

Table 1

File	Object	RA set	DEC set	Filter	Date	UT-STRT	Log Differences	Comments (N left E up, rotate 90 CCW)
fr89e001.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:48:29.27	+15:37:57.1	OPEN	"Mon Jul 10 1989"	10:37:05		
fr89e002.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:48:34.17	+15:38:53.5	OPEN	"Mon Jul 10 1989"	11:08:13		
fr89e003.fits	Comet 65P/ Gunn	14:39:24.42	-14:21:02.5	OPEN	"Tue Jul 11 1989"	05:46:23		
fr89e004.fits	BS 7906	20:39:38.29	+15:54:43.5	"NH2 6624"	"Tue Jul 11 1989"	06:39:59	xName	Only 1 star in the image, assuming log is correct.
fr89e005.fits	BS 7906	20:39:38.29	+15:54:43.5	"NH2 6624"	"Tue Jul 11 1989"	06:41:48	xName	Only 1 star in the image, assuming log is correct.
fr89e006.fits	BS 7906	20:39:38.29	+15:54:43.5	"CONT 6450"	"Tue Jul 11 1989"	06:45:50	xName	Only 1 star in the image, assuming log is correct.
fr89e007.fits	BS 7906	20:39:38.29	+15:54:43.5	"CONT 6450"	"Tue Jul 11 1989"	06:47:22	xName	Only 1 star in the image, assuming log is correct.
fr89e008.fits	BS 7906	20:39:38.29	+15:54:43.5	"NH2 806338"	"Tue Jul 11 1989"	06:50:42	xName	Only 1 star in the image, assuming log is correct.
fr89e009.fits	BS 7906	20:39:38.29	+15:54:43.5	"NH2 806338"	"Tue Jul 11 1989"	06:51:45	xName	Only 1 star in the image, assuming log is correct.
fr89e010.fits	BS 7906	20:39:38.29	+15:54:43.5	CO+	"Tue Jul 11 1989"	06:53:09	xName	Only 1 star in the image, assuming log is correct.
fr89e011.fits	BS 7906	20:39:38.29	+15:54:43.5	CO+	"Tue Jul 11 1989"	06:54:14	xName	Only 1 star in the image, assuming log is correct.
fr89e012.fits	BS 7906	20:39:38.29	+15:54:43.5	CO+	"Tue Jul 11 1989"	06:56:23	xName	Only 1 star in the image, assuming log is correct.
fr89e013.fits	BS 7906	20:39:38.29	+15:54:43.5	CO+	"Tue Jul 11 1989"	06:57:31	xName	Only 1 star in the image, assuming log is correct.
fr89e014.fits	BS 7906	20:39:38.29	+15:54:43.5	"NH2 806"	"Tue Jul 11 1989"	07:02:08	xName	Only 1 star in the image, assuming log is correct.
fr89e015.fits	BS 7906	20:39:38.29	+15:54:43.5	"NH2 806"	"Tue Jul 11 1989"	07:03:22	xName	Only 1 star in the image, assuming log is correct.
fr89e016.fits	BS 7906	20:39:38.29	+15:54:43.5	"NH2 806"	"Tue Jul 11 1989"	07:04:24	xName	Only 1 star in the image, assuming log is correct.
fr89e017.fits	BS 7906	20:39:38.29	+15:54:43.5	"CONT 6450"	"Tue Jul 11 1989"	07:05:50	xName	Only 1 star in the image, assuming log is correct.
fr89e018.fits	BS 7906	20:39:38.29	+15:54:43.5	"CONT 6450"	"Tue Jul 11 1989"	07:07:01	xName	Only 1 star in the image, assuming log is correct.
fr89e019.fits	BS 7906	20:39:38.29	+15:54:43.5	"NH2 6624"	"Tue Jul 11 1989"	07:08:41	xName	Only 1 star in the image, assuming log is correct.
fr89e020.fits	BS 7906	20:39:38.29	+15:54:43.5	"NH2 6624"	"Tue Jul 11 1989"	07:09:57	xName	Only 1 star in the image, assuming log is correct.
fr89e021.fits	BS 7906	20:39:38.29	+15:54:43.5	"CONT 6250"	"Tue Jul 11 1989"	07:18:40	xName	Only 1 star in the image, assuming log is correct.
fr89e022.fits	BS 7906	20:39:38.29	+15:54:43.5	"CONT 6250"	"Tue Jul 11 1989"	07:19:44	xName	Only 1 star in the image, assuming log is correct.
fr89e023.fits	BS 7906	20:39:38.29	+15:54:43.5	"CONT 6250"	"Tue Jul 11 1989"	07:20:46	xName	Only 1 star in the image, assuming log is correct.
