

# KIC 011456154

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011456154-01	OBS	No	3.502077	131.599891	5.7	20.351	8.2	9.7	2.41	7302	0.65	4747.06

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011456154-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED

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

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

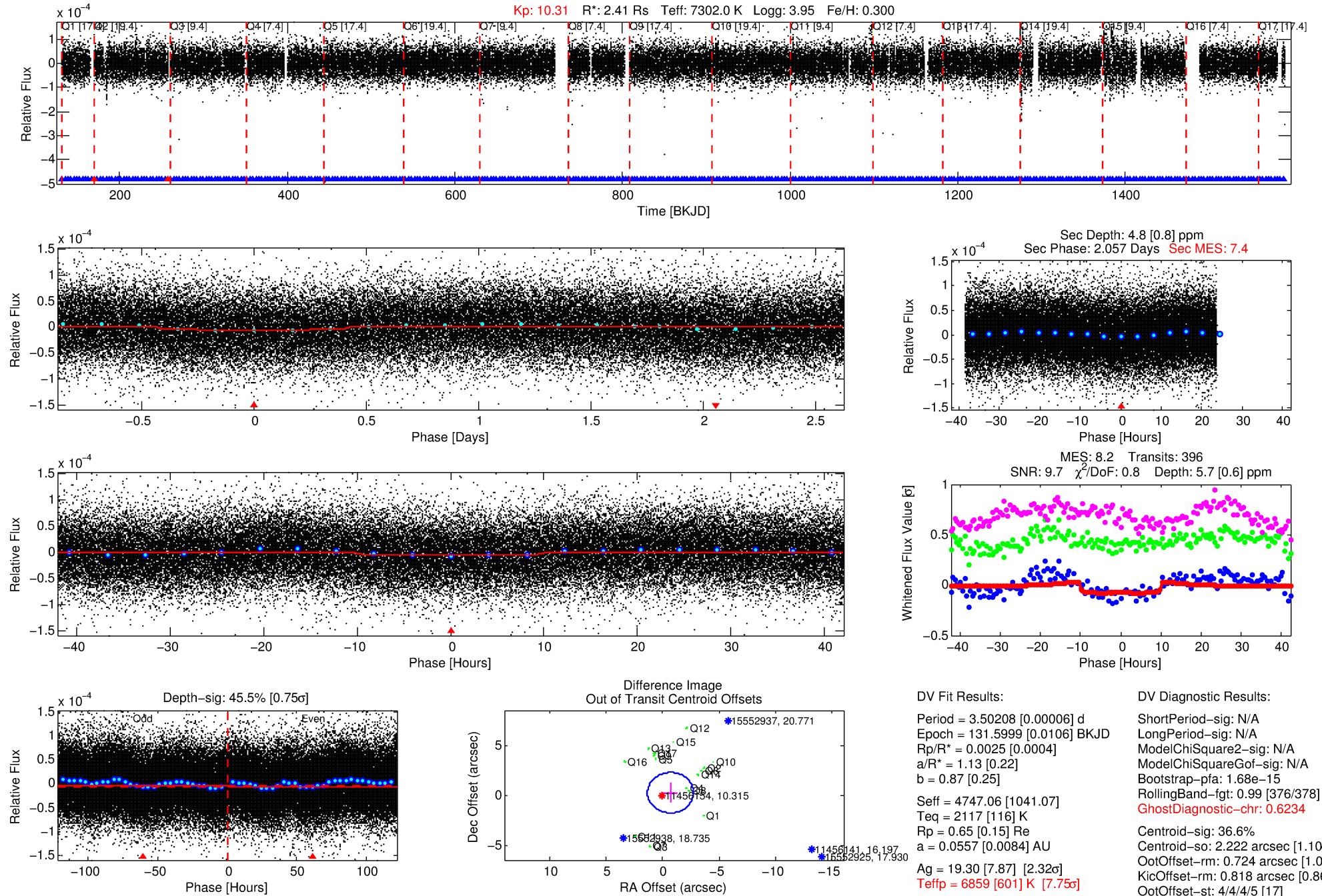
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011456154-01

No Significant Match Found

# DV One-Page Summary

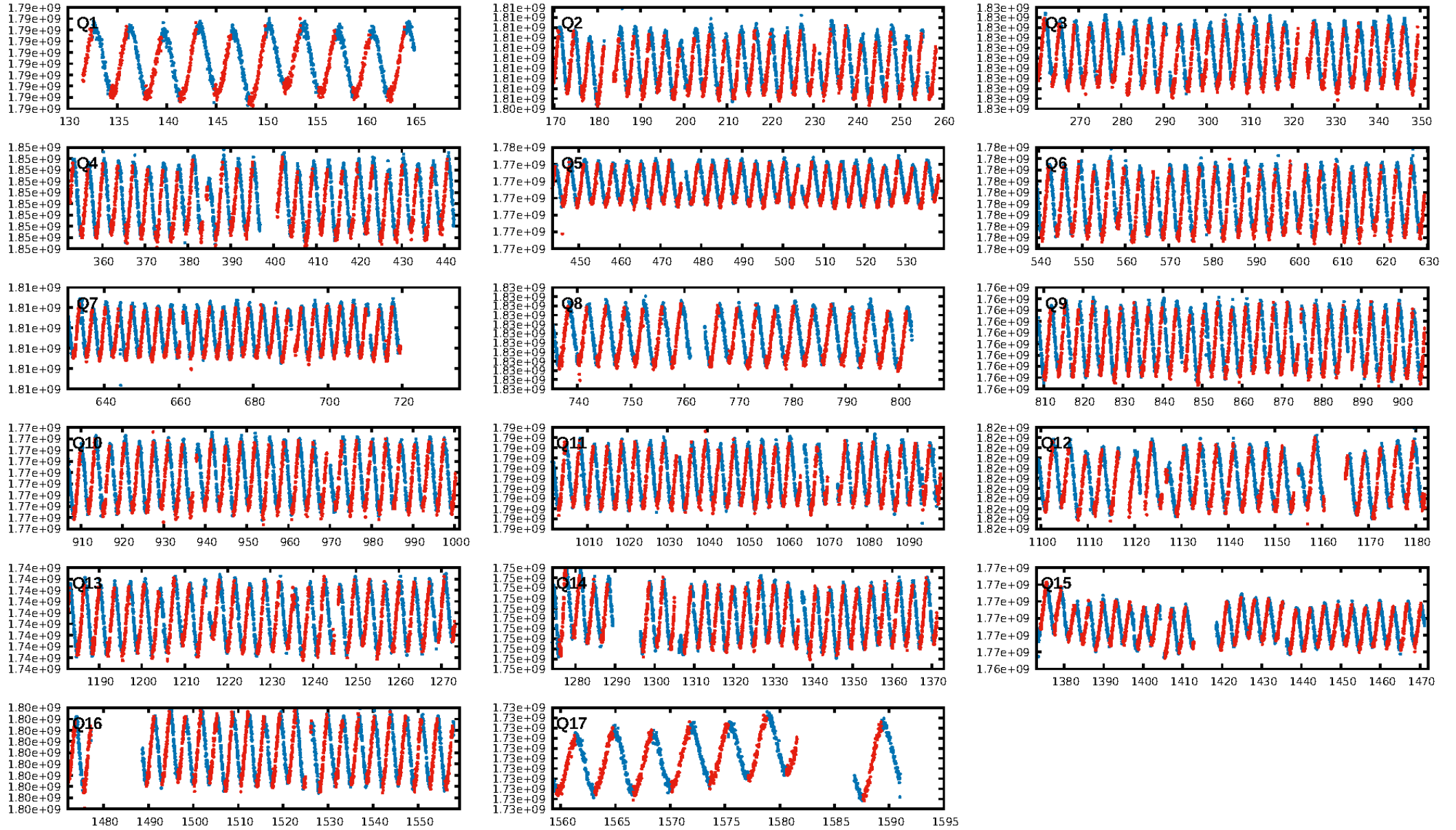
KIC: 11456154 Candidate: 1 of 1 Period: 3.502 d



