Contribution ID: **31** Type: **Poster**

Mid-IR observations of a C2 flare: Characterizing the flare dynamics at Chromospheric heights

Wednesday, May 26, 2021 1:00 PM (40 minutes)

Solar flare observations at mid infrared (MID-IR) wavelengths is a relatively new tool that allows to understand the dynamics of flares at chromospheric heights. We present the analysis of a C2.0 class flare, which was observed at the frequency of 30 THz (7.5-13 μm) with a commercial thermal camera attached to the focus of a Newtonian 20-cm telescope. In order to characterize the temporal evolution of the flare emission, we compare our Mid-IR observations with data from multiple wavelengths and instruments including ultraviolet emission, soft X-rays, microwaves and Hα images. The 30 THz emission shows an excellent temporal and spatial agreement with the other chromospheric passbands, such as 1600 and 1700 \AA\ observed by AIA. No white light emission was detected. The event presents two bright sources in the Mid-IR, which can be spatially associated with several bright kernels observed in UV. At microwaves the event can be characterized as an optically thin thermal source. We use magnetograms and UV images to reconstruct the magnetic field configuration and evolution. Based on all this information, we discuss possible mechanisms of energy transport related to the origin of the chromospheric emission.

Primary authors: LOPEZ, Fernando Marcelo (Center for Radio Astronomy and Astrophysics at Mackenzie); Dr GIMENEZ DE CASTRO, Guillermo (CRAAM, Sao Paulo-Brazil); Dr MANDRINI, Cristina (IAFE-UBA--CONICET, Argentina); Dr CRISTIANI, Germán (IAFE-UBA-CONICET, Argentina); Dr SIMÕES , Paulo (CRAAM, Sao Paulo-Brazil); GARY, Dale; Dr FRANCILE, Carlos (OAFA-UNSJ, Argentina); Dr DÉMOULIN, Pascal (Observatoire de Paris)

Presenter: LOPEZ, Fernando Marcelo (Center for Radio Astronomy and Astrophysics at Mackenzie)

Session Classification: Poster session: SQ3 and SQ6

Track Classification: Flare and Nanoflare heating