

# KIC 005354490

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005354490-01	OBS	No	2.610875	131.837998	24.4	21.944	7.5	8.8	0.97	5638	0.49	625.68

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005354490-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

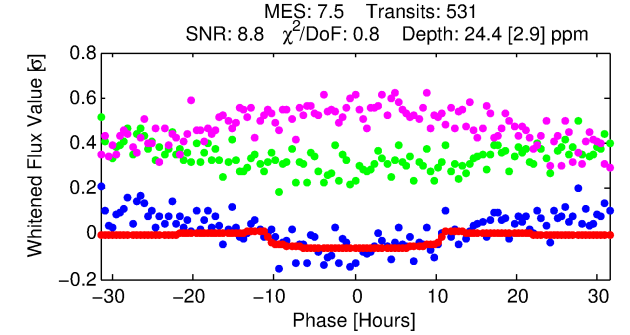
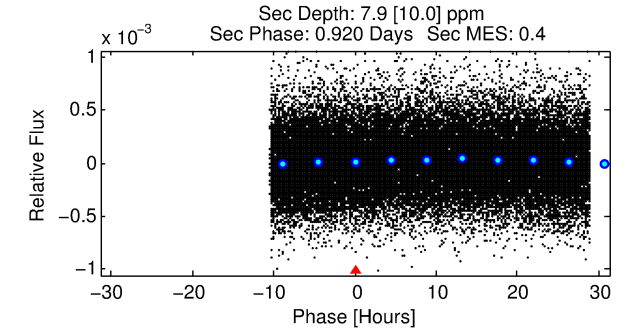
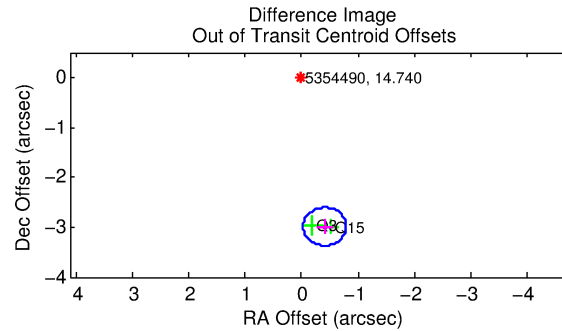
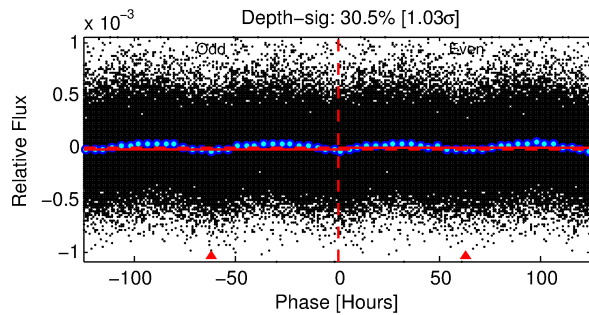
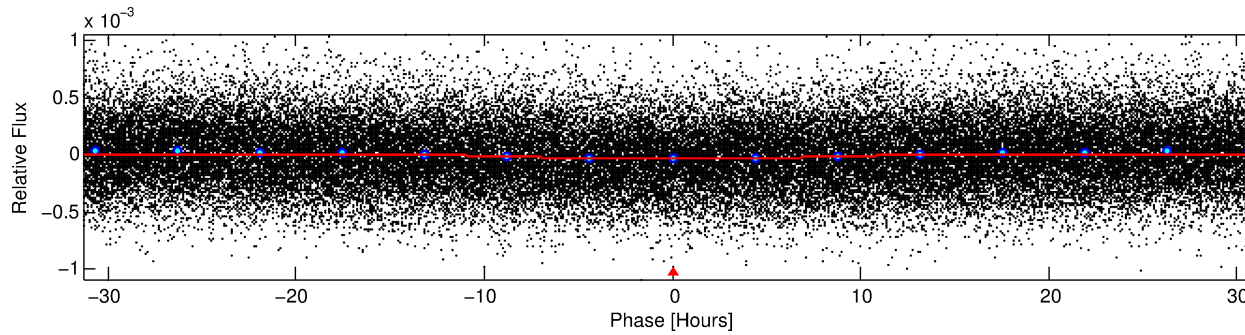
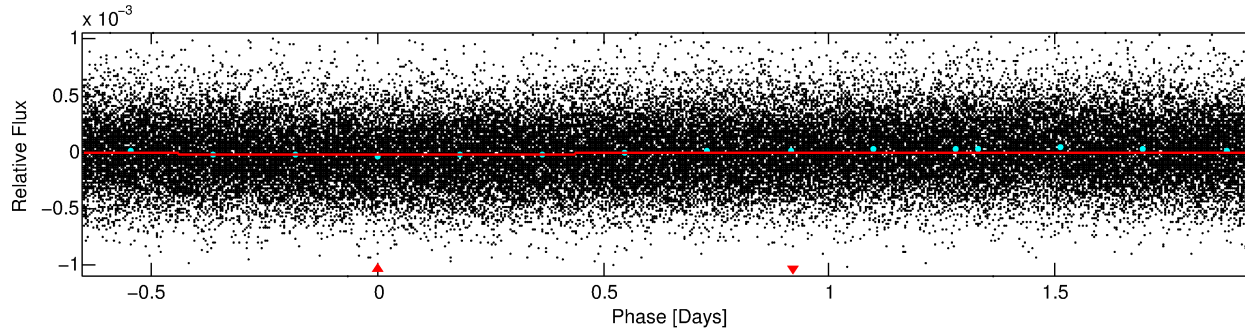
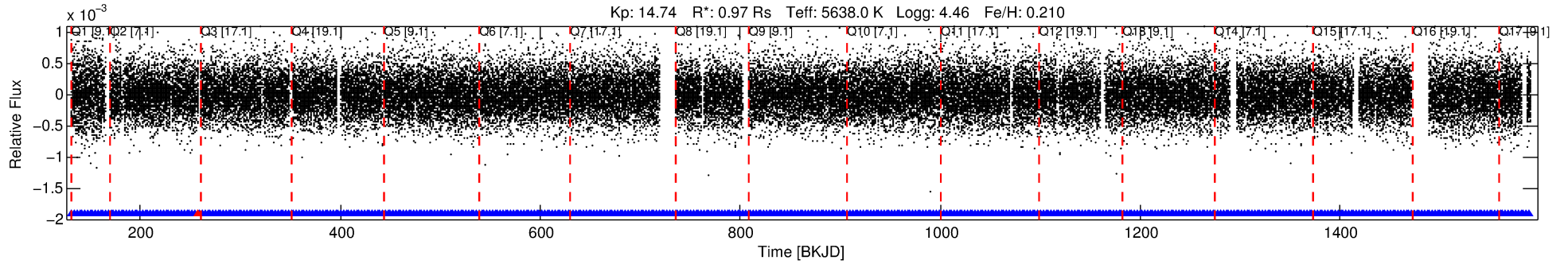
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005354490-01

No Significant Match Found

# DV One-Page Summary

KIC: 5354490 Candidate: 1 of 1 Period: 2.611 d



## DV Fit Results:

Period = 2.61088 [0.00008] d  
Epoch = 131.8380 [0.0195] BKJD  
Rp/R\* = 0.0046 [0.0037]  
a/R\* = 1.10 [0.59]  
b = 0.52 [4.62]  
Seff = 625.68 [135.28]  
Teq = 1275 [69] K  
Rp = 0.49 [0.40] Re  
a = 0.0371 [0.0050] AU  
Ag = 24.59 [50.32] [0.47σ]  
Teffp = 4391 [2236] K [1.39σ]

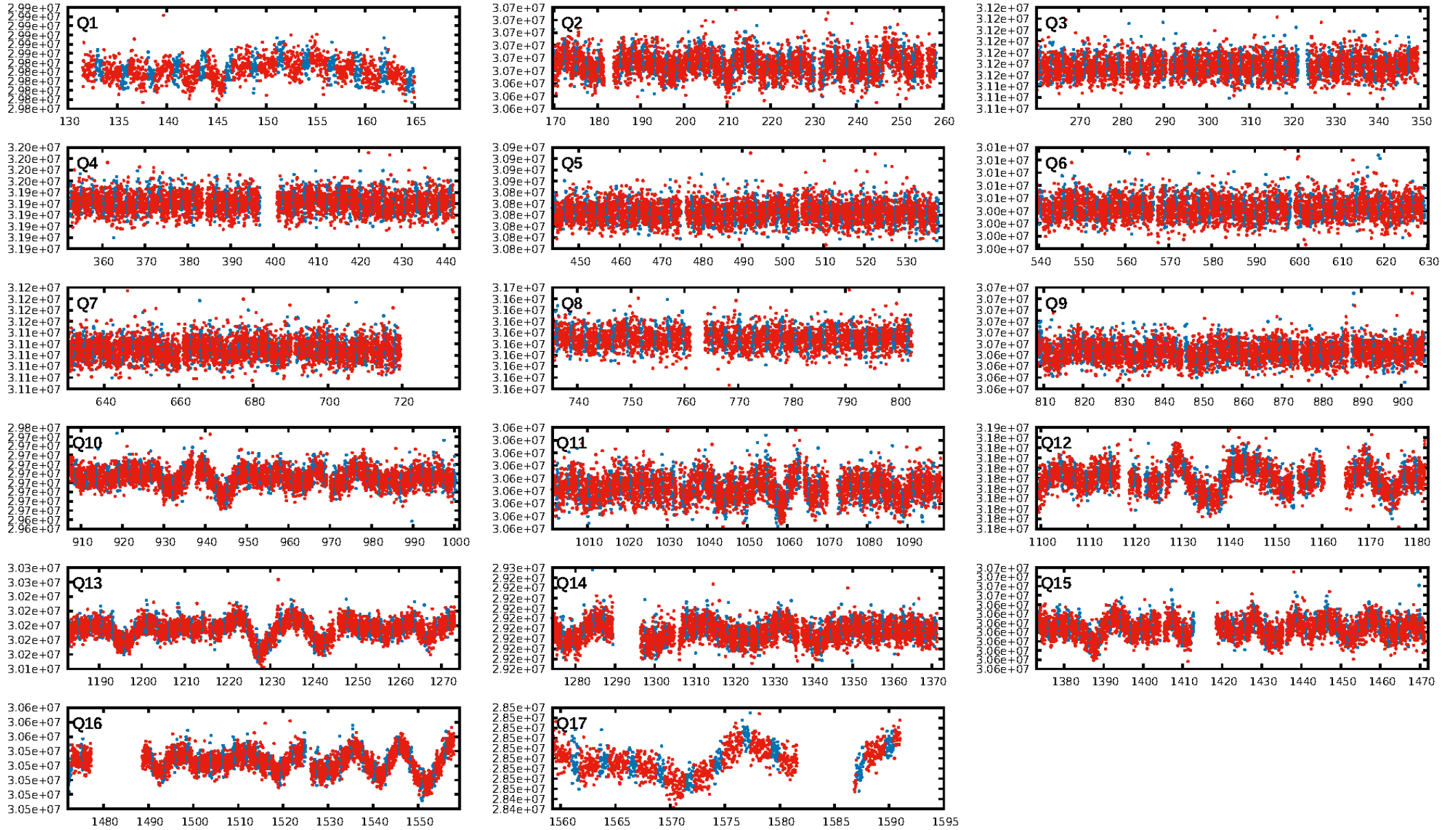
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [506/507]  
GhostDiagnostic-chr: 1.806  
Centroid-sig: 0.1%  
Centroid-so: 2.535 arcsec [1.94σ]  
OotOffset-rm: 3.018 arcsec [23.76σ]  
KicOffset-rm: 2.675 arcsec [21.07σ]  
OotOffset-st: 0/2/0/0 [2]  
KicOffset-st: 0/2/0/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:58:03 Z

