

# KIC 008646425

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008646425-01	OBS	No	1.289642	131.849191	0.9	14.354	11.6	1.0	2.91	8292	0.28	39427.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008646425-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

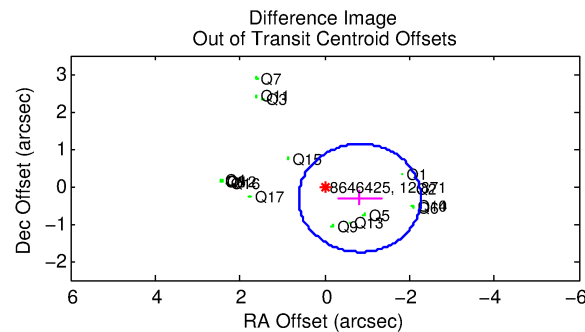
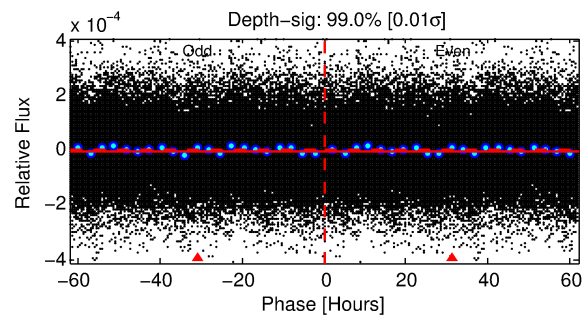
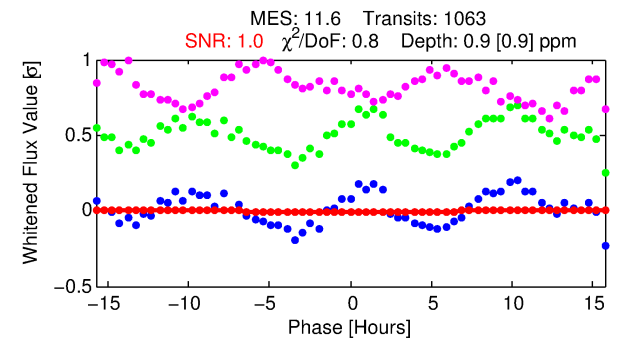
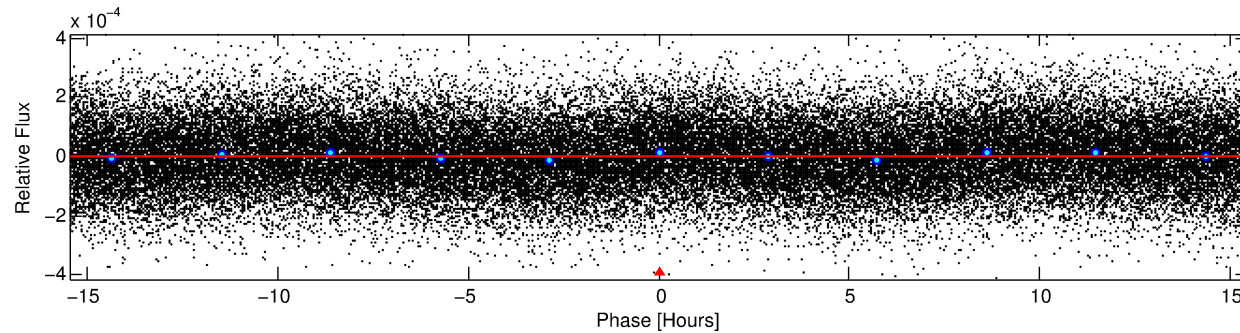
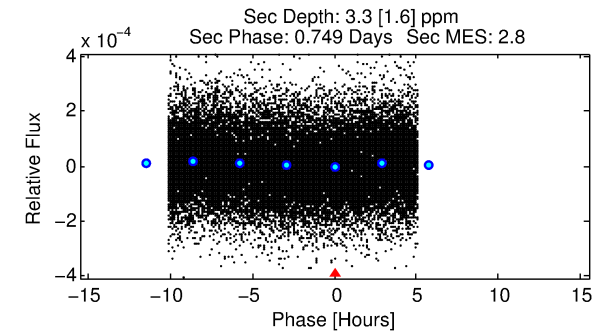
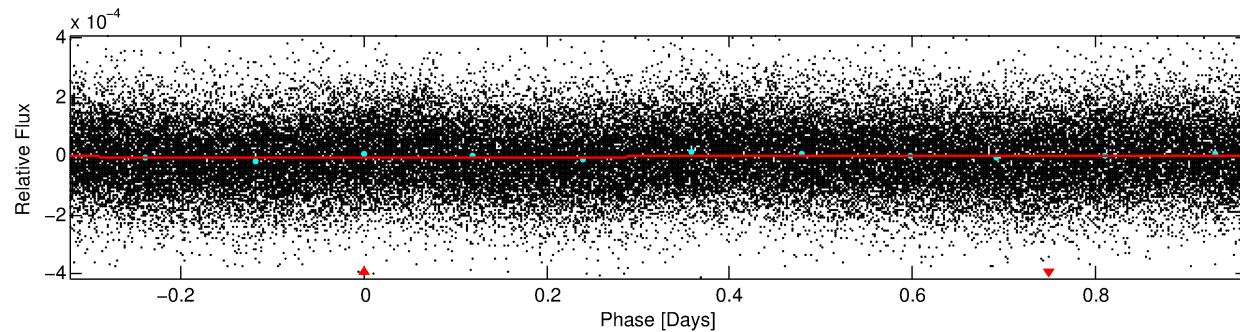
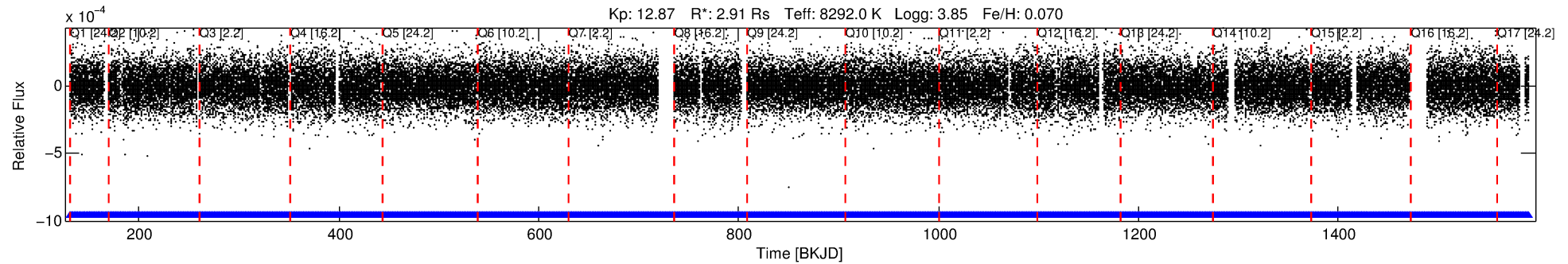
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008646425-01

No Significant Match Found

# DV One-Page Summary

KIC: 8646425 Candidate: 1 of 1 Period: 1.290 d



## DV Fit Results:

Period = 1.28964 [0.00031] d  
Epoch = 131.8492 [0.1125] BKJD  
Rp/R\* = 0.0009 [0.0054]  
a/R\* = 1.01 [0.50]  
b = 0.05 [686.15]  
Seff = 39427.54 [21701.12]  
Teff = 3593 [494] K  
Rp = 0.28 [1.72] Re  
a = 0.0302 [0.0102] AU  
Ag = 21.36 [264.33] [0.08σ]  
Teffp = 11943 [36925] K [0.23σ]

