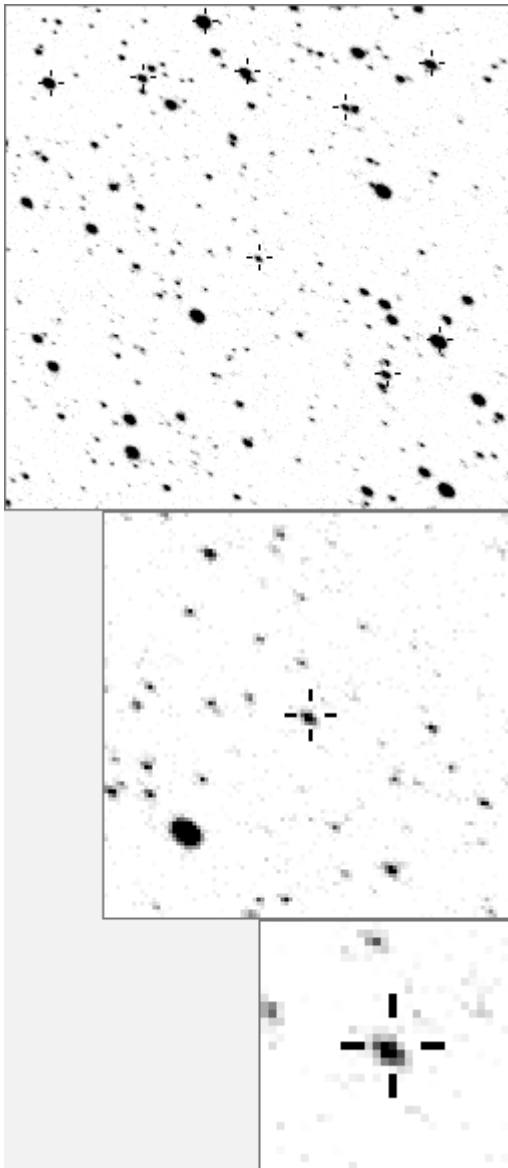


a12825



variable and brighter stars		
. b	O 12825 v	
. j . . i . k . .	a 563	
. h . . l	b 564 v	
. n	c 608	
.	d 670 v	
.	e 732	
.	f 1080	
.	g 1217	
.	h 1367 v	
. e d	i 1592	
.	j 2492 v	
.	k 2782 v	
.	l 5349 v	
. f	m 5838 v	
.	n 9993 v	

.	O 12825 v	
. c	a 732	
.	b 15594	
. i	c 17583	
.	d 18634	
.	e 26175	
. j . k	f 26370	
. h O	g 28749	
.	h 29239	
.	i 31195	
. g . n	j 31352	
d e	k 32111	
. a	l 33139	
.	m 33602	
.	n 34946	
. l		

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 a12825

SWid: a12825 / **USNO id: 1370 469322 / other id:**

Co-ordinates, x,y in image z1051: 3590 2982.2

J2000 sky co-ordinates: 21 14 21.24 +47 5 56.67

CMC r'magnitude and 2MASS J, H, K magnitudes: 13.617 12.244 11.984 11.901

USNO B1.0 magnitudes, B1, R1, B2, R2, I2: 14.7 12.87 14.65 13.18 12.35

Misc comments :

1516 is very odd, eb provisionally p is 45.23174 to 563 magm 13.57 magr 0.48

Comparison reference star(s) co-ordinates:

a00563: 21 14 43.36 +47 10 24.93

Basic data on this star:

Period 45.23174 days

Pixel co-ordinates in standard image- 3590 2983, getting towards bottom right corner

J2000 RA and DEC from SW catalogue - 21 14 21.23 +47 5 56.7

USNO B1.0 ID and R2 and I2 magnitudes 1370 469322 13.18 12.35

An eccentric eclipsing binary (very probably). The period of 45.23174 is obtained from three minima seen in 1352, 1759 and 2528. Putting this minimum at phase zero gives Fig 2 and magnified as Fig 3. Figure 2 seems to show another minimum at phase near 0.63. There is more comment on this below.

