

Intercomparison of Mobility Particle Size Spectrometers

Traceability TROPOS Reference MPSS No.1

Project No.: MPSS-2015-1-4

Basic information:

Location of the quality assurance:	TROPOS, lab: 118
Delivery date:	-
Setup in the laboratory:	September 22, 2015
Comparison period:	September 23, 2015 – September 24, 2015

Principal Investigator	Home Institution	Participant	Instrument
Alfred Wiedensohler	Leibniz Institute for Tropospheric Research, Permoserstraße 15 04318 Leipzig, Germany	Kay Weinhold	TROPOS Reference MPSS No.1 TSI CPC Model 3772 # 71011009

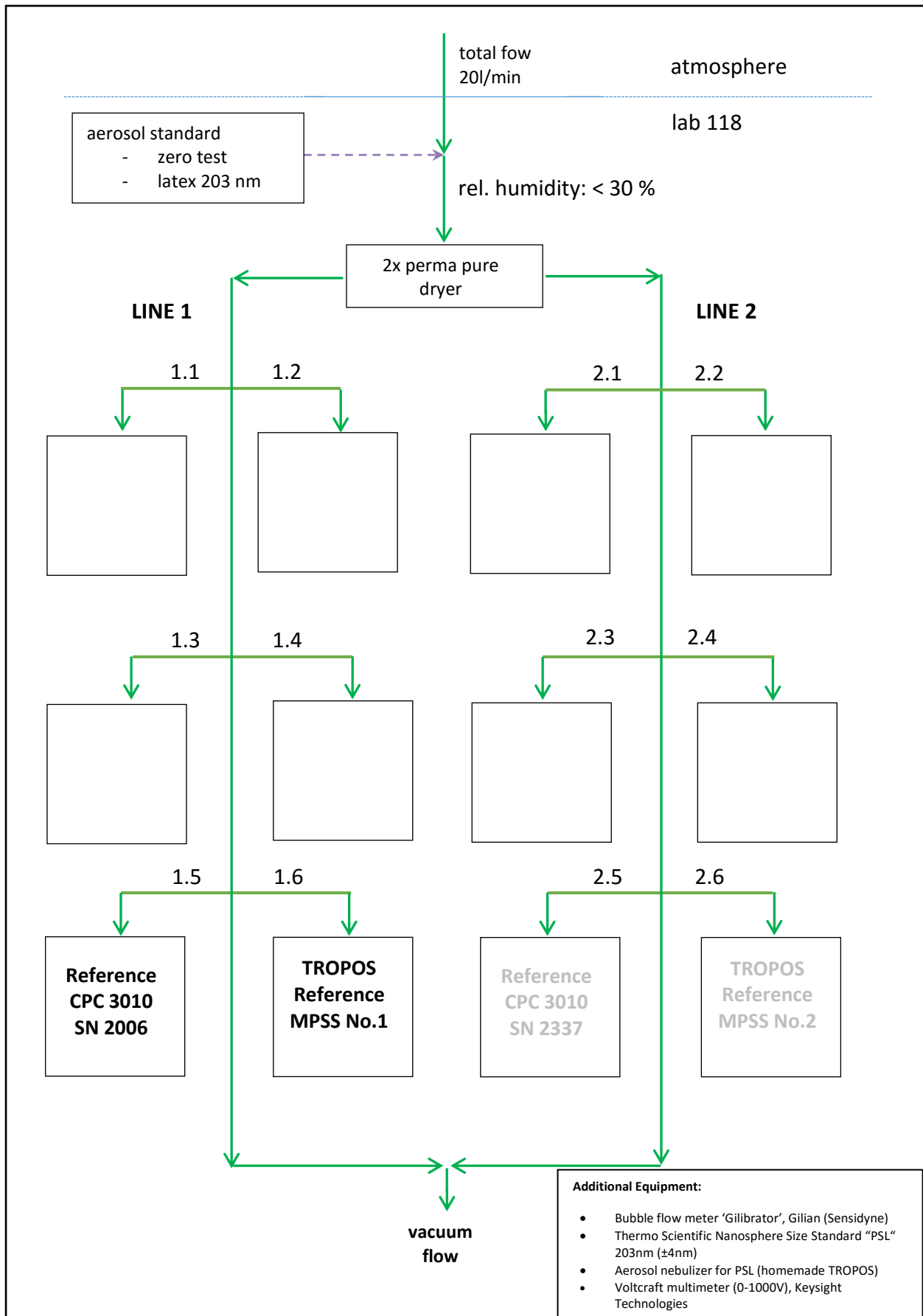
Summary of Intercomparison:

Final status:

The TROPOS Reference MPSS No.1 passed the quality standards of ACTRIS and GAW.

From September 23, 2015 to September 24, 2015, the TROPOS Reference-MPSS No.1 participated the TROPOS ACTRIS Workshop. Together the TROPOS Reference CPC 3010 #2006 is it part of the World Calibration Centre in Leibniz Institute for Tropospheric Research.

Laboratory setup



Latex 203 nm

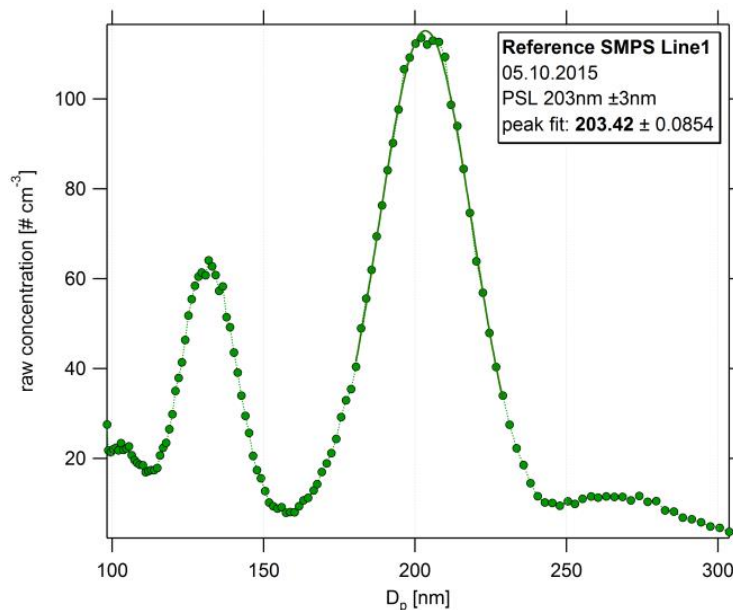


Figure 01: Measurement of latex 203 nm: Particle size distribution (raw concentration) for latex 203 nm on October 05, 2015.

Institut	System	Components	CPC Model + Serial No.	Line	Flow		Zero	
TROPOS	TROPOS Ref1	MPSS	3772 SN 71011009	1.6	1.040	l/min	0	# cm ⁻³
TROPOS		Reference CPC	3010 SN 2006	1.5	1.035	l/min	0	# cm ⁻³

