

# KIC 005199772

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005199772-01	OBS	No	3.149029	133.896649	8.4	31.133	9.6	7.5	1.78	7241	0.59	3179.04

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005199772-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS

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

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

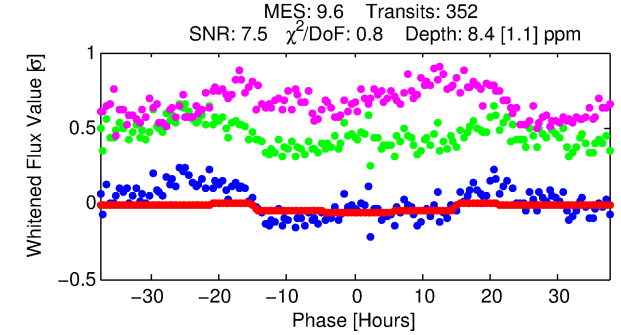
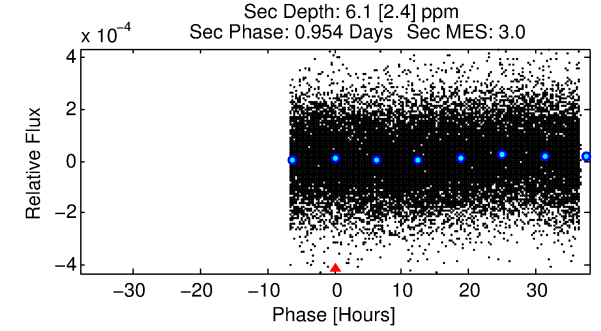
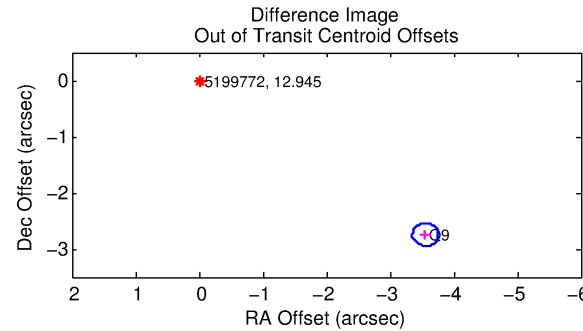
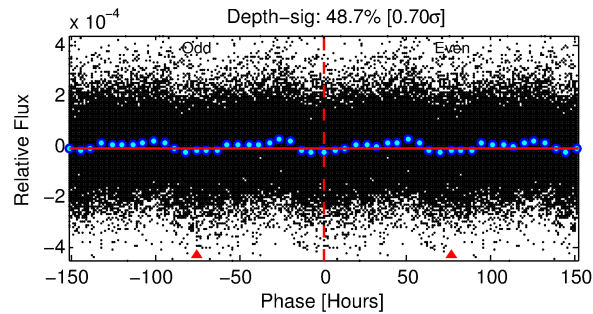
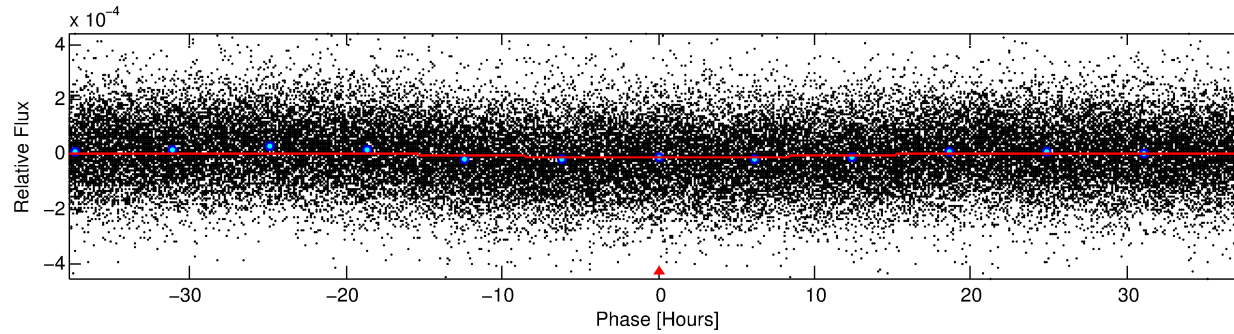
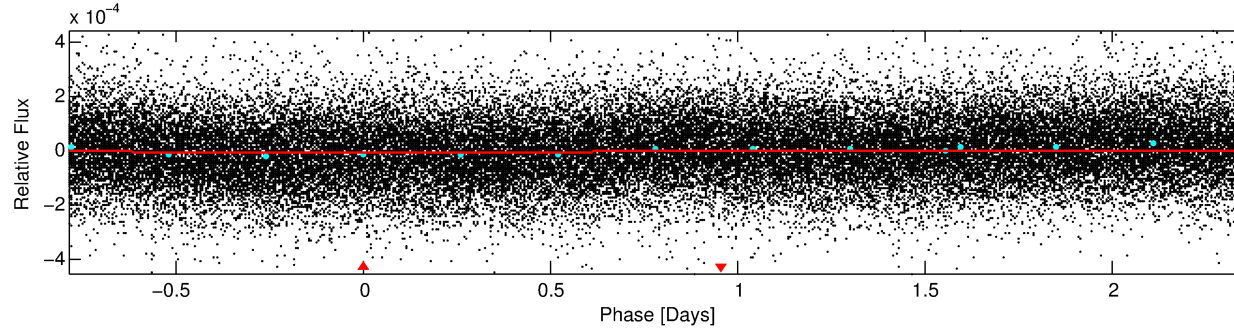
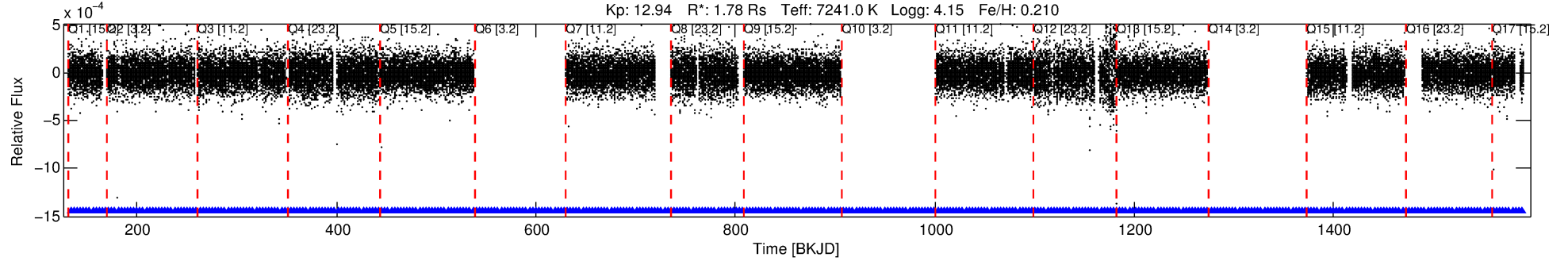
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005199772-01

No Significant Match Found

# DV One-Page Summary

KIC: 5199772 Candidate: 1 of 1 Period: 3.149 d



## DV Fit Results:

Period = 3.14903 [0.00016] d  
Epoch = 133.8966 [0.0369] BKJD  
Rp/R\* = 0.0030 [0.0008]  
a/R\* = 1.01 [0.04]  
b = 0.89 [0.42]  
Seff = 3179.04 [1342.63]  
Teq = 1915 [202] K  
Rp = 0.59 [0.25] Re  
a = 0.0496 [0.0131] AU  
Ag = 23.54 [18.30] [1.23 $\sigma$ ]  
Teffp = 6520 [1150] K [3.94 $\sigma$ ]

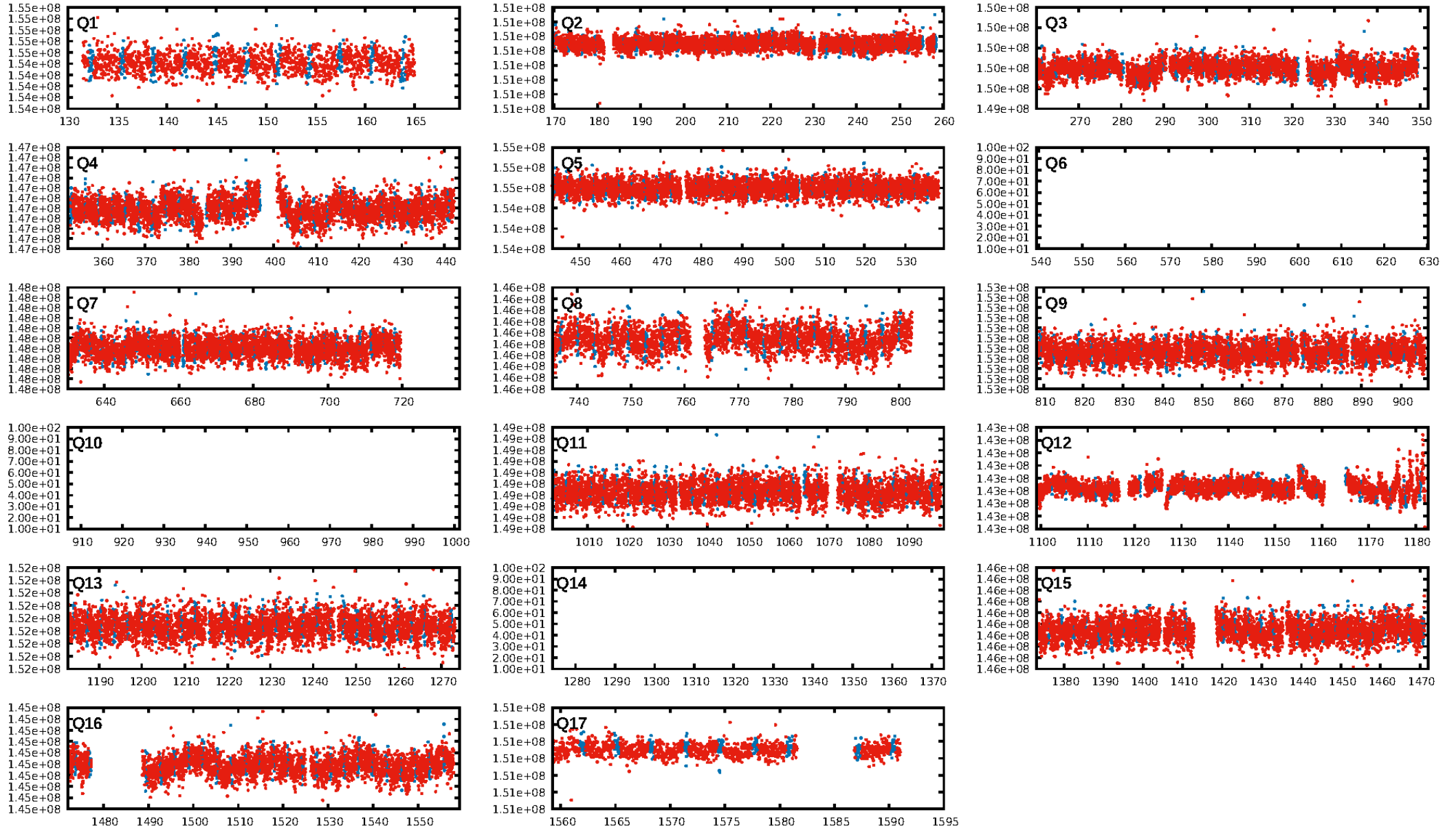
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [333/333]  
GhostDiagnostic-chr: 2.538  
Centroid-sig: 0.9%  
Centroid-so: 2.734 arcsec [1.50 $\sigma$ ]  
OotOffset-rm: 4.490 arcsec [66.33 $\sigma$ ]  
KicOffset-rm: 4.510 arcsec [66.63 $\sigma$ ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [14/14]

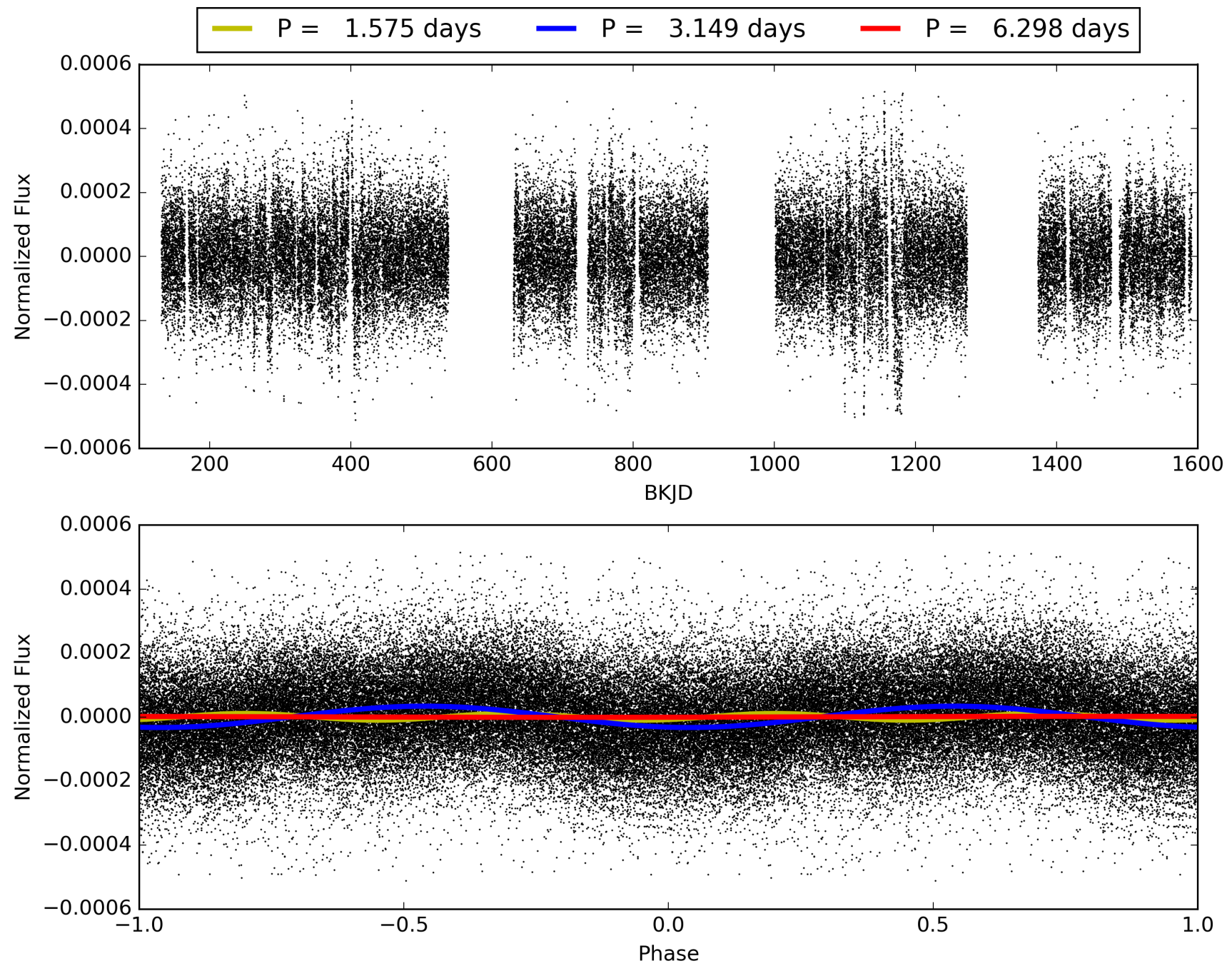
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:35:24 Z

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

# TCE 005199772-01, PDC Light Curves

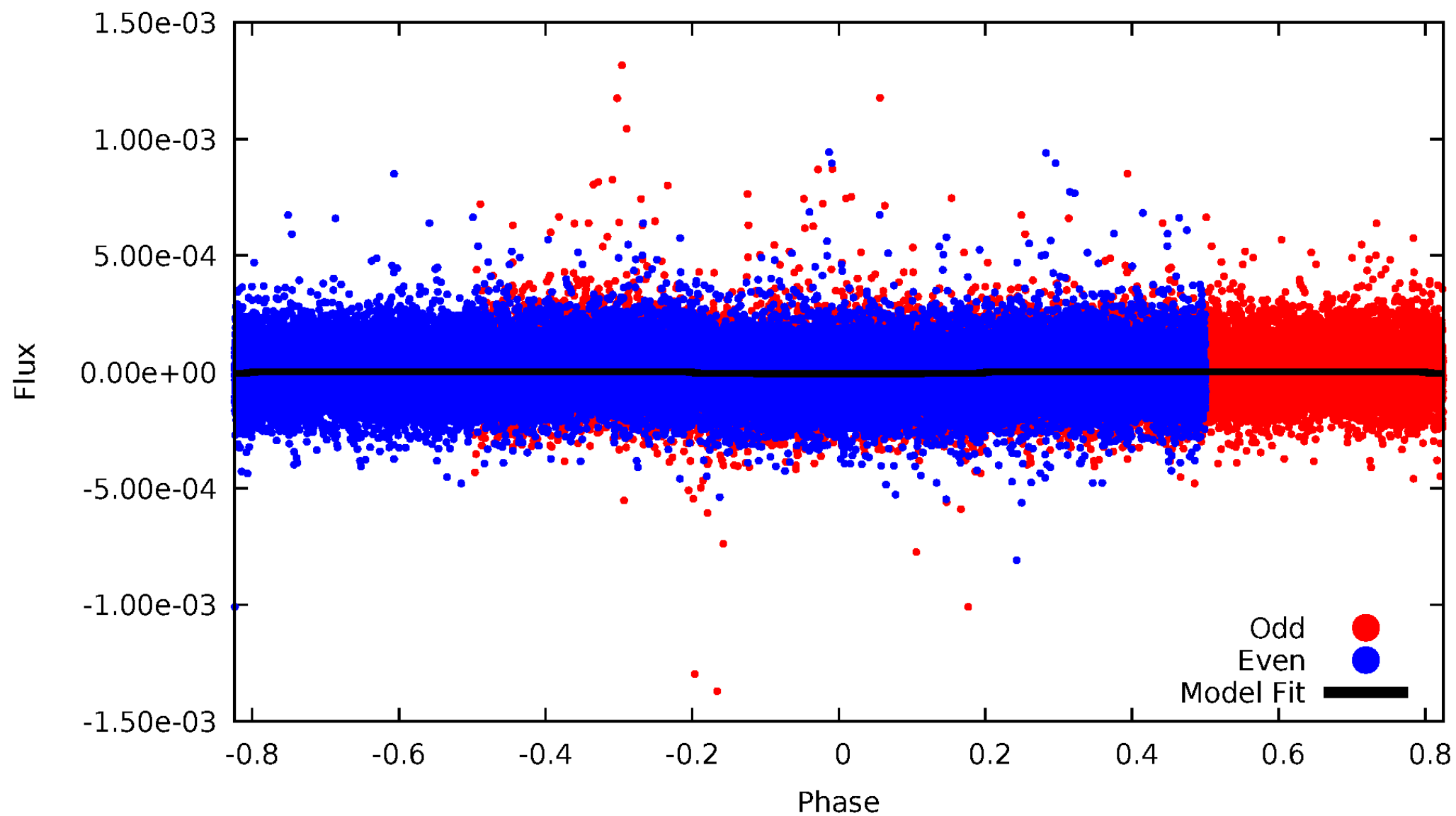


TCE 005199772-01



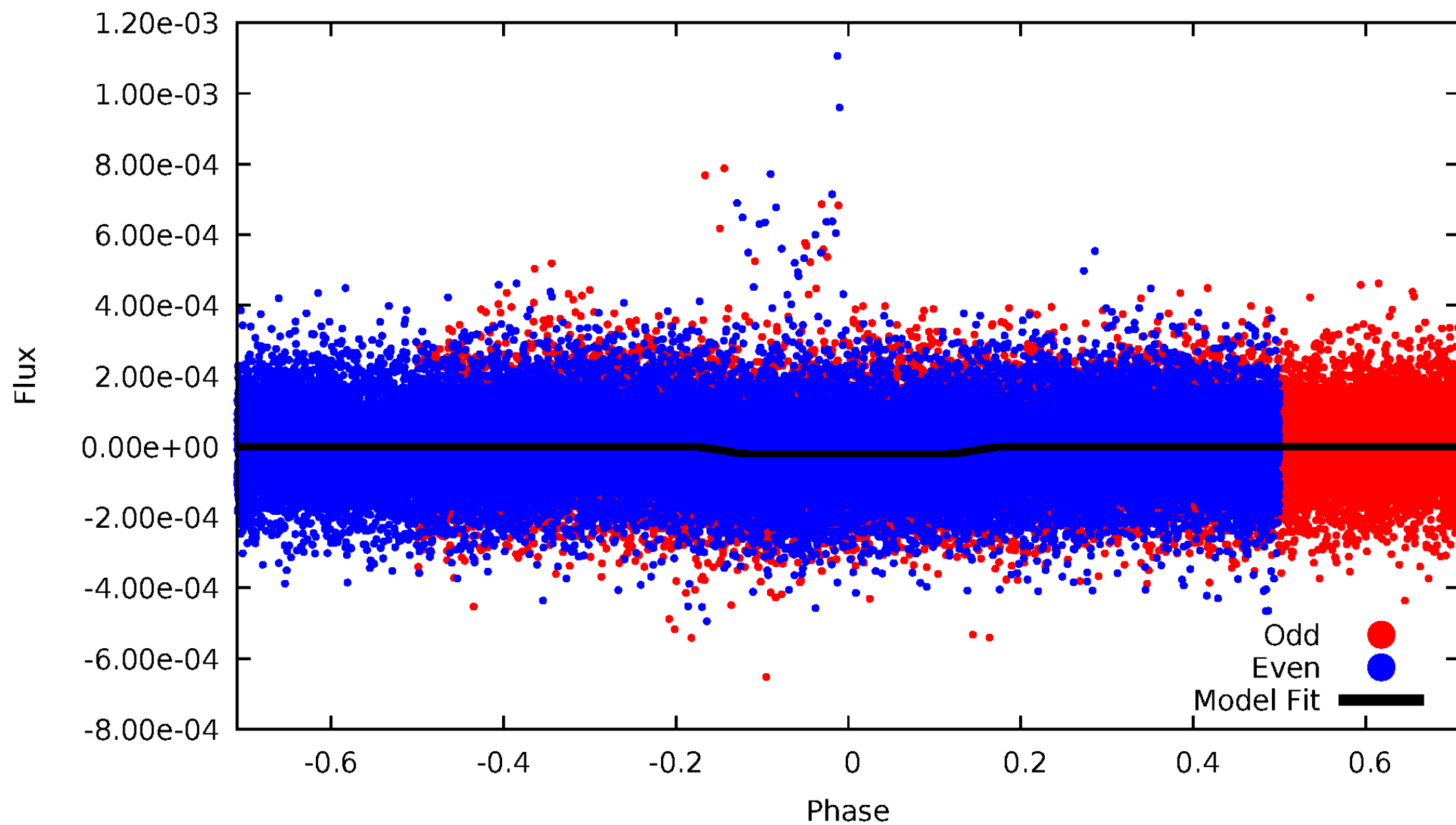
# DV Odd/Even

TCE 005199772-01



# ALT Odd/Even

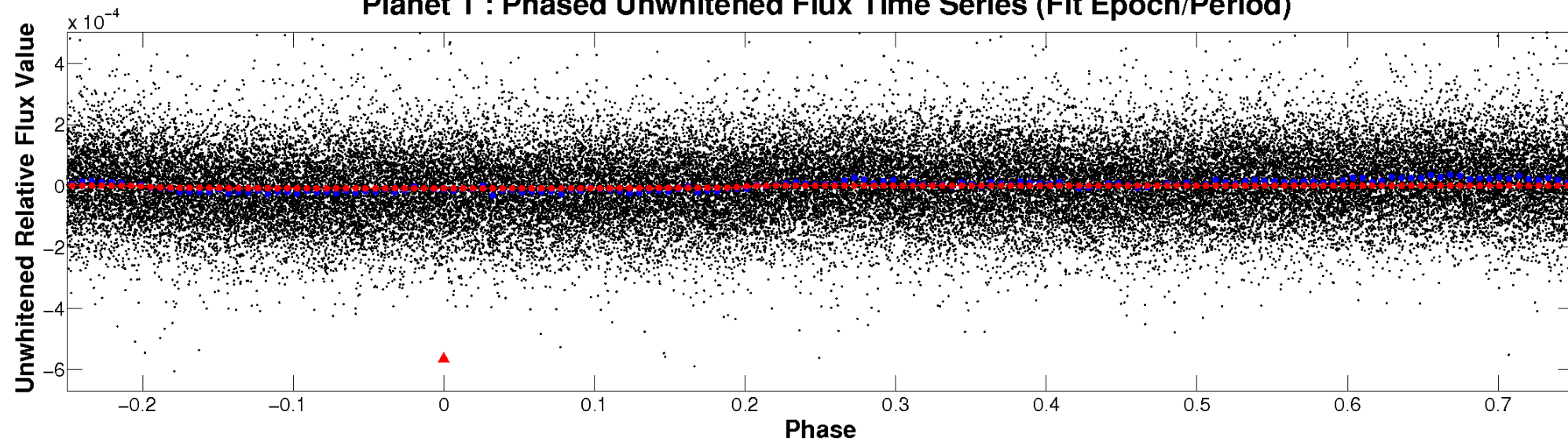
TCE 005199772-01



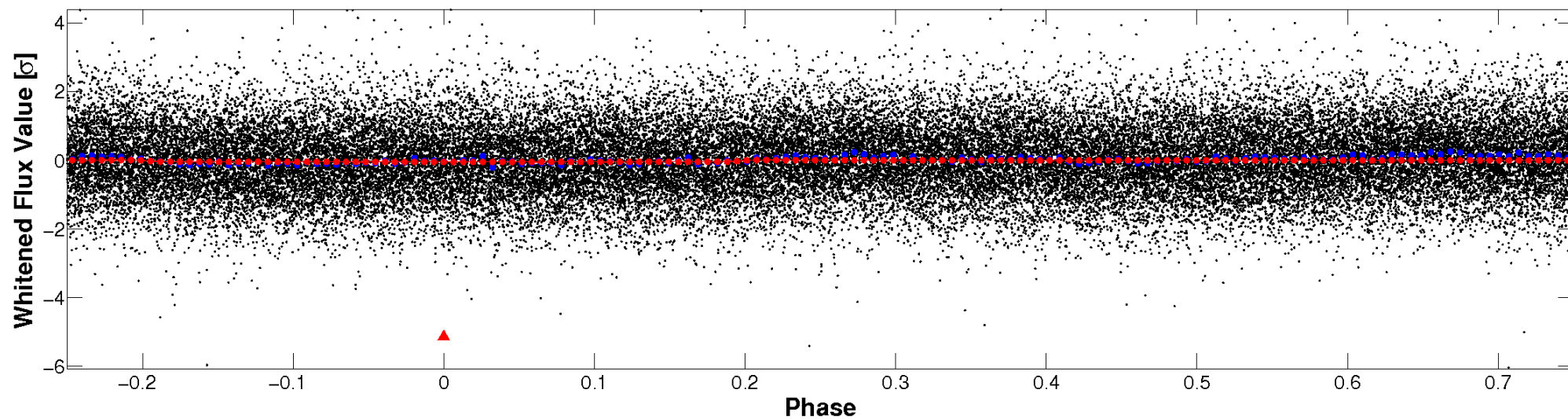


# Non-Whitened Vs. Whitened Light Curve

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

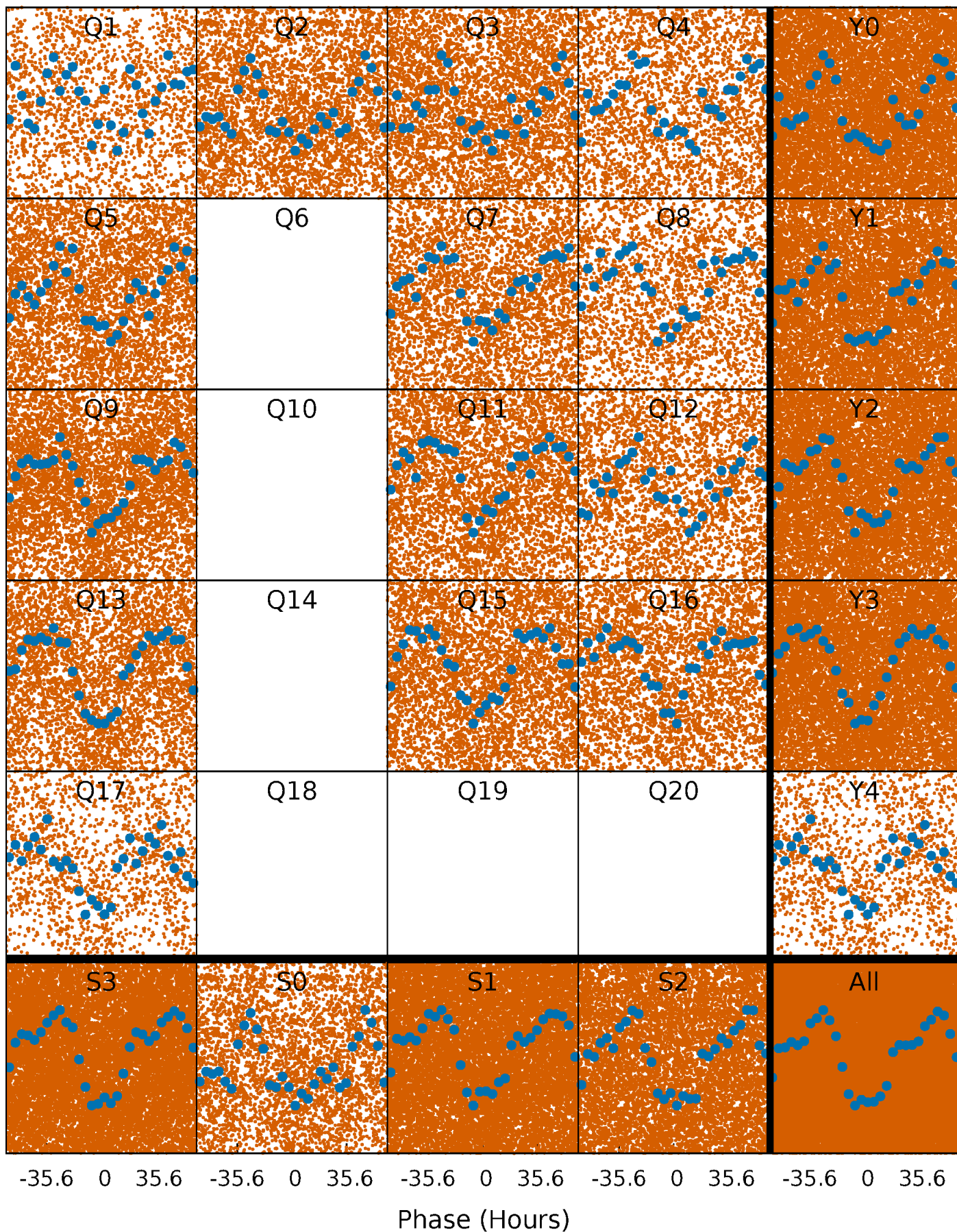


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

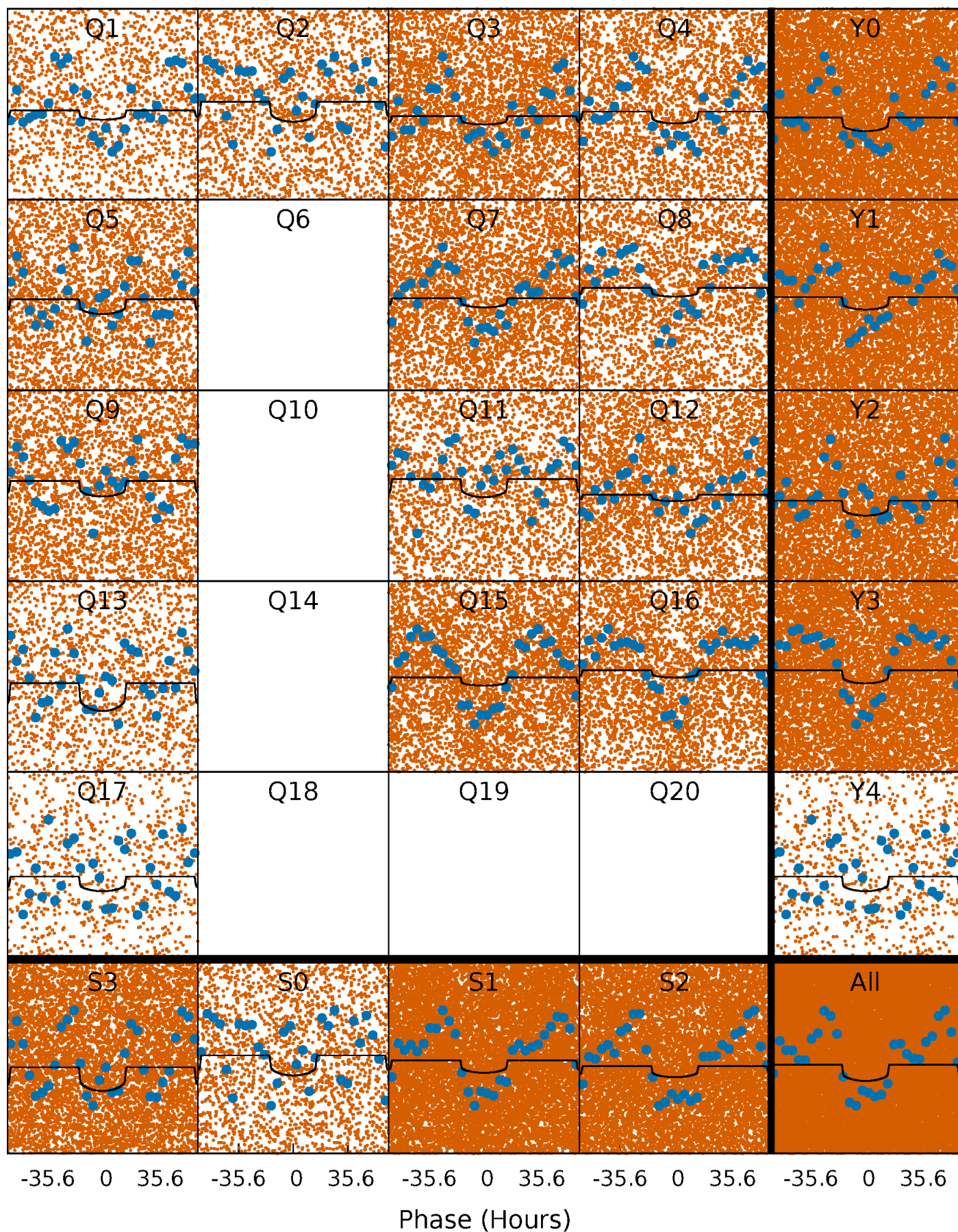
TCE 005199772-01 P= 3.149029 Days  $T_0=133.896649$  (BKJD)





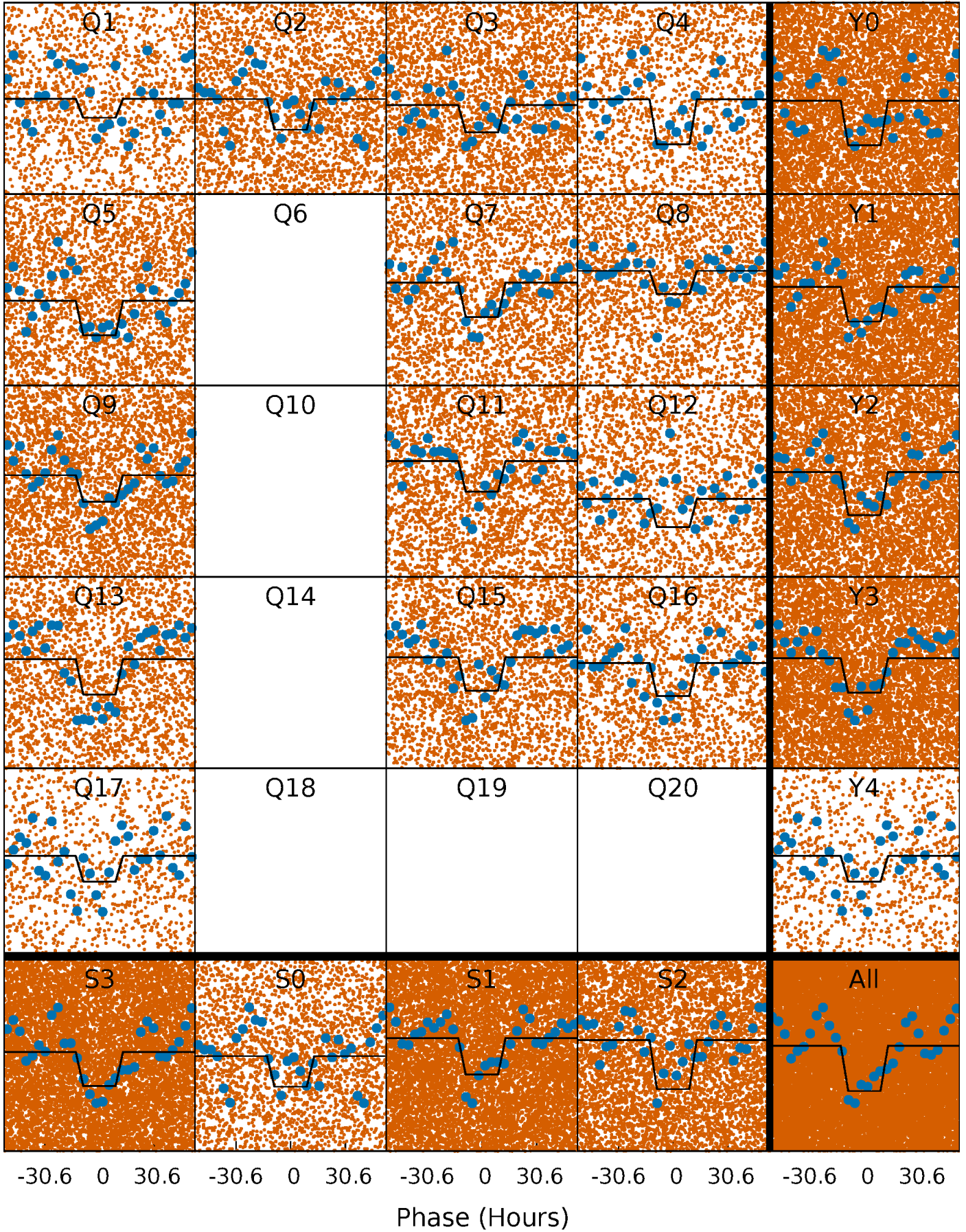
# DV Quarter-Phased Transit Curves

TCE 005199772-01 P= 3.149029 Days  $T_0=133.896649$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005199772-01 P= 3.149854 Days  $T_0=133.631900$  (BKJD)

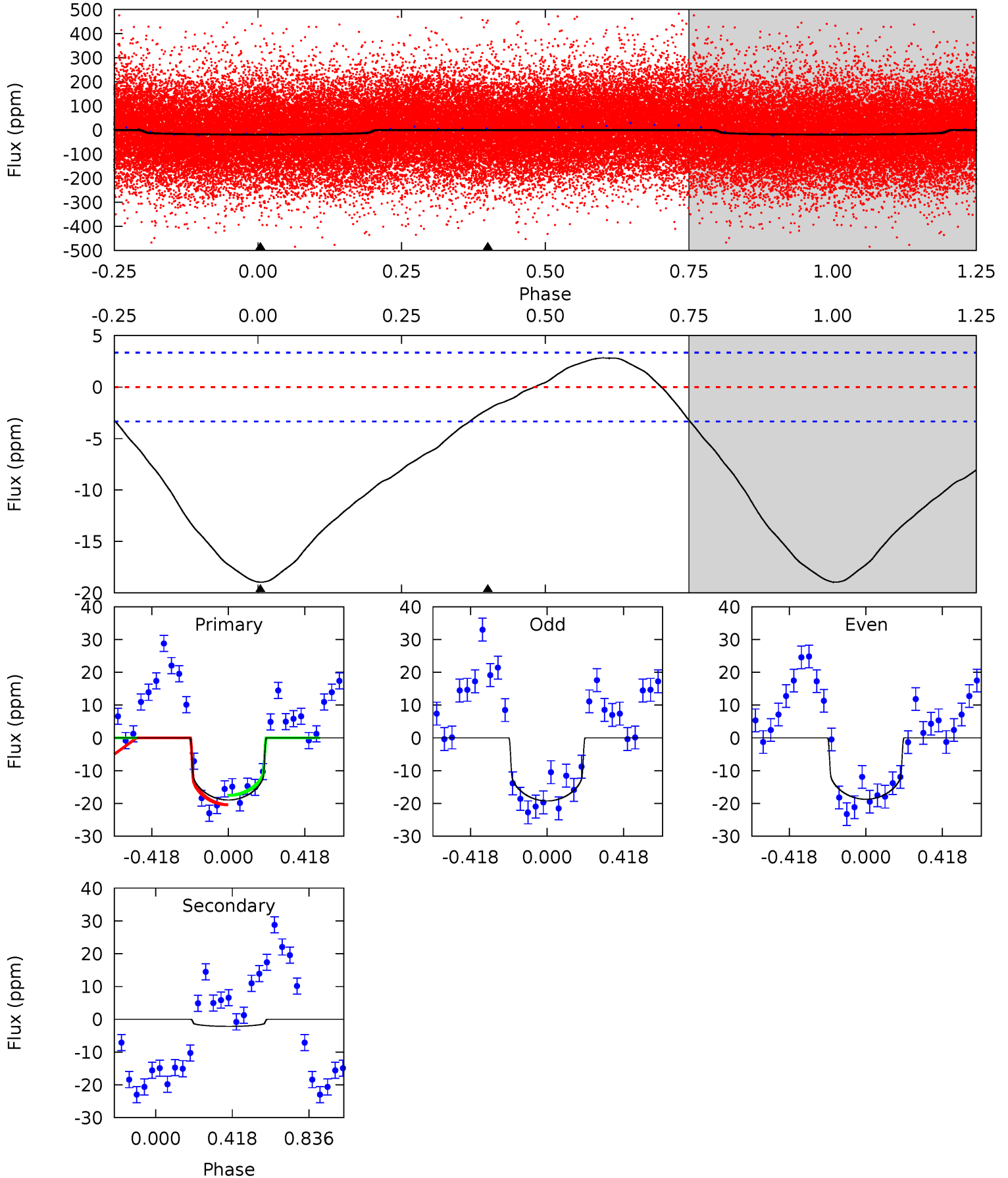




# DV Model-Shift Uniqueness Test

005199772-01, P = 3.149029 Days, E = 130.747620 Days

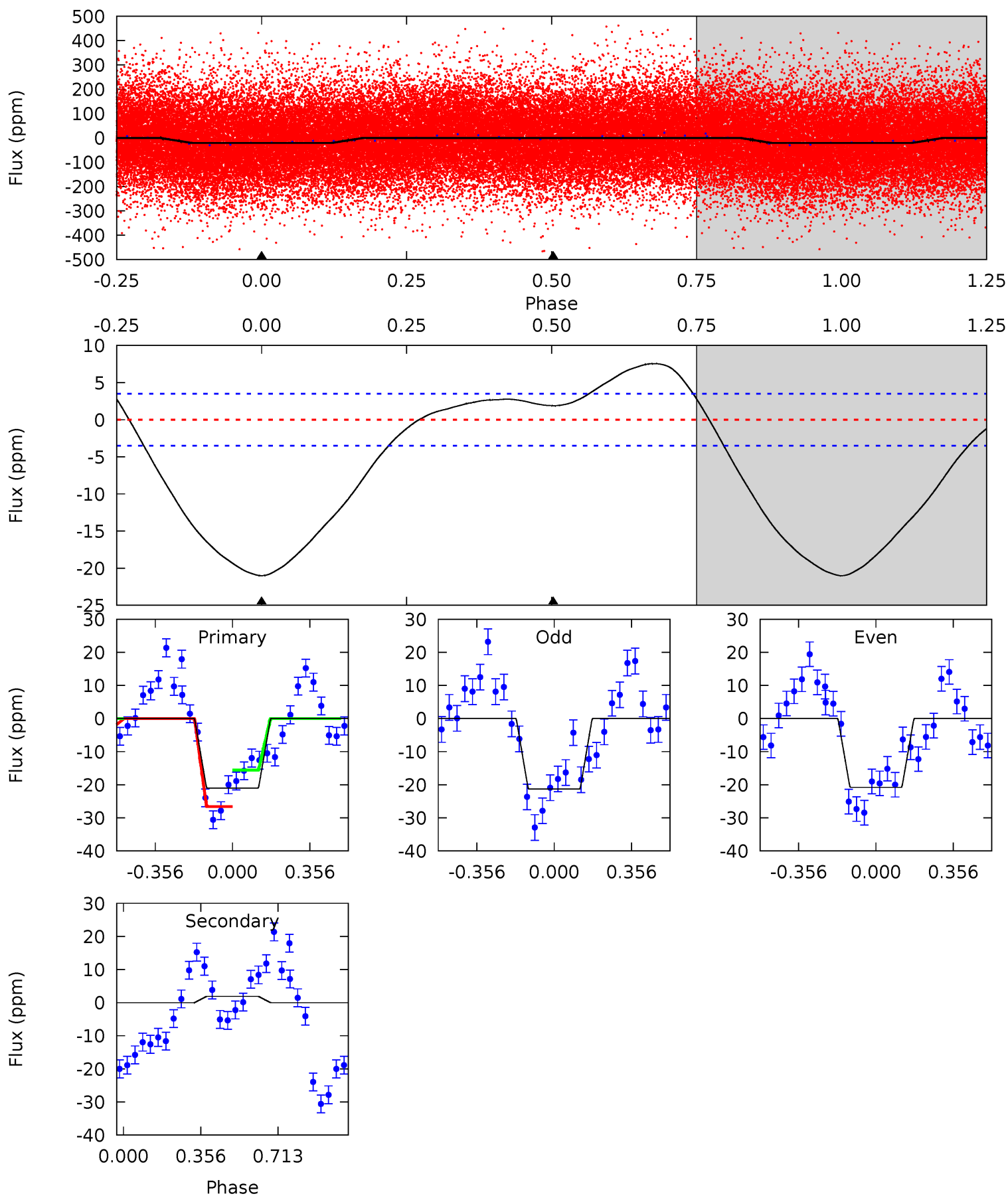
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	2.77	0	0	4.26	0.81	2.14	24.1	24.1	2.77	2.77	0.33	1.12	0.13	1.83



# Alt Model-Shift Uniqueness Test

005199772-01, P = 3.149854 Days, E = 130.482046 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
25.8	-2.31	0	0	4.29	0.92	2.82	25.8	25.8	-2.31	-2.31	0.29	0.91	0.26	6.74





### Stellar Parameters For KIC 005199772

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7241^{+200}_{-343}$	$4.151^{+0.087}_{-0.203}$	$0.210^{+0.150}_{-0.350}$	$1.781^{+0.569}_{-0.306}$	$1.639^{+0.204}_{-0.226}$	$0.409^{+0.195}_{-0.209}$
	+3%/-5%	+2%/-5%	+71%/-167%	+32%/-17%	+12%/-14%	+48%/-51%
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 005199772-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-2\pm 1$	$0.61^{+0.20}_{-0.18}$	$2708^{+197}_{-166}$	$4901^{+843}_{-657}$	$7.313^{+7.542}_{-3.964}$
Alt.	$2\pm 1$	$0.92^{+0.22}_{-0.19}$	$2703^{+209}_{-160}$	$-4222^{+409}_{-501}$	$-2.813^{+1.425}_{-2.488}$

$T_{\text{max}}$  = 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

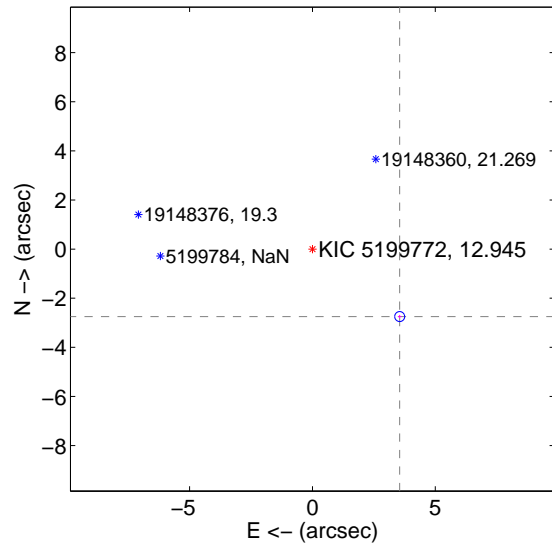
Supplemental centroid analysis for 005199772-01. Kepler magnitude: 12.95. Transit SNR 7.48

There are 0 quarters with good PRF difference image offsets

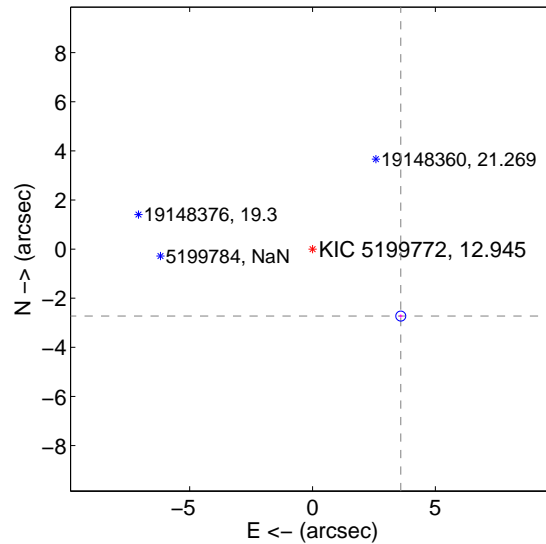
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.490 \pm 0.068$	66.33	$-3.552 \pm 0.068$	$-2.746 \pm 0.067$
PRF-fit source offset from KIC position	$4.510 \pm 0.068$	66.63	$-3.593 \pm 0.068$	$-2.727 \pm 0.067$
photometric centroid source offset	$2.73 \pm 1.83$	1.50	$0.82 \pm 1.53$	$-2.61 \pm 1.85$

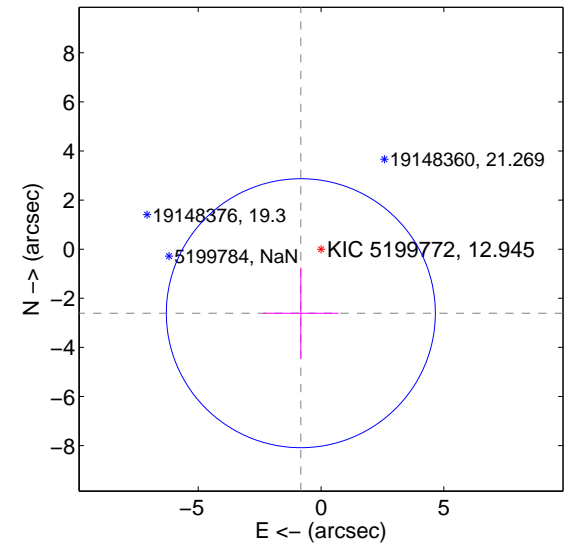
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

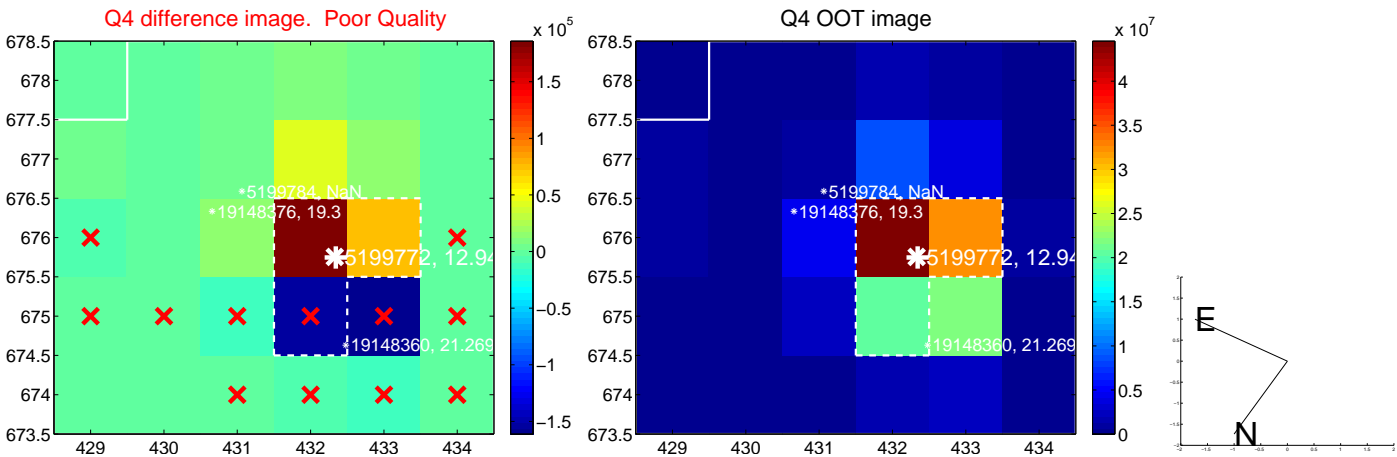
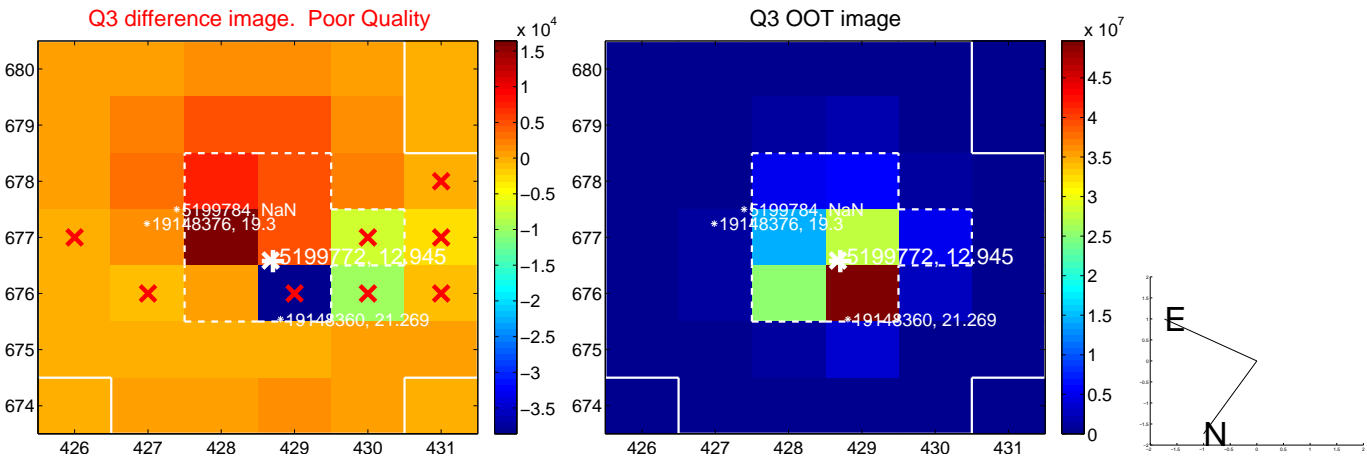
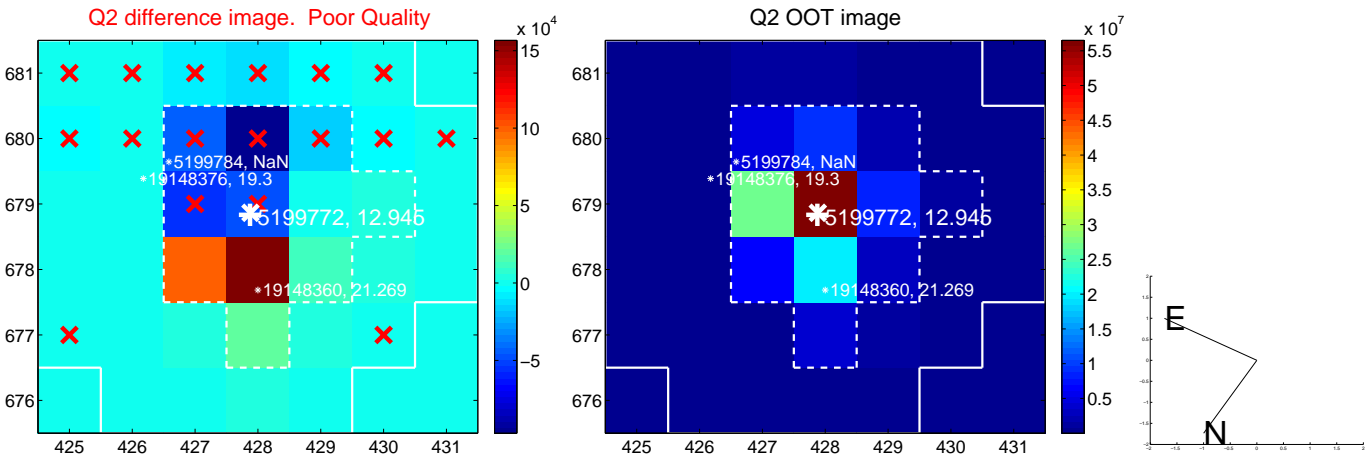
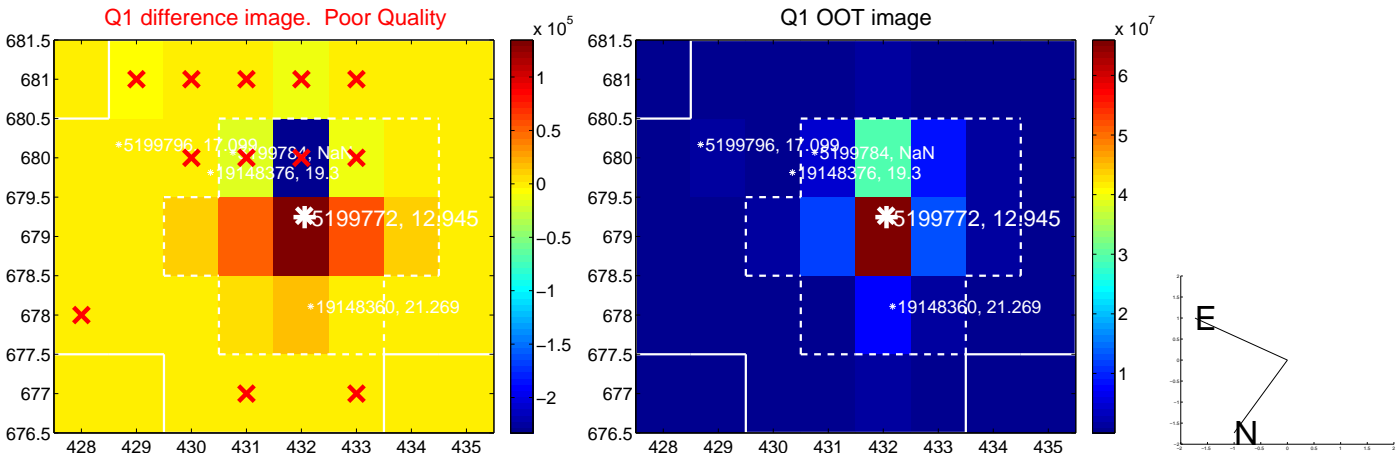


offset from photometric centroids

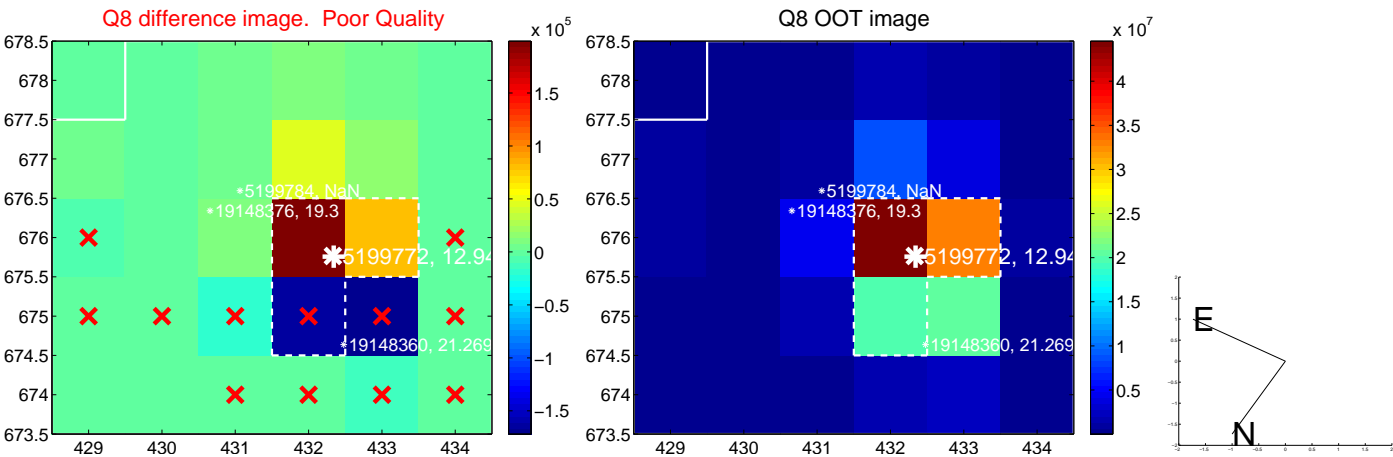
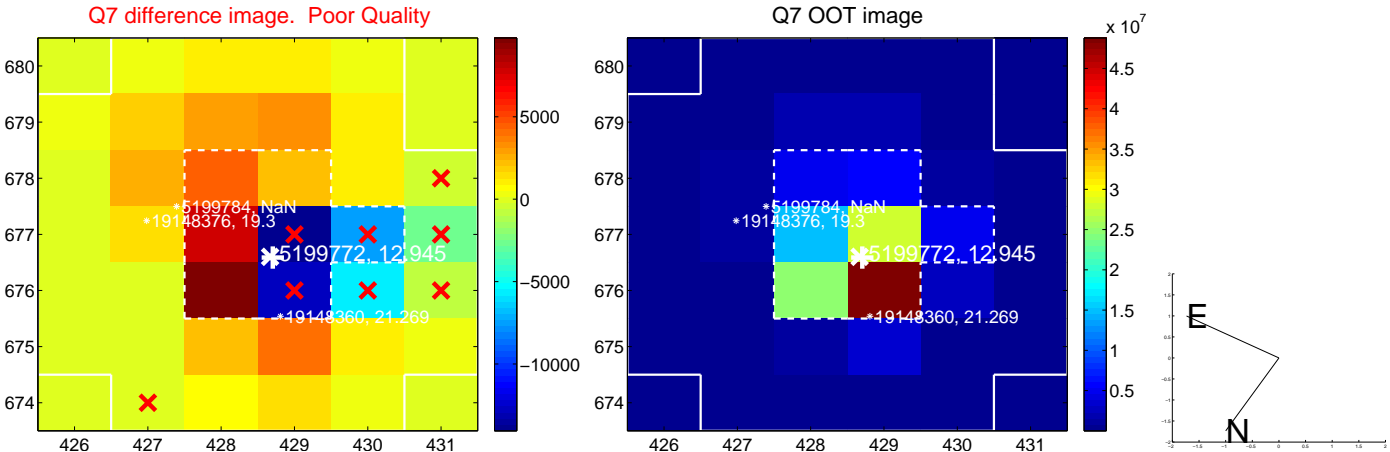
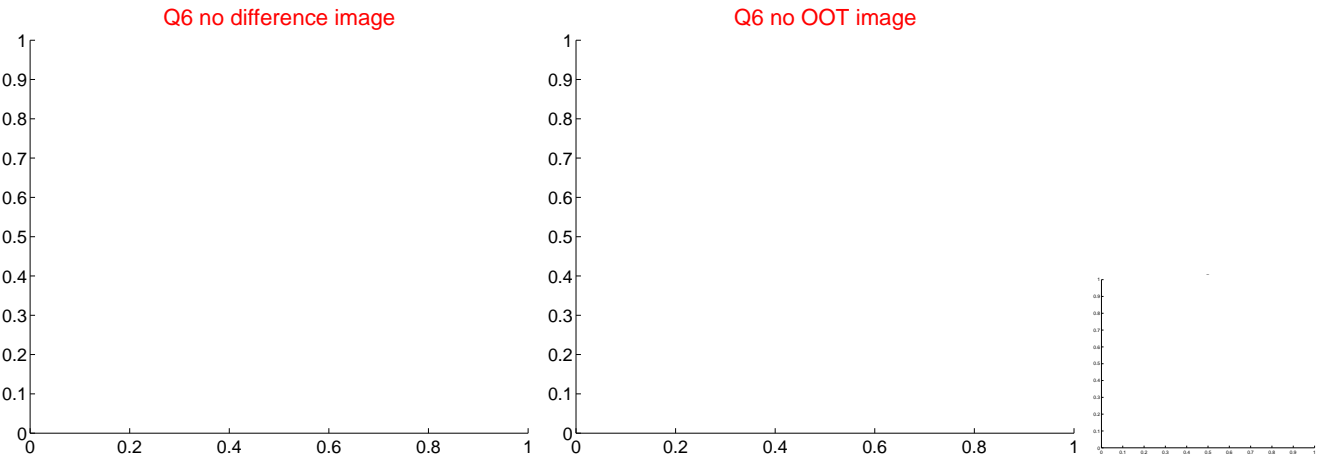
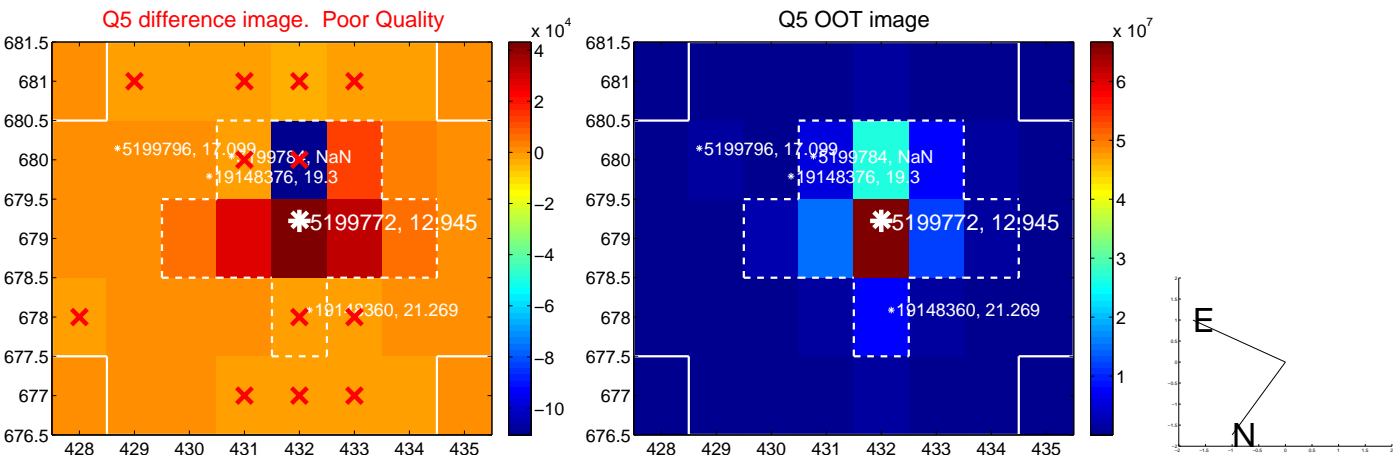


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

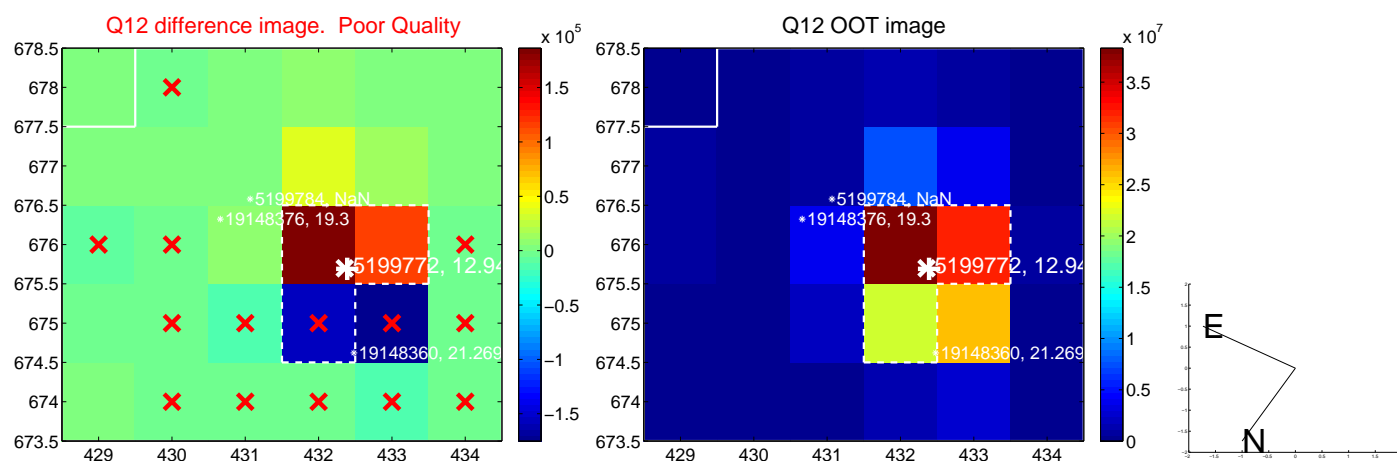
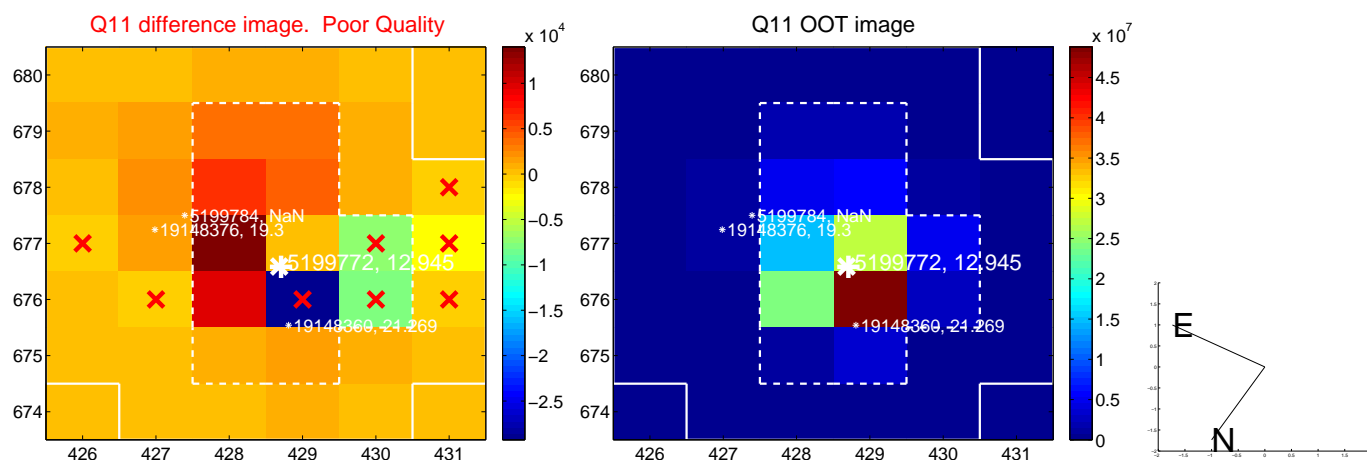
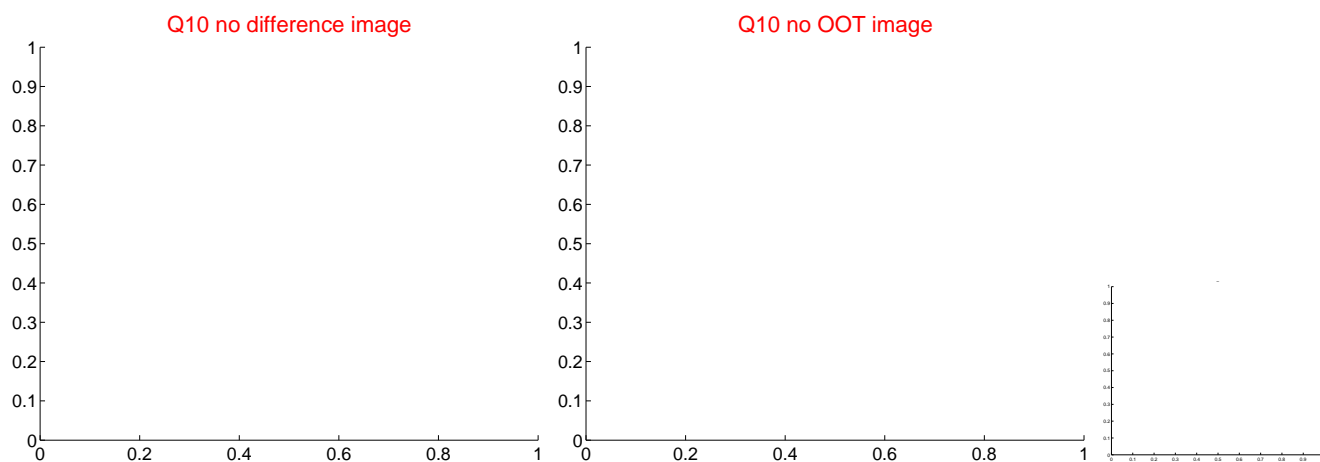
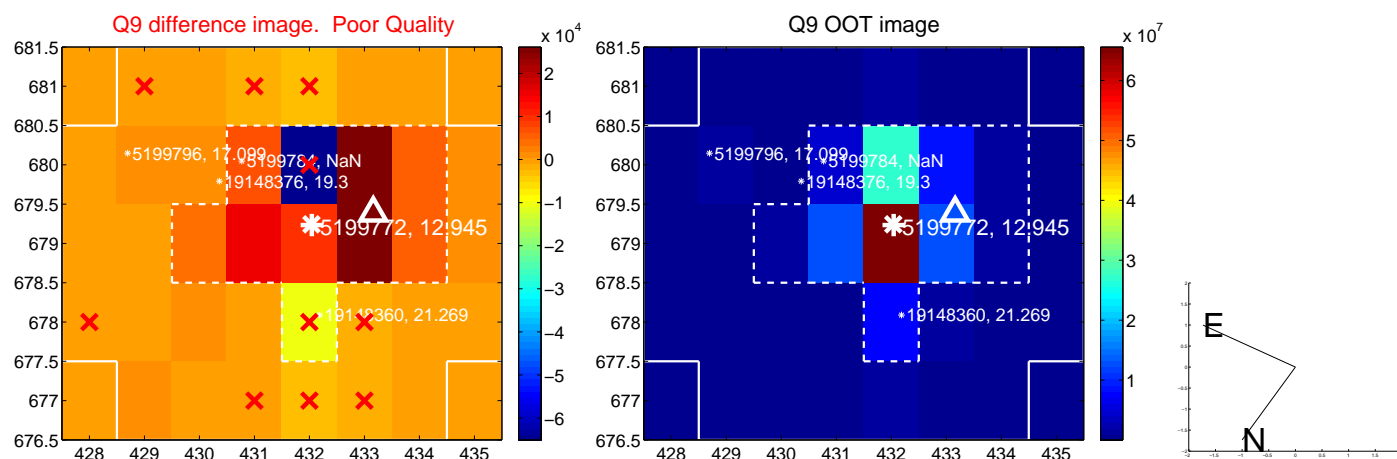


