Ocean Science Discussions

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Reply on RC1

Brian D. Scannell et al.

Author comment on "Impact of acoustic Doppler current profiler (ADCP) motion on structure function estimates of turbulent kinetic energy dissipation rate" by Brian D. Scannell et al., Ocean Sci. Discuss., https://doi.org/10.5194/os-2021-71-AC2, 2021

Thank you for your detailed comments on the manuscript and your suggested improvements, which we look forward to incorporating.

With regard to your query re Line 413, yes, the modified method to compensate for waves will also handle shear since both result in a linear increase in velocity difference with increasing separation distance. So both the wave contribution and the residual shear contribution due to the motion of the ADCP are corrected by Eq 6. Unfortunately, the two cannot be distinguished from each other, so the relative impact can only be evaluated in the synthesised data. We will expand on this in the revision in order to make it clearer.

Thank you.