Atmos. Chem. Phys. Discuss., 9, C8037–C8038, 2009
www.atmos-chem-phys-discuss.net/9/C8037/2009/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Bimodal variation in mercury wet deposition to the coastal zone of the southern Baltic" *by* P. Siudek et al.

Anonymous Referee #2

Received and published: 8 December 2009

Introduction is too long and not focused enough on wet deposition.

22775 L21 Since TGM has a very long atmospheric half-life even uninhabited regions are impacted by anthropogenic emissions.

22781 L3. It's not clear how the labile form was determined, physically what it means, or why this approach is useful. Assuming equilibrium with Hg0 what percent of the Hg in the rain was due to Hg0 (likely very little). If most of the Hg is from scavenging HgP or RGM, is the labile form from RGM and the remainder from HgP? Is there evidence of this? Once in the environment is the fate of the labile and non-labile forms different?

22780 L5. What were the results of duplicate/triplicate analyses?

22780 L11. How was it determined that the filtration process did not contaminant the

Full Screen / Esc
Printer-friendly Version
Interactive Discussion
Discussion Paper

samples? Since some samples were filtered and some were not how was it determined that this difference did not impact the results? In the unfiltered samples some or most of the Hg sorbed to particles was likely included in HgT while in the filtered samples sorbed Hg was not included.

22782 L 17. Most of the Hg in the air is Hg0 which is not effectively scavenged therefore rain does not "purify" the air of mercury

22782 L 30. Correlated normally infers a statistical test. How was it determined that they were strongly correlated?

22783 L15. Hg is also dry deposited - do you mean annual input from wet deposition?

22783 L25. See comment above about "purifying"

22784 L 2 Were these values statistically different?

22784 L15. Were the yearly values statistically different? As noted above - how are TPM and labile forms related? What role does RGM play in this analysis?

22784 L25. Are pH and concentration correlated? What is the r2 value?

Section 3.3. This comparison should be made statistically. One way to do this is using a conditional probably function (CPF) approach.

Figure 1. This figure needs to be improved. All of that area of Europe should be included with an insert of the specific sampling area. A scale should be included.

Figure 6. Back trajectories of all of the samples should be included.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 22773, 2009.