Dear Pierre Romanet,

I hope this email finds you well. I have reached a decision regarding your submission to Seismica, "Could planet/sun conjunctions be used to predict large (>=Mw7) earthquake?". Thank you once again for submitting your work to Seismica.

I am pleased to say that I have now received two peer-review reports for your manuscript. Both reviewers are supportive of your work being potentially suitable for publication in a Fast Reports format in Seismica. However, they suggest that revisions are required before publication. In particular, Reviewer A raises concerns about quantification of conjunctions' effects and proper treatment of samples (earthquake catalog), which should be addressed in the revised version to support the author's main conclusion and/or to clarify possible limitations of the author's study. Please find below the comments in detail submitted in the webform by Reviewers A and B.

When you are ready to resubmit the revised version of your manuscript, please upload:

- A 'cleaned' version of the revised manuscript, without any markup/changes highlighted.
- A pdf version of the revised manuscript clearly highlighting changes/markup/edits.
- A 'response-to-reviewers' letter that shows your response to each of the reviewers' points, together with a summary of the resulting changes made to the manuscript.

Following the Role and Scope of Fast Reports, aiming at rapid turnaround (with a target of a maximum of 30 days from the first submission to first publication), I would be grateful if the author could submit the revision by 17-Apr-2023.

Once I have read your revised manuscript and rebuttal, I will then decide whether the manuscript either needs to be sent to reviewers again, requires further minor changes, or can be accepted.

I wish you the best with working on the revisions. Please don't hesitate to contact me with any questions or comments about your submission, or if you have any feedback about your experience with Seismica.

Kind regards,

Ryo Okuwaki
rokuwaki@geol.tsukuba.ac.jp

Reviewer A:

This study attempts to address the question of whether earthquake occurrence is correlated with planet/sun conjunctions. While this is an interesting study, I have some concerns about the research design and statistical analyses. I hope the manuscript will improve from addressing the following suggestions:

1. The main analysis of the study is to compare the rate of conjunctions (R_c) vs the rate of earthquakes occurring during conjunctions (R_ec), with the idea that if earthquakes occur preferentially during conjunctions, R_ec should be significantly larger than R_c. However, 9 celestial bodies' conjunctions are treated as equals even though their gravitational effects on Earth are drastically different due to their varying distances. In addition, the stress changes (both amplitude and phase) on faults at different locations with different orientations can be very different. Finally, the ocean tidal effect is dominant for submarine and coastal earthquakes, with a phase lag relative to the solid earth tide. Therefore, for a proper quantification of conjunctions' effect on earthquake occurrence, wouldn't one have to directly estimate the stress changes given the focal mechanisms similar to what was done in Cochran et al. Earth Tides Can Trigger Shallow Thrust Fault Earthquakes, *Science* 2004?

1. The binomial test (lines 131-143) assumes that the earthquake occurrence times are randomly distributed. However, the catalog used was not declustered so some events will likely be aftershocks which violates the assumption. While this was acknowledged in the manuscript, it was not addressed. I think it is within the scope of this paper to properly decluster the catalog before the statistical analyses.

1. Lines 187-189: "the difference between the percentage of planet/sun involved at least in one conjunction during one day is within 3% the same as the percentage of earthquakes that can be at least associated with a given planet/sun in a conjunction" – I do not think that 3% is obviously statistically insignificant without doing a test. This depends on the sample size, since one can still find statistically significant evidence of a weak effect. For example, if earthquakes are 1% more likely to occur during conjunctions vs other times, given a large enough catalog, a statistically significant small difference can be identified. So I think a test ought to be performed for each case shown in Fig. 1 to evaluate whether the difference is significant.

Other comments:

There are many very short paragraphs (1-3 sentences) that can be merged to improve the flow of the paper. For example, the first four paragraphs in the Introduction section can probably be merged into a single paragraph.

Lines 16-17: citation for sources that made the assertions, since it seems like that's the main motivation behind this study?

Line 30: use of the word "working" is unclear – are you saying they only point to earthquakes that occur during conjunctions?

Line 34: "This assertion" – since this is the start of a new paragraph, you might want to directly specify what "this assertion" is referring to.

