

Dear CBAers,

The seasonal change looms... time for a new menu of stars.

V407 Lup. Our data, from Gordon and Berto, show this recent classical nova to be a 3.3 hour binary (common enough) and a 9.5 minute DQ Her star (very rare for a classical nova). Great... but we started too late in the season to complete the study, and we'll suspend until next April rolls around.

WZ Sge. Great coverage this year, especially by Geoff Stone. I've analyzed all the runs until Sept. 7, and was really happy with the accuracy. The eclipses can be timed to an accuracy of ± 8 s, although the integration times are typically 25-45 seconds... and despite their shallowness (~ 0.15 mag, similar to the flickering). This is because of the square walls of the eclipse - and, of course, because we get many eclipses and thus can average them.

The campaign was called to check on the surprising result by Han et al. (2017) that the orbital period was decreasing, and pretty fast too. Our data are clearly inconsistent with this conclusion. The timings do show a slow (~ 25 year?) up-and-down wander of around 25 s, like several other short-period CVs. This result is no stunner, but is worth publishing since WZ Sge is a celebrity star and the alleged period change has attracted a lot of attention. In a few weeks I'll send around a draft to the (numerous) CBA co-authors. Meanwhile, take it off your 2017 menu.

I've been working hard on eclipse timings this summer. In principle we can learn the direction and rate of evolution from changes in the orbital period, and we're the best show in town for such data since we have been acquiring lots of time-series data for many years. Here are the seasonally-appropriate stars which probe these matters:

QR And (especially! but long runs only, the period is very long)
ES Cet - once in a while
V617 Sgr - finished for the year; thanks Josch!
WX Cen - (long since) finished for the year
BW Scl - just a few nights; we'll promote if it looks interesting
V Sge - done for the year, thanks for all the great data!

Another category in which the world relies on us is: the changing orbital light curve of novae after they erupt (a few years, decades, centuries, and even millennia). These seasonally-appropriate stars are:

V Per - getting optimistic here ($V=18.5$... but we're desperate)

T Aur

V339 Del

V1974 Cyg - David Cejudo has been carrying out a great vigil... but we desperately need a USA observer to complement his Euro coverage

V1500 Cyg - unless Enrique says we have enough

DQ Her - but here we are quite interested in the fast (71 s) period, as well as the orbit. I recommend you keep your cycle time (integration + read time) below 25-30 seconds. The season is getting late, so a good 14.5 mag target now (rather than, say, a month from now).

+ 2 other bookended stars - north and south - which are tantalizing but so far resisted our efforts to torture their secrets out of them. They are:

GD 552 = "Cep 1" in Downes & Shara

VZ Scl

Let's try harder on these guys!

A big menu. Choose a couple of stars and concentrate on them. If any star looks particularly good or unpromising, I'll jump it up or down in the menu.

Enrique will likely follow with comments and suggestions, esp. re the DQ Her stars (intermediate polars) which aren't on this list.

joe