Interactive comment on “Mass spectrometry of planetary exospheres at high relative velocity: direct comparison of open- and closed source measurements” by Stefan Meyer et al.

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Received and published: 13 October 2016

General comments

This paper presents a lab study comparing the performance of different neutral atom or molecule sources (open and closed) for a mass spectrometer instrument that is part of the JUICE payload. The test conditions represent the expected situation at the Jovian icy moons. The study compares the measurement results with an analytic expression derived earlier and available in the literature. The conclusions are substantial and clear: both sources behave as expected over the relevant mass and velocity ranges. This corroborates the argumentation in favor of including both open and close sources on the instrument, and paves the way for further calibration work.

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Specific comments

Section 1: It would be good here to recall the reason why you have foreseen both types of source in the first place; you now give that on page 3 starting on line 13, but it would be useful to explain that earlier.

The authors explain the advantage of a closed source in terms of the large field of view and the higher performance regarding mass resolution and transmission. Isn’t another advantage that the fragmentation patterns can be defined more precisely due to the known, fixed energy the particles have acquired in the antechamber?

Technical corrections

Just a few suggestions:

Page 1 7: habitable worlds inside icy moons -> habitable environments on or inside icy moons
Page 2 4: developed -> have developed
Page 4: PEP -> PEP, 12: Rosina -> ROSINA
Page 5: ESCIMIR -> CASIMIR
Page 6: at Europa torus crossing -> during Europa torus crossing
Page 7 6: edt -> eds

References: sort alphabetically? Reference Grasset et al., Ablanalp et al, Balsiger et al.: missing doi