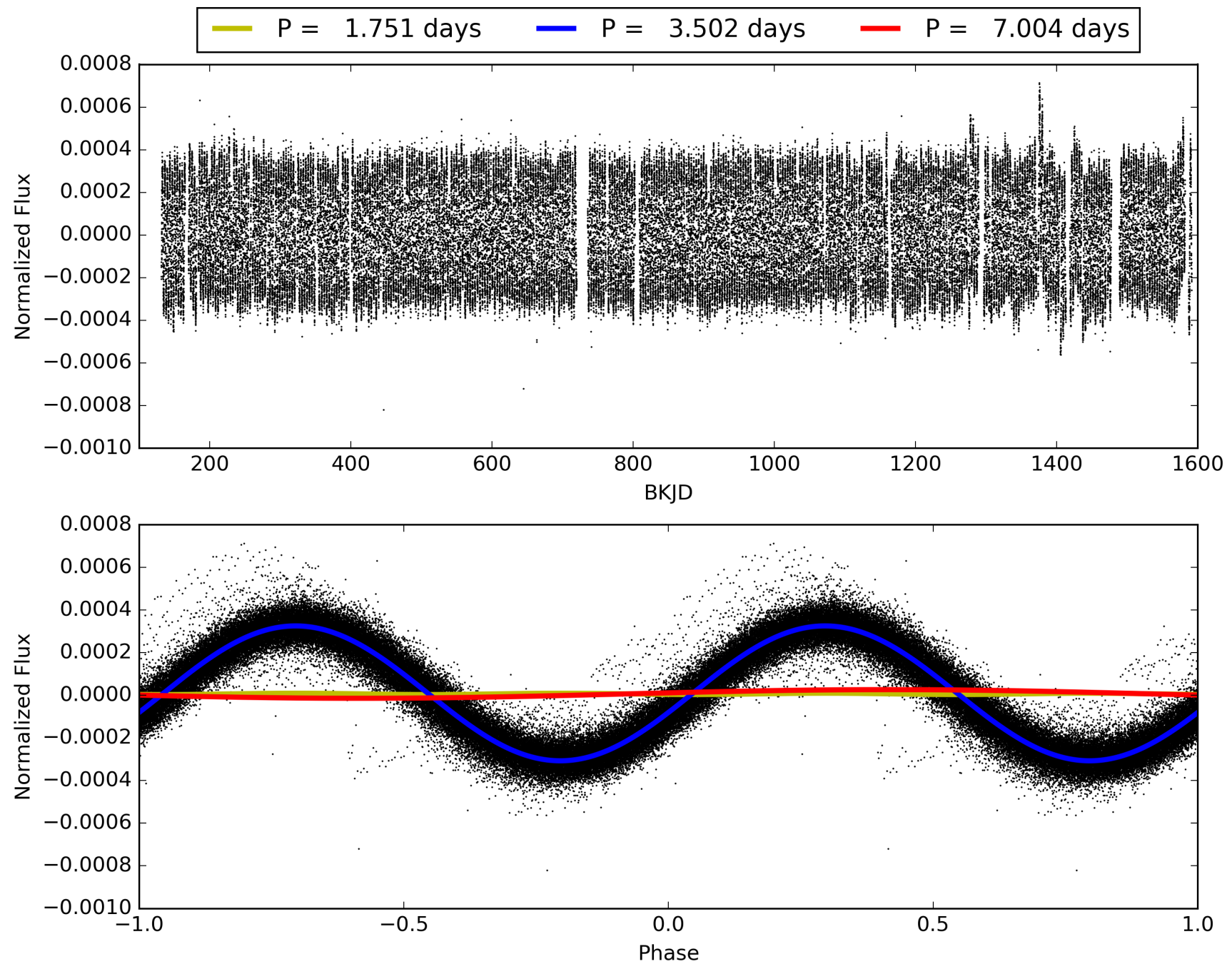
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:44:43 Z

