

# KIC 005472644

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005472644-01	OBS	No	2.770575	133.687571	33.4	28.313	8.6	10.7	0.87	5974	0.51	653.94

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005472644-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS

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

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

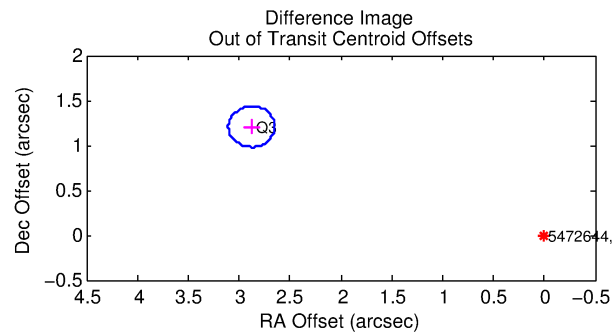
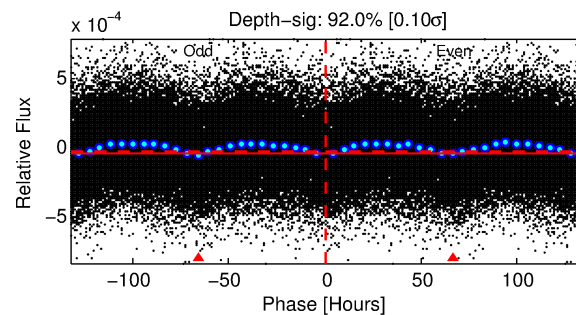
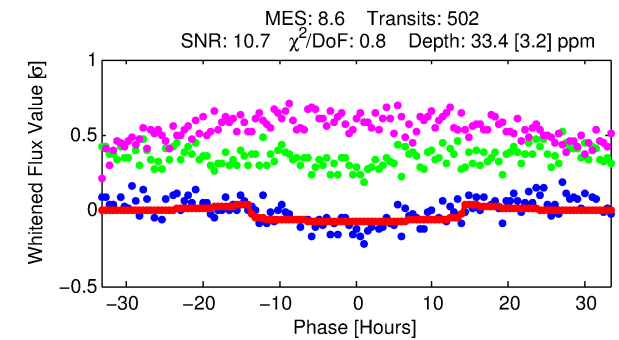
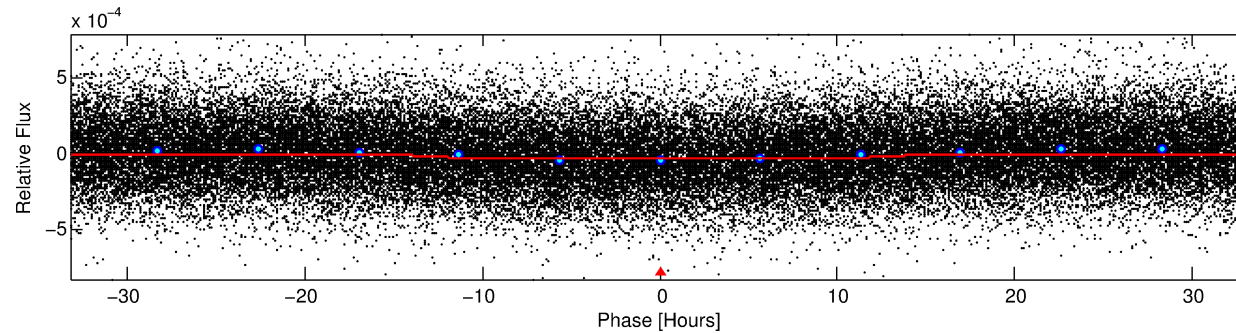
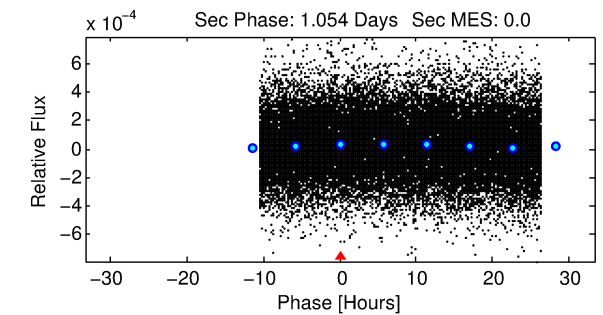
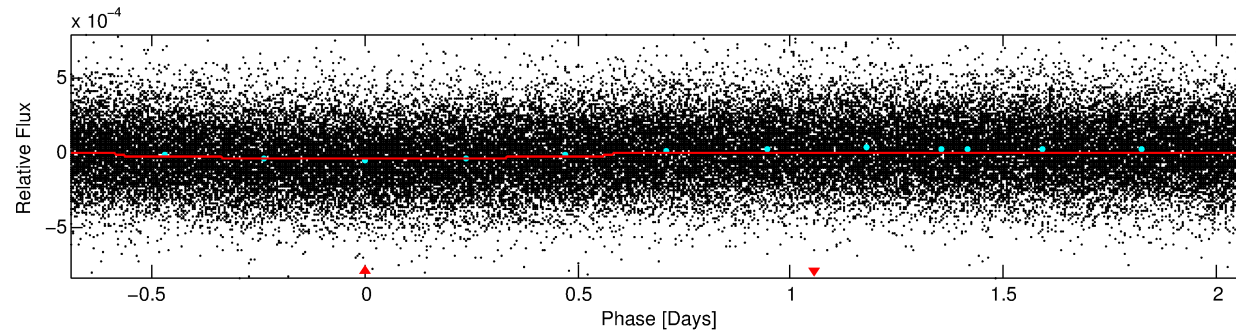
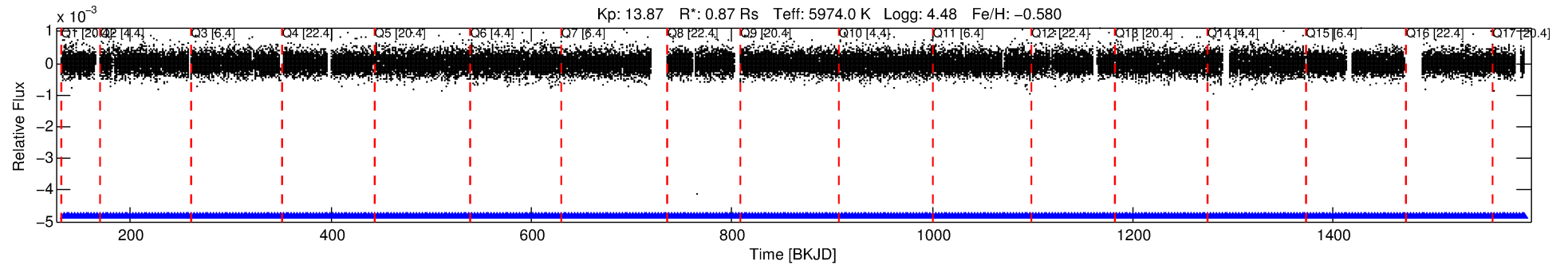
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005472644-01

No Significant Match Found

# DV One-Page Summary

KIC: 5472644 Candidate: 1 of 1 Period: 2.771 d



## DV Fit Results:

Period = 2.77058 [0.00005] d  
Epoch = 133.6876 [0.0117] BKJD  
Rp/R\* = 0.0053 [0.0022]  
a/R\* = 1.03 [0.13]  
b = 0.01 [251.47]  
Seff = 653.94 [221.34]  
Teq = 1289 [109] K  
Rp = 0.51 [0.25] Re  
a = 0.0365 [0.0081] AU  
Ag = N/A  
Teffp = N/A

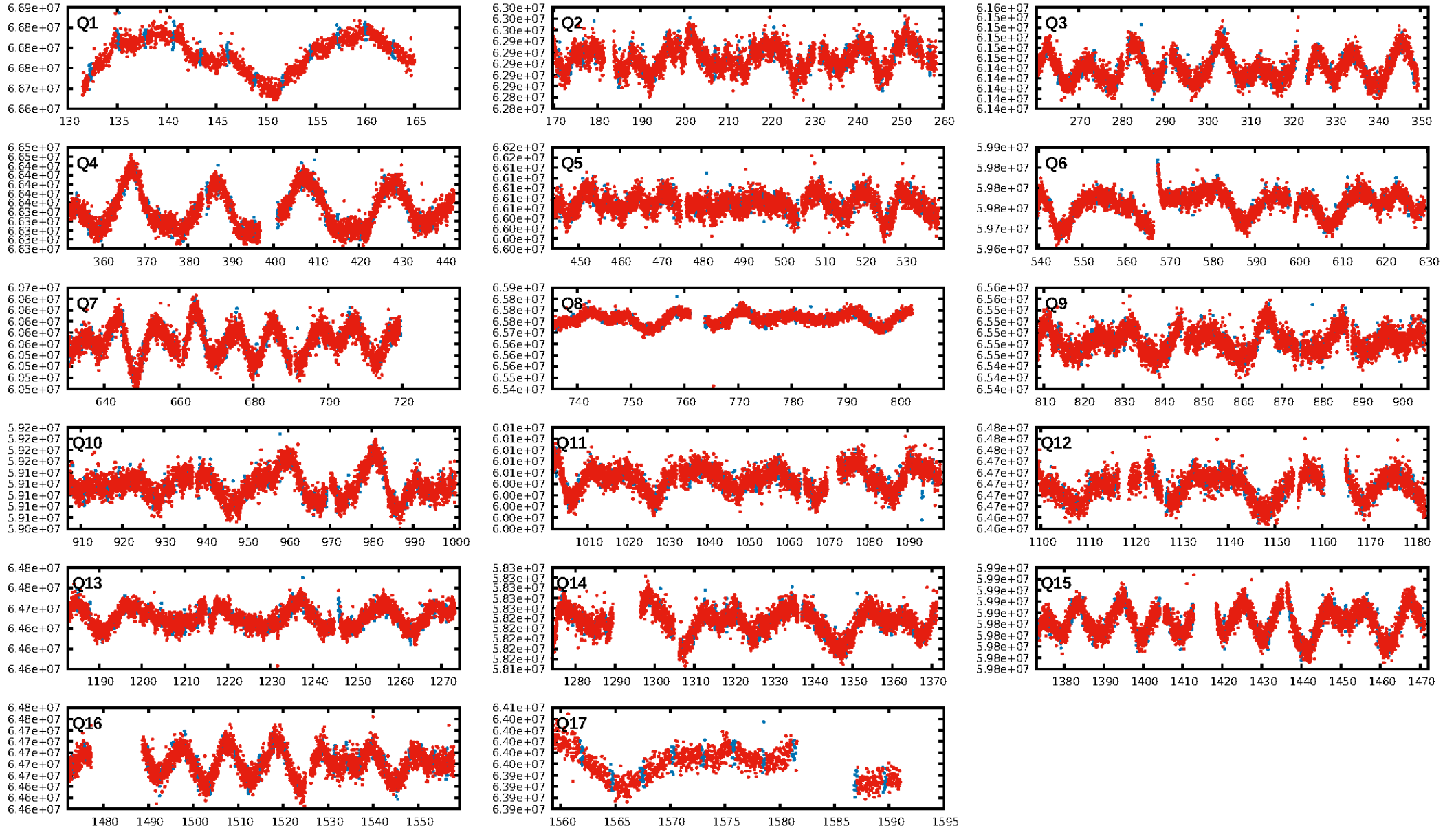
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [479/479]  
GhostDiagnostic-chr: 0.2716  
Centroid-sig: 0.0%  
Centroid-so: 2.945 arcsec [4.01 $\sigma$ ]  
OotOffset-rm: 3.120 arcsec [41.20 $\sigma$ ]  
KicOffset-rm: 3.157 arcsec [41.70 $\sigma$ ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [17/17]

