Results of the IMO Video Meteor Network – November 2011

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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	1	4.2	0.8	2
BERER	Berko	Ludanyhalaszi/HU	HULUD1 (0.95/3)	2256	4.8	1540	18	150.8	141.3	680
			HULUD2 (0.75/6)	4860	3.9	1103	17	111.6	77.1	338
			HULUD3 (0.75/6)	4661	3.9	1052	17	99.9	76.5	245
BREMA	Breukers	Hengelo/NL	MBB3 (0.75/6)	2399	4.2	699	12	94.9	55.5	235
			MBB4 (0.8/8)	1470	5.1	1208	14	95.9	-	186
BRIBE	Brinkmann	Herne/DE	HERMINE (0.8/6)	2374	4.2	678	23	219.4	92.4	694
		Berg. Gladbach/DE	KLEMOI (0.8/6)	2286	4.6	1080	23	210.8	246.3	765
CASFL	Castellani	Monte Baldo/IT	BMH1 (0.8/6)	2350	5.0	1611	25	235.3	243.0	872
			BMH2 (1.5/4.5)*	4243	3.0	371	22	208.6	522.5	1011
CRIST	Crivello	Valbrevenna/IT	BILBO (0.8/3.8)	5458	4.2	1772	23	235.6	357.6	1247
			C3P8 (0.8/3.8)	5455	4.2	1586	23	225.0	225.5	875
			STG38 (0.8/3.8)	5614	4.4	2007	20	197.2	387.2	1180
CSISZ	Csizmadia	Zalaegerszeg/HU	HUVCSE01 (0.95/5)	2423	3.4	361	11	54.1	9.0	197
ELTMA	Eltri	Venezia/IT	MET38 (0.8/3.8)	5631	4.3	2151	14	144.9	190.6	666
GONRU	Goncalves	Tomar/PT	TEMPLAR1 (0.8/6)	2179	5.3	1842	14	116.3	202.4	526
			TEMPLAR2 (0.8/6)	2080	5.0	1508	17	138.6	172.4	547
			TEMPLAR3 (0.8/8)	1438	4.3	571	23	177.4	-	495
GOVMI	Govedic	Sredisce ob Dr./SI	ORION2 (0.8/8)	1447	5.5	1841	13	116.0	218.2	321
HINWO	Hinz	Brannenburg/DE	ACR (2.0/35)*	557	7.4	4954	20	136.1	-	1115
IGAAN	Igaz	Baja/HU	HUBAJ (0.8/3.8)	5552	2.8	403	17	66.6	27.0	389
		Debrecen	HUDEB (0.8/3.8)	5522	3.2	620	21	177.7	99.9	549
		Hodmezovasar./HU	HUHOD (0.8/3.8)	5502	3.4	764	19	147.5	64.6	413
		Sopron/HU	HUSOP (0.8/6)	2031	3.8	460	15	83.3	-	492
JONKA	Jonas	Budapest/HU	HUSOR (0.95/4)	2286	3.9	445	18	138.3	83.9	406
JUDDA	Judge	Perth/AU	WAMCAM2 (0.95/2.8)	4742	-	-	1	8.7	-	15
KACJA	Kac	Kamnik/SI	CVETKA (0.8/3.8)	4914	4.3	1842	12	92.0	77.5	428
		Kostanjevec/SI	METKA (0.8/8)*	1372	4.0	361	9	71.7	27.0	201
		Ljubljana/SI	ORION1 (0.8/8)	1402	3.8	331	7	46.9	34.7	142
		Kamnik/SI	REZIKA (0.8/6)	2270	4.4	840	12	100.6	158.6	658
			STEFKA (0.8/3.8)	5471	2.8	379	12	99.1	42.8	323
KELGR	Kelaher	Secret Habour/AU	WAMCAM1	5607	-	-	1	8.3	-	9
KERST	Kerr	Glenlee/AU	GOCAM1 (0.8/3.8)	5189	4.6	2550	23	129.6	291.9	744
KLAGR	Kladnik	Tacen/SI	TACKA (0.8/12)	715	5.4	796	4	34.9	-	180
KOSDE	Koschny	Noordwijkerh./NL	LIC4 (1.4/50)*	2027	6.0	4509	15	87.9	81.6	317
LERAR	Leroy	Gretz/FR	SAPHIRA (1.2/6)	3260	3.4	301	3	15.0	-	18
MACMA	Maciejewski	Chelm/PL	PAV35 (1.2/4)	4383	2.5	253	19	159.9	-	263
			PAV36 (1.2/4)*	5732	2.2	227	19	170.3	67.3	340
			PAV43 (0.95/3.75)*	2544	2.7	176	19	189.2	38.8	250
MARGR	Maravelias	Lofoupoli/GR	LOOMECON (0.8/12)	738	6.3	2698	8	53.5	56.1	236
MOLSI	Molau	Seysdorf/DE	AVIS2 (1.4/50)*	1776	6.1	3817	17	117.9	290.5	945
			MINCAM1 (0.8/8)	1477	4.9	1084	18	129.7	96.8	353
		Ketzür/DE	REMO1 (0.8/8)	1467	6.0	3139	23	229.9	623.4	1358
			REMO2 (0.8/3.8)	5613	4.0	1186	22	216.9	183.0	468
MORJO	Morvai	Fülöpszallas/HU	HUFUL (1.4/5)	2522	3.5	532	17	139.4	59.4	330
OTTMI	Otte	Pearl City/US	ORIE1 (1.4/5.7)	3837	3.8	460	14	80.2	-	374
PERZS	Perko	Becsehely/HU	HUBEC (0.8/3.8)*	5498	2.9	460	14	109.9	56.6	849
ROTEC	Rothenberg	Berlin/DE	ARMEFA (0.8/6)	2366	4.5	911	17	149.7	-	367
SARAN	Saraiva	Carnaxide/PT	RO1 (0.75/6)	2362	3.7	381	18	158.1	86.0	399
			RO2 (0.75/6)	2381	3.8	459	1	8.4	2.4	34
			SOFIA (0.8/12)	738	5.3	907	15	122.4	-	316
SCALE	Scarpa	Alberoni/IT	LEO (1.2/4.5)*	4152	4.5	2052	22	205.0	-	668
SCHHA	Schremmer	Niederkrüchten/DE	DORAEMON (0.8/3.8)	4900	3.0	409	23	177.1	-	436
SLAST	Slavec	Ljubljana/SI	KAYAK1 (1.8/28)	588	-	-	3	13.3	-	84
STOEN	Stomeo	Scorze/IT	MIN38 (0.8/3.8)	5566	4.8	3270	24	257.7	448.6	1750
			NOA38 (0.8/3.8)	5609	4.2	1911	22	250.0	489.8	1413
			SCO38 (0.8/3.8)	5598	4.8	3306	23	219.0	-	2185
STRJO	Strunk	Herford/DE	MINCAM2 (0.8/6)	2362	4.6	1152	21	129.4	128.6	471
			MINCAM3 (0.8/12)	728	5.7	975	24	152.9	126.7	551
			MINCAM5 (0.8/6)	2349	5.0	1896	22	155.7	129.6	691
TEPIS	Tepliczky	Budapest/HU	HUMOB (0.8/6)	2388	4.8	1607	12	117.5	149.2	471
TRIMI	Triglav	Velenje/SI	SRAKA (0.8/6)*	2222	4.0	546	17	101.4	-	316
YRJIL	Yrjölä	Kuusankoski/FI	FINEXCAM (0.8/6)	2337	5.5	3574	13	79.2	-	411
ZELZO	Zelko	Budapest/HU	HUVCSE03 (1.0/4.5)	2224	4.4	933	15	95.1	43.3	186
Sum							30	8269.4	-	33996