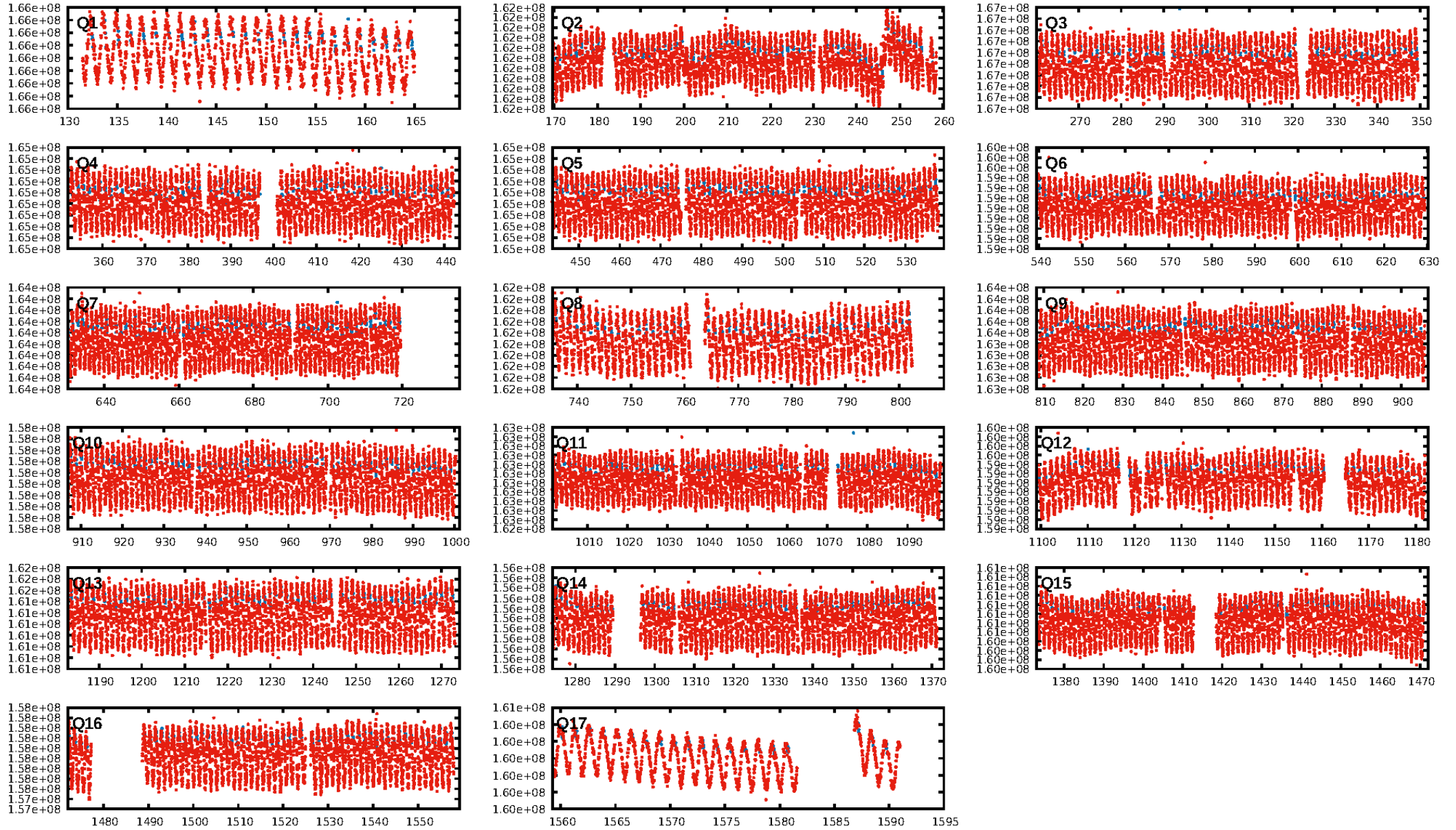
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1015/1015]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.884 arcsec [1.84σ]  
KicOffset-rm: 0.958 arcsec [1.95σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 1.00 [17/17]

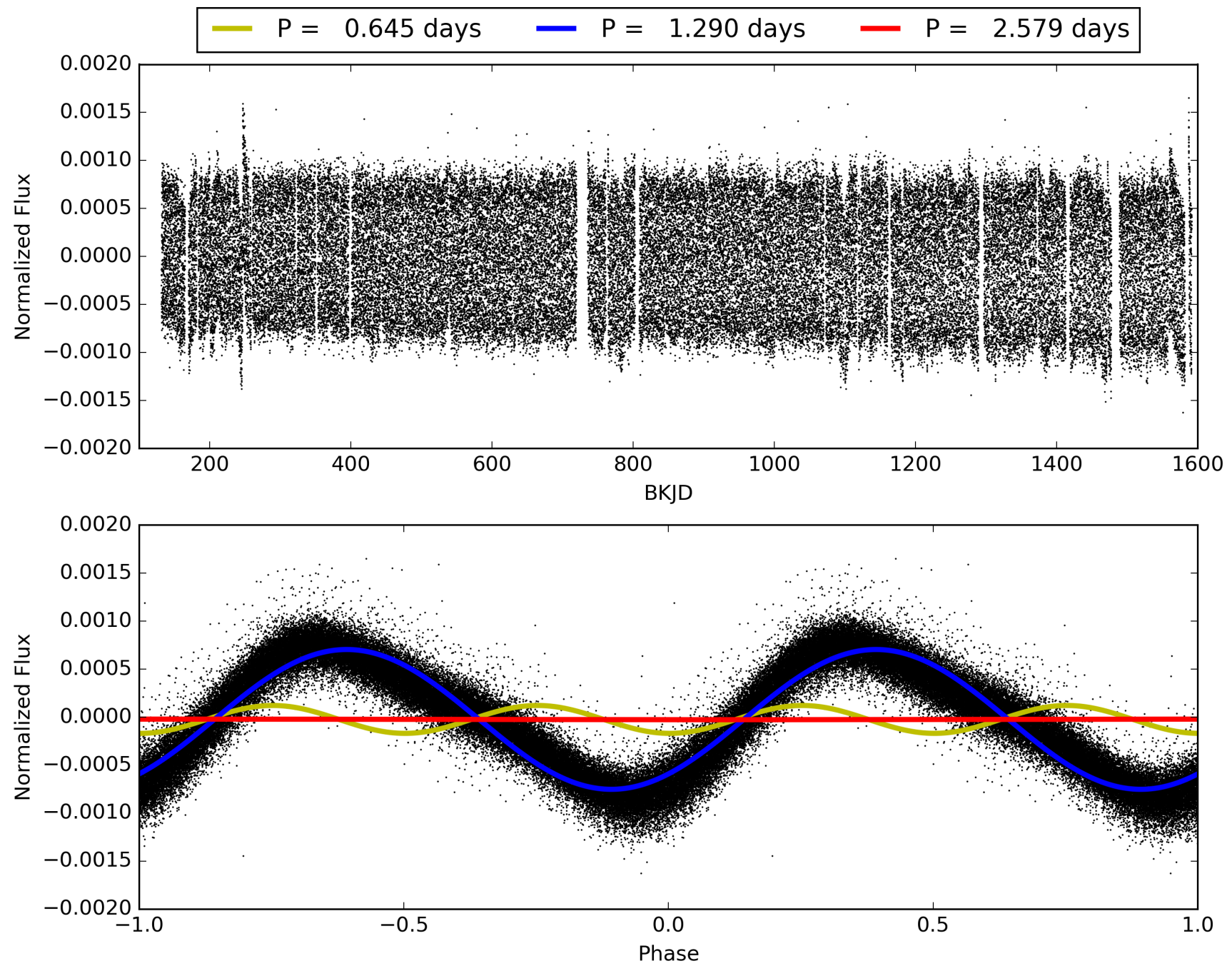
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:53:32 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008646425-01, PDC Light Curves



