Results of the IMO Video Meteor Network – October 2011

Sirko Molau, Abenstalstr. 13b, 84072 Seysdorf *2011/12/20*

1. Observers

Code	Name	Place	Camera	FOV [°²]	St.LM [mag]	Eff.CA [km²]	Nights	Time [h]	Tot. CA [10³km²h]	Meteors
BASLU	Bastiaens	Hove/BE	URANIA1 (0.8/3.8)*	4545	2.5	237	13	64.7	14.1	91
BERER	Berko	Ludanyhalaszi/HU	HULUD1 (0.95/3)	2256	4.8	1540	26	184.9	182.4	1354
			HULUD2 (0.75/6)	4860	3.9	1103	25	163.7	101.2	682
			HULUD3 (0.75/6)	4661	3.9	1052	24	146.6	103.5	484
BREMA	Breukers	Hengelo/NL	MBB3 (0.75/6)	2399	4.2	699	12	108.2	39.7	639
			MBB4 (0.8/8)	1470	5.1	1208	16	138.2	75.8	586
BRIBE	Brinkmann	Herne/DE	HERMINE (0.8/6)	2374	4.2	678	26	203.5	86.2	1110
		Berg. Gladbach/DE	KLEMOI (0.8/6)	2286	4.6	1080	26	188.9	235.5	1185
CASFL	Castellani	Monte Baldo/IT	BMH1 (0.8/6)	2350	5.0	1611	21	141.5	170.5	728
			BMH2 (1.5/4.5)*	4243	3.0	371	17	120.0	250.4	805
CRIST	Crivello	Valbrevenna/IT	BILBO (0.8/3.8)	5458	4.2	1772	21	196.0	-	1619
			C3P8 (0.8/3.8)	5455	4.2	1586	26	251.5	312.0	1493
			STG38 (0.8/3.8)	5614	4.4	2007	25	219.7	343.6	1874
CSISZ	Csizmadia	Zalaegerszeg/HU	HUVCSE01 (0.95/5)	2423	3.4	361	17	100.6	19.8	395
ELTMA	Eltri	Venezia/IT	MET38 (0.8/3.8)	5631	4.3	2151	24	203.3	168.7	1346
GONRU	Goncalves	Tomar/PT	TEMPLAR1 (0.8/6)	2179	5.3	1842	25	246.4	323.0	1480
			TEMPLAR2 (0.8/6)	2080	5.0	1508	25	248.3	207.4	1292
			TEMPLAR3 (0.8/8)	1438	4.3	571	28	245.0	137.1	1077
GOVMI	Govedic	Sredisce ob Dr./SI	ORION2 (0.8/8)	1447	5.5	1841	20	168.2	314.7	907
HERCA	Hergenrother	Tucson/US	SALSA3 (1.2/4)*	2198	4.6	894	25	212.1	-	918
HINWO	Hinz	Brannenburg/DE	ACR (2.0/35)*	557	7.4	4954	16	131.1	-	1716
IGAAN	Igaz	Baja/HU	HUBAJ (0.8/3.8)	5552	2.8	403	26	154.2	-	758
		Debrecen	HUDEB (0.8/3.8)	5522	3.2	620	16	144.3	-	583
		Hodmezovasar./HU	HUHOD (0.8/3.8)	5502	3.4	764	26	200.4	-	789
		Sopron/HU	HUSOP (0.8/6)	2031	3.8	460	23	129.4	-	1563
JONKA	Jonas	Budapest/HU	HUSOR (0.95/4)	2286	3.9	445	20	153.7	108.4	649
JUDDA	Judge	Perth/AU	WAMCAM2 (0.95/2.8)	4742	-	-	16	91.7	-	237
KACJA	Kac	Kamnik/SI	CVETKA (0.8/3.8)	4914	4.3	1842	19	132.0	-	1053
		Kostanjevec/SI	METKA (0.8/8)*	1372	4.0	361	10	94.6	42.8	345
		Ljubljana/SI	ORION1 (0.8/8)	1402	3.8	331	20	149.3	123.1	728
		Kamnik/SI	REZIKA (0.8/6)	2270	4.4	840	17	105.3	176.1	1164
			STEFKA (0.8/3.8)	5471	2.8	379	18	129.8	70.2	768
KELGR	Kelaher	Secret Habour/AU	WAMCAM1	5607	-	-	15	113.4	-	122
KERST	Kerr	Glenlee/AU	GOCAM1 (0.8/3.8)	5189	4.6	2550	17	97.8	220.5	528
KOSDE	Koschny	Noordwijkerh./NL	ICC7 (0.85/25)	714	5.9	1464	19	110.9	190.0	753
			LIC4 (1.4/50)*	2027	6.0	4509	22	141.7	279.0	985
LERAR	Leroy	Gretz/FR	SAPHIRA (1.2/6)	3260	3.4	301	16	71.4	-	258
MACMA	Maciejewski	Chelm/PL	PAV35 (1.2/4)	4383	2.5	253	22	141.9	40.3	324
			PAV36 (1.2/4)*	5732	2.2	227	25	162.0	-	545
			PAV43 (0.95/3.75)*	2544	2.7	176	21	163.9	43.6	320
MARGR	Maravelias		LOOMECON (0.8/12)	738	6.3	2698	1	1.4	-	7
MOLSI	Molau	Seysdorf/DE	AVIS2 (1.4/50)*	1776	6.1	3817	19	160.4	589.8	3349
			MINCAM1 (0.8/8)	1477	4.9	1084	24	173.7	220.7	963
		Ketzür/DE	REMO1 (0.8/3.8)	5600	3.0	486	24	161.2	-	643
			REMO2 (0.8/3.8)	5613	4.0	1186	27	160.5	97.1	470
MORJO	Morvai	Fülöpszallas/HU	HUFUL (1.4/5)	2522	3.5	532	22	175.0	106.9	584
OTTMI	Otte	Pearl City/US	ORIE1 (1.4/5.7)	3837	3.8	460	28	163.3	-	961
PERZS	Perko	Becsehely/HU	HUBEC (0.8/3.8)*	5498	2.9	460	25	166.8	-	1959
ROETO	Roeland	Oostmalle/BE	KEMPEN (0.95/8)	1593	4.2	524	21	126.2	-	273
ROTEC	Rothenberg	Berlin/DE	ARMEFA (0.8/6)	2366	4.5	911	13	101.7	-	507
SARAN	Saraiva	Carnaxide/PT	RO1 (0.75/6)	2362	3.7	381	16	122.1	81.6	593
			RO2 (0.75/6)	2381	3.8	459	25	186.0	-	696
SCALE	Scarpa	Alberoni/IT	LEO (1.2/4.5)*	4152	4.5	2052	27	221.6	272.9	1132
SCHHA	Schremmer	Niederkrüchten/DE	DORAEMON (0.8/3.8)	4900	3.0	409	24	147.4	-	592
SLAST	Slavec	Ljubljana/SI	KAYAK1 (1.8/28)	588	-	-	20	93.8	-	383
STOEN	Stomeo	Scorze/IT	MIN38 (0.8/3.8)	5566	4.8	3270	24	211.4	342.0	2112
			NOA38 (0.8/3.8)	5609	4.2	1911	25	213.8	325.9	1655
			SCO38 (0.8/3.8)	5598	4.8	3306	25	198.8	-	2293
STRJO	Strunk	Herford/DE	MINCAM2 (0.8/6)	2362	4.6	1152	15	109.7	83.1	466
			MINCAM3 (0.8/12)	728	5.7	975	24	169.0	-	878
			MINCAM5 (0.8/6)	2349	5.0	1896	24	183.9	190.7	1420
TEPIS	Tepliczky	Budapest/HU	HUMOB (0.8/6)	2388	4.8	1607	25	178.8	153.8	1036
TRIMI	Triglav	Velenje/SI	SRAKA (0.8/6)*	2222	4.0	546	21	145.0	-	544
YRJIL	Yrjölä	Kuusankoski/FI	FINEXCAM (0.8/6)	2337	5.5	3574	18	94.0	99.0	547
ZELZO	Zelko	Budapest/HU	HUVCSE02 (0.95/5)	1606	3.8	390	15	98.4	47.4	344
			HUVCSE03 (1.0/4.5)	2224	4.4	933	15	106.1	70.3	330
Sum							31	10040.1	-	58990

