

KIC 004932348

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})
004932348-01	OBS	0819.01	38.036732	158.898148	82261.6	4.359	1785.3	1377.0	0.93	5575	27.41	14.83
004932348-02	OBS	No	38.036720	150.134662	1680.2	5.744	34.3	37.9	0.93	5575	6.68	14.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004932348-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—HAS_SEC_TCE
004932348-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

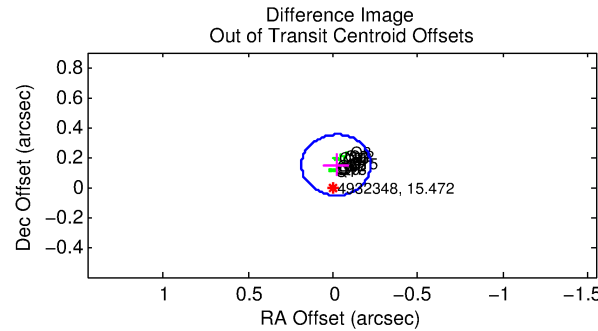
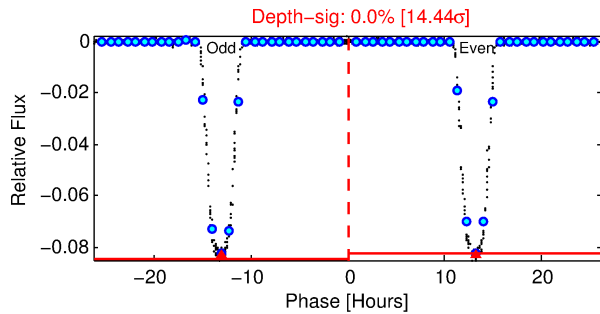
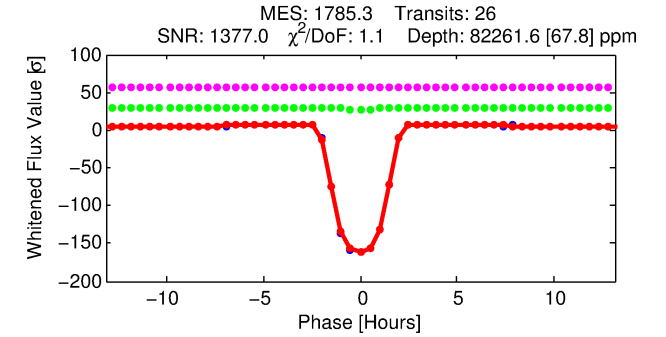
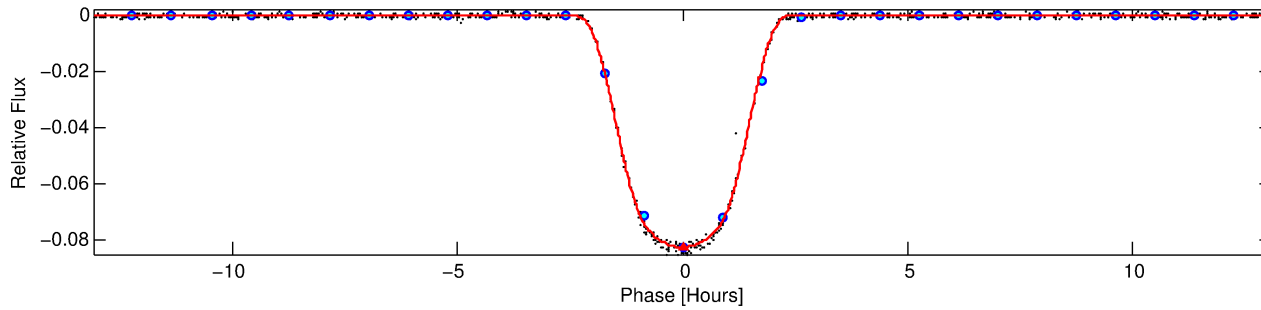
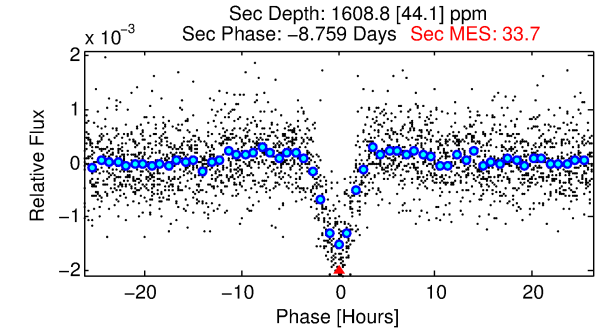
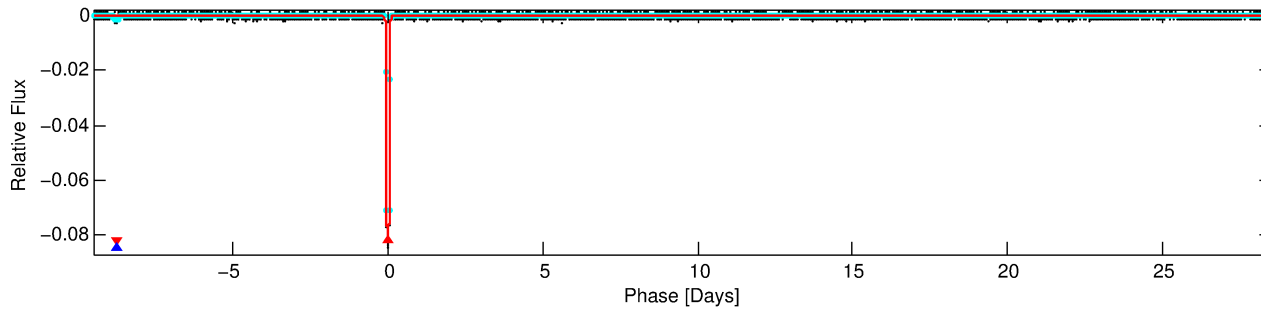
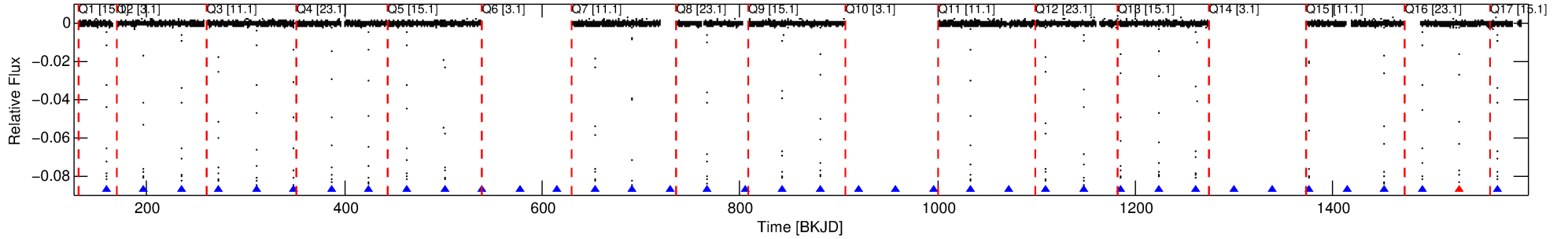
Ephemeris Match Information For 004932348-01

No Significant Match Found

DV One-Page Summary

KIC: 4932348 Candidate: 1 of 2 Period: 38.037 d
KOI: K00819.01 Corr: 0.898

Kp: 15.47 R*: 0.93 Rs Teff: 5575.0 K Logg: 4.52 Fe/H: 0.360



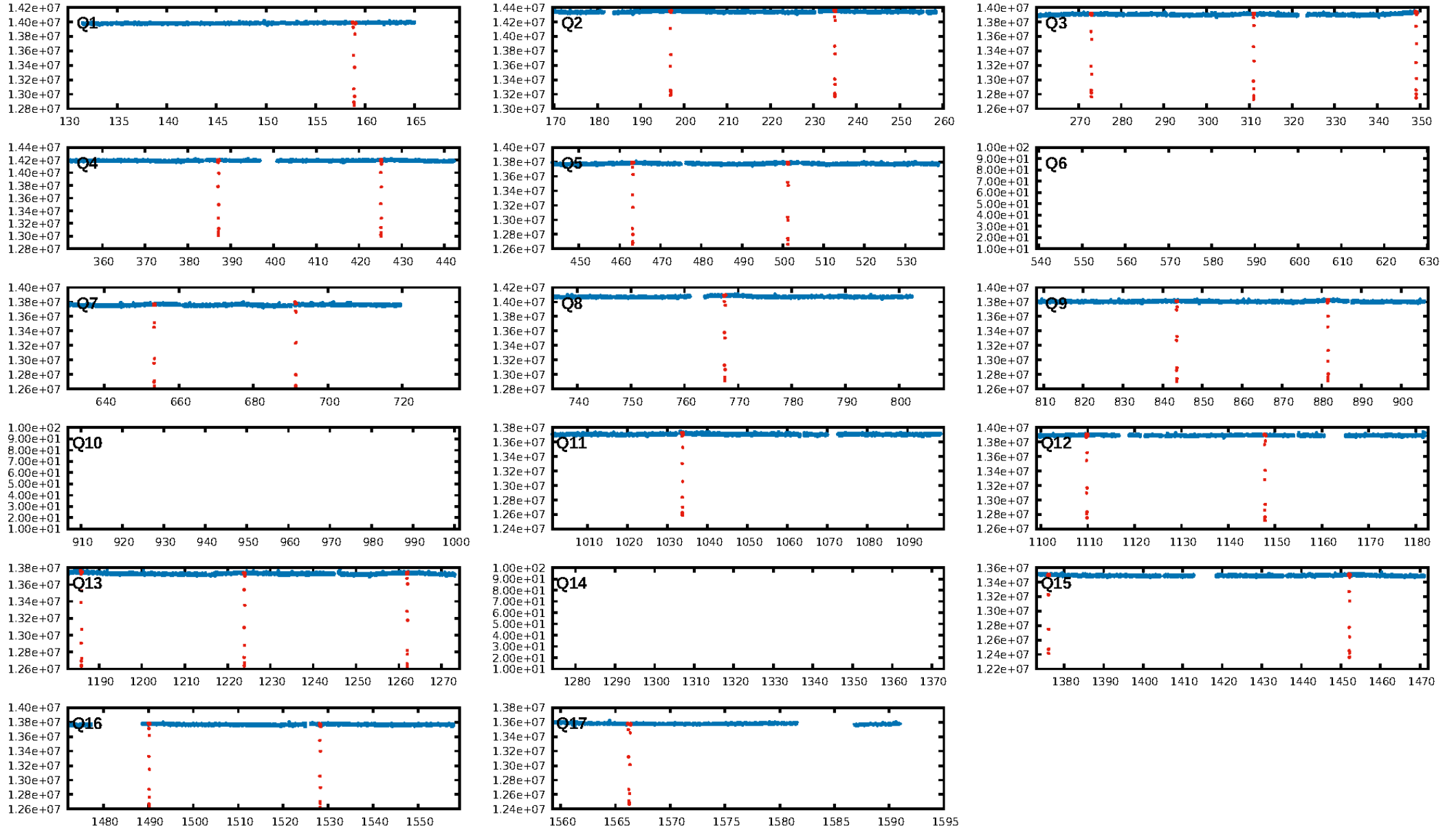
DV Fit Results:

Period = 38.03673 [0.00000] d
Epoch = 158.8981 [0.0001] BKJD
Rp/R* = 0.2695 [0.0002]
a/R* = 77.65 [0.17]
b = 0.50 [0.00]
Seff = 14.83 [4.40]
Teq = 500 [37] K
Rp = 27.41 [5.27] Re
a = 0.2251 [0.0390] AU
Ag = 59.69 [15.97] [3.67σ]
Teffp = 2151 [72] K [20.34σ]

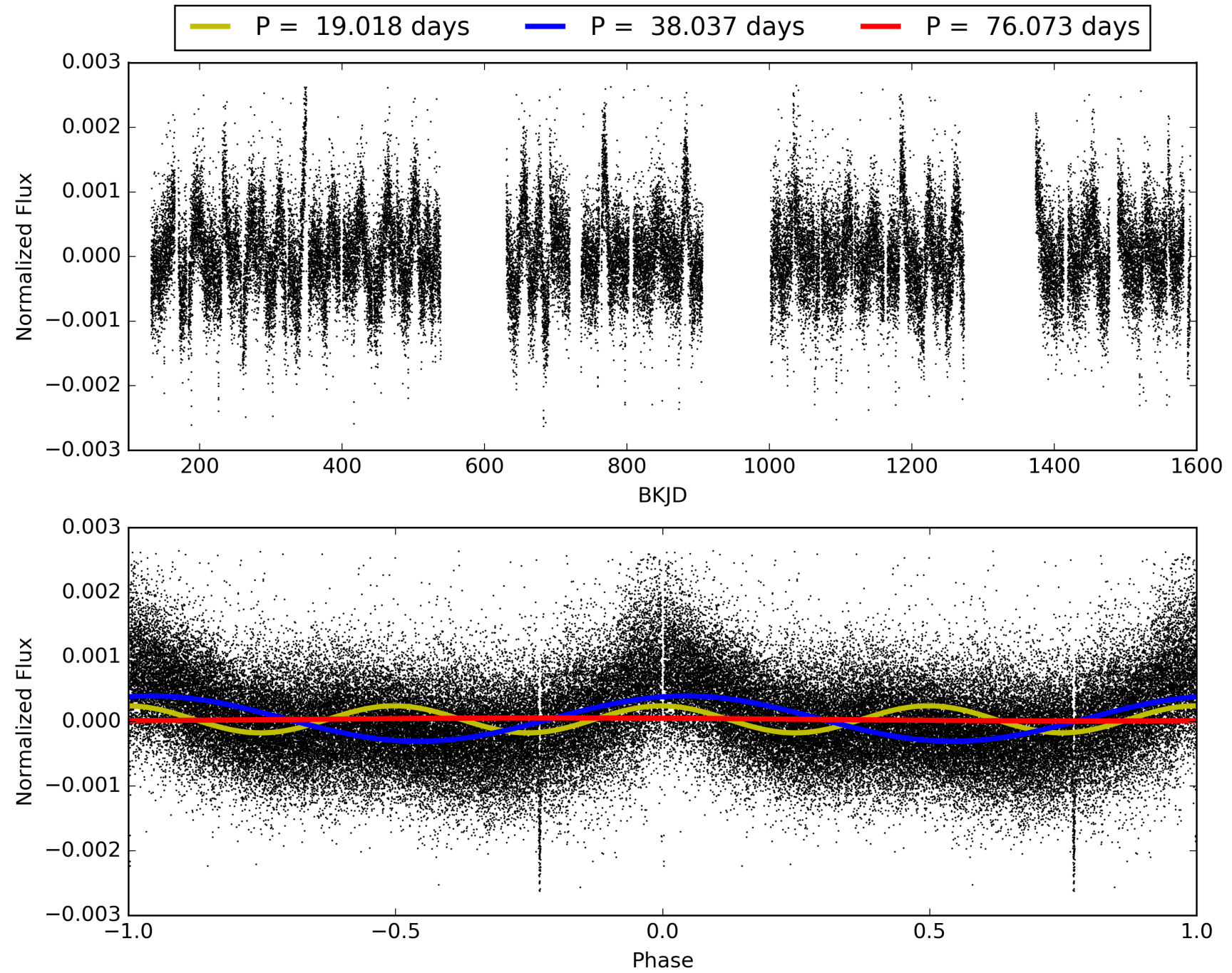
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 88.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.96 [23/24]
GhostDiagnostic-chr: 12
Centroid-sig: 0.0%
Centroid-so: 0.057 arcsec [7.75σ]
OotOffset-rm: 0.149 arcsec [2.20σ]
KicOffset-rm: 0.121 arcsec [1.64σ]
OotOffset-st: 1/3/4/5 [13]
KicOffset-st: 1/3/4/5 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 004932348-01, PDC Light Curves

