

Interactive comment on “Contrasting seismic risk for Santiago, Chile, from near-field and distant earthquake sources” by Ekbal Hussain et al.

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1. "There are many GMPEs available in the literature (see Douglas (2011) for a review)." -> Douglas (2011) does not provide a "review" but simply a compendium of published models. If you wish to reference this compendium I suggest you cite my website: www.gmpe.org.uk, which has the latest version, rather than this relatively old report. If you wished to cite a review article you could cite: Douglas and Edwards (Earth-Science Reviews, 2016, doi: 10.1016/j.earscirev.2016.07.005). 2. "We also take into account the local site effects by using the Vs30 values - shear wave velocity in the top 30 m of soil, estimated from a microzonation study by Bonnefoy-Claudet et al. (2009) (Fig. S4)." -> The location considered for your analysis is in a sedimentary basin with relatively soft soils (~300m/s according to S4), which are probably also deep (>50m).

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Therefore, only using Vs30 to account for the effects of these sediments is probably underestimating the soil amplification as it generally ignores basin effects (e.g. Joyner, Bulletin of the Seismological Society of America, 2000). Some GMPEs roughly account for these effects (but not the ones you have chosen for this analysis). It may be worth checking the impact of accounting for these effects. 3. "We find that the fraction of reinforced concrete (RC) buildings in any commune decreases dramatically with the proportion of people living below the poverty line (Fig. 7)" -> Figure 7 shows that the scatter in the data for RC (and other building types) is large. It could be useful to check the statistical significance of the best-fit lines as it may be that the apparent trends are not robust.

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