

Precise Observations of Minor Planets at Sydney Observatory during 1978

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ABSTRACT. Positions of 1 Ceres, 3 Juno, 4 Vesta, 39 Laetitia, 51 Nemausa, 532 Herculina and 704 Interamnia obtained with the 23 cm camera are given.

The programme of precise observations of selected minor planets which was begun in 1955 is being continued and the results for 1978 are given here. The methods of observation were described in the first paper (Robertson 1958). All the plates were taken with the 23 cm camera (scale 116" to the millimeter). Four exposures were taken on each plate, except those for 704 Interamnia for which there were two.

In Table 1 are given the means of the positions for all the exposures using all six reference stars at the mean of the exposure times. The result for the first pair of images was compared with the results for the last pair by adding the motion computed from the ephemeris for the plates with four exposures. The means of the differences were 0.007 sec  $\delta$  in right ascension and 0.12 in declination.

No correction has been applied for aberration, light time or parallax, but the factors give the parallax correction when divided by the distance. The column headed "O-C" gives the differences between the measured positions (corrected for parallax) and the position computed from the ephemerides supplied by the Institute for Theoretical Astronomy in Leningrad. The ephemeris for 51 Nemausa was obtained from L. K. Kristensen (University of Aarhus, Denmark).

In accordance with the recommendation of Commission 20 of the International Astronomical Union, Table 2 gives for each observation the positions of the reference stars and the six star

dependences. The reference star positions were converted to standard coordinates for the calculation of six star dependences. The column headed "R.A." and "Dec." give the seconds of time and arc with the proper motion correction applied to bring the catalogue position to the epoch of the plate. The column headed "Stars" gives the Durchmusterung number taken from either the AGK3 or SAO catalogue. The first column gives a serial number which cross-references Table 1 and Table 2 and also the catalogue from which the reference stars were taken.

All plates were reduced by both the methods of dependences and by first order plate constants using the same six reference stars. The r.m.s. residuals of the reference stars averaged at 0.24 for AGK3 stars and 0.56 for SAO stars.

The plates were measured by Mrs. A. Brown, Mrs. J. Close, Miss D. Teale and Miss J. Westaway. The observers at the telescope were D. S. King (K), T. L. Morgan (M), W. H. Robertson (R) and K. P. Sims (S).

ACKNOWLEDGMENTS

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REFERENCES

Robertson, W.H., 1958. Precise observations of minor planets at Sydney Observatory during 1955 and 1956. *J. Roy. Soc. N.S.W.* 92, 18-23  
*Sydney Observatory Papers No. 33.*

TABLE 1  
POSITIONS OF MINOR PLANETS

No.	R.A. (1950.0)			Dec. (1950.0)			Parallax Factors		O - C	
	h	m	s	o	'	"	s	"	s	"
1 Ceres 1978 U.T.										
1607	May	08.76780	19 43 05.436	-24 42 15.33	-0.022	-1.38	+0.01	+0.1	M	
1608	June	06.69324	19 41 02.790	-26 45 27.34	-0.002	-1.07	+0.03	+1.1	K	
1609	June	13.68548	19 37 17.745	-27 23 28.39	+0.046	-0.98	+0.08	0.0	S	
1610	July	03.60321	19 21 13.749	-29 12 03.67	-0.011	-0.69	-0.02	+0.6	K	
1611	July	10.58380	19 14 30.794	-29 45 20.79	+0.004	-0.61	+0.01	+0.5	R	
1612	July	24.55059	19 01 25.939	-30 37 15.27	+0.054	-0.49	-0.05	+2.3	S	
1613	July	31.51062	18 55 46.304	-30 54 56.95	-0.006	-0.43	+0.02	+1.5	M	
1614	Aug.	09.47595	18 49 54.975	-31 09 54.90	-0.027	-0.40	+0.03	+0.3	K	



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TABLE 1 (Cont.)

