

KIC 006546456

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})
006546456-01	OBS	No	0.522526	132.026479	25.2	1.375	8.4	5.9	0.79	5715	0.47	4070.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006546456-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—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.

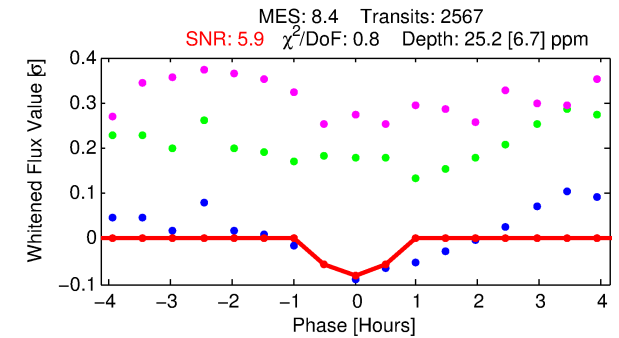
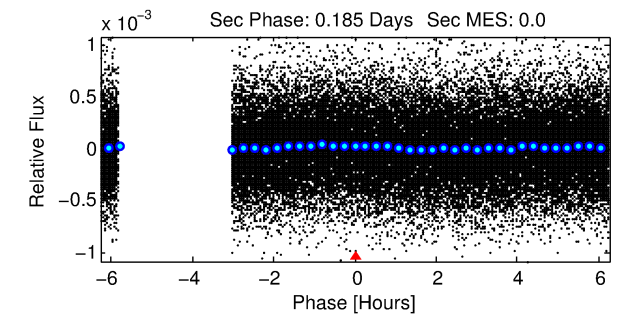
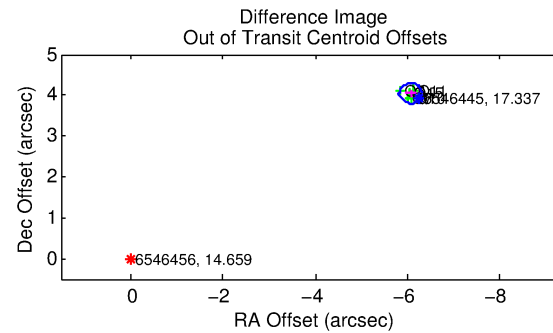
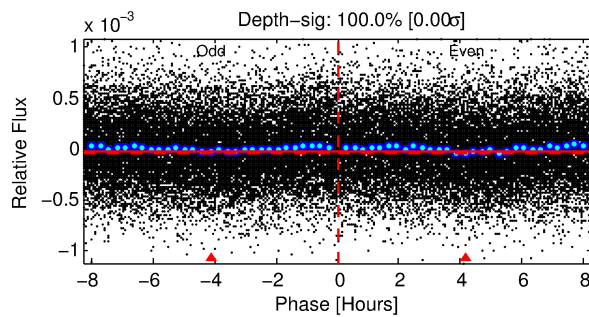
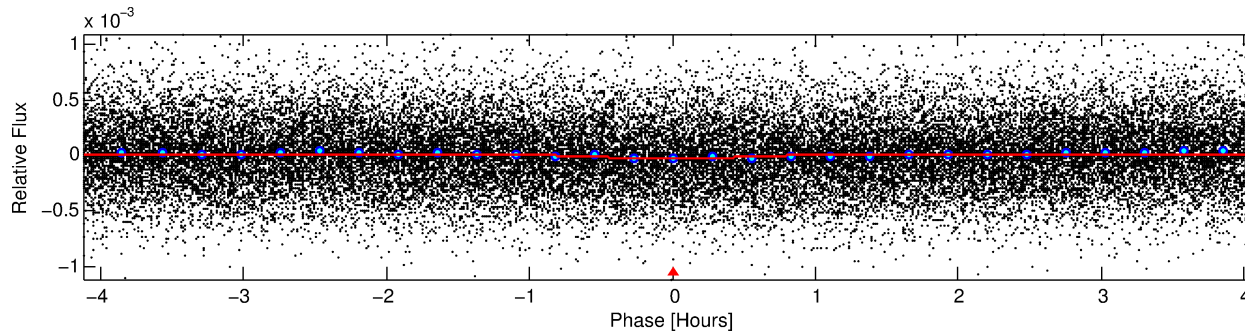
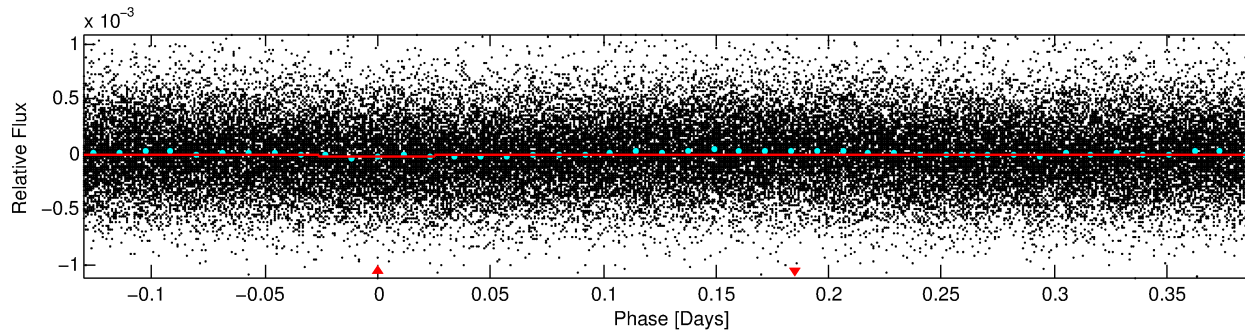
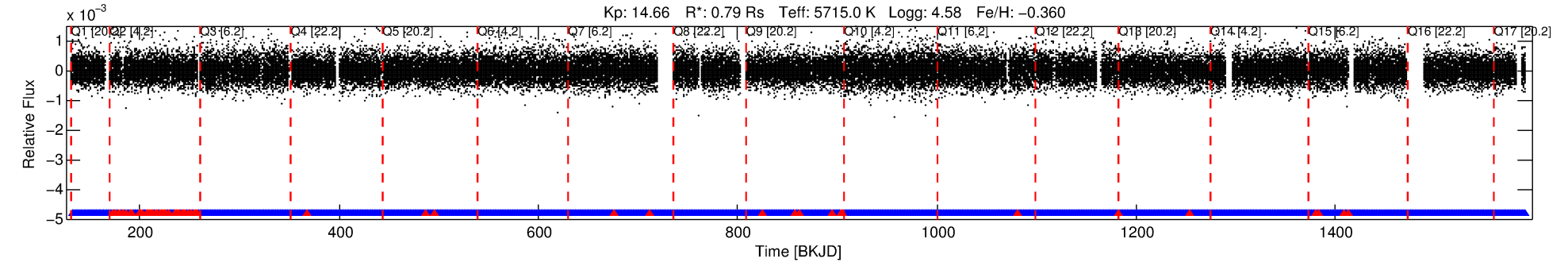
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006546456-01

No Significant Match Found

DV One-Page Summary

KIC: 6546456 Candidate: 1 of 1 Period: 0.523 d



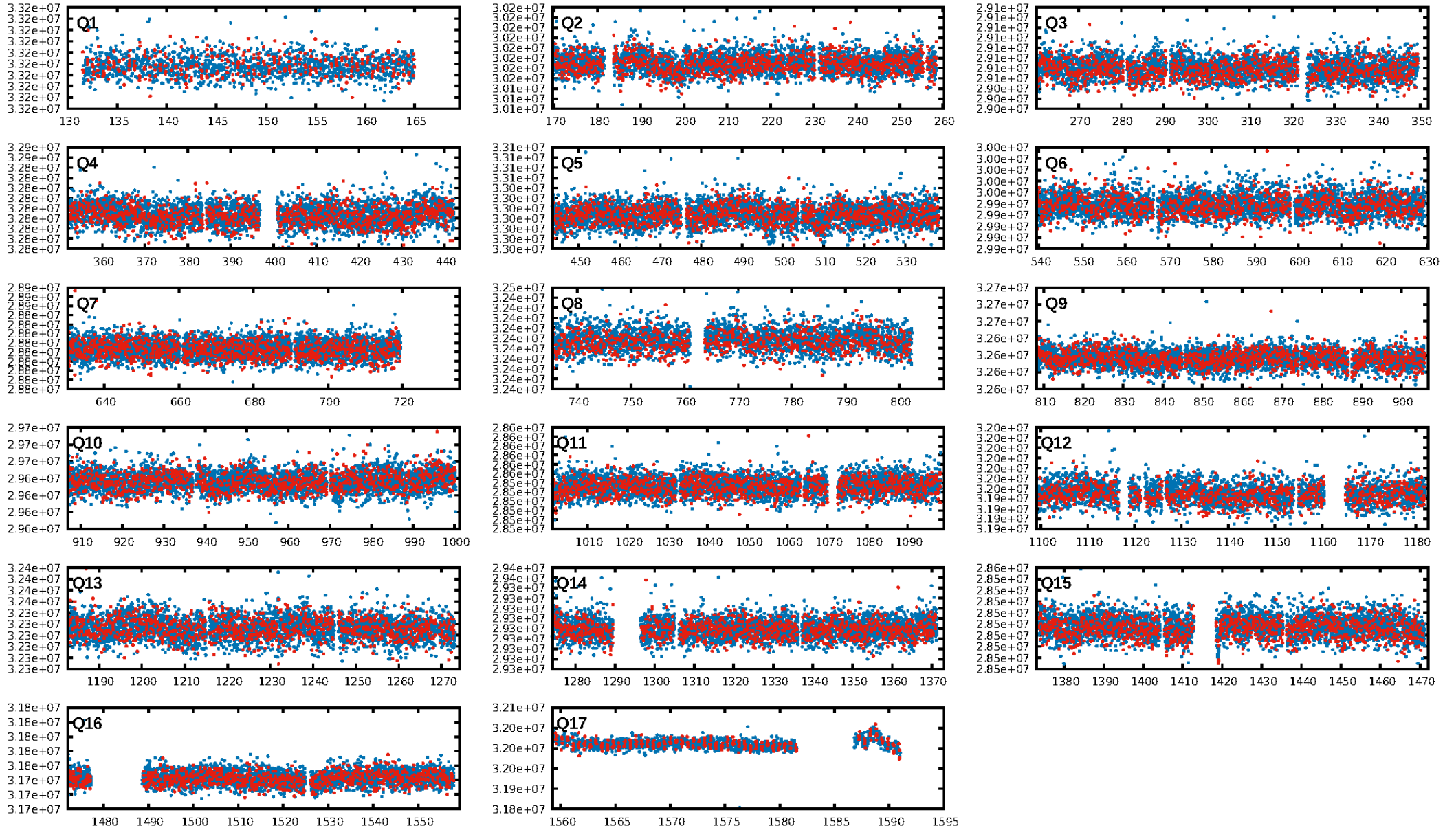
DV Fit Results:

Period = 0.52253 [0.00002] d
Epoch = 132.0265 [0.0037] BKJD
Rp/R* = 0.0055 [0.0029]
a/R* = 1.60 [2.51]
b = 0.90 [0.55]
Seff = 4070.05 [1219.99]
Teff = 2037 [153] K
Rp = 0.47 [0.27] Re
a = 0.0121 [0.0023] AU
Ag = N/A
Teffp = N/A

