

# EMPIRE - Data Processing

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## 1 Introduction

## 2 Data

In this section, we summarize how we compile the data selection in the EMPIRE catalog.

### 2.1 Catalog compilation

Our search started with a nearby galaxy list compiled by M. Yamagishi ([cite: PhD thesis](#)). The original list includes 158 nearby galaxies and 276 *AKARI* observations and is referred to as MY-catalog hereafter. After further search in the database, the list now has been expanded to include 498 *AKARI* IRC slit-spectroscopic observations (see Table 1). ([find out how the catalog was compiled](#)).

### 2.2 *AKARI* observations

The Infrared Camera (IRC) on board the *AKARI* has a wide field of view (FOV), which covers an area of  $\sim 10' \times 10'$ , for performing wide-field deep imaging and spectroscopic observations in the pointing mode. We highlight here the instrument information relevant to the project and encourage the curious readers to refer to Onaka et al. (2007) for more detailed discussion. The IRC includes one near-infrared (NIR,  $1.8 < \lambda < 5.3 \mu\text{m}$ ) and two mid-infrared (MIR-S,  $5.4 < \lambda < 13.1 \mu\text{m}$  and MIR-L,  $12.4 < \lambda < 26.5 \mu\text{m}$ ) channels. The NIR and MIR-S channels share the same field of view, and all channels are equipped with an imaging area to perform photometry and slit-less spectroscopy, and, a small slit area to perform slit-spectroscopy. In this project, we focus on the slit-spectroscopic data taken with *AKARI*/IRC.

The slit area of the NIR channel consists of three parts. The left part (see Figure 3 of Onaka et al. 2007), labeled as “Ns”, covers an area of  $5'' \times 0.8'$ . The observations with Ns are performed with both grism and prism dispersers to provide spectra of higher (NG,  $R \sim 100$ ) and lower (NP,  $R \sim 50$ ) resolutions. The central part, labeled as “Np”, is designed for spectroscopy of point sources and is not used in this project. The right part, labeled as “Nh”, covers an area of  $3'' \times 1'$ . The light through Nh is dispersed only in the grism mode. The observations used in this project are performed with Ns and Nh in the grism mode.

[data reduction; WCS correction](#)

#### 2.2.1 *AKARI* data mining

This subsection is intended for logging the current data compilation. We start with a brief introduction to the *AKARI* mission. The *AKARI* mission lifetime has been divided into two performance verification (PV) phases and three observation phases. The PV1-phase and

PV2-phase data is not yet publicly available but only accessible through private communication (*with T. Onaka*). The PV1-phase data is taken before the beginning of the phase-1 observations. The phase-1 observations are dedicated to the Large-Area-Survey Programmes, and most of the Open Time observations are carried out during the phase-2 of the mission. Between the end of the cold mission and the beginning of the warm mission, several PV2-phase observations are performed. Observations carried out during the post-helium phase of the mission are recorded as the phase-3 observations.

#### ***AKARI* data nomenclature**

In the pointing observations, the observing modes performed with the IRC have been fixed in several filter and dither combination patterns. During the phase-2 observation, these patterns are logged as IRC00, IRC02, IRC03, IRC04, IRC05, IRC11, and IRC51 in the astronomical observation templates (AOTs). All except IRC04 are designed for imaging observations, and the last two patterns (IRC11 and IRC51) are for MIR imaging only. The IRC04 configuration includes one imaging observation, sandwiched by two four-frames spectroscopic observations. Curious readers can refer to “*AKARI* IRC Data User Manual” for more detailed description. The spectroscopic observations carried out during PV2-phase and phase-3 are recorded as IRC64 and IRCZ4, respectively. In the observation log files, the notation of observing modes for slit and slit-less spectroscopic data appears as “x;Yz”. In the notation, “x” records the disperser(s) used during the observation with “a” for prism, “b” for grism, and “c” for both grism and prism dispersers. “Yz” records the slit used in the observation. For slit observations, “Yz” can be either Nh or Ns. For example, a slit-spectroscopic observation carried out in the Nh slit with the grism disperser is logged as “b;Nh”.

#### **Search data in the *AKARI* pool**

A given *AKARI* observation is labeled as “xxxxxxx.xxx”, a combination of one 7-digits target-ID and one up-to-3-digits sub-pointing ID. 158 galaxies are included in the original MY-catalog, yet some sub-pointings for several target-IDs are missing. After searching through the “PTM\_DATA” directory in the *AKARI* data pool, these missing sub-pointings are added to the catalog. This increases the number of observations from 276 to 388. Most observations in the MY-catalog are observed during the phase-2 and phase-3 of the *AKARI* mission. An inclusion of observations on these 158 galaxies during the entire *AKARI* mission increases the total observation number to 498. All these observations are listed in Table 1.

Table 1: All *AKARI* observations

MAIN TG NAME	REDSHIFT	AKARI ID.SUBID	MAIN OBJ RA	MAIN OBJ DEC	MAIN AOT	MAIN AOTP	DATETIME START	DATETIME END
UGC128	0.015114	5200528.1	3.44625	35.97889	IRCZ4	b;Ns	2009-01-08-14:08:32	2009-01-08-14:38:32
		5200528.2	3.44625	35.97889	IRCZ4	b;Ns	2009-01-08-15:47:24	2009-01-08-16:17:24
NGC53	0.015237	1420351.1	3.67833	-60.32842	IRCZ4	b;Ns	2008-11-18-05:13:59	2008-11-18-05:43:59
		5126752.2	3.67917	-60.32889	IRCZ4	b;Ns	2008-05-18-15:12:47	2008-05-18-15:42:47
NGC55	0.00043	1420334.1	3.72333	-39.19664	IRCZ4	b;Ns	2008-06-04-17:22:29	2008-06-04-17:52:29
		1420334.2	3.72333	-39.19664	IRCZ4	b;Ns	2008-06-05-14:47:34	2008-06-05-15:17:34
IC10	-0.001161	1422151.1	5.07225	59.30378	IRCZ4	b;Ns	2010-01-25-21:34:54	2010-01-25-22:04:54
		1420332.2	5.07225	59.30378	IRCZ4	b;Ns	2008-07-28-22:31:46	2008-07-28-23:01:46
		1422651.2	5.11117	59.29444	IRCZ4	b;Ns	2010-01-26-00:52:37	2010-01-26-01:22:37
		1422651.1	5.11117	59.29444	IRCZ4	b;Ns	2010-01-25-23:13:45	2010-01-25-23:43:45
Haro-1	0.012622	1420395.1	9.21962	-33.55531	IRCZ4	b;Ns	2008-06-14-17:54:07	2008-06-14-18:24:07
		1420395.2	9.21962	-33.55531	IRCZ4	b;Ns	2008-06-14-19:32:58	2008-06-14-20:02:58
NGC205	-0.000804	1420056.1	10.092	41.66864	IRCZ4	b;Ns	2009-07-20-02:25:45	2009-07-20-02:55:45
		1420053.1	10.092	41.70197	IRCZ4	b;Ns	2009-07-19-19:50:21	2009-07-19-20:20:21
		1420054.1	10.092	41.68531	IRCZ4	b;Ns	2009-07-19-21:29:12	2009-07-19-21:59:12
M31	-0.001001	5125002.1	10.24767	41.05855	IRC04	b;Ns	2007-07-20-01:43:03	2007-07-20-02:13:03
		1420001.1	10.34583	41.18222	IRCZ4	b;Ns	2008-07-18-22:03:55	2008-07-18-22:33:55
		1420002.1	10.3625	41.20667	IRCZ4	b;Ns	2009-01-17-04:07:06	2009-01-17-04:37:06
		1422222.1	10.50417	41.07333	IRCZ4	b;Ns	2010-01-17-00:57:27	2010-01-17-01:27:27
		1422222.2	10.50417	41.07333	IRCZ4	b;Ns	2010-01-17-02:36:18	2010-01-17-03:06:18
		1422222.3	10.50417	41.07333	IRCZ4	b;Ns	2010-01-17-04:15:10	2010-01-17-04:45:10
		1420044.1	10.50417	41.07333	IRCZ4	b;Ns	2009-07-20-04:04:46	2009-07-20-04:34:46
		1420028.1	10.60417	41.25833	IRCZ4	b;Ns	2008-07-19-11:14:44	2008-07-19-11:44:44
		1420023.1	10.60417	41.26667	IRCZ4	b;Ns	2009-07-19-23:08:12	2009-07-19-23:38:12
		1420018.1	10.60417	41.275	IRCZ4	b;Ns	2008-07-19-14:32:26	2008-07-19-15:02:26
		1420042.1	10.64167	40.96583	IRCZ4	b;Ns	2009-01-18-11:25:26	2009-01-18-11:55:26
		1420022.1	10.66667	41.26667	IRCZ4	b;Ns	2008-07-19-16:11:18	2008-07-19-16:41:18
		1420027.1	10.66667	41.25833	IRCZ4	b;Ns	2009-07-20-00:47:03	2009-07-20-01:17:03
		1420017.1	10.66667	41.275	IRCZ4	b;Ns	2009-01-18-09:46:39	2009-01-18-10:16:39
NGC221	-0.000667	5200824.1	10.67413	40.86561	IRCZ4	b;Nh	2009-07-19-11:36:22	2009-07-19-12:06:22
		5200824.2	10.67413	40.86561	IRCZ4	b;Nh	2009-07-19-14:54:03	2009-07-19-15:24:03
M31	-0.001001	5124407.1	10.68467	41.26904	IRCZ4	b;Nh	2008-01-18-16:42:51	2008-01-18-17:12:51
		5124409.2	10.68467	41.26904	IRCZ4	b;Ns	2008-01-19-04:14:56	2008-01-19-04:44:56
		5125003.1	10.68467	41.26904	IRC04	b;Ns	2007-07-21-02:35:13	2007-07-21-03:05:13
		5124406.1	10.68467	41.26904	IRCZ4	b;Ns	2008-01-18-15:03:59	2008-01-18-15:33:59
		5124410.1	10.68467	41.26904	IRCZ4	b;Nh	2008-01-19-14:08:09	2008-01-19-14:38:09
		1420047.1	10.6875	41.14222	IRCZ4	b;Ns	2008-07-19-12:53:38	2008-07-19-13:23:38
		1420007.1	10.69583	41.56528	IRCZ4	b;Ns	2008-07-19-19:28:56	2008-07-19-19:58:56
		1420041.1	10.72083	41.0375	IRCZ4	b;Ns	2008-07-19-03:00:32	2008-07-19-03:30:32
		1420016.1	10.72917	41.275	IRCZ4	b;Ns	2008-07-19-22:46:43	2008-07-19-23:16:43
		1420021.1	10.72917	41.26667	IRCZ4	b;Ns	2009-01-18-08:07:46	2009-01-18-08:37:46
		1420026.1	10.72917	41.25833	IRCZ4	b;Ns	2008-07-19-21:07:52	2008-07-19-21:37:52
		1420008.1	10.75833	41.44194	IRCZ4	b;Ns	2009-01-17-23:53:30	2009-01-18-00:23:30
		1420052.1	10.8	41.42111	IRCZ4	b;Ns	2009-07-21-03:08:35	2009-07-21-03:38:35
		1422228.1	10.8	41.42111	IRCZ4	b;Ns	2010-01-17-09:11:48	2010-01-17-09:41:48
		1422228.2	10.8	41.42111	IRCZ4	b;Ns	2010-01-17-10:50:39	2010-01-17-11:20:39
		1420048.1	10.80833	41.31139	IRCZ4	b;Ns	2009-01-18-04:50:03	2009-01-18-05:20:03

