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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Sulfur dioxide emissions in China and sulfur trends in East Asia since 2000" *by* Z. Lu et al.

Anonymous Referee #2

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This is an excellent paper that describes the changes in SO2 emissions, along with observed and modeled ambient SO2 and sulfate concentrations and aerosol optical depths, in East Asia. The sources of information and methodology used for creating a bottom-up emissions inventory for China are described thoroughly. This inventory is compared to surface observations of SO2 and sulfate from several monitoring networks, as well as to satellite observations. The inventory is used in a regional and a global model to further interpret the changes in emissions from 2000-2008. Previous work on this subject is well referenced. The paper is very well written, clearly organized and the figures and tables clearly illustrating the points of the paper.

I recommend publication after consideration of this minor comment:

I understand that the focus of the paper is on trends and inter-annual variability, for

which it is valuable to plot normalized values to compare different quantities. However, it seems that some figures could be shown in absolute values without obscuring the trends, and thus convey more information. For example, I think Fig. 7b could be shown in absolute values since it is the ratio of North to South China emissions or concentrations. Also, in Fig. 13, it would be interesting to see the absolute values, unless the model is so far off from observations as to distract from the trend comparison.

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 8657, 2010.