

KIC 005738346

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})
005738346-01	OBS	1006.01	30.611355	160.342355	3316.8	3.549	38.1	34.0	0.53	3900	5.58	2.39
005738346-02	OBS	No	30.610514	142.731035	985.1	8.021	13.0	15.9	0.53	3900	2.48	2.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005738346-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
005738346-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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 005738346-01

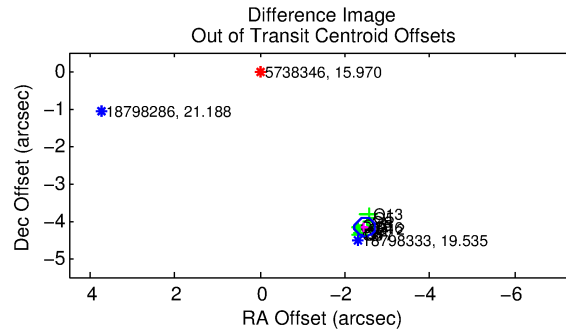
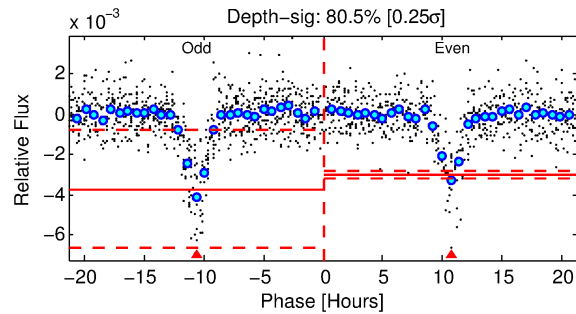
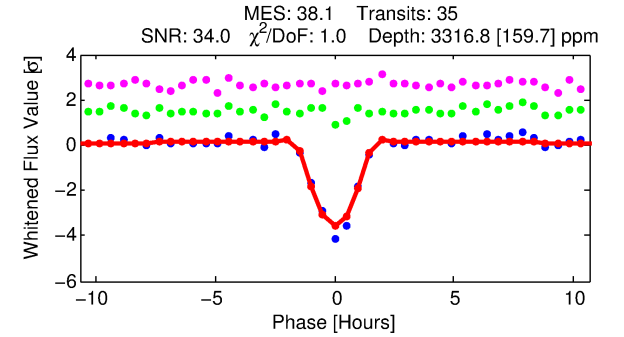
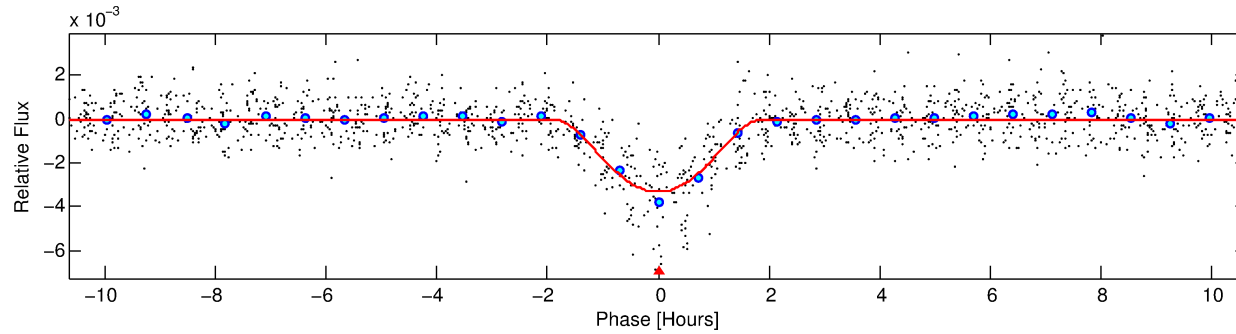
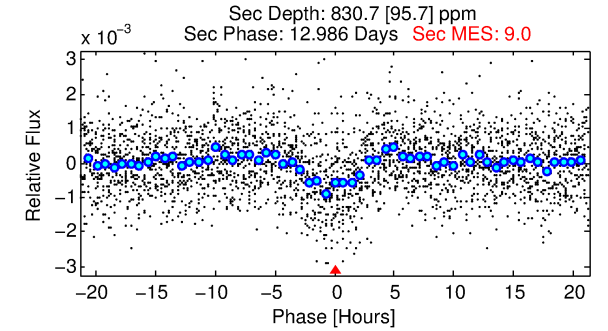
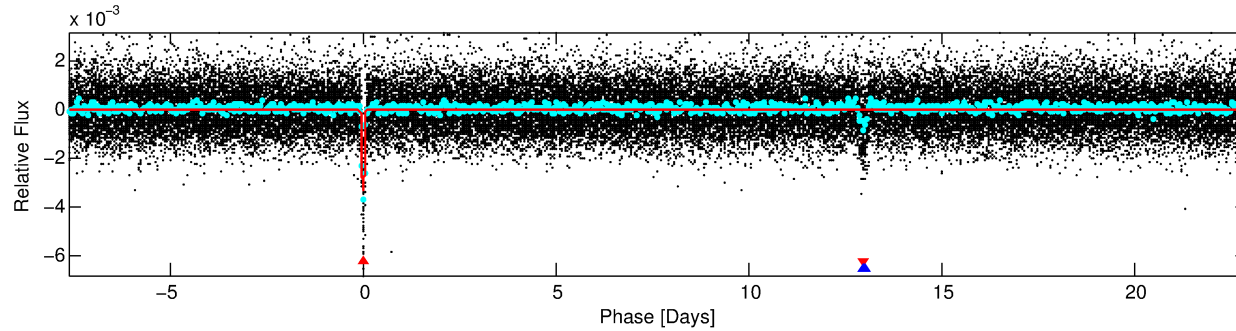
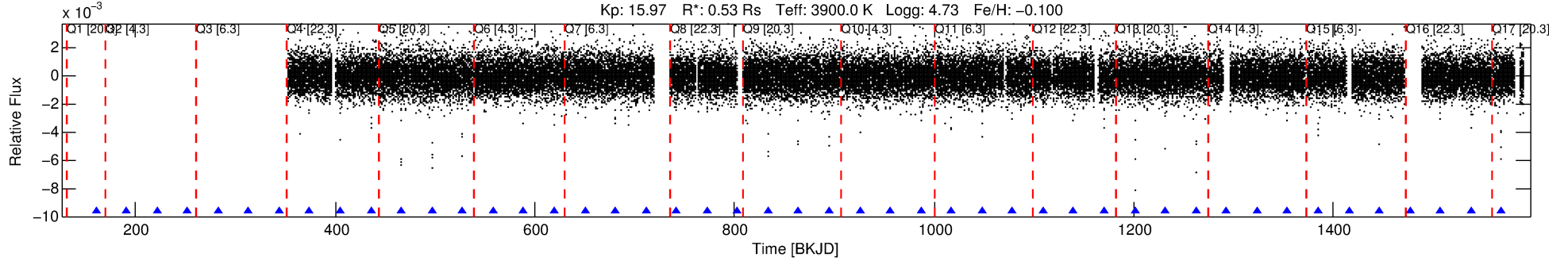
No Significant Match Found

DV One-Page Summary

KIC: 5738346 Candidate: 1 of 2 Period: 30.611 d

KOI: K01006.01 Corr: 0.989

Kp: 15.97 R*: 0.53 Rs Teff: 3900.0 K Logg: 4.73 Fe/H: -0.100



DV Fit Results:

Period = 30.61135 [0.00011] d
Epoch = 160.3424 [0.0031] BKJD
Rp/R* = 0.0957 [0.1123]
a/R* = 30.53 [7.50]
b = 0.99 [0.17]
Seff = 2.39 [0.41]
Teq = 317 [14] K
Rp = 5.58 [6.58] Re
a = 0.1574 [0.0135] AU
Ag = 363.96 [856.36] [0.42σ]
Teffp = 2140 [1259] K [1.45σ]

