

# KIC 006311564

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006311564-01	OBS	No	1.391407	131.548225	22.5	3.107	8.9	9.4	2.04	7673	1.12	15423.64

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006311564-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

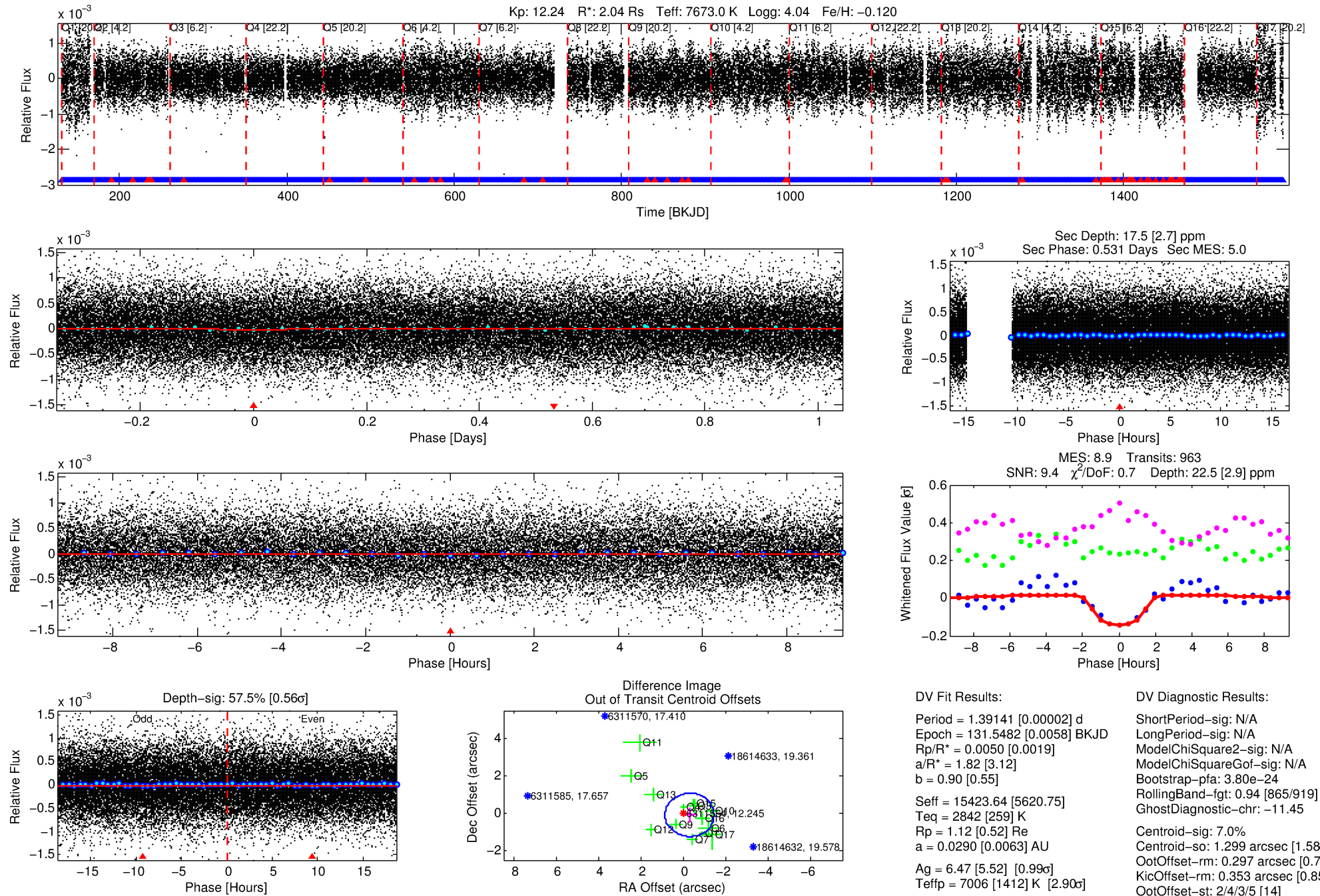
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006311564-01

No Significant Match Found

# DV One-Page Summary

KIC: 6311564 Candidate: 1 of 1 Period: 1.391 d



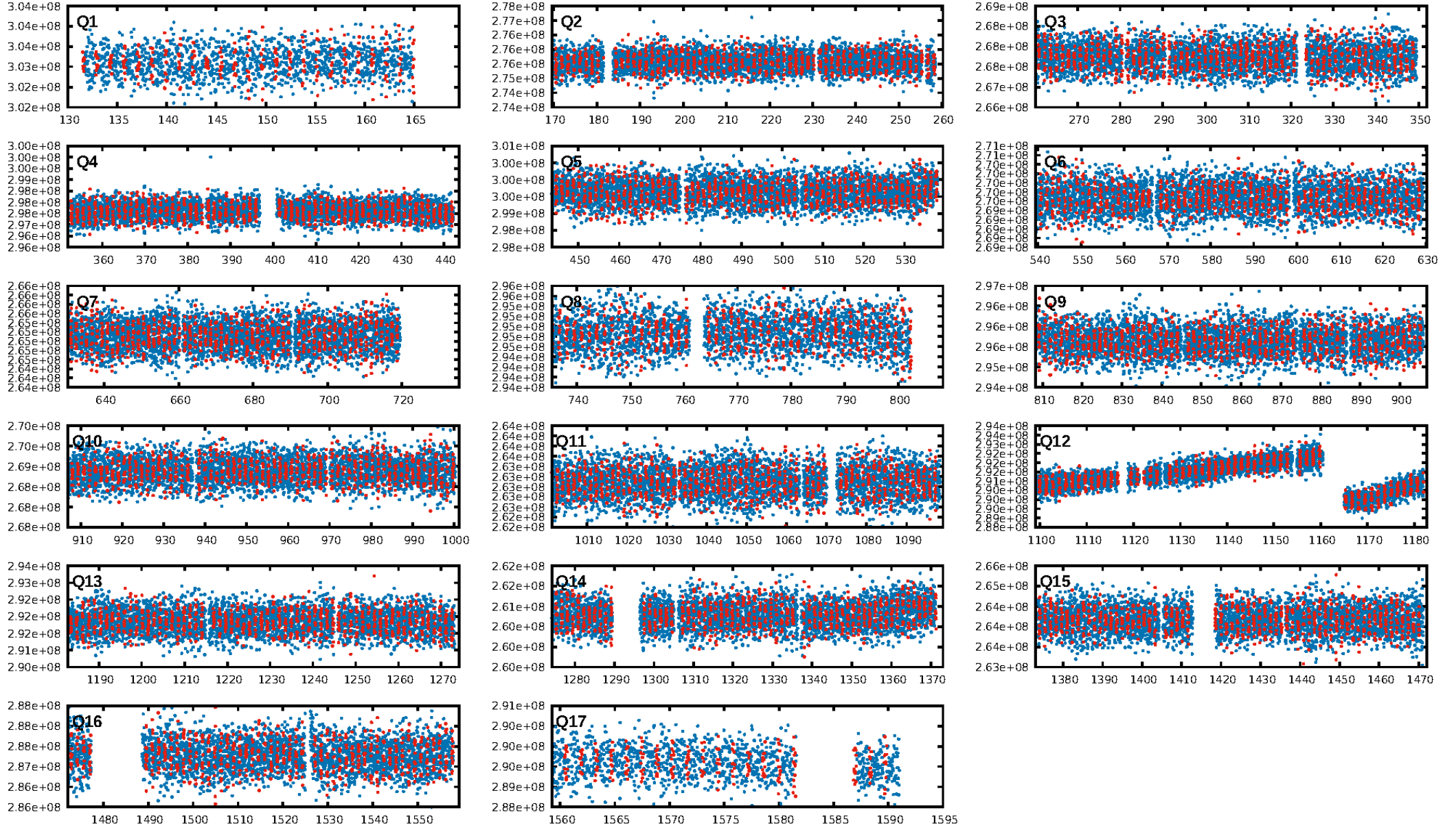
## DV Fit Results:

Period = 1.39141 [0.00002] d  
Epoch = 131.5482 [0.0058] BKJD  
Rp/R\* = 0.0050 [0.0019]  
a/R\* = 1.82 [3.12]  
b = 0.90 [0.55]  
Seff = 15423.64 [5620.75]  
Teff = 2842 [259] K  
Rp = 1.12 [0.52] Re  
a = 0.0290 [0.0063] AU  
Ag = 6.47 [5.52] [0.99 $\sigma$ ]  
Teffp = 7006 [1412] K [2.90 $\sigma$ ]

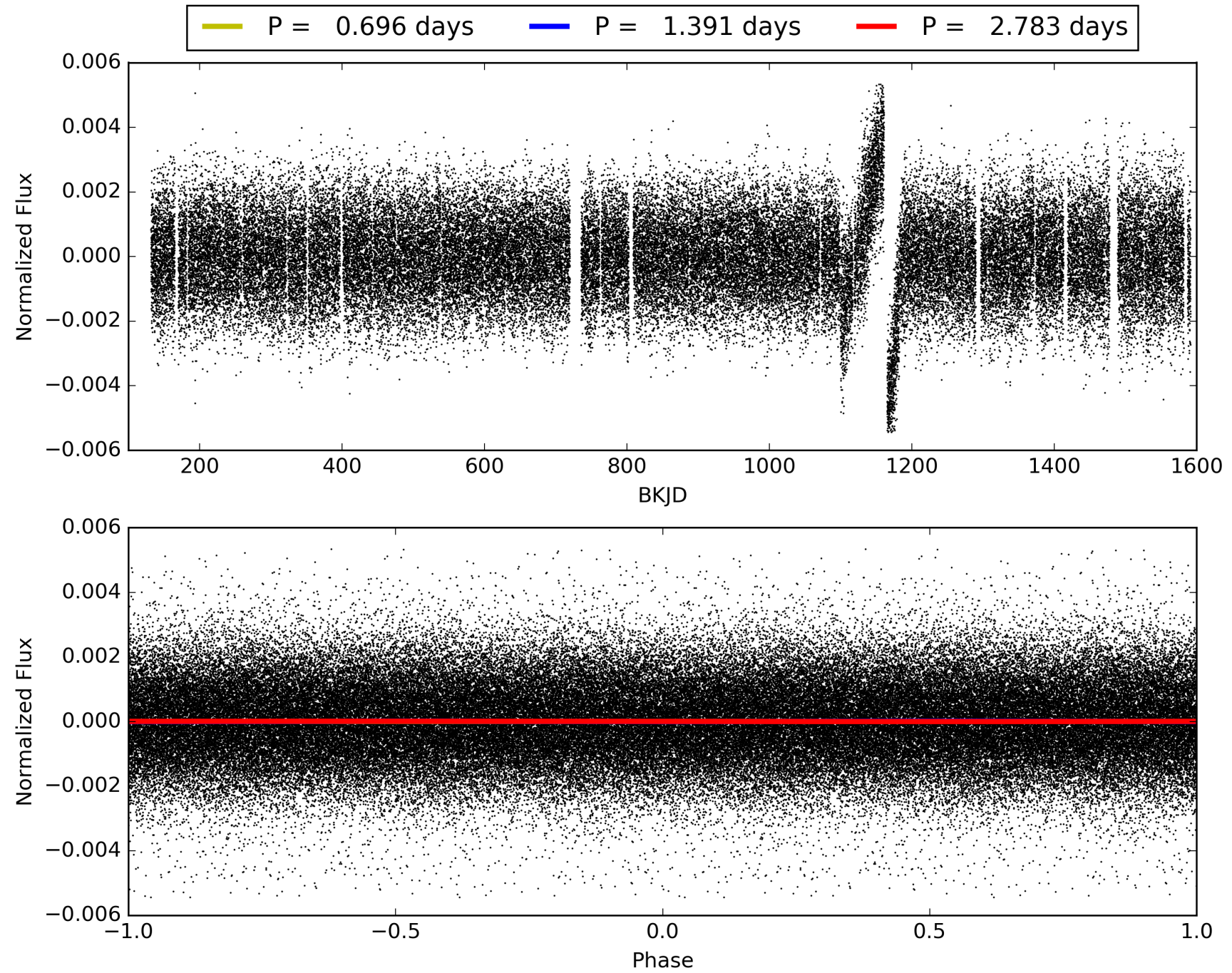
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.80e-24  
RollingBand-fgt: 0.94 [865/919]  
GhostDiagnostic-chr: -11.45  
Centroid-sig: 7.0%  
Centroid-so: 1.299 arcsec [1.58 $\sigma$ ]  
OotOffset-rm: 0.297 arcsec [0.77 $\sigma$ ]  
KicOffset-rm: 0.353 arcsec [0.85 $\sigma$ ]  
OotOffset-st: 2/4/3/5 [14]  
KicOffset-st: 2/4/3/5 [14]  
DiffImageQuality-fgm: 0.86 [12/14]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 006311564-01, PDC Light Curves

