C.L. Stevens (2017) Turbulent length scales in a fast-flowing, weakly-stratified Strait: Cook Strait, New Zealand.

This is an interesting paper reporting measurements of turbulence in a very energetic flow through ocean straits, in this case Cook Strait N.Z. Such measurements are relatively rare and this therefore represents an interesting addition to the literature on direct measurements of ocean turbulence in energetic flow. That said, the paper is poorly presented with some important details about the measurements not included in the paper, and even some typographical errors. These issues need to be addressed before the paper is suitable for publication.

Detailed comments:

P1,L24 Waterhouse et al 2014
P1,l27 Wesson and Gregg (1994) report measurements in Straits of Gibralter, so why is this "… (a) coastal environment". Koch-Larrouy et al (2015) (DSR, 106:136-153) is also relevant here.
P2, L20 . Energy bearing scale. Why is L_T *contained* by L_O , they are independent lenghtscales?
P5, L18- "The microstructure data were processed in the usual ways resolving the dissipation" is insufficient. Is the author speaking of using the Naysmith empirical spectrum? More detail is needed here. Bluteau et al (2017, JTECH, 34: 2283-2293) provides an extensive review of processing methods for free-fall profilers, and also provides insight into how to process fast-response temperature measurements, and it may well be possible to apply these ideas here. See below.
P5, l23 what is xxx?
P6, L4 Ranges of Γ are missing. See Bluteau et al (2017) and references therein.
P7, L5 The fact that the Strait is not well mixed suggests that the vertical diffusion time scale H^2/K_z is long compared to advection times in the Strait? Assuming here that advection is re-establishing the vertical gradient? This is discussed later in paper, but argument is confusing.
P7, l20. The usual argument is the dissipation rate is dependent on the intensity of the background shear S. Why is it dependent on N?

P7, l23 One has to wonder how meaningful is the calculation of the Thorpe scale L_T in this situation. It is a strongly advective situation and vertical stratification is (relatively) weak, so how do these effects conspire here? Some estimates of accuracy of L_T scale calculations would be useful, particularly as here we find the scales are large compared to the total depth?

P8, l2 But how is K_Z computed here? Large values of $K_Z = 10^{-1}\ m^2 s^{-1}$ have been reported by Bluteau et al (2017), but they argue these high values are much more reliably estimated from the temperature spectra than the velocity spectra. As Bluteau et al (2016, JTECH, 33:713-722) argue integration methods are only robust if $\varepsilon \leq 10^{-6}\ m^2 s^{-1}$. Author should consider this point carefully. I assume in all the processing that the author has used $\Gamma = 0.2$? While on average this may be globally true, the flow in Cook Strait seems very unusual with very high mean velocities and very high values of Re_b in Figure 11, for example. The point being that consistently here possibly $\Gamma \neq 0.2$ and it may be very misleading to assume that in the present observations – see Bluteau et al Fig 4.? So in Figures 7,8 and 9 is K_Z to be believed? There seems only one way to check this: independently compute K_Z from the temperature field, without any a priori assumption on the value of Γ.

P9, l7 The range of Re_b estimates is 2 orders of magnitude? Figure 11 suggests more than 4 orders of magnitude?

Fig 12 suggests a very poor correlation between Lo and Lt – its log-log after all!

P11, l13 Maybe it simply means that the gamma is not 0.2, irrespective of the Re?

P14 line 10 where is the Hogg reference cited.?