* active field of view smaller than video frame

2. Observing Times (h)

October	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
BASLU	-	1.7	3.0	-	-	-	-	-	-	-	-	-	-	-	7.1
BERER	10.5	10.6	10.4	10.7	8.2	10.7	4.0	3.9	11.0	-	-	3.1	11.1	10.4	6.2
	10.6	10.5	10.6	10.6	7.4	10.7	4.6	3.0	5.1	0.6	-	2.1	10.6	8.6	5.8
	10.6	10.6	10.7	10.8	6.3	7.5	4.7	3.8	1.4	0.7	-	2.3	9.1	4.0	4.9
BREMA	10.6	9.5	8.3	-	-	-	-	8.9	-	-	-	-	-	-	-
	10.5	10.6	4.7	-	-	-	-	9.1	-	-	-	-	-	10.7	-
BRIBE	10.6	10.7	10.8	-	-	7.8	1.5	9.7	-	-	-	2.1	6.3	10.9	11.5
	10.5	10.6	5.9	0.9	0.7	8.9	-	4.6	-	-	-	0.9	11.1	3.9	11.4
CASFL	-	-	-	-	-	-	-	10.6	3.2	5.8	4.3	5.8	4.9	3.3	8.2
	8.8	-	-	-	-	-	-	-	-	-	-	-	0.8	1.1	10.2
CRIST	-	-	-	-	-	-	3.1	10.9	2.1	11.0	8.0	0.9	11.2	7.6	11.2
	10.6	10.6	10.7	10.7	10.8	-	5.2	10.9	4.5	11.0	8.0	-	11.2	11.2	11.2
	10.6	10.6	10.7	10.7	10.8	1.2	-	10.9	4.2	11.0	11.1	1.5	11.2	2.7	11.2
CSISZ	4.8	8.2	5.9	6.5	2.0	6.0	-	6.4	5.0	-	5.0	-	4.6	-	-
ELTMA	10.7	10.3	10.8	10.8	10.9	8.3	10.7	9.6	8.1	6.5	10.2	3.9	2.3	11.2	11.5
GONRU	10.3	9.4	10.0	10.7	10.3	9.9	10.7	10.8	10.5	10.6	10.9	10.1	10.7	10.4	3.0
	9.2	6.6	10.2	10.7	10.4	10.1	10.8	10.9	10.9	10.7	11.1	10.7	10.8	11.1	3.5
	6.2	8.7	8.0	8.4	7.3	10.6	10.5	10.9	10.9	10.9	10.9	5.1	8.0	11.2	1.8
GOVMI	10.2	-	10.6	10.6	10.7	10.6	8.0	9.8	9.2	-	5.6	-	9.5	9.4	8.7
HERCA	-	4.5	2.3	6.9	6.0	3.5	8.1	-	10.8	10.2	10.0	10.0	8.2	10.9	10.8
HINWO	8.7	9.9	6.5	7.9	-	-	-	-	-	-	-	-	-	-	-
IGAAN	10.1	9.5	10.6	8.9	3.6	8.1	0.9	2.5	3.2	1.7	2.0	-	10.8	7.6	1.9
	10.6	10.8	10.8	9.3	10.4	10.7	-	4.9	10.7	5.3	0.4	-	8.0	8.7	10.8
	10.6	10.5	10.6	10.6	10.7	10.5	1.5	1.3	8.1	2.2	-	-	9.0	10.7	5.4
	9.6	7.6	8.5	7.0	1.1	4.9	6.1	4.6	3.9	-	0.4	-	6.9	8.3	4.5
JONKA	7.2	8.6	8.8	10.9	6.4	10.9	-	7.5	7.0	-	-	-	9.5	6.0	4.0
JUDDA	-	-	-	1.1	-	10.1	2.6	4.4	-	1.8	-	-	6.4	-	4.2
KACJA	-	10.6	10.7	10.5	10.9	6.0	0.6	1.8	8.6	1.2	0.7	4.5	0.9	3.9	10.8
	10.7	10.8	11.0	11.0	10.7	-	-	-	-	-	1.5	-	-	7.3	9.0
	10.0	10.1	10.7	10.3	10.8	8.1	-	4.2	8.1	3.1	1.5	2.7	0.9	11.4	11.3
	-	10.7	10.8	10.6	1.9	-	-	-	-	0.3	0.6	2.8	1.0	4.1	10.9
	-	8.4	10.7	10.6	10.9	7.1	-	3.0	9.0	1.8	1.7	5.2	1.1	4.0	10.9
KELGR	-	-	-	-	-	-	-	-	-	2.5	-	-	35.7	1.7	2.2
KERST	9.9	6.6	6.6	7.2	-	3.4	4.4	10.2	4.9	-	1.2	3.3	-	-	-
KOSDE	7.6	8.7	6.9	2.2	-	-	-	3.0	-	-	-	-	9.1	9.2	9.1
	9.9	-	7.6	3.6	-	5.1	3.2	2.9	-	-	-	1.4	10.2	10.6	10.5
LERAR	-	-	-	-	-	-	2.3	-	-	-	-	-	1.5	3.7	3.6
MACMA	6.8	10.2	-	-	-	-	-	4.2	1.6	-	-	3.8	3.4	1.9	9.6
	7.1	10.8	2.9	-	-	-	-	8.1	3.3	0.2	0.2	6.4	5.2	2.7	10.6
	6.2	8.7	-	-	-	-	-	7.5	7.1	-	-	8.1	4.5	3.3	10.8
MARGR	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-
MOLSI	10.0	10.1	10.1	10.2	-	-	-	3.0	-	-	-	-	5.9	10.7	10.9
	10.6	9.3	10.8	10.6	0.6	2.7	-	0.5	0.8	-	-	-	5.2	11.4	11.4
	10.5	10.6	-	-	-	2.7	0.4	5.6	-	-	3.4	6.4	6.0	5.1	9.9
	10.3	10.6	6.0	1.0	0.2	5.2	4.2	5.9	-	-	1.0	6.0	4.3	7.3	8.9
MORJO	10.7	10.7	10.4	10.4	9.5	10.9	1.9	1.6	5.9	-	-	-	10.7	-	-
OTTMI	7.2	8.1	8.2	8.6	7.1	4.8	4.7	4.3	-	2.1	0.9	-	7.0	8.3	0.2
PERZS	10.7	10.6	10.7	10.9	8.7	9.3	5.9	8.7	10.1	0.1	2.3	-	7.5	10.5	5.8
ROETO	10.4	2.4	8.9	-	-	-	-	0.9	-	-	-	-	11.4	11.2	11.5
ROTEC	-	-	5.4	-	-	-	-	3.3	1.4	-	-	-	9.1	9.7	-
SARAN	-	-	-	-	-	-	-	9.1	-	-	3.4	10.2	5.6	6.6	-
	6.8	2.6	6.5	5.0	10.3	8.4	9.1	10.8	-	-	2.5	8.3	8.7	6.3	1.2
SCALE	10.5	10.8	10.0	9.4	10.8	6.8	10.7	10.2	7.6	6.0	7.7	3.0	-	11.0	11.3
SCHHA	10.7	1.8	10.9	-	3.9	7.2	1.5	4.7	-	-	-	0.7	7.5	11.3	8.9
SLAST	7.9	8.2	7.7	9.8	6.3	1.8	-	1.3	4.2	2.9	0.2	0.3	0.2	5.1	7.3
STOEN	10.7	9.3	10.8	10.7	10.9	4.6	10.9	9.7	6.2	4.8	7.5	-	1.9	10.2	11.5
	10.7	9.7	10.8	10.7	10.9	6.6	10.8	10.1	5.1	5.8	7.1	-	1.9	10.2	11.6
	10.7	9.5	10.6	10.6	10.9	4.1	10.1	10.4	5.2	5.0	7.1	-	1.0	9.7	11.5
STRJO	9.0	6.8	5.9	-	-	5.2	-	7.0	-	-	-	-	9.8	6.3	11.1
	8.9	8.5	4.7	1.0	-	-	-	6.0	-	-	-	-	6.8	8.4	9.7
	10.0	7.7	5.2	-	0.3	6.5	-	7.2	-	-	-	-	9.5	7.8	11.0
TEPIS	7.4	10.3	9.8	10.5	9.1	10.5	5.5	7.2	11.0	-	0.2	-	11.1	11.3	5.8
TRIMI	8.5	9.8	10.0	10.9	6.2	4.2	4.8	8.4	7.8	1.4	-	0.8	1.4	4.7	8.6
YRJIL	7.3	-	-	-	6.0	0.6	-	10.5	1.7	-	7.4	-	-	3.0	5.0
ZELZO	2.3	9.7	8.6	9.4	6.9	-	-	4.5	8.0	-	-	-	7.4	-	2.8
	2.3	9.5	8.7	9.0	10.1	-	-	6.4	10.1	-	-	-	8.2	-	2.9
Sum	484.4	482.8	468.0	389.4	307.9	294.2	184.0	372.1	257.5	137.2	156.0	132.4	413.8	429.8	457.1

