

## **The response to the technical comments from Prof. Co-Editor Veli-Matti Kerminen (18 Aug 2016)**

The authors have addressed the referee comments. There are a few technical issues that should be taken care of before uploading the final files for publication:

*1) please replace "-" with "it is" in two places on line 101.*

Done

New variant:

“According to our estimates, for example, at high solar elevation ( $h=60^\circ$ ) and for the variety of other parameters (total ozone, aerosol and surface albedo) the effective wavelength for erythemally-weighted irradiance ( $Q_{ery}$ ) is  $\sim 317$  nm, for cataract-weighted irradiance ( $Q_{eye}$ ) it is  $\sim 313$  nm, and for vitamin D-weighted irradiance ( $Q_{vitD}$ ) it is  $\sim 308$  nm.”

*2) strange character between 1.0 and 3.9 km on line 117*

Done

New variant:

“In addition, the dataset of historical Moscow State University complex field campaigns over mountainous areas at Pamir ( $38 - 40.5^\circ$  N,  $73 - 74^\circ$  E,  $H=1.0 - 3.9$  km), and Tyan’Shan’ ( $43^\circ$  N,  $77^\circ$  E,  $H=3.47$  km) was applied in the analysis (Belinski et al., 1968).”

*3) what does ... in "UV doses..., 2014" on line 146 mean?*

This means the reference. We have significantly changed the reference list and the reference now is given in a right ( understandable) way.

New variant:

“In this study according to the new guidelines a healthy level of vitamin D3 was increased from 400 IU recommended in Bouillon et al. (2006) to 1000 IU in McKenzie et al. (2014).”

*4) there should be a space between a quantity and unit in the text, as well as between different components of units (like  $J\ m^{-2}$ , not  $Jm^{-2}$ )*

We have made necessary changes throughout the text.

*5) The format of citing papers in the text should be correct throughout the text.*

We have changed the reference list and citing papers in the text according to the ACP guidelines.

*6) The reference list contain full journal names as well as journal names the are abbreviations. Please be consistent and follow ACP guidelines.*

We have changed the reference list according to the ACP guidelines.