

# KIC 005027497

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005027497-01	OBS	No	0.716040	131.808000	6.8	6.428	7.8	4.1	1.91	7171	0.53	26662.04

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005027497-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET

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

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

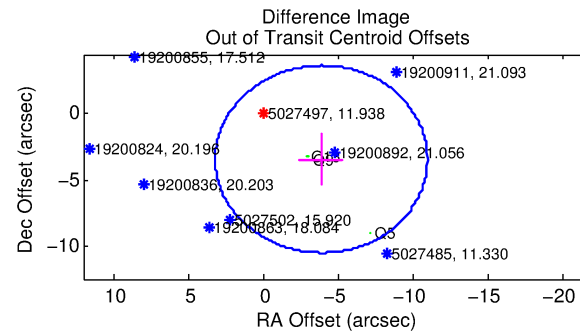
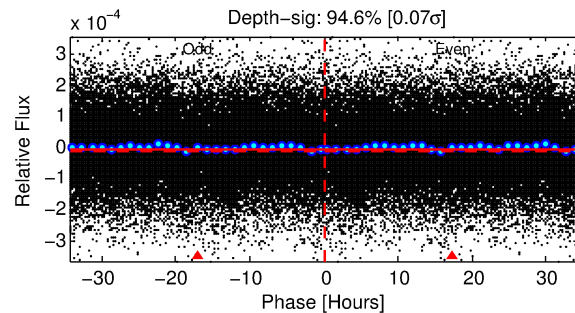
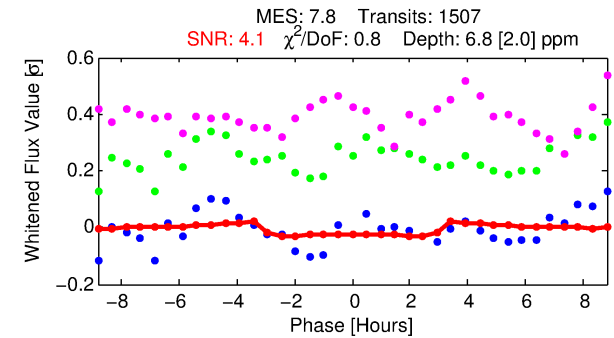
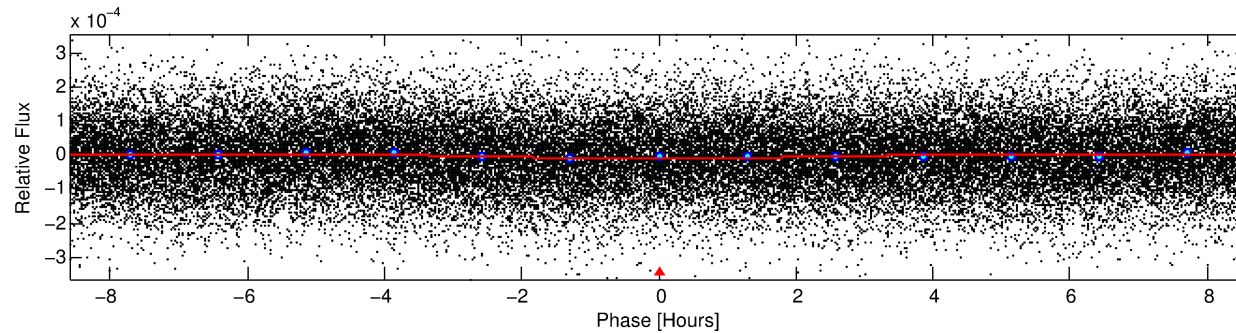
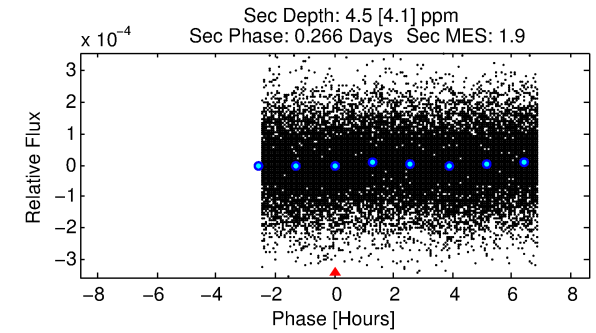
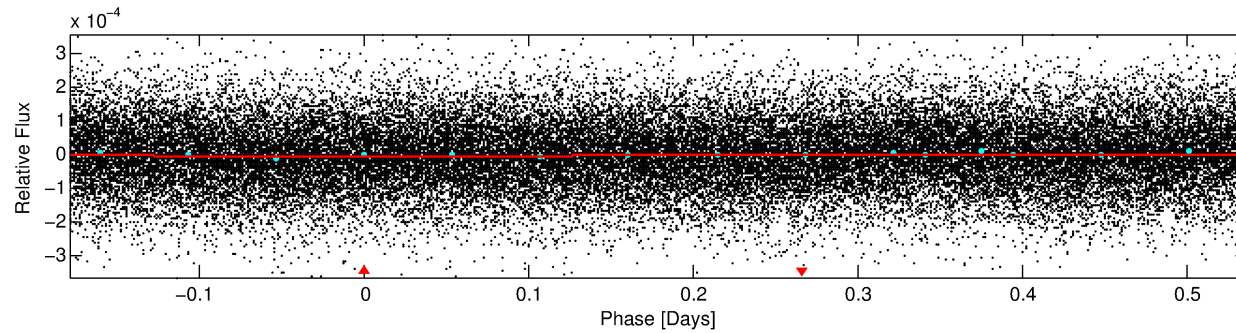
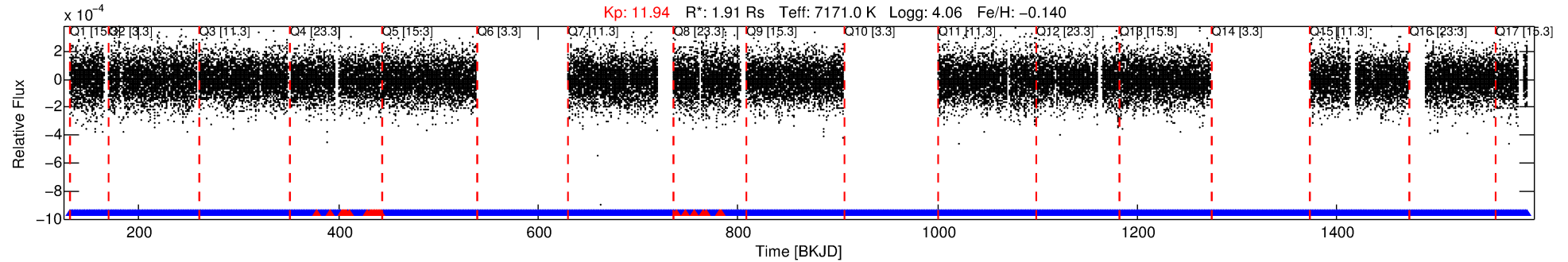
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005027497-01

No Significant Match Found

# DV One-Page Summary

KIC: 5027497 Candidate: 1 of 1 Period: 0.716 d



## DV Fit Results:

Period = 0.71604 [0.00003] d  
Epoch = 131.8080 [0.0072] BKJD  
Rp/R\* = 0.0026 [0.0032]  
a/R\* = 1.05 [0.71]  
b = 0.70 [5.78]  
Seff = 26662.04 [10402.99]  
Teq = 3258 [318] K  
Rp = 0.53 [0.69] Re  
a = 0.0180 [0.0044] AU  
Ag = 2.84 [7.68] [0.24σ]  
Teffp = 6538 [4397] K [0.74σ]

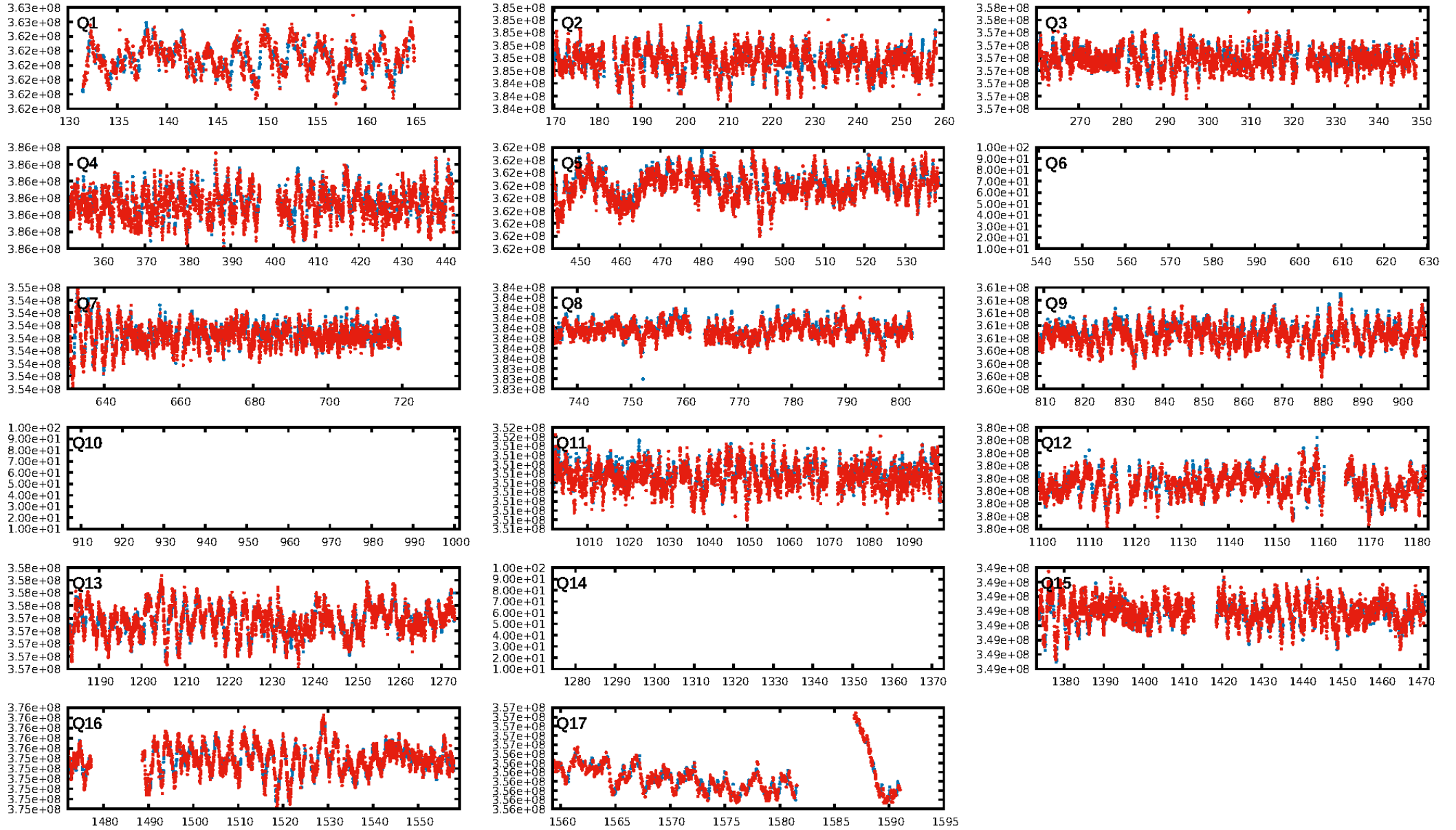
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.98 [1394/1422]  
GhostDiagnostic-chr: 2.276  
Centroid-sig: 0.0%  
Centroid-so: 13.799 arcsec [2.28σ]  
OotOffset-rm: 5.212 arcsec [2.21σ]  
KicOffset-rm: 6.173 arcsec [2.87σ]  
OotOffset-st: 0/0/0/3 [3]  
KicOffset-st: 0/0/0/3 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [14/14]

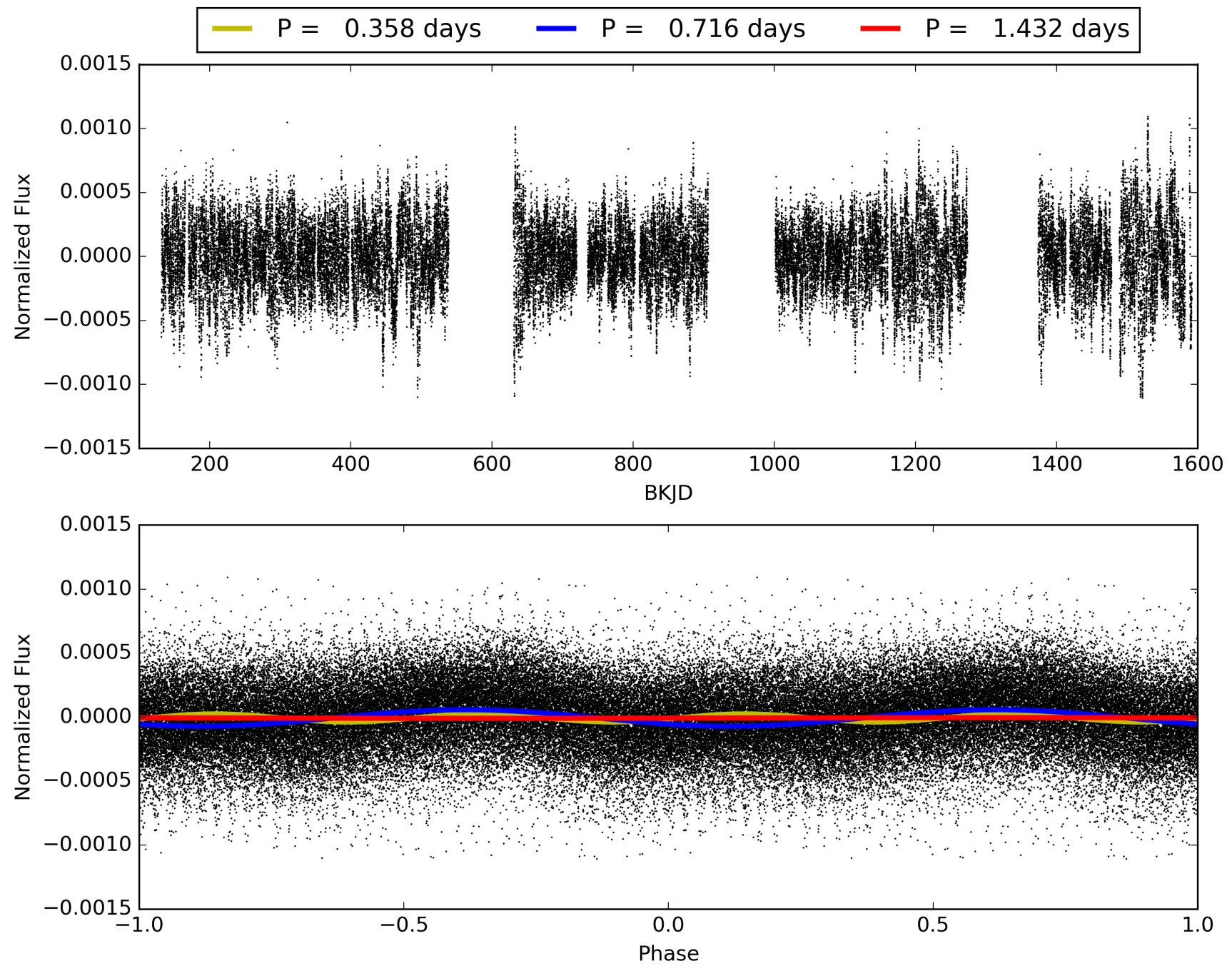
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:57:35 Z

