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Discussions

Interactive comment on "Temporal characteristics of atmospheric ammonia and nitrogen dioxide over China based on emission data, satellite observations and atmospheric transport modeling since 1980" *by* Lei Liu et al.

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This manuscript presents time-series of NH3 total columns from the IASI satellite instrument. As the authors point out, the retrieved columns for this trace gas are strongly dependent on the meteorological information that is used as input data in the retrieval algorithm (in particular the surface temperature and the temperature profile in the lowest layers of the atmosphere). At present, the publically available IASI-NH3 product uses the meteorological parameters as provided in EUMETSAT IASI Level 2 data.

The IASI Level 2 data is processed in real time, and there have been several updates to the algorithm since the launch of IASI. We can confirm that in particular, the change from version 5 to version 6 of the EUMETSAT Level 2 data on 30 September 2014 (and not November as stated in the manuscript), causes on average a substantial increase of the retrieved atmospheric NH3 columns. Hence the conclusions of the authors regarding NH3 trends should be taken with great care.