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

# TCE 011456154-01, PDC Light Curves

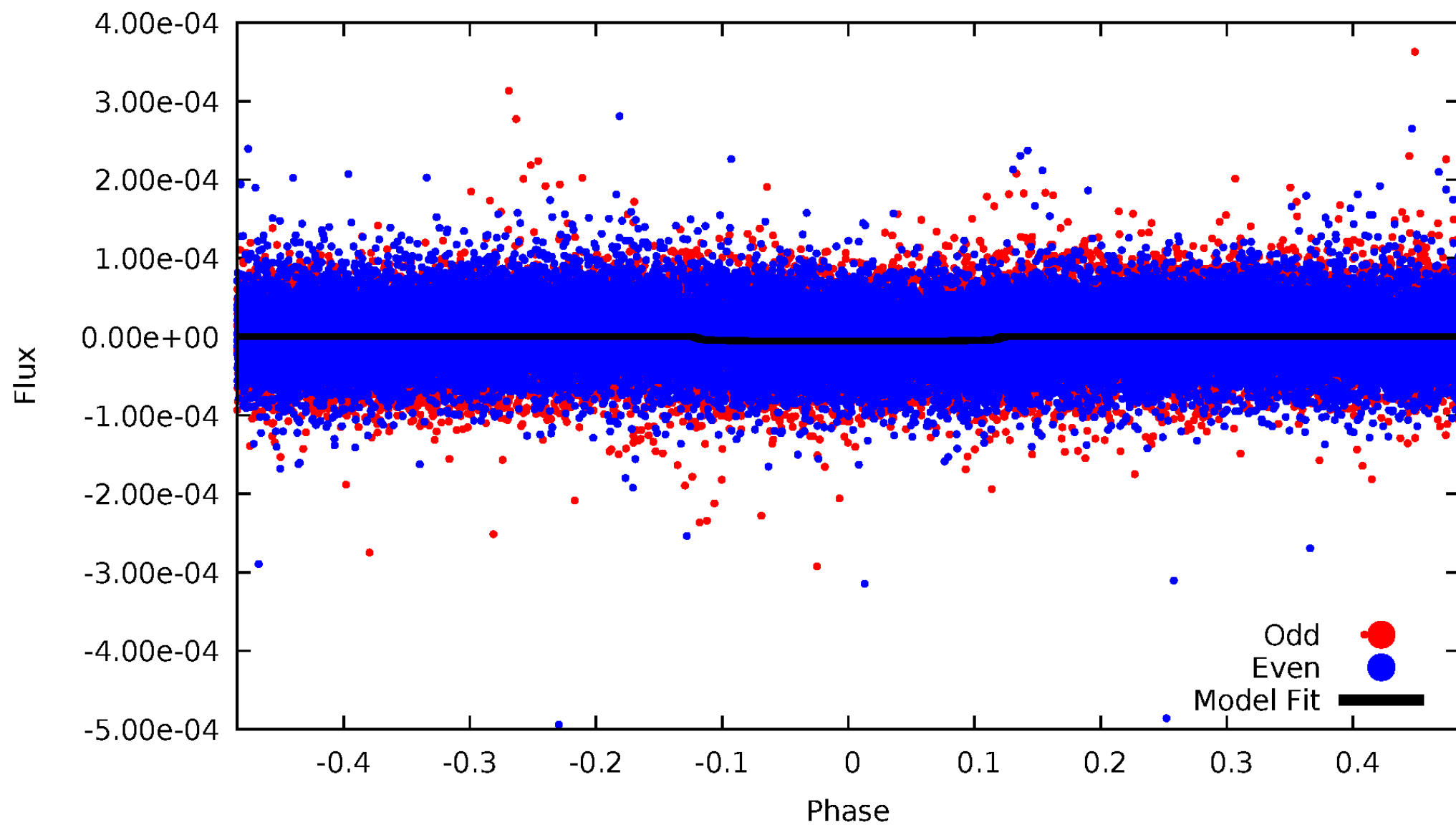


# TCE 011456154-01



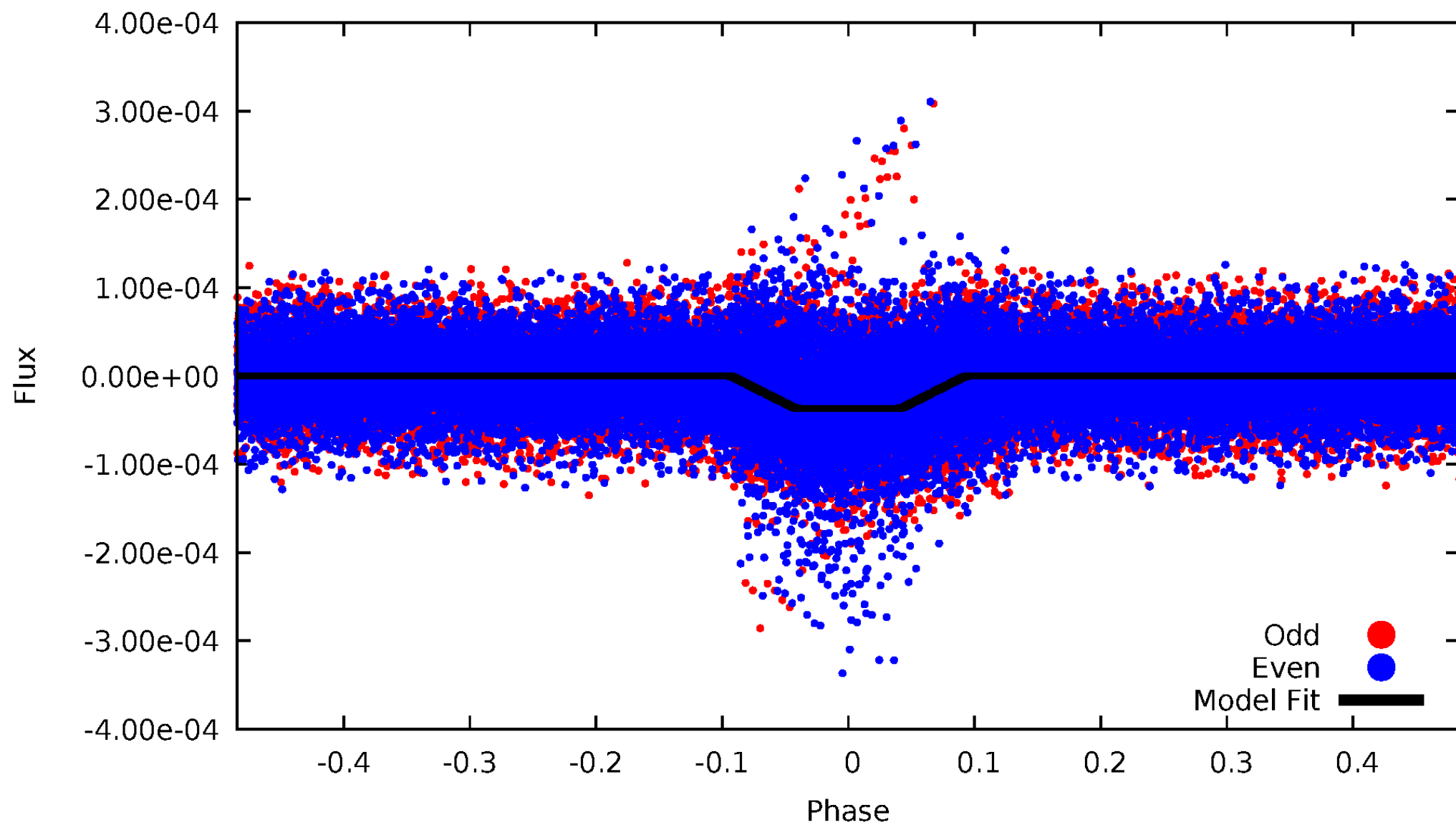
# DV Odd/Even

TCE 011456154-01



# ALT Odd/Even

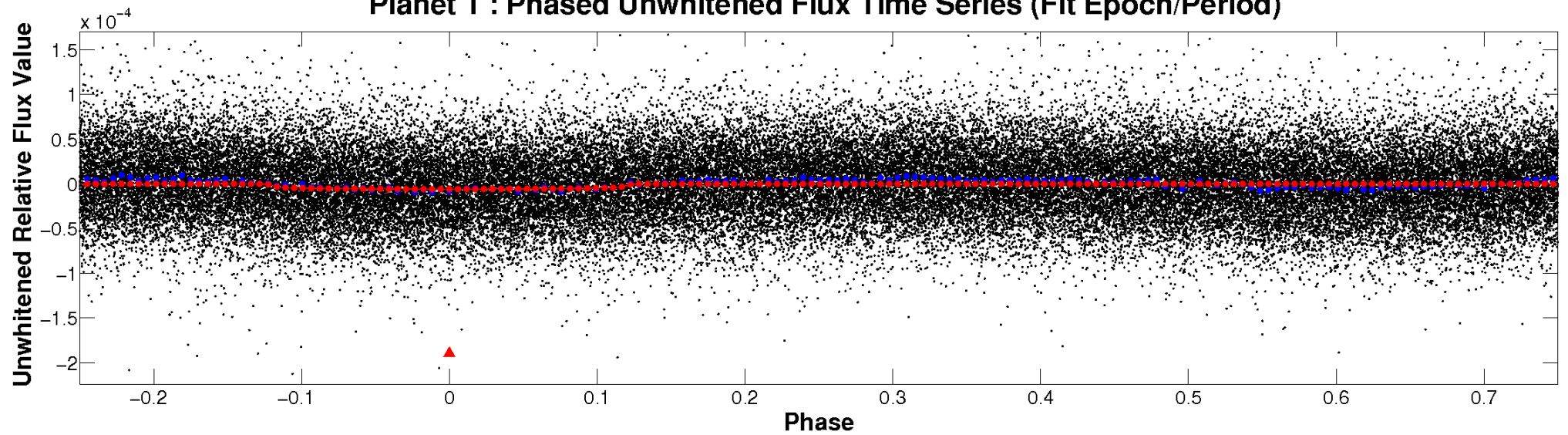
TCE 011456154-01



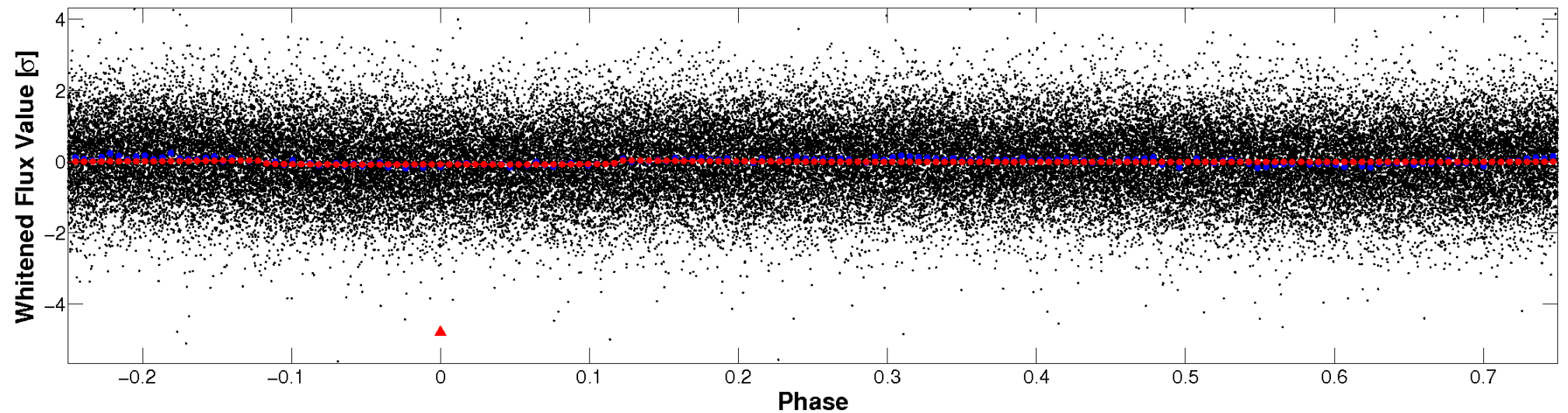


# Non-Whitened Vs. Whitened Light Curve

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

