Atmospheric
Measurement
Techniques
Discussions

Interactive comment on "Airborne emission measurements of SO$_2$, NO$_x$ and particles from individual ships using sniffer technique" *by* J. Beecken et al.

Anonymous Referee #2

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This manuscript presents an airborne approach to sampling in the plumes of ocean-going marine vessels, to determine their emission rates of SO2, NOx, and particulate matter. Given reductions in the allowed sulfur content of marine fuel oil, there is significant economic incentive to evade the fuel quality regulations, which motivates the kind of emission surveillance technique presented here. The authors report measurements of emission factors for about 150 ships (some of them measured more than once) at sea in Northern Europe.

The paper is suitable for publication subject to technical corrections as outlined below.

C3941

Title: using *a* sniffer technique

Abstract: lines 5-6: report precision as 20% for SO2 and 24% for NOx. Excessive sig figs included in manuscript.

P 10619, line 14: "in often technologies" this text does not make sense

P 10622, NO/NOx = 80% seems low. Is this a mass or molar ratio? Molar ratio is preferred for consistency in comparing with other studies.

P 10627, lines 2-3: 19 and 22%, lines 7-8: 20 and 24%, line 16: 20%. Do not report excessive precision for these uncertainty estimates.

P 10631, Alfoldy (Alfoldy et al., 2012) should be Alfoldy et al. (2012).

P 10632, Mexican Gulf should be written as Gulf of Mexico

P 10634, line 17: controlled should be inspected (incorrect usage of controlled in English)

P 10634, lines 23 and 24: aircraft does not take an "s" when plural, should be aircraft not aircrafts

P 10640, table caption would be better labeled Overview *of* instruments used *in* the different campaigns

Interactive comment on Atmos. Meas. Tech. Discuss., 6, 10617, 2013.