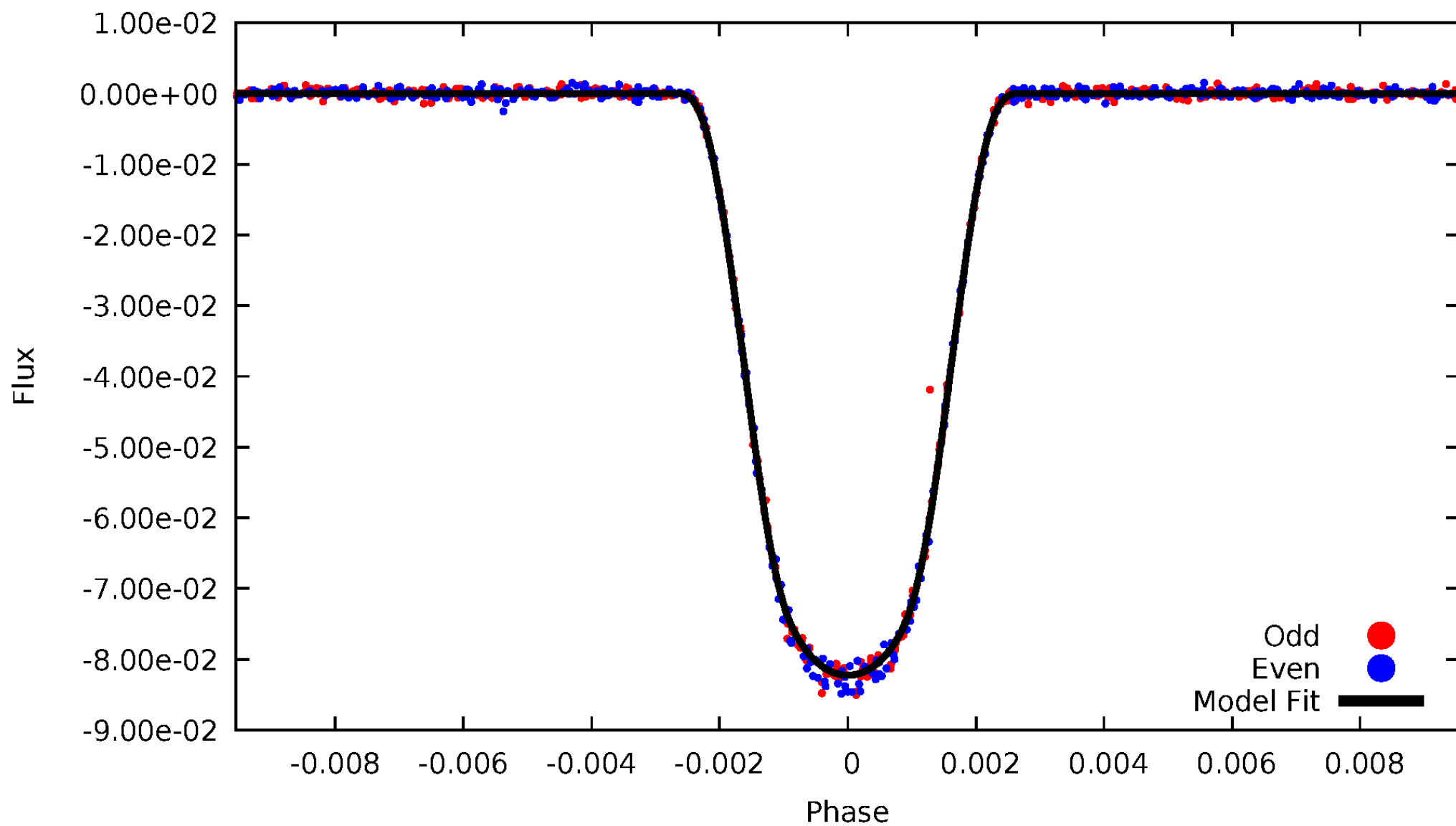


TCE 004932348-01



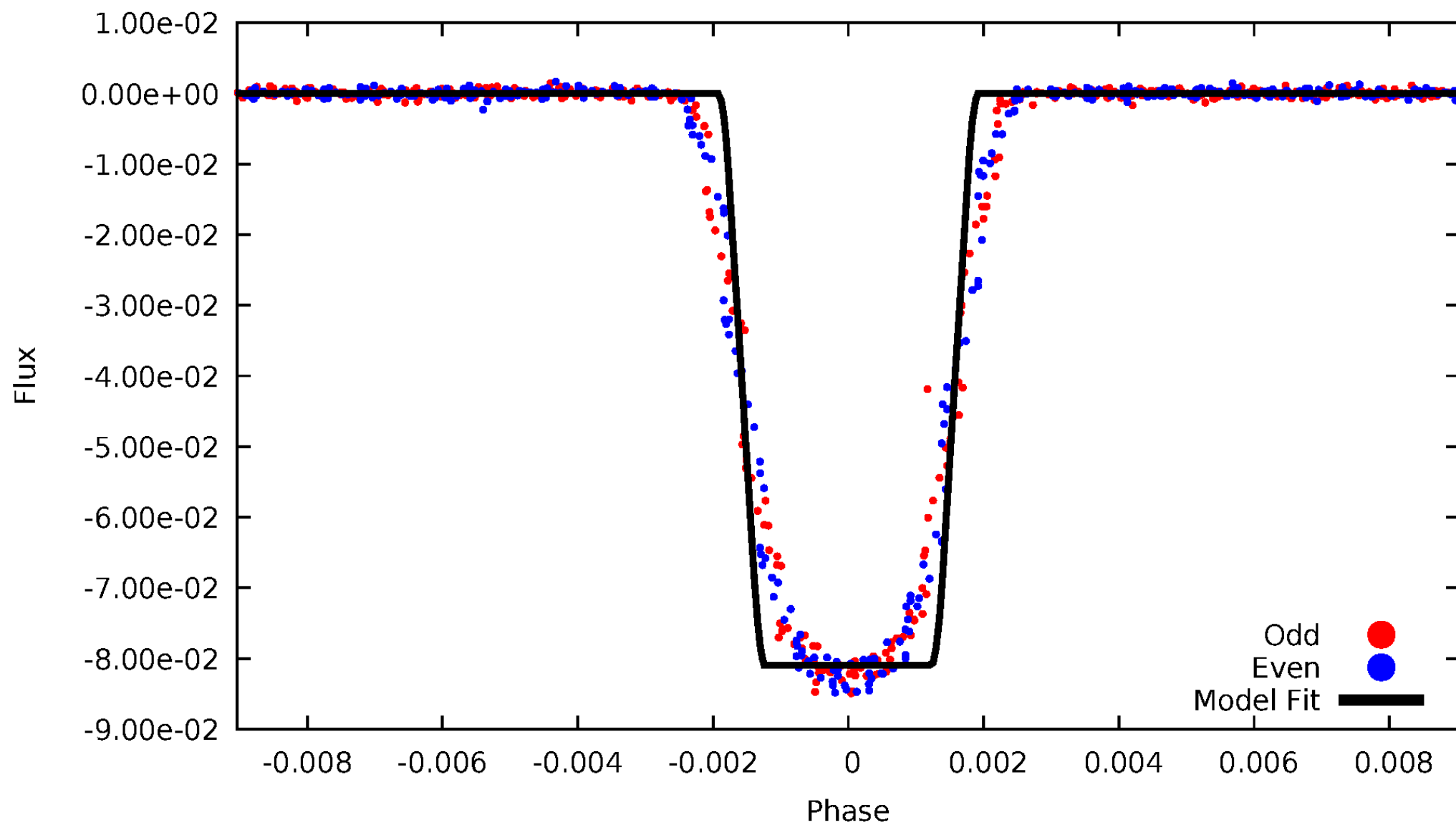
DV Odd/Even

TCE 004932348-01



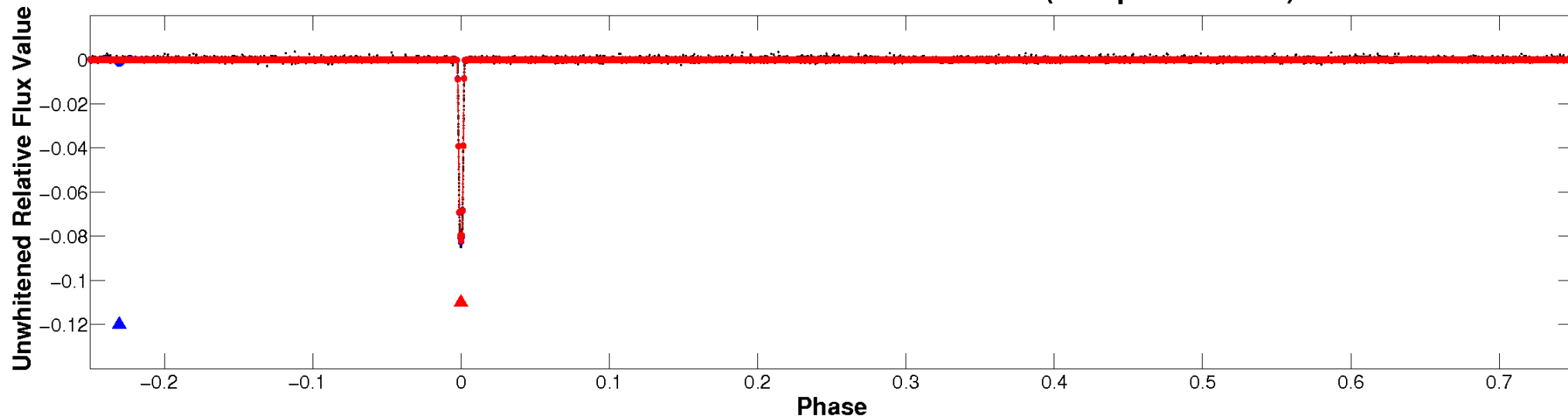
ALT Odd/Even

TCE 004932348-01

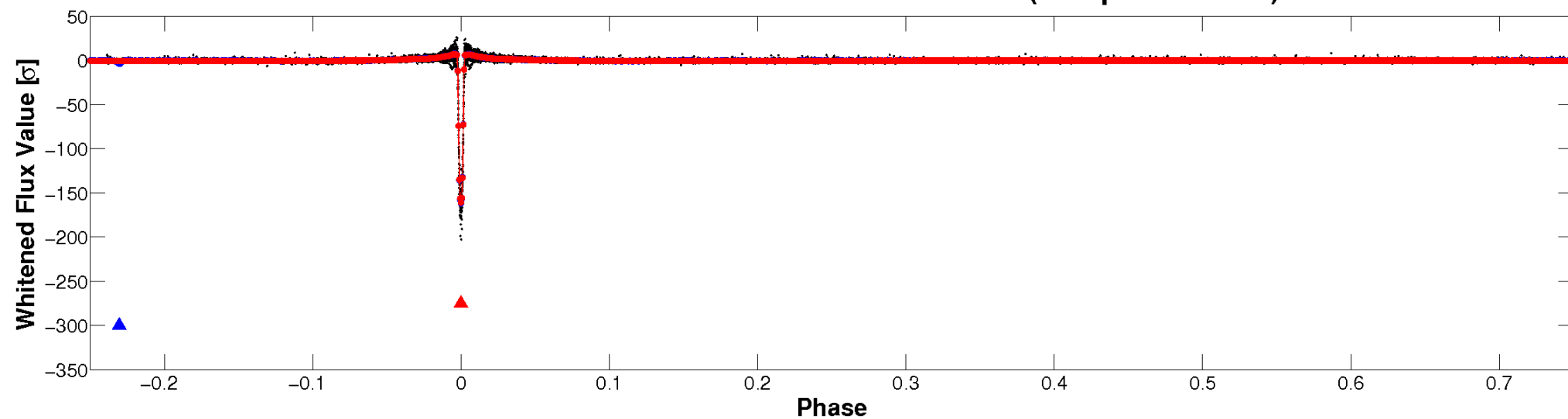


Non-Whitened Vs. Whitened Light Curve

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

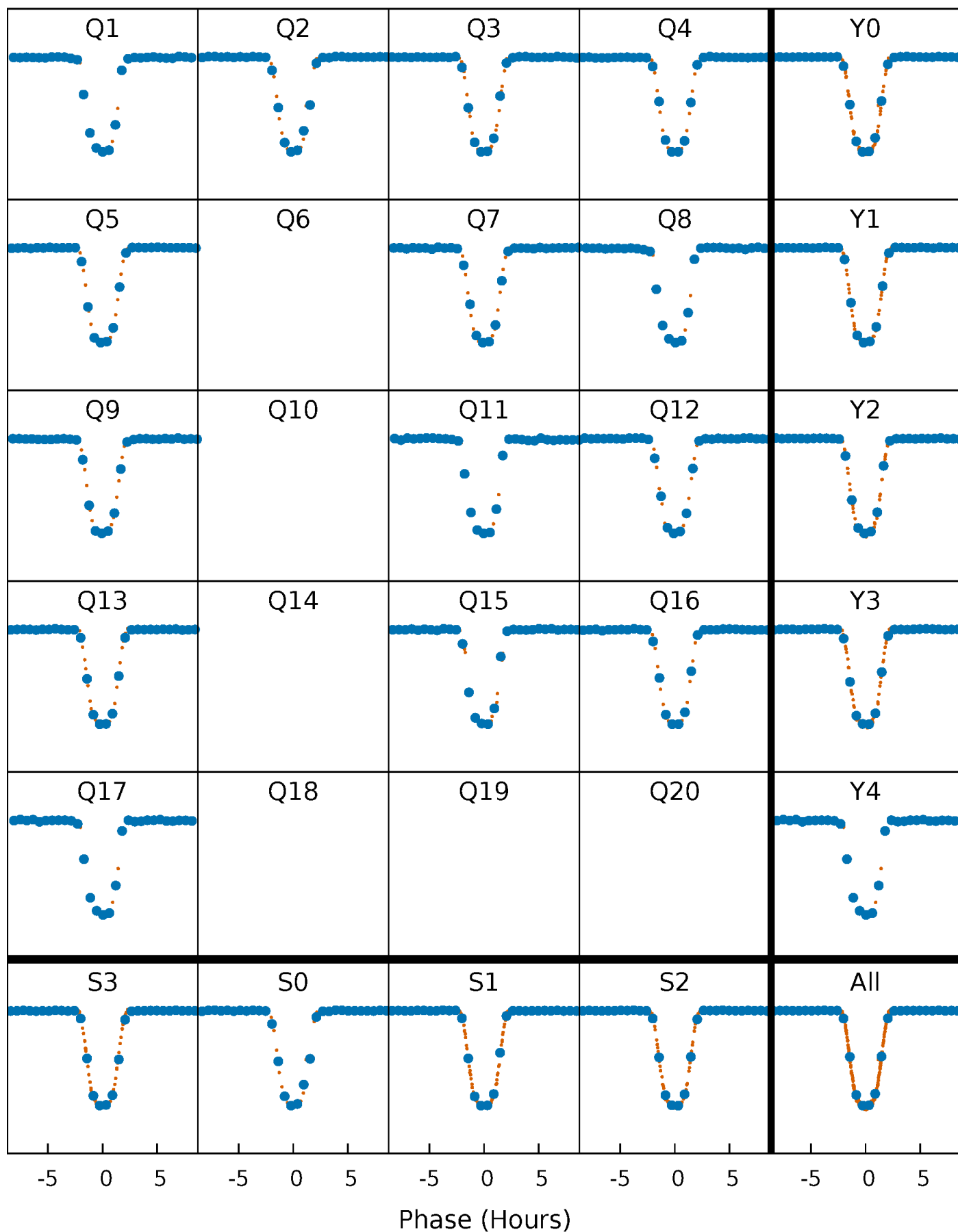


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



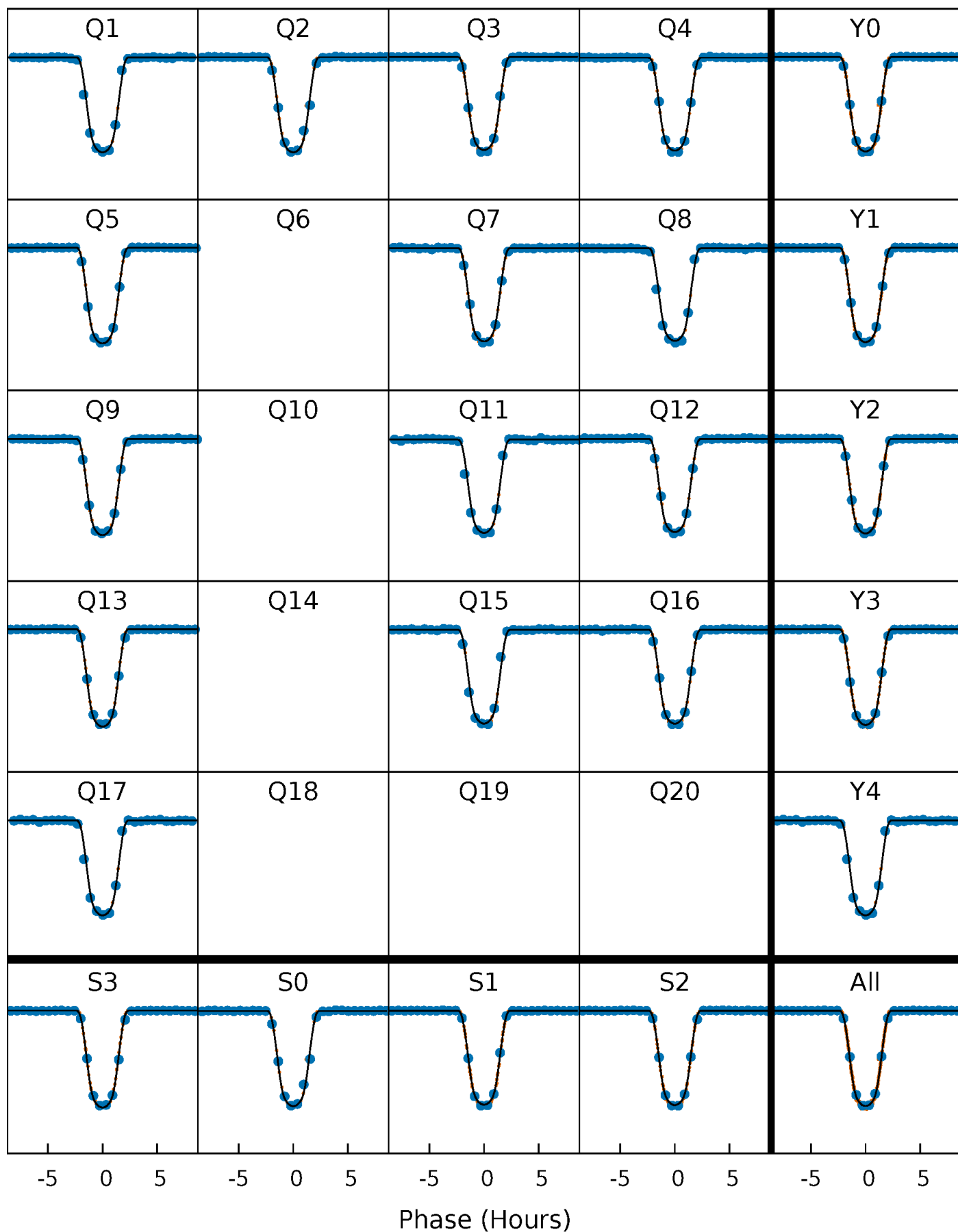
PDC Quarter-Phased Transit Curves

TCE 004932348-01 P= 38.036732 Days $T_0=158.898148$ (BKJD)



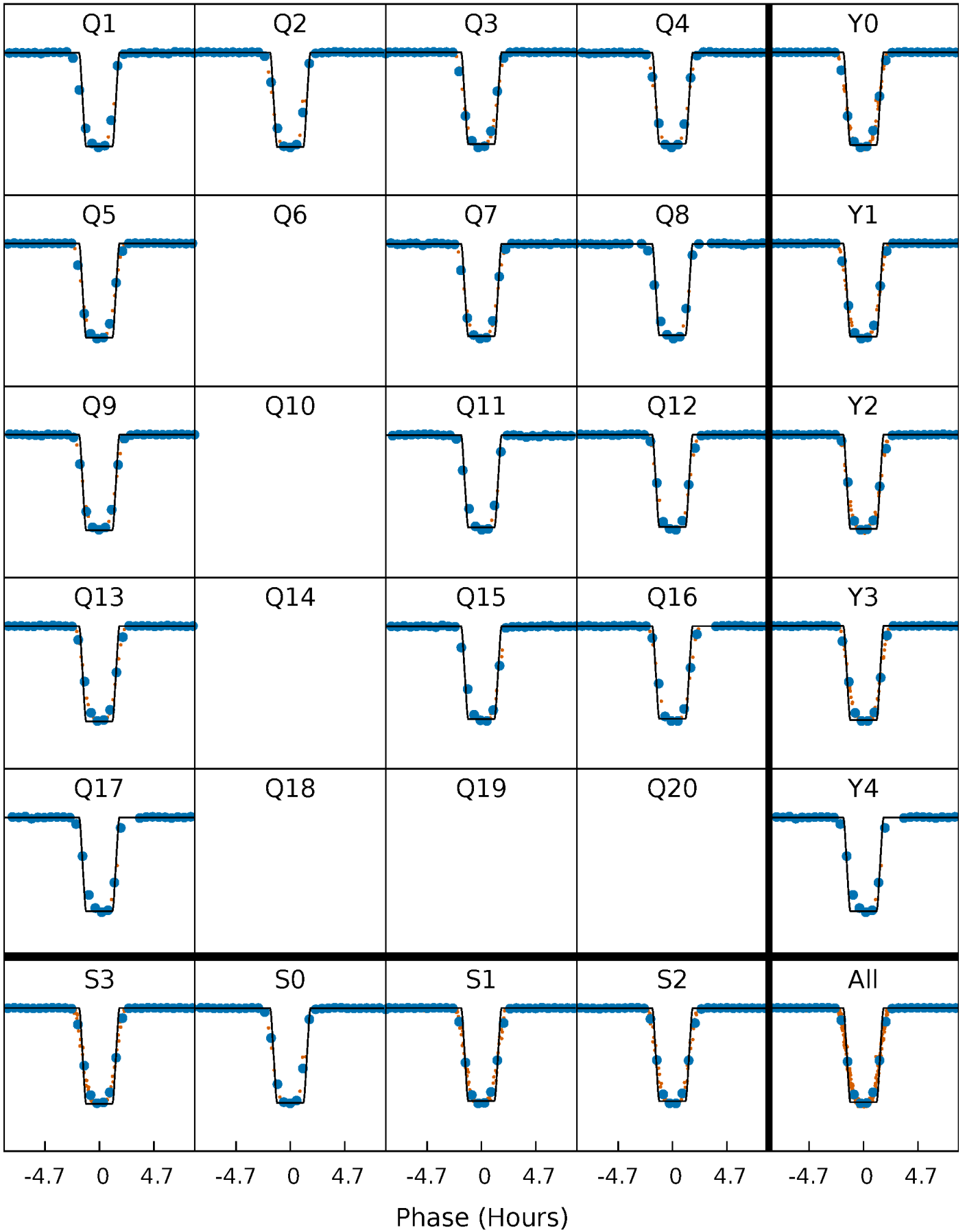
DV Quarter-Phased Transit Curves

TCE 004932348-01 P= 38.036732 Days $T_0=158.898148$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

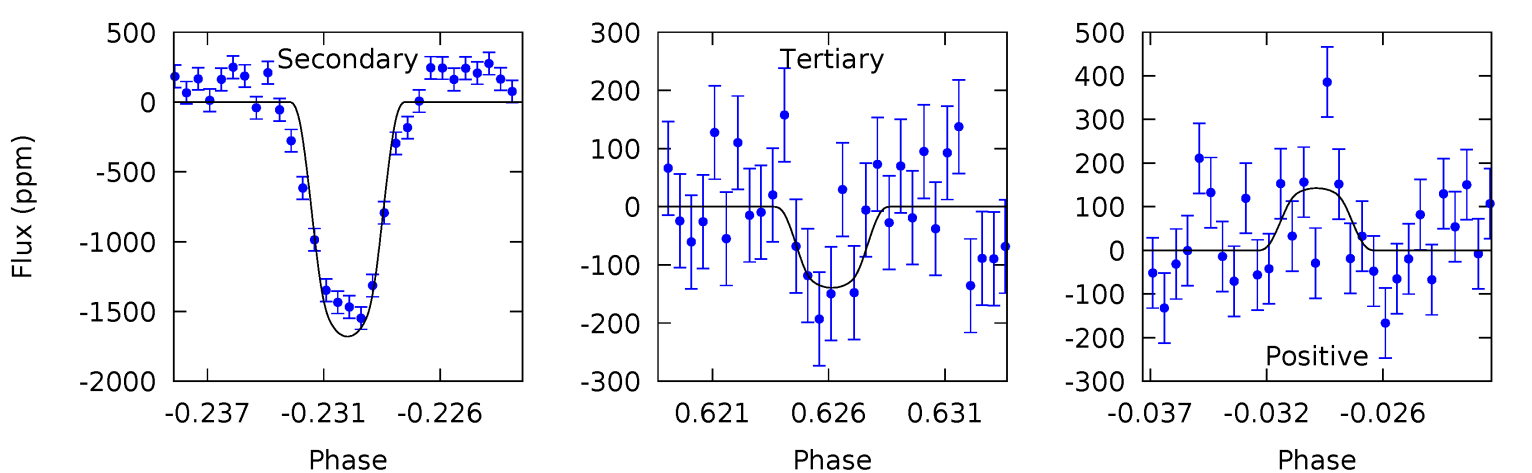
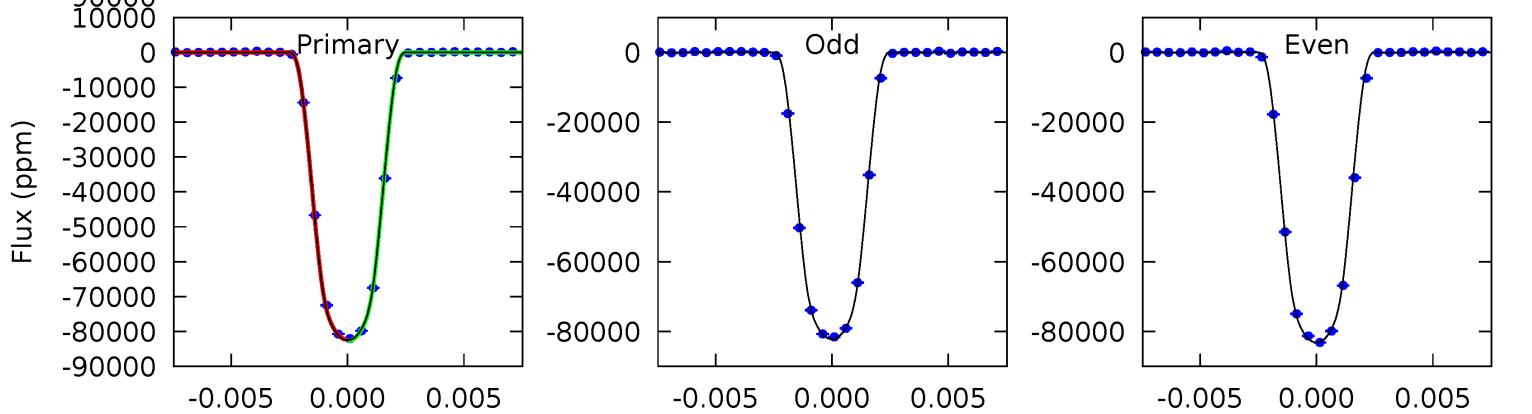
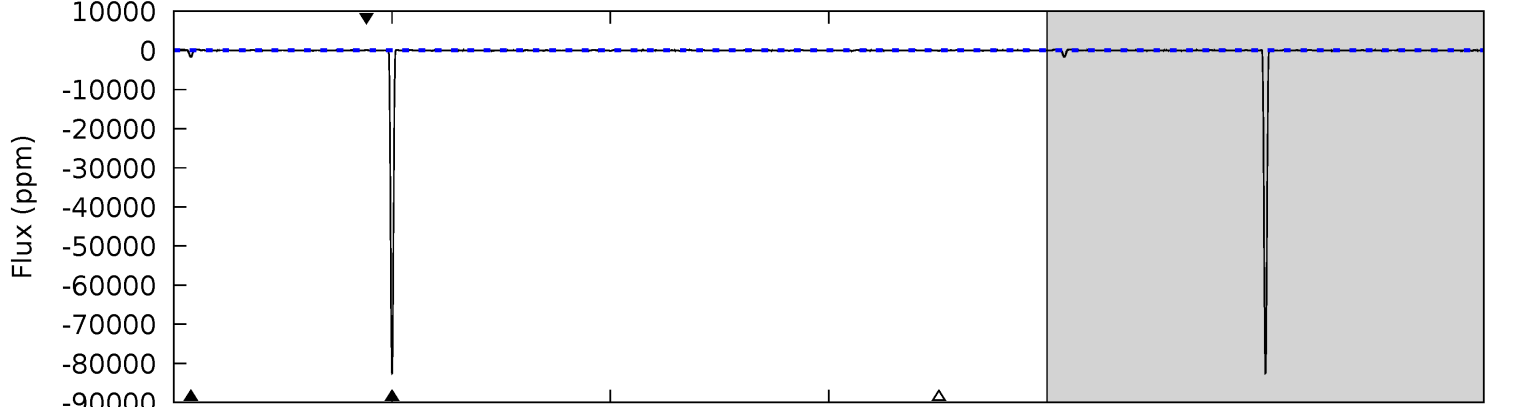
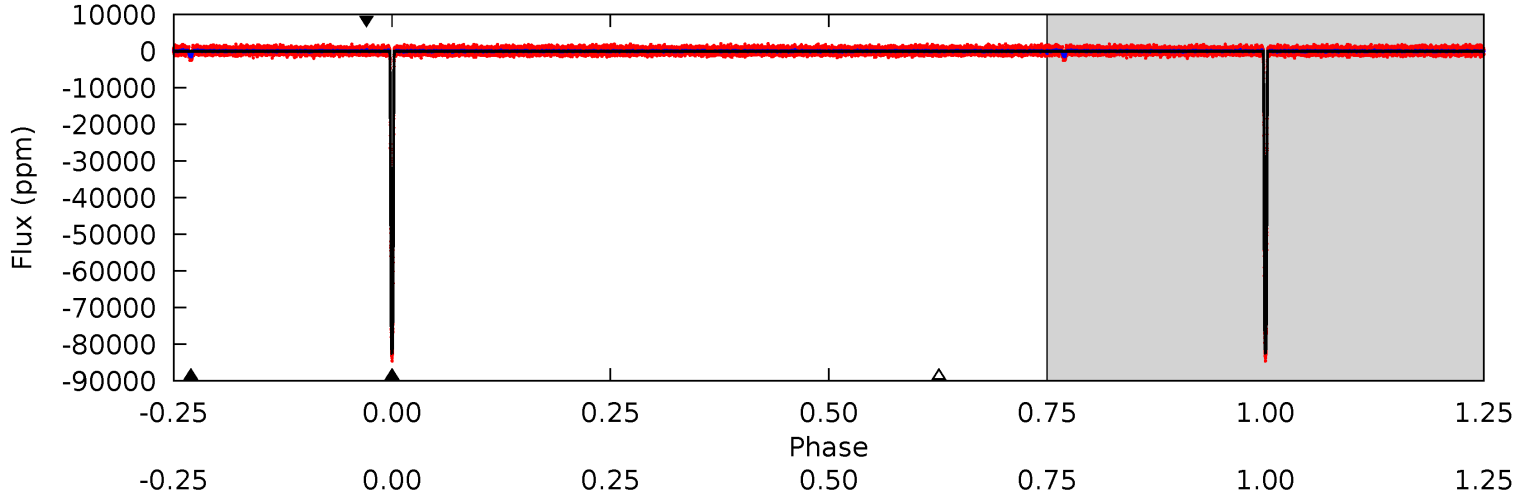
TCE 004932348-01 P= 38.036466 Days $T_0=158.902805$ (BKJD)



