

KIC 010664416

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})
010664416-01	OBS	2599.01	25.324109	138.492012	1192.1	58.743	25.8	64.0	0.67	5128	4.56	12.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010664416-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

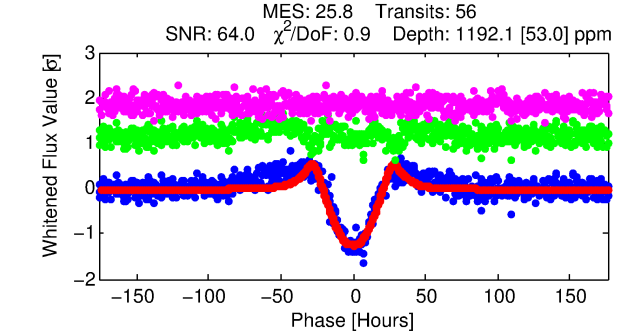
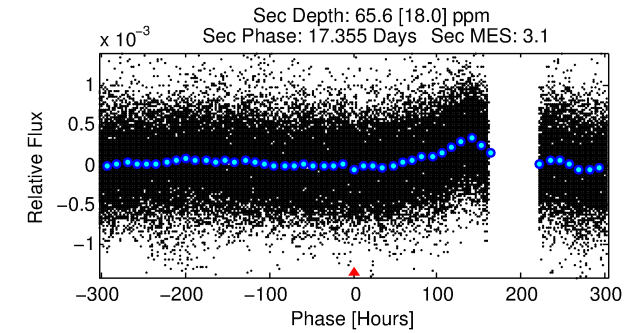
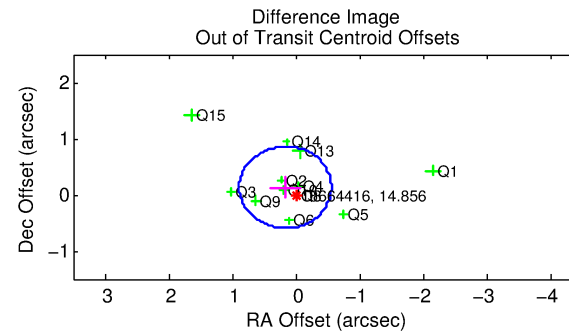
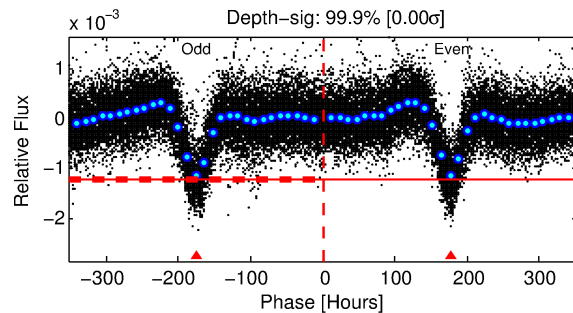
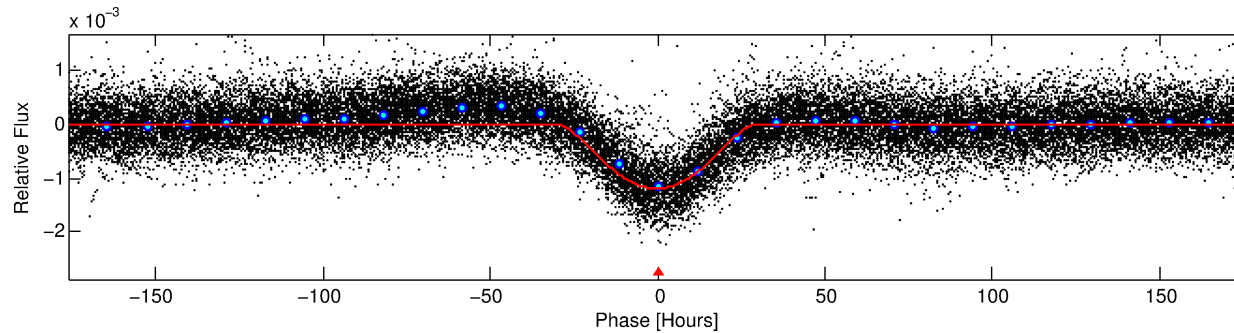
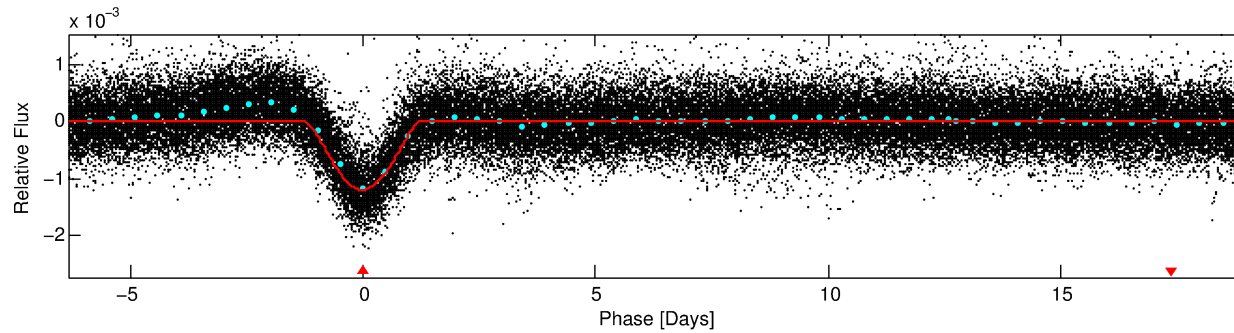
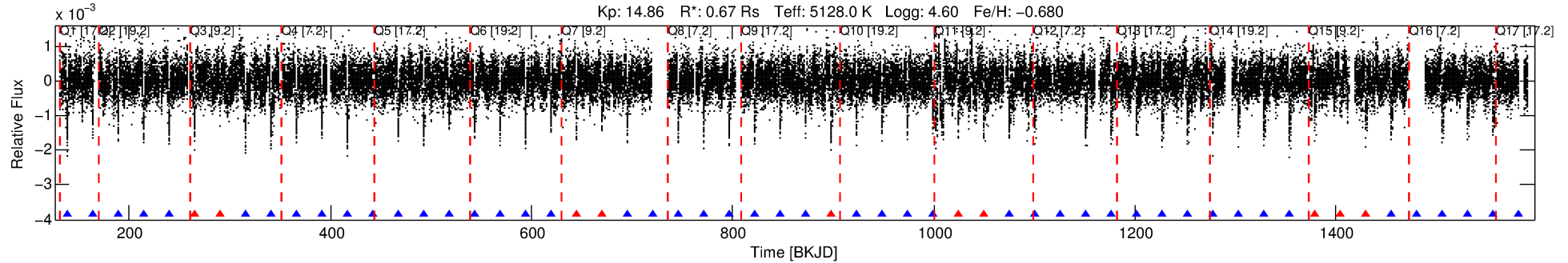
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010664416-01

No Significant Match Found

DV One-Page Summary

KIC: 10664416 Candidate: 1 of 1 Period: 25.324 d
KOI: K02599.01 Corr: 0.870



DV Fit Results:

Period = 25.32411 [0.00045] d
Epoch = 138.4920 [0.0152] BKJD
Rp/R* = 0.0625 [0.0176]
a/R* = 1.56 [0.04]
b = 1.00 [0.02]
Seff = 12.96 [2.29]
Teq = 484 [21] K
Rp = 4.56 [1.36] Re
a = 0.1461 [0.0129] AU
Ag = 37.07 [23.68] [1.52σ]
Teffp = 1846 [294] K [4.62σ]

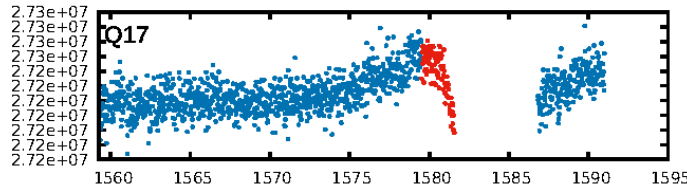
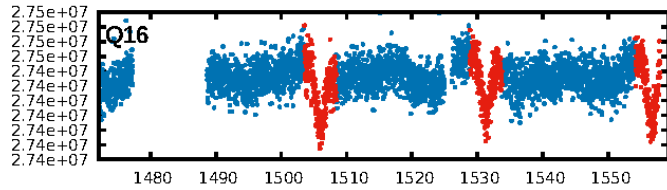
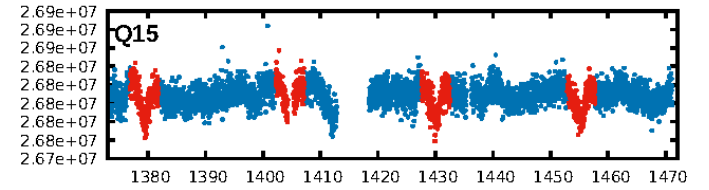
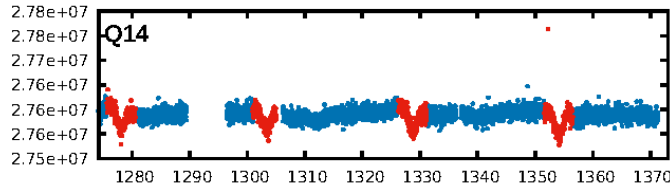
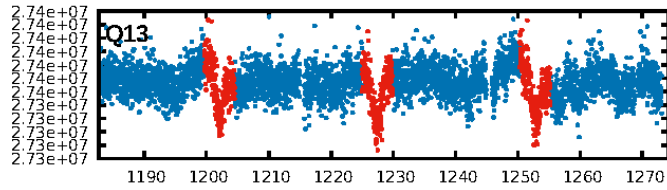
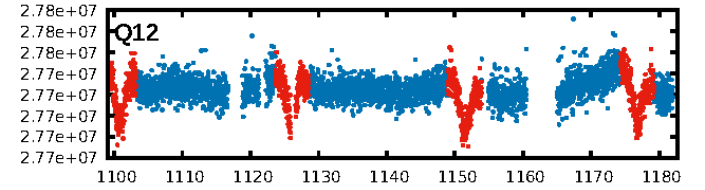
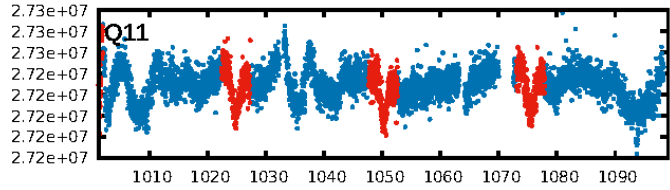
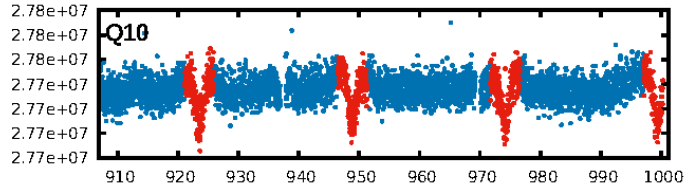
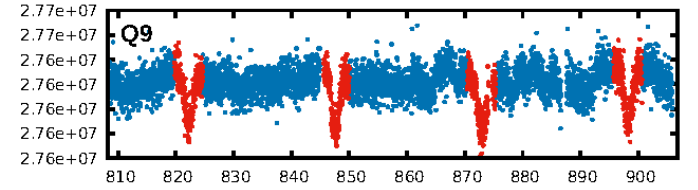
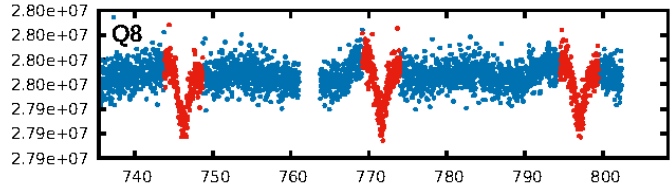
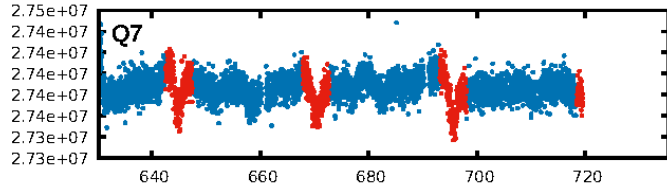
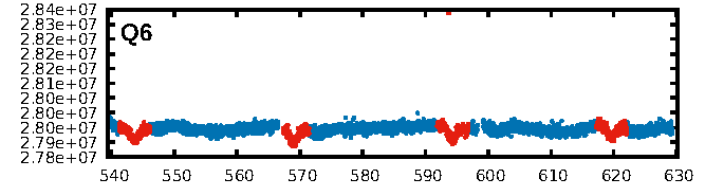
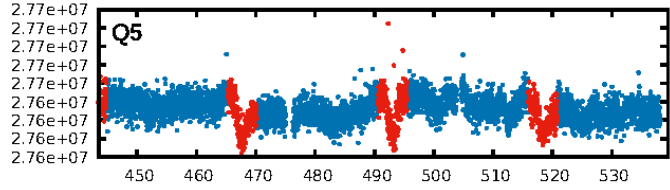
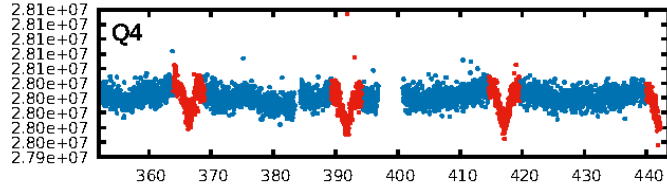
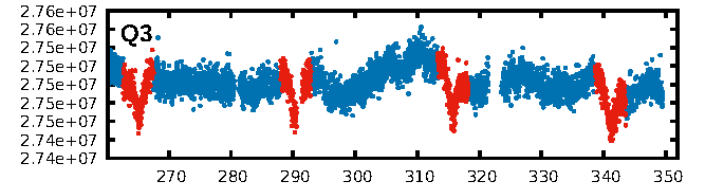
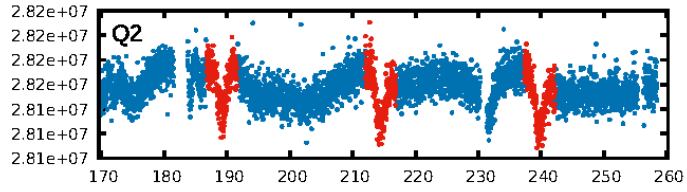
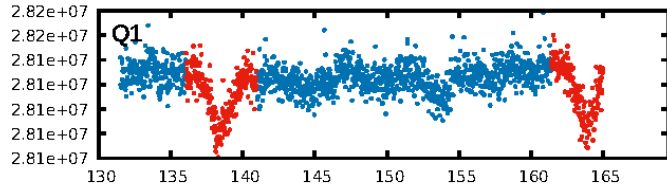
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.10e-134
RollingBand-fgt: 0.81 [43/53]
GhostDiagnostic-chr: 2.936
Centroid-sig: 56.8%
Centroid-so: 0.093 arcsec [0.74σ]
OotOffset-rm: 0.210 arcsec [0.87σ]
KicOffset-rm: 0.227 arcsec [0.93σ]
OotOffset-st: 4/2/2/4 [12]
KicOffset-st: 4/2/2/4 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [14/14]

