

# KIC 006752116

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006752116-01	OBS	No	2.176933	132.816127	93.5	2.388	7.7	8.4	6.41	4721	7.60	16585.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006752116-01	OBS	FP	0.00	1	0	0	0	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.

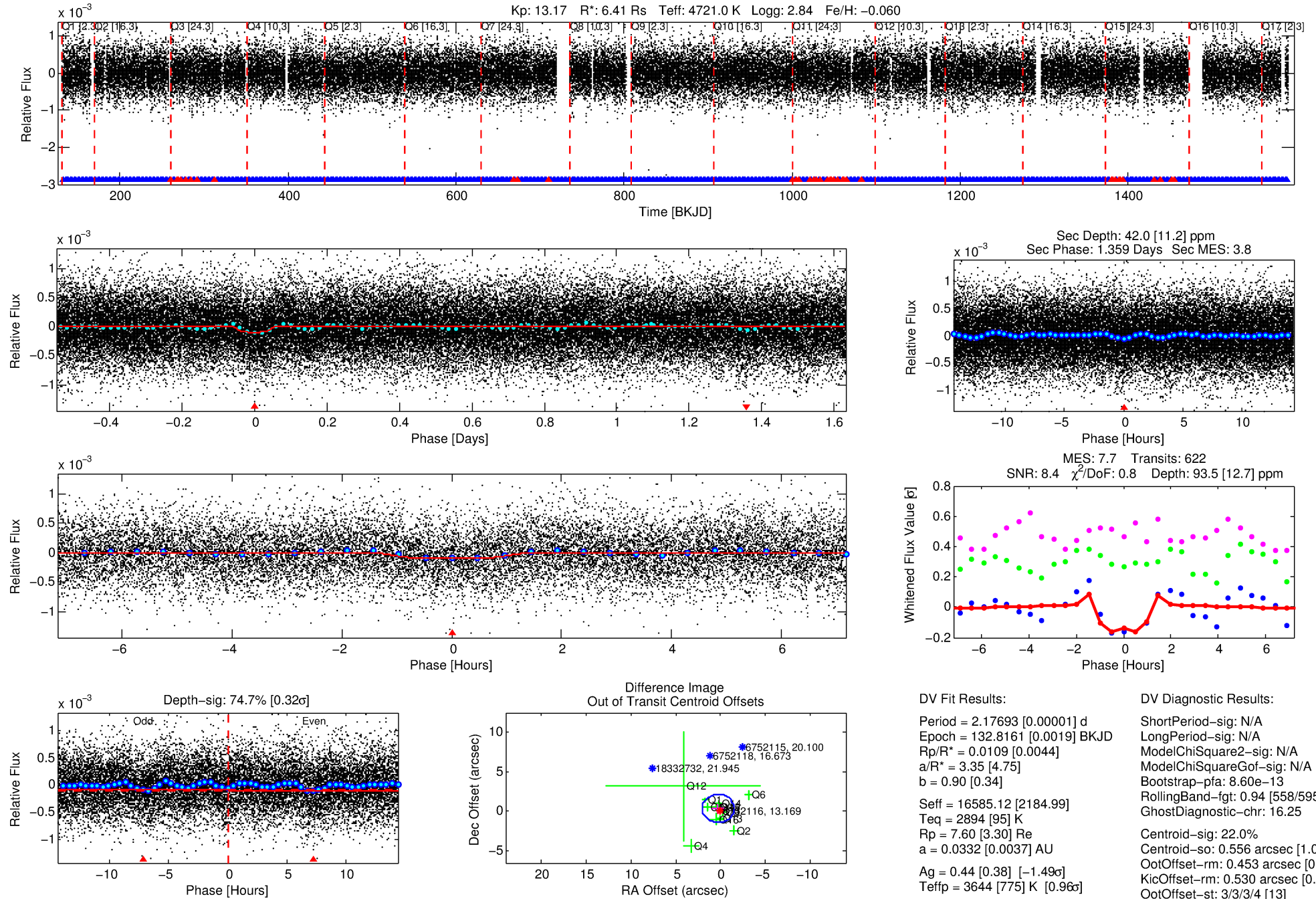
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006752116-01

No Significant Match Found

# DV One-Page Summary

KIC: 6752116 Candidate: 1 of 1 Period: 2.177 d



## DV Fit Results:

Period = 2.17693 [0.00001] d  
Epoch = 132.8161 [0.0019] BKJD  
Rp/R\* = 0.0109 [0.0044]  
a/R\* = 3.35 [4.75]  
b = 0.90 [0.34]  
Seff = 16585.12 [2184.99]  
Teff = 2894 [95] K  
Rp = 7.60 [3.30] Re  
a = 0.0332 [0.0037] AU  
Ag = 0.44 [0.38] [-1.49 $\sigma$ ]  
Teffp = 3644 [775] K [0.96 $\sigma$ ]

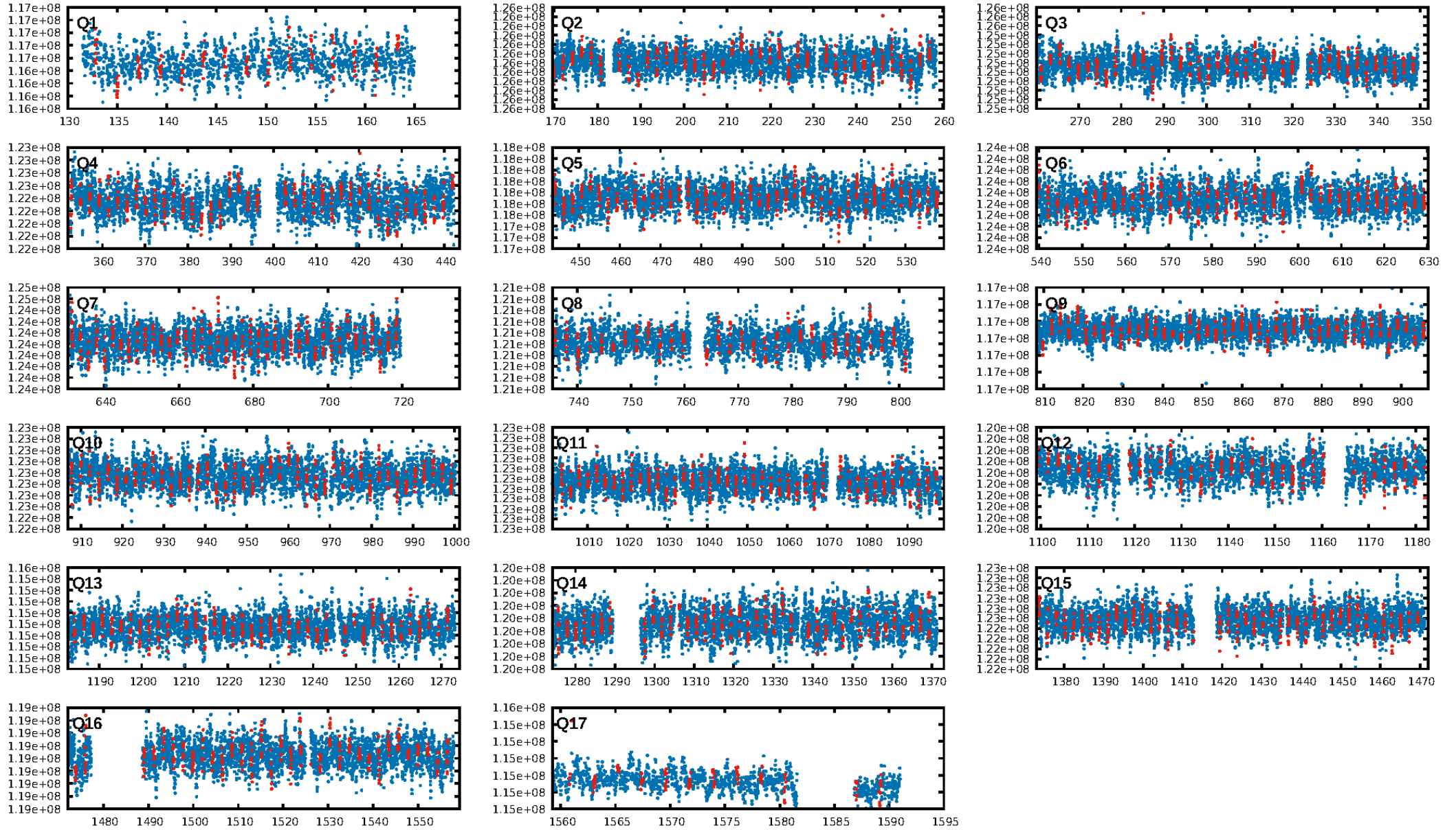
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 8.60e-13  
RollingBand-fgt: 0.94 [558/595]  
GhostDiagnostic-chr: 16.25  
Centroid-sig: 22.0%  
Centroid-so: 0.556 arcsec [1.01 $\sigma$ ]  
OotOffset-rm: 0.453 arcsec [0.76 $\sigma$ ]  
KicOffset-rm: 0.530 arcsec [0.87 $\sigma$ ]  
OotOffset-st: 3/3/3/4 [13]  
KicOffset-st: 3/3/3/4 [13]  
DiffImageQuality-fgm: 0.77 [10/13]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:57:45 Z

