



Intercomparison of Mobility Particle Size Spectrometers

Project No.: MPSS-2020-4-6

Principal Investigator: Dr. Anke C. Nölscher

Home Institution: Atmosphärische Chemie
Universität Bayreuth

Participant: -

Candidate: MPSS Bayreuth_2
Made by: TROPOS
Counter (SN): TSI CPC 3750

Location of the quality assurance: TROPOS Leipzig, lab 118

Comparison period: December 04, 2020 – December 07, 2020

Last Intercomparison (with Project No.): -

PSL Scan: Latex 203 nm +/- 4 nm

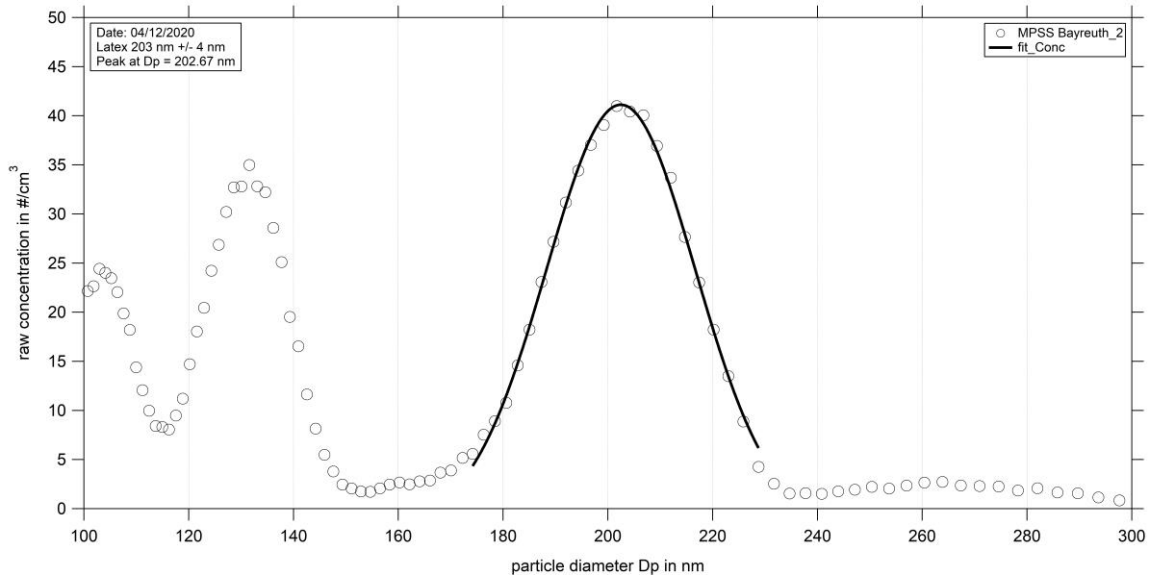


Figure 01: Measurement of latex 203 nm – MPSS Bayreuth_2: Particle size distribution of latex 203 nm on December 04th, 2020. The peak shows at 202.67nm.

