

KIC 007281980

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})
007281980-01	OBS	No	0.566764	131.867075	35.5	4.361	10.4	9.9	0.93	5818	0.61	4759.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007281980-01	OBS	FP	0.00	1	0	1	1	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST—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.

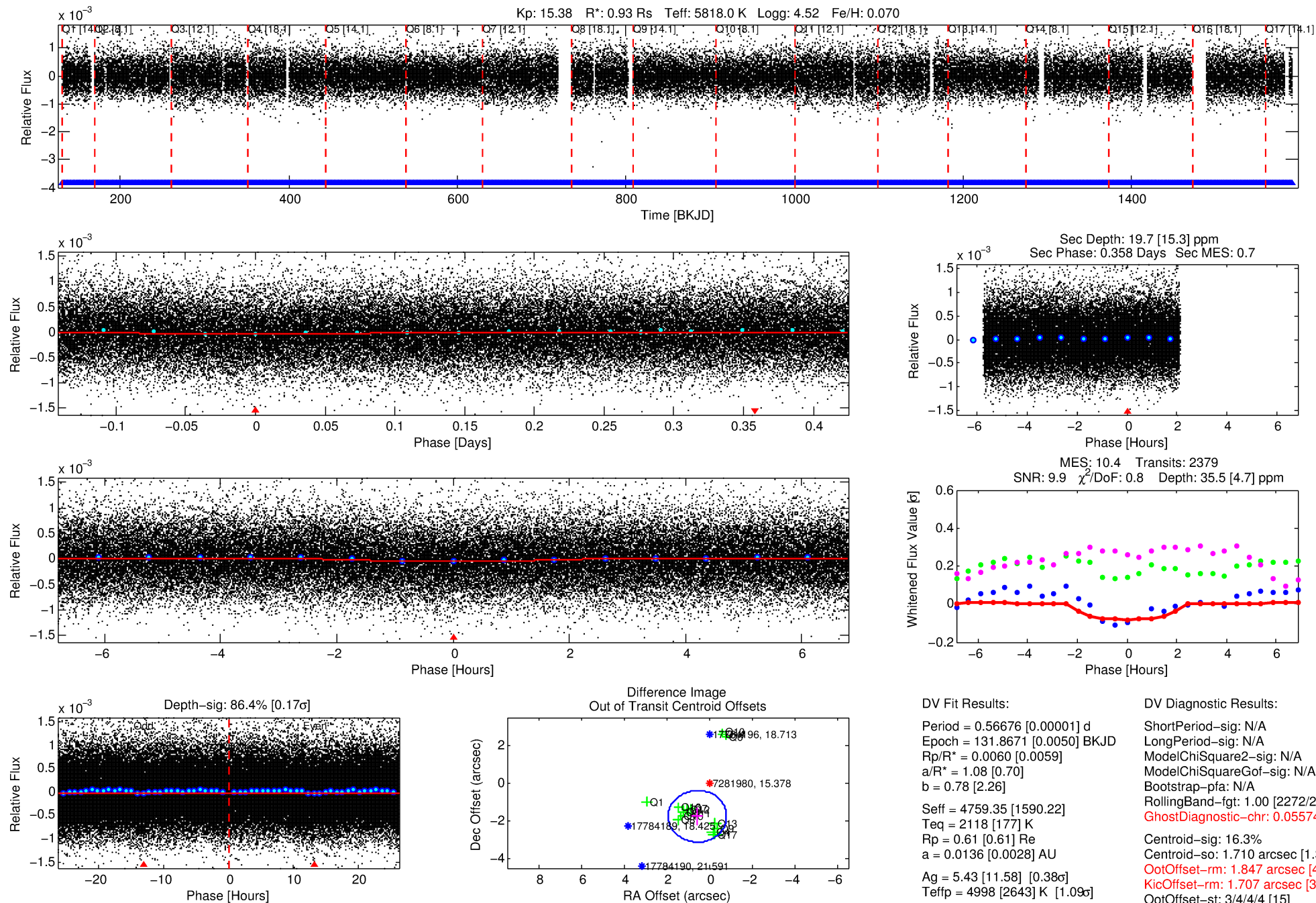
Ephemeris Match Information For 007281980-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist ($''$)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
007281980-01	7281980	RR-Lyr-pri	7198959	1:1	1108.7	79	267	7.86	15.38	17314.00	Direct-PRF	0	3.30	21.74

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col 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 $\sigma_P < 5.0$ and $\sigma_T < 5.0$. 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: 7281980 Candidate: 1 of 1 Period: 0.567 d



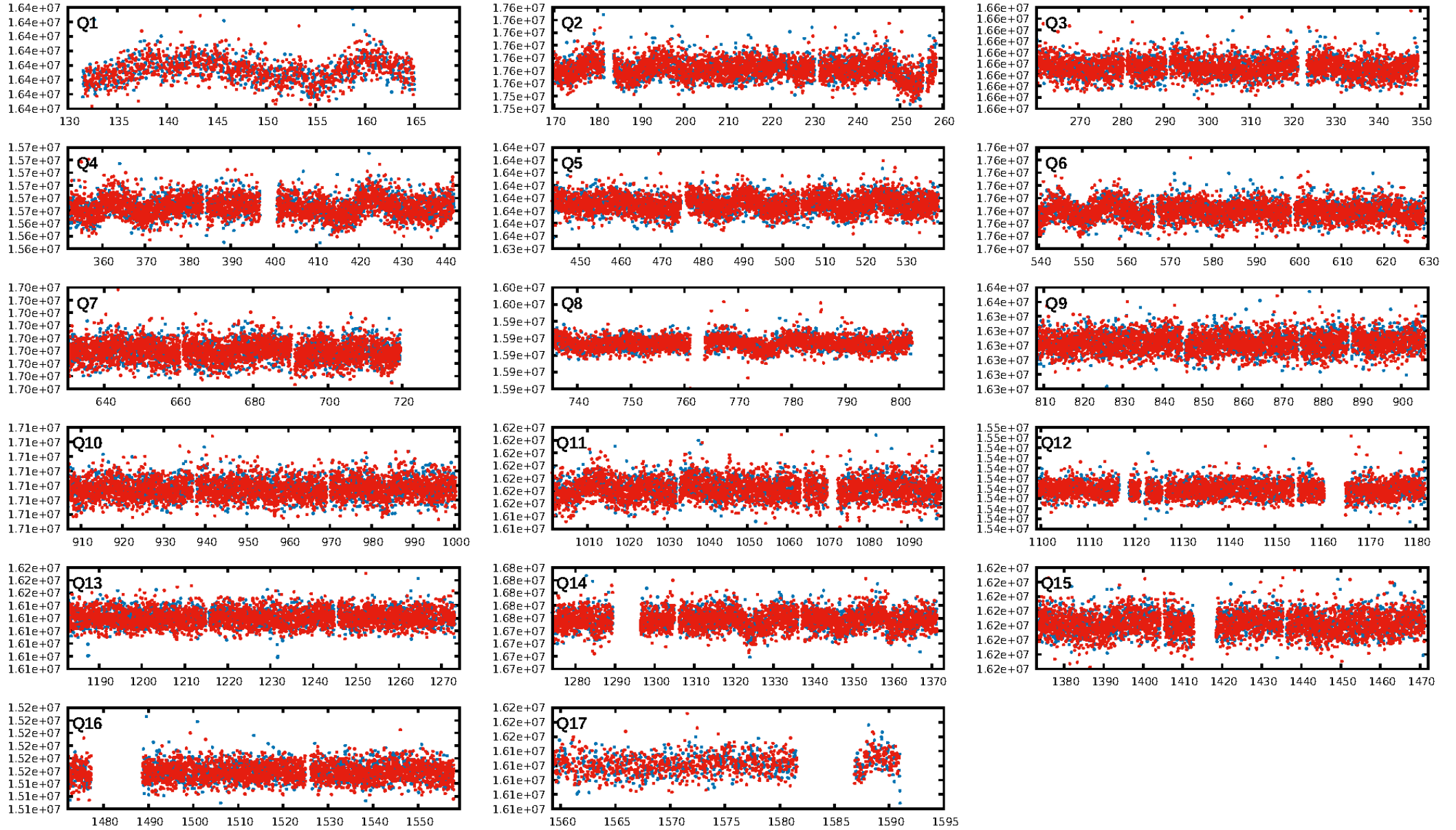
DV Fit Results:

Period = 0.56676 [0.00001] d
Epoch = 131.8671 [0.0050] BKJD
Rp/R* = 0.0060 [0.0059]
a/R* = 1.08 [0.70]
b = 0.78 [2.26]
Seff = 4759.35 [1590.22]
Teff = 2118 [177] K
Rp = 0.61 [0.61] Re
a = 0.0136 [0.0028] AU
Ag = 5.43 [11.58] [0.38 σ]
Teffp = 4998 [2643] K [1.09 σ]

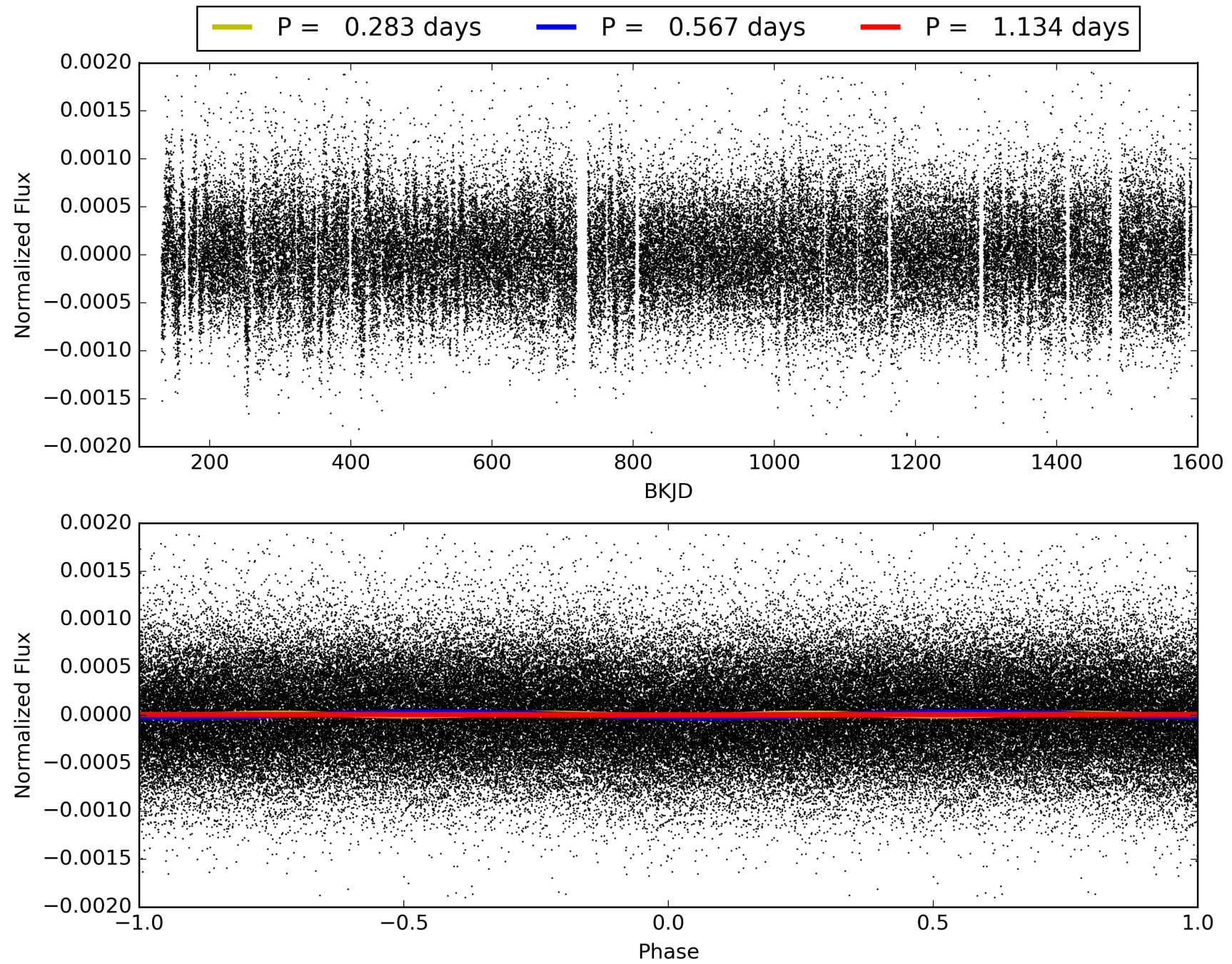
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2272/2272]
GhostDiagnostic-chr: 0.05574
Centroid-sig: 16.3%
Centroid-so: 1.710 arcsec [1.30 σ]
OotOffset-rm: 1.847 arcsec [4.04 σ]
KicOffset-rm: 1.707 arcsec [3.66 σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007281980-01, PDC Light Curves

