1.CC1

I want to congratulate the authors on their impressive contribution to the field; to my knowledge, this work appears to be the first of its kind in Iran, systematically addressing the solvency issue. It holds significant value due to the implementation of a CAT model that I believe has the potential to surpass the quality of comparable models of renowned vendors. Additionally, the critical evaluation of existing requirements in comparison to internationally recognized solvency standards further enhance the importance of this work.

This work presents a compelling argument for transitioning from the current approach in the insurance industry in Iran to a risk-based approach, and if implemented effectively, this shift has the potential to provide protection to both policyholders and insurers in the event of extreme Earthquakes.

As it is explained in the paper, the low penetration rate of earthquake insurance makes it a bit more challenging when designing feasible solutions. One such solution that I believe can act as an ad-hoc solution in the current situation is a Public-Private cooperation schema, which is discussed in the paper very briefly. I think even if restricted solvency regulations are implemented, without the government's help, the private insurance companies have just two ways forward: 1- play with deductible and limit (exposing the policyholder to higher risk); 2- setting high premiums (preventing the people from purchasing the policies). Therefore, based on your discretion, there might be more explanation on this issue included in the paper.

Best Regards

Abbas FathiAzar

Reply to CC1:

Dear Mr. FathiAzar,

Many thanks for your comments. The authors do agree with you in that only enforcing stringent regulations would not improve the market and insurance penetration and other incentives such as private-public cooperations (including Iran Catastrophe Insurance Pool) need to be implemented. We will add more contents in the conclusion section and elaborate more on

solutions in this regard as far as possible. A paragraph was added in the discussion section to highlight the importance of private and public cooperation in successful adoption of new regulations such as a risk-based solvency regime.

2. CC2

A quick look at the paper:

Earthquake insurance in Iran: Solvency of local insurers in light of the current market practice

1. This is a helpful and in-time research paper, which sheds light on inner hidden layers of the insurance business in Iran, by stating finally that it has remained as a business-only activity so far!
2. It seems that its first row of audience should have been the decision makers in the economic sector of the government, and then the principals of the insurance companies. The last row goes to the external ears. Was it tried in the same order, since now it has ended up in an international journal? Yes, the idea of this research started with communications with Central Insurance of Iran and then continued in the form of presentations for insurance principals. This is the last stage of this activity to share the challenges and possible solutions to primarily at regional and then international level.
3. Use of GEM's OpenQuake as a probabilistic risk assessment platform is a highly up-to-date approach to such problems that combines the probabilistic events with their economic consequences using rich contemporary models. This is a major strong point of this paper.
4. Another important aspect of the study extent is its diversity as appeared in comparison of the earthquake risk solvency charge calculated by each methodology through selecting cities located in various seismicity zones contained different construction type compositions. This aspect adds to the generality of the outcome of the study.
5. Table 1, Earthquake premium rates: It seems that for locations like Isfahan where concrete buildings have been far more popular than the other types of buildings in recent decades, the corresponding value should be higher. These are current market rates used by Iranian insurance. The authors also do agree that these rates are not correct representatives of the building class vulnerabilities and seismicity of cities mentioned. This is why we did a risk modelling to determine reasonable premium rates.
6. Selection of the Earthquake Model of Middle East (Şeşetyan, et al., 2018) from within a wide range of studies is not fully justified in this paper. Since it is a core engine for the calculations, it should have been chosen in a more convincing way. Since the main objective of the paper has been a comparative analysis between different solvency regimes, and not development of a new seismicity model for Iran, we chose the GEM seismicity model for the Middle East due to its globally recognised scientific reputation and availability of OpenQuake input data for this model. We also added a paragraph to validate the results of the hazard model.
7. Figure 1 comes by surprise as it conveys such an important data with almost no background information about the line and area sources used, GMPE for different seismic sources, the logic trees [types as threes in the paper], and the soil model! More details on the seismic hazard model adopted were added including seismogenic sources, ground motion prediction equations and logic trees and weights used.