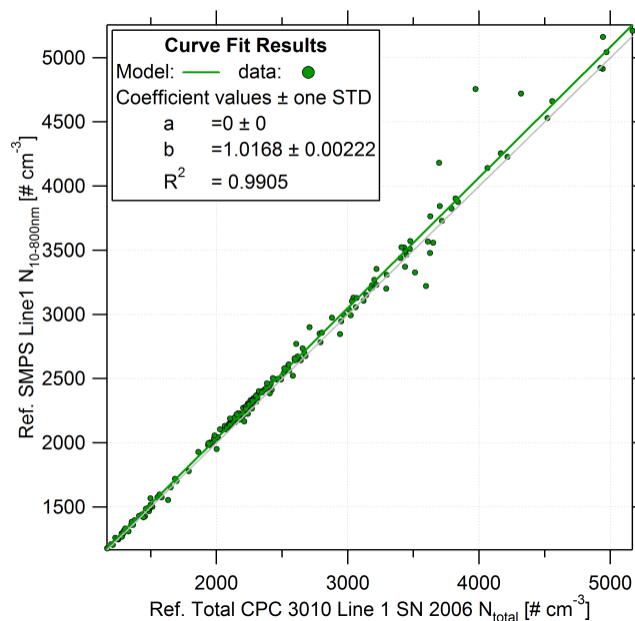


Figure 02: Correlations of the TROPOS Reference MPSS vs TROPOS Reference CPC Model TSI 3010. Multiple charge, internal diffusion loss and CPC flow corrections are included.

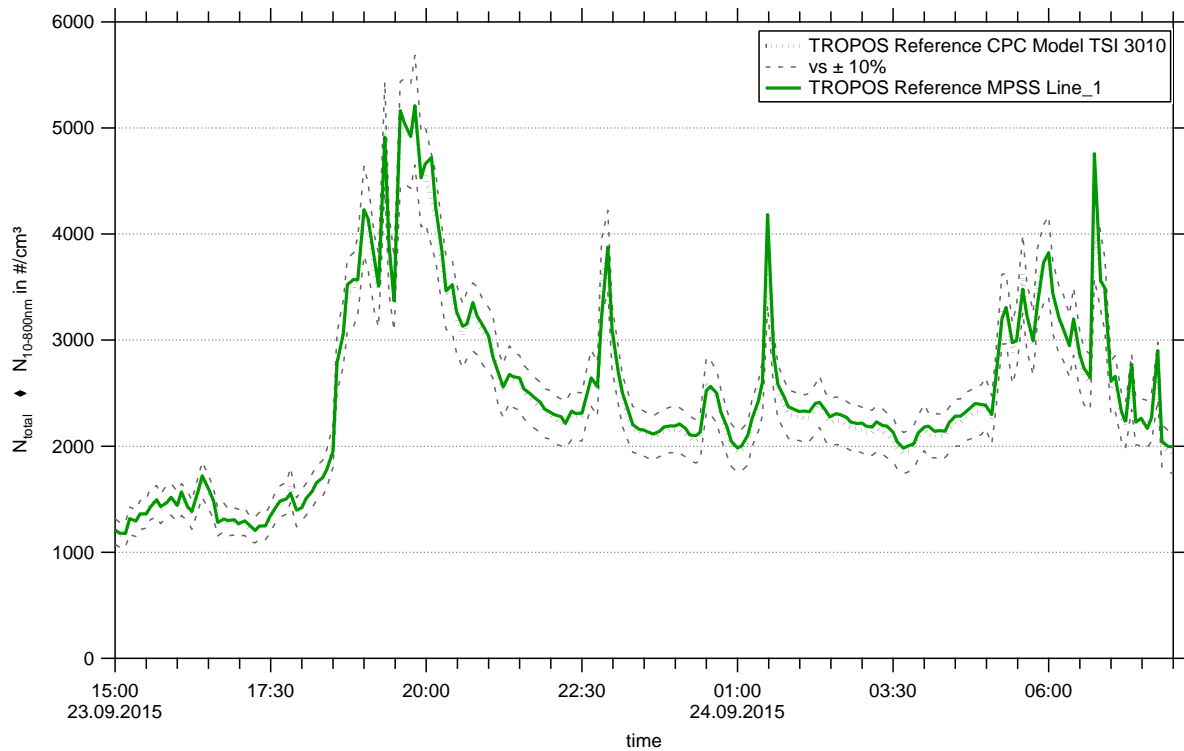


Figure 03: Intercomparison between TROPOS Reference CPC Model TSI 3010 vs TROPOS Reference MPSS No.1. The TROPOS Reference CPC Model TSI 3010 is calibrated against an Electrometer TSI 3068B #70838596. Multiple charge, internal diffusion loss and CPC flow corrections are included.