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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Halogens and their role in polar boundary-layer ozone depletion" *by* W. R. Simpson et al.

W. R. Simpson et al.

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The reviewer makes a number of specific comments on sections that lack clarity in the text. We thanks the reviewer for these comments and will clarify these specific sections. For the most part, these changes are straightforward from the reviewer's comments. The only comment that requires some discussion here is that of the effect of temperature on bromine activation (Page 4292 and section 2.1.3). Our point on page 4292 was simply to note that halogen activation can occur outside the polar regions and at temperatures above freezing. The main point of this paragraph (on page 4292) is still that cold temperatures seem to enhance ODE probabilities. We have tried to address the concern of the reviewer by adding the following sentence at the end of the paragraph in question on page 4292, "However, the mechanism by which halogen activation occur at salt lakes may be subtly different from that of polar halogen activation, which does

seem to be enhanced by cold temperatures." Also in section 2.1.3, we will add a sentence before the last sentence of that paragraph that states: "Specifically, the freezing of sea ice, which causes brine to be pushed to the surface of newly forming sea ice, is related to cold temperatures and is likely involved in providing a salty surface on which halogen activation can occur (see Section 3.1 and its subsections)."

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 4285, 2007.

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Interactive Comment