

KIC 007552344

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})
007552344-01	OBS	0888.01	2.001491	131.946956	1401.1	0.850	40.1	71.9	0.79	5472	3.59	646.78
007552344-02	OBS	No	2.001473	132.951182	602.5	0.951	20.6	34.7	0.79	5472	2.34	646.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007552344-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
007552344-02	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.

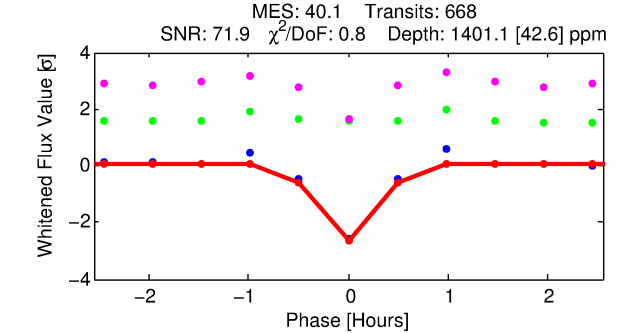
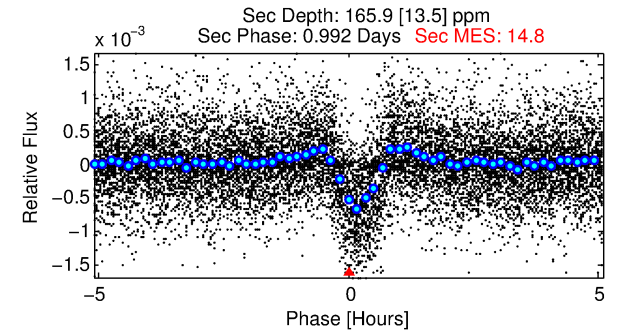
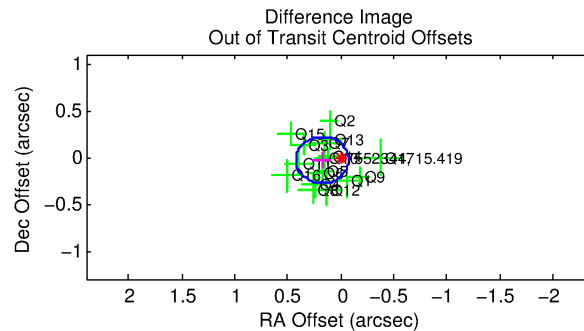
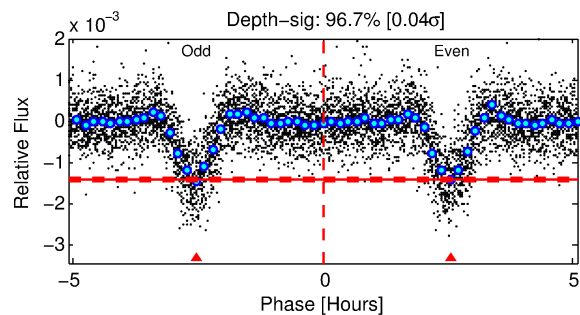
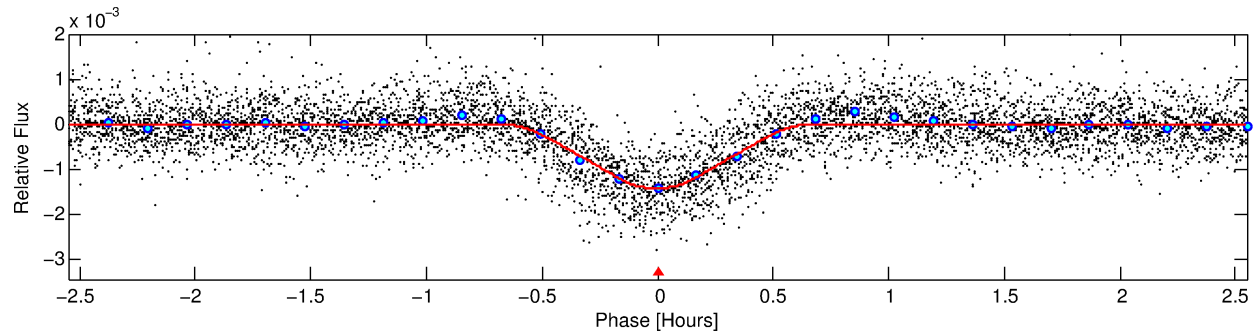
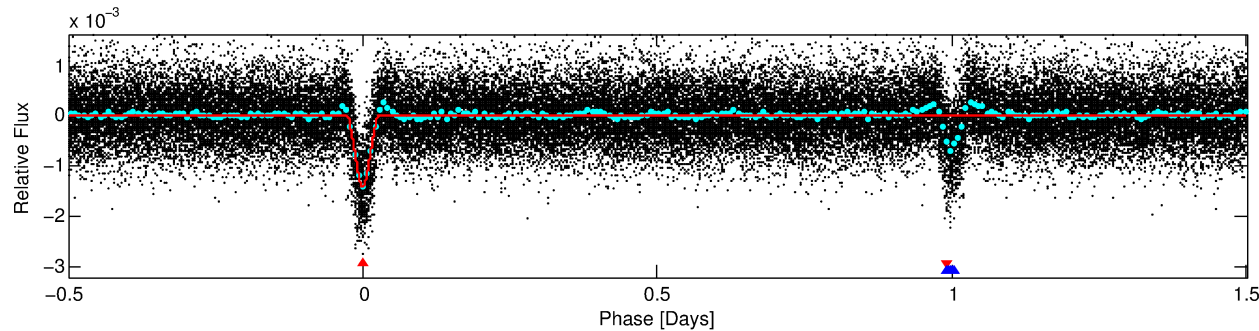
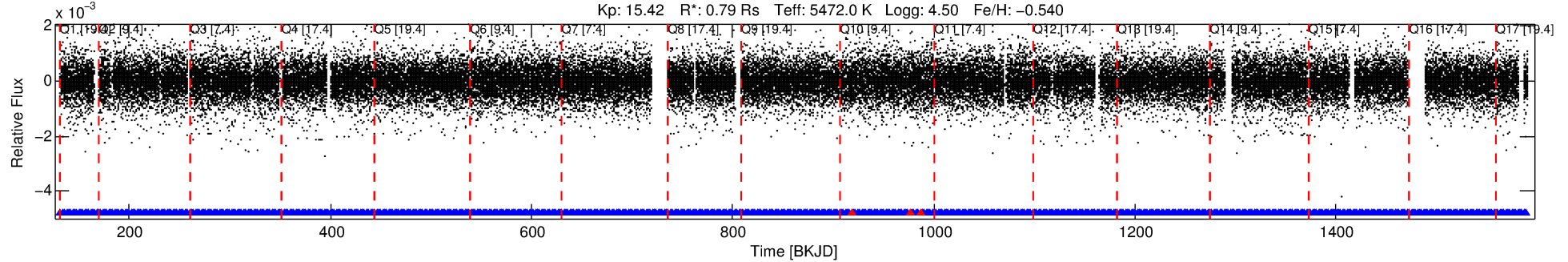
Ephemeris Match Information For 007552344-01

No Significant Match Found

DV One-Page Summary

KIC: 7552344 Candidate: 1 of 2 Period: 2.001 d
KOI: K00888 Corr: No Ephemeris Match

Kp: 15.42 R*: 0.79 Rs Teff: 5472.0 K Logg: 4.50 Fe/H: -0.540



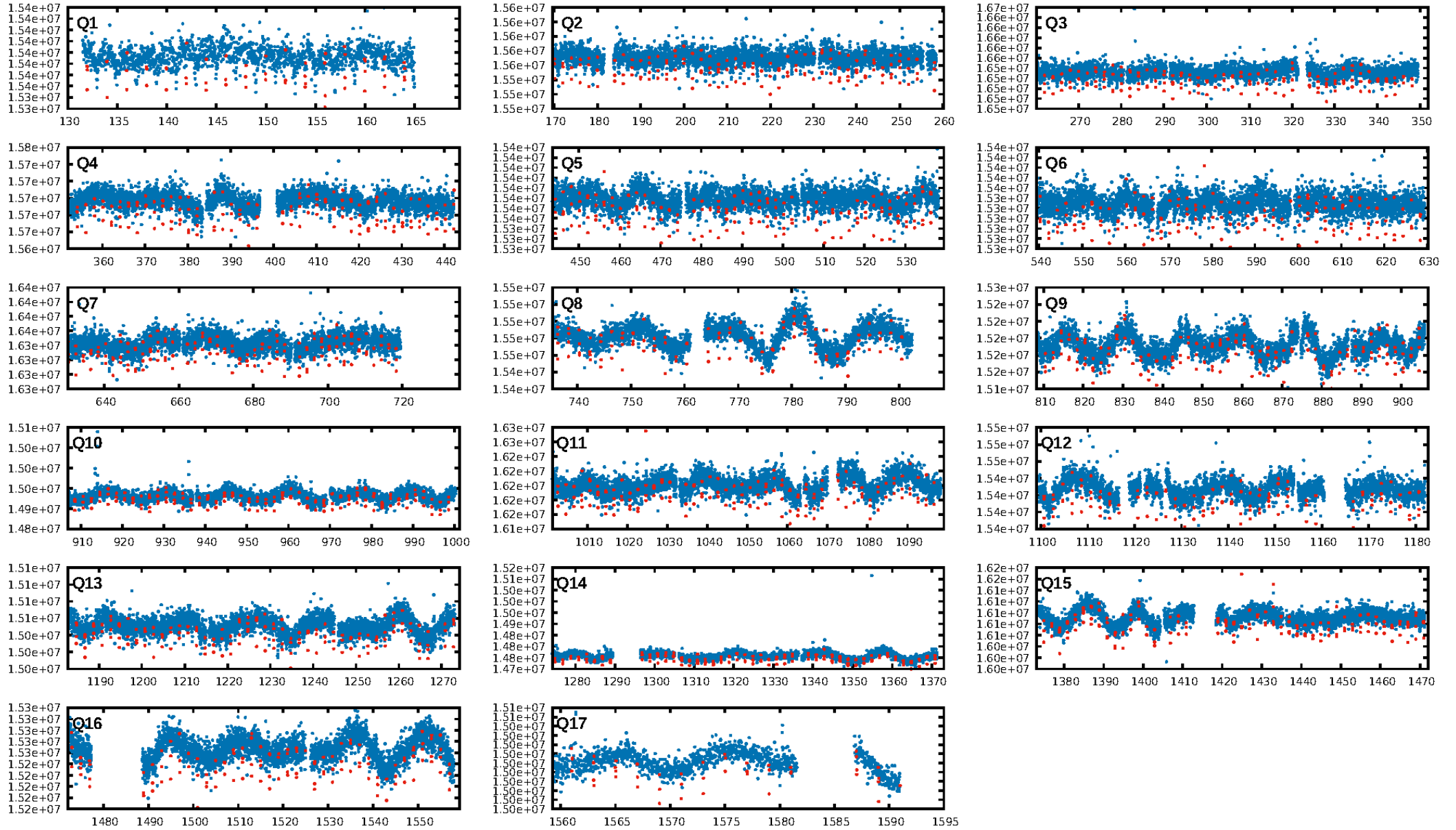
DV Fit Results:

Period = 2.00149 [0.00000] d
Epoch = 131.9470 [0.0002] BKJD
Rp/R* = 0.0417 [0.0037]
a/R* = 9.48 [3.27]
b = 0.90 [0.08]
Seff = 646.78 [172.95]
Teq = 1286 [86] K
Rp = 3.59 [0.72] Re
a = 0.0278 [0.0044] AU
Ag = 5.49 [1.66] [2.69σ]
Teffp = 3043 [178] K [8.88σ]

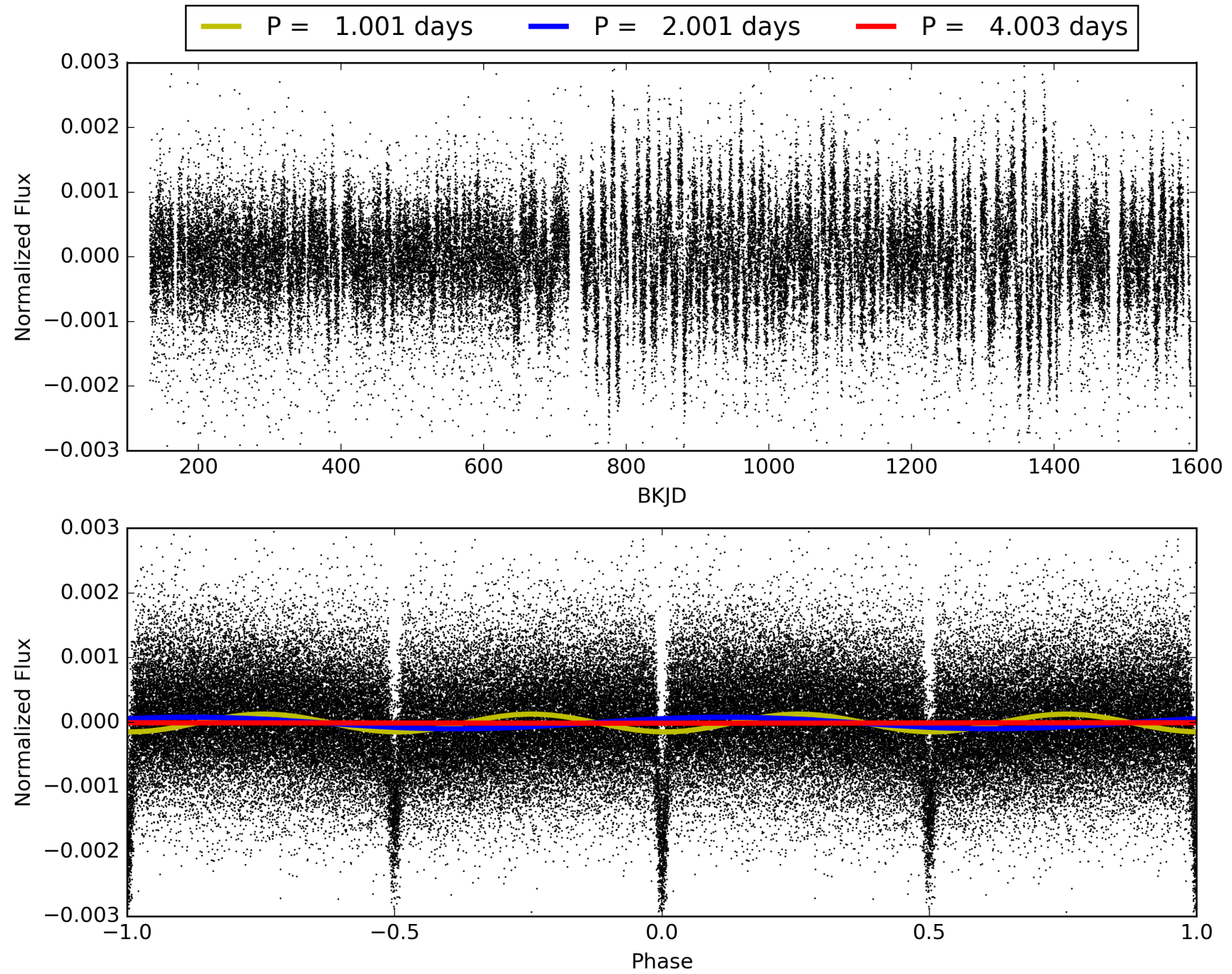
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [634/637]
GhostDiagnostic-chr: 3.325
Centroid-sig: 2.7%
Centroid-so: 0.305 arcsec [1.70σ]
OotOffset-rm: 0.177 arcsec [2.14σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.209 arcsec [2.44σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007552344-01, PDC Light Curves

