General Comment:

The authors propose a new method of cloud classification (BoMS) based on the measurements 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 the 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?

Specific Comments:

Page 5, line 9-11: "which has totally 3^{256} elements…" For the three-dimensional vector set, is the elements number is "3^{256} "or "256^3 "?