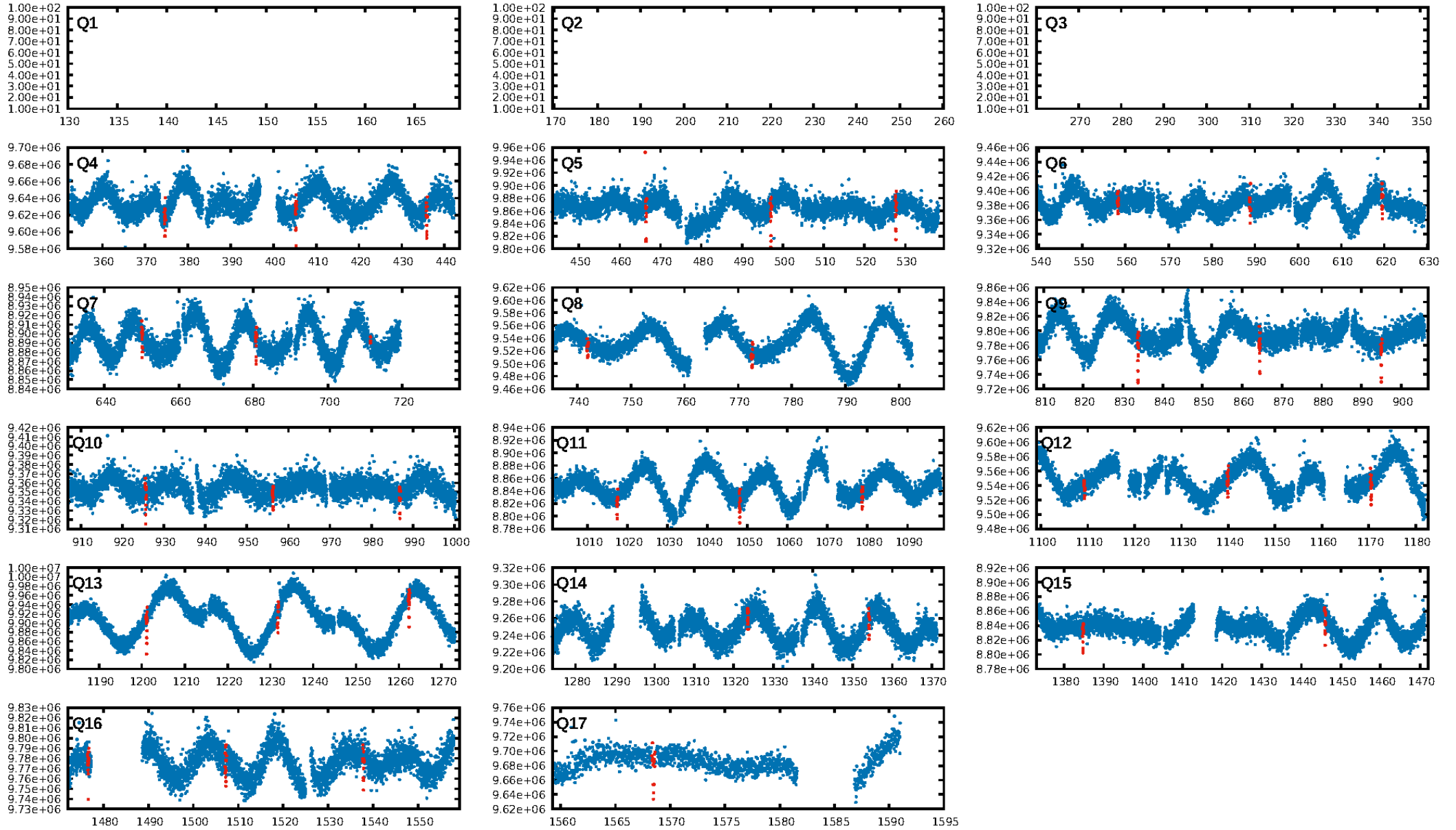
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 2.41e-307
RollingBand-fgt: 1.00 [34/34]
GhostDiagnostic-chr: 0.2976
Centroid-sig: 0.0%
Centroid-so: 9.915 arcsec [26.60σ]
OotOffset-rm: 4.847 arcsec [60.93σ]
KicOffset-rm: 5.128 arcsec [66.40σ]
OotOffset-st: 0/3/4/4 [11]
KicOffset-st: 0/3/4/4 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [14/14]

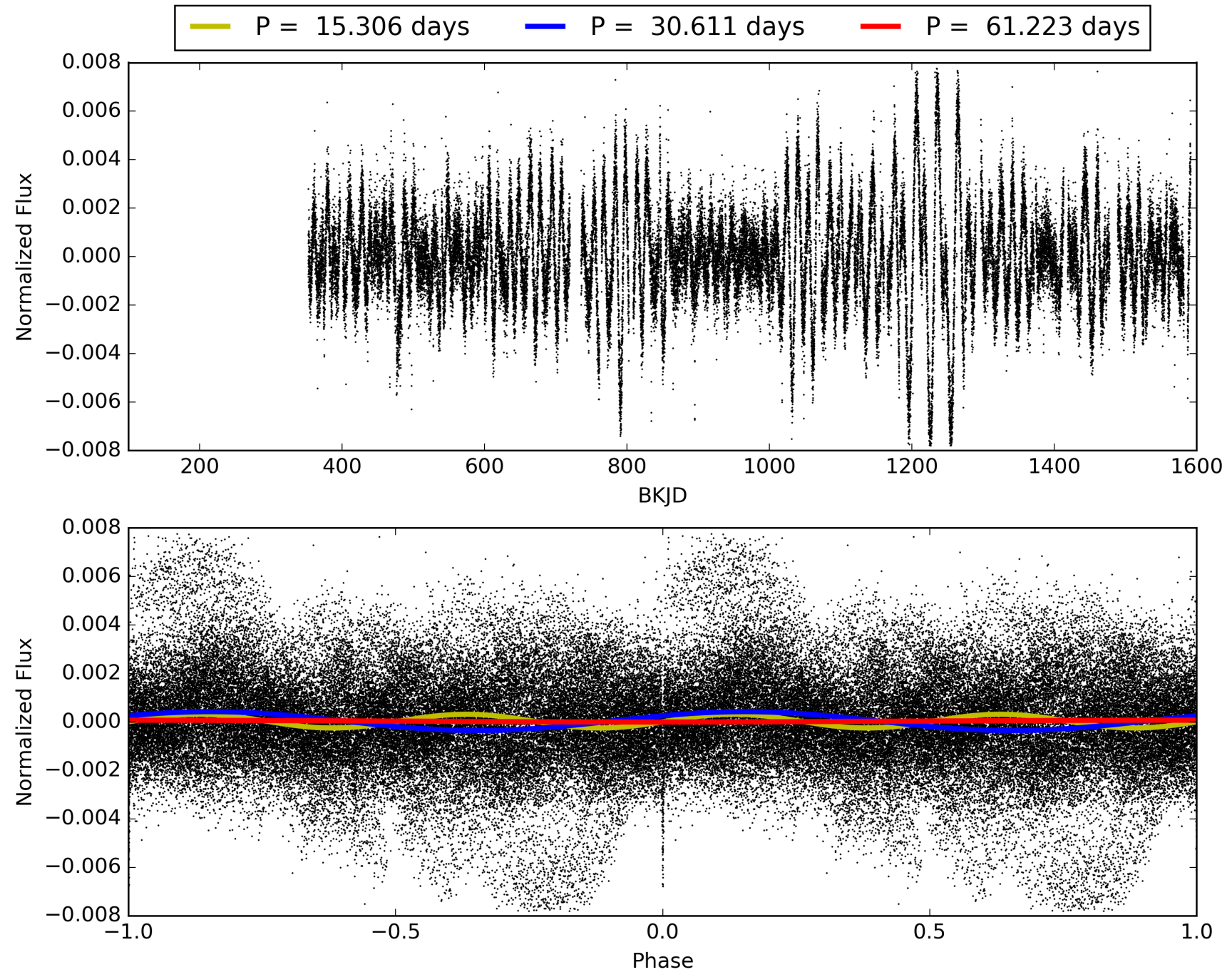
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:46:11 Z

