

# KIC 005541836

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005541836-01	OBS	No	2.592403	133.764608	119.5	22.660	9.0	9.9	1.92	7397	2.33	5359.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005541836-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

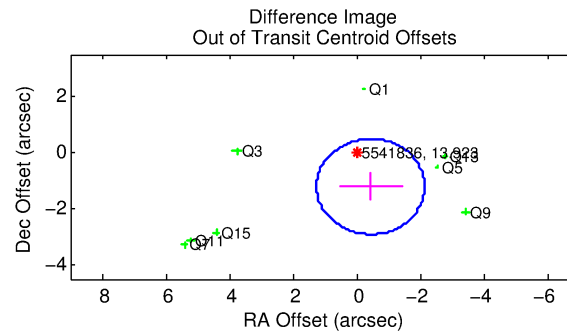
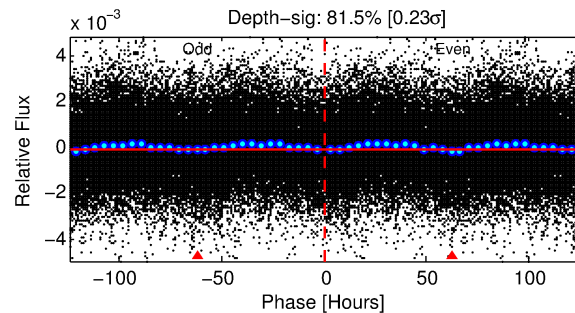
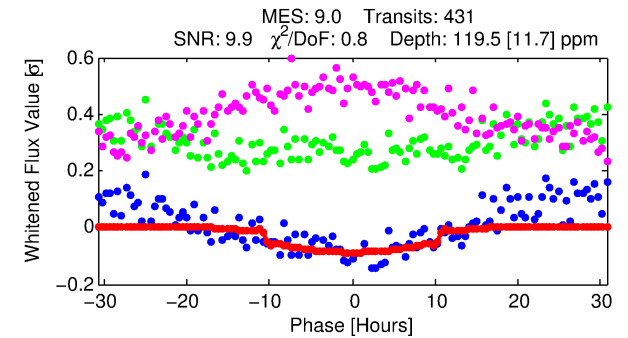
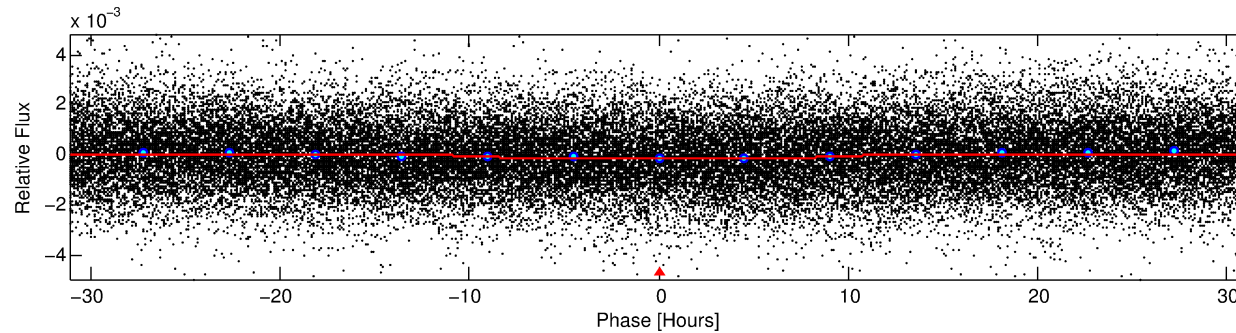
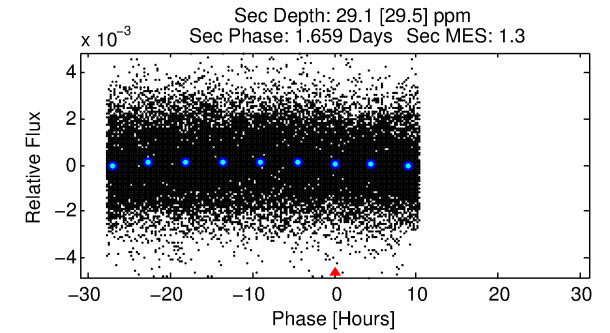
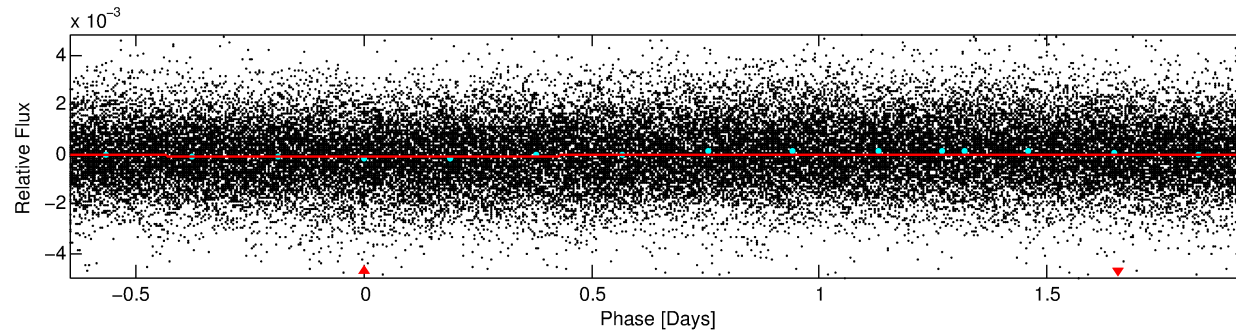
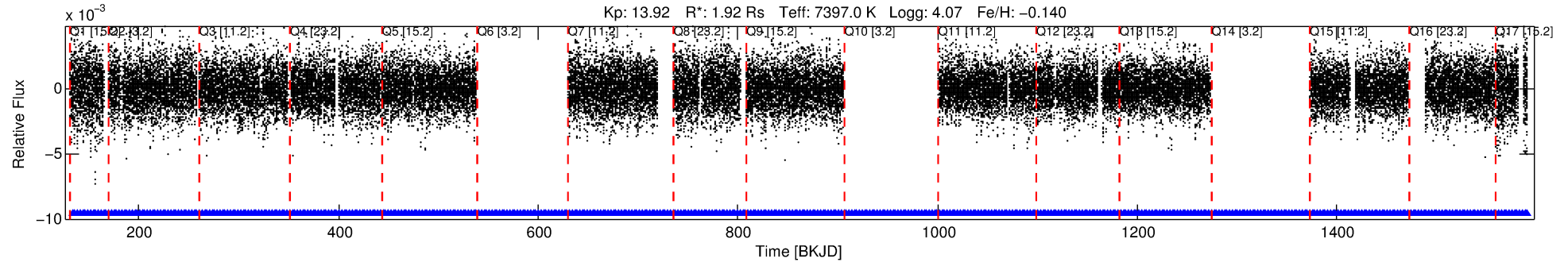
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005541836-01

No Significant Match Found

# DV One-Page Summary

KIC: 5541836 Candidate: 1 of 1 Period: 2.592 d



## DV Fit Results:

Period = 2.59240 [0.00008] d  
Epoch = 133.7646 [0.0180] BKJD  
Rp/R\* = 0.0112 [0.0009]  
a/R\* = 1.05 [0.04]  
b = 0.82 [0.16]  
Seff = 5359.33 [1986.72]  
Teq = 2182 [202] K  
Rp = 2.33 [0.71] Re  
a = 0.0429 [0.0101] AU  
Ag = 5.40 [5.83] [0.76σ]  
Teffp = 5143 [1337] K [2.19σ]

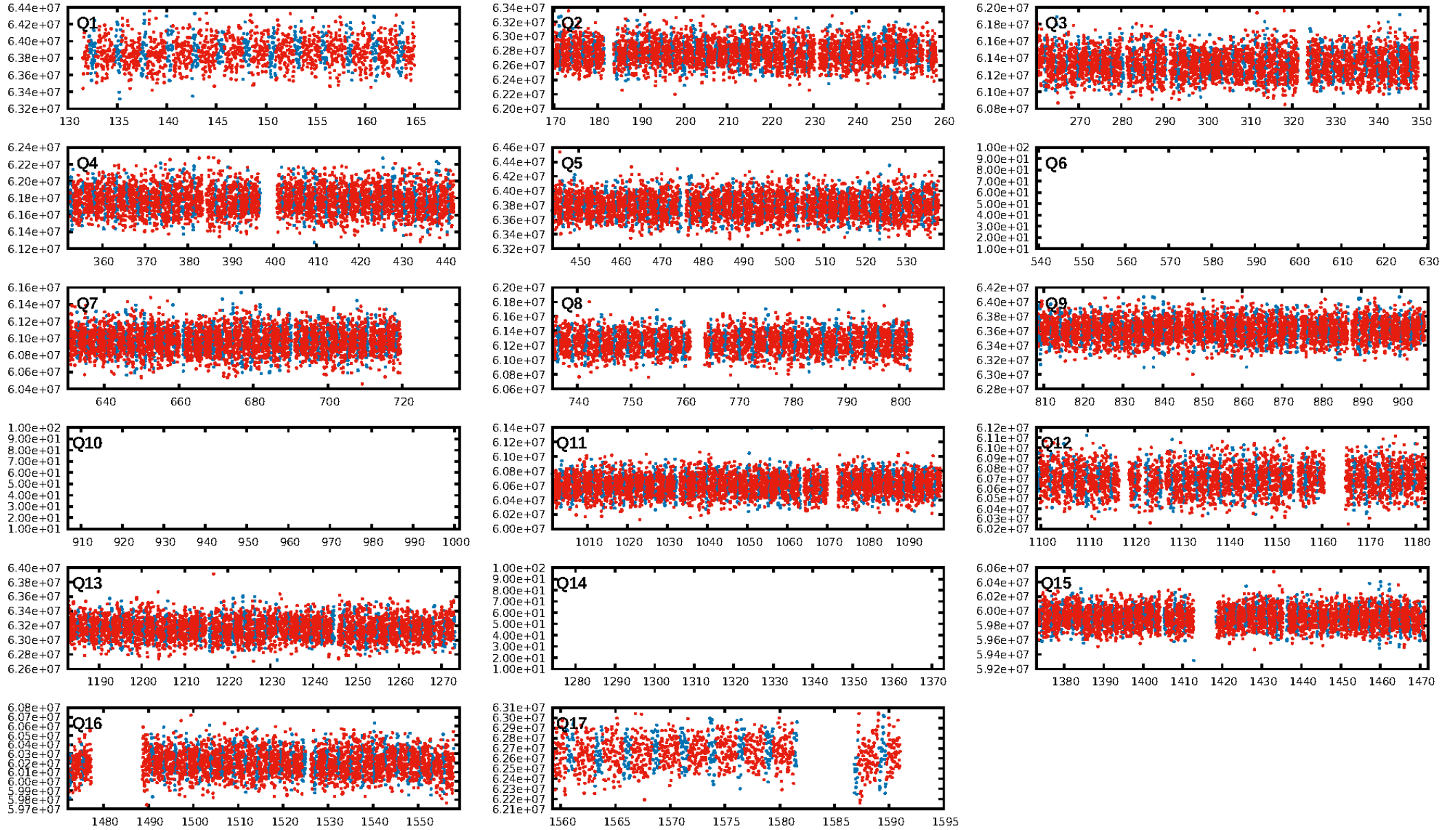
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [406/406]  
GhostDiagnostic-chr: 2.052  
Centroid-sig: 69.1%  
Centroid-so: 0.221 arcsec [1.16σ]  
OotOffset-rm: 1.292 arcsec [2.28σ]  
OotOffset-st: 0/4/0/4 [8]  
KicOffset-rm: 1.276 arcsec [2.08σ]  
KicOffset-st: 0/4/0/4 [8]  
DiffImageQuality-fgm: 0.12 [1/8]  
DiffImageOverlap-fno: 1.00 [14/14]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:40:02 Z

