

# KIC 007032383

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R <sub>★</sub> (R <sub>☉</sub> )	T <sub>★</sub> (K)	R <sub>p</sub> (R <sub>⊕</sub> )	S <sub>p</sub> (S <sub>⊕</sub> )
007032383-01	OBS	6811.01	0.566774	131.848480	36.8	2.552	9.4	7.5	0.78	5313	0.57	3024.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007032383-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_UNRESOLVED_OFFSET—EPHEM_MATCH

**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.

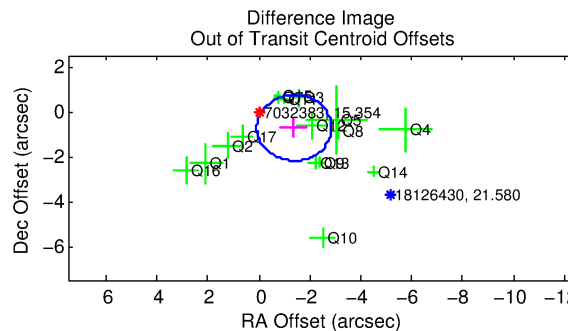
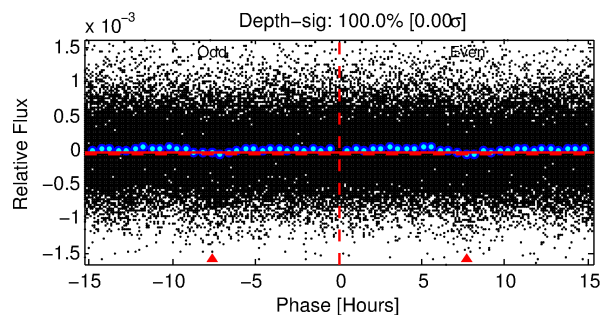
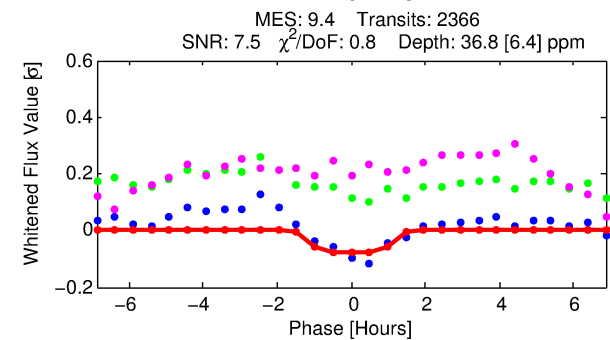
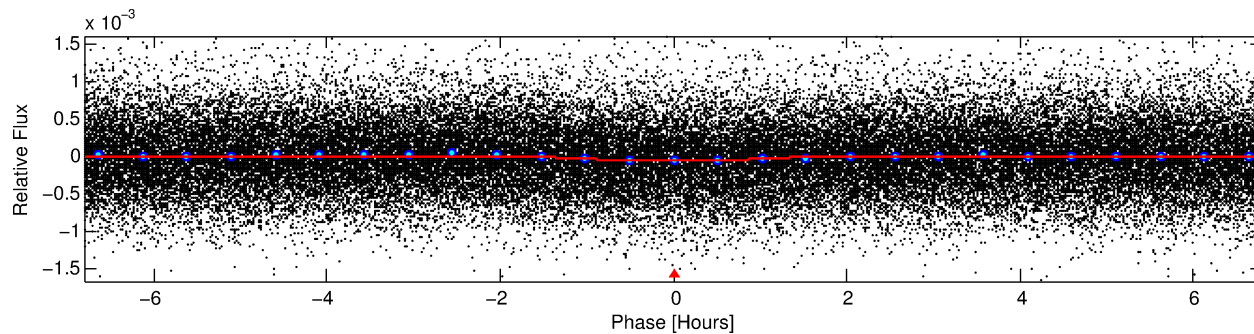
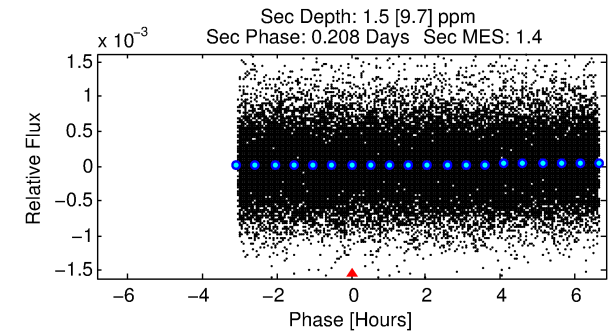
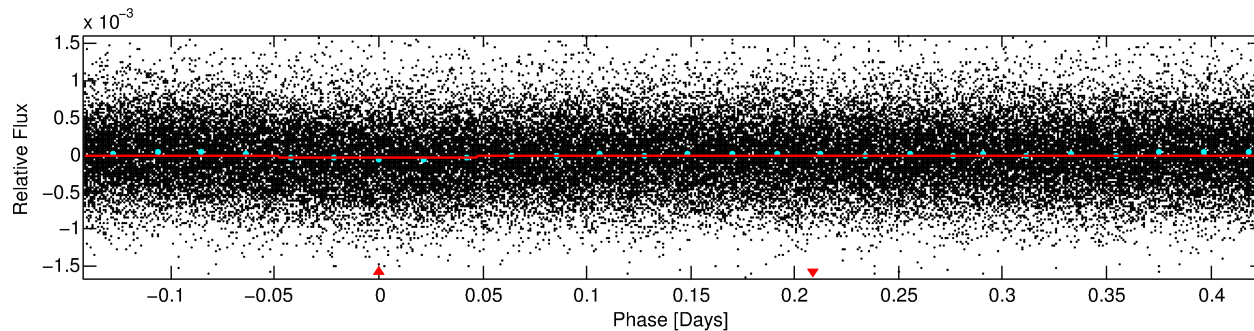
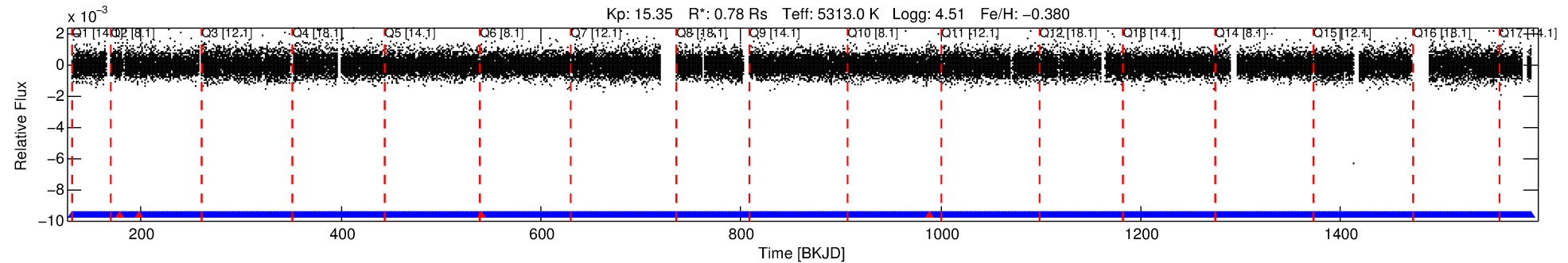
## Ephemeris Match Information For 007032383-01

TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist (″)	ΔRow	ΔCol	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	σ <sub>P</sub>	σ <sub>T</sub>
007032383-01	7032383	RR-Lyr-pri	7198959	1:1	735.5	169	-76	7.86	15.35	16846.00	Direct-PRF	0	4.81	16.78

**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided by the child's. σ<sub>P</sub> and σ<sub>T</sub> are the significance of the match in period and epoch. For a match to be considered significant σ<sub>P</sub> < 5.0 and σ<sub>T</sub> < 5.0. Matches which have σ<sub>P</sub> and σ<sub>T</sub> very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 7032383 Candidate: 1 of 1 Period: 0.567 d  
KOI: K06811.01 Corr: 0.776



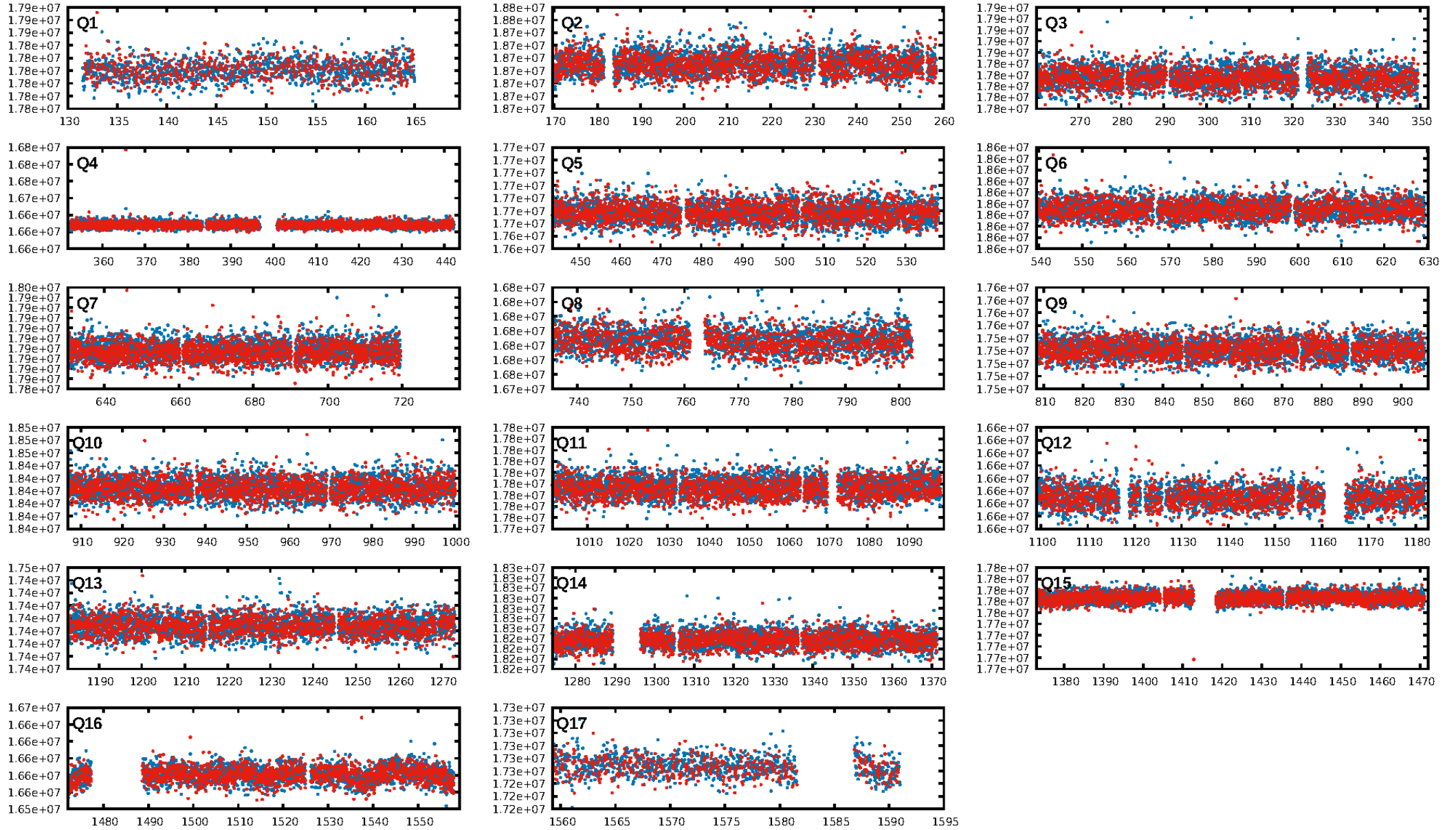
## DV Fit Results:

Period = 0.56677 [0.00001] d  
Epoch = 131.8485 [0.0043] BKJD  
Rp/R\* = 0.0067 [0.0067]  
a/R\* = 1.21 [1.73]  
b = 0.90 [0.97]  
Seff = 3024.02 [730.91]  
Teq = 1891 [114] K  
Rp = 0.57 [0.58] Re  
a = 0.0120 [0.0016] AU  
Ag = 0.36 [2.48] [-0.26σ]  
Teffp = 2260 [3923] K [0.09σ]

## DV Diagnostic Results:

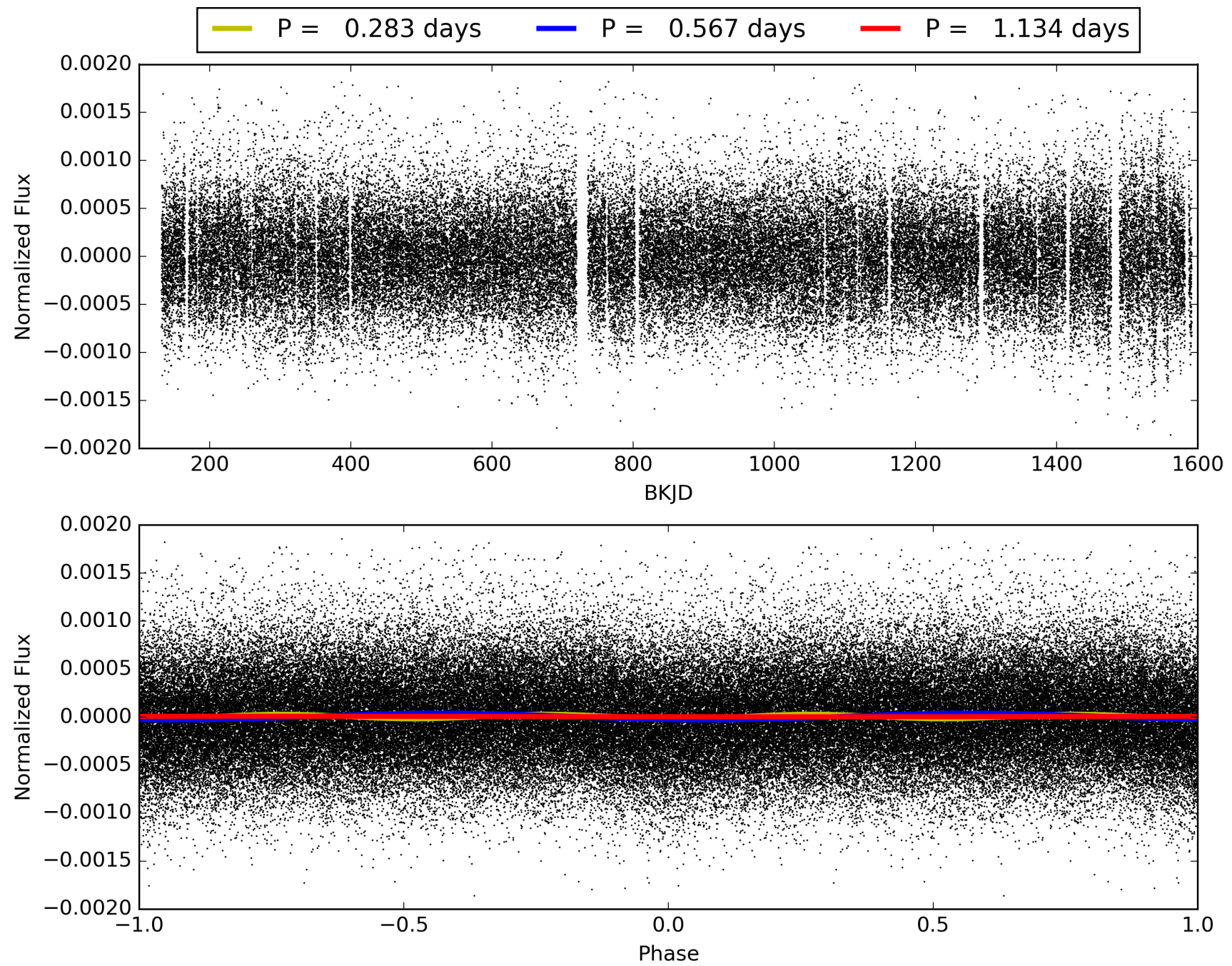
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.91e-18  
RollingBand-fgt: 1.00 [2257/2261]  
**GhostDiagnostic-chr: -0.2942**  
Centroid-sig: N/A  
Centroid-so: 3.977 arcsec [2.21σ]  
**OotOffset-rm: 1.566 arcsec [3.21σ]**  
KicOffset-rm: 1.557 arcsec [2.91σ]  
OotOffset-st: 3/4/4/5 [16]  
KicOffset-st: 3/4/4/5 [16]  
DiffImageQuality-fgm: 0.06 [1/16]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 007032383-01, PDC Light Curves