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

TCE 005738346-01, PDC Light Curves

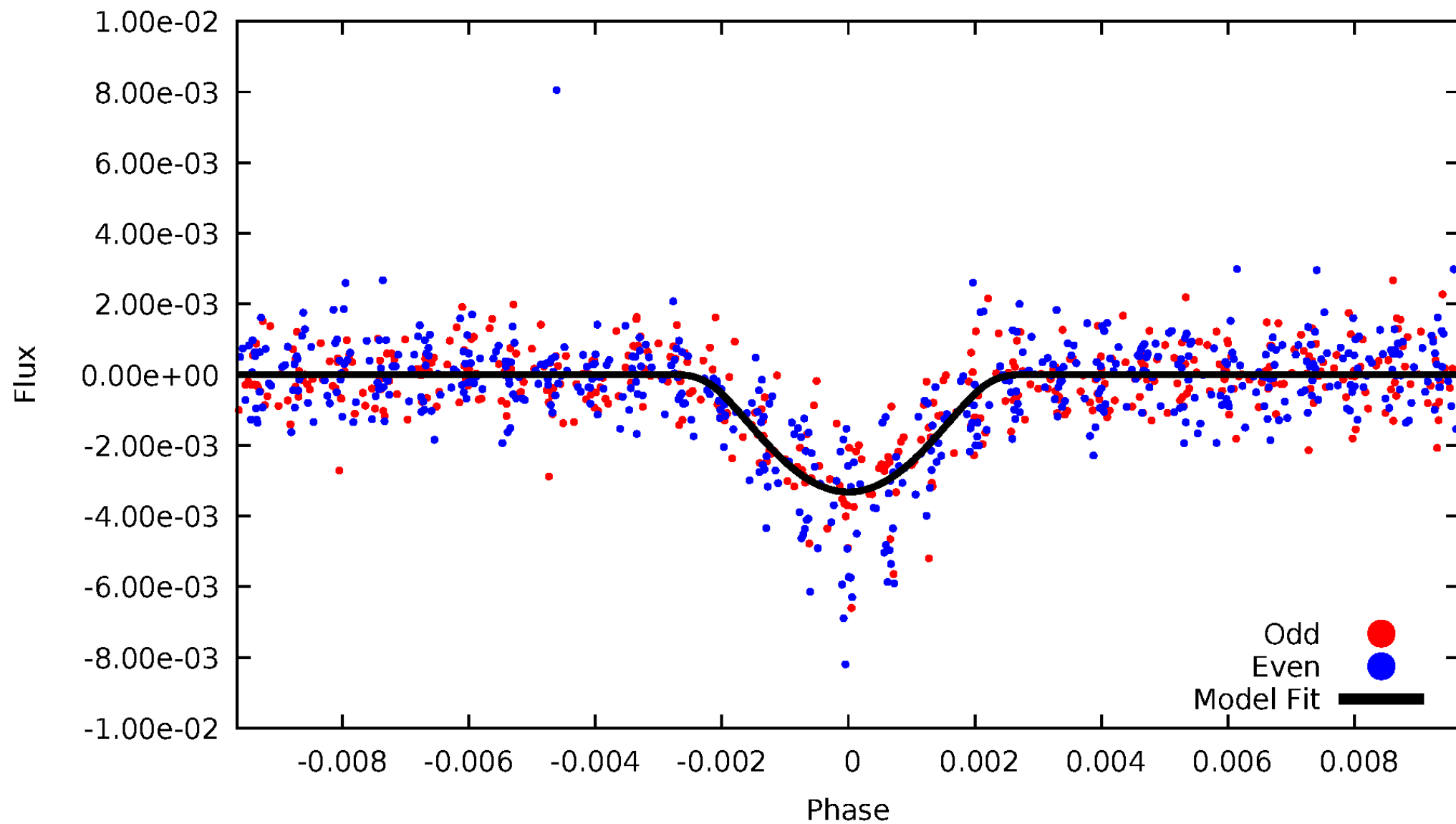


TCE 005738346-01



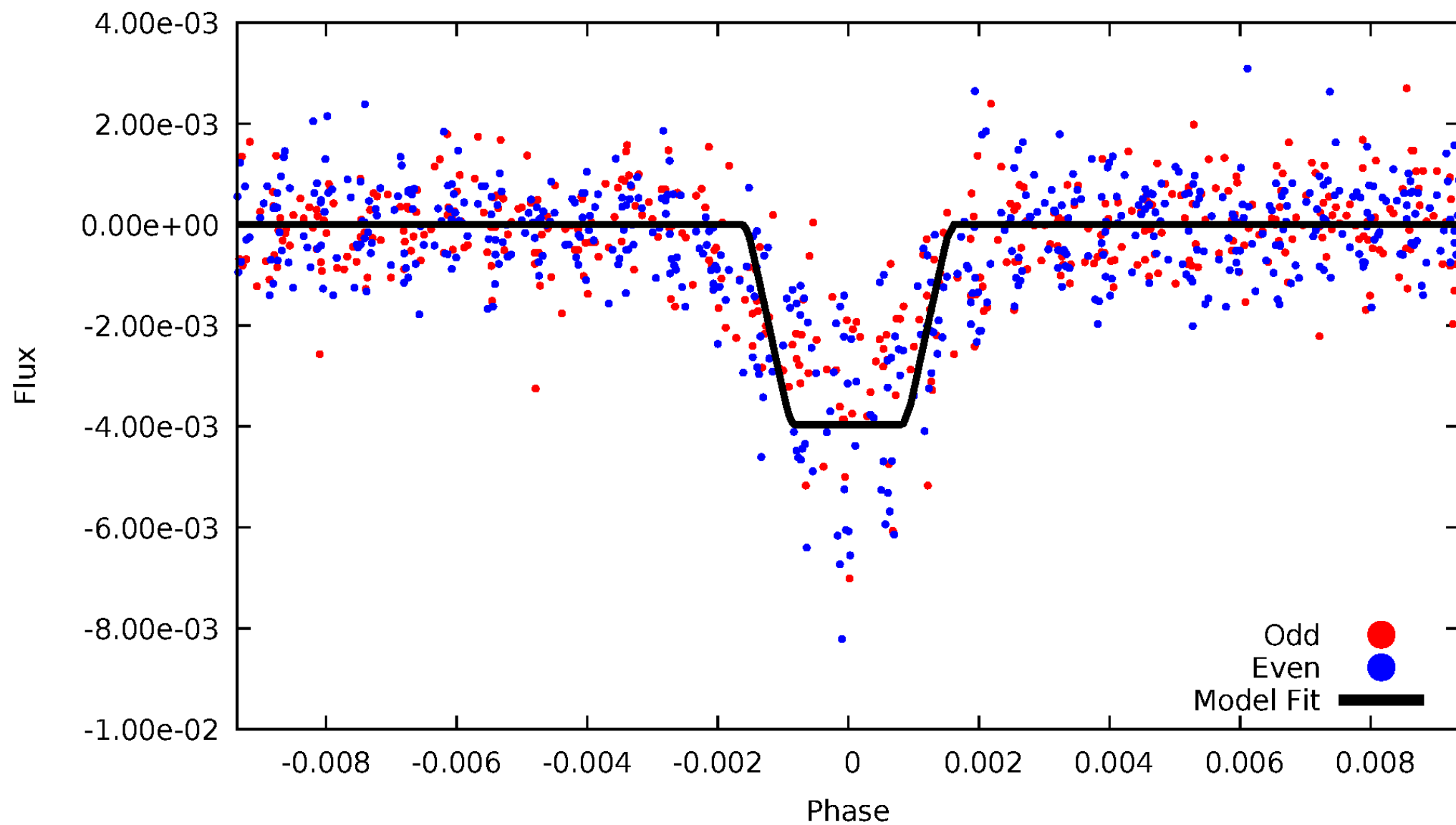
DV Odd/Even

TCE 005738346-01



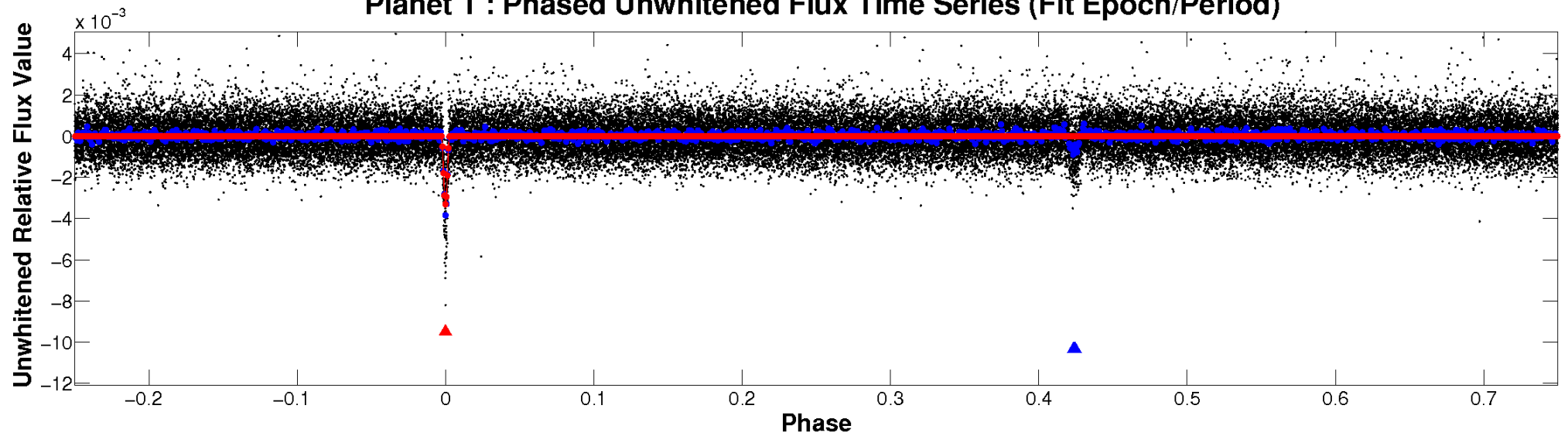
ALT Odd/Even

TCE 005738346-01

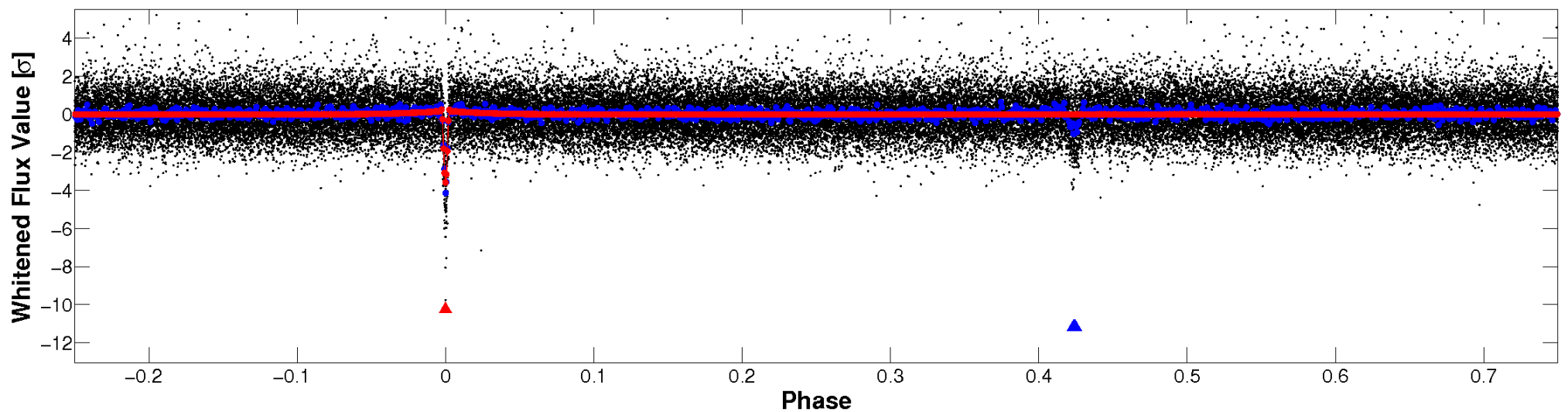


