

KIC 007450747

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})
007450747-01	OBS	4267.01	2.208281	131.631812	83.8	3.150	11.0	11.7	1.45	6028	1.55	2019.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007450747-01	OBS	PC	0.95	0	0	0	0	NO_COMMENT

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.

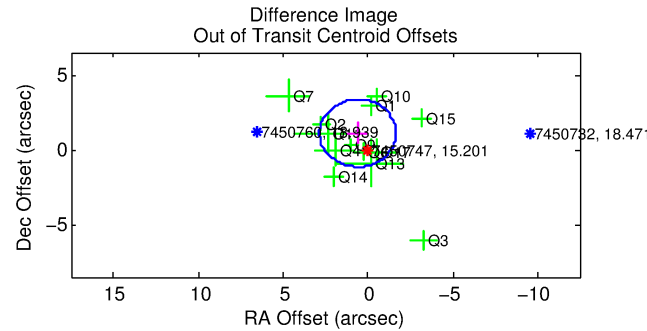
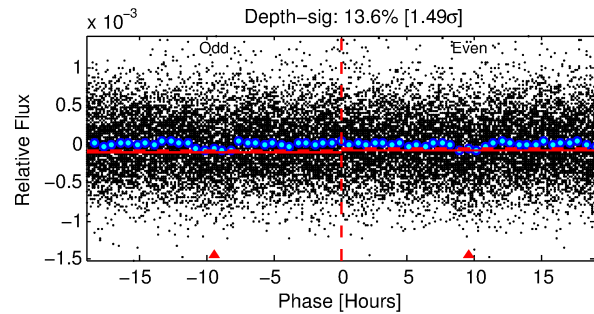
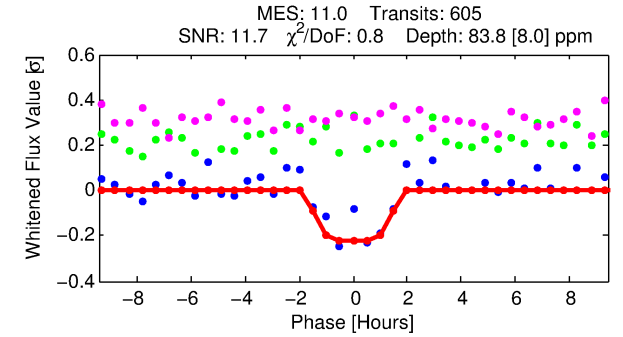
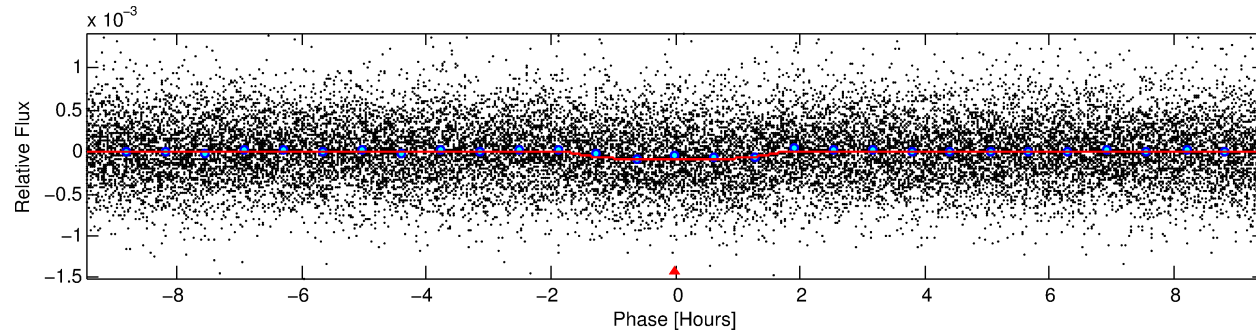
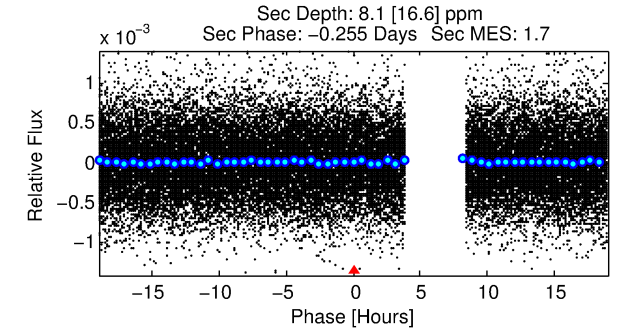
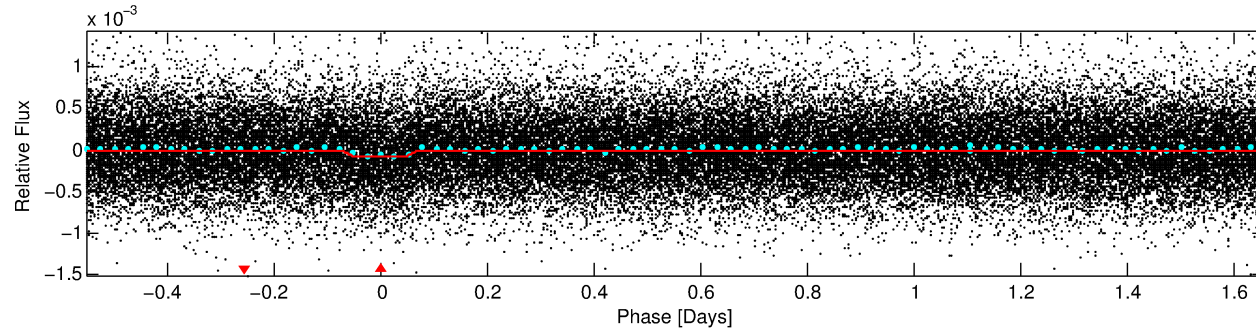
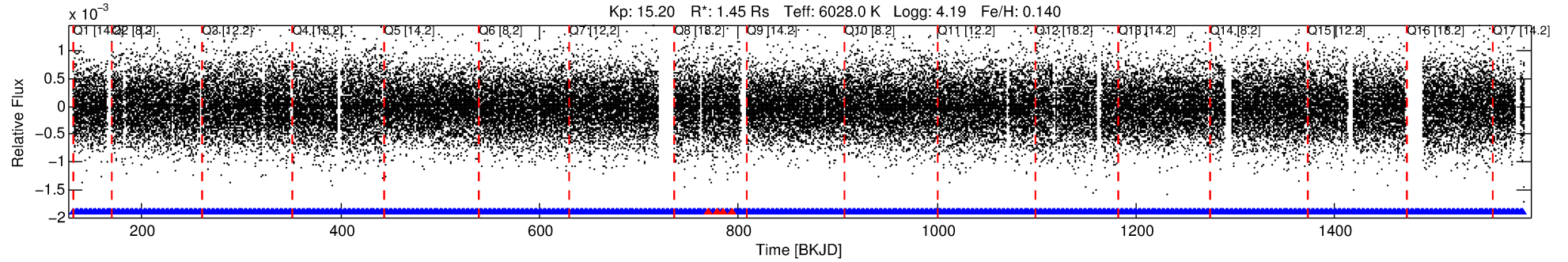
Ephemeris Match Information For 007450747-01

No Significant Match Found

DV One-Page Summary

KIC: 7450747 Candidate: 1 of 1 Period: 2.208 d

KOI: K04267.01 Corr: 0.942



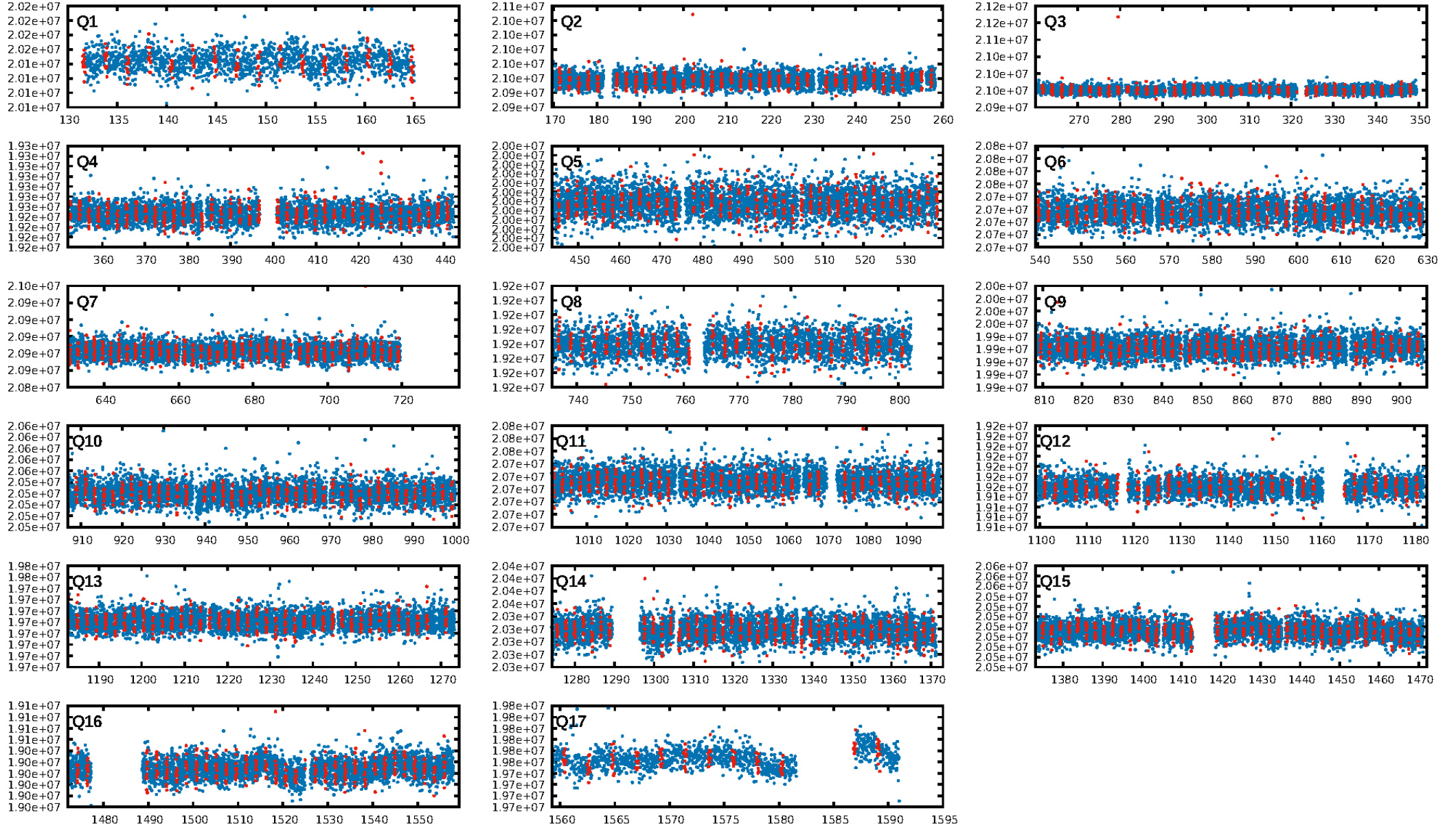
DV Fit Results:

Period = 2.20828 [0.00002] d
Epoch = 131.6318 [0.0040] BKJD
Rp/R* = 0.0098 [0.0052]
a/R* = 2.81 [6.57]
b = 0.88 [0.70]
Seff = 2019.41 [538.91]
Teff = 1709 [114] K
Rp = 1.55 [0.88] Re
a = 0.0352 [0.0060] AU
Ag = 2.30 [5.36] [0.24σ]
Teffp = 3253 [1886] K [0.82σ]

