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SUV, the new series of Smart UV radiometers

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The new series of SUV radiometers consists of the SUV-A, SUV-B and SUV-E for respectively UV-A, UV-B and UV Erythema measurements. UV Erythema is the UV dose weighted with the CIE erythema curve, which is a model of the susceptibility of the skin to sunburn.
The SUV series has a quartz diffuser, with as benefit no transmission jump at 19° such as seen in polytetrafluoretheen. The directional response is better than 2.5% up to 80°. The smart interface in the radiometer has a temperature response better than ± 2% over a temperature range from -40° to +70°. The output is both in the form of a digital two wire RS-485 using the Modbus protocol, as well as an amplified analog voltage output from 0 to 1 V or current output from 4 to 20 mA.
The new design does not use a phosphor, as opposed to the previous generation of instruments, and therefore is less susceptible to humidity or aging.
For UV-B and UV-E measurement instruments, the sensitivity can significantly vary for changing Ozone column density or Solar zenith angle. With the help of the Kipp & Zonen Uviator software a correction can be made to measurement data for this variation leading to improved UV irradiance data.
Laboratory tests of the new SUV-B have shown that its variation with solar zenith angle and Ozone column density is a factor of 4 less than for the old UVS-B.
Next to laboratory tests of the new radiometers series, which give the theoretically attainable performance, we will also present field tests. These field test will show a comparison of the SUV series with other UV measurement instruments.