

Response to comment by Anonymous Referee #2 on “OH level populations and accuracies of Einstein-A coefficients from hundreds of measured lines” by Stefan Noll et al.

General Comments

This is a very well written manuscript based on a detailed analysis of ... The assumptions used in the calculations, the criteria applied at each stage and the significance of the results are clearly explained. The manuscript is very well referenced and certainly deserves to be published with only very minor textual corrections.

We thank the reviewer for the careful reading of the manuscript, which is illustrated by the detailed summary of the paper content in the review (not reproduced here because of its length). In the view of the reviewer’s efforts, we are pleased to see the very positive evaluation of the paper.

Specific Comments

The authors should make the empirically corrected Brooke et al. (2016) set of coefficients available as supplementary material so that others may benefit from this work.

We agree that the modified Einstein-A coefficients should be published. On the website of the discussion paper, they can already be downloaded included in a supplement. The zip archive contains all data that are needed to reproduce the figures related to the OH line intensities and their analysis.

Very minor textual corrections

This manuscript contains a lot of very detailed information: it is clear that the authors have gone to great lengths to achieve the level of precision shown in these details. I have found only one typographical error which occurs in line 630.

We thank the reviewer for spotting the wrong number and several linguistic issues. We have corrected everything as proposed.

Line 630: refers to “553 spectra”, when it should be “533 spectra” as specified in lines 90 and 95.

Done.

Lines 113-114: the final sentence of the paragraph beginning with “The smoothing ...” is not clear.

In the revised version, we will write “The rounded edges of the sample-related steps in the histogram reflect the variation in the wavelength positioning of a certain set-up.”. We hope that “rounded edges” is clearer than “smoothing”.

Lines 255, 313 and 416: the authors use the word “satisfying” or “satisfyingly” when referring to the quality of Einstein-A coefficients and in line 498 when referring to the OH level populations. The words “satisfactory” or “satisfactorily” are suggested as a better alternative.

Done.

Similarly, lines 281, 302, 375, 685 include the words “unsatisfying” or “unsatisfyingly”. The words “unsatisfactory” or “unsatisfactorily” would be better choices.

Done.

Line 306: suggest replace “neglect of” by “omission of” or “negligence of”.

Done.

Line 498: suggest “cannot be reproduced satisfactorily” instead of “cannot satisfyingly be reproduced”.

Done.

Line 662: suggest “OH emission layer there should have the strongest impact” instead of “OH emission layer should there have the strongest impact”.

Done.