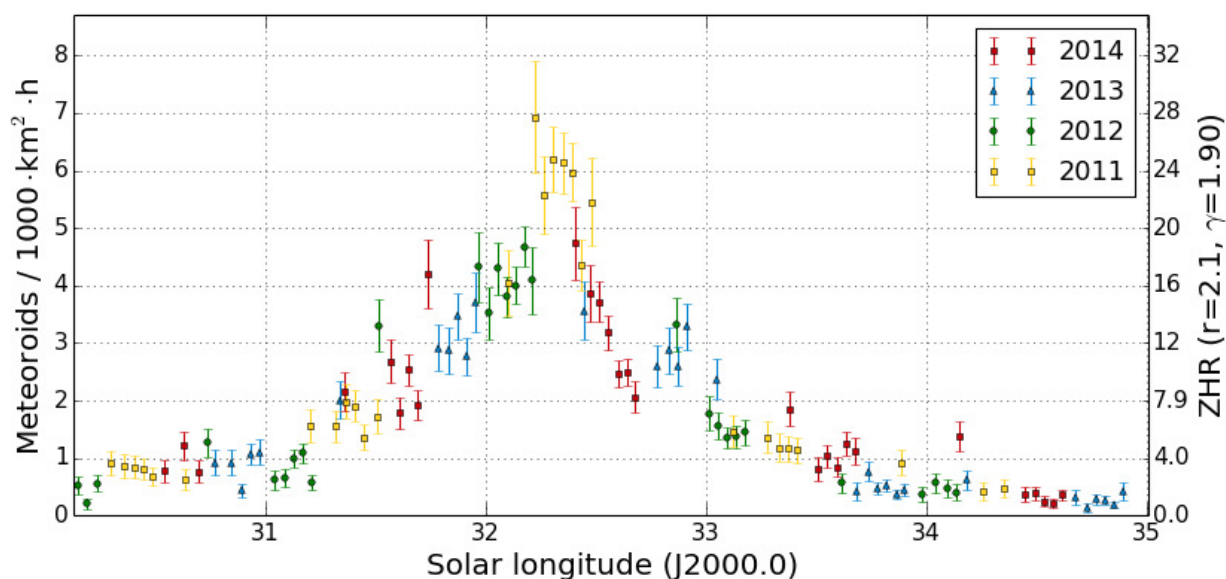


April 2014 could not quite tie up with the record results of the previous month. Still it provided us with the best outcome we ever had in this month. That is both thanks to the continuously high involvement in the IMO network – once more we counted 81 active video cameras – and also thanks to the good weather conditions. Exactly half of the camera systems managed to observe in twenty or more nights, which is a great percentage for this capricious spring month. In the end we accumulated over 7,700 hours of effective observing time, which is 10% more than in the preceding year, and over 16,000 meteors, which is an increase of almost 15%.

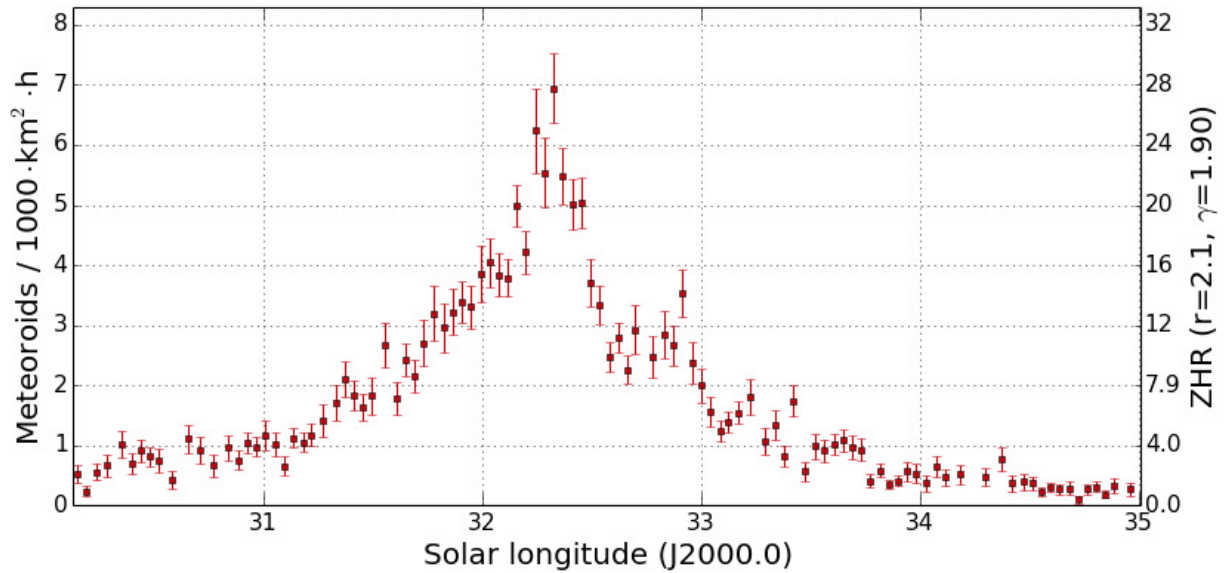
After a break of several months, Wolfgang Hinz resumed his activities. He now operates a Mintron camera with 6 mm f/0.75 Panasonic lens under the name HINWO1 at his Saxonian home town.

The Lyrids mark the end of a long period without ponderable meteor showers, and the Lyrids were the first shower for which we obtained flux densities three years ago. Even though the conditions were not perfect this year with the waning Moon illuminating morning skies, we now have data from four years and we can obtain a complete Lyrid activity profile. As can be seen in Figure 1, the 2014 data of the ascending branch fit well to the overall profile. In the descending branch, however, flux densities in 2014 are smaller than expected and lie a little below the imaginary connection line between 2011 and 2013 data.



**Figure 1:** Flux density profile of the Lyrids from the years 2011 till 2014, obtained from data of the IMO Video Meteor Network.