* active field of view smaller than video frame

2. Observing Times (h)

November	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
BASLU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BERER	7.4	8.0	8.5	-	12.2	12.2	0.8	9.0	10.5	12.6	12.7	12.8	11.3	-	8.7
	3.6	2.6	7.1	-	12.3	12.3	-	5.3	3.3	8.3	9.4	12.8	12.7	-	4.7
	5.9	2.2	4.5	-	12.3	12.2	-	5.4	2.4	9.7	6.8	12.8	9.1	-	3.2
BREMA	1.0	1.0	-	-	11.0	-	-	-	-	-	6.8	10.9	-	-	-
	1.2	-	-	-	7.7	-	-	-	4.1	-	-	11.9	-	-	1.8
BRIBE	-	4.5	-	0.6	12.2	-	5.4	12.9	11.1	-	11.6	10.0	4.7	11.3	12.0
	-	5.5	-	1.3	12.1	-	11.8	12.5	12.5	-	8.3	-	13.0	13.1	12.8
CASFL	4.9	0.2	-	-	-	-	-	7.7	8.8	11.9	0.6	9.2	12.4	8.6	11.2
	4.6	-	-	-	-	-	-	5.8	10.6	8.1	-	8.8	11.0	10.6	-
CRIST	11.8	-	-	-	-	-	-	-	12.3	12.4	6.3	12.5	12.5	12.5	12.6
	12.0	-	-	-	-	0.6	-	-	12.3	10.6	12.4	9.0	12.5	12.5	12.6
	11.9	-	-	-	-	-	-	-	-	-	-	12.5	12.5	12.5	12.6
CSISZ	-	-	3.6	6.7	6.0	5.6	-	3.9	-	-	3.3	7.4	8.6	3.9	2.3
ELTMA	3.7	-	-	-	-	-	-	-	11.0	12.2	-	-	-	-	-
GONRU	-	-	-	-	11.7	11.3	6.7	-	-	2.1	-	-	-	-	-
	-	-	-	5.3	11.7	11.4	6.8	-	-	2.5	-	-	-	2.6	-
	-	-	2.3	5.2	12.0	12.0	8.6	-	0.3	-	0.2	-	0.8	-	0.3
GOVMI	-	-	12.0	11.6	9.1	6.4	4.8	-	-	-	2.9	12.6	9.9	11.8	12.0
HINWO	1.4	4.7	3.1	2.2	10.9	1.6	-	9.8	-	-	-	1.2	-	-	-
IGAAN	1.8	0.3	-	2.6	5.1	4.4	5.9	7.9	4.4	4.1	-	6.8	8.0	1.7	4.9
	10.4	10.4	10.3	2.1	10.0	10.5	4.7	10.6	6.9	6.2	10.6	10.6	10.4	6.2	8.2
	10.1	10.1	9.3	4.6	10.2	5.1	6.6	10.2	10.2	7.4	0.5	10.2	10.2	5.2	8.7
	-	5.1	-	3.3	9.4	9.3	2.7	9.4	-	-	2.1	9.4	8.1	-	2.1
JONKA	12.2	12.2	2.7	-	12.4	6.2	6.7	12.5	7.3	9.3	7.9	9.4	9.3	3.9	6.0
JUDDA	8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KACJA	-	-	-	-	4.7	-	-	-	1.3	-	3.0	10.1	9.7	5.0	7.6
	-	-	2.8	9.5	7.9	-	-	-	-	-	1.1	11.8	11.8	1.8	-
	-	-	-	0.4	3.9	-	-	-	-	-	4.1	11.5	5.4	-	-
	-	-	-	-	4.8	-	-	-	2.6	-	3.3	9.2	10.2	5.8	9.7
	-	-	-	-	5.4	-	-	-	3.2	-	5.6	9.1	7.4	6.8	9.6
KELGR	8.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KERST	-	7.8	7.3	-	3.5	6.9	7.4	-	-	-	1.0	8.6	7.1	6.9	6.3
