Interactive comment on “Depolarization ratio of Polar Stratospheric Clouds in coastal Antarctica: profiling comparison analysis between a ground-based Micro Pulse Lidar and the space-borne CALIOP” by C. Córdoba-Jabonero et al.

Anonymous Referee #2

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This paper compares data from two distinct plataforms (ground based and satellite) for the study of PSC I and PSC II types of clouds in the argentinian station: Belgrano II. The overall presentation is very well structured and written. The idea of comparing the volume depolarization $\delta^V$ between CALIOP and MPL-4 is new and the statistical methods to compare both of them were fairly good. In the text despite its fluency there are many references to numbers in different cases which became a little confusing for the reader to follow which even though they are also shown in tables and some plots, I wonder if more plots were given or if those shown in the paper were split into different plots.

There are some issues and comments I would like to add:

**Introduction** - Lines 20 through 25
I would explicitly addd the temperature ranges these clouds occur.

**Section 2.1.2**
Was the vertical averaging applied to all height range in CALIOP dataset?

**General Comment**
There is a fairly amount of discussion on the comparison analysis between CALIPSO and MPL-4. However the discrepancies found could be more deeply discussed since the authors simply discarded the differences due spatial inhomogeneity.

I suggest to exchange or add besides Table 2 by an histogram (number of occurrences) to show the cases due the CALIOP tracking distance, when that occurred seems to me irrelevant.

**Figure 2**
Please increase the inset fonts. Some of them are almost invisible, for instance $\chi$. Also in the caption "CALIPSO ground-track distance was (instead of is)

**Figure 5**
I think these panels could be split into more plots. Here they are too small to read and are too "piled up".