

Interactive comment on “Quality assessment of Dobson spectrophotometers for ozone column measurements before and after automation at Arosa and Davos” by René Stübi et al.

Anonymous Referee #1

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Quality assessment of Dobson spectrophotometers for ozone column measurements before and after automation at Arosa and Davos. René Stübi, Herbert Schill, Eliane Maillard Barras, Jörg Klausen, and Alexander Haefele

Initial Comments: I found this manuscript, describing the careful updating of several traditional manually operated Dobson Ozone Spectrophotometers and relocation of the instruments to a new site without breaking the long historical measure series, to be very detailed and complete. The manuscript fits AMT's mission as it is a commentary on both laboratory measurement technique and an observational program. I recommend publication of this manuscript after minor technical corrections below.

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Specific Comments:

3.1 Data quality control: I like the detail in the explanation of the automated procedure. I would have liked to have seen a daily record before and after this procedure was applied.

Technical Corrections/Comments/Suggestions General: The use of the subscripts to identify specific Dobson instruments is not consistent. For example: D062 vs D062
Page 2, Line 5: Suggest: However, while ozone layer depletion seems to have stopped since the beginning of the 21st century, the expected recovery of the ozone layer to the pre-1980 level has still not been observed in most parts of the atmosphere. Page 2, Line 31. The first mention of the term Umkehr should have a reference or explanation that this is a measurement designed to determine an ozone profile with height. Page 4, Line 15: Suggest explaining that the optical alignment of Dobson instruments (Dobsons) is standardized for all instruments. Table 1, Line 3: Define SOOH. Line 9: Define MOHp. Line 15: Define SL- (Only place in manuscript that these terms are used) Table 2, Caption: Suggest defining the specific standard instrument. Figure 3, Consider using a different color, and line weight for the arrows indicating the calibration / maintenance campaign for better visibility. Page 23, Line 6, Komhyr (spelling) and Page 3 Line 8 Page 23, Line 28: Citation should be: León-Luis, S. F., Redondas, A., Carreño, V., López-Solano, J., Berjón, A., Hernández-Cruz, B., and Santana-Díaz, D.: Internal consistency of the Regional Brewer Calibration Centre for Europe triad during the period 2005–2016, Atmos. Meas. Tech., 11, 4059–4072, <https://doi.org/10.5194/amt-11-4059-2018>, 2018.

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