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Observations of the Perseids 2012 using SPOSH cameras

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Abstract

The Perseids are one of the most prominent annual meteor showers occurring every summer when the stream of dust particles, originating from Halley-type comet 109P/Swift-Tuttle, intersects the orbital path of the Earth. The dense core of this stream passes Earth's orbit on the 12^{th} of August producing the maximum number of meteors.

The Technical University of Berlin (TUB) and the German Aerospace Center (DLR) organize observing campaigns every summer monitoring the Perseids activity. The observations are carried out using the *Smart Panoramic Optical Sensor Head* (SPOSH) camera system [0]. The SPOSH camera has been developed by DLR and Jena-Optronik GmbH under an ESA/ESTEC contract and it is designed to image faint, short-lived phenomena on dark planetary hemispheres. The camera features a highly sensitive back-illuminated 1024x1024 CCD chip and a high dynamic range of 14 bits. The custom-made fish-eye lens offers a 120°x120° field-of-view (168° over the diagonal).

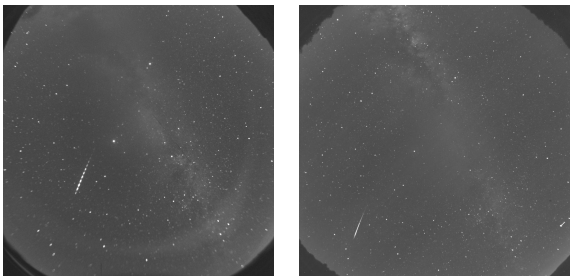

Figure 1: A meteor captured by the SPOSH cameras simultaneously during the last 2011 observing campaign in Greece. The horizon including surrounding mountains can be seen in the image corners as a result of the large FOV of the camera.

The observations will be made on the Greek Peloponnese peninsula monitoring the post-peak activity of the Perseids during a one-week period around the August New Moon (14^{th} to 21^{st}). Two SPOSH cameras will be deployed in two remote sites in high altitudes for the triangulation of meteor trajectories captured at both stations simultaneously. The observations during this time interval will give us the possibility to study the poorly-observed post-maximum branch of the Perseid stream and compare the results with datasets from previous campaigns which covered different periods of this long-lived meteor shower.

The acquired data will be processed using dedicated software for meteor data reduction developed at TUB and DLR. Assuming a successful campaign, statistics, trajectories and photometric properties of the processed double-station meteors will be presented at the conference. Furthermore, a first order statistical analysis of the meteors processed during the 2011 and the new 2012 campaigns will be presented [0].

Acknowledgments

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References

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