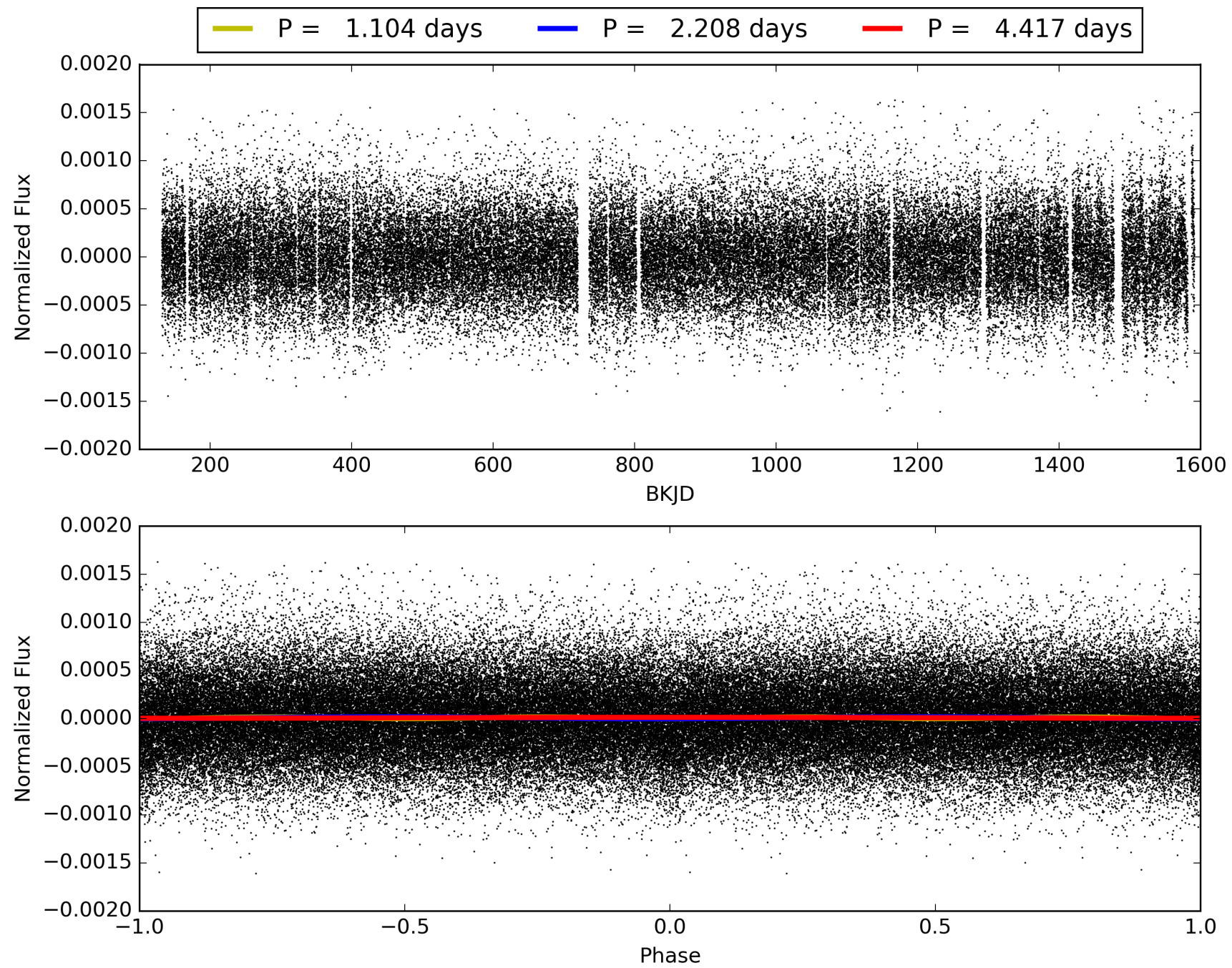
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.60e-28
RollingBand-fgt: 0.99 [573/577]
GhostDiagnostic-chr: 21.04
Centroid-sig: 85.7%
Centroid-so: 0.527 arcsec [0.44σ]
OotOffset-rm: 1.259 arcsec [1.68σ]
KicOffset-rm: 1.184 arcsec [1.51σ]
OotOffset-st: 4/4/1/4 [13]
KicOffset-st: 4/4/1/4 [13]
DiffImageQuality-fgm: 0.62 [8/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007450747-01, PDC Light Curves