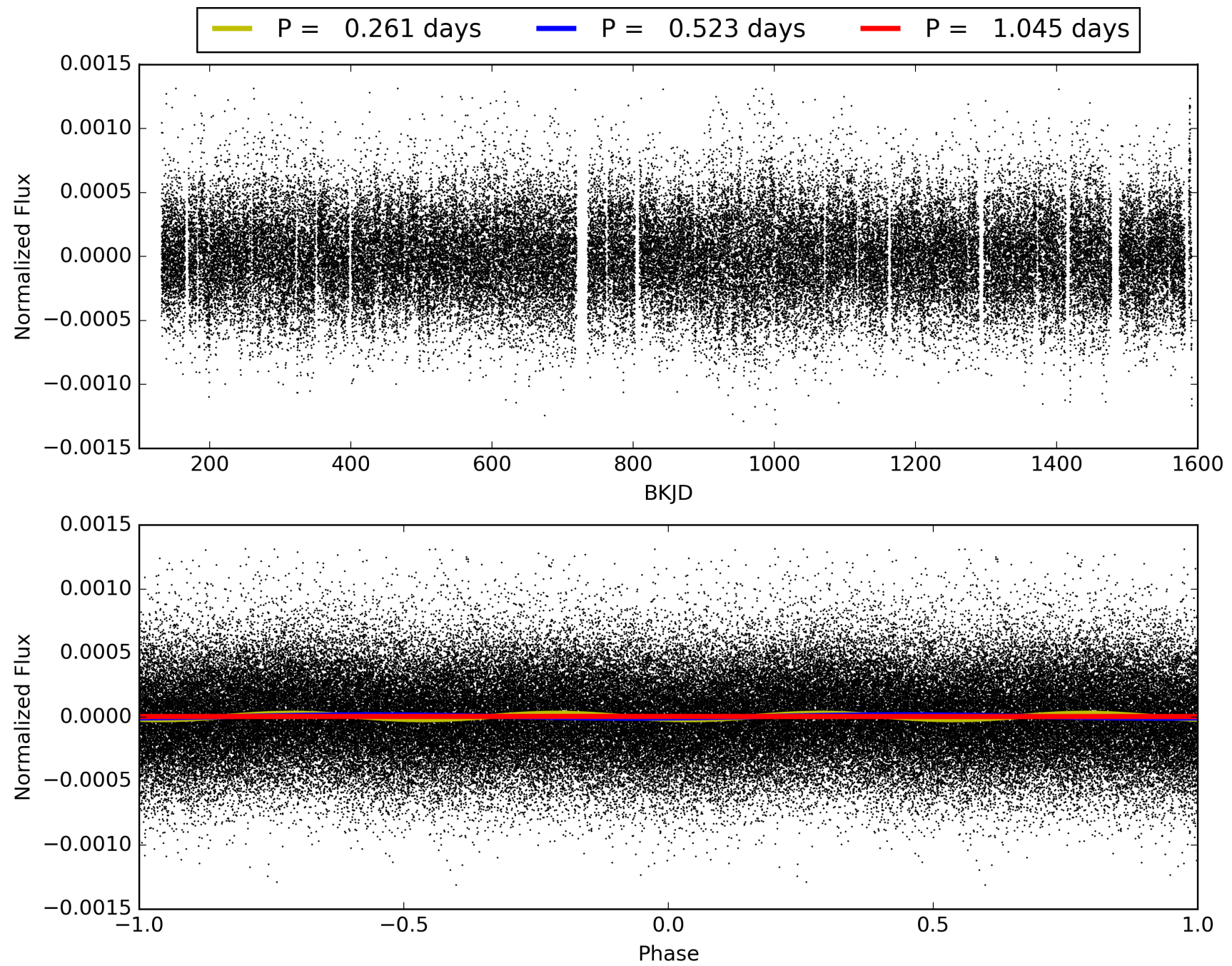
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.30e-18
RollingBand-fgt: 0.97 [2378/2451]
GhostDiagnostic-chr: -1.348
Centroid-sig: 0.0%
Centroid-so: 11.198 arcsec [5.20 σ]
OotOffset-rm: 7.285 arcsec [89.62 σ]
KicOffset-rm: 7.458 arcsec [91.54 σ]
OotOffset-st: 1/4/0/0 [5]
KicOffset-st: 1/4/0/0 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006546456-01, PDC Light Curves

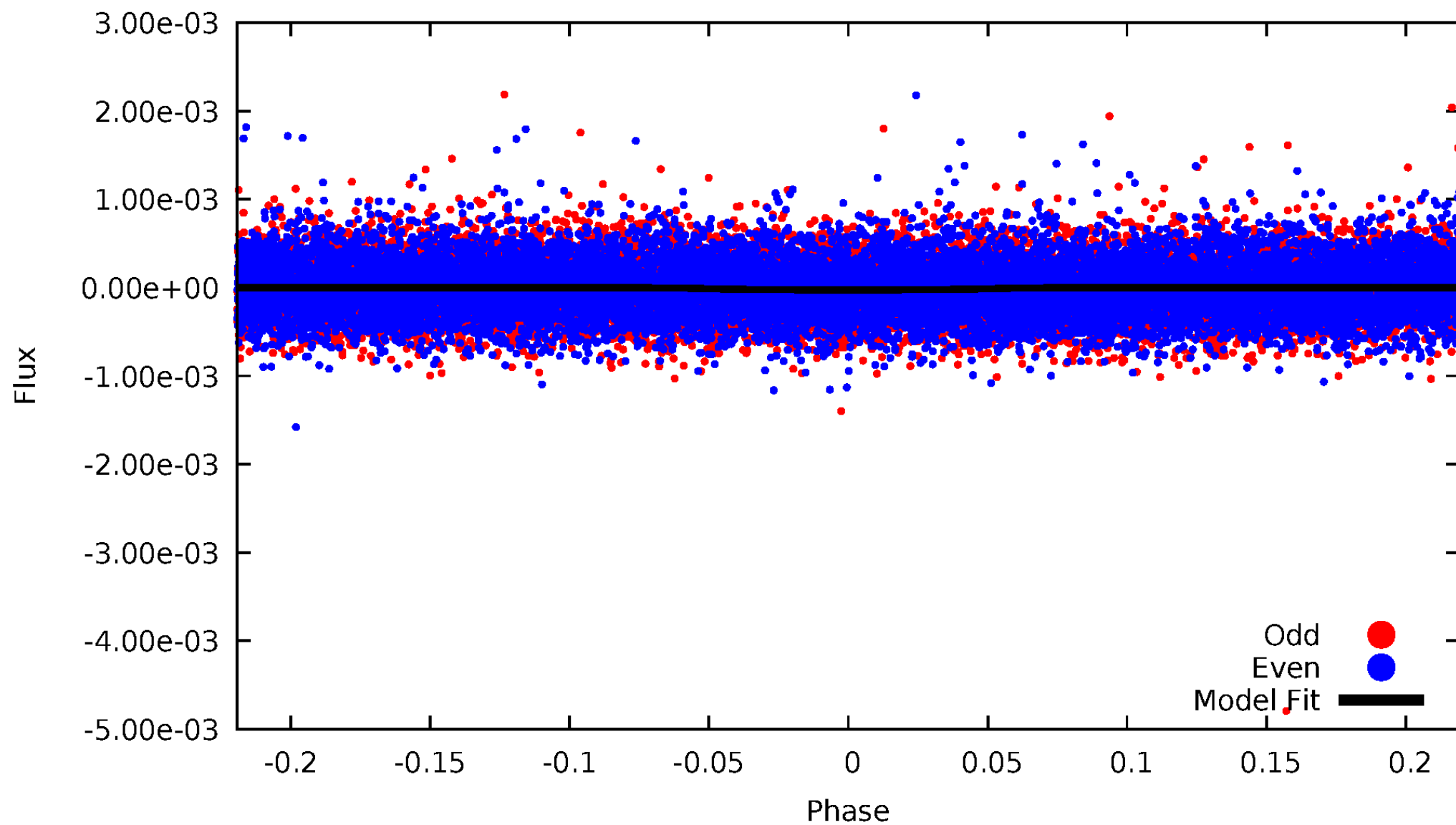


TCE 006546456-01



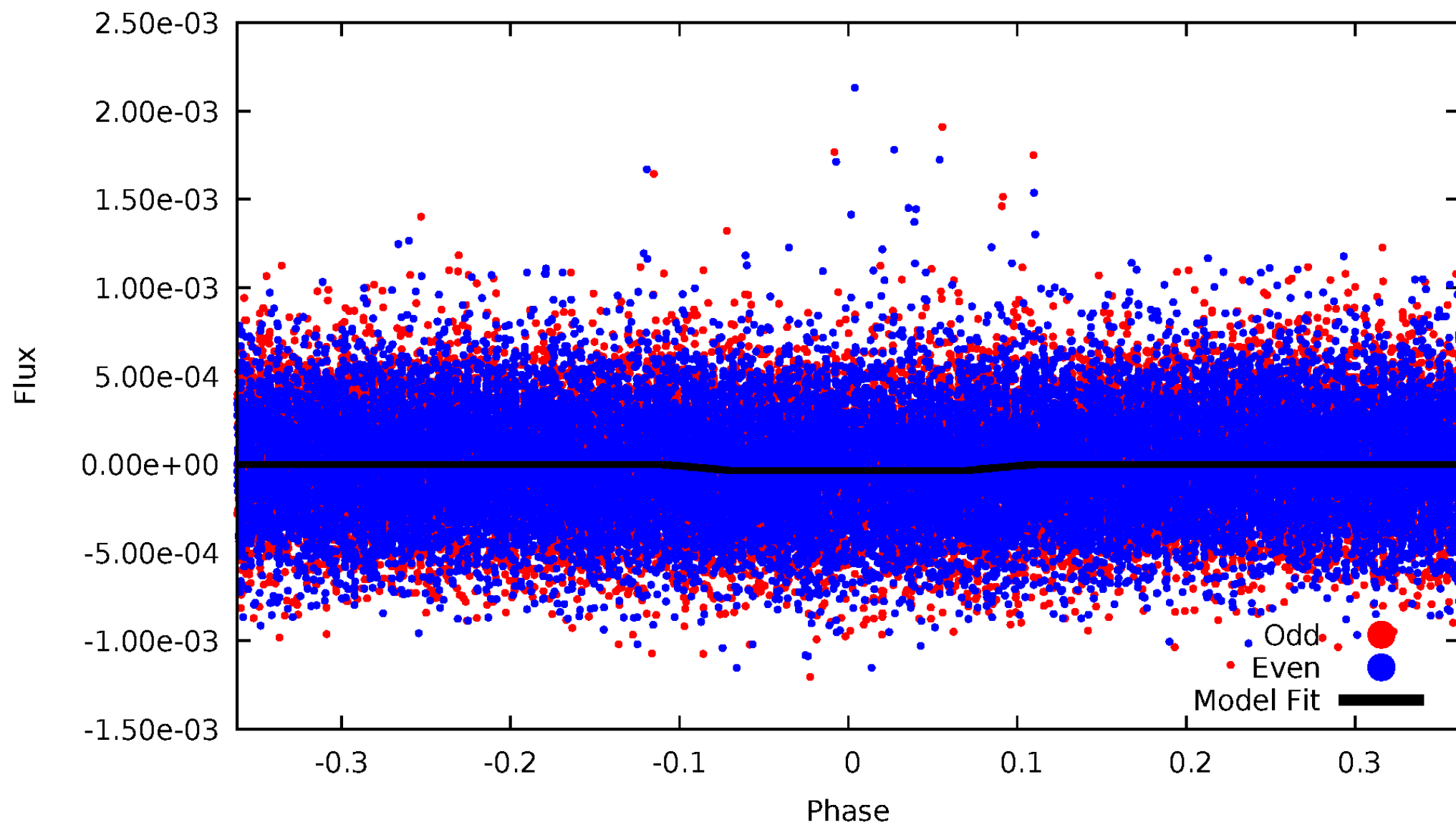
DV Odd/Even

TCE 006546456-01

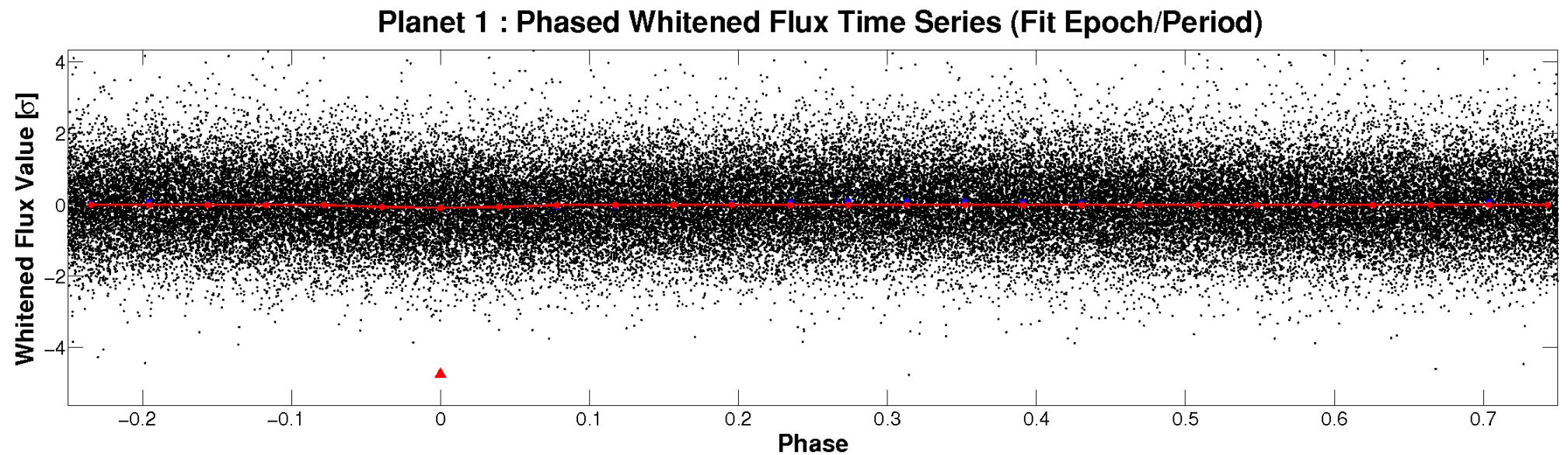
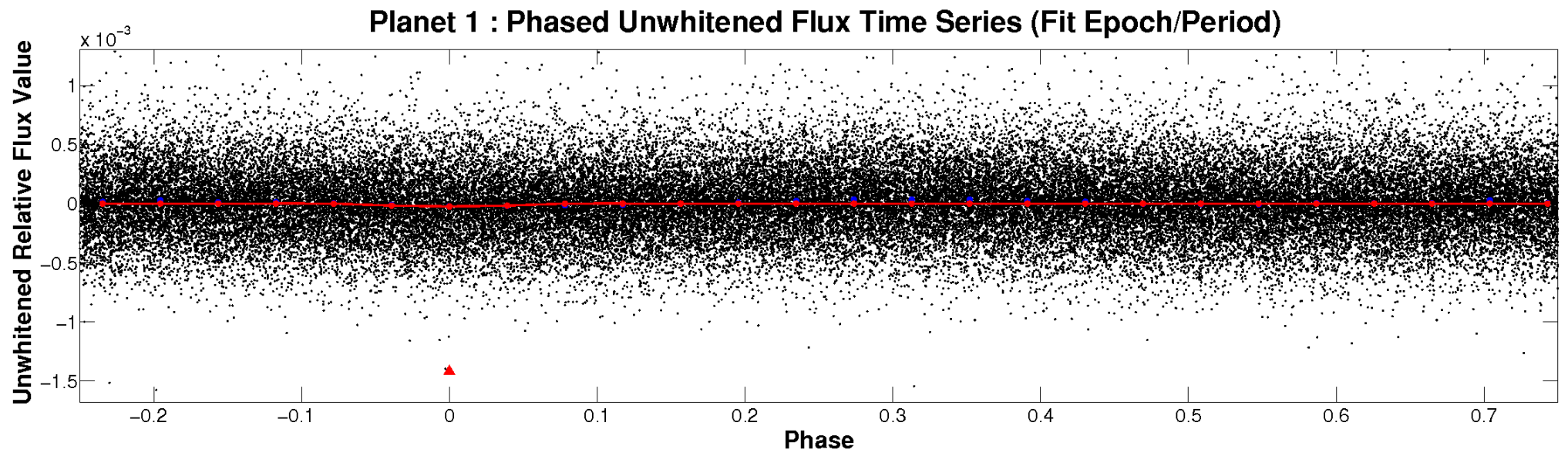


ALT Odd/Even

TCE 006546456-01

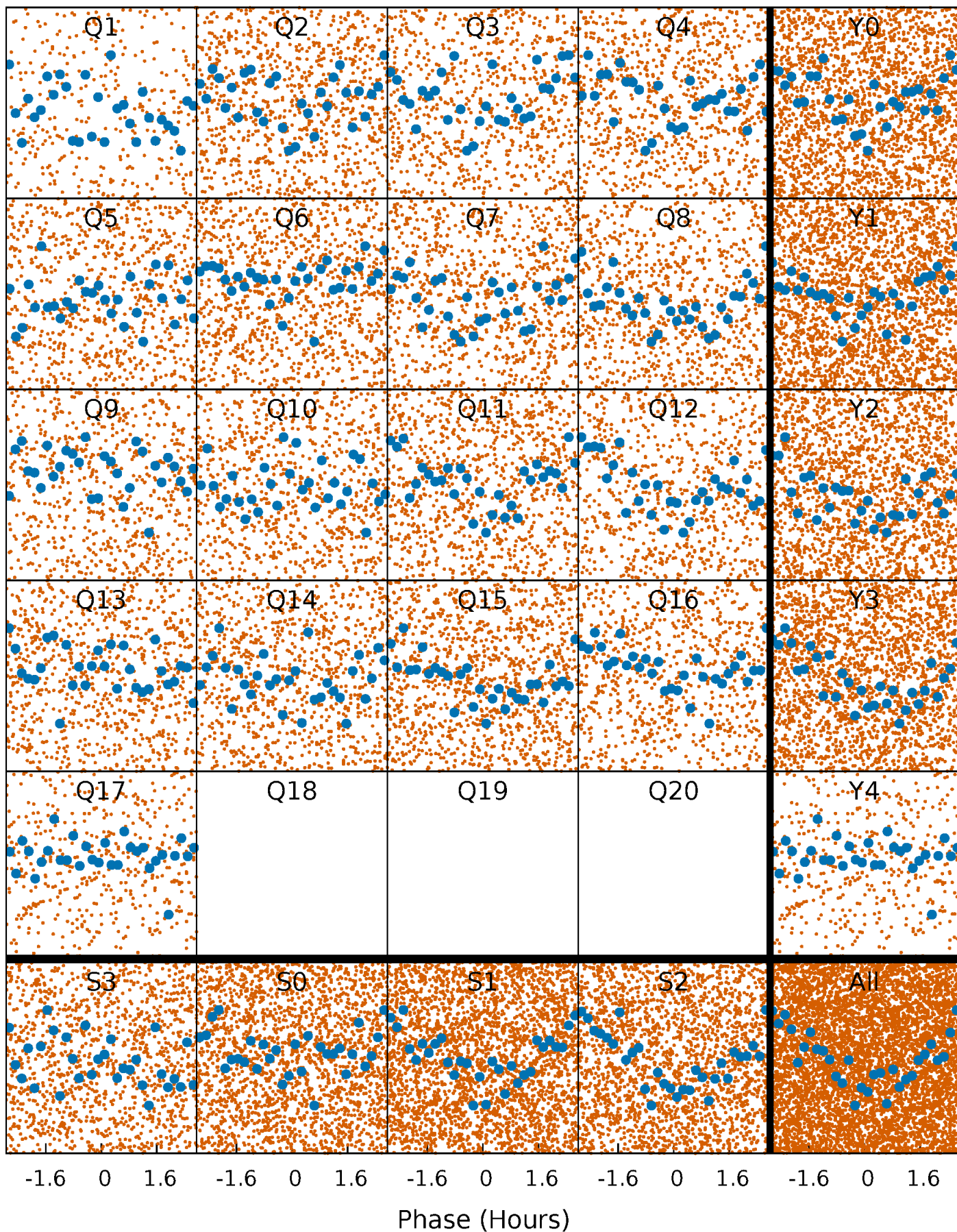


Non-Whitened Vs. Whitened Light Curve



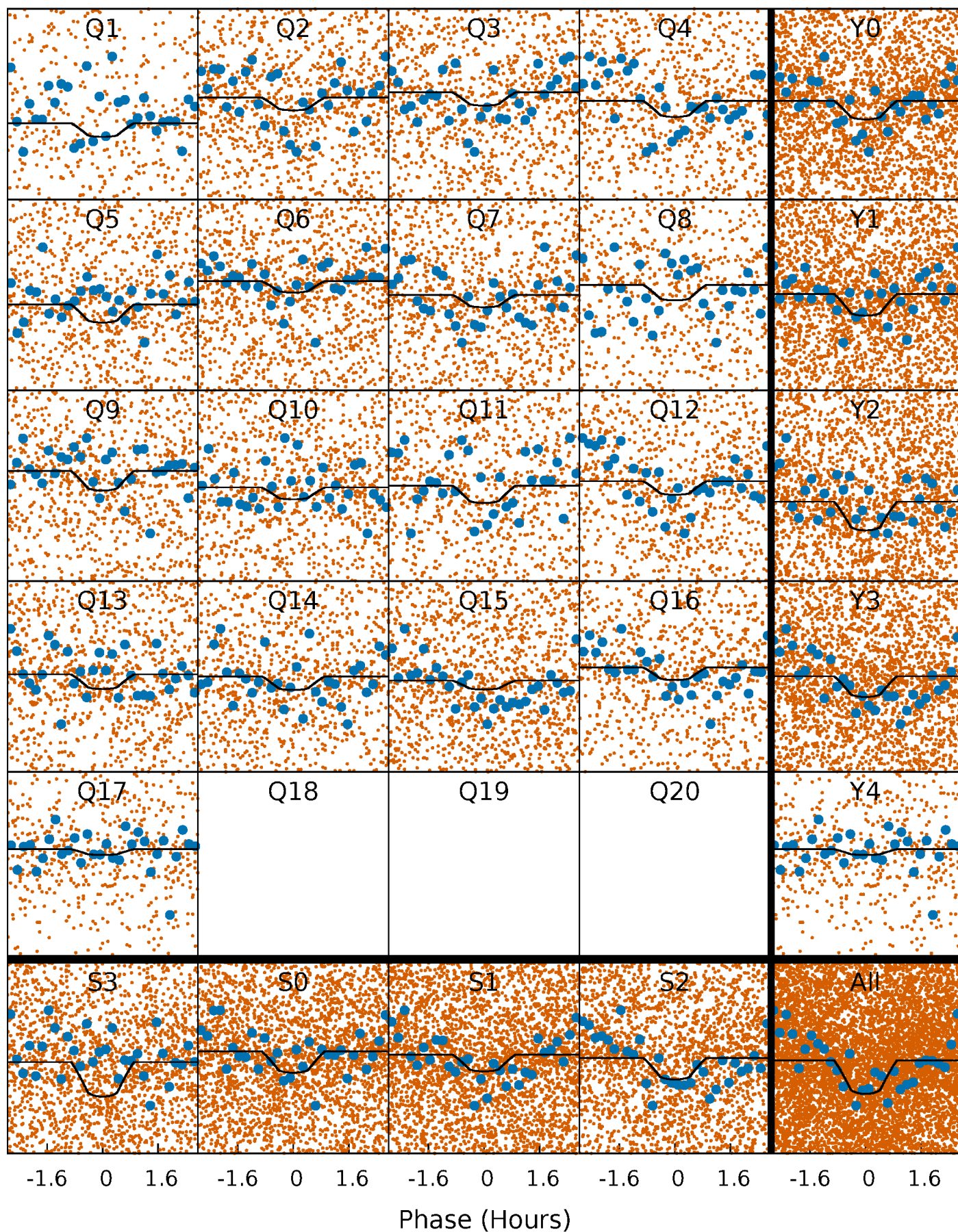
PDC Quarter-Phased Transit Curves

TCE 006546456-01 P= 0.522526 Days $T_0=132.026479$ (BKJD)



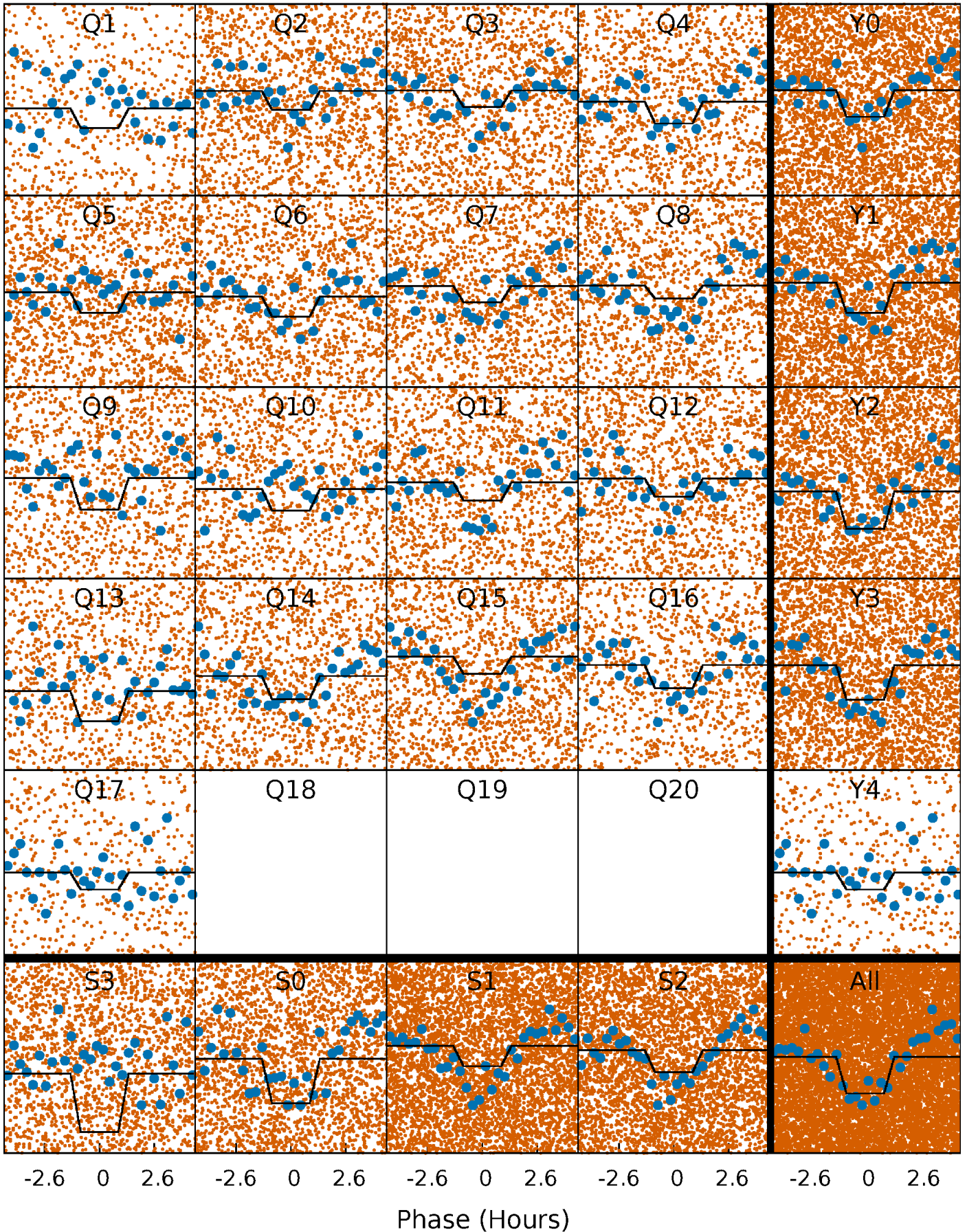
DV Quarter-Phased Transit Curves

TCE 006546456-01 P= 0.522526 Days $T_0=132.026479$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

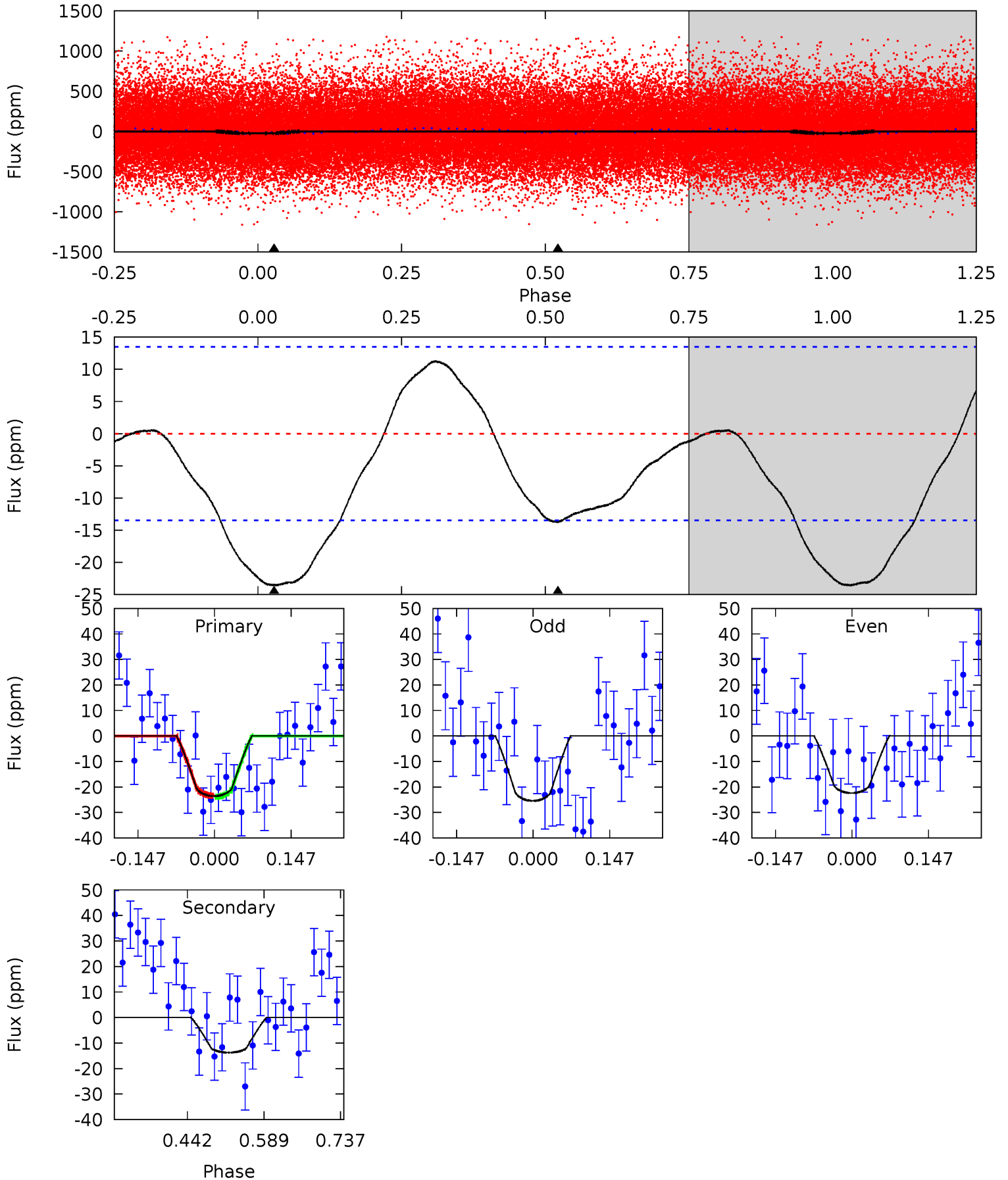
TCE 006546456-01 P= 0.522537 Days $T_0=132.026673$ (BKJD)



