

Interactive comment on “Rapid convective outflow from the U.S. to the upper troposphere over the North Atlantic during the NASA INTEX-NA airborne campaign: flight 13 case study” by S. Y. Kim et al.

Anonymous Referee #1

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The authors present a detailed analysis of one of the INTEX flights with a pronounced convective outflow observed over a large part of the flight. They did an excellent job in combining the observations of a large suite of trace gases with a synoptic meteorological analysis, backward trajectories, MOZAIC, and ground-based measurements to document unequivocally the convective transport of the air from the boundary layer of southeastern US. The already well documented comparison of absolute concentrations is further augmented by comparison of their ratios obtained from the correlations. Based on the large extent of the convective outflow, the authors documented a convinc-

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ing case of a substantial impact of US emissions on the chemistry of the troposphere over the North Atlantic.

The paper is well organized and lucidly written. Its publication is strongly recommended. The authors may perhaps think of more precise presentation of the statistical data: a) what type of linear correlation was used, b) how many points were correlated or averaged, and c) the slopes could be given with their standard deviations? The number of correlated measurements is probably large enough in all cases for the correlation to be significant. Thus a statement of the minimum number of correlated measurements may be sufficient in most cases.

The title could be shortened as the number of the flight is uninteresting to the public. The first sentence of the abstract would read better if the word 'study' was deleted.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 17367, 2007.

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