October	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
BASLU	-	1.9	2.3	3.7	7.8	11.8	-	-	-	1.6	3.8	-	2.8	4.9	-	12.3
BERER	10.2	11.4	11.4	0.2	-	9.5	1.5	0.3	-	-	1.5	10.0	3.7	2.6	5.0	6.8
	7.8	11.4	11.4	0.3	-	9.2	-	0.3	-	-	-	7.7	3.1	0.7	4.2	6.8
	11.4	11.4	11.4	-	-	7.9	-	-	-	-	1.5	6.7	1.2	1.2	2.2	4.3
BREMA	-	-	2.7	6.2	5.4	11.9	12.0	12.0	-	-	12.2	8.5	-	-	-	-
	8.2	-	8.0	7.4	6.4	11.8	12.0	12.0	2.3	-	11.6	6.2	6.7	-	-	-
BRIBE	6.5	7.9	2.5	5.4	5.6	11.9	11.9	12.0	6.9	1.2	12.2	11.9	5.0	0.6	8.5	11.6
	9.4	9.1	0.9	5.2	11.0	9.7	11.7	11.7	6.2	-	11.8	11.1	1.9	1.8	5.7	12.3
CASFL	9.8	9.2	0.8	-	4.6	3.6	8.0	8.9	-	-	8.5	2.8	11.1	7.9	10.6	9.6
	11.5	8.4	2.6	-	6.4	2.9	8.5	8.1	-	-	10.0	3.5	7.2	10.9	9.2	9.9
CRIST	11.3	10.9	-	-	11.5	11.5	11.6	11.3	-	-	8.4	10.3	11.8	11.9	10.3	9.2
	9.4	9.0	-	-	11.5	11.5	11.6	10.2	-	0.8	10.0	7.2	11.8	11.9	11.9	8.1
	11.3	11.0	-	-	11.5	11.5	11.6	10.5	-	-	-	3.3	5.9	4.3	10.3	10.1
CSISZ	10.4	10.0	11.2	0.2	-	8.4	-	-	-	-	-	-	-	-	4.3	1.7
ELTMA	11.5	11.3	1.5	-	5.5	11.6	8.1	5.3	-	-	-	-	-	8.8	3.9	-
GONRU	-	11.1	11.1	8.5	10.9	11.0	10.1	-	1.1	-	-	-	11.1	12.0	11.2	-
	-	11.2	11.2	8.4	11.0	11.2	10.3	-	-	2.5	-	-	11.2	12.5	11.1	-
	8.6	11.2	11.2	8.1	11.3	11.3	3.4	-	6.0	-	-	7.8	11.6	11.7	11.5	1.9
GOVMI	10.4	10.7	10.7	1.7	-	10.5	-	-	-	0.2	-	2.1	-	-	9.0	-
HERCA	9.4	9.9	10.1	-	-	-	9.3	10.1	10.7	6.6	10.7	8.4	9.5	4.5	10.7	-
HINWO	10.9	6.9	4.2	-	2.1	10.4	11.1	11.2	9.4	-	-	7.3	11.5	3.1	10.0	-
IGAAN	10.8	11.3	10.0	5.4	-	1.9	-	-	0.4	7.1	-	4.2	8.1	5.1	2.0	6.5
	11.0	10.9	11.0	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.4	10.8	10.8	1.9	-	6.4	-	-	1.3	9.4	7.0	11.0	8.0	9.8	1.8	10.1
	7.2	9.9	10.0	0.2	2.0	9.9	2.9	-	-	-	-	-	1.3	-	3.6	9.0
JONKA	11.4	11.4	11.5	-	-	7.1	-	-	-	-	-	7.9	2.0	3.9	2.0	9.7
JUDDA	4.5	-	9.1	9.7	-	2.6	2.5	9.4	-	-	-	6.1	-	-	9.3	7.9
KACJA	11.1	11.5	11.1	-	-	11.0	-	-	-	-	-	-	-	-	-	5.6
	11.4	-	-	-	-	-	-	-	-	-	-	-	-	-	11.2	-
	11.4	11.5	9.3	-	-	9.3	-	-	-	-	-	-	-	-	1.7	2.9
	11.3	11.6	11.1	-	-	10.7	-	-	-	-	-	0.2	1.1	-	-	5.6
	11.3	11.6	11.6	-	-	8.0	-	-	-	-	-	-	-	-	-	2.9
KELGR	2.5	-	9.5	9.6	8.8	5.0	1.0	9.3	-	-	0.4	6.6	-	-	9.1	9.5
KERST	-	-	-	-	-	6.6	-	7.4	-	6.3	5.6	2.5	5.5	6.2	-	-
KOSDE	-	-	-	2.9	4.9	4.1	9.1	9.3	2.4	2.3	5.9	-	2.0	3.3	-	8.9
	6.6	-	-	4.1	5.9	6.7	10.5	10.5	2.7	2.4	8.0	-	4.5	4.3	-	10.5
LERAR	3.2	-	-	6.7	6.8	7.3	9.0	10.2	-	4.3	4.2	0.3	-	0.3	5.3	2.7
MACMA	4.2	11.7	8.9	0.2	3.1	2.5	3.1	0.7	12.3	12.2	12.3	12.3	12.4	4.5	-	-
	5.9	11.7	9.5	0.9	4.8	2.1	4.9	0.5	12.0	12.0	12.1	12.2	12.1	3.8	-	-
	4.8	11.8	9.4	1.1	6.2	6.6	5.9	0.5	12.3	11.5	12.5	12.6	12.5	-	-	-
MARGR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOLSI	10.9	6.4	0.7	-	9.7	11.0	11.2	11.2	9.6	-	3.7	-	11.5	-	3.6	-
	10.0	8.9	1.7	-	9.6	11.8	11.9	11.9	10.3	-	4.0	2.6	12.1	-	3.5	1.5
	10.1	8.4	1.0	9.6	11.5	10.1	11.8	11.9	0.3	-	0.8	-	7.1	1.3	9.2	7.5
	11.4	7.7	3.3	9.8	10.1	1.3	8.3	6.9	1.8	-	1.9	-	11.1	0.6	8.3	7.1
MORJO	11.1	11.6	11.6	2.5	-	1.2	-	-	1.4	8.7	-	11.0	12.0	8.3	0.6	12.3
OTTMI	9.2	6.4	0.2	0.5	7.8	8.1	8.2	7.8	5.9	1.4	-	7.2	7.7	3.9	8.2	9.3
PERZS	11.5	11.6	11.5	2.9	0.4	11.8	1.1	-	-	0.3	0.2	0.5	-	3.2	-	-
ROETO	5.2	2.0	2.2	6.5	5.9	7.2	11.9	6.5	2.7	2.7	7.5	-	4.9	2.7	-	1.6
ROTEC	-	10.0	4.0	11.4	-	11.9	-	9.8	-	-	-	-	11.5	-	6.9	7.3
SARAN	6.1	5.2	6.6	11.3	9.4	9.8	-	-	6.4	-	-	7.6	9.0	7.0	8.8	-
	9.7	10.4	10.3	11.0	10.4	8.7	-	-	5.2	-	1.8	9.1	9.9	10.4	2.6	-
SCALE	10.9	11.3	2.0	-	8.4	11.5	8.3	3.2	-	-	5.4	5.1	1.3	8.7	11.6	8.1
SCHHA	6.0	7.6	-	-	3.5	9.2	11.2	11.5	0.8	3.3	7.5	5.6	2.1	-	7.5	2.5
SLAST	6.2	6.5	5.2	-	-	9.6	-	-	-	-	-	-	-	-	0.7	2.4
STOEN	11.6	11.6	-	-	-	10.4	11.2	8.5	-	-	6.1	2.1	7.2	10.7	-	12.3
	11.7	11.7	0.4	-	-	10.4	11.5	9.1	-	-	5.7	1.8	7.4	10.2	-	11.9
	11.5	11.5	0.2	-	-	10.3	10.9	7.6	-	-	5.7	2.1	3.2	10.4	-	9.0
STRJO	10.5	4.0	-	6.1	-	-	-	-	-	-	-	4.7	6.0	-	6.8	10.5
	10.6	4.2	0.4	6.8	6.7	10.3	10.2	11.5	11.6	0.7	11.7	5.5	7.4	0.5	6.2	10.7
	9.8	4.9	1.3	6.7	6.8	8.8	11.5	11.5	11.6	0.4	11.6	7.6	7.8	-	6.8	11.6
TEPIS	11.4	11.5	11.5	1.9	0.2	11.8	1.6	-	-	-	-	3.5	0.9	0.5	3.3	11.0
TRIMI	10.2	11.5	11.6	-	-	6.0	-	-	-	-	-	-	0.6	-	8.6	9.0
YRJIL	-	1.8	6.8	1.6	6.2	7.2	9.0	3.2	7.0	5.4	-	-	-	4.3	-	-
ZELZO	10.5	6.1	4.6	-	-	1.0	-	-	-	-	-	7.6	-	-	-	9.0
	10.6	6.1	4.6	-	-	0.8	-	-	-	-	-	7.8	-	-	-	9.0
Sum	533.7	518.5	369.7	186.6	271.6	507.1	351.4	313.8	160.6	103.3	243.8	282.1	337.3	235.2	298.8	360.0

