

Interactive comment on “The Moon as a photometric calibration standard for microwave sounders” by Martin Burgdorf et al.

Anonymous Referee #1

Received and published: 18 March 2016

This paper discussed the possibility to use Moon as calibration standard but no technique details were presented. A few aspects related to determine the Moon radiance are discussed in the paper. However, the current manuscript has a great deal of blunt statements which are scientifically un-justified. At this stage the paper can only be accepted after a major correction, proving to be valid, and revision based on above comments. Overall, I hope the authors would provide more technique detail based on data facts as well as improve their writing of this paper. The manuscript requires substantial revisions prior considerations for publications. Hence, I will give my specific comments to guide the revisions expected from authors.

section 2, line 70 to 80. The author claimed that the frequency of lunar intrusion to deep space view is decrease with space view angle increase. It is better to have some simulation/observation results for existing microwave instruments like AMSU/MHS/ATMS

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section 3.1. The radiance of Moon is a function of Moon phase, which is defined as angle between viewing vector of Moon and the Sun from satellite at any time DSV observations. Since there are already plenty of lunar intrusion cases during AMSU/MHS life time, the DSV data with LI under different Moon phase can be collected. The author should use these datasets to do some study on Moon radiance to support the statement in this section

section 4.1. variation of distance between the sensor and the Moon will impact the the normalized solid angle, which is defined as an area ratio of the full disk of the Moon and the antenna response. To determine the Moon radiance, solid angle is need to be known accurately. An analysis for impact of solid angle on Moon radiance should be added in the study

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2016-32, 2016.