

Interactive comment on “Adjustment of the basin-scale circulation at 26° N to variations in Gulf Stream, deep western boundary current and Ekman transports as observed by the Rapid array” by H. L. Bryden et al.

Anonymous Referee #2

Received and published: 8 July 2009

The manuscript discusses results from the RAPID array, in particular the various forms of compensation that arise. A large number of correlations are given, but without much discussion (as I would have liked) of why these correlations exist. The manuscript is not particularly well written (for this lead author) and it currently falls into the dull but worthy category. The manuscript should be (and could be) made more interesting and more readable. The results from the RAPID array are of great interest to the community and so the manuscript ought to be published in some form.

General comments

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In a number of places rather tortuous grammar is used where a simple equation would be much clearer (eg p875, line 7; p876, line 9; p882, line 5; figure 14 caption)

rms should be r.m.s.

Specific comments

p876, line 10: insert "zonal" before the word "wind stress" or ideally just give an equation.

p877, lines 11-13 (and elsewhere): Do you mean standard deviation, then rms? Be consistent in the description of the variability.

p878, lines 3 and 5: What is "they" referring to? Reword.

p878, lines 9-15: Is there a reference or further justification that can be given here.

p879, lines 17-20: Reword.

p880: Are the higher modes degenerate or well separated? If they are degenerate they should not be displayed.

p881, line 5 and figs 12 and 13: Be clear about which satellite product is used. Do the figures really use different products? Give due credit/references. If we want these products to continue to be available we should help the producers by acknowledging their work.

p882, line 19: Should this refer to figure 14, not 12.

p883, line 1: The compensation is not instantaneous so this is a poor choice of wording.

p884, line 12: This is a bit anecdotal for a scientific paper. Give a reference or cite an individual as a personal communication.

Figure 1: The light blue 1100-3000m looks black to me.

Figure 2: Is this really daily data - it looks like it has been smoothed. Replace "times

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series" with "time series".

Figure 3: This is too small to be of any use. Even blowing it up electronically didn't really help.

Figure 5: capitalize Coriolis!

Figure 7: In the caption should the reference be to fig. 4.

Figures 11 and 12: The text on these plots needs to be much larger.

Figure 13: This figure should be improved by removing the vertical lines and instead plotting a cross marking the standard deviation in dynamic height for the four tall moorings.

Interactive comment on Ocean Sci. Discuss., 6, 871, 2009.