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

# TCE 005027497-01, PDC Light Curves

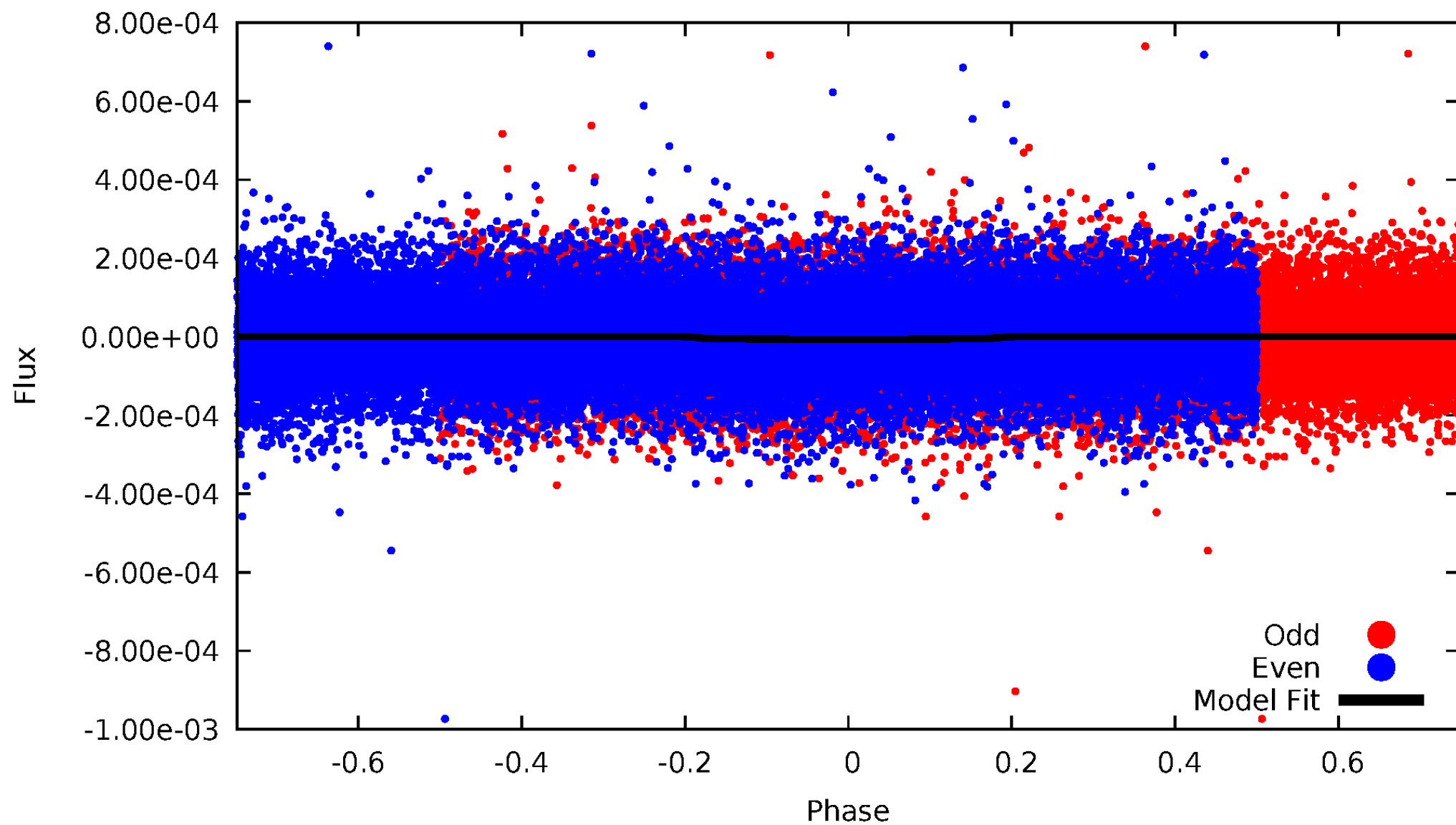


TCE 005027497-01



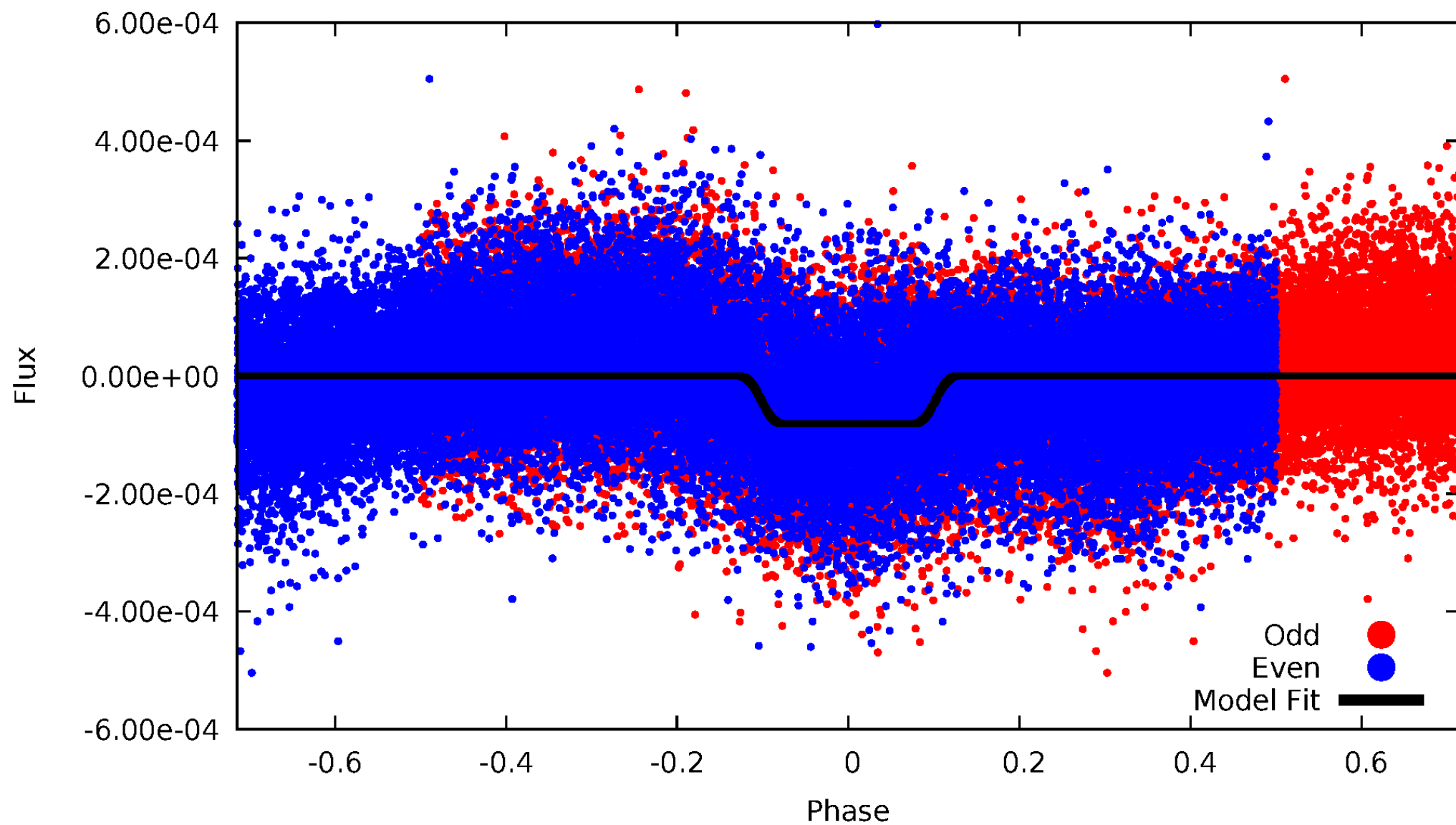
# DV Odd/Even

TCE 005027497-01



# ALT Odd/Even

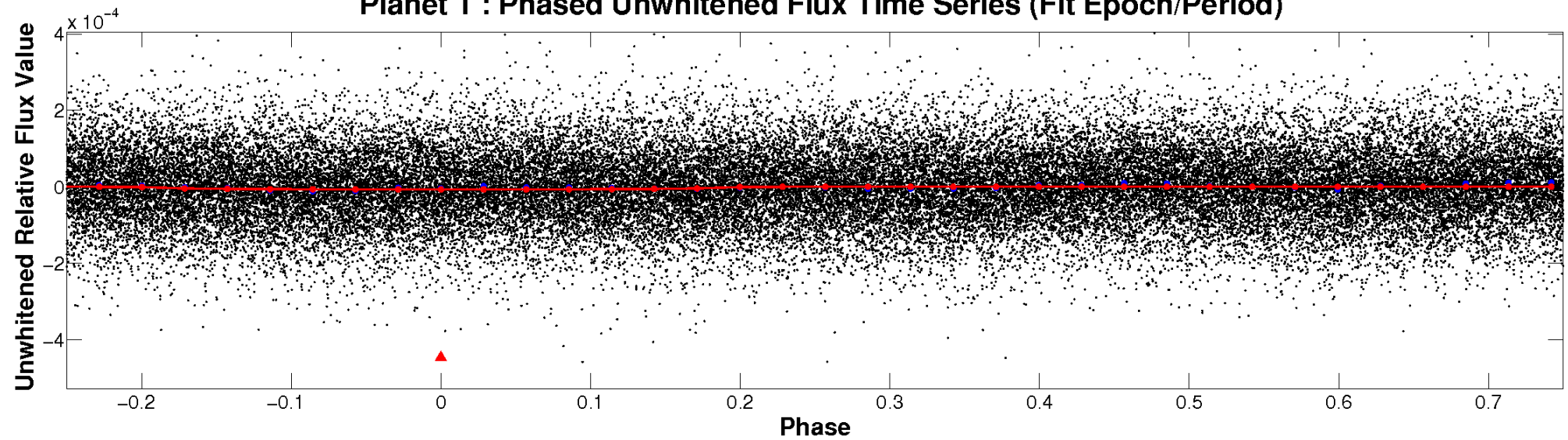
TCE 005027497-01



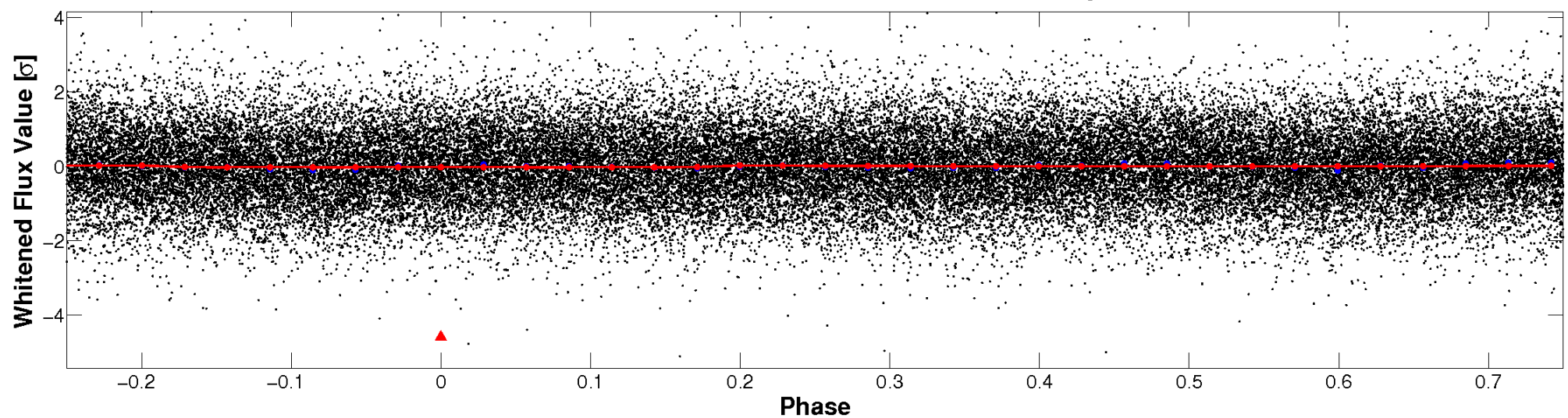


# Non-Whitened Vs. Whitened Light Curve

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

