

# ***Interactive comment on “Using Eddy Covariance to Measure the Dependence of Air-Sea CO<sub>2</sub> Exchange Rate on Friction Velocity” by Sebastian Landwehr et al.***

**Anonymous Referee #2**

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This paper presents a new corrections of the estimated air-sea CO<sub>2</sub> gas flux in ship measurements considering the air-flow distortion. And the air-sea CO<sub>2</sub> gas transfer velocity using this corrections showed the smaller variation than the former result. This manuscript contains possibly interesting points for the readers of Atmospheric Chemistry and Physics. However, the Result and Discussion part is not described adequately. The following are the concerns and some suggestions.

In Section 3.2, the authors mentioned the residual flow distortion error about the disagreement with COARE 3.5 parameterization. Consequently, the authors should describe the reasons in detail.

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In Section 3.3, The authors should clearly mention about the accuracy of catamaran's data. For example, what is the method of the motion correction for the catamaran's data? And how about the accuracy of the catamaran's wind speed?

In Section 4.1, since the CO<sub>2</sub> gas transfer velocity decrease in the high wind speed in Fig. 8, it is better to add the applicable wind speed range to Eq. (10).

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