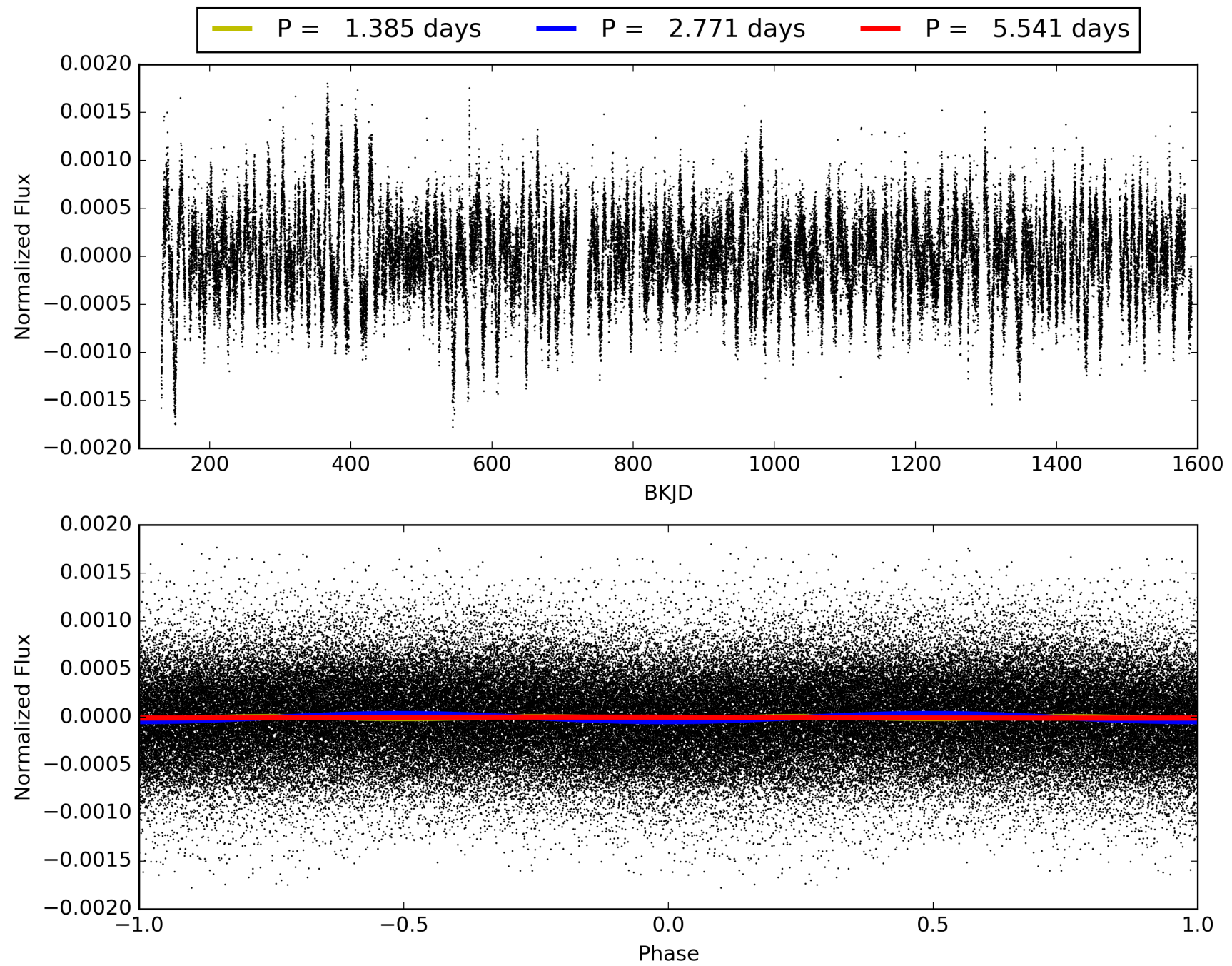
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:37:14 Z