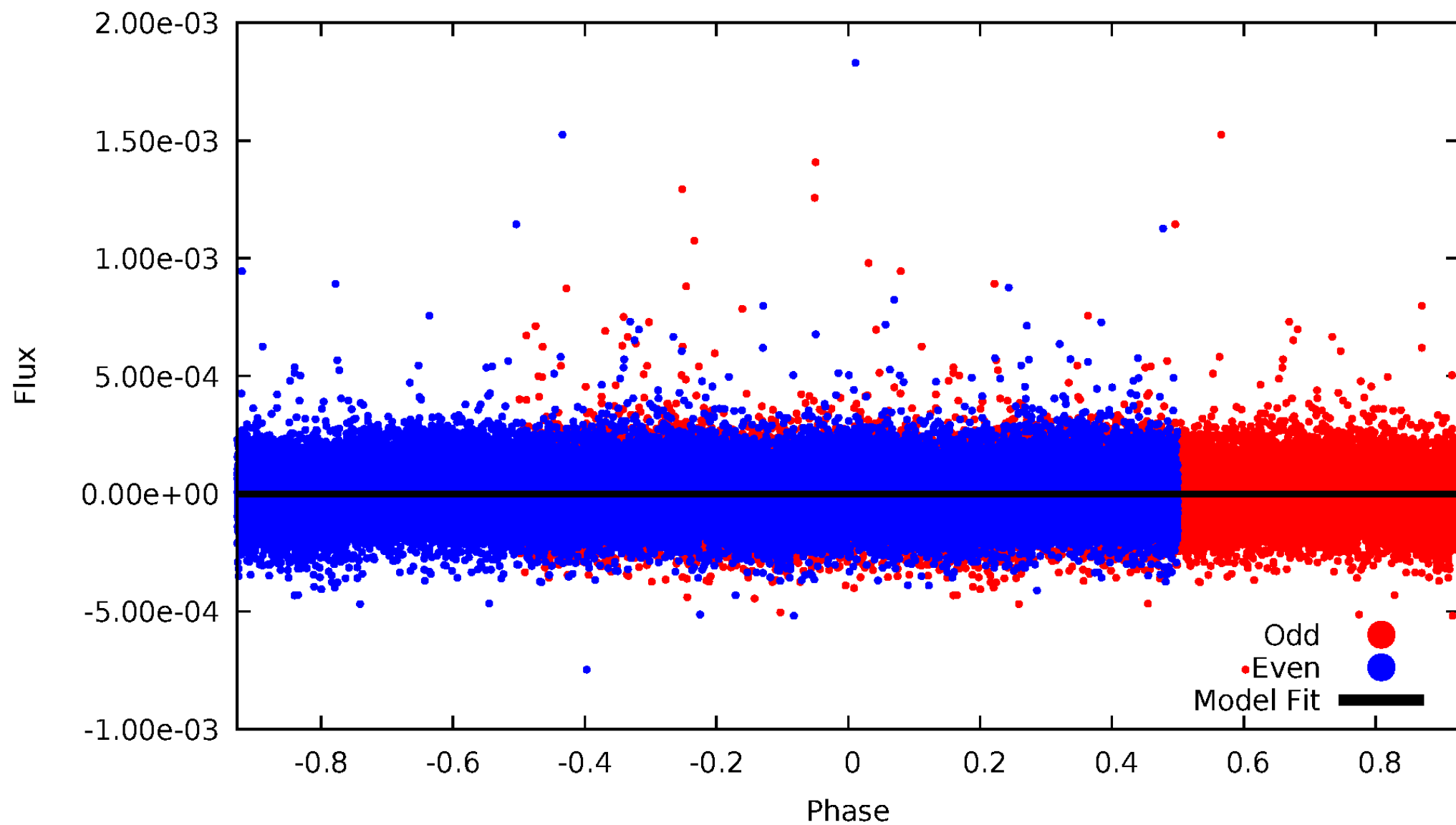
TCE 008646425-01





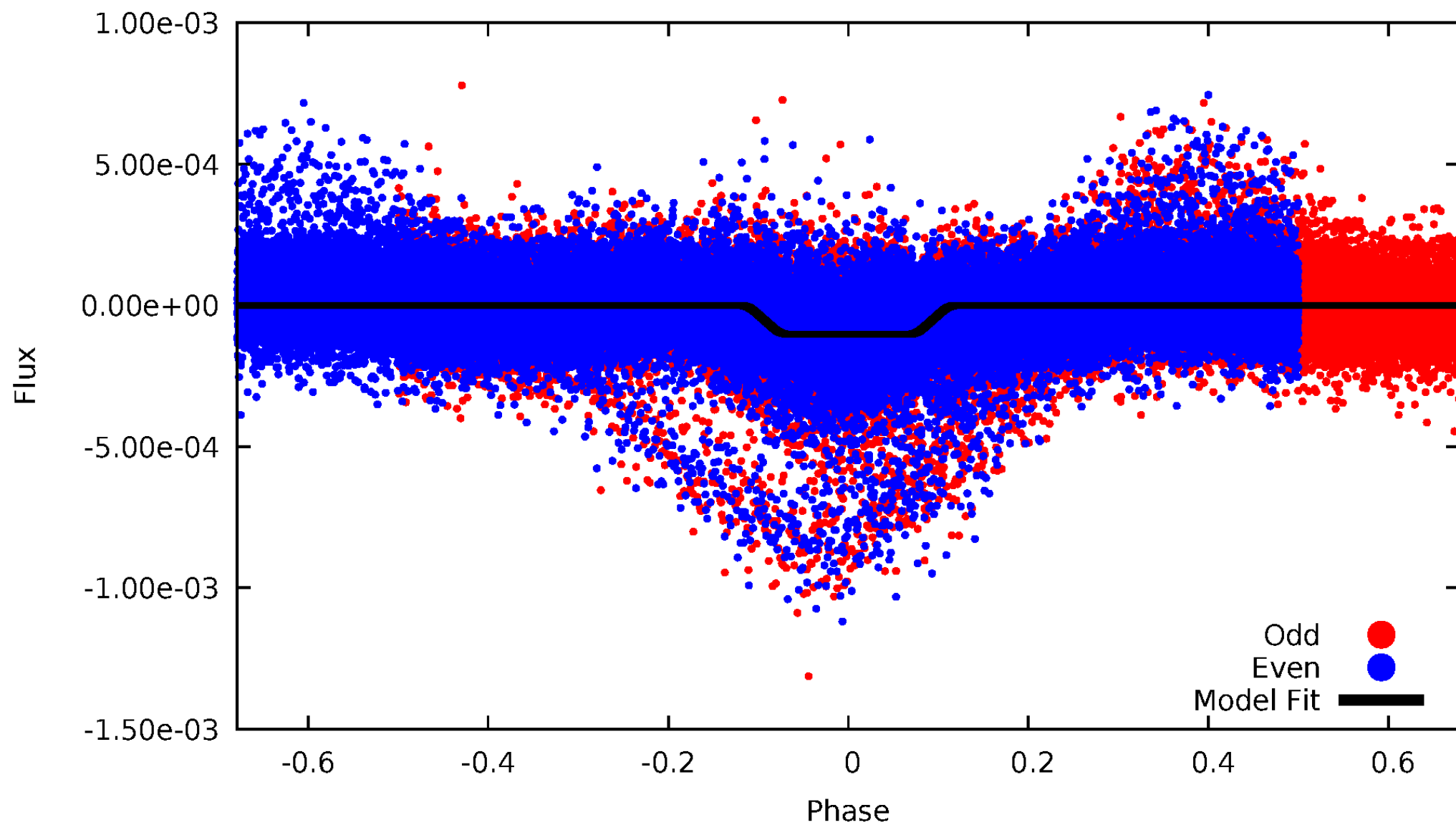
# DV Odd/Even

TCE 008646425-01

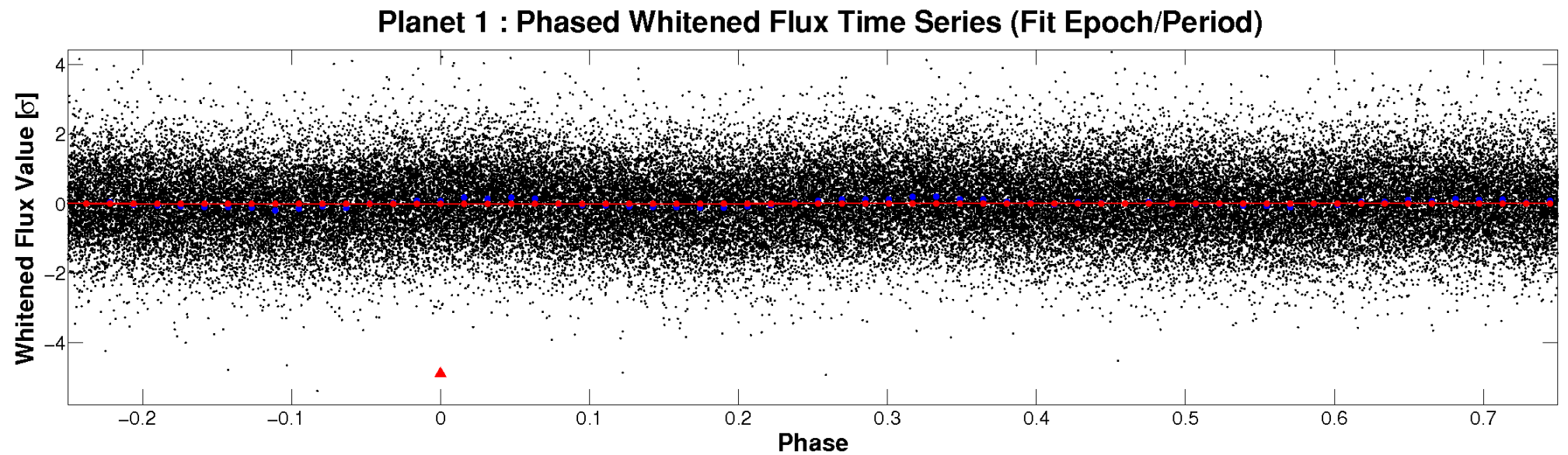
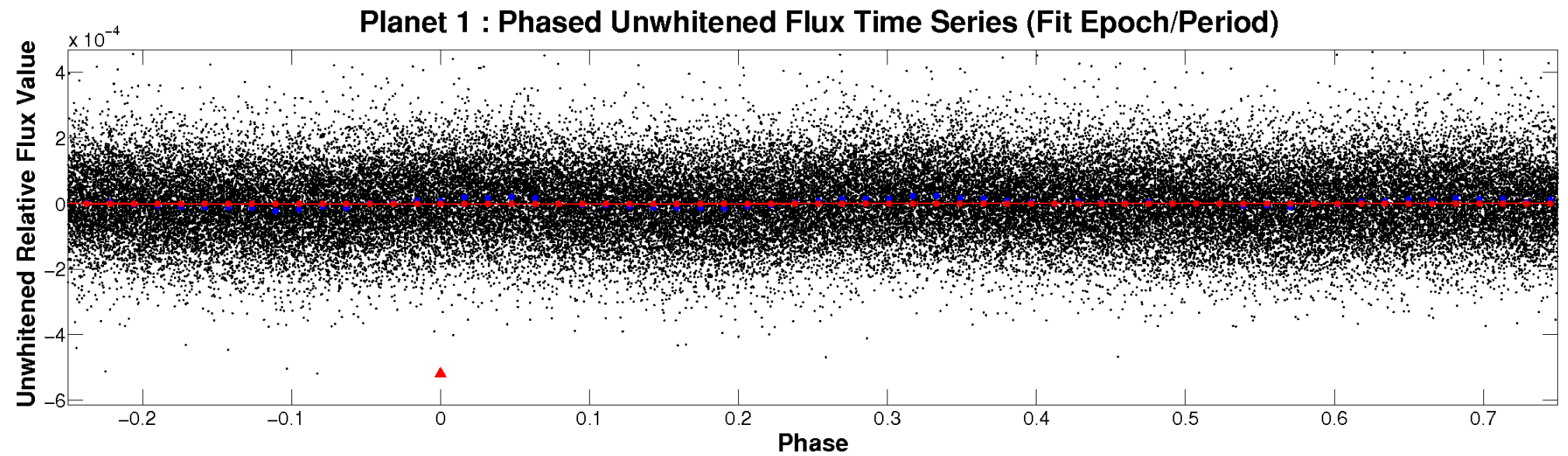