fr89e024.fits	BS 7906	20:39:38.29	+15:54:43.5	"CONT 6250"	"Tue Jul 11 1989"	07:21:45	xName	Only 1 star in the image, assuming log is correct.
fr89e025.fits	NEPTUNE	18:47:08.74	-22:03:42.0	BLUE/ DICHR	"Tue Jul 11 1989"	08:05:52		
fr89e026.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:52:30.16	+16:23:18.4	BLUE/ DICHR	"Tue Jul 11 1989"	10:26:02	xName	
File 27							Log is written, but no file exists	

File	Object	RA set	DEC set	Filter	Date	UT-STRT	Log Differences	Comments (N left E up, rotate 90 CCW)
fr89e028.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:52:31.86	+16:23:37.8	BLUE/ DICHR	"Tue Jul 11 1989"	10:38:05	xName	
fr89e029.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:52:31.86	+16:23:37.8	"NH2 6624"	"Tue Jul 11 1989"	10:44:51		
fr89e030.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:52:31.86	+16:23:37.8	"NH2 6624"	"Tue Jul 11 1989"	10:44:51		Duplicate of image 29
fr89e031.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:52:33.56	+16:23:57.2	"NH2 6624"	"Tue Jul 11 1989"	10:48:17		Moved during exposure
fr89e032.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:52:35.25	+16:24:16.5	BLUE/ DICHR	"Tue Jul 11 1989"	10:59:11		Moved during exposure
fr89e034.fits	"FLAT FIELD"			BLUE/ DICHR	"Wed Jul 12 1989"	02:18:06		
fr89e035.fits	"FLAT FIELD"			BLUE/ DICHR	"Wed Jul 12 1989"	02:19:22		
fr89e036.fits	"FLAT FIELD"			BLUE/ DICHR	"Wed Jul 12 1989"	02:20:24		
fr89e037.fits	"FLAT FIELD"			BLUE/ DICHR	"Wed Jul 12 1989"	02:21:28		
fr89e038.fits	"FLAT FIELD"			"NH2 6624"	"Wed Jul 12 1989"	02:36:19		
fr89e039.fits	"FLAT FIELD"			"NH2 6624"	"Wed Jul 12 1989"	02:38:16		
fr89e040.fits	"FLAT FIELD"			"NH2 6624"	"Wed Jul 12 1989"	02:39:10		
fr89e041.fits	"FLAT FIELD"			"CONT 6450"	"Wed Jul 12 1989"	02:41:44		
fr89e042.fits	"FLAT FIELD"			"CONT 6450"	"Wed Jul 12 1989"	02:42:38		
fr89e043.fits	"FLAT FIELD"			"CONT 6450"	"Wed Jul 12 1989"	02:43:32		
fr89e044.fits	"FLAT FIELD"			"NH2 806"	"Wed Jul 12 1989"	02:45:16		Listed as NH2 806 in index file, unsure of actual name
fr89e045.fits	"FLAT FIELD"			"NH2 806"	"Wed Jul 12 1989"	02:46:22		
fr89e046.fits	"FLAT FIELD"			"NH2 806"	"Wed Jul 12 1989"	02:47:22		
fr89e047.fits	"FLAT FIELD"			CO+	"Wed Jul 12 1989"	02:51:05		
fr89e048.fits	"FLAT FIELD"			CO+	"Wed Jul 12 1989"	02:52:32		
fr89e049.fits	"FLAT FIELD"			CO+	"Wed Jul 12 1989"	02:57:11		
fr89e050.fits	DARK			N/A	"Wed Jul 12 1989"	03:01:02		
fr89e051.fits	DARK			N/A	"Wed Jul 12 1989"	03:01:55		
fr89e052.fits	DARK			N/A	"Wed Jul 12 1989"	03:02:47		
fr89e053.fits	"FLAT FIELD"			"CONT 6250"	"Wed Jul 12 1989"	03:13:56		
fr89e054.fits	"FLAT FIELD"			"CONT 6250"	"Wed Jul 12 1989"	03:15:02		
fr89e055.fits	"FLAT FIELD"			"CONT 6250"	"Wed Jul 12 1989"	03:16:02		

File	Object	RA set	DEC set	Filter	Date	UT-STRT	Log Differences	Comments (N left E up, rotate 90 CCW)
fr89e056.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"NH2 6624"	"Wed Jul 12 1989"	04:00:10		Assuming correct, only one star in frame
fr89e057.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"NH2 6624"	"Wed Jul 12 1989"	04:01:02		Assuming correct, only one star in frame
fr89e058.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"NH2 6624"	"Wed Jul 12 1989"	04:02:03		Assuming correct, only one star in frame
fr89e059.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"NH2 6624"	"Wed Jul 12 1989"	04:02:56		Assuming correct, only one star in frame
fr89e060.fits	"BS 5911"	15:53:12.10	+13:11:47.8	"NH2 6624"	"Wed Jul 12 1989"	04:14:44		Assuming correct, only one star in frame
