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The MeteoSwiss automated Dobson: realisation and performance

R. Stübi (1), W. Siegrist (1), H. Schill (1), and P.- A. Probst (2)

(1) Federal Office of Meteorology and Climatology, MeteoSwiss, Payerne, Switzerland (rene.stubi@meteoswiss.ch), (2) Sci-Consulting Sàrl, Saint-Sulpice, Switzerland

The ozone monitoring activity is facing a major challenge with the loss of acuity of the ozone layer problem and the vanishing budget attributed to these activities. If the survey of the total ozone column is well covered by satellites monitoring, these instruments require a ground based counterpart for their validation and calibration. Therefore, a network of ground based stations offering good quality data has to be maintained on the long term.
The shrinking budgets dedicated to ozone monitoring require either the development of cheaper automated instruments or developing solutions to extend the live time of existing ones. MeteoSwiss has followed the second strategy with the development of an automated version of the Dobson. The realisation phase is now achieved and the operation of the three Dobson at Arosa is close to fully automated with a significant reduction of the operation costs.
The technical solutions adopted to control the Dobson instruments will be presented with an emphasis on the similarity of the automated and the former manual operation of the Dobson. The flexibility of the system allow also extension of the automation to other operation in particular to automated lamp tests.
The results of the measurements and their improved quality will be presented. Comparison between collocated automated Dobson as well as collocated Brewer instruments allow to demonstrate that both instruments have comparable characteristics.