Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2002/10/28 **2 O1(P)**	1 8 8	1 10 59	1 13 50	.410	10.6	5.2										
PULKOVO		1 10 53 ± 3		1.111 ± .125			6	T 32.	CCD26	32	-30	0	-	-	-	-
2002/11/11 **2 O1(P)**	5 47 54	5 50 58	5 54 3	.291	10.8	5.5										
CHATEAUGIRON-R		5 50 44 ± 6		.396 ± .027			14	T 21.	CCD1	54	2	1	-	0.02	-	-
CHATEAUGIRON-V		5 51 56 ± 21		.353 ± .113			-58	T 21.	CCD1	54	2	1	-	-	-	-
2002/11/12 **4 O2(P)**	23 5 20	23 8 26	23 11 32	.158	10.8	6.4										
CLUJ-NAPOCA		23 8 13 ± 6		.468 ± .029			13	T 41.	CCD22	20	-59	0	V	1.	-	-
2002/11/18 **2 E1( )**	6 2 35	6 5 4	6 7 34	.059	10.7	4.8										
LA PALMA		6 4 46 ± 13		.054 ± .018			18	T 35.	CCD14	76	-19	2	G	0.2	-	-
2002/11/18 **2 O1(P)**	8 7 43	8 10 43	8 13 45	.188	10.7	5.6										
MONTERREY		8 10 50 ± 18		.254 ± .044			-7	T 18.	VIDEO	33	-65	1	-	0.5	-	-
2002/11/25 **2 E1(P)**	8 21 46	8 24 57	8 28 10	.193	10.4	5.0										
MONTERREY		8 24 58 ± 14		.169 ± .033			-1	T 18.	VIDEO	42	-63	1	-	0.5	-	-
2002/11/25 **2 O1(P)**	10 27 44	10 30 34	10 33 25	.110	10.4	5.7										
MONTERREY		10 30 37 ± 28		.113 ± .028			-3	T 18.	VIDEO	70	-34	2	-	0.5	-	-
2002/11/28 **2 E1(P)**	21 31 51	21 35 18	21 38 49	.275	10.2	5.1										
CLUJ-NAPOCA		21 35 26 ± 4		.336 ± .022			-8	T 41.	CCD22	15	-64	0	V	3.	-	-
KAVALUR		21 35 21 ± 2		.303 ± .006			-3	T 234.	CCD28	61	-45	0	-	-	-	-
2002/11/28 **2 O1(P)**	23 37 37	23 40 20	23 43 3	.080	10.2	5.8										
CLUJ-NAPOCA		23 40 11 ± 12		.065 ± .011			9	T 41.	CCD22	36	-59	0	V	1.5	-	-
2002/12/ 5 **2 E1(P)**	23 53 49	23 57 52	0 1 57	.453	9.7	5.4										
EKATERINBURG		23 58 7 ± 8		.477 ± .034			-15	T 45.	PM6	49	-35	2	V	1.0	-	-
OHP		23 57 43 ± 10		1.675 ± .227			9	L 15.	CCD16	32	-68	0	-	0.04	-	-
OHP		23 57 53 ± 16		.031 ± .005			-1	T 80.	CCD2	32	-68	0	-	-	-	-
2002/12/ 7 **1 O4(P)**	22 10 51	22 17 31	22 24 1	.343	9.5	5.9										
ALMA-ATA		22 12 54 ± 13		.190 ± .014			277	T 60.	CCD9	61	-41	0	-	-	-	-
PULKOVO		22 16 26 ± 31		.326 ± .048			65	T 32.	CCD26	29	-53	0	-	-	-	-
2002/12/13 **2 E1(A)**	2 18 19	2 22 57	2 27 38	.624	8.9	5.5										
OHP		2 2 9 ± 43		.297 ± .132			-2	L 15.	CCD2	59	-49	0	-	-	-	-
PULKOVO		2 22 56 ± 5		.999 ± .062			1	T 32.	CCD26	46	-31	0	-	-	-	-
BUCHAREST		2 22 58 ± 3		1.174 ± .038			-1	T 15.	CCD9	62	-35	0	V	-	-	-
CHEMNITZ		2 23 30 ± 7		2.585 ± .166			-33	L 6.	VISU	54	-42	0	-	-	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2002/12/15 4 O3(P)	10 30 12	10 33 56	10 37 40	.171	8.7	2.7										
MONTERREY		10 33 30 ± 10		.271 ± .023			26	T 18.	VIDEO	80	-36	1	-	0.5	-	-
2002/12/15 4 O2(T)	11 36 11	11 39 14	11 42 16	.295	8.7	2.3										
MONTERREY		11 39 2 ± 5		1.141 ± .059			12	T 18.	VIDEO	71	-22	1	-	0.5	-	-
2002/12/16 4 O1(T)	2 7 13	2 10 31	2 13 47	.361	8.6	3.8										
OHP		2 10 13 ± 9		.466 ± .063			18	L 15.	CCD2	59	-52	0	-	-	-	-
CLUJ-NAPOCA		2 10 12 ± 3		1.218 ± .030			19	T 41.	CCD22	59	-39	0	V	0.9	-	-
2002/12/20 2 E1(A)	4 46 13	4 51 27	4 56 45	.711	8.1	5.7										
CHATEAUGIRON		4 51 27 ± 5		1.618 ± .109			0	T 21.	CCD1	42	-13	0	-	-	-	-
OHP		4 51 27 ± 4		1.557 ± .070			0	L 15.	CCD16	54	-23	0	-	0.04	-	-
CLUJ-NAPOCA		4 51 27 ± 1		1.668 ± .016			0	T 41.	CCD22	42	-12	0	V	0.9	-	-
VIENNA		4 51 9 ± 3		.650 ± .016			18	T 10.	VISU	46	-17	1	-	-	-	-
MASSA		4 51 21 ± 6		1.756 ± .126			6	T 18.	CCD3	-25	-9	1	-	0.04	2	-
CHEMNITZ		4 51 37 ± 8		4.733 ± .283			-10	L 6.	VISU	46	-20	0	-	-	-	-
GIERES		4 51 37 ± 7		2.904 ± .286			-10	T 20.	CCD6	53	-24	0	-	-	-	-
2002/12/20 2 O1(P)	21 1 3	22 56 11	23 33 1	.245	8.0	3.3										
CLUJ-NAPOCA		21 41 32 ± 151		.346 ± .027			-146	T 41.	CCD22	31	-65	0	V	0.8	5	-
2002/12/23 2 O3(A)	0 14 35	0 48 37	1 17 34	.480	7.7	8.3										
OHP		0 59 10 ± 144		.852 ± .217			-93	T 80.	CCD16	52	-65	0	-	0.04	-	-
ROZHEN		0 50 31 ± 76		.203 ± .013			-114	T 60.	PM1	63	-54	1	-	1.	-	-
MONEGRILLO		0 48 9 ± 41		.309 ± .015			28	T 41.	CCD21	49	-69	0	R	-	-	-
2002/12/24 1 O4(P)	3 53 23	3 56 9	3 58 55	.332	7.6	1.7										
SABADELL		3 55 23 ± 0		.199 ± .000			46	T 80.	CCD26	77	-52	0	-	-	-	-
2002/12/30 2 O3(P)	5 54 46	6 9 14	6 23 10	.237	6.7	9.0										
SABADELL		6 9 47 ± 19		.170 ± .009			-33	T 80.	CCD26	56	-23	0	-	-	-	-
OHP		6 8 54 ± 261		.154 ± .195			19	T 80.	CCD16	35	-11	0	-	0.04	-	-
2002/12/30 2 E1(P)	20 38 29	20 44 54	20 51 28	.584	6.6	5.9										
PULKOVO		20 45 3 ± 13		.804 ± .075			-9	T 32.	CCD26	30	-51	0	-	-	-	-
BUCHAREST		20 44 56 ± 7		1.096 ± .057			-2	T 30.	CCD7	31	-52	1	-	0.3	-	-