# ALT Odd/Even

TCE 008646425-01

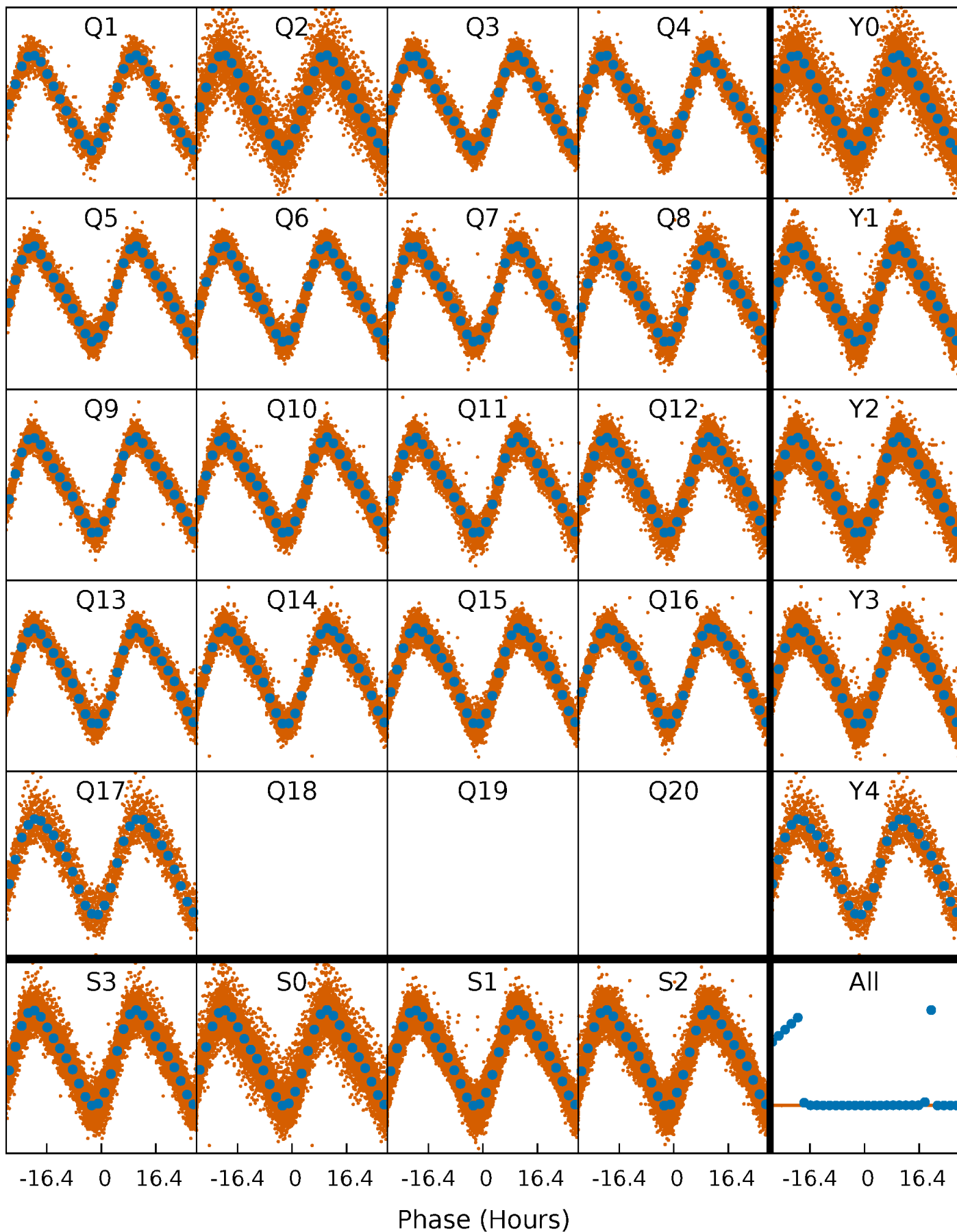


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

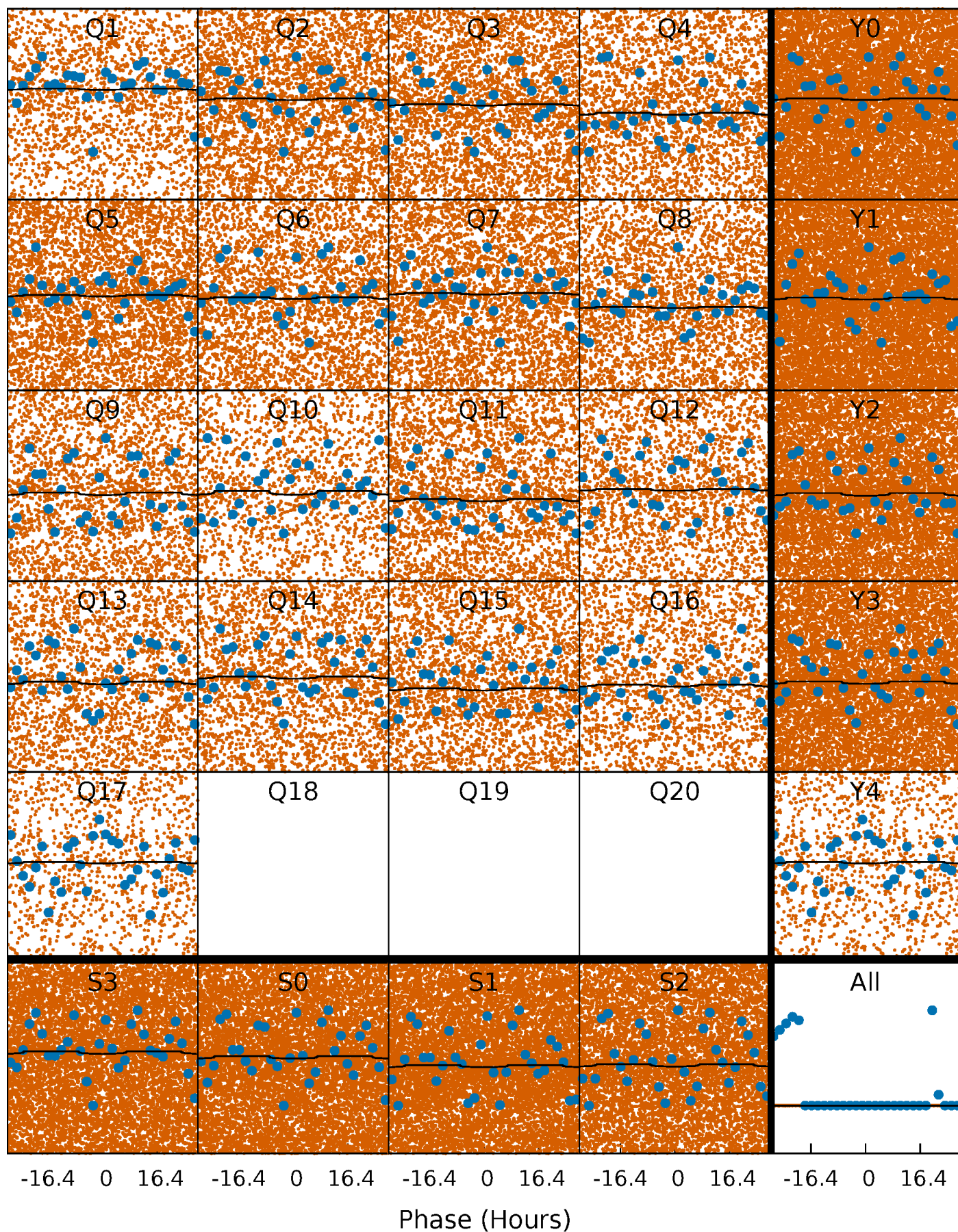
TCE 008646425-01 P= 1.289642 Days  $T_0=131.849191$  (BKJD)





