

Interactive comment on “Laboratory analysis of volcanic ash particles using a 2D video disdrometer” by Sung-Ho Suh et al.

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This study evaluates the characteristics of volcanic ash particles quantitatively and objectively, and describes their physical characteristics. Immediate prediction of the diffusion of volcanic ash is important for social infrastructure, and the basic data offered from this study will contribute to this assignment. Therefore, it is concluded that this paper should be published in this journal. On the other hand, you should reconsider and correct the following points.

1. The appeal of the originality of this study against former studies is inadequate. You should describe clearly and precisely about originality and position of this study (what is problems of former studies and how does this study solve the problems, for example)

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in abstract, introduction, and summary. This is most important point to correct your manuscript.

2. There are no description about lithological and petrographical characteristics of volcanic ash samples used in the experiment. As your manuscript show that the ranges of shapes of volcanic ash particle are wide, the contents of volcanic ash particles derived from Sakurajima Volcano are variable. For example, the tephra derived from the recent eruption of Sakurajima Volcano contains particles with various degrees of roundness, and sometimes contains tabular shaped glassy particles as co-ignimbrite ash derived from caldera forming eruption. In addition, shapes of essential glassy particles have wide variation, such as blocky and vesicular particles. Therefore, you should described classification and proportion of volcanic ash particles in the text.

3. The introduction about characteristics of Sakurajima Volcano is insufficient in chapter 2-d. Especially, you should described about volcanic history and characteristics of eruption type of recent eruptions from 2006 at Showa and Minamidake summit craters. The purpose is to clarify the characteristics of the volcanic ash sample used in the experiment as pointed out in above. The sampled date are described in Table 2, but there are no description about the characteristics of eruptions.

4. You should indicate clearly in summary about the advantage of your result and possibility about future works. The summary of first manuscript is just only description of data.

5. Several other comments are shown in the manuscript (made by Adobe Reader).

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Please also note the supplement to this comment:

<https://www.atmos-meas-tech-discuss.net/amt-2019-88/amt-2019-88-RC1-supplement.pdf>

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