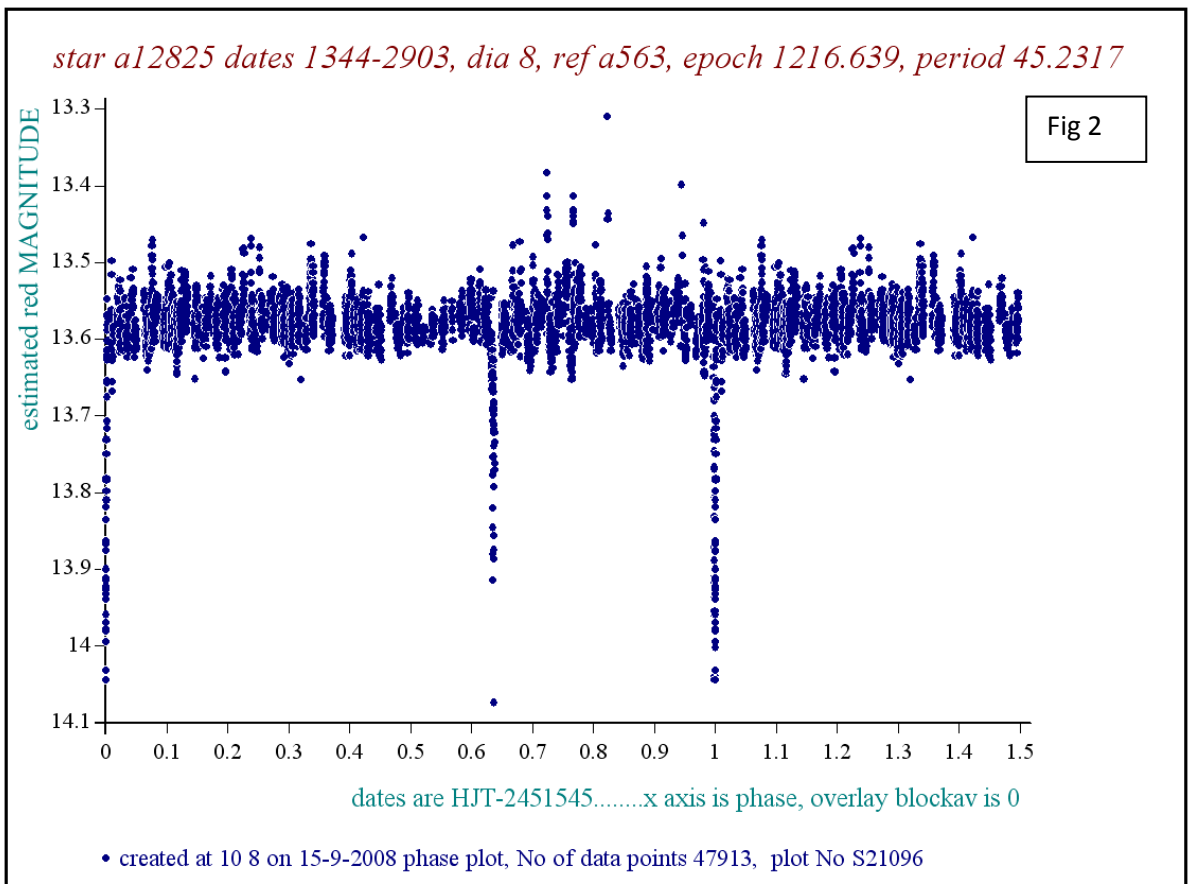
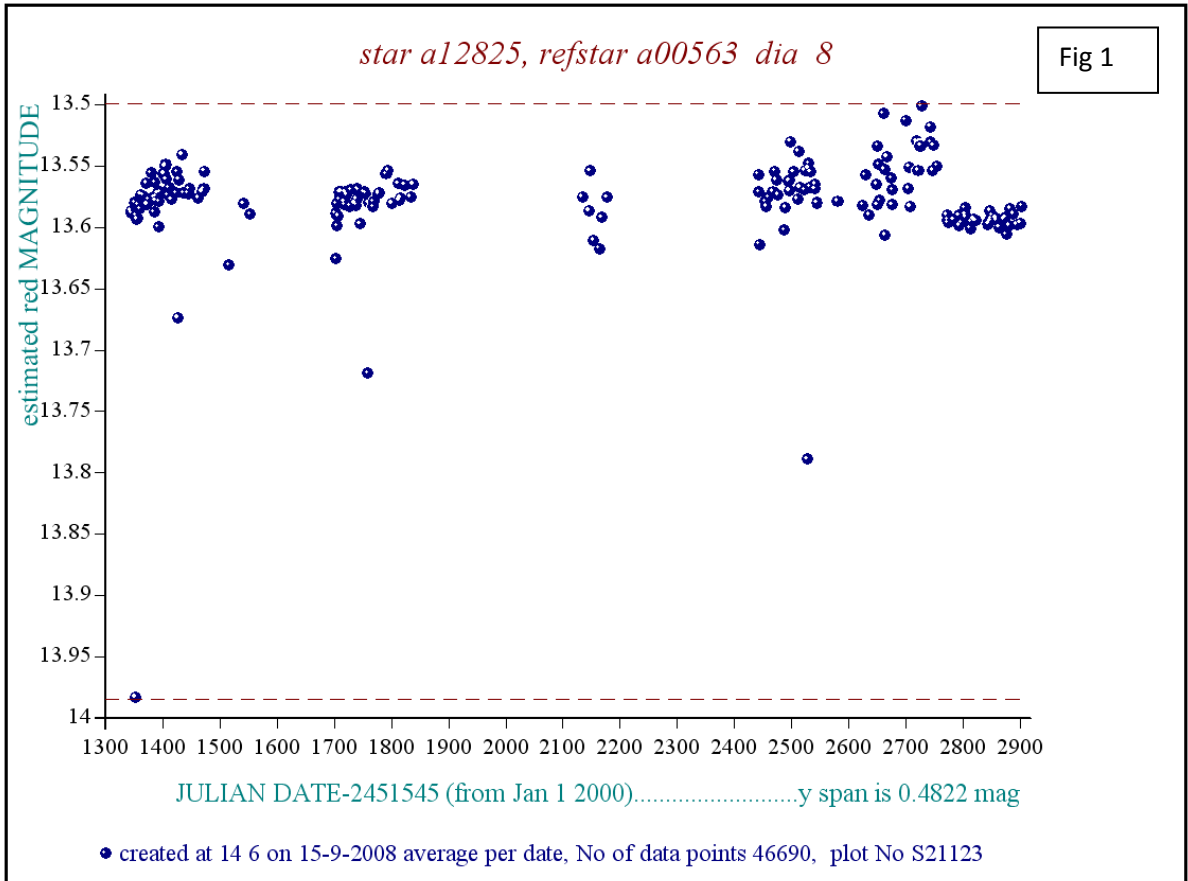
Provisionally we will say that min 2 is at phase of 0.64, so an epoch of 1245.59 will suit, and await more data. (reminder to sw, Sept 26th 2008, 1am, Feb 8th 2009, 6pm, Mar 25th 2009, 11.30pm)

