

This paper presents a LUT-based method to generate Surface downward shortwave radiation (DSR) and photosynthetically active radiation (PAR) products with ABI and AHI measurements. The LUT-based method used in this paper, was initially developed by Liang (2006), and then extended by Wang et al. (2020) for MODIS DSR/PAR product (MCD18). Actually, this LUT-based method was widely used many times, such as Zhang et al., (2014, 2019), and many other authors. Thus, highlights of this paper are not significant. Too much repeatability work. In addition, direct and diffuse components of DSR or PAR are not calculated by this study, only having global DSR or PAR. I suggest to refine your highlights and avoid to do repeat work.

Liang, S., Cheng, J., Jia, K., Jiang, B., Liu, Q., Xiao, Z., Yao, Y., Yuan, W., Zhang, X., Zhao, X., Zhou, J., 2021. The Global Land Surface Satellite (GLASS) Product Suite. Bulletin of the American Meteorological Society 102, E323–E337.

Wang, D., Liang, S., Zhang, Y., Gao, X., Brown, M.G.L., Jia, A., 2020. A New Set of MODIS Land Products (MCD18): Downward Shortwave Radiation and Photosynthetically Active Radiation. Remote Sensing 12.

Zhang, X., Liang, S., Zhou, G., Wu, H., Zhao, X., 2014. Generating Global Land Surface Satellite incident shortwave radiation and photosynthetically active radiation products from multiple satellite data. Remote Sensing of Environment 152, 318–332.

Zhang, X., Zhao, X., Li, W., Liang, S., Wang, D., Liu, Q., Yao, Y., Jia, K., He, T., Jiang, B., Wei, Y., Ma, H., 2019. An Operational Approach for Generating the Global Land Surface Downward Shortwave Radiation Product From MODIS Data. IEEE Trans. Geosci. Remote Sensing 57, 4636–4650.

*We thank the reviewer for the valuable comments! We are sorry about the confusion the current manuscript had created. We agree with the reviewer that the contribution of this manuscript is not in the area of algorithm development. Instead, as a data description paper, this study presented the new operational GeoNEX DSR and PAR product.*

*Although several geostationary DSR/PAR products have already been generated, the existing products are typically based on a single satellite data source and available in the satellite map projection. Some data sets are not operational and do not provide convenient data access. In terms of data accuracy, there is also space for improvement. To address these issues, we adapted a mature physics-based retrieval algorithm to the enhanced collection of multiple new-generation geostationary satellite data archived through the GeoNEX platform to produce a new operational high spatiotemporal resolution product of DSR and PAR with improved data accuracy.*

*The retrieval algorithm was originally used to product the NASA operational MODIS DSR and PAR product (MCD18). It is the first time that the LUT-based retrieval approach has been applied to the new generation geostationary data. Although the GeoNEX DSR and PAR adapted the heritage algorithm of the MCD18, its accuracy is much higher than that of MCD18 because of the high temporal resolution of geostationary data. Besides, this study also demonstrated the application of the new high resolution products in understanding the spatial and temporal variability of surface solar radiation.*

*Regarding the question on the partition of diffuse and direct radiation, this LUT-based approach is able to produce these components. However, we did not see the superior performance of the diffuse partition as the global radiation has. As a result, this version does not include the diffuse radiation. We will continue working on the algorithm improvement and add the components in the future data release.*