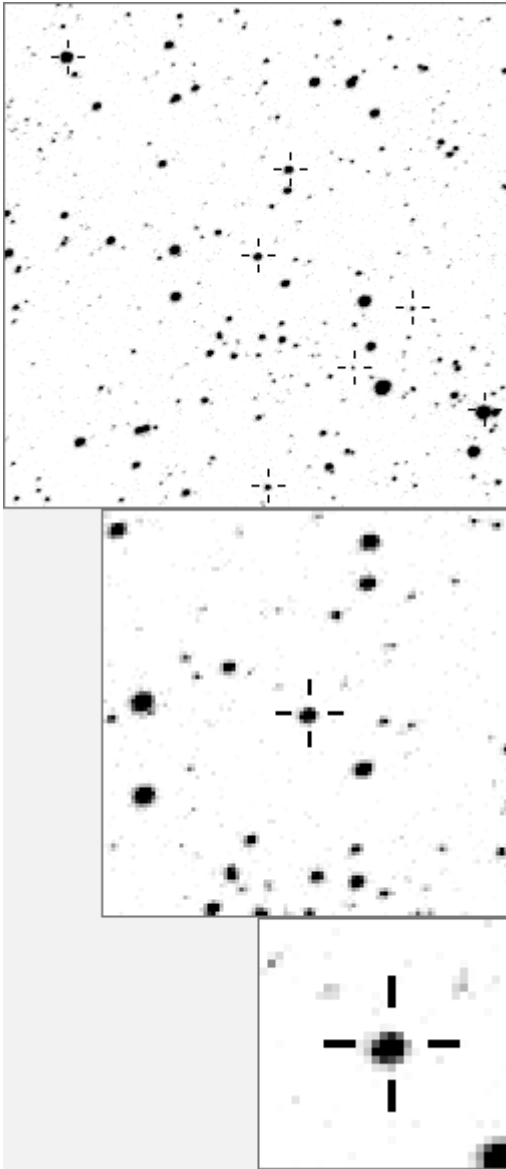


a05594



variable and brighter stars			
. . . . . l . . . . .	O	5594	v
e . . . . .	a	233	
. . . . . f h . . . . .	b	389	v
. . . . .	c	827	
. . . . . j . . . . .	d	1046	
. . . . .	e	1293	v
. . . . .	f	2211	
. . . . . g . O . . . . .	g	2214	
. . . . . i . . . . . c . . . . .	h	2435	
. . . . . . . . . . n . . . . .	i	2450	
. . . . . . . . . . m . . . . .	j	5254	v
. . . . . . . . . . a . . . . .	k	12601	v
. . . . . . . . . . . b . . . . .	l	16901	v
. . . . . . . . . . . d . . . . .	m	20751	v
. . . . . . . . . . . k . . . . .	n	20889	v
-----			
e . . . . .	O	5594	v
. . . . . . . . . . c . . . . .	a	2214	
. . . . . . . . . . f . . . . .	b	2450	
. . . . . . . . . . n . . . . .	c	5254	v
. . . . . . . . . . .	d	5432	
. . . . . i . . . . .	e	5829	
a . . . . .	f	6526	
. . . . . . . . . . O . . . . .	g	7856	
. . . . . . . . . . .	h	9240	
. . . . . . . . . . d . . . . .	i	11666	
b . . . . .	j	11752	
. . . . . . . . . . .	k	14151	
. . . . . l . . . . . m . . . . .	l	16078	
. . . . . k . . . . . j . . . . . g . . . . .	m	18364	
. . . . . h . . . . .	n	19343	

Bitmap sizes are 251, 101 and 31 pixels square, South up. The keys to the right refer to the 1<sup>st</sup> 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 a05594

SWid: a05594 / **USNO id: 1367 414597 / other id:**

Co-ordinates, x,y in image z1051: 1220 2520.8

**J2000 sky co-ordinates: 21 5 10.27 46 47 59.**

79

CMC r'magnitude and 2MASS J,H,K magnitudes: 12.76 11.642 11.502 11.386

USNO B1.0 magnitudes, B1,R1,B2,R2,I2: 13.89 12.35 14.13 12.66 13.05

Misc comments :

1 July 08, an rpas star with sharp spikes down at 1462, 2148 plus one at 2146 and a decline from w to v, very odd. No dips in z, w or v, smooth to refs 132 and 233.

Magm to 12.68, magr 0.67.

