SAIP2016



Contribution ID: 58

Type: Oral Presentation

The relationship between solar irradiance and cloud cover in Durban.

Tuesday, 5 July 2016 14:00 (20 minutes)

Abstract content
 (Max 300 words)
Formatting &
Special chars

A Total Sky Imager (TSI) and three solar radiometers were used to study the relationship between solar irradiance and cloud cover in Durban. The instruments are located at the Howard College campus of the University of KwaZulu-Natal. The TSI takes all-sky photographs at 1 minute intervals, and these images are processed to produce cloud fraction (CF) as a measure of cloud cover. The radiometers include a pyrheliometer to measure direct beam irradiance (direct normal irradiance, DNI), a shaded pyranometer to measure diffuse irradiance on the horizontal plane (diffuse horizontal irradiance, DHI) and an unshaded pyranometer to measure total (global) irradiance on the horizontal plane (global horizontal irradiance, GHI). We present results on the relationship between the radiometric and cloud fraction measurements.

Apply to be
 considered for a student
 award (Yes / No)?

Yes

Level for award
 (Hons, MSc,
 PhD, N/A)?

MSc

Main supervisor (name and email)
and his / her institution

Dr Alan P. Matthews (UKZN) matthewsa@ukzn.ac.za

Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?

Yes

Please indicate whether
this abstract may be
published online
(Yes / No)

Yes

Primary author: Mr GANYA, Elison (UKZN)

Co-authors: Dr MATTHEWS, Alan (UKZN); Prof. VENKATARAMAN, Sivakumar (UKZN)

Presenter: Mr GANYA, Elison (UKZN)

Session Classification: Applied Physics (1)

Track Classification: Track F - Applied Physics