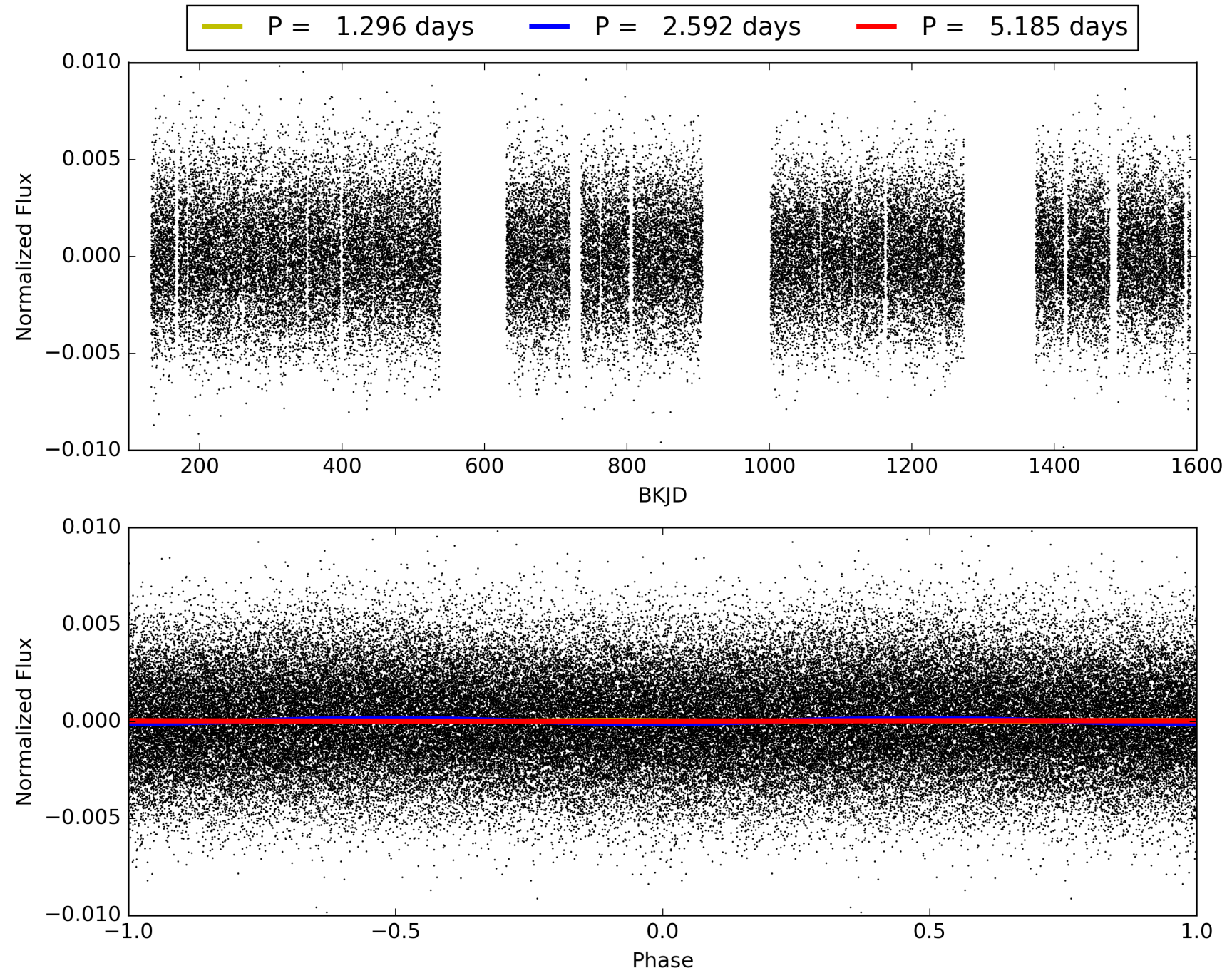
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005541836-01, PDC Light Curves