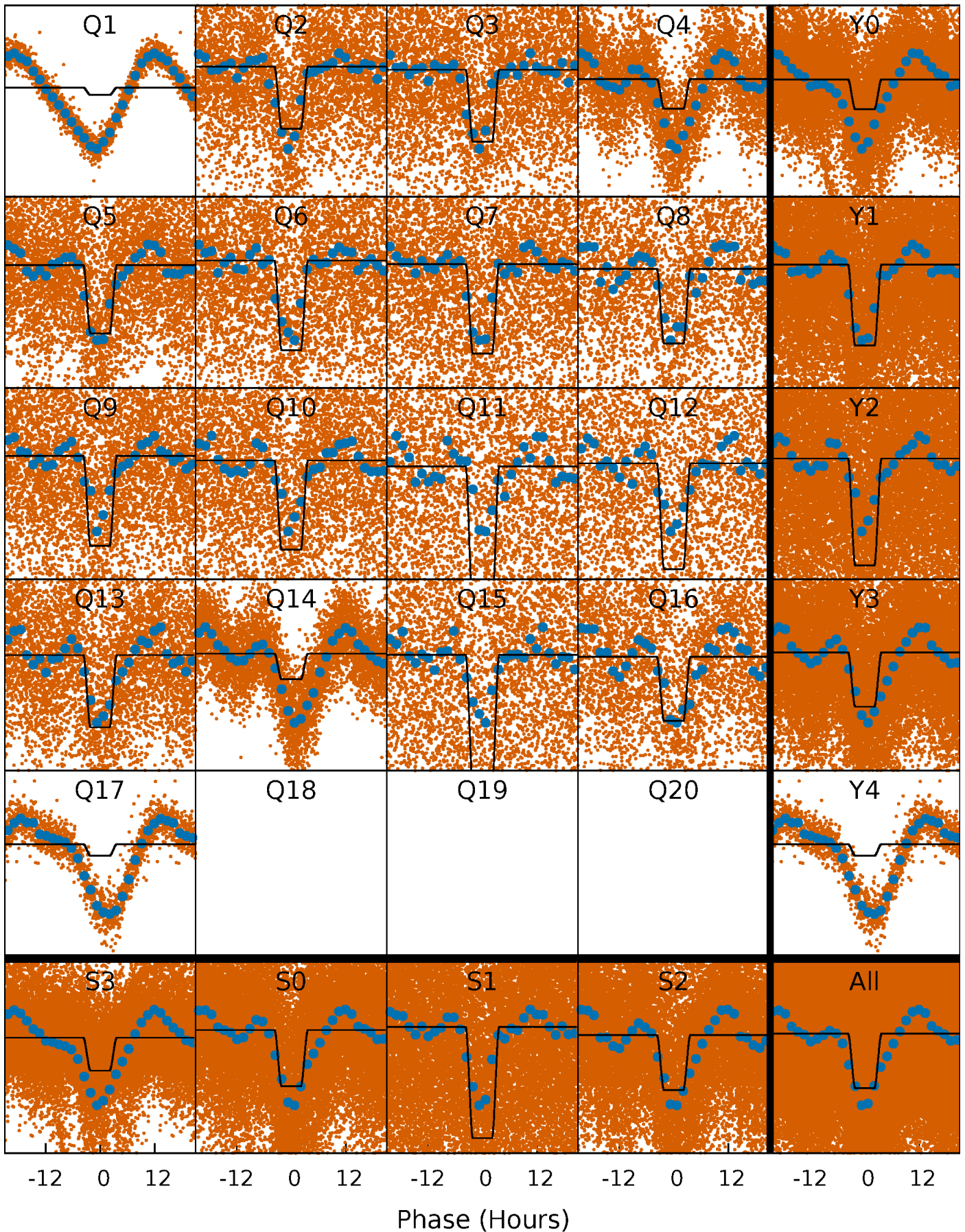
# DV Quarter-Phased Transit Curves

TCE 008646425-01 P= 1.289642 Days  $T_0=131.849191$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 008646425-01   P= 1.289589 Days    $T_0=131.773483$  (BKJD)

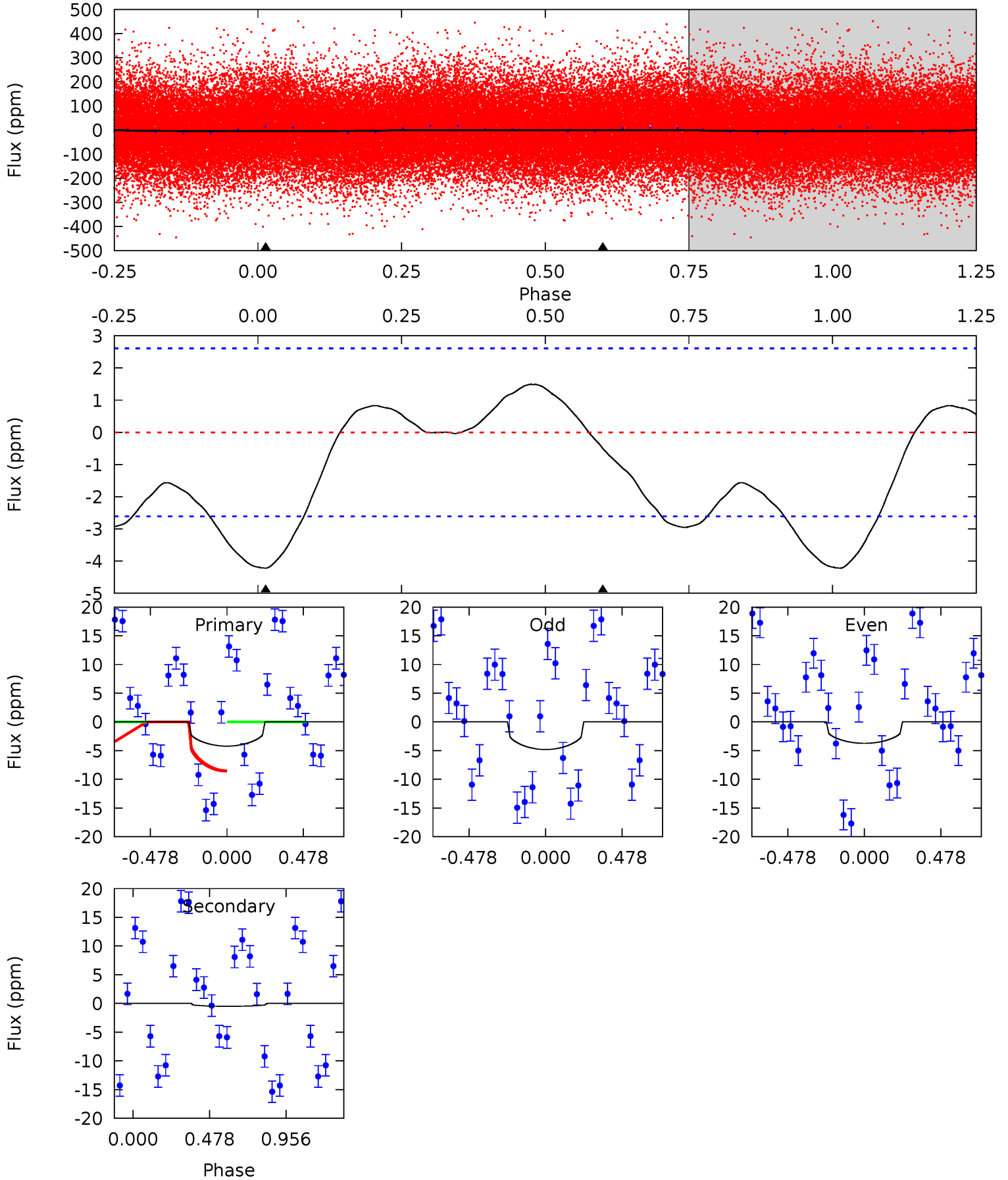




# DV Model-Shift Uniqueness Test

008646425-01, P = 1.289642 Days, E = 130.559549 Days

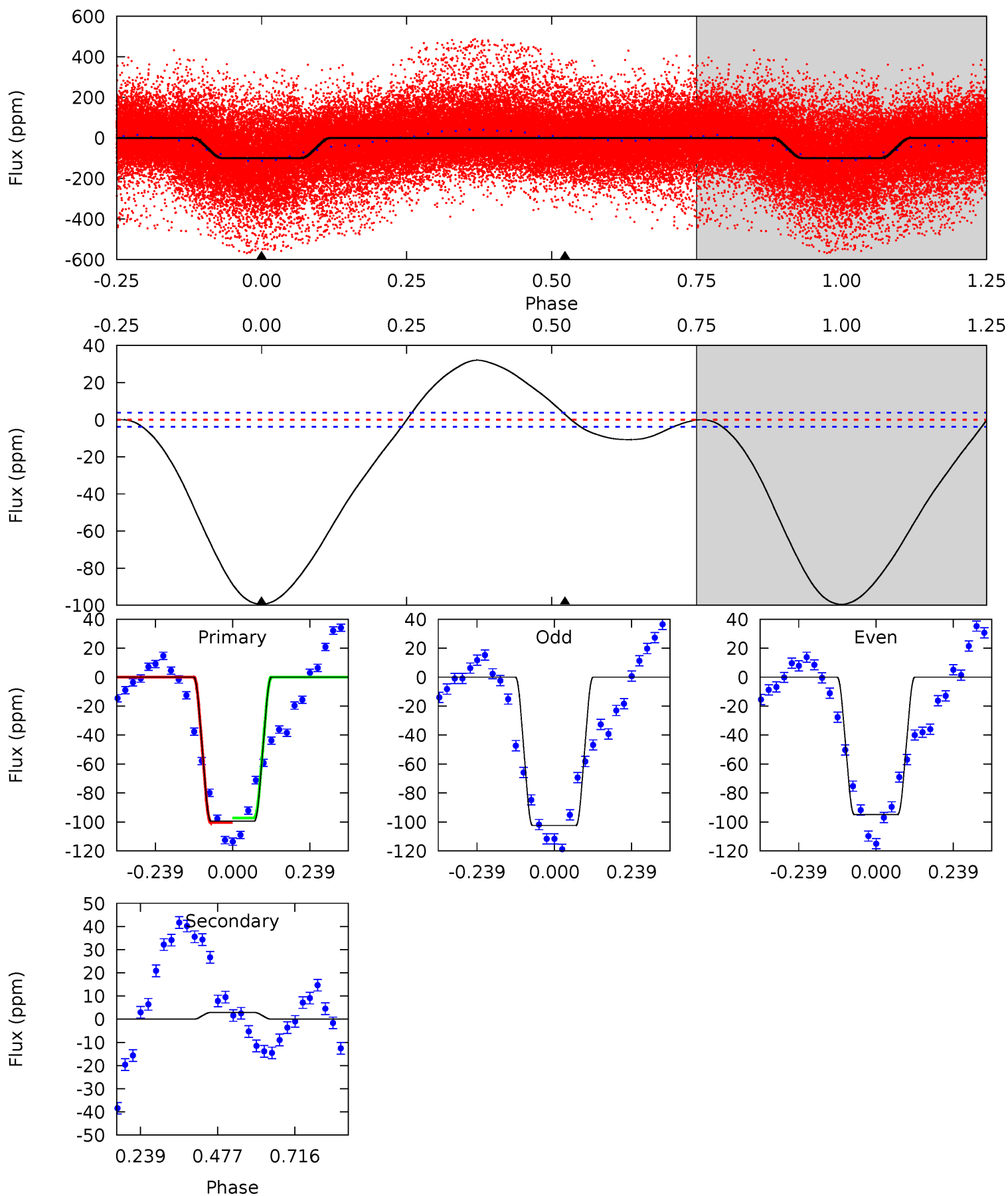
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.83	0.81	0	0	4.22	0.71	0.23	6.83	6.83	0.81	0.81	0.87	1.06	0.26	6.98



