

KIC 007281217

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
007281217-01	OBS	6851.01	0.566605	131.976286	0.0	4.593	11.8	0.0	0.75	5593	0.01	3225.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007281217-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—CENT_FEW_DIFFS—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 for comment definitions.

Ephemeris Match Information For 007281217-01

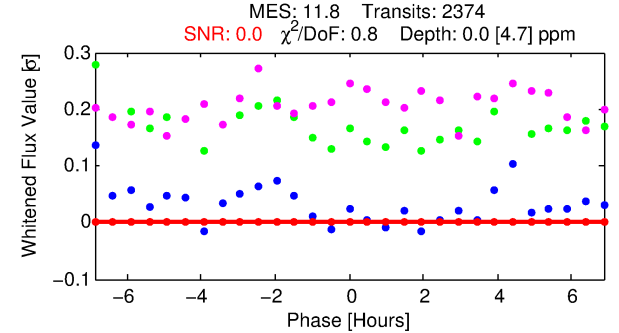
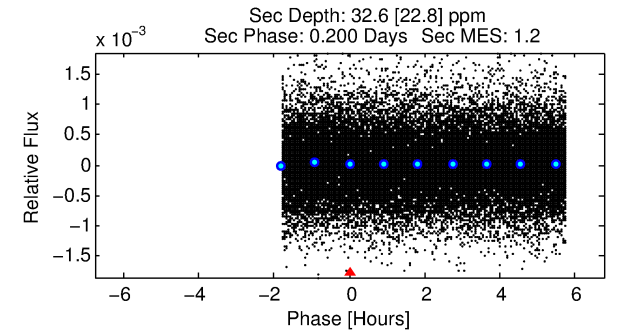
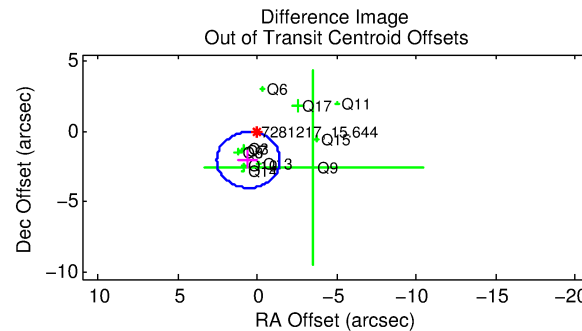
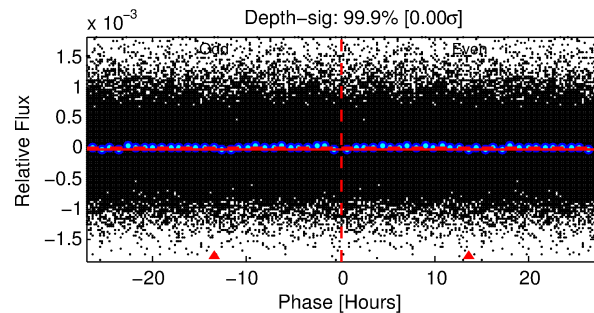
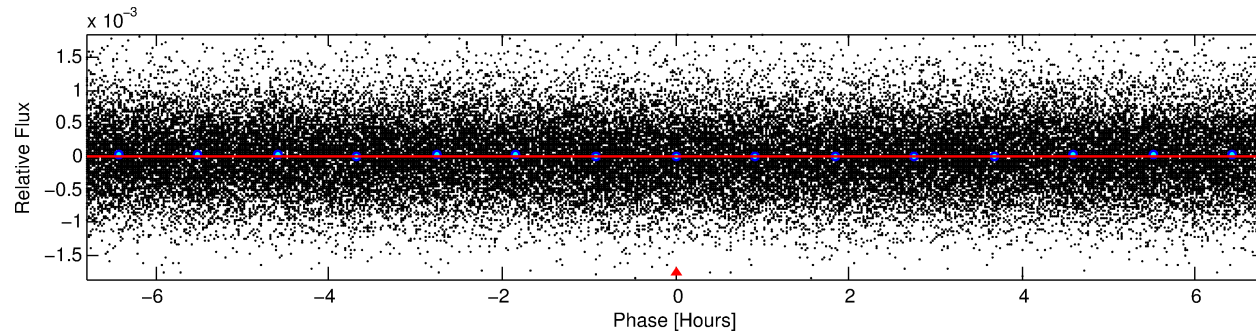
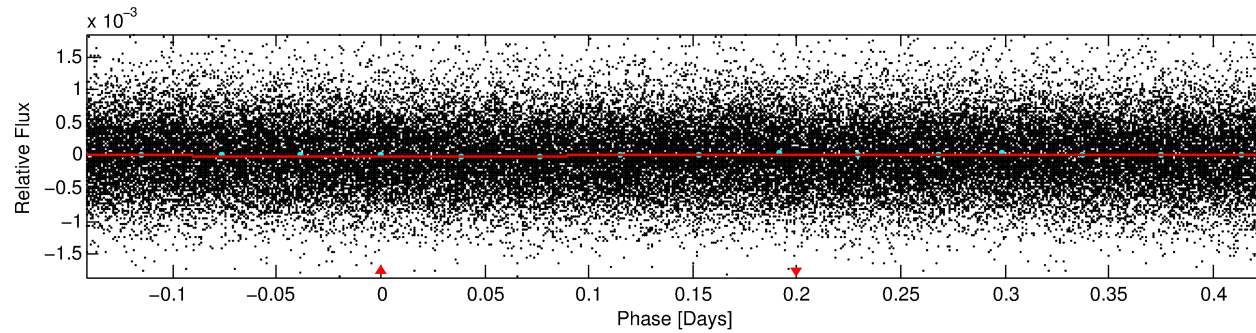
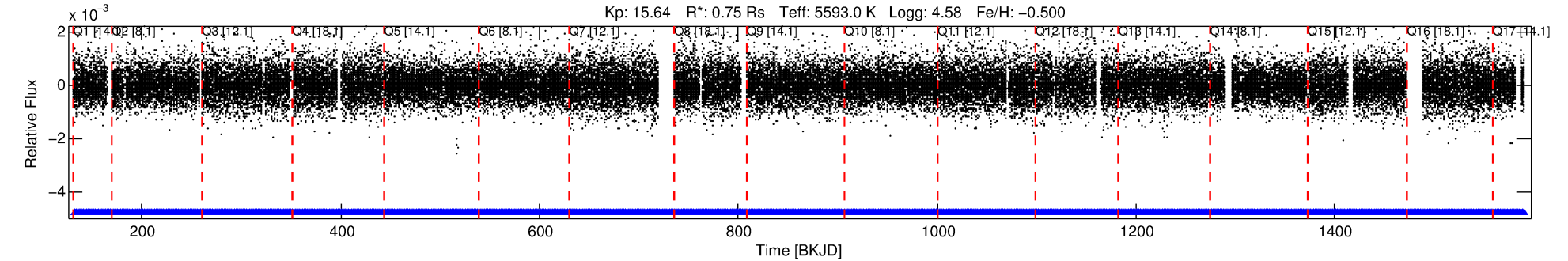
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
007281217-01	7281217	RR-Lyr-pri	7198959	1:1	521.8	-5	131	7.86	15.64	623300.00	Direct-PRF	0	3.39	11.96

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7281217 Candidate: 1 of 1 Period: 0.567 d
KOI: K06851 Corr: No Ephemeris Match

Kp: 15.64 R*: 0.75 Rs Teff: 5593.0 K Logg: 4.58 Fe/H: -0.500



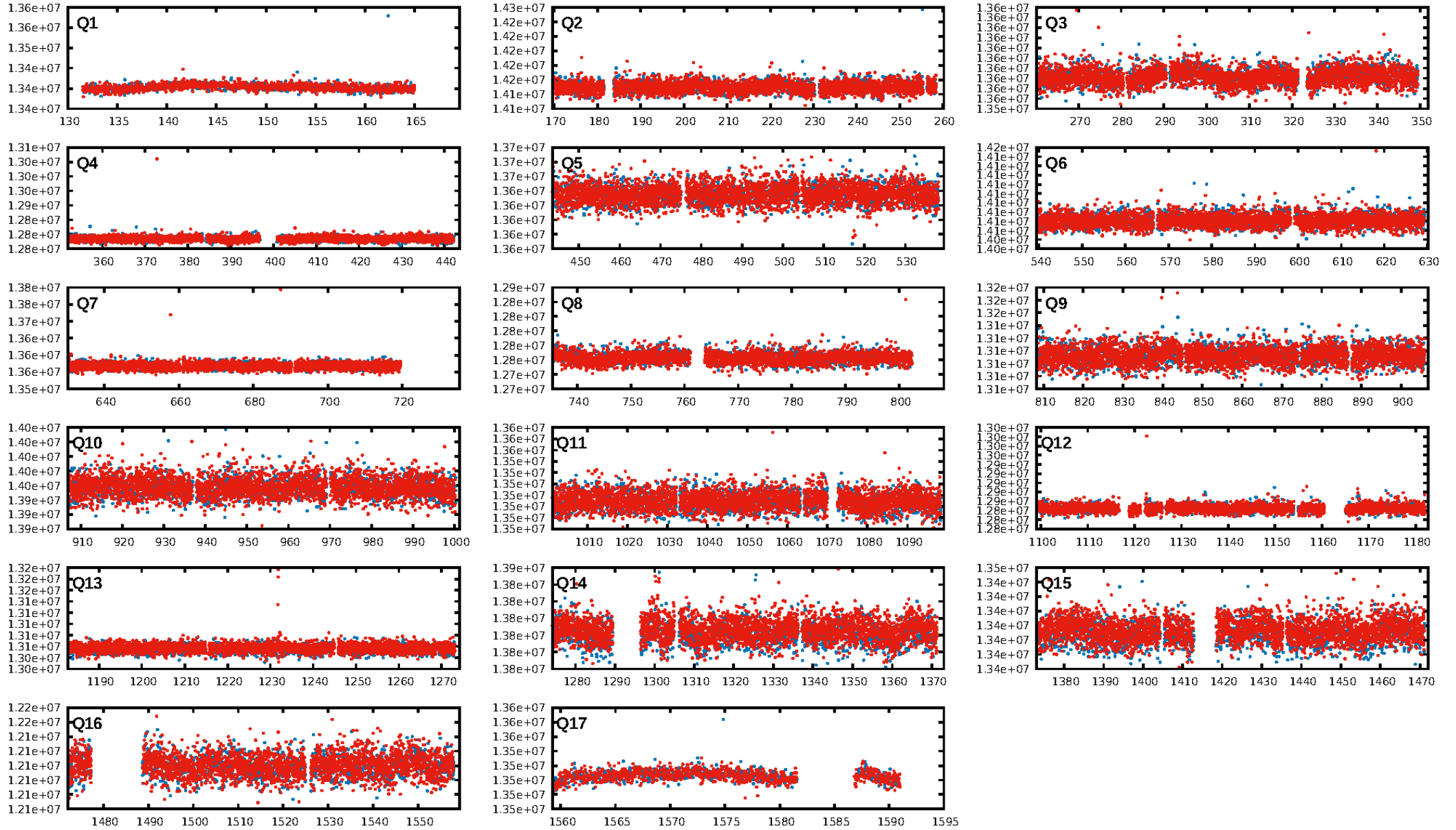
DV Fit Results:

Period = 0.56660 [0.05219] d
Epoch = 131.9763 [26.1633] BKJD
Rp/R* = 0.0001 [0.0263]
a/R* = 1.10 [74.20]
b = 0.60 [458.29]
Seff = 3225.36 [913.23]
Teff = 1922 [136] K
Rp = 0.01 [2.15] Re
a = 0.0124 [0.0021] AU
Ag = 55081.14 [33560182.21] [0.00σ]
Teffp = 45516 [6933795] K [0.01σ]

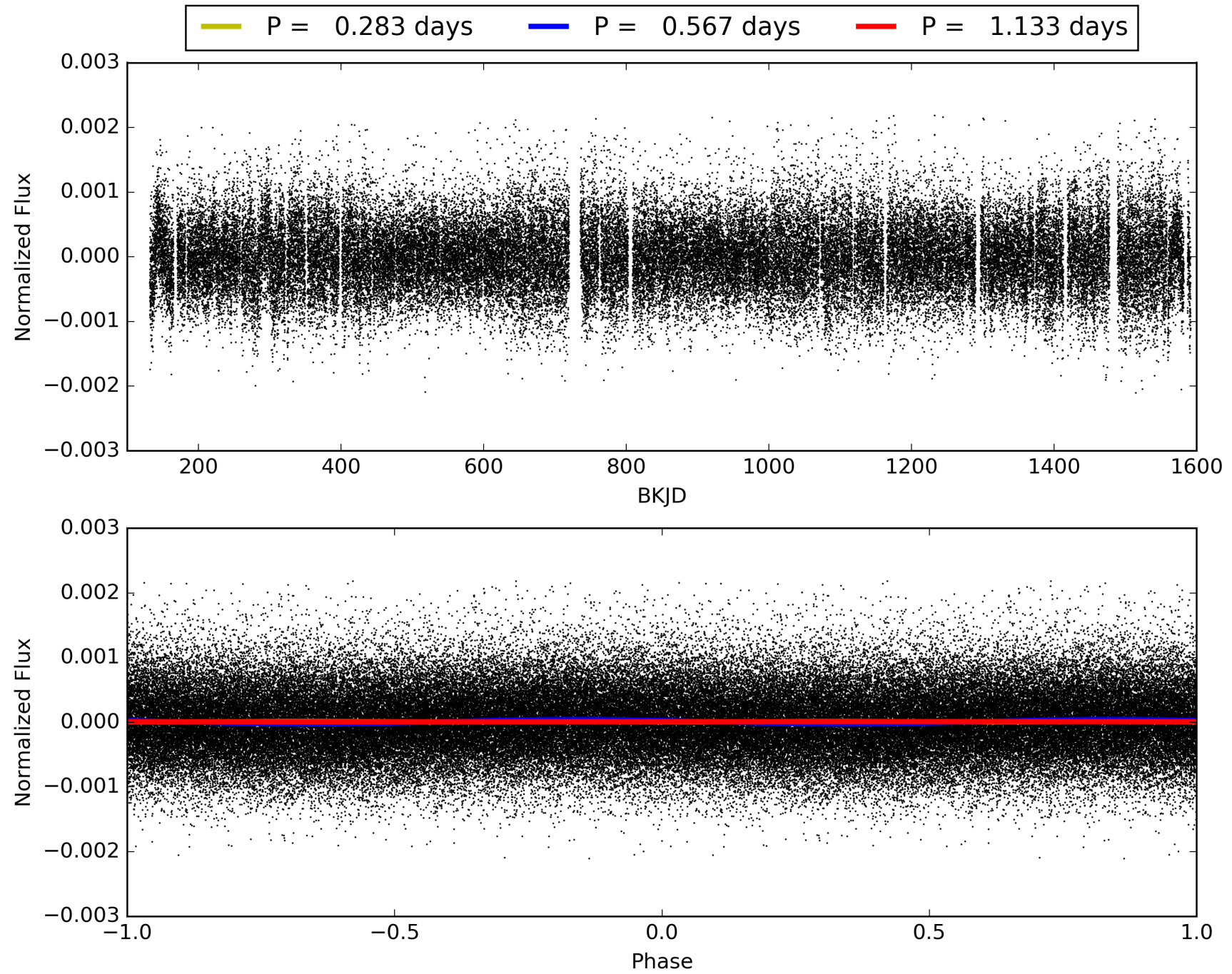
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2266/2266]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 2.095 arcsec [3.16σ]
KicOffset-rm: 2.005 arcsec [3.09σ]
OotOffset-st: 3/4/1/3 [11]
KicOffset-st: 3/4/1/3 [11]
DiffImageQuality-fgm: 0.36 [4/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007281217-01, PDC Light Curves

