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## ***Interactive comment on “Characterization of OMI tropospheric NO<sub>2</sub> over the Baltic Sea region” by I. Ialongo et al.***

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This is to complete the answer to referee n.1.

1. Referee: Figure 2: The 30 intervals are not consistent with the grouping of OMI observations (N, S, E, W). The definition of 0 as wind from West to East does not match the ECMWF definition: see [http://www.ecmwf.int/products/data/archive/data\\_faq.html#wavedirection](http://www.ecmwf.int/products/data/archive/data_faq.html#wavedirection)

Authors: We did not use the wind direction data from ECMWF directly, but we derived the direction from the u and v components of the wind speed. So we do not actually refer to this definition. We prefer to keep this distribution with more than just 4 wind sectors to have a more informative picture.

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2. R: Figure 3: What does white mean - a gap or a value below 1.8e15? Please modify the plot such that gaps can be discriminated from low values.

A: As marked in the colorbar, white is a value below 1.8e15. There are no gaps in this picture because we average over many months and all the pixels are filled.

3. R: Figure 4: How can the mean wind be 4.9 m/s, if only wind speeds above 5 m/s have been selected? If this is the consequence of adding wind vectors, this would be inconsistent with the definition of  $w$  as projected component (P2026 L21).

A: In this plot all westerly winds are considered, included the wind speeds below 5m/s. I think we did not mention in the text any restriction for strong winds in this fitting case.

4. R: Figure 6: The black boxes in the left and the center panel do not match.

A: They are not exactly the same as they come from data available at very different resolutions and gridding. The overlap and rounding of the different grids produced a slight shift.

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Interactive comment on *Atmos. Chem. Phys. Discuss.*, 14, 2021, 2014.

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