

# KIC 005980555

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005980555-01	OBS	No	0.502636	131.818963	95.4	1.500	10.7	7.9	1.23	7064	1.23	19024.90

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005980555-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT

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

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

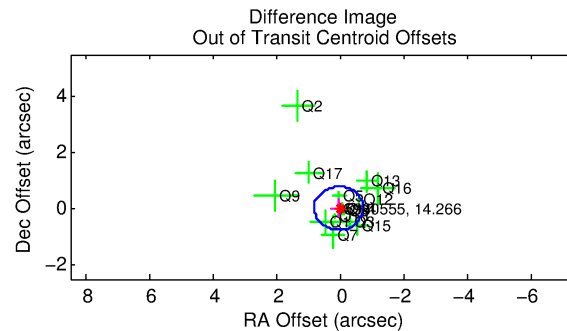
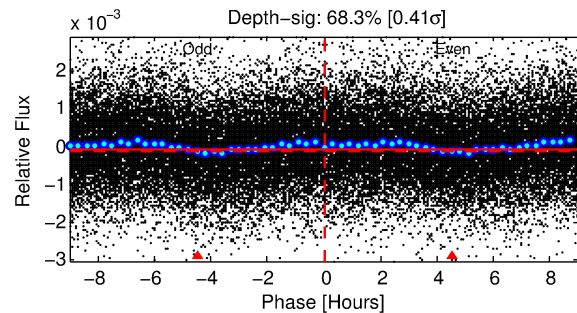
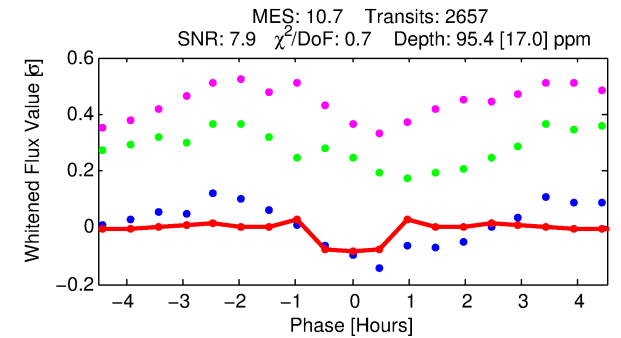
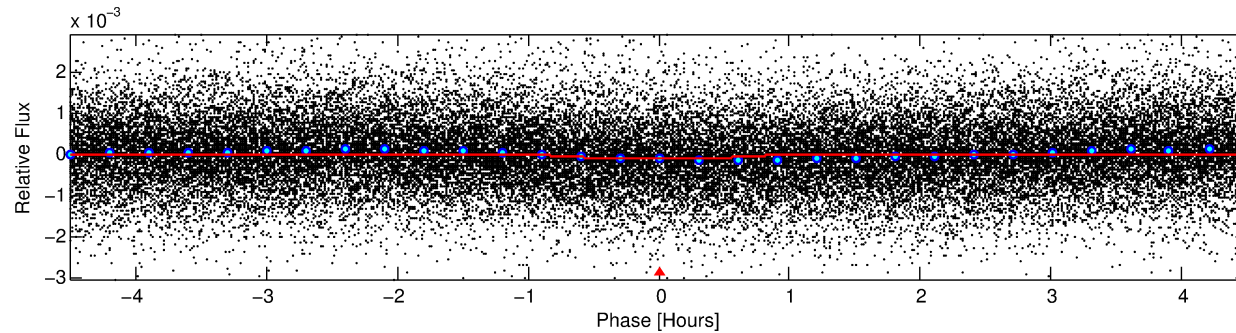
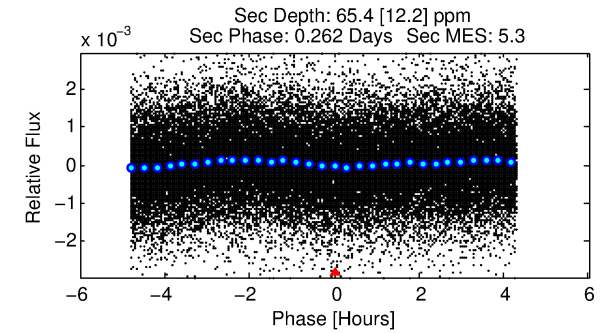
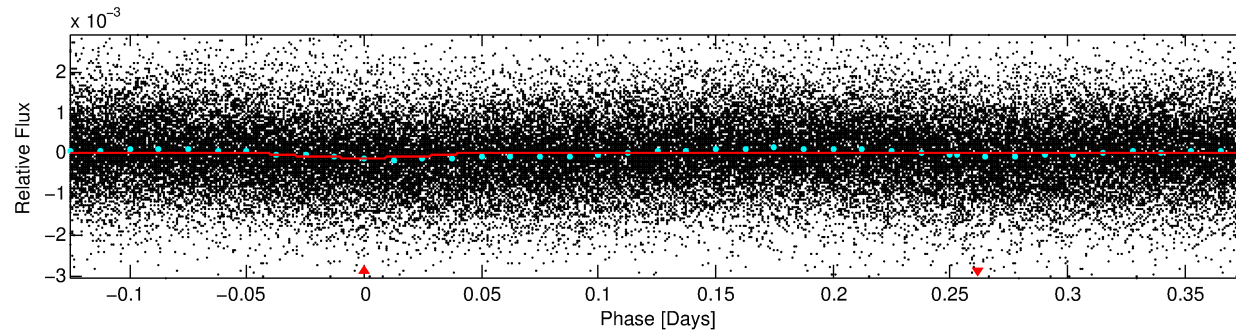
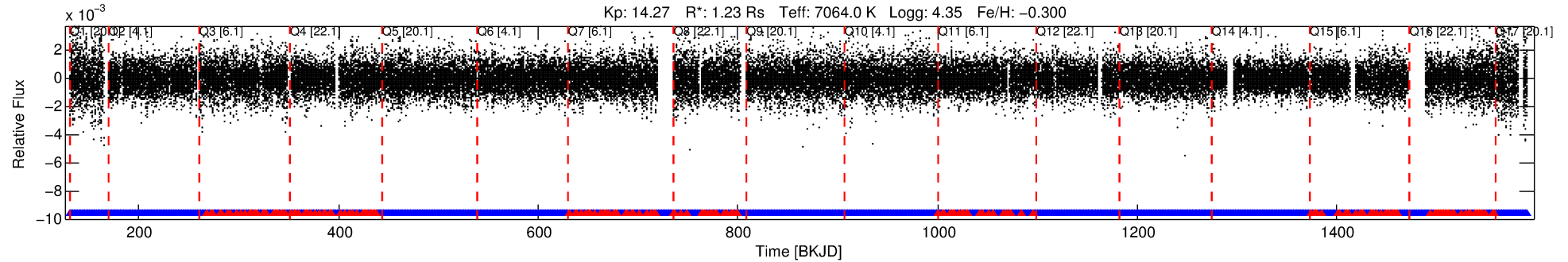
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005980555-01

No Significant Match Found

# DV One-Page Summary

KIC: 5980555 Candidate: 1 of 1 Period: 0.503 d



## DV Fit Results:

Period = 0.50264 [0.00001] d  
Epoch = 131.8190 [0.0016] BKJD  
Rp/R\* = 0.0092 [0.0036]  
a/R\* = 2.51 [4.80]  
b = 0.35 [5.80]  
Seff = 19024.90 [7442.17]  
Teq = 2995 [293] K  
Rp = 1.23 [0.61] Re  
a = 0.0133 [0.0033] AU  
Ag = 4.20 [3.73] [0.86σ]  
Teffp = 6629 [1378] K [2.58σ]

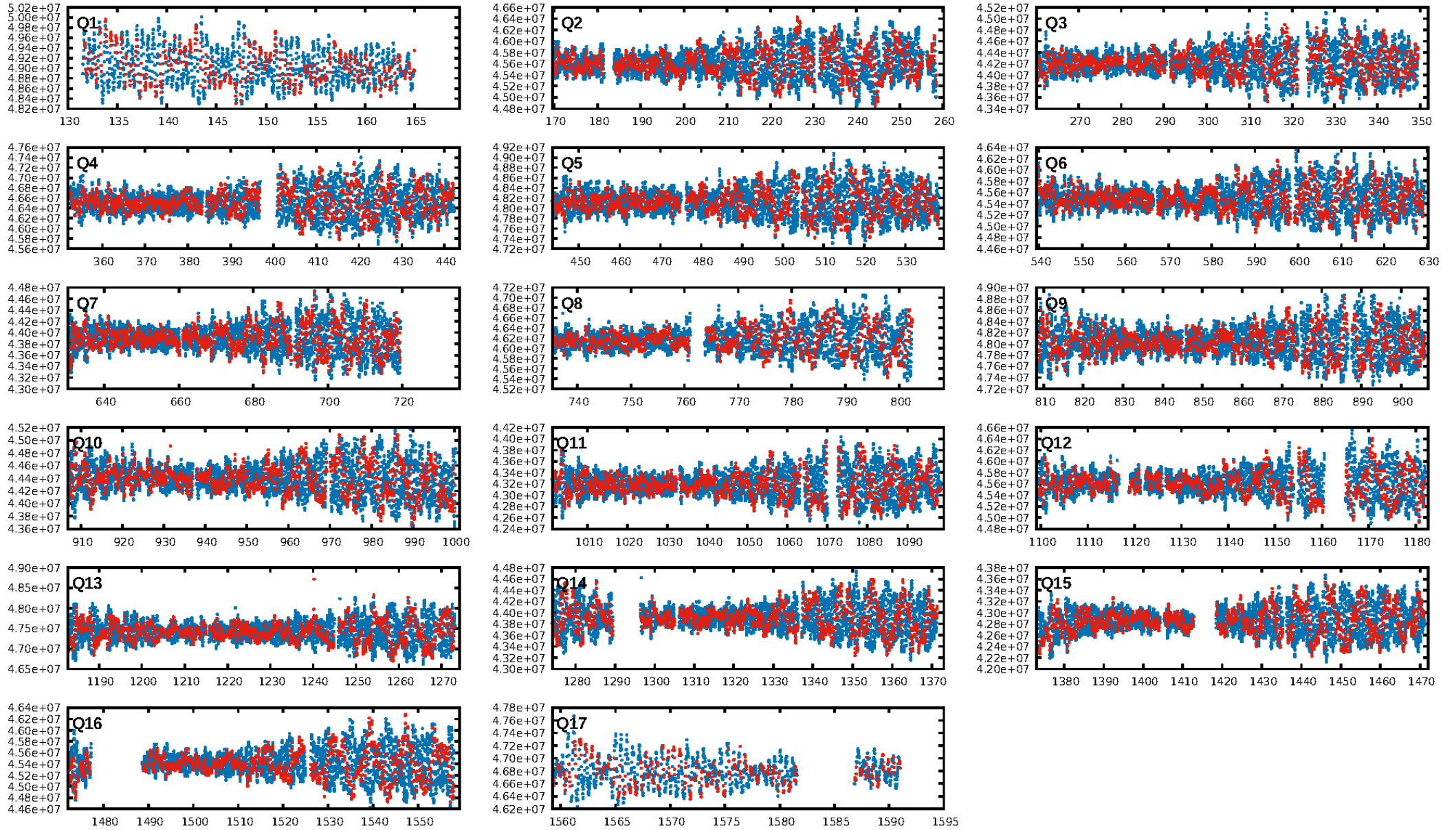
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.30e-26  
RollingBand-fgt: 0.92 [2321/2536]  
**GhostDiagnostic-chr: 0.9934**  
Centroid-sig: 1.0%  
Centroid-so: 0.762 arcsec [1.75σ]  
OotOffset-rm: 0.066 arcsec [0.26σ]  
KicOffset-rm: 0.019 arcsec [0.07σ]  
OotOffset-st: 3/4/3/5 [15]  
KicOffset-st: 3/4/3/5 [15]  
DiffImageQuality-fgm: 0.60 [9/15]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:39:13 Z