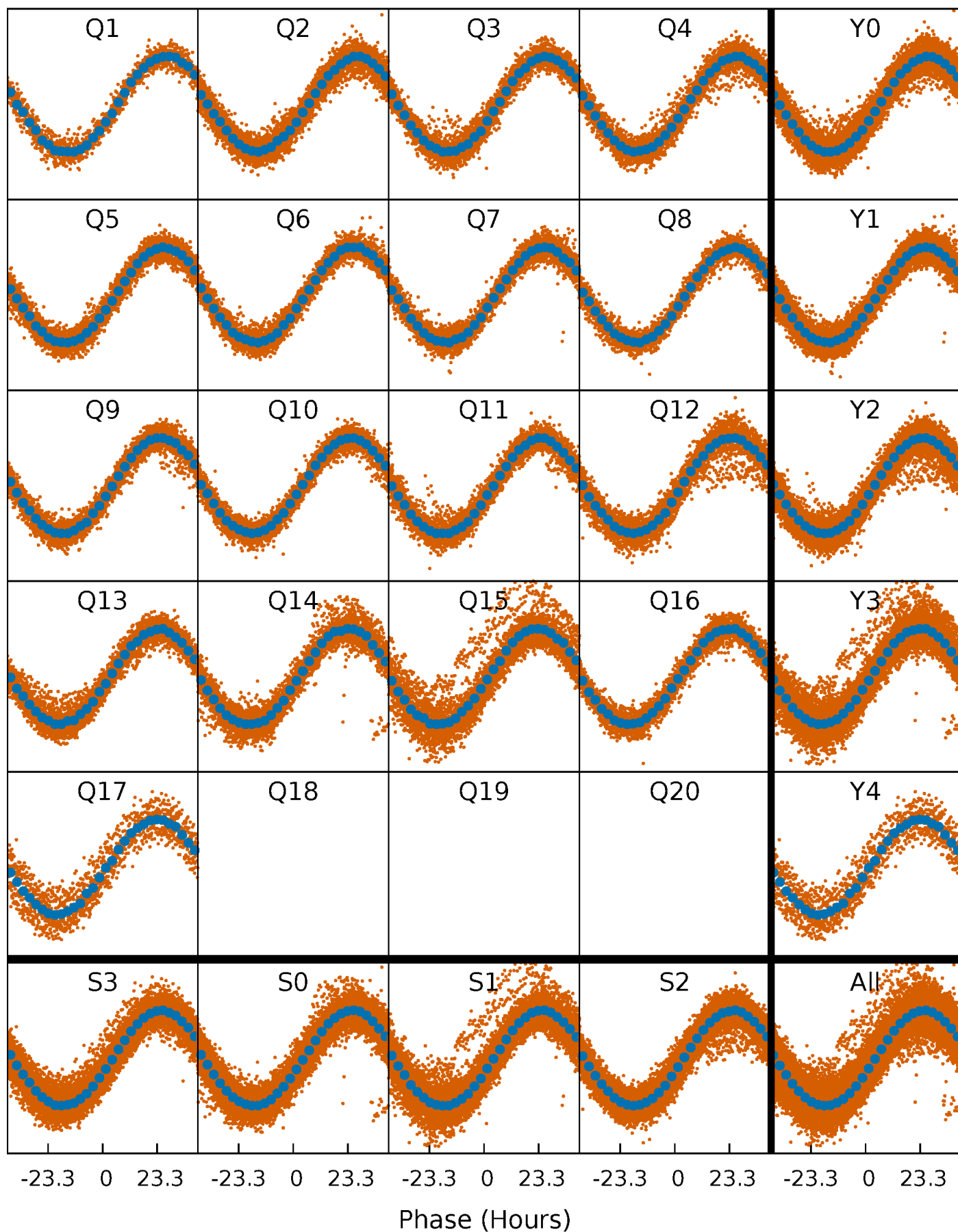


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

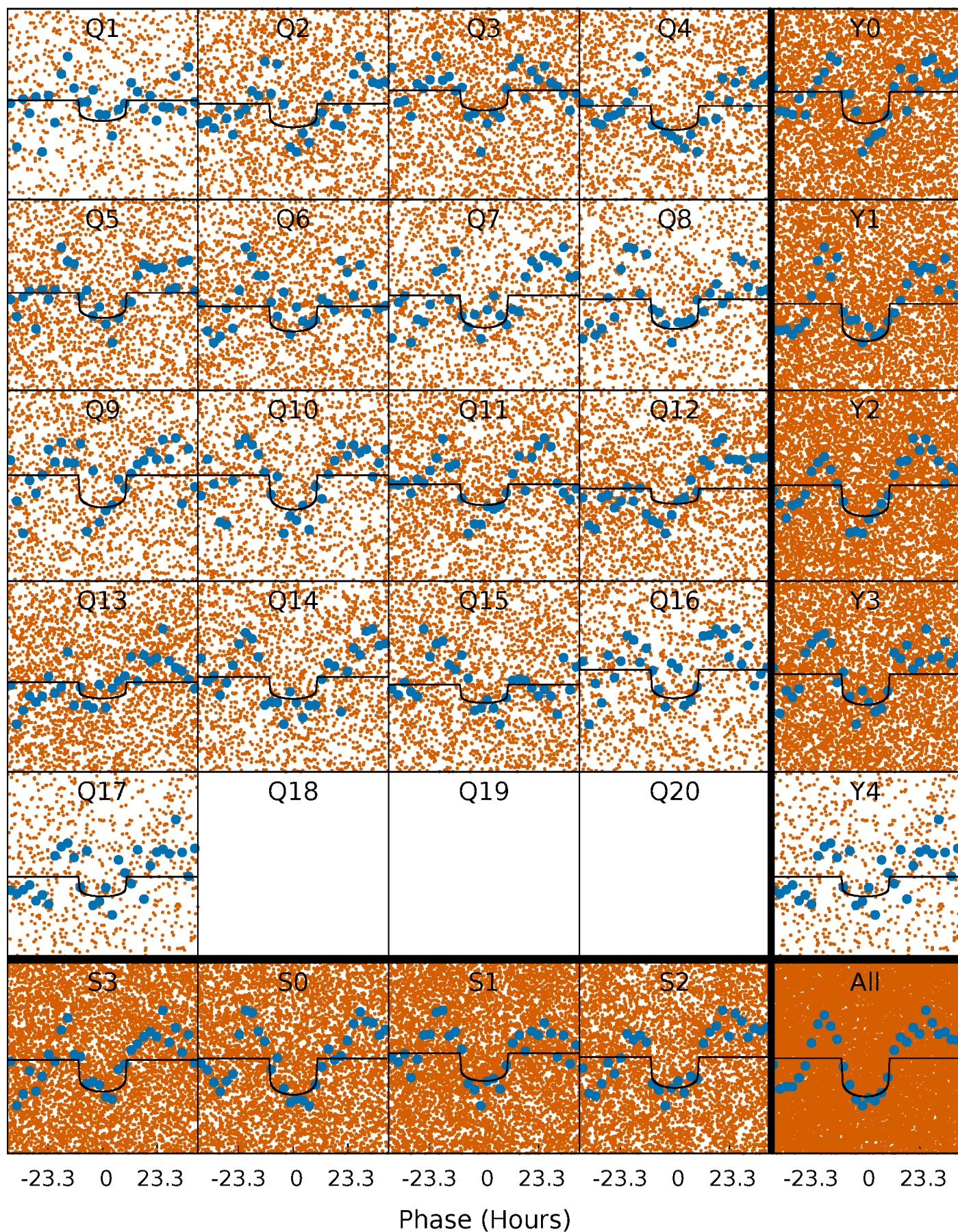
TCE 011456154-01 P= 3.502077 Days  $T_0=131.599891$  (BKJD)





# DV Quarter-Phased Transit Curves

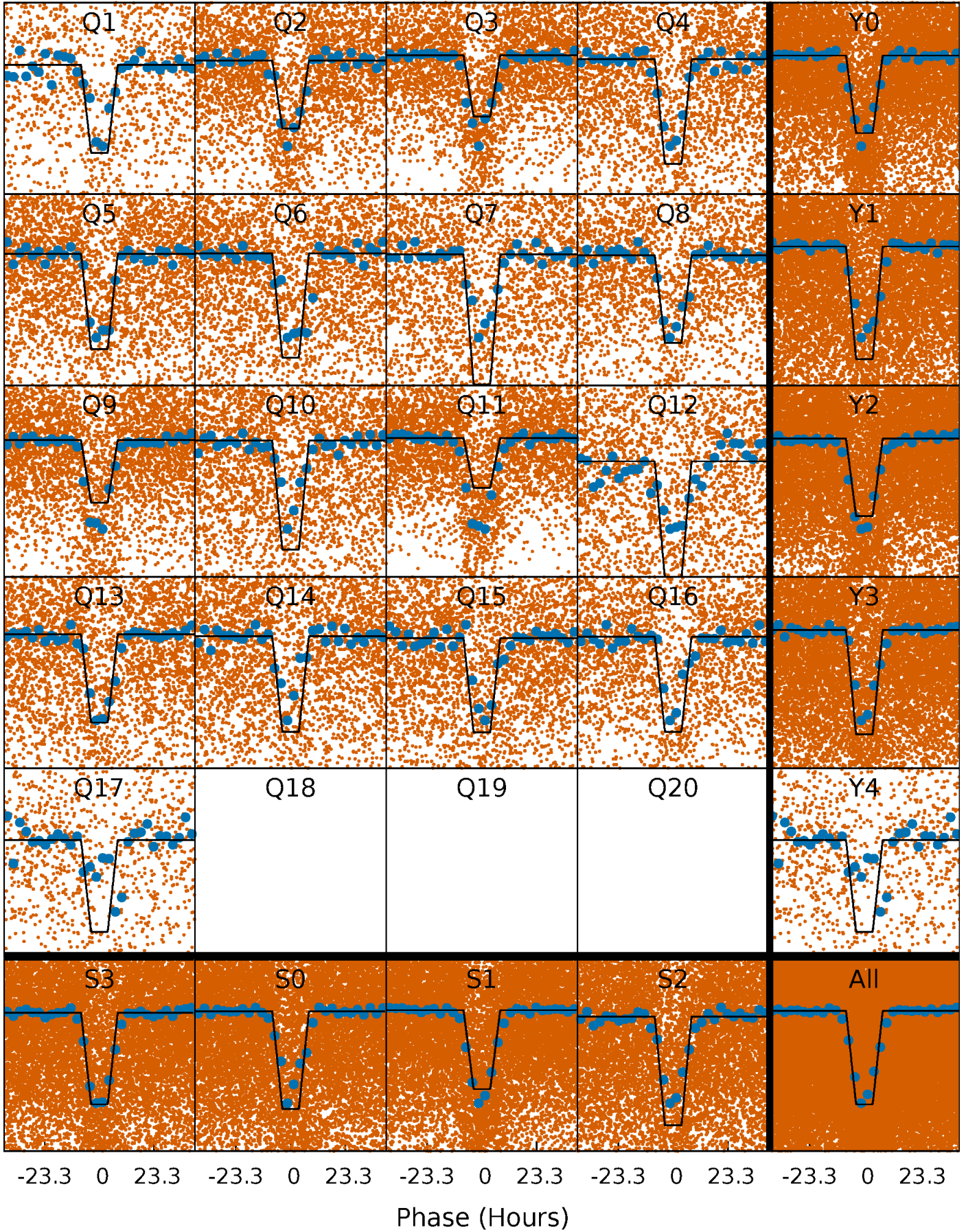
TCE 011456154-01 P= 3.502077 Days  $T_0=131.599891$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