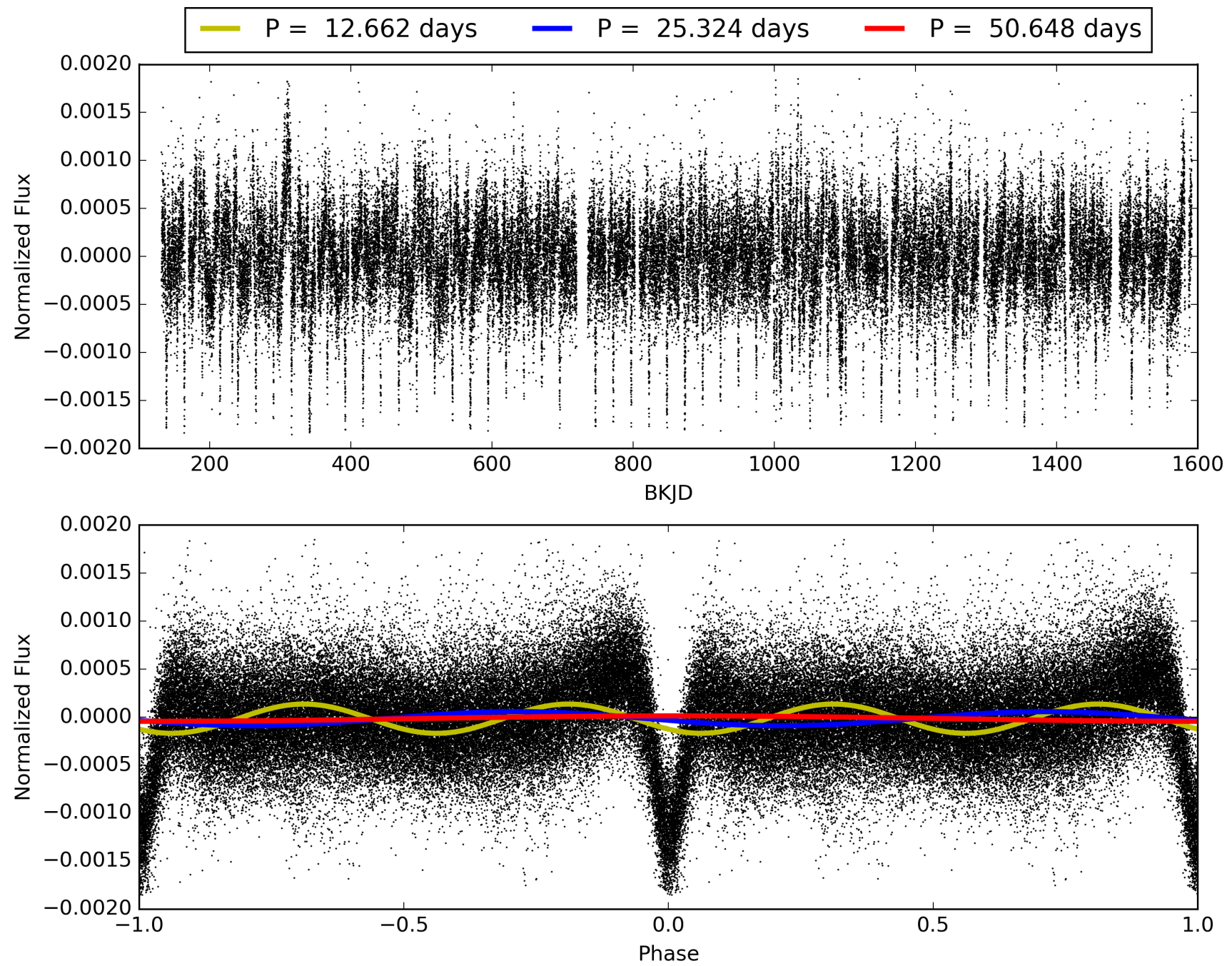
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:45:40 Z