Non-Whitened Vs. Whitened Light Curve

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

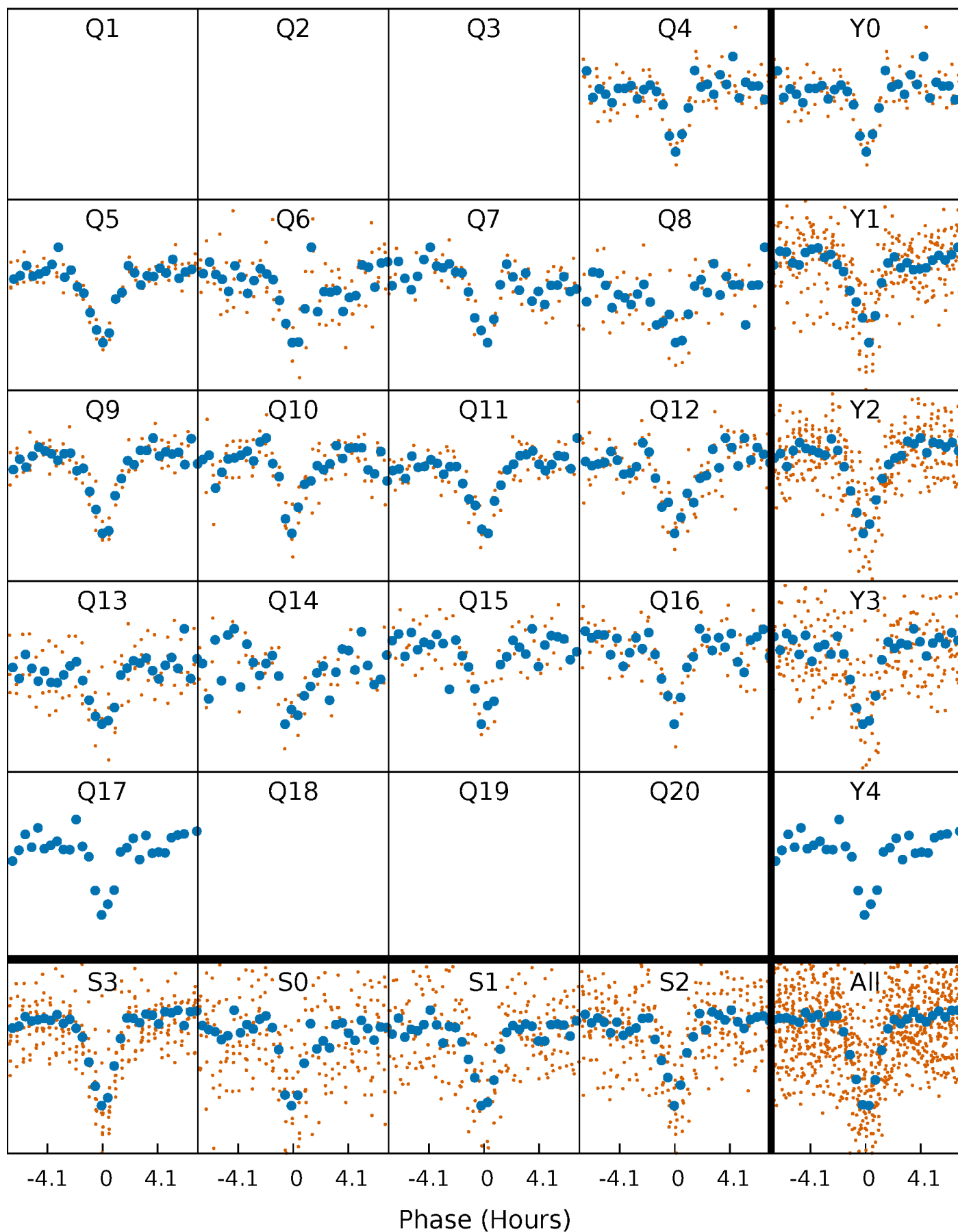


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



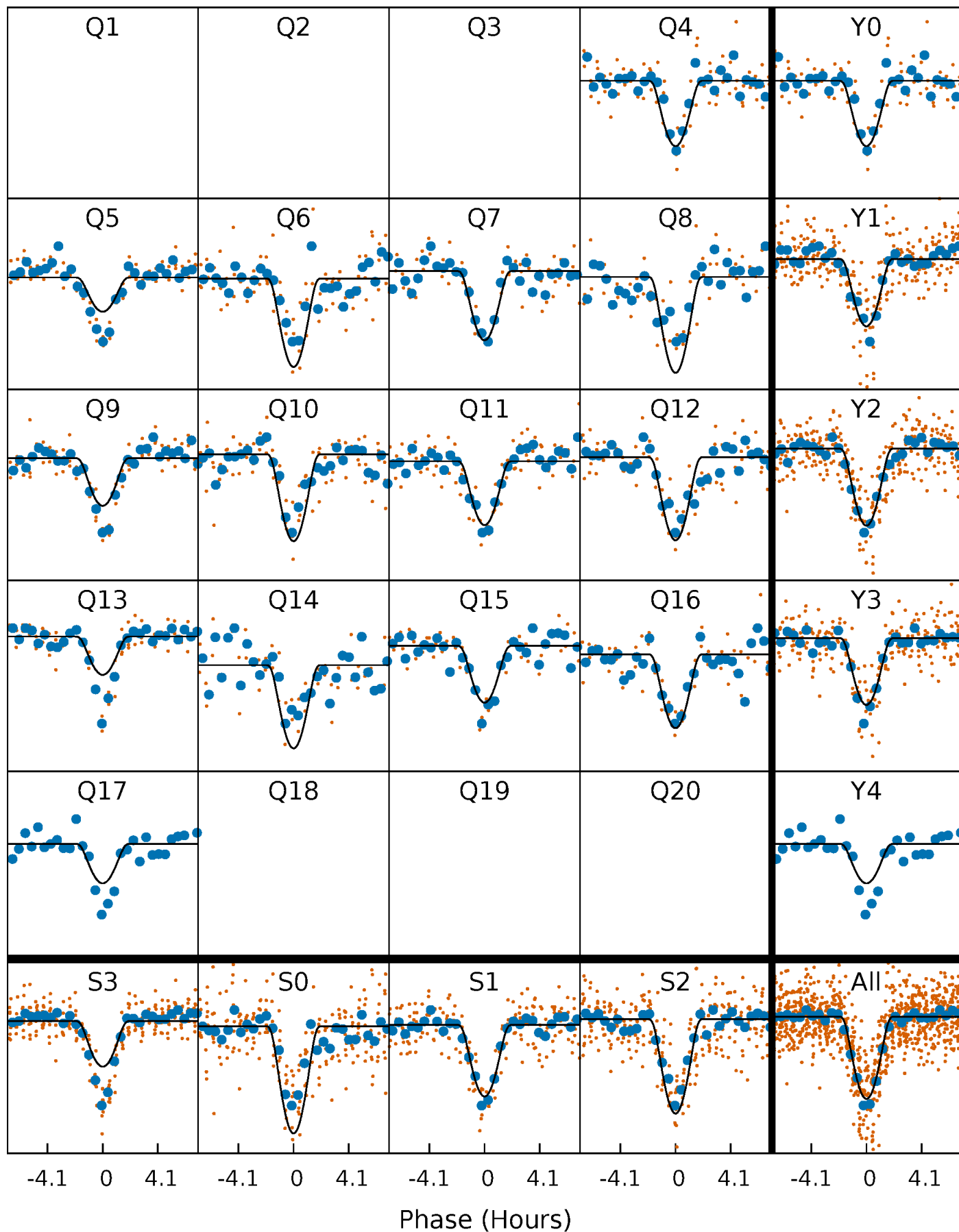
PDC Quarter-Phased Transit Curves

TCE 005738346-01 P= 30.611355 Days $T_0=160.342355$ (BKJD)