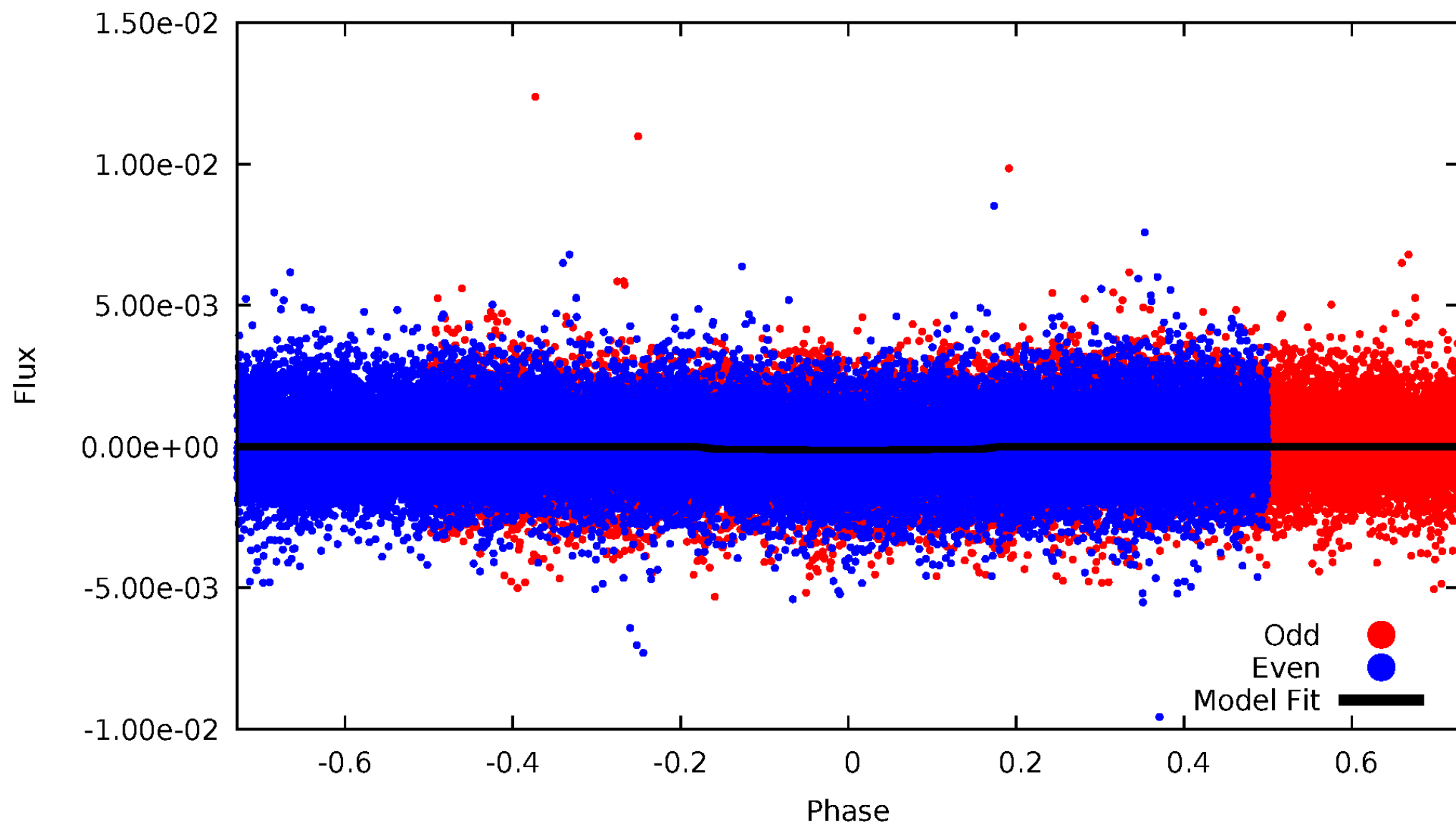


TCE 005541836-01



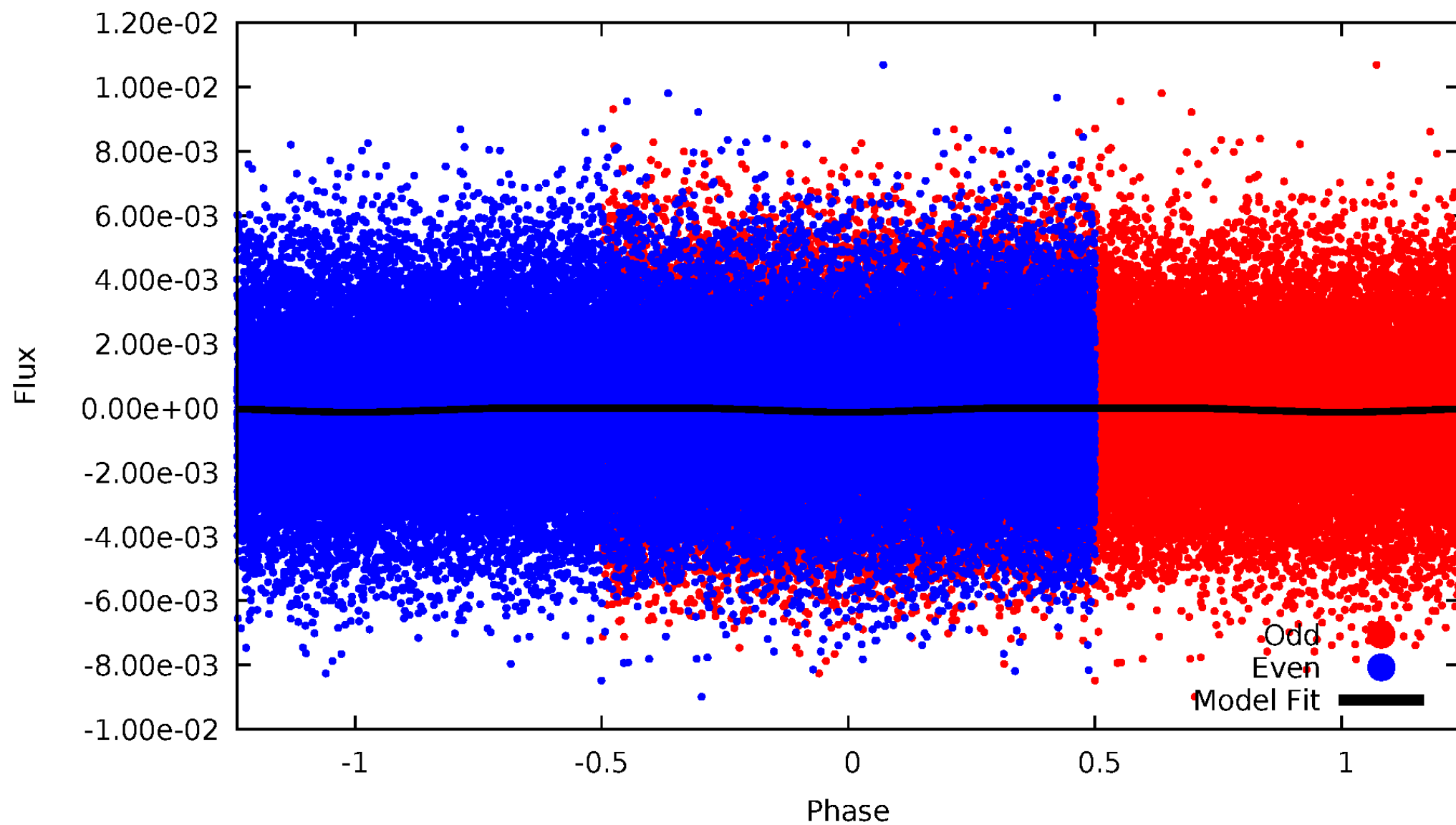
# DV Odd/Even

TCE 005541836-01



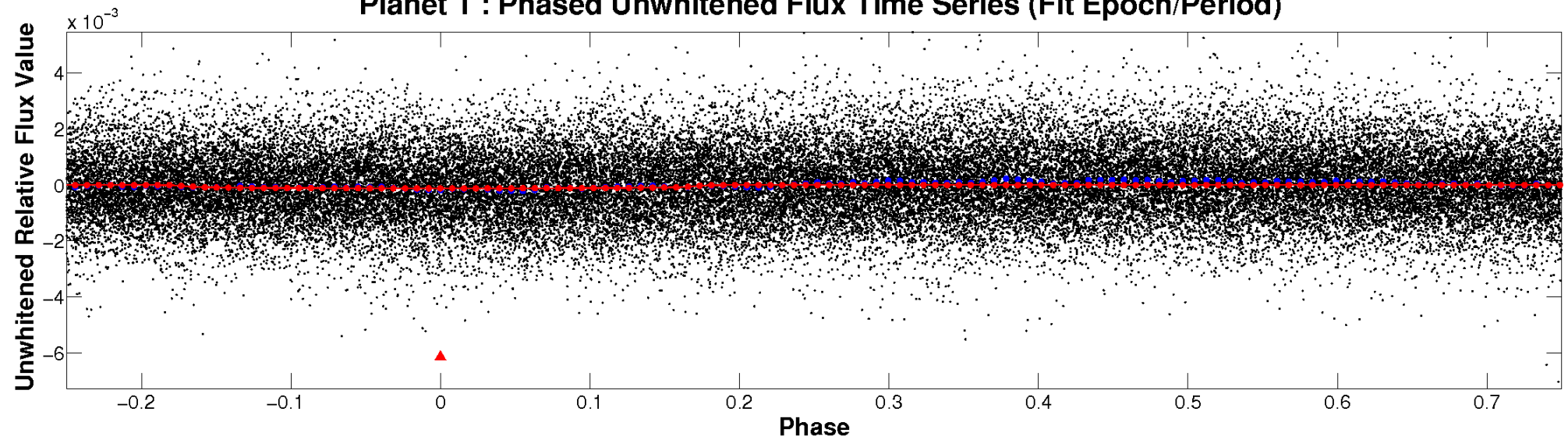
# ALT Odd/Even

TCE 005541836-01

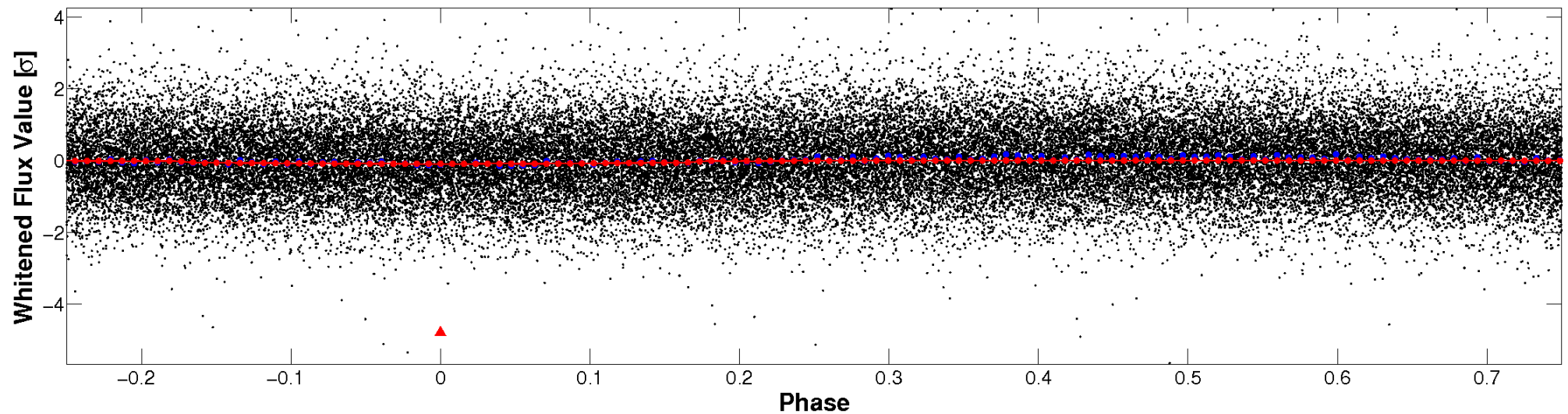


# Non-Whitened Vs. Whitened Light Curve

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



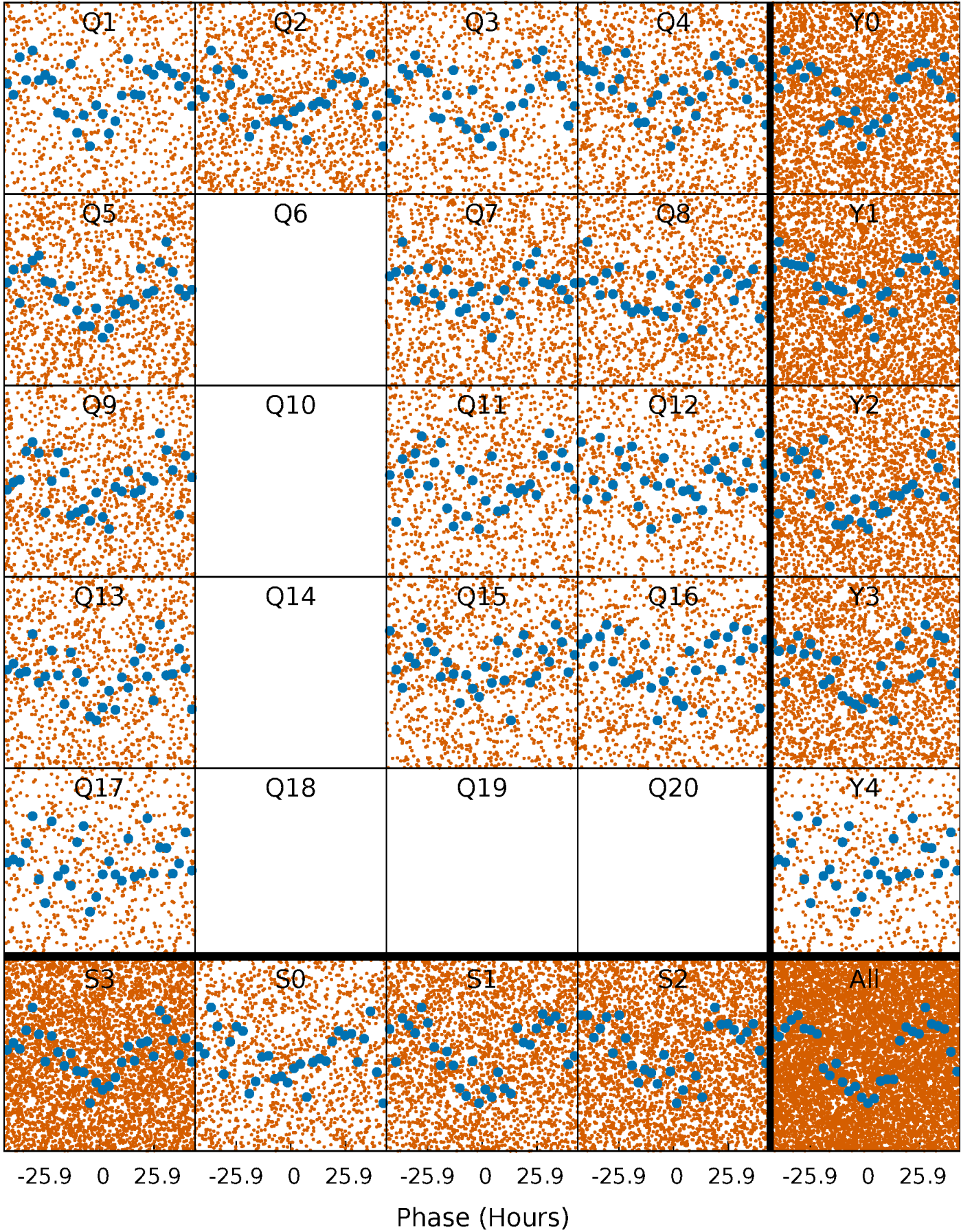
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