Intercomparison between TROPOS Reference Instrument No. 1 and MPSS Bayreuth 2

04.12.2020 06:00 PM – 07.12.2020 06:00 AM

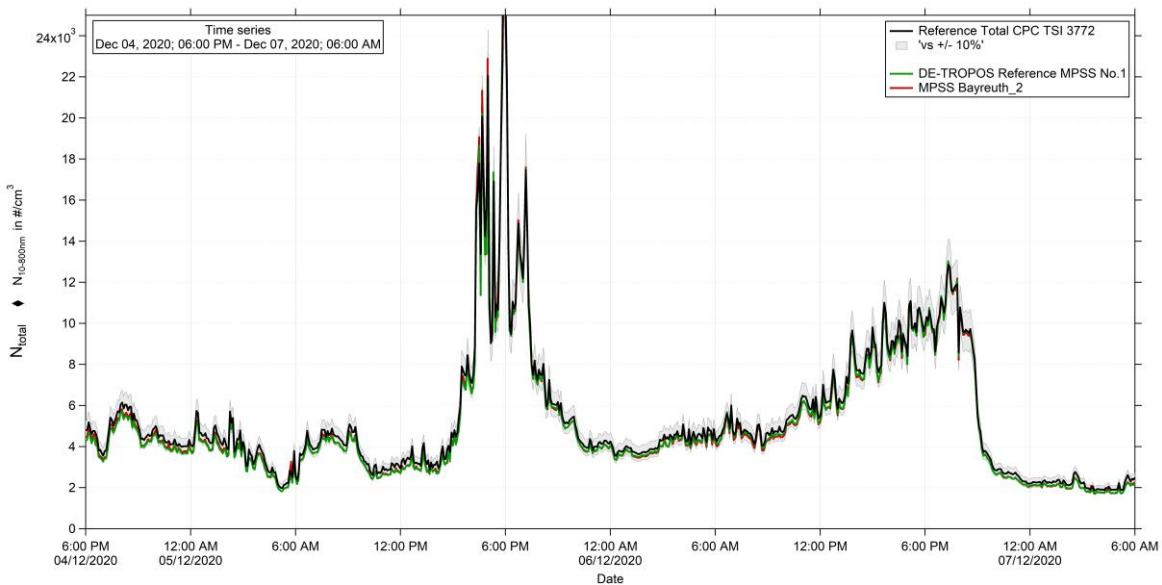


Figure 02: Time series (December 04, 2020 6 PM – December 07, 2020 6 AM) of the integrated particle number concentration ($N_{10-800nm}$) of the MPSS and total number concentration (N_{total}) of the Reference TSI-CPC Model 3772. Multiple charge correction, internal diffusion losses, CPC flow corrections. The candidate is running with a Kr.85 source.

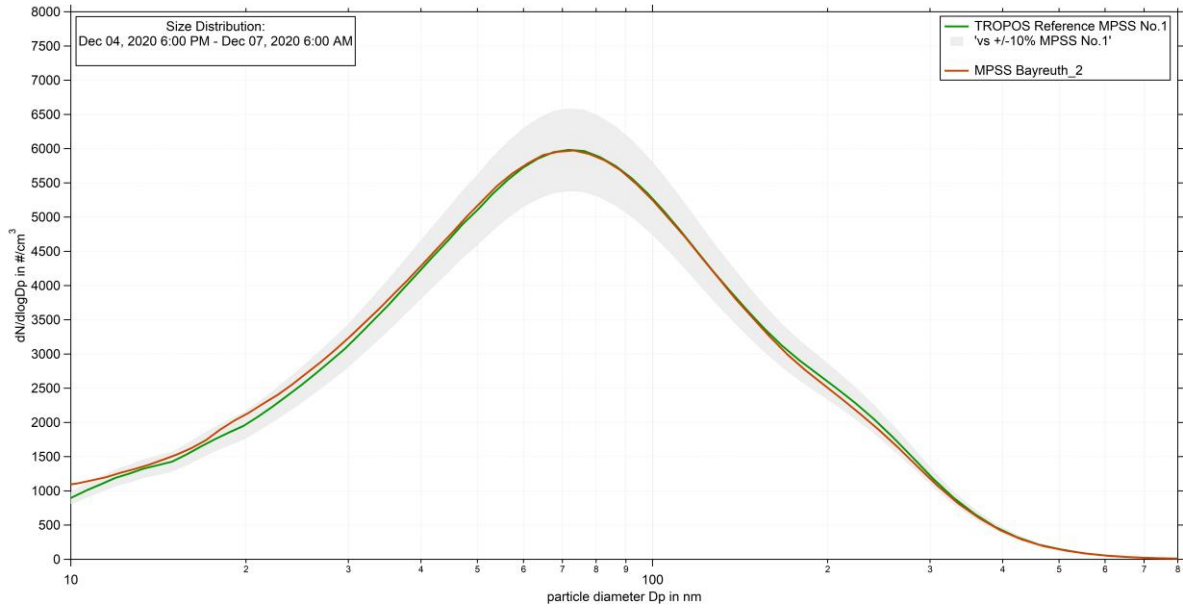


Figure 03: Particle size distribution for TROPOS Reference MPSS No.1 and MPSS Bayreuth_2, flow corrections, multiple charge correction and diffusion loss corrections are included.

