

Interactive comment on “A 15-year record (2001–2015) of the ratio of nitrate to non-seasalt sulfate in precipitation over East Asia” by Syuichi Itahashi et al.

Anonymous Referee #2

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The long-term trend of NO_3^- and SO_4^{2-} concentration in precipitation in China, Korea, and Japan was analyzed based on EANET monitoring data. The results showed certain correlation between China's emission and the wet deposition in East Asia. The manuscript was quite well written. However, the method for trend analysis was not clear introduced. Since there are a lot of anthropogenic sources and other natural sources of Na^+ than sea-salt in China, the necessity of sea-salt correction for SO_4^{2-} concentration in precipitation need be reconsidered. Some detailed comments are:

Page 1, Line 15: The ratio is an index only for relative contribution of SO_2 and NO_x .

Page 3, Line 21: As I know, a long-term (2001-2013) monitoring of precipitation chem-

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istry at one of the IMPACTS site (TSP) was recently reported by Yu et al. (ES&T, 2017).

Page 4, Line 21: I suggest not to do sea-salt correction for SO_4^{2-} , at least in China.

Page 4, Line 24: Is the monthly mean concentration volume-weighted?

Page 5, Line 4: I can not see the introduction on the method for trend analysis.

Page 5, Line 32: Na^+ can not be used as sea-salt tracer, at least in China.

Page 11, Line 7: Double 'Xiang Zhou'.

Page 26, Line 4: Better use equivalence as the unit for the sum.

Page 28 and 29, Table 2 and 3: How to calculate the trend?

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2017-848>, 2017.