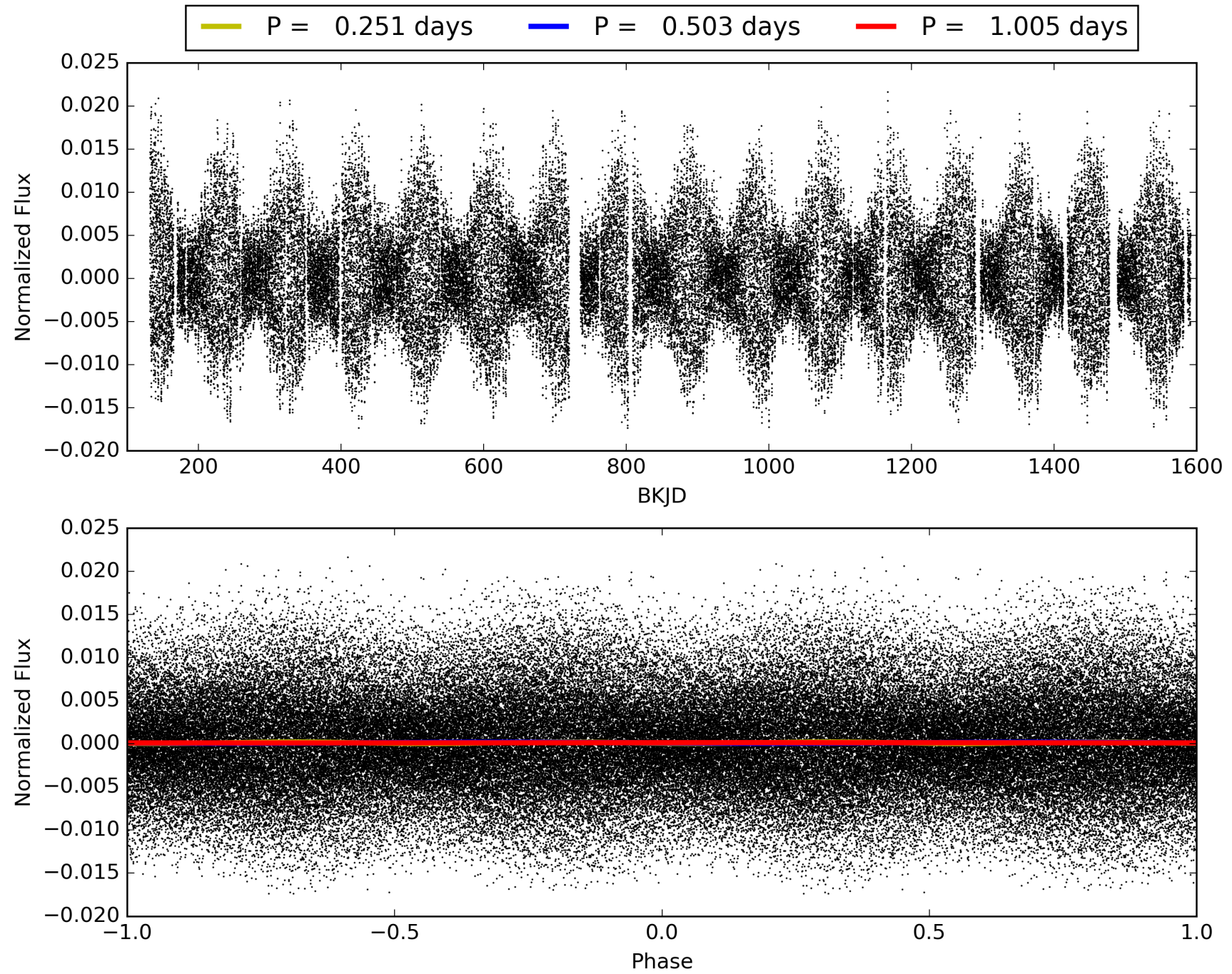
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005980555-01, PDC Light Curves