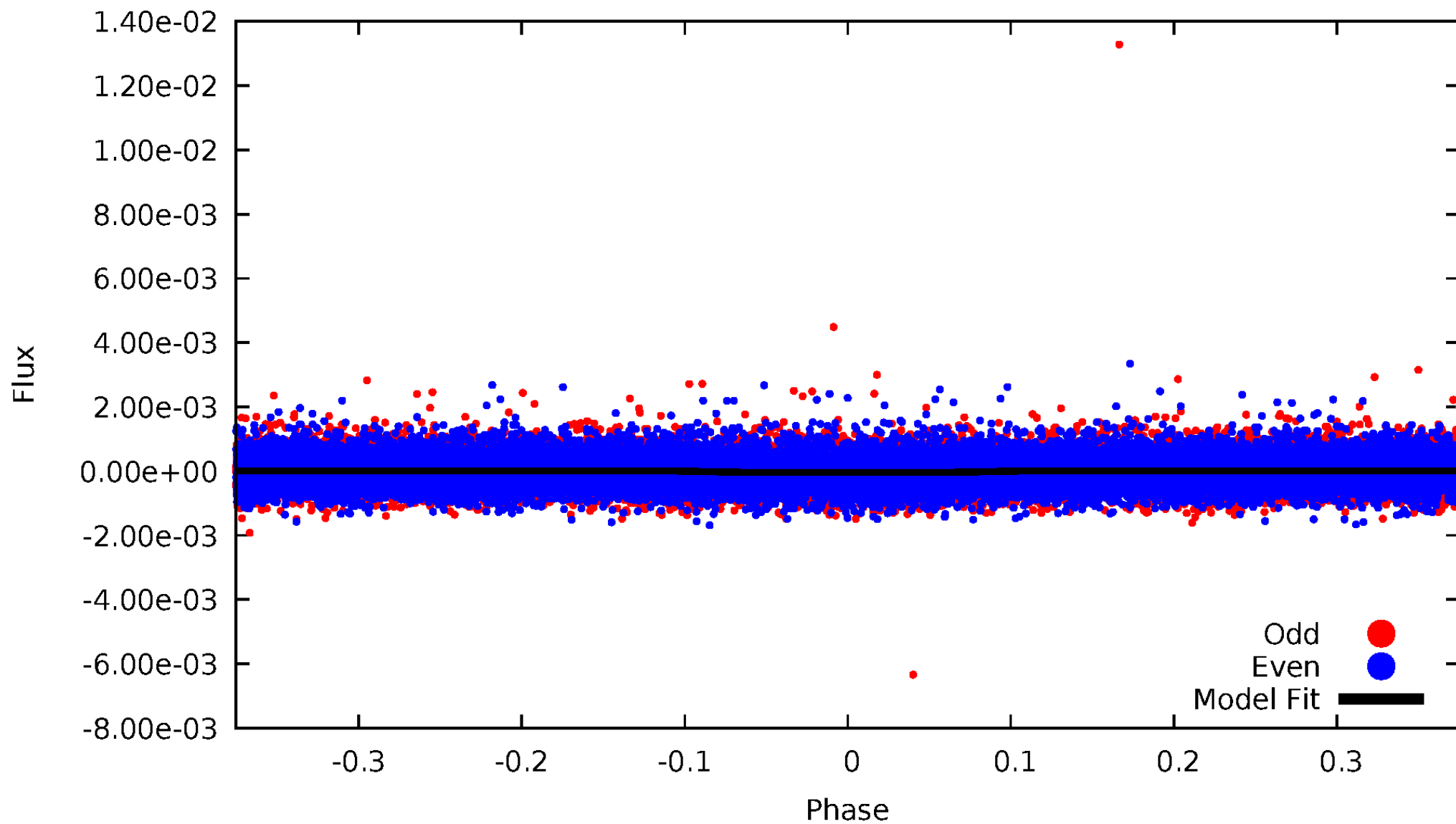


TCE 007032383-01



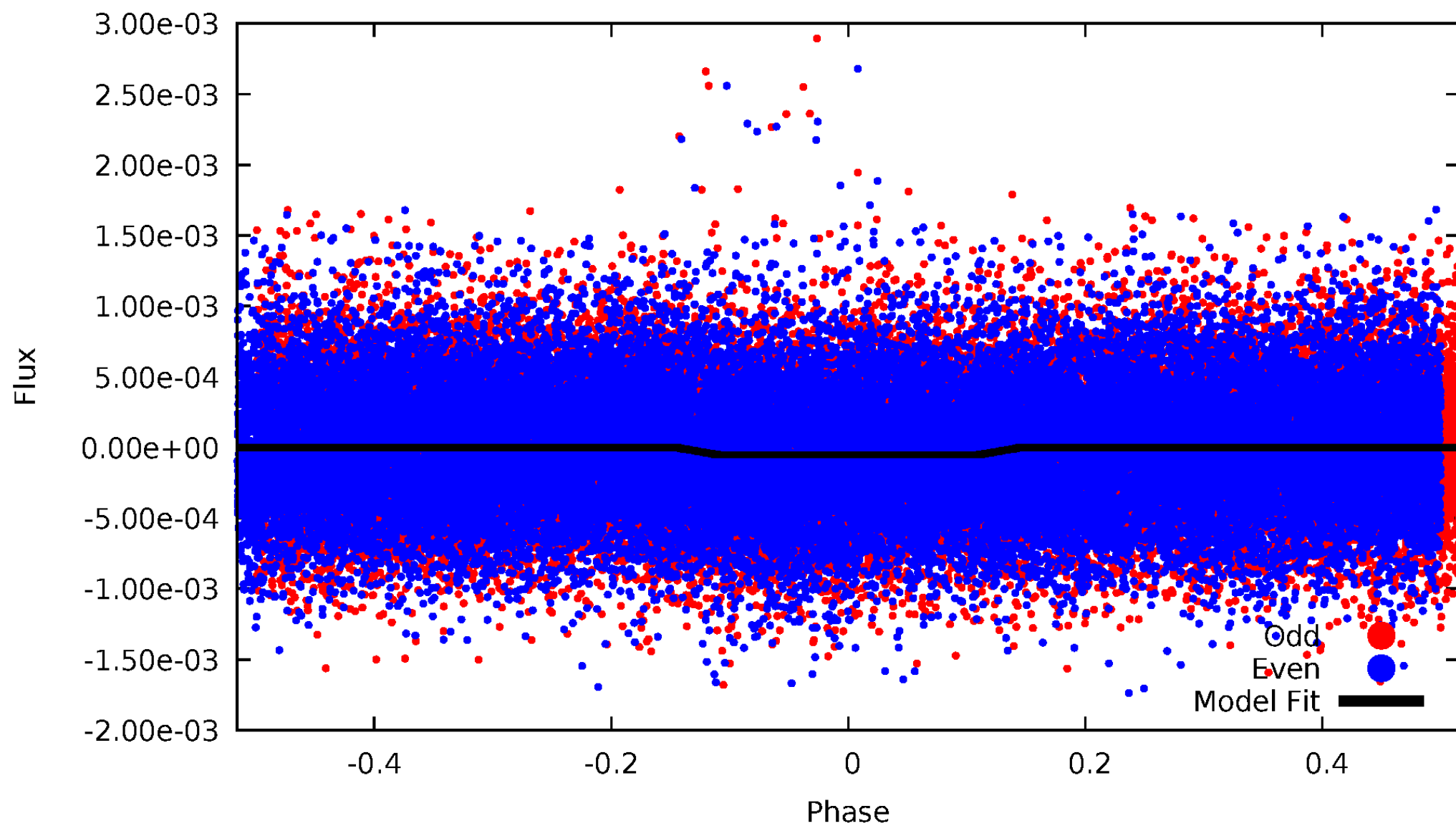
# DV Odd/Even

TCE 007032383-01

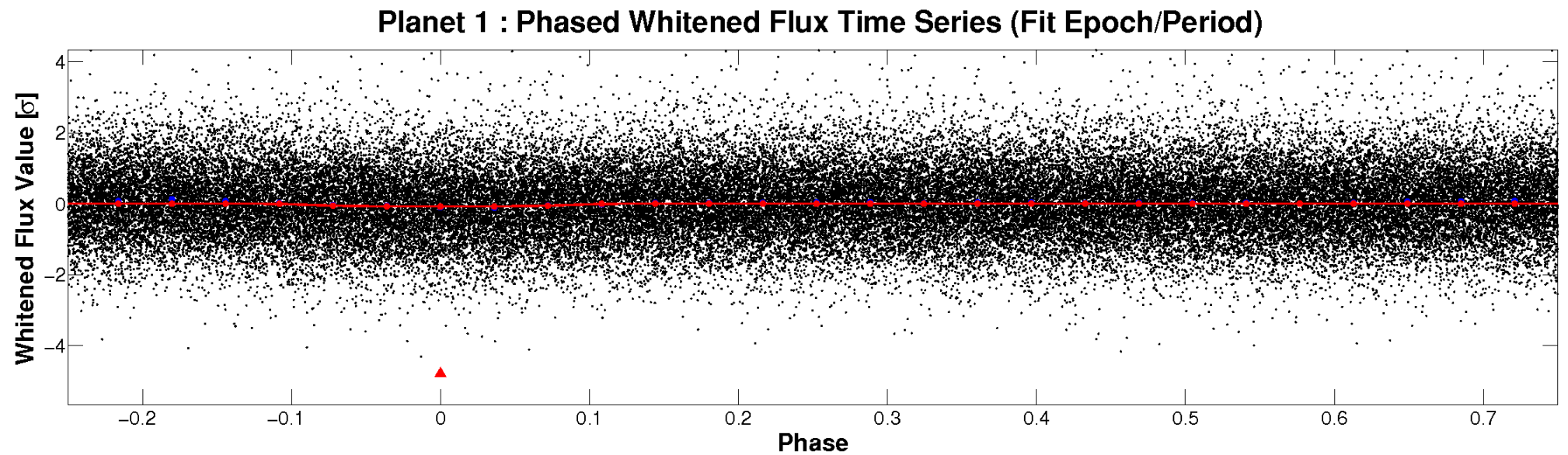
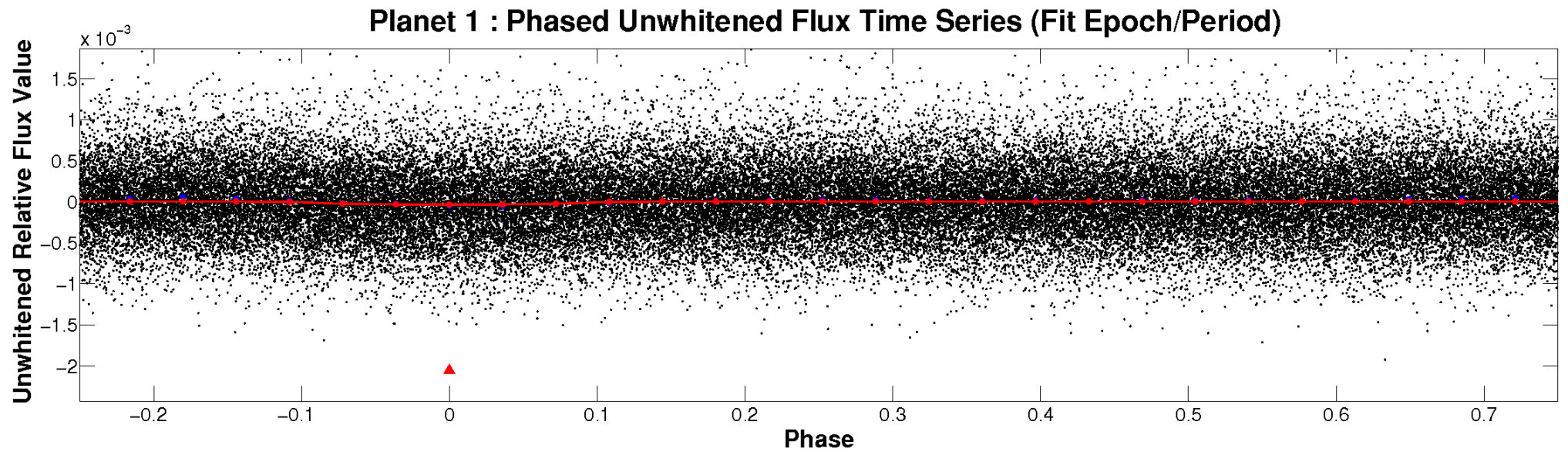


# ALT Odd/Even

TCE 007032383-01



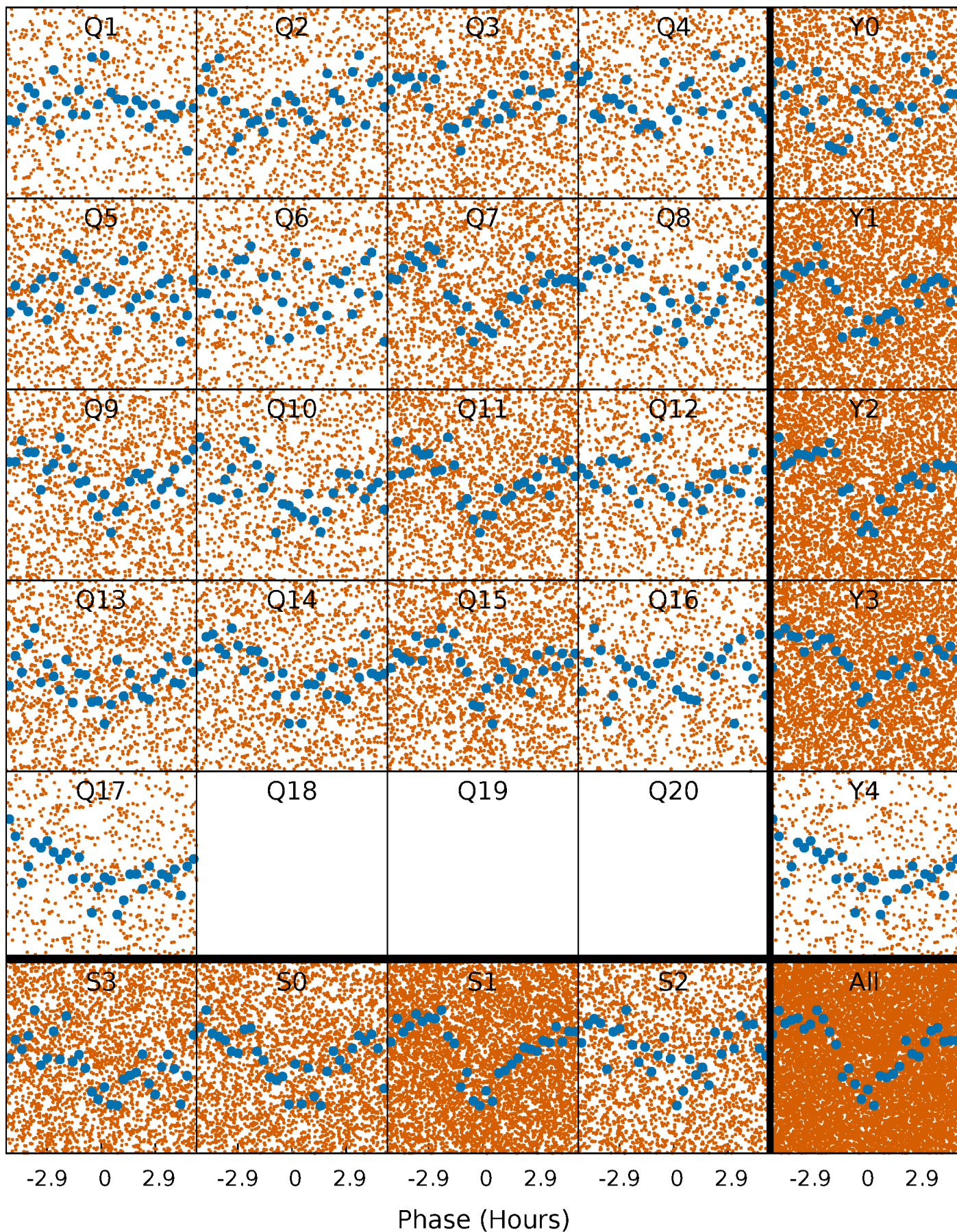
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