		1420039.1	10.84167	41.11333	IRCZ4	b;Ns	2009-01-18-06:28:52	2009-01-18-06:58:52
		1420049.1	10.8625	41.38694	IRCZ4	b;Ns	2009-07-21-01:29:45	2009-07-21-01:59:45
		1420038.1	10.89167	41.16306	IRCZ4	b;Ns	2008-07-20-15:15:17	2008-07-20-15:45:17
		1420036.1	10.9875	41.24722	IRCZ4	b;Ns	2009-01-18-03:11:09	2009-01-18-03:41:09
		1420035.1	11.01667	41.28778	IRCZ4	b;Ns	2008-07-20-13:36:25	2008-07-20-14:06:25
		5125004.1	11.17608	41.70634	IRC04	b;Ns	2007-07-22-01:47:49	2007-07-22-02:17:49
NGC253	0.000811	1422187.2	11.88792	-25.28833	IRCZ4	b;Ns	2009-12-21-11:01:58	2009-12-21-11:31:58
		1422187.1	11.88792	-25.28833	IRCZ4	b;Ns	2009-12-21-06:05:23	2009-12-21-06:35:23
		1422196.1	11.88792	-25.29028	IRCZ4	b;Ns	2009-12-21-01:08:48	2009-12-21-01:38:48
		1422196.2	11.88792	-25.29028	IRCZ4	b;Ns	2009-12-21-02:47:39	2009-12-21-03:17:39
		3390006.1	11.88833	-25.28808	IRCZ4	b;Nh	2009-06-20-22:32:41	2009-06-20-23:02:41
		1422197.1	11.88875	-25.28556	IRCZ4	b;Ns	2009-12-21-14:19:41	2009-12-21-14:49:41
		1422190.2	11.88917	-25.25947	IRCZ4	b;Ns	2009-12-22-13:23:44	2009-12-22-13:53:44
		1422190.1	11.88917	-25.25947	IRCZ4	b;Ns	2009-12-22-01:51:43	2009-12-22-02:21:43
NGC315	0.016485	5200826.2	14.45371	30.35278	IRCZ4	b;Ns	2009-07-18-14:14:18	2009-07-18-14:44:18
		5200826.1	14.45371	30.35278	IRCZ4	b;Ns	2009-07-18-12:35:27	2009-07-18-13:05:27
		1422229.1	14.45375	30.3525	IRCZ4	b;Ns	2010-01-15-01:07:32	2010-01-15-01:37:32
		1422229.2	14.45375	30.3525	IRCZ4	b;Ns	2010-01-15-02:46:23	2010-01-15-03:16:23
IC1623	0.020067	5200015.1	16.94821	-17.50678	IRCZ4	b;Nh	2008-06-29-20:18:26	2008-06-29-20:48:26
		5200015.2	16.94821	-17.50678	IRCZ4	b;Nh	2008-06-30-21:01:13	2008-06-30-21:31:13
NGC404	-0.00016	5200827.1	17.36229	35.718	IRCZ4	b;Ns	2009-07-22-13:46:25	2009-07-22-14:16:25
		5200827.2	17.36229	35.718	IRCZ4	b;Ns	2009-07-22-15:25:16	2009-07-22-15:55:16
ESO_244-G012	0.022903	5200013.1	19.53463	-44.46206	IRCZ4	b;Nh	2008-06-14-21:15:31	2008-06-14-21:45:31
		5200013.2	19.53463	-44.46206	IRCZ4	b;Nh	2008-06-14-22:54:22	2008-06-14-23:24:22
NGC514	0.008246	5200470.1	21.01625	12.91639	IRCZ4	b;Ns	2009-01-13-12:39:11	2009-01-13-13:09:11
		5200470.2	21.01625	12.91639	IRCZ4	b;Ns	2009-01-14-13:22:09	2009-01-14-13:52:09
Mink-obj	nan	1422147.3	21.43417	-1.37931	IRCZ4	b;Ns	2010-01-10-00:42:02	2010-01-10-01:12:02
		1422147.2	21.43417	-1.37931	IRCZ4	b;Ns	2010-01-09-11:31:10	2010-01-09-12:01:10
		1422147.1	21.43417	-1.37931	IRCZ4	b;Ns	2010-01-09-01:38:00	2010-01-09-02:08:00
		1420396.1	21.43433	-1.37931	IRCZ4	b;Ns	2008-07-10-13:15:45	2008-07-10-13:45:45
		1420396.2	21.43433	-1.37931	IRCZ4	b;Ns	2008-07-10-14:54:36	2008-07-10-15:24:36
NGC584	0.006011	1420482.2	22.83579	-6.86775	IRCZ4	b;Ns	2008-07-10-03:24:11	2008-07-10-03:54:11
		1420482.1	22.83579	-6.86775	IRCZ4	b;Ns	2008-07-10-01:45:20	2008-07-10-02:15:20
NGC612	0.029771	1420097.1	23.49058	-36.49325	IRCZ4	b;Ns	2008-12-25-00:28:55	2008-12-25-00:58:55
		1420096.1	23.49058	-36.49325	IRCZ4	b;Ns	2008-06-26-19:54:20	2008-06-26-20:24:20
ESO_297-G011.1	nan	5200014.1	24.09746	-37.32169	IRCZ4	b;Nh	2008-06-26-21:33:27	2008-06-26-22:03:27
		5200014.2	24.09746	-37.32169	IRCZ4	b;Nh	2008-06-26-23:12:18	2008-06-26-23:42:18
NGC772	0.008246	5200830.1	29.83138	19.00797	IRCZ4	b;Ns	2009-07-26-13:24:59	2009-07-26-13:54:59
		5200830.2	29.83138	19.00797	IRCZ4	b;Ns	2009-07-27-12:28:52	2009-07-27-12:58:52
		5200471.2	29.83458	19.00611	IRCZ4	b;Ns	2009-01-23-16:31:44	2009-01-23-17:01:44
NGC777	0.016728	5200472.2	30.06292	31.43111	IRCZ4	b;Ns	2009-01-28-15:13:03	2009-01-28-15:43:03
		5200472.1	30.06292	31.43111	IRCZ4	b;Ns	2009-01-28-13:34:11	2009-01-28-14:04:11
HCG_15	0.0228	3221004.1	31.85518	2.11656	IRC04	b;Ns	2007-07-24-00:25:22	2007-07-24-00:55:22
NGC835	0.013586	1420388.1	32.35292	-10.13625	IRCZ4	b;Ns	2008-07-17-23:15:09	2008-07-17-23:45:09
NGC891	0.001761	1420132.1	35.61958	42.3166	IRCZ4	b;Nh	2008-08-10-03:54:18	2008-08-10-04:24:18
		1420134.1	35.63154	42.33701	IRCZ4	b;Nh	2009-08-10-00:56:31	2009-08-10-01:26:31
		1420136.1	35.64346	42.35742	IRCZ4	b;Nh	2009-08-10-02:35:22	2009-08-10-03:05:22
		1420138.1	35.65542	42.37783	IRCZ4	b;Nh	2009-08-10-04:14:13	2009-08-10-04:44:13
NGC959	0.001991	5200065.1	38.1	35.49472	IRCZ4	b;Ns	2008-08-08-15:41:27	2008-08-08-16:11:27
		5200065.2	38.1	35.49472	IRCZ4	b;Ns	2008-08-09-16:24:16	2008-08-09-16:54:16
NGC1023	0.002125	5200066.2	40.1	39.06328	IRCZ4	b;Ns	2008-08-11-17:49:07	2008-08-11-18:19:07