8. Figure 1 in fact is not showing the 475-year PGAs. Those are much higher in the related Iranian earthquakes. Use of such inexact expressions has always produced serious misunderstandings among young engineers in the country. It is actually the base or effective peak acceleration. A section was added here to validate the results of the hazard model adopted. In the provided table, the summary of the results of the benchmark studies shows that our 475-year PSHA (10% probability of exceedance in 50 years) are actually very similar to other studies.
9. On line 259 the paper says "the cities of Esfahan in central Iran and Ahvaz in south-western Iran belong to zones with the lowest PGA levels": For Ahvaz, this is against what is seen in Fig. 1! The paragraph rephrased.
10. A drawback in Fig. 1 is seemingly its sharp contrast in some places such as Khuzestan. In other words, the so-called "PGA" cannot physically change drastically between two close points on the map. The study has been carried out at the national level; therefore, the resolution is coarser than local studies. Due to the lack of seismic events and active faults in southeastern Khuzestan, the results show the lowest values of PGA. This is consistent with other seismic hazard studies previously referred to.
11. Fig. 3: There should be some problem with the calculations related to the Isfahan county as it is almost on the top between the counties regarding values of all kinds of construction! Esfahan province has the second largest exposure after Tehran in census 2016. That is why it has a high level of exposure for each class of buildings.
12. The package of vulnerability curves developed by Mansouri and Amini-Hosseini is an extremely precious asset of the earthquake engineering community in Iran and a tall jump up in the related research works in recent years. Use of the mentioned package has been a wise act in this study.
13. Line 326: "The city of Esfahan, despite being located in a low seismicity zone, also shows high seismic risk solely due to its very high building exposure (the second-highest exposure value after Tehran) and the prevalence of more vulnerable building classes of masonry and adobe": It seems the statistics behind this rationale is not up to date. Currently, the RC buildings govern the other classes in number in Isfahan. The statistics we used is based on 2016 census which indicate that about half of built area in Isfahan province is either masonry and adobe. Kohrangi et al (2021) has reported 44% which is very close to our exposure split.
14. It is suggested to compare the AAL results of this study with the recent similar study of Kohrangi et al. There are some questionable differences. Due to the lack of frequent seismic losses, the validation of earthquake model results is challenging. Depending on hazard model, vulnerability curves, exposure model, and method of calculating losses, quire different risk results can be generated by different models. This is something accepted in the insurance market. Two studies are based on different hazard, vulnerability and event exposure models and the difference between results is inevitable. Moreover, our study is at national level. We have used one set of vulnerability curves for residential buildings in all parts of Iran. For sure, our figures are different to a city-level study. This does not disqualify either of studies but highlights the impact of study scale and different input data.

15. There is a significant gap between the calculations and conclusions regarding the constant-factor approach adopted by the Central Insurance of Iran. There should have been a concentrated discussion about this important point right after line 387 of the paper. A discussion section has been added and more details have been provided.
16. Last but not the least, this is a unique and valuable study in its kind in the country. In normal conditions, it could originate serious discussions and challenges for the bettering of the relevant sectors. Anyhow, it will have certain impacts in the times to come.

Sincerely,

Farhad Behnamfar

Dear Dr Behnamar,

Many thanks for your thorough review. Please find our answers in front of each comment.

3. CC3

This paper provides novel insights into insurance pricing and risk management techniques in Iran. I particularly found the discussions on the evolution of insurance provision frameworks and regulatory issues in Europe and Iran to be very interesting. Overall the research is well designed and well written, there are segments that would require some proofreading and light editing. Some suggestions to the authors to improve their work:

- I suggest the authors discuss why these five provisional capitals were chosen. An additional discussion on the diversity of the zones and construction types found in this city in section 3 would benefit the readership. A paragraph was added at the end of section 3.1.1. to explain why we selected these cities. We also deleted a line that might confuse the reader regarding the construction types at this stage of the paper. We added more information in the 4.2 section where we use a portfolio of dwelling sin these cities to portraits the difference between two approaches.

- I suggest the authors briefly overview all of the data sources before section 3.1. In this segment, it's not clear to the reader where the data to construct the portfolio of 1,500 residential dwellings was obtained. The data sources we used for seismic hazard modelling are introduced in hazard, vulnerability, and exposure section separately to be more relevant to the context.

- Figures 1-3 and maps elsewhere, I suggest removing the abbreviated names of the neighbouring countries or using standard ISO-alpha-3 country codes, e.g., SAU would be KSA and ARE would be UAE. We double checked the 3-digit ISO name of neighbouring countries and they were actually correct (Saudi Arabia: SAU and United Arab Emirates: ARE).

- I suggest the authors add some discussions on the limitations of their study and future research directions in the conclusion section. A paragraph added to the end of the conclusion section to discuss the role of data availability in enhancement of the results.

Dear reviewer,

Many thanks for your suggestions. Please find our answers in front of each comment.

4. RC1

1. **The overall quality of the preprint (general comments)**

The overall quality of the preprint is good. The topic of earthquake insurance pricing and risk management is significant for the science community. The research is well structured and explained. The authors made a considerable effort to compare the current earthquake insurance pricing and risk management in Iran with the European Union insurance regulation (Solvency-II) in a credible way. But, there are deficiencies in the paper, mostly related to explaining the dataset, comparing methodologies and monetizing risk.