DV Model-Shift Uniqueness Test

006546456-01, P = 0.522526 Days, E = 131.503953 Days

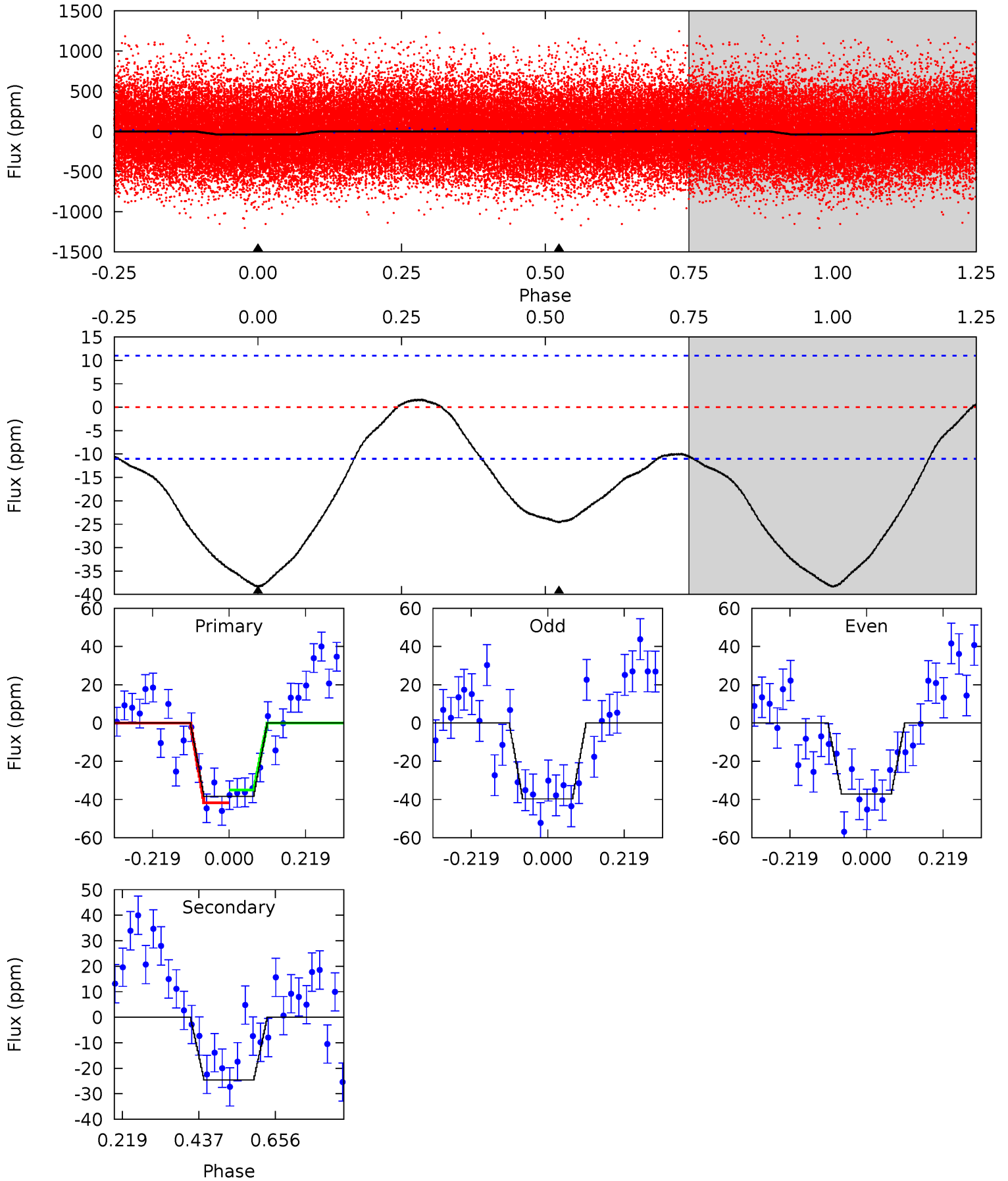
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.84	4.57	0	0	4.48	1.45	1.83	7.84	7.84	4.57	4.57	0.51	1.00	0.32	0.08



Alt Model-Shift Uniqueness Test

006546456-01, P = 0.522537 Days, E = 131.504136 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	9.80	0	0	4.40	1.23	2.23	15.3	15.3	9.80	9.80	0.52	1.04	0.04	1.34



Stellar Parameters For KIC 006546456

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5715^{+154}_{-154}	$4.581^{+0.038}_{-0.152}$	$-0.360^{+0.300}_{-0.300}$	$0.791^{+0.183}_{-0.061}$	$0.882^{+0.088}_{-0.098}$	$2.509^{+0.495}_{-1.050}$
	+3%/-3%	+1%/-3%	+83%/-83%	+23%/-8%	+10%/-11%	+20%/-42%
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 006546456-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-14 ± 3	$0.49^{+0.29}_{-0.23}$	2897^{+145}_{-117}	4749^{+1767}_{-876}	$4.529^{+12.564}_{-2.798}$
Alt.	-25 ± 3	$0.53^{+0.29}_{-0.25}$	2907^{+147}_{-120}	5209^{+1933}_{-811}	$6.946^{+16.968}_{-3.955}$

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

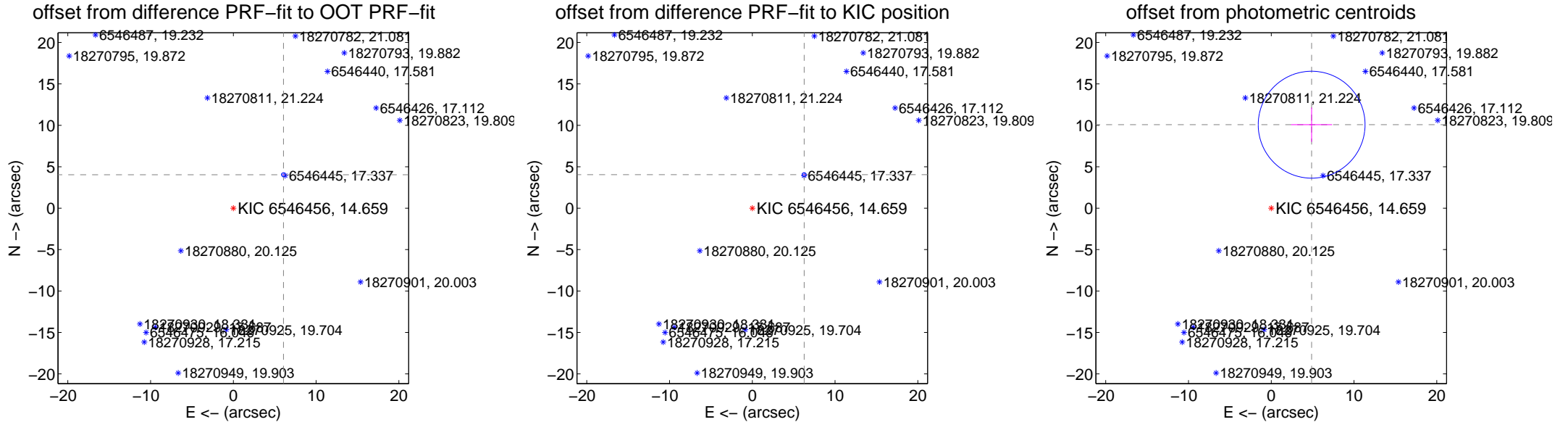
DV Centroid Data

Supplemental centroid analysis for 006546456-01. Kepler magnitude: 14.66. Transit SNR 5.90

There are 5 quarters with good PRF difference image offsets

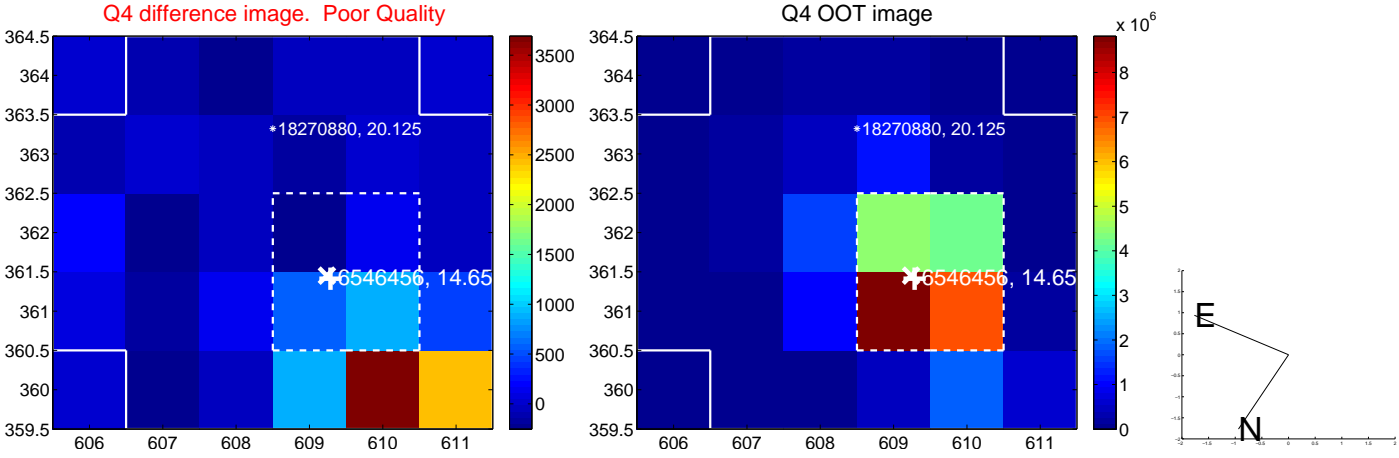
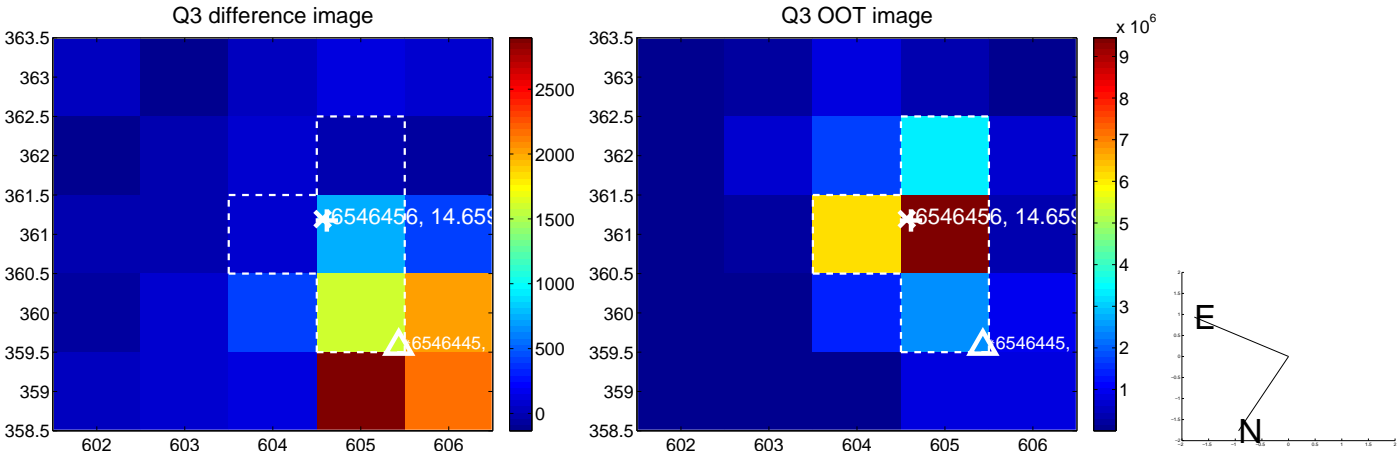
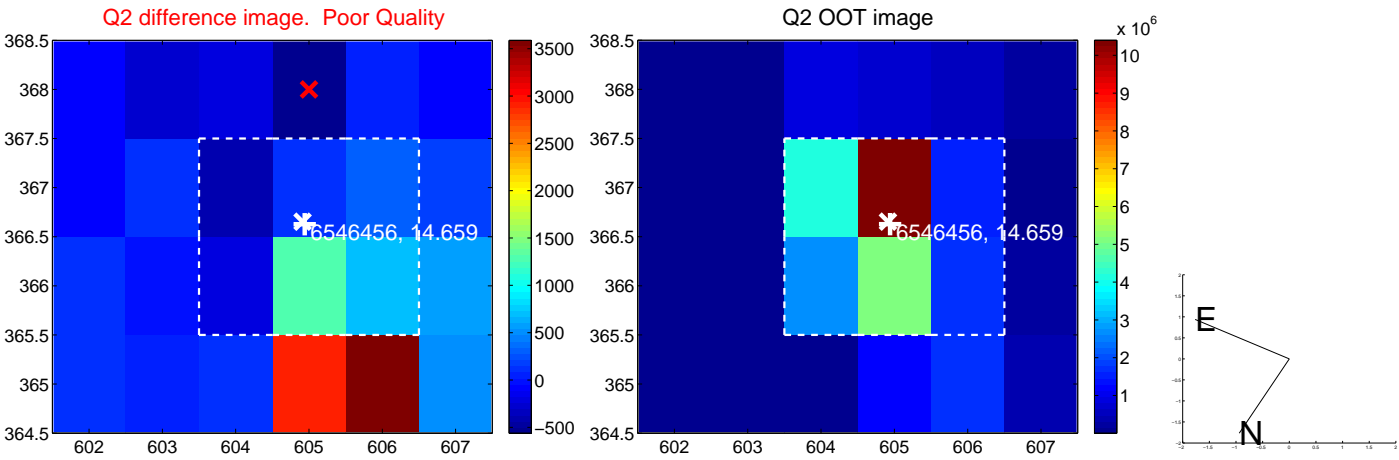
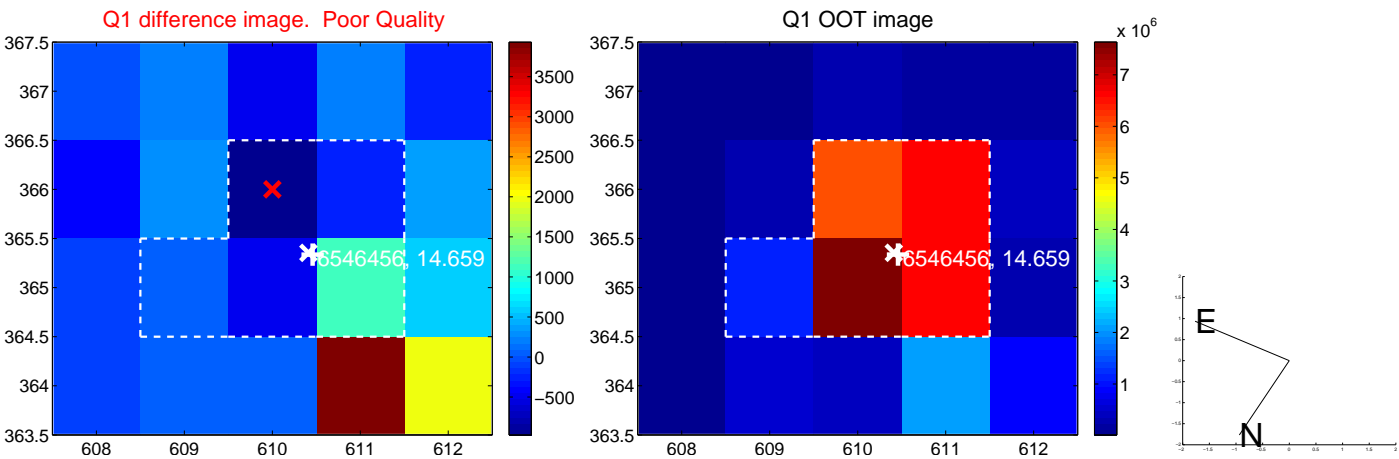
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.285 \pm 0.081	89.62	-6.063 \pm 0.082	4.039 \pm 0.079
PRF-fit source offset from KIC position	7.458 \pm 0.081	91.54	-6.266 \pm 0.083	4.045 \pm 0.077
photometric centroid source offset	11.20 \pm 2.15	5.20	-4.88 \pm 2.47	10.08 \pm 2.07