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

# TCE 005472644-01, PDC Light Curves

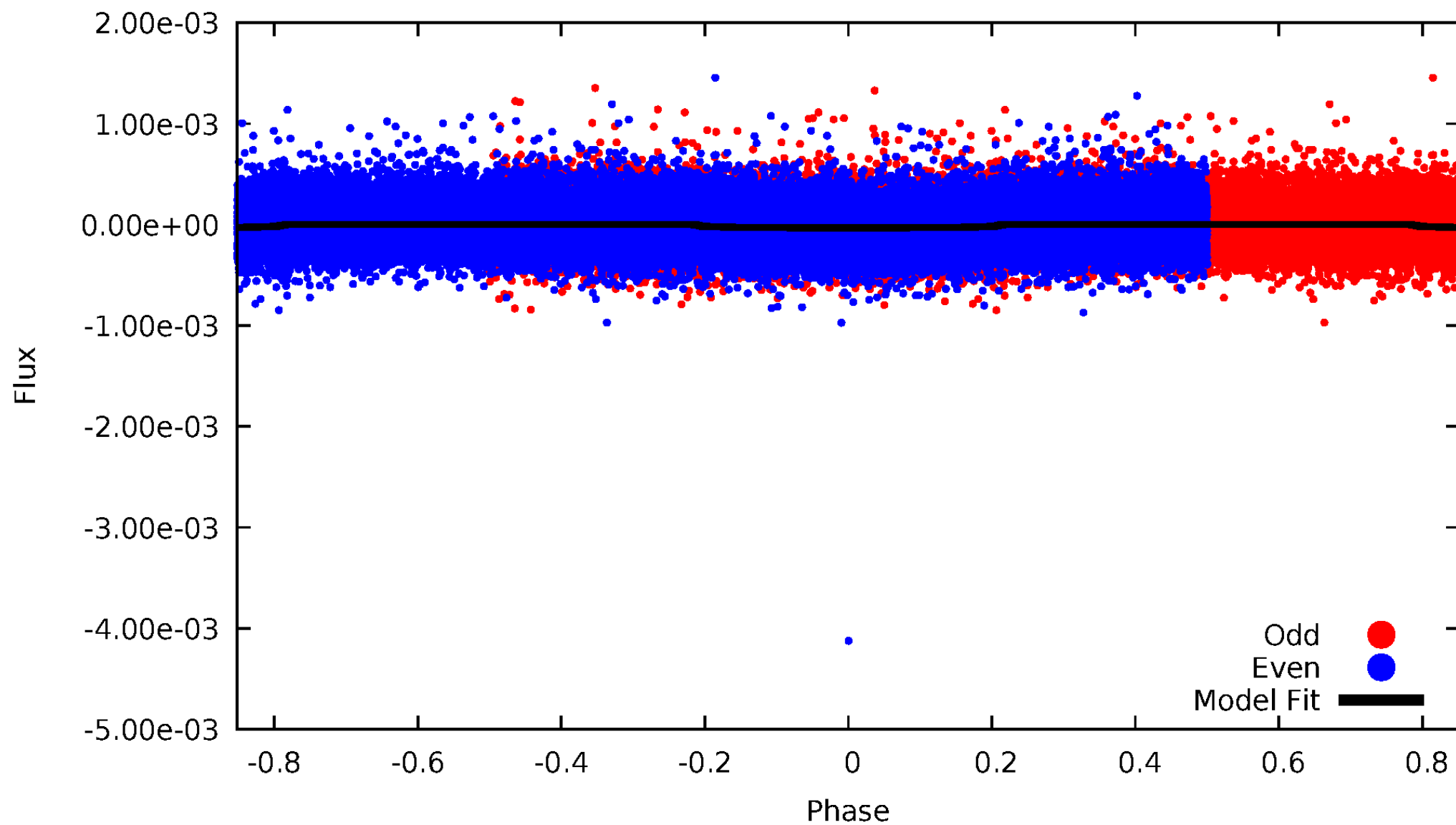


TCE 005472644-01



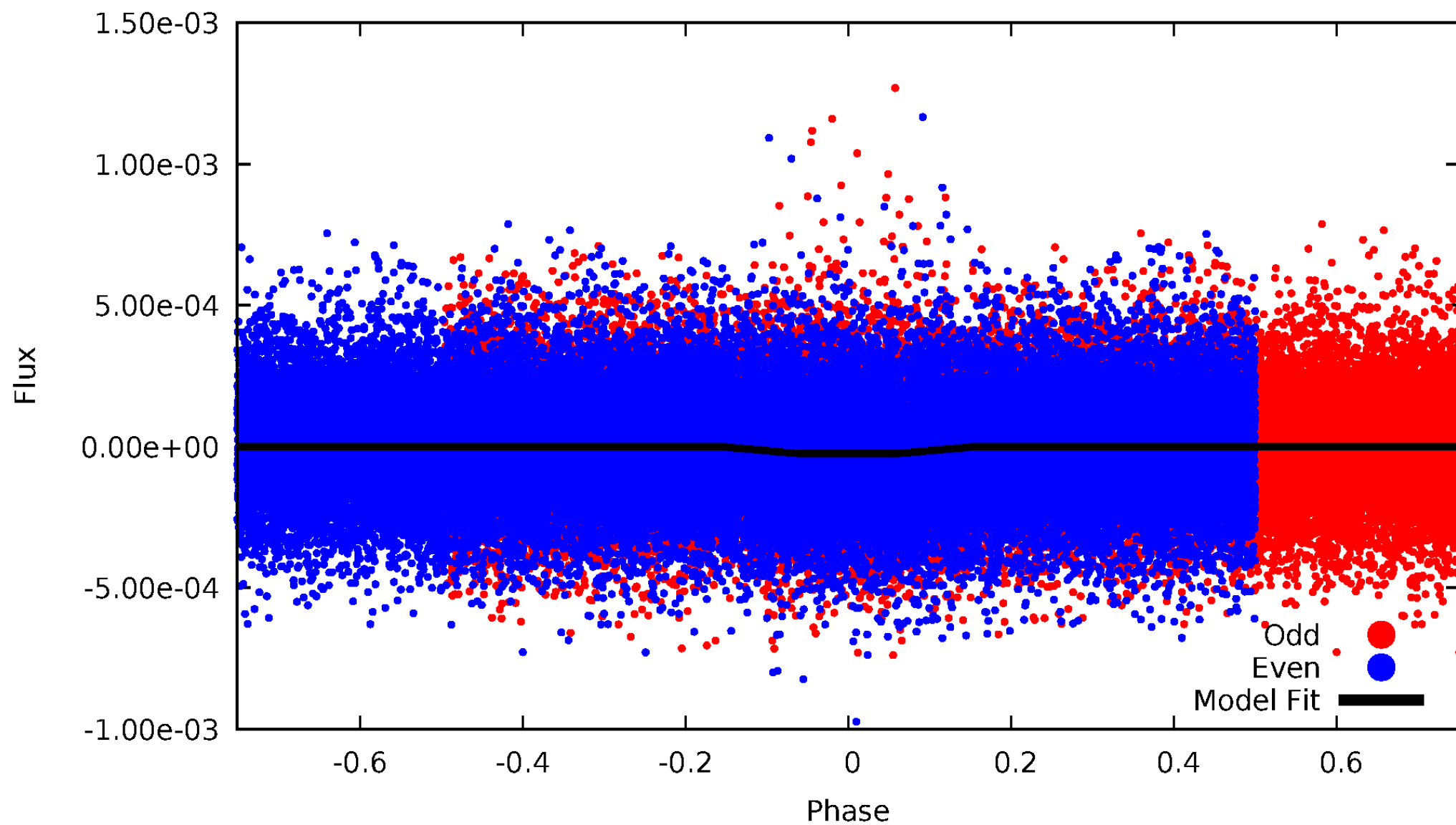
# DV Odd/Even

TCE 005472644-01



# ALT Odd/Even

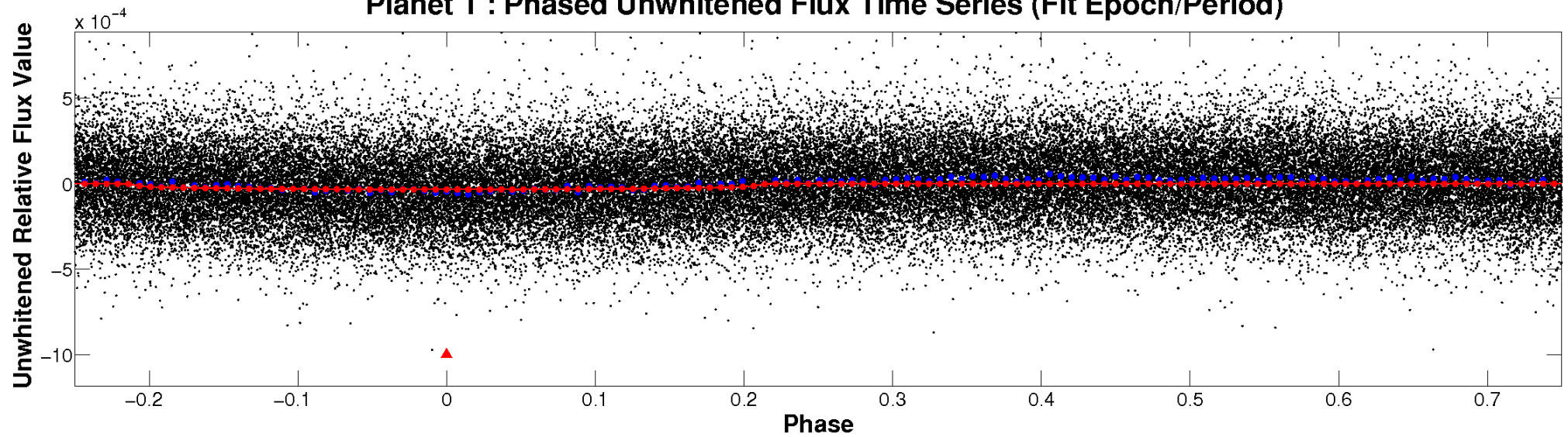
TCE 005472644-01



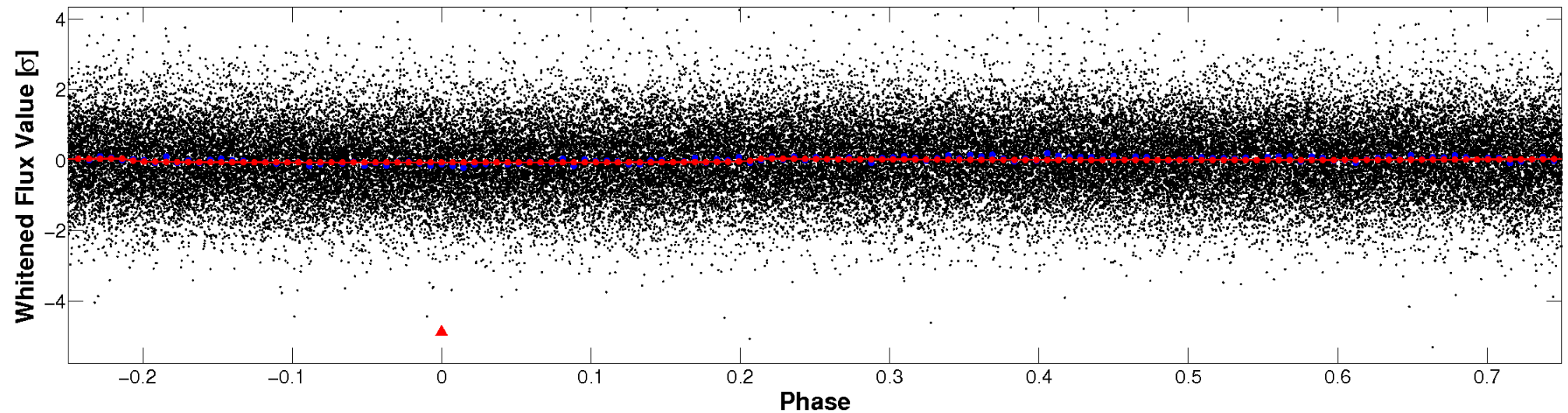


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

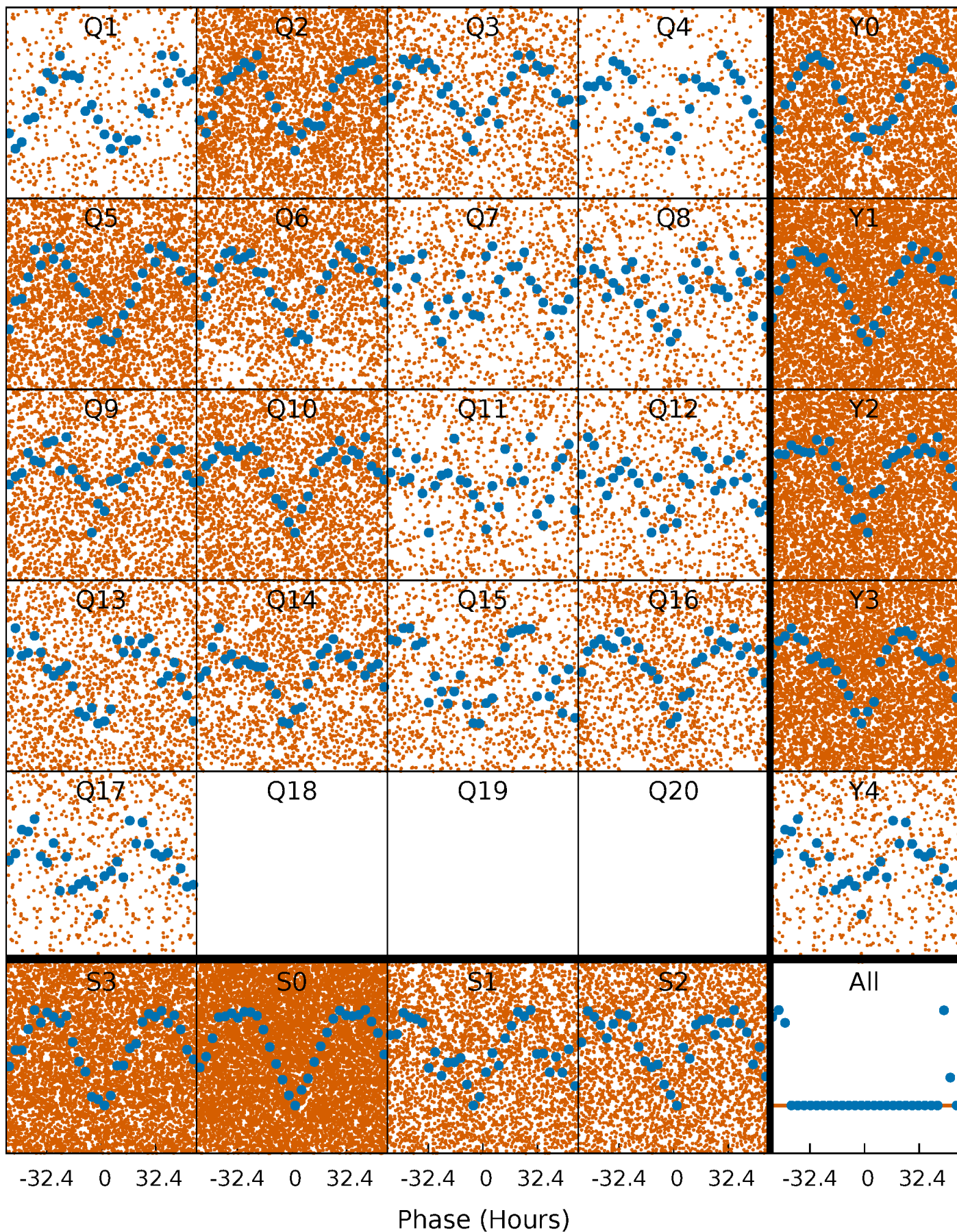