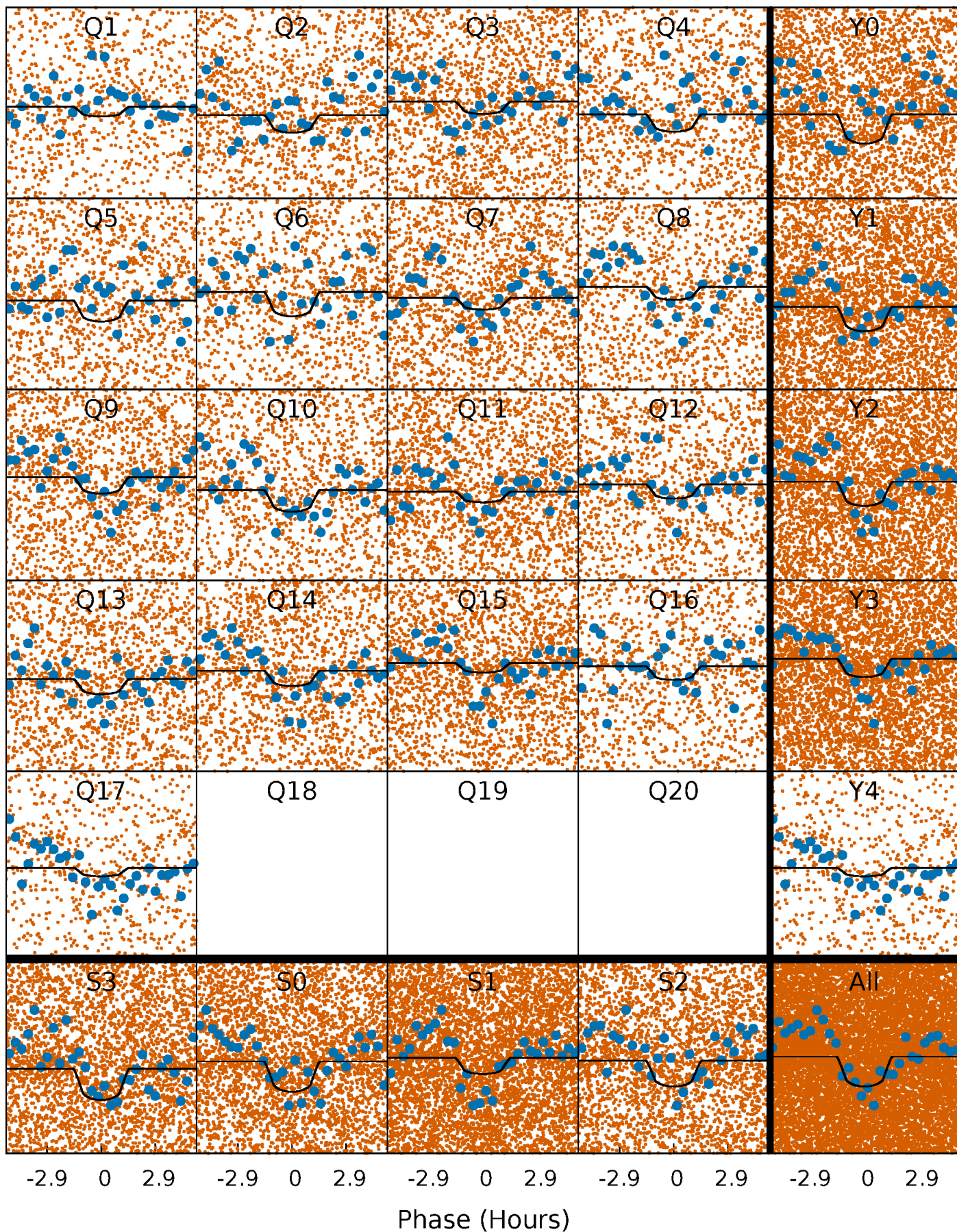
TCE 007032383-01 P= 0.566774 Days  $T_0=131.848480$  (BKJD)





# DV Quarter-Phased Transit Curves

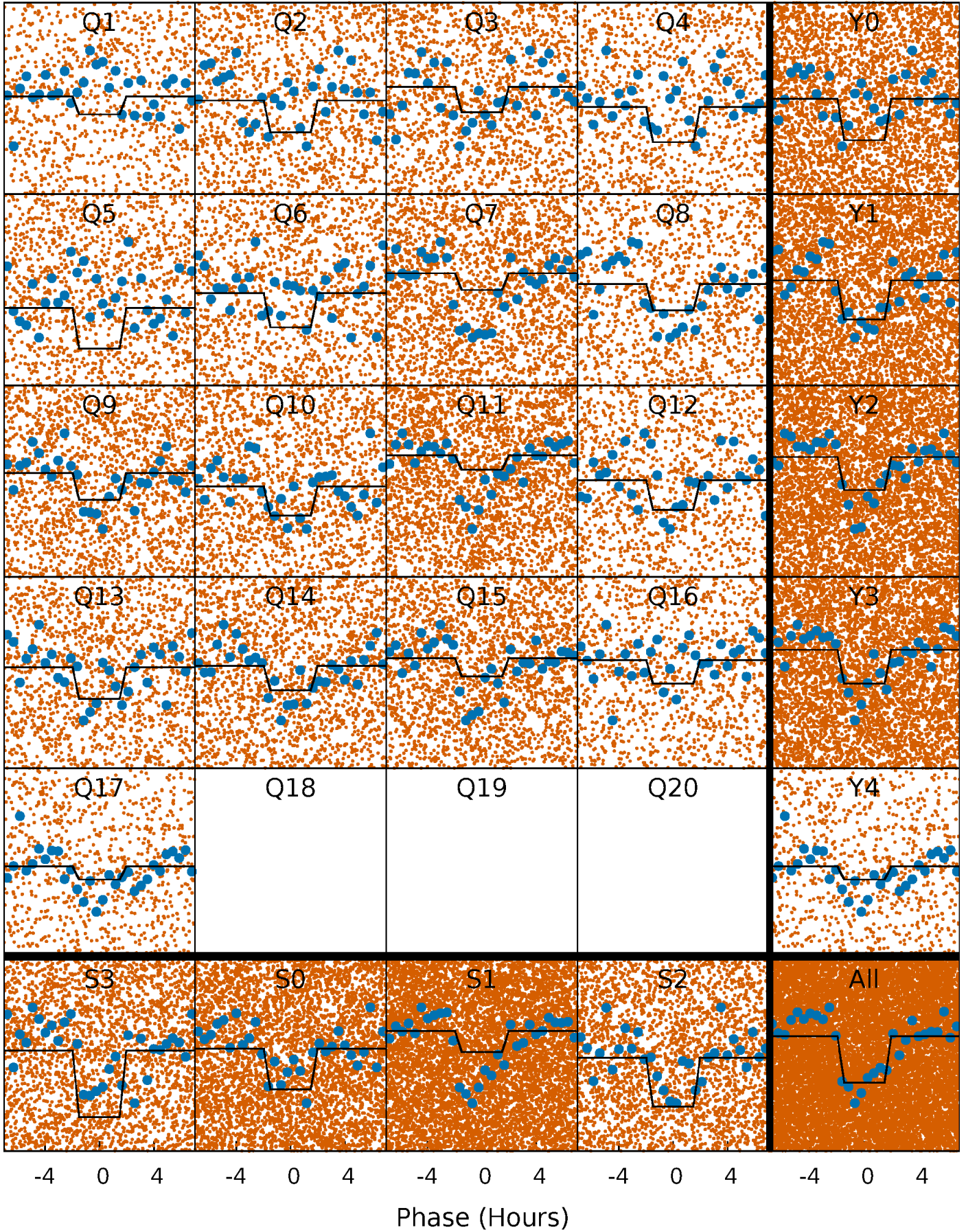
TCE 007032383-01 P= 0.566774 Days  $T_0=131.848480$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

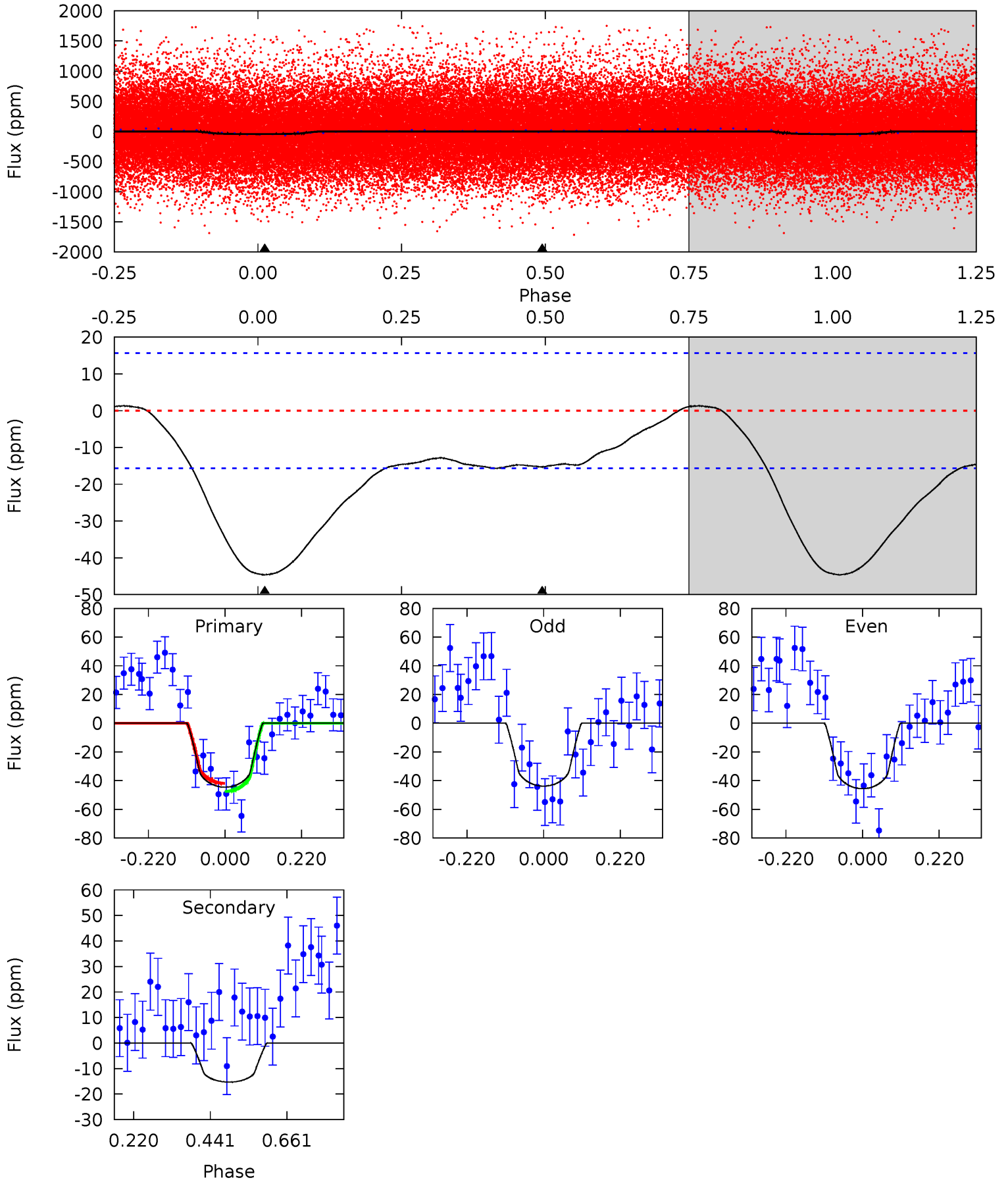
TCE 007032383-01 P= 0.566788 Days  $T_0=131.851220$  (BKJD)



