



Contribution ID: 284

Type: Oral Presentation

## Solar Observation, Space Weather and the Computation of Sunspot Dynamics

*Tuesday, 9 July 2019 11:20 (20 minutes)*

Solar phenomena such as solar prominences, -flares and -coronal mass ejections (collectively known as solar variations) directly influence our way of life on Earth by impacting its atmosphere, climate and magnetic field. Furthermore the success of all scientific endeavours within the solar system and the prospects of space travel are significantly impacted by space weather. It is therefore crucial to understand the root of solar variations to safeguard our way of life on Earth and to circumvent the obstacles space weather poses to our aspirations. Solar variations can directly be linked to regions of intense magnetic activity on the sun's surface – known as sunspots. Our understanding of solar variations can be improved by the observation and computation of the short- and long-term dynamics of these sunspots. Our methodology and efforts regarding solar observation, which includes the initial set-up of a solar telescope, and the computation of sunspot dynamics will be showcased and its context with relation to space weather will be presented.

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

No

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

Hons

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**Session Classification:** Space Science

**Track Classification:** Track D2 - Space Science