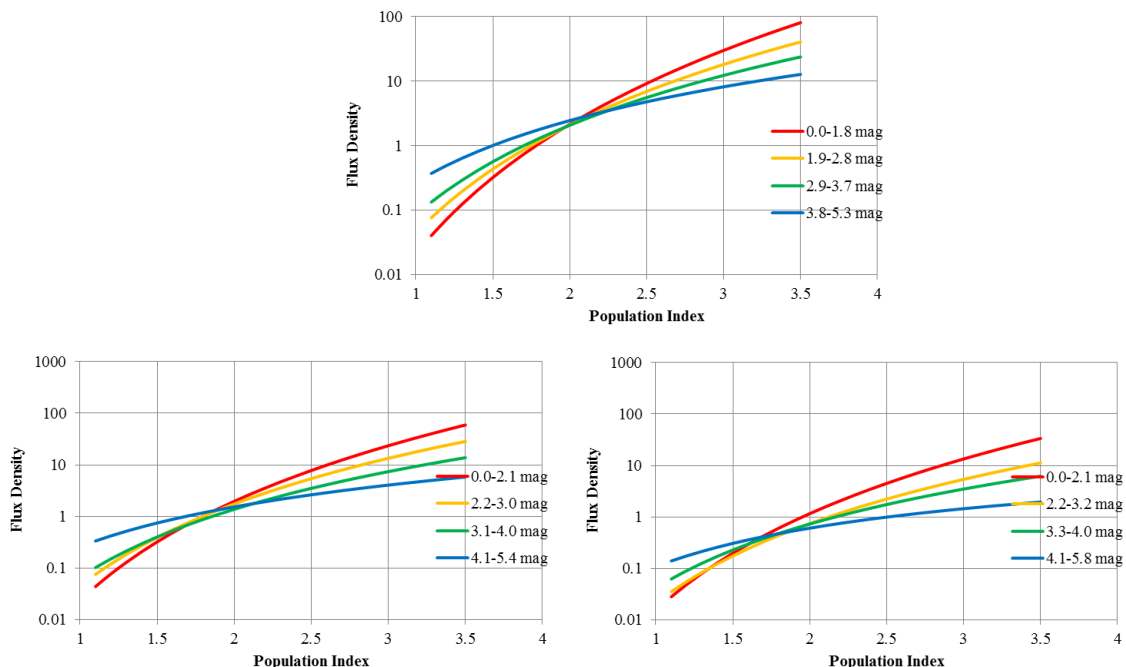
Figure 2 shows the same data set of roughly 4,700 meteors, but this time averaged over all four years. The ascending branch shows lower scatter, whereas there are larger deviations in descending branch as expected from the lower rates in 2014. Peak activity occurred at 32.3° solar longitude with a flux density of about 6 meteoroids per 1,000 km<sup>2</sup> and hour (at  $\gamma=1,9$ ).



**Figure 2:** Averaged flux density profile from the years 2011 till 2014.

The population index was determined for the peak night April 22/23, 2014 (729 Lyrids), as well as for the nights before and thereafter (359 resp. 187 Lyrids). Figure 3 shows clearly, that the  $r$ -value was higher at the time of maximum ( $r=2.1$ ) than before and thereafter ( $r=1.8$  resp.  $1.7$ ). That results surprises in the first moment, as many shower present an excess of bright meteors during the peak, i.e. the population index is decreasing. In our case, the data from all three nights are consistent, i.e. the intersection point of the individual graphs is well-defined.

A quick literature search taught us, that our finding matches to earlier investigations. Back in 2001, A. Dubietis and R. Arlt had analysed visual Lyrid observations from 1988 to 2000. They found that the  $r$ -value increased in many years at the time of maximum, i.e. that the fraction of faint meteors was getting bigger. Their average peak time was at solar longitude  $32.3^\circ$  as well.



**Figure 3:** Flux density of the Lyrids depending on the population index for different limiting magnitude classes. The intersection point of all curves yields the most probable  $r$ -value and flux density. Whereas the intersection point lies clearly right of the  $r=2.0$  line on April 22/23, 2014 (upper graph), it is located clearly left of that in the night before and thereafter (left and right graph).