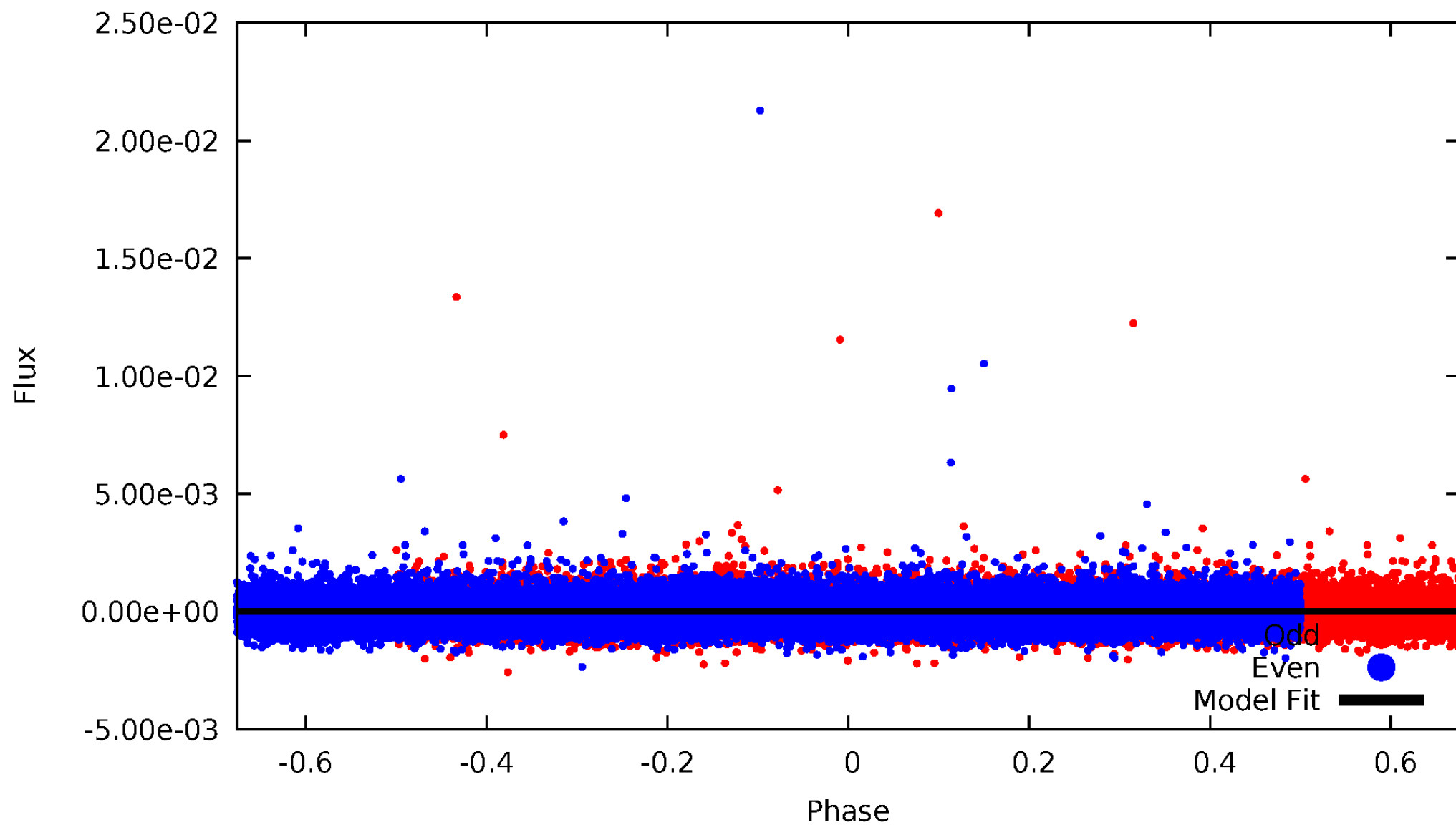


TCE 007281217-01



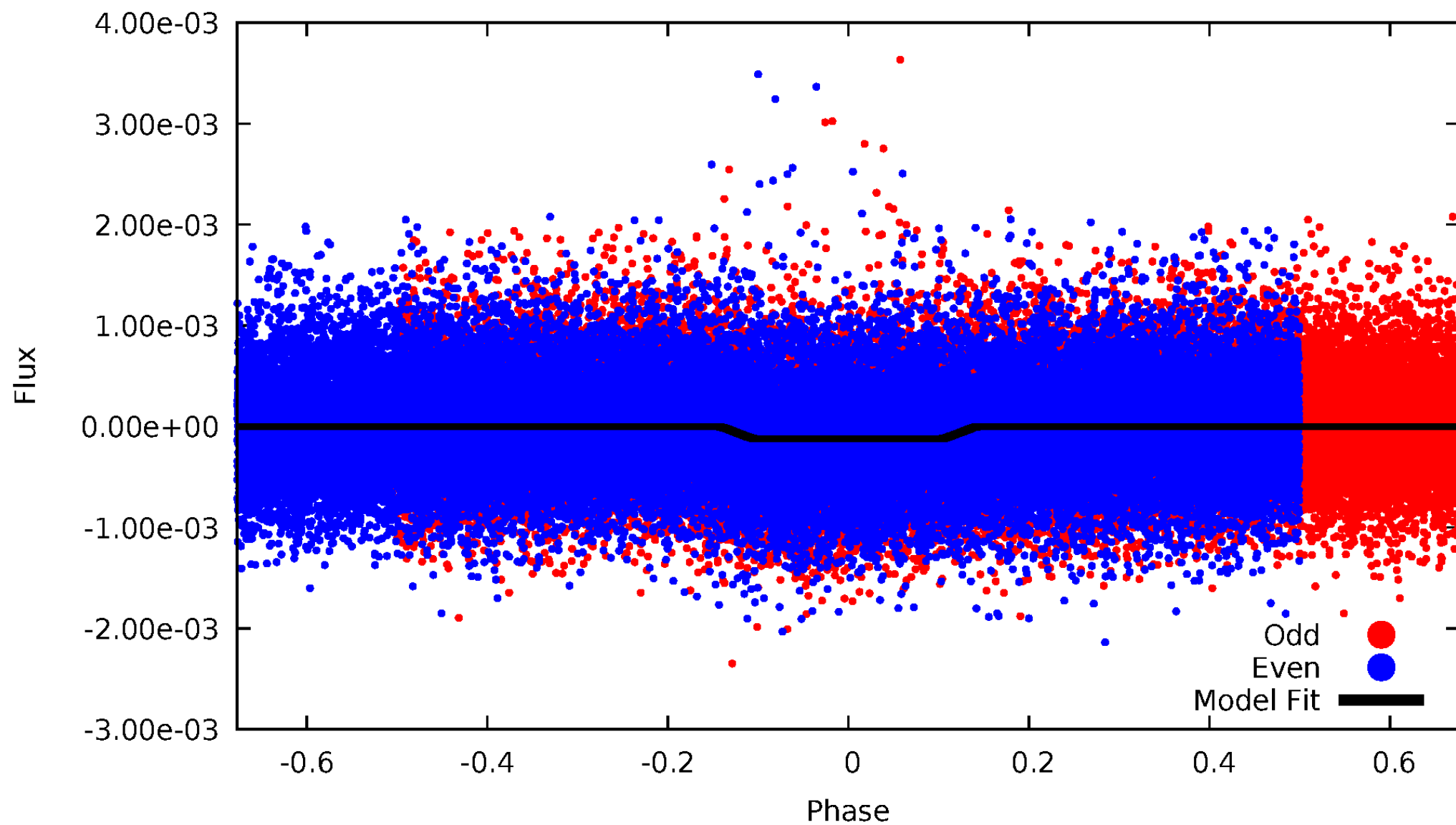
DV Odd/Even

TCE 007281217-01



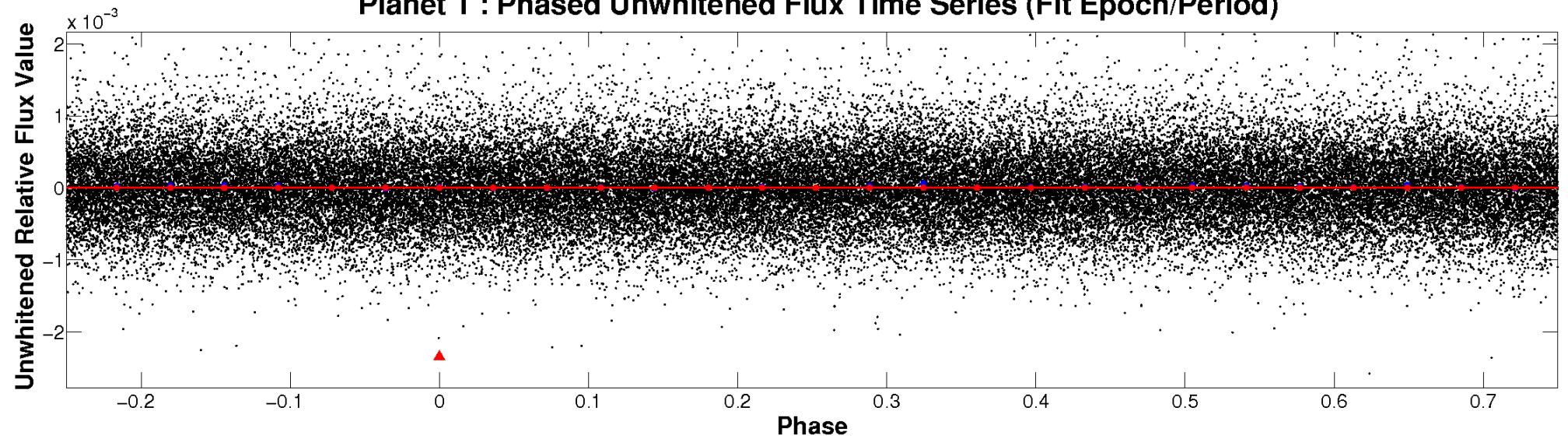
ALT Odd/Even

TCE 007281217-01

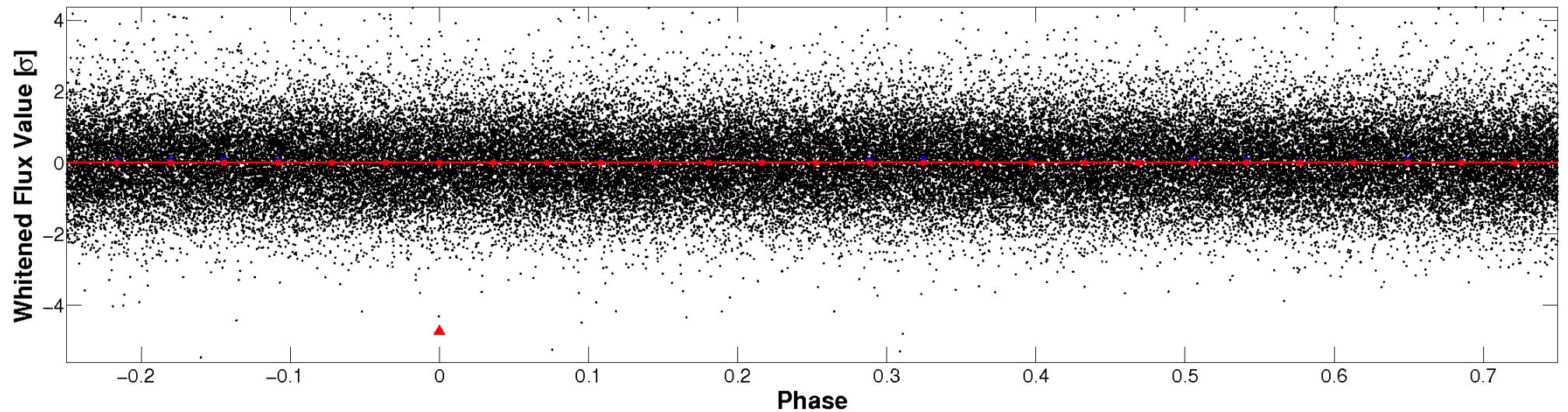


Non-Whitened Vs. Whitened Light Curve

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

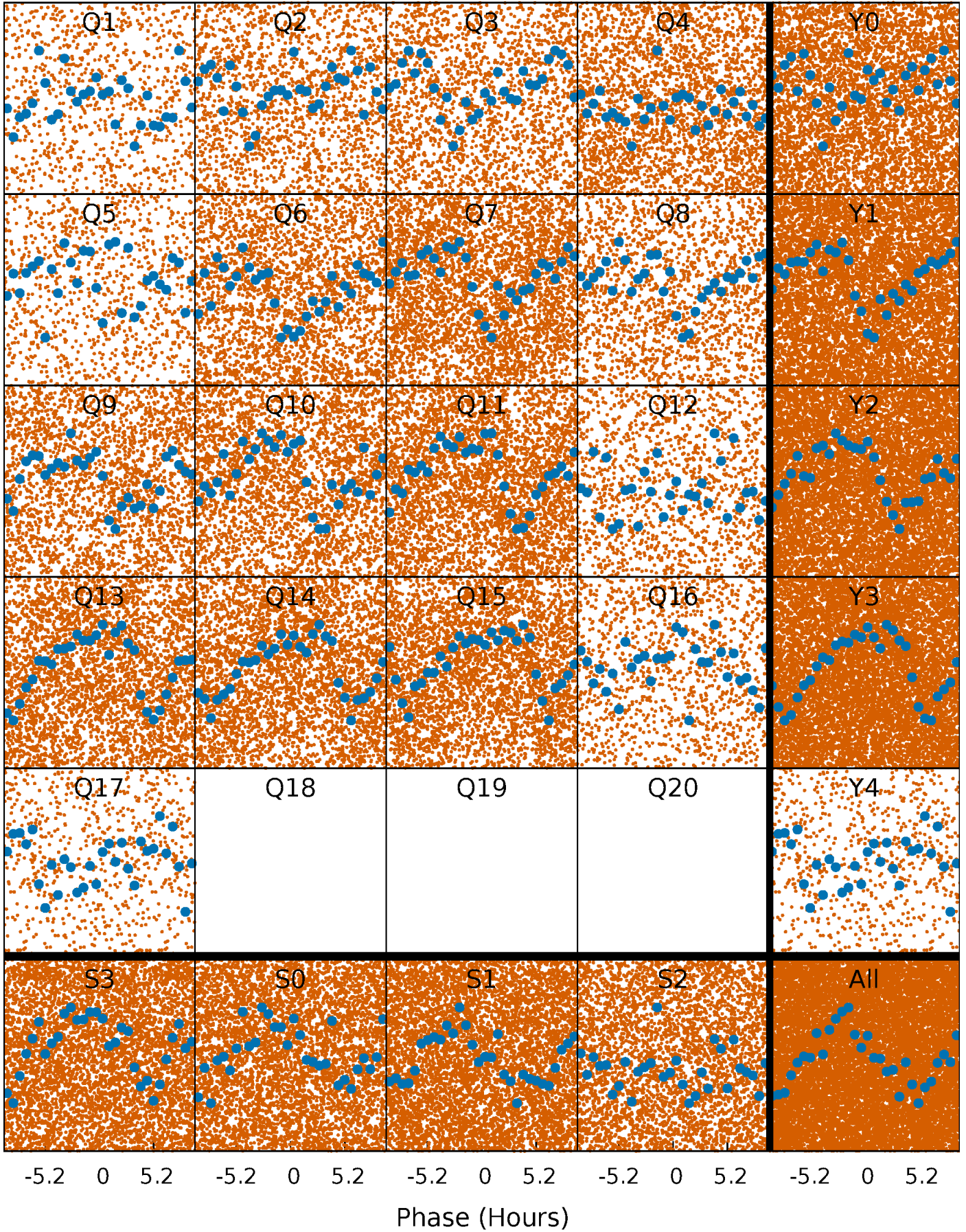


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



