

from: XXX YYY <xxx@yyy.zzz>
to: Managing Editor
date: Wed, Jan 16, 2013 at 12:40 AM
subject: Re: MS: 2012_PRRI_2933 : Invitation to Review Manuscript for Physical Review & Research International

dear SCIENCEDOMAIN international,

Here is my review of **MS: 2012_PRRI_2933** by Morner

I [Please(Sentence deleted to hide personal communication)]all the attachments asap.*

I recommend the publication of this paper of course and I do not need to see it again.

Thank you.

XXX YYY

-----review of **MS: 2012_PRRI_2933** by Morner-----

A review of "Solar Wind, Earth's Rotation and Changes in Terrestrial Climate by Nils-Axel Morner"
(submitted to Physical Review & Research Intertional) by Willie Soon

I have seen various versions of this proposed qualitative connection for the Sun's magnetic activity in relation to Earth's rotation rate and hence the related climatic links. I have of course no objection to such a qualitative sketch and discussion in print in any peer-reviewed literature. Below, I list some of the potentially, useful points and corrections

as I can catch them while reading this manuscript. The author is senior enough that I do not need to tell him what are necessary for a more comprehensive and readable paper, but the manuscript does require a bit more careful editing and preparation.

I have only one special request for the manuscript: I understand that the author is presenting a plausible picture and scenario for the connection, but I wonder if the author may be willing to create a small discussion/section outlining what sort of empirical evidence that will ultimately allow the rejection of such a hypothesis for a Sun-Earth connection picture?

The proposed scenario and physical processes discussion in this paper are maximally complex and fully inter-related that I think such a discussion will be more decisive and helpful both for the author and any potential interested readers.

(again, this is only a wish on my part but I leave it completely to the author for this improvement.)

Below are the points and corrections for improvements: (also some pdf files on certain suggested references)

line 16: give rise "to" irregular ...

line 18: "dominating variable for sea level change" ...

line 44: the author points to solar wind speed and it is to be noted that the solar wind and earth rotation rate

connection proposed in this paper essentially also propose a 60-yr like oscillation ... near-Earth solar wind data

and properties are indeed available since Dec 1963 and ought to be checked or take advantage of:

<http://omniweb.gsfc.nasa.gov/form/dx1.html>

(see also Morner13-Jan15-OMNI-SolarWind-ret_22360.gif)

line 63: Kirov et al.2002 is not listed (i attached pdf file of that paper: KirovGeorgievaJavaraiah02-22yrPeriod-SolarRot-SolarWind-EarthRot.pdf)

line 94-95: "Herrera" (2010)---the proper citation can be Velasco et al. (2008)---see the attached ICR07 conference paper by

Victor Velasco and colleagues (VMVcyclespaper.pdf)

line 117-119: here I think the author did not understand well the real status of the TSI reconstructions and the amplitude of

the reconstructed TSI; Here I recommend the reference to Hoyt and Schatten (1993) [already given on line 485-486] and

Zhang et al. (1994) [attached: ZhangSoonetal94-ApJLet.pdf] where the relatively large amplitude of TSI variations on the order

of 0.3 to 0.4% is not ruled out by the real-world data rather than theory.

So there is a mis-interpretation and mis-understanding here, the results of Lean et al. (1995) are indeed an extrapolation not based on any empirical evidence when contrasted to Hoyt and Schatten (1993) and Zhang et al. (1994).

line 138-142: here I think it is very important for the author to write a few sentences in order to describe how the connection

will work ... also i recommend this missing reference by Duhau and Martinez (1995) [attached:

DuhauMartinez95-grl8823.pdf]---I find it important

for the author to clarify the necessity of a geomagnetic intermediary for any plausible link of solar wind modulation of the Earth's rotation rate.

[Of course, later on line 378-379: the author cited the key reference of the exciting evidence by Paul Roberts et al. (2007)]

line 149: all "the" reasons

line 151: "Scafetta" 2011, 2012b

line 181: (Scafetta). (not comma)

line 202: Kirov et al.2002 is not listed

line 228: Barnes et al. 1983 is not listed

line 286-287: I would wish to see this new A. Parker (2013) paper

line 335 (and line 578-580): Soon and Legates (2013) reference is not as listed ... the correct reference is Soon, W. and Legates, D.R. (2013) Solar Irradiance Modulation of Equator-to-Pole (Arctic) Temperature Gradients: Empirical Evidence for Climate Variation on Multi-decadal Timescales. Journal of Atmospheric and Solar-Terrestrial Physics, vol. 93, 45-56.

[see attached: SoonLegates13-FebIssue-SolarTSI-EPTGlink.pdf]

line 334: "translated" and Solar Wind "activity"

quite a few more typos in the references:

line 482: "Herrera"

line 556: "Russian"

line 575: "Does"

In looking over the content of this paper, I hope the author does not mind me for recommending that the summary on pp. 36-39 of this paper by Mackey (2009) gave also a good overview of the suggestion of how the Earth rotation rate changes can be linked to solar variability as well as the related tendencies for the changes of LOD. I leave it to the author to consider how to incorporate some of the description in Mackey (2009) into his own paper. [attached: Mackey09-SolarActivityvsEarthRotation-EE.pdf]*

-----review of **MS: 2012_PRRI_2933** by Morner-----

*Comments from editorial office: These papers has not been uploaded.

Note: Anonymous Reviewer

Note: Modification was done in this email ONLY to hide the identity.