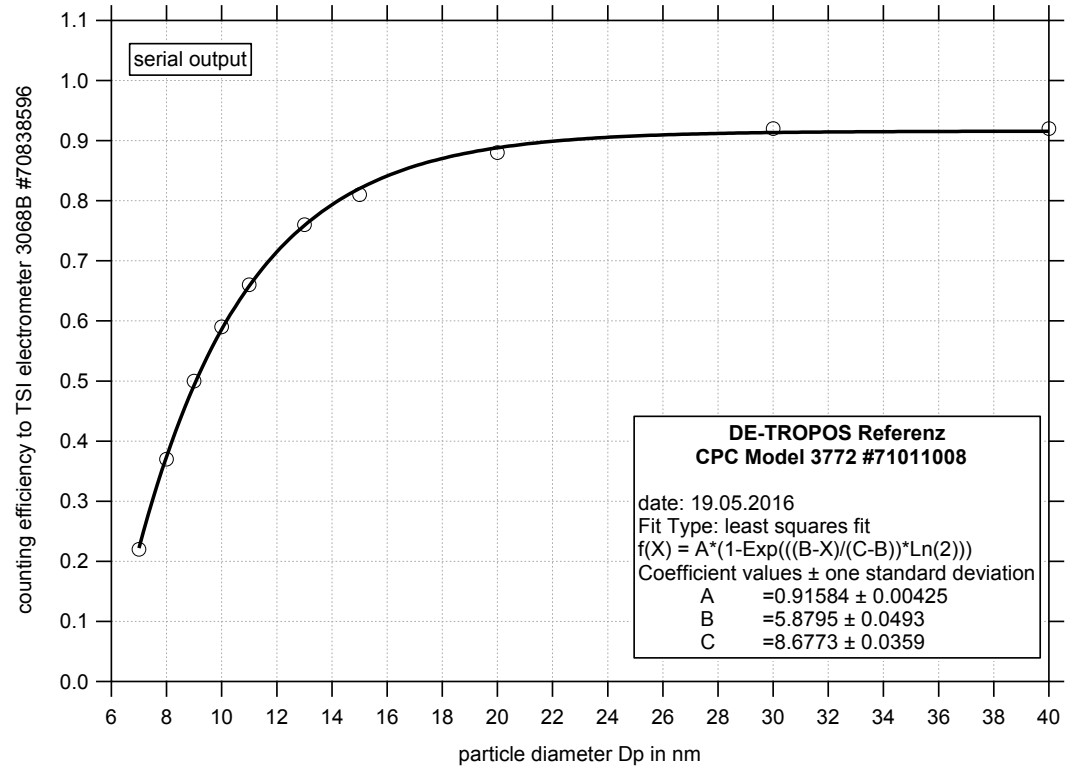

Figure 02: CPC efficiency curve (serial output). Based on Electrometer TSI 3068B. Serial number: 70838596

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

Kalibrierschein
Calibration Certificate

Gegenstand: *Object:*	Aerosol Elektrometer ID-Nummer: TSI_3068B_70838596
Hersteller: *Manufacturer:*	TSI Incorporated
Typ: *Type:*	3068B
Kennnummer: *Serial No.:*	70838596
Auftraggeber: *Applicant:*	AG 3.23 - Herr Nowak, Tel.: 3228
Anzahl der Seiten: *Number of pages:*	4
Geschäftszeichen: *Reference No.:*	PTB AG 2.11-1461323527-0327
Kalibrierzeichen: *Calibration mark:*	20790 PTB 16
Datum der Kalibrierung: *Date of calibration:*	22.04.2016

Im Auftrag:
On behalf of PTB:

Dr. B. Schumacher

Braunschweig, 04. Mai. 2016

Siegel
Seal

Im Auftrag:
On behalf of PTB:

C. Rohrig

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