

# KIC 007772919

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007772919-01	OBS	No	0.527423	132.056141	96.3	5.007	13.3	14.8	1.62	7207	1.63	29289.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007772919-01	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.

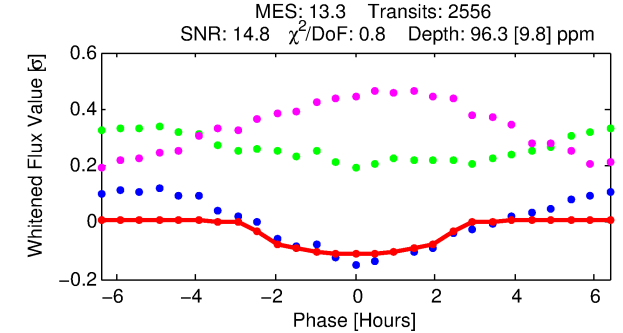
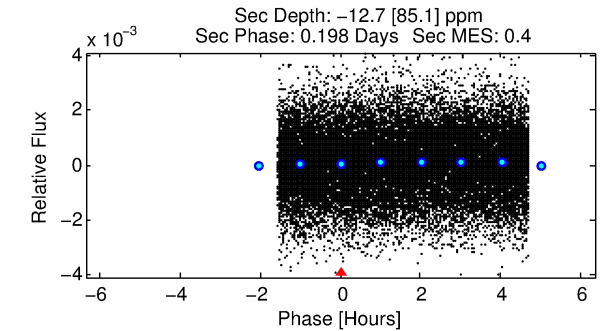
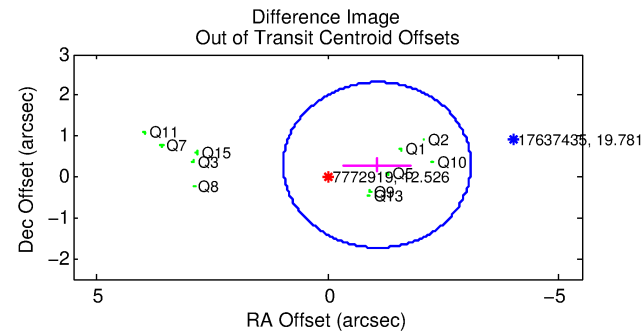
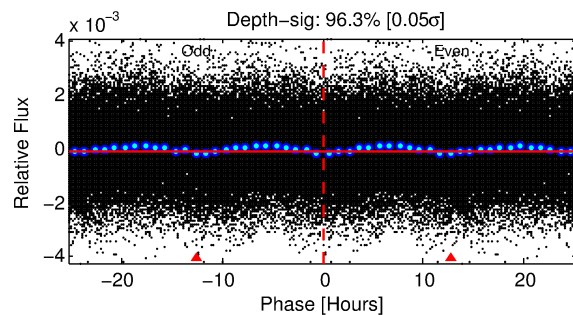
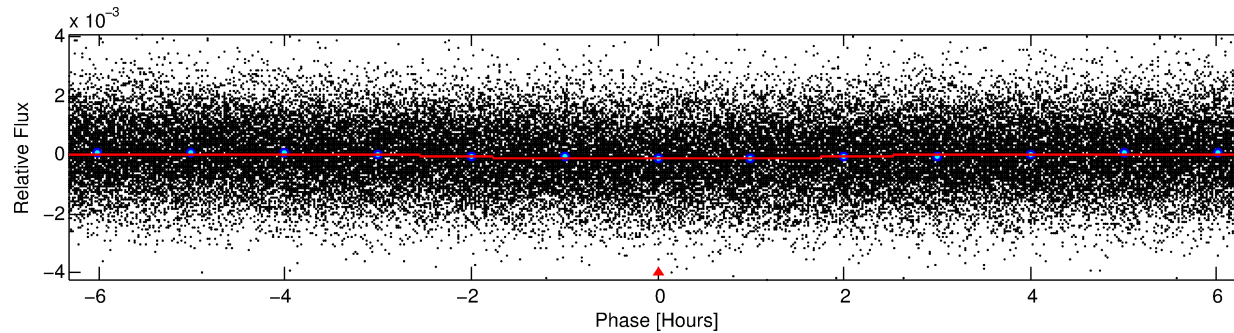
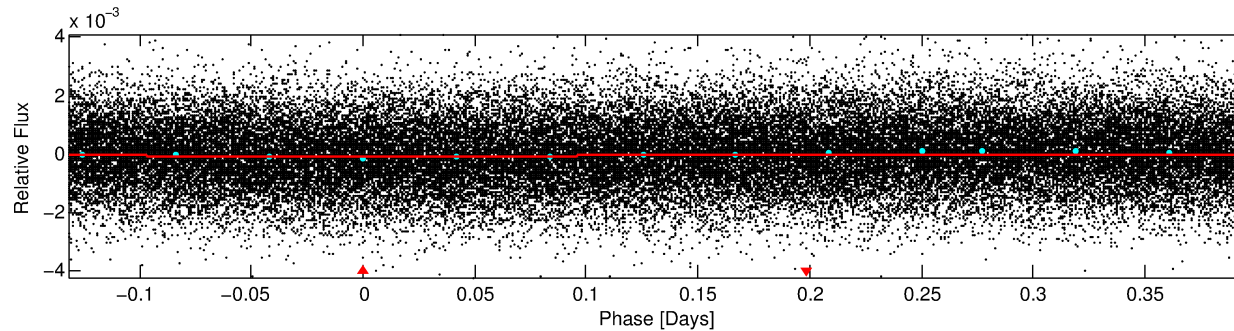
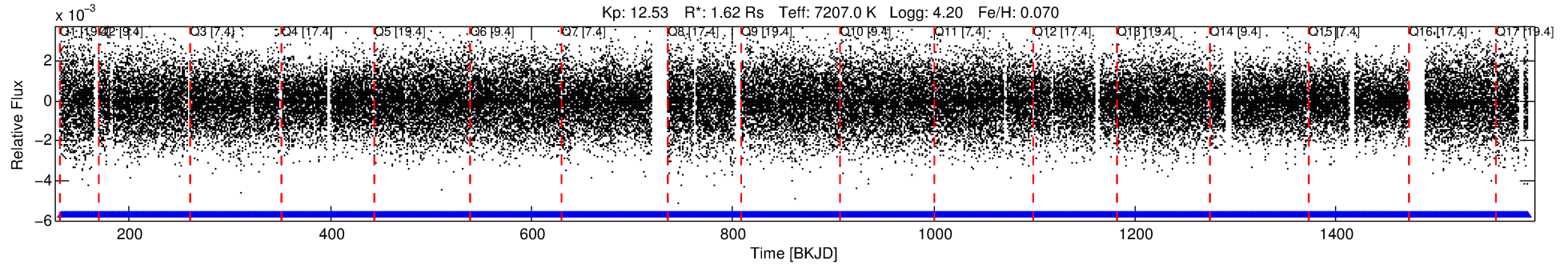
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007772919-01

No Significant Match Found

# DV One-Page Summary

KIC: 7772919 Candidate: 1 of 1 Period: 0.527 d



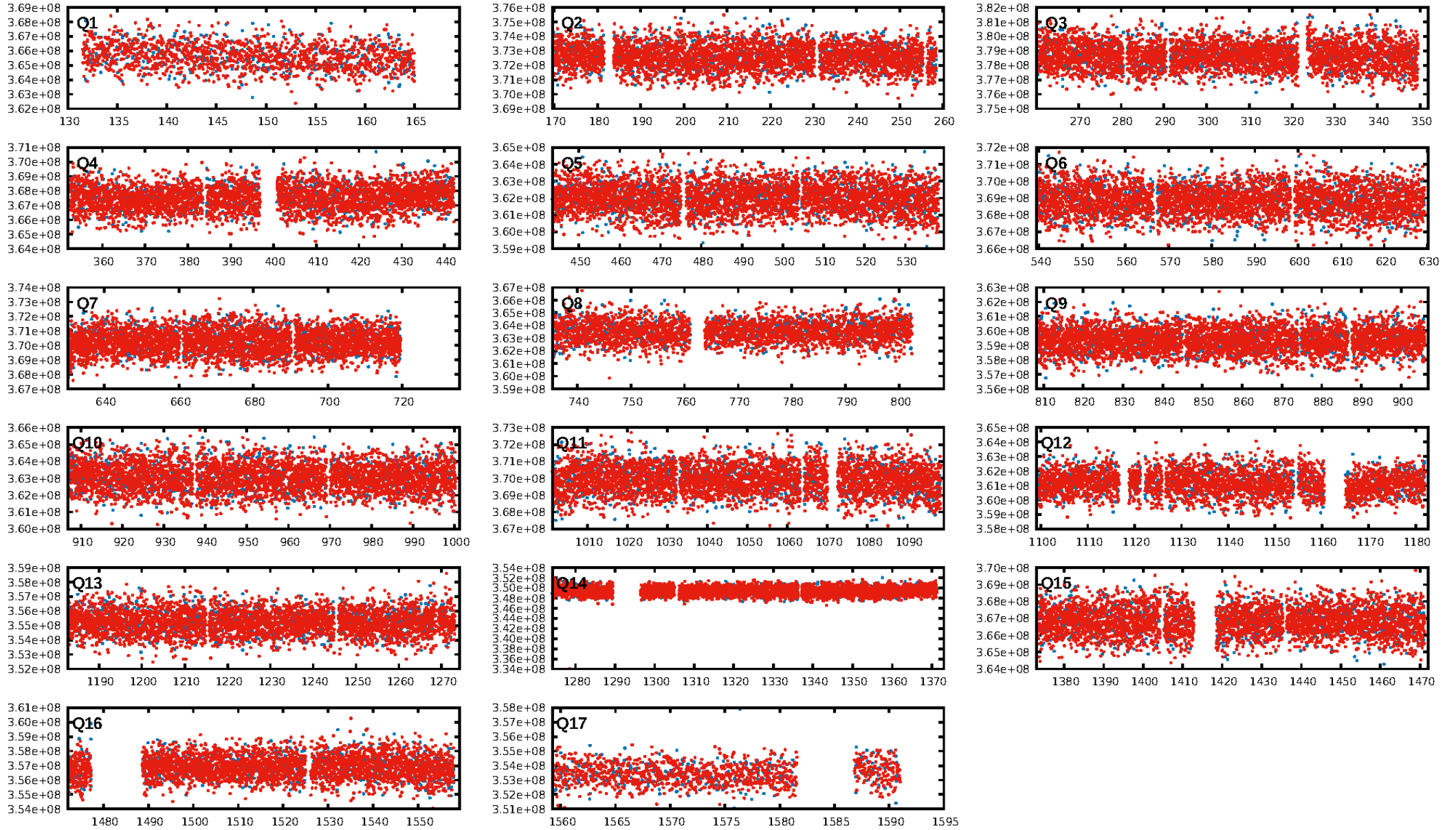
## DV Fit Results:

Period = 0.52742 [0.00001] d  
Epoch = 132.0561 [0.0040] BKJD  
Rp/R\* = 0.0092 [0.0099]  
a/R\* = 1.06 [0.72]  
b = 0.34 [16.66]  
Seff = 29289.39 [12907.92]  
Teq = 3336 [368] K  
Rp = 1.63 [1.84] Re  
a = 0.0147 [0.0042] AU  
Ag = N/A  
Teffp = N/A

## DV Diagnostic Results:

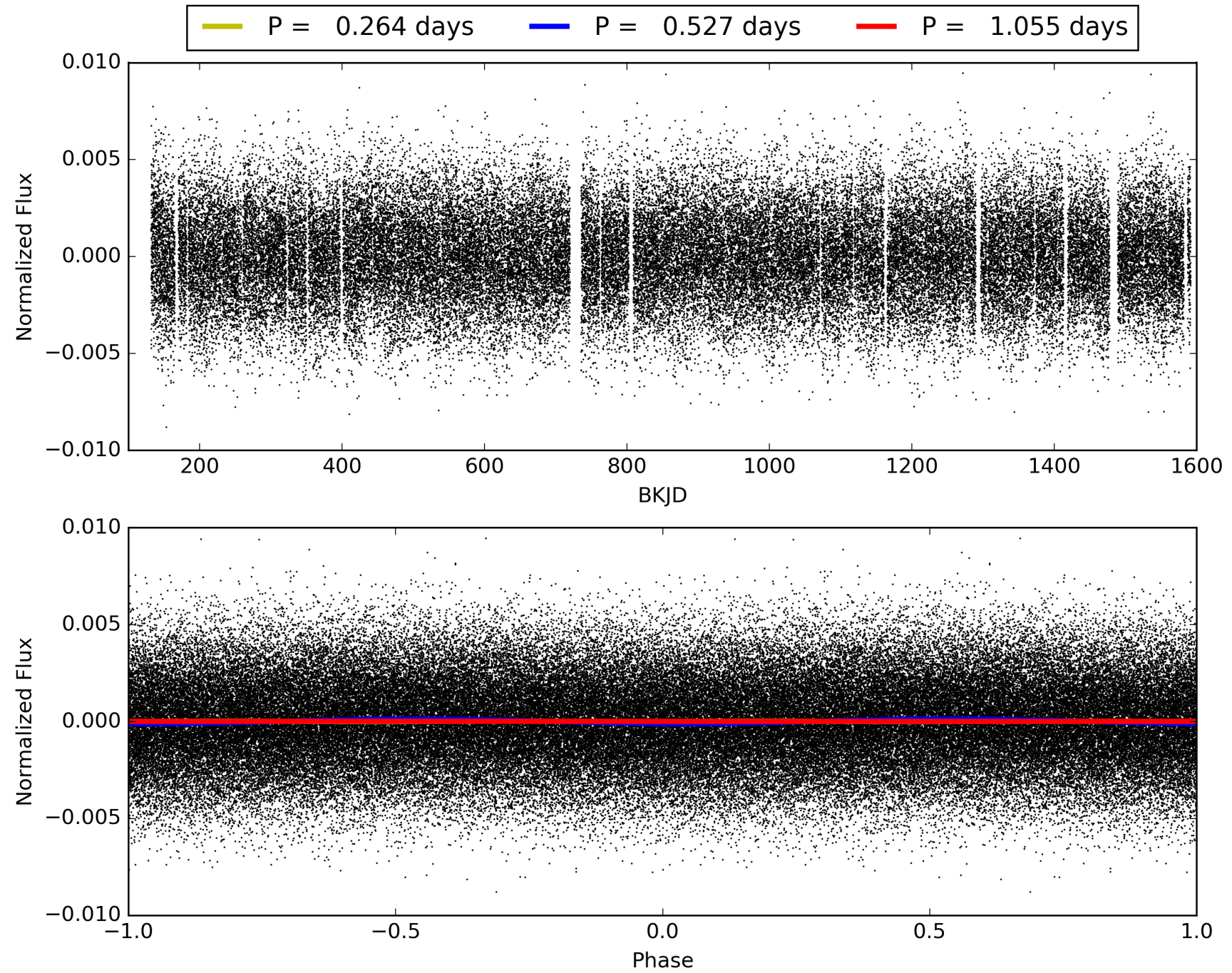
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2441/2441]  
GhostDiagnostic-chr: 1.311  
Centroid-sig: 2.9%  
Centroid-so: 0.214 arcsec [3.35 $\sigma$ ]  
OotOffset-rm: 1.113 arcsec [1.65 $\sigma$ ]  
KicOffset-rm: 1.128 arcsec [1.65 $\sigma$ ]  
OotOffset-st: 2/4/1/4 [11]  
KicOffset-st: 2/4/1/4 [11]  
DiffImageQuality-fgm: 0.91 [10/11]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 007772919-01, PDC Light Curves