3. Results (Meteors)

October	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
BASLU	-	4	6	-	-	-	-	-	-	-	-	-	-	-	8
BERER	80	63	75	45	44	43	29	41	38	-	-	18	72	93	98
	28	27	28	31	29	23	19	19	14	1	-	7	31	43	39
	17	15	26	15	19	17	20	11	3	1	-	4	21	20	33
BREMA	31	32	26	-	-	-	-	61	-	-	-	-	-	-	-
	23	22	15	-	-	-	-	46	-	-	-	-	-	30	-
BRIBE	46	36	39	-	-	22	4	99	-	-	-	3	33	44	44
	57	34	16	2	3	25	-	48	-	-	-	3	58	7	70
CASFL	-	-	-	-	-	-	-	49	12	18	9	31	2	12	39
	36	-	-	-	-	-	-	-	-	-	-	-	1	2	53
CRIST	-	-	-	-	-	-	32	134	28	52	46	5	34	31	66
	27	58	59	46	53	-	20	114	35	43	32	-	48	69	60
	86	92	92	92	96	5	-	218	34	59	57	8	57	34	89
CSISZ	17	21	20	21	5	20	-	25	19	-	5	-	16	-	-
ELTMA	61	42	45	35	46	15	63	157	24	41	41	35	3	72	61
GONRU	62	49	40	66	42	52	58	187	68	48	34	40	42	50	6
	34	26	27	40	28	42	37	179	46	55	43	35	41	52	1
	20	29	30	24	26	17	33	95	47	30	42	9	33	40	1
GOVMI	60	-	52	45	25	42	11	116	61	-	8	-	36	60	20
HERCA	-	22	8	26	20	18	28	-	38	31	28	34	30	24	19
HINWO	100	115	80	89	-	-	-	-	-	-	-	-	-	-	-
IGAAN	28	28	32	31	27	36	7	18	17	1	4	-	43	58	19
	35	48	35	36	16	38	-	33	36	9	2	-	33	21	61
	33	29	29	40	25	22	1	5	27	7	-	-	19	55	42
	105	115	111	69	7	50	79	42	46	-	3	-	85	114	45
JONKA	34	25	33	25	16	18	-	40	28	-	-	-	39	43	33
JUDDA	-	-	-	8	-	7	3	7	-	8	-	-	18	-	10
KACJA	-	92	72	70	78	14	2	6	55	5	5	20	12	53	103
	26	46	43	38	27	-	-	-	-	-	2	-	-	27	28
	35	44	50	31	34	18	-	38	36	15	3	5	3	76	60
	-	123	114	118	6	-	-	-	-	1	4	5	11	72	123
	-	59	49	58	47	10	-	21	39	3	5	11	9	46	82
KELGR	-	-	-	-	-	-	-	-	-	7	-	-	4	2	2
KERST	45	31	24	21	-	15	22	29	21	-	5	11	-	-	-
KOSDE	28	36	28	6	-	-	-	96	-	-	-	-	63	53	51
	33	-	40	8	-	18	5	92	-	-	-	7	45	53	77
LERAR	-	-	-	-	-	-	5	-	-	-	-	-	6	11	13
MACMA	13	9	-	-	-	-	-	7	1	-	-	4	2	1	13
	15	12	3	-	-	-	-	26	6	1	1	14	6	3	23
	13	15	-	-	-	-	-	23	3	-	-	10	3	1	20
MARGR	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-
MOLSI	269	233	183	176	-	-	-	229	-	-	-	-	38	80	153
	47	60	44	32	2	4	-	2	1	-	-	-	29	69	61
	22	20	-	-	-	7	2	34	-	-	12	16	22	12	31
	31	43	19	2	1	14	5	30	-	-	1	7	4	11	30
MORJO	25	41	42	28	19	17	8	5	20	-	-	-	29	-	-
OTTMI	36	33	32	45	43	30	42	30	-	14	5	-	29	36	1
PERZS	110	119	110	107	65	88	95	153	92	1	10	-	51	83	39
ROETO	7	6	8	-	-	-	-	5	-	-	-	-	9	27	20
ROTEC	-	-	22	-	-	-	-	36	1	-	-	-	32	37	-
SARAN	-	-	-	-	-	-	-	100	-	-	12	17	23	19	-
	19	9	14	17	19	29	21	111	-	-	18	13	21	37	11
SCALE	43	43	50	43	40	12	44	59	23	29	24	19	-	6	47
SCHHA	20	3	29	-	10	14	4	32	-	-	-	2	26	30	39
SLAST	51	47	36	34	31	3	-	4	15	9	1	2	1	12	17
STOEN	113	55	72	60	52	15	105	287	24	48	23	-	4	81	76
	79	52	77	50	54	15	53	150	15	33	21	-	6	68	77
	107	76	62	53	74	19	87	262	21	64	34	-	7	107	112
STRJO	38	24	18	-	-	24	-	51	-	-	-	-	25	24	50
	35	22	14	5	-	-	-	36	-	-	-	-	26	38	45
	67	38	30	-	1	36	-	61	-	-	-	-	51	63	65
TEPIS	55	46	78	44	27	42	32	39	39	-	1	-	73	52	8
TRIMI	36	29	35	36	23	8	9	35	30	6	-	2	3	12	35
YRJIL	45	-	-	-	34	3	-	82	7	-	37	-	-	14	23
ZELZO	11	29	19	22	18	-	-	27	27	-	-	-	15	-	17
	7	26	24	19	12	-	-	25	20	-	-	-	25	-	17
Sum	2501	2453	2365	1909	1244	974	985	3967	1117	640	578	397	1508	2290	2486