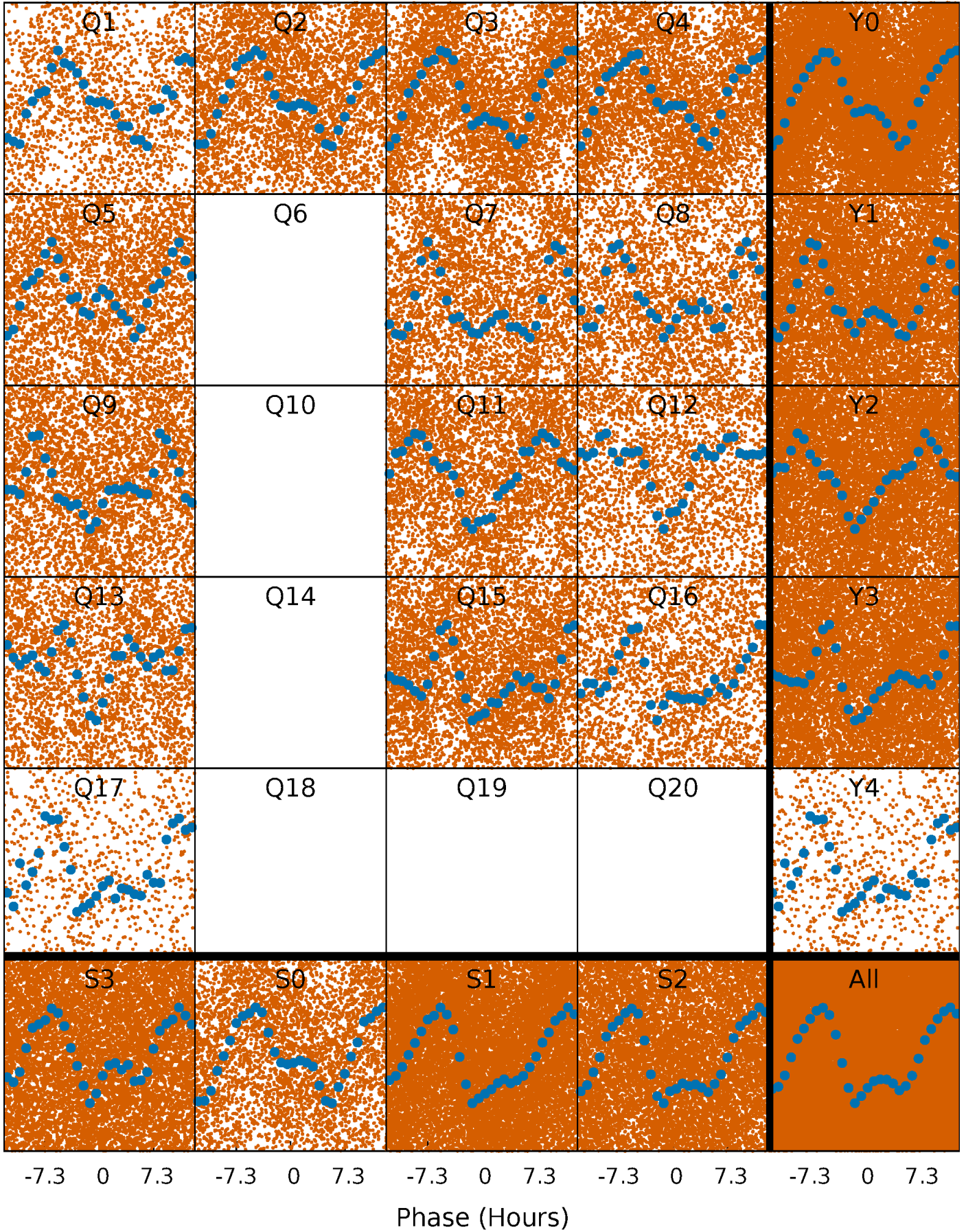


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

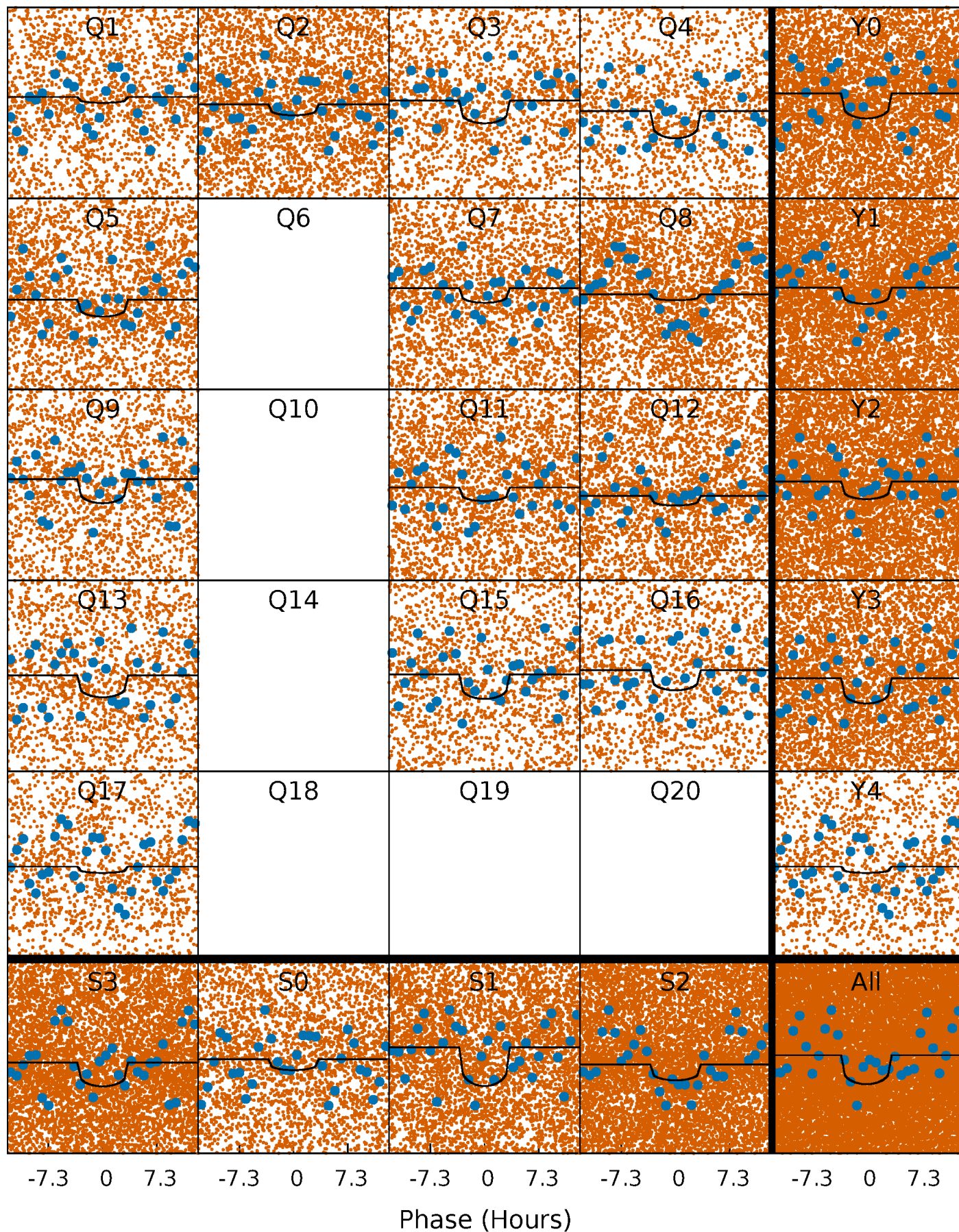
TCE 005027497-01 P= 0.716040 Days  $T_0=131.808000$  (BKJD)





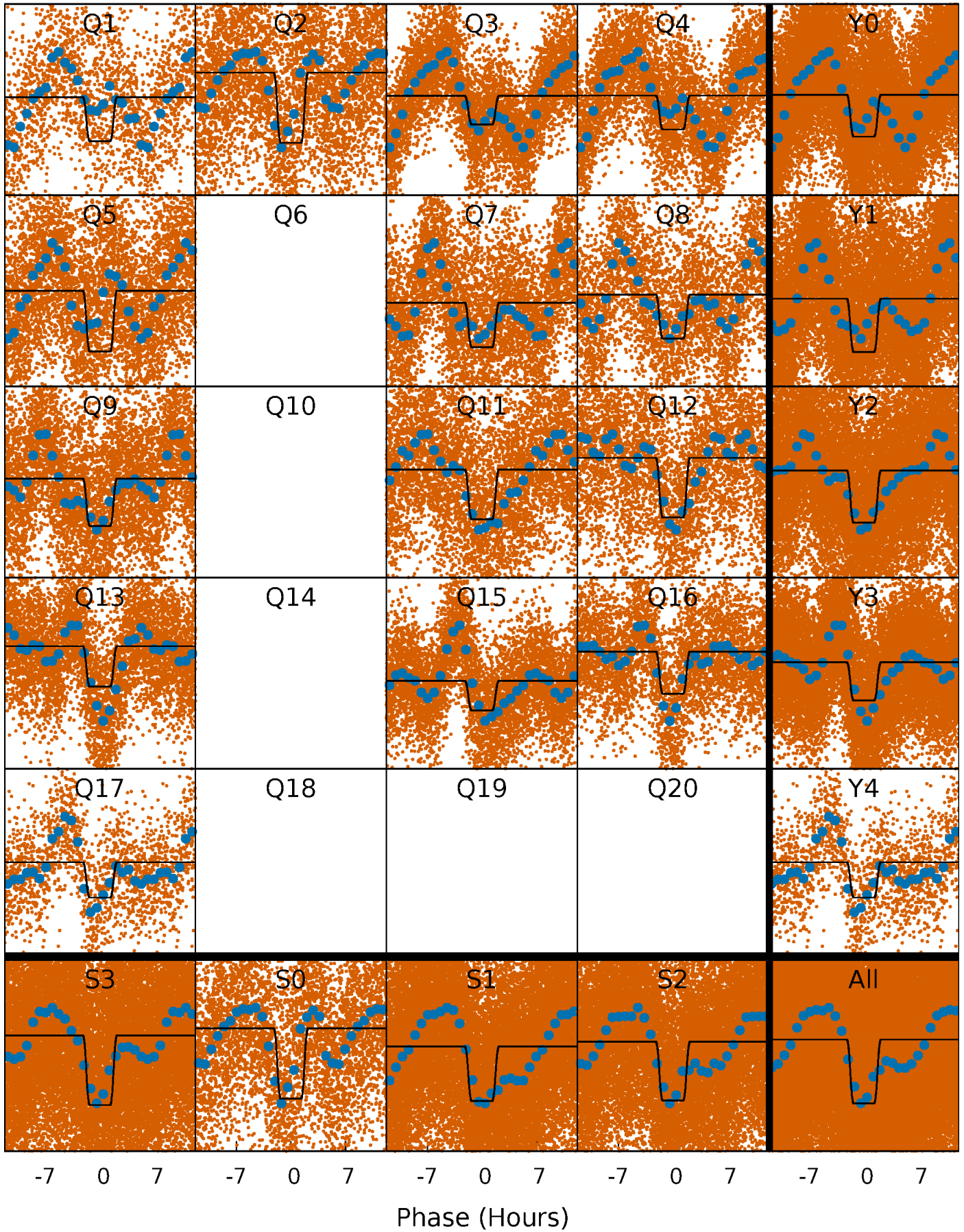
# DV Quarter-Phased Transit Curves

TCE 005027497-01 P= 0.716040 Days  $T_0=131.808000$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005027497-01   P= 0.716006 Days    $T_0=131.801426$  (BKJD)

