

KIC 005288570

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})
005288570-01	OBS	2136.01	1.728504	131.818864	189.9	4.604	19.8	22.0	3.28	6153	6.24	12967.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005288570-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—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 005288570-01

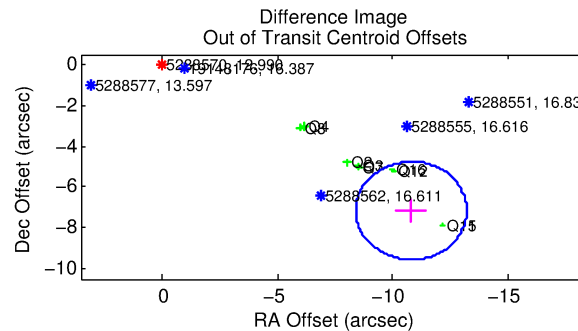
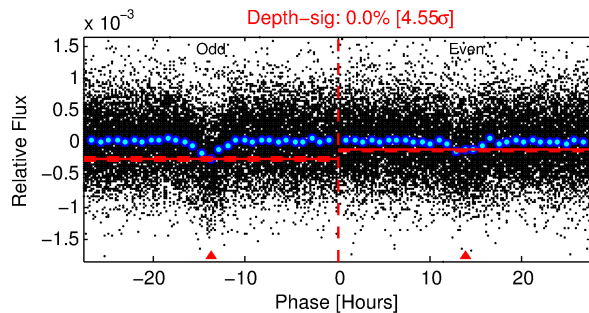
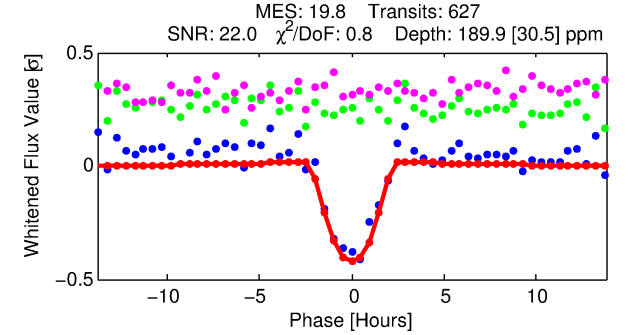
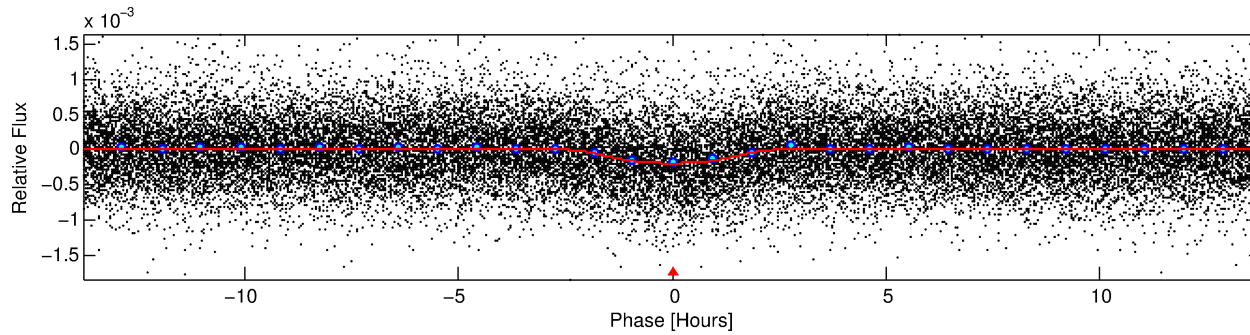
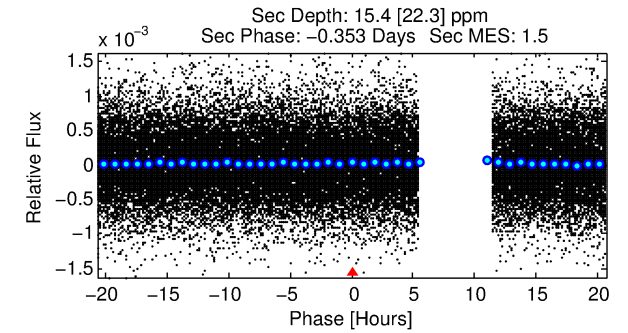
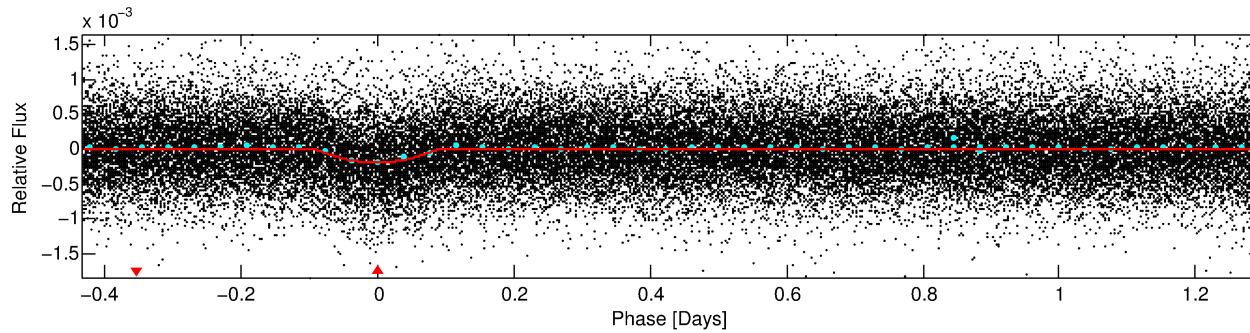
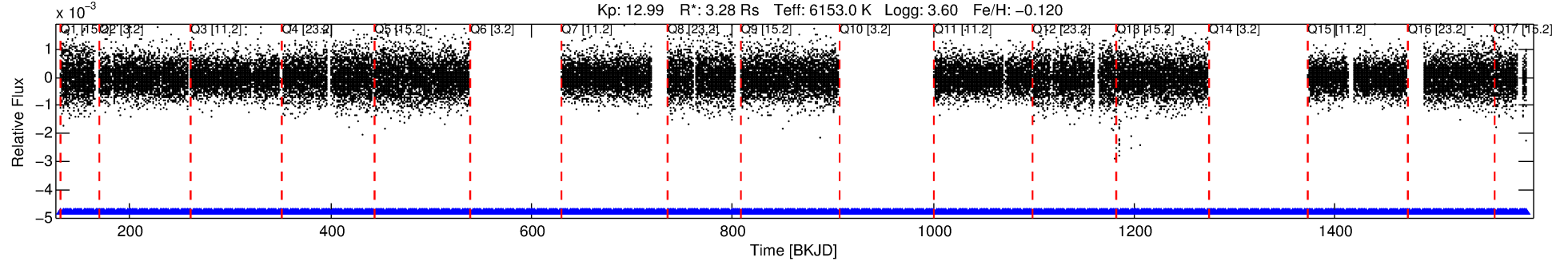
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005288570-01	5288570	005288543-01	5288543	1:1	23.9	-1	-6	13.59	12.99	1646.40	Direct-PRF	0	1.43	0.72

Notes: $P_1:P_2$ 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. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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: 5288570 Candidate: 1 of 1 Period: 1.729 d
KOI: K02136.01 Corr: 0.877

Kp: 12.99 R*: 3.28 Rs Teff: 6153.0 K Logg: 3.60 Fe/H: -0.120



DV Fit Results:

Period = 1.72850 [0.00001] d
Epoch = 131.8189 [0.0035] BKJD
Rp/R* = 0.0174 [0.0024]
a/R* = 1.24 [0.06]
b = 0.98 [0.01]
Seff = 12967.09 [13371.05]
Teff = 2721 [701] K
Rp = 6.24 [3.71] Re
a = 0.0326 [0.0199] AU
Ag = 0.23 [0.42] [-1.85σ]
Teffp = 2918 [1080] K [0.15σ]

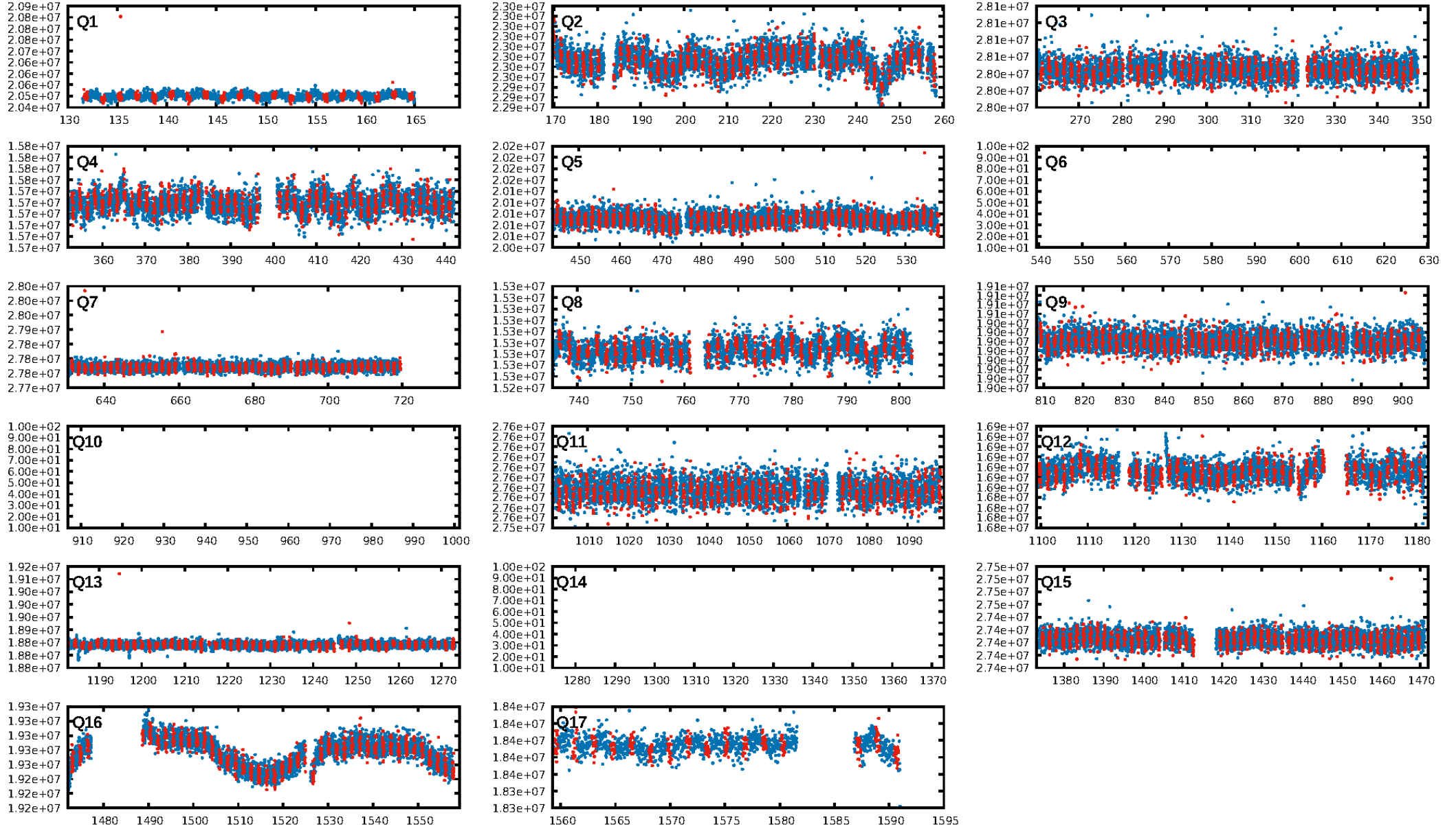
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.41e-79
RollingBand-fgt: 1.00 [591/591]
GhostDiagnostic-chr: -0.05262
Centroid-sig: 0.0%
Centroid-so: 5.927 arcsec [19.53σ]
OotOffset-rm: 12.948 arcsec [16.19σ]
KicOffset-rm: 11.634 arcsec [13.41σ]
OotOffset-st: 1/4/4/0 [9]
KicOffset-st: 1/4/4/0 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [14/14]