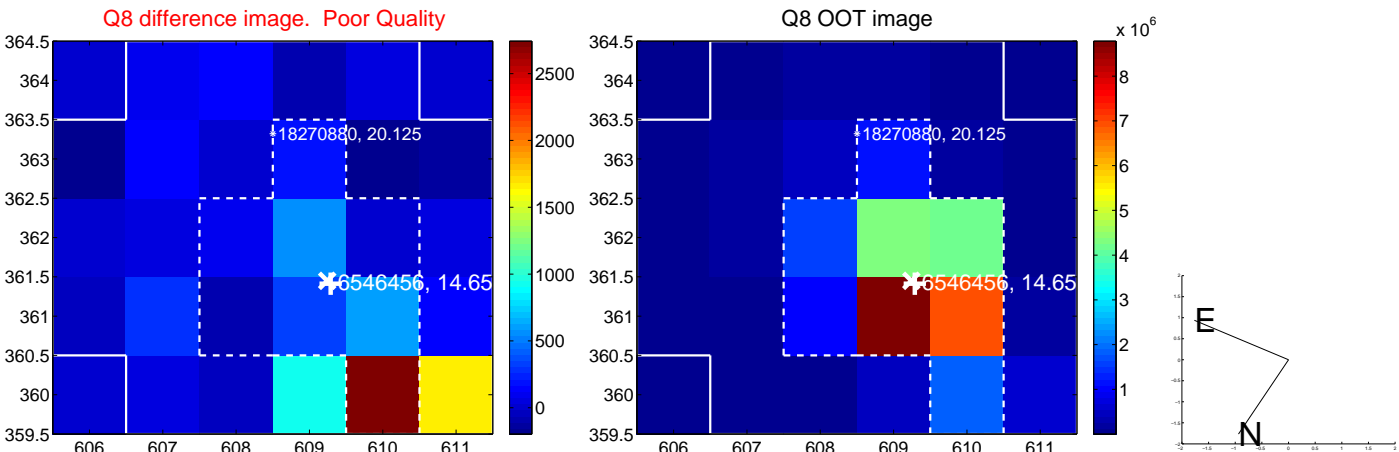
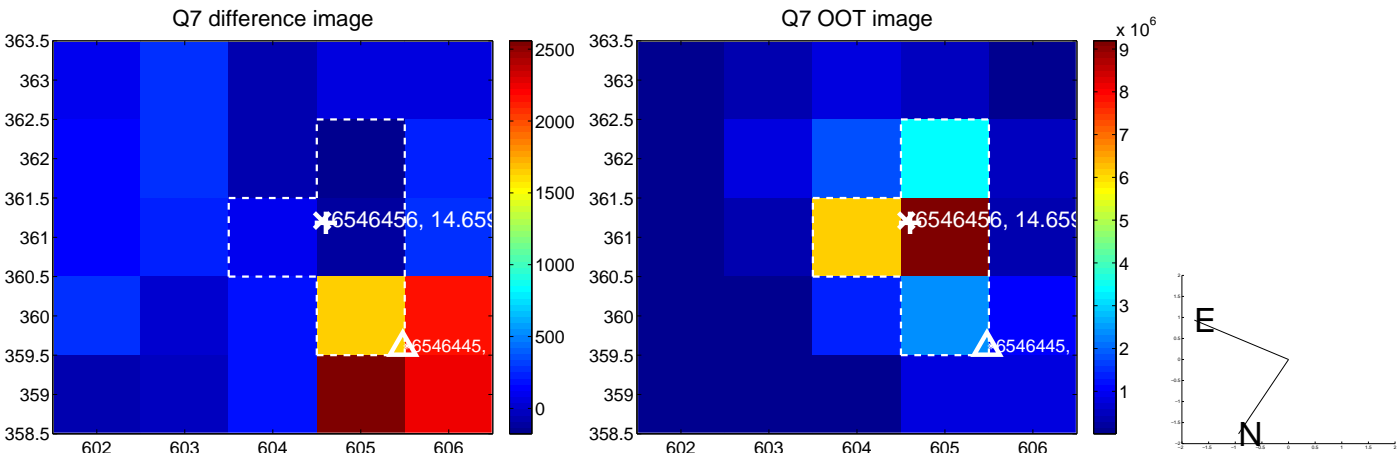
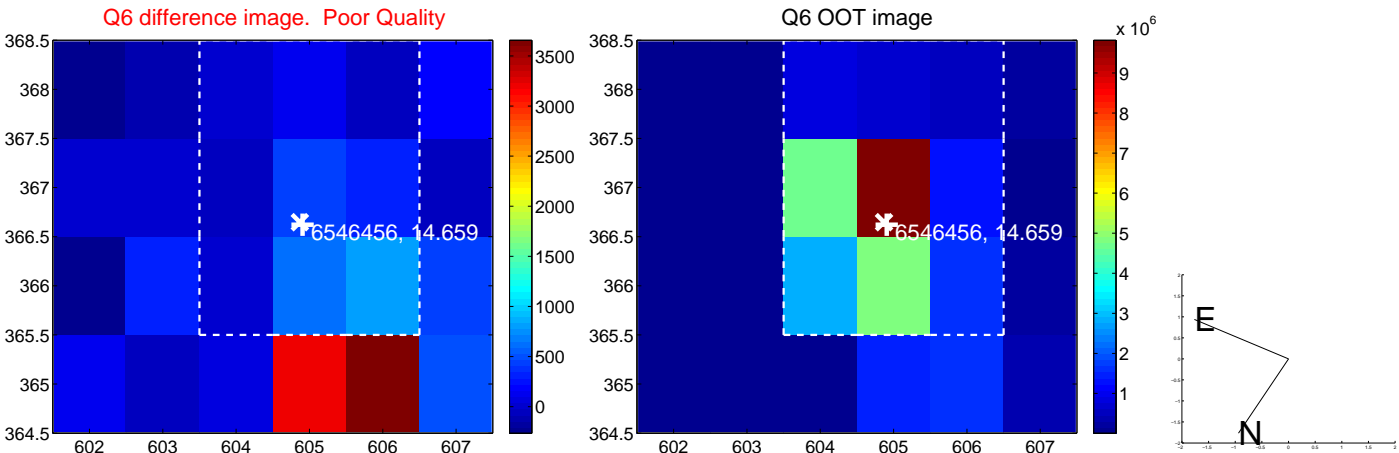
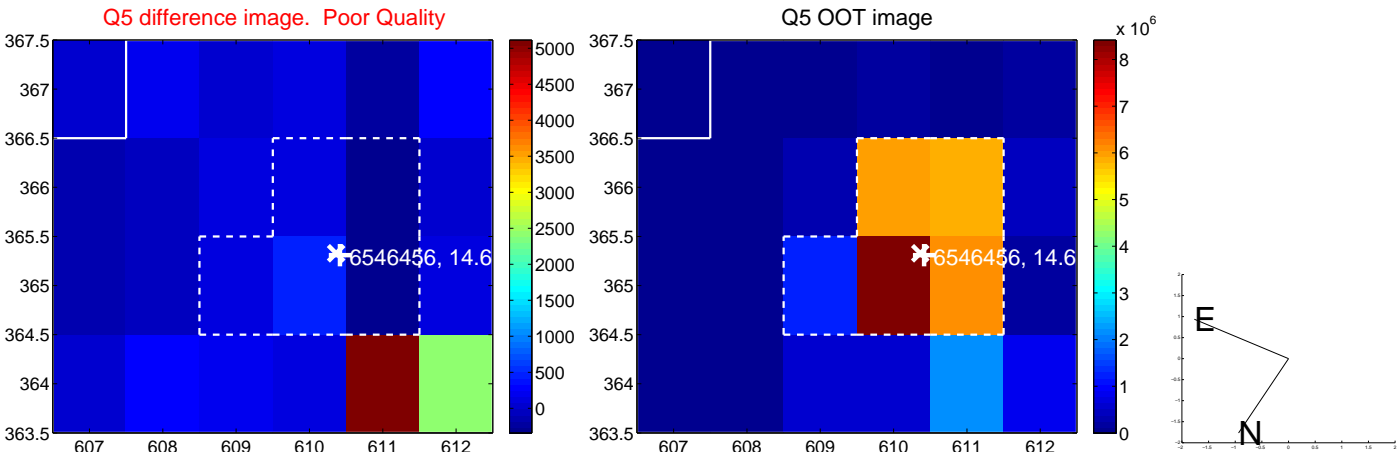


