Solid Earth Discuss.,
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Solid Earth
Discussions

Interactive comment on "Calibrating a New Attenuation Curve for the Dead Sea Region Using Surface Wave Dispersion Surveys in Sites Damaged by the 1927 Jericho Earthquake" *by* Yaniv Darvasi and Amotz Agnon

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We thank the reviewer for pointing out many importing issues. In order to be clear, the response structure is in the prescribed sequence:

(1) Comments from Referee

(2) Author's response

(3) Author's changes in the manuscript

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(1) Data are not shown in Chapter 3, and also the derivation of results and uncertainties are not given. This needs to be provided to the reader. As given here, one is not convinced.

(2) Comment accepted.

(3) We add a whole part of supplementary material which include all the MASW reports.

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(1) The optimization of the constant (p.7, line 6) is only mentioned but not explained.

(2) C4 is optimized by the Least Squares Fitting (LSF) - A mathematical procedure for finding the best-fitting curve to a given set of points by minimizing the sum of the squares of the offsets ("the residuals") of the points from the curve.

(3) We added a brief explanation to the new manuscript.

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(1) A discussion of the directivity of amplification in entirely missing.

(2) The data and analyses for 1927 are rudimentary, and we feel that for such a moderate event (M6.2) it is premature to include directivity.

(3) We mention directivity it in the new manuscript.

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(1) General language: in parts very colloquial and not scientific/precise enough. Phrasing like somewhat, incomplete referencing, mentioning of authors without year of publication etc. might give an impression of rushed writing, that must be thoroughly revised.

(2) We accept this comment.

(3) Care is taken to avoid colloquial language and to properly reference sources in the

new manuscript.

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(1) Abstract: be more precise, what are specific results? This is rather an intro plus technical description.

(2) We thank the reviewer for pointing this out.

(3) Had been changed in the new manuscript.

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(1) Introduction: description of formula 1 is incomplete in text.

(2) We thought the description of the formula is sufficient and we give the classical reference of Aki and Richards, 2002. Yet, we accept the comment.

(3) We added an explanation on the actual behavior of the amplification as reflected on the formula.

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(1) Methods: it is not clear if the term offset is used properly. It rather seems to mean profile distance in meters?

(2) In surface seismic acquisition, the horizontal distance from source to the first geophone defined as offset as we mentioned in our manuscript.

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(1) Results: this chapter is completely inappropriate, because no data is introduced, nothing described, and no workflow given to the reader. Thereby, it is not possible to judge quality of results and be confidential in the outcome.

(2) A simple workflow is given in the method section. Regarding the data – see item (3)

(3) Data will be accessible at the supplementary material within the new manuscript.

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(1) Discussion: The remaining discussion should also include a discussion of comparing achieved results here with other authors methods and workflows, not for the region alone but especially seen in worldwide literature.

(2) We consider our work as a pioneering one with no parallels elsewhere. Yet we compared several sites from the GII's report (Aksinenko and Hofstetter, 2012) and had other relevant data been accessible for us we would certainly expand the comparison.

(3) The first passage of the revised discussion addresses the reviewer's concern. In addition, clarify in the new manuscript some issues in this regard (see also the response to comment concerning Figure 9).

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(1) Most of the figures are only mentioned in the text but need proper description there, too.

(2) We accept this comment.

(3) Had been corrected in the new manuscript.

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(1) Figure 1: could be less scetchy.

(2) We accept this comment.

(3) Had been changed in the new manuscript.

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(1) Figure 2: map made by JKH -> give proper reference or include him as author, if considerable work was done.

(2) We accept this comment, Yet John is considering to be a co-author.

(3) Had been corrected in the new manuscript.

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(1) Figure 8+9: correct legend spelling.

(2) Thanks for identifying this.

(3) Had been corrected in the new manuscript.

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(1) Figure 9: what is second measurement? This is unexplained and not understandable.

(2) Comment accepted.

(3) We redefined it in the new manuscript.

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(1) Figure 11: incomplete references in legend, caption: dots mark suspected.....

(2) Comment accepted.

(3) Had been corrected in the new manuscript.

