We thank the Editor for the comments that allowed us to clarify and improve the contents of the manuscript. Our answers to the Editor's comments are listed by a point-by-point basis as follows. The blue text in the manuscript indicates the revisions that we made in previous comments. The red text in the manuscript indicates the changes that we further made after the latest comments by the Editor.

RE #1-3, #1-10, and #1-11: There may be some misunderstandings. The problem has been the inconsistency among the coverage areas for the data provided by InSAR and leveling surveys. If the InSAR data is available for the eastern area as the authors suggest in their response (this was not clear in the manuscript), Figure 1 should show the entire extent of the area of target, including the eastern side (like the case for the current Figure 3a). It is also necessary to explicitly indicate the extent of available data for InSAR, like that for the UAS data area. Figure 9 should also be widened to include the eastern side, together with the PS-InSAR plots and leveling lines. If this is achieved, current Figure 10a becomes unnecessary (i.e., all the locational contents in Figure 10a can be integrated into Figure 9).

Answer: As we focus herein on the Hengchun Fault (which is situated W of the Hengchun peninsula), we provided in this paper only the PS-inSAR dataset on the studied area. Finally, we modified the leveling lines as the reviewer insist and we modified the eastern part of Fig.10 !

RE #n1-8: I do agree with the authors that too many details are unnecessary for the cited work. However, one may not be able to instantly read the cited paper, and it should be helpful and more scientifically sound if some basic descriptions of the method (including measurement type (static I guess), accuracies, temporal frequencies, measurement periods, etc.) are provided.

Answer: Effectively, we focus in this paper on the location, characterization and quantification of the Hengchun active fault. We unfortunately are not writing a paper on leveling, GPS or PS-inSAR, so we only used those dataset and cited the good authors and the NHESS reader is deeply invited to go to those references to get further information not dealing wand away of the active tectonic thematic.

RE#n4-33: Please revise the newly added Figure 3 with regard to the better interpretation of the geological components (geological boundaries, fault lines, and terraces). It is still unclear how these high-resolution images contribute to the better interpretations of the geology in this area, although this is partly shown in the next Figure 4. Therefore, please provide some interpreted lines on these high-resolution maps in Figure 3.

Answer: Despite we disagree with this reviewer comment, as Fig 3 was dedicated to the comparison of the numerical topography dataset quality. That is why we compared different topographic DTM resolution (40m up to our new 7cm ground resolution). We added the few fault lines that was asked. In contrast Fig 4 is dedicated to the morphostructural interpretation with raw data and geological mapping in 2D and a schematic 3D view. The Fig. 4 is definitely there to highlights some of the pedagogic morphostructural interpretation. One may note that any reviewer is invited to read the basic of morphostructural interpretation from topography if he wants to learn more about how to get structures from topography.

Some other editorial comments:

NE#1. Abstract: It is better to remove citations in Abstract (P. 1, L. 19).

Response: We removed CPC and CGS...

NE#2. P. 1, L. 23 and 33: Please spell out GPS.

Response: We added Global Positioning System (GPS)

NE#3. P. 2, L. 1: Please provide the unit in mm/y.

Response: We modified the GPS displacement in $mm.y^{-1}$ as required.

NE#4. P. 2, L. 19 and followings, on the terminology for DTM, DSM, and DEM: There seem mixed uses of these three words. In general, DEM (digital elevation model) is a generic term, including the filtered DTM (digital terrain model) showing bare land and surficial DSM (digital surface model) before filtering/removing ground objects. Photogrammetric approaches can usually provide only DSM (except some cases), while airborne lidar can provide both of DTM and DSM. In particular, UAS usually generates DSM only. If DTM is generated from UAS-derived photogrammetric data, there should be some specific algorithms to filter the raw point cloud. Anyway, please provide the definition of these terms when first appears in the text, and consistently use the appropriate ones throughout the manuscript.

Response: We have now defined the terms in P. 4, in this manuscript as suggested. (Note: The Taiwan government and the geomatics community define the term DTM as a general term, whereas the DEM was defined as the geomorphologic elevation after removing the buildings, trees and vehicles, etc. DSM defines the first return of the LiDAR pulse of terrain data, including buildings and tree canopy). The UAS generates DSM usually, for some case DTM can be produced from dense point cloud. The wordings in the manuscript are clearly defined now.

NE#5. P. 2, L. 26: "PI JAXA…" This information should better be provided in Acknowledgements with more details, not in the main text.

Response: This information is removed page 2 as it was already in the acknowledgements

NE#6. P. 2, L. 29: Please provide the webpage with URL in a citation format.