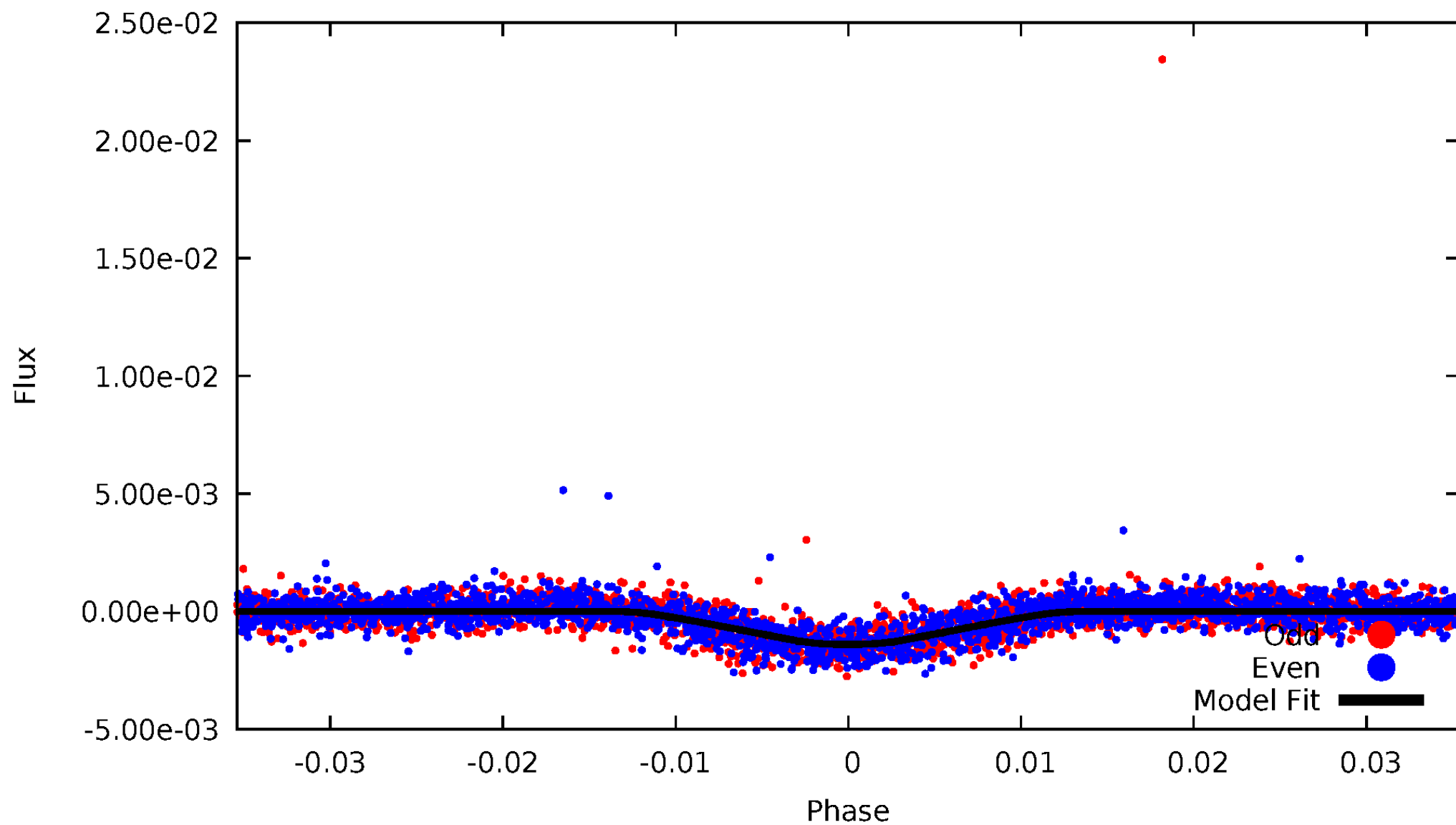


TCE 007552344-01



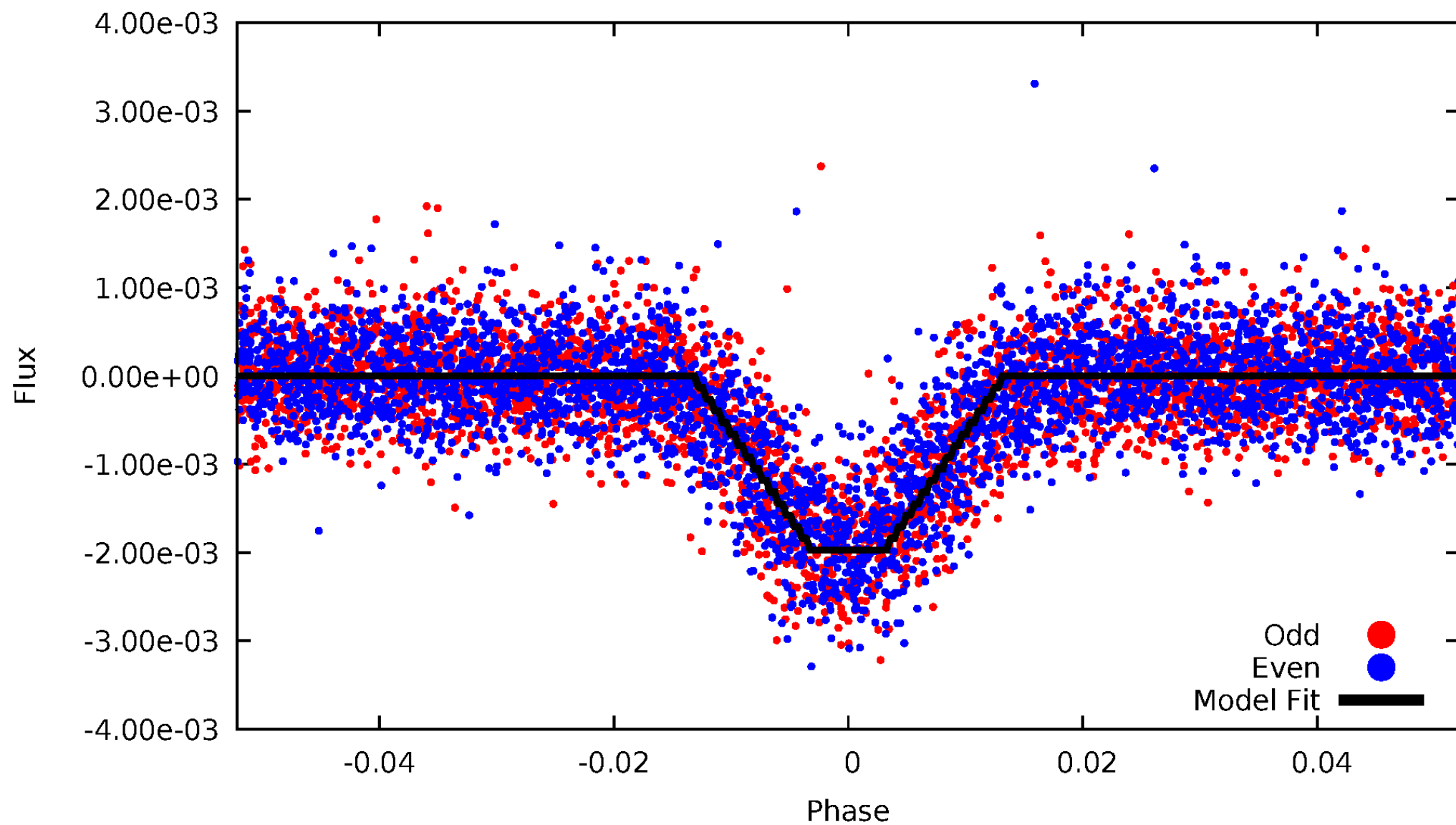
DV Odd/Even

TCE 007552344-01



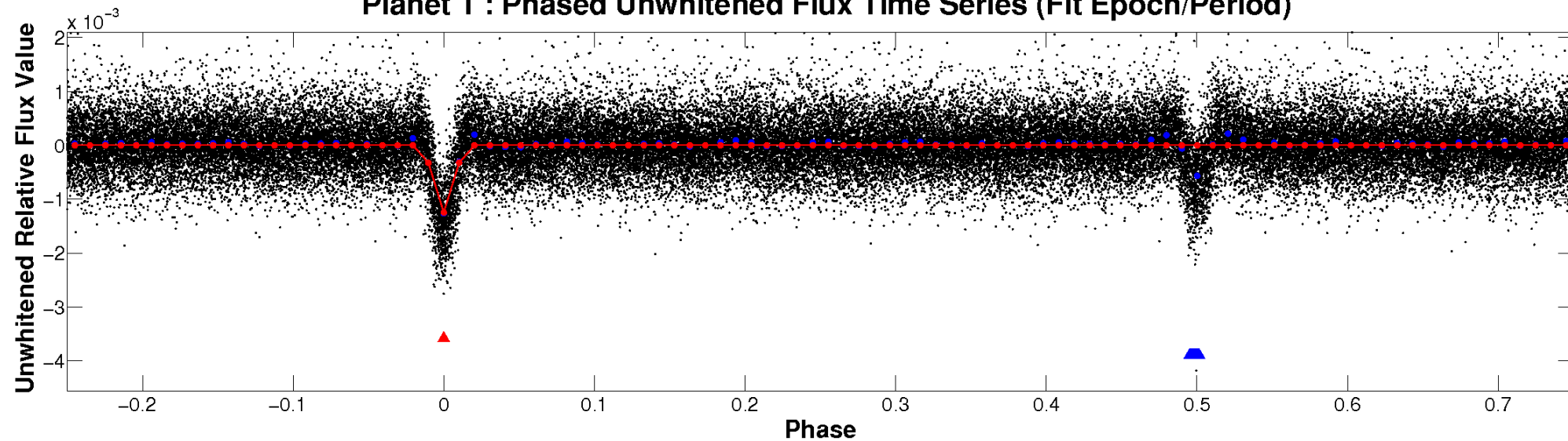
ALT Odd/Even

TCE 007552344-01

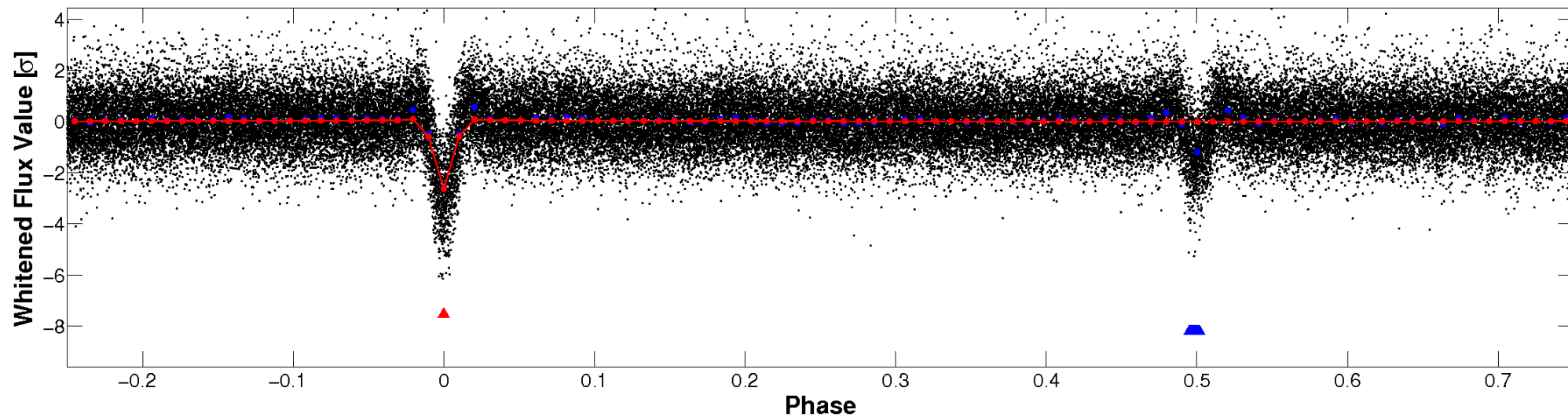


Non-Whitened Vs. Whitened Light Curve

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

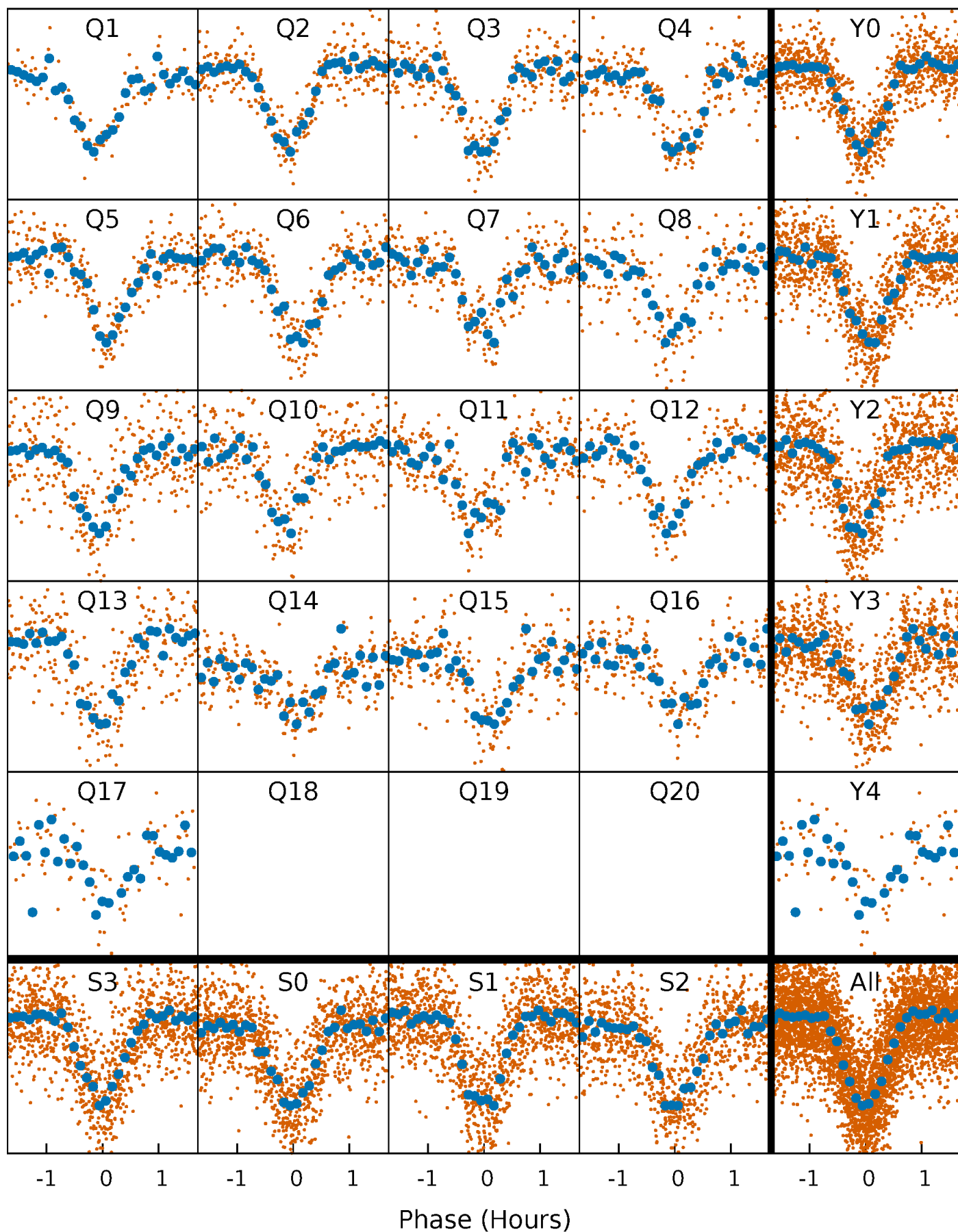


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



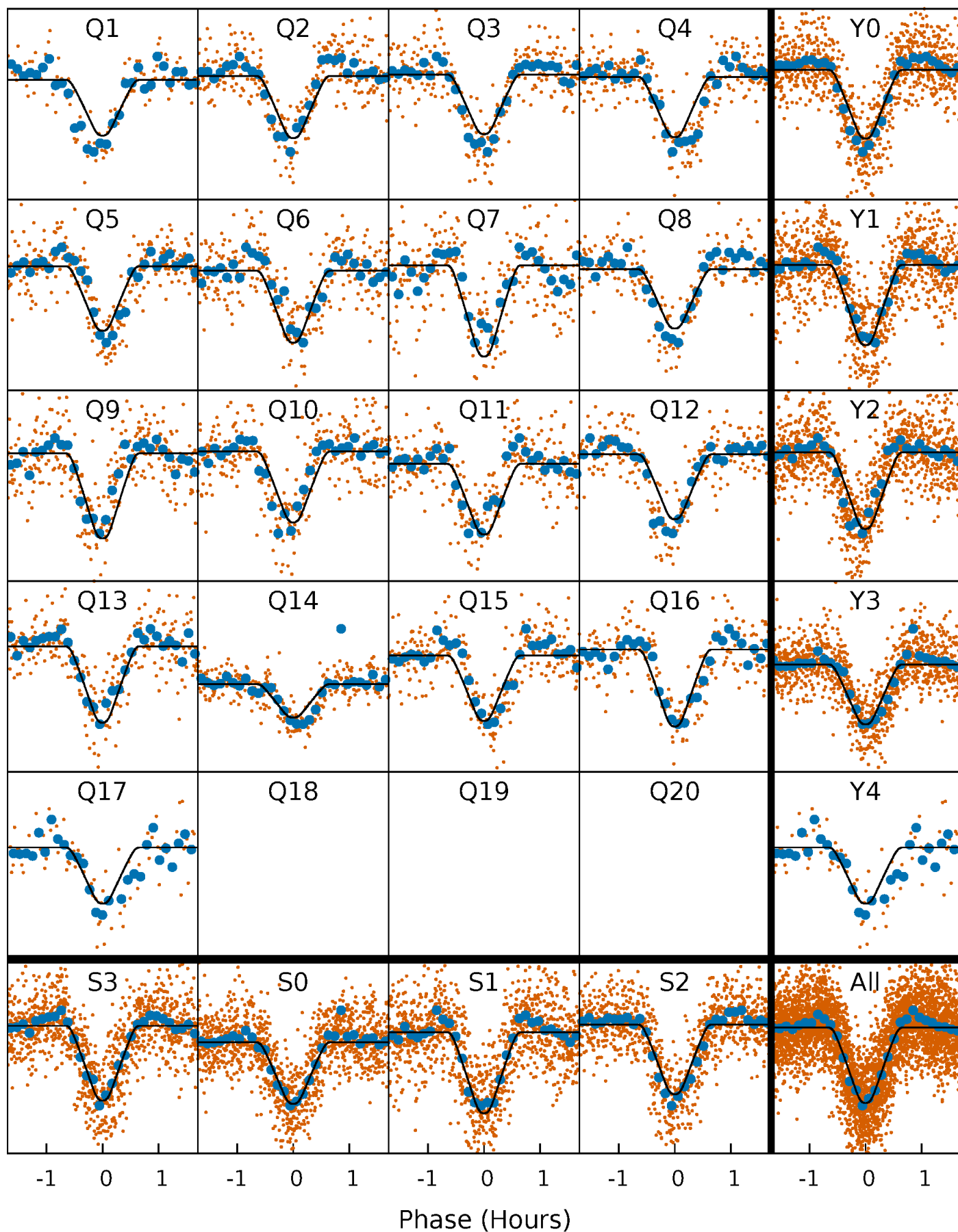
PDC Quarter-Phased Transit Curves

TCE 007552344-01 P= 2.001491 Days $T_0=131.946956$ (BKJD)



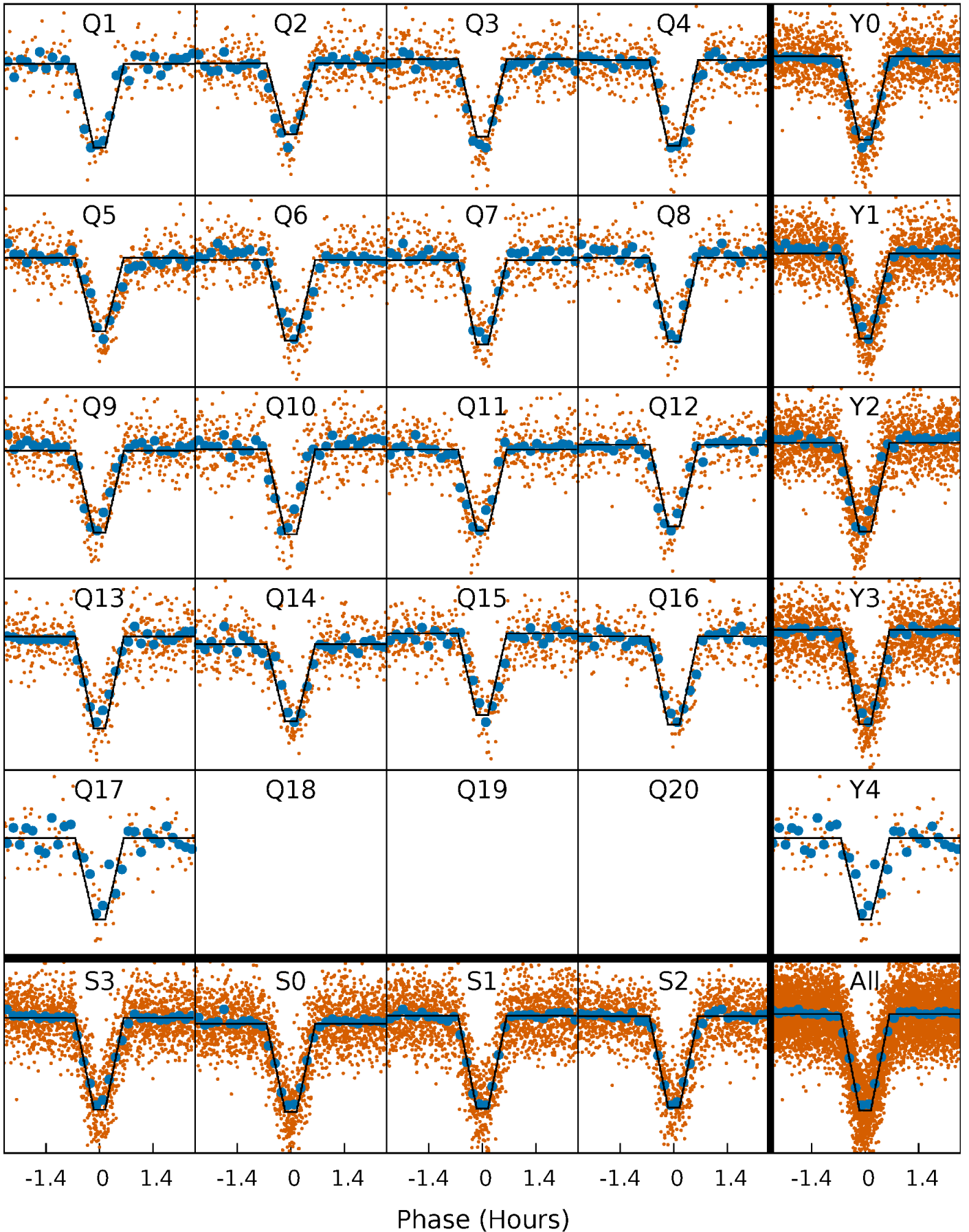
DV Quarter-Phased Transit Curves

TCE 007552344-01 P= 2.001491 Days $T_0=131.946956$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

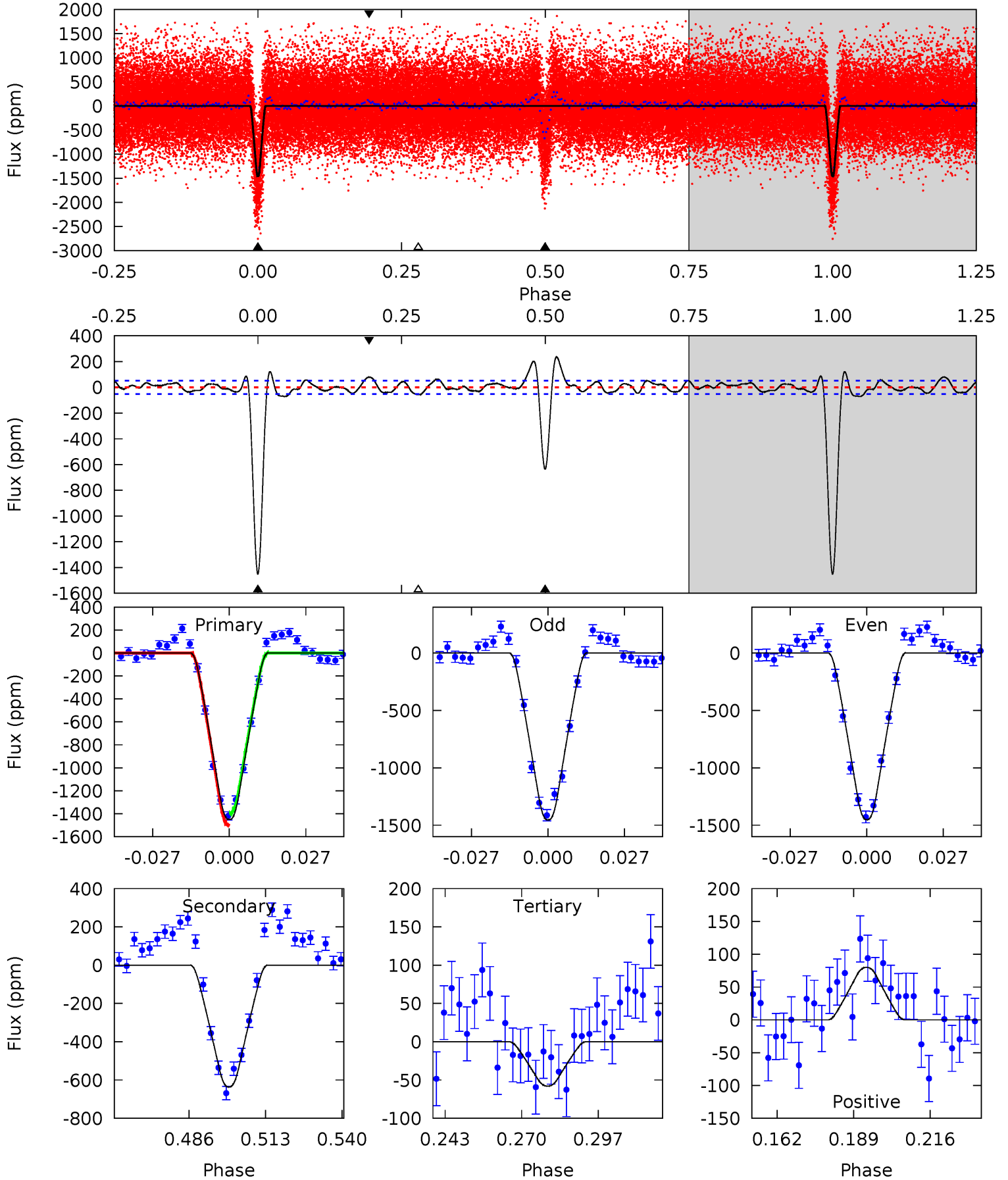
TCE 007552344-01 P= 2.001492 Days $T_0=131.946639$ (BKJD)