		5200066.1	40.1	39.06328	IRCZ4	b;Ns	2008-08-11-16:10:16	2008-08-11-16:40:16
NGC1052	0.005037	1402108.1	40.27	-8.25578	IRC04	b;Ns	2007-07-27-22:59:26	2007-07-27-23:29:26
NGC1068	0.003793	5125030.1	40.66962	-0.01336	IRC04	b;Ns	2007-08-01-02:26:37	2007-08-01-02:56:37
NGC1058	0.001728	5200067.1	40.87458	37.34083	IRCZ4	b;Ns	2008-08-12-15:14:44	2008-08-12-15:44:44
NGC1097	0.00424	1420462.1	41.579	-30.27464	IRCZ4	b;Ns	2008-07-18-01:00:01	2008-07-18-01:30:01
		1420462.2	41.579	-30.27464	IRCZ4	b;Ns	2008-07-18-02:38:52	2008-07-18-03:08:52
NGC1140	0.005007	1422155.2	43.63975	-10.02783	IRCZ4	b;Ns	2010-01-27-04:32:22	2010-01-27-05:02:22
		1422155.3	43.63975	-10.02783	IRCZ4	b;Ns	2010-01-27-06:11:13	2010-01-27-06:41:13
		1422155.1	43.63975	-10.02783	IRCZ4	b;Ns	2010-01-27-02:53:30	2010-01-27-03:23:30
		5126463.2	43.64	-10.02775	IRCZ4	b;Ns	2008-01-28-15:22:39	2008-01-28-15:52:39
		5126463.1	43.64	-10.02775	IRCZ4	b;Ns	2008-01-28-13:43:47	2008-01-28-14:13:47
NGC1291	0.002799	1420457.1	49.32787	-41.10825	IRCZ4	b;Ns	2008-07-19-00:07:21	2008-07-19-00:37:21
		1420457.2	49.32787	-41.10825	IRCZ4	b;Ns	2008-07-19-01:46:12	2008-07-19-02:16:12
NGC1313	0.001568	1420354.2	49.52	-66.50694	IRCZ4	b;Ns	2008-06-04-02:43:03	2008-06-04-03:13:03
		1420354.1	49.52	-66.50694	IRCZ4	b;Ns	2008-06-01-17:03:12	2008-06-01-17:33:12
		1420353.1	49.56708	-66.49825	IRCZ4	b;Ns	2008-12-03-10:56:26	2008-12-03-11:26:26
		1420355.2	49.59833	-66.47722	IRCZ4	b;Ns	2008-06-02-16:07:09	2008-06-02-16:37:09
		1420355.1	49.59833	-66.47722	IRCZ4	b;Ns	2008-06-02-14:28:18	2008-06-02-14:58:18
NGC1316	0.005871	1422246.2	50.66833	-37.20139	IRCZ4	b;Ns	2010-01-22-02:29:17	2010-01-22-02:59:17
		1422246.3	50.66833	-37.20139	IRCZ4	b;Ns	2010-01-22-04:08:09	2010-01-22-04:38:09
		1422246.1	50.66833	-37.20139	IRCZ4	b;Ns	2010-01-22-00:50:26	2010-01-22-01:20:26
		1400125.1	50.67379	-37.20822	IRC04	b;Ns	2007-01-23-00:44:48	2007-01-23-01:14:48
		1420439.2	50.67383	-37.20822	IRCZ4	b;Ns	2008-07-24-03:40:30	2008-07-24-04:10:30
		1420439.1	50.67383	-37.20822	IRCZ4	b;Ns	2008-07-24-02:01:39	2008-07-24-02:31:39
		1422245.2	50.67917	-37.21528	IRCZ4	b;Ns	2010-01-22-10:43:33	2010-01-22-11:13:33
		1422245.1	50.67917	-37.21528	IRCZ4	b;Ns	2010-01-22-05:47:00	2010-01-22-06:17:00
		1422245.3	50.67917	-37.21528	IRCZ4	b;Ns	2010-01-22-12:22:24	2010-01-22-12:52:24
NGC1546	0.004284	1400997.1	63.65225	-56.06081	IRC04	b;Ns	2007-01-18-08:06:29	2007-01-18-08:36:29
NGC1549	0.00419	1400019.1	63.93804	-55.59225	IRC04	b;Ns	2007-01-18-14:43:45	2007-01-18-15:13:45
NGC1566	0.005017	1420467.1	65.00233	-54.93789	IRCZ4	b;Ns	2008-07-21-19:45:03	2008-07-21-20:15:03
		1420467.2	65.00233	-54.93789	IRCZ4	b;Ns	2008-07-21-21:23:54	2008-07-21-21:53:54
NGC1569	-0.000347	5125050.1	67.66637	64.84597	IRC64	b;Ns	2007-09-10-05:46:52	2007-09-10-06:16:52
		5125051.1	67.69558	64.85017	IRC64	b;Ns	2007-09-10-04:07:21	2007-09-10-04:37:21
		5126479.1	67.69558	64.85017	IRCZ4	b;Nh	2008-03-07-15:36:51	2008-03-07-16:06:51
		1420331.2	67.70458	64.84794	IRCZ4	b;Ns	2008-09-09-03:49:53	2008-09-09-04:19:53
		1420331.1	67.70458	64.84794	IRCZ4	b;Ns	2008-09-08-21:14:27	2008-09-08-21:44:27
		5126478.1	67.70458	64.84794	IRCZ4	b;Nh	2008-03-07-17:15:43	2008-03-07-17:45:43
		5126478.2	67.70458	64.84794	IRCZ4	b;Nh	2008-03-07-18:54:35	2008-03-07-19:24:35
NGC1614	0.015938	5200049.2	68.49938	-8.57889	IRCZ4	b;Nh	2008-08-27-16:17:56	2008-08-27-16:47:56
		5200049.1	68.49938	-8.57889	IRCZ4	b;Nh	2008-08-27-14:39:04	2008-08-27-15:09:04
		1420398.2	68.50075	-8.57894	IRCZ4	b;Ns	2008-08-28-00:32:13	2008-08-28-01:02:13
		1420398.1	68.50075	-8.57894	IRCZ4	b;Ns	2008-08-27-22:53:21	2008-08-27-23:23:21
Mrk1089	0.013406	1420323.2	75.40733	-4.25789	IRCZ4	b;Ns	2008-09-06-11:53:28	2008-09-06-12:23:28
		1420323.1	75.40733	-4.25789	IRCZ4	b;Ns	2008-09-05-19:24:54	2008-09-05-19:54:54
NGC1808	0.003319	1420357.1	76.92646	-37.51303	IRCZ4	b;Ns	2008-09-01-00:14:03	2008-09-01-00:44:03
		1420357.2	76.92646	-37.51303	IRCZ4	b;Ns	2008-09-01-01:52:54	2008-09-01-02:22:54
		1402544.1	76.9325	-37.52314	IRC04	b;Ns	2007-09-01-18:13:59	2007-09-01-18:43:59
		1402545.1	76.94042	-37.53022	IRC04	b;Ns	2007-09-01-19:53:30	2007-09-01-20:23:30
NGC1961	0.013122	5200185.2	85.51833	69.37944	IRCZ4	b;Ns	2008-09-19-14:15:14	2008-09-19-14:45:14
		5200185.1	85.51833	69.37944	IRCZ4	b;Ns	2008-09-19-10:57:31	2008-09-19-11:27:31
IIZw40	0.002632	1420299.1	88.92758	3.39219	IRCZ4	b;Ns	2009-03-19-04:39:06	2009-03-19-05:09:06

