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Interactive comment on "Episode of unusual high solar ultraviolet radiation in central Europe due to dynamical reduced stratospheric ozone in May 2005" *by* C. Stick et al.

Anonymous Referee #3

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This paper is written a little bit blowzy. Several improvements and clarifications have to be done before this paper is appropriate for publication.

As already mentioned by reviewer #2, this paper lacks seriously in literature and in the description of the synoptic situation.

Another problem I see is that the authors "want to point out the risk for human health (Introduction 10411 line 4)" This can not be done only by weighting the spectral irradiance with the CIE87. Erythemally effective irradiance can be used as a proxy to show the damaging potential for the human skin and related tissues. If the authors want to

point out the risk for human health they have to use some other action spectra (or peak wavlength) or a generalized action spectrum for health damage and risk assessment (e.g. ACGIH, ICNIRP, ...). Further on radiant exposure would be necessary. In any case the authors should mention already in the introduction that they will use the erythemally effective irradiance as an example for ... or "exemplary measurements of the erythemally weighted irradiance (Introduction line x) ..." . By using CIE87 it would boost the paper if ery.eff.irr. is given in units of the UV Index also. The UV Index is a tool of sun and health care and can be associated with sun protection (see WHO).

A similar problem occurs in: "4.Conclusions" They authors make some speculations about the behaviour and exposure of people during this event. They should make evidence or leave them. They must confirm such assumptions like "people expose themselves unprotected to the sun", because from "2.Measurements" and "3.Synoptical situation" it becomes not evident that people behave so.

At the end of the conclusions the authors confront the reader with another event were Eery is even higher. This event is not treated in the paper. They should pick it up or leave it out.

In any case the chapter has to rewritten focusing on conclusion which can be made from the outcome of measurements and synoptical situation. Speculations are inappropriate.

Further on, there are two serious mistakes:

1) Abstract, first sentence: This sentence is not right. Low ozone values do not necessarily force high UV values (cloudiness, ...). I am also not sure that these low ozone values were observed all over Europe. The authors should reduce this statement to Central Europe and low ozone. Otherwise they have to confirm the statement with corresponding data or references.

2) Measured irradiance 188W/m2. That's obviously too high by a factor of 1000.

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Interactive comment on Atmos. Chem. Phys. Discuss., 5, 10409, 2005.

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Interactive Comment