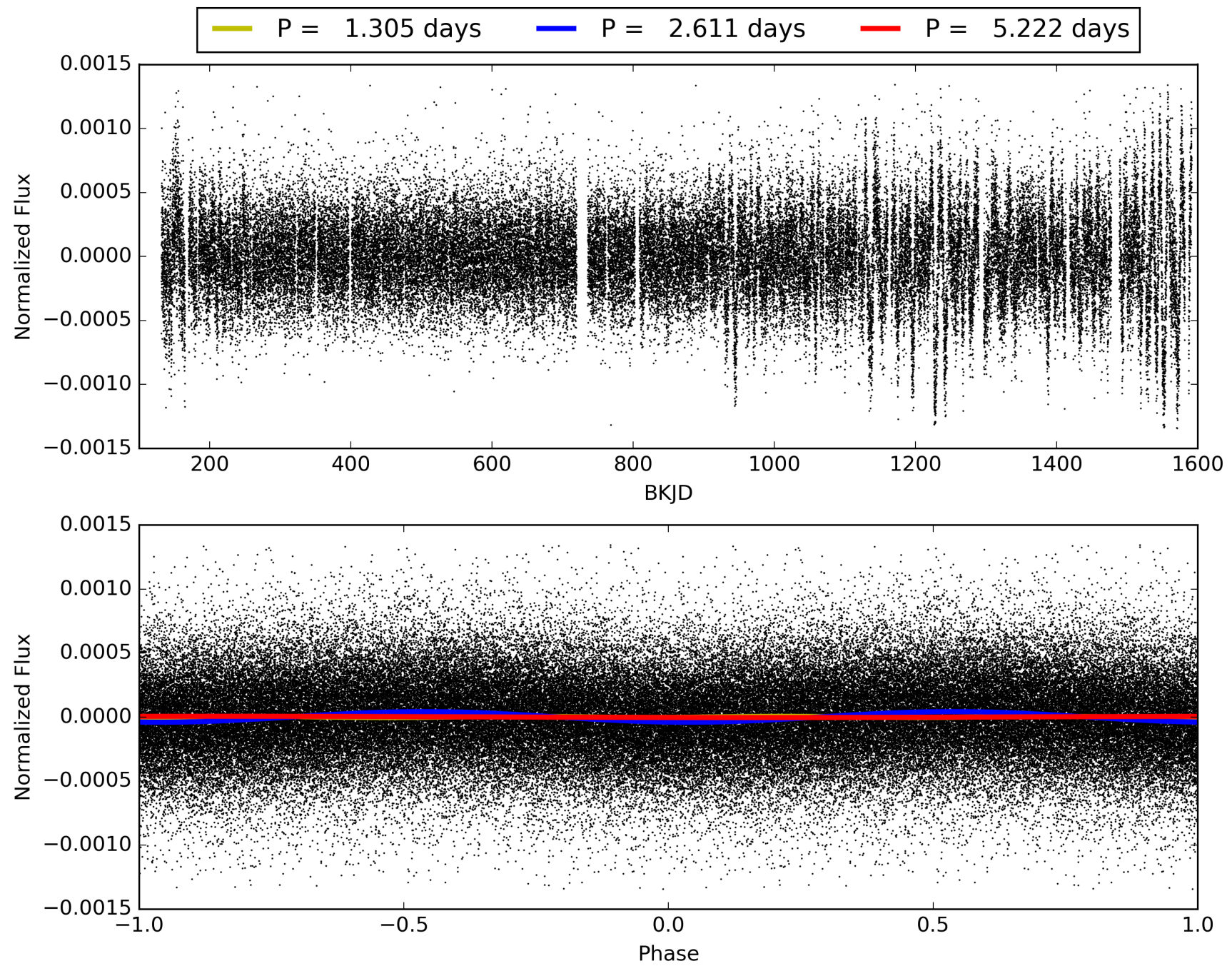
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005354490-01, PDC Light Curves