October	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
BASLU	-	1	3	4	15	26	-	-	-	3	4	-	2	2	-	13
BERER	91	131	107	1	-	138	3	1	-	-	3	76	8	9	22	25
	41	55	50	1	-	108	-	1	-	-	-	41	7	2	13	24
	30	44	41	-	-	84	-	-	-	-	4	33	4	4	6	12
BREMA	-	-	12	26	51	96	107	112	-	-	72	13	-	-	-	-
	21	-	24	30	40	66	89	75	10	-	64	15	16	-	-	-
BRIBE	13	25	7	22	66	110	141	114	26	5	83	24	17	3	46	38
	36	49	3	32	115	116	156	123	20	-	86	38	7	6	25	50
CASFL	52	48	4	-	16	16	79	79	-	-	51	18	51	37	56	49
	76	49	9	-	24	14	114	124	-	-	85	34	52	44	51	37
CRIST	78	66	-	-	165	161	227	137	-	-	44	96	83	61	44	29
	34	49	-	-	137	118	142	67	-	5	36	49	66	53	50	23
	93	81	-	-	170	181	208	46	-	-	-	8	9	5	23	31
CSISZ	36	50	50	1	-	71	-	-	-	-	-	-	-	-	13	5
ELTMA	73	79	11	-	95	174	71	25	-	-	-	-	-	43	34	-
GONRU	-	25	84	56	106	86	67	-	2	-	-	-	86	74	50	-
	-	43	73	39	100	83	62	-	-	7	-	-	79	71	49	-
	36	33	30	32	83	61	14	-	33	-	-	75	83	73	47	1
GOVMI	69	72	70	5	-	111	-	-	-	1	-	17	-	-	26	-
HERCA	41	29	48	-	-	-	76	66	66	53	52	64	43	25	29	-
HINWO	96	94	23	-	11	157	213	199	112	-	-	121	165	58	83	-
IGAAN	48	53	50	10	-	9	-	-	2	57	-	33	49	45	8	45
	64	63	53	-	-	-	-	-	-	-	-	-	-	-	-	-
	49	51	62	7	-	45	-	-	3	74	13	43	24	34	10	40
	140	134	155	1	8	128	17	-	-	-	-	-	2	-	13	94
JONKA	63	47	49	-	-	48	-	-	-	-	-	42	6	17	8	35
JUDDA	3	-	24	29	-	2	2	42	-	-	-	28	-	-	26	20
KACJA	129	133	83	-	-	111	-	-	-	-	-	-	-	-	-	10
	66	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-
	91	82	35	-	-	66	-	-	-	-	-	-	-	-	5	1
	148	157	74	-	-	174	-	-	-	-	-	1	3	-	-	30
	93	96	70	-	-	66	-	-	-	-	-	-	-	-	-	4
KELGR	1	-	11	10	20	2	4	20	-	-	1	14	-	-	14	10
KERST	-	-	-	-	-	88	-	53	-	60	28	7	35	33	-	-
KOSDE	-	-	-	13	58	40	67	89	11	14	27	-	8	15	-	50
	28	-	-	31	93	90	114	124	8	15	37	-	11	18	-	38
LERAR	7	-	-	20	33	27	34	46	-	12	14	1	-	1	22	6
MACMA	13	14	13	1	16	3	6	5	53	52	30	25	38	5	-	-
	19	52	33	4	30	3	11	3	87	62	39	36	53	3	-	-
	9	27	16	1	12	4	3	1	57	33	27	27	15	-	-	-
MARGR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOLSI	179	80	2	-	236	374	352	364	225	-	13	-	154	-	9	-
	61	28	1	-	61	114	102	112	80	-	3	8	39	-	2	1
	32	23	4	32	60	65	67	38	2	-	5	-	29	11	46	51
	35	11	12	42	43	6	32	15	4	-	2	-	38	5	20	7
MORJO	50	39	36	8	-	8	-	-	8	41	-	44	45	30	2	39
OTTMI	51	25	2	1	78	60	83	85	21	3	-	35	57	7	33	44
PERZS	160	155	151	11	3	295	8	-	-	1	1	3	-	48	-	-
ROETO	1	1	5	12	26	28	31	42	1	10	9	-	14	6	-	5
ROTEC	-	43	21	95	-	93	-	32	-	-	-	-	53	-	20	22
SARAN	13	17	27	54	66	42	-	-	41	-	-	53	42	36	31	-
	23	27	29	52	49	31	-	-	15	-	1	39	38	36	17	-
SCALE	95	73	14	-	85	123	70	33	-	-	33	16	3	38	40	27
SCHHA	10	18	-	-	10	51	98	80	2	13	28	16	8	-	41	8
SLAST	19	23	10	-	-	62	-	-	-	-	-	-	-	-	4	2
STOEN	113	105	-	-	-	236	227	120	-	-	71	27	33	96	-	69
	115	94	3	-	-	211	202	103	-	-	34	14	18	68	-	43
	137	132	1	-	-	261	255	120	-	-	80	24	23	97	-	78
STRJO	41	24	-	32	-	-	-	-	-	-	-	14	30	-	26	45
	47	26	4	38	30	82	86	86	68	4	59	18	38	4	27	40
	51	23	6	30	38	147	149	142	121	4	109	26	34	-	44	84
TEPIS	83	90	90	6	1	131	4	-	-	-	-	25	3	2	15	50
TRIMI	42	48	55	-	-	31	-	-	-	-	-	-	2	-	33	34
YRJIL	-	4	22	9	36	56	74	38	24	24	-	-	-	15	-	-
ZELZO	38	44	32	-	-	8	-	-	-	-	-	25	-	-	-	12
	41	27	28	-	-	6	-	-	-	-	-	36	-	-	-	17
Sum	3324	3112	1932	798	2286	5404	3867	2962	1102	553	1248	1402	1723	1240	1225	1398

From the view point of a meteor observer, October was without doubt the highlight of this year. The splendid observing weather of the previous month continued with only some short breaks. Thanks to the increasing length of observing nights in the northern hemisphere and high meteor shower activity due to the Draconids, Orionids and Taurids as well as a further growth of the camera network, we beat once more all records. A total of 66 video cameras were active in October , 42 of which managed to obtain twenty and more observing nights. All cameras but a few exceptions collected at least one hundred hours of observing time, many even more than two hundred. Thus, for the first time we obtained more than ten thousand hours of effective observing time in just one month, which is a plus of 15% compared to September 2011. In this time, we recorded about 59,000 meteors, which is an extra of 10% compared to August 2011.

As new observers in our camera network we could welcome Grahame Kelaher and Daniel Judge from Perth. They started the West-Australian camera network with the two cameras WAMCAM1 and WAMCAM2. Stefano Crivello took his third Mintron camera BILBO with 3.8 mm Computar lens in operation. In Germany, Wolfgang Hinz resumed operation. After the camera AKM2 broke in June, he now operates the camera ACR from Astroclub Radebeul. It's an camera of the „first hour" – the image intensifier comes from a group purchase that was the basis for the first series of video meteor cameras in Germany in 1995. The 35 mm f/2.0 photographic lens did already a good job for AVIS many years ago. ACR has a limiting magnitude well beyond seven mag.

But now to the meteor showers in October. First highlight were the Draconids. Several renowned meteor researchers had prediced an outburst at about 20 UT on October 8. Only on the strength of the outburst they disagreed – the predictions reached from a noticable, but little spectacular peak ZHR of 50 up to half a meteor storm with zenithal hourly rates up to 600. The time of maximum was well placed for European observers, if we forget for a moment the almost full moon.

For the Draconids, we started a special experiment in the IMO video network. For the first time, the observing data were to be transfered automated and in real-time to the central VMO server. There the data were analysed such that the Draconid activity could be followed live in the Internet. Shortly after the 2011 IMC both the recognition software MetRec as well as the online flux tool were adapted, and early October first data were uploaded for testing in real-time. So the whole experiment was planned and installed in the last minute and there were many reasons which could have wasted the efford – still everything went well in the end.

Before the Draconids, more than twenty observers had agreed to join the experiment. The nice weather, which yielded perfect observing conditions until early October, finished just in time for the Draconids. Thus, most observers had to fight with poor weather conditions. In the end there were four cameras in Germany, Slovenia and Portugal (KLEMOI, ORION1, ORION2, TEMPLAR3) whose data from mainly clear skies were uploaded online. Thanks to them, observers with clouded skies or daylight could follow the activity in real-time. At http://www.imonet.org/draconids/ you will find a time-lapse sequence that shows how the flux density graph has developed in the course of the night. A time-lapse movie of the recordings by AVIS2 with almost 200 Draconids can be found there as well.

Of course, the data set grew significantly in the following days, when all the other observers uploaded the data of overall 57 video cameras, enabling a more thorough analysis of the outburst. Figure 1 shows the high resolution flux densite profile of eight hours around the peak. Thank to the high meteor number, intervals of only five minute lenght could be used. The peak occured at 20:10 UT (195.036° solar longitude) with an (equivalent) flux density of about 110 meteoroids per 1,000 km^2 and hour.

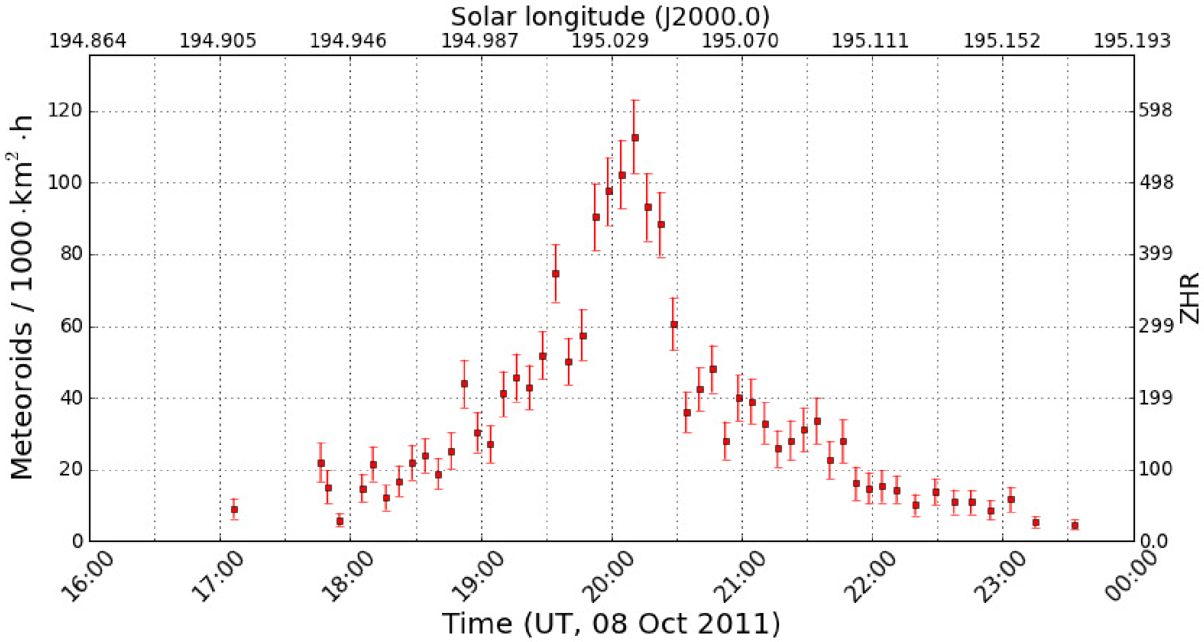


Figure 1: *High resolution flux density profile of the Draconids on October 8, 2011, derived from data of the IMO Video Meteor Network.*

