

Interoffice

National Radio Astronomy Observatory

Charlottesville, Virginia

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To: Scientific Staff

From: F. N. Owen

Subject: Zwicky Catalogue of Galaxies and Clusters of Galaxies on Magnetic Tape

Zwicky's Catalogue of Galaxies and Clusters of Galaxies is now available on magnetic tape to the scientific staff. The catalogue is recorded in the form of card images on two 9 track, 1600 BPI magnetic tapes: one containing the clusters of galaxies and the other, the galaxies.

The catalogue was originally punched by M. E. Collins at the University of Texas. Most of the editing and sorting was performed during the last few months at NRAO by Bill LeMasters.

Zwicky Clusters of Galaxies:

Tape number 2160 contains 9117 Zwicky clusters of galaxies in order of right ascension. The format is as follows (also see Figure 1)

Col. 1-6: Right ascension (1950.0)
Col. 8-13: Declination (1950.0)
Col. 16-17: Cluster type
Col. 30-33: Cluster population
Col. 44-48: Cluster size
Col. 51-52: Distance class

Zwicky Galaxies:

Tape number 2163 contains 27801 Zwicky galaxies in order of right ascension. The format is as follows (see Figure 2)

Col. 1-7: Right ascension (1950.0)
Col. 8-15: Declination (1950.0)
Col. 16-20: NGC or IC number, * indicates an IC number.

Note: The NGC and IC numbers have not been included for most of the galaxies but could be added at a later date.

Col. 23-26: Zwicky's estimate of the photographic magnitude.
Col. 37-41: The measured velocity of each galaxy, if known, in km/sec.
Col. 51-52: Abbreviations of some of the notes included in Zwicky's original catalogue. One should be careful in using the notes on the tape without checking the original catalogue. Some of the abbreviations used are ambiguous and some of Zwicky's notes are not included at all.

Figures 1 and 2 show examples of the card images on each tape. The meanings of the abbreviations used should be easily interpreted by referring to the original catalogue.

Figure 3 gives an example of the JCL necessary to access either of the tapes.

I would appreciate hearing about any difficulties in use of these tapes and/or any errors found.

Figure 1: Example of Card Images of Zwicky Clusters of galaxies

1135.7	21	0.	O	109	2.0	ED
1135.9	65	10.	O	109	2.3	ED
1136.0	83	41.	MC	77	2.1	VD
1136.1	63	53.	C	64	1.7	VD
1136.2	22	43.	MC	71	1.3	VD
1136.3	41	52.	MC	120	1.8	ED
1136.3	17	18.	MC	121	2.5	MD
1136.5	21	38.	C	85	0.8	ED
1136.6	29	49.	O	150	3.9	D
1136.6	31	54.	C	107	2.2	D
1136.7	69	50.	MC	96	4.5	MD
1136.3	10	26.	C	103	1.1	ED
1136.3	12	8.	O	154	3.5	D
1136.9	50	7.	C	77	1.1	VD
1137.0	36	1.	MC	71	1.1	VD
1137.1	42	55.	O	118	2.6	D
1137.3	67	7.	O	62	1.5	ED
1137.3	11	1.	MC	86	1.8	MD
1137.4	68	42.	O	105	4.0	D
1137.4	60	28.	O	159	3.8	D
1137.4	14	43.	MC	60	1.1	ED
1137.5	51	28.	MC	125	2.4	ED
1137.5	57	59.	O	94	1.9	ED
1137.5	43	56.	MC	104	2.8	MD
1137.6	39	22.	C	81	2.2	ED
1137.7	25	5.	MC	116	1.6	VD
1137.8	60	55.	O	141	3.8	MD
1137.3	44	25.	MC	92	1.8	VD
1137.8	53	6.	C	80	1.2	ED
1137.8	13	38.	MC	269	3.5	MD
1137.9	45	5.	MC	120	4.6	MD
1138.0	10	40.	C	136	2.1	D
1138.1	39	41.	MC	53	1.1	VD
1138.1	42	15.	MC	96	1.7	ED
1138.2	25	44.	MC	88	1.5	ED
1138.3	10	24.	MC	138	6.0	N
1138.4	63	22.	MC	105	1.9	ED
1138.4	39	56.	C	119	1.8	ED
1138.5	45	1.	C	102	1.7	VD
1138.5	41	16.	MC	67	1.5	ED
1138.6	59	17.	O	122	1.8	ED
1138.6	63	5.	O	165	8.4	MD
1138.6	11	2.	C	125	1.5	D
1138.6	15	26.	MC	84	1.2	ED
1138.7	56	50.	MC	2690	49.2	N
1138.7	25	15.	C	70	0.6	ED
1138.7	56	40.	MC	88	1.7	D
1138.7	5	56.	MC	310	4.5	MD
1138.7	14	57.	MC	103	2.3	D
1138.8	0	55.	C	48	0.5	ED
1139.0	13	9.	MC	77	1.6	VD
1139.2	25	0.	MC	127	1.6	VD
1139.3	55	44.	C	148	3.8	D
1139.5	49	48.	C	58	1.0	ED
1139.5	25	22.	C	91	1.1	VD
1139.6	73	17.	O	138	2.8	VD
1139.6	28	59.	MC	156	4.2	D
1139.6	8	20.	MC	205	4.0	MD
1139.6	12	13.	O	137	2.4	D
1139.6	13	22.	O	91	2.5	MD
1139.7	74	23.	MC	93	3.6	D
1139.7	59	34.	C	51	0.8	ED
1139.7	22	5.	C	147	2.3	D
1139.7	10	27.	C	96	1.2	VD
1139.7	10	41.	C	139	1.5	VD
1139.8	59	50.	C	177	2.0	ED
1139.8	22	44.	MC	79	1.5	VD