## POSITIONS OF MINOR PLANETS

No.		R.A. (1950.0)			Dec. (1950.0)			Parallax Factors		O - C		
		h	m	s	o	'	"	s	"	s	"	
1 Ceres (Cont.) 1978 U.T.												
1615	Aug. 21.45984	18	45	13.884	-31	18	08.53	+0.044	-0.38	-0.02	+0.6	S
1616	Sep. 15.38839	18	47	53.228	-31	05	08.24	+0.026	-0.41	-0.05	+1.5	S
3 Juno 1978 U.T.												
1617	June 06.72958	20	27	48.467	-03	59	17.36	+0.011	-4.36	+0.05	-0.7	K
1618	June 13.71447	20	26	27.292	-03	45	11.68	+0.026	-4.39	-0.02	+0.4	S
1619	July 03.64047	20	16	49.779	-03	44	25.97	-0.013	-4.39	-0.03	+0.5	K
1620	July 10.61592	20	11	43.014	-03	59	53.03	-0.019	-4.36	-0.03	+0.5	R
1621	July 24.58282	19	59	55.669	-04	55	29.84	+0.022	-4.24	-0.05	+0.3	S
1622	Aug. 21.48917	19	38	19.216	-07.57	16.62		+0.015	-3.82	-0.04	+0.4	S
1623	Sep. 15.41503	19	31	59.659	-10	53	13.70	+0.011	-3.41	-0.03	+1.0	S
4 Vesta 1978 U.T.												
1624	Apr. 10.74711	17	15	43.677	-15	13	20.17	-0.005	-2.78	-0.02	+0.2	K
1625	Apr. 18.72449	17	18	09.946	-15	10	34.50	-0.013	-2.78	+0.02	0.0	R
1626	May 01.70286	17	17	36.815	-15	08	21.01	+0.032	-2.79	+0.03	+0.3	S
1627	June 06.57919	16	50	38.130	-15	47	31.65	+0.011	-2.69	+0.05	-0.3	K
1628	June 13.56258	16	43	35.167	-16	05	36.55	+0.035	-2.65	+0.01	0.0	S
1629	July 03.48696	16	27	55.184	-17	16	02.45	+0.002	-2.47	+0.04	-0.3	K
1630	July 10.47725	16	25	01.173	-17	46	40.87	+0.039	-2.40	-0.02	-0.8	S
1631	July 20.44623	16	23	43.982	-18	34	38.22	+0.030	-2.28	+0.03	-0.1	R
1632	July 25.43482	16	24	20.594	-19	00	06.46	+0.036	-2.22	-0.06	+0.3	M
1633	July 31.40312	16	26	08.554	-19	31	29.60	-0.018	-2.14	-0.01	+0.4	K
1634	Aug. 09.38291	16	30	56.180	-20	19	47.01	-0.014	-2.02	-0.02	+0.8	M
1635	Aug. 21.38035	16	40	53.157	-21	24	13.17	+0.062	-1.88	-0.03	-0.7	S
39 Laetitia 1978 U.T.												
1636	Aug. 14.76439	02	03	45.803	+05	12	14.84	-0.018	-5.53	+0.02	-0.7	R
1637	Sep. 05.70922	02	11	54.724	+03	34	55.82	-0.020	-5.34	+0.02	-0.2	M
1638	Sep. 12.71052	02	11	53.804	+02	47	38.13	+0.043	-5.24	+0.02	-0.4	K
1639	Sep. 27.64810	02	07	35.082	+00	47	31.22	-0.014	-4.99	+0.03	-0.2	R
1640	Oct. 09.61329	02	00	31.170	-00	56	37.57	-0.005	-4.77	+0.01	-0.5	K
1641	Oct. 23.56627	01	50	05.571	-02	46	31.28	-0.010	-4.53	+0.01	-0.1	R
1642	Nov. 21.48788	01	32	22.074	-04	34	53.07	+0.030	-4.29	0.00	-0.4	S
1643	Dec. 05.43218	01	29	57.498	-04	16	33.44	-0.019	-4.33	-0.03	-0.9	R
51 Nemausa 1978 U.T.												
1644	Feb. 16.64447	10	55	40.367	+00	44	22.26	+0.044	-4.95	-0.01	-0.5	S
532 Herculina 1978 U.T.												
1645	Apr. 10.70366	15	40	31.614	+05	54	39.13	+0.065	-5.58	+0.03	-0.5	K
1646	Apr. 18.67243	15	36	15.307	+06	29	40.04	+0.045	-5.65	+0.03	-0.5	R
1647	May 01.61980	15	26	24.999	+07	02	35.78	+0.013	-5.72	+0.02	-0.5	S
1648	June 07.50962	14	56	52.334	+04	45	48.38	+0.048	-5.45	+0.02	0.0	K
1649	June 23.43894	14	51	44.146	+02	16	34.01	-0.024	-5.15	+0.02	+0.1	K
1650	July 03.42120	14	51	50.500	+00	28	25.94	+0.005	-4.92	+0.02	-0.1	S
1651	July 10.41661	14	53	23.911	-00	51	08.62	+0.046	-4.75	+0.01	-0.6	K
1652	July 21.39234	14	58	07.000	-02	58	56.12	+0.054	-4.47	+0.05	-0.6	S
1653	July 31.36259	15	04	33.026	-04	55	25.83	+0.033	-4.21	0.00	+0.2	K
704 Interamnia 1978 U.T.												
1654	June 08.50011	14	45	11.588	-33	19	40.27	+0.061	-0.06	-0.06	+0.1	K
1655	July 04.41633	14	37	53.218	-30	08	10.88	+0.032	-0.53	-0.04	+0.9	R



