Contribution ID: **7** Type: **not specified**

Predicting large scale structure of the Universe using deep learning methods

Monday 24 October 2022 12:15 (15 minutes)

We present the results of photometrical observations of hyperbolic comet C/2013 X1 (Pan-STARRS) in broad-band Johnson-Cousins filters. Data were obtained during the pre-perihelion passage of the comet in the period December 2015 - January 2016 using the 61-cm telescope at the Scalnat\'{e} Pleco observatory. Analyzing the dust productivity via $Af\rho$ proxy, we revealed a sharp increase in cometary activity at the end of December. Also, we detected colour slope variations during the observed period. Constructed morphology maps demonstrated non-uniform dust distribution over the cometary coma with at least one jet-like structure.

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Session Classification: Extragalactic astrophysics and cosmology