

KIC 009549648

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})
009549648-01	OBS	1886.01	5.991853	136.883306	182.8	1.733	36.5	41.2	1.70	6157	2.69	797.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009549648-01	OBS	PC	1.00	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.

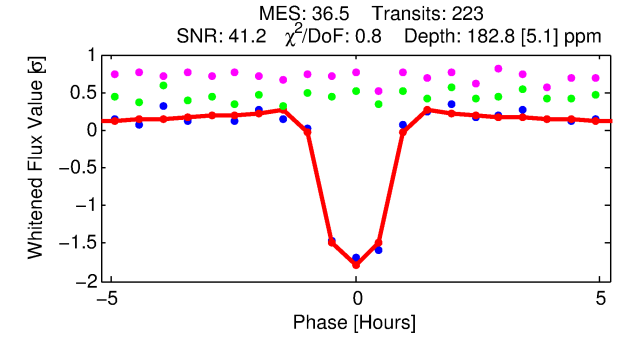
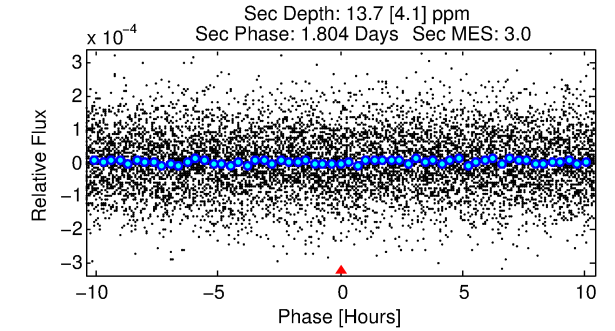
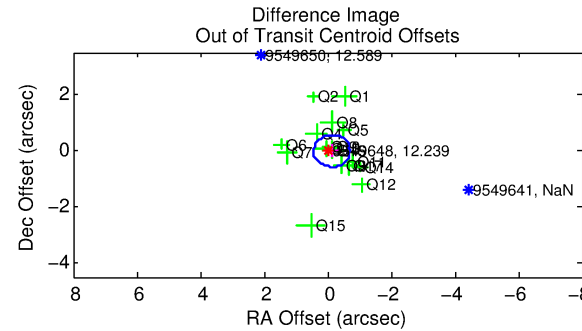
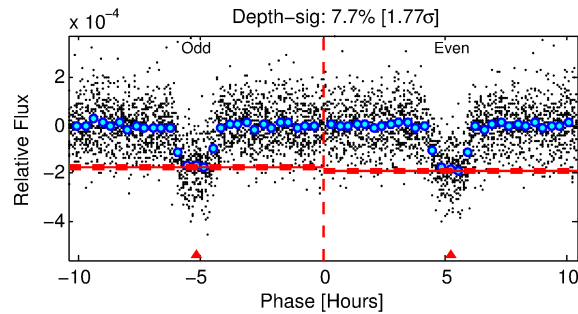
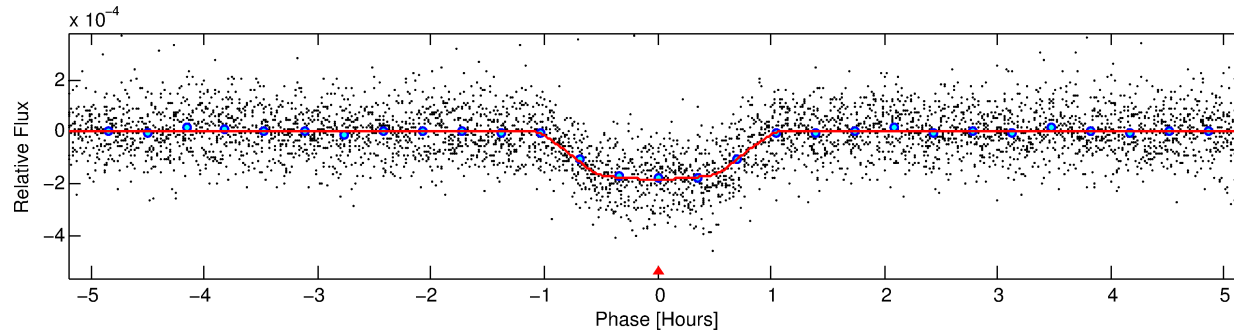
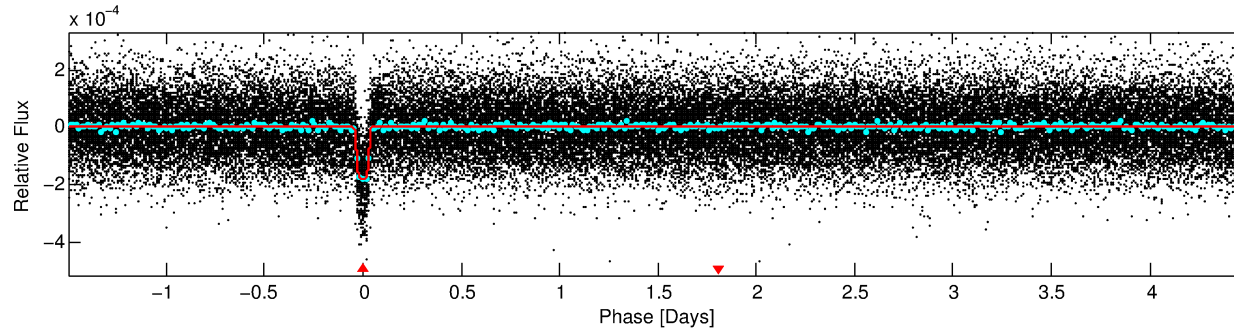
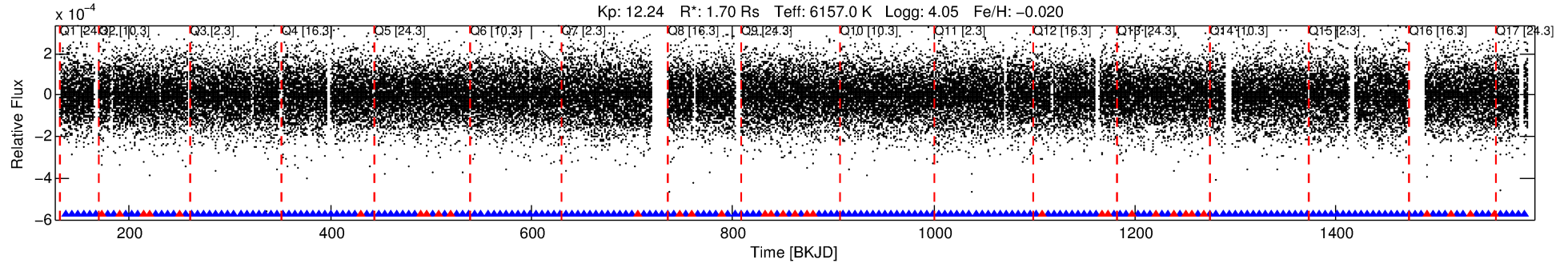
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009549648-01

No Significant Match Found

DV One-Page Summary

KIC: 9549648 Candidate: 1 of 1 Period: 5.992 d
KOI: K01886.01 Corr: 0.969



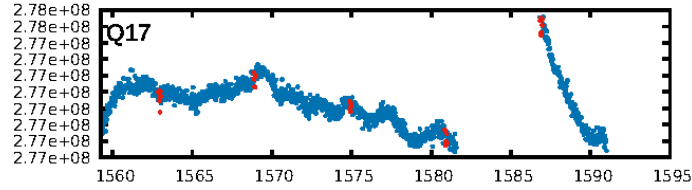
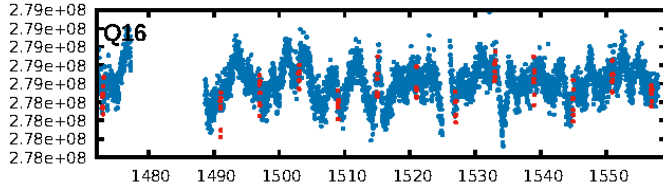
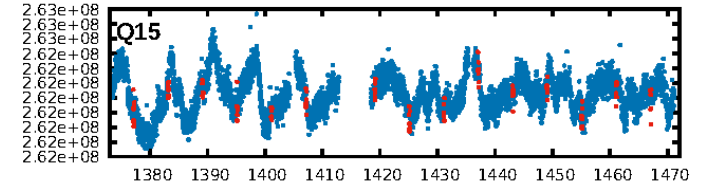
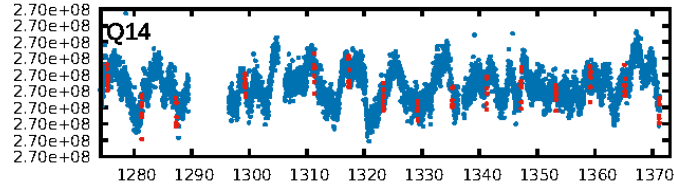
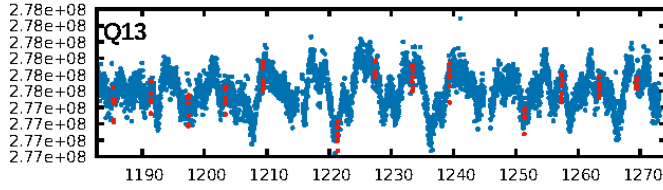
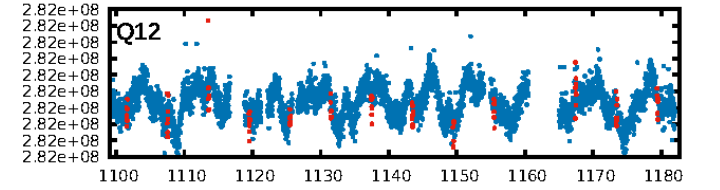
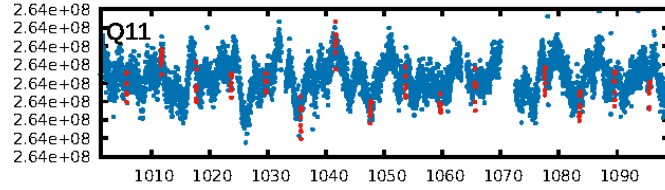
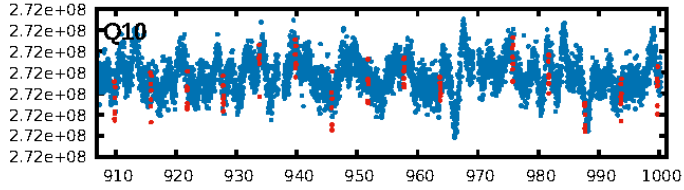
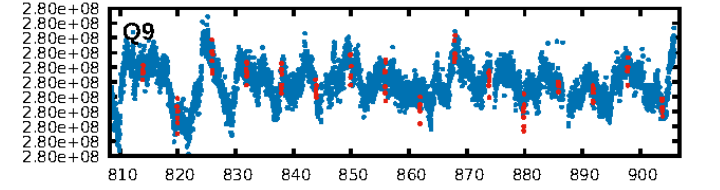
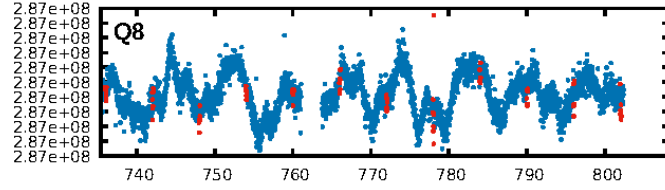
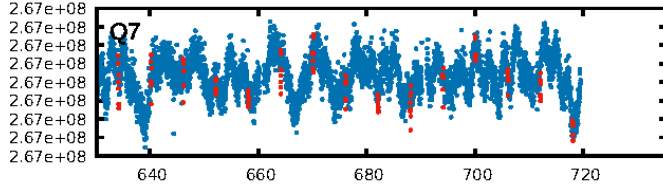
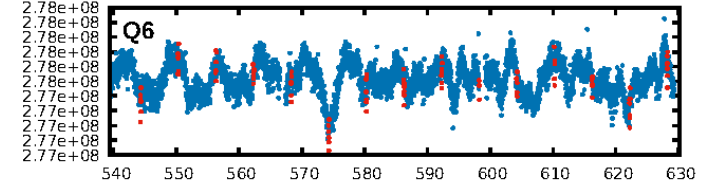
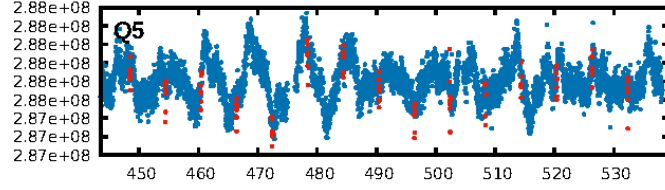
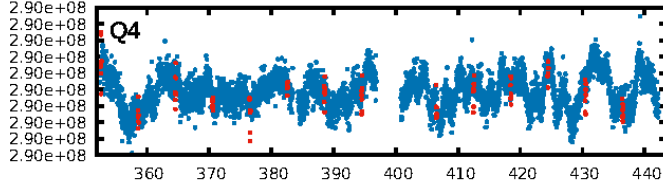
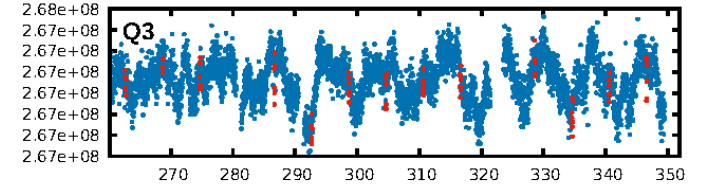
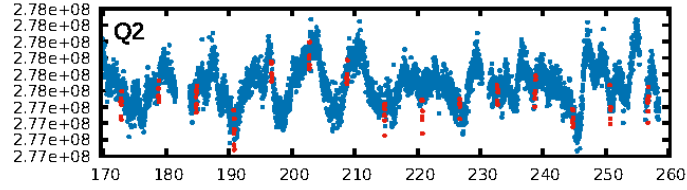
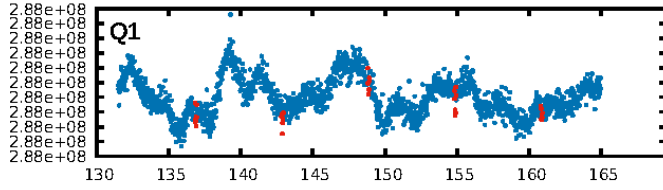
DV Fit Results:

Period = 5.99185 [0.00001] d
Epoch = 136.8833 [0.0008] BKJD
Rp/R* = 0.0146 [0.0024]
a/R* = 12.59 [10.89]
b = 0.90 [0.19]
Seff = 797.51 [265.10]
Teq = 1355 [113] K
Rp = 2.69 [0.73] Re
a = 0.0681 [0.0139] AU
Ag = 4.81 [2.65] [1.44 σ]
Teffp = 3102 [353] K [4.72 σ]

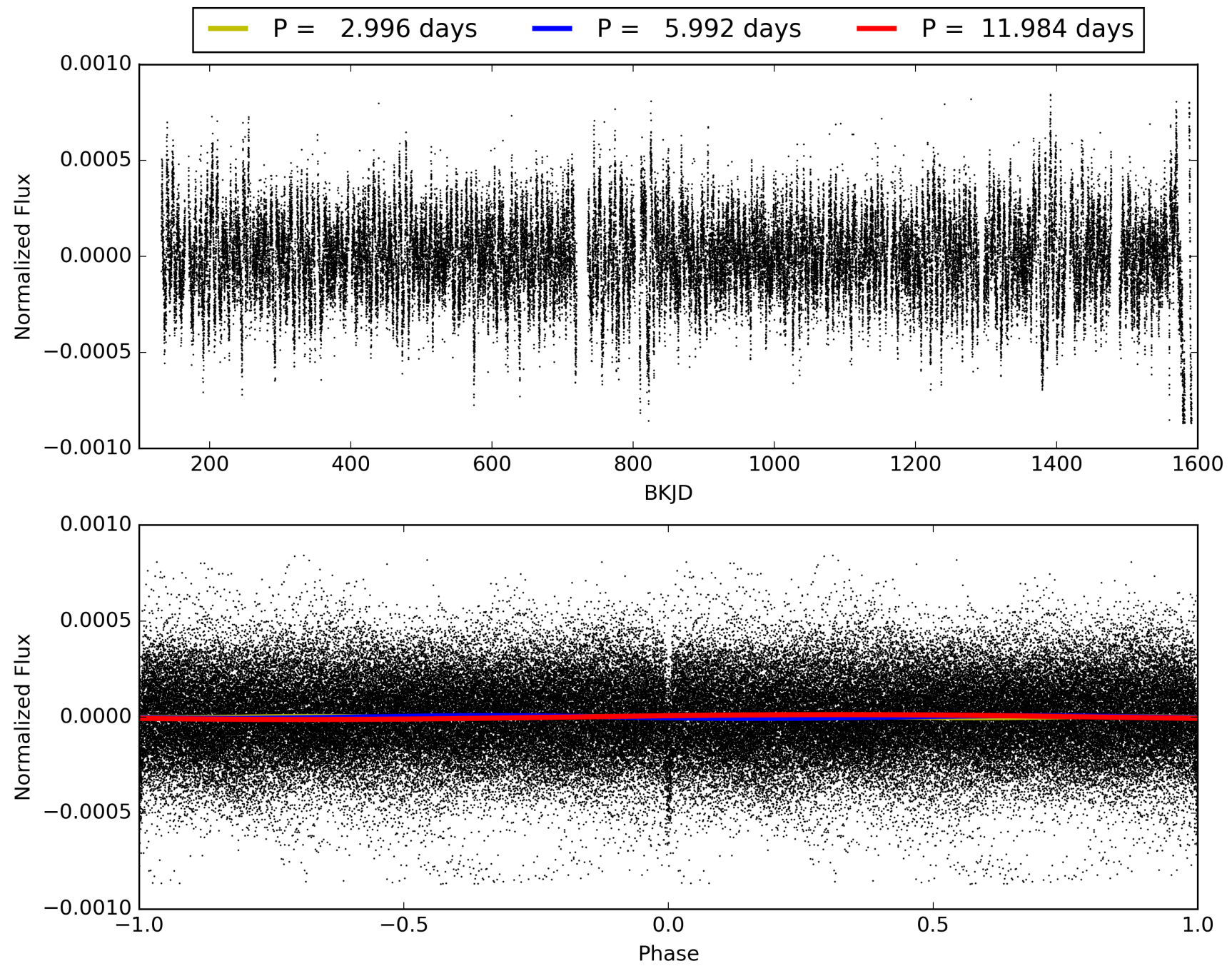
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.15e-286
RollingBand-fgt: 0.85 [180/213]
GhostDiagnostic-chr: 3.102
Centroid-sig: 29.9%
Centroid-so: 0.076 arcsec [0.25 σ]
OotOffset-rm: 0.135 arcsec [0.71 σ]
KicOffset-rm: 0.158 arcsec [0.68 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009549648-01, PDC Light Curves