KLAGR	-	-	-	-	-	-	-	-	-	-	-	9.1	5.0	-	-
KOSDE	2.6	5.2	-	-	4.2	-	-	-	-	-	10.5	5.1	-	2.5	8.6
LERAR	-	-	1.3	-	1.0	-	-	-	12.7	-	-	-	-	-	-
MACMA	12.8	11.5	11.8	11.9	3.3	9.7	8.5	6.3	-	-	-	-	-	-	-
	7.9	11.8	12.4	12.4	7.8	12.5	12.6	4.8	1.5	-	12.7	-	-	-	-
	9.3	12.6	12.9	12.9	8.6	13.1	13.0	10.8	-	-	13.4	-	-	-	-
MARGR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOLSI	-	-	-	5.8	7.7	9.0	2.2	7.4	-	-	4.1	8.6	2.0	-	-
	-	-	-	6.0	7.3	10.6	4.0	9.6	-	2.1	5.0	8.5	4.7	-	-
	11.8	4.9	11.5	12.5	12.5	12.6	12.7	10.4	-	5.7	10.8	12.9	10.7	1.4	-
	11.4	3.2	11.5	12.6	12.5	12.7	12.8	10.3	-	5.6	9.6	10.3	9.4	-	-
MORJO	12.2	11.8	2.0	2.0	12.5	5.5	7.7	12.6	9.2	12.1	7.6	-	9.7	4.6	10.1
OTTMI	-	-	8.4	8.5	4.4	4.5	-	-	5.4	1.6	5.4	1.7	6.2	8.3	8.3
PERZS	-	-	0.9	10.6	9.2	9.5	4.7	5.5	-	-	3.6	7.4	11.3	6.3	11.7
ROTEC	-	-	9.3	11.4	12.8	11.8	11.2	5.8	-	4.5	9.8	9.1	9.0	1.2	-
SARAN	-	-	-	-	10.0	9.9	3.4	-	-	-	-	-	-	4.5	8.0
	-	-	-	-	8.4	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	10.3	5.9	-	-	-	-	-	-	1.8	2.2
SCALE	2.0	-	0.8	-	-	-	-	7.4	12.3	11.4	6.4	12.1	9.9	11.7	10.5
SCHHA	-	1.0	-	0.6	12.1	-	0.4	11.6	6.2	-	13.4	-	1.5	13.1	13.1
SLAST	-	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-
STOEN	10.9	2.8	-	-	-	-	-	7.3	12.8	10.7	5.6	12.6	12.9	12.7	12.7
	10.7	4.5	-	-	-	-	-	6.7	10.8	12.8	-	7.6	11.4	13.0	12.6
	7.8	2.7	-	-	-	-	-	6.1	9.9	9.2	5.0	9.4	10.5	9.9	11.9
STRJO	-	2.0	-	2.2	10.1	-	0.3	9.1	1.5	-	7.1	-	10.1	4.9	2.2
	8.0	2.2	1.8	2.2	3.0	-	-	6.2	3.7	-	12.5	5.8	12.7	8.6	2.4
	8.8	3.2	-	2.0	8.8	-	-	6.8	0.6	-	5.2	-	12.4	5.8	1.9
TEPIS	12.0	12.1	-	-	10.9	-	1.5	12.4	-	2.3	10.7	12.6	12.6	7.9	11.1
TRIMI	-	-	-	-	-	-	-	-	4.2	-	2.0	6.0	7.7	8.7	9.8
YRJIL	-	-	1.9	-	-	-	-	9.3	8.2	-	-	0.3	-	4.8	9.7
ZELZO	10.3	6.0	6.6	-	3.9	5.7	5.8	7.8	8.7	9.9	4.1	2.2	8.1	3.6	9.4
Sum	259.4	172.1	166.6	169.0	389.5	265.4	185.6	297.1	242.8	205.3	285.0	393.8	406.4	278.0	326.1

