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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Subsoil seismic characterization through Vs30 for future structural assessment of buildings (Ciudad del Carmen, Mexico)" *by* Leonardo Palemón-Arcos et al.

Anonymous Referee #2

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This paper presents the seismic microzoning of Ciudad del Carmen city following the Mexican building code (CFE). Though the subject could be worth publishing, the paper should be entirely re-written.

Here are my main comments: "1-Introduction and 2-study area": It should be focused on Ciudad del Carmen context in terms of tectonics, regional seismicity, superficial geology and building code. Figures 2 and 3 should be replaced by a general map of the regional seismicity.

"3-Materials and methods": It is not necessary to explain MASW and REMI methods

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since they are well known methodologies now (Figures 5 and 7 could be removed). Same remark for dispersion analysis. On the contrary, it should be interesting to detail the local context of Ciudad del Carmen in terms of population, vulnerability and seismic hazard.

"4-Numerical results": Results are difficult to comment. If the aim of the paper is to present a microzoning of the city, MASW profiles should be clearly identified in Figure 6, 9, 10 and 11. The authors should comment the results profiles by profiles and compared them to the superficial geology and the expected soil response. It is not clear for me if the final zonation is based on the NEHRP building code or the CFE one. Is there a specific building code in Ciudad del Carmen? Why the authors choose to divide the city in 3 zones (I, II and III) while the VS30 values give only a soil type III (Figure 13)?

General comment on the paper: the English language needs to be reviewed. The text is poorly argued and the discussion is not precise enough to validate the results. Some figures could be removed (2, 5, 7, 8, 11) and others should be highly improved.

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