Intercomparison between TROPOS Reference Instrument No. 1 and MPSS Bayreuth 2

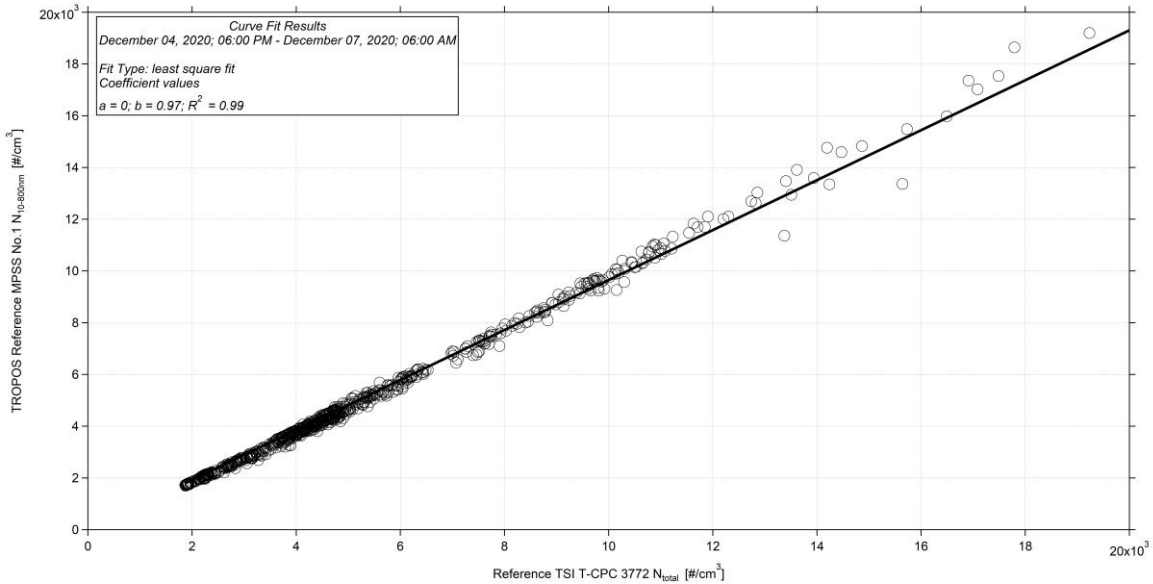


Figure 04: Linear regression between DE-TROPOS Reference T-CPC Model 3772 and DE-TROPOS Reference MPSS No.1.