Line 43: I am not sure Ide et al. 2016 is the correct reference here about the potential use of tidal triggering for long-term earthquake forecasting, since that paper was mainly about the properties of slow earthquakes in Cascadia.

Lines 52-53: citation for sources that invoked “electrodynamic, resonance, and molecule”?

Lines 59-61: “This assertion that planet/sun alignment is promoting earthquakes would be valid only if it is happening more frequently than conjunctions themselves” – I think this argument is logically incorrect. If earthquake occurrence is A, conjunction is B, the intersection of A and B (earthquake occurring during conjunction) cannot be larger than B. Did you meant to say that the *rate* of earthquake occurrence during conjunction should be larger than the *rate* of conjunction?

Lines 87-96: I think this would benefit from a figure to illustrate visually what the various parameters represent. You should also specify here what theta_thr value you used (instead of only stating it much later in Fig 1).

Line 152: “p-value is also high enough” – I think it would be valuable to list all the exact p values for different scenarios instead of only stating whether they are greater or smaller than 0.5.

Figure 1: the x-axis labels are cut off

Line 183: I think “law” is supposed to be “low”?

Lines 191-197 and Figure 2: I am not sure what’s the main point of paragraph/figure. I don’t think observing that conjunctions that are the most frequent are most often associated with earthquakes is an evidence that earthquakes are not correlated with conjunctions.

Reviewer B (Handling Editor):

The submitted manuscript; "Could planet/sun conjunctions be used to predict large (>=Mw7) earthquake?" authored by Pierre Romanet is systematically testifying a hypothesis if the alignment of celestial bodies would have any effects on earthquake occurrence. The author systematically compares the percentage of large (moment magnitude ≥ 7) earthquakes coinciding with the percentage of the conjunction (an approximately straight-line configuration of three celestial bodies) with the percentage of the conjunctions. The author also considers the full/new moon phase with its link with the conjunction and earthquake occurrence. The results, together with the statistical test, show that the percentage of the earthquakes linked with the conjunctions is the same as the percentage of the conjunction, as well as for the moon phase, which suggests a linkage between earthquake occurrence and the conjunction or moon phase is statistically unlikely. The manuscript is providing a critical counter-argument for the assertion that planet/sun conjunctions can be useful for earthquake prediction. Here I only have the minor requests, which I hope might be helpful to improve the manuscript.

Ryo Okuwaki

Title: >= --> ≥

Title: Mw7 --> Mw 7
*we could add a space between Mw and 7.
Or we may want to avoid using "Mw" as:, (>=Mw7) --> (moment magnitude ≥ 7)

Title: Earthquake --> Earthquakes

L16: We may want to cite any agencies that determined the moment magnitude (USGS?); for example:
U.S. Geological Survey, Earthquake Hazards Program, 2017, Advanced National Seismic System (ANSS) Comprehensive Catalog of Earthquake Events and Products: Various, https://doi.org/10.5066/F7MS3QZH.

L16: the assertion --> an assertion

L17: earthquake --> an earthquake occurrence

L17: bad quality news and social medias
--> news and social media

L17: The words; "bad quality" might need some explanation to clarify. For me, it might be fine just to say "news and social media".

L17: In order to clarify the assertion introduced here, it should be helpful to show references of those ideas of earthquake prediction.

L18: We will call --> We call

L18–19: "although the correct word must be a syzygy"
Would you mean; "although it can also be referred to as a syzygy in Astronomy"?

L21: carefully period of time --> carefully a period of time

L22: at which it occurs --> at which they occur

L35: theory, has --> theory has

L36: (Schuster, 1897) --> (e.g., Schuster, 1897)

L36: Ide et al., 2016
I assume Ide et al. (2016, Nat. Geosci.) would be the one that fits into the context.
Ide, S., Yabe, S. & Tanaka, Y. Earthquake potential revealed by tidal influence on earthquake size–frequency statistics. Nature Geosci 9, 834–837 (2016).
https://doi.org/10.1038/ngeo2796

L39: earthquake --> earthquakes

L39–41:
the time in the seismic cycle (Tanaka 2010, 2012; Peng et al., 2021) and the focal mechanism of the earthquakes (Tsuruoka et al., 1995), it may have some influence or not.
-->
the seismic cycle (Tanaka 2010, 2012; Peng et al., 2021) and the focal mechanism of the earthquakes (Tsuruoka et al., 1995) may have some influence or not.

