Many thanks to the author for the careful revision and the significant improvement in the quality of the work. I have only one small question:

It is recommended that the author discuss in more detail why the aerosol parameters of CALIOP are used, only the geometric mean particle size is changed, and why the geometric standard deviation is not changed. If the authors agree with the aerosol type of CALIOP, there is no need to change the geometric mean particle size. If the authors disagree, other parameters should also be changed. Since the aerosol type parameters of CALIOP were calculated statistically, the author should not assume that the other parameters are fixed and change only one particular parameter. Please justify the choice of parameters.

Response: We thank the reviewer very much for his/her encouraging comments and we have revised the manuscript according to the suggestion in Lines 138-143 as following:

"*Where N is the total particle concentrations;* r_0 *and* s_d *are the median radius and the geometric standard deviation of aerosol size distribution, respectively. The particle size distribution is represented by its effective radius* ($\bar{r}$) *defined as:*

$$\bar{r} = \frac{\sum n(r)r^3}{\sum n(r)r^2}, \qquad (14)$$

For convenient calculation, we assume a constant s_d *for the each aerosol type, and the relationship between AE and* $\bar{r}$ *can be established with given* r_0 *values.*"