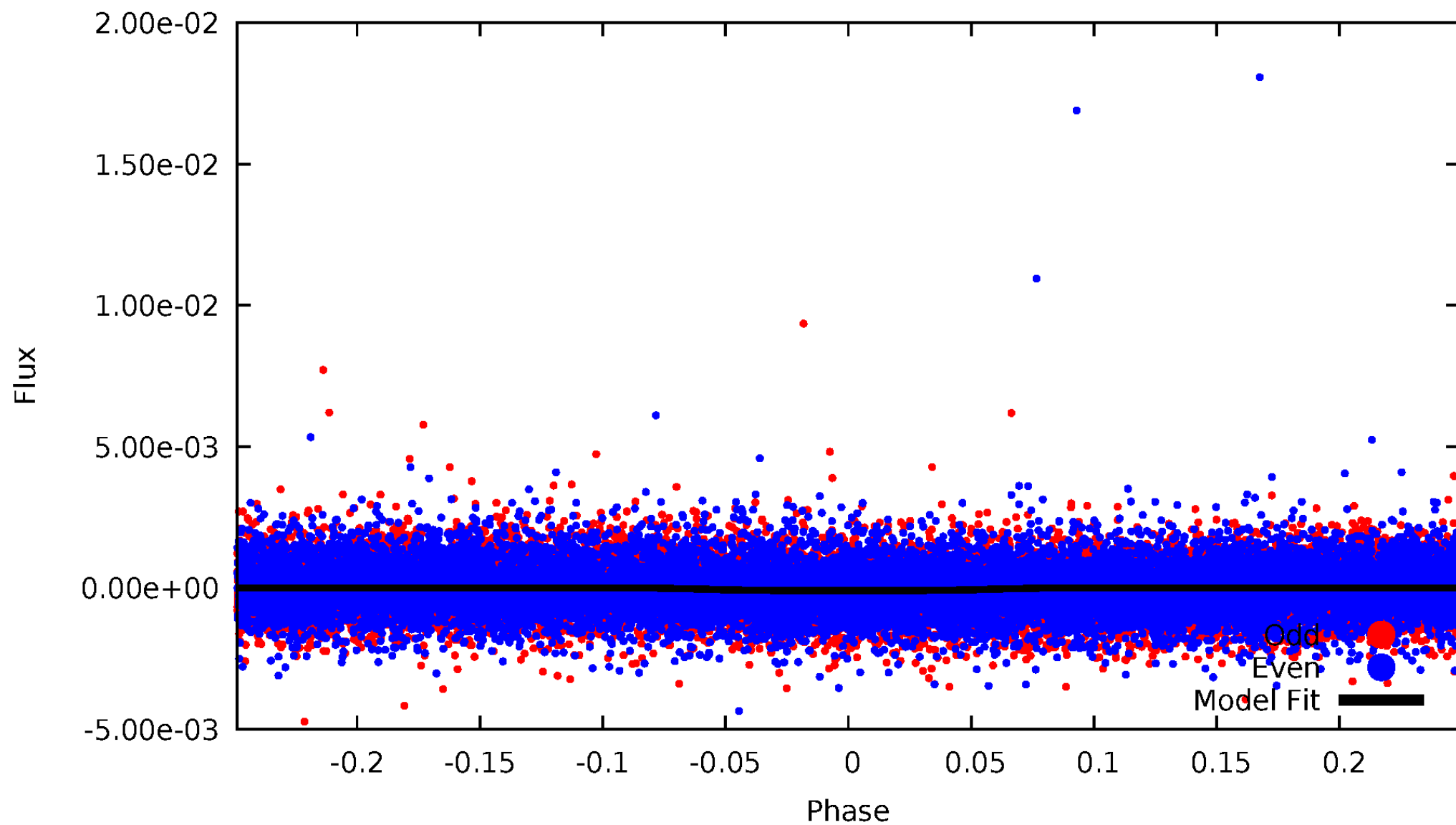


TCE 005980555-01



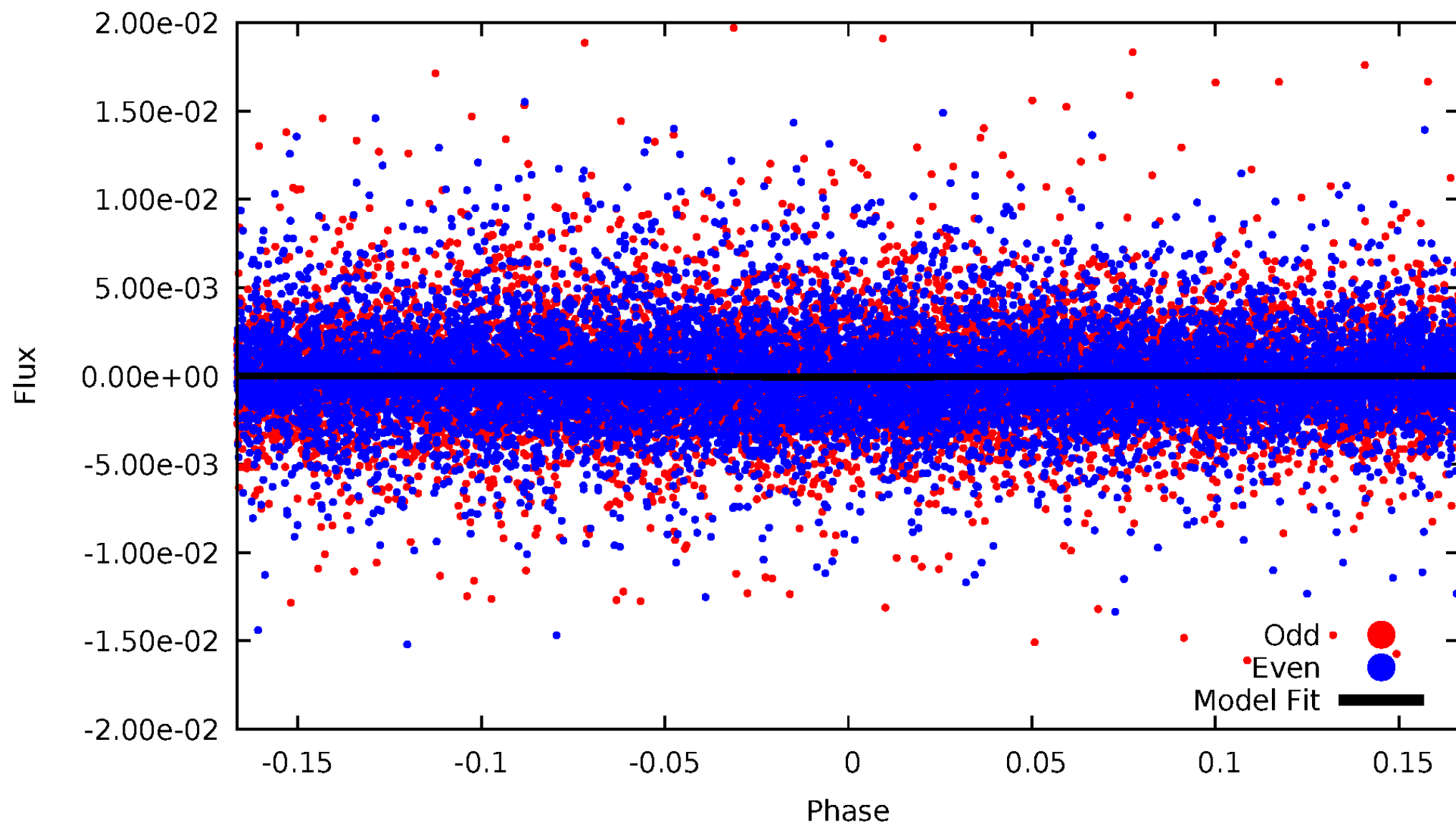
# DV Odd/Even

TCE 005980555-01



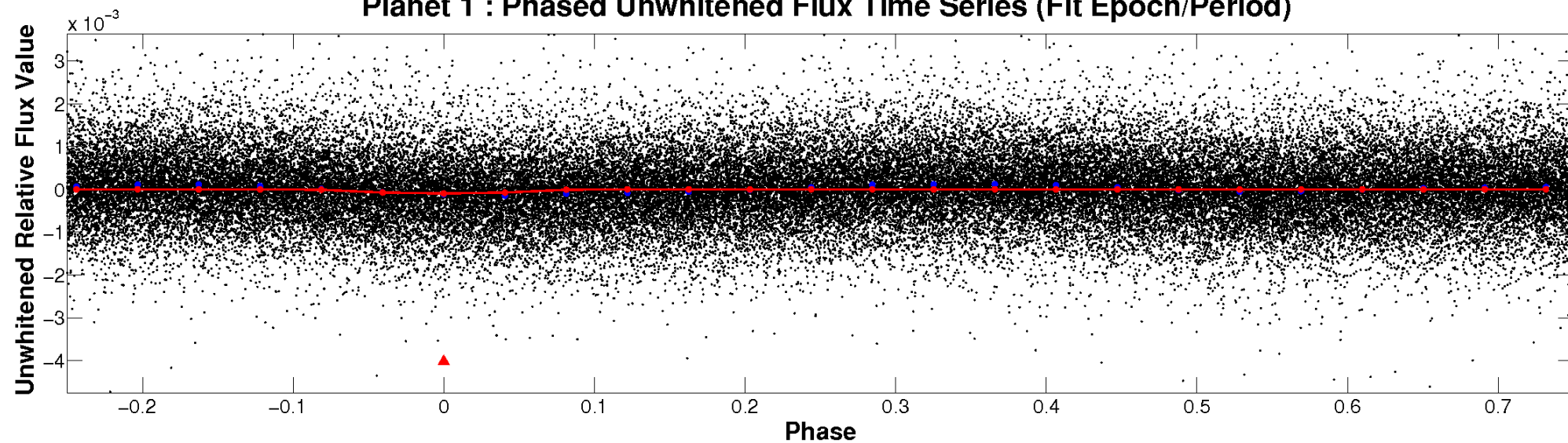
# ALT Odd/Even

TCE 005980555-01

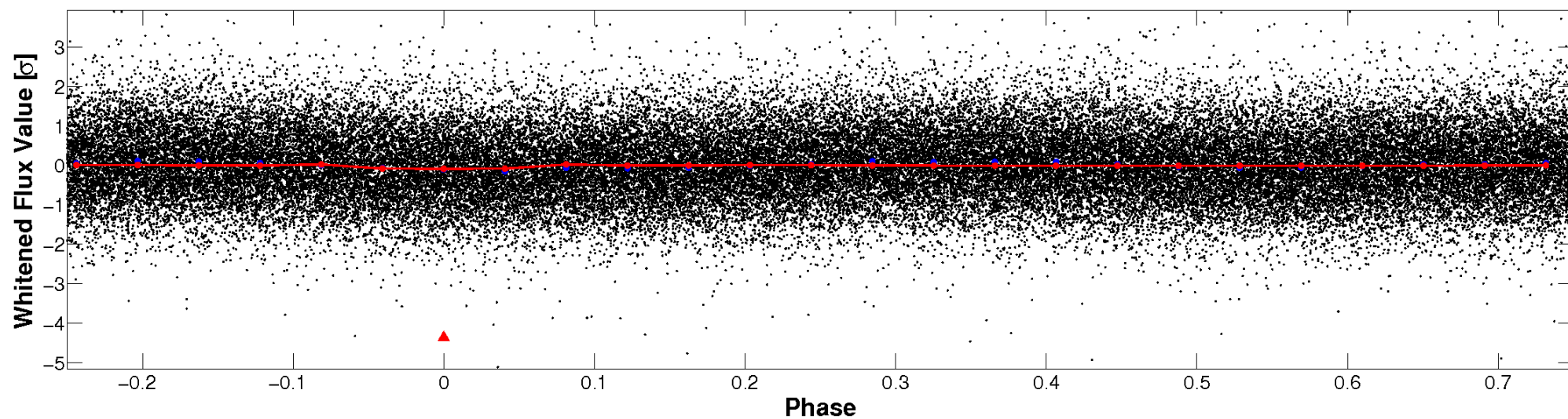


# Non-Whitened Vs. Whitened Light Curve

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



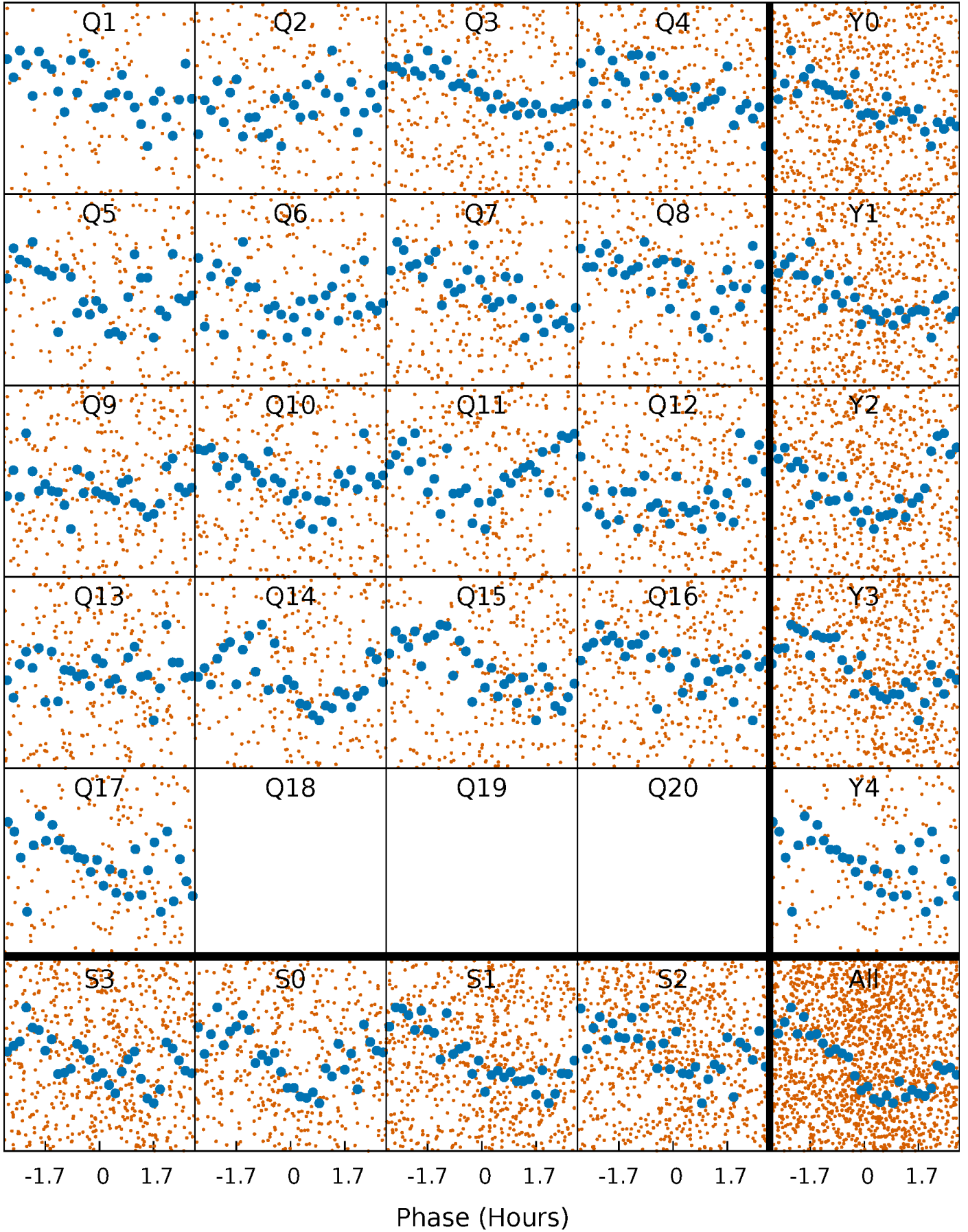
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