This reviewer believes that the authors should make an additional effort to demonstrate the added value of this research to the body of knowledge. Rewriting Chapter 4.2 and adding a Discussion chapter can substantially improve the paper. Chapter 4.2

1. **Individual scientific questions/issues (specific comments)**

Generally speaking, the paper is well written and explained from the beginning to Chapter 4.2. Nevertheless, here are two remarks which influence the overall quality of the research:

1. The authors introduce the dataset in line 168 and explain processing difficulties in Chapter 3.2.2. Please provide additional information about the method for choosing buildings and determining feature values. A dataset summary table containing information about building types and other features is necessary. The paragraph on using a hypothetical portfolio of buildings to showcase the difference between the two different solvency regimes was deleted from Section 3 and transferred to Section 4.2 to prevent creating confusion for the reader.
2. The authors fail to demonstrate how they built the exposure model in Chapter 3.2.2. How do authors determine Residential Building Values later aggregated at the county level? Chapter 3 including hazard, vulnerability and especially exposure model were re-written and new figures and tables were added to provide a better description and details on the data sources and development process. The vulnerability section was brought before the exposure model for better cohesion of contents.

The authors should rewrite Chapter 4.2. The example shown in Table 3 is oversimplified. Why and how did the authors choose “100 residential buildings of masonry, steel and RC types with a total built area of 100,000m2”? How did the authors come by a 300$ replacement cost (likely 300$/m2)? A redesigned experiment probably will not change the conclusions but still should be improved and results better discussed. Section 4.2 was re-written and the rationale to use a hypothetical portfolio to showcase the difference between two solvency approach was explained.

Finally, here are some topics which the authors could include and discuss in the paper:

1. Earthquake parametric insurance – how does it relate to the paper topic? Possibly the authors could add a separate subchapter. The subject of the paper is not directly related to parametric insurance. However, the seismic risk model developed can be used to design a parametric product for earthquake, perhaps something useful for the public natural hazard insurance fund in Iran. We prefer to address the topic of parametric insurance in a separate study.
2. How best to compare different insurance markets - perhaps including the national GDP in calculations can balance the results? The earthquake solvency capital is a function of earthquake risk and risk appetite of the market. Here, we assumed a similar risk appetite between the Iranian insurance market and the European union. Although the average GDP per capita in Eu is about 10 times Iran's GDP per capita, we are convinced that the earthquake capital requirement should follow the risk profile of the country and the sum insured.

The Discussion chapter cannot solve insurance pricing issues, but the authors can present their views on limitations, opportunities, advances, future work or the way forward based on their findings. The impact of input data on the risk modelling is discussed in the newly added section of discussion.

The submitted research is promising, and I look forward to reviewing the improved version.

1. **Technical corrections**

There is a need for some technical corrections, highlighted in the attached file. The authors should carefully check the paper for unnecessary long sentences, missing articles or singular/plural mistakes.

Reply to RC1:

Dear reviewer,

Many thanks for your suggestions. Please find our answers in front of each comment.

5. CC4

Dear respected editor and authors,

The manuscript is well written with a good style. The paper is a valuable research towards scientific and systemic analysis for solvency of insurers associated to the catastrophe insurance by considering probable seismic losses considering the entire geography, seismicity, building stocks, vulnerability, etc. as a main requirement for a justifiable insurance system for the country. Utilizing the Openquake platform and tailoring the input data and preparing the databases for the country-specific calculation is one of the strong aspect for this manuscript.

Moreover, the paper describes and presents the problems associated with the existing insurance policy according to the scientific calculation and compares the outcome with a well-received European scheme in order to evaluate the solvency of the local insurers. However, there are some points that need to be addressed/modified or explained further as listed in bellow:

1. Line 11: It is suggested to write "fire insurance policy" instead of "fire policy". Modified.
2. Line 18: It is mostly "risk management practice" rather than "...techniques). Modified.
3. A brief summary of the quantitative findings is suggested in the ABSTRACT. Added
4. Line 30: It also hit big cities like Sarpol Zahab but you may say "if the epicenter was within or very close to big cities....." The population of Sar-e Pol-e Zahab city at the time of 2017 earthquake was 46,000 which is equivalent to small cities.
5. Line 111: Please explain briefly about "life" and "non-life" insurance. Added
6. Starting from line 119: Needs more explanation on how Solvency II has been carried out. The paragraph describes the first Pillar...how about the other two pillars? A line specifying three pillars of Solvency II added.
7. Line 152: Not clear what is meant by "motor". Replaced by automobile for better clarity.
8. Line 168: 1500 residential dwellings. Please indicate that these are "Housing Units" and not buildings. Modified.
9. Please justify better why only 1500 housing units (HU) have been taken into account (can this represent the solvency as intended... please justify better). How the dataset has been distributed for each big city and what is the overall share for each city from 1500 HU. Why your calculation does not consider the complete building pool since you are utilizing Openquake? Because it seems more useful to use the complete building pool to understand the national shortcomings and to devise a better policy and to assign more proper premiums for the selected policy. Or this may be a scope for your future research... please mention it in such case. If there is as purpose for such choice please clarify (for example: it may be just for a sake of comparing two solvency schemes just in a relative sense). The complete portfolio of Iranian residential buildings has been used to compute AAL rates and EP 99.5% rates (solvency capital rate) for different types of construction at the county level. Then these values were used for small portfolio of dwelling only to showcase the difference in results of two methodologies.

