

## ***Interactive comment on “An overview of underwater sound generated by inter-particle collisions and its application to the measurements of coarse sediment bedload transport” by P. D. Thorne***

**JM Turowski (Editor)**

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Dear Prof. Thorne,

First of all we would like to thank you in agreeing in preparing a manuscript along the lines of the keynote you gave in the International workshop of Acoustic and Seismic Monitoring of Bedload and Mass Movements held in Zurich Switzerland on September 2013. We have reviewed your paper, the comments provided by the referees and your replies to these.

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In general, we agree in that your paper provides what we have asked you for. We also agree with the reviewers that the paper focuses on older work, however, as you point out, there has been little done since the 90's, and most your results have not been superseded. The fact that the reviewers fail to point out newer relevant literature is a hint in the direction that not that much has been published since. As far as we are aware, the paper by Tsai et al. (published in GRL in 2012) is the only one that is, although marginally, related to your work and, consequently, the one you could mention in the introduction and discussion of your manuscript.

We would like you to submit a revised paper, addressing the following main points:

1. In the introduction, please make clear the aim and the scope of the paper. We understand that you reworked your older results and presented the theory in a novel, simplified way. Thus, throughout the manuscript, please make clear as to which parts are old results and which ones are actually new or revised for the paper.
2. Please address the technical points of the reviewers. In particular, we agree that parts of the derivations and math can be clarified and better presented. Remember that many geomorphologists might not have a strong mathematical background. We also suggest to include a list of all variables at the end of the manuscript, as this will be very helpful for the readers.
3. Please obtain permissions for reprints of figures that have already been published (as far as we understand, you do not need to do this if the figures are re-drawn/re-designed with your old data) and make clear in the captions when figures are reproductions from earlier work (or cite the source of the information if these are re-drawn).
4. Finally, we encourage you to look in the literature for newer material on sound production by under water collisions, and include it in your exposition and discussion.

We encourage you to address these main points and to submit a new version of the manuscript. We are looking forward to receiving your revision.

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Best wishes,

Jens Turowski Damià Vericat

Reference listed in this letter: Tsai VC, Minchew B, Lamb MP, Ampuero JP, 2012, A physical model for seismic noise generation from sediment transport in rivers, *Geophysical Research Letters*, 39, L02404, doi: 10.1029/2011GL050255

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Interactive comment on *Earth Surf. Dynam. Discuss.*, 2, 605, 2014.