NYROLA		20 44 54 ± 4		1.023 ± .027			0	T 41.	CCD14	30	-49	0	V	-	-	-
KAVALUR		20 44 55 ± 1		1.055 ± .010			-1	T 234.	CCD28	79	-60	0	-	-	-	-
2002/12/30 4 O3(P)	21 12 46	21 19 27	21 26 10	.205	6.5	13.9										
NYROLA		21 19 18 ± 17		.330 ± .028			9	T 41.	CCD14	30	-49	0	V	-	-	-
ROZHEN		21 18 27 ± 10		.388 ± .013			60	T 60.	PM1	36	-67	1	-	1.	-	-
KAVALUR		21 19 25 ± 4		.356 ± .005			2	T 234.	CCD28	86	-52	0	-	-	-	-
PULKOVO		21 19 26 ± 9		.481 ± .025			1	T 32.	CCD26	34	-53	0	-	-	-	-
BUCHAREST		21 19 23 ± 22		.365 ± .040			4	T 30.	CCD9	37	-66	1	-	0.3	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 1/ 6 2 E1(P)	23 24 57	23 32 47	23 40 53	.449	5.3	5.8										
BORDEAUX		23 32 53 ± 4		.730 ± .016			-6	T 60.	CCD15	46	-67	2	-	2.6	5	-
CATANIA		23 32 49 ± 38		.892 ± .165			-2	T 20.	CCD6	60	-74	1	-	0.5	-	-
CHATEAUGIRON		23 32 46 ± 114		.354 ± .174			1	T 21.	CCD1	56	-62	0	-	-	-	1-2
NYROLA		23 32 48 ± 4		.650 ± .014			-1	T 41.	CCD14	43	-48	0	C	-	-	-
PULKOVO		23 32 52 ± 25		.452 ± .061			-5	T 32.	CCD26	46	-50	0	-	-	-	1-2
PULKOVO		23 32 49 ± 6		.668 ± .021			-2	L 65.	CCD26	46	-50	0	V	0.1-0.5	-	-
MONEGRILLO		23 32 51 ± 9		.662 ± .027			-4	T 41.	CCD21	47	-69	0	R	-	-	-
2003/ 1/ 7 2 O1(P)	19 0 15	19 4 37	19 8 55	.063	5.2	5.8										
KAVALUR		19 4 57 ± 8		.039 ± .003			-20	T 234.	CCD28	64	-80	0	-	-	-	-
2003/ 1/ 8 3 O1(P)	18 46 29	18 54 29	19 2 55	.069	5.0	5.7										
EKATERINBURG		18 55 19 ± 55		.088 ± .019			-50	T 45.	PM6	36	-53	0	R	1.	-	-
ALMA-ATA		18 55 20 ± 23		.080 ± .008			-51	T 60.	CCD9	53	-69	0	-	-	-	-
KAVALUR		18 55 40 ± 12		.079 ± .004			-71	T 234.	CCD28	62	-80	0	-	-	-	-
2003/ 1/ 9 3 O1(P)	0 33 8	0 43 25	0 53 19	.064	5.0	2.5										
SABADELL		0 42 47 ± 181		.056 ± .033			38	T 80.	CCD26	55	-81	0	-	-	-	-
UKKEL		0 41 22 ± 144		.087 ± .054			123	T 85.	CCD23	54	-59	1	-	0.1	-	-
2003/ 1/ 9 3 O1(P)	16 9 5	16 11 59	16 14 53	.041	4.8	5.7										
ALMA-ATA		16 12 51 ± 117		.038 ± .042			-51	T 60.	CCD9	26	-50	-	-	-	-	-
2003/ 1/14 2 E1(P)	2 34 14	2 45 57	2 58 41	.329	4.0	5.6										
NYROLA		2 46 18 ± 13		.425 ± .014			-21	T 41.	CCD14	52	-30	0	C	-	-	-
OHP		2 46 0 ± 71		.212 ± .045			-3	T 120.	CCD5	57	-46	0	-	0.04	-	1-2
PULKOVO		2 46 4 ± 78		.276 ± .056			-7	T 32.	CCD26	35	-28	0	-	-	-	1-2
MONEGRILLO		2 46 12 ± 24		.202 ± .017			-15	T 41.	CCD21	65	-64	0	V	-	-	1-2
2003/ 1/14 2 O1(P)	21 24 6	21 27 37	21 31 6	.056	3.8	5.9										
BUCHAREST		21 27 15 ± 35		.052 ± .040			22	T 30.	CCD7	49	-64	0	-	-	-	-
OHP		21 28 7 ± 86		.019 ± .037			-30	L 15.	CCD2	36	-54	0	-	-	-	-
2003/ 1/17 4 O2(P)	0 38 16	0 43 51	0 49 29	.238	3.4	9.1										
MEUDON		0 43 24 ± 9		.742 ± .058			27	T 100.	NOCT	58	-61	0	-	0.04	-	-
NYROLA		0 43 34 ± 3		.781 ± .013			17	T 41.	CCD14	44	-42	0	V	-	-	-
OHP		0 43 6 ± 18		.074 ± .009			45	T 120.	CCD5	63	-64	0	-	0.04	-	-
LA PALMA		0 43 39 ± 3		.824 ± .015			12	T 35.	CCD14	62	-80	0	-	-	-	-
ROZHEN		0 43 35 ± 2		.805 ± .010			16	T 60.	PM1	63	-55	1	V	1.	-	-
TORRECILLA		0 43 36 ± 5		.777 ± .024			15	T 20.	CCD21	63	-68	0	R	-	-	-
2003/ 1/17 2 E1(P)	16 33 25	16 54 36	17 23 31	.296	3.3	5.1										
KAVALUR		16 56 9 ± 58		.187 ± .018			-93	T 234.	CCD28	43	-60	0	-	-	-	-
2003/ 1/17 2 E1(P)	19 20 45	19 55 17	20 21 13	.423	3.2	3.4										
CLUJ-NAPOCA		19 52 47 ± 90		.261 ± .032			150	T 41.	CCD22	34	-49	0	-	0.8	-	1-2

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 1/18 4 O2(P)	4 48 44	5 0 11	5 11 44	.161	3.2	2.6										
SABADELL		5 0 48 ± 9		.402 ± .011			-37	T 80.	CCD26	54	-39	0	-	-	-	-
LA PALMA		5 0 32 ± 13		.266 ± .009			-21	T 35.	CCD14	54	-39	0	-	-	-	-
LA PALMA		5 0 9 ± 28		.318 ± .035			2	T 60.	CCD29	54	-39	0	R	-	-	-
2003/ 1/18 4 O1(P)	12 31 14	12 36 35	12 41 52	.361	3.1	5.6										
SENDAI		12 36 19 ± 8		.969 ± .060			16	T 36.	PM3	42	-58	1	V	0.1	-	-
2003/ 1/19 4 O3(P)	1 1 19	1 5 51	1 10 24	.160	3.0	10.5										
LUMEZZANE		1 5 39 ± 39		.272 ± .060			12	T 40.	PM2	61	-58	0	-	-	-	-
OHP		1 6 2 ± 26		.326 ± .050			-11	L 15.	CCD2	63	-61	0	-	-	-	-
CHATEAUGIRON		1 6 7 ± 48		.271 ± .067			-16	T 21.	CCD1	55	-50	0	-	-	-	-
2003/ 1/20 2 E3(P)	15 45 22	15 54 48	16 4 6	.250	2.7	8.8										
ALMA-ATA		15 54 20 ± 23		.258 ± .030			28	T 60.	CCD9	32	-45	0	-	-	-	-
2003/ 1/20 2 O3(P)	17 5 19	17 12 48	17 20 13	.218	2.7	9.4										
ALMA-ATA		17 14 13 ± 33		.305 ± .039			-85	T 60.	CCD9	46	-58	0	-	-	-	-
TERSKOL		17 12 16 ± 49		.240 ± .068			32	T 60.	CCD9	22	-35	1	-	-	-	-
2003/ 1/21 2 O1(P)	23 40 58	23 43 53	23 46 46	.046	2.4	5.9										
TERSKOL		23 44 4 ± 18		.042 ± .008			-11	T 60.	CCD9	57	-51	1	-	-	-	-
