

TESTING EQUATIONS

Subnormal:

$$SN_1 = 8A_1 - 16B_1 \gamma_{E1}^2 + 2(64B_1^2 - 12C_1) \gamma_{E1}^4$$

$$SN_2 = \frac{1}{4B_2 \gamma_{E2}^2}$$

Caustic:

$$\begin{aligned} &= \frac{1}{2A_i} 1 + (3 - 192B_i) \frac{\gamma_{Ei}^2}{8} + 3(192B_i^2 - 0.5B_i - 20 C_i) \gamma_{Ei}^4 + \dots \\ &= - (1 - 64B_i) \frac{1}{4} \gamma_{Ei}^3 - 3(128 B_i^2 - 16 C_i) \gamma_{Ei}^4 + \dots \end{aligned}$$

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A PRELIMINARY SEARCH OF STARS OF RAPID VARIABILITY

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A T-association in the constellation of the Southern Crown was first studied by Joy (1945). Known members are R CrA, T CrA, S CrA and TY CrA which present high peculiarities in both their spectra and their colors (for more details see Joy, 1945; Mendoza, 1968 and 1969; and Mendoza and the Jaschek's, 1968).

This work gives preliminary results of a search of stars of rapid variability in brightness in the neighborhood of NGC 6729. This program will be extended to other centers of the Southern Hemisphere.

Six plates were secured with the Curtis Schmidt Telescope of the Cerro Tololo Inter-American Observatory on September 1968. The plates cover an area of twenty-five square degrees. We used the 103a-0 emulsion behind an ultraviolet filter, UG5. Each plate is composed of several images; the first two are 0.14 mm apart and the remaining are separated only 0.10 mm. The number of images are from five to seven, each one of 15 minutes exposure.

In these twenty-five square degrees are many known variables (Kukarkin, Parenago, Efremov, and Kholopov, 1958); however, we found two stars not listed as variables which had an increase in brightness of nearly two magnitudes in less than two hours. These stars are listed in Table 1. The columns of this Table give, first, star number; second, the 1950.0 coordinates (Boss *et al.*, 1937); third, an approximate photographic magnitude at minimum light; fourth, the date (JD) of the maximum; and last, the total estimated duration of the event.

T A B L E 1
TWO RAPID VARIABLES

Star	α (1950.0)	δ	m_{ph}	J D	Δt (min)
1	18 ^h 54 ^m 08 ^s	-36° 38' 6"	13.6	2440114.518	90
2	18 57 54	37 00.7	18	2440114.550	60

Identification charts for stars listed in Table 1 are given Figures 1 and 2 (North is at the top, East to the left).

Variable 1 is located approximately half a degree to the West of the globular cluster NGC 6723. Thus, it is probably too far and too bright to be a part of this cluster. On the other hand, the known T Tauri-like objects of the association are not close enough to affirm that star 1 belongs to the T-association. However, an infrared plate (IN + W89h), taken on September 18.15, 1968 (UT), indicates a color index K type-like star. Most stars closer than one