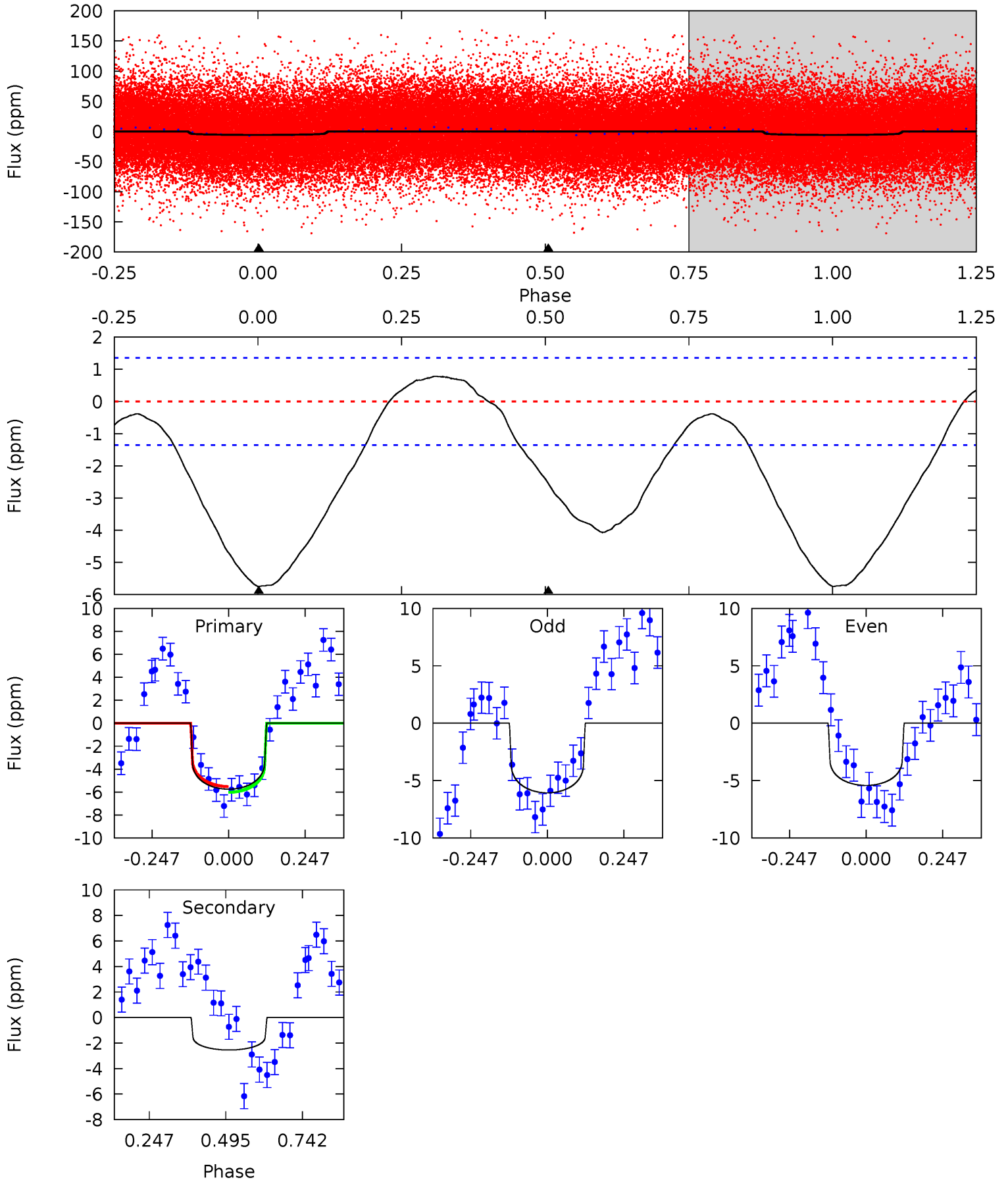
TCE 011456154-01 P= 3.501466 Days  $T_0=131.644470$  (BKJD)



# DV Model-Shift Uniqueness Test

011456154-01, P = 3.502077 Days, E = 128.097814 Days

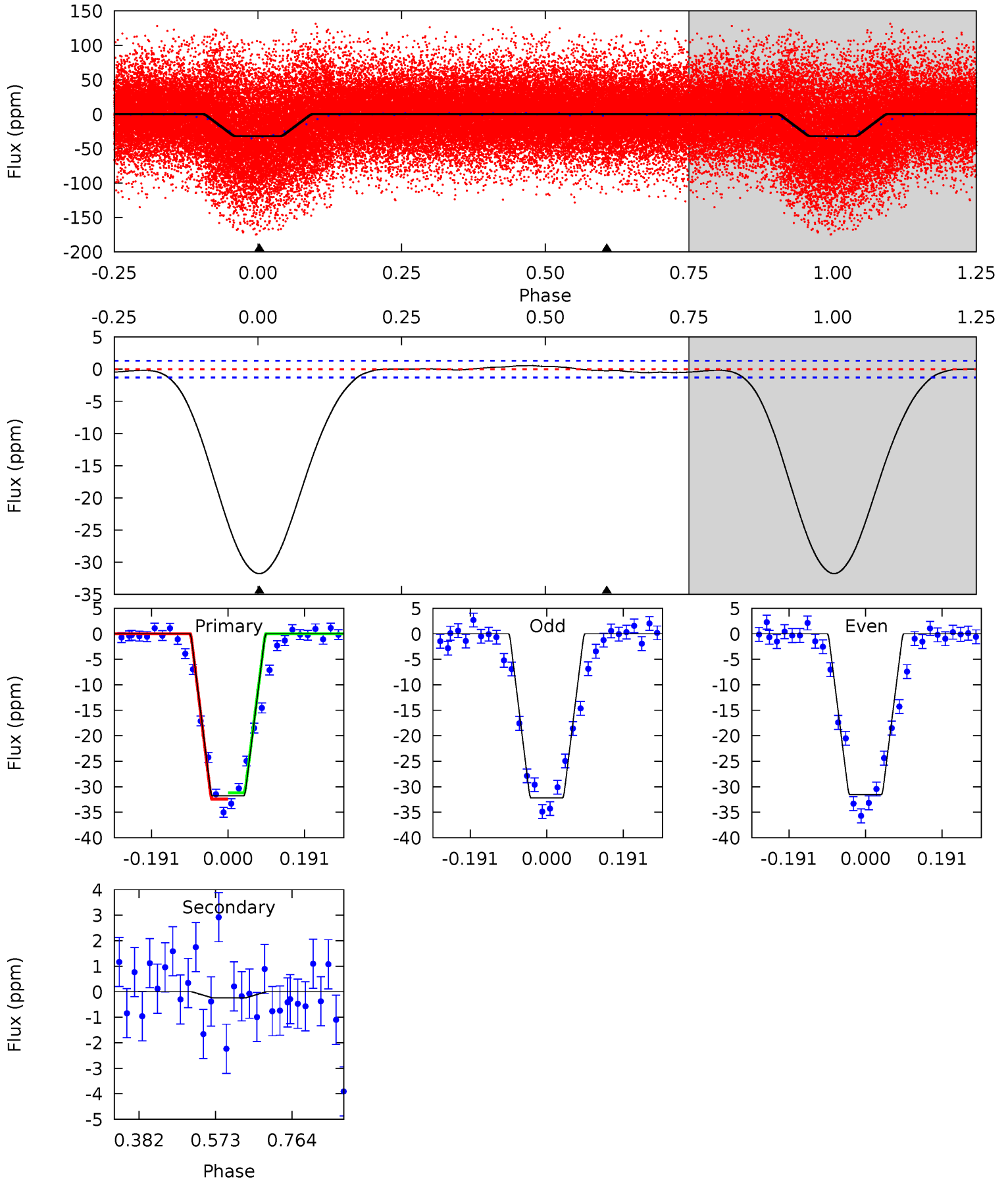
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	8.20	0	0	4.37	1.16	1.93	18.5	18.5	8.20	8.20	1.03	1.16	0.12	0.79



# Alt Model-Shift Uniqueness Test

011456154-01, P = 3.501466 Days, E = 128.143004 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
107.5	0.81	0	0	4.43	1.31	0.43	107.5	107.5	0.81	0.81	1.08	1.01	0.02	2.05



### Stellar Parameters For KIC 011456154

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7302^{+72}_{-87}$	$3.950^{+0.115}_{-0.103}$	$0.300^{+0.050}_{-0.150}$	$2.406^{+0.357}_{-0.437}$	$1.882^{+0.104}_{-0.178}$	$0.190^{+0.110}_{-0.059}$
	+1%/-1%	+3%/-3%	+17%/-50%	+15%/-18%	+6%/-9%	+58%/-31%
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 011456154-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-3\pm0$	$0.65^{+0.11}_{-0.11}$	$2964^{+116}_{-133}$	$5724^{+581}_{-396}$	$9.954^{+4.894}_{-2.754}$
Alt.	$-0\pm0$	$1.59^{+0.18}_{-0.16}$	$2962^{+123}_{-128}$	$-2724^{+5197}_{-397}$	$0.171^{+0.193}_{-0.209}$

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



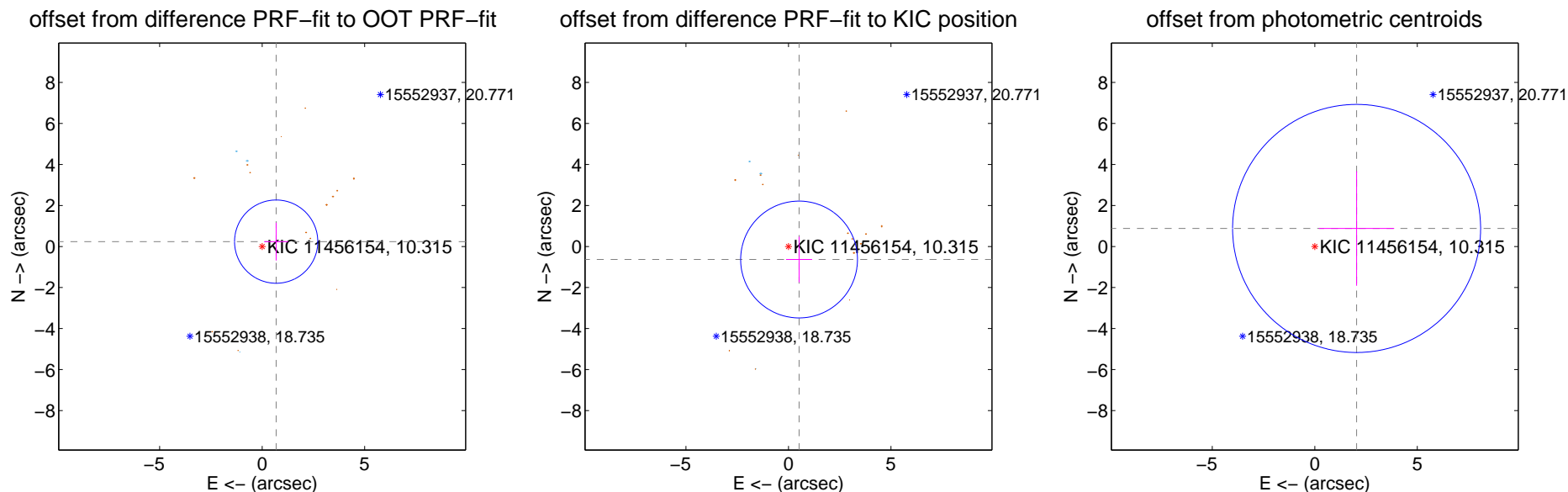
## DV Centroid Data

Supplemental centroid analysis for 011456154-01. **Kepler magnitude: 10.31.** Transit SNR 9.67