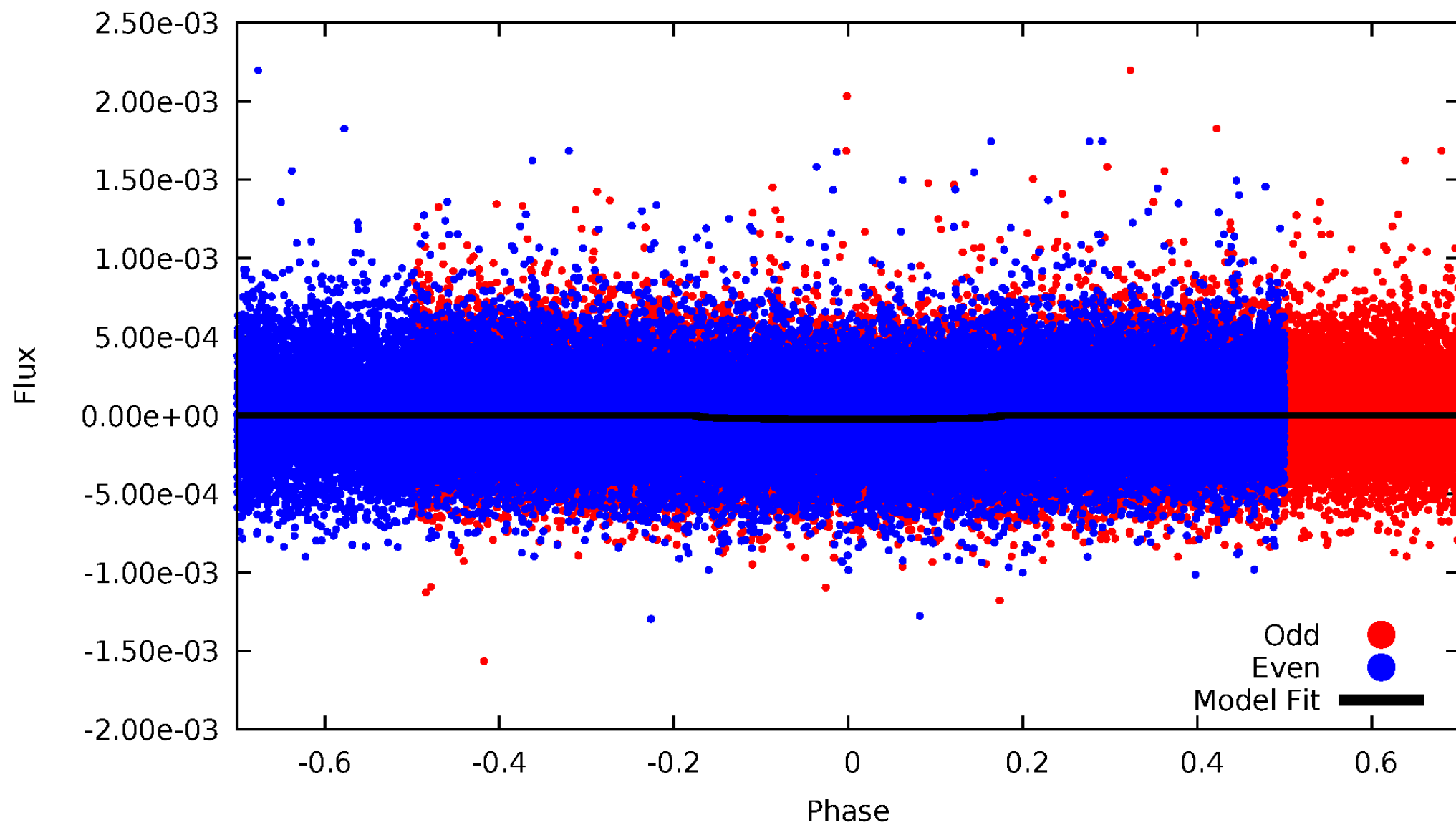


TCE 005354490-01



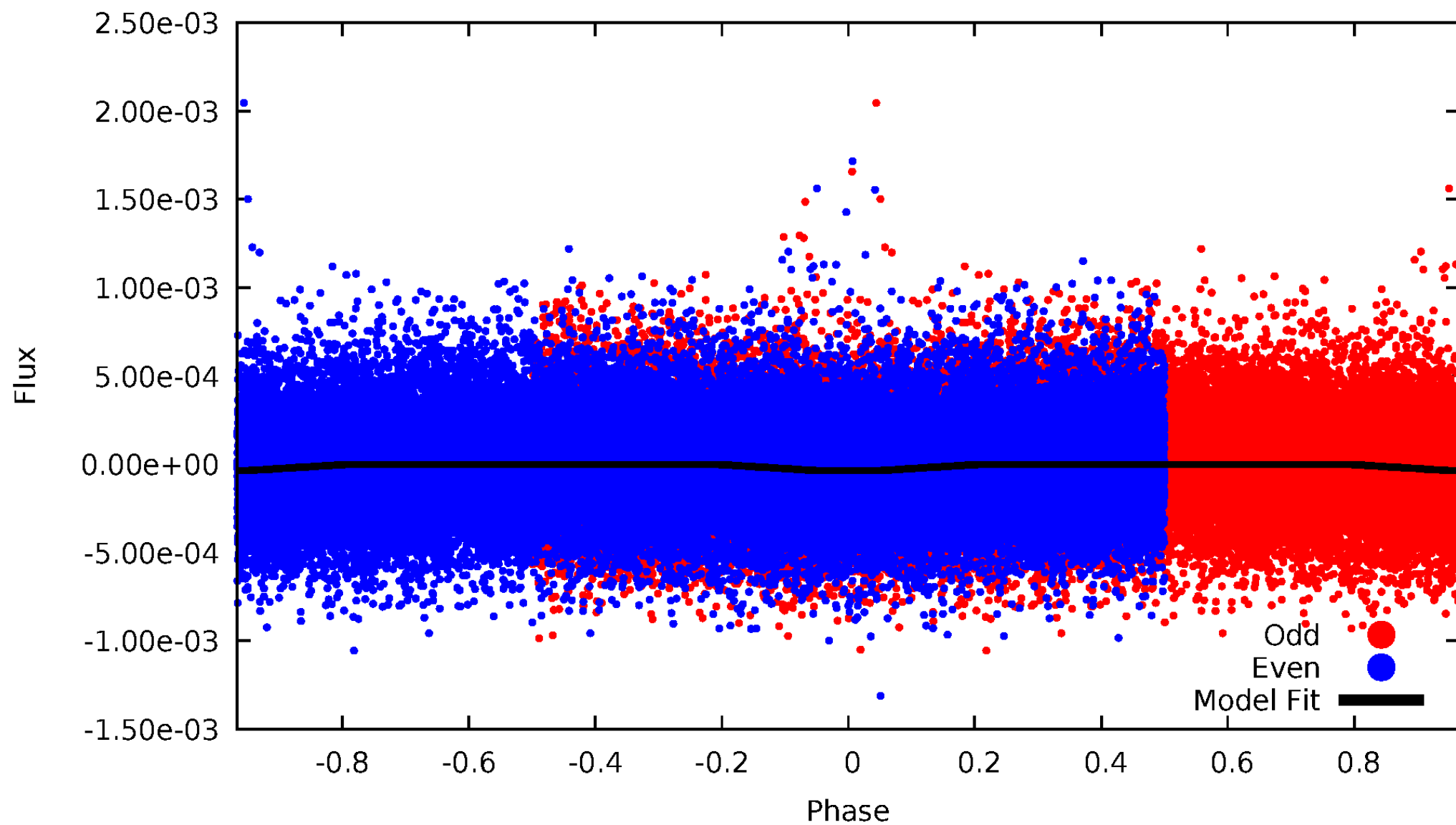
# DV Odd/Even

TCE 005354490-01



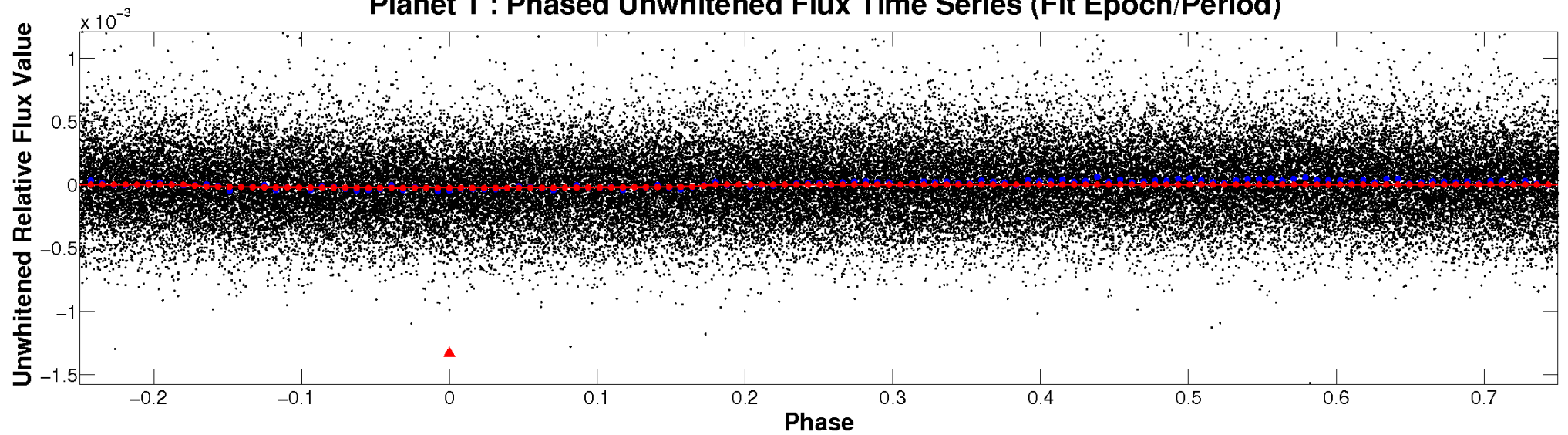
# ALT Odd/Even

TCE 005354490-01

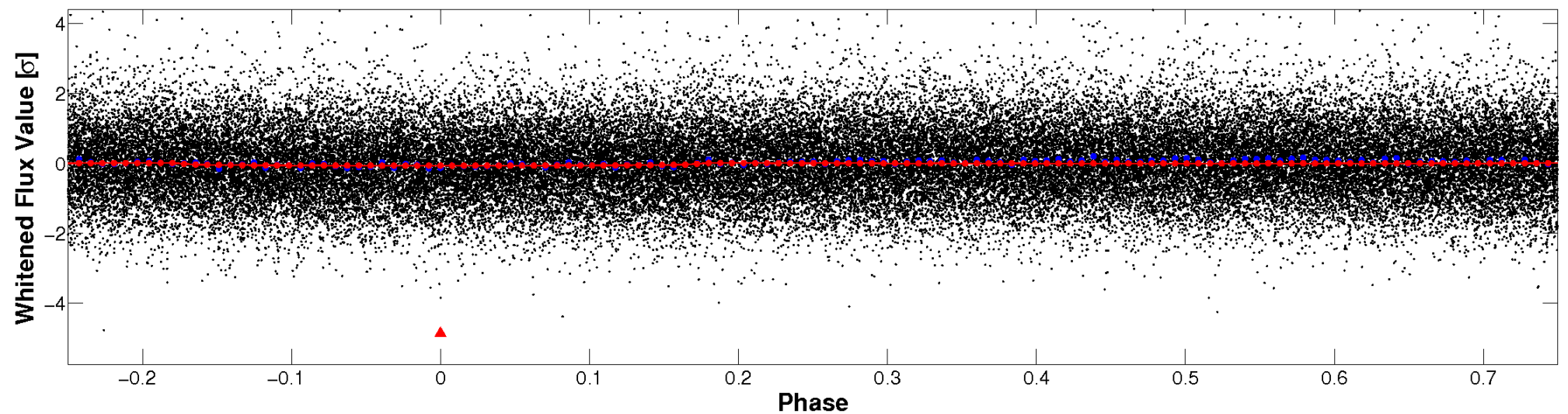


# Non-Whitened Vs. Whitened Light Curve

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



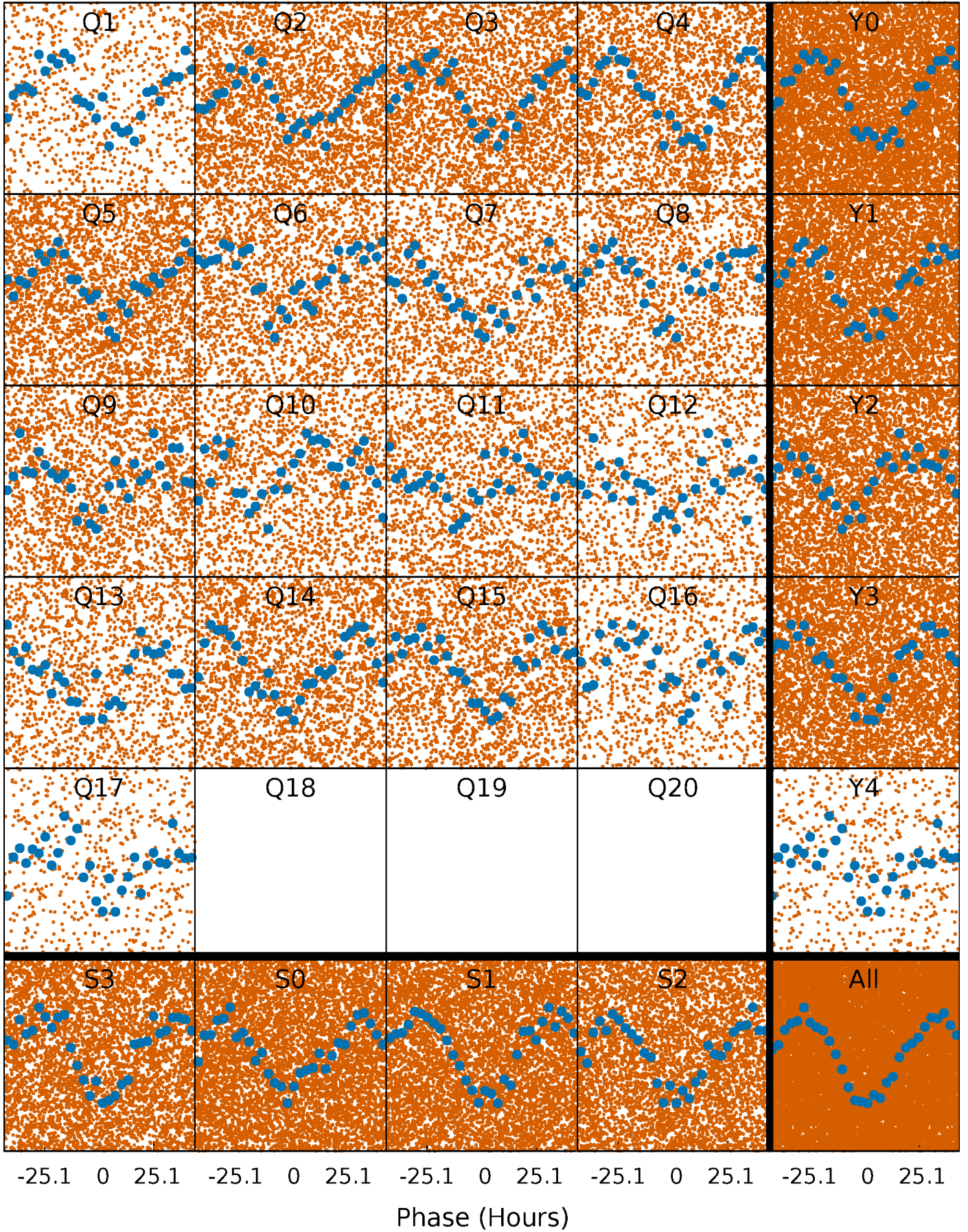
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

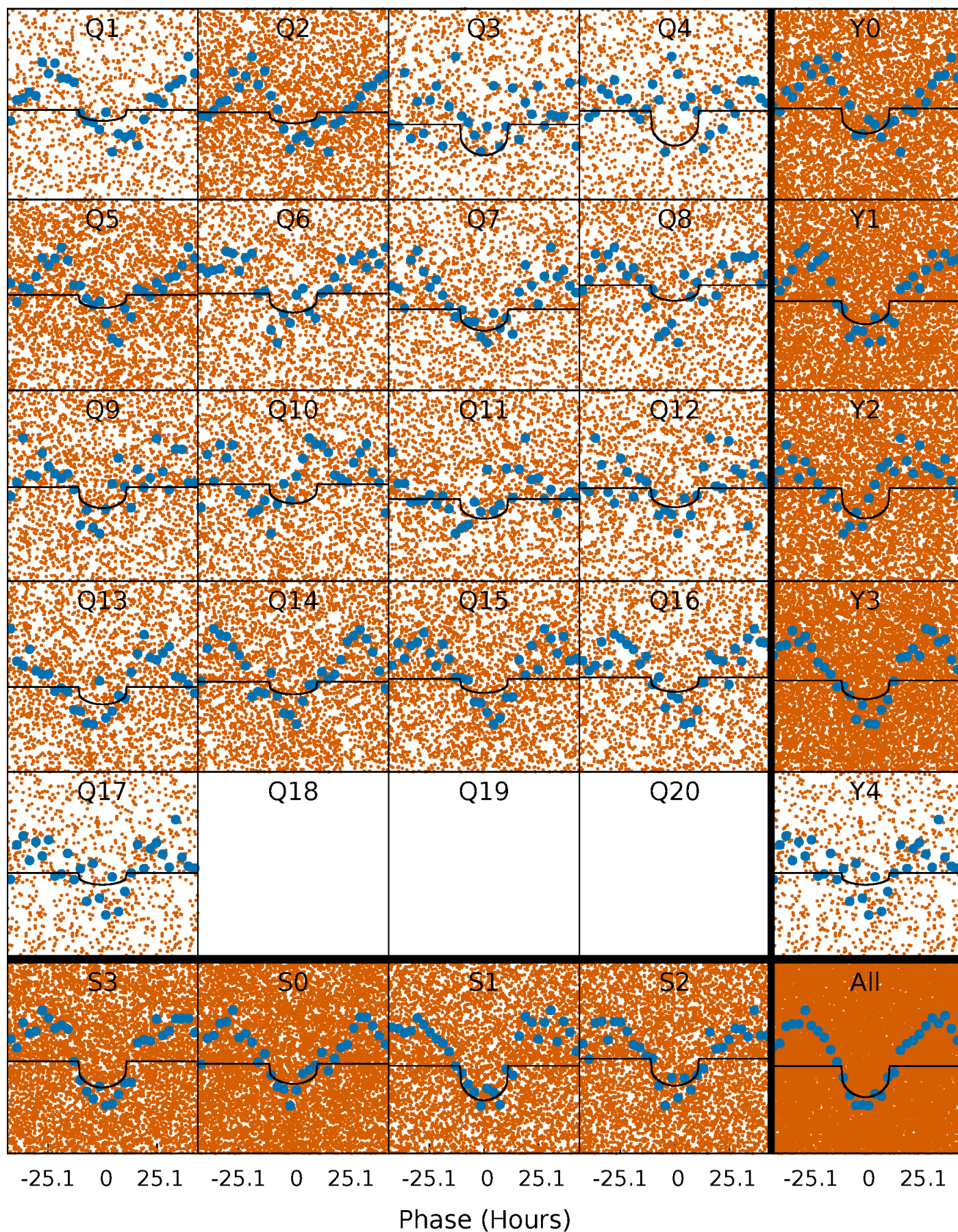
TCE 005354490-01   P= 2.610875 Days    $T_0=131.837998$  (BKJD)