2003/ 1/24 3 O4(P)	18 28 32	18 35 22	18 42 14	.328	1.8	13.4										
TERSKOL		18 35 1 ± 21		.234 ± .028			21	T 60.	CCD9	40	-48	1	-	-	-	-
2003/ 1/25 2 O4(A)	13 29 37	13 33 14	13 36 50	.405	1.7	6.2										
SENDAI		13 33 34 ± 74		.076 ± .067			-20	T 36.	PM3	58	-65	3	-	-	-	-
2003/ 1/25 1 E4( )	18 9 12	18 22 58	18 35 53	.129	1.6	4.3										
NOVARA		18 24 39 ± 3		.208 ± .010			-101	T 60.	VISU	16	-23	0	-	-	-	-
SENDAI		18 19 51 ± 3		.076 ± .010			187	T 36.	PM3	46	-40	3	V	0.1	-	1-4
2003/ 1/27 2 E3(A)	19 44 8	19 52 29	20 0 44	.288	1.2	9.1										
BRESCIA		19 53 21 ± 8		.573 ± .033			-52	T 20.	VISU	32	-37	0	-	-	-	-
MEUDON		19 52 19 ± 29		.251 ± .041			10	T 100.	NOCT	27	-32	3	-	0.04	-	2-3
NOVARA		19 52 33 ± 12		.385 ± .035			-4	T 60.	VISU	33	-38	0	-	-	-	-
SABADELL		19 46 46 ± 41		.141 ± .049			343	T 50.	CCD26	27	-32	0	-	-	-	-
KALAVUR		19 52 17 ± 6		.222 ± .007			12	T 102.	CCD28	81	-75	1	-	-	-	-
2003/ 1/27 2 O3(P)	20 17 54	20 24 47	20 31 36	.241	1.2	9.4										
KAVALUR		20 25 0 ± 7		.258 ± .010			-13	T 102.	CCD28	74	-68	1	-	-	-	-
BRESCIA		20 26 17 ± 11		.581 ± .039			-90	T 20.	VISU	38	-43	0	-	-	-	-
MEUDON		20 24 54 ± 35		.297 ± .062			-7	T 100.	NOCT	32	-37	0	-	0.04	-	-
OHP		20 24 54 ± 71		.257 ± .123			-7	L 15.	CCD2	35	-40	0	-	-	-	-
SABADELL		20 20 17 ± 79		.166 ± .054			270	T 50.	CCD26	33	-38	0	-	-	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 2/ 3 4 O2(T)	5 5 51	5 8 58	5 12 6	.294	.2	3.3										
SABADELL		5 8 50 ± 3		.978 ± .038			8	T 80.	CCD26	36	-36	0	-	-	-	-
2003/ 2/ 3 4 O1(T)	17 9 18	17 12 8	17 14 58	.361	.3	1.7										
ALMA-ATA		17 11 53 ± 3		1.298 ± .054			15	T 60.	CCD9	56	-54	0	-	-	-	-
PULKOVO		17 11 54 ± 5		.767 ± .075			14	T 32.	CCD26	24	-22	0	-	-	-	-
CLUJ-NAPOCA		17 12 1 ± 2		.884 ± .022			7	T 41.	CCD24	19	-18	0	-	-	-	-
PULKOVO		17 12 11 ± 3		.598 ± .020			-3	L 65.	CCD26	24	-22	0	V	0.1-0.5	-	-
2003/ 2/ 3 2 O3(A)	23 24 25	23 30 52	23 37 16	.479	.4	9.3										
LILLE		23 30 35 ± 10		.181 ± .014			17	L 32.	CCD10	57	-55	1	-	0.5	-	-
LA PALMA		23 30 44 ± 14		.289 ± .014			8	T 35.	CCD14	64	-62	0	-	-	-	-
LA PALMA		23 30 56 ± 14		.209 ± .013			-4	T 60.	CCD29	64	-62	0	R	-	-	-
UKKEL		23 30 57 ± 16		.275 ± .023			-5	T 85.	CCD23	57	-55	1	-	0.1	-	-
PULKOVO		23 31 21 ± 7		.281 ± .008			-29	T 32.	CCD26	45	-44	0	-	-	-	-
CLUJ-NAPOCA		23 31 3 ± 11		.341 ± .018			-11	T 41.	CCD24	59	-58	0	-	-	-	-
2003/ 2/ 3 2 E3(A)	23 32 0	23 39 36	23 47 9	.320	.4	9.3										
LA PALMA		23 38 53 ± 14		.167 ± .012			43	T 35.	CCD14	66	-64	0	-	-	-	2-3
LA PALMA		23 39 6 ± 21		.255 ± .021			30	T 60.	CCD29	66	-64	0	R	-	-	2-3
UKKEL		23 39 29 ± 16		.243 ± .020			7	T 85.	CCD23	57	-55	1	-	0.1	-	2-3
PULKOVO		23 39 42 ± 4		.254 ± .005			-6	T 32.	CCD26	45	-44	0	-	-	-	2-3
CLUJ-NAPOCA		23 39 26 ± 10		.285 ± .012			10	T 41.	CCD24	58	-57	0	-	-	-	2-3
NAUCHNY		23 39 50 ± 10		.161 ± .009			-14	T 60.	PM5	55	-55	0	V	1.	-	2-3
2003/ 2/11 2 O3(A)	2 27 33	2 33 39	2 39 42	.479	1.9	9.2										
LA PALMA		2 33 45 ± 19		.163 ± .017			-6	T 35.	CCD14	63	-68	0	-	-	-	-
LA PALMA		2 33 43 ± 17		.279 ± .031			-4	T 60.	CCD29	63	-68	0	R	-	-	-
ARMAGH		2 33 57 ± 136		.255 ± .368			-18	T 25.	CCD27	37	-38	0	-	-	-	-
OHP		2 33 38 ± 28		.323 ± .052			1	T 80.	CCD16	41	-44	0	-	0.04	-	-
2003/ 2/11 2 E3(A)	3 12 54	3 19 57	3 26 59	.346	1.9	9.5										
ARMAGH		3 19 45 ± 51		.461 ± .169			12	T 25.	CCD27	79	-32	0	-	-	-	-
OHP		3 19 59 ± 22		.656 ± .109			-2	T 80.	CCD16	32	-37	0	-	0.04	-	-
LA PALMA		3 19 39 ± 14		.119 ± .010			18	T 35.	CCD14	32	-37	0	-	-	-	2-3
LA PALMA		3 19 44 ± 14		.273 ± .025			13	T 60.	CCD29	32	-37	0	R	-	-	2-3
2003/ 2/15 2 O1(P)	19 15 42	19 16 25	19 17 8	.002	2.8	5.7										
PULKOVO		19 15 44 ± 131		.040 ± .034			41	L 65.	CCD26	44	-33	0	V	0.1-0.5	-	-
2003/ 2/18 2 O3(A)	5 28 53	5 34 39	5 40 22	.479	3.3	9.1										
MONTERREY		5 34 46 ± 19		.283 ± .027			-7	T 18.	VIDEO	82	-67	1	-	0.5	-	-
2003/ 2/18 2 E3(A)	6 48 44	6 55 22	7 1 58	.365	3.3	9.6										
MONTERREY		6 55 7 ± 11		.348 ± .023			15	T 18.	VIDEO	72	-76	1	-	0.5	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 2/18 4 O3(P)	17 46 56	17 53 40	18 0 26	.335	3.4	13.3										
MEUDON		17 54 14 ± 25		.241 ± .038			-34	T 100.	NOCT	24	-7	0	-	0.04	-	-
OHP		17 53 31 ± 17		.800 ± .085			9	T 80.	CCD2	26	-9	0	-	-	-	-
YUNNAN		17 53 17 ± 4		.738 ± .018			23	T 100.	CCD8	65	-75	0	-	-	-	-
TERSKOL		17 53 47 ± 7		.664 ± .028			-7	T 60.	CCD9	59	-40	1	-	-	1	-
CLUJ-NAPOCA		17 53 44 ± 9		.744 ± .041			-4	T 41.	CCD24	38	-21	0	-	0.7	5	-
