

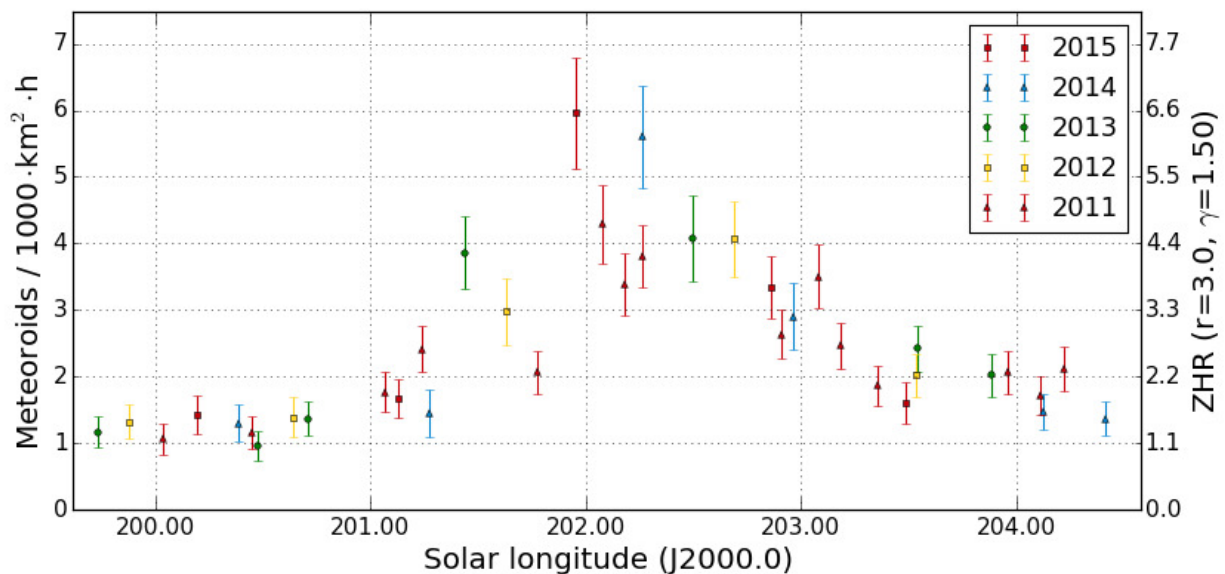
The unusually attractive observing conditions of the previous months finally terminated in October. Often the pleasant Indian summer days extend well into October, but this year the observing statistics has as many holes as Swiss cheese. Only 38 cameras, i.e. less than half of the 82 active cameras, managed to record meteors in twenty or more nights. Most cameras (67) were active in the night of October 30/31.

With respect to the number of observing hours, October 2015 falls 15% short of the outcome from the previous year. However, the average of 5.7 meteors per hour was well beyond the value of the previous three years (4.6 to 4.9) and comparable to the values of 2009 and 2011. Only October 2010, when the Orionids were particularly active, is out of reach with an average of 7.0 meteors per hour.

This year, the narrow peak of the October Camelopardalids at 192.6° solar longitude occurred in the daytime hours UT of October 6 and was not covered by European video cameras. Also our two American observers caught together just one shower member.

The Draconids two nights later did not emerge noticeably from the sporadic background either.

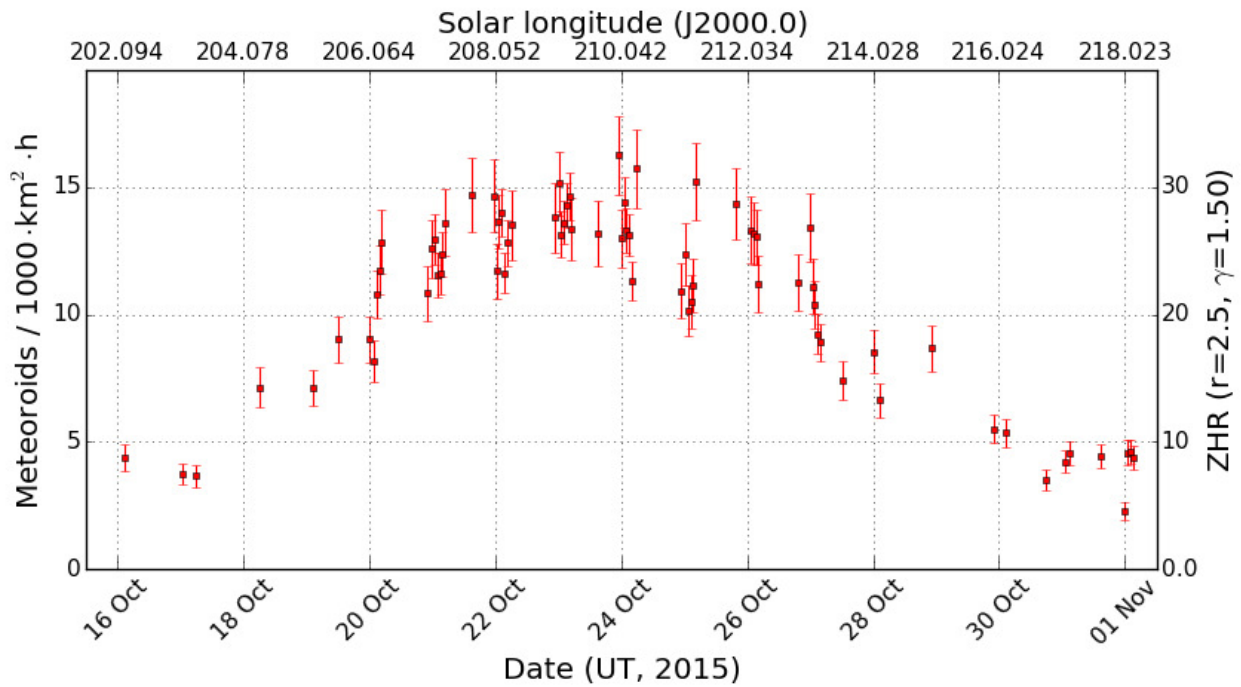
The October Ursae Majorids peaked in the night of October 15/16. Unfortunately the observing conditions were particularly poor in that night. Still the activity profile fits nicely to the values of the previous years with a maximum flux density of about 6 meteoroids per 1,000 km<sup>2</sup> and hour (Figure 1).



**Figure 1:** Flux density profile of the October Ursae Majorids 2015, derived from observations of the IMO video network.

