

A Catalogue of Supernovae Distances
from the Nuclei of Parent Galaxies

S.R. Facondi, G. Vettolani, G. Zamorani

LRA 1076

INTRODUCTION

The statistical study of the distances of supernovae (SN) from the nuclei of parent galaxies may provide a powerful tool for the study of many astrophysical problems such as mass distribution in galaxies, the distribution of supernovae remnants, etc. Here we provide a list of SN distances normalized to the radii of parent galaxies derived from an updated version (July 1975) of the list by Kowal and Sargent (1971). The catalogue contains 154 supernovae in 131 spiral galaxies and elliptical galaxies. There are 45 type I supernovae, 24 type II supernovae and 85 to which no type could be assigned.

The catalogue is ordered in right ascension of the parent galaxy; it contains the following entries:

- (1) Date of discovery of the supernova [Data] ,
- (2)-(3) Number of the parent galaxy in the Uppsala Catalogue (Nilson, 1973) and in the Reference Catalogue (G. and A. De Vaucouleurs, 1964) [N.Ups.], [NGC] ,
- (4) Number of the cluster to which the galaxy belongs, as listed on page 445 of the Uppsala Catalogue (Nilson, 1973) [CLUST] ,
- (5)-(6) Right ascension and declination of the galaxy at 1950 [RA, DELTA] ,
- (7) Hubble morphological type and luminosity class (DDO) ~~system~~ when available [Type] ,
- (8) Photographic magnitude of the parent galaxy as given in Kowal and Sargent lists (1971 and updated versions) [MPG] ,
- (9) Redshift of the parent galaxy [RS] ,
- (10) Blue half diameter of the parent galaxy, uncorrected for inclination of the galaxy, from the Uppsala Catalogue when available, otherwise from the Reference Catalogue, statistically corrected to the former system according to Paturel (1975) [D NCOR] ,
- (11) Ratio of major to minor diameter from the former sources [A/B] ,
- (12) Half diameter as in column 10 corrected for inclination effects according to Heidmann et al. (1972) [D COR] ,
- (13) Position angle of the galaxy from Danver (1942) [P.S.] ,
- (14) Type of supernovae from Kowal and Sargent list [Type] ,
- (15)-(16) Distances from the nucleus in arc seconds from Kowal and Sargent [D1, D2] ,
- (17) Photographic magnitude from Kowal and Sargent [MPG] ,
- (18) Geometric distance from the nucleus in arc seconds [R] ,
- (19) Geometric distance from the nucleus corrected for the inclination of the parent galaxy according to McCarty (1973) [R1] ,
- (20) Ratio of supernovae distance from the nucleus R1 and half major diameter of the parent galaxy uncorrected for the inclination of the galaxy [R1/RB] ,
- (21) The same as in column 20 but the half diameter of the parent galaxy is corrected for inclination effects [R1/RO] ,
- (22) Supernovae number in the Zwicky system [NSN] .

REFERENCES

- Danver, C.G., 1948, Lund Obs. Ann., 10.
- Heidmann, J., Heidmann, M., De Vaucouleurs, G., 1972, Mem. Roy. Astr. Soc. 75, 85.
- Kowal, C.T., Sargent, W.L.W., 1971, A.J. 76, 1956.
- McCarthy, M.F., 1973, Ricerche Astronomiche 8, 19.
- Nilson, P., 1973, Nova Acta Reg. Soc. Scien. Upsal., Ser V: A., vol 1.
- Paturel, G., 1975, Astr. Astroph., 40, 133.
- Vaucouleurs De, G., Vaucouleurs De, A., 1964, Reference Catalogue of Bright Galaxies, p. 11, University of Texas Press.

ORDINAMENTO R. A.