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

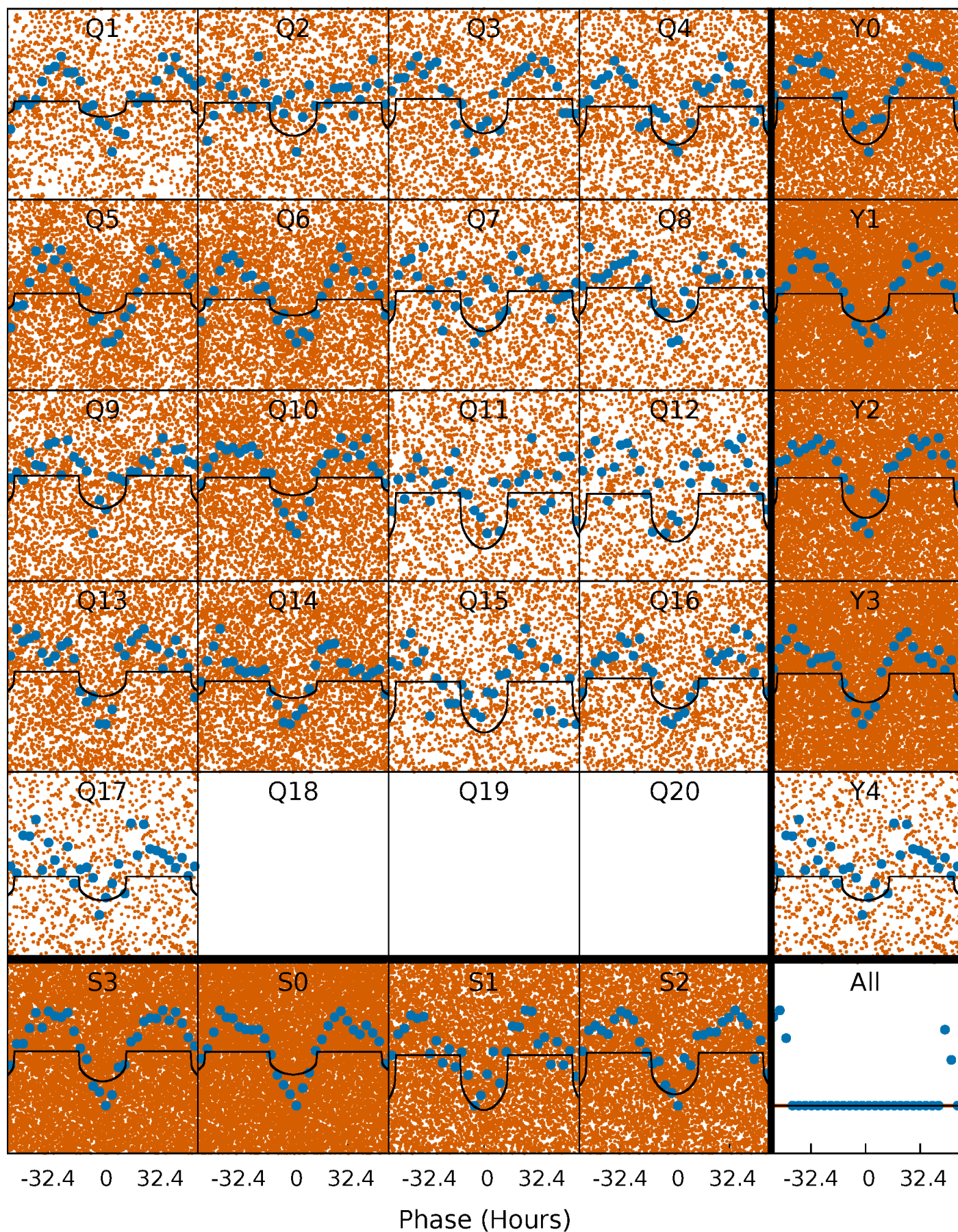
TCE 005472644-01   P= 2.770575 Days    $T_0=133.687570$  (BKJD)





# DV Quarter-Phased Transit Curves

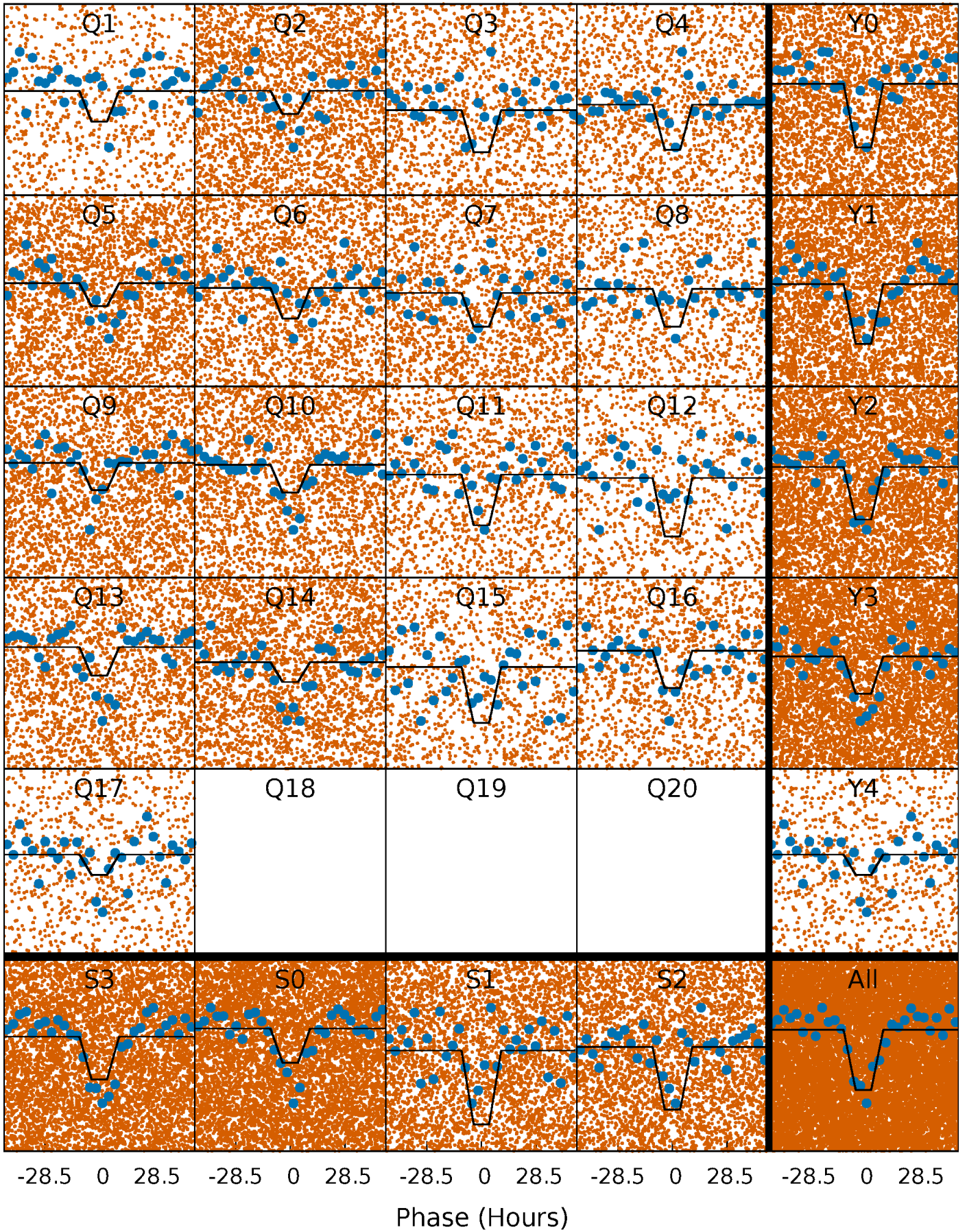
TCE 005472644-01 P= 2.770575 Days  $T_0=133.687570$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

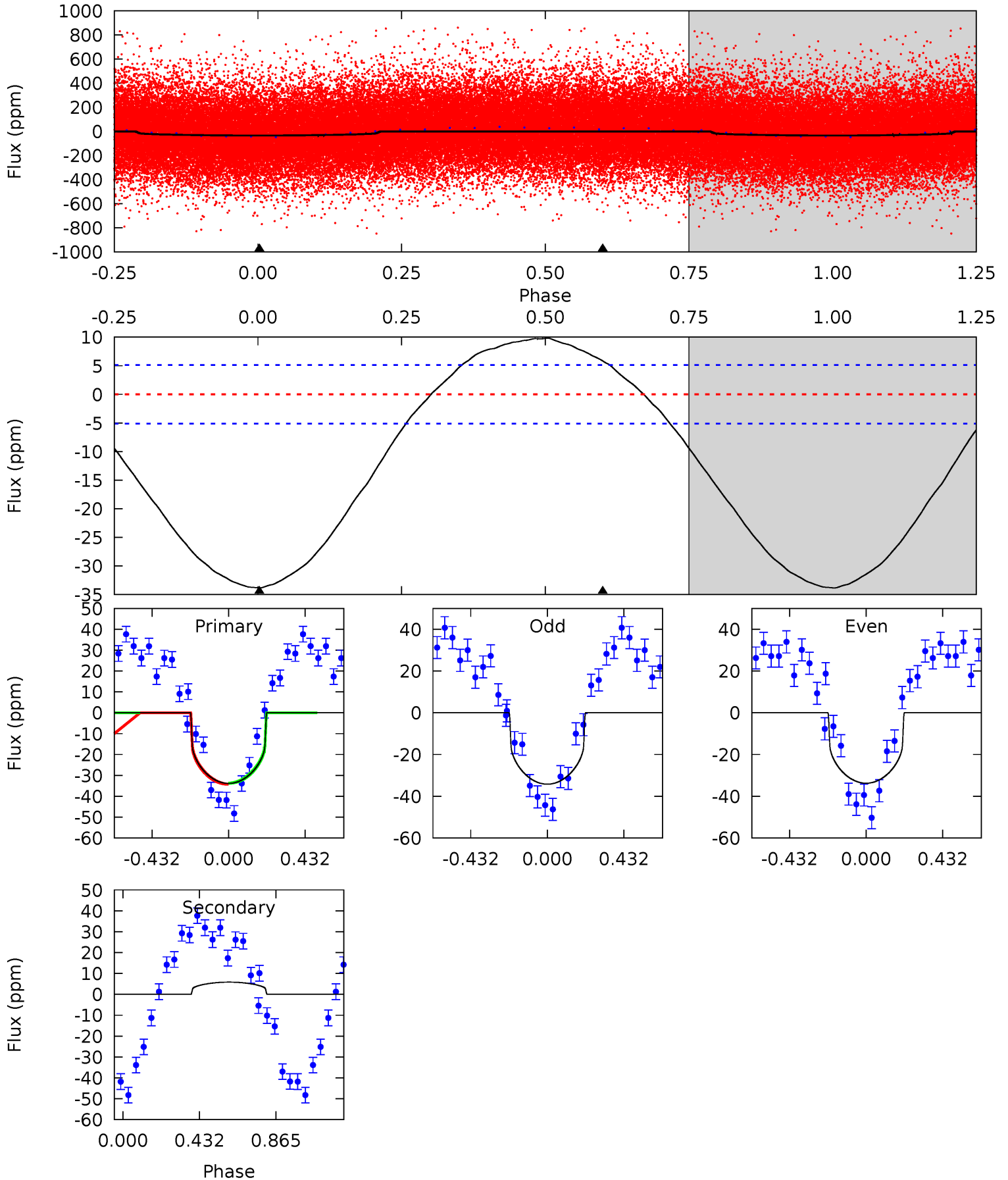
TCE 005472644-01 P= 2.770477 Days  $T_0=133.674280$  (BKJD)



