

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

Anonymous Referee #2

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I have provided my formalized comments to the author in the following text. My recommendation is the work needs significant revision before consideration to publish.

Regarding the Manuscript Evaluation Criteria listed by esurf, here are my evaluations:

Scientific Significance: Poor While the manuscript provides a large overview of the author's previous work, there is little contribution to new ideas, theories, methods, or even data. I understand the circumstances leading to submission of the paper. However, I'm simply following esurf protocol for evaluation and it is clearly lacking in this metric.

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Scientific Quality: Good The author's former work is comprehensive and valid. However, I have some concerns regarding the research design of the rotating drum and its effective ability to replicate true sediment generated noise that one would observe in the field. Maybe a discussion of this concept would help alleviate this concern.

Presentation Quality: Good The paper reads well, however, the equations and their associated definitions are cumbersome. A more suitable approach would define the constants and variables more clearly.

The following comments are specific changes to be made and other notes:

Abstract: Line 7, misspelling of "amount" Line 16, remove comma after "environment"

Introduction: This section needs a more comprehensive literature overview. Line 3 on page 3, add a comma after "difficulties"

Section 2: Lines 18-19 on page 6, Below equations 2a and 2b, I did not see a definition for "c". I am finding it difficult to easily find the definitions of the variables within the context of your equations. Please consider revise your equations, so readers can easily step through the variables.

Section 3: Line 26 on page 7, why were these sizes specifically chosen? Line 23 on page 9 needs a period after "changed"

From Fig. 6a, it is clear that the theory matches best around 10 kHz for both size spheres. However, this is not true for the 0.00075 m gravel in Fig. 6b, which matches best around >100 kHz. Any explanation?

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

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