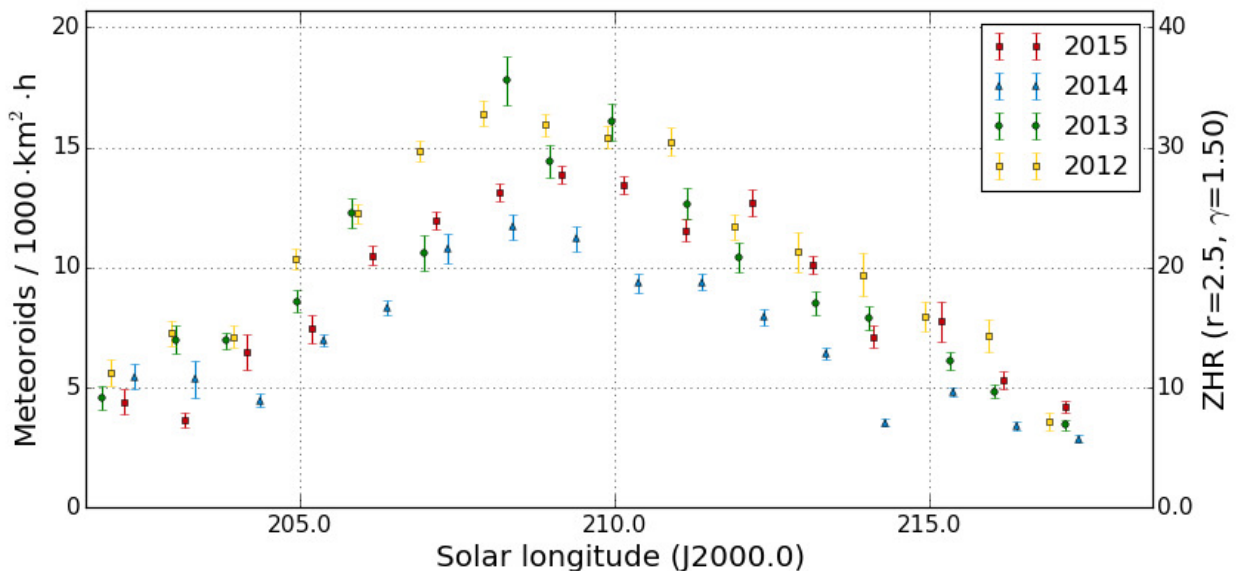
As in the years before, the epsilon Geminids showed an activity profile with a roughly constant flux density and no distinct peak.

The Orionids, on the contrary, have a well-defined activity profile. Contrary to other large showers, their peak is not spiky but rather curved (figure 2). The flux density between October 20 and 27 is beyond 10 meteoroids per 1,000 km<sup>2</sup> and hour.



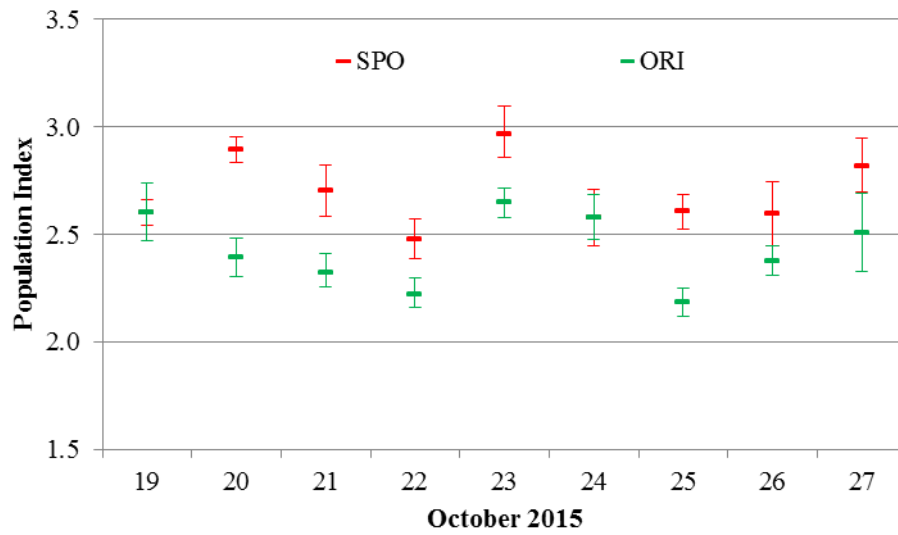
**Figure 2:** Flux density profile of the Orionids 2015, derived from observations of the IMO video network.

The flux density does not differ significantly between 2015 and the three preceding years, after Orionid activity had come back to the typical level in 2012 (figure 3). There is just a fixed offset between the individual curves. Lowest values were observed in 2014 and highest in 2012. The two years of 2013 and 2015 are somewhere in-between. After we learned in the July analysis that our current flux density measurements are systematically affected by the moon, these variations may solely result from different lunar phases.



**Figure 3:** Comparison of the flux density profiles of the Orionids 2012-2015.

The calculated population index is given in figure 4. Unfortunately it shows significant scatter even after the correction of the perception coefficient and long-term variations. So all we can say is that the  $r$ -value of the Orionids was about 0.3 smaller than the sporadic  $r$ -value. Only in the night of October 24/25, when also the rates showed a little dip, both population indices were identical.



**Figure 4:** Population index of the Orionids and sporadic meteors in October 2015.

Similar to the epsilon Geminids, also the Leonis Minorids show no distinct activity profile in the last decade of October. Their flux density varies between 6 and 7 meteoroids per 1,000 km<sup>2</sup> and hour.

