

# KIC 003454941

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003454941-01	OBS	No	1.156890	131.852717	13.7	5.352	12.1	4.6	1.86	6595	0.82	10387.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003454941-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

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

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

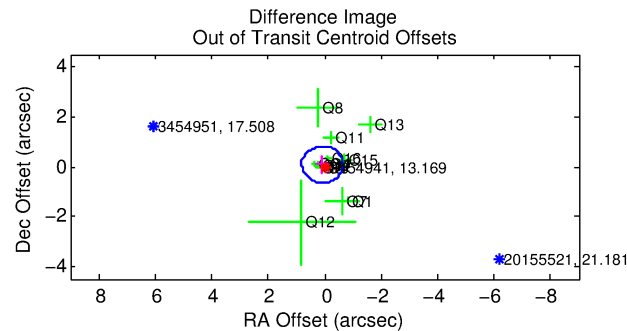
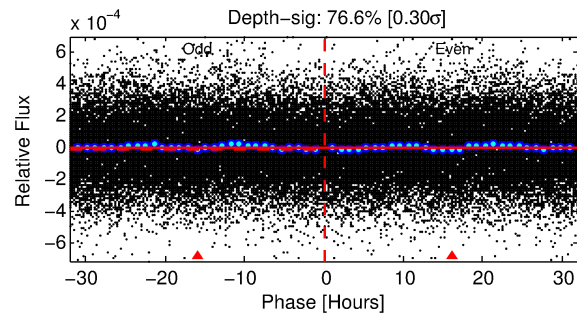
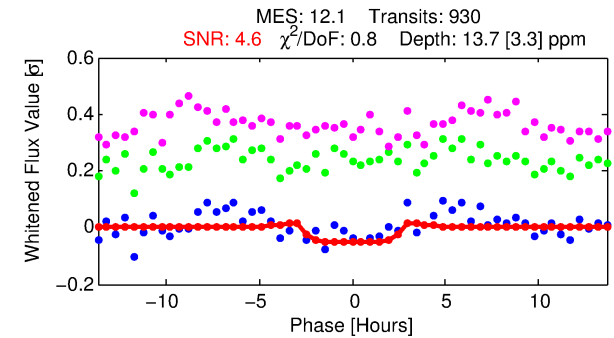
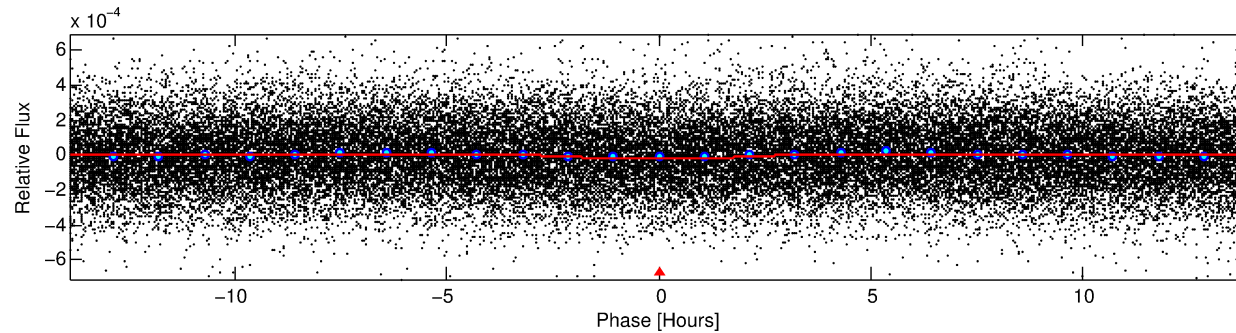
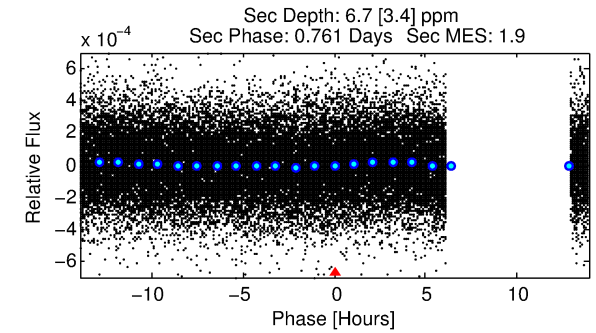
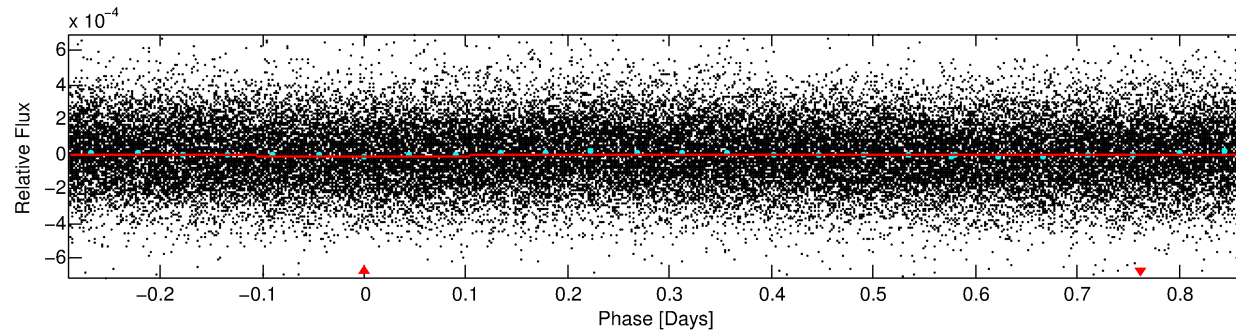
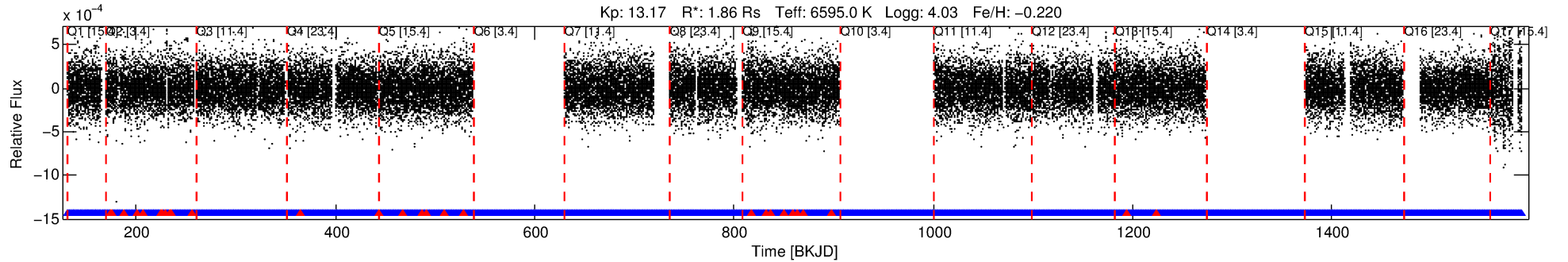
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003454941-01

No Significant Match Found

# DV One-Page Summary

KIC: 3454941 Candidate: 1 of 1 Period: 1.157 d



## DV Fit Results:

Period = 1.15689 [0.00003] d  
Epoch = 131.8527 [0.0085] BKJD  
Rp/R\* = 0.0040 [0.0026]  
a/R\* = 1.16 [1.15]  
b = 0.92 [0.65]  
Seff = 10387.92 [3417.26]  
Teq = 2574 [212] K  
Rp = 0.82 [0.55] Re  
a = 0.0238 [0.0050] AU  
Ag = 3.12 [4.40] [0.48σ]  
Teffp = 5289 [1815] K [1.49σ]

