

Interactive comment on “Unpredictability of internal M_2 ” by H. van Haren

H. van Haren

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Reply to comments raised by anonymous Referee #2 (osd-4-s154).

I thank the referee for the comments raised.

The paper is on lack of predictability of M_2 , not necessarily just on shear at S_2 . In Fig. 3, a lack of baroclinic M_2 is contrasted with abundant [baroclinic] f -motions (that dominate the shear), not S_2 . In Fig. 4b, the difference across 400 m shows a decrease in relative level of M_2 and S_2 by half a decade, which is not negligible. In Fig. 5 and 6b we do not just see 2.08 cpd, but also peaks at S_2 . In fact, the two are only barely separated (just one effective fundamental bandwidth apart). No, the peak in the energy spectrum itself is not the same as “predictability”, but the bandwidth is. In general, a sharp peak is usually also a high peak (w.r. to its spectral environment).

The part on gyroscopic waves [non-traditional approach] will be somewhat enlarged in the revised paper, for better clarification. Yes, for $N=0$ the lower bound is at zero

frequency (although only for meridionally propagating waves), but at $N=f$ the bounds are roughly $[0.75, 1.3]f$.

Interactive comment on Ocean Sci. Discuss., 4, 303, 2007.

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4, S162–S163, 2007

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