

# KIC 007545719

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007545719-01	OBS	No	43.077453	148.143843	166.3	44.233	9.0	13.4	1.22	6287	2.10	35.66

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007545719-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

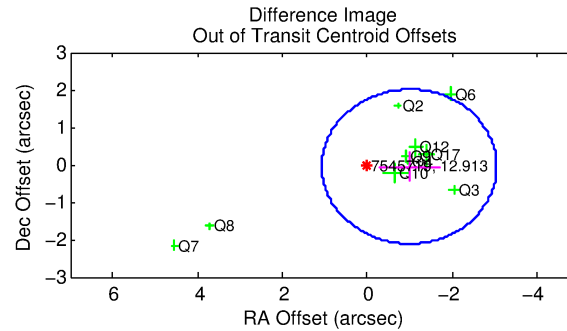
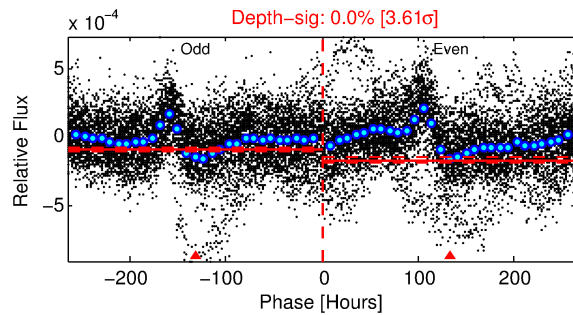
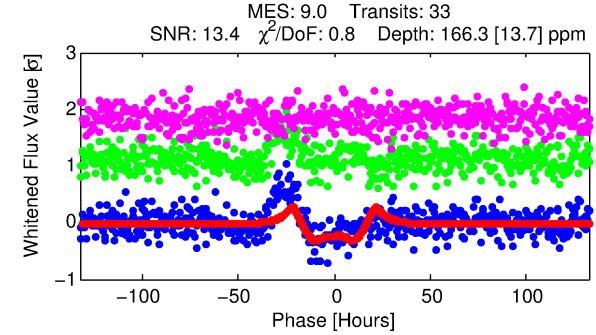
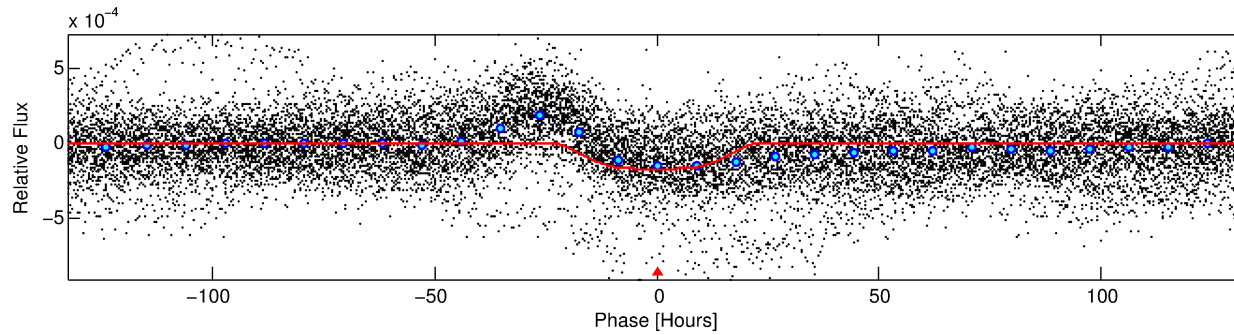
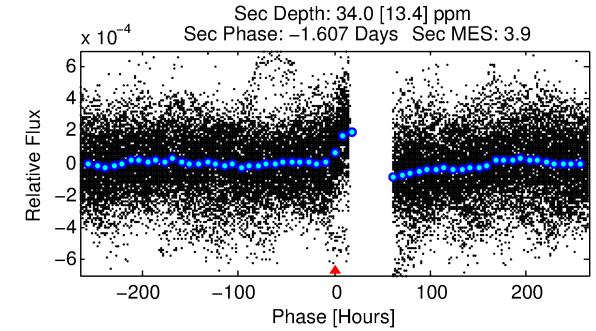
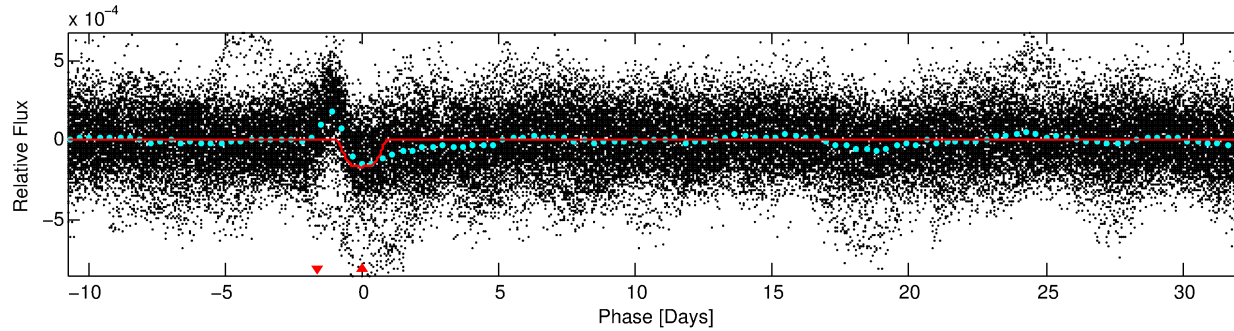
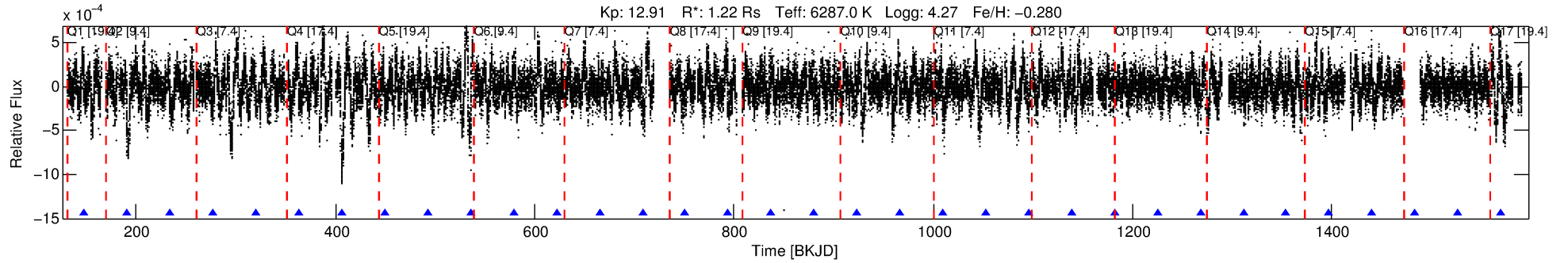
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007545719-01

No Significant Match Found

# DV One-Page Summary

KIC: 7545719 Candidate: 1 of 1 Period: 43.077 d



## DV Fit Results:

Period = 43.07745 [0.00187] d  
Epoch = 148.1438 [0.0339] BKJD  
Rp/R\* = 0.0157 [0.0007]  
a/R\* = 2.24 [0.09]  
b = 0.98 [0.00]  
Seff = 35.66 [10.08]  
Teq = 623 [44] K  
Rp = 2.10 [0.45] Re  
a = 0.2425 [0.0427] AU  
Ag = 249.81 [119.36] [2.08σ]  
Teffp = 3830 [403] K [7.91σ]

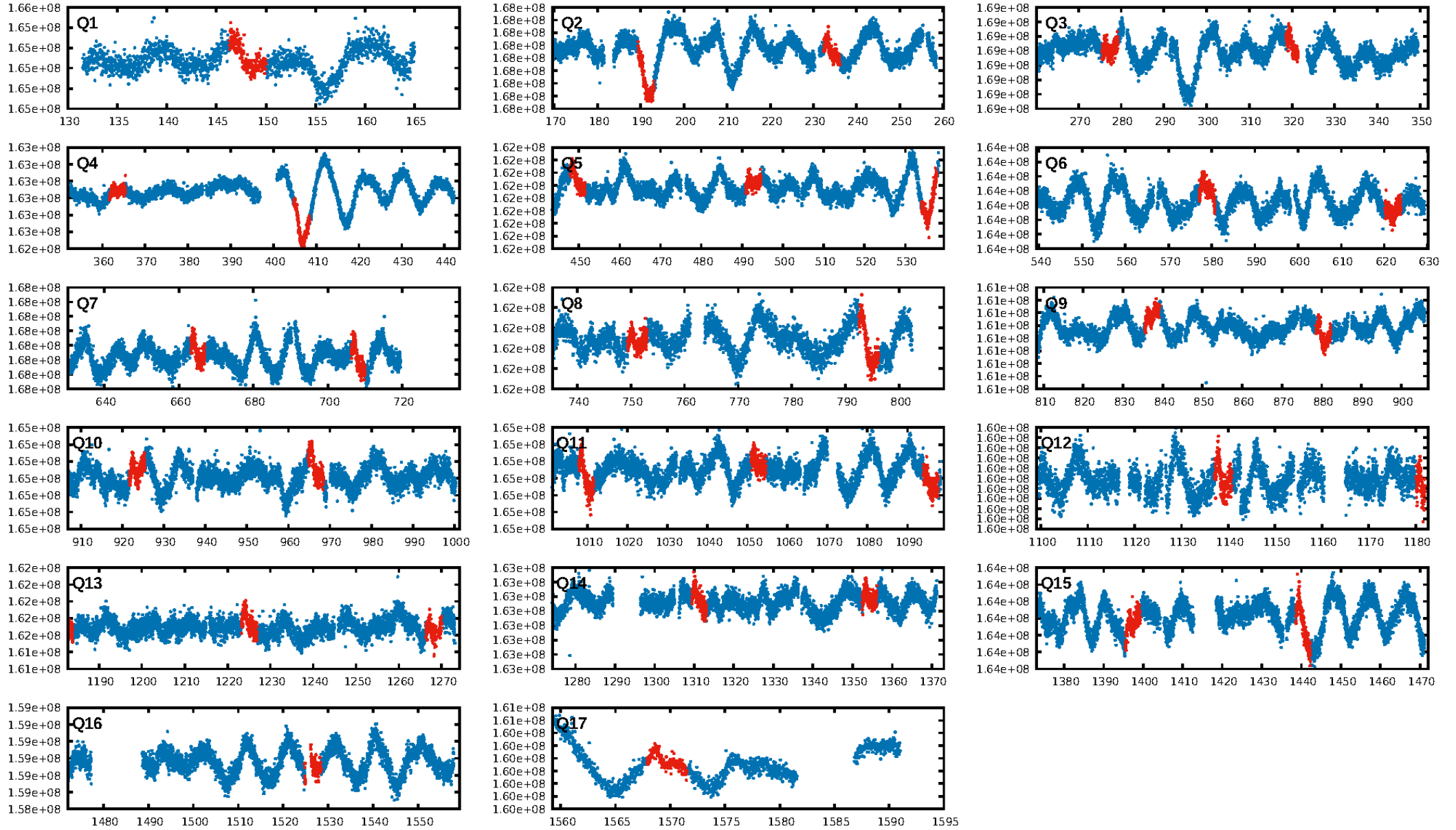
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 56.6%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 9.87e-18  
RollingBand-fgt: 1.00 [31/31]  
GhostDiagnostic-chr: -1.86  
Centroid-sig: 31.9%  
Centroid-so: 0.218 arcsec [0.72σ]  
OotOffset-rm: 0.995 arcsec [1.45σ]  
KicOffset-rm: 1.037 arcsec [1.61σ]  
OotOffset-st: 3/2/3/2 [10]  
KicOffset-st: 3/2/3/2 [10]  
DiffImageQuality-fgm: 0.70 [7/10]  
DiffImageOverlap-fno: 1.00 [15/15]