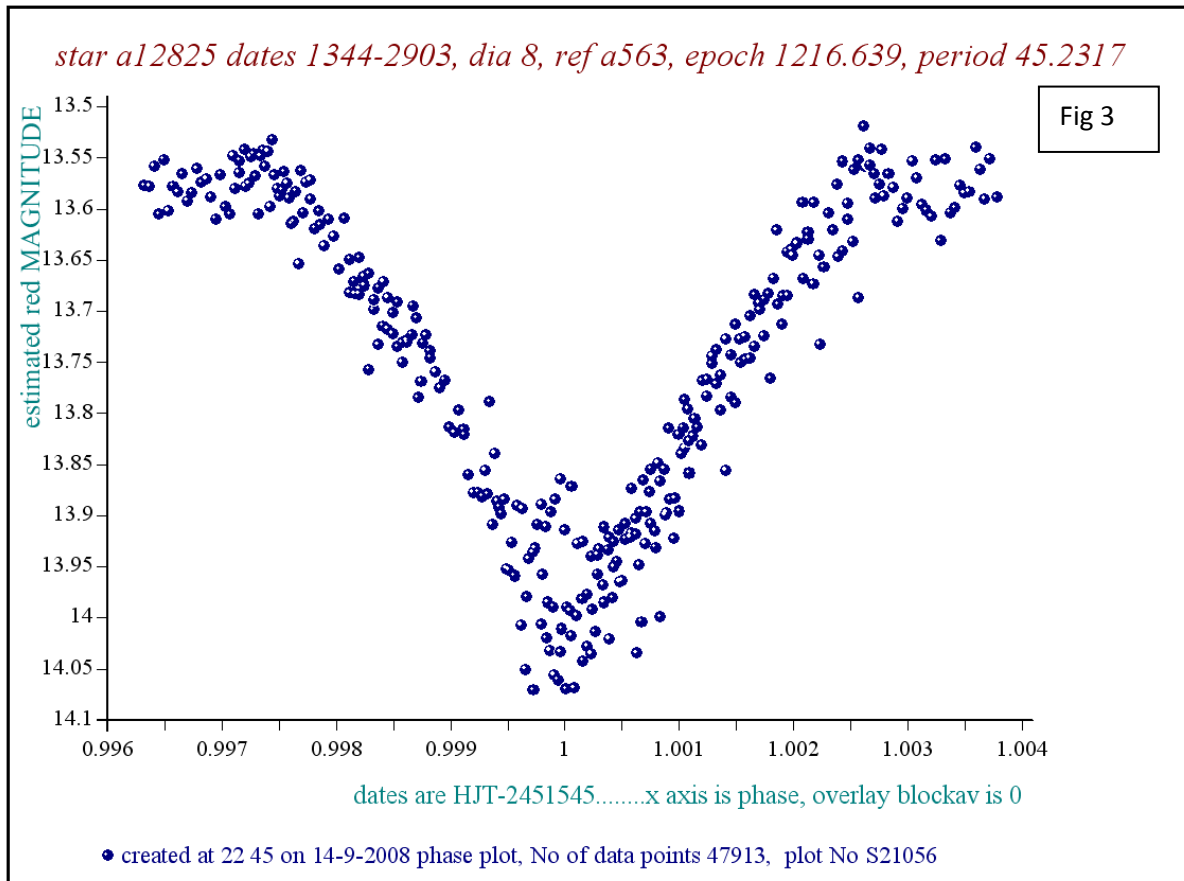
This star is part of the 1367 group

We need those two extra years to pin this down plus CMC mags and more work

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)





The other minimum is more difficult. The four plots below show all the available data which is from nights 1426, 1516 and 2647 and the combination. Date 1426 was a good quality night in November 2003 with elevation going from 83° to 33° and good transparency. Date 1516 was an early morning experiment and the data shown is from Feb 2004 with an elevation increasing from 25° to 43°. The data from 2467 (April 2nd 2007, early am) should not really be included at all. It was taken at low elevation 25° to 45° in fog with transmission 1/3 to 1/4 of 1426.

If we accept the reality of the 1426 data then it is part of a broader shallower minimum than the one above and may extend from $ph=0.63$ to $ph=0.65$, a period of 0.9 of a day, compared to the 0.005 width of min 1.