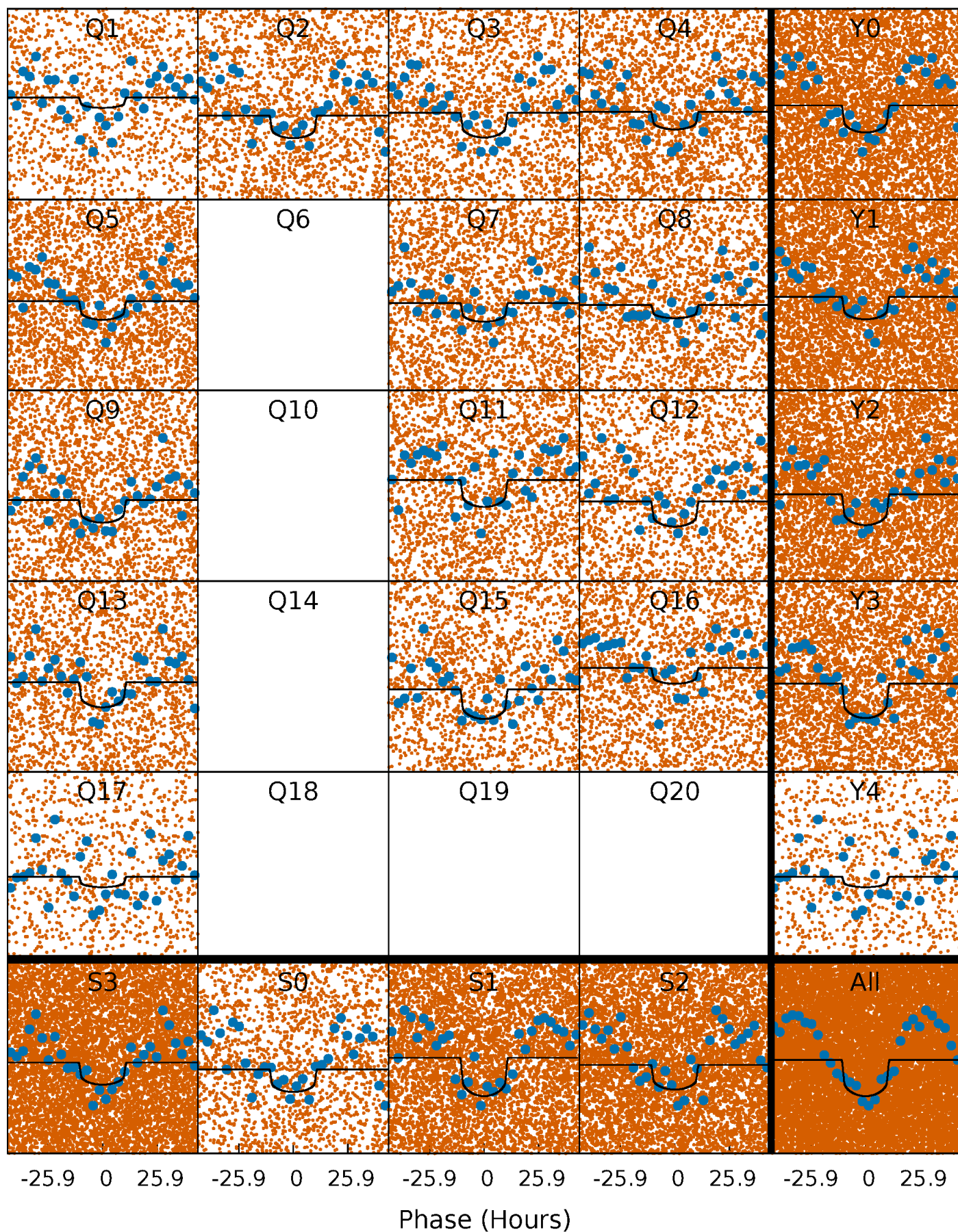
TCE 005541836-01   P= 2.592403 Days    $T_0=133.764608$  (BKJD)





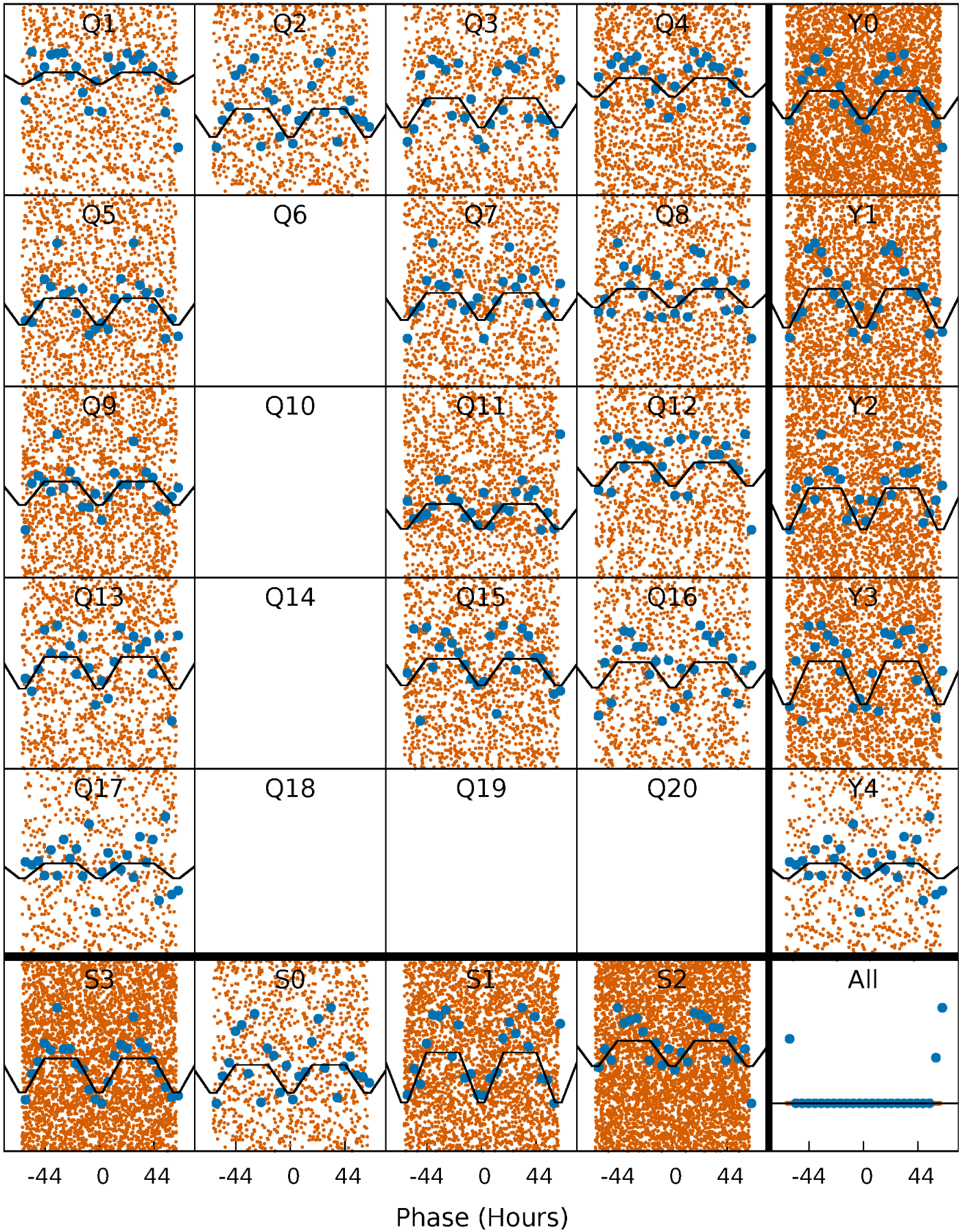
# DV Quarter-Phased Transit Curves

TCE 005541836-01 P= 2.592403 Days  $T_0=133.764608$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005541836-01 P= 2.592013 Days  $T_0=133.935755$  (BKJD)