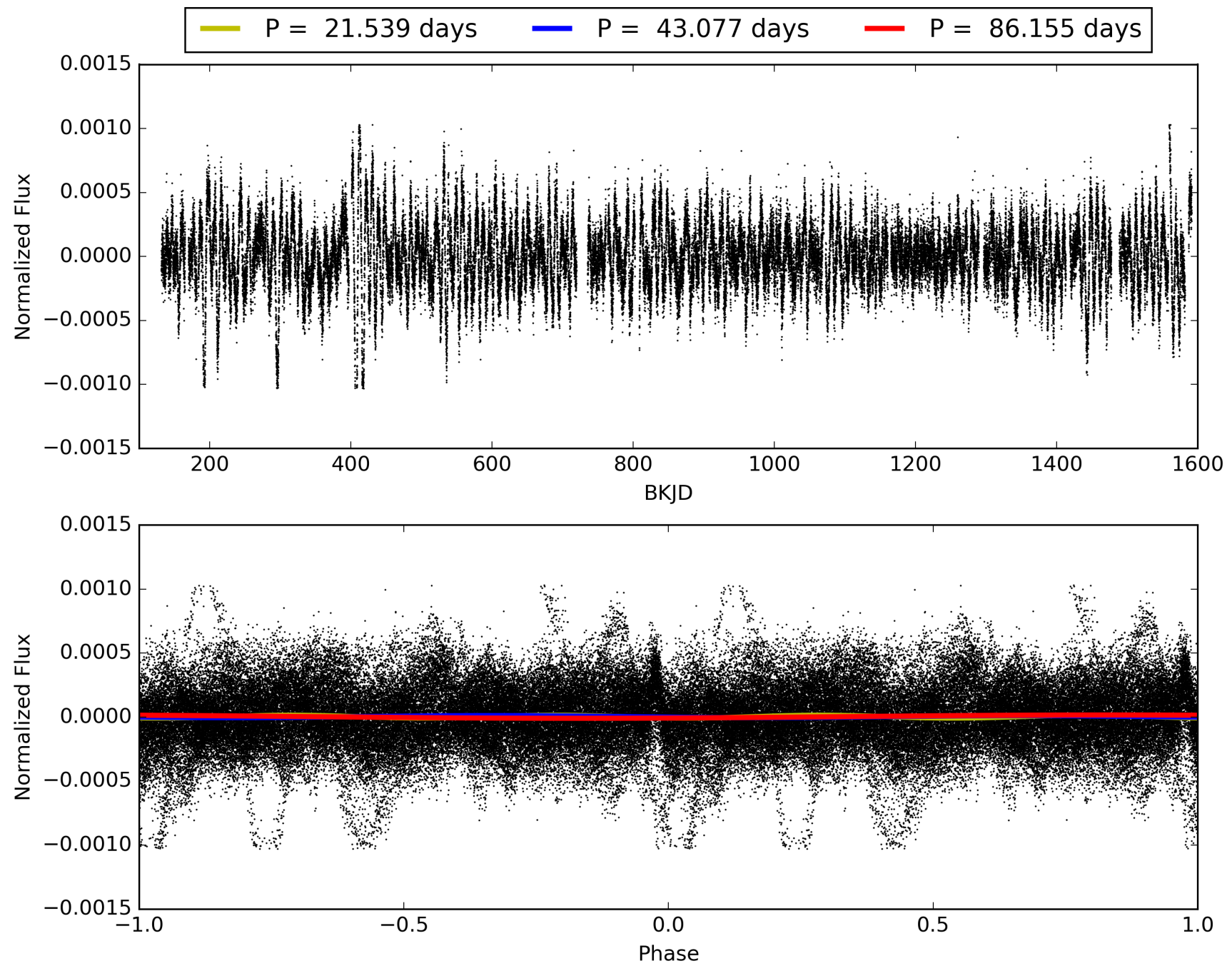
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:43:48 Z