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

TCE 010664416-01, PDC Light Curves

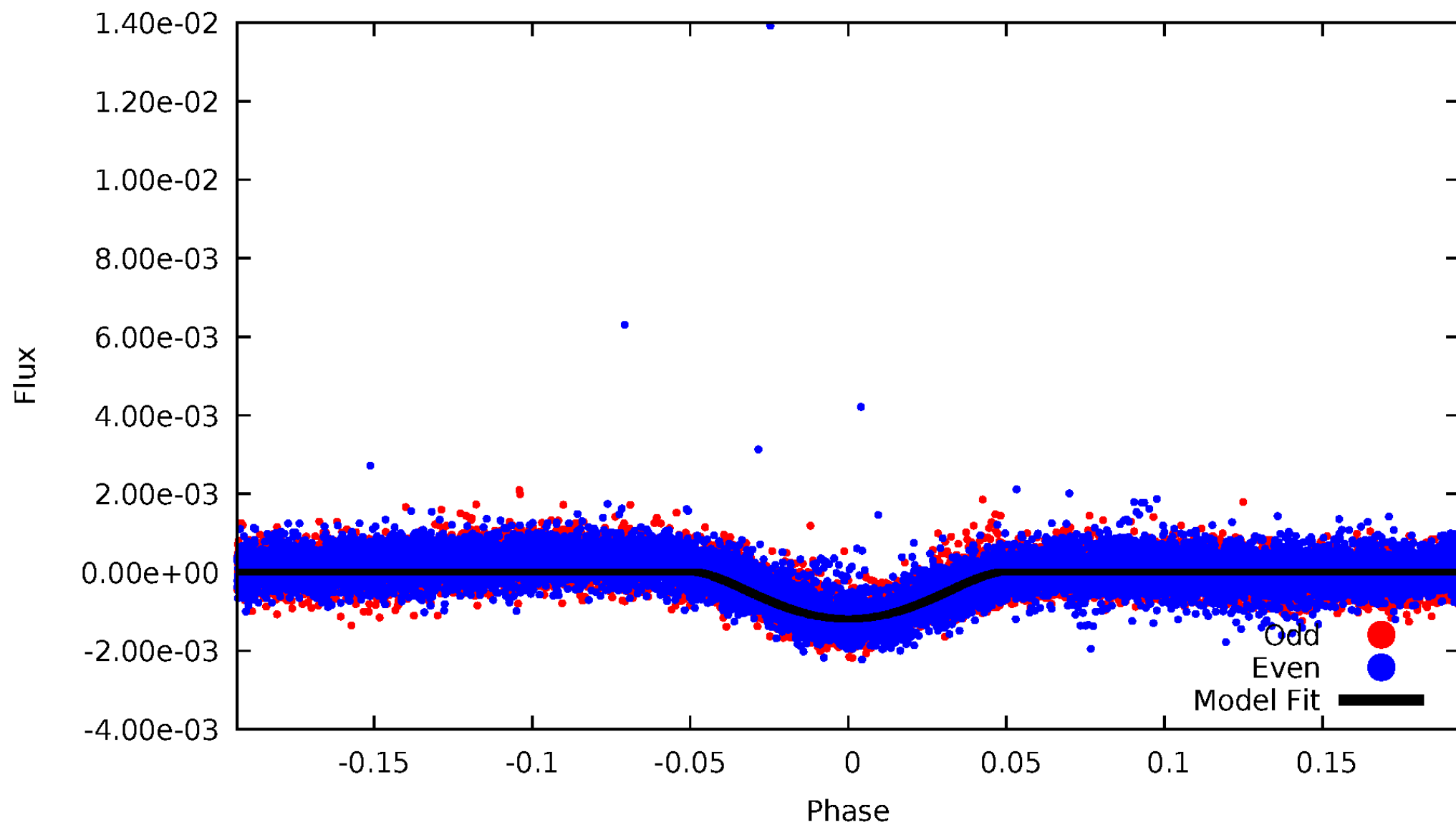


TCE 010664416-01



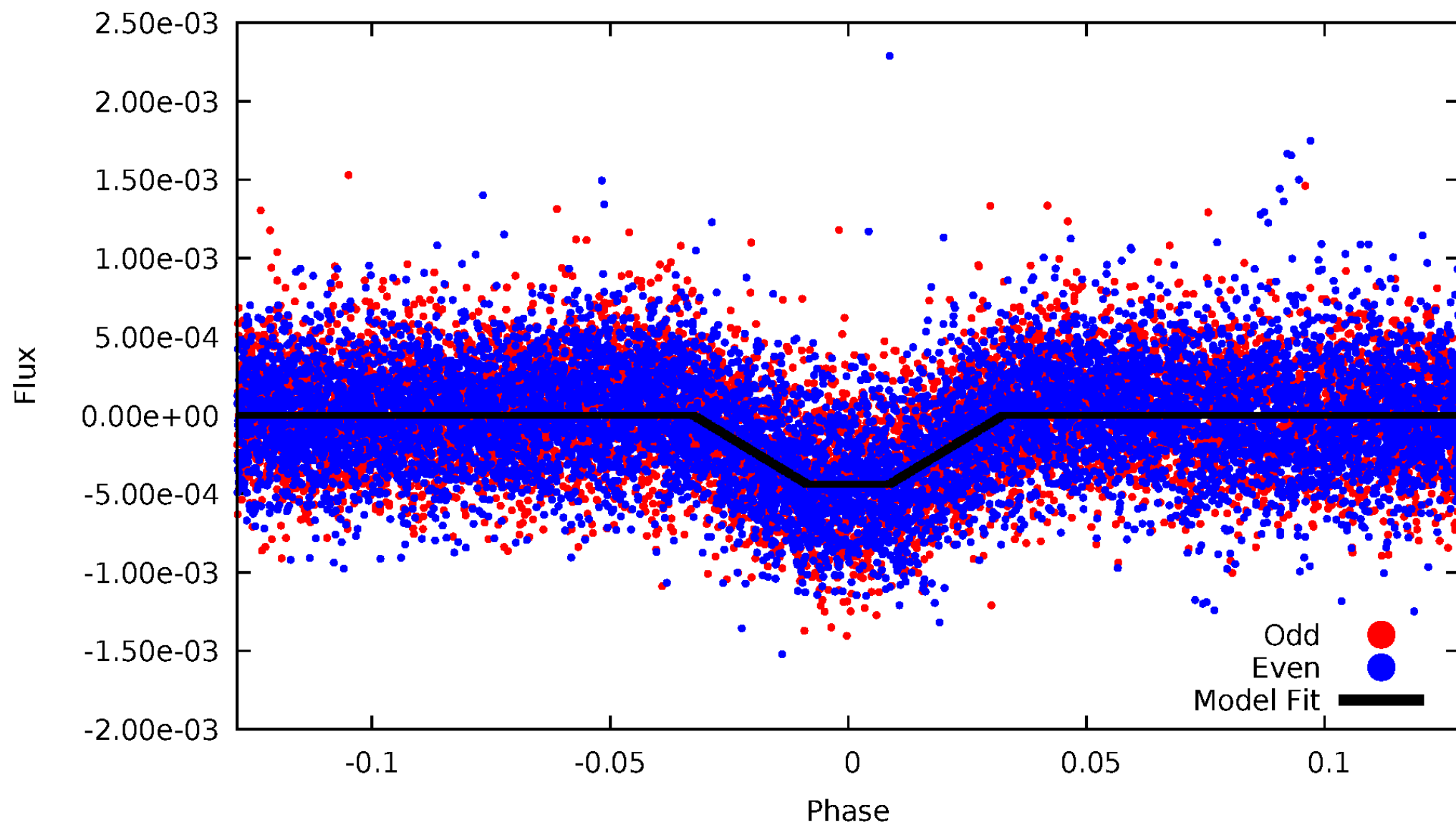
DV Odd/Even

TCE 010664416-01



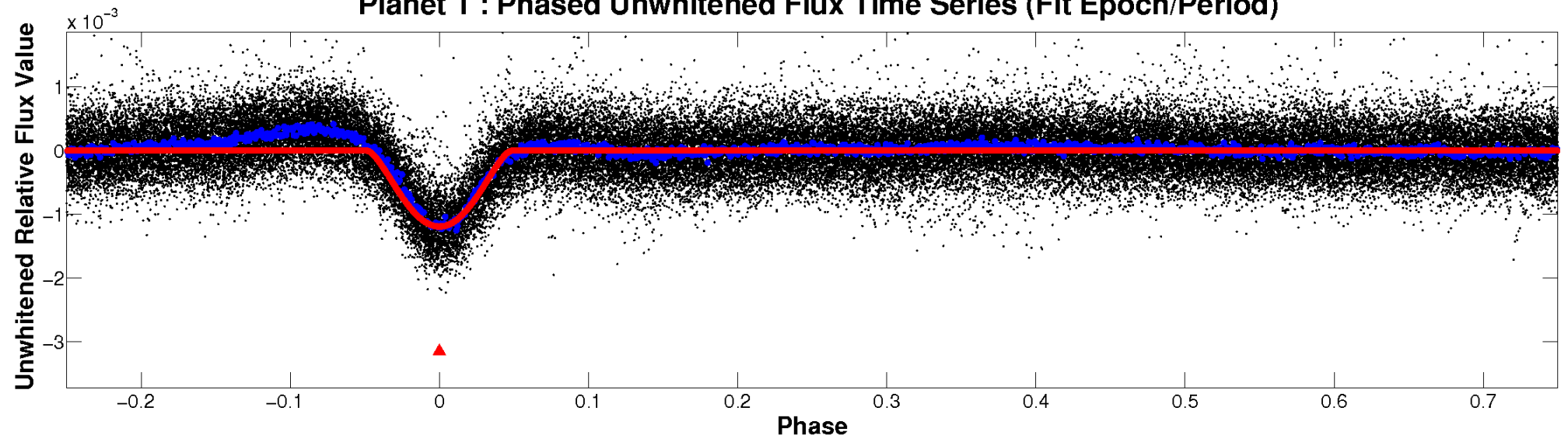
ALT Odd/Even

TCE 010664416-01

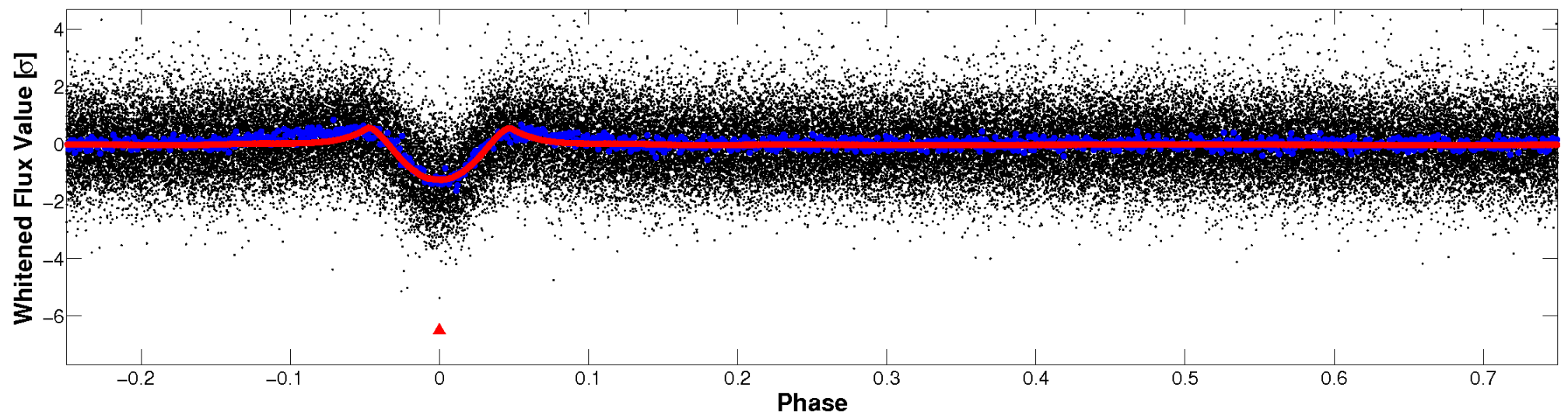


Non-Whitened Vs. Whitened Light Curve

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

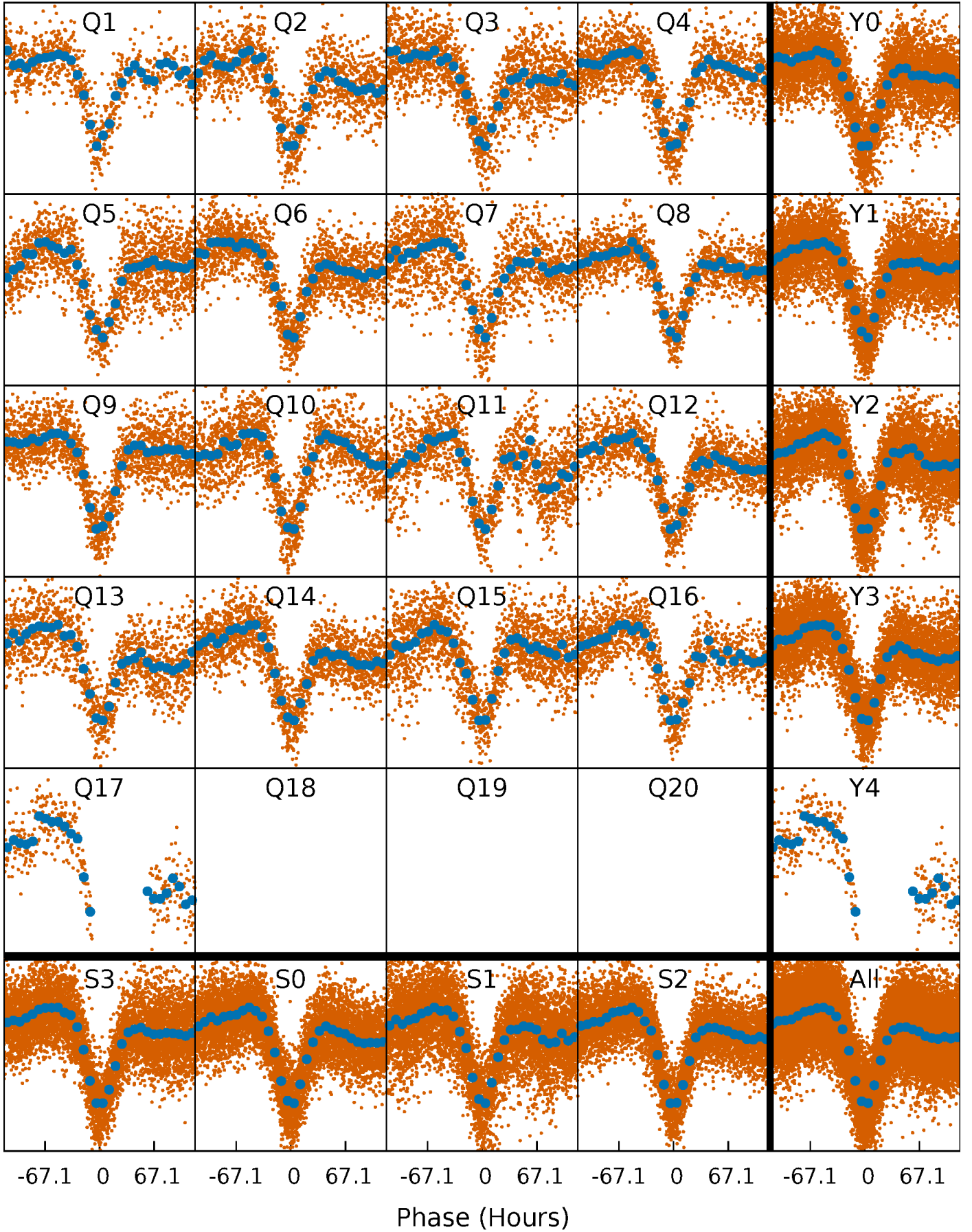