		1420399.1	88.92758	3.39219	IRCZ4	b;Ns	2009-09-20-22:08:32	2009-09-20-22:38:32
		1420399.2	88.92758	3.39219	IRCZ4	b;Ns	2009-09-20-23:47:23	2009-09-21-00:17:23
NGC2146	0.002979	1420400.1	94.65454	78.3565	IRCZ4	b;Ns	2008-09-22-21:17:59	2008-09-22-21:47:59
		1420400.2	94.65454	78.3565	IRCZ4	b;Ns	2008-09-22-22:56:51	2008-09-22-23:26:51
ESO034-IG11	0.022029	1420387.2	100.77542	-74.22639	IRCZ4	b;Ns	2008-08-26-15:53:49	2008-08-26-16:23:49
		1420387.1	100.77542	-74.22639	IRCZ4	b;Ns	2008-08-26-12:36:06	2008-08-26-13:06:06
NGC2403	0.000445	1420436.1	114.203	65.59503	IRCZ4	b;Ns	2008-10-05-17:27:51	2008-10-05-17:57:51
		1420436.2	114.203	65.59503	IRCZ4	b;Ns	2008-10-05-19:06:43	2008-10-05-19:36:43
		1420358.2	114.2125	65.60256	IRCZ4	b;Ns	2008-10-05-15:48:59	2008-10-05-16:18:59
		1420358.1	114.2125	65.60256	IRCZ4	b;Ns	2008-10-05-05:55:50	2008-10-05-06:25:50
		1420360.1	114.22617	65.59656	IRCZ4	b;Ns	2008-10-05-07:34:41	2008-10-05-08:04:41
		1420360.2	114.22617	65.59656	IRCZ4	b;Ns	2008-10-05-10:52:25	2008-10-05-11:22:25
		5126731.1	114.22875	65.59842	IRCZ4	b;Ns	2008-04-03-05:16:21	2008-04-03-05:46:21
		5126731.2	114.22875	65.59842	IRCZ4	b;Ns	2008-04-03-10:12:56	2008-04-03-10:42:56
		5125425.1	114.22875	65.59842	IRC64	b;Ns	2007-10-07-06:20:23	2007-10-07-06:50:23
		1420359.1	114.27858	65.61114	IRCZ4	b;Ns	2008-10-05-12:31:16	2008-10-05-13:01:16
		1420359.2	114.27858	65.61114	IRCZ4	b;Ns	2008-10-05-14:10:07	2008-10-05-14:40:07
		5126730.2	114.32375	65.56289	IRCZ4	b;Ns	2008-04-03-03:37:29	2008-04-03-04:07:29
		5125424.1	114.32375	65.56289	IRC64	b;Ns	2007-10-07-07:59:55	2007-10-07-08:29:55
		5126730.1	114.32375	65.56289	IRCZ4	b;Ns	2008-04-03-01:58:37	2008-04-03-02:28:37
NGC2500	0.001681	5200304.2	120.47333	50.73806	IRCZ4	b;Ns	2008-10-15-01:36:38	2008-10-15-02:06:38
		5200304.1	120.47333	50.73806	IRCZ4	b;Ns	2008-10-14-23:57:46	2008-10-15-00:27:46
UGC4305	0.000474	5126732.2	124.8025	70.71881	IRCZ4	b;Ns	2008-04-06-14:02:04	2008-04-06-14:32:04
		5126732.1	124.8025	70.71881	IRCZ4	b;Ns	2008-04-06-07:26:38	2008-04-06-07:56:38
		1420361.1	124.80338	70.71903	IRCZ4	b;Ns	2008-10-08-22:52:38	2008-10-08-23:22:38
		1420361.2	124.80338	70.71903	IRCZ4	b;Ns	2008-10-09-05:28:04	2008-10-09-05:58:04
		1420362.1	124.81692	70.71625	IRCZ4	b;Ns	2008-10-09-10:24:39	2008-10-09-10:54:39
		5126733.1	124.87125	70.71678	IRCZ4	b;Ns	2008-04-06-09:05:30	2008-04-06-09:35:30
		5126733.2	124.87125	70.71678	IRCZ4	b;Ns	2008-04-06-10:44:22	2008-04-06-11:14:22
UGC4393	0.007085	1422149.1	126.5185	45.96786	IRCZ4	b;Ns	2009-10-21-11:06:18	2009-10-21-11:36:18
He2-010	0.002912	1420363.1	129.0625	-26.40944	IRCZ4	b;Ns	2008-11-11-17:58:05	2008-11-11-18:28:05
		1422158.1	129.0625	-26.40944	IRCZ4	b;Ns	2009-11-13-19:36:50	2009-11-13-20:06:50
		5126734.1	129.0625	-26.40944	IRCZ4	b;Ns	2008-05-11-04:00:23	2008-05-11-04:30:23
		5126734.2	129.0625	-26.40944	IRCZ4	b;Ns	2008-05-11-05:39:15	2008-05-11-06:09:15
UGC4703	0.012342	1420424.1	134.61125	6.326	IRCZ4	b;Ns	2009-05-05-15:09:11	2009-05-05-15:39:11
NGC2768	0.004513	1401002.1	137.90625	60.03722	IRC04	b;Ns	2007-04-19-20:07:28	2007-04-19-20:37:28
		1422243.1	137.90625	60.03722	IRCZ4	b;Ns	2009-10-22-10:06:02	2009-10-22-10:36:02
NGC2782	0.008483	1420364.2	138.52071	40.11361	IRCZ4	b;Ns	2009-04-28-11:57:53	2009-04-28-12:27:53
		1420364.1	138.52071	40.11361	IRCZ4	b;Ns	2009-04-28-10:19:02	2009-04-28-10:49:02
NGC2841	0.002128	1420124.1	140.5	50.9875	IRCZ4	b;Ns	2009-04-26-17:10:41	2009-04-26-17:40:41
		1420122.1	140.51096	50.97652	IRCZ4	b;Ns	2008-10-29-18:11:54	2008-10-29-18:41:54
		1420123.1	140.525	50.9625	IRCZ4	b;Ns	2009-04-26-10:35:16	2009-04-26-11:05:16
NGC2976	1e-05	1420128.1	146.79167	67.91639	IRCZ4	b;Ns	2008-10-21-20:38:13	2008-10-21-21:08:13
		5126741.1	146.81442	67.91639	IRCZ4	b;Nh	2008-04-19-05:12:11	2008-04-19-05:42:11
		1420126.1	146.81442	67.91639	IRCZ4	b;Ns	2008-10-23-13:49:46	2008-10-23-14:19:46
		5126741.2	146.81442	67.91639	IRCZ4	b;Nh	2008-04-19-10:08:45	2008-04-19-10:38:45
		1420127.1	146.83333	67.91639	IRCZ4	b;Ns	2008-10-23-12:10:54	2008-10-23-12:40:54
M82	0.000677	5124077.1	148.77291	69.84111	IRC04	b;Ns	2007-04-18-17:40:17	2007-04-18-18:10:17
		5125990.1	148.77291	69.84111	IRCZ4	b;Ns	2008-04-17-18:36:45	2008-04-17-19:06:45
		5125990.2	148.77291	69.84111	IRCZ4	b;Ns	2008-04-17-23:33:19	2008-04-18-00:03:19
		5125996.1	148.84021	69.86977	IRCZ4	b;Ns	2008-04-18-14:23:02	2008-04-18-14:53:02

			5126498.2	148.90417	69.70556	IRCZ4	b;Nh	2008-04-19-23:20:08	2008-04-19-23:50:08
			5126498.1	148.90417	69.70556	IRCZ4	b;Nh	2008-04-18-16:01:51	2008-04-18-16:31:51
			5125403.1	148.90417	69.70556	IRC64	b;Ns	2007-10-22-21:10:50	2007-10-22-21:40:50
			3390003.1	148.95583	69.67797	IRCZ4	b;Nh	2008-10-22-03:13:08	2008-10-22-03:43:08
			3390001.1	148.9675	69.68022	IRCZ4	b;Nh	2008-10-21-23:55:25	2008-10-22-00:25:25
			3390001.2	148.9675	69.68022	IRCZ4	b;Nh	2008-10-22-01:34:17	2008-10-22-02:04:17
			3390002.2	148.97917	69.68247	IRCZ4	b;Nh	2009-04-19-04:02:05	2009-04-19-04:32:05
			3390002.1	148.97917	69.68247	IRCZ4	b;Nh	2008-10-23-02:17:12	2008-10-23-02:47:12
			5125401.1	149.0165	69.68714	IRC64	b;Ns	2007-10-23-05:28:27	2007-10-23-05:58:27
			5126496.1	149.0165	69.68714	IRCZ4	b;Nh	2008-04-18-17:40:42	2008-04-18-18:10:42
			5126496.2	149.0165	69.68714	IRCZ4	b;Nh	2008-04-19-01:55:00	2008-04-19-02:25:00
			5126499.2	149.025	69.65669	IRCZ4	b;Nh	2008-04-18-20:58:25	2008-04-18-21:28:25
			5125405.1	149.025	69.65669	IRC64	b;Ns	2007-10-22-22:50:21	2007-10-22-23:20:21
			5126499.1	149.025	69.65669	IRCZ4	b;Nh	2008-04-18-19:19:34	2008-04-18-19:49:34
NGC3073	0.003913		5126768.1	150.21625	55.62	IRCZ4	b;Ns	2008-04-30-11:21:55	2008-04-30-11:51:55
			5126768.2	150.21625	55.62	IRCZ4	b;Ns	2008-04-30-17:57:20	2008-04-30-18:27:20
			5200783.2	150.21683	55.61883	IRCZ4	b;Ns	2009-04-30-03:35:03	2009-04-30-04:05:03
			5200783.1	150.21683	55.61883	IRCZ4	b;Ns	2009-04-29-17:41:57	2009-04-29-18:11:57
NGC3079	0.003723		1422185.3	150.48542	55.68944	IRCZ4	b;Ns	2009-11-01-18:53:44	2009-11-01-19:23:44
			1422185.2	150.48542	55.68944	IRCZ4	b;Ns	2009-11-01-17:14:52	2009-11-01-17:44:52
			1422185.1	150.48542	55.68944	IRCZ4	b;Ns	2009-11-01-15:36:01	2009-11-01-16:06:01
			1422184.3	150.49083	55.67972	IRCZ4	b;Ns	2009-11-02-13:01:10	2009-11-02-13:31:10
			1422184.1	150.49083	55.67972	IRCZ4	b;Ns	2009-11-01-20:32:35	2009-11-01-21:02:35
			1422184.2	150.49083	55.67972	IRCZ4	b;Ns	2009-11-02-11:22:18	2009-11-02-11:52:18
			1422186.2	150.495	55.66611	IRCZ4	b;Ns	2009-11-03-12:05:11	2009-11-03-12:35:11
			1422186.1	150.495	55.66611	IRCZ4	b;Ns	2009-11-03-05:29:45	2009-11-03-05:59:45
NGC3077	4.7e-05		1420405.1	150.82946	68.73375	IRCZ4	b;Ns	2009-04-20-19:34:25	2009-04-20-20:04:25
			1420405.2	150.82946	68.73375	IRCZ4	b;Ns	2009-04-20-21:13:16	2009-04-20-21:43:16
NGC3125	0.003712		1420407.1	151.63896	-29.93519	IRCZ4	b;Ns	2009-06-06-09:48:21	2009-06-06-10:18:21
			1420407.2	151.63896	-29.93519	IRCZ4	b;Ns	2009-06-06-11:27:12	2009-06-06-11:57:12
NGC3147	0.009346		5200785.1	154.22483	73.40089	IRCZ4	b;Ns	2009-04-16-00:15:59	2009-04-16-00:45:59
			5200785.2	154.22483	73.40089	IRCZ4	b;Ns	2009-04-16-23:19:55	2009-04-16-23:49:55
			5200306.2	154.2325	73.40028	IRCZ4	b;Ns	2008-10-21-00:50:15	2008-10-21-01:20:15
			5200306.1	154.2325	73.40028	IRCZ4	b;Ns	2008-10-20-23:11:24	2008-10-20-23:41:24
NGC3190	0.00424		1422162.1	154.52337	21.83158	IRCZ4	b;Ns	2009-11-21-02:01:08	2009-11-21-02:31:08
NGC3256	0.009354		1420420.1	156.96275	-43.90397	IRCZ4	b;Ns	2008-06-21-06:51:49	2008-06-21-07:21:49
			1420420.2	156.96275	-43.90397	IRCZ4	b;Ns	2008-06-23-06:38:32	2008-06-23-07:08:32
			5200009.2	156.96362	-43.90383	IRCZ4	b;Nh	2008-06-23-00:03:07	2008-06-23-00:33:07
			5200009.1	156.96362	-43.90383	IRCZ4	b;Nh	2008-06-21-10:09:31	2008-06-21-10:39:31
Mrk33	0.004769		1420318.1	158.13208	54.40169	IRCZ4	b;Ns	2008-11-07-19:39:39	2008-11-07-20:09:39
			1421318.1	158.13313	54.40114	IRCZ4	b;Ns	2009-05-05-10:26:50	2009-05-05-10:56:50
			5126745.2	158.13333	54.40097	IRCZ4	b;Ns	2008-05-06-10:42:37	2008-05-06-11:12:37
			5126745.1	158.13333	54.40097	IRCZ4	b;Ns	2008-05-06-05:46:03	2008-05-06-06:16:03
			5125434.1	158.13333	54.40097	IRC64	b;Ns	2007-11-08-21:17:38	2007-11-08-21:47:38
ESO_264-G036	0.021065		5200011.2	160.78129	-46.21225	IRCZ4	b;Nh	2008-06-28-06:54:36	2008-06-28-07:24:36
			5200011.1	160.78129	-46.21225	IRCZ4	b;Nh	2008-06-27-07:50:42	2008-06-27-08:20:42
NGC3344	0.001935		5201209.1	160.88008	24.92189	IRCZ4	b;Ns	2009-11-24-18:58:09	2009-11-24-19:28:09
			5201209.2	160.88008	24.92189	IRCZ4	b;Ns	2009-11-25-19:41:03	2009-11-25-20:11:03
			5200370.2	160.88375	24.92056	IRCZ4	b;Ns	2008-11-24-18:46:07	2008-11-24-19:16:07
			5126772.2	160.88375	24.92056	IRCZ4	b;Ns	2008-05-24-02:01:04	2008-05-24-02:31:04
			5126772.1	160.88375	24.92056	IRCZ4	b;Ns	2008-05-23-16:07:56	2008-05-23-16:37:56