fr89e061.fits	"BS 5911"	15:53:12.10	+13:11:47.8	"NH2 6624"	"Wed Jul 12 1989"	04:16:13		Assuming correct, only one star in frame
fr89e062.fits	"BS 5911"	15:53:12.10	+13:11:47.8	CONT 6450	"Wed Jul 12 1989"	04:17:27	xFilter	Assuming correct, only one star in frame
fr89e063.fits	"BS 5911"	15:53:12.10	+13:11:47.8	CONT 6450	"Wed Jul 12 1989"	04:18:44	xFilter	Assuming correct, only one star in frame
fr89e064.fits	"BS 5911"	15:53:12.10	+13:11:47.8	"NH2 6338"	"Wed Jul 12 1989"	04:21:41		Assuming correct, only one star in frame
fr89e065.fits	"BS 5911"	15:53:12.10	+13:11:47.8	"NH2 6338"	"Wed Jul 12 1989"	04:22:38		Assuming correct, only one star in frame
fr89e066.fits	"BS 5911"	15:53:12.10	+13:11:47.8	"NH2 6338"	"Wed Jul 12 1989"	04:26:11		Assuming correct, only one star in frame
fr89e067.fits	"BS 5911"	15:53:12.10	+13:11:47.8	"NH2 6338"	"Wed Jul 12 1989"	04:27:11		Assuming correct, only one star in frame
fr89e068.fits	"BS 5911"	15:53:12.10	+13:11:47.8	"CONT 6250"	"Wed Jul 12 1989"	04:33:01		Assuming correct, only one star in frame
fr89e069.fits	"BS 5911"	15:53:12.10	+13:11:47.8	"CONT 6250"	"Wed Jul 12 1989"	04:34:01		Assuming correct, only one star in frame
fr89e070.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"NH2 6624"	"Wed Jul 12 1989"	05:17:53	xFilter	Assuming correct, only one star in frame
fr89e071.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"NH2 6624"	"Wed Jul 12 1989"	05:18:48	xFilter	Assuming correct, only one star in frame
fr89e072.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"CONT 6450"	"Wed Jul 12 1989"	05:20:35		Assuming correct, only one star in frame
fr89e073.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"CONT 6450"	"Wed Jul 12 1989"	05:21:27		Assuming correct, only one star in frame
fr89e074.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"NH2 6338"	"Wed Jul 12 1989"	05:23:09		Assuming correct, only one star in frame
fr89e075.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"NH2 6338"	"Wed Jul 12 1989"	05:24:05		Assuming correct, only one star in frame
fr89e076.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"CONT 6250"	"Wed Jul 12 1989"	05:26:36		Assuming correct, only one star in frame
fr89e077.fits	"BS 6629"	17:47:53.56	+02:42:26.2	"CONT 6250"	"Wed Jul 12 1989"	05:27:45		Assuming correct, only one star in frame
fr89e078.fits	NEPTUNE	18:47:02.49	-22:03:49.9	BLUE/ DICHR	"Wed Jul 12 1989"	06:03:46		
fr89e079.fits	NEPTUNE	18:47:02.34	-22:03:50.1	BLUE/ DICHR	"Wed Jul 12 1989"	06:33:23		
fr89e080.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:15.79	+17:05:20.2	"NH2 6624"	"Wed Jul 12 1989"	08:03:00	xFilter	Moved during exposure
fr89e081.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:19.33	+17:06:00.0	"NH2 6624"	"Wed Jul 12 1989"	08:15:50	xFilter	Moved during exposure
fr89e082.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:21.10	+17:06:19.9	"NH2 6624"	"Wed Jul 12 1989"	08:28:38	xFilter	Moved during exposure

File	Object	RA set	DEC set	Filter	Date	UT-STRT	Log Differences	Comments (N left E up, rotate 90 CCW)
fr89e083.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:22.87	+17:06:39.9	"CONT 6450"	"Wed Jul 12 1989"	08:40:55		Moved during exposure
fr89e084.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:24.64	+17:06:59.8	"NH2 6624"	"Wed Jul 12 1989"	08:52:31		Moved during exposure
fr89e085.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:26.41	+17:07:19.7	CONT 6450	"Wed Jul 12 1989"	09:04:57	xFilter	Moved during exposure