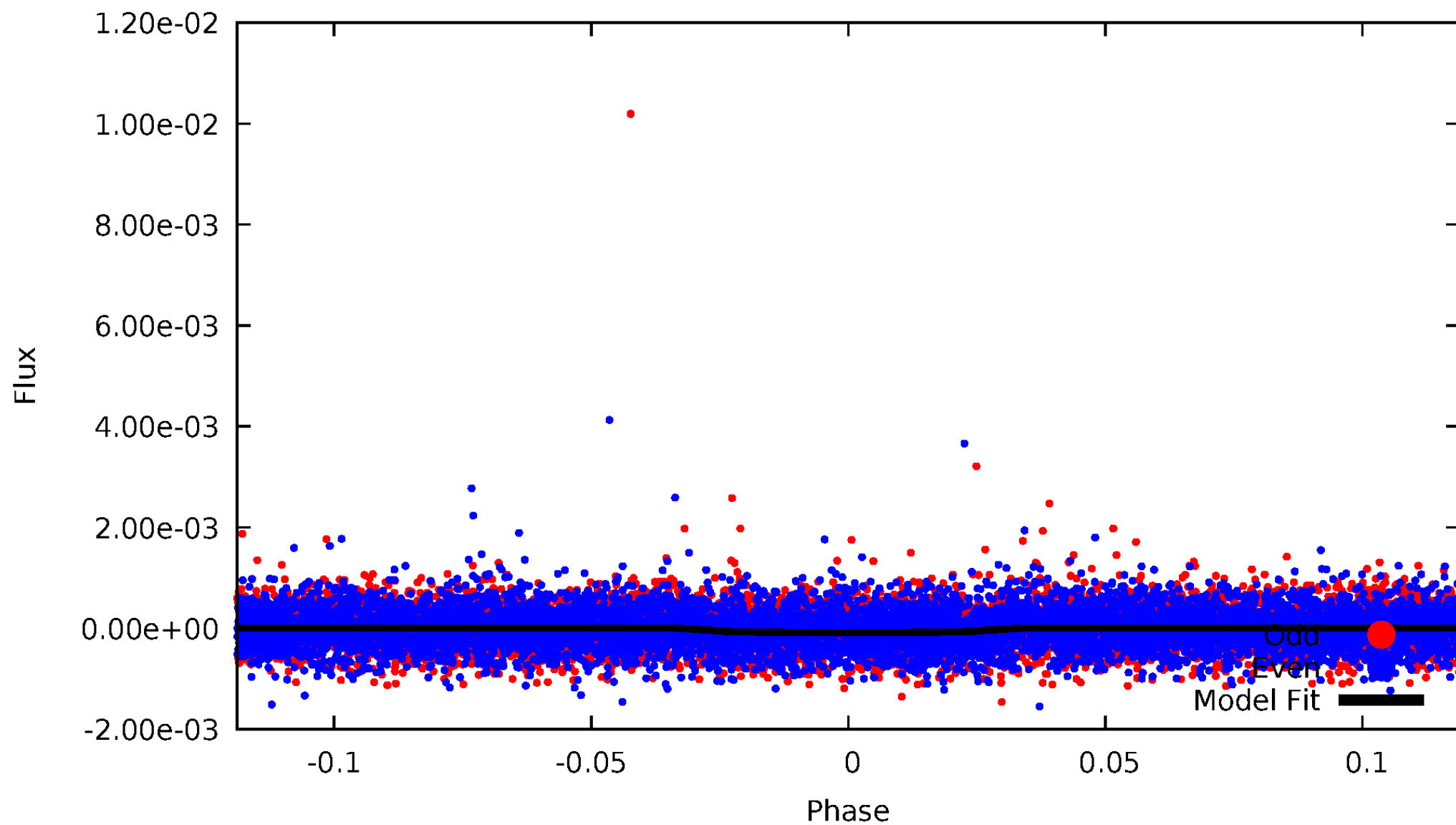


TCE 007450747-01



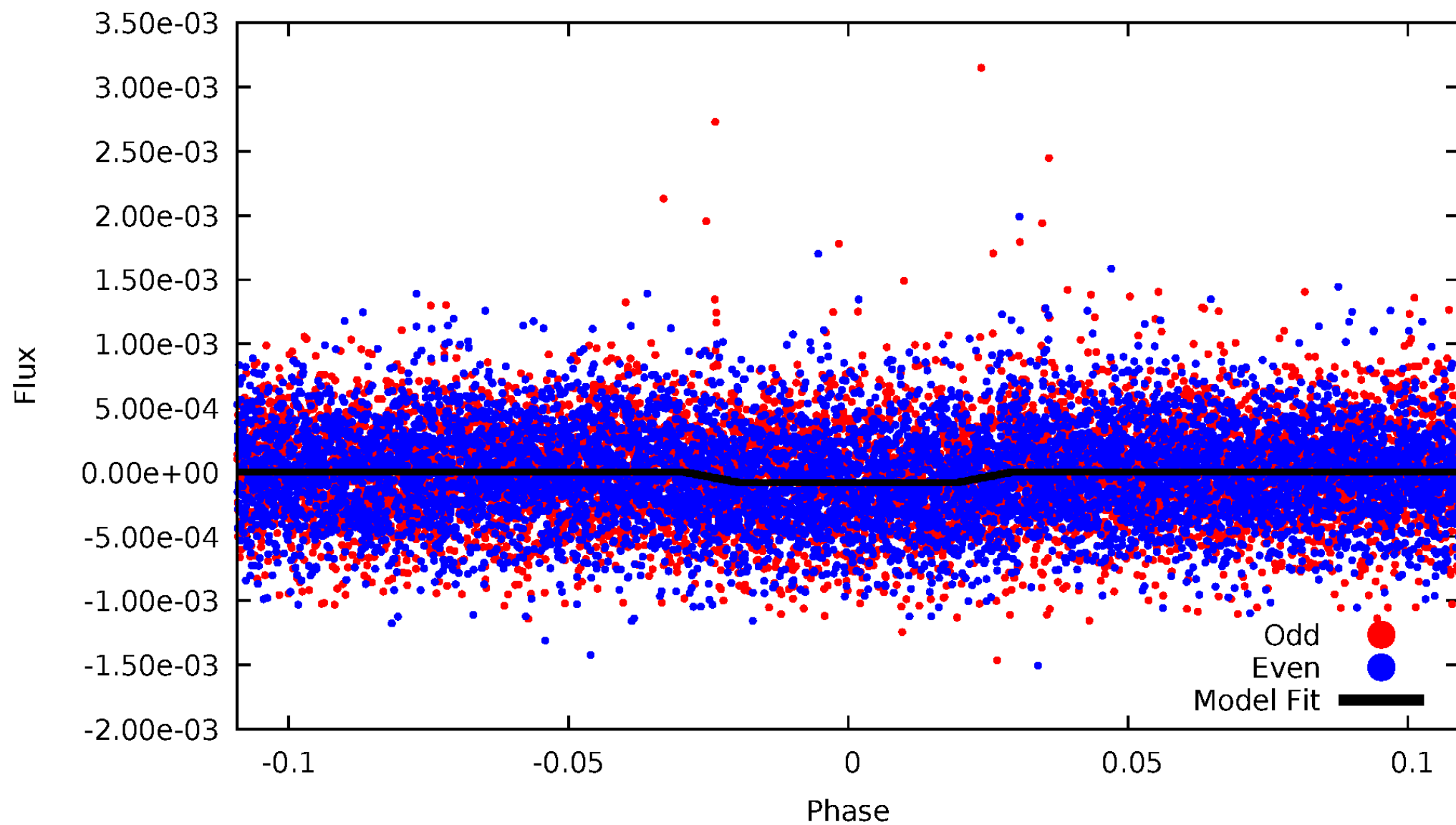
DV Odd/Even

TCE 007450747-01



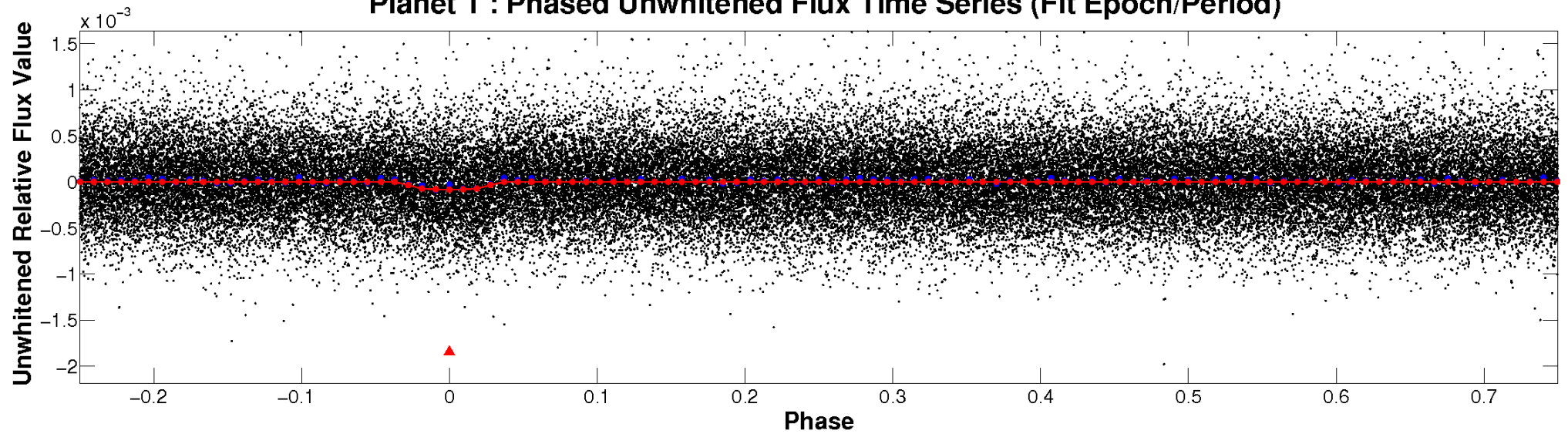
ALT Odd/Even

TCE 007450747-01

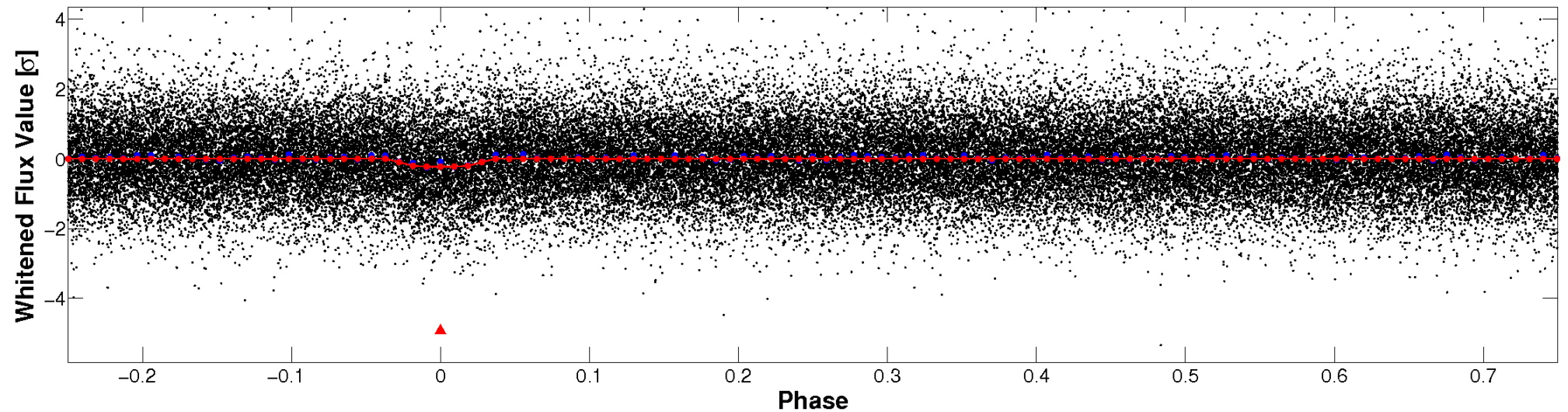


Non-Whitened Vs. Whitened Light Curve

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

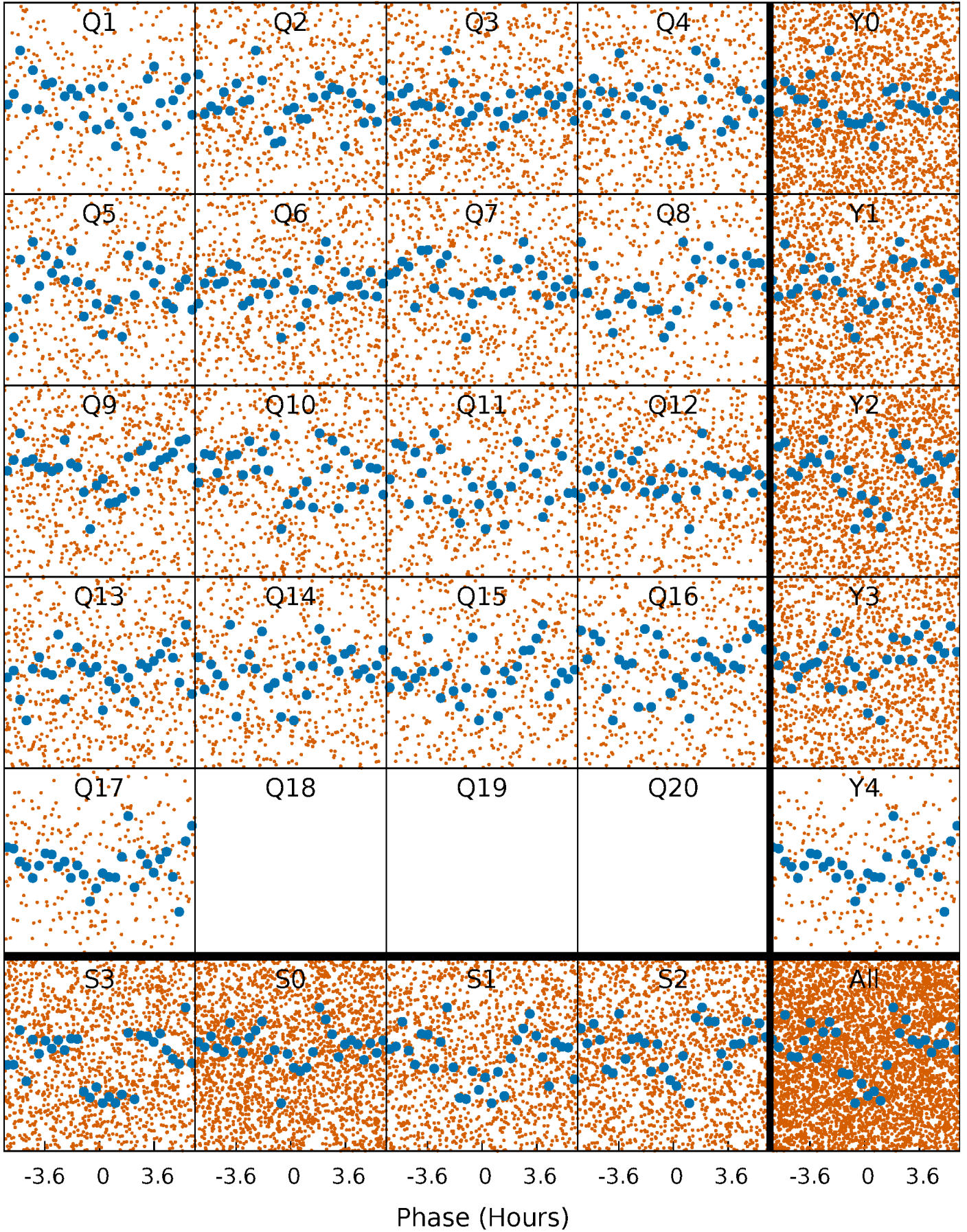


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



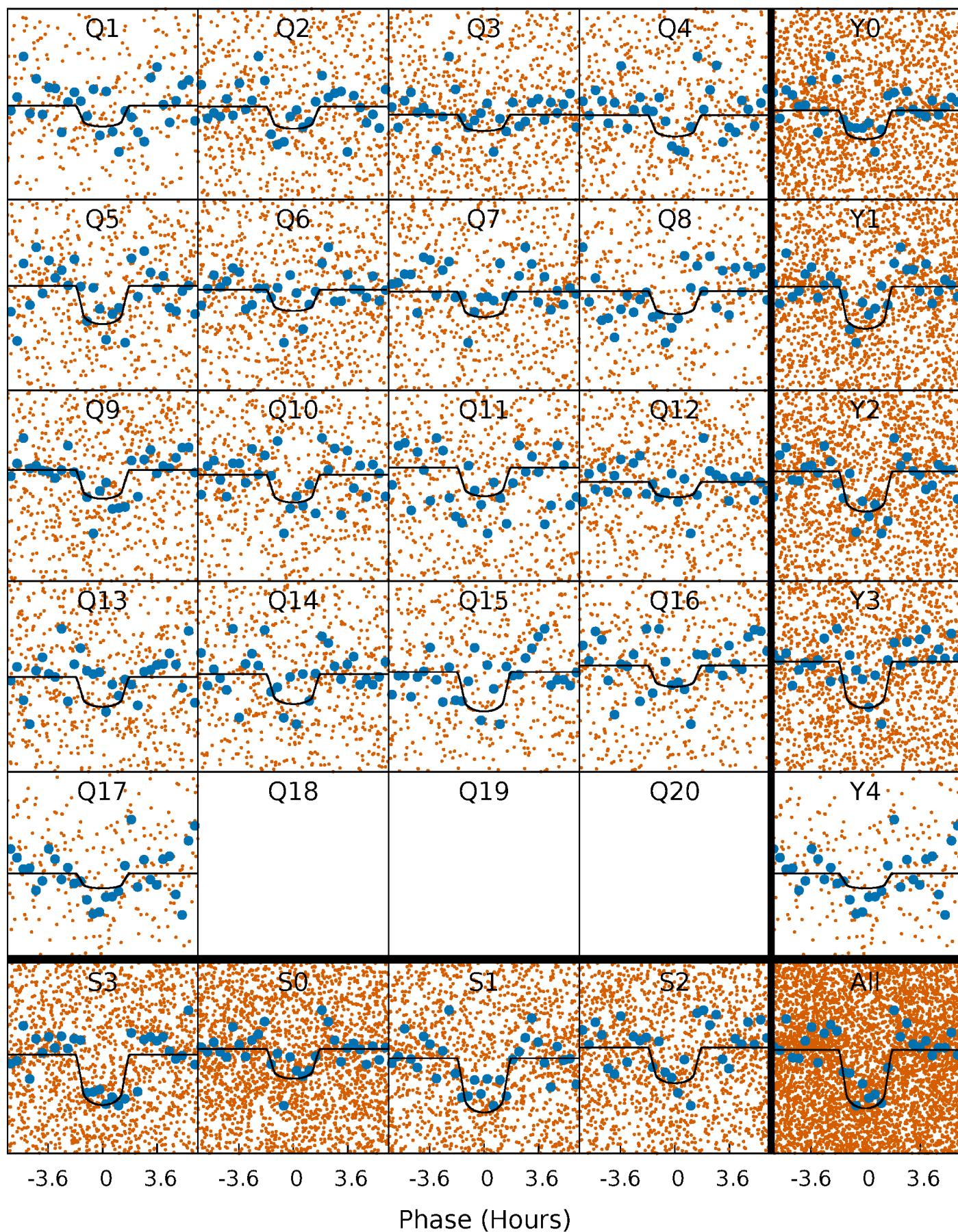
PDC Quarter-Phased Transit Curves

TCE 007450747-01 P= 2.208281 Days $T_0=131.631812$ (BKJD)