I tried putting baddays to zero to see if any more dips (ie artifacts) appeared but none did. It looks real but is hard to understand. If it's an eb the period must surely be long with no dips caught in 2004, 6 or 7 and yet there is a partial dip on 2146 and a strong one on 2148. Is it a random fader and is the decline (which again looks real) which may start in 2005 and continues through 2006 to 2007, significant?

Comparison reference star(s) co-ordinates:

**233: 21 5 24.62 46 50 36.91**

**R:** a05594=GSC358805520 Nomad B V R =13.17 12.89 12.66 2Mass J H K=11.64 11.502 1.386 Simbad: No citations

Star a05594 shows behaviour that I found very puzzling. It produced 3 deep dips but also clearly moves slowly, at least in y2004 and y2006. No dips are recorded in y2003, y2006 or y2007 and yet two were caught close together in y2005, on dates 2146 and 2148. It seems unlikely that these can be part of the same eclipsing event because 2146 is moving upwards and 2148 seems to be close to a minimum. Judging by the lightcurves from dates 2134 and 2154 from before and after those two events, the photometry is good enough to be sure the star was really moving up on 2146. If true that rules out an eclipsing binary. A period of two days would certainly have been seen elsewhere.

If untrue and the 2146 photometry is anomalous for some reason, then a long period eclipsing binary is still possible. However, the fact that the star is also a slow variable has also to be explained. The magnified plots shows the movements in y2004 and y2006 more clearly. In y2004 the star is clearly brightening rapidly at the time of the first measurement in 1702 (August 23rd). It climbs 30mmags to its steady value in 20 days. In y2006 and y2007 the star is fading for all of that time; the final plot is of all the measurements in y2006 and y2007 covering the period 2142 to 2903, 761 days. The final two plots were wrt a much closer star to reduce the scatter and this corrects the erroneous point seen at 2661 in the other plots.

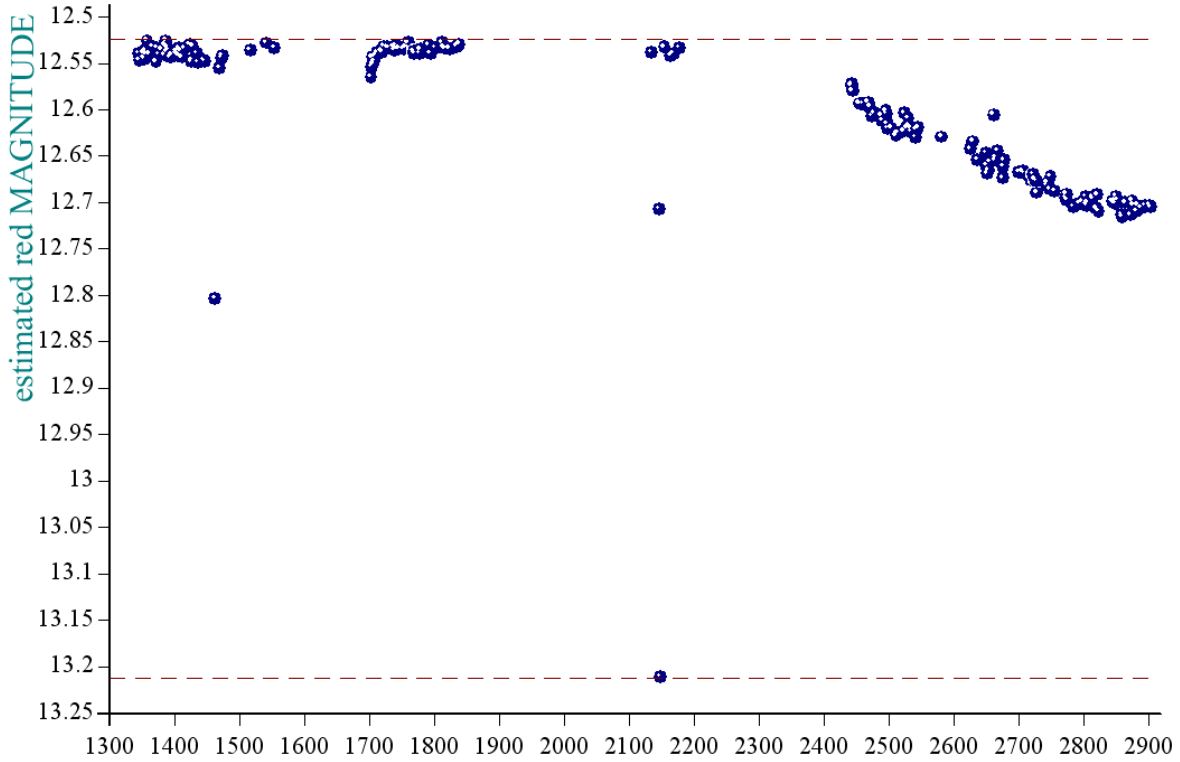
Reminder:

**All dates, JD and HJD are from Jan 1<sup>st</sup> 2000**

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

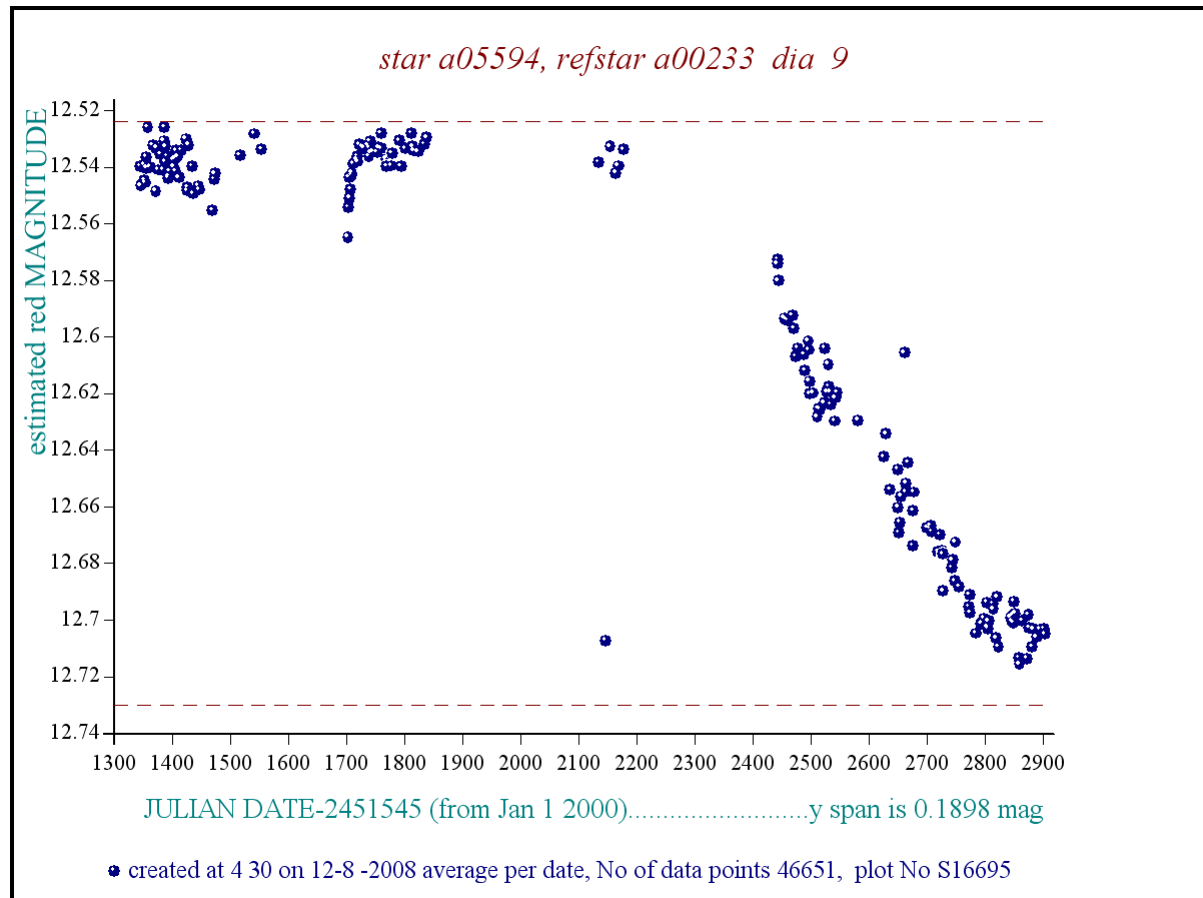
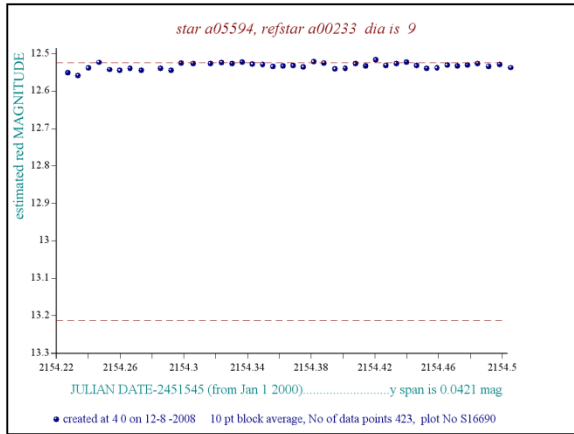