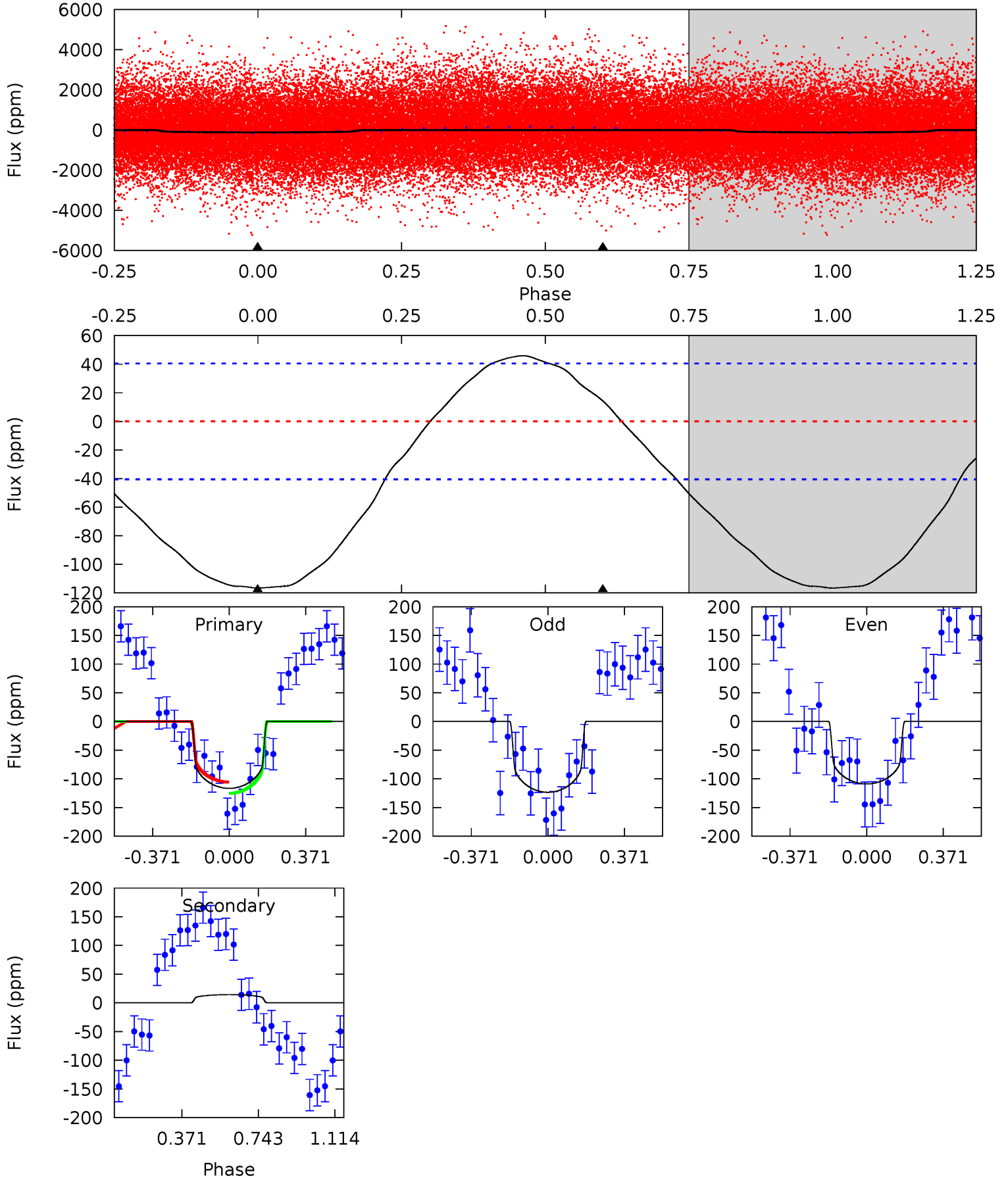




# DV Model-Shift Uniqueness Test

005541836-01, P = 2.592403 Days, E = 131.172205 Days

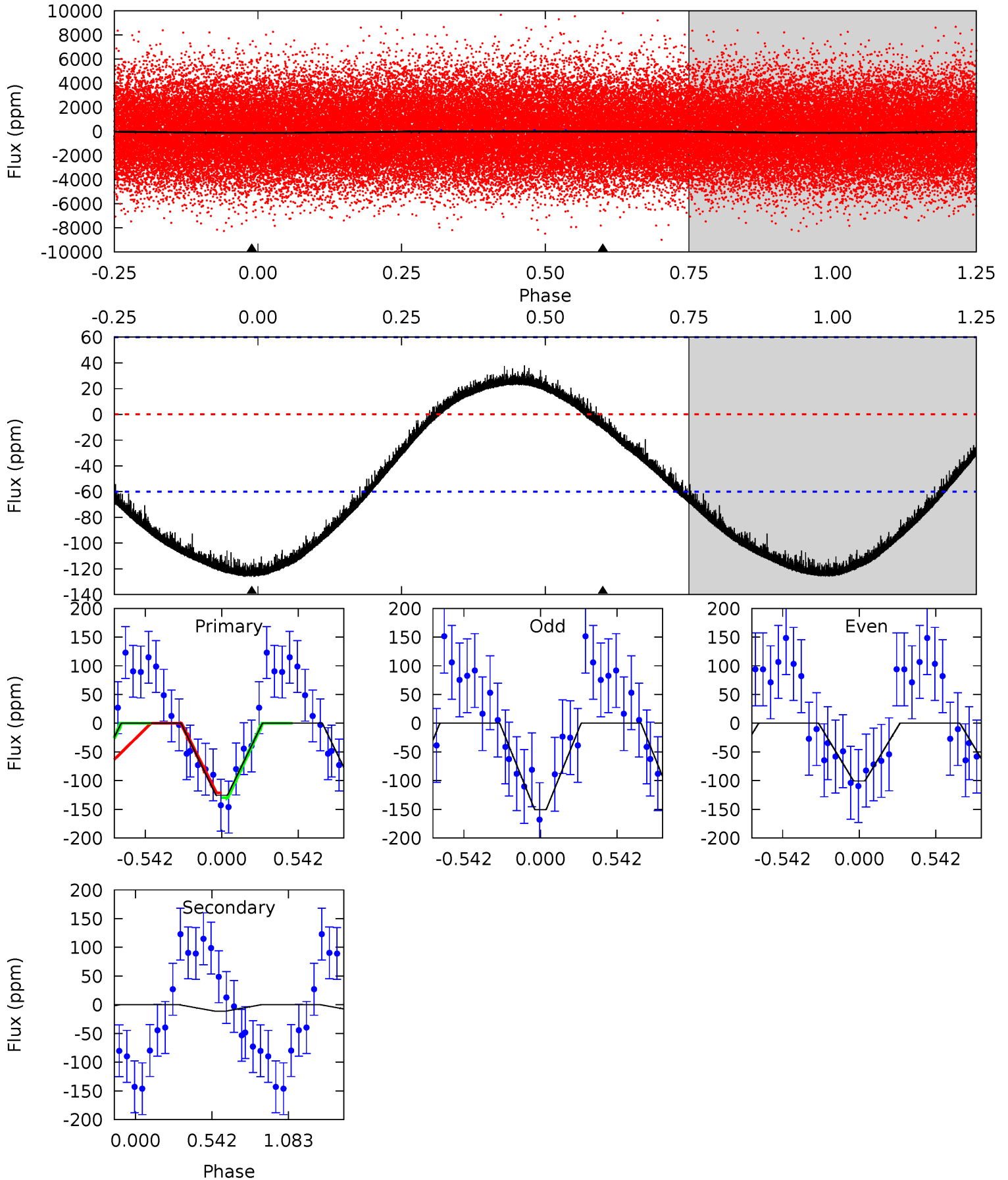
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	-1.52	0	0	4.28	0.89	1.50	12.3	12.3	-1.52	-1.52	0.78	1.07	0.28	1.09



# Alt Model-Shift Uniqueness Test

005541836-01, P = 2.592013 Days, E = 131.343742 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
8.78	0.77	0	0	4.20	0.61	0.80	8.78	8.78	0.77	0.77	1.75	1.18	0.23	0.31





### Stellar Parameters For KIC 005541836

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7397^{+230}_{-307}$	$4.067^{+0.175}_{-0.175}$	$-0.140^{+0.250}_{-0.350}$	$1.916^{+0.558}_{-0.507}$	$1.560^{+0.209}_{-0.255}$	$0.313^{+0.306}_{-0.144}$
	+3%/-4%	+4%/-4%	+179%/-250%	+29%/-26%	+13%/-16%	+98%/-46%
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 005541836-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$14 \pm 9$	$2.34^{+0.43}_{-0.36}$	$3057^{+231}_{-231}$	$-4554^{+714}_{-450}$	$-2.553^{+1.690}_{-2.084}$
Alt.	$-11 \pm 14$	$2.38^{+0.43}_{-0.35}$	$3059^{+219}_{-232}$	$4029^{+819}_{-7709}$	$1.843^{+2.719}_{-2.486}$

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

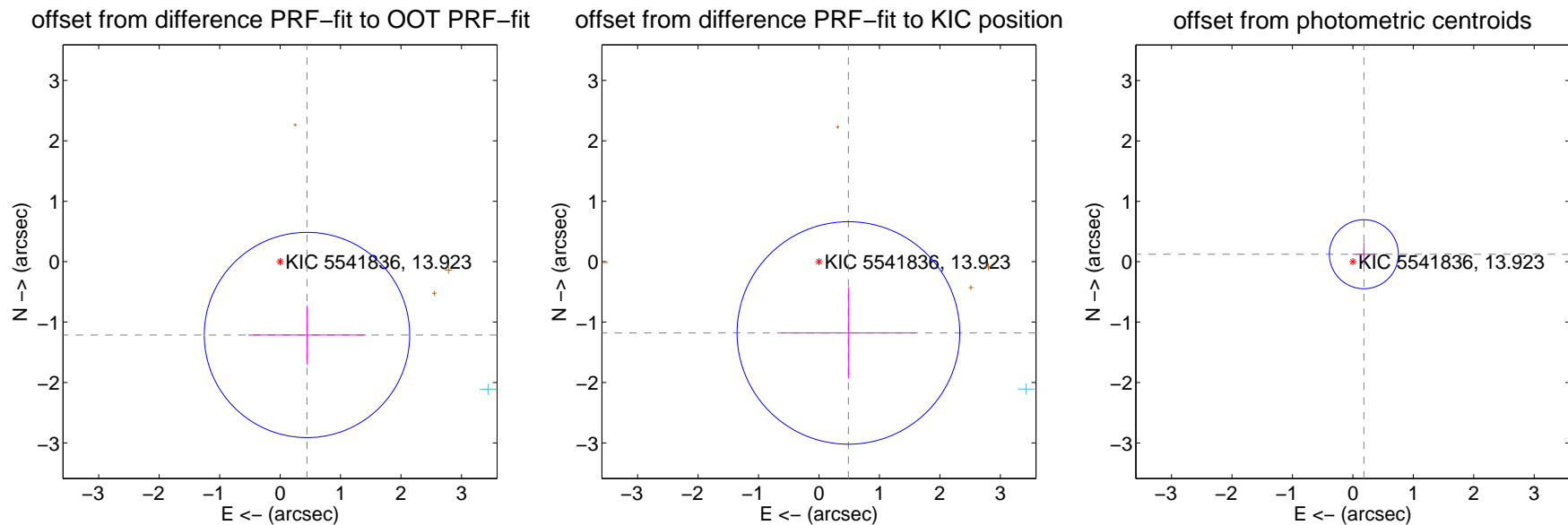
## DV Centroid Data

Supplemental centroid analysis for 005541836-01. Kepler magnitude: 13.92. Transit SNR 9.93