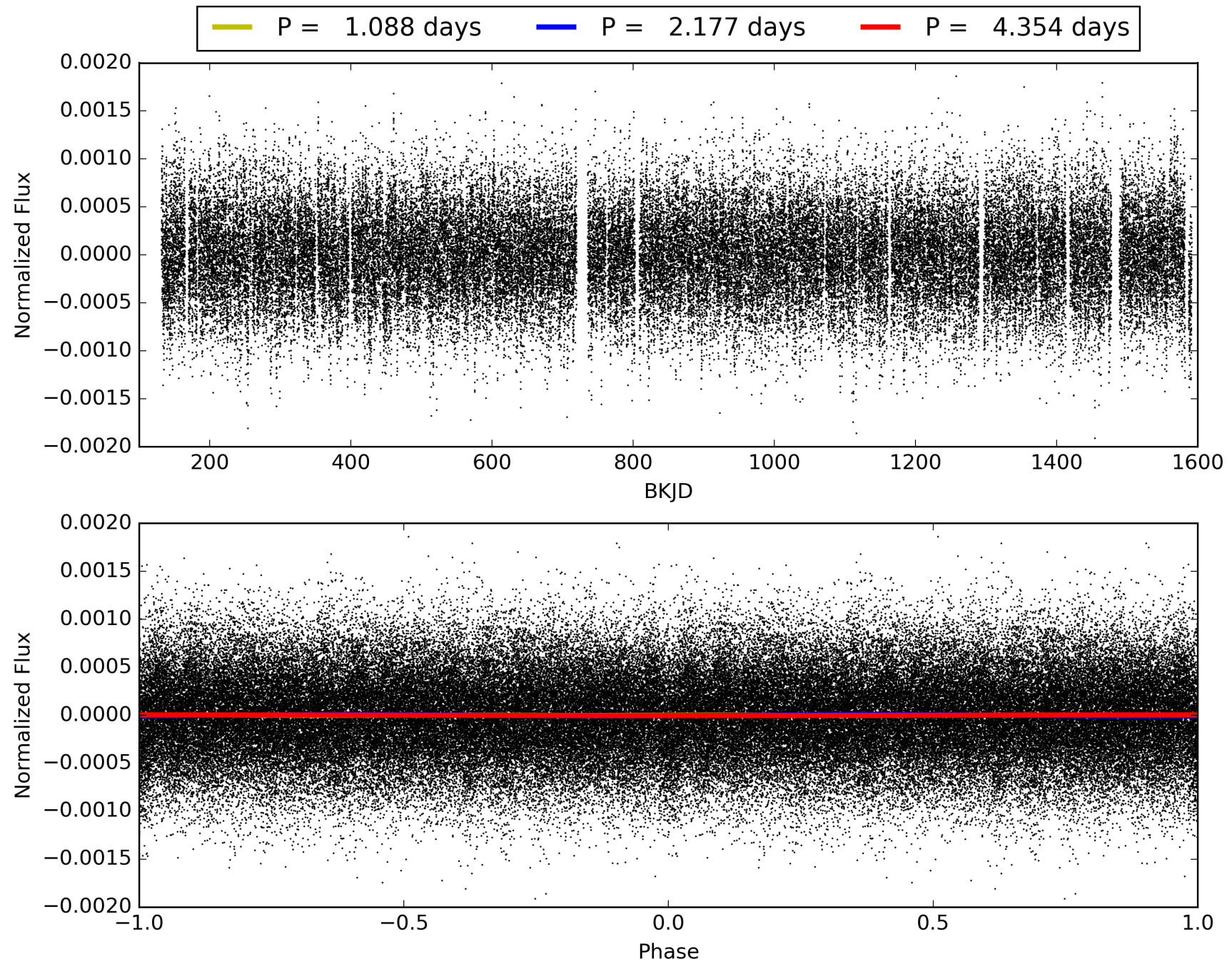
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006752116-01, PDC Light Curves