L49: crust (the gravity) --> crust via gravity change

L49: , and --> and

L50: "Therefore, invoking “electrodynamic”, “resonance”, and “molecule” as if they were keywords to explain the phenomena leading to this assertion only reflects the lack of scientific knowledge of the persons promoting this theory."
I think this sentence might not be necessary because the author already explains in the above sentence how little the planets/sun alignments may influence stress change in the crust.

L61: We also calculated --> We also evaluate

L81: The celestial body --> The celestial bodies

L81: the Earth --> Earth

L88:
The vector that has the longest norm shows the two bodies whose distance is the greatest
-->
The vector that has the longest norm shows the distance between the two bodies is the greatest

L183: law p-value --> low p-value

L186: more often that others --> more often than the others

L187: figure 1 --> figure 2

Data & code availability and reproducibility:
I would like to thank the author for making the codes available and the results presented in this submission reproducible. I cloned the repository, ran the codes, and confirmed that the results presented in this submission were reproduced.

By the way, could it be possible to add features to compute p-values (perhaps the author is using `scipy.stats.binomtest`?) in the author's Github repository, so that the readers could reproduce the results shown in Table 1?

L148: 0.23 --> 0.23 (Table 1)

L152: conjunction --> conjunction (Table 1)

L180: Nether-the-less --> Nevertheless?

I would like to thank the editor and the reviewer for the comments on the manuscript. I corrected the too many typos in the paper, and tried to address the moderate comments.

I think one of the major flaw in the first version of the paper was a lack of context. I hope the second version will be more convincing and will better explain why I wrote this paper. This paper mainly aims at providing scientific and statistical counterarguments to persons making predictions of earthquakes based on conjunctions. I hope now that there is enough information in the paper to understand the context. I also updated the GitHub repository to show the p-value calculation and to reproduce the results with the declustering of the catalog.

Best regards,

Pierre Romanet

Editor: Ryo Okuwaki

Title: >= --> ≥ or we may want to avoid using "Mw" as:, (>=Mw7) --> (moment magnitude ≥ 7)

I followed the recommendation by the reviewer.

Title: Earthquake --> Earthquakes

I have corrected it.

L16: We may want to cite any agencies that determined the moment magnitude (USGS?); for example: U.S. Geological Survey, Earthquake Hazards Program, 2017, Advanced National Seismic System (ANSS) Comprehensive Catalog of Earthquake Events and Products: Various, https://doi.org/10.5066/F7MS3QZH.

I added the reference and slightly improve the sentence: "Mw 7.8 and Mw 7.5 Kahramanmaraş, Turkey, earthquake sequence on 6 February 2023 (USGS)"

L16: the assertion --> an assertion

I have corrected it.

L17: earthquake --> an earthquake occurrence

I have corrected it.

L17: bad quality news and social medias --> news and social media. The words; "bad quality" might need some explanation to clarify. For me, it might be fine just to say "news and social media".

I followed the recommendation and deleted it. I agree it was too agressive, and not the best way of saying it.

L17: In order to clarify the assertion introduced here, it should be helpful to show references of those ideas of earthquake prediction.

I have added some reference from national news papers, and fact checking website.

L18: We will call --> We call

I have corrected it.

L18–19: "although the correct word must be a syzygy"

Would you mean; "although it can also be referred to as a syzygy in Astronomy”?

I slightly modified the sentence: “although the correct word in astronomy would be a syzygy”. A conjunction in astronomy refers to the fact that two celestial bodies are very closed in space as observed on a third one (usually Earth). The correct word for the alignment of three celestial bodies in astronomy is a Syzygy.

L21: carefully period of time --> carefully a period of time

It is corrected.

L22: at which it occurs --> at which they occur

I have corrected for it.

L35: theory, has --> theory has

It is corrected.