2003/ 2/18 4 E3(P)	20 39 31	20 48 49	20 58 7	.384	3.4	13.9										
PULKOVO		20 48 32 ± 12		.557 ± .029			17	L 65.	CCD26	49	-39	3	V	0.1-0.5	-	-
ARMAGH		20 46 44 ± 26		.389 ± .111			125	T 25.	CCD27	49	-35	0	-	-	-	-
BORDEAUX		20 48 38 ± 9		.588 ± .026			11	T 60.	CCD15	52	-35	1	-	-	-	-
CHATEAUGIRON		20 48 39 ± 36		.845 ± .209			10	T 21.	CCD1	59	-46	0	-	-	-	-
LANESTER		20 48 29 ± 100		.541 ± .334			20	T 20.	CCD6	52	-36	2	-	-	-	-
LILLE		20 48 18 ± 25		.528 ± .063			31	L 32.	CCD10	50	-35	2	-	1.0	-	-
MEUDON		20 48 24 ± 21		.179 ± .022			25	T 100.	NOCT	51	-35	0	-	0.04	-	3-4
NAUCHNY		20 48 33 ± 3		.359 ± .005			16	T 60.	PM5	62	-51	0	-	-	-	3-4
MAINZ		20 48 18 ± 28		.501 ± .077			31	T 25.	CCD25	53	-38	0	-	-	-	-
NOVARA		20 48 54 ± 9		2.254 ± .229			-5	T 6.	VISU	57	-41	0	-	0.1	-	-
OHP		20 48 35 ± 35		.346 ± .069			14	T 80.	CCD2	56	-39	0	-	-	-	3-4
YUNNAN		20 48 25 ± 12		.570 ± .032			24	T 100.	CCD8	25	-39	0	-	-	-	-
TERSKOL		20 48 43 ± 8		.522 ± .022			6	T 60.	CCD9	64	-58	1	-	-	1	-
UKKEL		20 48 35 ± 15		.696 ± .059			14	T 85.	CCD23	50	-35	1	-	0.1	-	-
MUNDOLSHEIM		20 48 35 ± 57		.536 ± .172			14	T 15.	CCD4	54	-38	2	-	-	-	-
CLUJ-NAPOCA		20 48 26 ± 13		.567 ± .019			23	T 41.	CCD24	61	-48	0	-	0.6	5	-
2003/ 2/19 4 O1(P)	20 28 22	20 31 16	20 34 9	.299	3.6	2.9										
ANTONY		20 31 3 ± 17		.990 ± .244			13	T 22.	CCD6	46	-30	1	-	-	-	-
BRESCIA		20 31 39 ± 7		.496 ± .035			-23	T 20.	VISU	55	-38	0	-	0.1	-	-
LILLE		20 31 1 ± 5		.787 ± .060			15	L 32.	CCD10	48	-32	1	-	0.1	-	-
NOVARA		20 31 31 ± 5		.725 ± .063			-15	T 6.	VISU	55	-38	0	-	0.1	-	-
NYROLA		20 31 1 ± 2		.855 ± .023			15	T 41.	CCD14	45	-35	0	V	-	-	-
TERSKOL		20 30 57 ± 6		.837 ± .054			19	T 60.	CCD9	64	-56	1	-	-	1	-
UKKEL		20 31 1 ± 3		1.146 ± .065			15	T 85.	CCD23	49	-33	1	-	0.1	-	-
MUNDOLSHEIM		20 31 0 ± 11		.916 ± .174			16	T 15.	CCD4	52	-36	0	-	-	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 2/19 4 E1( )	22 11 19	22 15 42	22 20 6	.419	3.6	4.1										
CATANIA		22 15 26 ± 20		.407 ± .090			16	T 20.	CCD6	70	-61	1	-	0.5	-	-
LILLE		22 15 24 ± 5		.524 ± .028			18	L 32.	CCD10	57	-45	0	-	1.0	-	-
MEUDON		22 15 21 ± 18		.597 ± .109			21	T 100.	NOCT	59	-46	0	-	-	-	-
NYROLA		22 15 21 ± 3		.535 ± .017			21	T 41.	CCD14	45	-39	0	V	-	-	-
LA PALMA		22 15 25 ± 7		.522 ± .047			17	T 35.	CCD14	64	-44	0	-	-	-	-
LA PALMA		22 15 8 ± 13		.528 ± .064			34	T 60.	CCD29	64	-44	0	R	-	-	-
UKKEL		22 15 21 ± 7		.727 ± .060			21	T 85.	CCD23	57	-45	1	-	0.1	-	-
VIENNA		22 15 59 ± 12		.223 ± .018			-17	T 10.	VISU	60	-51	2	-	-	-	-
2003/ 2/20 4 O2(T)	1 30 21	12 18 30	12 21 40	.295	3.8	3.7										
YUNNAN		12 18 24 ± 4		1.059 ± .048			6	T 100.	CCD8	26	-46	1	-	-	-	-
2003/ 2/20 4 E2(P)	14 22 54	14 27 29	14 32 4	.543	3.8	2.3										
YUNNAN		14 27 14 ± 3		.824 ± .025			14	T 100.	CCD8	63	-46	1	-	-	-	-
2003/ 2/20 1 O2(P)	15 47 28	15 49 17	15 51 5	.381	3.8	1.3										
YUNNAN		15 49 3 ± 1		.534 ± .011			14	T 100.	CCD8	76	-66	1	-	-	-	-
2003/ 2/25 2 E3(A)	10 21 17	10 27 34	10 33 48	.380	4.7	9.7										
SENDAI		10 27 21 ± 19		.442 ± .067			13	T 36.	PM3	51	-26	1	-	0.1		-
2003/ 2/27 1 O2(P)	17 46 8	17 47 56	17 49 43	.334	5.8	1.5										
NAUCHNY		17 47 44 ± 3		.426 ± .025			12	T 60.	PM5	49	-23	0	V	1.	-	-
YUNNAN		17 47 44 ± 1		.420 ± .008			12	T 100.	CCD8	54	-83	1	-	-	-	-
ROZHEN		17 47 30 ± 6		.189 ± .029			26	T 60.	PM1	46	620	1	V	1.	-	-
STRASBOURG		17 47 41 ± 15		.273 ± .080			15	L 49.	CCD4	33	-7	1	-	-	-	-
CLUJ-NAPOCA		17 47 41 ± 1		.467 ± .013			15	T 41.	CCD24	44	-18	0	-	0.8	5	-
2003/ 2/27 1 O4(P)	21 59 30	22 2 56	22 6 24	.254	5.2	4.6										
ROZHEN		22 2 42 ± 3		.201 ± .007			14	T 60.	PM1	61	-56	1	V	1.	-	-
MONEGRILLO		22 2 40 ± 10		.146 ± .018			16	T 41.	CCD21	67	-46	0	B	-	-	-
SOBOTA		22 2 35 ± 18		.120 ± .028			21	T 15.	CCD14	58	-49	0	-	0.1	1	-
UKKEL		22 2 42 ± 19		.154 ± .036			14	T 85.	CCD23	58	-42	1	-	0.1	-	-
STRASBOURG		22 2 9 ± 29		.131 ± .069			47	L 49.	CCD4	60	-45	2	-	-	-	-
NAUCHNY		22 2 37 ± 4		.154 ± .006			19	T 60.	PM5	55	-52	0	V	1.	-	-
CLUJ-NAPOCA		22 2 28 ± 3		.173 ± .006			28	T 41.	CCD24	58	-51	0	V	0.8	-	-
LA PALMA		22 2 40 ± 5		.156 ± .009			16	T 35.	CCD14	68	-40	0	-	-	-	-
LA PALMA		22 2 33 ± 10		.155 ± .012			23	T 60.	CCD29	68	-40	0	R	-	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 2/28 1 E4(A)	1 8 33	1 16 8	1 23 55	.483	5.2	3.3										
MONEGRILLO		1 15 34 ± 7		.659 ± .034			34	T 41.	CCD21	46	-54	0	B	-	-	-
BORDEAUX		1 15 36 ± 6		.706 ± .026			32	T 60.	CCD15	45	-51	1	-	-	-	-