## PRECISE OBSERVATIONS OF MINOR PLANETS

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TABLE 2  
REFERENCE STAR POSITIONS AND DEPENDENCES

No.	Stars	Depend.	R.A.	Dec.	No.	Stars	Depend.	R.A.	Dec.
1607	-25 14264	0.172817	16.950	50.04	1618	- 4 5124	0.178652	24.702	44.57
SAO	-24 15531	0.189586	35.498	12.36	SAO	- 3 4900	0.173620	28.331	05.32
	-25 14320	0.148756	54.984	04.90		- 4 5147	0.169821	59.178	40.41
	-23 15724	0.191851	15.552	02.68		- 4 5156	0.163331	39.581	48.33
	-23 15782	0.168490	23.810	13.54		- 3 4928	0.158253	30.229	44.00
	-25 14375	0.128499	37.710	58.97		- 3 4930	0.156322	18.527	41.93
1608	-27 14177	0.107237	54.088	06.63	1619	- 3 4838	0.175514	12.984	46.56
SAO	-26 14421	0.223791	38.589	06.42	SAO	- 3 4840	0.160533	38.885	09.00
	-27 14230	0.086619	16.759	43.17		- 4 5087	0.198848	21.160	55.63
	-26 14460	0.260804	28.864	18.61		- 3 4848	0.150217	48.708	23.37
	-27 14254	0.121169	14.522	18.13		- 3 4860	0.152698	51.233	52.70
	-26 14504	0.200379	56.712	50.19		- 4 5110	0.162190	30.809	23.88
1609	-27 14128	0.240744	51.754	47.94	1620	- 4 5042	0.178151	26.824	23.70
SAO	-27 14144	0.192810	52.361	38.68	SAO	- 4 5043	0.137903	32.073	39.19
	-27 14190	0.205466	43.251	45.16		- 3 4818	0.193433	36.117	58.62
	-26 14421	0.107288	38.589	06.42		- 5 5189	0.129509	00.589	35.93
	-27 14230	0.157877	16.759	43.17		- 3 4840	0.202512	38.885	09.00
	-27 14239	0.095815	48.248	34.02		- 4 5087	0.158492	21.160	55.63
1610	-29 16056	0.187505	38.562	08.70	1621	- 5 5124	0.091148	17.781	16.81
SAO	-29 16059	0.196694	48.027	40.50	SAO	- 4 4984	0.122514	51.235	31.74
	-28 15753	0.186605	50.539	05.50		- 4 4998	0.188866	56.724	45.50
	-29 16104	0.154362	55.224	28.97		- 5 5140	0.163386	05.304	00.99
	-28 15797	0.156061	37.229	51.53		- 4 5007	0.212376	22.591	33.41
	-29 16144	0.118772	58.326	28.34		- 5 5156	0.221709	25.106	16.47
1611	-30 16800	0.164564	26.225	06.13	1622	- 8 5050	0.259793	29.954	10.78
SAO	-29 15872	0.187980	30.441	48.73	SAO	- 7 5024	0.157517	59.216	27.43
	-30 16826	0.142527	55.331	09.76		- 8 5073	0.207233	54.348	48.03
	-29 15977	0.194050	17.050	49.83		- 7 5042	0.109558	22.126	38.28
	-30 16903	0.136088	45.182	40.17		- 7 5047	0.117097	30.582	43.96
	-29 16021	0.174790	13.440	04.21		- 8 5085	0.148802	34.271	49.02
1612	-31 16267	0.190084	10.454	38.41	1623	-10 5097	0.100857	37.801	30.52
SAO	-30 16580	0.172707	44.783	09.64	SAO	-11 5030	0.160546	20.171	56.02
	-30 16595	0.158096	38.571	17.52		-10 5111	0.127010	44.835	58.47
	-31 16312	0.177065	32.829	24.86		-11 5044	0.195018	38.649	06.52
	-30 16665	0.144104	02.519	18.15		-10 5131	0.182423	05.974	12.82
	-30 16671	0.157944	16.197	50.50		-11 5062	0.234146	01.433	50.91
1613	-30 16396	0.159917	16.104	46.71	1624	-15 4502	0.277516	24.274	09.76
SAO	-29 15525	0.177528	12.497	25.81	SAO	-14 4598	0.185862	22.207	46.60
	-31 16152	0.149297	13.271	16.89		-15 4511	0.248504	25.618	46.00
	-32 14762	0.153287	16.127	44.80		-14 4615	0.061914	53.678	46.08
	-31 16267	0.175029	10.454	38.41		-15 4521	0.145384	20.699	34.93
	-30 16580	0.184942	44.783	09.64		-14 4619	0.080819	05.128	16.27
1614	-30 16310	0.248104	46.583	20.82	1625	-14 4585	0.190213	29.509	41.99
SAO	-31 16066	0.209117	34.869	25.65	SAO	-15 4502	0.156457	24.274	09.76
	-31 16075	0.169708	23.495	08.80		-15 4511	0.129509	25.618	46.00
	-30 16396	0.175407	16.104	46.71		-14 4619	0.182185	05.128	16.27
	-31 16152	0.083019	13.271	16.89		-14 4644	0.190934	53.451	12.09
	-31 16155	0.114644	17.940	39.73		-15 4554	0.150703	17.300	42.42
1615	-31 15913	0.209122	23.944	07.90	1626	-14 4585	0.308619	29.509	41.99
SAO	-30 16169	0.139552	52.952	33.89	SAO	-15 4502	0.197485	24.274	09.76
	-31 15973	0.215888	57.542	41.83		-15 4513	0.061025	46.557	40.06
	-30 16264	0.118108	09.615	39.23		-15 4534	0.073417	43.509	32.92
	-31 16071	0.134061	12.599	52.19		-14 4644	0.243822	53.451	12.09
	-31 16075	0.183269	23.495	08.80		-15 4554	0.115631	17.300	42.42
1616	-31 15951	0.130563	03.606	23.37	1627	-15 4393	0.182771	23.776	24.25
SAO	-30 16225	0.123295	58.693	46.92	SAO	-16 4353	0.211450	29.478	10.95
	-32 14530	0.175723	08.080	17.48		-14 4492	0.152585	13.968	11.67
	-30 16323	0.147632	11.827	40.42		-16 4371	0.183262	08.606	40.34
	-31 16108	0.228659	15.132	40.64		-14 4512	0.119047	30.684	36.94
	-30 16396	0.194129	16.104	46.70		-15 4421	0.150886	31.073	23.67
1617	- 4 5146	0.156711	50.065	10.84	1628	-15 4365	0.074339	40.820	35.38
SAO	- 3 4912	0.089496	16.331	46.16	SAO	-16 4327	0.081740	41.363	18.34
	- 4 5153	0.312215	03.047	01.61		-14 4476	0.148614	48.195	03.02
	- 3 4923	0.036139	20.534	56.94		-17 4631	0.183498	40.151	17.80
	- 4 5166	0.254564	23.682	30.03		-15 4393	0.249372	23.776	24.25
	- 4 5168	0.150875	46.123	21.47		-16 4354	0.262437	35.133	01.65



