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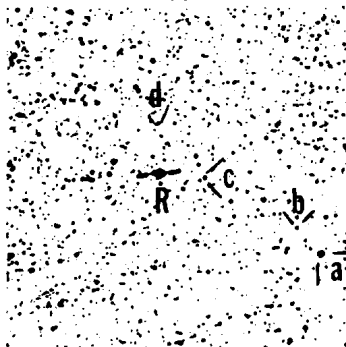
V3821 Sgr AND A NEARBY CARBON STAR

It has been shown that large errors do exist in the published positions of some Variable stars (Carlos Lopez, 1989). W. Bidelman of the Warner and Swasey Observatory pointed out that a carbon star No. 4007 in Stephenson's catalog (1989) had published positions that were very close to the variable V3821 Sgr. A question therefore arose as to whether or not these were one and the same star. The variable is listed in the fourth edition of **The General Catalogue of Variable Stars** as an eclipsing binary of the Algol type. This star was discovered by Dorrit Hoffleit at Harvard around 1935.

Measurements by Christopher Predom and Robert

Table I. New Positions for Carbon Star No. 4007
and Several Variable Stars.

Star	(1950)	Remarks
4007	18 23 27.9829 - 22 06 02.535 27.7 07	vis. mag 10.0
V3821 Sgr	18 23 22.5560 - 22 06 10.304 24. 06.2	13.7-14.6 pg, EA IBVS 660 chart 75c.
V2548 Sgr	18 23 26.5685 - 22 04 03.761 28 04.1	14.5-16.4 pg, SR 159d. IBVS 660 chart 82.
NSV 10781	18 23 07.6399 - 22 08 18.519 09 08.3	12.8-13.9 pg IBVS 660 chart 75a.
NSV 10782	18 23 10.7336 - 22 07 34.840 11 07.5	14.0-14.5 pg IBVS 660 chart 75b.
NSV 10784	18 23 17.2117 - 22 13 55.811 18 14.8	14.4-15.1 pg IBVS 660 chart 79.



Finder Chart, Approx. 10' x 10'

North at top

R. Carbon star 4007

a. NSV 10781

b. NSV 10782

c. V3821 Sgr

d. V2548 Sgr

DeMartino on a yellow plate confirmed the position of the carbon star and showed another star in the position of the variable, 76 arc seconds to its west. The identity of the carbon star was established from a marked finder chart supplied by D.J. MacConnell, one of the original investigators of this object. Dr. Hoffleit then checked her original records and visited Harvard Observatory in order to ascertain which star was actually the variable. The carbon star and the variable are in fact two different stars. The plates she had surveyed showed no significant variation of the carbon star. On examination of 230 Harvard plates taken between 1924 and 1951, and another 130 plates at the Maria Mitchell Observatory taken between 1957 and 1962, Dr. Hoffleit had found a total of 16 minima from which she determined the following provisional light element:

$$JD(\text{min}) = 2427239.548 + 0.7503986 n$$

Many more plates are now available at the Maria Mitchell Observatory. Under the direction of Dr. E.P. Belserene, a summer student will determine a more definitive period and light curve.

The new positions we have recorded for the

variable, the carbon star, and a few other nearby variables are shown in Table I. The first line is the new position, the second shows the old coordinates.

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