Response to Referee #1

"This paper conducted research on pollen using the latest Lidar technology. Pollen is one of the major aerosols and is a particle that causes many health problems and is not easily measured. In particular, it is difficult to determine the distribution in the atmosphere. For this reason, observation using lidar is being performed, but studies using depolarization ratio, which can observe non-spherical features of pollen, have been mainly conducted. However, this paper confirms more information by measuring fluorescence at 466 nm with depolarization ratio. The thesis is judged to be well-written and there are no special modifications."

We are grateful to Ref#1 for positive assessment of our work

Technical comments;

1. In the figures, each parameter is separated by color only, but in some cases it is difficult to distinguish each parameter. It would be nice to modify the picture to make it easier to check.

In revised manuscript we increased thickness of the lines corresponding to G_F. We hope it will simplify distinguishing of the lines.

2. The classification of aerosol types was explained in 4.4. In Fig. 14, dust, continental, and smoke were classified only by the relationship between particle depolarization ratio and fluorescence capacity. In addition to these two factors, it would be good to add a table that summarizes lidar ratio, EAE, and BAE and displays the average value for each type.

The main intensive parameters for days with high depolarization ratios are provided by Table 1. We didn't provide average values for aerosols in Fig.14, because in some way it may mislead: we observe mixture of pollen and background aerosol, thus average values will depend not only on pollen parameters but also on background aerosol contribution. We will try to indentify the pollen types and estimate their parameters during the next measurement campaign.