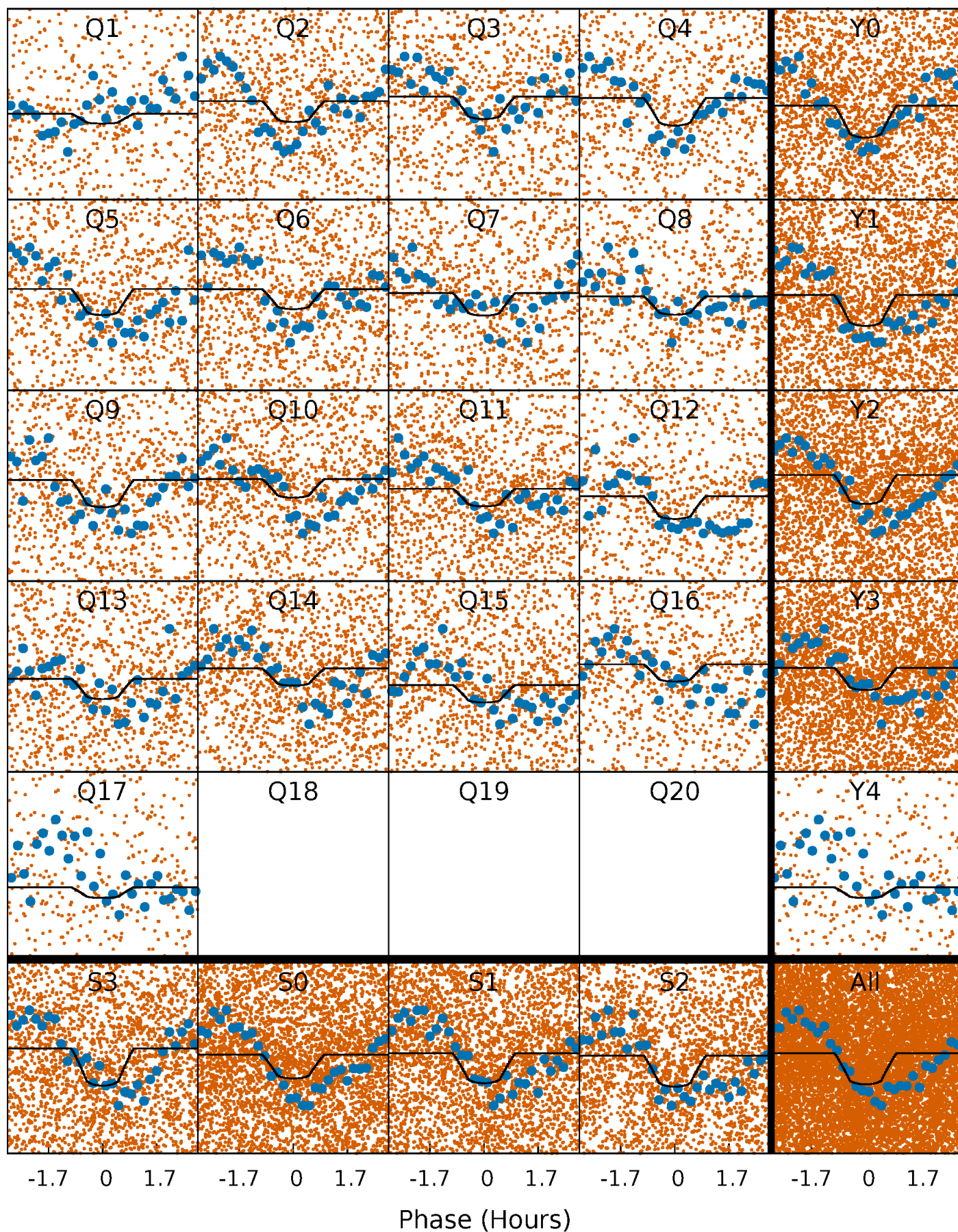
TCE 005980555-01 P= 0.502636 Days  $T_0=131.818963$  (BKJD)





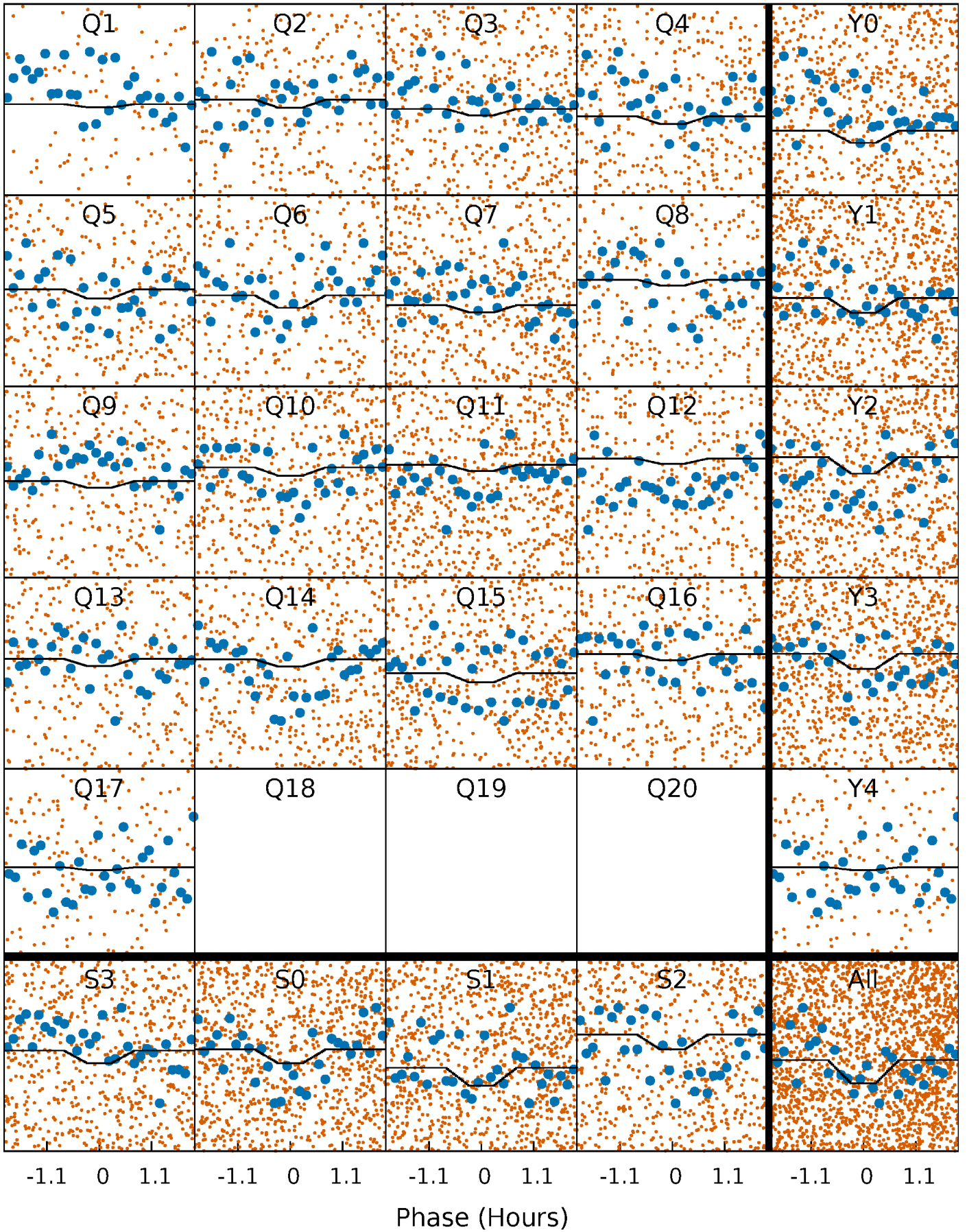
# DV Quarter-Phased Transit Curves

TCE 005980555-01 P= 0.502636 Days  $T_0=131.818963$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

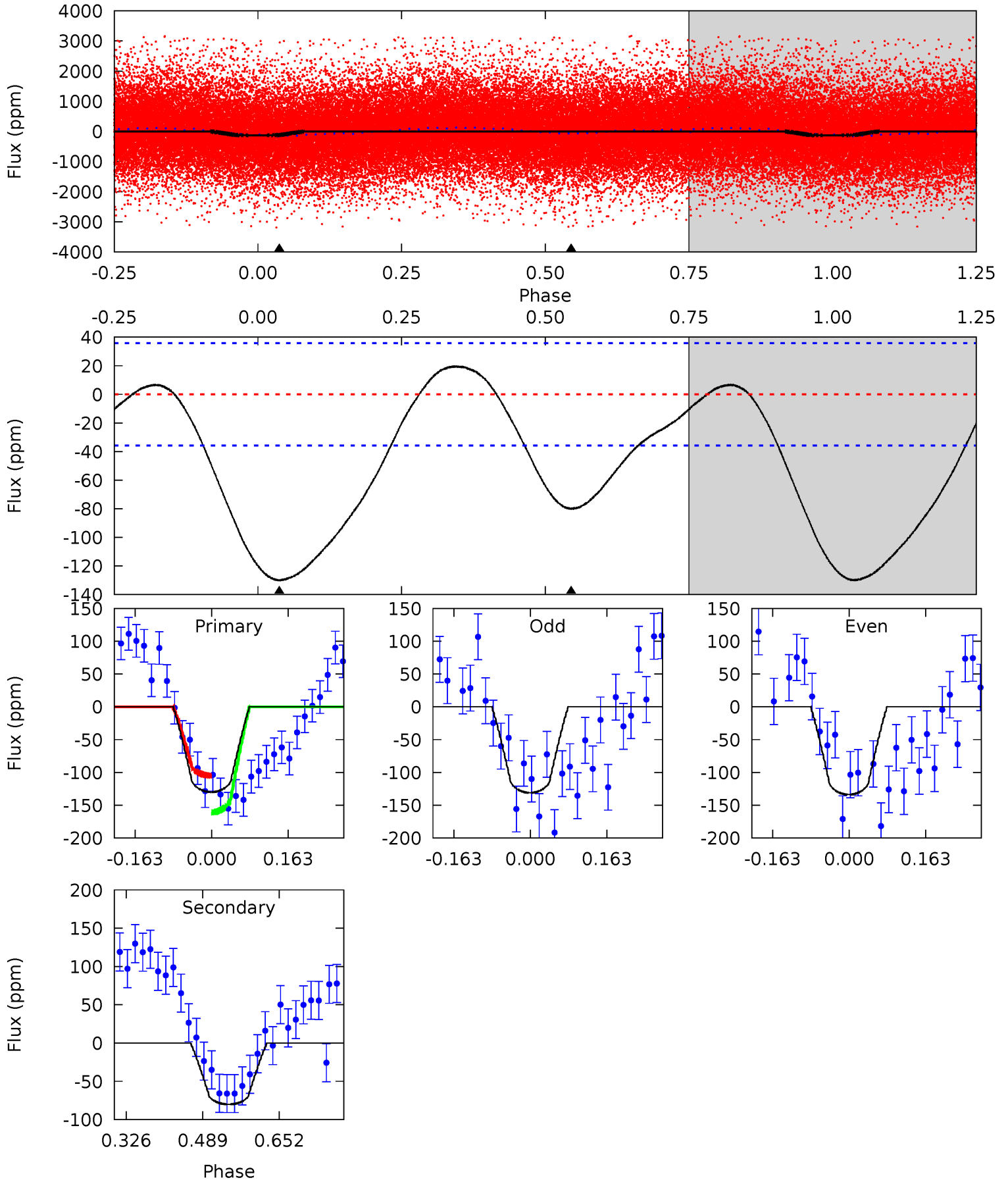
TCE 005980555-01 P= 0.502657 Days  $T_0=131.805797$  (BKJD)