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

# TCE 007545719-01, PDC Light Curves

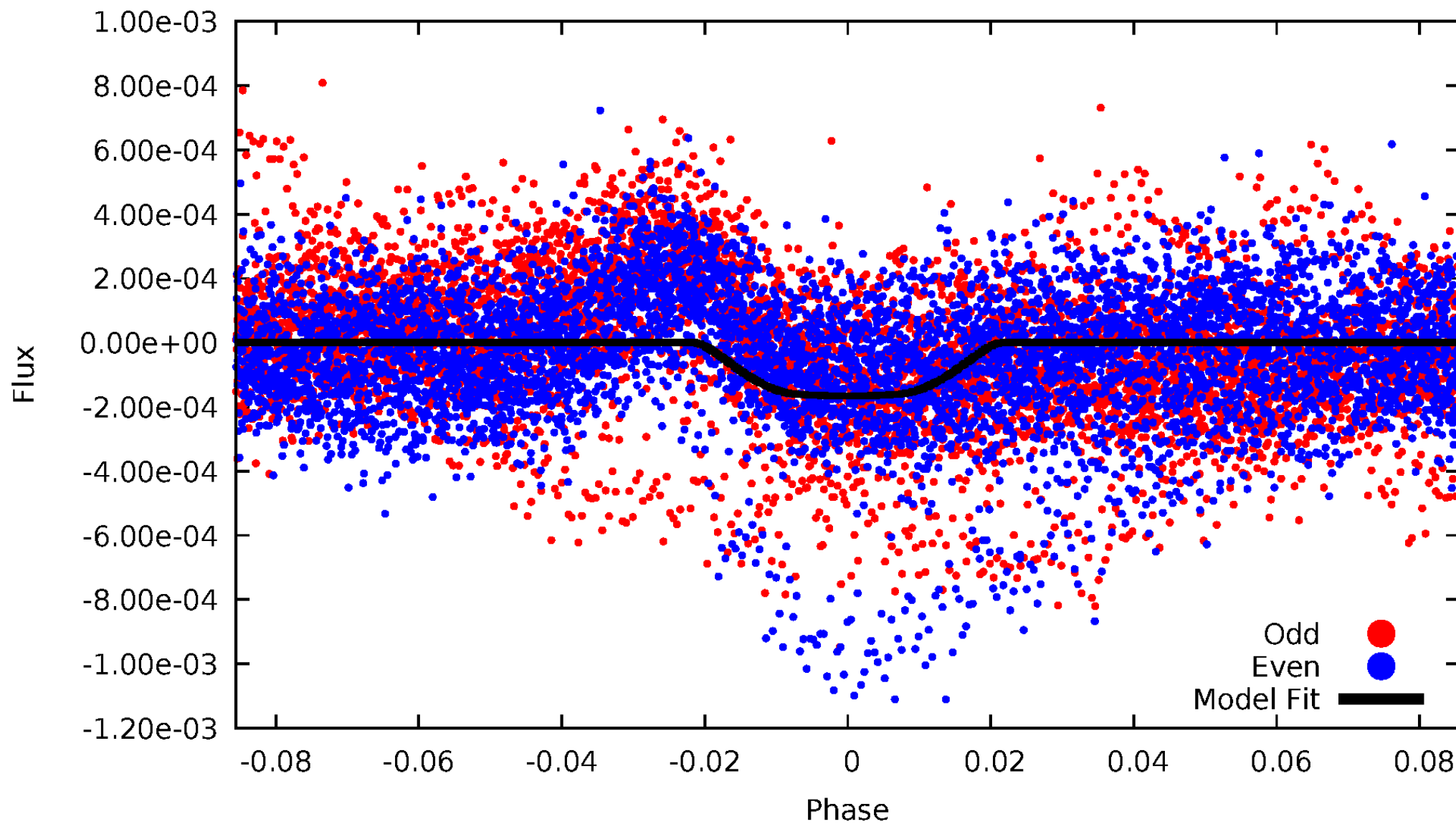


TCE 007545719-01



# DV Odd/Even

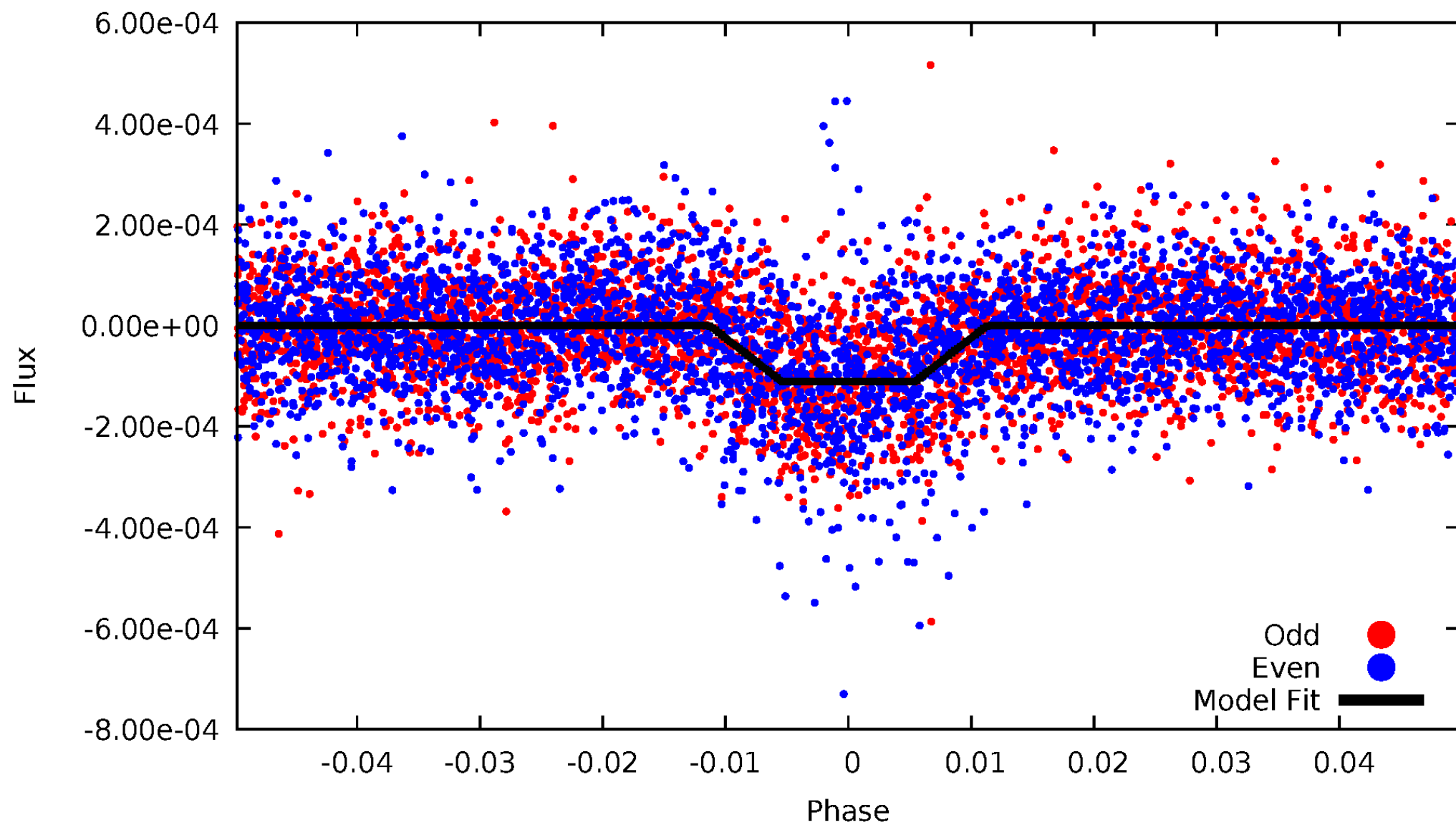
TCE 007545719-01



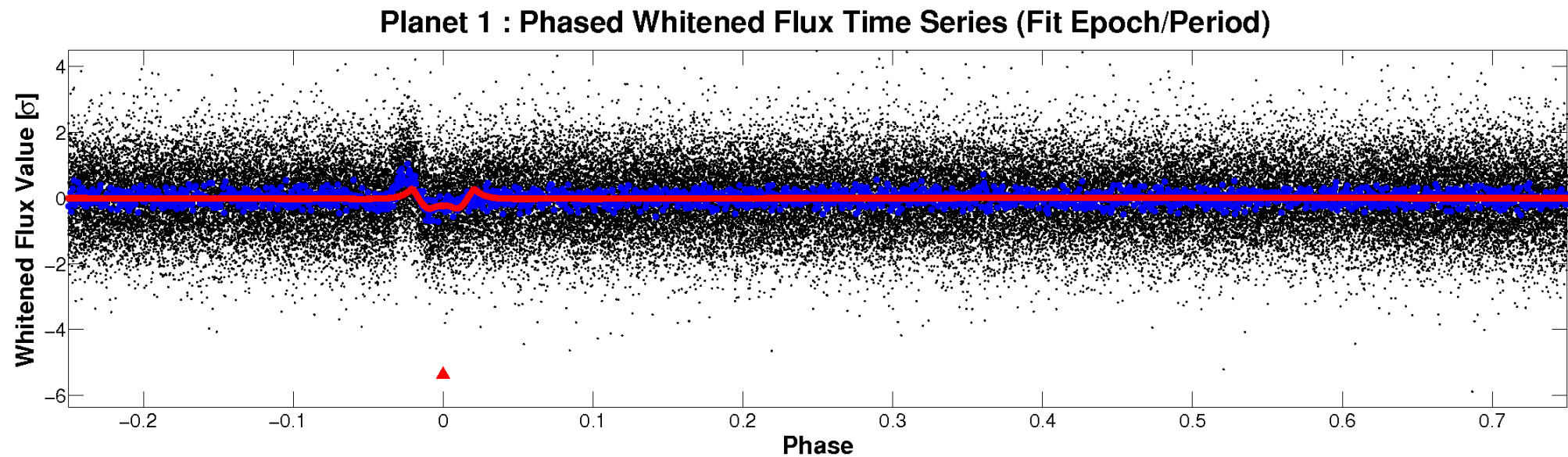
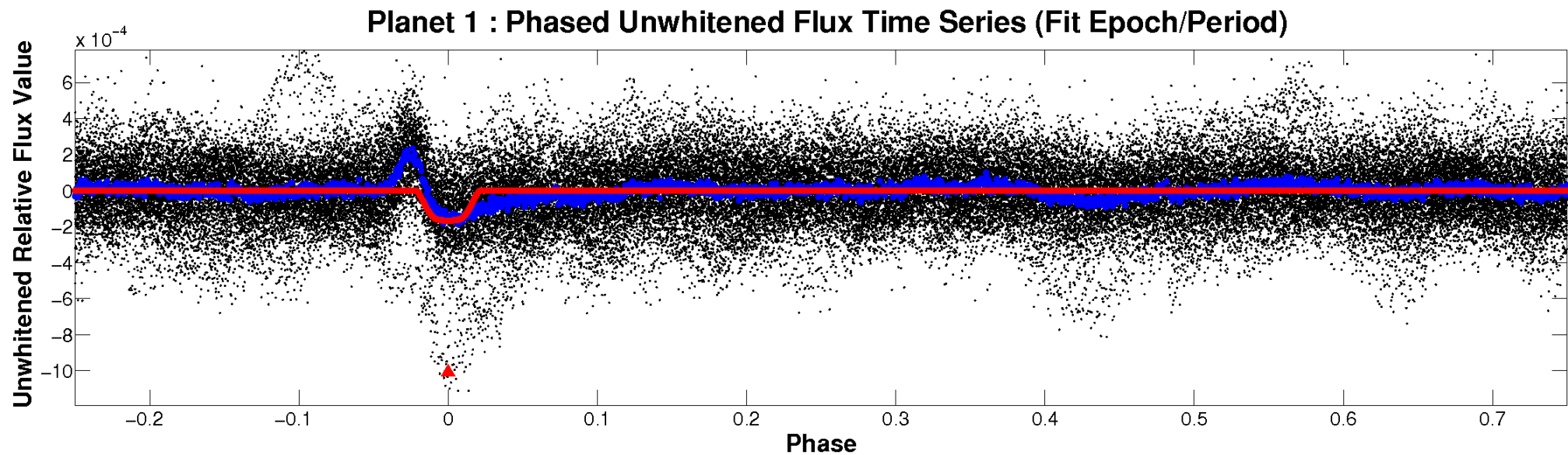