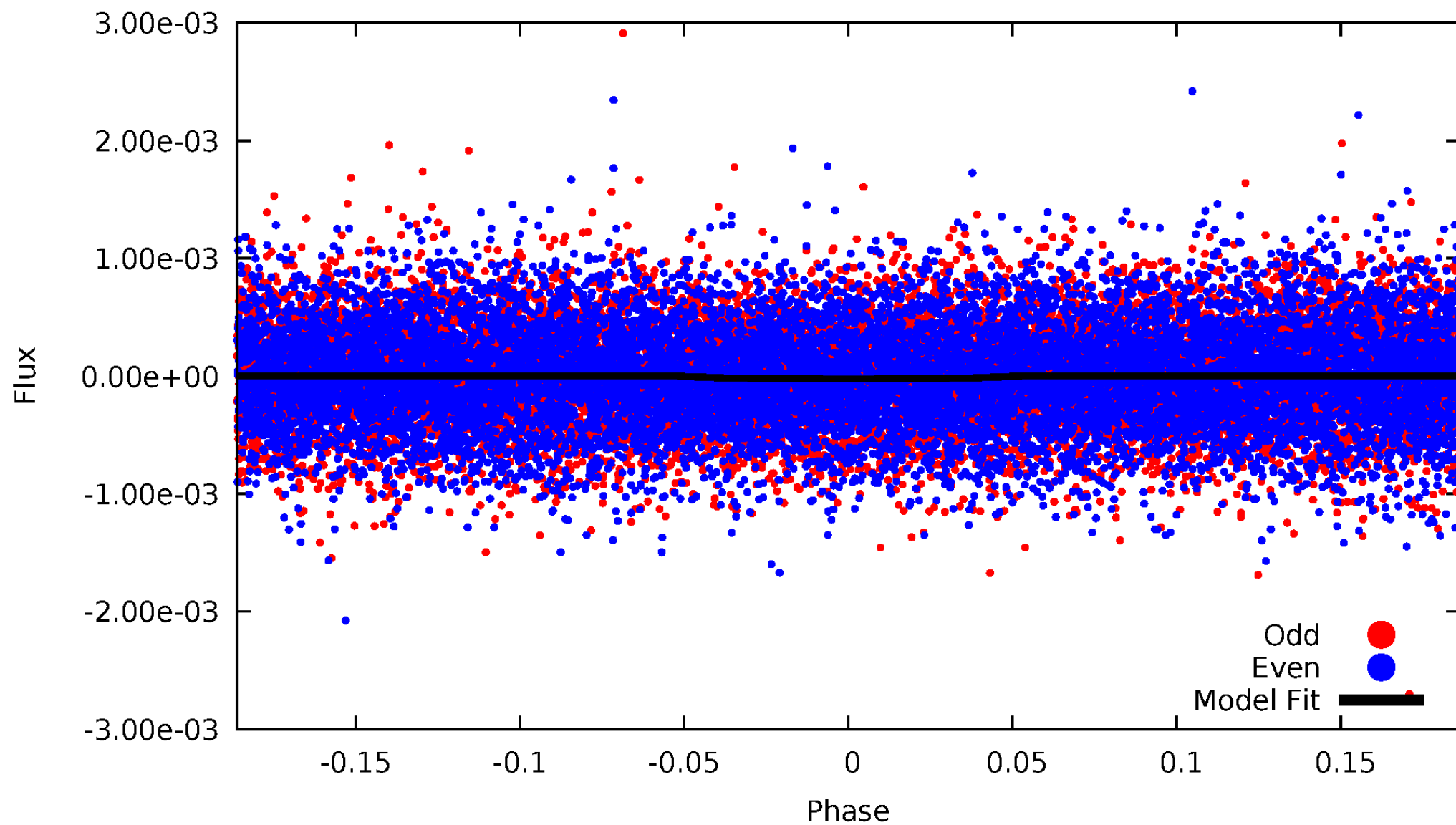


TCE 006311564-01



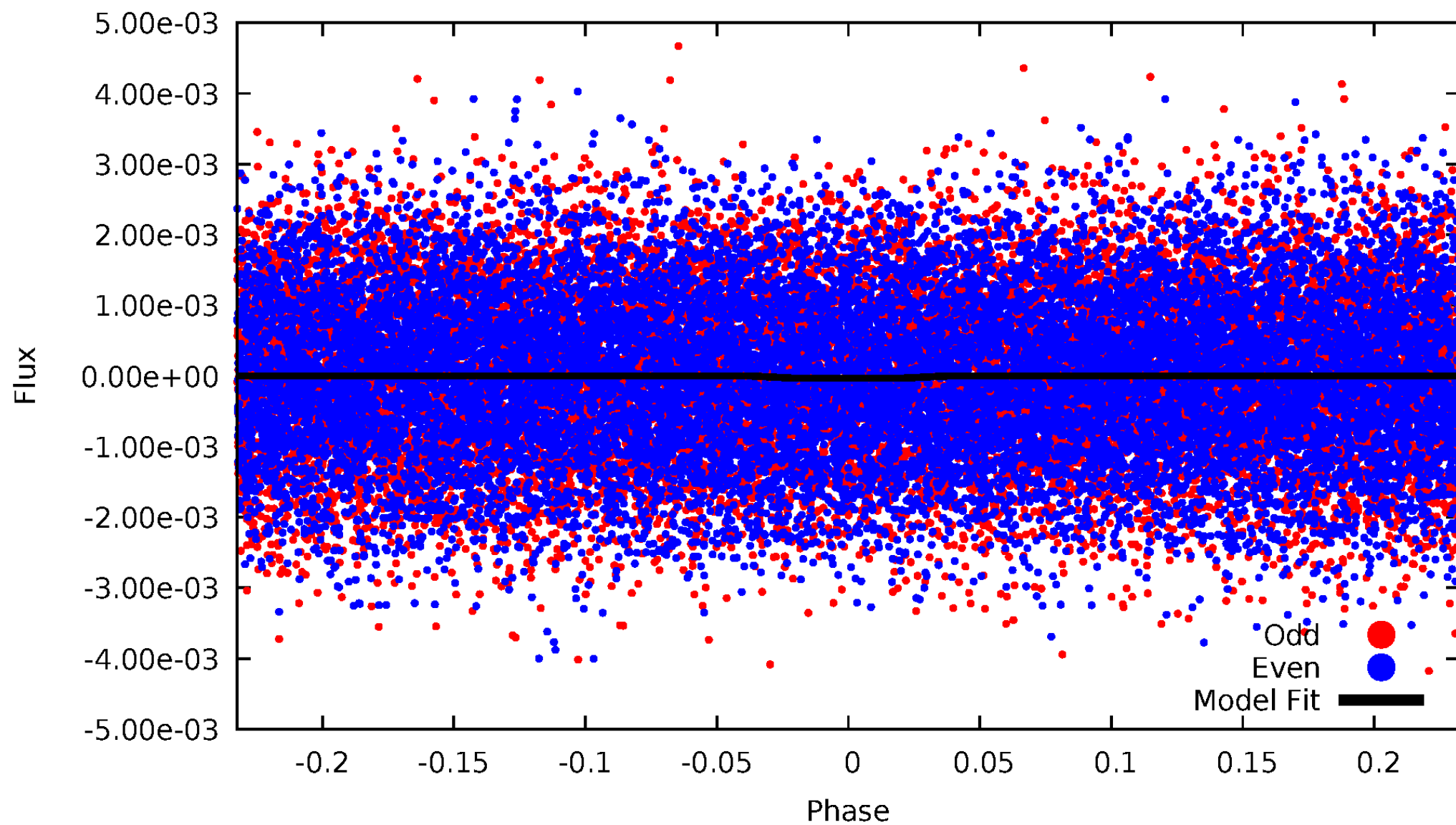
# DV Odd/Even

TCE 006311564-01

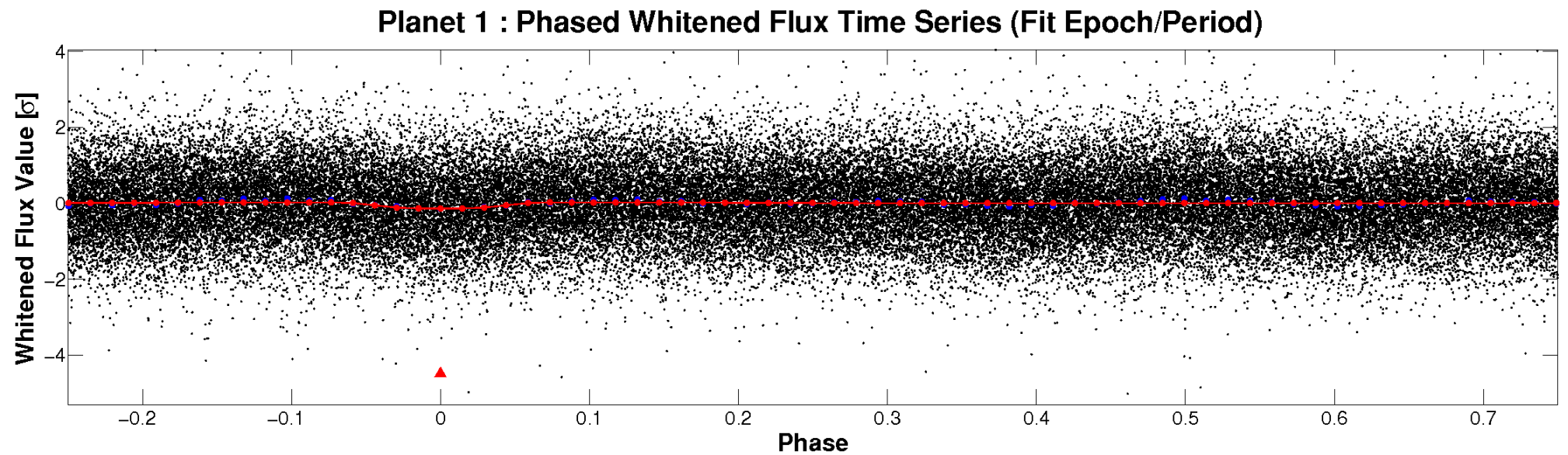
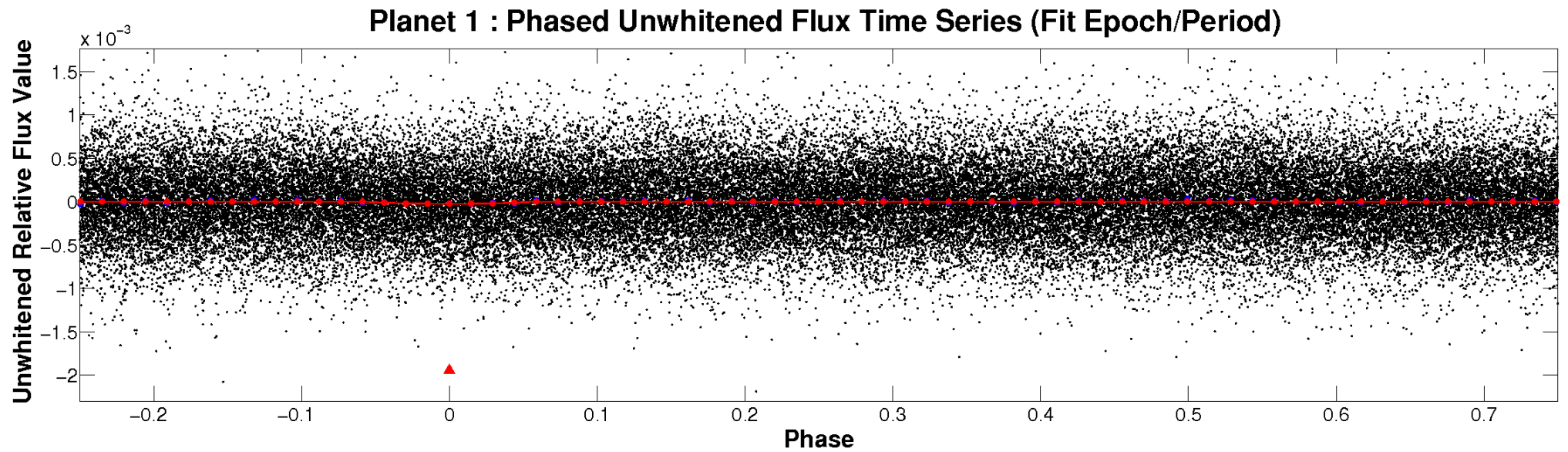


# ALT Odd/Even

TCE 006311564-01