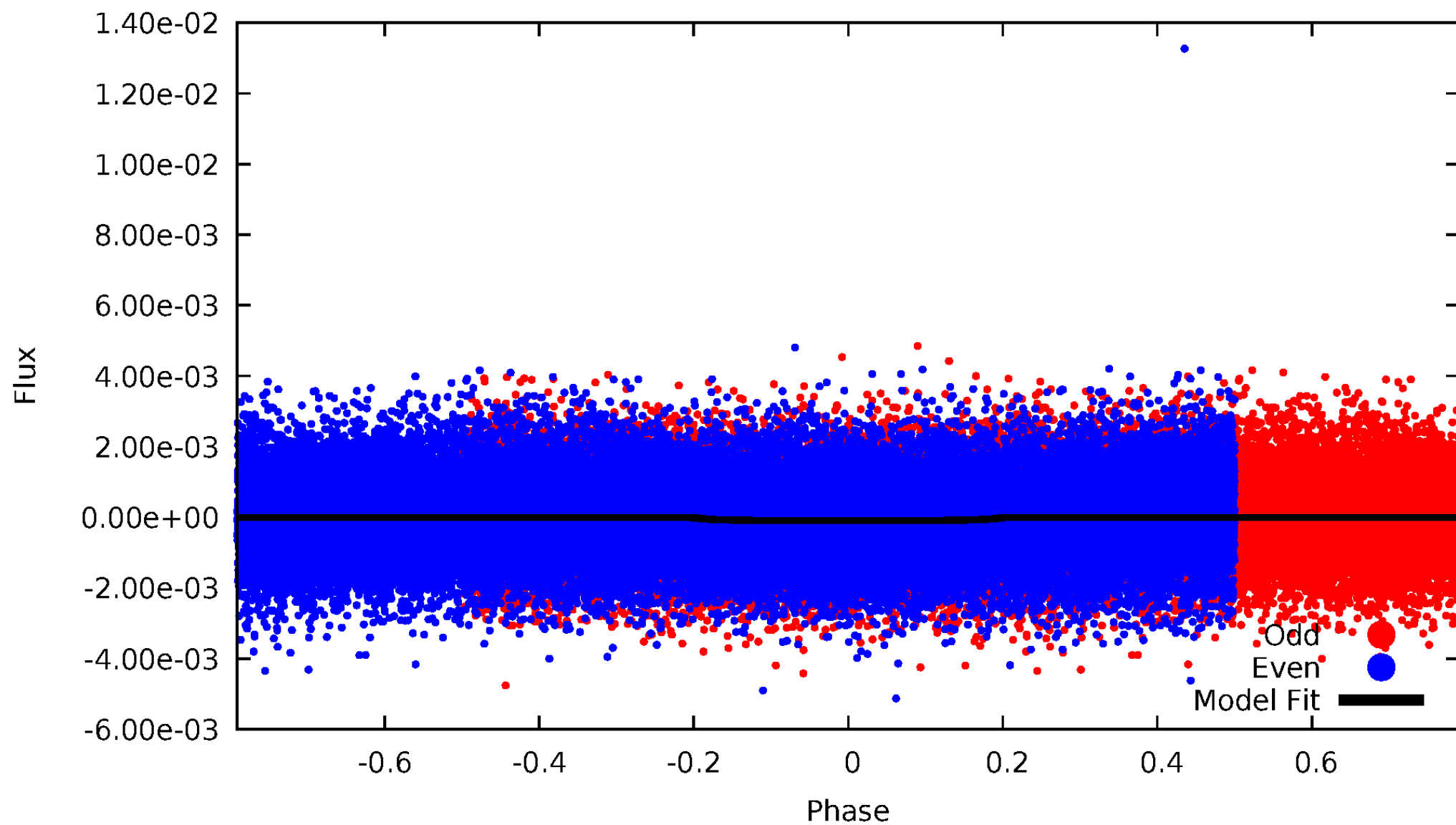


TCE 007772919-01



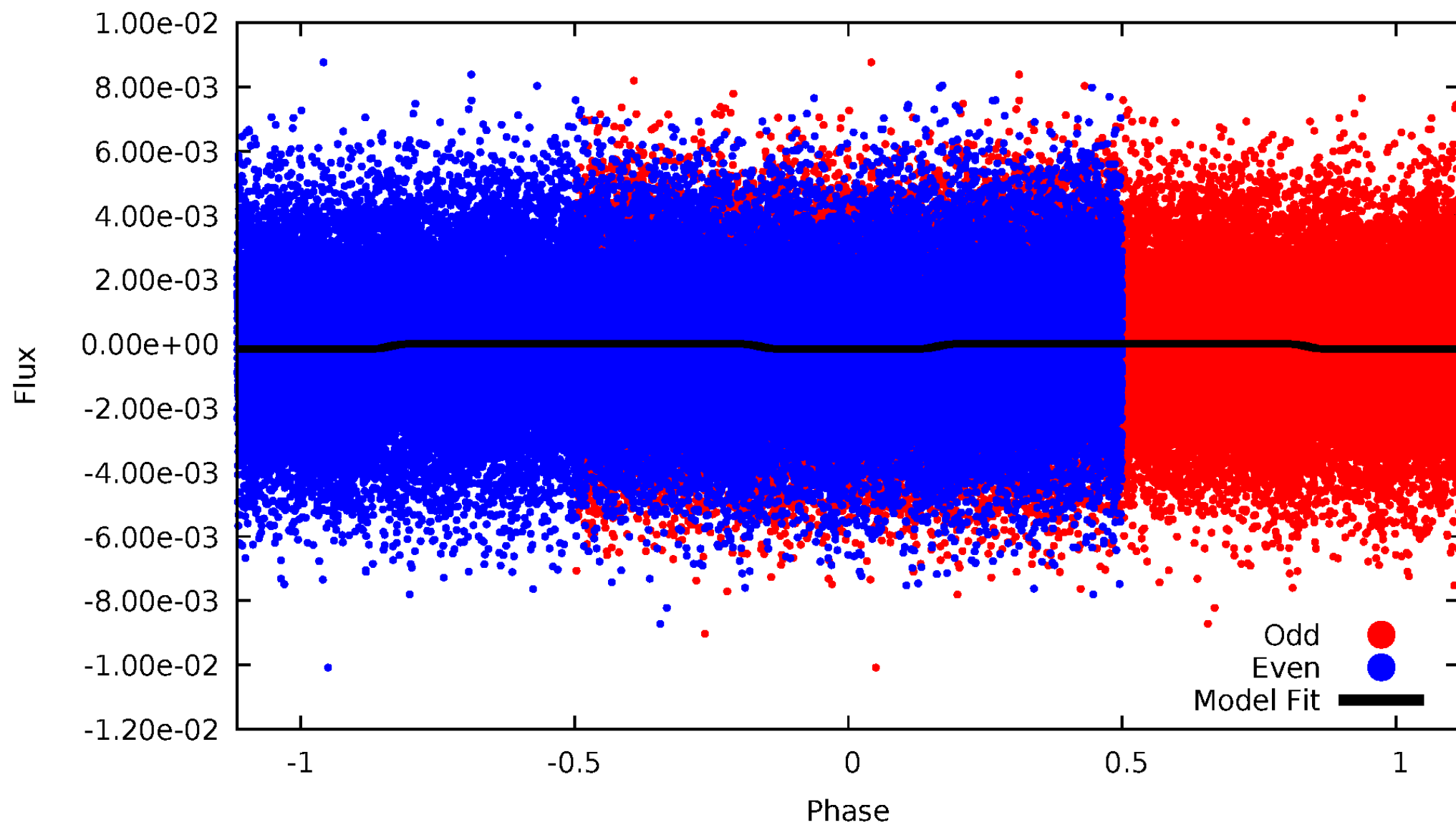
# DV Odd/Even

TCE 007772919-01



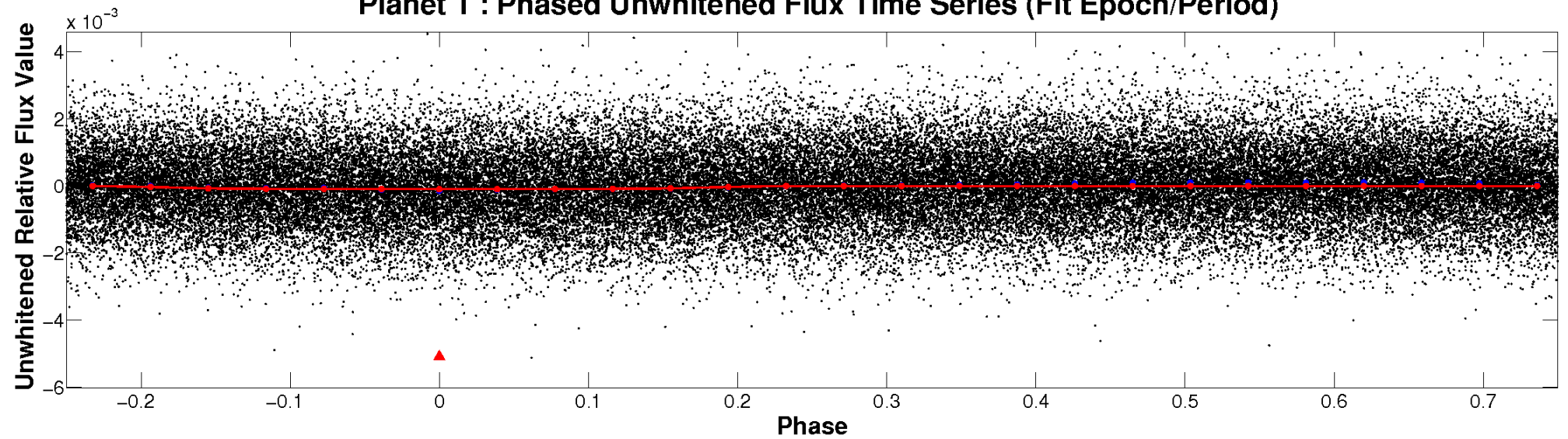
# ALT Odd/Even

TCE 007772919-01

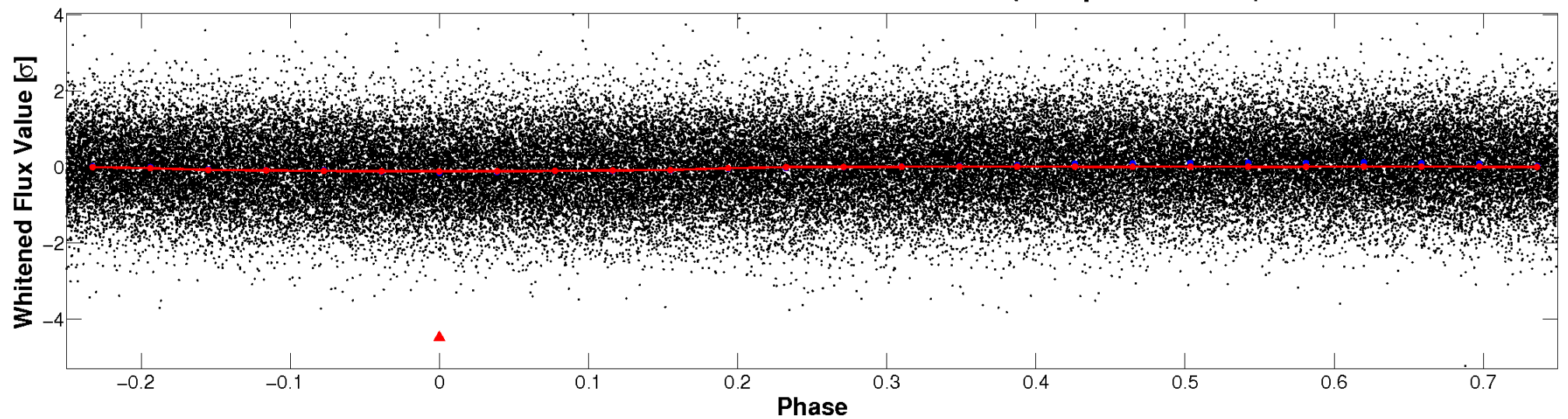


# Non-Whitened Vs. Whitened Light Curve

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



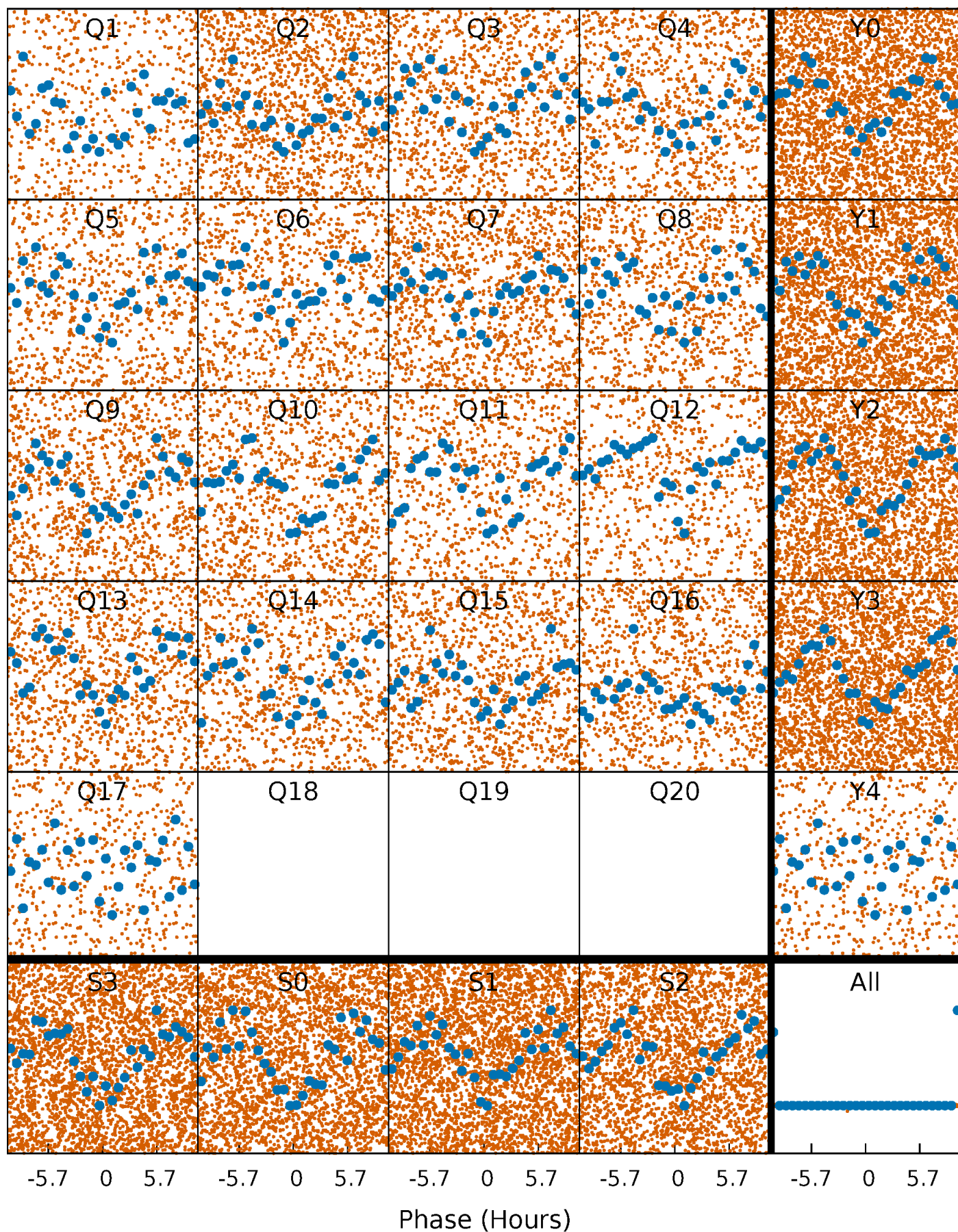
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

