The article addresses the adequacy of the solvency capital for catastrophe properties in Iran calculated according to the current regulation. For a chosen portfolio of residential buildings, event-based probabilistic seismic risk assessment is performed and the results in terms of Average Annual Loss (AAL) and loss Exceedance Probability (EP) are used to calculate the Solvency Capital Requirement (SCR) according to the Solvency-II Directive instructions. The required solvency capital for the same buildings' portfolio obtained adopting the methodology introduced by the Iranian Directive No. 69 was estimated as well. The comparison between the Solvency-II and Directive 69 solvency capitals showed the limits of the insurance solvency regulation currently adopted in Iran. The outcomes of the study also underlined the need of adopting a stochastic earthquake risk model to calculate solvency capital and to ensure Iranian insurance companies to cover future catastrophe losses to happen in Iran.

This research is valuable for worldwide scientific communities as well as private stakeholders. The scientific quality of the paper is good. Scientific data, models adopted, and results are presented in a well-structured way. However, the presentation quality of this study could be improved. Specifically, the following comments and suggestions may be considered by the authors:

1. In table A1 is shown the level of risk associated with different building typologies in Iran, according to the study of Ghafory-Ashtiany M. (1991). However, there is no description of hazard scale used. May be useful to know the correspondence between such hazard levels and intensity measure (e.g., PGA ranges) used to define it.
2. Table 1 shows averaged earthquake insurance premiums for different building typologies in five provincial capital cities of Iran. To allow an easier understanding of the table contents, the values reported should be further commented. For instance, the cities of Tehran, Tabriz, Kerman presents a premium rate for masonry buildings equal to 1.1, while the cities of Esfahan and Ahvaz a premium rate of 0.78. Is such difference in the premium rate due only to the different hazard level? Is it due also to the different construction features of masonry buildings in the area (e.g., Adobe and Traditional or Confined Masonry, as reported in table A1)? Also, if the difference is only due to the different hazard level, why are the premium rates for masonry buildings the same in the city of Kerman and Tabriz while the rates for other typologies are different (e.g., 0.50 in Tabriz and 0.37 in Kerman for steel buildings)? Please, provide additional comments on it.
3. Event-based stochastic modelling is adopted in this study to quantify seismic risk. Despite this study focuses on the comparison of solvency capital calculation methods, a brief description of the risk assessment procedure adopted in the study could be useful. Please, consider briefly describing how hazard, exposure and vulnerability are incorporated in the process to generate event loss tables and how OpenQuake platform performs seismic risk calculation. At least, references to documents reporting such descriptions should be provided.
4. In section 3.2.2 the exposure modelling is described. As no information on building's construction year is provided in 2016 census data, all dwellings built between 2011 and 2016 are assumed constructed with modern material such as steel and RC. Are such dwellings equally divided into the two building typologies (RC and steel)? Such distribution should be specified as the two typologies could have different seismic performance (e.g., as shown in figure 4).
5. In section 3.2.3 a better description of vulnerability classes is needed. Nine vulnerability classes are identified by the adopted vulnerability model (Mansouri and Amini-Hosseini). Two classes for masonry buildings are defined. How do these two classes differ? For instance, do they differ in terms of number of storyes? Do they differ in terms of quality construction? Moreover, how the model characterize the quality construction? In other words, what is the meaning of "medium-quality construction" according to the model? Are there also other vulnerability classes for buildings characterized by low-quality and high-quality construction? A better description is needed. Moreover, in line 279 the authors claim that the buildings vintage is used as proxy for the quality of construction. Please, provide an example of how the building's age is used as proxy for the quality of construction.