# DV Model-Shift Uniqueness Test

007032383-01, P = 0.566774 Days, E = 131.281706 Days

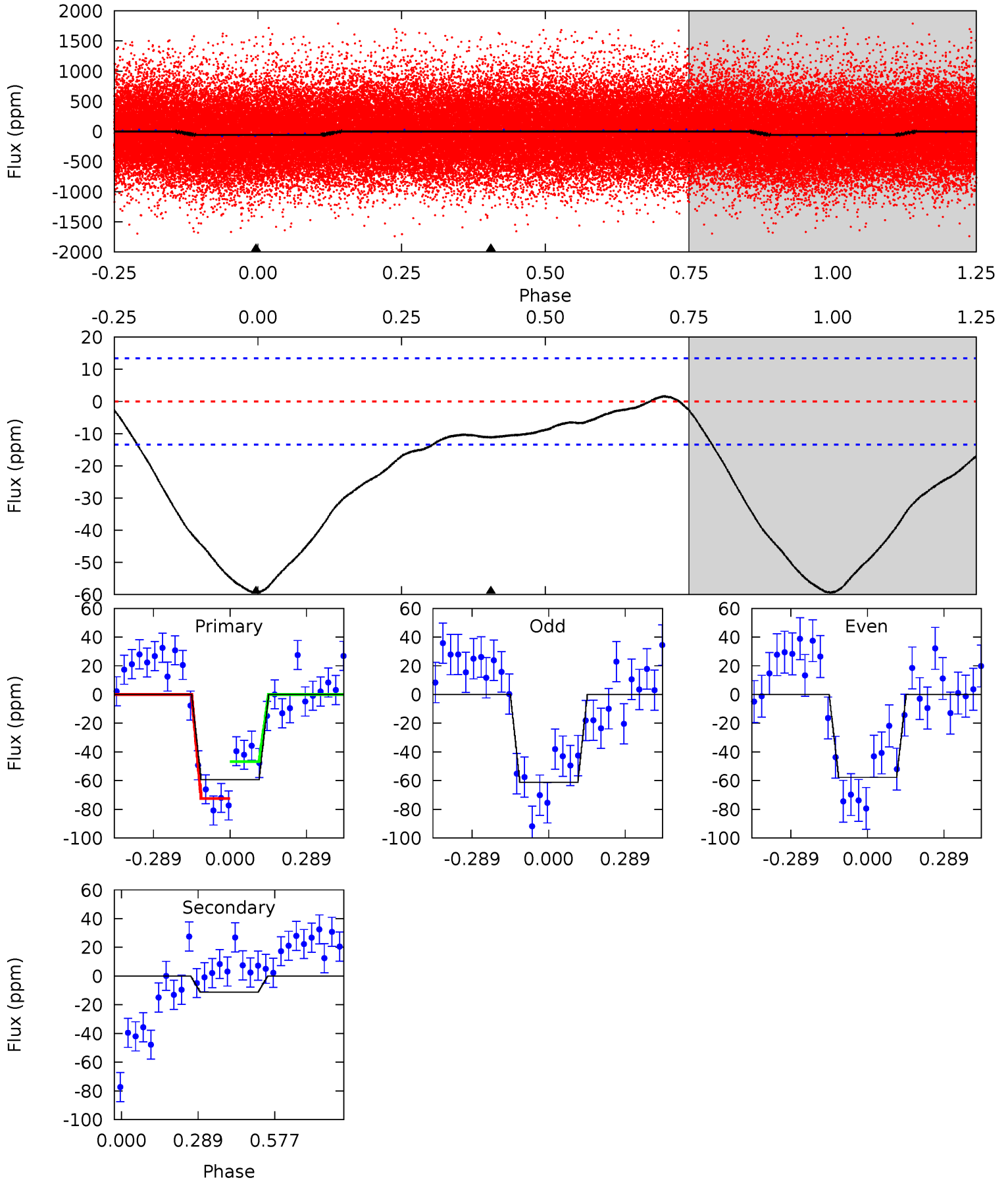
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	4.30	0	0	4.40	1.23	2.05	12.5	12.5	4.30	4.30	0.25	0.90	0.03	0.79



# Alt Model-Shift Uniqueness Test

007032383-01, P = 0.566788 Days, E = 131.284432 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
19.2	3.62	0	0	4.34	1.06	0.42	19.2	19.2	3.62	3.62	0.56	0.94	0.03	4.14





### Stellar Parameters For KIC 007032383

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5313^{+175}_{-159}$	$4.510^{+0.104}_{-0.115}$	$-0.380^{+0.350}_{-0.300}$	$0.784^{+0.117}_{-0.096}$	$0.727^{+0.112}_{-0.052}$	$2.122^{+0.930}_{-0.696}$
	+3%/-3%	+2%/-3%	+92%/-79%	+15%/-12%	+15%/-7%	+44%/-33%
Source	PHO1	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 007032383-01 / KOI 6811.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-15 \pm 4$	$0.67^{+0.55}_{-0.41}$	$2652^{+136}_{-132}$	$3976^{+2071}_{-903}$	$2.896^{+16.323}_{-2.104}$
Alt.	$-11 \pm 3$	$0.66^{+0.60}_{-0.41}$	$2645^{+135}_{-124}$	$3720^{+1918}_{-897}$	$2.026^{+12.690}_{-1.477}$

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

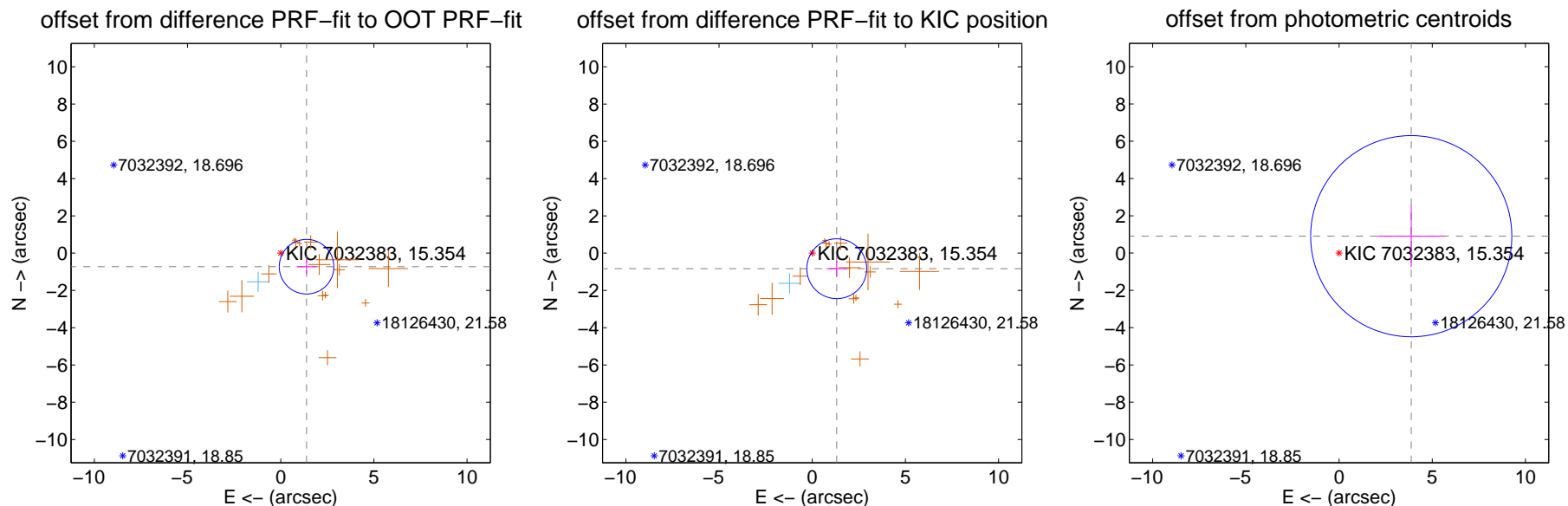
## DV Centroid Data

Supplemental centroid analysis for 007032383-01. Kepler magnitude: 15.35. Transit SNR 7.50

There are 1 quarters with good PRF difference image offsets

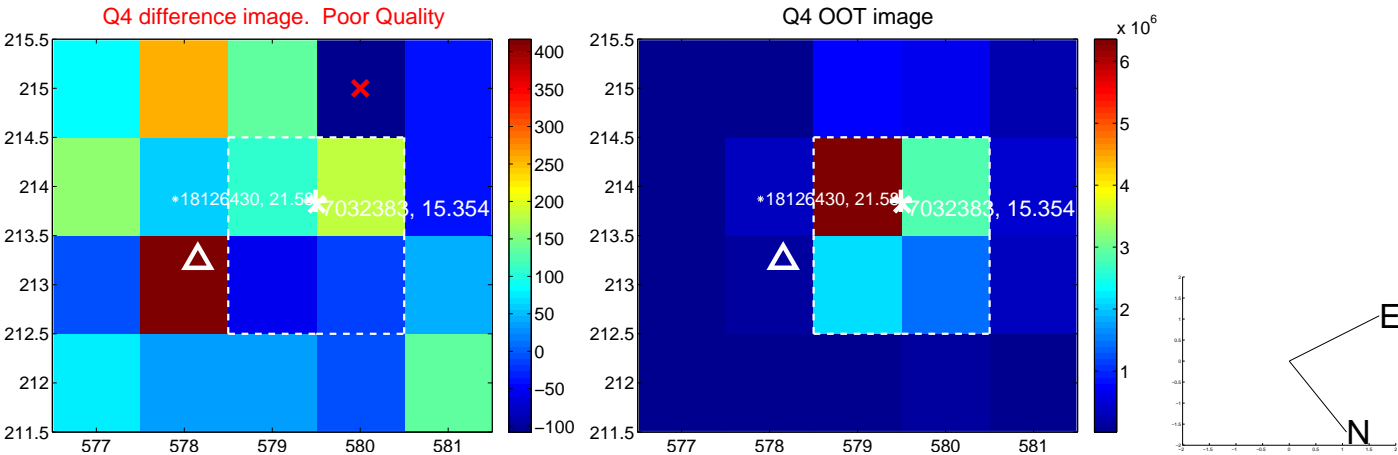
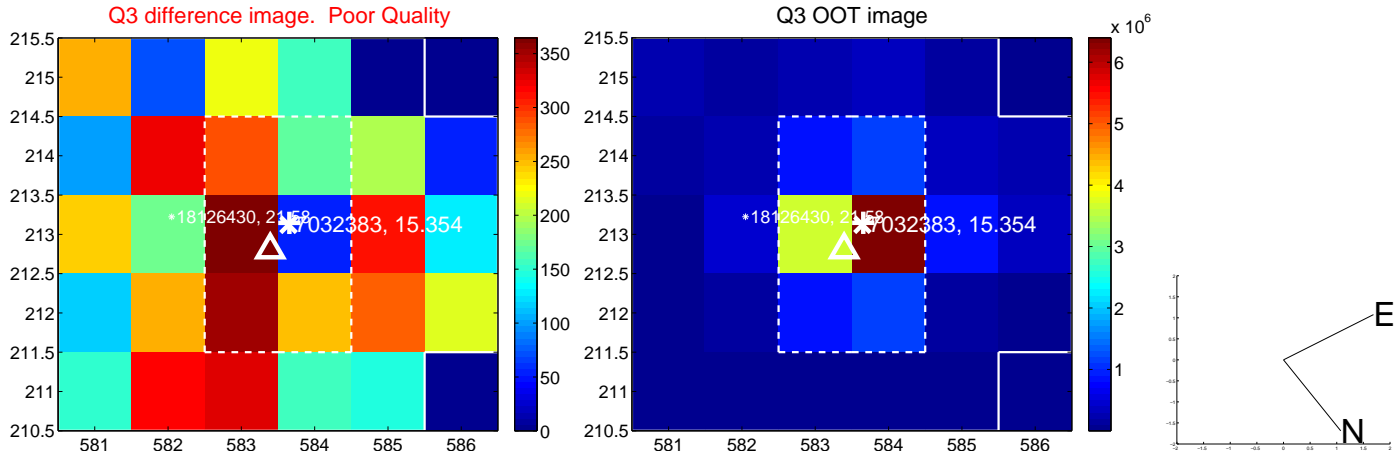
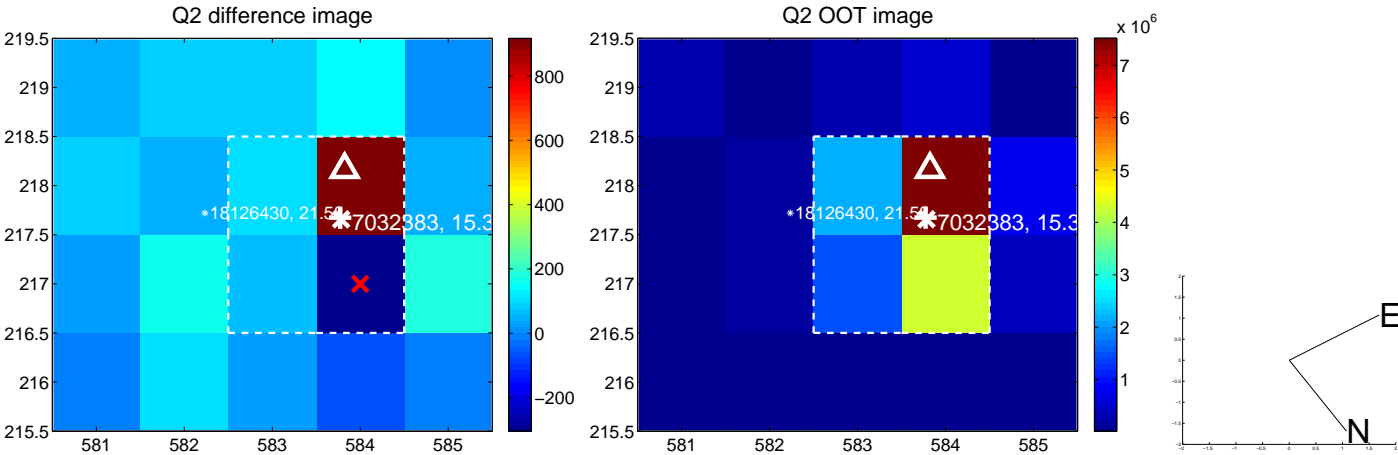
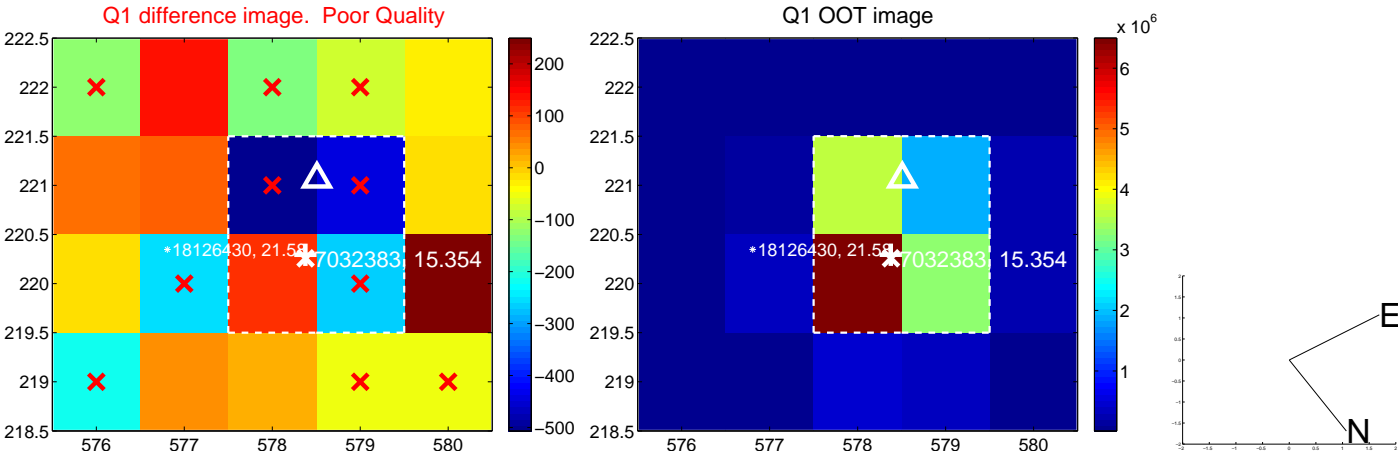
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.566 \pm 0.488$	3.21	$-1.387 \pm 0.522$	$-0.727 \pm 0.396$
PRF-fit source offset from KIC position	$1.557 \pm 0.535$	2.91	$-1.315 \pm 0.551$	$-0.835 \pm 0.427$
photometric centroid source offset	$3.98 \pm 1.80$	2.21	$-3.87 \pm 1.81$	$0.91 \pm 1.66$

