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NEW RESULTS ON KNOWN VARIABLES IN SAGITTARIUS

In a recent publication on variable stars in Sagittarius Plaut (1971) noted several long period variables for which a definitive choice between two alternative periods was not possible on the basis of his available plate material. A few of these stars are in an area overlapping the field of the Maria Mitchell Observatory plates. I therefore suggested to Carol Day that she examine these stars and combine her own observations with the published data, thereby seeking more definitive solutions. Also included in our summer 1972 program were other previously published variables for which different authors had obtained discordant results, or stars for which errors in the General Catalogue of Variable Stars had come to my attention, and a few stars still listed only in the Catalogue of Suspected Variables.

A summary of the results is given in the Table, where previously published periods, or types (if now revised) are noted together with the new or revised periods. The initials in the last column indicate the recent investigator (CD, Carol Day; BH, Barbara Hatfield; PK, Pamela Knight; and DH, Dorrit Hoffleit) while the number refers to a footnote.



MW



V929



S4903



V1703



V1709



GS

For six of the variables for which no finder charts have previously been published, such charts are given here. The stars marked A, B or C are identified as follows:

MW Sgr	C	CoD -27°13160	V1709	B	BD -19°5136
V 929	A	CoD -31°15485	S 4309	A	CoD-30°16079
	B	15488		B	16088/9
	C	15494	GS Sgr		Chart area 5'x5'
V1703	B	BD -18°5031			

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References

Innes, R., 1917, Union Observatory Cir. No. 37
Plaut, L., 1971, Astron. and Astrophys. Supp. Series, 4, No. 2.

TABLE
Revised Results for Variables in Sagittarius

Var. Sgr	Previously Published Periods	Revised Elements	Span of Epochs	Note
MW	260,207,208.3,208,5	36085+204n+ +15sin4 ⁰ .5 (n+42)	110	CD
V929	196,8, 400	35687+194.5n	122	CD
V932	225,227.5,149	28422+225n	98	CD
V938	220.7,219.5,137	19575+138n	129	CD,1
V1293	153,154.8,272	27711+155n	88	CD
V1703	207,312	26120+206n	75	CD,2
V1709	212, UG	26160+210.8n	73	CD,3
V1835	173,262	27635+262n	80	CD
V1836	242,244,301.5,	27635+244n	57	CD
V1919	162,162.8,189.4	27635+162n	58	CD
V2032	UG? 1250?	36720+229.5n	75	DH,4
V2368	194	26570+193.8n	90	DH,5
V2378	312	36750+312n	44	CD
V2383	UG	25850+188.5n	94	DH,6
V2565	300:	27630+305:n	45	PK,7
DH117b	320	26120+320:n	17	PK,7
S4025	28.14	37826+28.14n		BH,8
S4309	-	37100+422n	53	PK
GS	-	SR~360days?		PK,9

Notes to Table

1. V 938 Sgr. A period of 220 days is still not precluded. 138 days is preferred because it appears to represent the early observations by Innes slightly better. No Nantucket observations available for this star.
2. V 1703 Sgr. The period of 207 days given for this star in A.J.,62, 121 1957 (HV12398) is essentially correct. The period of 312 days given in the General Catalogue refers to V 2378 Sgr. The confusion is attributed to the crude positions given by Hartsock in her provisional paper in AAVSO Abstracts, Fall 1964.
3. V1709 Sgr. The type UG listed in the General Catalogue refers to V2383. Same comment as for V1703 Sgr.
4. V2032 Sgr. The previously published type and period depended upon only four observed maxima with a minimum separation of 2500 days. Nantucket plates for 1957-72 reveal the revised period which also satisfies the earlier Harvard observations. Mira Type.

5. V2368 Sgr. New measures have been added because the period given in A.J., 70, 307, 1965 (star 17) has been omitted from the General Catalogue.
6. V2383 Sgr. Because of crude positions this star was believed to be V1709 Sgr (q.v.).
7. V2565 Sgr and DH 117b (See IBVS 617 and 660). These two stars were re-examined to avert any possible confusion between two stars close together both in position and period.
8. S4025. HV 9396. The period for this W Virginis type star, given in A.J., 69, 301, 1964 (Star 3) has been confirmed by further observations for the interval JD 38169-41219.
9. GS Sgr. Probably semi-regular. No satisfactory period found. Cycles of about a year, more frequently at maximum than minimum. Miss Knight finds that a period of 180 days seems to represent a high percentage of the observations. However, the duration of maximum or of minimum is sometimes 150 days. Doubling her period gives no improvement as the period is too close to one year.