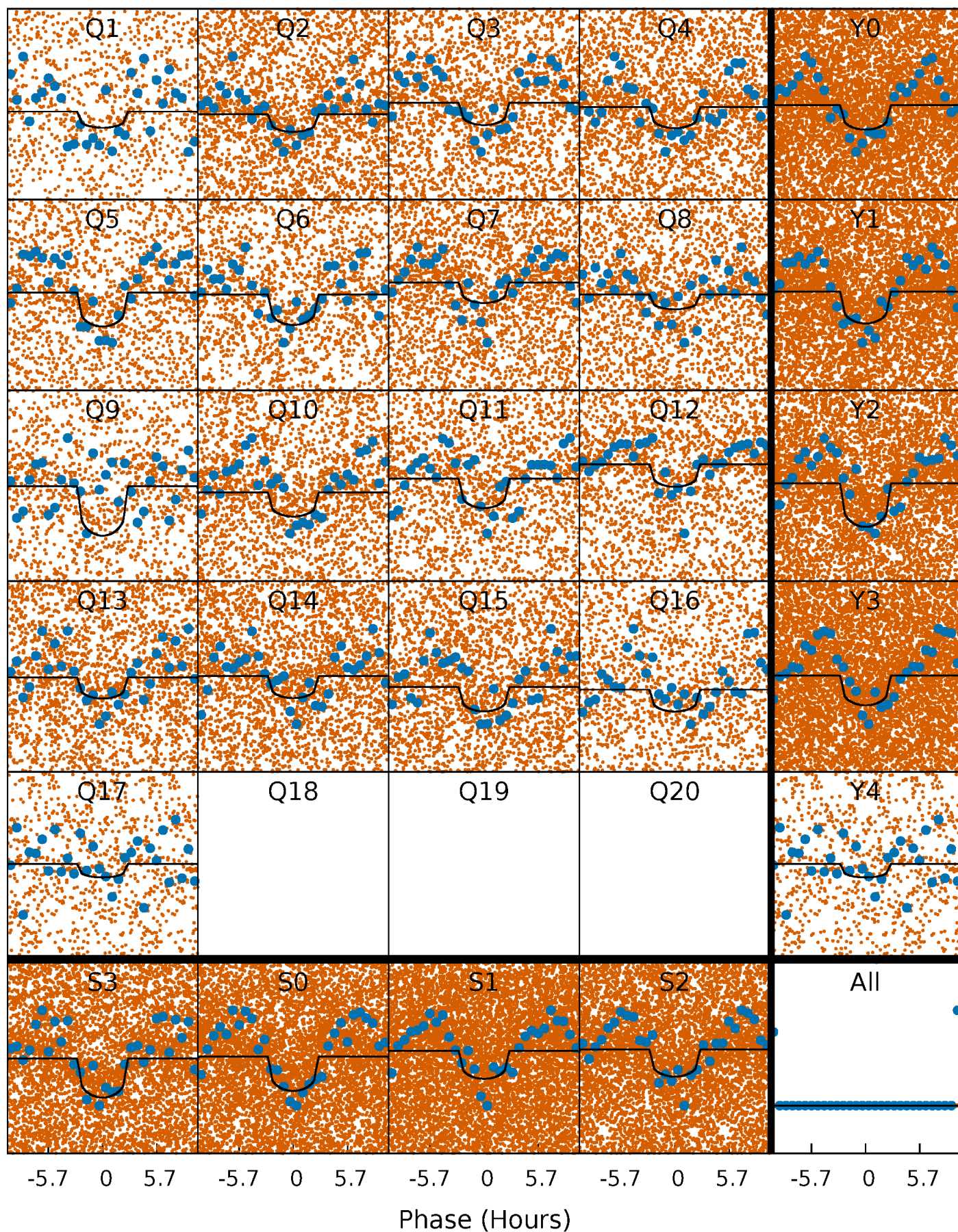
TCE 007772919-01 P= 0.527423 Days  $T_0=132.056141$  (BKJD)





# DV Quarter-Phased Transit Curves

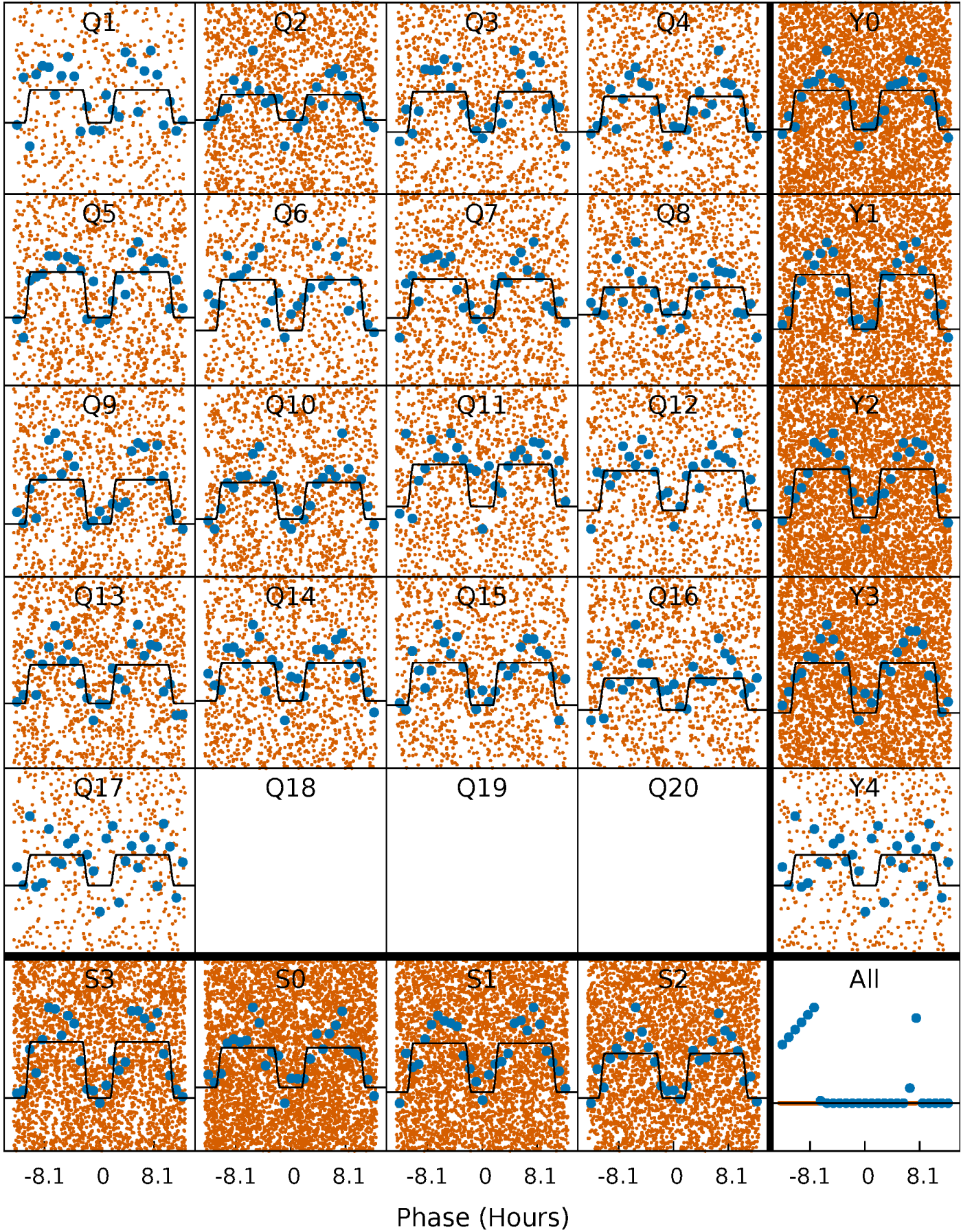
TCE 007772919-01 P= 0.527423 Days  $T_0=132.056141$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

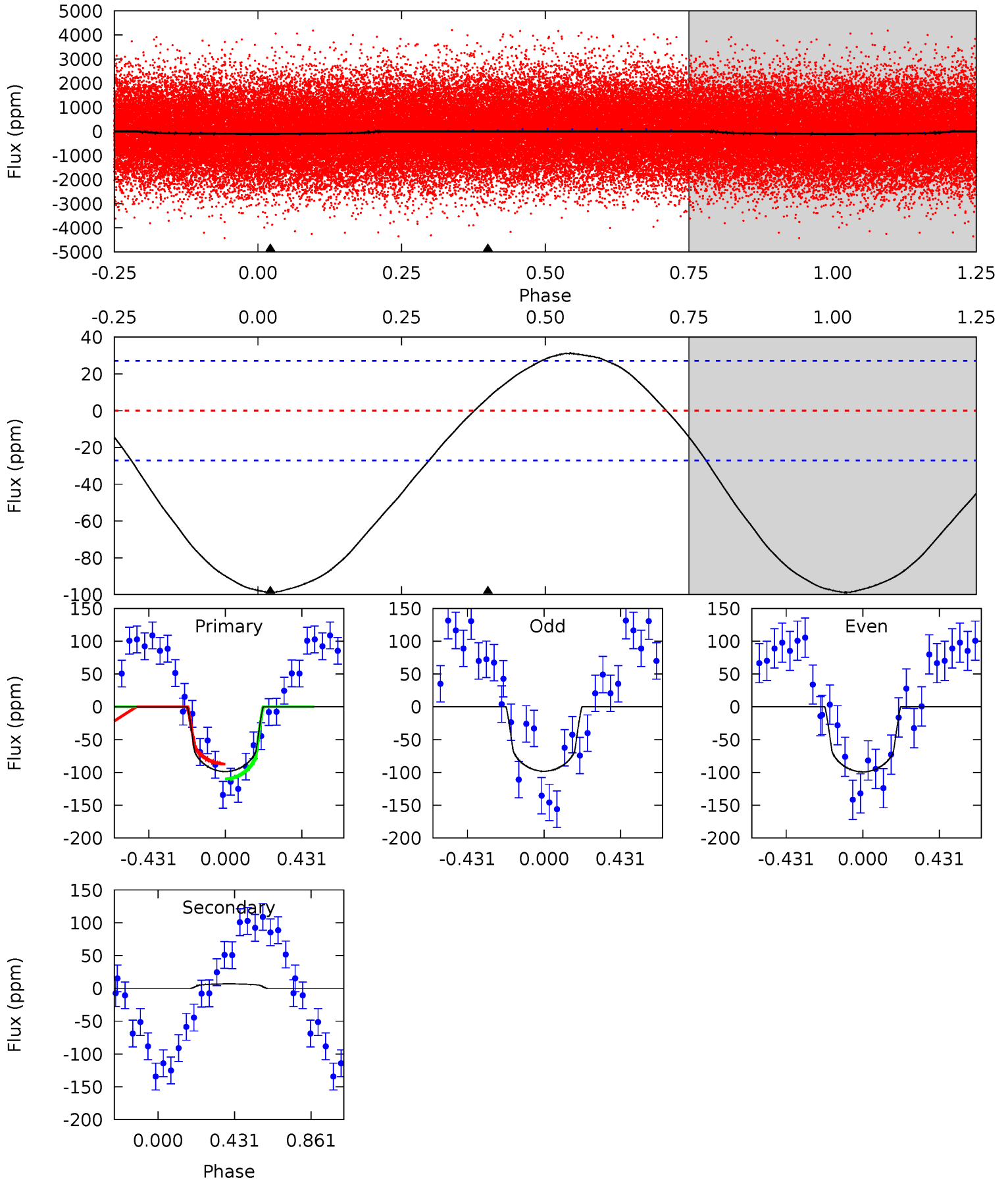
TCE 007772919-01 P= 0.527452 Days  $T_0=132.028625$  (BKJD)