NGC3377	0.002218	5200370.1	160.88375	24.92056	IRCZ4	b;Ns	2008-11-24-00:38:36	2008-11-24-01:08:36
		5200372.2	161.92333	13.98333	IRCZ4	b;Ns	2008-11-29-20:44:46	2008-11-29-21:14:46
NGC3412	0.002805	5200372.1	161.92333	13.98333	IRCZ4	b;Ns	2008-11-29-19:05:54	2008-11-29-19:35:54
		5126776.1	162.72125	13.4125	IRCZ4	b;Ns	2008-05-30-02:57:25	2008-05-30-03:27:25
		5126776.2	162.72125	13.4125	IRCZ4	b;Ns	2008-05-30-16:08:13	2008-05-30-16:38:13
		5201213.2	162.72187	13.41214	IRCZ4	b;Ns	2009-12-01-20:43:27	2009-12-01-21:13:27
NGC3486	0.002272	5201213.1	162.72187	13.41214	IRCZ4	b;Ns	2009-12-01-19:04:35	2009-12-01-19:34:35
		5200375.2	165.09792	28.97583	IRCZ4	b;Ns	2008-11-26-18:31:46	2008-11-26-19:01:46
		5200375.1	165.09792	28.97583	IRCZ4	b;Ns	2008-11-25-21:06:31	2008-11-25-21:36:31
		1420330.1	166.28417	44.747	IRCZ4	b;Ns	2009-05-17-17:19:15	2009-05-17-17:49:15
MRK162	0.02154	1420330.2	166.28417	44.747	IRCZ4	b;Ns	2009-05-18-13:05:26	2009-05-18-13:35:26
		1420070.1	167.49021	-37.53917	IRCZ4	b;Ns	2008-12-28-00:31:50	2008-12-28-01:01:50
NGC3557	0.0103	1420069.1	167.49021	-37.53917	IRCZ4	b;Ns	2008-06-27-06:14:35	2008-06-27-06:44:35
		1420438.1	169.56867	-32.81414	IRCZ4	b;Ns	2008-12-26-00:43:24	2008-12-26-01:13:24
NGC3621	0.002435	1421438.1	169.56879	-32.81417	IRCZ4	b;Ns	2009-06-27-00:03:41	2009-06-27-00:33:41
		1420435.1	170.06238	12.99128	IRCZ4	b;Ns	2008-06-06-01:22:11	2008-06-06-01:52:11
NGC3627	0.002425	1420435.2	170.06238	12.99128	IRCZ4	b;Ns	2008-06-06-04:39:53	2008-06-06-05:09:53
		1420410.2	170.07067	13.58847	IRCZ4	b;Nh	2009-06-05-14:15:05	2009-06-05-14:45:05
NGC3628	0.002812	1420410.1	170.07067	13.58847	IRCZ4	b;Nh	2009-06-05-12:36:14	2009-06-05-13:06:14
		1420145.1	170.0813	13.58611	IRCZ4	b;Nh	2009-06-06-05:04:43	2009-06-06-05:34:43
		1420147.1	173.96557	70.54145	IRCZ4	b;Ns	2008-10-31-14:34:22	2008-10-31-15:04:22
		1420146.1	173.98954	70.53547	IRCZ4	b;Ns	2008-10-31-16:13:14	2008-10-31-16:43:14
NGC3735	0.008993	1420148.1	174.01066	70.53026	IRCZ4	b;Ns	2008-10-31-17:52:05	2008-10-31-18:22:05
		1420073.1	177.20983	59.41567	IRCZ4	b;Ns	2009-05-14-10:18:53	2009-05-14-10:48:53
		1420072.1	177.20983	59.41567	IRCZ4	b;Ns	2009-05-13-19:29:14	2009-05-13-19:59:14
		5126784.1	177.20983	59.41567	IRCZ4	b;Ns	2008-05-14-23:03:20	2008-05-14-23:33:20
NGC3894	0.010751	1420075.1	177.30508	-29.27675	IRCZ4	b;Ns	2009-07-02-13:32:00	2009-07-02-14:02:00
		1420074.1	177.30508	-29.27675	IRCZ4	b;Ns	2008-07-02-04:54:58	2008-07-02-05:24:58
NGC3904	0.005257	5126754.1	177.77917	55.07872	IRCZ4	b;Ns	2008-05-19-16:43:22	2008-05-19-17:13:22
		5126754.2	177.77917	55.07872	IRCZ4	b;Ns	2008-05-19-18:22:13	2008-05-19-18:52:13
		1422160.1	177.77917	55.07872	IRCZ4	b;Ns	2009-11-21-10:05:07	2009-11-21-10:35:07
		1400040.1	178.66708	-13.97503	IRC04	b;Ns	2006-12-26-20:12:21	2006-12-26-20:42:21
NGC3921	0.019667	5126780.1	179.48333	55.45306	IRCZ4	b;Ns	2008-05-20-17:26:25	2008-05-20-17:56:25
		5126780.2	179.48333	55.45306	IRCZ4	b;Ns	2008-05-21-13:12:40	2008-05-21-13:42:40
NGC3962	0.006064	5200376.1	179.48333	55.45306	IRCZ4	b;Ns	2008-11-20-19:02:50	2008-11-20-19:32:50
		5200376.2	179.48333	55.45306	IRCZ4	b;Ns	2008-11-21-19:45:46	2008-11-21-20:15:46
		5201215.1	179.48358	55.45369	IRCZ4	b;Ns	2009-11-20-19:15:09	2009-11-20-19:45:09
		5201215.2	179.48358	55.45369	IRCZ4	b;Ns	2009-11-21-19:58:02	2009-11-21-20:28:02
NGC3998	0.003496	1420369.1	180.55	62.13728	IRCZ4	b;Ns	2009-05-12-18:47:21	2009-05-12-19:17:21
		1400043.1	182.02508	65.17414	IRC04	b;Ns	2006-11-13-08:02:36	2006-11-13-08:32:36
NGC4041	0.004116	5201388.1	182.3745	43.68561	IRCZ4	b;Ns	2009-12-04-11:10:36	2009-12-04-11:40:36
		5200837.1	182.3745	43.68561	IRCZ4	b;Ns	2009-06-02-04:01:25	2009-06-02-04:31:25
NGC4125	0.002962	5200377.2	182.76875	50.48444	IRCZ4	b;Ns	2008-11-27-20:46:40	2008-11-27-21:16:40
		5200377.1	182.76875	50.48444	IRCZ4	b;Ns	2008-11-27-19:07:48	2008-11-27-19:37:48
		5126781.1	182.76875	50.48444	IRCZ4	b;Ns	2008-05-27-17:28:40	2008-05-27-17:58:40
		5126781.2	182.76875	50.48444	IRCZ4	b;Ns	2008-05-28-01:42:56	2008-05-28-02:12:56
NGC4138	0.002583	5126915.1	183.53623	54.52779	IRCZ4	b;Nh	2008-05-24-05:28:07	2008-05-24-05:58:07
		5126915.2	183.53623	54.52779	IRCZ4	b;Nh	2008-05-24-10:24:40	2008-05-24-10:54:40
		5126915.3	183.53623	54.52779	IRCZ4	b;Nh	2008-05-24-13:42:23	2008-05-24-14:12:23
		1422150.3	183.54012	54.52647	IRCZ4	b;Ns	2009-11-25-03:03:07	2009-11-25-03:33:07
		1422150.1	183.54012	54.52647	IRCZ4	b;Ns	2009-11-24-17:09:57	2009-11-24-17:39:57