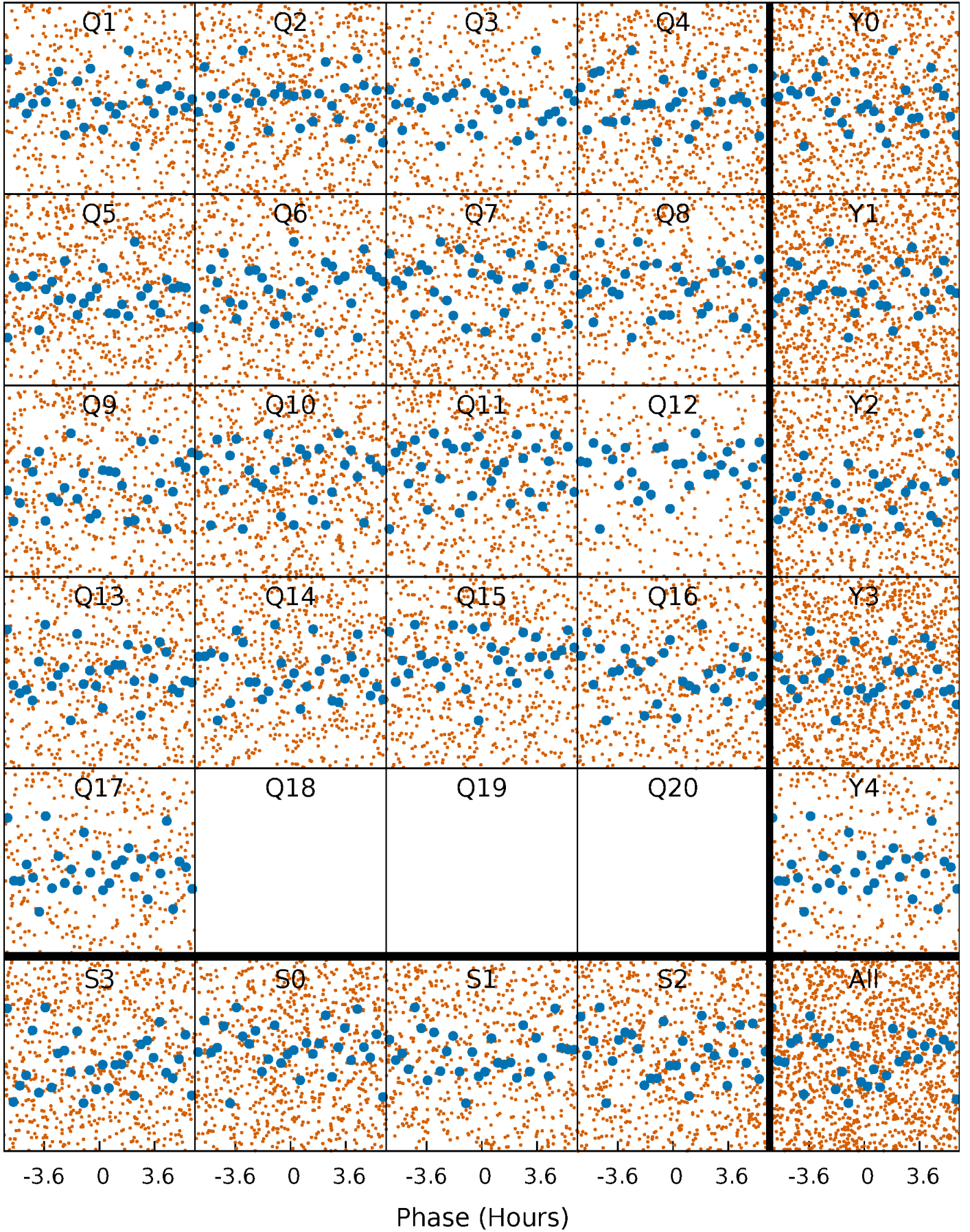


# Non-Whitened Vs. Whitened Light Curve



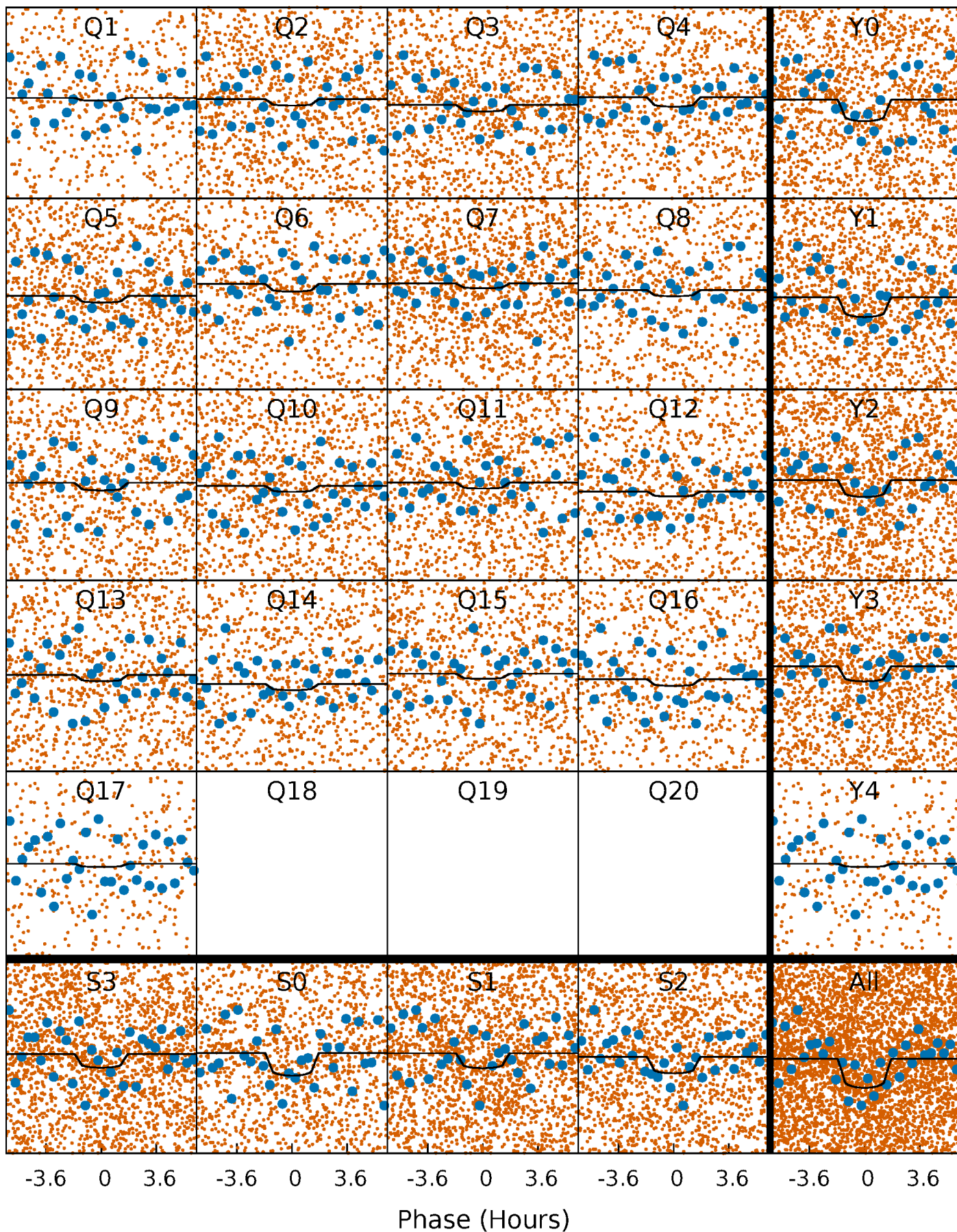
# PDC Quarter-Phased Transit Curves

TCE 006311564-01   P= 1.391407 Days    $T_0=131.548225$  (BKJD)