# 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)	1475	6.2	3779	21	126.4	1082
BANPER	Bánfalvi	Zalaegerszeg/HU	HUVCSE01 (0.95/5)	2423	3.4	361	14	34.4	279
BERER	Berkó	Ludanyhalaszi/HU	HULUD1 (0.8/3.8)	5542	4.8	3847	11	86.1	597
BOMMA	Bombardini	Faenza/IT	MARIO (1.2/4.0)	5794	3.3	739	19	136.2	845
BREMA	Breukers	Hengelo/NL	MBB3 (0.75/6)	2399	4.2	699	20	142.9	432
BRIBE	Klemt	Herne/DE	HERMINE (0.8/6)	2374	4.2	678	18	147.9	656
		Berg. Gladbach/DE	KLEMO1 (0.8/6)	2286	4.6	1080	20	132.9	548
CASFL	Castellani	Monte Baldo/IT	BMH1 (0.8/6)	2350	5.0	1611	18	142.8	906
			BMH2 (1.5/4.5)*	4243	3.0	371	19	136.6	732
CRIST	Crivello	Valbrevenna/IT	BILBO (0.8/3.8)	5458	4.2	1772	22	166.0	1212
			C3P8 (0.8/3.8)	5455	4.2	1586	23	165.8	874
			STG38 (0.8/3.8)	5614	4.4	2007	23	151.2	898
CSISZ	Csizmadia	Baja/HU	HUVCSE02 (0.95/5)	1606	3.8	390	22	129.3	272
DONJE	Donati	Faenza/IT	JENNI (1.2/4)	5886	3.9	1222	20	143.7	941
ELTMA	Eltri	Venezia/IT	MET38 (0.8/3.8)	5631	4.3	2151	19	140.0	963
FORKE	Förster	Carlsfeld/DE	AKM3 (0.75/6)	2375	5.1	2154	16	119.6	768
GONRU	Goncalves	Tomar/PT	TEMPLAR1 (0.8/6)	2179	5.3	1842	20	137.3	913
			TEMPLAR2 (0.8/6)	2080	5.0	1508	18	139.2	682
			TEMPLAR3 (0.8/8)	1438	4.3	571	21	133.2	417
			TEMPLAR4 (0.8/3.8)	4475	3.0	442	19	128.8	683
			TEMPLAR5 (0.75/6)	2312	5.0	2259	22	129.9	882
GOVMI	Govedic	Sredisce ob Dr./SI	ORION2 (0.8/8)	1447	5.5	1841	15	99.4	593
			ORION3 (0.95/5)	2665	4.9	2069	16	83.9	243
			ORION4 (0.95/5)	2662	4.3	1043	1	8.4	22
HERCA	Hergenrother	Tucson/US	SALSA3 (0.8/3.8)	2336	4.1	544	28	224.6	812
HINWO	Hinz	Schwarzenberg/DE	HINWO1 (0.75/6)	2291	5.1	1819	15	120.3	726
IGAAN	Igaz	Debrecen/HU	HUDEB (0.8/3.8)	5522	3.2	620	15	119.5	371
		Hodmezovasar./HU	HUHOD (0.8/3.8)	5502	3.4	764	22	93.2	350
		Budapest/HU	HUPOL (1.2/4)	3790	3.3	475	9	53.8	56
JONKA	Jonas	Budapest/HU	HUSOR (0.95/4)	2286	3.9	445	19	168.6	473
			HUSOR2 (0.95/3.5)	2465	3.9	715	20	169.0	412
KACJA	Kac	Kamnik/SI	CVETKA (0.8/3.8)	4914	4.3	1842	16	87.8	694
		Kostanjevec/SI	METKA (0.8/12)*	715	6.4	640	2	18.1	73
		Ljubljana/SI	ORION1 (0.8/8)	1402	3.8	331	16	54.0	158
		Kamnik/SI	REZIKA (0.8/6)	2270	4.4	840	16	101.7	1252
			STEFKA (0.8/3.8)	5471	2.8	379	15	86.8	508
KOSDE	Koschny	Izana Obs./ES	ICC7 (0.85/25)*	714	5.9	1464	24	160.0	1723
			LIC1(2.8/50)*	2255	6.2	5670	20	131.3	1195
		La Palma / ES	ICC9 (0.85/25)*	683	6.7	2951	26	143.2	2213
		Noordwijkerhout/NL	LIC4 (1.4/50)*	2027	6.0	4509	19	130.7	235
LOJTO	Łojek	Grabniak/PL	PAV57 (1.0/5)	1631	3.5	269	2	19.7	57
LOPAL	Lopes	Lisboa/PT	NASO1 (0.75/6)	2377	3.8	506	7	24.0	132
MACMA	Maciejewski	Chelm/PL	PAV35 (0.8/3.8)	5495	4.0	1584	22	171.8	1276
			PAV36 (0.8/3.8)*	5668	4.0	1573	20	170.4	1041
			PAV43 (0.75/4.5)*	3132	3.1	319	21	166.4	701
			PAV60 (0.75/4.5)	2250	3.1	281	20	166.3	1119
MARGR	Maravelias	Lofoupoli/GR	LOOMECON (0.8/12)	738	6.3	2698	24	177.0	595
MARRU	Marques	Lisbon/PT	CAB1 (0.8/3.8)	5291	3.1	467	19	96.7	396
			RAN1 (1.4/4.5)	4405	4.0	1241	15	91.1	431
MASMI	Maslov	Novosibirsk/RU	NOWATEC (0.8/3.8)	5574	3.6	773	2	16.3	121
MOLSI	Molau	Seysdorf/DE	AVIS2 (1.4/50)*	1230	6.9	6152	19	129.3	1272
			ESCIMO2 (0.85/25)	155	8.1	3415	16	105.6	223
			MINCAM1 (0.8/8)	1477	4.9	1084	19	104.3	624
		Ketzür/DE	REMO1 (0.8/8)	1467	6.5	5491	21	150.7	1453
			REMO2 (0.8/8)	1478	6.4	4778	21	152.8	1271
			REMO3 (0.8/8)	1420	5.6	1967	15	80.0	473
			REMO4 (0.8/8)	1478	6.5	5358	21	161.0	1192
MORJO	Morvai	Fülöpszallas/HU	HUFUL (1.4/5)	2522	3.5	532	20	170.7	429
MOSFA	Moschini	Rovereto/IT	ROVER (1.4/4.5)	3896	4.2	1292	15	38.3	263
OTTMI	Otte	Pearl City/US	ORIE1 (1.4/5.7)	3837	3.8	460	23	132.1	349
PERZS	Perkó	Becsehely/HU	HUBEC (0.8/3.8)*	5498	2.9	460	20	109.1	677
ROTEC	Rothenberg	Berlin/DE	ARMEFA (0.8/6)	2366	4.5	911	19	135.5	369
SARAN	Saraiva	Carnaxide/PT	RO1 (0.75/6)	2362	3.7	381	19	99.8	307
			RO2 (0.75/6)	2381	3.8	459	18	90.2	344
			RO3 (0.8/12)	710	5.2	619	17	84.0	372
			SOFIA (0.8/12)	738	5.3	907	19	105.9	384
SCALE	Scarpa	Alberoni/IT	LEO (1.2/4.5)*	4152	4.5	2052	17	91.1	343
SCHHA	Schremmer	Niederkrüchten/DE	DORAEMON (0.8/3.8)	4900	3.0	409	21	125.6	628
SLAST	Slavec	Ljubljana/SI	KAYAK1 (1.8/28)	563	6.2	1294	17	66.3	257
			KAYAK2 (0.8/12)	741	5.5	920	13	66.6	120
STOEN	Stomeo	Scorze/IT	MIN38 (0.8/3.8)	5566	4.8	3270	22	150.3	1713
			NOA38 (0.8/3.8)	5609	4.2	1911	20	153.1	1492
			SCO38 (0.8/3.8)	5598	4.8	3306	21	160.0	1821
STRJO	Strunk	Herford/DE	MINCAM2 (0.8/6)	2354	5.4	2751	23	143.2	905
			MINCAM3 (0.8/6)	2338	5.5	3590	23	149.5	727
			MINCAM4 (1.0/2.6)	9791	2.7	552	15	13.4	83
			MINCAM5 (0.8/6)	2349	5.0	1896	19	102.2	530
			MINCAM6 (0.8/6)	2395	5.1	2178	22	144.0	503
TEPIS	Tepliczky	Agostyan/HU	HUAGO (0.75/4.5)	2427	4.4	1036	20	151.7	493
			HUMOB (0.8/6)	2388	4.8	1607	19	154.0	848
TRIMI	Triglav	Velenje/SI	SRAKA (0.8/6)*	2222	4.0	546	7	26.7	67
YRJIL	Yrjölä	Kuusankoski/FI	FINEXCAM (0.8/6)	2337	5.5	3574	22	169.6	756
Sum							31	9640.8	54848

