Dear Editor,

Enclosed please find the revision of Manuscript ID: NHESS-2017-113 entitled "**Planar Seismic Source Characterization Models Developed for Probabilistic Seismic Hazard Assessment of Istanbul**". We appreciate your time and efforts during the review process. We are also thankful to the reviewer for valuable and constructive comments about the revised manuscript.

In this revision, the referee report includes three general remarks:

1) **Missing references:** We thank the reviewer for the careful review of the manuscript. All of these references were added to the annotated manuscript during the previous review cycle but somehow were not included in the clean version. Now all of them are placed in the reference list.
2) **Discussion of the results based on Figure 6:** Current version of Figure 6 compares the source model fractals with the cumulative rate of the associated seismicity with the rupture system to evaluate the epistemic uncertainty included in the source model. The reviewer suggested adding the earthquake rates given in Supplement#2 on this figure to provide a better visualization of the epistemic uncertainty in the model. We appreciate the suggestion and the efforts for providing the example figure in the referee report. However, the example figure given in the report does not reflect the complete set of curves to be added to Figure 6. Since the Düzce, Ganos/Saros, and Central Marmara rupture systems include two segments and three rupture sources (S1, S2, S1+S2) and each rupture source have 27 parameter combinations; 3x27=81 lines have to be added to Figure 6b, 6c, and 6d, individually. For Izmit rupture system with 15 rupture sources (and again 27 parameter combinations), the curves to be added on Figure 6a are over four hundred. We think that adding these set of lines will not improve the visualization of the epistemic uncertainty included in the model and prefer to use the fractals to represent these large sets of curves.
3) **Parameter combinations for logic tree branches:** The reviewer recommended adding a coding system (with branch numbers) that combines the logic tree branches with the earthquake rates given in the supplement. We introduced this system in the updated Supplement#2.

In addition to the general remarks, the reviewer provided a list of specific remarks. We implemented all suggested changes, except for moving the discussion related to UCERF3 to the introduction section. We think that the discussion section is more appropriate for this information considering the context of the paper.