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

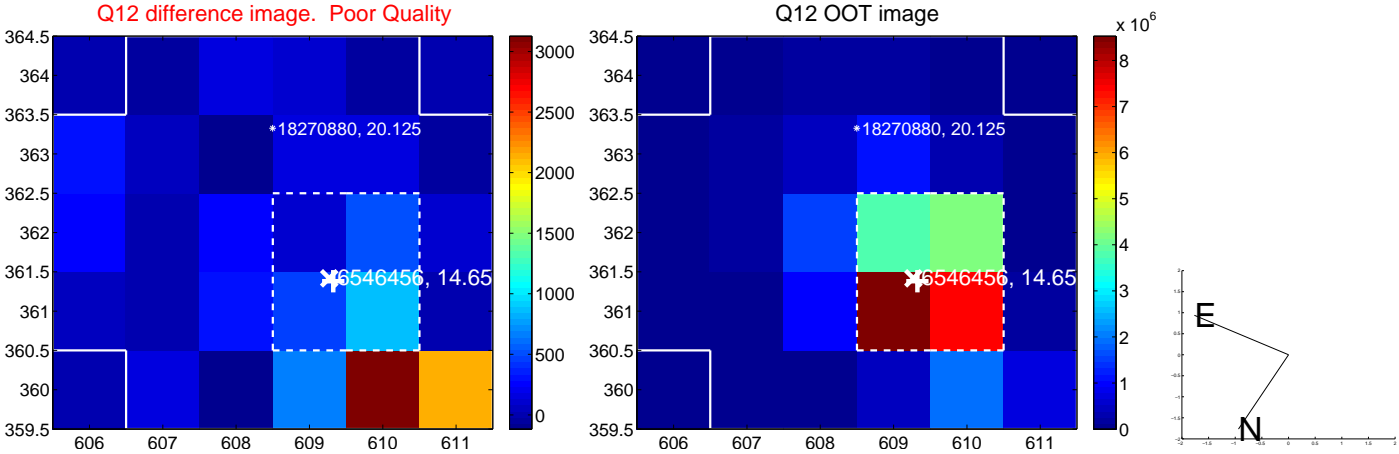
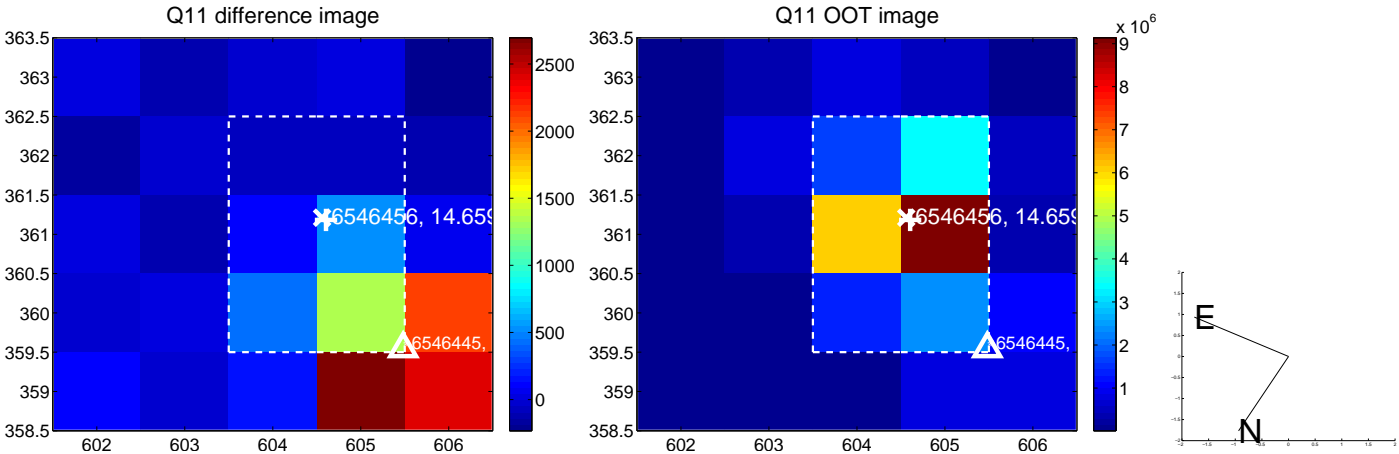
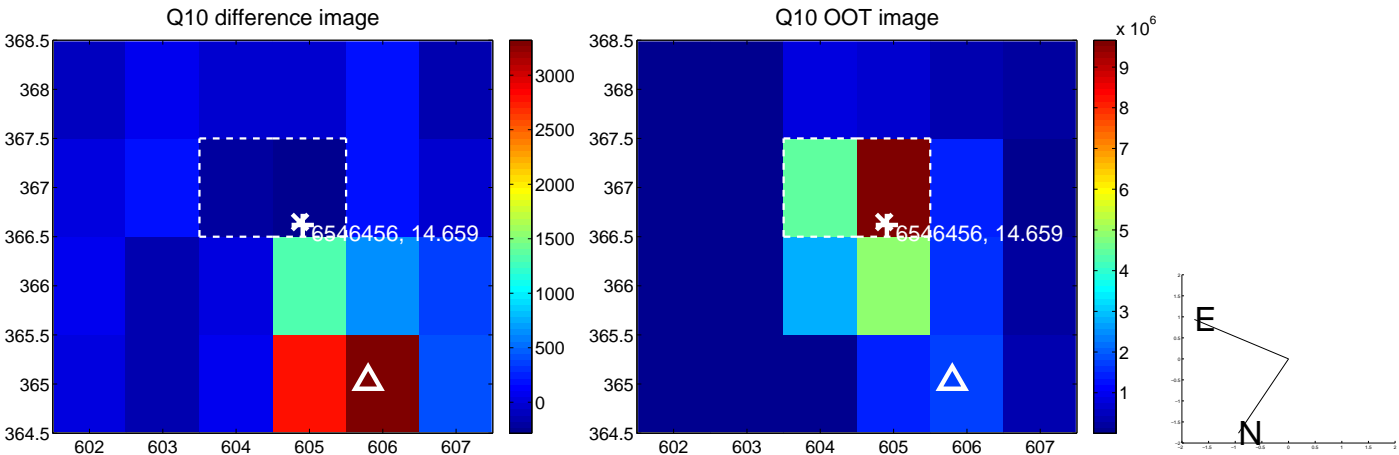
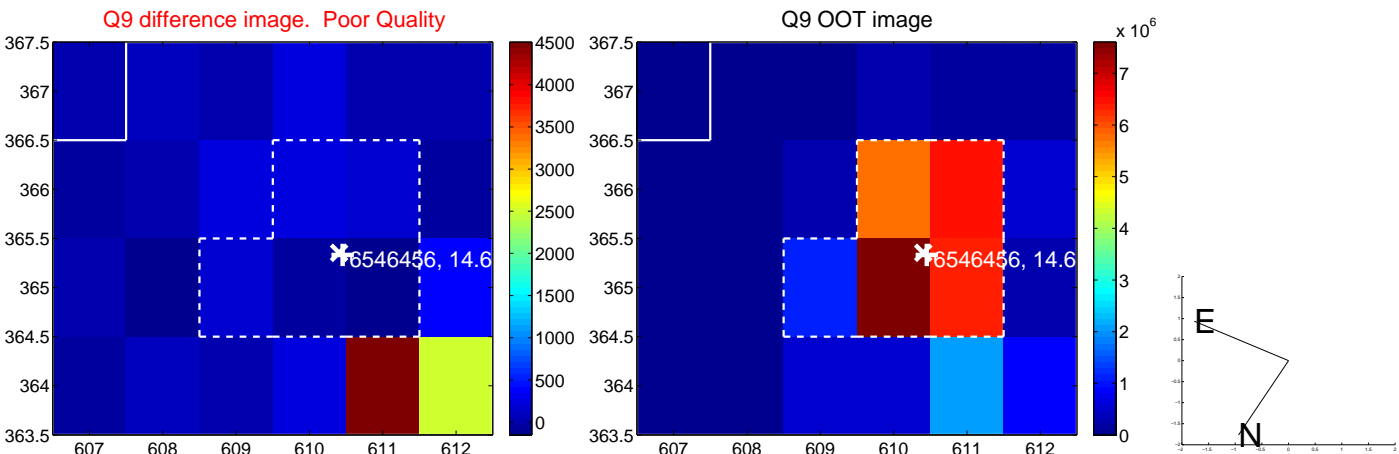
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