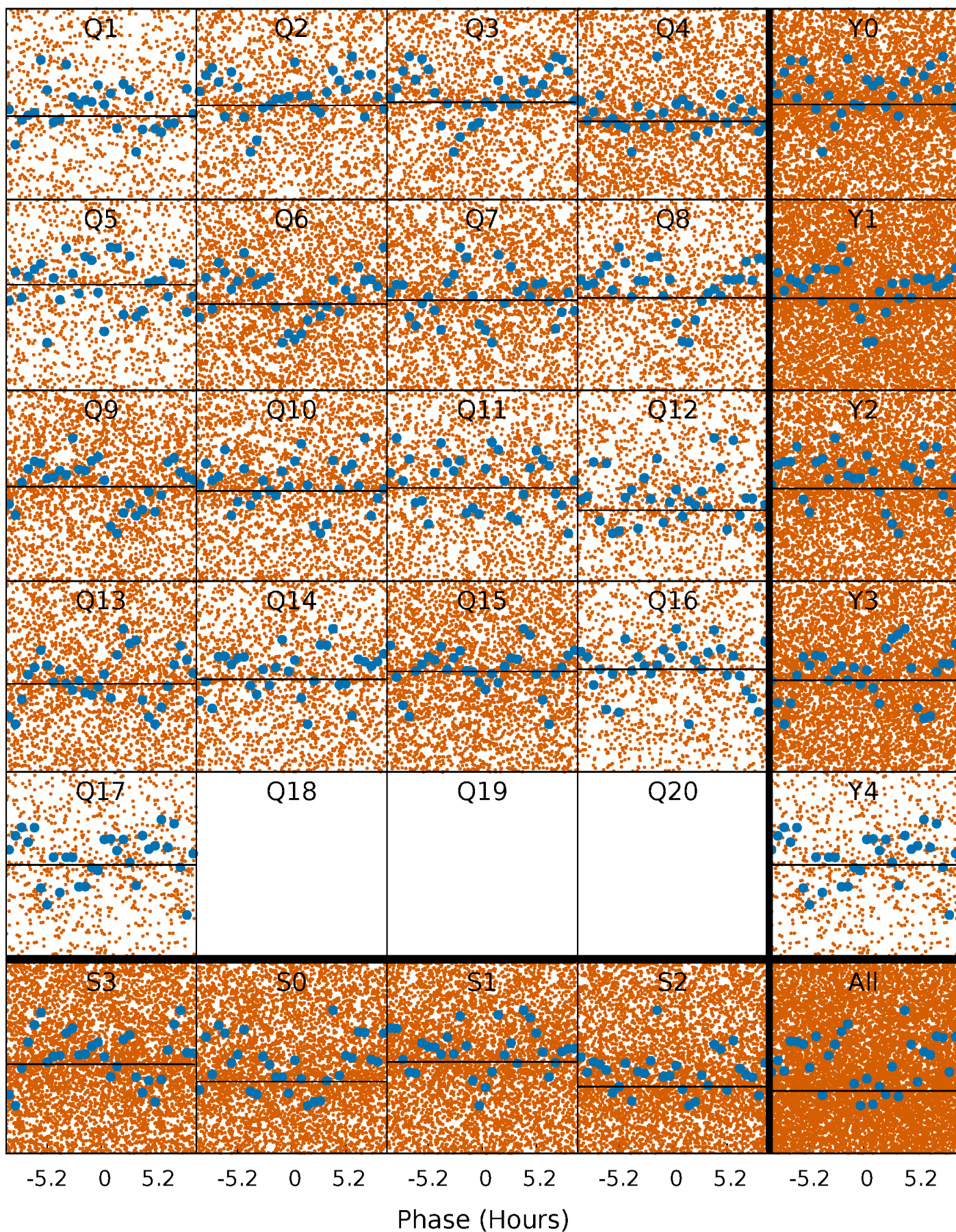
PDC Quarter-Phased Transit Curves

TCE 007281217-01 P= 0.566605 Days $T_0=131.976286$ (BKJD)



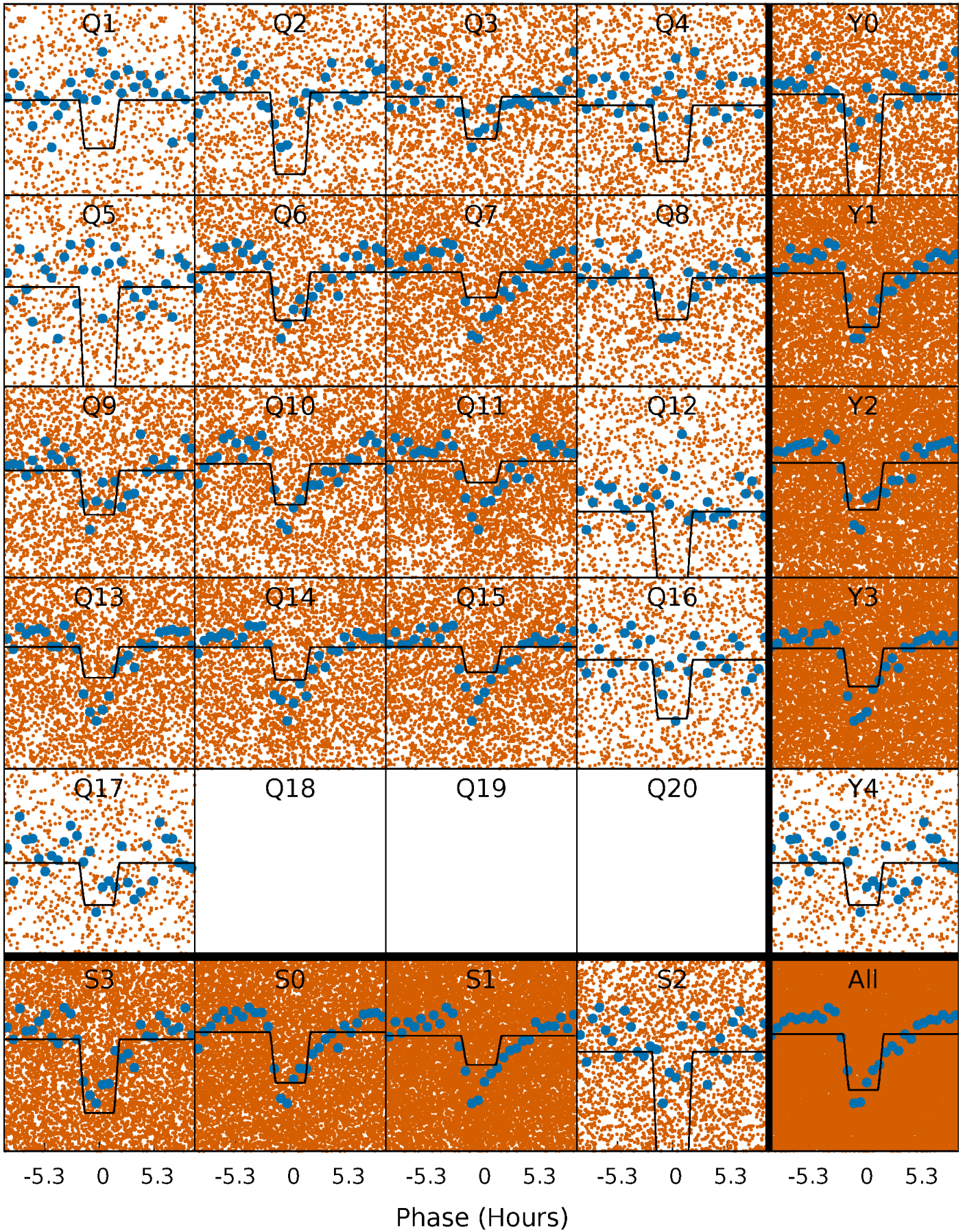
DV Quarter-Phased Transit Curves

TCE 007281217-01 P= 0.566605 Days $T_0=131.976286$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

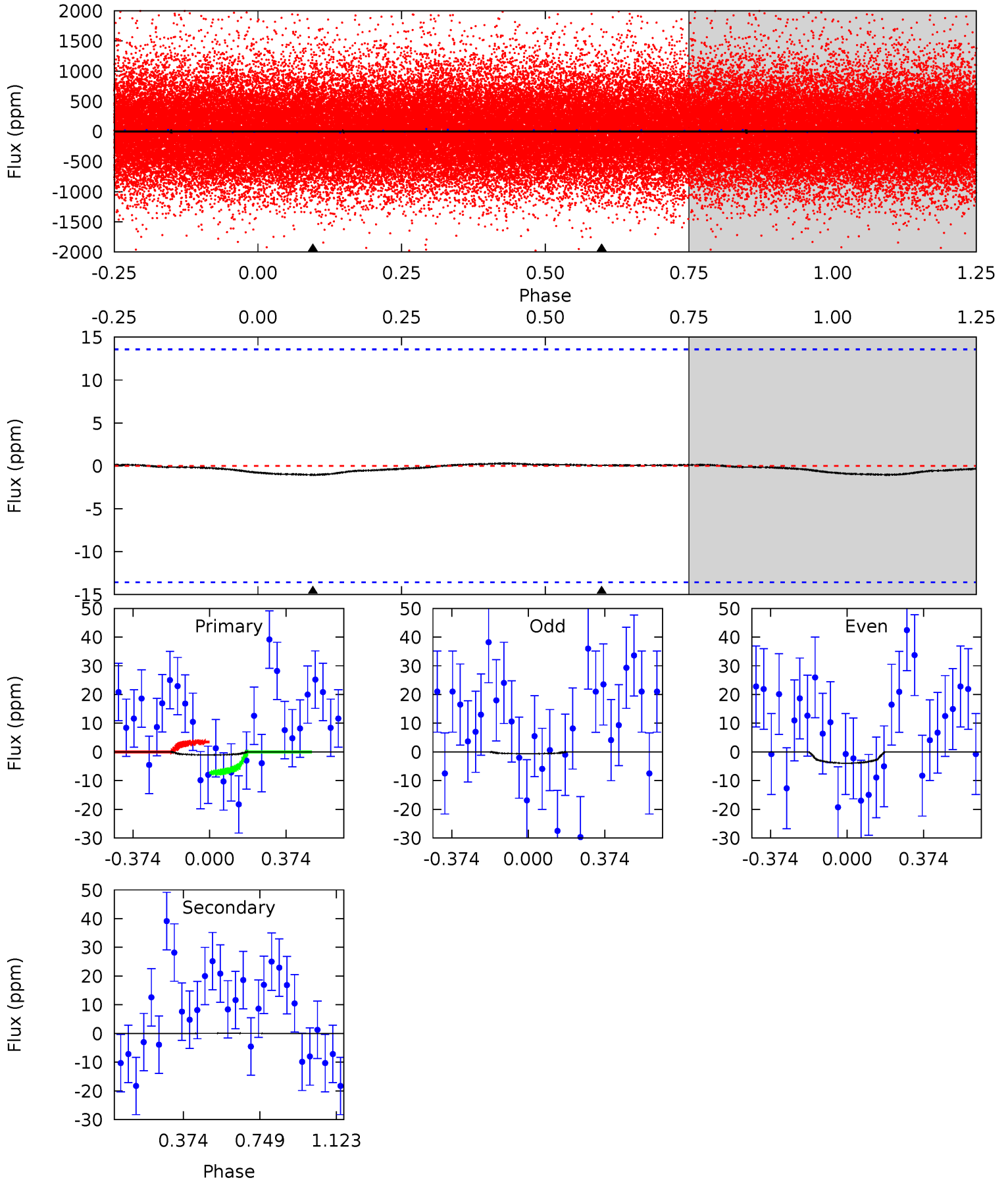
TCE 007281217-01 P= 0.566801 Days $T_0=131.824809$ (BKJD)



