



## **Solar radiation variability over La Réunion island and associated larger-scale dynamics**

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This study aims to examine the solar radiation variability over La Réunion island and its relationship with large-scale circulation. The Satellite Application Facility on Climate Monitoring (CM SAF) produces a Shortwave Incoming Solar radiation (SIS) data record called Solar surfAce RAdiation Heliosat - East (SARAH-E). A comparison to in situ observations from Météo-France measurements networks quantifies the skill of SARAH-E grids which we use as dataset.

First step of the work, irradiance mean cycles are calculated to describe the diurnal-seasonal SIS behaviour over La Réunion island. By analogy with the climate anomalies, instantaneous deviations are computed after removal of the mean states. Finally, we associate these anomalies with larger-scale atmospheric dynamics into the South West Indian Ocean by applying multivariate clustering analyses (Hierarchical Ascending Classification, k-means).