

## V829 AQUILAE IS A PULSATING STAR WITH A VARIABLE LIGHT CURVE

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The star V829 Aquilae = BD +03°4145 = AN 122.1935 = GSC 484.00065 ( $\alpha_{J2000}$  :  $19^{\text{h}}46^{\text{m}}57^{\text{s}}$ ;  $\delta_{J2000}$  :  $+03^{\circ}30'28''$ ; spectral type: F5) was found to be variable by Hoffmeister (1935) from photographic photometry at Sonneberg Observatory, Germany. He remarked that the star was “difficult” and “possibly an eclipsing binary”. Based on this scant information, the author started a visual survey (Diethelm, 1977) that led to the determination of provisional elements. These elements were adopted in the GCVS (Khopolov et al., 1985).

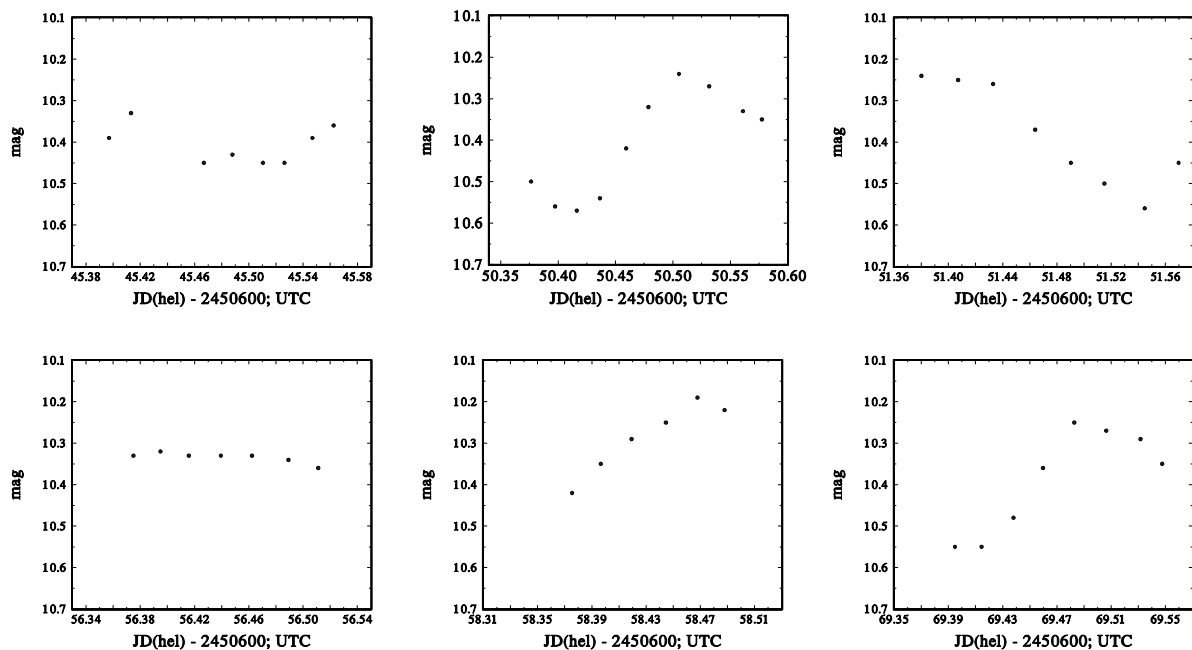


Figure 1. Unfiltered CCD light curve of V829 Aquilae during six nights in 1997

In order to investigate the validity of the preliminary elements, we reobserved V829 Aquilae with the 35cm SC-reflector of R. Szafraniec Observatory, Metzerlen, Switzerland, equipped with an SBIG ST-6 CCD camera at its prime focus. The unfiltered CCD photometry is accurate at the 0.1 magnitude level for objects as bright as V829 Aquilae (11th magnitude). Since both the comparison star (GSC 484.00267) as well as the check star (GSC 484.00227) lie within a few arcminutes of the variable, no extinction correction was necessary. A total of 61 observations in 1995 and 88 observations in 1997 were secured. In Figure 1, we present the data from six nights in 1997 (JD 2450645, 2450650, 2450651, 2450656, 2450658 and 2450669) as an example for the photometric behaviour of V829 Aquilae. The comparison star proved to be constant during all the 25 nights when observations were gathered.

From these examples it is apparent, that the variation of V829 Aquilae shows a complex nature of a pulsating type. While in some nights, we observe a well established asymmetric pulsation light curve with a period of close to 0.3 days and an amplitude of about 0.4 magnitudes, in other nights the star shows little variation at an intermediate brightness level, which is reminiscent of the behaviour of VZ Cancri (Arellano Ferro et al., 1994; Cox et al., 1984) or AC Andromedae (Fitch and Szeidl, 1976).

Based on this comparison we conclude that V829 Aquilae is probably a multimode radial pulsator very much deserving further attention. We have tried to find the primary period of pulsation from our data. The 1997 observations can be fitted reasonably well with a principal period of 0<sup>d</sup>.292, but the data from 1995 cannot be presented with this period value. Our data are not numerous enough to establish the period values with any certainty. Any researcher wishing to use our data for a comprehensive period study is kindly invited to contact the author at the e-mail address given above.

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