Naples, Italy. April 3rd, 2025

***Subject*: Responses to the Referee Comments on 'Strike-slip kinematics from crustal to outcrop-scale: the impact of the material properties on the analogue modelling'**

***To*: Solid Earth Referee**

Dear Editor,

First of all, my co-authors and I would like to sincerely thank you and the reviewers for accepting the manuscript for publication in Solid Earth.
We have made the technical corrections as explained in the following point-by-point responses.

Sincerely,

Luigi Massaro
Research Fellow (RTD-a)
Dipartimento di Ingegneria Civile, Edile ed Ambientale - DICEA
Università degli Studi di Napoli Federico II
Piazzale Tecchio 80, Napoli 80125

Reviewer #1

Thank you for addressing my comments. If I may harp on one more time about color map choices. A colormap that is divergent (like to one that goes from blue to red with white in the middle) should be used for divergent data visualization where the center of the colormap should be at 0. This works really well in your figures 9 and 10. Using the same color map in figures 8 and 11 does not work well as the most striking color change (from red to blue) is not centered at a specific value. If you have the capacity, I would like to encourage you to change the color map for figures 8 and 11. I know, there are many published figures where the same exact point of criticism is warranted and to be fair, I have done it too in the past. But color maps are more than a choice depending on taste but actually contain information themselves. The paper reads well and I'm looking forward to seeing it published. Below is a very short list of typos I saw when reading through the manuscript.

R: thank you for this suggestion, we do agree that the colour maps are very important in a paper, therefore we modified the colour bar as suggested.
However, we believe you mentioned figures 8-9-10-11 but you actually meant 7-8-9-10 (fig. 11 is not a colour map), because of the way the captions are arranged in the figure section of the document. Anyway, we agree that a colour map with 'white' corresponding to 0 would work much better for the displacement map (fig. 7) since the value goes from 0 to positive values, and we changed it accordingly. However, in Fig. 10 the cumulative shear strain spans in a min-to-max range (for a better visualization), showing negative values in two models. Therefore, we believe that the divergent colour bar fits better in this case.

L72: Deformation bands
L167: …above mentioned…
L169: Not sure elaborated is the correct word here.
L227: Close parentheses
L348: Incomplete sentence
L410: Figure reference missing
L415: Same here

R: in the revised text, all these points have been corrected as suggested.

Sito Web: www.dicea.unina.it |e-mail: dicea@unina.it |Pec: dip.ing-civ-ed-amb@pec.unina.it |C.F./P.IVA:00876220633