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



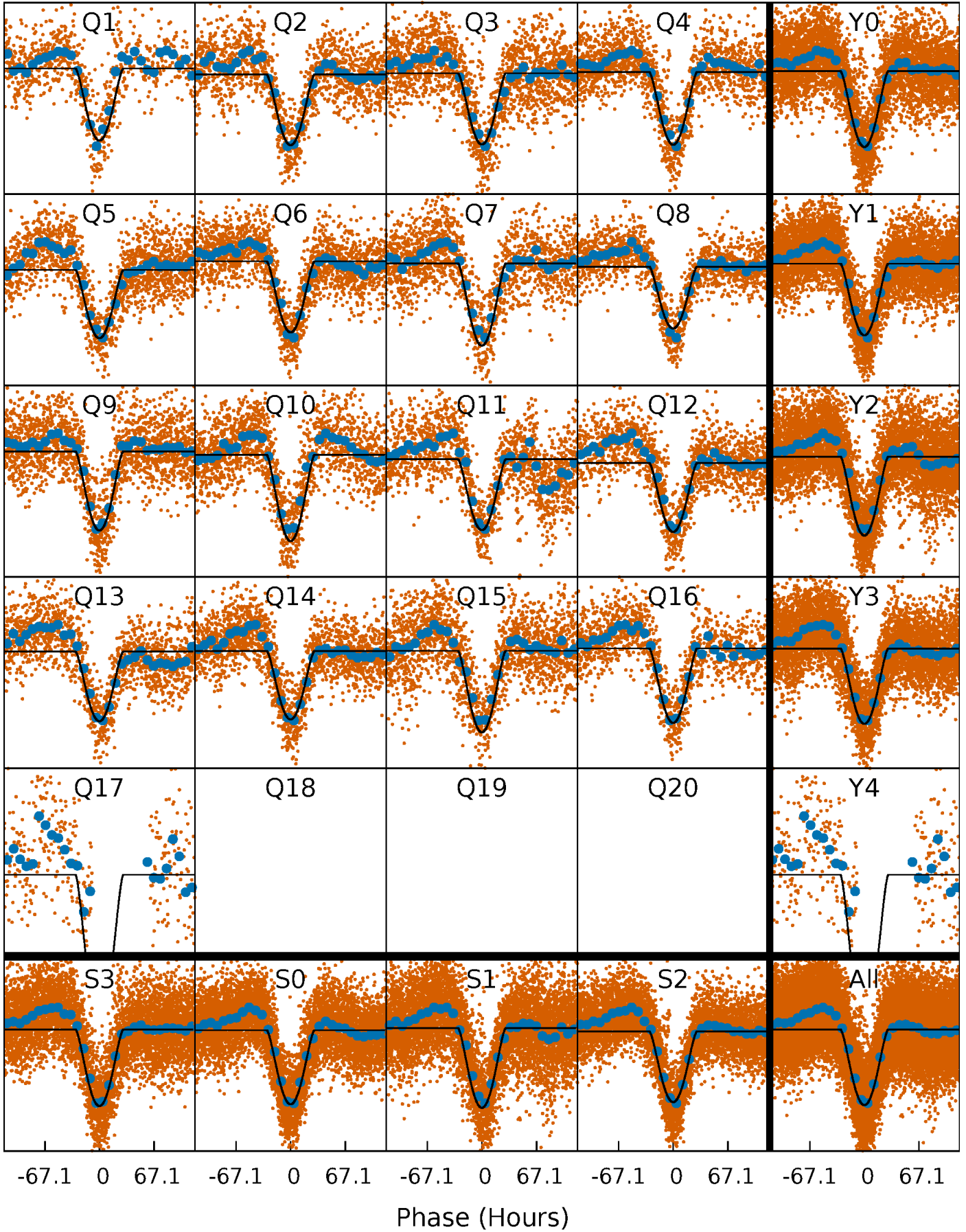
PDC Quarter-Phased Transit Curves

TCE 010664416-01 P= 25.324109 Days $T_0=138.492012$ (BKJD)



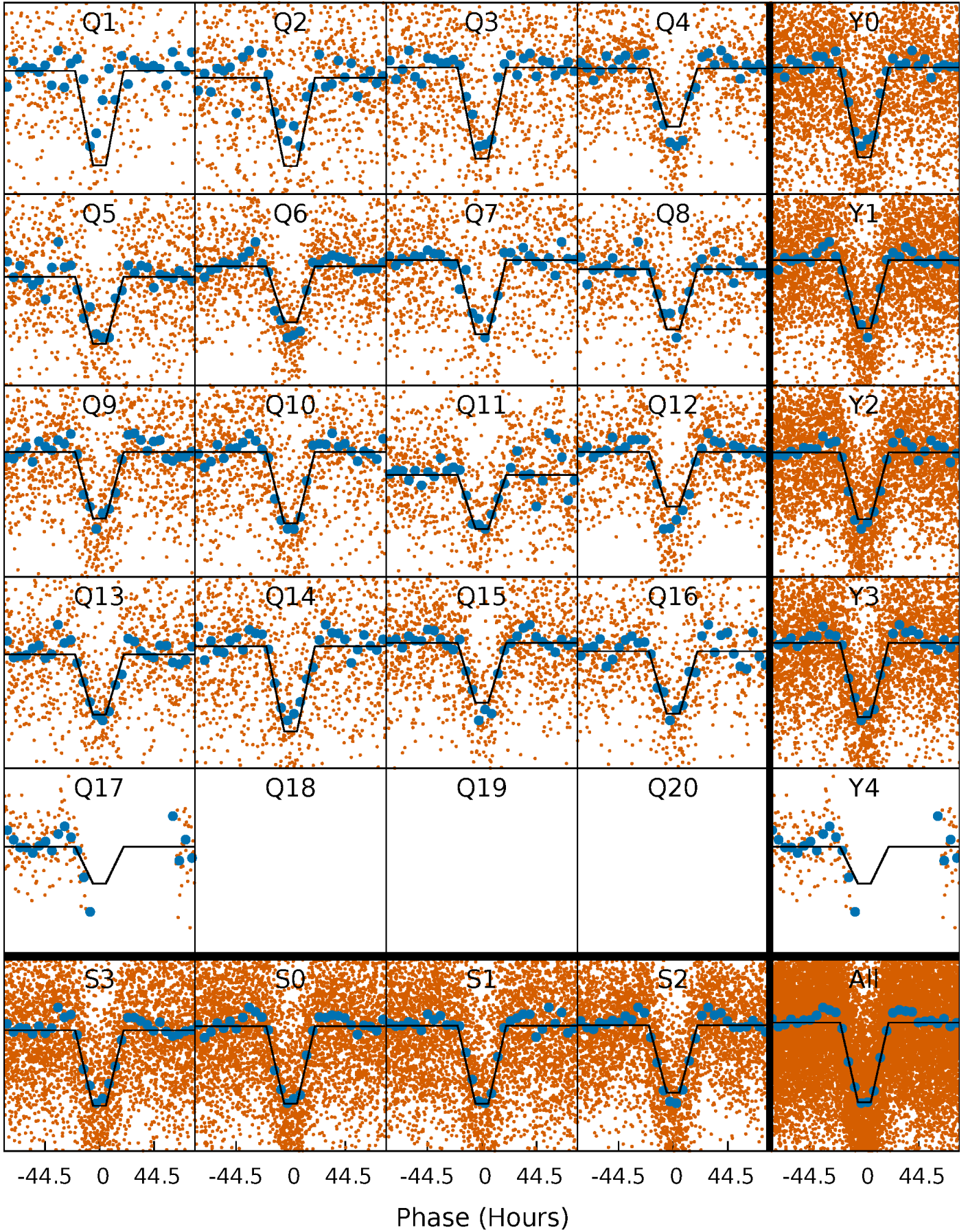
DV Quarter-Phased Transit Curves

TCE 010664416-01 P= 25.324109 Days $T_0=138.492012$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

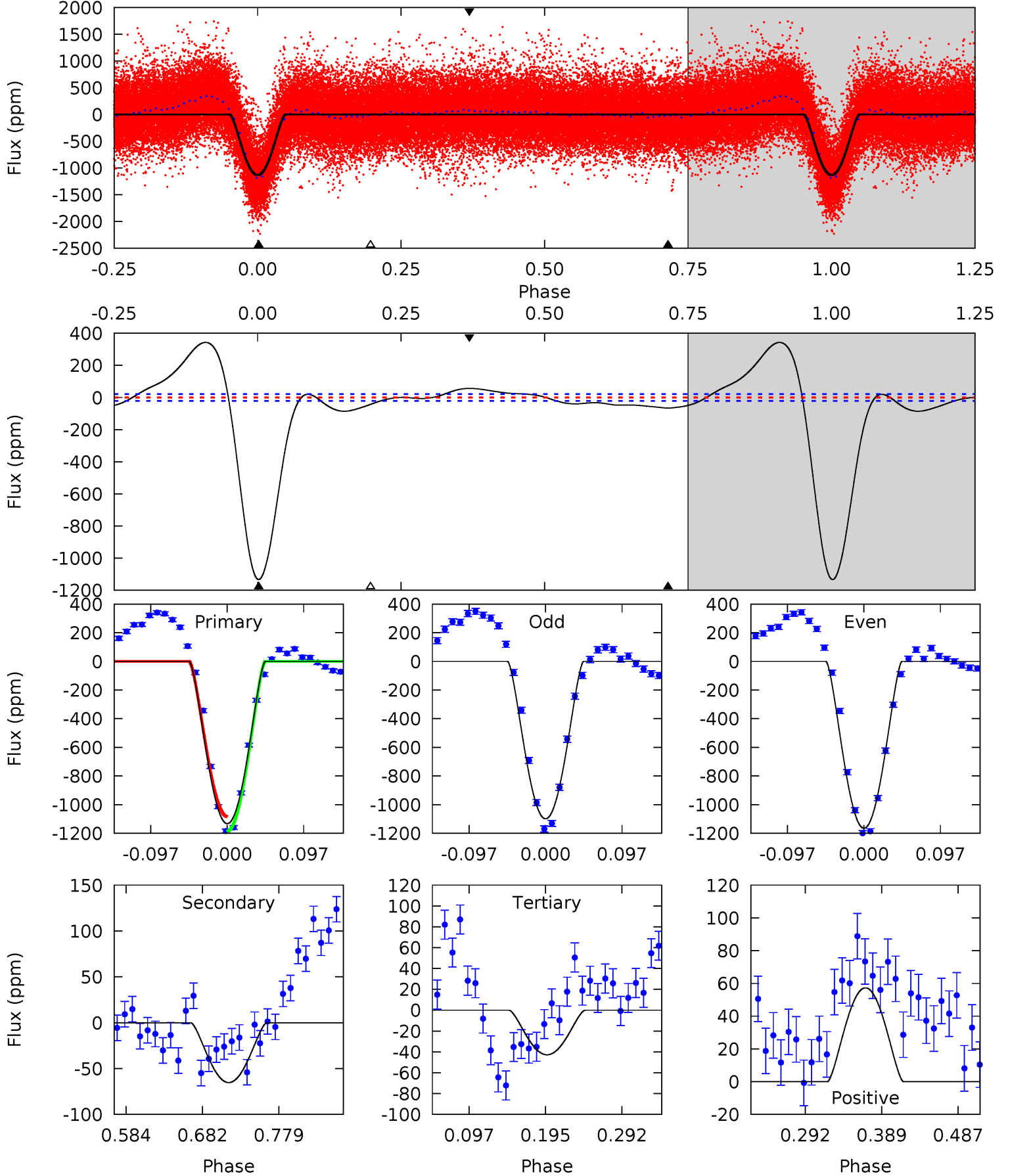
TCE 010664416-01 P= 25.323932 Days $T_0=138.514270$ (BKJD)



