

Supplement of New Insights From The Jülich Ozone-Sonde Intercomparison Experiments: Calibration Functions Traceable To One Ozone Reference Instrument

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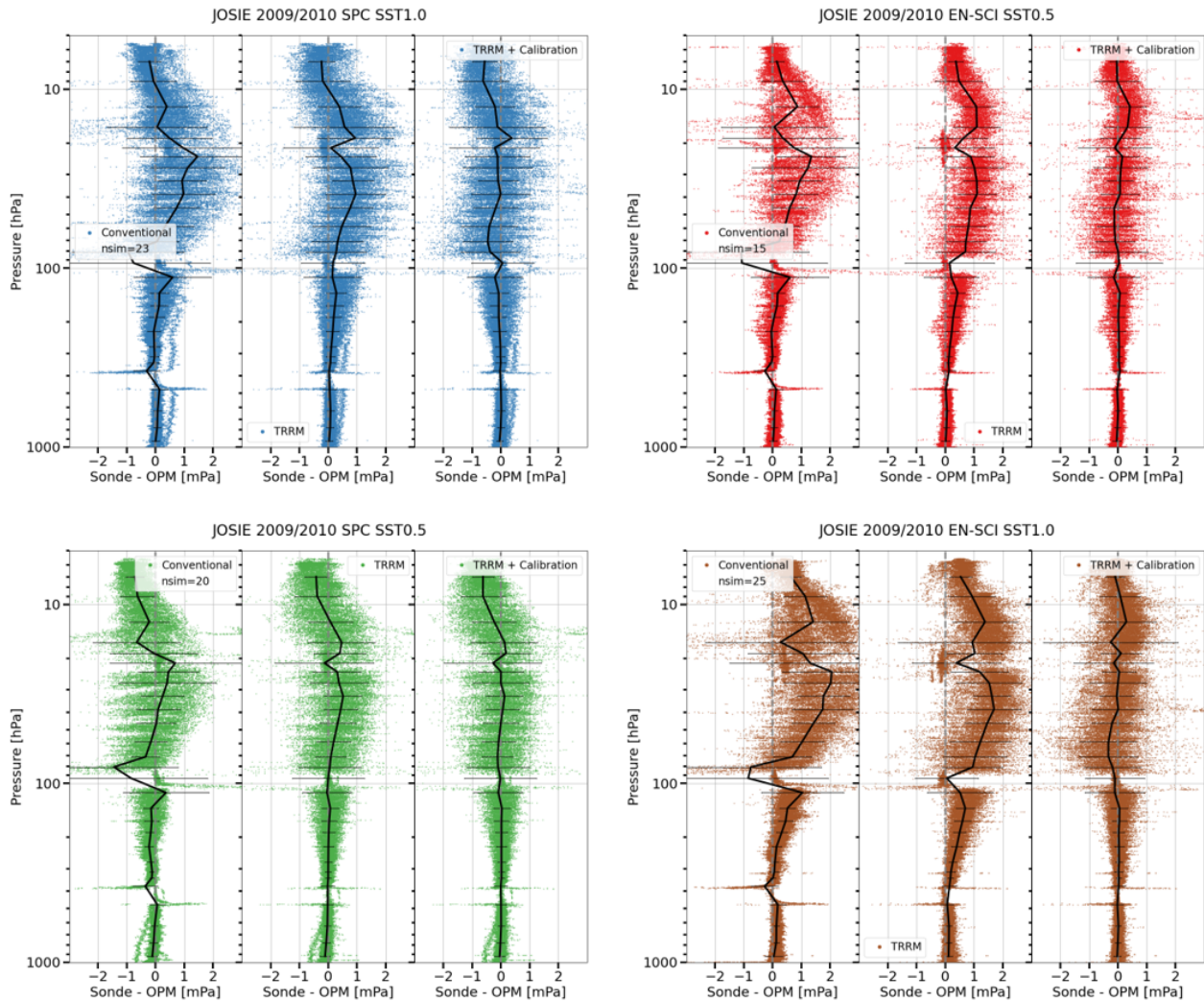


Figure S1. JOSIE 2009/2010: Absolute differences [mPa] with the OPM for the “conventional” (left diagrams), “TRRM” (middle diagrams), and “TRRM + application of calibration functions” processed ozonesonde profiles for four pairs of sonde type and SST, shown as scatter plots in four different colors in the panels A-D: SPC6A/SST1.0 (A: blue dots), EN-SCI/SST0.5 (B: red dots), SPC6A/SST0.5 (C: green dots), and EN-SCI/SST1.0 (D: brown dots), respectively. In each diagram for both methods the mean and 1σ -standard deviation of the absolute differences are included (solid black line).