\* 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
ARLRA	9.6	9.6	2.7	9.1	10.0	2.5	-	-	3.8	9.9	9.8	1.9	-	-	-
BANPE	1.3	2.8	1.9	-	0.2	-	-	-	-	-	-	-	-	-	-
BERER	9.7	10.0	8.8	-	-	-	-	-	-	-	-	-	-	-	-
BOMMA	-	-	4.9	3.9	-	-	4.0	11.1	-	-	11.3	-	-	-	5.4
BREMA	10.5	10.7	8.6	9.3	-	5.7	-	-	0.5	11.2	11.1	8.7	-	-	-
BRIBE	10.5	10.7	6.7	10.8	-	8.2	-	-	0.4	11.2	11.1	8.9	-	4.5	-
	3.6	9.2	6.6	10.7	-	4.7	-	-	3.5	11.2	11.2	10.1	-	0.2	-
CASFL	-	-	-	6.3	-	2.5	0.3	0.4	-	-	7.2	-	-	-	1.9
	-	-	0.3	5.9	-	2.1	-	0.2	-	-	4.9	-	-	-	2.1
CRIST	-	-	-	4.1	-	5.0	9.7	10.9	6.0	11.0	9.1	-	0.2	8.1	2.2
	-	-	-	2.1	-	5.5	5.1	10.5	5.0	10.2	3.0	-	0.3	0.7	3.7
	-	-	-	2.4	-	4.9	9.6	9.9	5.0	11.0	9.5	-	0.4	4.2	1.4
CSISZ	10.0	11.0	10.5	1.9	2.4	1.8	1.2	-	-	-	-	3.7	-	-	0.7
DONJE	-	-	5.0	4.2	-	-	6.1	11.2	-	-	11.2	-	-	-	6.9
ELTMA	-	-	3.5	4.4	-	-	4.2	-	4.8	-	2.4	-	-	-	4.5
FORKE	10.6	10.7	6.7	6.7	5.2	-	-	-	-	4.9	11.2	10.7	-	-	-
GONRU	10.6	3.1	-	-	1.0	9.5	10.9	10.8	3.7	-	0.5	-	11.2	11.2	6.3
	10.8	3.3	-	-	-	9.8	11.1	11.0	3.5	-	-	-	11.3	11.3	6.1
	10.8	3.3	-	-	4.8	9.0	10.9	10.7	2.0	-	-	2.5	10.9	10.9	3.4
	10.8	3.0	-	-	-	9.1	11.0	11.0	1.6	-	-	-	11.3	11.3	3.6
	10.2	-	-	-	4.9	9.3	10.7	10.6	2.6	-	-	3.2	10.9	10.9	4.6
GOVMI	-	-	9.4	6.4	8.3	-	-	-	1.7	-	2.6	-	-	-	-
	-	8.2	9.7	5.7	7.5	-	-	-	0.7	-	1.8	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HERCA	11.0	10.2	10.6	6.7	6.5	7.8	0.2	11.2	9.0	9.7	11.0	10.9	11.4	11.2	9.6
HINWO	10.6	-	-	7.3	5.8	-	-	-	-	3.2	11.2	11.2	-	-	-
IGAAN	10.4	10.6	10.6	4.7	4.0	-	2.8	-	-	-	-	-	-	-	-
	7.2	6.9	7.3	2.0	-	2.2	1.8	-	2.6	-	-	1.4	-	-	1.2
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JONKA	10.6	10.7	10.6	5.2	-	-	1.5	-	-	-	-	4.8	-	-	-
	10.7	10.8	10.1	3.7	10.9	-	2.0	-	-	-	-	5.5	-	-	-
KACJA	-	3.1	0.6	-	6.2	-	-	2.3	-	-	-	-	-	-	-
	-	-	9.6	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	3.1	2.2	4.5	-	-	2.8	-	-	-	-	-	-	-
	-	3.3	0.7	-	7.0	-	-	2.4	-	-	-	-	-	-	-
	-	3.5	0.7	-	6.5	-	-	-	-	-	-	-	-	-	-
KOSDE	7.9	-	-	4.3	10.3	10.4	10.4	8.9	-	6.4	10.3	9.2	8.0	10.5	-
	-	3.6	-	2.4	8.1	8.6	9.5	9.7	-	8.7	10.5	10.4	10.5	4.5	-
	6.0	-	-	3.8	7.8	7.7	7.7	7.0	0.8	4.9	7.7	-	6.3	7.9	-
	9.0	10.2	-	9.0	-	5.1	-	1.2	5.0	10.7	10.8	-	-	-	-
LOJTO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LOPAL	3.2	2.8	-	-	0.5	-	2.2	4.6	-	-	-	-	-	-	-
MACMA	10.6	10.7	10.3	10.8	10.4	1.5	11.0	11.1	11.1	11.2	-	-	-	10.8	-
	10.5	10.5	10.8	10.8	10.5	1.6	10.9	11.0	11.0	11.1	-	-	-	10.2	-
	10.7	10.7	10.9	11.0	10.9	1.8	11.1	11.2	11.2	11.2	-	-	-	-	-
	10.6	10.7	10.7	10.8	10.7	1.6	11.0	11.1	11.1	11.2	0.8	-	-	-	-
MARGR	-	3.4	6.4	7.2	10.6	10.6	10.5	10.5	10.7	10.1	2.3	10.4	9.6	10.0	6.6
MARRU	10.4	-	-	0.2	4.3	6.7	10.0	10.8	-	2.9	1.3	2.0	9.8	10.8	7.2
	9.9	-	-	-	3.9	-	6.8	10.5	0.7	-	-	-	7.8	9.9	3.5
MASMI	-	-	-	-	-	-	8.0	8.3	-	-	-	-	-	-	-
MOLSI	10.0	10.1	8.5	10.2	2.8	-	5.3	0.9	6.8	-	10.6	10.5	-	-	-
	9.9	9.9	9.5	9.7	-	-	7.2	1.8	6.9	-	-	-	-	-	-
	9.9	9.7	7.6	9.9	0.4	-	5.9	0.6	6.5	-	8.7	10.0	-	-	-
	10.1	10.2	3.4	10.1	10.6	0.5	-	-	1.5	11.0	11.0	3.2	-	-	-
	8.8	10.3	5.3	10.4	10.7	1.1	-	-	3.0	11.0	11.1	3.2	-	-	-
	0.4	8.6	-	-	-	-	-	-	-	11.2	11.2	3.3	-	-	-
	10.4	10.7	6.3	10.8	10.9	-	-	0.2	2.4	11.2	11.3	3.3	-	-	-
MORJO	10.7	10.8	10.7	2.7	6.7	-	3.4	-	-	-	-	6.0	-	-	-
MOSFA	-	-	0.2	0.5	-	-	-	-	-	-	1.0	-	-	-	0.2
OTTMI	9.4	-	-	-	1.5	2.1	8.2	2.4	-	8.3	7.5	1.2	8.2	7.9	8.9
PERZS	2.6	8.3	5.0	3.7	8.7	-	-	-	2.9	-	1.7	1.4	-	-	-
ROTEC	10.3	10.4	3.6	9.2	10.5	3.0	-	-	7.2	10.9	11.0	-	-	-	-
SARAN	8.0	2.4	-	-	-	1.8	7.5	9.2	0.9	-	-	1.6	7.5	9.8	2.4
	10.6	2.0	-	-	-	1.3	7.1	9.2	1.0	-	-	0.2	8.9	10.2	-
	10.5	2.0	-	-	-	1.1	7.3	8.9	0.9	-	-	0.3	8.8	10.2	-
	9.6	2.3	-	-	-	1.9	8.2	8.2	1.1	-	-	1.6	8.3	10.1	4.3
SCALE	-	-	0.8	3.2	-	1.2	1.1	-	-	-	2.1	-	-	-	1.6
SCHHA	9.5	10.4	5.2	8.6	-	7.7	-	0.2	0.3	7.8	10.4	8.0	-	1.9	-
SLAST	-	-	3.3	-	5.1	-	-	3.4	-	-	1.0	-	-	-	-
	-	1.7	4.7	-	-	-	-	2.3	-	-	-	-	-	-	-
STOEN	-	-	2.9	5.0	0.7	2.3	1.6	2.2	5.6	-	3.6	-	-	-	4.5
	-	-	3.2	4.8	1.0	2.9	-	1.9	6.1	-	3.3	-	-	-	5.2
	-	-	3.2	6.3	-	2.8	1.1	2.5	6.9	-	3.6	-	-	-	4.8
STRJO	10.4	10.5	8.2	10.7	1.5	4.3	2.1	-	-	11.1	11.2	10.3	-	-	-
	10.5	10.5	7.8	10.4	1.7	2.1	-	-	-	11.1	11.2	8.8	-	-	-
	1.3	1.3	1.2	0.5	0.3	0.3	0.2	-	-	2.0	2.2	1.5	-	-	-
	10.5	10.5	7.8	6.0	0.2	0.3	-	-	-	7.1	7.1	4.3	-	-	-
	-	10.6	7.9	10.4	1.0	3.4	-	-	-	11.1	11.2	11.0	-	-	-
TEPIS	10.5	10.5	10.6	0.5	8.9	0.7	2.1	-	-	-	-	7.9	-	-	-
	10.5	10.6	10.4	0.5	5.6	-	3.9	-	-	-	-	7.4	-	-	-
TRIMI	-	1.5	8.1	3.7	5.9	-	-	1.0	-	-	-	-	-	-	-
YRJIL	-	8.5	9.6	9.1	9.7	9.6	8.2	7.5	1.2	6.0	5.2	10.3	9.0	10.5	11.0
Sum	462.7	411.6	353.3	352.9	288.1	205.6	292.6	305.3	179.2	301.7	341.0	230.8	170.6	219.7	123.8

October	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ARLRA	-	0.4	1.6	-	-	3.3	3.9	8.8	0.1	7.2	10.3	2.9	8.3	-	-	10.7
BANPE	0.2	1.4	-	-	-	-	2.9	4.0	4.8	3.5	2.0	0.3	-	-	4.2	4.9
BERER	-	-	-	-	9.2	5.4	1.6	8.0	6.3	-	-	11.3	-	-	8.3	7.5
BOMMA	3.0	6.9	-	6.5	11.4	10.6	11.6	11.9	7.8	4.1	4.0	-	-	1.3	9.5	7.0
BREMA	-	2.8	-	3.5	1.1	-	4.0	-	-	3.1	7.6	9.3	0.3	11.2	11.2	12.5
BRIBE	-	-	-	-	-	-	-	0.8	0.3	2.7	11.8	12.2	-	12.3	12.4	12.4
	-	-	-	2.5	-	-	0.2	0.3	0.2	6.1	12.2	4.5	-	11.3	12.3	12.3
CASFL	11.6	-	0.5	11.8	11.9	11.9	11.8	12.0	11.4	4.9	11.9	-	-	-	12.3	12.2
	11.5	-	0.5	11.6	11.6	11.7	10.1	11.7	9.7	4.9	11.2	-	-	2.4	12.1	12.1
CRIST	8.3	-	0.5	10.6	11.4	11.5	9.3	11.5	3.7	3.0	6.3	-	-	-	11.7	11.9
	7.8	-	0.8	11.4	11.3	11.5	11.6	11.6	4.3	5.1	9.3	-	-	11.2	11.9	11.9
	7.6	-	0.8	10.2	8.4	7.3	8.1	7.0	4.8	5.2	7.1	-	-	2.5	11.9	12.0
CSISZ	-	0.7	-	-	4.2	5.3	2.9	2.8	4.8	10.0	12.4	7.5	0.3	12.4	10.2	12.6
DONJE	5.7	7.3	-	6.4	11.6	10.8	11.8	11.9	9.5	6.8	2.6	0.2	-	1.5	7.5	5.5
ELTMA	5.5	-	-	11.3	11.5	11.7	8.9	11.8	5.8	4.7	9.6	0.8	-	10.6	11.9	12.1
FORKE	-	-	-	5.8	-	-	-	11.7	3.8	-	6.9	1.0	4.2	-	7.1	12.4
GONRU	-	3.1	6.7	6.8	11.4	11.2	11.4	-	-	-	-	1.6	-	3.1	3.2	-
	-	2.6	7.6	7.0	11.5	11.3	11.5	-	-	-	-	2.4	-	3.6	3.5	-
	-	1.3	4.5	7.7	11.4	11.5	11.6	-	-	-	1.9	1.7	-	0.8	1.6	-
	0.2	1.2	6.1	6.0	11.4	11.3	11.5	-	-	-	-	2.5	-	3.8	2.1	-
	-	-	4.8	6.3	11.5	11.4	11.5	0.2	0.2	-	1.8	0.5	-	1.9	1.7	0.2
GOVMI	5.8	-	-	-	4.7	0.8	8.8	8.0	10.5	-	6.1	-	-	7.2	10.9	8.2
	5.0	-	-	-	1.0	1.0	4.8	7.8	5.9	-	3.4	-	-	5.1	8.8	7.5
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4
HERCA	9.5	-	3.6	3.8	-	4.1	9.9	10.5	11.6	11.7	5.0	9.9	4.0	0.9	-	3.1
HINWO	-	-	-	2.2	-	-	-	11.9	4.1	0.3	10.8	12.0	5.1	-	12.2	12.4
IGAAN	-	-	-	-	-	6.2	11.8	-	10.6	2.2	8.7	11.4	-	2.8	11.4	11.3
	-	1.0	-	-	7.3	6.1	4.4	3.6	6.7	2.3	5.9	6.4	0.8	3.3	6.5	6.3
	-	-	-	-	11.1	5.0	-	8.9	-	2.5	1.6	9.9	-	3.9	7.0	3.9
JONKA	-	3.2	-	-	11.7	10.9	11.4	11.8	11.9	6.5	7.6	11.6	2.4	11.7	12.2	12.3
	-	2.0	-	-	11.7	10.1	11.9	11.9	11.9	5.6	4.8	7.9	2.4	11.1	12.1	11.9
KACJA	-	6.5	-	1.5	8.4	7.2	10.8	4.6	6.6	6.6	2.0	1.8	-	-	8.5	11.1
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5	-
	3.4	0.9	0.3	-	3.2	2.4	11.0	0.5	3.6	1.3	-	0.7	-	-	9.9	4.2
	2.3	6.3	-	4.3	7.5	7.9	11.6	4.9	11.6	7.5	-	2.5	-	-	10.5	11.4
	-	5.6	-	1.8	5.9	7.3	11.0	4.5	5.5	7.3	2.4	3.5	-	-	10.0	11.3
KOSDE	5.6	4.7	6.2	3.1	8.9	3.4	6.5	1.3	0.6	-	4.2	-	5.6	8.3	5.0	-
	1.8	-	4.8	4.7	8.2	8.2	-	-	1.5	5.6	-	-	4.8	5.2	-	-
	4.4	4.1	5.2	1.8	7.4	2.5	5.0	2.9	3.5	8.0	7.0	4.1	7.1	7.8	4.8	-
	-	2.6	-	3.1	4.8	-	2.7	-	0.8	6.5	9.4	5.5	-	11.9	10.8	11.6
LOJTO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5	12.2
LOPAL	-	-	-	-	6.0	4.7	-	-	-	-	-	-	-	-	-	-
MACMA	7.0	0.4	5.5	-	-	-	0.8	-	6.4	2.1	12.0	4.9	-	4.5	6.3	12.4
	6.5	-	5.1	-	-	-	-	-	6.7	2.1	11.8	6.3	-	4.4	6.5	12.1
	6.6	0.4	5.0	-	-	-	1.0	-	6.9	2.8	12.1	7.2	-	5.2	6.1	12.4
	6.6	-	5.1	-	-	-	-	-	7.1	2.6	12.1	7.3	-	5.1	7.7	12.4
MARGR	-	10.2	10.0	6.3	10.6	4.1	-	7.1	-	-	2.6	1.5	0.5	-	5.2	-
MARRU	0.6	0.9	8.3	-	-	-	-	-	-	-	-	0.9	0.7	7.0	1.9	-
	0.3	-	2.6	1.9	10.8	10.6	10.9	-	-	-	-	-	-	1.0	-	-
MASMI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOLSI	-	-	-	5.4	4.1	2.2	-	8.0	7.5	5.4	7.0	-	2.3	-	-	11.7
	-	-	-	4.0	3.6	2.6	-	7.9	7.9	5.1	4.8	-	2.7	-	-	12.1
	-	-	-	3.9	3.2	2.3	-	4.0	3.9	3.5	1.5	-	1.5	-	-	11.3
	-	1.2	-	-	-	7.2	3.8	11.6	5.5	7.9	11.6	8.0	8.6	-	1.8	11.9
	-	0.8	-	-	-	7.5	4.6	11.7	5.5	7.5	11.2	6.5	8.7	-	1.9	12.0
	-	1.0	-	-	-	1.0	0.8	2.6	-	0.3	1.7	11.3	12.2	-	2.0	12.4
	-	1.2	-	-	-	6.7	4.1	12.0	5.2	8.6	11.8	8.5	11.3	-	1.7	12.4
MORJO	-	7.4	-	-	9.5	8.2	11.7	11.9	11.8	6.4	8.0	12.0	3.5	10.5	11.6	7.2
MOSFA	0.2	-	-	-	4.2	5.2	3.4	4.1	2.1	2.8	2.1	-	-	3.4	5.1	3.8
OTTMI	8.5	9.9	9.2	7.6	-	4.3	-	0.4	10.5	9.4	1.3	-	1.0	2.6	-	1.8
PERZS	6.1	8.0	0.2	-	5.9	2.3	9.2	-	11.1	4.0	5.0	-	-	3.2	8.5	11.3
ROTEC	-	-	-	-	1.5	2.4	9.3	4.0	5.8	10.7	6.2	8.2	-	0.2	11.1	-
SARAN	-	-	4.9	2.8	10.4	11.0	11.4	-	-	-	-	1.2	-	2.7	1.7	2.6
	-	-	4.1	1.6	9.8	-	11.5	-	-	-	-	3.0	0.3	2.9	3.9	2.6
	-	-	5.7	2.7	-	-	11.5	-	-	-	-	4.8	1.0	3.2	3.1	2.0
	-	-	5.3	2.3	10.7	10.3	11.3	-	-	-	-	2.6	1.3	3.8	2.7	-
SCALE	4.6	-	-	9.8	10.1	11.0	8.6	11.4	5.5	4.5	8.3	0.2	-	7.1	-	-
SCHHA	-	-	-	0.4	2.4	-	-	-	0.2	2.1	11.0	5.9	1.8	9.1	10.6	12.1
SLAST	4.3	4.2	0.4	-	5.1	4.4	10.5	2.5	6.5	2.7	0.2	2.6	-	-	3.3	6.8
	-	4.3	-	-	6.2	2.7	10.9	3.0	6.8	7.1	-	3.6	-	-	5.3	8.0
STOEN	8.1	0.2	-	11.8	11.7	11.9	10.0	12.0	5.3	4.8	12.0	-	-	9.4	12.3	12.4
	8.4	-	-	11.7	11.8	11.9	10.1	12.0	10.0	4.1	11.1	-	-	9.2	12.3	12.1
	9.7	0.4	-	11.8	11.9	11.9	10.1	12.0	10.2	4.7	12.2	-	-	9.4	12.3	12.2
STRJO	0.8	1.4	-	5.7	0.9	-	4.0	7.3	0.3	-	9.1	6.8	0.2	4.8	9.4	12.2
	-	1.7	-	0.2	0.7	0.7	2.8	8.1	0.5	8.5	11.9	9.4	2.0	5.8	10.9	12.2
	-	0.2	-	-	-	-	0.3	0.7	-	0.5	0.9	-	-	-	-	-
	-	-	-	2.8	0.8	0.7	3.3	-	-	-	4.9	8.0	1.4	5.9	8.7	11.9
	0.7	1.5	-	5.0	0.7	-	2.6	6.7	0.2	7.5	11.5	8.8	2.6	6.0	11.3	12.3
TEPIS	0.2	7.5	-	-	7.9	8.4	9.6	11.7	11.7	5.3	10.8	11.6	8.7	6.6	-	-
	-	7.1	-	-	-	3.2	8.6	11.7	11.7	4.7	8.0	11.5	8.2	6.3	12.0	12.1
TRIMI	5.4	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YRJIL	7.8	3.8	9.3	-	-	-	-	-	3.8	-	7.4	12.3	4.0	-	5.8	-
Sum	191.6	139.4	135.2	249.4	421.6	399.3	467.6	408.8	359.2	278.0	454.4	318.8	138.0	308.2	515.3	617.1

### 3. Results (Meteors)

October	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
ARLRA	70	114	1	84	58	3	-	-	4	116	132	4	-	-	-
BANPE	9	20	15	-	2	-	-	-	-	-	-	-	-	-	-
BERER	57	61	36	-	-	-	-	-	-	-	-	-	-	-	-
BOMMA	-	-	10	16	-	-	15	35	-	-	56	-	-	-	43
BREMA	34	30	13	22	-	23	-	-	1	32	62	19	-	-	-
BRIBE	42	48	10	38	-	26	-	-	2	54	64	48	-	18	-
	7	44	12	31	-	15	-	-	11	52	61	48	-	3	-
CASFL	-	-	-	14	-	11	2	1	-	-	15	-	-	-	2
	-	-	1	7	-	10	-	1	-	-	11	-	-	-	9
CRIST	-	-	-	12	-	20	70	50	19	61	33	-	1	37	12
	-	-	-	12	-	24	26	39	14	41	12	-	2	4	21
	-	-	-	28	-	16	15	26	23	97	53	-	3	14	6
CSISZ	20	18	20	1	5	1	1	-	-	-	-	9	-	-	2
DONJE	-	-	19	10	-	-	30	2	-	-	95	-	-	-	59
ELTMA	-	-	3	11	-	-	18	-	14	-	14	-	-	-	20
FORKE	61	52	34	39	8	-	-	-	-	29	79	45	-	-	-
GONRU	53	7	-	-	1	40	85	72	7	-	1	-	74	90	19
	37	6	-	-	-	40	38	34	3	-	-	-	62	56	12
	26	2	-	-	5	17	26	33	3	-	-	5	29	32	12
	56	5	-	-	-	29	41	32	3	-	-	-	42	62	11
	41	-	-	-	17	53	47	36	3	-	-	9	75	78	13
GOVMI	-	-	56	42	32	-	-	-	5	-	23	-	-	-	-
	-	16	23	22	9	-	-	-	4	-	14	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HERCA	35	35	34	16	13	13	1	29	20	20	33	32	29	37	37
HINWO	76	-	-	46	8	-	-	-	-	13	68	50	-	-	-
IGAAN	21	19	16	6	4	-	3	-	-	-	-	-	-	-	-
	18	22	14	4	-	2	3	-	4	-	-	1	-	-	4
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JONKA	21	29	21	10	-	-	4	-	-	-	-	24	-	-	-
	20	18	21	8	12	-	1	-	-	-	-	11	-	-	-
KACJA	-	9	2	-	18	-	-	4	-	-	-	-	-	-	-
	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	4	6	5	-	-	1	-	-	-	-	-	-	-
	-	6	4	-	40	-	-	7	-	-	-	-	-	-	-
	-	3	2	-	15	-	-	-	-	-	-	-	-	-	-
KOSDE	72	-	-	26	101	113	83	69	-	47	102	111	101	110	-
	-	16	-	2	54	77	81	77	-	86	89	101	117	18	-
	63	-	-	24	133	144	129	103	3	39	146	-	144	176	-
	13	18	-	13	-	11	-	4	5	25	26	-	-	-	-
LOJTO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LOPAL	14	1	-	-	2	-	12	16	-	-	-	-	-	-	-
MACMA	69	105	63	84	50	18	92	114	109	59	-	-	-	49	-
	55	95	66	72	48	12	72	72	78	36	-	-	-	46	-
	43	55	53	40	20	4	48	48	62	28	-	-	-	-	-
	61	75	88	58	55	16	63	86	83	40	2	-	-	-	-
MARGR	-	7	14	41	49	40	37	40	24	25	2	42	35	43	26
MARRU	20	-	-	1	14	14	31	51	-	14	6	14	50	47	31
	15	-	-	-	16	-	19	28	1	-	-	-	22	28	19
MASMI	-	-	-	-	-	-	47	74	-	-	-	-	-	-	-
MOLSI	124	117	113	93	6	-	121	3	72	-	168	54	-	-	-
	30	22	25	15	-	-	17	1	20	-	-	-	-	-	-
	70	45	39	43	2	-	46	3	41	-	96	13	-	-	-
	71	131	10	66	71	1	-	-	8	133	171	8	-	-	-
	44	103	6	67	60	1	-	-	8	132	139	6	-	-	-
	1	51	-	-	-	-	-	-	-	96	97	5	-	-	-
	78	116	20	81	78	-	-	1	4	134	129	6	-	-	-
MORJO	17	18	16	2	4	-	5	-	-	-	-	19	-	-	-
MOSFA	-	-	1	3	-	-	-	-	-	-	6	-	-	-	1
OTTMI	19	-	-	-	3	7	10	1	-	18	12	5	14	14	21
PERZS	5	45	9	28	30	-	-	-	7	-	30	3	-	-	-
ROTEC	17	46	5	12	19	5	-	-	30	42	45	-	-	-	-
SARAN	9	4	-	-	-	5	17	27	1	-	-	4	28	27	4
	26	2	-	-	-	6	24	38	2	-	-	1	40	32	-
	36	2	-	-	-	9	29	40	3	-	-	1	58	44	-
	11	4	-	-	-	5	19	19	3	-	-	2	32	26	10
SCALE	-	-	1	2	-	3	2	-	-	-	4	-	-	-	1
SCHHA	53	43	18	45	-	33	-	1	2	25	37	27	-	5	-
SLAST	-	-	9	-	9	-	-	15	-	-	1	-	-	-	-
	-	1	4	-	-	-	-	3	-	-	-	-	-	-	-
STOEN	-	-	10	20	3	17	13	13	25	-	40	-	-	-	36
	-	-	6	6	3	14	-	10	30	-	29	-	-	-	36
	-	-	10	31	-	22	6	11	27	-	34	-	-	-	37
STRJO	62	73	34	86	1	10	6	-	-	87	111	57	-	-	-
	73	51	33	61	2	7	-	-	-	74	72	31	-	-	-
	8	8	8	3	2	2	1	-	-	12	14	9	-	-	-
	50	41	24	50	1	2	-	-	-	66	73	39	-	-	-
	-	42	16	52	3	7	-	-	-	48	49	32	-	-	-
TEPIS	29	37	26	2	9	1	4	-	-	-	-	20	-	-	-
	46	55	47	1	8	-	10	-	-	-	-	36	-	-	-
TRIMI	-	3	19	12	13	-	-	3	-	-	-	-	-	-	-
YRJIL	-	35	31	37	53	44	38	30	2	44	28	39	51	38	69
Sum	2008	2031	1218	1664	1174	993	1508	1403	790	1825	2584	990	1009	1134	573

October	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ARLRA	-	2	4	-	-	17	65	170	1	23	78	5	31	-	-	100
BANPE	1	13	-	-	-	-	21	37	50	30	14	2	-	-	28	37
BERER	-	-	-	-	149	19	1	39	20	-	-	154	-	-	27	34
BOMMA	8	27	-	31	83	102	124	119	48	26	29	-	-	7	40	26
BREMA	-	10	-	6	11	-	14	-	-	1	35	23	1	37	32	26
BRIBE	-	-	-	-	-	-	-	5	2	12	64	58	-	47	68	50
	-	-	-	1	-	-	1	1	34	63	6	-	46	58	53	
CASFL	71	-	3	79	95	102	76	123	43	66	70	-	-	-	71	62
	61	-	2	70	55	93	56	81	37	42	57	-	-	15	61	63
CRIST	77	-	4	107	96	121	113	126	26	17	64	-	-	-	74	72
	39	-	12	78	77	72	92	71	14	22	57	-	-	46	36	63
	17	-	2	28	26	21	54	28	47	72	111	-	-	2	102	107
CSISZ	-	1	-	-	10	11	9	8	15	23	22	6	1	43	14	32
DONJE	20	41	-	23	116	113	141	117	50	25	22	1	-	12	23	22
ELTMA	34	-	-	109	94	127	97	100	33	43	50	6	-	71	53	66
FORKE	-	-	-	50	-	-	-	118	4	-	52	5	28	-	68	96
GONRU	-	3	56	58	113	108	105	-	-	-	-	8	-	8	5	-
	-	1	54	49	105	92	71	-	-	-	-	11	-	7	4	-
	-	1	22	28	54	58	49	-	-	-	8	4	-	2	1	-
	1	1	41	48	97	102	85	-	-	-	7	-	-	14	6	-
	-	-	67	72	127	107	108	1	1	-	11	2	-	9	4	1
GOVMI	16	-	-	-	45	2	62	46	78	-	18	-	-	36	57	75
	7	-	-	-	9	2	16	25	18	-	2	-	-	17	16	43
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
HERCA	41	-	29	35	-	8	55	57	58	50	33	44	12	4	-	2
HINWO	-	-	-	2	-	-	-	124	7	2	67	77	31	-	68	87
IGAAN	-	-	-	-	-	46	63	-	34	16	36	32	-	18	30	27
	-	4	-	-	51	25	29	9	44	15	23	27	1	13	17	20
	-	-	-	-	21	5	-	12	-	4	2	8	-	1	1	2
JONKA	-	4	-	-	31	53	39	51	37	20	16	25	7	27	32	22
	-	3	-	-	39	54	38	39	31	23	9	19	4	24	22	16
KACJA	-	47	-	5	75	113	125	24	26	99	1	3	-	-	57	86
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-
	3	3	1	-	16	11	49	3	2	5	-	1	-	-	25	23
	15	53	-	37	200	163	176	37	128	150	-	3	-	-	111	122
	-	19	-	5	53	99	79	16	14	72	4	4	-	-	54	69
KOSDE	76	46	40	70	148	30	135	24	12	-	19	-	49	92	47	-
	12	-	26	39	90	107	-	-	2	130	-	-	47	24	-	-
	87	62	64	96	175	27	150	54	25	125	29	38	66	76	35	-
	-	1	-	8	9	-	5	-	3	10	15	10	-	15	16	28
LOJTO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	43
LOPAL	-	-	-	-	44	43	-	-	-	-	-	-	-	-	-	-
MACMA	24	3	39	-	-	-	3	-	128	17	89	18	-	31	3	109
	16	-	27	-	-	-	-	-	87	21	63	23	-	31	17	104
	16	1	13	-	-	-	3	-	72	17	64	17	-	29	13	55
	33	-	28	-	-	-	-	-	99	24	109	34	-	39	20	106
MARGR	-	34	19	12	28	7	-	52	-	-	5	2	1	-	10	-
MARRU	2	1	67	-	-	-	-	-	-	-	-	4	2	26	1	-
	2	-	11	24	101	75	66	-	-	-	-	-	-	4	-	-
MASMI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOLSI	-	-	-	65	19	14	-	36	45	32	18	-	4	-	-	168
	-	-	-	6	3	3	-	13	10	12	7	-	3	-	-	36
	-	-	-	34	7	13	-	17	22	29	8	-	4	-	-	92
	-	6	-	-	-	58	63	209	16	64	128	52	68	-	19	100
	-	4	-	-	-	46	75	195	15	66	116	23	39	-	18	108
	-	2	-	-	-	2	4	23	-	1	21	36	60	-	6	68
	-	6	-	-	-	40	50	156	11	39	67	29	38	-	11	98
MORJO	-	12	-	-	21	25	28	50	39	13	29	47	5	22	36	21
MOSFA	1	-	-	-	36	44	31	34	15	22	22	-	-	1	18	28
OTTMI	28	22	32	30	-	6	-	3	36	40	5	-	1	9	-	13
PERZS	15	43	1	-	29	10	124	-	91	69	10	-	-	24	34	70
ROTEC	-	-	-	-	-	1	19	58	4	14	17	9	5	-	1	20
SARAN	-	-	8	17	56	51	34	-	-	-	-	2	-	5	7	1
	-	-	3	6	70	-	61	-	-	-	-	5	2	8	13	5
	-	-	22	8	-	-	77	-	-	-	-	12	7	7	16	1
	-	-	8	14	70	81	49	-	-	-	-	6	4	11	10	-
SCALE	18	-	-	30	45	67	39	42	11	20	21	1	-	36	-	-
SCHHA	-	-	-	1	20	-	-	-	1	17	74	32	12	48	57	77
SLAST	11	14	1	-	40	18	77	11	9	13	1	1	-	2	25	
	-	2	-	-	16	8	31	9	10	10	-	2	-	-	5	19
STOEN	101	1	-	198	173	205	155	202	55	70	84	-	-	92	96	104
	86	-	-	155	146	180	139	161	66	46	78	-	-	111	105	85
	113	3	-	156	166	211	137	175	103	68	128	-	-	98	138	147
STRJO	7	5	-	13	3	-	70	42	2	-	53	31	1	25	40	86
	-	8	-	1	3	2	27	30	3	33	52	34	7	19	46	58
	-	1	-	-	-	-	2	5	-	3	5	-	-	-	-	-
	-	-	-	5	3	1	37	-	-	-	44	22	3	11	22	36
	2	6	-	11	4	-	31	22	1	30	23	19	4	16	33	52
TEPIS	2	18	-	-	17	34	30	64	37	21	44	47	10	41	-	-
	-	27	-	-	-	32	59	92	60	41	54	72	23	41	76	68
TRIMI	10	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YRJIL	30	12	56	-	-	-	-	-	8	-	20	76	6	-	9	-
Sum	1103	580	762	1920	3390	3287	3824	3366	1967	2009	2540	1245	587	1498	2309	3557