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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Distributions and radiative forcings of various cloud types based on active and passive satellite datasets – Part 1: Geographical distributions and overlap of cloud types" *by* J. Li et al.

J. Li et al.

lijiming@lzu.edu.cn

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We are very grateful for the Reviewer #1 for pointing out a number of weaknesses and addressing significant comments on the original manuscript, which were very helpful and have led to significant improvements of this paper. Based on Reviewer #1's comments, we rewrote the manuscript and paid more attentions to investigate the co-occurrence frequencies of different cloud types, analyze their along-track horizontal scales and radiative effects. In the revised paper, we also greatly compressed the

some parts which are well known from previous studies. In addition, some superfluous information in each section is deleted and some interpretations in each section are added in order to make the manuscript more readable and clear.

Detailed information: (1) In the section 2 of revised paper, we added the introduction of 2B-FLXHR-LIDAR product, which can provide us the calculated radiative fluxes and atmospheric heating rates at 240 m vertical increments. (2) In revised paper, we deleted the part 3 of first submission, that is, geographical distributions and diurnal variations of different cloud types. In addition, the part 4 (that is, comparisons of different cloud type-fractions based on different datasets) also are greatly compressed. In a word, the statistical properties (such as, co-occurrence frequencies, along-track horizontal scales and radiative effects of cloud overlap) are analyzed in detailed in the section 3 of revised paper. (3) In the section 4 of revised paper, we also added some interpretations and discussions. Some errors are corrected. (4) The summary and discussion (last section) is rewritten and some superfluous information is also deleted. In summary, we think that the revised paper is much improved from the original one, we also hope the more comments and suggestions from reviewers are available in order to further improve the revised manuscript. About further information, please see the revised version.

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 10463, 2014.