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EUBREWNET real time ozone processing, comparison of Brewer users processing software tools.

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The aim of the EUBREWNET (European Brewer Network) COST Action is to establish a coherent network of European Brewer Spectrophotometer monitoring stations in order to harmonise operations and develop approaches, practices and protocols to achieve consistency in quality control, quality assurance and coordinated operations.

In this work we present how the total ozone is processed from raw observations of the instrument (Level 0) to the real-time data processing (Level 1.5) and to the final evaluated product (Level 2) in the framework of EUBREWNET. The process includes additional instrumental configuration which allows to correct for known effects in the ozone retrieval for the Brewer not taken into account previously. The two most important effects are the nonlinearity of the attenuation filters and the stray light correction for single Brewers.

Observations from three stations, Sodankyla, Aosta and Izaña in the period 2012-2014 are processed by the EUBREWNET processing scheme and compared with Brewer software packages commonly used by operators for total ozone determination (Koskela 2009). The O_3Brewer processing software (developed by M. Stanek) is used in the case of Sodankyla (Karppinen 2016) and the Brewer Processing Software (BPS, developed by V. Fioletov) in the case of Aosta station whereas the RBCC-E analysis tools are used for the Izaña series. The first two software tools, O_3Brewer and BPS, are routinely used by operators for data submission to the World Ozone and Ultraviolet Data Center (WOUDC).

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