fr89e086.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:29.95	+17:07:59.6	"NH2 6624"	"Wed Jul 12 1989"	09:19:14		Moved during exposure
fr89e087.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:31.71	+17:08:19.5	CONT 6450	"Wed Jul 12 1989"	09:31:43	xFilter	Moved during exposure
fr89e088.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:35.25	+17:08:59.3	"NH2 6624"	"Wed Jul 12 1989"	09:46:42	xFilter	Moved during exposure
fr89e089.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:35.25	+17:08:59.3	"CONT 6450"	"Wed Jul 12 1989"	09:54:24		Moved during exposure
fr89e090.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:38.78	+17:09:39.2	"NH2 6624"	"Wed Jul 12 1989"	10:05:11	xFilter	Moved during exposure
fr89e091.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:38.78	+17:09:39.2	"NH2 6624"	"Wed Jul 12 1989"	10:11:11		Moved during exposure
fr89e092.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:42.32	+17:10:19.1	CONT 6450	"Wed Jul 12 1989"	10:27:06	xFilter	Moved during exposure
fr89e093.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:44.08	+17:10:39.0	"NH2 6624"	"Wed Jul 12 1989"	10:40:59		Moved during exposure
fr89e094.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:45.85	+17:10:58.9	"CONT 6450"	"Wed Jul 12 1989"	10:51:51		Moved during exposure
fr89e095.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:47.61	+17:11:18.9	"NH2 6624"	"Wed Jul 12 1989"	11:04:26		Moved during exposure
fr89e096.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:51.15	+17:11:58.8	"CONT 6450"	"Wed Jul 12 1989"	11:15:28		Moved during exposure
fr89e097.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:52.91	+17:12:18.7	"NH2 6624"	"Wed Jul 12 1989"	11:28:02	xFilter	Moved during exposure
fr89e098.fits	Comet 23P/ Brorsen-Metcalf [1989]	00:56:54.68	+17:12:38.6	"CONT 6450"	"Wed Jul 12 1989"	11:38:53		Moved during exposure
fr89e099.fits	DARK			N/A	"Wed Jul 12 1989"	11:46:42		
fr89e100.fits	DARK			N/A	"Wed Jul 12 1989"	11:57:32		
fr89e101.fits	DARK			N/A	"Wed Jul 12 1989"	12:14:14		
fr89e102.fits	DARK			N/A	"Wed Jul 12 1989"	12:20:04		
fr89e103.fits	Comet 65P/ Gunn	14:40:15.91	-14:33:51.7	OPEN	"Thu Jul 13 1989"	05:14:07		
fr89e104.fits	Comet 65P/ Gunn	14:40:15.73	-14:33:49.0	B/DICHR	"Thu Jul 13 1989"	04:56:36	xFilter	
fr89e105.fits	Comet 65P/ Gunn	14:40:16.28	-14:33:57.1	B/DICHR	"Thu Jul 13 1989"	05:28:06	xFilter	

File	Object	RA set	DEC set	Filter	Date	UT-STRT	Log Differences	Comments (N left E up, rotate 90 CCW)
fr89e106.fits	Comet 65P/ Gunn	14:40:16.46	-14:33:59.8	B/DICHR	"Thu Jul 13 1989"	05:36:16	xFilter	
fr89e107.fits	Comet 65P/ Gunn	14:40:16.46	-14:33:59.8	B/DICHR	"Thu Jul 13 1989"	05:42:46	xFilter	
fr89e108.fits	Comet 65P/ Gunn	14:40:16.65	-14:34:02.5	B/DICHR	"Thu Jul 13 1989"	05:53:57	xFilter	
fr89e109.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:00:46.36	+17:55:16.6	B/DICHR	"Thu Jul 13 1989"	08:52:27	xFilter	
fr89e110.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:00:50.05	+17:55:57.6	B/DICHR	"Thu Jul 13 1989"	09:06:06	xFilter	
fr89e111.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:00:51.89	+17:56:18.1	B/DICHR	"Thu Jul 13 1989"	09:19:35	xFilter	
fr89e112.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:01:01.09	+17:58:00.6	B/DICHR	"Thu Jul 13 1989"	10:10:52	xFilter	
fr89e113.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:01:04.77	+17:58:41.6	B/DICHR	"Thu Jul 13 1989"	10:32:50	xFilter	
fr89e114.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:01:08.45	+17:59:22.7	B/DICHR	"Thu Jul 13 1989"	10:53:18	xFilter	