DATA	N. UPS	NGC	CLUST	RA	DELTA	TYPE	MPG	RS	D	NCOR	A/P	O	GOR	P. A	TYPE	DI	DR	MPG	R	RI	RIYPR	RI/P20	NSN
1955.C	89		23	0. 7.3	+2539	S(T)	12.5	1568	132.	1.38	123.8	123.8	123.8	8.0	10E	10N	16.0	14.14	16.29	0.247	0.263	59.	
1972.N	279	ANON	6.	0.25.7	+3032	S(R)C	14.3	641P	109.	3.60	83.4	83.4	114.0	114.0	41W	22N	17.0	46.53	46.53	0.262	1.113	350.	
1954.B	319	ANON	6.	0.29.5	+3124	S R	15.1		96.	1.50	87.4	87.4	135.0	135.0	12W	17S	17.4	29.81	32.99	0.687	0.755	1-5.	
1940.E		210		0.38.0	+1409	SR- I	12.5	176A	348.	1.50	315.9	315.9	5.0	5.0	R6E	R0S	15.9	117.46	156.54	0.914	0.991	329.	
1960.P		253		0.45.1	+2534	SC(+P)	7.0	96	1745.	3.68	1335.0	1335.0	54.0	54.0	51W	17S	14.0	53.76	79.70	0.091	0.119	30.	
1961.M	673	ANON	20.	1. 5.4	+3108	S	15.5		120.	3.33	94.3	94.3	33.0	33.0	4F	2N	17.5	4.47	7.18	0.120	0.152	81.	
1971.S	724	ANON	20.	1. 7.2	+3205	E	14.0		138.	1.21	132.8	132.8	15.0	15.0	14E	37N	17.0	40.31	40.65	0.543	0.612	87.	
1966.G	914	693	23.	1.10.6	+0041	S C	13.0		258.	2.49	211.7	211.7	58.0	58.0	48E	38N	15.5	61.22	63.27	0.440	0.592	310.	
1963.A	1013	576	20.	1.22.0	+0128	S(R)P(M)	12.9		228.	1.06	225.4	225.4	153.0	153.0	60E	13N	15.5	61.39	64.83	0.569	0.575	182.	
1963.E	1016	11703	25.	1.23.6	+3427	SR	13.2		204.	2.00	177.6	177.6	62.0	62.0	28W	17S	17.7	28.86	31.20	0.397	0.352	136.	
1972.L	1021	540	23.	1.23.8	+0154	S	14.9	5668	120.	1.67	104.3	104.3	45.0	45.0	2E	11S	16.5	11.18	16.58	0.397	0.304	127.	
1954.E	1411	755		1.53.7	+3356	S	13.6		120.	2.00	104.5	104.5	120.0	120.0	20W	13M	17.2	23.85	23.95	0.399	0.459	184.	
1964.N	1437	753	31.	1.54.8	+3540	SC II	13.9		108.	2.25	91.8	91.8	128.0	128.0	28E	21S	15.0	35.0	37.50	0.694	0.817	348.	
1965.K	1503	ANON	36.	2.23.6	+2936	S	15.7		198.	1.57	140.9	140.9	128.0	128.0	42W	25S	18.5	48.88	72.87	0.736	0.806	261.	
1973.P	1963	ANON	38.	2.26.4	+3116	S A P	14.5		74.	1.44	72.5	72.5	65.0	65.0	18W	8S	16.0	19.70	38.76	1.292	1.763	185.	
1937.D	2068	ANON	37.	2.28.5	+3910	S C	14.3		144.	4.00	104.1	104.1	140.0	140.0	13W	6N	18.0	14.32	27.47	0.504	0.503	172.	
1961.V	2137	1003	-0.	2.36.1	+3725	S A	13.2	3665	150.	1.47	135.9	135.9	65.0	65.0	I 000	36S	14.3	36.0	27.47	0.382	0.503	395.	
1969.L	2193	1058	47.	2.40.3	+3704	SC+ III-IV	11.8	480	420.	2.33	344.6	344.6	47.0	47.0	I 48E	1S	12.8	48.01	50.32	0.671	0.725	100.	