DV Model-Shift Uniqueness Test

004932348-01, P = 38.036732 Days, E = 120.861416 Days

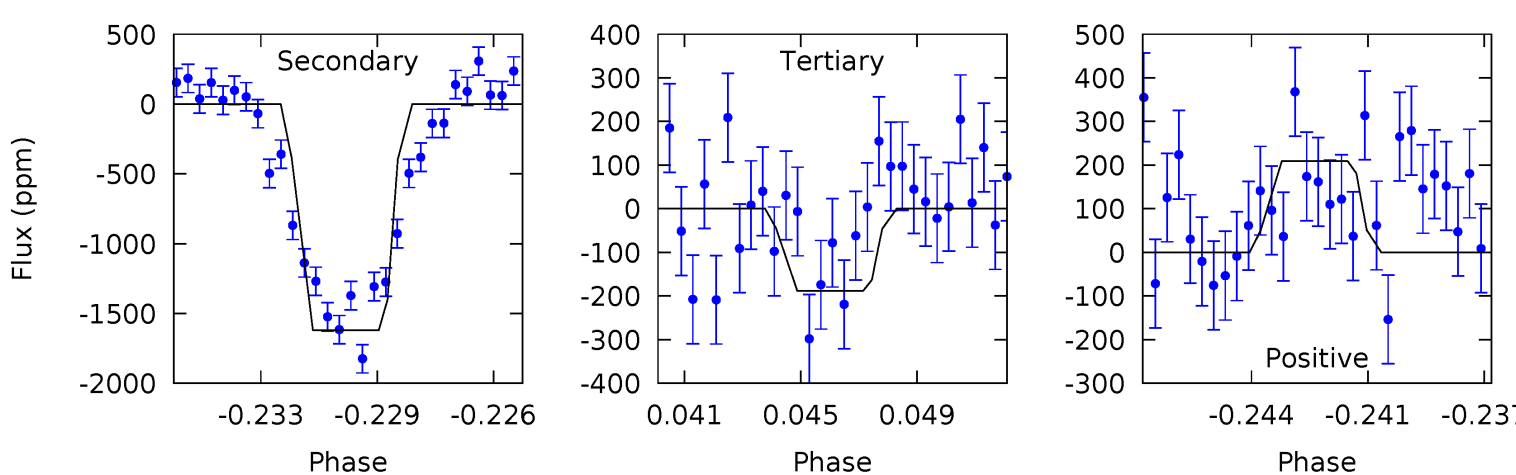
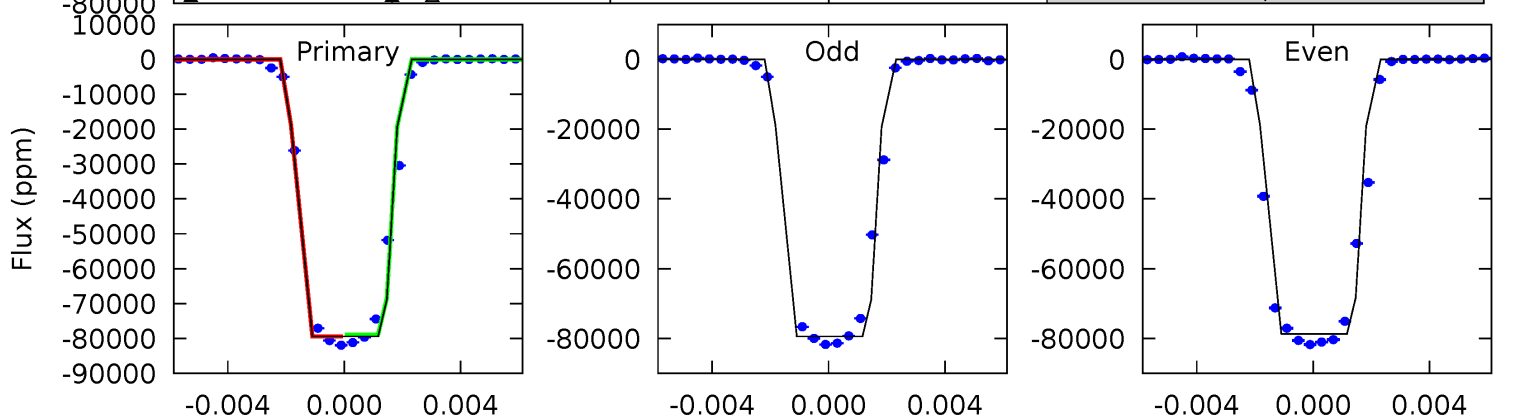
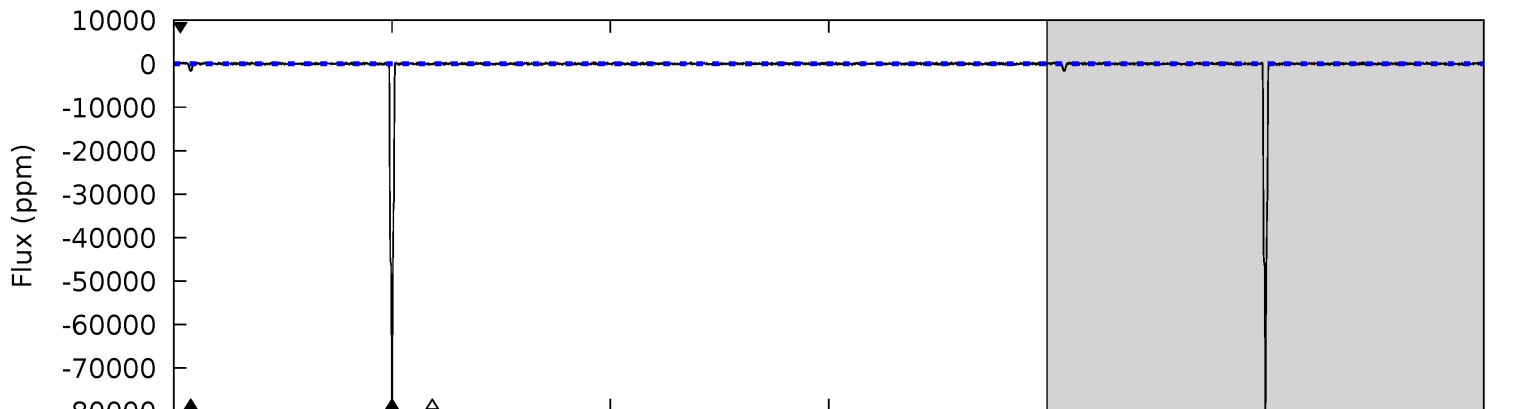
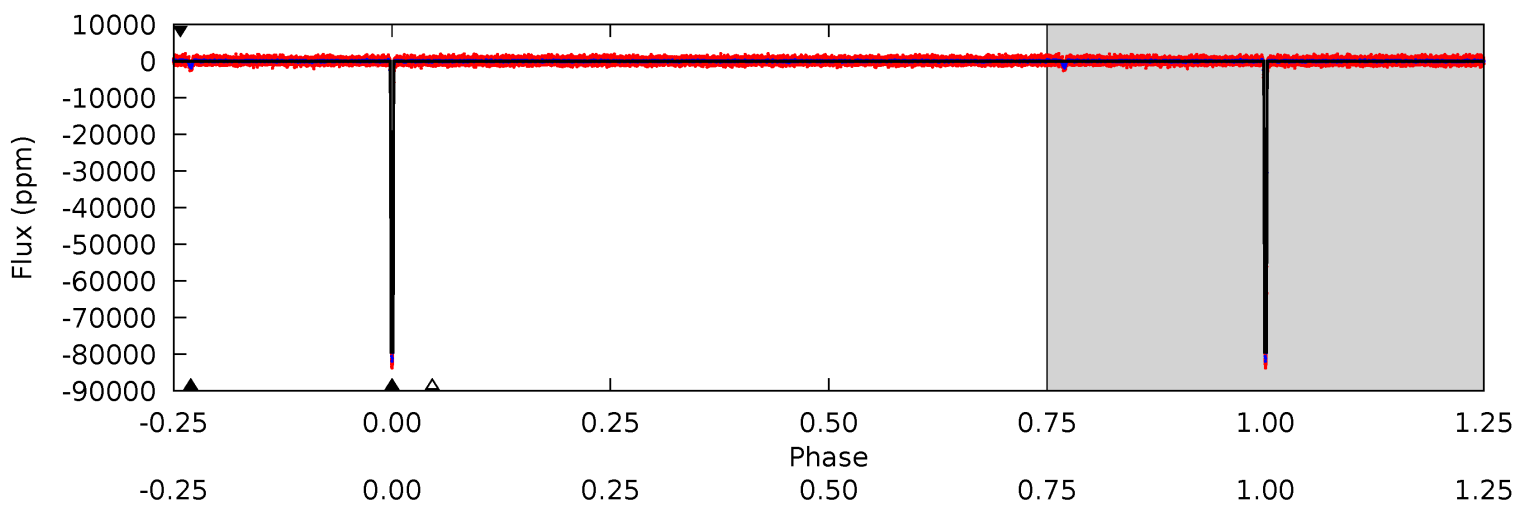
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2641	53.8	4.46	4.56	5.15	2.79	1.57	2637	2637	49.3	49.2	15.6	1.00	0.00	0



Alt Model-Shift Uniqueness Test

004932348-01, P = 38.036466 Days, E = 120.866339 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1565	32.0	3.71	4.12	5.21	2.90	1.09	1562	1561	28.3	27.8	7.54	1.00	0.00	0



Stellar Parameters For KIC 004932348

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5575^{+166}_{-183}	$4.521^{+0.038}_{-0.152}$	$0.360^{+0.100}_{-0.300}$	$0.932^{+0.179}_{-0.077}$	$1.051^{+0.066}_{-0.132}$	$1.828^{+0.342}_{-0.733}$
	+3%/-3%	+1%/-3%	+28%/-83%	+19%/-8%	+6%/-13%	+19%/-40%
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 004932348-01 / KOI 0819.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1680 ± 31	$27.73^{+3.06}_{-1.51}$	712^{+35}_{-35}	2881^{+48}_{-57}	59^{+6}_{-10}
Alt.	-1622 ± 51	$29.36^{+3.40}_{-1.63}$	712^{+42}_{-29}	2827^{+49}_{-53}	51^{+6}_{-9}

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

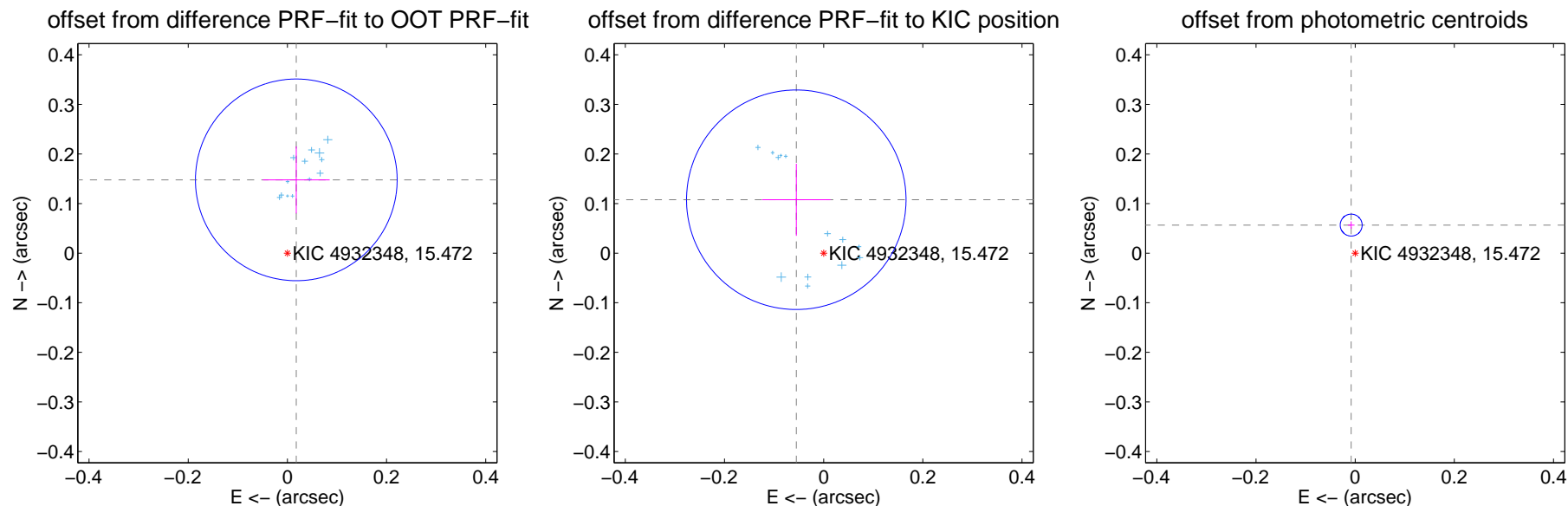
DV Centroid Data

Supplemental centroid analysis for 004932348-01. Kepler magnitude: 15.47. Transit SNR 1376.98

There are 13 quarters with good PRF difference image offsets

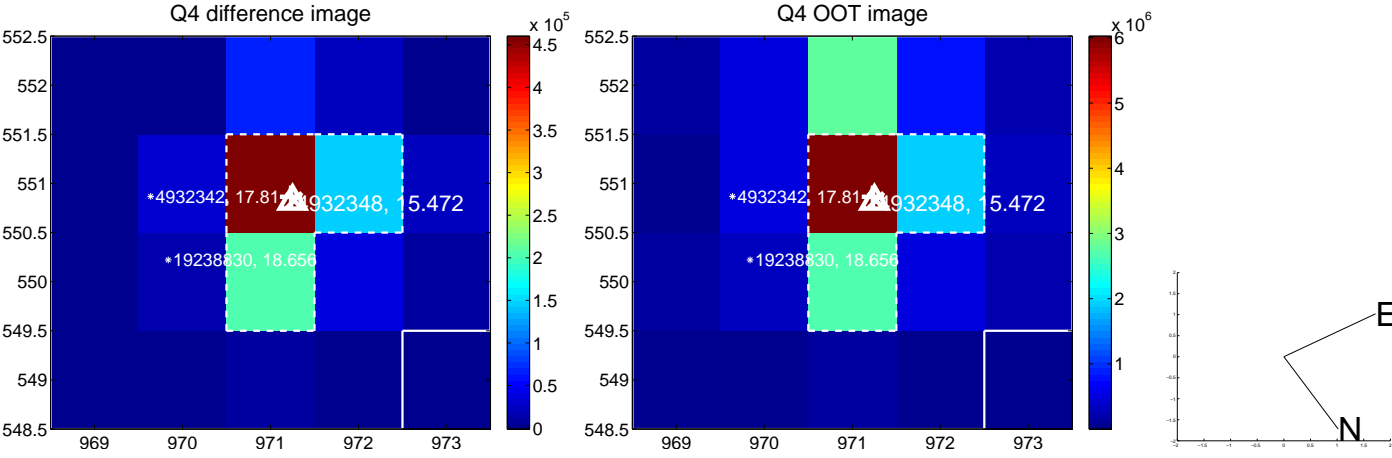
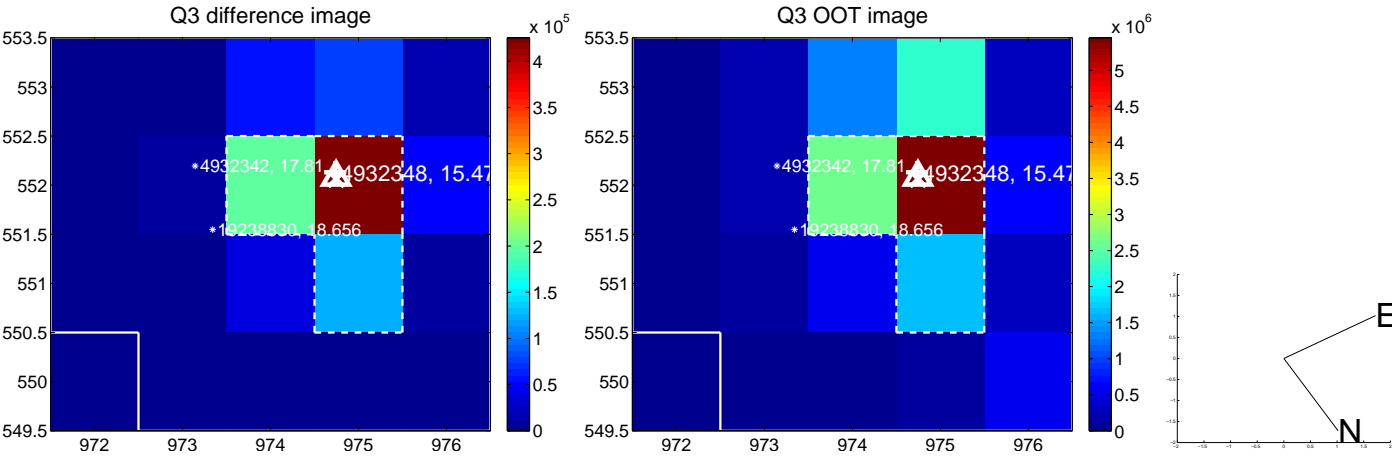
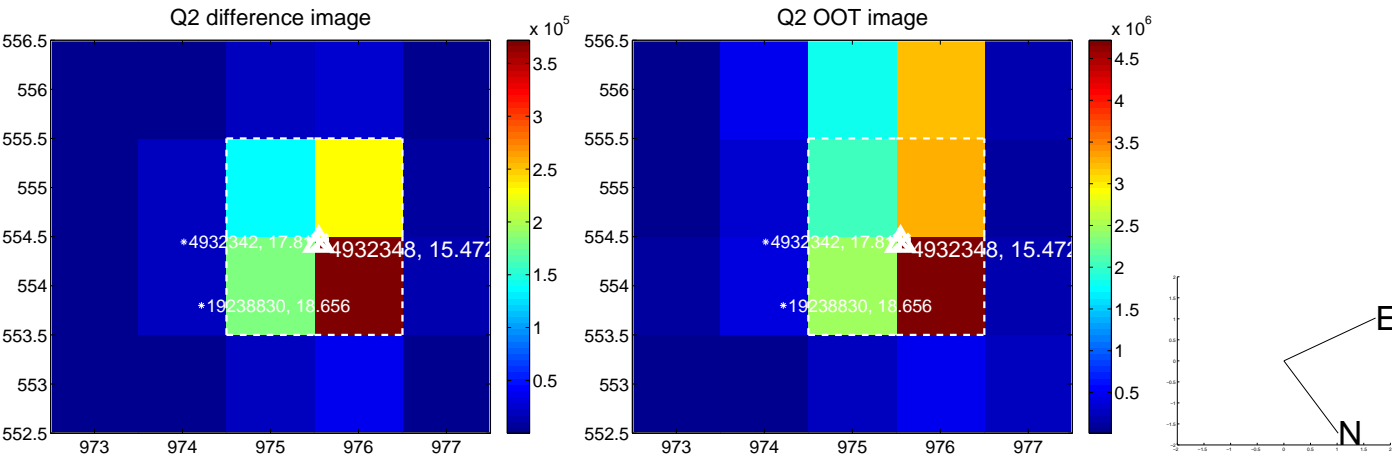
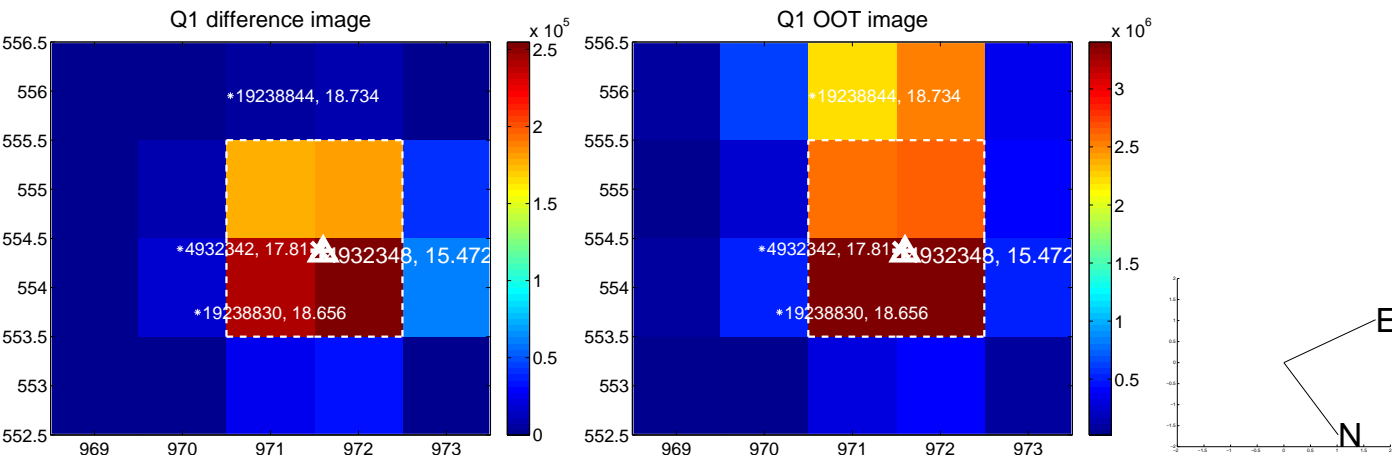
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.149 ± 0.068	2.20	-0.018 ± 0.067	0.148 ± 0.068
PRF-fit source offset from KIC position	0.121 ± 0.074	1.64	0.055 ± 0.069	0.108 ± 0.073
photometric centroid source offset	0.06 ± 0.01	7.75	0.01 ± 0.01	0.06 ± 0.01