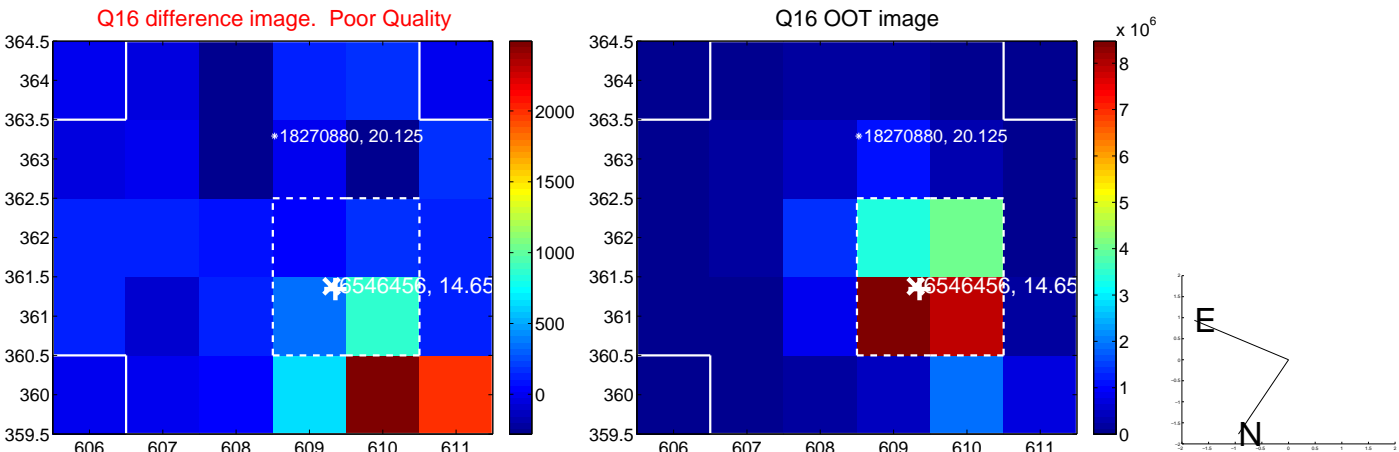
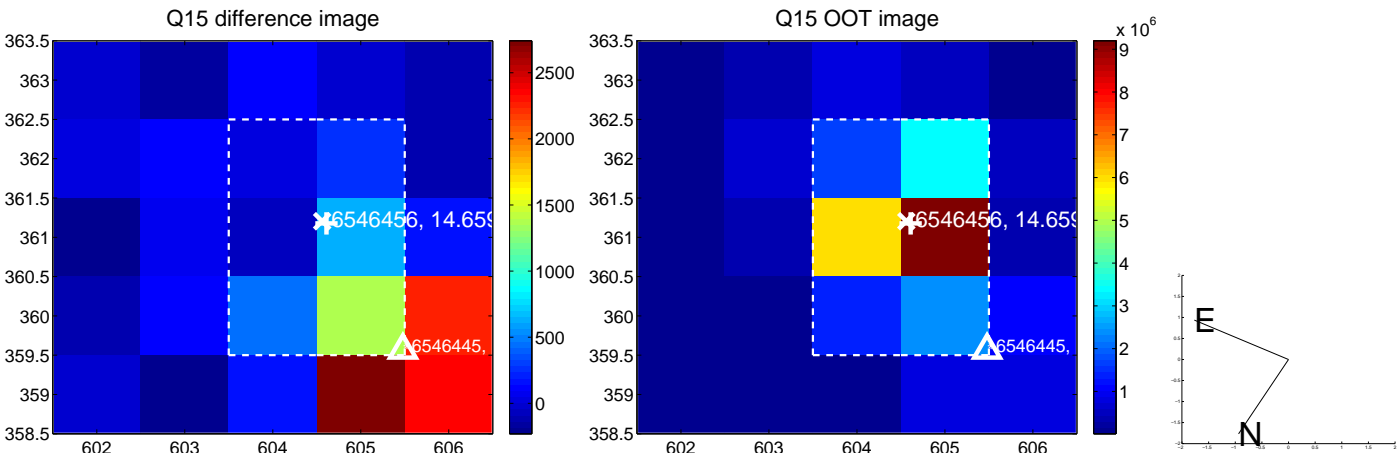
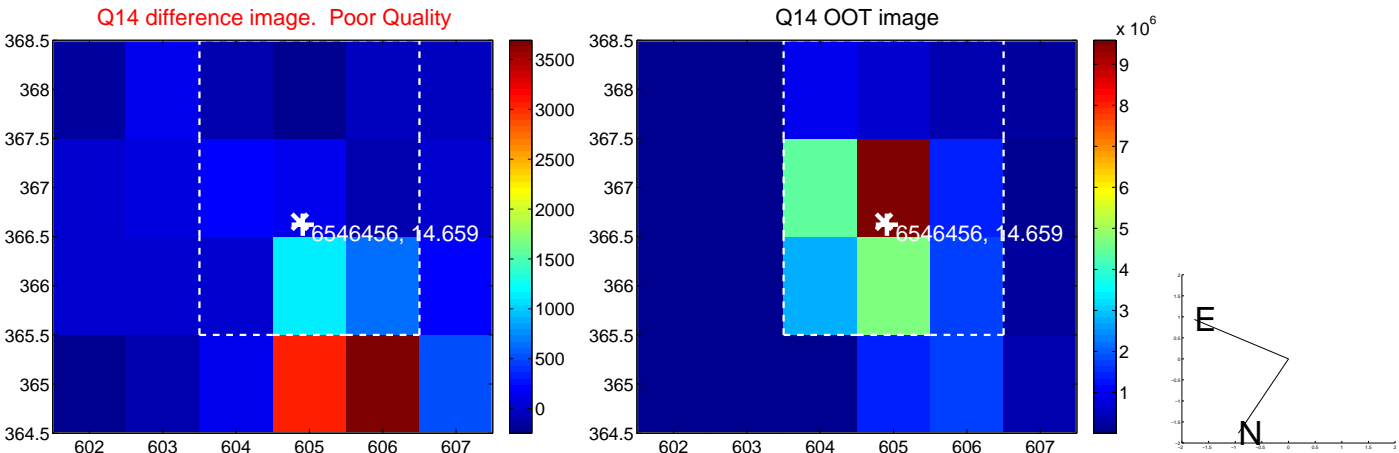
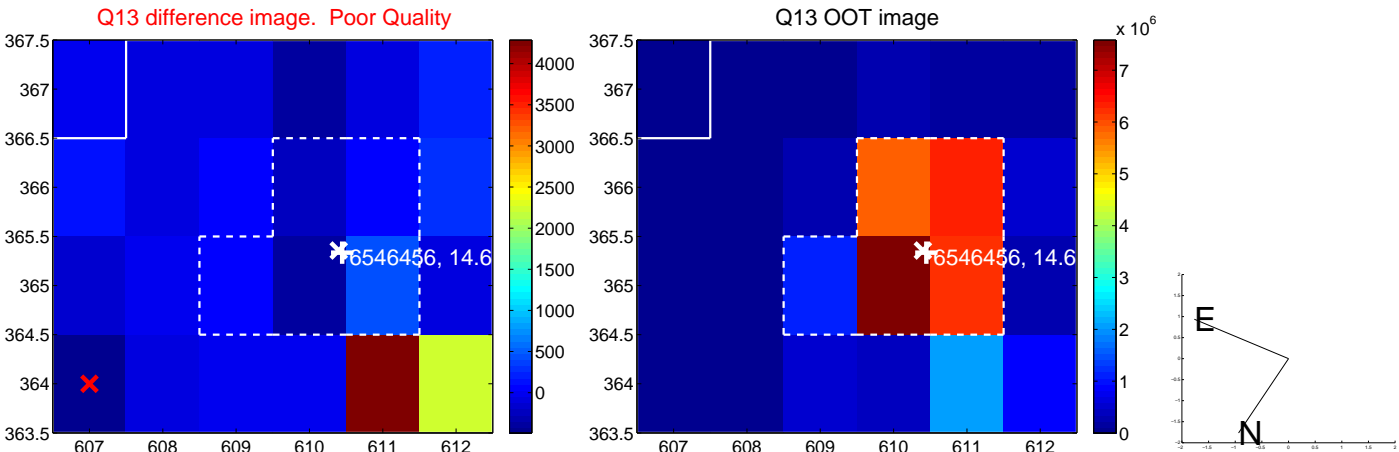
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



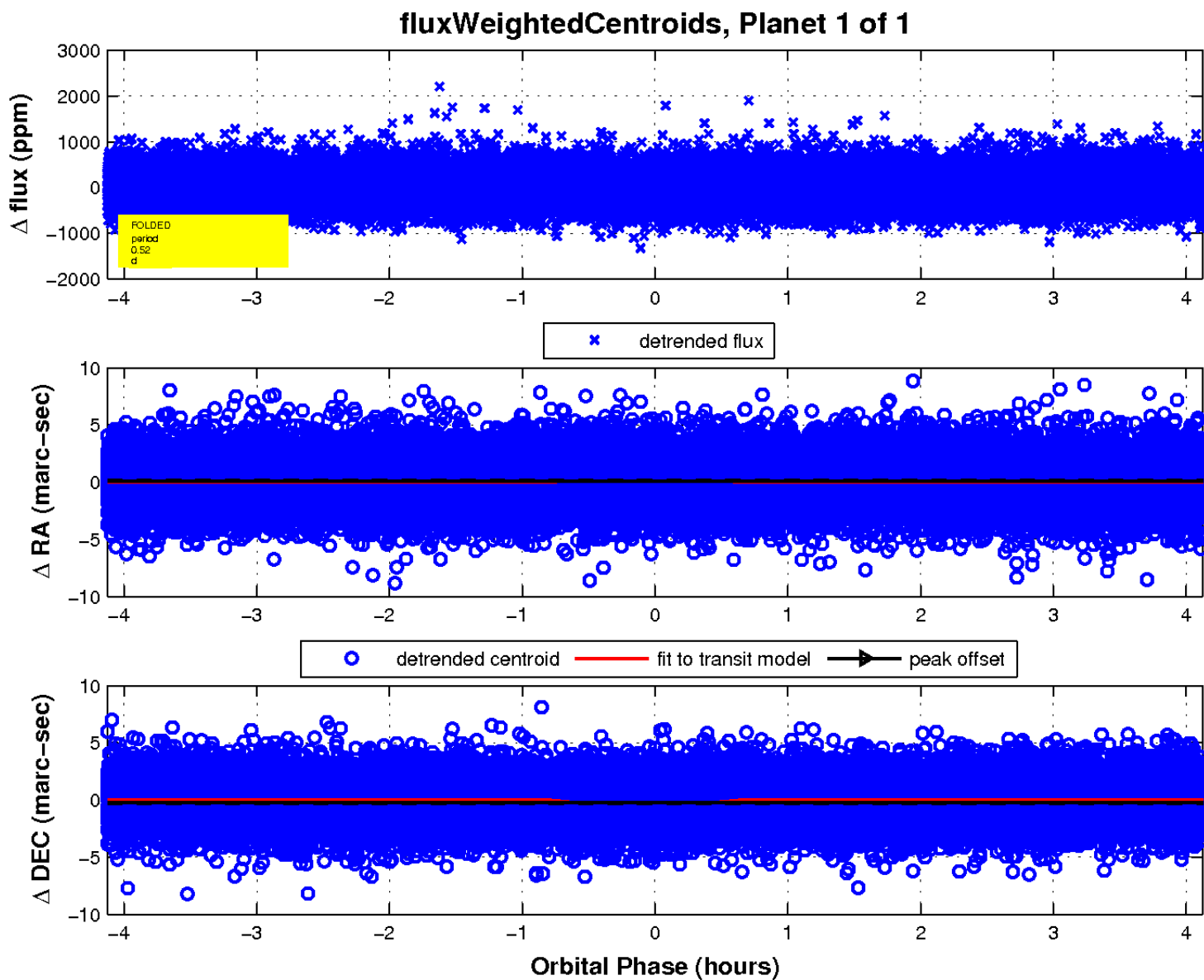
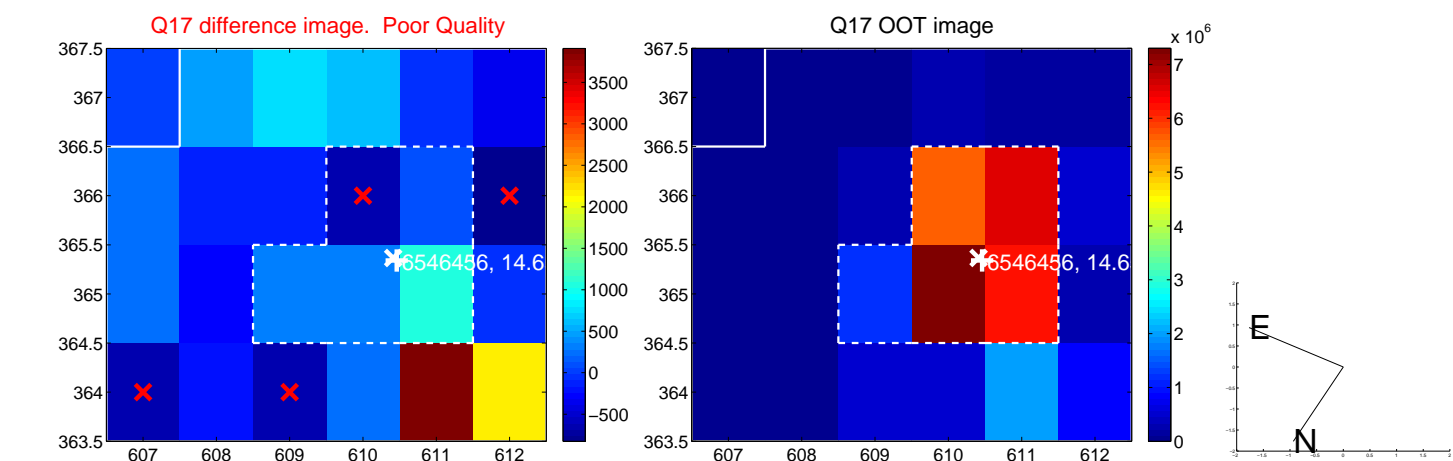
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