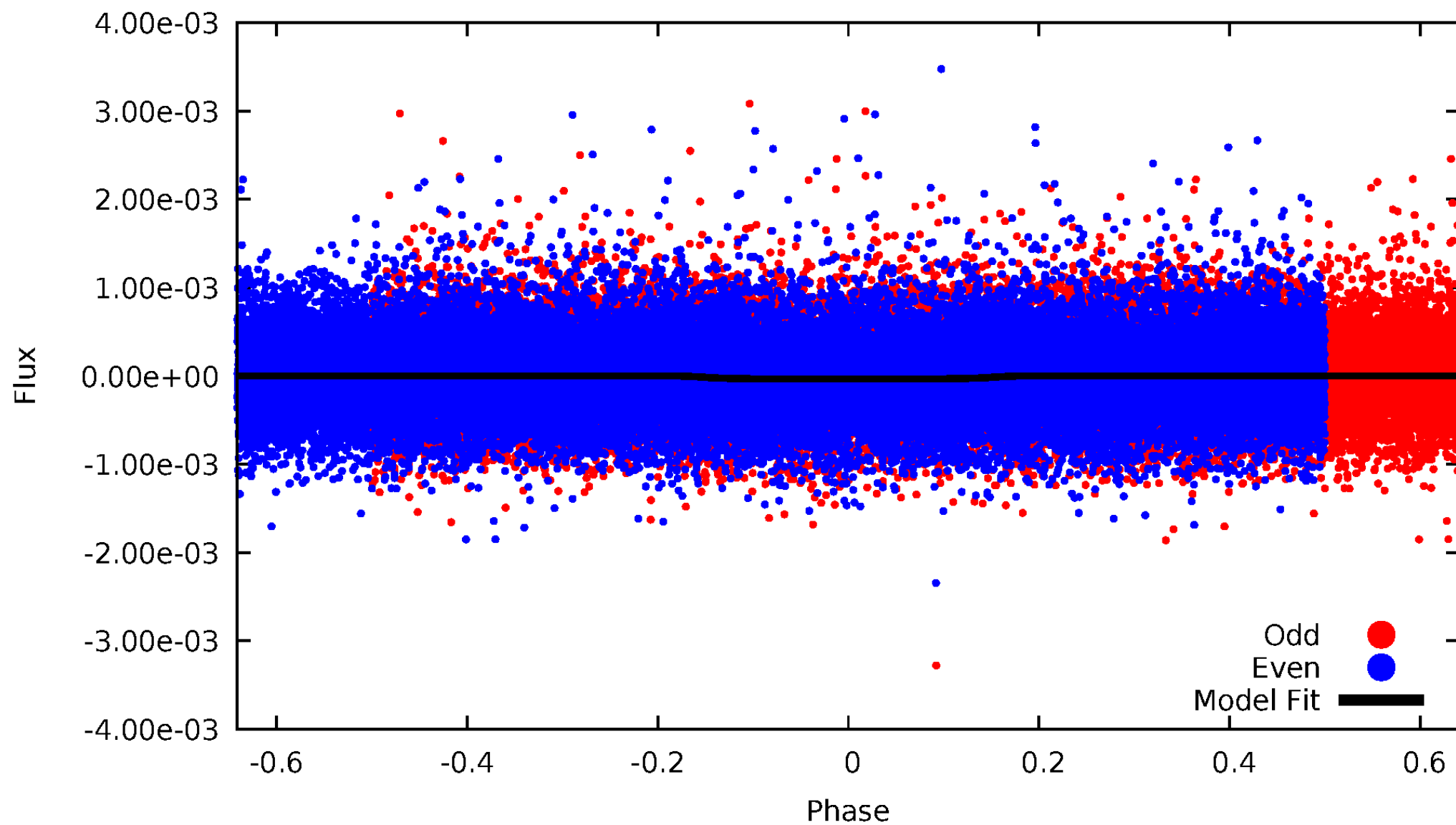


TCE 007281980-01



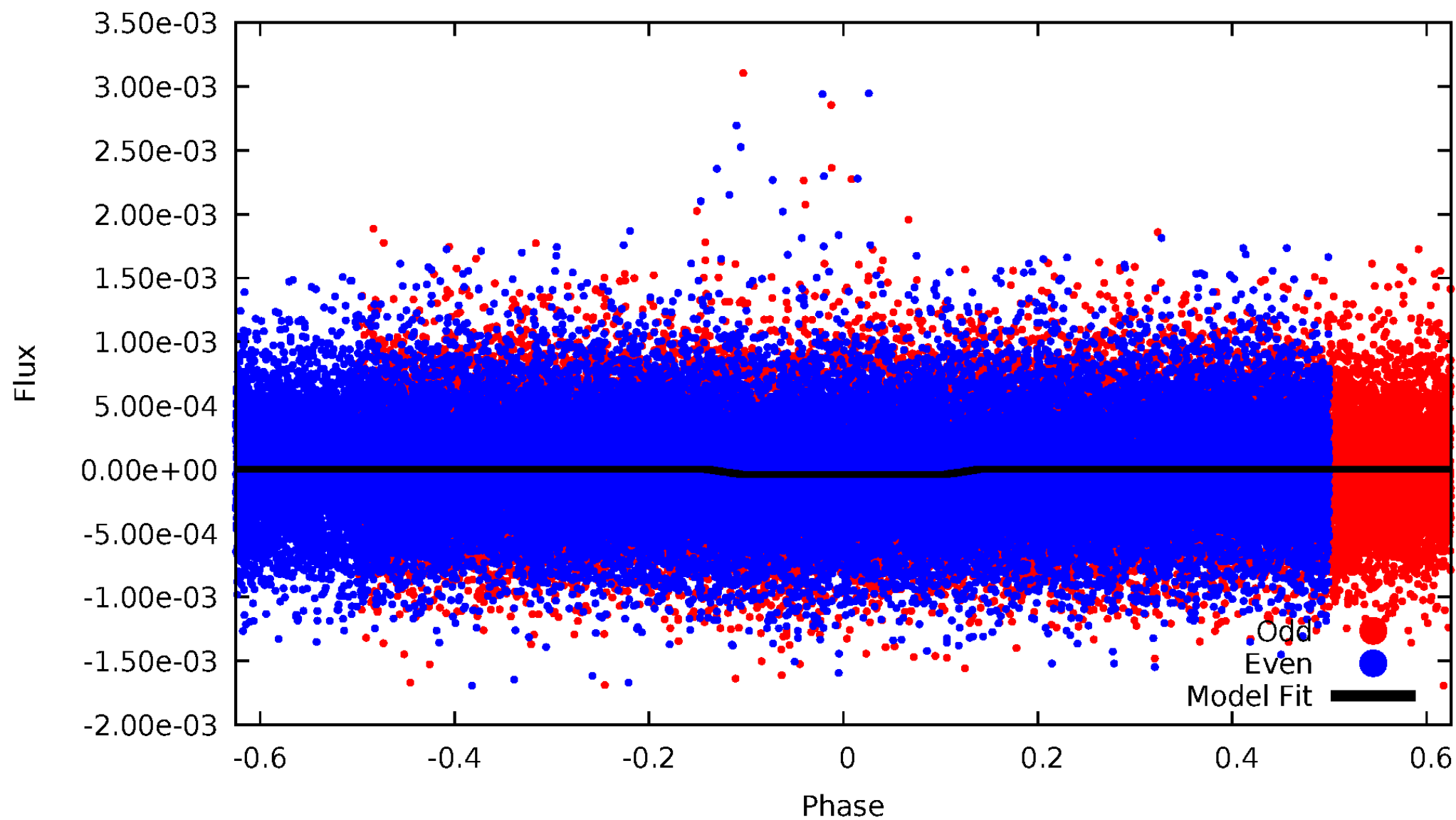
DV Odd/Even

TCE 007281980-01



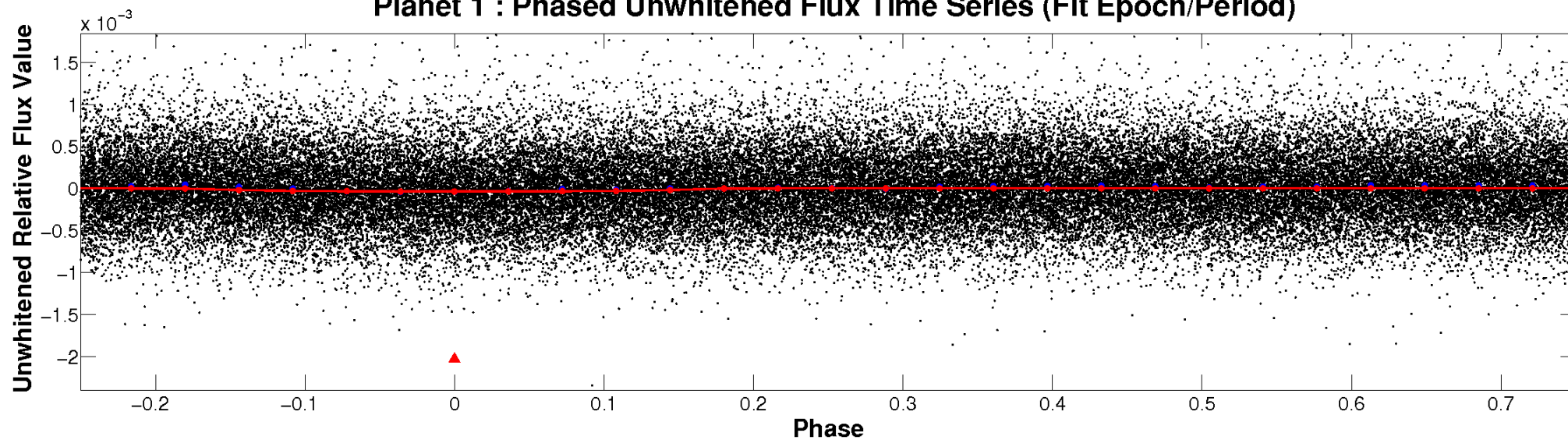
ALT Odd/Even

TCE 007281980-01

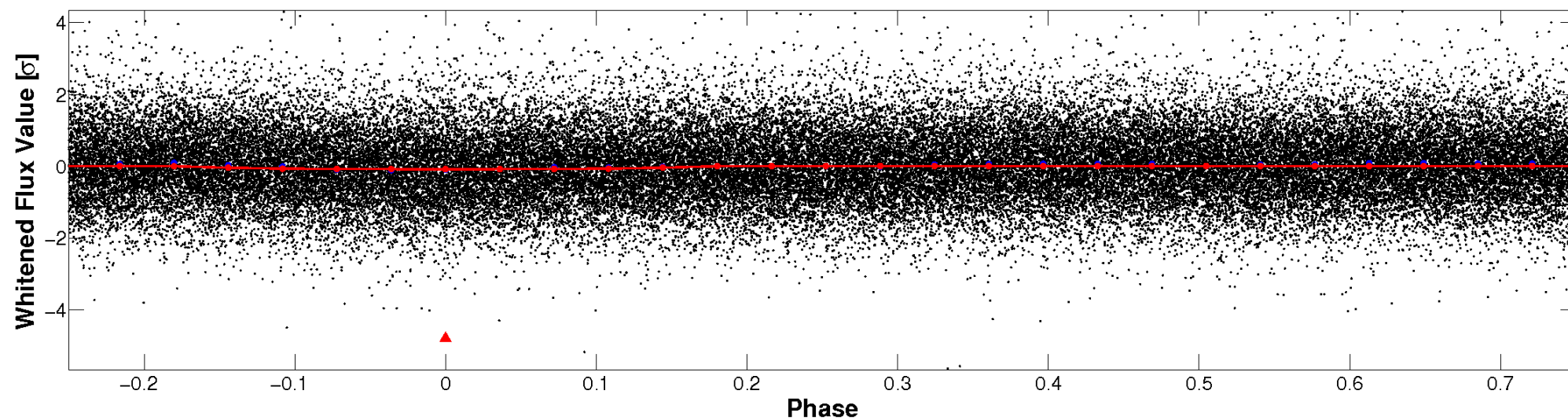


Non-Whitened Vs. Whitened Light Curve