# 1. Observers

Code	Name	Place	Camera	FOV [°]	St.LM [mag]	Eff.CA [km <sup>2</sup> ]	Nights	Time [h]	Meteors
ARLRA	Arlt	Ludwigsfelde/DE	LUDWIG2 (0.8/8)	1534	5.8	2467	21	103.8	289
BERER	Berkó	Ludanyhalaszi/HU	HULUD1 (0.8/3.8)	5542	4.8	3847	8	51.9	161
			HULUD3 (0.95/4)	4357	3.8	876	7	48.4	42
BOMMA	Bombardini	Faenza/IT	MARIO (1.2/4.0)	5794	3.3	739	14	67.2	167
BREMA	Breukers	Hengelo/NL	MBB3 (0.75/6)	2399	4.2	699	18	100.5	98
			MBB4 (0.8/8)	1470	5.1	1208	14	61.4	73
BRIBE	Klemt	Herne/DE	HERMINE (0.8/6)	2374	4.2	678	19	74.5	137
		Berg. Gladbach/DE	KLEMOI (0.8/6)	2286	4.6	1080	21	116.3	147
CASFL	Castellani	Monte Baldo/IT	BMH1 (0.8/6)	2350	5.0	1611	20	130.6	249
			BMH2 (1.5/4.5)*	4243	3.0	371	18	118.6	176
CRIST	Crivello	Valbrevenna/IT	BILBO (0.8/3.8)	5458	4.2	1772	23	114.1	284
			C3P8 (0.8/3.8)	5455	4.2	1586	21	111.1	200
			STG38 (0.8/3.8)	5614	4.4	2007	23	122.0	308
DONJE	Donati	Faenza/IT	JENNI (1.2/4)	5886	3.9	1222	23	148.5	351
ELTMA	Eltri	Venezia/IT	MET38 (0.8/3.8)	5631	4.3	2151	16	73.6	154
FORKE	Förster	Carlsfeld/DE	AKM3 (0.75/6)	2375	5.1	2154	18	92.3	184
GONRU	Goncalves	Tomar/PT	TEMPLAR1 (0.8/6)	2179	5.3	1842	19	138.3	307
			TEMPLAR2 (0.8/6)	2080	5.0	1508	23	160.8	281
			TEMPLAR3 (0.8/8)	1438	4.3	571	22	156.3	132
			TEMPLAR4 (0.8/3.8)	4475	3.0	442	23	151.6	261
			TEMPLAR5 (0.75/6)	2312	5.0	2259	23	150.2	257
GOVMI	Govedic	Sredisce ob Dr./SI	ORION2 (0.8/8)	1447	5.5	1841	19	86.7	111
			ORION3 (0.95/5)	2665	4.9	2069	14	53.4	56
			ORION4 (0.95/5)	2662	4.3	1043	17	55.9	80
HERCA	Hergenrother	Tucson/US	SALSA3 (1.2/4)*	2198	4.6	894	28	240.2	330
HINWO	Hinz	Schwarzenberg/DE	HINWO1 (0.75/6)	2291	5.1	1819	9	31.8	95
IGAAN	Igaz	Baja/HU	HUBAJ (0.8/3.8)	5552	2.8	403	18	96.7	101
		Debrecen/HU	HUDEB (0.8/3.8)	5522	3.2	620	23	108.7	130
		Hodmezovasar./HU	HUHOD (0.8/3.8)	5502	3.4	764	16	76.9	75
		Budapest/HU	HUPOL (1.2/4)	3790	3.3	475	16	90.8	46
JONKA	Jonas	Budapest/HU	HUSOR (0.95/4)	2286	3.9	445	23	117.1	111
KACJA	Kac	Kamnik/SI	CVETKA (0.8/3.8)	4914	4.3	1842	16	87.0	219
		Ljubljana/SI	ORION1 (0.8/8)	1402	3.8	331	10	32.1	20
		Kamnik/SI	REZIKA (0.8/6)	2270	4.4	840	16	88.4	317
			STEFKA (0.8/3.8)	5471	2.8	379	16	88.2	179
KISSZ	Kiss	Sulysap/HU	HUSUL (0.95/5)*	4295	3.0	355	17	74.3	47
KOSDE	Koschny	Izana Obs./ES	ICC7 (0.85/25)*	714	5.9	1464	11	58.1	449
		La Palma / ES	ICC9 (0.85/25)*	683	6.7	2951	22	167.9	1174
		Noordwijkerhout/NL	LIC4 (1.4/50)*	2027	6.0	4509	21	101.5	153
LOJTO	Łojek	Grabniak/PL	PAV57 (1.0/5)	1631	3.5	269	15	84.7	70
MACMA	Maciejewski	Chelm/PL	PAV35 (0.8/3.8)	5495	4.0	1584	21	120.5	275
			PAV36 (0.8/3.8)*	5668	4.0	1573	21	120.6	339
			PAV43 (0.75/4.5)*	3132	3.1	319	11	54.7	68
			PAV60 (0.75/4.5)	2250	3.1	281	8	48.5	79
MASMI	Maslov	Novosibirsk/RU	NOWATEC (0.8/3.8)	5574	3.6	773	22	100.7	215
MOLSI	Molau	Seysdorf/DE	AVIS2 (1.4/50)*	1230	6.9	6152	22	122.4	557
			MINCAM1 (0.8/8)	1477	4.9	1084	23	126.3	211
		Ketzür/DE	REMO1 (0.8/8)	1467	6.5	5491	22	92.6	409
			REMO2 (0.8/8)	1478	6.4	4778	22	109.2	325
			REMO3 (0.8/8)	1420	5.6	1967	12	48.5	47
			REMO4 (0.8/8)	1478	6.5	5358	24	110.5	409
MORJO	Morvai	Fülöpszallas/HU	HUFUL (1.4/5)	2522	3.5	532	20	118.1	92
MOSFA	Moschini	Rovereto/IT	ROVER (1.4/4.5)	3896	4.2	1292	21	72.8	176
OCHPA	Ochner	Albiano/IT	ALBIANO (1.2/4.5)	2944	3.5	358	14	105.6	156
OTMI	Otte	Pearl City/US	ORIE1 (1.4/5.7)	3837	3.8	460	19	67.9	232
PERZS	Perkó	Becsehely/HU	HUBEC (0.8/3.8)*	5498	2.9	460	19	100.2	206
PUCRC	Pucer	Nova vas nad Dra./SI	MOBCAM1 (0.75/6)	2398	5.3	2976	21	96.2	119
ROTEC	Rothenberg	Berlin/DE	ARMEFA (0.8/6)	2366	4.5	911	11	58.4	60
SARAN	Saraiva	Carnaxide/PT	RO1 (0.75/6)	2362	3.7	381	19	123.6	144
			RO2 (0.75/6)	2381	3.8	459	23	146.8	203
			RO3 (0.8/12)	710	5.2	619	23	154.2	315
			SOFIA (0.8/12)	738	5.3	907	20	129.9	106
SCALE	Scarpa	Alberoni/IT	LEO (1.2/4.5)*	4152	4.5	2052	16	67.9	122
SCHHA	Schremmer	Niederkrüchten/DE	DORAEMON (0.8/3.8)	4900	3.0	409	22	115.9	216
SLAST	Slavec	Ljubljana/SI	KAYAK1 (1.8/28)	563	6.2	1294	9	30.9	20
STOEN	Stomeo	Scorze/IT	MIN38 (0.8/3.8)	5566	4.8	3270	24	100.1	396
			NOA38 (0.8/3.8)	5609	4.2	1911	23	111.7	324
			SCO38 (0.8/3.8)	5598	4.8	3306	25	124.6	458
STORO	Štok	Kunzak/CZ	KUN1 (1.4/50)*	1913	5.4	2778	4	21.6	219
		Ondrejov/CZ	OND1 (1.4/50)*	2195	5.8	4595	4	22.0	254
STRJO	Strunk	Herford/DE	MINCAM2 (0.8/6)	2354	5.4	2751	22	107.5	185
			MINCAM3 (0.8/6)	2338	5.5	3590	22	106.0	202
			MINCAM4 (1.0/2.6)	9791	2.7	552	18	56.1	102
			MINCAM5 (0.8/6)	2349	5.0	1896	21	99.5	167
			MINCAM6 (0.8/6)	2395	5.1	2178	21	103.1	182
TEPIS	Tepliczky	Agostyan/HU	HUAGO (0.75/4.5)	2427	4.4	1036	20	122.2	135
		Budapest/HU	HUMOB (0.8/6)	2388	4.8	1607	24	113.2	193
TRIMI	Triglav	Velenje/SI	SRAKA (0.8/6)*	2222	4.0	546	17	45.3	98
YRJIL	Yrjölä	Kuusankoski/FI	FINEXCAM (0.8/6)	2337	5.5	3574	24	117.4	221
ZELZO	Zelko	Budapest/HU	HUVCSE03 (1.0/4.5)	2224	4.4	933	5	11.3	21
			HUVCSE04 (1.0/4.5)	1484	4.4	573	5	10.9	21
Sum							30	7747.8	16300