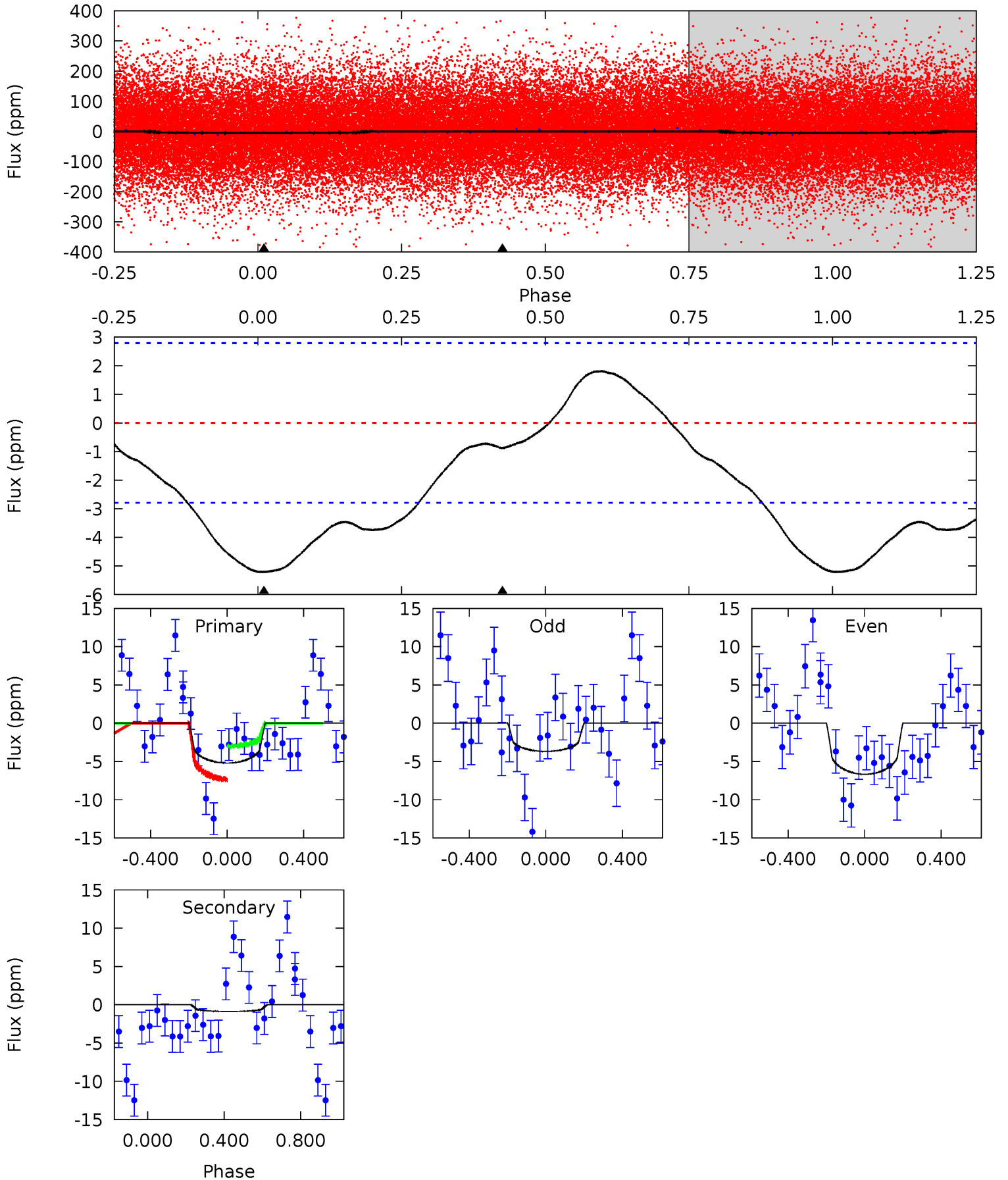




# DV Model-Shift Uniqueness Test

005027497-01, P = 0.716040 Days, E = 131.091960 Days

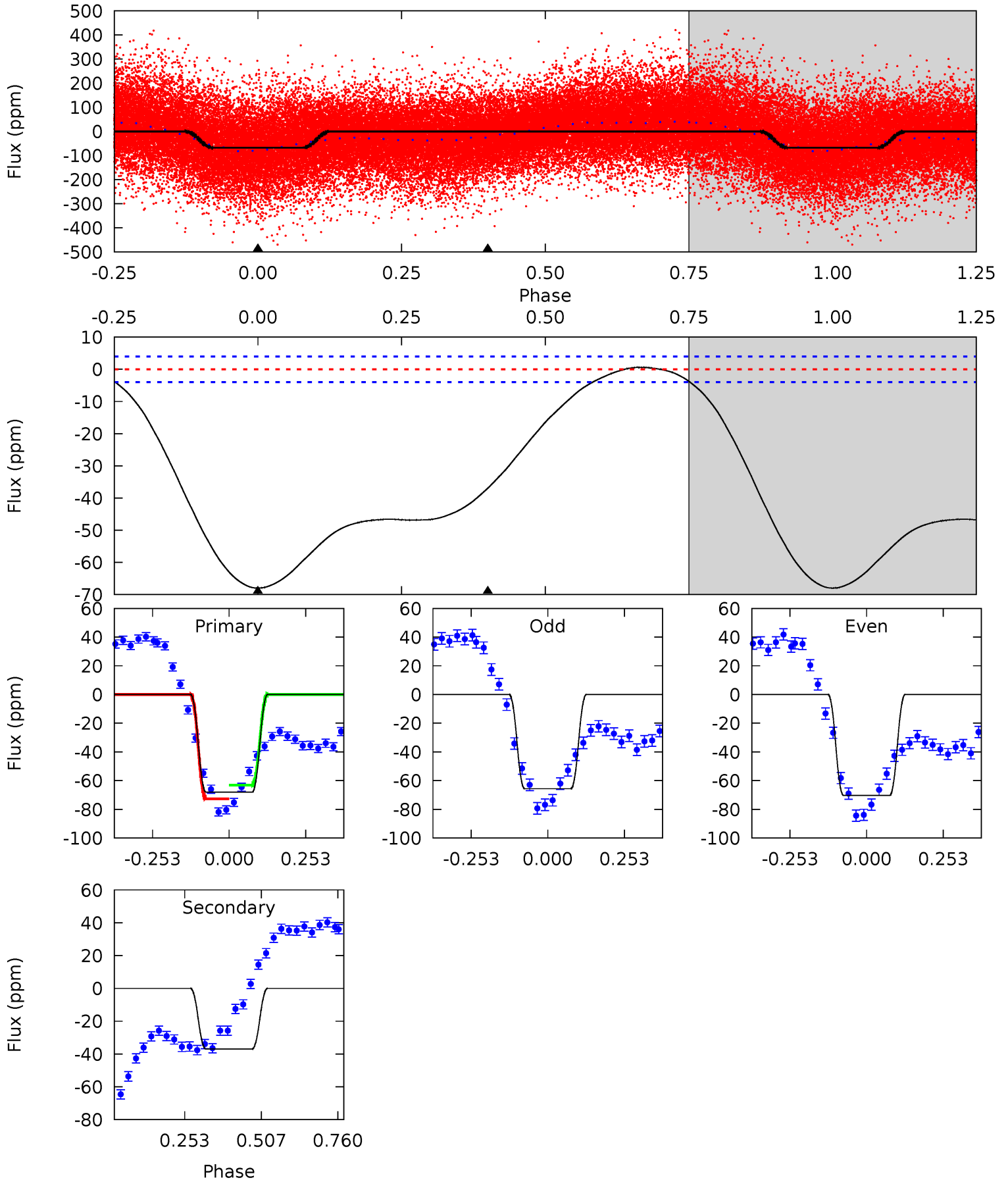
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.96	1.35	0	0	4.26	0.84	0.96	7.96	7.96	1.35	1.35	2.27	1.06	0.26	3.20



# Alt Model-Shift Uniqueness Test

005027497-01, P = 0.716006 Days, E = 131.085420 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
74.8	40.6	0	0	4.37	1.14	1.37	74.8	74.8	40.6	40.6	2.51	1.00	0.01	5.29





### Stellar Parameters For KIC 005027497

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7171^{+228}_{-314}$	$4.056^{+0.185}_{-0.185}$	$-0.140^{+0.250}_{-0.350}$	$1.905^{+0.578}_{-0.525}$	$1.503^{+0.222}_{-0.247}$	$0.306^{+0.318}_{-0.157}$
	+3%/-4%	+5%/-5%	+179%/-250%	+30%/-28%	+15%/-16%	+104%/-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 005027497-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-1 \pm 1$	$0.71^{+0.64}_{-0.46}$	$4590^{+355}_{-377}$	$-2958^{+8945}_{-1048}$	$0.249^{+2.026}_{-0.210}$
Alt.	$-37 \pm 1$	$1.88^{+0.78}_{-0.68}$	$4560^{+363}_{-339}$	$5553^{+1508}_{-895}$	$1.855^{+2.718}_{-0.936}$

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

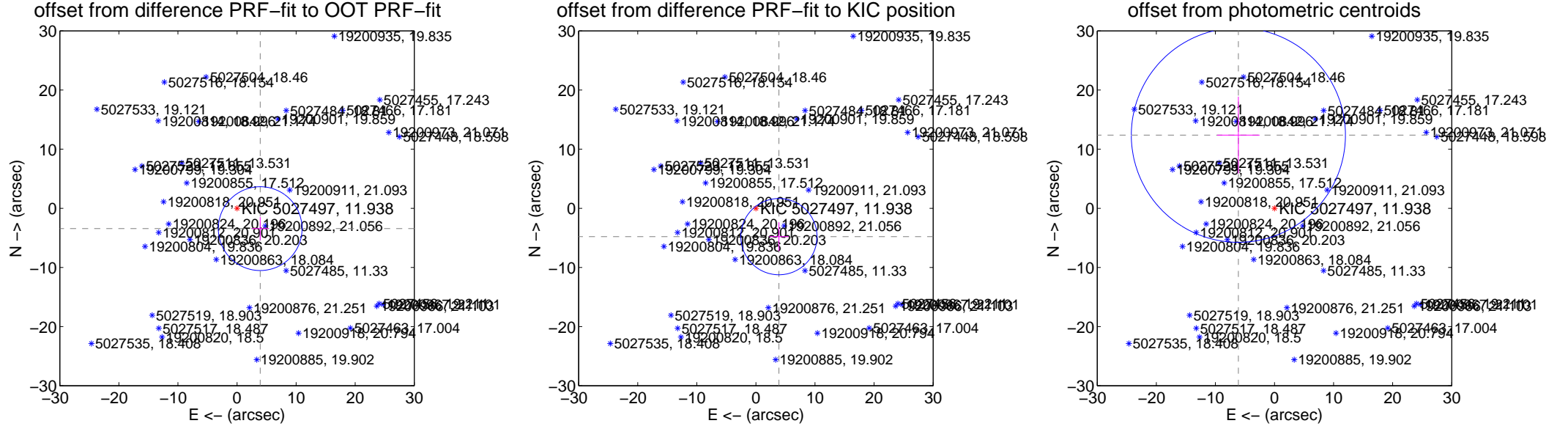
## DV Centroid Data

Supplemental centroid analysis for 005027497-01. **Kepler magnitude: 11.94.** Transit SNR 4.12

