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Discussions

Interactive comment on "Study on the applicability of microtremor HVSR method to support seismic microzonation in the town of Idrija (W Slovenia)" by Andrej Gosar

Anonymous Referee #1

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General comments The effort of this paper consists in the huge amount of ambient noise recordings performed in the Idrija town area. Notwithstanding this large contribution of measurements, it was not possible to characterize the lito-stratigraphic site characteristics. As the author himself has pointed out the geological setting is complex and there is no correlation between site effects and geological map, even where it was to be expected (alluvial sediments of Nikova and Idrijca rivers and on artificial mining and smelting deposits).

Specific comments The geological section requires more geological and stratigraphic details, I suggest to add the geological cross section and details about litological units. I believe that the resonance peaks at f0>12 Hz should not be considered for the es-

timation of the iso-frequency map because they are attributable at so thin soil layers (1-2m) not influent for site condition. Therefore, the resonance peaks useful for estimation of the iso-frequency map are only 32. Moreover, the presence of peaks at so close and narrow frequencies (e.g. Id24, Id6, Id13 etc..) are not attributable to a multilayer setting above the bedrock because probably some are spurious spikes. The shapes of these spikes are more visible in the Fourier spectra, I suggest to analyze the ambient noise measures using a triangular window with 10% smoothing. I suggest to group the measures according the same lito-stratigraphic condition so as to highlight if the geological condition induces a similar site amplification behavior. It is unclear how two measurements performed on the same geological unit have HVSR functions completely different, for example the Id20 measure close to Id25 one are on the same alluvial sediment but the HVSR shapes are completely different.

Technical corrections Include the orientation of the map shown in Fig. 1b, Fig. 2, Fig. 8 and Fig. 9. In the iso-frequency map I suggest to contour better the areas, the south and east areas have no data then the frequency interpolations are wrong.