		1422150.2	183.54012	54.52647	IRCZ4	b;Ns	2009-11-25-01:24:15	2009-11-25-01:54:15
NGC4203	0.003623	5200840.1	183.77137	33.19758	IRCZ4	b;Ns	2009-06-09-02:22:39	2009-06-09-02:52:39
NGC4258	0.001494	1422159.1	184.7385	47.30506	IRCZ4	b;Ns	2009-12-01-12:18:34	2009-12-01-12:48:34
		1420372.1	184.74167	47.30394	IRCZ4	b;Ns	2008-06-01-04:33:34	2008-06-01-05:03:34
NGC4261	0.007378	5200844.1	184.84663	5.82453	IRCZ4	b;Ns	2009-06-22-16:27:39	2009-06-22-16:57:39
		5200844.2	184.84663	5.82453	IRCZ4	b;Ns	2009-06-23-15:31:31	2009-06-23-16:01:31
NGC4278	0.002068	1420110.1	185.02842	29.28075	IRCZ4	b;Ns	2009-06-13-05:12:38	2009-06-13-05:42:38
NGC4303	0.005224	5200845.2	185.47883	4.47347	IRCZ4	b;Ns	2009-06-25-15:17:48	2009-06-25-15:47:48
		5200845.1	185.47883	4.47347	IRCZ4	b;Ns	2009-06-24-16:13:57	2009-06-24-16:43:57
IC3258	-0.001458	1422157.1	185.93542	12.47825	IRCZ4	b;Ns	2009-12-22-12:38:08	2009-12-22-13:08:08
MRK206	0.004392	1420421.1	186.07129	67.44011	IRCZ4	b;Ns	2009-05-08-19:15:31	2009-05-08-19:45:31
		1420421.2	186.07129	67.44011	IRCZ4	b;Ns	2009-05-11-06:34:07	2009-05-11-07:04:07
NGC4406	-0.000747	5201399.1	186.54875	12.94619	IRCZ4	b;Ns	2009-12-22-15:55:41	2009-12-22-16:25:41
NGC4418	0.007268	5200010.1	186.72783	-0.87825	IRCZ4	b;Nh	2008-06-28-02:11:58	2008-06-28-02:41:58
		5200010.2	186.72783	-0.87825	IRCZ4	b;Nh	2008-06-28-03:50:49	2008-06-28-04:20:49
IC3370	0.009773	1400056.1	186.90554	-39.33778	IRC04	b;Ns	2007-01-13-20:11:52	2007-01-13-20:41:52
NGC4449	0.00069	1420430.2	187.04521	44.09239	IRCZ4	b;Ns	2009-06-04-16:59:22	2009-06-04-17:29:22
		1420430.1	187.04521	44.09239	IRCZ4	b;Ns	2008-06-05-17:17:21	2008-06-05-17:47:21
NGC4486	0.004283	1420101.1	187.70592	12.39111	IRCZ4	b;Ns	2009-06-23-05:40:23	2009-06-23-06:10:23
		1420100.1	187.70592	12.39111	IRCZ4	b;Ns	2009-06-22-13:11:55	2009-06-22-13:41:55
NGC4496	0.005774	5200854.1	187.92042	3.92631	IRCZ4	b;Ns	2009-06-26-16:00:37	2009-06-26-16:30:37
NGC4552	0.001134	1422169.2	188.91617	12.55608	IRCZ4	b;Ns	2009-12-24-14:03:37	2009-12-24-14:33:37
		1422169.3	188.91617	12.55608	IRCZ4	b;Ns	2009-12-24-22:17:55	2009-12-24-22:47:55
		1422169.1	188.91617	12.55608	IRCZ4	b;Ns	2009-12-24-12:24:45	2009-12-24-12:54:45
NGC4569	-0.000784	1420458.2	189.20754	13.16297	IRCZ4	b;Ns	2008-06-24-15:53:11	2008-06-24-16:23:11
		1420458.1	189.20754	13.16297	IRCZ4	b;Ns	2008-06-24-10:56:38	2008-06-24-11:26:38
		1422174.1	189.21204	13.17453	IRCZ4	b;Ns	2009-12-24-23:56:35	2009-12-25-00:26:35
		1422174.3	189.21204	13.17453	IRCZ4	b;Ns	2009-12-25-03:14:19	2009-12-25-03:44:19
		1422174.2	189.21204	13.17453	IRCZ4	b;Ns	2009-12-25-01:35:27	2009-12-25-02:05:27
NGC4579	0.00506	1420472.2	189.43087	11.81822	IRCZ4	b;Nh	2009-06-25-10:23:32	2009-06-25-10:53:32
		1420472.1	189.43087	11.81822	IRCZ4	b;Nh	2009-06-25-05:27:00	2009-06-25-05:57:00
		1422170.3	189.43108	11.81811	IRCZ4	b;Ns	2009-12-25-14:46:37	2009-12-25-15:16:37
		1422170.1	189.43108	11.81811	IRCZ4	b;Ns	2009-12-25-11:28:54	2009-12-25-11:58:54
		1422170.2	189.43108	11.81811	IRCZ4	b;Ns	2009-12-25-13:07:46	2009-12-25-13:37:46
NGC4594	0.003416	1422171.1	189.99796	-11.62242	IRCZ4	b;Ns	2010-01-04-12:08:20	2010-01-04-12:38:20
		1422171.2	189.99796	-11.62242	IRCZ4	b;Ns	2010-01-04-13:47:12	2010-01-04-14:17:12
NGC4618	0.001815	5200858.1	190.38708	41.15092	IRCZ4	b;Ns	2009-06-09-05:42:57	2009-06-09-06:12:57
		5200858.2	190.38708	41.15092	IRCZ4	b;Ns	2009-06-09-12:18:20	2009-06-09-12:48:20
		5201409.2	190.38708	41.15092	IRCZ4	b;Ns	2009-12-11-12:52:57	2009-12-11-13:22:57
		5201409.1	190.38708	41.15092	IRCZ4	b;Ns	2009-12-11-04:38:41	2009-12-11-05:08:41
NGC4636	0.003129	1422238.1	190.7075	2.68778	IRCZ4	b;Ns	2009-12-30-00:15:51	2009-12-30-00:45:51
		1422238.2	190.7075	2.68778	IRCZ4	b;Ns	2009-12-30-01:54:43	2009-12-30-02:24:43
		1422238.3	190.7075	2.68778	IRCZ4	b;Ns	2009-12-30-03:33:35	2009-12-30-04:03:35
		1420078.1	190.70779	2.68778	IRCZ4	b;Ns	2008-06-29-09:31:29	2008-06-29-10:01:29
		1420079.1	190.70779	2.68778	IRCZ4	b;Ns	2008-06-29-11:10:20	2008-06-29-11:40:20
NGC4670	0.003566	1420307.1	191.32125	27.125	IRCZ4	b;Ns	2008-06-18-14:57:56	2008-06-18-15:27:56
		1421307.1	191.32142	27.1255	IRCZ4	b;Ns	2008-12-20-12:36:49	2008-12-20-13:06:49
NGC4689	0.00539	5200862.1	191.93996	13.76258	IRCZ4	b;Ns	2009-06-27-01:56:36	2009-06-27-02:26:36
NGC4697	0.00414	1420098.1	192.14962	-5.80086	IRCZ4	b;Ns	2008-07-06-01:18:08	2008-07-06-01:48:08
NGC4696	0.009867	1420080.1	192.20533	-41.31111	IRCZ4	b;Ns	2008-07-20-12:47:06	2008-07-20-13:17:06
		1420081.1	192.20533	-41.31111	IRCZ4	b;Ns	2008-07-20-14:25:57	2008-07-20-14:55:57