There are 1 quarters with good PRF difference image offsets

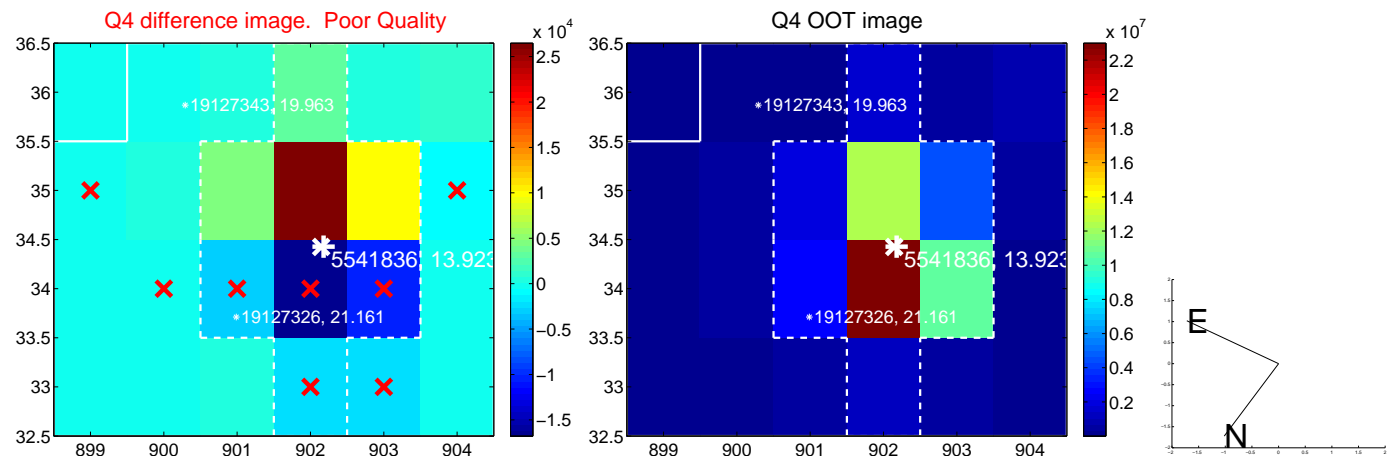
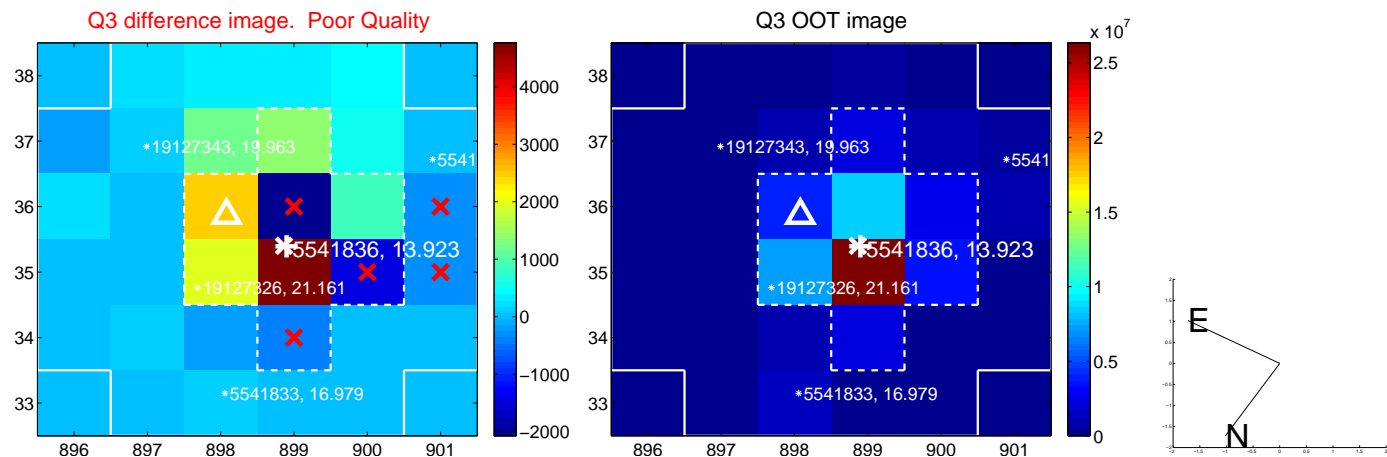
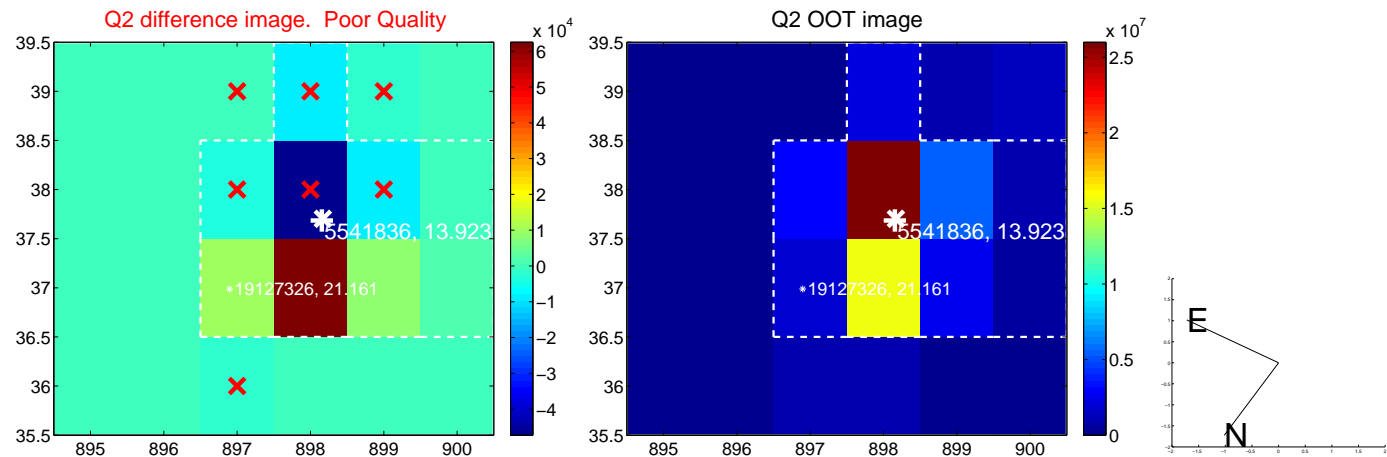
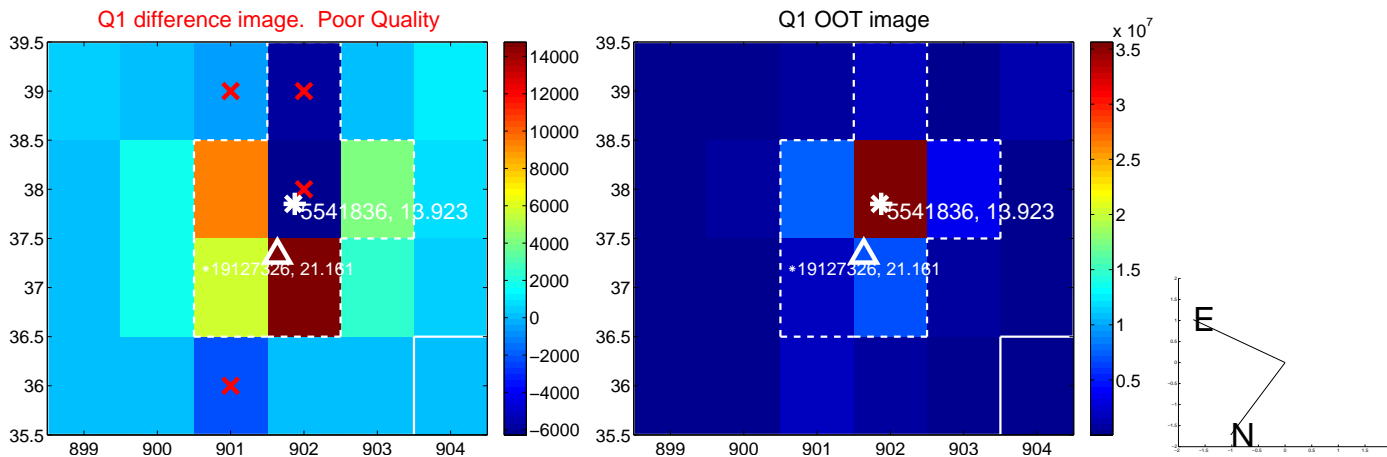
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.292 \pm 0.566$	2.28	$-0.445 \pm 0.970$	$-1.213 \pm 0.487$
PRF-fit source offset from KIC position	$1.276 \pm 0.614$	2.08	$-0.487 \pm 1.120$	$-1.179 \pm 0.755$
photometric centroid source offset	$0.22 \pm 0.19$	1.16	$-0.18 \pm 0.19$	$0.12 \pm 0.19$