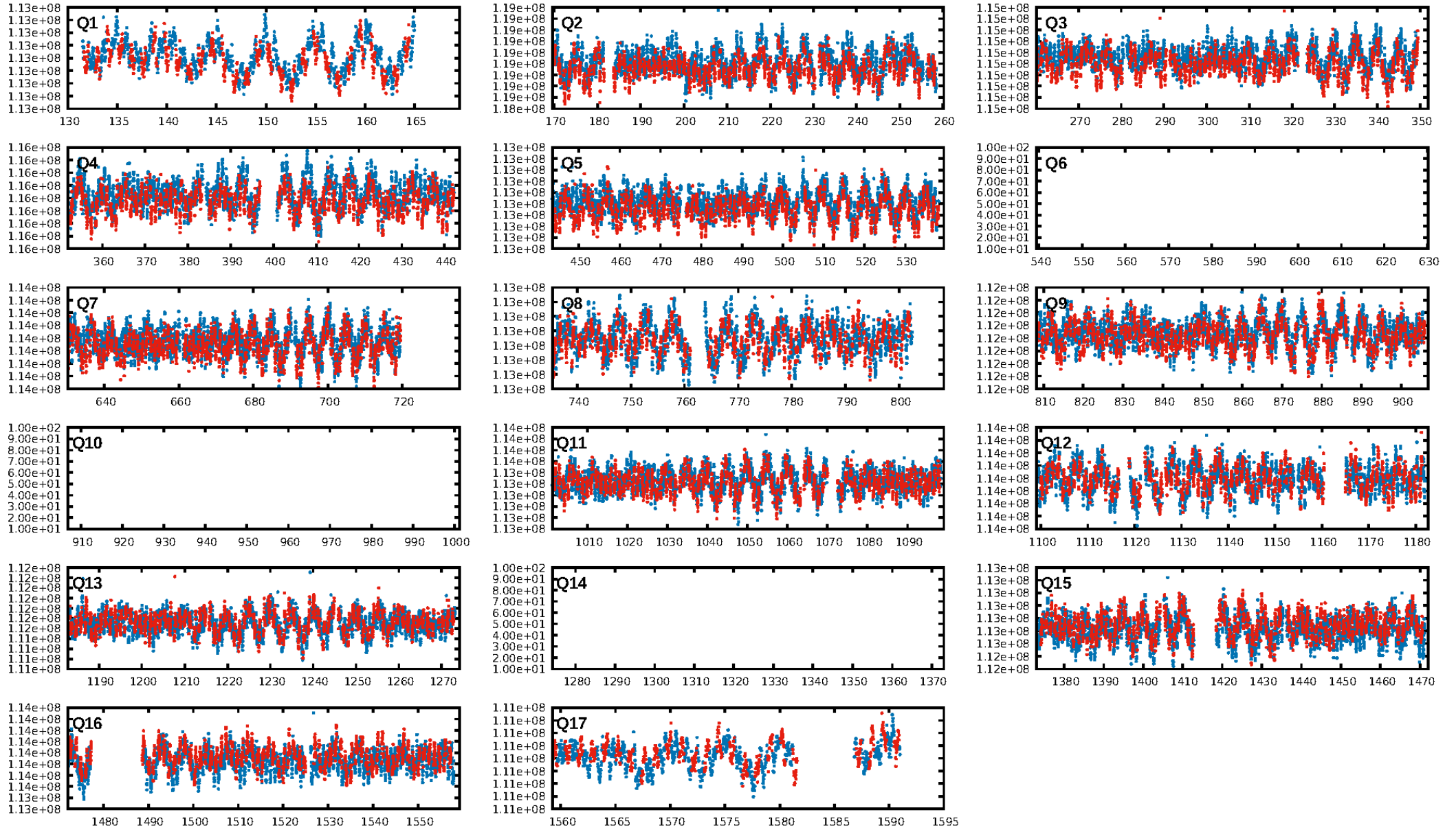
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.17e-21  
RollingBand-fgt: 0.97 [848/877]  
GhostDiagnostic-chr: 0.4685  
Centroid-sig: 0.6%  
Centroid-so: 3.455 arcsec [1.96σ]  
OotOffset-rm: 0.114 arcsec [0.47σ]  
KicOffset-rm: 0.071 arcsec [0.24σ]  
OotOffset-st: 1/4/4/4 [13]  
KicOffset-st: 1/4/4/4 [13]  
DiffImageQuality-fgm: 0.54 [7/13]  
DiffImageOverlap-fno: 1.00 [14/14]

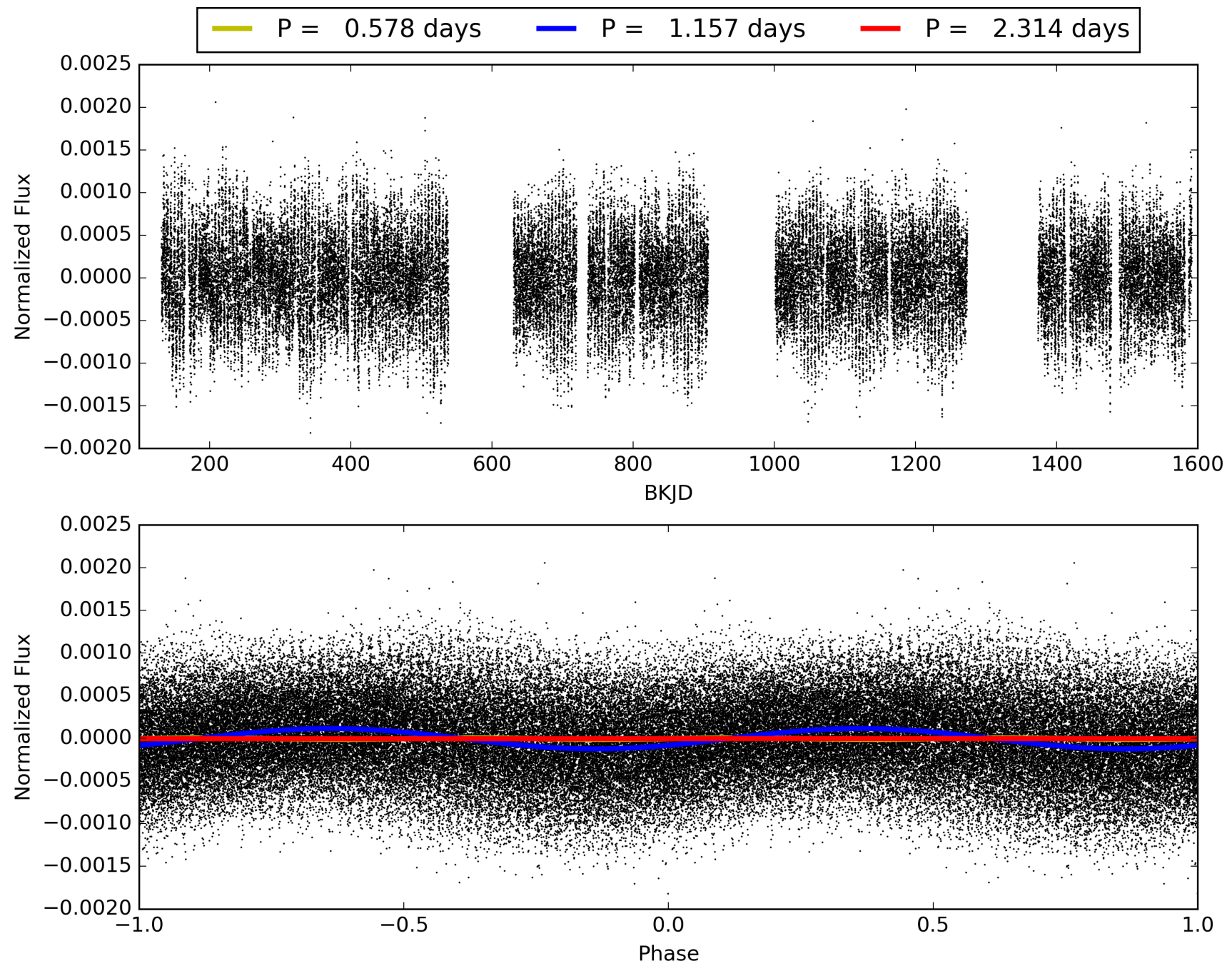
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:23:31 Z