# DV Quarter-Phased Transit Curves

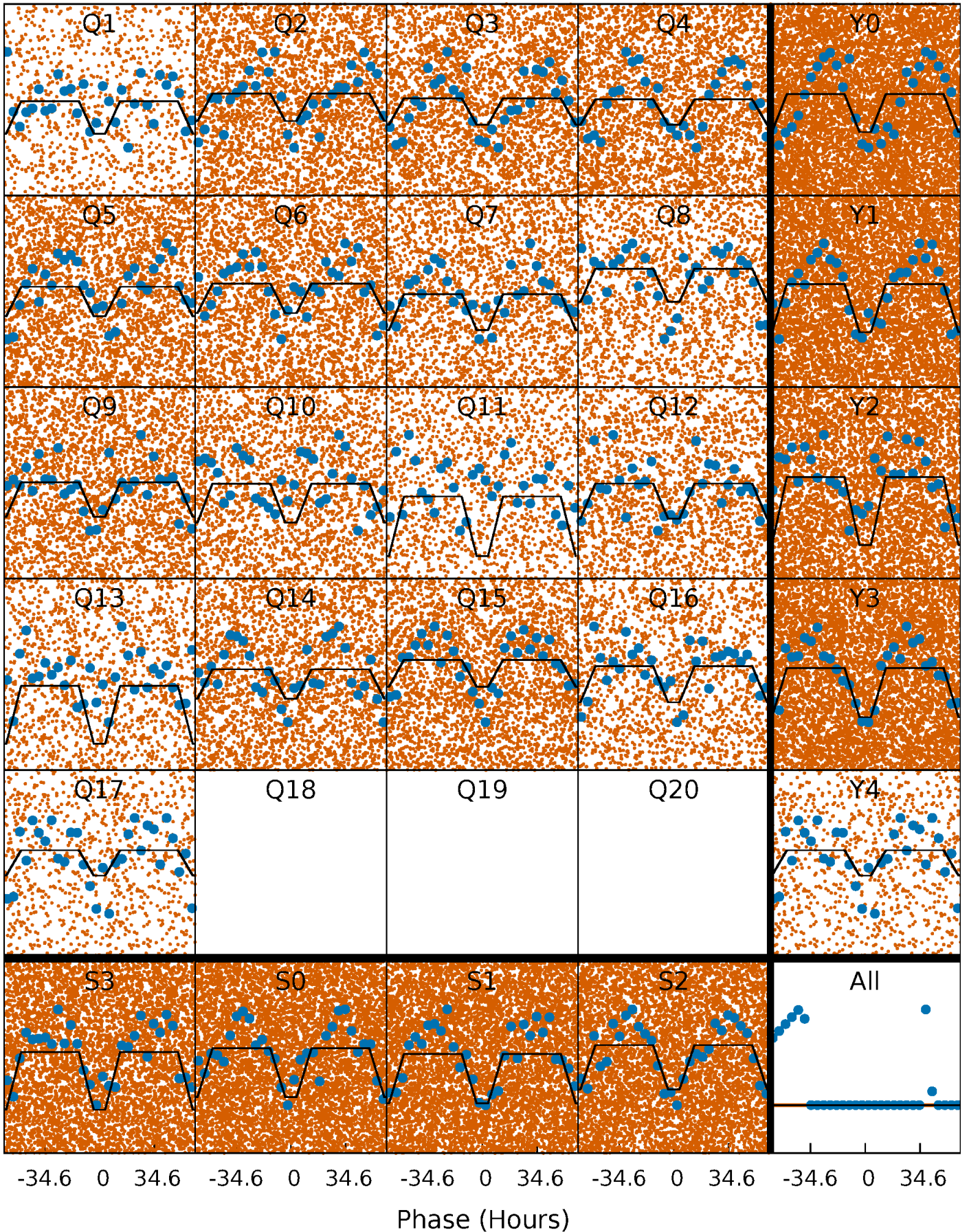
TCE 005354490-01 P= 2.610875 Days  $T_0=131.837998$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

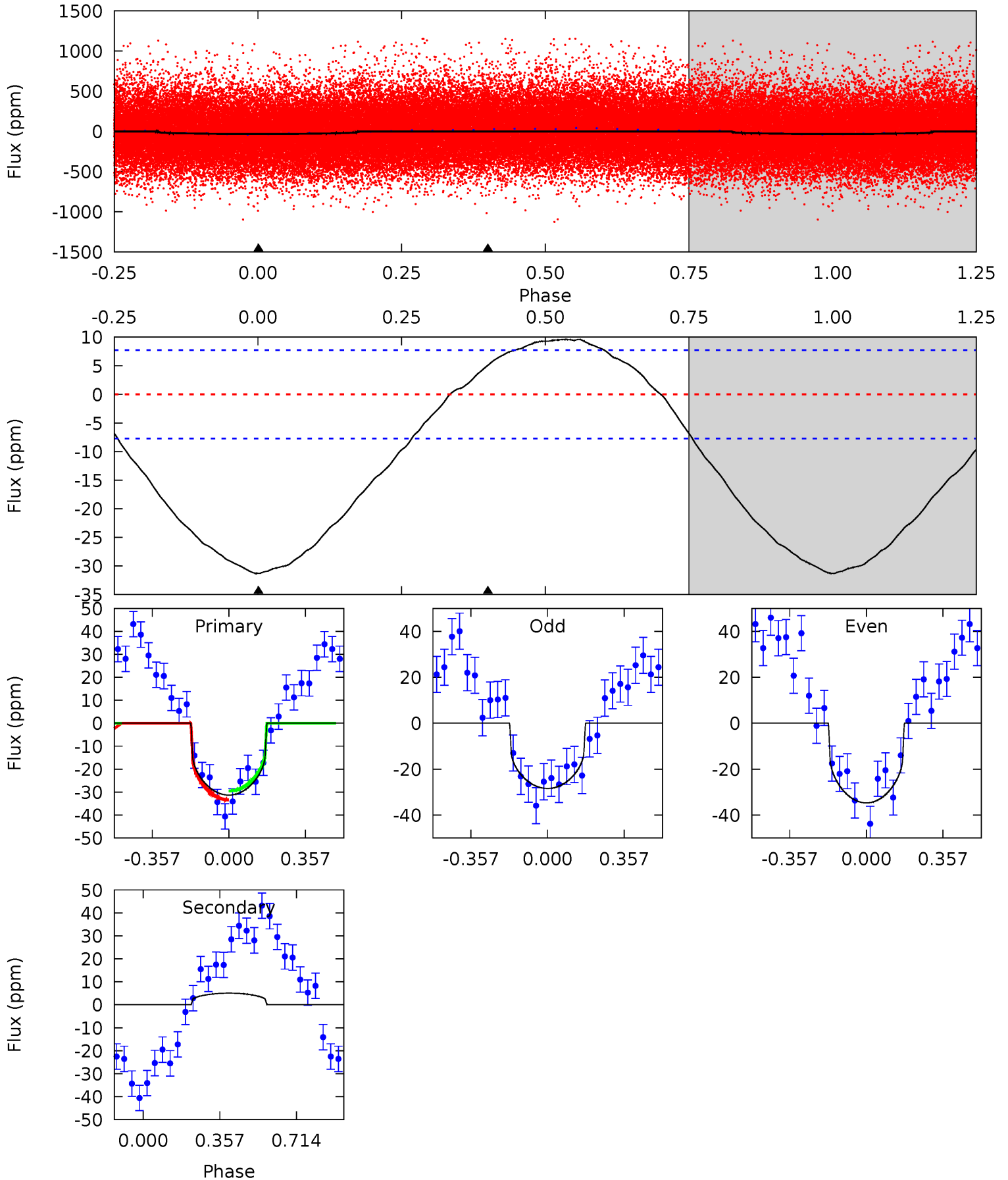
TCE 005354490-01 P= 2.611380 Days  $T_0=131.716346$  (BKJD)



# DV Model-Shift Uniqueness Test

005354490-01, P = 2.610875 Days, E = 129.227123 Days

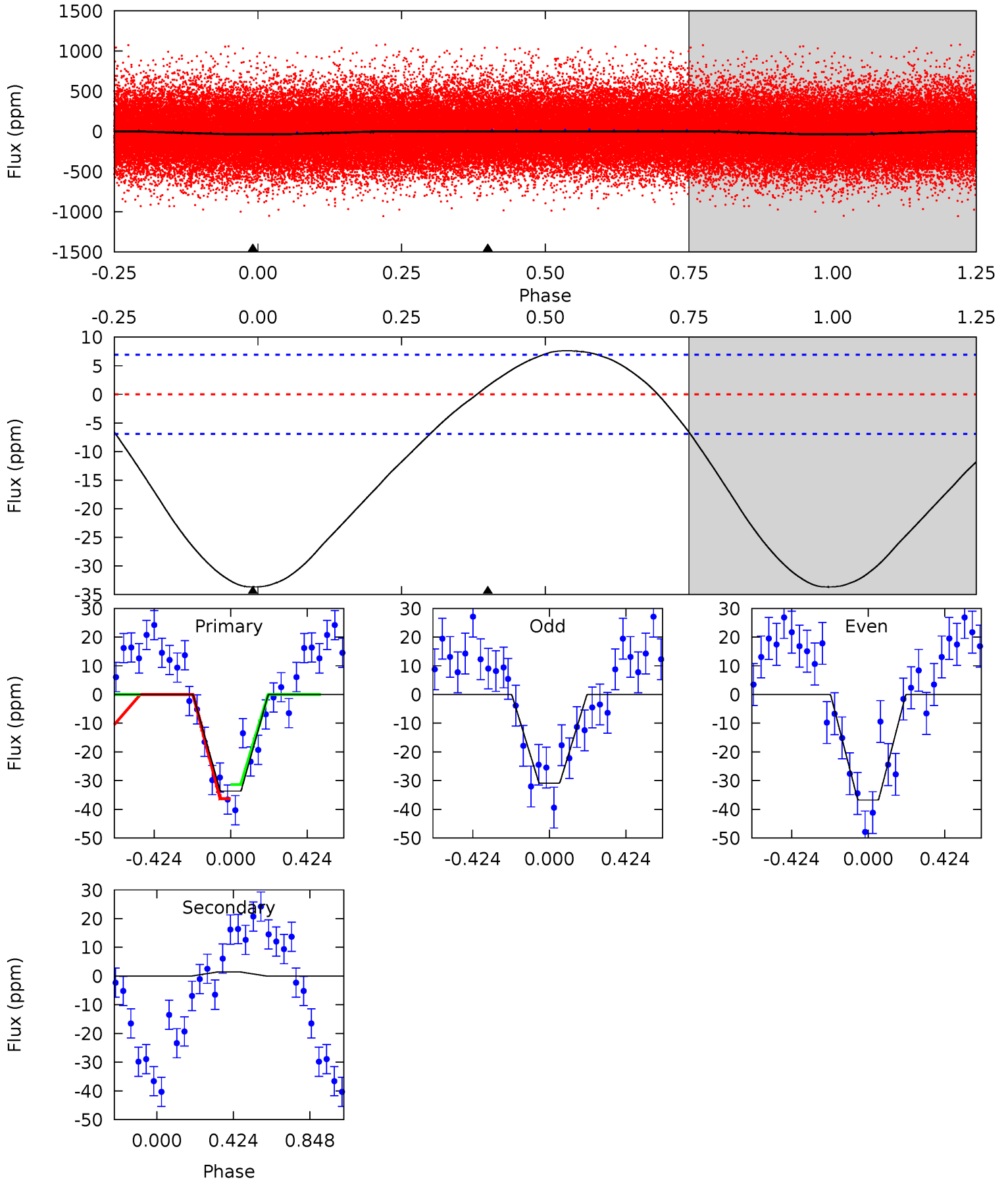
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	-2.81	0	0	4.29	0.92	1.90	17.4	17.4	-2.81	-2.81	1.74	0.97	0.23	1.08



