

Author's Response with Technical Corrections

to Final Reviewer Feedback on the Preprint

"Improved method for temporally interpolating radiosonde profiles in the convective boundary layer"

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1 Introductory Statement

The authors thank the reviewers for their constructive and encouraging comments that helped a lot in improving the presented study and making it fit for publication. These final comments regarding technical corrections are printed in **bold face**, our responses in *italic face*, and our taken actions in normal face. If text passages are removed or replaced, these passages are recapitulated here as ~~crossed-out text~~, followed by the, if applicable, replacement in normal face.

2 Requested Technical Corrections

Comment: Line 11: Suggest replacing “way” with “method.”

Reply: *We replaced this.*

Action: “way” is replaced by “method” (line 11 of the revised manuscript).

Comment: Line 27: Suggest rewording to, “The noise levels of the ARM SGP Raman lidar are too high for this purpose...”

Reply: *This sounds indeed better, so we replaced this.*

Action: ~~"The ARM SGP Raman lidar has too high noise levels for this purpose"~~ is replaced by "The noise levels of the ARM SGP Raman lidar are too high for this purpose" (line 27 of the revised manuscript).

Comment: Line 31: Why not just refer to the ARM Interpolated Sonde product? The current wording seems unusually vague.

Reply: *This makes sense, we replaced this.*

Action: ~~"ARM product, as the currently available RS interpolation product,"~~ is replaced by "ARM Interpolated Sonde product" (line 31 of the revised manuscript).

Comment: Line 38: Suggest changing to "Normalizing the boundary layer profile..."

Reply: *We suspect that you mean line 36, where we implemented the suggested change.*

Action: ~~"Normalizing the boundary layer"~~ is replaced by "Normalizing the boundary layer profile" (line 35 of the revised manuscript).

Comment: Line 98: Replace ARM "program" with ARM "facility," (Also line 158, 163, 215)

Reply: *We replaced this for the mentioned occurrences.*

Action: ~~"program"~~ is replaced by "facility" (lines 97, 157, 162, and 214 of the revised manuscript).

Comment: Line 116: Here ARM "facilities" should probably be ARM "sites"

Reply: *We replaced this.*

Action: ~~"facilities"~~ is replaced by "sites" (line 115 of the revised manuscript).

Comment: Line 185: Suggest rather than "which is therefore expected to describe the real PBLH the best" to "which is expected to offer the best estimate of the PBLH"

Reply: *This sounds better, we replaced it.*

Action: ~~"which is therefore expected to describe the real PBLH the best"~~ is replaced by "which is expected to offer the best estimate of the PBLH" (lines 184-185 of the revised manuscript).

Comment: Line 247: Suggest rather than “The shown planes (semi-transparent) visualize...” use “The semi-transparent planes...”

Reply: *We replaced this.*

Action: “~~The shown planes (semi-transparent)~~” is replaced by “The semi-transparent planes” (line 246 of the revised manuscript).