fr89e115.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:01:13.97	+18:00:24.2	R	"Thu Jul 13 1989"	11:18:53		
fr89e116.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:01:13.97	+18:00:24.2	R	"Thu Jul 13 1989"	11:21:37		
fr89e117.fits	SA 68-216	00:18:17.04	+15:49:19.2	R	"Thu Jul 13 1989"	11:33:32		
fr89e118.fits	SA 68-216	00:18:17.04	+15:49:19.2	R	"Thu Jul 13 1989"	11:35:05		
fr89e119.fits	SA 68-216	00:18:17.04	+15:49:19.2	R	"Thu Jul 13 1989"	11:36:20		
fr89e120.fits	"FLAT FIELD"			R	"Thu Jul 13 1989"	11:50:23		
fr89e121.fits	"FLAT FIELD"			R	"Thu Jul 13 1989"	11:51:13		
fr89e122.fits	"FLAT FIELD"			R	"Thu Jul 13 1989"	11:52:06		
fr89e123.fits	"LT 30"	16:26:35.94	+40:53:41.5	DICH/B	"Fri Jul 14 1989"	06:38:28		
fr89e124.fits	"ARP 125"	16:38:13.61	+41:56:09.6	DICH/B	"Fri Jul 14 1989"	07:10:29		
fr89e125.fits	"ARP 125"	16:38:13.61	+41:56:09.6	DICH/B	"Fri Jul 14 1989"	07:36:31		
fr89e126.fits	"BS 8631"	22:40:52.68	+14:32:57.0	6250	"Fri Jul 14 1989"	08:45:23		Assuming correct, only one star in frame
fr89e127.fits	"BS 8631"	22:40:52.68	+14:32:57.0	6250	"Fri Jul 14 1989"	08:47:22		Assuming correct, only one star in frame
fr89e128.fits	"BS 8631"	22:40:52.68	+14:32:57.0	6185	"Fri Jul 14 1989"	08:50:40		Assuming correct, only one star in frame
fr89e129.fits	"BS 8631"	22:40:52.68	+14:32:57.0	6185	"Fri Jul 14 1989"	08:52:16		Assuming correct, only one star in frame
fr89e130.fits	"BS 8631"	22:40:52.68	+14:32:57.0	CO+	"Fri Jul 14 1989"	08:54:00		Assuming correct, only one star in frame
fr89e131.fits	"BS 8631"	22:40:52.68	+14:32:57.0	CO+	"Fri Jul 14 1989"	08:55:09		Assuming correct, only one star in frame

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fr89e132.fits	"BS 8631"	22:40:52.68	+14:32:57.0	6250	"Fri Jul 14 1989"	09:01:38		Assuming correct, only one star in frame
fr89e133.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:05:28.66	+18:46:41.6	DICHR/B	"Fri Jul 14 1989"	09:39:39		
fr89e134.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:05:36.34	+18:48:06.0	6185	"Fri Jul 14 1989"	10:18:53		Moved during exposure
line0001.fits	HELIUM				"Thu Jul 27 1989"	22:52:29		
line0002.fits	HELIUM				"Thu Jul 27 1989"	22:56:13		
line0003.fits	XENON				"Thu Jul 27 1989"	23:00:30		
line0004.fits	XENON				"Thu Jul 27 1989"	23:02:44		
line0005.fits	XENON				"Thu Jul 27 1989"	23:09:37		
line0006.fits	XENON				"Thu Jul 27 1989"	23:11:21		
line0007.fits	HELIUM				"Thu Jul 27 1989"	23:15:36		
line0008.fits	HELIUM				"Thu Jul 27 1989"	23:16:31		
sp89e001.fits	TRITON	18:47:07.71	-22:03:34.7		07/11/1989	07:58:01	xDate	
sp89e002.fits	TRITON	18:47:07.67	-22:03:34.7		07/11/1989	08:08:18	xDate	
sp89e003.fits	TRITON	18:47:07.62	-22:03:34.7		07/11/1989	08:19:14	xDate	
sp89e004.fits	TRITON	18:47:07.58	-22:03:34.7		07/11/1989	08:30:08	xDate	
sp89e005.fits	TRITON	18:47:07.53	-22:03:34.7		07/11/1989	08:40:49	xDate	
sp89e006.fits	"BS 8792"				07/11/1989	10:16:23	xDate	Image blank
sp89e007.fits	"BS 8792"	23:06:31.89	+19:54:39.1		07/11/1989	10:17:51	xDate	
sp89e008.fits	"BS 8792"	23:06:31.89	+19:54:39.1		07/11/1989	10:19:52	xDate	
sp89e009.fits	"BS 8792"	23:06:31.89	+19:54:39.1		07/11/1989	10:22:00	xDate	
sp89e010.fits	"BS 5911"	15:53:12.10	+13:11:47.8		07/12/1989	04:42:03	xDate	
sp89e011.fits	"BS 5911"	15:53:12.10	+13:11:47.8		07/12/1989	04:44:03	xDate	
sp89e012.fits	"BS 5911"	15:53:12.10	+13:11:47.8		07/12/1989	04:45:01	xDate	
sp89e013.fits	"BS 5911"	15:53:12.10	+13:11:47.8		07/12/1989	04:46:03	xDate	