DV Model-Shift Uniqueness Test

007281217-01, P = 0.566605 Days, E = 131.409681 Days

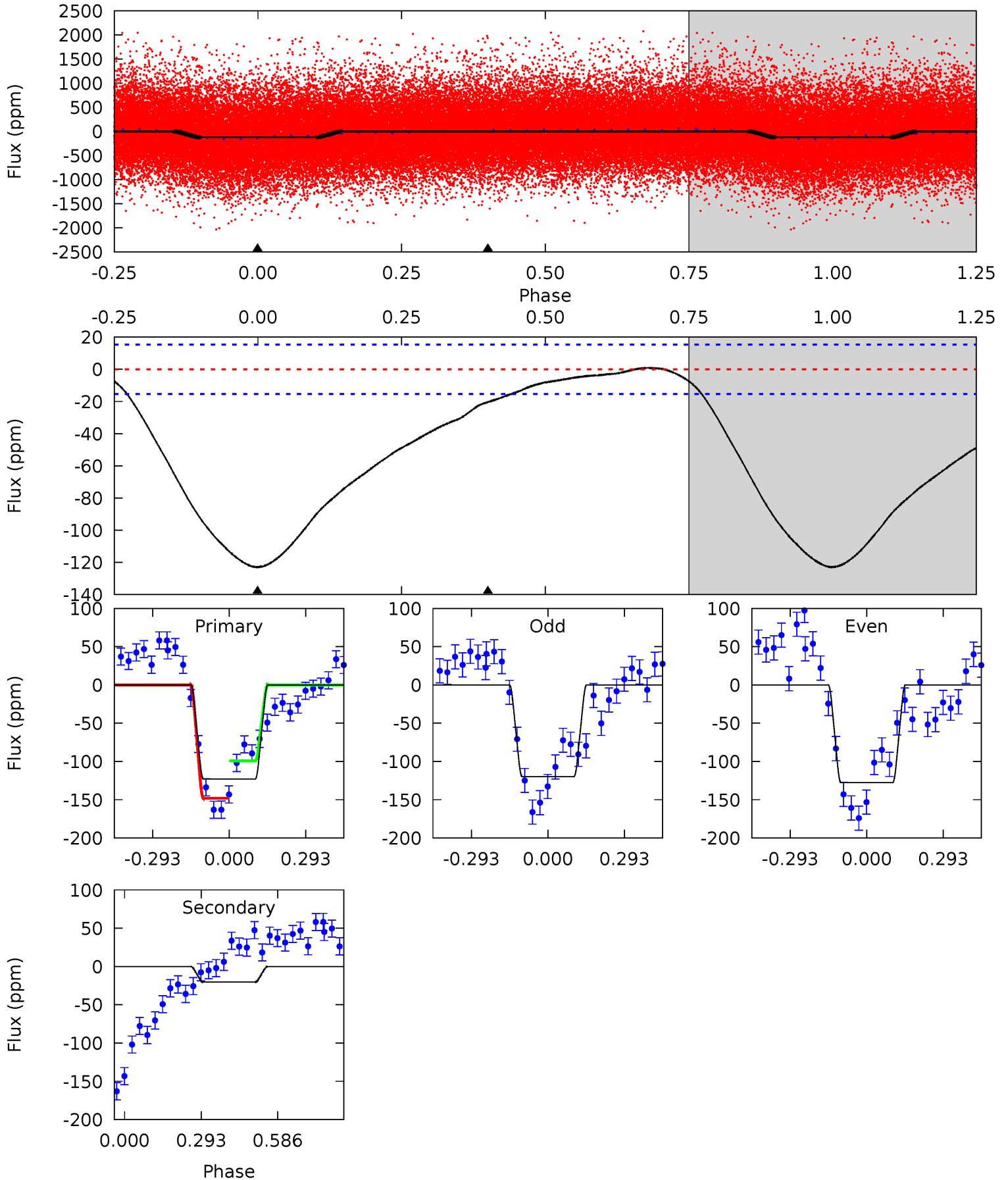
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.33	-0.02	0	0	4.28	0.89	0.04	0.33	0.33	-0.02	-0.02	0.53	-10.3	0.21	0.61



Alt Model-Shift Uniqueness Test

007281217-01, P = 0.566801 Days, E = 131.258008 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.8	5.77	0	0	4.33	1.05	0.65	34.8	34.8	5.77	5.77	1.11	0.94	0.01	6.80



Stellar Parameters For KIC 007281217

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5593^{+167}_{-167}	$4.584^{+0.051}_{-0.119}$	$-0.500^{+0.300}_{-0.300}$	$0.752^{+0.149}_{-0.064}$	$0.791^{+0.095}_{-0.071}$	$2.619^{+0.581}_{-0.978}$
	+3%/-3%	+1%/-3%	+60%/-60%	+20%/-9%	+12%/-9%	+22%/-37%
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 007281217-01 / KOI 6851.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 3	$1.50^{+1.51}_{-1.05}$	2727^{+152}_{-139}	-2929^{+416}_{-256}	$-0.000^{+0.200}_{-0.201}$
Alt.	-20 ± 4	$1.82^{+1.71}_{-1.26}$	2718^{+162}_{-134}	2767^{+1876}_{-5485}	$0.499^{+4.772}_{-0.376}$

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 $A_{obs} \gg 1.0$

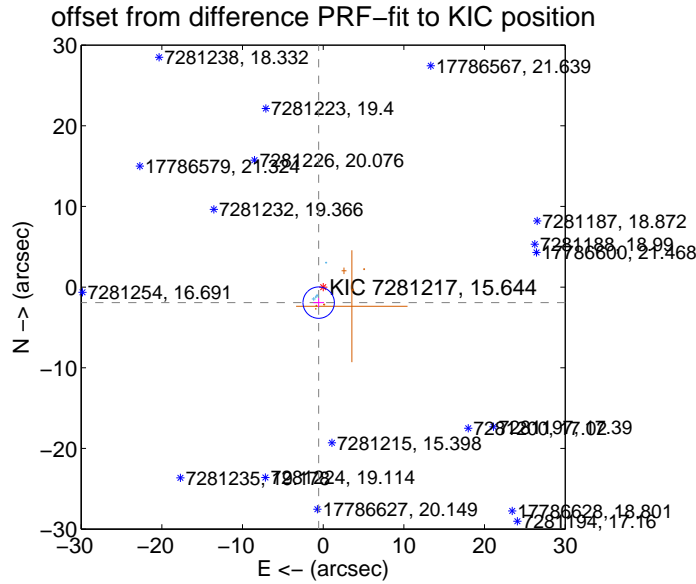
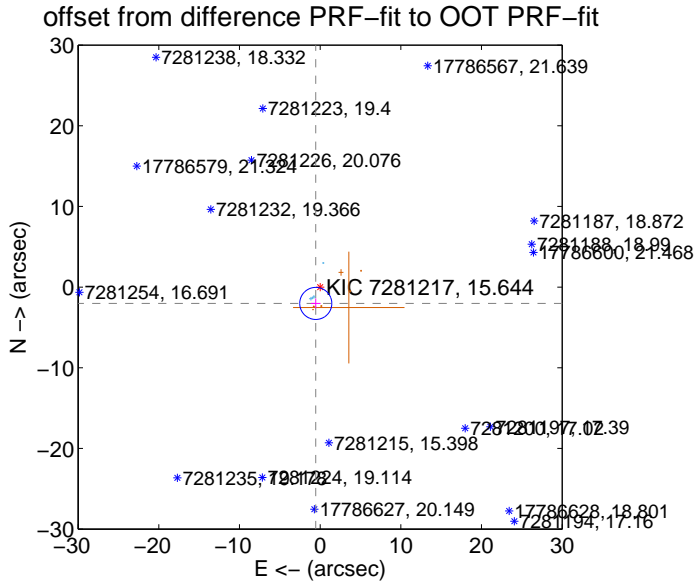
DV Centroid Data

Supplemental centroid analysis for 007281217-01. Kepler magnitude: 15.64. Transit SNR 0.00

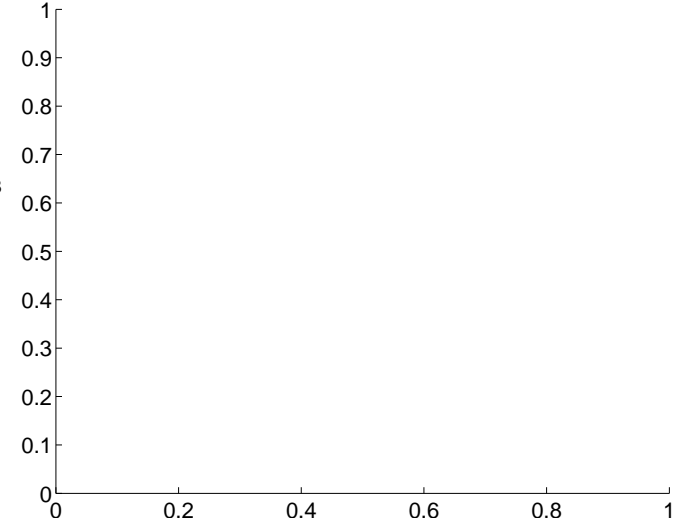
There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.095 \pm 0.663	3.16	0.542 \pm 0.594	-2.023 \pm 0.606
PRF-fit source offset from KIC position	2.005 \pm 0.648	3.09	0.559 \pm 0.670	-1.925 \pm 0.560
photometric centroid source offset	—	—	—	—