\* active field of view smaller than video frame

## 2. Observing Times (h)

April	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
ARLRA	1.9	8.8	2.6	-	-	3.1	5.5	1.3	-	2.6	-	-	-	3.4	6.9
BERER	-	6.1	-	-	-	-	9.0	-	2.2	-	-	6.5	-	6.4	-
-	-	5.0	-	-	-	-	9.1	-	-	-	-	6.5	-	6.2	-
BOMMA	-	-	-	-	-	-	-	-	-	-	-	-	6.9	7.0	0.4
BREMA	9.1	9.1	-	-	8.5	-	-	6.7	-	-	7.2	4.5	0.4	5.2	7.6
-	-	3.6	-	-	7.4	-	-	6.8	-	-	6.1	2.2	-	6.1	-
BRIBE	3.0	1.8	-	-	4.8	-	1.5	-	-	-	7.9	1.7	2.0	4.5	1.3
-	9.0	4.1	-	-	8.8	-	0.6	5.1	-	2.9	8.4	2.9	2.5	5.9	6.1
CASFL	9.7	7.5	6.2	-	1.4	8.6	7.9	8.1	-	9.0	-	0.3	6.4	9.0	8.9
-	9.3	6.5	5.0	-	-	6.2	7.2	8.3	-	9.0	-	-	7.9	8.7	8.7
CRIST	-	2.4	-	-	1.9	8.3	5.3	3.3	7.4	6.4	4.7	0.7	4.0	1.3	7.6
-	-	1.4	-	-	4.1	9.2	3.1	2.9	8.9	1.4	6.7	0.7	7.2	0.2	7.2
-	-	2.7	0.3	-	4.0	9.2	9.1	2.8	9.0	8.2	5.5	0.8	5.5	1.4	5.4
DINJE	9.8	6.4	-	-	-	9.3	9.4	-	8.7	8.9	5.6	3.3	9.0	8.1	1.3
ELTMA	9.7	6.7	-	-	-	5.9	6.9	-	0.3	4.0	0.3	-	4.5	1.1	2.2
FORKE	-	8.5	3.1	-	-	8.2	3.7	-	-	-	-	-	-	-	-
GONRU	-	7.6	7.6	-	-	9.6	4.7	5.3	6.8	8.5	1.1	-	8.7	-	9.0
-	-	7.7	7.1	-	-	9.7	5.0	9.2	6.0	9.5	1.2	3.3	8.9	-	7.9
-	-	4.5	5.7	-	-	9.5	4.7	8.9	7.0	8.7	-	-	8.7	0.5	9.0
-	-	6.7	6.0	-	0.3	9.7	4.9	8.4	5.6	9.4	1.3	3.3	8.3	-	9.2
-	-	4.8	6.2	-	-	9.7	4.7	8.6	6.4	9.1	-	2.4	6.2	1.7	5.3
GOVMI	8.0	8.4	-	-	-	2.3	9.1	-	2.5	4.1	6.9	8.7	7.7	0.5	4.0
-	2.1	5.4	-	-	-	-	5.5	-	-	-	6.2	7.0	6.8	-	2.5
-	0.5	8.5	-	-	-	0.3	7.8	-	3.4	3.4	6.1	7.1	1.2	-	-
HERCA	-	9.5	9.6	9.9	10.0	9.7	9.8	9.0	9.5	9.6	3.5	0.7	9.4	9.7	9.6
HINWO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IGAAN	-	7.3	-	-	-	-	8.8	-	8.9	4.7	6.4	7.4	5.0	-	8.5
-	-	8.3	3.3	7.7	-	-	9.0	4.0	5.7	6.2	1.7	7.3	0.7	0.8	3.6
-	7.4	7.3	-	1.4	-	-	7.2	2.8	7.1	-	-	-	2.9	-	3.2
-	-	4.9	-	6.8	-	-	9.1	-	7.4	-	6.0	7.7	7.1	2.9	-
JONKA	3.3	3.4	-	8.3	-	3.2	9.1	-	7.7	3.3	7.0	7.3	4.9	6.4	4.4
KACJA	8.6	9.2	-	-	-	5.1	9.0	-	2.1	-	3.8	2.9	7.2	-	7.5
-	4.5	5.3	-	-	-	-	-	-	4.6	-	-	-	-	-	1.3
-	8.8	9.4	-	-	-	5.8	9.2	-	2.2	-	3.8	3.0	7.3	-	7.2
-	9.0	9.6	-	-	-	5.4	9.2	-	1.8	-	2.9	1.6	7.1	-	7.6
KISSZ	6.4	-	-	3.1	-	-	8.8	-	1.4	2.2	4.1	3.0	3.7	-	-
KOSDE	0.9	-	8.6	7.6	6.6	6.0	3.3	5.5	-	1.0	0.9	-	8.9	-	-
-	-	9.7	9.7	9.7	9.7	9.7	9.7	8.7	-	2.6	-	-	5.5	4.5	1.7
-	8.5	8.0	-	-	3.8	5.5	-	8.1	-	4.2	7.7	2.3	0.9	3.4	5.1
LOJTO	8.8	-	3.7	0.9	7.5	3.6	-	-	-	-	-	-	-	-	-
MACMA	8.1	9.1	6.0	8.8	8.9	-	1.7	0.7	4.4	-	-	-	0.2	-	-
-	7.8	9.2	6.3	9.1	9.0	-	1.4	-	2.8	-	-	-	0.3	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	8.6	7.6	6.2	8.6	8.8	-	-	3.0	4.9	-	-	-	0.8	-	-
MASMI	8.4	8.3	2.5	-	8.1	5.6	-	-	7.0	-	6.2	7.4	7.1	1.7	3.5
MOLSI	8.8	8.7	-	7.4	2.9	6.6	6.8	0.6	-	-	7.6	-	4.7	1.9	3.1
-	9.3	9.3	-	-	-	5.4	6.4	0.7	-	0.5	8.1	-	5.9	2.1	3.5
-	1.7	7.2	-	-	1.0	-	3.1	-	2.4	-	-	-	0.2	3.7	6.1
-	3.1	9.0	-	-	1.5	-	6.3	1.7	2.5	-	-	0.4	-	5.0	7.6
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3
-	3.3	9.0	1.3	-	1.6	0.7	5.9	-	2.1	0.5	-	0.4	-	5.7	7.7
MORJO	7.8	9.4	-	5.8	-	2.5	9.0	-	9.0	-	4.4	6.9	5.9	-	8.0
MOSFA	6.9	1.1	3.9	-	0.2	6.8	2.2	5.0	4.8	3.3	-	-	1.0	1.3	7.8
OCHPA	5.5	-	-	-	3.9	9.1	4.8	-	9.3	9.1	-	-	8.3	9.0	7.4
OTTMI	-	-	-	5.3	7.7	3.9	5.6	5.4	5.7	2.7	1.0	0.2	-	3.0	6.7
PERZS	8.8	9.5	-	-	-	3.0	9.2	-	9.1	5.5	7.8	6.8	-	-	4.6
PUCRC	8.7	5.1	4.6	-	-	5.5	8.7	-	3.7	5.8	5.1	5.1	7.4	1.2	1.8
ROTEC	1.9	8.1	-	-	-	-	5.6	-	-	-	-	-	-	-	7.1
SARAN	-	4.1	5.4	-	-	9.5	9.4	-	8.7	2.8	4.8	-	3.0	4.9	-
-	-	3.0	5.2	-	-	9.5	9.5	2.6	8.4	4.1	8.1	6.6	5.5	8.1	-
-	-	5.4	5.4	-	-	8.4	8.8	3.4	8.1	3.9	8.0	7.1	6.2	8.0	-
-	-	3.8	5.3	-	-	9.5	9.5	2.9	8.6	3.9	7.9	2.8	4.3	6.9	-
SCALE	5.0	3.6	-	-	-	4.4	4.2	-	4.1	8.0	0.9	-	8.0	2.0	1.6
SCHHA	8.2	5.1	-	-	9.0	-	-	6.0	3.7	2.5	7.5	3.9	4.1	3.7	7.7
SLAST	-	1.7	-	-	-	-	-	-	1.9	-	6.2	-	-	-	-
STOEN	6.8	4.0	-	-	-	7.4	7.9	1.4	5.0	6.8	2.7	0.3	6.0	2.3	3.5
-	7.6	5.1	5.0	-	-	6.3	6.4	1.9	4.9	8.6	1.4	-	8.9	4.5	2.3
-	8.0	5.5	4.6	-	-	8.2	9.0	1.6	6.1	9.1	5.2	0.5	8.6	4.8	4.2
STORO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRJO	8.0	8.5	-	-	8.4	-	3.3	2.2	-	-	2.7	2.3	-	0.7	6.6
-	8.0	8.6	-	-	8.3	-	3.5	2.5	-	-	5.2	2.9	-	1.5	6.7
-	1.0	0.6	-	-	-	-	-	1.8	-	-	0.5	2.6	-	0.2	4.2
-	7.8	8.3	-	-	7.8	-	2.6	-	-	-	2.9	2.5	-	1.3	5.6
-	8.0	8.2	-	-	7.7	-	2.6	2.1	-	-	3.1	2.8	-	0.6	6.5
TEPIS	8.4	-	-	7.7	-	4.1	8.9	-	7.5	6.7	8.6	8.6	7.2	8.0	2.4
-	1.1	3.7	-	1.2	-	4.0	8.9	-	6.0	4.3	8.3	8.5	5.2	7.1	-
TRIMI	4.6	3.2	-	-	0.6	1.5	3.9	-	3.4	-	1.2	-	2.3	-	4.9
YRJIL	6.7	-	6.3	7.5	4.1	2.0	4.7	5.1	5.2	5.4	-	-	-	-	4.0
ZELZO	-	-	-	-	-	-	3.8	-	1.8	-	4.0	-	-	0.5	-
-	-	-	-	-	-	-	3.5	-	2.2	-	2.5	-	-	1.1	-
Sum	326.2	419.1	152.7	116.8	178.3	296.7	414.0	174.4	285.9	232.4	254.9	183.7	294.5	205.7	307.6