# ALT Odd/Even

TCE 007545719-01

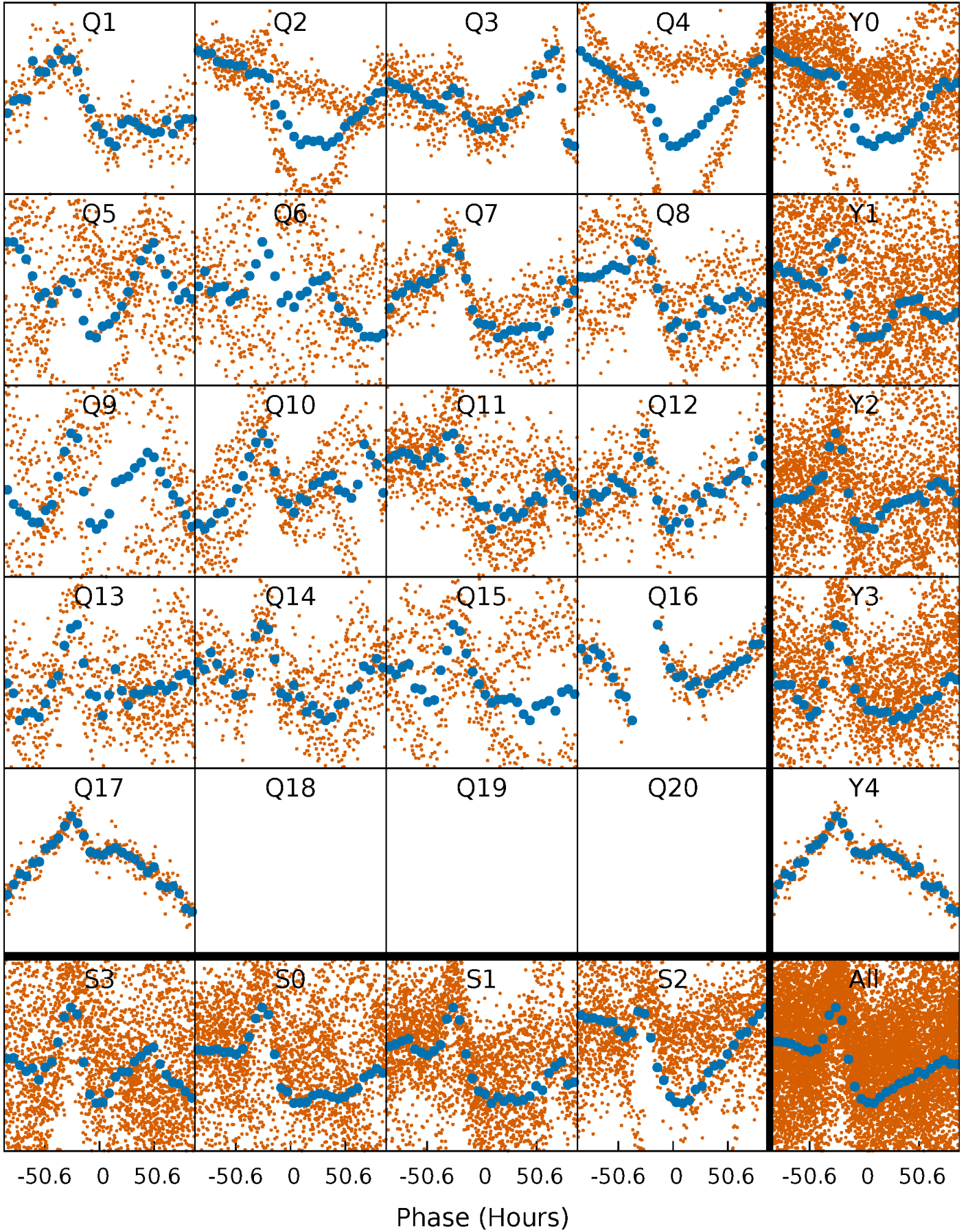


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

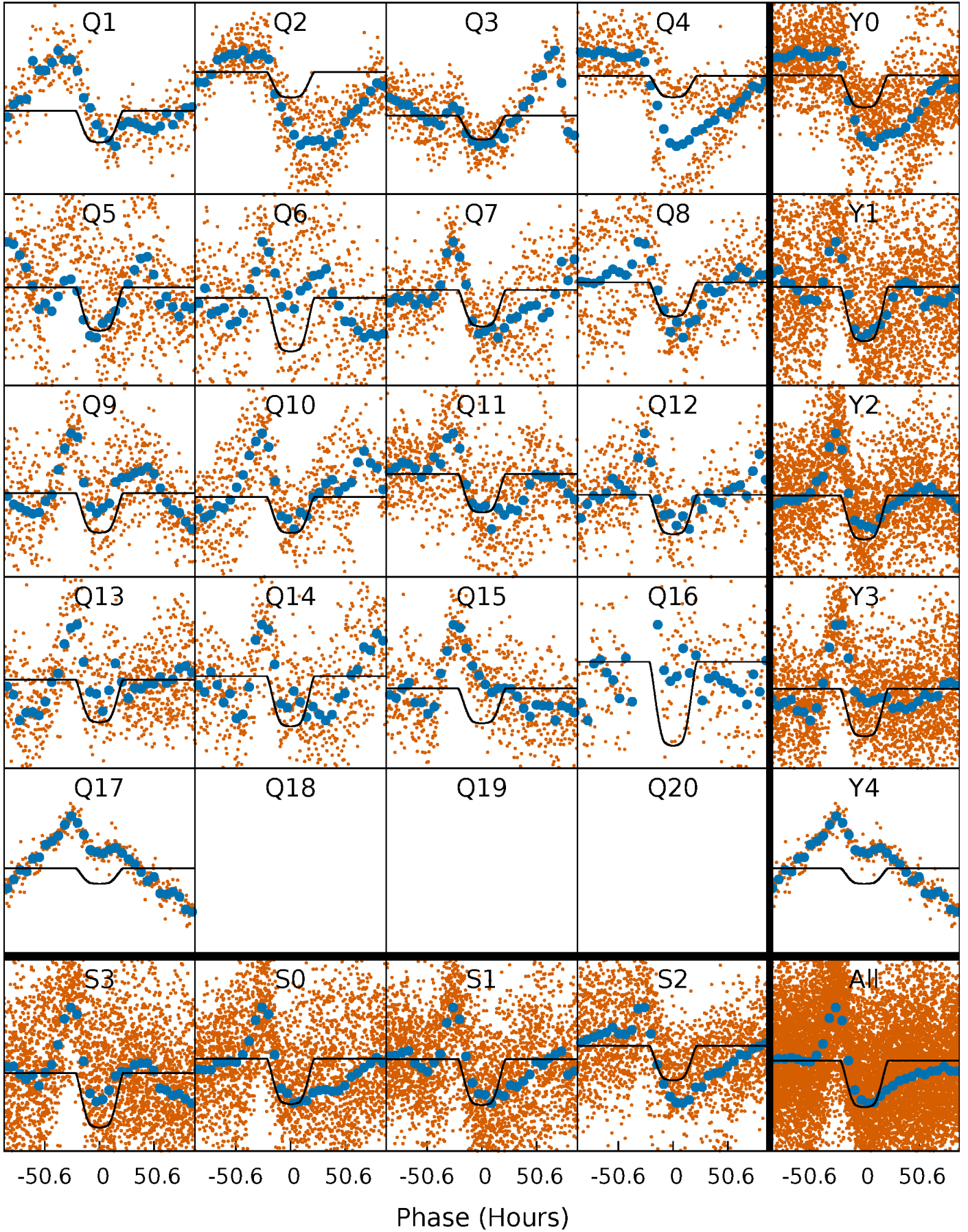
TCE 007545719-01 P= 43.077453 Days  $T_0=148.143843$  (BKJD)





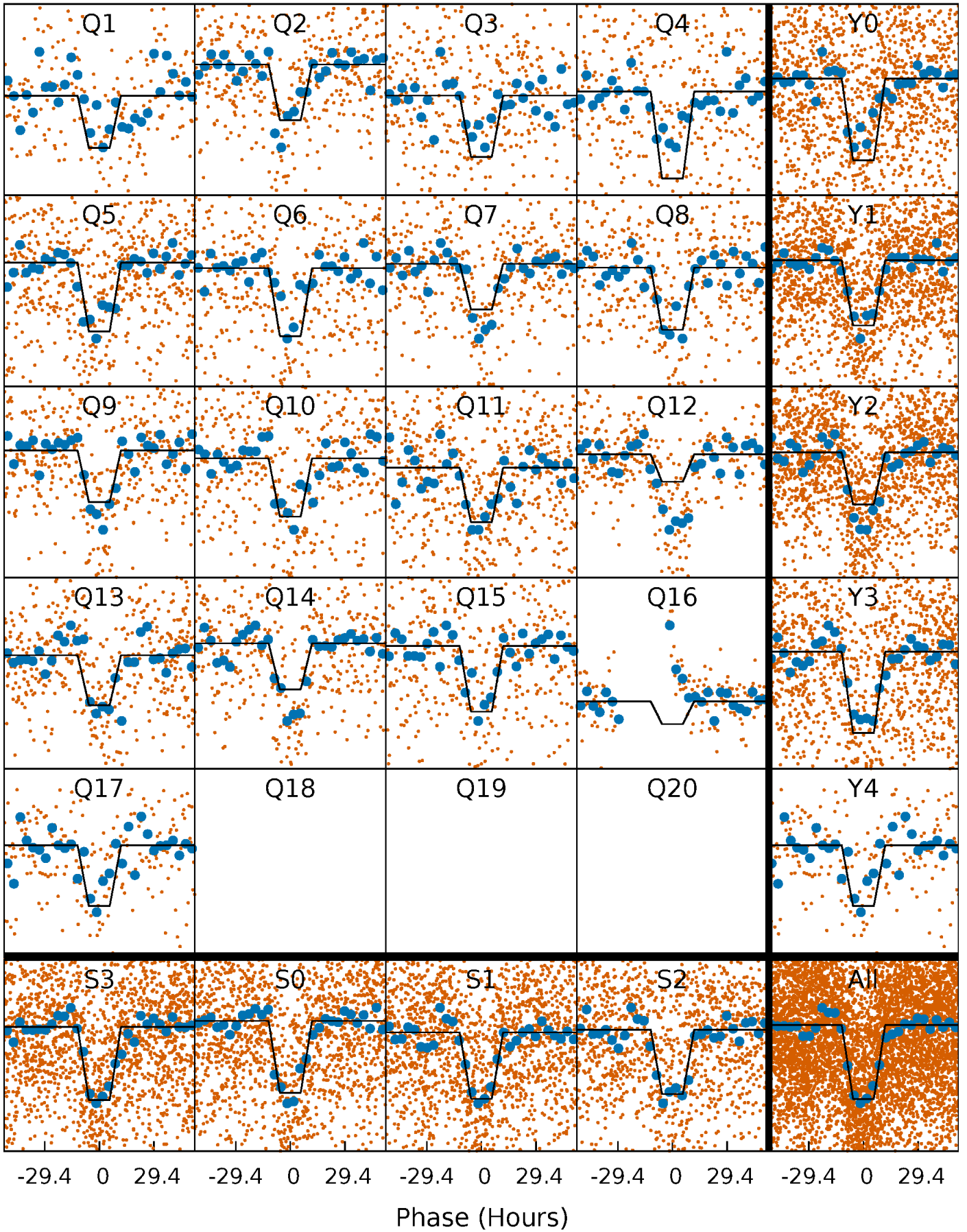
# DV Quarter-Phased Transit Curves

TCE 007545719-01 P= 43.077453 Days  $T_0=148.143843$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

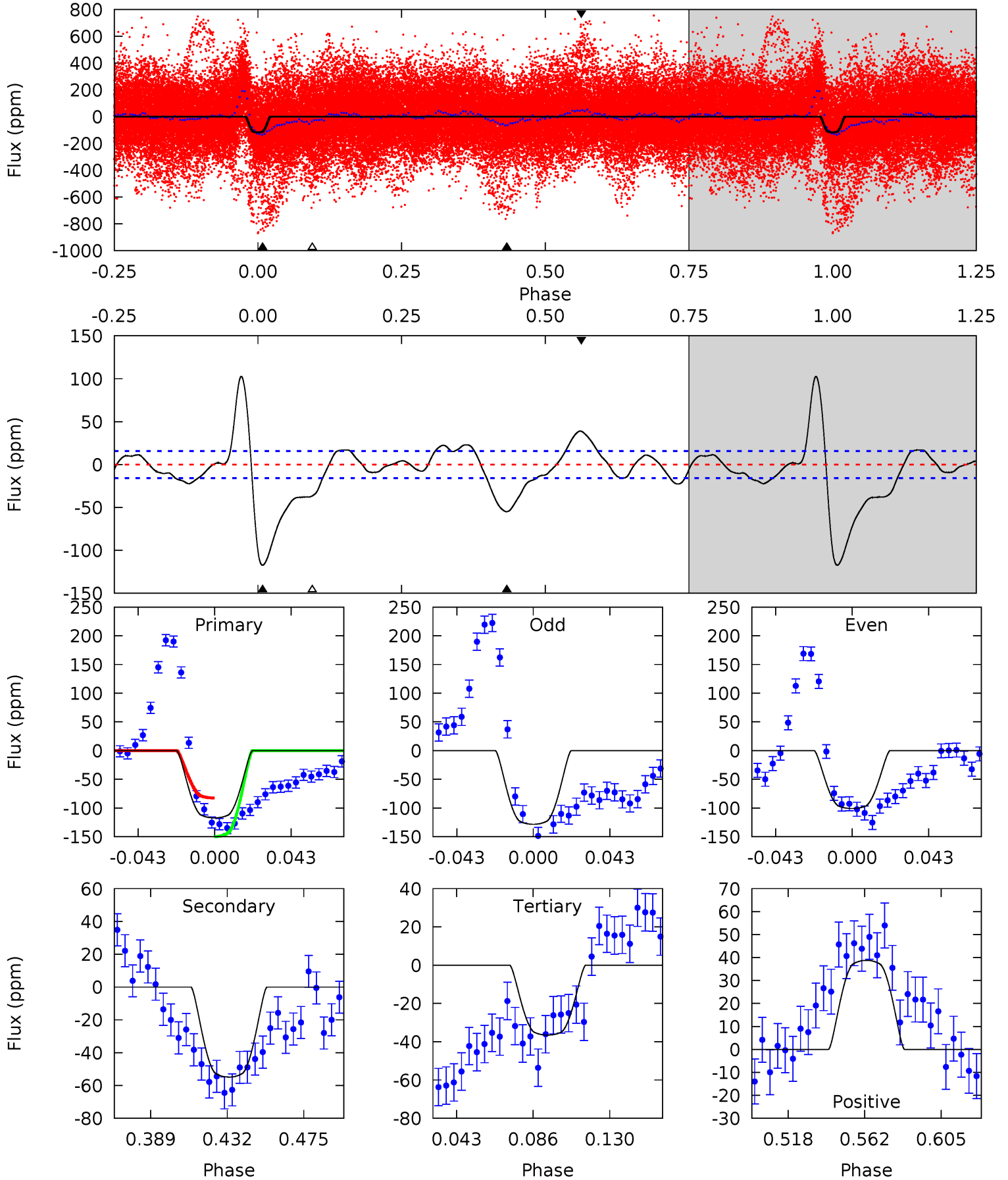
TCE 007545719-01 P= 43.075195 Days  $T_0=147.823790$  (BKJD)