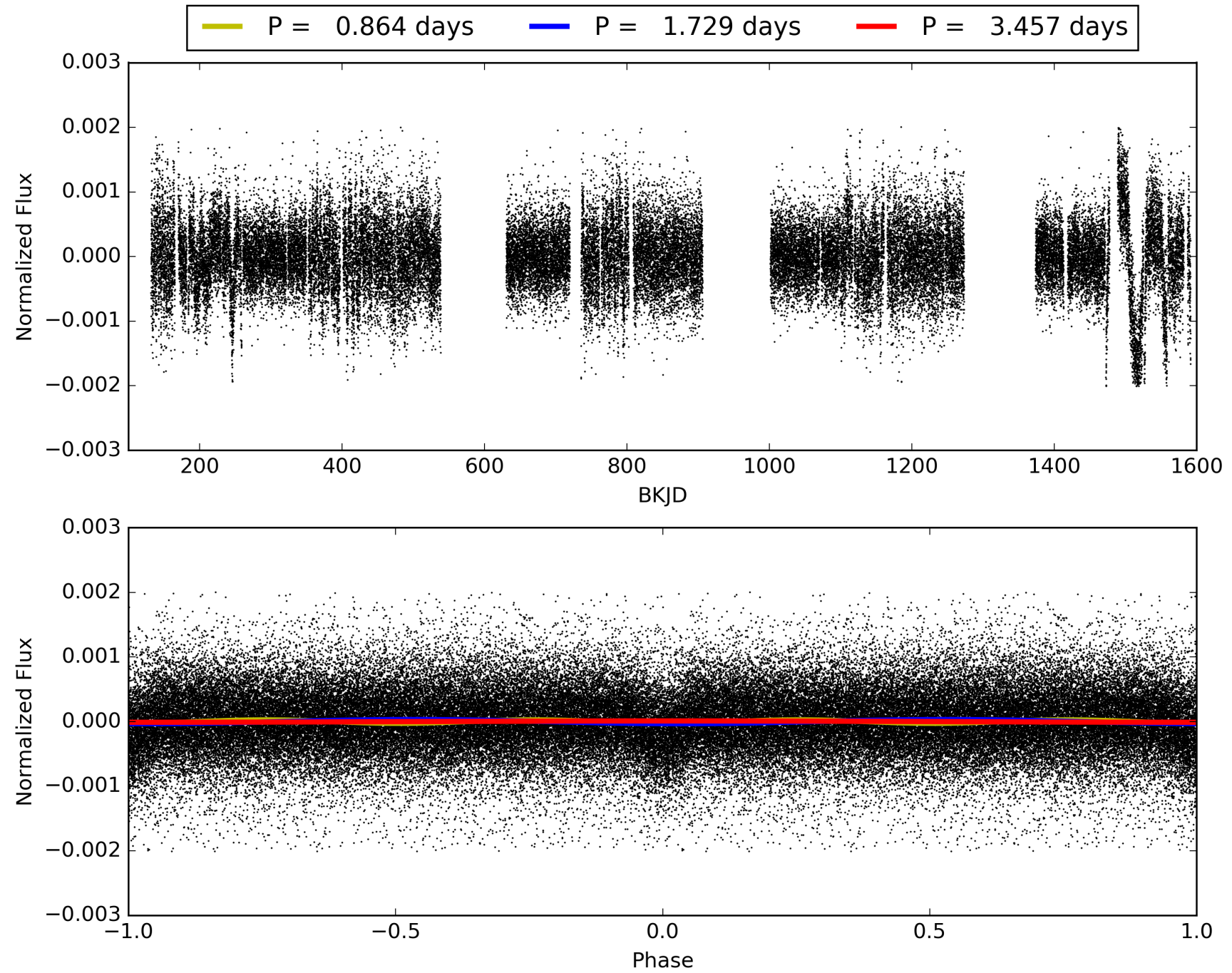
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:23:45 Z