# Alt Model-Shift Uniqueness Test

008646425-01, P = 1.289589 Days, E = 130.483894 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
114.5	-3.34	0	0	4.38	1.18	8.95	114.5	114.5	-3.34	-3.34	4.37	1.35	0.24	0



### Stellar Parameters For KIC 008646425

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8292^{+228}_{-358}$	$3.853^{+0.299}_{-0.138}$	$0.070^{+0.250}_{-0.450}$	$2.913^{+0.893}_{-1.092}$	$2.204^{+0.326}_{-0.606}$	$0.126^{+0.299}_{-0.056}$
	+3%/-4%	+8%/-4%	+357%/-643%	+31%/-37%	+15%/-27%	+238%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 008646425-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-1 \pm 1$	$1.12^{+1.36}_{-0.80}$	$4916^{+377}_{-555}$	$-3640^{+9346}_{-672}$	$0.135^{+1.678}_{-0.142}$
Alt.	$3 \pm 1$	$2.95^{+1.83}_{-1.52}$	$4871^{+416}_{-407}$	$-4529^{+321}_{-723}$	$-0.156^{+0.099}_{-0.526}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$



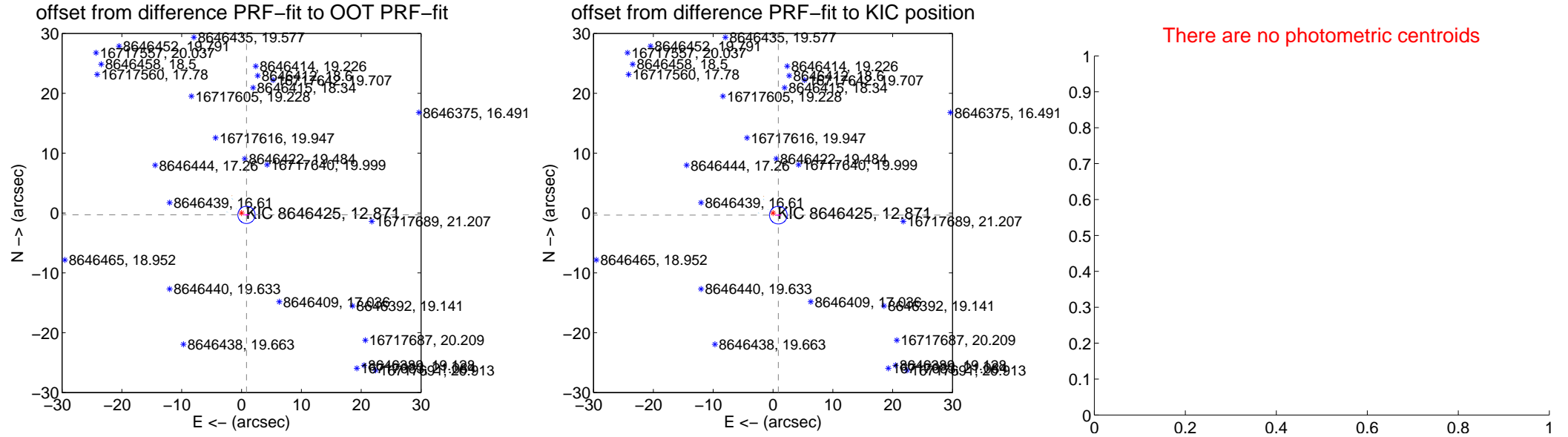
## DV Centroid Data

Supplemental centroid analysis for 008646425-01. Kepler magnitude: 12.87. Transit SNR 1.03

There are 16 quarters with good PRF difference image offsets

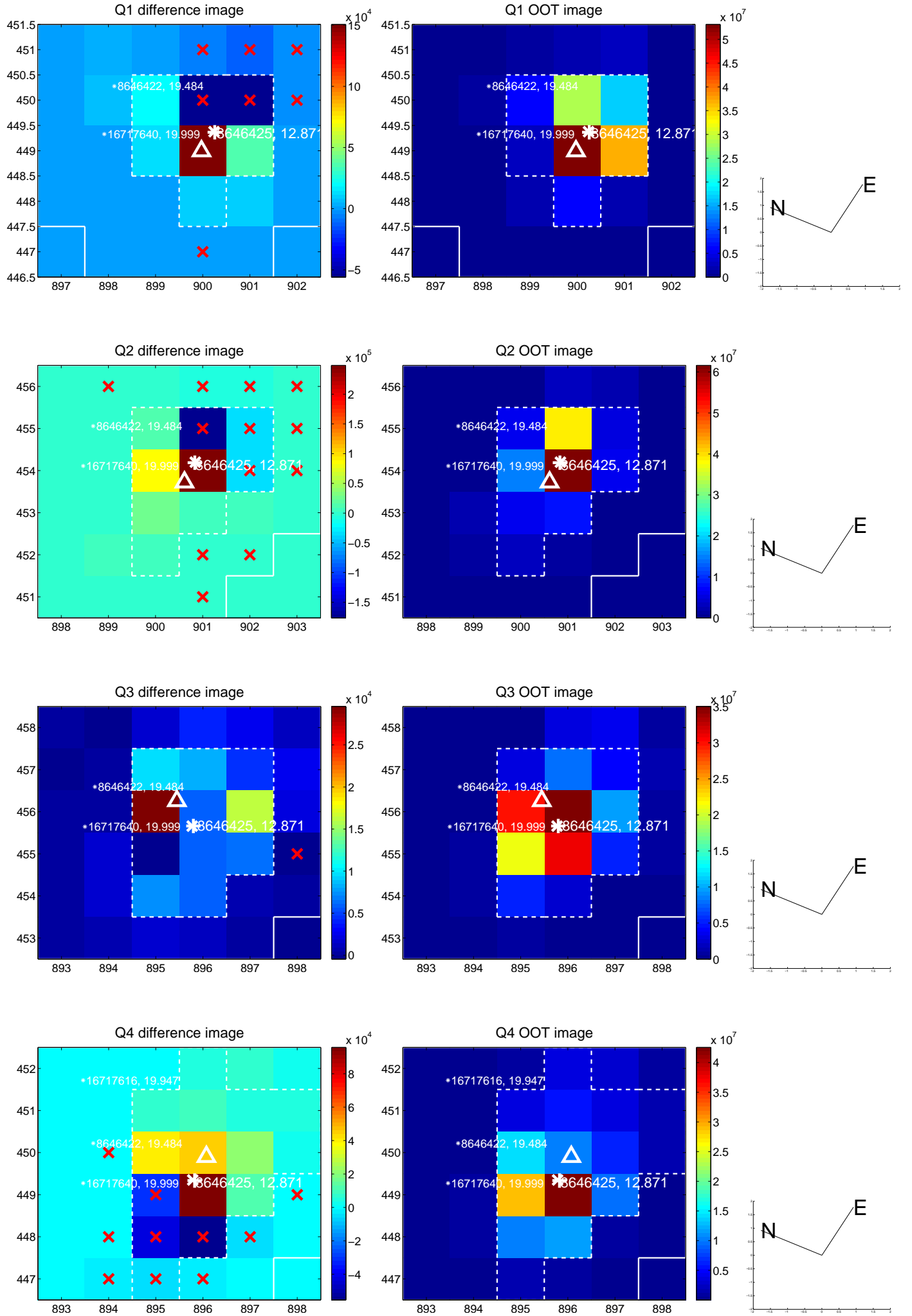
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.884 \pm 0.481$	1.84	$-0.828 \pm 0.510$	$-0.312 \pm 0.162$
PRF-fit source offset from KIC position	$0.958 \pm 0.492$	1.95	$-0.890 \pm 0.526$	$-0.355 \pm 0.155$
photometric centroid source offset	—	—	—	—

