

Interactive comment on “Tropospheric NO₂, SO₂, and HCHO over the East China Sea, using ship-based MAX-DOAS observations and comparison with OMI and OMPS satellites data” by Wei Tan et al.

Anonymous Referee #3

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The authors of this article present an effort to investigate the trace gases over the East China Sea with ship-based optical measurements and satellite observations. Considering that few ground-based observations are available over the seas near eastern China by now, these results can provide an important reference for the community. The novelty and expression of the paper should be improved besides description of the observation data. Here are some specific comments: 1. What's the purpose of comparison between ground measurements and satellite retrieval here? In line 396 of section 4, the authors said “In order to validate the ship-based MAX-DOAS measurements. . .”,

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however, satellite retrieval of trace gases have considerable uncertainties. 2. Line 267, 10 km radius of location of ship-based measurements is selected to match with satellite pixel, but the satellite pixel especially the OMPS is much larger than this scope, how realize it? 3. The current data analysis did not well support the authors' conclusion robustly. Daily satellite observation can provide regional view of the distribution of gaseous pollutants, why the authors only show monthly data? How did the daily satellite data compare with of daily values of in the track of ship-based measurements? To reveal the transport and air pollution over sea, typical daily case is suggested. 4. It is important for the authors to clarify and emphasize what's new in their work and what's their new finding?

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