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EK Lac = NSV 14025

During my work on *PICA project* (Precise Identification and Coordinate Adjustment of about 7000 variables) I have found that *EK Lac* is identical with *NSV 14025*.

EK Lac = SVS 1114 was discovered by Kurochkin in 1949 (Kukarkin, 1952). Kukarkin (1952) has investigated this star and gave the light elements and finding chart for this eclipsing binary. The star has received its final designation in 1952 (Kukarkin et al., 1952). From that time only times of three individual minima have been secured.

NSV 14025 = Brun 29 was discovered by Brun (1964), giving also the finding chart. No final designation was accepted for this star and it was included into New Catalogue of Suspected Variable Stars (Kholopov et al., 1982).

While working on field variable stars around *EK Lac* I have noticed that chart referring to *NSV 14025* in fact refers to *EK Lac*, although the stated coordinates are about 7' off the *EK Lac* position. While checking the literature it became clear that Brun has overlooked in 1964 the identity of his star with *EK Lac*, already named 12 years earlier. This identity was overlooked also by compilers of NSV. As finding charts are available for both stars, their identity is clear.

As *EK Lac* is identical with GSC 3613.1331 the J2000.0 coordinates were easily found (see Table 1). These coordinates are consistent with those given by Plaut (1977). The remaining difference may have origin in proper motion, as the epoch differs by 81 years. Finding chart (see Figure 1) was adapted from Atlas Stellarum (Vehrenberg, 1970).

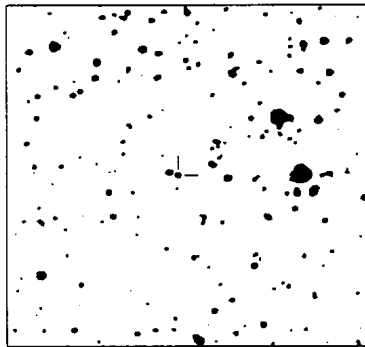


Figure 1: Finding chart for EK Lac = NSV 14025. The chart covers about 40' x 35' with north up. Variable is marked with two short lines.

Name	Position (B1950)				Position (J2000)				Type	Max mag	Min mag	Ph. s.
	h	m	s	° ' "	h	m	s	° ' "				
NSV 14025	22 03 36			+49 24.4	<i>22 05 32</i>			<i>+49 39.0</i>	EA:	10.8	11.3	p
EK Lac	22 02 54			+49 25.6	<i>22 04 50</i>			<i>+49 40.2</i>	EA	11.2	11.7	p
EK Lac (Plaut)	22 02 53.95			+49 25 34.6	<i>22 04 49.72</i>			<i>+49 40 10.6</i>				
GSC 3613.1331	<i>22 02 54.03</i>			<i>+49 25 35.3</i>	22 04 49.80			+49 40 11.2		11.17		1

Table 1: Comparative table of *original* data for NSV 14025, GSC 3613.1331 and EK Lac. Data concerning NSV 14025 are from NSV, data for EK Lac are from GCVS, for EK Lac (Plaut) are by Plaut (1977) and data for GSC 3613.1331 are from GSC. Photometric system code 1 for GSC represents the Kodak Ila-D plate with W12 filter. Coordinates printed in *italics* were computed from the above stated data sources.

In cross-reference tables of NSV catalogue *NSV 14025* is stated to be identical with BD +48°3603. Regrettably this identification, based on the coordinates reported by Brun, is not valid. This BD star, according to Brun's chart, is the star 1' NE with respect to the variable, but this is incorrect too, because BD +48°3603 is in fact about 7' E-SE from *EK Lac*. The BD star nearest to *EK Lac* is BD +48°3599, located 1.7' north of variable, but no bright star can be found in this place. It is a question, whether BD +48°3599 should be identified with *EK Lac* or its only slightly brighter neighbour, because they are both at the same distance from the reported position of BD +48°3599.

Following cross-identifications are valid : EK Lac = GSC 3613.1331 = SVS 1114 = Brun 29 = Cat ph 22^h06^m+49° N°108 = Cat ph 22^h00^m+50° N°529 = NSV 14025

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