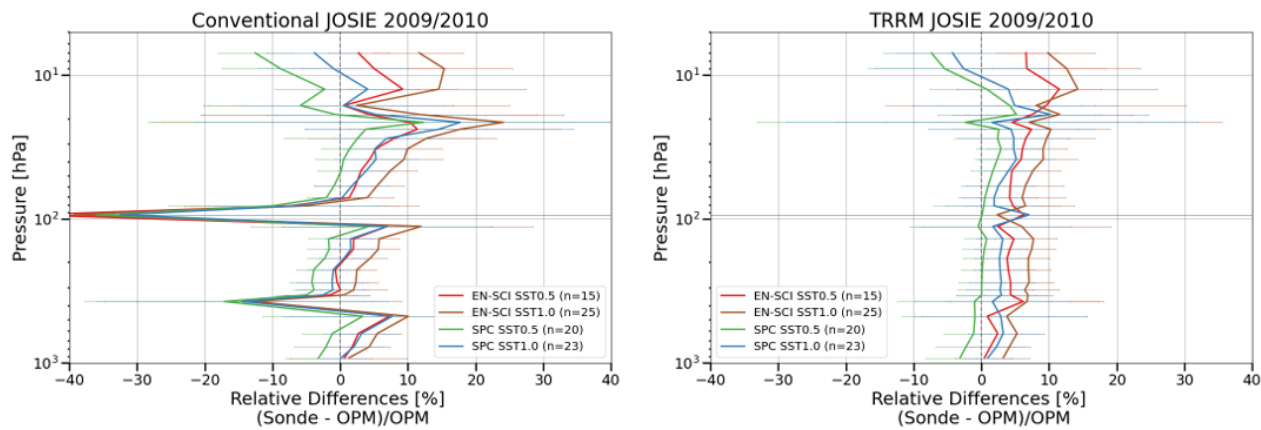


Figure S2. JOSIE 2009/2010: Summary of the mean relative differences with the OPM for the conventional (left diagram) and TRRM (right diagram) processed ozonesonde profiles for four pairs of sonde type and SST: SPC6A/SST1.0 (blue line), EN-SCI/SST0.5 (red line), SPC6A/SST0.5 (green line), and EN-SCI/SST1.0 (brown line). The 1 σ -standard deviations are represented by the horizontal lines at the pressure grid levels.