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

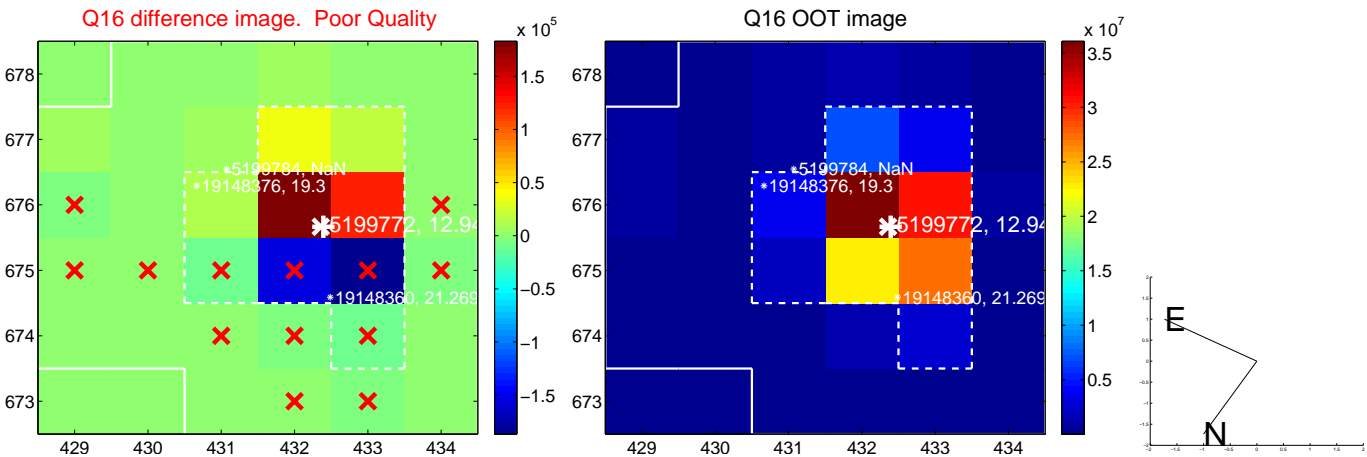
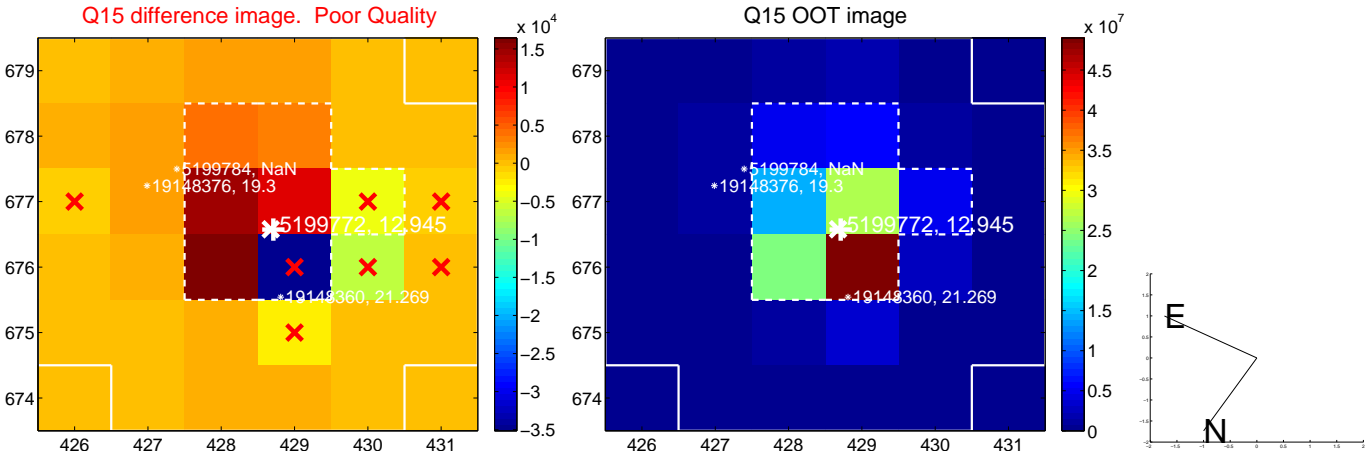
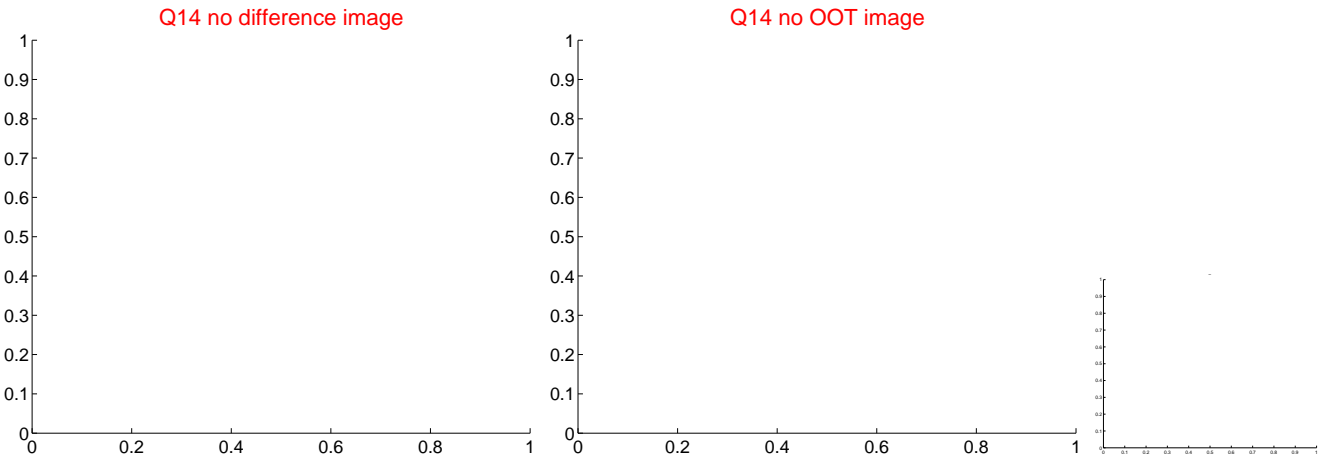
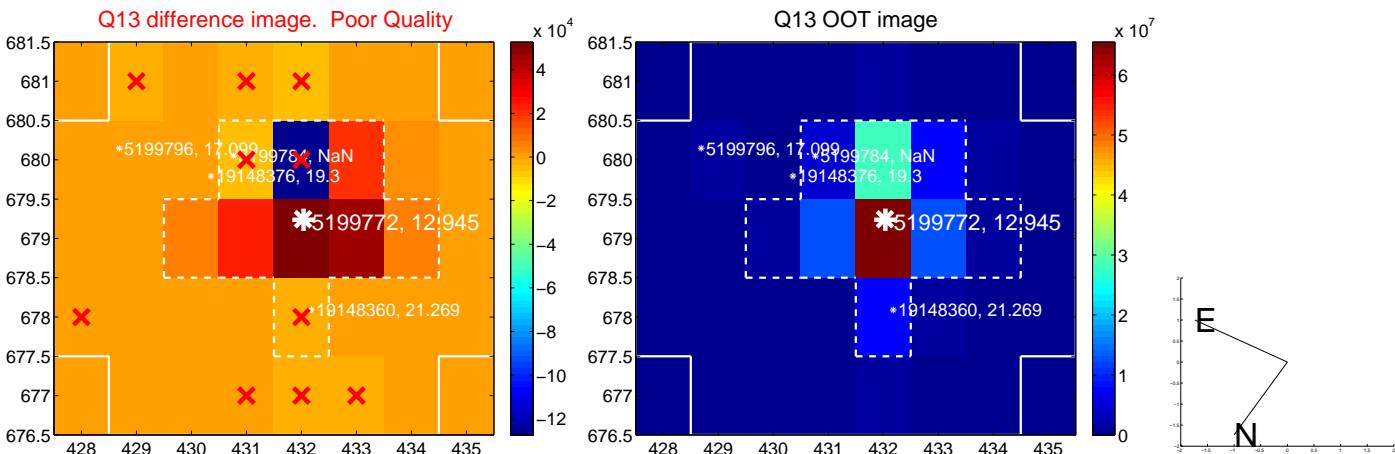




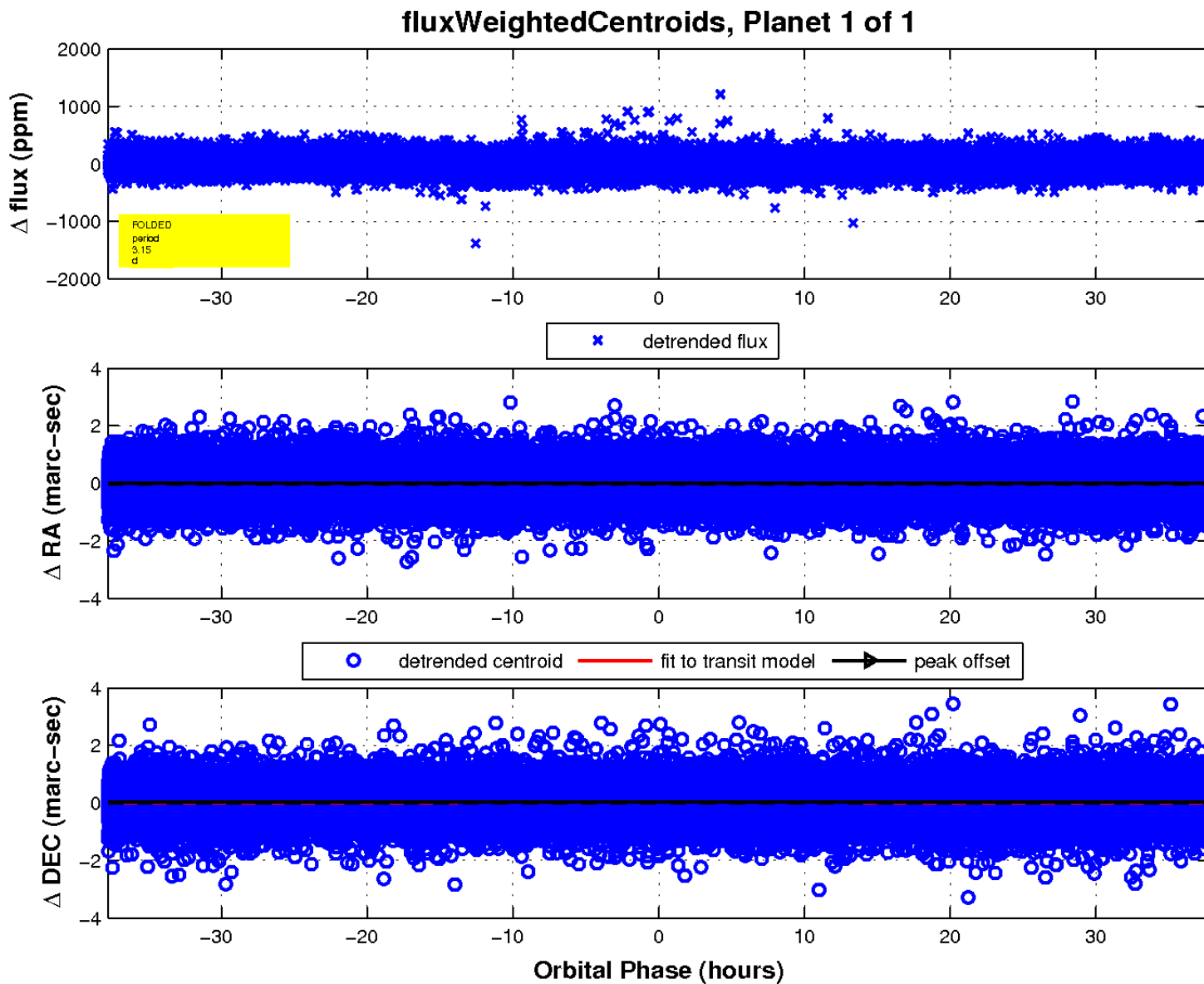
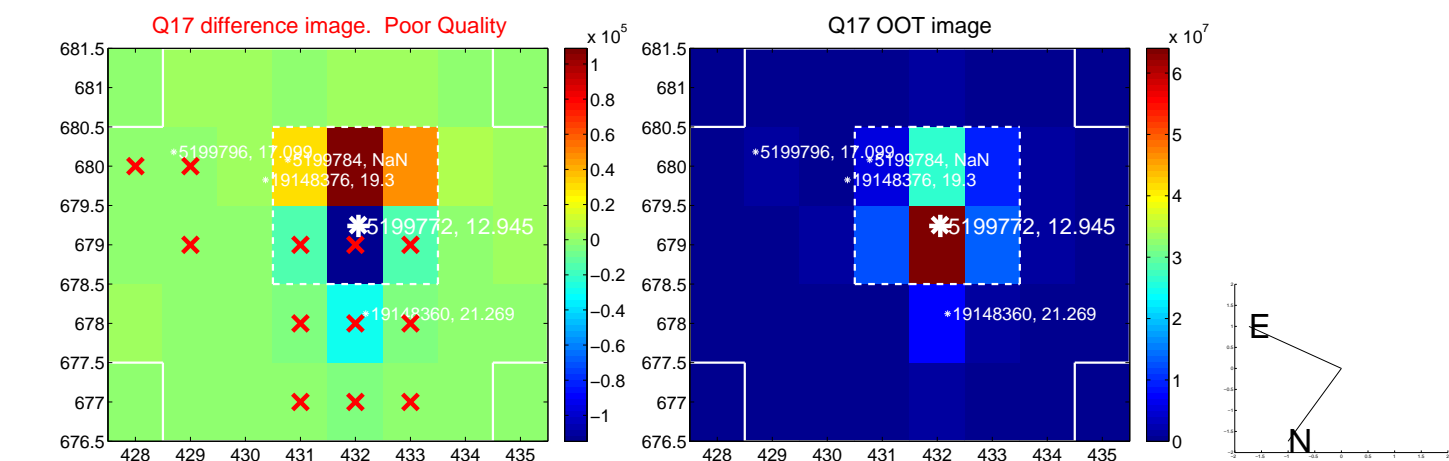
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