November	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
BASLU	4.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BERER	10.8	5.7	-	-	-	-	-	4.2	-	-	1.7	-	1.7	-	-
	7.8	5.0	-	-	-	-	-	2.4	-	-	0.3	-	1.7	-	-
	4.5	4.1	-	-	-	-	-	1.7	-	-	1.3	-	1.8	-	-
BREMA	11.7	-	12.2	-	6.8	6.5	5.7	-	-	-	-	12.1	9.2	-	-
	10.9	-	12.5	10.4	-	5.4	1.7	-	-	5.1	-	12.7	7.6	-	2.9
BRIBE	12.0	-	4.1	12.4	12.2	12.5	7.9	-	13.0	4.2	-	13.4	12.3	7.5	11.6
	6.3	-	1.0	7.9	13.4	13.3	6.4	-	13.4	4.3	4.1	12.1	9.1	5.5	11.1
CASFL	11.1	12.5	9.0	12.5	11.4	10.0	12.0	12.2	11.6	10.7	9.7	7.5	11.0	8.3	10.3
	12.4	8.9	9.8	10.2	10.7	8.7	9.6	10.4	8.3	11.3	8.7	11.7	10.6	8.0	9.8
CRIST	12.6	12.6	8.8	12.6	7.7	0.7	9.1	12.8	12.8	12.9	12.9	3.5	6.5	11.9	5.3
	12.6	12.6	7.4	11.7	5.5	-	12.8	12.8	12.8	12.9	12.9	0.2	7.1	8.8	0.4
	12.6	12.6	6.1	12.6	8.2	0.8	6.8	12.8	12.8	12.9	12.9	3.8	2.6	12.1	5.6
CSISZ	-	-	-	-	-	-	-	-	-	-	-	-	2.8	-	-
ELTMA	3.1	8.2	-	-	-	-	8.3	12.4	12.7	13.1	12.7	8.5	12.8	13.2	13.0
GONRU	-	11.5	-	-	11.5	6.8	3.0	10.7	-	12.3	12.2	7.0	5.9	-	3.6
	-	11.6	-	-	12.0	6.6	5.2	12.4	10.9	12.4	12.3	6.8	5.3	-	2.8
	6.0	12.3	0.2	-	12.4	6.7	8.3	12.4	12.4	12.4	12.6	12.6	12.6	4.8	10.0
GOVMI	-	-	-	-	-	-	-	-	-	-	5.4	6.2	11.3	-	-
HINWO	-	12.1	12.2	7.3	12.4	5.6	2.9	-	-	10.5	12.0	2.9	12.5	5.7	5.1
IGAAN	3.5	-	-	-	-	-	-	-	0.3	-	0.2	-	4.7	-	-
	10.7	10.7	-	-	-	-	5.7	10.8	-	-	-	-	0.7	11.0	-
	10.2	10.2	-	-	-	-	-	3.0	-	-	-	5.5	-	-	-
	-	-	3.0	-	-	-	-	-	-	-	6.8	1.5	9.8	-	1.3
JONKA	7.5	6.4	-	-	-	-	-	4.6	-	-	-	-	1.8	-	-
JUDDA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KACJA	2.4	-	-	-	-	-	-	-	-	-	-	11.6	13.1	13.0	10.5
	-	-	-	-	-	-	-	-	-	-	-	13.2	11.8	-	-
	-	-	-	-	-	-	-	-	-	-	-	13.2	8.4	-	-
	4.0	-	-	-	-	-	-	-	-	-	-	11.7	13.4	13.3	12.6
	2.0	-	-	-	-	-	-	-	-	-	-	11.8	12.8	13.4	12.0
KELGR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KERST	6.5	5.9	-	8.7	6.6	1.1	3.5	-	2.4	3.7	5.5	8.7	6.5	6.5	1.2
KLAGR	-	-	-	-	-	-	-	-	-	-	-	12.7	8.1	-	-
KOSDE	6.9	1.1	6.2	-	-	-	-	-	-	9.5	4.2	10.9	3.4	7.0	-
LERAR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MACMA	9.2	8.4	-	6.2	0.3	-	3.5	8.2	-	11.1	3.1	6.5	13.7	13.9	-
	9.7	8.6	-	5.8	-	-	3.3	9.5	-	-	3.7	5.9	13.7	13.7	-
	10.1	9.1	-	7.1	0.5	-	1.6	9.0	-	11.6	-	5.5	14.0	14.1	-
MARGR	-	-	-	9.1	9.3	5.0	1.6	-	2.1	-	-	8.2	8.9	9.3	-
MOLSI	-	9.3	11.0	-	7.0	12.5	2.7	-	-	-	10.8	4.8	6.5	6.5	-
	-	8.3	11.1	-	6.5	13.2	2.9	-	-	-	11.1	4.4	7.3	7.1	-
	7.9	-	-	-	11.3	6.1	5.0	-	13.4	7.4	-	11.8	13.7	10.5	12.4
	7.9	-	-	-	9.9	6.0	4.9	-	12.6	7.0	-	11.6	13.7	9.9	11.5
MORJO	10.4	-	-	-	-	-	-	-	-	-	4.0	-	5.4	-	-
OTTMI	8.3	-	-	-	-	-	-	-	-	-	-	-	-	4.7	4.5
PERZS	9.5	-	-	-	-	-	-	-	-	-	-	6.5	13.2	-	-
ROTEC	7.0	-	-	-	-	-	-	-	-	3.7	-	7.5	13.8	11.2	10.6
SARAN	-	6.5	2.4	7.5	12.0	8.2	10.4	12.5	12.2	12.1	12.4	12.5	-	1.9	11.7
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	5.1	-	7.9	-	8.5	10.5	12.5	12.1	12.1	12.3	12.5	-	1.3	7.4
SCALE	12.5	5.0	-	-	-	1.1	5.0	12.7	12.8	12.9	12.8	8.1	12.1	12.6	12.9
SCHHA	13.1	-	0.6	11.7	13.4	12.1	7.7	-	9.1	6.7	1.3	12.4	2.7	4.6	8.7
SLAST	-	-	-	-	-	-	-	-	-	-	-	6.6	5.3	-	-
STOEN	12.9	13.0	13.0	0.4	-	2.0	10.2	13.3	13.3	13.3	13.4	13.2	12.3	13.0	13.4
	12.8	12.9	13.0	-	-	3.0	12.3	13.3	13.3	13.2	13.3	13.3	12.9	13.3	13.3
	12.2	10.7	8.1	-	-	1.8	9.8	13.0	13.1	13.3	10.4	11.1	11.0	9.7	12.4
STRJO	8.4	-	-	7.1	6.3	11.7	9.4	-	8.2	3.9	-	7.0	8.2	5.2	4.5
	9.5	0.8	-	6.8	11.3	11.6	9.8	-	4.6	3.0	-	6.5	9.5	5.0	5.4
	9.5	1.1	-	6.3	11.8	11.8	9.4	-	10.5	4.3	-	12.2	10.7	5.8	6.8
TEPIS	-	-	-	-	-	-	-	-	-	-	-	-	11.4	-	-
TRIMI	6.1	10.2	5.1	-	-	2.4	-	-	0.8	7.3	1.0	7.9	4.7	10.1	7.4
YRJIL	2.2	-	-	8.3	11.9	-	-	-	9.5	3.7	7.4	-	2.0	-	-
ZELZO	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum	371.5	276.0	156.8	190.5	242.3	201.7	228.9	239.6	271.0	294.8	265.4	417.8	465.6	333.4	272.0