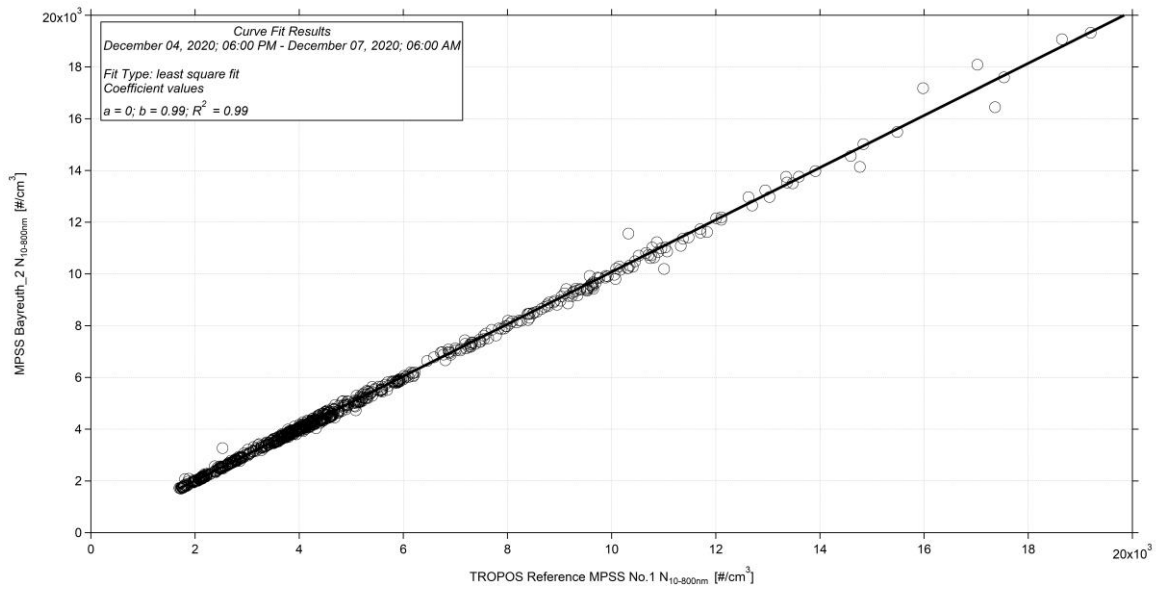


Figure 05: Linear regression between DE-TROPOS Reference MPSS No.1 and MPSS Bayreuth_2.

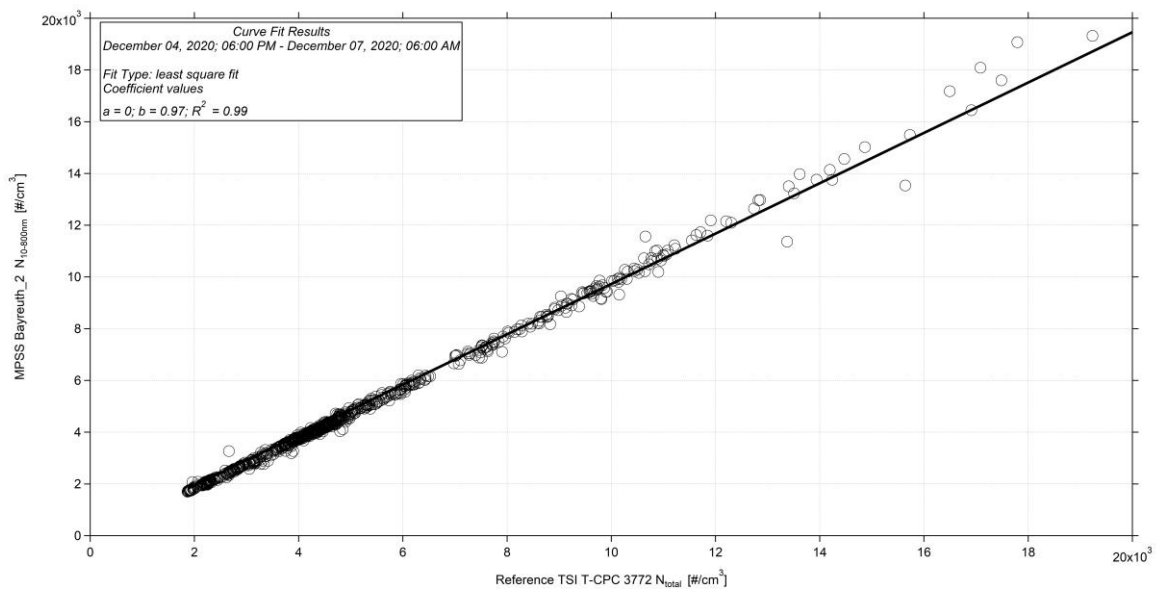


Figure 06: Linear regression between DE-TROPOS Reference T-CPC Model 3772 and MPSS Bayreuth_2.