SOBOTA		1 15 34 ± 20		.166 ± .021			34	T 15.	CCD14	31	-40	0	-	0.1	1	-
CLUJ-NAPOCA		1 15 35 ± 6		.710 ± .027			33	T 41.	CCD24	29	-39	0	V	0.9	-	-
2003/ 2/28 1 E4(A)	12 30 5	12 40 26	12 50 41	.534	5.3	1.4										
YUNNAN		12 40 59 ± 6		.707 ± .024			-33	T 100.	CCD8	47	-20	1	-	-	-	-
2003/ 2/28 1 O4(P)	23 37 40	23 45 9	23 52 21	.137	5.4	5.9										
NAUCHNY		23 44 54 ± 22		.082 ± .008			15	T 60.	PM5	39	-46	0	V	1.	-	-
TORRECILLA		23 44 47 ± 26		.884 ± .012			22	T 20.	CCD21	61	-56	0	V	-	-	-
TERSKOL		23 44 8 ± 115		.705 ± .036			61	T 60.	CCD9	30	-42	1	-	-	1	-
ARMAGH		23 44 45 ± 254		.134 ± .137			24	T 25.	CCD27	48	-43	0	-	-	-	-
CLUJ-NAPOCA		23 44 52 ± 34		.081 ± .013			17	T 41.	CCD24	43	-48	0	V	0.5	-	-
2003/ 3/ 1 2 O4(A)	2 58 10	3 2 4	3 5 58	.405	5.4	7.2										
SABADELL		3 1 51 ± 15		.445 ± .061			13	T 80.	CCD26	27	-41	0	-	-	-	-
2003/ 3/ 6 1 O2(P)	19 46 8	19 47 53	19 49 39	.290	6.4	1.7										
TOMAR		19 47 54 ± 5		.107 ± .011			-1	T 25.	CCD12	51	-16	1	-	0.1	-	-
MONEGRILLO		19 47 40 ± 3		.350 ± .021			13	T 41.	CCD21	55	-21	0	R	-	-	-
PULKOVO		19 47 40 ± 9		.305 ± .060			13	L 65.	CCD26	49	-30	3	V	0.1-0.5	-	-
2003/ 3/ 9 4 O2(P)	16 30 40	16 37 10	16 43 36	.293	6.8	9.2										
PULKOVO		16 37 8 ± 14		.769 ± .061			2	T 32.	CCD26	38	-8	0	-	-	-	-
TERSKOL		16 37 12 ± 4		.817 ± .022			-2	T 60.	CCD9	54	-18	1	-	-	1	-
2003/ 3/ 9 4 E2( )	21 59 35	22 5 19	22 11 4	.232	6.9	7.8										
ARMAGH		22 5 48 ± 51		.266 ± .166			-29	T 25.	CCD27	53	-36	0	-	-	-	-
BORDEAUX		22 5 0 ± 14		.251 ± .026			19	T 60.	CCD15	63	-41	1	-	-	-	-
SABADELL		22 5 13 ± 11		.242 ± .019			6	T 80.	CCD26	66	-45	0	-	-	-	-
LILLE		22 5 6 ± 19		.288 ± .039			13	L 32.	CCD10	57	-38	2	-	0.8	-	-
OHP		22 4 49 ± 53		.315 ± .120			30	T 80.	CCD16	63	-45	1	-	0.2	5	-
LA PALMA		22 4 49 ± 3		.153 ± .004			30	T 35.	CCD14	77	-39	0	-	-	-	2-4
MUNDOSLHEIM		22 5 14 ± 57		.299 ± .133			5	T 15.	CCD4	58	-41	1	-	-	-	-
TORRECILLA		22 4 54 ± 8		.236 ± .015			25	T 20.	CCD21	67	-43	0	V	-	-	-
2003/ 3/11 2 O3(P)	14 34 22	14 38 50	14 43 16	.217	7.1	8.6										
KAVALUR		14 38 46 ± 4		.224 ± .009			4	T 102.	CCD28	66	-26	1	-	-	-	-
2003/ 3/11 2 E3(A)	17 17 5	17 22 43	17 28 20	.377	7.2	9.8										
KAVALUR		17 22 30 ± 3		.488 ± .009			30	T 102.	CCD28	72	-66	1	-	-	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 3/13 1 O2(P)	21 47 40	21 49 23	21 51 7	.253	7.5	1.9										
ARMAGH		21 49 13 ± 20		.221 ± .167			10	T 25.	CCD27	53	-33	0	-	-	-	-
SABADELL		21 49 0 ± 8		1.992 ± .411			23	T 50.	CCD26	66	-41	0	-	-	-	-
MUNDOLSHEIM		21 49 6 ± 14		.335 ± .083			17	T 15.	CCD4	58	-39	1	-	-	-	-
2003/ 3/15 3 E4(A)	22 5 7	22 14 49	22 24 33	.649	7.8	10.4										
ANTONY		22 14 38 ± 79		1.054 ± .532			11	T 22.	CCD6	52	-34	1	-	-	-	-
ARMAGH		22 14 42 ± 37		.939 ± .190			7	T 25.	CCD27	50	-35	0	-	-	-	-
BORDEAUX		22 14 42 ± 6		1.128 ± .033			7	T 60.	CCD15	61	-40	0	-	1.5	-	-
CHATEAUGIRON		22 14 44 ± 46		1.131 ± .278			5	T 21.	CCD1	48	-44	0	-	-	-	-
DAX		22 14 34 ± 5		1.033 ± .030			15	T 32.	CCD11	63	-41	0	-	-	-	-
DOLBERG		22 14 27 ± 28		.642 ± .220			22	T 20.	WAT	52	-37	0	-	-	-	-
GIERES		22 14 40 ± 18		1.129 ± .121			9	T 20.	CCD6	68	-66	2	-	-	-	-
LILLE		22 14 27 ± 18		1.114 ± .100			22	L 32.	CCD10	55	-37	1	-	0.5	-	-
MEUDON		22 14 34 ± 31		1.270 ± .240			15	T 100.	NOCT	57	-38	0	-	0.04	-	-
NYROLA		22 14 39 ± 3		1.008 ± .020			10	T 41.	CCD14	38	-30	0	R	-	-	-
PULKOVO		22 14 44 ± 6		.798 ± .028			5	T 32.	CCD26	38	-32	0	-	-	-	-
PULKOVO		22 14 44 ± 3		.994 ± .019			5	L 65.	CCD26	38	-32	0	V	0.1-0.5	-	-
UKKEL		22 14 42 ± 11		1.282 ± .066			7	T 85.	CCD23	54	-37	1	-	0.1	-	-
MUNDOLSHEIM		22 14 14 ± 41		.899 ± .348			35	T 15.	CCD4	55	-40	2	-	-	-	-
2003/ 3/17 1 E3( )	18 18 8	18 22 36	18 27 8	.061	8.0	3.8										
ALMA-ATA		18 22 49 ± 20		.047 ± .009			-13	T 60.	CCD9	51	-47	0	R	0.5	-	-
NAUCHNY		18 22 32 ± 7		.052 ± .004			4	T 60.	PM5	61	-24	0	V	1.	-	-
NYROLA		18 22 36 ± 34		.052 ± .018			0	T 41.	CCD14	45	-14	0	V	-	-	-
MUNDOLSHEIM		18 22 4 ± 100		.083 ± .118			32	T 15.	CCD4	50	-9	1	-	-	-	-
2003/ 3/18 2 E3(A)	20 41 34	20 46 53	20 52 12	.353	8.2	9.7										
ARMAGH		20 46 44 ± 26		.389 ± .111			9	T 25.	CCD27	54	-26	0	-	-	-	-
BORDEAUX		20 46 41 ± 4		.502 ± .014			12	T 60.	CCD15	64	-27	0	-	1.	-	-
CATANIA		20 46 42 ± 11		.399 ± .034			11	T 20.	CCD6	69	-41	1	-	0.2	-	-
CHATEAUGIRON		20 46 50 ± 23		.665 ± .147			3	T 21.	CCD1	57	-37	0	-	-	-	-
LILLE		20 46 50 ± 7		.456 ± .028			3	L 32.	CCD10	58	-26	1	-	0.5	-	-