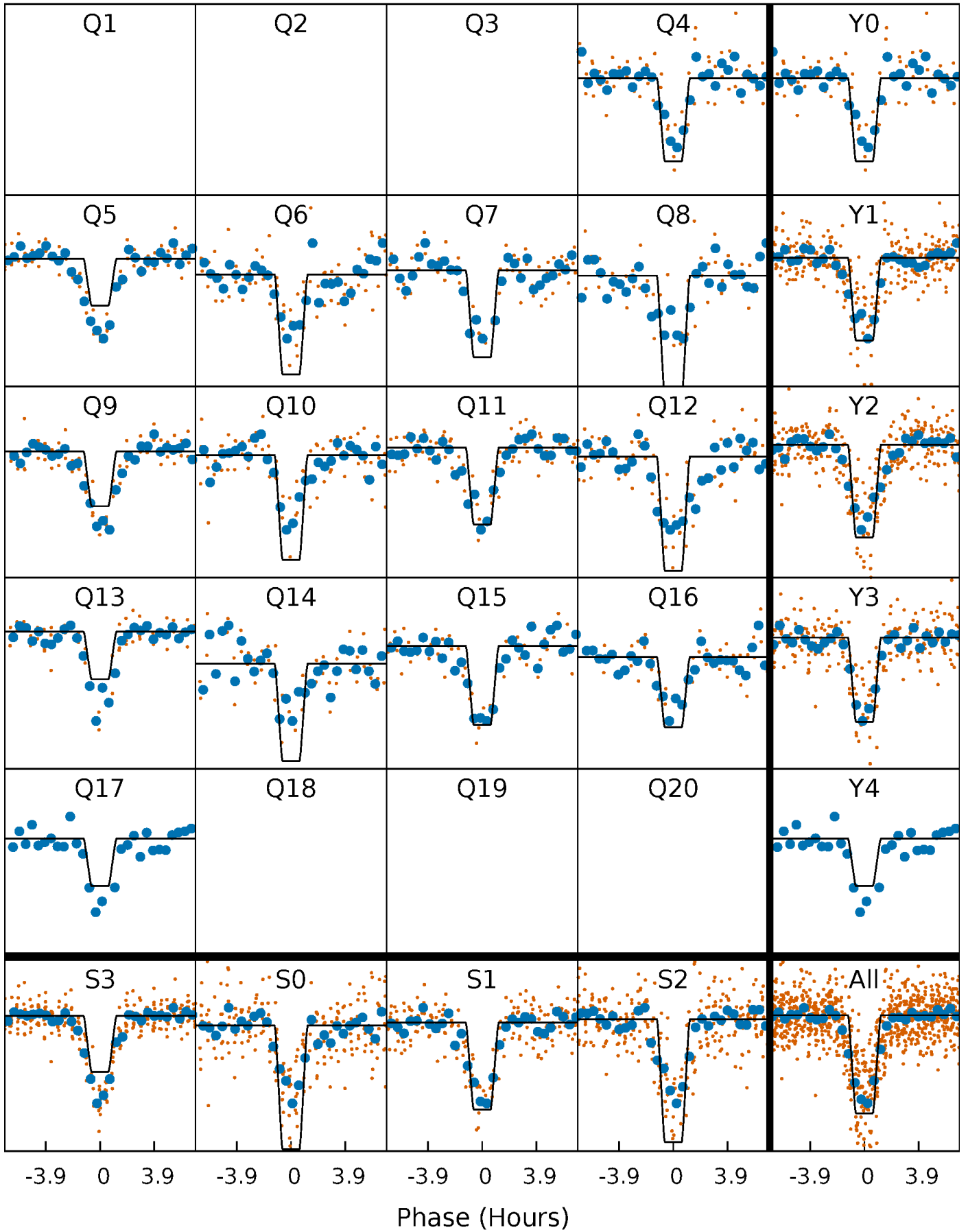
DV Quarter-Phased Transit Curves

TCE 005738346-01 P= 30.611355 Days $T_0=160.342355$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

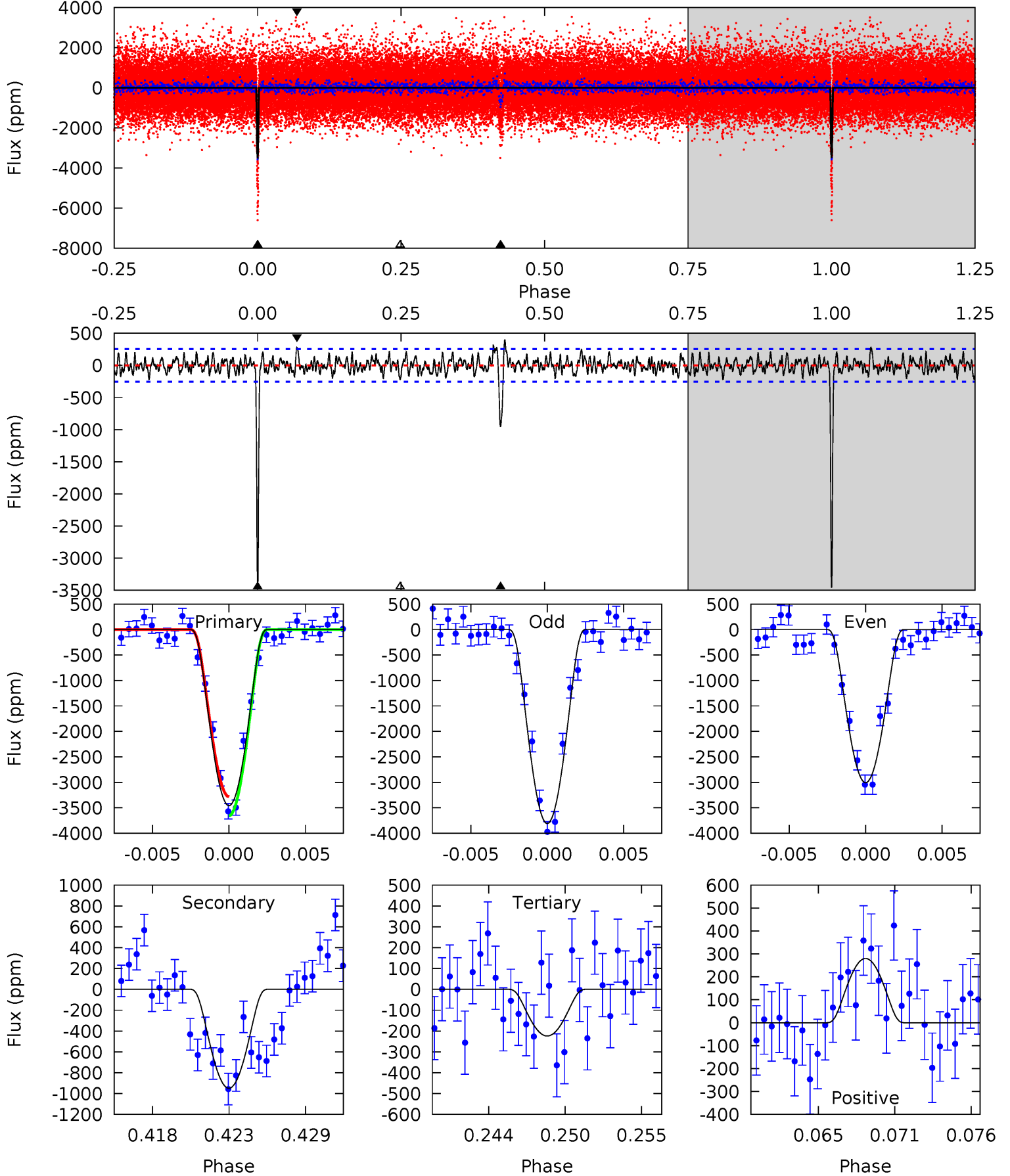
TCE 005738346-01 P= 30.611384 Days $T_0=160.343016$ (BKJD)



DV Model-Shift Uniqueness Test

005738346-01, $P = 30.611355$ Days, $E = 160.342355$ Days

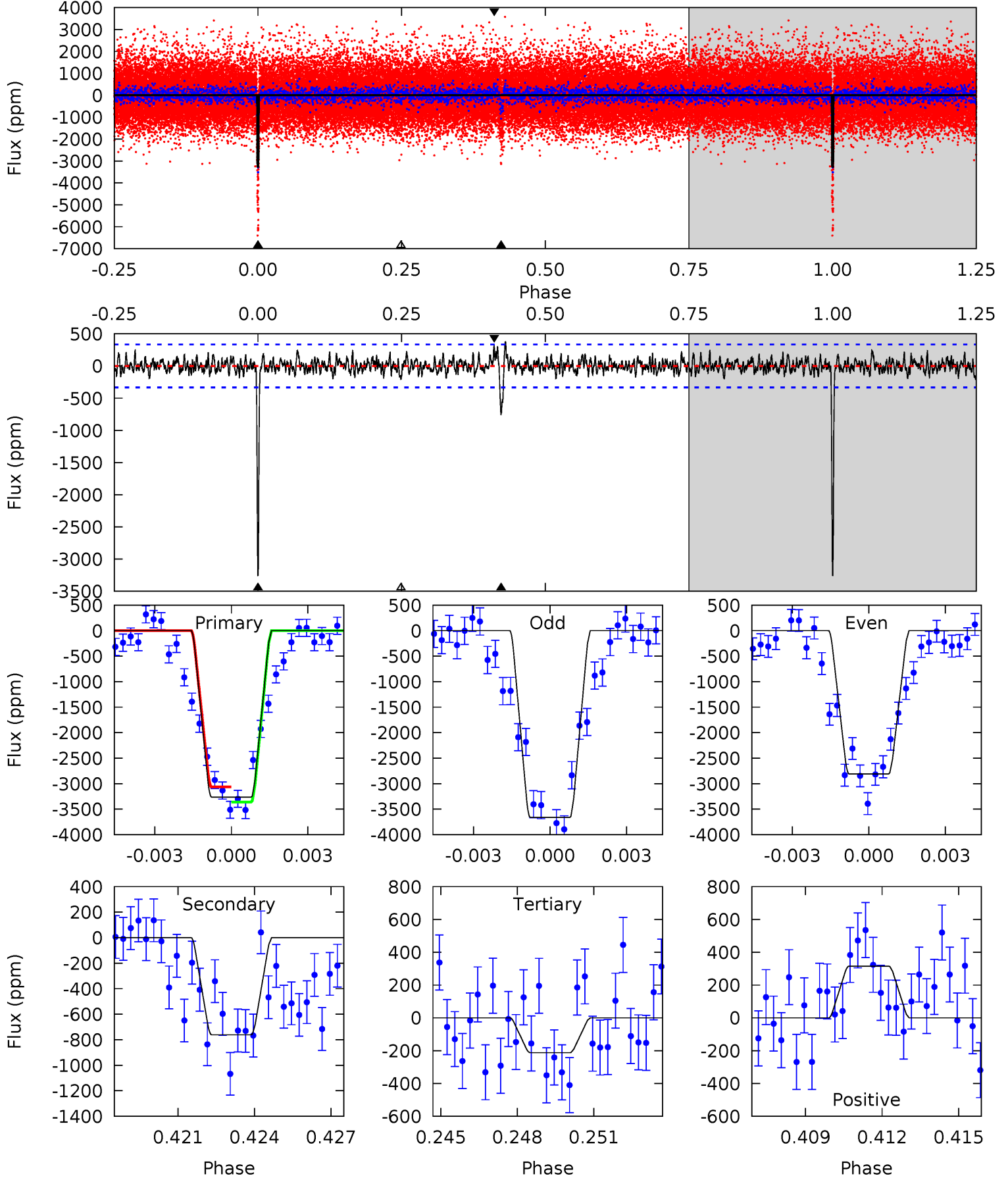
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.0	19.2	4.53	5.66	5.14	2.78	1.82	65.4	64.3	14.7	13.5	8.07	1.08	0.10	3.81



