

## ***Interactive comment on “An observed 20 yr time-series of Agulhas leakage” by D. Le Bars et al.***

### **Anonymous Referee #1**

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#### General Comments

This is an excellent piece of research, clearly executed and presented, which advances a new technique for estimating Agulhas Leakage, a parameter of ocean circulation believed to have importance to global climate. The authors validate their technique carefully using an ocean model. The paper needs very few minor revisions before it is ready for publication.

#### Specific Comments

- (1) Add the satellite tracks again to the panels of fig 4.
- (2) Figure 5 and the description of the development of MADT threshold in the text are hard to understand. Perhaps could be clarified with a re-write? Is there a better

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illustration of the "convergence" of the position of the threshold than figure 5?

- (3) The low correlation of the leakage transport calculated from adjacent SSH tracks in the model seems surprising. Can the authors expand on this? For instance, very low transports on section 122 around 1970 that are not reflected on the tracks just upstream.
- (4) The last paragraph of section 5 is not clear. Are the trends for SSH and model swapped around??
- (5) Fig 9 and the associated discussion about trends could be clearer if a low-pass filtered time series is calculated.

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Interactive comment on Ocean Sci. Discuss., 11, 171, 2014.

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