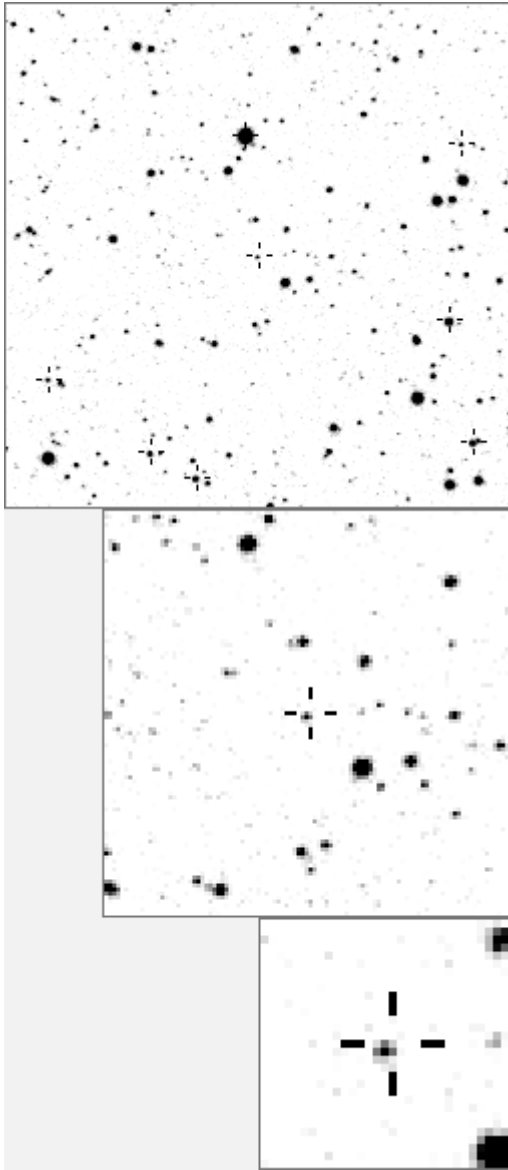


a20926



The other three variables in this snip are a pulsator (a00102) and two eclipsing binaries, a03487 and a06763

variables & brighter stars	
o	20926 v
i	a 102 v
	b 528
	c 559
a	d 1202
j	e 1491
	f 1549
	g 2153
O	h 2689
g	i 2959
	j 3357
	k 3487 v
o	l 6763 v
	m 8557 v
	n 11545 v
b n	o 19617 v
	p 20007 v

	O 20926 v
m	a 2153
	b 3357
	c 9526
	d 10483
	e 11533
	f 15290
	g 15306
	h 18106
	i 19019
	j 19484
	k 20191
	l 21129
	m 28168
	n 28872
n c	o 30253
	p 31567

Bitmap sizes are 251, 101 and 31 pixels square, South up.
 The keys to the right refer to the 1st two bitmaps. The numbers in the key are those in my catalogue 'starlistA'.
 Stars marked with a cross have been found to be variable.

Data and comments on star a20926

SWid: a20926 / **USNO id: 1370 464119 / other id: 1350-13568770**

Co-ordinates, x,y in image z1051: 2476.5 2822.3

J2000 sky co-ordinates: 21 10 2.21 +47 0 11.05

CMC r'magnitude and 2MASS J, H, K magnitudes: 14.583 13.131 12.937 12.814

USNO B1.0 magnitudes, B1, R1, B2, R2, I2: 15.72 14.28 16.29 14.85 14.47

Misc comments :

eb, period 0.285235, see R report, I think it's 0.57070 in fact, the minima are different in z and v

Comparison reference star(s) co-ordinates:

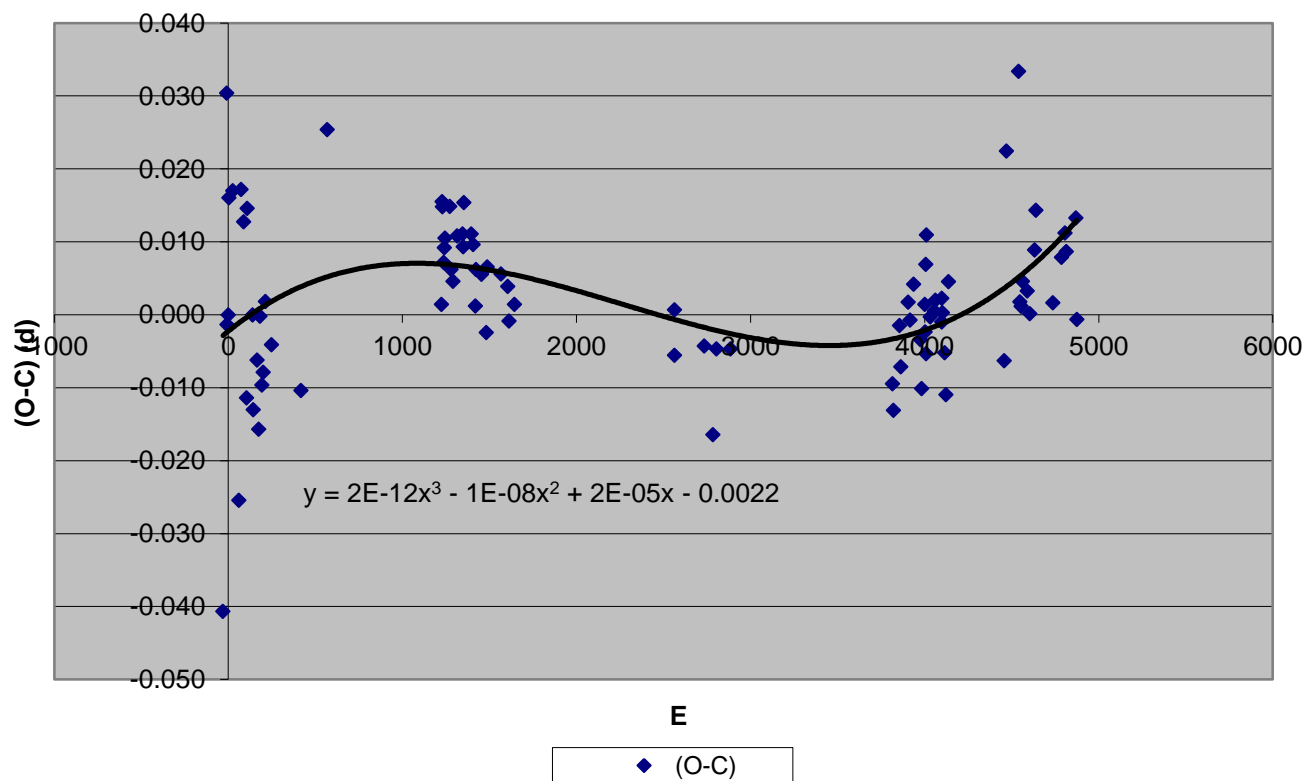
a00083: 21 9 31.22 +46 48 45.75

RS: The (O-C) diagram appears to show a definite sinusoidal variation with $P \sim 1540$ d. I think that this means that it is a member of a binary system with this orbital period; the variation in (O-C) is due to the change in the light travel time from the star as it orbits around the barycentre of the binary system. As for a20926 itself, it could be a W UMa eclipsing binary with $P \sim 0.570$ d or an RR Lyrae star with $P \sim 0.285$ d. From the light curve, the JHK and BV photometry, and the proper motion, I think that it is an eclipsing binary; the (O-C) diagram implies that the orbital period is secularly variable over the observing period, apart from the sinusoidal variation.