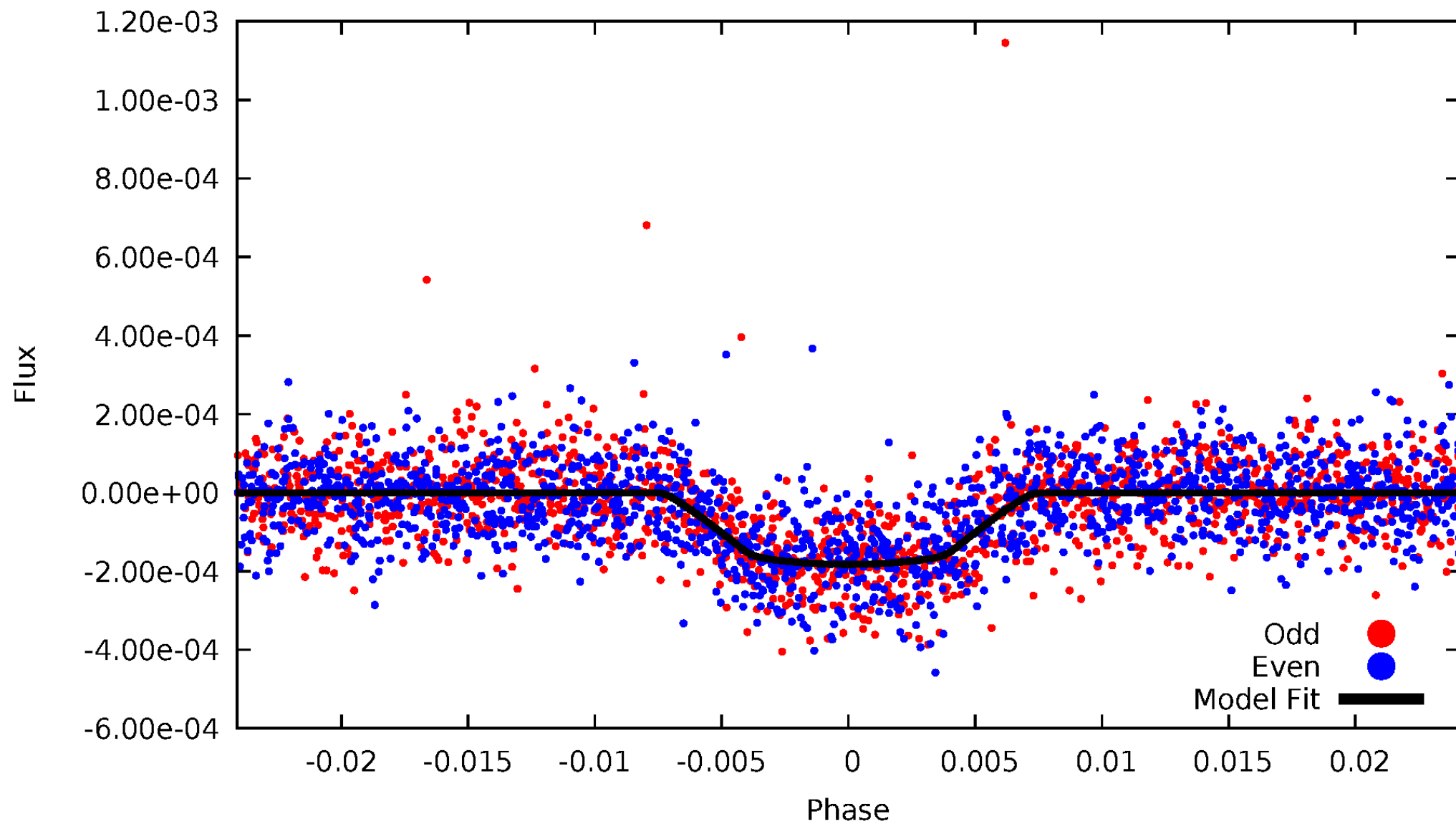


TCE 009549648-01



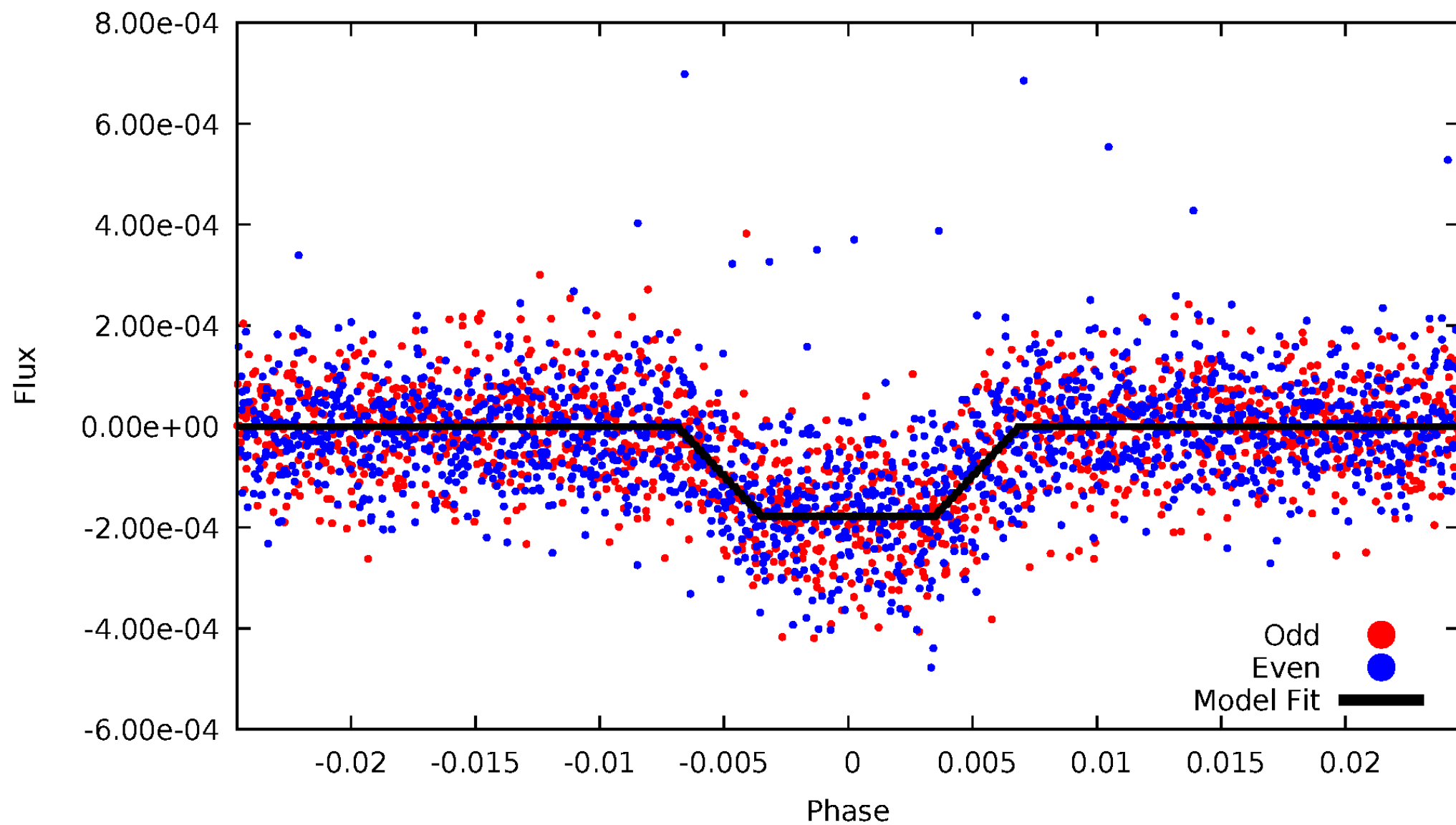
DV Odd/Even

TCE 009549648-01



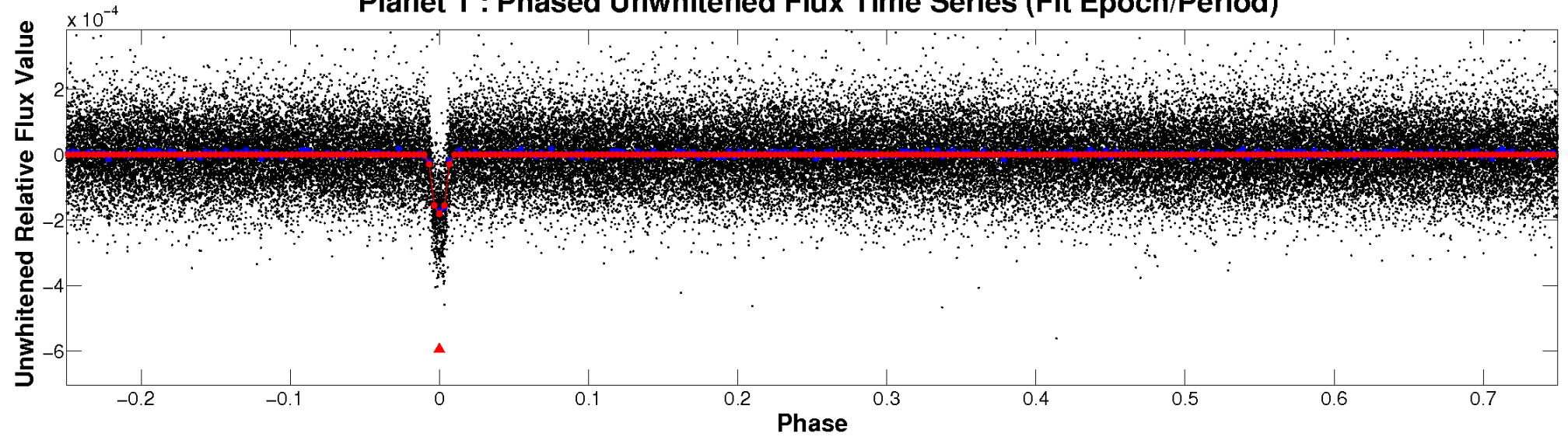
ALT Odd/Even

TCE 009549648-01

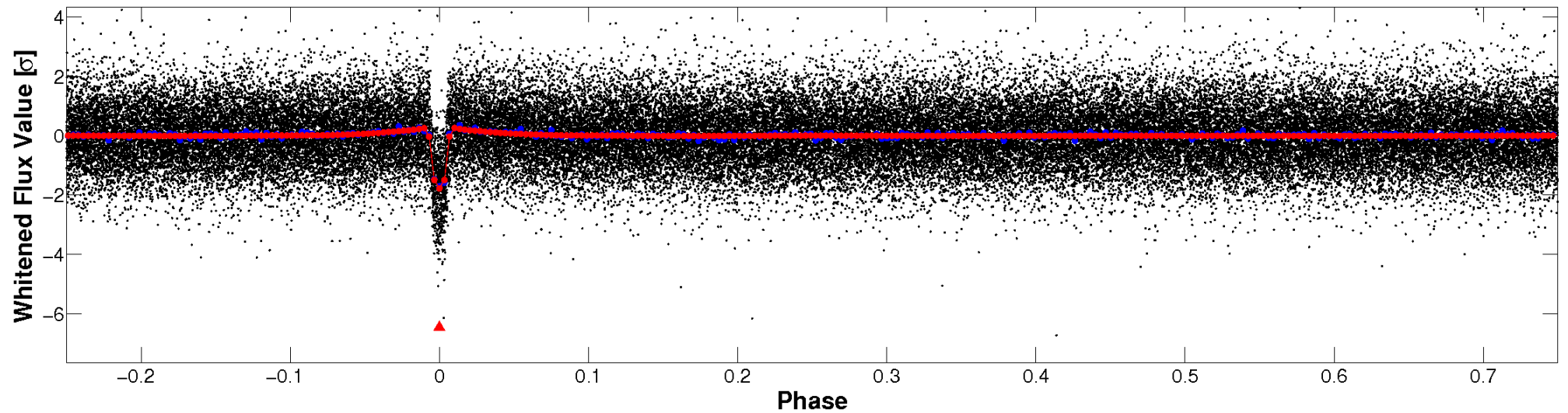


Non-Whitened Vs. Whitened Light Curve

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

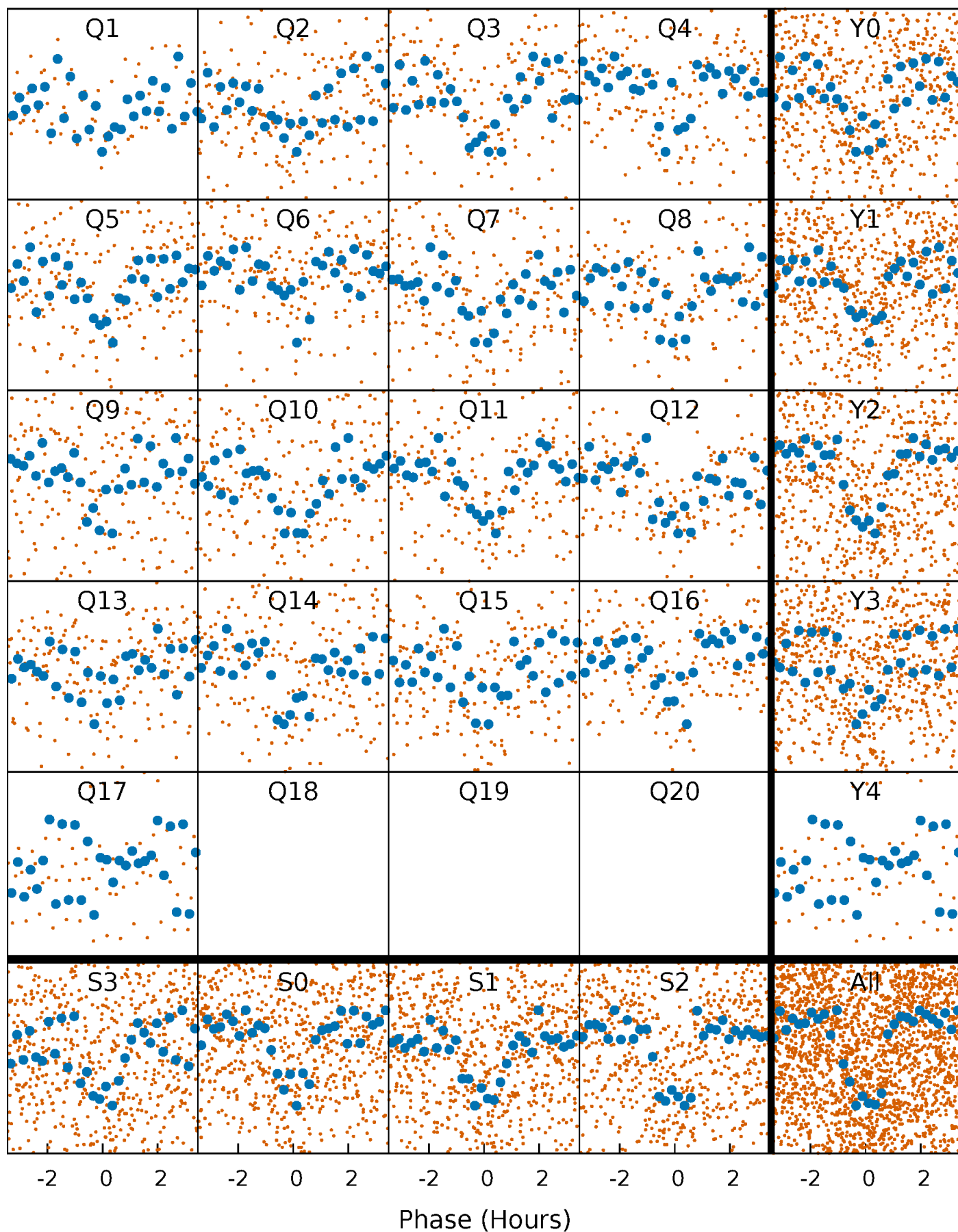