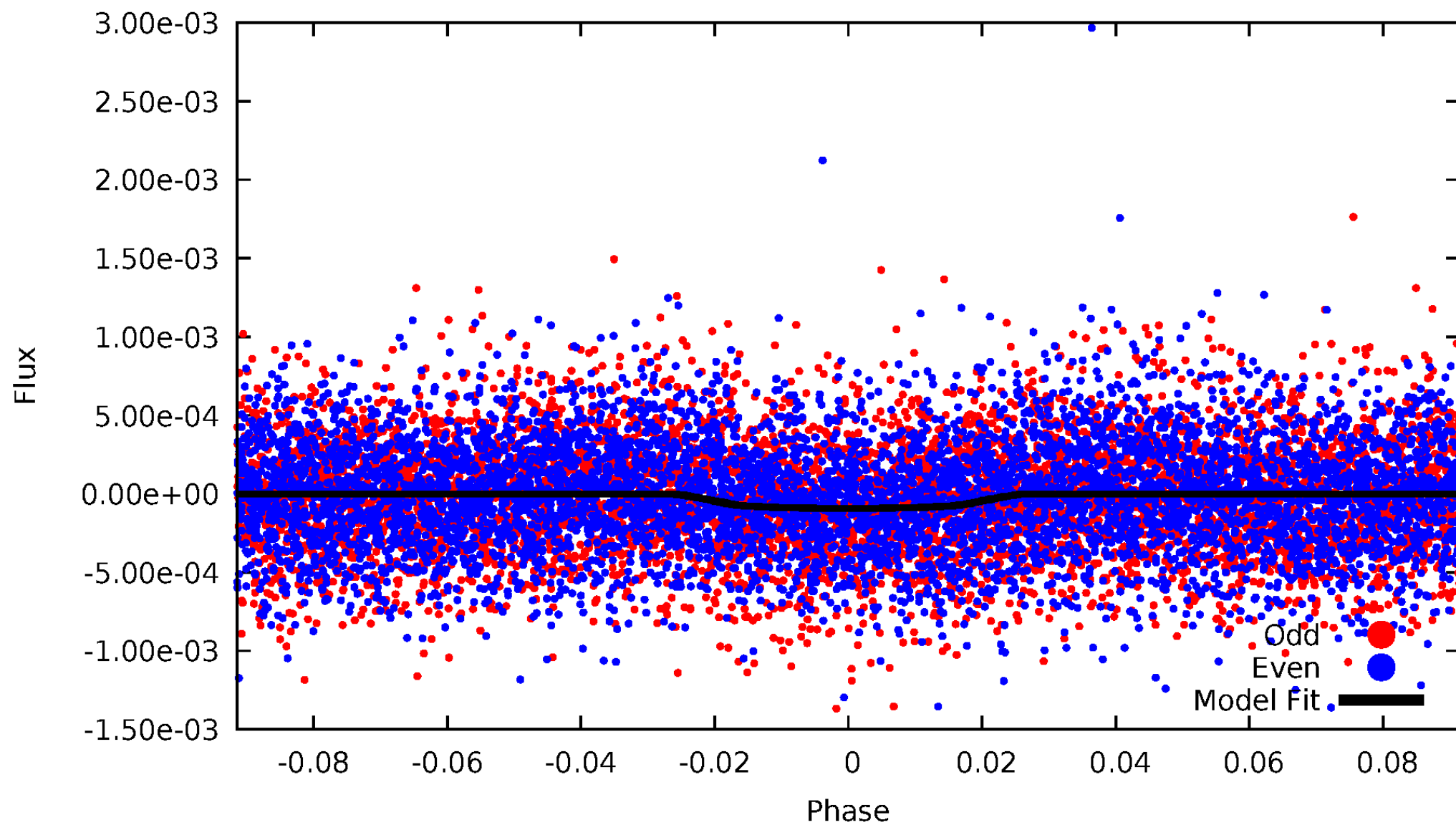


TCE 006752116-01



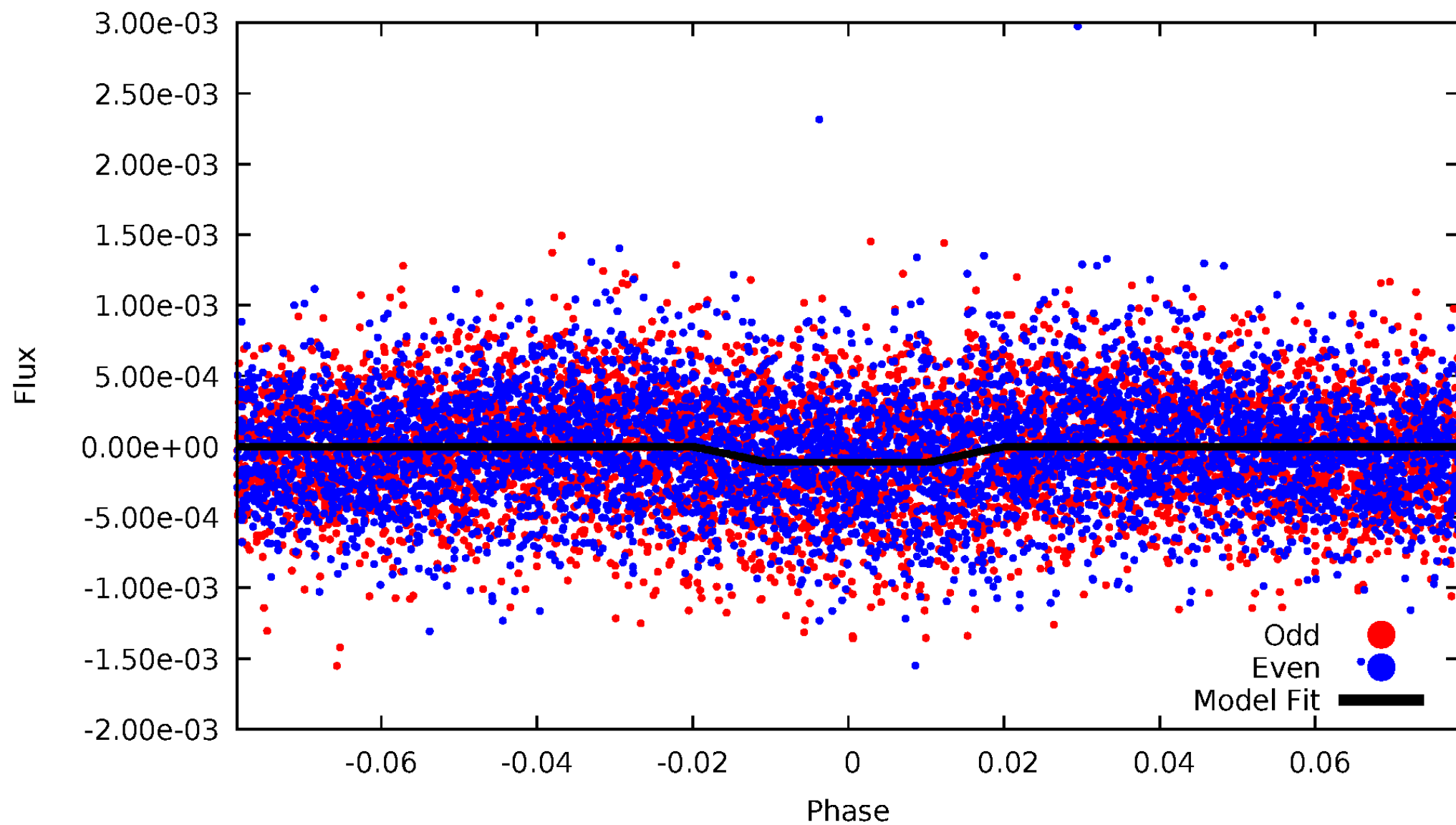
# DV Odd/Even

TCE 006752116-01



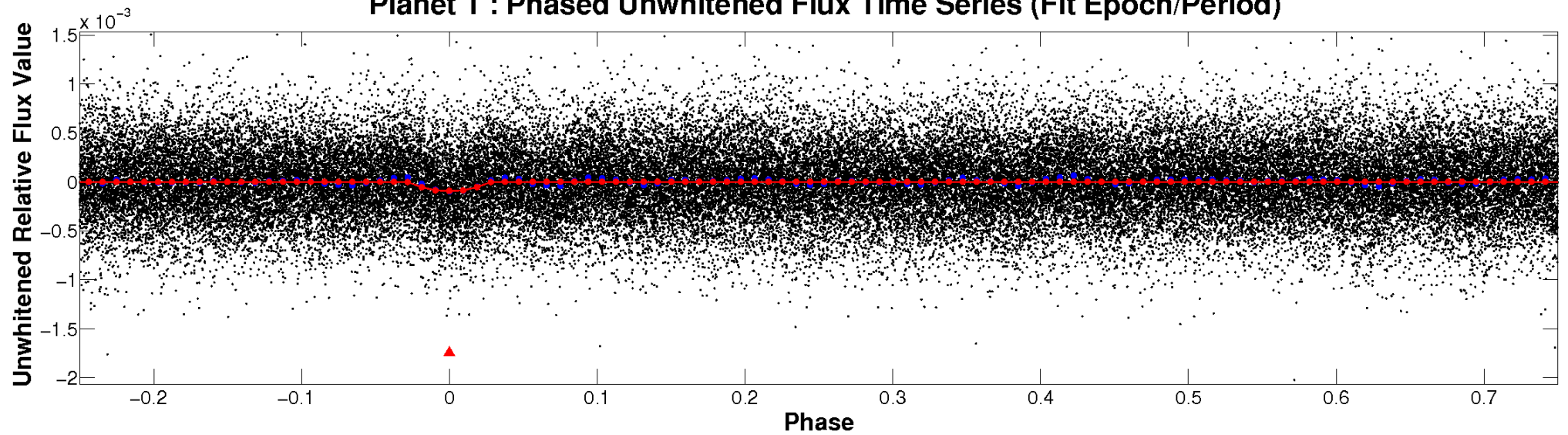
# ALT Odd/Even

TCE 006752116-01

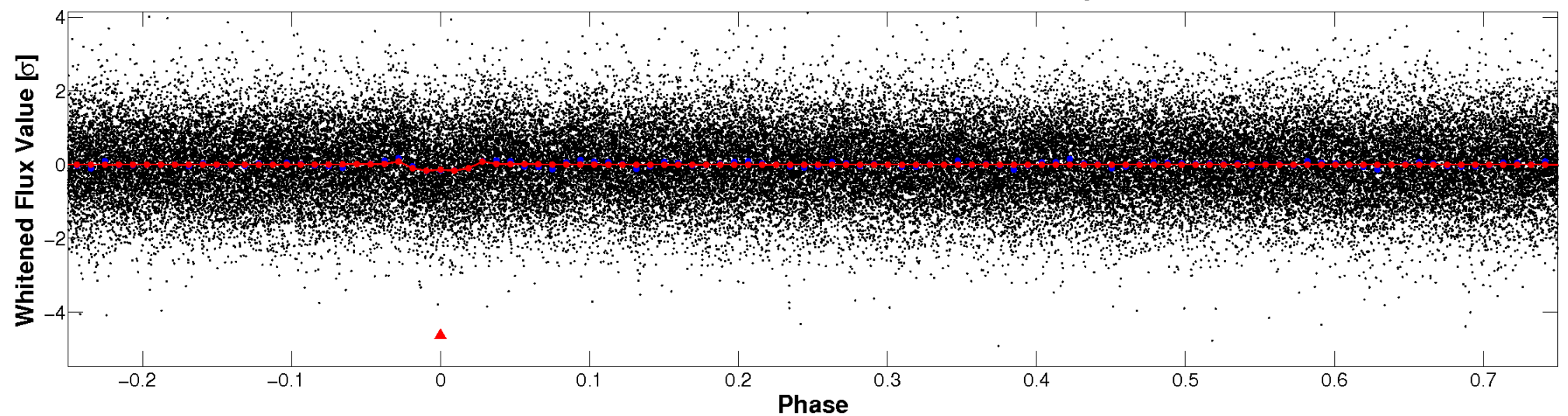