DV Model-Shift Uniqueness Test

007552344-01, P = 2.001491 Days, E = 129.945465 Days

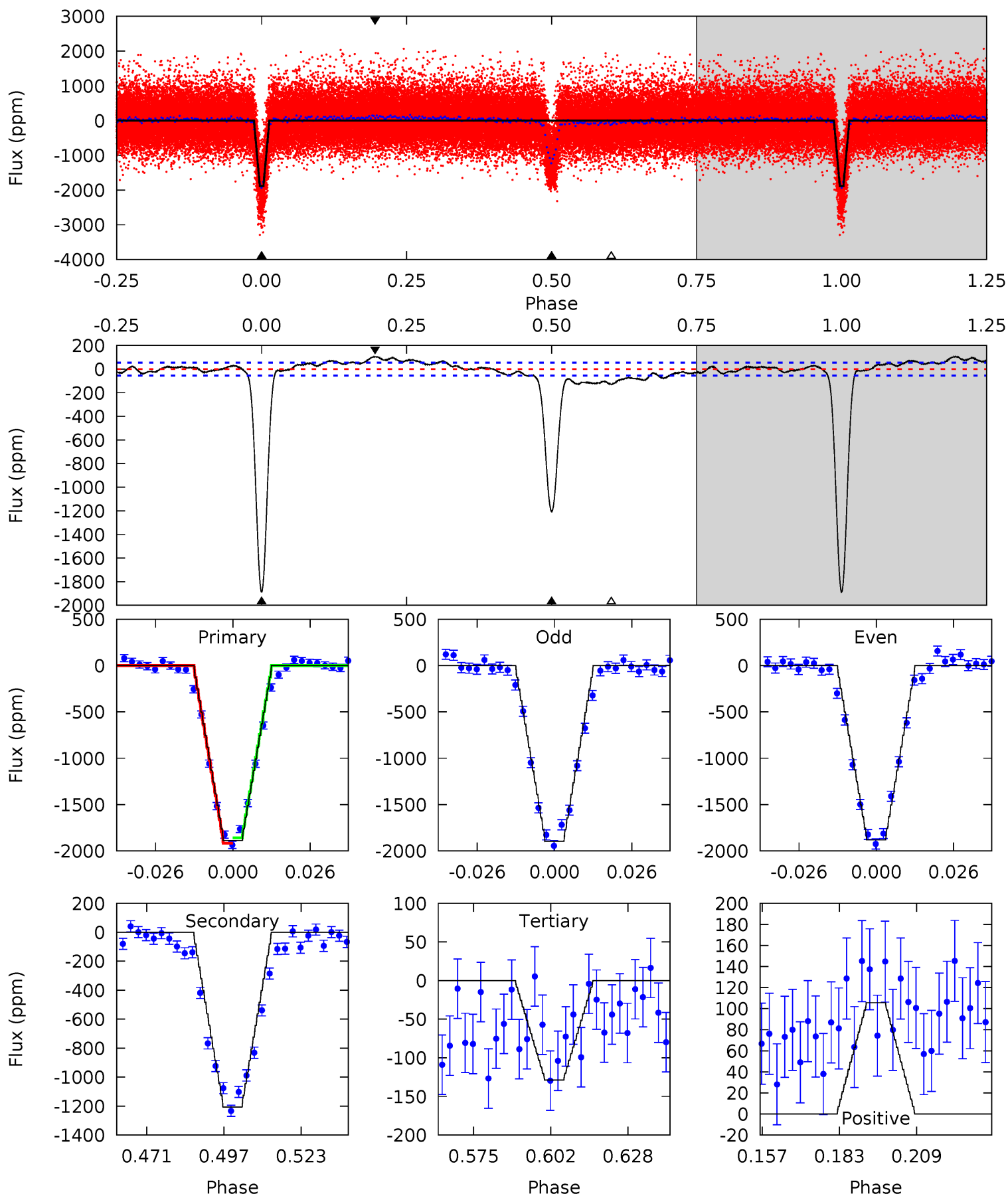
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
134.8	59.1	5.38	7.42	4.83	2.21	3.06	129.4	127.4	53.7	51.7	0.11	0.98	0.14	4.79



Alt Model-Shift Uniqueness Test

007552344-01, P = 2.001492 Days, E = 129.945147 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
165.3	105.7	11.3	9.26	4.84	2.22	5.04	154.1	156.1	94.4	96.4	0.61	0.99	0.05	2.51



Stellar Parameters For KIC 007552344

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5472^{+179}_{-179}	$4.499^{+0.117}_{-0.130}$	$-0.540^{+0.350}_{-0.300}$	$0.790^{+0.143}_{-0.108}$	$0.718^{+0.111}_{-0.044}$	$2.052^{+0.980}_{-0.776}$
	+3%/-3%	+3%/-3%	+65%/-56%	+18%/-14%	+15%/-6%	+48%/-38%
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 007552344-01 / KOI 0888.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-636 ± 11	$3.61^{+0.54}_{-0.41}$	1799^{+104}_{-89}	4440^{+208}_{-197}	21^{+6}_{-5}
Alt.	-1206 ± 11	$3.89^{+0.54}_{-0.42}$	1804^{+99}_{-98}	4902^{+235}_{-231}	34^{+9}_{-7}

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

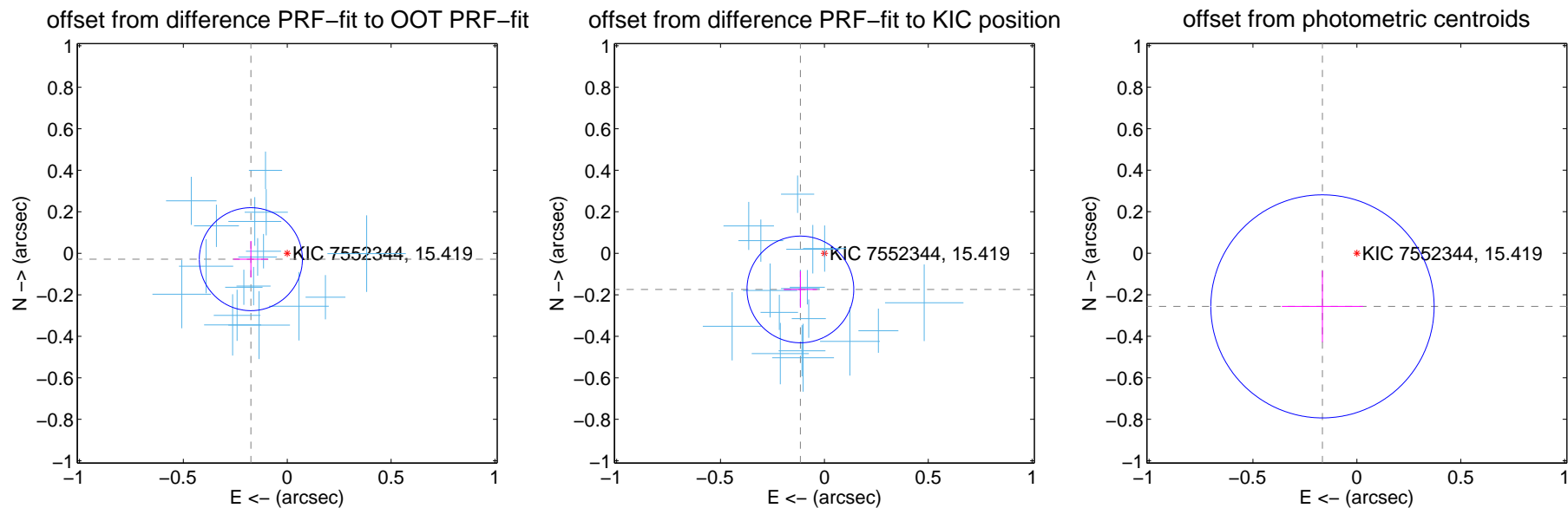
DV Centroid Data

Supplemental centroid analysis for 007552344-01. Kepler magnitude: 15.42. Transit SNR 71.95

There are 17 quarters with good PRF difference image offsets

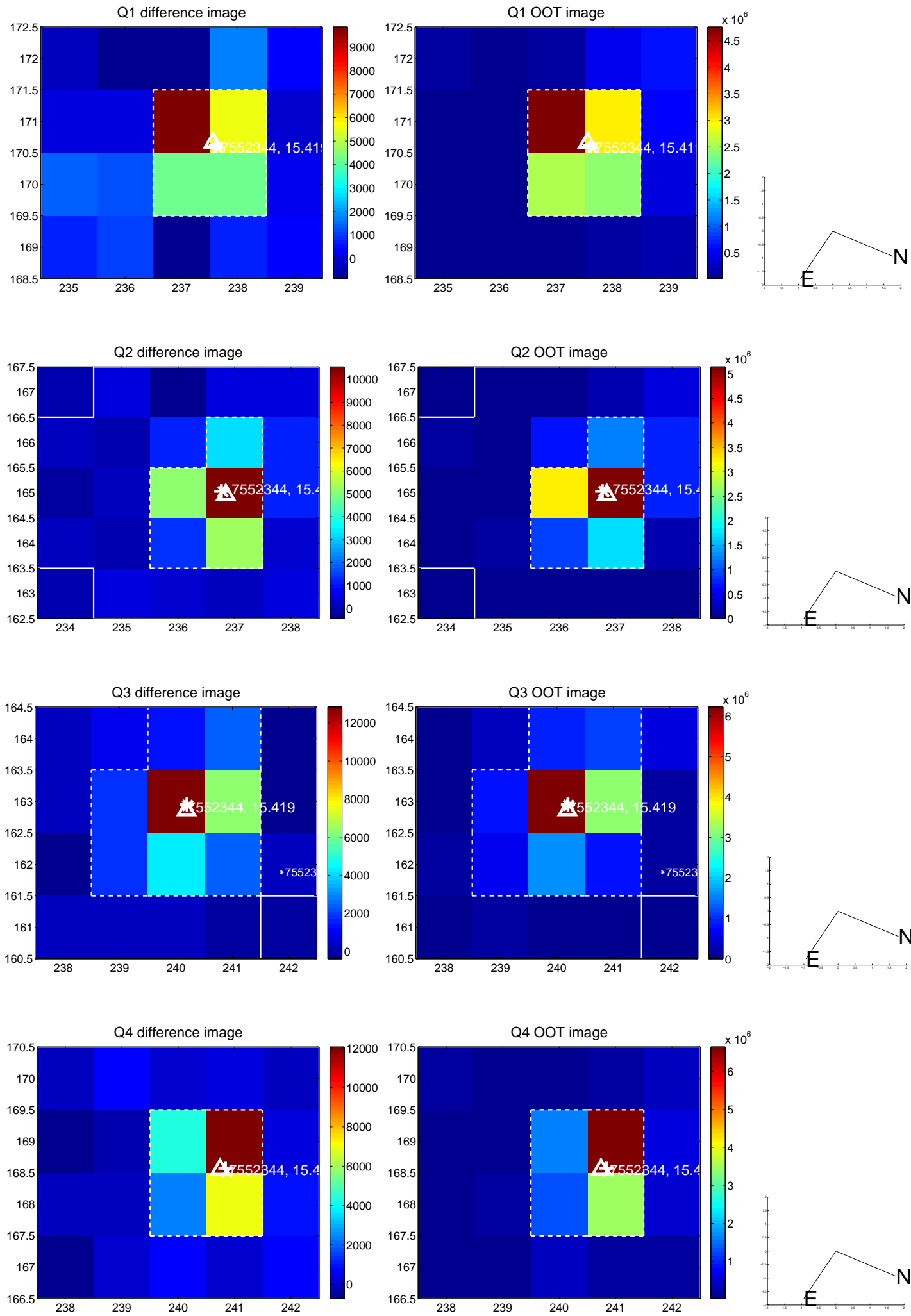
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.177 ± 0.083	2.14	0.175 ± 0.083	-0.028 ± 0.088
PRF-fit source offset from KIC position	0.209 ± 0.086	2.44	0.116 ± 0.080	-0.174 ± 0.088
photometric centroid source offset	0.30 ± 0.18	1.70	0.17 ± 0.20	-0.26 ± 0.17

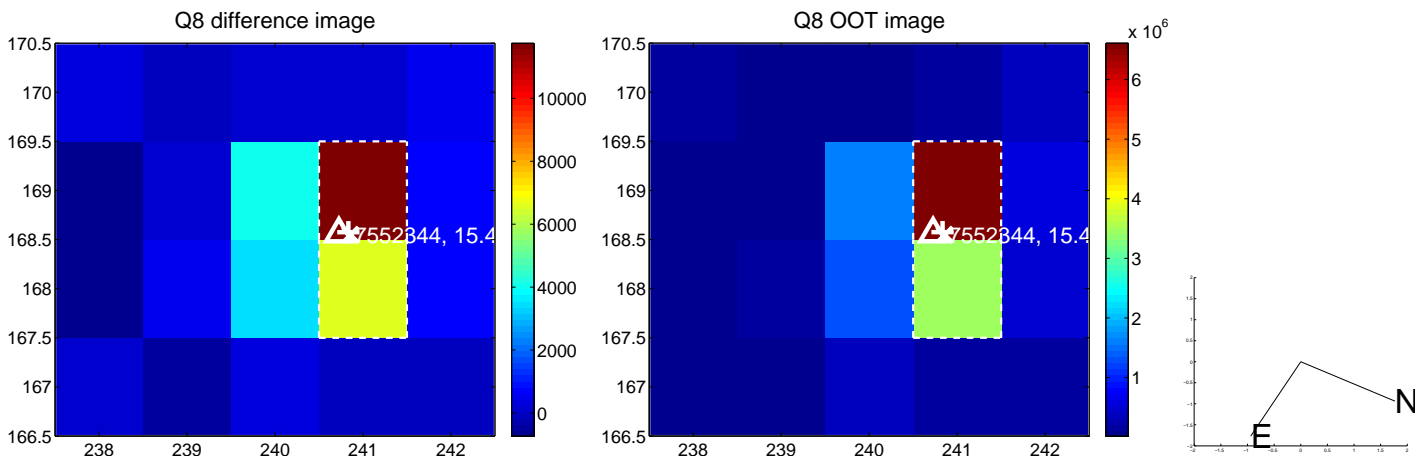
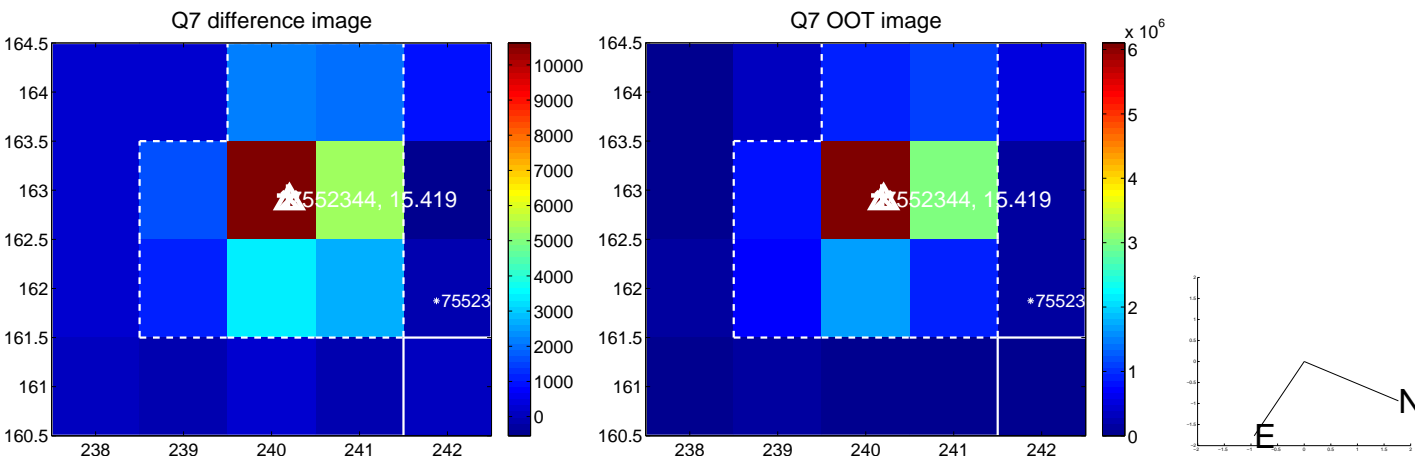
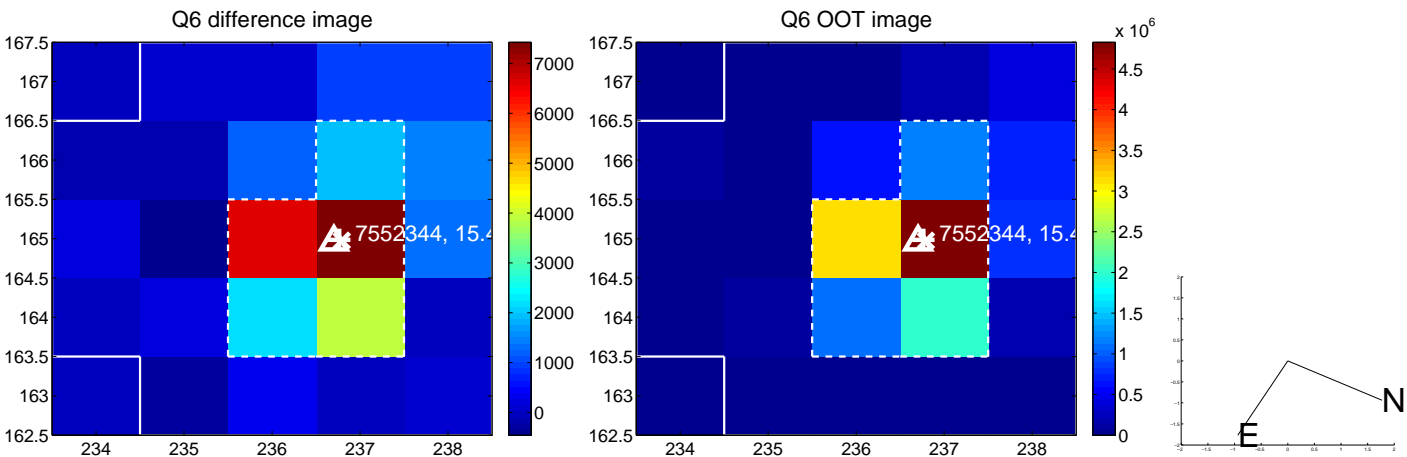
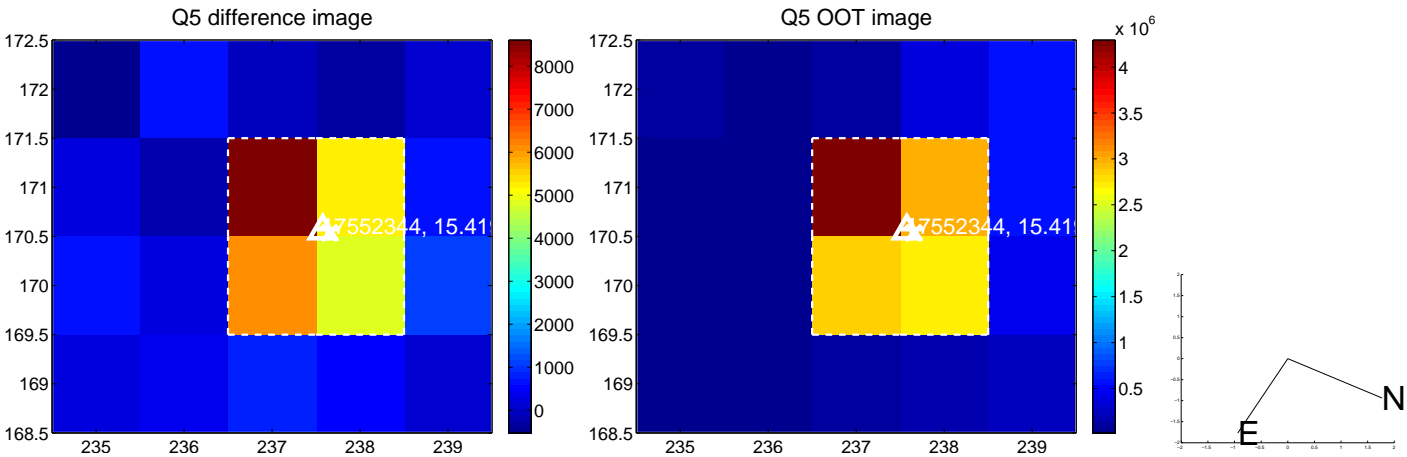


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

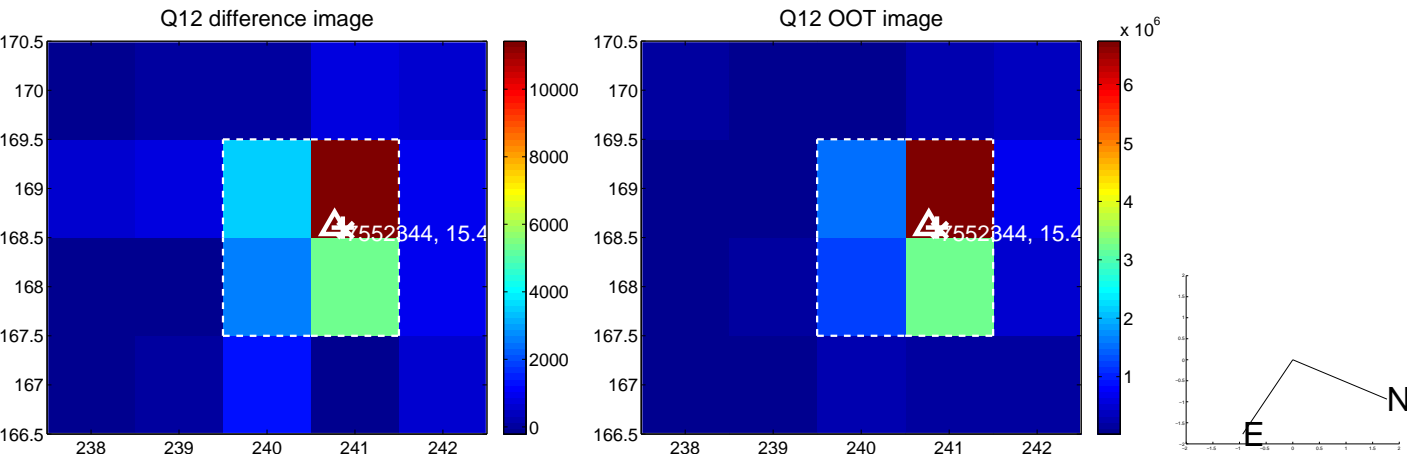
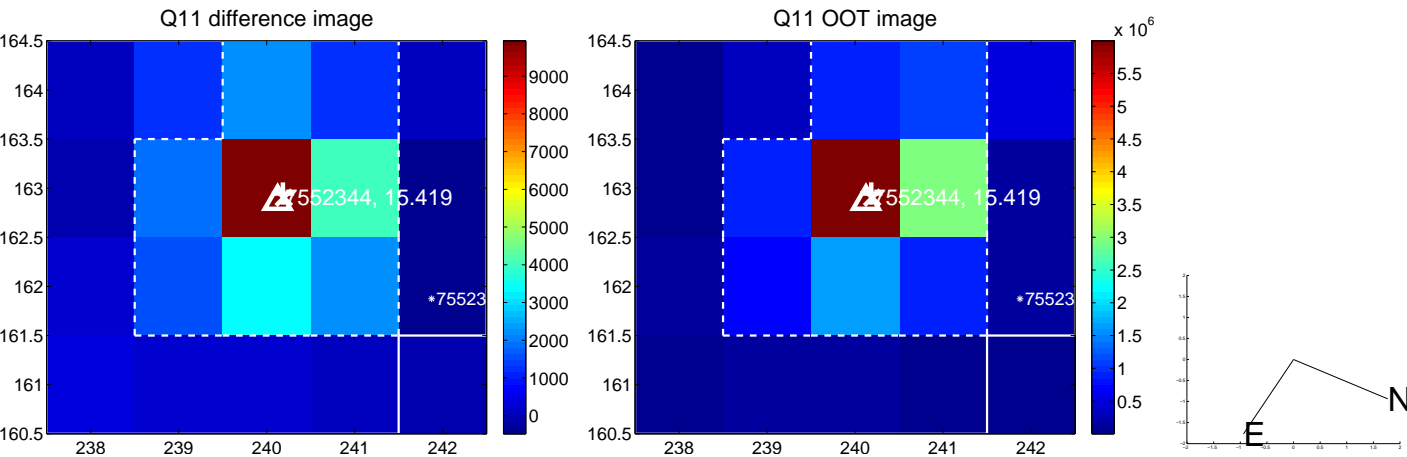
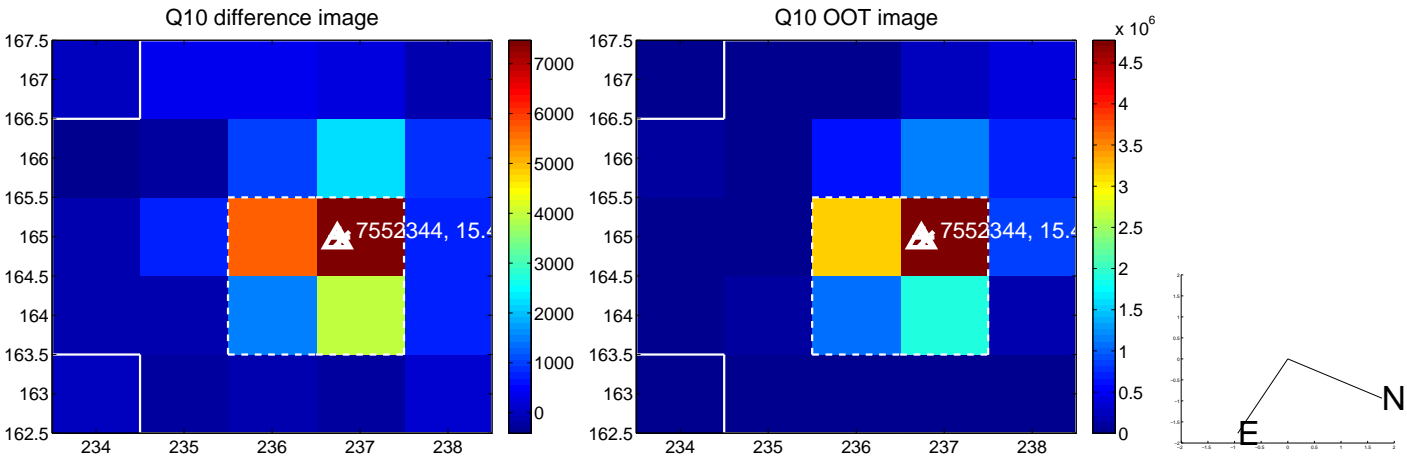
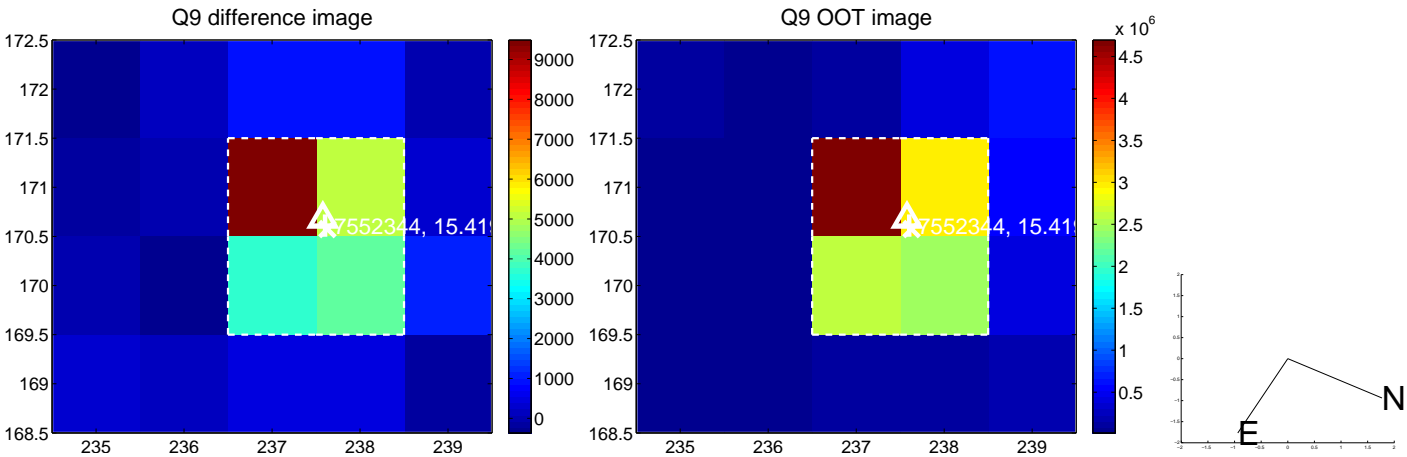
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



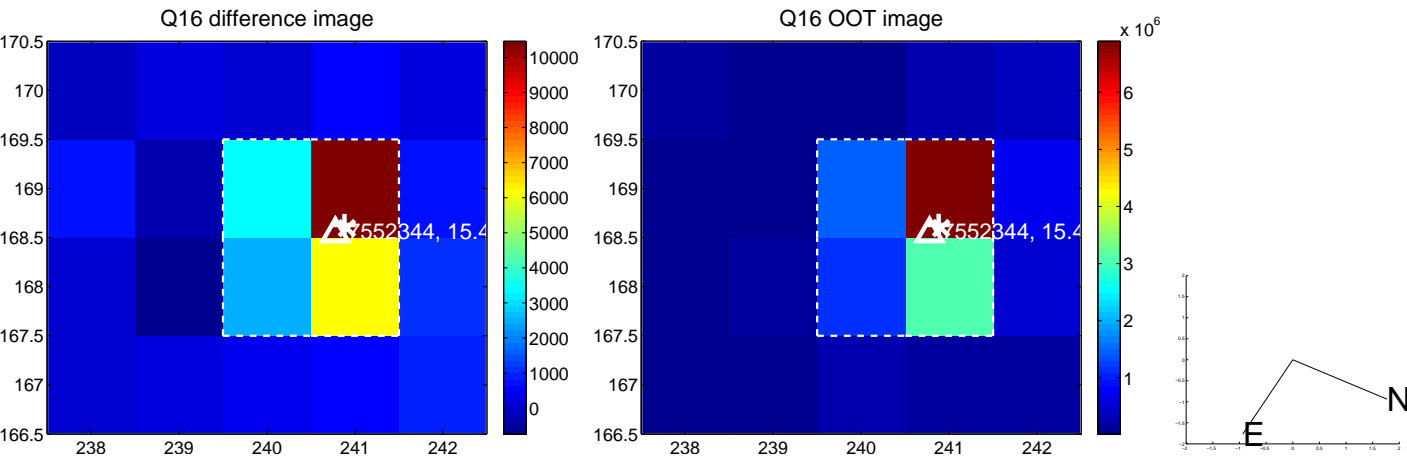
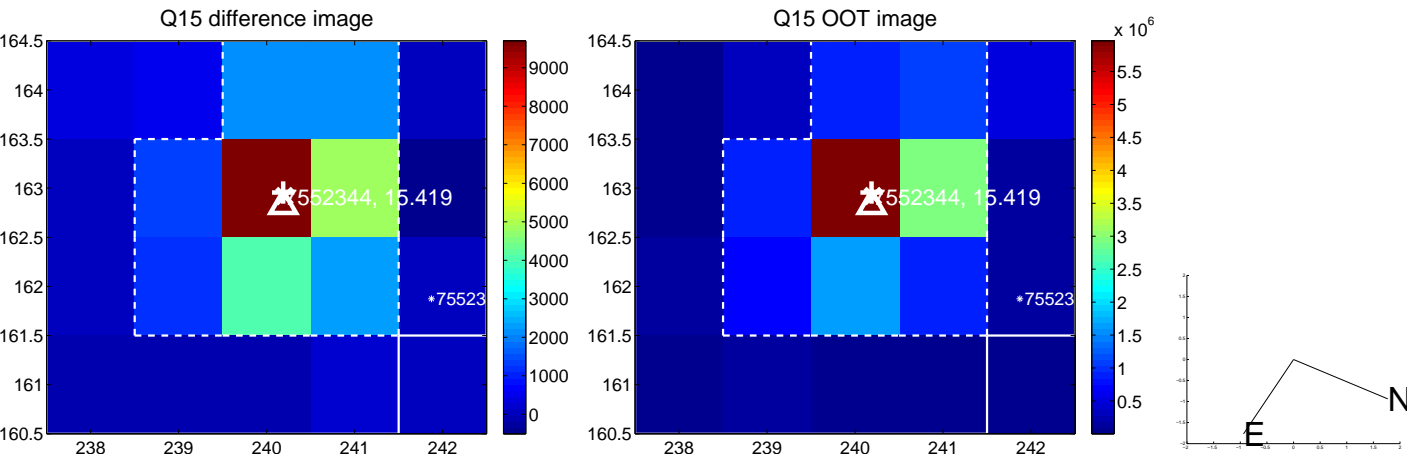
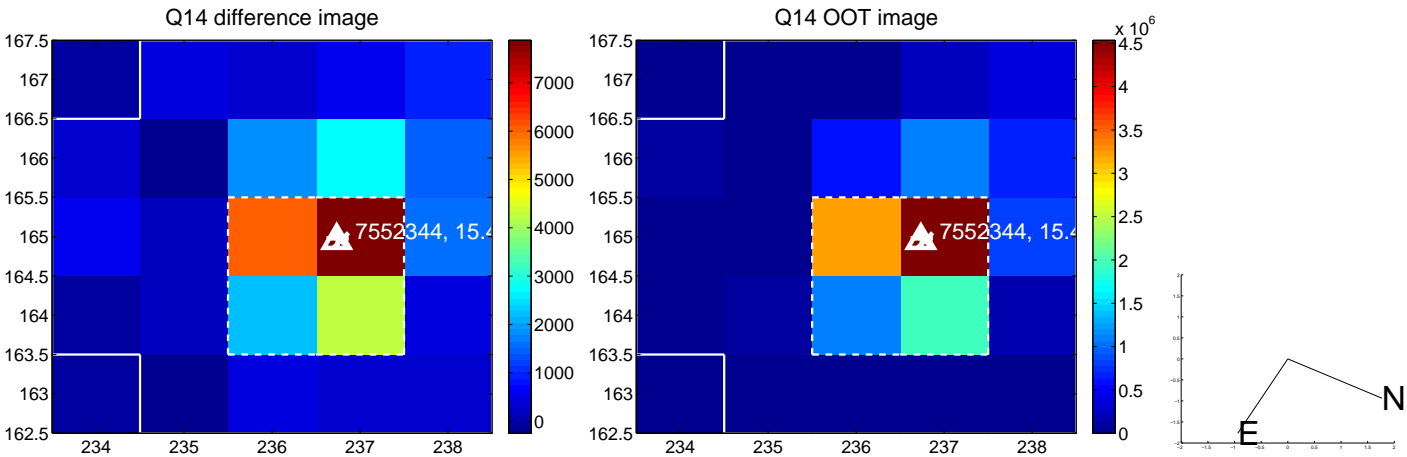
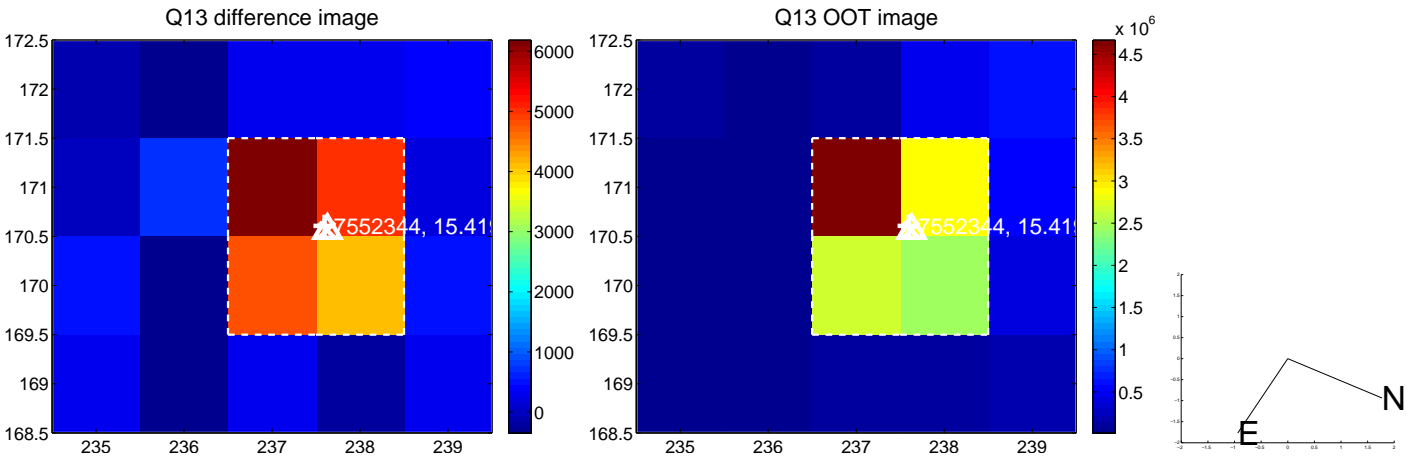
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



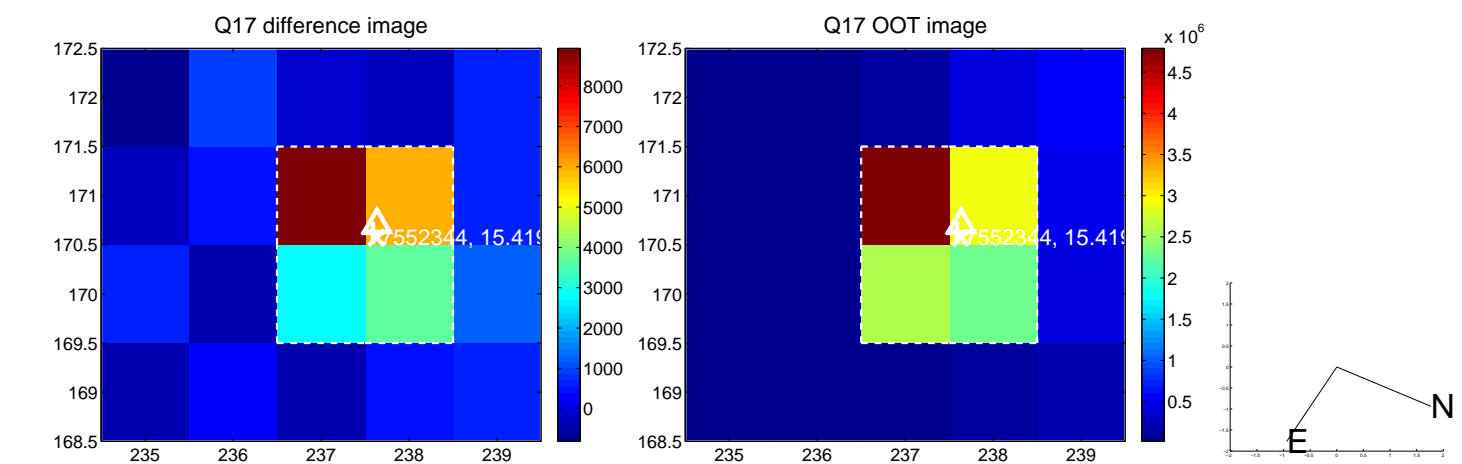
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



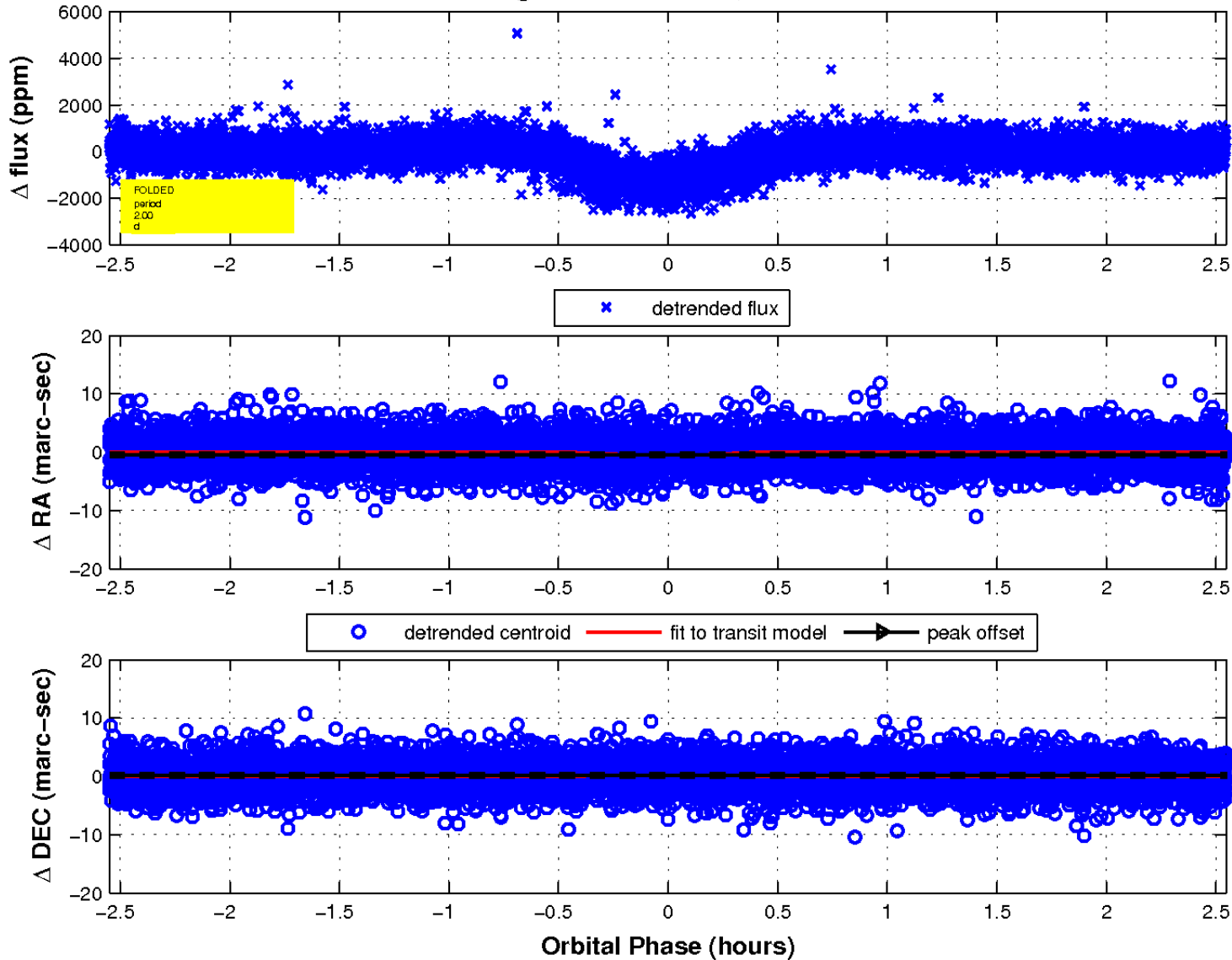
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

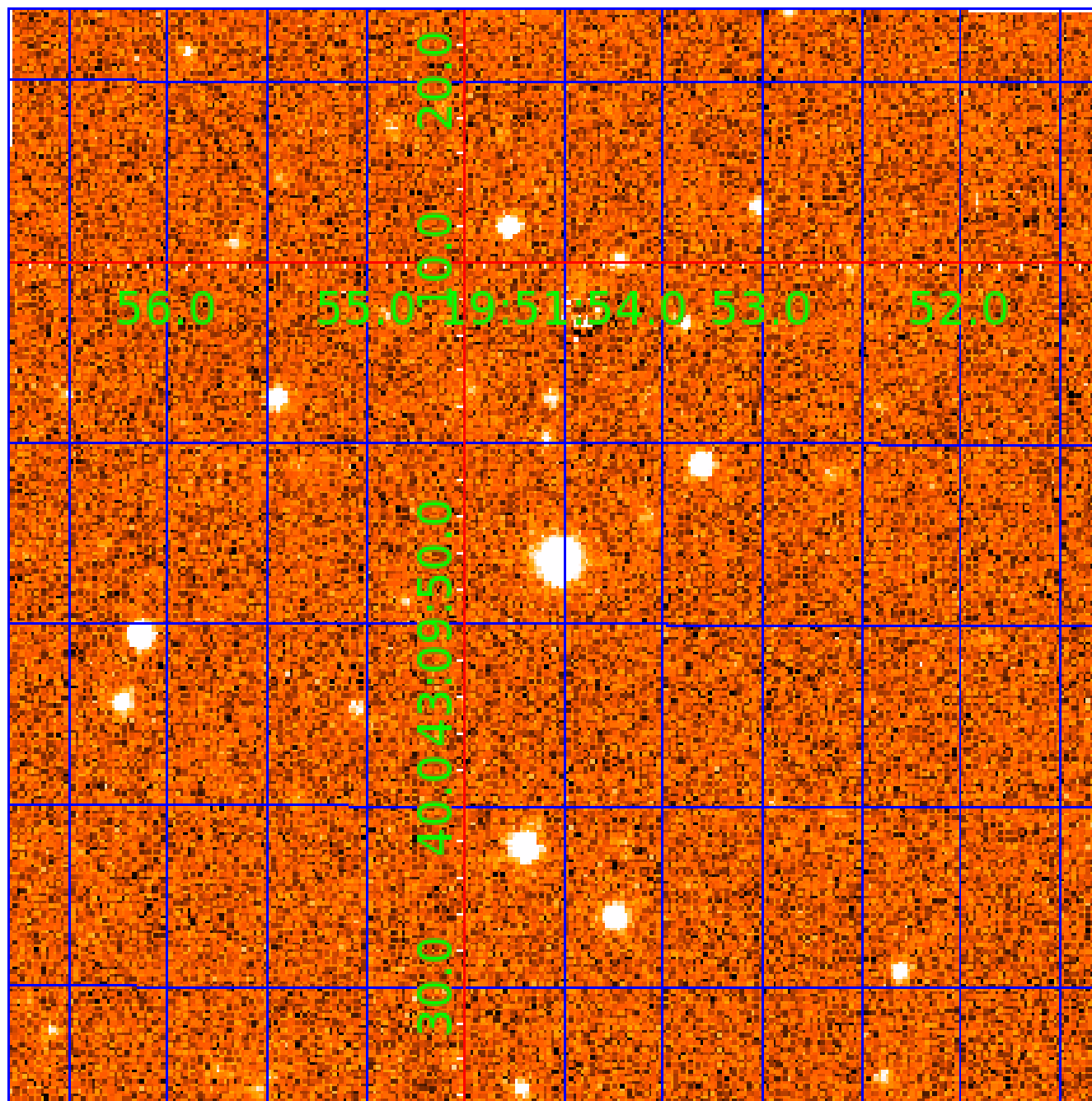


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007552344

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})
007552344-01	OBS	0888.01	2.001491	131.946956	1401.1	0.850	40.1	71.9	0.79	5472	3.59	646.78
007552344-02	OBS	No	2.001473	132.951182	602.5	0.951	20.6	34.7	0.79	5472	2.34	646.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007552344-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
007552344-02	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.