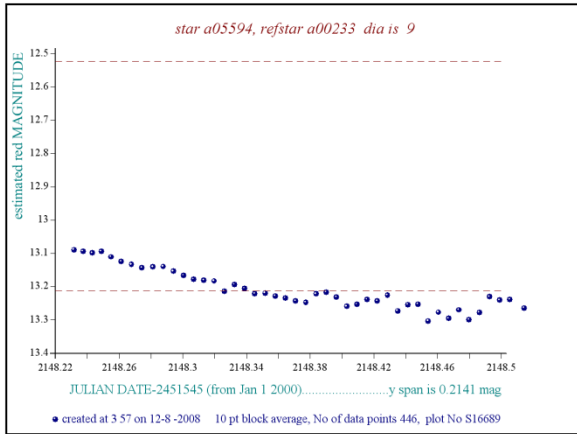
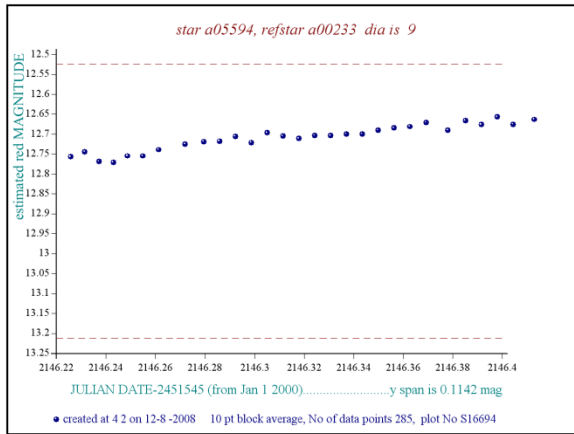
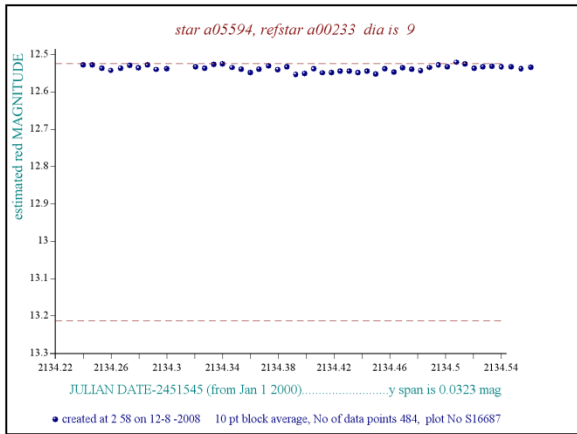
Data from 2008 and 9 needed, more work would be interesting