# Non-Whitened Vs. Whitened Light Curve

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



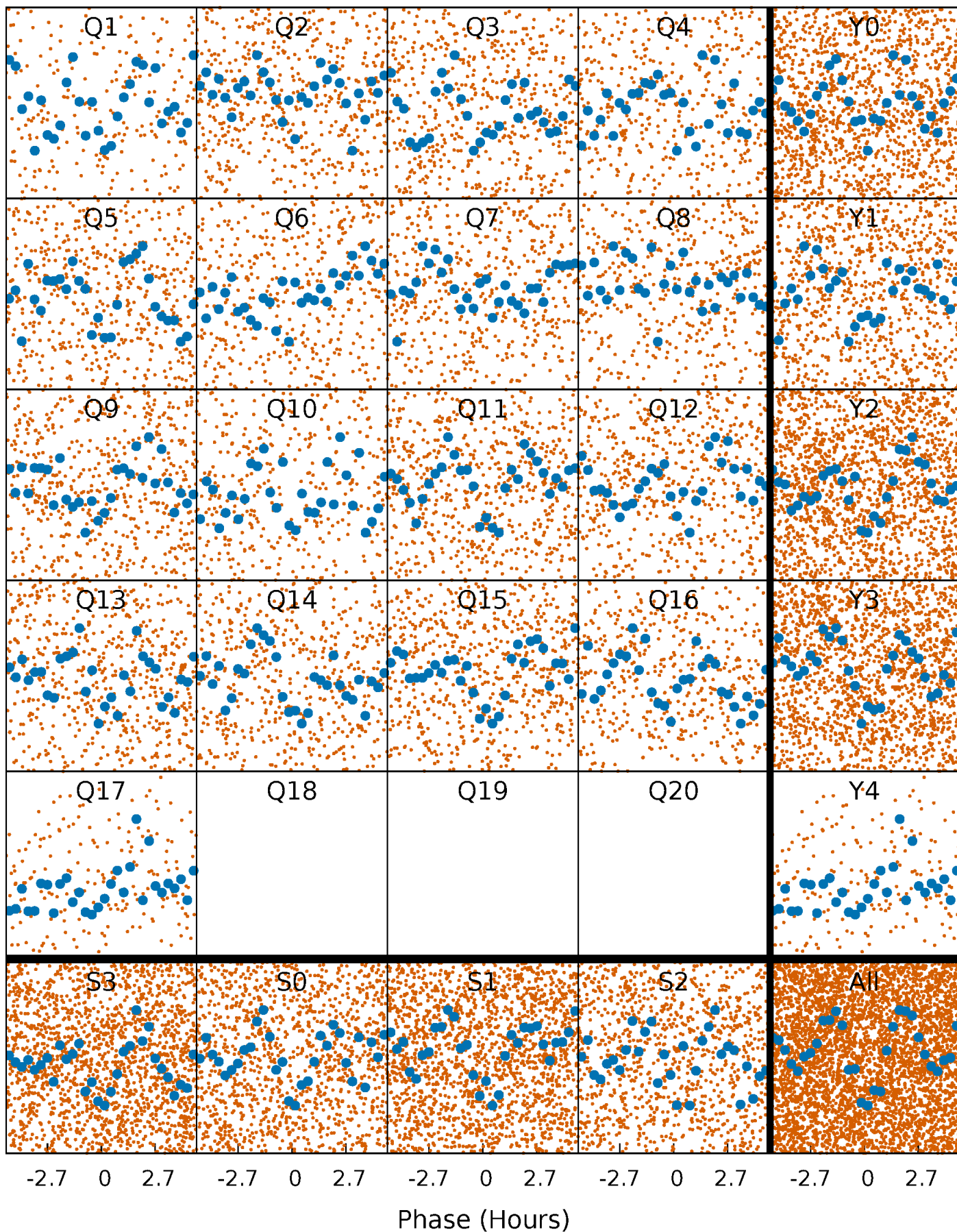
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

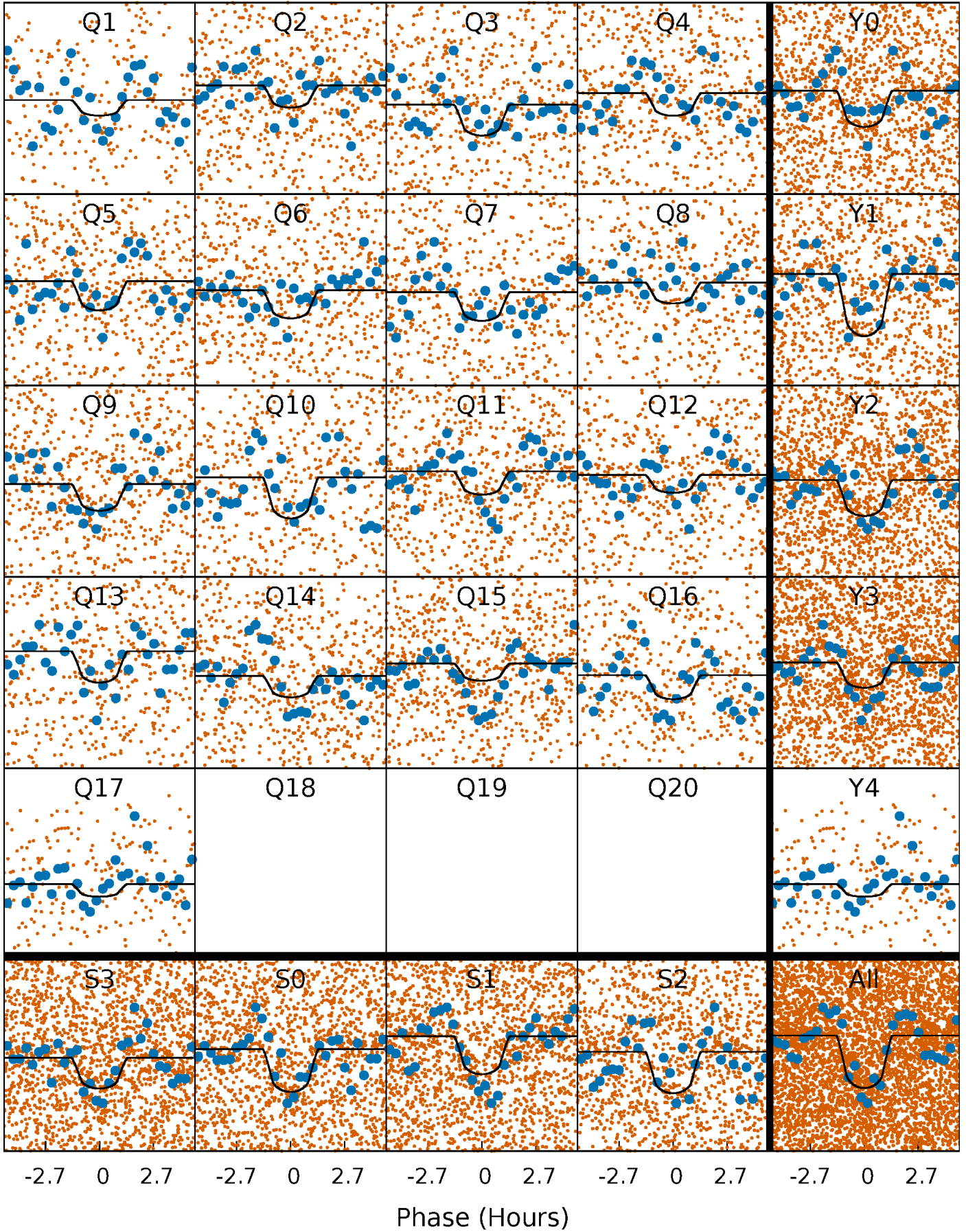
TCE 006752116-01 P= 2.176933 Days  $T_0=132.816127$  (BKJD)