Response: URL is removed in the text and modified by "Academia Sinica GPS..." and added in the reference list.

NE#7. P. 3, L. 16: Remove "(18)" after "Eighteen".

Response: 18 is removed

NE#8. P. 3, L. 16-17: Please spell out "LiDAR".

Response: Light Detection And Ranging added

NE#9. P. 3, L. 16-17: "dataset" should be more specific, such as "DTM with a grid size of 2 m".

Response: done with grid size of 2m is added.

NE#10. P. 3, L. 24-17: "the 5m grid DTM… by the authors." This portion seems unnecessary if the 5-m DEM by such aerial photogrammetry has never used for this study. Please clarify and remove this part if applicable.

Response: Please read back what was the previous reviewers query as you asked to include this paragraph in the text (see #n4.33). We do not want to remove a paragraph you asked us to add and now you asked us to remove... Please be coherent with what you asked for any revision.

NE#11. P. 4, L. 31: Please consider to split the section here. The former subsection (3.1) can be about the existing knowledge on geological facts, while the latter (3.2) is about the updates of the existing geological maps using the authors' methods.

Response: Done we added 3.1 (Hengchun Geological state of the art) and 3.2 (updated Hengchun Geology and neotectonics)

NE#12. P. 5, L. 23: Change "There western" to "Their western".

Response: "their" is added instead of there

NE#13. P. 6, L. 4-6: This portion should be in the subsection 3.1 (previous knowledge) as noted above.

Response: No we'd rather conserve the neotectonics in the paragraph that describe the activity of our new observed structures. Consequently we modified the title 3.2 in order to enhance also neotectonics.

NE#14. P. 6, L. 7-9: This portion seems better to be stated in the Conclusions section as a future issue.
Response: This paragraph is cut and place in the last sentences of the conclusion.

NE#15. P. 6, L. 14: Better to use double quotations for "Super Master". Also, please provide some additional explanations on this term (e.g., by just adding "as a reference").
Response: Done: we added "as a reference"

NE#16. P. 6, L. 20: "The method identifies PS pixels (more than… 20133 exactly)" can be rephrased as "The method identifies 20133 PS pixels".
Response: We added this sentence instead of the previous one.

NE#17. P. 6, L. 23: To avoid misunderstandings for readers, it would be recommended to add some notes such as "Note that this LOS data is not projected onto the vertical component." after "through time series."
Response: This is added

NE#18. P. 7, L. 24: To avoid misunderstandings, "projected on" could be rephrased with "compared with".
Response: Despite "compared with" is less precise than "projected on" we add it.

NE#19. P. 7, L. 30: ", see the colour scale" can be removed.
Response: It is removed.

NE#20. P. 8, L. 25: This section is too long can be separated into "Discussion" and "Conclusions". The lines after P. 10 L. 13 can be an independent section for "Concluding remarks".
Response: Following the requirement of this reviewer, we divided the discussion and conclusion paragraph and came back to the initial outline of january 31st, 2017 where on our first submitted version the discussion and the conclusion were clearly separated (see line 326 page 16 of the first submitted version!). Thanks to be coherent in your different queries.

NE#21. P. 10, L. 1-4: The vertical component of the tectonic activity is provided by the leveling data. However, the expression "locally confirmed by … LOS" is somewhat misunderstanding. It may be better to rephrase, such as "consistent with the LOS displacement" or else.

Response: We remove "locally confirmed" by "consistent with"...

NE#22. P. 10, L. 12: "So, in order to conclude," can be removed.

Response: Done. One may note it was like that in the first submitted version of January 31st, 2017 (p.17 L 327)! Please be consistent in your reviewing query…

NE#23. Figure 1: As noted above, the extent for Figure 1b could be expanded to cover the entire data area for InSAR as well. In the caption, replace "Fig. 1a" with "(a)", also for b and c.

Response: We already answer to that point we provide the PSINSAR dataset only on the studied area for common sense reasons.

NE#24. Figure 3: Re-order the panels as:

a b

c d

e f

g h

Also, add scales and north directions for all the panels.

Response: Done, see new Fig.3 we also added some active fault lines in red as required .

NE#25. Figure 7: Please indicate in the caption that the western margin of the geological unit (flat land) is out of the UAS data and derived from the other data sources (coarser DEMs).

Response: We added the following sentence: "the western extension of the Hengchun alluvial plain (8) is deduced from the 5m DEM.

NE#26. Figure 10: Use a citation format to represent the website and URL.

Response: see SSCDLA both in the figure caption and the reference list.