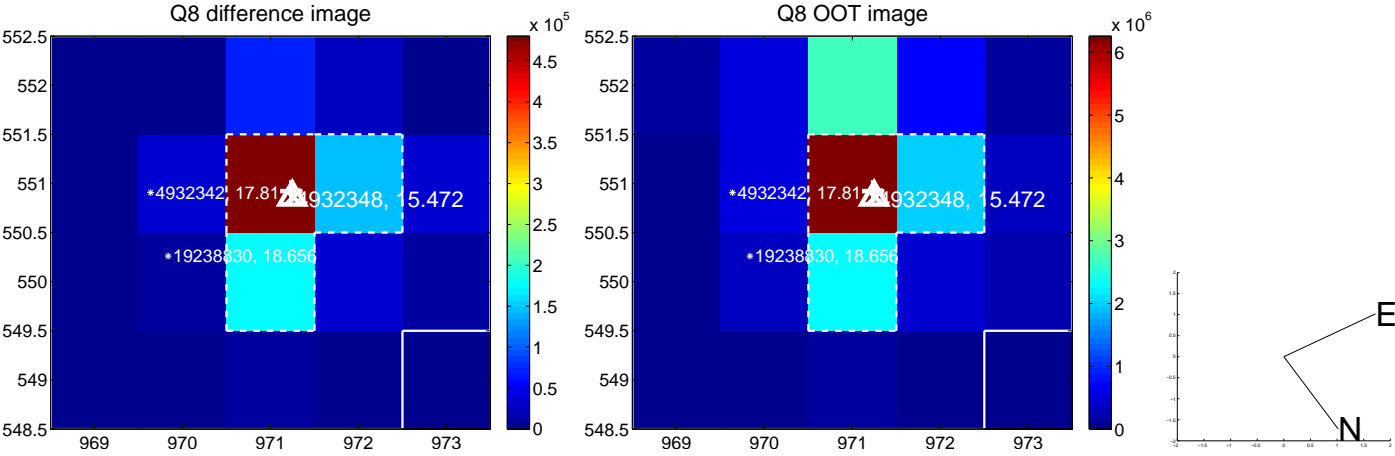
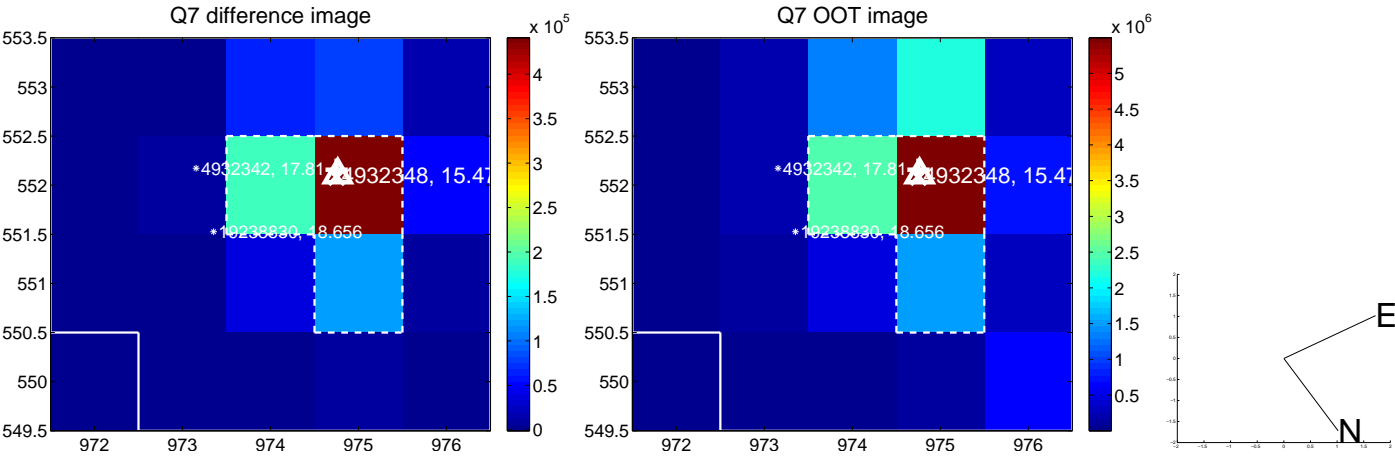
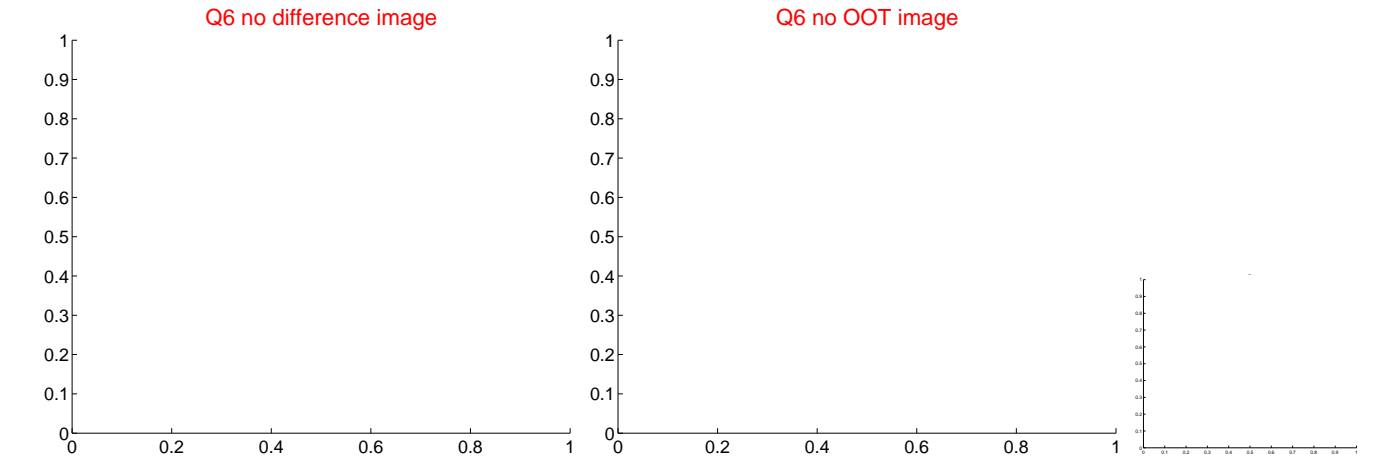
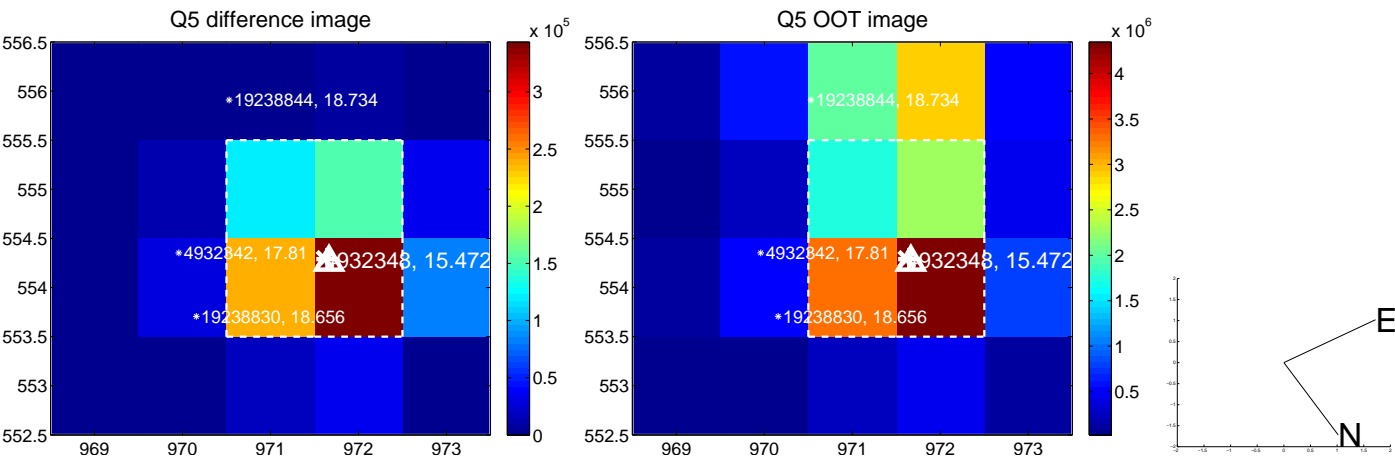


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

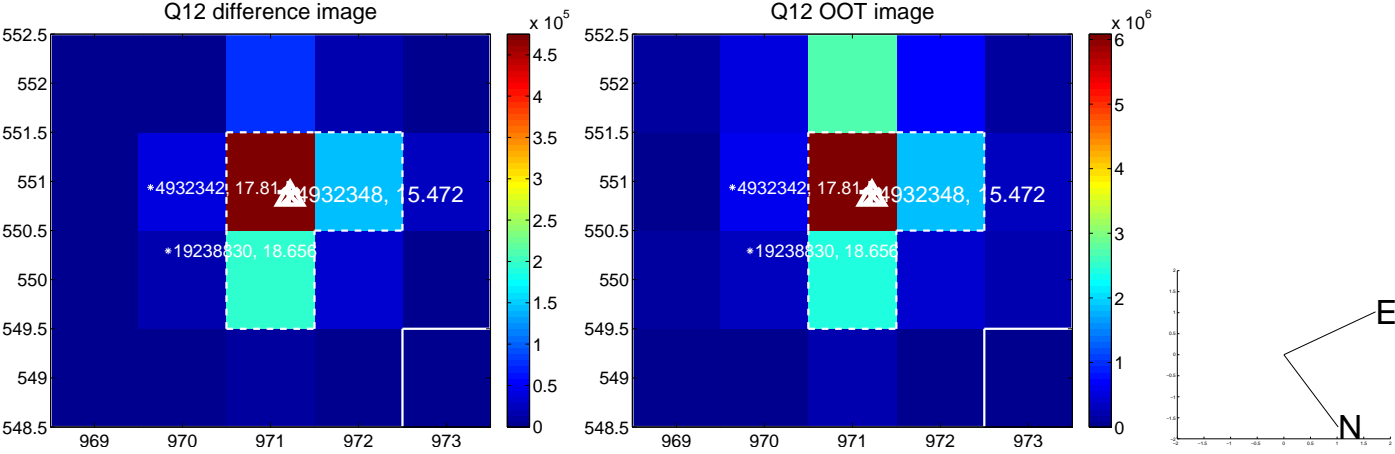
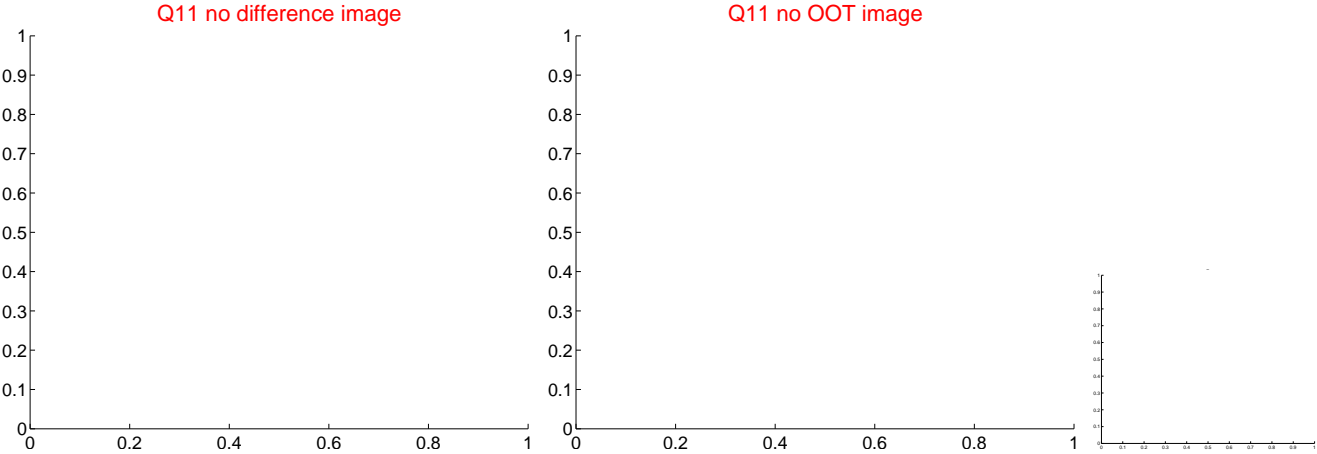
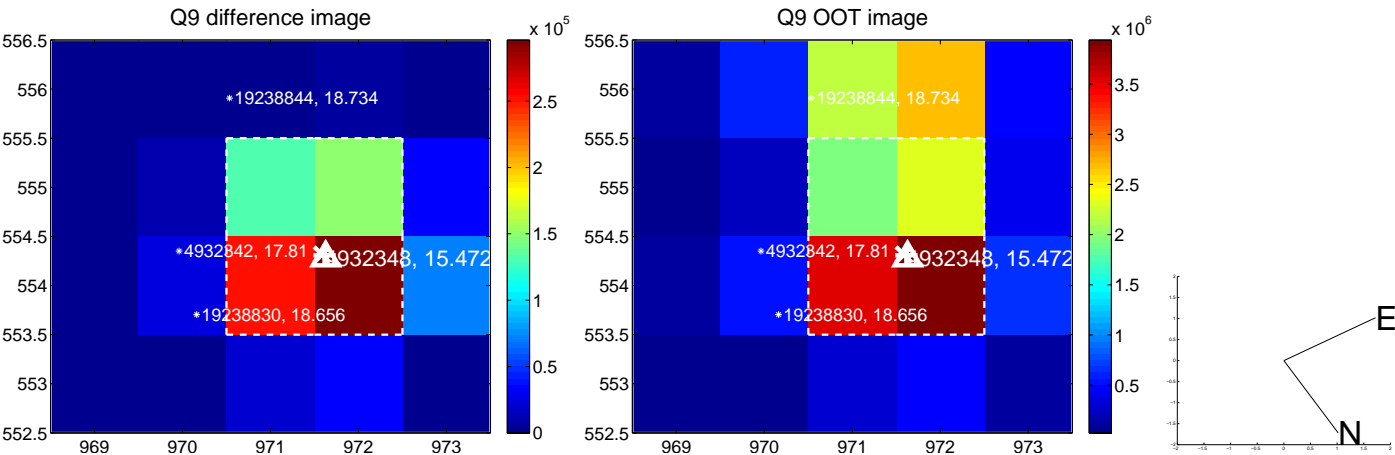
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



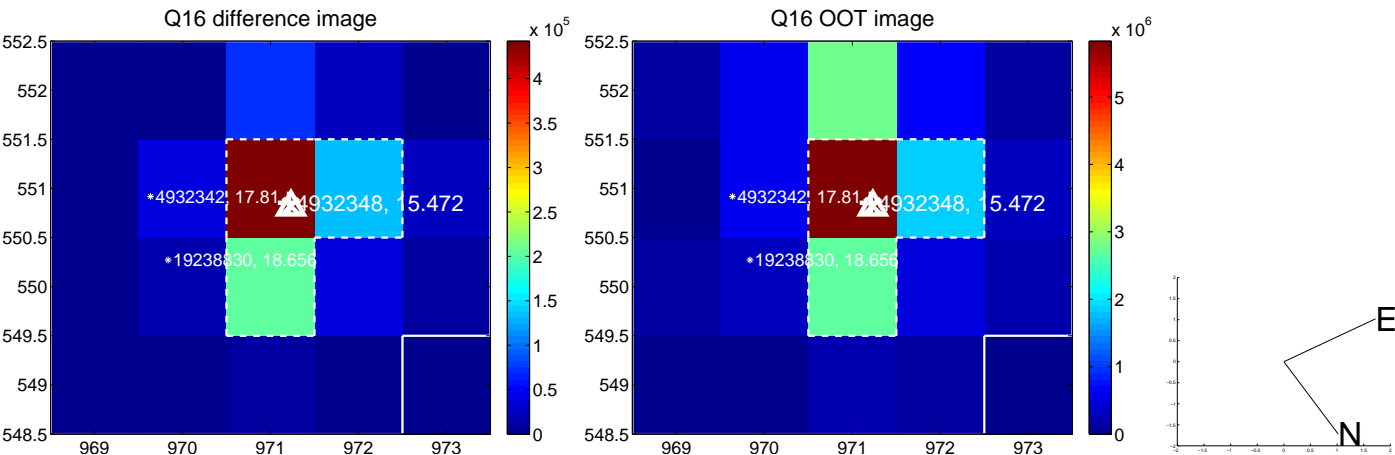
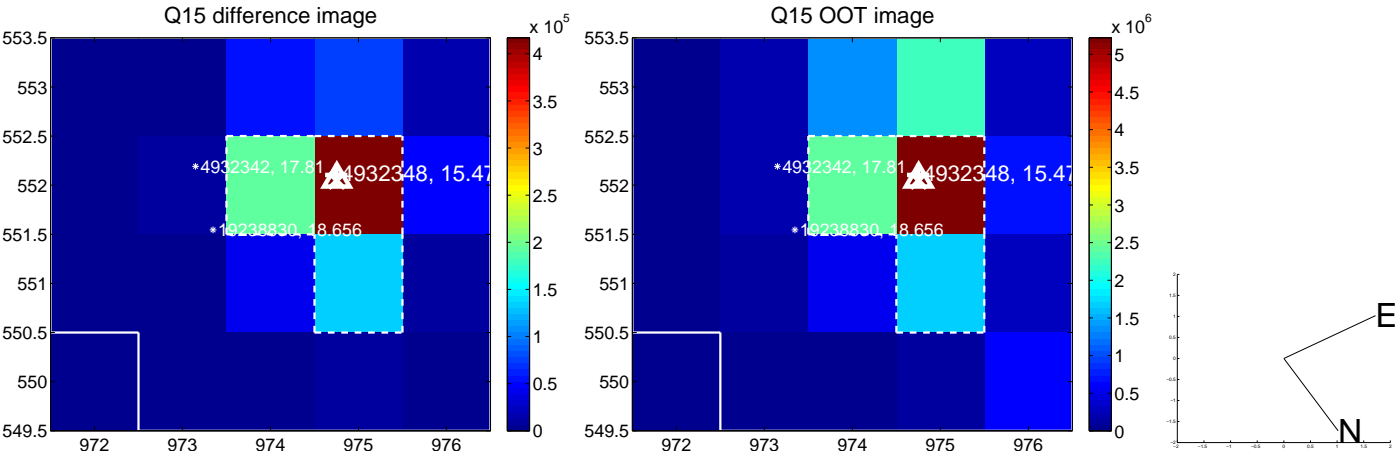
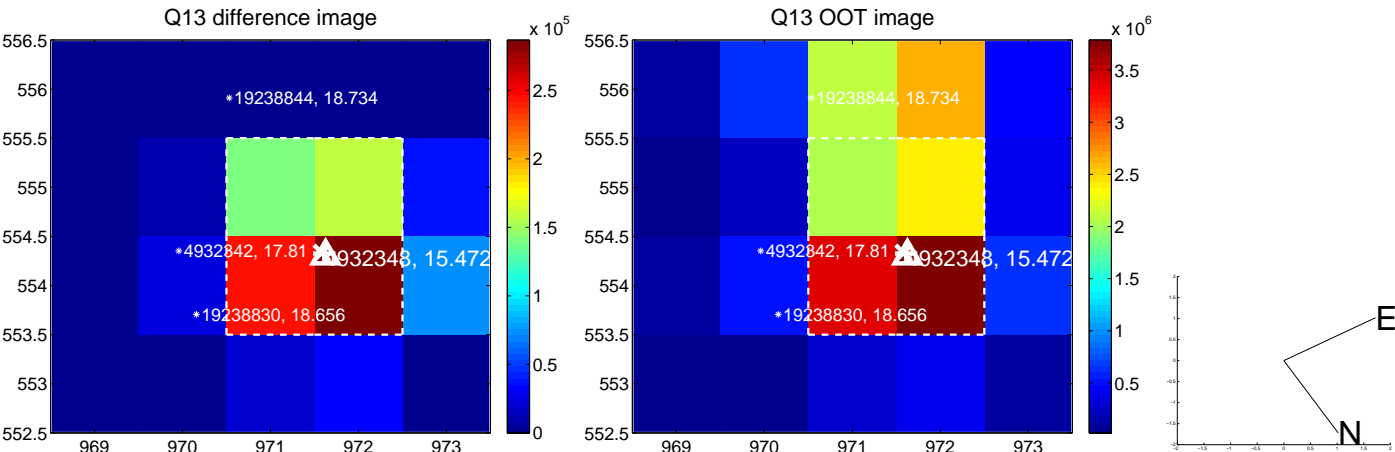
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