**There are 1 quarters with good PRF difference image offsets**

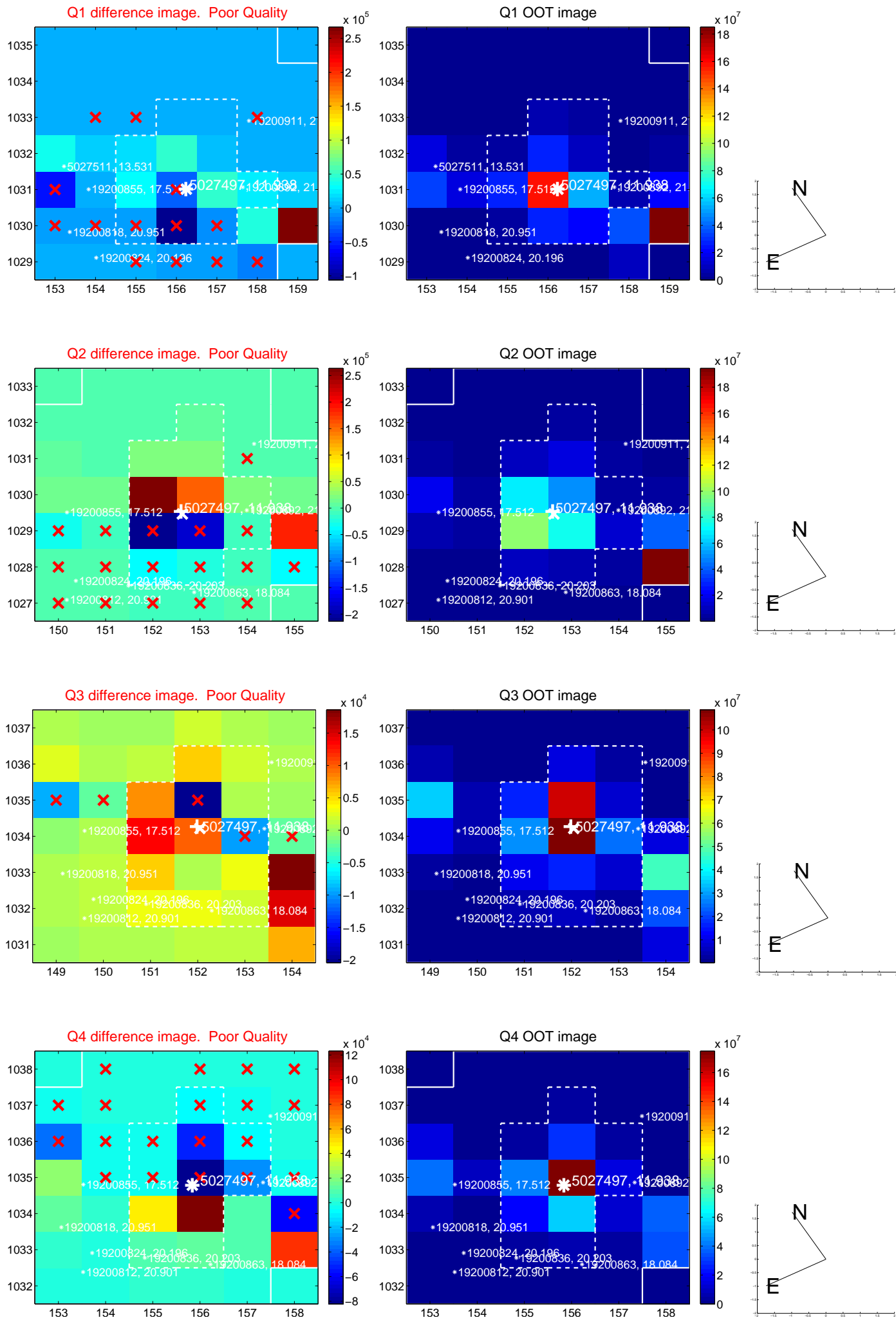
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.212 \pm 2.362$	2.21	$-3.919 \pm 1.429$	$-3.436 \pm 1.955$
PRF-fit source offset from KIC position	$6.173 \pm 2.149$	2.87	$-3.894 \pm 1.646$	$-4.790 \pm 2.425$
photometric centroid source offset	$13.80 \pm 6.04$	2.28	$6.11 \pm 3.60$	$12.37 \pm 6.50$

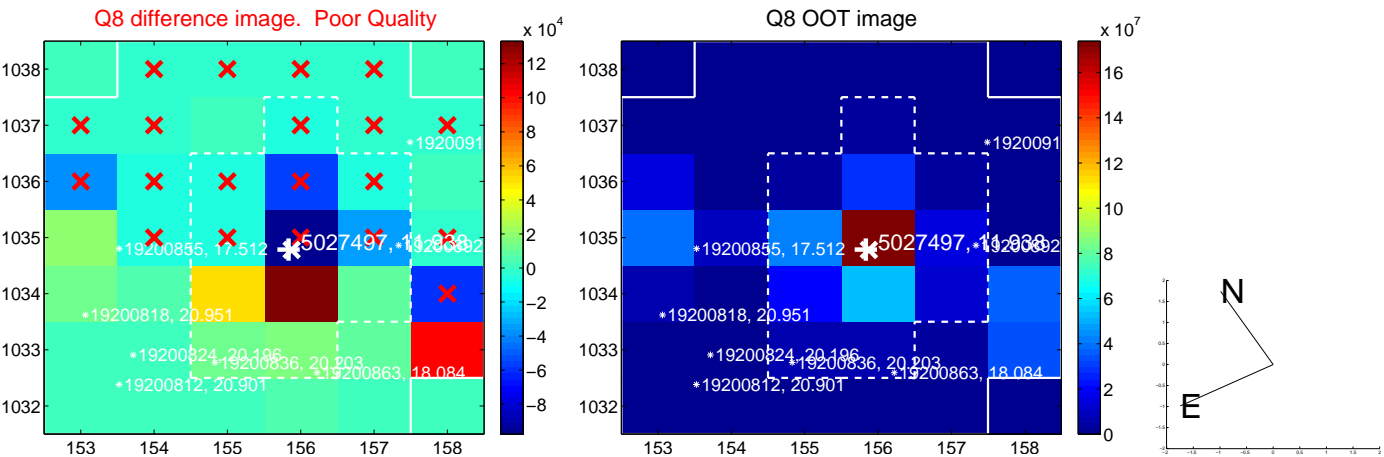
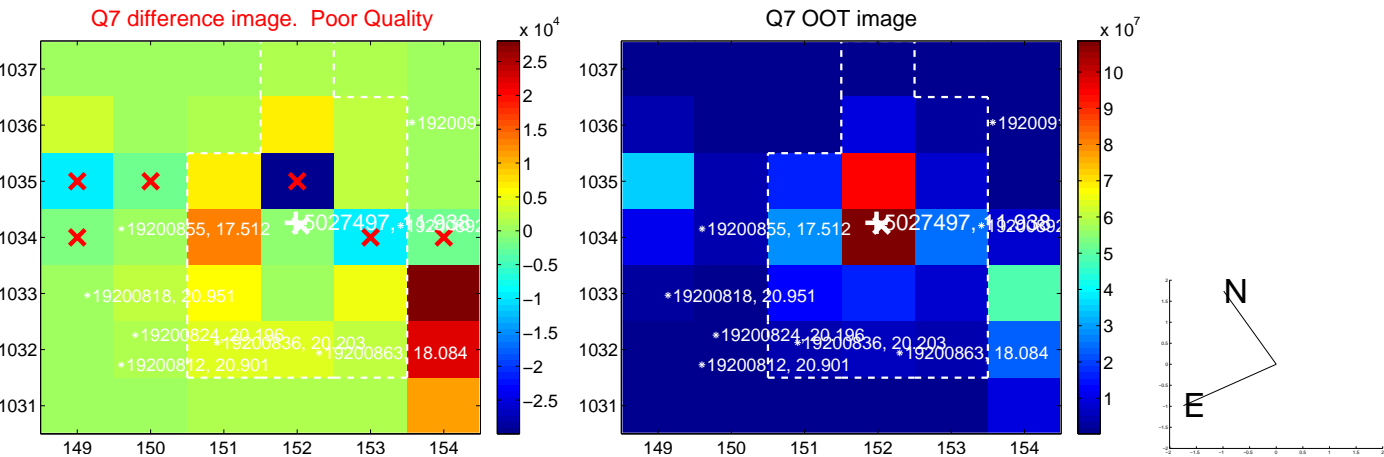
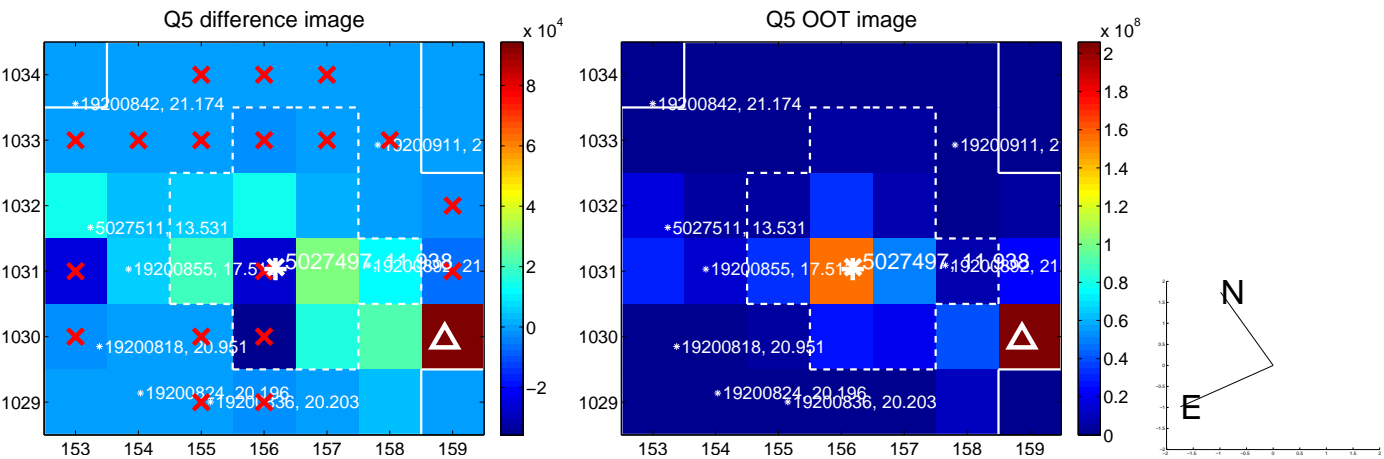