OHP		20 46 46 ± 13		.665 ± .071			7	T 80.	CCD16	65	-32	0	-	0.04	-	-
LA PALMA		20 46 44 ± 5		.472 ± .019			9	T 35.	CCD14	69	-21	0	-	-	-	-
LA PALMA		20 46 56 ± 9		.486 ± .040			-3	T 60.	CCD29	69	-21	0	R	-	-	-
TORRECILLA		20 46 46 ± 6		.454 ± .025			7	T 20.	CCD21	67	-29	0	R	-	-	-
UKKEL		20 46 44 ± 8		.578 ± .035			9	T 85.	CCD23	58	-27	1	-	0.1	-	-
MUNDOLSHEIM		20 46 41 ± 16		.387 ± .065			12	T 15.	CCD4	60	-30	1	-	-	-	-
2003/ 3/19 2 E1( )	18 20 50	18 23 12	18 25 35	.091	8.3	4.4										
MUNDOLSHEIM		18 23 5 ± 111		.048 ± .081			7	T 15.	CCD4	52	-8	1	-	-	-	-
2003/ 3/20 1 O2(P)	23 50 52	23 52 34	23 54 16	.225	8.4	2.2										
CATANIA		23 52 26 ± 35		.296 ± .196			8	T 14.	CCD6	35	-51	1	-	-	-	-
NYROLA		23 52 20 ± 3		.296 ± .023			14	T 41.	CCD14	26	-25	0	V	-	-	-
SABADELL		23 52 26 ± 13		.162 ± .029			8	T 50.	CCD26	44	-48	0	-	-	-	-
PULKOVO		23 52 21 ± 4		.149 ± .016			13	L 65.	CCD26	24	-27	0	V	0.1-0.5	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 3/24 1 E3(P)	21 54 20	22 1 32	22 8 57	.136	8.9	3.7										
BORDEAUX		22 1 19 ± 13		.142 ± .010			13	T 60.	CCD15	59	-36	1	-	-	-	-
BUCHAREST		22 1 8 ± 8		.147 ± .006			24	T 50.	PM4	43	-44	0	V	-	-	-
CATANIA		22 1 44 ± 115		.123 ± .097			-12	T 20.	CCD6	53	-48	0	-	-	-	-
LILLE		22 1 31 ± 24		.149 ± .017			1	L 32.	CCD10	53	-33	1	-	0.5	-	-
MEUDON		22 1 34 ± 40		.060 ± .017			-2	T 100.	NOCT	54	-34	0	-	0.04	-	1-3
NAUCHNY		22 1 29 ± 12		.132 ± .010			3	T 60.	PM5	39	-42	0	V	1.	-	-
OHP		22 1 54 ± 70		.113 ± .038			-22	L 15.	CCD	56	-39	0	-	-	-	-
PRAGUE		22 1 0 ± 206		.140 ± .127			32	L 18.	CCD19	48	-36	1	-	-	-	-
PULKOVO		22 1 30 ± 29		.159 ± .029			2	T 32.	CCD26	35	-29	0	-	-	-	-
TORRECILLA		22 1 35 ± 18		.144 ± .015			-3	T 20.	CCD21	61	-38	0	V	-	-	-
UKKEL		22 1 32 ± 32		.169 ± .029			0	T 85.	CCD23	52	-33	1	-	0.1	-	-
MUNDOLSHEIM		22 1 11 ± 74		.126 ± .103			21	T 15.	CCD4	52	-36	1	-	-	-	-
2003/ 3/25 4 E3( )	13 32 19	13 38 59	13 45 39	.523	9.0	4.7										
KAVALUR		13 38 52 ± 8		.390 ± .022			7	T 102.	CCD28	66	-12	2	-	-	-	-
2003/ 3/25 1 E3(P)	20 2 45	20 8 28	20 14 5	.118	9.0	7.9										
BORDEAUX		20 8 1 ± 15		.155 ± .015			27	T 60.	CCD15	64	-20	1	-	1.	-	-
BRESCIA		20 9 33 ± 5		.145 ± .015			-65	T 20.	VISU	63	-26	0	-	0.1	-	-
CATANIA		20 8 34 ± 84		.149 ± .081			-6	T 25.	CCD6	70	-33	1	-	0.2	-	-
LILLE		20 8 49 ± 51		.113 ± .045			-21	L 32.	CCD10	58	-19	2	-	0.5	-	-
MEUDON		20 8 22 ± 33		.152 ± .047			6	T 100.	NOCT	60	-20	0	-	0.04	-	-
NAUCHNY		20 8 15 ± 6		.857 ± .004			13	T 60.	PM5	56	-36	0	V	1.	-	2-3
NYROLA		20 8 19 ± 15		.081 ± .010			9	T 41.	CCD14	45	-21	0	V	-	-	2-3
OHP		20 7 50 ± 49		.182 ± .052			38	L 15.	CCD2	65	-24	0	-	-	-	2-3
PULKOVO		20 8 24 ± 37		.091 ± .026			4	T 32.	CCD26	46	-24	0	-	-	-	2-3
TORRECILLA		20 8 20 ± 22		.076 ± .013			8	T 20.	CCD21	67	-21	0	V	-	-	2-3
2003/ 3/25 2 O3(P)	20 44 50	20 48 10	20 51 30	.102	9.0	8.2										
BRESCIA		20 49 20 ± 9		.108 ± .014			-70	T 20.	VISU	61	-31	0	-	0.1	-	-
SABADELL		20 48 23 ± 8		.107 ± .008			-13	T 80.	CCD26	75	-20	0	-	-	-	-
CATANIA		20 48 0 ± 45		.052 ± .067			10	T 25.	CCD26	67	-29	1	-	0.2	-	-
LILLE		20 49 10 ± 65		.435 ± .161			-60	L 32.	CCD10	58	-24	2	-	0.5	-	-
MEUDON		20 48 13 ± 31		.057 ± .019			-3	T 100.	NOCT	60	-25	0	-	0.04	-	-
NAUCHNY		20 47 57 ± 5		.120 ± .005			13	T 60.	PM5	50	-39	0	V	1.	-	-
NYROLA		20 48 9 ± 10		.104 ± .011			1	T 41.	CCD14	42	-23	0	V	-	-	-
OHP		20 48 48 ± 51		.074 ± .057			-38	L 15.	CCD2	64	-30	0	-	-	-	-
LA PALMA		20 48 9 ± 14		.104 ± .012			1	T 35.	CCD14	75	-20	0	-	-	-	-
PULKOVO		20 48 6 ± 20		.124 ± .028			4	T 32.	CDD26	42	-27	0	-	-	-	-
TORRECILLA		20 48 7 ± 20		.122 ± .020			3	T 20.	CCD21	67	-27	0	V	-	-	-
BORDEAUX		20 48 0 ± 24		.100 ± .019			10	T 60.	CCD15	64	-26	1	-	-	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 3/26 2 E3(A)	0 4 26	0 9 26	0 14 27	.314	9.0	9.6										
ARMAGH		0 9 33 ± 45		.345 ± .126			-7	T 25.	CCD27	32	-33	0	-	-	-	-
CATANIA		0 9 18 ± 26		.376 ± .096			8	T 25.	CCD6	27	-48	0	-	-	-	-
LILLE		0 9 15 ± 8		.403 ± .030			11	L 32.	CCD10	35	-37	1	-	1.	-	-
NYROLA		0 9 18 ± 7		.390 ± .019			8	T 41.	CCD14	21	-23	0	V	-	-	-
OHP		0 9 30 ± 14		.335 ± .047			-4	L 15.	CCD2	34	-44	0	-	0.04	-	-
LA PALMA		0 9 13 ± 8		.412 ± .030			13	T 35.	CCD14	54	-56	0	-	-	-	-
PULKOVO		0 9 12 ± 11		.540 ± .046			14	T 32.	CCD26	19	-24	0	-	-	-	-
2003/ 3/26 2 E1(P)	20 38 23	20 40 56	20 43 30	.181	9.1	4.2										
PULKOVO		20 40 34 ± 13		.199 ± .037			22	T 32.	CCD26	43	-26	0	-	-	-	-
UKKEL		20 40 28 ± 41		.197 ± .121			28	T 85.	CCD23	58	-24	3	-	0.1	-	-
