

KIC 005288577

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 _⊕)
005288577-01	OBS	4010.01	1.728489	131.824787	87.9	3.586	18.4	19.5	2.24	6701	2.47	9127.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005288577-01	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 005288577-01

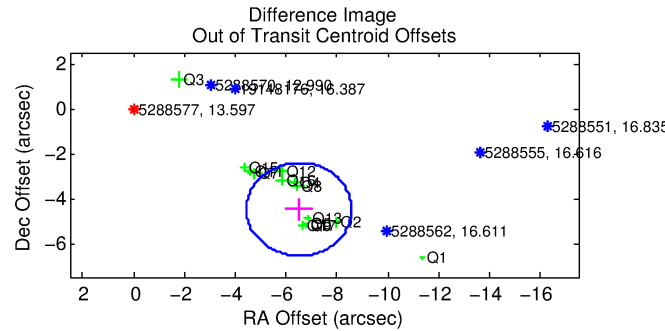
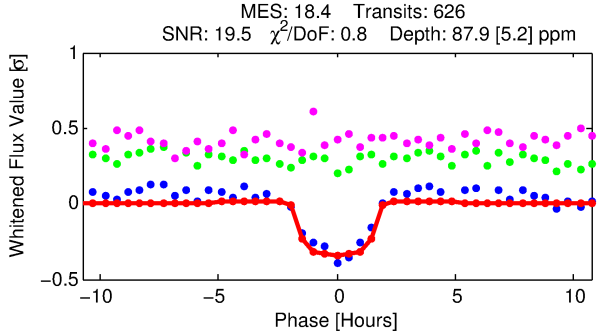
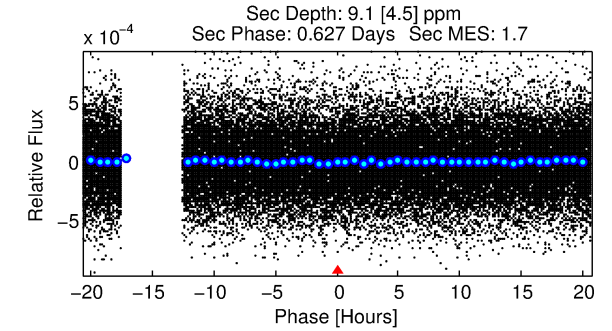
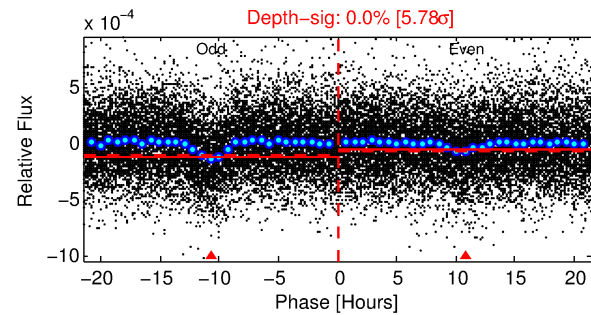
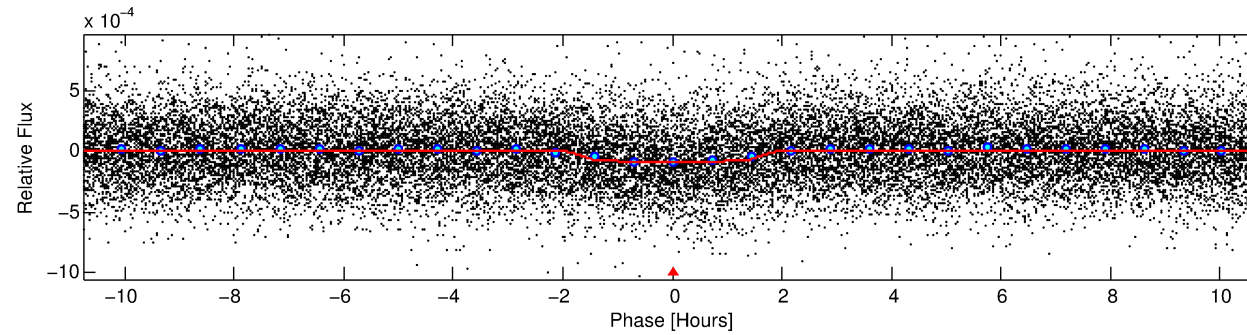
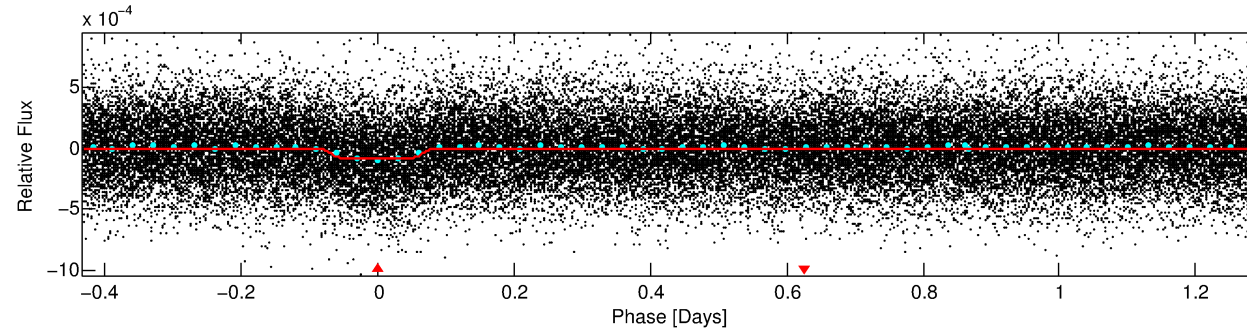
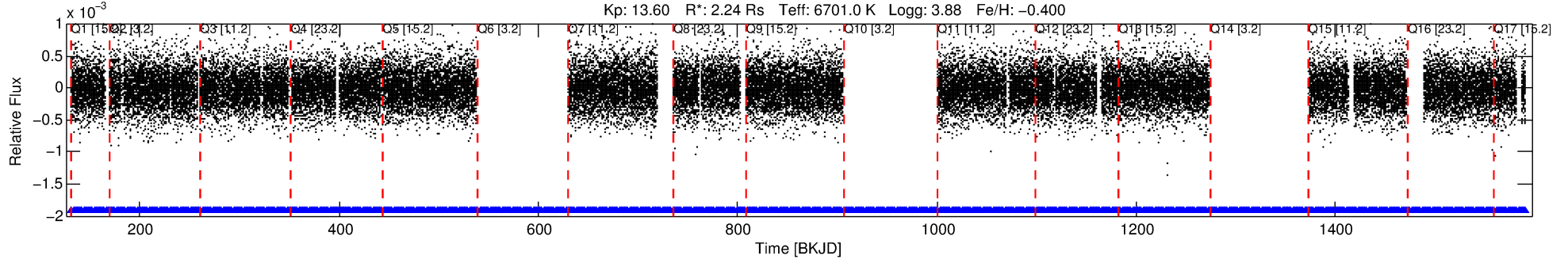
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
005288577-01	5288577	005288543-01	5288543	1:1	25.8	0	-7	13.59	13.60	3554.60	Direct-PRF	0	2.08	1.07

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: 5288577 Candidate: 1 of 1 Period: 1.728 d
KOI: K04010.01 Corr: 0.940

Kp: 13.60 R*: 2.24 Rs Teff: 6701.0 K Logg: 3.88 Fe/H: -0.400



DV Fit Results:

Period = 1.72849 [0.00001] d
Epoch = 131.8248 [0.0024] BKJD
Rp/R* = 0.0101 [0.0022]
a/R* = 1.85 [1.72]
b = 0.91 [0.24]
Seff = 9127.28 [6822.89]
Teq = 2492 [466] K
Rp = 2.47 [1.28] Re
a = 0.0315 [0.0144] AU
Ag = 0.81 [0.80] [-0.23σ]
Teffp = 3659 [614] K [1.51σ]

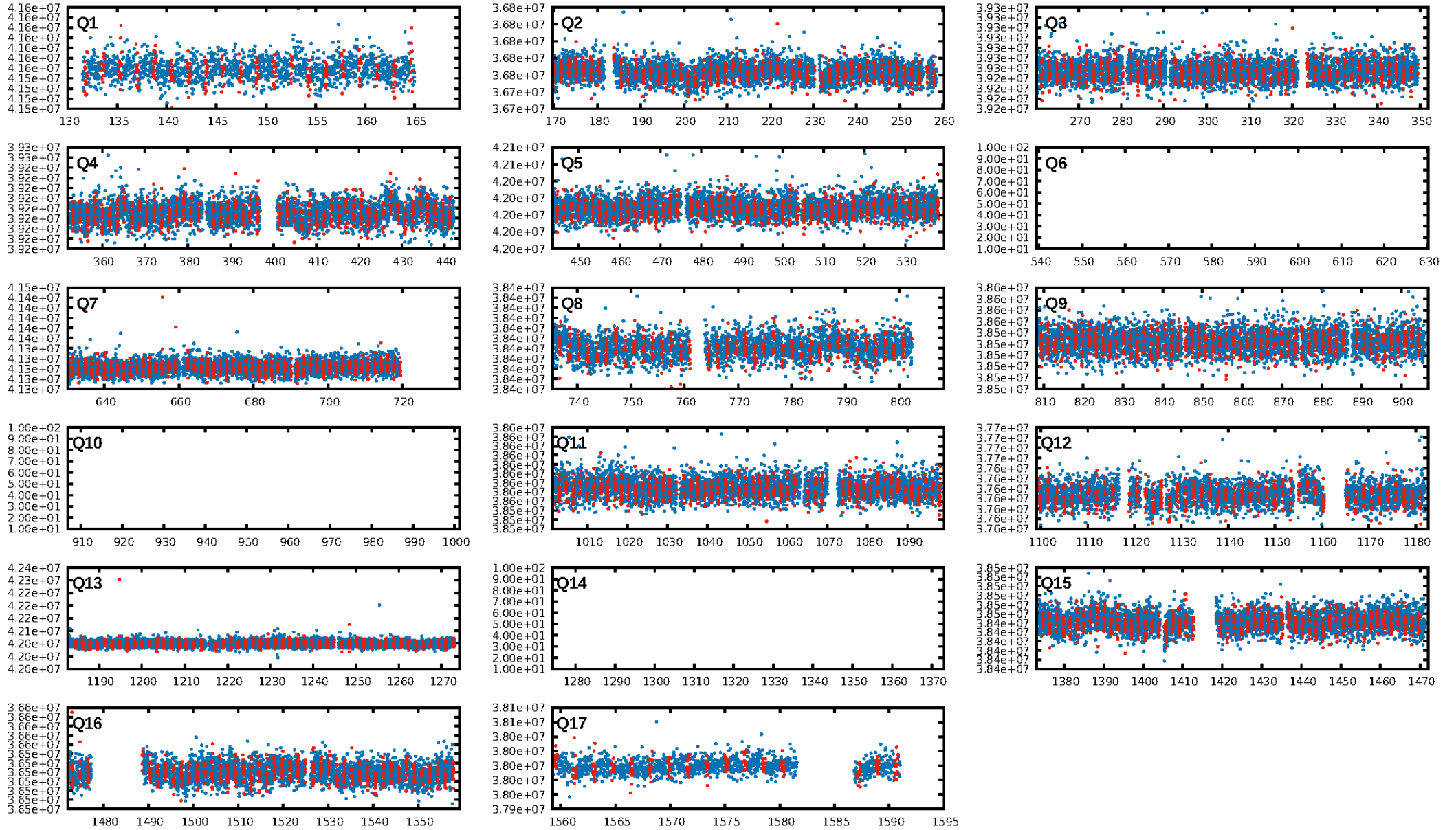
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.20e-72
RollingBand-fgt: 1.00 [590/590]
GhostDiagnostic-chr: 0.1876
Centroid-sig: 0.0%
Centroid-so: 5.326 arcsec [8.55σ]
OotOffset-rm: 7.905 arcsec [11.47σ]
KicOffset-rm: 8.090 arcsec [11.34σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [14/14]

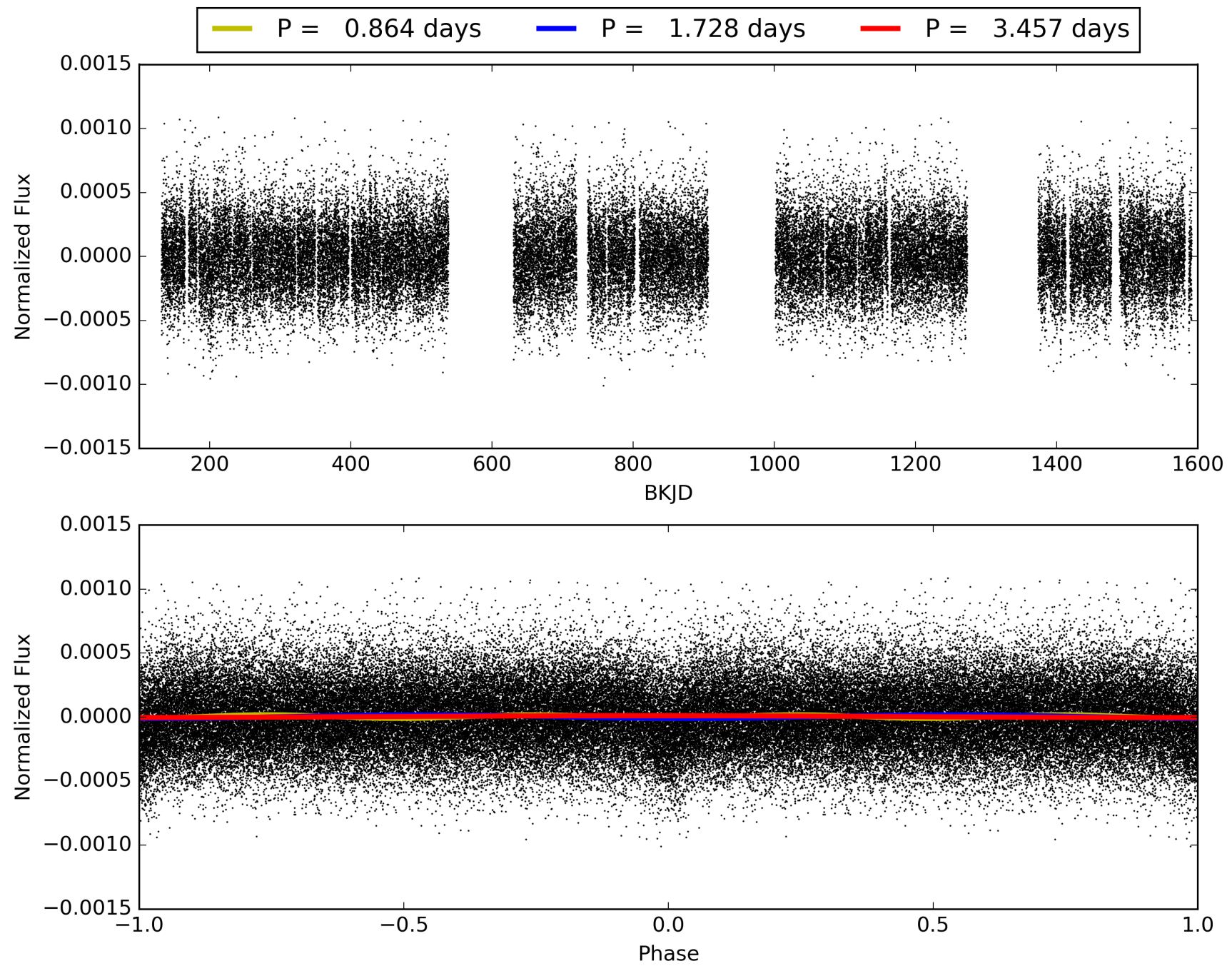
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:48:22 Z

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

TCE 005288577-01, PDC Light Curves

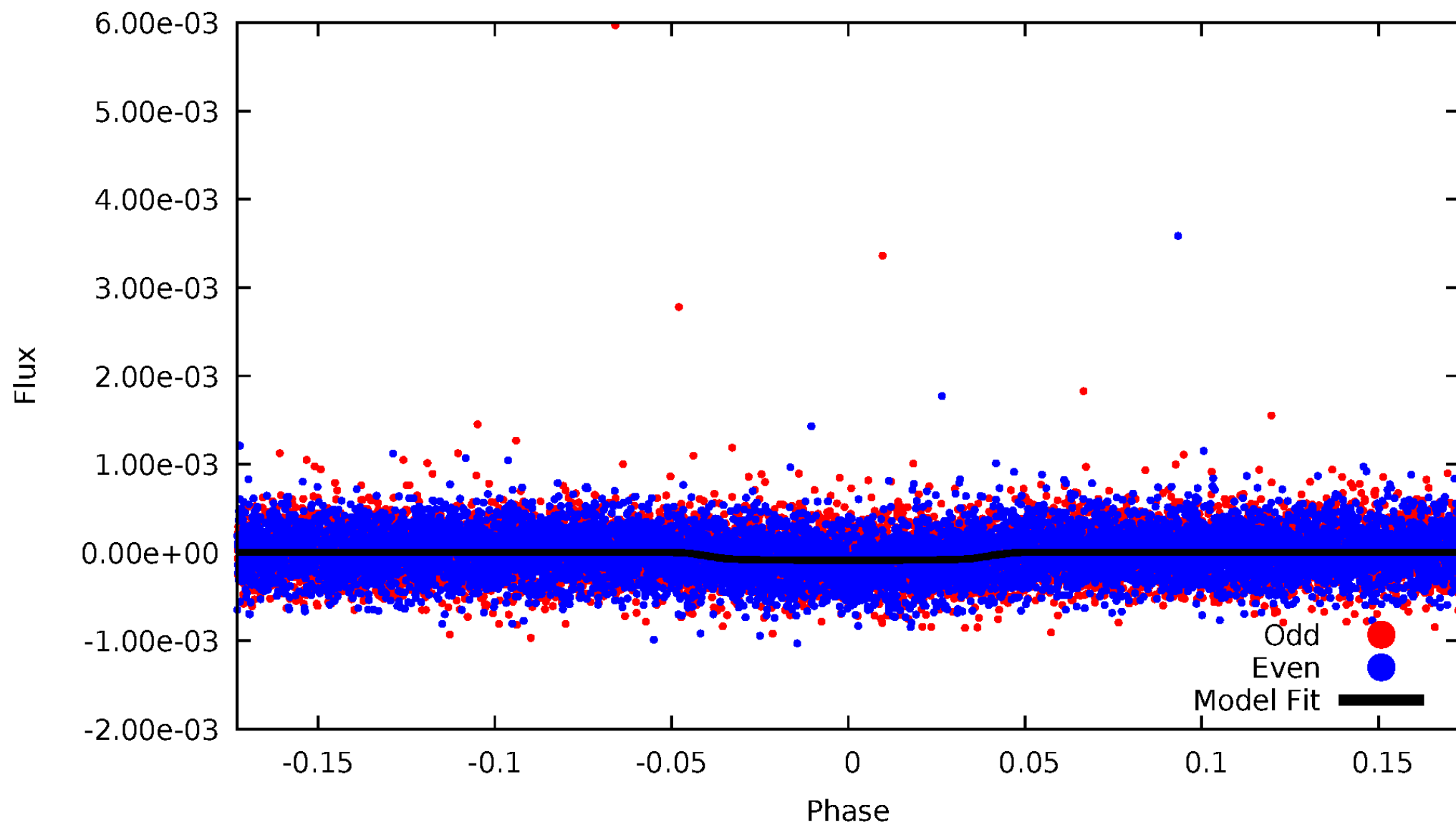


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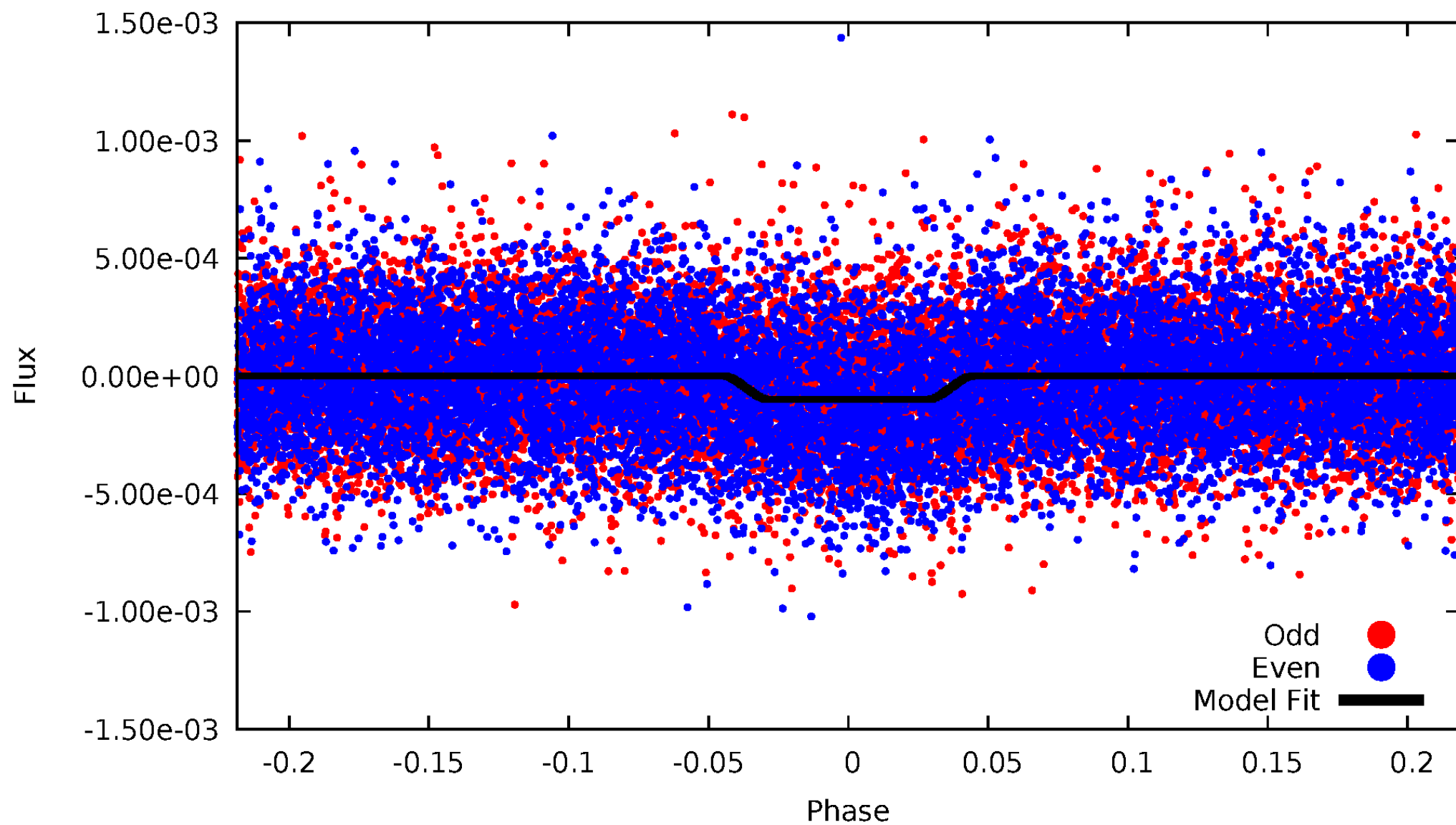
DV Odd/Even

TCE 005288577-01

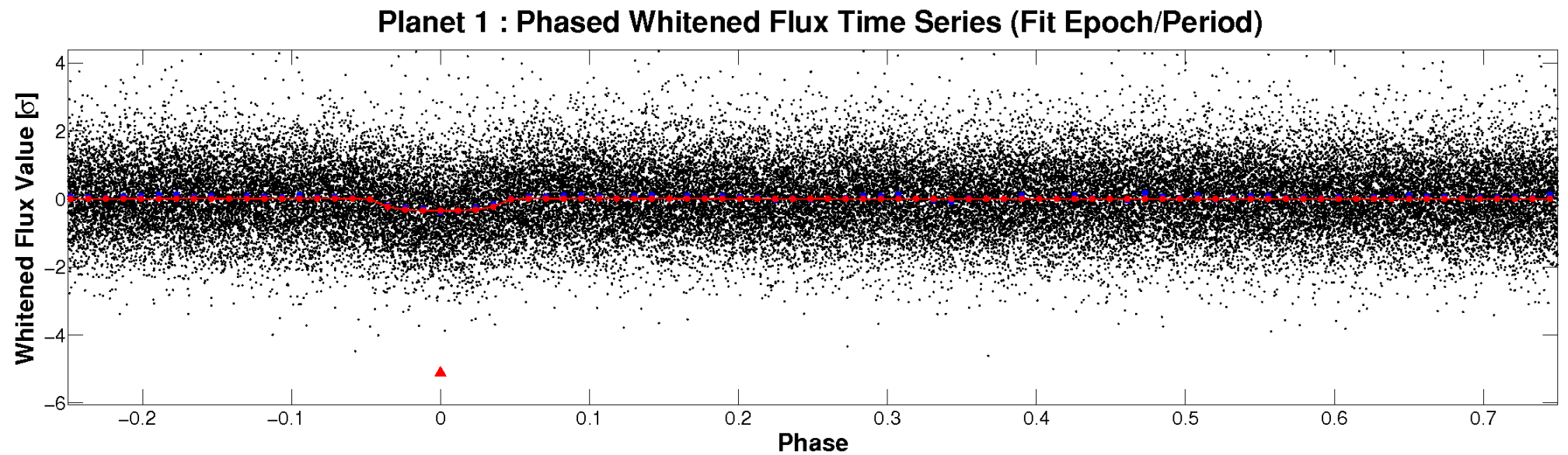
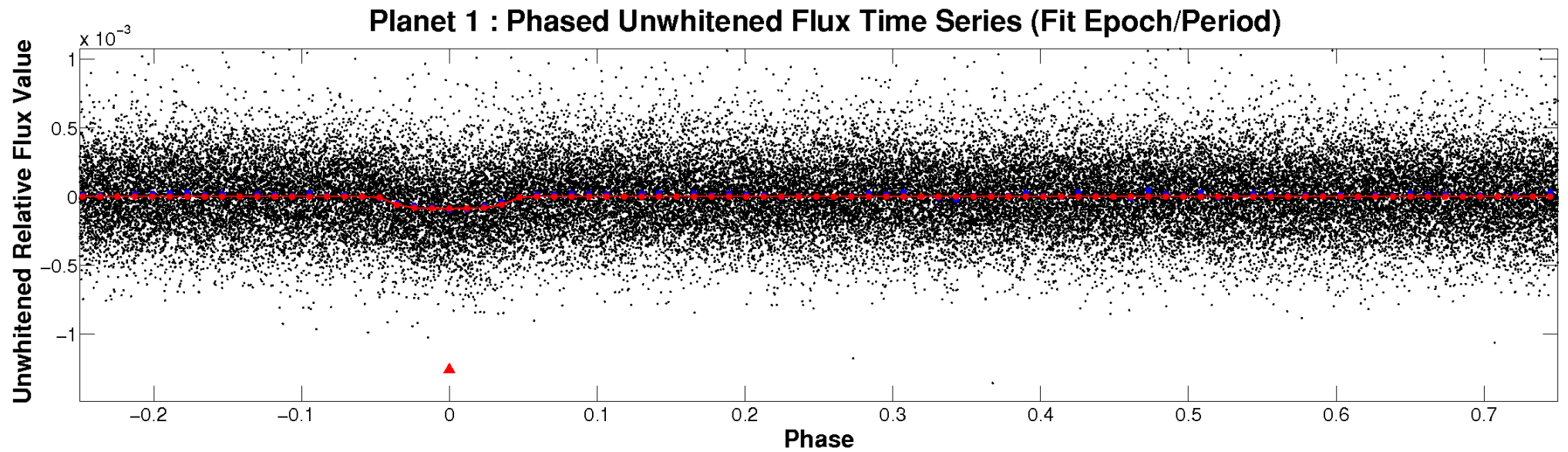


ALT Odd/Even

TCE 005288577-01

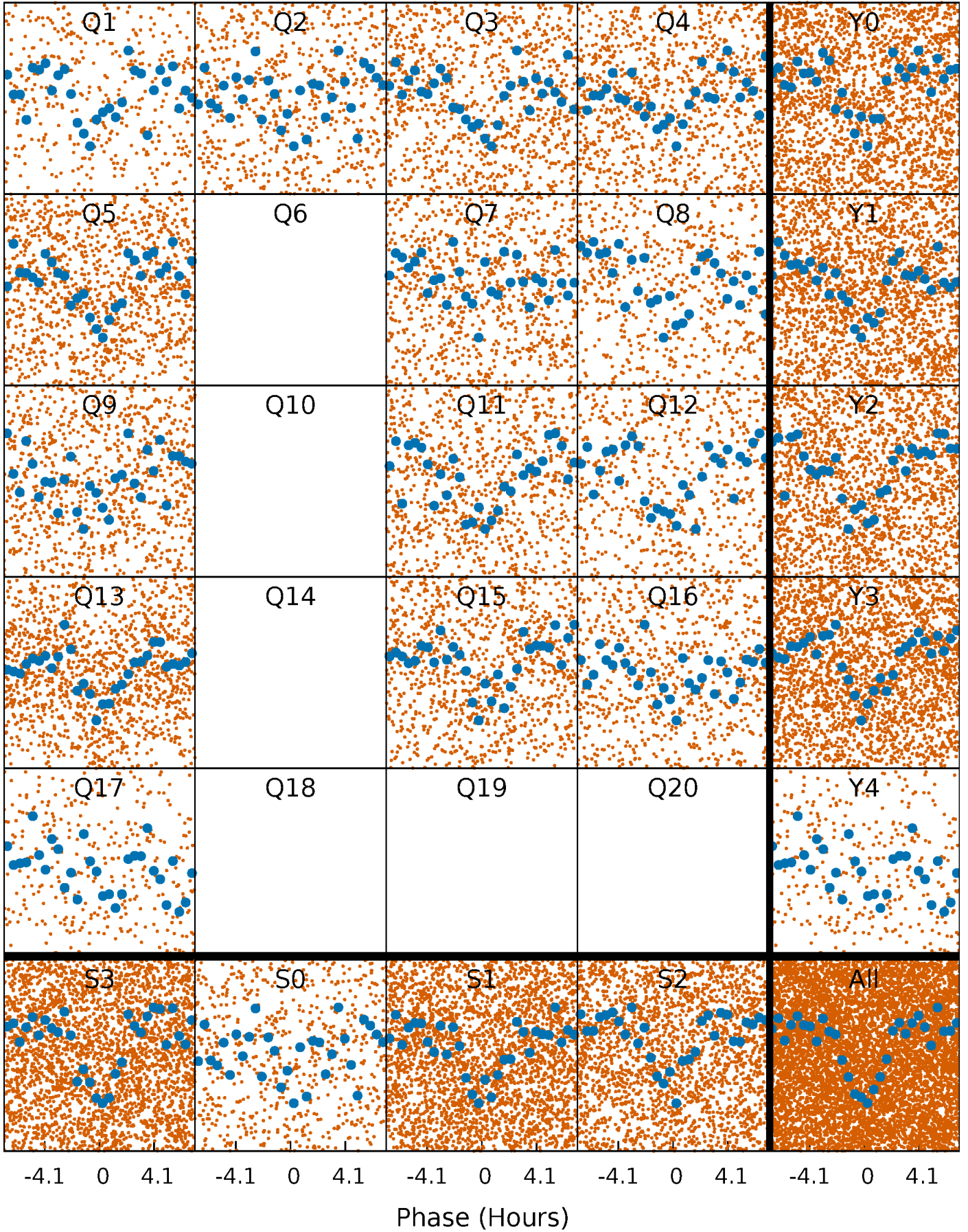


Non-Whitened Vs. Whitened Light Curve



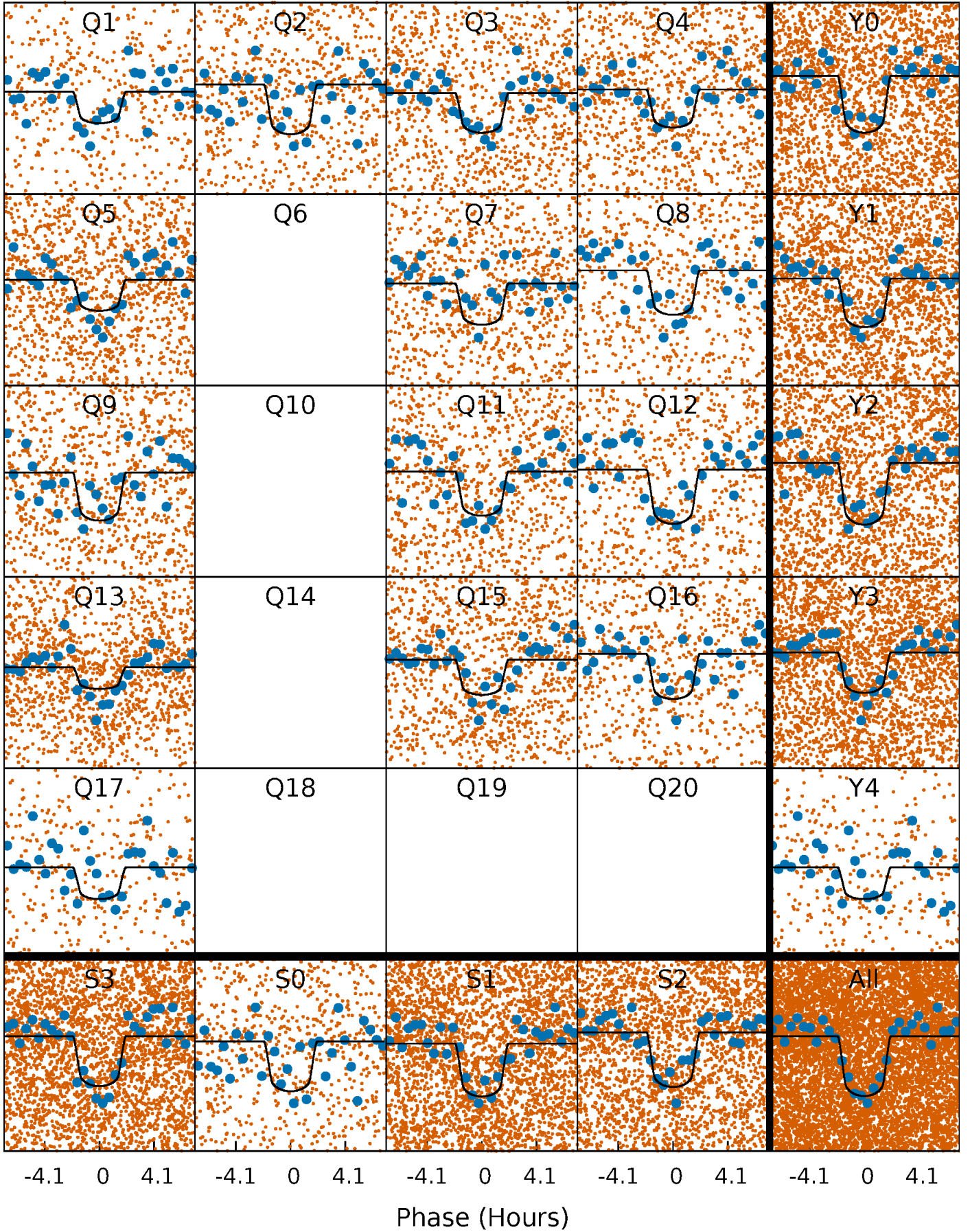
PDC Quarter-Phased Transit Curves

TCE 005288577-01 P= 1.728489 Days $T_0=131.824787$ (BKJD)



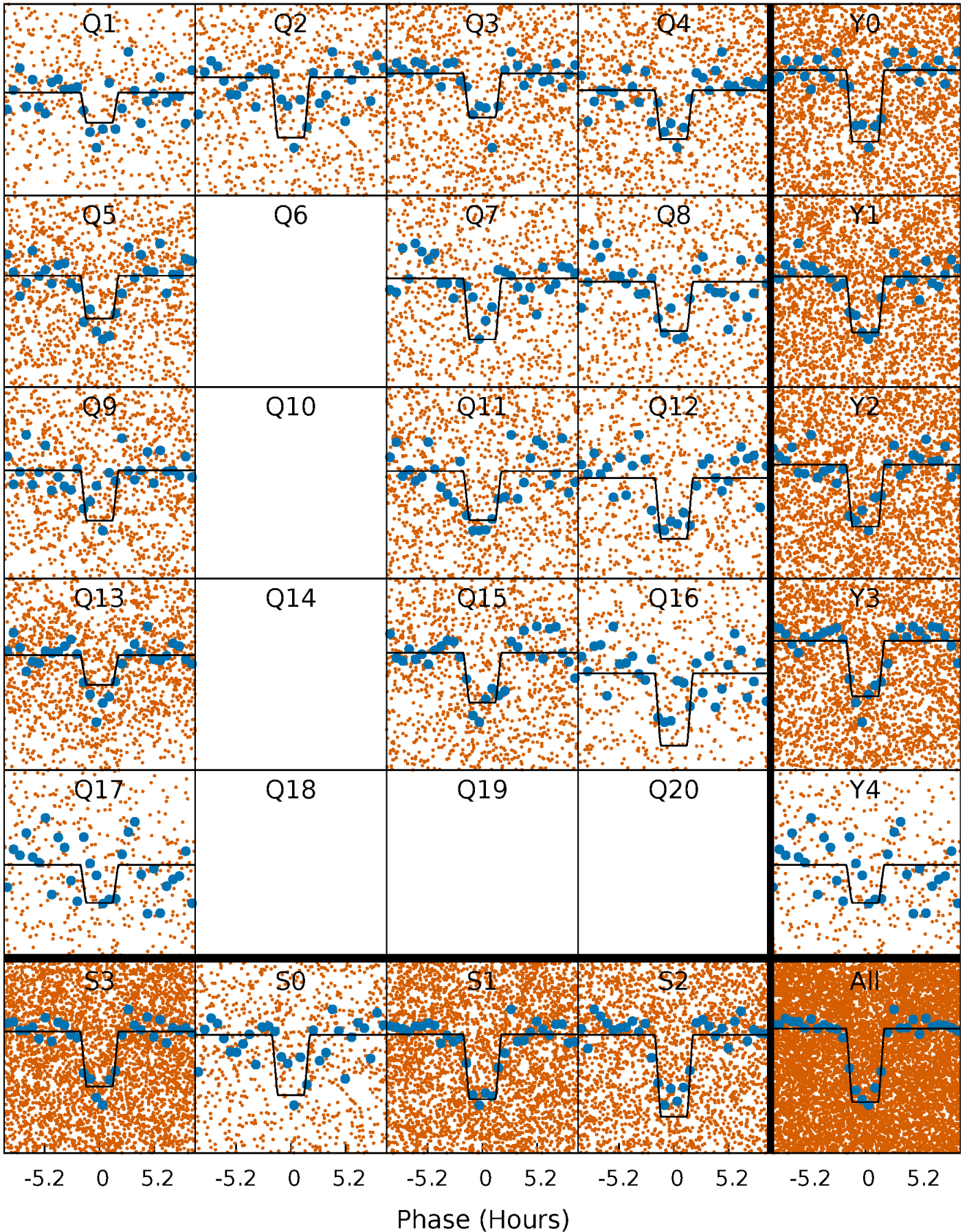
DV Quarter-Phased Transit Curves

TCE 005288577-01 P= 1.728489 Days $T_0=131.824787$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

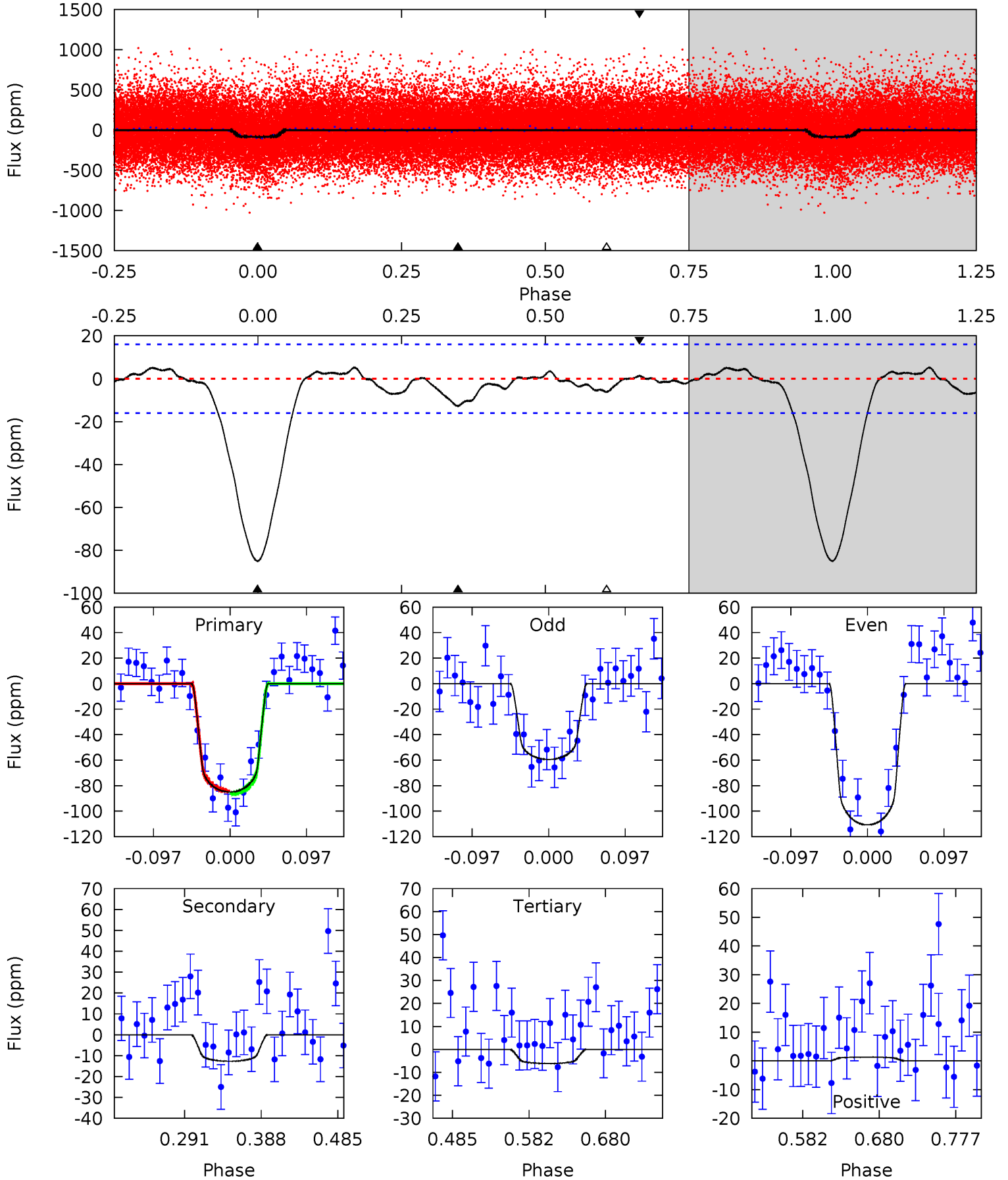
TCE 005288577-01 P= 1.728525 Days $T_0=131.809352$ (BKJD)



DV Model-Shift Uniqueness Test

005288577-01, P = 1.728489 Days, E = 130.096298 Days

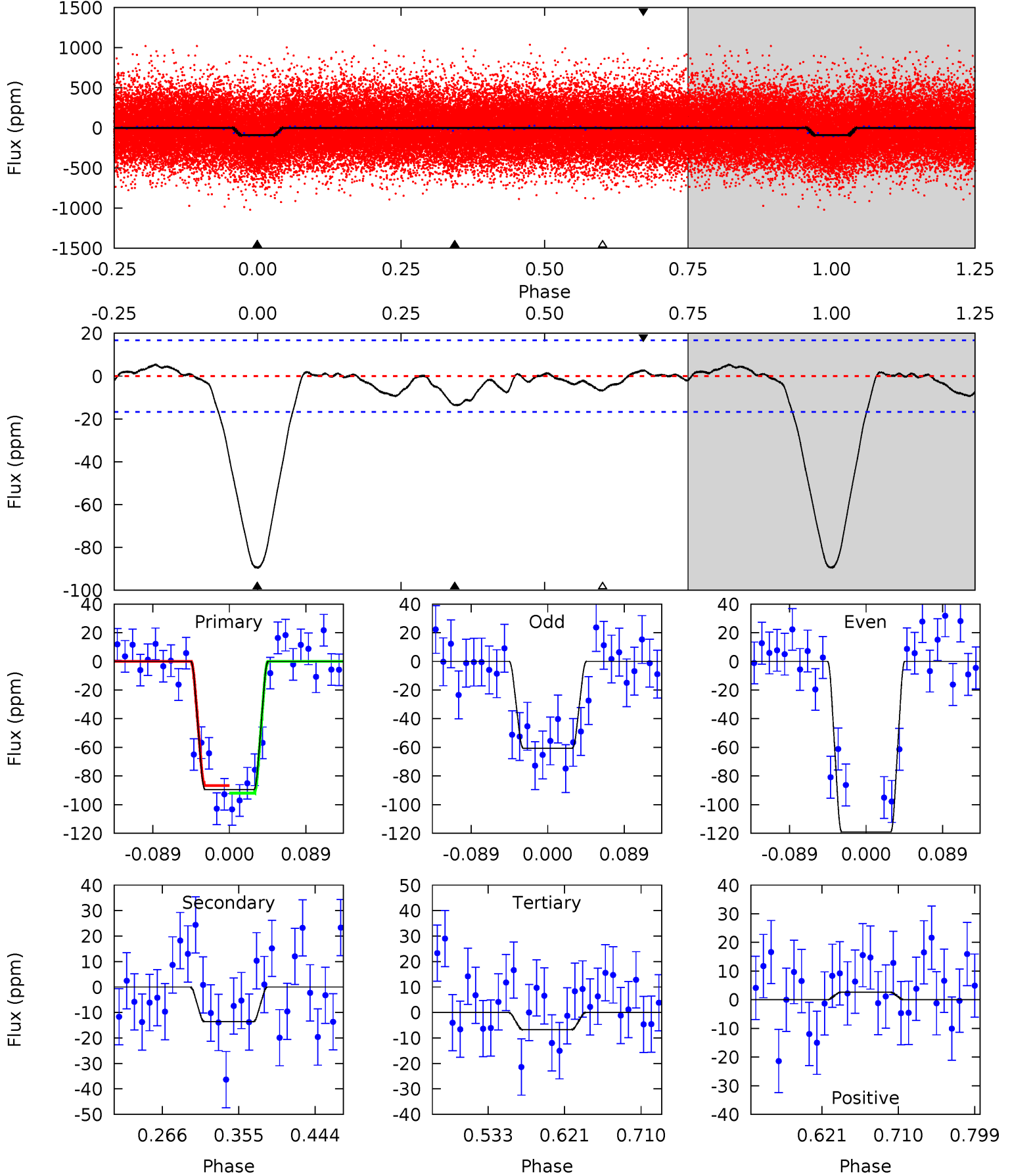
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.3	3.62	1.76	0.37	4.57	1.66	0.85	22.5	23.9	1.86	3.25	7.33	0.96	0.06	0.29



Alt Model-Shift Uniqueness Test

005288577-01, P = 1.728525 Days, E = 130.080827 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	3.72	1.84	0.71	4.59	1.70	0.89	22.7	23.8	1.88	3.01	8.02	0.97	0.06	0.72



Stellar Parameters For KIC 005288577

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6701^{+190}_{-238}	$3.882^{+0.432}_{-0.108}$	$-0.400^{+0.300}_{-0.300}$	$2.237^{+0.452}_{-1.055}$	$1.392^{+0.189}_{-0.351}$	$0.175^{+0.701}_{-0.069}$
	+3%/-4%	+11%/-3%	+75%/-75%	+20%/-47%	+14%/-25%	+400%/-39%
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 005288577-01 / KOI 4010.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-13 ± 4	$2.26^{+0.74}_{-0.66}$	3389^{+254}_{-402}	3996^{+520}_{-479}	$1.306^{+1.262}_{-0.597}$
Alt.	-14 ± 4	$2.25^{+0.67}_{-0.71}$	3384^{+255}_{-400}	4100^{+592}_{-493}	$1.467^{+1.819}_{-0.688}$

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 $A_{\text{obs}} \gg 1.0$

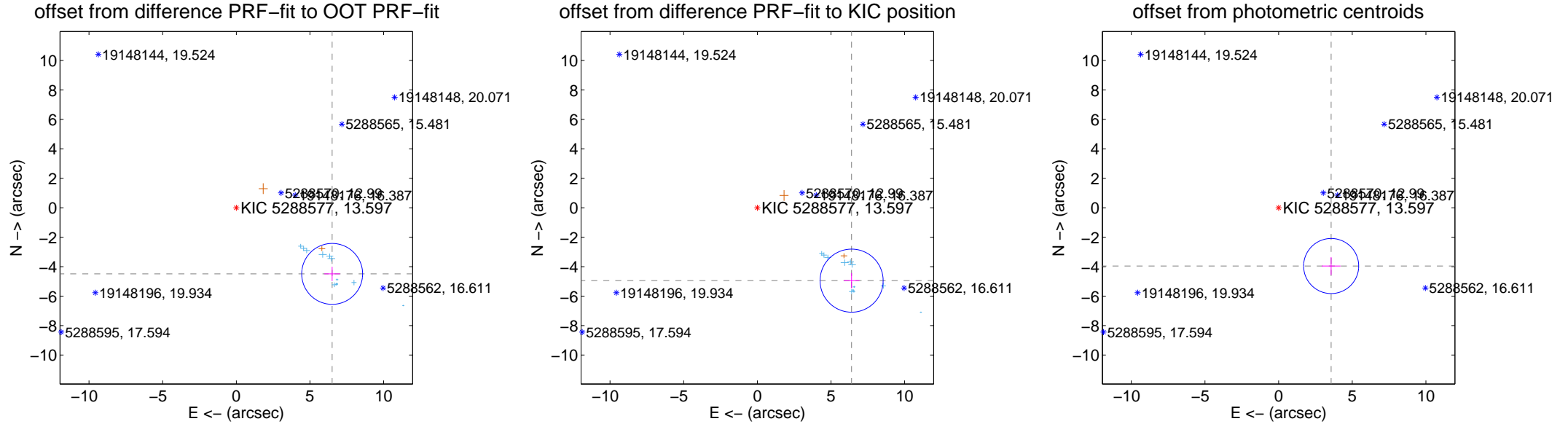
DV Centroid Data

Supplemental centroid analysis for 005288577-01. Kepler magnitude: 13.60. Transit SNR 19.51

There are 12 quarters with good PRF difference image offsets

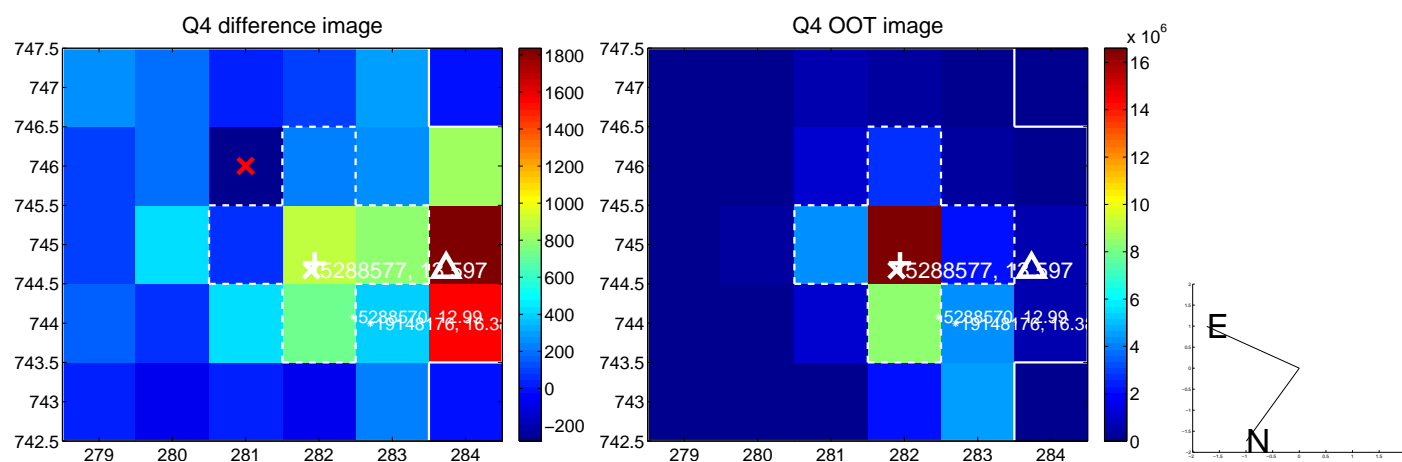
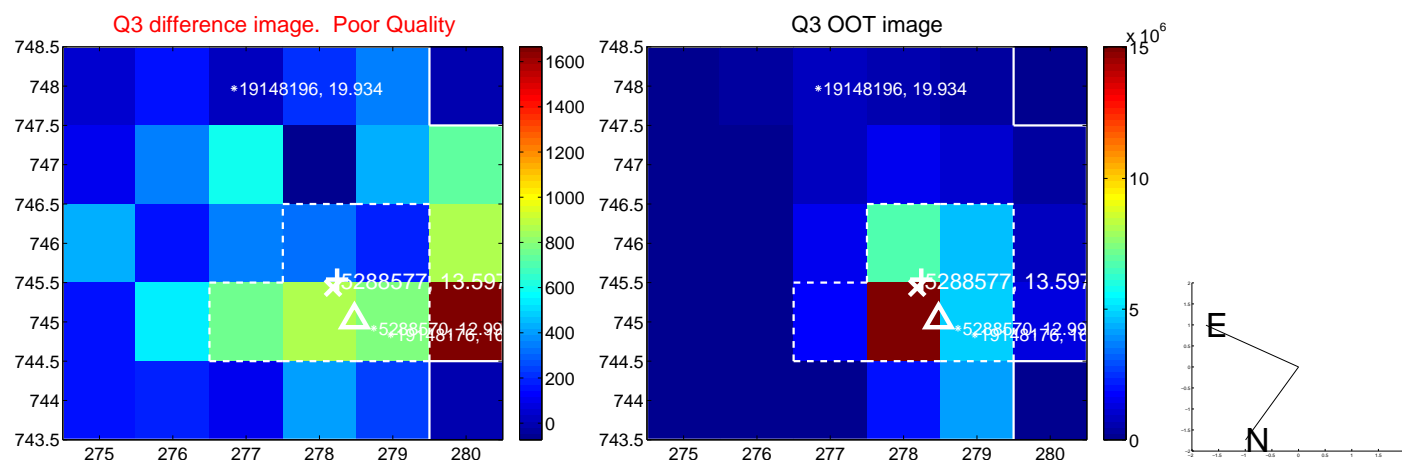
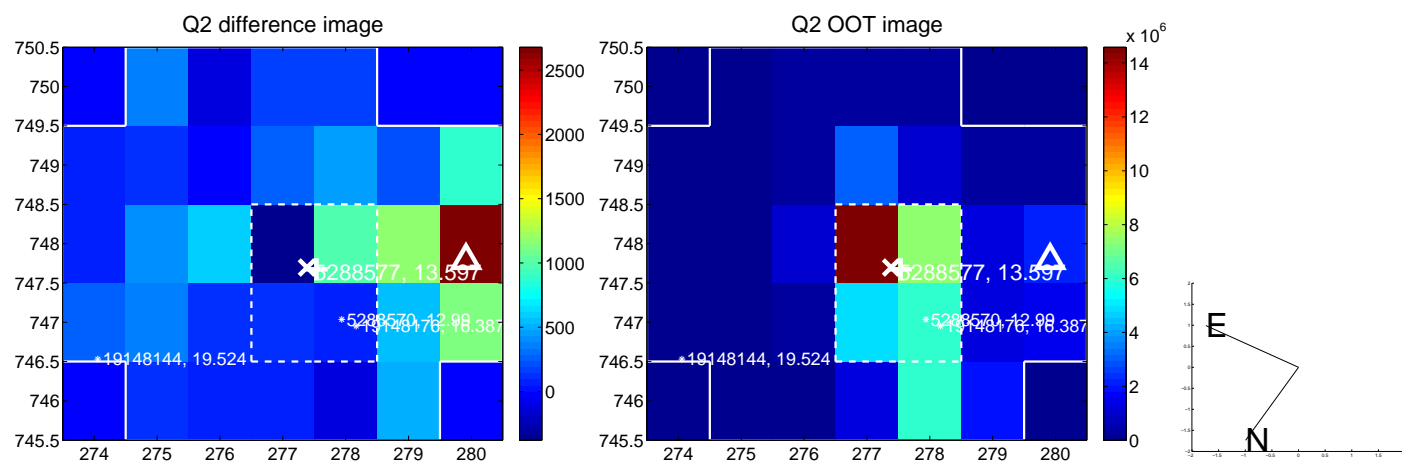
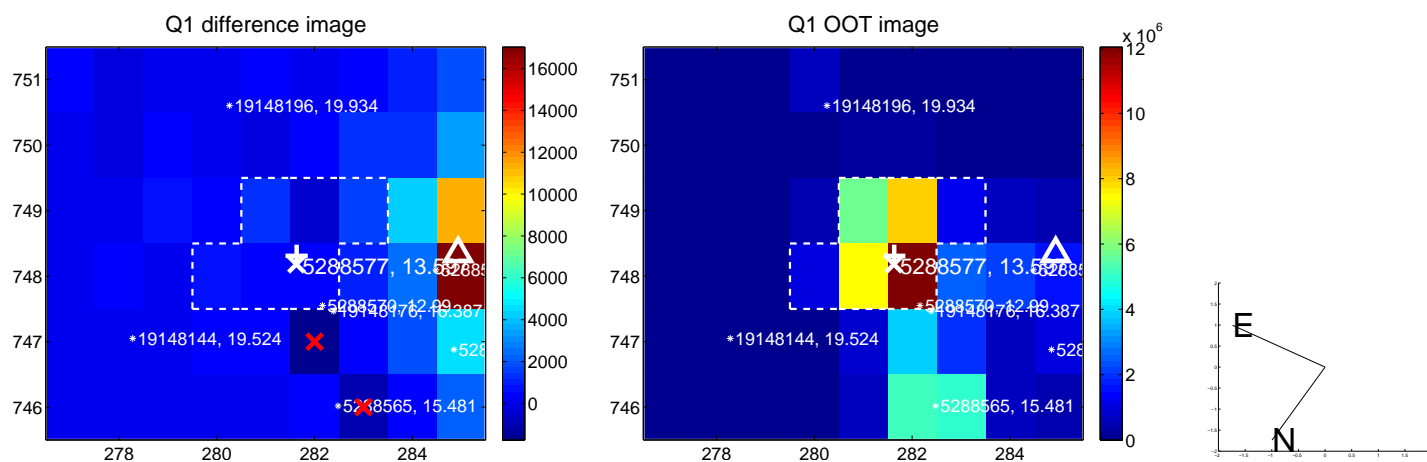
The direct PRF centroid is offset from the target star catalog position by about 0.53 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.905 ± 0.689	11.47	-6.506 ± 0.531	-4.490 ± 0.484
PRF-fit source offset from KIC position	8.090 ± 0.714	11.34	-6.400 ± 0.534	-4.949 ± 0.513
photometric centroid source offset	5.33 ± 0.62	8.55	-3.57 ± 0.64	-3.96 ± 0.61

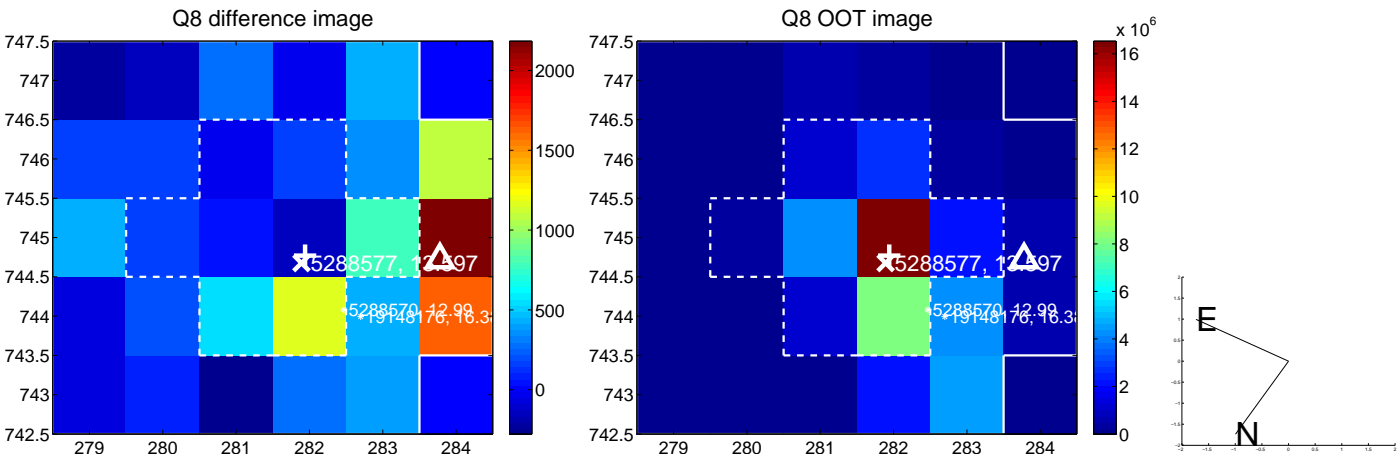
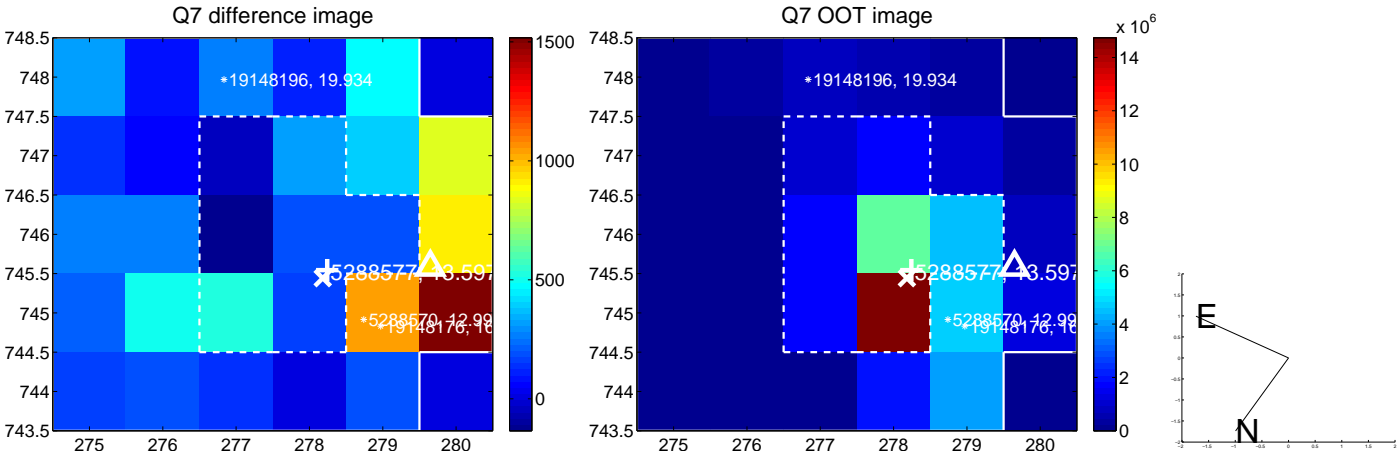
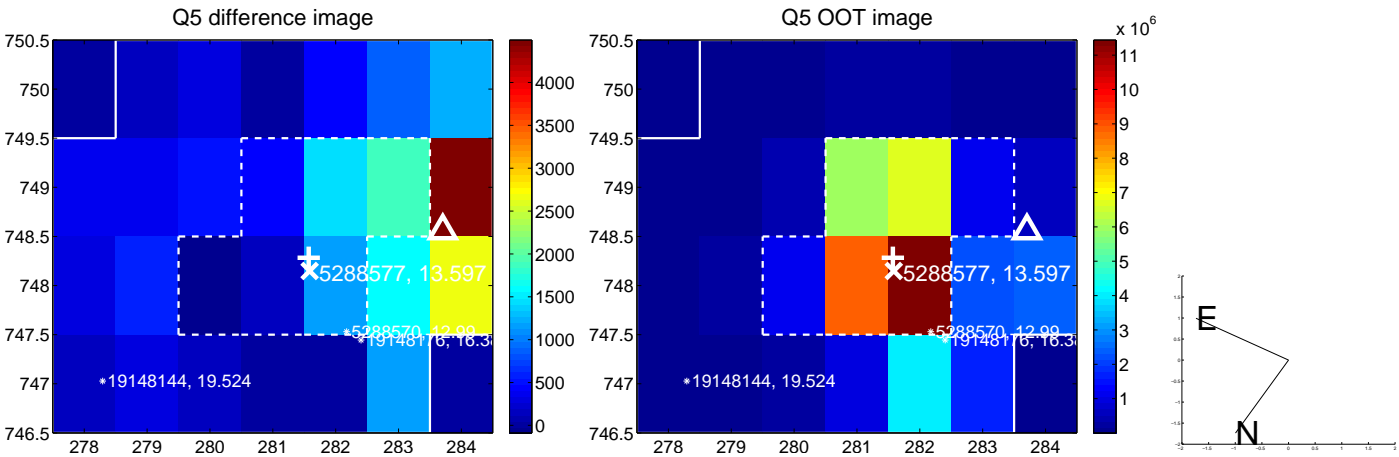


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

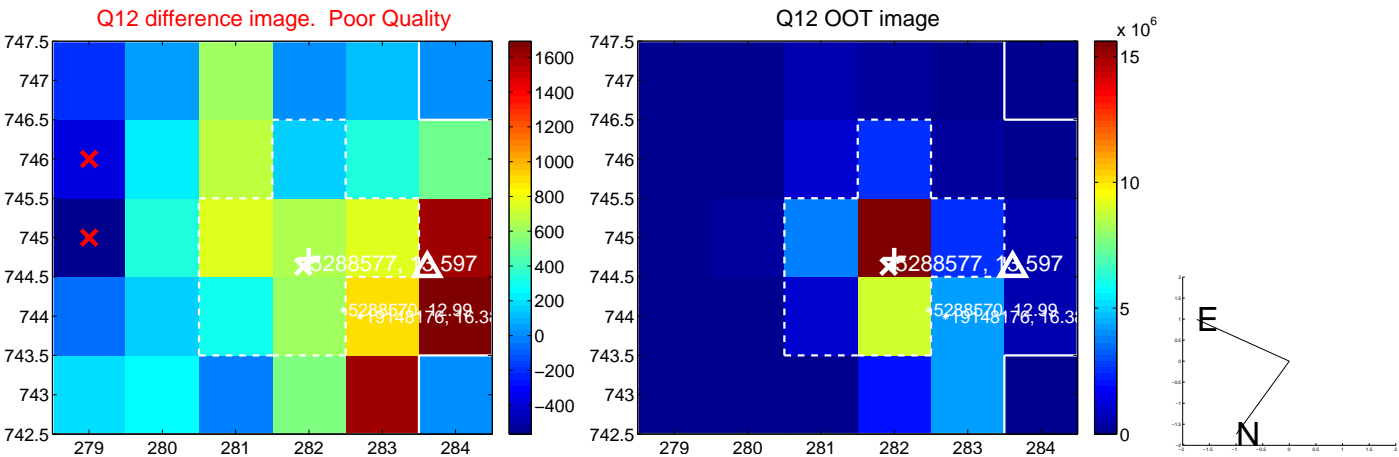
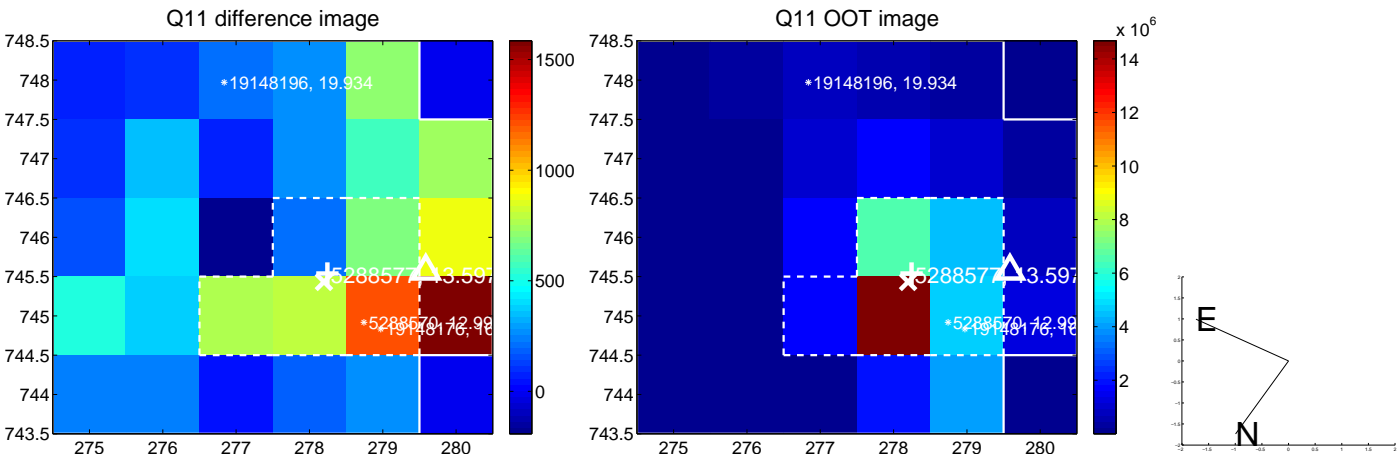
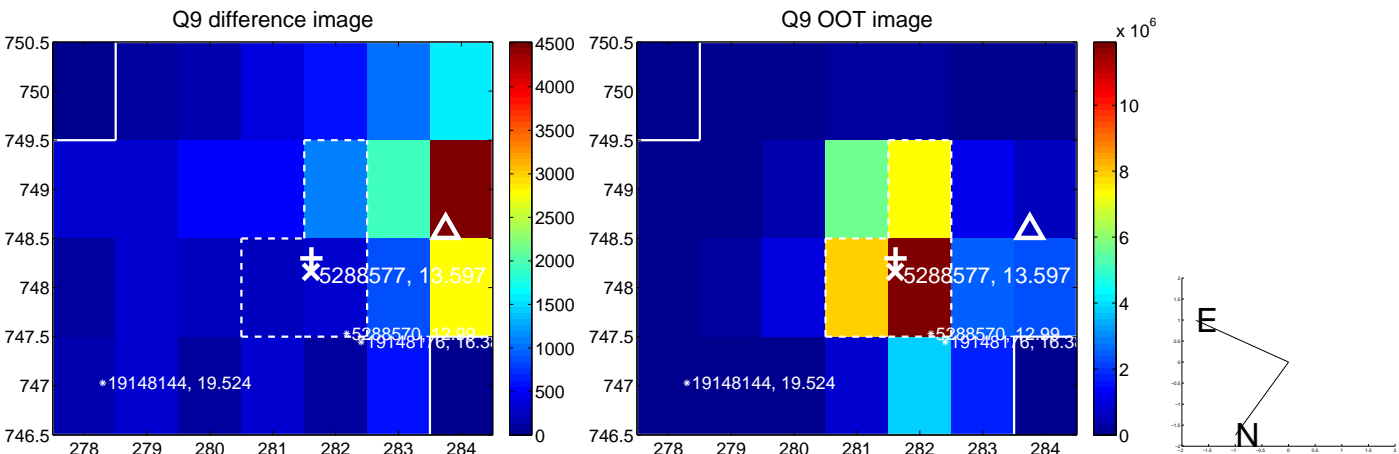
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



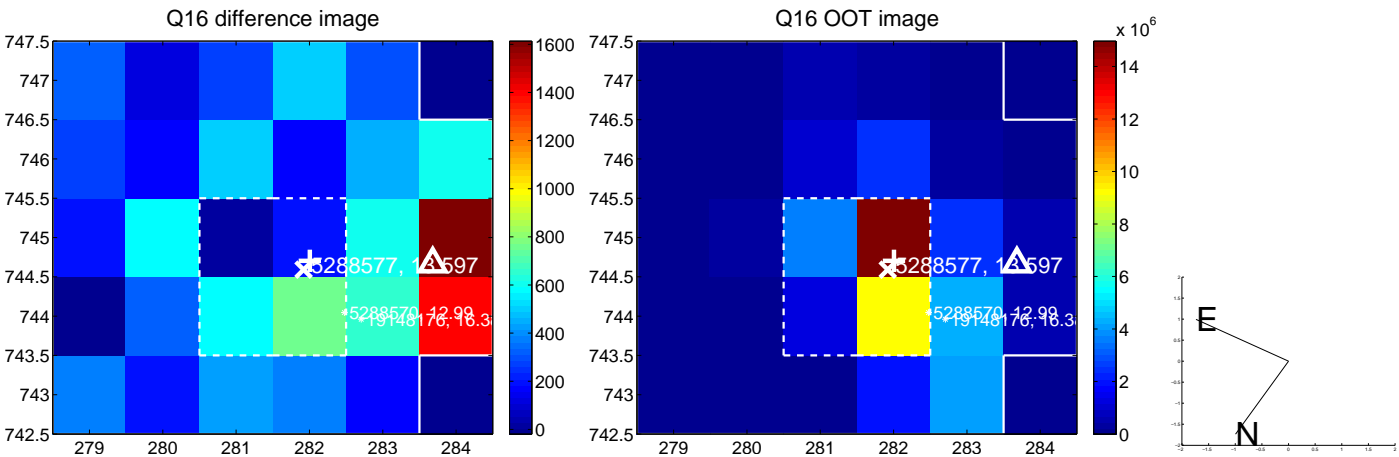
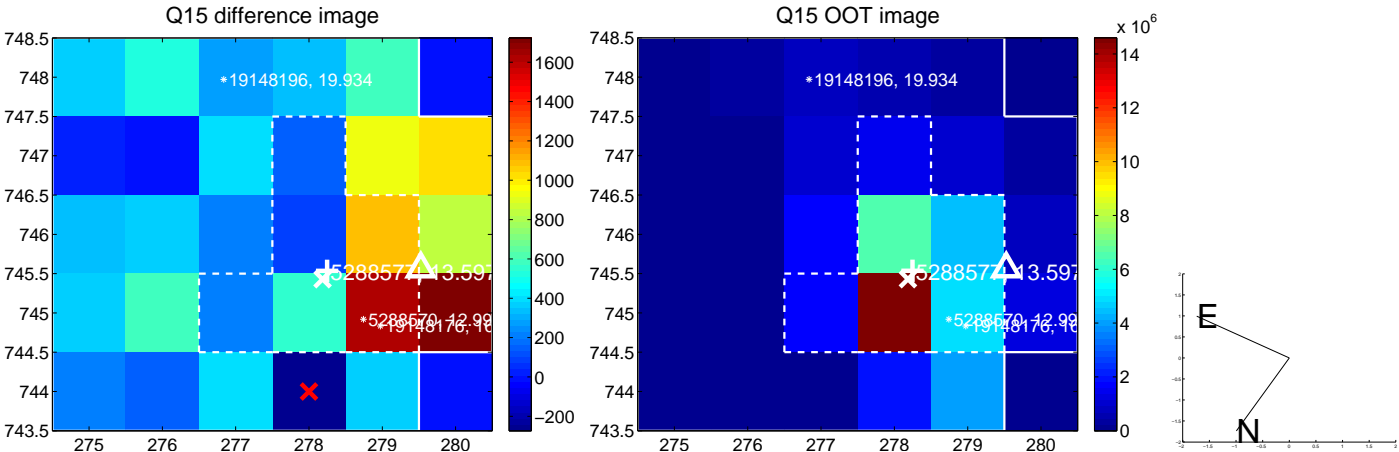
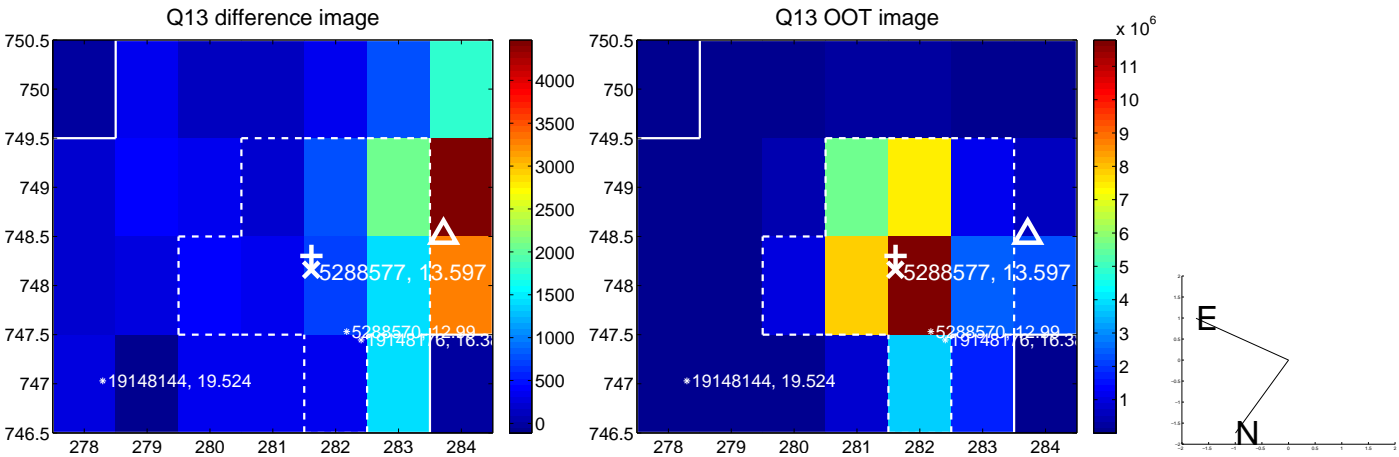
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



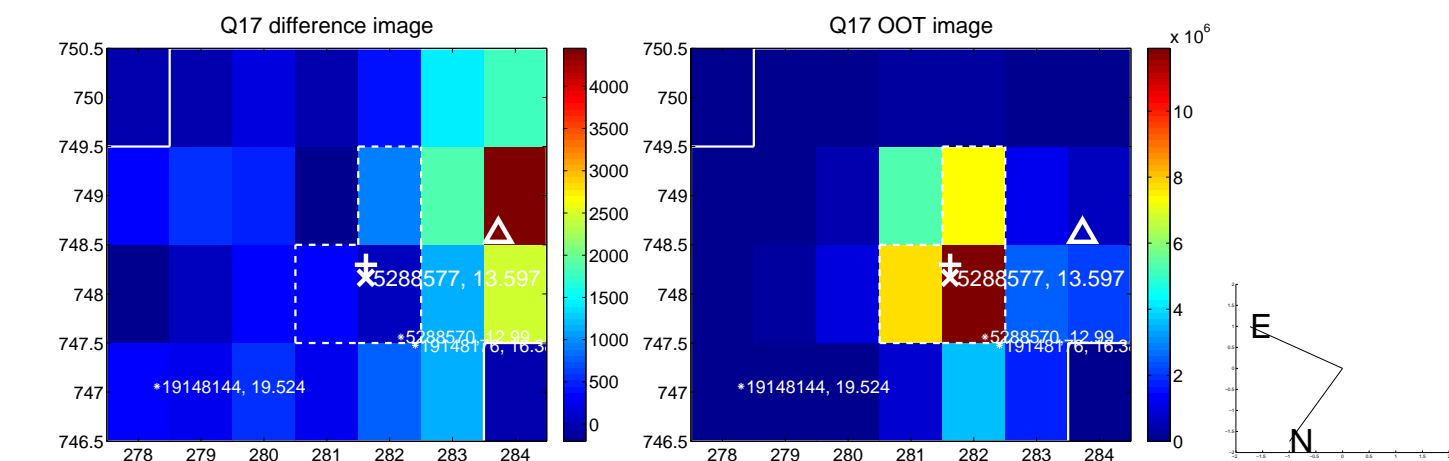
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



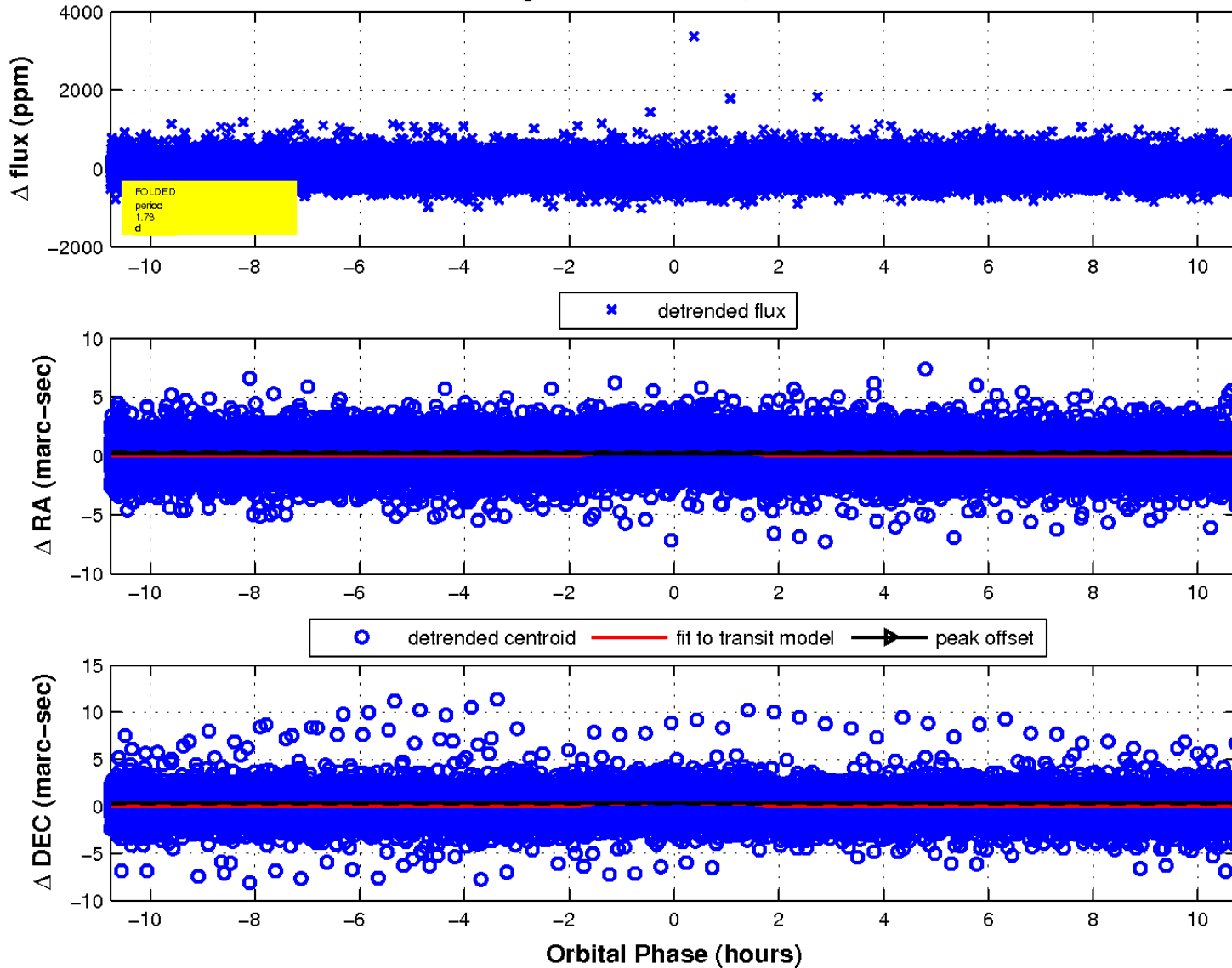
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