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

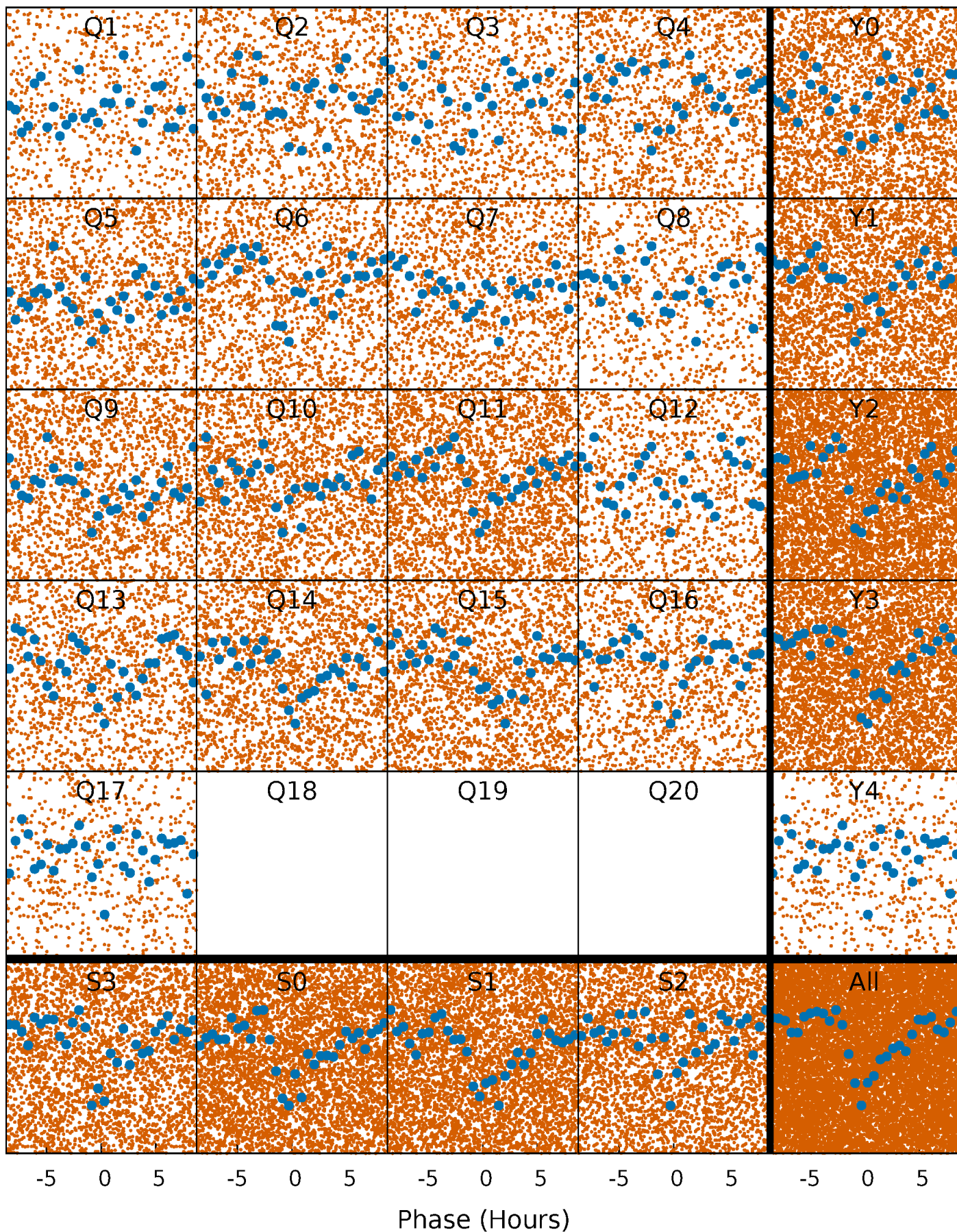


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



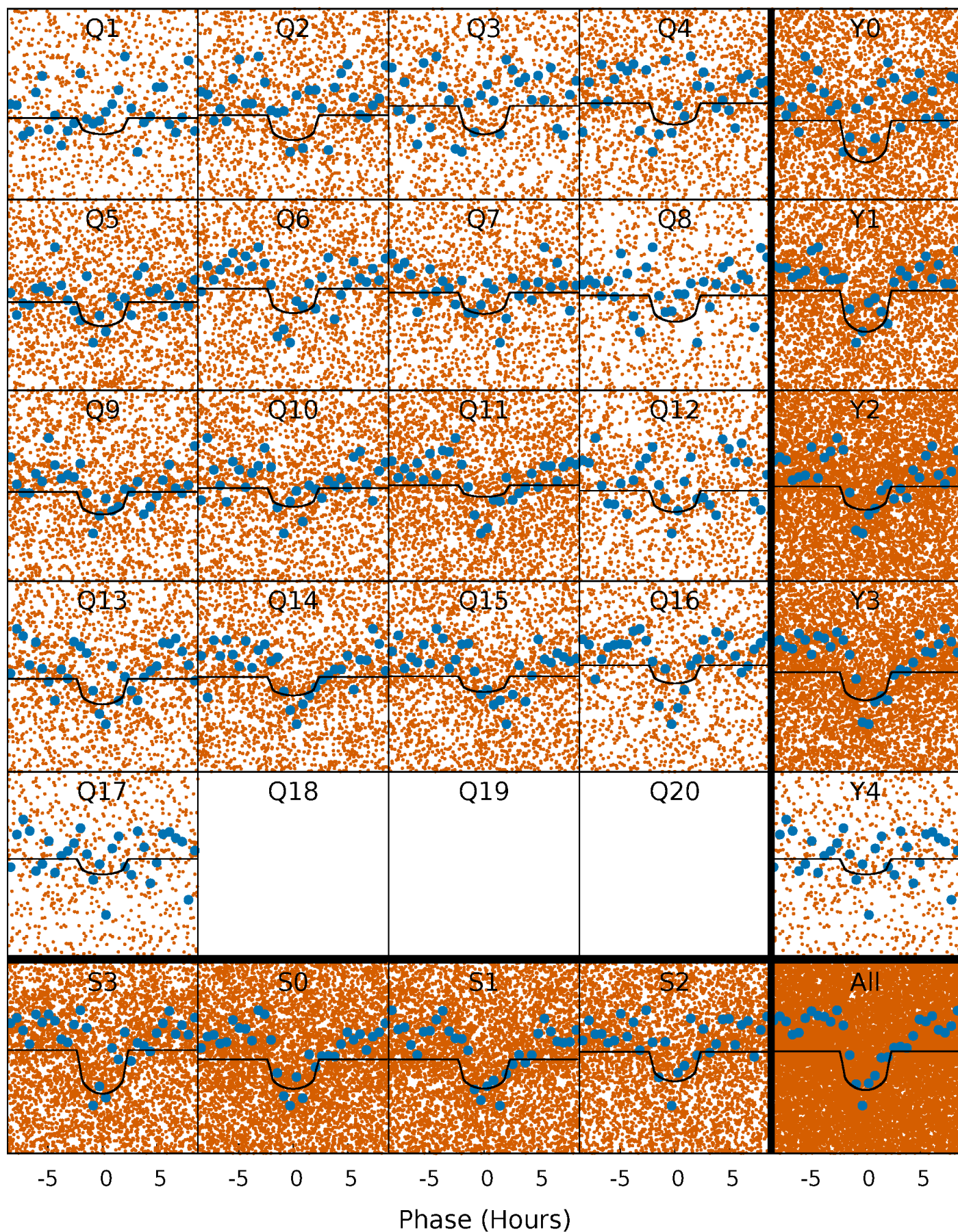
PDC Quarter-Phased Transit Curves

TCE 007281980-01 P= 0.566764 Days $T_0=131.867075$ (BKJD)