Alt Model-Shift Uniqueness Test

005738346-01, P = 30.611384 Days, E = 160.343016 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.2	12.0	3.33	4.95	5.25	2.96	1.30	47.9	46.3	8.62	7.01	6.66	1.12	0.10	2.29



Stellar Parameters For KIC 005738346

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3900^{+105}_{-128}	$4.727^{+0.054}_{-0.040}$	$-0.100^{+0.250}_{-0.300}$	$0.534^{+0.048}_{-0.060}$	$0.555^{+0.052}_{-0.063}$	$5.136^{+1.404}_{-0.922}$
	+3%/-3%	+1%/-1%	+250%/-300%	+9%/-11%	+9%/-11%	+27%/-18%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 005738346-01 / KOI 1006.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-949 ± 49	$7.59^{+5.47}_{-4.79}$	440^{+15}_{-16}	2546^{+826}_{-307}	223^{+1398}_{-147}
Alt.	-762 ± 64	$5.85^{+5.56}_{-3.70}$	440^{+15}_{-17}	2634^{+908}_{-379}	305^{+1961}_{-226}

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

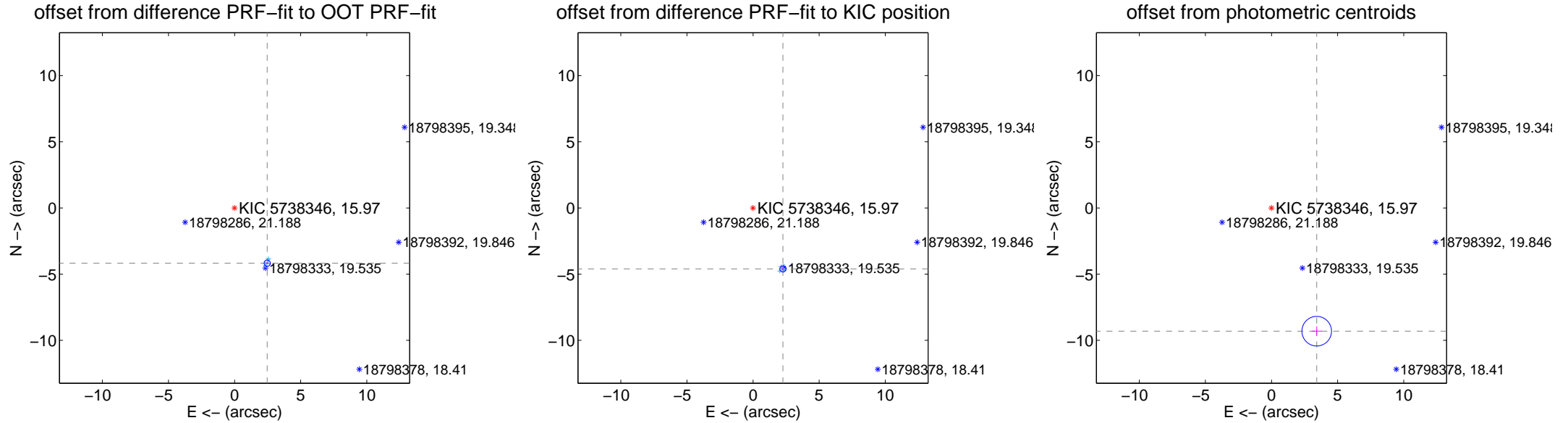
DV Centroid Data

Supplemental centroid analysis for 005738346-01. Kepler magnitude: 15.97. Transit SNR 33.96

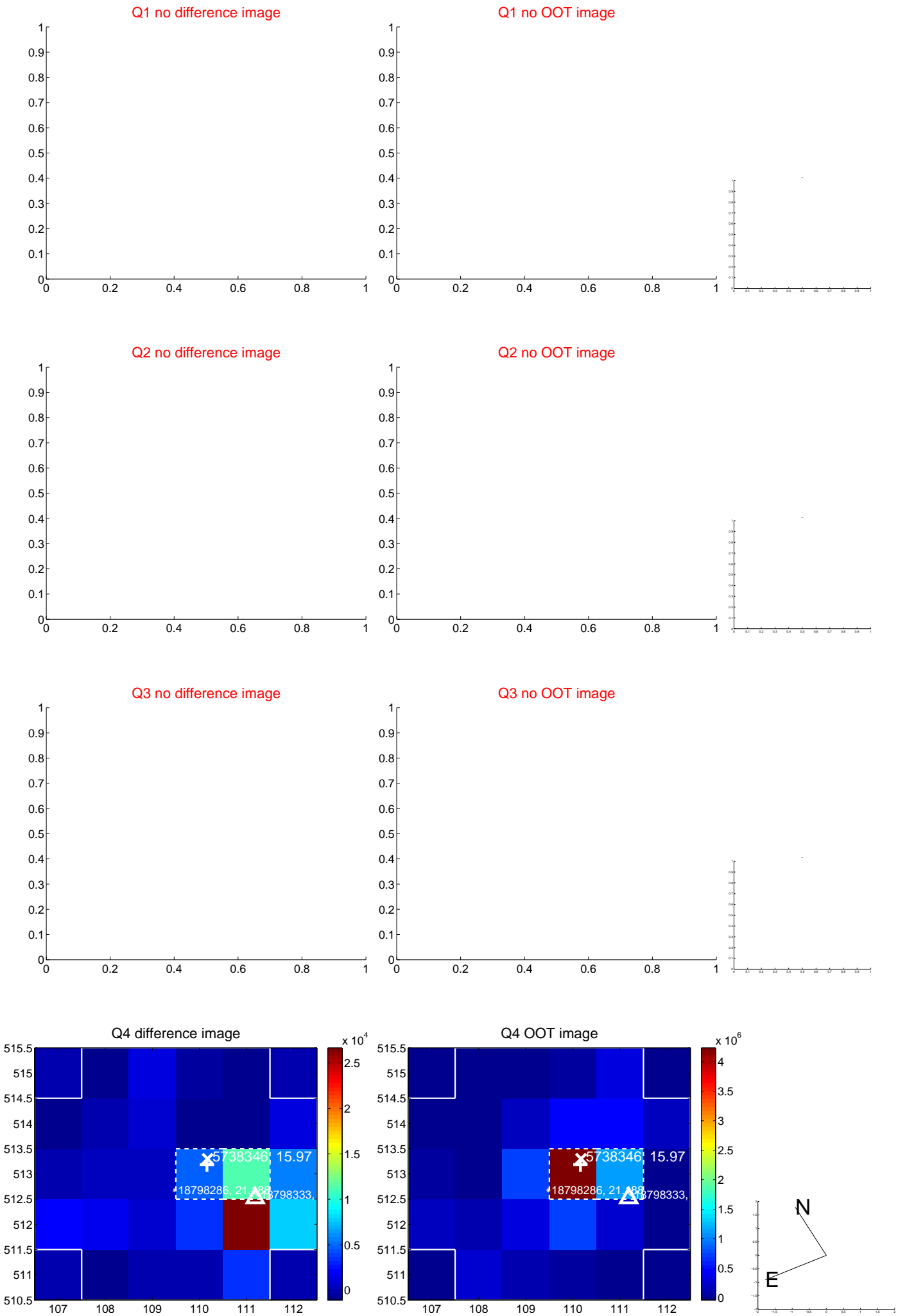
There are 11 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