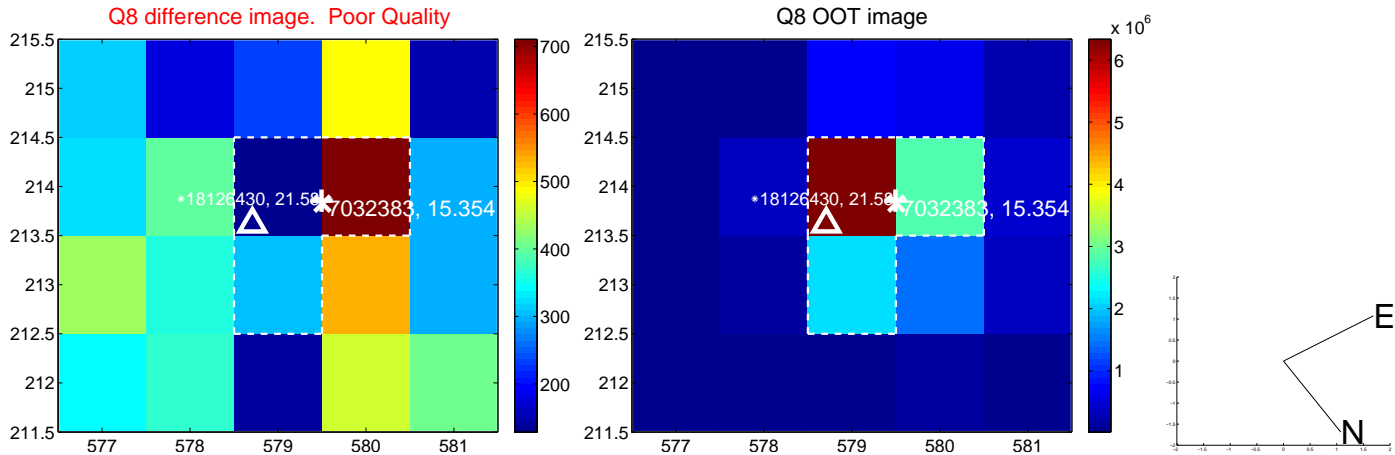
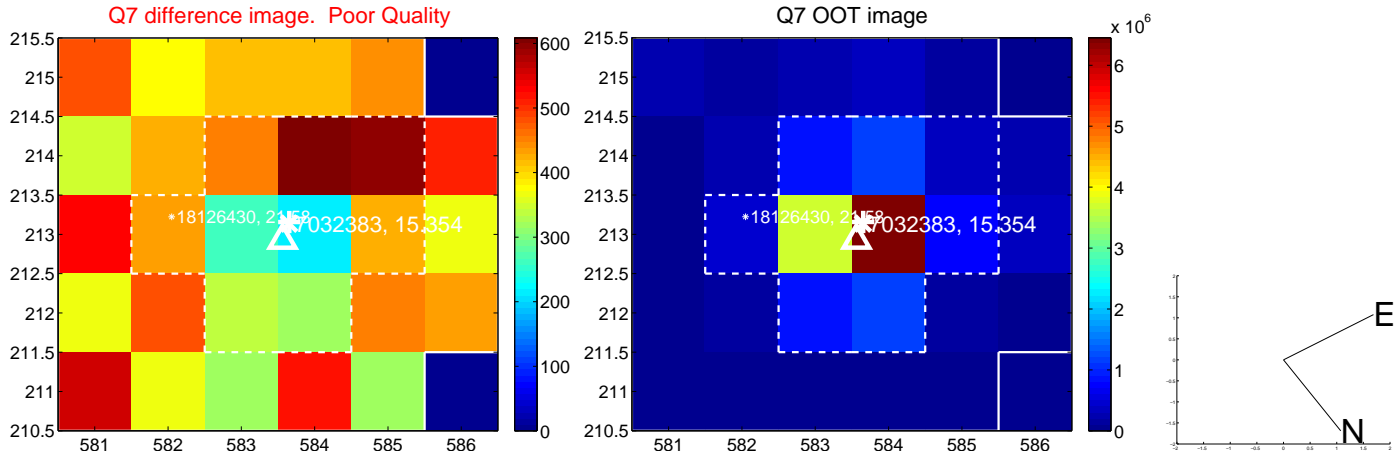
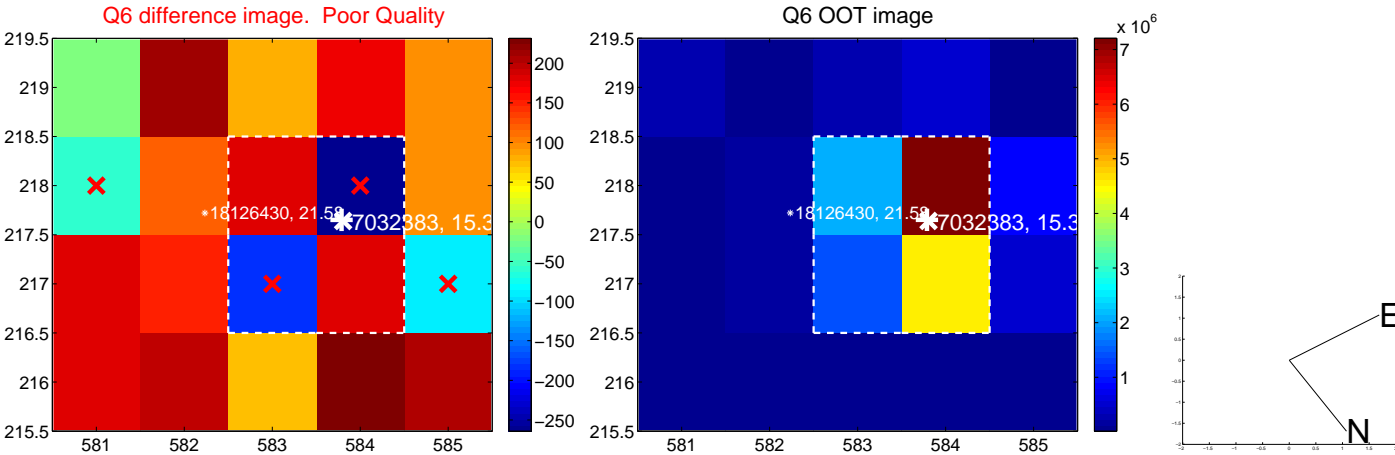
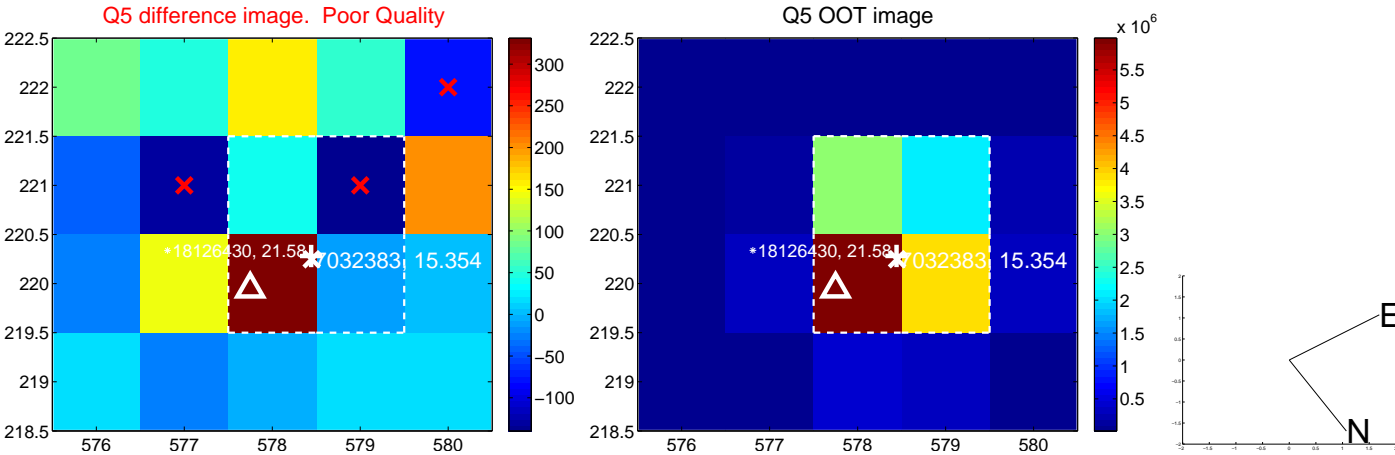