VIENNA		20 40 58 ± 13		.317 ± .019			-2	T 10.	VISU	70	-53	1	-	-	-	-
BRESCIA		20 40 58 ± 5		.087 ± .020			-2	T 20.	VISU	61	-30	0	-	0.1	-	-
SABADELL		20 40 44 ± 5		.118 ± .008			12	T 80.	CCD26	75	-18	0	-	-	-	-
CATANIA		20 40 34 ± 28		.148 ± .054			22	T 25.	CCD6	65	-38	1	-	0.2	-	-
LILLE		20 40 32 ± 12		.149 ± .028			24	L 32.	CCD10	58	-23	1	-	0.5	-	-
OHP		20 41 5 ± 27		.097 ± .049			-9	T 80.	CCD2	64	-29	0	-	-	-	-
LA PALMA		20 40 38 ± 7		.158 ± .018			18	T 35.	CCD14	75	-18	0	-	-	-	-
LA PALMA		20 40 35 ± 6		.170 ± .019			21	T 60.	CCD29	75	-18	0	R	-	-	-
PULKOVO		20 40 35 ± 15		.175 ± .049			21	L 65.	CCD26	43	-26	2	V	0.1-0.5	-	-
2003/ 3/28 1 O2(P)	1 55 50	1 57 32	1 59 14	.208	9.2	2.4										
ARMAGH		1 57 29 ± 33		.211 ± .173			3	T 25.	CCD27	15	-26	0	-	-	-	-
SABADELL		1 57 14 ± 1		.213 ± .003			18	T 80.	CCD26	15	-38	0	-	-	-	-
MONTERREY		1 57 18 ± 6		.254 ± .026			14	T 18.	VIDEO	73	-15	1	-	0.5	-	-
2003/ 3/28 1 E2(P)	3 30 2	3 32 15	3 34 29	.404	9.2	1.3										
MONTERREY		3 31 57 ± 8		.392 ± .054			18	T 18.	VIDEO	81	-35	1	-	0.5	-	-
2003/ 4/ 1 1 E3(P)	23 25 49	23 30 41	23 35 29	.193	9.7	7.7										
VIENNA		23 31 16 ± 7		.242 ± .014			-35	T 10.	VISU	24	-71	1	-	-	-	-
PULKOVO		23 31 5 ± 63		.222 ± .105			-24	L 65.	CCD26	20	-23	0	V	0.1-0.5	-	-
2003/ 4/ 2 2 E4( )	20 12 18	20 16 29	20 20 39	.124	9.8	1.6										
MUNDOLSHEIM		20 16 39 ± 60		.104 ± .067			-10	T 15.	CCD4	59	-22	1	-	-	-	-
2003/ 4/ 2 2 E1(P)	22 55 20	22 58 1	23 0 40	.296	9.8	3.9										
BORDEAUX		22 57 42 ± 3		.339 ± .020			19	T 60.	CCD15	45	-38	1	-	-	-	-
PULKOVO		22 57 50 ± 15		.553 ± .166			11	T 32.	CCD26	24	-24	0	-	-	-	-
MUNDOLSHEIM		22 57 35 ± 25		.302 ± .127			26	T 15.	CCD4	39	-36	1	-	-	-	-
PULKOVO		22 57 21 ± 16		.327 ± .072			40	L 65.	CCD26	24	-24	0	V	0.1-0.5	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 4/ 3 1 E4(P)	17 15 44	17 22 54	17 29 57	.233	9.8	9.9										
ALMA-ATA		17 21 47 ± 12		.367 ± .033			67	T 60.	CCD9	50	-37	1	R	1.	-	-
2003/ 4/ 5 3 E1(P)	0 48 59	0 52 3	0 55 7	.465	9.9	2.2										
BORDEAUX		0 52 6 ± 3		.675 ± .030			-3	T 60.	CCD15	24	-38	1	-	-	-	-
2003/ 4/ 7 1 O2(P)	17 6 40	17 8 24	17 10 7	.205	10.1	2.7										
KAVALUR		17 8 8 ± 2		.234 ± .009			16	T 102.	CCD28	50	-59	0	-	-	-	-
2003/ 4/ 7 1 E2( )	18 50 58	18 52 54	18 54 52	.144	10.1	1.5										
NOVARA		18 53 31 ± 5		1.594 ± .177			-37	T 6.	VISU	63	-10	0	-	0.1	-	-
MUNDOLSHEIM		18 52 30 ± 25		.146 ± .096			24	T 15.	CCD4	60	-8	1	-	-	-	-
2003/ 4/11 3 E2( )	20 58 57	21 1 59	21 5 1	.116	10.4	6.6										
NYROLA		21 2 11 ± 34		.069 ± .029			-12	T 41.	CCD14	35	-18	0	V	-	-	-
TORRECILLA		21 2 9 ± 15		.085 ± .035			-10	T 20.	CCD21	60	-25	0	V	-	-	-
UKKEL		21 2 6 ± 46		.078 ± .057			-7	T 85.	CCD23	51	-21	1	-	0.1	-	-
CATANIA		21 2 0 ± 48		.064 ± .058			-1	T 25.	CCD6	51	-36	0	-	-	-	-
PULKOVO		21 1 59 ± 5		.080 ± .007			0	L 65.	CCD26	34	-21	0	V	0.1-0.5	-	-
2003/ 4/11 4 E1( )	21 22 26	21 25 41	21 28 56	.085	10.4	2.3										
UKKEL		21 25 18 ± 52		.075 ± .048			23	T 85.	CCD23	48	-24	1	-	0.1	-	-
CATANIA		21 25 12 ± 87		.088 ± .081			29	T 25.	CCD6	46	-39	1	-	0.2	-	-
2003/ 4/13 2 E1(P)	14 19 46	14 22 32	14 25 17	.498	10.5	3.5										
KAVALUR		14 22 11 ± 1		.693 ± .018			21	T 102.	CCD28	82	-22	1	-	-	-	-
2003/ 4/14 1 O2(P)	19 16 12	19 17 59	19 19 46	.219	10.5	2.9										
EKATERINBURG		19 17 44 ± 2		.249 ± .009			15	T 45.	PM6	32	-23	0	V	1.	-	-
NAUCHNY		19 17 44 ± 2		.248 ± .009			15	T 60.	PM5	52	-24	0	V	1.	-	-
NOVARA		19 18 31 ± 4		.471 ± .039			-32	T 6.	VISU	62	-12	0	-	0.1	-	-
PRAGUE		19 17 43 ± 30		.251 ± .136			16	L 18.	CCD19	57	-13	1	-	-	-	-
MUNDOLSHEIM		19 18 1 ± 18		.245 ± .075			-2	T 15.	CCD4	59	-10	1	-	-	-	-
2003/ 4/16 1 E3(A)	5 31 38	5 35 48	5 39 59	.378	10.6	7.0										
ELGIN		5 35 37 ± 15		.479 ± .086			11	T 20.	CCD18	48	-26	2	-	0.1	-	-
2003/ 4/16 2 E3( )	10 6 43	10 10 40	10 14 35	.121	10.6	9.1										
SENDAI		10 10 33 ± 30		.080 ± .033			7	T 36.	PM3	70	-12	1	-	0.1	-	2-3
2003/ 4/19 3 E2( )	0 14 19	0 17 46	0 21 13	.221	10.7	7.0										
LILLE		0 17 45 ± 30		.192 ± .078			1	L 32.	CCD10	19	-28	2	-	0.5	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 4/21 1 O2(P)	21 27 31	21 29 23	21 31 15	.247	10.8	3.1										
SABADELL		21 29 16 ± 4		.420 ± .036			7	T 80.	CCD26	47	-28	0	-	-	-	-
CHATEAUGIRON		21 29 14 ± 27		.254 ± .175			9	T 21.	CCD1	32	-29	0	-	-	-	-
GIERES		21 29 14 ± 10		.273 ± .036			9	T 20.	CCD6	44	-51	2	-	-	-	-
NAUCHNY		21 29 9 ± 2		.286 ± .010			14	T 60.	PM5	26	-31	0	V	1.	-	-
