



## **Broadband instruments measuring erythemally weighted solar irradiance - the new WMO UV instrumentation document**

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The WMO UV instrumentation working group is setting up guidelines for the use of instruments to measure solar ultraviolet radiation. The aim of a series of documents is to define instrument specifications and guidelines for instrument characterization that are needed for reliable UV measurements. In this presentation we restrict the description to broadband instruments that are designed to determine the erythemally weighted (or “sunburning”) irradiance. The intended audience for this document includes scientists, companies, state organizations and funding agencies dealing with research and monitoring related to measurement of UV irradiance. The information is particularly applicable to agencies providing, disseminating, and using UV Index products. The document should serve as a guide and is based on the current experience and scientific knowledge about the measurement of UV radiation with broadband radiometers.

As with all instruments to measure UV irradiance, particular care must be taken with respect to establishing, maintaining and analyzing UV data from broadband instruments. While quality assurance and quality control aspects of all of these issues are still evolving, the recommendations presented are based on current understanding of the requirements. The presentation will highlight different objectives for the usage of broadband instruments, which require certain instrument specifications. The recommendations for the calibration of broadband instruments are discussed and a glossary of terms is introduced.

In addition to the WMO document the possibilities for using such instruments in polar regions are discussed. In particular, measurements performed at the German Antarctic station Neumayer are presented.