April	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
ARLRA	7.8	3.6	7.3	7.6	-	-	4.1	4.7	6.9	7.2	6.4	1.9	7.0	-	3.2
BERER	8.2	-	-	6.6	6.9	-	-	-	-	-	-	-	-	-	-
BOMMA	8.4	-	-	6.7	6.5	-	-	-	-	-	-	-	-	-	-
BREMA	2.9	8.6	-	2.6	3.5	3.6	5.9	-	8.3	1.3	6.9	-	-	7.6	1.7
BRIBE	-	3.3	1.6	5.7	7.6	2.7	5.2	7.1	3.3	5.7	-	-	-	-	-
CASFL	7.2	3.4	1.5	4.3	6.1	2.2	3.9	-	0.6	-	-	-	-	-	-
CRIST	8.1	2.2	2.9	7.9	7.8	6.1	-	6.3	3.1	0.2	-	-	-	1.4	-
DINJE	8.2	-	3.9	6.9	7.8	6.5	4.9	5.5	6.9	5.0	-	4.4	-	-	-
ELTMA	8.8	8.3	-	2.4	-	4.3	6.0	3.2	8.4	-	-	-	-	-	6.2
FORKE	6.3	7.7	-	2.3	-	3.9	5.6	2.4	8.2	-	-	-	-	-	5.4
GONRU	8.6	7.0	-	1.0	-	0.8	7.1	8.2	6.5	7.6	2.4	-	-	4.5	7.1
HERCA	8.6	8.6	-	4.1	-	-	8.3	8.2	-	6.7	0.9	-	-	4.8	7.9
HINWO	8.3	6.6	-	-	-	0.2	6.7	8.2	8.2	8.1	2.8	-	-	2.9	6.1
IGAAN	4.6	8.9	-	3.9	4.5	3.4	6.0	7.1	8.5	3.2	7.6	-	-	8.3	2.7
JONKA	5.4	6.7	-	2.3	-	-	7.9	1.4	8.3	-	-	-	-	-	-
KACJA	6.0	5.2	2.3	3.8	4.7	5.0	7.1	4.3	6.9	6.6	6.7	-	4.8	3.4	2.0
KISSZ	8.2	-	-	-	-	8.8	3.5	8.0	8.2	-	-	8.1	8.7	7.8	8.1
KOSDE	8.1	2.4	6.6	4.7	-	8.9	4.1	8.1	8.9	-	-	8.7	8.6	8.1	8.1
LOJTO	7.5	-	7.1	5.7	-	7.7	3.5	8.0	8.1	-	8.7	8.7	8.6	8.5	7.0
MACMA	8.2	-	7.1	3.7	-	9.0	2.9	7.2	8.5	-	-	8.7	8.6	7.7	6.9
MASMI	5.9	-	5.3	4.2	-	7.2	4.0	7.7	8.2	-	8.6	8.7	8.7	8.6	8.0
MOLSI	5.1	-	-	-	-	0.6	5.8	-	-	-	1.3	2.7	4.3	2.3	2.4
MORJO	4.5	0.8	-	-	-	-	4.9	-	-	-	1.0	3.0	2.1	1.6	-
MOSFA	4.6	0.9	0.2	-	-	0.2	3.8	-	-	-	-	3.9	1.7	-	2.3
OCHPA	9.8	8.4	-	6.3	7.9	9.2	9.1	7.7	8.3	9.1	8.1	9.0	9.2	9.4	9.2
OTPMI	-	-	-	-	-	-	2.1	4.4	6.9	0.1	6.7	0.3	2.3	7.1	1.9
PERZS	-	3.7	1.0	3.0	5.7	1.6	7.3	-	-	-	1.9	3.4	5.7	-	6.4
PUCRC	-	6.5	3.1	7.8	1.5	6.2	5.2	6.2	-	-	-	4.8	3.6	4.5	1.0
ROTEC	-	-	-	2.7	5.0	3.1	5.9	-	-	-	5.3	5.5	4.0	-	6.1
SARAN	3.6	2.2	-	3.0	3.7	-	6.5	-	-	-	-	7.8	-	6.5	5.6
SCALE	3.2	2.6	-	2.1	4.5	4.7	7.7	-	-	-	3.1	7.4	2.4	5.3	5.8
SCHHA	6.3	5.6	-	-	-	-	5.6	-	3.7	3.3	-	-	-	2.0	5.1
SLAST	7.1	2.2	-	-	-	-	0.5	-	2.1	-	-	-	-	2.0	2.5
STOEN	6.8	5.8	-	-	-	-	4.4	-	4.0	3.0	-	-	-	2.3	5.4
STORO	6.9	5.5	-	-	-	-	5.5	-	4.5	3.1	-	-	-	2.3	6.2
STRJO	-	4.8	2.7	5.0	5.9	2.3	4.6	-	-	-	-	5.7	-	3.5	7.1
TEPIS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.8
TRIMI	6.0	3.3	2.7	5.6	6.3	-	6.0	5.9	1.6	0.8	-	5.8	-	-	6.1
YRJIL	7.1	6.8	6.5	-	-	5.1	4.4	7.1	6.9	-	-	-	7.0	6.3	3.0