# DV Model-Shift Uniqueness Test

007545719-01, P = 43.077453 Days, E = 105.066390 Days

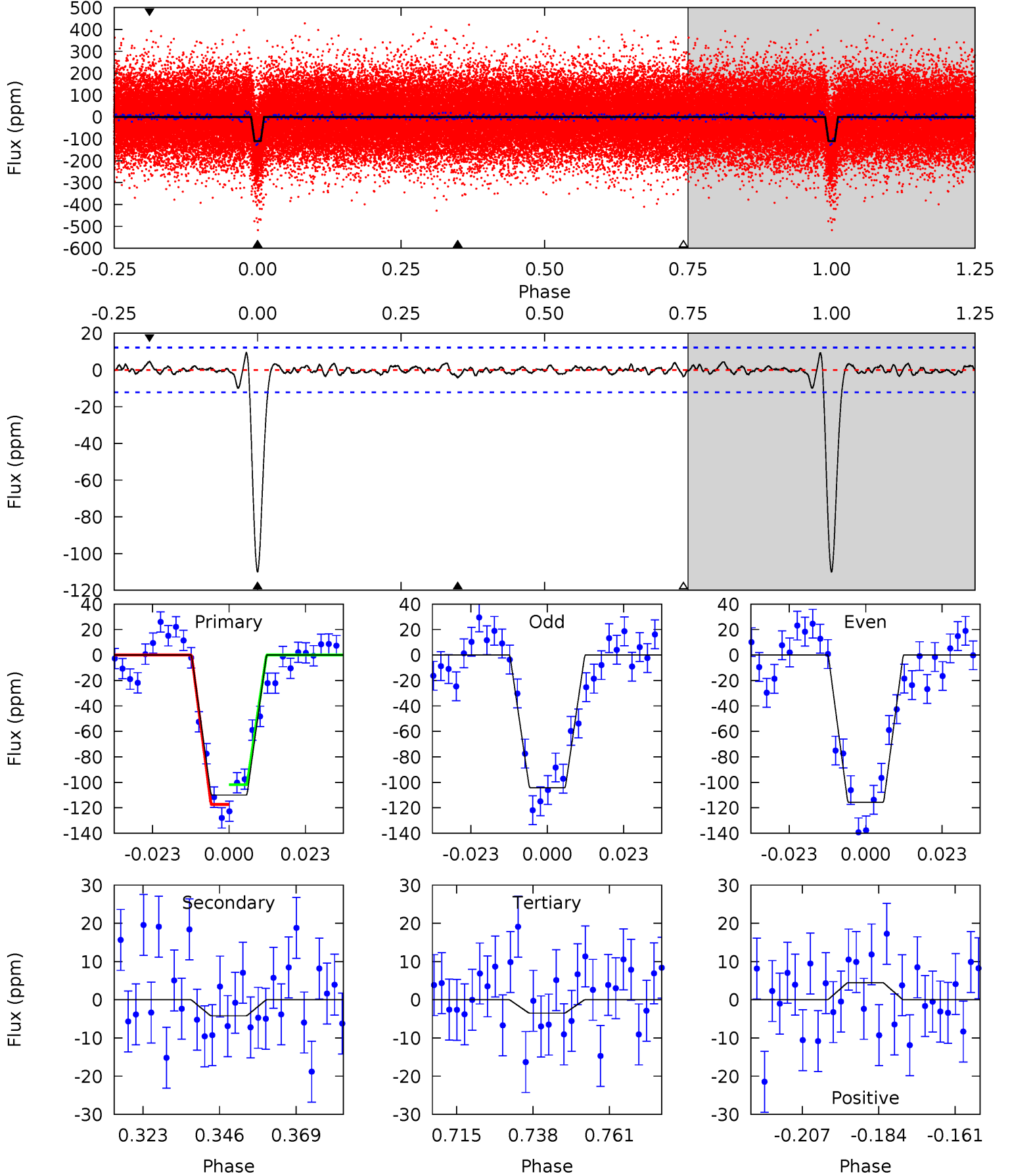
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.1	16.4	10.9	11.6	4.74	2.02	5.44	24.2	23.5	5.50	4.83	4.13	1.38	0.47	10.0



# Alt Model-Shift Uniqueness Test

007545719-01, P = 43.075195 Days, E = 104.748595 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
43.8	1.68	1.40	1.78	4.86	2.27	0.68	42.4	42.0	0.29	-0.10	2.27	0.98	0.08	3.10



### Stellar Parameters For KIC 007545719

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6287^{+169}_{-188}$	$4.273^{+0.140}_{-0.140}$	$-0.280^{+0.250}_{-0.300}$	$1.224^{+0.256}_{-0.209}$	$1.023^{+0.160}_{-0.120}$	$0.786^{+0.530}_{-0.319}$
	+3%/-3%	+3%/-3%	+89%/-107%	+21%/-17%	+16%/-12%	+67%/-41%
Source	PHO1	FLK73	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 007545719-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-55 \pm 3$	$2.10^{+0.28}_{-0.23}$	$870^{+56}_{-46}$	$4500^{+139}_{-139}$	$402^{+103}_{-85}$
Alt.	$-4 \pm 3$	$1.42^{+0.21}_{-0.18}$	$871^{+53}_{-50}$	$3312^{+290}_{-436}$	$67^{+46}_{-42}$

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



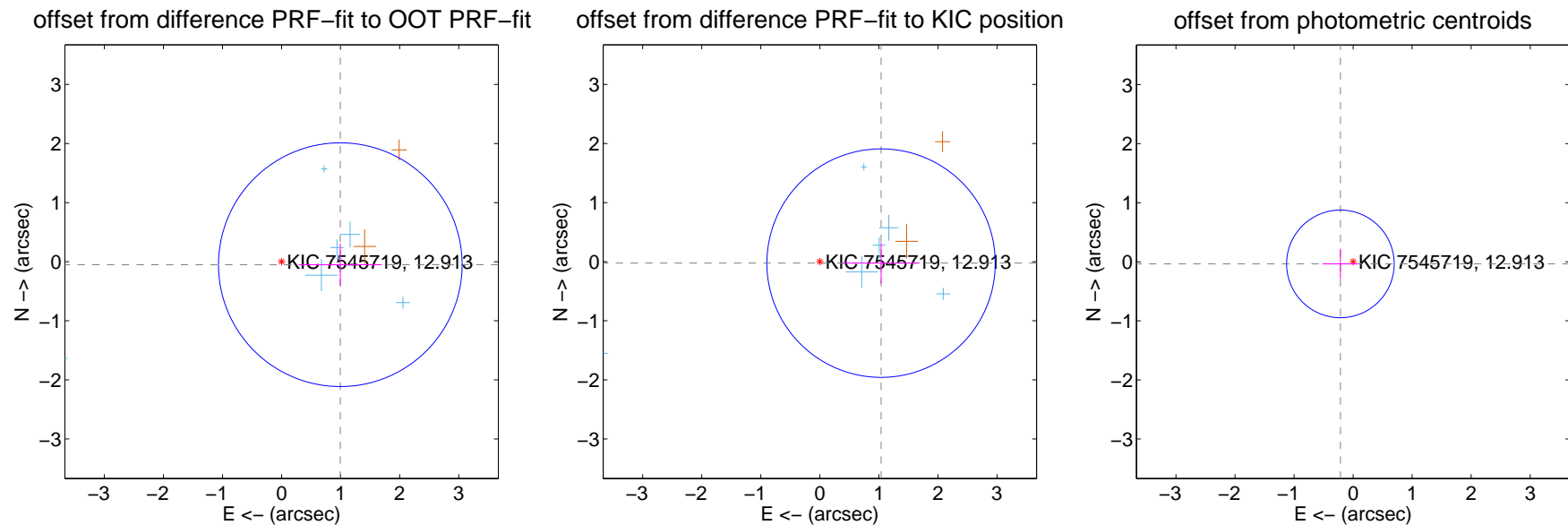
## DV Centroid Data

Supplemental centroid analysis for 007545719-01. Kepler magnitude: 12.91. Transit SNR 13.41