# DV Model-Shift Uniqueness Test

005472644-01, P = 2.770575 Days, E = 130.916995 Days

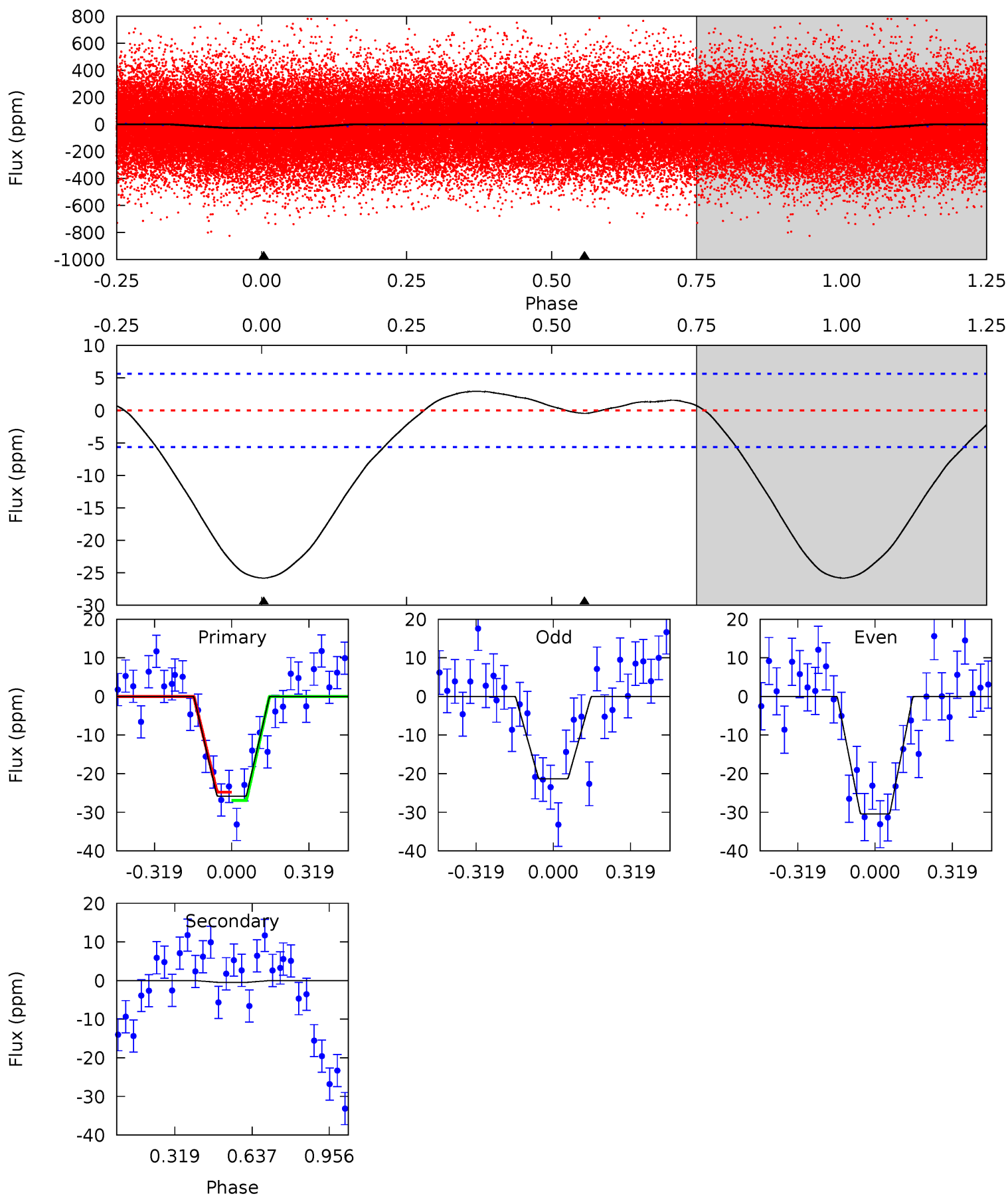
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.1	-4.84	0	0	4.25	0.78	2.64	28.1	28.1	-4.84	-4.84	0.19	1.13	0.23	0.20



# Alt Model-Shift Uniqueness Test

005472644-01, P = 2.770477 Days, E = 130.903803 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
19.7	0.35	0	0	4.32	1.00	1.50	19.7	19.7	0.35	0.35	3.51	1.61	0.10	0.80





### Stellar Parameters For KIC 005472644

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5974^{+161}_{-161}$	$4.482^{+0.094}_{-0.175}$	$-0.580^{+0.300}_{-0.300}$	$0.874^{+0.230}_{-0.098}$	$0.844^{+0.099}_{-0.072}$	$1.783^{+0.687}_{-0.805}$
	+3%/-3%	+2%/-4%	+52%/-52%	+26%/-11%	+12%/-9%	+39%/-45%
Source	PHO1	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 005472644-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$6 \pm 1$	$0.52^{+0.23}_{-0.19}$	$1822^{+121}_{-90}$	$-4256^{+471}_{-857}$	$-15.514^{+8.214}_{-26.016}$
Alt.	$-0 \pm 1$	$0.48^{+0.24}_{-0.21}$	$1816^{+117}_{-86}$	$2712^{+1105}_{-5952}$	$1.136^{+7.476}_{-3.832}$

$T_{\text{max}}$  = 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  $A_{\text{obs}} \gg 1.0$

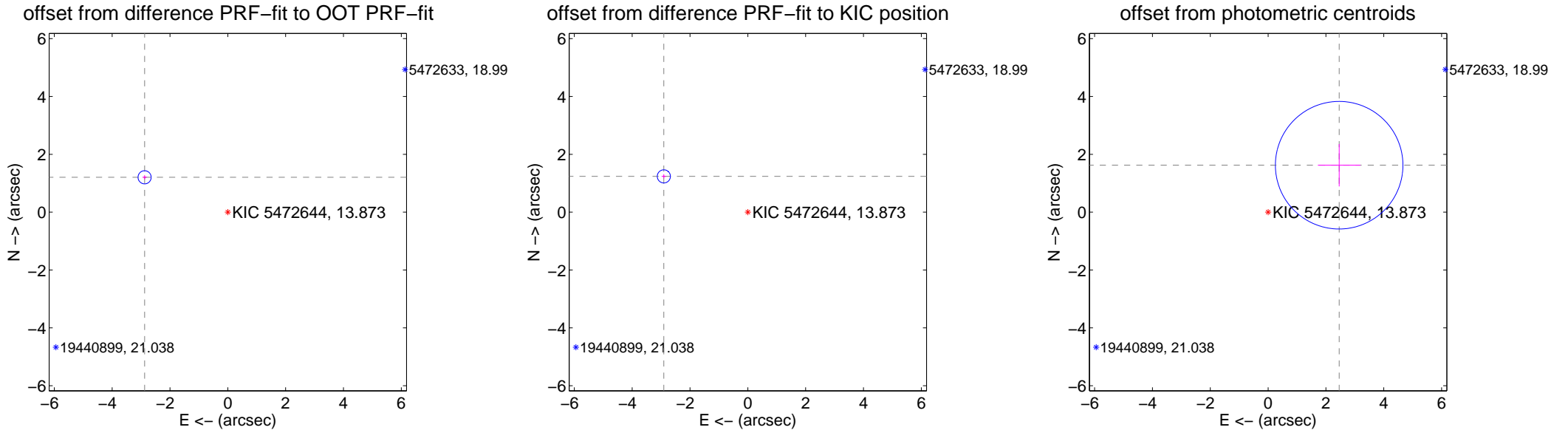
## DV Centroid Data

Supplemental centroid analysis for 005472644-01. Kepler magnitude: 13.87. Transit SNR 10.72

There are 0 quarters with good PRF difference image offsets

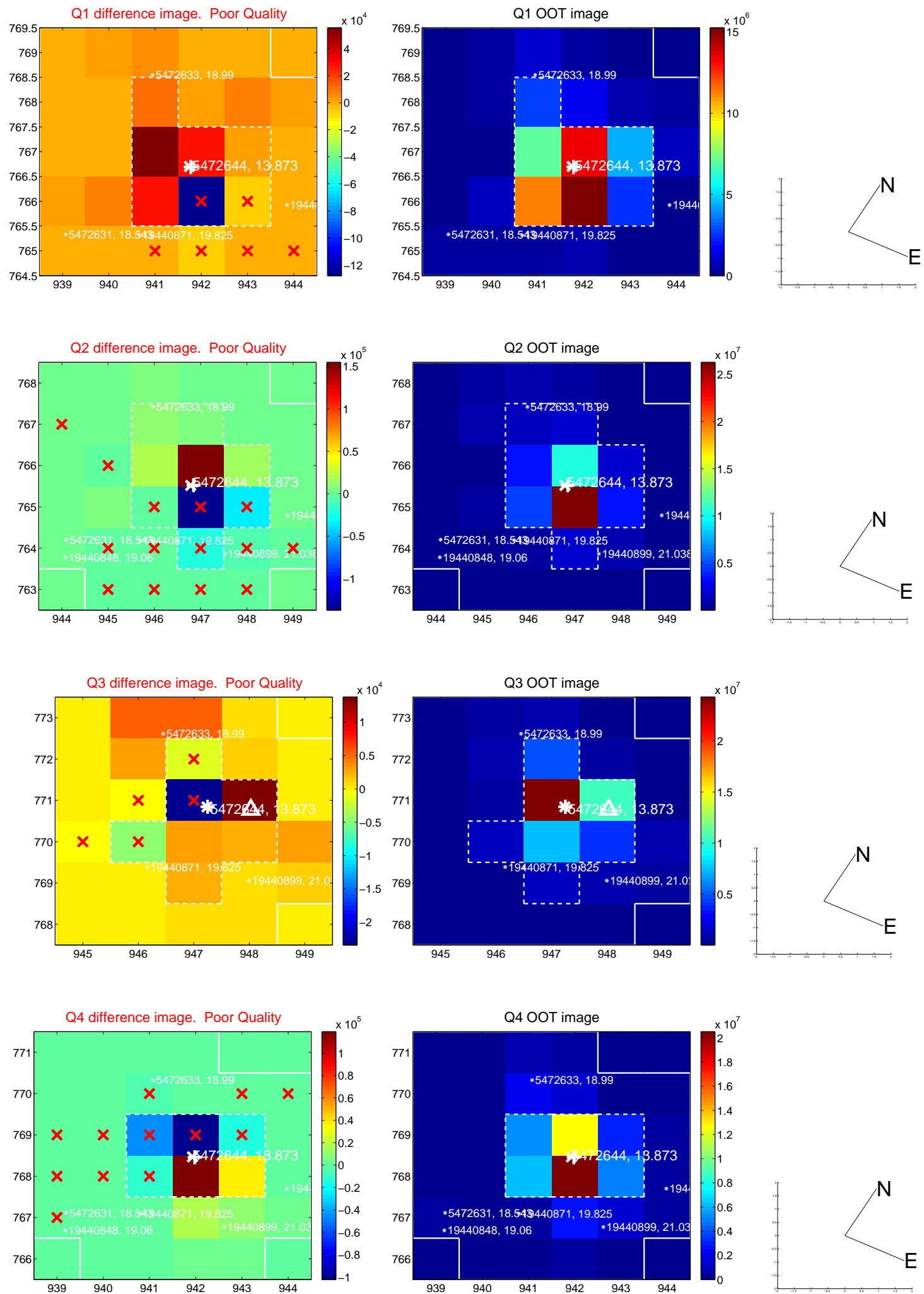
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.120 \pm 0.076$	41.20	$2.877 \pm 0.076$	$1.205 \pm 0.073$
PRF-fit source offset from KIC position	$3.157 \pm 0.076$	41.70	$2.904 \pm 0.076$	$1.238 \pm 0.073$
photometric centroid source offset	$2.94 \pm 0.74$	4.01	$-2.46 \pm 0.74$	$1.62 \pm 0.73$