# Alt Model-Shift Uniqueness Test

005354490-01, P = 2.611380 Days, E = 129.104966 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
20.7	-0.91	0	0	4.25	0.80	1.92	20.7	20.7	-0.91	-0.91	1.81	1.08	0.18	1.51





### Stellar Parameters For KIC 005354490

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5638^{+76}_{-84}$	$4.459^{+0.051}_{-0.119}$	$0.210^{+0.150}_{-0.150}$	$0.975^{+0.145}_{-0.062}$	$0.998^{+0.056}_{-0.056}$	$1.515^{+0.289}_{-0.508}$
	+1%/-1%	+1%/-3%	+71%/-71%	+15%/-6%	+6%/-6%	+19%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 005354490-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$5\pm 2$	$0.54^{+0.38}_{-0.32}$	$1792^{+71}_{-48}$	$-4093^{+704}_{-2023}$	$-13.001^{+9.016}_{-75.017}$
Alt.	$1\pm 2$	$0.66^{+0.39}_{-0.35}$	$1794^{+75}_{-49}$	$-3085^{+5200}_{-917}$	$-2.067^{+2.482}_{-9.241}$

$T_{\text{max}}$  = 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

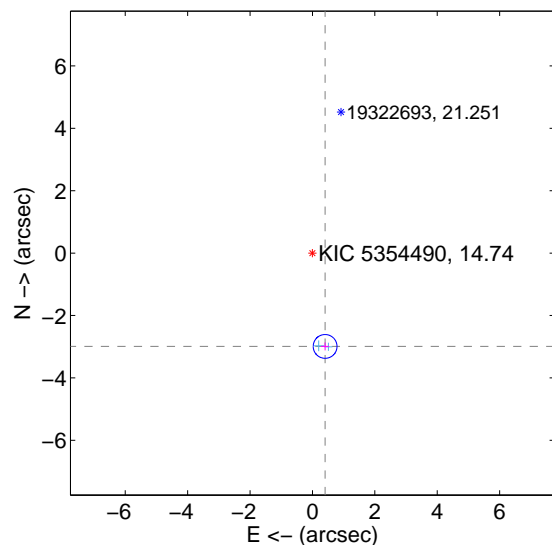
Supplemental centroid analysis for 005354490-01. Kepler magnitude: 14.74. Transit SNR 8.78

There are 2 quarters with good PRF difference image offsets

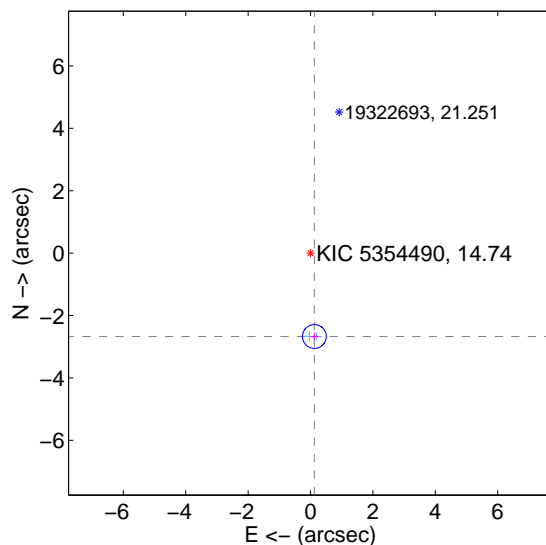
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.018 \pm 0.127$	23.76	$-0.406 \pm 0.129$	$-2.990 \pm 0.127$
PRF-fit source offset from KIC position	$2.675 \pm 0.127$	21.07	$-0.123 \pm 0.129$	$-2.672 \pm 0.127$
photometric centroid source offset	$2.53 \pm 1.31$	1.94	$-1.86 \pm 1.32$	$-1.73 \pm 1.30$

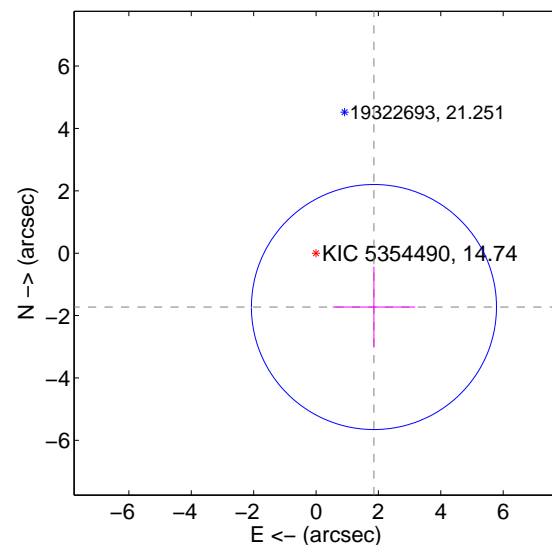
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

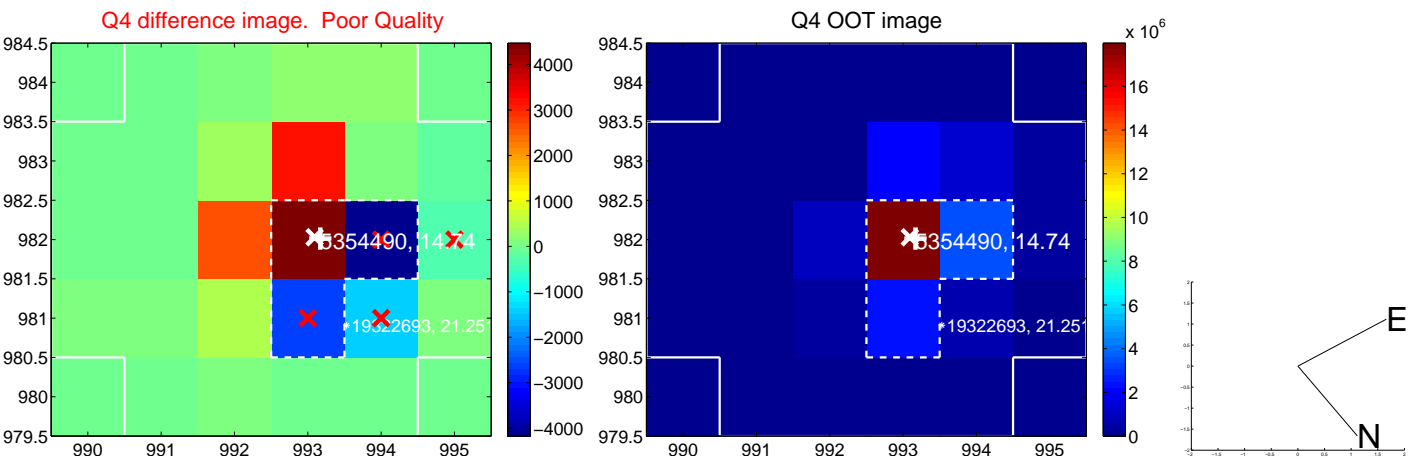
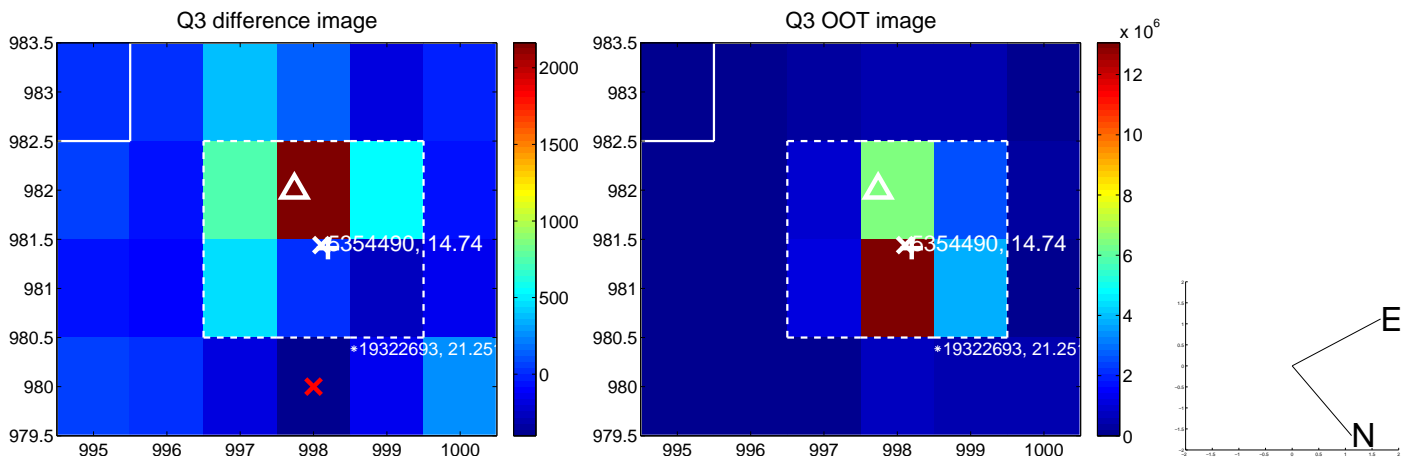
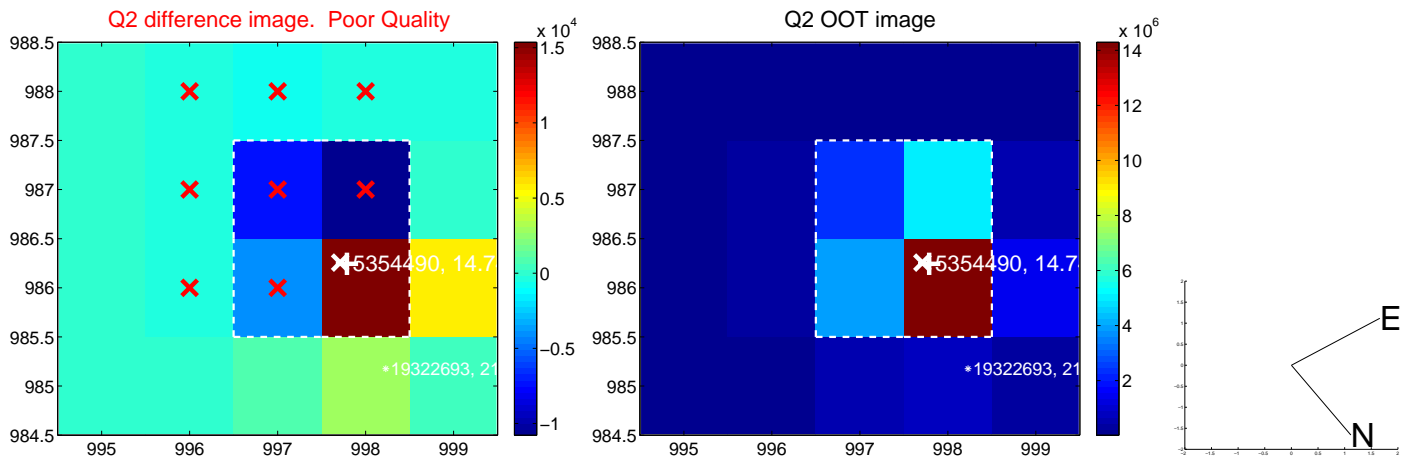
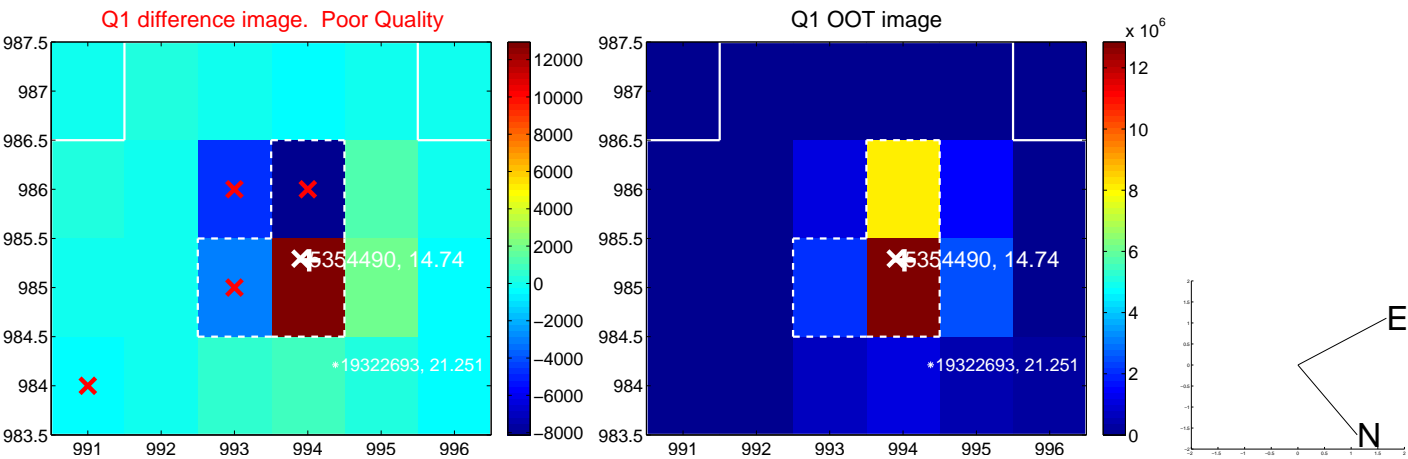