There are 7 quarters with good PRF difference image offsets

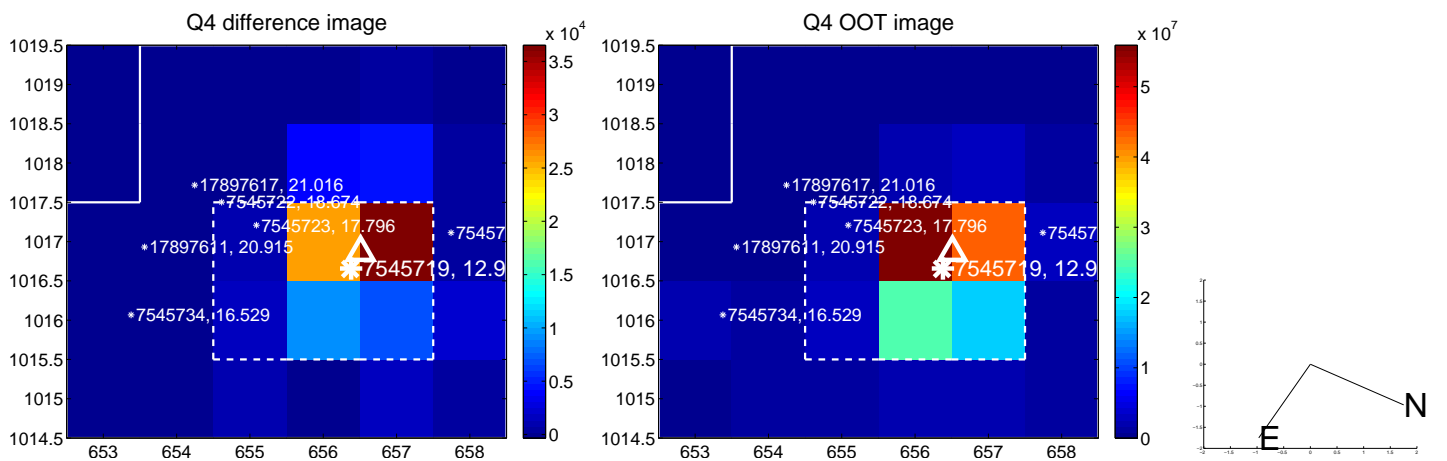
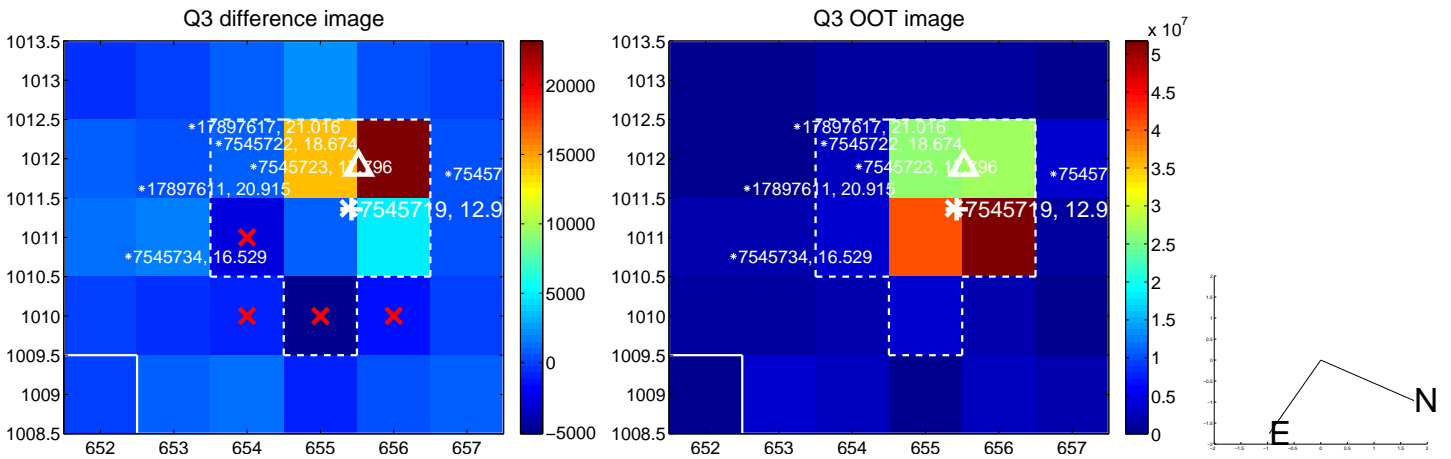
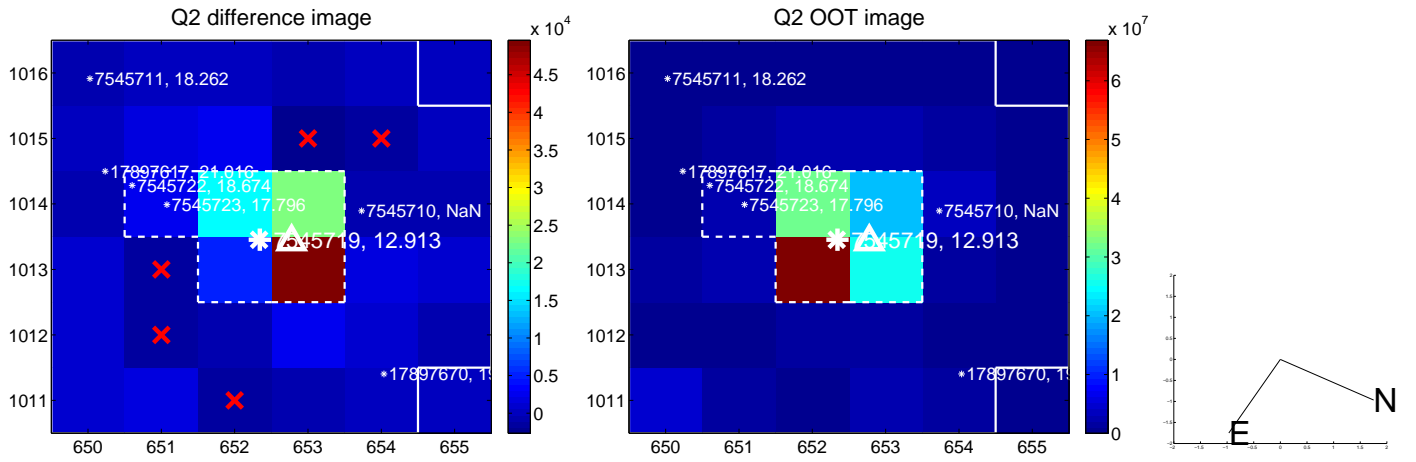
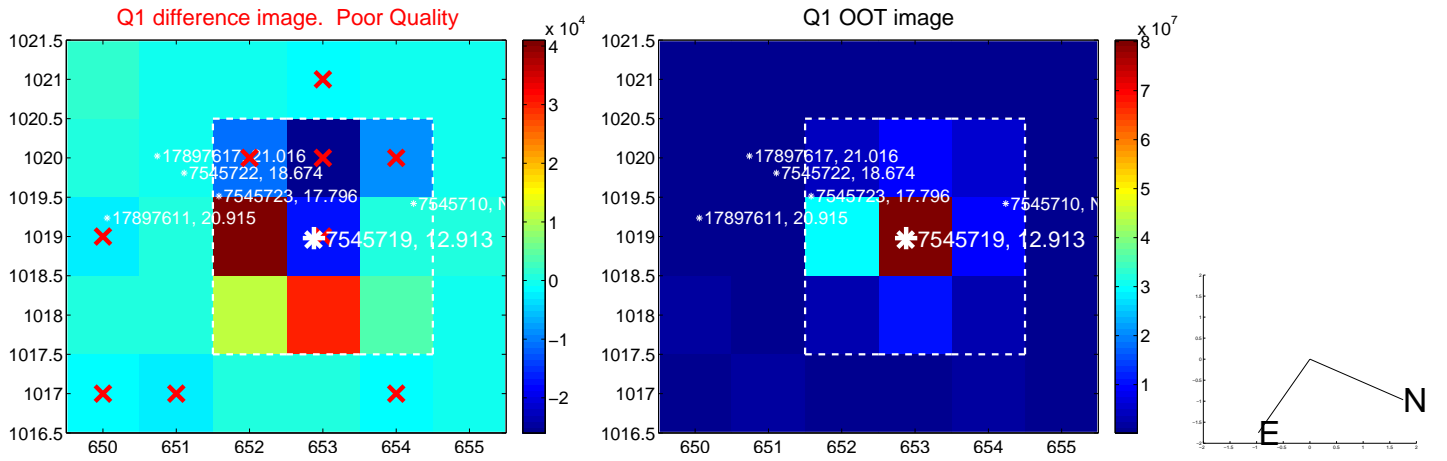
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.995 \pm 0.687$	1.45	$-0.994 \pm 0.701$	$-0.051 \pm 0.358$
PRF-fit source offset from KIC position	$1.037 \pm 0.644$	1.61	$-1.037 \pm 0.650$	$-0.024 \pm 0.347$
photometric centroid source offset	$0.22 \pm 0.30$	0.72	$0.22 \pm 0.30$	$-0.04 \pm 0.26$

