**Referee: 1**  
  
Comments to the Author  
  
The main idea is interesting and has a good potential for practical application. But I still have some questions.  
My main concern is that there is a large difference between the spatial resolution of DMC and MODIS reflectance products yet the uncertainty caused by the difference was not addressed. Why not use a finer spatial resolution, perhaps Landsat data as reference given that one scene of Landsat 7/8 ETM+/OLI covers 185km by 170km?  
In page 14 line 25-27 the author claims that despite the big spatial resolution gap between aerial images and the MODIS MCD43A4 product, the final mosaic do not need to further reduce seam line (feathering) and the overlapping areas can be chosen from any of the overlapping images, from my experience, this is highly doubtable.  
  
The following are some detailed comments and questions.  
Page 2  
Line 3: I am not a native English speaker, but may be the title should be "by calibrating with"  
Line 17: “It is shown that ...” what shows? Please rephrase the sentence.  
Line 24: maybe “lease squares regression”? Please clarify.  
Line 25: the acronym DMC should be in parenthesis, please check the journal style.  
Line 27: BRDF used before defined in line 38.  
Line 35-39: the sentence is not clear to me, please rephrase this sentence.  
Line 55: VHR, maybe need to be defined before use in main text, please check the journal style.  
  
Page 4  
Line 23-28: as I understand, aerial image such as DMC usually took in a very small yaw and roll angle, why there are large view angles? Or perhaps large field of view（FOV）? Why solar varies? This sentence is confusing, please clarify?  
  
Page 7  
Line 19: the acronym DN should be in parenthesis, please check the journal style.  
Line 30: Equation (2) should be  , where d is the distance between the sun and the earth in astronomical units.  
  
Line 34:   should be described as “TOA reflectance” rather than “reflectance”, since the reflectance and TOA reflectance are quite different.  
  
Page9  
Line 36: The size of sliding window should be specifically defined. The BRDF and RSR are both related to the type of the targets. It is quite important to define the window size to make sure that the pixels in the window represent the same targets.  
  
Figure 9：Since the effects of BRDF and RSR are both related to the type of the targets, the linear relationships between the reflectance of the DMC and MODIS should be different for different target type. The results should be showed independently for each sampling type.  
  
  
Page 14  
In my opinion, section 2.4 should be placed as 3.1, or 2.1, please check the journal manuscript guidance.  
  
Page 15  
Line 23: since “except NIR”, then not good in all bands. Please phrase？  
  
Page 26  
Line 57: “and mosaic normalization techniques to reduce seam lines” sentence is not complete.  
  
Page 27  
Line 34-57: you point out that the varying size of the sliding window should be investigated and a higher spatial resolution reference such as Landsat OLI, yet in my opinion, they need to be discussed in the manuscript, or at least the varying size of the sliding windows should be discussed if there were no concurrent Landsat data available.

**Referee 2**

This manuscript is aiming to perform the radiometric normalization of aerial images by collocated and concurrent, well-calibrated satellite images. The content shows no novelty but is somehow useful for those experiments without radiometric calibration of aerial camera. However, the description is too poor to be accepted for the publication. Detailed comments are as follow:

1. Section 2.1 and 2.2, in my opinion, is almost useless. However, this part occupied 6 pages.

For example, equation 5 is a standard relationship between DN and reflectance for any optical camera, which means equation 1-4 is unnecessary. In the algorithm, the authors assume that effect caused by RSR difference is linear. They didn’t take this effect into account. If so, it is unnecessary to give detailed description here.

2. In homogenization procedure, if we perform step (2) and (3) directly at course resolution without step (1), what’s the difference, please clarify.

3. The purpose of this manuscript is to increase the radiometric accuracy of the aerial images. However, in whole manuscript, the authors talked too less about the uncertainty. What is the accuracy of the MODIS MCD43A4? What is accuracy of the algorithm? The accuracy impacted mostly by atmospheric correction, geometry, and RSR difference. But I cannot find any explanations.

4. The validation by SPOT 5 is meaningless, which gave only the comparison between MODIS and SPOT 5. I suggest the authors conduct the comparison between with and without BRDF correction.

5. The most important thing is the description of aerial experiment and images, as well as surround conditions. In this manuscript, however, I almost can find nothing. Where is the study area? What are the specifications of DMC? When did the images take? How many days? What is the AOD in those days? Is it possible that the impact from no atmospheric correction is much larger than BRDF correction?