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

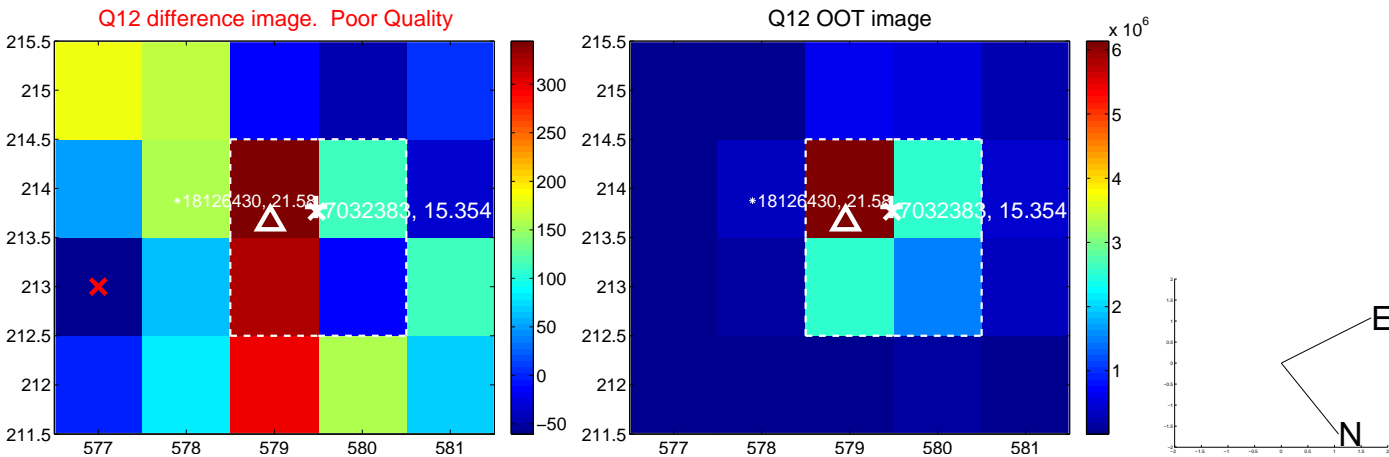
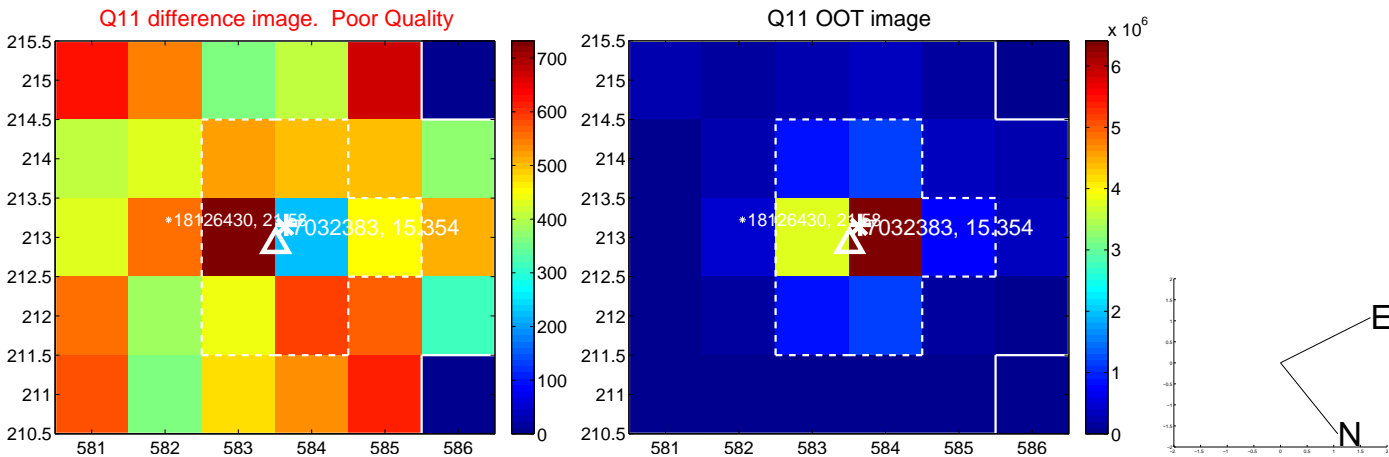
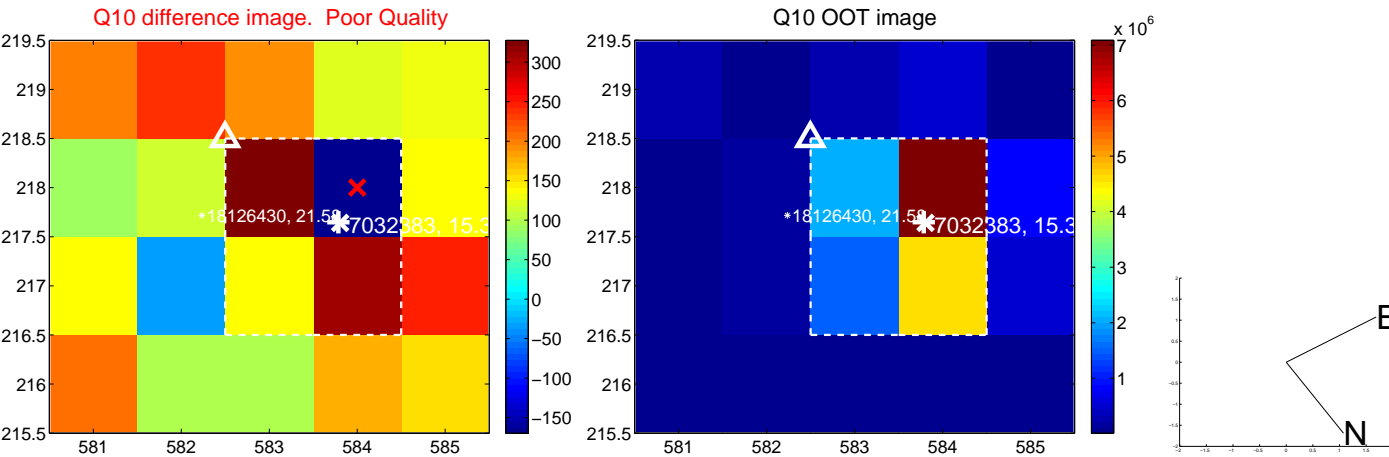
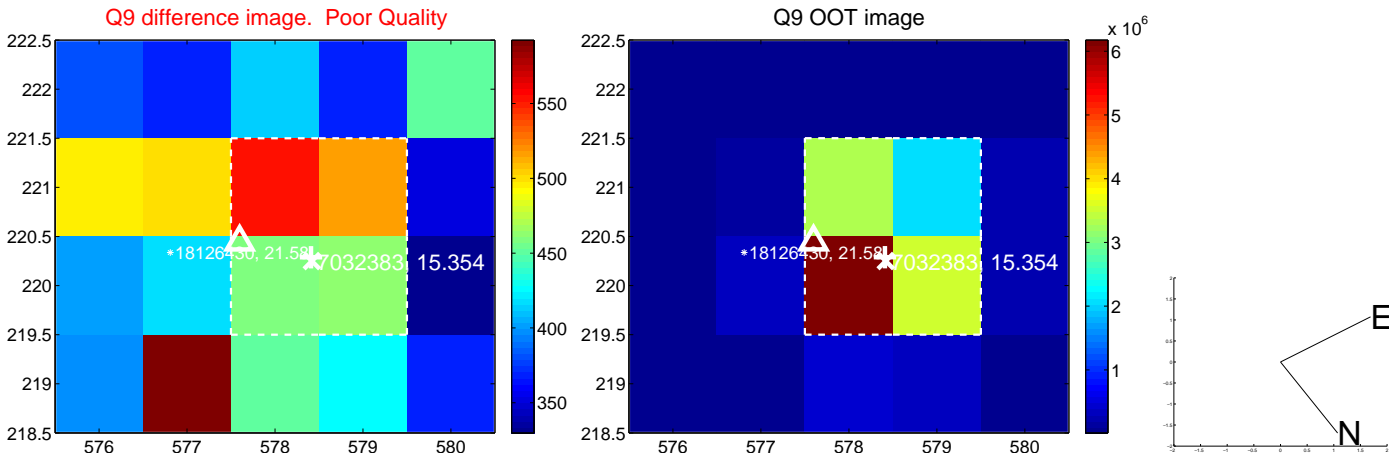


