

A SUSPECTED NEW VARIABLE IN COMA BERENICES

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Abstract

A variable star in Coma Berenices, suspected by Nancy Hartle, is confirmed.

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Nancy Hartle, a summer student assistant at the Maria Mitchell Observatory in 1976, listed a number of suspected variable stars in Coma Berenices. One of the more promising suspects, NH 13, at $\alpha = 12^{\text{h}}09^{\text{m}}51^{\text{s}}$ $\delta = -25^{\circ}28'.8(1900)$, was studied using the 191 Coma plates in the Maria Mitchell plate library (see Figure 1). Unfortunately this star is at or near the plate limit on many of the Nantucket plates, so plates with exposures less than thirty minutes are not often useful for this star.

After the selection of four comparison stars, two sets of magnitude estimates for the variable were made. Figure 2 shows the graph of the first set against the second. If the plates had been examined without error, each point would lie on the line $X = Y$. The natural uncertainty of the estimates is shown by their deviation from the line, and the coefficient of correlation is $r = 0.86$, indicating the presence of the variability.

Magnitudes for the comparison stars were estimated from a standard sequence found in the Atlas of Harvard-Groningen Selected Areas. Selected Area No. 56 in Ursa Major and the region of the suspected variable were both located on a single print of the Lick Observatory Sky Atlas. Comparison of the suspected variable's region and S.A. 56 was done by "fly-spanker", and led to the establishment of magnitudes for the comparison stars in the region of the variable. On this basis the amplitude of the suspected variable is about 0.7 mag., from 14.6 to 15.3pg.

The position of the suspected variable star was interpolated from four nearby reference stars found in the Bonner Durchmusterung, precessed to 1900.

This work was carried out under a National Science Foundation Grant No. AST77-06974 to the Maria Mitchell Observatory.

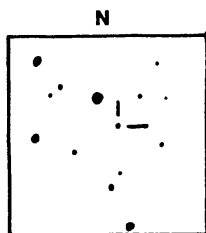


Figure 1. Finder chart for NH 13. North at top, approximately 10'x 10'.

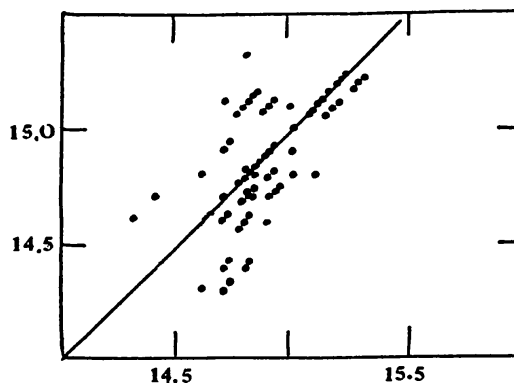


Figure 2. Correlation between two sets of estimates.