

## ***Interactive comment on “Synchronicity as an essential property of solar–terrestrial relations: latent components” by V. A. Tartakovsky***

**Anonymous Referee #1**

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Dear editor

I found this paper interesting but it may need a significant revision.

The author uses a novel analysis to compare solar and climatic data from a number of weather stations. The technique consists in decomposing the records in orthogonal components and compare them in multiple cases. The author found that the correlation coefficient varies between 0.5 and -0.5. However, using CS and NS component comparisons, the author found interesting synchronization patterns. The conclusion of the study is that solar activity initiates weather changes in many cases.

The result is interesting, but I found the discussion about the physical meaning of the analysis not sufficiently clear. So, I invite the author to better explain it.

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In addition, one would expect that the analyzed temperature records could be function also of other factors such as volcano and anthropogenic forcings and natural variability due to the atmospheric circulation. No mention of these factors is discussed in the paper. How these factors could effect the result needs also to be discussed.

Finally, in the abstract the author needs to make clearer what is the result that he found.

In conclusion I suggest a significant revision of this paper.

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Interactive comment on Nonlin. Processes Geophys. Discuss., 2, 1275, 2015.

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