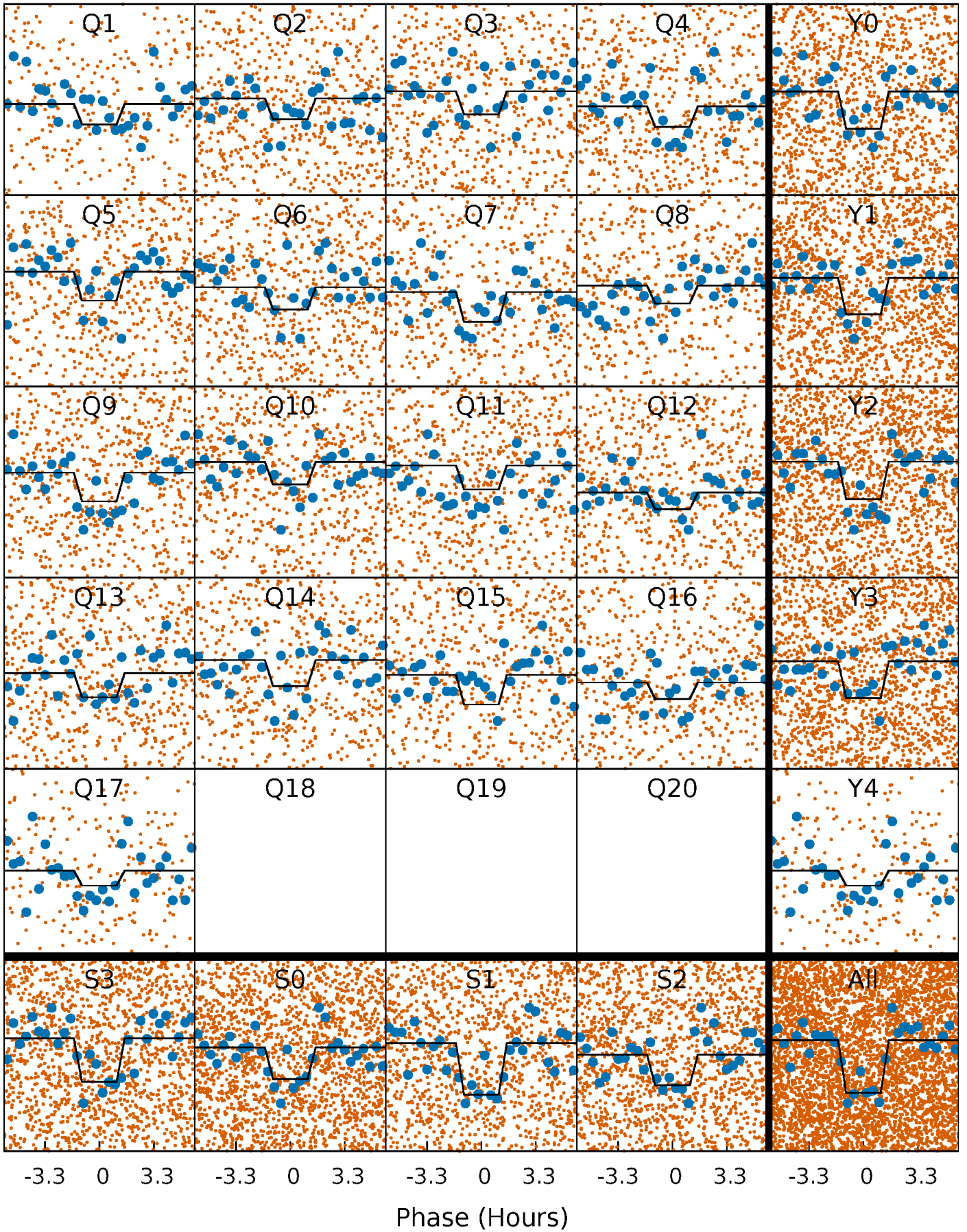
DV Quarter-Phased Transit Curves

TCE 007450747-01 P= 2.208281 Days $T_0=131.631812$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

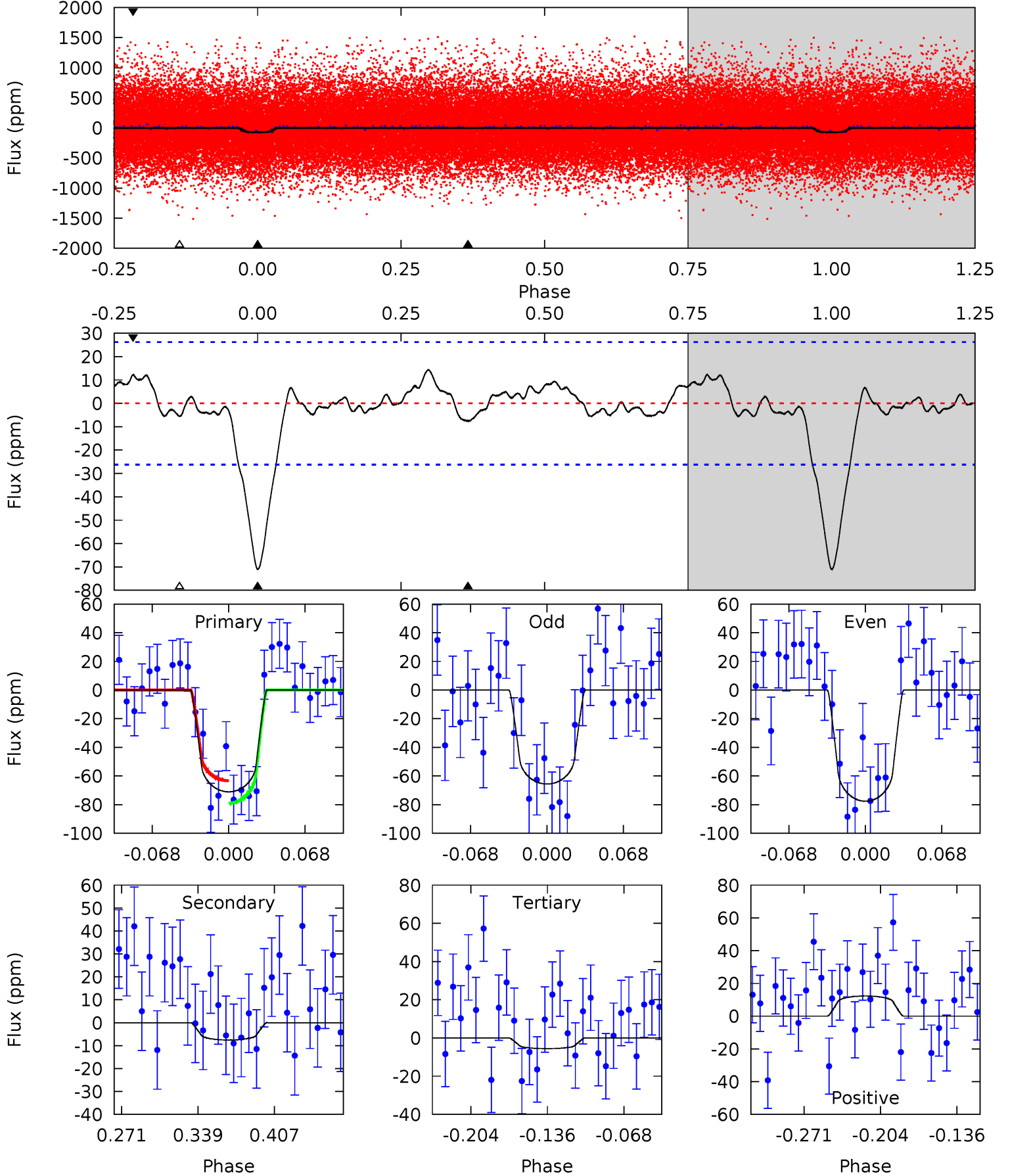
TCE 007450747-01 P= 2.208295 Days $T_0=131.632524$ (BKJD)



DV Model-Shift Uniqueness Test

007450747-01, P = 2.208281 Days, E = 129.423531 Days

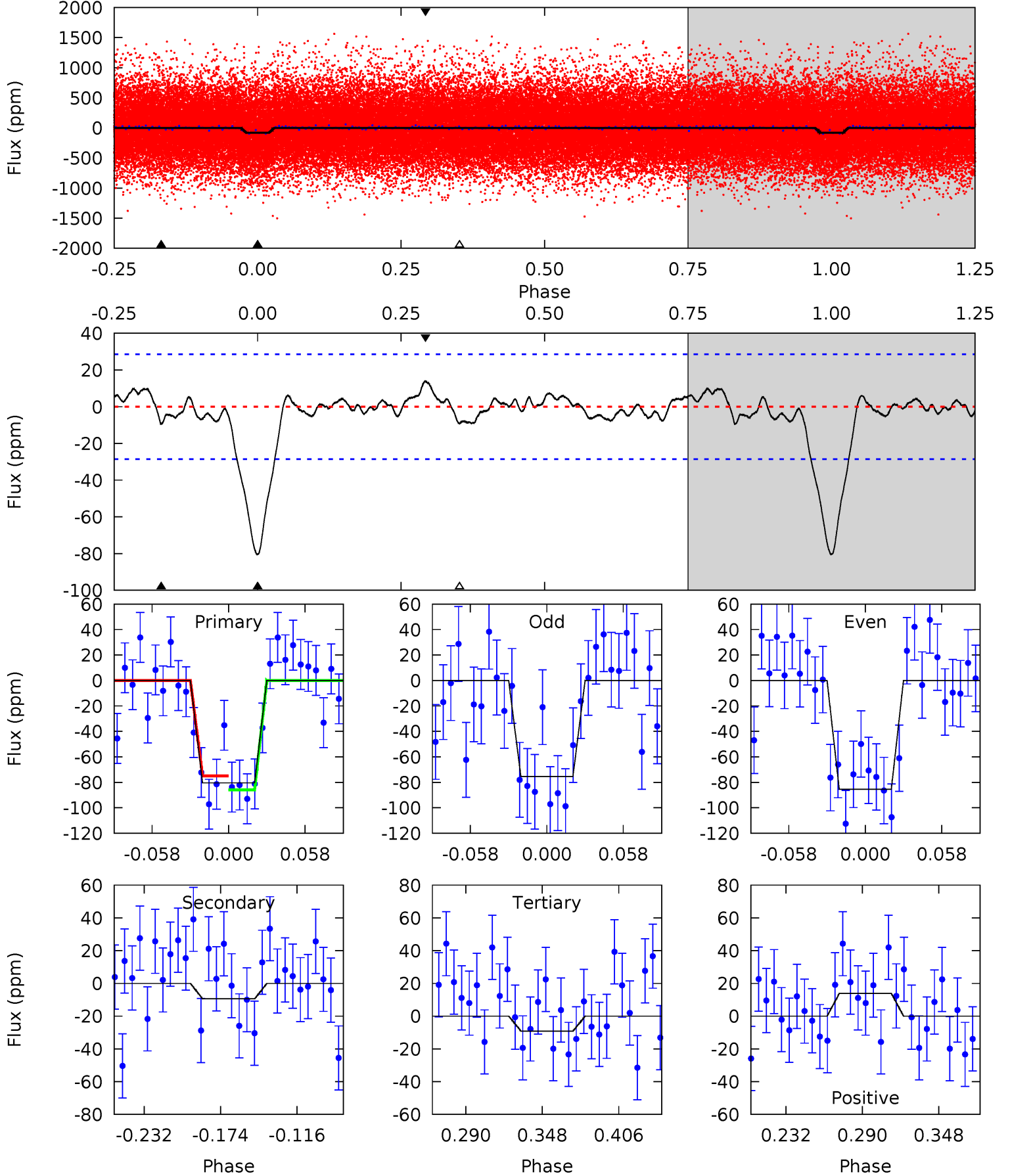
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	1.34	0.99	2.18	4.65	1.83	0.89	11.6	10.4	0.35	-0.84	1.06	1.04	0.17	1.39



