Reviewer's report

Title: Geomagnetic Disturbances Driven by Solar Activity Enhance Total and Cardiovascular Mortality Risk in 263 U.S. Cities

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Reviewer: Tania Azcarate

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Comments to paper "Geomagnetic Disturbances Driven by Solar Activity Enhance Total and cardiovascular mortality risk in 263 U.S. Cities".

1. In the Methods section reference is made to the climatic variables temperature (° C) and relative humidity (%), however, in the results the associations found with these variables are not discussed, I would expect to find the Tables with the estimate of the increase in mortality, as was done with Kp and PM2.5 or a brief discussion of what happened to these variables. I suggest to include in the bibliography studies on mortality due to cardiovascular disease or myocardial infarction associated with climatic variables such as ambient temperature and relative humidity.

2. In the Methods section mention the number of sunspots and the Kp index. The number of sunspots is not a variable that was used for the analysis (not present results) and Fig. 2 shows the temporal behavior of Kp and the number of sunspots, I suggest include a brief explanation of the relationship between these variables and the solar activity cycle in the discussion section and put here the reference to this figure.

3. It is a seasonal analysis, it is important to refer in the literature mortality, CVD studies and seasonal occurrence.

4. I suggest discuss the average values of Kp found in each season and the reference values (0-9).

5. In the discussion section include to hypertension works and they conclude that their results are coincident, the study does not make a specific analysis for hypertension, I suggest removing or modifying that conclusion.
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