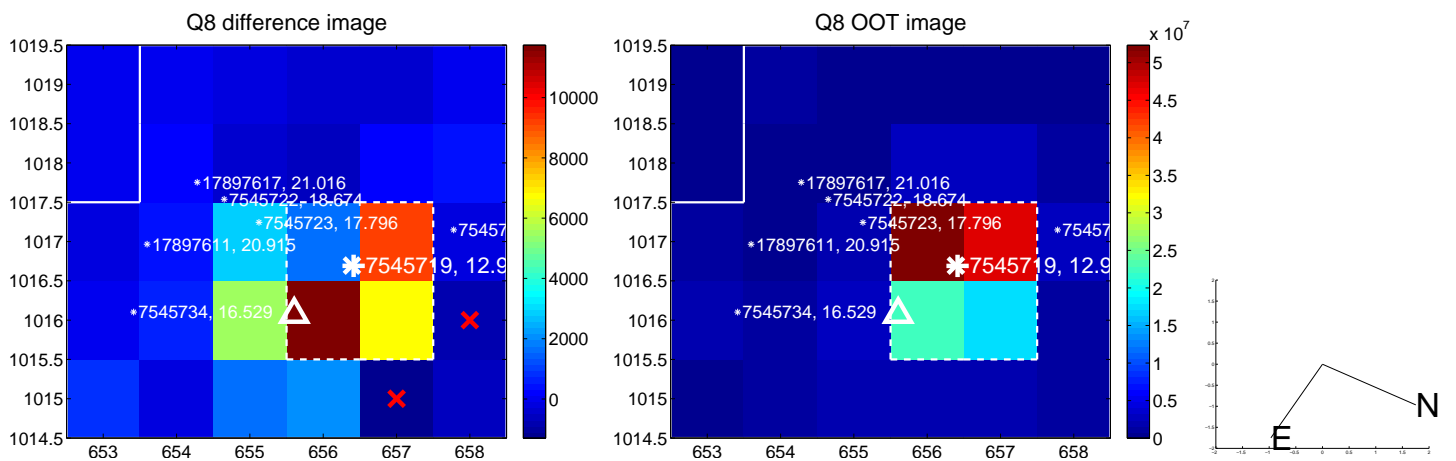
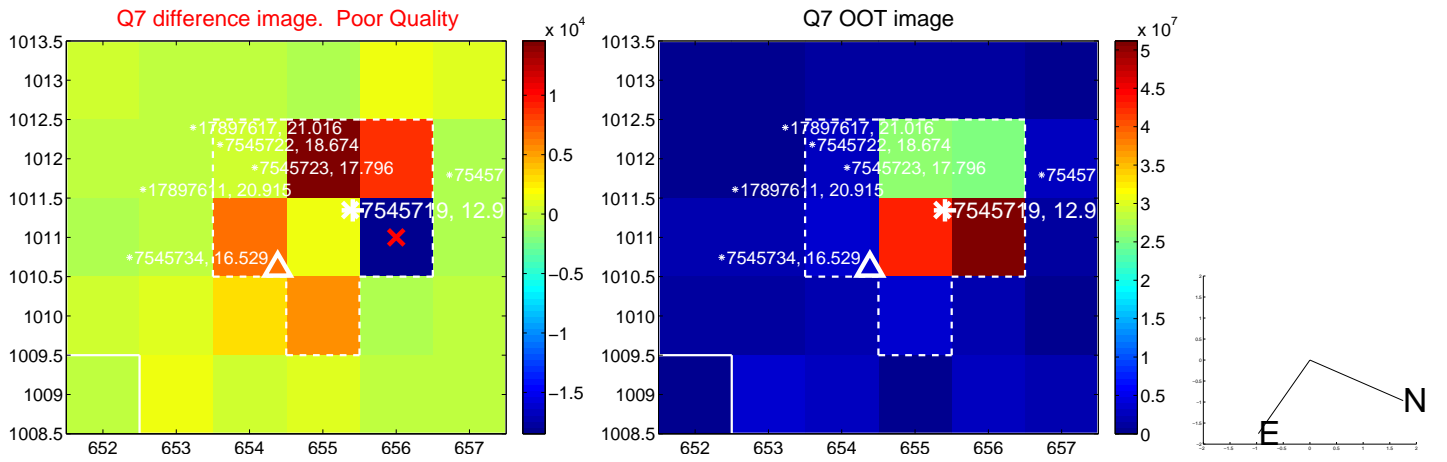
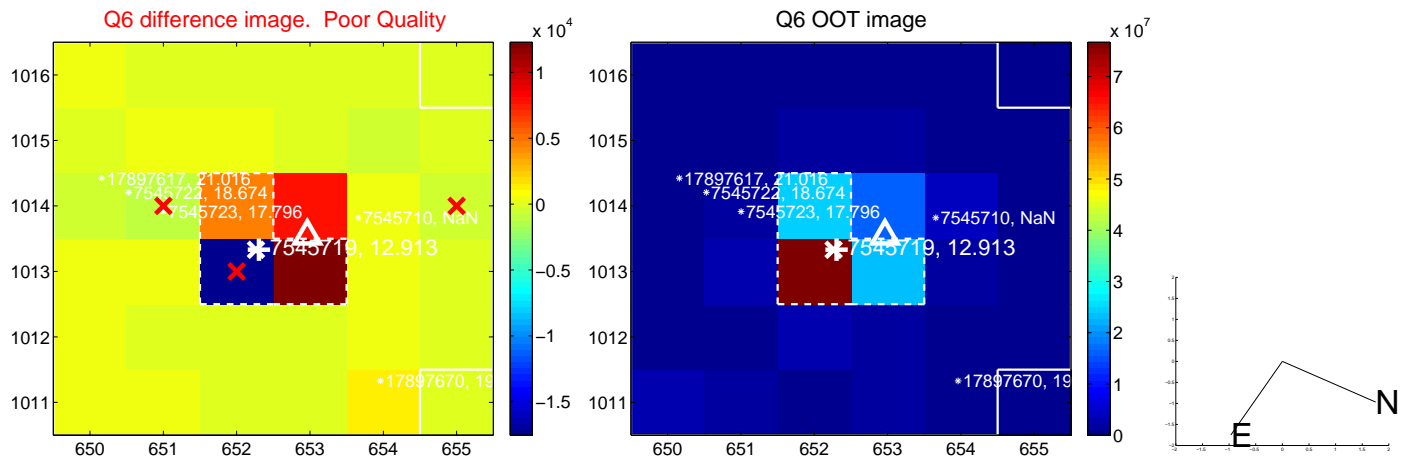
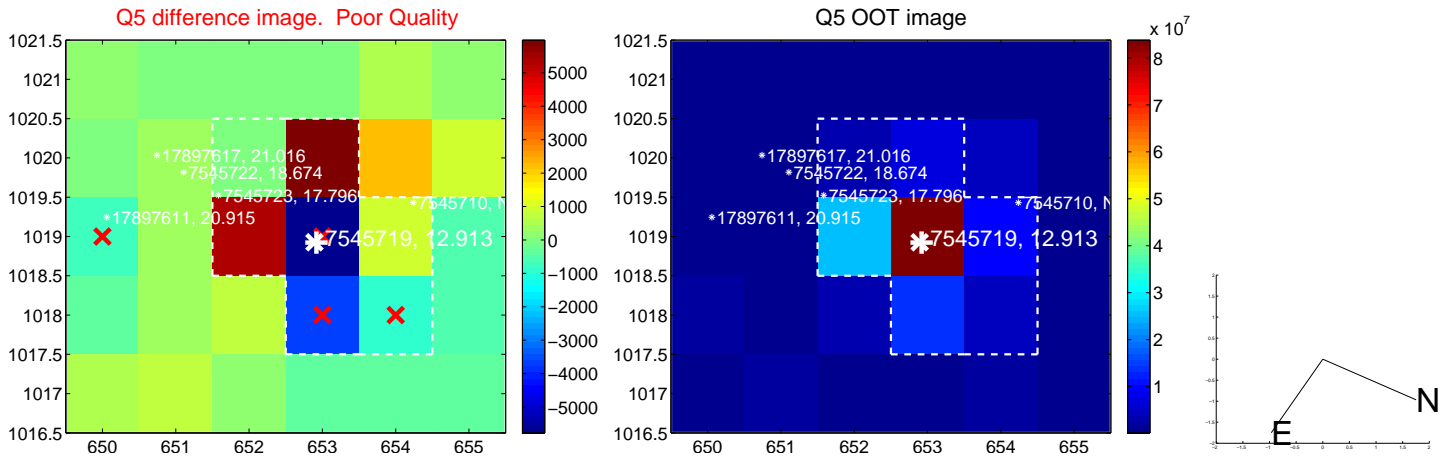


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

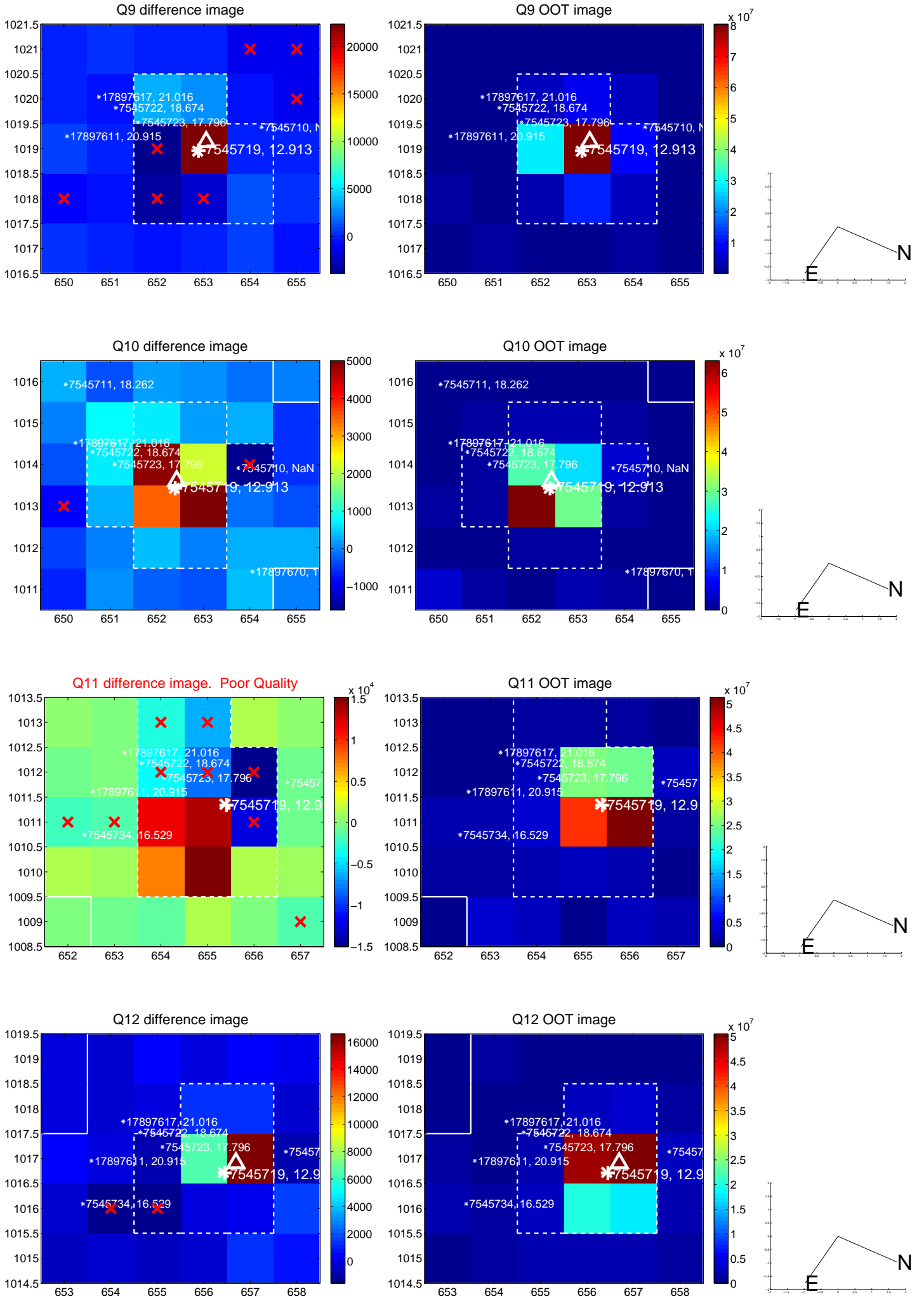
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.