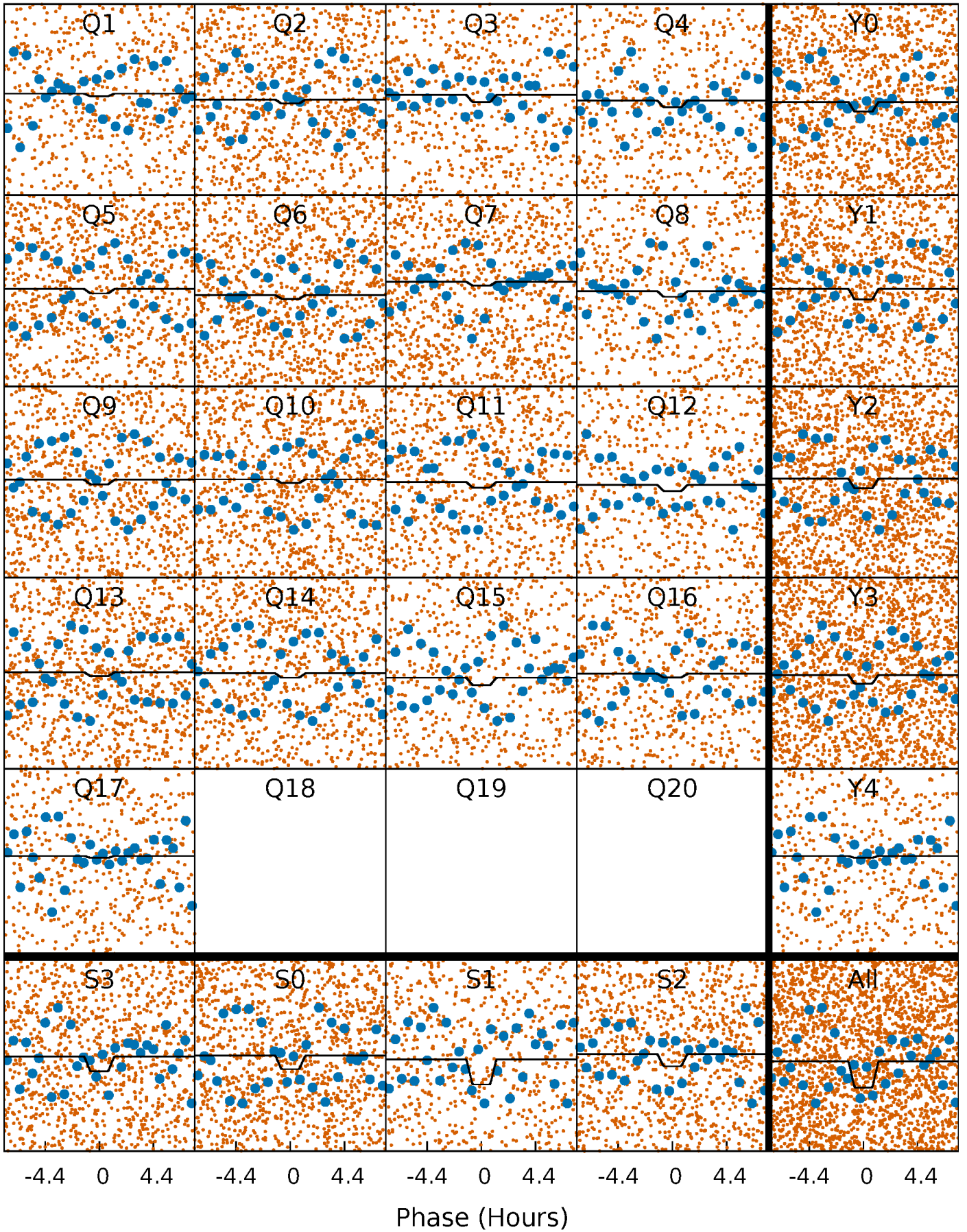
# DV Quarter-Phased Transit Curves

TCE 006311564-01 P= 1.391407 Days  $T_0=131.548225$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

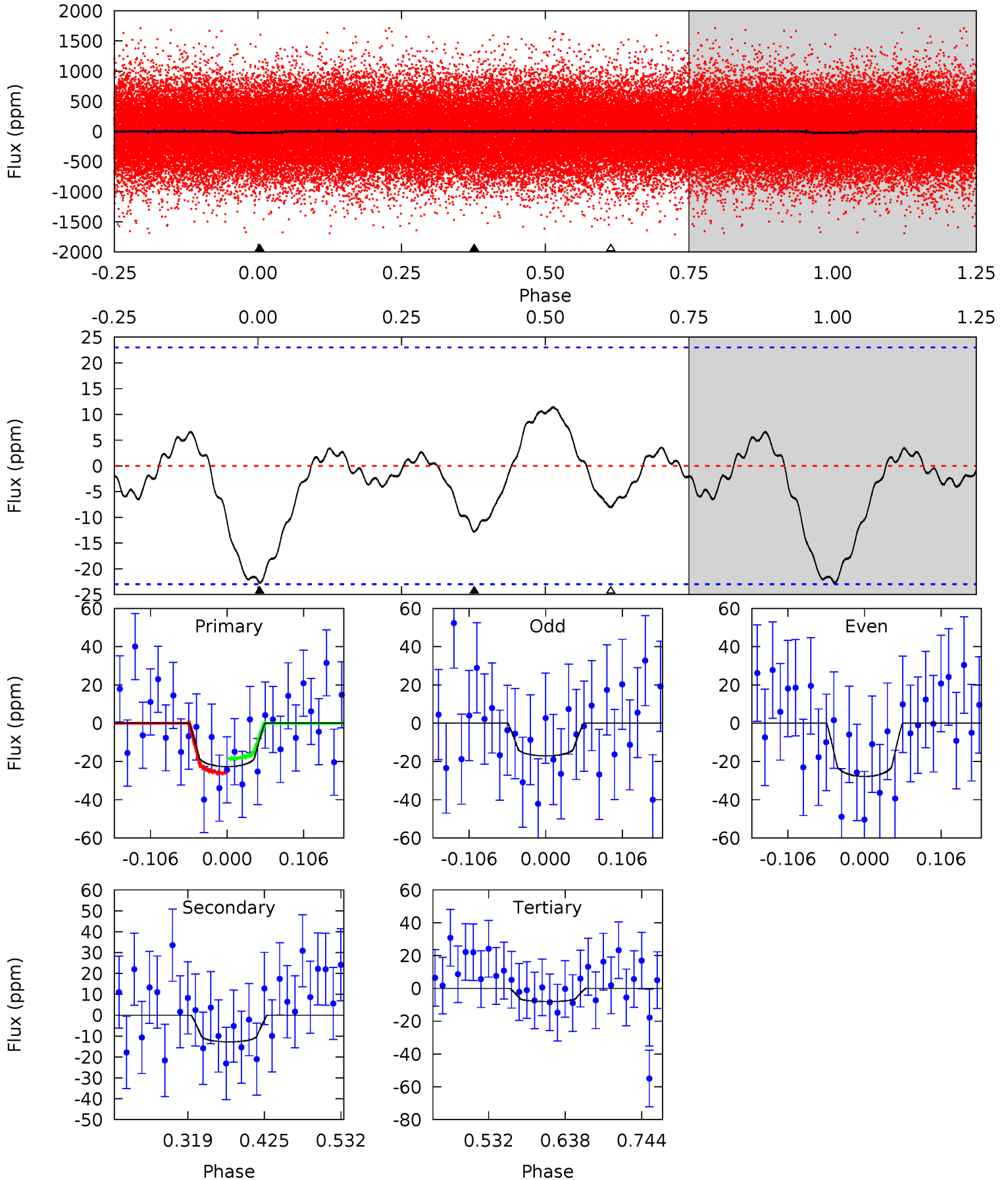
TCE 006311564-01 P= 1.391403 Days  $T_0=131.546032$  (BKJD)



# DV Model-Shift Uniqueness Test

006311564-01, P = 1.391407 Days, E = 130.156818 Days

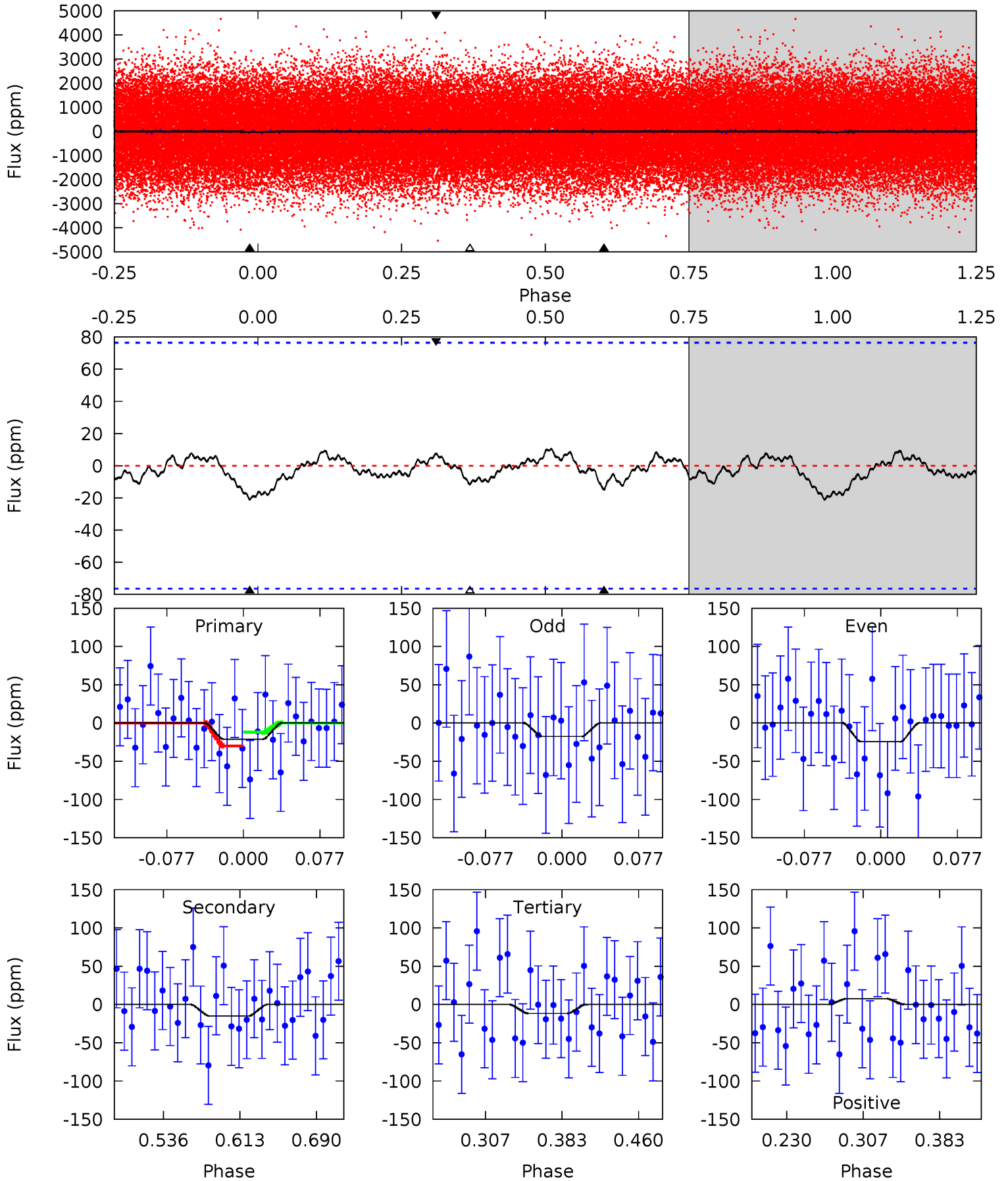
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.49	2.53	1.59	0	4.55	1.61	0.94	2.91	4.49	0.94	2.53	1.06	0.91	0.33	0.76