DV Model-Shift Uniqueness Test

010664416-01, P = 25.324109 Days, E = 113.167903 Days

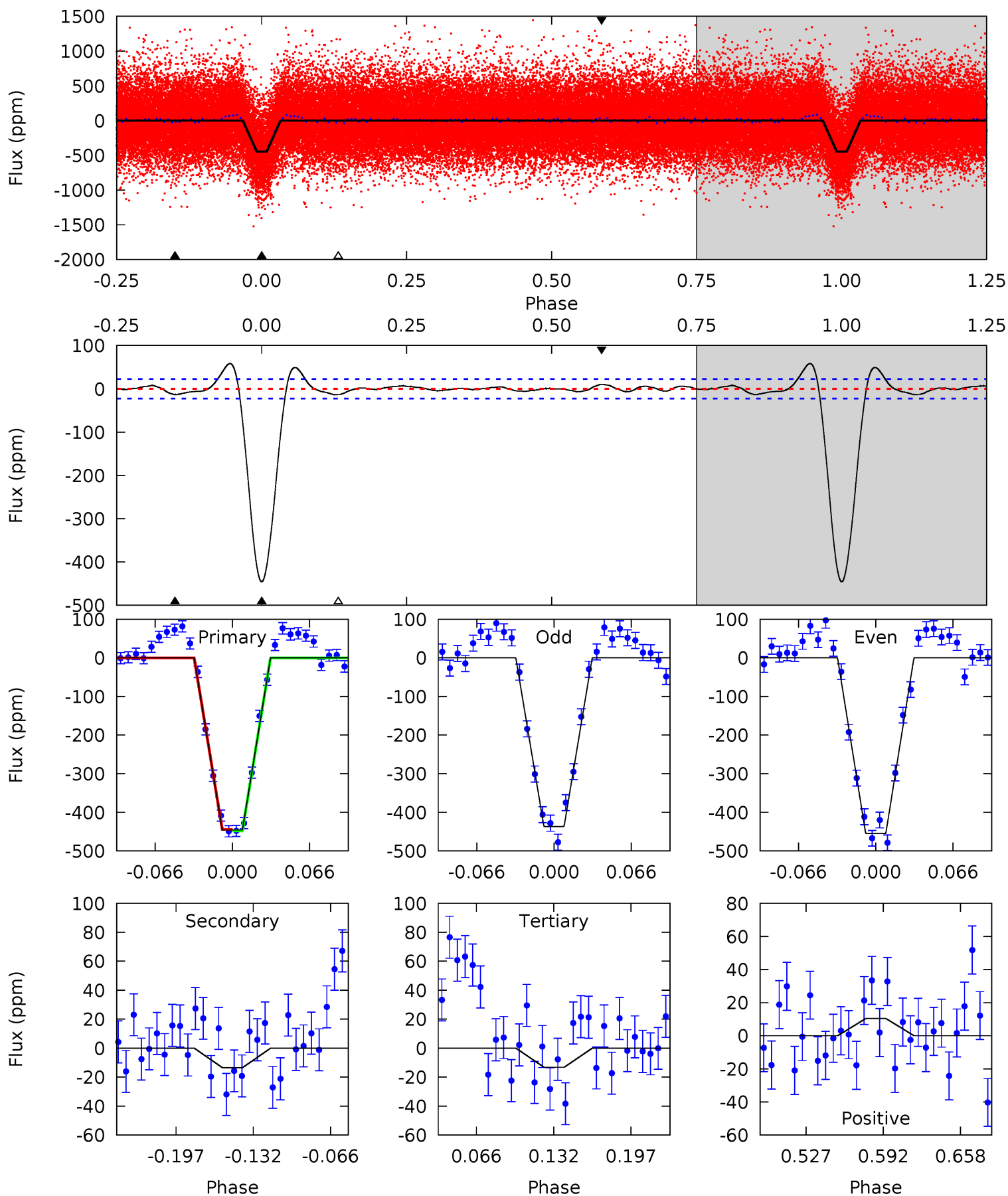
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
244.0	14.1	9.22	12.3	4.57	1.66	18.8	234.8	231.7	4.84	1.73	7.09	0.96	0.23	11.0



Alt Model-Shift Uniqueness Test

010664416-01, P = 25.323932 Days, E = 113.190338 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
91.8	2.77	2.72	2.14	4.65	1.84	1.51	89.1	89.7	0.05	0.63	1.88	0.99	0.12	0.33



Stellar Parameters For KIC 010664416

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5128^{+153}_{-138}	$4.600^{+0.072}_{-0.048}$	$-0.680^{+0.300}_{-0.300}$	$0.668^{+0.069}_{-0.063}$	$0.647^{+0.079}_{-0.031}$	$3.056^{+0.877}_{-0.569}$
	+3%/-3%	+2%/-1%	+44%/-44%	+10%/-9%	+12%/-5%	+29%/-19%
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 010664416-01 / KOI 2599.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-65 ± 5	$4.55^{+1.29}_{-1.24}$	673^{+25}_{-22}	2636^{+224}_{-174}	37^{+33}_{-15}
Alt.	-13 ± 5	$1.65^{+1.11}_{-0.94}$	674^{+26}_{-24}	2782^{+774}_{-389}	57^{+255}_{-40}

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 $A_{obs} \gg 1.0$

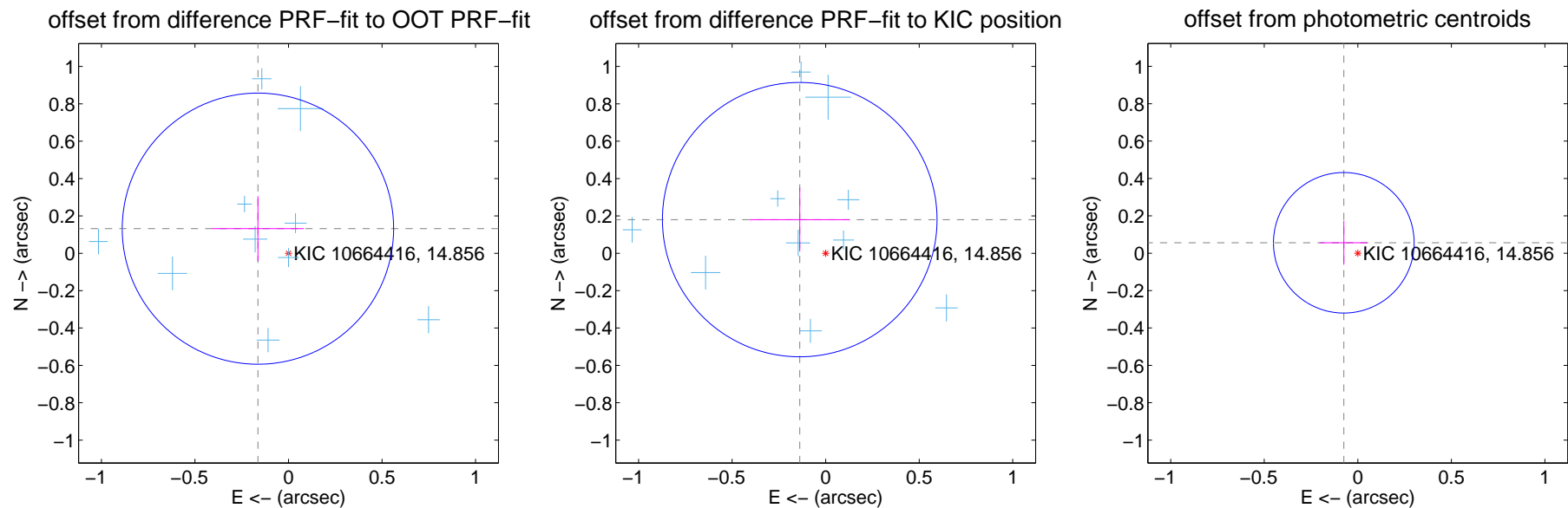
DV Centroid Data

Supplemental centroid analysis for 010664416-01. Kepler magnitude: 14.86. Transit SNR 63.99