1962.L	2210	1073	47.	2.40.3	+3704	SC+ III-IV	11.8	480	228.	1.03	224.7	224.7	45.8	45.8	V 76F	17N	12.2	77.88	49.16	0.234	0.278	28.	
1963.P	2247	1090	43.	2.41.1	+6110	S(+)C II	12.5	1874	187.	1.00	161.1	161.1	60.0	60.0	II 190E	110S	12.8	77.88	78.54	0.689	0.693	96.	
1971.T	2247	1090	43.	2.43.5	+0747	SC I-II	11.2	2	228.	1.00	224.7	224.7	60.0	60.0	IP 10E	77N	13.9	77.65	77.65	1.979	1.941	257.	
1968.A	2668	1275	47.	2.44.0	+0027	S-N IV	12.8		330.	2.12	330.0	330.0	34.0	34.0	I 33E	8S	16.0	33.96	68.64	0.471	0.471	116.	
1962.Q	3740	2276	102.	2.44.0	+0027	S-N IV	12.8		258.	2.05	223.5	223.5	101.9	101.9	52W	10W	18.2	52.95	52.98	0.411	0.474	118.	
1968.V	3740	2276	102.	2.44.0	+0027	S-N IV	12.8		258.	2.05	223.5	223.5	101.9	101.9	17W	13S	16.0	21.40	35.96	0.279	0.322	311.	
1954.J	3918	2403	102.	2.44.0	+0027	S-N IV	12.8		210.	1.40	198.3	198.3	110.0	110.0	I 7E	24S	15.5	25.0	31.90	0.304	0.325	205.	
1962.F	4308	ANON	118.	2.44.0	+0027	S-N IV	12.8		148.	1.12	164.2	164.2	20.0	20.0	34W	11S	14.9	35.74	38.46	0.458	0.468	186.	
1960.W	4334	2565	118.	2.44.0	+0027	S-N IV	12.8		148.	1.12	164.2	164.2	20.0	20.0	35W	36M	15.7	50.21	55.21	0.657	0.672	229.	
1965.P	4458	2599	118.	2.44.0	+0027	S-N IV	12.8		148.	1.12	164.2	164.2	20.0	20.0	36E	100N	16.0	106.28	205.63	0.245	0.281	297.	
1920.A	4484	2608	118.	2.44.0	+0027	S-N IV	12.8		137.	1.22	126.8	126.8	110.0	110.0	38E	40S	16.5	55.17	57.70	0.874	0.910	112.	
1968.E	4661	2713	118.	2.44.0	+0027	S-N IV	12.8		108.	2.57	89.4	89.4	147.0	147.0	I 13W	34N	15.7	36.40	38.32	0.710	0.457	177.	
1965.A	4870	ANON	118.	2.44.0	+0027	S-N IV	12.8		66.	3.14	52.5	52.5	30.0	30.0	11F	12N	16.6	16.28	19.59	0.594	0.746	78.	
1912.A	4966	2841	118.	2.44.0	+0027	S-N IV	12.8		156.	1.00	154.0	154.0	70.0	70.0	13E	5N	15.7	13.93	13.93	0.179	0.179	210.	
1957.A	4966	2841	118.	2.44.0	+0027	S-N IV	12.8		150.	1.39	140.4	140.4	60.0	60.0	19W	5N	11.8	19.45	23.79	0.317	0.338	13.	
1972.R	4966	2841	118.	2.44.0	+0027	S-N IV	12.8		240.	2.66	144.1	144.1	107.0	107.0	6E	14S	15.5	10.44	12.76	0.387	0.452	176.	
				2.44.0	+0027	S-N IV	12.8		66.	2.20	57.4	57.4	142.0	142.0	3E	10S	13.0	53.85	78.70	0.355	0.412	8.	
				2.44.0	+0027	S-N IV	12.8		444.	2.11	382.4	382.4	147.8	147.8	50W	20N	13.0	53.85	78.70	0.355	0.412	8.	
				2.44.0	+0027	S-N IV	12.8		444.	2.11	382.4	382.4	147.0	147.0	IP 46W	70S	16.0	83.76	165.02	0.743	0.863	354.	