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



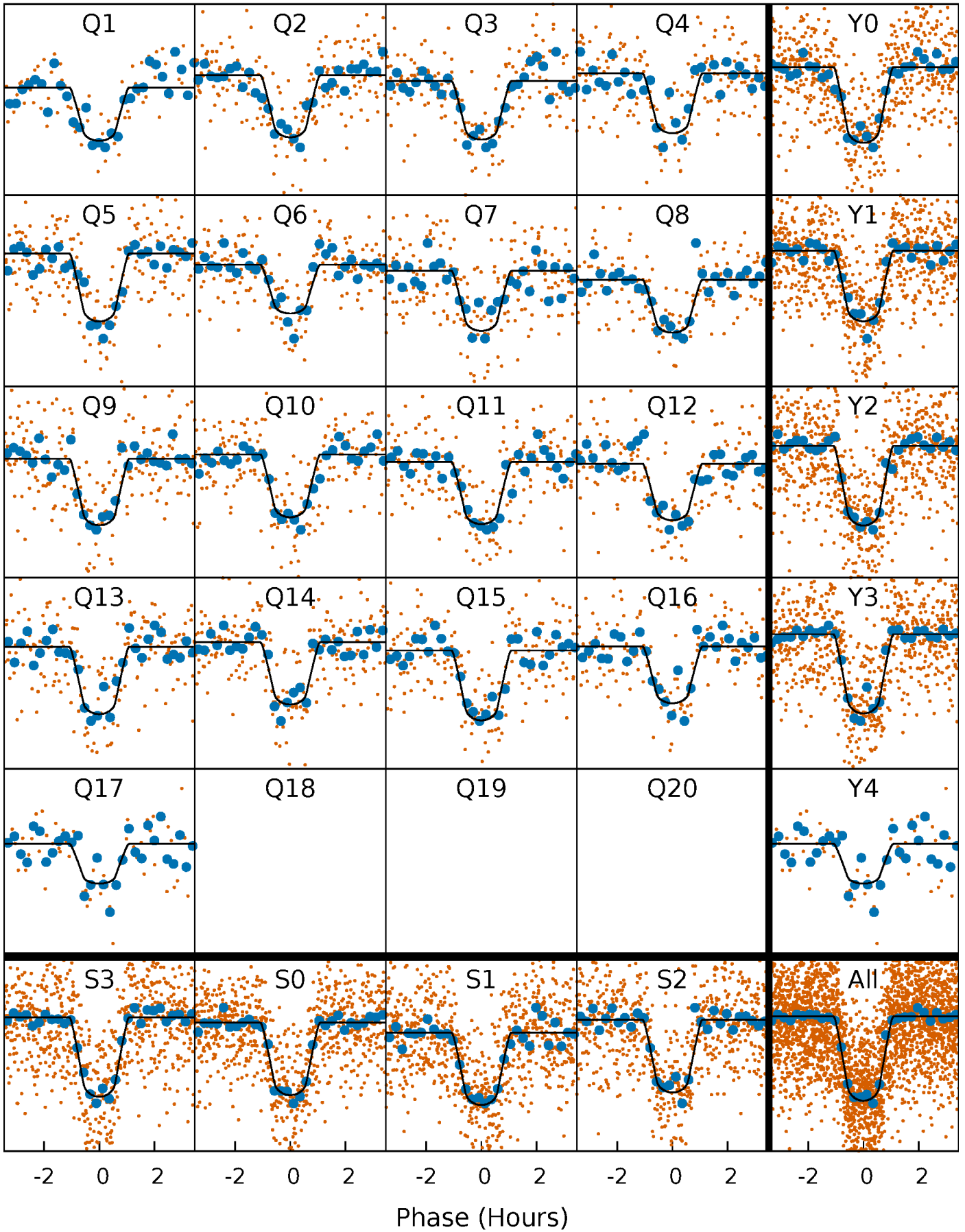
PDC Quarter-Phased Transit Curves

TCE 009549648-01 P= 5.991853 Days $T_0=136.883306$ (BKJD)



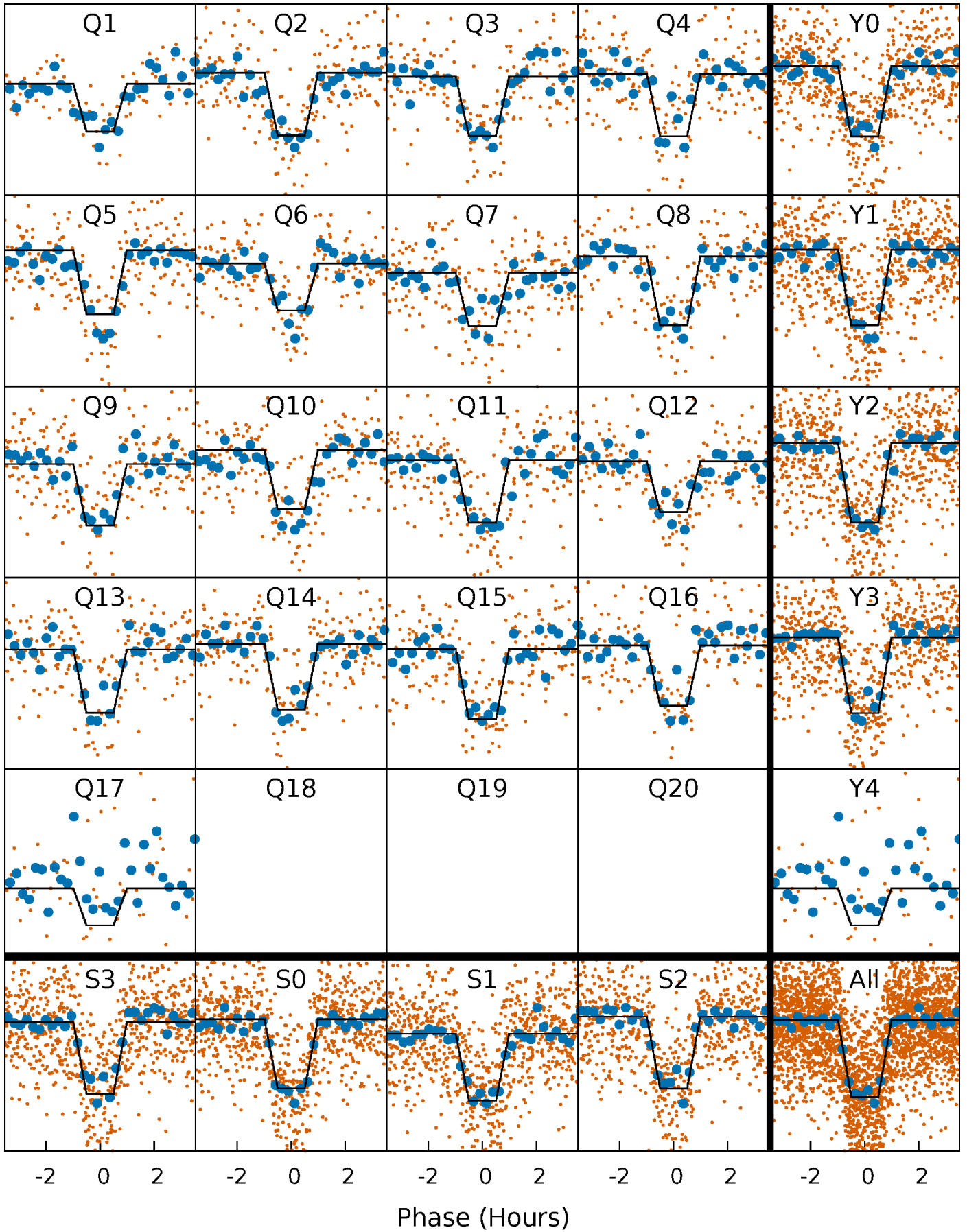
DV Quarter-Phased Transit Curves

TCE 009549648-01 P= 5.991853 Days $T_0=136.883306$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