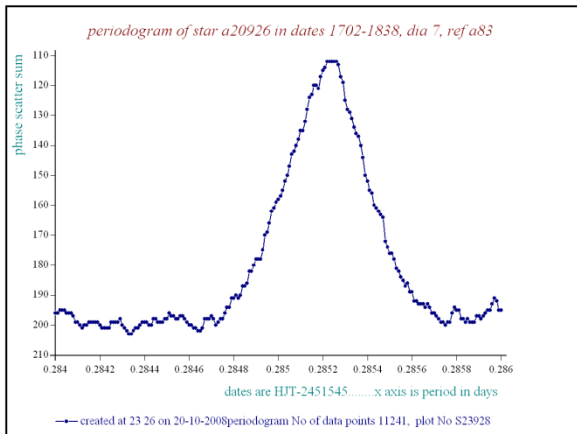
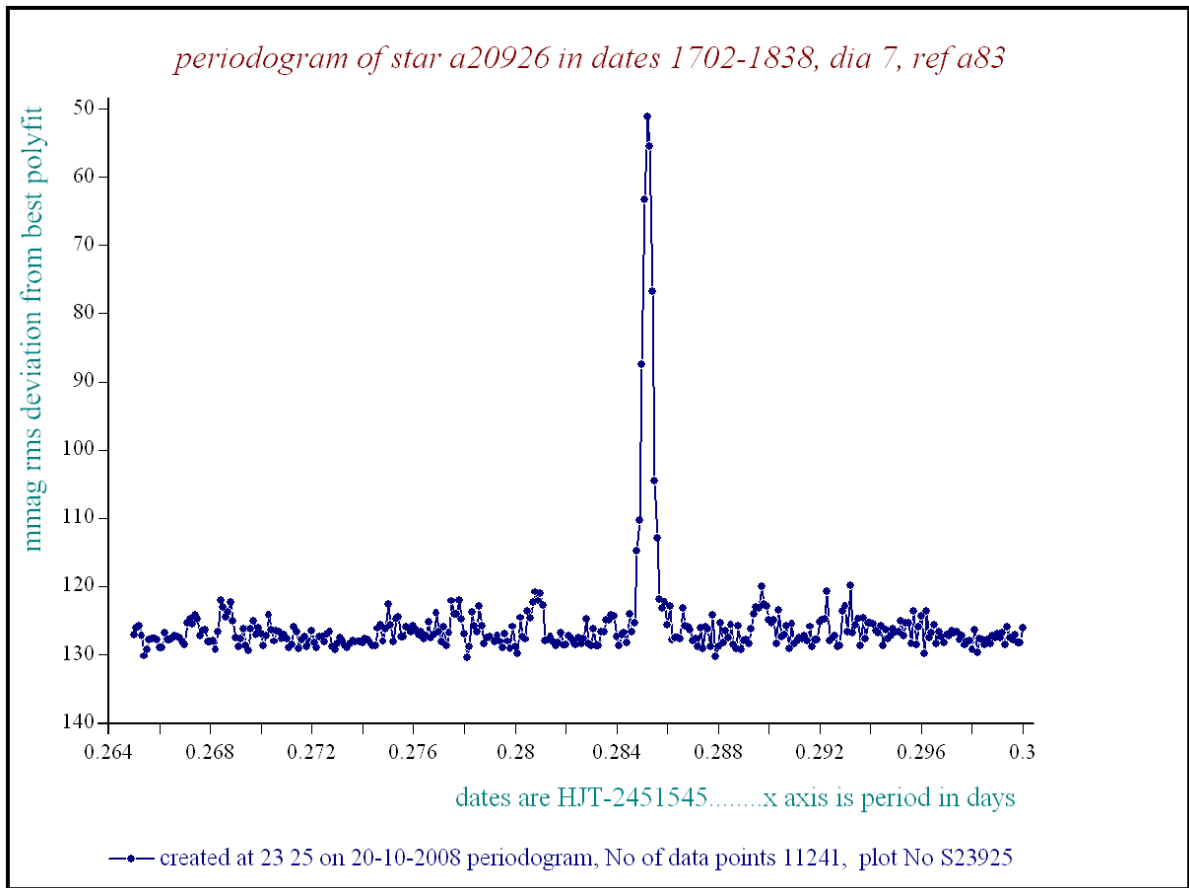
Reminder: **All dates, JD and HJD are from Jan 1st 2000**