1970.L	5190	2968	...	9.40.2	+3210 P	13.1	160R	144.	1.41	134.4	52.0	120E	75N	13.0	141.51	145.02	2.014	2.157	27A.	
1954.Z	5215	ANOM	...	9.42.6	+0920 S B	13.8		102.	1.89	80.8	23.0	14W	19S	16.0	23.60	25.09	0.492	0.559	36Z.	
1961.F	5251	3003	...	9.45.6	+3339 S(R)CIII-IV	12.3	1476	342.	3.35	248.5	80.0	IV	34E	17N	13.1	38.01	50.66	0.236	0.377	80.
1965.N	5366	3074	...	9.56.7	+3538 S C	14.8		144.	1.09	141.5	8.0	4E	4N	15.8	10.22	11.67	0.162	0.165	175.	
1972.H	5532	3147	...	10.12.7	+7338 SB I-II	11.3	2875	282.	1.18	272.8	149.2	I	31E	37N	814.9	48.27	55.51	0.394	0.407	344.
1947.A	5544	3177	164.	10.13.R	+2122 SB+II-III	12.8	1220	96.	1.23	97.1	135.0	II	17E	40S	16.5	43.46	45.0	0.437	0.977	45.
1921.B	5557	3184	...	10.15.3	+4140 SC II	10.4	41R	510.	1.09	501.3	158.6	32E	160S	13.5	163.17	167.90	0.658	0.670	15.	
1921.C	5557	3184	...	10.15.3	+4140 SC II	10.4	41R	510.	1.09	501.3	158.6	I	79E	236S	11.0	248.56	253.01	0.602	1.010	16.
1937.F	5557	3184	...	10.15.3	+4140 SC II	10.4	41R	510.	1.09	501.3	158.6	II	5E	149S	13.5	149.08	155.46	0.610	0.620	27.
1966.J	5572	3198	...	10.16.9	+4549 SC II	10.7	649	600.	2.63	494.5	41.8	I	100W	165S	13.0	192.94	195.70	0.652	0.792	168.
1961.L	5601	3221	169.	10.19.6	+2150 S	14.3		192.	4.13	149.1	168.0	10W	53N	17.5	14.87	16.55	0.167	0.222	101.	
1941.B	5605	3254	...	10.26.5	+2945 SB II	12.4	122R	318.	3.53	247.1	40.0	2E	34S	15.1	35.44	49.48	0.438	0.564	40.	
1975.D	5793	ANOM	...	10.28.6	+1506 S	15.2		298.	6.67	41.0	171.0	2E	11N	17.0	11.19	26.48	0.883	1.200	422.	
1974.C	5786	3310	163.	10.35.7	+5345 IRR II	11.0	1019	228.	1.09	224.1	139.5	8E	14S	16.5	16.12	16.18	0.142	0.144	402.	
1967.C	5914	3389	...	10.45.8	+1248 SC I	12.0	1276	174.	2.42	145.8	116.0	I	43W	44N	13.0	61.52	82.62	0.950	1.133	142.
1957.A	6224	3561	206.	11. 8.5	+2859 S R P	15.5	869A	318.	5.30	227.8	0.0	5E	1N	16.0	5.10	26.55	0.187	0.233	169.	
1973.B	6345	3627	...	11.17.6	+1316 SR+No II	8.9		540.	2.14	443.8	175.2	II	49W	25N	14.5	55.01	102.33	0.279	0.441	39R.
1963.K	6403	3656	229.	11.20.8	+5407 S PEC	13.4		102.	1.00	102.0	90.0	11E	19S	15.0	21.95	21.95	0.430	0.430	133.	
1973.C	6403	3656	229.	11.20.8	+5407 S PEC	13.4		102.	1.00	102.0	90.0	11W	6S	17.0	12.53	12.53	0.244	0.246	357.	
