

Dutch Meteor Society				Leoniden 1998				Hans Betlem en team				Basispost				#REF!				Noord Oost				Simultaanpost				#REF!				Noord Oost															
All timings in UT				Visual data				Photographic data				Beginpoint				Endpoint				Simultaan				Beginpoint				h [km]				115				Endpoint				h[km]				90			
No	CD	Date	Time	Timeinterval	Str	Mv	Con	Obs	Batterij serie	camera nummer	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	XIN	LIN	DEL	ULA	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q													
1	1054-21	16/11-98	13:55:36	13:51:00 14:05:58	spo	0	Peg	video	H1	4	2	32		0,22	36	Err:508	Err:508	23,18	19	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	[deg]											
2	1054-01	16/11-98	14:13:02	14:06:00 14:20:58	Tau	0	Per	video	H1	1	3	32		3,46	39	Err:508	Err:508	3,43	44	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
2	1054-07	16/11-98	14:13:02	14:06:00 14:20:58	Tau	0	Per	video	H1	2	3	32		3,46	39	Err:508	Err:508	3,43	44	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
3	1054-55	16/11-98	14:39:08	14:35:00 14:49:58	Tau	0	Cet	video	M1	3	7	7	40	1,39	-21	Err:508	Err:508	1,28	-27	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
4	1054-02	16/11-98	15:35:29	15:28:00 15:42:58	spo	1	Tau		H1	1	11	8				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
5	1054-56	16/11-98	16:07:06	16:05:00 16:19:58	Leo	1	Eri	video	M1	3	13	12		2,47	-24	Err:508	Err:508	2,41	-25	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
6	1054-85	16/11-98	16:17:01	16:05:00 16:19:58	Leo	0	Col	video	M1	6	13	32	2	5,47	-29	Err:508	Err:508	5,30	-31	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
7	1054-46	16/11-98	16:21:53	16:20:00 16:34:58	Leo	0	Gem	video	M1	2	14	34		7,51	36	Err:508	Err:508	6,56	37	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
8	1054-22	16/11-98	16:36:42	16:20:00 16:42:58	Leo	1	Ari	video	H1	4	15	15	2			Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
8	0036-01	16/11-98	16:36:42	16:35:00 16:49:58	Leo	-3	Psc	video	M1	7	15	70	1			Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
9	1054-68	16/11-98	16:38:21	16:35:00 16:49:58	Leo	-3	UMi	video	M1	4	15	17	3			Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
10	1054-35	16/11-98	16:43:58	16:43:00 16:57:58	Leo	-1	Tau	video	H1	6	16	20	2	4,51	12	Err:508	Err:508	4,08	10	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
11	1054-12	16/11-98	16:50:29	16:43:00 16:57:58	spo	-1	And		H1	3	16	29	1	4,18	8	Err:508	Err:508	3,15	1	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
12	1054-23	16/11-98	16:50:29	16:43:00 16:57:58	spo	0	Ari		H1	4	16	14		3,06	28	Err:508	Err:508	2,56	21	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
12	1054-35	16/11-98	16:50:29	16:43:00 16:57:58	spo	0	Ari		H1	6	16	21	2	3,06	28	Err:508	Err:508	2,56	21	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
13	1054-73	16/11-98	16:52:49	16:50:00 17:04:58	Tau	-1	Cet	video	M1	5	16	60		2,06	-5	Err:508	Err:508	1,35	-10	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
14	1054-27	16/11-98	17:21:14	17:13:00 17:27:58	Tau	0	Mon	video	H1	5	18	30		6,12	-8	Err:508	Err:508	6,23	-10	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
14	1054-86	16/11-98	17:21:14	17:20:00 17:34:58	Tau	0	Mon	video	M1	6	18	30		6,12	-8	Err:508	Err:508	6,23	-10	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
15	1054-86	16/11-98	17:23:54	17:20:00 17:34:58	Leo	-2	Mon	video	M1	6	18	35		7,42	-10	Err:508	Err:508	7,14	-16	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
16	1054-57	16/11-98	17:27:25	17:20:00 17:34:58	Leo	-2	Col	video	M1	3	18	24	3	6,19	-30	Err:508	Err:508	6,17	-31	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
16	1054-86	16/11-98	17:27:25	17:20:00 17:34:58	Leo	-2	Col	video	M1	6	18	14	2	6,36	-27	Err:508	Err:508	6,29	-29	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
17	1054-13	16/11-98	17:35:53	17:28:00 17:42:58	Leo	-1	Eri	video	H1	3	19	35		5,22	-6	Err:508	Err:508	4,14	-13	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
17	1054-28	16/11-98	17:35:53	17:28:00 17:42:58	Leo	0	Eri	video	H1	5	19	13	2	5,22	-6	Err:508	Err:508	4,14	-13	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
17	1054-58	16/11-98	17:35:53	17:35:00 17:49:58	Leo	-1	Eri	video	M1	3	19	30	1	4,37	-11	Err:508	Err:508	4,12	-13	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
17	1054-80	16/11-98	17:35:53	17:35:00 17:49:58	Leo	-1	Eri	video	M1	5	19	15	1	4,37	-11	Err:508	Err:508	4,12	-13	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
18	1054-03	16/11-98	17:36:48	17:28:00 17:42:58	Leo	0	Aur	video	H1	1	19	15		5,23	-42	Err:508	Err:508	4,39	47	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
19	1054-28	16/11-98	17:37:50	17:28:00 17:42:58	Leo	-3	Mon	video	H1	5	19	38		7,21	-1	Err:508	Err:508	6,24	-10	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
19	1054-58	16/11-98	17:37:50	17:35:00 17:49:58	Leo	-3	Mon	video	M1	3	19	6	2	7,21	-1	Err:508	Err:508	6,24	-10	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
19	1054-87	16/11-98	17:37:50	17:35:00 17:49:58	Leo	-3	Mon	video	M1	6	19	40		7,21	-1	Err:508	Err:508	6,24	-10	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
21	1054-08	16/11-98	17:49:59	17:43:00 17:57:58	Tau	-1	Gem	video	H1	2	20	59	1	7,58	27	Err:508	Err:508	6,47	27	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
22	1054-14	16/11-98	17:43:50	17:43:00 17:57:58	Leo	-1	Eri	video	H1	3	20	29	2	4,57	-4	Err:508	Err:508	4,09	-9	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
22	1054-58	16/11-98	17:43:50	17:35:00 17:49:58	Leo	-2	Eri	video	M1	3	19	16	3	4,33	-7	Err:508	Err:508	3,48	-11	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
22	1054-80	16/11-98	17:43:50	17:35:00 17:49:58	Leo	-2	Eri	video	M1	5	19	26	1	4,33	-7	Err:508	Err:508	3,48	-11	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
23	1054-47	16/11-98	17:54:09	17:50:00 18:04:58	Leo	-3	Leo	video	M1	2	20		dicht	10,06	29	Err:508	Err:508	10,03	31	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
24	1054-47	16/11-98	18:03:48	17:50:00 18:04:58	Leo	0	UMa	video	M1	2	20	16	2	10,24	61	Err:508	Err:508	10,25	62	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
25	1054-40	16/11-98	18:07:48	18:05:00 18:19:58	Leo	0	Ari	video	M1	1	21	5	2	2,56	30	Err:508	Err:508	2,52	28	Err:508	Err:508					Err:508																					

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All timings in UT				Visual data				Photographic data				Beginpoint				Endpoint				Simultaan				Beginpoint				h [km]				115				Endpoint				h[km]				90			
No	CD	Date	Time	Timeinterval	Str	Mv	Con	Obs	Batterij serie	camera nummer	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	XIN	LIN	DEL	ULA	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q													
50	1054-91	16/11-98	19:26:35	19:20:00	19:34:58	Leo	1	Mon	video	M1	6	26	15	9,14	-14	Err:508	Err:508	9,10	-16	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	[deg]											
51	1054-41	16/11-98	19:27:29	19:20:00	19:34:58	Leo	0	Per	video	M1	1	26	9	3,20	57	Err:508	Err:508	2,51	55	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
52	1054-50	16/11-98	19:27:29	19:20:00	19:34:58	Leo	1	LMi	video	M1	2	26	10	10,42	34	Err:508	Err:508	10,49	37	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
53	1054-75	16/11-98	19:27:54	19:20:00	19:34:58	Leo	0	Ori	video	M1	5	26	7	5,06	6	Err:508	Err:508	4,58	5	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
54	1054-62	16/11-98	19:27:56	19:20:00	19:34:58	Leo	0	CMa	video	M1	3	26	12	6,34	-23	Err:508	Err:508	6,20	-26	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
55	1054-50	16/11-98	19:28:27	19:20:00	19:34:58	Leo	-4	Lyn	video	M1	2	26	39	11,18	41	Err:508	Err:508	11,42	46	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
56	1054-25	16/11-98	19:33:18	19:15:00	19:44:58	Leo	-10	Aur	video	H1	4	32	27	5,33	38	Err:508	Err:508	4,24	35	Err:508	Err:508			28		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
56	1054-41	16/11-98	19:33:18	19:20:00	19:34:58	Leo	-10	Aur	video	M1	1	26	31	4,52	36	Err:508	Err:508	3,25	30	Err:508	Err:508			28		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
56	1054-05	16/11-98	19:33:18	19:20:00	19:34:58	Leo	-10	Aur	video	M1	7	26	33			Err:508	Err:508			Err:508	Err:508			28		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
57	1054-51	16/11-98	19:35:54	19:35:00	19:49:58	Leo	-1	LMi	video	M1	2	27	24	11,16	36	Err:508	Err:508	11,34	39	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
58	1054-92	16/11-98	19:36:06	19:35:00	19:49:58	Leo	1	Sex	video	M1	6	27	13	10,00	-9	Err:508	Err:508	10,00	-11	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
59	1054-76	16/11-98	19:41:41	19:35:00	19:49:58	Leo	1	Ori	video	M1	5	27	8	4,46	2	Err:508	Err:508	4,34	1	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
60	1054-93	16/11-98	19:46:40	19:50:00	20:04:58	Leo	0	Pyx	video	M1	6	28	10	10,31	-13	Err:508	Err:508	10,32	-15	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
61	0036-06	16/11-98	19:47:13	19:35:00	19:49:58	Leo	0	Tau	video	M1	7	27	17			Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
62	0036-06	16/11-98	19:47:33	19:35:00	19:49:58	Leo	1	Tau	video	M1	7	27	7			Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
63	1054-92	16/11-98	19:52:45	19:50:00	20:04:58	Leo	0	Hya	video	M1	6	28	15	9,33	-23	Err:508	Err:508	9,30	-26	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
64	1054-93	16/11-98	19:55:55	19:50:00	20:04:58	Leo	1	Pyx	video	M1	6	28	5	8,57	-25	Err:508	Err:508	8,56	-26	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
65	1054-16	16/11-98	19:56:05	19:45:00	20:14:58	Leo	0	Ori	video	H1	3	27	9	6,02	4	Err:508	Err:508	5,44	2	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
65	1054-77	16/11-98	19:56:05	19:50:00	20:04:58	Leo	1	Ori	video	M1	5	28	6	5,51	2	Err:508	Err:508	5,52	1	Err:508	Err:508			33		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
66	1054-93	16/11-98	19:57:29	19:50:00	20:04:58	Leo	1	Hya	video	M1	6	28	10	8,20	-15	Err:508	Err:508	8,17	-16	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
67	0036-07	16/11-98	19:57:30	19:50:00	20:04:58	Leo	-1	Tau	video	M1	7	28	17			Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
68	1054-63	16/11-98	20:03:14	19:50:00	20:04:58	Leo	-2	Mon	video	M1	3	28	25	8,27	-15	Err:508	Err:508	8,06	-22	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
69	1054-31	16/11-98	20:07:15	19:45:00	20:14:58	Leo	-4	Hya	video	H1	5	27	24	8,32	-18	Err:508	Err:508	8,21	-18	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
70	1054-94	16/11-98	20:07:22	20:05:00	20:19:58	Leo	-1	Hya	video	M1	6	29	14	9,11	-19	Err:508	Err:508	9,07	-22	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
71	1054-64	16/11-98	20:11:03	20:05:00	20:19:58	Leo	1	CMa	video	M1	3	29	11			Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
72	1054-52	16/11-98	20:11:21	20:05:00	20:19:58	Leo	-1	UMa	video	M1	2	29	18	9,46	52	Err:508	Err:508	9,37	58	Err:508	Err:508			36		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
72	1054-70	16/11-98	20:11:21	20:05:00	20:19:58	Leo	-1	UMa	video	M1	4	29	19	9,46	52	Err:508	Err:508	9,37	58	Err:508	Err:508			36		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
73	1054-16	16/11-98	20:12:00	19:45:00	20:14:58	Leo	0	Mon	video	H1	3	27	14	6,54	-7	Err:508	Err:508	6,35	-10	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
73	1054-64	16/11-98	20:12:00	20:05:00	20:19:58	Leo	0	CMa	video	M1	3	29	16	6,56	-7	Err:508	Err:508	6,38	-10	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
73	1054-78	16/11-98	20:12:00	20:05:00	20:19:58	Leo	0	CMa	video	M1	5	29	18	6,55	-7	Err:508	Err:508	6,32	-11	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
74	1054-52	16/11-98	20:12:29	20:05:00	20:19:58	Leo	0	UMa	video	M1	2	29	13	11,25	41	Err:508	Err:508	11,40	43	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
75	1054-78	16/11-98	20:12:29	20:05:00	20:19:58	Leo	1	CMa	video	M1	5	29	12	6,25	-23	Err:508	Err:508	6,14	-25	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
76	1054-94	16/11-98	20:12:29	20:05:00	20:19:58	Leo	0	Hya	video	M1	6	29	10	9,59	-23	Err:508	Err:508	9,58	-24	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
77	1054-94	16/11-98	20:12:29	20:05:00	20:19:58	Leo	1	Hya	video	M1	6	29	10	10,08	-23	Err:508	Err:508	10,07	-25	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
78	1054-78	16/11-98	20:13:08	20:05:00	20:19:58	Leo	0	Ori	video	M1	5	29	12	5,20	1	Err:508	Err:508	5,00	-1	Err:508	Err:508			35		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
79	0036-12	16/11-98	20:15:28	20:05:00	20:19:58	Leo	-4	Crt	video	M1	8	29	27			Err:508	Err:508			Err:																											

Dutch Meteor Society				Leoniden 1998				Hans Betlem en team				Basispost				#REF!				Noord Oost				Simultaanpost				#REF!				Noord Oost															
All timings in UT				Visual data				Photographic data				Beginpoint				Endpoint				Simultaan				Beginpoint				h [km]				115				Endpoint				h[km]				90			
No	CD	Date	Time	Timeinterval	Str	Mv	Con	Obs	Batterij serie	camera nummer	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	XIN	LIN	DEL	ULA	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q													
153	0036-84	17/11-98	17:14:55	17:02:00	17:11:58	Leo	-2	Eri	video	M2	5	11	5	1	5,09	4	Err:508	Err:508	3,33	-6	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	[deg]									
154	0044-37	17/11-98	17:17:00	17:12:00	17:21:58	Leo	1	Eri		M2	6	10	12				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
155	0036-76	17/11-98	17:21:57	17:12:00	17:21:58	Leo	-1	Eri	video	M2	4	12	30				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
155	0036-84	17/11-98	17:21:57	17:12:00	17:21:58	Leo	-1	Eri	video	M2	5	11	27				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
156	0036-18	17/11-98	17:25:02	17:22:00	17:31:58	Leo	0	Tau	video	H2	1	12	17	1			Err:508	Err:508			Err:508	Err:508			84		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
156	0036-49	17/11-98	17:25:02	17:22:00	17:31:58	Leo	0	Tau	video	H2	5	12	17				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
157	0044-36	17/11-98	17:57:00	17:52:00	18:01:58	Leo	0	CMa	video	M2	6	16	22				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
158	0036-38	17/11-98	18:00:28	17:52:00	18:01:58	Leo	0	Mon	video	H2	4	15	21				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
158	0044-36	17/11-98	18:00:28	17:52:00	18:01:58	Leo	0	Mon	video	M2	6	16	24				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
159	0036-28	17/11-98	18:08:23	18:02:00	18:11:58	Leo	0	Mon	video	H2	3	16	18		7,12	11	Err:508	Err:508	6,34	7	Err:508	Err:508			86		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
159	0036-39	17/11-98	18:08:23	18:02:00	18:11:58	Leo	0	Mon	video	H2	4	16	21		7,12	11	Err:508	Err:508	6,34	7	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
160	0036-55	17/11-98	18:19:13	18:12:00	18:21:58	Leo	1	Leo		M2	1	17	dicht				Err:508	Err:508			Err:508	Err:508			90		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
161	0036-19	17/11-98	18:19:25	18:12:00	18:21:58	spo	1	Ori	video	H2	1	17	11				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
161	0036-50	17/11-98	18:19:25	18:12:00	18:21:58	spo	1	Ori	video	H2	5	17	7				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
162	0036-50	17/11-98	18:21:21	18:12:00	18:21:58	Tau	-1	Tau	video	H2	5	17	43		4,50	30	Err:508	Err:508	5,00	31	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
163	0036-77	17/11-98	18:24:34	18:22:00	18:31:58	Leo	0	CMa	video	M2	4	19	18				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
163	0044-33	17/11-98	18:24:34	18:22:00	18:31:58	Leo	0	CMa	video	M2	6	19	24	2			Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
164	0036-40	17/11-98	18:27:08	18:22:00	18:31:58	Leo	0	CMi	video	H2	4	18	14		8,10	5	Err:508	Err:508	7,55	3	Err:508	Err:508			95		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
164	0036-56	17/11-98	18:27:08	18:22:00	18:31:58	Leo	1	CMi	video	M2	1	18	14		8,10	5	Err:508	Err:508	7,55	3	Err:508	Err:508			95		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
164	0044-33	17/11-98	18:27:08	18:22:00	18:31:58	Leo	0	CMi	video	M2	6	19	14				Err:508	Err:508			Err:508	Err:508			95		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
165	0036-56	17/11-98	18:28:47	18:22:00	18:31:58	Leo	1	Hya	video	M2	1	18	20		8,52	7	Err:508	Err:508	8,39	5	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
166	0036-78	17/11-98	18:33:16	18:32:00	18:41:58	Leo	-2	CMa	video	M2	4	20	28				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
166	0044-34	17/11-98	18:33:16	18:32:00	18:41:58	Leo	-2	CMa	video	M2	6	20	10	2			Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
167	0044-27	17/11-98	18:47:00	18:42:00	18:51:58	Leo	1	Cet		M2	7	21	15				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
168	0036-29	17/11-98	18:52:43	18:52:00	19:01:58	Tau	0	Cnc	video	H2	3	21	15				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
168	0036-57	17/11-98	18:52:43	18:52:00	19:01:58	Tau	0	Cnc	video	M2	1	21	15				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
169	0036-61	17/11-98	18:54:09	18:52:00	19:01:58	Leo	1	Cam	video	M2	2	22	9				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
170	0044-23	17/11-98	18:57:06	18:52:00	19:01:58	Leo	0	Per	video	M2	8	22	16				Err:508	Err:508			Err:508	Err:508			100		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
171	0036-66	17/11-98	18:58:01	18:52:00	19:01:58	Leo	0	Lyn	video	M2	3	22	25				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
172	0036-41	17/11-98	19:02:30	19:02:00	19:11:58	Leo	-3	Mon	video	H2	4	22	34		7,38	-6	Err:508	Err:508	6,58	-13	Err:508	Err:508			102		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
172	0036-79	17/11-98	19:02:30	19:02:00	19:11:58	Leo	-3	Mon	video	M2	4	23	18	1	7,38	-6	Err:508	Err:508	6,58	-13	Err:508	Err:508			102		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
172	0044-35	17/11-98	19:02:30	19:02:00	19:11:58	Leo	-3	Mon	video	M2	6	23	28		7,38	-6	Err:508	Err:508	6,58	-13	Err:508	Err:508			102		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
173	0044-35	17/11-98	19:09:02	19:02:00	19:11:58	Leo	-4	Hya	video	M2	6	23	12	2			Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
174	0036-62	17/11-98	19:16:24	19:12:00	19:21:58	Tau	0	Cam	video	M2	2	24	35		5,53	71	Err:508	Err:508	6,28	75	Err:508	Err:508			105		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
175	0036-58	17/11-98	19:23:28	19:22:00	19:31:58	Leo	1	Sex	video	M2	1	24	4				Err:508	Err:508			Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
176	0036-30	17/11-98	19:26:30	19:22:00	19:3																																										