# DV Model-Shift Uniqueness Test

007772919-01, P = 0.527423 Days, E = 131.001295 Days

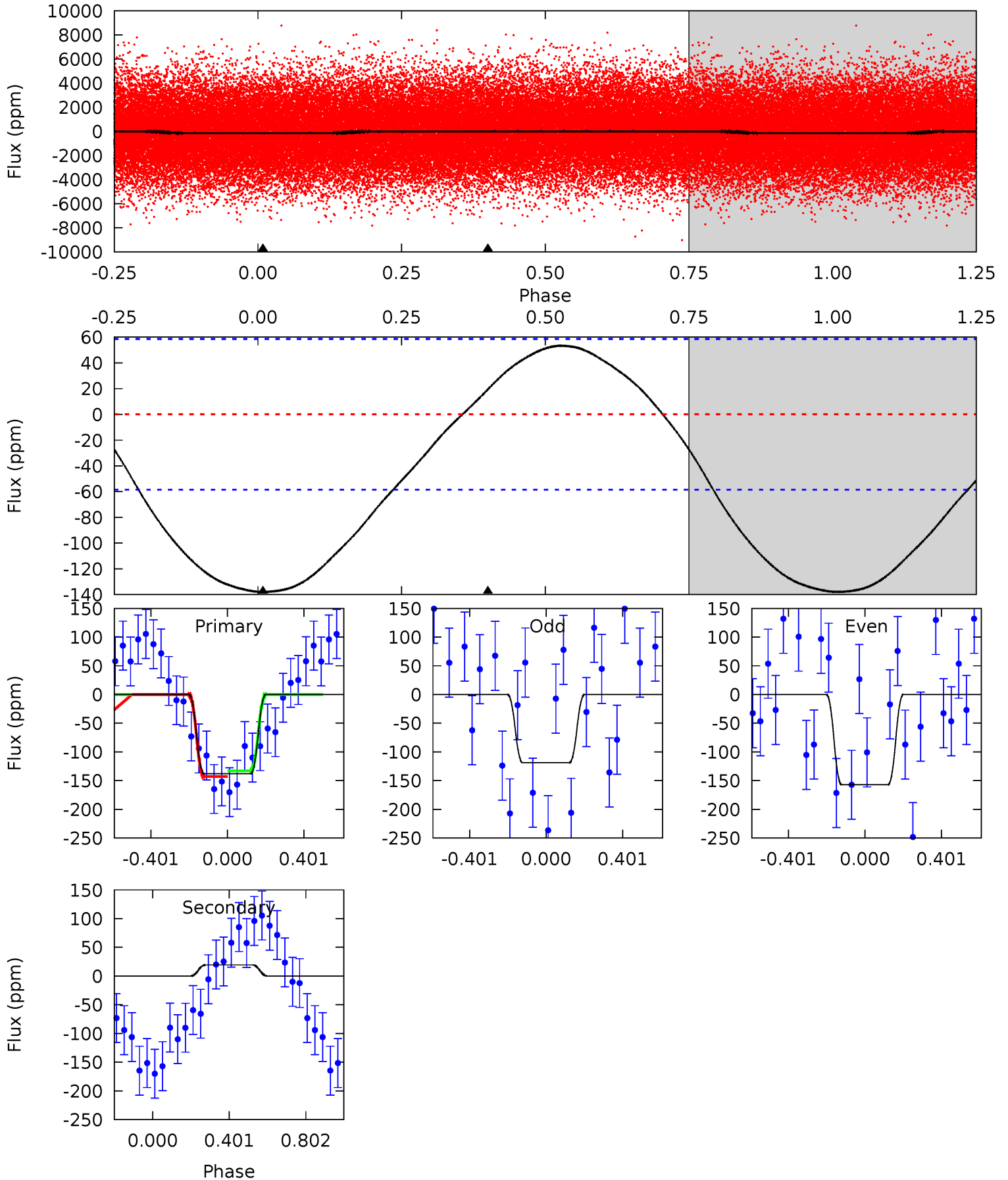
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	-1.08	0	0	4.25	0.79	1.58	15.5	15.5	-1.08	-1.08	0.08	0.96	0.24	1.77



# Alt Model-Shift Uniqueness Test

007772919-01, P = 0.527452 Days, E = 131.501173 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
10.1	-1.41	0	0	4.26	0.84	1.19	10.1	10.1	-1.41	-1.41	1.38	1.06	0.28	0.35





### Stellar Parameters For KIC 007772919

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7207^{+200}_{-343}$	$4.203^{+0.090}_{-0.210}$	$0.070^{+0.200}_{-0.350}$	$1.620^{+0.565}_{-0.242}$	$1.528^{+0.211}_{-0.233}$	$0.506^{+0.244}_{-0.259}$
	+3%/-5%	+2%/-5%	+286%/-500%	+35%/-15%	+14%/-15%	+48%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 007772919-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$7 \pm 6$	$2.04^{+1.60}_{-1.34}$	$4701^{+354}_{-278}$	$-4512^{+433}_{-1349}$	$-0.151^{+0.138}_{-1.256}$
Alt.	$19 \pm 14$	$2.57^{+1.64}_{-1.45}$	$4679^{+383}_{-287}$	$-4709^{+492}_{-1356}$	$-0.280^{+0.220}_{-1.440}$

$T_{max}$  = 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

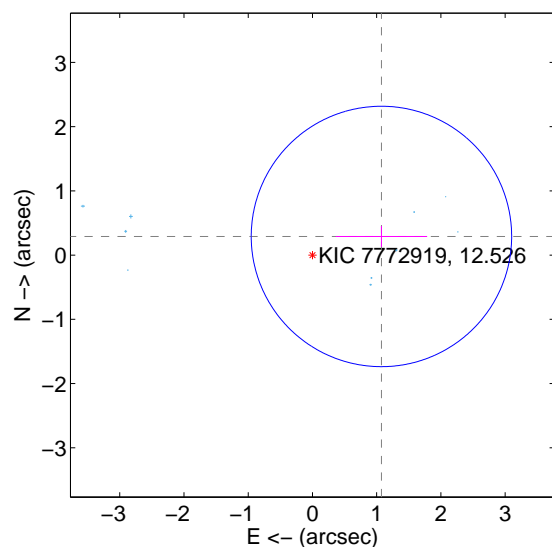
Supplemental centroid analysis for 007772919-01. Kepler magnitude: 12.53. Transit SNR 14.80

There are 10 quarters with good PRF difference image offsets

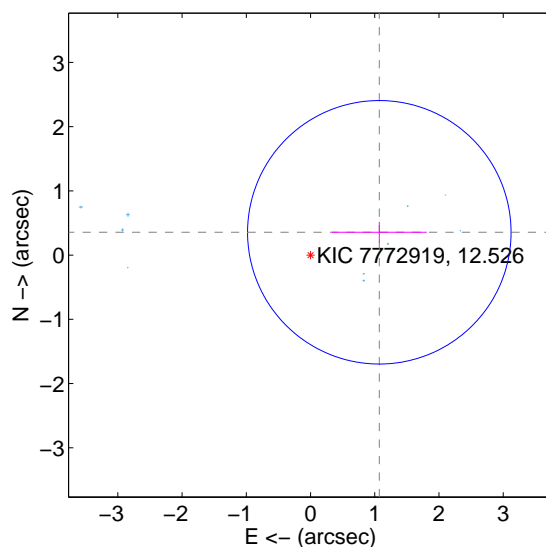
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.113 \pm 0.676$	1.65	$-1.074 \pm 0.712$	$0.290 \pm 0.162$
PRF-fit source offset from KIC position	$1.128 \pm 0.684$	1.65	$-1.071 \pm 0.737$	$0.355 \pm 0.161$
photometric centroid source offset	$0.21 \pm 0.06$	3.35	$-0.21 \pm 0.06$	$0.03 \pm 0.05$

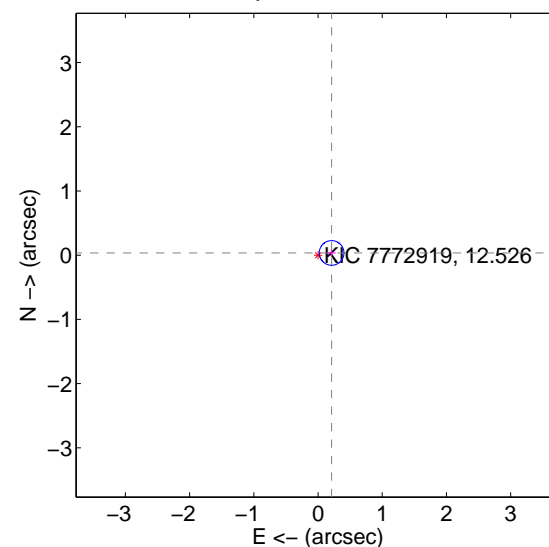
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