sp89e014.fits	"BS 5911"	15:53:12.10	+13:11:47.8		07/12/1989	04:51:30	xDate	
sp89e015.fits	"BS 6629"	17:47:53.56	+02:42:26.2		07/12/1989	05:03:02	xDate	
sp89e016.fits	"BS 6629"	17:47:53.56	+02:42:26.2		07/12/1989	05:05:17	xDate	
sp89e017.fits	"BS 6629"	17:47:53.56	+02:42:26.2		07/12/1989	05:06:10	xDate	
sp89e018.fits	"BS 6629"	17:47:53.56	+02:42:26.2		07/12/1989	05:07:07	xDate	
sp89e019.fits	"BS 6629"	17:47:53.56	+02:42:26.2		07/12/1989	05:08:07	xDate	
sp89e020.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	05:39:21	xDate	
sp89e021.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	05:41:19	xDate	
sp89e022.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	05:42:15	xDate	
sp89e023.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	05:43:11	xDate	
sp89e024.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	05:44:06	xDate	
sp89e025.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	05:45:10	xDate	
sp89e026.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	05:46:23	xDate	
sp89e027.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	05:47:19	xDate	

File	Object	RA set	DEC set	Filter	Date	UT-STRT	Log Differences	Comments (N left E up, rotate 90 CCW)
sp89e028.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	05:48:32	xDate	
sp89e029.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	05:49:30	xDate	
sp89e030.fits	TRITON	18:47:02.27	-22:03:37.4		07/12/1989	05:58:33	xDate	
sp89e031.fits	TRITON	18:47:02.23	-22:03:37.5		07/12/1989	06:08:39	xDate	
sp89e032.fits	TRITON	18:47:02.23	-22:03:37.5		07/12/1989	06:13:38	xDate	
sp89e033.fits	TRITON	18:47:02.19	-22:03:37.5		07/12/1989	06:16:11	xDate	
sp89e034.fits	TRITON	18:47:02.19	-22:03:37.5		07/12/1989	06:18:09	xDate	
sp89e035.fits	TRITON	18:47:02.19	-22:03:37.5		07/12/1989	06:20:17	xDate	
sp89e036.fits	TRITON	18:47:02.19	-22:03:37.5		07/12/1989	06:22:09	xDate	
sp89e037.fits	TRITON	18:47:02.19	-22:03:37.5		07/12/1989	06:24:15	xDate	
sp89e038.fits	TRITON	18:47:02.15	-22:03:37.6		07/12/1989	06:26:44	xDate	
sp89e039.fits	TRITON	18:47:02.15	-22:03:37.6		07/12/1989	06:29:36	xDate	
sp89e040.fits	TRITON	18:47:02.15	-22:03:37.6		07/12/1989	06:32:34	xDate	
sp89e041.fits	TRITON	18:47:02.11	-22:03:37.7		07/12/1989	06:35:19	xDate	
sp89e042.fits	TRITON	18:47:02.11	-22:03:37.7		07/12/1989	06:38:25	xDate	
sp89e043.fits	TRITON	18:47:02.11	-22:03:37.7		07/12/1989	06:41:12	xDate	
sp89e044.fits	TRITON	18:47:02.11	-22:03:37.7		07/12/1989	06:43:58	xDate	
sp89e045.fits	TRITON	18:47:02.07	-22:03:37.7		07/12/1989	06:46:50	xDate	
sp89e046.fits	TRITON	18:47:02.07	-22:03:37.7		07/12/1989	06:49:44	xDate	
sp89e047.fits	TRITON	18:47:02.07	-22:03:37.7		07/12/1989	06:52:33	xDate	
sp89e048.fits	TRITON	18:47:02.03	-22:03:37.8		07/12/1989	06:55:26	xDate	
sp89e049.fits	TRITON	18:47:02.03	-22:03:37.8		07/12/1989	06:58:19	xDate	
sp89e050.fits	TRITON	18:47:01.99	-22:03:37.9		07/12/1989	07:06:50	xDate	
sp89e051.fits	TRITON	18:47:01.99	-22:03:37.9		07/12/1989	07:09:55	xDate	
sp89e052.fits	TRITON	18:47:01.99	-22:03:37.9		07/12/1989	07:12:53	xDate	
sp89e053.fits	TRITON	18:47:01.95	-22:03:37.9		07/12/1989	07:15:36	xDate	
sp89e054.fits	TRITON	18:47:01.95	-22:03:37.9		07/12/1989	07:18:37	xDate	
sp89e055.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	07:25:42	xDate	
sp89e056.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	07:26:36	xDate	
sp89e057.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	07:27:20	xDate	
sp89e058.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	07:28:03	xDate	