**There are 3 quarters with good PRF difference image offsets**

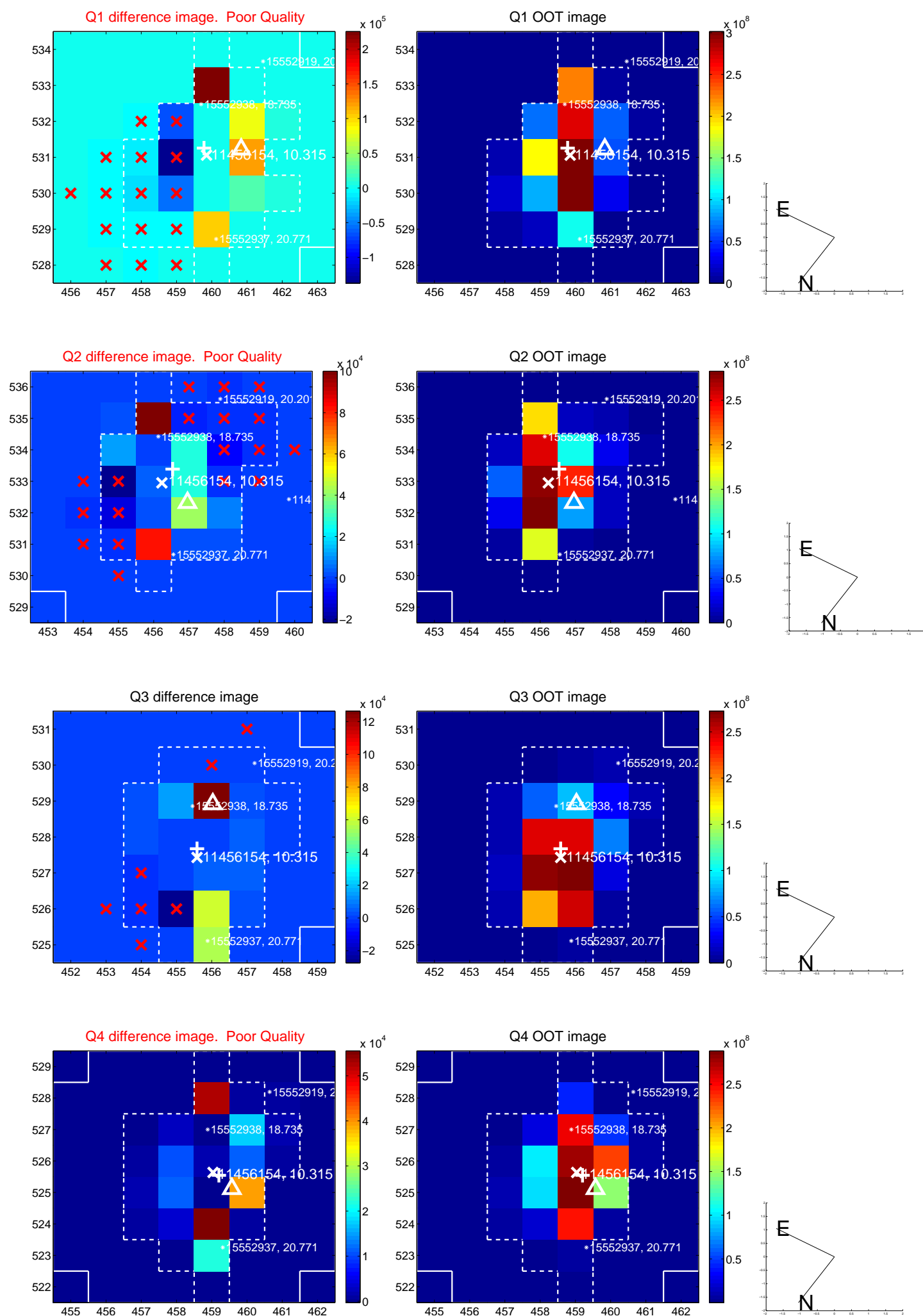
The direct PRF centroid is offset from the target star catalog position by about 0.88 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.724 \pm 0.677$	1.07	$-0.684 \pm 0.582$	$0.238 \pm 0.922$
PRF-fit source offset from KIC position	$0.818 \pm 0.949$	0.86	$-0.517 \pm 0.635$	$-0.634 \pm 1.111$
photometric centroid source offset	$2.22 \pm 2.02$	1.10	$-2.04 \pm 1.83$	$0.88 \pm 2.80$