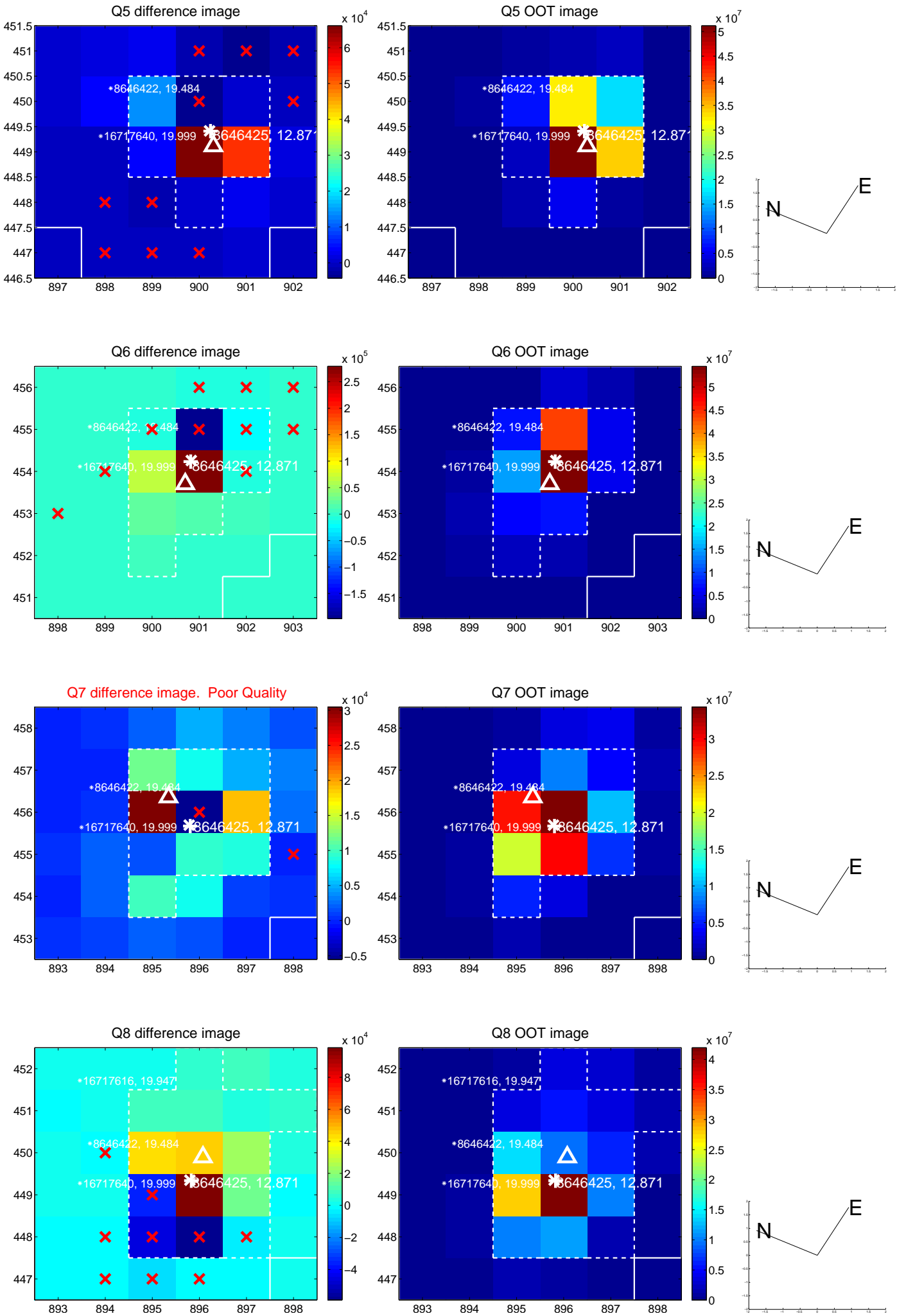


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

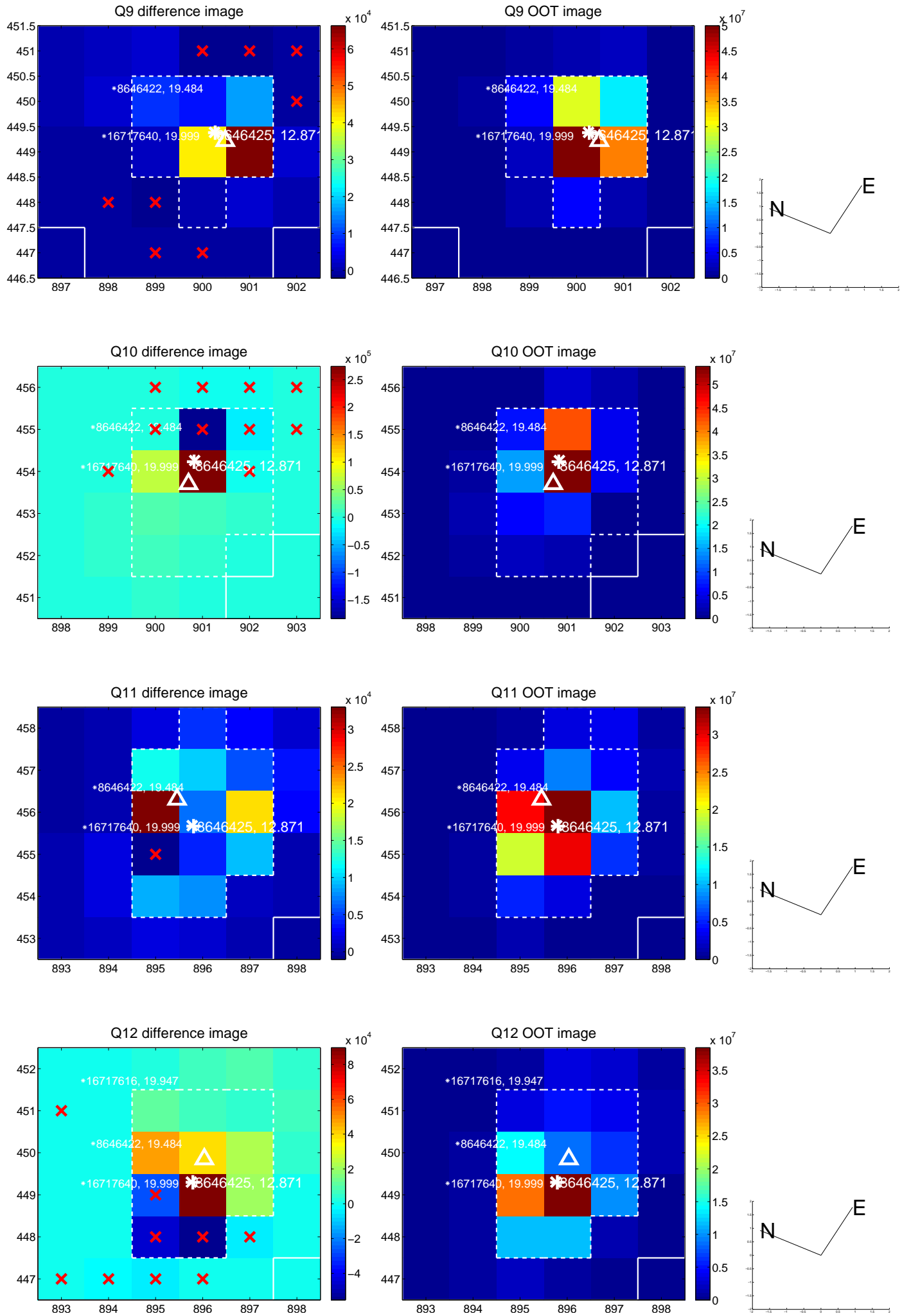
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