sp89e059.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	07:28:46	xDate	
sp89e060.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	07:29:37	xDate	
sp89e061.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	07:30:23	xDate	
sp89e062.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	07:31:12	xDate	
sp89e063.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	07:32:03	xDate	
sp89e064.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	07:32:49	xDate	
sp89e065.fits	"BS 6998"	18:38:53.40	-21:03:06.7		07/12/1989	07:33:49	xDate	
sp89e066.fits	Comet 65P/ Gunn	14:40:15.37	-14:33:43.5		07/13/1989	04:35:24	xDate	Image much brighter than others
sp89e067.fits	Comet 65P/ Gunn	14:40:16.28	-14:33:57.1		07/13/1989	05:26:15	xDate	
sp89e068.fits	Comet 65P/ Gunn	14:40:16.28	-14:33:57.1		07/13/1989	05:32:54	xDate	
sp89e069.fits	Comet 65P/ Gunn	14:40:16.46	-14:33:59.8		07/13/1989	05:44:30	xDate	
sp89e070.fits	BS 5996	16:07:03.37	-14:04:16.7		07/13/1989	06:13:01	xDate	
sp89e071.fits	BS 5996	16:07:03.37	-14:04:16.7		07/13/1989	06:14:02	xDate	

File	Object	RA set	DEC set	Filter	Date	UT-STRT	Log Differences	Comments (N left E up, rotate 90 CCW)
sp89e072.fits	BS 5996	16:07:03.37	-14:04:16.7		07/13/1989	06:15:28	xDate	
sp89e073.fits	BS 5996	16:07:03.37	-14:04:16.7		07/13/1989	06:57:00	xDate	
sp89e074.fits	BS 5996	16:07:03.37	-14:04:16.7		07/13/1989	06:58:03	xDate	
sp89e075.fits	BS 5996	16:07:03.37	-14:04:16.7		07/13/1989	07:03:02	xDate	
sp89e076.fits	BS 5996	16:07:03.37	-14:04:16.7		07/13/1989	07:04:10	xDate	
sp89e077.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	07:24:31	xDate	
sp89e078.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	07:26:47	xDate	
sp89e079.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	07:34:32	xDate	
sp89e080.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	07:35:31	xDate	
sp89e081.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	07:37:48	xDate	
sp89e082.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	07:42:06	xDate	
sp89e083.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	07:43:03	xDate	
sp89e084.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	07:46:23	xDate	
sp89e085.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	07:47:18	xDate	
sp89e086.fits	BS 8622	22:39:15.68	+39:03:01.0		07/13/1989	08:01:51	xDate,xName	
sp89e087.fits	BS 8622	22:39:15.68	+39:03:01.0		07/13/1989	08:03:19	xDate	
sp89e088.fits	BS 8622	22:39:15.68	+39:03:01.0		07/13/1989	08:04:09	xDate	
sp89e089.fits	BS 8622	22:39:15.68	+39:03:01.0		07/13/1989	08:07:35	xDate	
sp89e090.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:17:15	xDate	
sp89e091.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:19:13	xDate	
sp89e092.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:20:21	xDate	
sp89e093.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:21:47	xDate	
sp89e094.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:23:15	xDate	
sp89e095.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:24:07	xDate	
sp89e096.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:25:43	xDate	
sp89e097.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:26:47	xDate	
sp89e098.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:28:53	xDate	
sp89e099.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:36:24	xDate	
sp89e100.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:37:20	xDate	
sp89e101.fits	BS 8631	22:40:52.68	+14:32:57.0		07/13/1989	08:38:36	xDate	