Alt Model-Shift Uniqueness Test

007450747-01, P = 2.208295 Days, E = 129.424229 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	1.54	1.49	2.26	4.68	1.90	0.76	11.7	10.9	0.05	-0.72	0.83	0.95	0.15	0.90



Stellar Parameters For KIC 007450747

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6028^{+81}_{-81}	$4.189^{+0.149}_{-0.122}$	$0.140^{+0.150}_{-0.150}$	$1.454^{+0.251}_{-0.276}$	$1.194^{+0.087}_{-0.109}$	$0.547^{+0.434}_{-0.192}$
	+1%/-1%	+4%/-3%	+107%/-107%	+17%/-19%	+7%/-9%	+79%/-35%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 007450747-01 / KOI 4267.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 6	$1.60^{+0.85}_{-0.74}$	2385^{+124}_{-116}	3432^{+962}_{-974}	$1.865^{+4.915}_{-1.431}$
Alt.	-9 ± 6	$1.48^{+0.76}_{-0.78}$	2393^{+107}_{-119}	3709^{+1296}_{-793}	$2.719^{+9.914}_{-1.942}$

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

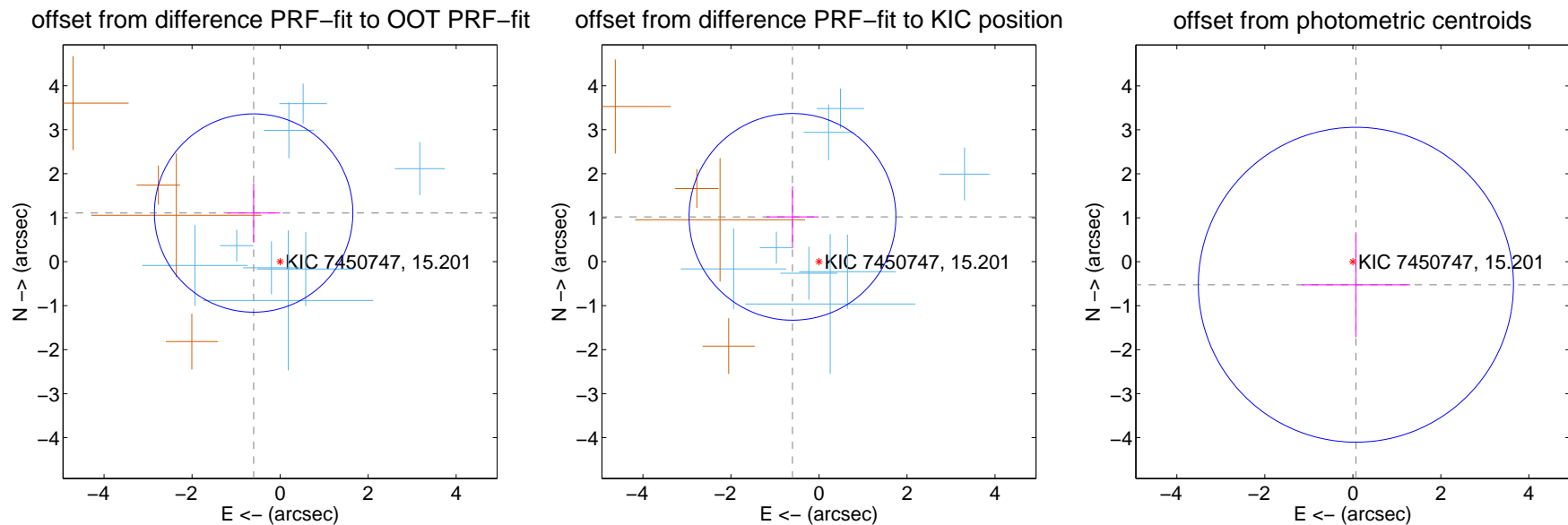
DV Centroid Data

Supplemental centroid analysis for 007450747-01. Kepler magnitude: 15.20. Transit SNR 11.69

There are 8 quarters with good PRF difference image offsets

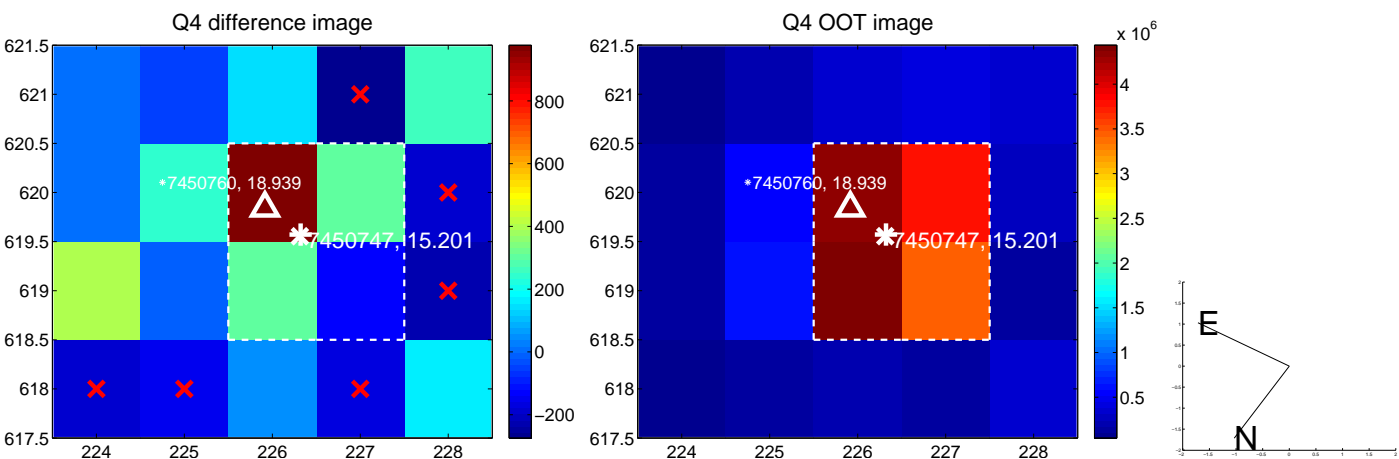
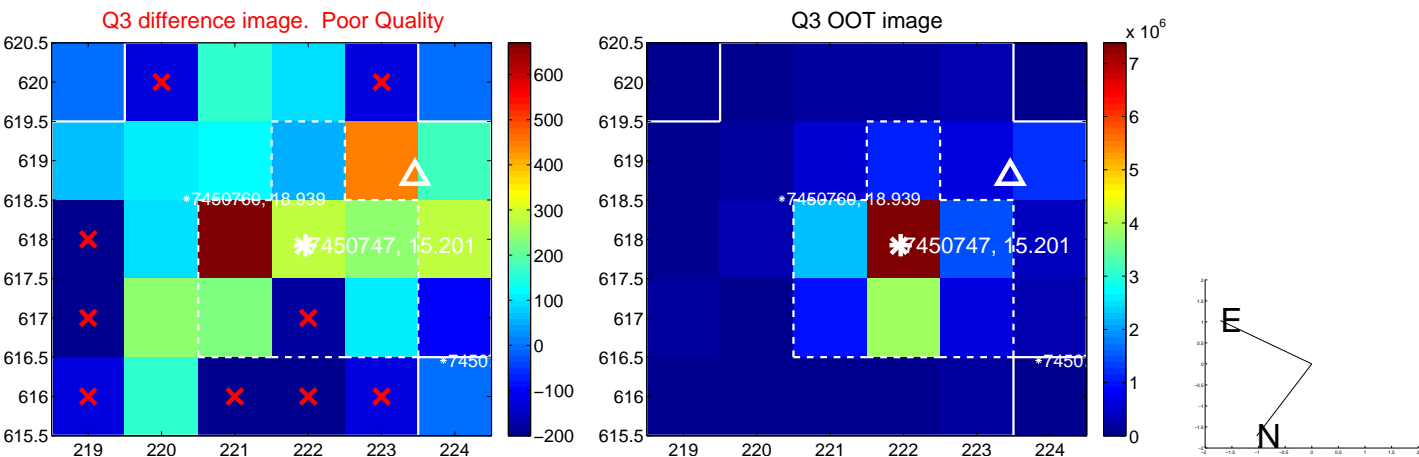
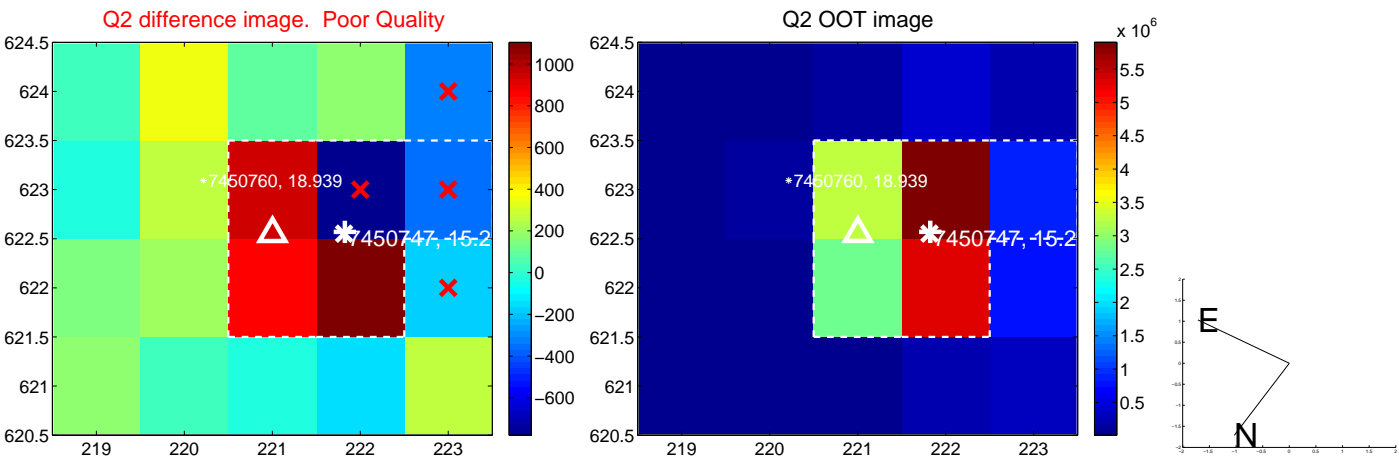
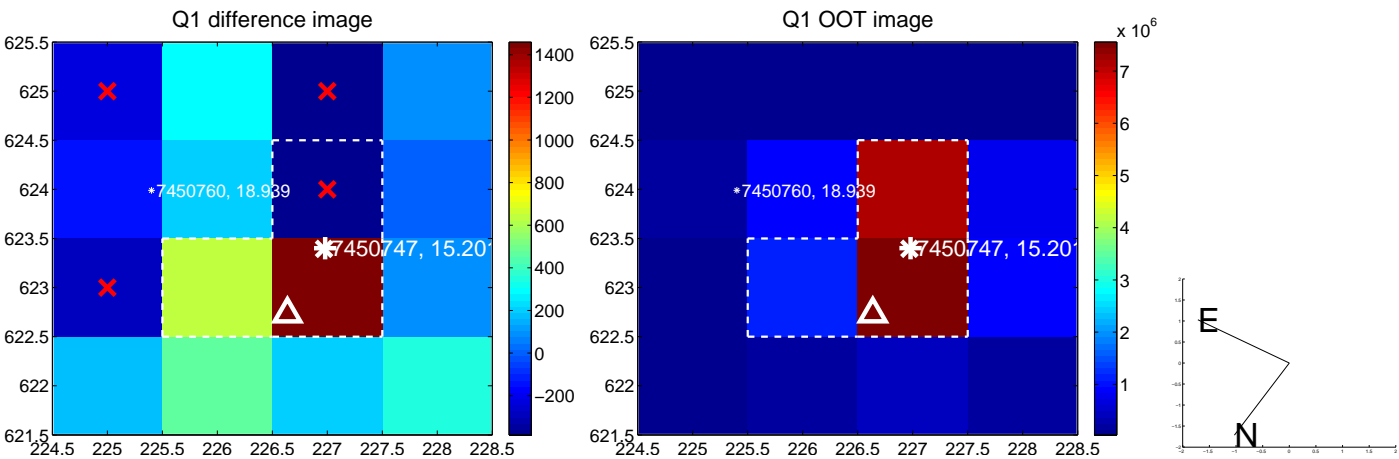
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.259 ± 0.751	1.68	0.601 ± 0.602	1.106 ± 0.672
PRF-fit source offset from KIC position	1.184 ± 0.783	1.51	0.602 ± 0.596	1.019 ± 0.695
photometric centroid source offset	0.53 ± 1.19	0.44	-0.07 ± 1.23	-0.52 ± 1.19

