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Reply on RC1

Lixin Wu

Community comment on "Scrutinizing and rooting the multiple anomalies of Nepal earthquake sequence in 2015 with the deviation–time–space criterion and homologous lithosphere–coversphere–atmosphere–ionosphere coupling physics" by Lixin Wu et al., EGU sphere, <https://doi.org/10.5194/egusphere-2022-926-CC2>, 2022

Dear Prof. Angelo De Santis,

Thank you very much for your comments and nice suggestions for this manuscript. Although my Ph.D student Qi Y, himself, has replied to you via Copernicus, I would like to provide a new formal reply in representing of all the coauthors of the manuscript.

The title: I would avoid acronyms in the title. In addition, perhaps "Scrutinizing" could replace "Screening and rooting". So better: "Scrutinizing the multiple anomalies of Nepal earthquake sequence in 2015 with Deviation-Time-Space criterion and homologous Lithosphere-Coversphere-Atmosphere-Ionosphere coupling physics"

Response: We agree with you that the full names of key terms should be written in the title. Thanks very much. On the gerunds used in the beginning of the title, we would like to discuss with you as in the following:

"Scrutinizing" is really a nice and professional word, which embodies a scientific attitude towards things and contains the meaning of scrutiny. In the study of seismic multi-parameter anomalies, we really need a scientific attitude to examine possible anomalies in the face of complex information, and then judge their authenticity and reliability. However, in this manuscript, in addition to the sorting out and preliminary judgment of the existing research results, we aim to establish the relationship between the multi-parameter anomalies in view of geophysics and mechanism, so that a variety of anomalies occurred in coversphere, atmosphere and ionosphere could be rooted to the lithosphere. In other words, after obtaining the multi-parameter anomalies in these geospheres, we use the DTS criterion and homologous physics to do further rigorous screening. This process is top-down, which is different from the previous bottom-up LCAI coupling analysis.

In this way, the abnormal parameters of the geospheres above and far from the hypocenter could be traced downward step by step to the potential seismogenic area or the crust stress lock-in area. This particular logic in geophysics is the main contribution of this manuscript, which is expected to serve for earthquake prediction in the future. Actually, the scrutinizing of the series of anomalies in this manuscript contains two parts. One is the preliminary screening and judgment of the existing multi-parameter results, the other is the further analysis and verification of the sources of these anomalies based

on the screened results, that is, to find their downward correlations and even the common root in the zone of crust stress lock-in. Therefore, we would think that the 'Scrutinizing and rooting' could be better than 'Screening and rooting' and 'Scrutinizing' to reflect the logic and procedure of this manuscript.

Accordingly, we are willing to change the title as follows: *Scrutinizing and rooting the multiple anomalies of Nepal earthquake sequence in 2015 with Deviation-Time-Space criterion and homologous Lithosphere-Coversphere-Atmosphere-Ionosphere coupling physics*

Hope you are satisfied with these changes.

Thanks very much.