offset from photometric centroids

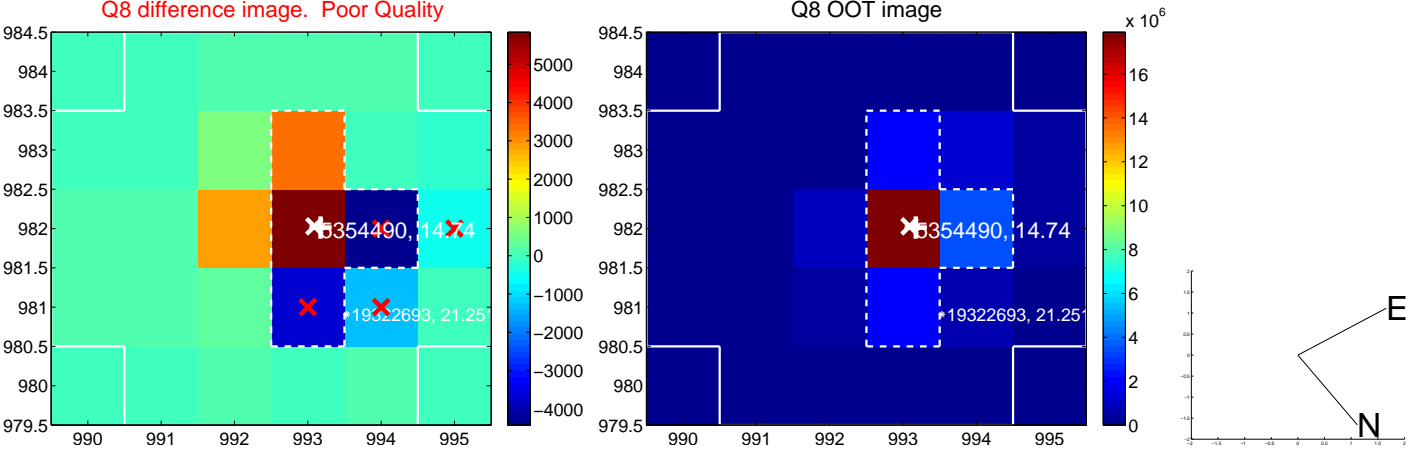
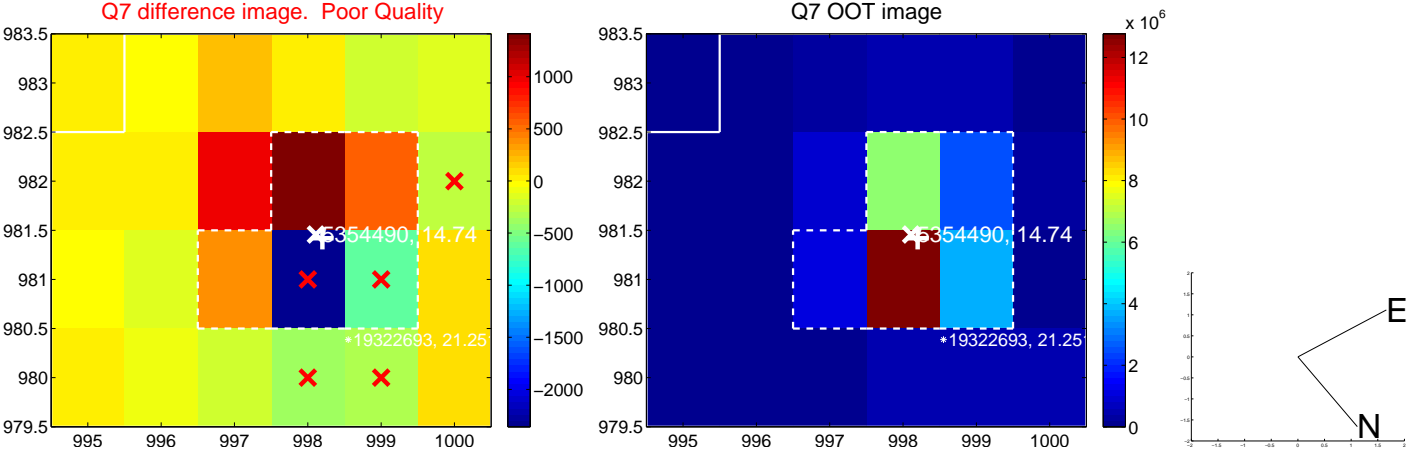
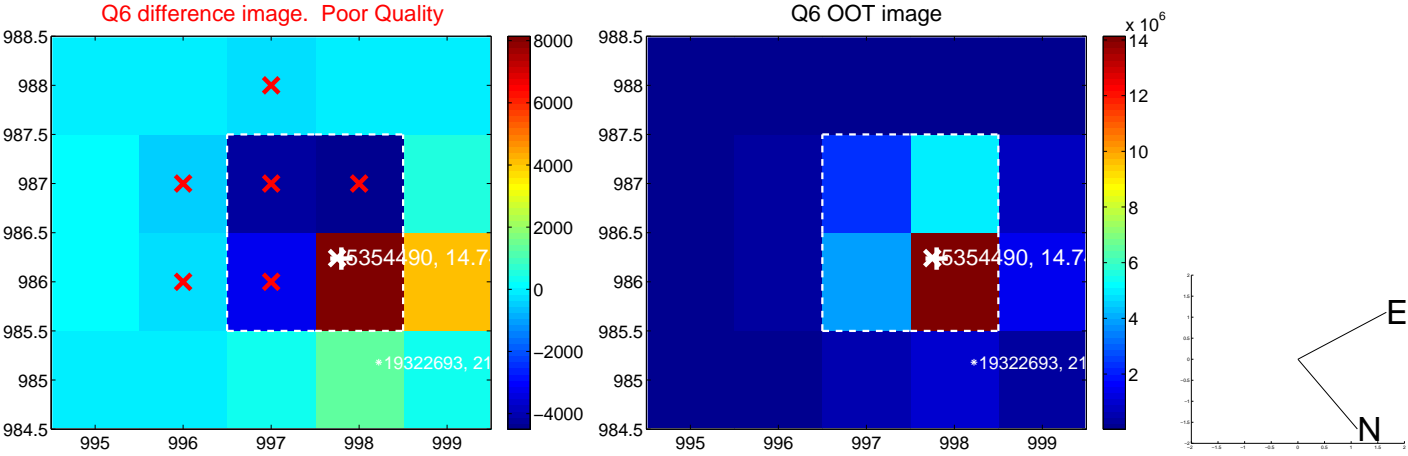
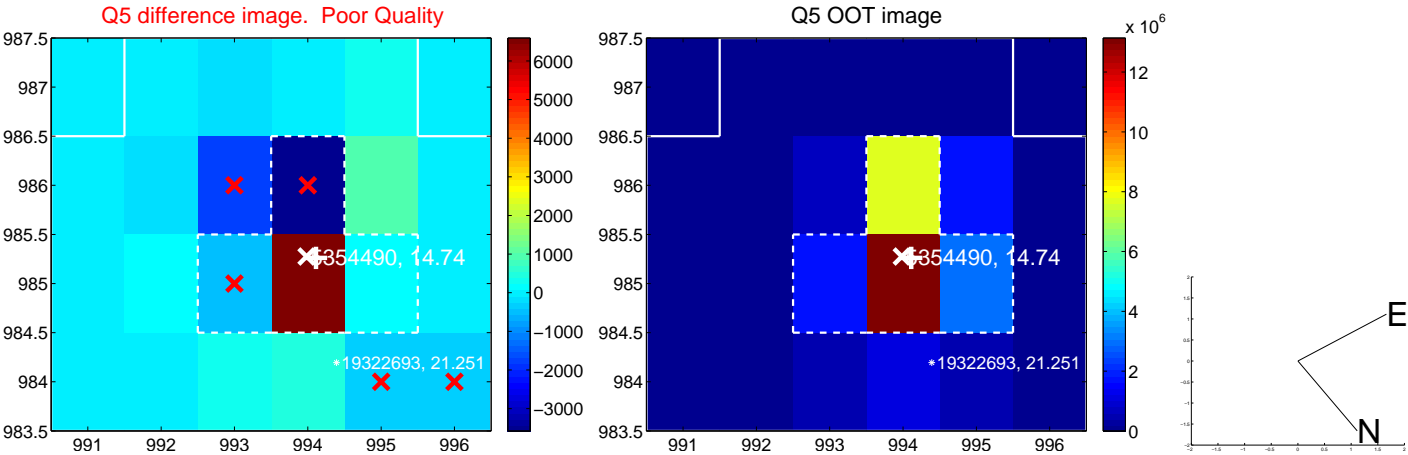


