

Interactive comment on “The Smithsonian solar constant data revisited: no evidence for cosmic-ray induced aerosol formation in terrestrial insolation data” by G. Feulner

Anonymous Referee #2

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"Cosmic rays" in the title should be avoided, the paper deals with the relation between solar activity as represented by sunspots and the irradiance observations of the Smithsonian Astrophysical Observatory from mountain stations. It is a comment on a recent paper by Weber published in *Annalen der Physik*. Normally such a comment should be in the same Journal, but the author obviously believes that this was not really a good place and decided to publish it elsewhere. In principle this acceptable, but it needs some more explanation in the introduction to show which points of Weber will be discussed and which not. This means, it must be clearly stated that only the connection between the observations and solar activity is discussed and criticized, not the connection to cosmic rays and aerosol formation. If the connection between the ob-

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servations and solar activity fails the latter becomes obsolete. So, the introduction, the abstract and also the conclusion needs to be edited and with the above comments i mind enlarged.

A few more editorial comments: "below the atmosphere" should be replaced by "on ground"; line 2 of page 2301: replace "manipulation" by "changes"; line 5 of page 2303: insert after ", at least partly," "due to"; line 9 of page 2305: insert after "trend" at the $1\text{-}\sigma$ level"; line 11 on page 2306: replace "see summary" by "summarized"; Table 1: replace "uncorrected" by "not corrected"; Fig.1: put a, b, c and d in the plots and then refer in the caption to the letters, makes it easier to read and would also help for the rest of the Figures; it would certainly help to improve the English by a native.....

I recommend to publish the article after some revision - which is needed to make the context and the objective clear.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 2297, 2011.