

**ACTIVITY OF DRACONID METEOR SHOWER DURING OUTBURST ON 8<sup>th</sup> OCTOBER 2011.** P. Koten<sup>1</sup>, J. Vaubaillon<sup>2</sup>, J. Tóth<sup>3</sup>, J. Zenden<sup>4</sup>, J. McAuliffe<sup>5</sup>, D. Koschny<sup>4</sup> and D. Pautet<sup>6</sup>. <sup>1</sup>Astronomical Institute of ASCR, Fricova 298, 25165 Ondrejov, Czech Republic, [koten@asu.cas.cz](mailto:koten@asu.cas.cz), <sup>2</sup>IMCCE, 77 Av. Denfert Rochereau, 75014 Paris, France, <sup>3</sup>Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava, Slovak Republic, <sup>4</sup>ESA, Science and Robotic Exploration Department, ESTEC, NL-2200AG Noordwijk, The Netherlands. <sup>5</sup>INSA/ESAC, Madrid, Spain, <sup>6</sup>Utah State University, Department of Physics, Logan, Utah, USA.

**Introduction:** The activity of Draconid meteor shower is usually very low (up to 10 meteors per hour at maximum). Nevertheless this meteor shower sometimes exhibits strong enhancements. The strongest storms occurred in 1933 and 1946 [1]. More recently smaller outburst happened in 2005 [2], [3]. Another Draconid meteor shower outburst was predicted for the 8 October 2011 [4].

**Observations:** Two small planes were deployed above the northern Europe for observations of predicted outburst. Both DLR Falcon and SAFIRE Falcon were flying in formation to establish the double station experiment. Several narrow field-of-view and all-sky cameras were placed aboard both planes. During 4 hours long flight the predicted peak of the activity was covered.

**Results:** Images and videos of several hundred Draconid meteors were recorded on this mission. For example the narrow field video camera provided by Ondrejov observatory recorded about 200 meteors, 95% of them were Draconids. The activity profile shows that the maximum occurred at  $20:15 \pm 0:05$  UT, which is in very good agreement with the model prediction. We will present detailed analyses of the activity curve, mass distribution index and flux of the meteoroids.

**References:**

[1] Jacchia L.G. et al. (1950) *Astrophysical Journal* 111, 104-133. [2] Campbell-Brown M. D. et al. (2005) *Astronomy & Astrophysics*, 451, 339-344. [3] Koten P. et al. (2007) *Astronomy & Astrophysics*, 466, 729-735. [4] Vaubaillon J. et al. (2011) *WGN*, 39, 59-63.

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