Figure 2: Example of Card Images of Zwicky Galaxies

1228.30	07	11	13.7		
1228.30	17	02	13.2		
1228.30	11	37	15.5		
1228.30	12	40	10.4	1243	
1228.30	57	35	15.3		
1228.30	03	38	13.8		
1228.40	11	46	13.7		
1228.40	12	33	11.2		VC
1228.40	03	46	15.2		C
1228.40	57	34	14.9		
1228.40	08	21	14.1	1735	
1228.50	01	57	15.6		D
1228.50-02	04		15.5		C
1228.60	04	52	15.4		
1228.60	00	44	15.7		D
1228.60	00	53	14.9		
1228.70	52	42	15.7		
1228.70	05	21	15.4		
1228.70	36	53	15.3		
1228.80-03	23		15.4		
1228.80	12	36	15.6		
1228.80	11	46	15.3		
1228.90	14	24	15.4		
1228.90	29	25	14.1		
1228.90	26	03	10.7	1318	
1229.00	53	15	13.2	4500	
1229.00	15	08	15.2		
1229.00	11	54	13.8		
1229.10	17	08	12.8		
1229.10	27	47	15.7		
1229.10	04	13	13.3		
1229.10	38	15	15.2		
1229.20	20	46	15.6		D
1229.20-02	42		14.9		C
1229.20-00	44		15.6		
1229.20	33	52	15.6		
1229.30	12	56	15.4		
1229.40	12	27	15.5		
1229.40-02	36		15.6		
1229.40	14	42	10.6	2120	
1229.40	15	24	13.9		
1229.50	64	31	14.2	4510	
1229.50	52	41	15.4		
1229.50	16	58	14.8		
1229.50	12	10	15.4		
1229.50	20	25	15.1		EC
1229.50	40	07	13.9		
1229.60	11	27	12.4		
1229.60	12	06	15.3		
1229.70	66	36	14.1	4513	
1229.70	10	31	14.6		
1229.70	13	42	14.2		
1229.80	56	45	14.6	4511	
1229.80	66	40	15.6		
1229.80	00	17	15.7		
1229.80	16	18	15.7		VD
1229.80	18	31	15.4		D
1229.90	11	32	15.0		
1229.90	47	37	15.5		C
1229.90	00	40	14.1		
1229.90	16	35	15.7		C
1229.90	12	04	15.4		
1230.00	15	41	15.3		C
1230.00	42	59	13.7		
1230.00	09	26	15.4	+1317	
1230.00	56	56	14.3		
1230.00	00	10	15.2		

Figure 3: Example of JCL Necessary to Access Either Tape

```
//GO.FT10F001 DD DISP=OLD,UNIT=TAPE,DSN=ZWICKY.CATLG,  
// VOL=SER=2160,  
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200)
```