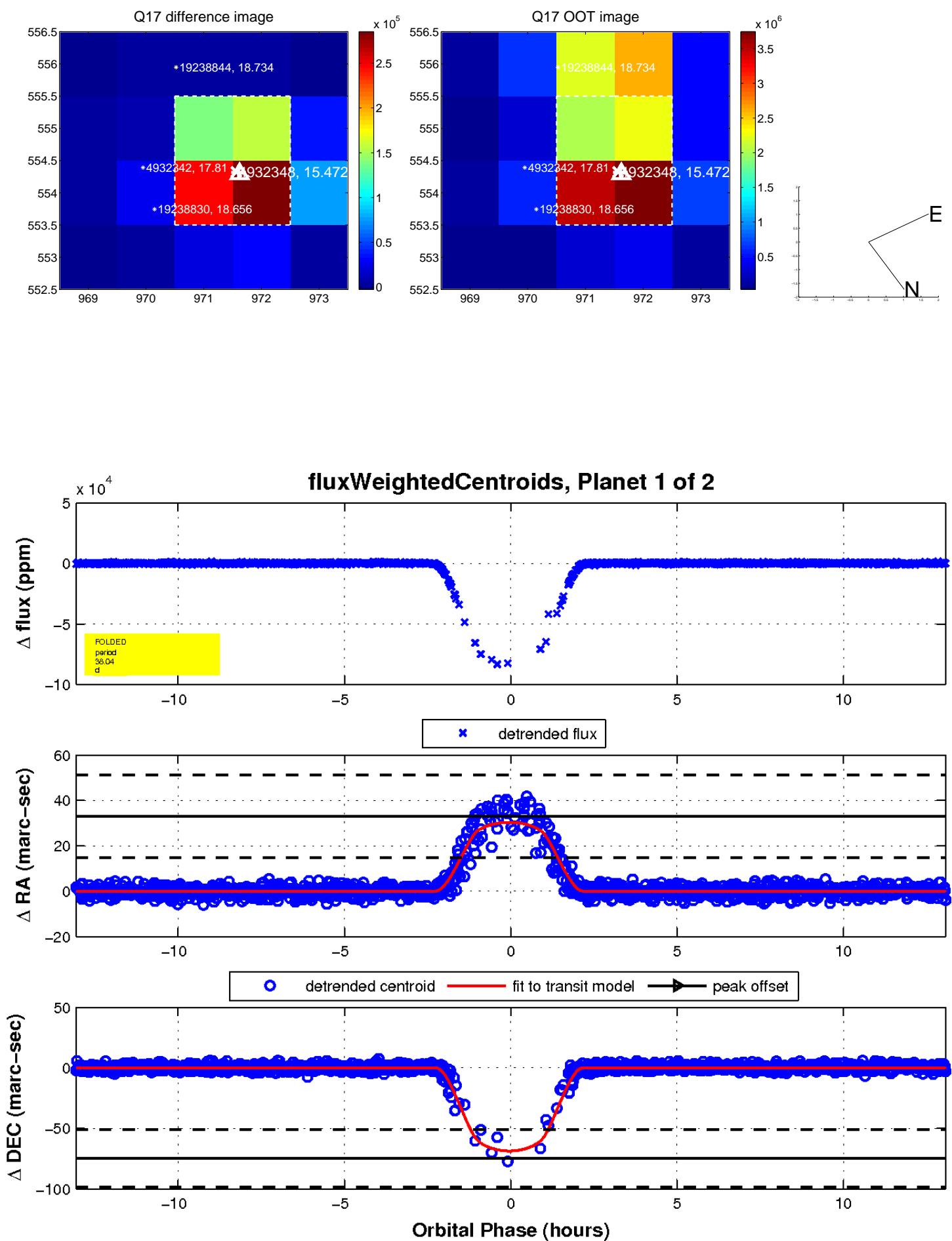
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



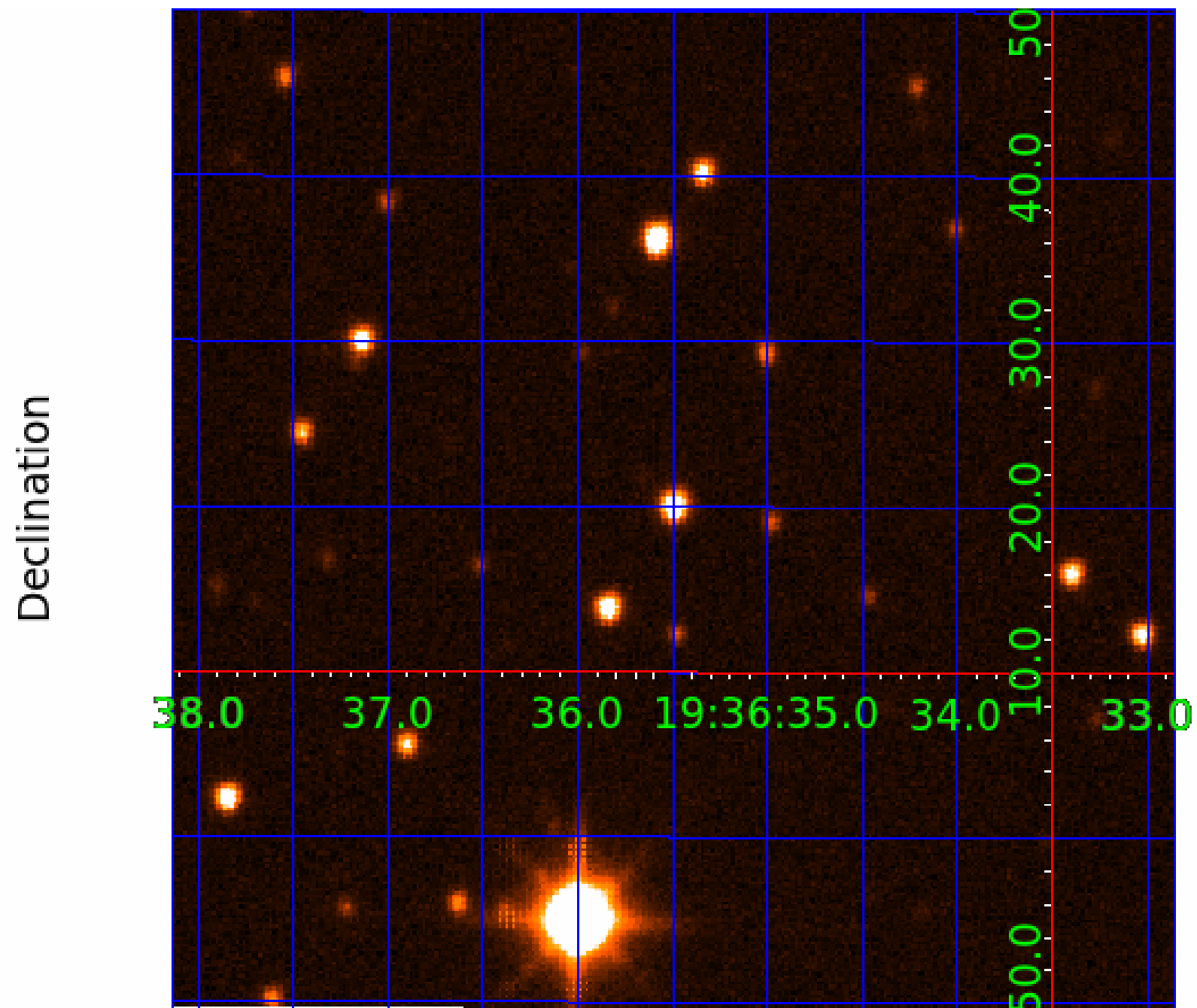
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004932348

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})
004932348-01	OBS	0819.01	38.036732	158.898148	82261.6	4.359	1785.3	1377.0	0.93	5575	27.41	14.83
004932348-02	OBS	No	38.036720	150.134662	1680.2	5.744	34.3	37.9	0.93	5575	6.68	14.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004932348-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—HAS_SEC_TCE
004932348-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

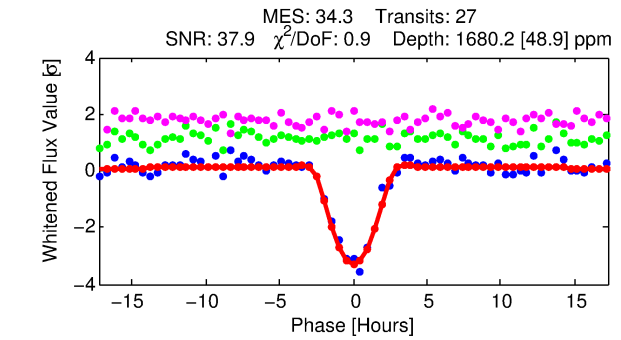
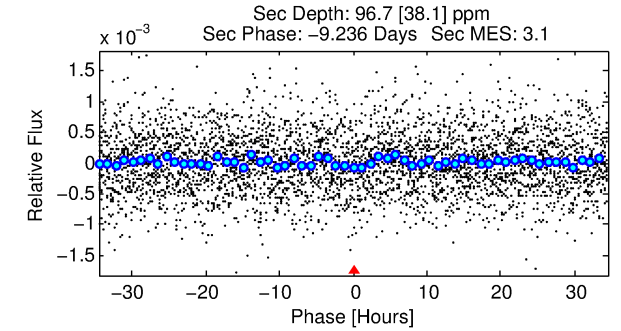
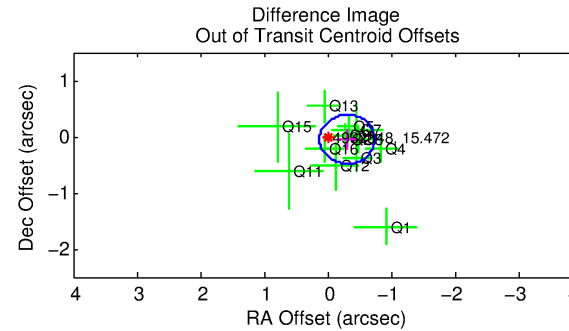
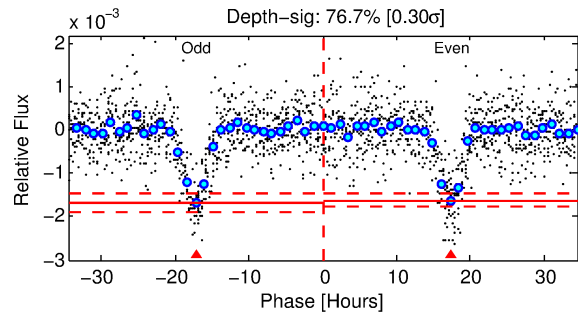
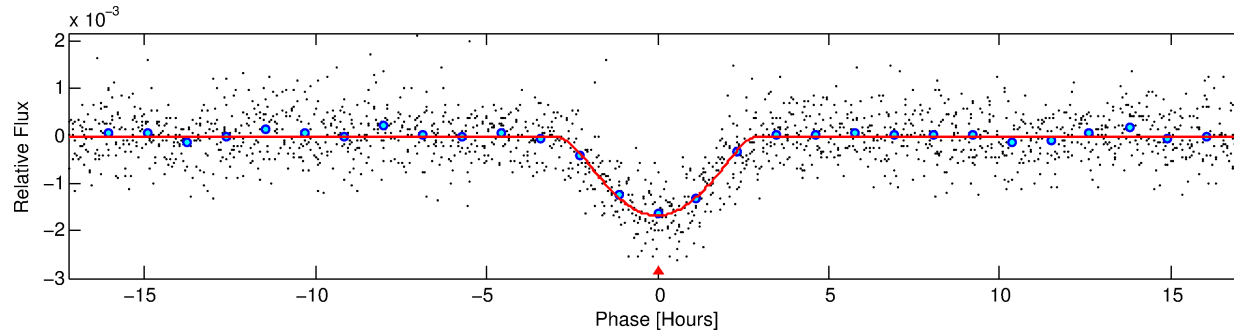
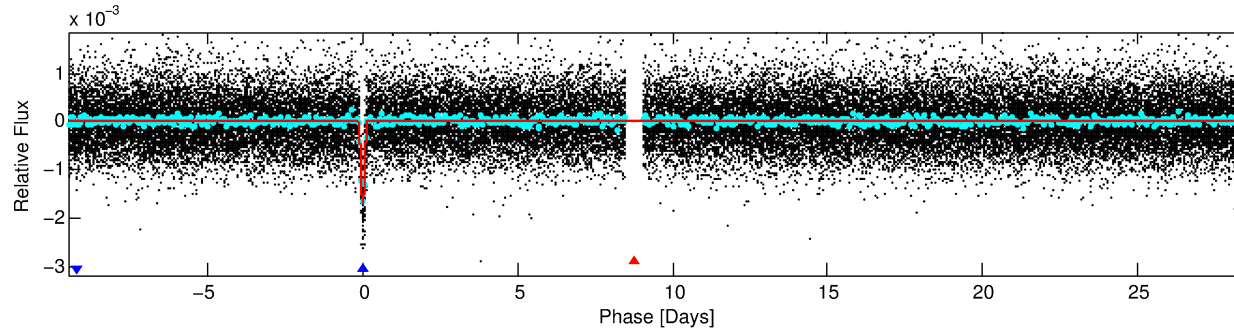
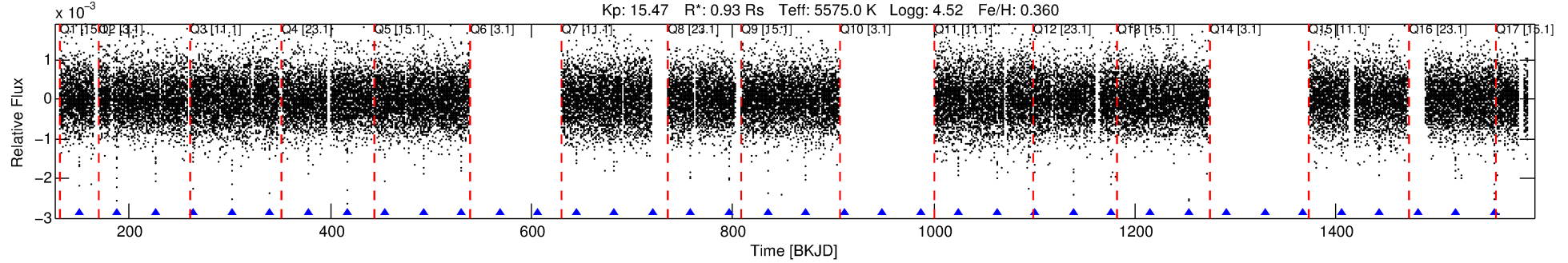
Ephemeris Match Information For 004932348-02

No Significant Match Found

DV One-Page Summary

KIC: 4932348 Candidate: 2 of 2 Period: 38.037 d
KOI: K00819 Corr: No Ephemeris Match

Kp: 15.47 R*: 0.93 Rs Teff: 5575.0 K Logg: 4.52 Fe/H: 0.360



DV Fit Results:

Period = 38.03672 [0.00016] d
Epoch = 150.1347 [0.0033] BKJD
Rp/R* = 0.0657 [0.0522]
a/R* = 20.22 [4.24]
b = 0.99 [0.08]
Seff = 14.83 [4.40]
Teq = 500 [37] K
Rp = 6.68 [5.47] Re
a = 0.2251 [0.0390] AU
Ag = 60.39 [100.23] [0.59σ]
Teffp = 2157 [886] K [1.87σ]

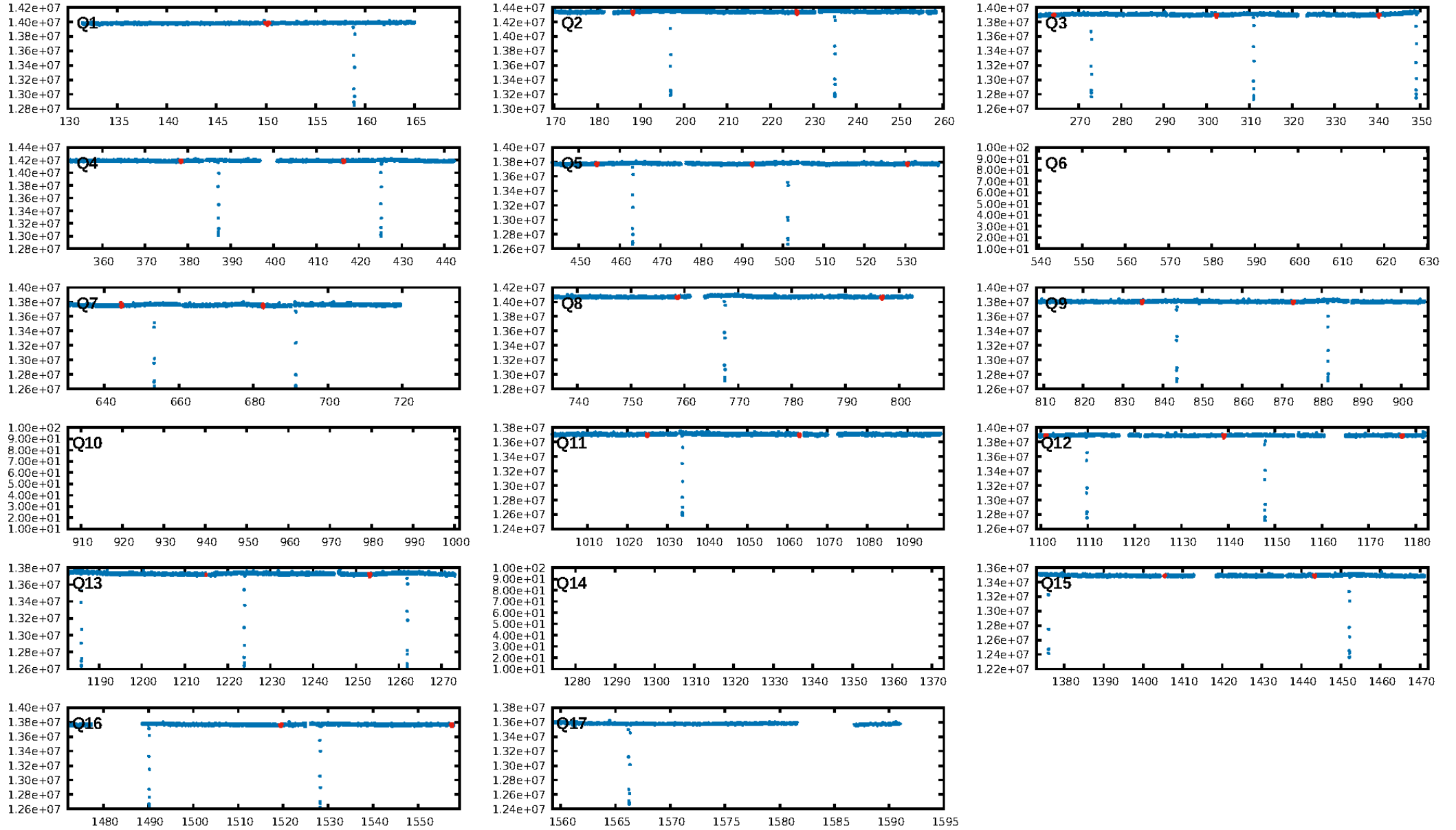
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 31.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.19e-245
RollingBand-fgt: 1.00 [26/26]
GhostDiagnostic-chr: 4.042
Centroid-sig: 0.0%
Centroid-so: 0.066 arcsec [0.20σ]
OotOffset-rm: 0.310 arcsec [2.14σ]
KicOffset-rm: 0.318 arcsec [1.74σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
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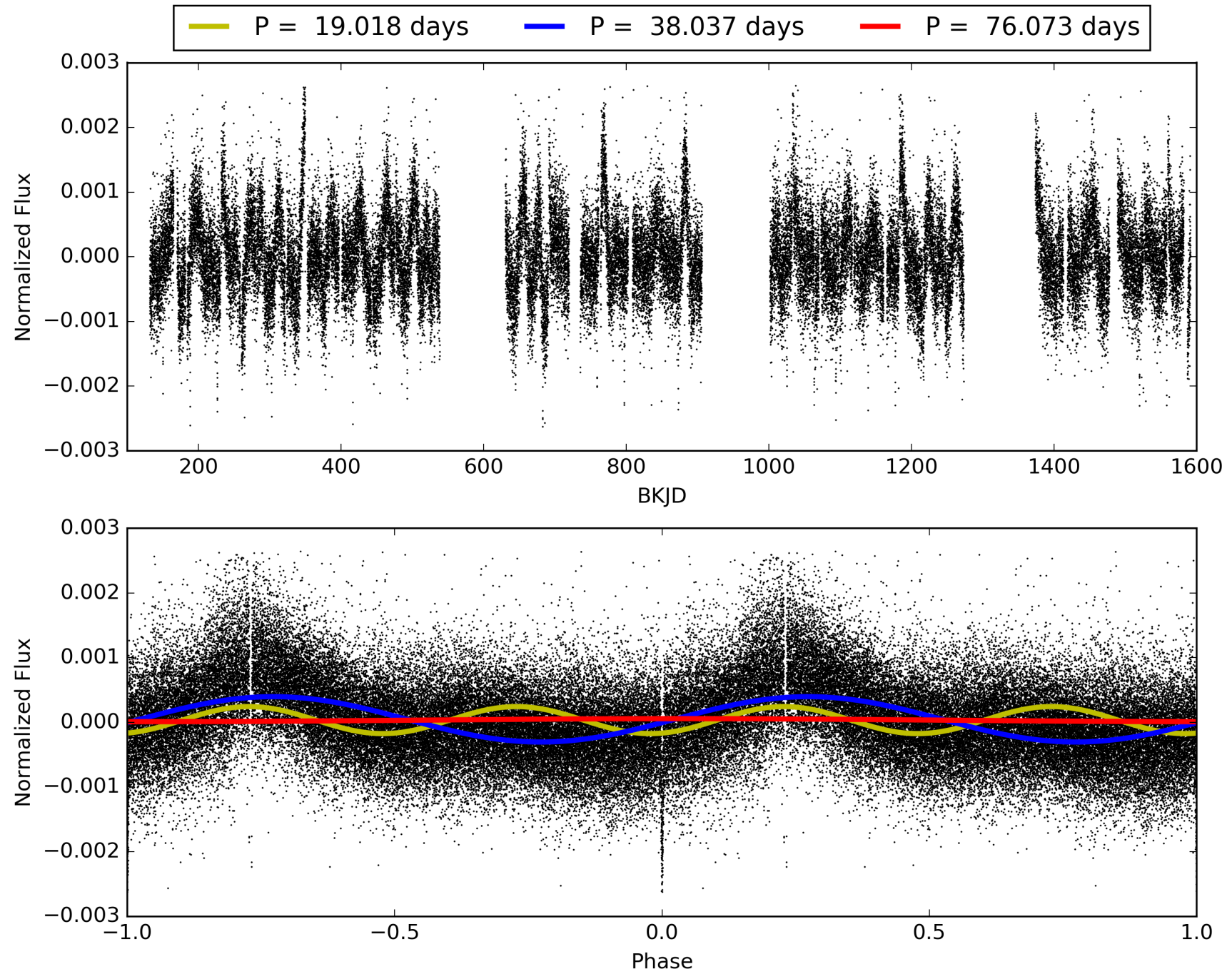
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004932348-02, PDC Light Curves