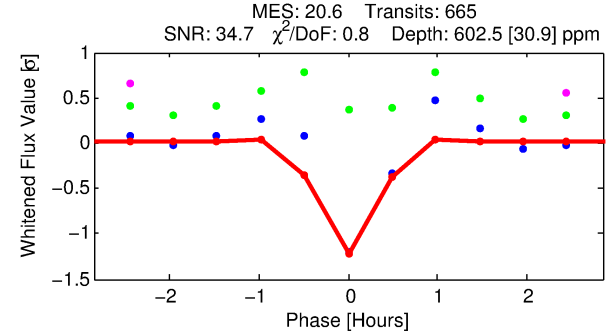
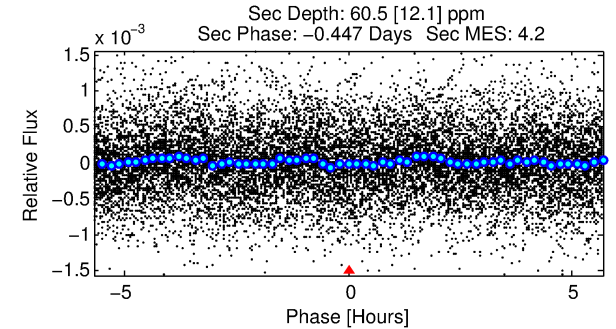
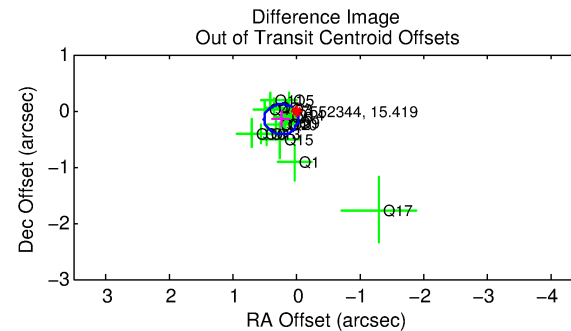
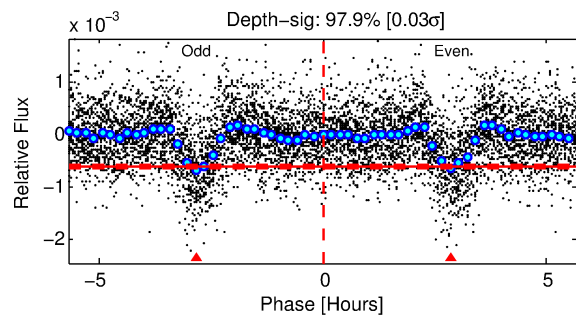
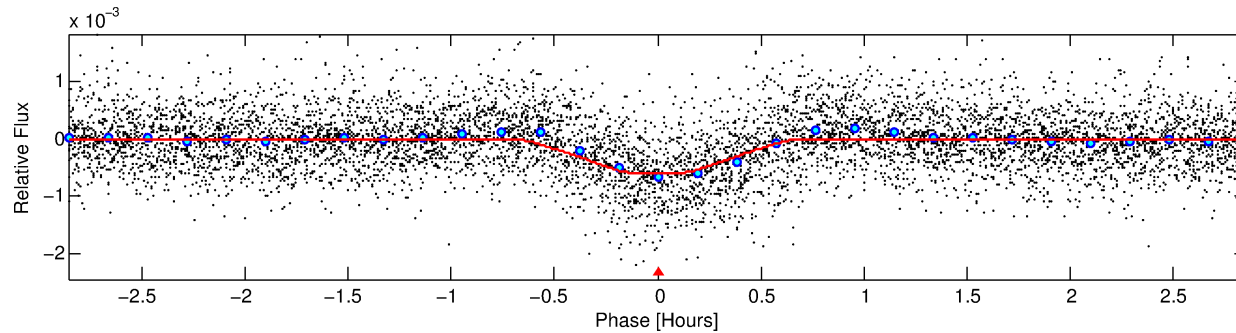
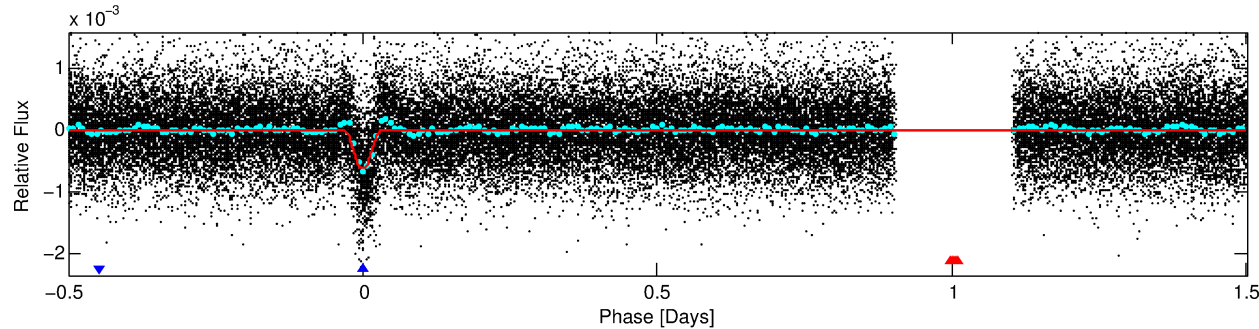
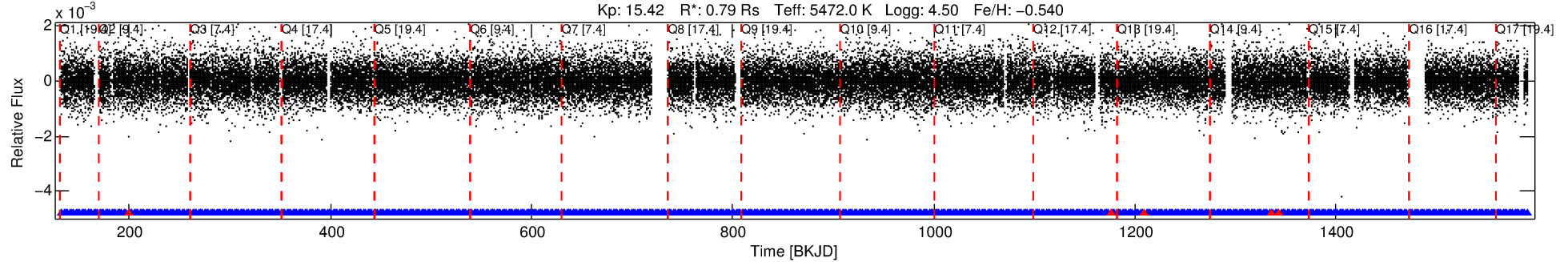
Ephemeris Match Information For 007552344-02

No Significant Match Found

DV One-Page Summary

KIC: 7552344 Candidate: 2 of 2 Period: 2.001 d
KOI: K00888 Corr: No Ephemeris Match

Kp: 15.42 R*: 0.79 Rs Teff: 5472.0 K Logg: 4.50 Fe/H: -0.540



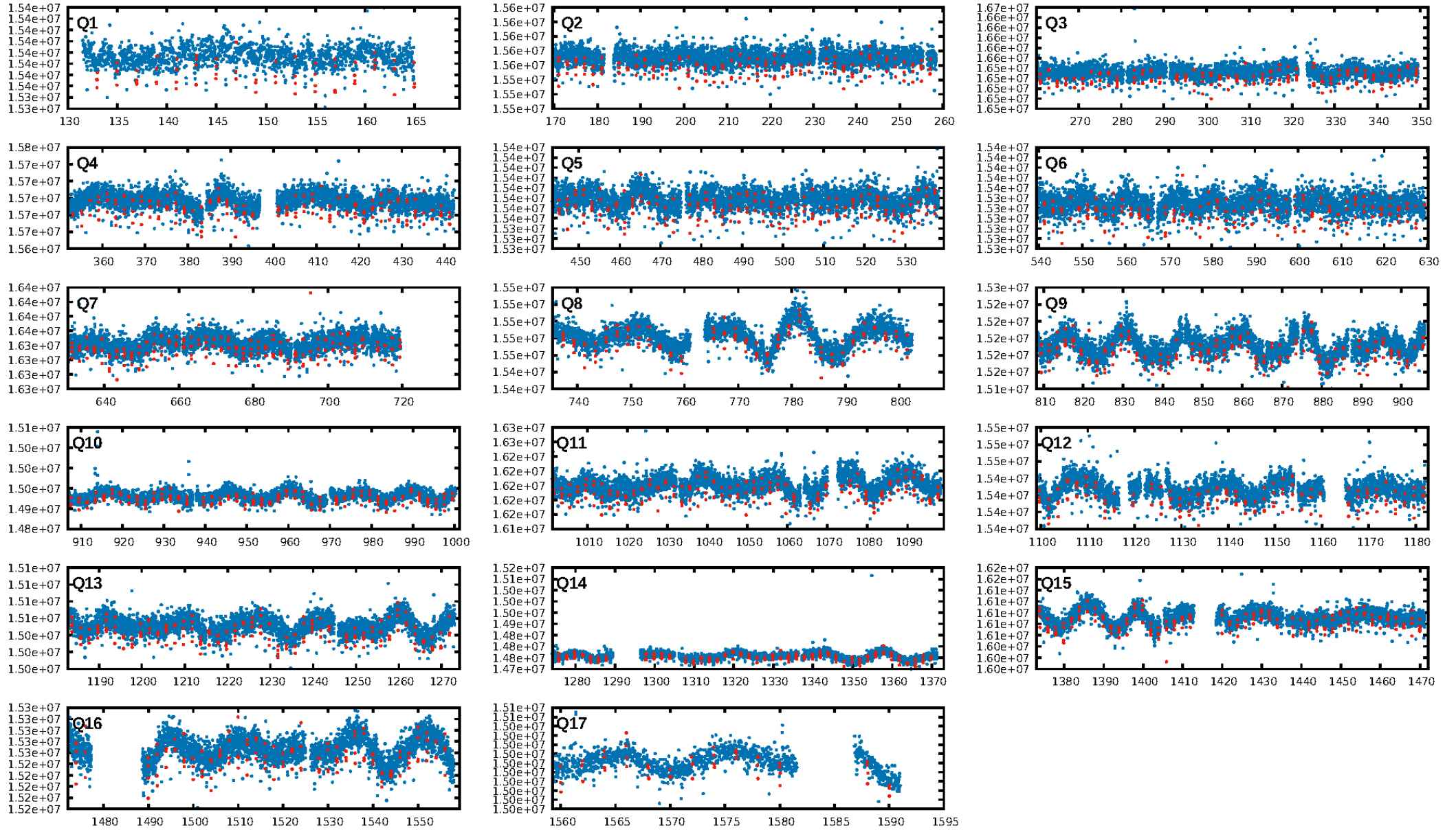
DV Fit Results:

Period = 2.00147 [0.00000] d
Epoch = 132.9512 [0.0005] BKJD
Rp/R* = 0.0271 [0.0058]
a/R* = 7.98 [7.47]
b = 0.90 [0.21]
Seff = 646.79 [172.96]
Teq = 1286 [86] K
Rp = 2.34 [0.66] Re
a = 0.0278 [0.0044] AU
Ag = 4.71 [2.48] [1.49σ]
Teffp = 2930 [359] K [4.45σ]

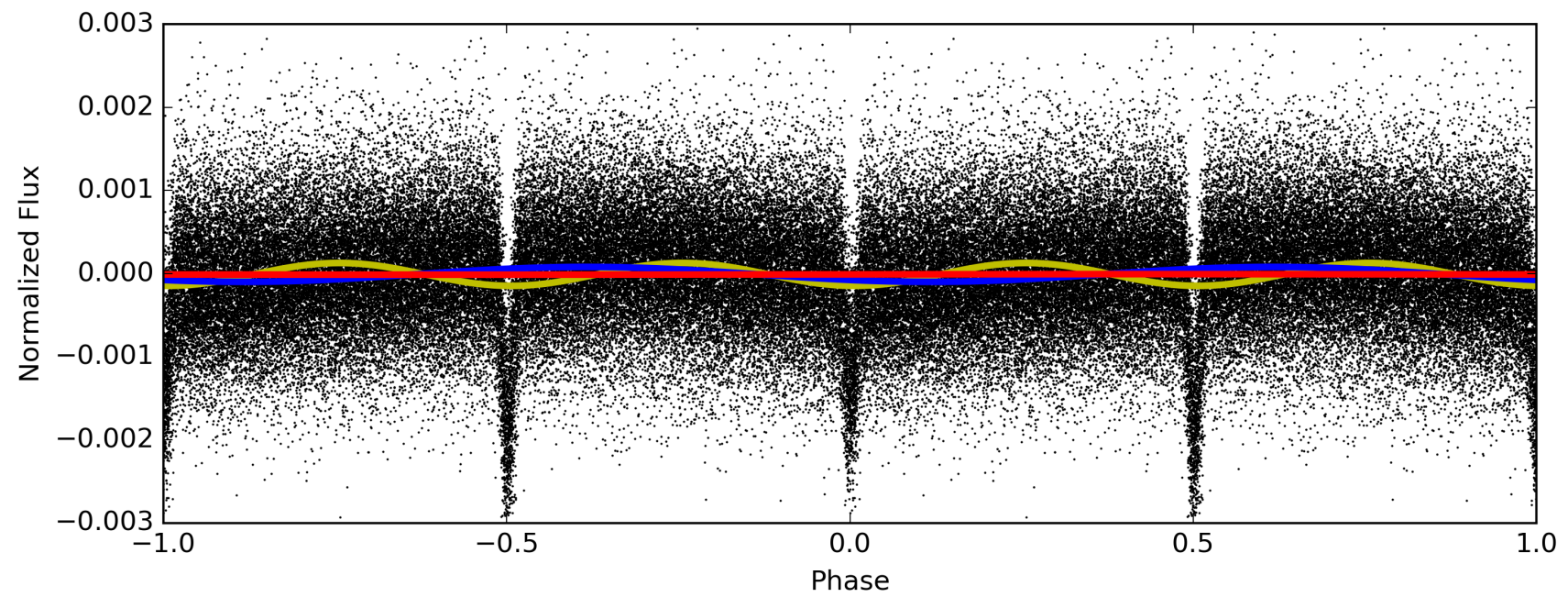
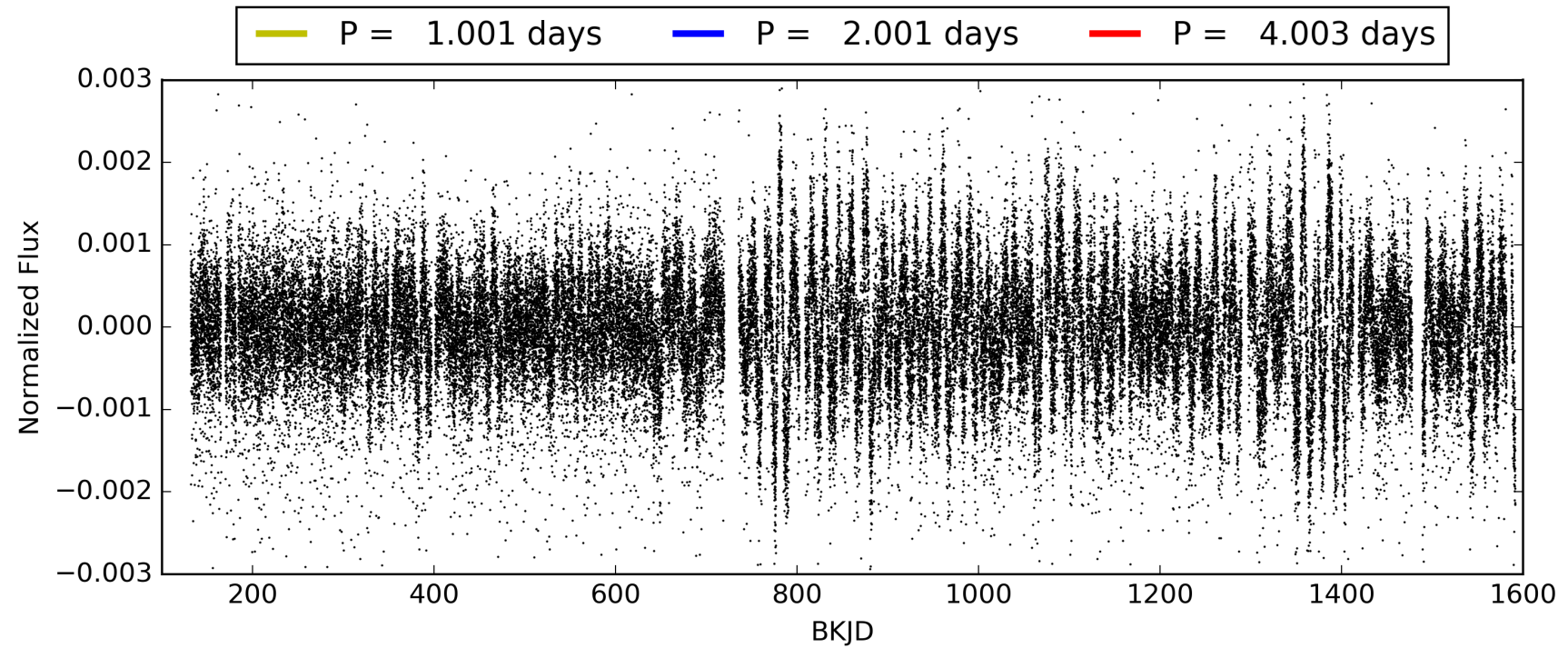
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.84e-90
RollingBand-fgt: 0.99 [630/635]
GhostDiagnostic-chr: 3.167
Centroid-sig: 0.0%
Centroid-so: 0.810 arcsec [2.22σ]
OotOffset-rm: 0.281 arcsec [3.14σ]
KicOffset-rm: 0.346 arcsec [3.37σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007552344-02, PDC Light Curves

