Answer to Reviewer # 1

The authors thank the reviewer for his helpful comments on the paper. The necessary changes to the manuscript have been done according to the suggestions proposed. The remainder is devoted to the specific response of the reviewers' comments:

1/ First comment

The halo ratio is not an optical parameter but rather a quantitative criterion inferred from the Polar Nephelometer measurements to characterize the occurrence of the 22° halo peak. This criterion is defined by the ratio of the scattered energy values measured at the scattering angles of 22° and 18.5° (Auriol et al., 2001). High halo ratio values (> 1.0) reveal sharp peaks with well-pronounced 22° halo whereas smoothed peaks and/or smoothed scattering phase functions with no 22° halo feature are characterized by smaller halo ratio (< 1). The corresponding paragraph of the manuscript has been revised.

2/ Second comment

The manuscript has been modified as the following:

We note in passing that not only plate ice crystals could explain high level of CALIOP backscattering in cirrus clouds. Such a feature could also be due to pristine-crystals like elongated columns, needles (and thin plates) which are preferentially oriented with their greater projected areas facing the fall direction (see former studies : Ono, 1969, Platt, 1978, Takano and Jayaweera, 1985).