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Interactive comment on "Turbulence and hypoxia contribute to dense zooplankton scattering layers in Patagonian Fjord System" *by* Iván Pérez-Santos et al.

Anonymous Referee #4

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Review on "Turbulence and hypoxia contribute to dense zooplankton scattering layers in Patagonian Fjord System" (os-2017-89) by I. Perez-Santos, L. Castro, N. Mayorga, L. Ross, L. Cubillos, M. Gutierrez, E. Niklitschek, E. Escalona, N. Alegria and G. Daneri

The authors conducted an extensive field campaign to survey DVM of zooplankton in Patagonian Fjord combined with various physical parameters. The approach is correct, but the interpretation of the data, as well as the experimental design are not suited for the purpose. I have read three other referee's comments and I totally agreed with those comments. The context is poorly organized and too many references are missing from the reference list. Turbulence measurements are conducted with two different

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Discussion paper

instruments, but no data for SCAMP was presented in the text. The description of SCAMP should be deleted.

As I mentioned, I agree with the other reviewers' comments, I am not going to repeat the same points. But one of the major fraud should be repeated. 38 KHz is too low to detect zooplankton. In general, a combination of 38 KHz and 120 KHz is useful to distinguish between zooplankton and fish. Another important error that was not mentioned in the other reviews is that the dissipation rate estimate reached an upper bound at ∼5x10ˆ-5 W/Kg since, probably, they did not correct the unresolved variance in high wavenumbers (see Fig.10f). But they are reporting that the dissipation rates around sill are nearly 10ˆ-4 W/Kg. I see no reason to support this number. Also I do not see Kho=10ˆ-2 (mˆ2 sˆ-1) in Fig. 11c. All values are below 10ˆ-2!

Please also note the supplement to this comment:
https://www.ocean-sci-discuss.net/os-2017-89/os-2017-89-RC4-supplement.pdf

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