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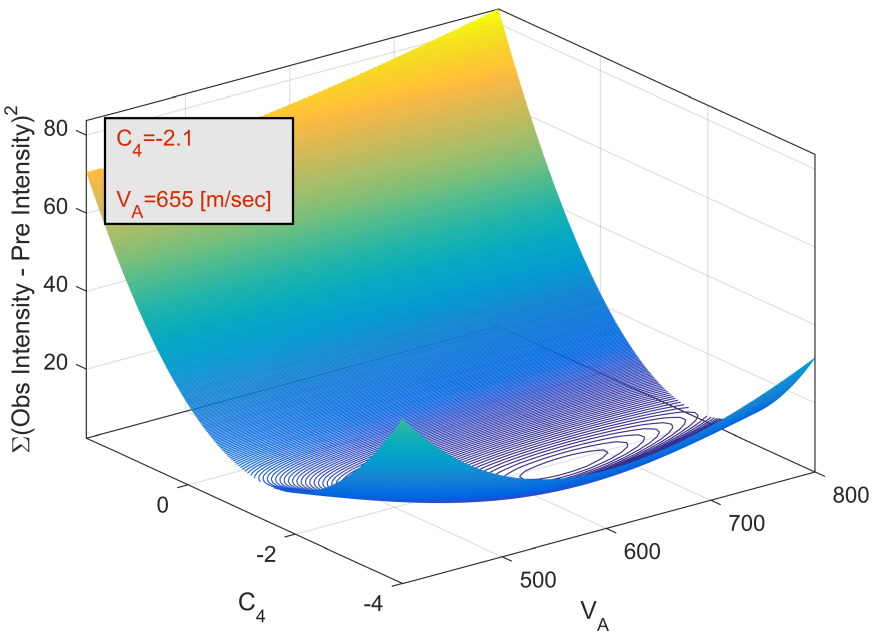

Fig. 1. Sensitivity analysis for calibration the new equation.

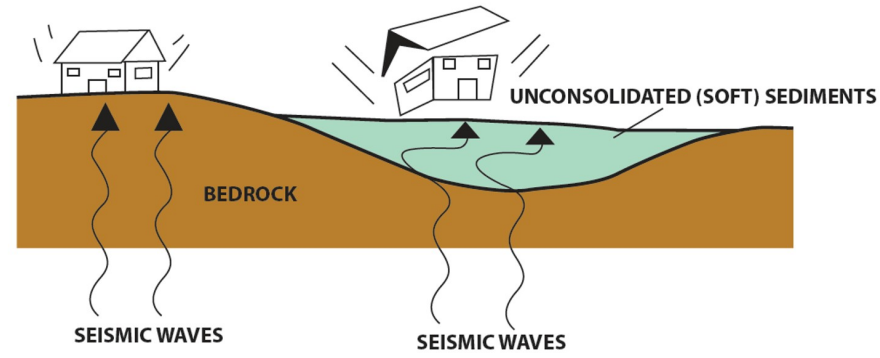

Fig. 2. Schematic view of site amplification. Seismogram at the surface shows amplification in comparison to the seismogram located over the bedrock (modified after Ciaccio and Cultrera, 2014).

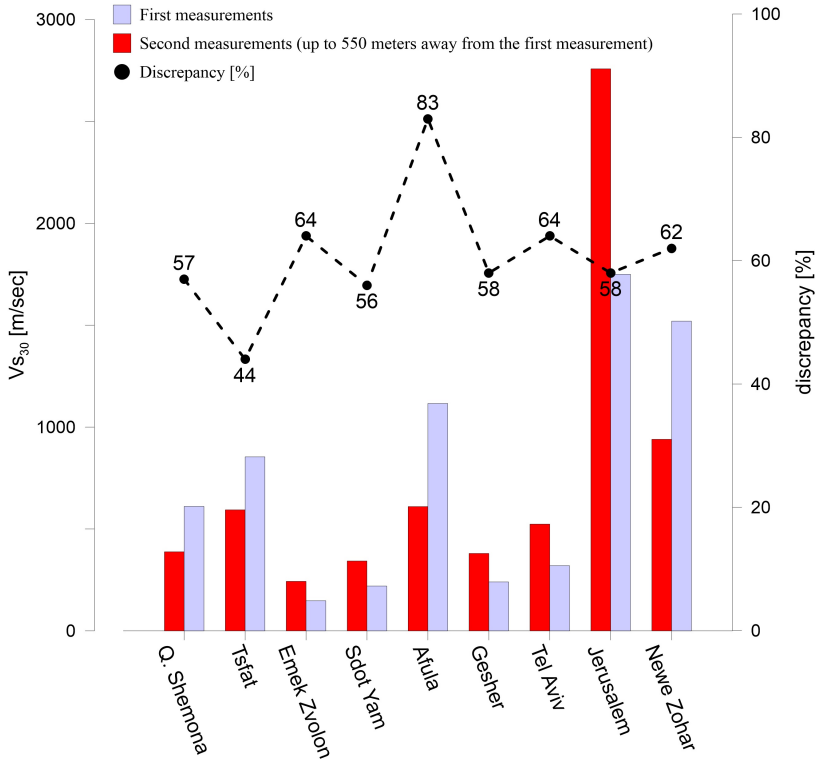

Fig. 3. Comparison between GII's closest measurements (up to 550 meters).