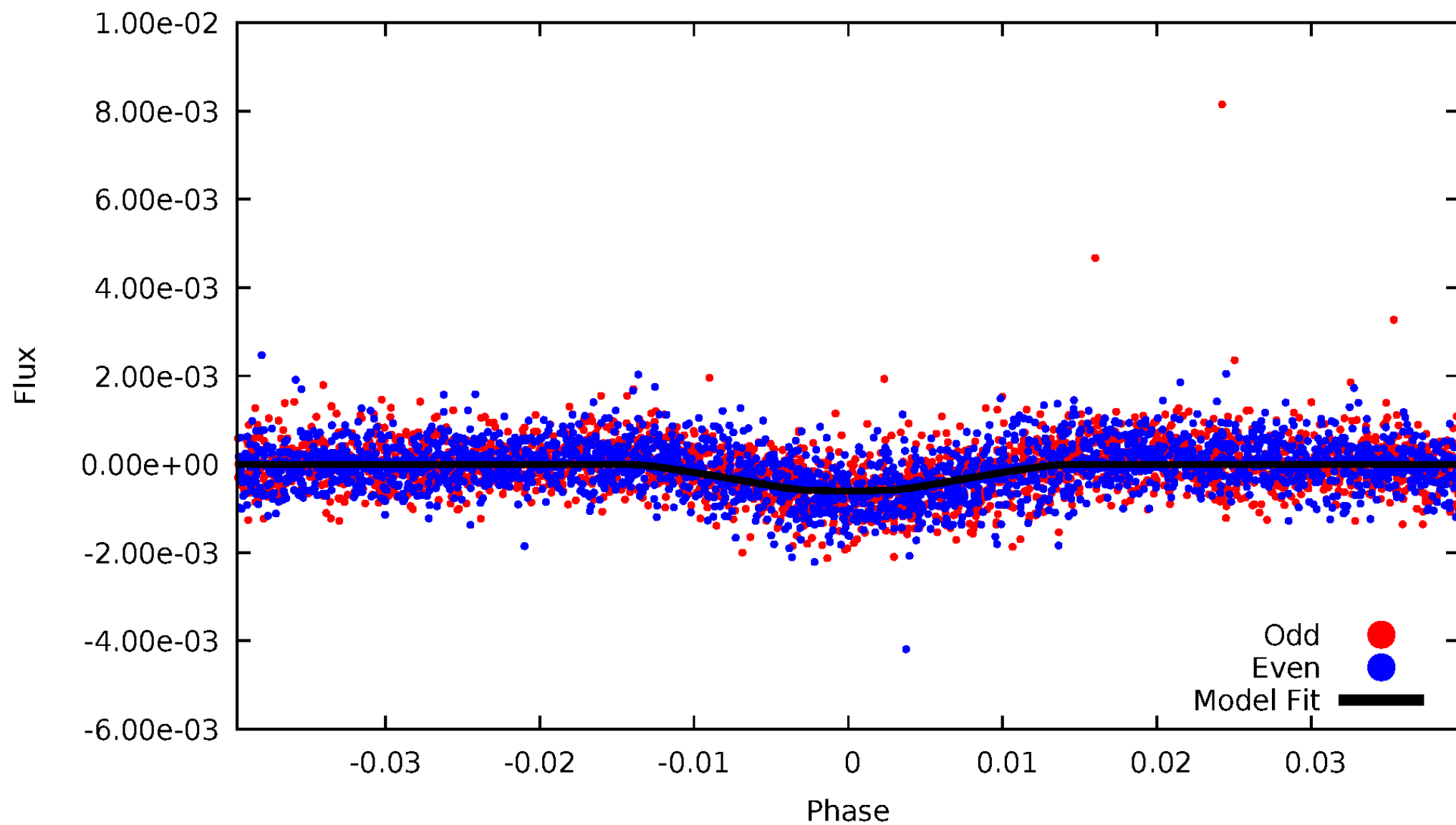


TCE 007552344-02



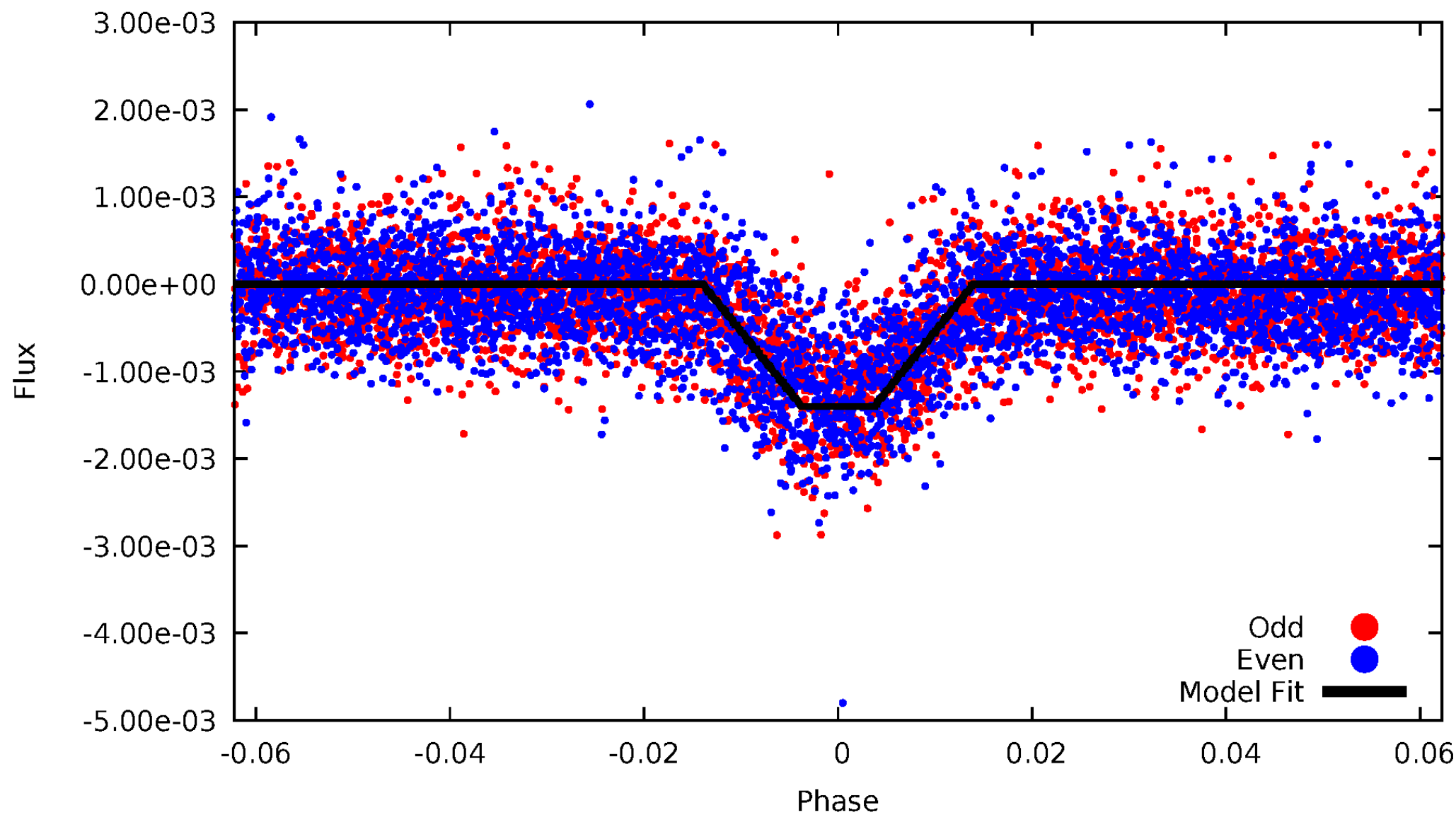
DV Odd/Even

TCE 007552344-02



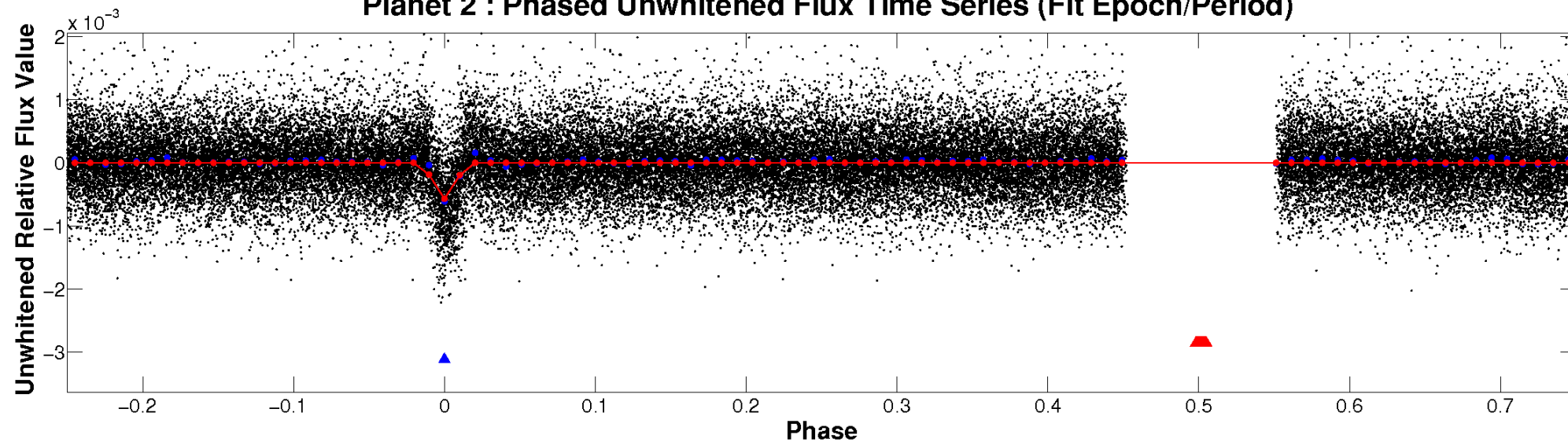
ALT Odd/Even

TCE 007552344-02

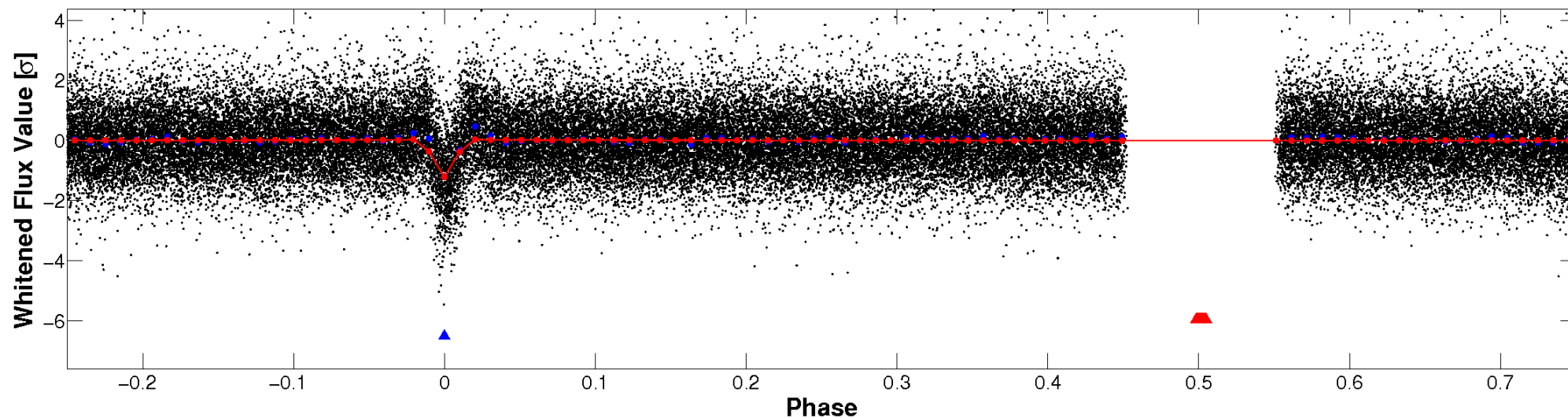


Non-Whitened Vs. Whitened Light Curve

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

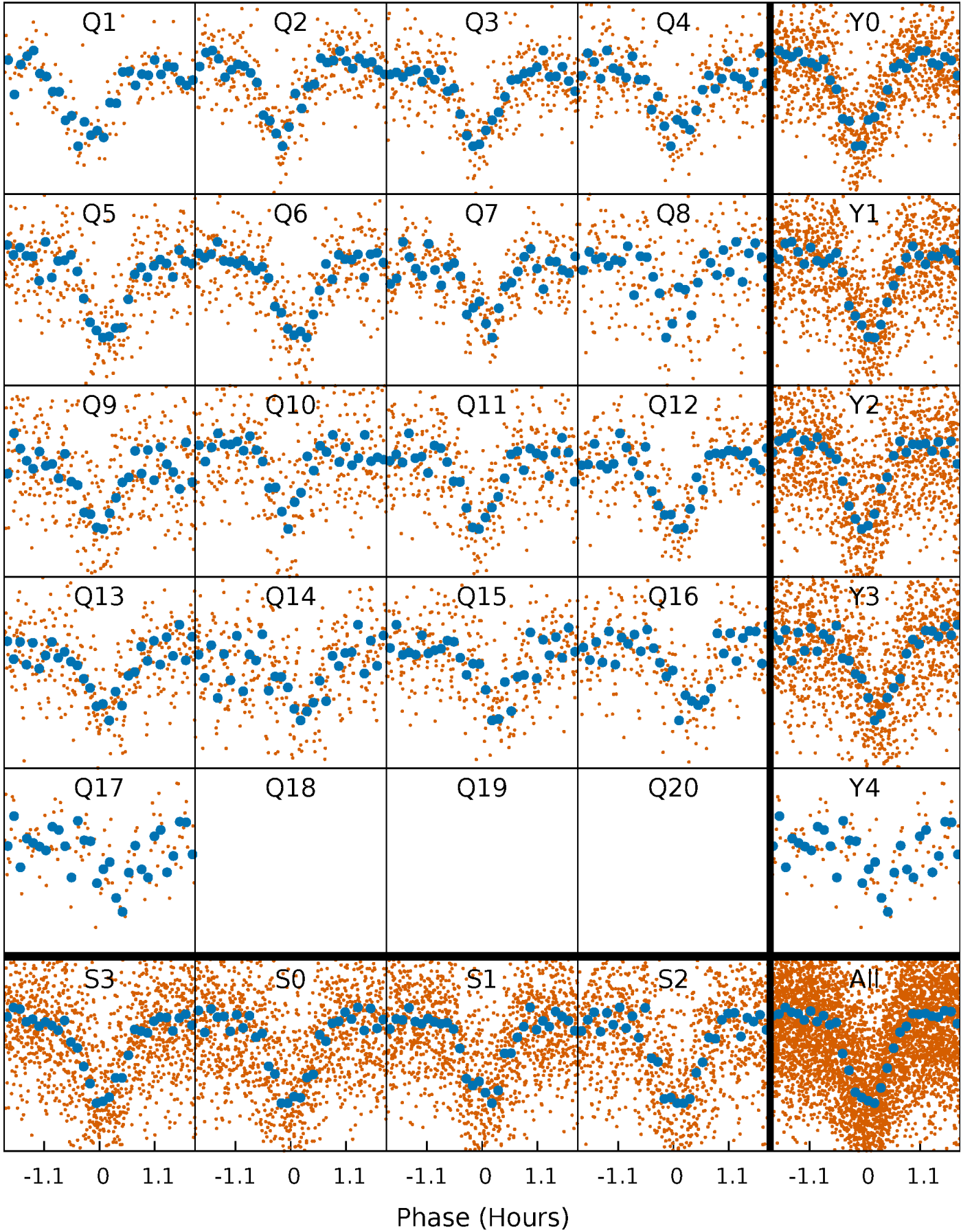


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



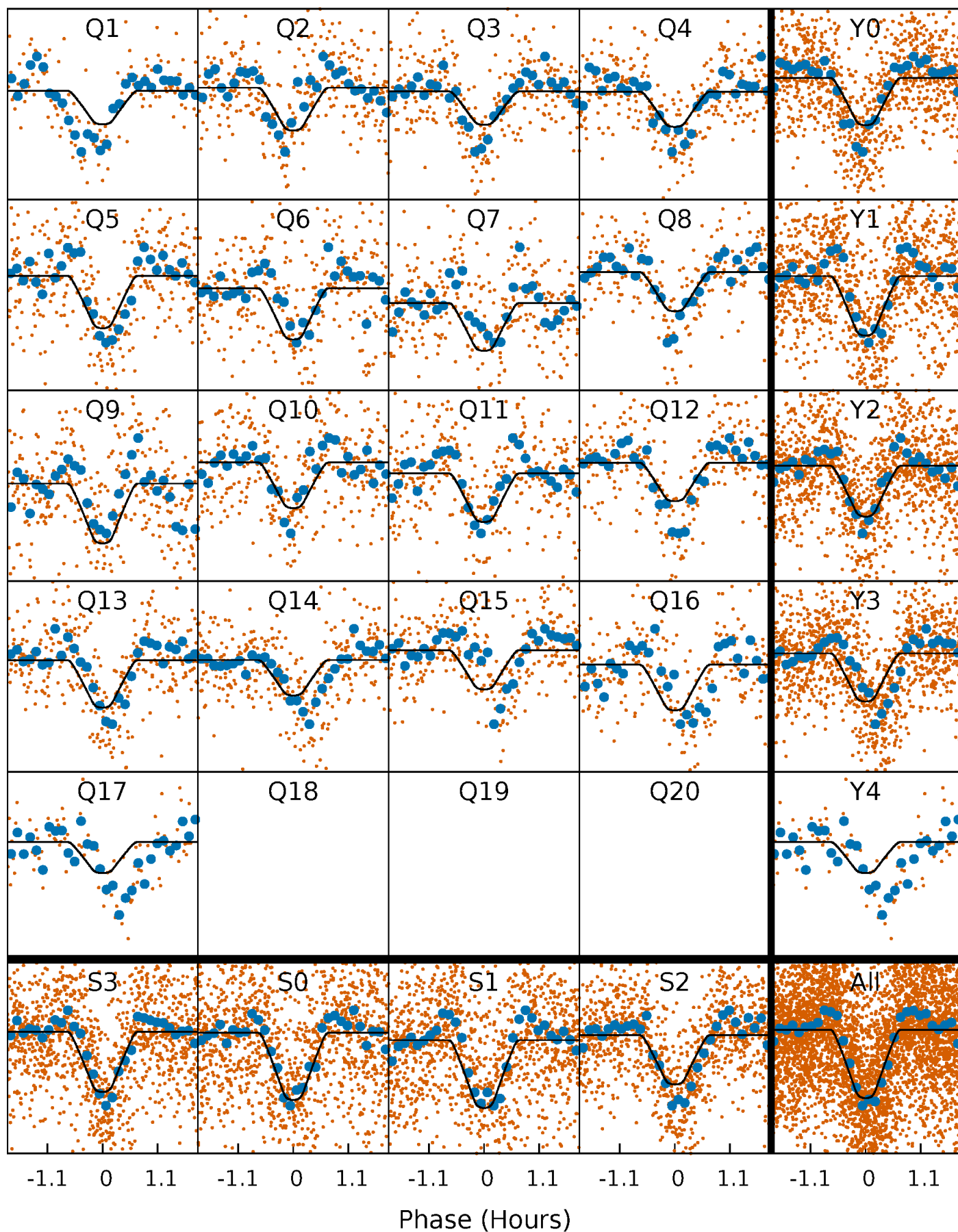
PDC Quarter-Phased Transit Curves

TCE 007552344-02 P= 2.001473 Days $T_0=132.951182$ (BKJD)



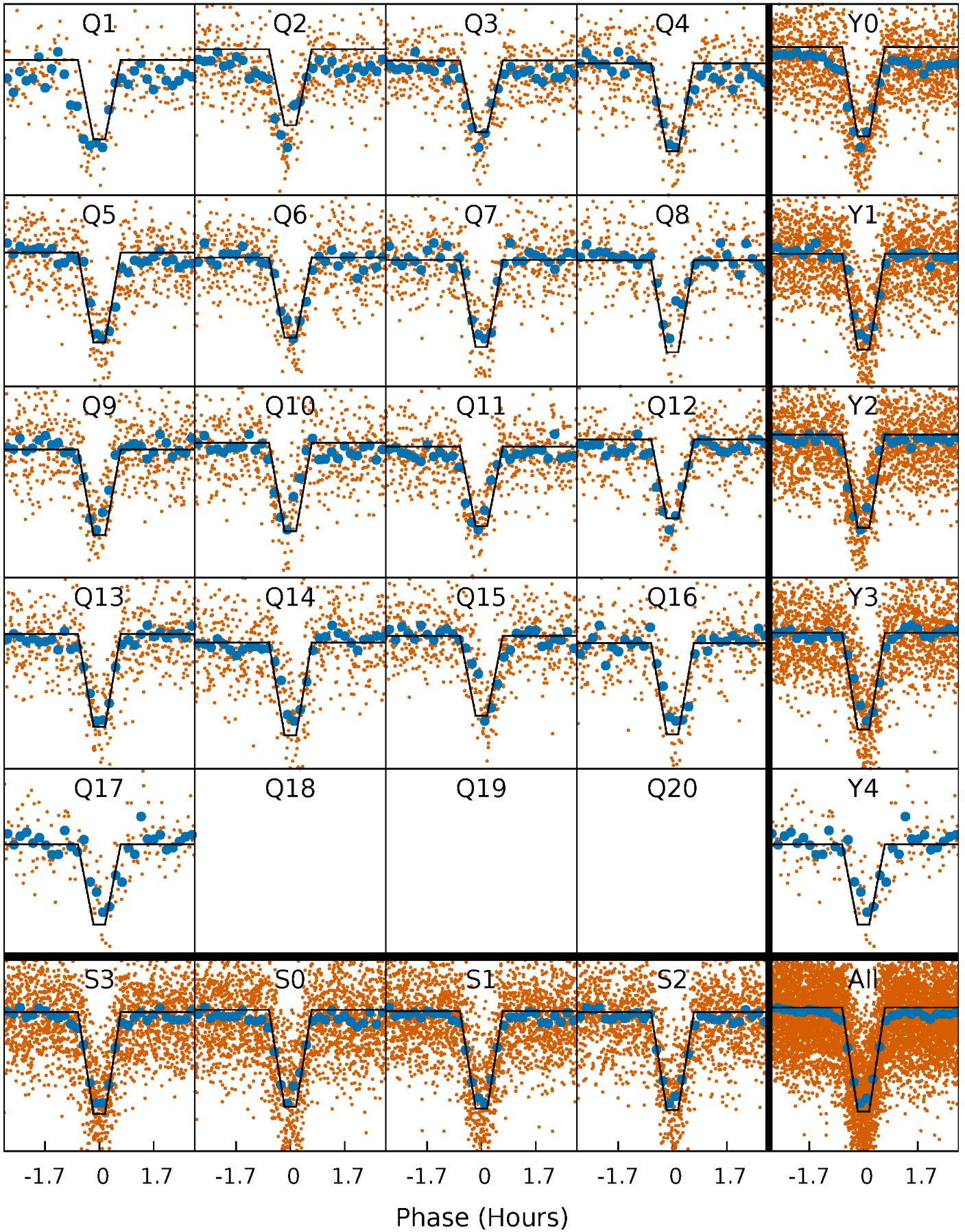
DV Quarter-Phased Transit Curves

TCE 007552344-02 P= 2.001473 Days $T_0=132.951182$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

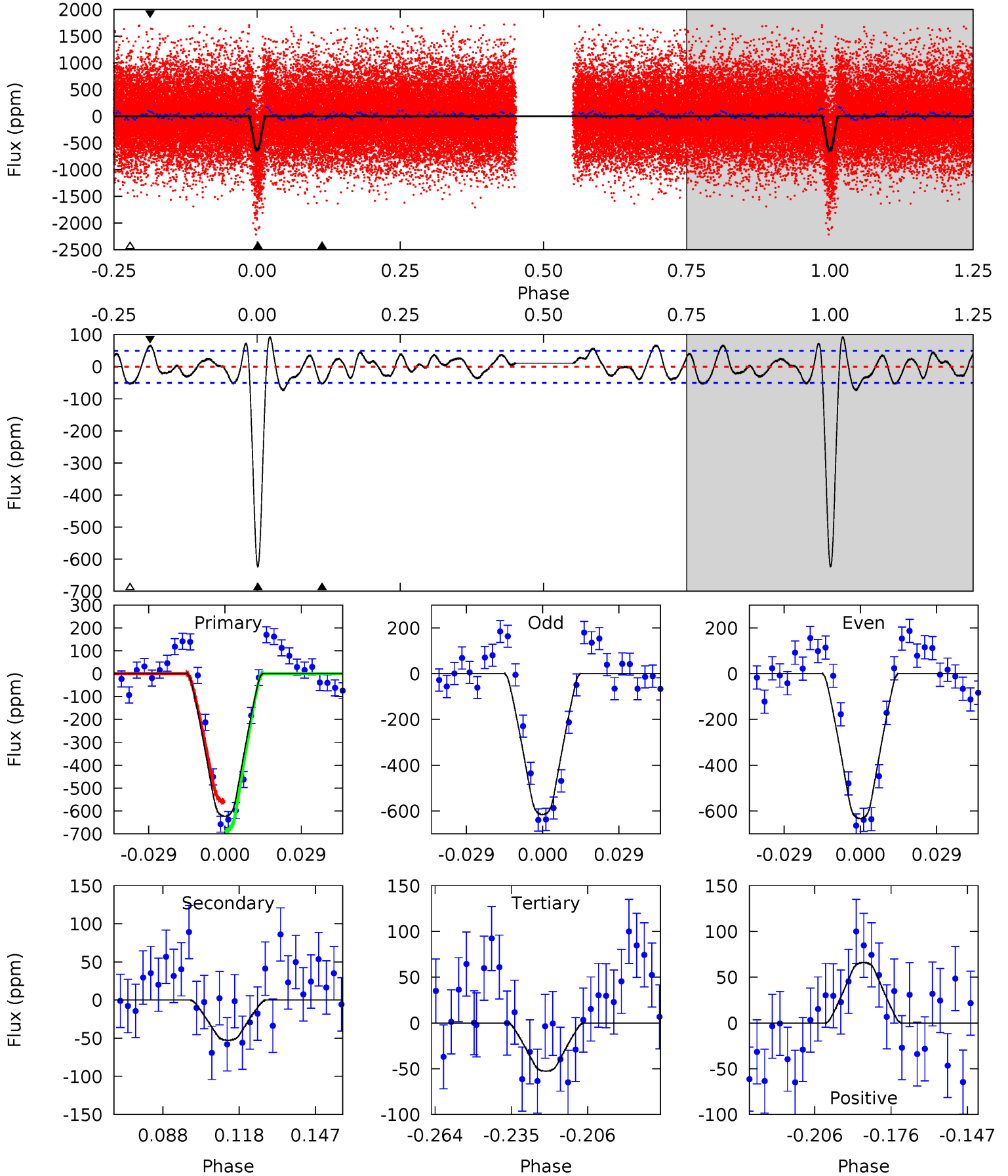
TCE 007552344-02 P= 2.001485 Days $T_0=132.949621$ (BKJD)



