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Comment

Interactive comment on “Retrieval algorithm for densities of mesospheric and lower thermospheric metal and ion species from satellite borne limb emission signals” by M. Langowski et al.

Anonymous Referee #1

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This comprehensive paper describes a retrieval algorithm and first results for a two dimensional inversion of metal and metal ion number densities from SCIAMACHY emission spectra of the MLT region. This is excellent work and my only suggestion other than the following minor points is that the authors consider ways in which to condense the material. It has a very large number of figures for an AMT paper and the figures could be better connected to the text. For examples, figures 16 and 17 are not even specifically mentioned in the text. After this and the following minor points are addressed, I fully recommend publication in AMT.

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Minor corrections:

4447 Line 25: “90ies” should be 1990s

4451 Line 20 “pathes” should be paths

4451 Clarify s_a and s_e in Eq 1

4480 Fig 2 caption: use commas for clarity with respectively construct

4452 An RT calculation, for example from SCIATRAN, to show that ozone and multiple scattering are negligible would be much preferable to the discussion here and may render figure 2 unnecessary.

4454 Has this Ring effect linearization been used in the literature before? Is there a reference?

4494 Figures 16 and 17 are not specifically mentioned in the text

4461 Typo in the least squares equation

Interactive comment on Atmos. Meas. Tech. Discuss., 6, 4445, 2013.

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