There are 12 quarters with good PRF difference image offsets

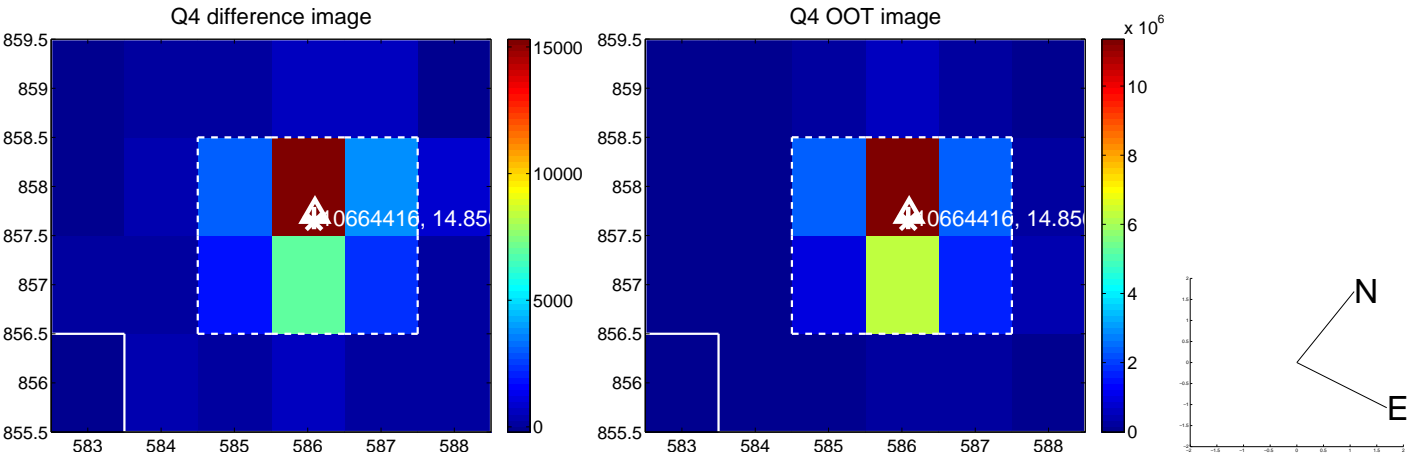
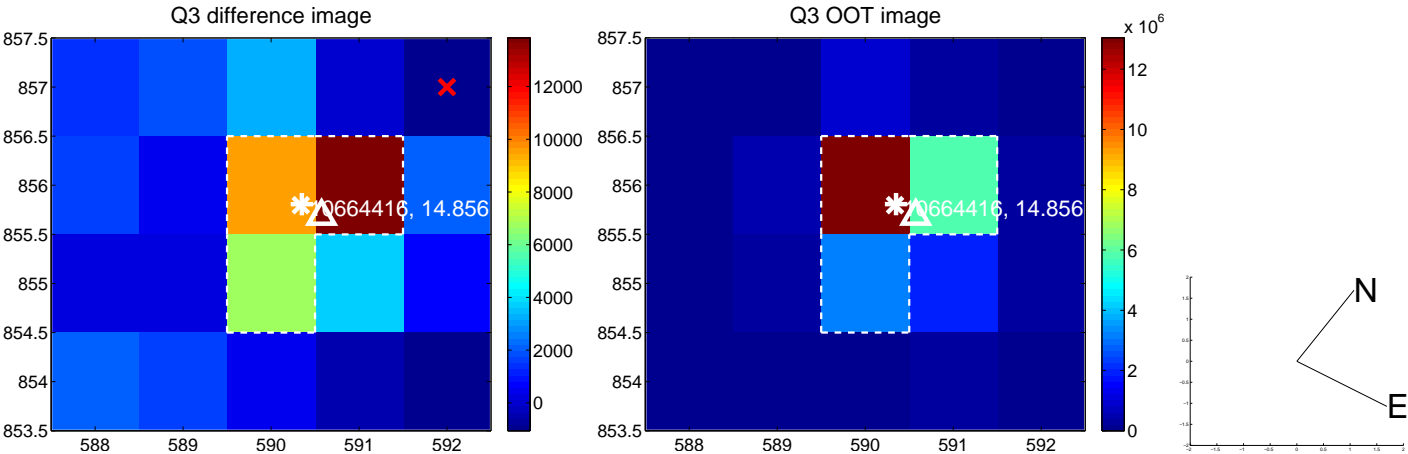
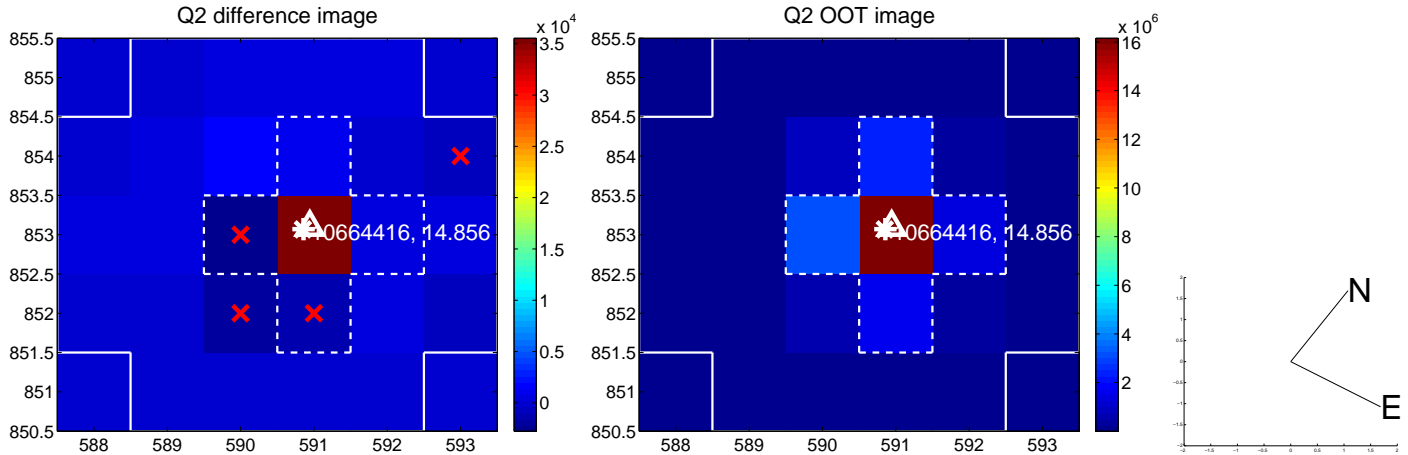
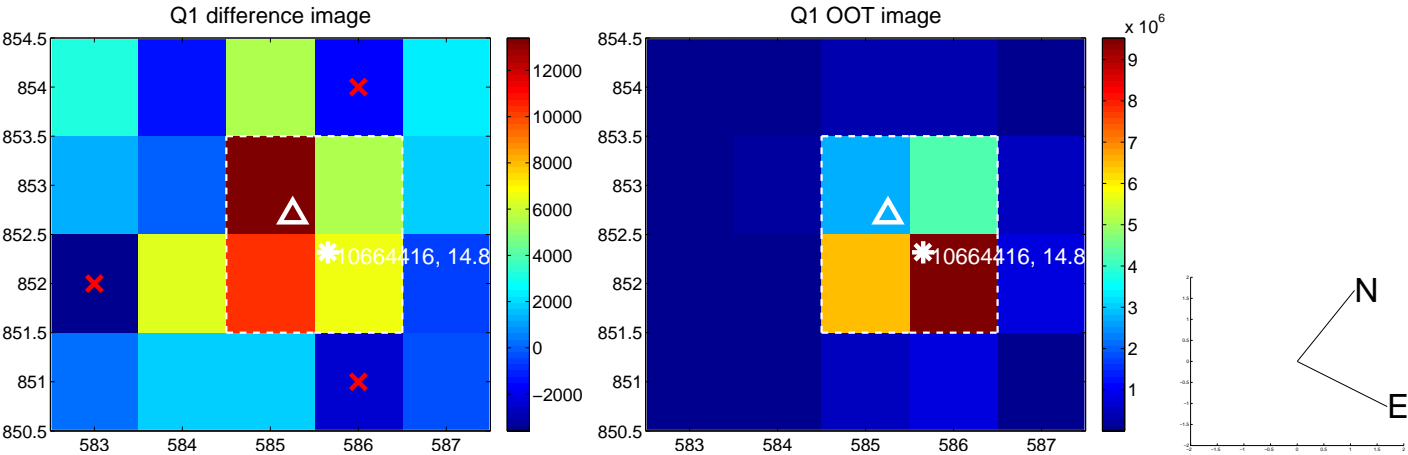
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.210 ± 0.242	0.87	0.163 ± 0.246	0.132 ± 0.173
PRF-fit source offset from KIC position	0.227 ± 0.245	0.93	0.139 ± 0.268	0.180 ± 0.171
photometric centroid source offset	0.09 ± 0.13	0.74	0.07 ± 0.13	0.06 ± 0.12

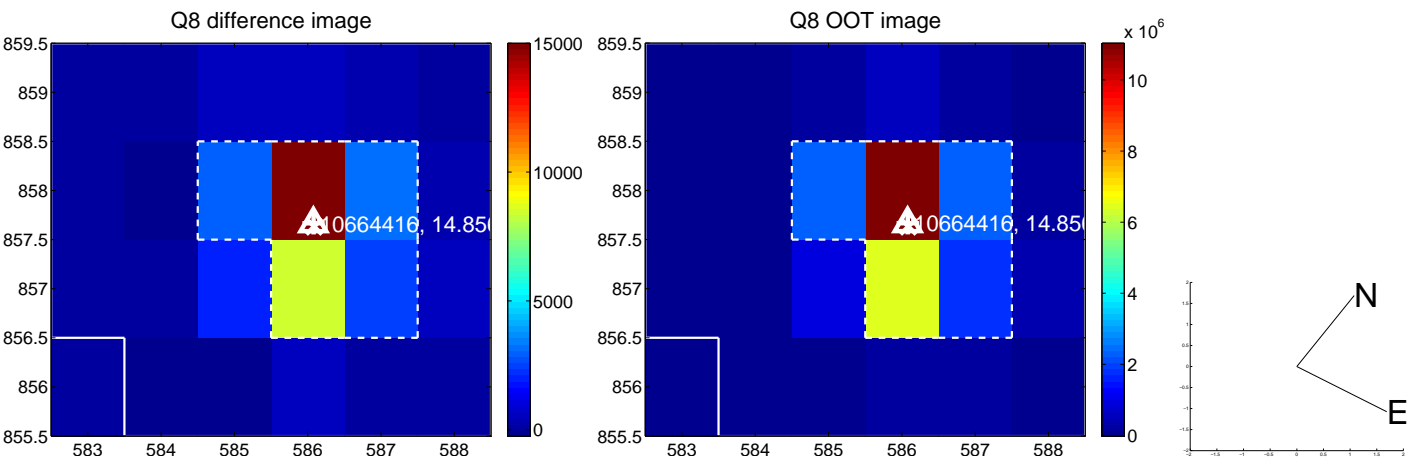
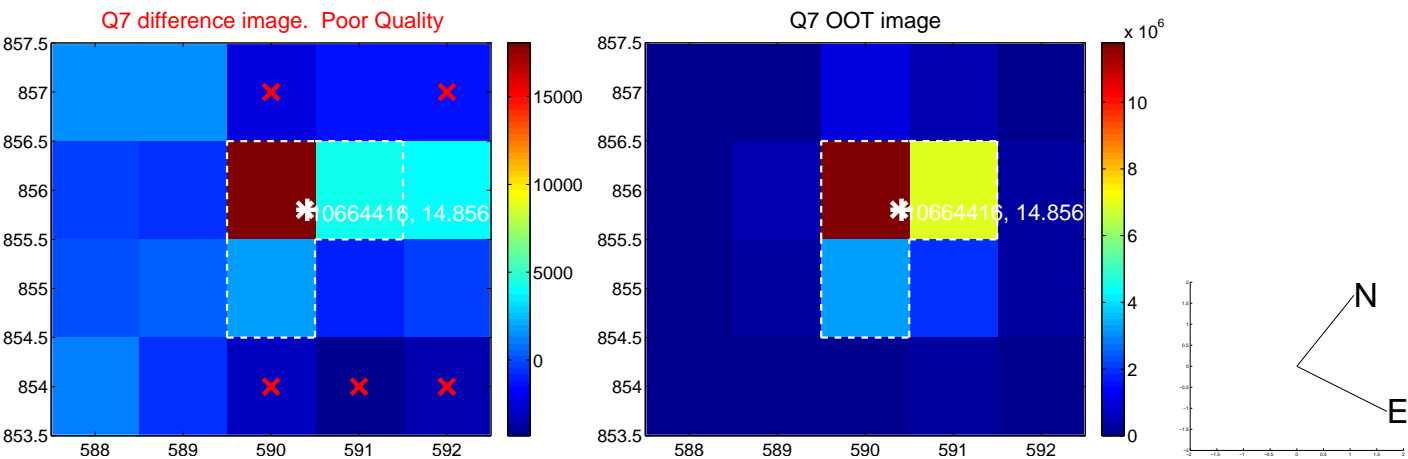
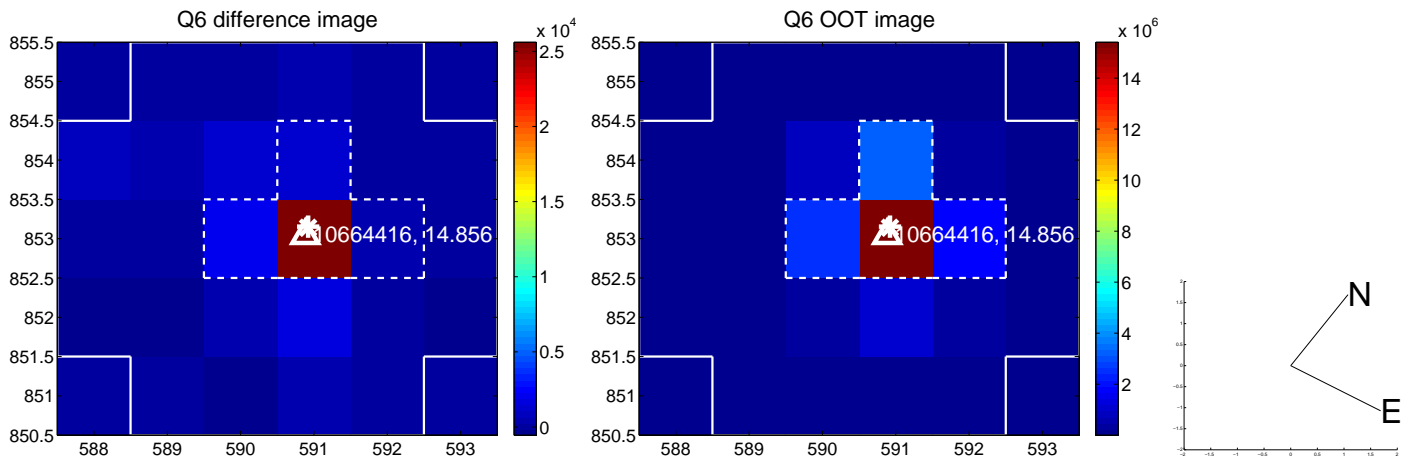
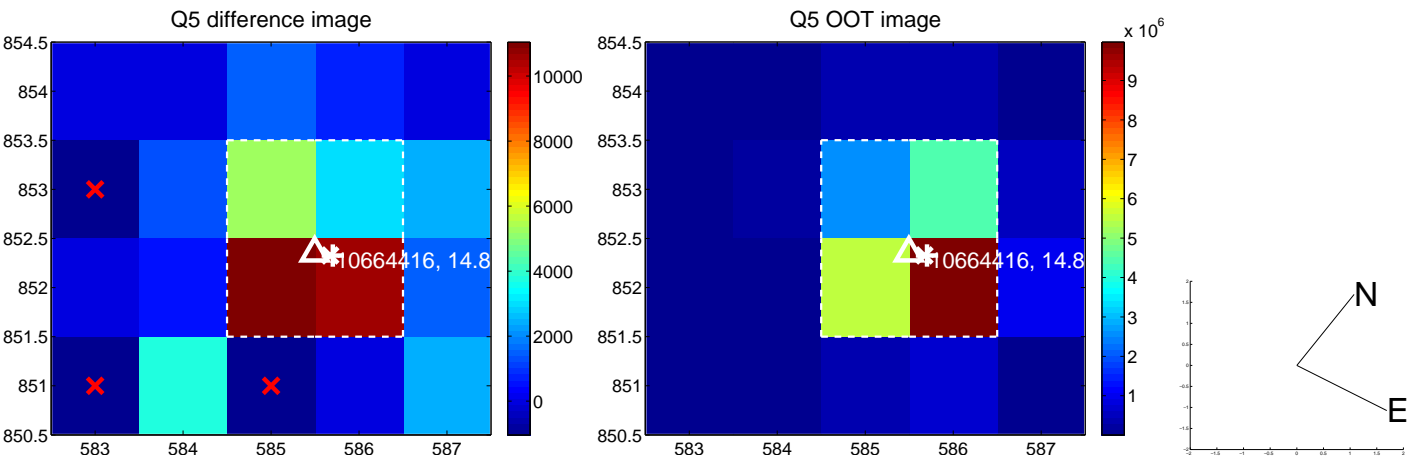