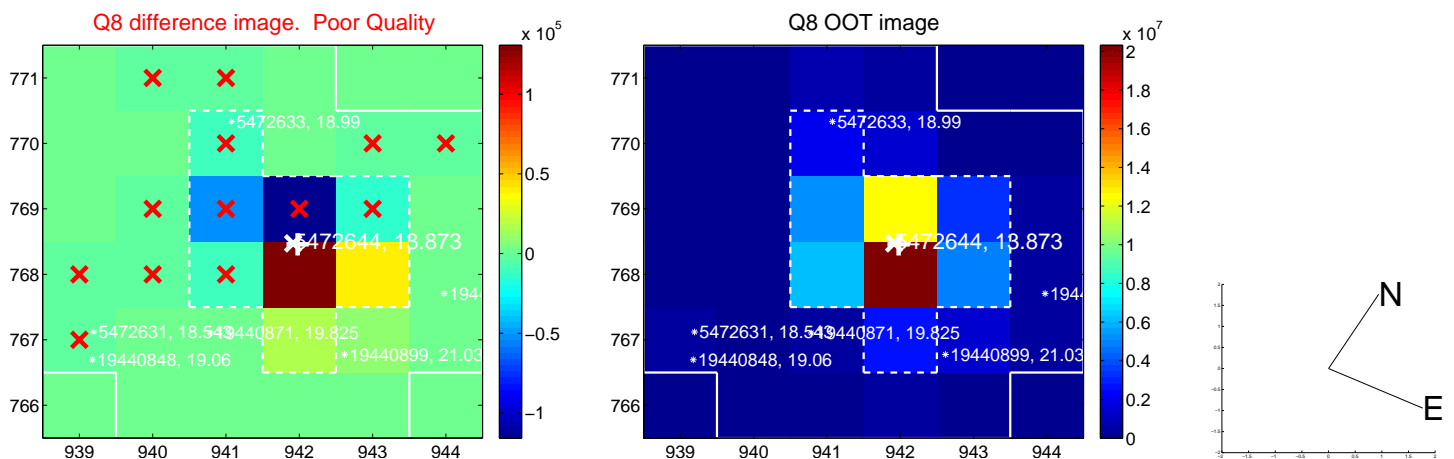
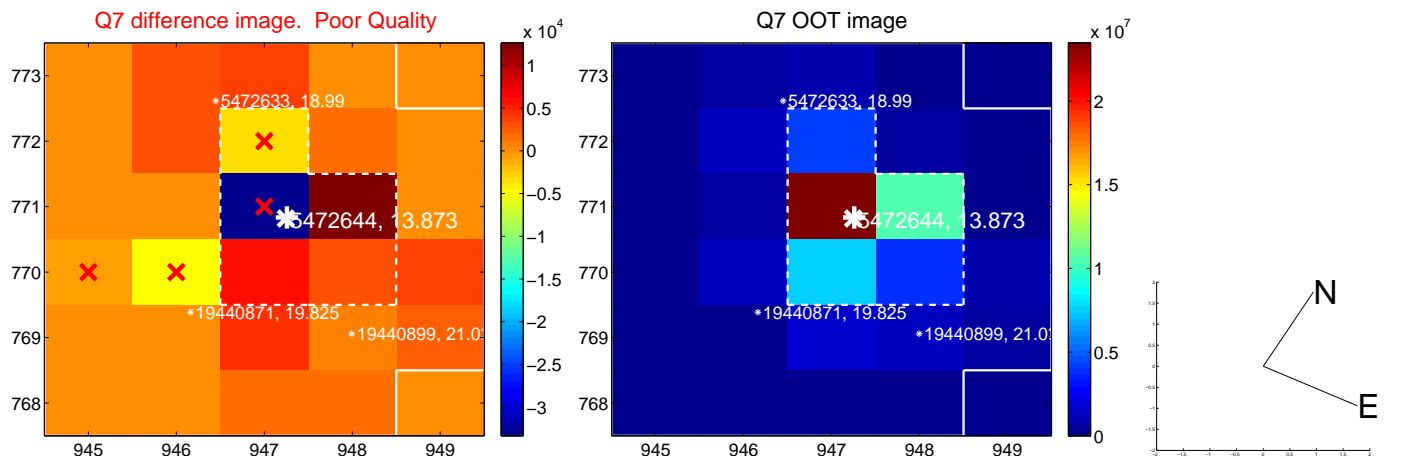
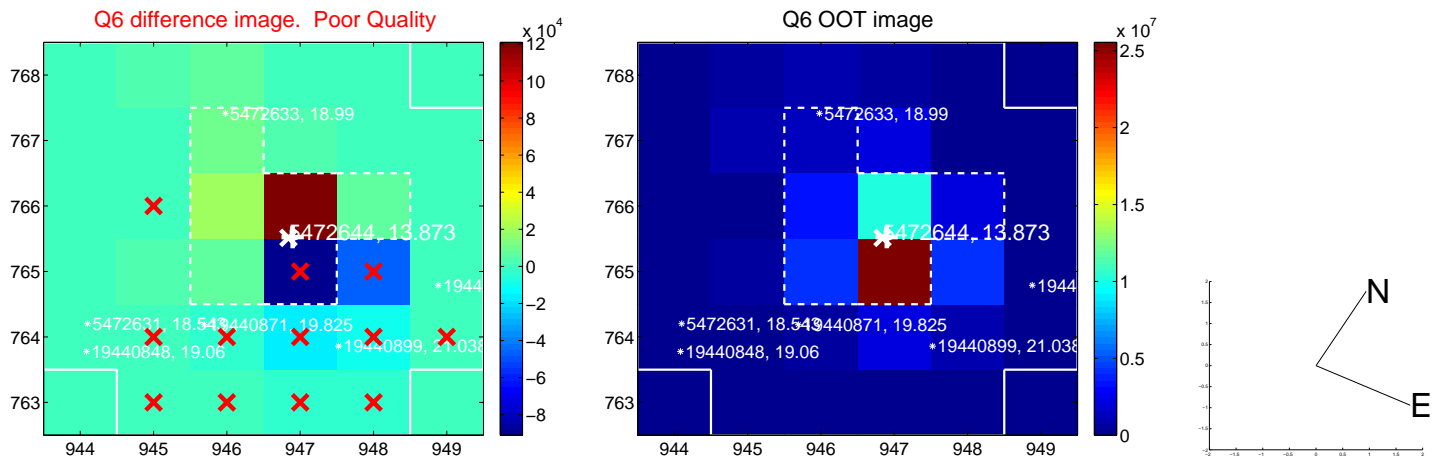
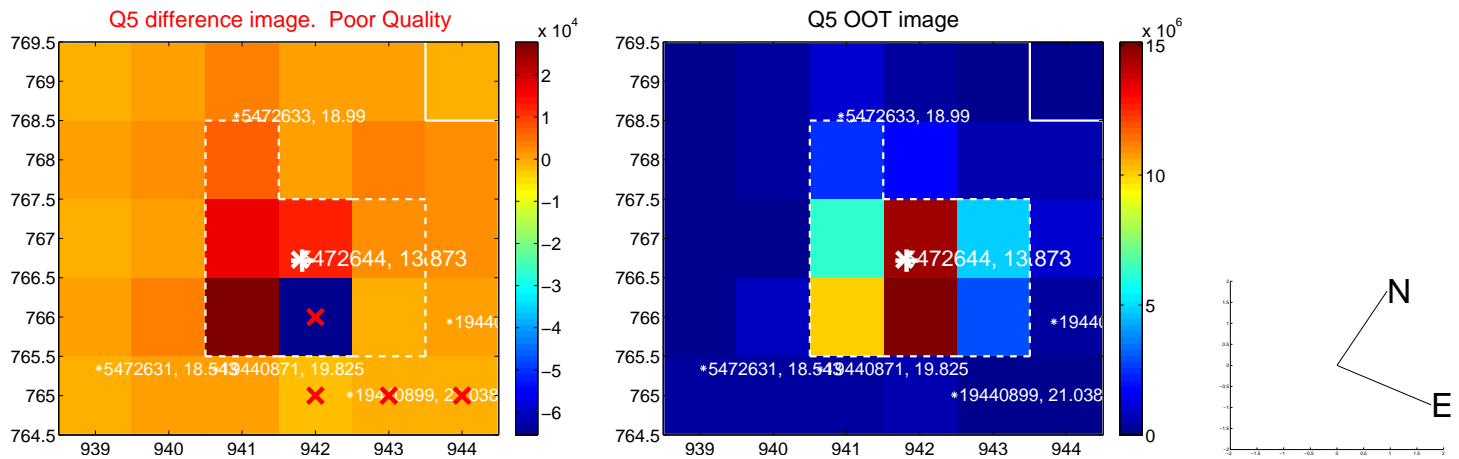


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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.