L36: (Schuster, 1897) --> (e.g., Schuster, 1897)

It is corrected.

L36: Ide et al., 2016 I assume Ide et al. (2016, Nat. Geosci.) would be the one that fits into the context.

I made a mistake while making the reference list using latex. It is now corrected. I was referring to Ide et al., 2016, Nat. Geosci.

L39: earthquake --> earthquakes

I have corrected for it.

L39–41: the time in the seismic cycle (Tanaka 2010, 2012; Peng et al., 2021) and the focal mechanism of the earthquakes (Tsuruoka et al., 1995), it may have some influence or not.—> the seismic cycle (Tanaka 2010, 2012; Peng et al., 2021) and the focal mechanism of the earthquakes (Tsuruoka et al., 1995) may have some influence or not.

I slightly rephrased this sentence to be clearer to "Depending on the area, the considered period in the seismic cycle (Tanaka 2010, 2012; Peng et al., 2021) and the focal mechanism (Tsuruoka et al., 1995), the moon phase may have some influence or not."

L49: crust (the gravity) --> crust via gravity change

I have followed the recommendation.

L49: , and --> and

I have corrected for it.

L50: "Therefore, invoking "electrodynamic", "resonance", and "molecule" as if they were keywords to explain the phenomena leading to this assertion only reflects the lack of scientific knowledge of the persons promoting this theory." I think this sentence might not be necessary because the author already explains in the above sentence how little the planets/sun alignments may influence stress change in the crust.

I followed the recommendation and remove this sentence, as it was not providing any useful information for the reader.

L61: We also calculated --> We also evaluate

I have corrected for it.

L81: The celestial body --> The celestial bodies

It is corrected.

L81: the Earth --> Earth

I have corrected for it.

L88: The vector that has the longest norm shows the two bodies whose distance is the greatest —> The vector that has the longest norm shows the distance between the two bodies is the greatest

I have rephrased it to : “the longest norm shows the greatest distance between two bodies ”

L183: law p-value --> low p-value

I have corrected for it.

L186: more often that others --> more often than the others

It is corrected.

L187: figure 1 --> figure 2

I think the figure was ok, because the first display is a table.

By the way, could it be possible to add features to compute p-values (perhaps the author is using `scipy.stats.binomtest`?) in the author's Github repository, so that the readers could reproduce the results shown in Table 1?

It is added on github. I have also corrected for a typo in the formula (π factor) in the paper.

L148: 0.23 --> 0.23 (Table 1)

I have corrected for it.

L152: conjunction --> conjunction (Table 1)

I have corrected for it.

L180: Nether-the-less --> Nevertheless?

It is corrected.

Reviewer: Yen Joe Tan

The main analysis of the study is to compare the rate of conjunctions (R_c) vs the rate of earthquakes occurring during conjunctions (R_ec), with the idea that if earthquakes occur preferentially during conjunctions, R_ec should be significantly larger than R_c. However, 9 celestial bodies' conjunctions are treated as equals even though their gravitational effects on Earth are drastically different due to their varying distances. In addition, the stress changes (both amplitude and phase) on faults at different locations with different orientations can be very different. Finally, the ocean tidal effect is dominant for submarine and coastal earthquakes, with a phase lag relative to the solid earth tide. Therefore, for a proper quantification of conjunctions' effect on earthquake occurrence, wouldn't one have to directly estimate the stress changes given the focal mechanisms similar to what was done in Cochran et al. Earth Tides Can Trigger Shallow Thrust Fault Earthquakes, *Science* 2004?

I totally agree with the reviewer that it would have been much better to calculate the effect on the gravity for each planet and eventually calculating the traction on the faults that depends on the fault plane.

I think I should have submitted the paper with more context which I am trying to do now. This article is mainly to answer one person making some predictions (Frank Hoogerbeets/ SSGEOS), so that the scientific community has some papers on which to rely on to contradict these claims. He get heightened attention after the Turkey sequence of earthquakes. For this paper, It all started with some very easy calculation on twitter showing that conjunction are in fact very common, and that the rate of conjunctions is (very similar) to the rate of EQ associated with conjunctions. I did not really plan to submit it until some other researchers told me I should do so.