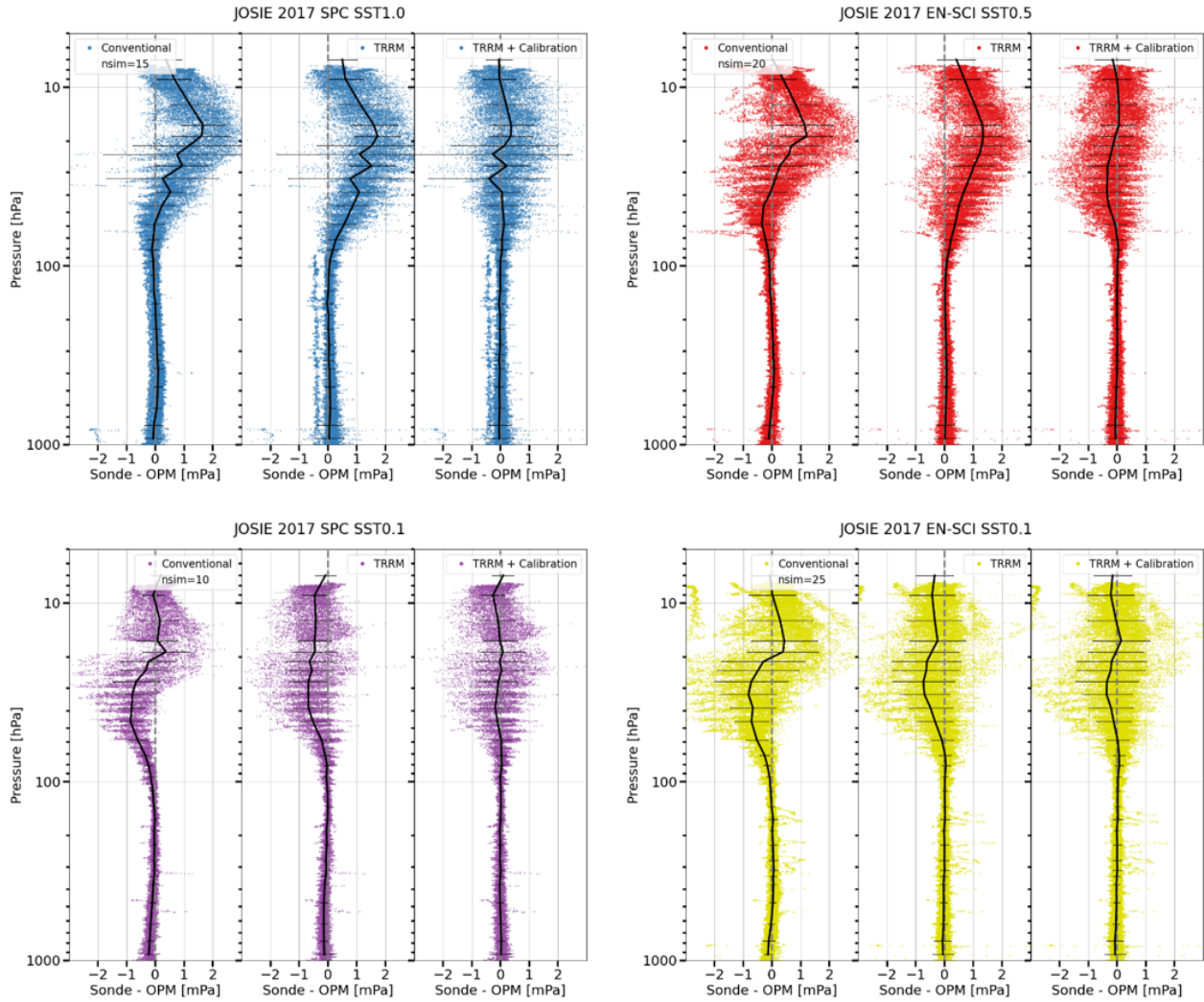


Figure S3. JOSIE 2017: Absolute differences [mPa] with the OPM for the “conventional” (left diagrams), “TRRM” (middle diagrams), and “TRRM + application of calibration functions” processed ozonesonde profiles for four pairs of sonde type and SST, shown as scatter plots in four different colors in the panels A-D: SPC6A/SST1.0 (A: blue dots), EN-SCI/SST0.5 (B: red dots), SPC6A/SST0.1 (C: purple dots), and EN-SCI/SST0.1 (D: lemon dots), respectively. In each diagram for both methods the mean and 1σ -standard deviation of the absolute differences are included (solid black line).