NGC4736	0.001027	1420445.2	192.70567	41.12269	IRCZ4	b;Ns	2008-12-12-13:24:54	2008-12-12-13:54:54		
		1420445.1	192.70567	41.12269	IRCZ4	b;Ns	2008-12-12-11:46:02	2008-12-12-12:16:02		
		1420444.1	192.72012	41.12014	IRCZ4	b;Ns	2008-06-12-12:23:38	2008-06-12-12:53:38		
		1420444.2	192.72012	41.12014	IRCZ4	b;Ns	2008-06-12-14:02:29	2008-06-12-14:32:29		
		1422152.1	192.72237	41.12083	IRCZ4	b;Ns	2009-12-12-11:56:46	2009-12-12-12:26:46		
		1420446.2	192.73579	41.11703	IRCZ4	b;Ns	2008-12-12-15:03:46	2008-12-12-15:33:46		
		1420446.1	192.73579	41.11703	IRCZ4	b;Ns	2008-06-12-15:41:20	2008-06-12-16:11:20		
NGC4826	0.001361	1422176.1	194.17208	21.68803	IRCZ4	b;Ns	2009-12-26-13:47:41	2009-12-26-14:17:41		
		1422173.3	194.18108	21.68233	IRCZ4	b;Ns	2009-12-26-12:08:50	2009-12-26-12:38:50		
		1422173.1	194.18108	21.68233	IRCZ4	b;Ns	2009-12-26-00:36:48	2009-12-26-01:06:48		
		1422173.2	194.18108	21.68233	IRCZ4	b;Ns	2009-12-26-02:15:40	2009-12-26-02:45:40		
MRK59	0.002616	1420319.1	194.75142	34.84586	IRCZ4	b;Ns	2008-06-17-12:38:33	2008-06-17-13:08:33		
		1420319.2	194.75142	34.84586	IRCZ4	b;Ns	2008-06-17-14:17:24	2008-06-17-14:47:24		
NGC5018	0.009393	1420082.1	198.25413	-19.51808	IRCZ4	b;Ns	2008-07-15-15:54:36	2008-07-15-16:24:36		
		1420083.1	198.25413	-19.51808	IRCZ4	b;Ns	2008-07-16-01:47:43	2008-07-16-02:17:43		
		1422240.1	198.25417	-19.51806	IRCZ4	b;Ns	2010-01-15-00:15:00	2010-01-15-00:45:00		
		1422240.2	198.25417	-19.51806	IRCZ4	b;Ns	2010-01-15-01:53:51	2010-01-15-02:23:51		
		1422240.3	198.25417	-19.51806	IRCZ4	b;Ns	2010-01-15-03:32:43	2010-01-15-04:02:43		
NGC5044	0.00928	1420086.1	198.85	-16.38553	IRCZ4	b;Ns	2008-07-15-12:37:45	2008-07-15-13:07:45		
		1420087.1	198.85	-16.38553	IRCZ4	b;Ns	2008-07-15-14:16:36	2008-07-15-14:46:36		
NGC5055	0.001614	1422178.1	198.95612	42.02981	IRCZ4	b;Ns	2009-12-19-03:45:20	2009-12-19-04:15:20		
Cen_A	0.001825	1422195.1	201.36508	-43.01911	IRCZ4	b;Ns	2010-01-26-21:23:06	2010-01-26-21:53:06		
		1420102.1	201.36508	-43.01911	IRCZ4	b;Ns	2008-07-29-06:01:51	2008-07-29-06:31:51		
		1420103.1	201.36508	-43.01911	IRCZ4	b;Ns	2008-07-29-10:58:25	2008-07-29-11:28:25		
		1422195.2	201.36508	-43.01911	IRCZ4	b;Ns	2010-01-26-23:01:57	2010-01-26-23:31:57		
		1422195.3	201.36508	-43.01911	IRCZ4	b;Ns	2010-01-27-00:40:49	2010-01-27-01:10:49		
NGC5147	0.003629	5200864.2	201.58254	2.10106	IRCZ4	b;Ns	2009-07-10-16:06:23	2009-07-10-16:36:23		
		5200864.1	201.58254	2.10106	IRCZ4	b;Ns	2009-07-10-14:27:32	2009-07-10-14:57:32		
		M51	0.002	1400388.1	202.44734	47.22706	IRC04	b;Ns	2006-12-17-17:30:26	2006-12-17-18:00:26
NGC5236	0.001711	1420415.2	204.25383	-29.86542	IRCZ4	b;Ns	2009-07-26-02:39:11	2009-07-26-03:09:11		
		1420415.1	204.25383	-29.86542	IRCZ4	b;Ns	2009-07-26-01:00:20	2009-07-26-01:30:20		
NGC5248	0.003839	5200514.2	204.38333	8.88556	IRCZ4	b;Ns	2009-01-08-16:23:22	2009-01-08-16:53:22		
		5200514.1	204.38333	8.88556	IRCZ4	b;Ns	2009-01-08-14:44:30	2009-01-08-15:14:30		
NGC5253	0.001358	1420429.2	204.98283	-31.64019	IRCZ4	b;Ns	2008-07-27-06:18:17	2008-07-27-06:48:17		
		1420429.1	204.98283	-31.64019	IRCZ4	b;Ns	2008-07-27-04:39:25	2008-07-27-05:09:25		
		1422153.1	204.98337	-31.64006	IRCZ4	b;Ns	2010-01-24-11:39:53	2010-01-24-12:09:53		
		1422153.2	204.98337	-31.64006	IRCZ4	b;Ns	2010-01-24-21:33:02	2010-01-24-22:03:02		
		1422153.3	204.98337	-31.64006	IRCZ4	b;Ns	2010-01-24-23:11:54	2010-01-24-23:41:54		
NGC5273	0.003619	5200866.1	205.53504	35.65414	IRCZ4	b;Ns	2009-06-28-15:56:58	2009-06-28-16:26:58		
		Cen_B	0.012916	1420105.1	206.70433	-60.40817	IRCZ4	b;Ns	2008-08-13-00:11:38	2008-08-13-00:41:38
NGC5322	0.005937	1420104.1	206.70433	-60.40817	IRCZ4	b;Ns	2008-08-12-11:00:48	2008-08-12-11:30:48		
		1420118.1	207.31333	60.19042	IRCZ4	b;Ns	2008-06-03-20:53:51	2008-06-03-21:23:51		
		1420119.1	207.31333	60.19042	IRCZ4	b;Ns	2008-06-04-00:11:34	2008-06-04-00:41:34		
NGC5353	0.007755	5201418.1	208.36104	40.28283	IRCZ4	b;Ns	2009-12-27-01:13:39	2009-12-27-01:43:39		
NGC5371	0.008533	5200869.1	208.91629	40.46144	IRCZ4	b;Ns	2009-06-29-15:02:20	2009-06-29-15:32:20		
NGC5363	0.003799	5200517.2	209.02917	5.25528	IRCZ4	b;Ns	2009-01-15-13:10:15	2009-01-15-13:40:15		
		5200517.1	209.02917	5.25528	IRCZ4	b;Ns	2009-01-14-15:45:01	2009-01-14-16:15:01		
		5200868.1	209.03017	5.25486	IRCZ4	b;Ns	2009-07-18-13:35:23	2009-07-18-14:05:23		
		SDSSJ135950.7+381056	nan	1380065.1	209.9615	38.18228	IRCZ4	b;Ns	2008-07-01-16:04:29	2008-07-01-16:34:29
		1380065.2	209.9615	38.18228	IRCZ4	b;Ns	2009-06-30-04:12:41	2009-06-30-04:42:41		
1380065.3	209.9615	38.18228	IRCZ4	b;Ns	2009-06-30-05:51:32	2009-06-30-06:21:32				

NGC5430	0.009877	1380065.4	209.9615	38.18228	IRCZ4	b;Ns	2009-06-30-10:48:04	2009-06-30-11:18:04
		1420373.2	210.19063	59.32869	IRCZ4	b;Ns	2008-06-04-19:57:57	2008-06-04-20:27:57
		1420373.1	210.19063	59.32869	IRCZ4	b;Ns	2008-06-04-18:19:06	2008-06-04-18:49:06
		1420374.2	210.197	59.32426	IRCZ4	b;Ns	2008-06-05-14:05:19	2008-06-05-14:35:19
NGC5457	0.000804	1420374.1	210.197	59.32426	IRCZ4	b;Ns	2008-06-05-12:26:28	2008-06-05-12:56:28
		1420389.1	210.80246	54.34908	IRCZ4	b;Ns	2008-06-13-13:11:16	2008-06-13-13:41:16
		1420389.2	210.80246	54.34908	IRCZ4	b;Ns	2008-06-13-14:50:07	2008-06-13-15:20:07
		1420390.1	211.1209	54.39691	IRCZ4	b;Ns	2008-06-15-22:51:09	2008-06-15-23:21:09
Circinus_Galaxy	0.001448	5125033.1	213.29129	-65.33903	IRC04	b;Ns	2007-08-23-05:40:07	2007-08-23-06:10:07
NGC5669	0.004563	5200872.2	218.18458	9.89214	IRCZ4	b;Ns	2009-07-25-05:25:41	2009-07-25-05:55:41
		5200872.1	218.18458	9.89214	IRCZ4	b;Ns	2009-07-24-14:36:03	2009-07-24-15:06:03
NGC5668	0.00526	5201422.1	218.35158	4.45083	IRCZ4	b;Ns	2010-01-25-12:12:15	2010-01-25-12:42:15
		5200871.2	218.35158	4.45083	IRCZ4	b;Ns	2009-07-26-14:21:15	2009-07-26-14:51:15
		5200871.1	218.35158	4.45083	IRCZ4	b;Ns	2009-07-26-12:42:24	2009-07-26-13:12:24
NGC5746	0.005751	5200873.1	221.23333	1.95528	IRCZ4	b;Ns	2009-07-31-16:15:37	2009-07-31-16:45:37
NGC5813	0.006525	5200069.2	225.29625	1.70222	IRCZ4	b;Ns	2008-08-03-14:45:59	2008-08-03-15:15:59
		5200069.1	225.29625	1.70222	IRCZ4	b;Ns	2008-08-03-13:07:08	2008-08-03-13:37:08
NGC5953	0.006555	1420416.1	233.63333	15.19419	IRCZ4	b;Ns	2008-08-08-03:34:33	2008-08-08-04:04:33
		1420416.2	233.63333	15.19419	IRCZ4	b;Ns	2009-02-05-23:10:43	2009-02-05-23:40:43
NGC6052	0.015808	1402684.1	241.30375	20.54222	IRC04	b;Ns	2007-08-17-04:07:25	2007-08-17-04:37:25
NGC6340	0.003996	5200307.1	257.60667	72.30583	IRCZ4	b;Ns	2008-10-23-00:29:54	2008-10-23-00:59:54
		5200307.2	257.60667	72.30583	IRCZ4	b;Ns	2008-10-25-00:16:53	2008-10-25-00:46:53
IC4662	0.001007	5126484.1	266.7675	-64.62344	IRCZ4	b;Nh	2008-03-17-13:42:08	2008-03-17-14:12:08
		5126484.2	266.7675	-64.62344	IRCZ4	b;Nh	2008-03-18-01:14:10	2008-03-18-01:44:10
		1420375.1	266.7675	-64.62344	IRCZ4	b;Ns	2008-09-20-07:34:34	2008-09-20-08:04:34
		1402643.1	266.7675	-64.62344	IRC64	b;Ns	2007-09-22-00:35:51	2007-09-22-01:05:51
		5126485.1	266.77417	-64.64375	IRCZ4	b;Nh	2008-03-19-15:07:59	2008-03-19-15:37:59
		5126485.2	266.77417	-64.64375	IRCZ4	b;Nh	2008-03-19-16:46:51	2008-03-19-17:16:51
		5126483.2	266.775	-64.64031	IRCZ4	b;Nh	2008-03-19-13:29:07	2008-03-19-13:59:07
		5126483.1	266.775	-64.64031	IRCZ4	b;Nh	2008-03-19-01:57:05	2008-03-19-02:27:05
		5126486.1	266.78125	-64.65436	IRCZ4	b;Nh	2008-03-18-22:39:22	2008-03-18-23:09:22
		1420376.2	266.788	-64.638	IRCZ4	b;Ns	2008-09-20-10:52:17	2008-09-20-11:22:17
		1420376.1	266.788	-64.638	IRCZ4	b;Ns	2008-09-20-09:13:25	2008-09-20-09:43:25
NGC6482	0.013129	5200686.2	267.95375	23.07194	IRCZ4	b;Ns	2009-03-17-12:09:51	2009-03-17-12:39:51
		5200686.1	267.95375	23.07194	IRCZ4	b;Ns	2009-03-16-16:23:34	2009-03-16-16:53:34
NGC6500	0.010017	1420377.2	269.0	18.33824	IRCZ4	b;Ns	2009-03-19-16:54:33	2009-03-19-17:24:33
		1420377.1	269.0	18.33824	IRCZ4	b;Ns	2009-03-19-15:15:42	2009-03-19-15:45:42
		1402645.1	269.0	18.33824	IRC64	b;Ns	2007-09-22-02:38:19	2007-09-22-03:08:19
NGC6621	0.020652	5200047.3	273.23079	68.36339	IRCZ4	b;Nh	2008-07-30-18:50:31	2008-07-30-19:20:31
		5200047.2	273.23079	68.36339	IRCZ4	b;Nh	2008-07-30-17:11:40	2008-07-30-17:41:40
		5200047.1	273.23079	68.36339	IRCZ4	b;Nh	2008-07-29-16:28:51	2008-07-29-16:58:51
NGC6689	0.001558	5200687.1	278.70875	70.52417	IRCZ4	b;Ns	2009-02-04-10:38:49	2009-02-04-11:08:49
		5200687.2	278.70875	70.52417	IRCZ4	b;Ns	2009-02-04-13:56:33	2009-02-04-14:26:33
NGC6703	0.007915	5200256.1	281.82833	45.55056	IRCZ4	b;Ns	2008-10-13-14:37:56	2008-10-13-15:07:56
		5200256.2	281.82833	45.55056	IRCZ4	b;Ns	2008-10-14-10:24:16	2008-10-14-10:54:16
		5200308.1	281.82833	45.55056	IRCZ4	b;Ns	2008-10-14-07:06:33	2008-10-14-07:36:33
NGC6764	0.008059	5200308.2	281.82833	45.55056	IRCZ4	b;Ns	2008-10-14-16:59:42	2008-10-14-17:29:42
		5126738.2	287.05125	50.93036	IRCZ4	b;Ns	2008-04-28-02:00:31	2008-04-28-02:30:31
		5126738.1	287.05125	50.93036	IRCZ4	b;Ns	2008-04-27-21:03:57	2008-04-27-21:33:57
		5126737.2	287.06667	50.93322	IRCZ4	b;Ns	2008-04-27-19:25:05	2008-04-27-19:55:05
		5126737.1	287.06667	50.93322	IRCZ4	b;Ns	2008-04-27-17:46:14	2008-04-27-18:16:14