OHP		21 29 24 ± 6		.634 ± .175			-1	L 15.	CCD16	44	-27	0	-	0.04	-	-
LA PALMA		21 29 10 ± 2		.289 ± .013			13	T 35.	CCD14	66	-24	0	-	-	-	-
TORRECILLA		21 29 10 ± 3		.314 ± .017			13	T 20.	CCD21	49	-26	0	V	-	-	-
PULKOVO		21 29 10 ± 5		.211 ± .022			13	L 65.	CCD26	26	-18	0	V	0.1-0.5	-	-
2003/ 4/27 2 E1(A)	18 50 57	18 53 40	18 56 23	.662	10.9	2.9										
CATANIA		18 53 20 ± 4		1.516 ± .109			20	T 20.	CCD6	63	-13	1	-	0.2	-	-
NAUCHNY		18 53 20 ± 1		.973 ± .029			20	T 60.	PM5	48	-17	0	V	1.	-	-
PULKOVO		18 53 18 ± 4		1.607 ± .193			22	T 32.	CCD26	41	-8	0	-	-	-	-
TERSKOL		18 53 17 ± 5		.917 ± .101			23	T 60.	CCD9	41	-26	1	-	-	1	-
2003/ 4/28 4 O2(P)	14 56 5	15 0 5	15 4 4	.213	10.9	7.9										
ALMA-ATA		15 0 1 ± 2		.633 ± .013			4	T 60.	CCD9	17	-33	1	-	1.	-	-
2003/ 5/ 2 1 O2(P)	12 47 47	12 49 48	12 51 49	.315	10.9	3.5										
SENDAI		12 49 23 ± 10		.292 ± .057			25	T 36.	PM3	33	-32	1	-	0.1	-	-
2003/ 5/ 4 2 E1(A)	21 5 59	21 8 37	21 11 15	.608	10.8	2.7										
SABADELL		21 8 23 ± 2		1.119 ± .046			14	T 80.	CCD26	42	-22	0	-	-	-	-
CATANIA		21 8 17 ± 5		1.657 ± .261			20	T 25.	CCD6	33	-31	1	-	0.2	-	-
NAUCHNY		21 8 15 ± 1		.801 ± .026			22	T 60.	PM5	21	-27	0	V	1.	-	-
NOVARA		21 8 36 ± 2		.700 ± .052			1	T 6.	VISU	37	-22	0	-	0.1	-	-
PRAGUE		21 8 19 ± 3		.947 ± .059			18	T 41.	CCD19	32	-20	2	-	-	-	-
TERSKOL		21 8 9 ± 6		.934 ± .139			28	T 60.	CCD9	12	-31	1	-	0.1	-	-
MUNDOLSHEIM		21 8 16 ± 7		1.050 ± .127			21	T 15.	CCD4	76	-19	1	-	-	-	-
2003/ 5/ 7 2 O4(A)	2 27 25	2 39 58	2 52 4	.406	10.8	9.4										
MONTERREY		2 39 52 ± 83		.150 ± .029			6	T 18.	VIDEO	60	-18	1	-	0.5	-	-
2003/ 5/ 7 1 E3(A)	14 1 10	14 4 46	14 8 20	.441	10.8	5.4										
KAVALUR		14 4 31 ± 3		.640 ± .025			15	T 102.	CCD28	67	-16	0	-	-	-	-
2003/ 5/ 9 1 O2(P)	15 3 26	15 5 33	15 7 41	.377	10.8	3.7										
ALMA-ATA		15 5 17 ± 2		.389 ± .013			16	T 60.	CCD9	50	-11	1	R	0.5	-	-
KAVALUR		15 5 16 ± 2		.481 ± .018			17	T 102.	CCD28	51	-29	0	-	-	-	-
2003/ 5/10 3 E1(P)	14 44 40	14 48 50	14 53 3	.868	10.8	5.0										
KAVALUR		14 48 56 ± 2		2.556 ± .063			-6	T 102.	CCD28	52	-8	0	-	-	-	-

Dates Phenomena Locations	Begins h m s	Maxi. h m s	Ends h m s	Magn. drop	Ph. (s)	Dist. (Rs)	C-O (s)	Ap. (cm)	Rec.	El. Jup. (°)	El. Sun (°)	Cd.	Filt.	T. int. (s)	Dia. (")	Sat. in dia.
2003/ 5/14 4 O1(P)	21 53 12	22 2 54	22 13 0	.173	10.6	3.5										
ARMAGH		22 2 7 ± 107		.400 ± .173			47	T 25.	CCD27	23	-14	0	-	-	-	-
CHATEAUGIRON		22 2 51 ± 55		.432 ± .168			3	T 21.	CCD1	12	-23	0	-	-	-	-
2003/ 5/21 1 E3(P)	19 30 41	19 33 45	19 36 50	.230	10.3	4.0										
NOVARA		19 34 0 ± 2		.153 ± .020			-15	T 6.	VISU	42	-7	0	-	0.1	-	-
OHP		19 33 29 ± 30		.223 ± .107			16	L 15.	CCD2	45	-6	0	-	-	-	-
2003/ 5/23 1 O2(P)	19 39 43	19 42 1	19 44 18	.422	10.2	4.1										
OHP		19 41 49 ± 8		.393 ± .055			12	L 15.	CCD2	42	-7	0	-	-	-	-
TERSKOL		19 41 38 ± 13		.524 ± .141			23	T 60.	CCD9	15	-24	1	-	-	1	-
2003/ 5/24 3 E1(P)	20 46 1	20 51 4	20 56 12	.694	10.2	5.7										
CATANIA		20 51 22 ± 17		1.846 ± .301			-18	T 25.	CCD6	22	-25	1	-	0.2	-	-
OHP		20 51 19 ± 9		.451 ± .062			-15	L 15.	CCD2	29	-15	0	-	-	-	-
SOBOTA		20 51 15 ± 8		.987 ± .079			-11	T 15.	CCD14	20	-17	0	-	1.	-	-
VIENNA		20 51 46 ± 7		1.512 ± .105			-42	T 10.	VISU	22	-16	1	-	-	-	-
2003/ 5/31 3 E2(P)	20 5 40	20 10 45	20 15 50	.940	9.7	8.5										
CATANIA		20 10 49 ± 12		3.987 ± .465			-4	T 25.	CCD6	25	-19	1	-	0.2	-	-
LUMEZZANE		20 10 53 ± 3		2.388 ± .079			-8	T 40.	CCD17	29	-10	0	-	0.1	-	-
SOBOTA		20 10 50 ± 2		1.455 ± .018			-5	T 15.	CCD14	22	-12	0	-	1.	-	-
MUNDOLSHEIM		20 10 49 ± 9		2.499 ± .303			-4	T 15.	CCD4	30	-7	1	-	-	-	-
2003/ 6/8 3 O1(P)	17 7 20	17 14 23	17 21 53	.006	9.1	3.7										
MT DUSHAK		17 12 9 ± 1		.029 ± .005			134	T 80.	PMTF	21	-17	0	-	-	-	-
2003/ 6/10 1 O2(P)	13 34 28	13 36 40	13 38 52	.192	8.9	4.7										
KAVALUR		13 36 30 ± 1		.218 ± .005			10	T 102.	CCD28	47	-7	1	-	-	-	-
2003/ 6/16 4 O1(P)	17 43 49	17 47 7	17 50 25	.248	8.4	4.4										
MT DUSHAK		17 47 8 ± 11		.415 ± .044			-1	T 80.	PMTF	9	-20	1	V	0.1	-	-
2003/ 6/17 4 O2(P)	16 9 41	16 11 52	16 14 3	.063	8.3	4.8										
MT DUSHAK		16 11 53 ± 10		.051 ± .011			-1	T 80.	PMTF	27	-7	2	V	0.1	-	-
2003/ 7/ 7 2 O1(P)	16 5 55	16 7 46	16 9 36	.412	6.1	1.7										
MT DUSHAK		16 9 9 ± 1		.044 ± .005			-81	T 80.	PMTF	15	-7	3	B	0.1	-	-
2003/ 7/17 1 O3(A)	16 8 27	16 11 28	16 14 30	.356	4.9	3.5										
MT DUSHAK		16 11 57 ± 18		.309 ± .074			-29	T 80.	PMTF	8	-8	2	V	0.1	-	-