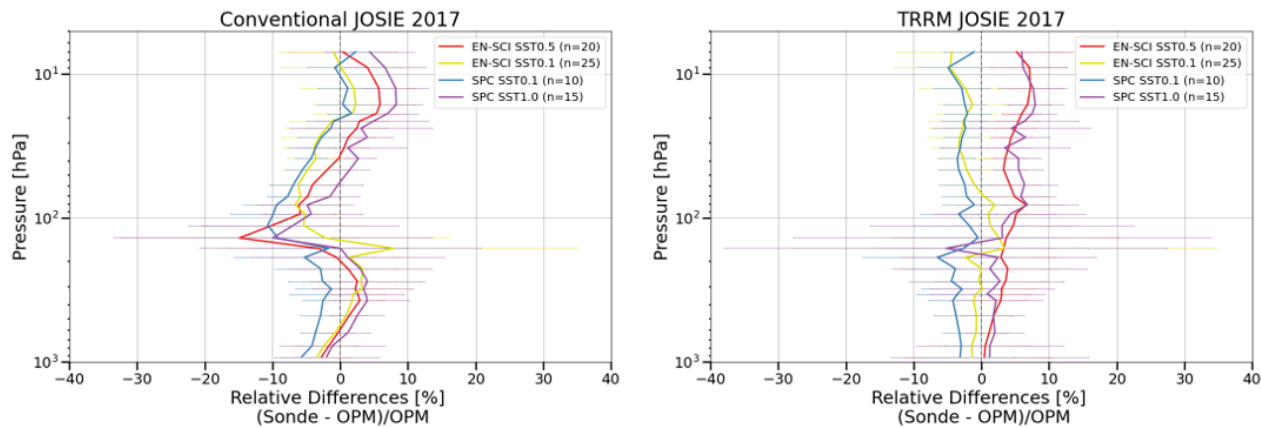
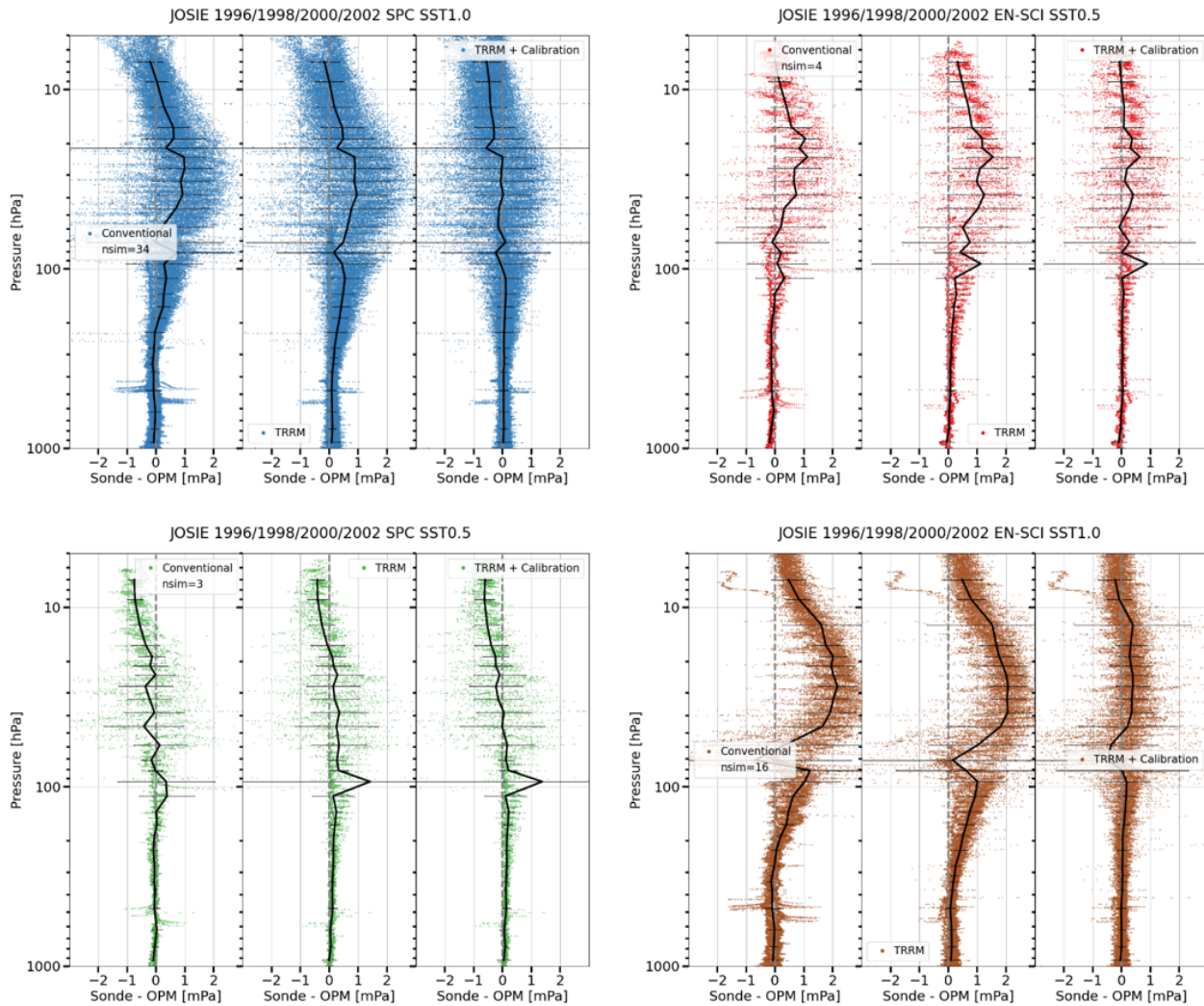