season 1: dates 1316 to 1553 is 9/8/2003 to 3/4/2004	(a)
season 2: dates 1696 to 1838 is 23/8/2004 to 12/01/2005	(z)
season 3: dates 2085 to 2177 is 16/9/2005 to 17/12/2005	(y)
season 4: dates 2442 to 2755 is 8/9/2006 to 19/7/2007	(w)
season 5: dates 2772 to 2903 is 4/8/2007 to 13/12/2007	(v)
season 6: dates 2930 to 3266 is 9/1/2008 to 10/12/2008	(u)
season 7: dates 3403 to 3539 is 26/4/2009 to 10/9/2009	(t)

a20926 (O-C) diagram

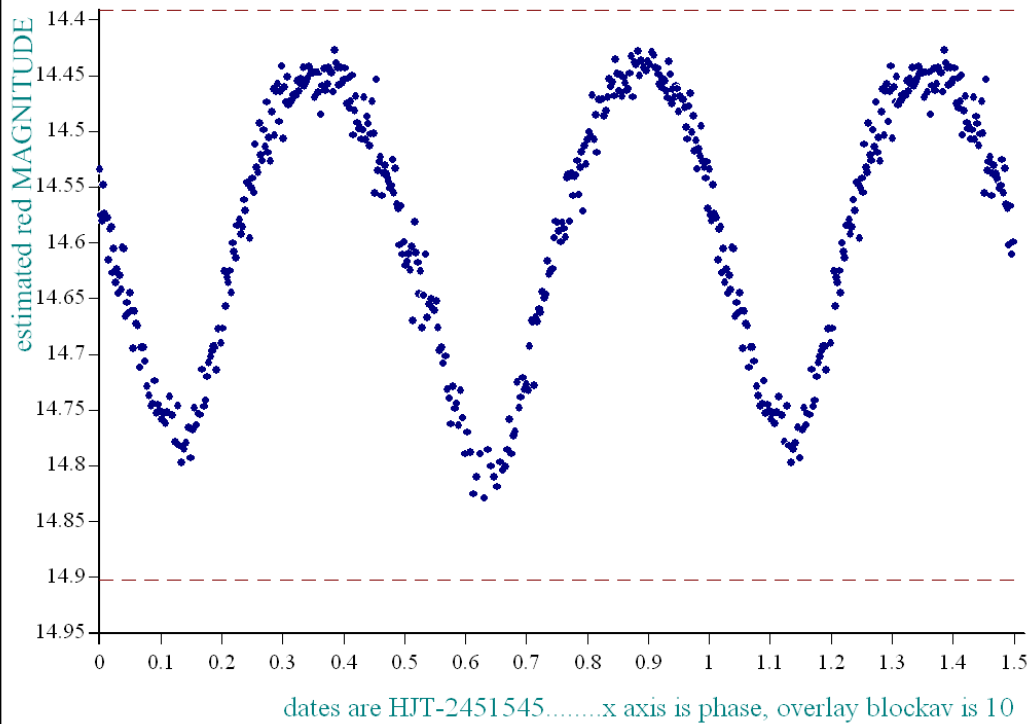


Richard's full report is a20926 (O-C) Diagram.xls



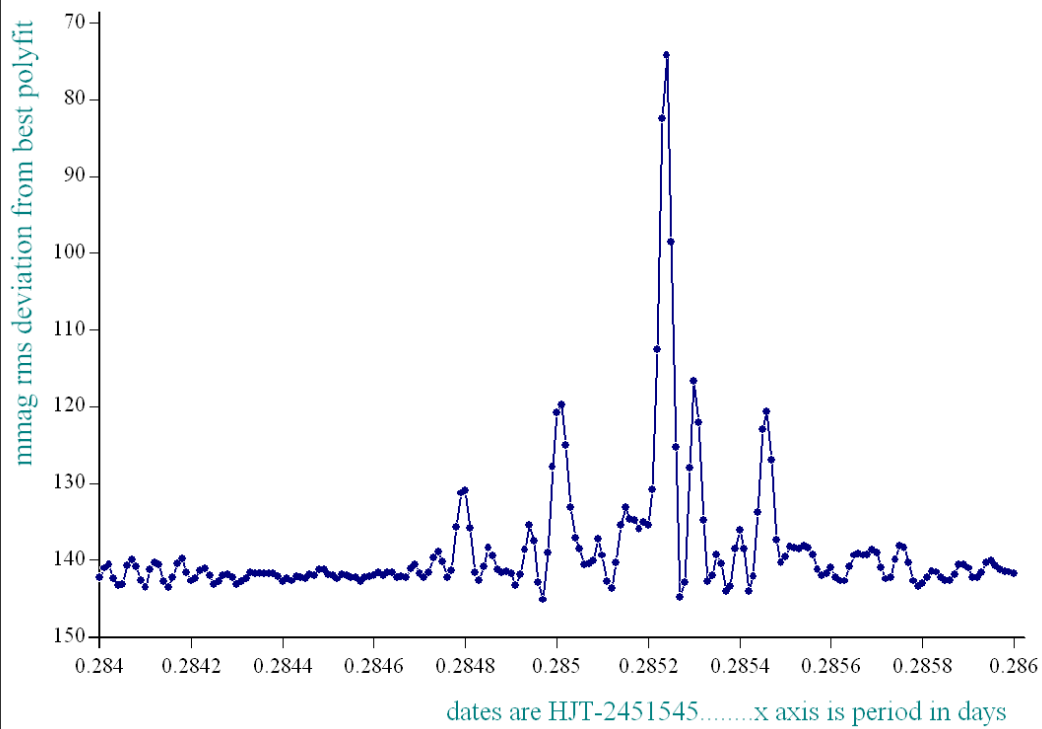
P=.28523d. Not certain at this stage whether the period is this or twice this

star a20926 dates 1702-1838, dia 7, ref a83, epoch 1220, period 0.5707



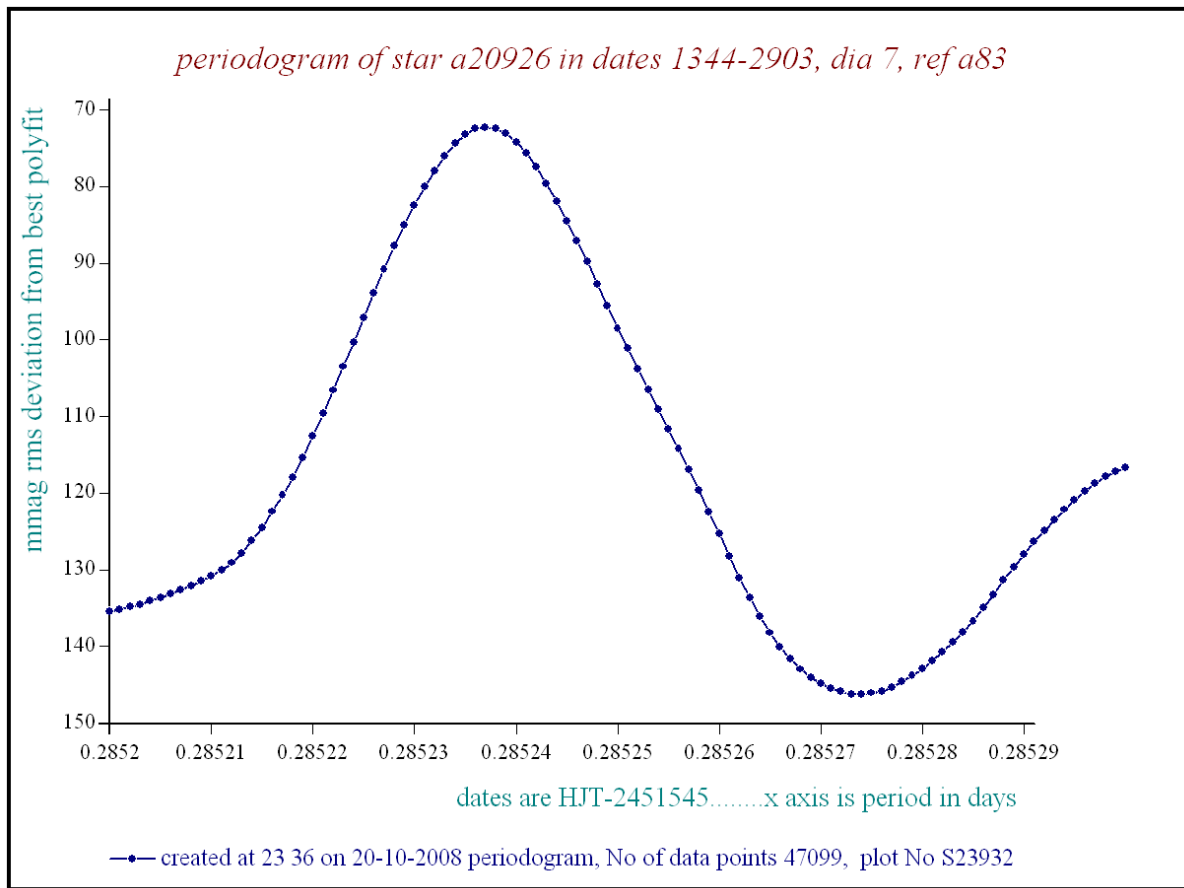
• created at 19 37 on 20-10-2008 phase plot, No of data points 11241, plot No S23922