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

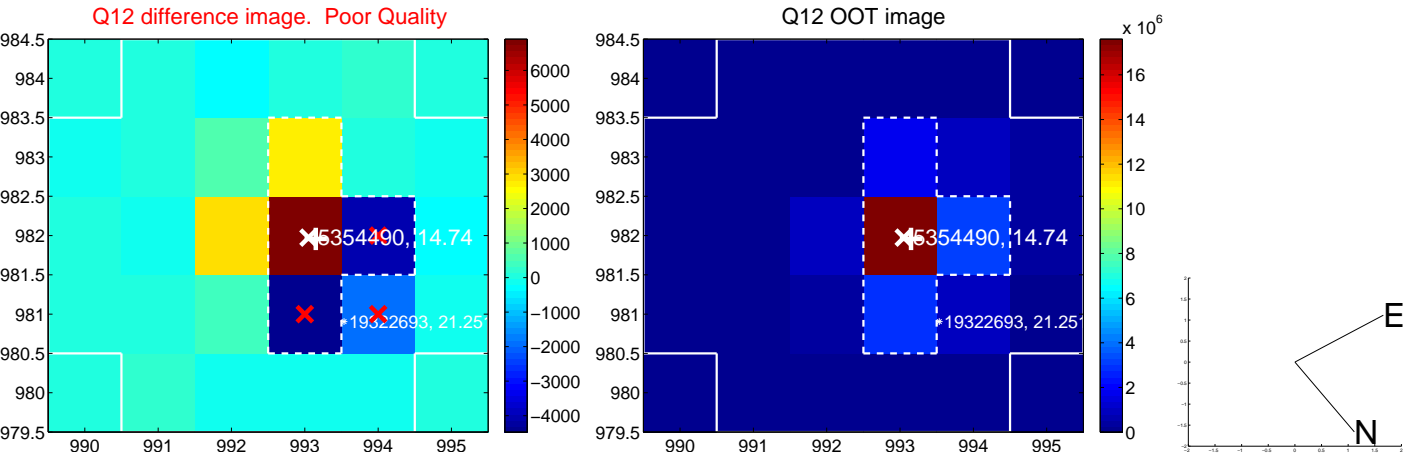
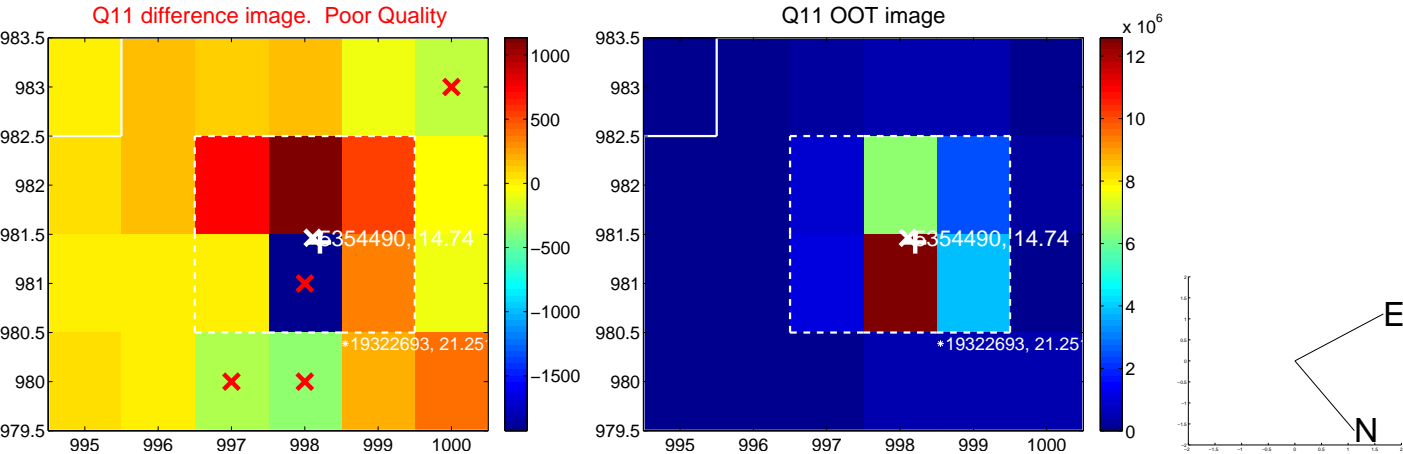
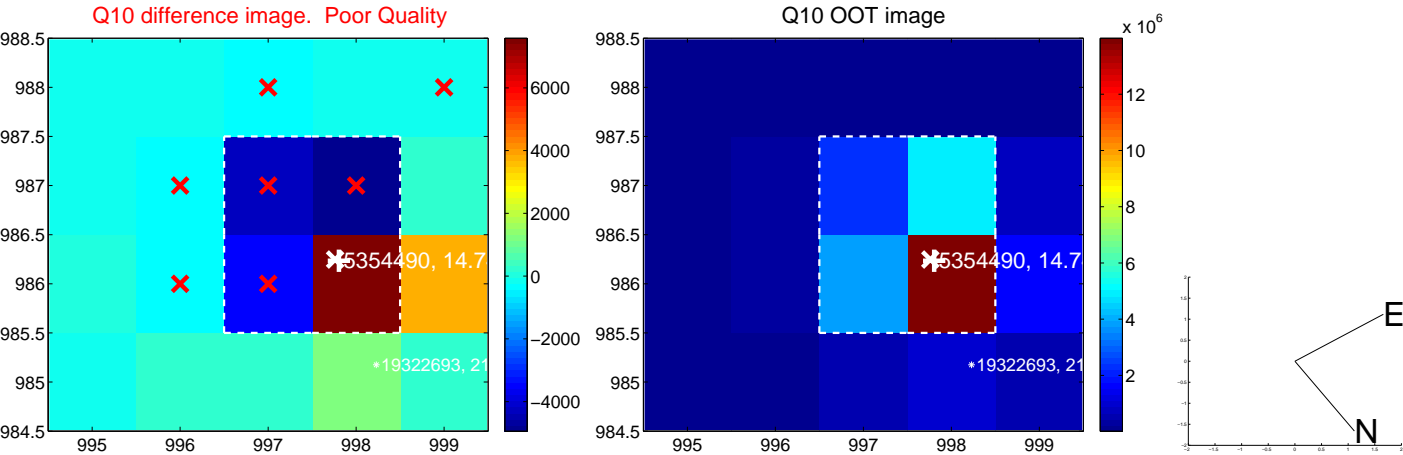
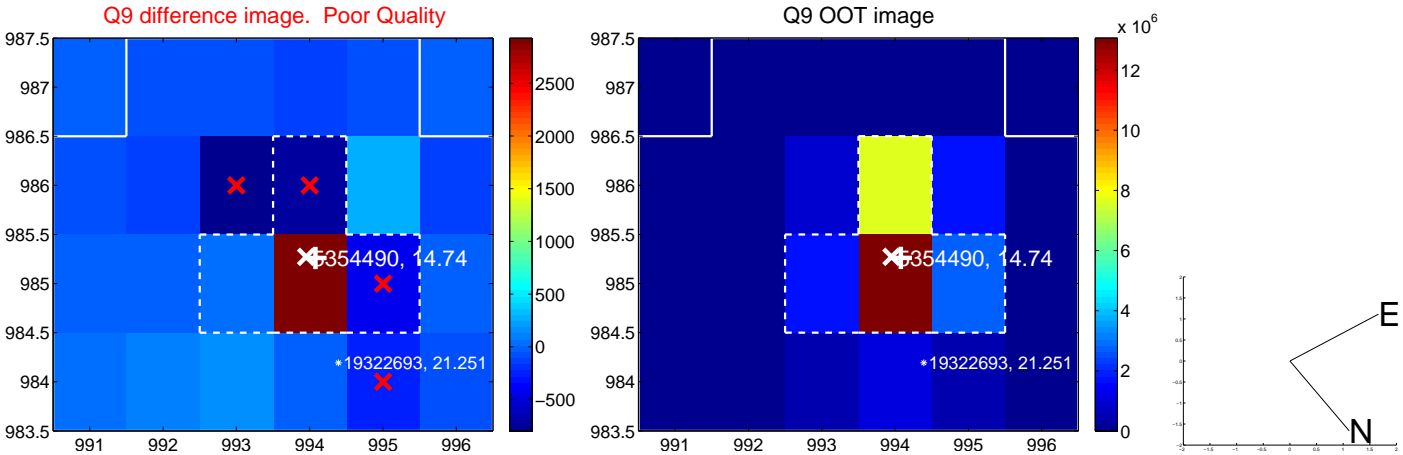