		Dutch Meteor Society				Leoniden 1998				Jaap van 't Leven en team				Droppost				#REF!				Noord				Simultaanpost				#REF!				Noord															
														#REF!				#REF!				#REF!				#REF!				#REF!				#REF!															
		All timings in UT				Visual data				Photographic data				Beginpoint				Endpoint				Simultaan				Beginpoint				h [km]				115				Endpoint				h[km]				95			
No	CD	Date	Time		Timeinterval	Str	Mv	Con	Obs	Batterij	Filmsene	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	XIN	LIN	DEL	ULA	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q														
59a	2751-20	98-11-16	21:22:53	?	21:15:23	21:30:22	Leo	1	UMa		M2	1	33a	15	13,00	68	Err:508	Err:508	13,50	72	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
59b	2751-12	98-11-16	21:22:53	?	21:15:23	21:30:22	Leo	2	UMi		M1	1	34	15	13,00	71	Err:508	Err:508	13,50	72	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
60	2751-10	98-11-16	21:22:53	?	21:15:23	21:30:22	Leo	2	CVn		M2	1	33a	10	12,25	41	Err:508	Err:508	12,45	42	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
61	2751-12	98-11-16	21:22:53	?	21:15:23	21:30:22	Leo	2	Cam		M1	1	34	15	11,45	75	Err:508	Err:508	12,30	78	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
62	2751-38	98-11-16	21:26:41	?	21:15:23	21:30:22	Leo	-12	Cnc	Xing Long	M4	1	34	60	8,45	20	Err:508	Err:508	7,40	16	Err:508	Err:508	128				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
63	2751-29	98-11-16	21:22:53	?	21:15:23	21:30:22	Leo	2	UMa		M3	1	34	10	11,40	41	Err:508	Err:508	11,45	42	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
64	2751-29	98-11-16	21:22:53	?	21:15:23	21:30:22	Leo	-1	UMa		M3	1	34	3	12,10	43	Err:508	Err:508			alleen flare						Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
65	2751-29	98-11-16	21:22:53	?	21:15:23	21:30:22	Leo	2	UMa		M3	1	34	10	11,40	32	Err:508	Err:508	11,55	33	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
66	2751-59	98-11-16	21:33:58	?	21:26:28	21:41:27	Leo	2	UMa		H2	1	12a	6	10,00	42	Err:508	Err:508	10,00	44	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
67a	2751-73	98-11-16	21:29:05	?	21:26:28	21:41:27	spo	0	Gem	Xing Long	H4	1	12a	20	7,40	41	Err:508	Err:508	7,10	42	Err:508	Err:508	130				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
67b	2751-68	98-11-16	21:29:05	?	21:27:52	21:42:51	spo	0	Lyn	Xing Long	H3	1	35a	20	7,45	41	Err:508	Err:508	7,10	43	Err:508	Err:508	130				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
68	2751-13	98-11-16	21:42:46	?	21:30:23	21:45:22	Leo	-2	Cam	Xing Long	M1	1	35	30	10,40	81	Err:508	Err:508	2,10	78	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
69	2751-13	98-11-16	21:44:33	?	21:30:23	21:45:22	Leo	-8	Cep	Xing Long	M1	1	35	40	3,40	84	Err:508	Err:508	23,40	72	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
70a	2751-21	98-11-16	21:44:46	?	21:30:23	21:45:22	Leo	-1	Cvn	Xing Long	M2	1	34a	25	12,15	42	Err:508	Err:508	12,50	43	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
70b	2751-30	98-11-16	21:44:46	?	21:30:23	21:45:22	Leo	-1	Cvn	Xing Long	M3	1	35	10	12,20	41	Err:508	Err:508	12,45	42	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
71	2751-39	98-11-16	21:37:53	?	21:30:23	21:45:22	Leo	2	Cnc		M4	1	35	10	9,40	16	Err:508	Err:508	9,30	15	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
72	2751-39	98-11-16	21:37:53	?	21:30:23	21:45:22	Leo	2	Cnc		M4	1	35	10	9,30	13	Err:508	Err:508	9,25	11	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
73	3534-07	98-11-17	13:41:29	?	13:37:44	13:45:13	Spo	0	Peg		M5	2	1a	12	23,40	23	Err:508	Err:508	23,35	22	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
74a	3534-03	98-11-17	15:11:15	?	15:07:44	15:15:13	Tau	1	Tau		M3	2	13a	30	4,30	30	Err:508	Err:508	4,40	39	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
74b	3534-12	98-11-17	15:11:15	?	15:07:46	15:15:15	Tau	2	Per		H2	2	14	35	4,30	31	Err:508	Err:508	4,40	39	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
75a	3534-06	98-11-17	15:52:19	?	15:45:14	15:52:43	Tau	0	Tau	Xing Long	M4	2	19	30	4,25	24	Err:508	Err:508	4,20	23	Err:508	Err:508	141				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
75b	3534-04	98-11-17	15:52:19	?	15:45:14	15:52:53	Tau	0	Tau	Xing Long	M3	2	18a	30	4,25	24	Err:508	Err:508	4,20	23	Err:508	Err:508	141				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
76	3534-14	98-11-17	15:55:00	?	15:52:46	16:00:15	Leo	0	Cas	Xing Long	H4	2	20	25	1,40	60	Err:508	Err:508	0,30	48	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
77a	3534-08	98-11-17	16:07:41	?	16:00:14	16:07:43	Tau	2	Ari	Xing Long	M5	2	20a	20	2,50	25	Err:508	Err:508	2,40	22	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
77b	3534-06	98-11-17	16:07:41	?	16:00:14	16:07:43	Tau	2	Tau	Xing Long	M4	2	21	30	2,50	24	Err:508	Err:508	2,35	23	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
78	3534-10	98-11-17	16:11:14	?	16:07:46	16:15:15	Leo	0	Cam	Xing Long	H1	2	21a	25	8,00	68	Err:508	Err:508	4,30	76	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
79	3534-11	98-11-17	16:25:27	?	16:22:46	16:30:15	Leo	-1	Cam		H1	2	23a	35	6,00	68	Err:508	Err:508	1,30	59	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
80	3534-15	98-11-17	16:25:25	?	16:22:46	16:30:15	Leo	-1	Cas		H4	2	24	45	3,55	69	Err:508	Err:508	0,40	52	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508									
81	3534-01	98-11-17	16:31:05	?	16:30:14	16:37:43	Spo	-1	UMa	Xing Long	M2	2	25		8,45	61	Err:508	Err:508			Flare						Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508										
82	3534-02	98-11-17	16:40:22	?	16:37:44	16:4																																											

		Dutch Meteor Society				Leoniden 1998				Jaap van 't Leven en team				Droppost				70				#REF!				Noord				Simultaanpost				#REF!				Noord											
														#REF!				#REF!				#REF!				#REF!				#REF!				#REF!															
		All timings in UT				Visual data				Photographic data				Beginpoint				Endpoint				Simultaan				Beginpoint				h [km]				115				Endpoint				h[km]				95			
No	CD	Date	Time		Timeinterval	Str	Mv	Con	Obs	Batterij	Filmsene	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	XIN	LIN	DEL	ULA	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q														
113	3534-25	98-11-17	20:23:17	?	20:19:32 20:27:01	Leo	1	Dra		M1	3	21a	12		17,30	82	Err:508	Err:508	18,20	78	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508													
114	3534-66	98-11-17	20:27:36		20:24:40 20:32:09	Leo	0	Aur	Xing Long	H4	3	20a	18		6,45	49	Err:508	Err:508	5,50	51	Err:508	Err:508	195				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
115	3534-26	98-11-17	20:30:47	?	20:27:02 20:34:31	Leo	1	UMi		M1	3	22a	16		10,00	87	Err:508	Err:508	10,00	82	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
116	3534-39	98-11-17	20:32:26		20:27:02 20:34:31	Leo	0	Leo	Xing Long	M3	3	22a	20	Radiant	10,40	27	Err:508	Err:508	10,50	28	Err:508	Err:508	199				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
117a	3534-58	98-11-17	20:34:41		20:32:10 20:39:39	Leo	-1	UMa	Xing Long	H2	3	21a	25		10,40	54	Err:508	Err:508	10,25	44	Err:508	Err:508	201				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
117b	3534-13	98-11-17	20:34:41		20:34:32 20:42:01	Leo	-1	UMa	Xing Long	M2	3	23a		No breaks	10,40	55	Err:508	Err:508	10,30	46	Err:508	Err:508	201				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508													
118	3534-40	98-11-17	20:34:41		20:34:32 20:42:01	Leo	-1	UMa	Xing Long	M3	3	23a		No breaks	10,30	46	Err:508	Err:508	10,30	49	Err:508	Err:508	201				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
119	3534-67	98-11-17	20:43:25	?	20:39:40 20:47:09	Leo	1	Aur		H4	3	22a	15		6,40	39	Err:508	Err:508	6,00	39	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
120	3534-41	98-11-17	20:48:08		20:42:02 20:49:31	Leo	-1	Leo	Xing Long	M3	3	24a	30		11,05	25	Err:508	Err:508	11,20	25	Err:508	Err:508	204				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
121	3534-46	98-11-17	21:01:58	?	20:57:02 21:04:31	Leo	1	Cnc	Xing Long	M4	3	27a	12		8,45	9	Err:508	Err:508	8,30	7	Err:508	Err:508	211				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
122	3534-27	98-11-17	21:15:47	?	21:12:02 21:19:31	Leo	2	Cas		M1	3	28a	15		1,10	75	Err:508	Err:508	0,40	71	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
123	3534-47	98-11-17	21:15:47	?	21:12:02 21:19:31	Leo	1	Leo		M4	3	29a	15	Radiant	9,30	17	Err:508	Err:508	9,25	16	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
124	3534-47	98-11-17	21:15:47	?	21:12:02 21:19:31	Leo	1	Leo		M4	3	29a	15	Radiant	9,40	14	Err:508	Err:508	9,35	13	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
125	3534-55	98-11-17	21:20:22		21:17:10 21:24:39	Leo	0	UMa	Xing Long	H1	3	27a	18		9,20	67	Err:508	Err:508	8,50	75	Err:508	Err:508	219				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
126	3534-60	98-11-17	21:19:38		21:17:10 21:24:39	Leo	-1	Leo	Xing Long	H3	3	27a	25	Radiant	9,50	26	Err:508	Err:508	9,40	28	Err:508	Err:508	217				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
127	3534-32	98-11-17	21:25:48		21:19:32 21:27:01	Leo	2	Dra		M2	3	29a	16		12,50	67	Err:508	Err:508	13,45	71	Err:508	Err:508	222				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
128a	3534-48	98-11-17	21:20:19		21:19:32 21:27:01	Leo	1	Leo	Xing Long	M4	3	30a	30	Radiant	10,00	22	Err:508	Err:508			Err:508	Err:508	218				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
128b	3534-42	98-11-17	21:20:19		21:19:32 21:27:01	Leo	2	Leo	Xing Long	M3	3	29a		No breaks	10,05	23	Err:508	Err:508			Err:508	Err:508	218				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
126	3534-48	98-11-17	21:19:38		21:19:32 21:27:01	Leo	-2	Leo	Xing Long	M4	3	30a	10	Radiant+dia	9,55	26	Err:508	Err:508	9,45	28	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
130	3534-42	98-11-17	21:23:17	?	21:19:32 21:27:01	Leo	-1	Leo		M3	3	29a		No breaks	10,00	30	Err:508	Err:508	9,55	31	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
131a	3534-68	98-11-17	21:28:16		21:24:40 21:32:09	Leo	-1	Aur	Xing Long	H4	3	28a	25		7,40	44	Err:508	Err:508	6,25	48	Err:508	Err:508	223				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
131b	3534-61	98-11-17	21:28:16		21:24:40 21:32:09	Leo	-1	Lyn	Xing Long	H3	3	28a	16		7,35	44	Err:508	Err:508	7,10	47	Err:508	Err:508	223				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
131c	3534-51	98-11-17	21:28:15		21:27:02 21:34:31	Leo	-2	Aur	Xing Long	M6	3	30a		No breaks	7,00	46	Err:508	Err:508	6,30	48	Err:508	Err:508	223				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
132	3534-43	98-11-17	21:29:56		21:27:02 21:34:31	Leo	-1	Leo		M3	3	30a	25		11,40	21	Err:508	Err:508	11,50	20	Err:508	Err:508	224				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508											
133	3534-28	98-11-17	21:30:47	?	21:27:02 21:34:31	Leo	2	Cas		M1	3	30a	20		3,20	78	Err:508	Err:508	2,00	73	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
134	3534-69	98-11-17	21:50:55	?	21:47:10 21:54:39	Leo	-1	Cam		H4	3	31a	10		6,45	62	Err:508	Err:508	6,00	63	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
135	3534-76	98-11-18	16:21:44	?	16:14:14 16:29:13	Spo	2	Ari		M5	4	13a	20		1,50	19	Err:508	Err:508	1,50	27	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
136	3534-70	98-11-18	16:39:13		16:29:14 16:44:13	Tau	1	Cep	Xing Long	M1	4	14a	25		4,30	80	Err:508	Err:508	22,30	86	Err:508	Err:508	228				Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
137	3534-75	98-11-18	17:06:44	?	16:59:14 17:14:13	Tau	2	Tau		M4	4	16a	40		4,10	13	Err:508	Err:508	4,15	9	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
138	3534-71	98-11-18	17:21:44	?	17:14:14 17:29:13	Leo	2	Dra		M1	4	17a	12		12,45	63	Err:508	Err:508	13,20	68	Err:508	Err:508					Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508												
139a	3534-78	98-11-18	17:54:53		17:44:16 17:59:15	Leo	-1	Aur	Xing Long	H3	4	19a	35		6,35	37	Err:508	Err:508	5,20	36	Err:508	Err:508																											

**List of photographic fireb
at Xinglong observator**

Pa

(almost all times are determin

Fir. No.	Plate No.	Fir. No. on plate	Date	Time (UT)	Str.	Mv	Br.	Simult.
1	37	1	98-11-13	14:57:15	Tau	-10		
2	48	1	98-11-14	17:28:00	Tau	-10		
3	X3	1	98-11-16	16:17:00	Leo	-5	12	
4	X3	2	98-11-16	16:25:51	Leo	-5		
5	X3	3	98-11-16	16:36:39	Leo	-5		L,X
6	X3	4	98-11-16	16:38:18	Leo	-8	70	L,X
7	X3	5	98-11-16	16:44:56	Leo	-4		
8	X3	6	98-11-16	17:03:10	Leo	-3		
9	X3	7	98-11-16	17:20:43	Leo	-3		
10	X3	8	98-11-16	17:27:25	Leo	-4		X
11	X3	9	98-11-16	17:31:20	Leo	-7		
12	X3	10	98-11-16	17:35:53	Leo	-3		L,X
13	X3	11	98-11-16	17:36:50	Leo	-6		
14	X3	12	98-11-16	17:37:50	Leo	-6		L,X
15	X3	13	98-11-16	17:43:50	Leo	-5		!L!
16	X3	14	98-11-16	17:49:59	Tau	-6		L,X
17	X3	15	98-11-16	17:50:57	Leo	-6		
18	X3	16	98-11-16	17:51:56	Leo	-5		
19	X3	17	98-11-16	17:54:08	Leo	-6		X

20	X3	18	98-11-16	17:56:06	Leo	-4		
21	X3	19	98-11-16	17:58:31	Leo	-5		
22	X3	20	98-11-16	18:03:48	Leo	-5		L,X
23	X3	21	98-11-16	18:07:48	Leo	-7		L,X
24	X3	22	98-11-16	18:13:20	Leo	-5		
25	X3	23	98-11-16	18:16:36	Leo	-10		L,X
26	X3	24	98-11-16	18:22:45	Leo	-5		X
27	X3	25	98-11-16	18:25:32	Leo	-5		L,X?
28	X3	26	98-11-16	18:27:56	Leo	-8		
29	X3	27	98-11-16	18:32:49	Leo	-6		L,X
30	X3	28	98-11-16	18:49:26	Leo	-3		X
31	X3	29	98-11-16	18:50:57	Leo	-7		X (!L!)
32	X3	30	98-11-16	18:58:47	Leo	-4		
33	X3	31	98-11-16	18:59:41	Leo	-5		X
34	X3	32	98-11-16	19:01:23	Leo	-4		
35	X4	1	98-11-16	19:10:04	Leo	-4	14	
36	X4	2	98-11-16	19:11:08	Leo	-4		
37	X4	3	98-11-16	19:15:27	Leo	-4	8	X, !L!
38	X4	4	98-11-16	19:16:38	Leo	-6	22	!L!
39	X4	5	98-11-16	19:17:44	Leo	-3		
40	X4	6	98-11-16	19:19:47	Leo	-10	26	X,L
41	X4	7	98-11-16	19:24:20	Leo	-3		
42	X4	8	98-11-16	19:25:33	Leo	-5	6	
43	X4	9	98-11-16	19:28:07	Leo	-12		
44	X4	10	98-11-16	19:28:26	Leo	-8	22	X,L
45	X4	11	98-11-16	19:31:31	Leo	-5	9	
46	X4	12	98-11-16	19:33:18	Leo	-13	35	X,L
47	X4	13	98-11-16	19:35:54	Leo	-4	10	X, !L!
48	X4	14	98-11-16	19:35:55	Leo	-3		!L!
49	X4	15	98-11-16	19:37:25	Leo	-6	13	
50	X4	16	98-11-16	19:38:53	Leo	~-10		
51	X4	17	98-11-16	19:39:04	Leo	-3		
52	X4	18	98-11-16	19:44:04	Leo	-6	11	

53	X4	19	98-11-16	19:46:17	Leo	-9	34	!L!
54	X4	20	98-11-16	19:47:28	Leo	-4	12	
55	X4	21	98-11-16	19:48:45	Leo	-5	9	
56	X4	22	98-11-16	19:49:03	Leo	-3		
57	X4	23	98-11-16	19:50:36	Leo	-4	6	
58	X4	24	98-11-16	19:51:59	Leo	-4	9	!L!
59	X4	25	98-11-16	19:54:21	Leo	-4	8	!L!
60	X4	26	98-11-16	19:54:46	Leo	-5	10	
61	X4	27	98-11-16	19:55:55	Leo	-4		X
62	X4	28	98-11-16	19:56:28	Leo	-5	10	
63	X4	29	98-11-16	19:57:21	Leo	-6	18	!L!
64	X4	30	98-11-16	19:57:30	Leo	-5	6	X
65	X4	31	98-11-16	20:00:44	Leo	-7		
66	X4	32	98-11-16	20:02:23	Leo	-6		!L!
67	X4	33	98-11-16	20:03:15	Leo	-7	16	X, !L!
68	X4	34	98-11-16	20:04:35	Leo	-5		
69	X4	35	98-11-16	20:04:46	Leo	-5		
70	X4	36	98-11-16	20:07:15	Leo	-12		X, !L!
71	X4	37	98-11-16	20:07:22	Leo	-4	10	X
72	X4	38	98-11-16	20:08:51	Leo	-7	15	
73	X4	39	98-11-16	20:13:08	Leo	-8	22	L,X
74	X4	40	98-11-16	20:13:32	Leo	-7	16	!L!
75	X4	41	98-11-16	20:14:37	Leo	-6	10	
76	X4	42	98-11-16	20:14:55	Leo	-5	7	!L!
77	X4	43	98-11-16	20:15:27	Leo	-10	18	!L,X!
78	X4	44	98-11-16	20:15:35	Leo	-12	25	X, !L!
79	X4	45	98-11-16	20:16:37	Leo	-4		X
80	X4	46	98-11-16	20:17:23	Leo	-4	6	X
81	X4	47	98-11-16	20:18:29	Leo	-8	21	X,!L!
82	X4	48	98-11-16	20:21:55	Leo	-5	9	!L!
83	X4	49	98-11-16	20:27:26	Leo	-5	6	X
84	X4	50	98-11-16	20:27:28	Leo	-9	17	X, !L!
85	X4	51	98-11-16	20:30:48	Leo	-6	8	
86	X5	1	98-11-16	20:36:00	Leo	-7	23	

87	X5	2	98-11-16	20:38:23	Leo	-6	8	
88	X5	3	98-11-16	20:38:31	Leo	-4		
89	X5	4	98-11-16	20:46:00	Leo	-4		
90	X5	5	98-11-16	20:46:18	Leo	-7		
91	X5	6	98-11-16	20:47:24	Leo	-6	12	
92	X5	7	98-11-16	20:48:14	Leo	-4		!L!
93	X5	8	98-11-16	20:50:11	Leo	-8		
94	X5	9	98-11-16	20:53:26	Leo	-4		X
95	X5	10	98-11-16	20:54:11	Leo	-8		X
96	X5	11	98-11-16	20:54:21	Leo	-4		
97	X5	12	98-11-16	20:55:04	Leo	-4		
98	X5	13	98-11-16	20:56:10	Leo	-5	8	L,X
99	X5	14	98-11-16	20:58:14	Leo	-7	11	!L,X!
100	X5	15	98-11-16	20:59:27	Leo	-10		
101	X5	16	98-11-16	21:00:44	Leo	-8	17	!L!
102	X5	17	98-11-16	21:03:08	Leo	-5	5	!L,X!
103	X5	18	98-11-16	21:03:20	Leo	-6	8	L,X
104	X5	19	98-11-16	21:04:19	Leo	-4		
105	X5	20	98-11-16	21:04:48	Leo	-4		
106	X5	21	98-11-16	21:04:49	Leo	-5		
107	X5	22	98-11-16	21:10:33	Leo	-5	12	!L,X!
108	X5	23	98-11-16	21:11:02	Leo	-6	9	
109	X5	24	98-11-16	21:13:57	Leo	-5	5	
110	X5	25	98-11-16	21:16:12	Leo	-5	8	
111	X5	26	98-11-16	21:16:14	Leo	-5	5	
112	X5	27	98-11-16	21:16:31	Leo	-9	16	!L,X!
113	X5	28	98-11-16	21:17:15	Leo	-4		
114	X5	29	98-11-16	21:26:33	Leo	-9		
115	X5	30	98-11-16	21:26:41	Leo	-12	22	L,X
116	X5	31	98-11-16	21:27:52	Leo	-6		
117	X5	32	98-11-16	21:27:58	Leo	-7	14	
118	X5	33	98-11-16	21:29:05	Leo	-4	4	L,X
119	X5	34	98-11-16	21:29:08	Leo	-6		
120	X5	35	98-11-16	21:36:47	Leo	-5		

121	X5	36	98-11-16	21:39:02	Leo	-4		
122	X5	37	98-11-16	21:39:28	Leo	-5		
123	X5	38	98-11-16	21:40:23	Leo	-8	23	!L,X!
124	X5	39	98-11-16	21:40:30	Leo	-6	18	
125	X5	40	98-11-16	21:42:12	Leo	-6	5	
126	X5	41	98-11-16	21:42:46	Leo	-7	17	L,X
127	X5	42	98-11-16	21:44:33	Leo	-10	28	L,X
128	X5	43	98-11-16	21:44:42	Leo	-5	8	
129	X5	44	98-11-16	21:44:46	Leo	-6	13	L,X
130	X5	45	98-11-16	21:45:51	Leo	-6	13	!L,X!
131	X5	46	98-11-16	21:46:51	Leo	-5		
132	X5	47	98-11-16	21:50:00	Leo	-7	16	!L,X!