10. Table 1 & Table 2 and text: premium rate... what is the unit? Rates are dimensionless because they are calculated by normalizing AAL values to their corresponding exposure value (USD/USD).
11. Line 217: instead of "national level" please indicate "country level" conforming with your formula....and spell-check "country" in Eq 5 Modified.
12. Line 290: Is this 55% housing units or buildings... it seems housing units is correct... please also recheck the paper for this issue. Buildings replaced by dwellings
13. Line 301: It is Fig. 4 Figure numbers re-written.
14. 4: please indicate the reference in the caption. Reference added to Figure 4.
15. Line 314: incomplete sentence. Modified.
16. Line 323: change to: Figure 1 and Figure 2 Modified.
17. There is a mixture of "one-in 200" (text), "1-in-100" (Figure 6), "1-in-200' (text and Figures... it seems "1-in-200 years" is correct. Please check and correct all the text and Figures (caption and above legends). All changed to 1-in-200.
18. Figure 6 – to cite in the text. Cited.
19. Line361: Is this 300 USD per m^2 (square meters) Yes, modified.
20. Table 3 and Line 387: Please indicate number of housing units involved... otherwise it seems too low for big cities. This is supposed to be a small portfolio of dwellings; 100 per type and city.
21. Line 400: 1-in200 years Modified.

Please recheck referencing and references... Line 297, "Mansouri and...[38]" please use proper referencing scheme... it is actually GEM-EMME WP4 project accomplished in IIEES in 2013 (relevant to section 3.2.3 first paragraph). "Mansouri, B., and Amini-Hosseini, K., 2013, “Global Earthquake Risk Model (GEM) - Earthquake Model of the Middle East Region (EMME) - WP4: Seismic Risk Assessment”, Final Report, 2013" Reference updated.

Reply to CC4:

Dear reviewer,

Many thanks for your suggestions. Please find our answers in front of each comment.

6. RC2

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. : Description added.
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. These are current values used in the insurance market. The authors agree that they are not consistent and reasonable. These values have been retrieved from insurance aggregator sites.
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. Description added.

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). If the number of dwellings for each type in a given county increased between 2011 and 2016, they are attributed to the most recent type. If the number drops, it is subtracted from the oldest types.
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 stories? Do they differ in terms of quality construction? Moreover, how the model characterizes 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. More explanations on the classification of buildings according to Mansouri et al (2013) was added to the section. A brief description of each class with its corresponding vintage range and height class was also provided in the table.
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. Description added.
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). Please note that both 'county' and 'country' level terms have been used.
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. More information added to describe how the value is calculated in the exposure model section.
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). At the beginning of the numerical result section (section 4), the process of the loss calculation using OpenQuake has been described.

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. A validation part has been added I section 4.1 that explains the combined impact of hazard, exposure and vulnerability on the final AAL values.
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. The number of dwellings per city is not selected based on the exposure of the city, because the aim of this example is to showcase the impact of different solvency capital rates between two methodologies. As the rates were calculated at the county level, rate is constant within each city according to the building type. Thus, the number of buildings and their distribution within city has no impact on the results. In fact, we could only consider a portfolio of three dwellings per city (one for each building type). Assumption of 100 dwelling per type per city has been made to create a reasonable portfolio of risk for a small insurance company.
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. Footnote added.

- 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. Description for TIV added. WTIV is not a common acronym and is defined in Solvency II formulas.
- 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. The paragraph was rephrased and ELT was replaced by loss results to avoid confusion.

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

1. 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. Modified.
2. 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. Figure numbering corrected.
3. 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. Modified.
4. Please, correct the following typing errors:

- Line 102: replace "Christchurch quakes" with "Christchurch earthquake". The two earthquakes happening shortly in 2011 were intended.
- Line 112: use the square brackets as in the line 107. Modified.
- Line 297: modify the reference "Mansouri and Amini-Hosseini [38]" using the proper reference scheme. Modified.

Reply to RC2:

Dear reviewer,

Many thanks for your suggestions. Please find our answers in front of each comment.