IC4870	0.002919	5125432.1	287.06667	50.93322	IRC64	b;Ns	2007-10-31-02:19:10	2007-10-31-02:49:10
		1420378.1	287.06838	50.93325	IRCZ4	b;Ns	2009-04-24-21:02:04	2009-04-24-21:32:04
		5126736.2	294.40417	-65.81139	IRCZ4	b;Ns	2008-04-03-17:37:52	2008-04-03-18:07:52
		5126736.1	294.40417	-65.81139	IRCZ4	b;Ns	2008-04-03-02:48:07	2008-04-03-03:18:07
NGC6946	0.000133	1420380.1	294.40667	-65.81183	IRCZ4	b;Ns	2008-10-05-06:45:12	2008-10-05-07:15:12
		1420443.2	308.71354	60.16083	IRCZ4	b;Ns	2009-06-18-02:32:37	2009-06-18-03:02:37
		1420443.1	308.71354	60.16083	IRCZ4	b;Ns	2009-06-18-00:53:46	2009-06-18-01:23:46
		1420440.1	308.718	60.15411	IRCZ4	b;Nh	2009-06-17-13:21:50	2009-06-17-13:51:50
NGC6951	0.00475	1420440.2	308.718	60.15411	IRCZ4	b;Nh	2009-06-17-15:00:41	2009-06-17-15:30:41
		1400371.1	309.32429	66.10319	IRC04	b;Ns	2007-01-06-05:31:27	2007-01-06-06:01:27
NGC7052	0.015584	1422242.1	319.6375	26.44694	IRCZ4	b;Ns	2009-11-24-10:09:37	2009-11-24-10:39:37
		5126750.2	319.63771	26.44692	IRCZ4	b;Ns	2008-05-23-15:03:20	2008-05-23-15:33:20
		5126750.1	319.63771	26.44692	IRCZ4	b;Ns	2008-05-23-11:45:37	2008-05-23-12:15:37
		1420092.1	319.63771	26.44692	IRCZ4	b;Ns	2009-05-23-12:11:20	2009-05-23-12:41:20
NGC7080	0.016141	1420093.1	319.63771	26.44692	IRCZ4	b;Ns	2009-05-23-13:50:10	2009-05-23-14:20:10
		5125440.1	319.63771	26.44692	IRC64	b;Ns	2007-11-25-05:58:42	2007-11-25-06:28:42
		5200795.2	322.50792	26.71797	IRCZ4	b;Ns	2009-05-25-21:51:14	2009-05-25-22:21:14
		5200795.1	322.50792	26.71797	IRCZ4	b;Ns	2009-05-25-20:12:23	2009-05-25-20:42:23
HCG_92	0.0215	3221001.1	339.01362	33.94786	IRC04	b;Ns	2007-06-18-03:51:01	2007-06-18-04:21:01
IC1459	0.006011	5126788.1	344.29417	-36.46222	IRCZ4	b;Ns	2008-05-21-15:35:00	2008-05-21-16:05:00
		1420094.1	344.29417	-36.46222	IRCZ4	b;Ns	2008-11-22-06:34:19	2008-11-22-07:04:19
		5125441.1	344.29417	-36.46222	IRC64	b;Ns	2007-11-23-10:32:23	2007-11-23-11:02:23
		1420095.1	344.29417	-36.46222	IRCZ4	b;Ns	2009-05-20-16:56:58	2009-05-20-17:26:58
NGC7582	0.005254	5126748.2	349.58875	-42.35378	IRCZ4	b;Ns	2008-05-23-18:41:24	2008-05-23-19:11:24
		5126748.1	349.58875	-42.35378	IRCZ4	b;Ns	2008-05-23-17:02:32	2008-05-23-17:32:32
		1420383.2	349.58875	-42.35378	IRCZ4	b;Ns	2009-05-23-17:28:14	2009-05-23-17:58:14
		1420383.1	349.58875	-42.35378	IRCZ4	b;Ns	2009-05-23-02:38:35	2009-05-23-03:08:35
		5125437.1	349.6	-42.37056	IRC64	b;Ns	2007-11-25-02:19:08	2007-11-25-02:49:08
		5126747.2	349.6	-42.37056	IRCZ4	b;Ns	2008-05-23-13:44:50	2008-05-23-14:14:50
		5126747.1	349.6	-42.37056	IRCZ4	b;Ns	2008-05-22-22:55:11	2008-05-22-23:25:11
		5126749.1	349.60708	-42.38353	IRCZ4	b;Ns	2008-05-22-19:37:29	2008-05-22-20:07:29
NGC7714	0.009333	5126749.2	349.60708	-42.38353	IRCZ4	b;Ns	2008-05-22-21:16:20	2008-05-22-21:46:20
		1420418.1	354.05833	2.15514	IRCZ4	b;Ns	2008-06-16-14:12:35	2008-06-16-14:42:35
		1421418.1	354.05833	2.15514	IRCZ4	b;Nh	2008-12-16-10:43:32	2008-12-16-11:13:32
		1420386.1	354.97446	-12.293	IRCZ4	b;Ns	2008-12-11-10:22:38	2008-12-11-10:52:38
NGC7727	0.006231	5200874.1	355.97358	26.07583	IRCZ4	b;Ns	2009-06-29-18:49:20	2009-06-29-19:19:20
NGC7741	0.002502	5200875.1	356.06571	10.76731	IRCZ4	b;Ns	2009-06-22-17:11:56	2009-06-22-17:41:56
NGC7742	0.005547	1420419.1	357.86129	20.58664	IRCZ4	b;Ns	2008-06-29-00:20:33	2008-06-29-00:50:33
MRK331	0.018483	1421419.1	357.86167	20.58608	IRCZ4	b;Ns	2008-12-28-04:33:44	2008-12-28-05:03:44
NGC7798	0.008016	5200527.1	359.85625	20.74972	IRCZ4	b;Ns	2008-12-29-00:19:57	2008-12-29-00:49:57
		5200527.2	359.85625	20.74972	IRCZ4	b;Ns	2008-12-29-01:58:48	2008-12-29-02:28:48
		5200876.1	359.8565	20.75006	IRCZ4	b;Ns	2009-06-30-16:16:05	2009-06-30-16:46:05
		5200876.2	359.8565	20.75006	IRCZ4	b;Ns	2009-06-30-17:54:56	2009-06-30-18:24:56

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