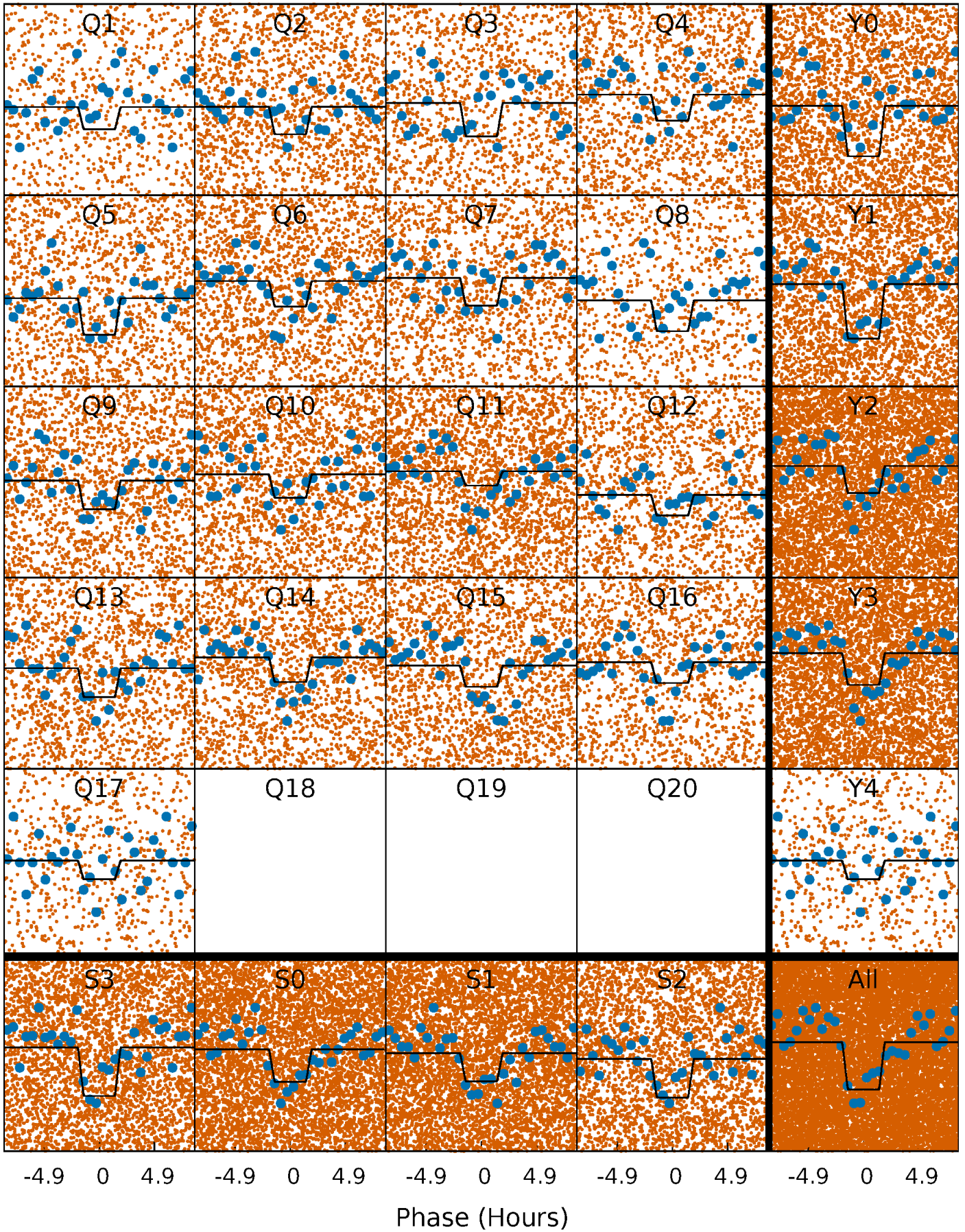
DV Quarter-Phased Transit Curves

TCE 007281980-01 P= 0.566764 Days $T_0=131.867075$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

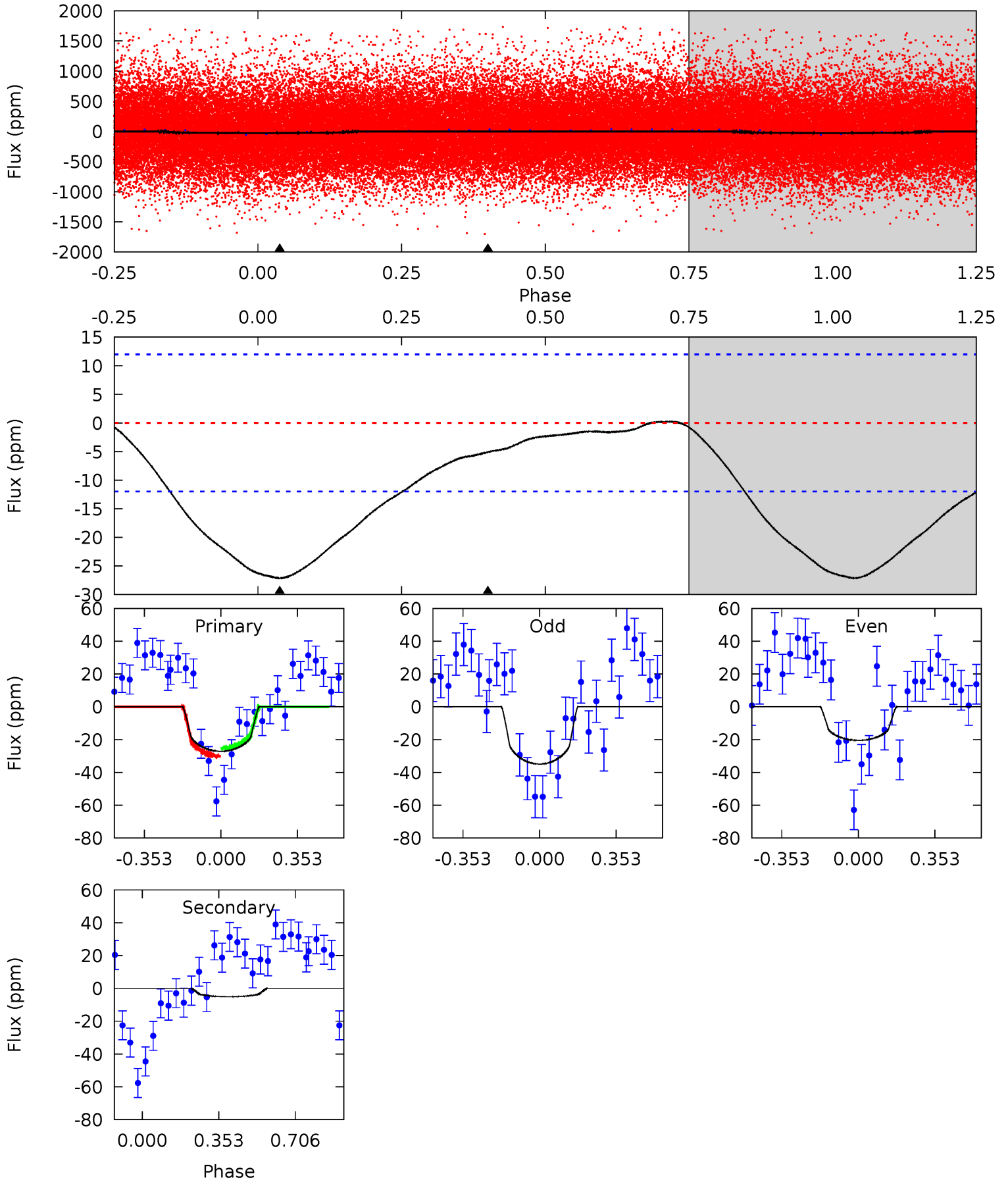
TCE 007281980-01 P= 0.566775 Days $T_0=131.863832$ (BKJD)



DV Model-Shift Uniqueness Test

007281980-01, P = 0.566764 Days, E = 131.300311 Days

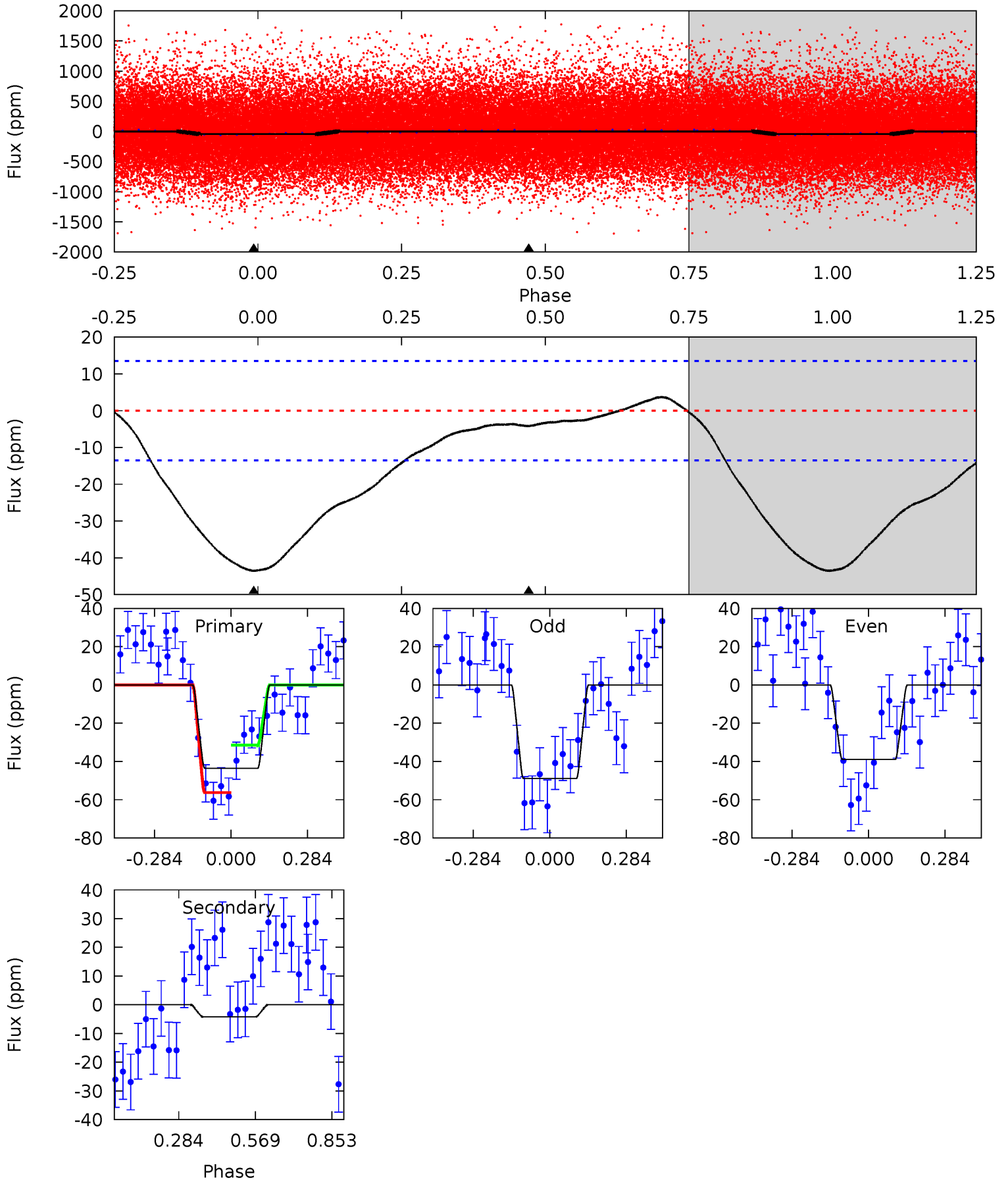
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.73	1.83	0	0	4.29	0.93	0.25	9.73	9.73	1.83	1.83	2.59	0.93	0.01	0.88



Alt Model-Shift Uniqueness Test

007281980-01, P = 0.566775 Days, E = 131.297057 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	1.35	0	0	4.34	1.07	2.63	14.0	14.0	1.35	1.35	1.62	0.94	0.08	3.98



Stellar Parameters For KIC 007281980

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5818^{+139}_{-191}	$4.523^{+0.040}_{-0.170}$	$0.070^{+0.250}_{-0.300}$	$0.925^{+0.225}_{-0.080}$	$1.039^{+0.092}_{-0.122}$	$1.852^{+0.310}_{-0.813}$
	+2%/-3%	+1%/-4%	+357%/-429%	+24%/-9%	+9%/-12%	+17%/-44%
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 007281980-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 3	$0.76^{+0.54}_{-0.49}$	3010^{+180}_{-137}	3273^{+1874}_{-5981}	$0.748^{+4.556}_{-0.553}$
Alt.	-4 ± 3	$0.84^{+0.62}_{-0.53}$	3004^{+181}_{-115}	2907^{+1931}_{-5890}	$0.488^{+3.718}_{-0.394}$

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

DV Centroid Data

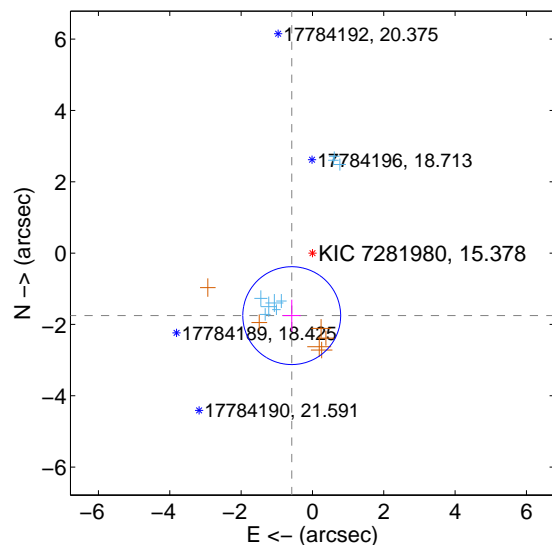
Supplemental centroid analysis for 007281980-01. Kepler magnitude: 15.38. Transit SNR 9.91

There are 9 quarters with good PRF difference image offsets

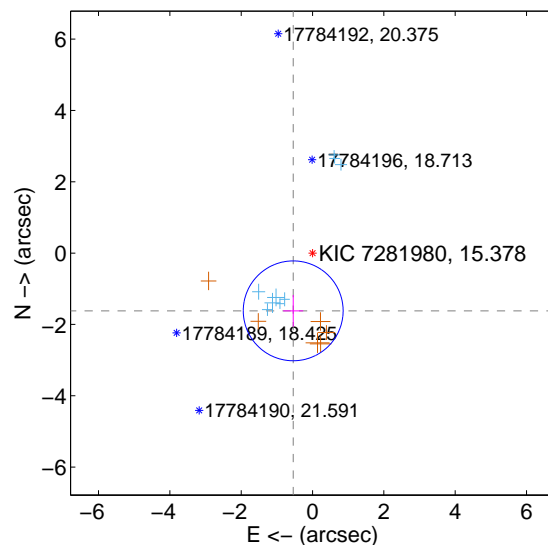
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.847 ± 0.457	4.04	0.581 ± 0.255	-1.753 ± 0.446
PRF-fit source offset from KIC position	1.707 ± 0.467	3.66	0.542 ± 0.280	-1.619 ± 0.446
photometric centroid source offset	1.71 ± 1.31	1.30	-1.30 ± 1.35	1.11 ± 1.26

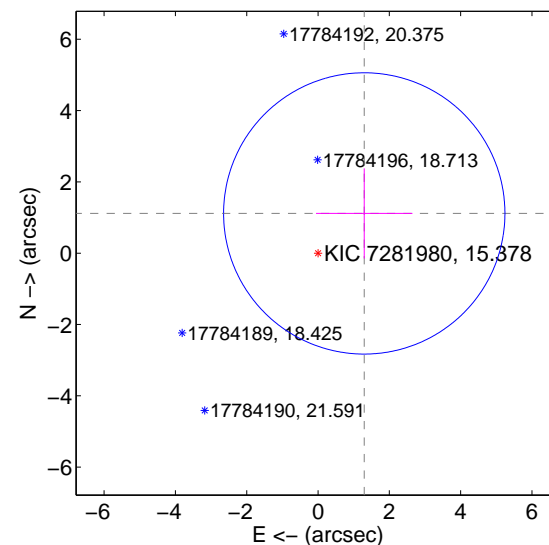
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

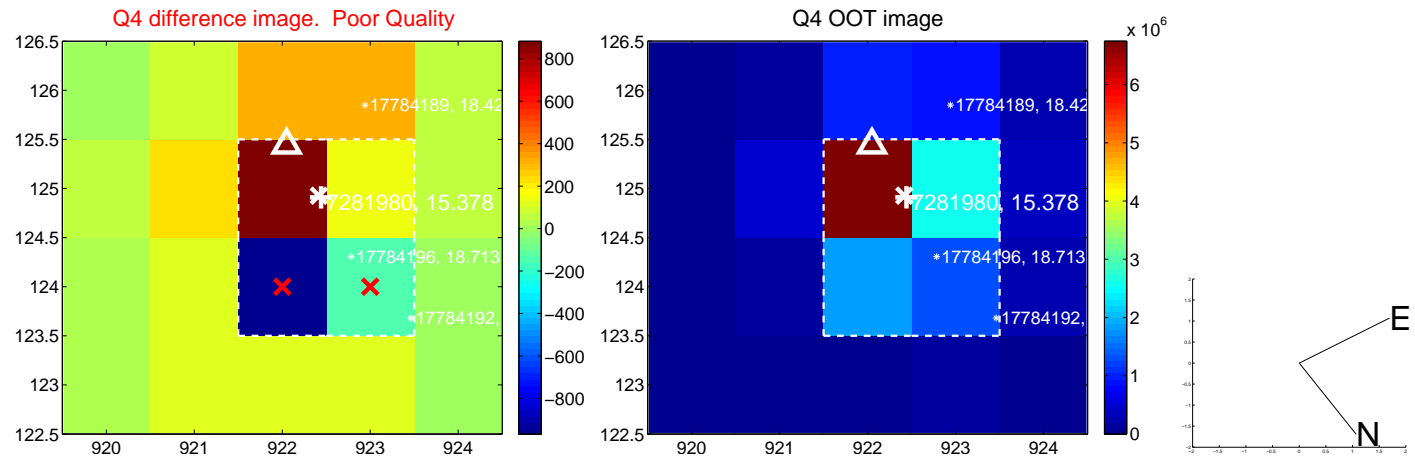
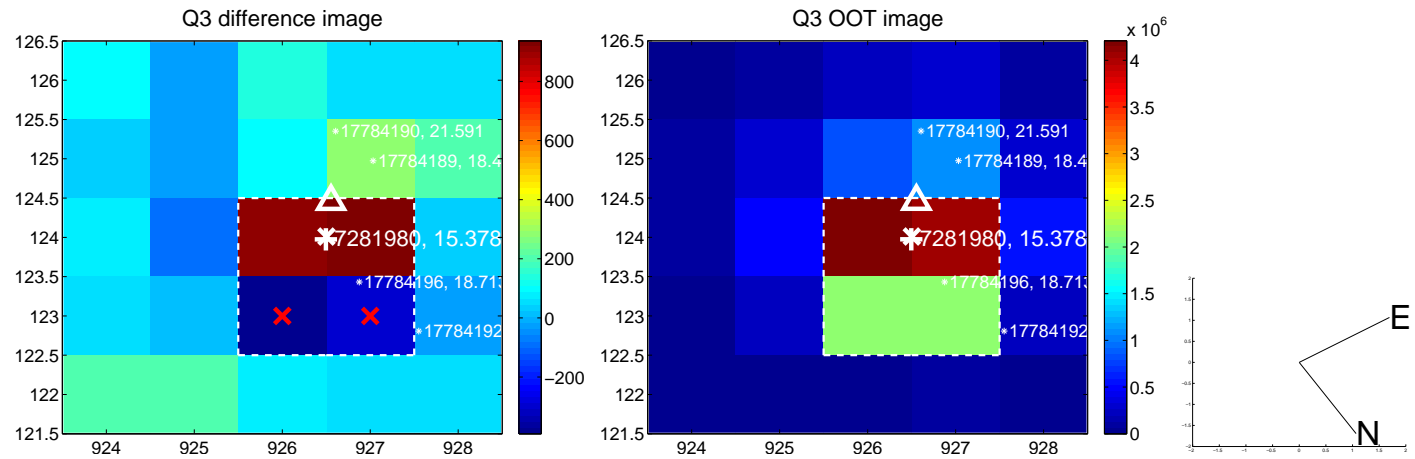
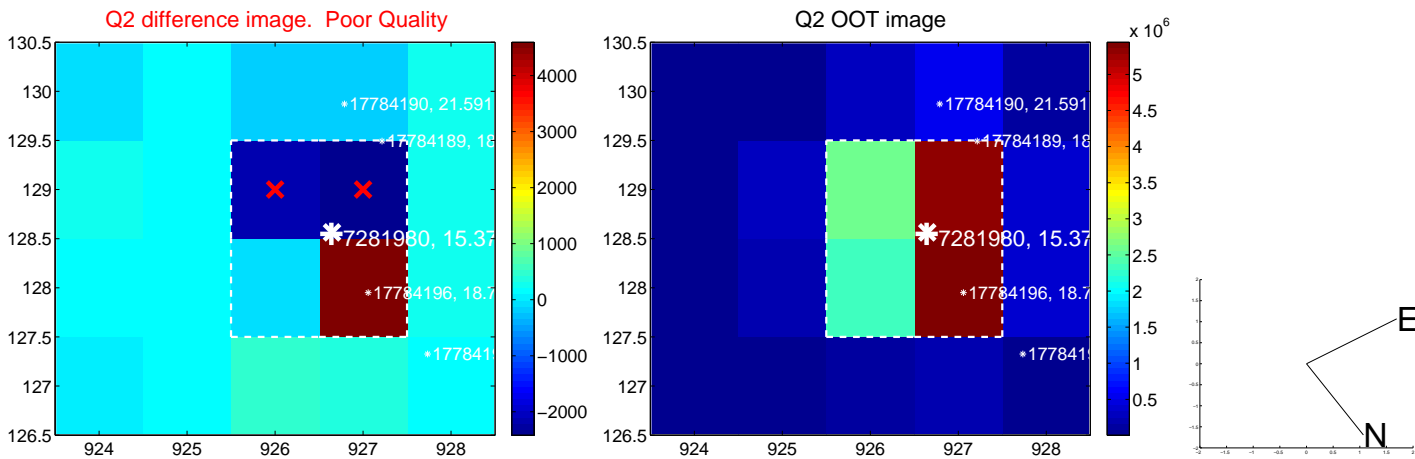
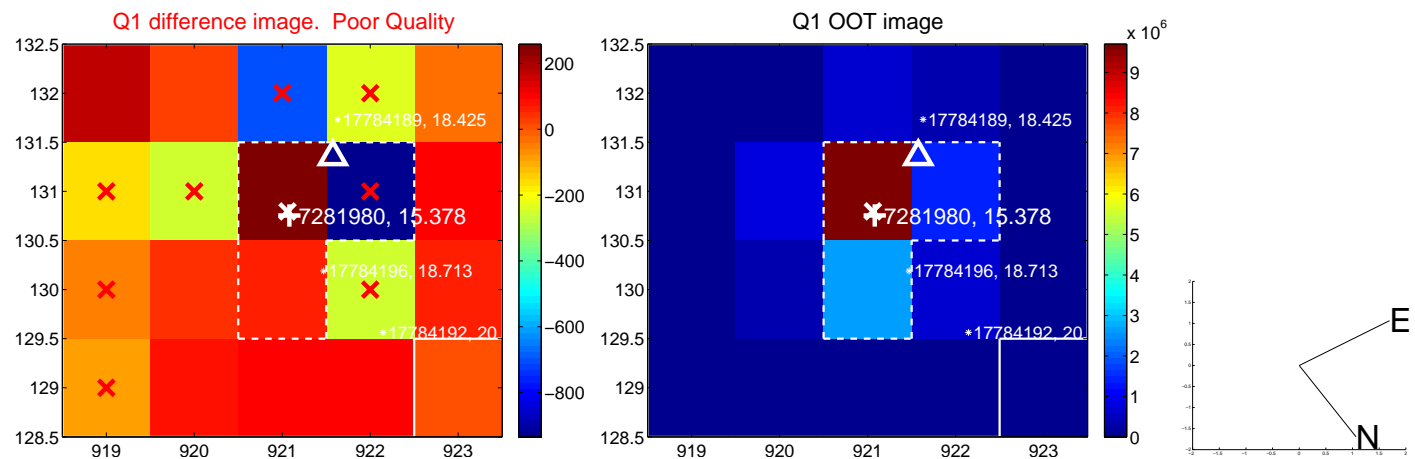


offset from photometric centroids

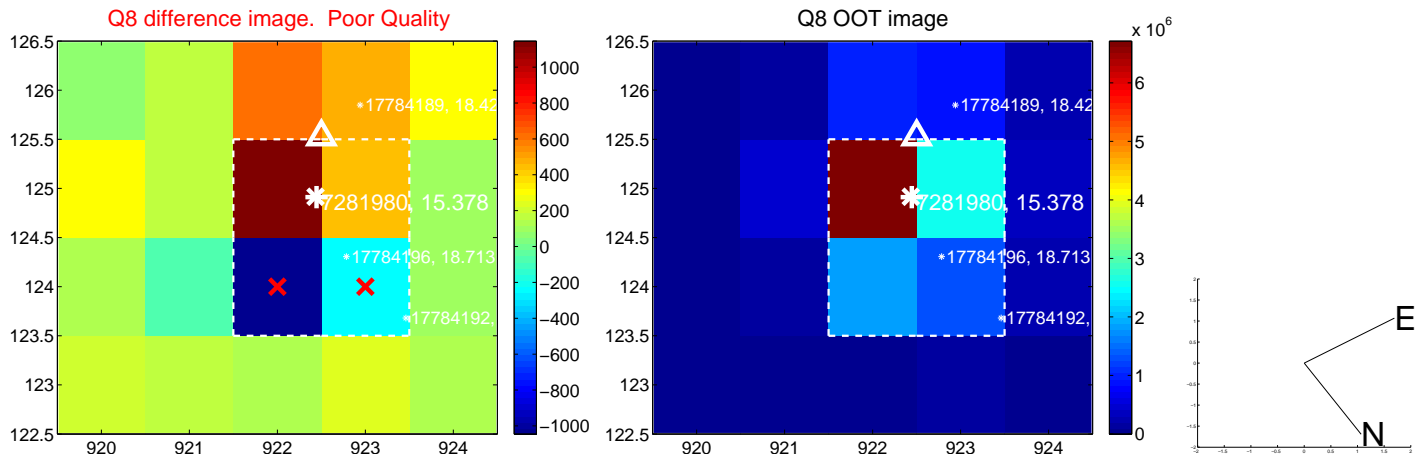
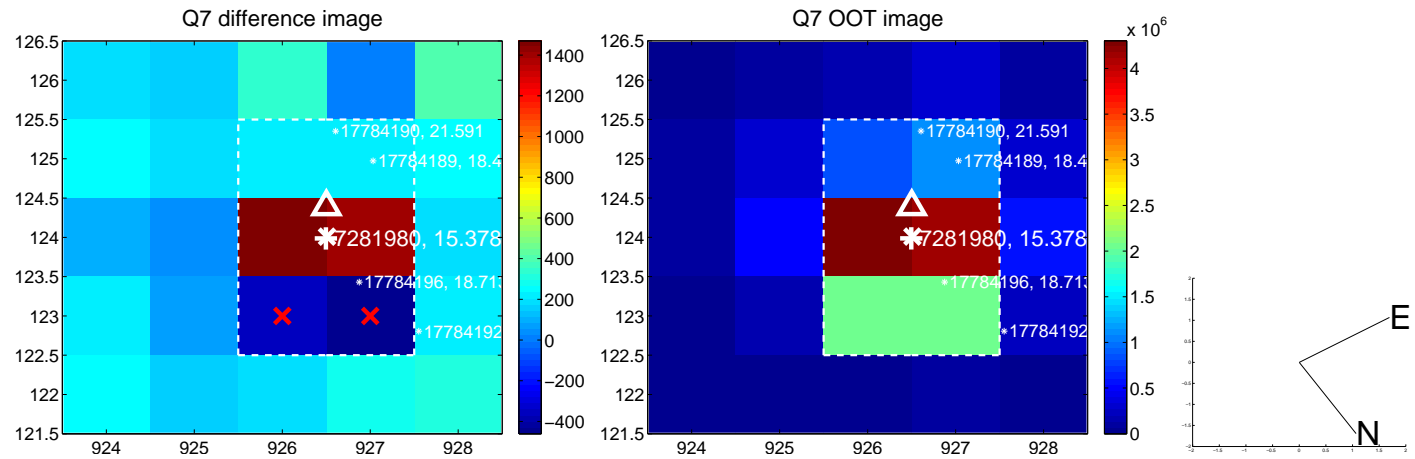
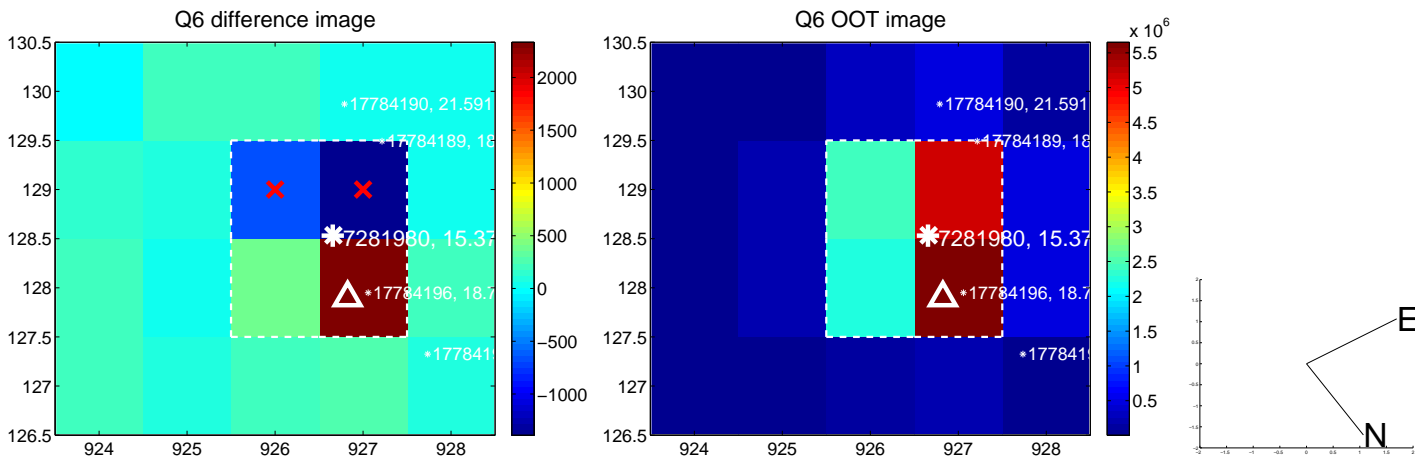
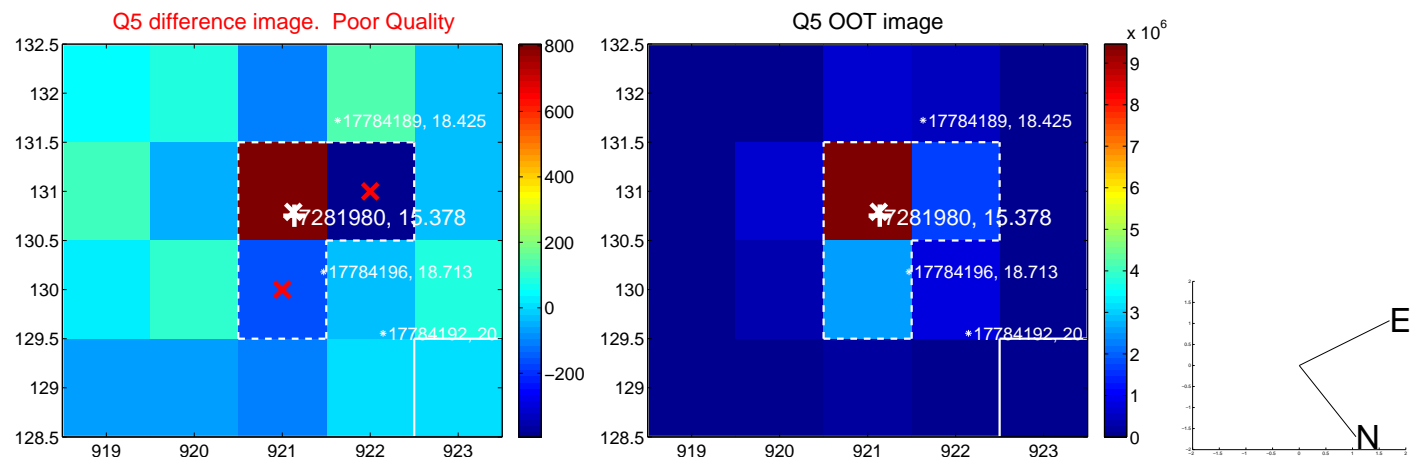


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

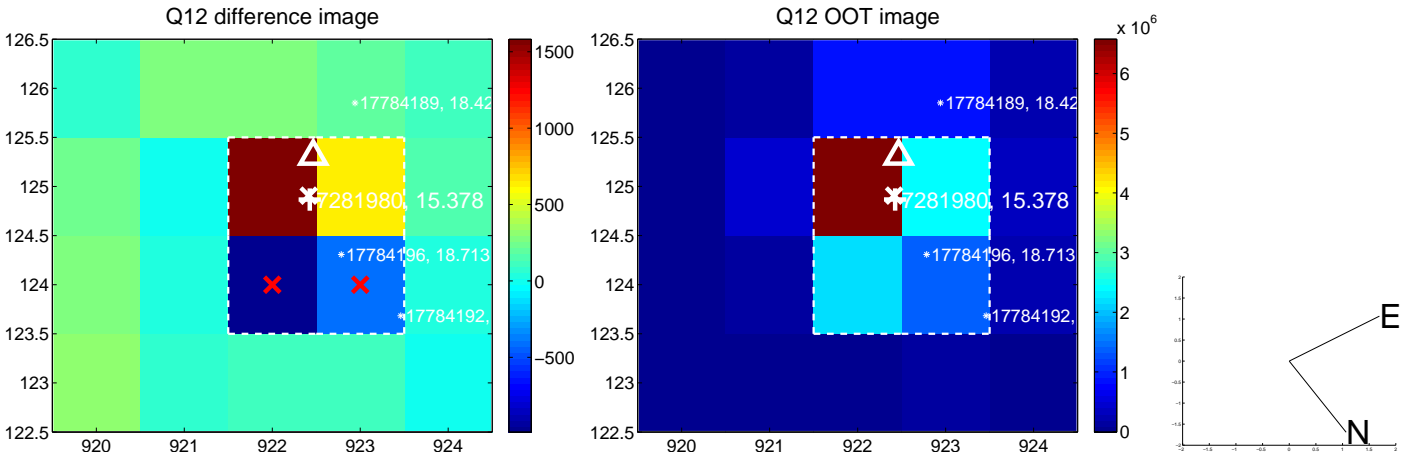
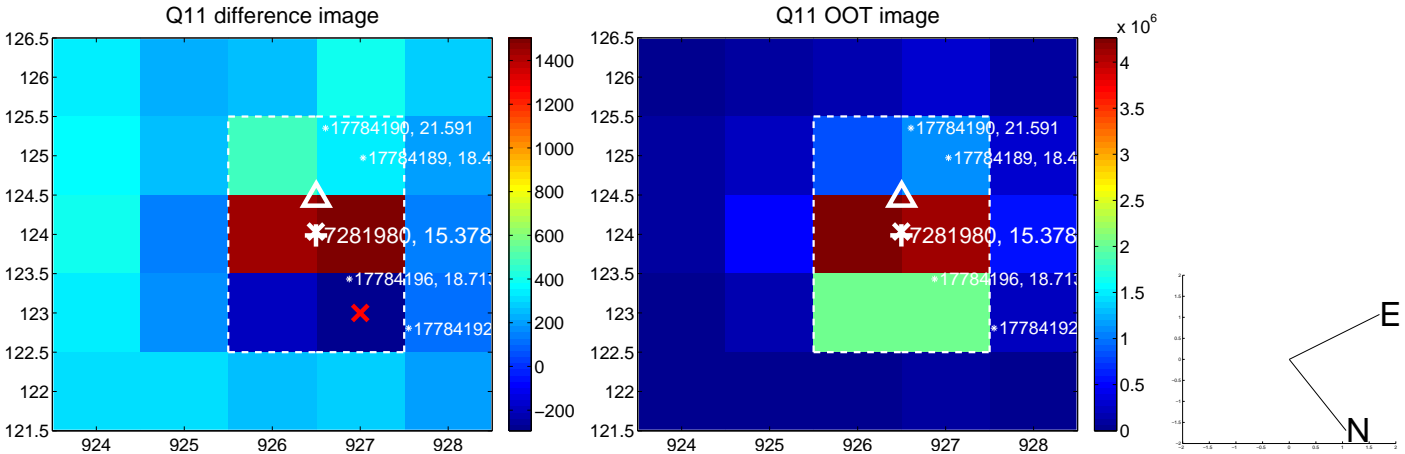
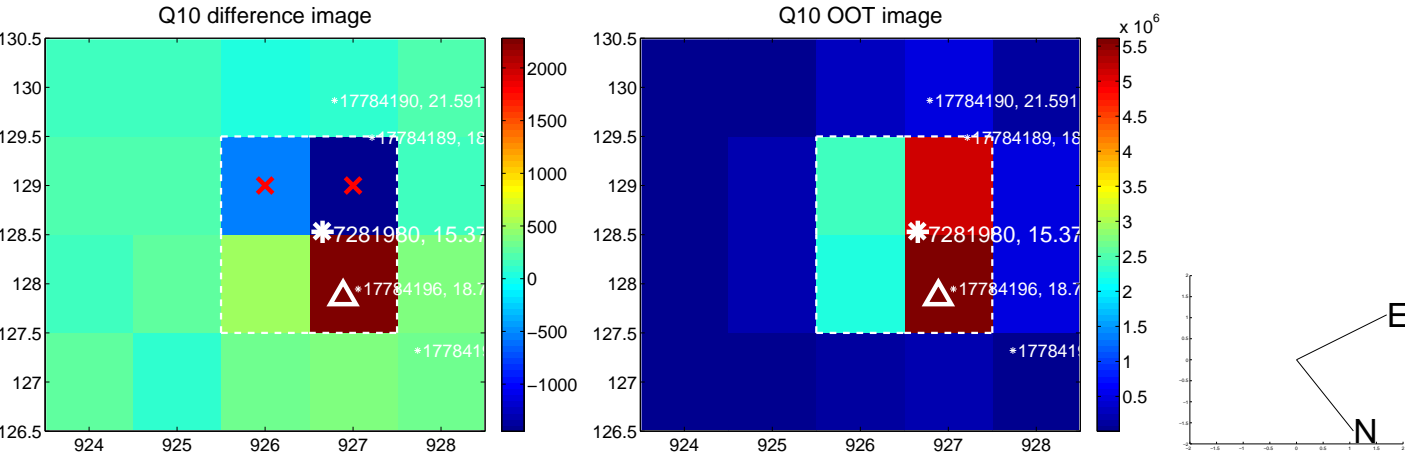
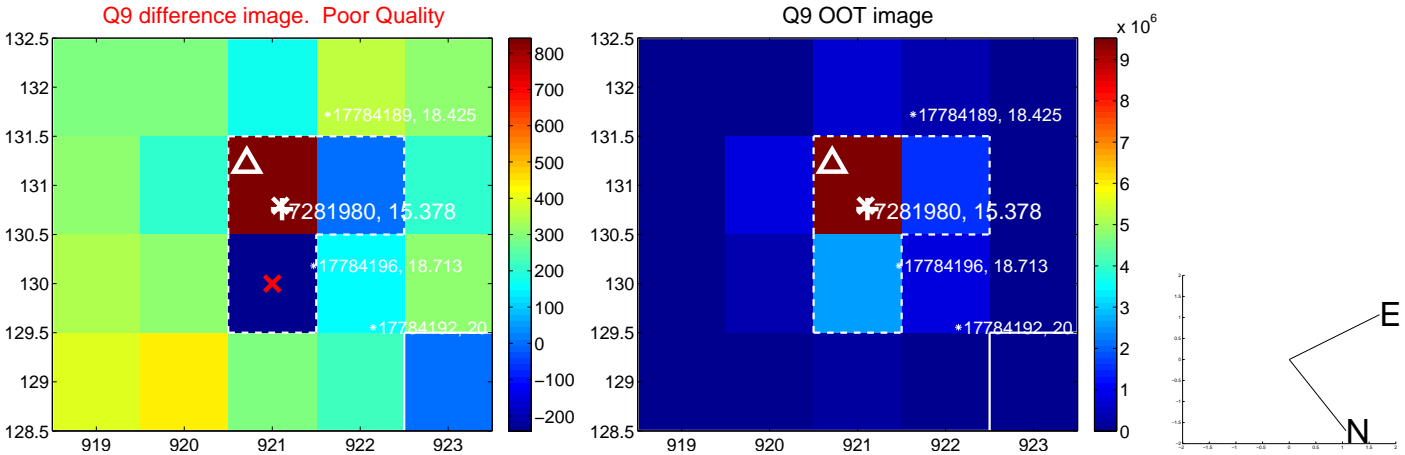
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



