

A Catalog of Extragalactic Planetary Nebulae

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Abstract. We are preparing a catalog of extragalactic planetary nebulae. The current number of entries is ~8,000 objects, with the largest samples coming from the Local Group (SMC, LMC, M33, and M31), but with representation from over 55 galaxies. The catalog is expected to be complete in late 2007.

Keywords. catalog, galaxies, SMC, LMC, M31

The discovery of new extragalactic planetary nebulae has been accelerating with the availability of large format CCD imagers and new instruments such as the PN Spectrograph (Douglas *et al.* (2002)). However, there is no catalog, as there is for Galactic PN (Acker *et al.* (1992)), to provide a uniform system for names and coordinates. The situation is nearly chaotic, with about 8,000 PNe now known in 55 galaxies and several galaxy clusters. The proposed extragalactic PN catalog serves a role that is analogous to the Galactic catalog, to bring order to current and future PN identifications.

About half of the samples come from the Local Group (SMC, LMC, M33, and M31), and at this time, the SMC catalog is complete, with a draft version available on-line at:

<http://www.noao.edu/wiyn/jacoby/pncat/smc-pn.htm>

The LMC catalog, along with most of the distant galaxies, will be completed in the summer of 2006 in collaboration with Quentin Parker. M31 will follow a year later.

The catalog uses a naming convention following IAU guidelines, and lists aliases to common names in the literature. Coordinates are given in J2000, along with: discoverer and the original coordinates, [OIII] and H β fluxes, systemic and expansion velocity, diameter, central star magnitude and type, and references in the literature. As an electronic catalog hosted by the Centre de Données Astronomiques de Strasbourg (CDS), new identifications can be added as they arise, and mis-identifications can be deleted easily. Observers are asked to send us their discoveries to be included in the catalog.

The selection of the most appropriate naming convention proved to be a controversial task. We adopted a naming convention of the form:

PNE N3031 Jhhmmss.ss+ddmmss.ss

and has the following positive features:

- (a) it parallels the scheme used for the Galactic catalog (PN Glll.l+bb.b)
- (b) it is consistent with IAU conventions
- (c) it is self-documenting and unique; it derives from accurate epoch 2000 coordinates
- (d) because names are unique, no catalog maintenance is required to extend or delete entries, and there are no collisions with new objects

Index	Name	Ref_Name	OtherNames	Status	RA_DISC	DEC_DISC	Disc_ref
1	PNE SMC J000843.10-760011.00	M95	M-1	True	00:08:43.1	-76:00:11	M95
2	PNE SMC J002332.80-745232.00	MG85	MG-1	True	00:23:32.8	-74:52:32	MG85
3	PNE SMC J002358.67-733803.80	SO3a	SMP-1, N-1, Ln-2	True	00:24:05	-73:37	H56
4	PNE SMC J002645.00-741200.00	SP81	SP-29, Ln-3	True	00:26:8	-74:12:11	L61
5	PNE SMC J002920.90-721407.00	MG85	MG-3	True	00:29:20.9	-72:14:07	MG85
6	PNE SMC J003238.20-714156.00	MB00	SMP-2, N-2, Ln-14, MB-3	True	00:32:35	-71:41	H56
7	PNE SMC J003421.90-731320.80	MB00	SMP-3, N-4, Ln-16, MB-5	True	00:34:25	-73:13	H56
8	PNE SMC J004036.60-732546.00	MA93	MA-14	True	00:40:36.6	-73:25:46	MA93
9	PNE SMC J004045.90-751616.00	MB00	SMP-4, MB-9	True	00:40:43	-75:17	SMP78
10	PNE SMC J004054.40-704135.00	MG85	MG-4	True	00:40:54.43	-70:41:34.90	MG85
11	PNE SMC J004109.30-730647.00	MA93	MA-22	True	00:41:09.3	-73:06:47	MA93
12	PNE SMC J004121.70-724517.00	MA93	SMP-5, N-5, Ln-32, MA-23, MB-10	True	00:41:20	-72:45	H56
13	PNE SMC J004127.30-750252.00	MG85	MG-5	True	00:41:27.27	-75:02:52.38	MG85
14	PNE SMC J004127.52-734706.20	SO3a	SMP-6, N-6, Ln-33, MA-29, MB-11	True	00:41:29	-73:46	H56
15	PNE SMC J004227.90-732056.80	JD02	SMP-7, J-1, MA-39, MB-13	True	00:42:32.39	-73:20:47.32	SMP78
16	PNE SMC J004309.50-730804.70	JD02	MA-44	True	00:43:09.3	-73:08:02	MA93
17	PNE SMC J004325.17-723818.90	SO3a	SMP-8, N7, Ln-43, MA-49, MB-17	True	00:43:24	-72:38	H56
18	PNE SMC J004336.50-730227.20	JD02	N-9, Ln-45, MA-54, DEM-9, MB-15	True	00:43:35	-73:03	H56
19	PNE SMC J004425.50-735140.00	MA93	MG-6, MA-73	True	00:44:25.6	-73:51:40	MG85
20	PNE SMC J004509.30-732032.40	JD02	J-2	True	00:45:09.87	-73:20:32.30	J80
21	PNE SMC J004511.70-731858.20	JD02	JD02-1	True	00:45:11.7	-73:18:58.2	JD02
22	PNE SMC J004520.66-732410.50	SO3a	SMP-9, Ln-66, J-3, MA-98	True	00:45:17	-73:24:41	L61
23	PNE SMC J004527.30-734215.30	SO3a	L-71, J-4, MA-104, MB-24	True	00:45:28	-73:42:29	L61
24	PNE SMC J004536.50-732403.90	JD02	JD02-2	True	00:45:36.5	-73:24:03.9	JD02
25	PNE SMC J004602.20-740837.00	M95	M-2	True	00:46:02.2	-74:08:37	M95
26	PNE SMC J004638.40-732526.90	JD02	JD02-3	True	00:46:38.4	-73:25:26.9	JD02
27	PNE SMC J004659.50-724916.10	JD02	SMP-10, N-18, Ln-83, MA-152	True	00:47:02	-72:50	H56
28	PNE SMC J004716.50-731112.90	JD02	JD02-4	True	00:47:16.5	-73:11:12.9	JD02
29	PNE SMC J004721.70-723044.00	JD04	JD04-1	Prob	00:47:21.7	-72:30:44.0	JD04
30	PNE SMC J004740.00-723900.50	JD02	JD02-5	True	00:47:40.0	-72:39:00.5	JD02
31	PNE SMC J004742.40-744816.00	MG85	MG-7	True	00:47:42.4	-74:48:16	MG85
32	PNE SMC J004743.90-722203.00	JD04	JD04-2	Prob	00:47:43.9	-72:22:03.0	JD04
33	PNE SMC J004758.20-725613.30	JD02	J-6	True	00:47:58.63	-72:56:12.3	J80
34	PNE SMC J004808.50-731454.00	MA93	MA-206, N-26, Ln-107, DEM-38	True	00:48:12	-73:15	H56
35	PNE SMC J004825.90-730557.00	MA93	MA-226	True	00:48:25.9	-73:05:57	MA93
36	PNE SMC J004836.61-725890.10	SO3a	SMP-11, N-29, Ln-115, J-8, MA-241, MB-54	True	00:48:36	-72:58	H56

Figure 1. Sample of the first 36 entries in the SMC catalog with half the columns shown.

The disadvantage of the scheme is that names are lengthy and unattractive. The name may include the host galaxy when known, or, for intracluster PN, the galaxy cluster.

References

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