We are grateful to the editor for providing comments and suggestions that ultimately improved the quality and clarity of our work. In the following, we report the specific comments received by the editor followed by our point-by-point responses in blue colour. Accordingly, we have revised the already submitted revised manuscript providing version with modifications in track-change mode (with deletions marked as red and additions marked as blue)

Thank you for your response and revision to the manuscript "Development and Validation of a New Ozone Dataset Using Complete Data Fusion of MIPAS and IASI Observations: A Step Towards Understanding Stratospheric Ozone Intrusions in the Himalayan Region". Based on my review of the revised manuscript, reviewers' comments, author response, and my own reading, the manuscript requires further (minor) revisions as listed below:

1) As commented by one of the reviewers, I feel that the second part of the title can be misleading as there don't seem to be any specific case studies over the Himalayan Region. If additional studies are not feasible, you may consider modifying the title to reflect the contents of the paper. Potential modification could look like "Development and Validation of a New Ozone Dataset Using Complete Data Fusion of MIPAS and IASI Observations: A Step Towards Understanding Stratospheric Ozone Intrusions".

Thank you for your valuable suggestion. Our initial intention was to provide the broader context in which the dataset was developed and intended to being exploited further; however, we fully understand your point and that previously raised by one of the reviewers. We have therefore modified the title as suggested.

2) Please increase font size for most figures as the contents on the x- and y-axis, title, and legend are too small to read.
Thank you. Accordingly, we modified Figures 3-4-5-6-7 increasing the font sizes on the axes, title and legend.

3) Please define all acronyms in their first use in the abstract and main body and ensure that they are not re-defined in multiple places. I found several instances of

re-defining the acronyms in the main body. On lines 41-42, it is better to spell out the name instead of symbol for ozone tracers.

Thank you for your suggestions. We revised all acronyms and their definition throughout the text. Specifically:

- MIPAS: abstract, line 410
- IASI: abstract, line 411
- FR, OR: line 108
- UTLS: line 413
- AK: abstract, lines 182-222-245-292-422
- CM: abstract, lines 182-201-222-241-422
- DOFs: caption Table 2, caption Figure 2, lines 243-332-348
- OE: line 413

Moreover, we revised lines 41-42 spelling out the ozone tracers names.

4) Word separation missing or attention needed for line 58, 213, 308, 389, 397, 402, and Table 2 table caption.

Thank you. We revised these lines according to the comment.

5) Line 181 and Eqn 1: It is unclear what xj is. Could it be a typo for xf?
Thank you for your observation. indeed this was a typo. We revised this line writing xf.

6) Line 188 and Eqn 2: Scoinc might be a typo for Sconc.

Thank you for your observation. 'Scoinc' is a typo here for Scoin. We changed deleting the c.

7) Line 275, Eqn 10: Could you please confirm that the first term on the right is correct? Should it be squared?

Thank you for pointing this out. The first term on the right-hand side, $S_{f,ii}^{noise}$, represents the diagonal elements of the noise covariance matrix, which are

variances. Therefore, the square root is applied to the sum of two variances and is needed.

8) Lines 206-215: You may want to reformat with a bullet form for an easier read.

Thank you for your suggestion. Accordingly, we revised the sentences adding bullet points for better clarity.

9) Table 2 and 3: Should 4-6 columns in Table 2 and 2-5 columns in Table 3 say DOF as those columns are showing DOFs?

Thank you for this observation. These columns indeed show DOFs. To provide clearer information, we have added 'DOFs' to the table headers in both tables.

10) Line 361: "Its decreases" -> "It decreases".
Thank you, we corrected the wording accordingly.

11) Line 439: "Assessed" -> "Assessing"

Thank you, we corrected the wording accordingly.