ZELZO	7.6	7.3	7.7	1.9	1.1	7.7	7.8	5.4	7.3	-	-	-	4.4	7.1	7.3
Sum	7.8	7.8	7.3	2.0	0.8	7.6	7.9	5.0	6.7	3.8	-	-	4.1	6.8	7.1
	-	4.3	6.9	1.7	-	6.5	7.9	5.5	6.3	0.8	-	-	2.5	5.1	7.2
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3.6	5.8	2.9	4.3	-	-	0.7	2.4	4.2	-	6.2	2.0	0.2	-	2.6
	7.1	7.6	-	2.8	7.5	-	-	7.3	7.2	7.0	3.6	-	2.4	6.9	3.9
	7.8	8.4	-	3.1	7.6	1.4	5.8	8.0	7.9	7.3	4.3	-	2.7	7.1	3.7
	6.1	0.5	5.4	5.8	-	4.9	3.7	3.1	7.1	7.2	6.7	4.6	7.0	2.7	2.4
	7.8	1.9	7.7	7.2	-	5.0	3.8	3.1	7.1	7.3	7.2	4.8	7.1	-	2.1
	2.9	0.1	0.8	2.2	-	4.8	3.9	-	7.3	7.3	5.4	4.4	7.1	-	-
	8.0	1.6	7.8	7.4	-	5.1	3.9	4.0	7.3	7.3	7.1	4.7	7.0	1.1	-
	1.6	2.2	-	3.8	-	2.5	7.8	-	-	-	5.6	7.1	7.8	4.9	6.1
	7.8	4.3	-	-	-	0.1	6.1	4.0	4.7	0.4	0.2	-	-	-	0.9
	6.1	8.7	-	-	-	-	8.4	7.6	8.4	-	-	-	-	-	-
	0.7	5.2	4.0	2.2	-	5.3	2.4	-	0.2	0.7	-	-	-	-	-
	1.2	1.2	-	-	1.1	-	7.6	-	-	1.7	5.5	7.0	5.6	2.3	2.7
	8.3	7.3	1.1	-	-	0.3	4.9	-	3.4	2.1	5.2	-	-	0.9	-
	7.9	3.3	-	-	-	-	-	3.5	6.5	-	5.7	-	6.9	1.9	-
	8.8	7.2	-	-	-	8.6	3.4	7.6	7.8	3.6	-	8.5	7.7	7.8	-
	9.0	5.0	2.3	-	-	8.7	3.7	7.2	7.6	3.1	-	8.4	7.9	7.7	5.6
	8.9	8.3	2.1	-	-	8.3	4.1	7.4	8.5	3.9	-	8.3	7.5	7.5	6.7
	-	6.4	-	-	-	8.9	3.6	7.6	8.2	-	-	8.5	7.1	7.8	6.4
	6.4	8.1	-	1.4	-	-	6.6	0.5	-	-	-	-	-	-	3.1
	5.5	2.0	6.0	7.8	7.7	0.9	5.5	6.3	3.2	4.4	-	5.2	-	-	-
	-	4.7	-	-	-	-	1.7	-	4.9	3.3	-	-	-	1.7	4.8
	6.3	7.6	-	2.8	0.5	3.9	7.8	1.8	8.5	0.7	1.0	0.5	-	-	4.6
	7.4	7.7	-	3.1	-	4.9	7.9	2.1	8.3	1.2	0.5	0.6	-	-	5.1
	7.4	8.3	-	2.4	0.6	4.7	8.0	1.8	8.5	1.2	0.8	0.6	-	-	4.9
	-	-	-	-	4.1	5.8	4.0	7.7	-	-	-	-	-	-	-
	-	-	-	-	4.1	2.7	7.8	7.4	-	-	-	-	-	-	-
	7.5	1.1	1.1	6.1	4.5	7.1	6.7	7.0	6.9	6.9	-	-	6.6	2.3	1.0
	7.5	1.2	1.5	5.3	3.1	7.0	7.1	6.5	7.0	6.8	-	-	1.8	3.3	0.7
	6.6	0.3	-	5.6	3.4	0.4	4.6	7.2	7.2	7.1	-	-	2.6	-	0.2
	6.6	0.9	1.2	5.3	3.0	7.1	6.8	6.5	7.0	6.8	-	-	6.6	2.2	0.7
	7.5	1.2	1.2	5.4	3.4	6.7	6.4	7.0	6.9	6.9	-	-	6.6	2.3	-
	7.4	1.5	-	-	-	3.0	7.8	-	-	-	2.8	7.6	1.1	5.5	7.4
	7.5	0.9	2.0	4.3	1.7	2.1	7.5	0.3	-	-	4.2	7.6	4.9	4.4	7.5
	2.6	4.4	-	-	-	1.3	4.6	-	-	0.5	-	-	1.0	1.2	4.1
	5.4	3.5	5.9	5.2	5.6	3.9	5.4	5.3	5.1	5.0	4.7	4.7	-	4.4	2.3
	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	-
Sum	426.9	299.4	136.7	221.0	160.5	267.5	400.0	301.5	370.2	194.5	164.3	212.7	232.3	241.0	276.4