# DV Model-Shift Uniqueness Test

005980555-01, P = 0.502636 Days, E = 131.316327 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
16.2	9.99	0	0	4.46	1.40	2.41	16.2	16.2	9.99	9.99	0.18	1.02	0.13	3.51

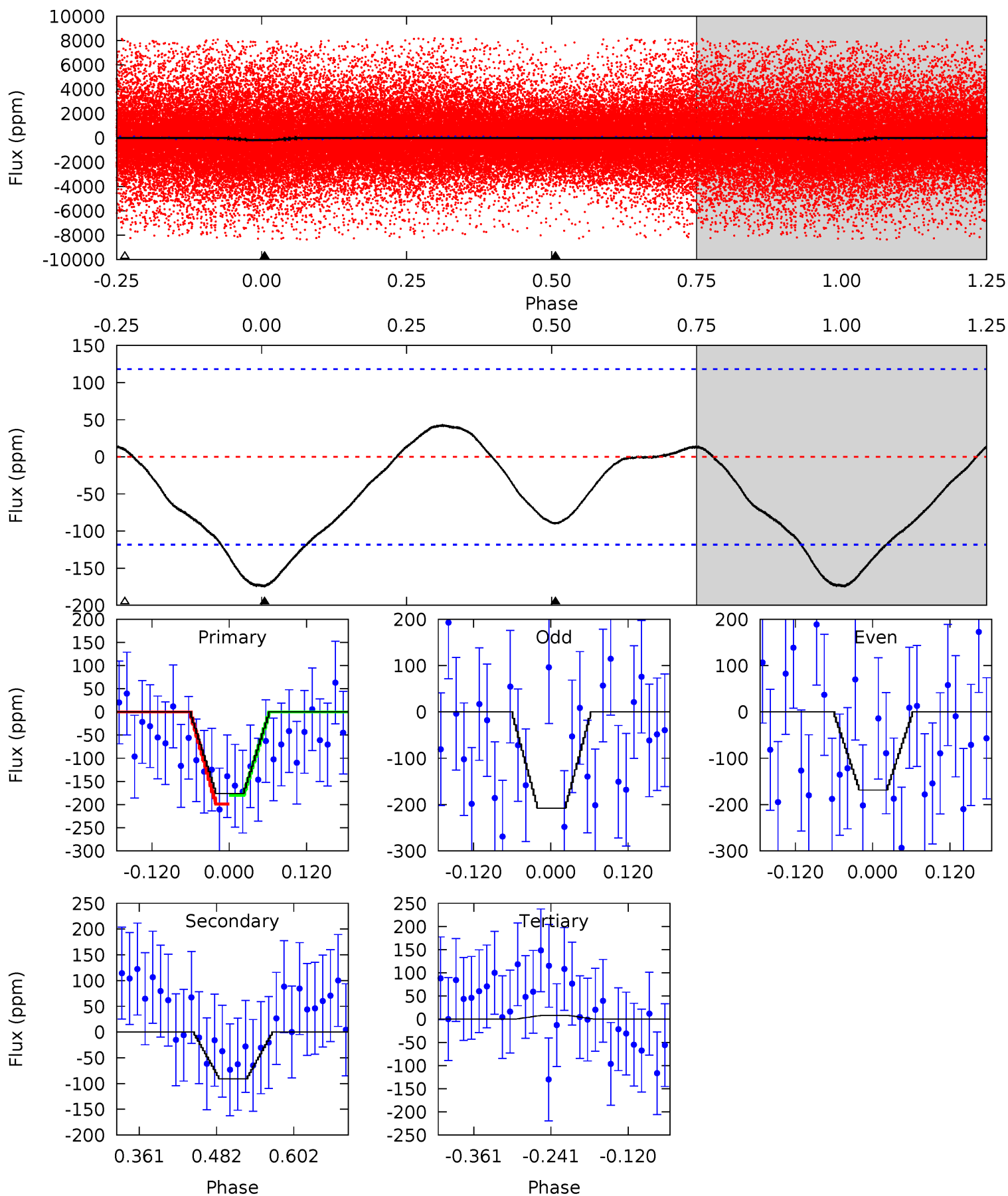




# Alt Model-Shift Uniqueness Test

005980555-01, P = 0.502657 Days, E = 131.303140 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
6.73	3.47	-0.31	0	4.53	1.55	1.39	7.05	6.73	3.78	3.47	0.76	0.14	0.20	0.36





### Stellar Parameters For KIC 005980555

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7064^{+199}_{-299}$	$4.353^{+0.062}_{-0.188}$	$-0.300^{+0.250}_{-0.350}$	$1.227^{+0.373}_{-0.133}$	$1.260^{+0.176}_{-0.158}$	$0.962^{+0.254}_{-0.512}$
	+3%/-4%	+1%/-4%	+83%/-117%	+30%/-11%	+14%/-13%	+26%/-53%
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 005980555-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-80 \pm 8$	$1.26^{+0.53}_{-0.49}$	$4255^{+277}_{-233}$	$6893^{+2719}_{-1171}$	$4.952^{+8.504}_{-2.476}$
Alt.	$-91 \pm 26$	$1.04^{+0.57}_{-0.50}$	$4243^{+269}_{-226}$	$7810^{+5287}_{-1827}$	$7.567^{+20.889}_{-4.522}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

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

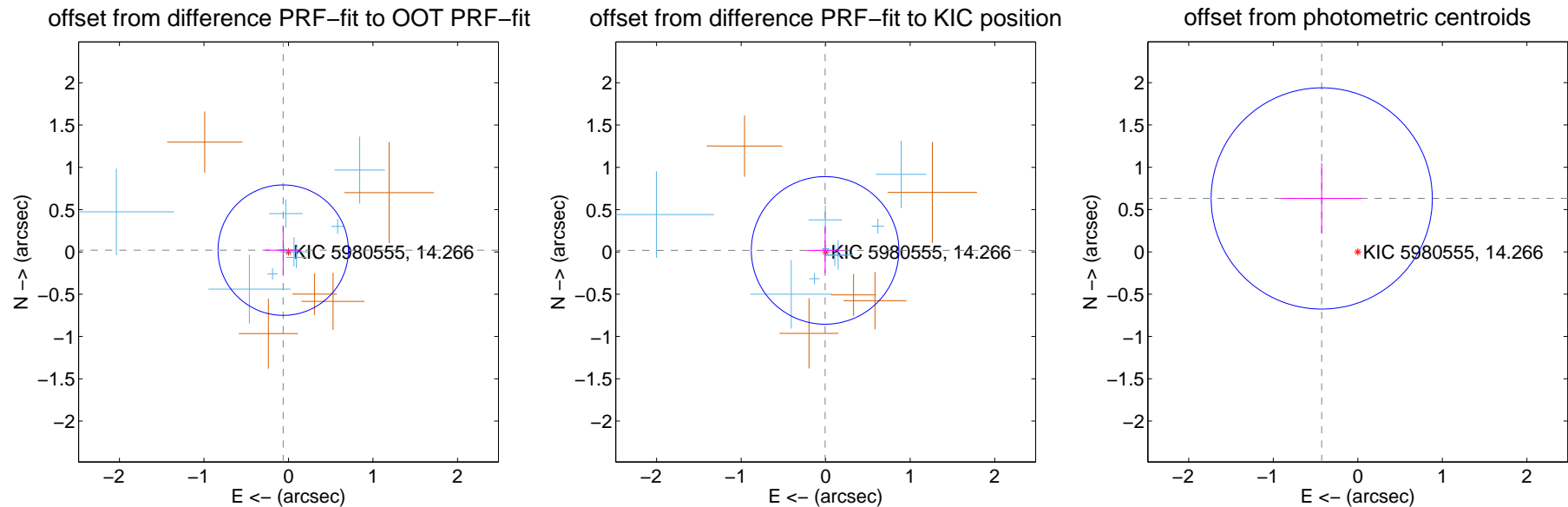
## DV Centroid Data

Supplemental centroid analysis for 005980555-01. Kepler magnitude: 14.27. Transit SNR 7.88