TABLE 2

## REFERENCE STAR POSITIONS AND DEPENDENCES

No.	Stars	Depend.	R.A.	Dec.	No.	Stars	Depend.	R.A.	Dec.
1629	-17 4581	0.240491	51.435	05.02	1640	- 1 271	0.193515	38.644	59.67
SAO	-17 4580	0.174940	51.927	31.15	AGK3	- 1 272	0.215396	47.448	09.91
	-17 4585	0.125758	45.618	53.88		- 2 345	0.151134	07.632	52.04
	-16 4298	0.307654	16.274	20.24		- 0 310	0.189046	26.060	23.94
	-17 4601	0.022189	57.982	03.42		- 1 291	0.109859	32.759	49.71
	-16 4315	0.128969	07.399	35.32		- 0 320	0.141050	41.313	34.68
1630	-18 4274	0.087700	13.591	26.14	1641	- 3 260	0.154777	01.172	38.56
SAO	-17 4563	0.281997	48.397	48.26	SAO	- 2 298	0.136993	05.966	46.79
	-18 4281	0.026716	45.644	12.59		- 4 287	0.184107	21.203	03.98
	-17 4581	0.295135	51.435	05.02		- 2 312	0.154774	37.450	53.93
	-18 4287	0.099719	48.565	15.12		- 3 281	0.187049	37.878	10.49
	-17 4594	0.208733	29.811	51.33		- 2 328	0.182299	05.521	28.55
1631	-18 4266	0.170091	35.233	17.61	1642	- 4 218	0.122878	09.749	42.85
SAO	-17 4563	0.195998	48.397	48.26	SAO	- 5 271	0.164152	28.223	02.82
	-19 4368	0.143430	31.021	25.56		- 3 216	0.111216	33.984	13.12
	-17 4575	0.189213	07.164	04.28		- 5 282	0.208049	13.584	09.26
	-18 4287	0.169817	48.565	15.13		- 4 247	0.161372	29.663	26.44
	-20 4509	0.131451	58.526	18.80		- 5 296	0.232333	51.876	54.84
1632	-18 4266	0.148922	35.233	17.61	1643	- 4 220	0.243929	15.290	24.85
SAO	-17 4563	0.127086	48.397	48.26	SAO	- 5 271	0.228409	28.223	02.82
	-19 4368	0.188969	31.021	25.56		- 3 216	0.187826	33.984	13.12
	-17 4575	0.141216	07.164	04.28		- 4 237	0.127491	19.083	44.95
	-18 4287	0.166742	48.565	15.13		- 5 285	0.121284	09.452	57.92
	-20 4506	0.227065	28.921	47.61		- 5 287	0.091061	10.870	26.60
1633	-19 4368	0.221705	31.021	25.56	1644	+ 1 2504	0.187940	26.159	31.88
SAO	-18 4281	0.236008	45.644	12.59	AGK3	+ 1 2507	0.126621	02.712	50.98
	-21 4366	0.106328	21.662	34.95		+ 1 2606	0.171738	13.502	49.09
	-18 4287	0.218632	48.565	15.13		+ 1 2503	0.222638	20.048	49.82
	-20 4506	0.103195	28.921	47.61		+ 0 2721	0.156006	52.182	13.72
	-18 4297	0.114132	36.898	28.81		+ 0 2722	0.135057	19.810	15.84
1634	-19 4368	0.062561	31.021	25.56	1645	+ 6 3085	0.287394	20.573	20.45
SAO	-21 4366	0.132694	21.662	34.95	AGK3	+ 6 3087	0.235201	53.954	42.31