This paper is only intended as a simple way to contradict the fact that earthquake can be predicted using conjunctions. We can find more elaborated ways to contradict these claims, but it will require much more time and efforts, for a theory that is very unlikely, and not even testable given the current earthquake catalogs.

The binomial test (lines 131-143) assumes that the earthquake occurrence times are randomly distributed. However, the catalog used was not declustered so some events will likely be aftershocks which violates the assumption. While this was acknowledged in the manuscript, it was not addressed. I think it is within the scope of this paper to properly decluster the catalog before the statistical analyses.

To answer the reviewer comment, I have performed very crude declustering by looking at cluster of earthquake that were happening close in time (15 days or 30days), and close in space (geodetic distance <200km or <500km). In these clusters, I only kept the highest magnitude and discard other events. It does not really change the results, except that it slightly decreases the total number of earthquakes in the catalog.

Except if the reviewer really insists to add it, I would prefer not to include it in the main text of the paper, because it will make the discussion heavier to read and I would like to avoid adding too many different cases in the paper. I added these results in appendix. These results can also be reproduced using the updated github python script.

Lines 187-189: "the difference between the percentage of planet/sun involved at least in one conjunction during one day is within 3% the same as the percentage of earthquakes that can be at least associated with a given planet/sun in a conjunction" – I do not think that 3% is obviously statistically insignificant without doing a test. This depends on the sample size, since one can still find statistically significant evidence of a weak effect. For example, if earthquakes are 1% more likely to occur during conjunctions vs other times, given a large enough catalog, a statistically significant small difference can be identified. So I think a test ought to be performed for each case shown in Fig. 1 to evaluate whether the difference is significant.

This is a fair comment, and it was a good idea to check. I added the one side p value for all the planets on figure 1. It appears that the p-value for Neptune is surprisingly small ±1%. For all other planets, the p-value is quite large. I modified the text accordingly.

There are many very short paragraphs (1-3 sentences) that can be merged to improve the flow of the paper. For example, the first four paragraphs in the Introduction section can probably be merged into a single paragraph.

I have merge 3 of the first paragraphs together.

Lines 16-17: citation for sources that made the assertions, since it seems like that's the main motivation behind this study?

This is a good point. I was really wondering how should I gave enough information so that an interested reader can understand while not promoting the theory in the paper. After discussions, I decided to add references from newspapers that dismiss this theory and directly name these persons/institute. Like that, an interested reader can still follow the references and better understand the context of the paper.

Line 30: use of the word "working" is unclear – are you saying they only point to earthquakes that occur during conjunctions?

I changed the word "working" so that there is no ambiguity.

Line 34: "This assertion" – since this is the start of a new paragraph, you might want to directly specify what "this assertion" is referring to.

I changed the sentence. It may look like a bit repetitive, but I agree with you that makes the paper easier to read.

Line 43: I am not sure Ide et al. 2016 is the correct reference here about the potential use of tidal triggering for long-term earthquake forecasting, since that paper was mainly about the properties of slow earthquakes in Cascadia.

I realised that Ide et al., 2016 was linked to the wrong reference in the reference list (another Ide et al., 2016). I have corrected for it. The paper is the one about the change of the b-value of Guttenberg Richter, hence not about slow earthquakes.

Lines 52-53: citation for sources that invoked "electrodynamic, resonance, and molecule"?

Following the other reviewer comments I have deleted this part that was not very diplomatic. I would like to avoid referring to these theories in the paper.

Lines 59-61: "This assertion that planet/sun alignment is promoting earthquakes would be valid only if it is happening more frequently than conjunctions themselves" – I think this argument is logically incorrect. If earthquake occurrence is A, conjunction is B, the intersection of A and B (earthquake occurring during conjunction) cannot be larger than B. Did you meant to say that the *rate* of earthquake occurrence during conjunction should be larger than the *rate* of conjunction?

The reviewer is right, and I corrected the sentence to be clearer: "earthquakes would be valid only if the rate of earthquakes associated with conjunctions was higher than the conjunction rate. "

Lines 87-96: I think this would benefit from a figure to illustrate visually what the various parameters represent. You should also specify here what theta_thr value you used (instead of only stating it much later in Fig 1).