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

# TCE 003454941-01, PDC Light Curves



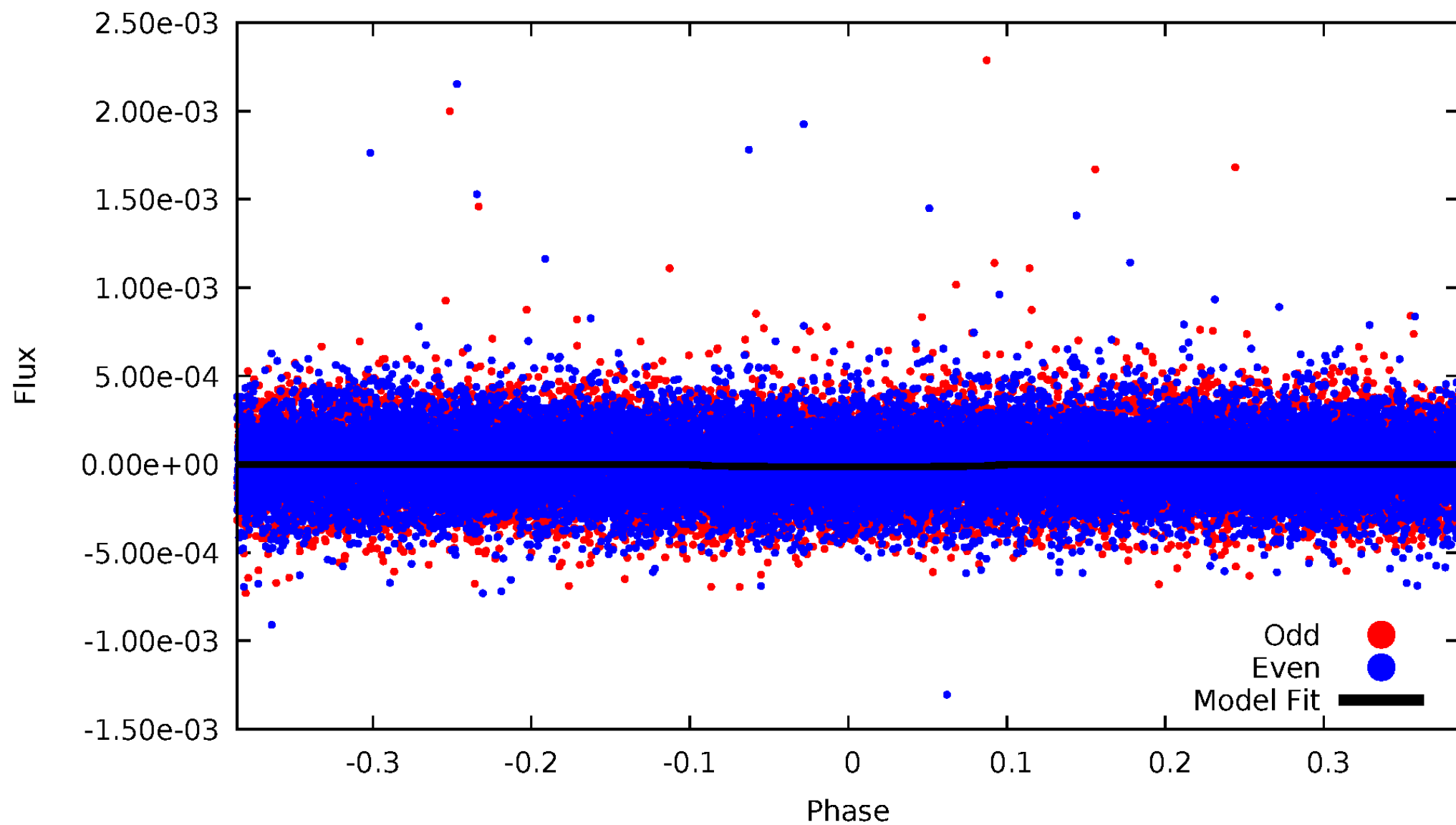
TCE 003454941-01





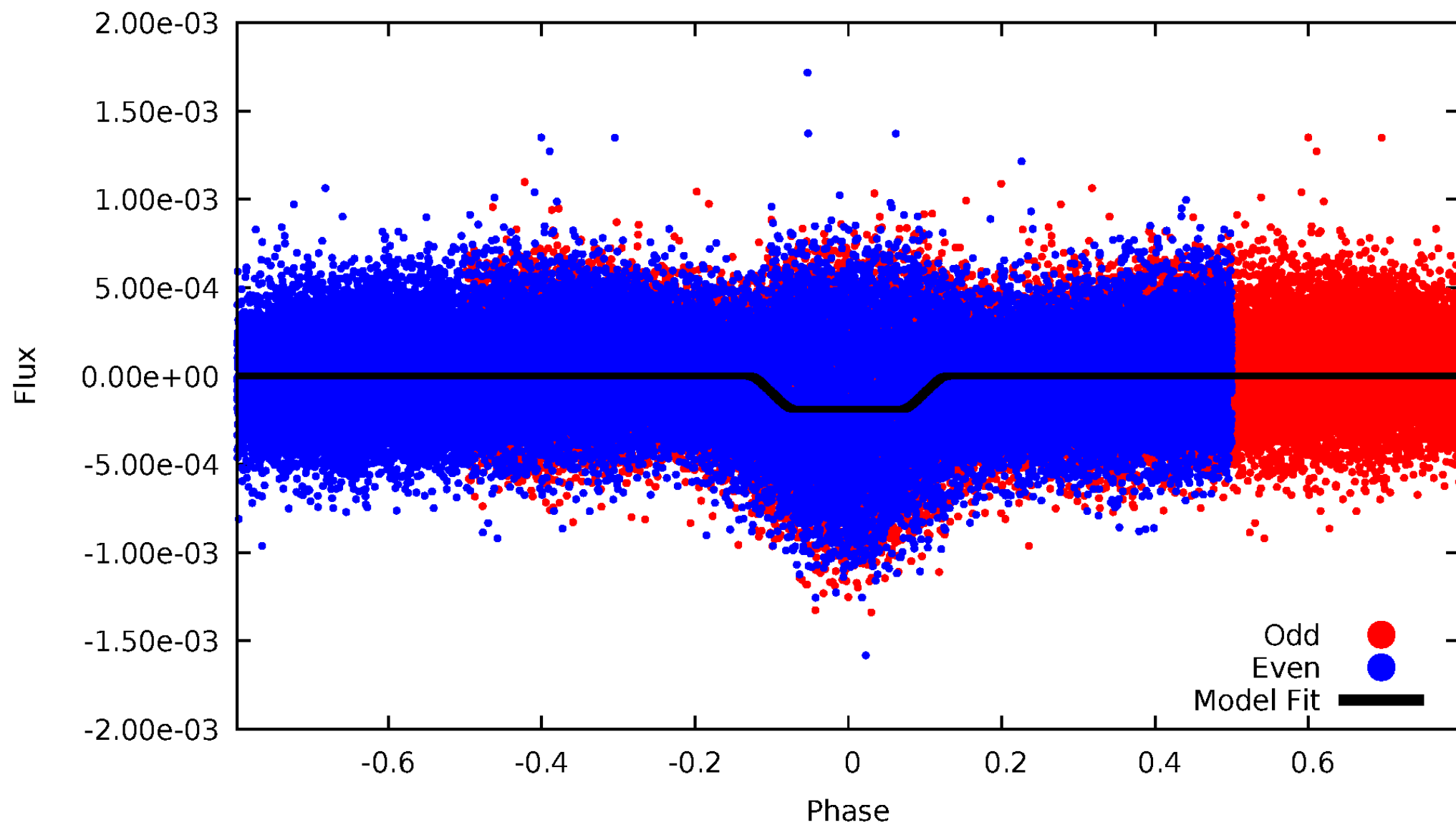
# DV Odd/Even

TCE 003454941-01



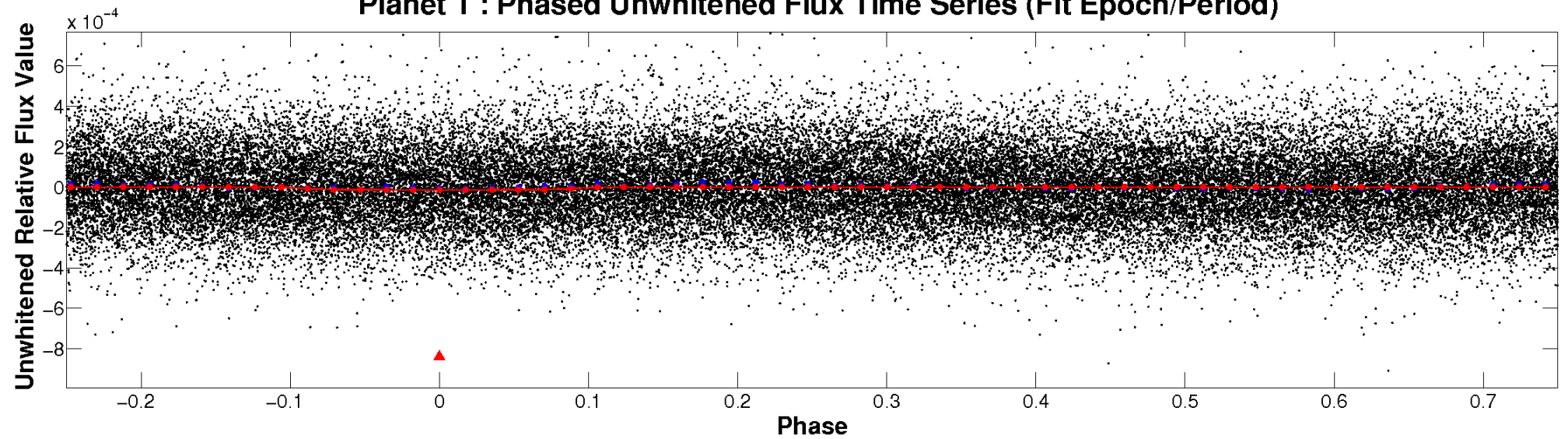
# ALT Odd/Even

TCE 003454941-01