	-18 4287	0.118416	48.565	15.14		+ 5 3066	0.168714	05.730	19.01
	-21 4389	0.225719	30.439	30.23		+ 6 3089	0.154407	53.293	51.07
	-18 4297	0.224929	36.898	28.81		+ 5 3078	0.077474	22.434	05.66
	-20 4526	0.235682	46.314	46.95		+ 6 3096	0.076810	45.967	56.89
1635	-20 4526	0.134987	46.314	46.95	1646	+ 7 2980	0.131632	39.565	14.61
SAO	-21 4394	0.155381	01.328	45.77	AGK3	+ 6 3066	0.217012	05.658	24.22
	-20 4547	0.161475	40.186	12.60		+ 7 2997	0.121501	10.824	06.06
	-22 4199	0.178376	17.803	54.13		+ 6 3083	0.174555	58.519	46.75
	-20 4561	0.180289	14.640	37.80		+ 6 3085	0.248808	20.573	20.45
	-21 4420	0.189491	36.921	14.70		+ 7 3007	0.106493	31.431	24.08
1636	+ 4 343	0.167182	12.813	09.60	1647	+ 7 2961	0.274434	46.149	00.61
AGK3	+ 5 278	0.236442	44.169	54.97	AGK3	+ 6 3048	0.087524	14.050	27.72
	+ 3 279	0.077504	23.980	17.04		+ 7 2969	0.391429	18.105	37.34
	+ 5 285S	0.233323	09.866	52.70		+ 6 3053	0.019646	36.823	51.64
	+ 3 288	0.108440	03.644	48.48		+ 6 3054	0.088083	23.140	51.46
	+ 4 362	0.177109	19.080	59.70		+ 7 2975	0.138884	05.961	50.03
1637	+ 3 293	0.205151	16.873	31.27	1648	+ 4 2937	0.266675	53.659	47.65
AGK3	+ 2 347	0.158012	40.356	40.43	AGK3	+ 4 2943	0.086911	07.796	15.35
	+ 4 366	0.210531	38.887	59.25		+ 5 2953	0.369183	41.048	38.35
	+ 1 406	0.119907	14.960	42.55		+ 4 2945	0.037781	09.258	22.69
	+ 3 317	0.174669	36.346	21.05		+ 4 2952	0.060368	17.373	54.63
	+ 2 358	0.131730	34.309	26.34		+ 5 2962	0.179082	50.796	45.48
1638	+ 2 346	0.221050	07.519	05.60	1649	+ 2 2875	0.099263	50.909	02.76
AGK3	+ 2 347	0.245697	40.356	40.43	AGK3	+ 3 2948	0.176067	37.349	47.48
	+ 3 310	0.136555	31.630	10.12		+ 2 2882	0.148152	14.590	41.68
	+ 1 398	0.206481	41.688	32.37		+ 3 2955	0.207588	24.368	14.75
	+ 2 358	0.075099	34.309	26.34		+ 2 2887	0.201166	54.468	07.92
	+ 1 412	0.115118	44.055	07.13		+ 1 3001	0.167764	48.713	48.26
1639	+ 0 352	0.208568	13.715	15.41	1650	+ 0 3259	0.207667	57.055	59.48
AGK3	- 0 319	0.100848	32.125	53.86	AGK3	+ 1 2992	0.207595	24.418	07.66
	+ 1 377	0.259443	06.725	12.86		+ 0 3264	0.175914	12.632	17.74
	- 0 327	0.083598	50.731	38.22		+ 1 3002	0.157811	59.981	00.06
	+ 0 367	0.230184	39.983	20.71		+ 0 3276	0.125347	08.158	37.63
	- 0 335	0.117360	58.977	05.63		+ 1 3005	0.125667	28.618	49.74