DV Model-Shift Uniqueness Test

007552344-02, P = 2.001473 Days, E = 130.949709 Days

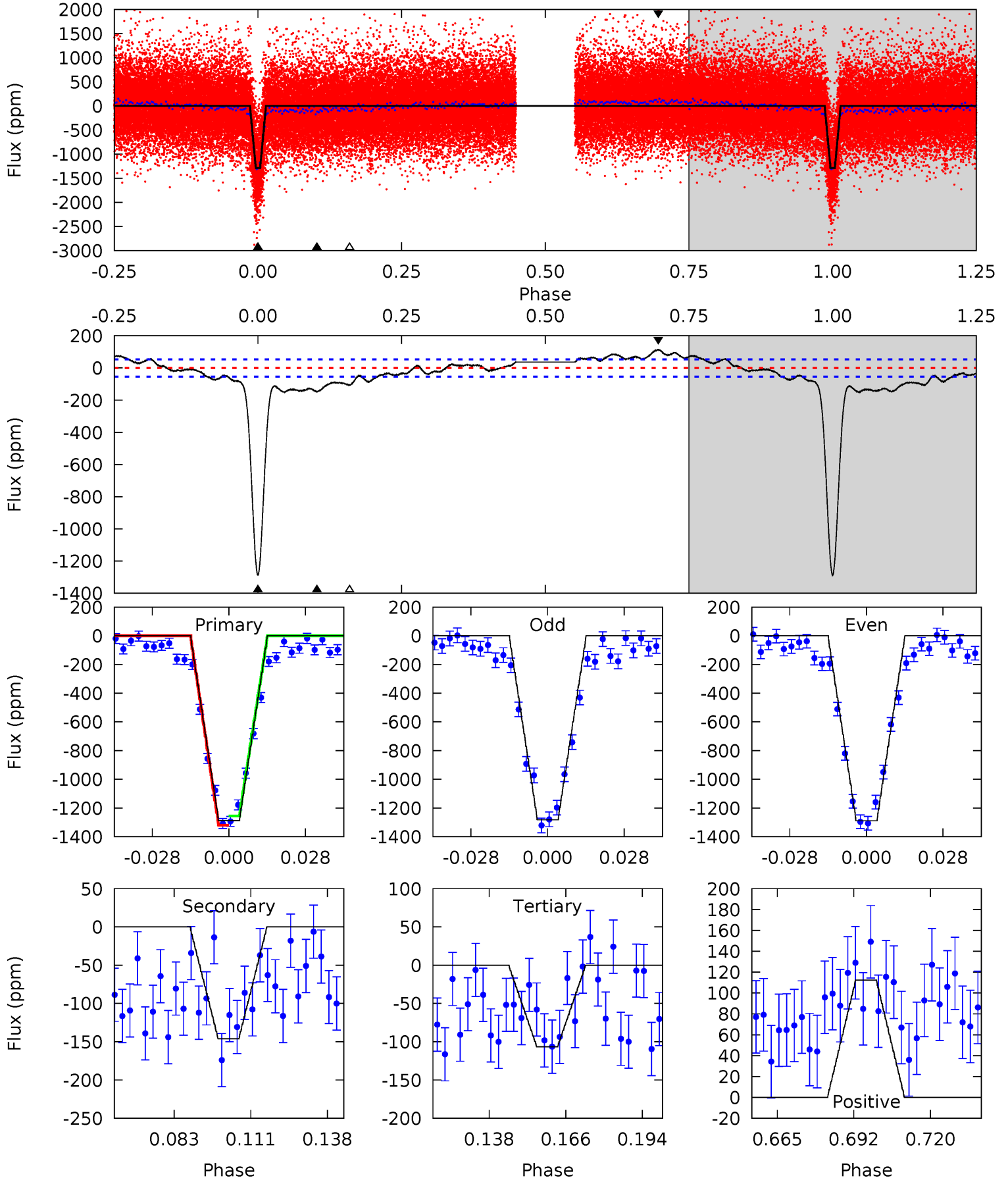
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
60.3	5.09	5.09	6.38	4.82	2.18	2.72	55.3	54.0	0.00	-1.29	0.85	1.01	0.13	6.24



Alt Model-Shift Uniqueness Test

007552344-02, P = 2.001485 Days, E = 130.948136 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
115.9	13.1	9.60	10.1	4.83	2.20	5.68	106.3	105.7	3.55	3.03	0.29	1.01	0.08	2.86



Stellar Parameters For KIC 007552344

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5472^{+179}_{-179}	$4.499^{+0.117}_{-0.130}$	$-0.540^{+0.350}_{-0.300}$	$0.790^{+0.143}_{-0.108}$	$0.718^{+0.111}_{-0.044}$	$2.052^{+0.980}_{-0.776}$
	+3%/-3%	+3%/-3%	+65%/-56%	+18%/-14%	+15%/-6%	+48%/-38%
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 007552344-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-53 ± 10	$2.34^{+0.59}_{-0.53}$	1796^{+106}_{-92}	3315^{+304}_{-239}	$4.153^{+2.905}_{-1.595}$
Alt.	-146 ± 11	$3.27^{+0.62}_{-0.57}$	1801^{+99}_{-99}	3529^{+217}_{-181}	$5.974^{+2.673}_{-1.826}$

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

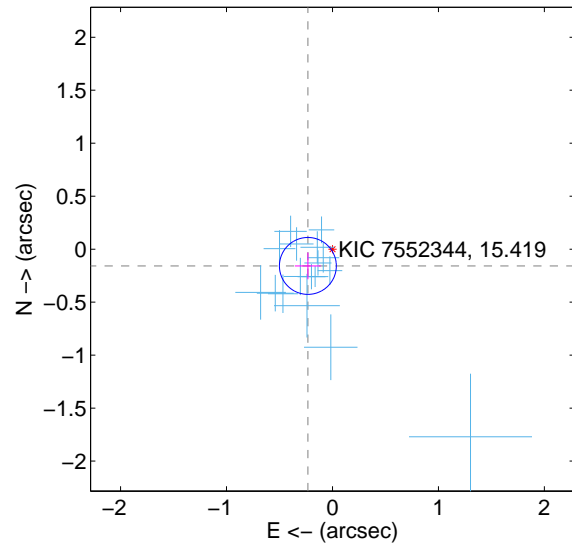
Supplemental centroid analysis for 007552344-02. Kepler magnitude: 15.42. Transit SNR 34.68

There are 17 quarters with good PRF difference image offsets

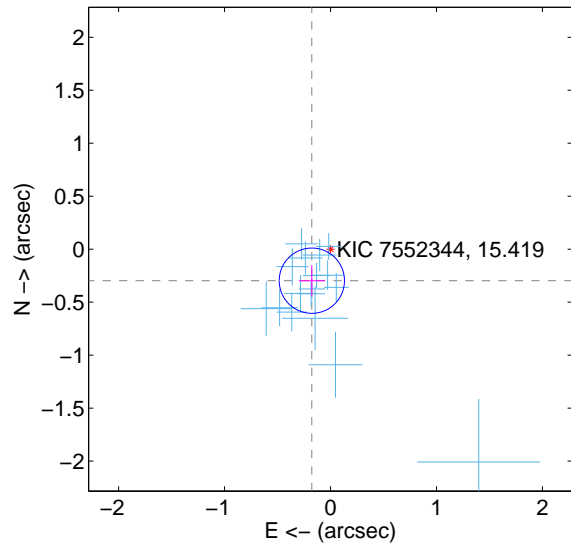
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.281 ± 0.090	3.14	0.232 ± 0.122	-0.158 ± 0.126
PRF-fit source offset from KIC position	0.346 ± 0.103	3.37	0.176 ± 0.124	-0.298 ± 0.147
photometric centroid source offset	0.81 ± 0.36	2.22	0.29 ± 0.41	0.76 ± 0.36

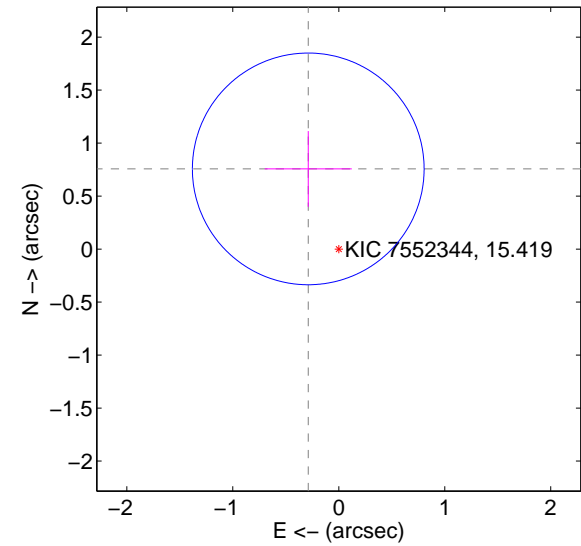
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

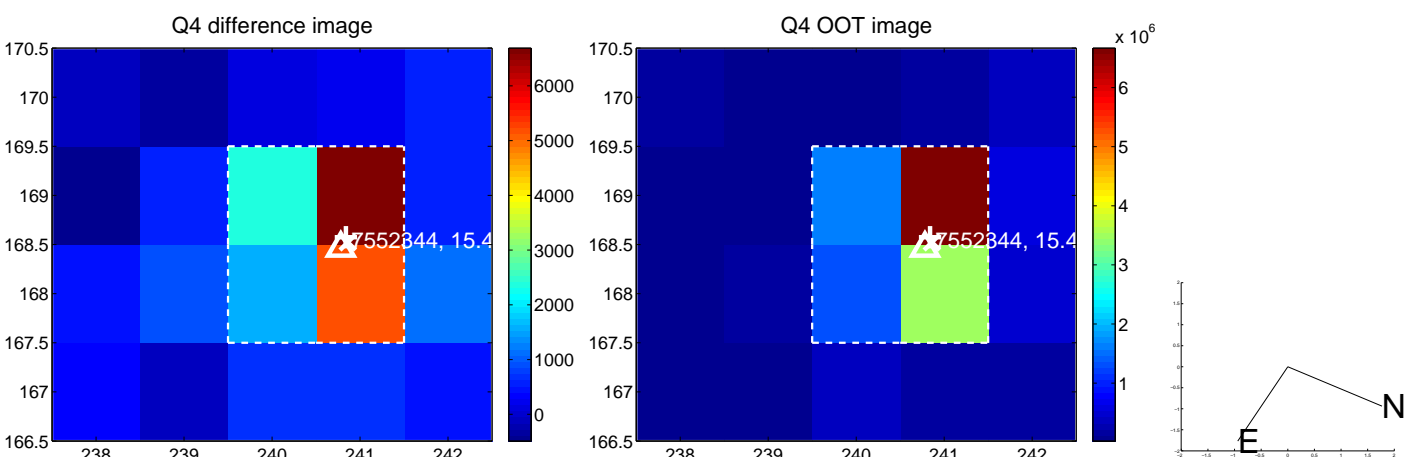
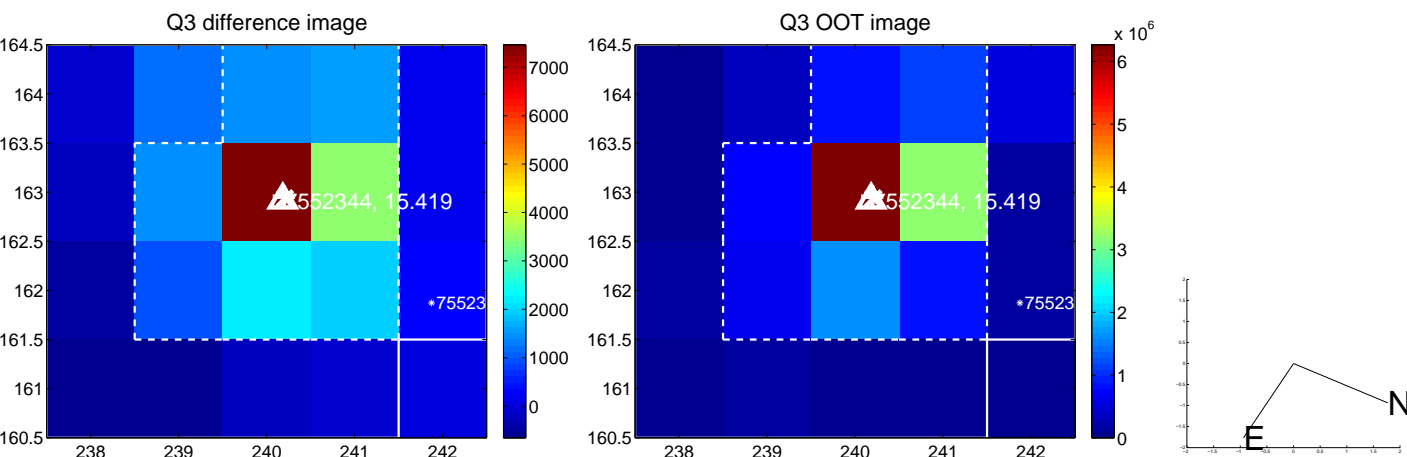
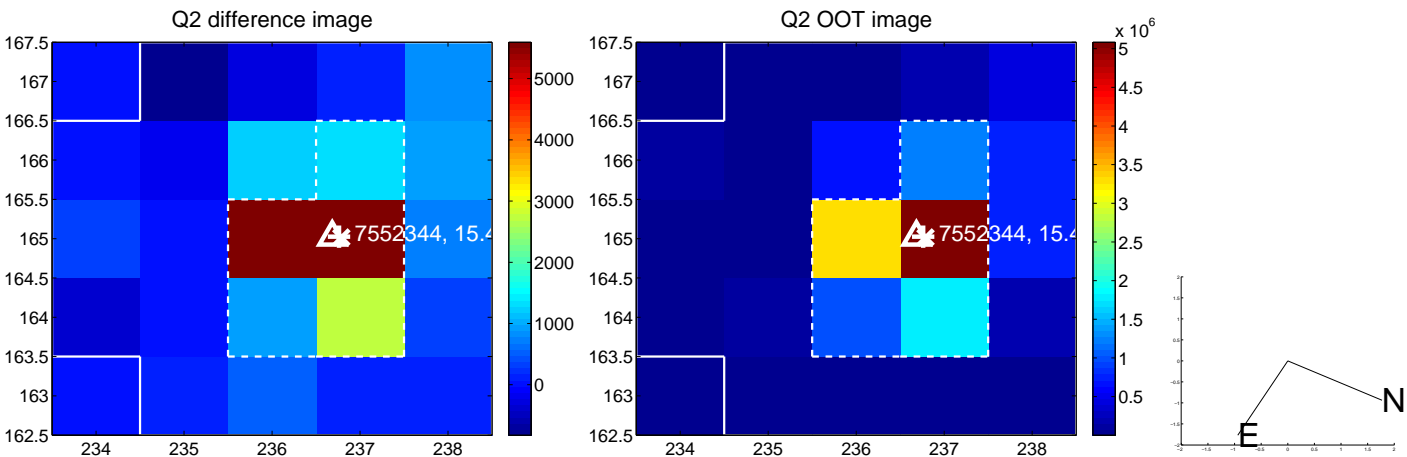
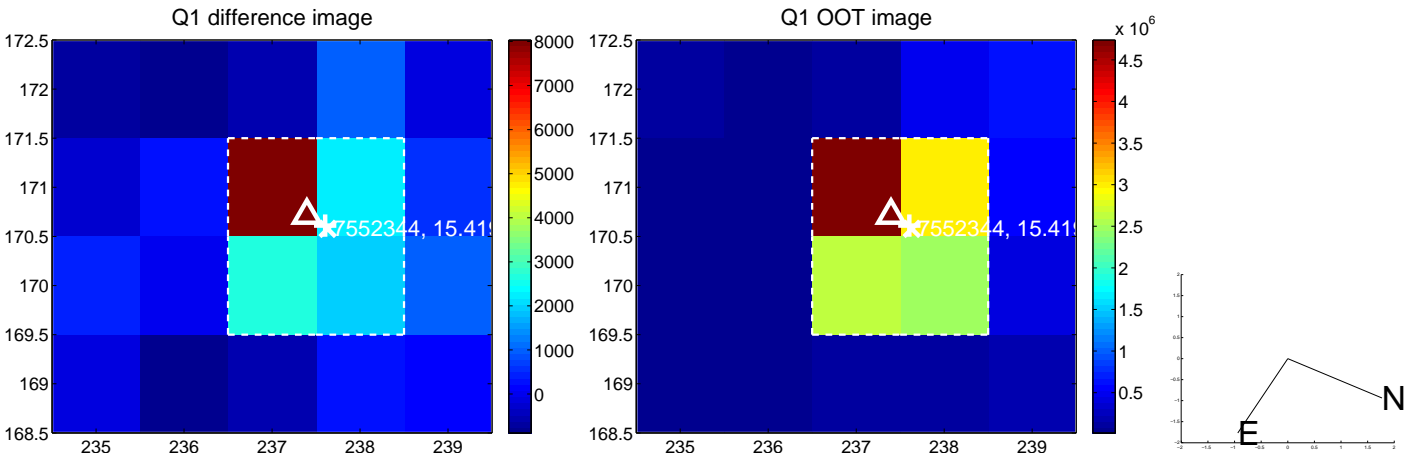


offset from photometric centroids

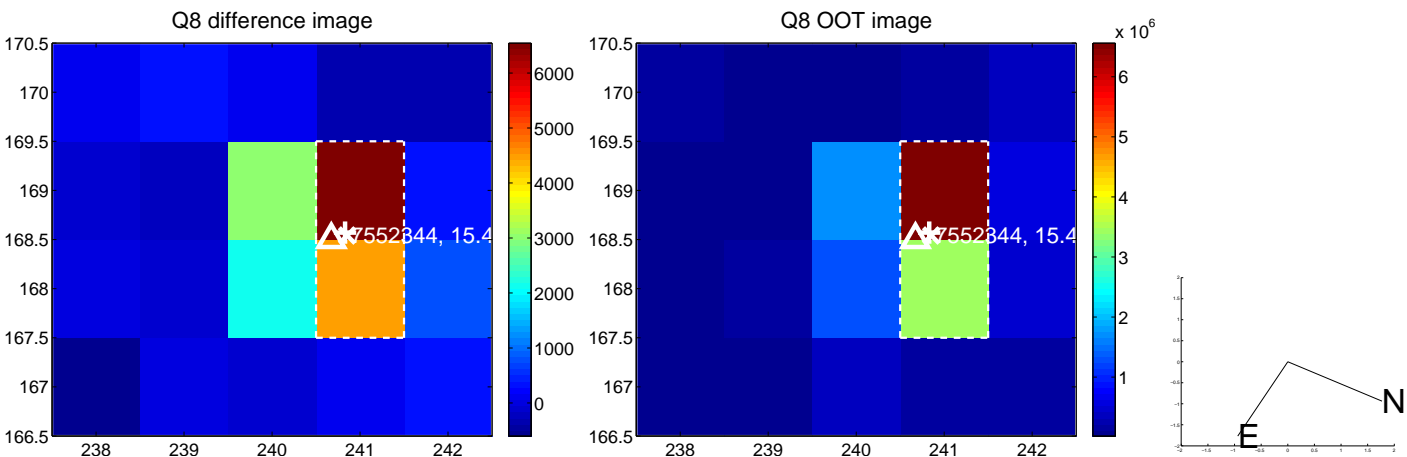
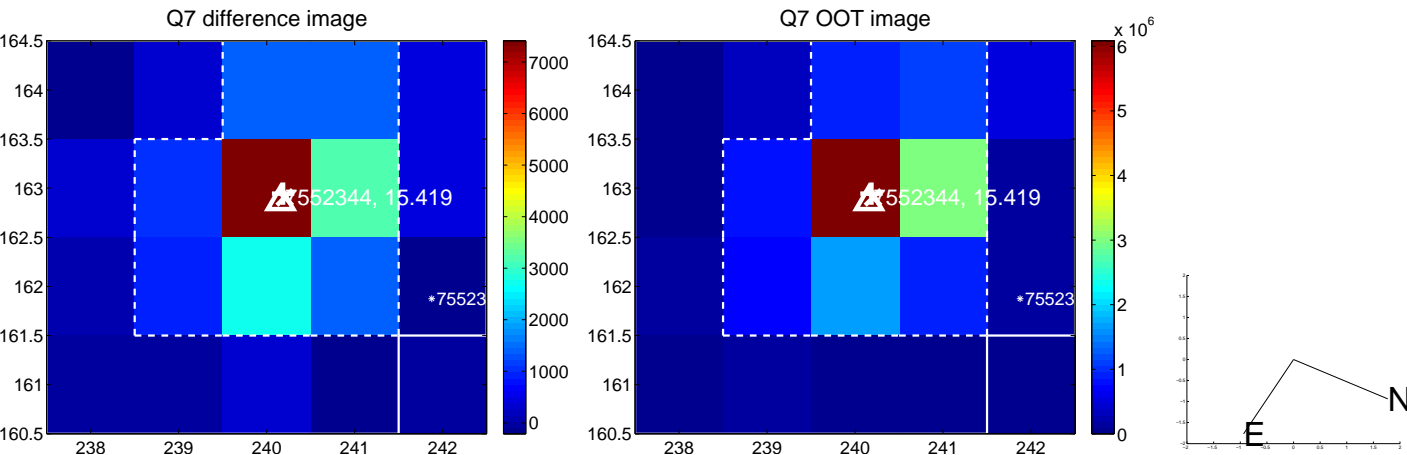
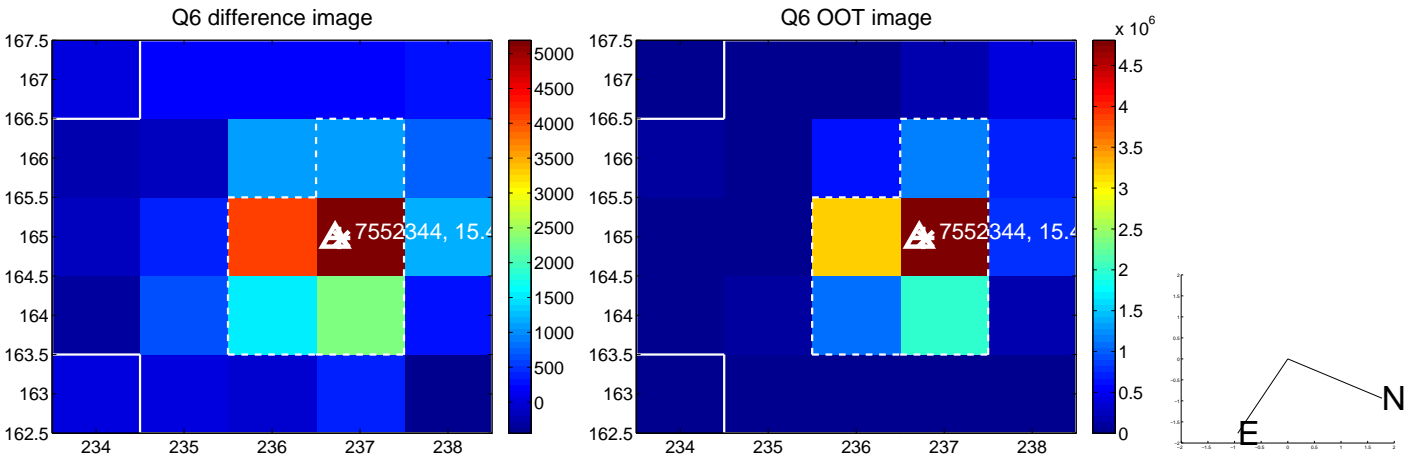
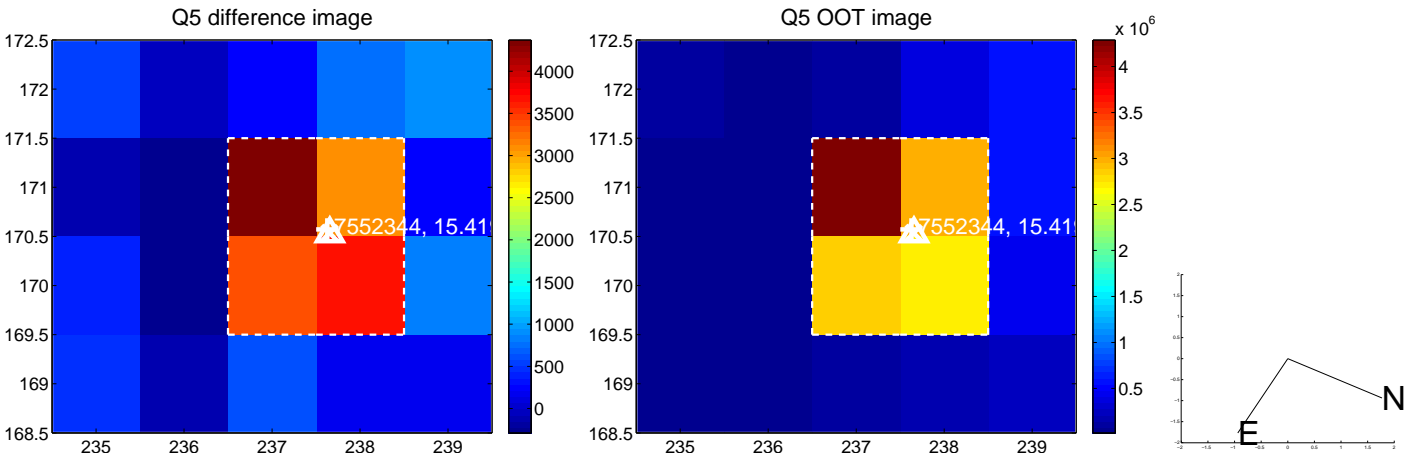