**alls taken with an Ondřejov fish-eye camera
ry during the Leonid 98 expedition to China**

avel Spurný

ied from the Hans Betlem all-sky video)

Position and coment
near SSE horizon, time from visual obs. of Alex Scholten (+/-3s), breaks are very dense
near E horizon, time from visual obs. of Alex Scholten (+/-5s), breaks are very dense
3s, SSE, Col, ~ 10 deg above horizon, breaks are visible only on a part of the trajectory
3s, NW, Cep, W from pole
4s, WSW, Psc, below Saturn, very long trail on all-sky video
5s, NE-NW, Uma - Cam - Cas, very long trail near pole
2s, NW, Cep, W from pole, below meteor No. 4
NW, Cyg, about 10 deg above horizon, near the big dome, uncertain
2s, NW, Dra, W and below pole, below meteors Nos. 4 and 7
2s, SSE in Cma SW from Sirius, above meteor No.3, similar with breaks
2s, WNW, above the big dome in And
S, Eri, very faint about 35 deg above S horizon
NW, less than 10 deg above NW horizon in Cyg, not very certain
SE, Mon-Ori, about 35 deg above horizon
2s, SSW in Eri, about 35 deg above horizon, try to find on L and X !!!
E, Gem, about 50 deg above horizon
5s, SW, Phe, less than 5 deg above horizon, very slow
NE, Cvn, about 10 deg above horizon
ENE, head of Leo - Cnc, near radiant

WNW, Peg, near the big dome, not completely certain
E, head of Leo, very close to the radiant
NNE, Uma, near the beginning of the longest one (no. 6)
W, Ari, about 30 deg above horizon
NNE, Dra, about 15 deg above horizon, uncertain
SSW, Ori - Eri, about 30 deg above horizon, the brightest one
S, Col, less than 10 deg above horizon
W, Tau, 60 deg above horizon
N, Dra, less than 10 deg above horizon, uncertain - only bright flash on the sky
N, Cam, 65 deg above horizon
SE, Pup, about 10 deg above horizon
SSW, Lep - Col, about 15 deg above horizon, try to find on L !!!
SW, Cet, about 15 deg above horizon
E, Leo, near radiant, about 30 deg above horizon
ENE, Com, about 10 deg above horizon, slightly uncertain
NW, Cep, about 10 deg above horizon, terminal flare
N, Cep, very faint NNW below pole
SW, Eri, about 15-20 deg above horizon, try to find on L!!!
SW, Lep - Eri, about 10 deg above horizon, double terminal flare, try to find on L !!!
SSW, Col, near horizon - less than 5 deg
NE, Uma, about 50 deg above horizon
SSE, Pup, faint and near horizon (~5deg)
NE, Cvn, about 10 deg above horizon, terminal flare
E, Vir, almost on E horizon
NE, Uma, about 40 deg above horizon
NE, Boo, near meteor no.42
W, Per, the most beautiful one with the 40 minutes persistent train
NE, Cvn, below the group of three beautiful fireballs in Uma, try to find on L!!!
SSE, Pup, very faint one about 15 deg above horizon, try to find on L!!!
NNW, Cep, NW from Polaris, well defined
bright flash on the sky
NE, top of Boo, very faint and close to the NE horizon
NW, Lac, well defined about 15 deg above NW horizon

W, Tau - Cet, the brightest on W, ~ 15 deg above horizon, try to find on L!!! - maybe beg.
NNW, Cep, NNW from Polaris, faint
SE, Pyx, faint above the tree
NE, Boo, very faint near horizon
NE, Uma-Dra, faint; the right time is probably 20:21:20
W, Tau (Pleiades) - Ari, faint, try to find on L!!!
ENE, Cvn, faint near Alpha Cvn, try to find on L!!!
NE, Dra, about 15 deg above horizon
SSE, Pup, very faint near horizon
N, Dra, about 10 deg above horizon, uncertain
WNW, alf Per - gam And, above the big dome, try to find on L!!!
W, Tau, 30 deg above horizon
S, Pup, less than 10 deg above horizon
WNW, Per-And, above the big dome, try to find on L!!!
S, Mon-Pup, about 30 deg above horizon, try to find on L!!!
SE, Ant, faint, near horizon
SSE, Pup, near horizon
SE, Pyx, very bright, terminal point ~ 10 deg above horizon, try to find beginning on L!!!
SE, Hya, faint about 15 deg above horizon, not certain - maybe the right time is 20:17:00
ESE, Hya, below Mars, short, about 20 deg above horizon
NE, UMa-Boo, terminal flare
SSE, Pyx, short, ~ 15 deg above horizon, try to find on L!!!, maybe the right time is 20:30:15
WSW, Eri-Cet, ~10 deg above horizon
WNW, Per-And, above the big dome, try to find on L!!!
SE, Hya, very bright about 10 deg above horizon, try to find on L,X
SSW, CMa-Lep, very bright, try to find on L!!!!!!!
SSE, Hya, very faint, ~25 deg above horizon, not certain
SE, Hya, faint, not certain
NE, UMa, bright, !!! try to find on L !!!!!!!!
SE, Hya, declination ~ alf Hya
SE, Hya, below alf Hya
SW, CMa-Lep, very bright, !!! try to find on L !!!!!!!!
N, UMi, near pole
NW, Cas, about 20 deg above horizon

WSW, Eri, ~15 deg above horizon
SE, Hya, above the small dome, not completely certain - maybe the right time is 21:39:44
NE, UMa-Dra, faint, about 10 deg above horizon
S, Pyx, short, bright, less than 10 deg above horizon
NW, Cas, about 25 deg above horizon
S, Pup, very faint, about 30 deg above horizon, try to find on L !!!
ENE, alf Boo, only flash
S, Pup, very faint, about only 5 deg above horizon
ENE, LMi, bright terminal flare - very unsharp
SSE, Pyx, faint, about 5 deg above horizon
NW, Cep, faint
WNW, Gem, near zenith, unsharp
S, Pup, about 25 deg above horizon, try to find on L,X !!!!
SE, Crv, bright flash on the sky
WSW, Ori-Eri, bright, about 20 deg above horizon, try to find on L!!! (beginning)
SSE, Hya, faint, ~20 deg above horizon, try to find on L,X !!!
S, Hya, ~30 deg above horizon, terminal flare
S, Pup, faint, about only 5 deg above horizon
SE, Hya, very faint, very low, near the tree and the small dome
SSW, Pup, less than 10 deg above horizon
W, Gem, near zenith, try to find on L,X !!!!!
NNE, Dra, about 25 deg above horizon
N, Cep, about 25 deg above horizon
NE, Boo, about 15 deg above horizon
NNE, Dra, about 20 deg above horizon
W, Tau, ~25 deg above horizon, !!! try to find on L,X !!!!! (beginning)
SSW, Pup, less than 10 deg above horizon
NE, Boo, about 10 deg above horizon, very bright - illumination of the sky
S, Mon-Pup, the brightest fireball on the picture, about 30 deg above horizon
SSE, Vel, almost on the horizon
NNE, Dra, about 15 deg above horizon
S, CMi, bellow alf CMi
SE, Ant, faint in a tree, near horizon, not certain, maybe the right time is 21:42:10
SE, Hya, near the small dome, less than 10 deg above horizon

SE, Hya, very faint, very low, near the tree and the small dome
SW, Col, less than 10 deg above horizon
WSW, Ori-Eri, bright, about 20 deg above horizon, try to find on L!!! (beginning)
WNW, Tri, above the big dome, not completely certain - time from my visual observation
NNE, Dra, about 25 deg above horizon
NW, Aur, high - not far from zenith, well defined
NW, Cam, high, very well defined
NW, And, very low, not completely certain
ESE, Leo, high - near beta Leo
NE, Boo, about 30 deg above horizon, !!! try to find on L,X !!!!
ESE, Vir, about 15 deg above horizon, not completely certain
E, Com-Boo, about 35 deg above horizon, !!! try to find on L,X !!!!

		Dutch Meteor Society				Leonids 1998				Robert Haas and team				Primary station #69				#REF!				North East				Secondary station #REF!				#REF!				North East											
		All timings in UT				Visual data				Photographic data				Beginpoint				Endpoint				Multistat.		Check		Beginpoint				h [km]		100		Endpoint				h [km]		80					
No	CD	Date	Time	Timeinterval	Str	Mv	Con	Obs	Batteri	Kam.nr.	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	ULAN	DEL	dAZ	dHG	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q											
01		98-11-16	17:45:00	?	17:40:00	17:50:00	leo	psc		16	5		o	1,15	19	Err:508	Err:508	0,50	14	Err:508	Err:508		01	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	[deg]								
02	4154-19	98-11-16	18:14:00	??	18:10:00	18:20:00	leo	ori/ori		14	8		ro	5,15	-6	Err:508	Err:508	4,25	-12	Err:508	Err:508	2	02	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
03a	4154-11	98-11-16	18:23:50		18:20:00	18:30:00	leo	gem	rh021	13	9		b !	7,25	28	Err:508	Err:508	6,00	26	Err:508	Err:508	3	03a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
03b	4154-47	98-11-16	18:23:50		18:20:00	18:30:00	leo	gem/aur	rh028	6	11		ro	6,50	28	Err:508	Err:508	5,55	26	Err:508	Err:508	3	03b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
04	4154-12	98-11-16	18:39:45	??	18:30:00	18:40:00	leo	cnc/gem	rh032	13	10		c	7,70	27	Err:508	Err:508	7,30	26	Err:508	Err:508	4	04	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
05a	4154-12	98-11-16	18:39:45	??	18:30:00	18:40:00	leo	gem	rh032	13	10		c	7,40	26	Err:508	Err:508	6,55	24	Err:508	Err:508		05a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
05b	2182-25	98-11-16	18:39:45	??	18:35:00	18:45:00	leo	gem	rh032	22	10		! !	7,40	26	Err:508	Err:508	6,40	25	Err:508	Err:508		05b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508				
06a	4154-54	98-11-16	18:43:25		18:40:00	18:50:00	leo	aur/per	rh033	7	13		! !	5,10	49	Err:508	Err:508	3,25	43	Err:508	Err:508	8	06a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
06b	4154-59	98-11-16	18:43:25		18:40:00	18:50:00	leo	per	rh033	8	11		r !!	5,10	49	Err:508	Err:508	3,25	43	Err:508	Err:508	8	06b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508				
06c	4154-35	98-11-16	18:43:25		18:40:00	18:50:00	leo	per/tri	rh033	16	11		rb !!	5,10	49	Err:508	Err:508	3,25	43	Err:508	Err:508	8	06c	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
06d	4154-37	98-11-16	18:43:25		18:40:00	18:50:00	leo	gem	rh033	17	11		lb	5,10	49	Err:508	Err:508	3,25	43	Err:508	Err:508	8	06d	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
06e	4154-40	98-11-16	18:43:25		18:35:00	18:45:00	leo	aur	rh033	25	10		! !	4,50	48	Err:508	Err:508	4,00	45	Err:508	Err:508	8	06e	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
07	4154-13	98-11-16	18:45:00	?	18:40:00	18:50:00	leo	cnc/gem		13	11		c	7,50	30	Err:508	Err:508	7,20	30	Err:508	Err:508	6	07	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
08a	4154-41	98-11-16	19:05:00	?	19:00:00	19:10:00	leo	tau		5	15		r	4,25	21	Err:508	Err:508	4,00	18	Err:508	Err:508	10	08a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
08b	4154-60	98-11-16	19:05:00	?	19:00:00	19:10:00	leo	tau		8	13		! !	4,25	21	Err:508	Err:508	4,00	18	Err:508	Err:508	10	08b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
08c	4154-25	98-11-16	19:05:00	?	19:00:00	19:10:00	leo	tau/ari		15	13		rb !	4,25	21	Err:508	Err:508	4,00	18	Err:508	Err:508	10	08c	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
08d	4154-36	98-11-16	19:05:00	?	19:00:00	19:10:00	leo	tau/ari		16	13		lb !!	4,25	21	Err:508	Err:508	4,00	18	Err:508	Err:508	10	08d	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
08e	4154-39	98-11-16	19:10:00	?	19:05:00	19:15:00	leo	tau/ari		24	13		! !	4,35	20	Err:508	Err:508	4,15	19	Err:508	Err:508	10	08e	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
09		98-11-16	19:05:00	?	19:00:00	19:10:00	leo	tri		16	13		ro !	2,15	38	Err:508	Err:508	1,25	29	Err:508	Err:508		09	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
10	4154-7	98-11-16	19:15:00	?	19:10:00	19:20:00	leo	uma/cam		12	14		!	8,50	56	Err:508	Err:508	8,20	63	Err:508	Err:508	12	10	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
11	4154-7	98-11-16	19:15:00	?	19:10:00	19:20:00	leo	lmi/uma		12	14		ro	9,35	40	Err:508	Err:508	9,25	44	Err:508	Err:508	11	11	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
12		98-11-16	19:25:00	?	19:20:00	19:30:00	leo	uma/cam		11	15		r	8,30	70	Err:508	Err:508	8,00	74	Err:508	Err:508		12	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
13a	4154-20	98-11-16	19:37:53		19:30:00	19:40:00	leo	mon/ori	rh039	14	16		ro	6,15	-4	Err:508	Err:508	5,40	-10	Err:508	Err:508	16	13a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
13b	4154-26	98-11-16	19:37:53		19:30:00	19:40:00	leo	ori/lep	rh039	15	16		lo	6,15	-4	Err:508	Err:508	5,40	-10	Err:508	Err:508	16	13b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
14	4154-14	98-11-16	19:50:41	??	19:40:00	19:50:00	leo	cnc/hya	rh055	13	17		ro	9,05	12	Err:508	Err:508	8,45	9	Err:508	Err:508	19	14	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
15		98-11-16	19:50:41	??	19:50:00	20:00:00	leo	dra/cam	rh054	11	18		ro	10,00	69	Err:508	Err:508	10,00	78	Err:508	Err:508		15	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
16		98-11-16	19:55:00	?	19:50:00	20:00:00	leo	cas		17	18		ro	1,30	73	Err:508	Err:508	1,05	70	Err:508	Err:508		16	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
17	4154-42	98-11-16	20:05:00	?	20:00:00	2																																							

		Dutch Meteor Society					Leonids 1998					Robert Haas and team					Primary station #99					#REF!		North East		Secondary station #REF!					#REF!		North East											
		All timings in UT					Visual data					Photographic data					Beginpoint					Endpoint					Multistat.		Check		Beginpoint					h [km] 100		Endpoint					h [km] 80	
No	CD	Date	Time	Timeinterval	Str	Mv	Con	Obs	Batteri	Kam.nr.	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	ULAN	DEL	dAZ	dHG	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q										
42	4154-29	98-11-16	21:45:27	??	21:40:00	21:50:00	leo	mon	rh100		15	29	o !	6,50	3	Err:508	Err:508	6,15	-3	Err:508	Err:508			42	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	[deg]							
43a	4154-46	98-11-16	21:46:12		21:40:00	21:50:00	leo	cnc	rh104		5	31	lb !!!	9,20	28	Err:508	Err:508	8,55	31	Err:508	Err:508	50	43a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
43b	4154-51	98-11-16	21:46:12		21:40:00	21:50:00	leo	cnc	rh104		6	31	!!!!	9,20	28	Err:508	Err:508	8,55	31	Err:508	Err:508	50	43b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
44		98-11-16	21:55:00	?	21:50:00	22:00:00	leo	uma/cam			11	30	c	8,20	67	Err:508	Err:508	8,10	70	Err:508	Err:508			44	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508								
45	4154-30	98-11-16	21:55:00	?	21:50:00	22:00:00	leo	mon			15	30	lo	7,35	-5	Err:508	Err:508	7,20	-9	Err:508	Err:508			45	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
46a		98-11-16	22:05:00	?	22:00:00	22:10:00	leo	lyn/cam			7	33	lo	6,30	59	Err:508	Err:508	5,50	60	Err:508	Err:508			46a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
46b		98-11-16	22:05:00	?	22:00:00	22:10:00	leo	lyn/cam			11	31	lb	6,30	59	Err:508	Err:508	5,50	60	Err:508	Err:508			46b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
46c		98-11-16	22:05:00	?	22:00:00	22:10:00	leo	lyn/cam			17	31	!	6,30	59	Err:508	Err:508	5,50	60	Err:508	Err:508			46c	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
47a		98-11-16	22:05:00	?	22:00:00	22:10:00	leo	uma			7	33	o	9,35	63	Err:508	Err:508	9,30	66	Err:508	Err:508			47a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
47b		98-11-16	22:05:00	?	22:00:00	22:10:00	leo	uma			11	31	rb	9,35	63	Err:508	Err:508	9,30	66	Err:508	Err:508			47b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508						
48	4154-23	98-11-16	22:05:00	?	22:00:00	22:10:00	leo	hya			14	31	o	9,25	-6	Err:508	Err:508	9,20	-8	Err:508	Err:508	53	48	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508							
49		98-11-16	22:05:00	?	22:00:00	22:10:00	leo	cam			17	31	o	4,20	59	Err:508	Err:508	3,50	57	Err:508	Err:508			49	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508						
50a	4154-52	98-11-16	22:15:00	?	22:10:00	22:20:00	leo	lyn/uma			6	34	lb !	9,35	48	Err:508	Err:508	9,15	53	Err:508	Err:508	56	50a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508						
50b	4154-56	98-11-16	22:15:00	?	22:10:00	22:20:00	leo	uma/lyn			7	34	!	9,35	48	Err:508	Err:508	9,15	53	Err:508	Err:508	56	50b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508						
51a	4154-31	98-11-16	22:15:00	?	22:10:00	22:20:00	leo	mon/ori			15	32	ro	6,15	7	Err:508	Err:508	6,00	4	Err:508	Err:508			51a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
51b		98-11-16	22:15:00	?	22:10:00	22:20:00	leo	mon/ori			16	32	lo	6,15	7	Err:508	Err:508	6,00	4	Err:508	Err:508			51b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
52	4154-17	98-11-16	22:15:00	?	22:10:00	22:20:00	leo	leo/uma			13	32	c	11,35	25	Err:508	Err:508	11,40	26	Err:508	Err:508	58	52	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508						
53	4154-31	98-11-16	22:15:00	?	22:10:00	22:20:00	leo	mon			15	32	o	7,20	-2	Err:508	Err:508	7,00	-7	Err:508	Err:508			53	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
54		98-11-16	22:15:00	?	22:10:00	22:20:00	leo	gem/ori			16	32	o	6,10	19	Err:508	Err:508	5,55	18	Err:508	Err:508			54	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
55a	4154-9	98-11-16	22:25:00	?	22:20:00	22:30:00	leo	lmi/uma			12	33	rb	10,52	30	Err:508	Err:508	11,10	32	Err:508	Err:508	63	55a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
55b	4154-18	98-11-16	22:25:00	?	22:20:00	22:30:00	leo	lmi/uma			13	33	c	10,52	30	Err:508	Err:508	11,10	32	Err:508	Err:508	63	55b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
56a	4154-57	98-11-16	22:25:00	?	22:20:00	22:30:00	leo	lyn/aur			7	35	l !	7,30	50	Err:508	Err:508	6,50	53	Err:508	Err:508	60	56a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
56b	4154-38	98-11-16	22:25:00	?	22:20:00	22:30:00	leo	lyn/cam			17	33	b	7,30	50	Err:508	Err:508	6,50	53	Err:508	Err:508	60	56b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
57		98-11-16	22:25:00	?	22:20:00	22:30:00	leo	mon			15	33	o	7,25	-4	Err:508	Err:508	7,10	-7	Err:508	Err:508			57	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
58a	4154-53	98-11-16	22:35:00	?	22:30:00	22:40:00	leo	uma			6	36	l	10,40	45	Err:508	Err:508	10,45	47	Err:508	Err:508	64	58a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
58b	4154-58	98-11-16	22:35:00	?	22:30:00	22:40:00	leo	uma			7	36	r	10,40	45	Err:508	Err:508	10,45	47	Err:508	Err:508	64	58b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
58c	4154-10	98-11-16	22:35:00	?	22:30:00	22:40:00	leo	uma			12	34	b	10,40	45	Err:508	Err:508	10,45	47	Err:508	Err:508	64	58c	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508				
59		98-11-16	22:35:00	?	22:30:00	22:40:00	leo	mon/ori			16	34	lo	6,25	8	Err:508	Err:508	6,05	6	Err:508	Err:508			59	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
60a		98-11-16	22:45:00	?	22:40:00	22:50:00	leo	cam			11	35	l !	7,40	68	Err:508	Err:508	5,50	74	Err:508	Err:508			60a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
60b		98-11-16	22:45:00	?	22:40:00	22:50:00	leo	cam			17	35	r !	7,40	68	Err:508	Err:508	5,50	74	Err:508	Err:508			60b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
61	4154-32	98-11-16	22:45:00	?	22:40:00	22:50:00	leo	hya/mon			15	35	o !!	8,20	-1	Err:508	Err:508	7,45	-7	Err:508	Err:508	67	61	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
62		98-11-16	22:45:00	?	22:40:00	22:50:00	leo	lyn/aur			17	35	b	6,50	51	Err:508	Err:508	6,25	53	Err:508	Err:508			62	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
63a	4154-24	98-11-16	22:55:00	?	22:50:00	23:00:00	leo	cnc/hya			14	36	rb !	9,10	9	Err:508	Err:508	8,55	5	Err:508	Err:508	70	63a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
63b	4154-33	98-11-16	22:55:00	?	22:50:00	23:00:00	leo	cnc/hya			15	36	lb !	9,10	9	Err:508	Err:508	8,55	5	Err:508	Err:508	70	63b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508				
64a	4154-24	98-11-16	22:55:0																																									

