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Comment

## ***Interactive comment on “Cloud-resolving simulations of mercury scavenging and deposition in thunderstorms” by U. S. Nair et al.***

**U. S. Nair et al.**

wuy@nsstc.uah.edu

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Analysis of observed Hg concentration in rainfall (Holmes et al. 2010b) do show differences between deep convective and non-convective precipitation events. Homles et al. (2010b) also found that the 50% of the enhancement of Hg wet deposition at the southern sites could be attributed to meteorology (greater frequency of thunderstorms and rainfall). Rest is attributed to chemistry and other differences, including the convective scavenging efficiency of thunderstorm. Prior studies suggest incorporation of environmental air into the thunderstorm and removal could be linked to thunderstorm structure. This study hypothesizes that convective storm structure plays an important role in the overall convective scavenging efficiency of the storm. The main goal of the study is to establish the viability of the hypothesis using idealized numerical modeling

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experiments. The results from the study provide guidance regarding the observations needed to confirm the hypothesis.

We will modify the manuscript to make these aspects clear.

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Interactive comment on Atmos. Chem. Phys. Discuss., 13, 3575, 2013.

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