

Intercomparison of Mobility Particle Size Spectrometers

Project No.:	MPSS-2020-3-14
Principal Investigator:	Dr. Noemí Pérez
Home Institution:	Institute of Environmental Assessment and Water Research (IDAEA), Barcelona, Spain
Participant:	-
Candidate: Made by: Counter (SN):	MPSS IDAEA TROPOS TSI CPC 3772
Location of the quality assurance:	TROPOS Leipzig, lab 118
Comparison period:	September 11, 2020 – September 14, 2020
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Last Intercomparison (with Project No.): -

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PSL Scan: Latex 203 nm +/- 4 nm

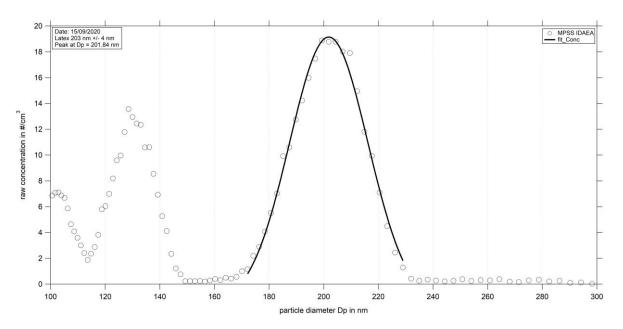


Figure 01: Measurement of latex 203 nm – MPSS IDAEA: Particle size distribution of latex 203 nm on September 15th, 2020. The peak shows at 201.84nm.

Intercomparison between TROPOS Reference Instrument No. 1 and MPSS IDAEA 11.09.2020 18:00PM – 14.09.2020 06:00AM

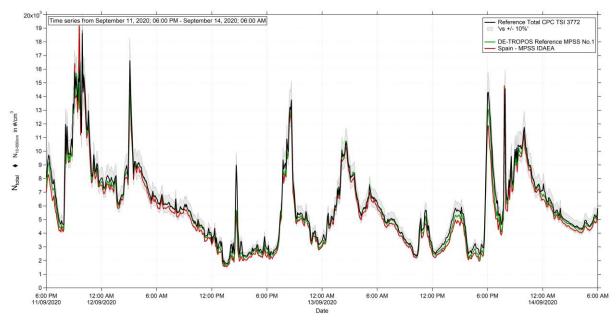


Figure 02: Time series (September 11, 2020 6 PM – September 14, 2020 6 AM) of the integrated particle number concentration ($N_{10-800nm}$) of the MPSS and total number concentration (N_{total}) of the Reference TSI-CPC Model 3772. Multiple charge correction, internal diffusion losses, CPC flow corrections. The candidate is running with a Kr.85 source.

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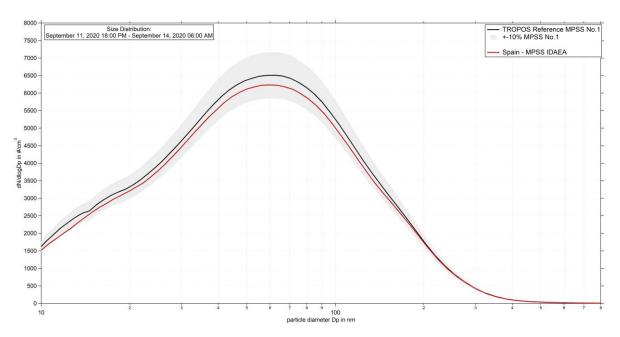


Figure 03: Particle size distribution for TROPOS Reference MPSS No.1 and MPSS IDAEA, flow corrections, multiple charge correction and diffusion loss corrections are included.

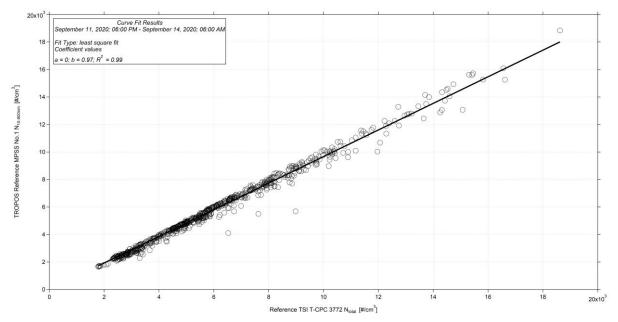


Figure 04: Linear regression between DE-TROPOS Reference T-CPC Model 3772 and DE-TROPOS Reference MPSS No.1.

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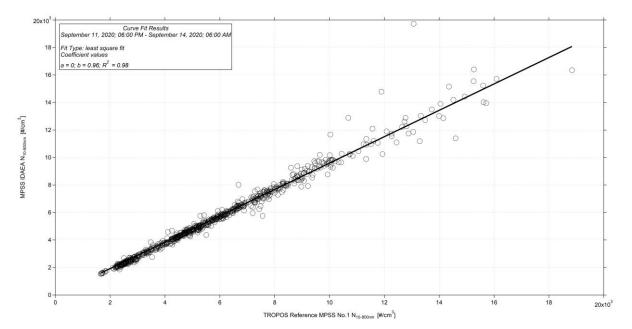


Figure 05: Linear regression between DE-TROPOS Reference MPSS No.1 and MPSS IDAEA.

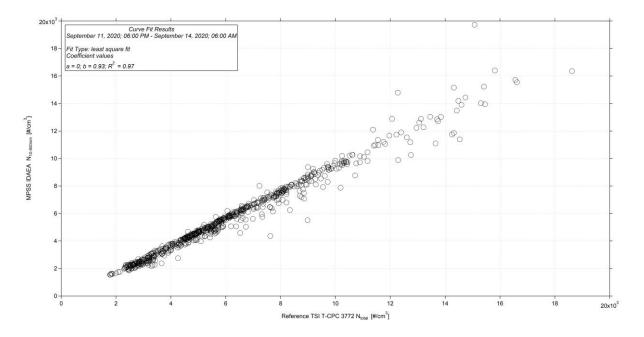


Figure 06: Linear regression between DE-TROPOS Reference T-CPC Model 3772 and MPSS IDAEA.

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