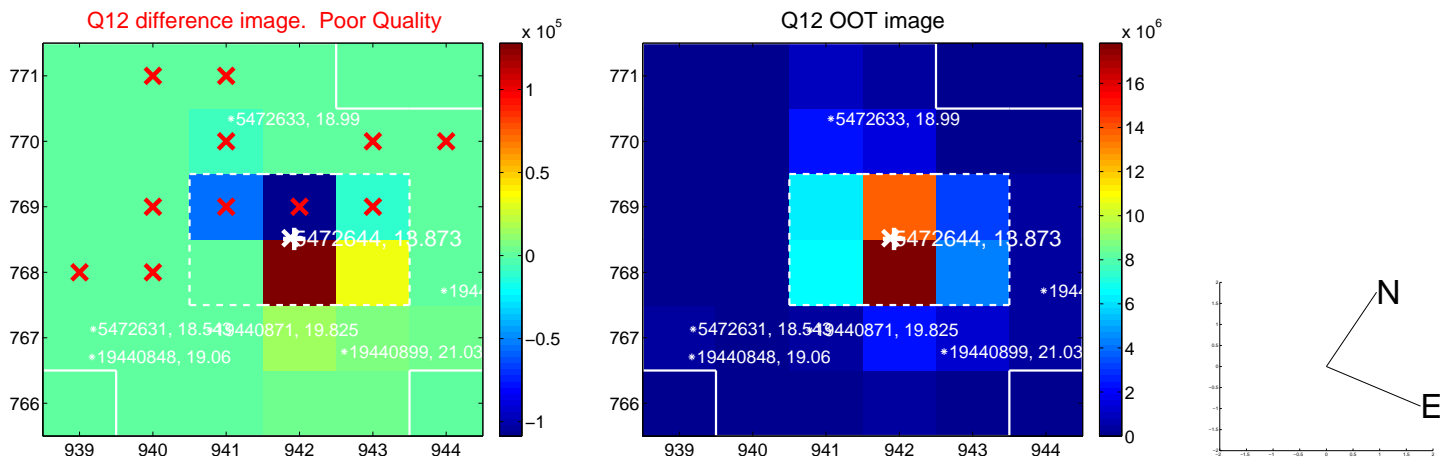
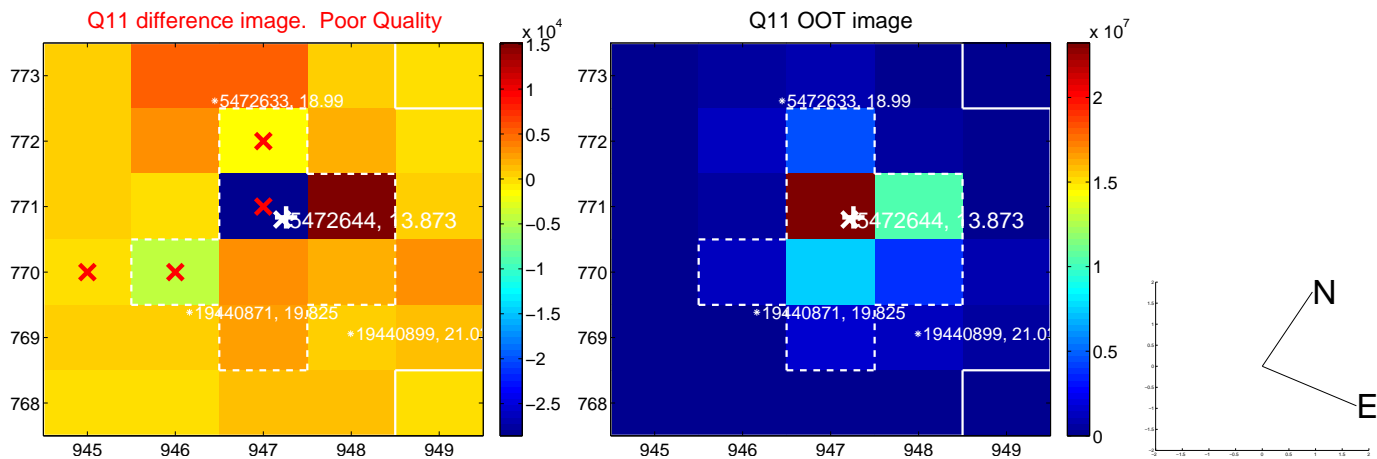
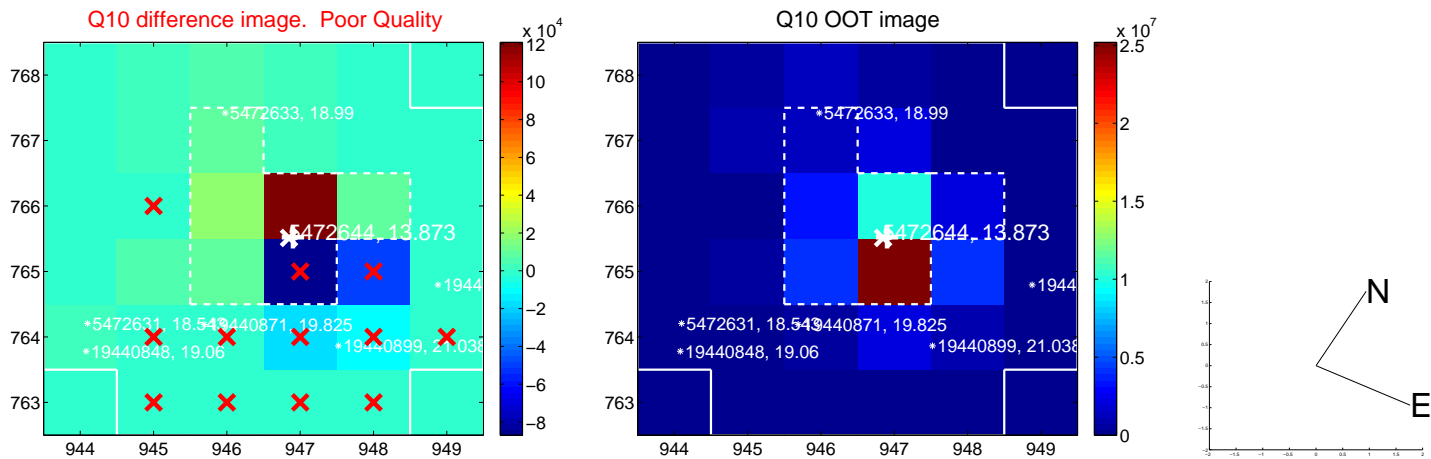
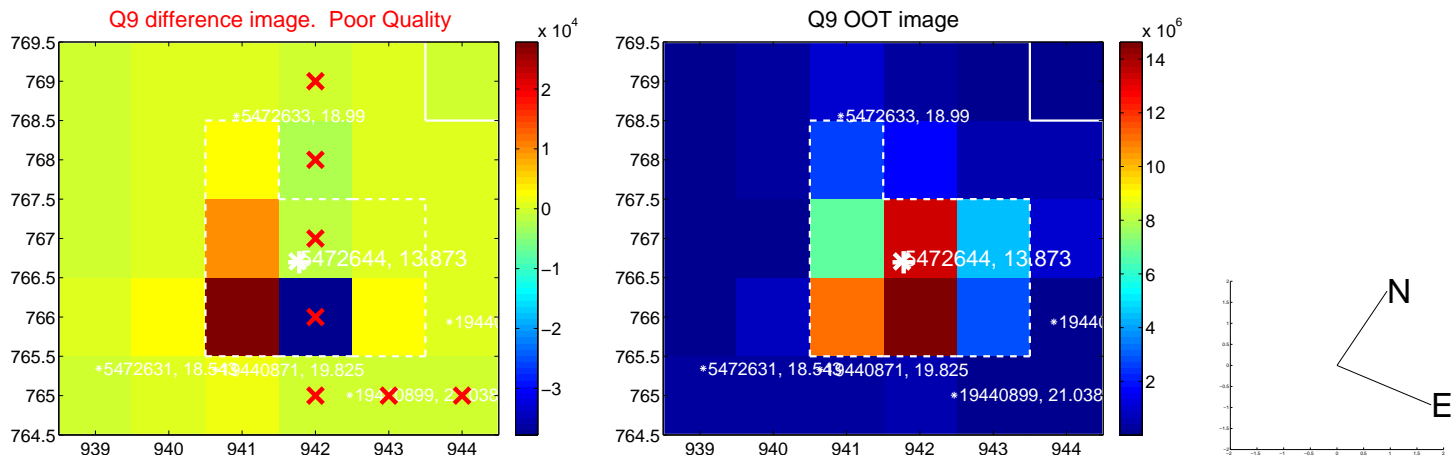