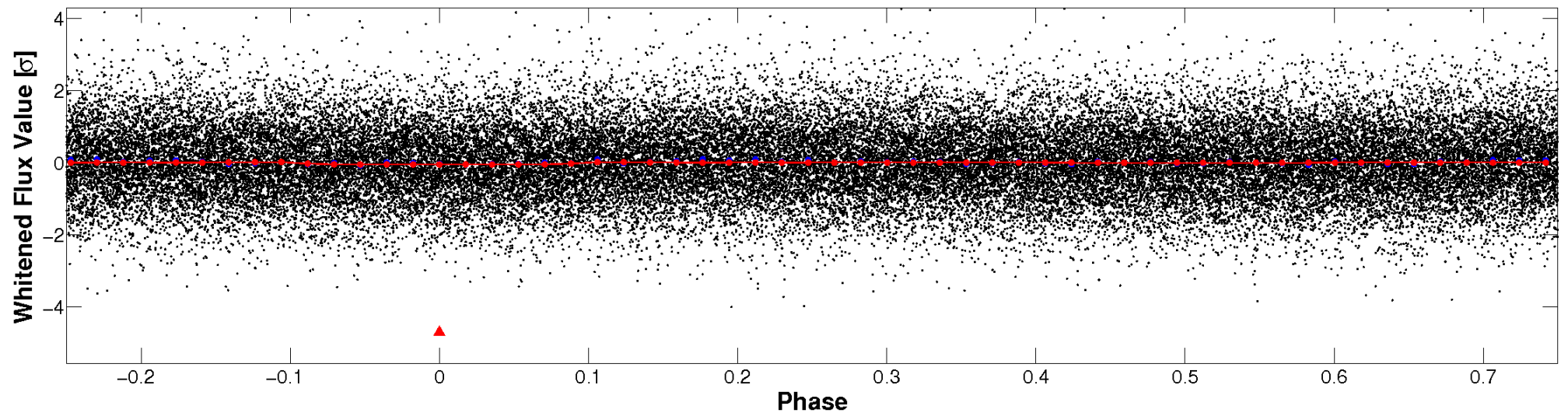


# Non-Whitened Vs. Whitened Light Curve

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

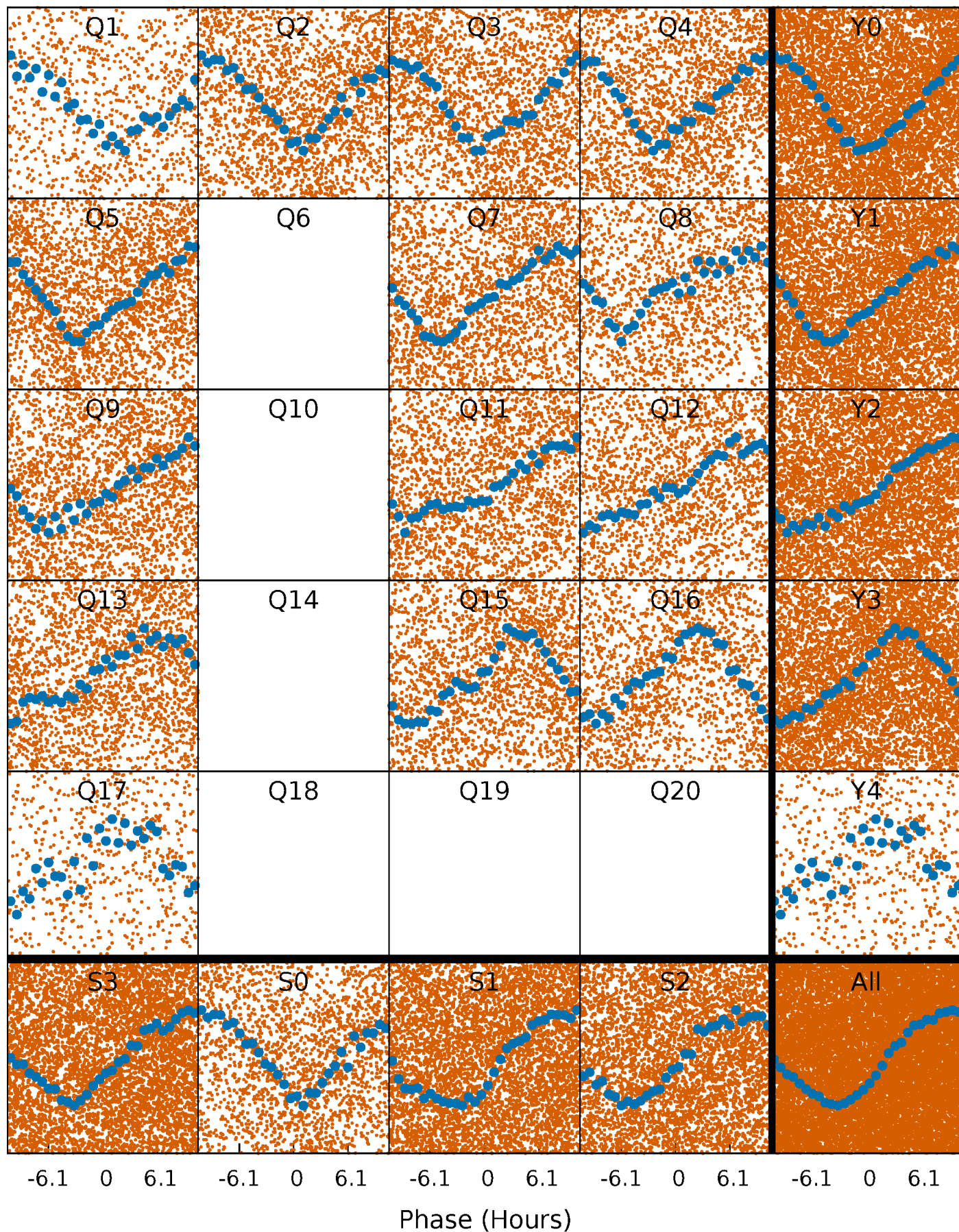


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

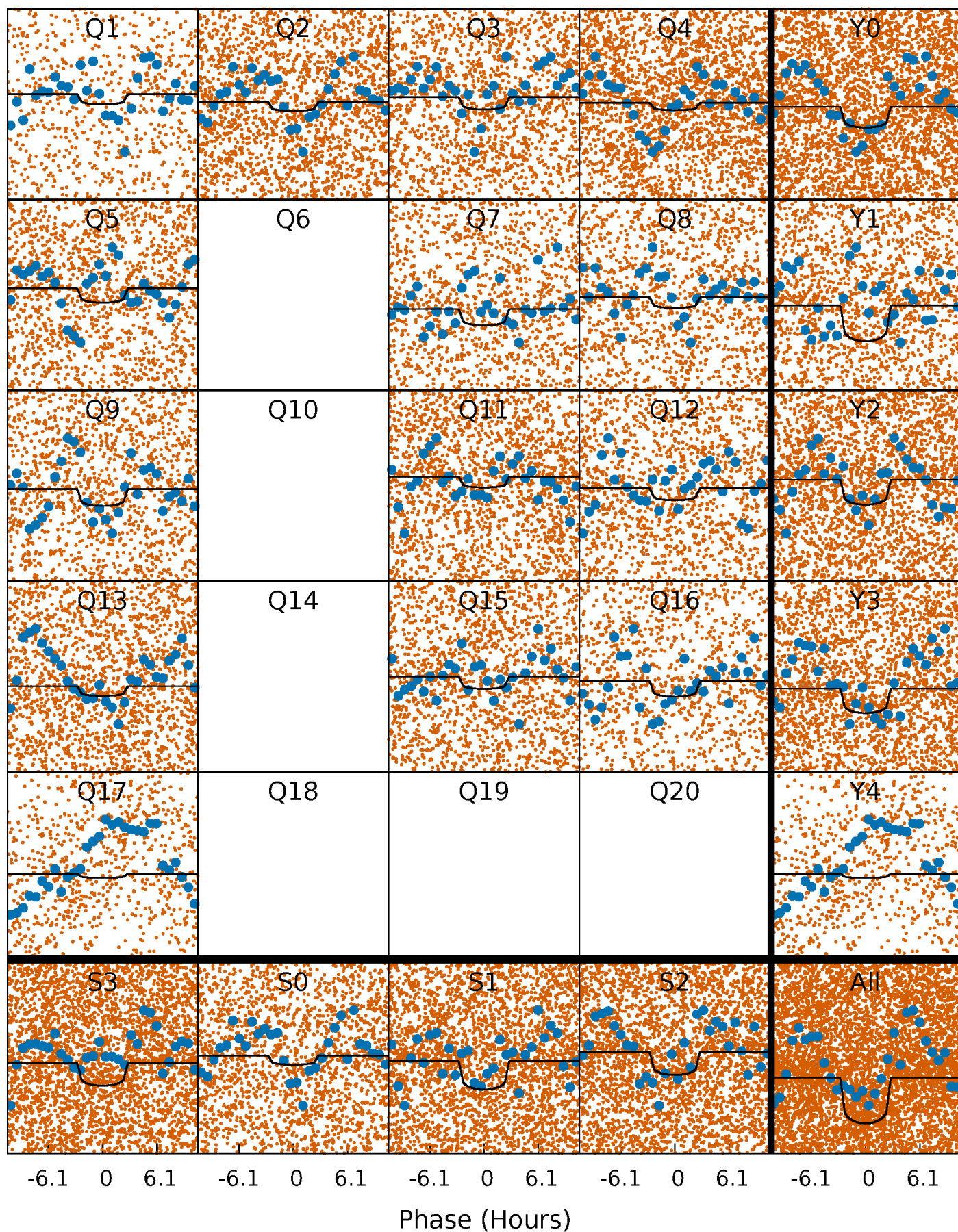
TCE 003454941-01 P= 1.156890 Days  $T_0=131.852717$  (BKJD)





