

Interactive comment on “A technical description of the Balloon Lidar Experiment BOLIDE” by Bernd Kaifler et al.

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We thank the reviewer for her/his comments which we address below.

Change of flight location

As pointed out by the reviewer, there is information missing in the manuscript. When the PMC Turbo mission was conceived, the payload was designed for circumpolar flight in Antarctica. Less than a year before the anticipated launch date it became clear that a launch from McMurdo, Antarctica would not be possible within the funding period due to a backlog of payloads waiting for a launch opportunity in Antarctica. Instead, NASA

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offered a 6-day flight in the northern hemisphere with launch from Esrange, Sweden. An analysis showed that the BOLIDE instrument was compatible with such a flight in the northern hemisphere. But since the instrument was really designed for Antarctica, e.g. the filter wheel would only be needed in McMurdo and not at Esrange, in this manuscript we decided to report on the original mission and mission requirements as much as possible.

We will add this background information in the revised manuscript.

The document is more of a technical report describing the instrument and its performance than a scientific document

That was exactly our intention and is hopefully conveyed by the title of the manuscript. First scientific results are published in Fritts et al. (2019), Fritts et al. (2020) and Geach et al. (2020). More scientific papers are submitted and will be published soon.

Because the technical description of the instrument and performance analysis is the heart of the paper, we prefer to keep the current structure and not move the description to the appendix as suggested by the reviewer. However, we will add following figure to Figure 7 showing a height-time section of the PMC backscatter signal.

References

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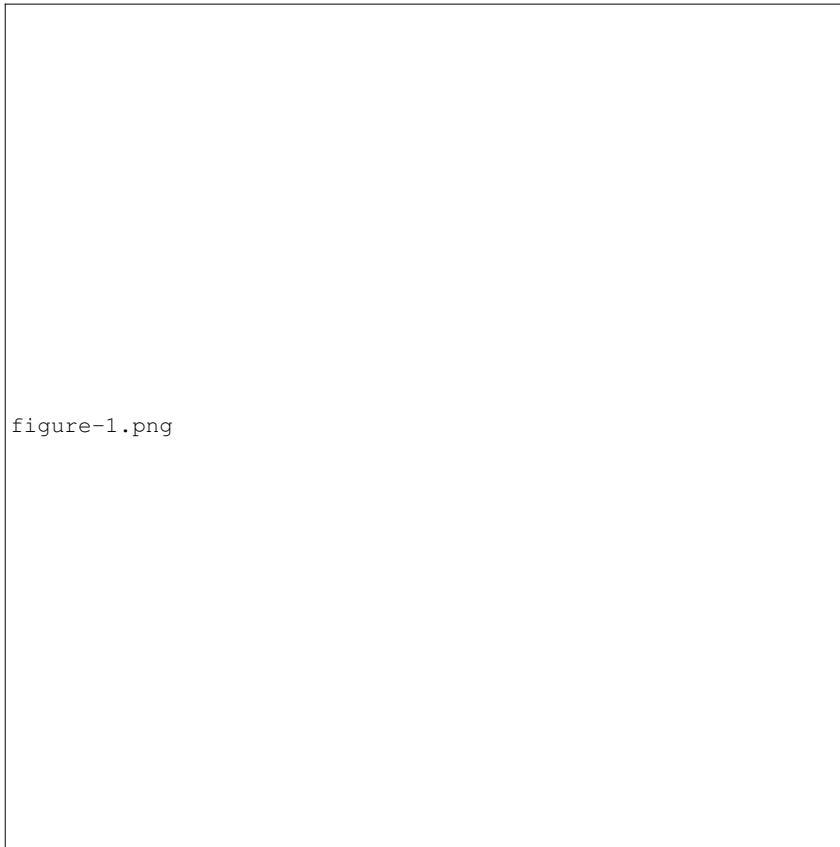


Fig. 1. (c) PMC backscatter β_{PMC} in units of $1 \times 10^{-10} \text{m}^{-1} \text{sr}^{-1}$ shown for a 4-hour long period centered around the profile in (a).

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