1968.C	6650	3611	185.	11.38.6	+4746 S C	13.0	3120	150.	1.39	140.4	160.0	I	9E	6N	13.7	10.82	14.63	0.198	0.211	235.
1971.Y	6650	3611	185.	11.38.6	+4746 S C	13.0	3120	150.	1.39	140.4	160.0	30W	17S	16.1	34.48	47.59	0.635	0.678	302.	
1977.D	6619	3916	229.	11.48.2	+5325 S	14.8		96.	4.57	70.8	46.0	34E	31N	15.5	46.01	47.25	0.684	1.330	410.	
1964.L	6856	3938	248.	11.50.2	+4423 SET	11.0		374.	1.06	320.2	30.0	IP	3W	13.3	31.14	31.80	0.196	0.199	159.	
1972.C	6863	3947	234.	11.50.8	+2102 SBC	14.2		54.	1.00	84.0	89.0	28E	9N	16.0	29.41	29.41	0.700	0.700	327.	
1956.A	6837	3992	229.	11.55.0	+5339 >(4)R+ Y	10.7	1059	498.	1.80	442.8	68.0	I	67E	9S	12.3	67.40	84.43	0.339	0.381	54.
1964.E	6923	ANOM	229.	11.56.6	+5259 SUC P	14.5		254.	1.35	247.5	85.0	I	83W	44S	12.9	93.94	98.45	0.746	0.795	150.
1960.H	7090	4096	...	12. 3.4	+4745 SC+ II	11.6		432.	4.24	323.6	20.8	I	67E	114N	14.5	132.23	162.59	0.752	1.095	71.
1975.F	7026	4102	229.	12. 3.8	+5300 S(B)B	11.8	897	192.	1.48	173.1	34.0	21E	27N	16.7	34.21	34.21	0.356	0.395	423.	
1954.AA	7163	4129	...	12. 6.3	-0645 S B	12.8		164.	4.57	121.3	86.0	53W	6N	19.9	53.34	67.46	0.821	1.112	374.	
1963.D	7173	4146	...	12. 7.8	+2642 SRR	13.8		102.	1.06	100.6	83.0	I	79E	27S	15.2	33.02	34.45	0.479	0.687	128.
1974.A	7173	4156	...	12. 8.3	+3945 SRRP	14.3		84.	1.02	82.7	95.1	15W	15N	20.0	21.21	25.86	0.516	0.825	484.	
1977.A	7183	4157	...	12. 8.6	+5047 SR+ II	11.9	916	462.	5.92	323.7	108.0	II	42E	42H	16.2	59.40	137.63	0.594	0.850	23.
1955.A	7183	4157	229.	12. 0.6	+5047 >I+ II	11.9	916	462.	5.92	323.7	108.0	103E	40N	16.0	110.49	115.53	0.503	0.714	151.	
1965.G	7193	4162	260.	12. 9.3	+2424 SC II	12.6	2546	150.	1.79	133.5	5.0	19E	23S	14.0	29.23	38.77	0.917	0.981	167.	
1971.G	7201	4165	...	12. 9.7	+1331 S C	14.7		72.	1.50	66.4	171.0	I	3E	30S	813.6	30.15	31.23	0.448	0.941	295.
1963.I	7215	4178	...	12.10.3	+1108 SAC II	12.9	233	330.	3.24	260.9	31.0	I	10W	22S	14.3	24.17	25.39	0.154	0.165	131.
1968.U	7222	4183	...	12.10.7	+4358 S- IV	13.5		330.	9.17	211.9	168.0	20W	95N	14.5	97.08	101.87	0.617	0.961	227.	
1966.E	7235	4189	...	12.11.3	+1342 SC II	12.7	2044	162.	1.23	155.4	83.0	20W	36N	14.6	41.18	49.21	0.608	0.633	180.	
1954.A	7278	4214	...	12.13.1	+3637 IR+ III-IV	10.3	290	660.	1.22	634.3	140.0	I	84E	216S	9.8	231.76	237.68	0.720	0.749	50.