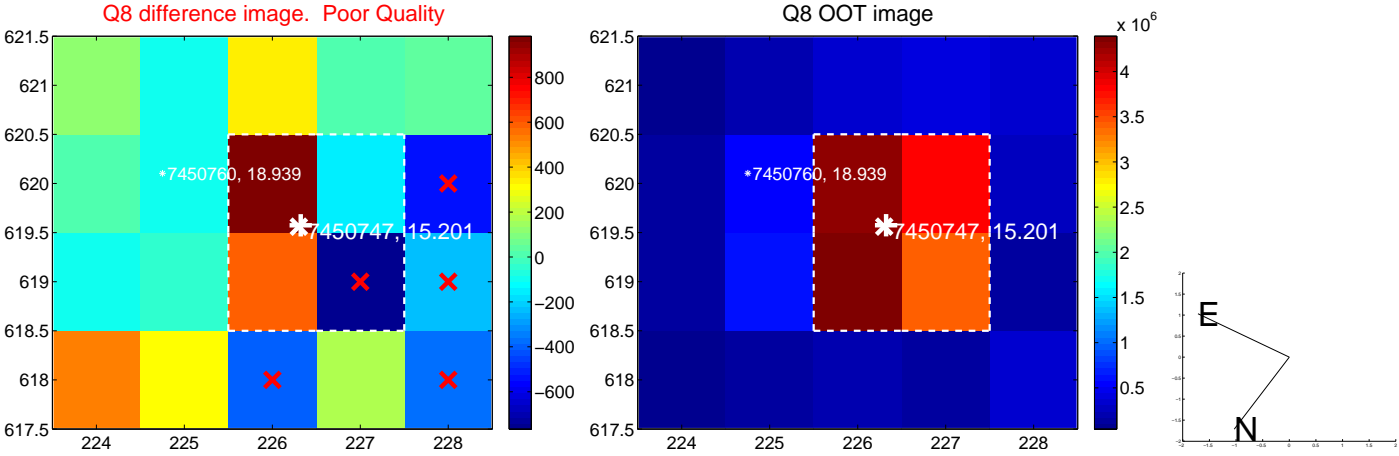
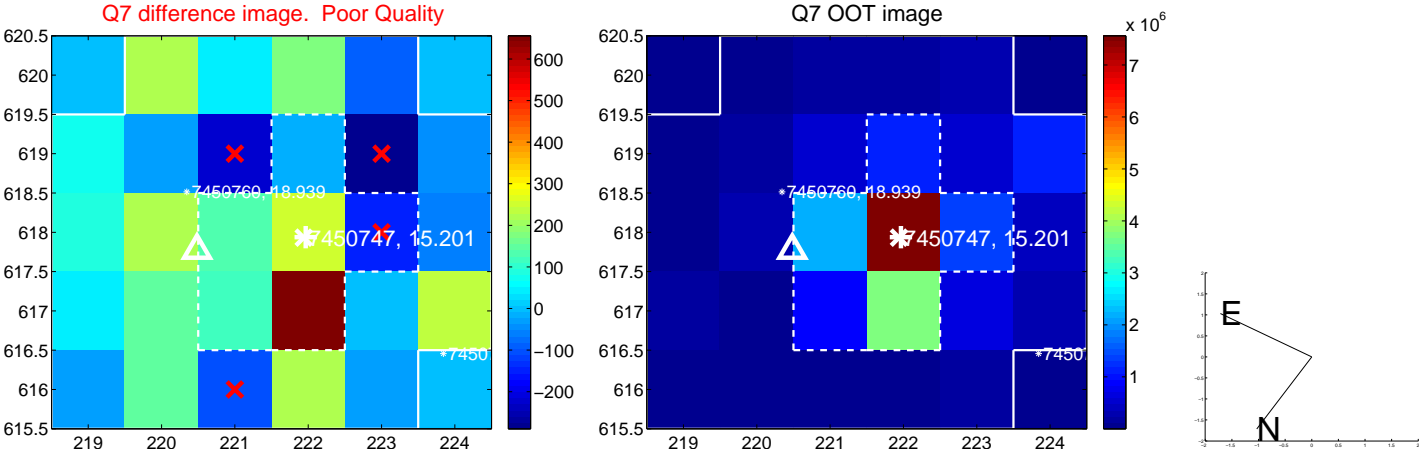
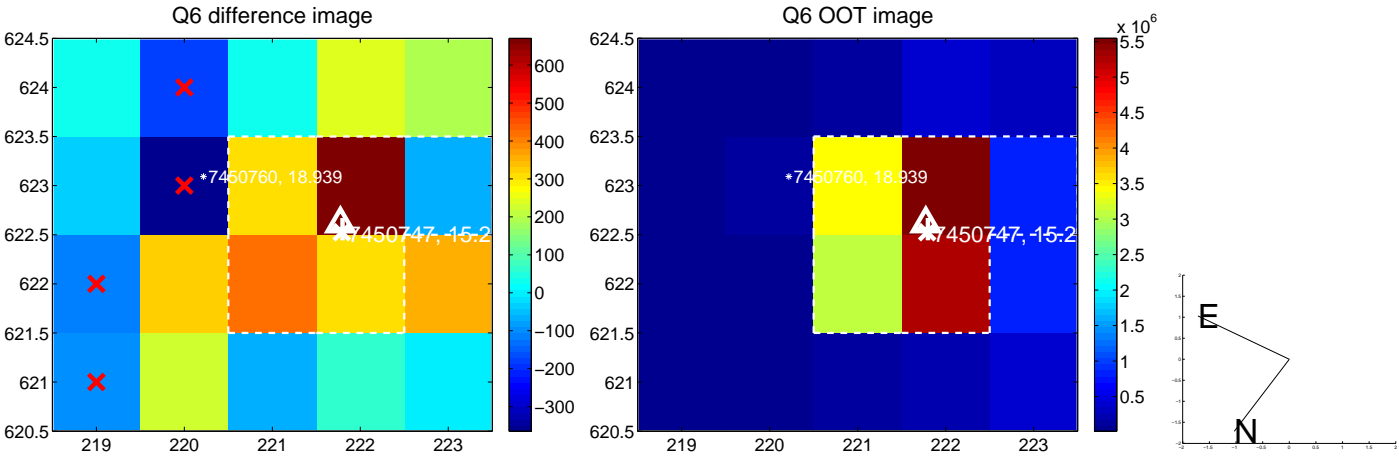
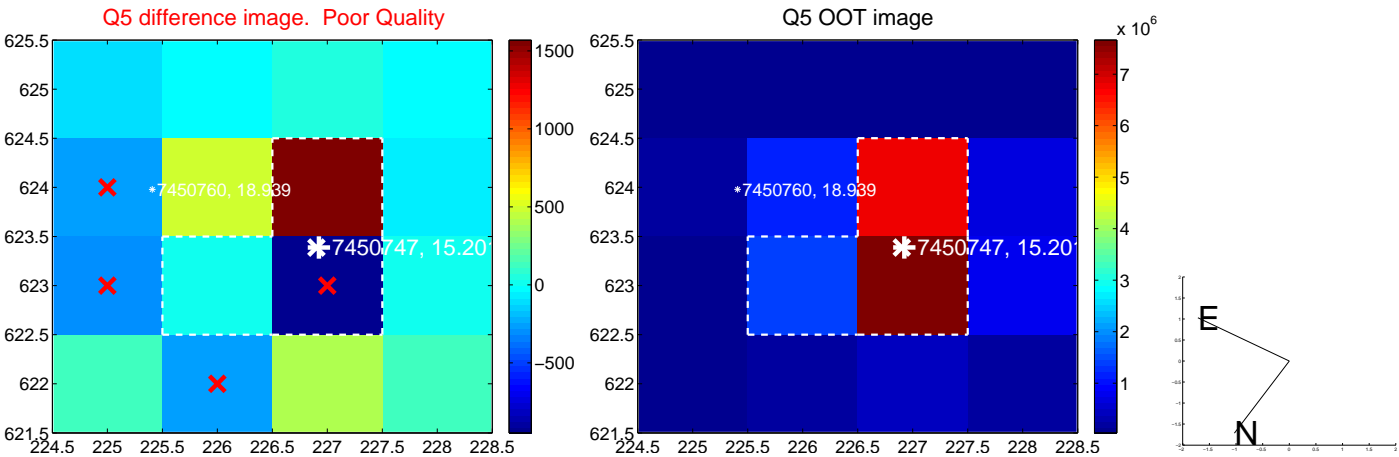