# Alt Model-Shift Uniqueness Test

006311564-01, P = 1.391403 Days, E = 130.154629 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
1.27	0.90	0.70	0.47	4.62	1.77	0.31	0.57	0.81	0.20	0.44	0.21	1.11	0.33	0.54



### Stellar Parameters For KIC 006311564

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7673^{+237}_{-316}$	$4.042^{+0.182}_{-0.149}$	$-0.120^{+0.200}_{-0.300}$	$2.042^{+0.509}_{-0.509}$	$1.673^{+0.210}_{-0.280}$	$0.277^{+0.286}_{-0.124}$
	+3%/-4%	+5%/-4%	+167%/-250%	+25%/-25%	+13%/-17%	+103%/-45%
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 006311564-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-13 \pm 5$	$1.09^{+0.50}_{-0.43}$	$3942^{+280}_{-278}$	$6176^{+2332}_{-1186}$	$4.750^{+9.329}_{-2.771}$
Alt.	$-15 \pm 17$	$1.21^{+0.45}_{-0.44}$	$3953^{+293}_{-285}$	$5896^{+2516}_{-10531}$	$3.787^{+8.979}_{-4.705}$

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

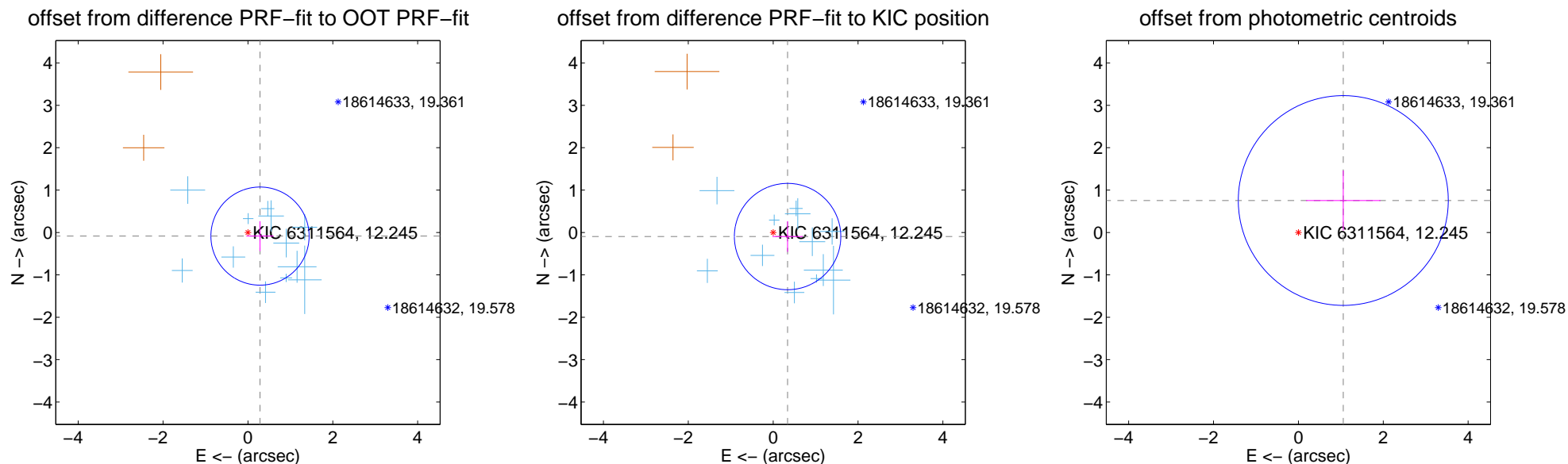
## DV Centroid Data

Supplemental centroid analysis for 006311564-01. Kepler magnitude: 12.24. Transit SNR 9.39

There are 12 quarters with good PRF difference image offsets

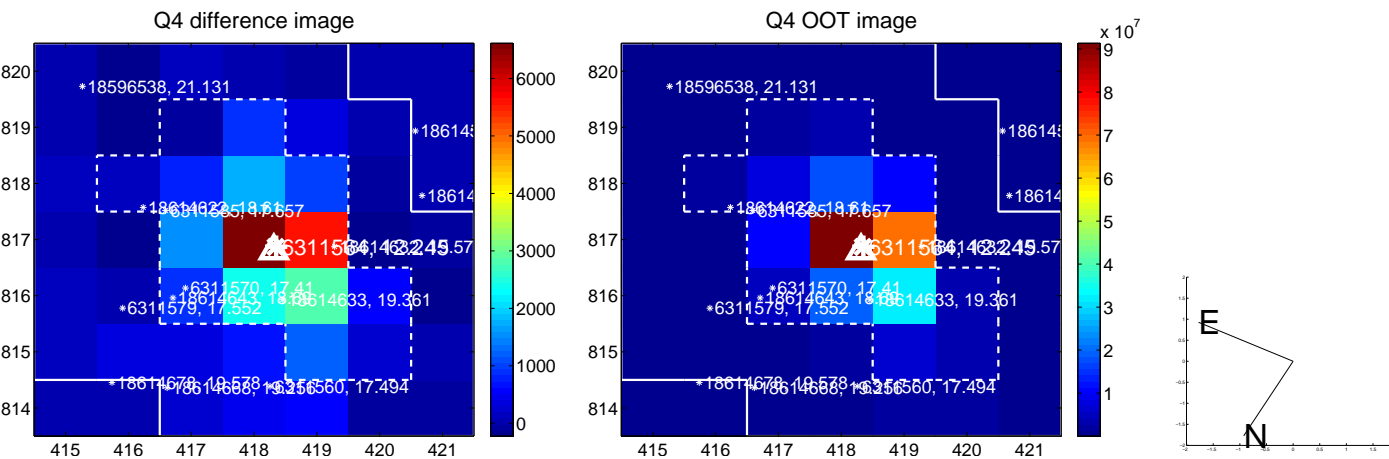
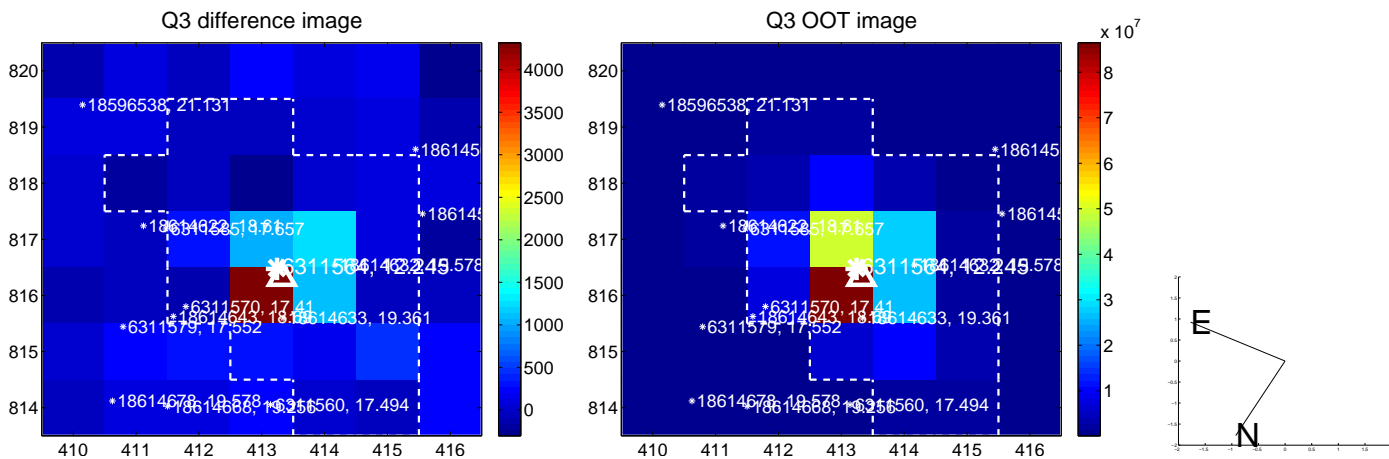
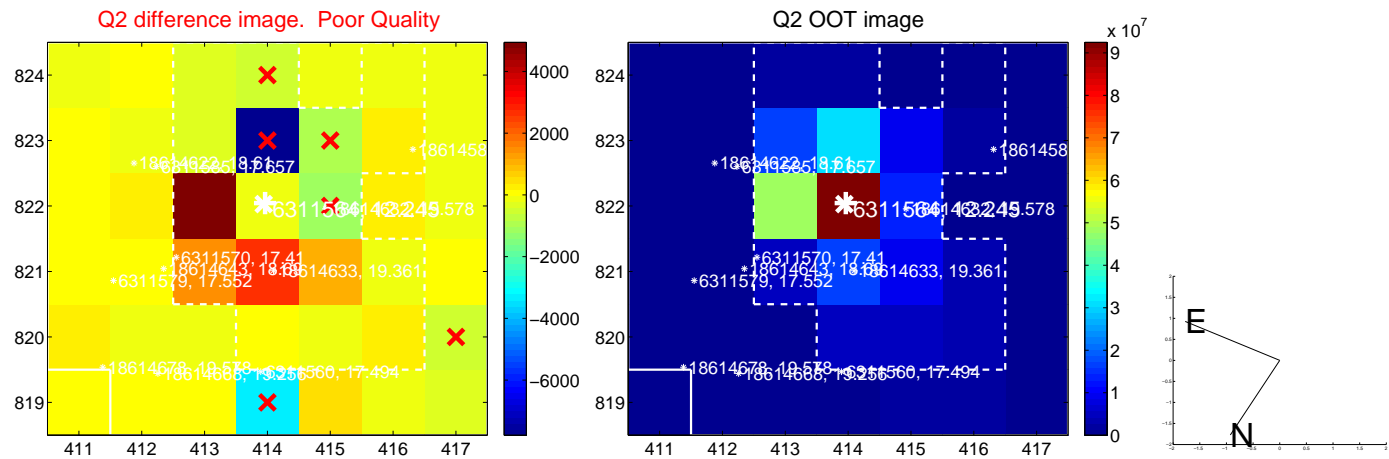
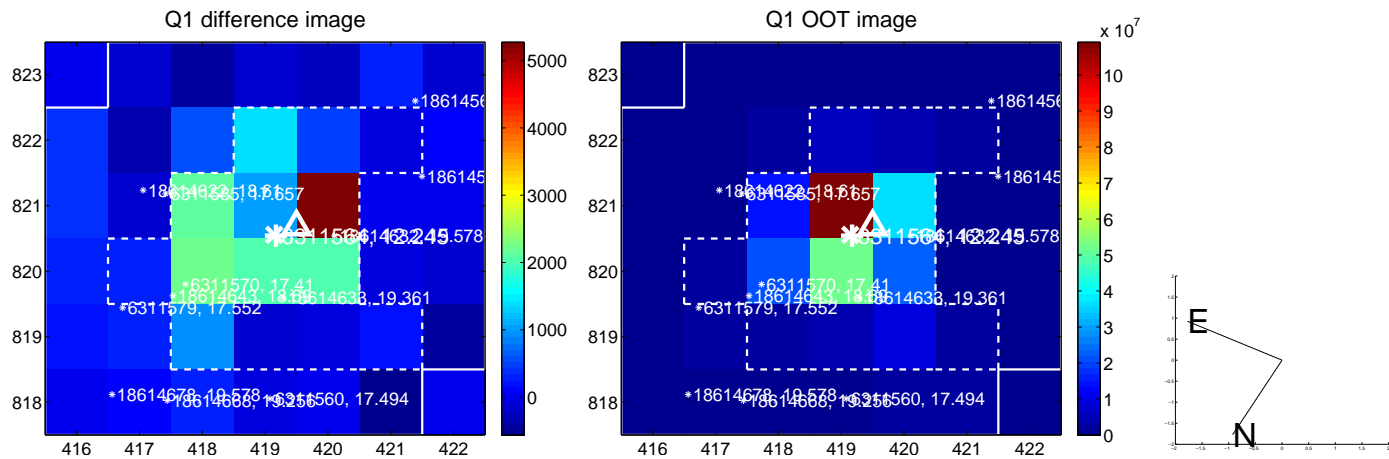
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.297 \pm 0.386$	0.77	$-0.285 \pm 0.321$	$-0.085 \pm 0.352$
PRF-fit source offset from KIC position	$0.353 \pm 0.418$	0.85	$-0.340 \pm 0.358$	$-0.096 \pm 0.363$
photometric centroid source offset	$1.30 \pm 0.82$	1.58	$-1.06 \pm 0.88$	$0.75 \pm 0.71$