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

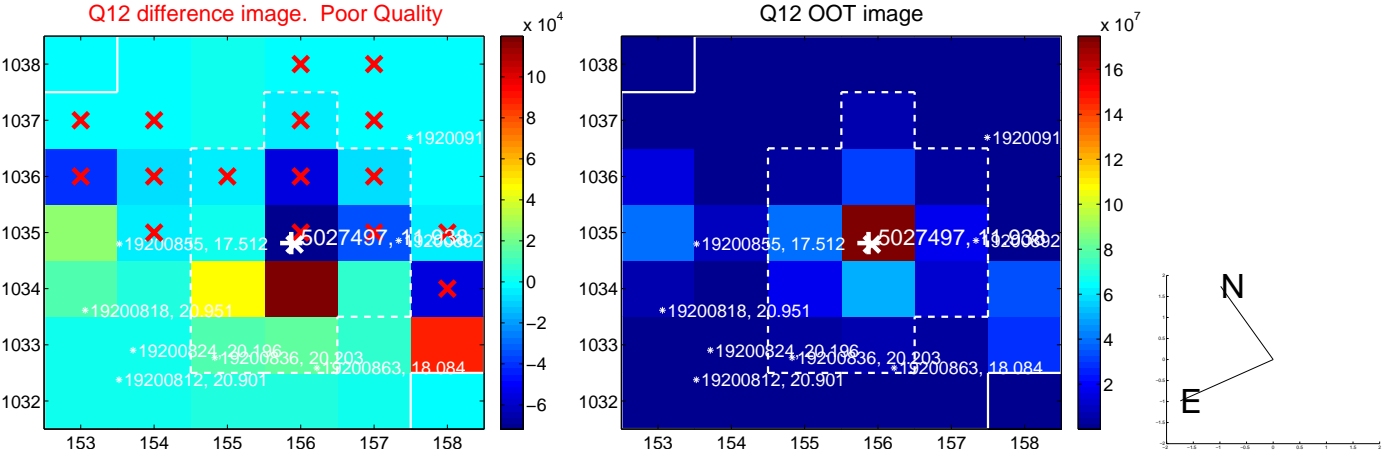
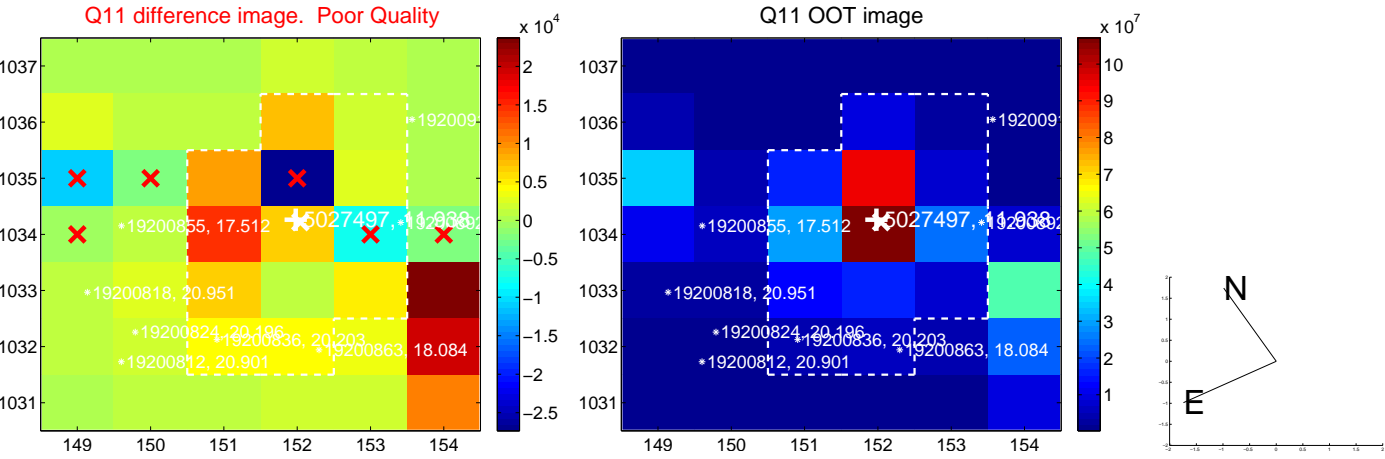
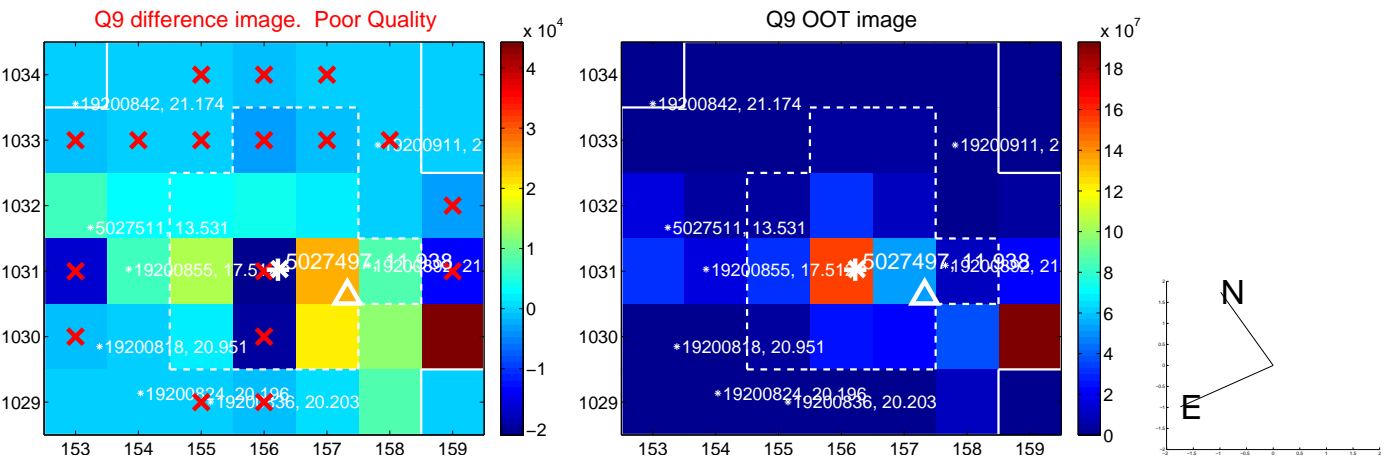