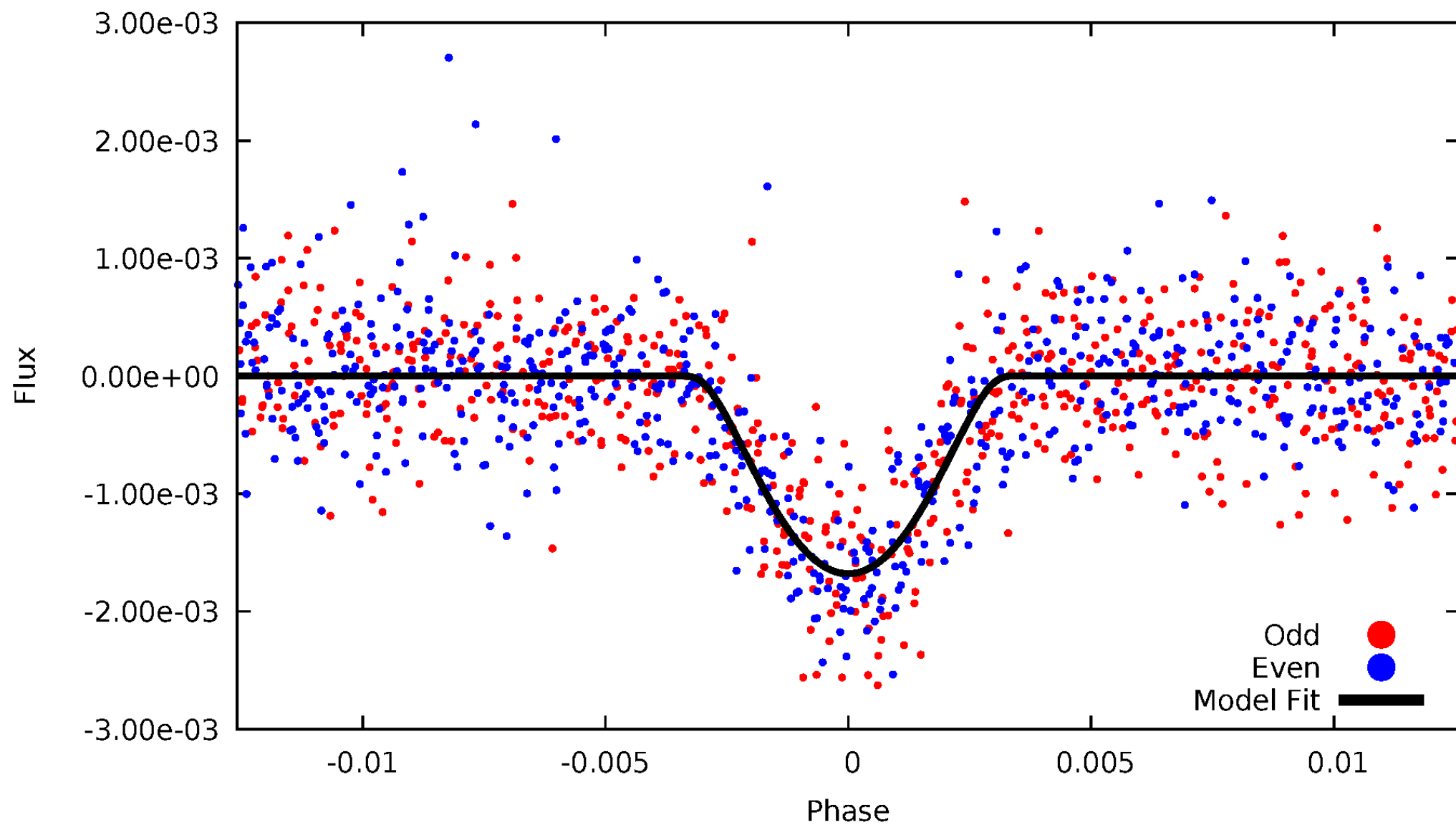


TCE 004932348-02



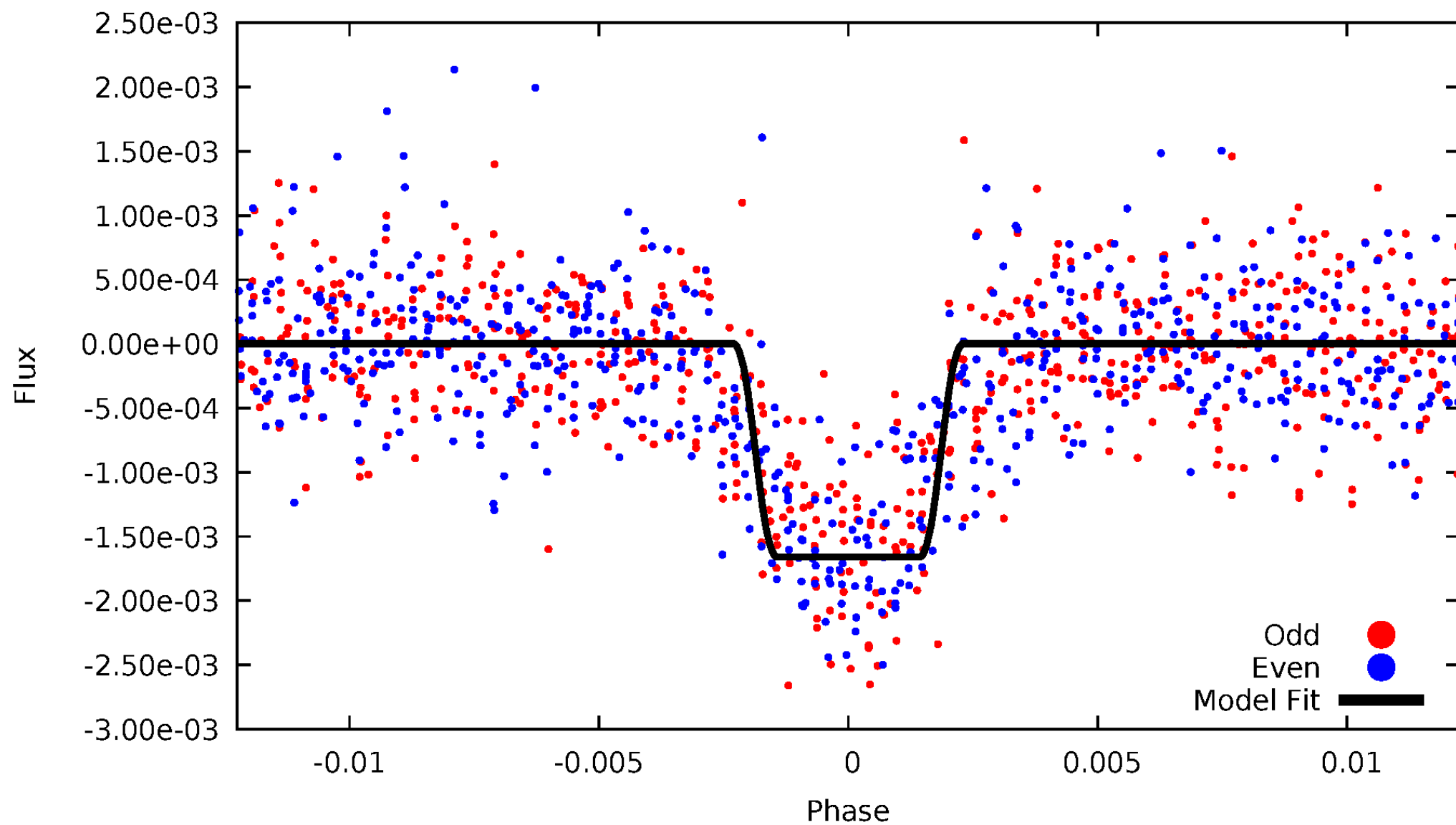
DV Odd/Even

TCE 004932348-02



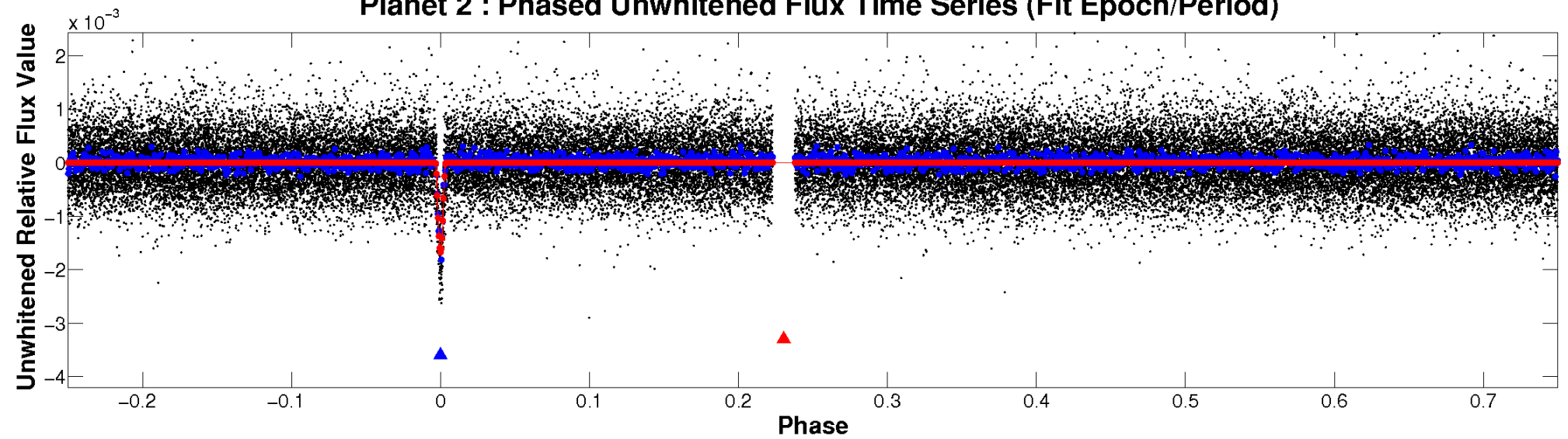
ALT Odd/Even

TCE 004932348-02

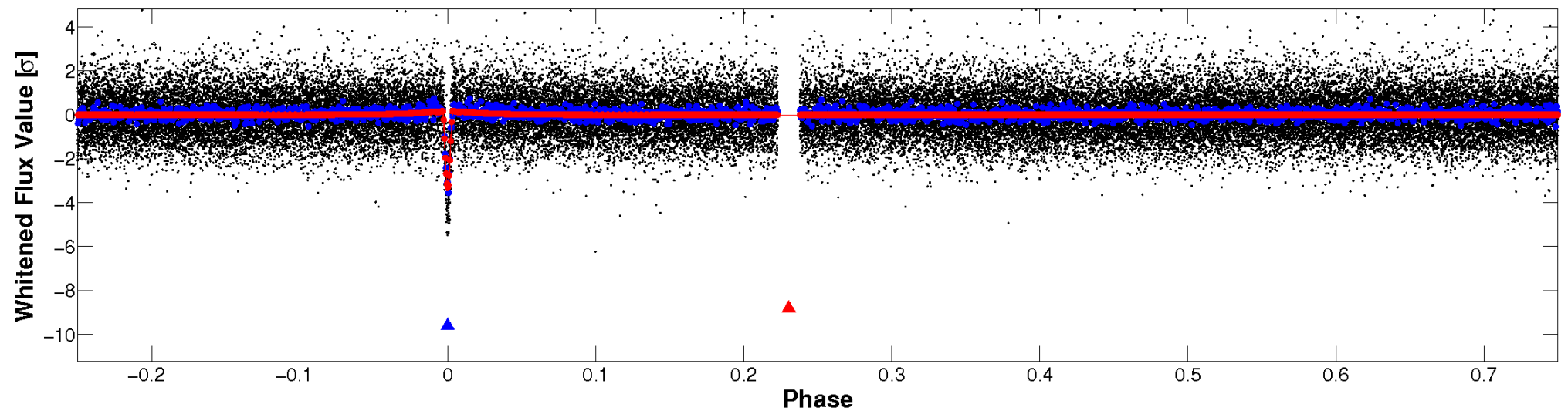


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

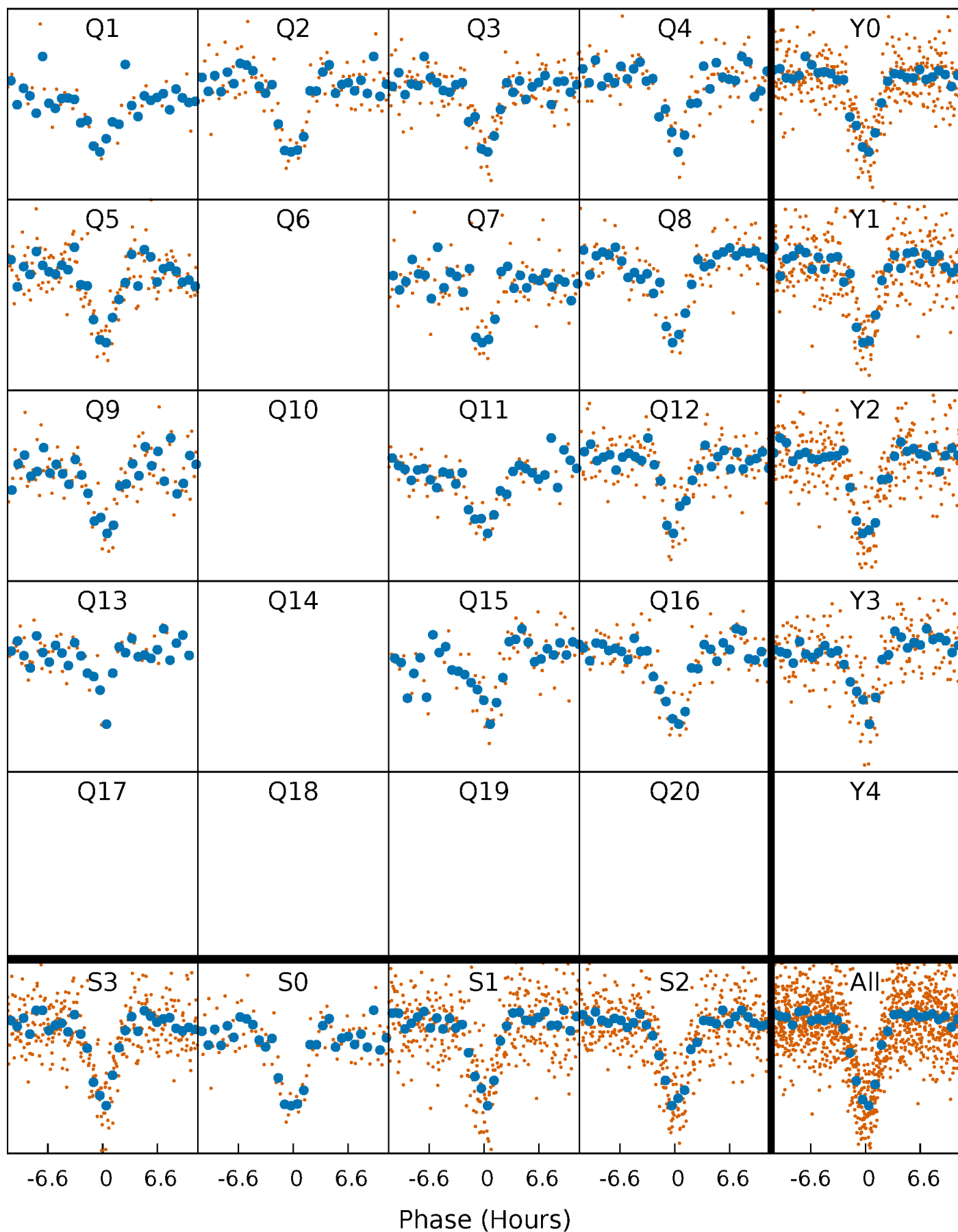


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



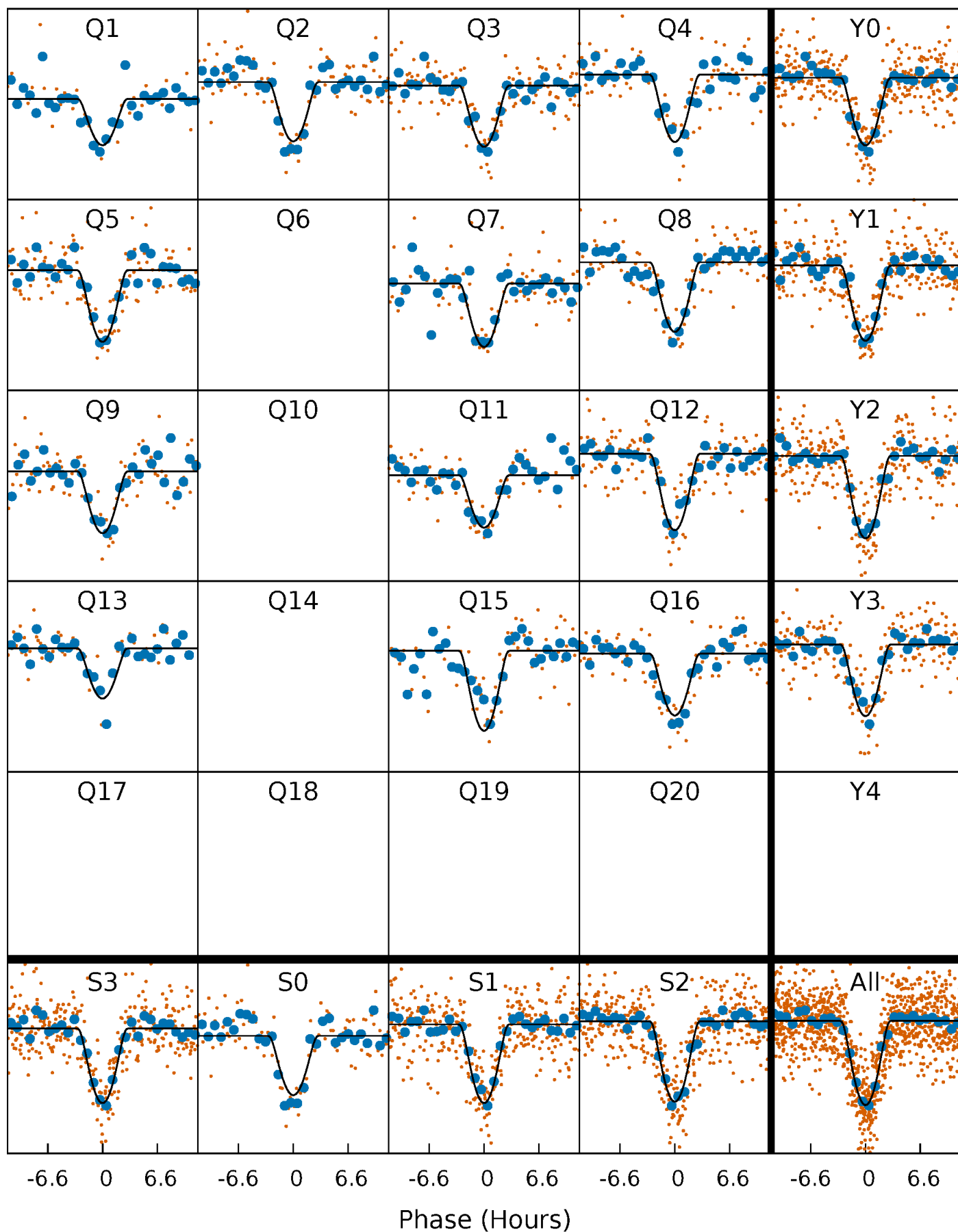
PDC Quarter-Phased Transit Curves

TCE 004932348-02 $P = 38.036720$ Days $T_0 = 150.134662$ (BKJD)