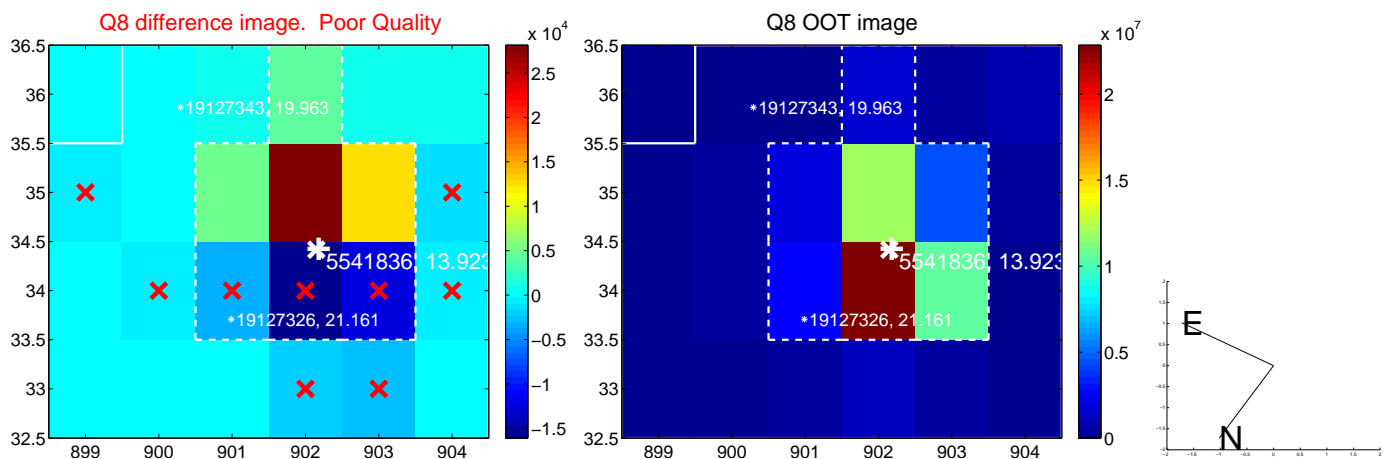
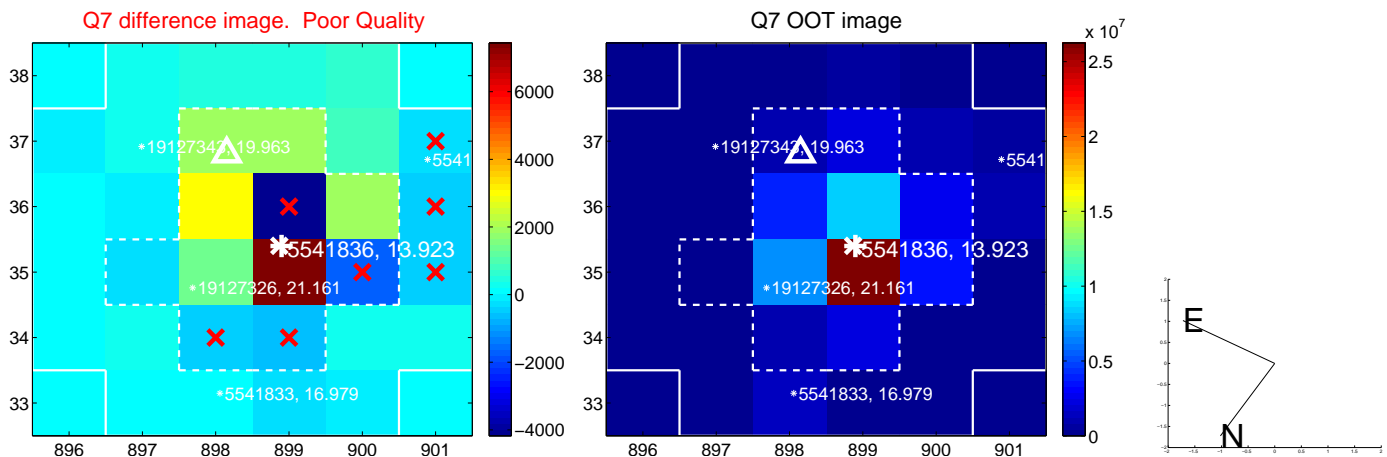
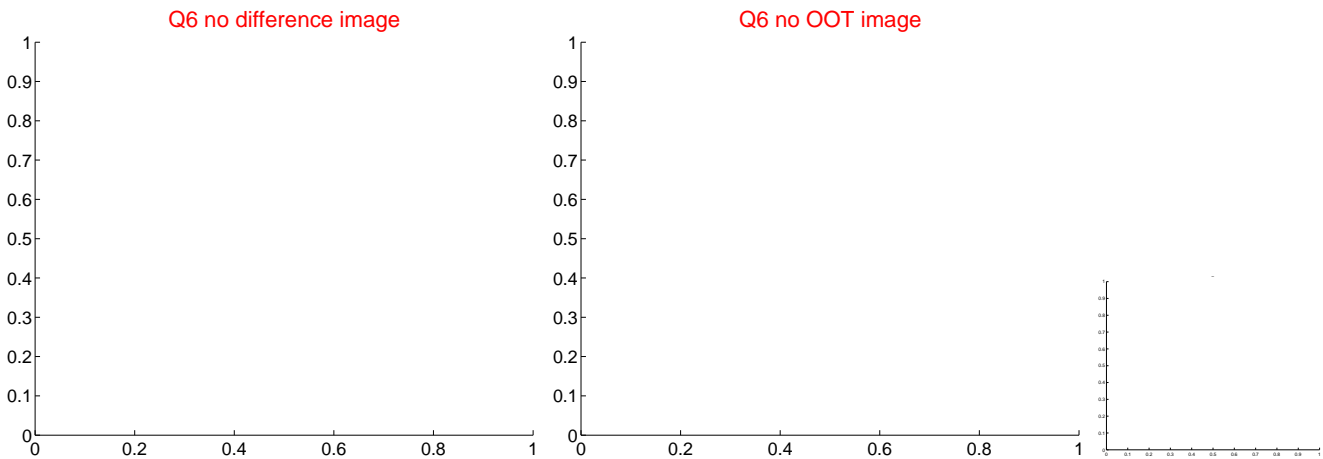
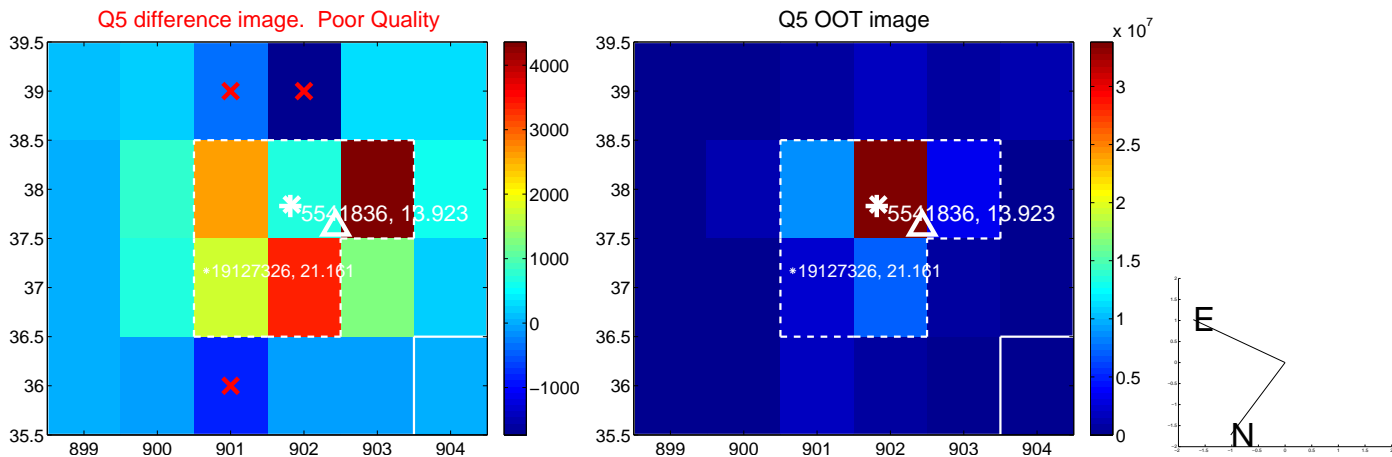


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

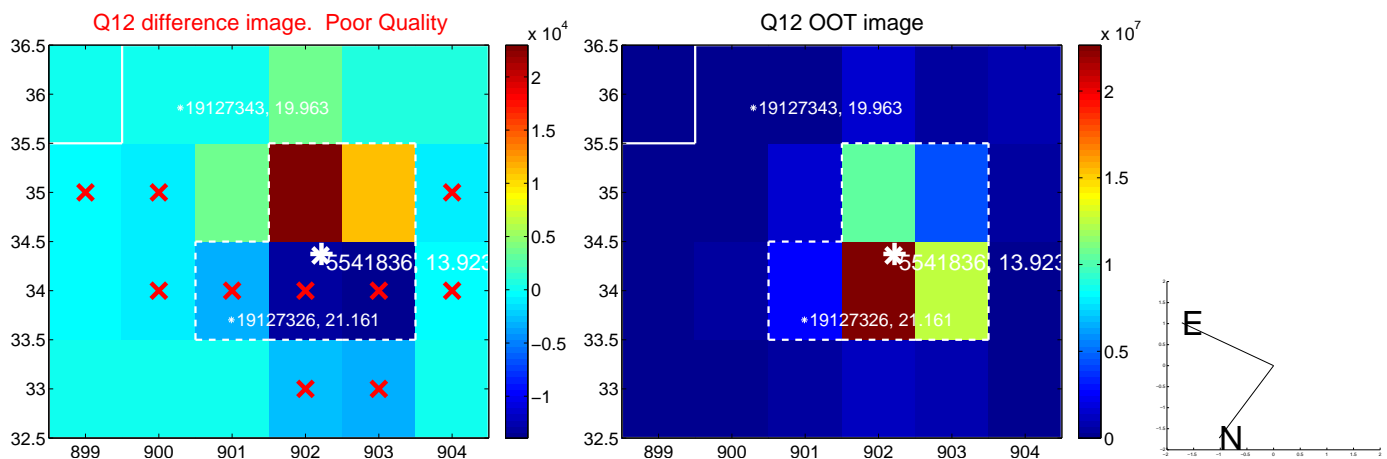
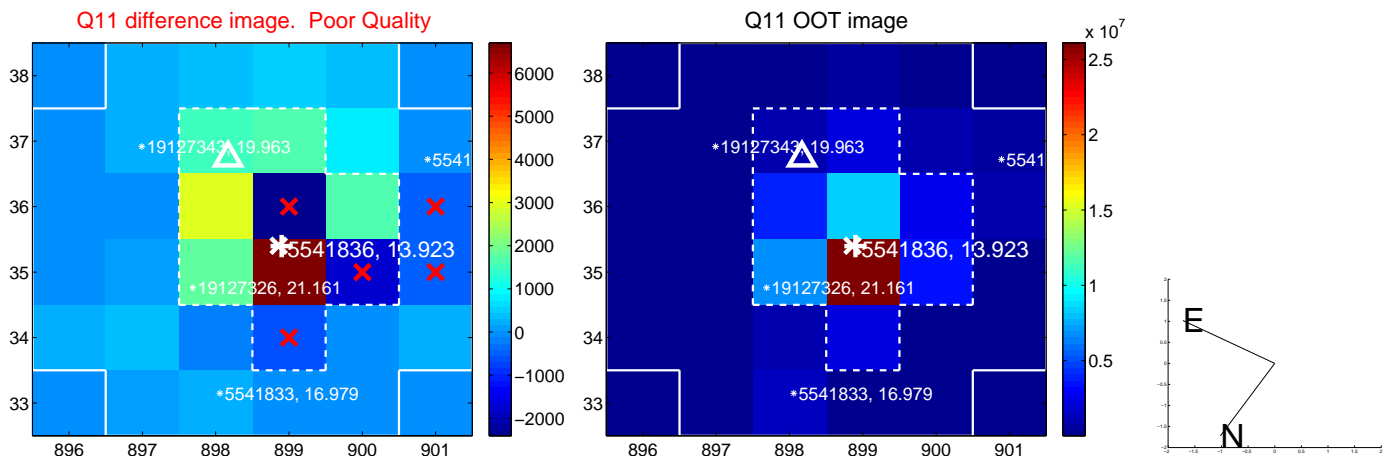
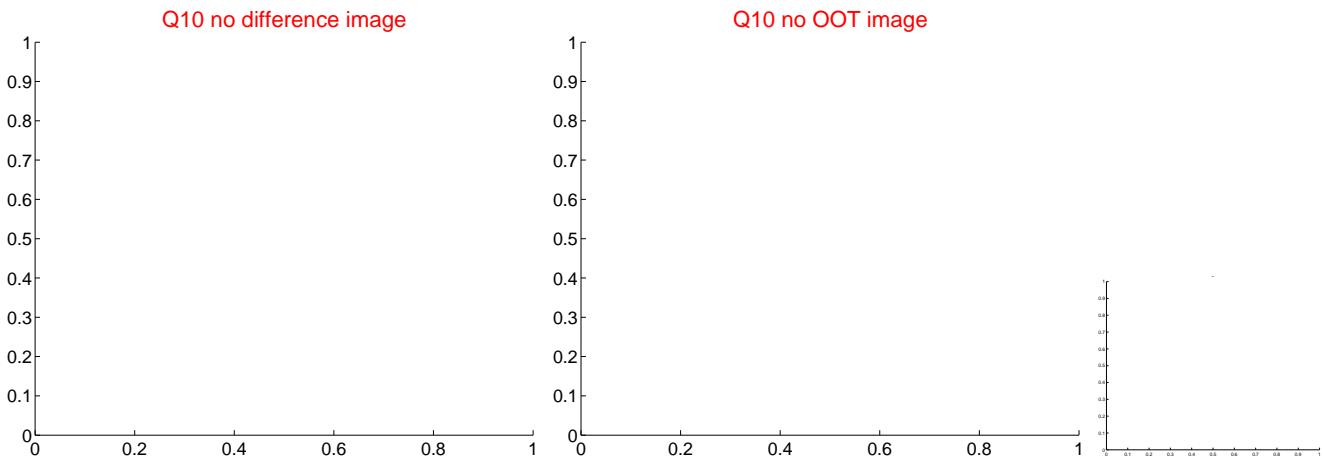
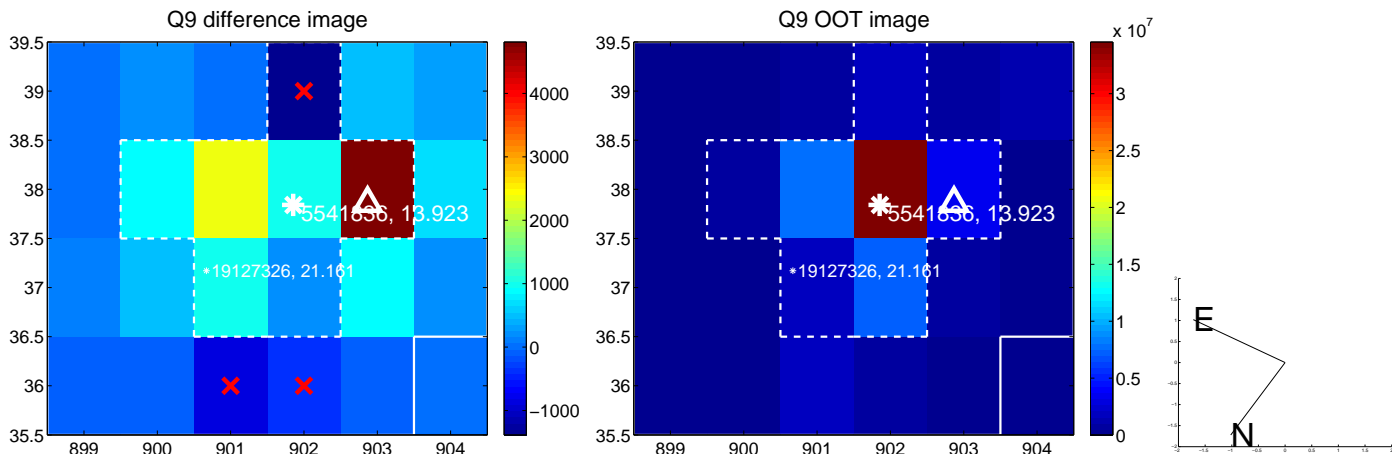