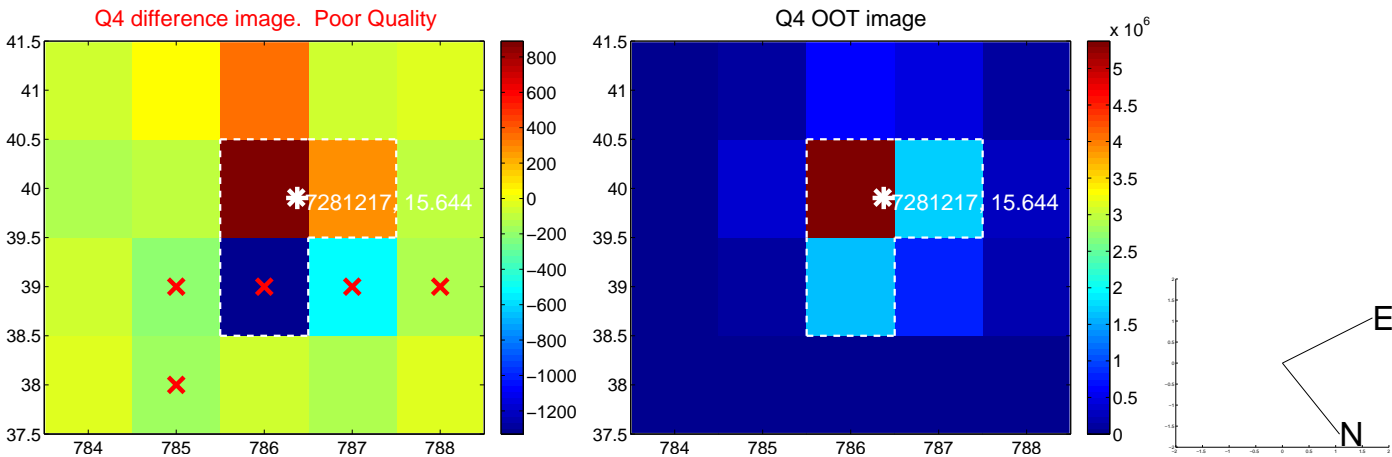
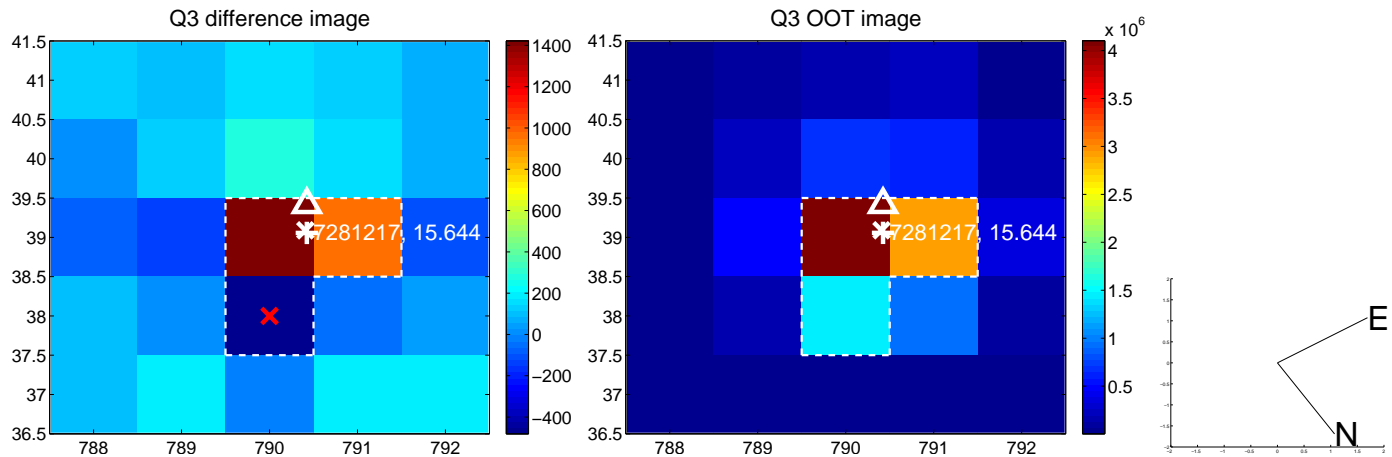
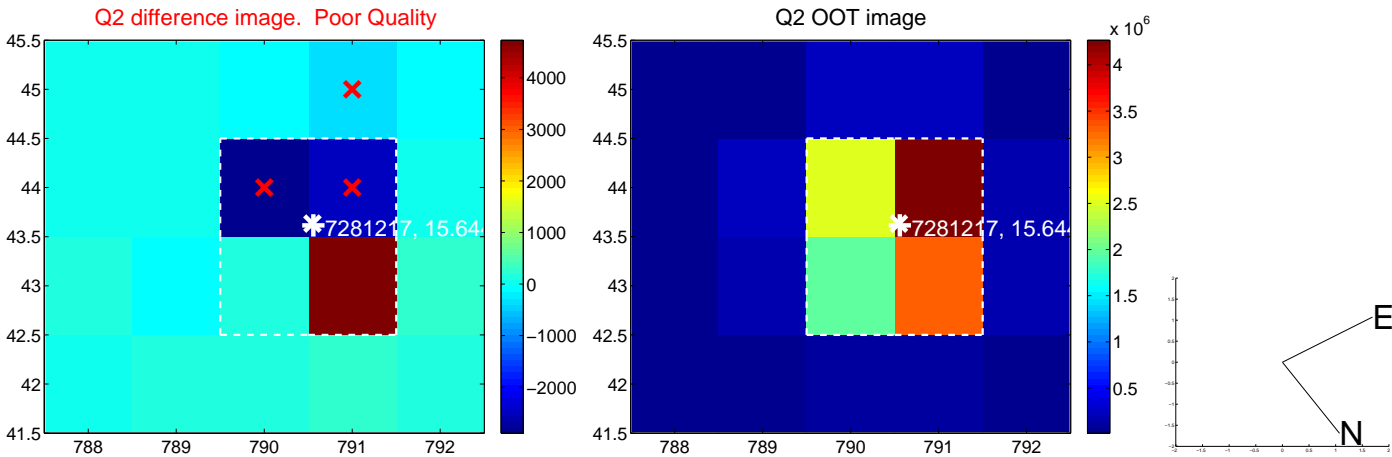
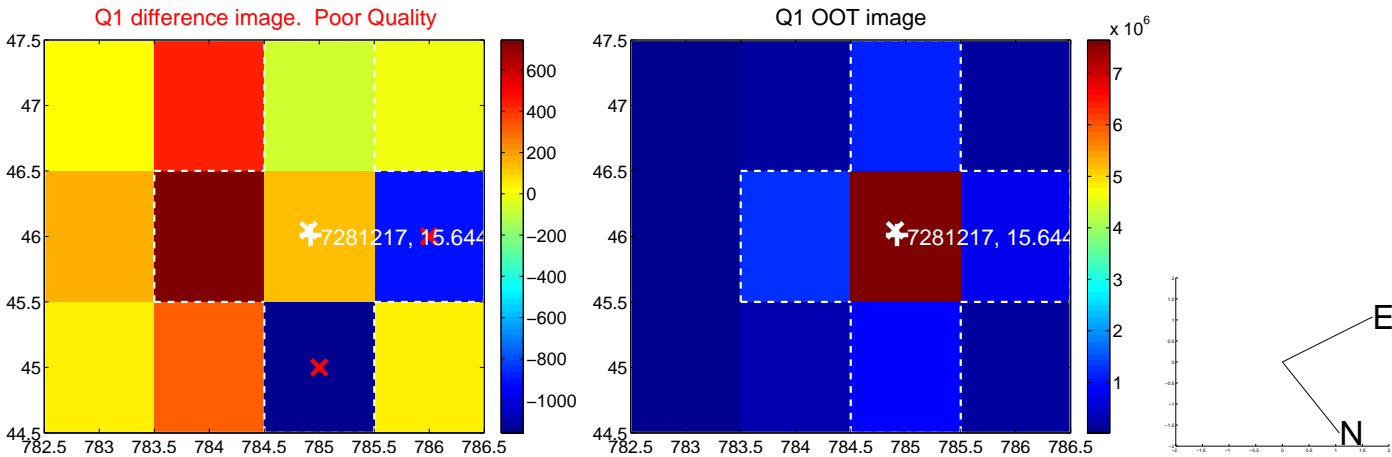


There are no photometric centroids

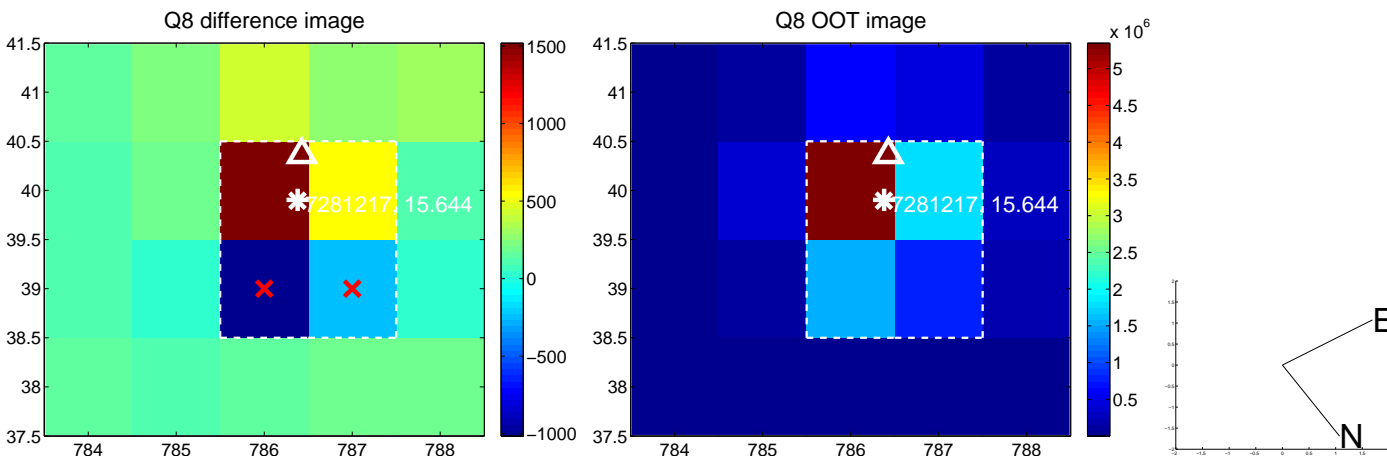
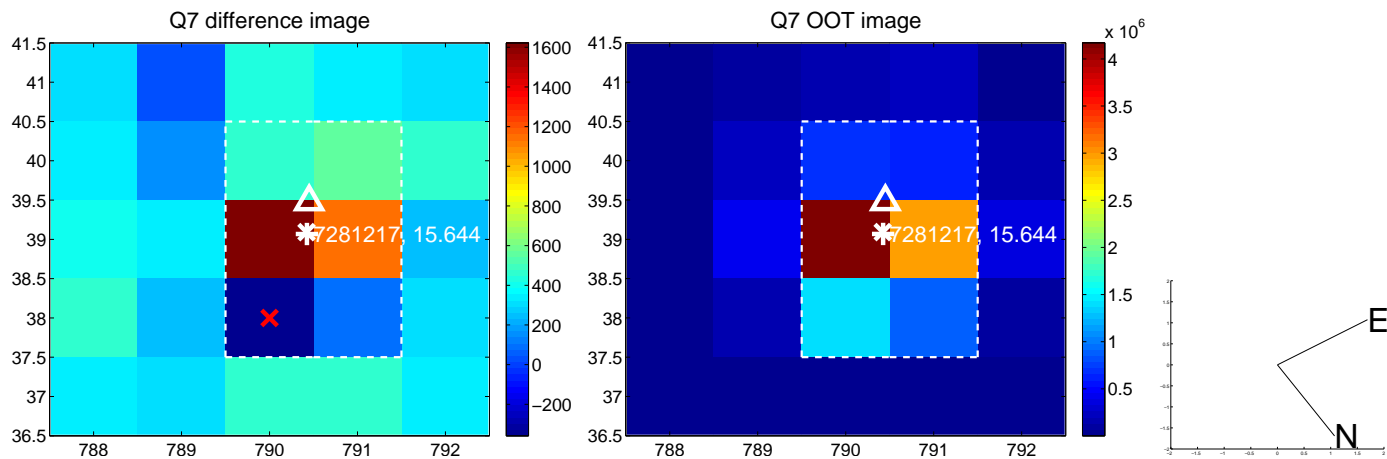
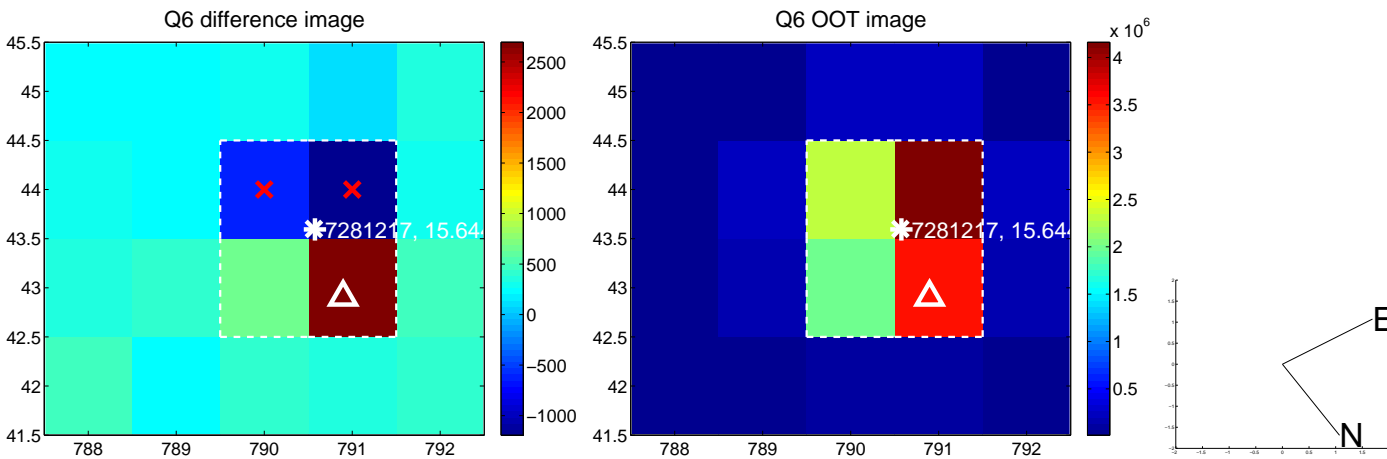
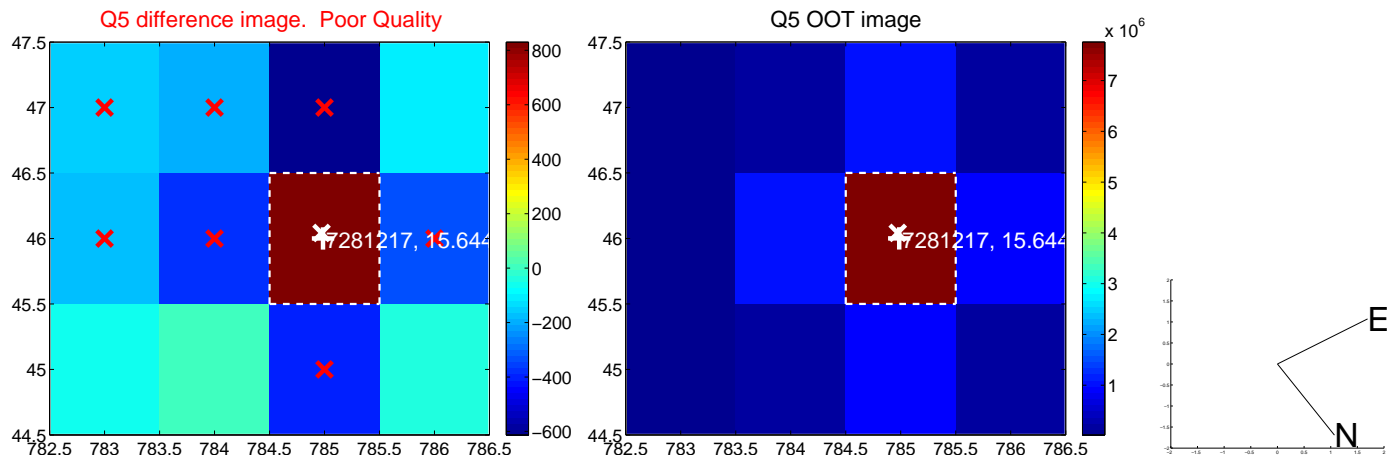