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

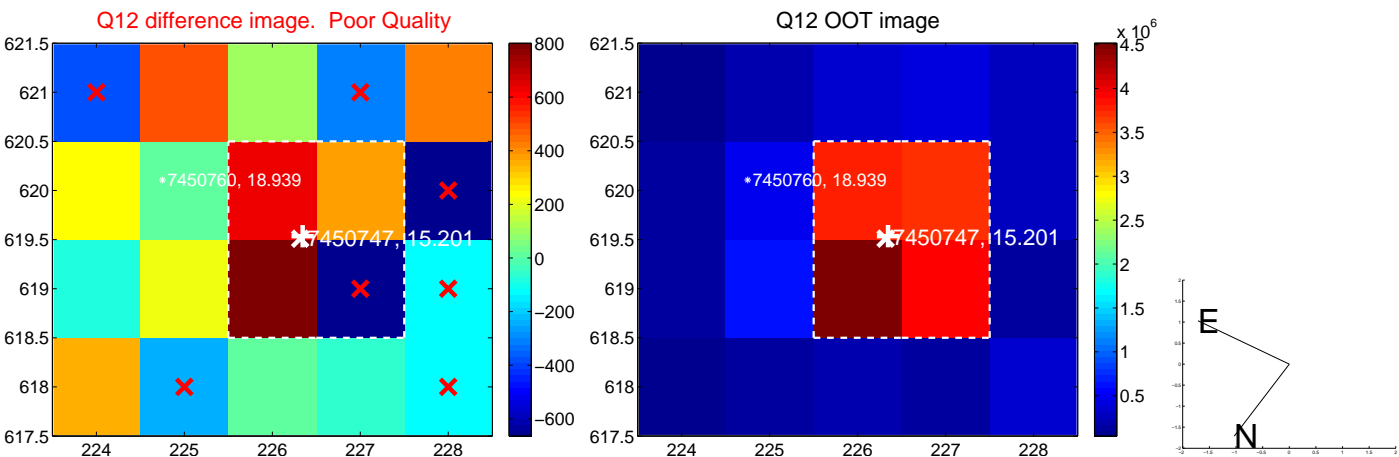
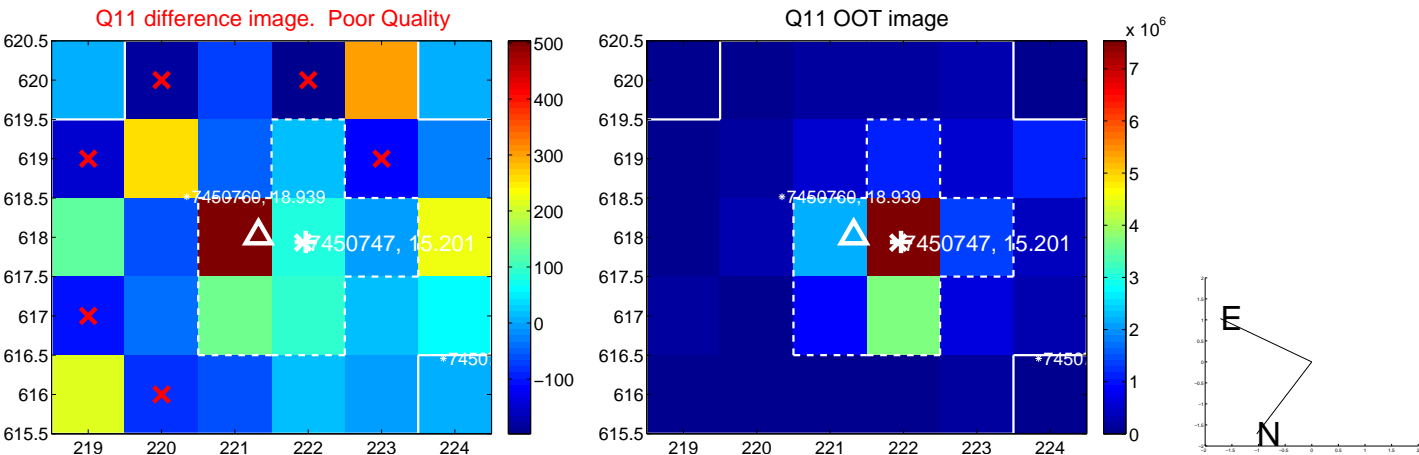
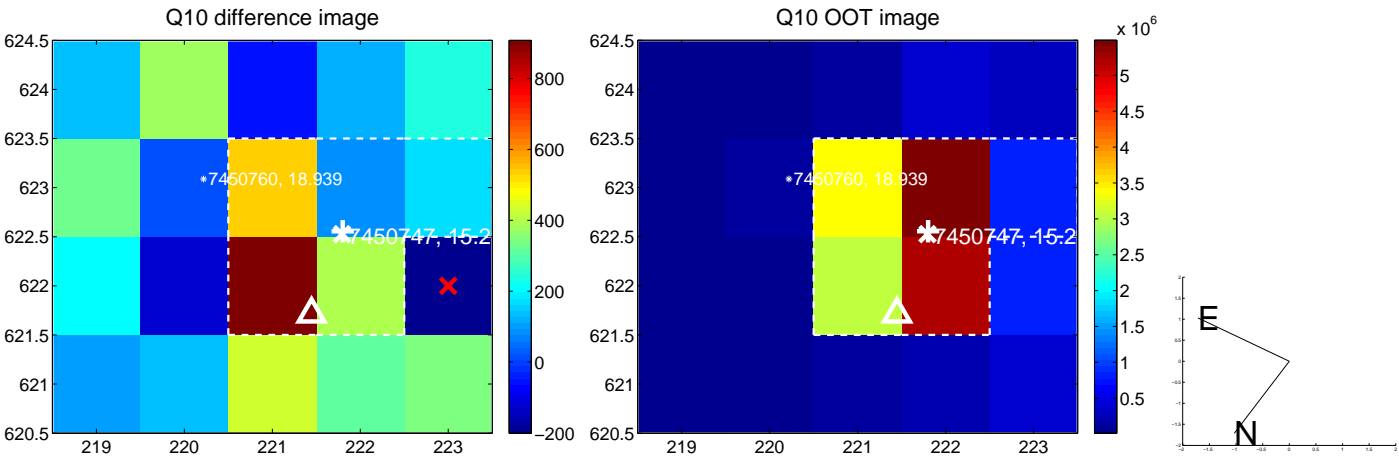
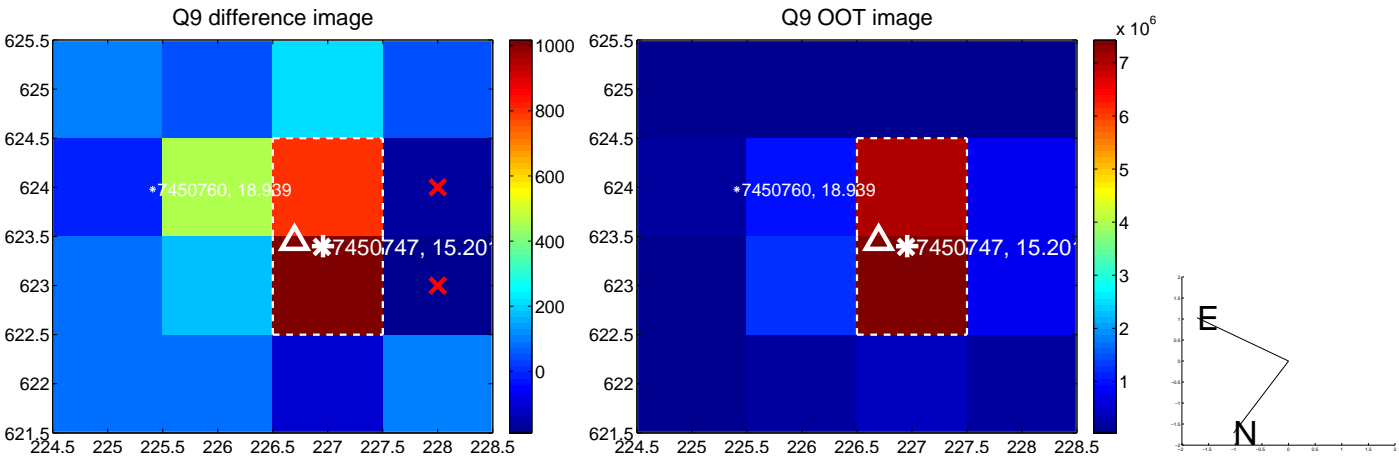
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