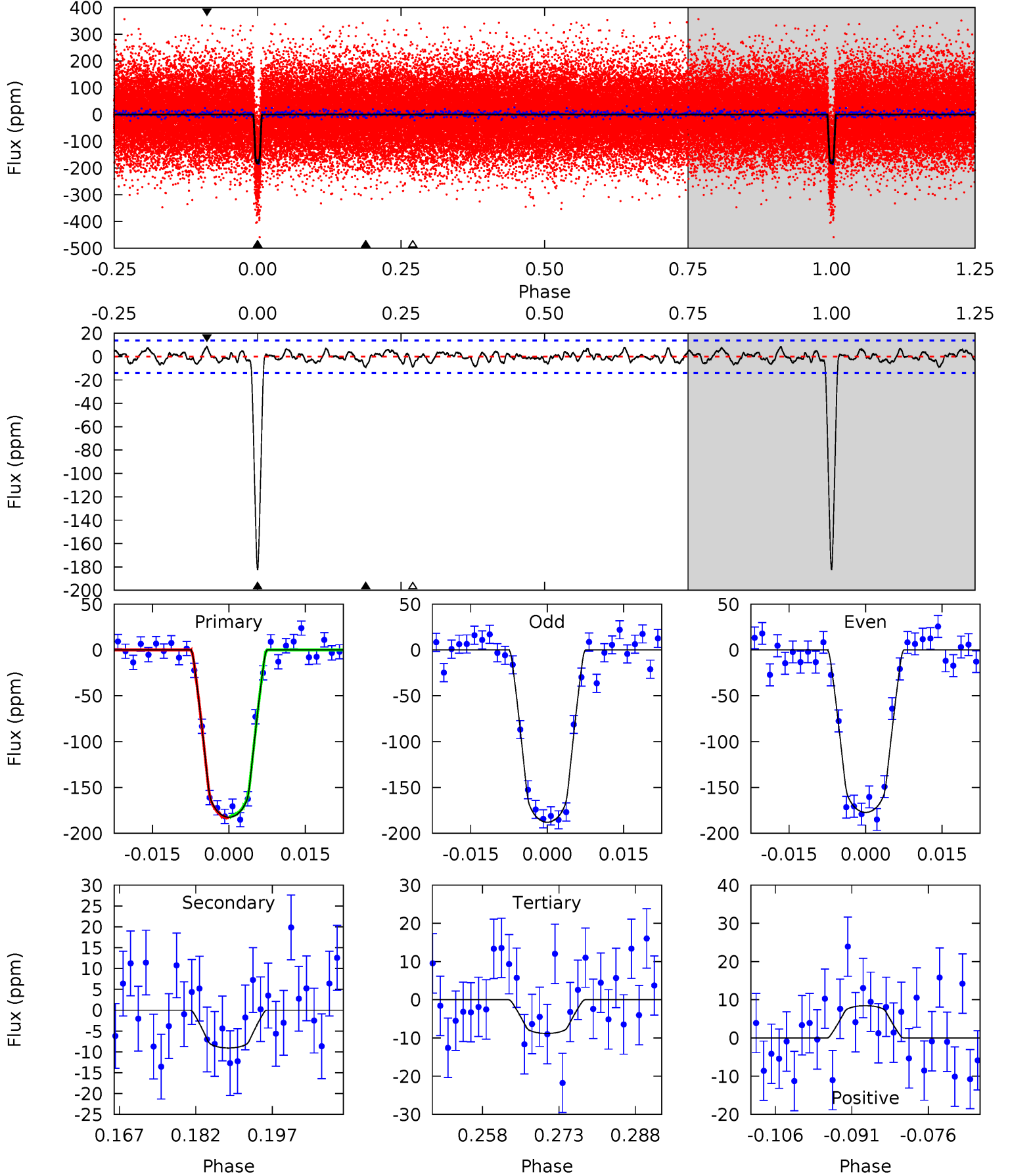
TCE 009549648-01 P= 5.991861 Days $T_0=136.882111$ (BKJD)



DV Model-Shift Uniqueness Test

009549648-01, P = 5.991853 Days, E = 130.891453 Days

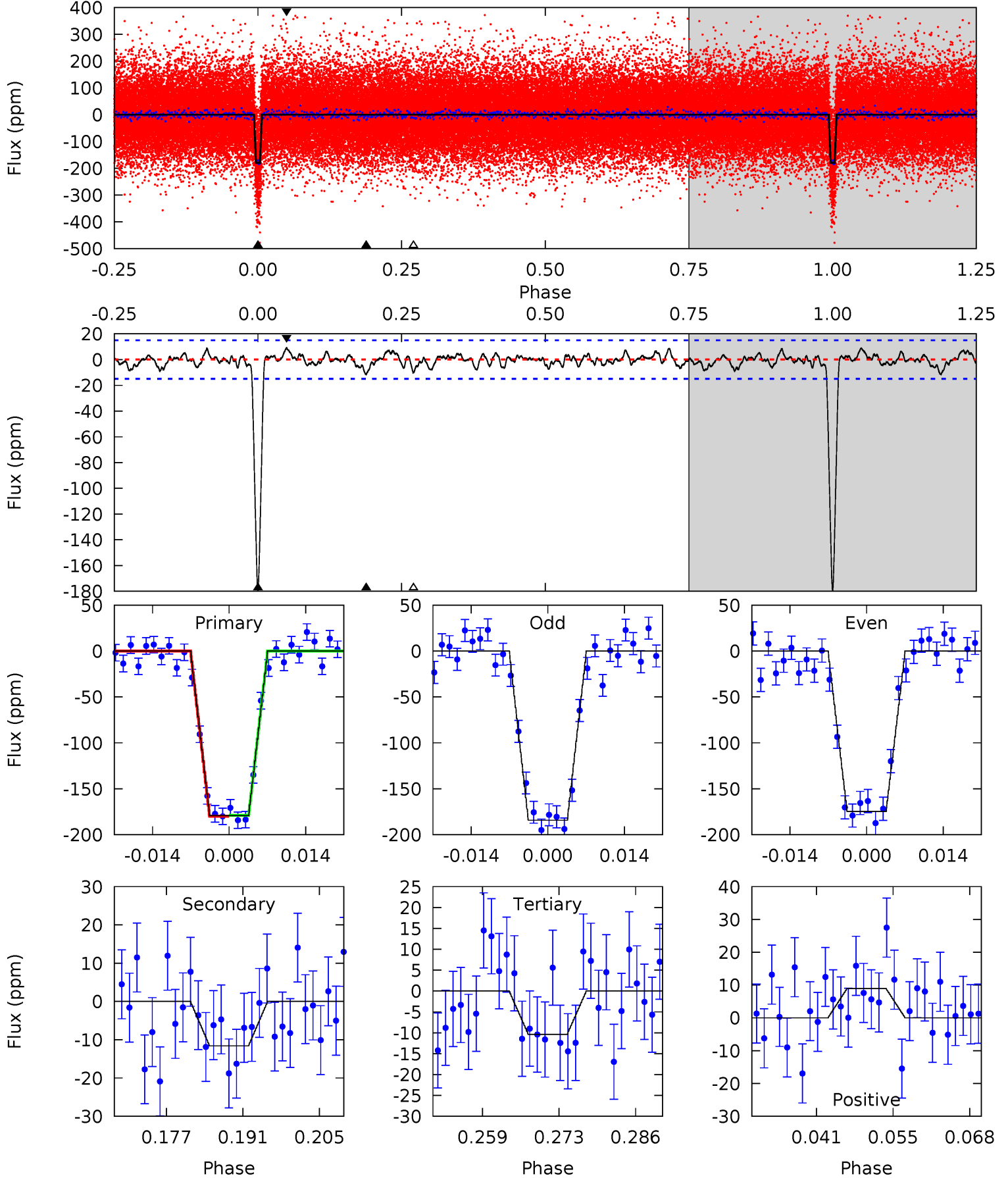
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
65.1	3.24	3.15	3.02	4.95	2.43	1.14	62.0	62.1	0.09	0.22	1.92	0.99	0.04	0.29



Alt Model-Shift Uniqueness Test

009549648-01, P = 5.991861 Days, E = 130.890250 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.4	3.84	3.43	2.96	4.97	2.47	1.13	55.9	56.4	0.41	0.88	1.57	0.97	0.05	0.16



Stellar Parameters For KIC 009549648

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6157^{+124}_{-124}	$4.049^{+0.188}_{-0.101}$	$-0.020^{+0.150}_{-0.150}$	$1.695^{+0.300}_{-0.366}$	$1.173^{+0.143}_{-0.117}$	$0.339^{+0.334}_{-0.104}$
	+2%/-2%	+5%/-2%	+750%/-750%	+18%/-22%	+12%/-10%	+98%/-31%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 009549648-01 / KOI 1886.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 3	$2.63^{+0.56}_{-0.53}$	1878^{+95}_{-115}	3285^{+267}_{-249}	$3.243^{+2.419}_{-1.302}$
Alt.	-12 ± 3	$2.42^{+0.52}_{-0.51}$	1876^{+93}_{-106}	3517^{+298}_{-262}	$4.915^{+3.607}_{-1.884}$

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 $A_{obs} \gg 1.0$

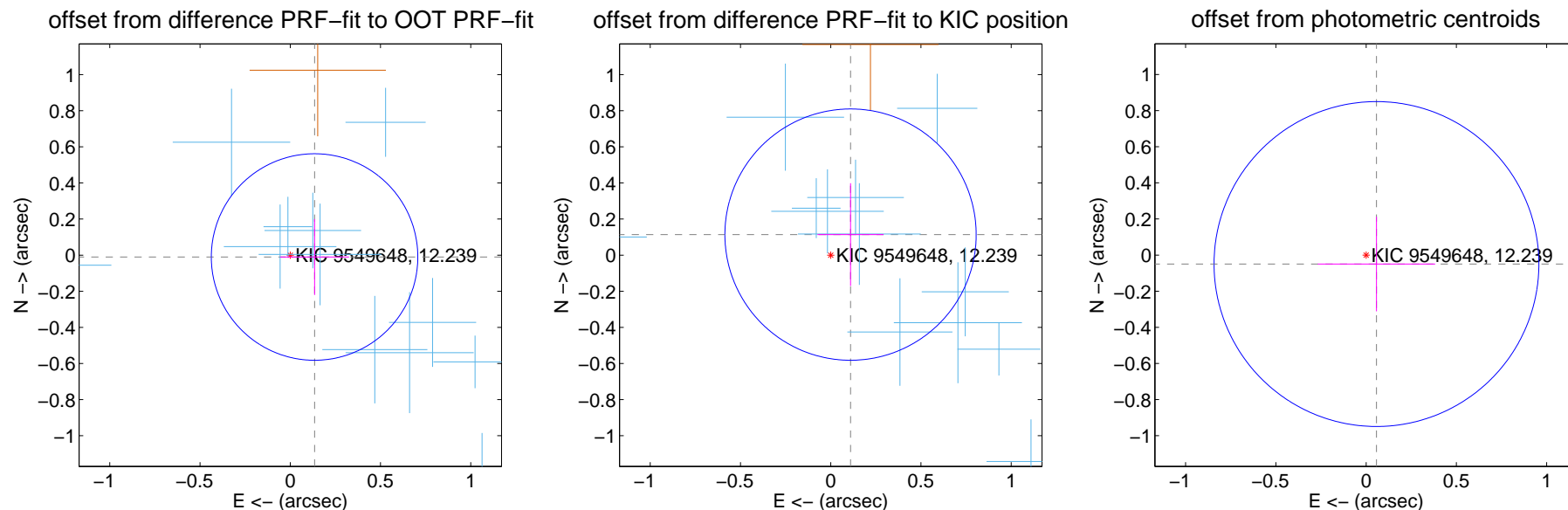
DV Centroid Data

Supplemental centroid analysis for 009549648-01. Kepler magnitude: 12.24. Transit SNR 41.16