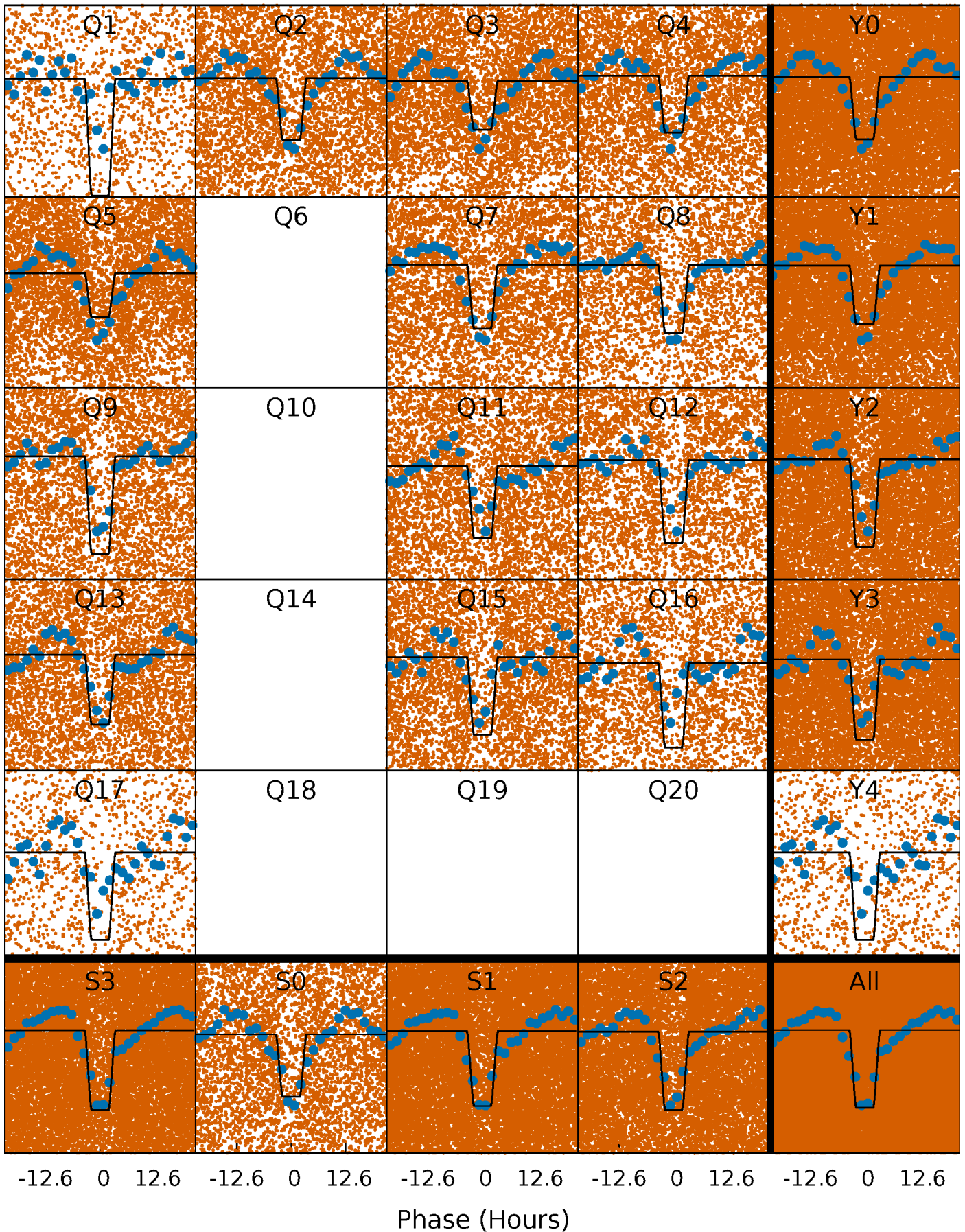
# DV Quarter-Phased Transit Curves

TCE 003454941-01   P= 1.156890 Days    $T_0=131.852717$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 003454941-01 P= 1.156285 Days  $T_0=131.923751$  (BKJD)

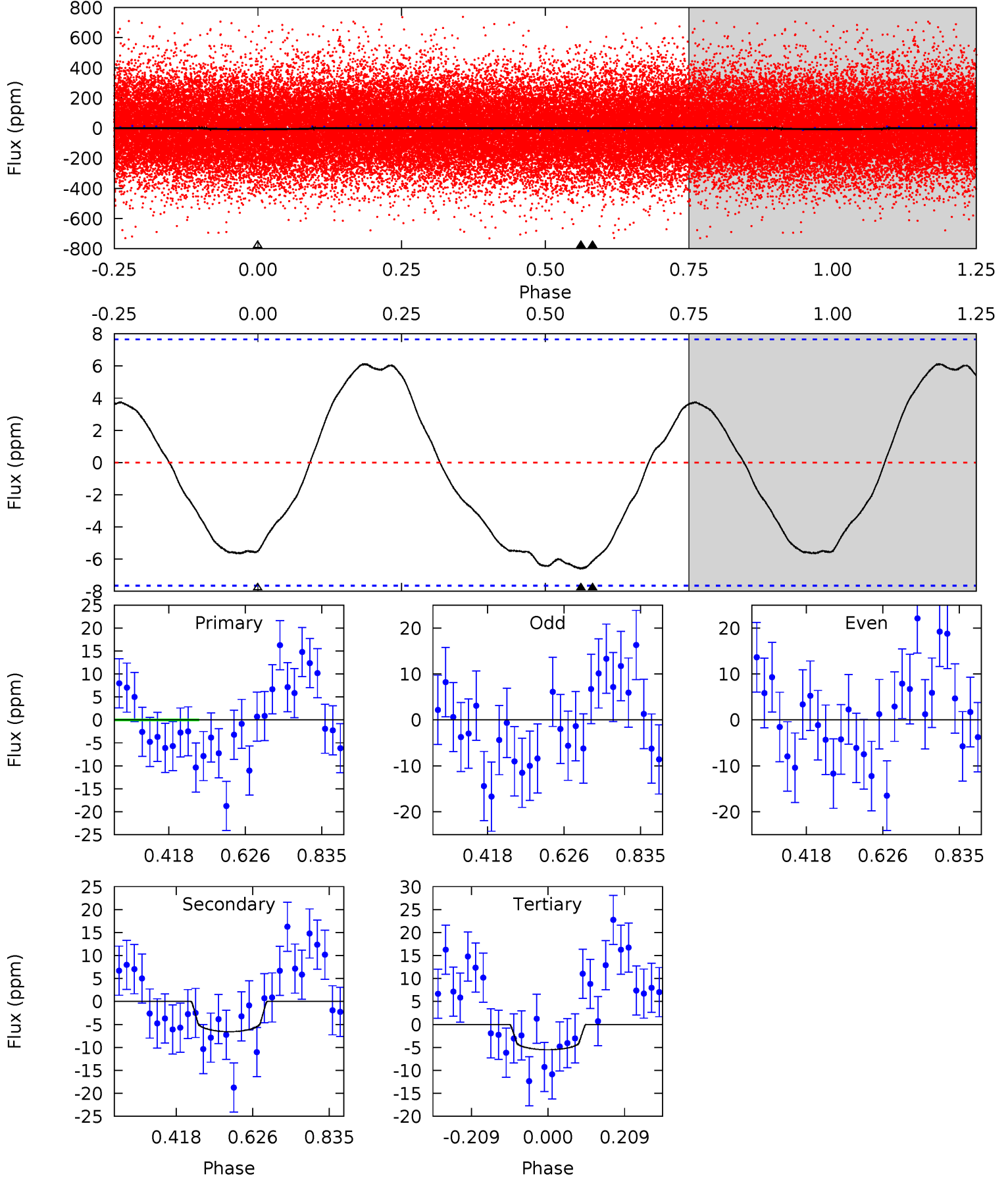




# DV Model-Shift Uniqueness Test

003454941-01, P = 1.156890 Days, E = 130.695827 Days

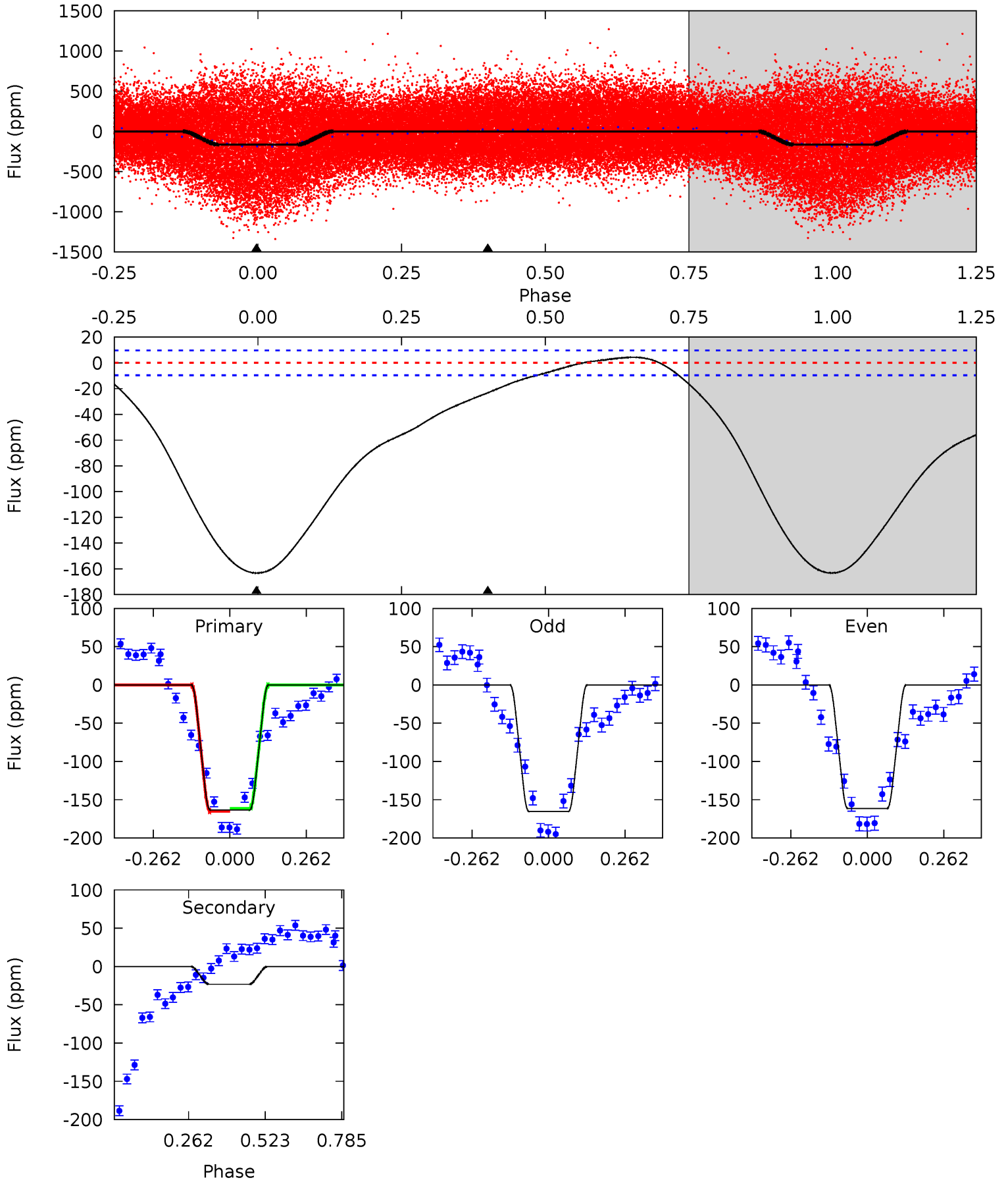
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.53	3.79	3.17	0	4.41	1.26	2.28	0.35	3.53	0.62	3.79	1.26	0.38	0.48	0.50



