

***Interactive comment on***  
**“Acoustic–electromagnetic effects of tectonic**  
**movements of the crust – borehole survey” by V.**  
**N. Uvarov et al.**

**Anonymous Referee #2**

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Authors present the original idea to measure the spectra of acoustic and electromagnetic signals in borehole and interpolate that as signals from the lithospheric deformations. The study is based on the number of measurements (of not specified amount) and on interpretation of these measurements. The interpretations are only in the form of unsupported speculations. The scientific level of those speculations is not acceptable for public presentation of this study. I also do not see how this study can be improved to be acceptable. Thus, I would suggest rejection of this manuscript without invitation of reworking and resubmitting it. Some particular remarks: 1. The study looks like based on the method of measurements, there is no scientific idea about what are those measurements need for. “Prediction of earthquakes” is important problem, but

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authors did not present any way to link their study to this purpose. Thus, I did not find any reason for the study except “we have a method”. 2. Link of these measurements to lithosphere is not even speculative. Authors simply claim that if the atmospheric signal would be subtracted, then they get “lithospheric” signal. That is not conventional definition of lithosphere. The authors measure at most the area surrounding the borehole: - In the previous publication (Uvarov et al., 2010) the distance of propagation of electromagnetic radiation is of an order of 100-1000 m for the frequencies of 100 Hz. - The fact that electromagnetic and acoustic signals are simultaneous demonstrates that the source of these signals is close to borehole. I would even speculate that it is in borehole itself. - I am now completely confuse, as authors say that the source of electromagnetic signal is the acoustic signal. Then I do not see the reason for Fig. 3 and all the words about electromagnetic study? Thus, the study presented here is not about “tectonic”, “lithospheric”. It is local. And it does not look like it can be applied to real lithospheric scale problem. 3. The level of mechanical interpretation of measurements is very low. One cannot write about rock deformation without having academic knowledge in this topic. 4. None of the conclusions are supported.

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Interactive comment on Solid Earth Discuss., 7, 1447, 2015.

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