Figure S4. JOSIE 2017: Summary of the mean relative differences with the OPM for the conventional (left diagram) and TRRM (right diagram) processed ozonesonde profiles for four pairs of sonde type and SST: SPC6A/SST1.0 (blue line), EN-SCI/SST0.5 (red line), SPC6A/SST0.1 (green line), and EN-SCI/SST0.1 (brown line). The 1σ-standard deviations are represented by the horizontal lines at the pressure grid levels.



70 **Figure S5.** JOSIE 1996/1998/2000/2002: Absolute differences [mPa] with the OPM for the “conventional” (left diagrams), “TRRM” (middle diagrams), and “TRRM + application of calibration functions” processed ozonesonde profiles for four pairs of sonde type and SST, shown as scatter plots in four different colors in the panels A-D: SPC6A/SST1.0 (A: blue dots), EN-SCI/SST0.5 (B: red dots), SPC6A/SST0.5 (C: green dots), and EN-SCI/SST1.0 (D: brown dots), respectively. In each diagram for both methods the mean and 1 σ -standard deviation of the absolute differences are included (solid black line).

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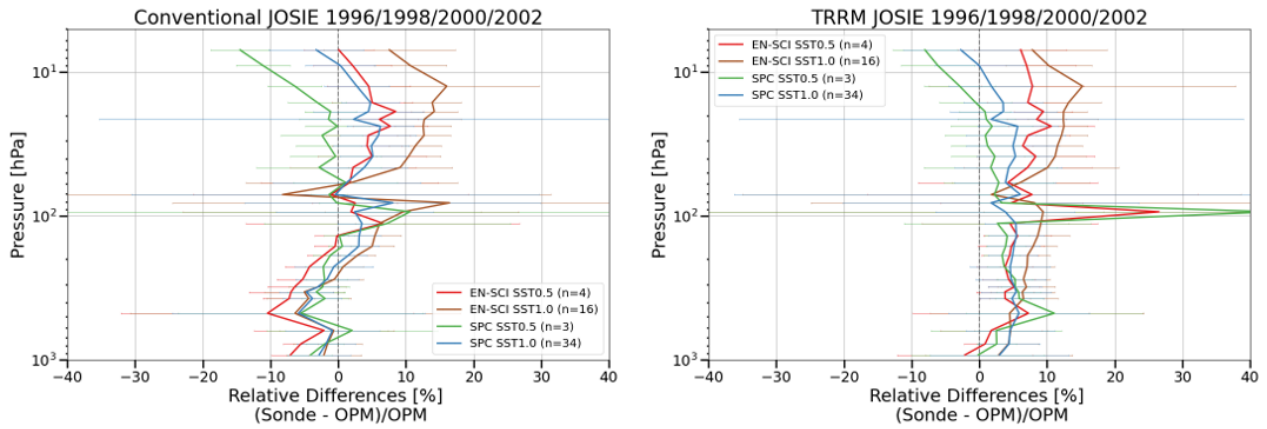


Figure S6. JOSIE 1996/1998/2000/2002: Summary of the mean relative differences with the OPM for the conventional (left diagram) and TRRM (right diagram) processed ozonesonde profiles for four pairs of sonde type and SST: SPC6A/SST1.0 (blue line), EN-SCI/SST0.5 (red line), SPC6A/SST0.5 (green line), and EN-SCI/SST1.0 (brown line). The 1σ -standard deviations are represented by the horizontal lines at the pressure grid levels.