Dutch Meteor Society		Leonids 1998				Robert Haas and team				Primary station #REF!				North		Secondary station #REF!				North																		
										#REF!		East		#REF!				East																				
All timings in UT		Visual data				Photographic data				Beginpoint				Endpoint		Multistat.		Check		Beginpoint				h[km]		100		Endpoint		h[km]		80						
No	CD	Date	Time	Timeinterval	Str	Mv	Con	Obs	Batterij	Kam.nr.	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	ULAN	DEL	dAZ	dHG	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q				
76e	4154-82	98-11-17	19:22:30	? 19:15:00 19:30:00	leo		tau			16	10		lb	4,35	17		Err:508:Err:508	4,15	15		Err:508:Err:508	89	76e	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	[deg]	
76f	4154-87	98-11-17	19:12:30	? 19:05:00 19:20:00	leo		tau			24	10		c	5,00	21		Err:508:Err:508	4,30	16		Err:508:Err:508	89	76f	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
77a	4154-91	98-11-17	19:37:30	? 19:30:00 19:45:00	leo		lyn/cam			5	11		ro	8,20	56		Err:508:Err:508	7,15	64		Err:508:Err:508	90	77a	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
77b	4154-62	98-11-17	19:37:30	? 19:30:00 19:45:00	leo		uma/lyn			11	11		rb	8,20	56		Err:508:Err:508	7,15	64		Err:508:Err:508	90	77b	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
77c	4154-67	98-11-17	19:37:30	? 19:30:00 19:45:00	leo		lyn/cam			12	11		mb !	8,35	54		Err:508:Err:508	7,35	66		Err:508:Err:508	90	77c	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
78	4154-75	98-11-17	19:37:30	? 19:30:00 19:45:00	leo		cmi/hya			14	11		lo	7,55	2		Err:508:Err:508	8,05	1		Err:508:Err:508	92	78	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
79	4154-75	98-11-17	19:37:30	? 19:30:00 19:45:00	leo		mon/lep			14	11		ro	6,10	-8		Err:508:Err:508	5,45	-10		Err:508:Err:508	91	79	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
80		98-11-17	19:37:30	? 19:30:00 19:45:00	leo		tri			16	11		ro	2,20	34		Err:508:Err:508	1,50	30		Err:508:Err:508		80	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
81		98-11-17	19:52:30	? 19:45:00 20:00:00	leo		per/and			17	12		c	3,05	52		Err:508:Err:508	2,40	46		Err:508:Err:508		81	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
82a	4154-92	98-11-17	19:52:30	? 19:45:00 20:00:00	leo		aur/per			5	12		lb	5,05	43		Err:508:Err:508	4,25	42		Err:508:Err:508	93	82a	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
82b	4154-103	98-11-17	19:52:30	? 19:45:00 20:00:00	leo		aur/per			8	12		c	5,05	43		Err:508:Err:508	3,50	38		Err:508:Err:508	93	82b	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
83		98-11-17	19:52:30	? 19:45:00 20:00:00	spo?		per			8	12		mo	4,00	36		Err:508:Err:508	3,50	39		Err:508:Err:508		83	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
84		98-11-17	20:22:30	? 20:15:00 20:30:00	leo?		cas			17	14		ro	1,30	64		Err:508:Err:508	2,05	68		Err:508:Err:508		84	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
85a		98-11-17	20:37:30	? 20:30:00 20:45:00	leo		uma/lyn			5	15		ro	9,15	58		Err:508:Err:508	7,10	62		Err:508:Err:508	99	85a	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
85b	4154-63	98-11-17	20:37:30	? 20:30:00 20:45:00	leo		uma/cam			11	15		rb !!	9,00	51		Err:508:Err:508	8,05	70		Err:508:Err:508	99	85b	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
85c	4154-68	98-11-17	20:37:30	? 20:30:00 20:45:00	leo		uma			12	15		lb !!!	9,05	61		Err:508:Err:508	8,45	70		Err:508:Err:508	99	85c	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
86		98-11-17	20:37:30	? 20:30:00 20:45:00	leo		uma/lyn			5	15		ro	9,20	58		Err:508:Err:508	7,15	62		Err:508:Err:508		86	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
87	4154-72	98-11-17	20:37:30	? 20:30:00 20:45:00	leo		leo/cnc			13	15		c	9,10	15		Err:508:Err:508	9,00	15		Err:508:Err:508	95	87	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
88	4154-72	98-11-17	20:37:30	? 20:30:00 20:45:00	leo		leo/hya			13	15		ro	9,20	7		Err:508:Err:508	9,10	6		Err:508:Err:508	94	88	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
89	4154-79	98-11-17	20:37:30	? 20:30:00 20:45:00	leo		ori			15	15		mo	5,50	1		Err:508:Err:508	5,20	-3		Err:508:Err:508	96	89	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
90a		98-11-17	20:37:30	? 20:30:00 20:45:00	leo		uma/cam			11	15		rb	9,20	57		Err:508:Err:508	9,05	62		Err:508:Err:508		90a	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
90b		98-11-17	20:37:30	? 20:30:00 20:45:00	leo		uma			12	15		lb	9,20	56		Err:508:Err:508	9,05	64		Err:508:Err:508		90b	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
91a	4154-93	98-11-17	20:52:30	? 20:45:00 21:00:00	leo		uma/cam			5	16		mo	8,35	60		Err:508:Err:508	8,05	66		Err:508:Err:508	101	91a	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
91b	4154-64	98-11-17	20:52:30	? 20:45:00 21:00:00	leo		uma/cam			11	16		rb	8,30	61		Err:508:Err:508	7,10	69		Err:508:Err:508	101	91b	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
91c	4154-69	98-11-17	20:52:30	? 20:45:00 21:00:00	leo		uma/cam			12	16		lb	8,45	66		Err:508:Err:508	8,10	66		Err:508:Err:508	101	91c	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
92	4154-73	98-11-17	20:52:30	? 20:45:00 21:00:00	leo		leo/lmi			13	16		c	10,10	29		Err:508:Err:508	10,10	30		Err:508:Err:508	103	92	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
93	4154-73	98-11-17	20:52:30	? 20:45:00 21:00:00	leo		leo/cnc			13	16		ro	9,40	15		Err:508:Err:508	9,20	15		Err:508:Err:508		93	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
94		98-11-17	20:52:30	? 20:45:00 21:00:00	leo		cam/per			17	16		c	3,50	56		Err:508:Err:508	3,25	48		Err:508:Err:508		94	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
95		98-11-17	21:07:30	? 21:00:00 21:15:00	leo		leo			13	17		ro	10,15	12		Err:508:Err:508	10,10	11		Err:508:Err:508		95	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
96	4154-80	98-11-17	21:07:30	? 21:00:00 21:15:00	leo		mon/ori			15	17		c	6,40	7		Err:508:Err:508	6,20	4		Err:508:Err:508	106	96	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
97		98-11-17	21:07:30	? 21:00:00 21:15:00	leo		mon/ori			15	17		mo	6,10	-1		Err:508:Err:508	5,55	-3		Err:508:Err:508		97	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
98		98-11-17	21:22:30	? 21:15:00 21:30:00	leo		lmi/uma			12	18		mr	10,55	41		Err:508:Err:508	11,10	43		Err:508:Err:508		98	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
99	4154-76	98-11-17	21:37:30	? 21:30:00 21:45:00	leo		hya			14	19		mo	9,25	-2		Err:508:Err:508	9,15	-3		Err:508:Err:508	110	99	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
100a	4154-94	98-11-17	21:37:30	? 21:30:00 21:45:00	leo		uma/cam			5	19		mo	9,15	57		Err:508:Err:508	9,10	62		Err:508:Err:508	108	100a	###	###		Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
100b	4154-65	98-11-17	21:37:30	? 21:30:00 21:45:00	leo		uma			11	19		rb	9,00	60		Err:508:Err:508	8,15	68																			

		Dutch Meteor Society				Leonids 1998				Robert Haas and team				Primary station				16/11/11 16/11/11		#REF!		North		Secondary station				8/11/11 8/11-1170 8/11-11		#REF!		North									
														#REF!		East		#REF!				#REF!		East																	
		All timings in UT				Visual data				Photographic data				Beginpoint				Endpoint				Multistat.		Check		Beginpoint				h [km]		100		Endpoint				h [km]		80	
No	CD	Date	Time		Timeinterval	Str	Mv	Con	Obs	Batterij	Kam.nr.	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	ULAN	DEL	dAZ	dHG	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q						
118a	4550-6	98-11-18	18:45:00	?	18:40:00	18:50:00	leo		ori/tau		15	11		lb	4,50	13	Err:508	Err:508	4,00	6	Err:508	Err:508	131	118a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	[deg]			
118b	4550-17	98-11-18	18:45:00	?	18:40:00	18:50:00	leo		ori/tau		7	12		ro	4,50	12	Err:508	Err:508	4,20	8	Err:508	Err:508	131	118b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
119		98-11-18	20:50:00	?	20:45:00	20:55:00	leo		leo		22	23		c	9,55	29	Err:508	Err:508	9,55	30	Err:508	Err:508		119	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
120a	4550-18	98-11-18	21:35:00	?	21:30:00	21:40:00	leo		cnc/gem		7	29		c	8,10	18	Err:508	Err:508	7,30	16	Err:508	Err:508	135	120a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
120b	4550-11	98-11-18	21:40:00	?	21:35:00	21:45:00	leo		cnc/gem		24	28		lo	8,00	17	Err:508	Err:508	7,35	15	Err:508	Err:508	135	120b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
121		98-11-18	21:35:00	?	21:30:00	21:40:00	spo		cam/lyn		11	29		lb	6,50	68	Err:508	Err:508	6,10	64	Err:508	Err:508		121	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
122	4550-7	98-11-18	21:55:00	?	21:50:00	22:00:00	leo		hya/mon		15	30		lb	8,05	-8	Err:508	Err:508	7,45	-12	Err:508	Err:508	136	122	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
123a	4550-13	98-11-18	22:15:00	?	22:10:00	22:20:00	leo		lmi/uma		5	34		rb	10,20	41	Err:508	Err:508	10,20	43	Err:508	Err:508	137	123a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
123b	4550-15	98-11-18	22:15:00	?	22:10:00	22:20:00	leo		lmi/uma		6	34		c	10,25	45	Err:508	Err:508	10,20	43	Err:508	Err:508	137	123b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
123c	4550-9	98-11-18	22:20:00	?	22:15:00	22:25:00	leo		lmi/uma		21	32		c	10,20	41	Err:508	Err:508	10,25	45	Err:508	Err:508	137	123c	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	

		Dutch Meteor Society				Leonids 1998				Casper ter Kuile and team				Secondary station 70				#REF!	North		Primary station				#REF!	North														
														#REF!	East						#REF!	East																		
		All timings in UT				Visual data				Photographic data				Beginpoint				Endpoint		Multistat.		Check		Beginpoint				h [km]		100		Endpoint		h [km]		80				
No	CD	Date	Time	Timeinterval	Str	Mv	Con	Obs	Batteri	Filmserie	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	DEL	ULAN	dAZ	dHG	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q						
																																				(deg)				
01a		98-11-16	17:23:56	A+	17:19:24	17:29:22	leo	-2	ori	mlo1		6	3	ro	5,25	15	Err:508Err:508	5,10	10	Err:508Err:508																				
01b		98-11-16	17:23:56	A+	17:19:24	17:29:22	leo	-2	ori/tau	mlo1		7	3	lo	5,25	15	Err:508Err:508	5,10	10	Err:508Err:508																				
01c		98-11-16	17:23:56	A+	17:19:24	17:29:22	leo	-2	ori/tau	mlo1		16	3	r	6,10	15	Err:508Err:508	5,00	12	Err:508Err:508																				
01d		98-11-16	17:23:56	A+	17:19:24	17:29:22	leo	-2	ori/tau	mlo1		17	3	c !	6,15	16	Err:508Err:508	5,00	12	Err:508Err:508																				
02	4126-21	98-11-16	18:14:00	?	18:09:01	18:18:59	leo		eri/cet			11	8	o	3,35	0	Err:508Err:508	2,55	-5	Err:508Err:508			2	02	###	###														
03a	4126-1	98-11-16	18:24:08	A+	18:19:00	18:29:00	leo	-1	per/aur	mlo3		5	9	lb !	6,00	48	Err:508Err:508	3,10	41	Err:508Err:508			3	03a	###	###														
03b	4126-8	98-11-16	18:24:08	A+	18:19:00	18:29:00	leo	-1	aur	mlo3		6	9	lb	6,00	50	Err:508Err:508	4,50	45	Err:508Err:508			3	03b	###	###														
03c	4126-36	98-11-16	18:24:08	A+	18:19:00	18:29:00	leo	-1	per	mlo3		13	9	rb !	4,20	47	Err:508Err:508	3,10	41	Err:508Err:508			3	03c	###	###														
03d	4126-58	98-11-16	18:24:08	A+	18:17:00	18:27:00	leo	-1	aur	mlo3		24	8	c	6,00	45	Err:508Err:508	4,30	45	Err:508Err:508			3	03d	###	###														
03e	4126-62	98-11-16	18:24:08	A+	18:17:00	18:27:00	leo	-1	aur/per	mlo3		25	8	lb	5,20	49	Err:508Err:508	4,30	48	Err:508Err:508			3	03e	###	###														
04a	4126-2	98-11-16	18:31:39	A+	18:29:00	18:39:00	leo	0	lyn/aur	mlo4		5	10	rb	7,05	46	Err:508Err:508	5,35	48	Err:508Err:508			4	04a	###	###														
04b	4126-9	98-11-16	18:31:39	A+	18:29:00	18:39:00	leo	0	aur	mlo4		6	10	l	6,50	46	Err:508Err:508	5,20	48	Err:508Err:508			4	04b	###	###														
04c	4126-48	98-11-16	18:31:39	A+	18:29:00	18:39:00	leo	0	lyn/aur	mlo4		15	10	b	6,50	46	Err:508Err:508	6,20	47	Err:508Err:508			4	04c	###	###														
04d	4126-59	98-11-16	18:31:39	A+	18:27:00	18:37:00	leo	0	aur	mlo4		24	9	c	6,30	47	Err:508Err:508	5,15	47	Err:508Err:508			4	04d	###	###														
05		98-11-16	18:34:00	?	18:29:00	18:39:00	spo		eri			11	10	o	3,25	3	Err:508Err:508	3,20	-1	Err:508Err:508			05	###	###															
06a	4126-3	98-11-16	18:39:30	A+	18:39:00	18:49:00	leo	-1	aur	mlo5		5	11	b	6,40	44	Err:508Err:508	4,50	44	Err:508Err:508			7	06a	###	###														
06b	4126-10	98-11-16	18:39:30	A+	18:39:00	18:49:00	leo	-1	aur	mlo5		6	11	lb	6,40	44	Err:508Err:508	5,00	44	Err:508Err:508			7	06b	###	###														
06c	4126-60	98-11-16	18:39:30	A+	18:37:00	18:47:00	leo	-1	aur	mlo5		24	10	c !!	6,40	45	Err:508Err:508	5,00	43	Err:508Err:508			7	06c	###	###														
06d	4126-63	98-11-16	18:39:30	A+	18:37:00	18:47:00	leo	-1	aur	mlo5		25	10	ml !	6,15	44	Err:508Err:508	4,50	43	Err:508Err:508			7	06d	###	###														
07a		98-11-16	18:43:25	A+	18:39:00	18:49:00	tau	0	cam	mlo6		5	11	c	4,35	50	Err:508Err:508	4,40	59	Err:508Err:508			07a	###	###															
07b		98-11-16	18:43:25	A+	18:39:00	18:49:00	tau	0	cam	mlo6		13	11	rb	4,30	50	Err:508Err:508	4,45	57	Err:508Err:508			07b	###	###															
08a	4126-41	98-11-16	18:43:30	V-	18:39:00	18:49:00	leo	-2	and	mlo7		14	11	lo !!	2,20	55	Err:508Err:508	0,45	37	Err:508Err:508			6	08a	###	###														
08b	4126-54	98-11-16	18:43:30	V-	18:37:00	18:47:00	leo	-2	per/and	mlo7		23	11	lo !	2,10	51	Err:508Err:508	1,20	42	Err:508Err:508			6	08b	###	###														
09		98-11-16	18:54:16	V+	18:49:00	18:59:00	leo	-2	lmi/uma	mlo8		15	12	o	9,25	48	Err:508Err:508	9,15	52	Err:508Err:508			09	###	###															
10a	4126-28	98-11-16	19:05:26	V+	18:59:00	19:09:00	leo	-1	ari/psc	mlo9		12	13	o	2,30	27	Err:508Err:508	1,50	20	Err:508Err:508			8	10a	###	###														
10b	4126-51	98-11-16	19:05:26	V+	18:57:00	19:07:00	leo	-1	ari	mlo9		22	13	lo	2,30	25	Err:508Err:508	2,15	22	Err:508Err:508			8	10b	###	###														
11a	4126-18	98-11-16	19:10:32	A+	19:09:00	19:19:00	leo	0	uma/cam	mlo10		8	14	r !	8,25	62	Err:508Err:508	7,40	69	Err:508Err:508			11	11a	###	###														
11b	4126-49	98-11-16	19:10:32	A+	19:09:00	19:19:00	leo	0	uma/cam	mlo10		15	14	l	8,50	62	Err:508Err:508	8,05	66	Err:508Err:508			11	11b	###	###														
12	4126-18	98-11-16	19:14:00	?	19:09:00	19:19:00	leo	0	cam/cas			8	14	lo !	5,00	76	Err:508Err:508	2,40	76	Err:508Err:508			10	12	###	###														
13		98-11-16	19:24:00	?	19:19:00	19:29:00	leo		uma			15	15	lo	9,40	54	Err:508Err:508	9,20	61	Err:508Err:508			13	###	###															
14		98-11-16	19:24:00	?	19:19:00	19:29:00	leo		lmi/lyn			15	15	ro !	9,35	37	Err:508Err:508	9,00	41	Err:508Err:508			14	###	###															
15		98-11-16	19:24:00	?	19:19:00	19:29:00	leo		cnc			16	15	o	9,00	18	Err:508Err:508	8,40	17	Err:508Err:508			15	###	###															
16	4126-22	98-11-16	19:34:00	?	19:29:00	19:39:00	leo		eri			11	16	ro	4,50	4	Err:508Err:508	3,50	-1	Err:508Err:508			13	16	###	###														
17		98-11-16	19:34:00	?	19:29:00	19:39:00	leo		cnc			16	16	c	8,40	20	Err:508Err:508	8,00	18	Err:508Err:508			17	###	###															
18a		98-11-16	19:45:52	A+	19:39:00	19:49:00	leo	-3	lmi	mlo11		15	17	r !	9,30	37	Err:508Err:508	9,00	41	Err:508Err:508			18a	###	###															
18b		98-11-16	19:45:52	A+	19:39:00	19:49:00	leo	-3	lmi	mlo11		16	17	l !	9,30	37	Err:508Err:508	9,00	41	Err:508Err:508			18b	###	###															
19a	4126-11	98-11-16	19:48:47	A+	19:39:00	19:49:00	leo	-2	cnc/gem	mlo12		6	17	ro	8,00	26	Err:508Err:508	7,20	25	Err:508Err:508			14	19a	###	###														
19b		98-11-16	19:48:56	V-	19:39:00	19:49:00	leo	1	cnc/gem	mlo12		16	17	b	8,00	25	Err:508Err:508	7,20	25	Err:508Err:508			19b	###	###															
20		98-11-16	19:54:00	?	19:49:00	19:59:00	leo		lmi/uma			15	18	o	10,00	47	Err:508Err:508	9,55	50	Err:508Err:508			20	###	###															
		98-11-16	20:02:00	?	19:57:00	20:07:00	tau		gem			21	18	lb !	6,45	24	Err:508Err:508	7,15	25	Err:508Err:508				###	###															
21		98-11-16	20:04:00	?	19:59:00	20:09:00	leo		mon/ori			11	19	lo	6,00	-3	Err:508Err:508	5,40	-5	Err:508Err:508			21	###	###															
22	4126-29	98-11-16	20:04:00	?	19:59:00	20:09:00	leo		tau/ari			12	19	o	3,50	22	Err:508Err:508	3,20	20	Err:508Err:508			17	22	###	###														
23	4126-30	98-11-16	20:24:00	?	20:19:00	20:29:00	spo?		per			12	21	rb	4,15	48	Err:508Err:508	3,55	40	Err:5																				

