

L'Aquila, 1<sup>st</sup> October 2015

**Paper: NHESD 3, 5297–5323 (Submitted on 04 Sep 2015)**

*“Strong ground motion prediction for southwestern China from small earthquake records”*

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The paper investigates on the strong ground motion prediction in two regions of southwestern China (Sichuan and Yunnan).

Before to write my comments I read the suggestions of prof. D. M. Boore, he is a huge expert on the valuations of the ground shaking from large earthquakes, in the seismic source studies and site response; so the authors take him into accurate consideration.

I add my comments and suggestions in random sequence, they aren't in the order of importance and some of these suggestions are in overlap with the prof. D. M. Boore.

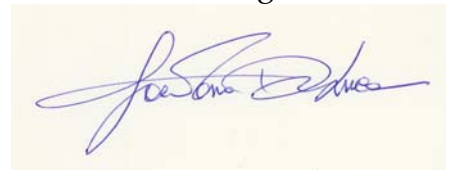
- (1) Add some references on GMPE and NGA project
- (2) In the 2.1 and 2.2 paragraphs I think it's necessary to give some details about sensors and ADCs both of accelerometer and seismic

networks; also move the information from “Data and resource” in the “Database” paragraph (n. 2).

- (3) There is the presence of amplification factor  $A(f)$  in the eq. 1 (pag. 5301). In the paper there isn't trace on how the authors use this parameter. I suggest an accurate reading of geological map of the regions to put realistic values; else, if there are, to search paper on experimental valuations of site responses in those areas.  
I advise the authors to read this my paper:  
De Luca G. et al. (2005). Evidence of low frequency amplification in the city of L'Aquila, Central Italy, through a multidisciplinary approach including strong- and weak- motion data, ambient noise, and numerical modeling. *Bulletin of the Seismological Society of America* **95**, 1469-1481.  
And also the unbelievable amplification factor at Mexico City during a Mw 8.0 Guerrero-Michoacan earthquake (September, 19<sup>th</sup> 1985) far away about 350 km.  
These are only some examples to think over the realistic valuations of  $A(f)$  parameter to put in the model.
- (4) Put in the references the web sites cited in the text.
- (5) Put or highlighter in the figures the Maoxian and Pixian station with their abbreviations.
- (6) Since the Yunnan region is neighbourings at south of Sichuan I suggest to prepare only one figure instead of four (1a, 1b, 2a and 2b). For example the symbols of stations can be a triangles and the earthquakes can be circles with different colours. Remember to highlighter the Maoxian and Pixian station and be careful with ratio latitude/longitude because the fig. 1b is different from fig. 2b.
- (7) The figures 3a, 3b, 4a, 4b, 5a, 5b, 6a and 6b are not necessary. It's possible to explain in the text the distributions and the ranges of values.
- (8) I have some difficult to read the scales and labels of all figures; the fonts are too much little.
- (9) Please to enrich the text of Fig. 9 and put clear labels in the figures

- (10) Where is the Wenchuan earthquake in the map ? Magnitude ? Are there references ?
- (11) In the Fig. 11 it's necessary to widen the time scale, the signals are too much compressed.
- (12) Please to enrich the "Conclusions" paragraph. It's insufficient.
- (13) I noted from fig. 1a that the seismic network is concentrated in the middle part of region BUT several earthquakes are localized out of the network (fig. 2a) until 400 km of distance. The principal consequences are bad solutions during the localization above all in depth. In fact from fig. 3a and 3b it is possible to note the presence of earthquakes with moderate magnitude ( $3.5 < M_w < 4.3$ ) with depth  $< 5$  km. I suggest to do a selection of data taking for example all events with gap parameter  $< 180^\circ$  and also with rms (s)  $< 0.1 - 0.2$  s.

Best regards



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