There are 16 quarters with good PRF difference image offsets

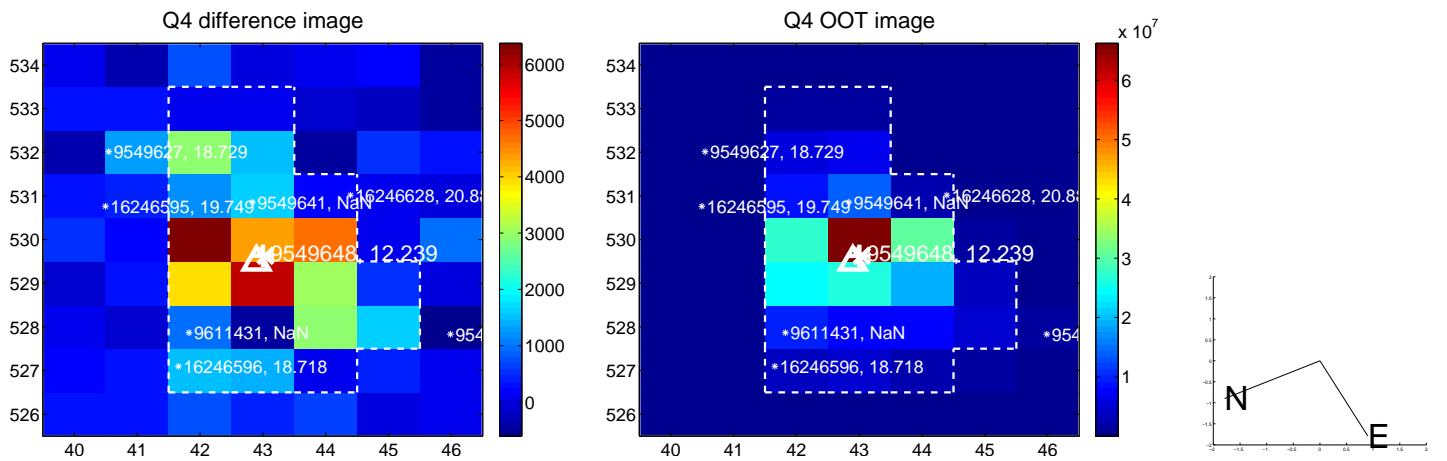
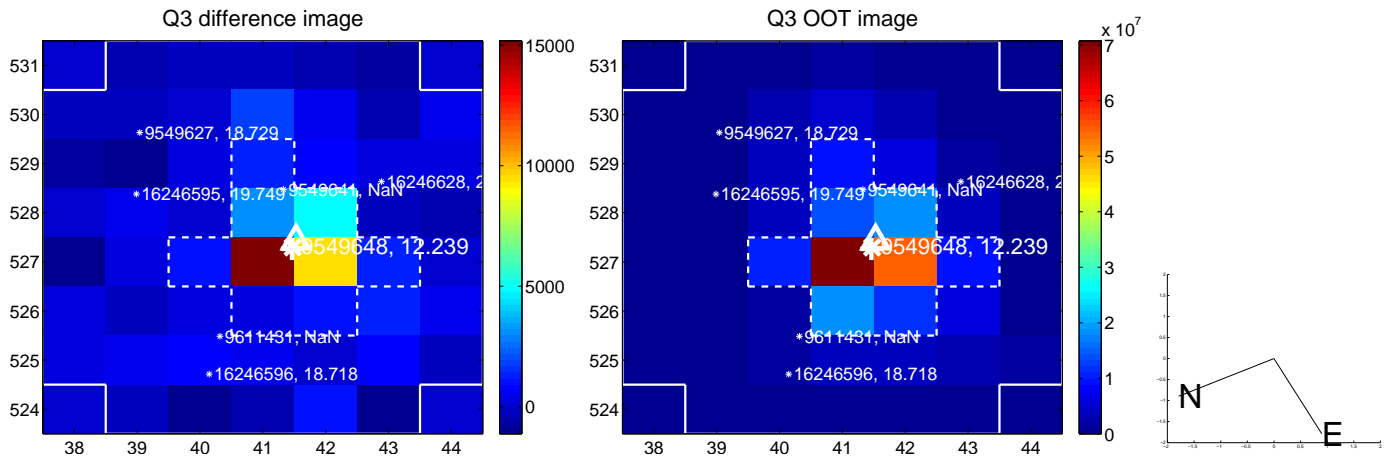
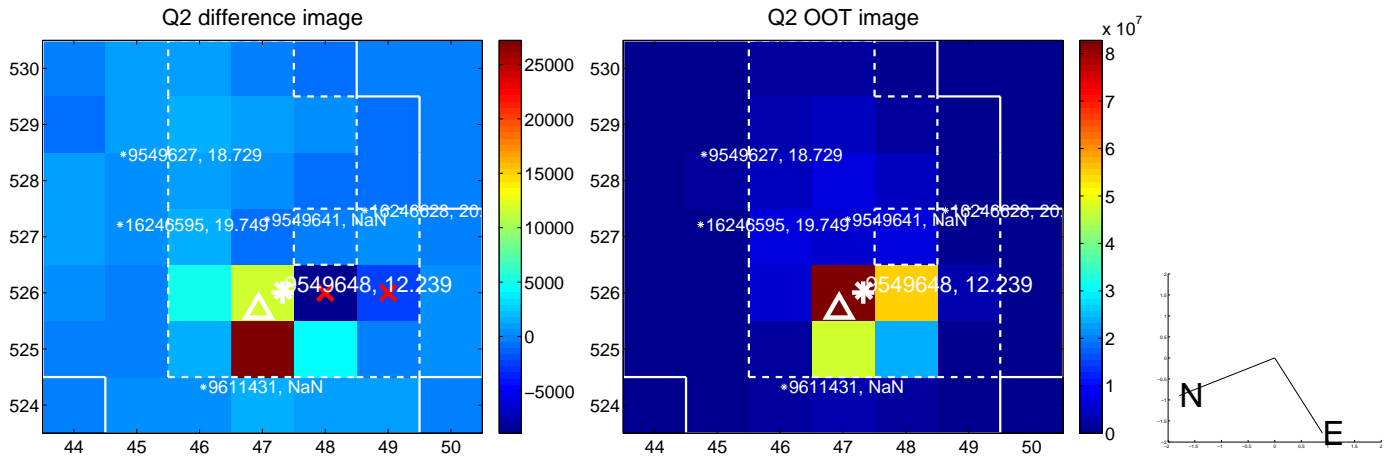
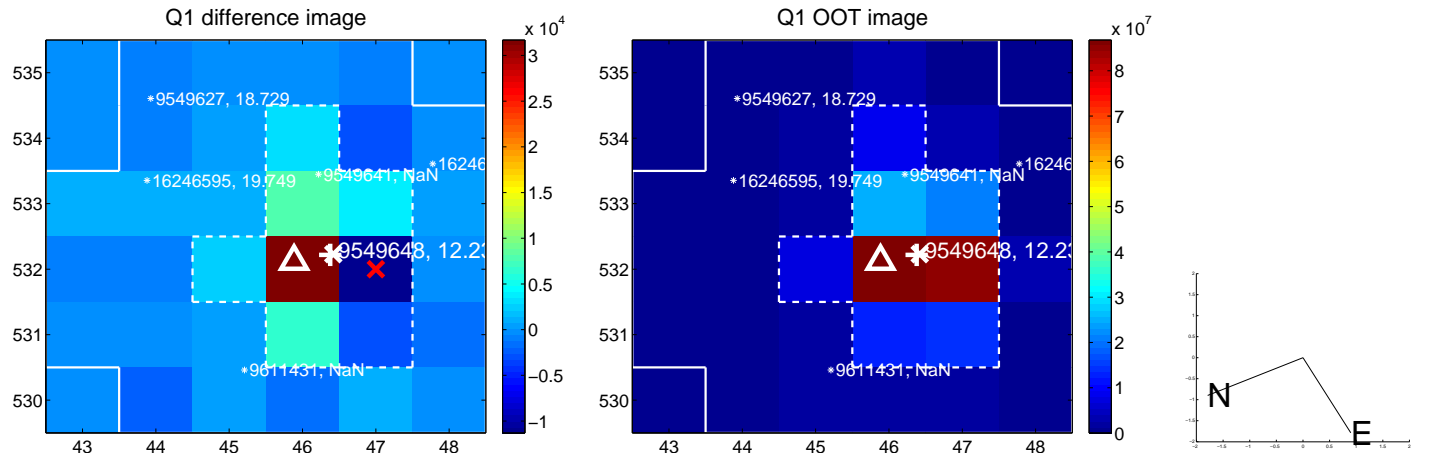
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.135 ± 0.191	0.71	-0.135 ± 0.191	-0.010 ± 0.210
PRF-fit source offset from KIC position	0.158 ± 0.232	0.68	-0.110 ± 0.183	0.114 ± 0.285
photometric centroid source offset	0.08 ± 0.30	0.25	-0.06 ± 0.33	-0.05 ± 0.26