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

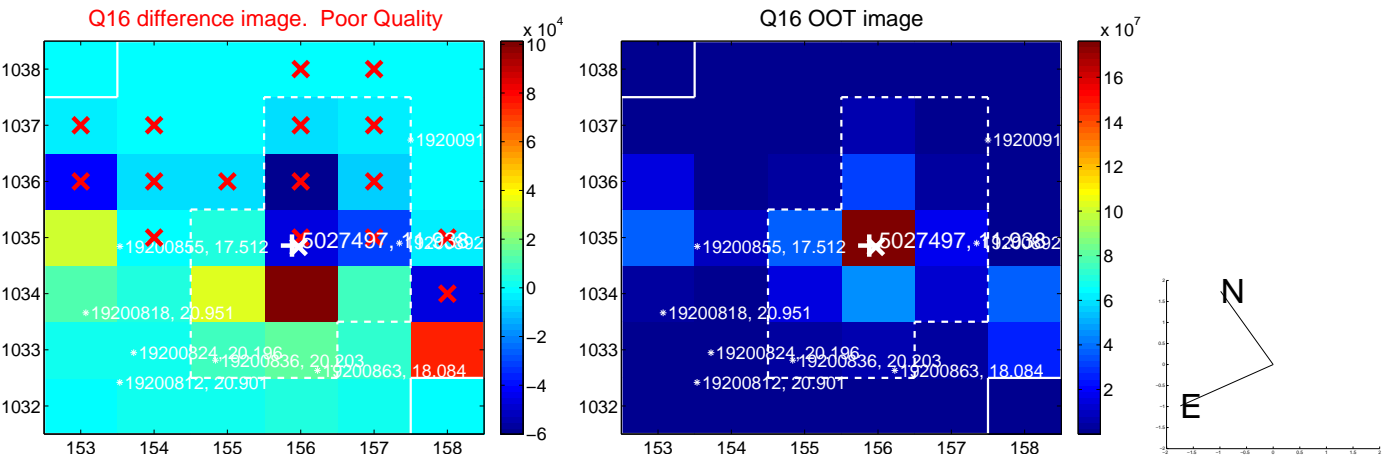
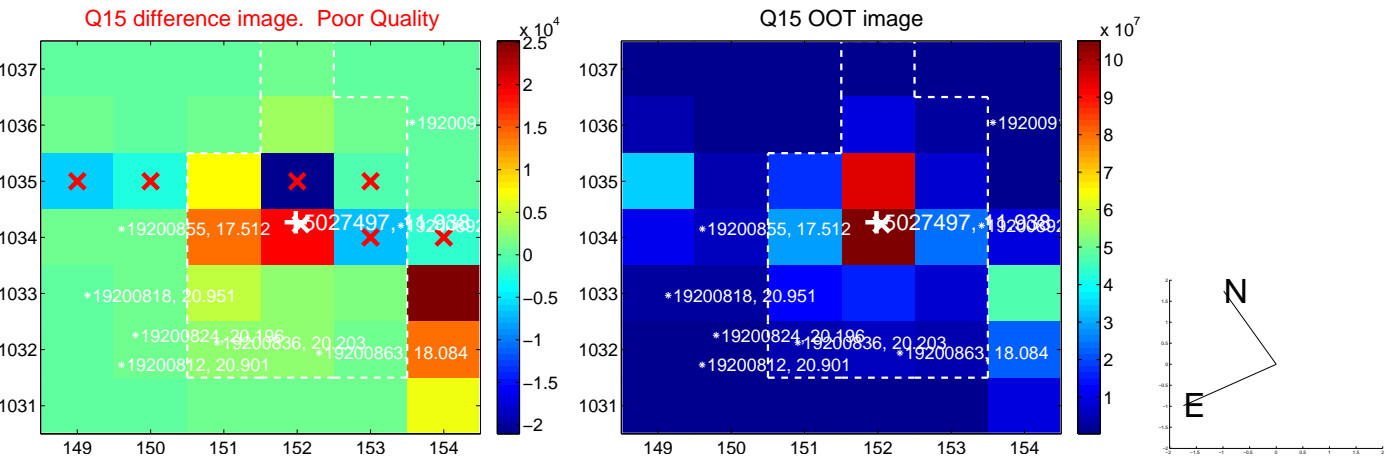
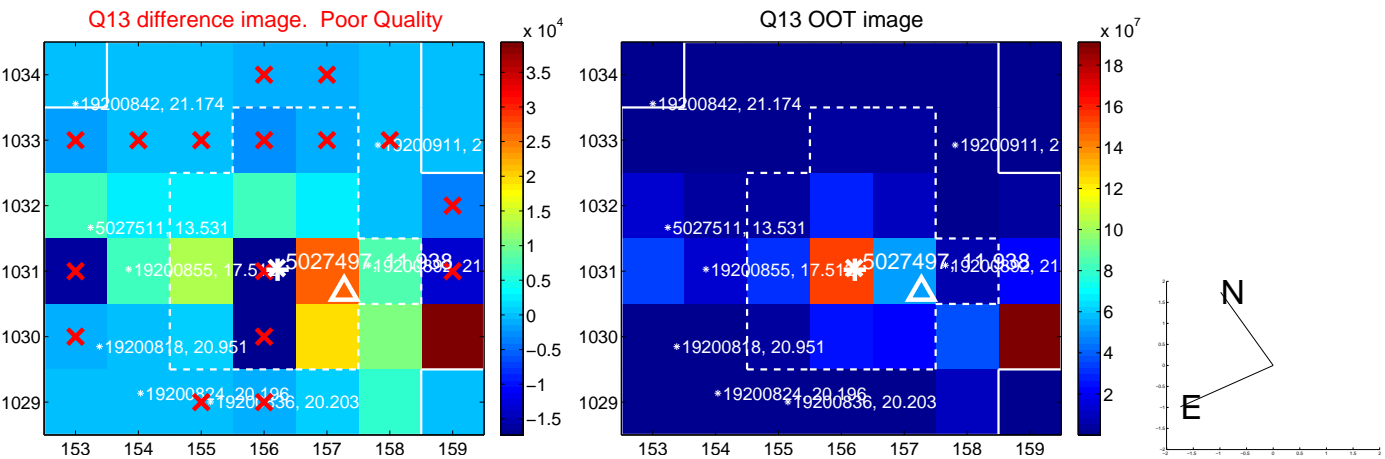




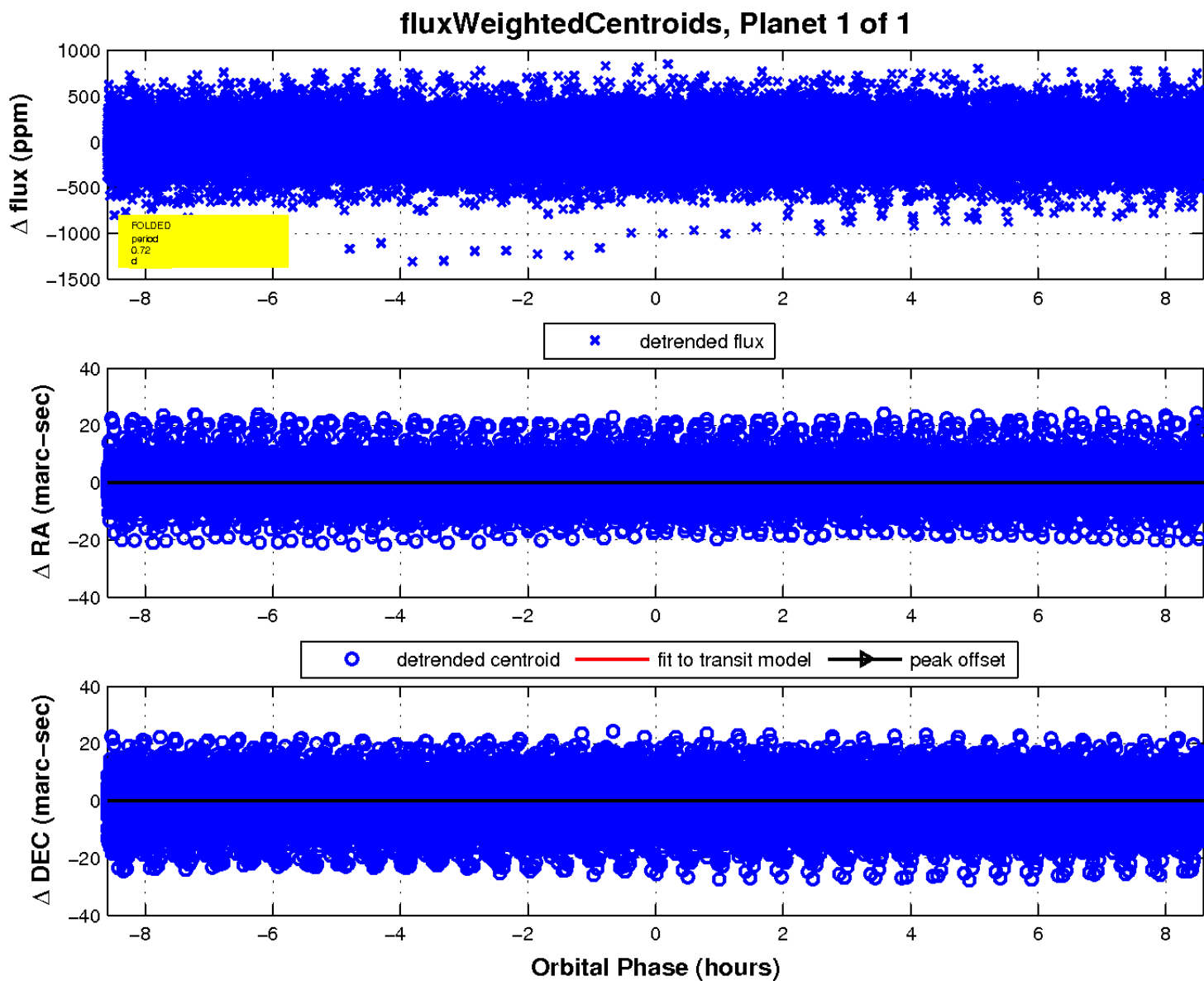
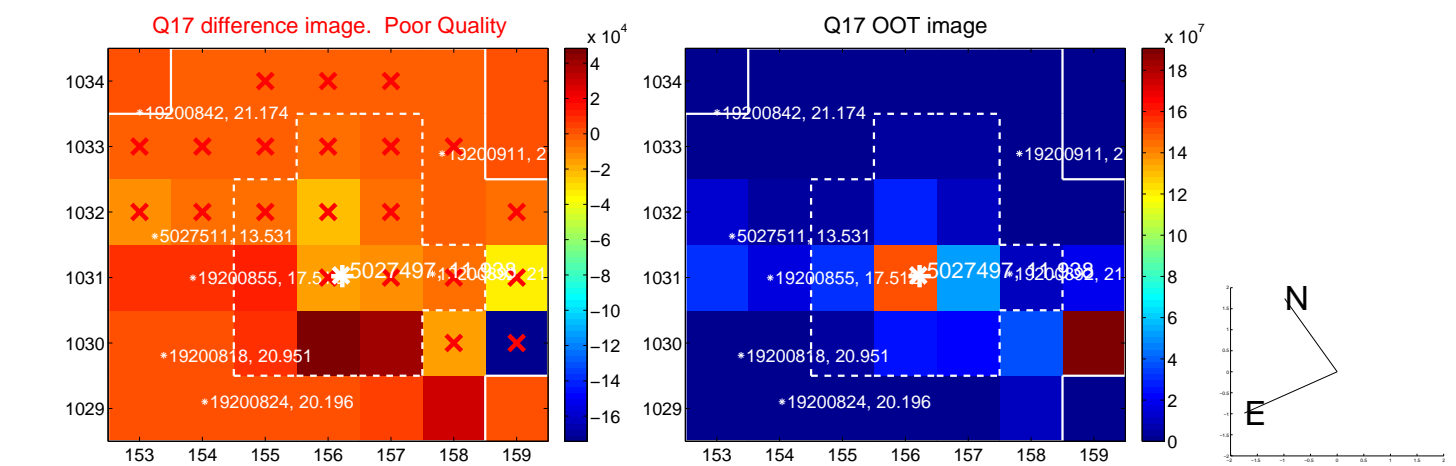
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

