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Atmospheric Measurement Techniques Discussions

Interactive comment on "Ion Mobility Spectrometry-Mass Spectrometry (IMS-MS) for on- and off-line analysis of atmospheric gas and aerosol species" *by* Jordan E. Krechmer et al.

Anonymous Referee #2

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The paper "Ion Mobility Spectrometry-Mass Spectrometry (IMS-MS) for on- and off-line analysis of atmospheric gas and aerosol species" by J. Krechmer et al. is a very good manuscript that introduces a very interesting meaurement technique. It is well written, the Figures are informative and the scientific relevance is high.

Thus I recommend to accept the paper after some minor revisions which are mostly of technical nature:

Equations 2 and 3: The relationship between Equ. 2 and 3 is not clear to me. Why and to what degree gives Equ. 3 better results than Equ. 2? Also I suggest to arrange Equ. 3 similar to Equ. 2. How is the effective temperature in Equ. 2 calculated? Please explain why T_eff is not used in Equ. 3 and how v_d is calculated. Are the alpha and

beta terms known well enough to be sure that Equ. 3 is more precise?

Line 156 "mixure" -> "mixture". Should "diasteromers" read "diastereomers"?

Line 241: Fig. S2 depicts only three HSE isomers.

Line 287: Where in Fig 1 is the potential of 28 V applied? Is that a typical value? What would be the typical range? See also comment to line 428 below.

Fig. 6a: the symbols for alpha-pinene ELVOC radicals are hard to see -> please use different color

Fig. 8c is not discussed at all in the text. I understand that it shows the drift times measured at the times indicated by the vertical lines in Fig. 8a (three, not four as stated in the caption!). However, the green line denotes a time where DT 37.12 is not zero. Thus I had expected a small signal at 37.12 in the green curve in Fig. 8c.

Line 428: Here a voltage range for CID experiments is given. I suggest to mention the typical range of voltages that is used for CID in the instrument description

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