

## ***Interactive comment on “Atlantic water flow through the Faroese Channels” by Bogi Hansen et al.***

### **Anonymous Referee #1**

Received and published: 24 July 2017

#### General comments

This manuscript discusses new evidence showing that a previously hypothesized current around the Faroes in fact does not exist, or at least is not a consistent feature of the circulation. This is important information, which I believe should be distributed to the scientific community. Although the paper is structured clearly, readability is somewhat hampered by the myriad of acronyms employed by the authors. Furthermore, although I think their evidence from situ observations is convincing, I do have some concerns regarding the satellite data analysis as outlined below.

#### Specific comments

1. The satellite altimetry analysis glosses over major issues such as the ageostrophic

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component(s) of the currents near topographic boundaries (which are not captured by altimetry), general issues with lack of reliability of altimetry data near coastal boundaries, and the fact that altimetry is not a continuous measurement but a discrete set of overpasses and therefore prone to sampling errors in a highly variable area such as the Faroese Channels system. If the authors wish to include altimetry data in this manuscript, a thorough discussion of uncertainties in the analysis should be included.

2. Disagreement between different heat flux estimates through a section is to be expected as is it impossible to calculate (see e.g. Schauer and Besczynska-Möller, Ocean Sci., 5, 487-494, 2009). Unless I misunderstood and the heat flux estimates from previous work were based on closed contours, it makes little sense to compare them. Volume fluxes of course are fine and should be compared.

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Interactive comment on Ocean Sci. Discuss., <https://doi.org/10.5194/os-2017-47>, 2017.

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