There are 9 quarters with good PRF difference image offsets

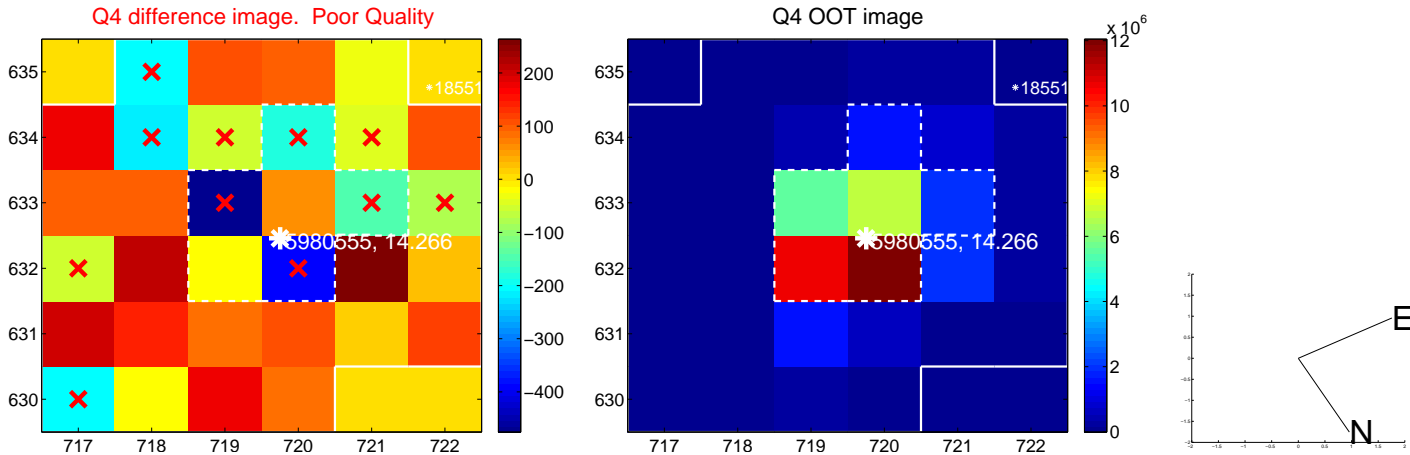
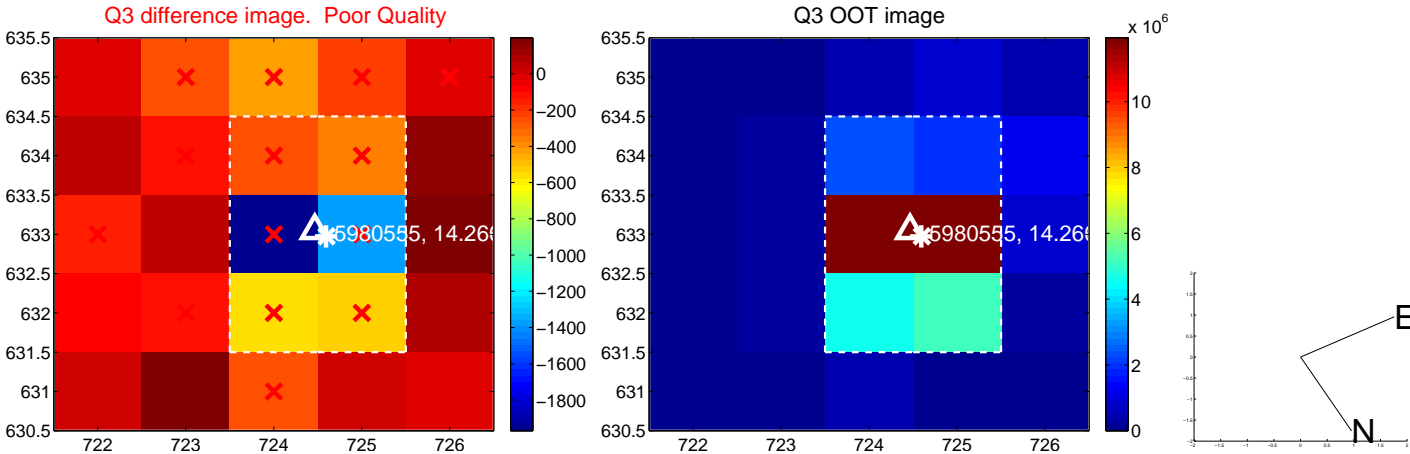
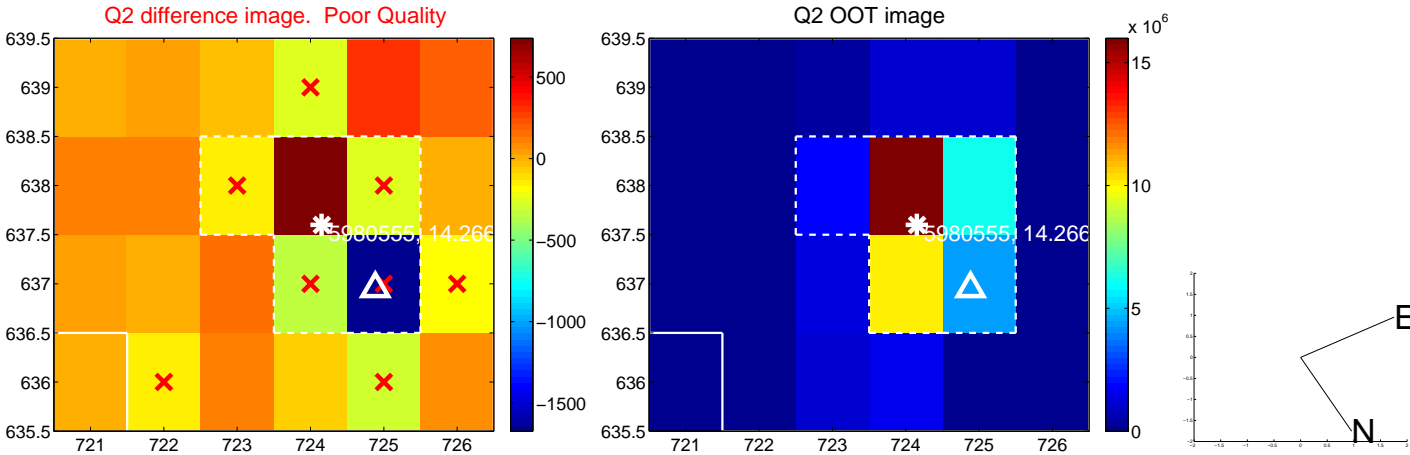
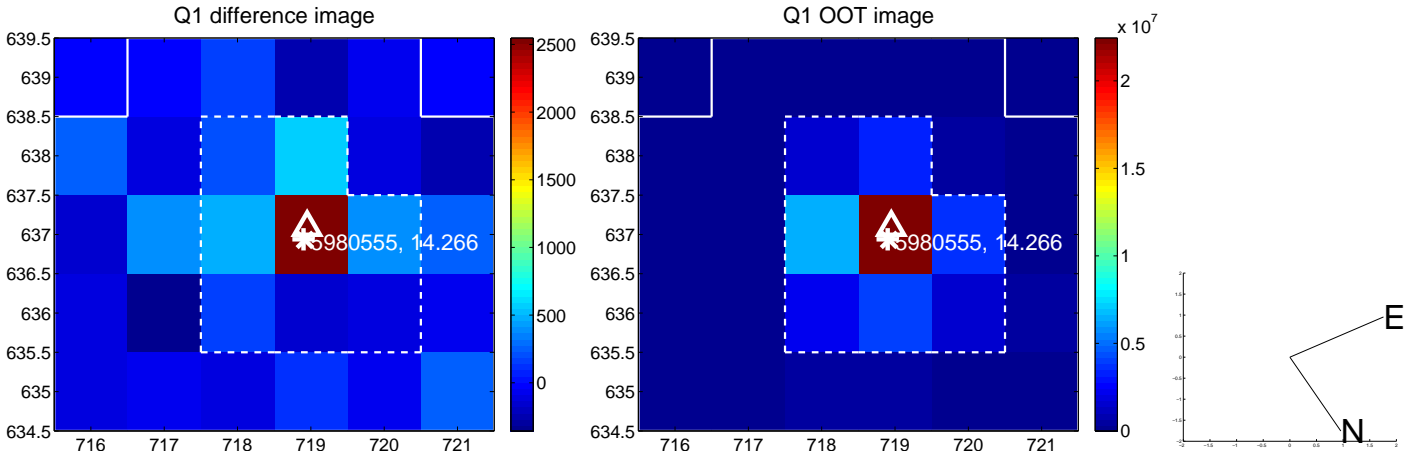
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.066 \pm 0.257$	0.26	$0.062 \pm 0.217$	$0.021 \pm 0.293$
PRF-fit source offset from KIC position	$0.019 \pm 0.291$	0.07	$0.007 \pm 0.217$	$0.018 \pm 0.272$
photometric centroid source offset	$0.76 \pm 0.44$	1.75	$0.43 \pm 0.47$	$0.63 \pm 0.42$