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

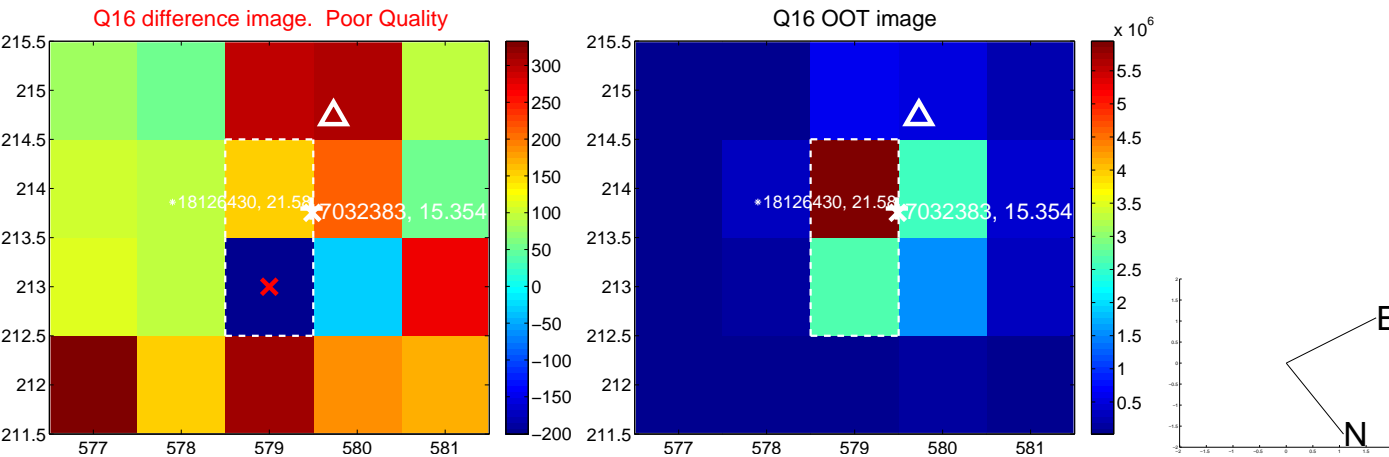
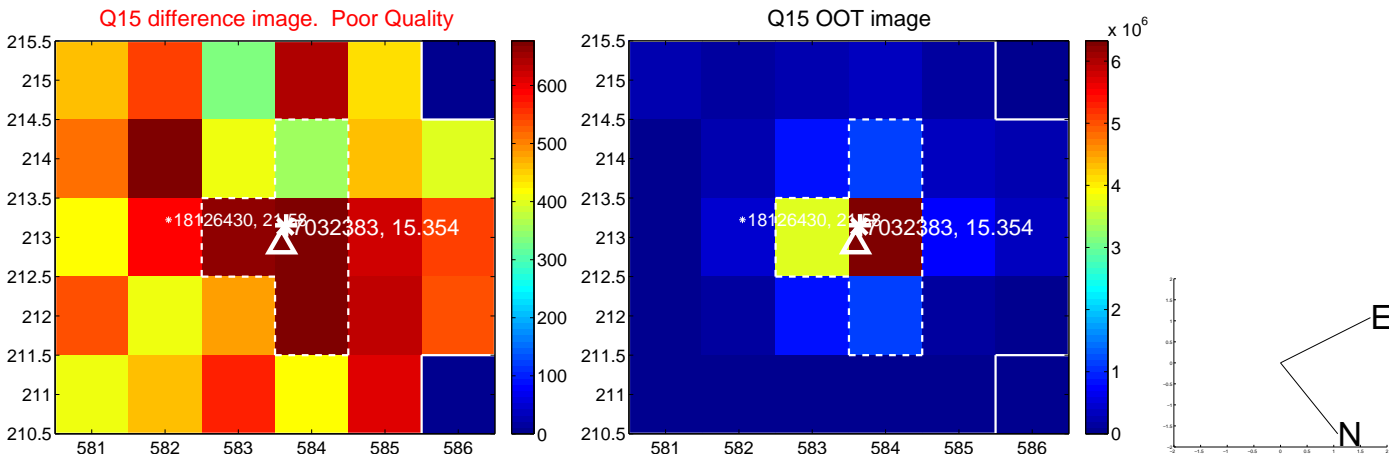
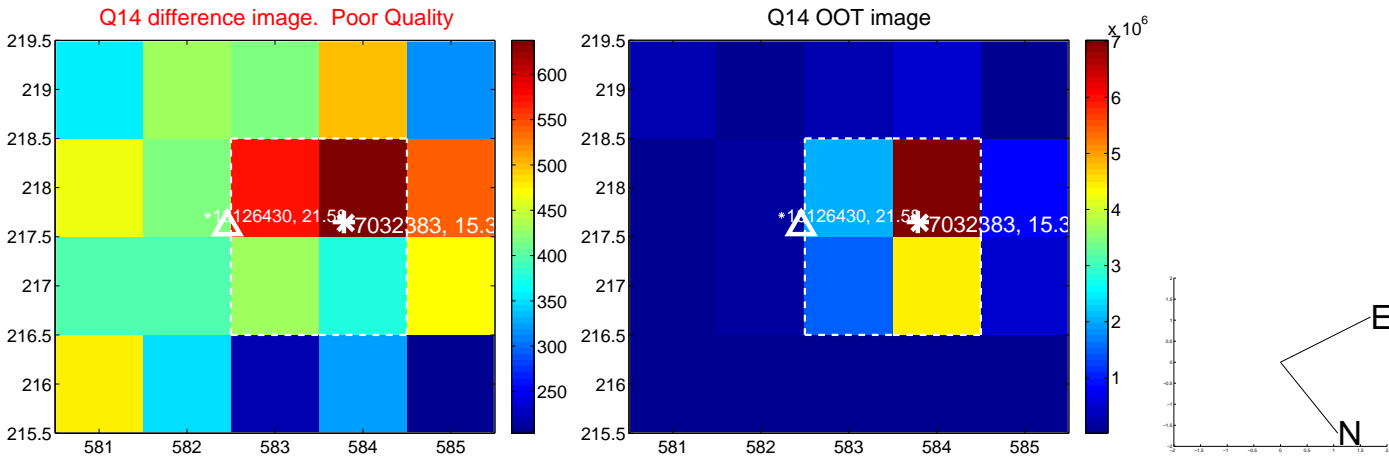
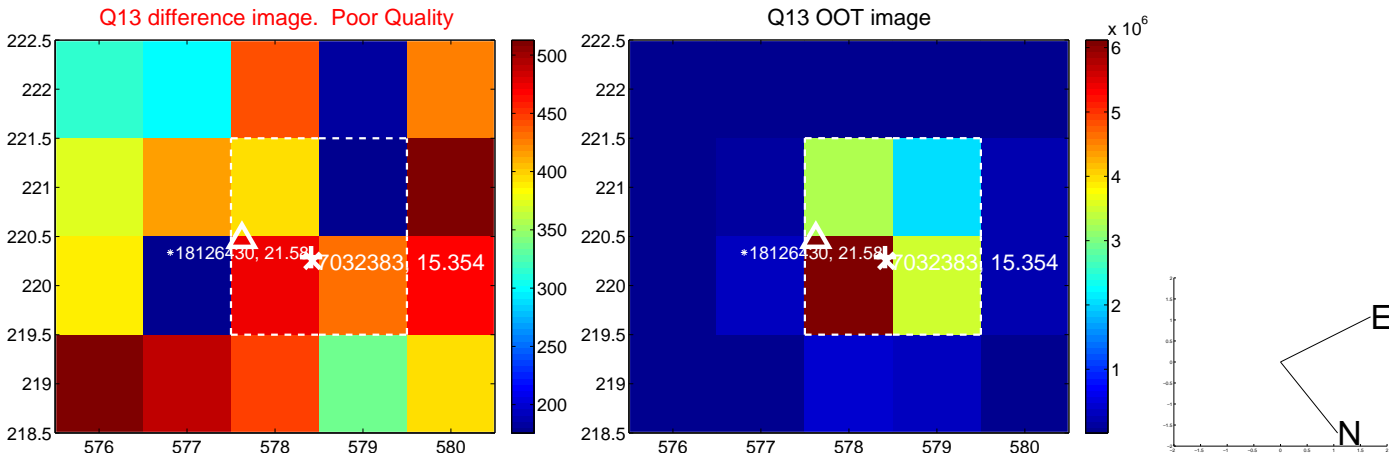




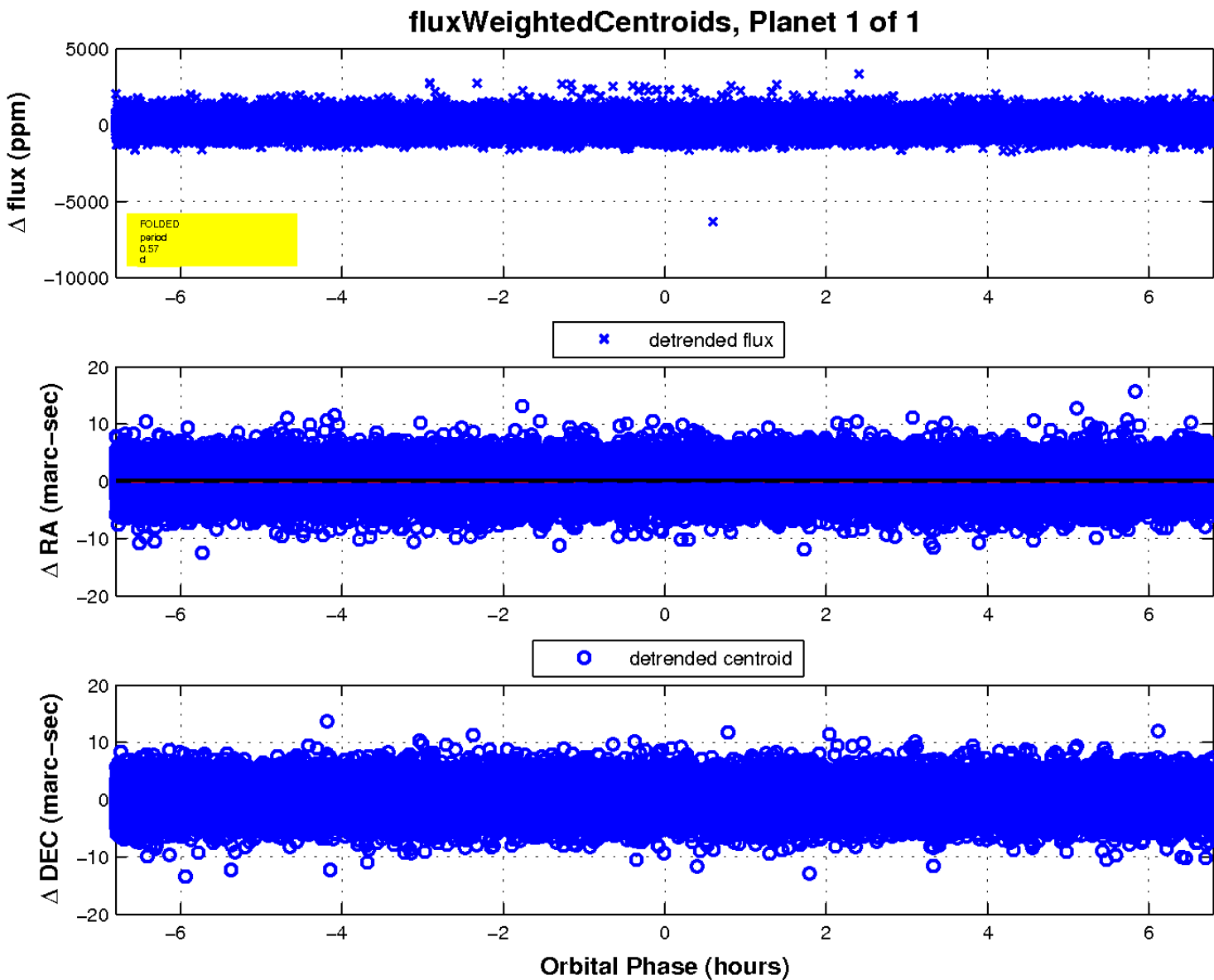
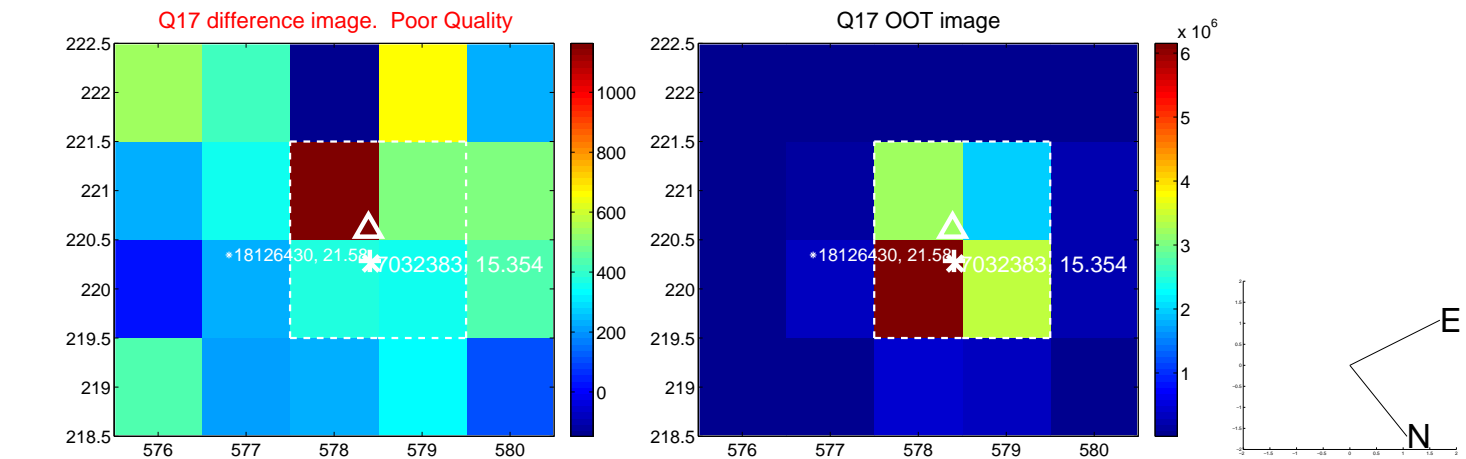
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

