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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Seismic Assessment Of Multi-Span Steel Railway Bridge In Turkey Base On The Nonlinear Time History Analyses" *by* Mehmet F. Yilmaz and Barlas Ö. Çaglayan

Anonymous Referee #1

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General Comments

The article is very poorly written (in terms of vocabulary, punctuation, grammar and proper scientific referencing) and could benefit greatly from a thorough review by a language editor. Unfortunately, understanding and judging the content of the article in its current state is therefore very challenging.

Based on the result section, the paper might have potential but it needs major revisions in terms of writing and requires improved explanation of decisions made regarding the scoping of the paper, the data analysis, interpretation of the results and derived conclusions.

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Discussion paper

Specific Comments

I strongly advise the authors to include references to the existing literature for claims made, such as: - p2. [16-19] “Component fragility shows the seismic behavior of different component under same level of damage. With using component fragility the weakest component of the bridge can be determined easily. Buckling capacities of all members are calculated. Fragility curves for Truss Piers, Truss, and Stringer members are derived using PSDM. Truss piers are most fragile component because of the slenderness of elements and total length of the truss piers. - Sections 2 and 3 lack referencing to sources used. - P.9 [6]: “There is limited information about damaged steel truss bridge in the literature.”

Section 5 (p.8 [5-6]): There is no explanation why the authors selected these specific 9 intensity measures as presented in table 1. Is this supported by other literature? There is very little support or unclear explanations for conclusions derived based on the obtained results; such as p.8 [9]: “The result of these analysis shows that ASI is more practical than other parameters.”

P.9 [12-13]: “For material properties, as there were no specimen tested for the Alasehir bridge material are choose from literature.” There is no elaboration which materials were chosen. A discussion section is missing. The authors provide little analysis of results and support for claims made.

Technical corrections

- P.1 [line 2]: There is a grammar mistake in the title. (“base” should be “based”) - P.1 [9]: “These studies show that to do the seismic risk assessments. . .” change to “These studies show that to conduct the seismic risk assessments. . .” - P.1 [18-19]: “Then selected 60 different real earthquake data are used for the analysis by using the refined model..“ Remove the second period and adjust sentence as it doesn’t flow well. - P.1 [24-25]: “Fragility is a conditional probability show that. . .” Please check grammar. - P.1 [27-28]: “function.(Shinozuka et al., 2000b)” Reference should have

been included before the period. - P.1 [29]: “determine the expert base fragility curves,” Sentence should have been concluded with a period rather than a comma. - P.1 [30]: “when the” Sentence should start with a capital letter. - P.2 [13]: “et al., 2012)(Tsubaki et al., 2016) what is more Energy base approach is recently used in fragility analyses (Wong, 2009)” This is not a complete sentence. - P.2 [11-12]: “Determining fragility curve for retrofitted bridge systems, component fragility and railway fragility are other issues currently becoming famous.” I suggest using a more scientific word instead of “famous”. - P.2 [26-28]: “Fragility is defined as conditional probability of seismic demand (EDP) placed upon structure or structural component exceeding its capacity (C) for a given level of ground motion intensity (IM).” These acronyms should have been explained the first time they were used, namely in line 3 of page 2.

Above is a selection of technical issues. I did not continue the technical review past the second page.

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