Dear Editor and Reviewers,

as you noticed we have already replied to all the Referees and Community Readers comments.

As indicated in the one-to-one replies to the Referees the text has been largely modified to account for all the requests.

Also, the Readers comments have been accounted for and new details have been added to the text. With respect to what already described in the one-to-one replies, we have applied the following modifications:

- The introduction is improved, and new references are considered. This was a strong suggestion by the Community.
- The lidar system is better described and technical details are provided as requested by the Community readers.
- A subsection (2.1) is introduced. The process used to identify mixed-phase clouds through lidar data is presented and detailed. References are added.
- Figure 2 is re-plotted. In particular, the mixed-phase cloud spectrum used as example is changed in order to avoid confusion. In this way it is clearer that mixed-phase clouds do not coincide with optically thick layers.
- Bad calibration points in Figure 2 and 5, falling in the range 380-1000 $cm^{-1}$, are deleted.
- The color scale of Figure 6 is modified to better highlight the maxima in each panel.
- Figure 10 is re-plotted without accounting for the comparison of the MODIS MCD06COSP products since data in winter months were missing. The text is modified accordingly. MOD08 and MYD08 are used instead.

Best regards, Tiziano Maestri and all the co-authors