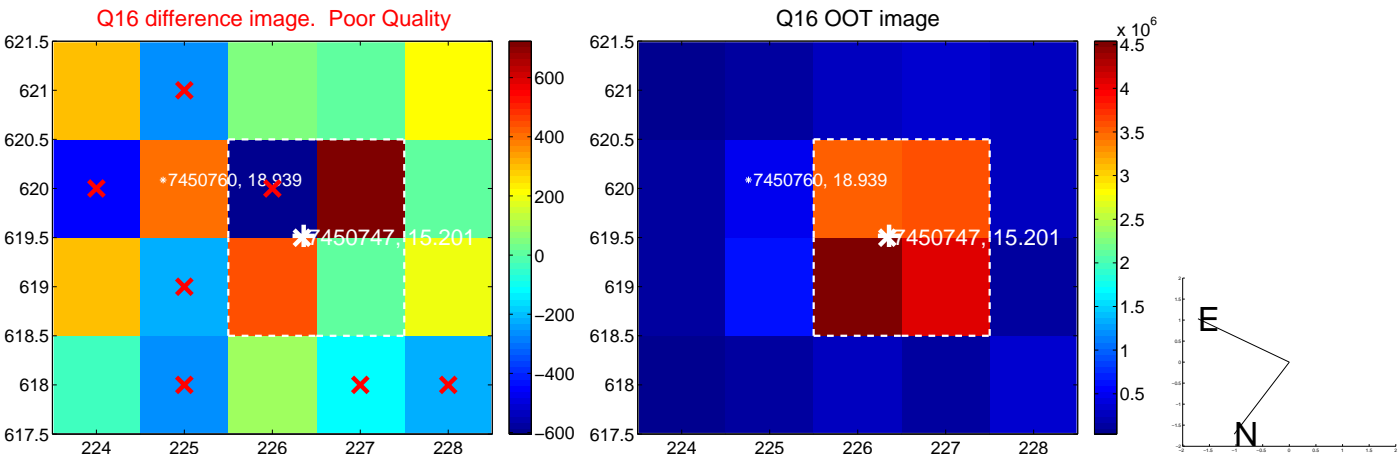
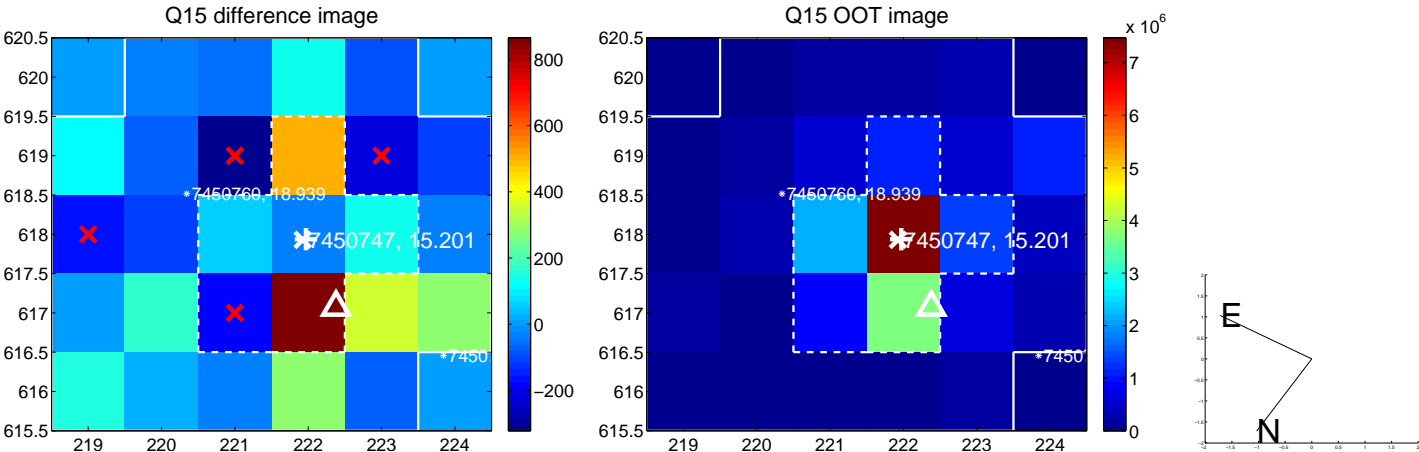
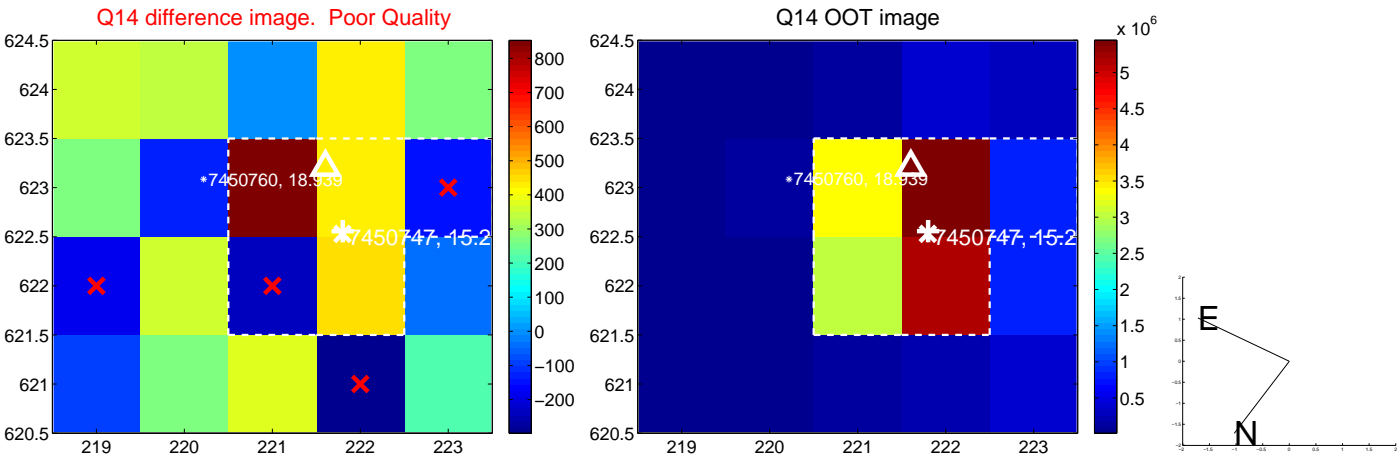
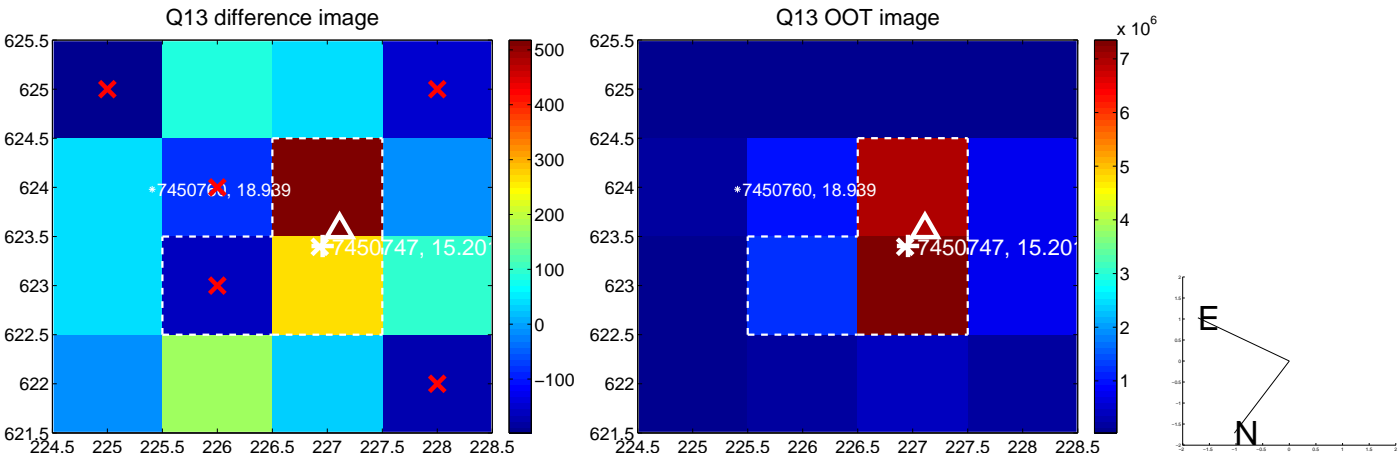
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



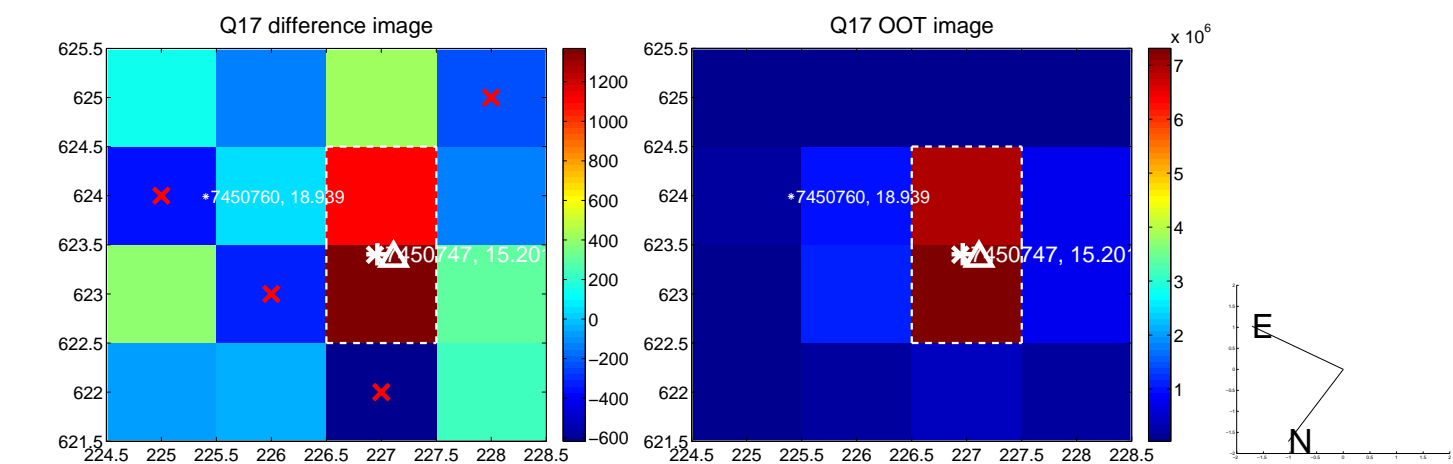
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



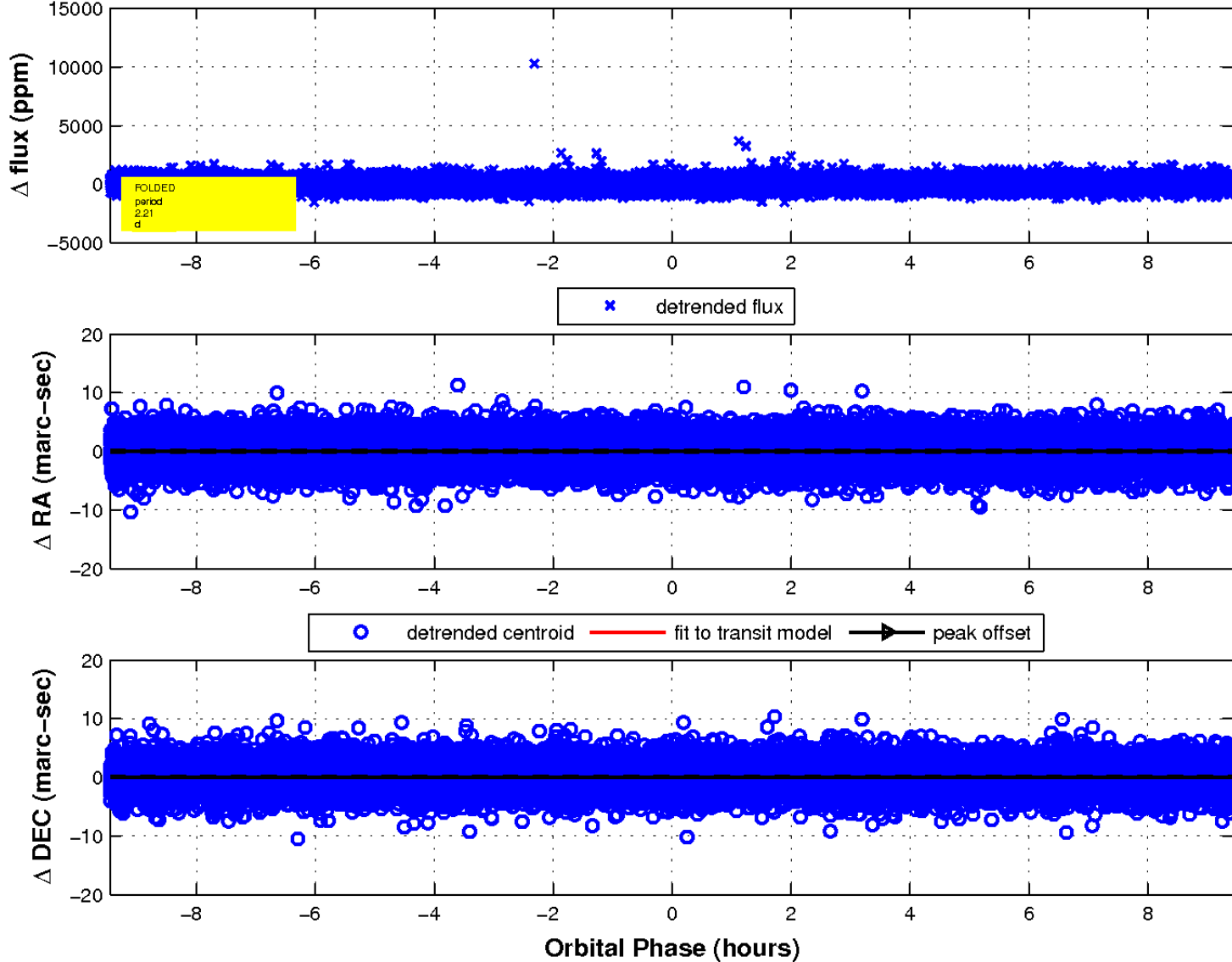
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

