

## OBSERVING U GEM TO THE LIMIT

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The 2000/2001 apparition of **U Gem** began and ended with consecutive *Long* outbursts and no intervening *Short* outburst. The interval between these outbursts was exceptionally long at 202 days (nearly twice the average period of 105 days), and readers might be wondering if this is a record for this star. The answer is that it falls well short of the record, by more than 50 days in fact.

Although uncommon, consecutive *Long* outbursts have been observed by the VSS on 8 previous occasions since records began back in 1904. All of these consecutive *Long* outbursts have had lengthy intervening periods in excess of 135 days. A close check of the records reveals that the 1928/1929 apparition produced two *Long* outbursts in succession on the 18th September 1928 and 1st June 1929, with a record intervening period of 255 days. This is how the event was reported in the BAA Journal, Volume 45, No 1 (November 1934) by the future VSS Director W. M. Lindley:

*“The outstanding event documented by these observations has been the occurrence of a Long maximum on 1929 June 1, 255 days after the Long of 1928 September 18, and without the least chance of an intervening rise having remained undetected. This is interesting for two reasons. Firstly, although two consecutive Long maxima may have been observed before, this appears to be the first quite definite case. Secondly, the longest interval between successive rises actually observed previous to this, and without resorting to any hypothesis, is 137 days, so that the 255 days here recorded show an interval almost twice as long as any before. The above facts, the evidence for which was examined particularly carefully in view of their exceptional character, are fully established by our observations alone, except for a fortnight’s gap at the end of, and immediately following the 1928 September Long, which however, is closed by AAVSO and AFOEV observations; in addition these confirm in every way that no rise can have escaped unnoticed during the remainder of the period”.*

The 1929 outburst began on the 28th May and was followed by R. G. Chandra and P. M. Ryves in trying conditions (twilight) until 6th June, just long enough to establish beyond doubt, that it was a *Long*. This demonstrates the merit of observing non red stars into twilight and extending their apparitions for as long as possible. For U Gem this means observers should try to pick up the field as early as possible in August and follow it into June. Chandra and Ryves did not have to contend with the levels of light pollution that we have today, but on the other hand the larger apertures now available can potentially compensate to a degree. Unobstructed north eastern and north western horizons are the most important factors though. With U Gem having risen at the end of April 2001, and if the next outburst is close to the average period of 105 days, then it could rise again during August. What an incentive this is to see how early observers can pick up the field in the 2001/2002 apparition.

Without the determined efforts of Chandra and Ryves observing U Gem to the limit in 1929, our knowledge of this important star's behaviour would be much less complete, and we could now be heralding the 2000/2001 apparition as one of record breaking proportions.