## PRECISE OBSERVATIONS OF MINOR PLANETS

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TABLE 2  
REFERENCE STAR POSITIONS AND DEPENDENCES

No.	Stars	Depend.	R.A.	Dec.	No.	Stars	Depend.	R.A.	Dec.
1651	- 0 2897	0.172873	14.405	34.26	1654	-32 10330	0.135185	05.844	50.96
AGK3	+ 0 3264	0.119279	12.632	17.74	SAO	-33 10043	0.162709	14.219	03.36
	- 0 2902	0.204196	01.131	53.62		-32 10347	0.134627	24.242	00.31
	+ 0 3276	0.104131	08.158	37.63		-32 10397	0.163627	07.162	39.15
	- 0 2906	0.211762	49.629	49.93		-33 10113	0.209001	11.420	42.69
	- 0 2910	0.187760	05.357	20.41		-33 10115	0.194851	28.003	42.83
1652	- 3 3698	0.154378	06.113	53.43	1655	-29 11212	0.227474	03.092	15.21
SAO	- 2 3921	0.211582	06.733	00.48	SAO	-30 11604	0.229468	57.845	23.60
	- 1 3006	0.223036	26.698	05.70		-28 10870	0.116005	27.707	14.28
	- 3 3707	0.119036	33.318	01.60		-29 11246	0.172843	51.136	00.52
	- 2 3936	0.167720	26.344	39.63		-29 11252	0.117359	34.649	12.24
	- 3 3717	0.124249	07.792	16.89		-29 11260	0.136851	09.850	48.57
1653	- 3 3713	0.071605	02.345	06.99					
SAO	- 5 3999	0.151799	53.689	17.02					
	- 3 3726	0.112781	21.233	34.31					
	- 5 4011	0.218031	18.325	26.52					
	- 3 3735	0.194593	56.341	50.51					
	- 4 3818	0.251190	56.575	17.79					

Sydney Observatory,  
Sydney, N.S.W., 2000.

(Manuscript received 7-3-79)



King, David S. 1979. "Precise observations of minor planets at Sydney Observatory during 1978." *Journal and proceedings of the Royal Society of New South Wales* 112(1), 7–11. <https://doi.org/10.5962/p.361098>.

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