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Interactive comment on "A method to generate near real time UV-Index maps of Austria" *by* B. Schallhart et al.

Anonymous Referee #2

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A method to generate near real time UV-index maps of Austria by B. Schallhart et al.

General comments. The authors tackel a very important and difficult problem. The UV radiation amount, here expressed for convenience by the UV-Index, is measured regularly, at 15 locations in Austria and in its vicinity. It can therefore be provided to the public in near real time, for these locations. Interpolating between the stations to built complete maps is however very risky, because many parameters modulate the UV-Index, i.e. ozone amount, aerosols, clouds, elevation, surface reflectance. Cloudiness is a very important modulator of UV, and it is the most rapidly variable, both locally and with time. The authors propose to use satellite observations of clouds, associated with

modeling and ground based observations, to build the UV-Index maps. It is a good idea, although the results are not absolutely convincing.

Specific comments. The weak point in the paper is section 3.1, and unfortunately it concerns the CMF derived from satellite images, which plays a very important role in the results. After preliminary considerations, it is just said (p.2149, line 17) that the CMF is derived from the cloud optical thickness, but how ? and how is the cloud optical thickness derived from the SEVIRI images ? This section needs to be completely rewritten and to present an informative summary of the method.

The correlation between ground based and satellite derived CMF (section 3.3) is very bad, as noted by the authors. This makes very dubious the correction proposed in section 3.4; one could even think that the effort placed in the details of this correction is misleading, in giving too much confidence in the final map.

In the introduction, the authors mention a simple interpolation method (p.2145, lines 13-15). Did they try some comparisons between the results obtained by this method, and their own results ?

A good check would be to eliminate two or three sites from the treatment, and to use them for comparison with the retrieval. Of course a few mobile instruments could also be used.

Details. Abstract, line 15: replace "provided by Jean Verdebout", by "provided by one of us", or simply give a reference. Section 2.2: 10 instruments measure erythemally weighted UV; what is the spectral band of the 5 others, called broadband detectors ? It would be good to add the type of each instrument in table 1.

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