### 3. Results (Meteors)

April	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
ARLRA	3	9	3	-	-	2	5	2	-	5	-	-	-	7	20
BERER	-	6	-	-	-	-	21	-	3	-	-	19	-	31	-
BOMMA	-	1	-	-	-	-	10	-	-	-	-	3	-	9	-
BREMA	5	3	-	-	6	-	-	8	-	-	7	1	1	5	9
BRIBE	6	7	-	-	8	-	6	-	-	-	12	7	1	5	6
CASFL	6	3	-	-	13	-	1	6	-	2	10	2	1	5	7
CRIST	20	4	8	-	1	19	17	17	-	22	-	1	6	13	9
DINJE	8	5	5	-	-	8	13	14	-	13	-	-	7	6	13
ELTMA	-	4	-	-	2	17	14	9	14	25	7	2	13	3	7
FORKE	-	4	-	-	1	17	2	7	10	2	8	1	7	1	8
GONRU	-	2	1	-	3	31	20	8	21	18	11	1	15	7	9
GOVMI	20	7	-	-	-	27	22	-	22	25	8	6	20	14	4
HERCA	11	6	-	-	-	13	12	-	1	14	1	-	3	4	10
HINWO	-	11	4	-	-	13	4	-	-	-	-	-	-	-	-
IGAAN	-	8	7	-	-	27	8	13	9	17	1	-	13	-	13
JONKA	-	12	3	-	-	19	10	17	15	14	1	1	9	-	9
KACJA	-	2	1	-	-	13	4	2	4	6	-	-	3	1	5
KISSZ	-	8	3	-	1	18	4	7	9	20	1	1	8	-	11
KOSDE	-	2	4	-	-	24	3	17	18	11	-	1	9	2	8
LOJTO	7	13	-	-	-	4	10	-	2	14	11	9	9	1	5
MACMA	1	11	-	-	-	-	6	-	-	-	3	4	4	-	5
MASMI	3	9	-	-	-	2	4	-	3	7	7	7	3	-	-
MOLSI	-	14	11	10	7	13	16	11	11	8	2	1	10	14	9
MORJO	-	4	-	-	-	-	8	-	7	2	6	11	6	-	14
MOSFA	-	7	5	4	-	-	8	2	8	6	2	9	1	3	4
OCHPA	3	5	-	1	-	-	7	1	9	-	-	-	3	-	7
OTTMI	-	2	-	1	-	-	3	-	3	-	2	2	3	3	-
PERZS	3	5	-	5	-	2	9	-	9	2	4	7	2	7	3
PUCRC	9	25	-	-	-	14	22	-	3	-	11	7	5	-	27
ROTEC	1	1	-	-	-	-	-	-	1	-	-	-	-	-	1
SARAN	21	28	-	-	-	22	27	-	9	-	19	5	25	-	31
SCHHA	7	17	-	-	-	6	16	-	1	-	7	1	10	-	23
SLAST	2	-	-	1	-	-	3	-	2	4	1	3	1	-	-
STOEN	2	-	64	70	48	62	17	37	-	2	6	-	71	-	-
STRJO	-	89	62	74	70	96	75	87	-	14	-	-	54	51	4
TEPIS	12	9	-	-	2	4	-	11	-	6	12	3	2	6	7
TRIMI	9	-	5	1	4	2	-	-	-	-	-	-	-	-	-
YRJIL	20	9	4	6	18	-	2	1	6	-	-	-	1	-	-
ZELZO	25	13	4	16	14	-	1	-	7	-	-	-	2	-	-
Sum	471	652	260	244	303	686	743	392	462	485	384	226	494	418	612