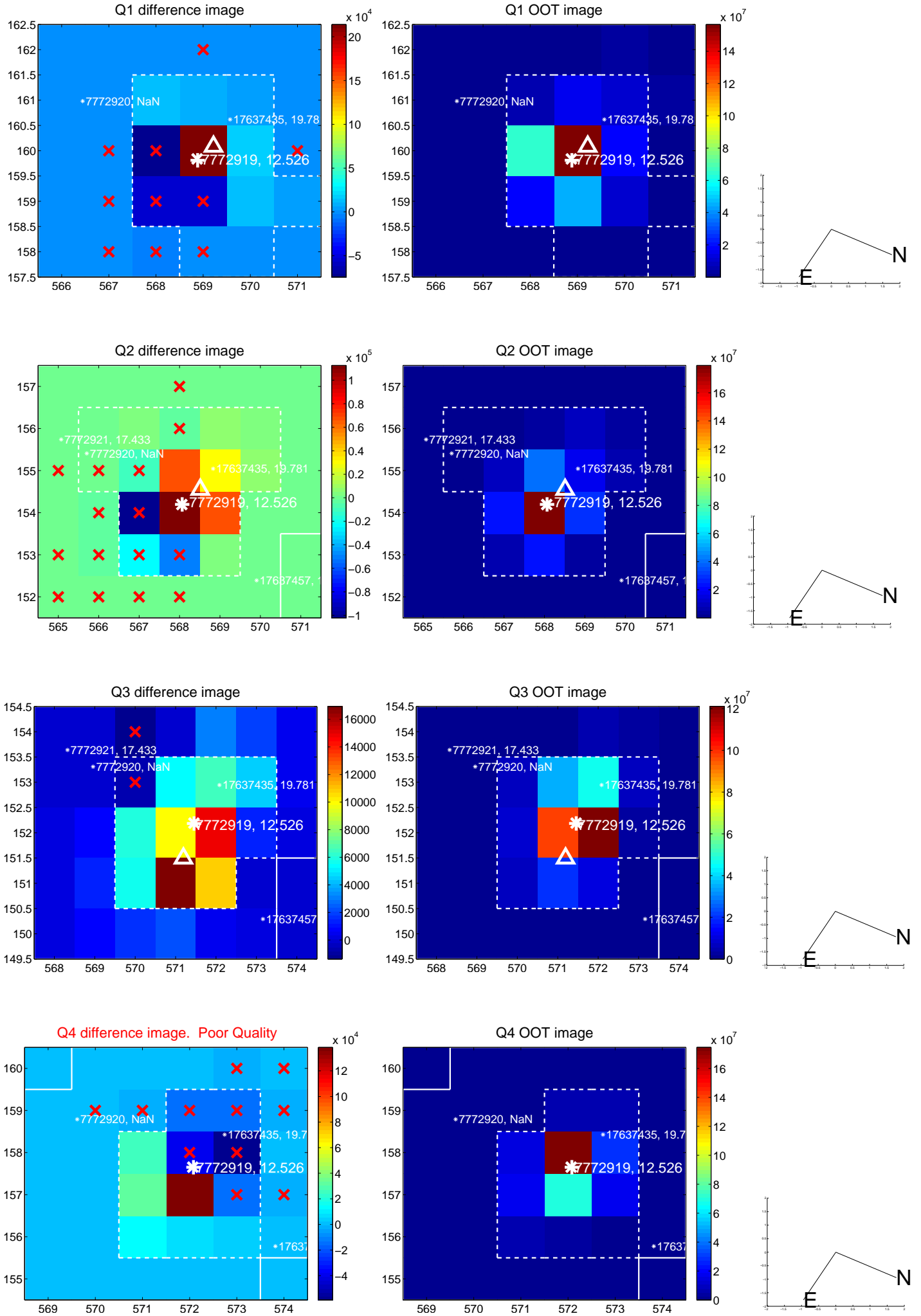


offset from photometric centroids

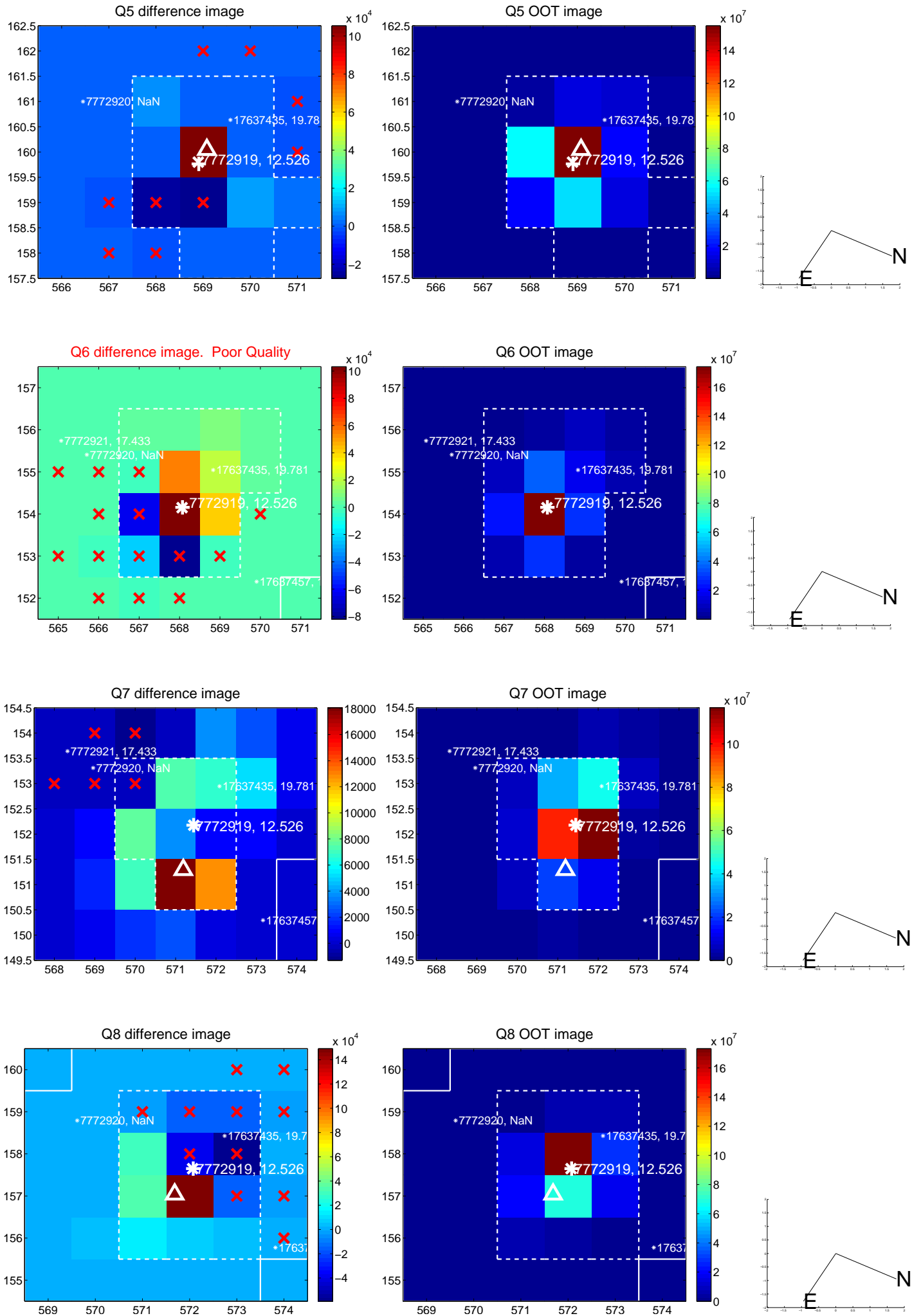


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