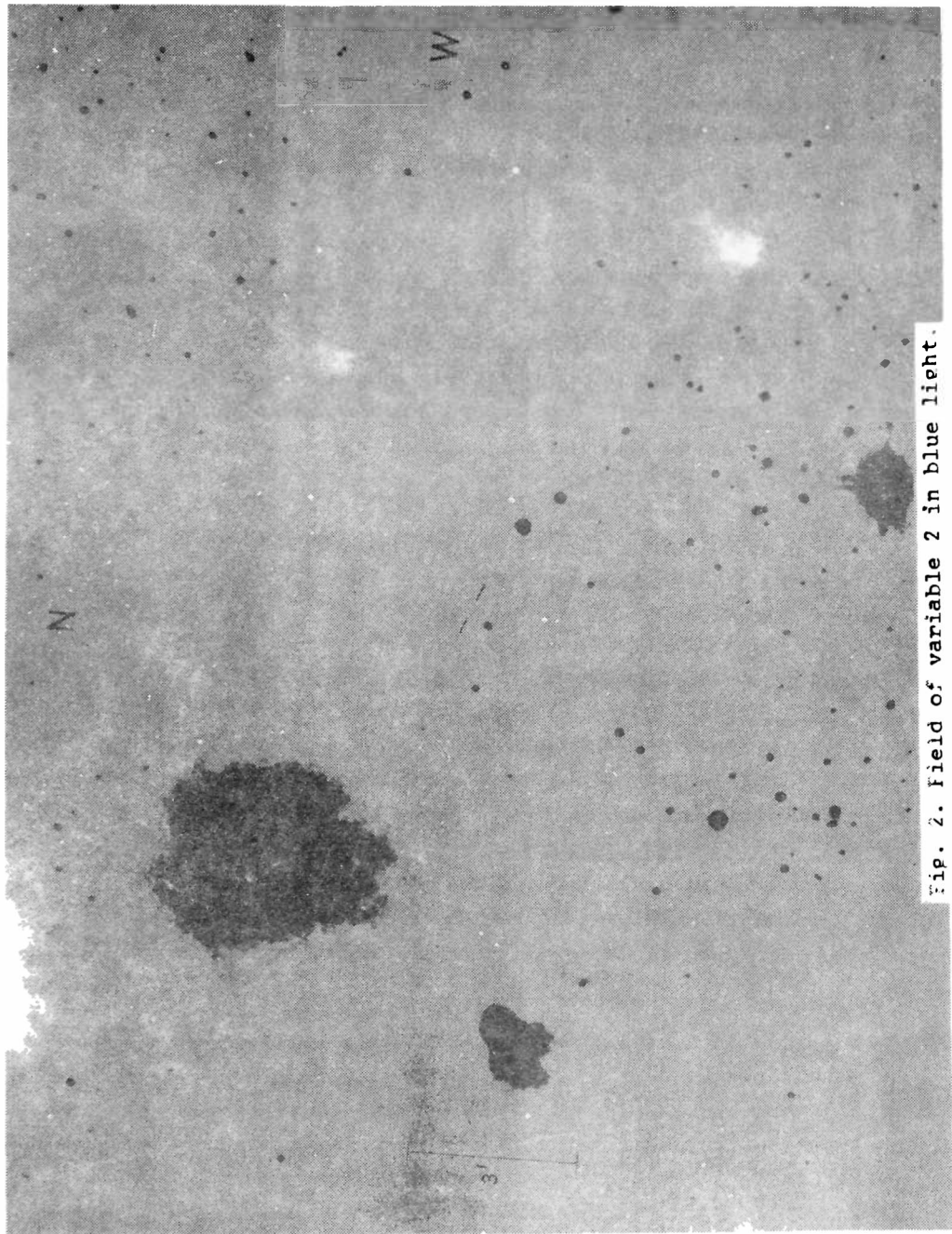
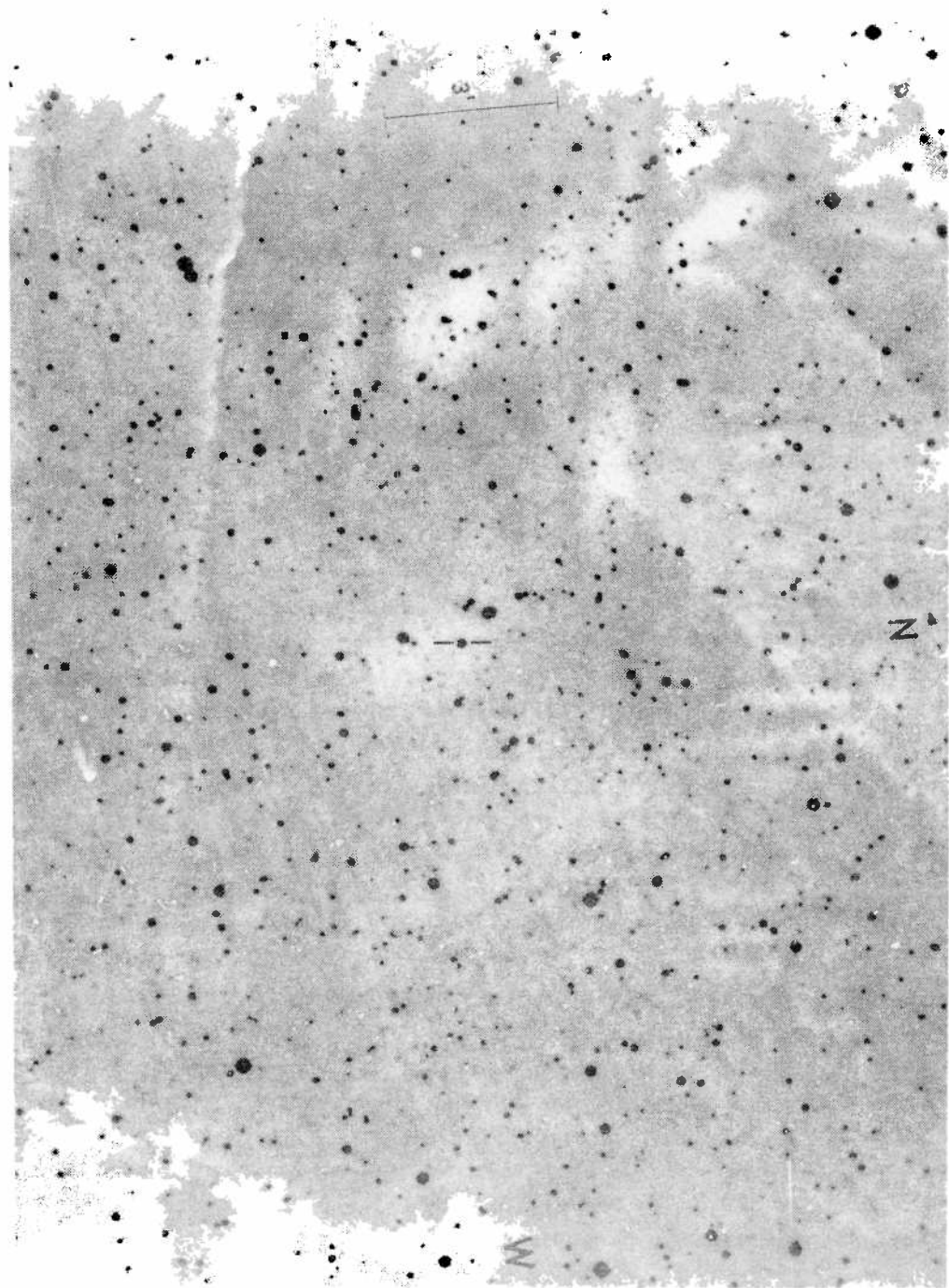


Fig. 2. Field of variable 2 in blue light.



minute of arc are much bluer than variable 1. Some of these stars (see Fig.1) very nicely shape a horseshoe. The area in general does not seem much affected by interstellar extinction.

Variable 2 is located very close to S CrA; thus, it appears likely that it belongs to the association. The infrared color-index seems bluer than that of variable 1. Therefore, the spectral type probably is earlier than of star 1. Star 2 maybe affected by interstellar extinction.

The telescope was used according to an agreement between AURA, Inc. and the University of Chile. We express our thanks to Dr. V.M. Blanco for all the facilities granted to us in Tololo.

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ERRORES SISTEMATICOS DE LOS CATALOGOS FK4 y N₃₀
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Se presentan los resultados de 147 series de observaciones de estrellas fundamentales efectuadas entre las declinaciones -40° y -90° en culminación superior y -90° a -69° en culminación inferior, con el Círculo Meridiano Repsold del Observatorio Astronómico Nacional.

Las reducciones de las observaciones se realizaron con el computador IBM 360 de la Universidad de Chile y en los resultados se incluyen 535 valores de Δ_α y 1494 valores de $\Delta \delta$.