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

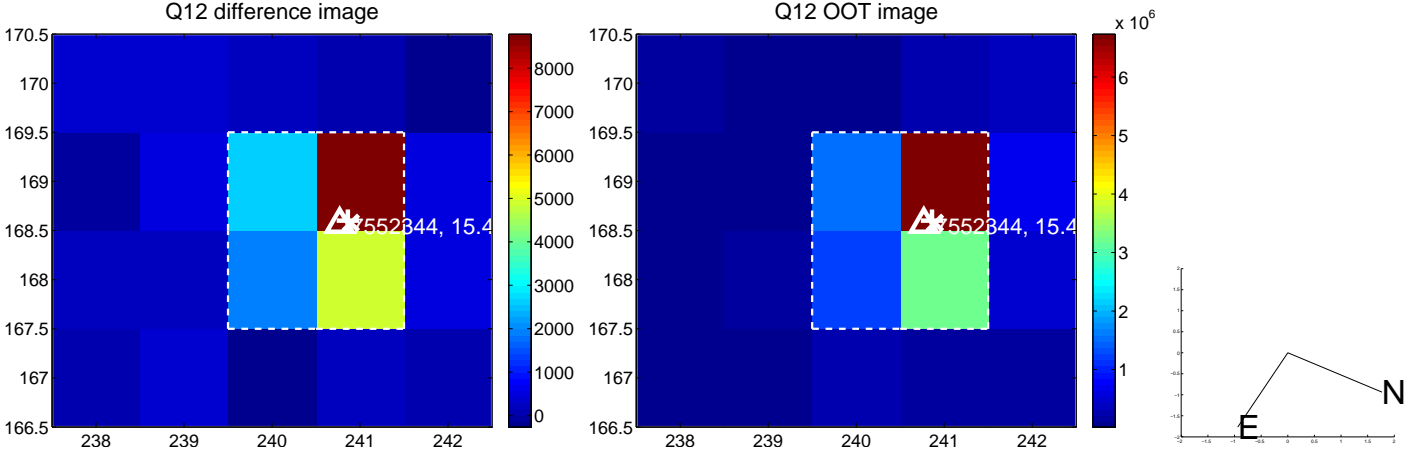
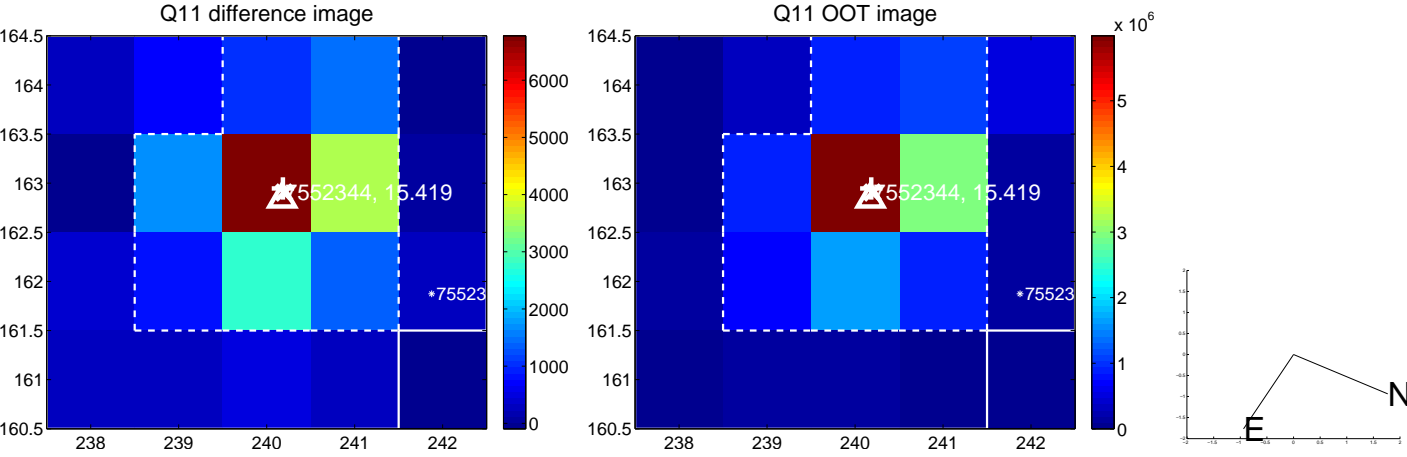
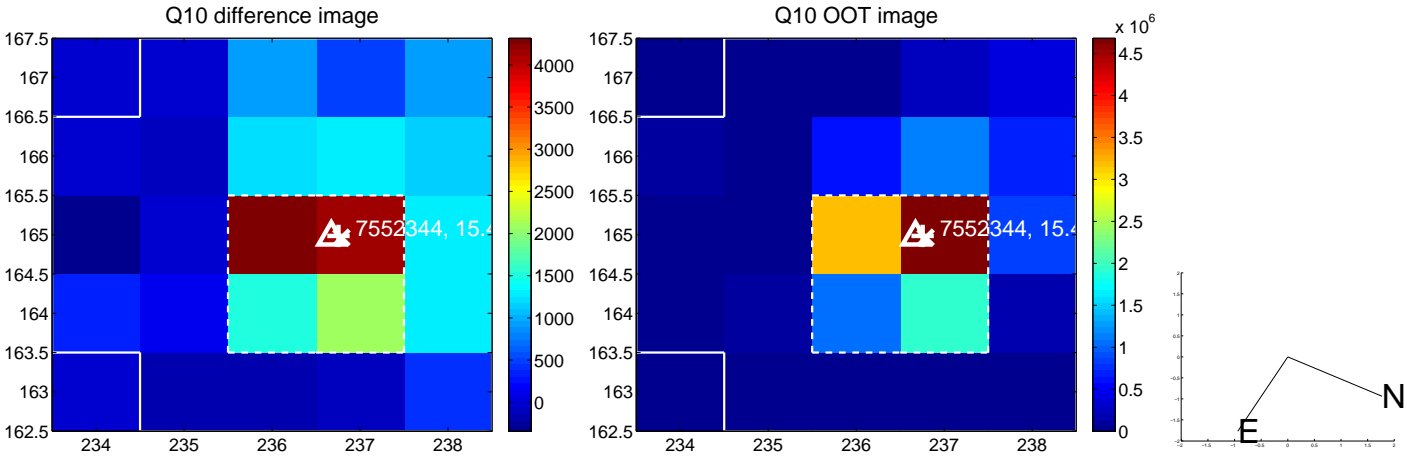
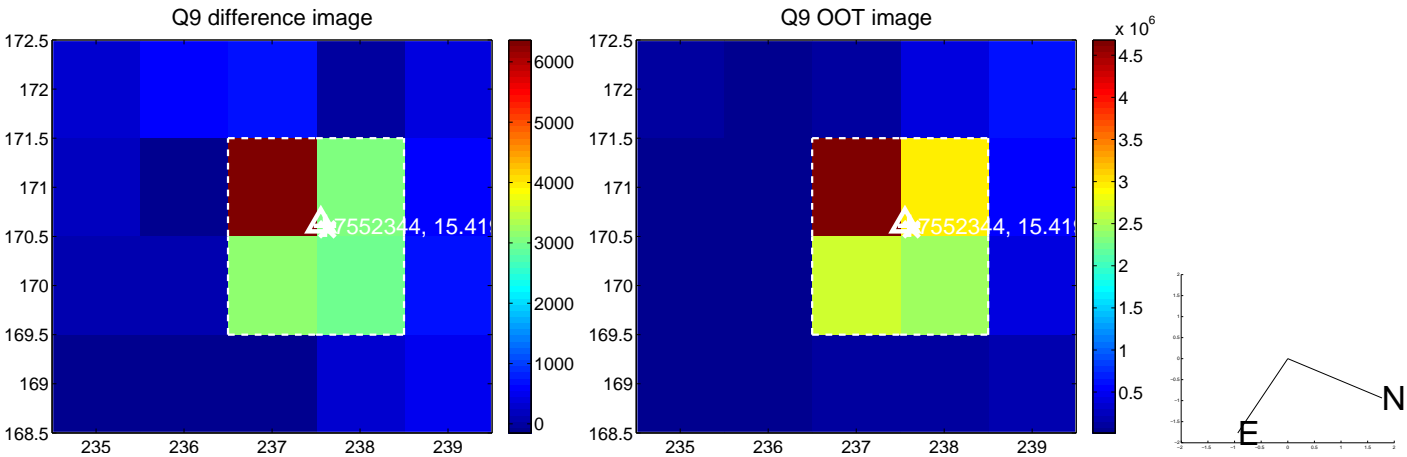
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



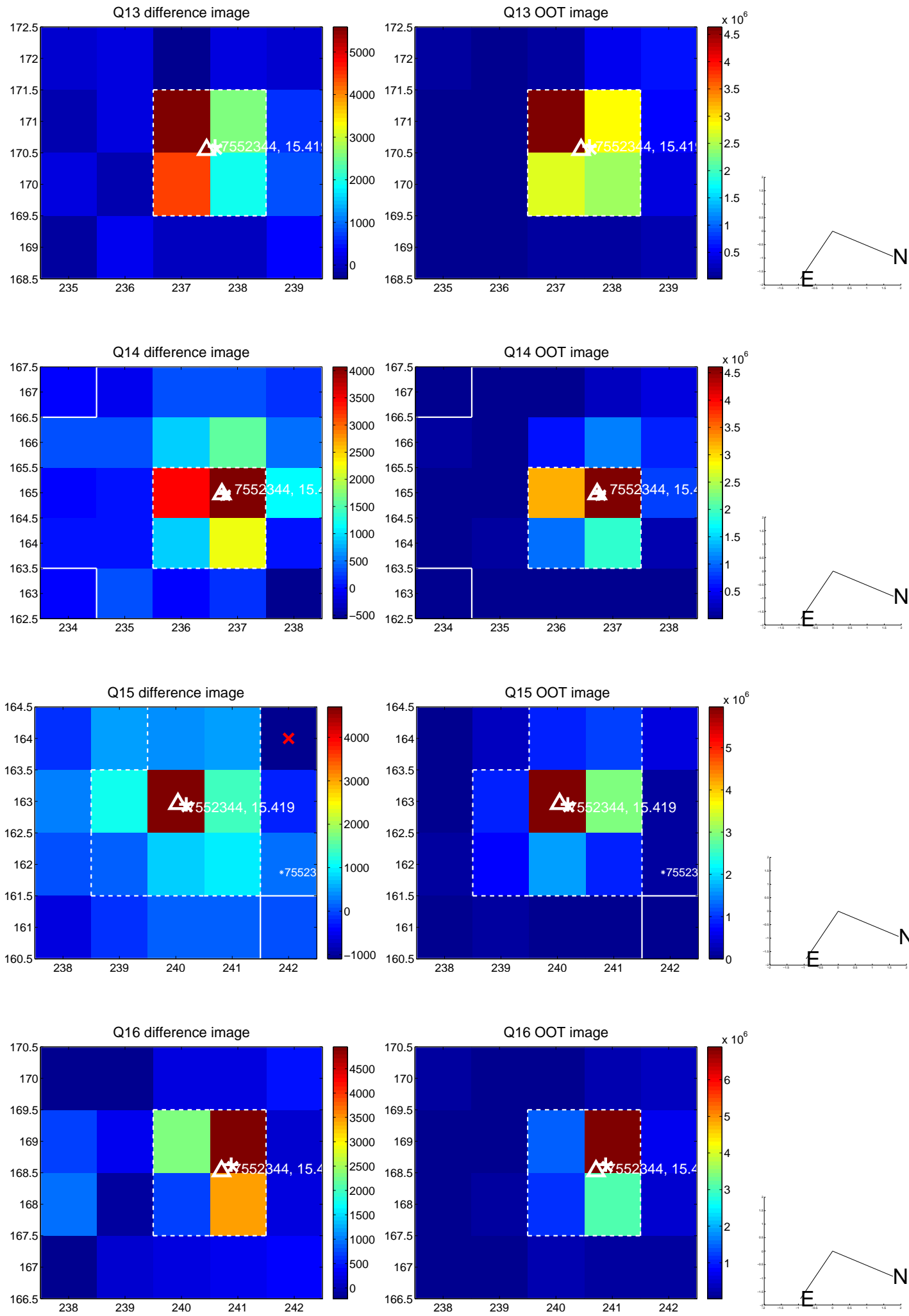
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



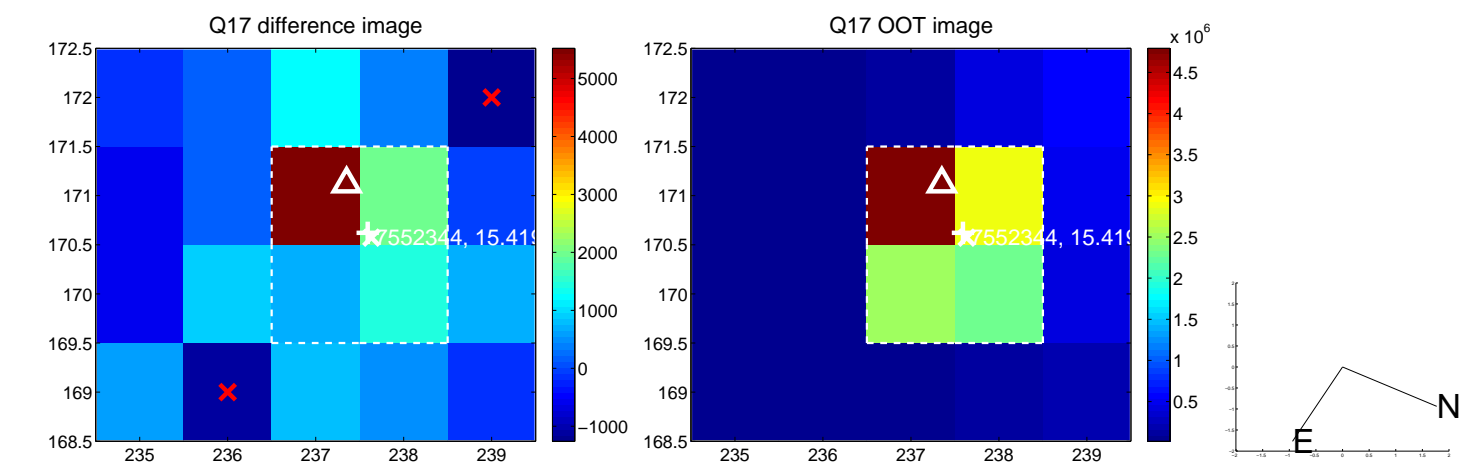
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



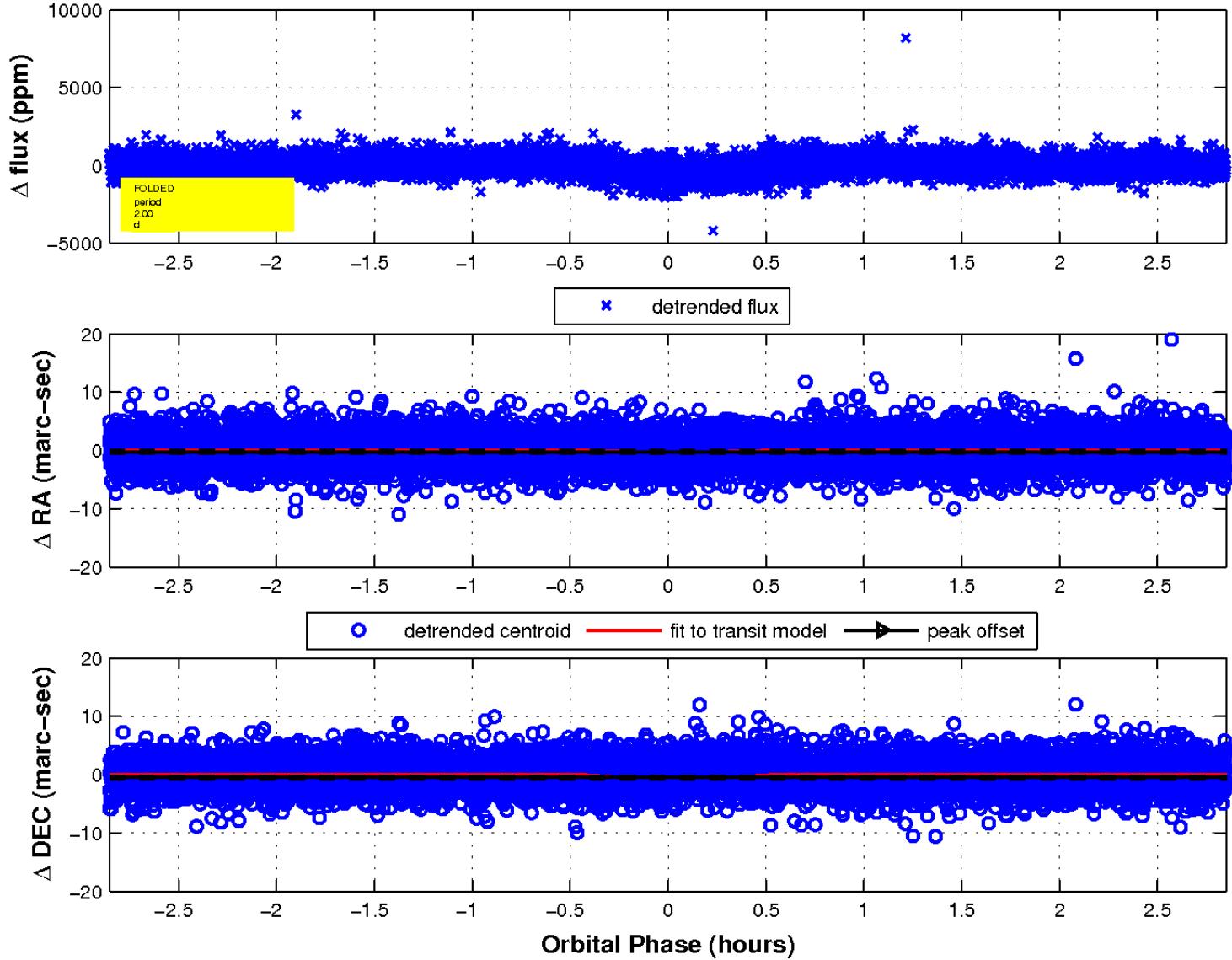
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