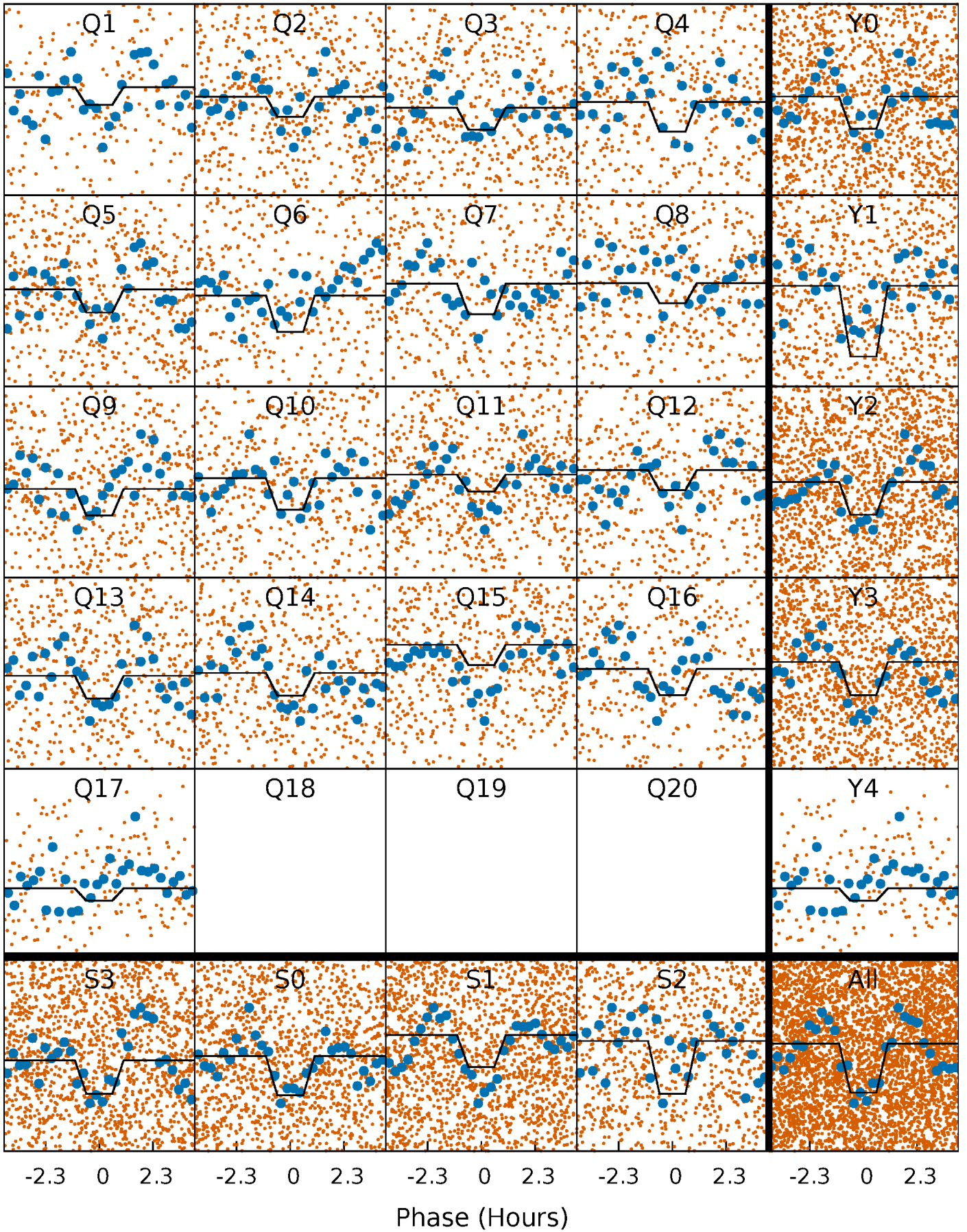
# DV Quarter-Phased Transit Curves

TCE 006752116-01 P= 2.176933 Days  $T_0=132.816127$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

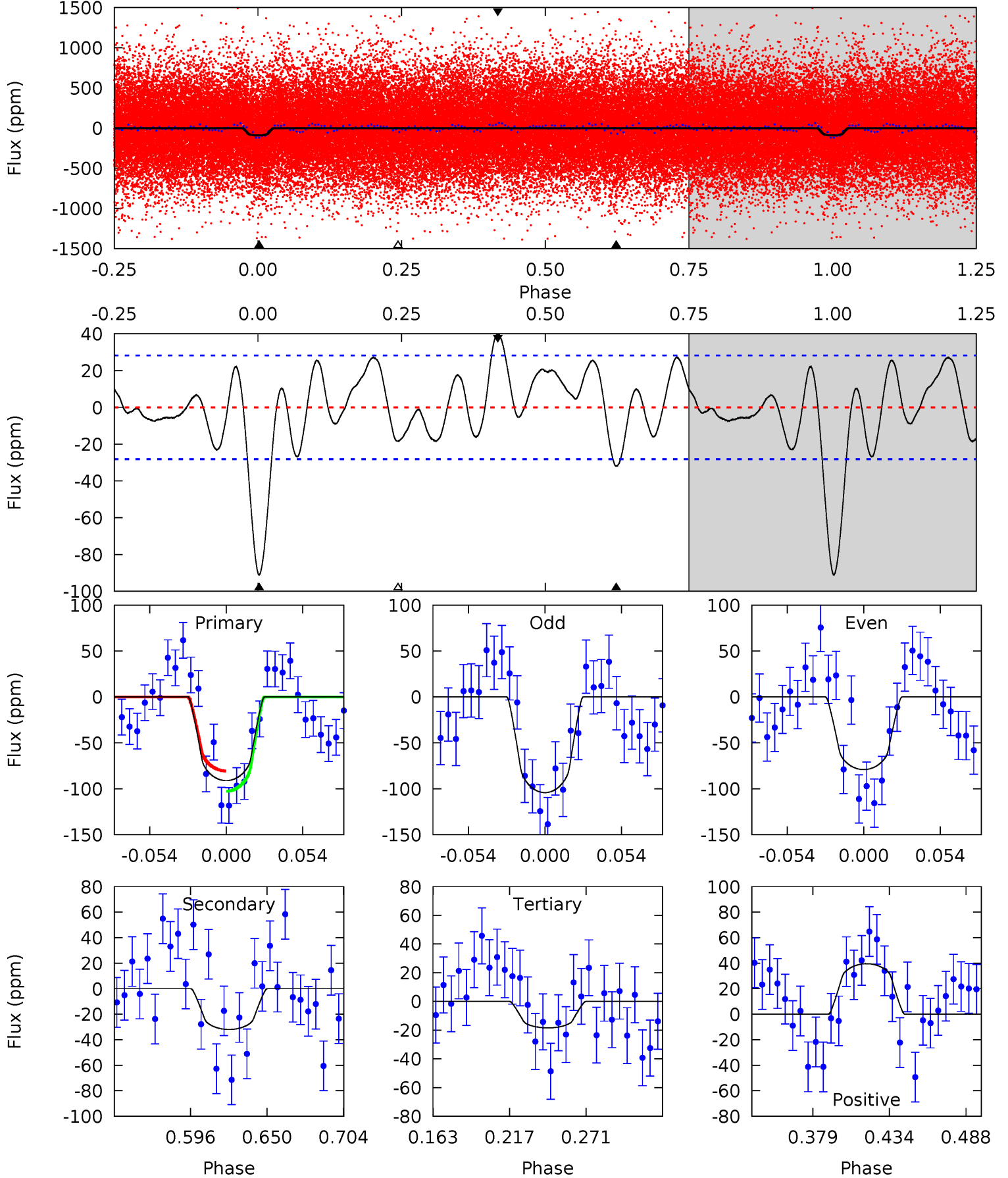
TCE 006752116-01 P= 2.176959 Days  $T_0=132.814024$  (BKJD)



# DV Model-Shift Uniqueness Test

006752116-01, P = 2.176933 Days, E = 130.639194 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
15.2	5.32	3.07	6.58	4.69	1.93	2.41	12.1	8.57	2.25	-1.26	2.08	0.96	0.30	1.83

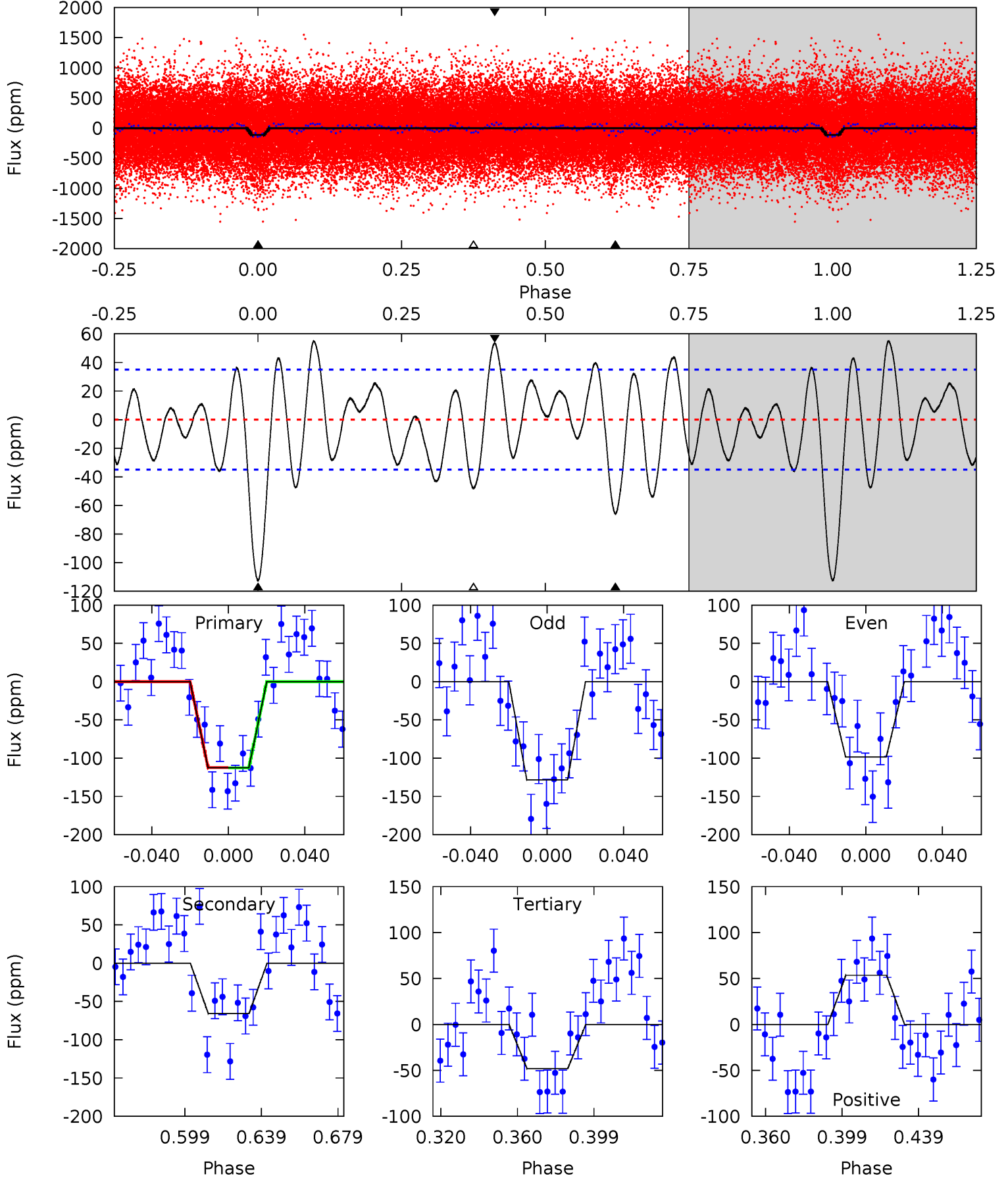




# Alt Model-Shift Uniqueness Test

006752116-01, P = 2.176959 Days, E = 130.637065 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
15.3	8.96	6.53	7.27	4.75	2.05	3.22	8.76	8.03	2.42	1.69	2.04	1.00	0.33	0.03