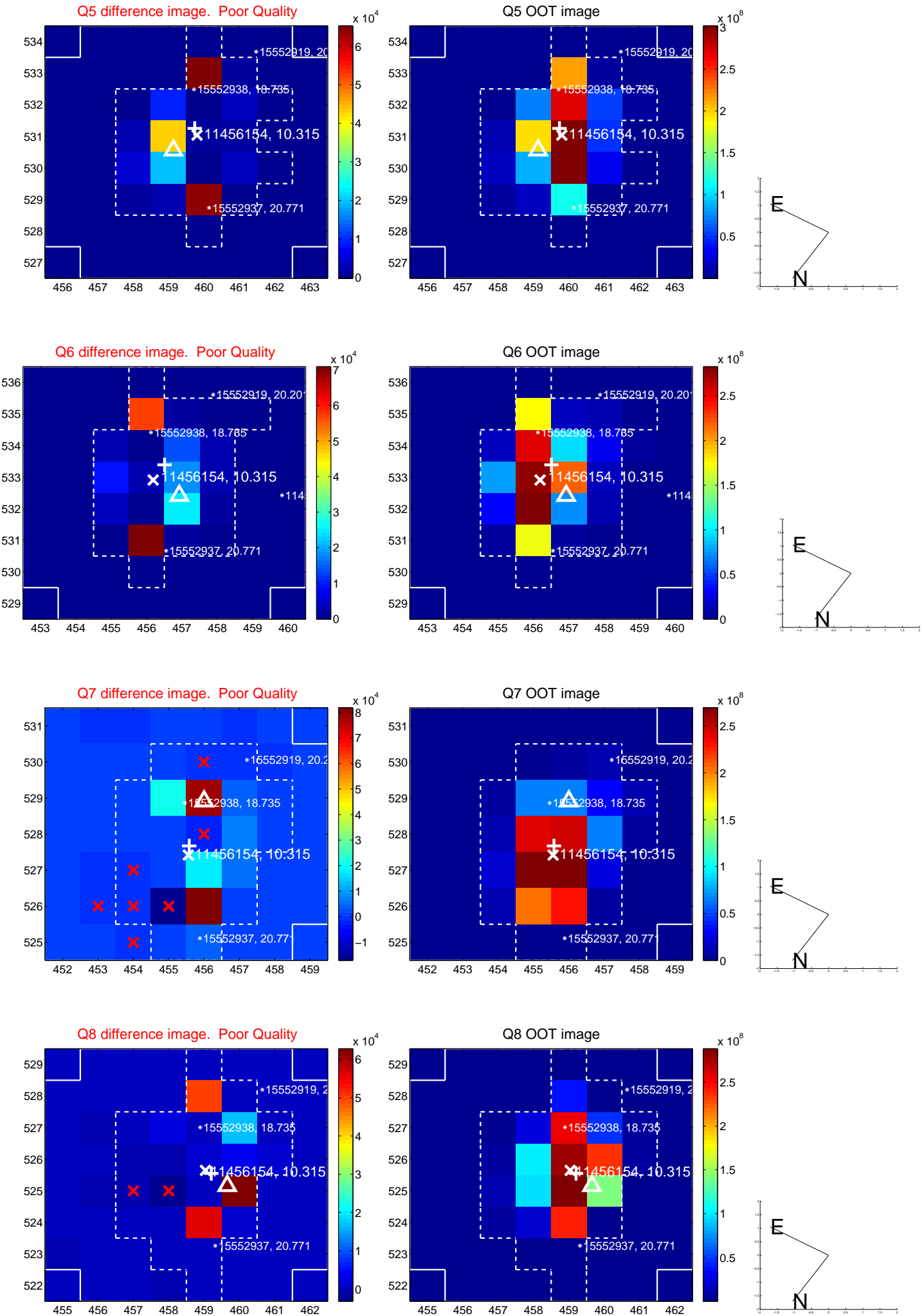


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

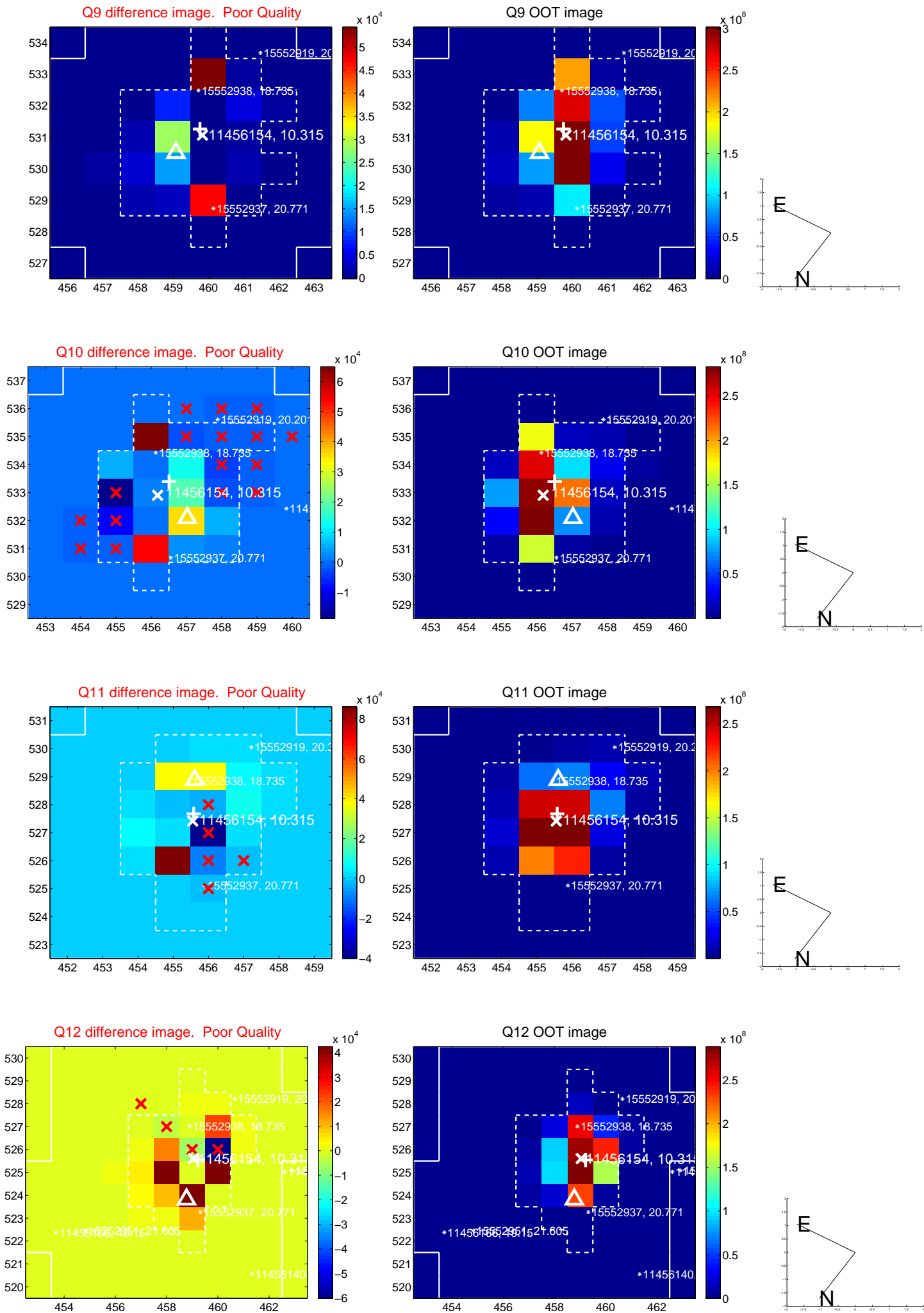
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



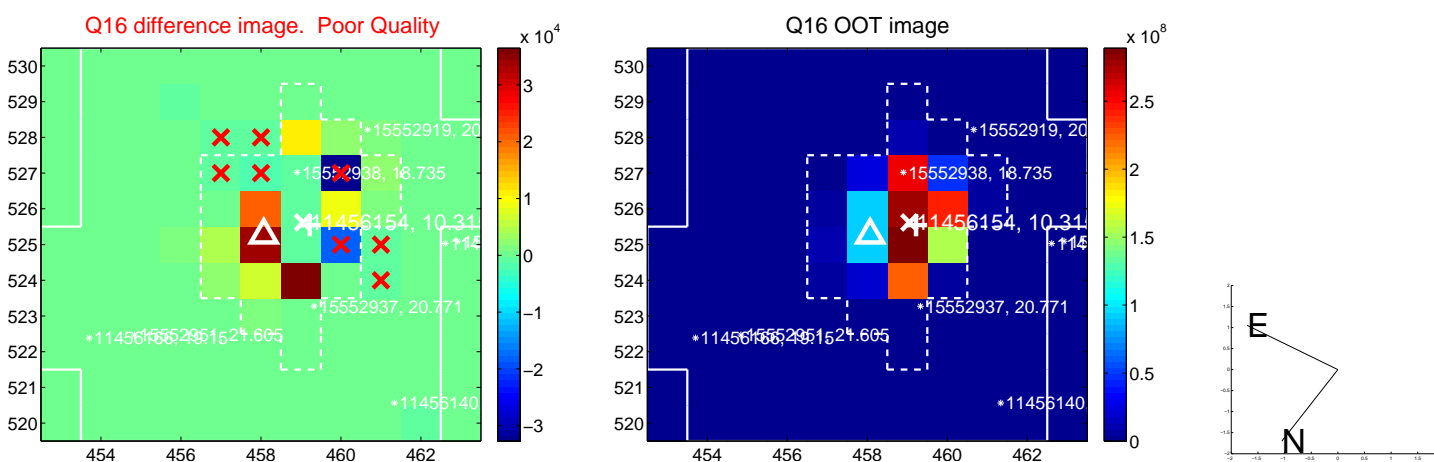
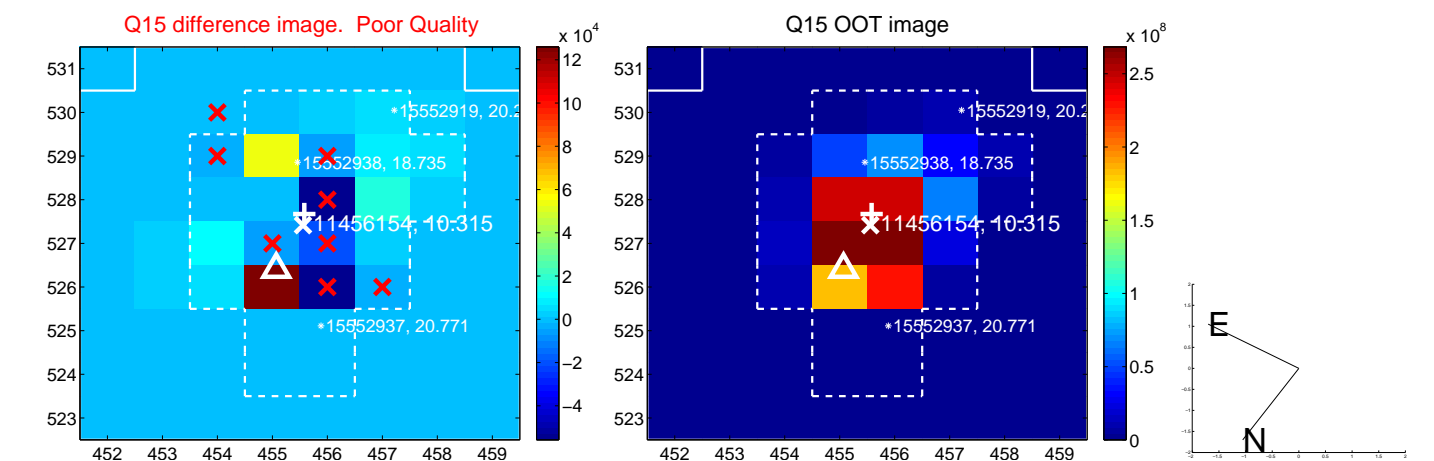
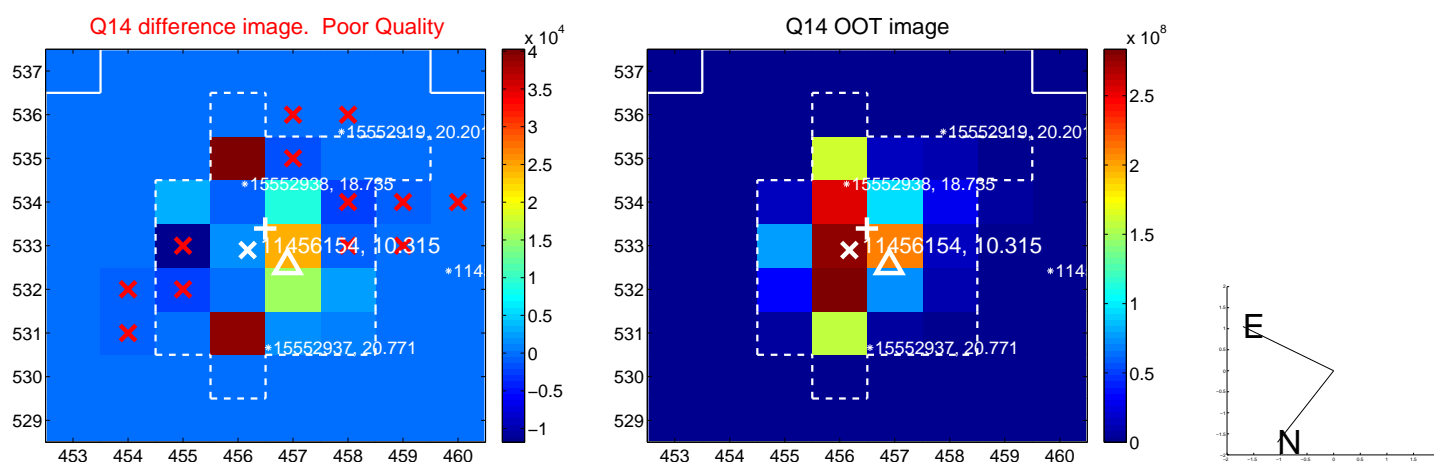
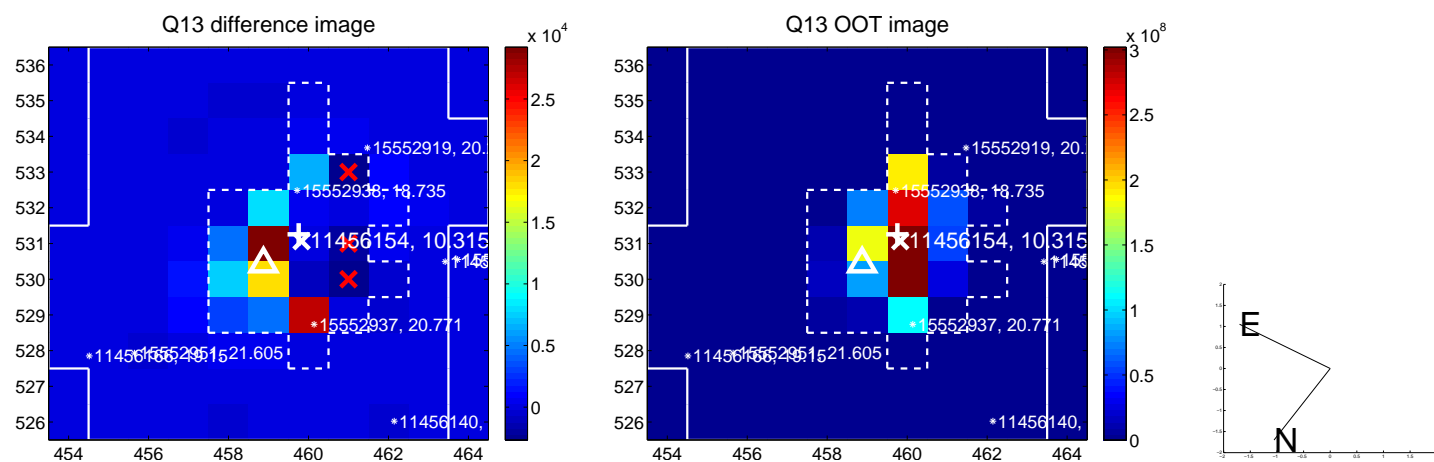
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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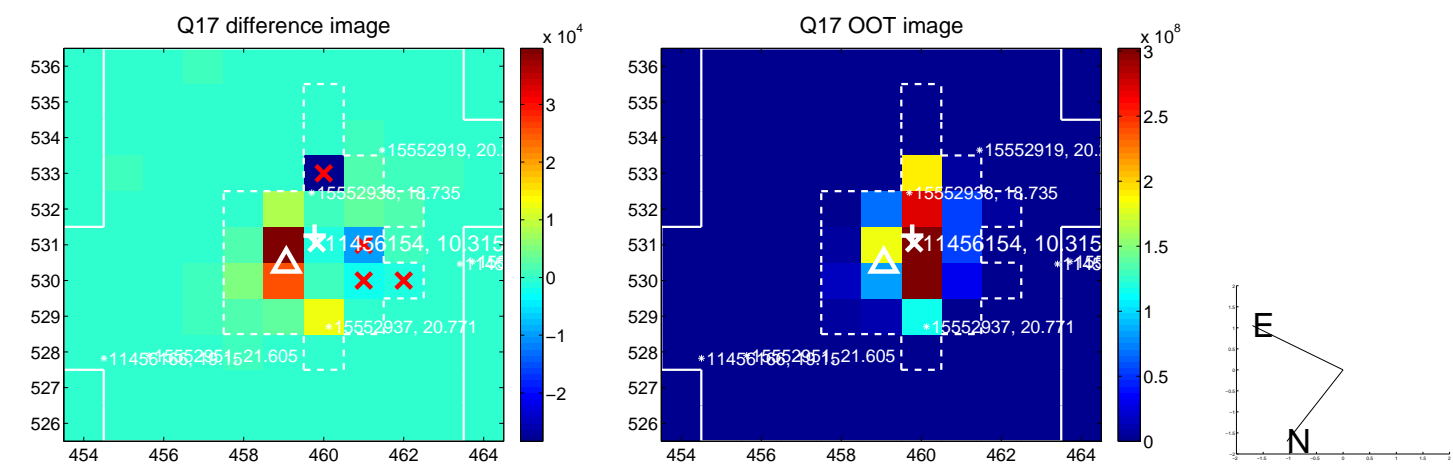