# Alt Model-Shift Uniqueness Test

003454941-01, P = 1.156285 Days, E = 130.767466 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
73.5	10.5	0	0	4.36	1.12	2.79	73.5	73.5	10.5	10.5	0.87	0.98	0.03	0.95





### Stellar Parameters For KIC 003454941

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6595^{+79}_{-79}$	$4.025^{+0.188}_{-0.116}$	$-0.220^{+0.150}_{-0.150}$	$1.861^{+0.343}_{-0.420}$	$1.343^{+0.112}_{-0.168}$	$0.293^{+0.281}_{-0.106}$
	+1%/-1%	+5%/-3%	+68%/-68%	+18%/-23%	+8%/-13%	+96%/-36%
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 003454941-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-7 \pm 2$	$0.83^{+0.51}_{-0.44}$	$3581^{+170}_{-217}$	$5022^{+2509}_{-997}$	$2.853^{+10.747}_{-1.768}$
Alt.	$-23 \pm 2$	$2.72^{+0.69}_{-0.56}$	$3585^{+169}_{-232}$	$3886^{+445}_{-380}$	$0.963^{+0.605}_{-0.350}$

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

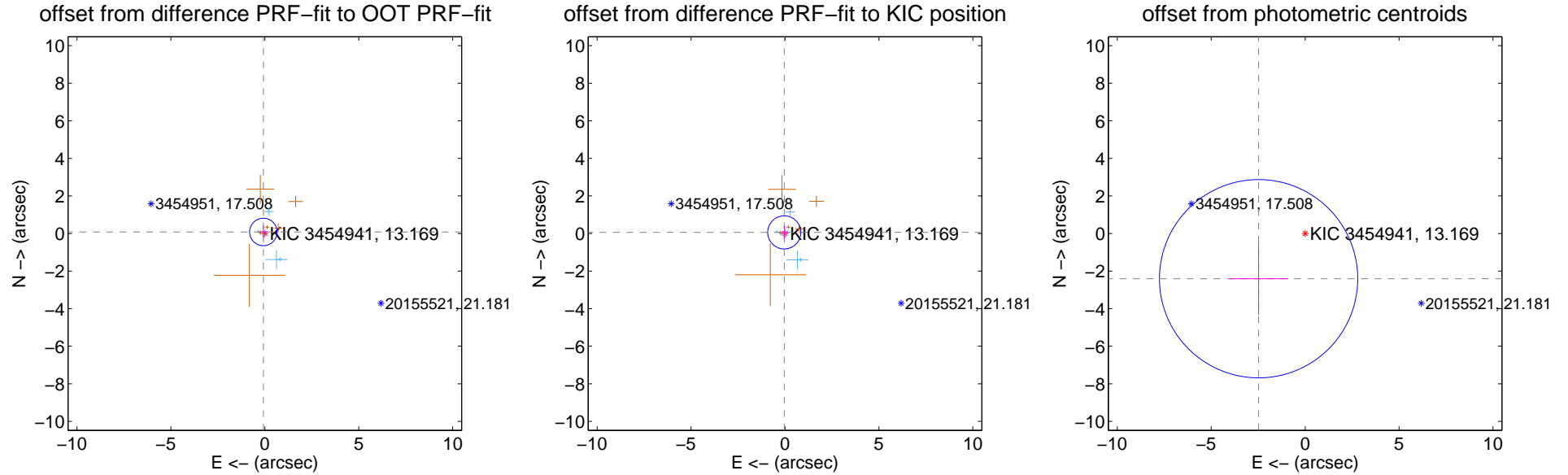
## DV Centroid Data

Supplemental centroid analysis for 003454941-01. Kepler magnitude: 13.17. Transit SNR 4.55

There are 7 quarters with good PRF difference image offsets

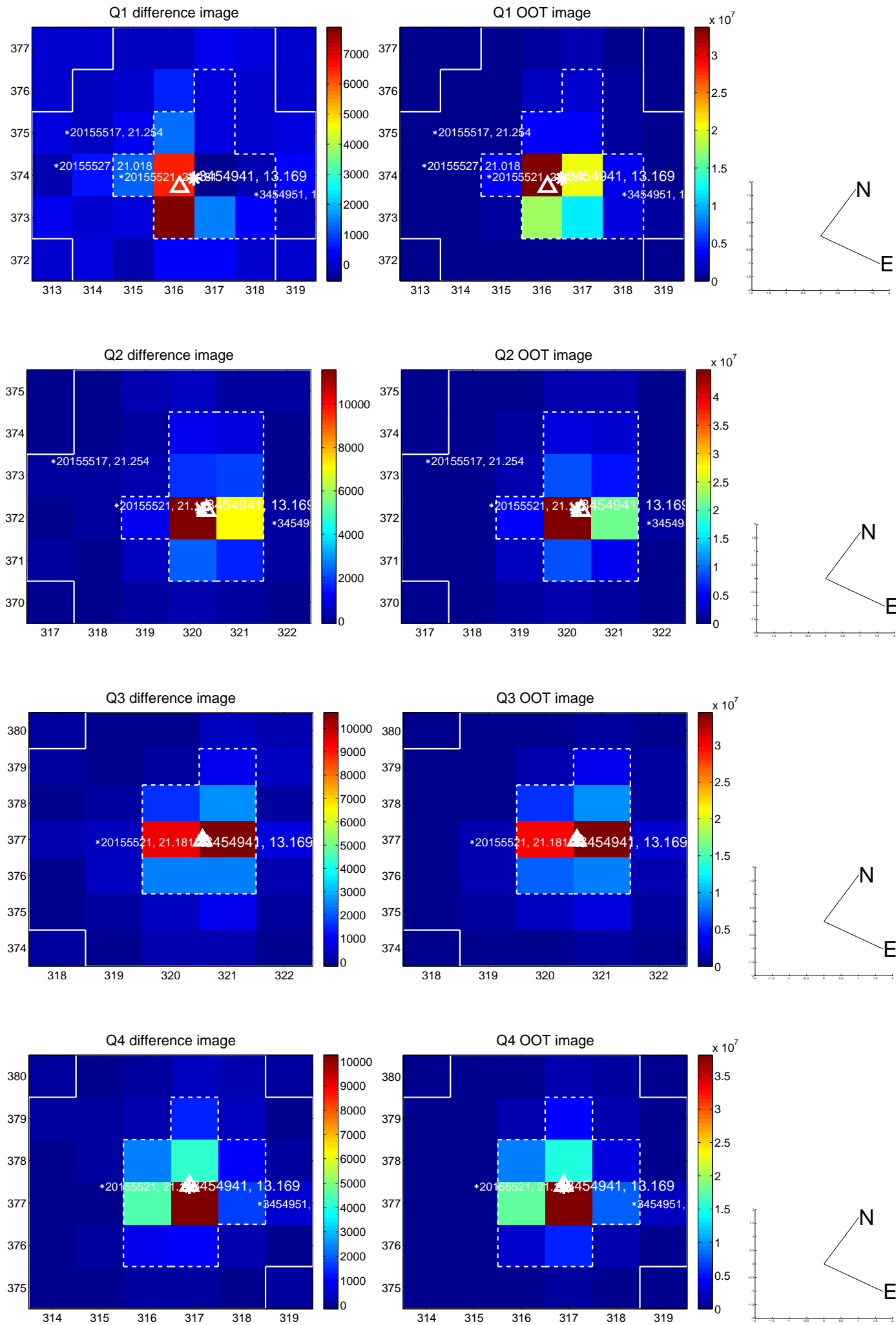
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.114 \pm 0.244$	0.47	$0.079 \pm 0.189$	$0.082 \pm 0.325$
PRF-fit source offset from KIC position	$0.071 \pm 0.294$	0.24	$0.038 \pm 0.187$	$0.060 \pm 0.352$
photometric centroid source offset	$3.45 \pm 1.76$	1.96	$2.48 \pm 1.58$	$-2.41 \pm 1.93$