To determine the full width at half maximum (FWHM) of the outburst, a third order polynomial was fitted to the ascending and descending branch of the activity profile (figure 2). The FWHM was determined to 80 minutes (19:20-20:40 UT).
Figure 2 shows also visual data from the IMO quick look analysis. They yield a peak at 20:12 UT with identical FWHM. Peak visual eZHR was about 300. The eZHR calculated from the video flux densities was nearly twice as high, matching to the experiences we made in the last meteor shower analyses.

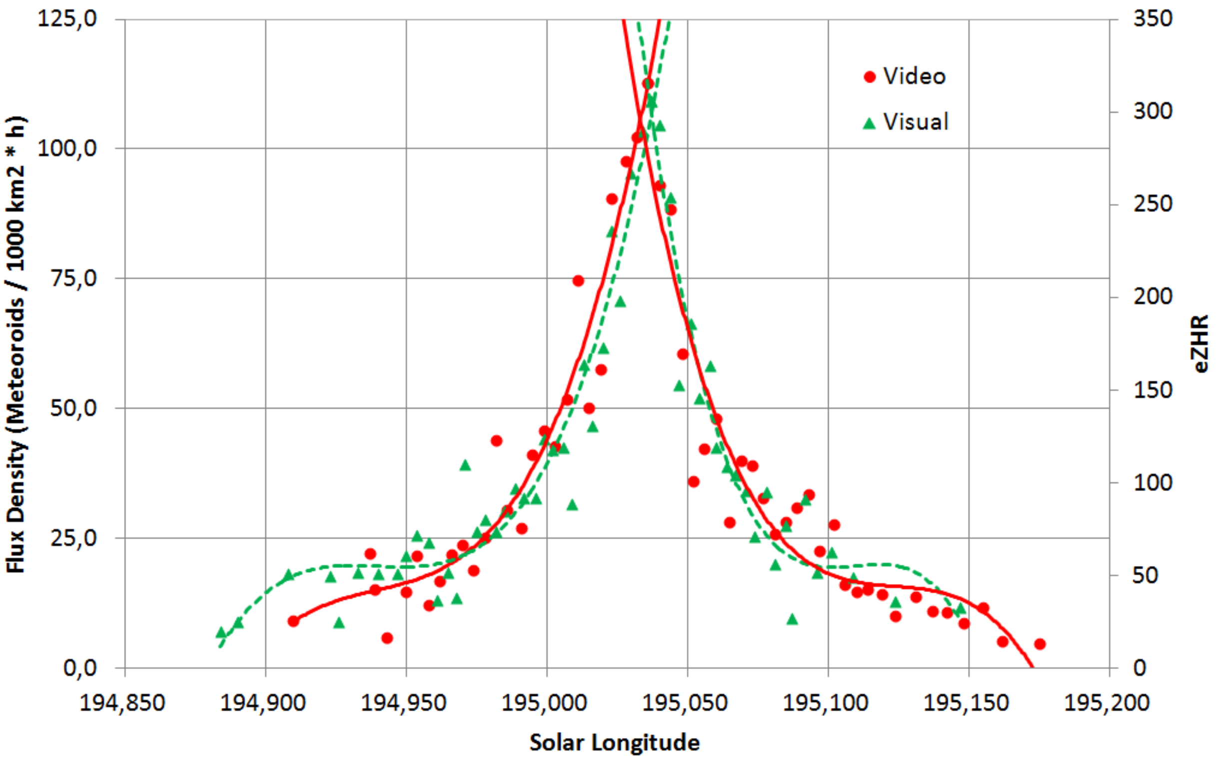


Figure 2: *Comparison of video (red dots) and visual (green triangles) observations of the Draconid outburst. The lines show a third order polynomial fit to the ascending and descending activity branches, respectively.*

As expected, most cameras with clear skies obtained nice radiant plots, two of which are shown exemplary in figure 3. It's obvious that the apparent radiant deviates from the expected position given in the IMO meteor shower calendar (α=262° / δ=54°, v_{inf}=20 km/s).

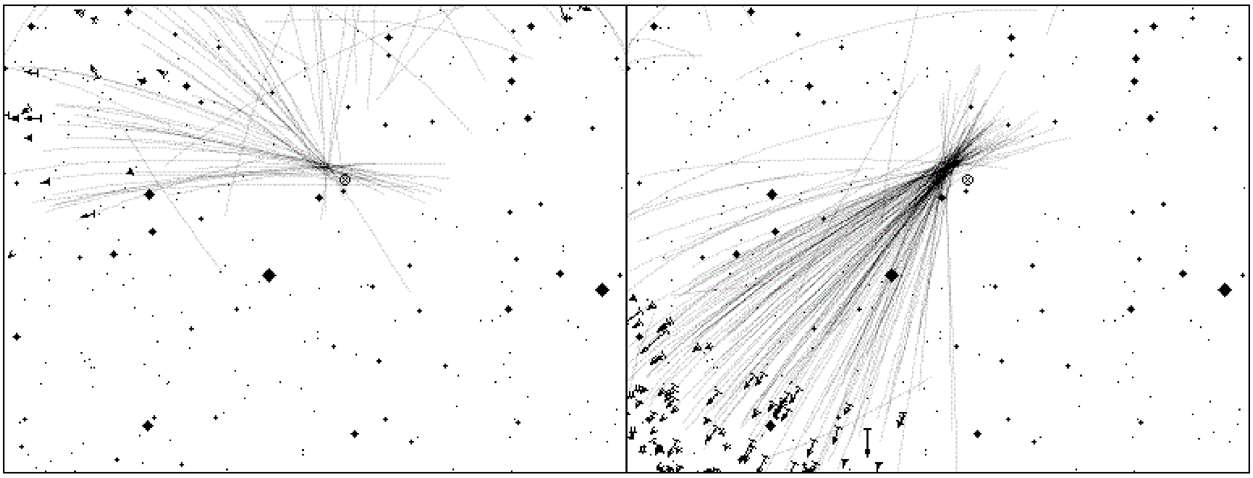


Figure 3: *Two radiant plots of the Draconids on October 8, 2011 (left HERMINE, right TEMPLAR2).*

The explanation was soon found: Due to the low velocity of the meteor shower, the radiant position is noticably shifted by zenith attraction. Right after the ourburst, Marco Langbroek communicated a preliminary mean geocentric radiant from 28 multi-station Draconids of a American/German/Dutch observing campaign of α=262.8 ±0.7° / δ=+55.5 ±1.1° and v_{geo}=20.98 ±0.95 km/s.

For comparison we calculated the mean radiant position of all 2,425 single-station Draconids, recorded by IMO video network cameras on October 8/9, 2011. We applied the same method as in previous meteor shower analyses (i.e. including the effect of zenith attraction), but with a higher resolution of 0.1° in α/δ and 0.1 km/s. Our result (α=262.2 / δ=+56.2 ±1.3° and v_{inf}=20.7 ±0.6 km/s) agreed within the error bars with the results communicated by M. Langbroek. There is a little problem, however: the different velocity bases (v_{geo} and v_{inf})! If we transform the velocity given by M. Langbroek, we get a value of v_{inf} =23.8 km/s, wich differs significatly from the values obtained by us and given in the Meteor Shower Calendar. Thus, further clarification is needed here.

The second highlight of October were the Orionids. In the third decade of the month, the lunar phase was much more favourable. Only in the morning hours, the waning Moon was slightly disturbing. Figure 4 shows the flux density profile over the full activity interval from end of September until early November, based on 14,200 Orionids (with 27,700 sporadic meteors in parallel). The graph shows the well-known symmetric profile, which only near the maximum looks like a „tilted plateau". Some video observers thought to observe the maximum on October 20 or 21, so they were surprised by further growing rates in subsequent nights, which peaked on October 23/24.