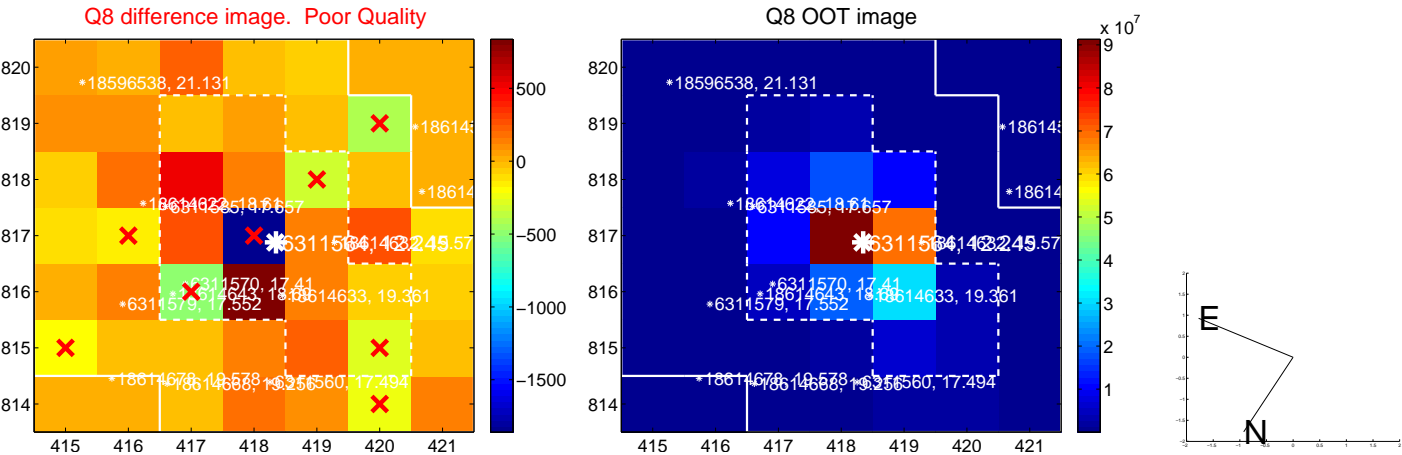
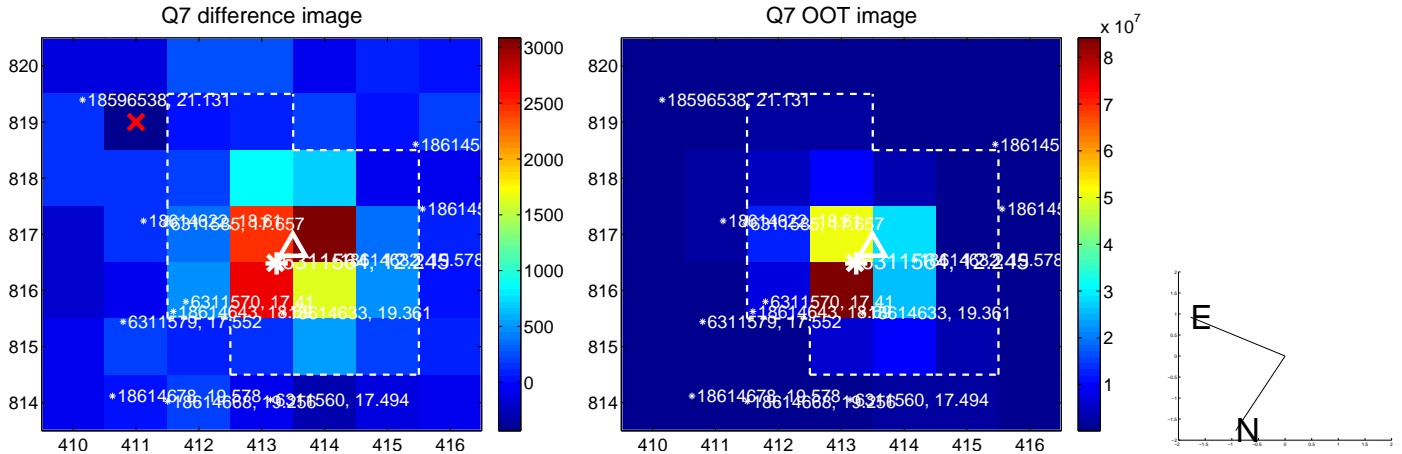
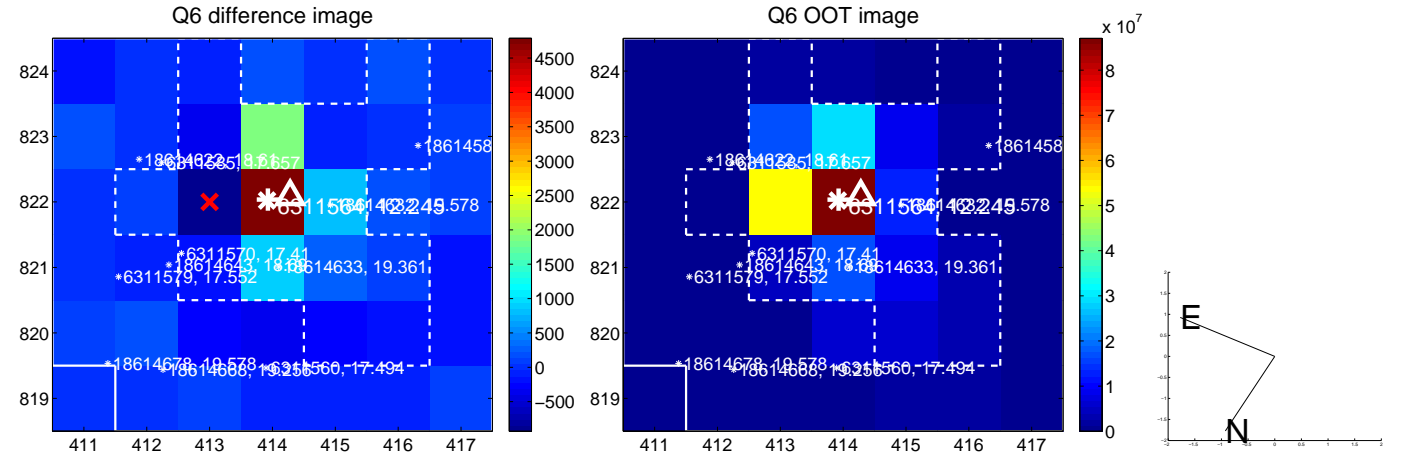
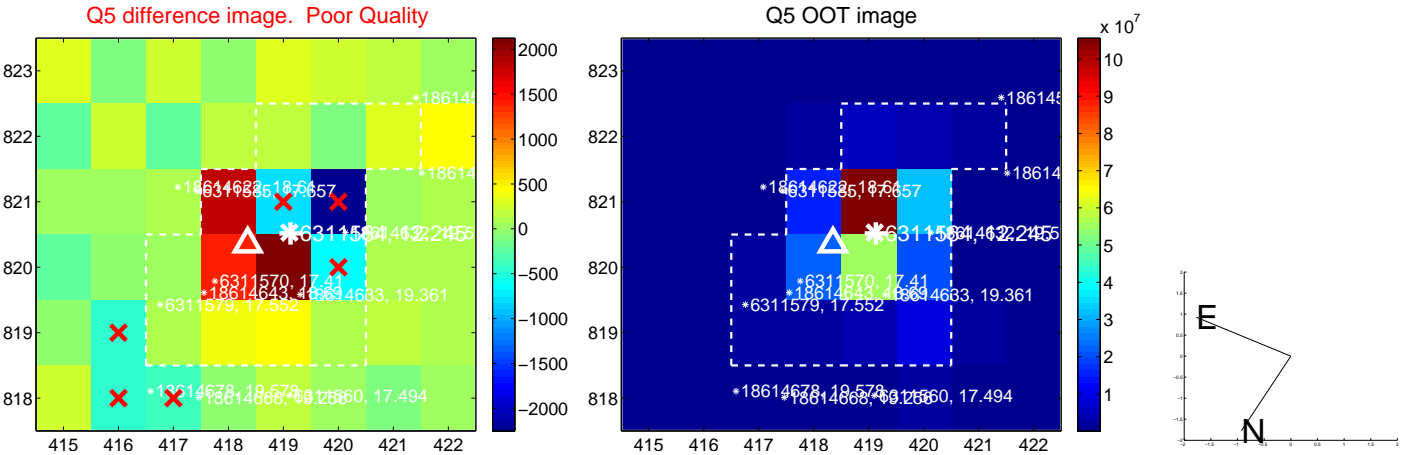