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

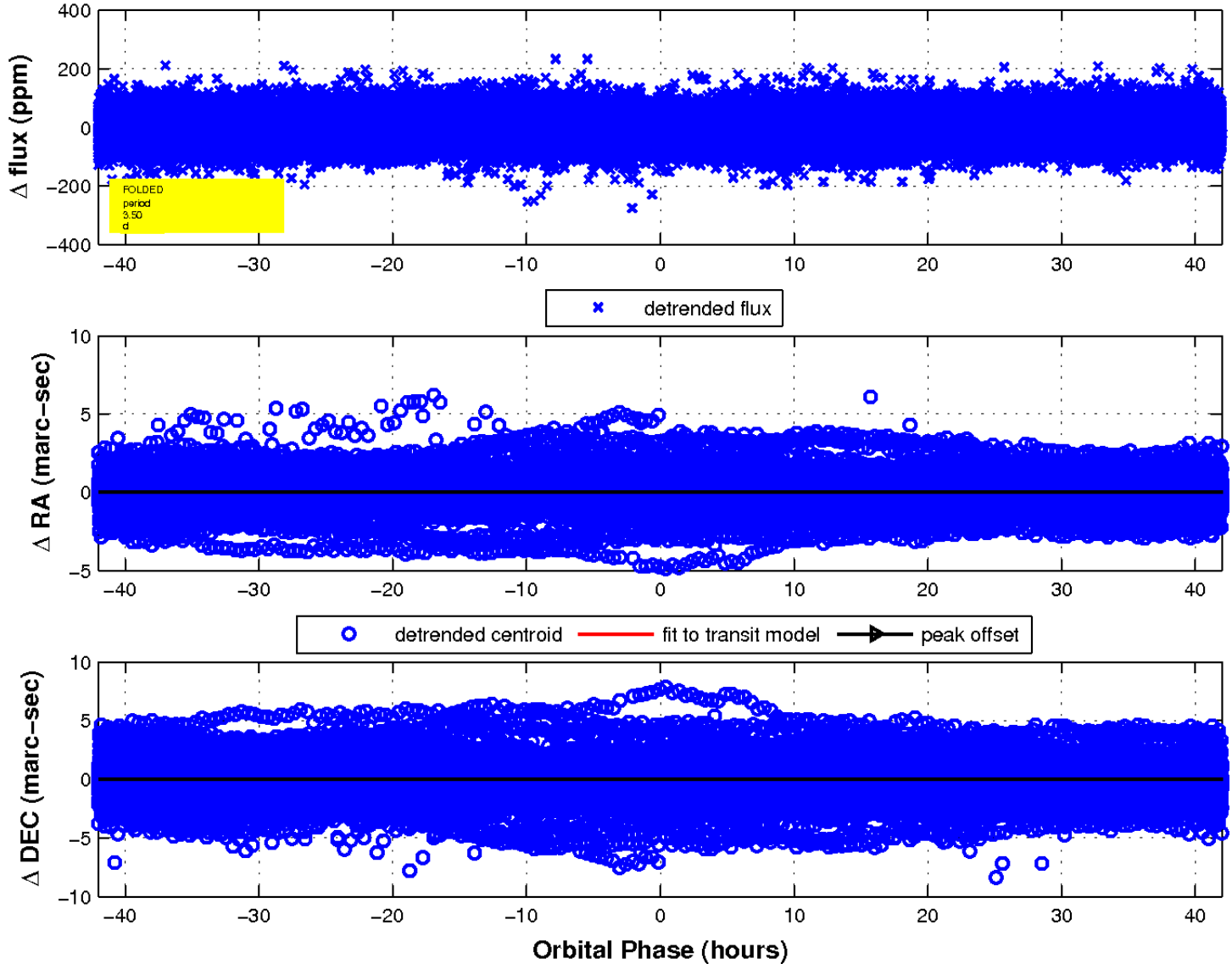




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