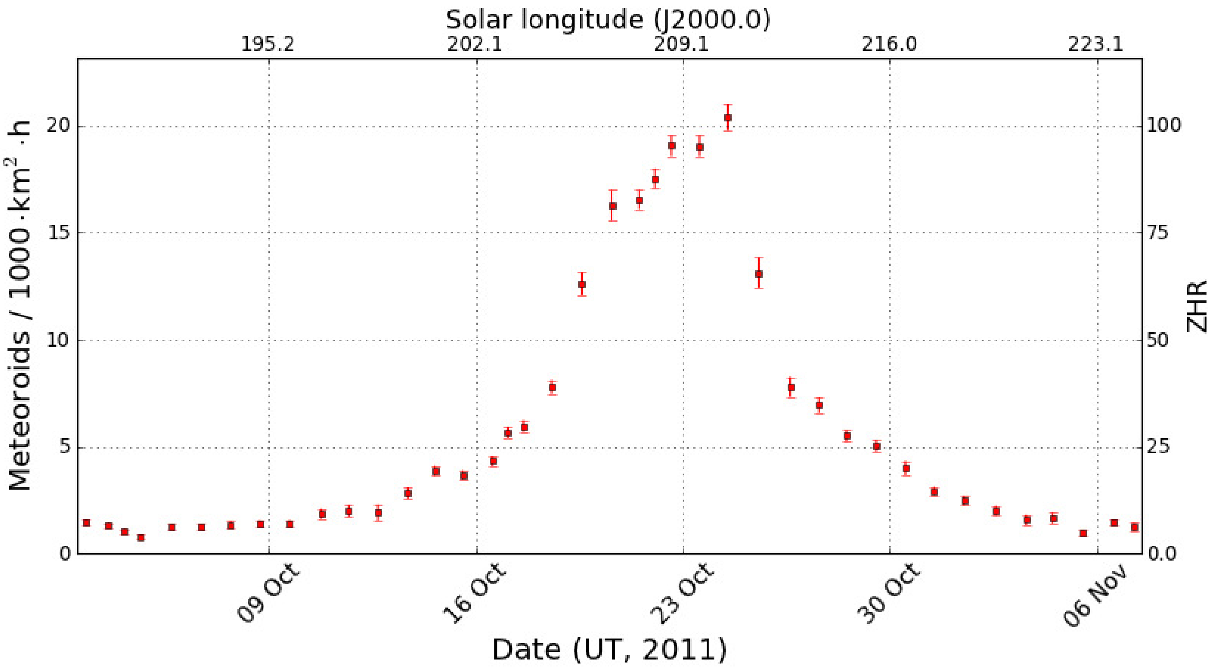
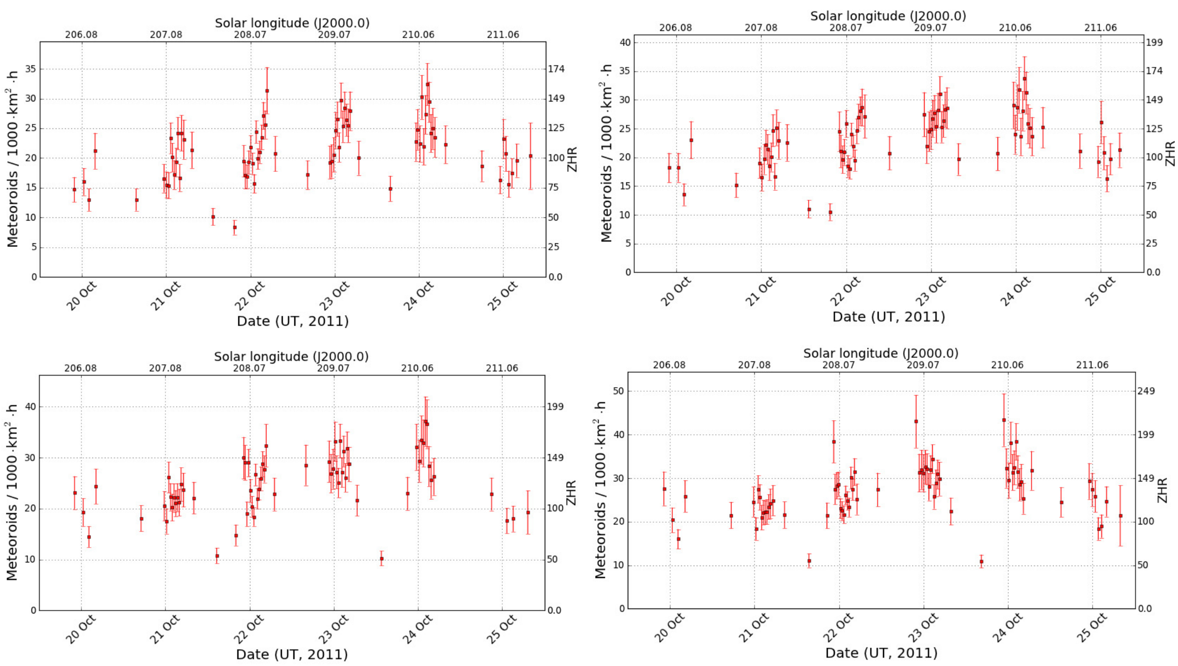


Figure 4: *Flux density profile of the Orionids over the full activity interval in 2011, derived from data of the IMO Video Meteor Network.*

Similar to the Perseids, the detailed view of the peak looked somewhat chaotic with strong activity fluctuations in the course of each night. That is no surprise considering that also the Orionid radiant gains significant altitude at European observing sites in the course of the night. So a possible zenith exponent would have a strong impact. Contrary to the Perseids, the Orionids do not show a sharp peak, but have an almost constantly high activity over several nights, so that the effect of the zenith exponent can be better analysed. For this reason, we re-calculated the flux density for all cameras with zenith exponents between 1.0 and 2.0 in steps of 0.1 just as for the Perseids. The result is partly given in figure 5. From subjective judgement, a zenith exponent between 1.5 and 1.6 yields lowest scatter of the data points, which agrees well to the findings for the Perseids (1.6).



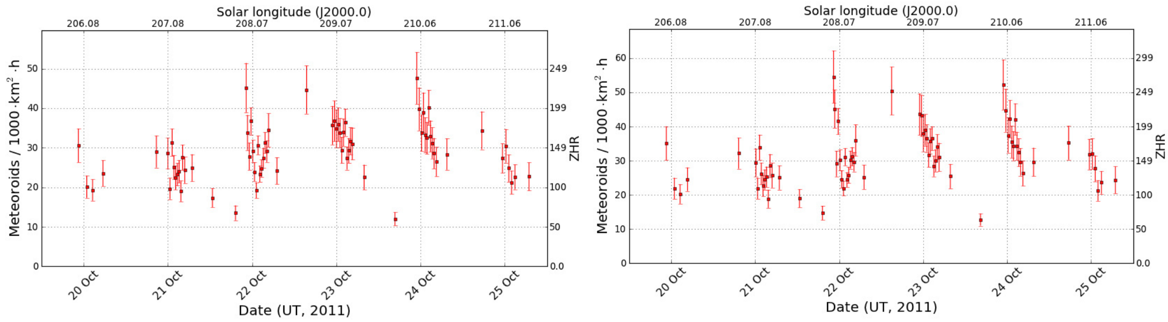


Figure 5: *Flux density profile of the Orionid peak, derived with different zenith exponents between 1.0 (upper left) and 2.0 (lower right) in steps of 0.2. Subjectively least scatter is obtained with a value of 1.6 (middle row right).*

In parallel it was checked, whether the formula used in MetRec for radiant altitude correction (after Kresak, 1954) that yields an extra offset to the pure Cosine for altitudes below 10 degrees, has an influence on the activity profile. It turned out, however, that the differences with and without the correction term were only marginal.
At peak time, the Orionds presented a flux dentity of about 25 meteoroids per 1,000 km^2 and hour – about the same peak flux density as their counterpart in May (eta Aquariids) and more than half of the Perseid activity in 2011. The ZHR obtained from the flux densities is even three to four times higher than the visual peak ZHR of about 30. For this effect we do not have an explanation yet in particular given the size and quality of the data sets used.

In the end, let's have a look at other meteor showers in October. The October Camelopardalids, which could be observed in previous years only for a few hours near their peak at 192.6° solar longitude, fell into the European daytime hours this year and could not be observed.
The October Ursae Majorids, which were discoved a few years ago as well, showed the expected smooth maximum on October 16. Their flux density profile (figure 6) is based on 550 shower members.