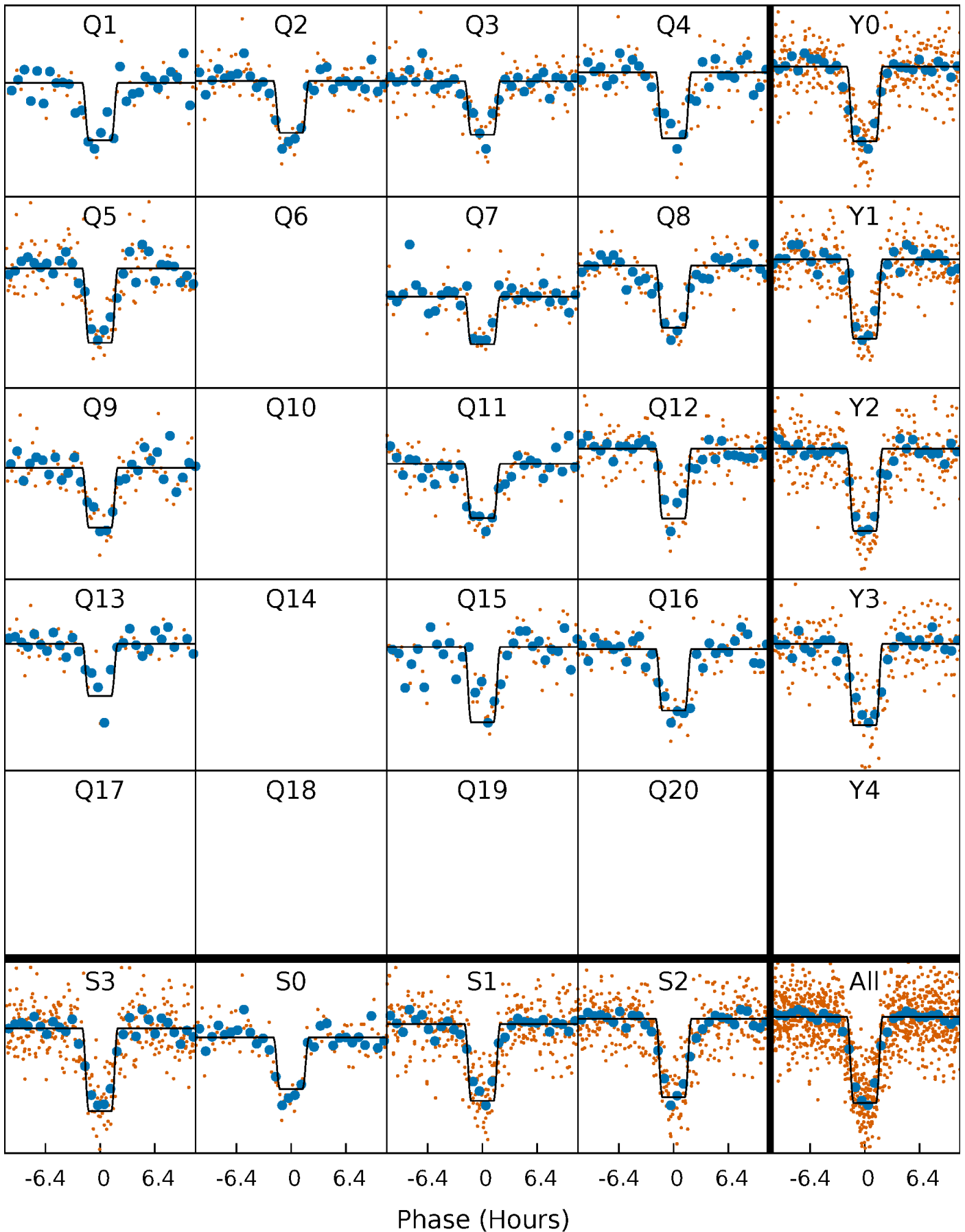
DV Quarter-Phased Transit Curves

TCE 004932348-02 P= 38.036720 Days $T_0=150.134662$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

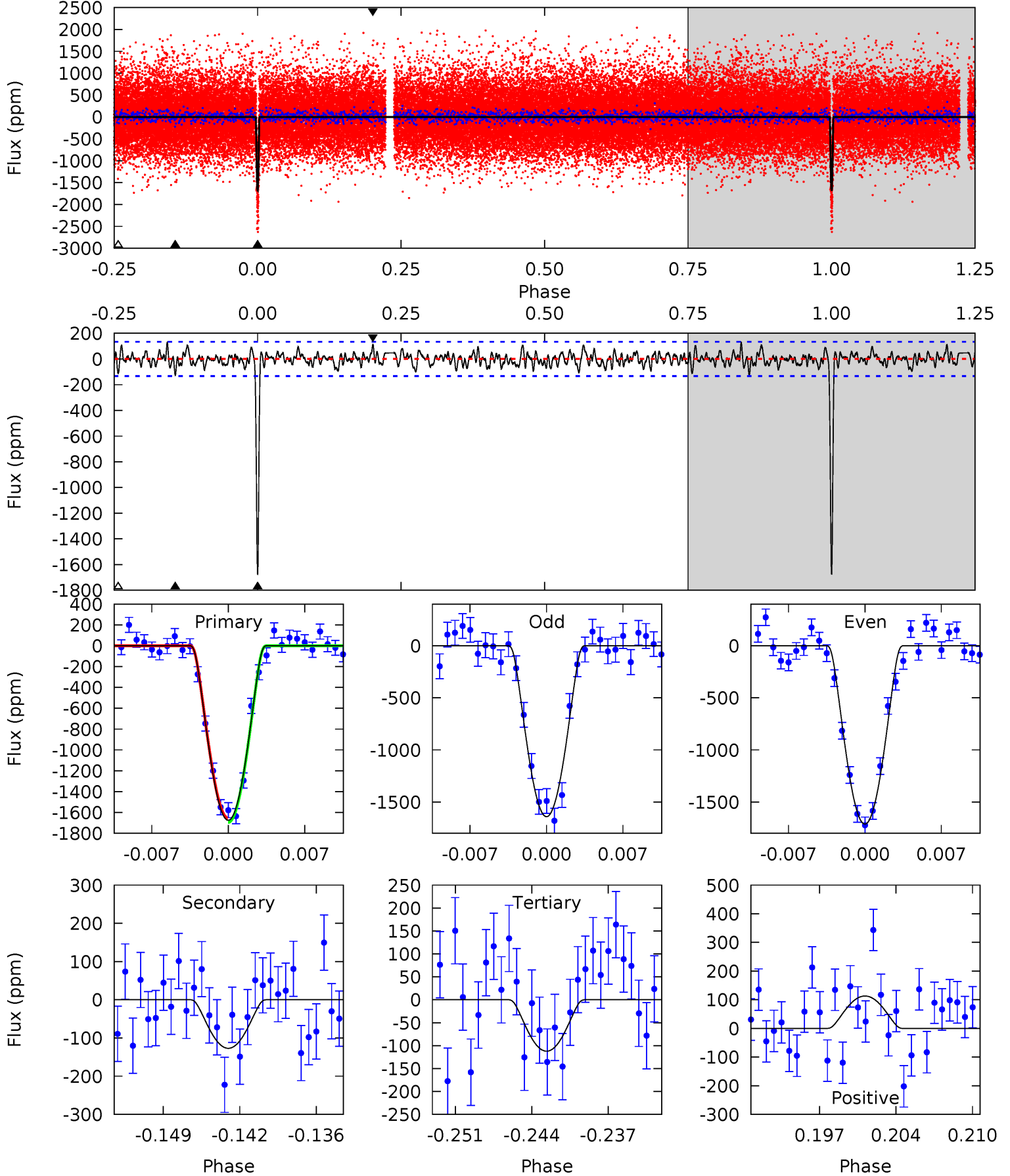
TCE 004932348-02 P= 38.036113 Days $T_0=150.145550$ (BKJD)



DV Model-Shift Uniqueness Test

004932348-02, P = 38.036720 Days, E = 112.097942 Days

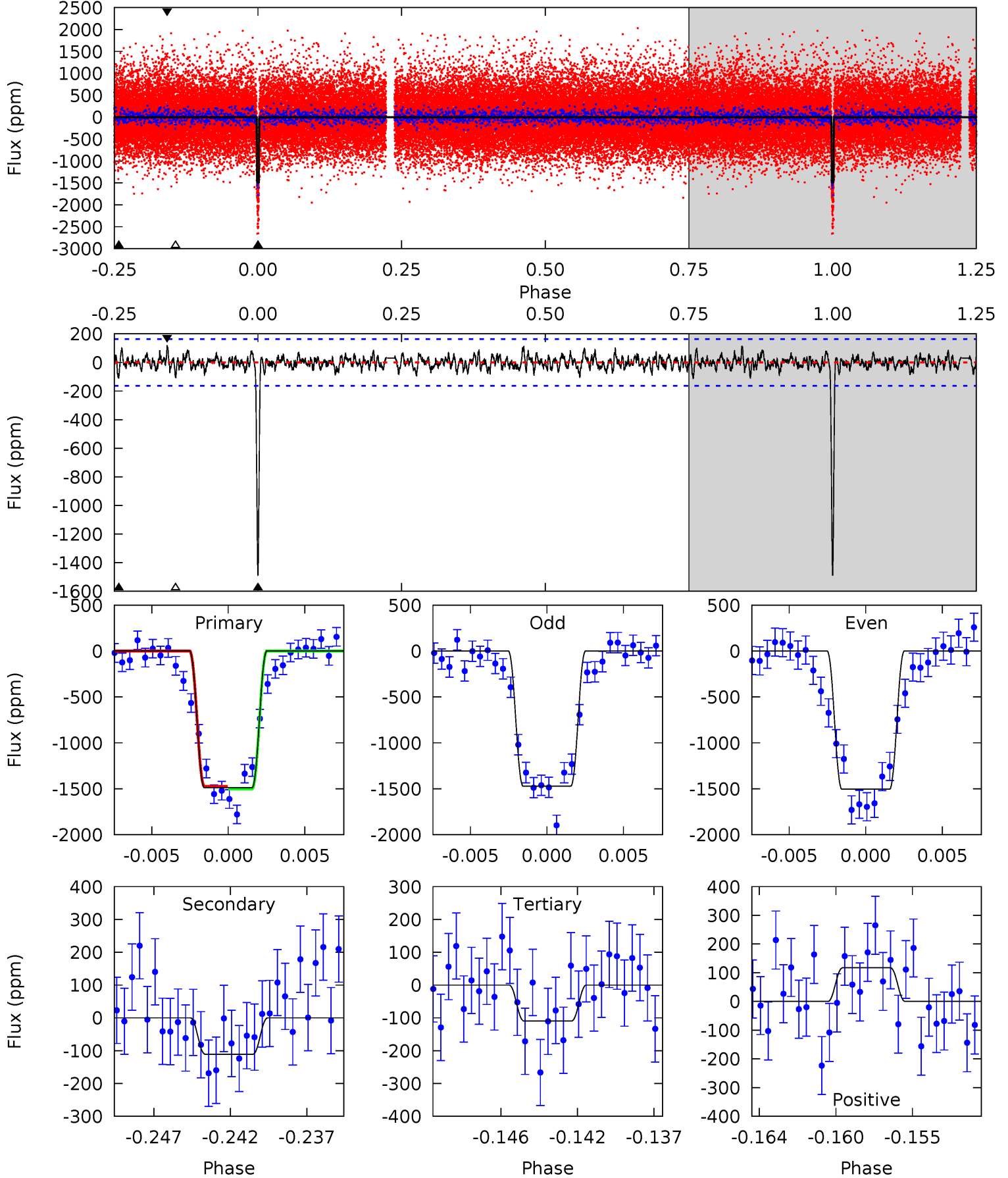
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.8	4.84	4.27	4.31	5.10	2.71	1.49	59.6	59.5	0.57	0.53	1.35	0.98	0.07	0.77



Alt Model-Shift Uniqueness Test

004932348-02, P = 38.036113 Days, E = 112.109437 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.2	3.51	3.47	3.72	5.17	2.84	1.08	43.7	43.5	0.04	-0.21	0.54	1.02	0.07	0.42



Stellar Parameters For KIC 004932348

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5575^{+166}_{-183}	$4.521^{+0.038}_{-0.152}$	$0.360^{+0.100}_{-0.300}$	$0.932^{+0.179}_{-0.077}$	$1.051^{+0.066}_{-0.132}$	$1.828^{+0.342}_{-0.733}$
	+3%/-3%	+1%/-3%	+28%/-83%	+19%/-8%	+6%/-13%	+19%/-40%
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 004932348-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-127 ± 26	$7.42^{+5.15}_{-4.42}$	715^{+38}_{-30}	2936^{+928}_{-395}	63^{+313}_{-41}
Alt.	-111 ± 32	$5.59^{+4.90}_{-3.58}$	714^{+40}_{-34}	3090^{+1330}_{-499}	94^{+707}_{-69}

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 $A_{obs} \gg 1.0$

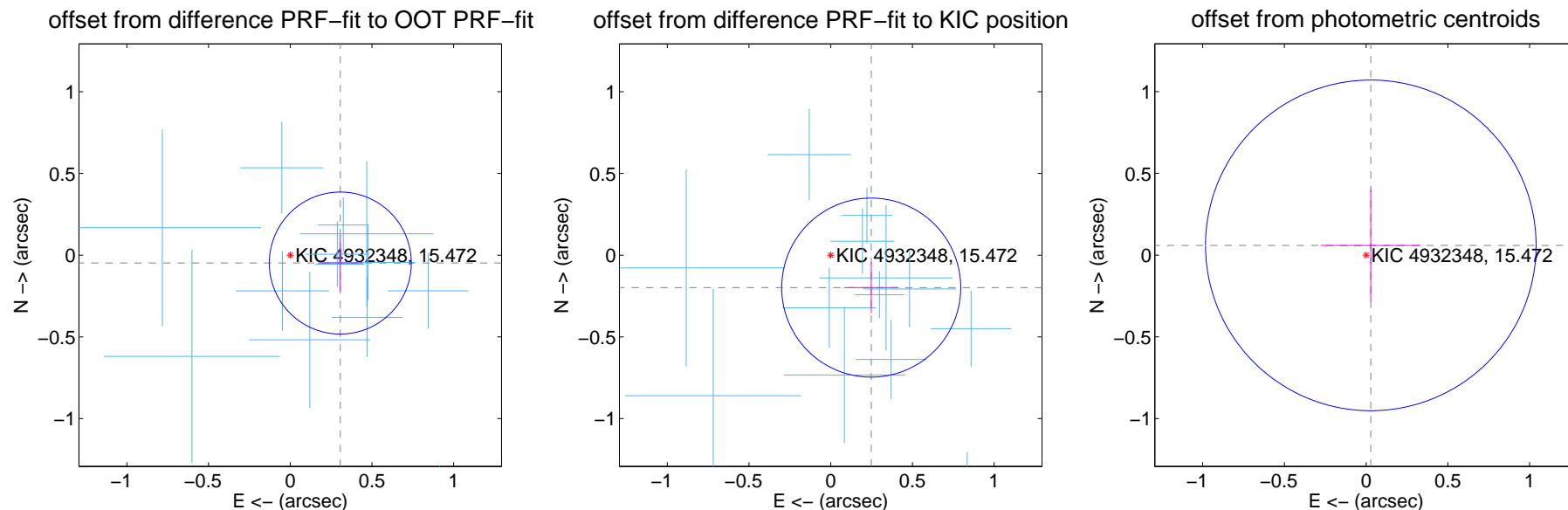
DV Centroid Data

Supplemental centroid analysis for 004932348-02. Kepler magnitude: 15.47. Transit SNR 37.85

There are 13 quarters with good PRF difference image offsets

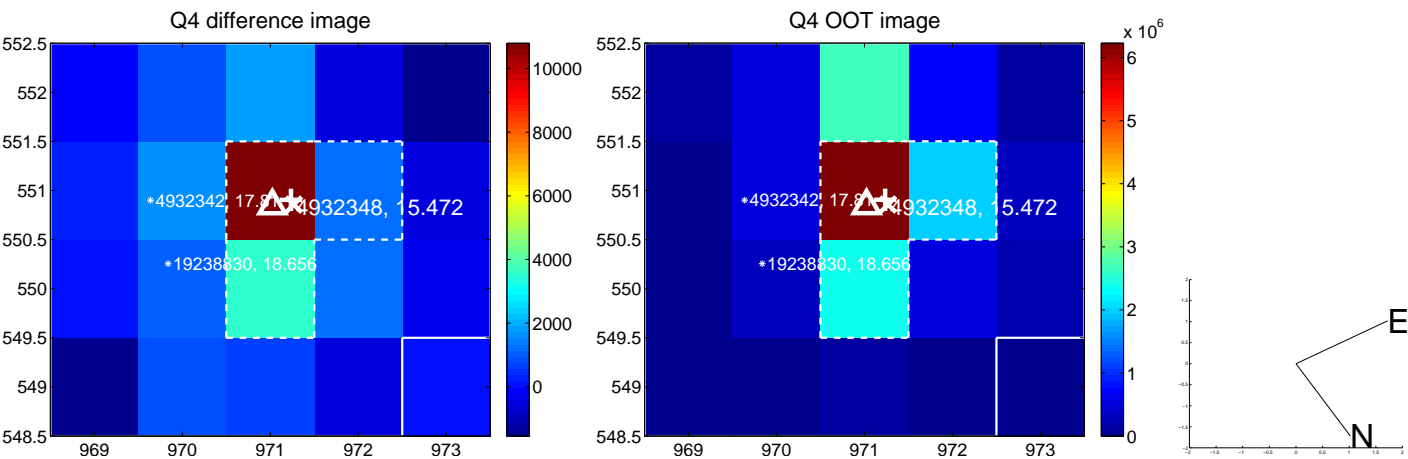
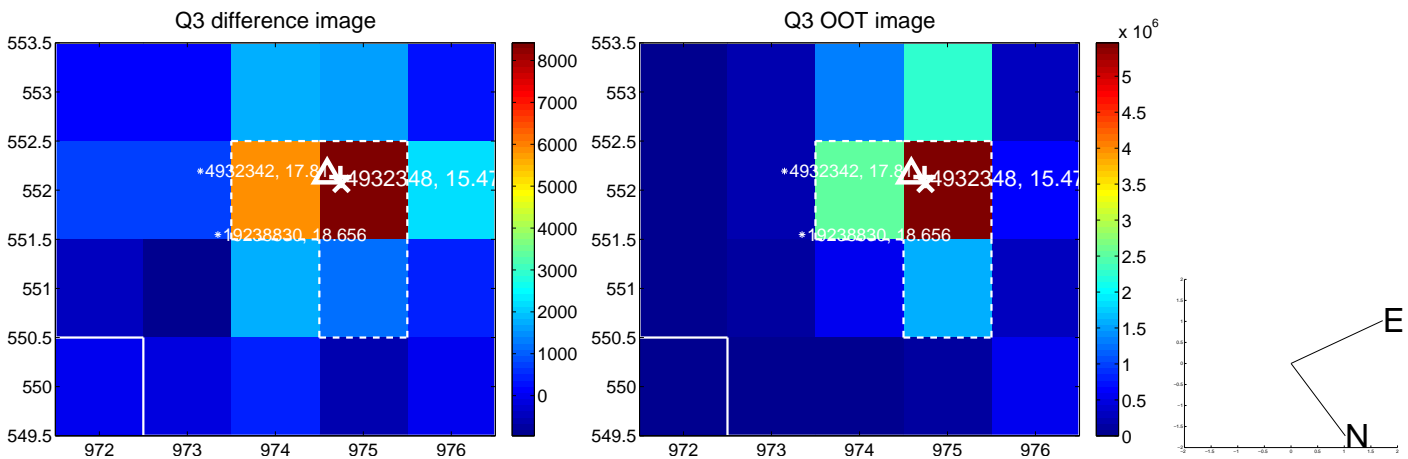
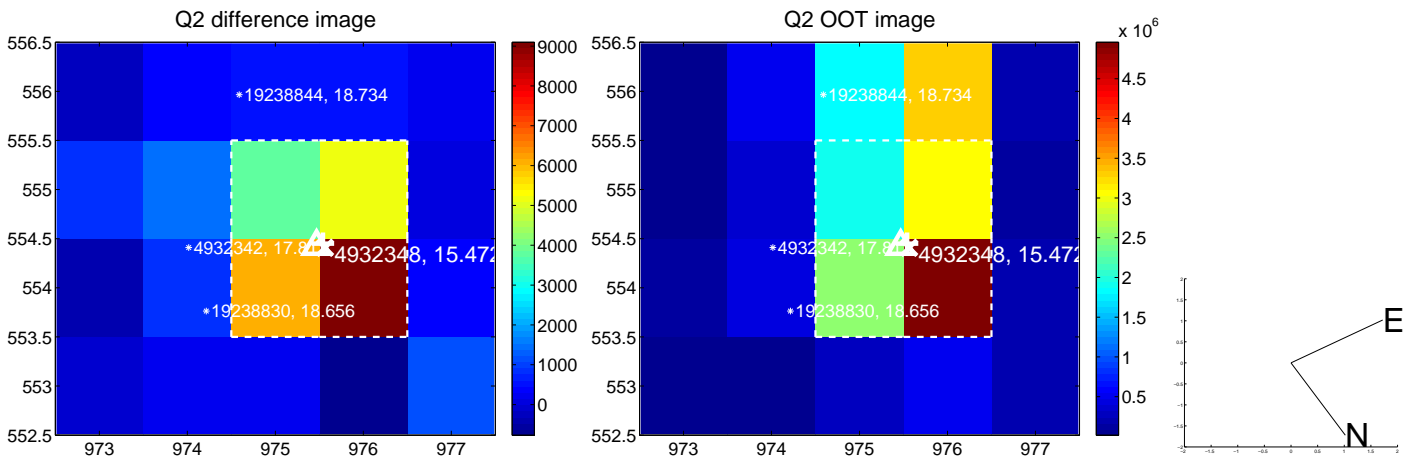
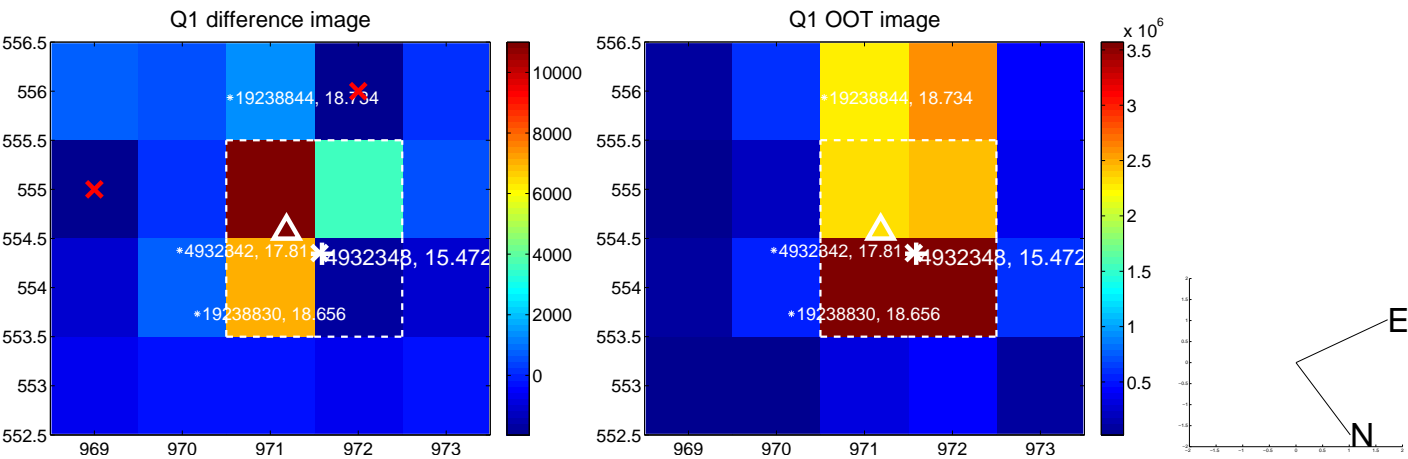
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.310 ± 0.145	2.14	-0.306 ± 0.137	-0.048 ± 0.173
PRF-fit source offset from KIC position	0.318 ± 0.183	1.74	-0.248 ± 0.166	-0.199 ± 0.157
photometric centroid source offset	0.07 ± 0.34	0.20	-0.03 ± 0.31	0.06 ± 0.34