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

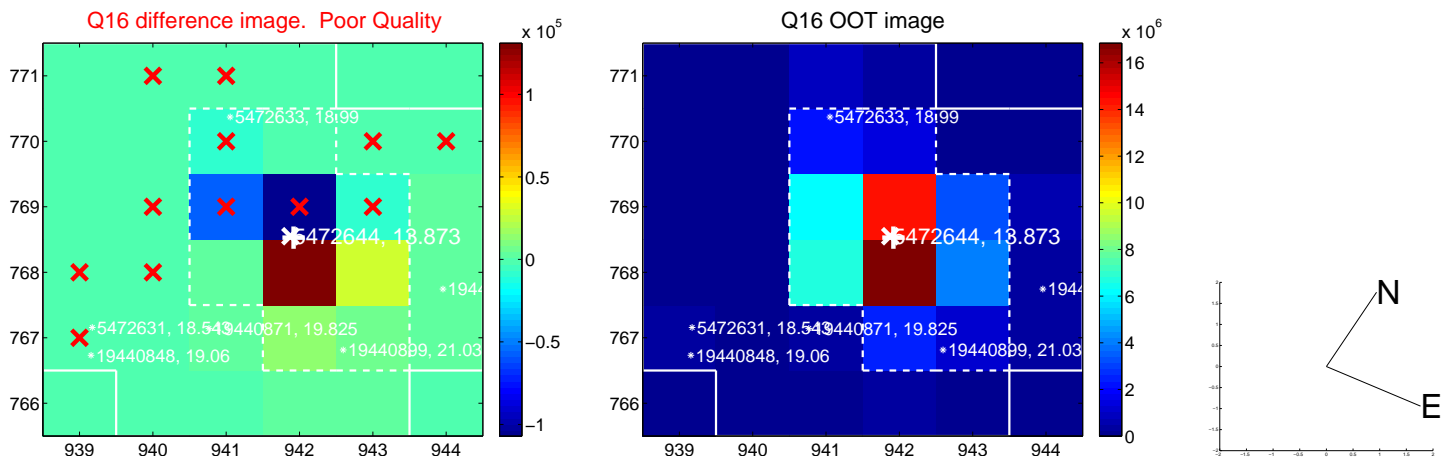
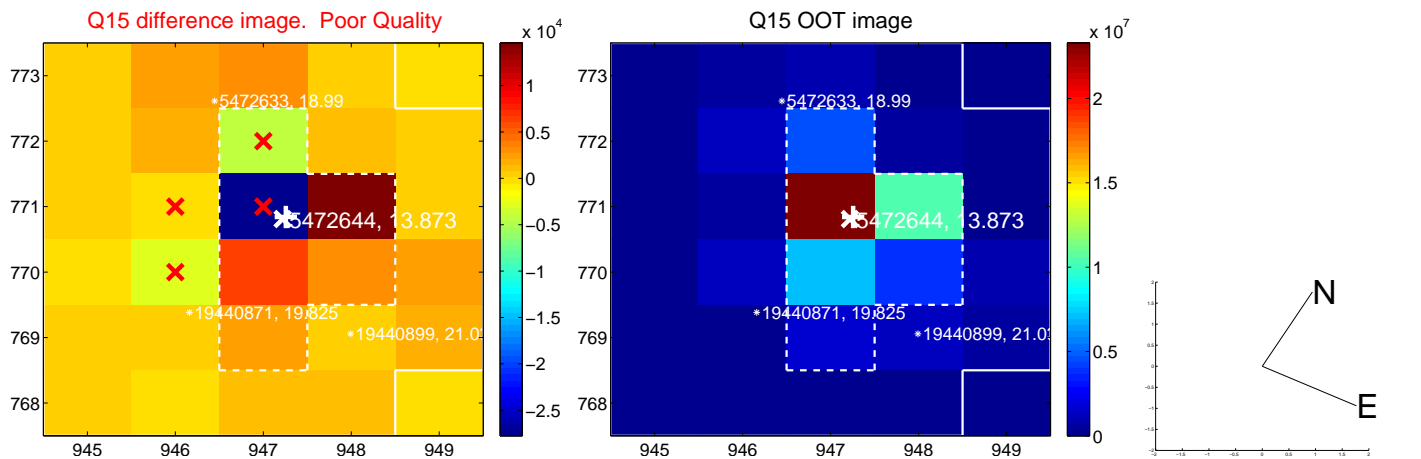
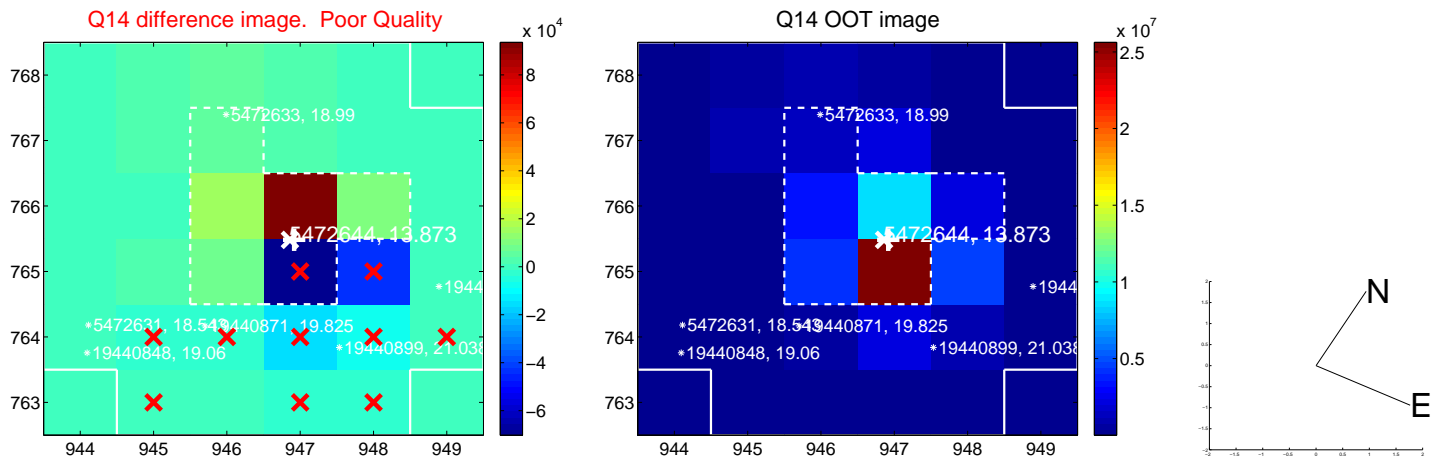
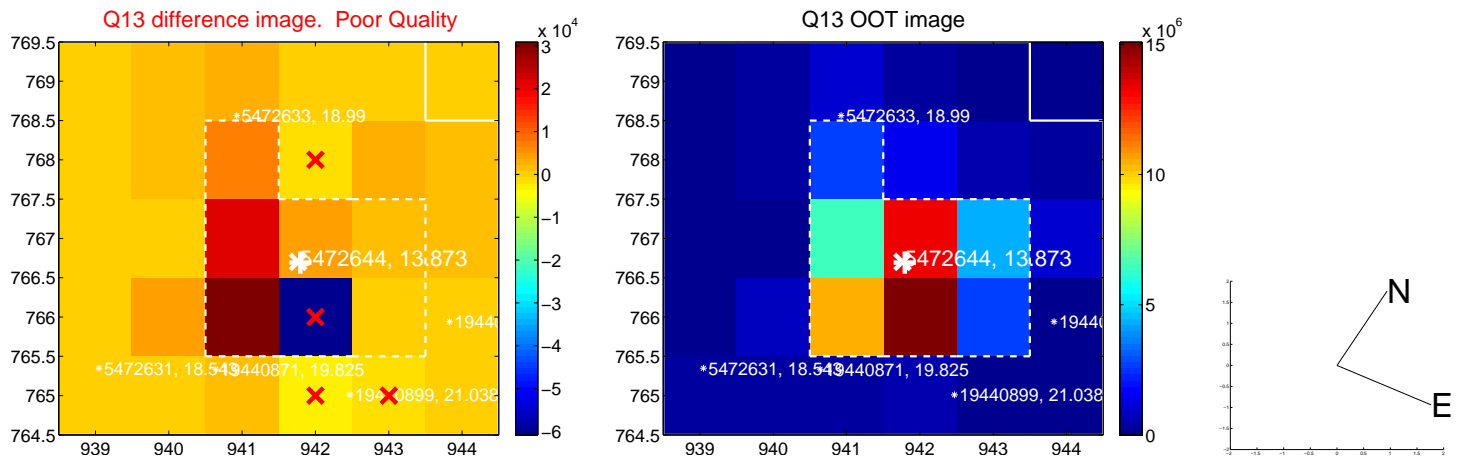




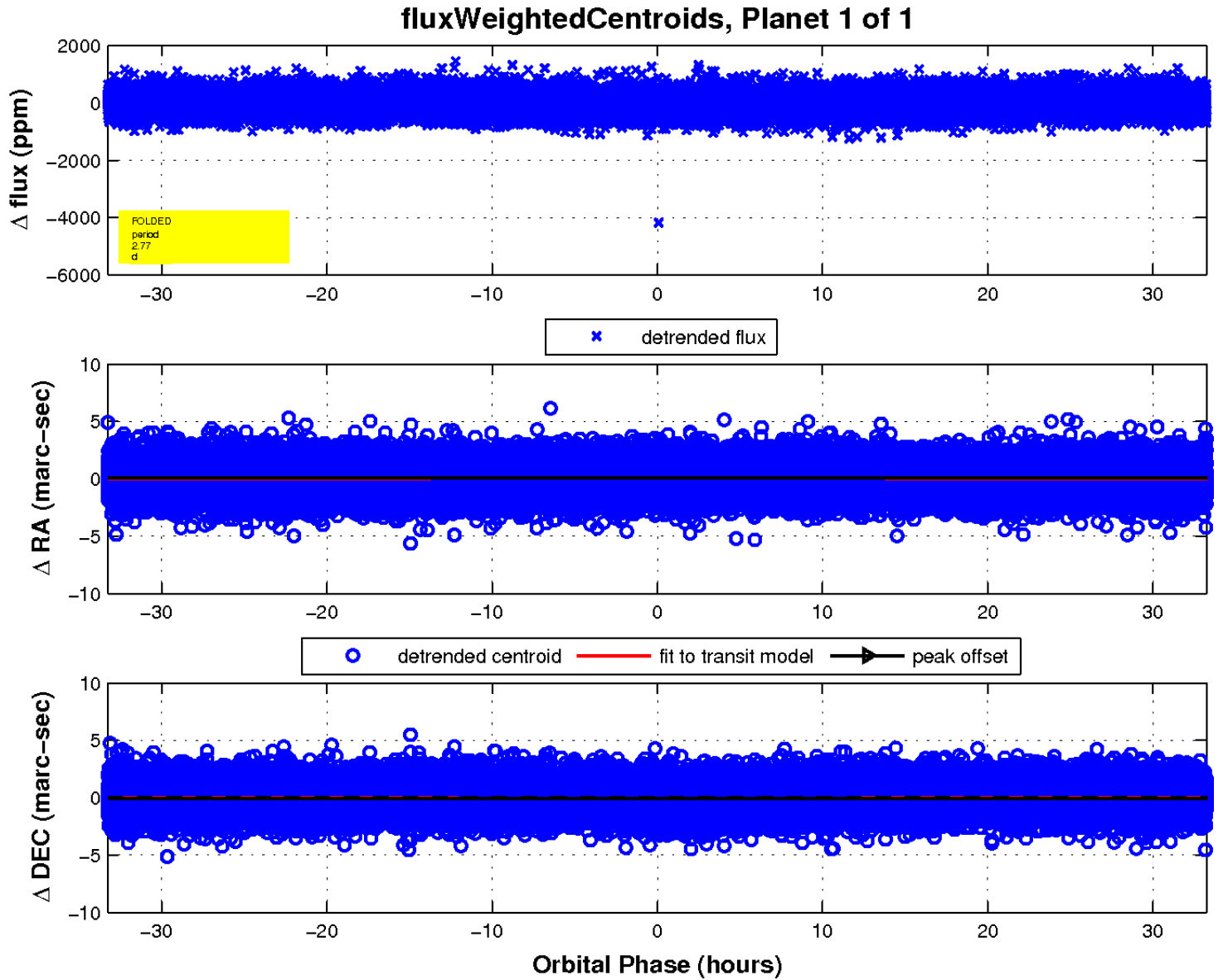
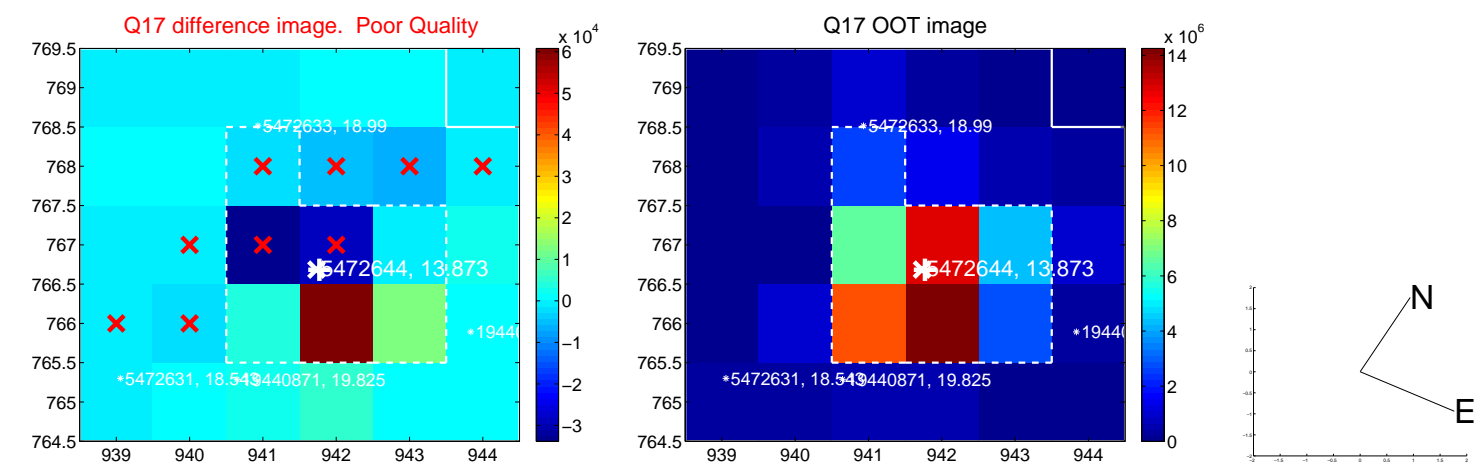
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

