

## Answer to Anonymous Referee #2

The authors thank the referee for the positive and constructive comments.  
The referee comments are in italic.

*Use of satellite erythemal UV products in analyzing the global UV changes by I. Ialongo et al.*

*This paper should be published with only a few changes. The authors mention the use of AVHRR (page 3) to estimate cloud changes. If this is used in the paper, the implementation should be discussed in more detail. If it is not used in the trend estimates, the authors should state this explicitly.*

The AVHRR data were not directly used in the paper for trend estimations but are included as input in the GOME-2 retrieval algorithm. For this reason it is mentioned only in session 2.2 where the GOME-2 UV data are described.

P16444 L21: This sentence will be modified as follows: "For the estimation of diurnal cloud cover in the retrieval of the surface UV levels, the cloud optical thickness ..."

*The authors are using the Earth-Probe TOMS data. While the EP ozone data are useful, the cloud LER data are not correct. The authors should state whether they are just using the O3 data.*

As mentioned in section 3, only the Erythemal Dose Rate and the total ozone data are used in the trend estimations. No direct calculation of the linear trends has been done using reflectivity data, thus it is not mentioned in the text.

*The use of Erythemal Dose Rate seems indistinguishable from erythemal irradiance. Is there a difference?*

Actually there is no difference between them. This will be specified in the text as follows: P16441 L4 "Erythemal Dose Rate (EDR), or erythemal irradiance, is one ..." and P16445 L5 "Noontime EDR data (also erythemal irradiance in the text) derived from..."

*A reference should be added (Herman, J.R., Use of an improved radiation amplification factor to estimate the effect of total ozone changes on action spectrum weighted irradiances and an instrument response function, J. Geophys. Res., D23119, doi:10.1029/2010JD014317, 2010).*

The reference will be added.

*The paper is well written, the figures are clear and informative, and there is sufficient new work described here to warrant publication.*

*There is a spelling error on page 2: percents → percent*

The spelling error will be corrected.