### Stellar Parameters For KIC 006752116

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4721^{+71}_{-52}$	$2.837^{+0.030}_{-0.030}$	$-0.060^{+0.150}_{-0.100}$	$6.408^{+1.036}_{-0.345}$	$1.029^{+0.351}_{-0.066}$	$0.006^{+0.001}_{-0.001}$
	+2%/-1%	+1%/-1%	+250%/-167%	+16%/-5%	+34%/-6%	+11%/-18%
Source	SPE74	AST9	SPE74	DSEP		

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

### Secondary Eclipse Parameters for KIC 006752116-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-32 \pm 6$	$7.63^{+3.15}_{-3.19}$	$4045^{+87}_{-70}$	$2671^{+1500}_{-5899}$	$0.336^{+0.628}_{-0.175}$
Alt.	$-66 \pm 7$	$7.32^{+3.11}_{-2.92}$	$4050^{+83}_{-72}$	$3914^{+1194}_{-958}$	$0.755^{+1.393}_{-0.382}$

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

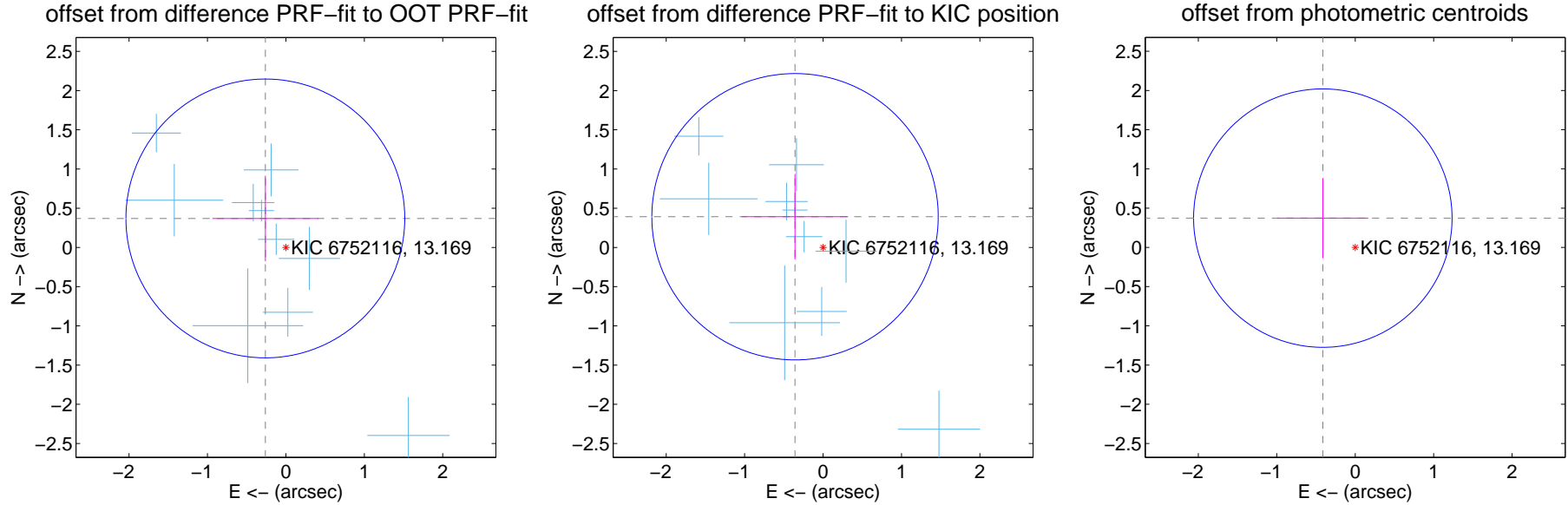
## DV Centroid Data

Supplemental centroid analysis for 006752116-01. Kepler magnitude: 13.17. Transit SNR 8.44

There are 10 quarters with good PRF difference image offsets

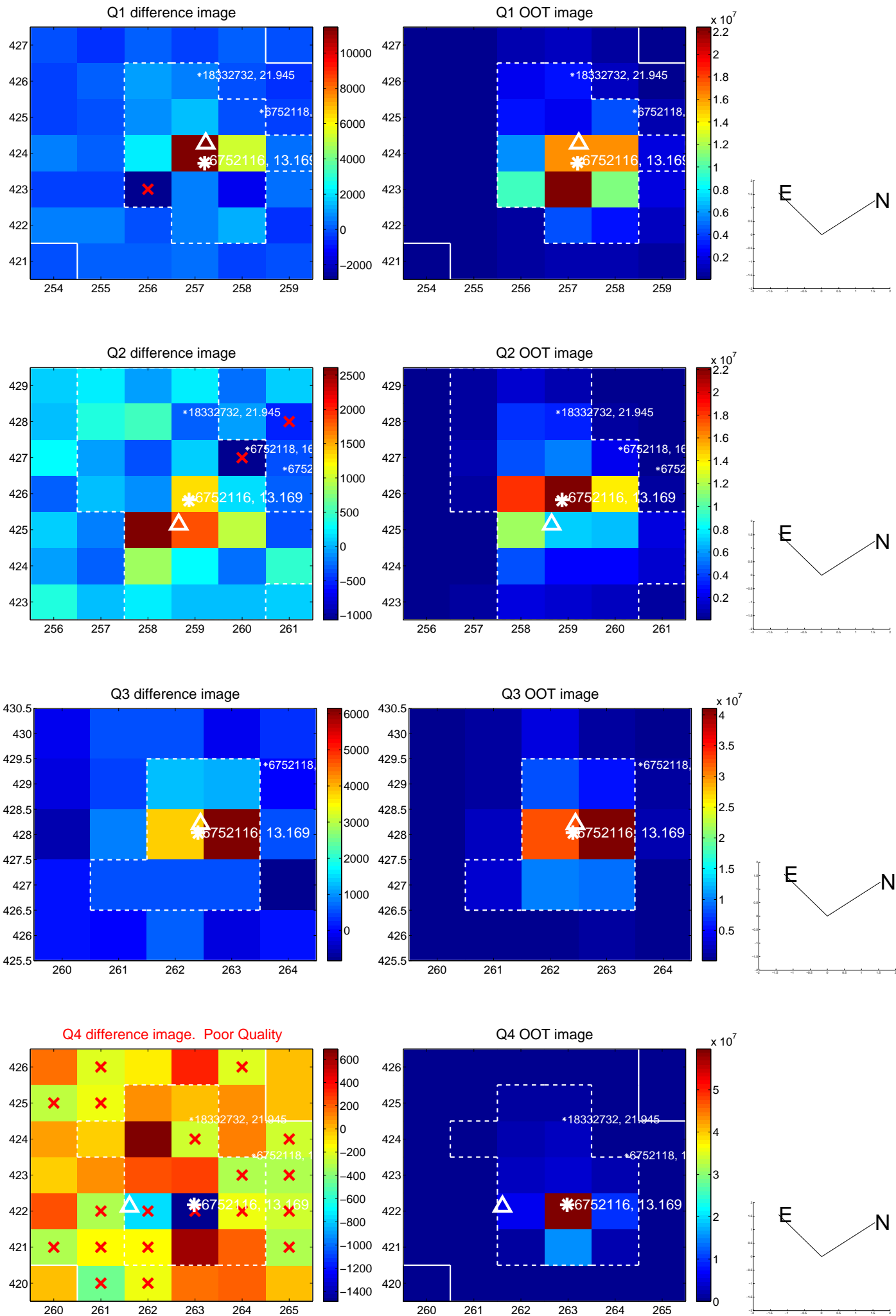
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.453 \pm 0.592$	0.76	$0.262 \pm 0.676$	$0.370 \pm 0.545$
PRF-fit source offset from KIC position	$0.530 \pm 0.608$	0.87	$0.357 \pm 0.676$	$0.392 \pm 0.545$
photometric centroid source offset	$0.56 \pm 0.55$	1.01	$0.41 \pm 0.58$	$0.37 \pm 0.51$