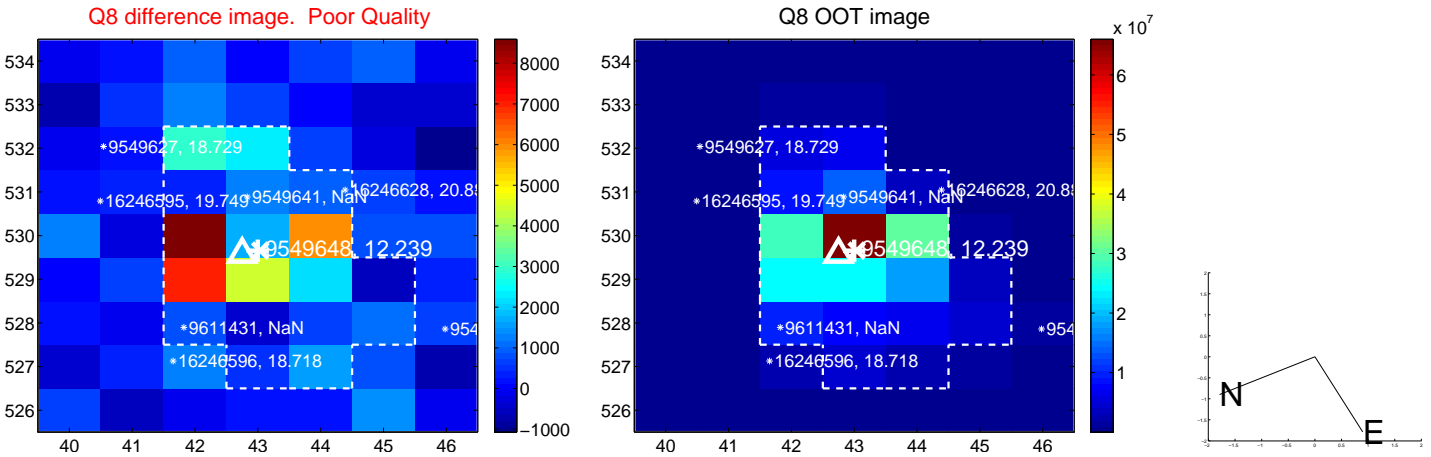
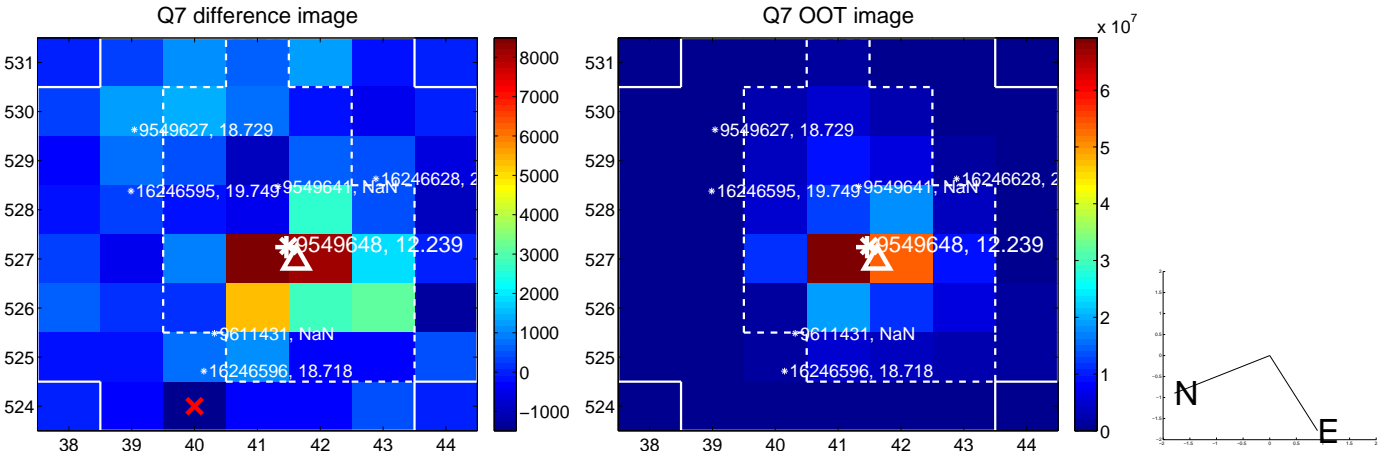
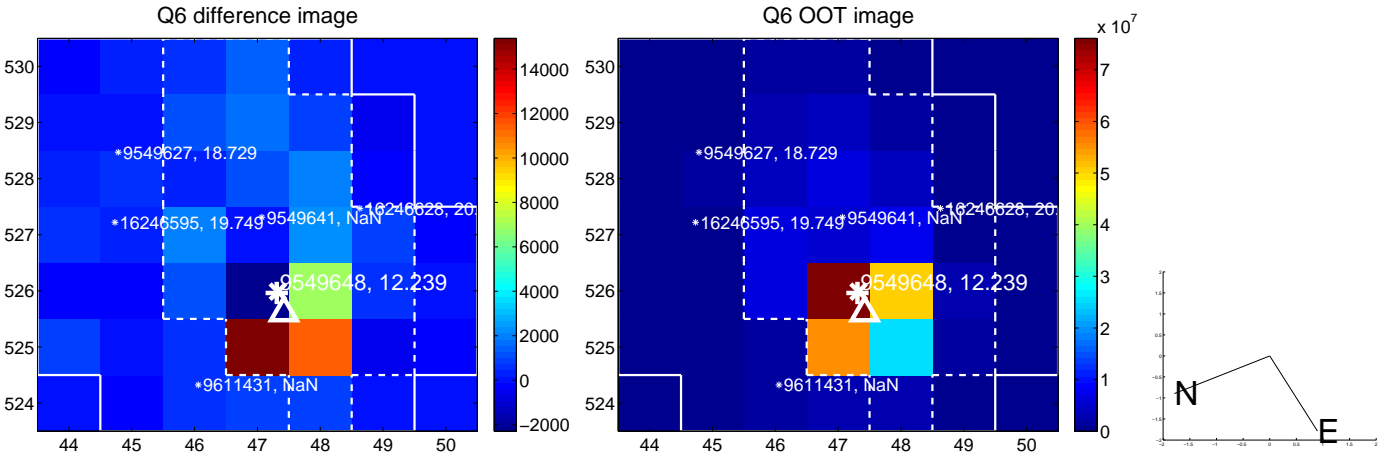
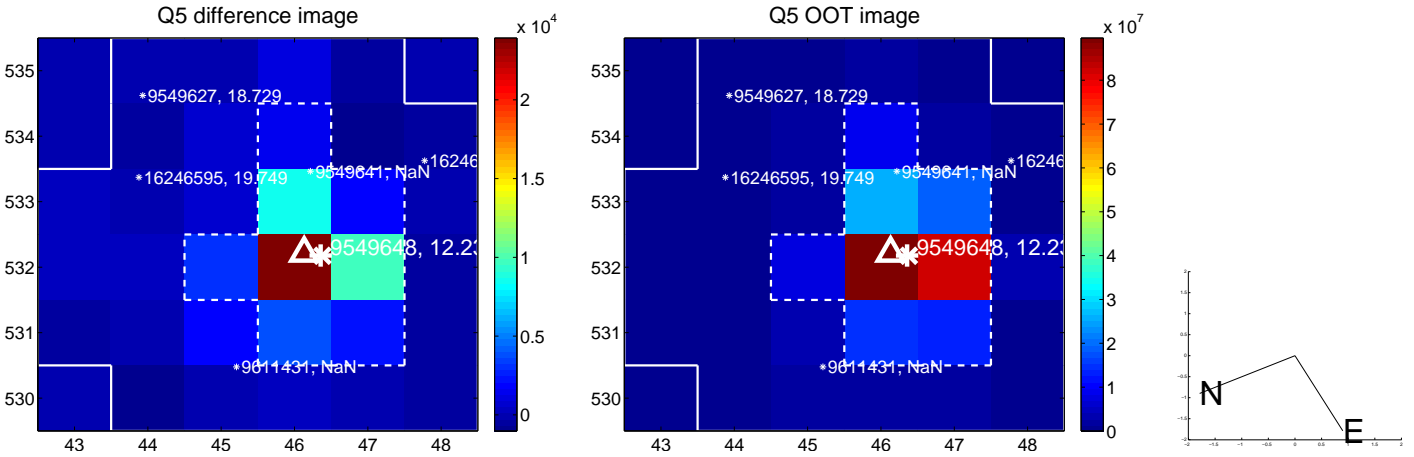


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

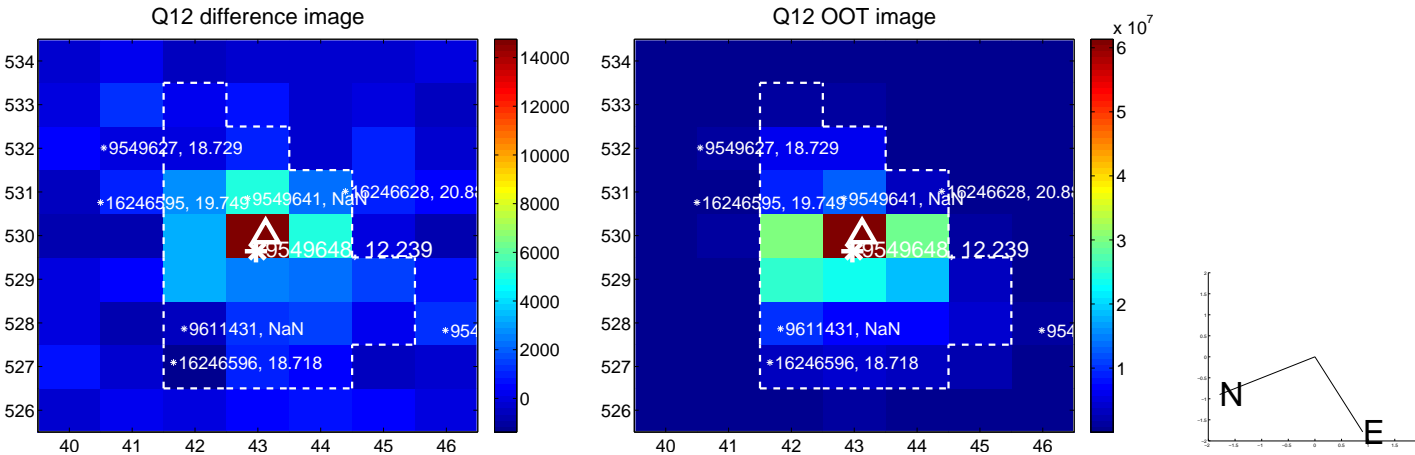
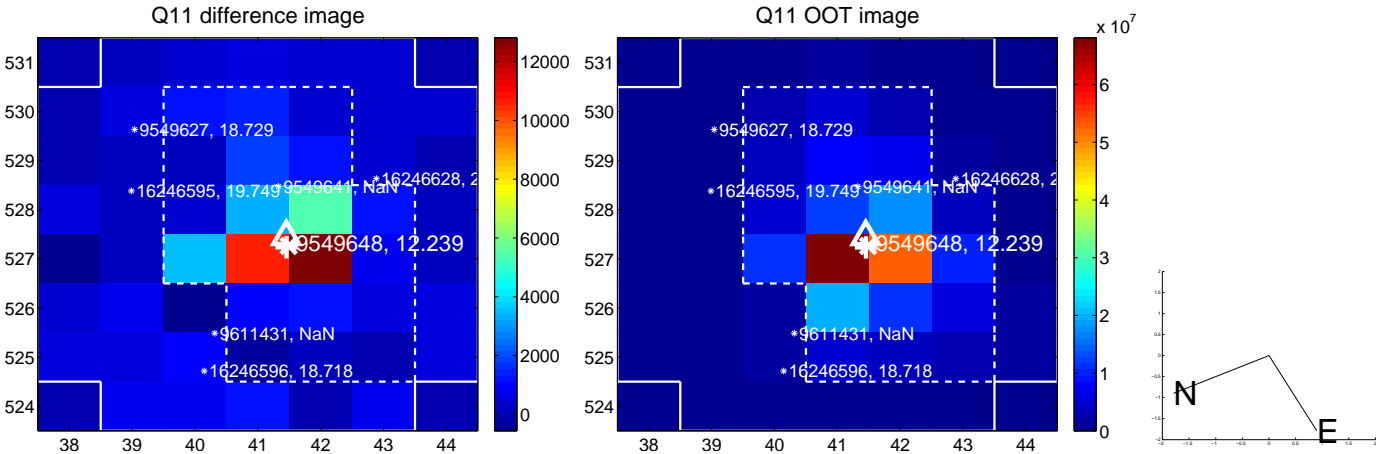
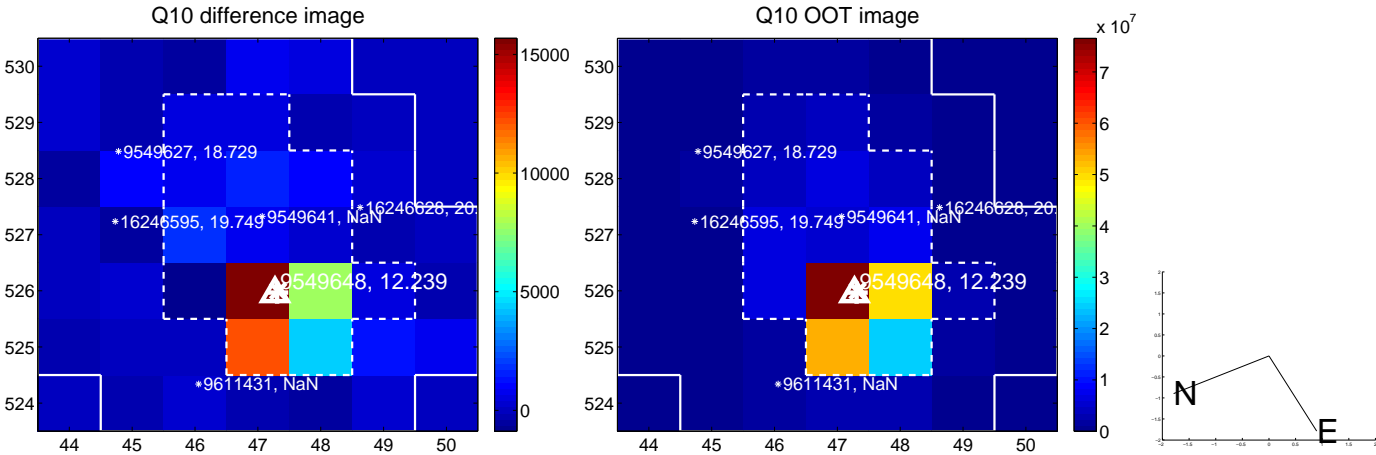
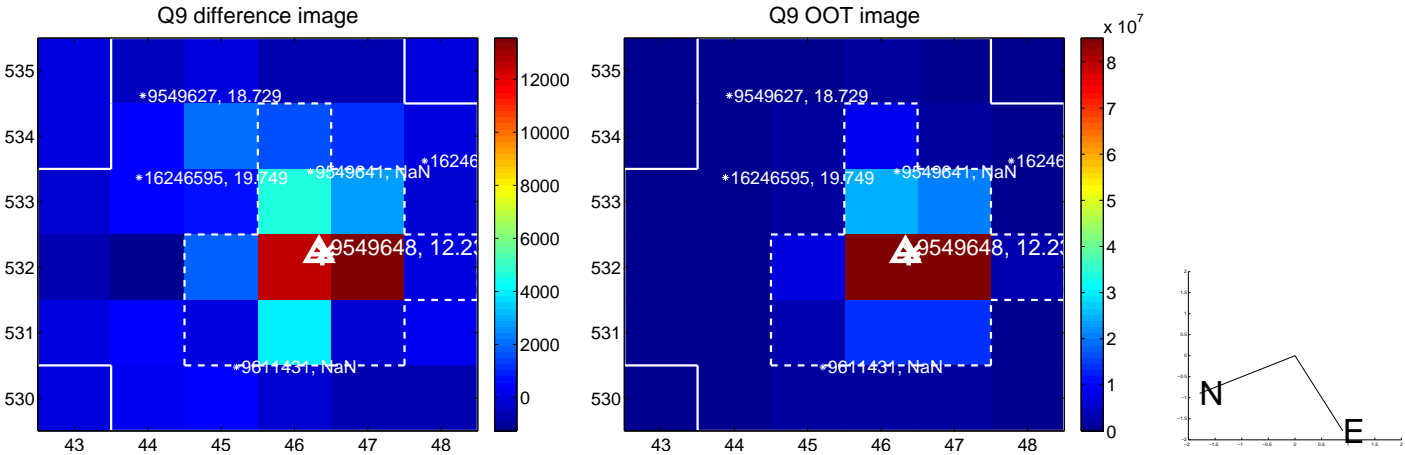
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



