An overview of the CILBO spectral observation program.

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Introduction

The video equipment can be easily adopted with a spectral grating to obtain spectral information from meteors. Therefore, in recent years spectroscopic observations of meteors have become quite popular. The Meteor Research Group (MRG) of the European Space Agency has been working on upgrating the analysis of meteor spectra as well, operating image-intensified camera with objective grating (ICC8).

ICC8 is located on Tenerife station of the double-station camera setup CILBO (Canary Island Long-Baseline Observatory). Following procedures described in [2], the pipeline software processes data with the standard calibration procedure (dark current, flat field, lens distortion corrections). While using the position of a meteor recorded by ICC7 camera (zero order), the position of the 1st order spectrum as a function of wavelength is computed (Figure 1). Moreover, thanks to the double meteor observations carried by ICC7 (Tenerife) and ICC9 (La Palma), trajectory of a meteor and its orbit is determined. Which merged with simultaneously measurement of meteor spectrum from ICC8, allow us to identify the source of the meteoroid. Here, we report on preliminary results from a sample of meteor spectra collected by CILBO-ICC8 camera since 2012.

References

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[2] Zender J., Koschny D. and Ravensberg K., In Proceedings of the International Meteor Conference, Poznan, Poland, 22-25 August 2015. IMO, pp. 126-129, 2014



Fig 1 An example of the emission spectrum produced meteor captured by ICC7 and ICC8 cameras on February 3, 2012. The spectrum profile (far right) was corrected for the spectral response of the camera.