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

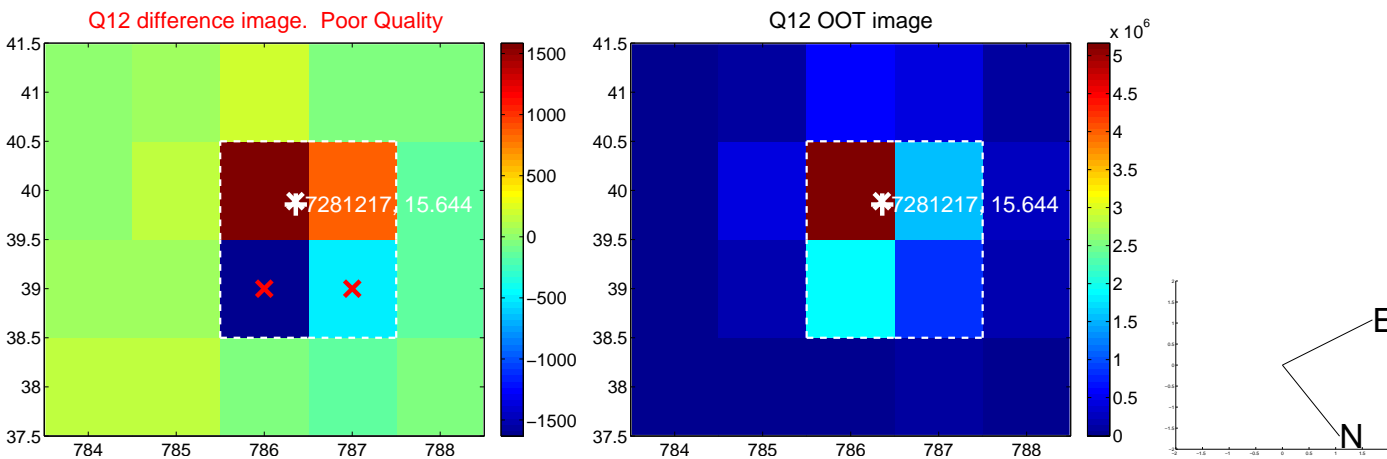
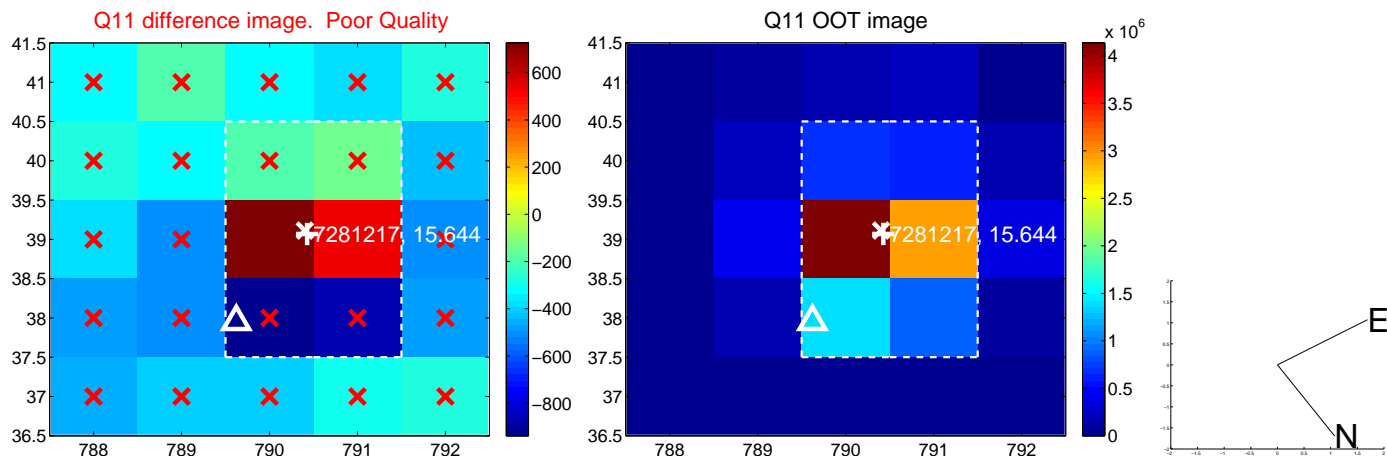
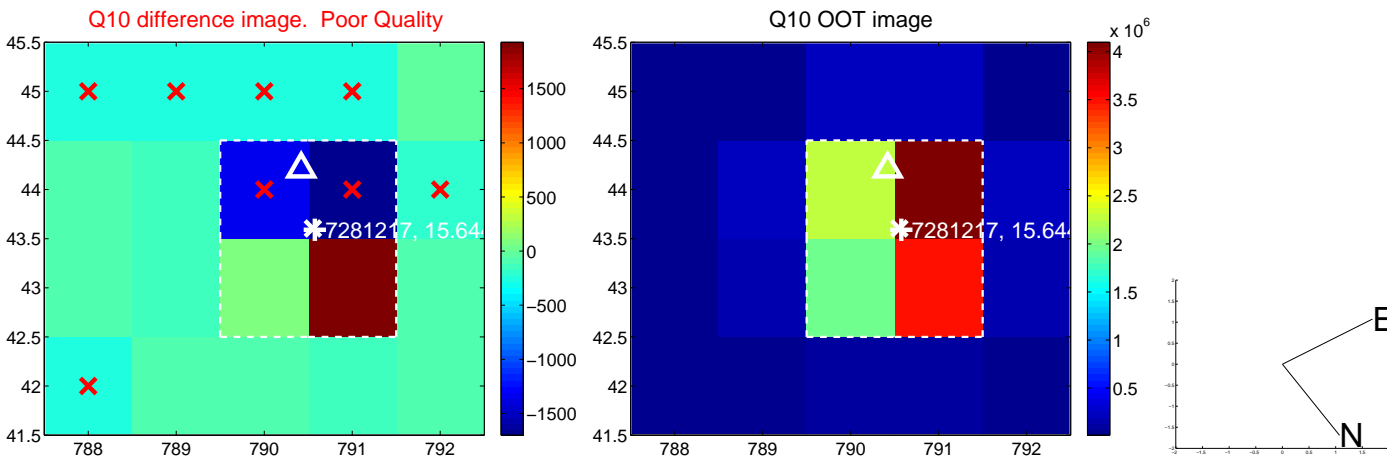
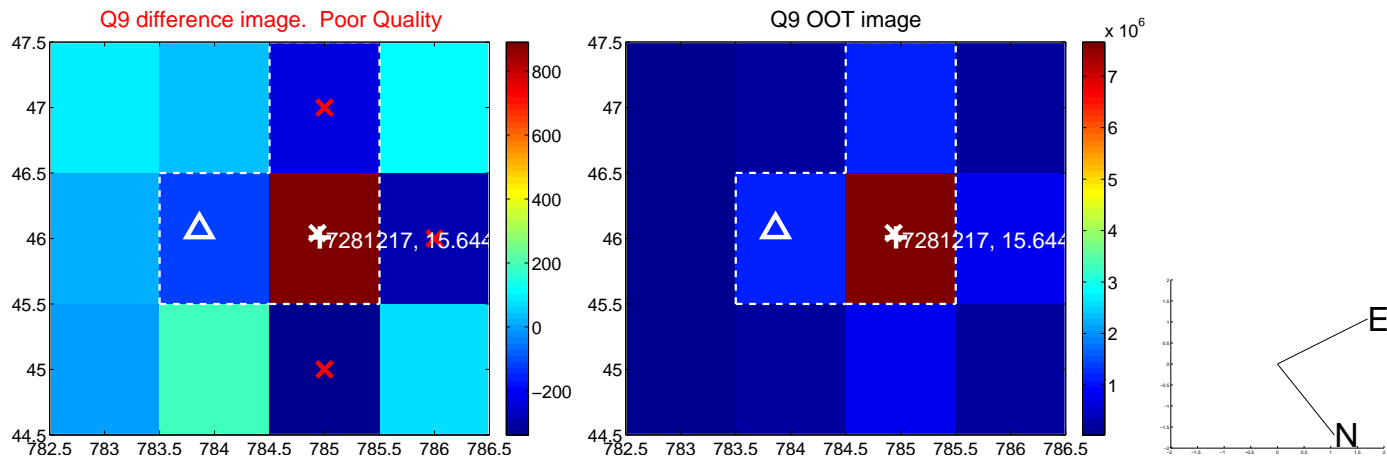
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