		Dutch Meteor Society					Leonids 1998					Casper ter Kuile and team					Secondary station 70					#REF!				North				Primary station 169					#REF!				North							
																	#REF!				East				#REF!					#REF!				East												
		All timings in UT					Visual data					Photographic data					Beginpoint				Endpoint				Multistat.		Check		Beginpoint		h [km]		100		Endpoint		h [km]		80							
No	CD	Date	Time	Timeinterval		Str	Mv	Con	Obs	Batterie	Filmserie	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	DEL	ULAN	dAZ	dHG	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q											
37a		98-11-16	21:14:00	?	21:09:00	21:19:00	leo		lyn				5	26	rb	9,40	49	Err:508	Err:508	9,25	52	Err:508	Err:508			37a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	[deg]					
37b		98-11-16	21:14:00	?	21:09:00	21:19:00	leo		lyn				6	26	lb	8,10	47	Err:508	Err:508	7,55	49	Err:508	Err:508			37b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508				
38		98-11-16	21:14:00	?	21:09:00	21:19:00	leo		uma/dra				8	26	ro !	10,10	67	Err:508	Err:508	9,50	78	Err:508	Err:508			38	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508				
39		98-11-16	21:14:00	?	21:09:00	21:19:00	leo		lmi/uma				15	26	b	9,30	49	Err:508	Err:508	9,30	52	Err:508	Err:508			39	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508				
40a	4126-13	98-11-16	21:21:26	?	21:19:00	21:29:00	leo	-4	cnc	mlo17			6	27	r !!	8,55	21	Err:508	Err:508	8,35	20	Err:508	Err:508			34	40a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508				
40b	4126-17	98-11-16	21:21:26	?	21:19:00	21:29:00	leo	-2	cnc	miv14			7	27	l !!!	8,55	21	Err:508	Err:508	8,35	20	Err:508	Err:508			34	40b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
40c	4126-50	98-11-16	21:21:26	?	21:19:00	21:29:00	leo	-4	cnc	mlo17			17	27	b	8,55	21	Err:508	Err:508	8,35	20	Err:508	Err:508			34	40c	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
41b		98-11-16	21:22:00	?	21:17:00	21:27:00	leo		lyn				24	27	ro	8,40	45	Err:508	Err:508	8,10	49	Err:508	Err:508			41b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
41a		98-11-16	21:24:00	?	21:19:00	21:29:00	leo		lyn/uma				6	27	lb	8,55	42	Err:508	Err:508	8,45	44	Err:508	Err:508			41a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
42c	4126-52	98-11-16	21:32:00	?	21:27:00	21:37:00	leo		aur/tau				22	28	lb	5,40	28	Err:508	Err:508	5,30	26	Err:508	Err:508			35	42c	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
42a	4126-32	98-11-16	21:34:00	?	21:29:00	21:39:00	leo		gem/tau				12	28	b	6,00	28	Err:508	Err:508	5,25	25	Err:508	Err:508			34	42a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
42b	4126-38	98-11-16	21:34:00	?	21:29:00	21:39:00	leo		gem/tau				13	28	o	6,00	28	Err:508	Err:508	5,40	28	Err:508	Err:508			35	42b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
43a		98-11-16	21:34:00	?	21:29:00	21:39:00	leo		leo				16	28	r	9,50	12	Err:508	Err:508	9,50	11	Err:508	Err:508			43a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
43b		98-11-16	21:34:00	?	21:29:00	21:39:00	leo		leo				17	28	l	9,50	12	Err:508	Err:508	9,50	11	Err:508	Err:508			43b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
44a	4126-32	98-11-16	21:38:12	?	21:29:00	21:39:00	leo	-4	aur	mlo18			12	28	rb !!	6,00	40	Err:508	Err:508	5,05	40	Err:508	Err:508			38	44a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
44b	4126-38	98-11-16	21:38:12	?	21:29:00	21:39:00	leo	-6	aur	miv15			13	28	o !!!	6,00	40	Err:508	Err:508	5,10	40	Err:508	Err:508			38	44b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
44c	4126-43	98-11-16	21:38:12	?	21:29:00	21:39:00	leo	-5	aur	mlo18			14	28	lb !!	5,50	42	Err:508	Err:508	5,20	42	Err:508	Err:508			38	44c	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
44d	4126-53	98-11-16	21:38:12	?	21:29:00	21:39:00	leo	-4	aur	mlo18			22	29	rb !!!	5,40	41	Err:508	Err:508	5,10	42	Err:508	Err:508			38	44d	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
44e	4126-55	98-11-16	21:38:12	?	21:29:00	21:39:00	leo	-4	aur	mlo18			23	29	lb !!!	5,40	42	Err:508	Err:508	5,15	42	Err:508	Err:508			38	44e	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
		98-11-16	21:42:00	??	21:37:00	21:47:00	leo		lmi/lyn				24	29	rb	9,15	36	Err:508	Err:508	8,55	39	Err:508	Err:508			###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
45a	4126-4	98-11-16	21:42:30	??	21:39:00	21:49:00	leo	0	lyn/aur	mlo19			5	29	l	7,10	47	Err:508	Err:508	6,25	50	Err:508	Err:508			41	45a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
45b	4126-39	98-11-16	21:42:30	??	21:39:00	21:49:00	leo	0	aur	mlo19			13	29	r	7,10	47	Err:508	Err:508	6,20	50	Err:508	Err:508			41	45b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
45c	4126-44	98-11-16	21:42:30	??	21:39:00	21:49:00	leo	0	aur	mlo19			14	29	b	6,20	49	Err:508	Err:508	6,00	50	Err:508	Err:508			41	45c	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
46	4126-23	98-11-16	21:44:00	?	21:39:00	21:49:00	leo		ori				11	29	ro	6,05	8	Err:508	Err:508	5,40	5	Err:508	Err:508			40	46	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
47	4126-33	98-11-16	21:44:00	?	21:39:00	21:49:00	leo		tau/ori				12	29	c	5,35	19	Err:508	Err:508	5,10	15	Err:508	Err:508			39	47	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
48a		98-11-16	21:44:00	?	21:39:00	21:49:00	leo		leo/sex				16	29	ro	10,30	5	Err:508	Err:508	10,30	1	Err:508	Err:508			48a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
48b		98-11-16	21:44:00	?	21:39:00	21:49:00	leo		leo/sex				17	29	lo	10,30	3	Err:508	Err:508	10,30	0	Err:508	Err:508			48b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
49		98-11-16	21:44:50	?	21:39:00	21:49:00	leo	-2	leo	miv17			16	29	o	10,40	14	Err:508	Err:508	10,40	11	Err:508	Err:508			49	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
50a	4126-4	98-11-16	21:46:10	?	21:39:00	21:49:00	leo	-8	aur	miv19			5	29	lb	7,00	41	Err:508	Err:508	6,35	43	Err:508	Err:508			43	50a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
50b	4126-33	98-11-16	21:46:10	?	21:39:00	21:49:00	leo	-8	aur	miv19			12	29	rb !!	6,00	42	Err:508	Err:508	5,25	41	Err:508	Err:508			43	50b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
50c	4126-39	98-11-16	21:46:11	?	21:39:00	21:49:00	leo	-5	aur	mlo20			13	29	ro !!!!	6,45	39	Err:508</																												

		Dutch Meteor Society				Leonids 1998				Casper ter Kuile and team				Secondary station				#REF!				North				Primary station				#REF!				North								
														70								169								169												
														#REF!				East				#REF!				East																
		All timings in UT				Visual data				Photographic data				Beginpoint				Endpoint				Multistat.		Check		Beginpoint				h [km]		100		Endpoint				h [km]		80		
No	CD	Date	Time	Timeinterval	Str	Mv	Con	Obs	Batteri	Filmserie	Neg.	Br#	Q	RA	DC	AZ	HG	RA	DC	AZ	HG	DEL	ULAN	dAZ	dHG	RA	DEC	AZ	HG	RA	DEC	AZ	HG	Q								
112		98-11-17	22:05:34	22:00:00 22:15:00	leo	0	hya	mlo50		11	21		ml	8,40	0	Err:508	Err:508	8,35	-2	Err:508	Err:508			112	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	[deg]					
113		98-11-17	22:07:30	? 22:00:00 22:15:00	leo		uma			15	21		c	11,00	62	Err:508	Err:508	11,05	66	Err:508	Err:508			113	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508					
114		98-11-17	22:07:30	? 22:00:00 22:15:00	leo		sex/hya			17	21		mo	9,40	0	Err:508	Err:508	9,40	-3	Err:508	Err:508			114	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508				
115		98-11-17	22:07:30	? 22:00:00 22:15:00	leo		hya			17	21		ro	9,20	-3	Err:508	Err:508	9,15	-5	Err:508	Err:508			115	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
116		98-11-17	22:19:10	?? 22:15:00 22:30:00	leo	-1	hya	mlo52		11	22		c !	8,45	0	Err:508	Err:508	8,30	-4	Err:508	Err:508			116	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508				
117a		98-11-17	22:37:30	? 22:30:00 22:45:00	leo		lmi/uma			5	23		rb	10,35	45	Err:508	Err:508	10,40	47	Err:508	Err:508			117a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
117b		98-11-17	22:37:30	? 22:30:00 22:45:00	leo		lmi/uma			6	23		mo	10,35	44	Err:508	Err:508	10,40	46	Err:508	Err:508			117b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
118a	4126-69	98-11-17	22:37:30	? 22:30:00 22:45:00	leo		cnc			7	23		ro	8,45	10	Err:508	Err:508	8,40	9	Err:508	Err:508			109	118a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
119	4126-75	98-11-17	22:37:30	? 22:30:00 22:45:00	leo		uma/cam			8	23		c	9,30	71	Err:508	Err:508	9,10	75	Err:508	Err:508			108	119	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508			
120	4126-75	98-11-17	22:37:30	? 22:30:00 22:45:00	leo		uma/cam			8	23		c	8,20	66	Err:508	Err:508	7,40	72	Err:508	Err:508			107	120	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
118b	4126-77	98-11-17	22:37:30	? 22:30:00 22:45:00	leo		cnc/hya			11	23		mb	8,50	10	Err:508	Err:508	8,45	9	Err:508	Err:508			109	118b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
121		98-11-17	22:37:30	? 22:30:00 22:45:00	leo		hya/pyx			11	23		mo	8,30	-5	Err:508	Err:508	8,25	-8	Err:508	Err:508			121	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
122		98-11-17	22:52:30	? 22:45:00 23:00:00	leo		uma			15	24		rb	11,20	43	Err:508	Err:508	11,30	45	Err:508	Err:508			122	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
123		98-11-17	23:03:00	? 23:00:00 23:06:00	leo		sex/leo			17	25		mo	10,55	4	Err:508	Err:508	11,00	2	Err:508	Err:508			123	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
124	4126-104	98-11-18	17:43:13	17:40:03 17:50:03	spo?		cam/cas	mlo55		14	5		c !	2,55	61	Err:508	Err:508	1,55	67	Err:508	Err:508			114	124	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508		
125		98-11-18	17:46:01	? 17:41:01 17:51:01	leo		per/and			23	4		rb	2,20	44	Err:508	Err:508	2,05	41	Err:508	Err:508			125	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
126		98-11-18	18:06:01	? 18:01:01 18:11:01	leo		per/cas			23	6		lb	2,50	60	Err:508	Err:508	2,05	66	Err:508	Err:508			126	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
127a	4126-94	98-11-18	18:09:55	18:00:03 18:10:03	leo		per/and	mlo56		6	7		ro	2,50	47	Err:508	Err:508	1,50	39	Err:508	Err:508			115	127a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	
127b	4126-96	98-11-18	18:09:55	18:00:03 18:10:03	leo		per	mlo56		7	7		ml	2,50	47	Err:508	Err:508	2,30	44	Err:508	Err:508			115	127b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
127c	4126-101	98-11-18	18:09:55	18:00:03 18:10:03	leo		per/and	mlo56		13	7		c !!!	2,30	44	Err:508	Err:508	0,35	24	Err:508	Err:508			115	127c	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
127d	4126-105	98-11-18	18:09:55	18:00:03 18:10:03	leo		per/and	mlo56		14	7		lb	2,05	41	Err:508	Err:508	2,00	40	Err:508	Err:508			115	127d	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
127e	4154-2	98-11-18	18:09:55	18:01:01 18:11:01	leo		and/psc	mlo56		24	6		c !!!	2,05	41	Err:508	Err:508	0,55	29	Err:508	Err:508			115	127e	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
128a	4126-97	98-11-18	18:24:20	18:20:03 18:30:03	spo		cam	mlo57		7	9		ro	5,40	60	Err:508	Err:508	5,45	63	Err:508	Err:508			116	128a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
128b	4126-107	98-11-18	18:24:20	18:20:03 18:30:03	spo		cam	mlo57		15	9		c !!!	5,50	60	Err:508	Err:508	7,30	81	Err:508	Err:508			116	128b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
129a	4126-95	98-11-18	18:45:03	? 18:40:03 18:50:03	leo		per/tri			6	11		mo	3,30	40	Err:508	Err:508	2,40	35	Err:508	Err:508			117	129a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
130		98-11-18	18:45:03	? 18:40:03 18:50:03	spo		per			7	11		lb	4,00	47	Err:508	Err:508	3,50	44	Err:508	Err:508			130	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
131a	4126-98	98-11-18	18:45:03	? 18:40:03 18:50:03	leo		ari			12	11		r	2,50	19	Err:508	Err:508	2,10	13	Err:508	Err:508			118	131a	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
129b	4126-102	98-11-18	18:45:03	? 18:40:03 18:50:03	leo		per/tri			13	11		mb	3,15	39	Err:508	Err:508	2,30	34	Err:508	Err:508			117	129b	###	###	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508	Err:508
131b	4126-102	98-11-18	18:45:03	? 18:40:03 18:50:03	leo		ari			13																																

Date	UT	Ident	Time	Stream	DMS	STATIONS						No.	No.	max.	FIRBAL	STATUS	Sektor
						XIN	fish-eye	LIN	DEL	no.	ULA						
16/11-98	16:21:53	video	OK	Leo	98001	7		1				2	2	34-15	F7t	FIRBAL OK. Baanelementen	
16/11-98	16:36:42	video	OK	Leo	98002	8	5	2				2	2	15-33-40	F7t	FIRBAL OK. Baanelementen	
16/11-98	16:38:21	video	OK	Leo	98003	9	6	3				2	2	17-66-70	F7t	FIRBAL OK. Baanelementen	
16/11-98	16:43:58	video	OK	Leo	98004	10		4				2	2	20-40	F7t	FIRBAL OK. Baanelementen	
16/11-98	17:21:14	video	OK	Tau	98005	14		5				2	2	30-40	F7t	FIRBAL OK. Baanelementen	
16/11-98	17:35:53	video	OK	Leo	98006	17	12	7				2	2	35-5-30	F7t	FIRBAL OK. Baanelementen. Simultaan ?	
16/11-98	17:36:48	video	OK	spo	98007	18		6				2	2	15-25	F7t	FIRBAL OK.	
16/11-98	17:37:50	video	OK	Leo	98008	19	14	9				2	2	38-22-40	F7t	FIRBAL OK. Baanelementen	
16/11-98	17:49:59	video	OK	Tau	98009	21	16	11				2	2	59-49-70	F7t	FIRBAL OK. Baanelementen	
16/11-98	17:43:50	video	OK	Leo	98082	22	15	10				2	1	29-12-30			
16/11-98	18:03:48	video	OK	Leo	98010	24	22	13				2	2	16-8-30	F7t	FIRBAL OK.	
16/11-98	18:07:48	video	OK	Leo	98011	25	23	14				2	2	39-25-30	F7t	FIRBAL OK. Baanelementen	
16/11-98	18:16:36	video	OK	Leo	98012	26	25	17				2	2	37-28-50	F7t	FIRBAL OK. Baanelementen	
16/11-98	18:25:00	int.		Leo	98013	30		15				2	2	14-15	F7t	FIRBAL OK. Baanelementen	
16/11-98	18:31:56	video	OK	Leo	98014	31		20				2	2	16-20	F7t	FIRBAL OK. Baanelementen	
16/11-98	18:32:49	video	OK	Leo	98015	32	29	18				2	2	34-20-45	F7t	FIRBAL OK. Baanelementen	61,6
16/11-98	18:40:12	video	OK	Leo	98016	34		19				2	2	9-20	F7t	FIRBAL OK.	
16/11-98	19:05:00	int.		Leo	98017	37		24				2	1	5-10		LIN : Miezerig spoortje bij radiant. Vervalt.	
16/11-98	19:06:40	video	OK	Leo	98018	40		23				2	2	12-15	F7t	FIRBAL OK.	
16/11-98	19:16:01	video	OK	Leo	98019	43		27				2	2	8-10	F7t	FIRBAL OK.	
16/11-98	19:19:47	video	OK	Leo	98020	45	40	26				2	2	33-26-40	F7t	FIRBAL OK. Baanelementen	61?
16/11-98	19:26:34	video	OK	Leo	98021	49		25				2	2	17-15		Niet simultaan.	
16/11-98	19:28:27	video	OK	Leo	98022	55	44	26				2	2	39-22-40		Niet simultaan.	
16/11-98	19:33:18	video	OK	Leo	98023	56	46	28				2	2	33-35-60	F7t	FIRBAL OK. Baanelementen	
16/11-98	19:47:13	video	OK	Leo	98024	61		32				2	2	17-10		Niet simultaan.	
16/11-98	19:56:05	video	OK	Leo	98025	65		33				2	2	9-15	F7t	FIRBAL OK.	
16/11-98	20:11:21	video	OK	Leo	98026	72		36				2	2	19-20	F7t	FIRBAL OK.	
16/11-98	20:12:00	video	OK	Leo	98027	73		34				2	2	18-20	F7t	FIRBAL OK. Baanelementen	
16/11-98	20:13:08	video	OK	Leo	98028	78		35				2	2	12-15	F7t	FIRBAL OK.	
16/11-98	20:26:58	video	OK	Leo	98029	87		39				2	2	16-15	F7t	FIRBAL OK.	
16/11-98	20:42:00	int.		Leo	98030	108		44				2	1	8-15			
16/11-98	20:49:50	video	OK	Leo	98031	100		48				2	2	10-30	F7t	FIRBAL OK. Baanelementen	
16/11-98	20:40:34	video	OK	Leo	98032	97		52				2	2	16-20	F7t	FIRBAL OK. Baanelementen	
16/11-98	20:52:00	int.		Leo	98033			51				2	1	13-20		goede simultaancomponent nog uitzoeken	
16/11-98	20:52:00	int.		Leo	98034			50				2	1	12-25		goede simultaancomponent nog uitzoeken	
16/11-98	20:56:09	video	OK	Leo	98035	103		53				2	2	19-15	F7t	FIRBAL OK.	
16/11-98	21:10:33	video	OK	Leo	98036	114	107	54				2	2	19-12-25	F7t	FIRBAL OK. Baanelementen	
16/11-98	21:01:55	video	OK	Leo	98037	116		56				2	2	8-15	F7t	FIRBAL OK.	
16/11-98	21:03:20	video	OK	Leo	98038	119		55				2	2	24-30	F7t	FIRBAL OK. Baanelementen	
16/11-98	21:03:43	video	OK	Leo	98039	120		58				2	1	13-15		Lin tin rand. Buiten image.	
16/11-98	21:12:26	video	OK	Leo	98040	122		57				2	2	14-20	F7t	FIRBAL OK. Baanelementen	
16/11-98	21:26:41	video	OK	Leo	98041	128	115	62				2	2	35-22-60	F7t	FIRBAL OK. Baanelementen	
16/11-98	21:29:05	video	OK	spo	98042	130		67				2	2	15-20	F7t	FIRBAL OK. Baanelementen (sterk hyperbolisch)	
16/11-98	21:42:46	video	OK	Leo	98043	137	126	68				2	2	20-17-30	F7t	FIRBAL OK. Baanelementen	
16/11-98	21:44:33	video	OK	Leo	98044	138	127	69				2	2	28-28-40	F7t	FIRBAL OK. Baanelementen	
16/11-98	21:44:46	video	OK	Leo	98045	139	129	70				2	2	17-13-25	F7t	FIRBAL OK.	
17/11-98	15:52:19	video	OK	spo	98046	141		75				2	2	26,30	F7t	FIRBAL OK. Baanelementen	

17/11-98	15:55:00	video	OK	Leo	98047	142		76				2	2	15,25	F7t	FIRBAL OK.	
17/11-98	16:07:41	video	OK	Tau	98048	143		77				2	2	17,18	F7t	FIRBAL OK. Baanelementen	
17/11-98	16:11:14	video	OK	Leo	98049	145		78				2	2	20,25	F7t	FIRBAL OK. Baanelementen	
17/11-98	16:25:14	video	OK	Leo	98050	147		80				2	2	45,45	F7t	FIRBAL OK. Baanelementen	
17/11-98	16:31:05	video	OK	spo	98051	148		81				2	2	18,0		Een component puntmeteoor. Onverwerkbaar.	
17/11-98	16:40:22	video	OK	Leo	98052	149		82				2	2	50,60	F7t	FIRBAL OK. Baanelementen	
17/11-98	17:14:55	video	OK	Leo	98053	153		83				2	2	46,50	F7t	FIRBAL OK. Baanelementen	
17/11-98	17:25:02	video	OK	Leo	98054	156		84				2	2	17,16	F7t	FIRBAL OK. Baanelementen	
17/11-98	18:08:23	video	OK	Leo	98055	159		86				2	2	21,23	F7t	FIRBAL OK. Baanelementen	
17/11-98	18:21:21	video	OK	Tau	98056	162		90				2	2	0,25		Niet simultaan.	
17/11-98	18:27:08	video	OK	Leo	98057	164		95				2	2	14,30	F7t	FIRBAL OK.	
17/11-98	18:57:06	video	OK	Leo	98058	170		100				2	2	16,15	F7t	FIRBAL OK.	
17/11-98	19:02:30	video	OK	Leo	98059	172		102				2	2	34,40	F7t	FIRBAL OK. Baanelementen	
17/11-98	19:16:24	video	OK	Tau	98060	174		105				2	2	35,30	F7t	FIRBAL OK. Baanelementen	
17/11-98	19:43:46	video	OK	Leo	98061	178		106				2	2	15,20	F7t	FIRBAL OK. Baanelementen	
17/11-98	19:51:28	video	OK	Leo	98062	179		107				2	2	15,15	F7t	FIRBAL OK.	
17/11-98	19:59:22	video	OK	Leo	98063	181		108				2	2	22,25	F7t	FIRBAL OK. Baanelementen	
17/11-98	19:59:48	video	OK	Leo	98064	183		110				2	2	33,20	F7t	FIRBAL OK. Baanelementen	
17/11-98	20:16:49	video	OK	Leo	98065	191		111				2	2	12,18	F7t	FIRBAL OK.	
17/11-98	20:20:45	video	OK	Leo	98066	192		112				2	2	8,16	F7t	FIRBAL OK.	
17/11-98	20:27:36	video	OK	Leo	98067	195		114				2	2	15,18	F7t	FIRBAL OK. Baanelementen	
17/11-98	20:32:26	video	OK	Leo	98068	199		116				2	2	14,20	F7t	FIRBAL OK.	
17/11-98	20:34:41	video	OK	Leo	98069	201		117				2	2	24,25	F7t	FIRBAL OK. Baanelementen	
17/11-98	20:48:08	video	OK	Leo	98070	204		120				2	2	20,30	F7t	FIRBAL OK. Baanelementen	
17/11-98	20:58:17	video	OK	Leo	98071	211		121				2	2	2,12		Niet verwerkbaar.	
17/11-98	21:19:38	video	OK	Leo	98072	217		126				2	2	16,25		Lin niet op CD terug te vinden.	
17/11-98	21:20:19	video	OK	Leo	98073	218		128				2	2	8,30		Niet simultaan.	
17/11-98	21:20:22	video	OK	Leo	98074	219		125				2	2	15,18	F7t	FIRBAL OK.	
17/11-98	21:25:48	video	OK	Leo	98075	222		127				2	2	18,16		Q klein. Radiant en traject onbetrouwbaar.	
17/11-98	21:28:16	video	OK	Leo	98076	223		131				2	2	22,16	F7t	FIRBAL OK. Baanelementen	
17/11-98	21:29:56	video	OK	Leo	98077	224		132				2	2	13,25	F7t	FIRBAL OK.	
18/11-98	16:39:13	video	OK	spo	98078	228		136				2	2	30,25	F7t	FIRBAL OK. Baanelementen	
18/11-98	17:54:53	video	OK	Leo	98079	230		139				2	2	32,35	F7t	FIRBAL OK. Baanelementen	
18/11-98	18:38:08	video	OK	Leo	98080	233		140				2	2	15,15	F7t	FIRBAL OK.	
18/11-98	19:30:29	video	OK	spo	98081	237		141				2	2	47,35	F7t	FIRBAL OK. Baanelementen	
18/11-98	21:19:00	int.	5 min.	Leo	98082	239a/b		142				2	1	5,1		Niet simultaan.	
16/11-98	18:14:00	int.	4 min.	Leo	98101				DEL	aantal	ULA	aantal					
16/11-98	18:24:08	MLO003	OK	Leo	98102				2	1	2	1	2	0			
16/11-98	18:31:39	MLO004	OK	Leo	98103				3	2	3	5	7	0			
16/11-98	18:39:30	MLO005	OK	Leo	98104				4	1	4	4	5	0			
16/11-98	18:43:30	MLO007	OK	Leo	98105				7	1	6	4	5	0			
16/11-98	19:05:26	MLO009	OK	Leo	98106				6	5	8	2	7	0			
16/11-98	19:10:32	MLO010	OK	Leo	98107				8	5	10	2	7	0			
16/11-98	19:14:00	int.	5 min.	Leo	98108				11	1	11	2	3	0			
16/11-98	19:34:00	int.	5 min.	Leo	98109				10	1	12	1	2	0			
16/11-98	19:48:47	MNL012	OK	Leo	98110				13	2	16	1	3	0			
16/11-98	20:04:00	int.	5 min.	Leo	98111				14	1	19	1	2	0			
16/11-98	20:24:00	int.	5 min.	spo	98112				17	1	22	1	2	0			
									21	2	23	1	3	0			

16/11-98	20:30:53	MLO015	OK	Leo	98113				23	2	25	3	5	0			
16/11-98	20:54:00	int.	5 min.	Leo	98114				29	1	30	1	2	0			
16/11-98	21:05:36	MLO010	OK	Leo	98115				31	3	35	3	6	0			
16/11-98	21:21:26	MLO017	OK	Leo	98116				34	1	40	3	4	0			
16/11-98	21:32:00	int.	5 min.	Leo	98117				35	1	42	3	4	0			
16/11-98	21:38:12	MLO018	OK	Leo	98118				38	2	44	5	7	0			
16/11-98	21:42:30	MLO019	OK	Leo	98119				41	1	45	3	4	0			
16/11-98	21:44:00	int.	5 min.	Leo	98120				40	2	46	1	3	0			
16/11-98	21:44:00	int.	5 min.	Leo	98121				39	3	47	1	4	0			
16/11-98	21:46:10	MLO020	OK	Leo	98122				43	2	50	5	7	0			
16/11-98	22:04:00	int.	5 min.	Leo	98123				48	1	53	1	2	0			
16/11-98	22:13:00	int.	4 min.	Leo	98124				50	2	56	2	4	0			
16/11-98	22:17:49	MLO022	T	Leo	98125				52	1	58	3	4	0			
16/11-98	22:25:25	MLO023	OK	Leo	98126				55	2	63	3	5	0			
16/11-98	22:24:00	int.	5 min.	Leo	98127				56	2	60	1	3	0			
16/11-98	22:34:00	int.	5 min.	Leo	98128				58	3	64	4	7	0			
16/11-98	22:42:10	MLO024	OK	Leo	98129				61	1	67	2	3	0	Ulan		
16/11-98	22:54:00	int.	5 min.	Leo	98130				63	2	70	2	4	0	73		
16/11-98	22:54:00	int.	5 min.	Leo	98131				64	2	71	1	3	0	Delingha		
16/11-98	23:04:00	int.	5 min.	Leo	98132				66	1	77	1	2	0	58		
17/11-98	17:51:05	MLO027	OK	spo	98133				70	4	79	3	7	0			
17/11-98	18:25:51	MLO031	T	Leo	98134				73	3	83	3	6	0			
17/11-98	19:17:31	MLO034	OK	Leo	98135				76	6	89	4	10	0			
17/11-98	19:37:30	int.	7.5 min	Leo	98136				77	3	90	2	5	0			
17/11-98	19:37:30	int.	7.5 min	Leo	98137				79	1	91	1	2	0			
17/11-98	19:42:47	MLO036	OK	Leo	98138				78	1	92	2	3	0			
17/11-98	19:49:02	MLO037	OK	Leo	98139				82	2	93	1	3	0			
17/11-98	20:30:47	MLO040	OK	Leo	98140				88	1	94	2	3	0			
17/11-98	20:33:26	MLO041	OK	Leo	98141				87	1	95	1	2	0			
17/11-98	20:37:30	int.	7.5 min	Leo	98142				89	1	96	1	2	0			
17/11-98	20:37:31	MLO042	OK	Leo	98143				85	3	99	1	4	0			
17/11-98	20:48:31	MLO044	T	Leo	98144				91	3	101	1	4	0			
17/11-98	20:52:30	int.	7.5 min	Leo	98145				92	1	103	2	3	0			
17/11-98	21:07:30	int.	7.5 min	Leo	98146				96	1	106	1	2	0			
17/11-98	21:35:10	MLO048	OK	Leo	98147				100	3	108	1	4	0			
17/11-98	21:35:49	MLO049	T	Leo	98148				101	1	109	2	3	0			
17/11-98	21:37:30	int.	7.5 min	Leo	98149				99	1	110	1	2	0	Ulan		
17/11-98	22:37:30	int.	7.5 min	Leo	98150				109	1	118	2	3	0	33		
17/11-98	22:37:30	int.	7.5 min	Leo	98151				108	1	119	1	2	0	Delingha		
17/11-98	22:37:30	int.	7.5 min	Leo	98152				107	3	120	1	4	0	41		
18/11-98	17:43:13	MLO055	OK	spo?	98153				114	2	124	1	3	0			
18/11-98	18:09:55	MLO056	OK	Leo	98154				115	7	127	5	12	0			
18/11-98	18:24:20	MLO057	OK	spo	98155				116	2	128	2	4	0			
18/11-98	18:45:03	int.	5 min.	Leo	98156				117	1	129	3	4	0			
18/11-98	18:45:03	int.	5 min.	Leo	98157				118	2	131	2	4	0	Ulan		
18/11-98	21:35:03	int.	5 min.	Leo	98158				120	2	135	3	5	0	19		
18/11-98	21:53:40	MLO060	OK	Leo	98159				122	1	136	1	2	0	Delingha		
18/11-98	22:16:01	int.	5 min.	Leo	98160				123	3	137	2	5	0	20		

Nr	Date	UT	Mv	stream	code	Const.
1	16-11-98	15:29:00	0	Leo		Ori-Cet
2	16-11-98	15:29:40	1	Leo		Gem
3	16-11-98	16:07:08	0	Leo		Aur
4	16-11-98	16:43:58		Leo		Tau
5	16-11-98	16:52:44		Leo		Psc
6	16-11-98	19:11:43				
7	16-11-98	20:21:09	0	Leo		Pix
8	16-11-98	20:21:20	-1	Leo		UMa
9	16-11-98	20:21:56	-2	Leo		Leo
10	16-11-98	20:22:18	1	Leo		Hya
11	16-11-98	20:23:19	-1	Leo		CMi
12	16-11-98	20:24:06	1	Leo		CMa
13	16-11-98	20:24:06	1	Leo		CMa
14	16-11-98	20:25:02	-1	Leo		
15	16-11-98	20:25:20	0	Leo		CMa
16	16-11-98	20:25:22	1	Leo		Per
17	16-11-98	20:25:24	1	Leo		Lep
18	16-11-98	20:25:30	1	Leo		Cam
19	16-11-98	20:26:05	-2	Leo		Hya
20	16-11-98	20:26:24	0	Leo		
21	16-11-98	20:26:35	0	Leo		Dra
22	16-11-98	20:26:58		Leo		Ori
23	16-11-98	20:27:26	-1	Leo		Hya
24	16-11-98	20:27:27		Leo		
25	16-11-98	20:27:28	-5	Leo		Lep
26	16-11-98	20:28:17	1	Leo		Cnc
27	16-11-98	20:28:31	-1	Leo		UMa
28	16-11-98	20:28:36	1	Leo		Ori
29	16-11-98	20:28:55	-1	Leo		UMa
30	16-11-98	20:29:24	-1	Leo		Pup
31	16-11-98	20:30:16	-3	Leo		
32	16-11-98	20:30:31	-2	Leo		Per
33	16-11-98	20:30:49	-1	Leo		Umi
34	16-11-98	20:31:25	-1	Leo		UMa
35	16-11-98	20:32:05	-3	Leo		
36	16-11-98	20:33:07	1	Leo		Leo
37	16-11-98	20:34:30	0	Leo		Per
38	16-11-98	20:34:42	-3	Leo		
39	16-11-98	20:34:57	0	Leo		Ori
40	16-11-98	20:35:03	-1	Leo		
41	16-11-98	20:35:37	0	Leo		
42	16-11-98	20:35:47	-1	Leo		
43	16-11-98	20:37:33	-2	Leo		Leo
44	16-11-98	20:38:24	-2	Leo		Eri
45	16-11-98	20:38:30	-3	Leo		
46	16-11-98	20:38:45	-2	Leo		
47	16-11-98	20:38:59	-3	Leo		
48	16-11-98	20:39:13	-1	Leo		
49	16-11-98	20:40:34	-3	Leo		
50	16-11-98	20:41:14	-4	Leo		
51	16-11-98	20:41:51	-4	Leo		
52	16-11-98	20:43:38	0	Leo		
53	16-11-98	20:43:40	1	Leo		

54	16-11-98	20:43:44	1	Leo	
55	16-11-98	20:44:10	0	Leo	
56	16-11-98	20:44:55	-1	Leo	
57	16-11-98	20:45:17	1	Leo	
58	16-11-98	20:45:20	-1	Leo	
59	16-11-98	20:45:50	-2	Leo	
60	16-11-98	20:45:58	-2	Leo	
61	16-11-98	20:46:18	-15	Leo	
62	16-11-98	20:46:44	0	Leo	
63	16-11-98	20:47:19	1	Leo	
64	16-11-98	20:47:23	-2	Leo	
65	16-11-98	20:47:27	-1	Leo	
66	16-11-98	20:48:13	-3	Leo	
67	16-11-98	20:48:14	1	Leo	
68	16-11-98	20:48:55	0	Leo	
69	16-11-98	20:48:56	0	Leo	
70	16-11-98	20:49:03	1	Leo	
71	16-11-98	20:49:13	0	Leo	
72	16-11-98	20:49:50	-1	spo	
73	16-11-98	20:49:50	0	Leo	
74	16-11-98	20:50:14	0	Leo	
75	16-11-98	20:50:14	-1	Leo	
76	16-11-98	20:50:15	-2	Leo	
77	16-11-98	20:50:15	-1	Leo	Leo
78	16-11-98	20:50:39	0	Leo	Leo
79	16-11-98	20:51:07	-3	Leo	
80	16-11-98	20:51:17	1	Leo	
81	16-11-98	20:52:00	0	Leo	
82	16-11-98	20:52:01	0	Leo	
83	16-11-98	20:52:34	1	Leo	
84	16-11-98	20:52:34	0	Leo	Hya
85	16-11-98	20:53:25	0	Leo	
86	16-11-98	20:53:26	-1	Leo	
87	16-11-98	20:53:27	-1	Leo	
88	16-11-98	20:53:27	-1	Leo	Sex
89	16-11-98	20:53:48	0	Leo	
90	16-11-98	20:54:11	-12	Leo	
91	16-11-98	20:54:11	-4	Leo	Lmi
92	16-11-98	20:54:20	-1	Leo	
93	16-11-98	20:54:21	0	Leo	
94	16-11-98	20:54:33	0	Leo	
95	16-11-98	20:54:33	0	Leo	Hya
96	16-11-98	20:54:37	1	Leo	
97	16-11-98	20:54:38	0	Leo	
98	16-11-98	20:54:55	0	Leo	
99	16-11-98	20:54:56	1	Leo	Vir
100	16-11-98	20:55:03	-2	Leo	
101	16-11-98	20:55:03	-1	Leo	Cam
102	16-11-98	20:55:21	0	Leo	UMa
103	16-11-98	20:56:09	-1	Leo	Gem
104	16-11-98	20:56:19	0	Leo	Boo
105	16-11-98	20:56:28	0	Leo	Hya
106	16-11-98	20:57:25	1	Leo	Hya
107	16-11-98	20:58:13	-3	Leo	Hya

108	16-11-98	21:00:44	-4	Leo	Eri
109	16-11-98	21:00:46	0	Leo	
110	16-11-98	21:01:18	1	Leo	Gem - Aur
111	16-11-98	21:01:28	0	Leo	Mon
112	16-11-98	21:01:55	0	Leo	Aur
113		21:02:04	0	Leo	Col
114	16-11-98	21:02:11		Leo	Leo
115	16-11-98	21:02:53	1	Leo	CMa
116	16-11-98	21:03:05	1	Leo	CMa
117	16-11-98	21:03:09	-1	Leo	Crt
118	16-11-98	21:03:12	0	Leo	Lep
119	16-11-98	21:03:13	0	Leo	Tau
120	16-11-98	21:03:20	-1	Leo	Hya
121	16-11-98	21:03:26	1	Leo	Boo
122	16-11-98	21:03:43	-2	Leo	UMa
123		21:03:49	-1	Leo	
124		21:04:00	1	Leo	
125	16-11-98	21:04:18	0	Leo	
126	16-11-98	21:04:48	0	Leo	
127	16-11-98	21:07:04	1	Leo	Hya
128	16-11-98	21:09:40	1	Leo	Lmi
129	16-11-98	21:10:11	0	Leo	Boo
130	16-11-98	21:10:13	0	Leo	
131	16-11-98	21:10:34	-3	Leo	Gem
132	16-11-98	21:11:02	-5	Leo	Dra
133	16-11-98	21:11:41	0	Leo	Leo
134	16-11-98	21:12:05	1	Leo	Cam
135	16-11-98	21:12:26	-2	Leo	Cam
136	16-11-98	21:13:15	1	Leo	
137	16-11-98	21:13:15	0	Leo	
138	16-11-98	21:13:57	-2	Leo	Dra
139	16-11-98	21:14:32	1	Leo	Gem
140	16-11-98	21:14:34	-1	Leo	Gem
141	16-11-98	21:15:13	0	Leo	Boo
142	16-11-98	21:16:12	-1	Leo	Dra
143	16-11-98	21:16:14	-2	Leo	Dra
144	16-11-98	21:16:30	-6	Leo	
145	16-11-98	21:16:43	1	Leo	
146	16-11-98	21:16:46	1	Leo	cam
147	16-11-98	21:16:58	1	Leo	
148	16-11-98	21:17:14	0	Leo	
149	16-11-98	21:17:33	0	Leo	
150	16-11-98	21:18:50	0	Leo	
151	16-11-98	21:19:01	0	Leo	
152	16-11-98	21:19:46	1	Leo	
153	16-11-98	21:19:51	0	Leo	
154	16-11-98	21:20:27	-1	Leo	
155	16-11-98	21:21:06	-3	Leo	
156	16-11-98	21:21:54	2	Leo	
157	16-11-98	21:21:57	0	Leo	
158	16-11-98	21:22:03	0	Leo	
159	16-11-98	21:22:14	0	Leo	
160	16-11-98	21:22:48	0	Leo	
161	16-11-98	21:24:15	-1	Leo	

162	16-11-98	21:25:14	-1	Leo	
163	16-11-98	21:25:33	2	Leo	
164	16-11-98	21:25:55	-2	Leo	
165	16-11-98	21:25:55	-2	Leo	
166	16-11-98	21:26:17	-1	Leo	Per
167	16-11-98	21:26:18	0	Leo	Cam
168	16-11-98	21:26:29	0	Leo	Vir
169	16-11-98	21:26:33	-8	Leo	Boo
170	16-11-98	21:26:41	-15	Leo	Mon
171	16-11-98	21:26:51	0	Leo	
172	16-11-98	21:27:25	0	Leo	
173	16-11-98	21:27:32	2	Leo	
174	16-11-98	21:27:51	-3	Leo	
175	16-11-98	21:27:58	-4	Leo	Dra
176	16-11-98	21:28:19	-1	Leo	
177	16-11-98	21:28:28	-1	Leo	
178	16-11-98	21:28:39	-1	?	
179	16-11-98	21:29:05	-1	Leo	
180	16-11-98	21:29:09	-3	Leo	
181	16-11-98	21:29:46	0	Leo	
182	16-11-98	21:30:46	0	Leo	
183	16-11-98	21:32:19	1	Leo	
184	16-11-98	21:33:02	1	Leo	Cam
185	16-11-98	21:33:17	0	Leo	Sex
186	16-11-98	21:33:40	1	Leo	Hya
187	16-11-98	21:34:49	0	Leo	UMa
188	16-11-98	21:35:16	0	Leo	UMa
189	16-11-98	21:35:40	-1	Leo	Boo
190	16-11-98	21:36:01	-1	Leo	Ori-Tau
191	16-11-98	21:36:32	1	Leo	
192	16-11-98	21:36:33	-1	Leo	
193	16-11-98	21:36:34	0	Leo	Boo
194	16-11-98	21:36:45	3	Leo	UMa
195	16-11-98	21:36:47	-1	Leo	
196	16-11-98	21:37:37	0	Leo	Aur
197	16-11-98	21:38:42	-1	Leo	
198	16-11-98	21:38:50	2	Leo	Gem
199	16-11-98	21:39:01	0	Leo	
200	16-11-98	21:39:43	-1	Leo	
201	16-11-98	21:40:06	-1	Leo	
202	16-11-98	21:40:23	-4	Leo	Ori-Eri
203	16-11-98	21:42:11	-1	Leo	
204	16-11-98	21:42:11	-1	Leo	
205	16-11-98	21:42:12	-3	Leo	
206	16-11-98	21:42:46	-4	Leo	
207	16-11-98	21:43:22	-1	Leo	
208	16-11-98	21:43:39	-1	Leo	
209	16-11-98	21:44:08	1	Leo	
210	16-11-98	21:44:33	-8	Leo	Cam
211	16-11-98	21:44:46	-2	Leo	Leo
212	16-11-98	21:44:48	1	Leo	UMa
213	16-11-98	21:45:52	-2	Leo	UMa
214	16-11-98	21:46:04	0	Leo	Hya
215	16-11-98	21:47:39	0	Leo	Vir

216	16-11-98	21:47:40	0	Leo	Vir
217	16-11-98	21:47:41	0	Leo	CMa
218	16-11-98	21:47:42	-1	Leo	CMa
219	16-11-98	21:48:48	-1	Leo	
220	16-11-98	21:50:01	-2	Leo	Com
221	16-11-98	21:50:01	0	Leo	
222	16-11-98	21:50:01	0	Leo	
223	16-11-98	21:51:18	1	Leo	Aur
224	16-11-98	21:51:52	-1	Leo	Boo
225	16-11-98	21:54:17	-2	Leo	CMa
226	16-11-98	21:55:19	0	spo	Lyn
227	16-11-98	21:55:21	0	Leo	
228	16-11-98	21:55:22	-2	Leo	Hya

position

3 seconds. Very long trail.
Second Leonid of this night.
Long slow Leonid N of Aur.

Above Saturn
flash !

over pointer
under Leo
under alpha Hya
near Procyon

horizon
left under

under
horizon
between Uma and Umi

near alpha Hya
a little below Ori

above pointer
Rigel
far above pointer Uma
left under Cma
under Hya

polaris
pointer Uma - low
low horizon
Regulus

Uma -- Polaris
mid through
horizon
horizon
horizon
under leo

horizon
horizon
horizon
horizon
left of Cma
horizon
Procyon
horizon

Sirius
Capella
Rigel
under Cma
left of Cma
Cma-Lep
Uma-Dra
low, far below alpha Hya
horizon
Head Hya - Procyon
Per
Col, horizon
between head Hya and alpha Hya
Rigel
northern part of Aur
below Cma
far below Cma
far below Leo
Regulus
Per
horizon South
horizon south
tail Leo - Mars
tail Leo - Mars
Regulus -> Head Hya

horizon
horizon South

under head Hya, just below decl. Alpha
horizon
horizon

horizon

above Leo - Lmi
horizon
horizon

very low in Hya
horizon
horizon

low under Mars

tail Uma
along Castor and Pollux
Boo, in trees
under head Hya
very low in Hya
15 deg below alpha Hya

starts in Ori
horizon South
above Gem
CMA-Mon border.

horizon
horizon
left of Sirius
below 21:02:53

under Aldebaran
right of alpha Hya

far below Leo
far below Leo
low south
horizon
low
above Leo
Above tail Uma
horizon
starts under Pollux
far above tail Uma
Between Mars and Denebola
above Aur
same as 21:11:41
horizon SE
horizon South

Above tail Uma
Above tail Uma
Above pan Uma
Under Aldebaran
low south

left under Sirius
Under Uma
right under pan Uma
near pointer UMa
near pan Uma
on southern horizon
Ori, close to ***
right to Uma
on southern horizon
in northern part of Aur
on horizon SE
South, under Hya. Alt. 10 deg.
tip of pointer Uma
right to Rigel
above pointer Uma

on southern horizon
from pan Uma to Polaris
Horizon NO from Uma to Dra
Horizon East
Horizon West
evenwijdig bakje Uma
far below Denebola
low, behind equipment

under Polaris
SSE horizon
Uma, pointer
Horizon South
right out of pointer Uma
Polaris
flash behind the trees
flash near pointer/Pan Uma
along Procyon
flash on SE horizon
Horizon South
Horizon South
Mon, far below alpha Hya
low North
Under Leo
On horizon
Bakje in
direction of pointer
outside camera fields
Aldebaran
On horizon SE in trees
On horizon South

along pan.
Horizon South
Capella
far below Leo

On horizon SE
far below Leo
On horizon South
outside camera fields
Low North
Horizon South
above pointer UMa into pan UMi
into upper part of Aur.
far below CMa
On horizon S.
along alpha Hya
Cam
near Denebola
above UMa
near pointer UMa
15 degrees below Hya
Vir

Vir
near Sirius
CMA. "body". Under Sirius
far below Leo
Com
East. On horizon
South. On horizon.
Northern part of Aur
Boo, above pointer UMa
Close to Sirius
From north to Gem
On western horizon
Close to Alpha Hya

datum	tijd	Mv	zwerm	code	stb
				1	
				2	
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				24	
				25	
				26	
				27	
				28	
				29	
				30	
				31	
				32	
16/17-11	19:48:47	0	leo	33	
16/17-11	19:49:33	4	leo	34	
16/17-11	19:51:25	4	spor	35	
16/17-11	19:54:09	3	amo	36	
16/17-11	20:03:30	4	leo?	37	
16/17-11	20:04:42	5	spor	38	
16/17-11	20:04:44	4	tau	39	
16/17-11	20:05:37	5	leo	40	
16/17-11	20:06:36	2	leo	41	
16/17-11	20:12:57	3	spor	42	
16/17-11	20:14:10	4	leo	43	
16/17-11	20:23:43	4	spor	44	
16/17-11	20:30:52	-2	leo	45	
16/17-11	20:46:21	1	leo	46	
16/17-11	20:47:20	3	leo	47	
16/17-11	21:01:50	4	leo	48	
16/17-11	21:02:02	4	amo	49	
16/17-11	21:04:19	5	leo	50	
16/17-11	21:04:33	3	leo	51	
16/17-11	21:06:52	-1	leo	52	
16/17-11	21:07:34	-3	leo	53	

16/17-11	21:21:25	-2	leo	54
16/17-11	21:35:05	2	leo	55
16/17-11	21:43:08	4	leo	56
16/17-11	21:43:26	4	leo	57
16/17-11	21:48:14	3	leo	58
16/17-11	21:51:09	4	leo	59
16/17-11	21:53:36	4	spor	60
16/17-11	22:04:22	3	spor	61
16/17-11	22:06:16	3	leo	62
16/17-11	22:07:05	3	leo	63
16/17-11	22:16:08	-3	leo	64
16/17-11	22:16:42	2	leo	65
16/17-11	22:17:02	2	leo	66
16/17-11	22:29:33	4	tau?	67
16/17-11	22:30:41	0	leo	68
16/17-11	22:30:49	1	leo	69
16/17-11	22:34:04	4	leo?	70
16/17-11	22:49:14	4	spor	71

18/19-11	17:04:11	4	tau	1
18/19-11	17:10:05	4	tau?	2
18/19-11	17:15:22	3	spor	3
18/19-11	17:15:44	4	spor	4
18/19-11	17:20:15	5	tau	5
18/19-11	17:48:01	5	leo?	6
18/19-11	17:49:59	5	spor	7
18/19-11	17:56:21	4	leo	8
18/19-11	17:57:31	4	leo	9
18/19-11	18:01:42	3	tau	10
18/19-11	18:05:00	3	spor	11
18/19-11	18:06:59	4	spor	12
18/19-11	18:11:06	3	tau?	13
18/19-11	18:48:18	3	spor	14
18/19-11	18:49:12	3	leo	15
18/19-11	18:59:32	4	spor	16
18/19-11	19:03:52	5	leo?	17
18/19-11	19:05:43	3	tau	18
18/19-11	19:18:57	2	leo?	19
18/19-11	19:21:25	1	spor	20
18/19-11	19:22:54	4	leo	21
18/19-11	19:26:13	4	spor	22
18/19-11	19:37:40	3	leo	23
18/19-11	19:41:49	3	leo	24
18/19-11	19:42:03	1	leo	25
18/19-11	19:48:53	4	spor	26
18/19-11	19:49:37	3	spor	27
18/19-11	19:54:01	3	spor	28
18/19-11	19:56:37	4	leo	29
18/19-11	19:59:41	5	leo?	30
18/19-11	20:09:27	4	spor	31
18/19-11	20:10:02	4	leo	32
18/19-11	20:21:40	3	spor	33
18/19-11	20:33:39	5	spor	34
18/19-11	20:34:28	4	leo	35

18/19-11	20:38:05	5	spor	36
18/19-11	20:39:21	5	spor	37
18/19-11	20:39:52	4	spor	38

Opmerkingen

niet in te tekenen; gebrek aan sterreferenties

niet in te tekenen; gebrek aan sterreferenties

stroomstoring tussen 18:18 en 18:40 UT!!

moeilijk in te tekenen; aan de rand van video

video november -1998 Lin Ting Kou China 85/2.8 XX1332/Hi8 Klaas Jobse 67/175

nr.	Datum	Time UT	stream	Mv	speed	position	quality
98001	16/17-11	17:30:31	sp	4		mo	
98002	16/17-11	17:33:47	tau	4		lo	
98003	16/17-11	17:36:13	tau	5		mo	
98004	16/17-11	17:36:47	sp	4	h		b
98005	16/17-11	17:37:36	tau	6		lm	
98006	16/17-11	17:38:07	leo	5		mo	
98007	16/17-11	17:38:44	sp	3	h	rm	
98008	16/17-11	17:39:01	sp	5		mb	
98009	16/17-11	17:39:26	sp/leo	5		mo	b
98010	16/17-11	17:40:31	sp	5		m	
98011	16/17-11	17:41:15	leo	4		mo	b
98012	16/17-11	17:42:39	tau	4		m	
98013	16/17-11	17:51:26	sp/tau	4			
98014	16/17-11	17:52:31	sp	5	m/s	m	
98015	16/17-11	17:53:14	sp	5	m/s	mb	
98016	16/17-11	17:56:04	leo	4		rb	
98017	16/17-11	17:56:30	sp	3	m	m	
98018	16/17-11	18:00:12	sp	5		m	b
98019	16/17-11	18:04:27	tau	3			b
98020	16/17-11	18:04:55	sp	4	m	b	
98021	16/17-11	18:06:25	sp	5	s	m	
98022	16/17-11	18:07:43	leo	4		ml	
98023	16/17-11	18:09:24	leo/sp	5		lb	b
98024	16/17-11	18:10:54	leo	4		ro	b
98025	16/17-11	18:13:51	sp	5		ro	
98026	16/17-11	18:13:53	leo/sp	6		ro	
98027	16/17-11	18:15:41	sp	4		m	
98028	16/17-11	18:16:38	sp	5		ro	
98029	16/17-11	18:17:01	tau/sp	5		m	
98030	16/17-11	18:18:15	leo/sp	5		rbo	b
98031	16/17-11	18:18:37	tau/sp	5		ro	
98032	16/17-11	18:18:45	leo	5		lo	
98033	16/17-11	18:18:57	tau	3		mbo	
98034	16/17-11	18:21:40	tau	3	l	lm	
98035	16/17-11	18:22:09	leo	6		mo	
98036	16/17-11	18:23:54	tau/sp	5		lo	
98037	16/17-11	18:24:30	sp	2		lm	trail
98038	16/17-11	18:25:22	leo	6		ro	
98039	16/17-11	18:25:31	leo/sp	1		lo-uit	
98040	16/17-11	18:26:29	sp	5		lmo	
98041	16/17-11	18:28:33	leo	6		m	
98042	16/17-11	18:29:22	tau	5		lo	
98043	16/17-11	18:30:12	leo	4		lbo	
98044	16/17-11	18:30:44	sp	5		mb	
98045	16/17-11	18:31:22	sp	3		lo	
98046	16/17-11	18:33:16	leo	4		rmbo	
98047	16/17-11	18:34:43	sp	4	m	mo	
98048	16/17-11	18:34:52	leo	5		lo	
98049	16/17-11	18:35:01	sp	3		lo	
98050	16/17-11	18:36:48	sp	5		m	
98051	16/17-11	18:44:33	sp	5		m	
98052	16/17-11	18:45:30	sp	6		m	

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98053	16/17-11	18:47:19	leo	5		ml	
98054	16/17-11	18:49:56	sp	6		bo	
98055	16/17-11	18:51:20	leo	3		bo	trail
98056	16/17-11	18:51:56	sp	6	s	ro	
98057	16/17-11	18:52:19	sp	4		m	
98058	16/17-11	18:52:59	leo	4		m	
98059	16/17-11	18:53:00	sp	5	m	m	
98060	16/17-11	18:58:44	sp	5	m	m	
98061	16/17-11	19:00:55	sp	4		ro	
98062	16/17-11	19:01:17	leo	6		ro	
98063	16/17-11	19:01:38	sp	5		m	
98064	16/17-11	19:01:45	leo	4		mo	bandvol
98065	16/17-11	19:03:55	sp/leo	0		lm	trail
98066	16/17-11	19:05:31?	leo	1			trail
98067	16/17-11	19:05:59	sp	5		m	
98068	16/17-11	19:07:01	leo	6	s	m	
98069	16/17-11	19:08:11	leo	5		lo	
98070	16/17-11	19:10:15	sp	6		m	
98071	16/17-11	19:11:55	sp	4		rm	
98072	16/17-11	19:13:06	leo	5		lo	b
98073	16/17-11	19:14:36	sp/tau	5		mb	
98074	16/17-11	19:18:08	tau	4		lbo	
98075	16/17-11	19:19:33	leo	0		o>	
98076	16/17-11	19:19:40	leo	5		mbo	
98077	16/17-11	19:19:50	sp	6		ro	
98078	16/17-11	19:20:32	leo	4		o>	b
98079	16/17-11	19:20:53	leo	3		mo	
98080	16/17-11	19:28:11	sp	6		m	
98081	16/17-11	19:28:12	leo	5		lm	
98082	16/17-11	19:29:08	sp/leo	4		m	
98083	16/17-11	19:30:37	tau	3		rm	
98084	16/17-11	19:31:39	leo	5		lm	
98085	16/17-11	19:33:18	leo	-3		l>	trail
98086	16/17-11	19:33:43	leo	0		b	trail
98087	16/17-11	19:37:11	sp	5		lo	
98088	16/17-11	19:37:17	leo	6		lo	
98089	16/17-11	19:38:01	leo	4		lo	
98090	16/17-11	19:40:37	leo	5		lo	
98091	16/17-11	19:43:06	sp	4	l	m	
98092	16/17-11	19:43:22	leo	1		ro	trail
98093	16/17-11	19:44:12	sp	5		m	
98094	16/17-11	19:46:20	sp	5		lm	
98095	16/17-11	19:46:36	leo	4		lbo	
98096	16/17-11	19:46:46	leo	5		o>	b
98097	16/17-11	19:49:50	leo	6		l	b?
98098	16/17-11	19:51:11	leo	3		o>	b
98099	16/17-11	19:51:20	sp	5		m	
98100	16/17-11	19:54:18	sp	5		ro	
98101	16/17-11	19:55:03	sp	4		o>	
98102	16/17-11	19:59:34	leo	4		ro	
98103	16/17-11	20:02:20	sp	5		ro	
98104	16/17-11	20:09:33	leo	4		lo	
98105	16/17-11	20:10:17	leo	5		r	b
98106	16/17-11	20:11:37	sp	5		m	

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98107	16/17-11	20:13:03	sp	4		ro	
98108	16/17-11	20:14:57	leo	0		r	trail
98109	16/17-11	20:16:26	sp	4			
98110	16/17-11	20:16:59	leo	3		lb	b
98111	16/17-11	20:20:20	sp	4		ro	
98112	16/17-11	20:21:22	sp	6		lm	
98113	16/17-11	20:22:55	leo	5		m	
98114	16/17-11	20:23:01	leo	6		mb	
98115	16/17-11	20:23:18	leo	0		mb	
98116	16/17-11	20:23:34	leo	4		ro	b
98117	16/17-11	20:25:48	sp	5		mo	
98118	16/17-11	20:26:43	leo	6		lm	
98119	16/17-11	20:26:58	sp	4		ml	
98120	16/17-11	20:28:15	leo	2		ro	b
98121	16/17-11	20:28:27	sp	6		lbo	b
98122	16/17-11	20:34:16	leo	6		m	bandvol
98123	16/17-11	20:38:10	leo	4		mo	
98124	16/17-11	20:40:23	leo	5		lo	
98125	16/17-11	20:43:35	sp	3		lm	
98126	16/17-11	20:47:04	sp	5		r	
98127	16/17-11	20:47:19	sp	5		rb	
98128	16/17-11	20:47:30	leo	5		m	
98129	16/17-11	20:49:08	sp	4		ro	
98130	16/17-11	20:49:13	leo	5		lm	
98131	16/17-11	20:49:36	sp	4		lo	
98132	16/17-11	20:49:47	leo	6		rm	
98133	16/17-11	20:50:37	sp	5		ro	
98134	16/17-11	20:52:11	sp	5		m	
98135	16/17-11	20:52:17	leo	4		rm	
98136	16/17-11	20:52:58	leo	5		lbo	
98137	16/17-11	20:53:14	leo	4		l	
98138	16/17-11	20:53:33	sp	5		mbo	
98139	16/17-11	20:54:25	leo/sp	3		rm	
98140	16/17-11	20:55:44	sp	6		mbo	b
98141	16/17-11	20:56:09	leo	0		lo	trail
98142	16/17-11	20:56:16	sp	2		r	
98143	16/17-11	20:56:26	sp	4	s	m	
98144	16/17-11	20:58:55	sp	5		ro	
98145	16/17-11	20:59:10	leo	5		lm	
98146	16/17-11	20:59:48	leo	4		m	
98147	16/17-11	21:01:53	sp/leo	5		lbo	
98148	16/17-11	21:05:43	sp/leo	4		m	
98149	16/17-11	21:06:14	leo	3		o>	
98150	16/17-11	21:06:18	leo	5		ro	
98151	16/17-11	21:06:51	leo	4		ro	b
98152	16/17-11	21:10:12	leo	3		m	
98153	16/17-11	21:10:32	leo	-1		uit	trail
98154	16/17-11	21:11:03	leo/sp	4		mo	
98155	16/17-11	21:11:10	sp	5		rm	
98156	16/17-11	21:11:17	leo	3		m	
98157	16/17-11	21:11:17	sp	4			
98158	16/17-11	21:12:30	leo	4		mo	
98159	16/17-11	21:13:47	leo	3		r	
98160	16/17-11	21:13:53	sp	3		mbo	

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98161	16/17-11	21:14:11	sp	5	ll	m	
98162	16/17-11	21:15:16	leo	5		m	
98163	16/17-11	21:16:15	leo	5		m	
98164	16/17-11	21:17:07	sp/worm	6		l	meten!!
98165	16/17-11	21:19:24	leo	5		lo	
98166	16/17-11	21:19:40	sp	3		o>	b
98167	16/17-11	21:21:54	leo/sp	5		lb	
98168	16/17-11	21:24:34	leo	5		o>	
98169	16/17-11	21:24:48	leo	6		m	
98170	16/17-11	21:24:55	sp/tau	5		rm	
98171	16/17-11	21:27:39	sp	5	traag!!	ro	b?
98172	16/17-11	21:28:34	sp/leo	4		ro	b
98173	16/17-11	21:34:19	leo	4		lm	
98174	16/17-11	21:34:39	leo	3		lo	
98175	16/17-11	21:37:07	sp	3		r	b
98176	16/17-11	21:37:34	leo	5		r	
98177	16/17-11	21:38:12	sp	3		l	b
98178	16/17-11	21:39:18	leo	4		lb	b?
98179	16/17-11	21:41:10	leo	4		lb	b
98180	16/17-11	21:42:06	leo	5		ro	
98181	16/17-11	21:42:45	leo/sp	5	diffuus	lo	b?
98182	16/17-11	21:43:32	sp	3		rm	
98183	16/17-11	21:46:09	sp	3		m	
98184	16/17-11	21:48:41	leo	4		m	