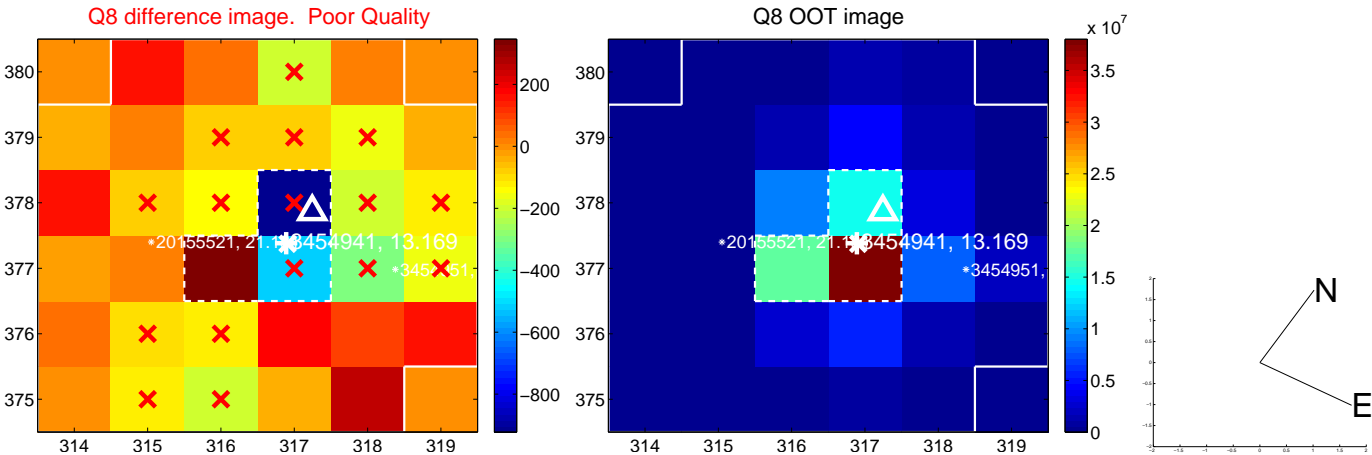
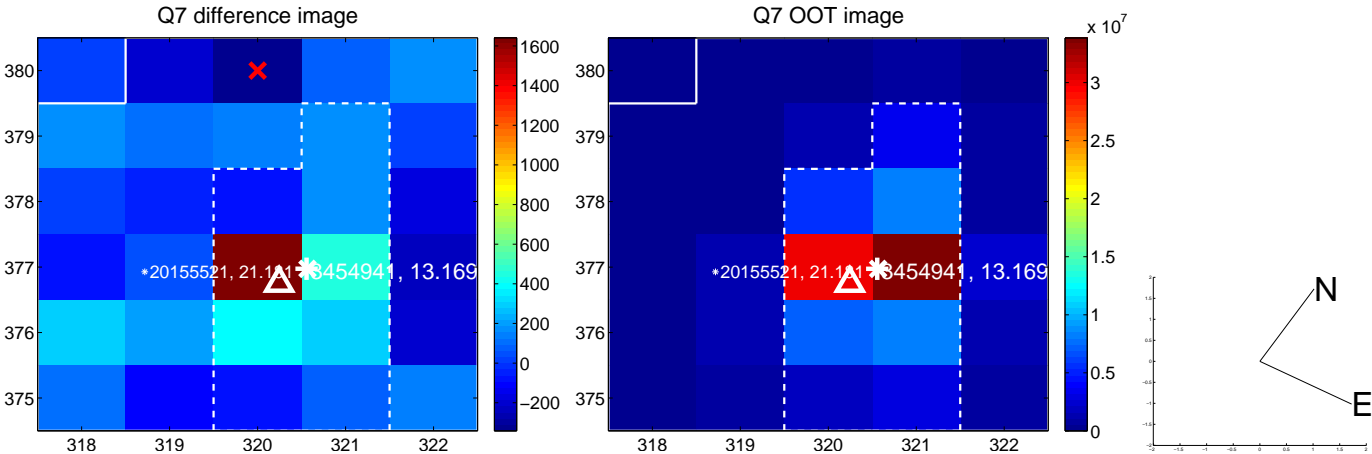
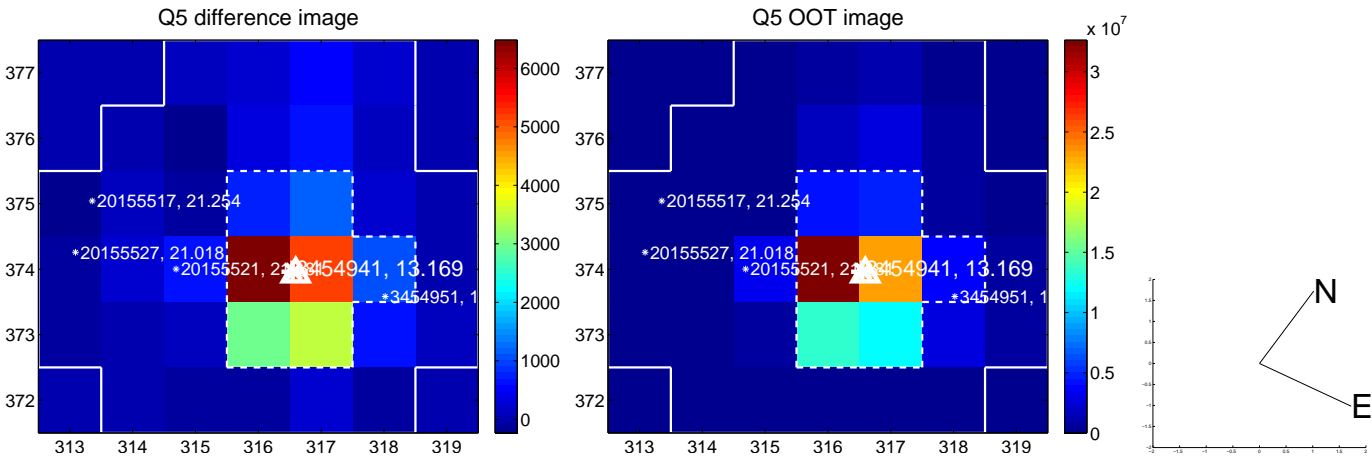


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

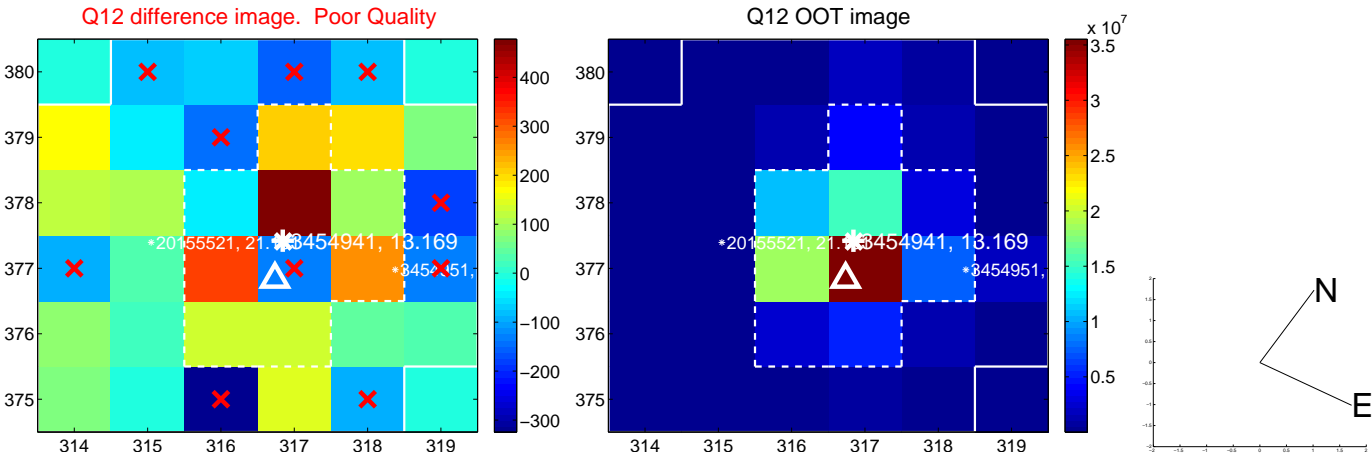
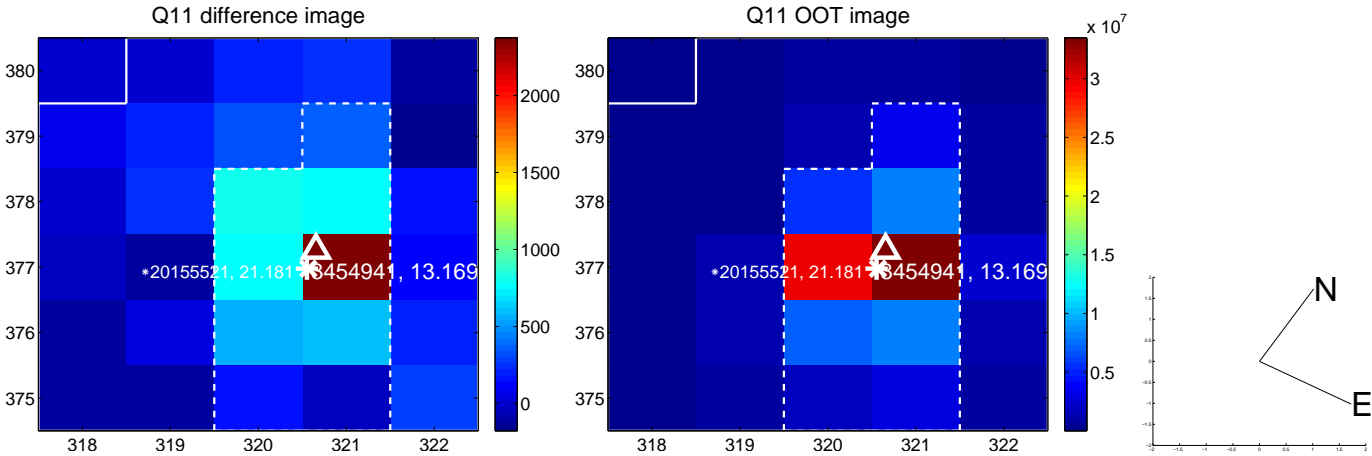
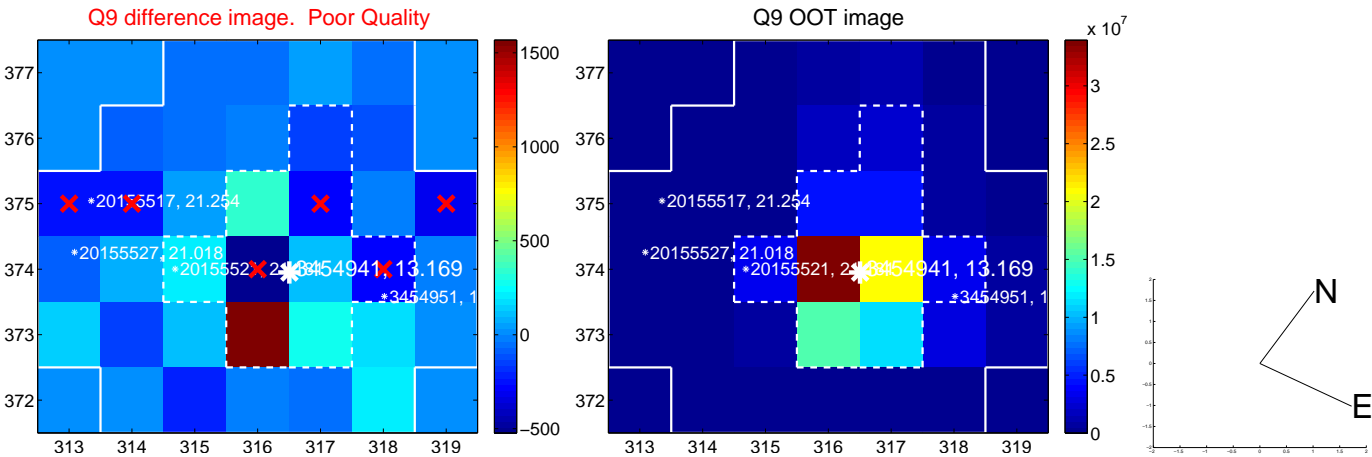