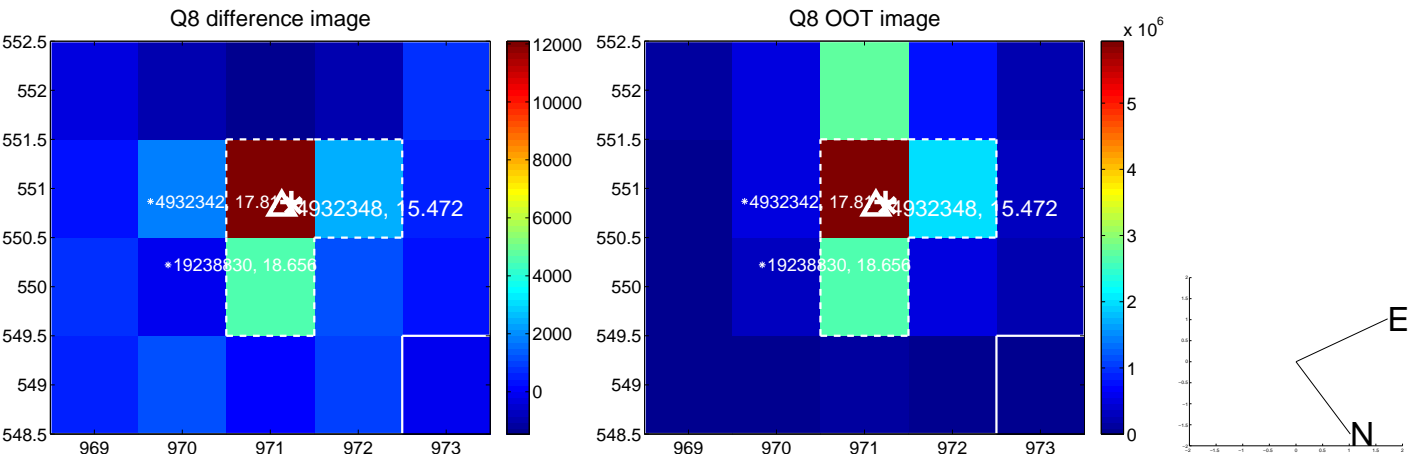
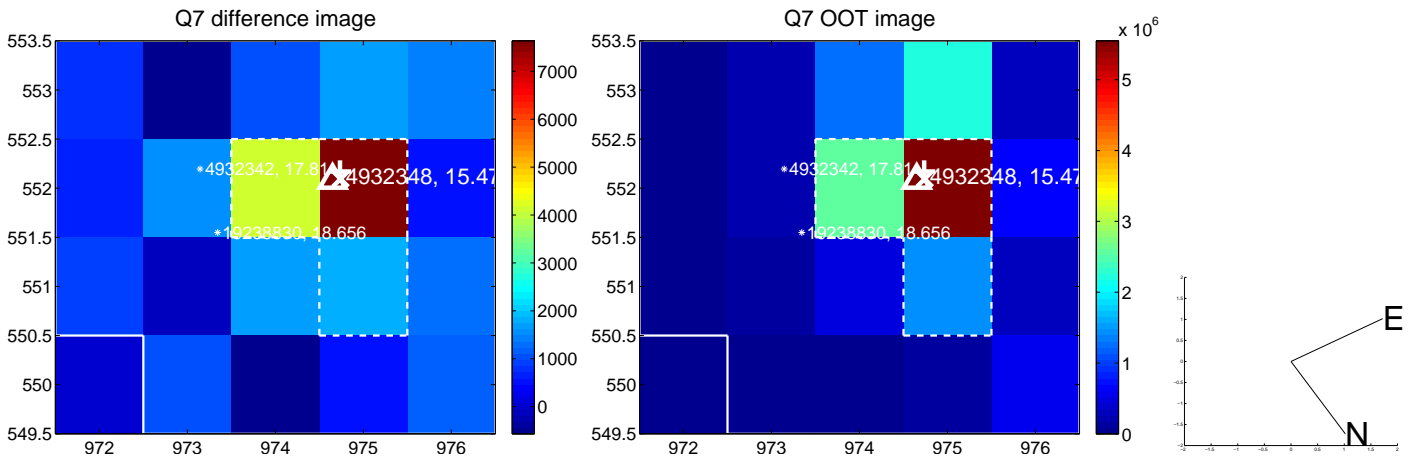
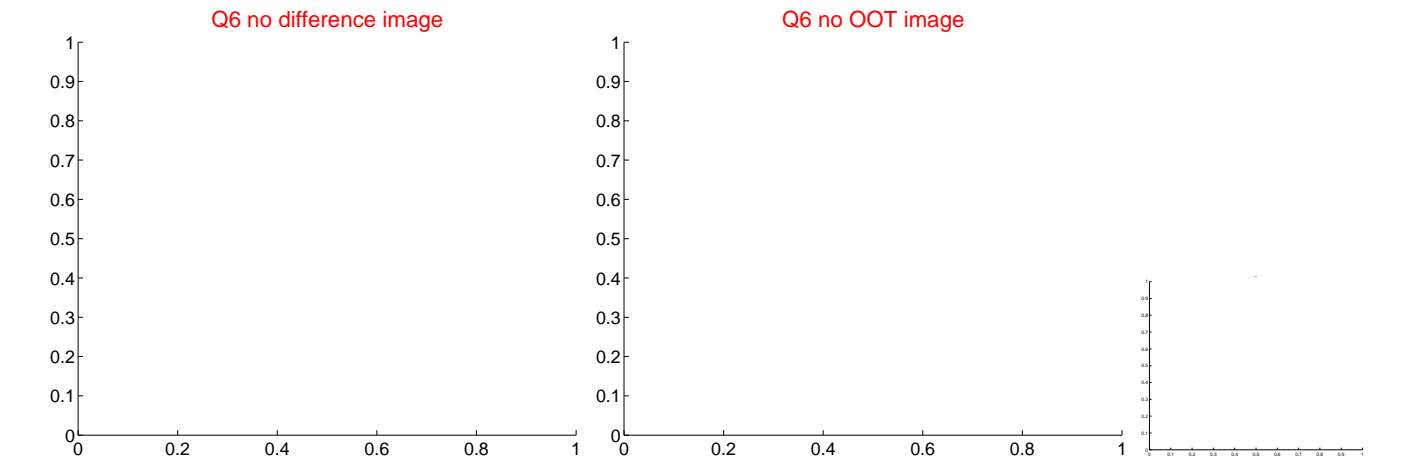
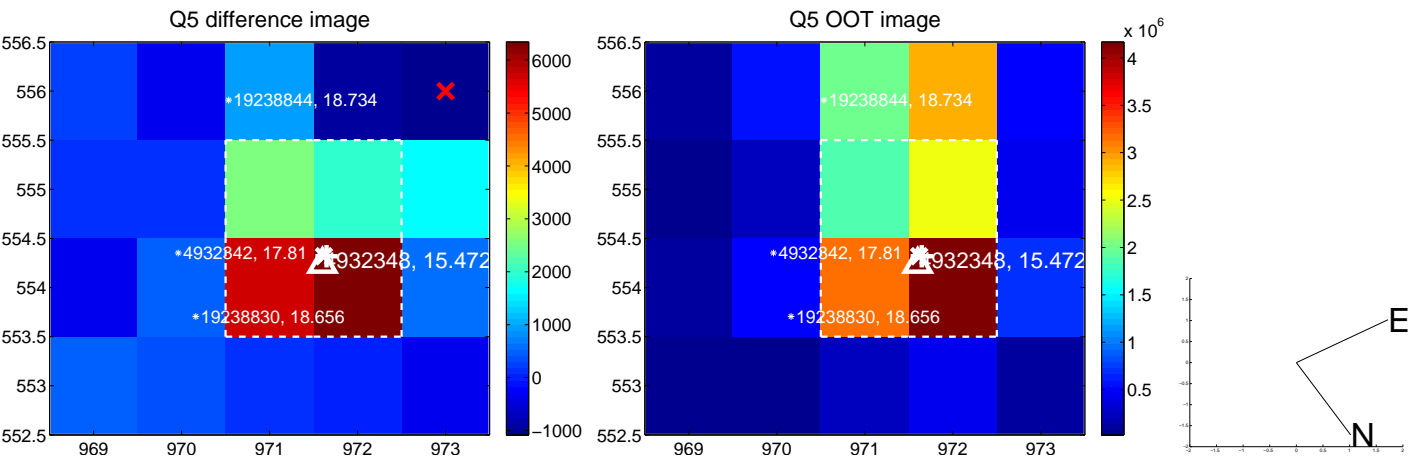


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

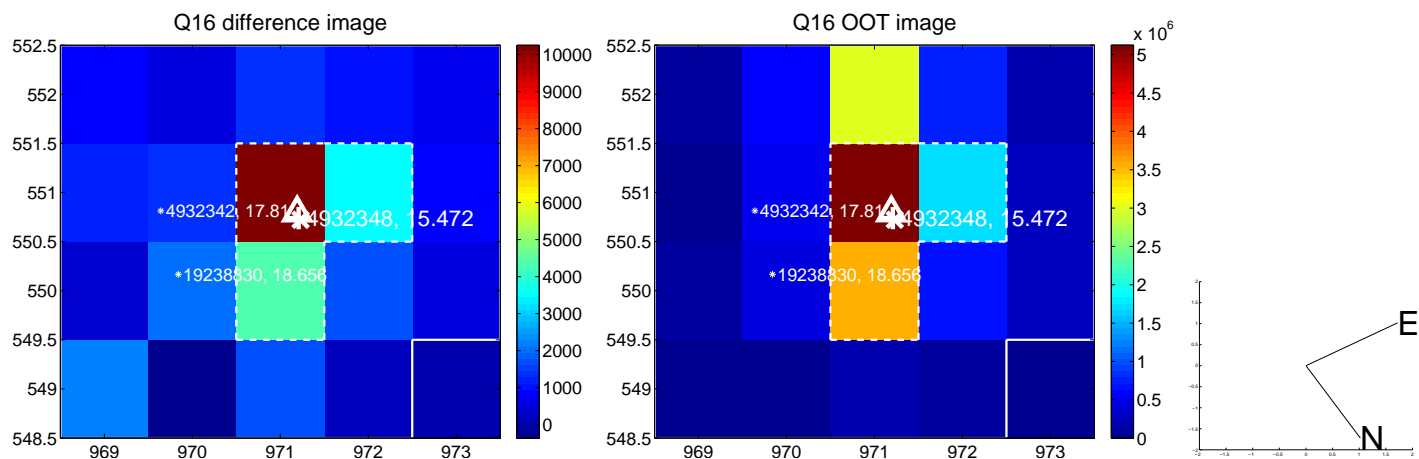
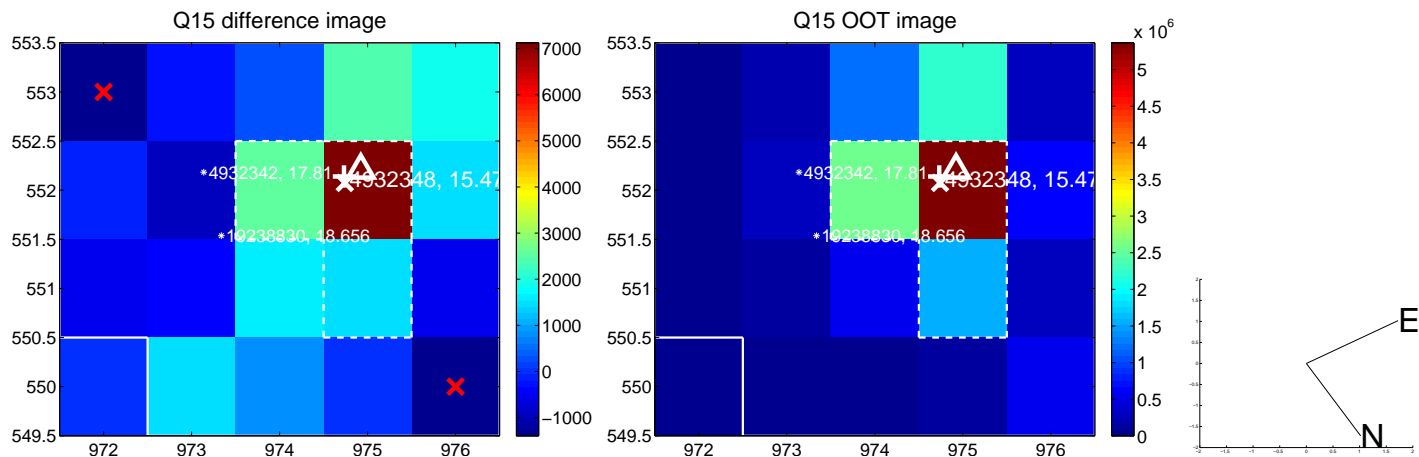
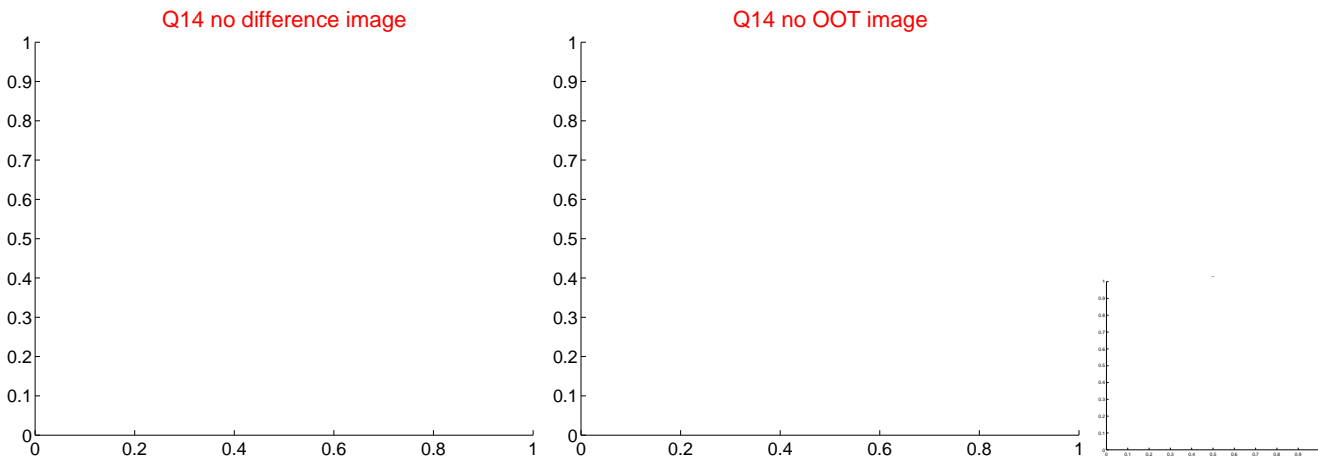
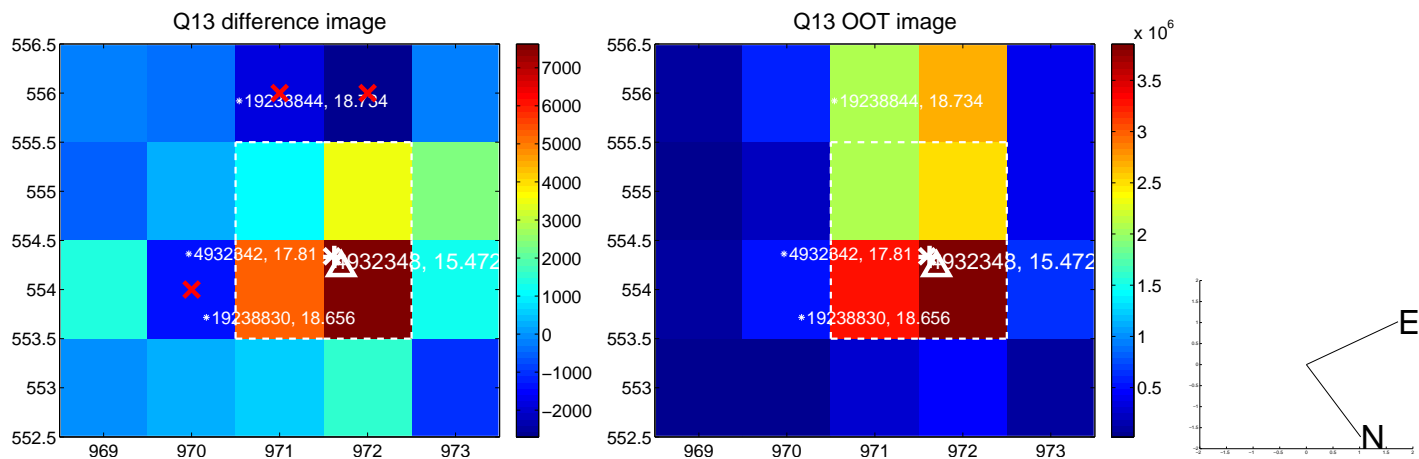
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



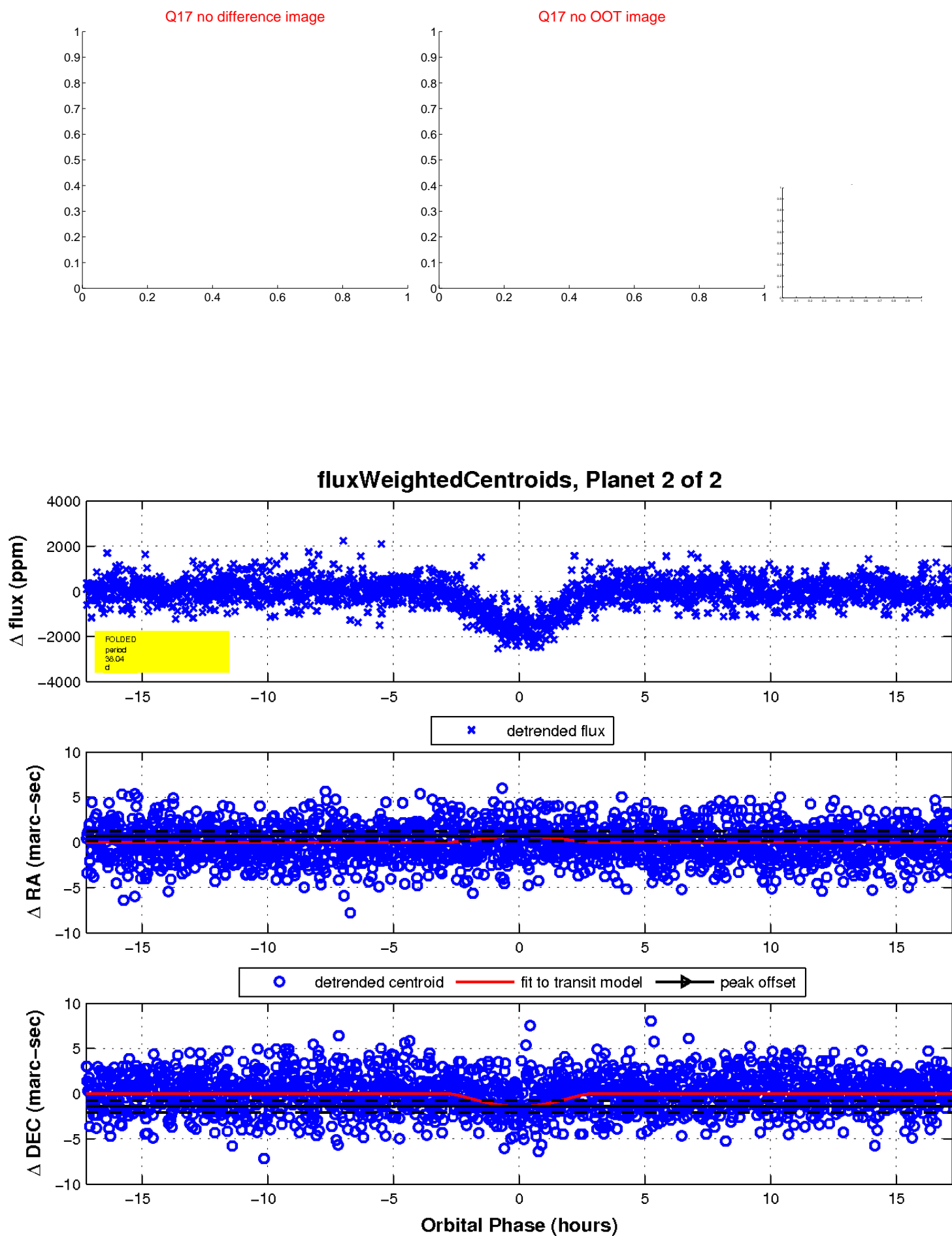
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