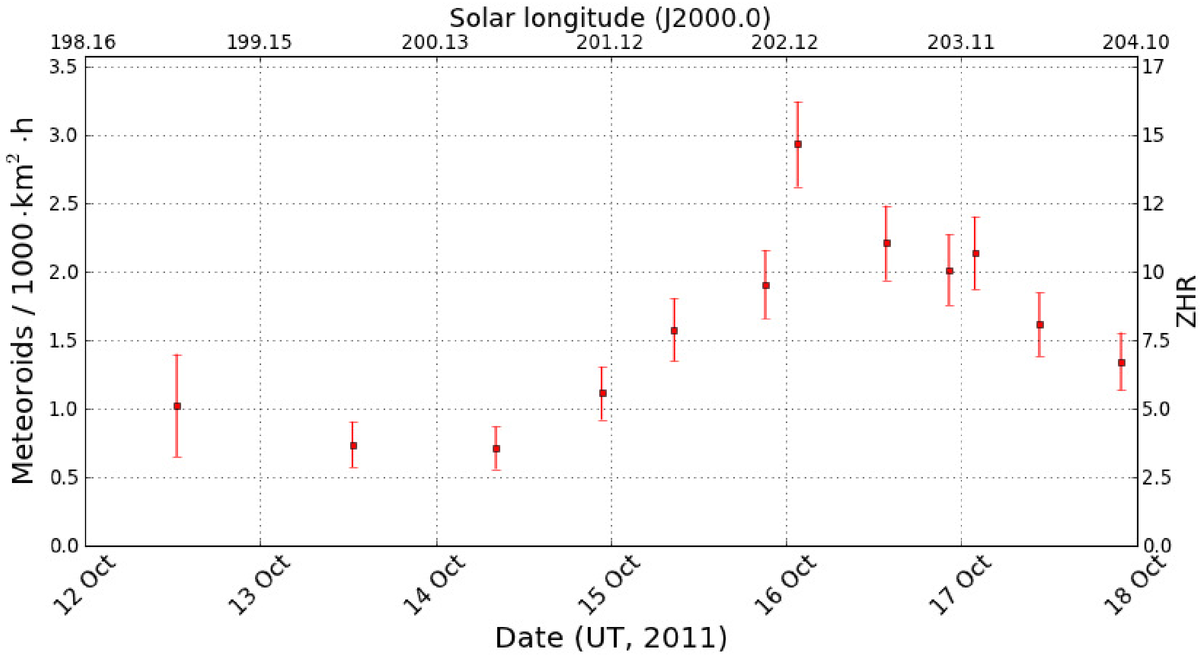


Figure 6: *Flux density profile of the October Ursae Majorids in October 2011.*

The epsilon Geminds, which are sometimes hard to discern from the Orionids because of their similarity, showed a flat activity profile without significant structure in their full activity interval (figure 7, based on almost 1,200 shower members).

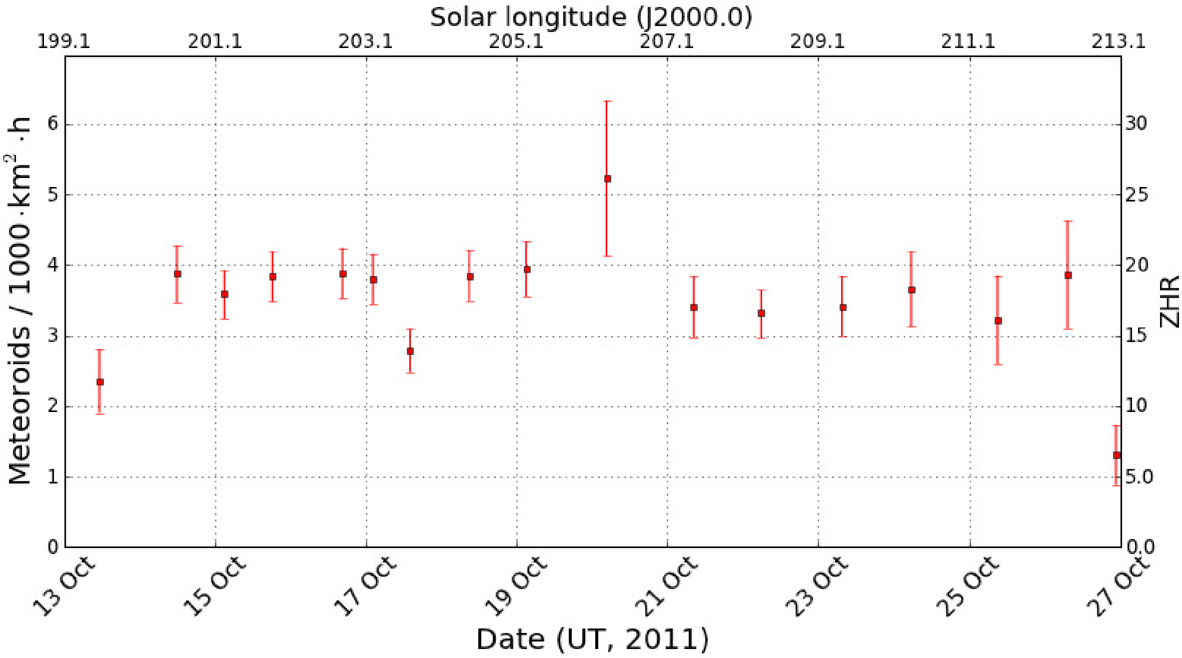


Figure 7: *Flux density profile of the epsilon Geminids in October 2011.*

Last but not least, the Leo Minorids presented (based on 220 shower meteors) a distinct activity profile with a flux density of up to 8 meteoroids per 1,000 km^2 and hour, which curiously broke down significantly just at the expected peak time (figure 8).

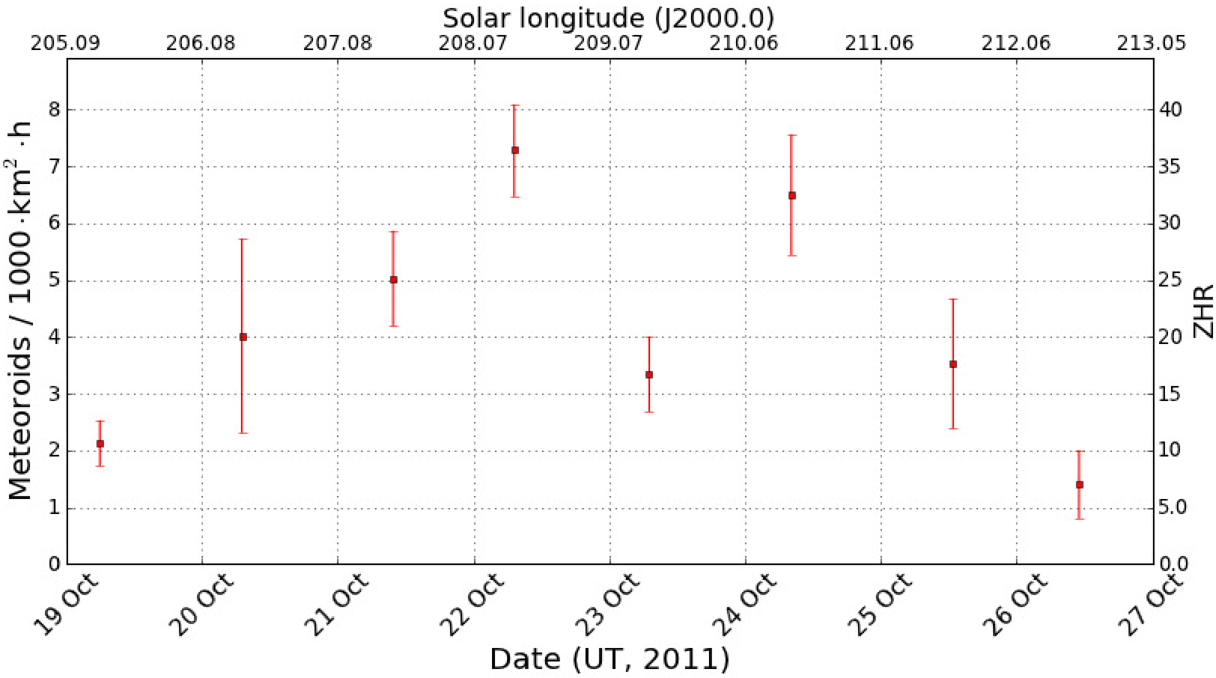


Figure 6: *Flux density profile of the Leo Minorids in October 2011.*