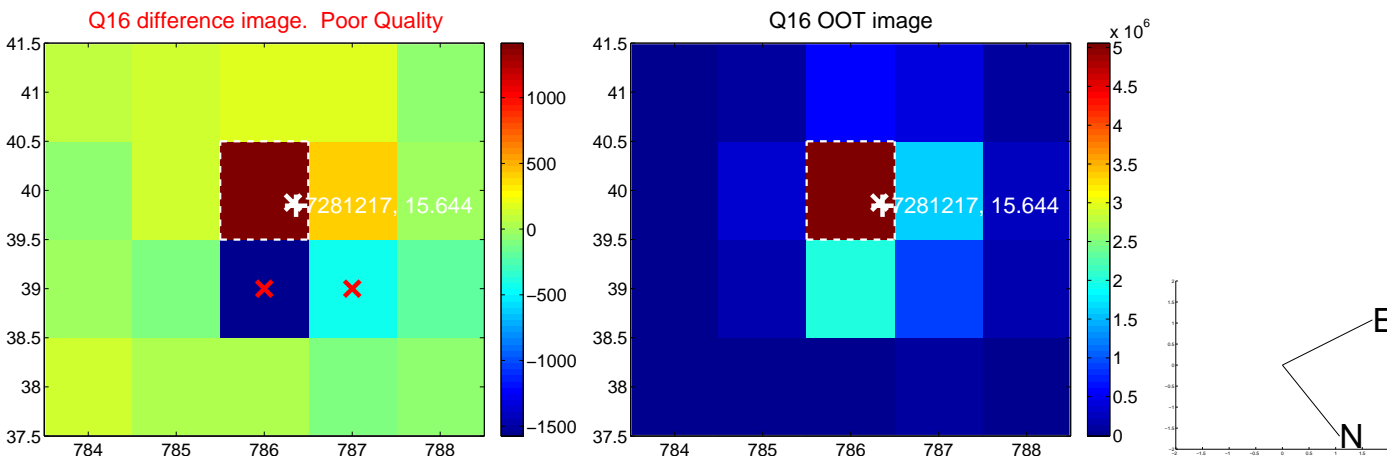
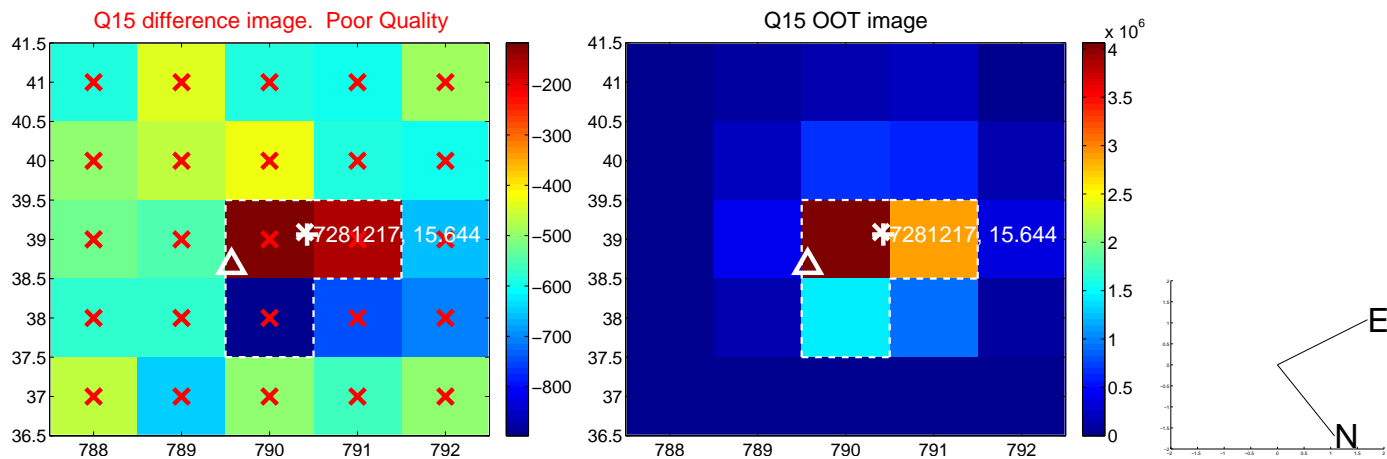
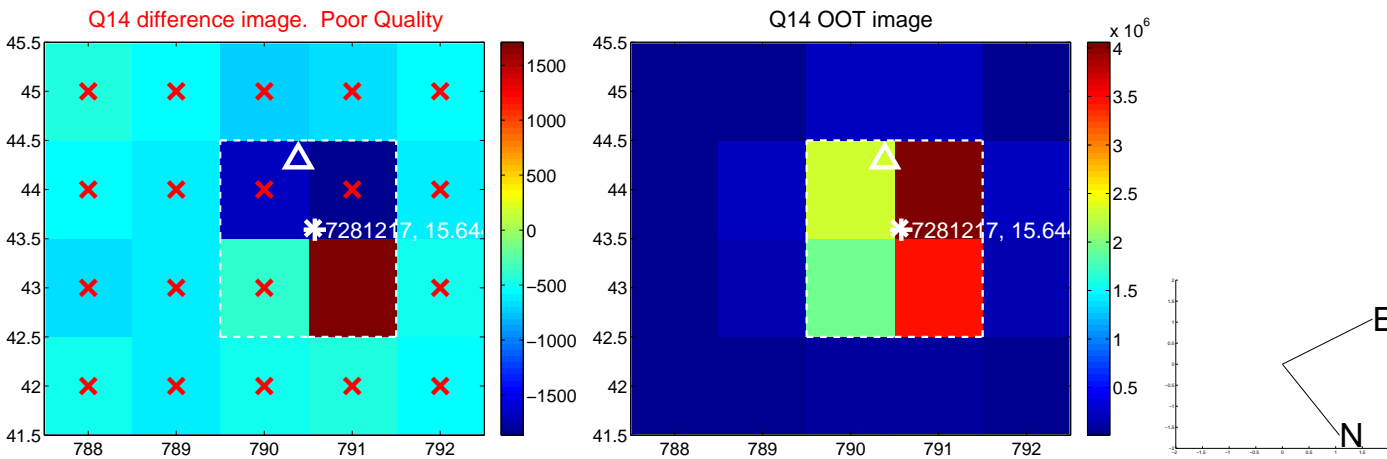
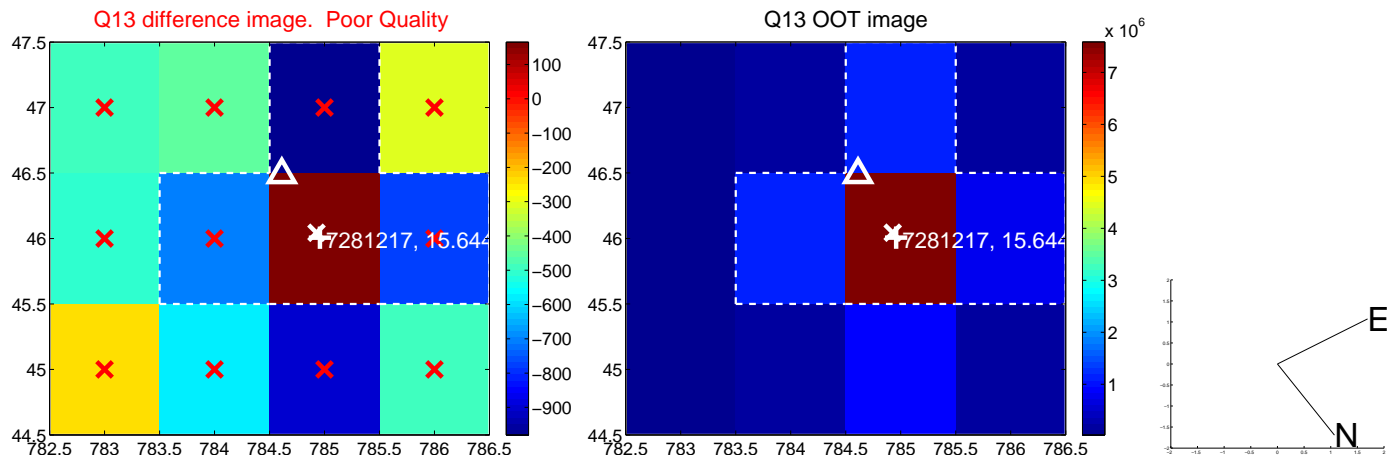
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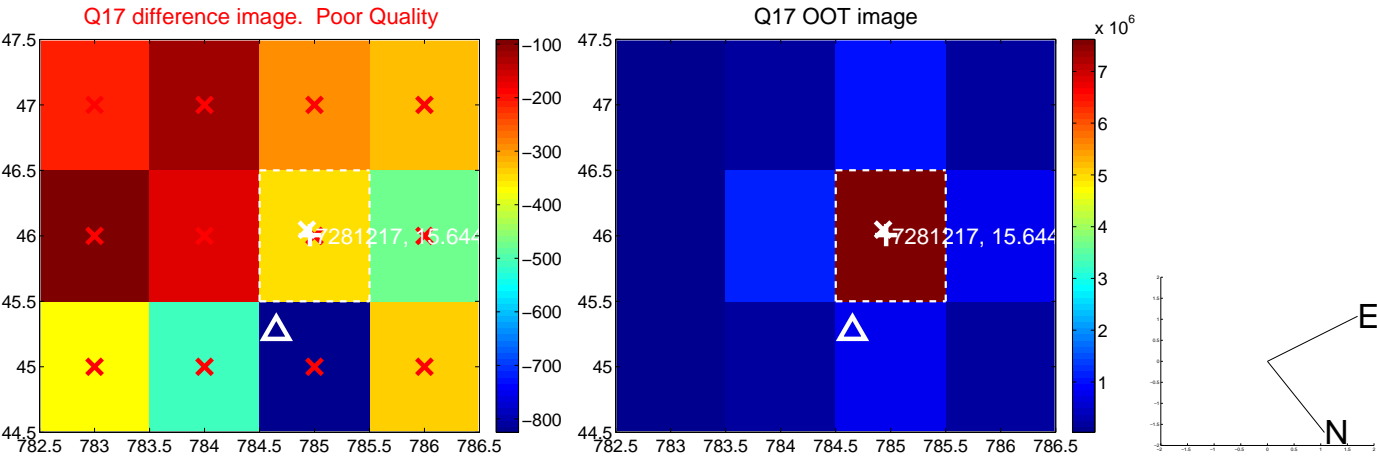
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination

