

KIC 004851283

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 _⊕)
004851283-01	OBS	7710.01	1.235070	132.046727	158.0	4.864	11.2	11.5	1.00	5780	1.31	1969.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004851283-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_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 for comment definitions.

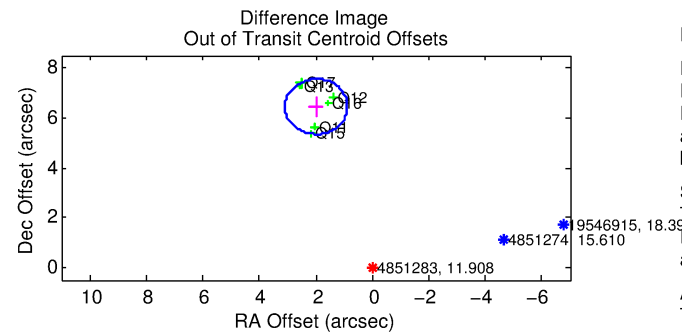
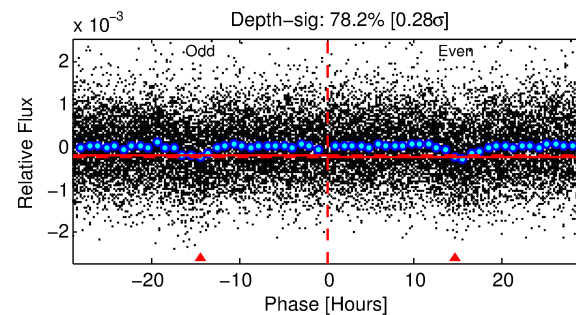
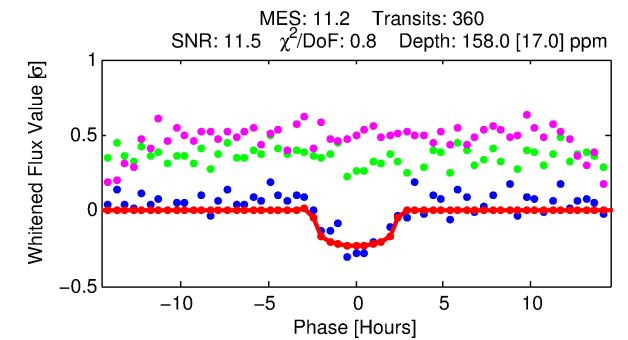
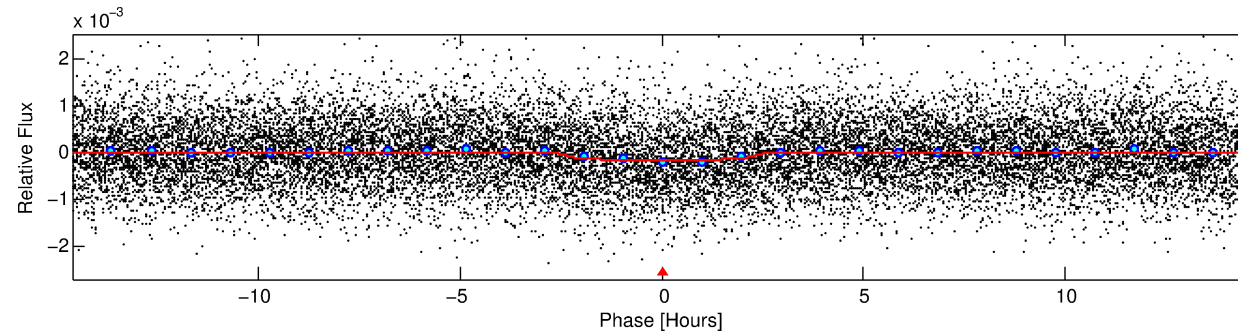
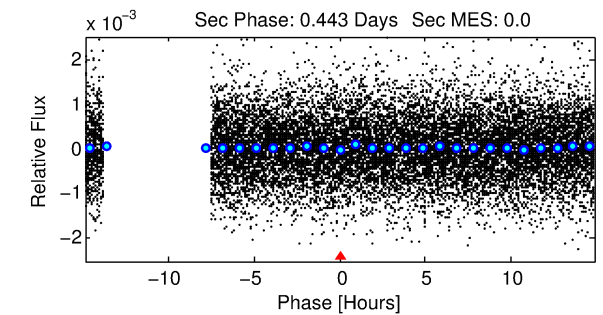
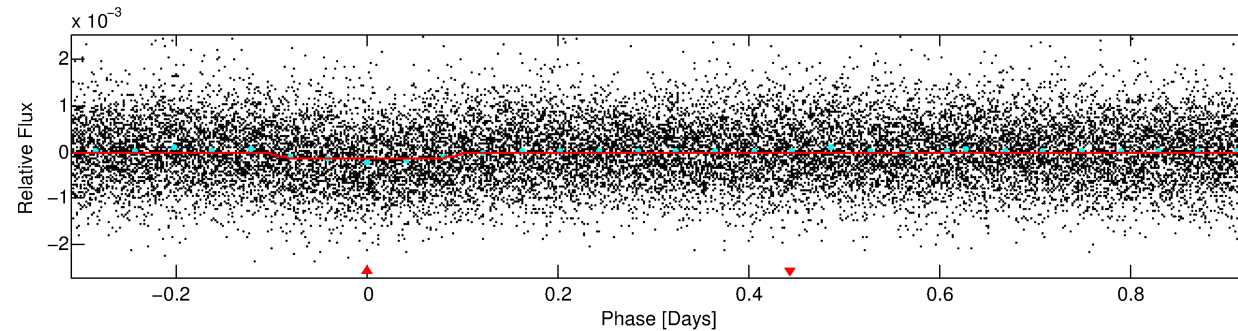
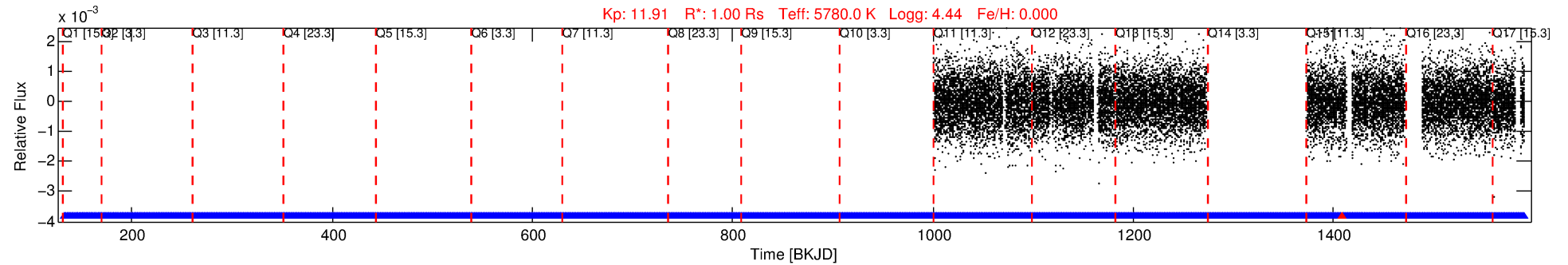
Ephemeris Match Information For 004851283-01

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
004851283-01	4851283	004851217-01	4851217	1:1	49.2	-10	-8	11.11	11.91	56.06	Direct-PRF	0	4.26	3.06

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: 4851283 Candidate: 1 of 1 Period: 1.235 d



DV Fit Results:

Period = 1.23507 [0.00001] d
Epoch = 132.0467 [0.0051] BKJD
Rp/R* = 0.0121 [0.0146]
a/R* = 1.73 [6.13]
b = 0.63 [5.24]
Seff = 1969.47 [0.02]
Teq = 1699 [0] K
Rp = 1.32 [1.59] Re
a = 0.0225 [0.0000] AU
Ag = N/A
Teffp = N/A

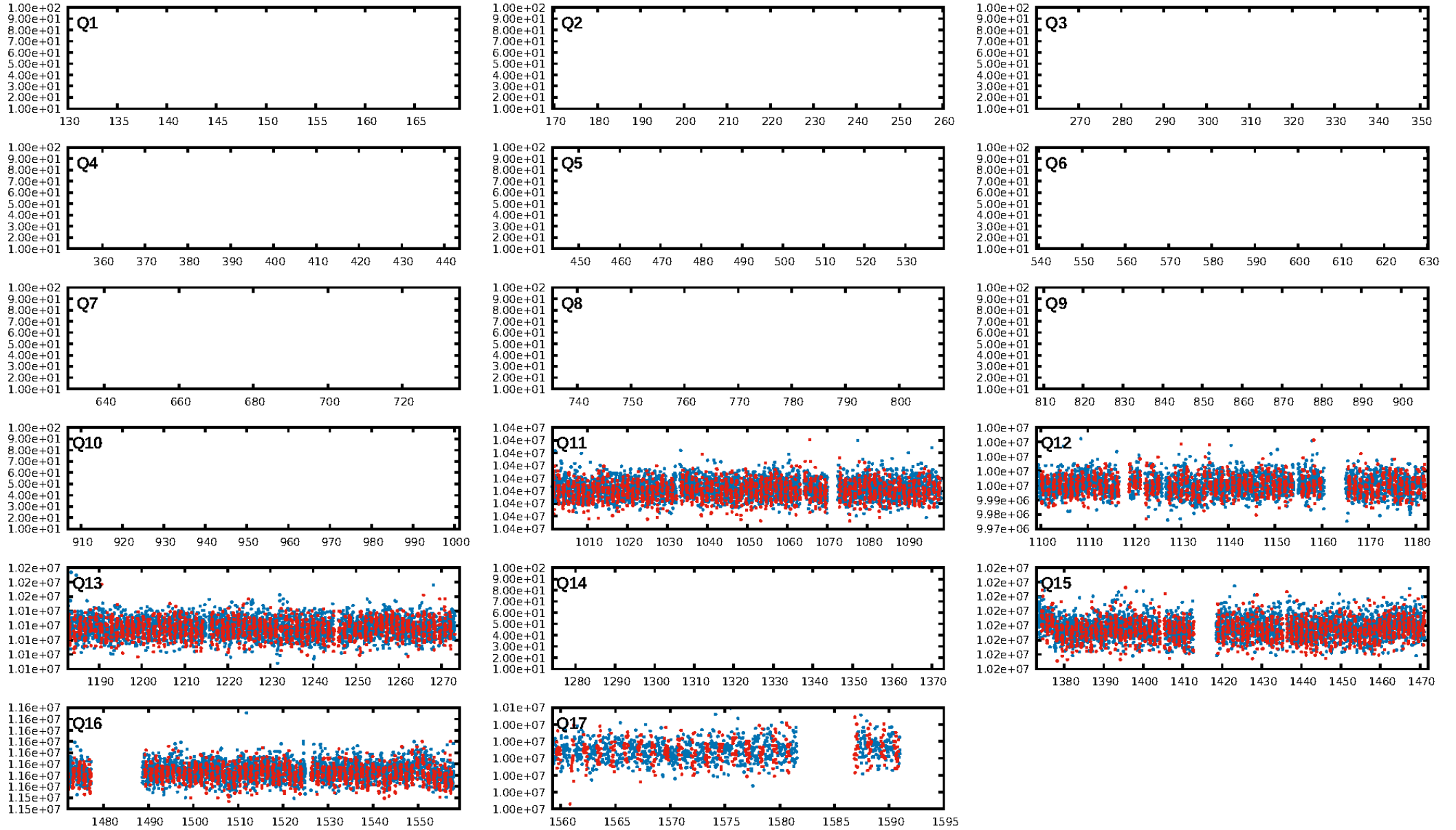
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.77e-31
RollingBand-fgt: 1.00 [337/338]
GhostDiagnostic-chr: -0.3858
Centroid-sig: 0.0%
Centroid-so: 4.643 arcsec [5.04σ]
OotOffset-rm: 6.747 arcsec [18.30σ]
KicOffset-rm: 7.051 arcsec [14.54σ]
OotOffset-st: 0/2/2/2 [6]
KicOffset-st: 0/2/2/2 [6]
DiffImageQuality-fgm: 0.00 [0/6]
DiffImageOverlap-fno: 1.00 [6/6]

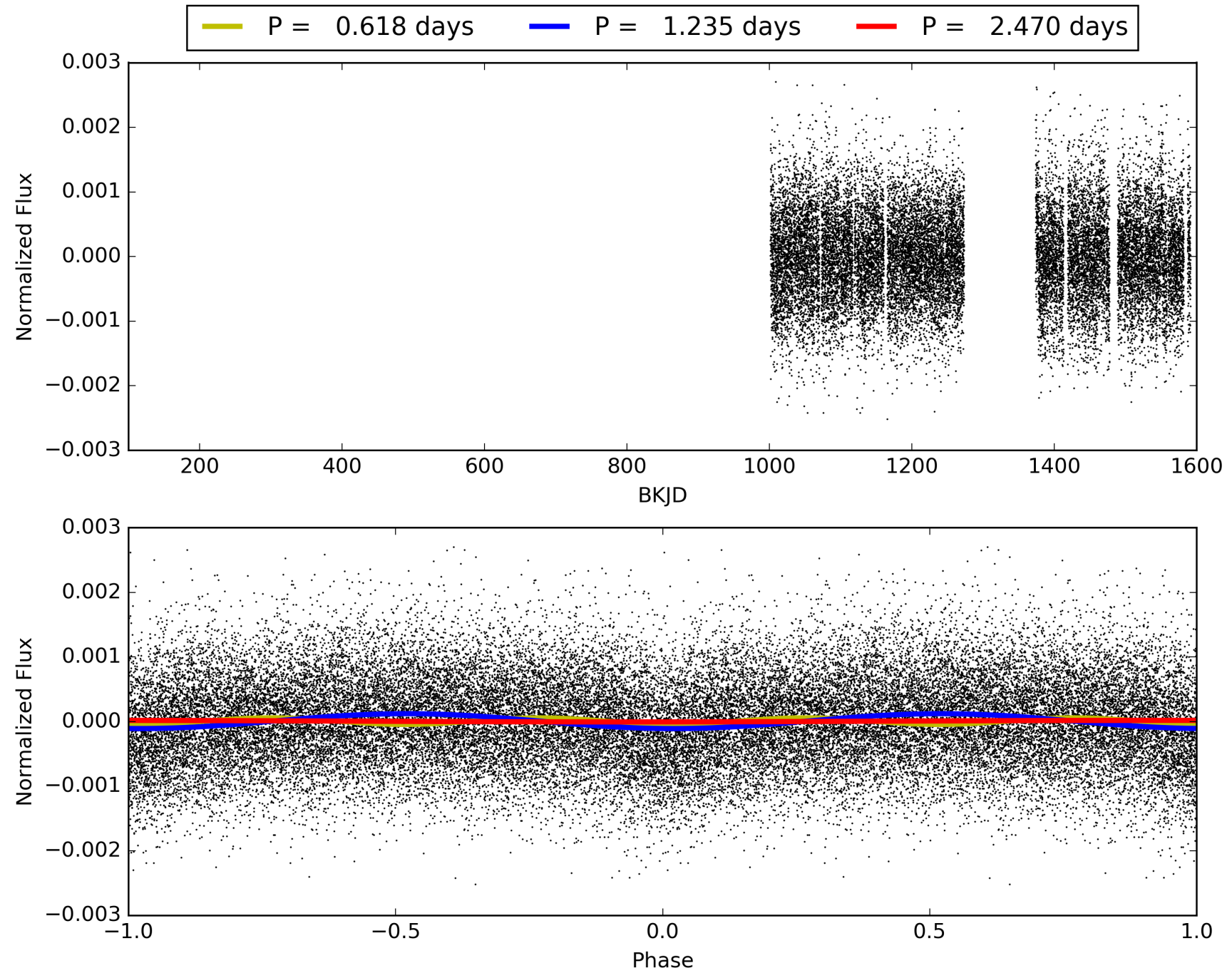
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:13:54 Z

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

TCE 004851283-01, PDC Light Curves

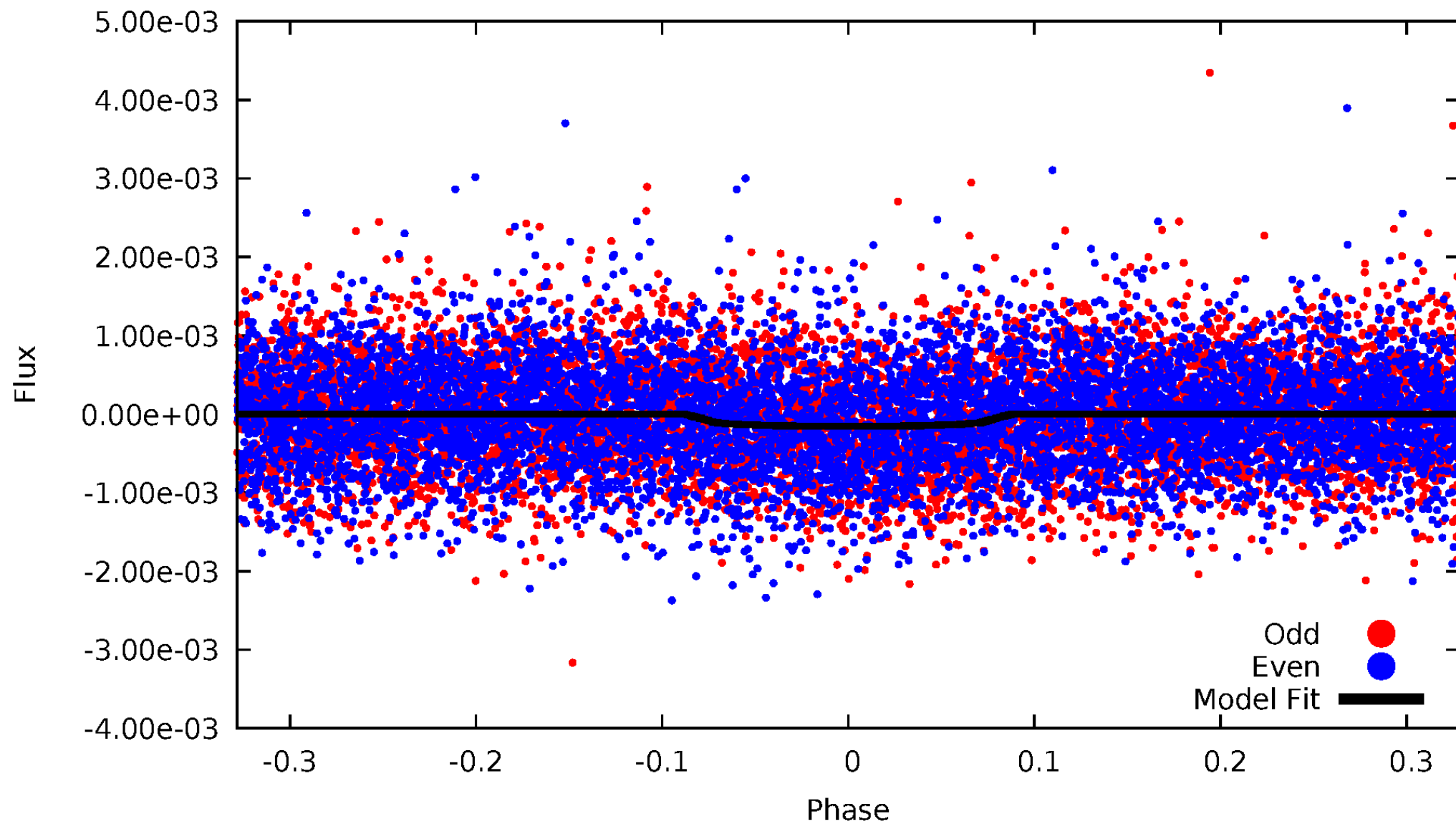


TCE 004851283-01



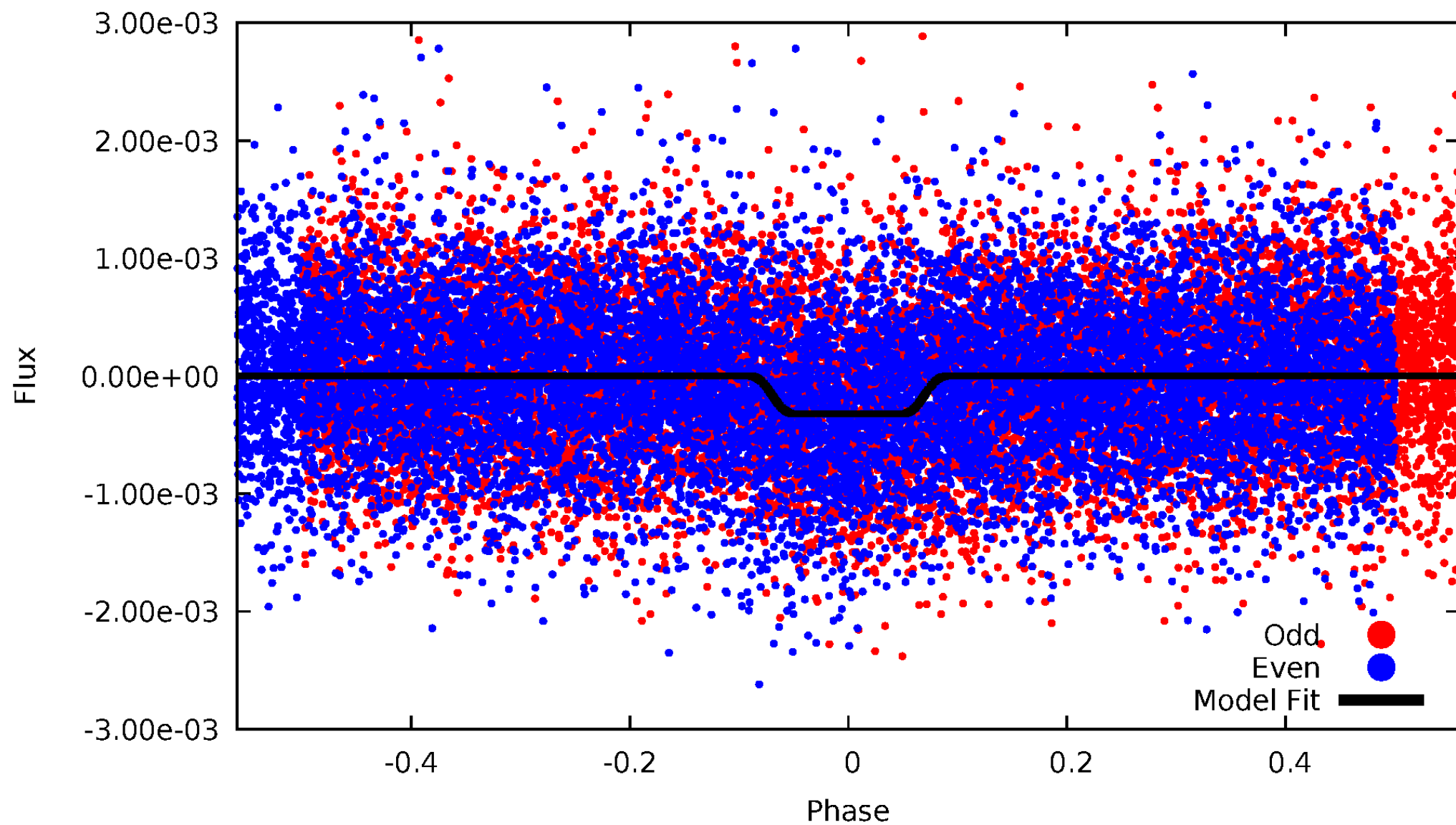
DV Odd/Even

TCE 004851283-01



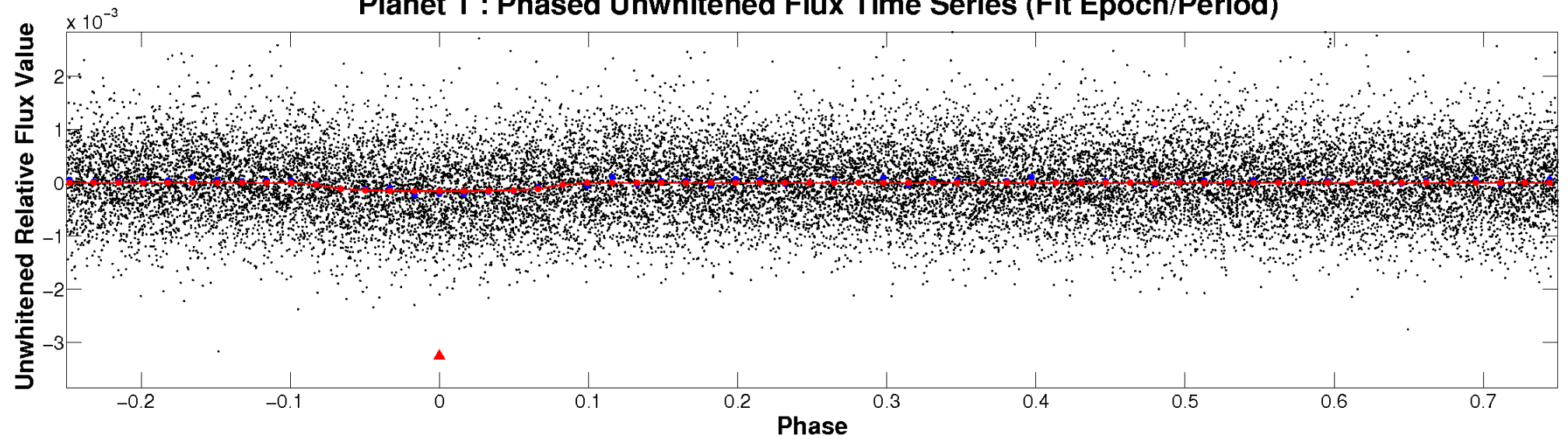
ALT Odd/Even

TCE 004851283-01

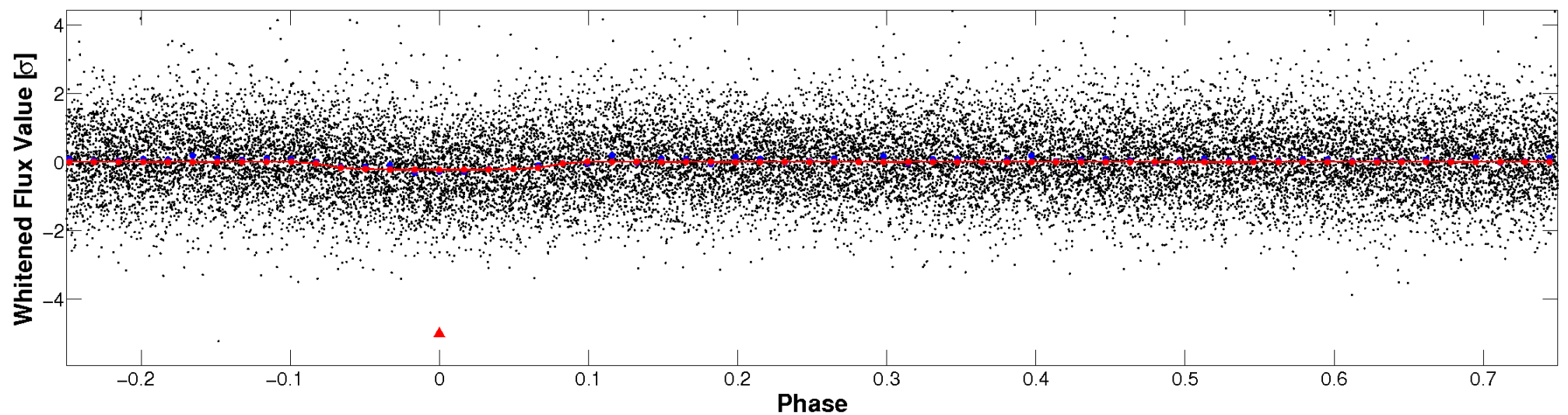


Non-Whitened Vs. Whitened Light Curve

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

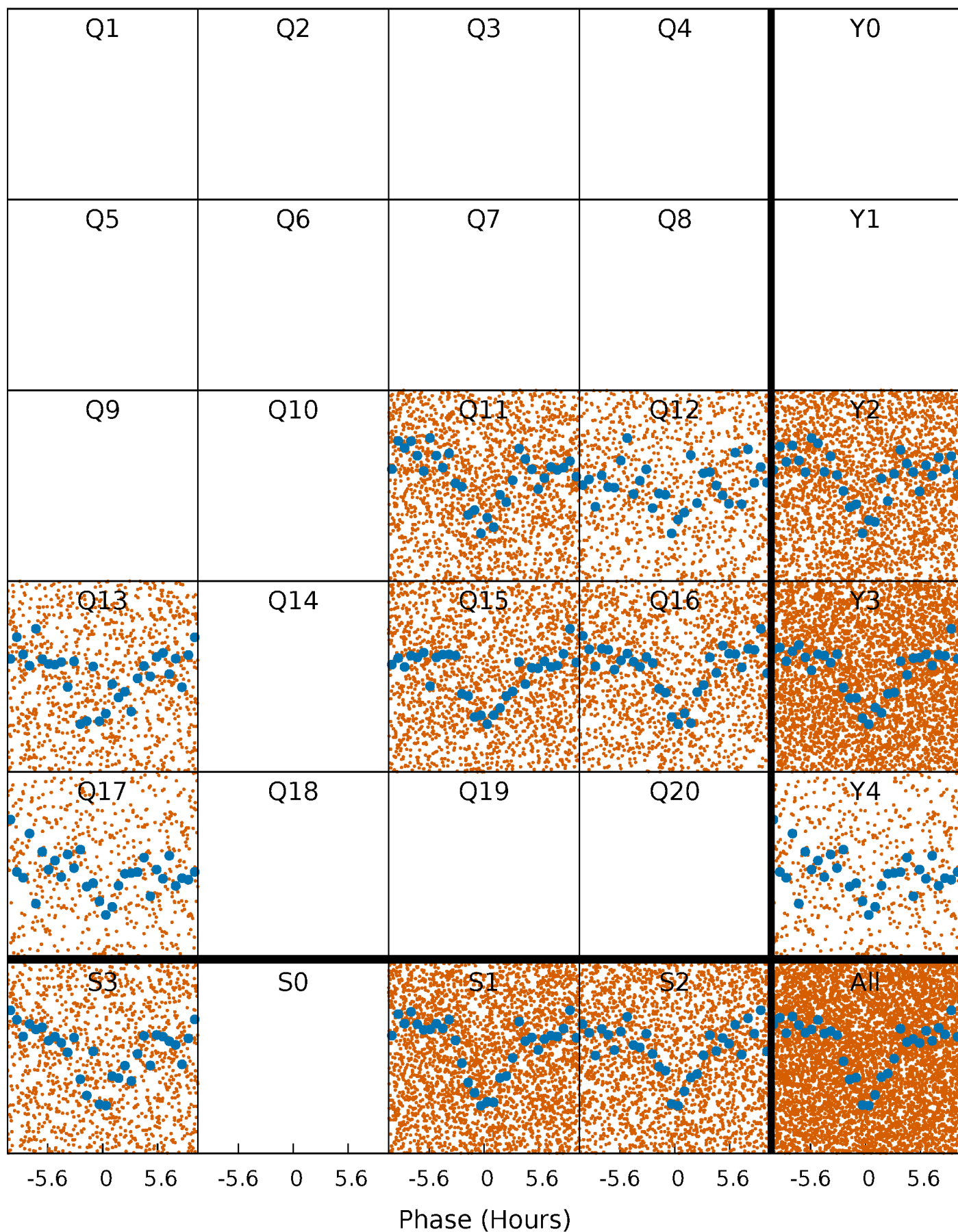


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



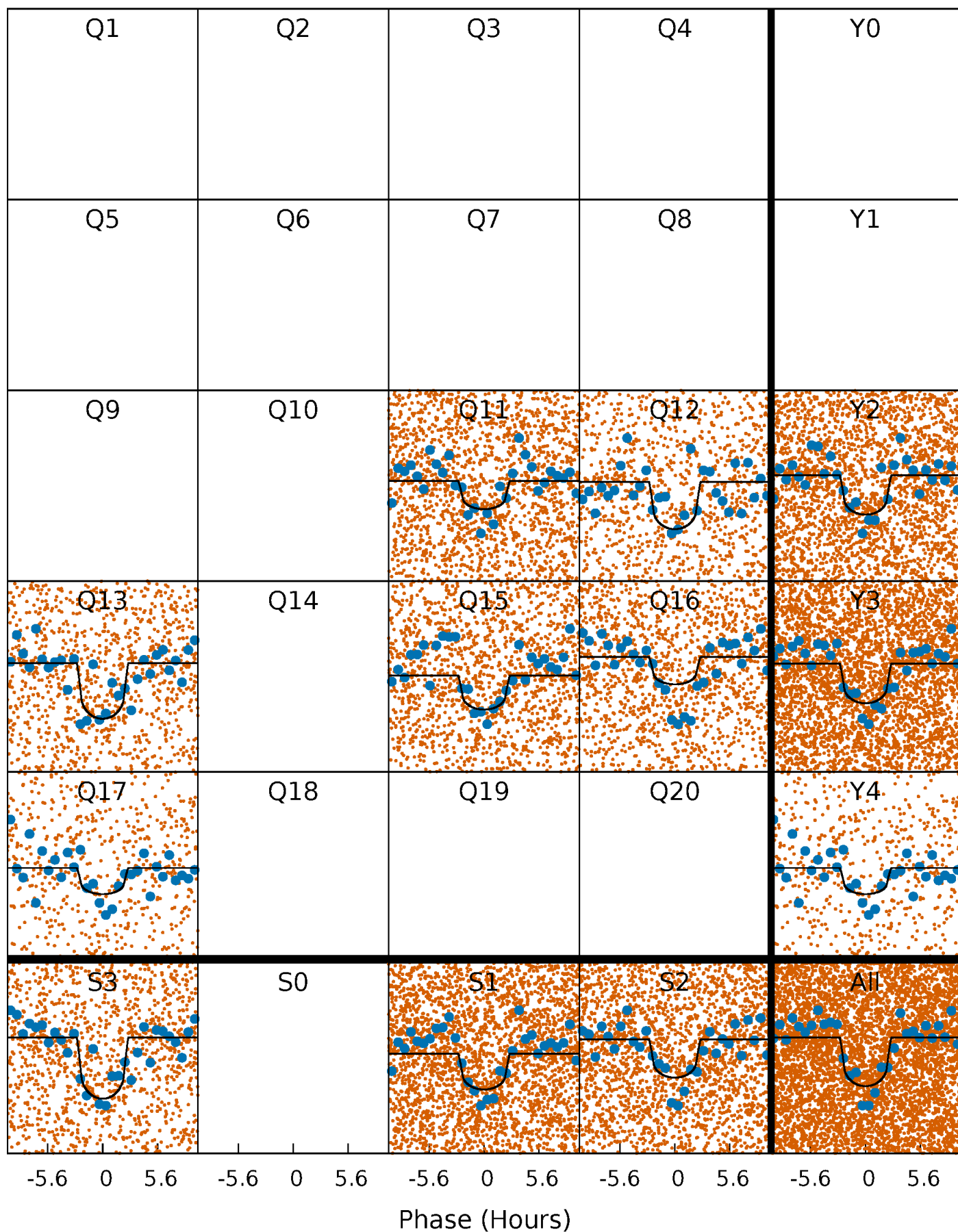
PDC Quarter-Phased Transit Curves

TCE 004851283-01 P= 1.235070 Days $T_0=132.046727$ (BKJD)



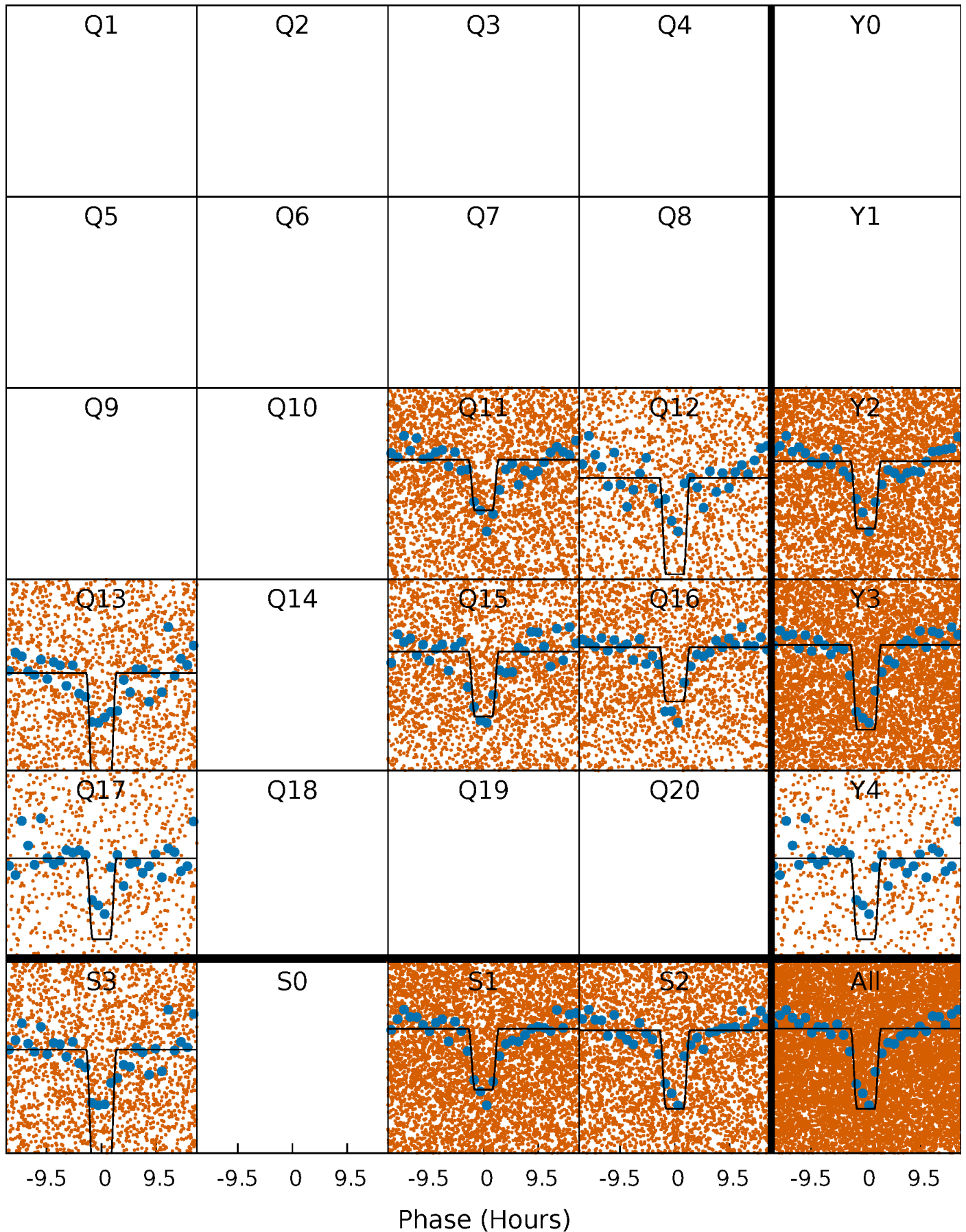
DV Quarter-Phased Transit Curves

TCE 004851283-01 P= 1.235070 Days $T_0=132.046727$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

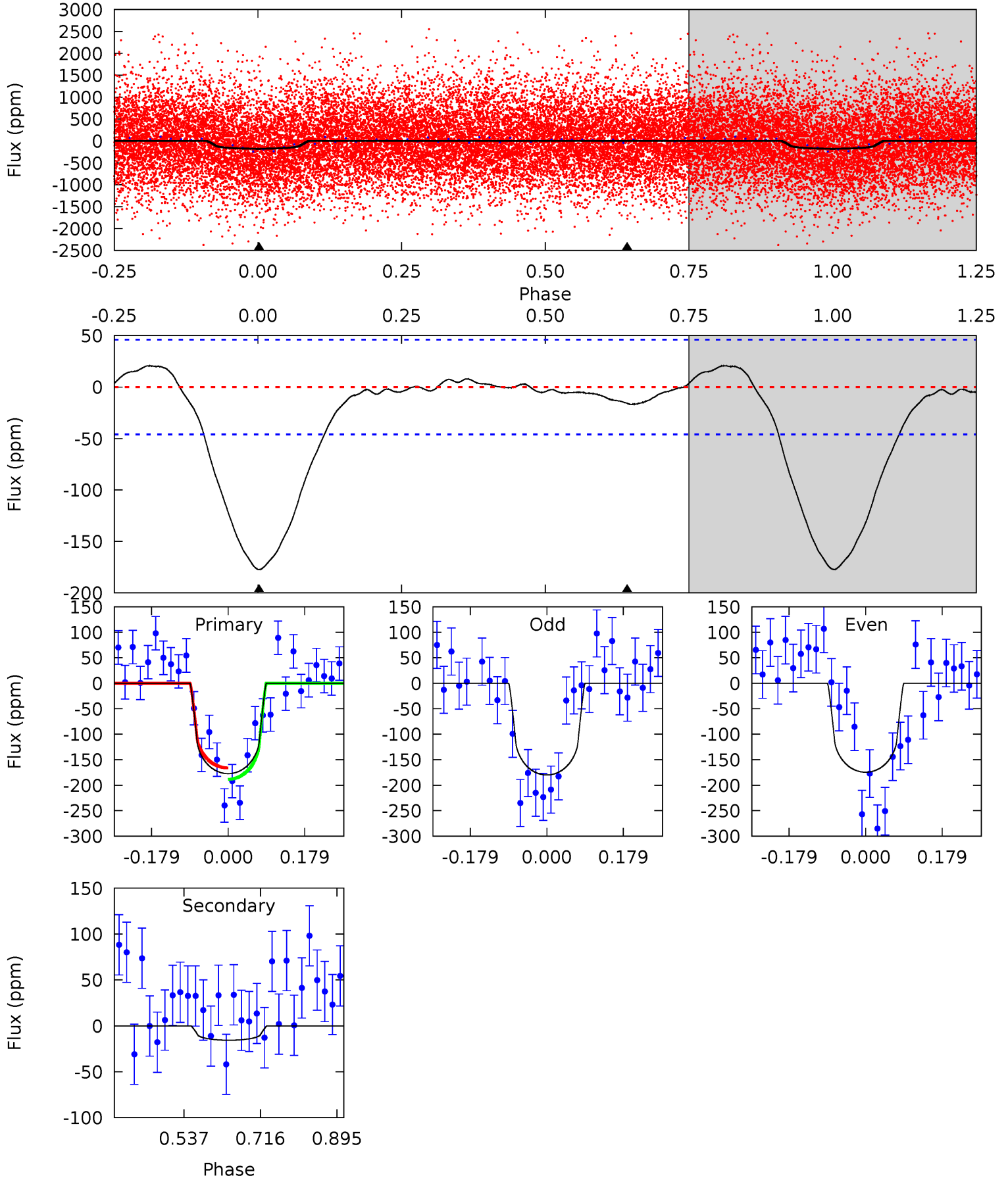
TCE 004851283-01 P= 1.235195 Days $T_0=131.937040$ (BKJD)



DV Model-Shift Uniqueness Test

004851283-01, P = 1.235070 Days, E = 132.046727 Days

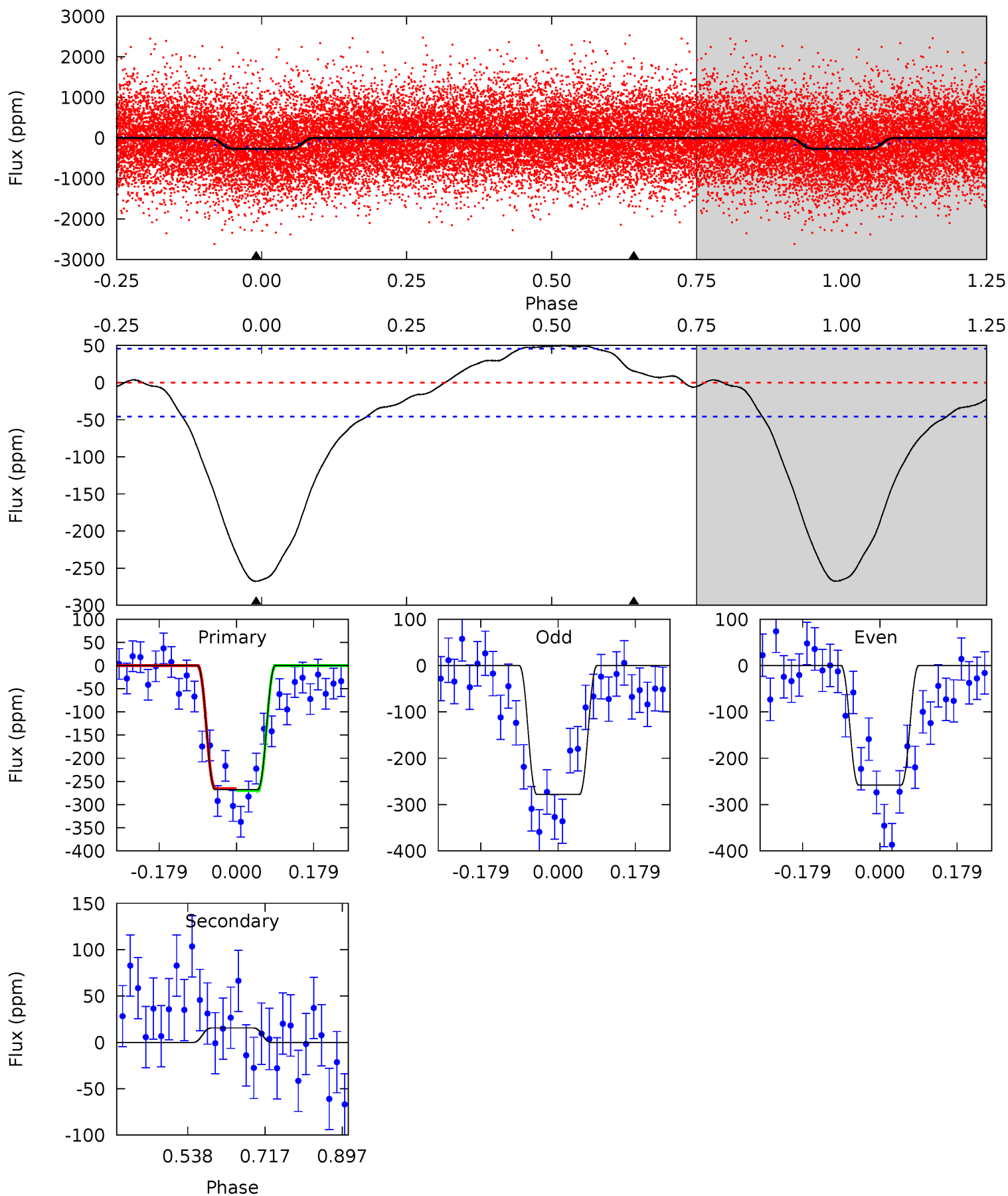
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	1.52	0	0	4.44	1.34	0.41	17.1	17.1	1.52	1.52	0.26	1.06	0.10	1.08



Alt Model-Shift Uniqueness Test

004851283-01, P = 1.235195 Days, E = 131.937040 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.0	-1.50	0	0	4.44	1.34	2.84	26.0	26.0	-1.50	-1.50	0.98	1.05	0.16	0.21



Stellar Parameters For KIC 004851283

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 004851283-01 / KOI 7710.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-16 ± 10	$1.67^{+1.57}_{-1.11}$	2379^{+117}_{-111}	3225^{+1719}_{-5475}	$1.312^{+11.815}_{-1.072}$
Alt.	16 ± 10	$2.11^{+1.57}_{-1.18}$	2375^{+118}_{-120}	-3255^{+391}_{-915}	$-0.790^{+0.655}_{-3.851}$

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

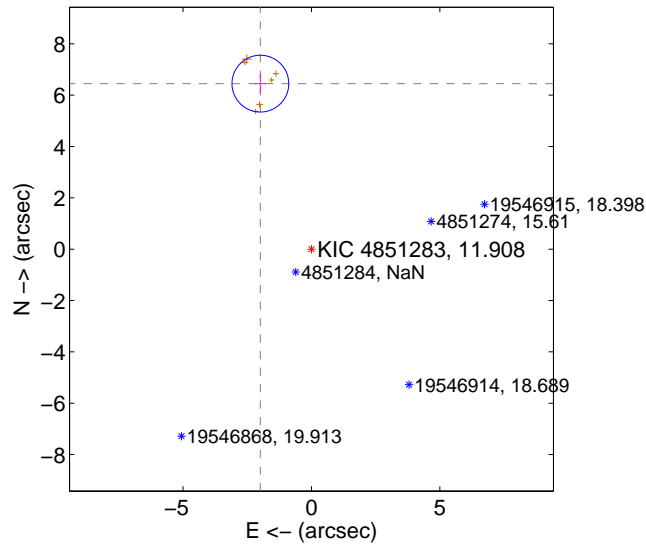
Supplemental centroid analysis for 004851283-01. **Kepler magnitude: 11.91.** Transit SNR 11.49

There are 0 quarters with good PRF difference image offsets

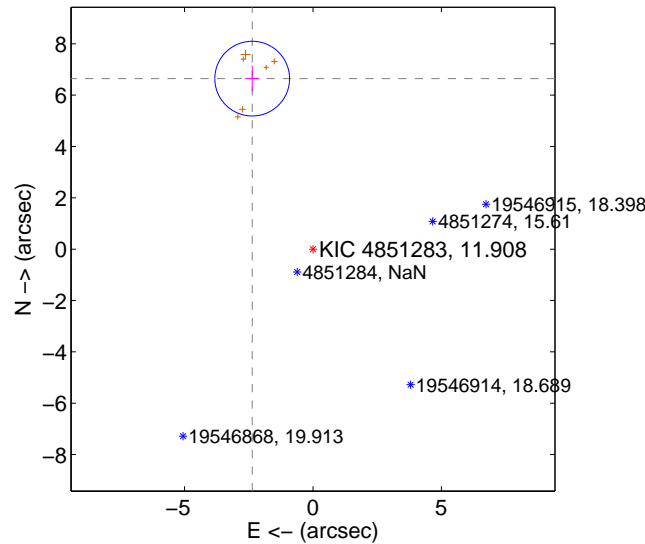
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.747 ± 0.369	18.30	1.989 ± 0.231	6.447 ± 0.379
PRF-fit source offset from KIC position	7.051 ± 0.485	14.54	2.367 ± 0.278	6.642 ± 0.505
photometric centroid source offset	4.64 ± 0.92	5.04	2.09 ± 0.94	4.14 ± 0.92

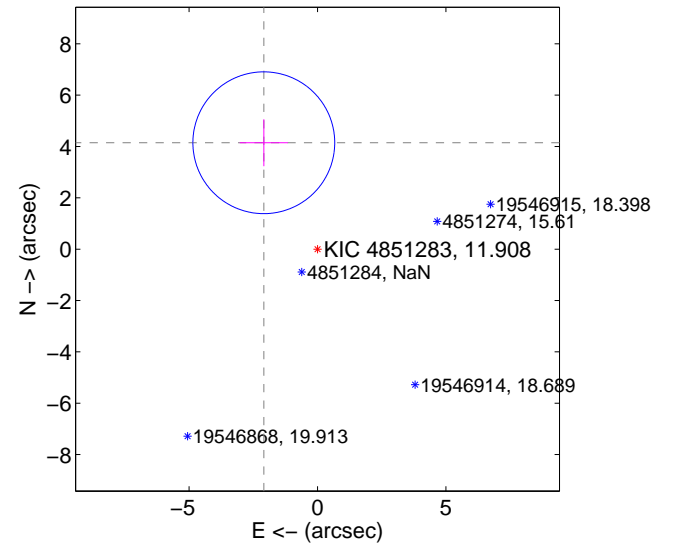
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

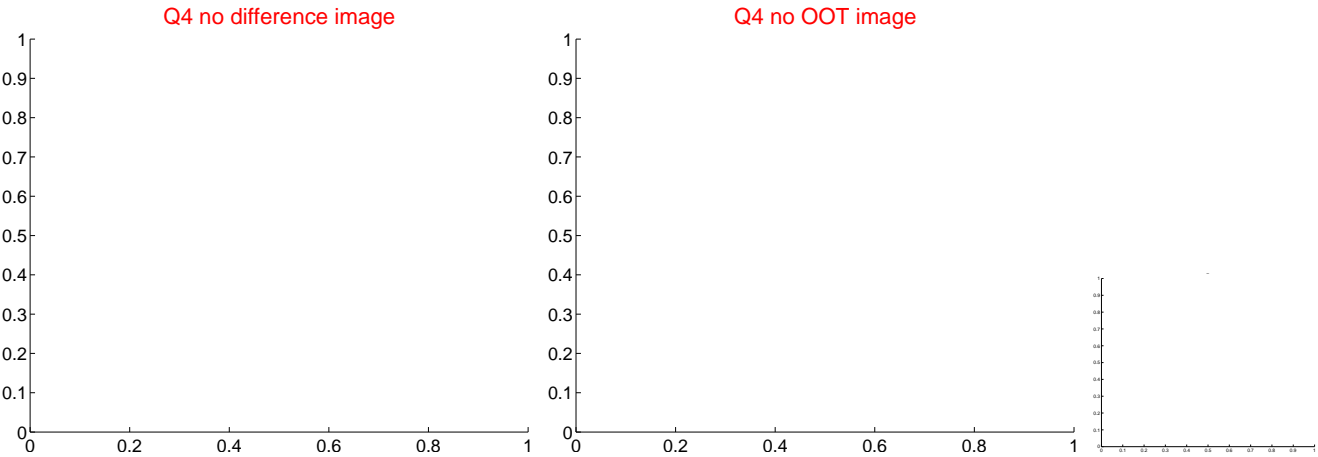
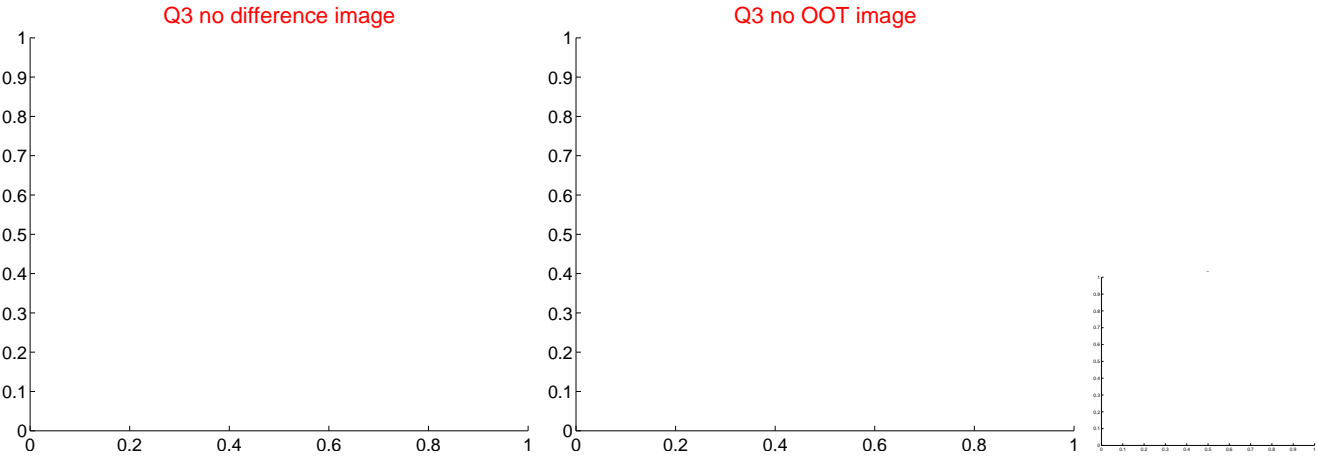
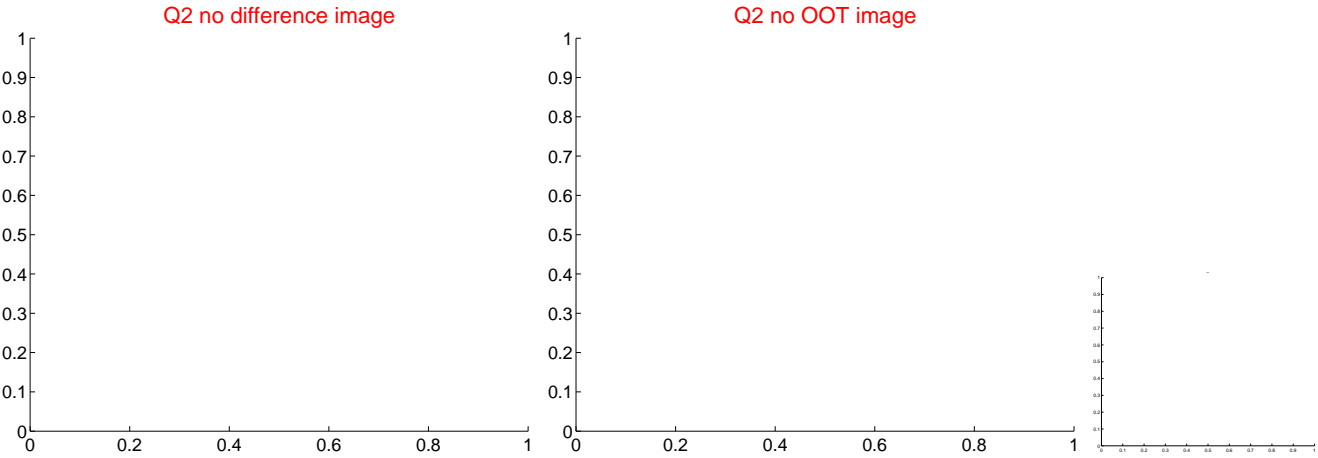
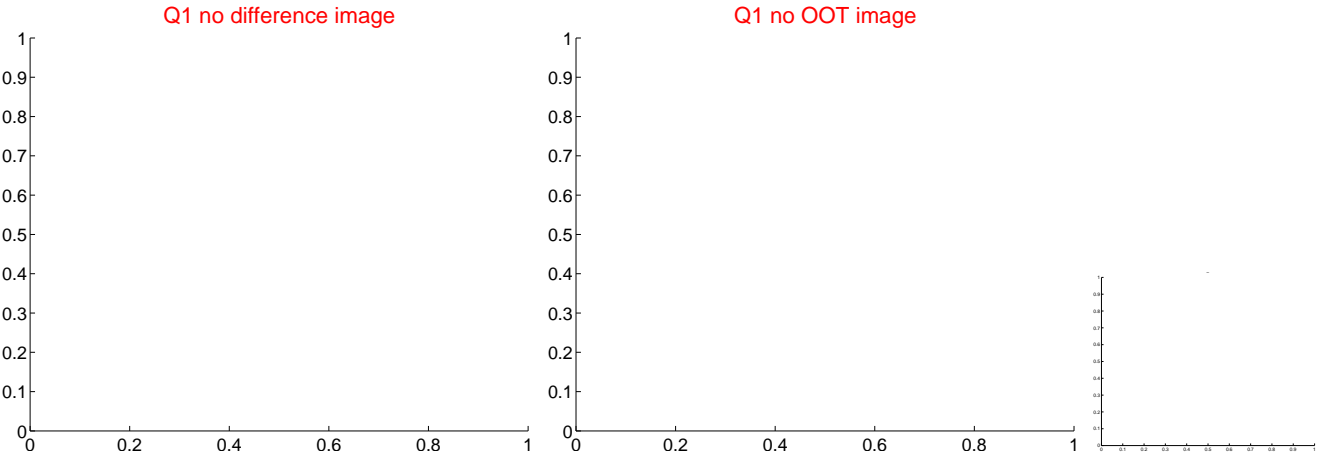


offset from photometric centroids

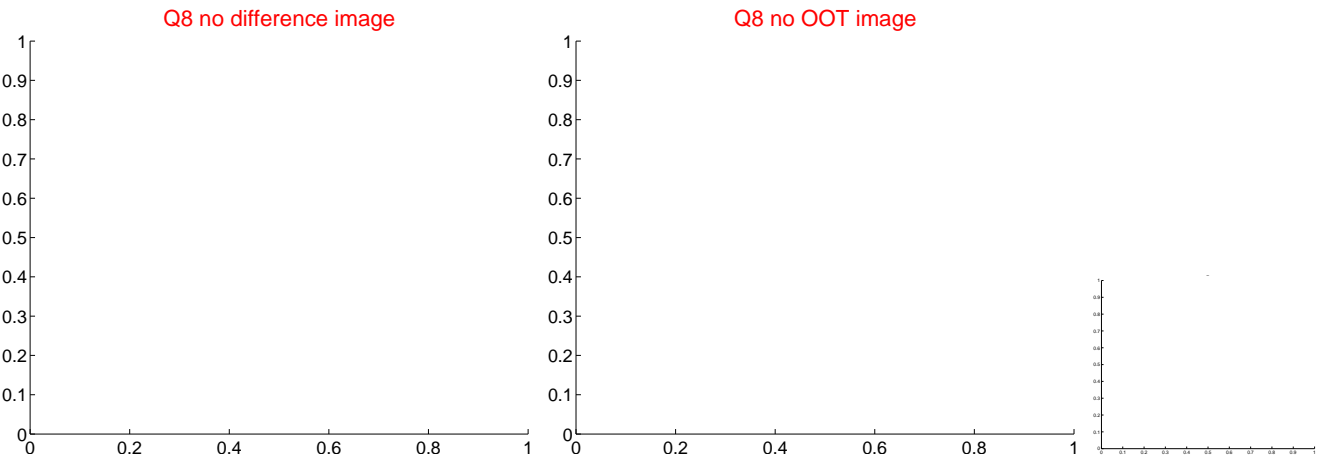
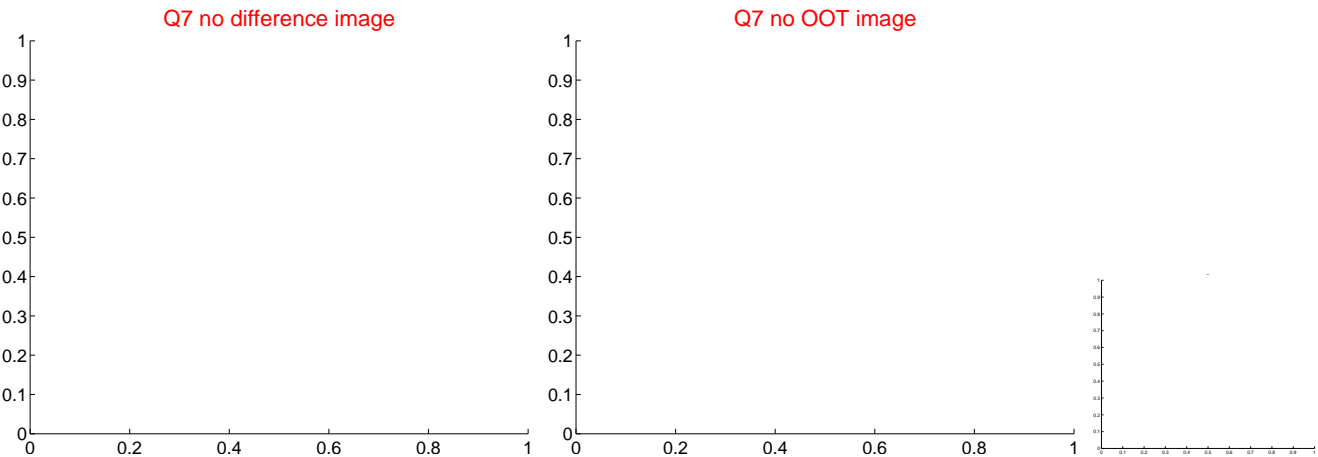
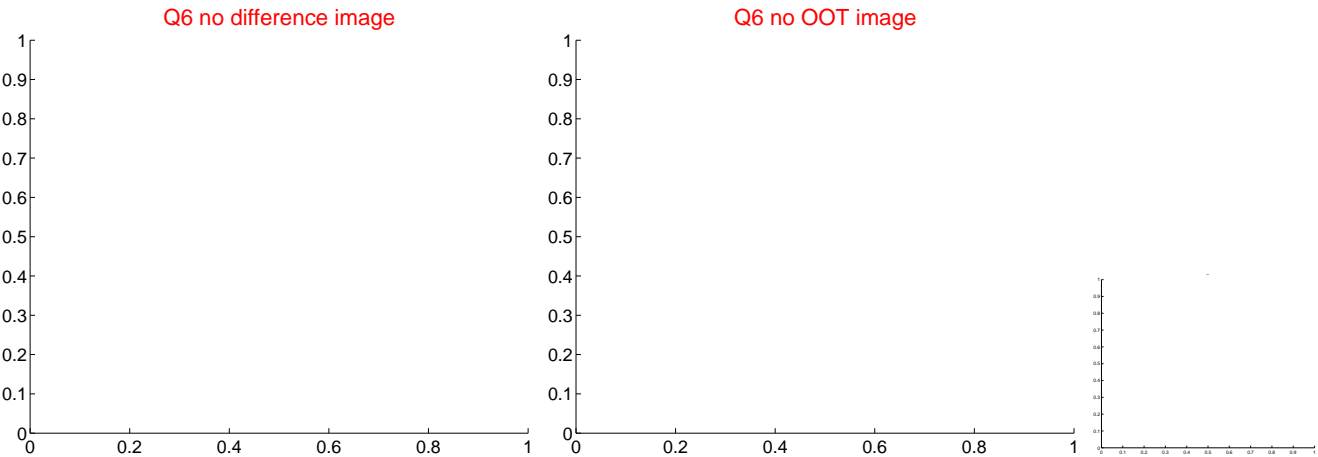
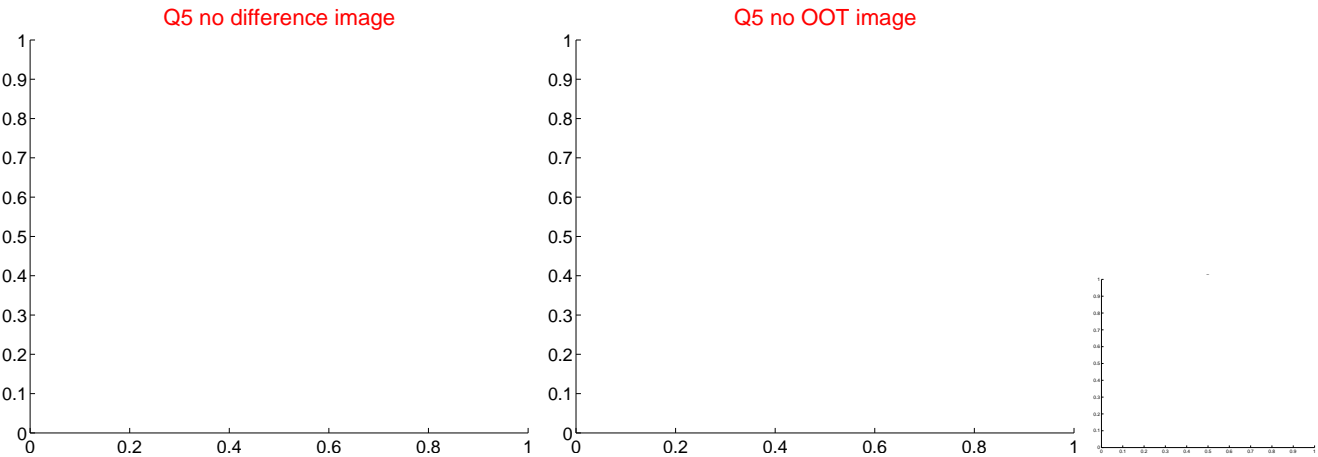


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

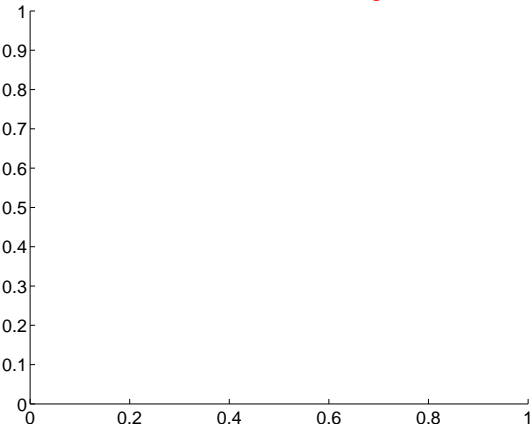


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

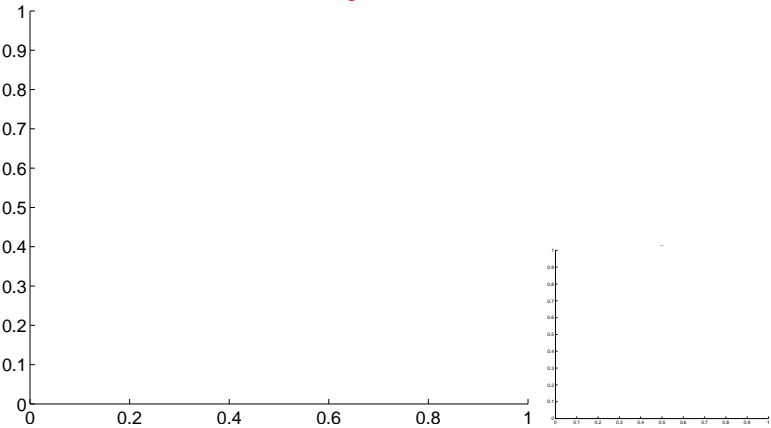


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

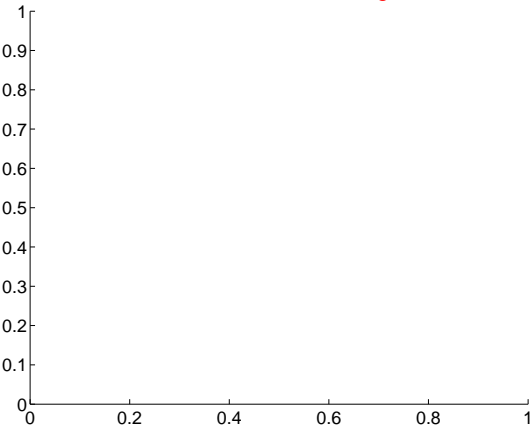
Q9 no difference image



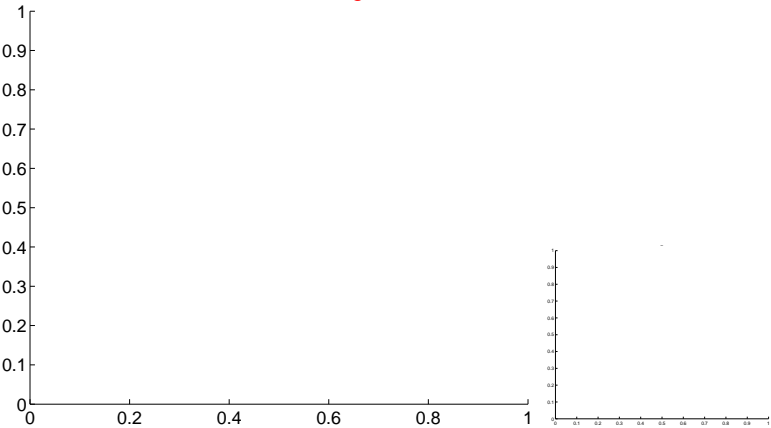
Q9 no OOT image



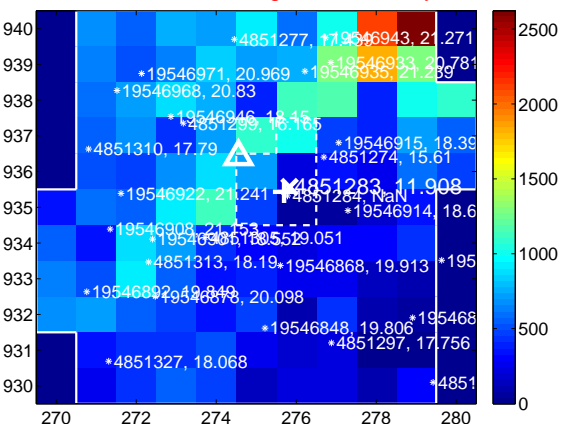
Q10 no difference image



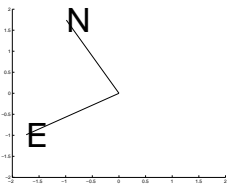
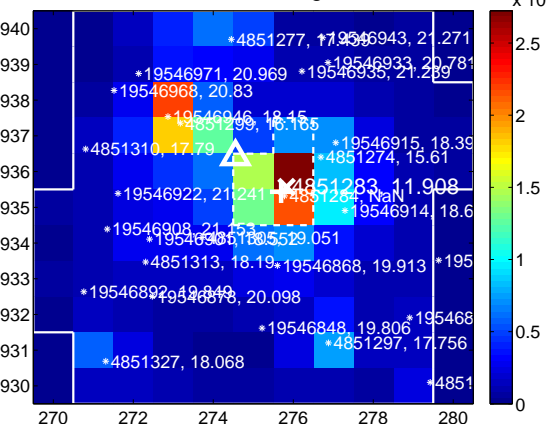
Q10 no OOT image



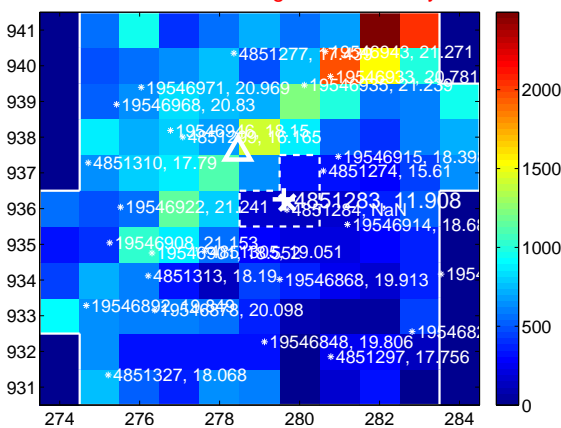
Q11 difference image. Poor Quality



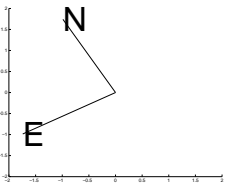
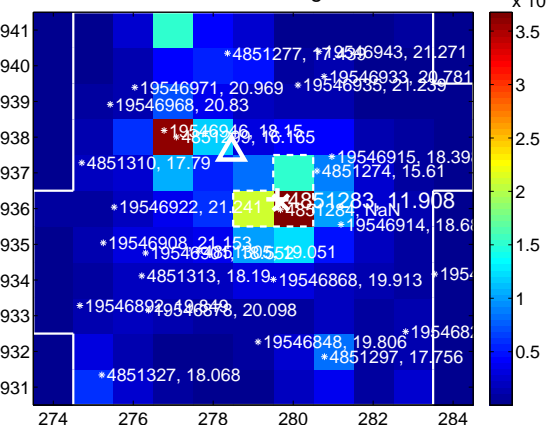
Q11 OOT image



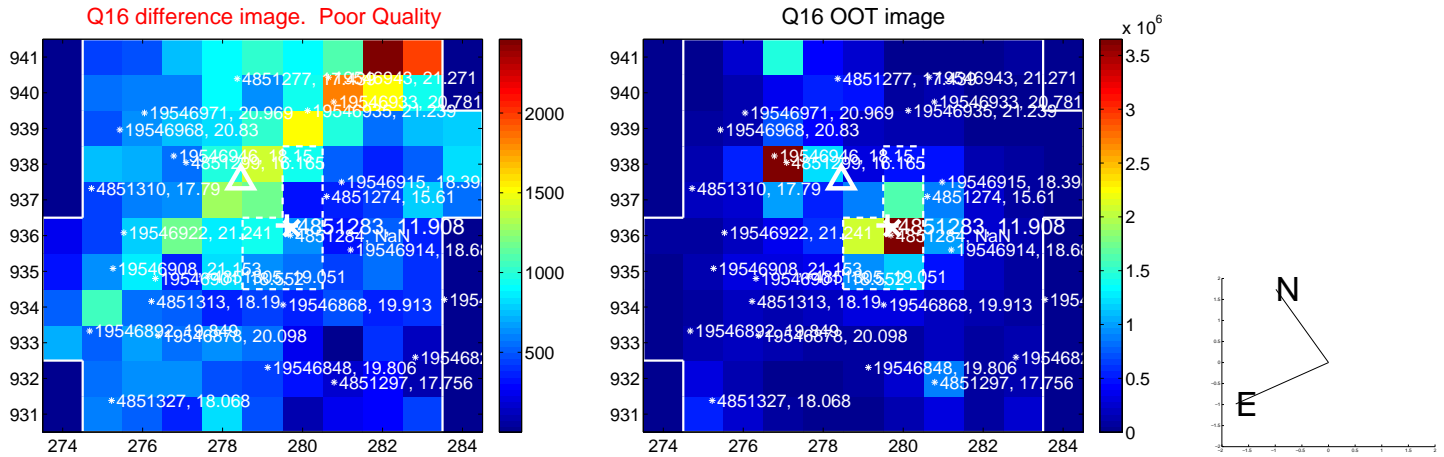
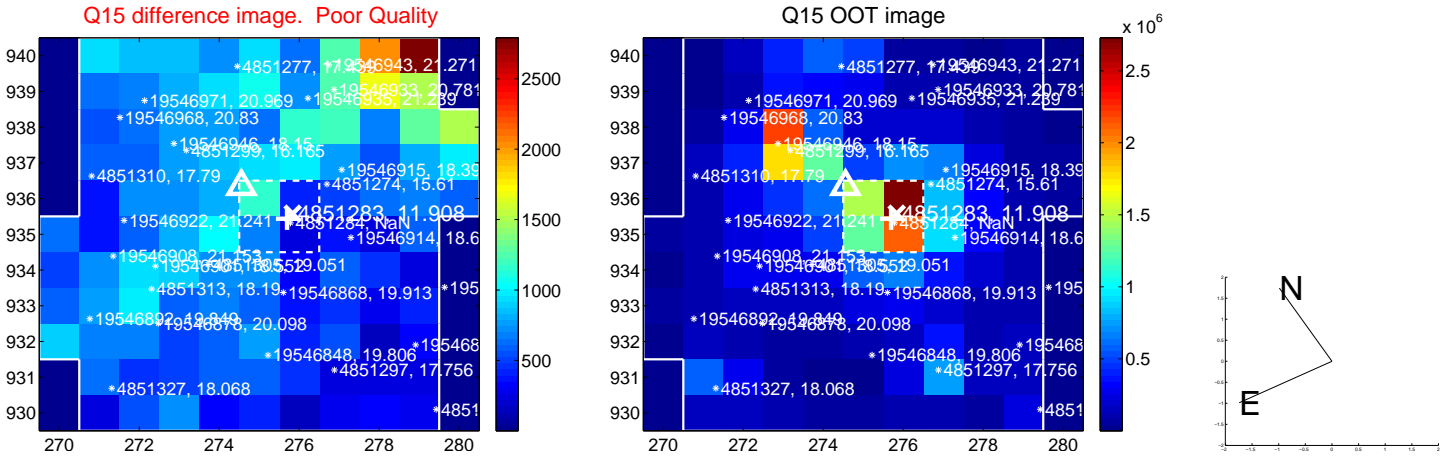
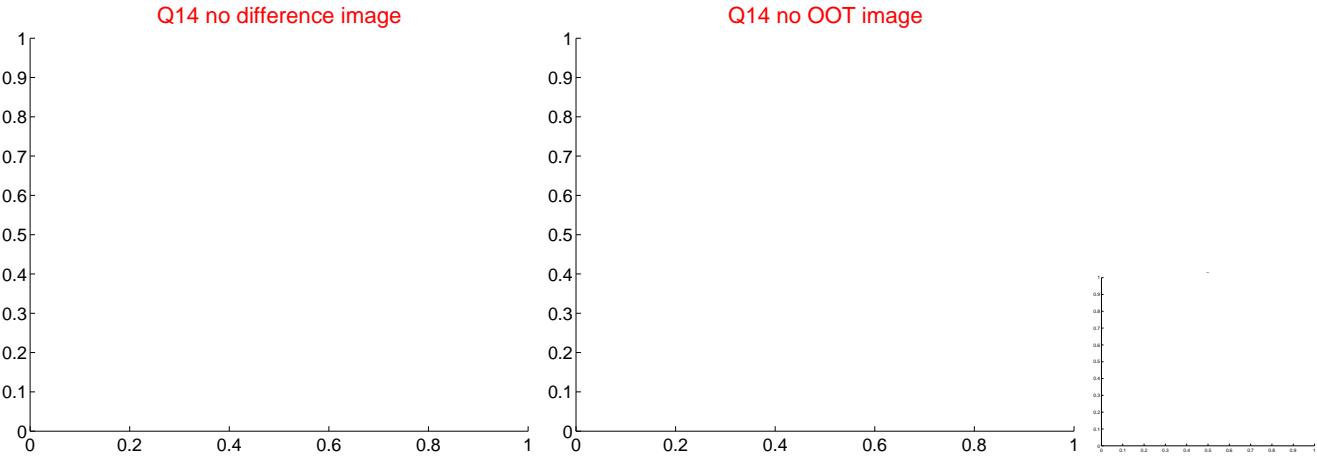
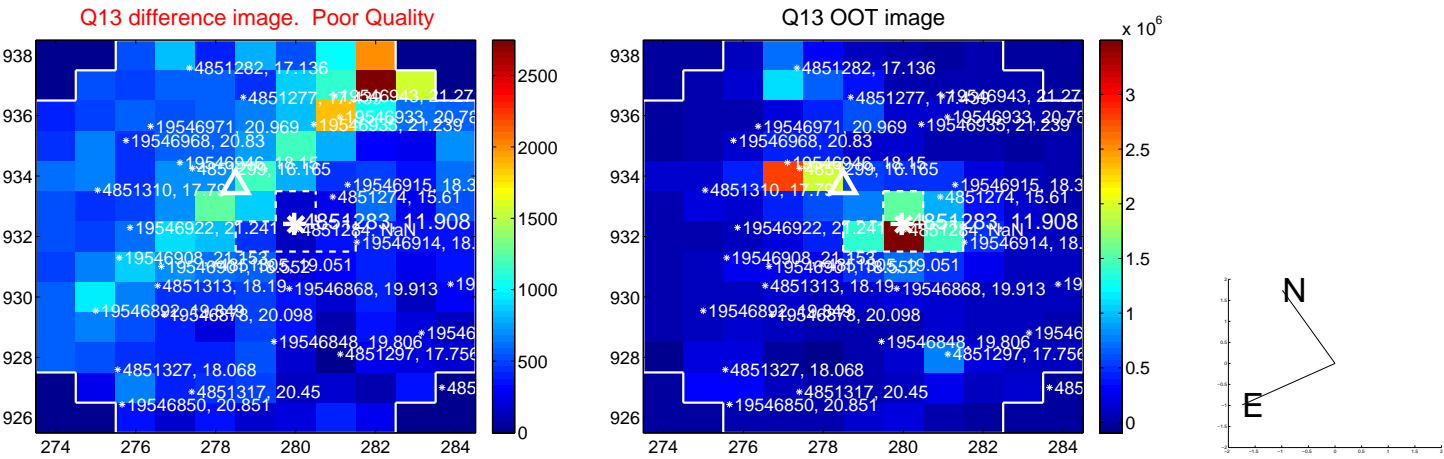
Q12 difference image. Poor Quality



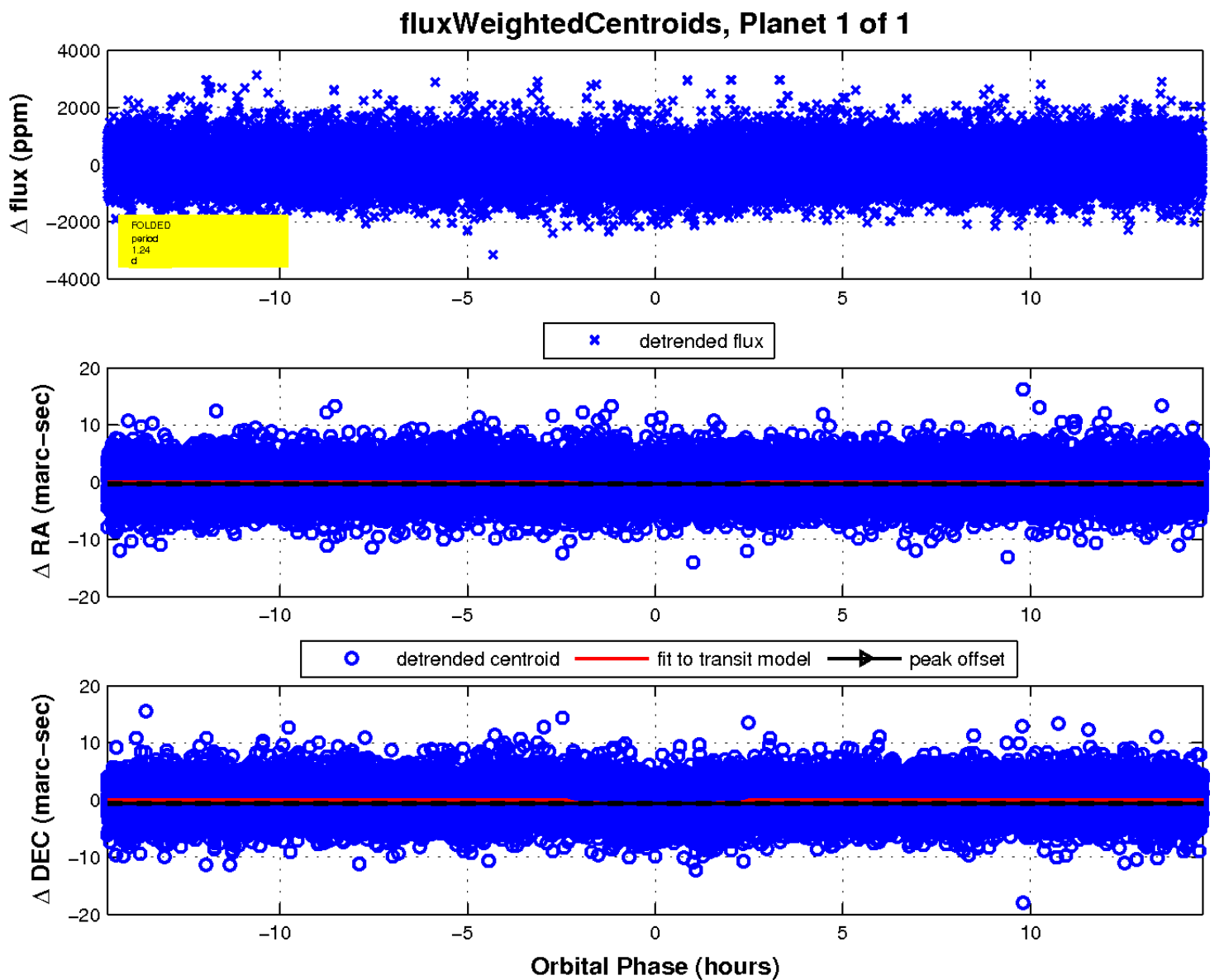
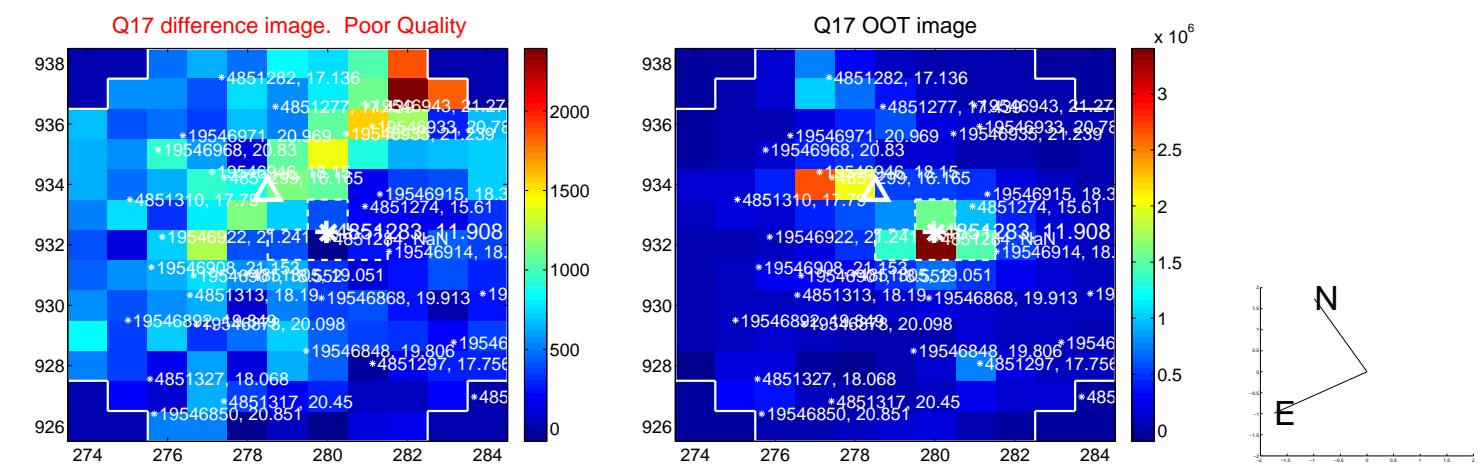
Q12 OOT image



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