April	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
ARLRA	18	2	22	13	-	-	15	10	37	33	25	2	53	-	3
BERER	36	-	-	29	16	-	-	-	-	-	-	-	-	-	-
	5	-	-	5	9	-	-	-	-	-	-	-	-	-	-
BOMMA	11	22	-	7	6	13	7	-	34	4	11	-	-	17	1
BREMA	-	6	1	5	15	10	6	6	2	2	-	-	-	-	-
	6	8	1	3	10	7	10	-	1	-	-	-	-	-	-
BRIBE	12	5	4	8	18	22	-	3	5	1	-	-	-	1	-
	14	-	2	12	21	6	22	4	4	4	-	2	-	-	-
CASFL	24	8	-	2	-	12	30	10	13	-	-	-	-	-	13
	11	10	-	1	-	15	19	10	10	-	-	-	-	-	8
CRIST	10	12	-	6	-	6	43	32	18	12	1	-	-	11	16
	15	16	-	10	-	-	37	26	-	12	1	-	-	4	11
	18	16	-	-	-	1	46	38	17	14	6	-	-	4	1
DINJE	13	23	-	10	11	9	12	20	33	7	13	-	-	22	3
ELTMA	13	13	-	2	-	-	20	6	25	-	-	-	-	-	-
FORKE	11	9	4	4	17	20	32	5	17	22	5	-	4	1	1
GONRU	14	-	-	-	-	21	10	24	21	-	-	31	31	23	16
	8	1	2	2	-	38	7	26	19	-	-	21	18	13	16
	9	-	4	4	-	19	1	12	6	-	6	8	7	9	6
	8	-	4	6	-	34	12	26	10	-	-	26	14	25	5
	3	-	3	6	-	26	8	14	22	-	21	17	11	18	9
GOVMI	1	-	-	-	-	1	14	-	-	-	1	3	4	1	1
	3	1	-	-	-	-	11	-	-	-	1	3	2	1	-
	4	3	1	-	-	1	10	-	-	-	-	6	3	-	7
HERCA	17	11	-	5	15	14	30	15	11	12	6	16	12	13	16
HINWO	-	-	-	-	-	-	15	12	17	15	5	1	8	18	4
IGAAN	-	7	2	1	2	2	15	-	-	-	3	2	1	-	8
	-	4	1	12	4	15	18	3	-	-	-	7	2	3	2
	-	-	-	4	3	4	13	-	-	-	2	3	4	-	6
	2	1	-	4	2	-	13	-	-	-	-	3	-	1	1
JONKA	1	2	-	7	2	5	11	-	-	-	3	6	3	5	8
KACJA	28	20	-	-	-	-	21	-	2	6	-	-	-	8	11
	5	3	-	-	-	-	1	-	1	-	-	-	-	4	2
	19	31	-	-	-	-	25	-	12	8	-	-	-	18	17
	30	23	-	-	-	-	15	-	5	5	-	-	-	2	11
KISSZ	-	2	3	6	3	1	7	-	-	-	-	2	-	2	4
KOSDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70
	-	-	-	-	18	42	51	62	49	61	58	59	14	48	36
	10	3	4	8	12	-	29	4	2	1	-	6	-	-	-
LOJTO	7	4	3	-	-	4	14	3	3	-	-	-	2	6	3
MACMA	9	12	15	4	1	37	61	18	11	-	-	-	12	7	21
	16	8	17	1	2	46	58	26	16	5	-	-	14	16	32
	-	3	5	2	-	13	21	5	5	1	-	-	3	5	5
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MASMI	8	11	8	5	-	-	6	12	11	-	22	3	1	-	7
MOLSI	28	33	-	8	59	-	-	55	83	39	4	-	8	33	25
	28	13	-	4	15	2	10	19	22	9	1	-	2	12	2
	41	2	32	20	-	29	21	9	34	34	17	9	34	4	6
	32	1	38	18	-	28	17	4	16	29	15	5	38	-	4
	6	1	3	3	-	6	2	-	3	8	1	2	7	-	-
	29	1	45	31	-	33	24	17	32	30	21	11	26	1	-
MORJO	1	5	-	8	-	1	9	-	-	-	2	6	4	7	8
MOSFA	17	2	-	-	-	1	30	17	7	2	1	-	-	-	5
OCHPA	10	11	-	-	-	-	17	15	5	-	-	-	-	-	-
OTTMI	2	6	14	10	-	45	19	-	1	4	-	-	-	-	-
PERZS	1	1	-	-	1	-	37	-	-	1	20	15	7	8	3
PUCRC	10	12	2	-	-	1	12	-	7	6	4	-	-	4	-
ROTEC	12	3	-	-	-	-	-	4	7	-	2	-	10	2	-
SARAN	7	4	-	-	-	21	5	11	9	1	-	16	11	7	-
	4	2	2	-	-	21	5	13	5	6	-	16	15	21	5
	12	17	2	-	-	32	6	29	19	5	-	19	22	20	19
	-	1	-	-	-	13	3	8	11	-	-	8	4	6	3
SCALE	11	11	-	2	-	-	20	3	-	-	-	-	-	-	7
SCHHA	8	4	4	16	22	3	39	21	5	3	-	7	-	-	-
SLAST	-	2	-	-	-	-	1	-	2	1	-	-	-	2	3
STOEN	27	24	-	12	1	29	27	13	36	5	5	3	-	-	23
	28	25	-	14	-	27	19	9	31	6	3	2	-	-	17
	45	37	-	13	2	29	36	7	32	7	1	3	-	-	26
STORO	-	-	-	-	31	35	101	52	-	-	-	-	-	-	-
	-	-	-	-	48	44	82	80	-	-	-	-	-	-	-
STRJO	18	1	2	10	8	20	20	19	8	8	-	-	12	1	2
	20	2	4	11	4	23	19	16	20	14	-	-	7	4	1
	14	2	-	3	5	1	9	15	11	11	-	-	1	-	1
	11	6	3	11	2	16	18	18	8	10	-	-	15	2	2
	18	2	3	9	3	22	23	21	13	10	-	-	6	1	-
TEPIS	5	1	-	-	-	1	23	-	-	-	7	6	2	9	9
	14	2	4	9	1	5	33	1	-	-	10	8	3	4	13
TRIMI	4	12	-	-	-	3	14	-	-	3	-	-	2	1	3
YRJIL	8	4	12	12	21	6	26	16	10	6	6	11	-	6	1
ZELZO	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Sum	890	550	276	418	410	941	1527	924	876	483	310	374	459	461	569