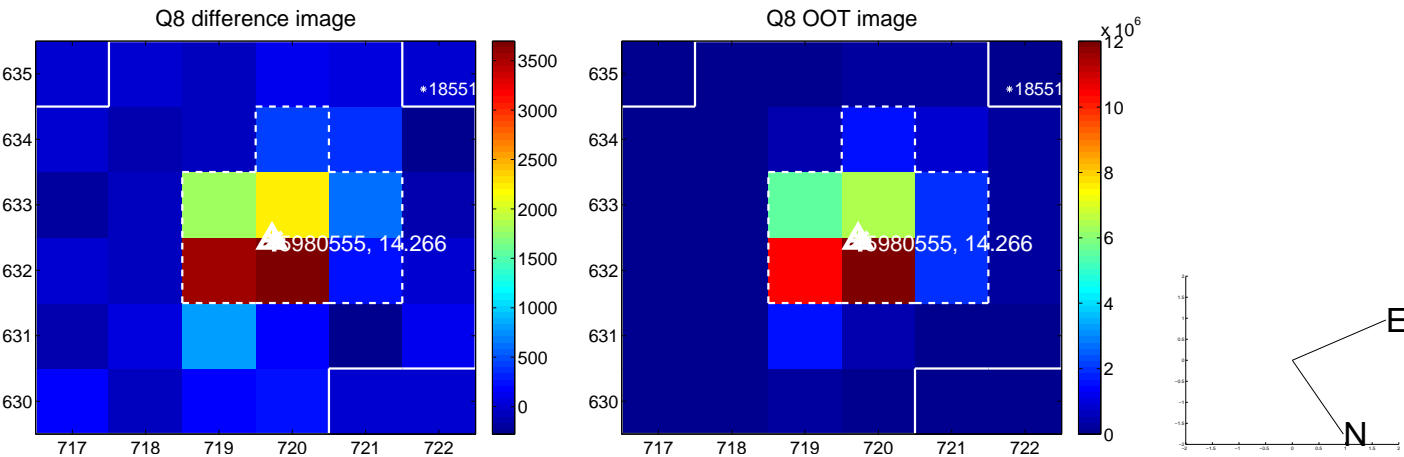
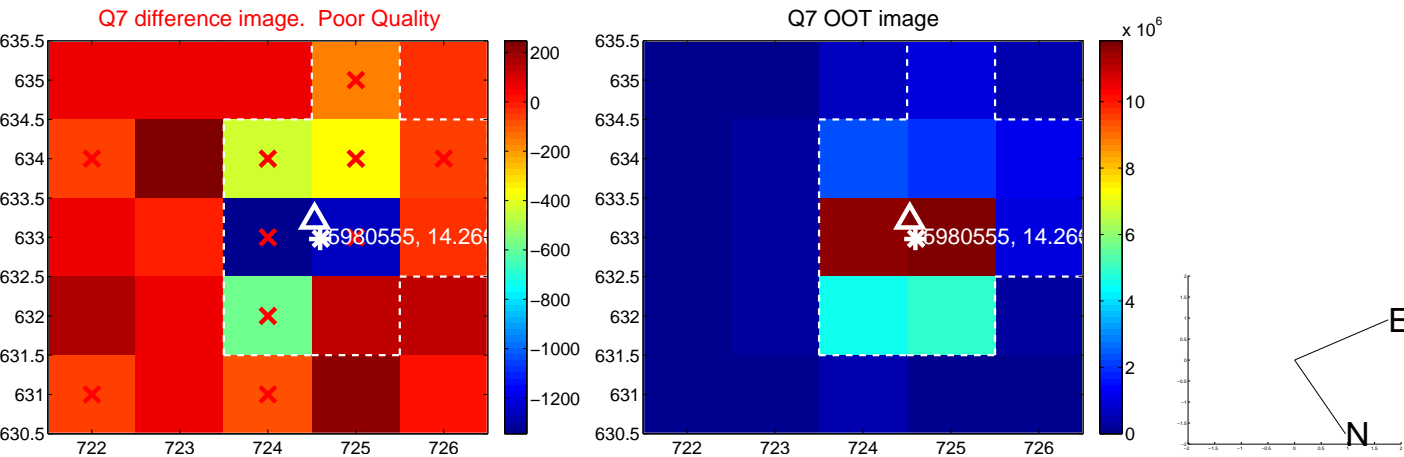
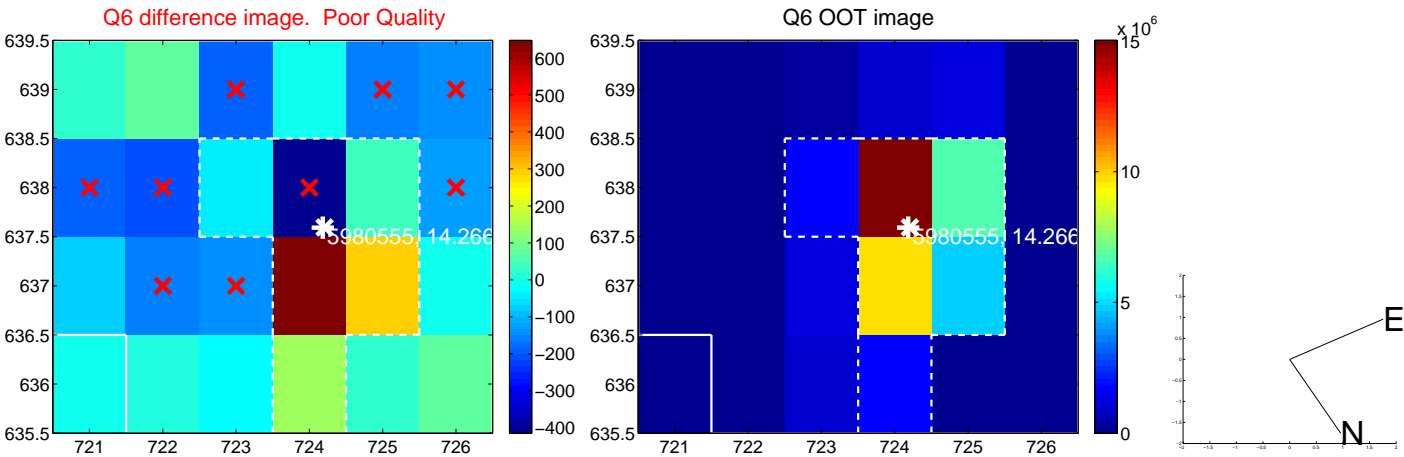
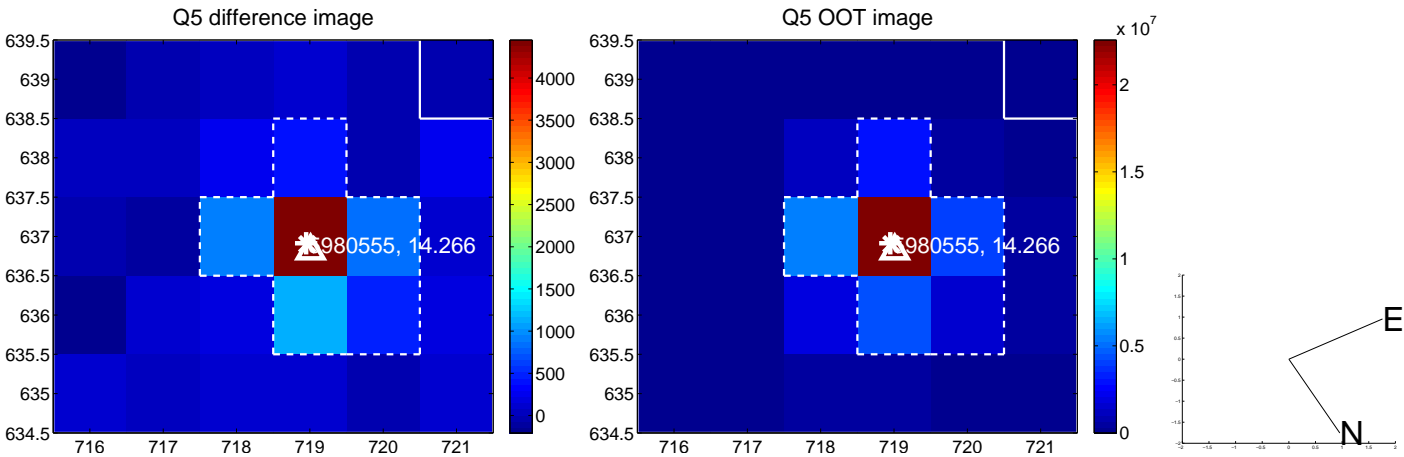