3. Results (Meteors)

November	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
BASLU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BERER	24	18	30	-	78	68	2	33	28	73	83	74	62	-	17
	13	4	18	-	38	30	-	13	10	30	38	49	35	-	13
	13	5	13	-	19	31	-	11	5	25	20	29	24	-	8
BREMA	2	2	-	-	15	-	-	-	-	-	21	34	-	-	-
	2	-	-	-	7	-	-	-	5	-	-	22	-	-	6
BRIBE	-	9	-	2	30	-	8	37	31	-	32	19	25	33	43
	-	11	-	1	40	-	40	38	42	-	39	-	44	40	61
CASFL	20	1	-	-	-	-	-	21	44	26	3	28	46	44	39
	21	-	-	-	-	-	-	19	42	32	-	49	60	45	-
CRIST	63	-	-	-	-	-	-	-	48	39	33	59	71	69	60
	43	-	-	-	-	4	-	-	55	46	30	32	59	56	49
	24	-	-	-	-	-	-	-	-	-	-	62	90	87	74
CSISZ	-	-	15	35	24	16	-	14	-	-	9	19	33	13	7
ELTMA	4	-	-	-	-	-	-	-	50	57	-	-	-	-	-
GONRU	-	-	-	-	67	69	7	-	-	2	-	-	-	-	-
	-	-	-	17	55	63	17	-	-	5	-	-	-	4	-
	-	-	10	21	39	48	12	-	1	-	1	-	3	-	1
GOVMI	-	-	49	55	23	12	2	-	-	-	4	34	25	37	27
HINWO	2	93	7	6	81	7	-	87	-	-	-	2	-	-	-
IGAAN	12	2	-	16	30	26	35	42	23	31	-	37	43	15	24
	41	32	23	6	32	39	15	41	25	10	30	39	25	14	33
	35	33	20	19	31	17	13	34	28	15	7	23	30	15	18
	-	28	-	12	79	35	14	69	-	-	7	77	40	-	2
JONKA	34	30	6	-	19	17	24	31	25	30	21	39	36	15	14
JUDDA	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KACJA	-	-	-	-	27	-	-	-	6	-	8	49	33	15	15
	-	-	2	31	21	-	-	-	-	-	4	25	38	3	-
	-	-	-	2	14	-	-	-	-	-	4	23	4	-	-
	-	-	-	-	38	-	-	-	3	-	7	61	71	15	51
	-	-	-	-	20	-	-	-	6	-	12	28	20	10	27
KELGR	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KERST	-	42	29	-	21	47	47	-	-	-	6	52	49	45	36
KLAGR	-	-	-	-	-	-	-	-	-	-	-	37	16	-	-
KOSDE	15	10	-	-	9	-	-	-	-	-	26	16	-	10	47
LERAR	-	-	4	-	4	-	-	-	10	-	-	-	-	-	-
MACMA	15	17	24	14	4	27	11	7	-	-	-	-	-	-	-
	7	26	35	27	18	24	22	8	7	-	28	-	-	-	-
	9	12	20	23	9	22	21	6	-	-	23	-	-	-	-
MARGR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOLSI	-	-	-	43	51	97	1	41	-	-	6	26	14	-	-
	-	-	-	12	15	44	2	24	-	16	6	46	2	-	-
	92	13	44	87	87	116	70	55	-	13	75	80	48	3	-
	23	3	19	30	29	43	23	8	-	4	30	27	19	-	-
MORJO	21	19	1	10	27	17	25	33	21	28	23	-	38	15	18
OTTMI	-	-	44	37	19	19	-	-	36	8	30	13	29	33	37
PERZS	-	-	7	109	80	60	29	36	-	-	24	73	86	54	71
ROTEC	-	-	21	23	30	39	21	7	-	9	33	19	20	2	-
SARAN	-	-	-	-	44	34	6	-	-	-	-	-	-	7	13
	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	19	11	-	-	-	-	-	-	11	18
SCALE	2	-	4	-	-	-	-	39	25	19	23	37	46	41	50
SCHHA	-	4	-	1	26	-	1	26	12	-	41	-	2	36	32
SLAST	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-
STOEN	51	12	-	-	-	-	-	59	68	56	27	74	81	80	94
	39	12	-	-	-	-	-	37	38	41	-	35	67	69	75
	67	16	-	-	-	-	-	88	90	88	47	84	122	122	129
STRJO	-	10	-	11	25	-	1	26	2	-	25	-	33	12	4
	28	6	8	10	8	-	-	21	13	-	40	14	50	25	5
	27	10	-	9	23	-	-	18	2	-	32	-	46	22	2
TEPIS	41	52	-	-	45	-	12	64	-	6	36	66	34	43	21
TRIMI	-	-	-	-	-	-	-	-	9	-	5	13	19	26	30
YRJIL	-	-	3	-	-	-	-	51	39	-	-	1	-	36	54
ZELZO	24	10	15	-	12	8	6	16	18	19	12	3	11	10	9
Sum	838	542	471	669	1447	1098	498	1160	867	728	1011	1634	1749	1232	1334

November	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
BASLU	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BERER	47	28	-	-	-	-	-	7	-	-	2	-	6	-	-
	21	15	-	-	-	-	-	6	-	-	1	-	4	-	-
	22	11	-	-	-	-	-	4	-	-	1	-	4	-	-
BREMA	33	-	33	-	9	17	14	-	-	-	-	32	23	-	-
	24	-	28	21	-	11	4	-	-	17	-	25	12	-	2
BRIBE	32	-	12	45	36	54	37	-	55	16	-	56	42	29	11
	10	-	8	23	55	56	41	-	66	16	15	54	22	21	22
CASFL	54	52	42	39	57	40	39	45	34	41	30	26	35	30	36
	66	68	60	54	53	49	38	48	46	43	29	53	53	38	45
CRIST	87	108	41	83	24	2	37	70	69	71	65	9	38	85	16
	65	76	22	44	16	-	32	43	42	56	36	1	21	44	3
	100	107	51	93	27	3	20	79	72	85	82	5	9	94	16
CSISZ	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-
ELTMA	32	27	-	-	-	-	24	60	71	68	58	39	57	69	50
GONRU	-	51	-	-	68	21	10	56	-	69	61	23	16	-	6
	-	49	-	-	66	19	17	53	43	57	60	11	9	-	2
	44	34	1	-	32	13	23	36	38	35	33	19	27	3	21
GOVMI	-	-	-	-	-	-	-	-	-	-	7	8	38	-	-
HINWO	-	107	136	79	104	59	8	-	-	97	69	9	99	25	38
IGAAN	30	-	-	-	-	-	-	-	3	-	1	-	19	-	-
	40	18	-	-	-	-	9	25	-	-	-	-	3	49	-
	32	33	-	-	-	-	-	1	-	-	-	9	-	-	-
	-	-	6	-	-	-	-	-	-	-	52	3	62	-	6
JONKA	33	18	-	-	-	-	-	11	-	-	-	-	3	-	-
JUDDA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KACJA	3	-	-	-	-	-	-	-	-	-	-	95	80	51	46
	-	-	-	-	-	-	-	-	-	-	-	44	33	-	-
	-	-	-	-	-	-	-	-	-	-	-	65	30	-	-
	5	-	-	-	-	-	-	-	-	-	-	130	131	90	56
	3	-	-	-	-	-	-	-	-	-	-	74	43	42	38
KELGR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KERST	36	36	-	61	48	5	12	-	10	15	24	47	34	35	7
KLAGR	-	-	-	-	-	-	-	-	-	-	-	89	38	-	-
KOSDE	13	12	7	-	-	-	-	-	-	46	12	43	5	46	-
LERAR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MACMA	23	9	-	13	1	-	6	7	-	8	2	15	26	34	-
	21	10	-	9	-	-	9	16	-	-	2	19	27	25	-
	17	5	-	8	1	-	1	9	-	8	-	9	24	23	-
MARGR	-	-	-	46	28	36	10	-	6	-	-	36	44	30	-
MOLSI	-	61	112	-	71	182	12	-	-	-	55	47	45	81	-
	-	15	32	-	16	50	7	-	-	-	18	7	19	22	-
	23	-	-	-	64	28	8	-	84	44	-	94	116	54	60
	14	-	-	-	22	9	5	-	20	11	-	46	34	24	25
MORJO	20	-	-	-	-	-	-	-	-	-	3	-	11	-	-
OTTMI	29	-	-	-	-	-	-	-	-	-	-	-	-	31	9
PERZS	37	-	-	-	-	-	-	-	-	-	-	73	110	-	-
ROTEC	8	-	-	-	-	-	-	-	-	6	-	21	46	32	30
SARAN	-	20	8	20	22	15	26	31	36	25	29	36	-	6	21
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	39	-	29	-	16	16	37	26	25	19	24	-	4	22
SCALE	51	7	-	-	-	3	10	46	47	50	39	23	34	32	40
SCHHA	38	-	2	35	39	35	8	-	34	12	2	26	4	16	4
SLAST	-	-	-	-	-	-	-	-	-	-	-	60	19	-	-
STOEN	113	86	95	1	-	5	84	97	120	97	82	85	106	91	86
	90	90	75	-	-	14	81	95	98	92	62	77	80	73	73
	138	130	120	-	-	12	95	147	127	99	90	83	92	95	104
STRJO	30	-	-	40	24	50	38	-	30	15	-	26	38	22	9
	32	3	-	38	38	49	31	-	17	15	-	22	48	15	15
	34	1	-	65	40	63	57	-	65	20	-	53	66	19	17
TEPIS	-	-	-	-	-	-	-	-	-	-	-	-	51	-	-
TRIMI	19	45	23	-	-	7	-	-	3	24	5	19	20	34	15
YRJIL	5	-	-	56	52	-	-	-	44	32	20	-	18	-	-
ZELZO	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum	1576	1384	914	902	1013	923	869	1029	1306	1315	1066	1870	2086	1514	951

The pleasant observing conditions continued in November at least at some observing sites. Even though the month, which is renowned for mediocre weather, could not quite cope with the preceeding ones, there were very good observing conditions in particular in Germany and Italy.

In fact, if not one or the other observer had to fight with fog in some night, the result would have even been better.
A third of those 64 active video systems obtained twenty and more observing nights. The effective observing time sums to over 8,000 hours in which almost 34,000 meteors were recorded. That is more than twice as much as last year.

New observers did not join our network in November, but Carlos Saraiva from Portugal took a third camera dubbed SOFIA into operation. It’s a Watec camera with a 12 mm f/0.8 Panasonic lens.

November marks the end of the Taurid activity period – a good point in time to review the activity profile of that shower in 2011. Figure 1 shows the flux density profile for the northern (upper left) and southern (upper right) Taurids between September 25 and November 25, based on 7,000 resp. 6,900 recorded shower meteors.
The southern branch shows from the begin of the activity interval until the Orionids a continuous growth in flux density from 0.3 to 0.9 meteoroids per 1,000 km^2 and hour. On October 25 the activity level breaks down suddenly, and then it remains at an almost constant level of 0.4 to 0.5. Also the long-term profile of 2009 shows such a breakdown after the maximum, but four days earlier at a solar longitude of 207°.
The northern branch shows an increase until the Orionids as well, but at a lower level from 0.4 to 0.6 meteoroids per 1,000 km^2 and hour. Again on October 25, a breakdown back to 0.4 can be seen, and not before November 3 the flux density is rising significantly again. It then remains at a level of 0.8 meteoroids per 1,000 km^2 and hour until November 14 and decreases towards the end of the activity interval. The long-term profile of 2009, however, showed a largely symmetric profile with maximum on November 14 (231° solar longitude).
To check whether external factors (involved cameras, moon, weather) have an impact on the result, the Sporadic profile of the same time interval is presented in the lower part of figure 1 for comparison. It shows a flat profile of roughly 15 meteoroids per 1,000 km^2 and hour, and some short-term fluctuations. There is indeed a small drop in flux density from 17 to 14 on October 26. The drop in Taurid activity cannot be fully explained this way, but at least it was magnified by external observing conditions that left the same trace in the sporadic profile. Striking is also the small dip between November 14 and 21, which can be found in all three profiles.