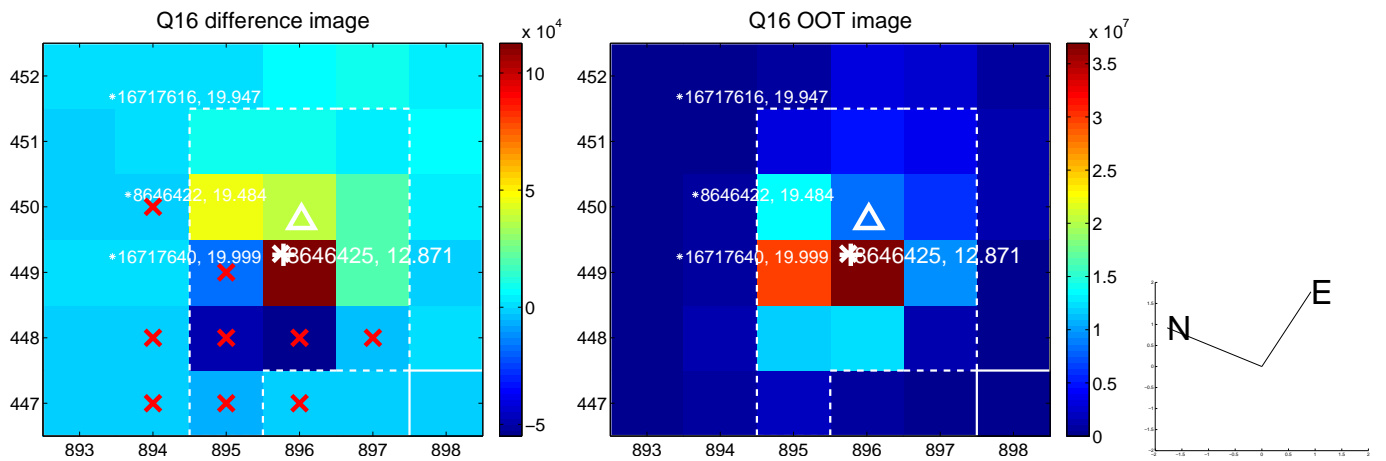
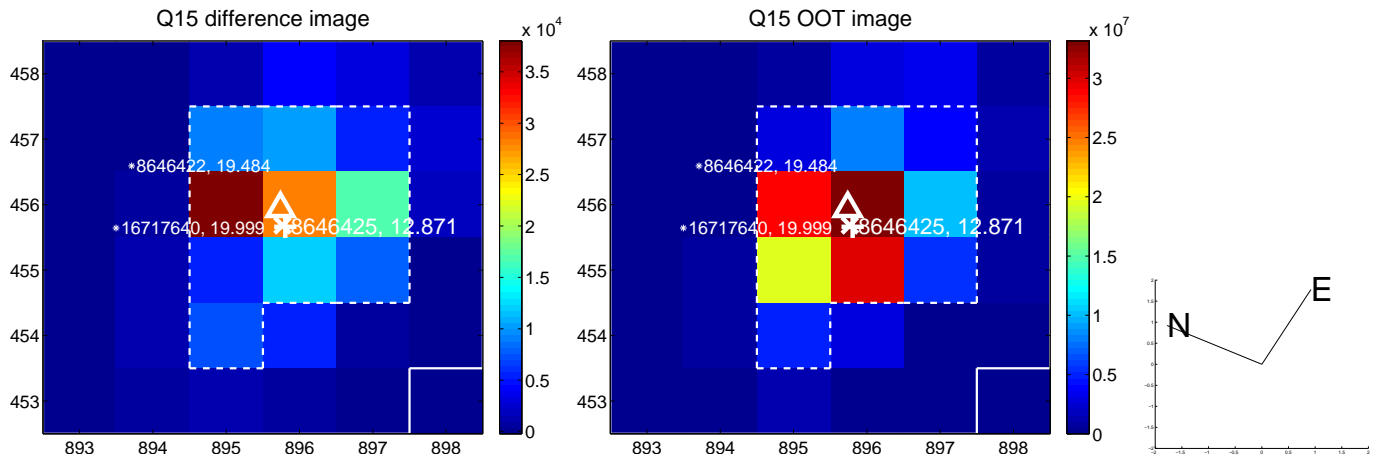
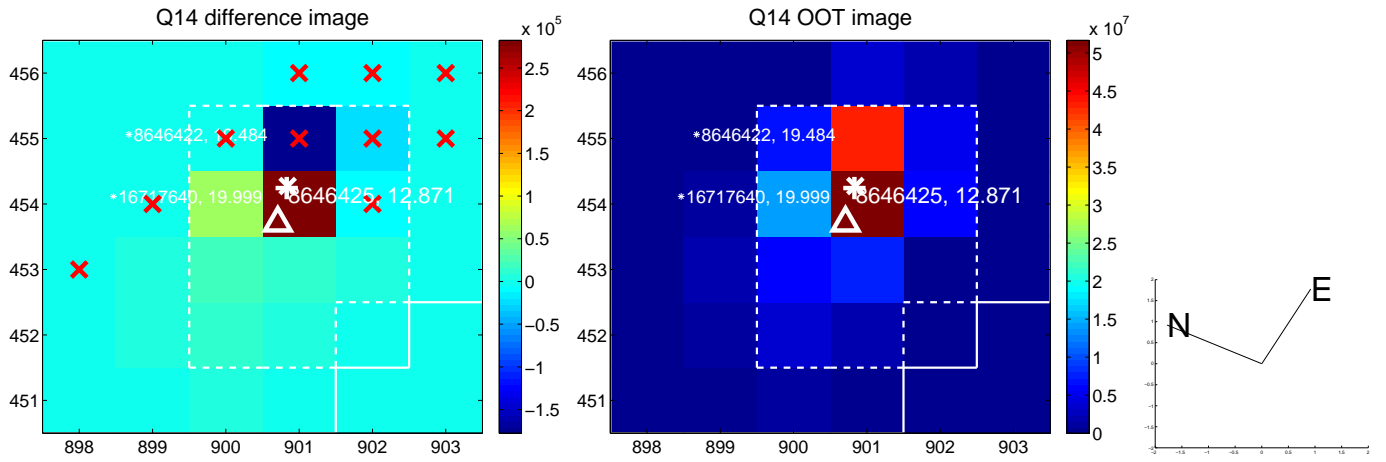
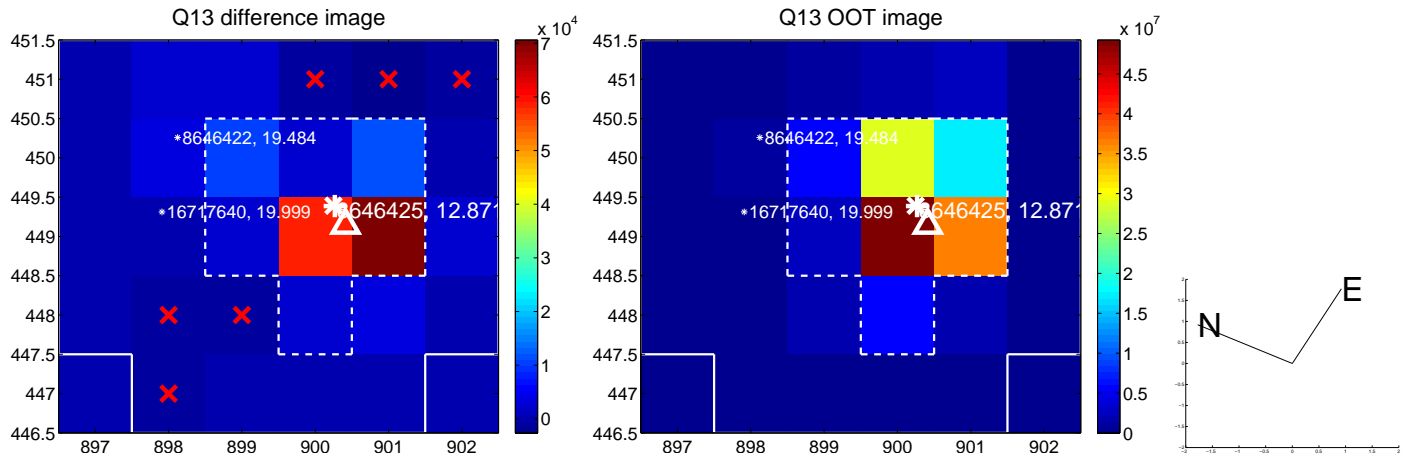
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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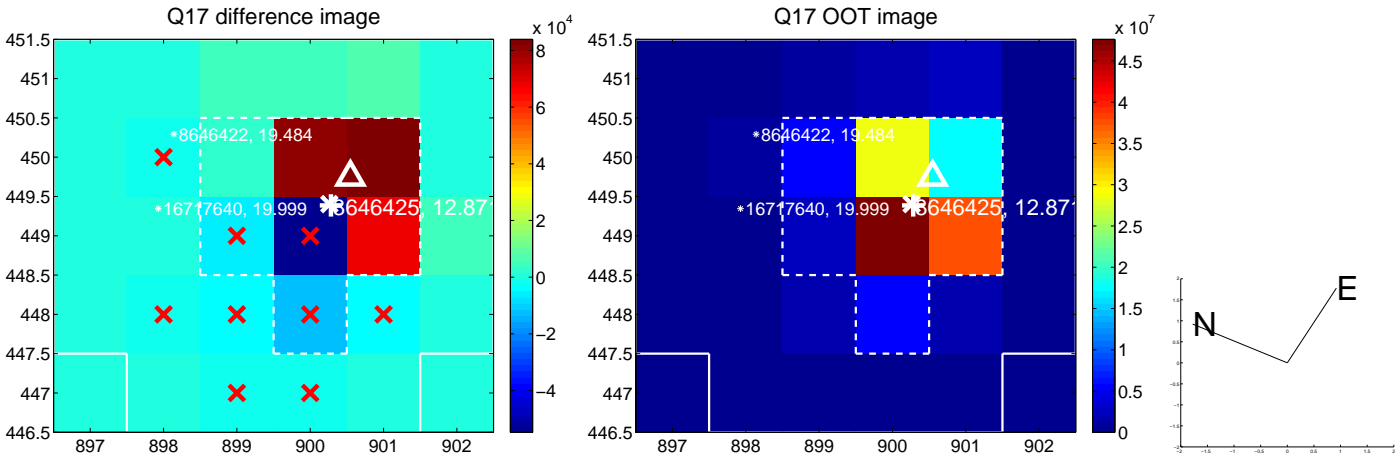


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination

