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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Changing sources and environmental factors reduce the rates of decline of organochlorine pesticides in the Arctic Atmosphere" *by* S. Becker et al.

Anonymous Referee #2

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The paper is a very interesting piece of work and can give a relevant contribution to the understanding of the environmental factors affecting long range transport of POPs. The large amount of data with seasonal detail allows a very detailed description of the trends and of the possible relations with environmental factors and with possible emission events. I have just a few comments on some hypotheses that seem not enough described in order to fully explain some data.

At page 524, the high increase of DDTs in 2004 is explained with emissions due to forest fires. Why only DDTs show this increase? Moreover, op-DDE represents about 60% of the total DDTs measured in 2004, while in other periods it represents about

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10% of the total. Is there an explanation for this behaviour?

At page 525, the high winter values of pp-DDE are explained with long range transport from Asia. So, an increased transport of “old” DDT is supposed from areas where higher fractions of “new” DDT could be hypothesized. On the contrary, high values of “new” pp-DDT are observed during Arctic summer. Can this better explained?

An additional minor comment. At page 519 it is not mentioned that HCB emissions may also derive from unintentional emissions as by-product of several industrial activities, such as petrochemical productions. Can these uncontrolled (and difficult to quantify) emissions be large enough to affect the global balance of HCB?

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 515, 2009.