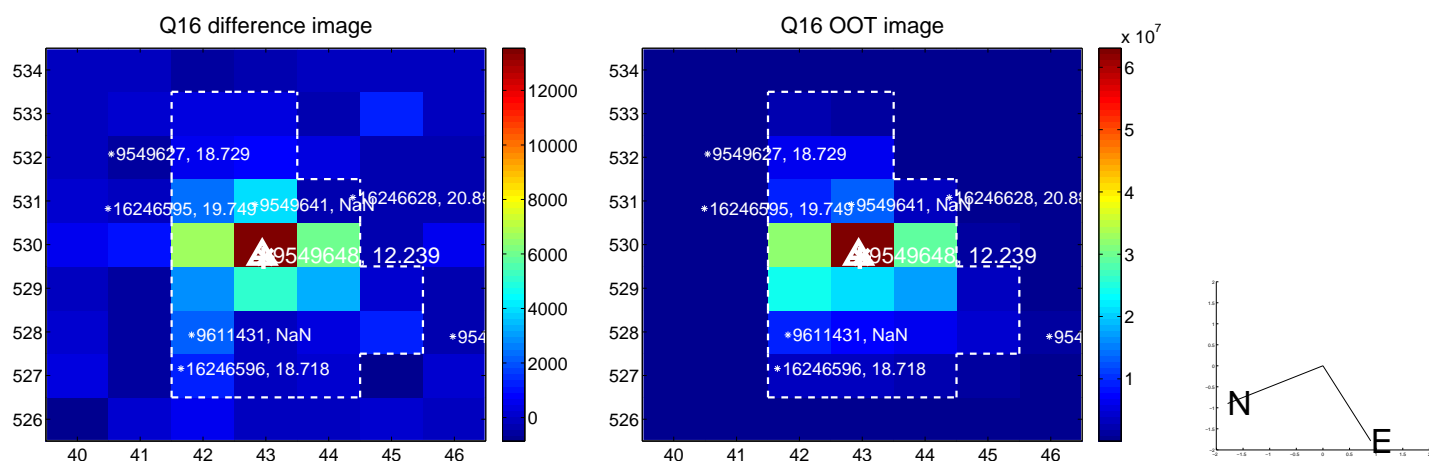
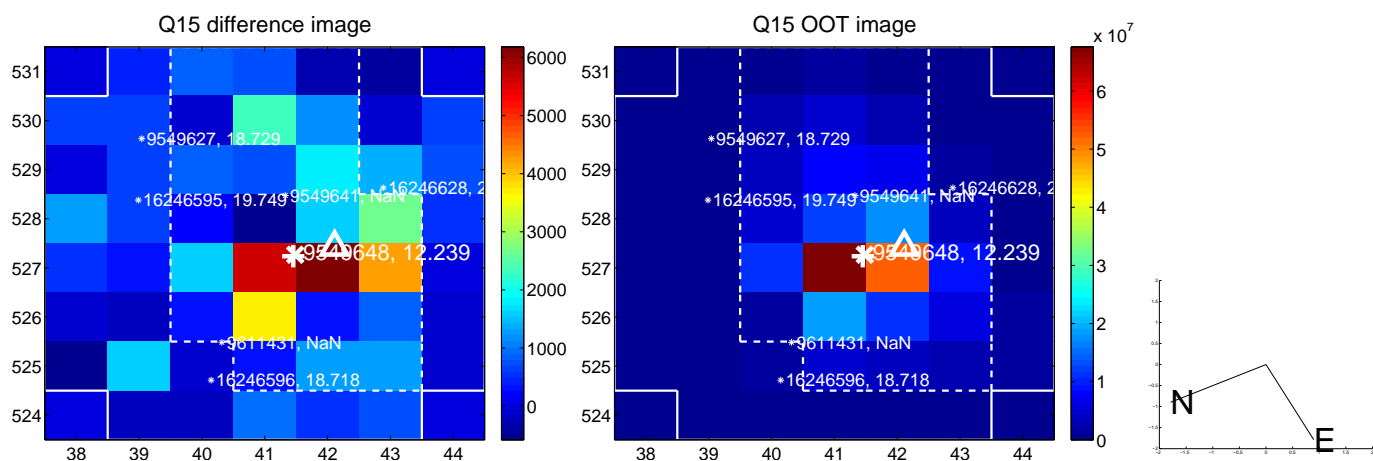
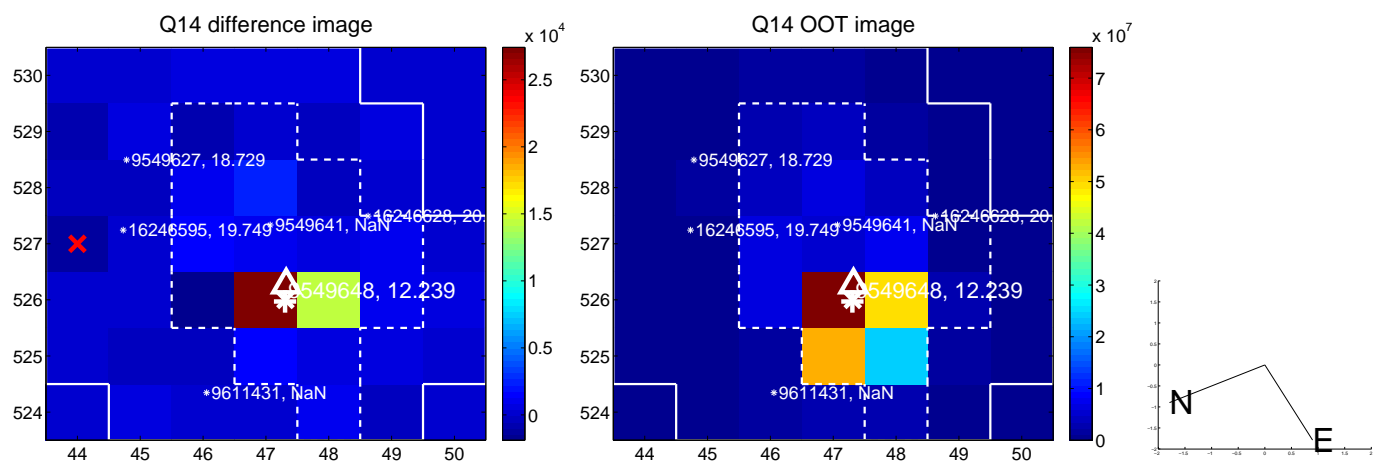
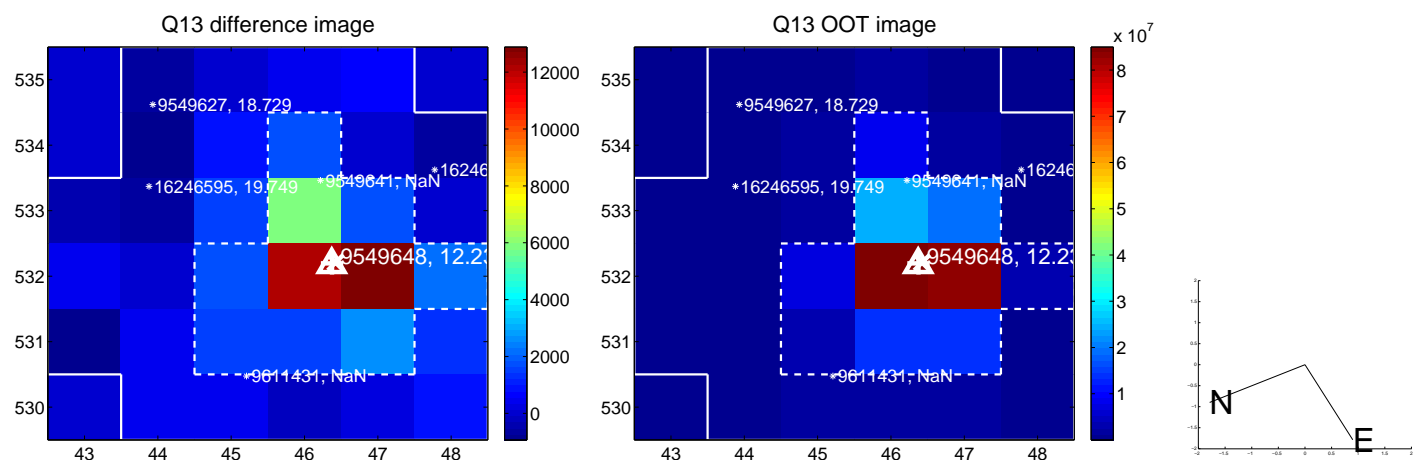
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