1966.X	4939	-0.	13.	1.7	-1005	N	12.2	376.	1.86	332.3	10.0	35W	AN	16.0	35.90	66.71	0.355	0.401	231.	
1973.J	4939	-1.	13.	1.7	-1005	N	12.2	376.	1.46	332.3	10.0	17E	6S	16.0	18.03	33.24	0.177	0.200	380.	
1968.I	4941	-0.	13.	6.1	-0631	SC II-III	12.3	170.	1.31	161.4	14.0	2E	7N	13.5	7.28	8.60	0.101	0.196	215.	
1959.C	8263	-0.	13.	8.8	+0340	SAC	15.4	2990	8.00	47.5	113.0	7E	3S	13.6	7.62	7.62	0.212	0.321	62.	
1950.C	8307	-0.	13.	11.2	+3651	SB+T I-II	10.9	914	2.09	565.4	166.0	22SE	50S	18.2	230.49	454.62	1.319	1.528	245.	
1971.C	8334	284.	13.	13.5	+4217	SB+T II	9.7	519	1.67	812.3	94.9	I	2W	147S	147.01	240.85	0.535	0.593	299.	
1974.B	5161		13.	26.3	-3254	SC	12.5	358.	2.82	291.6	71.0	13W	62N	14.5	63.35	177.79	0.991	1.219	405.	
1933.A	5236		13.	34.3	-2937	SC I-II	6.0	506	1.05	748.7	45.2	PE	109E	56N	14.0	123.47	124.60	0.330	0.332	17.
1950.B	5236		13.	34.3	-2937	SC I-II	8.0	506	1.05	748.7	45.2	105W	000	14.5	105.0	107.66	0.285	0.288	60.	
1957.D	5236		13.	34.3	-2937	SC I-II	8.0	506	1.05	748.7	45.2	41W	145N	15.0	150.69	158.40	0.414	0.418	64.	
1968.L	5236		13.	34.3	-2937	SC I-II	8.0	506	1.05	748.7	45.2	II	5W	00	11.9	5.0	5.13	0.014	0.014	218.
1972.F	5236		13.	37.1	-3124	IPR	10.8	403	2.61	204.5	118.0	I	36W	100S	14.5	106.98	277.44	2.239	2.713	336.
1951.B	8972		14.	1.2	+1197	SC	15.1	94.	2.50	73.1	157.0	10W	15N	18.2	18.03	18.89	0.450	0.517	320.	
1950.F	6995	313.	14.	2.3	+0904	SBC	14.9	90.	2.50	74.0	5.0	11W	11N	14.2	11.05	27.61	0.614	0.737	318.	
1955.K	9206		14.	20.0	+1414	SA	14.2	48.	2.50	41.8	165.0	3W	7S	18.4	7.62	11.14	0.664	0.833	265.	
1950.H	9724	345.	15.	5.2	+1947	SBR	13.6	4705	2.17	66.8	137.0	11E	22S	18.1	24.60	27.65	0.714	0.834	365.	
1955.M	6724	345.	15.	5.2	+1947	SBR	13.6	4705	2.17	66.8	143.5	27W	25N	14.5	36.80	37.13	0.952	1.112	384.	
1954.C	9753	5879	15.	8.4	+5712	SB II-III	11.9	874	2.82	234.1	27.0	II	14W	11S	14.9	17.80	41.04	0.285	0.351	52.
1963.D	9797	5905	15.	14.0	+5542	S(R) P	13.6	248.	1.31	247.2	47.0	II	60W	9S	16.0	60.67	73.22	0.519	0.548	137.
1940.A	9801	5907	15.	14.0	+5630	SB+T II	11.4	535	7.11	514.6	155.1	II	137E	310S	14.0	338.02	341.47	0.889	1.316	34.
