# Article information:

First assessment of surface solar irradiance derived from Himawari-8 across China - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0038092X18308879>

# Article summary:

1. This study evaluates the JAXA AHI surface solar irradiance (SSI) product using Chinese Ecosystem Research Network (CERN) pyranometer measurements.

2. The daily and monthly AHI SSI products on all-sky conditions show mean bias errors of 13.8 and 13.3 W m−2 relative to corresponding CERN measurements.

3. Positive bias of AHI SSI in the North China Plain is likely due to underestimation of aerosol optical depth (AOD), while negative bias in high elevation stations is likely related to improper input of atmospheric profile.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

This article provides an assessment of the Advanced Himawari Imager (AHI) surface solar irradiance (SSI) product released by the Japan Aerospace Agency (JAXA). The evaluation is based on Chinese Ecosystem Research Network (CERN) pyranometer measurements during March-December 2016 at 36 sites in China, and results show that the AHI SSI products are correlated to surface measurements very well with mean bias errors of 13.8 and 13.3 W m−2 for daily and monthly products respectively on all-sky conditions. However, there are potential biases due to underestimation of aerosol optical depth (AOD) in North China Plain and improper input of atmospheric profile in high elevation stations, which need further improvement in the AHI SSI algorithm.

The article appears to be reliable as it provides a comprehensive evaluation of the JAXA AHI SSI product using CERN pyranometer measurements from 36 sites across China, with detailed analysis on potential biases due to underestimation of aerosol optical depth or improper input of atmospheric profile, as well as suggestions for improvement in the algorithm. There does not appear to be any one-sided reporting or unsupported claims, missing points or evidence for the claims made, unexplored counterarguments or promotional content present in this article. Possible risks are noted and both sides are presented equally throughout the article, making it a trustworthy source for information regarding surface solar irradiance derived from Himawari-8 across China.

# Topics for further research:

* Himawari-8 satellite
* Pyranometer measurements
* Aerosol optical depth
* Atmospheric profile
* Solar irradiance algorithms
* China Ecosystem Research Network

# Report location:

<https://www.fullpicture.app/item/87f0a5002f2c0fa78965826a06c4753c>