periodogram of star a20926 in dates 1344-2903, dia 7, ref a83

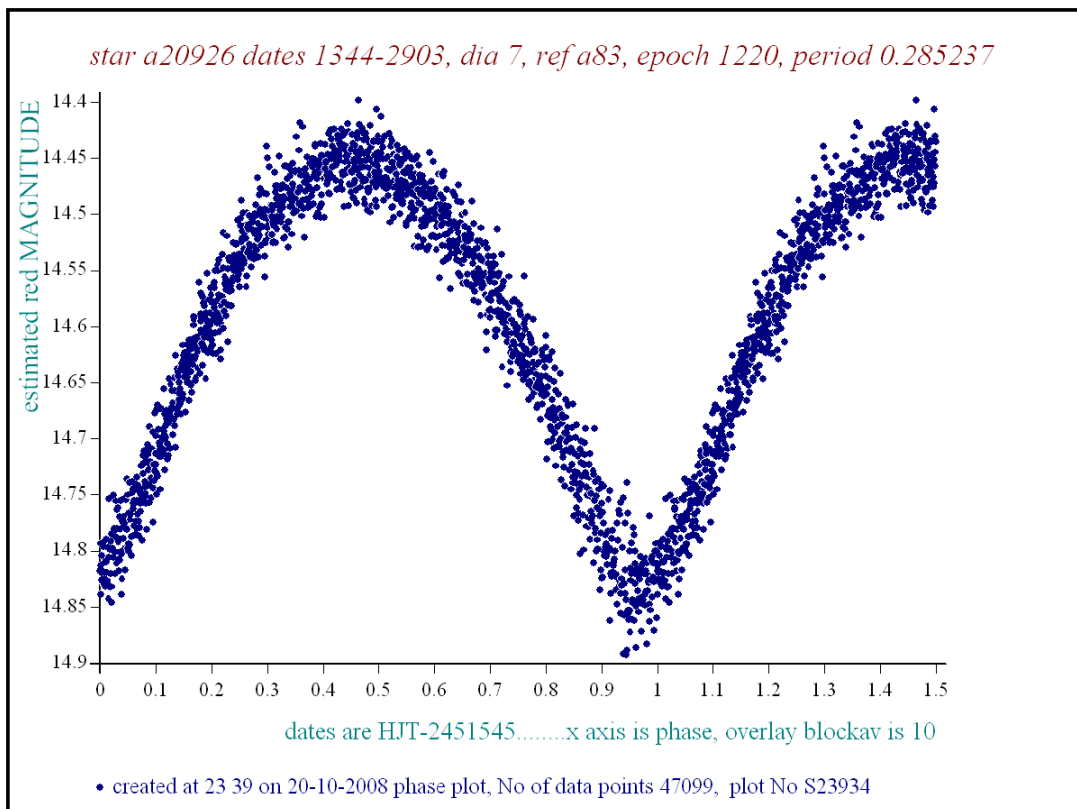


—•— created at 23 34 on 20-10-2008 periodogram, No of data points 47099, plot No S23931

