July 8, 2022

Patrice Rey
Topical editor
Solid Earth

Dear Editor,
Thank you for the helpful comments. We have considered all the comments and revised the manuscript accordingly. It is also noted that we have used the services of a professional English editing company to improve the language of the manuscript. We have attached an editing certificate below.

Please find your point-by-point response to the comments below. We hope that the revised manuscript is now ready for publication in *Solid Earth*.

Thank you again for your consideration.

Sincerely,
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editage

Editing Certificate

This document certifies that the manuscript listed below has been edited to ensure language and grammar accuracy and is error free in these aspects. The logical presentation of ideas and the structure of the paper were also checked during the editing process. The edit was performed by professional editors at Editage, a division of Cactus Communications. The sections titled references were not edited by Editage upon the author's request.

The author's core research ideas were not altered during the editing process. Editage guarantees the quality of editing with the assumption that our suggested changes have been accepted and the edited text has not been altered without the knowledge of our editors.

MANUSCRIPT TITLE

Numerical Simulation of Contemporary Kinematics at the Northeastern Tibetan Plateau and its implications for seismic hazard assessment

AUTHORS

Liming Li

ISSUED ON

June 30, 2022

JOB CODE

ILIMI_4_4

THE EDITAGE Promise QUALITY GUARANTEE

Vikas Narang

Vikas Narang
Chief Operating Officer - Editage

Response to Comments from Editor

1. Editor's comment:
Introduction: Concerning the timing of the onset of the collision between India and Asia, there are older references than Zhang et al., 2013, 2014. Consider referencing also older papers such as Achache et al., 1984.

Author's response:

Thank you for your suggestion; we have added two references. The updated sentence is as follows:

Modern geomorphology and tectonic features of the NETP are thought to be formed by the expansion of the TP toward its periphery, which has been ongoing since the initial collision of the Indian and Eurasian plates (Achache et al., 1984; Patriat and Achache 1984; P. Zhang et al., 2013, 2014).

2. Editor's comment:
Line 28: remove "generalized".

Author's response:

Thank you for your suggestion. We have removed "generalized" in the revised manuscript.

3. Editor's comment:
Line 30: Remove "extremely".

Author's response:

Thank you for your suggestion. We have removed "extremely" in the revised manuscript.

4. Editor's comment:
Line 33: Remove "in history".

Author's response:

Thank you for your suggestion. We have removed "in history" in the revised manuscript.

5. Editor's comment:
Line 37: "... which are lack in the NETP ...", can you please correct this mistake?

Author's response:

Thank you for your suggestion. The sentence has been rephrased as follows:

Moreover, the spatially continuous fault slip rates that NETP lacks can also be used to reconstruct the tectonic evolution of this area and provide important insights into the lateral expansion pattern and deformation mechanisms of the TP (Royden et al., 1997; Tapponnier et al., 1982; Zhang et al., 2004).

6. Editor's comment:
Line 58: "... instead of a simple conceptual model ..." avoid this kind of unnecessary innuendo aimed at previous research. Your own model is still conceptual and very simple.

Author's response:

Thank you for your suggestion. The sentence has been rephrased as follows:

In this study, a comprehensive 3D geomechanical model of the NETP was constructed with detailed complex 3D fault geometries, heterogeneous rock properties and reasonable initial crustal stress.

7. Editor's comment:
Line 60: Replace "After calibrated" with "After calibration with..."

Author's response:

Thank you for your suggestion. The sentence has been rephrased as follows:

After calibration with model-independent observations, the results of the geomechanical model, such as the horizontal crustal velocities and spatially continuous slip rates of major faults, were presented.

8. Editor's comment:
Line 95: Replace "detachment" by "décollement". A detachment cuts across the rheological layering, a decollement runs parallel to it.

Author's response:

Thank you for your suggestion. We have replaced "detachment" with "decollement" in the revised manuscript.

9. **Editor's comment:**
Line 160: No need to capitalize "Where".

Author's response:

Thank you for your suggestion. This correction has been made.

In addition, we have made substantial language revisions. Please see the marked-up manuscript for more detail.