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

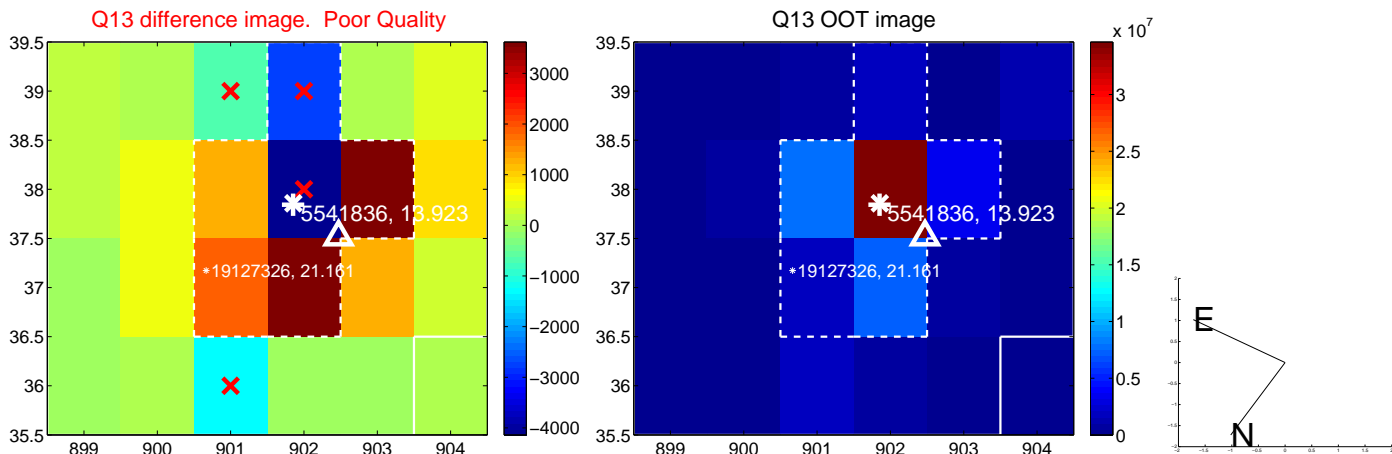




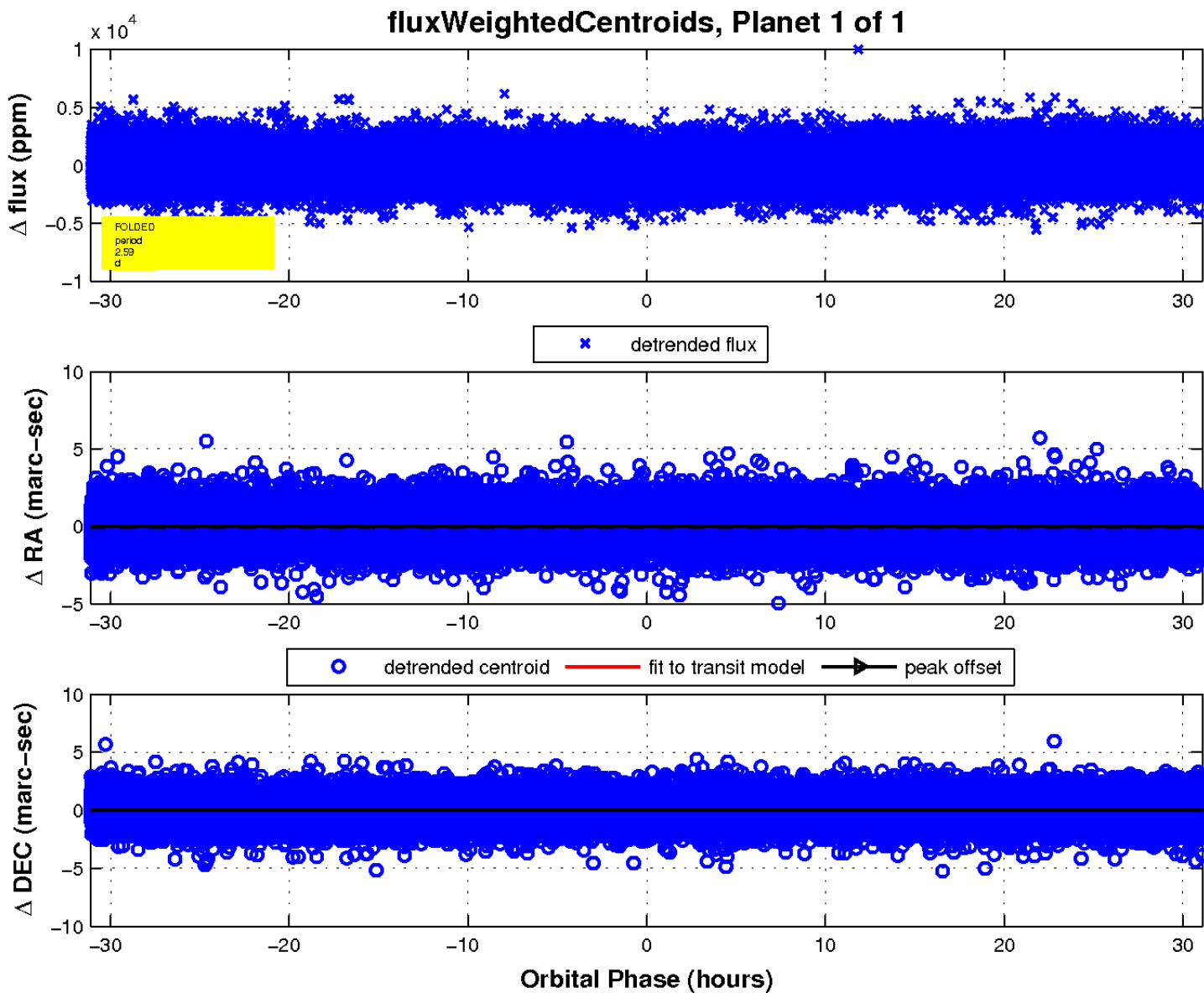
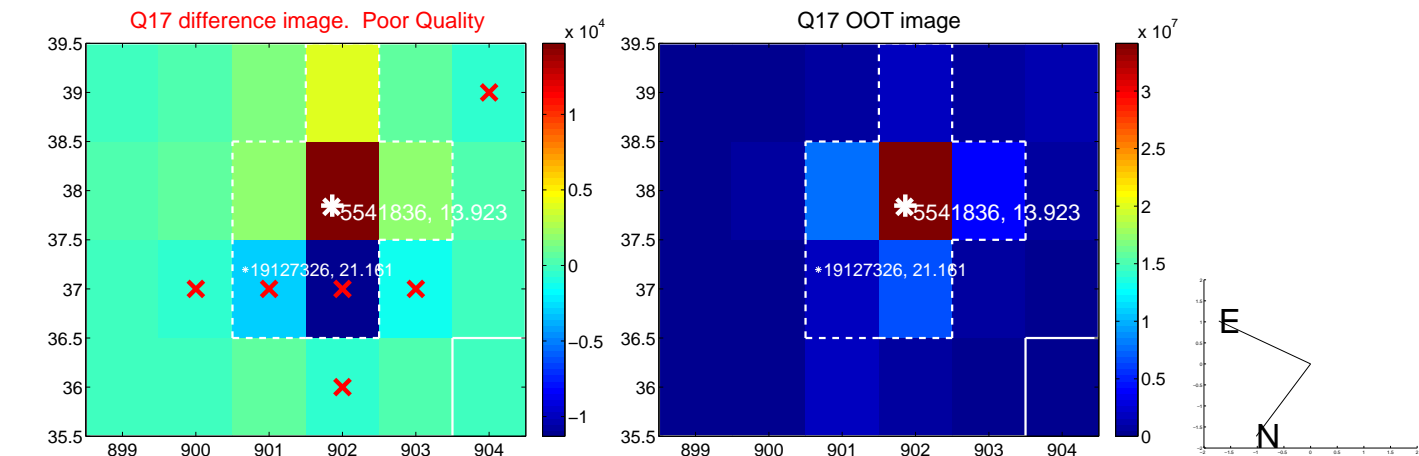
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