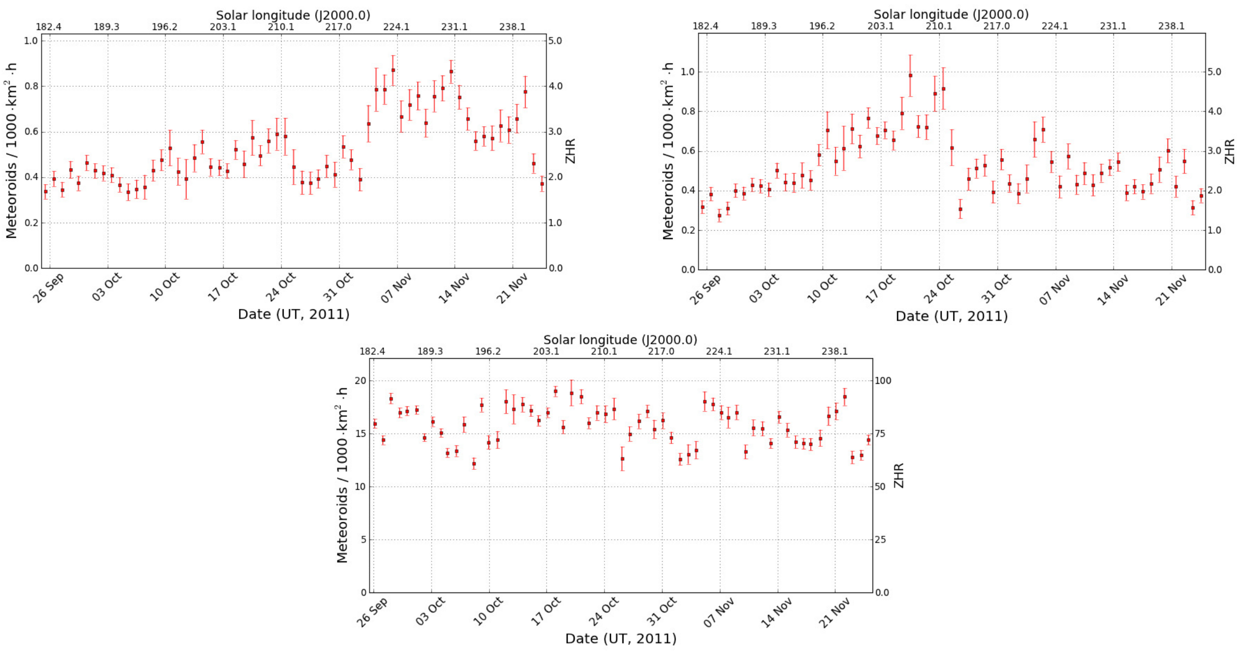

Figure 1: *Flux density profile of the northern and southern Taurids (upper left and right) from observations of the IMO Video Meteor Network. Mind the slightly different scale of the y-axis in the upper two graphs. For comparison, the flux density of sporadic meteors is given in the lower part.*

There were no predictions for unusual Leonid rates in 2011. The activity profile (figure 2) is based on 1,800 shower meteors and shows an increase of flux density up to 8 meteoroids per 1,000 km^2 and hour in the maximum night of November 18/19.

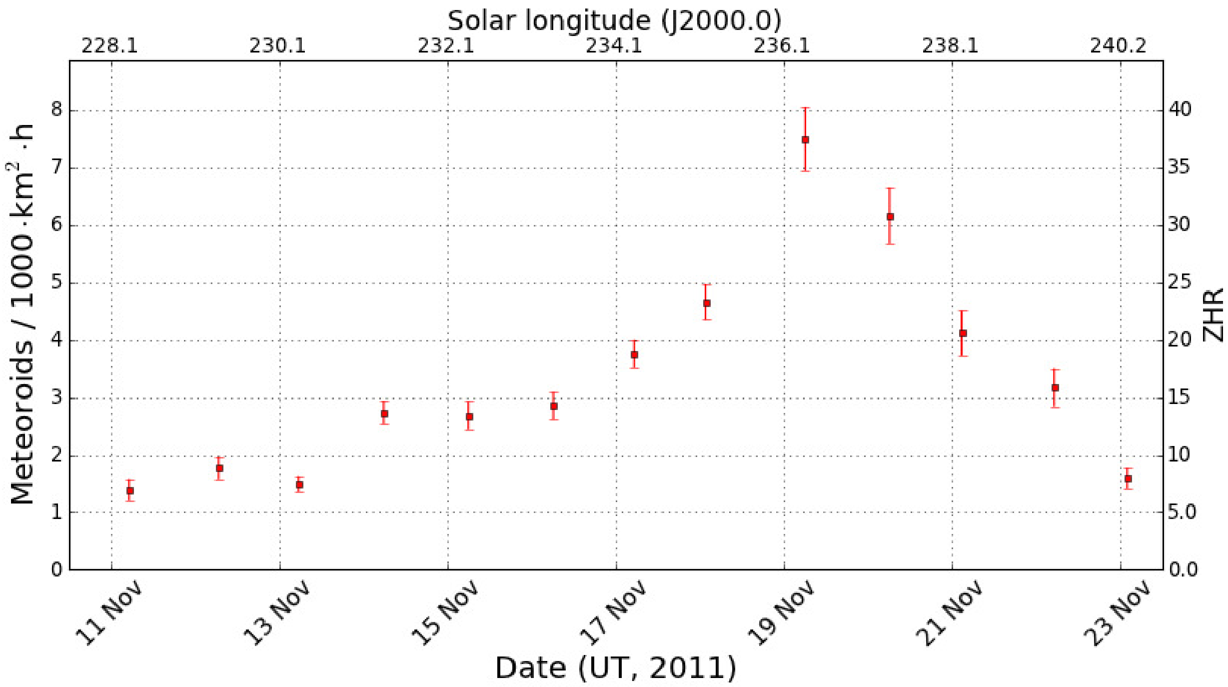

Figure 2: *Flux density profile of the 2011 Leonids.*

A few days later, the alpha-Monocerotids remained another time almost invisible. Only in the morning of November 22 they stood out from the sporadic background with a flux density of 1.0 meteoroids per 1,000 km^2 and hour (figure 3). Overall 340 meteors were assigned to that radiant in the given activity interval.