*star a05594, refstar a00233 dia 9*

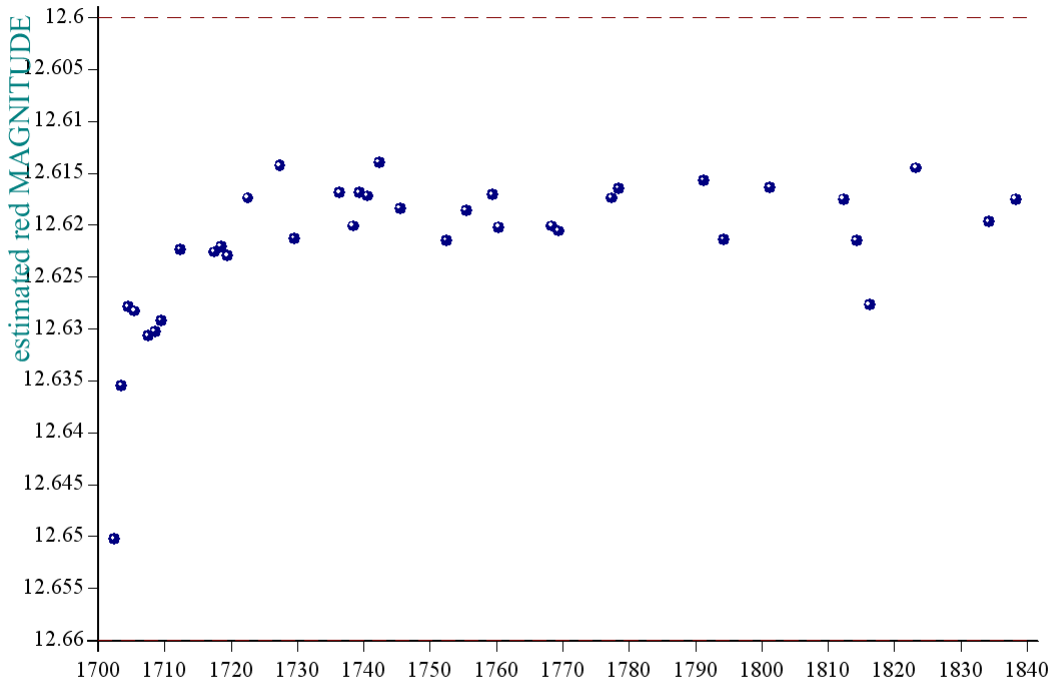


JULIAN DATE-2451545 (from Jan 1 2000).....y span is 0.6851 mag

• created at 4 35 on 12-8 -2008 average per date, No of data points 46651, plot No S16697

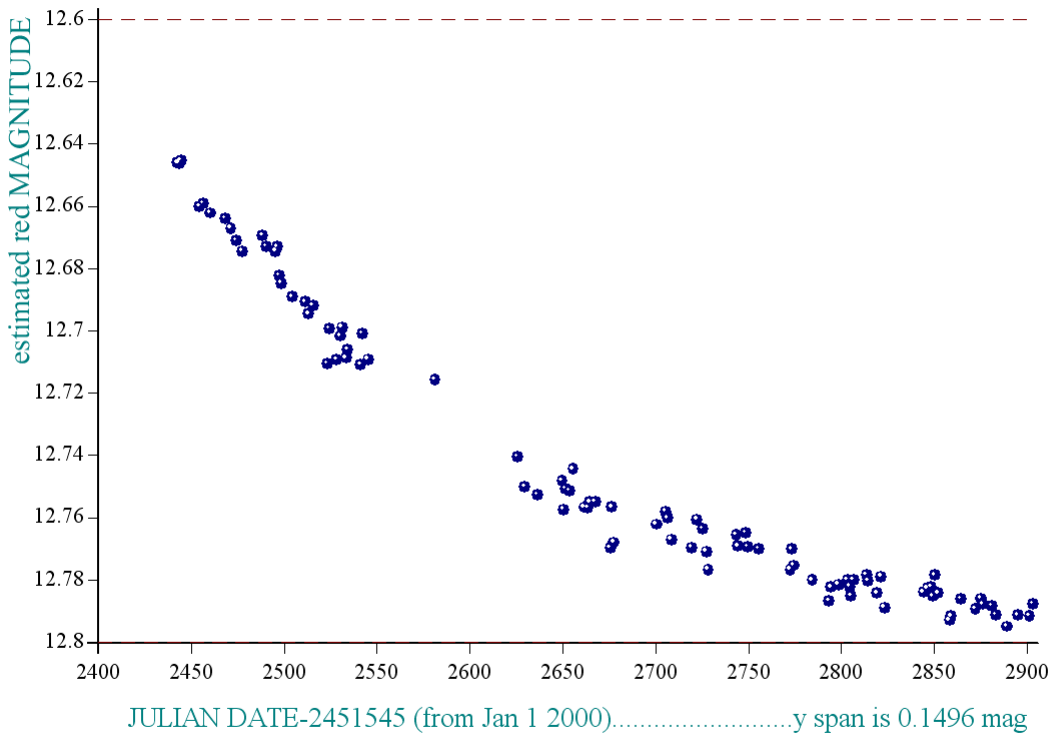


star a05594, refstar a05432 dia 7



• created at 5 2 on 12-8 -2008 average per date, No of data points 11277, plot No S16707

star a05594, refstar a05432 dia 7



• created at 5 4 on 12-8 -2008 average per date, No of data points 24893, plot No S16708