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

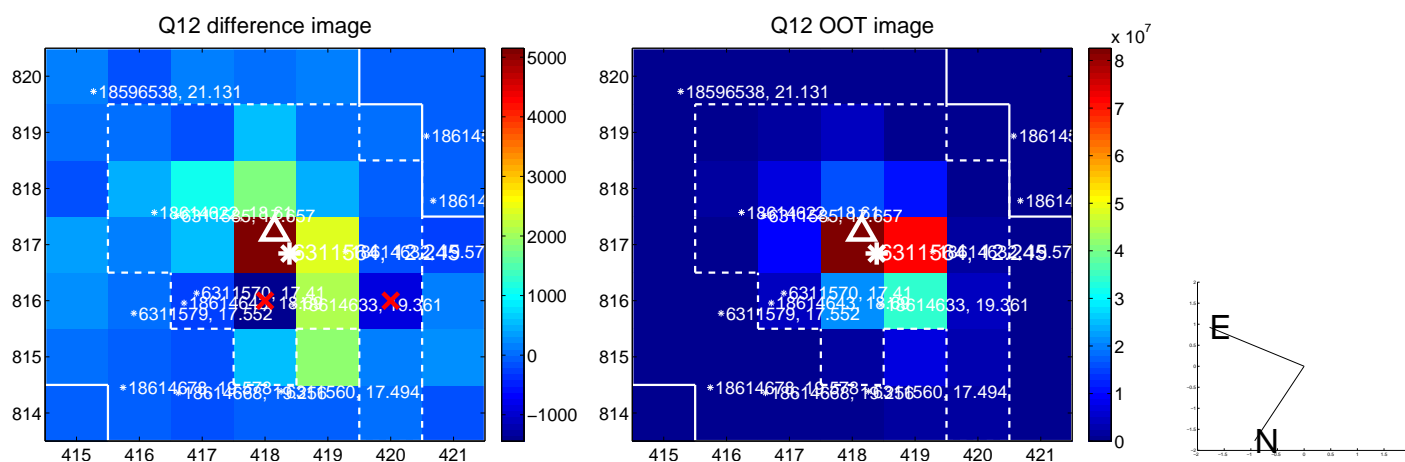
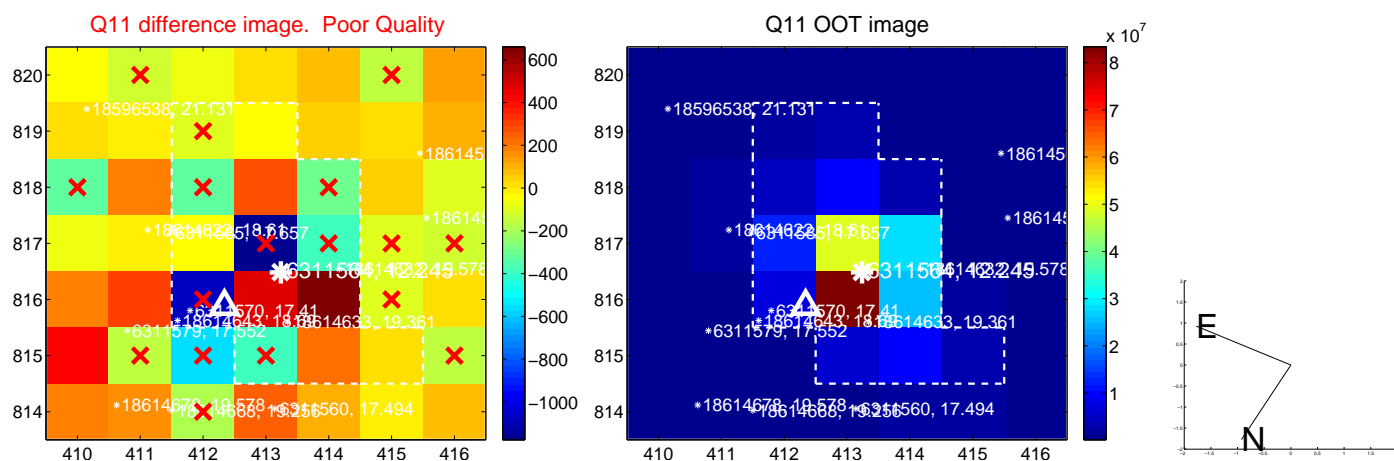
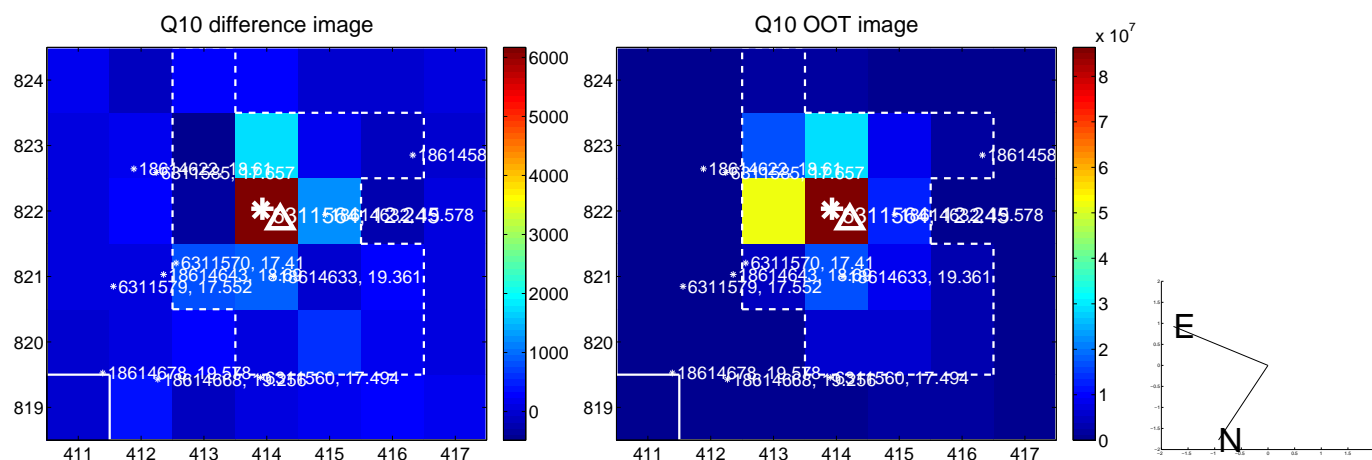
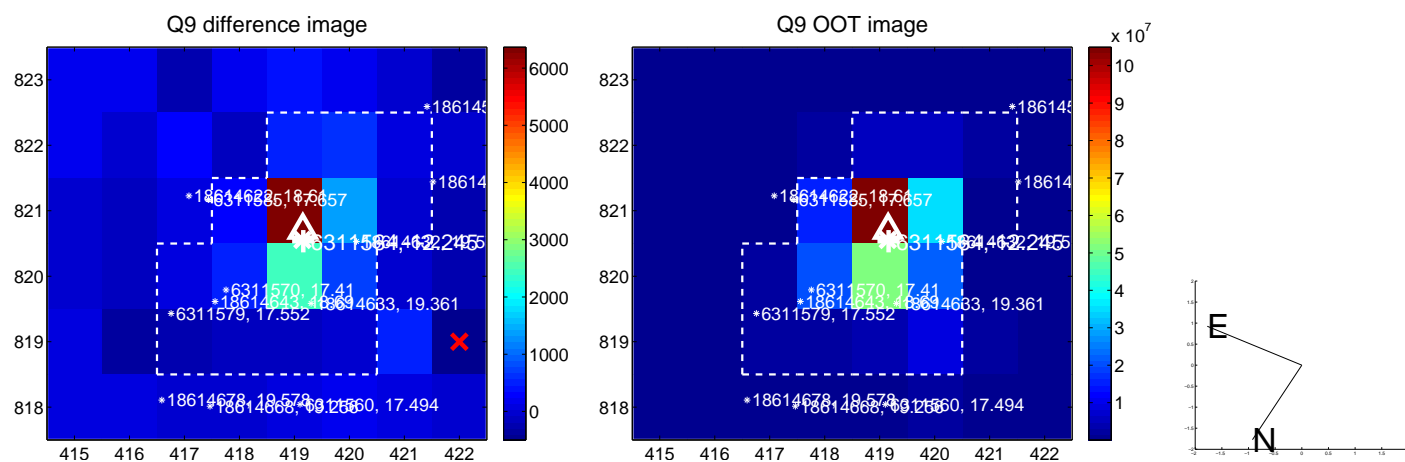
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