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

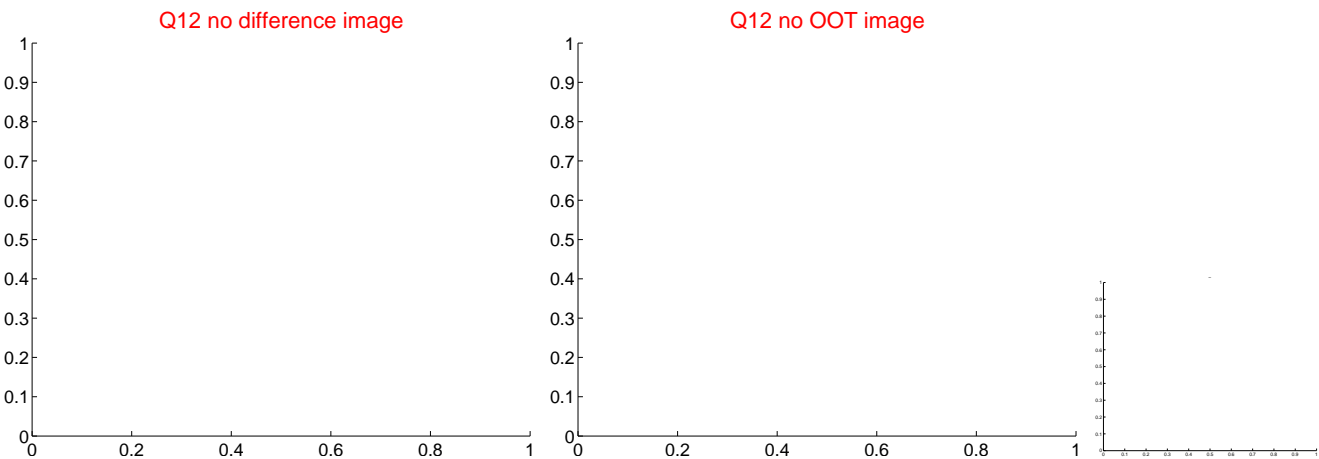
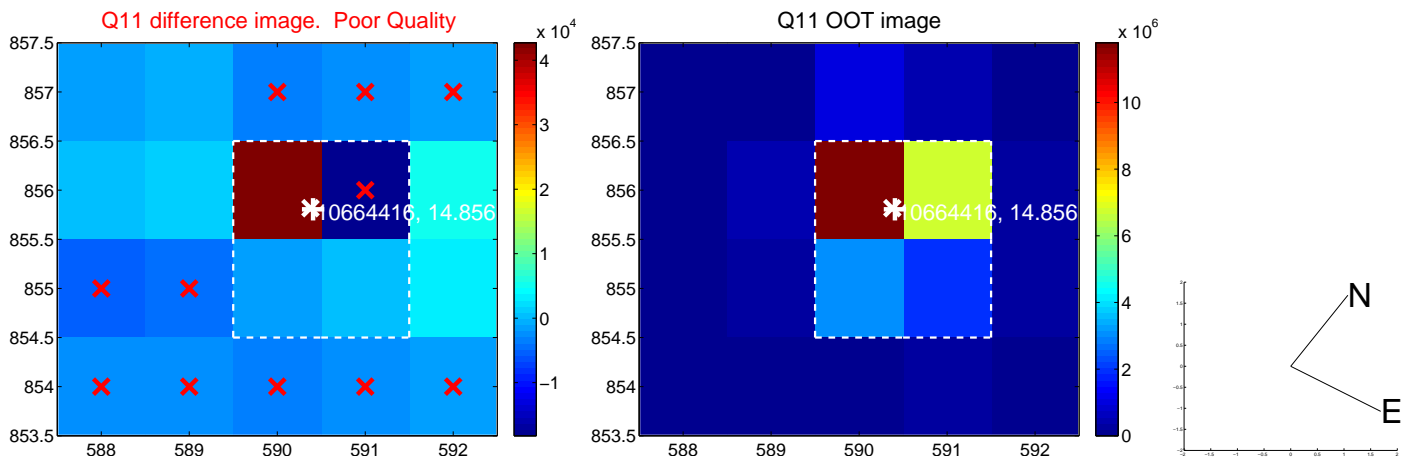
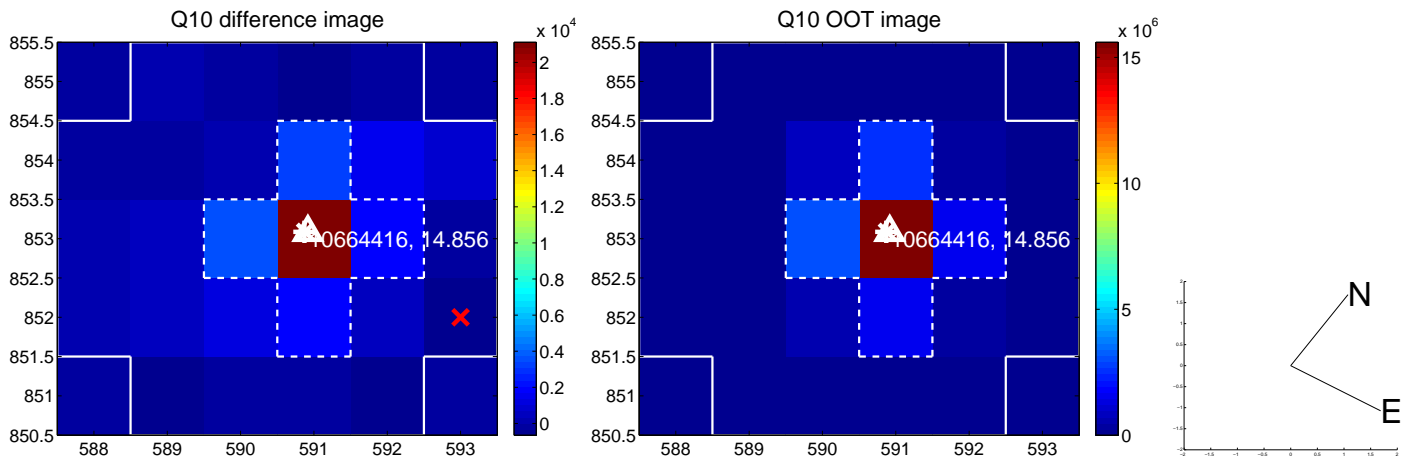
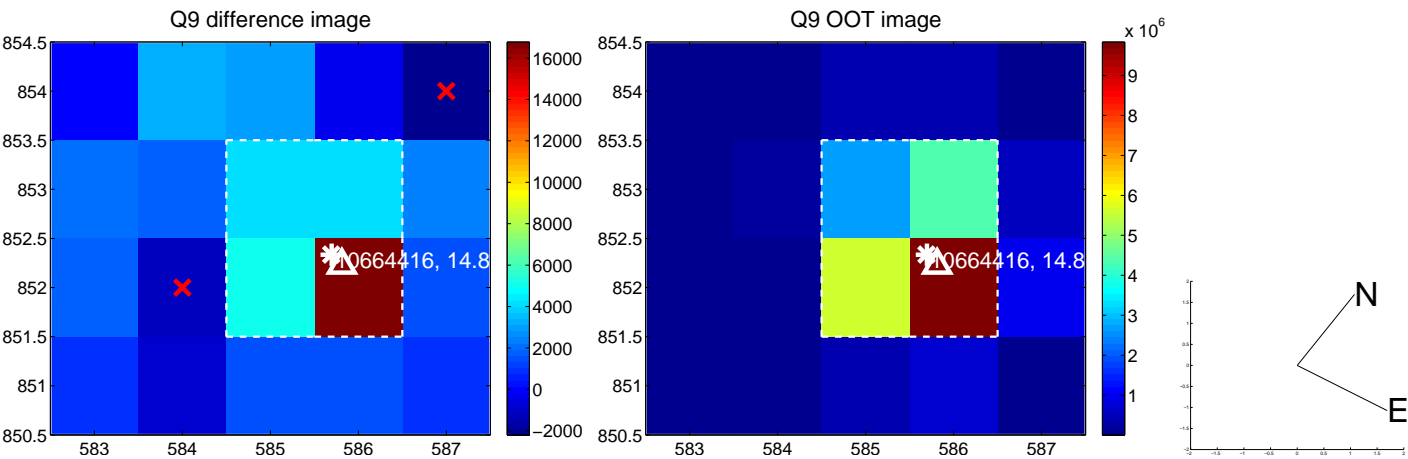
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