sp89e102.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:00:46.36	+17:55:16.6		07/13/1989	08:51:56	xDate	
sp89e103.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:00:48.21	+17:55:37.1		07/13/1989	08:59:52	xDate	
sp89e104.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:00:50.05	+17:55:57.6		07/13/1989	09:06:11	xDate	
sp89e105.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:00:53.73	+17:56:38.6		07/13/1989	09:27:55	xDate	
sp89e106.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:00:57.41	+17:57:19.6		07/13/1989	09:50:53	xDate	
sp89e107.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:01:01.09	+17:58:00.6		07/13/1989	10:12:43	xDate	
sp89e108.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:01:04.77	+17:58:41.6		07/13/1989	10:34:24	xDate	

File	Object	RA set	DEC set	Filter	Date	UT-STRT	Log Differences	Comments (N left E up, rotate 90 CCW)
sp89e109.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:01:10.29	+17:59:43.2		07/13/1989	10:56:34	xDate	
sp89e110.fits	Comet 65P/ Gunn	14:40:43.03	-14:40:10.9		07/14/1989	04:06:44		
sp89e111.fits	Comet 65P/ Gunn	14:40:43.22	-14:40:13.7		07/14/1989	04:15:46		
sp89e112.fits	Comet 65P/ Gunn	14:40:43.41	-14:40:16.4		07/14/1989	04:28:51		
sp89e113.fits	Comet 65P/ Gunn	14:40:43.80	-14:40:21.9		07/14/1989	04:51:16		
sp89e114.fits	BS 5996	16:07:03.37	-14:04:16.7		"Fri Jul 14 1989"	05:12:54		
sp89e115.fits	BS 5996	16:07:03.37	-14:04:16.7		"Fri Jul 14 1989"	05:14:40		
sp89e116.fits	BS 5996	16:07:03.37	-14:04:16.7		"Fri Jul 14 1989"	05:16:11		
sp89e117.fits	BS 5996	16:07:03.37	-14:04:16.7		"Fri Jul 14 1989"	05:45:45		
sp89e118.fits	BS 5996	16:07:03.37	-14:04:16.7		"Fri Jul 14 1989"	05:46:41		
sp89e119.fits	BS 5996	16:07:03.37	-14:04:16.7		"Fri Jul 14 1989"	06:14:24		
sp89e120.fits	BS 5996	16:07:03.37	-14:04:16.7		"Fri Jul 14 1989"	06:15:32		
sp89e121.fits	BS 5996	16:07:03.37	-14:04:16.7		"Fri Jul 14 1989"	06:16:30		
sp89e122.fits	BS 5996	16:07:03.37	-14:04:16.7		"Fri Jul 14 1989"	06:19:37		
sp89e123.fits	"LT 30"	16:26:35.94	+40:53:41.5		"Fri Jul 14 1989"	06:34:41		
sp89e124.fits	"SAO 46089"	16:26:43.47	+40:54:50.5		"Fri Jul 14 1989"	06:59:15		
sp89e125.fits	"SAO 46089"	16:26:43.47	+40:54:50.5		"Fri Jul 14 1989"	07:01:01		
sp89e126.fits	"SAO 46089"	16:26:43.47	+40:54:50.5		"Fri Jul 14 1989"	07:02:24		
sp89e127.fits	"APG 125"	16:38:13.61	+41:56:09.6		"Fri Jul 14 1989"	07:11:49		
sp89e128.fits	Above output obtained by running: <code>hselect fr*.fits \$i,object,ra,dec,filter,date,ut_strt yes > 89e_hselect</code> The Log Differences and Comments columns are the observations noted after comparing the FITS header with log sheets.							
sp89e129.fits	"SAO 46089"	16:26:43.47	+40:54:50.5		"Fri Jul 14 1989"	08:04:01		
sp89e130.fits	"SAO 46089"	16:26:43.47	+40:54:50.5		"Fri Jul 14 1989"	08:05:33		
sp89e131.fits	"SAO 46089"	16:26:43.47	+40:54:50.5		"Fri Jul 14 1989"	08:07:49		
sp89e132.fits	BS 8631	22:40:52.68	+14:32:57.0		"Fri Jul 14 1989"	08:32:00		
sp89e133.fits	BS 8631	22:40:52.68	+14:32:57.0		"Fri Jul 14 1989"	08:35:17		
sp89e134.fits	BS 8631	22:40:52.68	+14:32:57.0		"Fri Jul 14 1989"	08:37:30		
sp89e135.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:05:26.74	+18:46:20.5		"Fri Jul 14 1989"	09:30:04		
sp89e136.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:05:28.66	+18:46:41.6		"Fri Jul 14 1989"	09:42:19		

File	Object	RA set	DEC set	Filter	Date	UT-STRT	Log Differences	Comments (N left E up, rotate 90 CCW)
sp89e137.fits	Comet 23P/ Brorsen-Metcalf [1989]	01:05:30.58	+18:47:02.7		"Fri Jul 14 1989"	09:53:40		