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

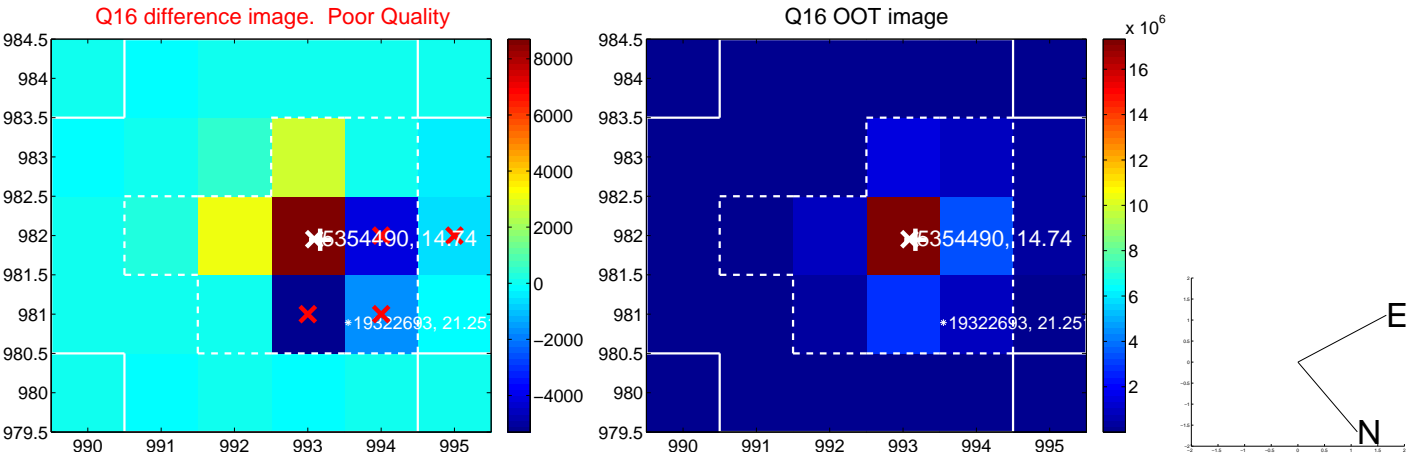
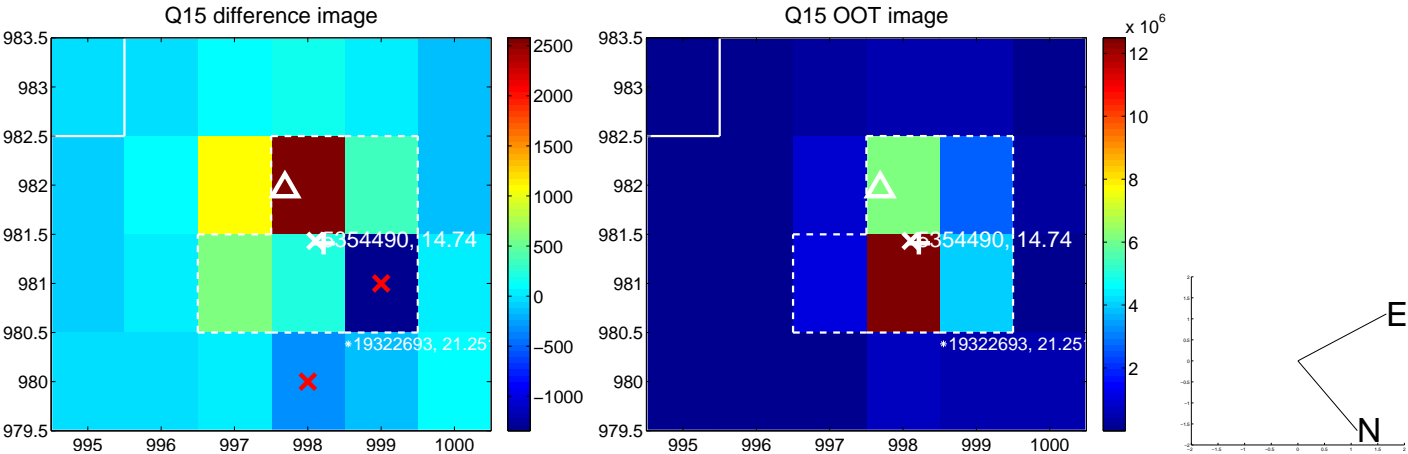
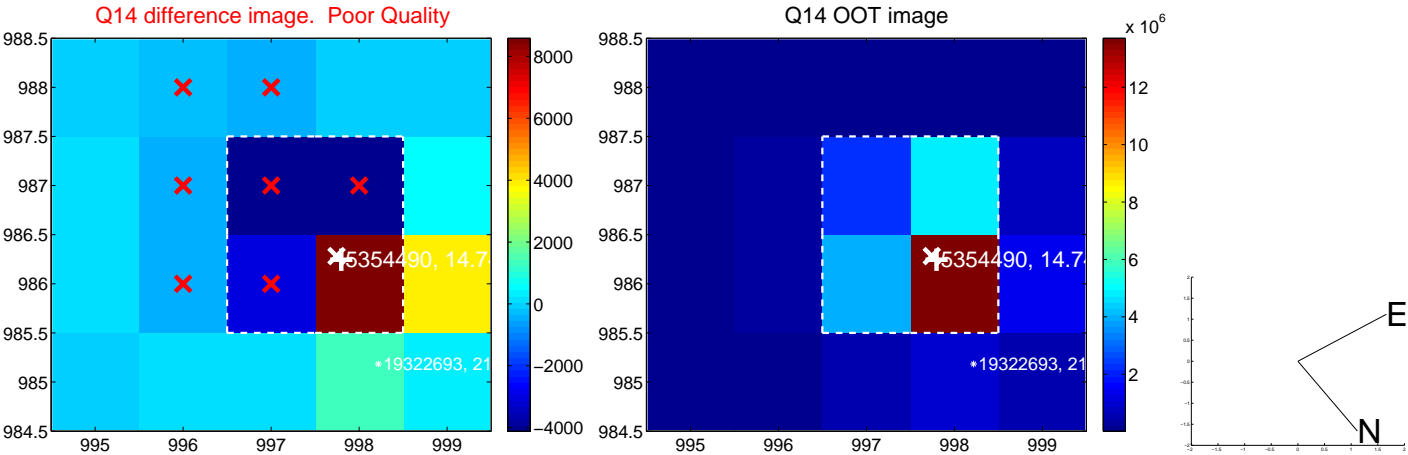
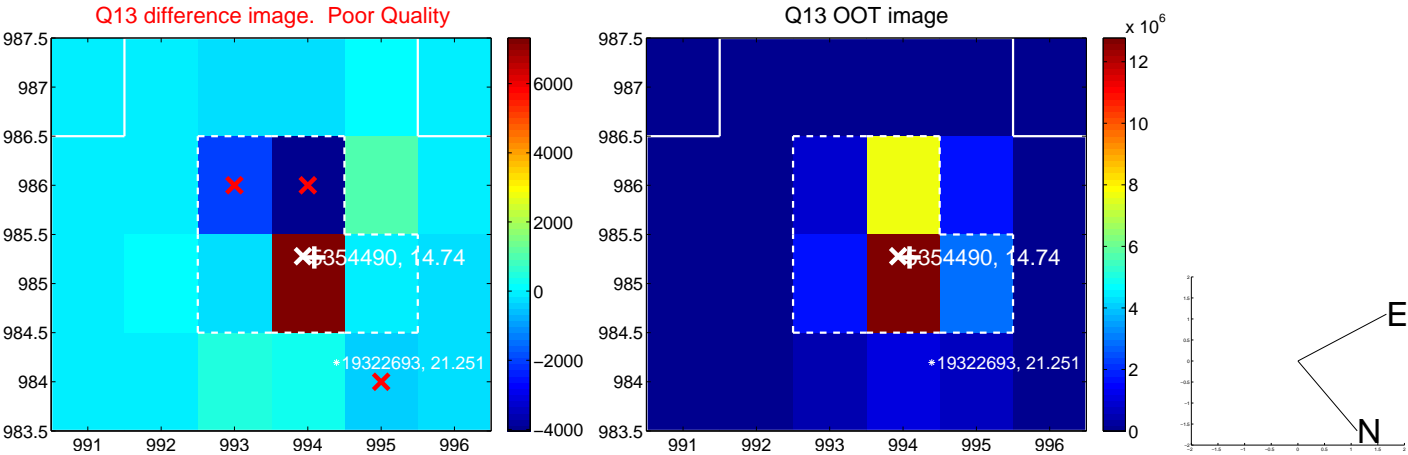




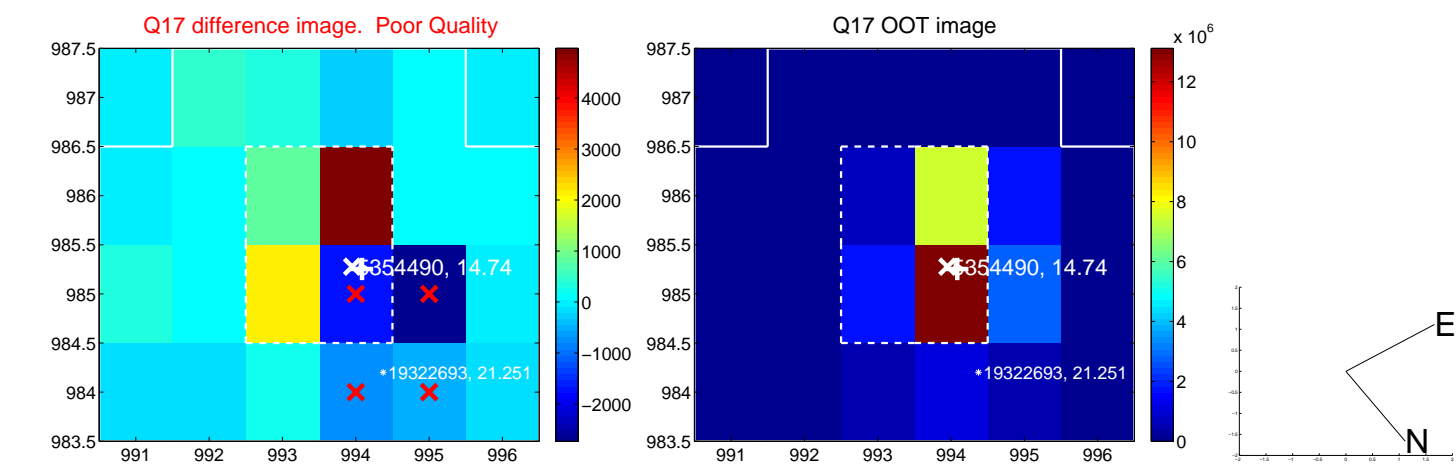
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



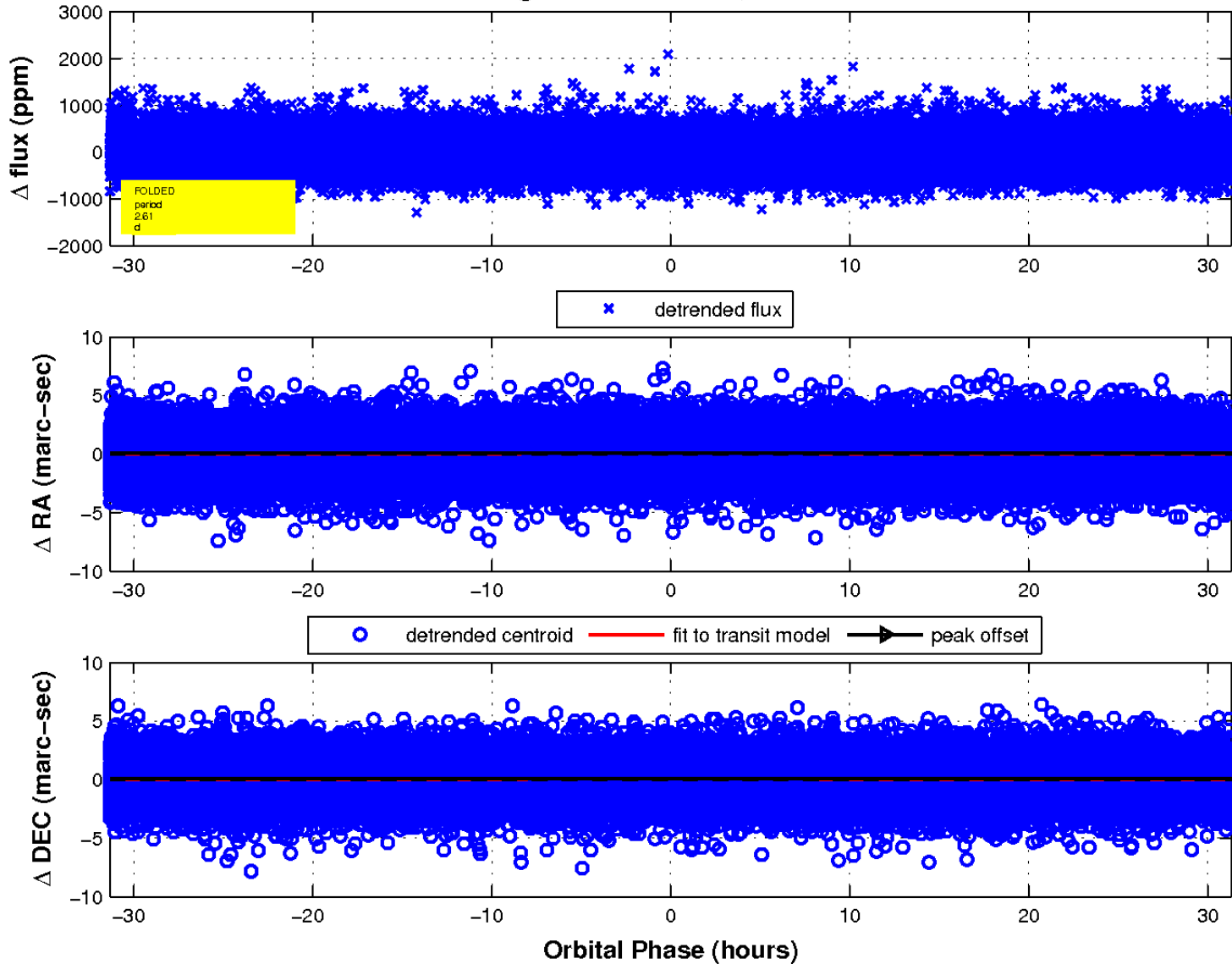
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