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

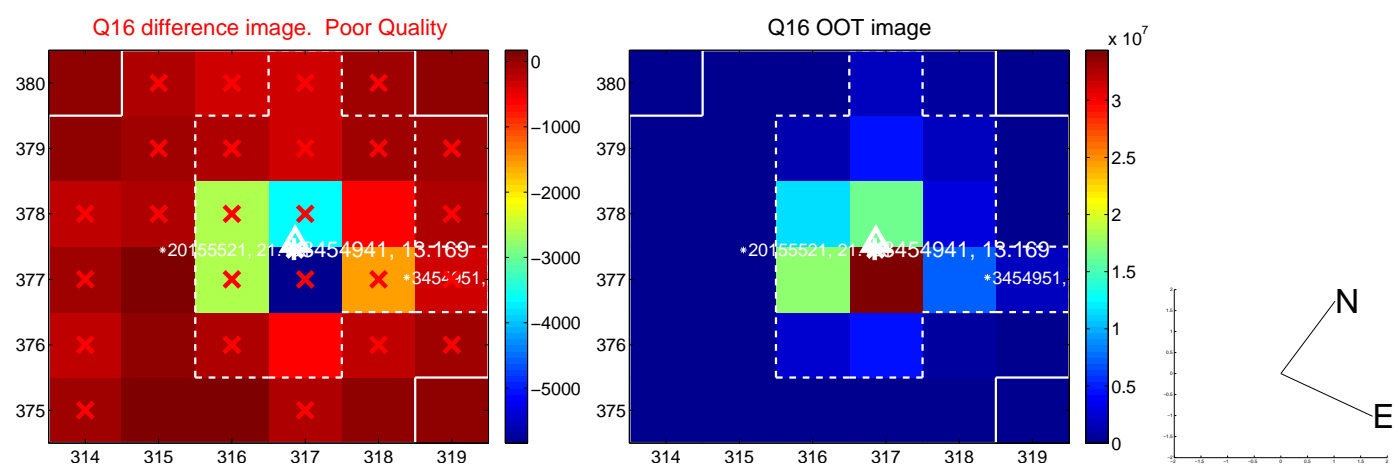
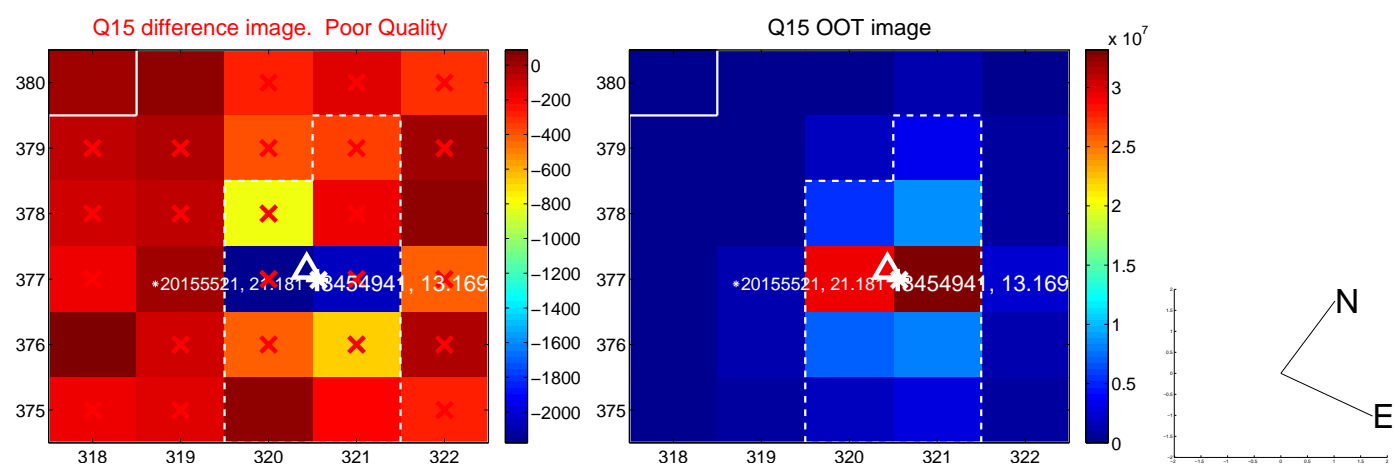
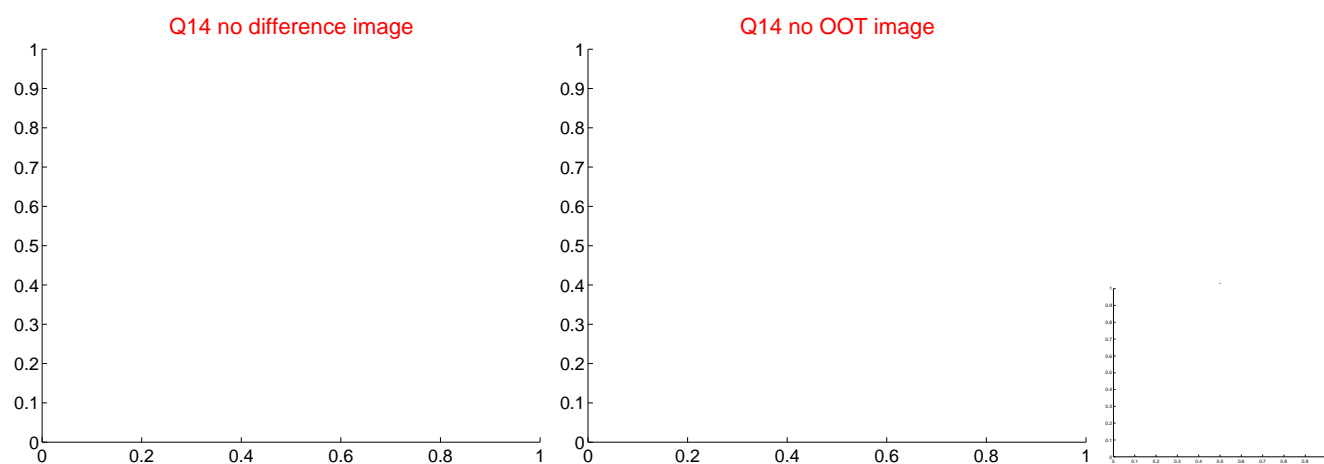
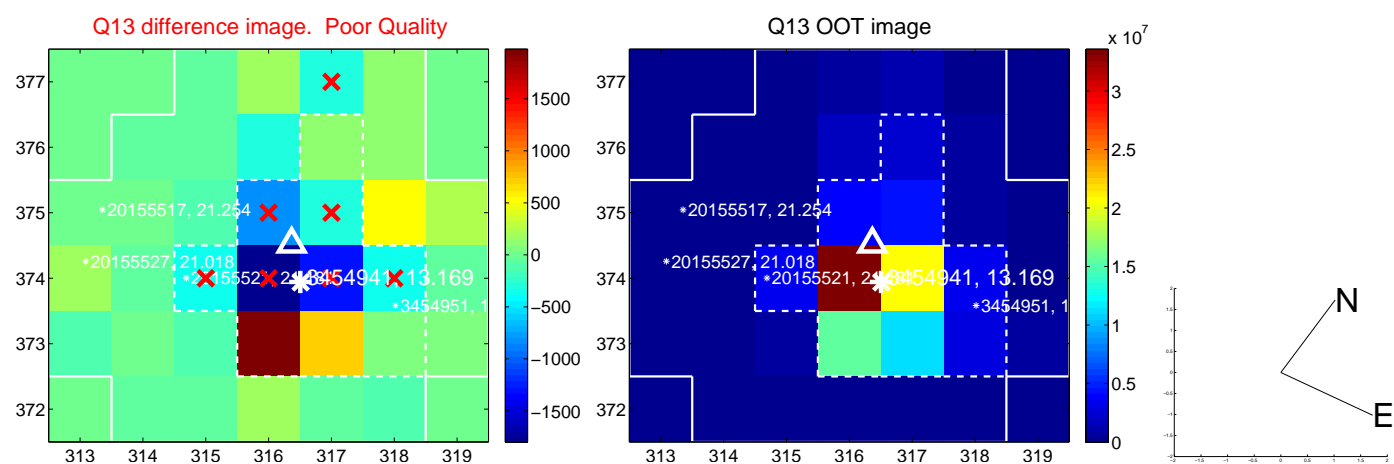




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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination

