

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC2  
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## **Comment on nhess-2021-378**

Anonymous Referee #2

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Referee comment on "Hidden-state modeling of a cross-section of geoelectric time series data can provide reliable intermediate-term probabilistic earthquake forecasting in Taiwan" by Haoyu Wen et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-378-RC2>, 2022

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The paper concerns the study of possible correlation between extreme events in geoelectrical time series and seismic critical state of the earth crust. The study area is Taiwan and the data are coming from a modern geoelectrical network with 20 stations. The authors applied robust statistical methodologies to analyse and characterize the geoelectrical time series. In particular, I greatly appreciated the use of the Hidden Markov Chain. The manuscript is well organised and sounds with the current state-of-the-art.

I have only a critical comment: the claims concerning the possible use of the geoelectrical time series analysis in medium-long term earthquake forecasts are misleading. The results are interesting and well characterise the spatio-temporal dynamics of the electrical anomalies and seismic events in the study area. To-date, it appears questionable the use of this approach in earthquake forecasting.

Furthermore, I have only some other minor comments: i) there are some redundant parts (i.e. the introduction about large earthquakes occurred in the past); ii) there is a lot of mathematical formulae that could easily be presented in an Appendix or quoted in the text; iii) there are many phrases that are not directly related to the main objectives of the paper and could be omitted; iv) the conclusions are quite generic.

The reduction of some parts could make the paper more readable.

I suggest the publication of this paper after a minor revision.