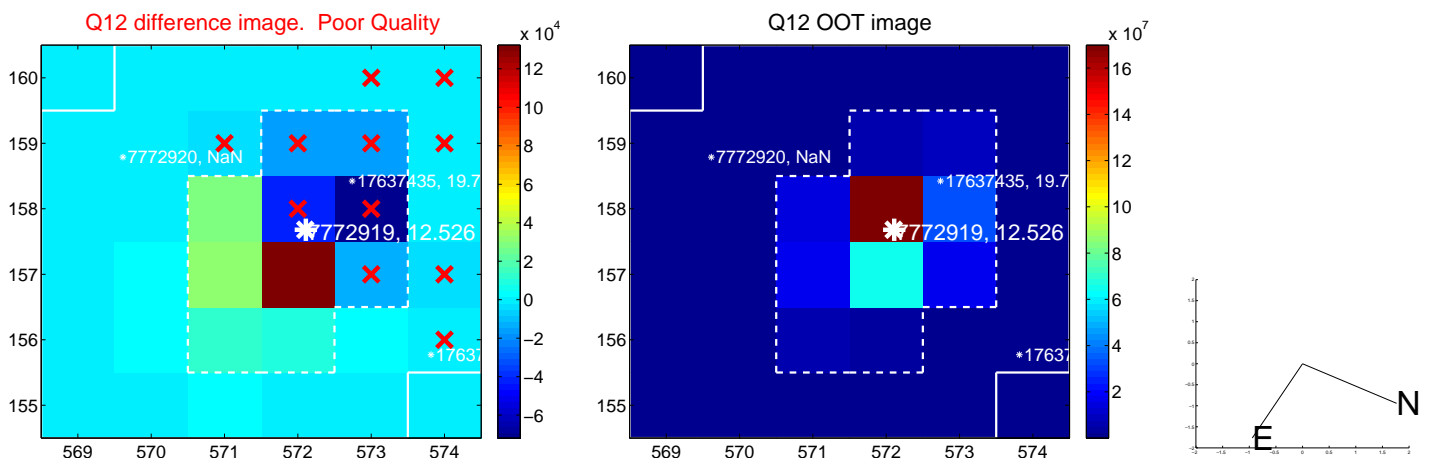
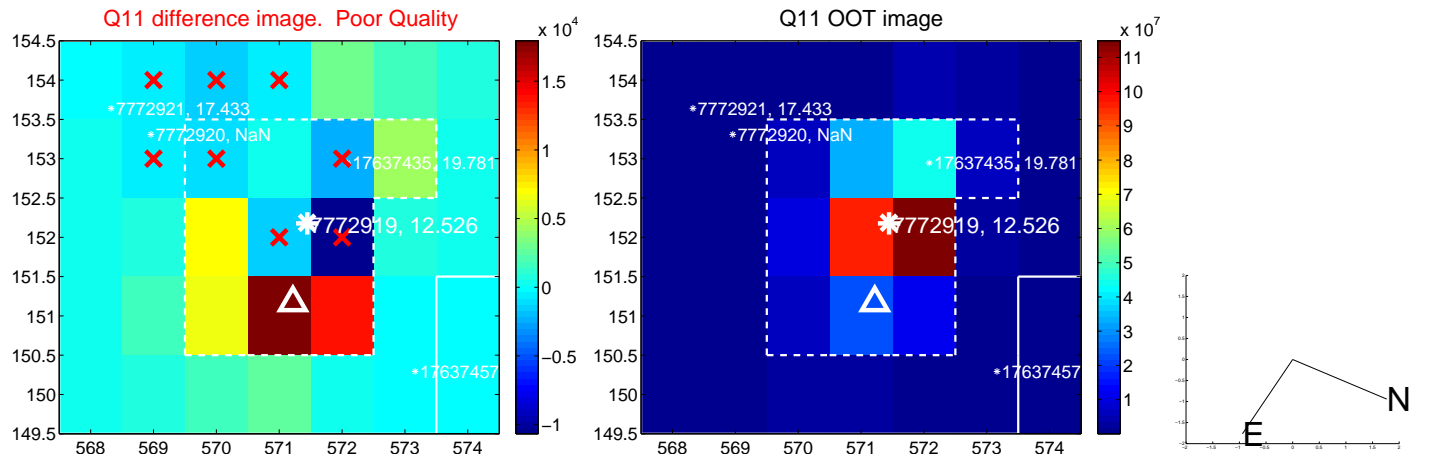
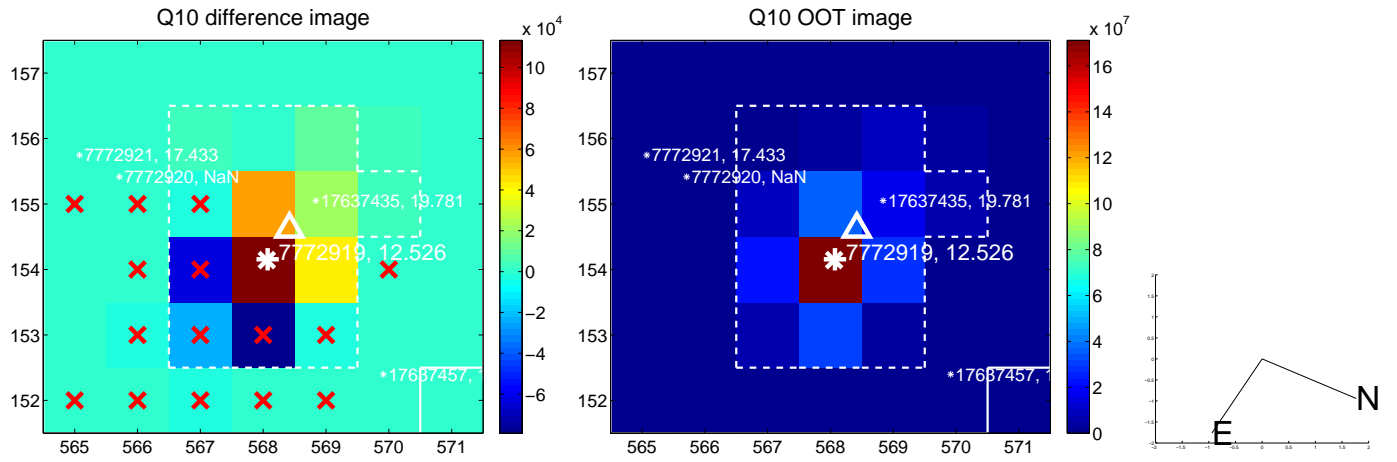
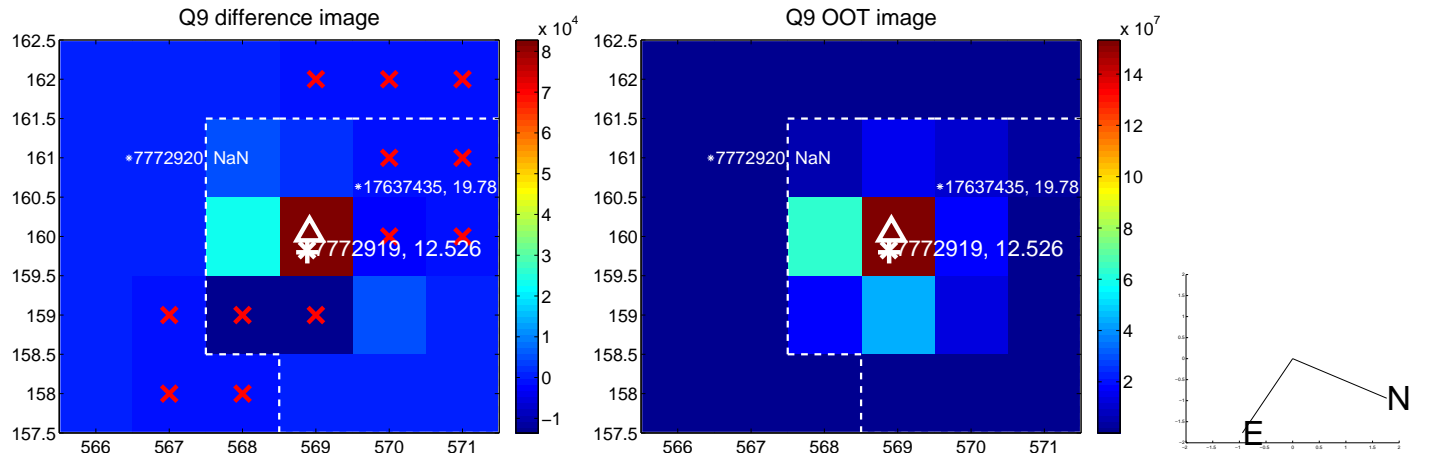