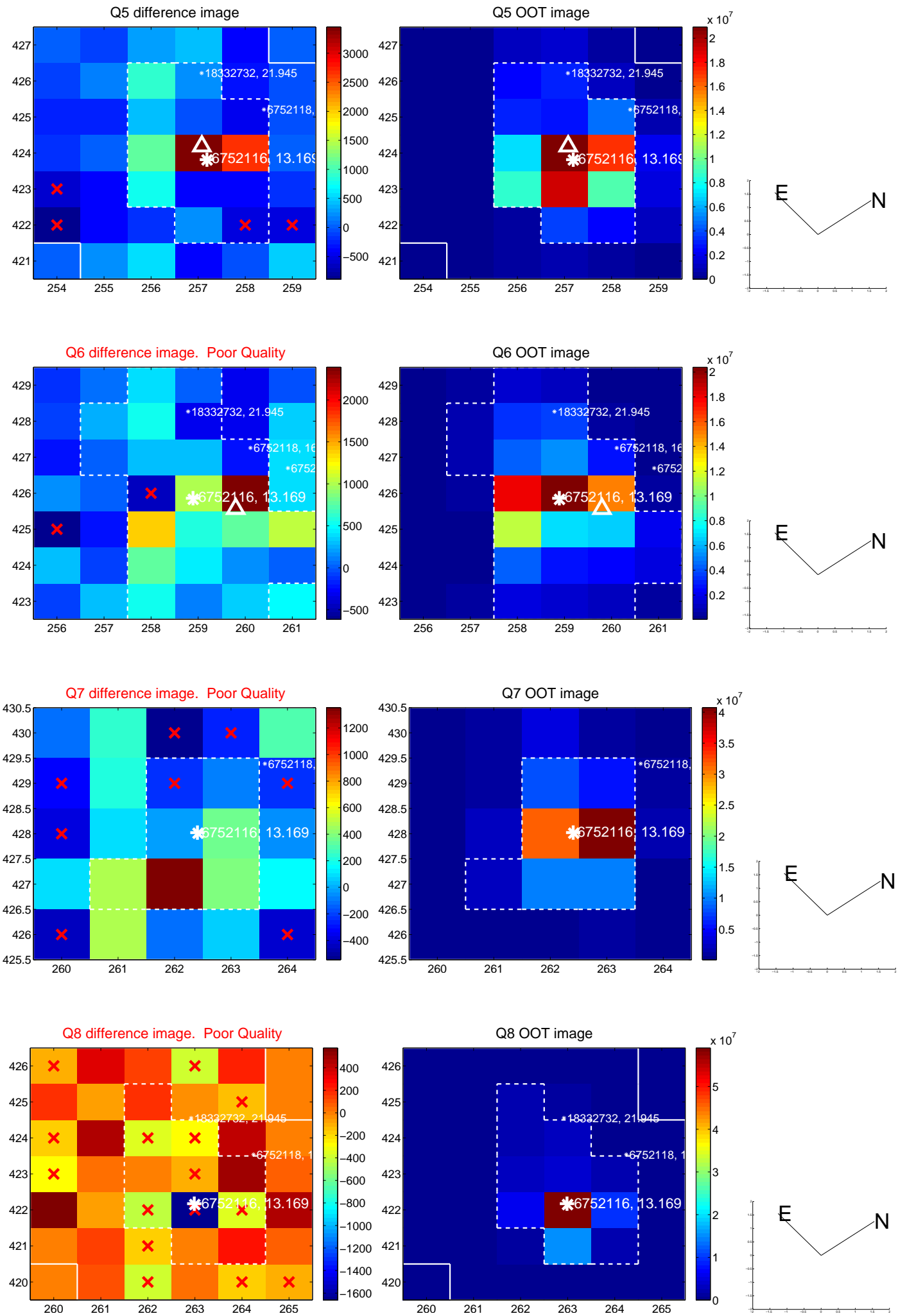


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

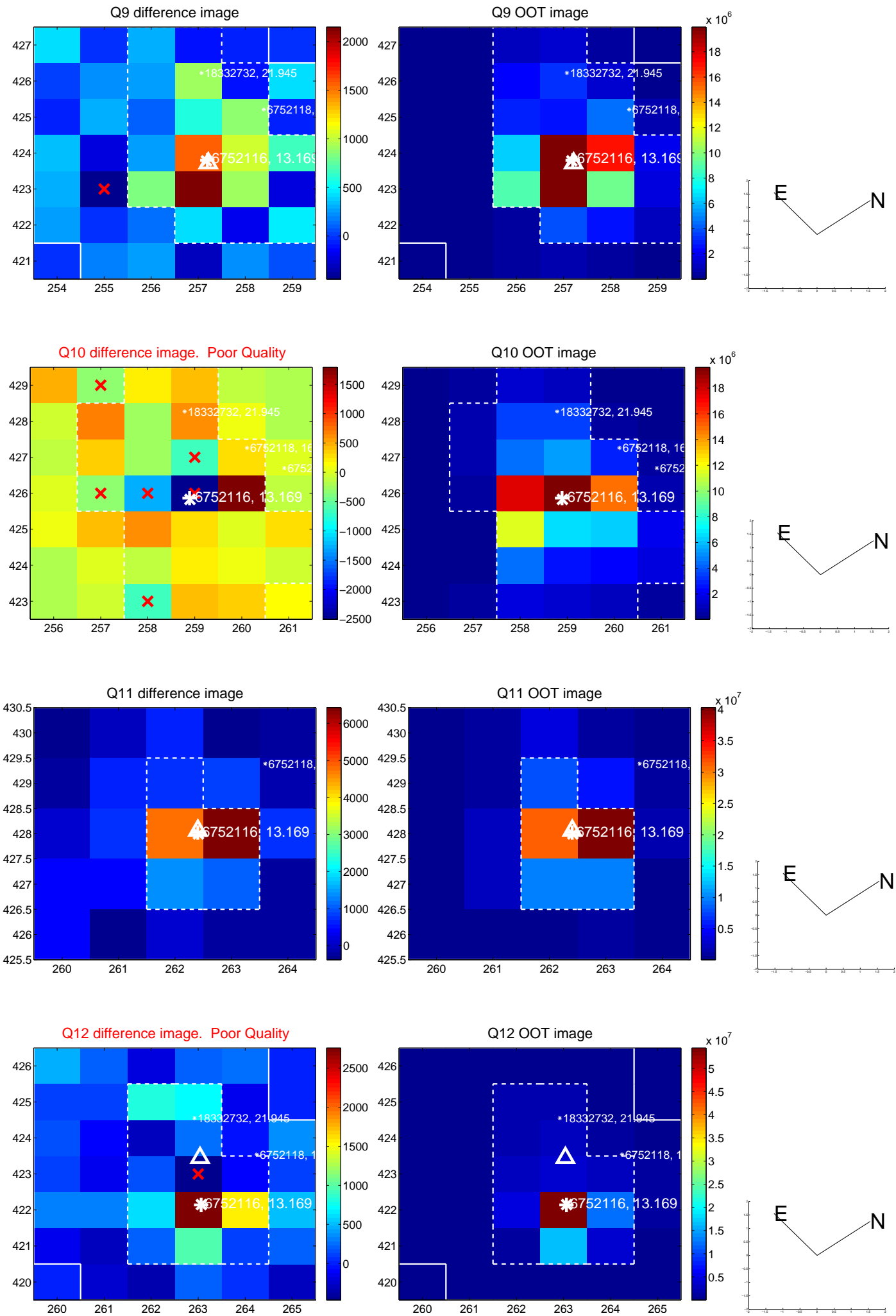


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