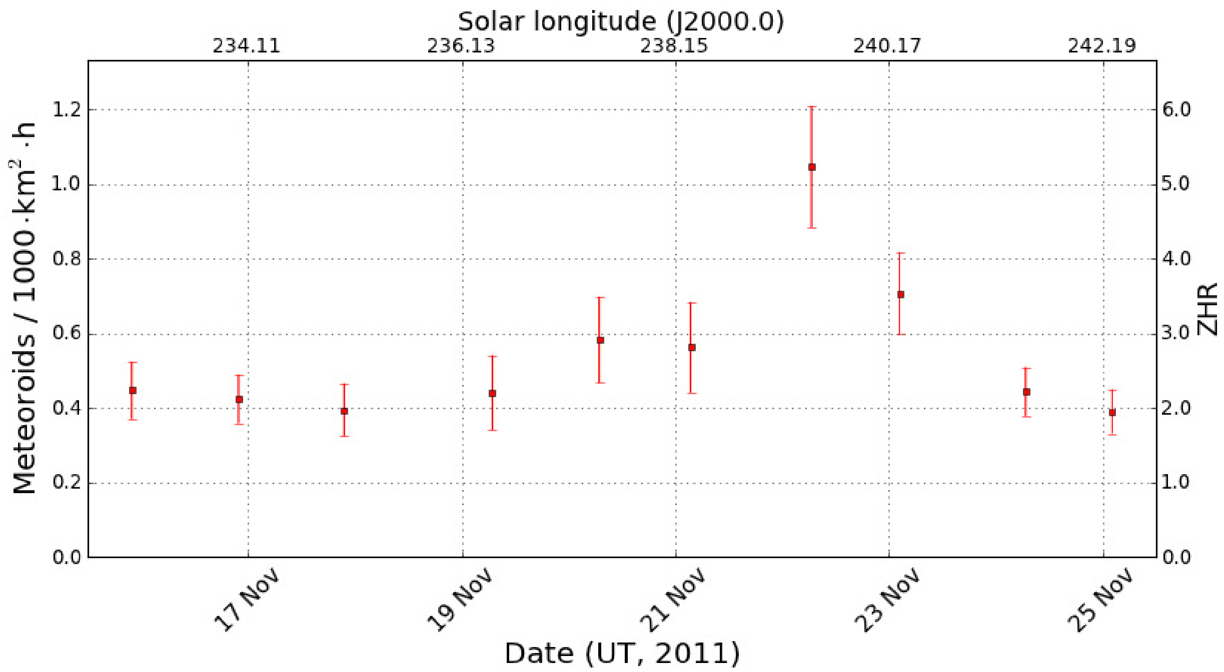

Figure 3: *Flux density profile of the alpha-Monocerotids in 2011.*

Finally we want to celebrate a particular highlight in the IMO camera network: Exactly 12 years and 8 months after the start of the camera network, we recorded our 1,000,000th meteor!

One million, that's a figure which can hardly be conceived. To illustrate that number: If a film was created from all those meteors without a break, it would run longer than three days. The meteors were recorded in 4,200 nights, i.a. we could observe in 90% of all nights since the start of the network in March 1999. The gaps were big in the beginning, but in the past four years we did not miss even a single night. The observing time over all cameras accumulates to more than 25 years till now. And let's not forget: It's a pure amateur astronomical project, based on the enthusiasm and thousands of spare time hours spent by dedicated amateurs to meteor observation without getting a single Euro of support. I think that's a merit we can be proud of.

But where are we heading? The detailled annual statistics for 2011 will be published next month. Already now it is clear, however, that not only the number of observers and video systems is further increasing, but that also the exponential growth in the number of observing hours and recorded meteor is continuing. Whereas it took us four years to collect the first 100,000 meteors, it was little more than two months for the last 100,000. That's a development which is exciting and scary at once. What do we have to prepare for? The quality control of the incoming observations has been shared among six persons in the past year, which have become a good team by now: Bernd Brinkmann and Sirko Molau from Germany, Stefano Crivello and Enrico Stomeo from Italy, and Erno Berko and Antal Igaz from Hungary. But in the mid term, even that team will not be able to cope with the further network growth alone. So do we need even more automation? Our experience is, that new observers typically master the software and processes after a month or two, so that their observations can be taken over easily into the video meteor database. On the other hand we see, that even experienced observers are doing mistakes from time to time. In addition, new functions like the flux density measurement introduced this year are a challenge for all observers. For this reason I believe that the manual quality check is still necessary for the time being.

And conceptually? The recording of a million meteors is not an end in itself - we want to gain scientific findings from these! In the past, the focus was on the recognition of meteor showers and their properties. The database has more than doubled since the last meteor shower analysis in 2009, and also the astrometric accuracy has improved. So a new edition of the analysis to even better determine the characteristics of major showers and to let minor showers stand out even stronger from the sporadic background, is almost mandatory. With the calculation of flux densities we opened a new window this year. The first results are promising, but we are still at the beginning. For sure the quality of the flux data will improve significantly in the future.

I would like to take the opportunity for an appeal to our professional astronomers: In the past few years, some researchers called for improvements in the meteor data quality. To answer specific scientific questions they calculated for example, how accurate a radiant position or meteoroid orbit would need to be know, and what accuracy with respect to position, velocity and timing of meteors is required therefor. But isn't it a good time to turn the tables? Why don't check our professional colleagues which further findings can be drawn from the available raw data or analysis results with the given quality? There are numerous examples in astronomy and astrophysics, where big discoveries were not obtained by a strict plan that someone looked specifically for a certain predicted effect, developed the corresponding instruments, did the measurements and finally proved the effect. No, maybe the more interesting findings were obtained by a clever combination of existing data or by looking at them for a different perspective.

For illustration, I want to give two examples in the end, where a professional could pick up and continue the threads prepared by amateurs.
On the one hand, we showed in 2009, that the velocity v_{inf} of certain meteor showers is systematically increasing or decreasing in their activity interval. From my knowledge, a conclusive explanation for this effect is still missing up to know.
On the other hand, we created activity profiles of hitherto unknown quality for a number of meteor showers in the same 2009 analysis. Each shower has a characteristic profile, which it

shows every year by and large. But what does it teach us about the parent body and the formation of the meteor shower? About 10 years ago, Rainer Arlt and colleagues did an interesting experiment trying to obtain a three-dimensional density profile of the Antihelion source in fall from Taurid video observations. Shouldn't we be able to deduce information about the formation and evolution of meteor showers from the observed activity profiles at times, where meteor ourburst can be predicted accurately to a few minutes? I don't think that the data set is still the bottleneck.