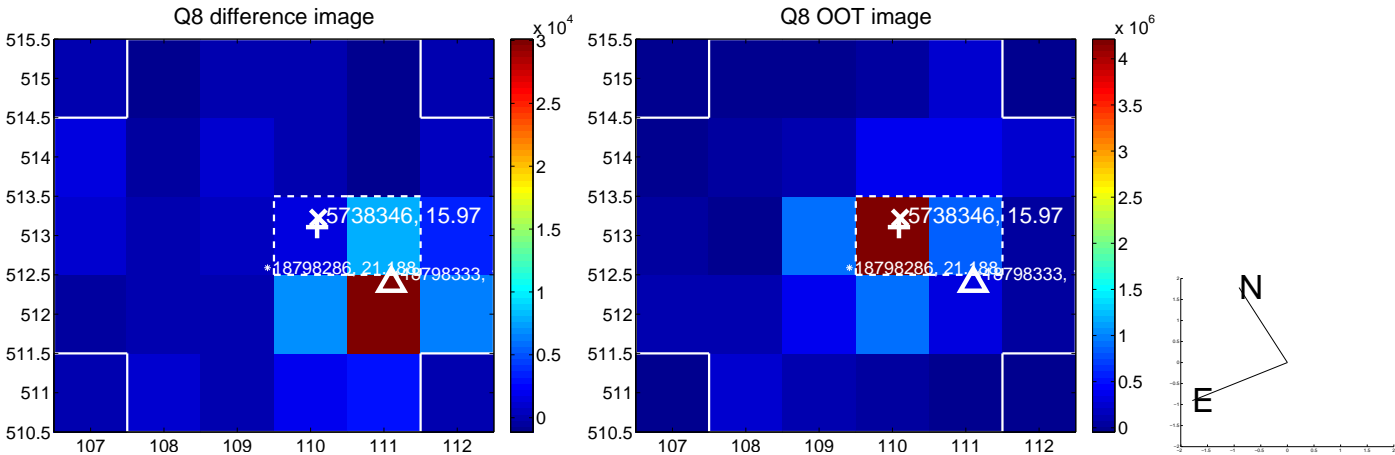
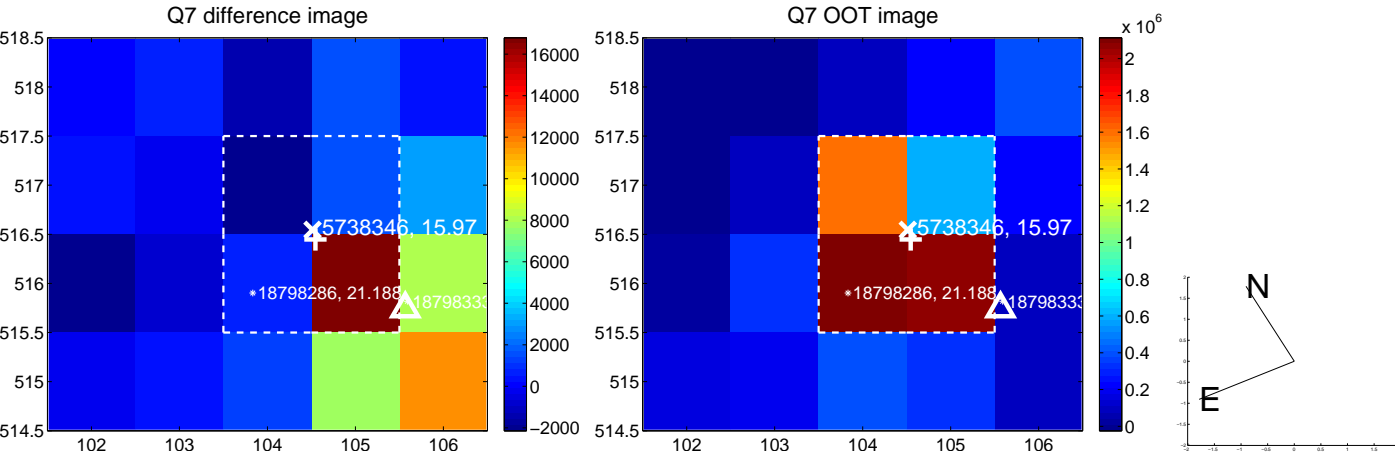
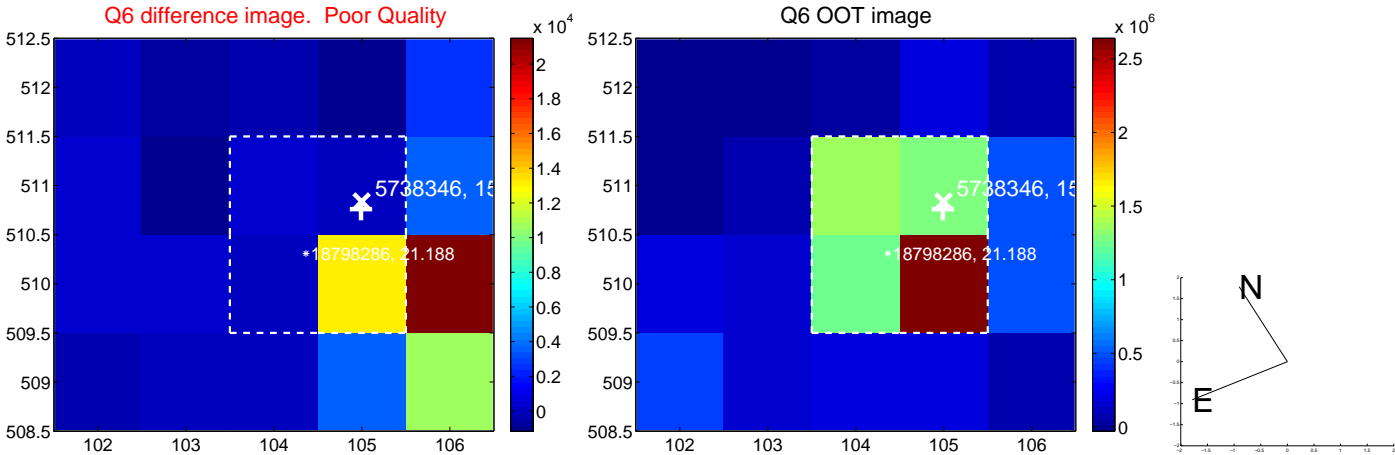
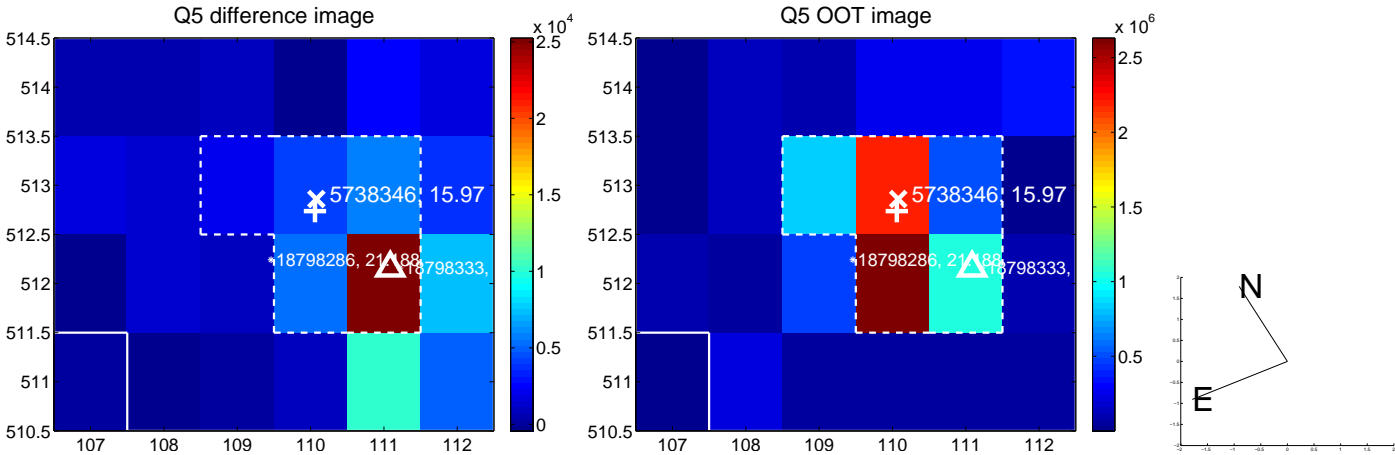
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.847 ± 0.080	60.93	-2.469 ± 0.080	-4.171 ± 0.080
PRF-fit source offset from KIC position	5.128 ± 0.077	66.40	-2.258 ± 0.078	-4.605 ± 0.077
photometric centroid source offset	9.91 ± 0.37	26.60	-3.42 ± 0.38	-9.31 ± 0.37



