

Interactive comment on “Emission trends and mitigation options for air pollutants in East Asia” by S. X. Wang et al.

Anonymous Referee #1

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This is a comprehensive analysis of emission trend and mitigation options. I focused on section 4.2 on the comparison of the emissions with the satellite observations, for which I have more expertise.

The comparison of satellite observations presented in sec 4.2 is qualitative, but seems reasonable for the scope of this study. The comparison of NO₂ columns and NO_x emissions is subject to time-dependent chemical feedbacks of NO_x on its own lifetime. A more rigorous comparison would involve incorporating the emission inventory into a chemical transport model and comparing the simulated NO₂ versus satellite NO₂; however that may be beyond the scope of this manuscript. The SO₂ comparison is subject to uncertainty in the retrieval algorithms. The authors may be able to easily strengthen the confidence in Fig 5b by adding GOME-2 from Fioletov et al. (2013), but

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I suggest this only for consideration.

Spelling and grammar do need some attention throughout the manuscript.

Specific:

I could not find in Fioletov et al. (2013) where they attributed the pronounced between in 2009 and 2010 to transient volcanic signals. It may be more accurate to say that the difference arises from time-dependent bias in the retrieval algorithms.

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 2601, 2014.