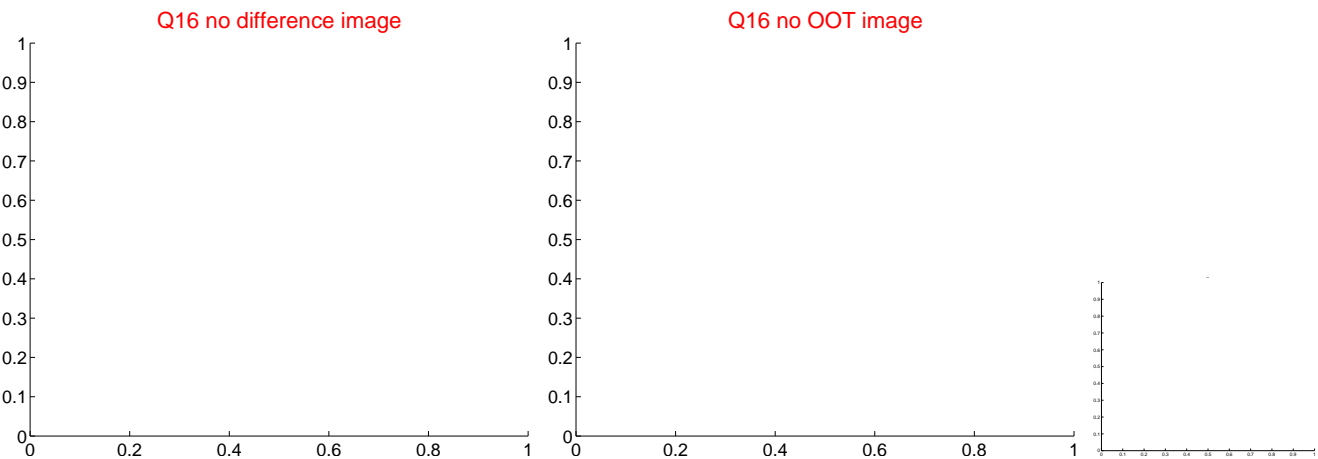
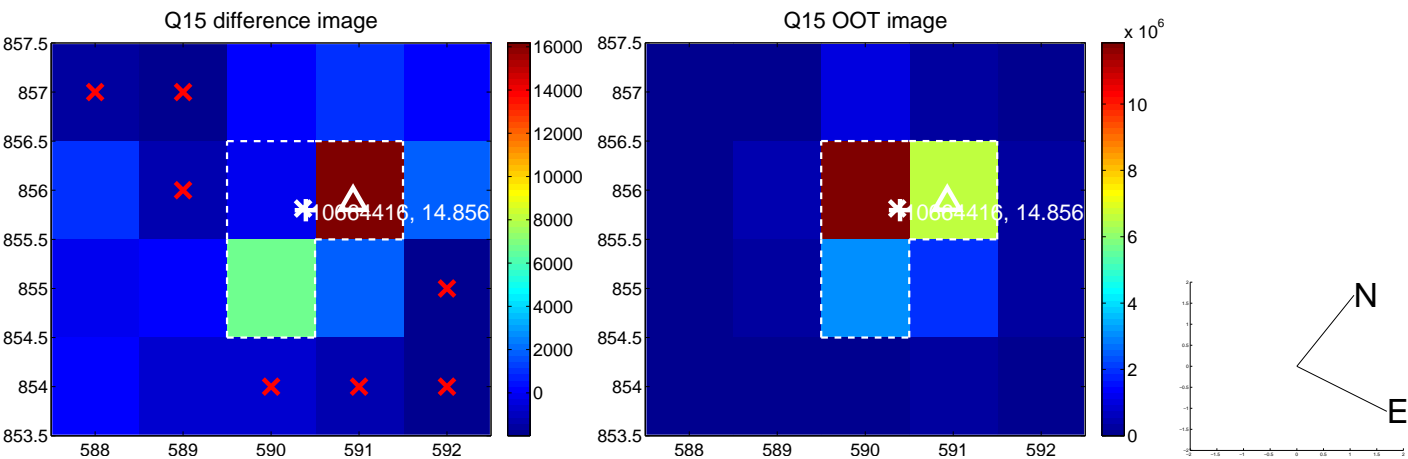
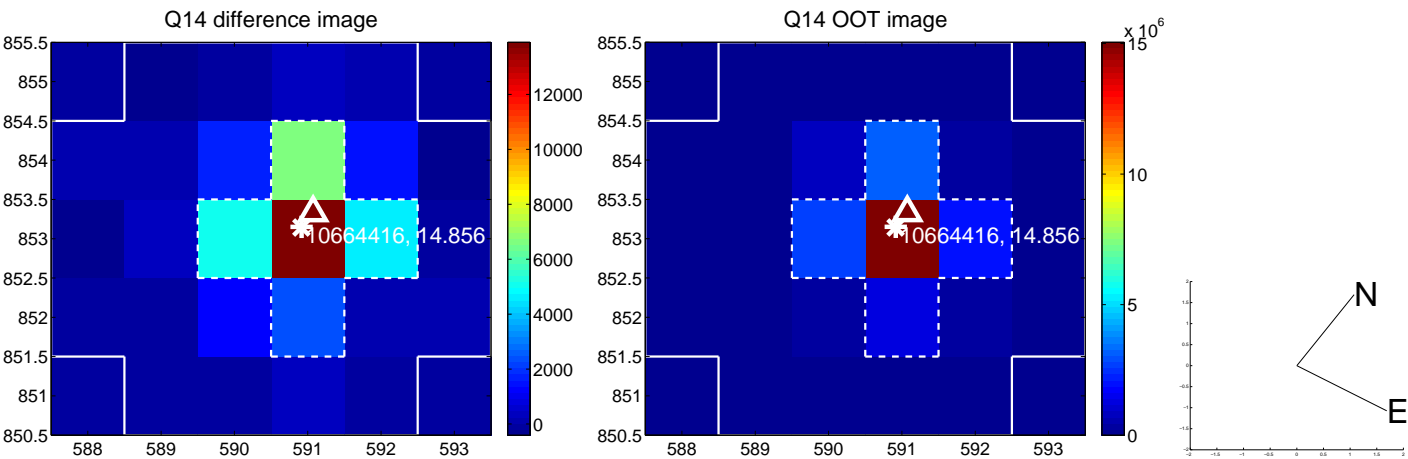
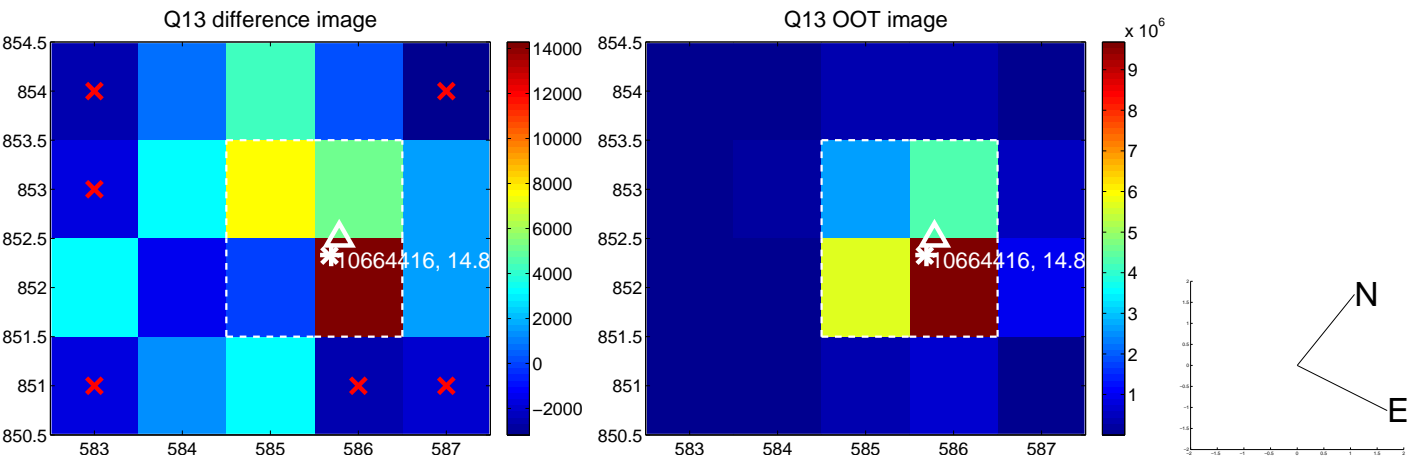
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



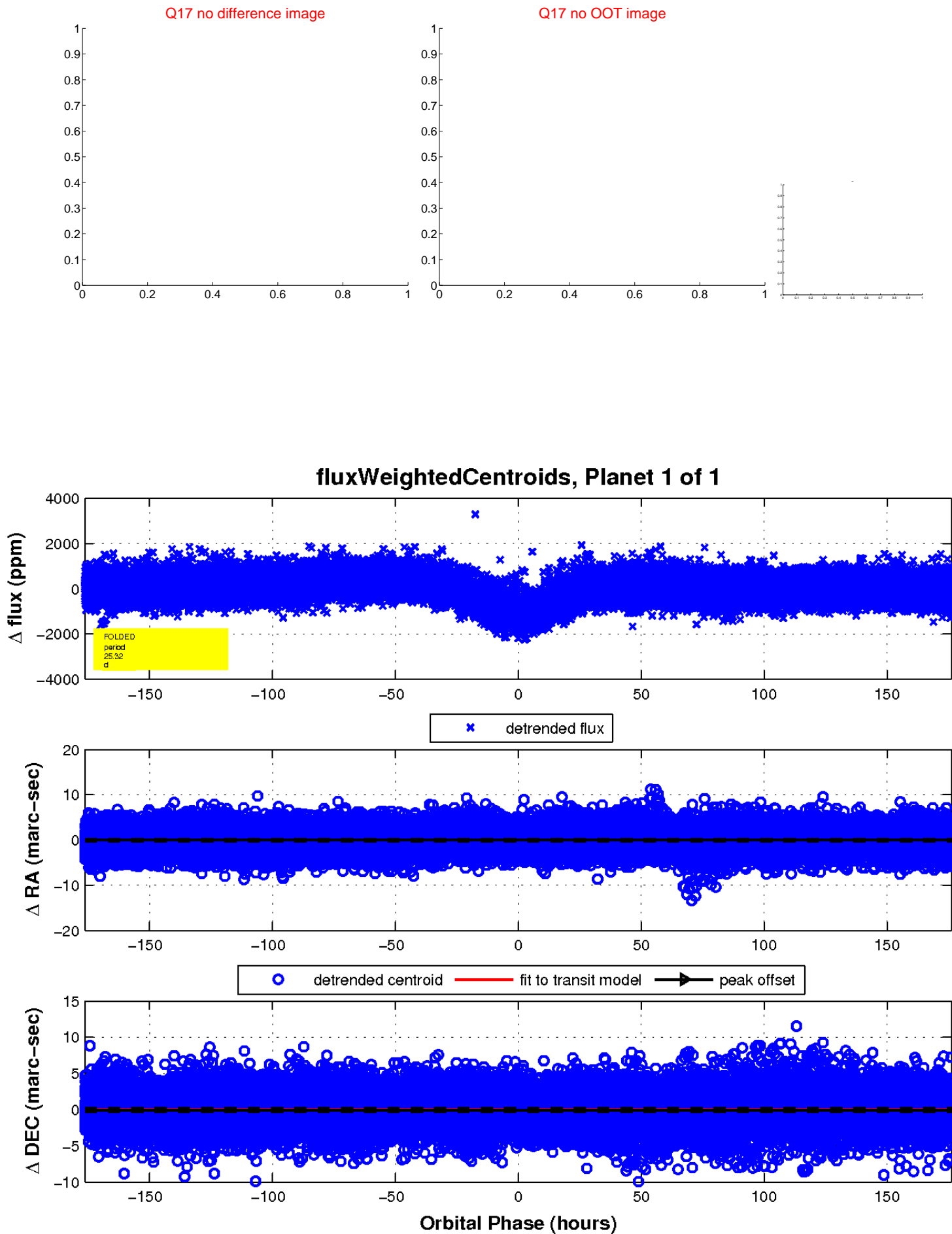
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