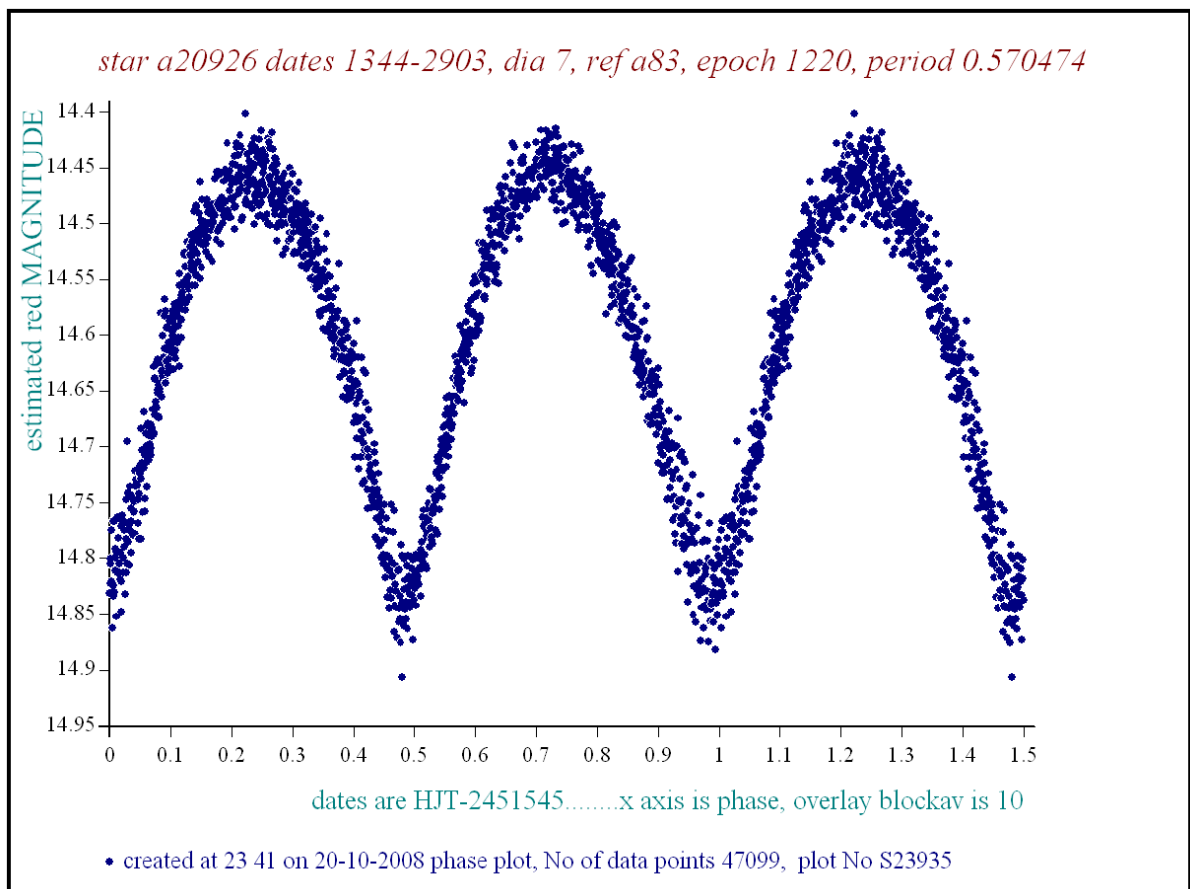
A narrower scan produces a best period over all 5 years of 0.2852370



Which produces this at the short period



And this at the double period:



There is no real evidence of different minima so the short period is most probably correct.