1962.B	9831		15.	20.7	+2957	S	14.9	60.	1.43	55.9	100.0	I	5E	1S	17.0	5.10	5.43	0.181	0.194	108.
1953.B	10349	395	16.	19.2	+4914	SC	15.2	60.	3.00	72.2	65.0	POE	6S	17.5	20.88	44.69	0.993	1.237	229.	
1926.B	10439	6181	16.	30.1	+1934	SC I	12.7	2158	1.03	124.9	7.0	000	48N	14.8	49.0	49.97	0.666	0.800	19.	
1971.L	10881	6384	17.	30.0	+0706	SB I	13.2	1751	1.52	386.3	30.0	I	27E	20N	12.8	33.60	34.93	0.176	0.191	303.
1953.C	11252	453.	18.	27.4	+6813	SC	14.9	4925	2.54	63.1	164.0	15W	35N	9.0	38.08	40.11	1.028	1.272	252.	
1962.J	6635		19.	51.6	-1242	EA	13.0	720	6.89	101.1	174.0	I	42W	23S	13.6	47.89	87.67	1.178	1.733	117.
1917.A	11597	6946	20.	33.8	+5959	SC I	10.5	80	1.00	840.0	52.2	37W	105S	14.6	11.39	11.33	0.027	0.026	11.	
1939.C	11597	6946	20.	33.8	+5959	SC I	10.5	80	1.00	840.0	52.2	II	215W	24N	13.0	216.34	216.34	0.515	0.516	32.
1948.H	11597	6946	20.	33.8	+5959	SC I	10.5	80	1.00	840.0	52.2	II	222E	60N	14.9	229.97	229.97	0.548	0.548	47.
1968.D	11597	6946	20.	33.8	+5959	SC I	10.5	80	1.00	840.0	52.2	II	45E	20N	13.5	49.24	49.24	0.117	0.117	209.
1960.L	11872	7177	21.	58.3	+1730	SB-II	12.2	1105	1.45	179.1	87.0	6E	54S	16.0	54.33	60.33	0.602	0.907	75.	
1964.H	12048	7202	22.	26.1	+3003	S/IRR	13.1	794	1.28	131.3	125.0	II	24W	4S	14.8	29.41	34.89	0.506	0.531	154.
1950.D	12113	7331	22.	34.8	+3410	SB I-II	10.4	794	2.85	554.7	165.4	II	32W	13N	13.4	34.54	86.23	0.252	0.311	63.
1974.J	12129	7363	22.	36.3	+3348	EB	14.3	1216	1.25	57.3	160.0	I	10E	17S	15.5	19.72	19.89	0.663	0.603	416.
1973.M	12391	7495	23.	6.5	+1148	SC	14.7	3757	1.11	117.5	5.0	14W	7S	15.5	15.63	16.88	0.281	0.287	393.	
1970.J	12523	7419	23.	17.7	+0755	EA	12.7	3757	1.12	164.2	33.0	27W	30S	14.5	40.36	40.58	0.483	0.484	275.	
1972.J	12542	7434	23.	19.1	+0836	S O	13.7	3757	1.12	164.2	33.0	5W	30S	14.5	40.36	40.58	0.483	0.484	275.	
1953.F	12665	ANON	23.	31.2	+2946	S O B	15.1	4904	1.44	72.5	54.0	11E	16S	15.5	19.42	27.96	0.717	0.771	267.	
1969.K	12733	ANON	23.	38.2	+2633	SD	15.1	60.	1.25	57.4	0.0	13E	19S	17.5	23.02	24.96	0.832	0.870	256.	
1968.Z	12806	7768	23.	48.4	+2653	E	14.0	96.	1.23	92.1	60.0	24W	61N	17.9	65.55	80.29	1.673	1.743	258.	