**Atmospheric**
**Measurement**
**Techniques**
Discussions

Open Access

# *Interactive comment on* "From pixels to patches: a cloud classification method based on bag of micro-structures" *by* Q. Li et al.

**Q. Li et al.**

qingyongli@gmail.com

Received and published: 4 November 2015

Dear Referee and editor,

Thank you for your comments concerning our manuscript entitled "From pixels to patches: a cloud classification method based on bag of micro-structures ". Those comments are all valuable and very helpful for revising and improving our paper. We have studied comments carefully and have made correction which we hope meet with approval. The responses to the comments are as flowing:

General Comment

The authors propose a new method of cloud classification (BoMS) based on the mea-

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

surements of total-sky cloud imager (TCI) that located at Tibet. The methodology is described clearly, which is good for its application by the community. Compared to other methods, this method shows better performance.

If the authors can make some comments about the following issue, it will be better: In this paper, the dataset of the pictures are from the measurements in Tibet region. As we know, the aerosol optical depth is small in this region, and the quality of the images is ensured. However, in some other areas of China or other countries, the aerosol loading is much higher, and there are brown haze or sand storms sometimes. If the users use this method, do they need to do some data preprocesses or just distinguish the extreme sky condition by using some threshold judgment?

Response: It is a very interesting question. To the best of our knowledge, it is a big challenge to distinguish haze from cloud according to normal RGB images, and multi-axis differential optical absorption spectroscopy (MAXDOAS) is a better choice to identify aerosol. If the extreme sky condition has to be considered with this method, we suggest to increase an extra class "extreme sky condition" in the configuration of cloud classes. Of course, we should collect samples of this extreme sky condition and train the model again according to the new configuration, but the framework and algorithms do not need to change. Extreme sky condition is extensively concerned in China, we will investigate this topic in future.

Specific Comments: Page 5, line 9-11: "which has totally 3ˆ256 elements: : :" For the three-dimensional vector set, is the elements number is "3ˆ256 "or "256ˆ3 "?

Response: We agree with you that the element number is "256ˆ3".

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 10213, 2015.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper