

KIC 006590362

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})
006590362-01	OBS	7570.01	0.592612	132.103525	65.7	0.917	11.0	11.5	0.89	5926	0.86	4629.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006590362-01	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

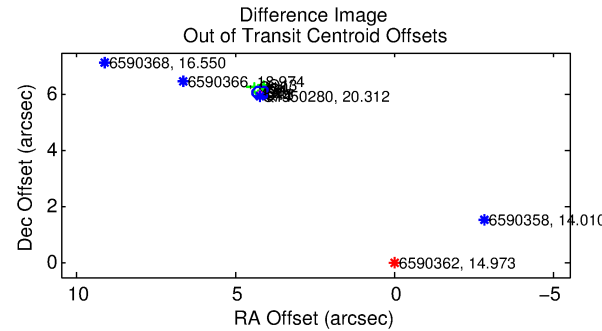
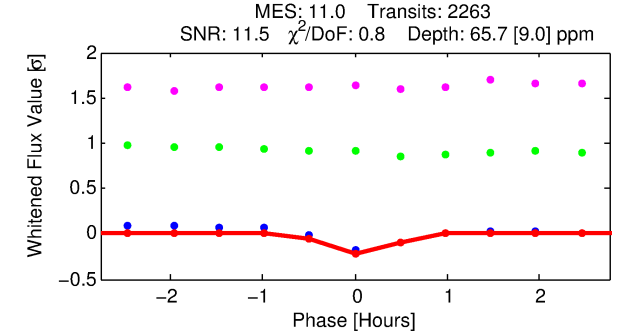
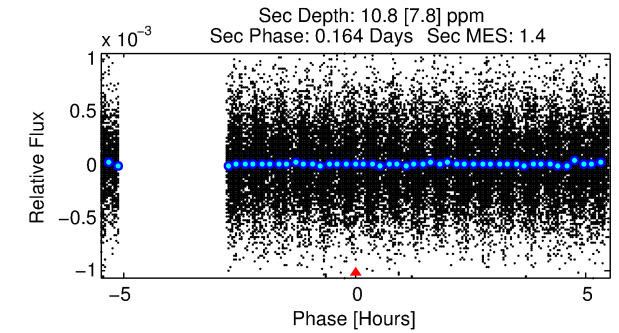
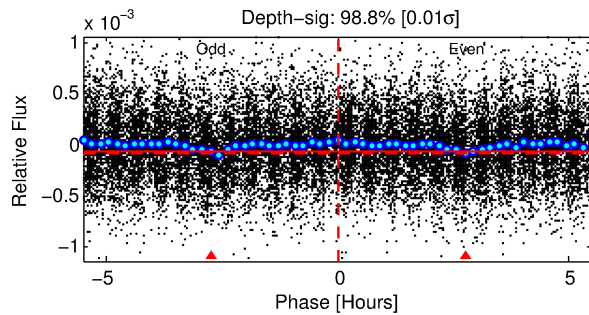
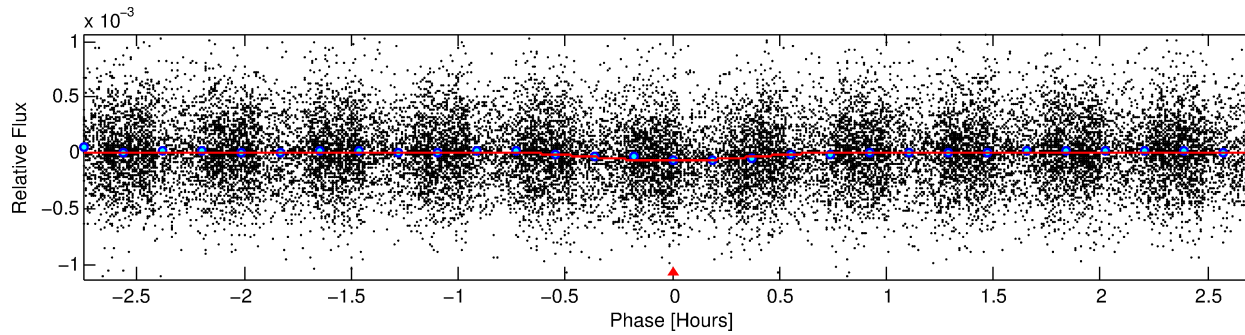
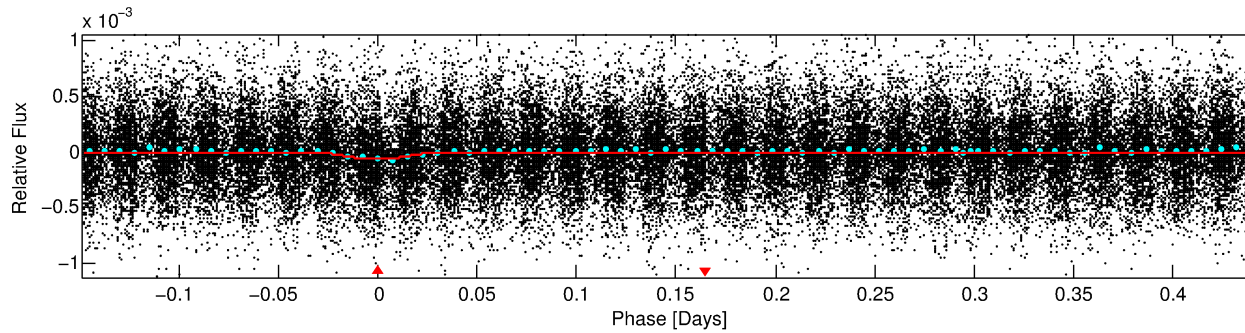
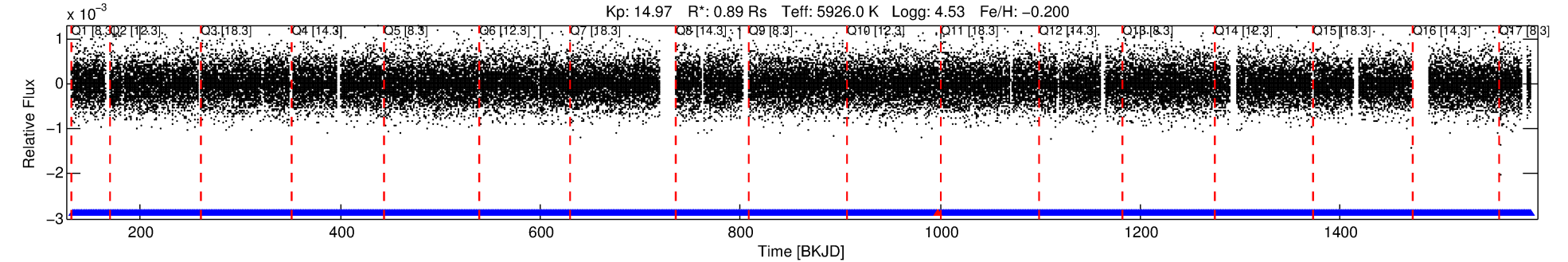
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006590362-01

No Significant Match Found

DV One-Page Summary

KIC: 6590362 Candidate: 1 of 1 Period: 0.593 d
KOI: K07570.01 Corr: 0.829



DV Fit Results:

Period = 0.59261 [0.00001] d
Epoch = 132.1035 [0.0014] BKJD
Rp/R* = 0.0089 [0.0028]
a/R* = 2.44 [3.18]
b = 0.90 [0.34]
Seff = 4629.45 [1923.07]
Teq = 2103 [218] K
Rp = 0.86 [0.38] Re
a = 0.0137 [0.0037] AU
Ag = 1.51 [1.57] [0.33 σ]
Teffp = 3607 [870] K [1.68 σ]

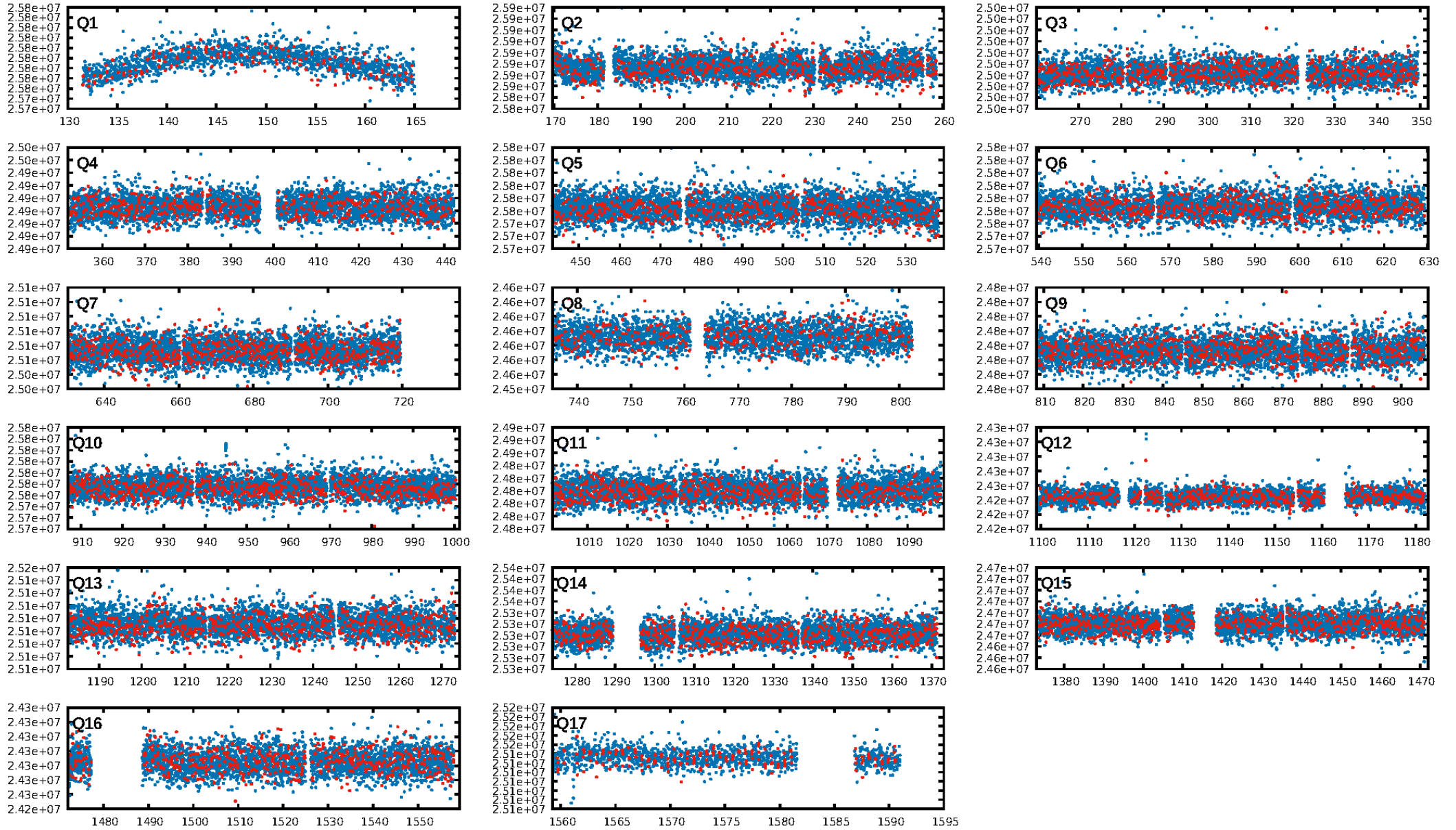
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.35e-27
RollingBand-fgt: 1.00 [2162/2163]
GhostDiagnostic-chr: -0.3263
Centroid-sig: 0.0%
Centroid-so: 19.947 arcsec [16.12 σ]
OotOffset-rm: 7.396 arcsec [97.53 σ]
KicOffset-rm: 7.227 arcsec [93.79 σ]
OotOffset-st: 2/3/0/5 [10]
KicOffset-st: 2/3/0/5 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [17/17]

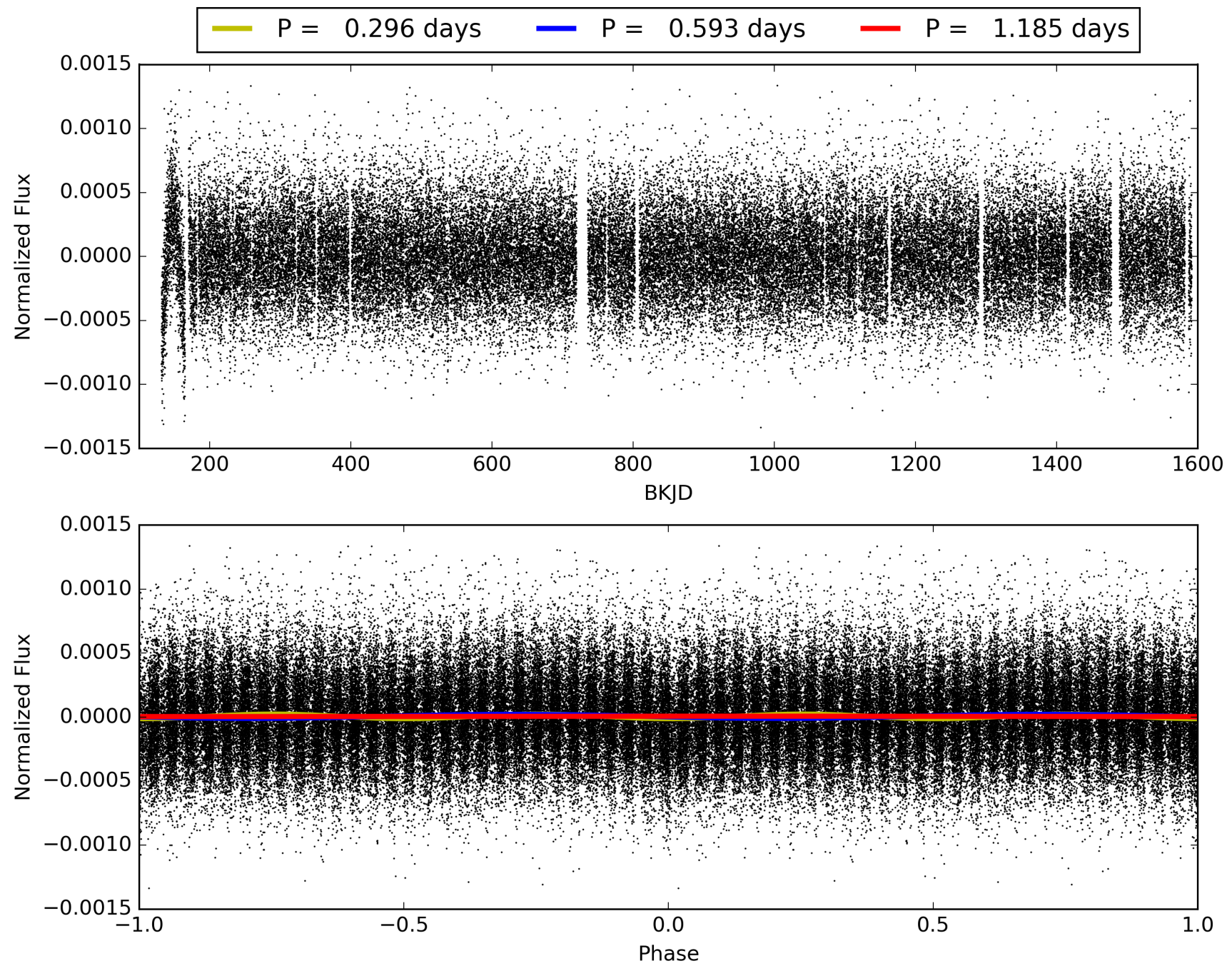
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:59:08 Z

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

TCE 006590362-01, PDC Light Curves

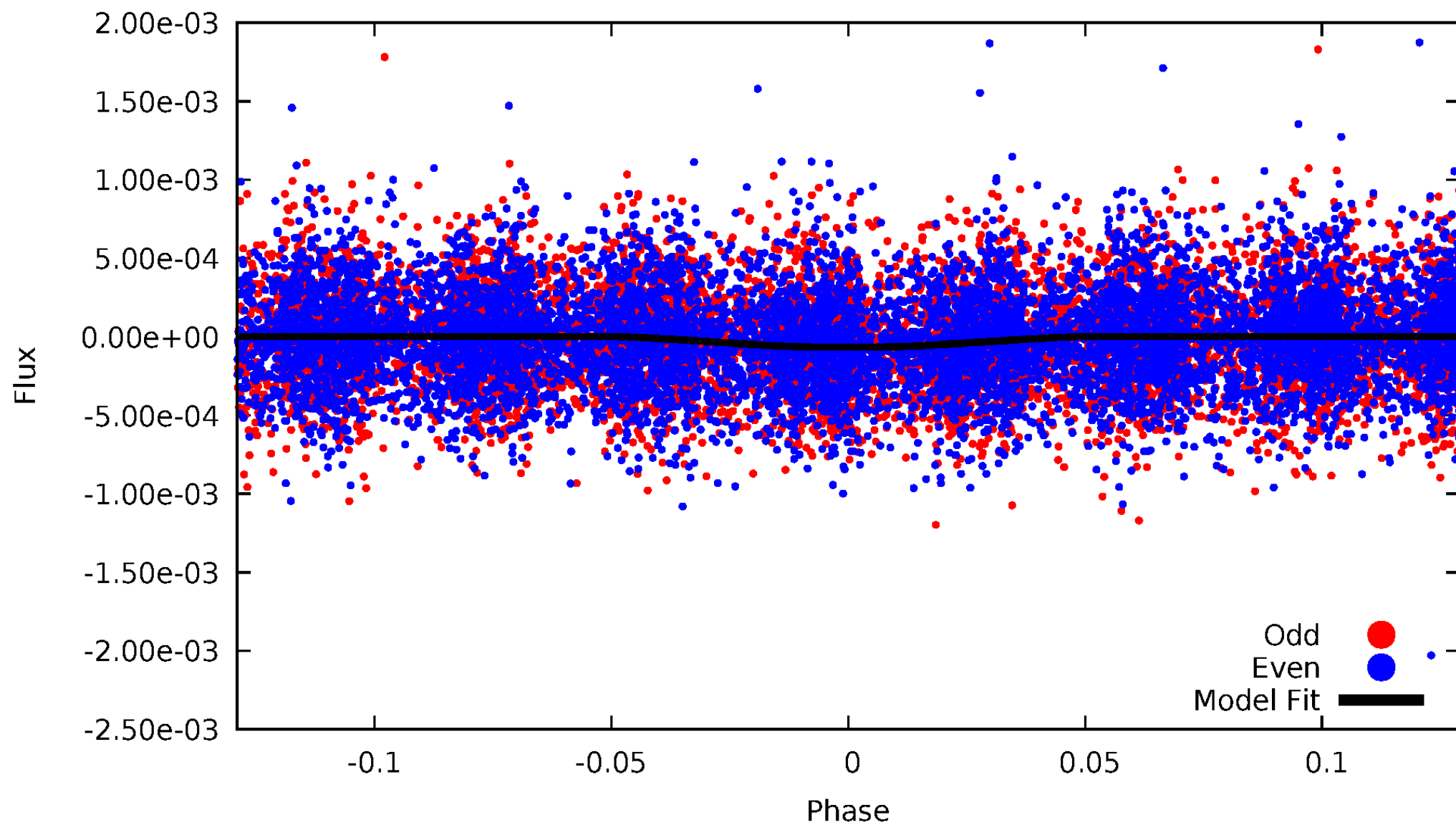


TCE 006590362-01



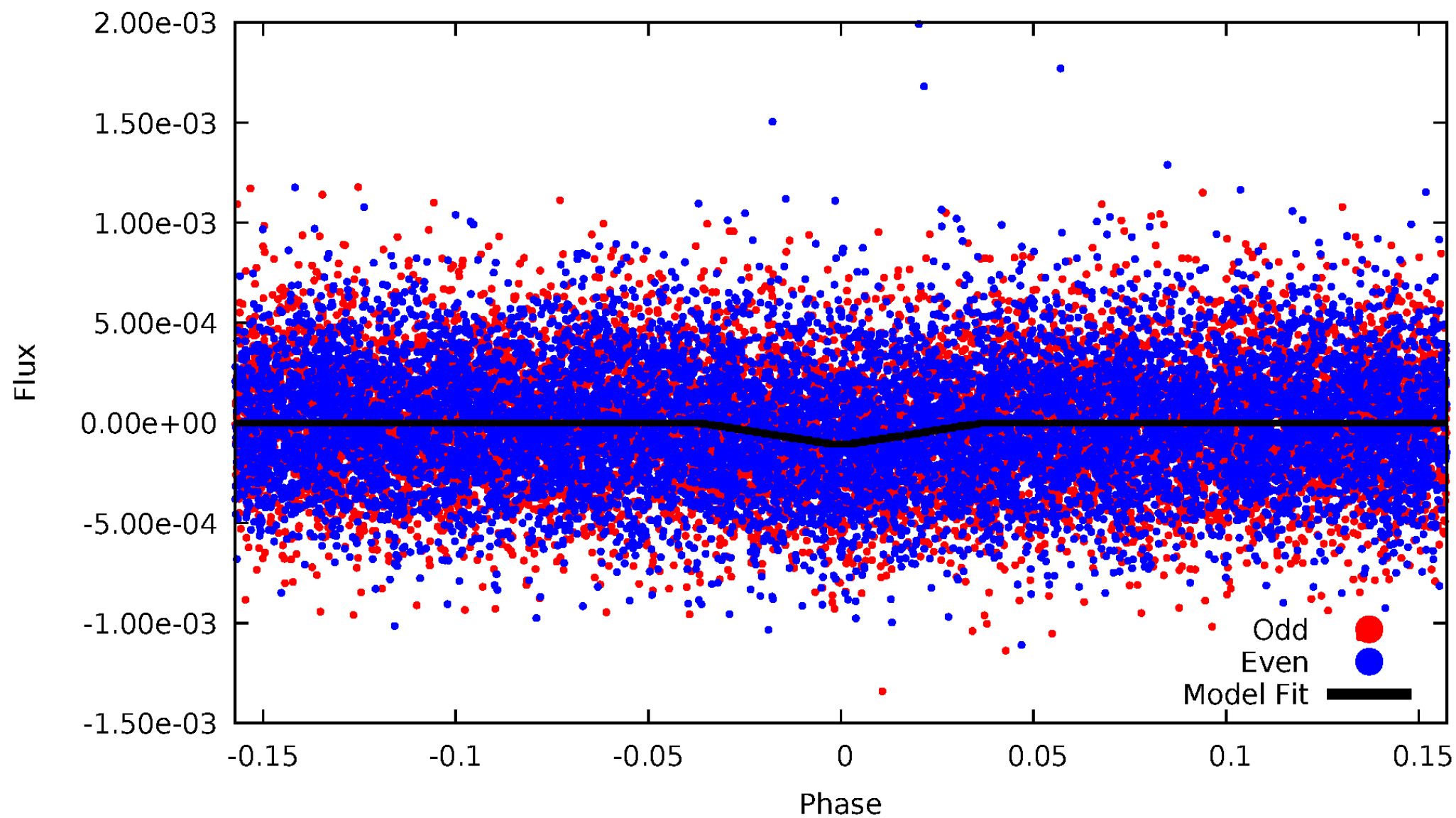
DV Odd/Even

TCE 006590362-01



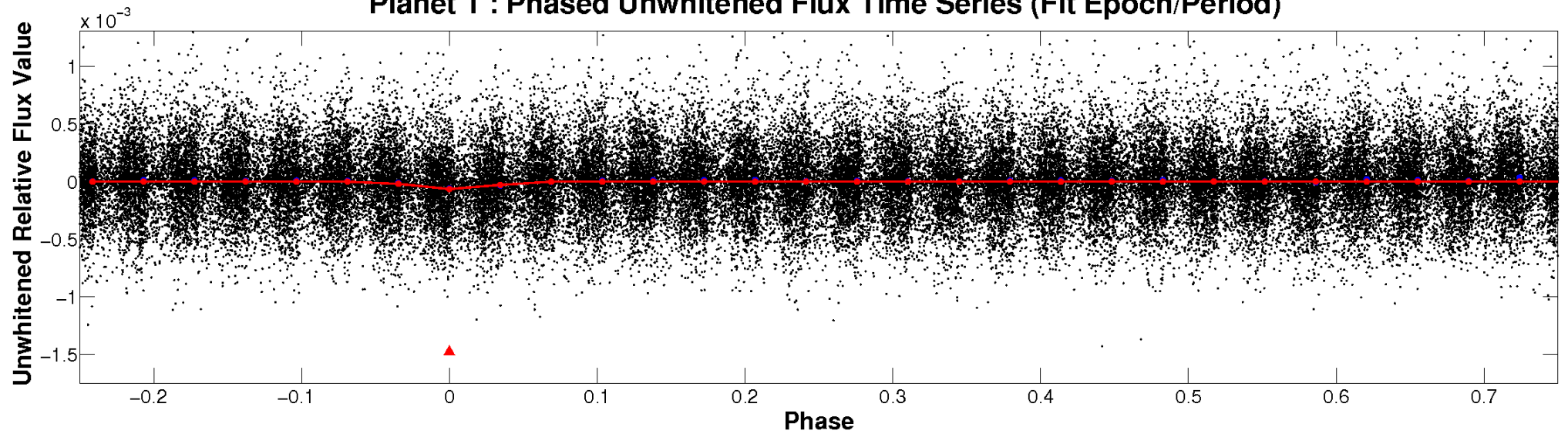
ALT Odd/Even

TCE 006590362-01

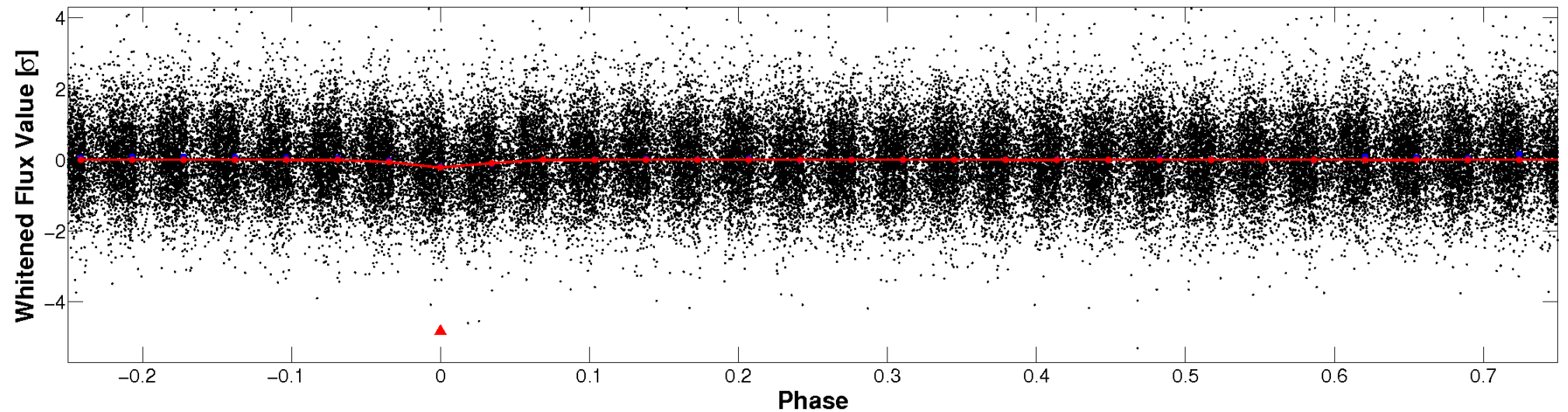


Non-Whitened Vs. Whitened Light Curve

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

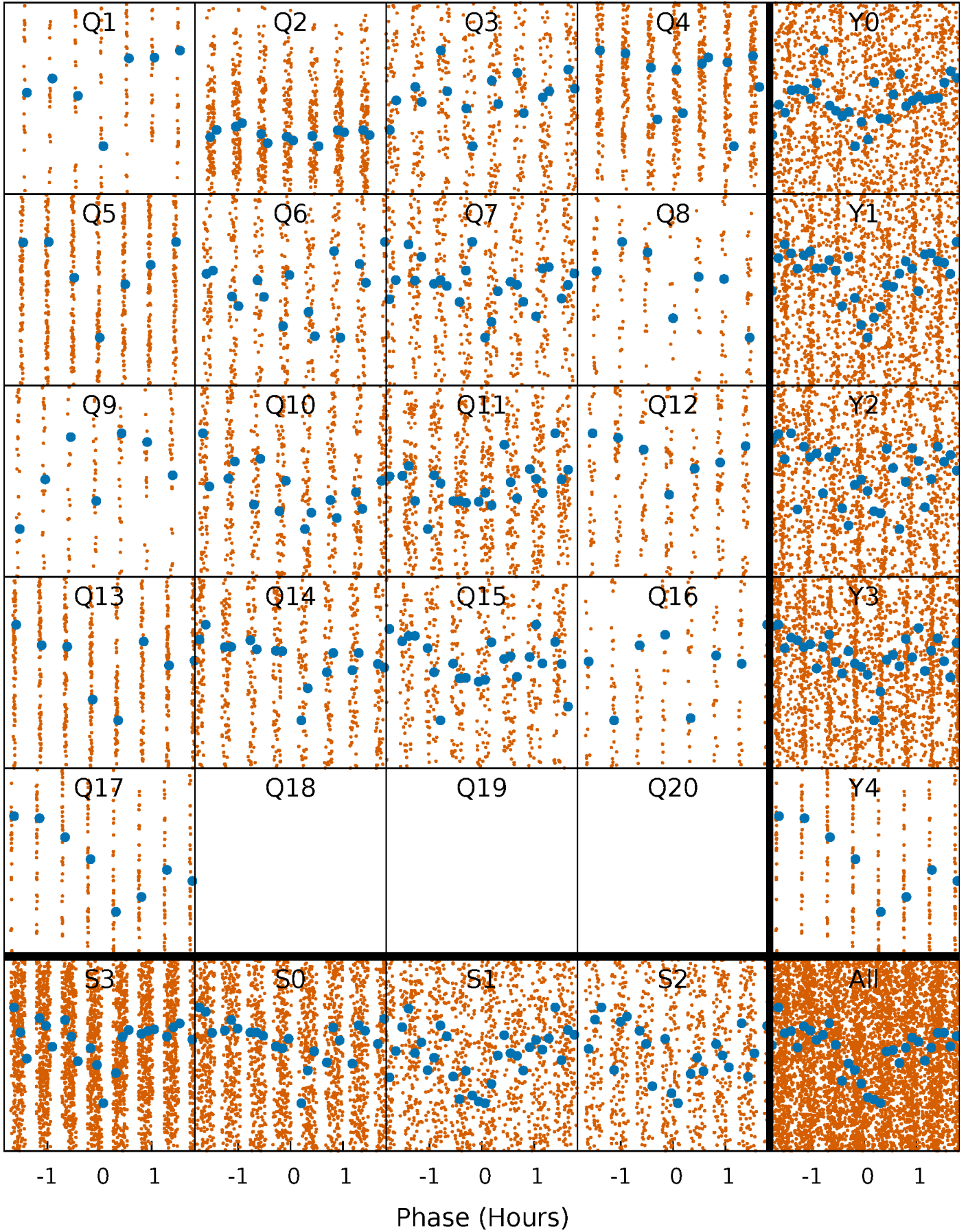


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



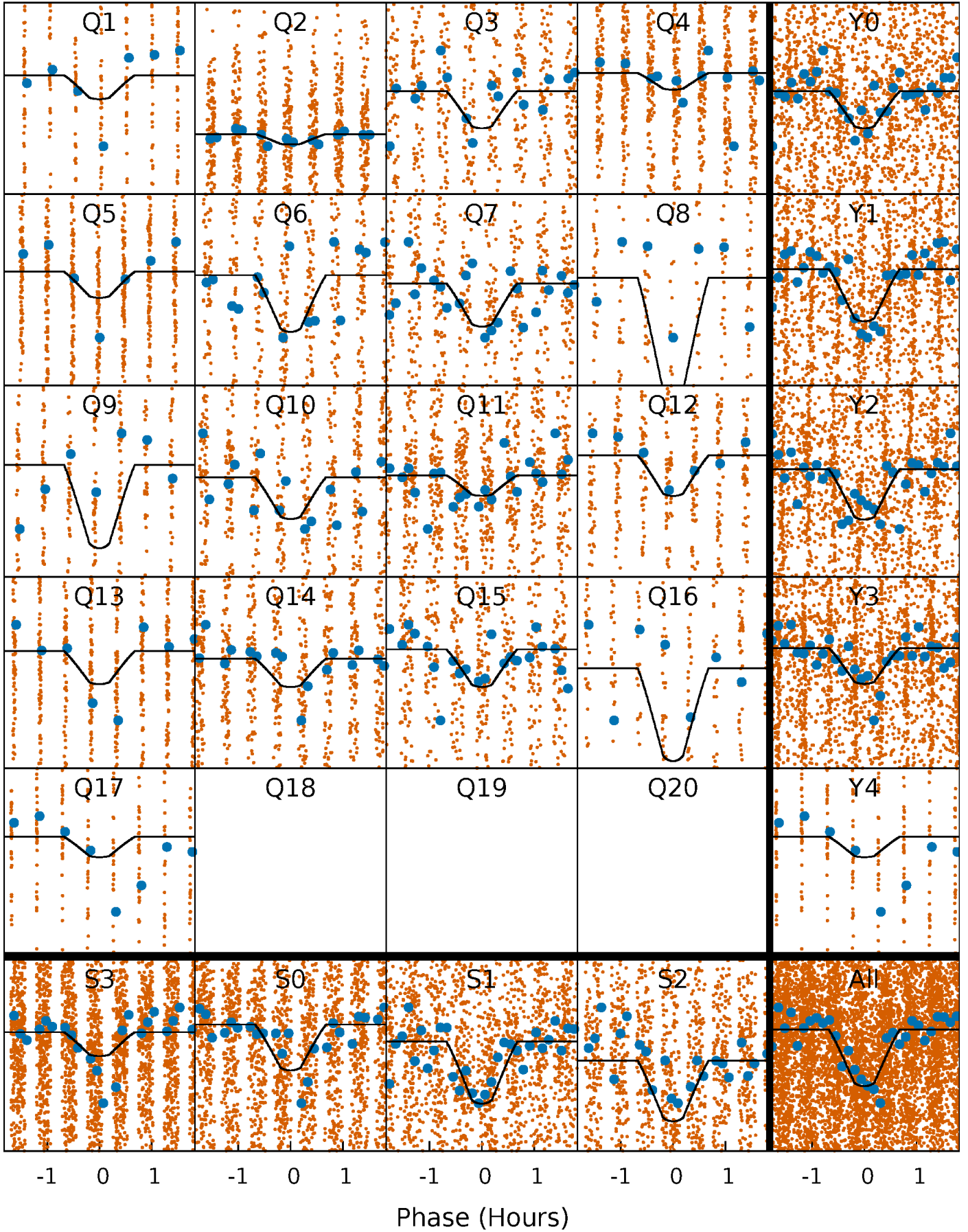
PDC Quarter-Phased Transit Curves

TCE 006590362-01 P= 0.592612 Days $T_0=132.103525$ (BKJD)



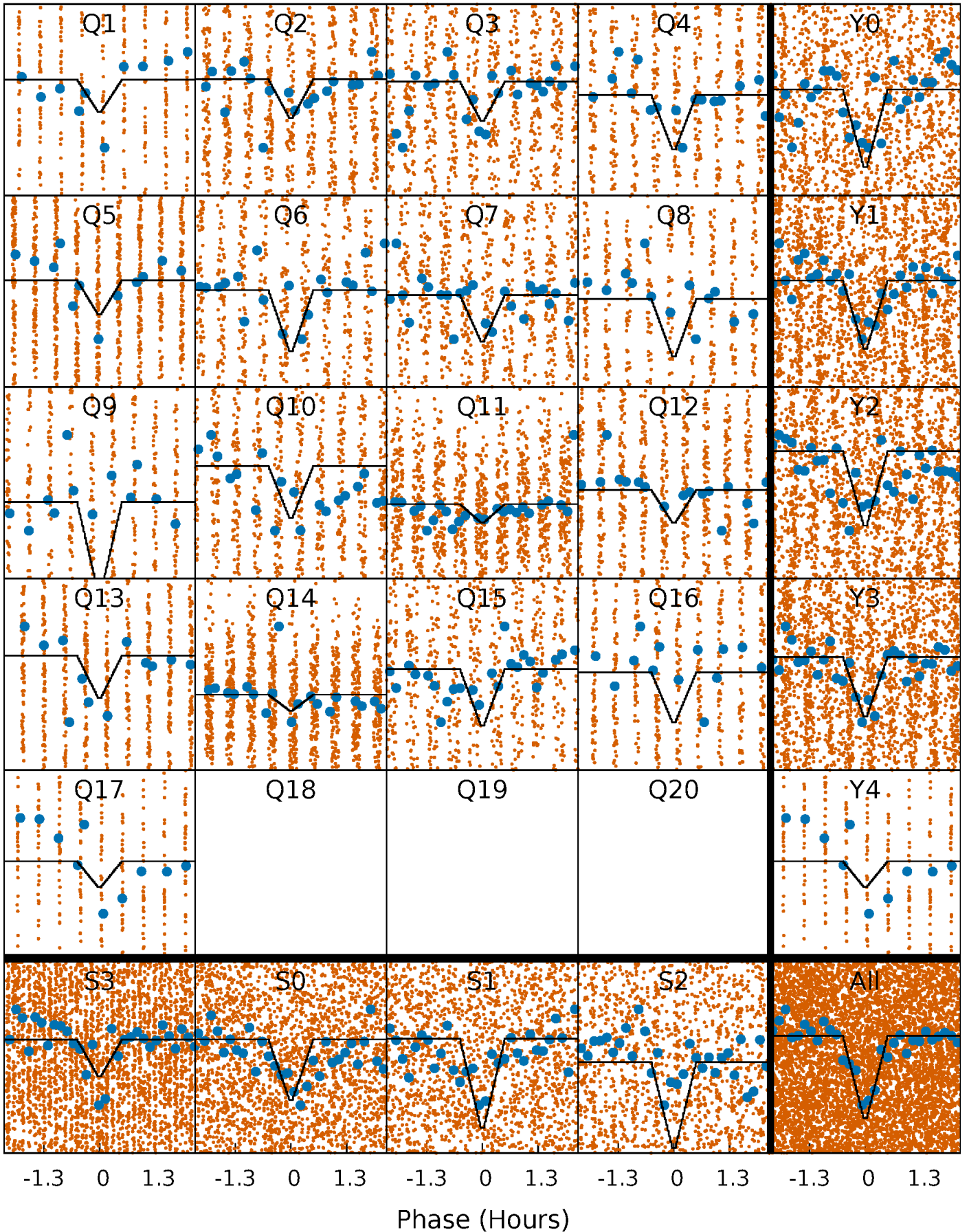
DV Quarter-Phased Transit Curves

TCE 006590362-01 P= 0.592612 Days $T_0=132.103525$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

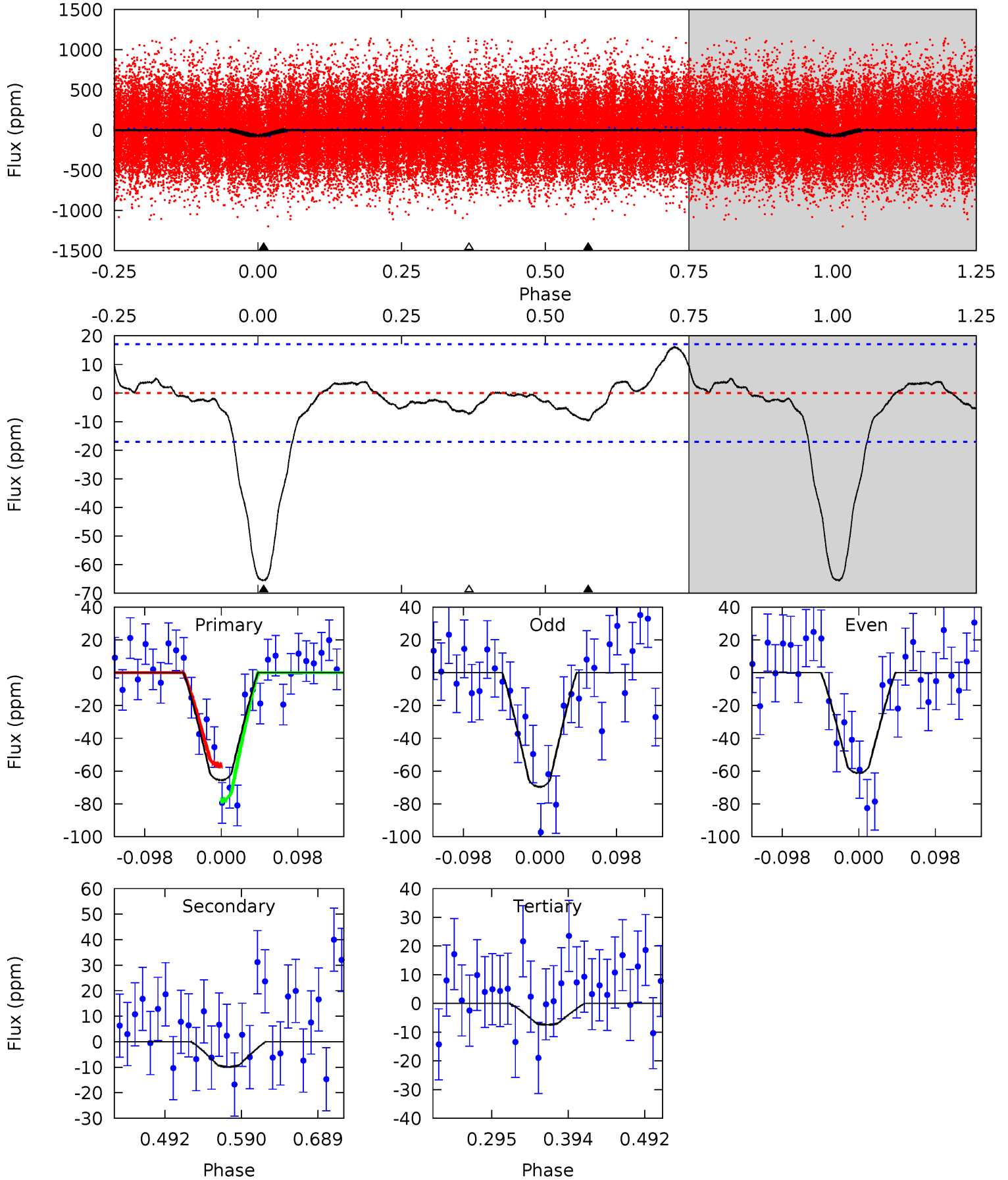
TCE 006590362-01 P= 0.592616 Days $T_0=132.101243$ (BKJD)



DV Model-Shift Uniqueness Test

006590362-01, P = 0.592612 Days, E = 131.510913 Days

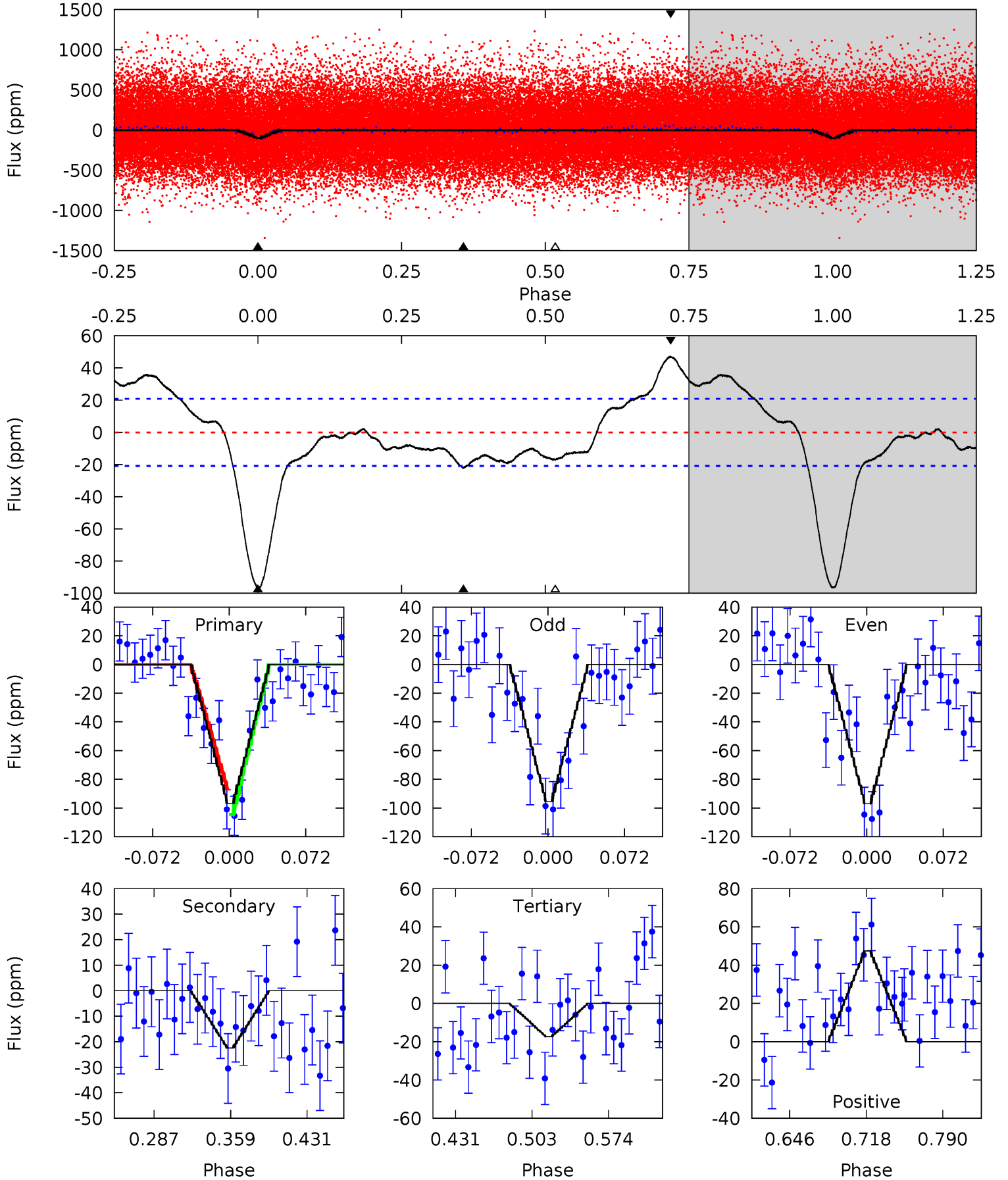
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	2.62	1.98	0	4.57	1.65	1.37	15.6	17.6	0.64	2.62	1.14	0.99	0.20	2.87



Alt Model-Shift Uniqueness Test

006590362-01, P = 0.592616 Days, E = 131.508627 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	5.00	3.86	10.6	4.63	1.80	4.24	17.7	11.0	1.14	-5.56	0.16	0.90	0.33	1.95



Stellar Parameters For KIC 006590362

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5926^{+160}_{-178}	$4.532^{+0.039}_{-0.221}$	$-0.200^{+0.300}_{-0.300}$	$0.887^{+0.276}_{-0.086}$	$0.978^{+0.119}_{-0.119}$	$1.971^{+0.403}_{-1.028}$
	+3%/-3%	+1%/-5%	+150%/-150%	+31%/-10%	+12%/-12%	+20%/-52%
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 006590362-01 / KOI 7570.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 4	$0.90^{+0.32}_{-0.32}$	3007^{+236}_{-138}	3699^{+688}_{-650}	$1.219^{+1.596}_{-0.662}$
Alt.	-22 ± 4	$1.07^{+0.33}_{-0.32}$	3025^{+221}_{-142}	4094^{+656}_{-419}	$1.952^{+1.981}_{-0.828}$

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 $A_{obs} \gg 1.0$

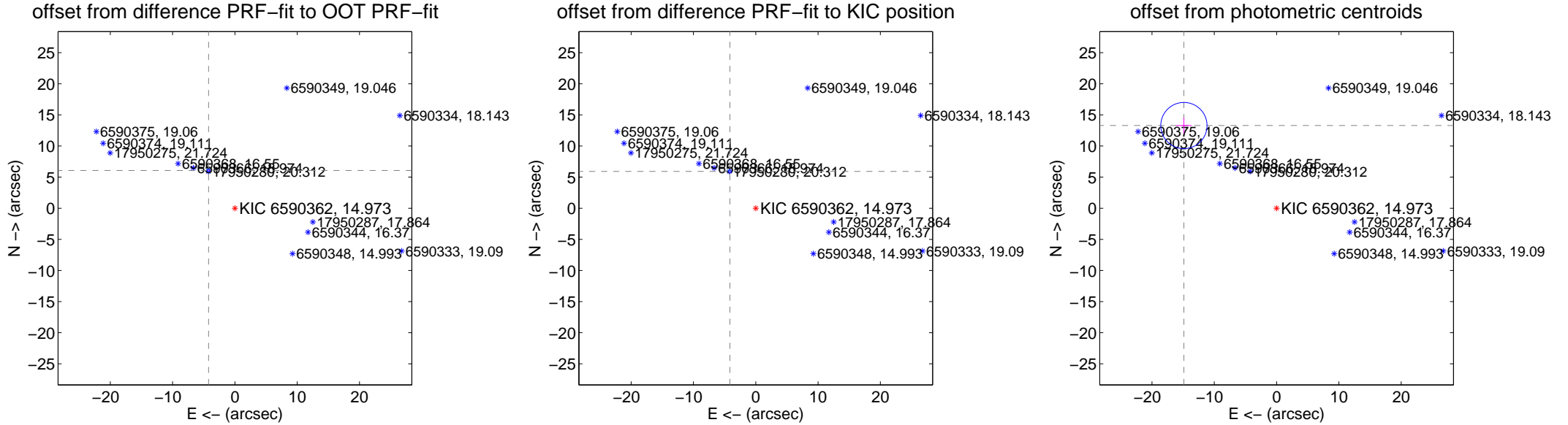
DV Centroid Data

Supplemental centroid analysis for 006590362-01. Kepler magnitude: 14.97. Transit SNR 11.49

There are 10 quarters with good PRF difference image offsets

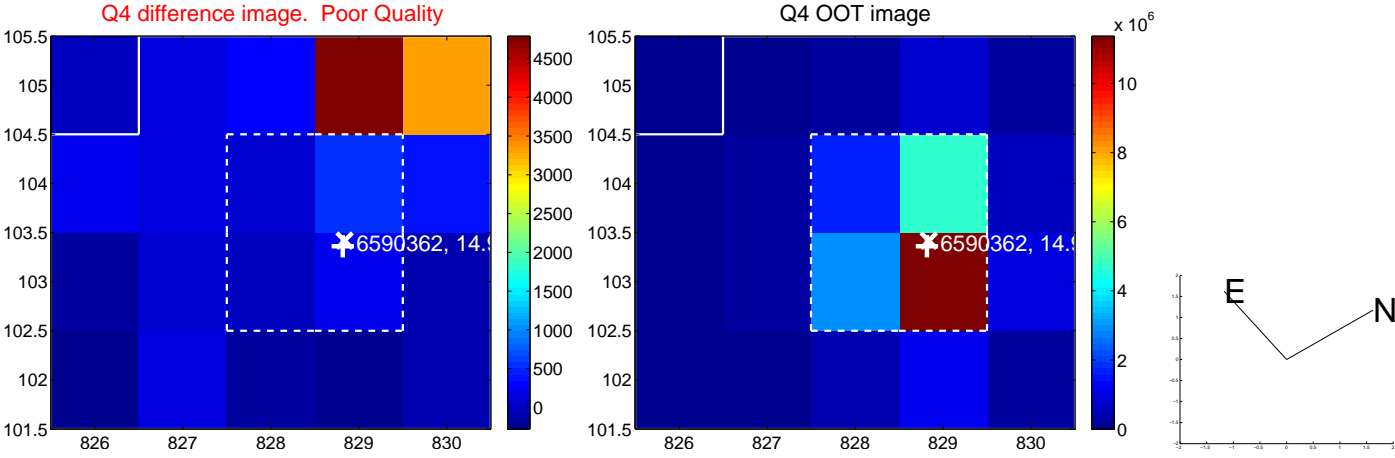
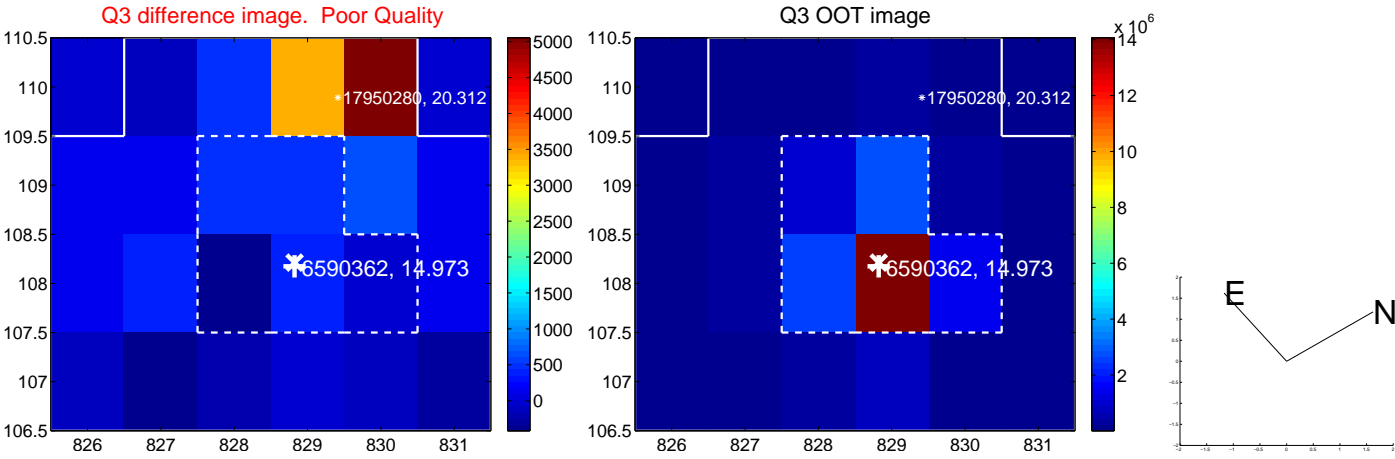
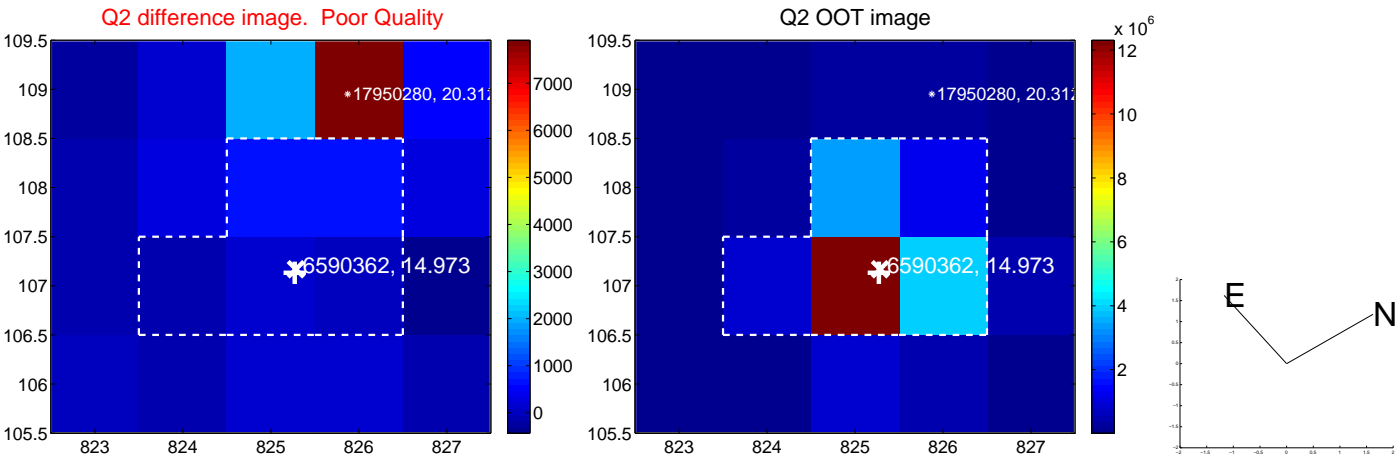
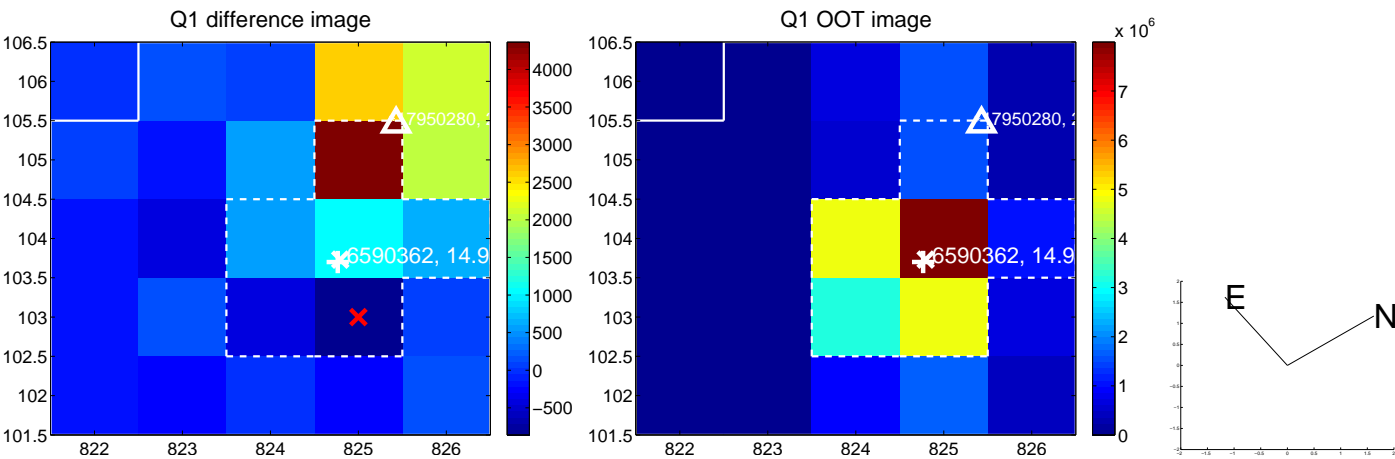
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.396 \pm 0.076	97.53	4.231 \pm 0.077	6.067 \pm 0.075
PRF-fit source offset from KIC position	7.227 \pm 0.077	93.79	4.146 \pm 0.072	5.919 \pm 0.077
photometric centroid source offset	19.95 \pm 1.24	16.12	14.88 \pm 1.22	13.29 \pm 1.26

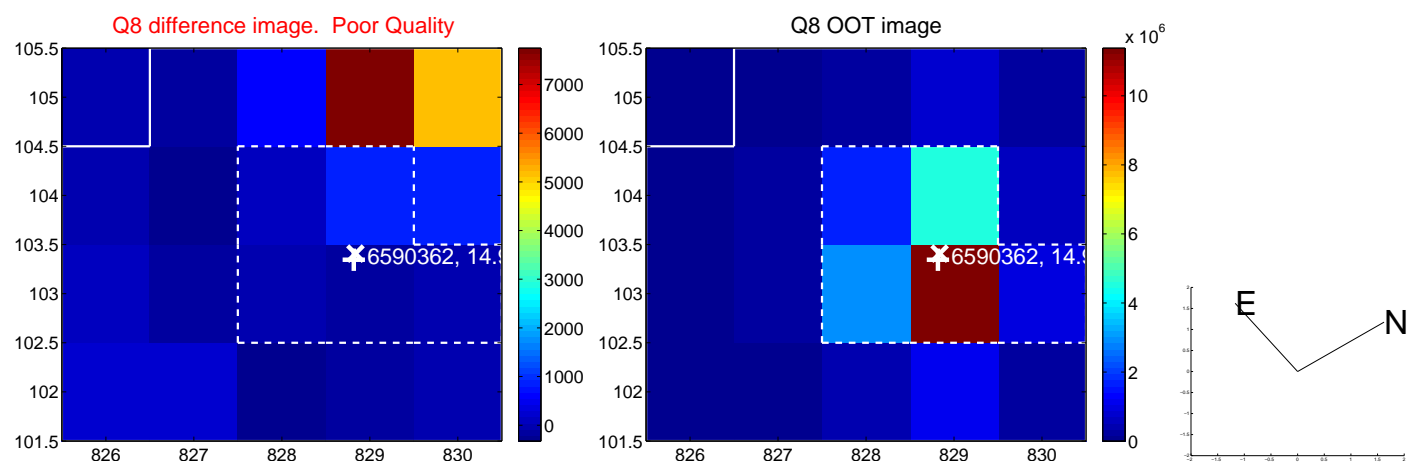
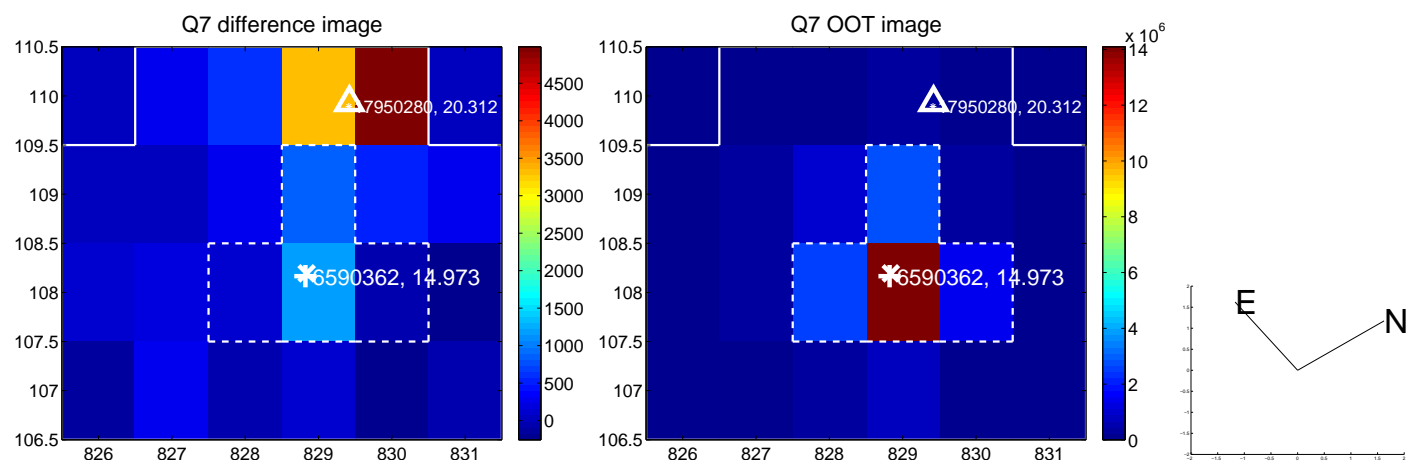
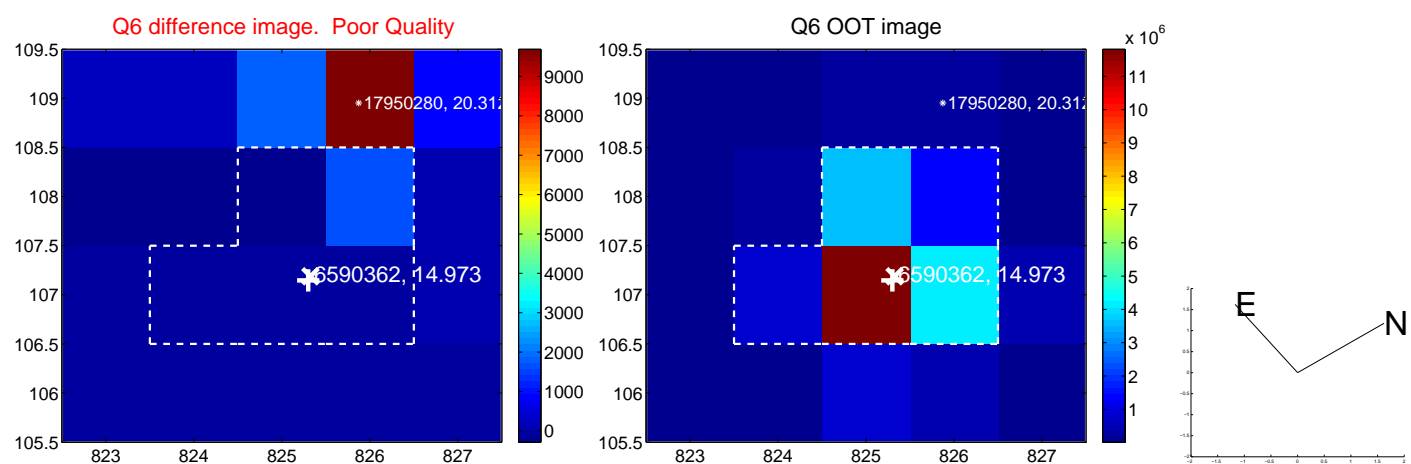
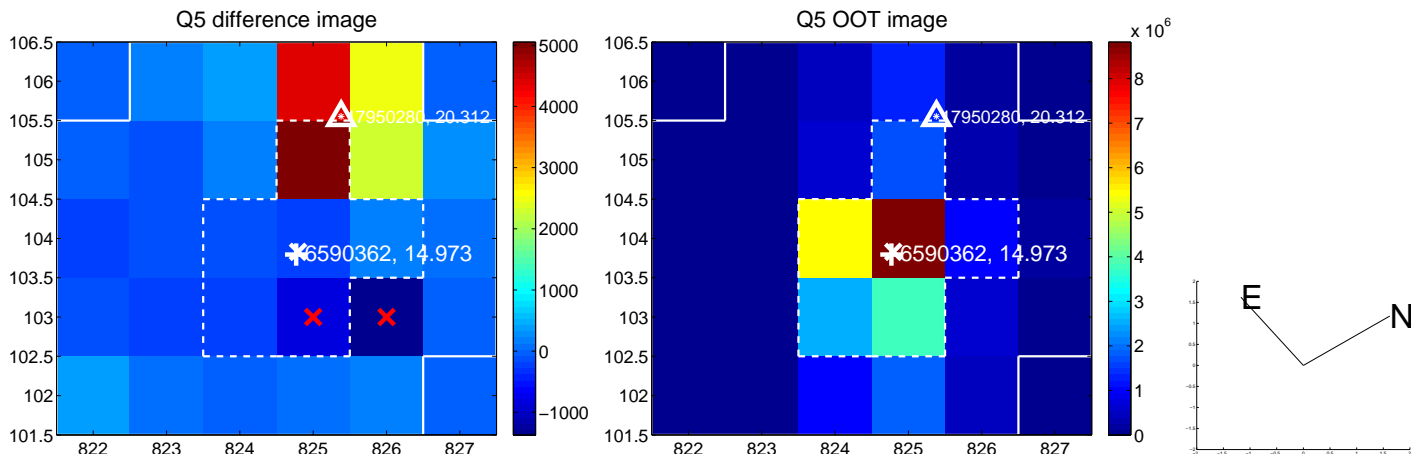


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

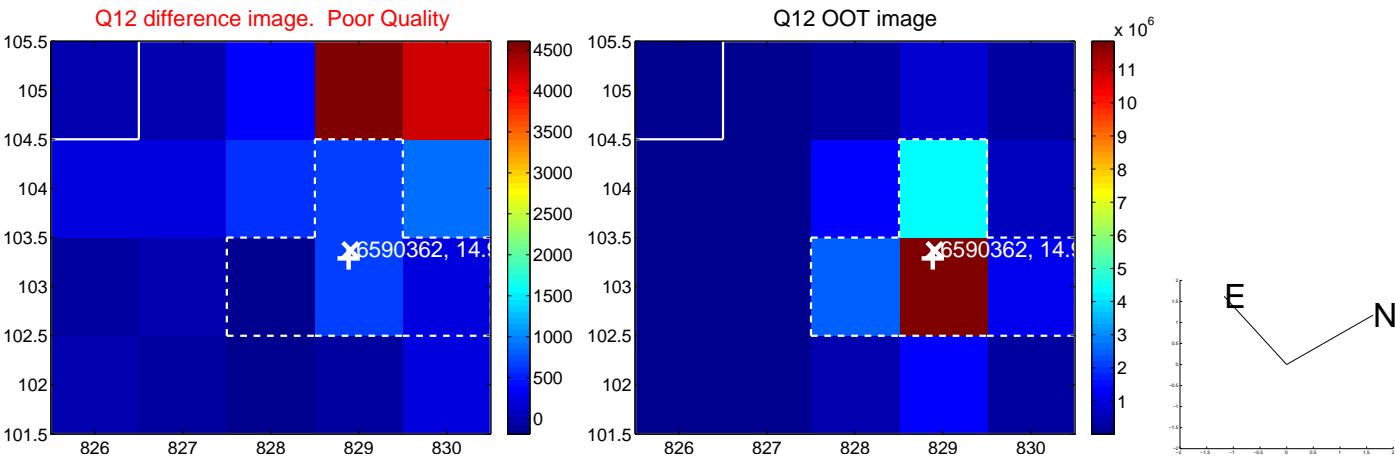
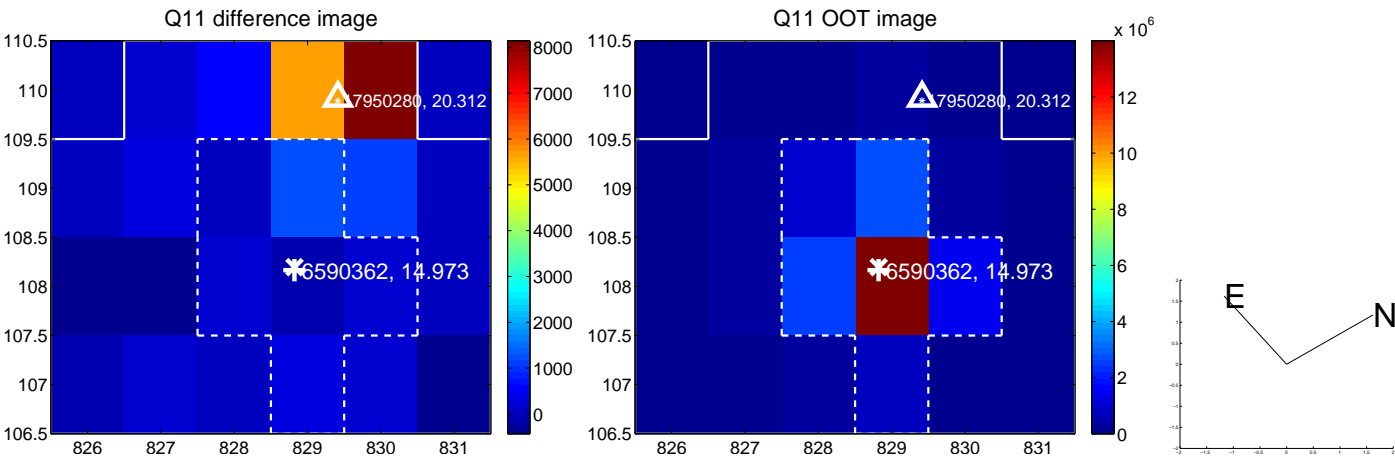
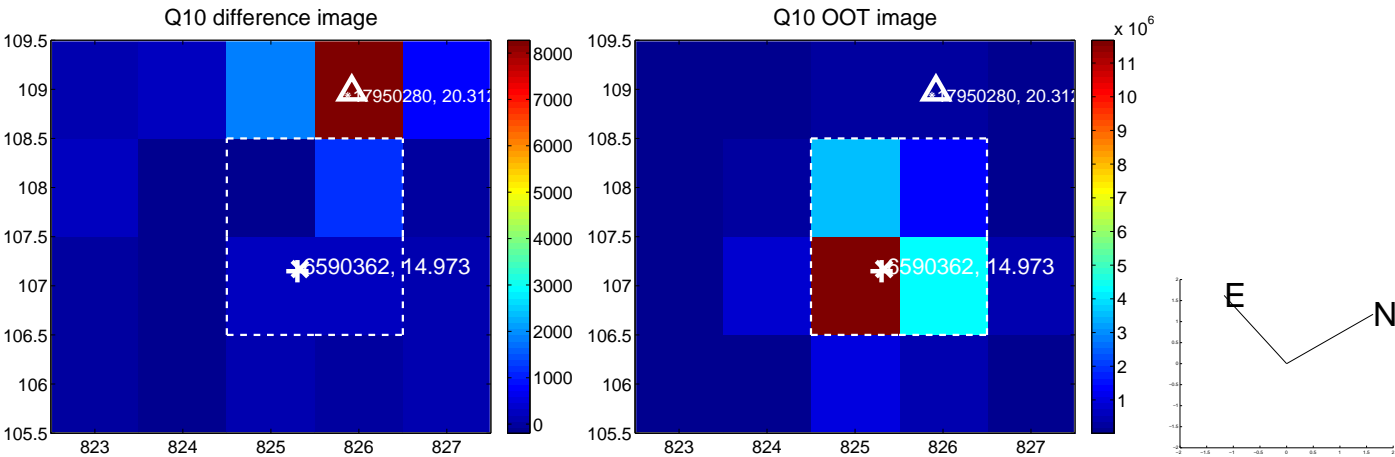
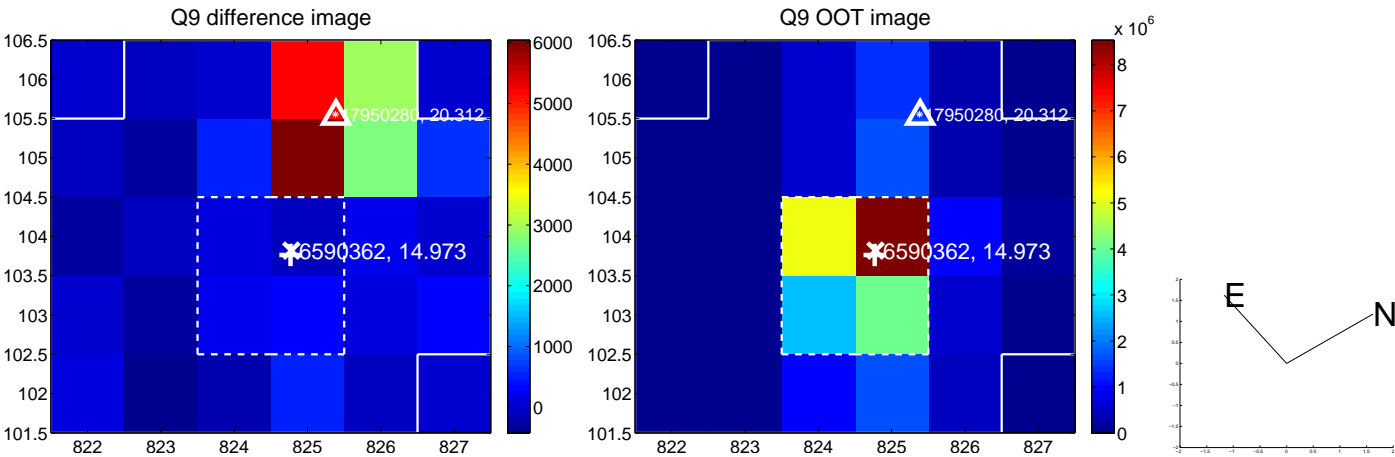
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



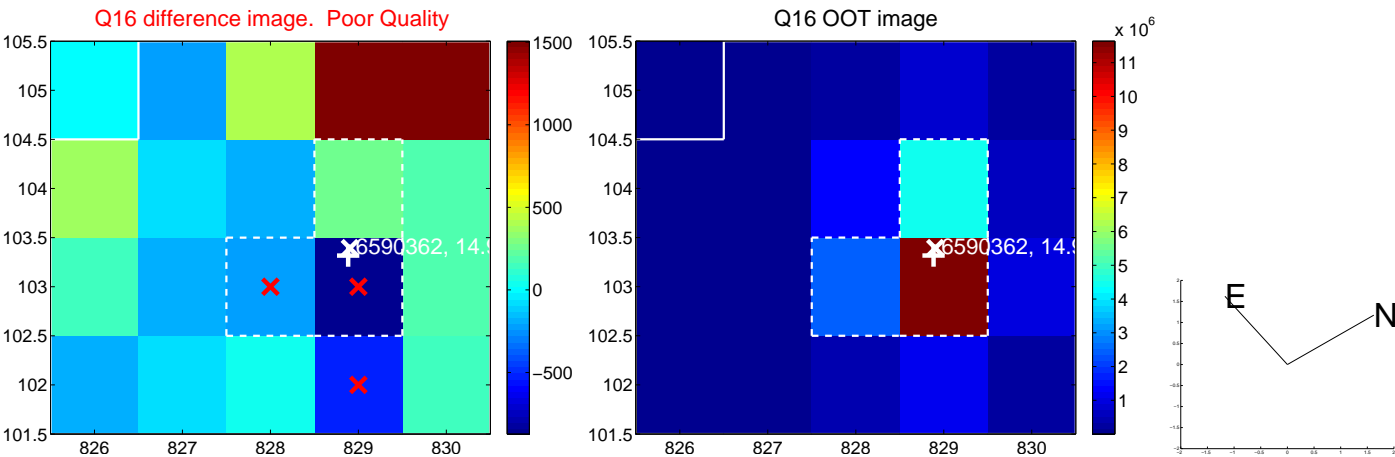
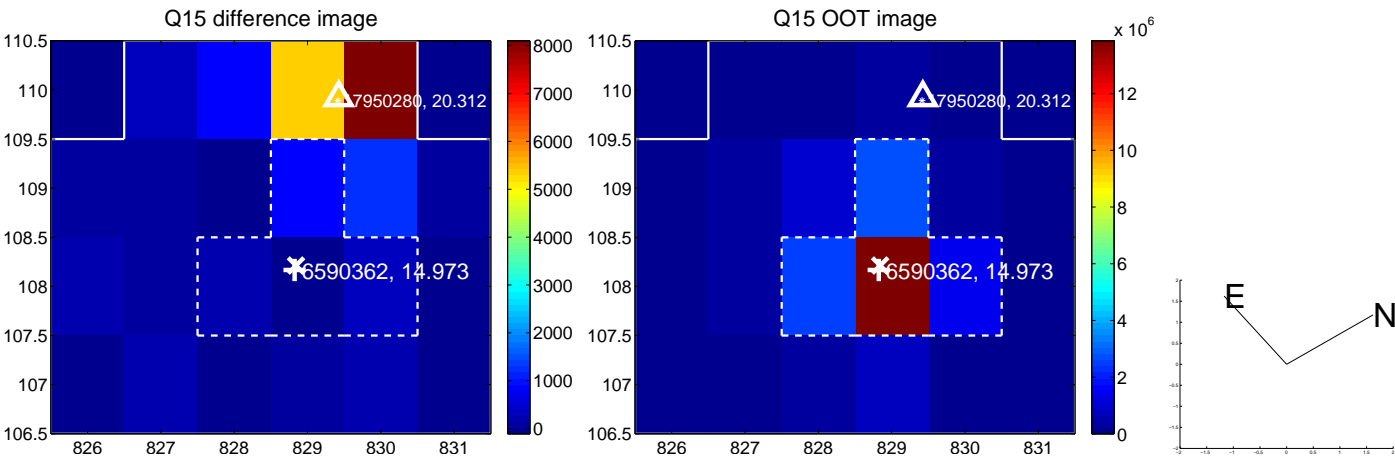
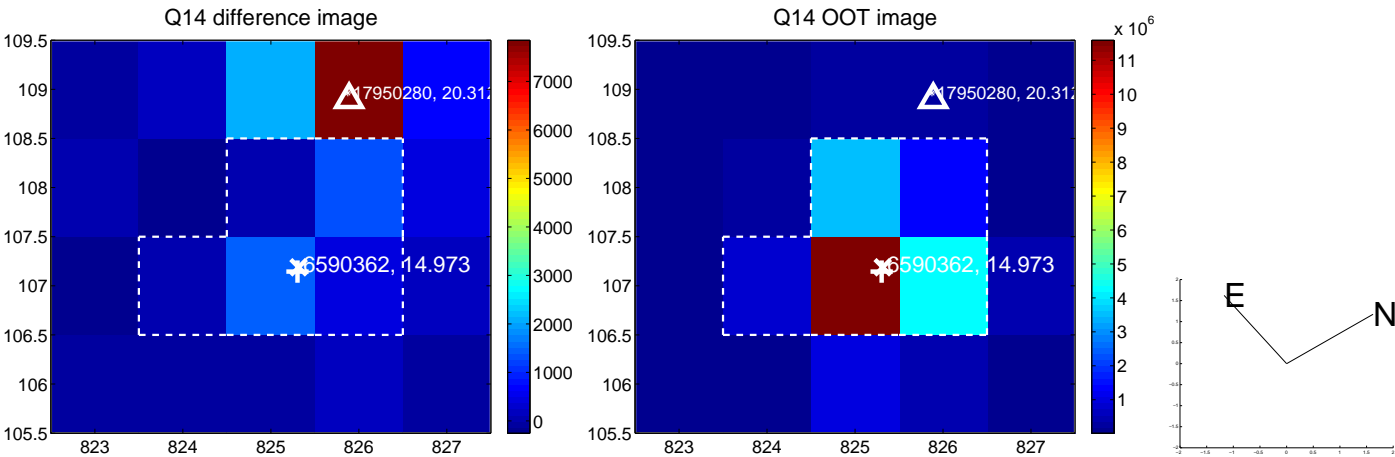
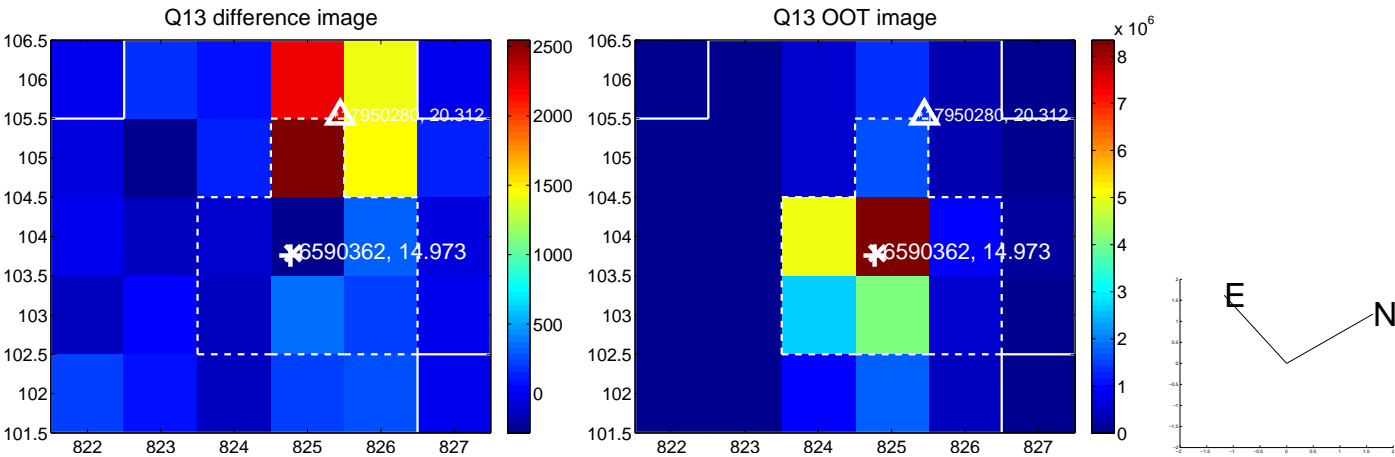
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



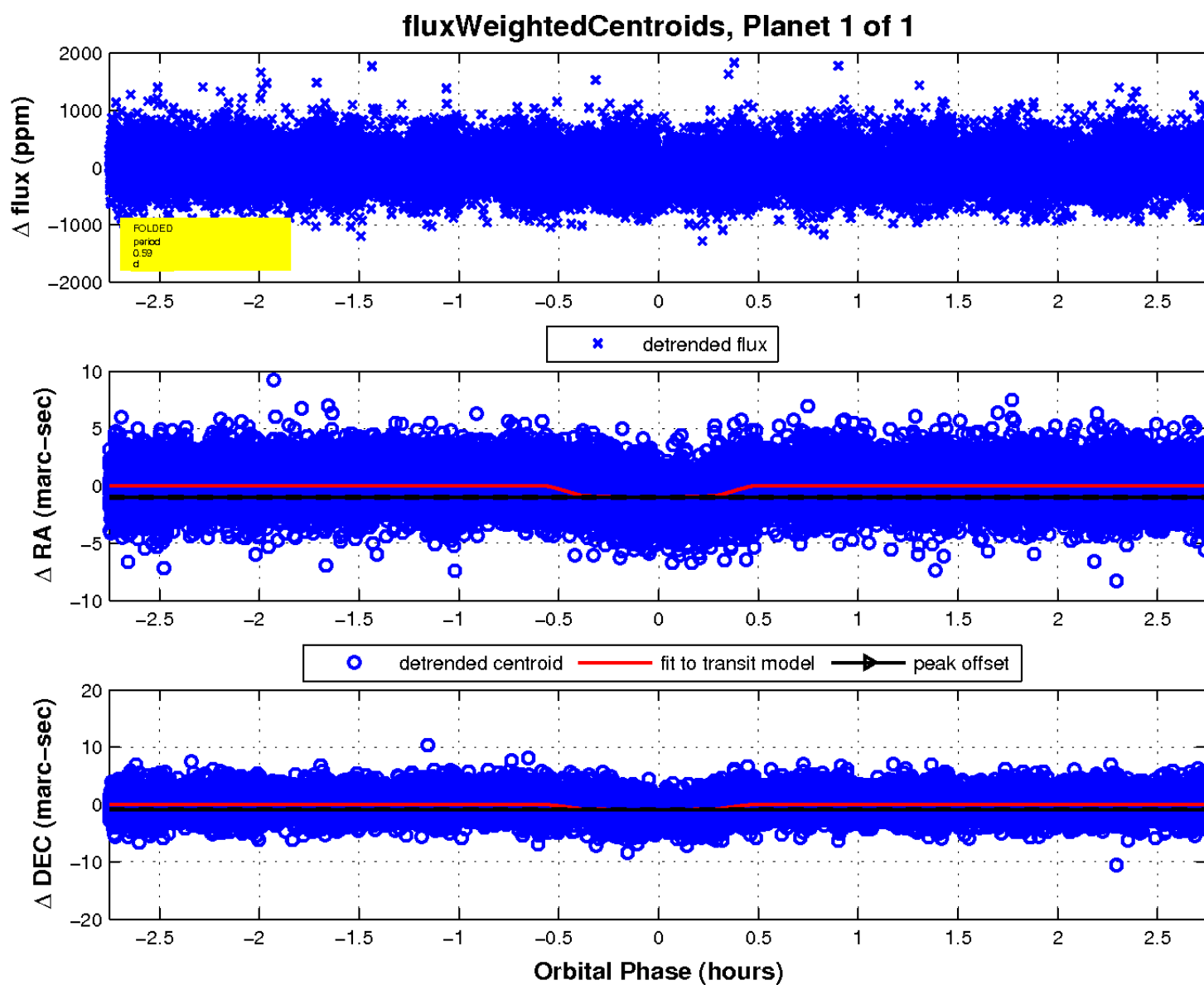
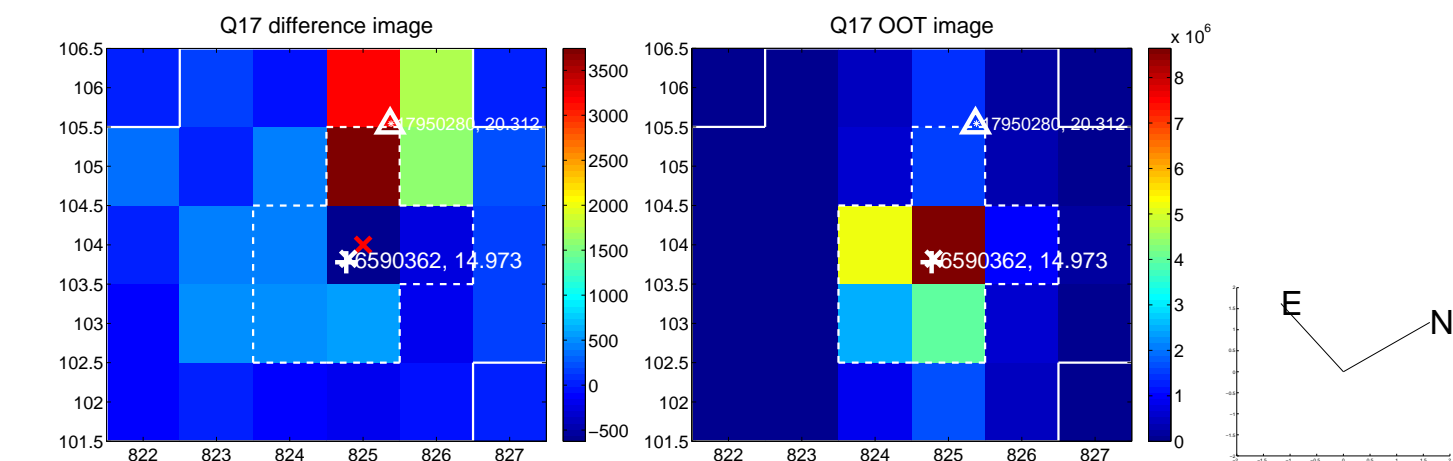
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