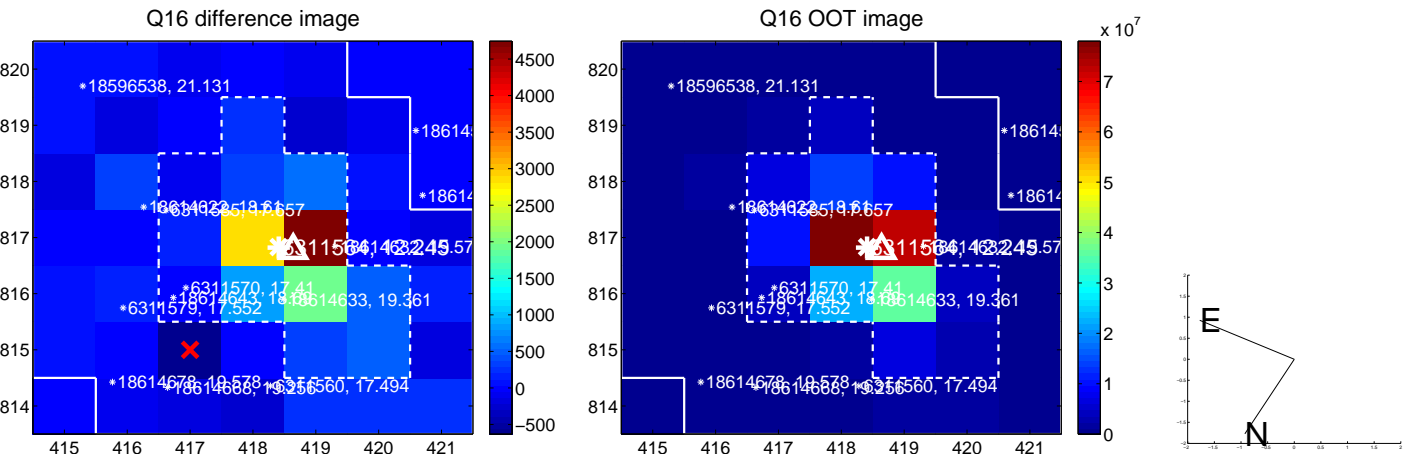
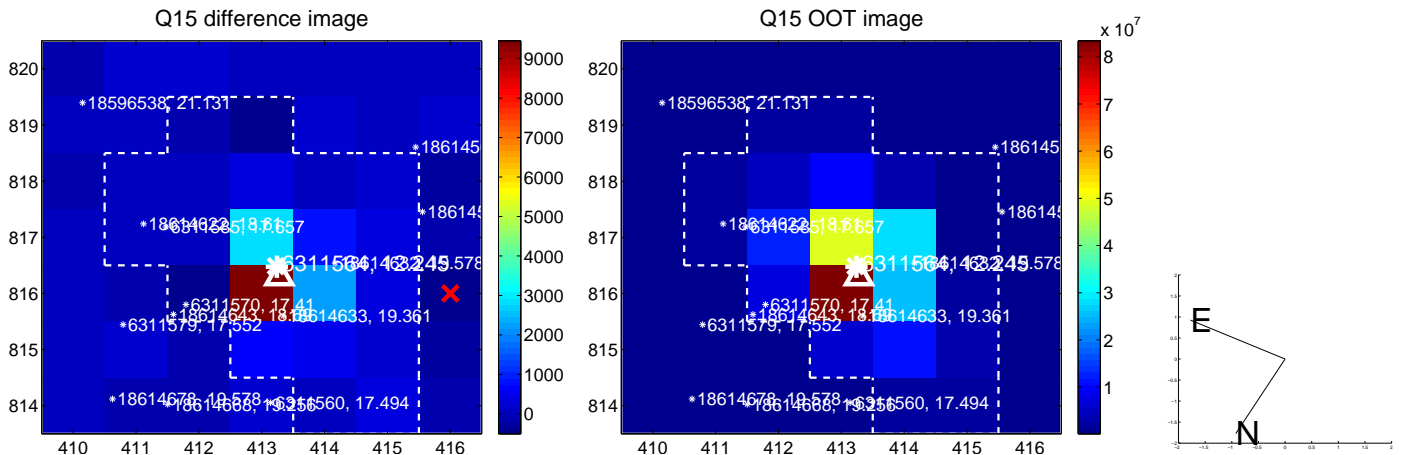
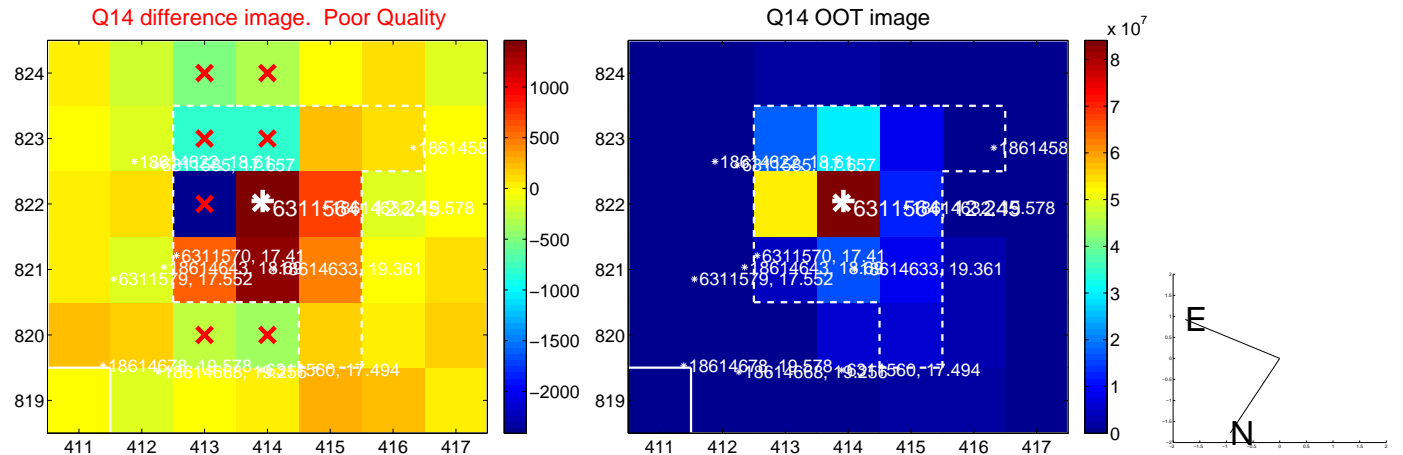
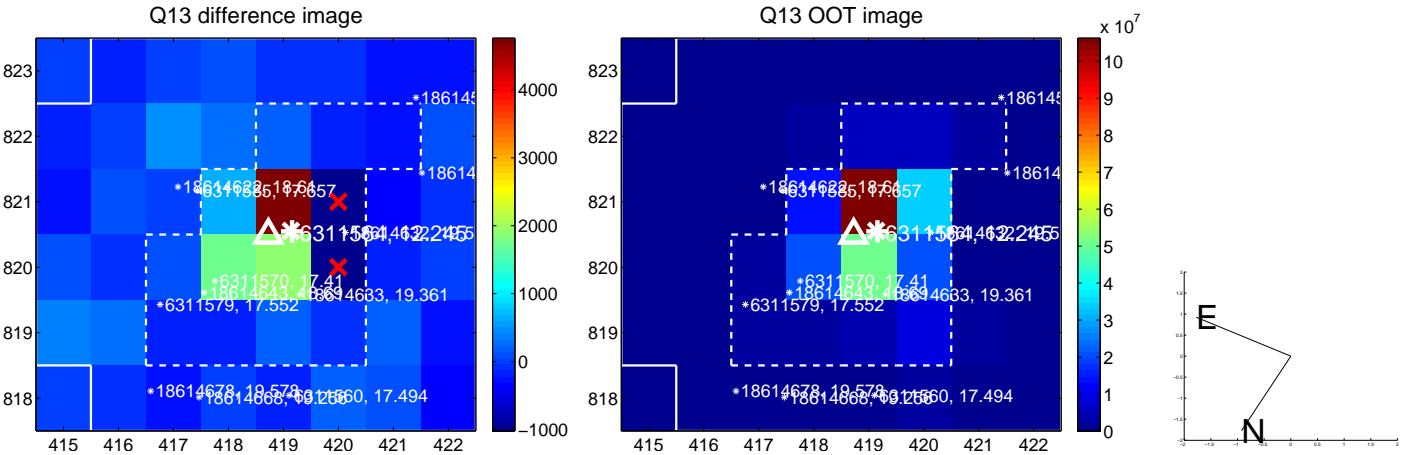
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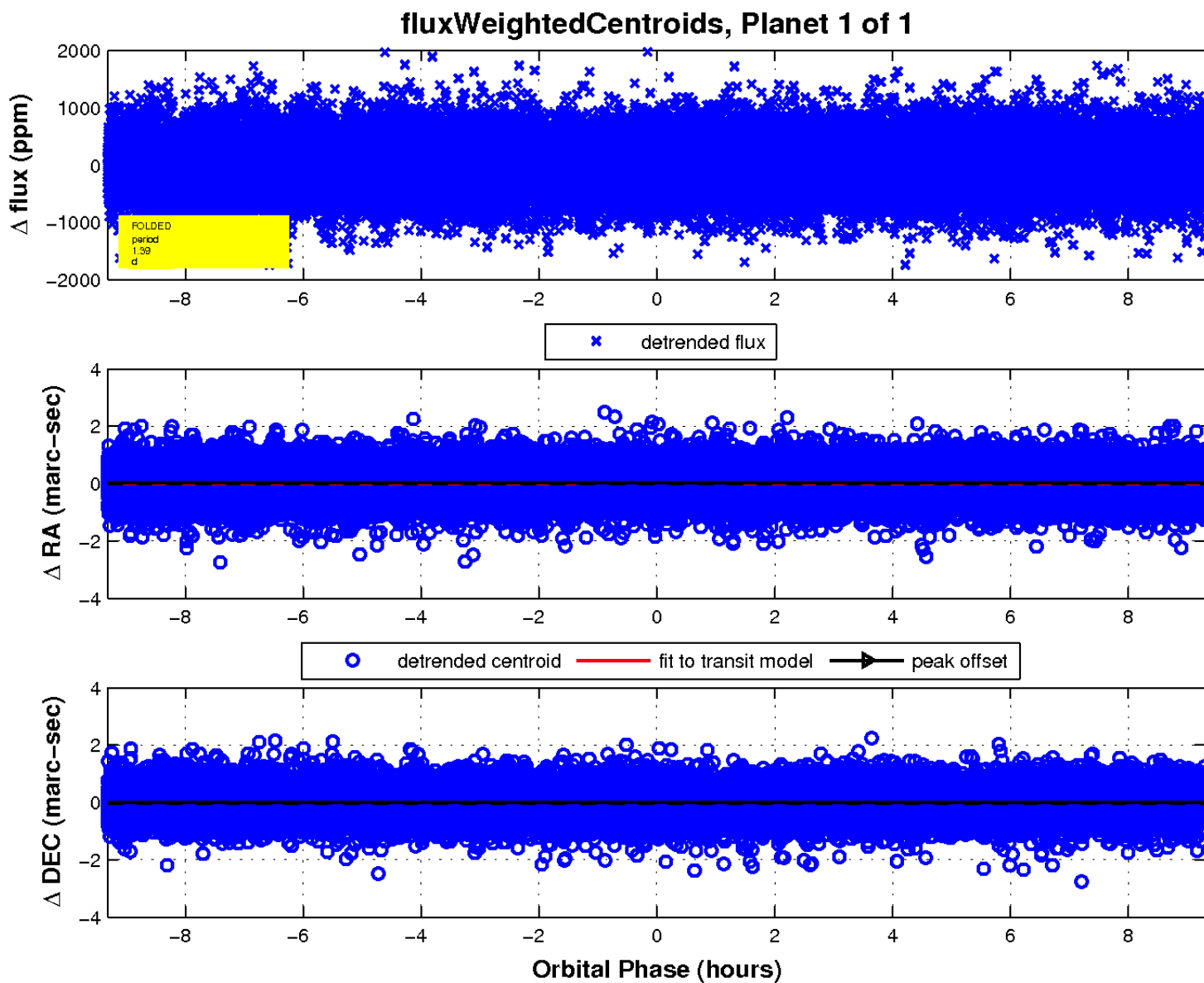
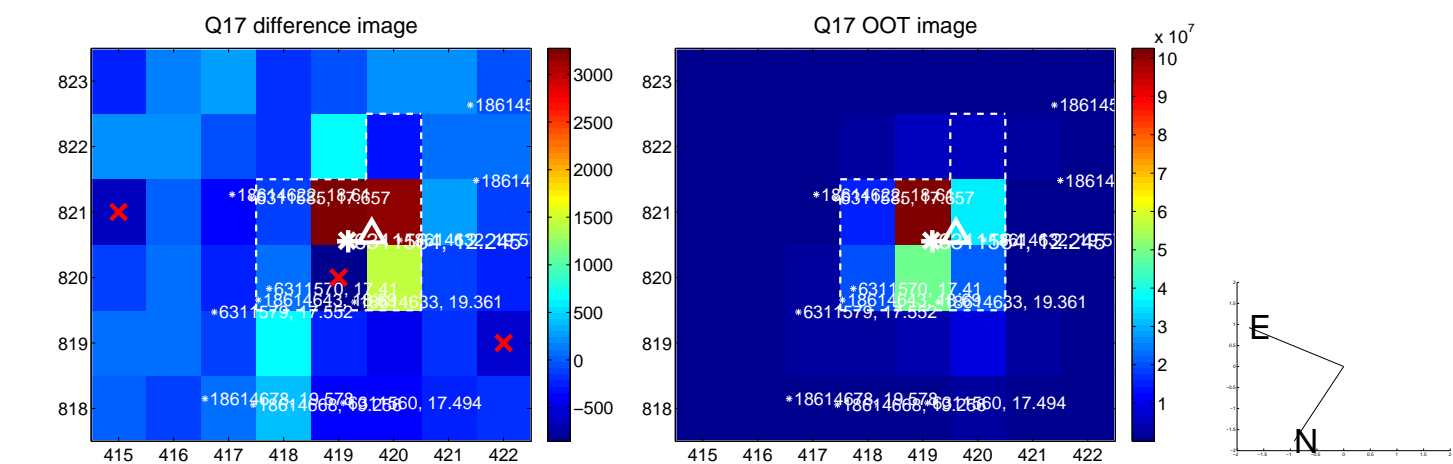
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UKIRT Image

Declination

