

Interactive comment on “Rapid methods for inversion of MAXDOAS elevation profiles to surface-associated box concentrations, visibility, and heights: application to analysis of Arctic BrO events” by D. Donohoue et al.

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We thank Dr. Roman Sinreich for the comments on our manuscript. We agree that the manuscript can be significantly improved and will address the points requested here. We agree that there are similar methods to these methods in the references mentioned in this comment, although our focus was to put them together in a single publication, completely describe them, and compare them for relative accuracy. Some of the references listed in this comment were not known to us at the time of writing

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this manuscript, and we will include both those references and discuss similarities and differences between what we describe in this manuscript and those references in the revised version. With regard to the box profile method, what we describe here is a bit different from the Hoenninger et al. and Sinreich et al. methods, as largely described in the replies to Referees 1 and 2. Those differences probably do not cause huge changes in the derived properties, but we will address those differences in the revised version. Therefore, we see the box method described here as a "variant method" of the prior box profile methods. Please see our replies to those referees and we will address this point in detail in the revised version. We thank Dr. Sinreich for the comments.

Interactive comment on Atmos. Meas. Tech. Discuss., 3, 4645, 2010.