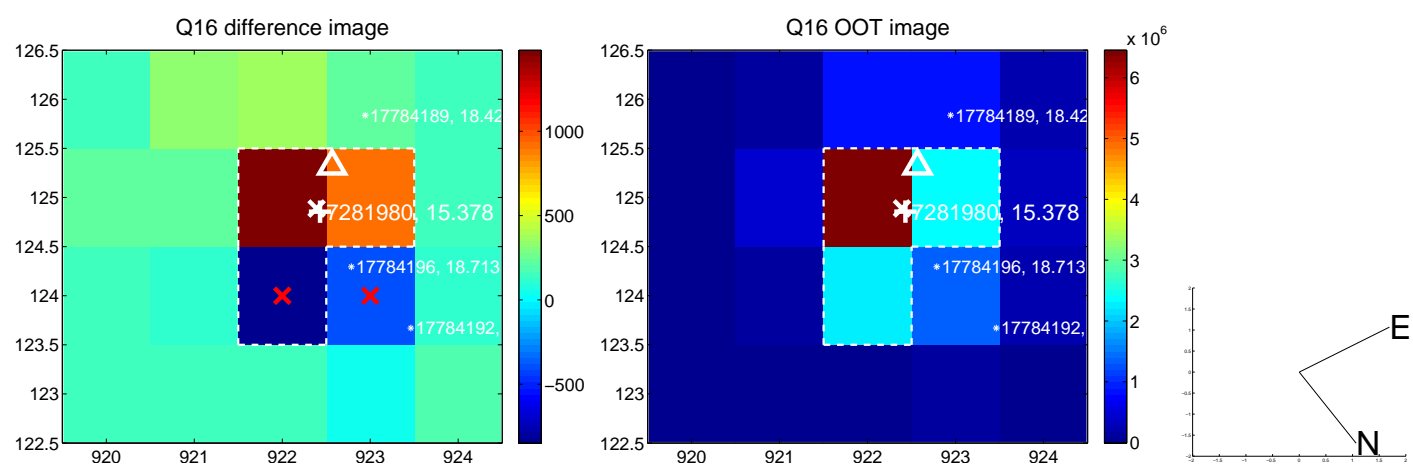
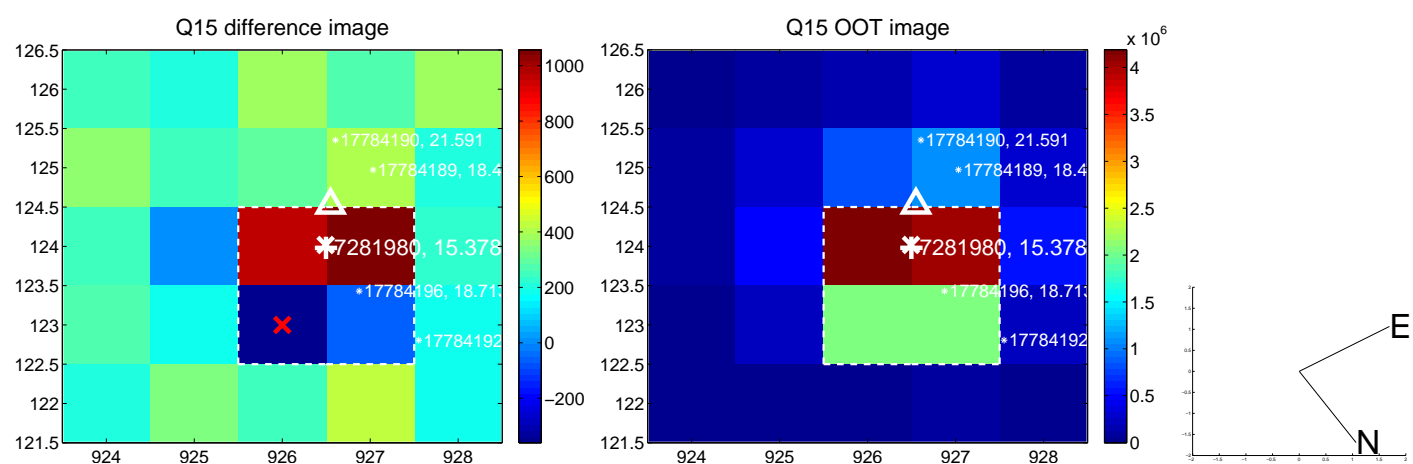
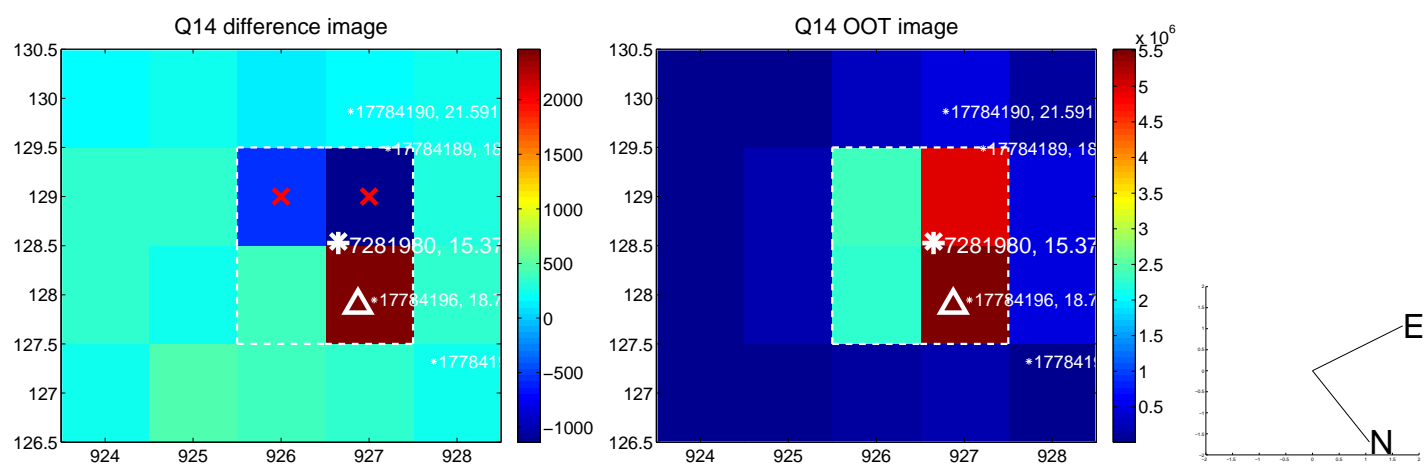
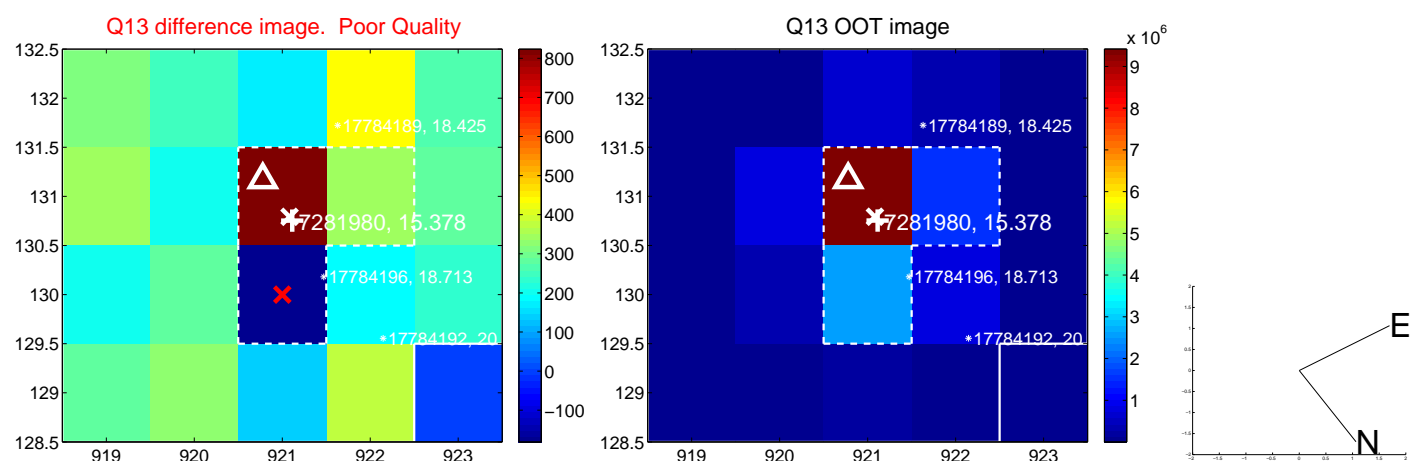
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



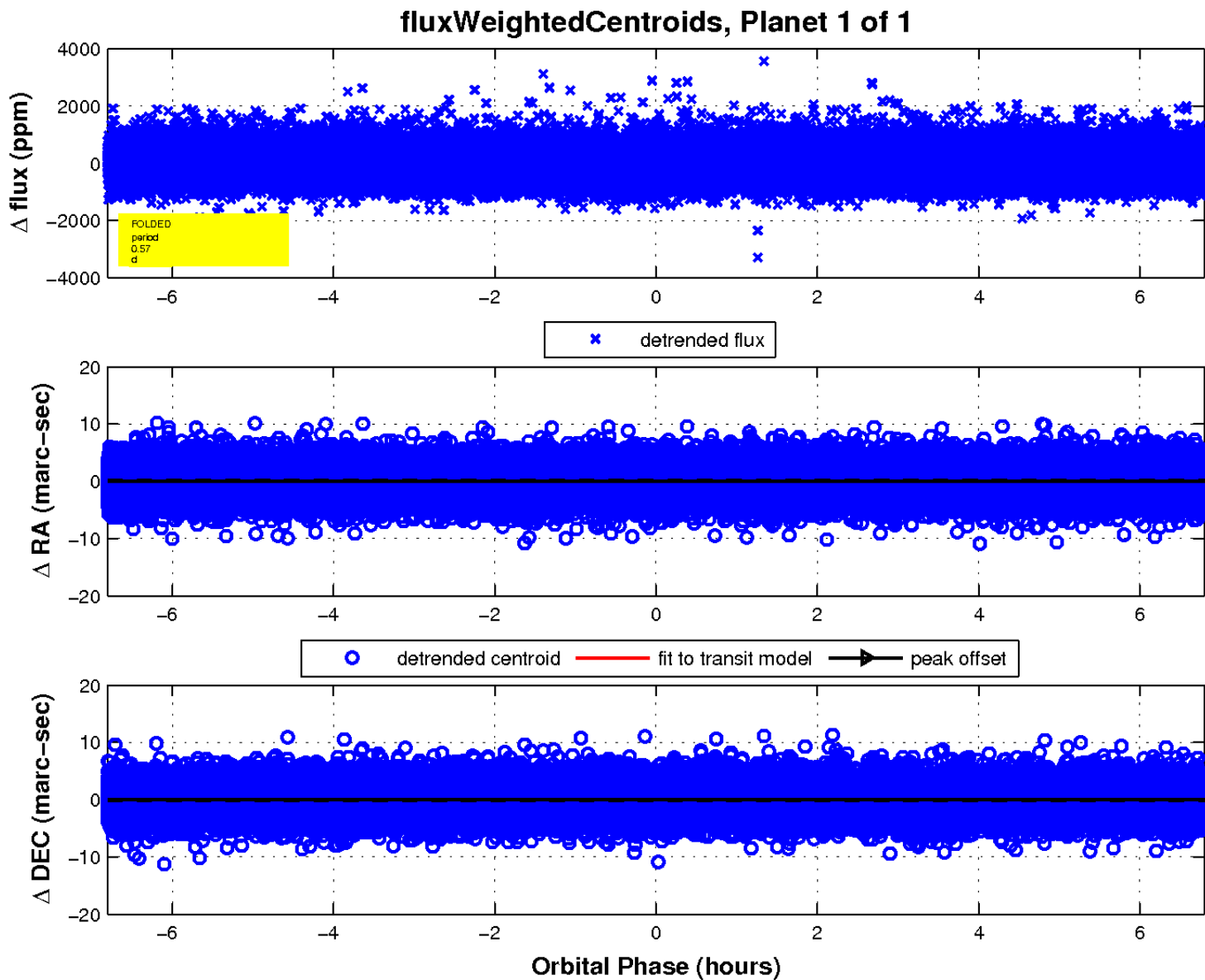
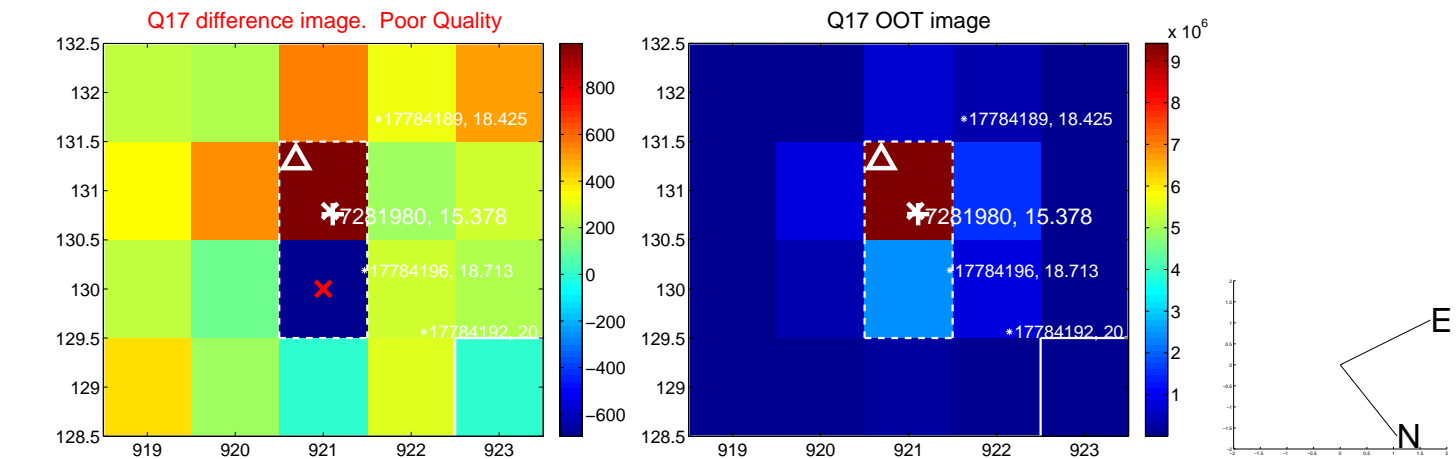
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