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

TCE 005288570-01, PDC Light Curves

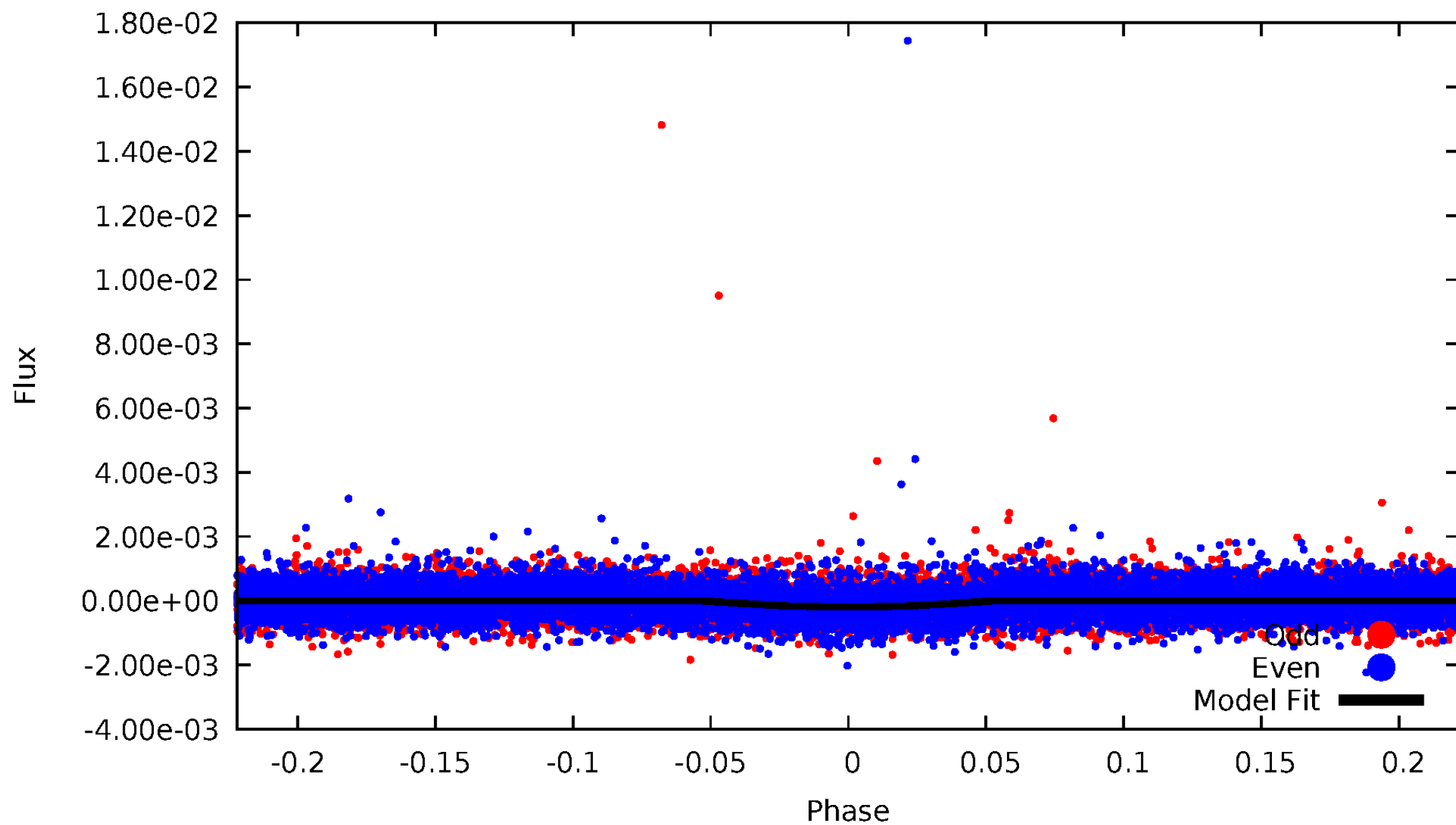


TCE 005288570-01



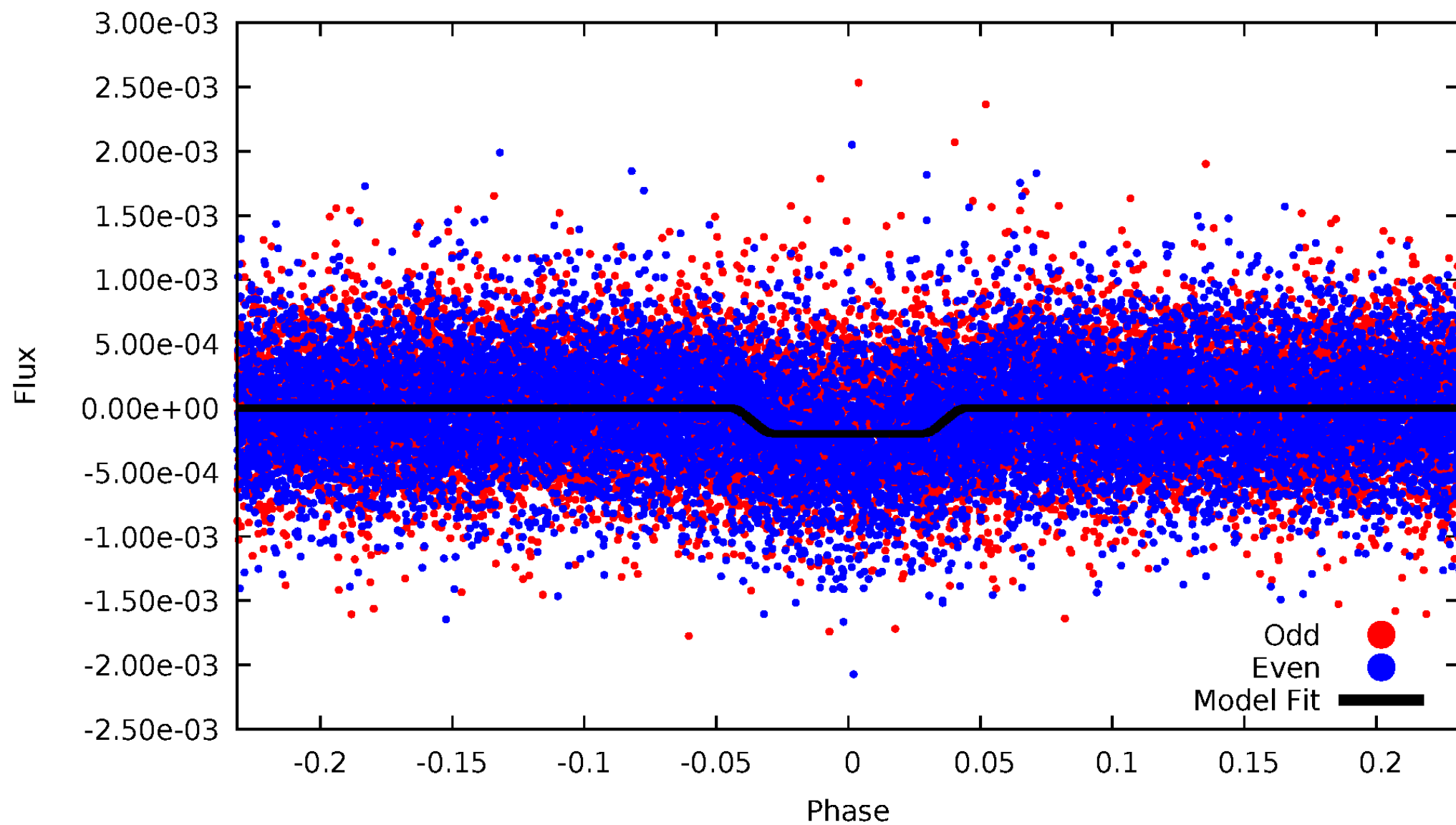
DV Odd/Even

TCE 005288570-01



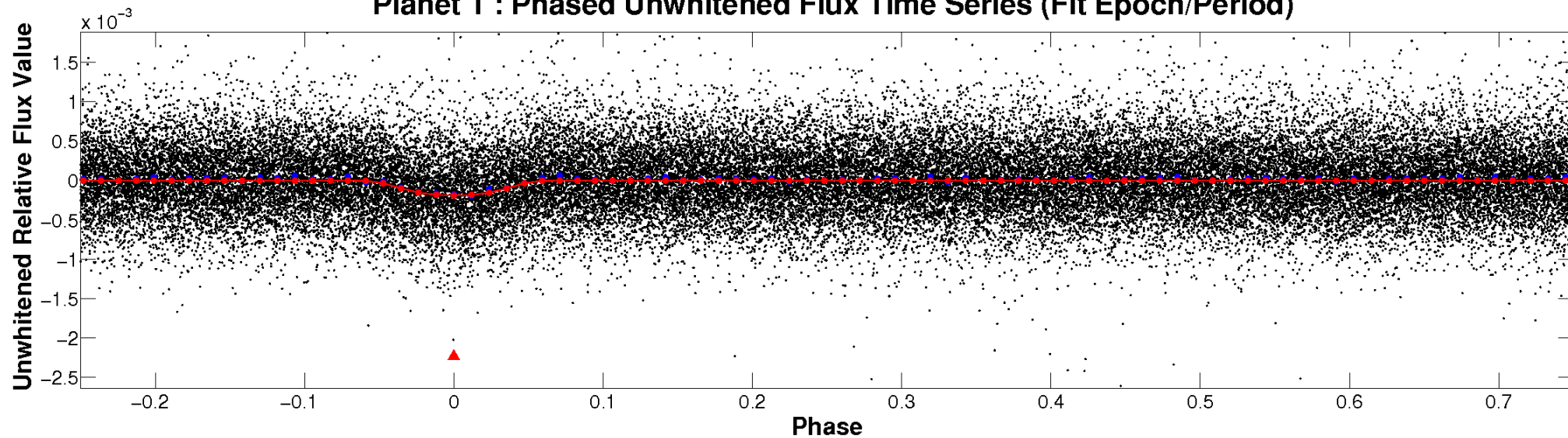
ALT Odd/Even

TCE 005288570-01

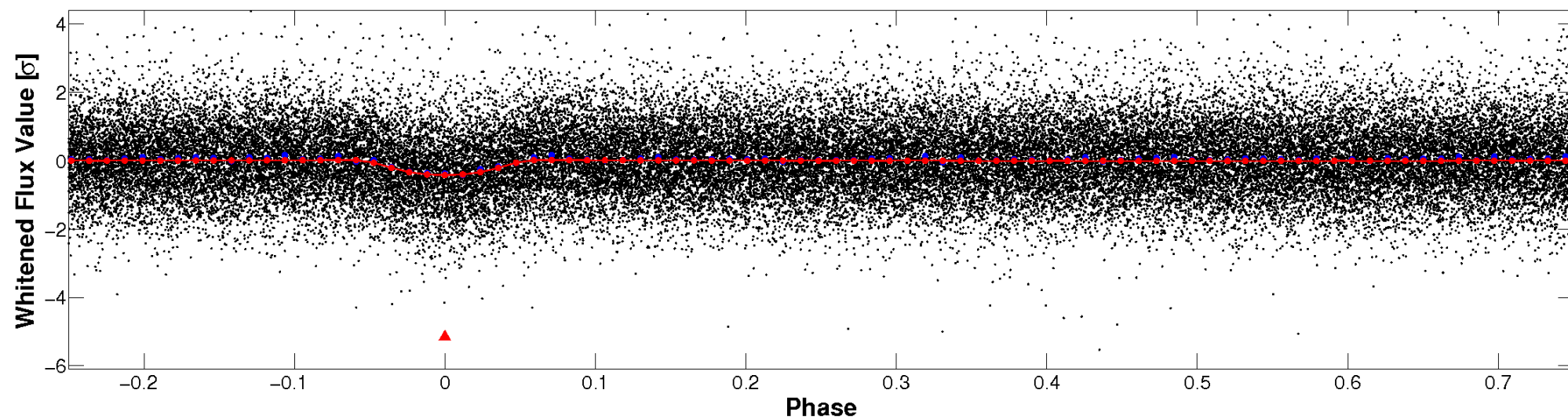


Non-Whitened Vs. Whitened Light Curve

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

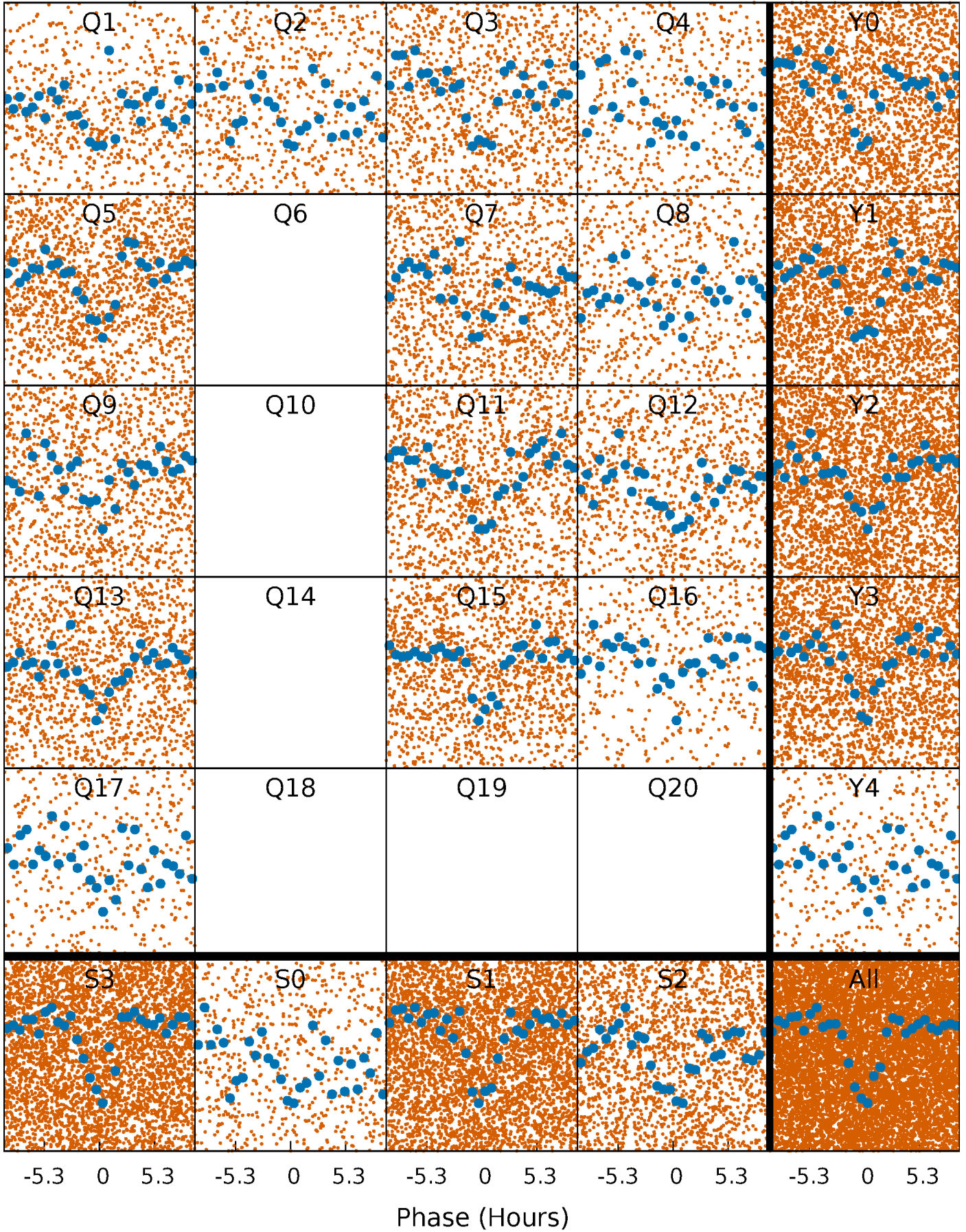


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



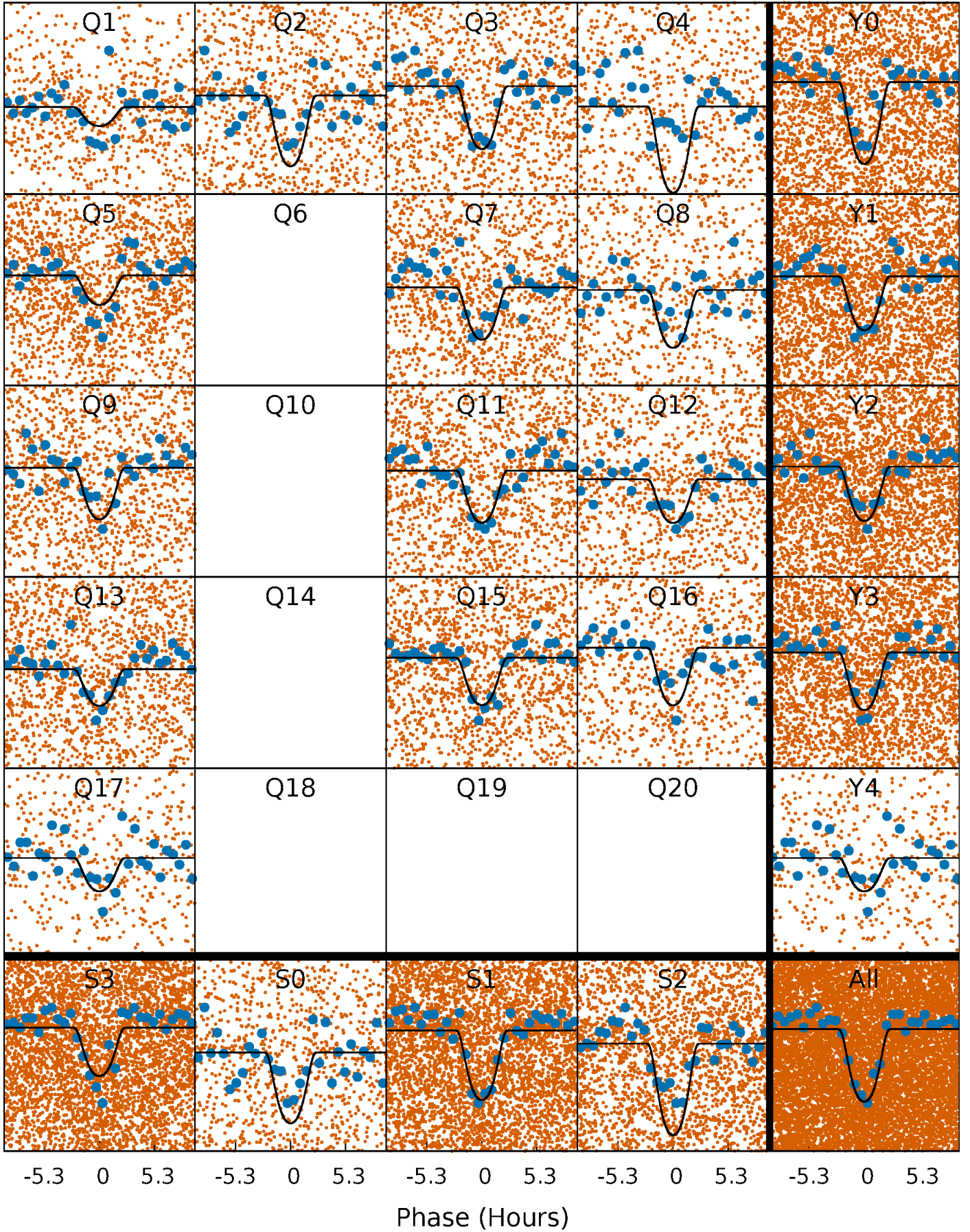
PDC Quarter-Phased Transit Curves

TCE 005288570-01 P= 1.728504 Days $T_0=131.818864$ (BKJD)



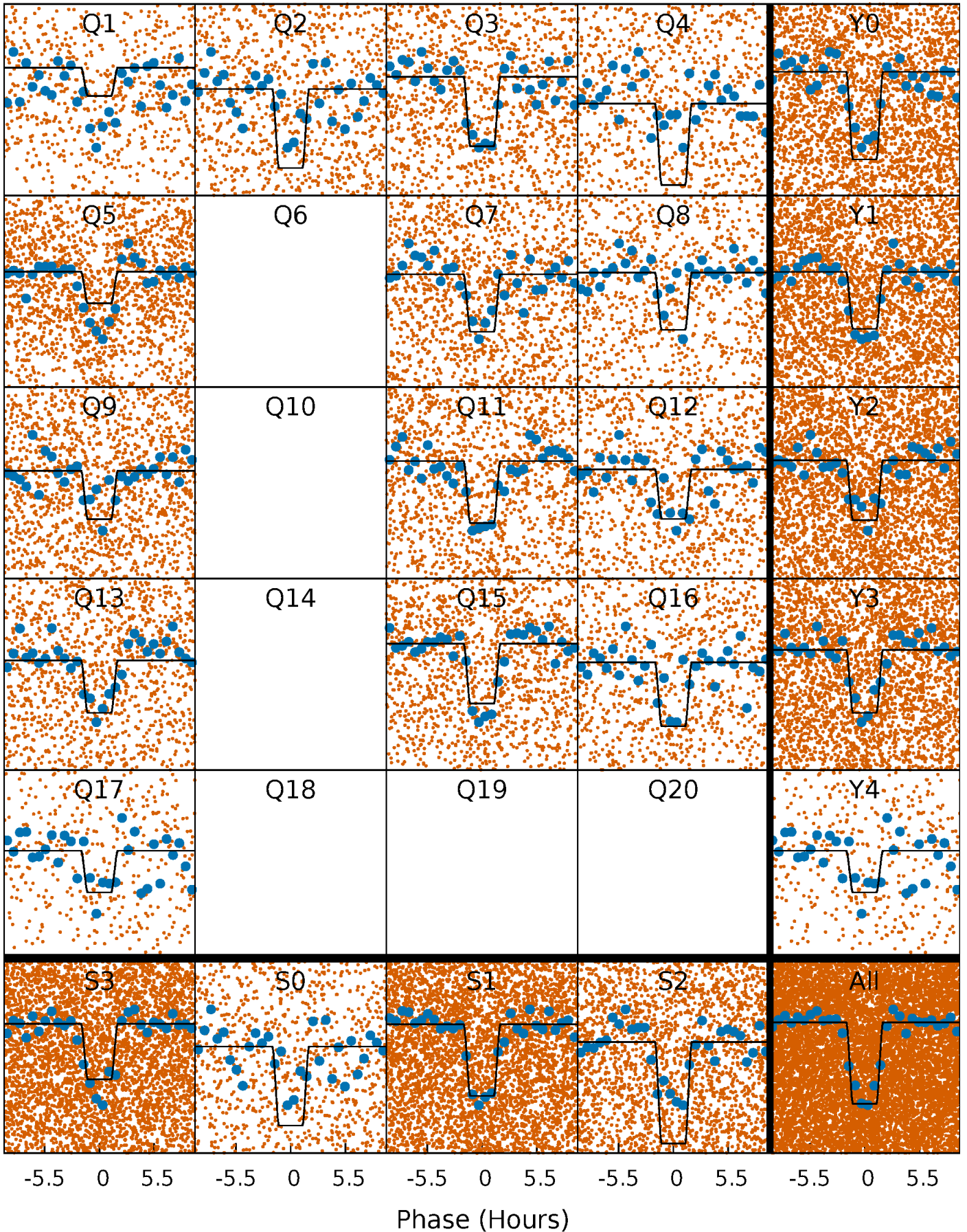
DV Quarter-Phased Transit Curves

TCE 005288570-01 P= 1.728504 Days $T_0=131.818864$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

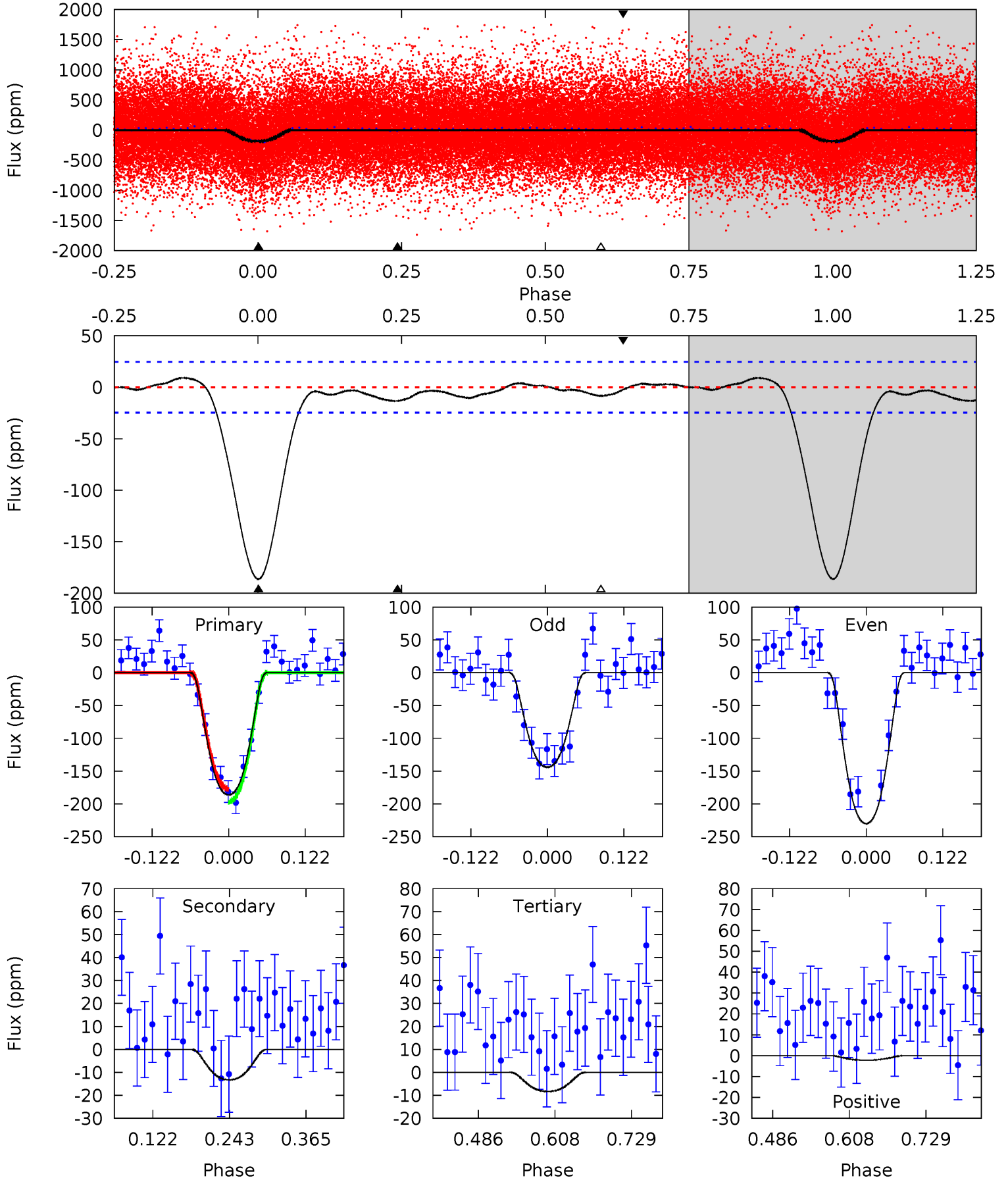
TCE 005288570-01 P= 1.728525 Days $T_0=131.811078$ (BKJD)



DV Model-Shift Uniqueness Test

005288570-01, P = 1.728504 Days, E = 130.090360 Days

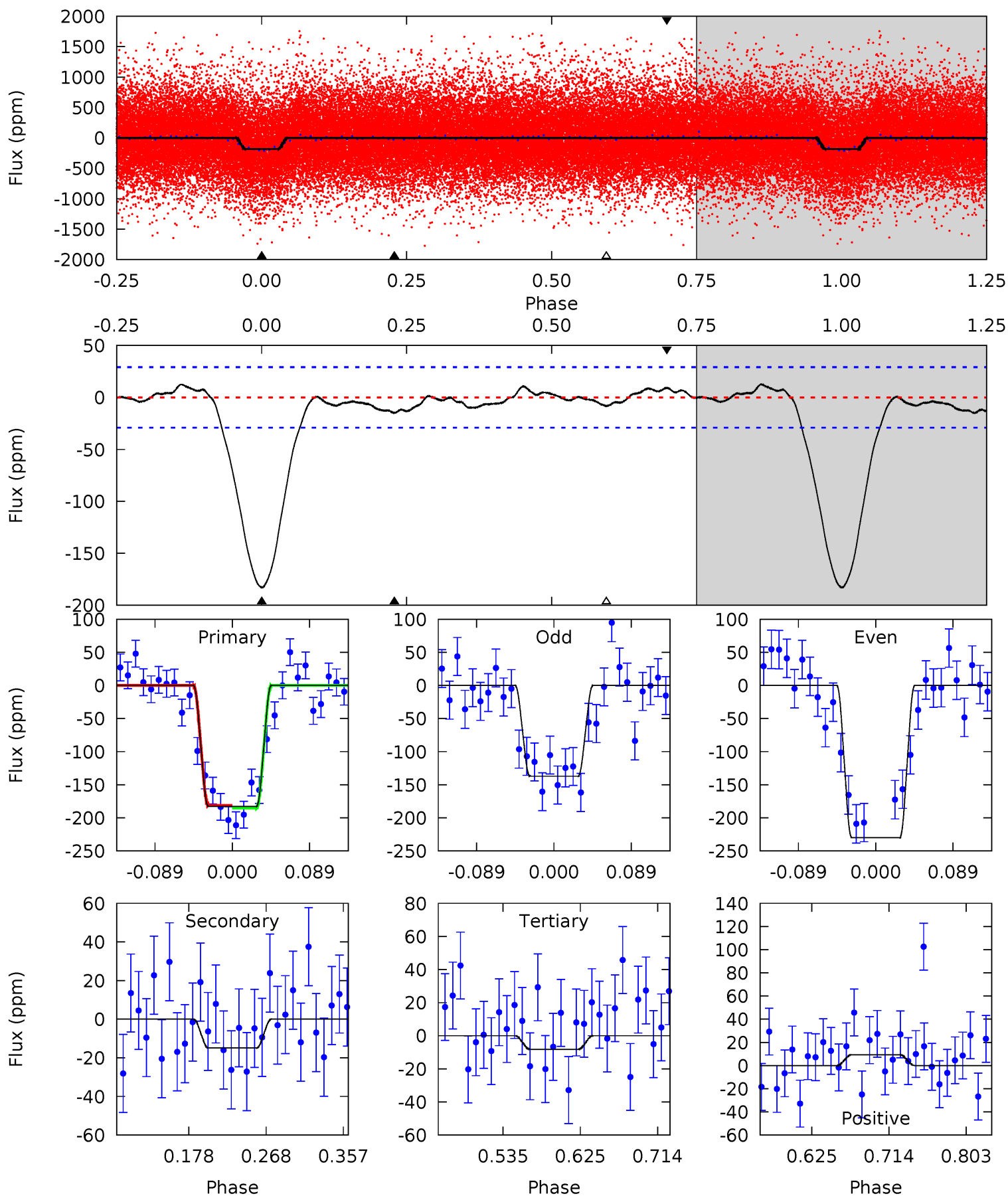
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.1	2.43	1.52	-0.40	4.52	1.55	0.81	32.6	34.5	0.91	2.83	7.91	0.97	0.05	1.81



Alt Model-Shift Uniqueness Test

005288570-01, P = 1.728525 Days, E = 130.082553 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.8	2.35	1.30	1.45	4.59	1.70	0.87	27.5	27.4	1.05	0.89	7.35	1.00	0.06	0.32



Stellar Parameters For KIC 005288570

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6153^{+217}_{-217}	$3.597^{+0.616}_{-0.115}$	$-0.120^{+0.300}_{-0.250}$	$3.279^{+0.507}_{-1.900}$	$1.550^{+0.172}_{-0.481}$	$0.062^{+0.640}_{-0.021}$
	+4%/-4%	+17%/-3%	+250%/-208%	+15%/-58%	+11%/-31%	+1034%/-34%
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 005288570-01 / KOI 2136.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-13 ± 5	$5.69^{+1.39}_{-1.71}$	3675^{+305}_{-535}	-2825^{+5886}_{-512}	$0.230^{+0.256}_{-0.115}$
Alt.	-15 ± 6	$4.65^{+1.22}_{-1.41}$	3715^{+280}_{-507}	3020^{+623}_{-6069}	$0.410^{+0.435}_{-0.211}$

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

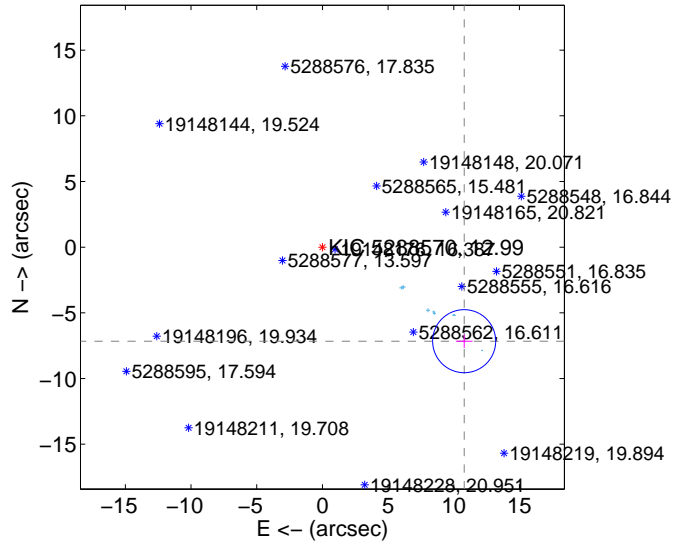
Supplemental centroid analysis for 005288570-01. Kepler magnitude: 12.99. Transit SNR 21.96

There are 9 quarters with good PRF difference image offsets

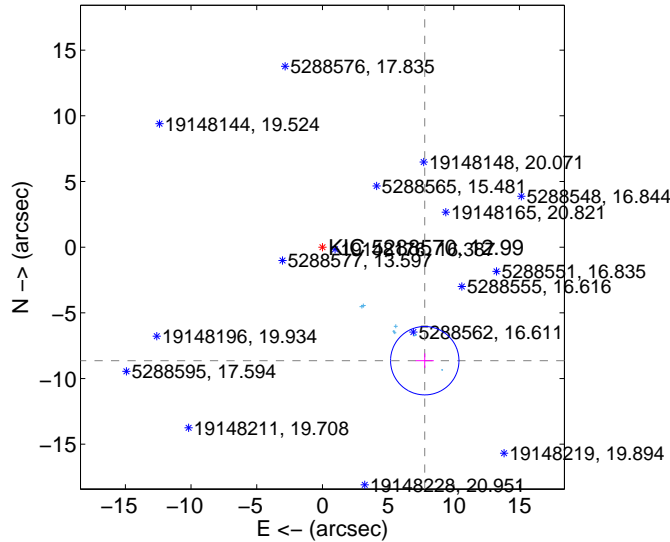
The OOT PRF centroid is offset from the target star catalog position by about 3.35 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.948 ± 0.800	16.19	-10.791 ± 0.633	-7.157 ± 0.513
PRF-fit source offset from KIC position	11.634 ± 0.868	13.41	-7.790 ± 0.689	-8.642 ± 0.559
photometric centroid source offset	5.93 ± 0.30	19.53	-3.49 ± 0.31	-4.79 ± 0.30

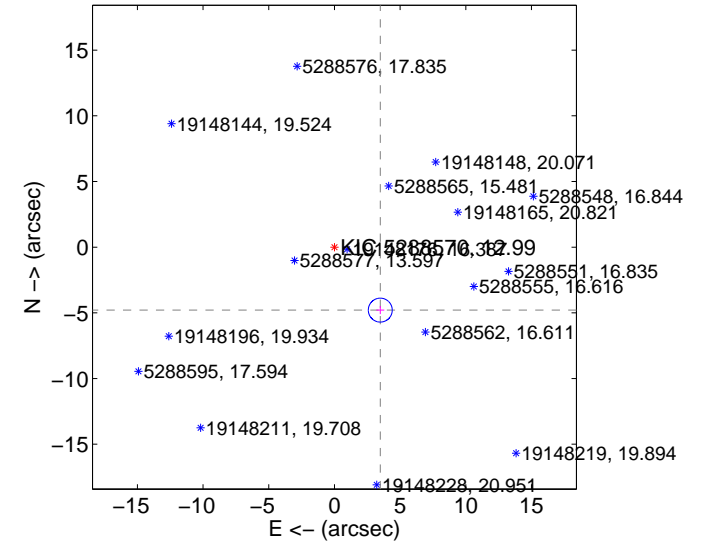
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

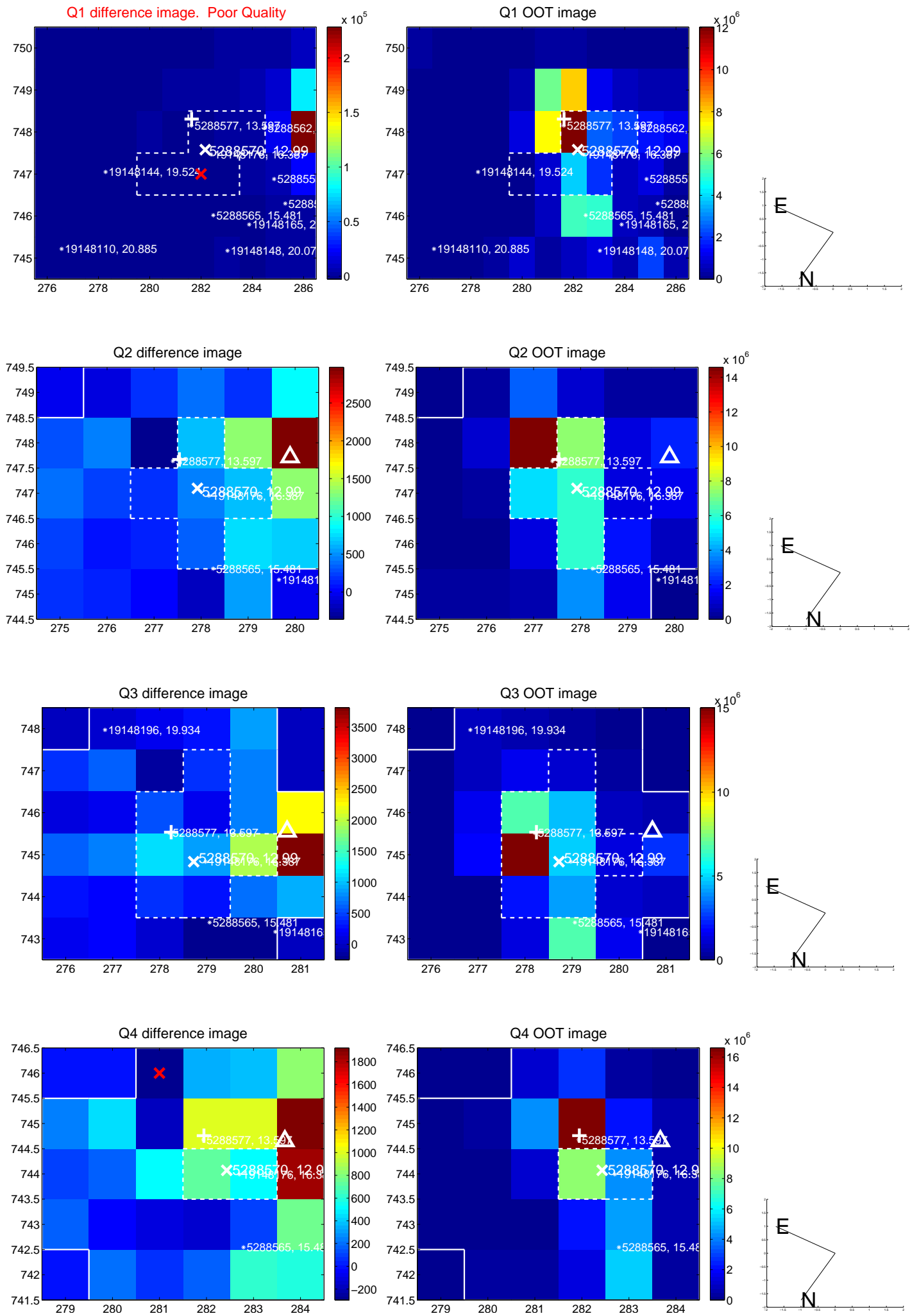


offset from photometric centroids

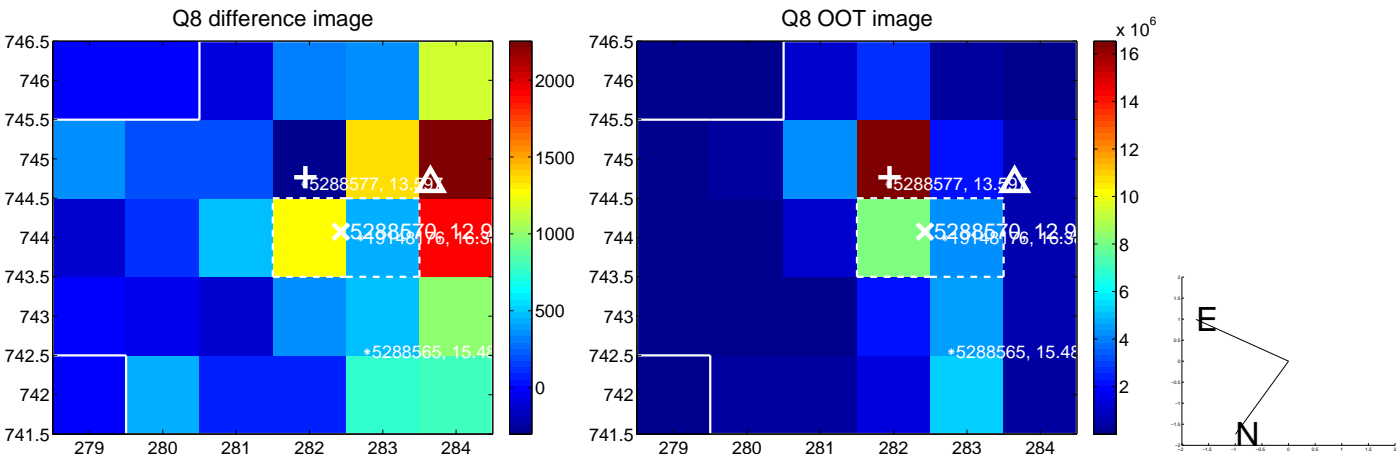
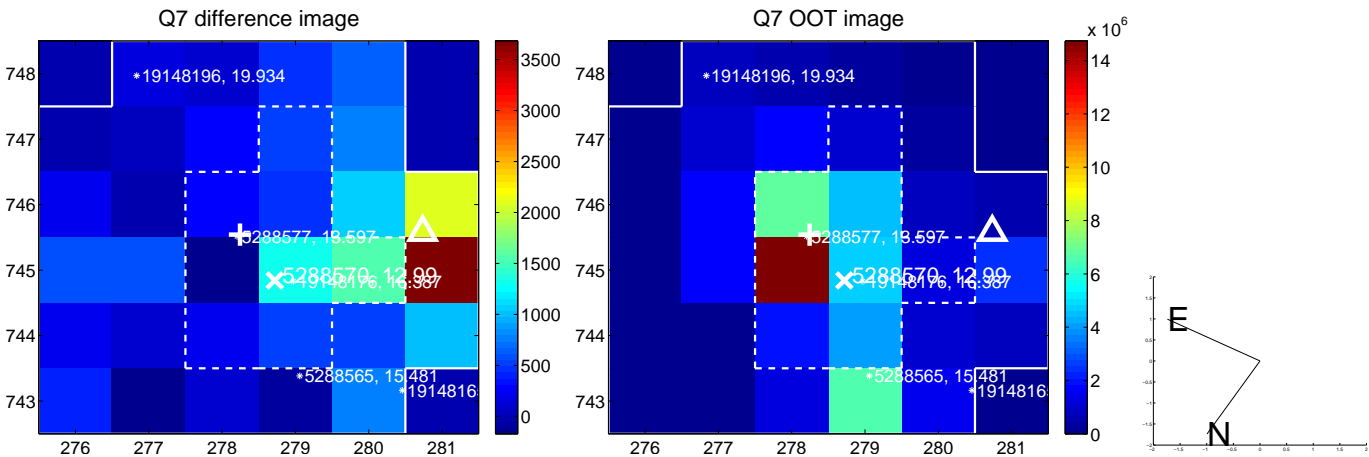
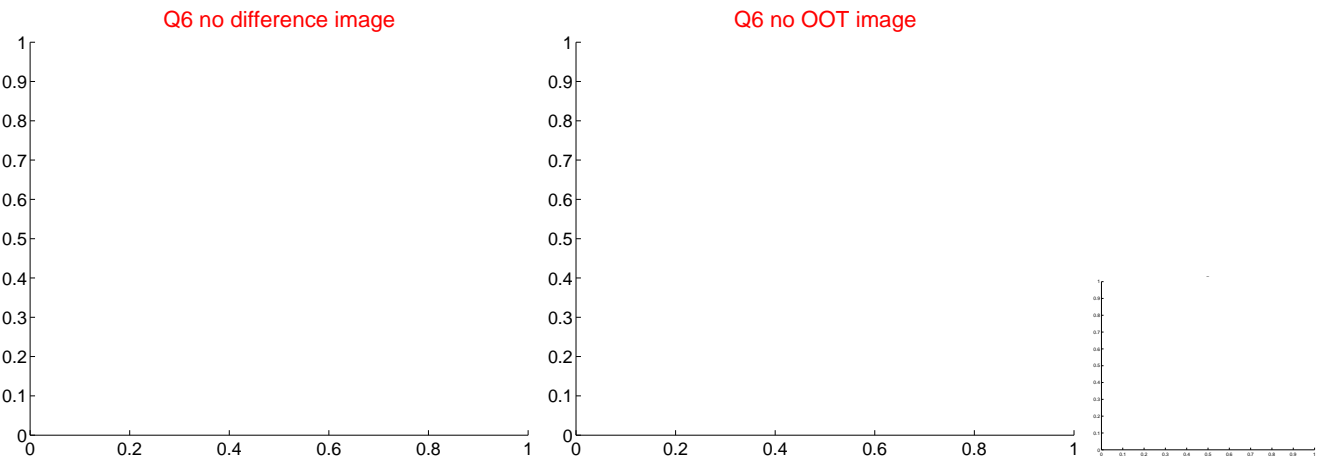
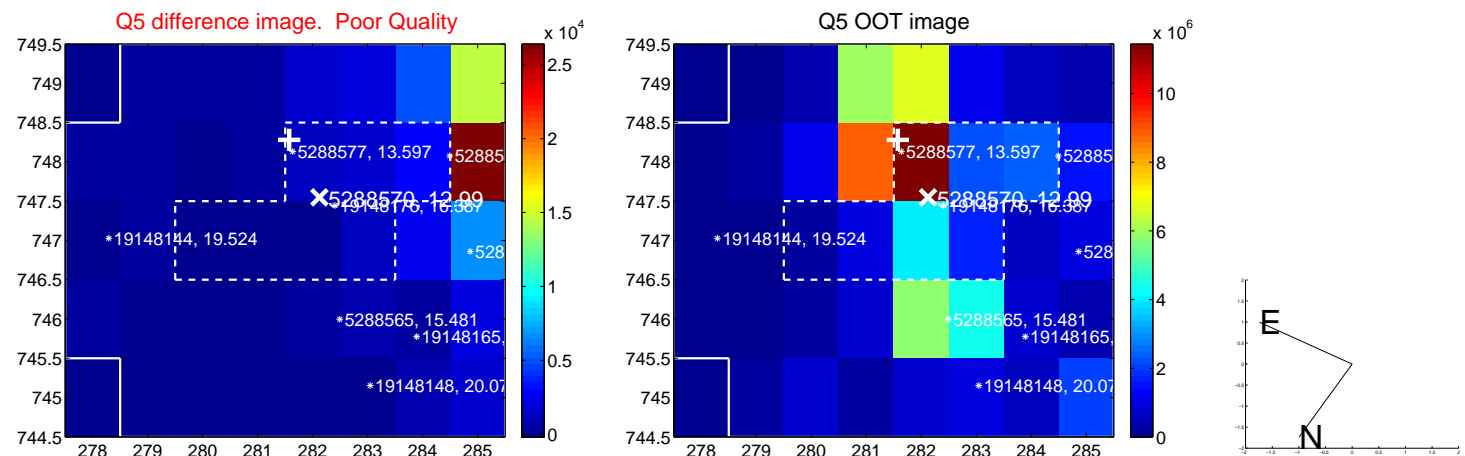


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

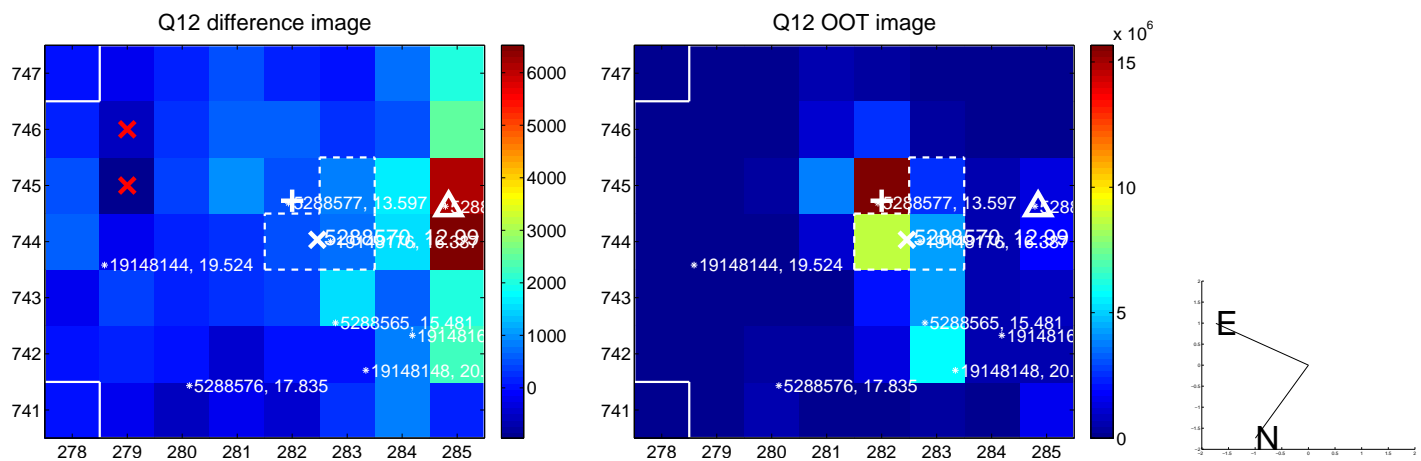
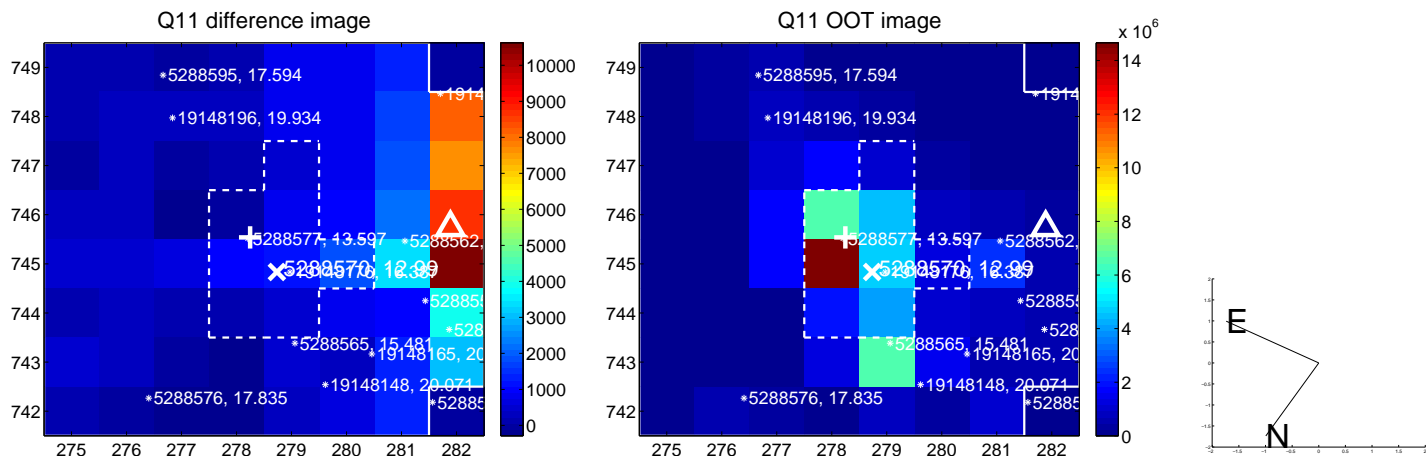
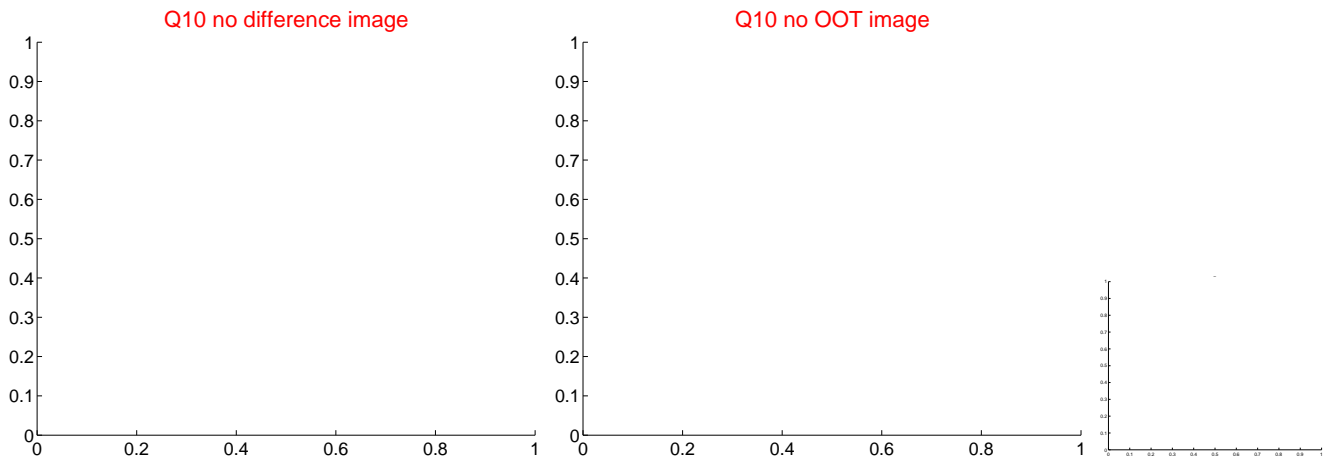
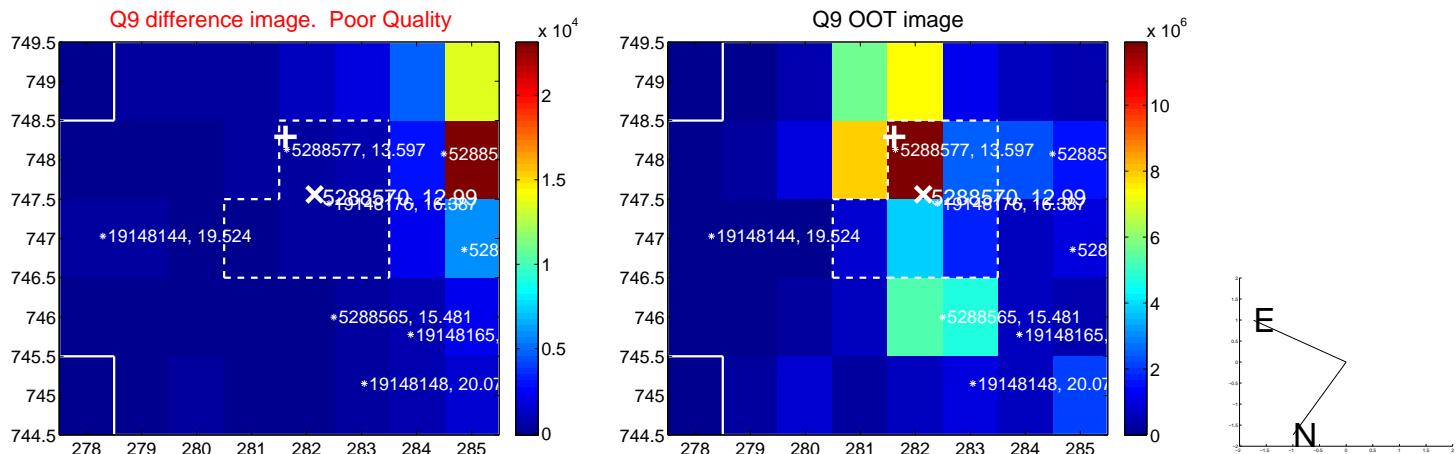
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



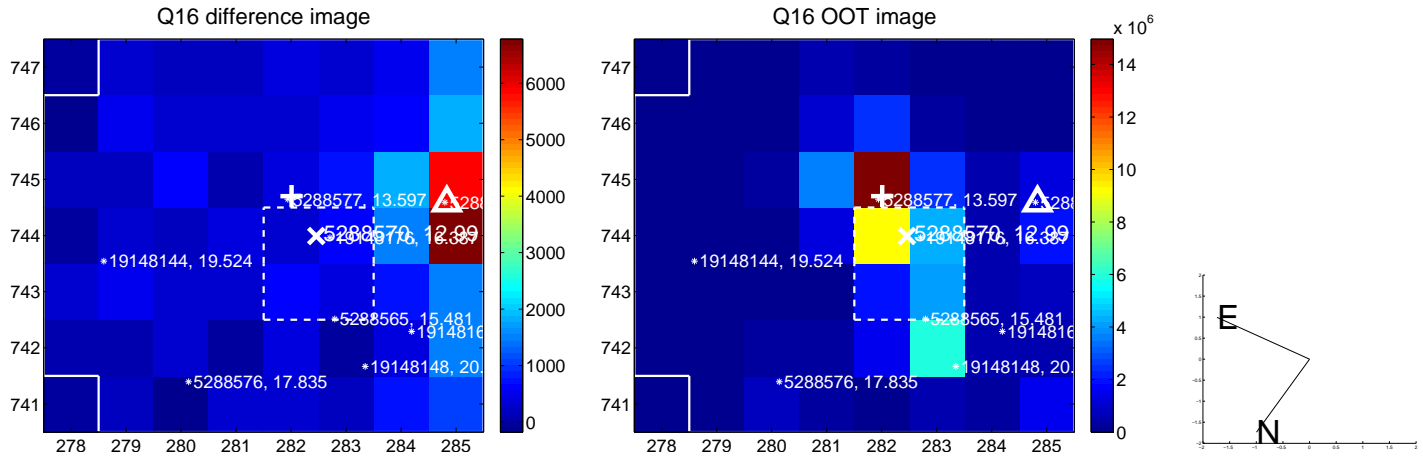
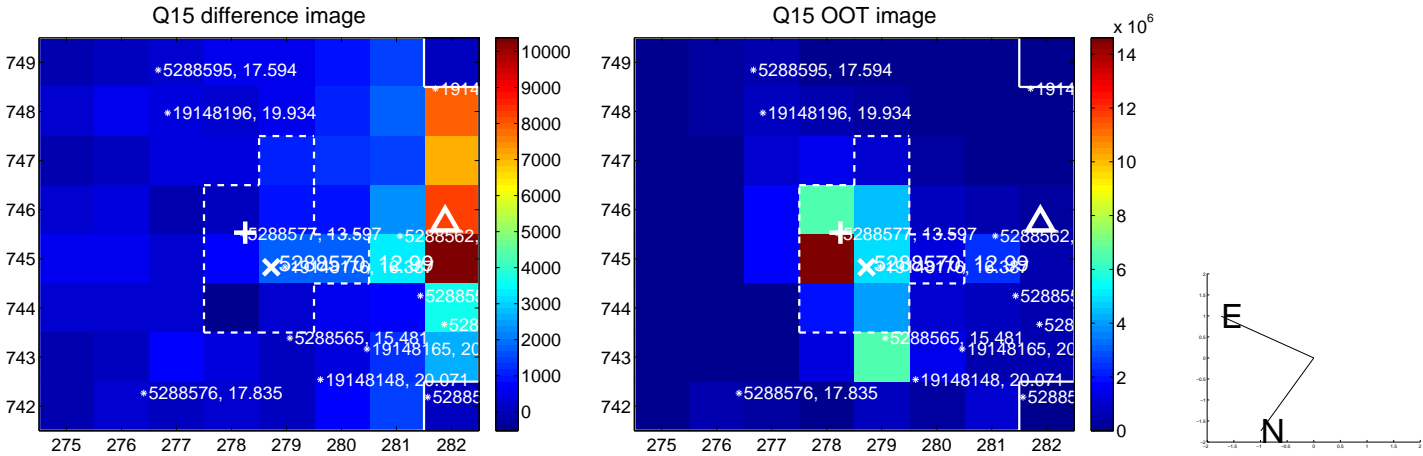
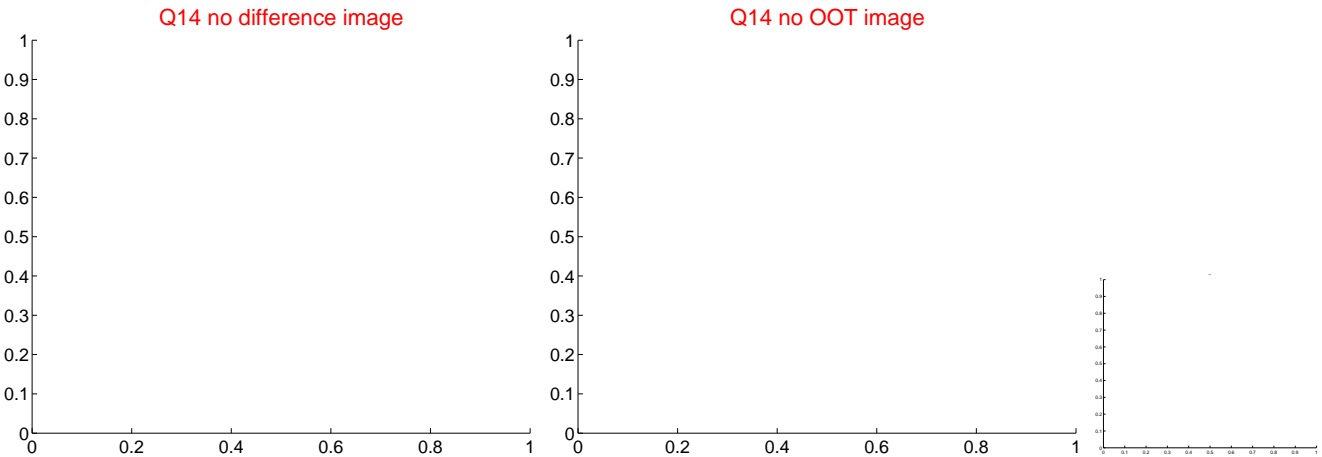
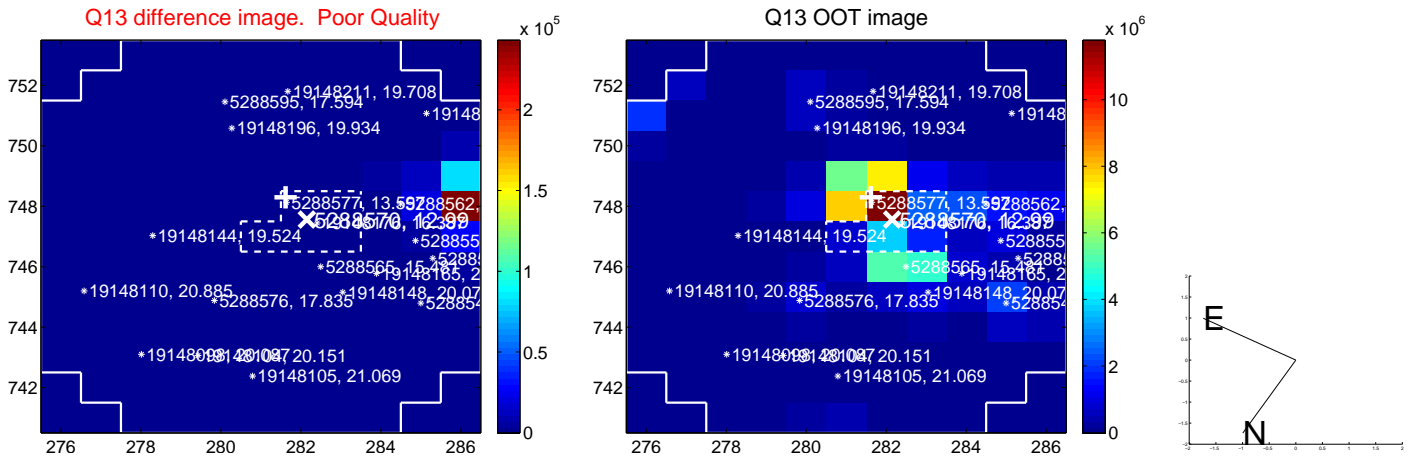
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



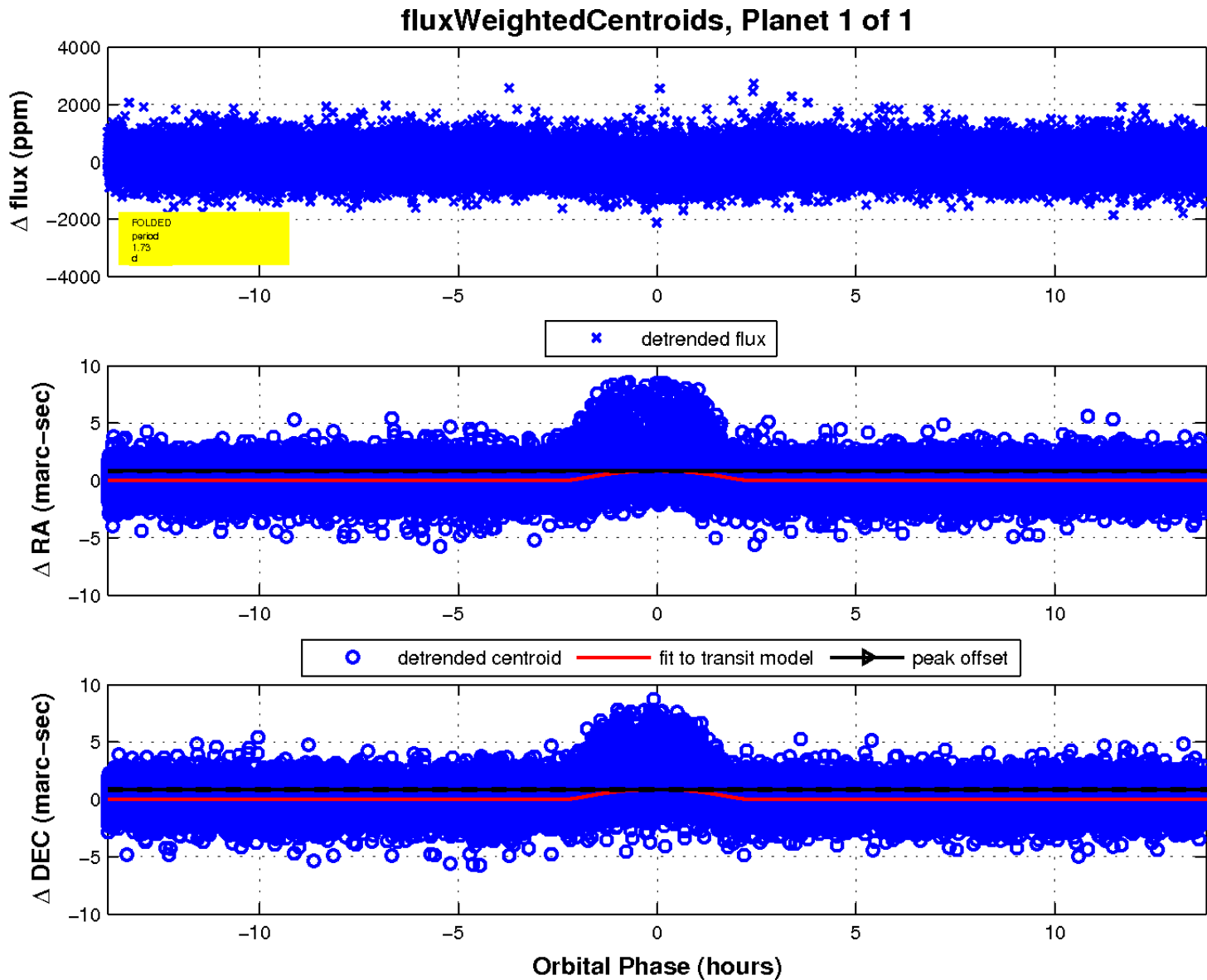
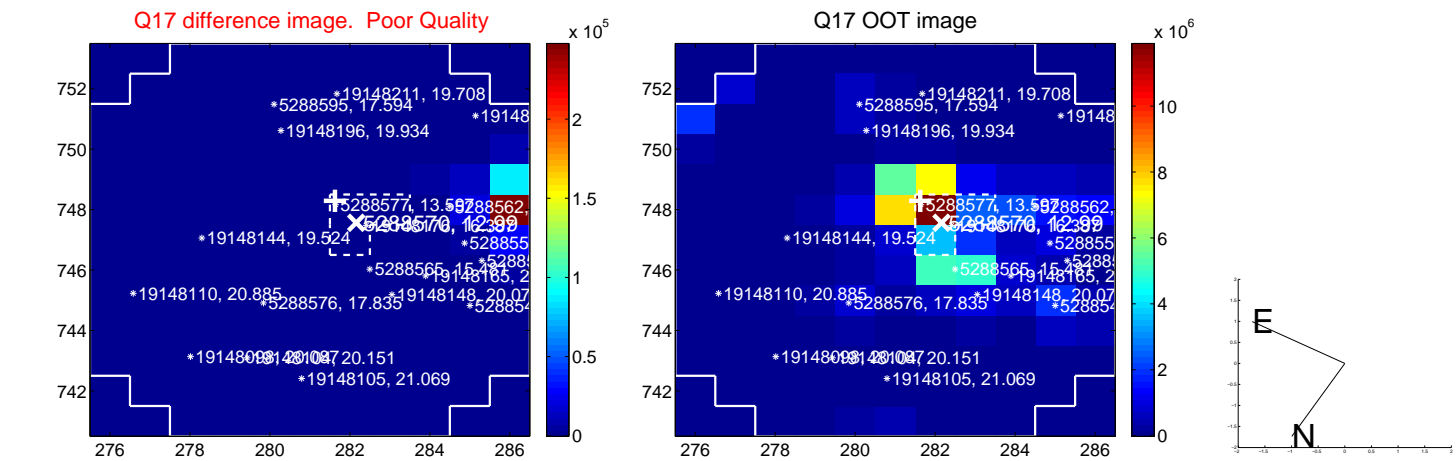
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