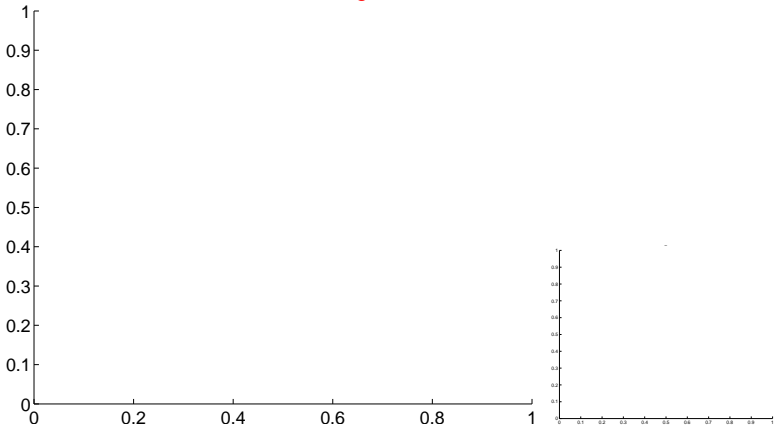


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

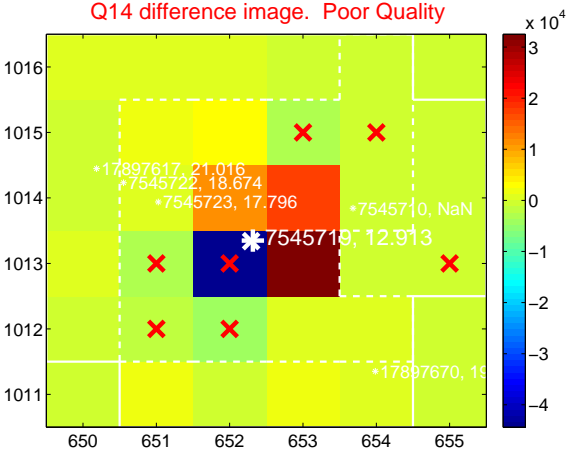
Q13 no difference image



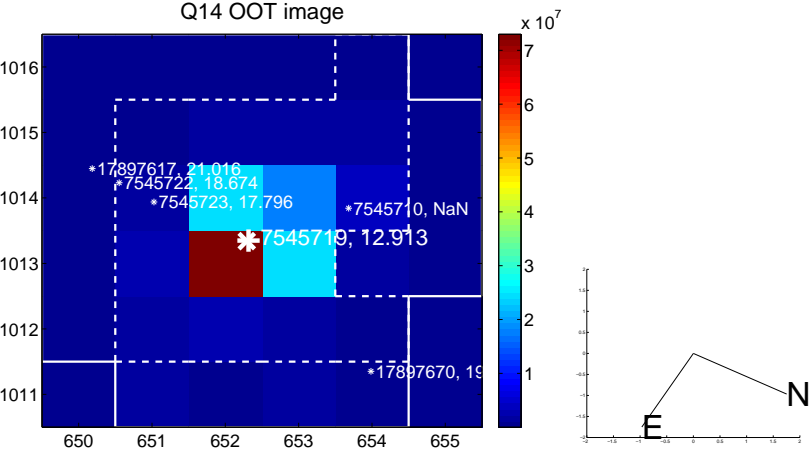
Q13 no OOT image



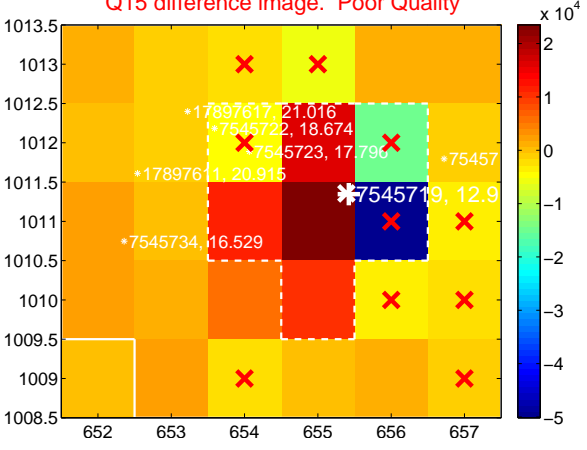
Q14 difference image. Poor Quality



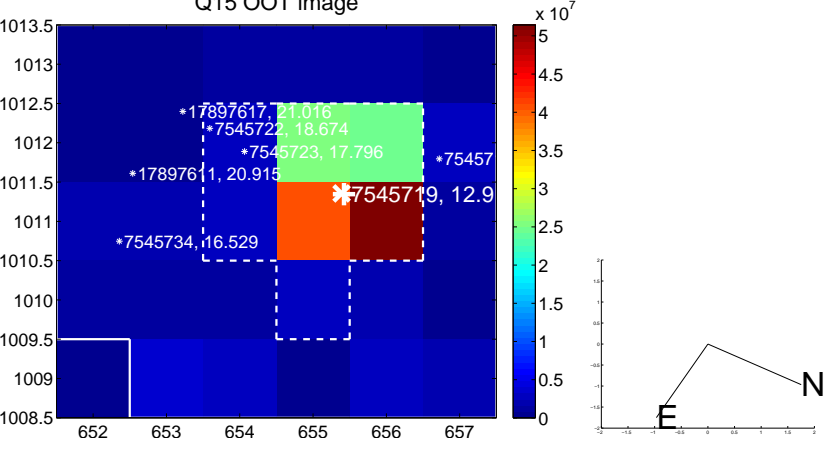
Q14 OOT image



Q15 difference image. Poor Quality



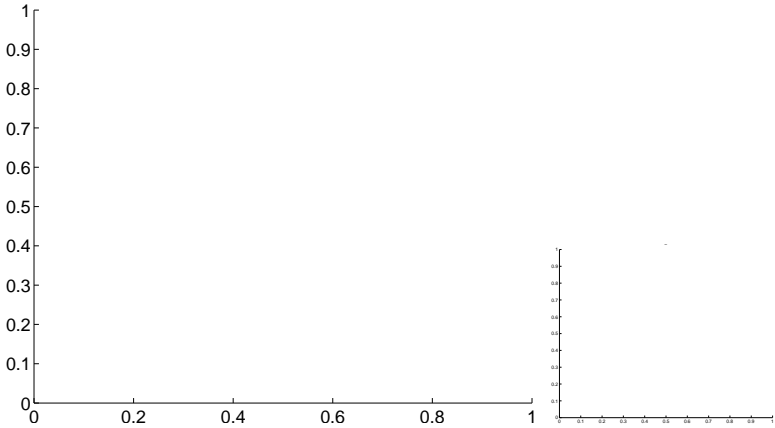
Q15 OOT image



Q16 no difference image

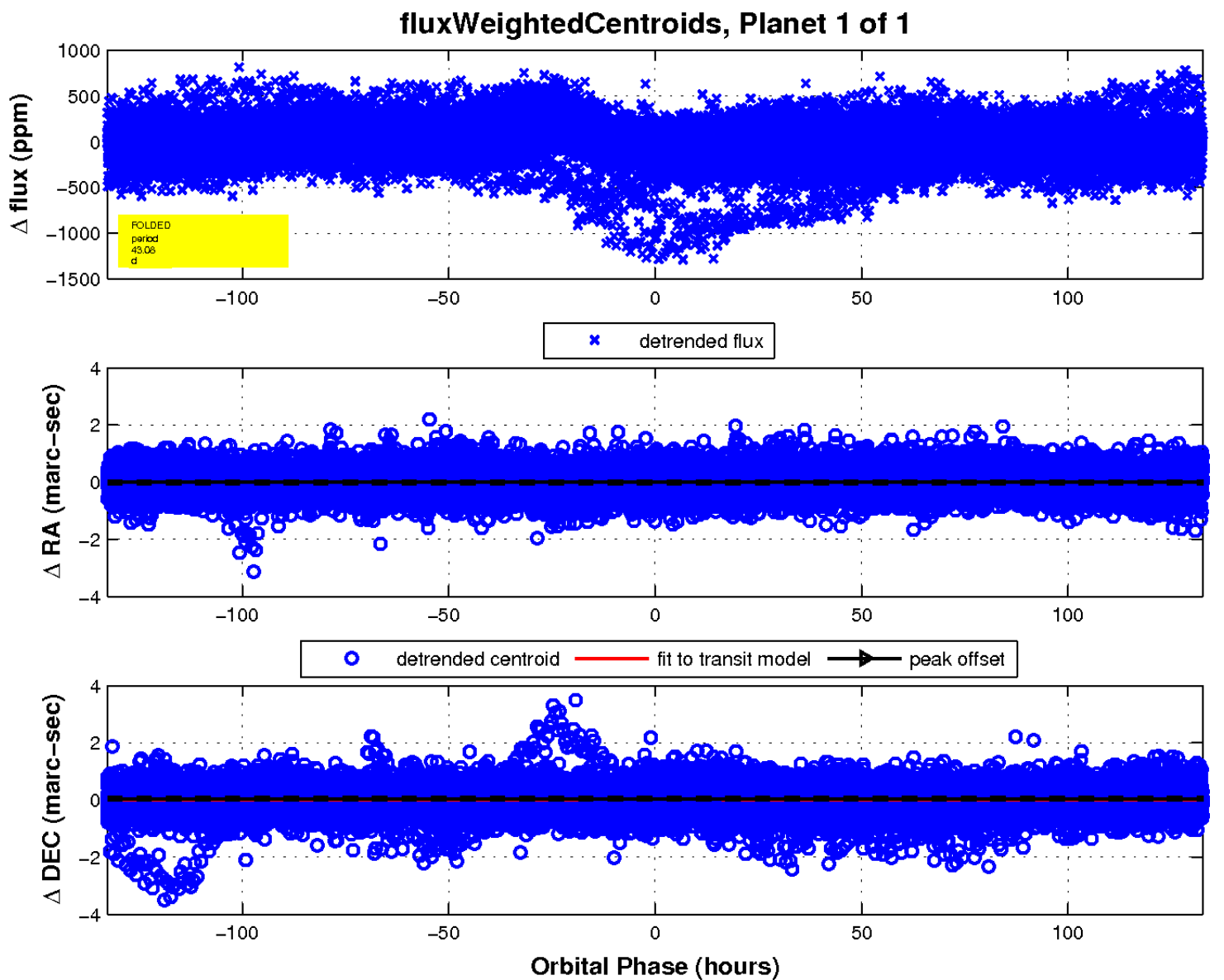
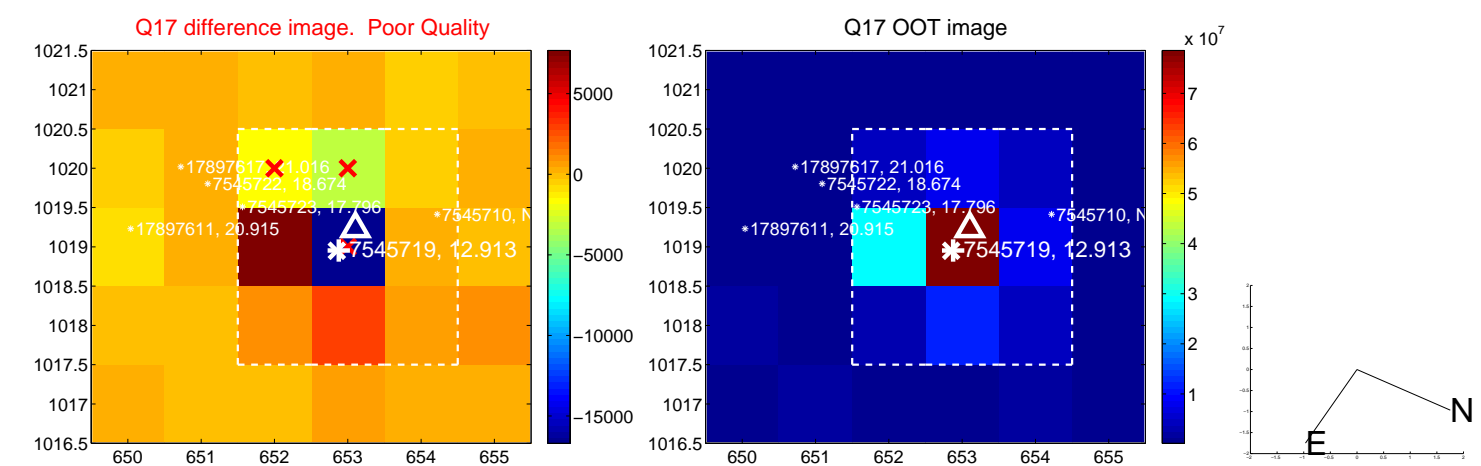


Q16 no OOT image





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



UKIRT Image

Declination