6. In line 281, it is stated that an auxiliary population dataset with a 30-arc-second resolution is used to disaggregate the county-level building exposure data. First, a brief description of the downscaling procedure of exposure data adopted for such disaggregation should be provided. Also, please add a comment for justify why a finer resolution for exposure modelling is needed for losses calculation.
7. The authors should provide a definition of "country" level adopted in this study. Indeed, in figures 3,5 and 6 the "country border" seems representing the national border, while in Tables 1 and 2 the country level seems to be smaller than the province level but still different to the city level. A precise definition of the scale is important also to understand input data used (e.g., exposure data provided by census).
8. In figure 3 the residential building value is reported. How is it calculated? Which database is used to derive such value? Is the value adopted differ only based on buildings construction material or other parameters (such as quality of construction) are considered for its evaluation? Also, is this value assumed constants in the entire country, regardless the building location (e.g., province, city)? Please, provide additional information about residential building values adopted. Furthermore, to be consistent with comment in lines 285 – 292, maps in figure 3 might be also shown in terms of number of buildings instead of in terms of exposure value.
9. Vulnerability curves adopted for losses calculation are described in section 3.2.3. However, it is not clear the translation of physical damage into monetary losses. In other words, once the damage ratio is given, how are economic losses calculated? Is it function of the replacement cost for the building? Is the building surface also considered for losses calculation? Even if the value of replacement costs is presented in line 360, I would be better to introduce it before showing maps with expected losses (Figure 5 and Figure 6).
10. Economic losses shown in Figure 5 may do not allow an exhaustive comprehension of seismic risk in Iran. In other words, in location where AAL is high it is not easy to understand if it is high due to the exposure (i.e., the presence of many buildings exposed to earthquakes) or due to the high seismic hazard as well as to the high vulnerability of residential buildings in the area. Please consider adding a figure showing the value of losses/m^2. It could be also useful to confirm comment reported in lines 317 – 330.
11. The assumptions made for the application presented in section 4.2 could be oversimplified. Despite the main aim of this study is to compared solvency capitals calculated with different approaches, the assumption that 100 buildings are covered by earthquake policies in each of the selected cities in the country, regardless their residential population, may lead solvency capital values (shown in table 3) too unrepresentative of real cases. In fact, 100 buildings could correspond to the 100% of residential buildings in a city and to the 1% of residential buildings in another city, depending on how populated they are. Thus, it would be more appropriate to define a fixed percentages of buildings covered by earthquake policies in each city and estimate the number of buildings covered based on the total number of residential buildings in the city. Moreover, differences in the diffusion of a given typologies in each area of the country should be considered. Instead of assuming the same percentage of masonry, RC and steel buildings in each city, it would be more appropriate to derive the percentage of occurrence of such typologies in each city from the exposure model (Figure 3) and to adopt such percentages for a better exposure/vulnerability characterization at city level. Therefore, the authors may consider adopting more appropriate assumption for that application.
12. As this study may be hard to understand for those who are not experts in the field of earthquake insurance, please consider the following suggestions:
    - In line 196 CRESTA zones are introduced. Please, provide a brief description of the CRESTA zones.
    - Likewise, the Weighted Total Value Insured (WTIV) the Total Insured Value (TIV) are mentioned in in lines 195 and 196. Please consider providing their definition and how they are derived.
    - In line 235 the event loss table (ELT) is introduced. What is the information provided in the ELT? Please, provide a briefly description on its contents.

Additionally, it is recommended to implement the following modifications (technical corrections):

13. The acronym “VaR” is presented in line 199. However, it is already used before (e.g., line 157). Please, add the specification for the acronym at its first mention.
14. In line 317 replace “figure 4” with “figure 5”. Likewise, replace “figure 5” with “figure 6” in line 331. Please, check the numbering of all figures.
15. The description of the figure in line 331 (one-in-200-year losses) is not in line with the figure caption 6 caption (Earthquake 1-in-100 loss). Please, modify it.
16. Please, correct the following typing errors:
    - Line 102: replace “Christchurch quakes” with “Christchurch earthquake”.
    - Line 112: use the square brackets as in the line 107.
    - Line 297: modify the reference “Mansouri and Amini-Hosseini [38]” using the proper reference scheme.