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Atmospheric Measurement Techniques Discussions

Interactive comment on "A low activity ion source for measurement of atmospheric gases by CIMS" *by* Young Ro Lee et al.

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Response to Referee 1

General Comments

1. Referee comment: "Since the major advantage of the low activity source is the ability to transport it without HazMat training, it would be helpful for the authors to be more clear on what (if any) limitations exist for transporting the sources. Or more specifically, at what activity can a source be sent without HazMat training?"

Author response: We have added more details on the transport regulations for the sources. Namely, the maximum activity per package to be shipped without HazMat training is 9 mCi (369 MBq), but this still requires shipping documentation. Ionizers

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with activity below 5.41 mCi (200 MBq) can be shipped as an excepted package that only requires the UN number on the package label. The package still needs to meet the general design requirements of radioactive materials. We have added the maximum activity level for excepted package and referenced the code of federal regulations (CFR) in the revised manuscript.

2. Referee comment: “Section 3.1 provides a nice discussion of sensitivity, but almost no discussion on backgrounds which drive LOD in many CIMS instruments. It would be helpful to include a discussion of how the backgrounds changed between the standard source and the LAS and how that translates into LOD"

Author response: As the referee suggested, we have reported the range of background signals and LOD in Section 3.1.

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