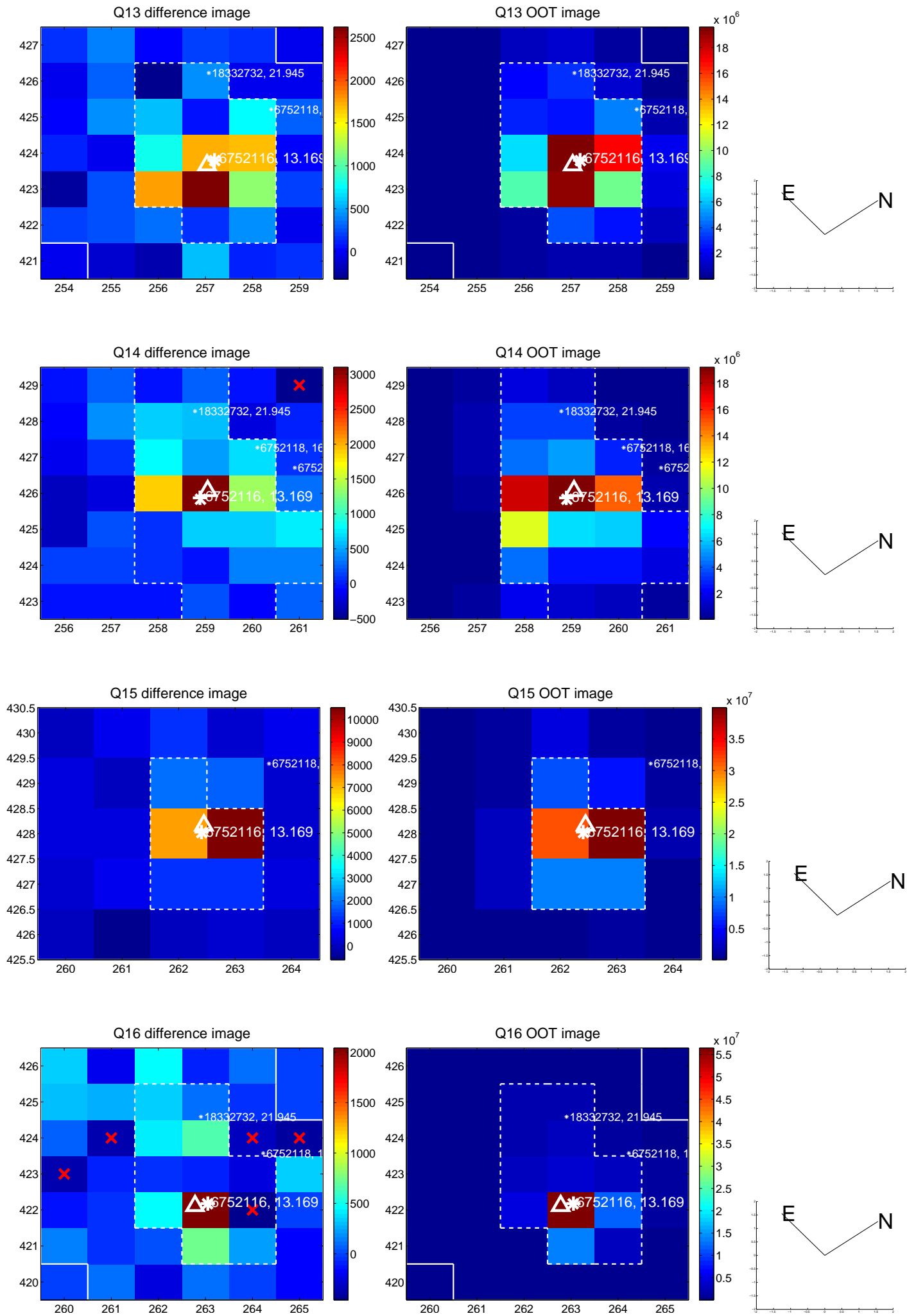




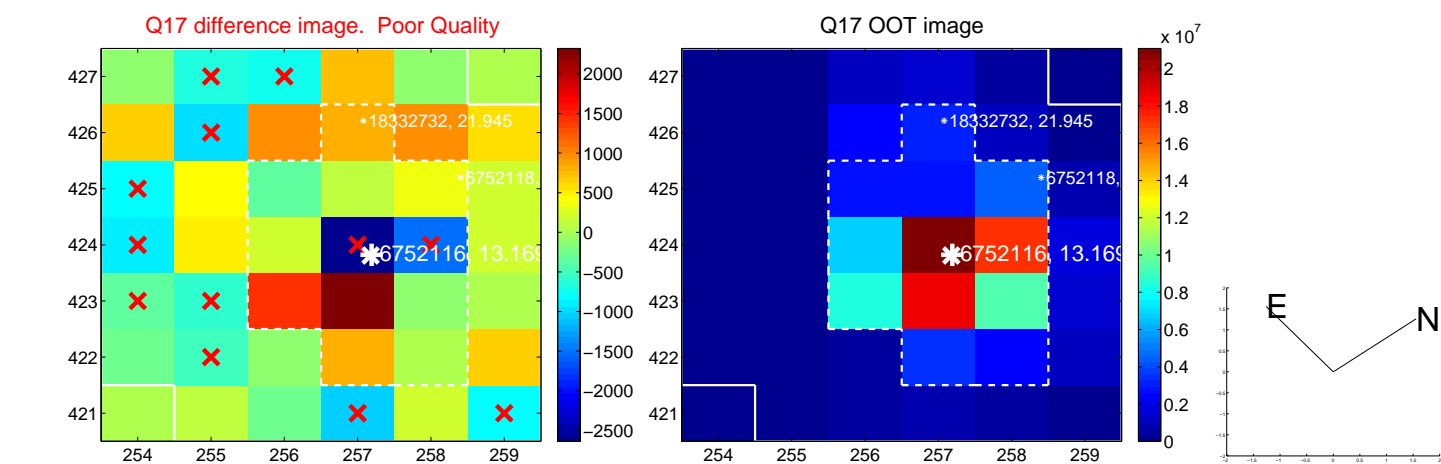
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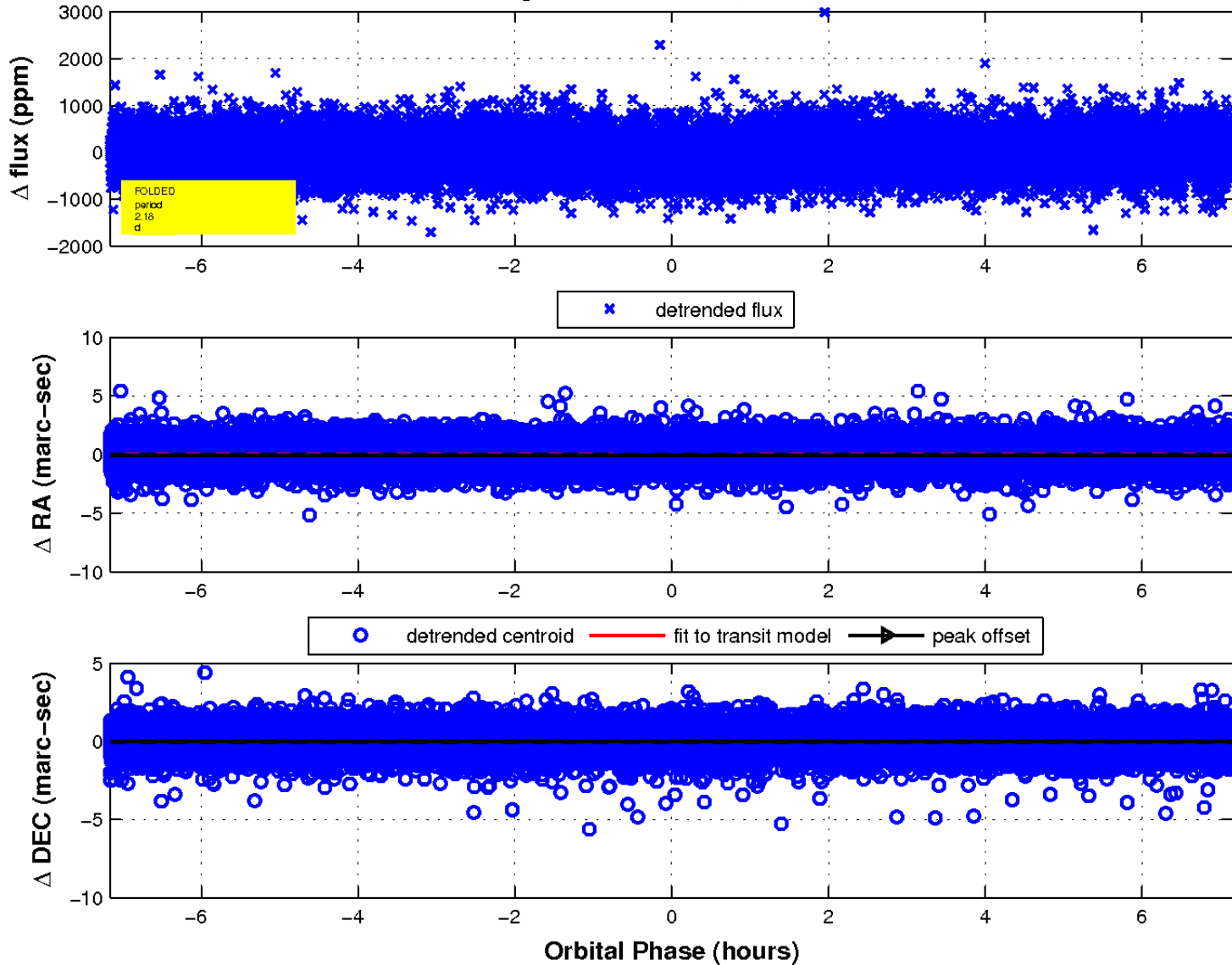
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

