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BVRI OBSERVATIONS OF TWO IRREGULAR VARIABLES

Observations on the Johnson BVRI system are reported for two irregular variables, V509 Cas and FX Lib. The Purdue High Speed Photometer, described by Barnes et al. (1978), was used for the observations. The instrumental system and reduction procedures are discussed by Moffett and Barnes (1979).

Most of the observations were obtained on the 91-cm and 76-cm reflectors at McDonald Observatory and a few were also made on the 61-cm reflector at the Table Mountain Observatory and the No. 2, 91-cm telescope at Kitt Peak National Observatory.

The star, FX Lib, is classified as a γ Cas variable in the GCVS. It is a member of the Sco-Cen association and has a circumstellar envelope. The star, V509 Cas, is a variable similar to ρ Cas. The photoelectric observations of these two variables are given in Table I. The estimated uncertainties for a single observation are: V = ±0.014, (B-V) = ±0.009, (V-R) = ±0.009, and (R-I) = ±0.012.

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References:

Barnes, T.G., Evans, D.S., and Moffett, T. J., 1978, M.N.R.A.S., 183, 285.
Moffett, T.J., and Barnes, T.G., 1979, P.A.S.P., (in press).

TABLE I

V509 Cas = BS8752

HJD (2440000+)	V	(B-V)	(V-R)	(R-I)
3367.00	4.873	1.590	1.171	.826
3368.95	4.914	1.582	1.192	.833
3371.00	4.869	1.574	1.182	.822
3374.87	4.887	1.581	1.163	.831
3377.00	4.874	1.592	1.175	.829
3377.88	4.899	1.586	1.183	.839
3393.85	4.904	1.583	1.195	.816
3397.86	4.873	1.586	1.188	.791
3398.85	4.885	1.583	1.186	.801
3427.68	4.850	1.590	1.168	.802
3495.60	4.854	1.567	1.208	.788
3496.61	4.844	1.587	1.184	.810
3508.56	4.893	1.595	1.222	.795

FX Lib = BS5941

3621.88	4.773	-.086	.003	-.101
3626.82	4.799	-.093	.007	-.088
3645.78	4.777	-.077	.005	-.104
3662.80	4.779	-.080	-.012	-.083