**Atmospheric
Chemistry
and Physics
Discussions**

Interactive comment on "Rapid growth of HFC-227ea (1,1,1,2,3,3,3-Heptafluoropropane) in the atmosphere" *by* J. C. Laube et al.

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The IUPAC HFC-227 data sheet (http://www.iupac-kinetic.ch.cam.ac.uk/, 2004, updated 31st May 2007) states, that

"the preferred Arrhenius expression should not be used outside the specified temperature range (250-380 K); rather, the full three parameter expression should be used."

Therefore we used the three parameter rate equation:

$$k = (A/e2T2)*T2 \exp(-(E/R-2T)/T)$$

which simplifies to:

$$k = A/e2 \exp(-1770/T + 2)$$

where,

$$E/R = 1770 \quad A = 5.3e\text{-}13 \quad (\text{hence } A/e2 = 7.17e\text{-}14)$$

In fact, over the temperature range in the model (roughly 210-298K) using the standard equation ($k = A \exp(-(E/R)/T)$) or the three parameter equation above leads to a difference in k at the fourth decimal place only (i.e. insignificant). We agree with you that this procedure should have been explained in the manuscript. This will be done in a revised version.