I would have prefer to avoid adding a figure here, because I want to keep the paper short. I am now specifying the value of the threshold in this section.

Line 152: "p-value is also high enough" – I think it would be valuable to list all the exact p values for different scenarios instead of only stating whether they are greater or smaller than 0.5.

I agree with the reviewer that it will make the text clearer. I have added it in parenthesis just after listing them in the main text.

Figure 1: the x-axis labels are cut off

I have now corrected for it.

Line 183: I think "law" is supposed to be "low"?

Thank you for spotting it. It is now corrected.

Lines 191-197 and Figure 2: I am not sure what's the main point of paragraph/ figure. I don't think observing that conjunctions that are the most frequent are most often associated with earthquakes is an evidence that earthquakes are not correlated with conjunctions.

I agree with the reviewer that it is not the best way to do it. I added this part to avoid comments like "but you did not look at this particular conjunction, this is the one that matters".

There is no scientific basis about why a specific conjunction should matter more or not, but it came with little efforts for me to test it. This is why I added this paragraph.

Dear Pierre,

Thank you very much for submitting the revised version of your manuscript. I have evaluated the revised version along with the responses to the reviewers. I would like to confirm that the manuscript can be accepted, but it may still contain some issues to be resolved. Please find the following additional comments on the revised manuscript.

Once the manuscript is revised, please upload the following files, so that we can proceed to the next stage of the publication process after the manuscript is accepted. Since Seismica's copyeditors are volunteers, it is good to help them out with their job as early as possible:

- A 'response-to-reviewers' letter that shows your response to each of the reviewers' points (*this time, the points raised by Handling Editor below), together with a summary of the resulting changes made to the manuscript.

- A pdf version of the revised manuscript clearly highlighting changes/markup/edits.

- The final, cleaned manuscript using the Seismica template in Microsoft Word, OpenOffice or LaTeX file format (found on the Templates page) with figures included in the text. If using LaTeX, please also include your bibliography .bib file.

- Separate publication-ready figure files in .png or .pdf format at a minimum of 300 dpi resolution

- Supplementary material should be uploaded as a separate file that will not be formatted. Supplementary material should not be included in the main paper.

Please check that:

- Most (>90%) references should contain DOI information.

- All author information is provided (ORCID, corresponding author, affiliation, contribution) and is coherent with the information entered at submission (OJS metadata).

- Data & code availability and reproducibility statements should be provided.

Good luck with the final stages, and please don't hesitate to ask if you have any questions.

Kind regards,

Ryo Okuwaki

rokuwaki@geol.tsukuba.ac.jp

Comments by Handling Editor (Ryo Okuwaki)

I appreciate the author's response to the Reviewer A's first point (suggesting quantification of conjunctions' effect on earthquake occurrence) in the rebuttal letter. However, I would also expect the author could include those statements somewhere in the manuscript; for example, the author's manuscript is intended to testify the assertion of earthquake prediction with conjunctions in a simpler way, although elaborate analyses can alternatively be made in future works, for example to calculate the gravitational effects and traction on differently oriented faults (e.g., Cochran et al., 2004).

#

[Reviewer A's comment in the first round of review]

Line 34: "This assertion" – since this is the start of a new paragraph, you might want to directly specify what "this assertion" is referring to.

[Author's reply]

I changed the sentence. It may look like a bit repetitive, but I agree with you that makes the paper easier to read.

It seems the relevant sentence remains the same as the first submitted version. Could you please clarify what has been changed there? In case it has not been changed, please resolve the Reviewer A's comment and revise the manuscript accordingly.

I am listing below the other minor points to be corrected. For the line numbers, I'm referring to the clean version of the revised manuscript.

L16: Mw --> moment magnitude (Mw)

L16: Turkey --> Türkiye

https://turkiye.un.org/en/184798-turkeys-name-changed-t%C3%BCrkiye

L17: (USGS) --> (USGS, 2017)

L19: Chappel --> Chappell

*Please also check the reference list.