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

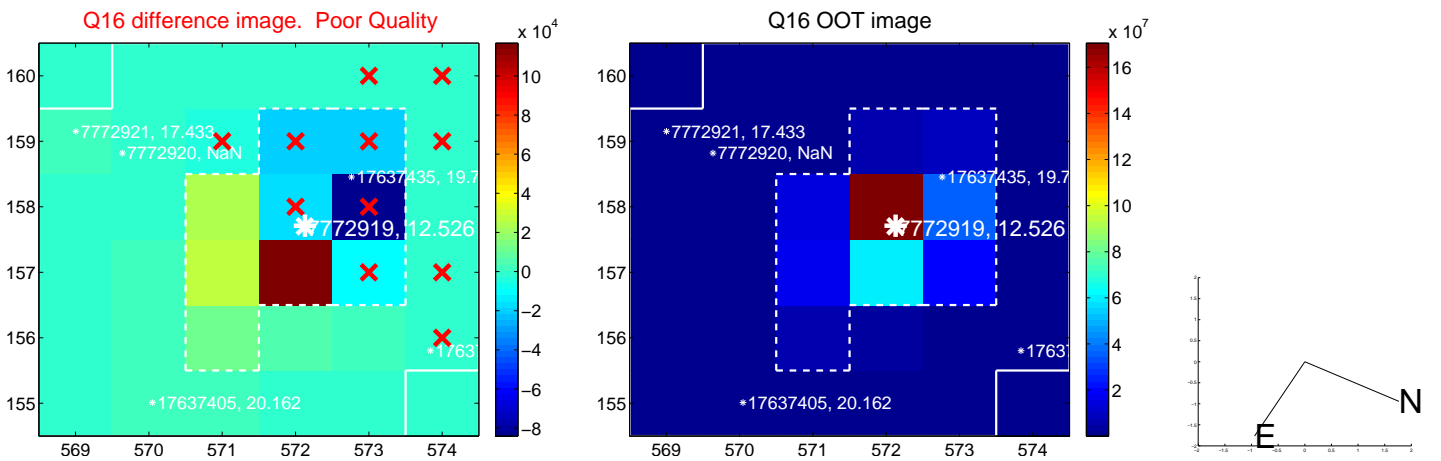
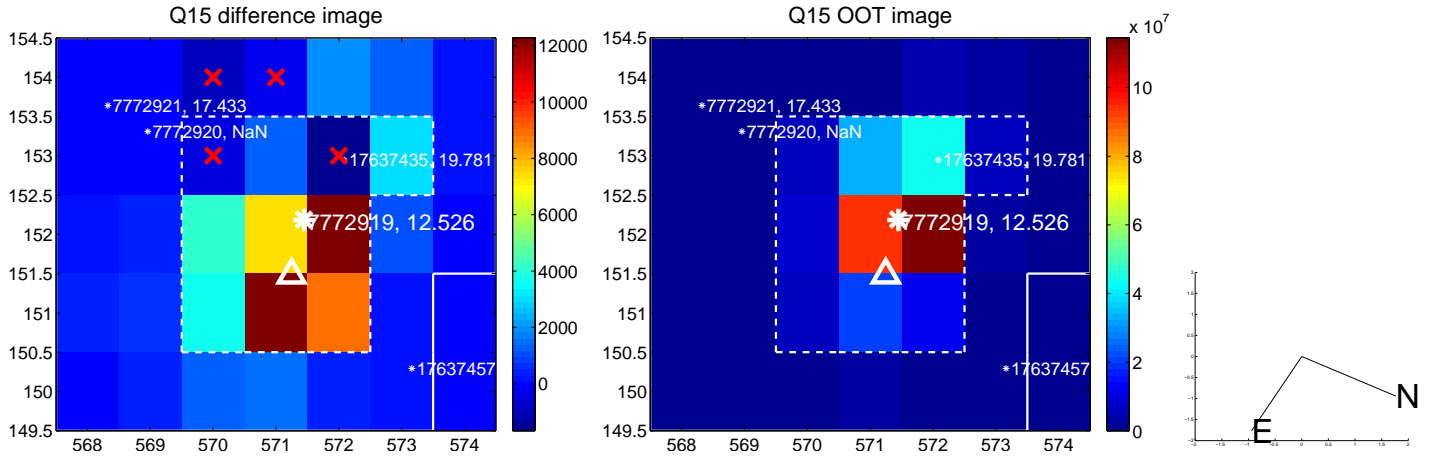
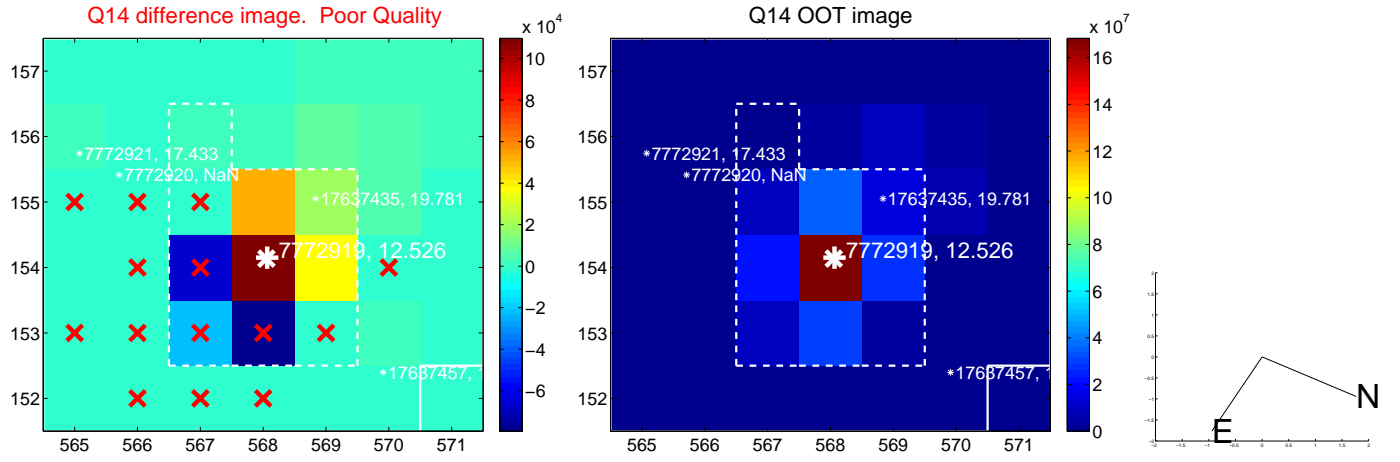
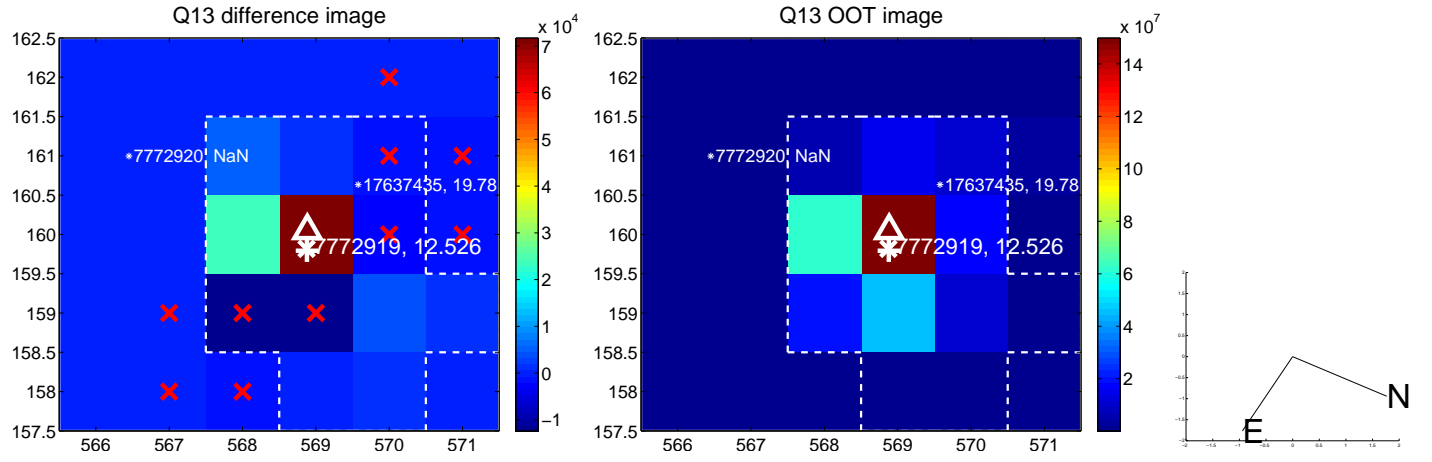




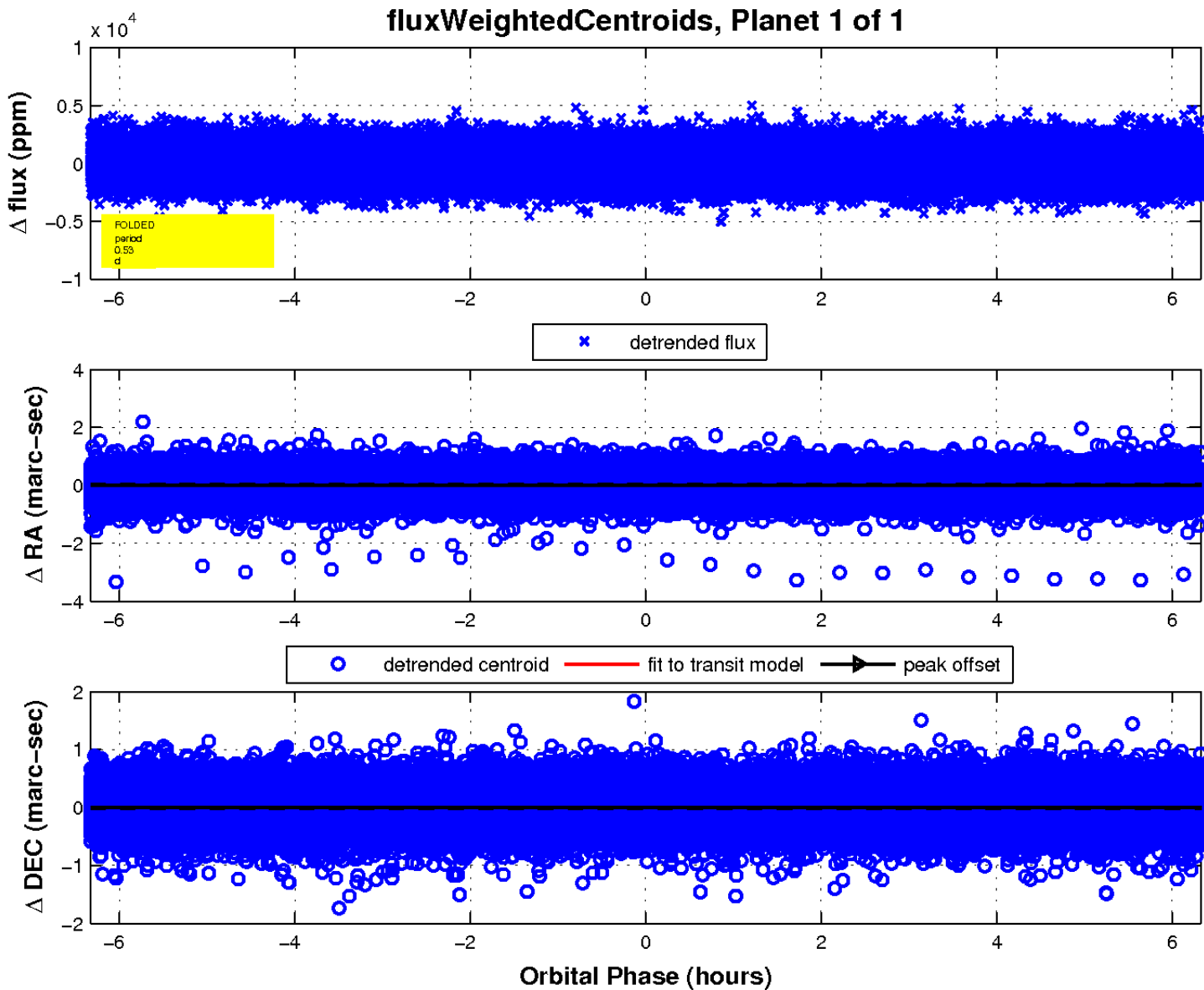
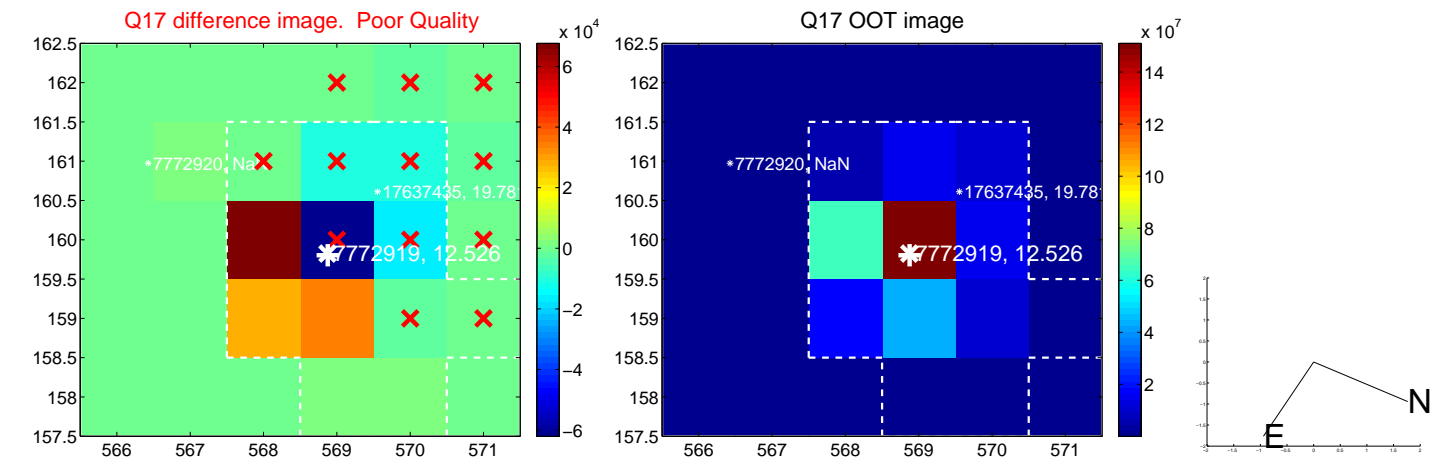
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