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



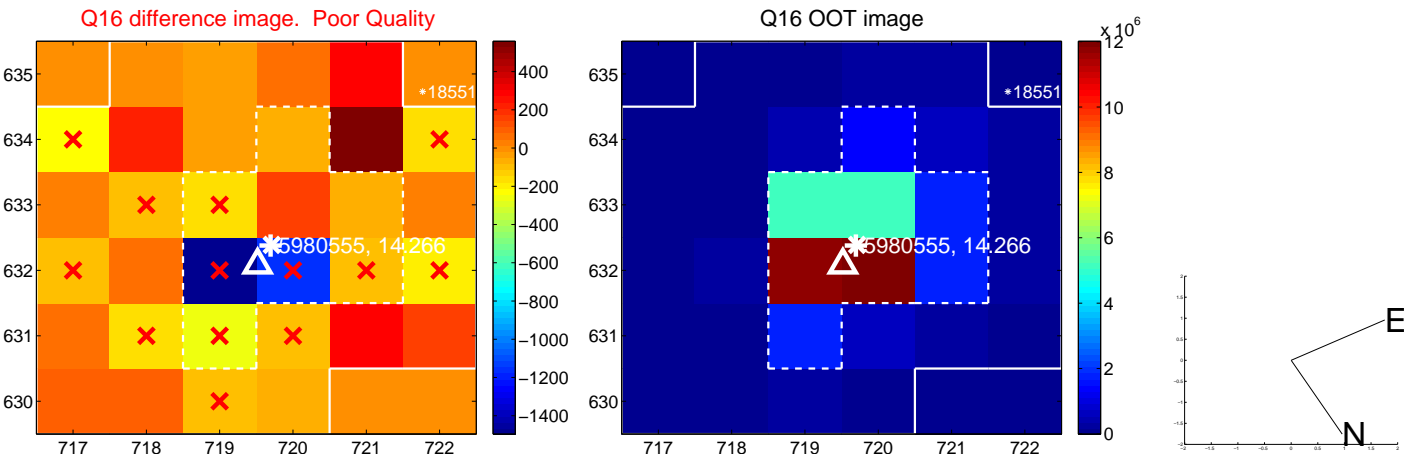
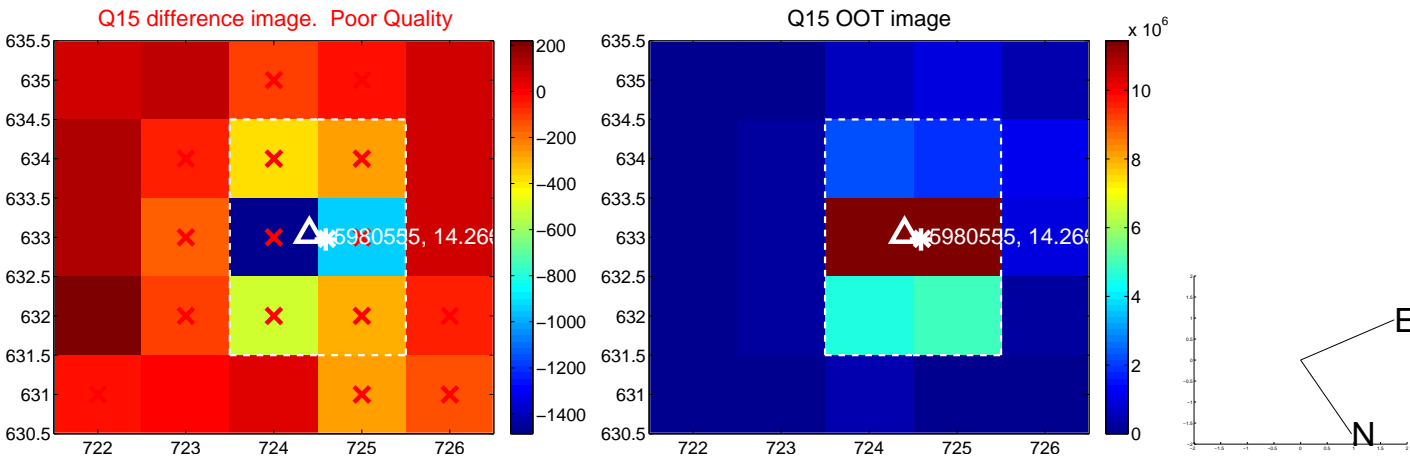
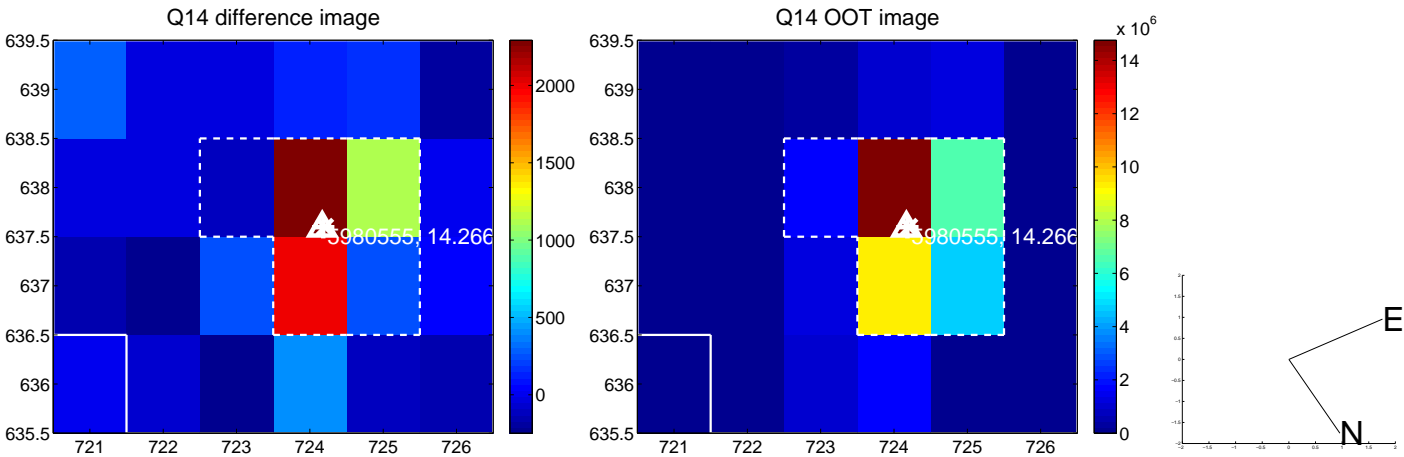
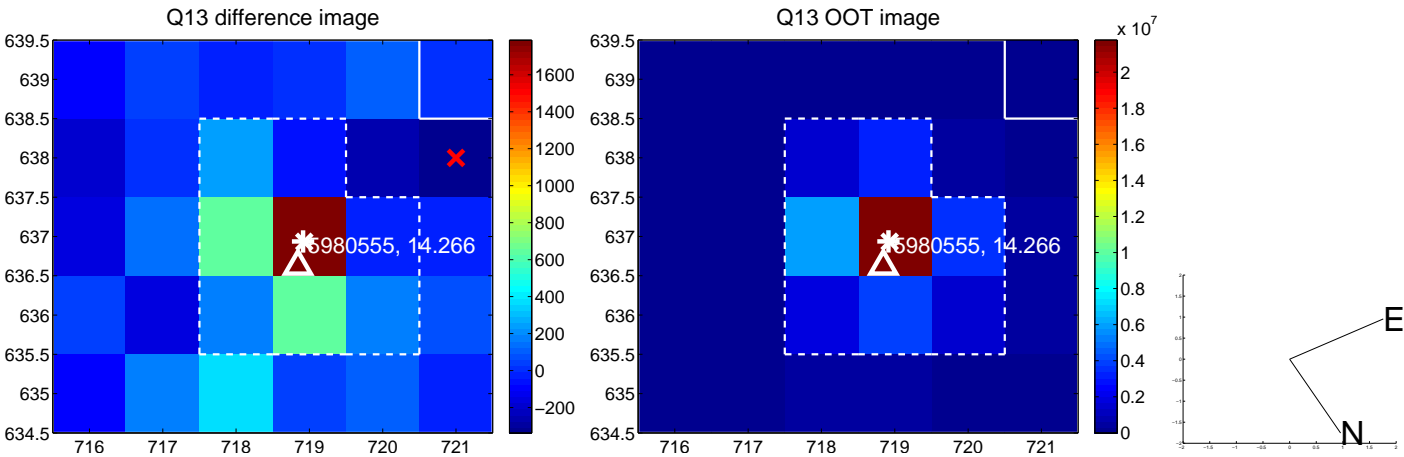
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



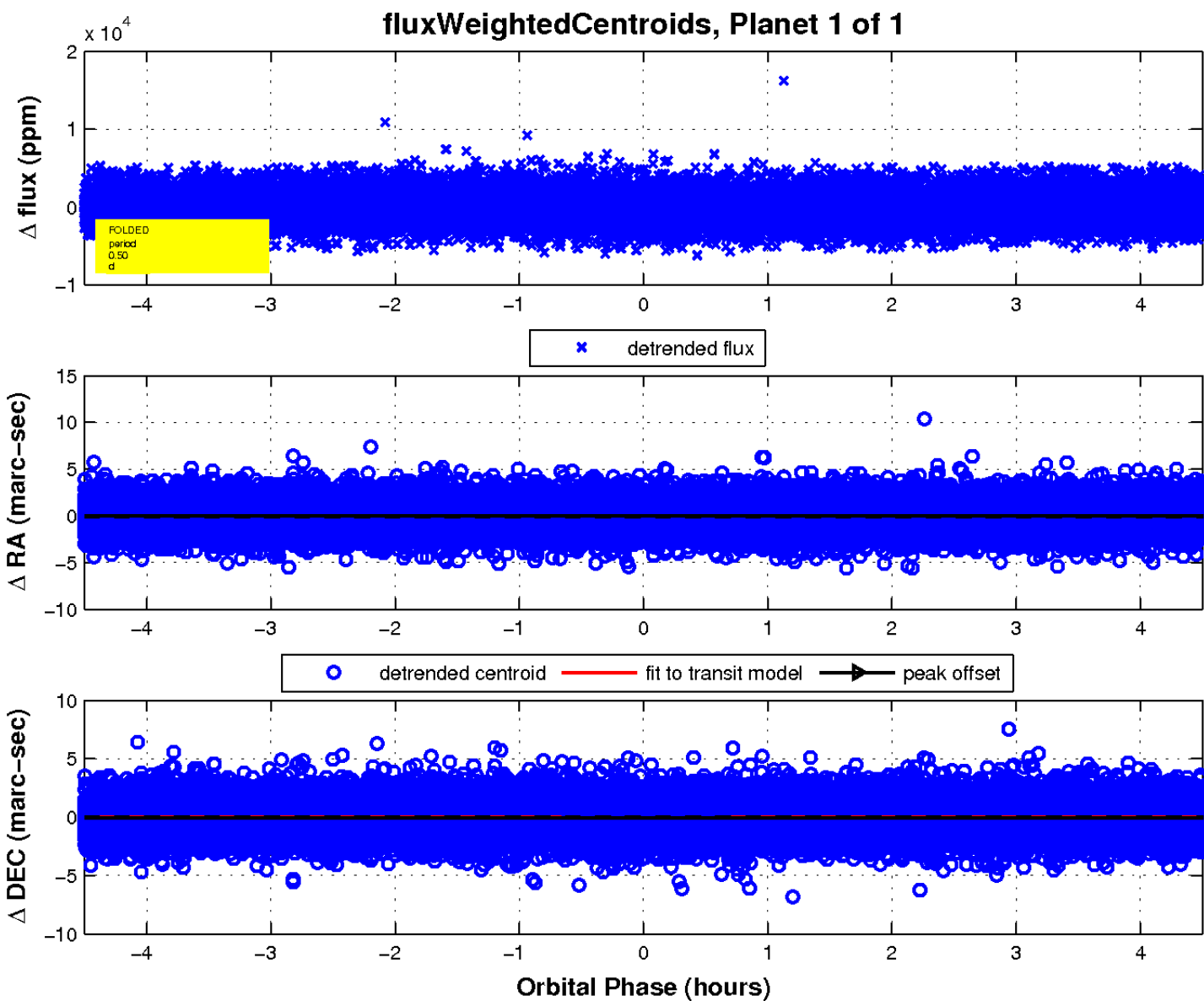
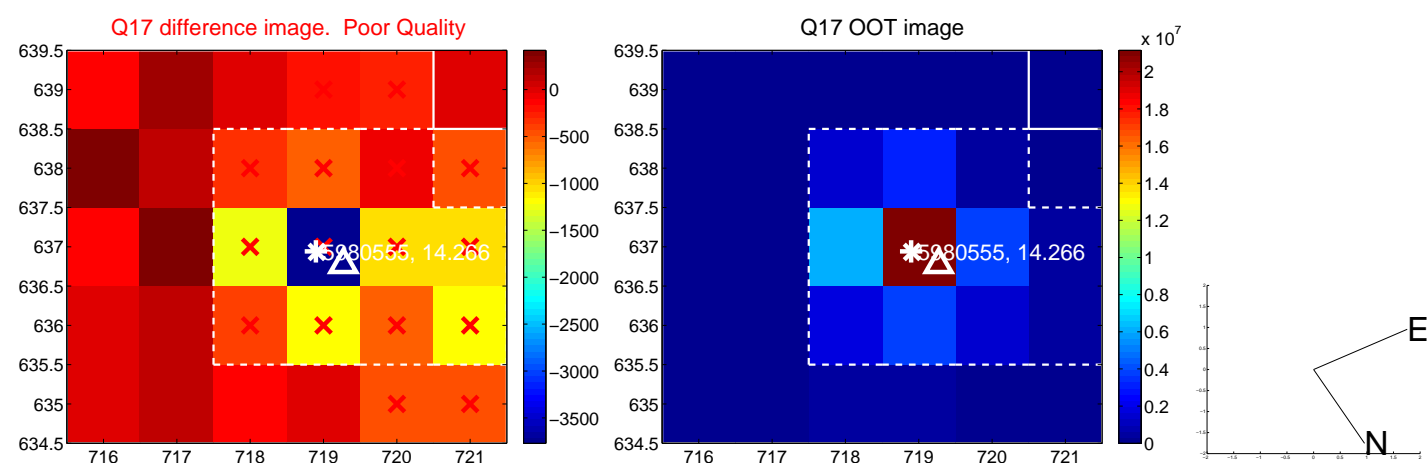




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