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17/18-11

start; 15:35

98185	17/18-11	15:39:35	leo	3			
98186	17/18-11	15:44:18	leo	4		m	
98187	17/18-11	15:46:05	leo/sp	4			scherp v
98188	17/18-11	15:47:26	sp	6		rm	
98189	17/18-11	15:51:40	sp	5		lbo	
98190	17/18-11	15:53:49	sp	3		lm	
98191	17/18-11	15:54:59	leo	0		uit	
98192	17/18-11	15:56:35	leo	2		rbo	
98193	17/18-11	15:58:06	leo	6		rm	
98194	17/18-11	16:03:37	leo	5		lo	
98195	17/18-11	16:04:35	leo	2		uit	b
98196	17/18-11	16:11:00	leo	2			b
98197	17/18-11	16:12:34	leo/sp	4		lm	
98198	17/18-11	16:15:46	sp	5		mbo	
98199	17/18-11	16:23:17	sp	6		o uit	
98200	17/18-11	16:24:09	sp	6	l	o uit	
98201	17/18-11	16:24:22	sp	6		m	zwak
98202	17/18-11	16:25:14	leo	-2		uit	trail-6
98203	17/18-11	16:31:17	leo	0		lbo	trail-1
98204	17/18-11	16:38:21	sp	5		lo	
98205	17/18-11	16:43:13	leo	6		l	b
98206	17/18-11	16:44:17	sp	4		r	
98207	17/18-11	16:45:21	sp	4		m	
98208	17/18-11	16:46:10	sp	5	m	lm	
98209	17/18-11	16:48:34	leo	1		uit	

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98210	17/18-11	16:49:54	sp	4		lo	
98211	17/18-11	16:49:56	sp	2	wake	rbo	
98212	17/18-11	16:52:20	leo	5		m	uit
98213	17/18-11	16:58:18	leo	6		lo	b
98214	17/18-11	16:59:06	sp	4		m	
98215	17/18-11	16:59:46	sp	6	m	rm	
98216	17/18-11	17:03:05	sp	5			band2
98217	17/18-11	17:03:14	sp	5		ro	
98218	17/18-11	17:06:53	sp	6		ro	b
98219	17/18-11	17:07:08	leo	5		l uit	
98220	17/18-11	17:08:06	leo	2		in uit	trail
98221	17/18-11	17:10:26	sp	2	wake		
98222	17/18-11	17:11:11	leo	5		bo	
98223	17/18-11	17:12:25	leo	2	in		
98224	17/18-11	17:12:41	sp/leo	4		lo	
98225	17/18-11	17:21:58	sp	6		r	
98226	17/18-11	17:24:35	leo	6		m	
98227	17/18-11	17:25:03	leo	0	uit		trail
98228	17/18-11	17:28:19	sp	6	l	lmo	
98229	17/18-11	17:29:56	sp	5	l	m	
98230	17/18-11	17:30:34	leo	5	uit	l	
98231	17/18-11	17:32:58	leo	2		m	
98232	17/18-11	17:34:50	sp	5		m	
98233	17/18-11	17:36:08	sp	6			b
98234	17/18-11	17:40:00	sp	5			b
98235	17/18-11	17:43:00	leo	4			b
98236	17/18-11	17:45:00	sp	5			b
98237	17/18-11	17:48:12	leo	6			b
98238	17/18-11	17:48:25	sp	6	kort	m	
98239	17/18-11	17:49:00	sp	6			b
98240	17/18-11	17:49:24	sp	3		o uit	
98241	17/18-11	17:49:58	leo	4		l	
98242	17/18-11	17:50:19	sp	4		o uit	
98243	17/18-11	17:51:13	sp	4	s	m	
98244	17/18-11	17:54:04	sp	4		r	
98245	17/18-11	17:54:07	sp	6		l	
98246	17/18-11	17:54:40	sp	3	s		
98247	17/18-11	17:56:03	sp	5		rbo	
98248	17/18-11	17:59:53	sp	5		lo	b
98249	17/18-11	17:59:56	leo	3		ro	
98250	17/18-11	17:59:56	sp	3			b
98251	17/18-11	18:00:30	leo	4			
98252	17/18-11	18:05:23	leo	3		l	uit
98253	17/18-11	18:08:12	sp	6		m	
98254	17/18-11	18:08:25	leo	5			b
98255	17/18-11	18:14:25	leo	3		ro	
98256	17/18-11	18:15:07	sp	3	l	ro	
98257	17/18-11	18:16:02	leo/sp	6		r	
98258	17/18-11	18:18:34	sp	3		r	
98259	17/18-11	18:19:26	sp	0		l	trail
98260	17/18-11	18:28:26	sp	5		bo	
98261	17/18-11	18:28:55	sp	5		lbo	
98262	17/18-11	18:29:00	sp	4		rbo	
98263	17/18-11	18:29:06	leo	4		rbo	

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98264	17/18-11	18:33:51	leo	5			b
pauze	17/18-11	18:34 - 18:45					
98265	17/18-11	18:45:40	leo	4		m	onscherp
98266	17/18-11	18:46:49	leo/leo	5			
98267	17/18-11	18:52:32	sp/leo	3		m	
98268	17/18-11	18:52:52	leo	4			b
98269	17/18-11	18:59:52	leo	1		ro	
98270	17/18-11	19:01:25	leo	2		m	
98271	17/18-11	19:01:48	sp	5		m	
98272	17/18-11	19:01:55	sp	5	s	ro	
98273	17/18-11	19:02:15	sp/leo	3		rbo	
98274	17/18-11	19:08:00	sp				b
98275	17/18-11	19:09:50	leo	3		ro	b
98276	17/18-11	19:10:17	leo	5		m	
98277	17/18-11	19:11:58	leo	0		m	
98278	17/18-11	19:12:11	leo	5		lo	b
98279	17/18-11	19:12:12	leo	4		ro	
98280	17/18-11	19:13:17	leo	5			b
98281	17/18-11	19:15:47	leo	2		m	
98282	17/18-11	19:15:50	leo	4		bo	
98283	17/18-11	19:17:44	sp/leo	4		r	
98284	17/18-11	19:18:52	leo	3		lm	
98285	17/18-11	19:20:59	leo	5		m	
98286	17/18-11	19:21:13	sp	4		m	
98287	17/18-11	19:22:20	leo	2		ro	uit
98288	17/18-11	19:23:16	sp				b
98289	17/18-11	19:23:23	leo				b
98290	17/18-11	19:24:10	sp				b
98291	17/18-11	19:25:43	leo				b
98292	17/18-11	19:26:52	leo	5		lm	
98293	17/18-11	19:27:00	sp	4		o uit	
98294	17/18-11	19:34:12	leo	5		m	
98295	17/18-11	19:34:59	leo	5		o uit	
98296	17/18-11	19:35:42	tau	0		mbo	
98297	17/18-11	19:36:12	sp	5		ro	
98298	17/18-11	19:36:27	sp	5		lo	b
98299	17/18-11	19:39:03	leo	1		uit	
98300	17/18-11	19:40:00	leo	5			b
98301	17/18-11	19:40:47	sp	4		r	
98302	17/18-11	19:43:16	leo	4		r	b?
98303	17/18-11	19:43:40	sp	3		lbo	
98304	17/18-11	19:44:59	leo	4		lo	
98305	17/18-11	19:48:47	sp	2		m	
98306	17/18-11	19:51:33	sp	5		m	
98307	17/18-11	19:51:51	sp	4		rm	
98308	17/18-11	19:52:27	sp	3	ll	ro	b?
98309	17/18-11	19:52:41	leo	4			b
98310	17/18-11	19:55:33	leo	2		o uit	
98311	17/18-11	19:56:38	sp	5		bo	
98312	17/18-11	19:59:00	leo				b
98313	17/18-11	19:59:00	leo				b
98314	17/18-11	19:59:19	leo	5		m	
98315	17/18-11	19:59:40	leo				b
98316	17/18-11	20:02:16	sp	6		lbo	

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98317	17/18-11	20:02:37	sp	5		bo	
98318	17/18-11	20:06:49	leo	5		lo	
98319	17/18-11	20:12:49	leo	6		m	band3
98320	17/18-11	20:15:00	leo	5			b
98321	17/18-11	20:15:50	sp	5	ll	bo	
98322	17/18-11	20:16:13	sp	6		l	
98323	17/18-11	20:16:29	leo	1		m	trail
98324	17/18-11	20:16:50	leo	-1		m	trail5
98325	17/18-11	20:18:00	leo	5		lo	
98326	17/18-11	20:19:12	leo	3		lbo	b?
98327	17/18-11	20:21:04	sp	5		m	kort
98328	17/18-11	20:22:20	sp/leo	5		lm	
98329	17/18-11	20:22:44	sp	6			b
98330	17/18-11	20:24:52	leo	2		m	
98331	17/18-11	20:26:15	leo	3		mo	
98332	17/18-11	20:26:32	leo	6		m	
98333	17/18-11	20:28:55	leo	0		uit	
98334	17/18-11	20:29:21	leo	4		lm	
98335	17/18-11	20:32:01	leo	5		lo	
98336	17/18-11	20:33:52	sp				b
98337	17/18-11	20:33:54	sp	4	s	lbo	
98338	17/18-11	20:35:20	leo	4		lo	
98339	17/18-11	20:36:10	leo	5			b
98340	17/18-11	20:36:11	leo	6		m	
98341	17/18-11	20:36:27	leo	2		ml	
98342	17/18-11	20:38:16	leo	2		ml	n 9 min 17 leo's
98343	17/18-11	20:39:39	leo	6		rm	
98344	17/18-11	20:40:21	sp	5		rm	
98345	17/18-11	20:41:16	leo	6		mo	
98346	17/18-11	20:43:15	leo	3		m	
98347	17/18-11	20:44:34	leo	4		mo	
98348	17/18-11	20:44:34	leo	3		ro	10 min 25 leo's
98349	17/18-11	20:44:49	sp				b
98350	17/18-11	20:46:34	leo	4		mo	
98351	17/18-11	20:46:58	sp	4		lbo	
98352	17/18-11	20:47:20	sp	5		o	
98353	17/18-11	20:47:34	leo	2		uit	
98354	17/18-11	20:48:01	leo	5		l	
98355	17/18-11	20:48:32	leo	4		lo	
98356	17/18-11	20:49:48	sp/leo	6		m	
98357	17/18-11	20:50:21	leo/sp	1		m	trail
98358	17/18-11	20:50:51	sp	5	l	lm	
98359	17/18-11	20:52:40	leo	6		lbo	
98360	17/18-11	20:55:53	sp	5		m	
98361	17/18-11	20:56:01	leo	2		r	b
98362	17/18-11	20:56:00	leo	5			b
98363	17/18-11	20:57:07	leo/sp	6		l	
98364	17/18-11	20:57:46	leo	6		m	
98365	17/18-11	21:04:14	sp	5	fragm	om	worm?
98366	17/18-11	21:06:04	leo	2		l	b
98367	17/18-11	21:06:51	leo	5		l	
98368	17/18-11	21:06:51	leo	6		l	
98369	17/18-11	21:10:13	sp	5	l	lm	
98370	17/18-11	21:14:02	sp	2		m	

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98371	17/18-11	21:15:23	leo	2		r	b
98372	17/18-11	21:16:20	sp	5		bo	
98373	17/18-11	21:17:00	leo	6		rbo	
98374	17/18-11	21:17:15	sp	3		bo	
98375	17/18-11	21:17:30	sp	5		lo	
98376	17/18-11	21:17:43	sp	4		r	
98377	17/18-11	21:18:24	leo	2		bo	
98378	17/18-11	21:18:30	leo	5		bo	
98379	17/18-11	21:19:11	sp	5	s	m	
98380	17/18-11	21:19:18	leo	5			b
98381	17/18-11	21:20:23	leo	-1		uit	trail
98382	17/18-11	21:22:16	leo	6		m	
98383	17/18-11	21:24:49	leo	6		r	
98384	17/18-11	21:32:29	leo	2		ro	
98385	17/18-11	21:32:47	sp	4		o	
98386	17/18-11	21:36:42	sp/leo	5		l	
98387	17/18-11	21:38:01	leo	0		m	trail
98388	17/18-11	21:38:54	sp	5		m	
98389	17/18-11	21:40:26	sp	5		m	
98390	17/18-11	21:40:45	sp	5		ro	
98391	17/18-11	21:45:17	sp	6		mo	uit

code	station	V inf	[+/-]	Vh	Vg	a	e	q
98002	Xing-Long	72,274	0,620	41,844	71,078	20,520	0,952	0,983
		71,780	0,480	41,354	70,583	10,560	0,907	0,983
	gemiddeld	72,0272		41,5992	70,8304	13,9441	0,9295	0,9832
	st.dev.	0,3495		0,3466	0,3496		0,0319	0,0001
code	station	V inf	[+/-]	Vh	Vg	a	e	q
98008	Xing-Long FE	71,799	1,000	41,383	70,607	10,862	0,909	0,983
	Lin-Ting	72,164	0,280	41,748	70,976	17,283	0,943	0,983
	Xing-Long	72,597	0,260	42,183	71,415	60,015	0,984	0,984
	Xing-Long	72,180	0,320	41,765	70,993	17,749	0,945	0,984
	gemiddeld	72,2739		41,8587	71,0878	21,1202	0,9535	0,9835
st.dev.	0,2462		0,2471	0,2493		0,0229	0,0001	
code	station	V inf	[+/-]	Vh	Vg	a	e	q
98012	Xing-Long FE	72,330	0,660	41,946	71,161	25,537	0,961	0,983
	Xing-Long	72,150	0,320	41,761	70,740	17,660	0,944	0,983
	Xing-Long	72,190	0,530	41,815	71,028	19,397	0,949	0,983
	gemiddeld	72,2050		41,8205	70,9173	19,6116	0,9499	0,9833
st.dev.	0,0854		0,0873	0,2117		0,0081	0,0000	
code	station	V inf	[+/-]	Vh	Vg	a	e	q
98015	Xing-Long	72,020	0,670	41,644	70,874	14,786	0,934	0,983
	Xing-Long	72,130	0,210	41,749	70,979	17,304	0,943	0,983
	gemiddeld	72,1025		41,7223	70,9530	16,5974	0,9408	0,9831
st.dev.	0,0550		0,0524	0,0528		0,0048	0,0000	
code	station	V inf	[+/-]	Vh	Vg	a	e	q
98020	Xing-Long FE	69,950	0,870	39,542	68,813	3,847	0,745	0,981
	Xing-Long	70,890	0,310	40,483	69,763	5,712	0,828	0,982
	gemiddeld	70,6550		40,2481	69,5253	5,0943	0,8074	0,9815
st.dev.	0,4700		0,4707	0,4749		0,0416	0,0003	
code	station	V inf	[+/-]	Vh	Vg	a	e	q
98023	Xing-Long	71,837	0,360	41,518	70,729	12,591	0,922	0,984
	Xing-Long	71,870	0,110	41,548	70,759	13,045	0,925	0,984
	gemiddeld	71,8618		41,5403	70,7514	12,9283	0,9239	0,9841
st.dev.	0,0165		0,0148	0,0148		0,0014	0,0000	
code	station	V inf	[+/-]	Vh	Vg	a	e	q
98036	Xing-Long	72,186	0,569	41,973	71,197	27,274	0,964	0,984
	Lin-Ting	71,890	0,759	41,684	70,905	15,638	0,937	0,984
	gemiddeld	72,0379		41,8282	71,0512	19,8782	0,9505	0,9838
st.dev.	0,2091		0,2046	0,2064		0,0190	0,0001	
code	station	V inf	[+/-]	Vh	Vg	a	e	q
98041	Xing-Long	72,482	0,360	42,297	71,519	169,436	0,994	0,984
	Xing-Long	71,170	0,270	40,981	70,192	7,726	0,873	0,983
	gemiddeld	71,8260		41,6388	70,8553	14,7787	0,9335	0,9837
st.dev.	0,9272		0,9305	0,9387		0,0859	0,0003	
code	station	V inf	[+/-]	Vh	Vg	a	e	q
98050	Xing-Long	72,627	0,486	42,160	71,437	51,871	0,981	0,985
	Lin-Ting	72,536	0,661	42,068	71,344	35,685	0,972	0,985
	gemiddeld	72,5814		42,1138	71,3900	42,2819	0,9767	0,9845
st.dev.	0,0647		0,0651	0,0658		0,0061	0,0000	
code	station	V inf	[+/-]	Vh	Vg	a	e	q
98055	Xing-Long	71,943	0,580	41,481	70,768	11,998	0,918	0,984
	Xing-Long	72,585	0,660	42,125	71,418	44,209	0,978	0,984
	gemiddeld	72,2635		41,8028	71,0931	18,8742	0,9479	0,9842
st.dev.	0,4540		0,4557	0,4595		0,0422	0,0001	

code	station	V inf	[+/-]	Vh	Vg	a	e	q
98076	Xing-Long	71,894	0,380	41,615	70,926	14,122	0,930	0,984
	Lin-Ting	72,038	0,396	41,760	71,072	17,480	0,944	0,984
	gemiddeld	71,9656		41,6875	70,9993	15,6227	0,9370	0,9845
	st.dev.	0,1019		0,1023	0,1032		0,0095	0,0000
code	station	V inf	[+/-]	Vh	Vg	a	e	q
98079	Xing-Long	72,050	0,355	41,597	70,872	13,722	0,928	0,985
	Lin-Ting	72,470	0,324	42,015	71,294	29,896	0,967	0,985
	Xing-Long	72,836	0,304	42,383	71,664	-665,990	1,001	0,985
	gemiddeld	72,4520		41,9983	71,2764	28,6193	0,9656	0,9853
	st.dev.	0,3932		0,3931	0,3965		0,0367	0,0001

i	omega	Q	pi	1/a
161,998	171,228	40,060	45,366	0,049
161,911	170,950	20,138	45,088	0,095
161,9544	171,0891	26,9050	45,2267	0,0717
0,0618	0,1968		0,1968	0,0325
i	omega	Q	pi	1/a
161,845	171,190	20,741	45,371	0,092
161,912	171,390	33,583	45,570	0,058
161,988	171,626	119,046	45,806	0,017
161,914	171,406	34,566	45,586	0,056
161,9310	171,4519	41,2569	45,6324	0,0473
0,0439	0,1332		0,1332	0,0233
i	omega	Q	pi	1/a
161,805	171,312	50,091	45,519	0,039
161,772	171,217	34,338	45,425	0,057
161,782	171,253	37,811	45,461	0,052
161,7829	171,2499	38,2400	45,4575	0,0510
0,0155	0,0447		0,0447	0,0082
i	omega	Q	pi	1/a
161,946	171,038	28,589	45,257	0,068
161,966	171,096	33,625	45,315	0,058
161,9608	171,0818	32,2117	45,3008	0,0603
0,0095	0,0290		0,0291	0,0049
i	omega	Q	pi	1/a
162,255	168,918	6,712	43,170	0,260
162,432	169,668	10,442	43,920	0,175
162,3876	169,4807	9,2072	43,7325	0,1963
0,0884	0,3752		0,3752	0,0425
i	omega	Q	pi	1/a
161,657	171,860	24,198	46,122	0,079
161,662	171,868	25,106	46,129	0,077
161,6612	171,8657	24,8726	46,1269	0,0773
0,0026	0,0036		0,0036	0,0014
i	omega	Q	pi	1/a
161,854	171,795	53,564	46,124	0,037
161,802	171,655	30,292	45,984	0,064
161,8283	171,7248	38,7726	46,0541	0,0503
0,0366	0,0994		0,0994	0,0193
i	omega	Q	pi	1/a
161,866	171,891	337,888	46,232	0,006
161,628	171,233	14,469	45,573	0,129
161,7468	171,5620	28,5737	45,9026	0,0677
0,1680	0,4659		0,4658	0,0873
i	omega	Q	pi	1/a
162,308	172,538	102,758	47,676	0,019
162,291	172,487	70,385	47,625	0,028
162,2992	172,5126	83,5793	47,6505	0,0237
0,0118	0,0356		0,0356	0,0062
i	omega	Q	pi	1/a
162,374	172,048	23,013	46,259	0,083
162,486	172,364	87,433	47,574	0,023
162,4300	172,2062	36,7642	46,9163	0,0530
0,0791	0,2231		0,9303	0,0429

i	omega	Q	pi	1/a
162,610	172,381	27,259	47,731	0,071
162,635	172,446	33,976	47,796	0,057
162,6223	172,4134	30,2609	47,7635	0,0640
0,0175	0,0461		0,0462	0,0096
i	omega	Q	pi	1/a
162,089	173,317	26,458	49,526	0,073
162,162	173,491	58,807	49,701	0,033
162,227	173,638		49,847	-0,002
162,1591	173,4818	56,2533	49,6912	0,0349
0,0691	0,1607		0,1607	0,0372