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THE PROPER MOTION OF CR Gem

CR Gem = AGK3 +16 639 = BD +16 1194 is an Lb type variable star with photographic magnitudes in the range 10.9-11.8 (GCVS) and spectrum N (Stephenson, 1973).

During the use of the AGK3 stars as a reference frame for the reduction of some plates, it was noticed that the proper motion of AGK3 +16 639 ($-0''.126$ in RA and $0''.600$ in DEC) seemed to be too large and it was decided to attempt the redetermination of the proper motion.

The first-epoch position is based on the published material of the Bordeaux Astrographic Catalogue where CR Gem was identified with object 556 on plate 614 (zone $+17^\circ$ and epoch 1902.0). The plate was rereduced using AGK3 stars as the reference system; the least-squares adjustment gave a standard error of $\pm 0''.32$ in both, RA and DEC.

The second-epoch position was obtained from a new plate (epoch 1985.9) taken with the Double Astrograph of the El Leoncito station. The reduction, performed using AGK3 stars, gave a standard error of $\pm 0''.38$ in RA and $\pm 0''.24$ in DEC.

The resulting annual proper motion is:

$$\text{RA} = 0''.000 \pm 0''.006(\text{se}) \quad ; \quad \text{DEC} = -0''.048 \pm 0''.005(\text{se})$$

Even though this result is based on one first-epoch position and one second-epoch position, it seems to be in agreement with Stephenson's (1978) hypothesis referring to the possible occurrence of systematic errors in the proper motions of the reddest stars of the AGK3.

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