L71: Mw>7 --> Mw≥7

L74: Mw 7 --> Mw≥7

L104: was used, this threshold is --> was used, and this threshold is

L182: (see Appendix) --> (see Supplementary Tables S1–S3)

L185: claim, that earthquakes --> claim that earthquakes

L195: Could it be possible to clarify where this percentage "96%" comes from?

L208: given in appendix (table 2) --> given in Supplementary Table S1

L212: planetary/sun --> planet/sun

L396: I apologize that I should have mentioned this in the first round of review, but I would suggest presenting these tables in a Supplementary material and uploading as a separate file.

L398: Table 2 --> Table S1

L408–412: I would suggest moving this explanation of the author's way of declustering to "Supplementary Text S1" or to the main text somewhere around L178–182.

L414: Table 3 --> Table S2

L420: 200km --> 200 km

L323: Table 4 --> Table S3

L423: 500km --> 500 km

Dear Okuwaki san,

Thank you a lot for the detailed review and the short answers. I have now revised the manuscript. I made the two main corrections, as well as I corrected all the small typos. I also changed Github to Zenodo.

Thank you again for your help,

Best regards,

Pierre

some personal changes:

“sun alignments and lunar phases may help to predict an earthquake” -> “sun alignments and lunar phases may predict an earthquake.”
I changed it because in future it may actually help to predict earthquakes, but for sure that will not be the only ingredient.

 # I appreciate the author's response to the Reviewer A's first point (suggesting quantification of conjunctions’ effect on earthquake occurrence) in the rebuttal letter. However, I would also expect the author could include those statements somewhere in the manuscript; for example, the author's manuscript is intended to testify the assertion of earthquake prediction with conjunctions in a simpler way, although elaborate analyses can alternatively be made in future works, for example to calculate the gravitational effects and traction on differently oriented faults (e.g., Cochran et al., 2004).

I changed this paragraph so that I am not denying that there is an effect of other planets. I followed your recommendation, by highlighting the fact that there are more elaborate ways to show that there may be an effect of planets on earthquakes.

Line 34: “This assertion” – since this is the start of a new paragraph, you might want to directly specify what “this assertion” is referring to.

I changed the sentence to "The fact that planet/sun alignment may predict an earthquake can be seen as a more evolved version of that the moon phase has a strong influence on earthquakes." The confusion is coming from the fact I was using two times "This assertion" in the first version of the manuscript.

L16: Mw --> moment magnitude (Mw)

This is corrected.

L16: Turkey --> Türkiye

I have corrected for it.

L17: (USGS) --> (USGS, 2017)

It is corrected.

L19: Chappel --> Chappell

This is corrected in the main text and the reference text.

L71: Mw>7 --> Mw≥7

This is corrected.

L74: Mw 7 --> Mw≥7

This is corrected.

L104: was used, this threshold is --> was used, and this threshold is

I have corrected for it.

L182: (see Appendix) --> (see Supplementary Tables S1–S3)

This is updated.

L185: claim, that earthquakes --> claim that earthquakes

This is corrected.

L195: Could it be possible to clarify where this percentage "96%" comes from?

I made if clearer in the text: “earthquake (there are 8344 days with at least one conjunction including Neptune, and 266 earthquakes are associated with at least one conjunction including Neptune).”

L208: given in appendix (table 2) --> given in Supplementary Table S1

It is corrected.

L212: planetary/sun --> planet/sun

It is corrected.

L396: I apologize that I should have mentioned this in the first round of review, but I would suggest presenting these tables in a Supplementary material and uploading as a separate file.

No problem, I should have better read the requirements. Thank you.

L398: Table 2 --> Table S1

It is corrected.

L408–412: I would suggest moving this explanation of the author's way of declustering to "Supplementary Text S1" or to the main text somewhere around L178–182.

I added two sections named “Supplementary Text” and “Supplementary Tables” in Supplementary Materials.

L414: Table 3 --> Table S2

It is corrected.

L420: 200km --> 200 km

It is corrected.

L323: Table 4 --> Table S3

It is corrected.

L423: 500km --> 500 km

It is corrected.