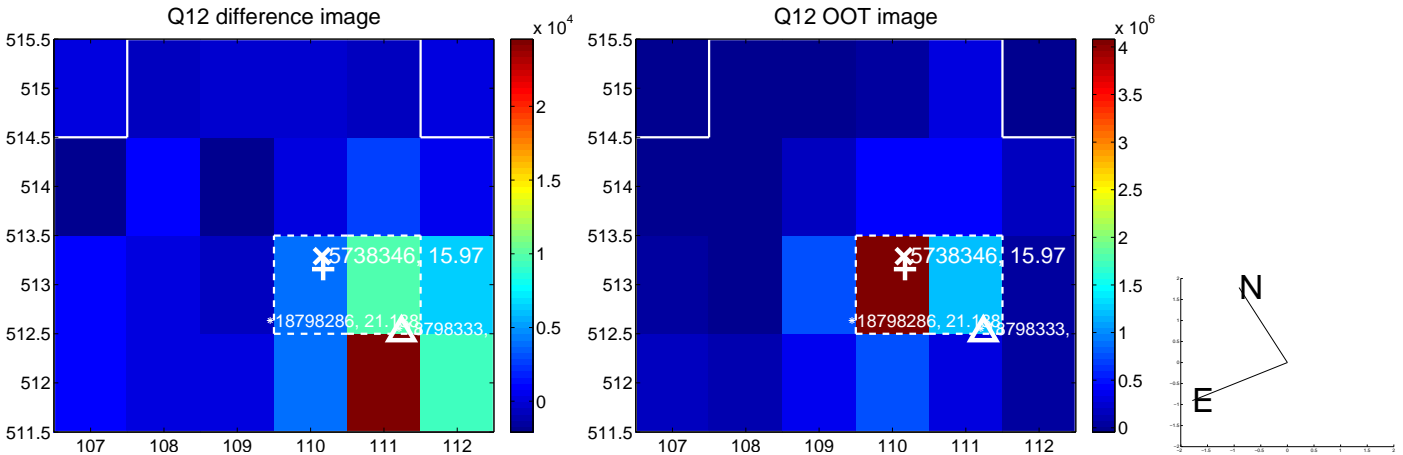
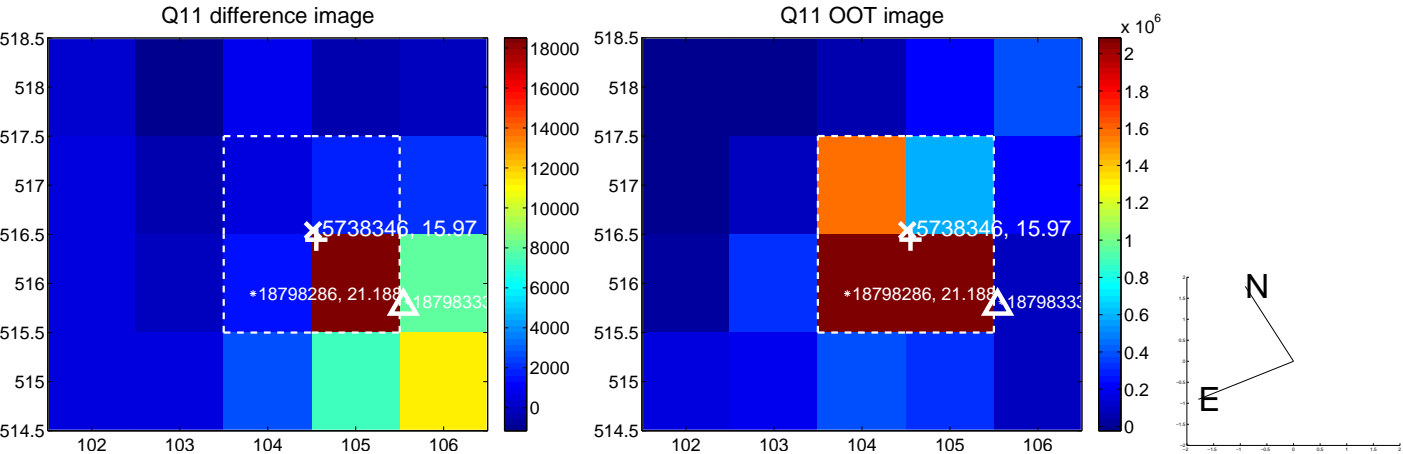
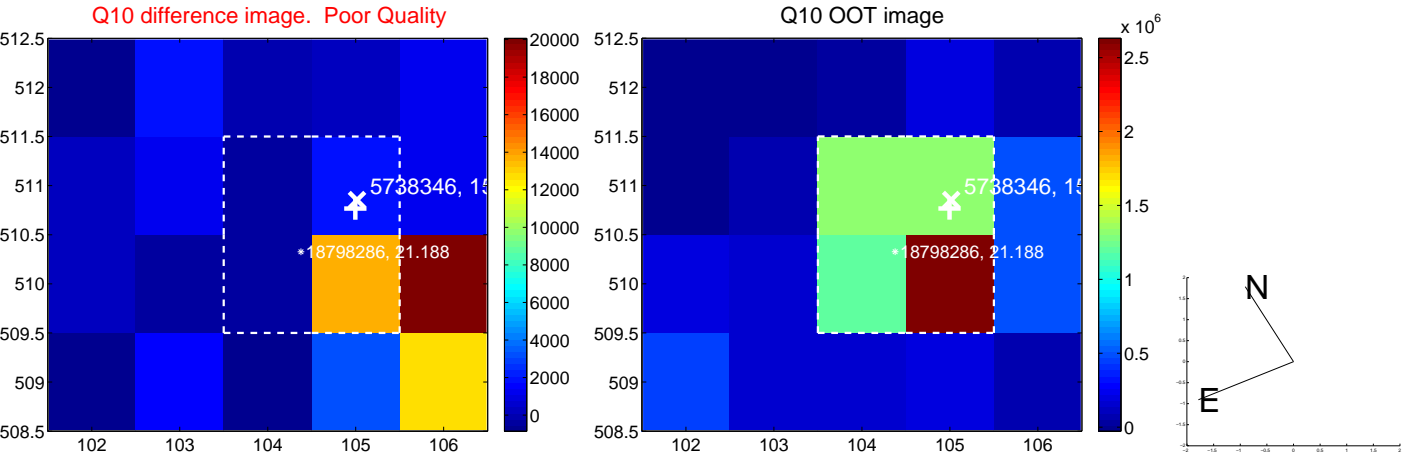
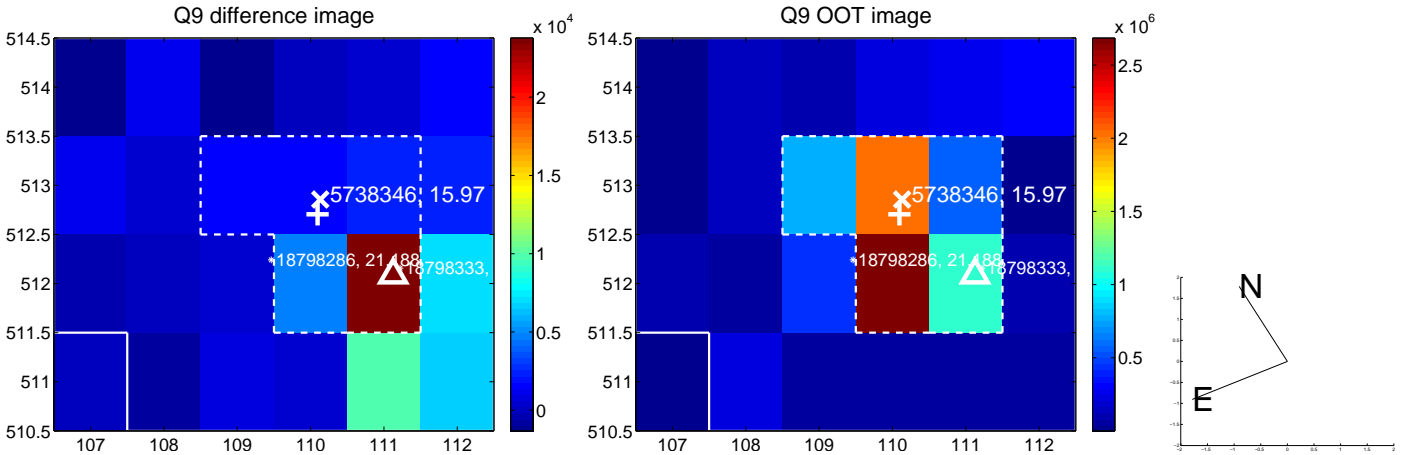
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



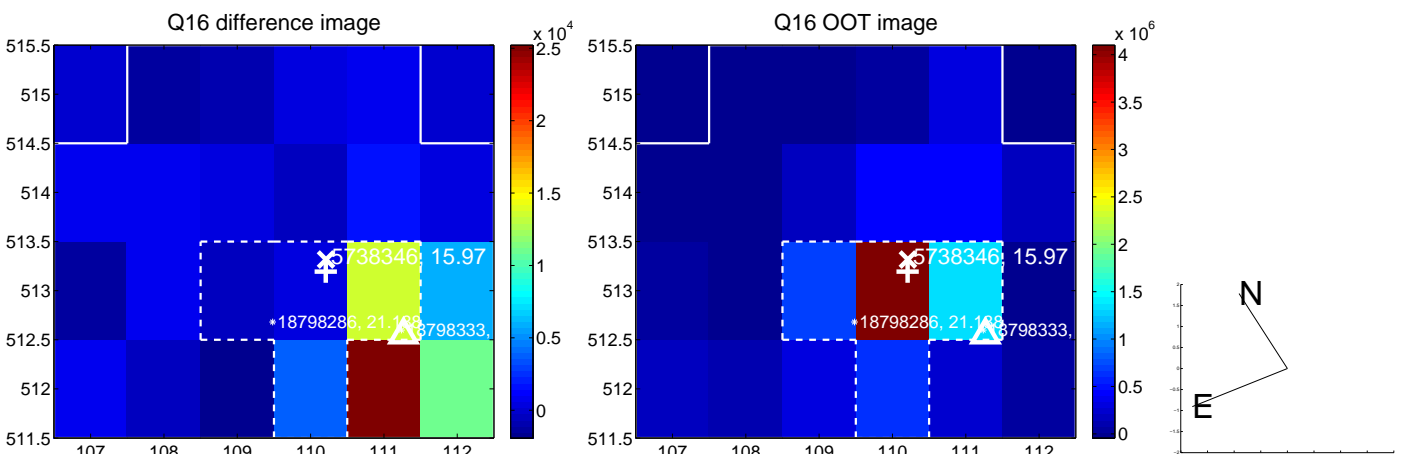
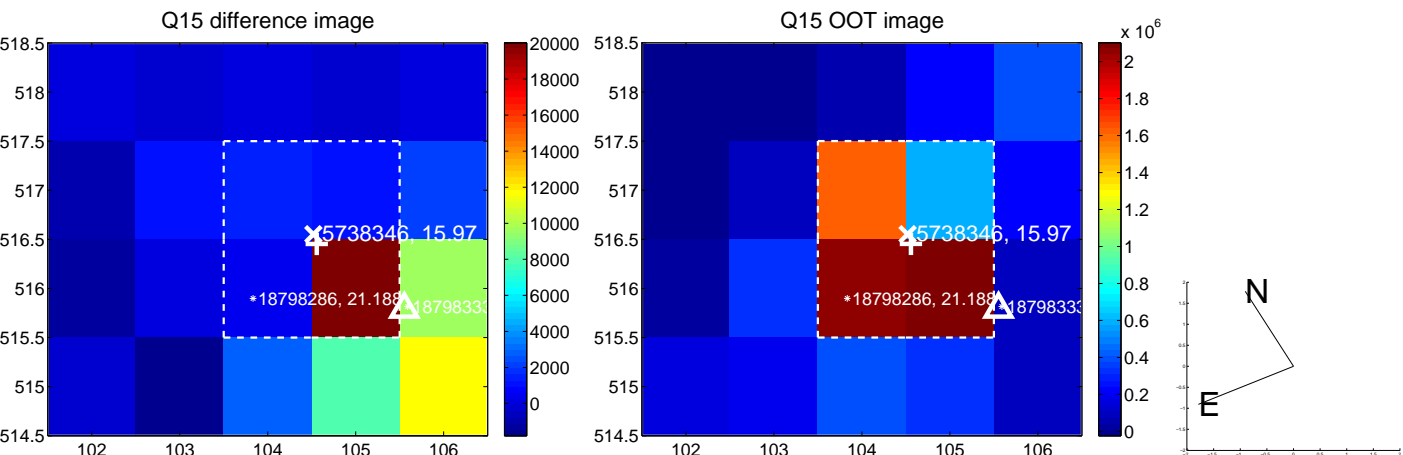
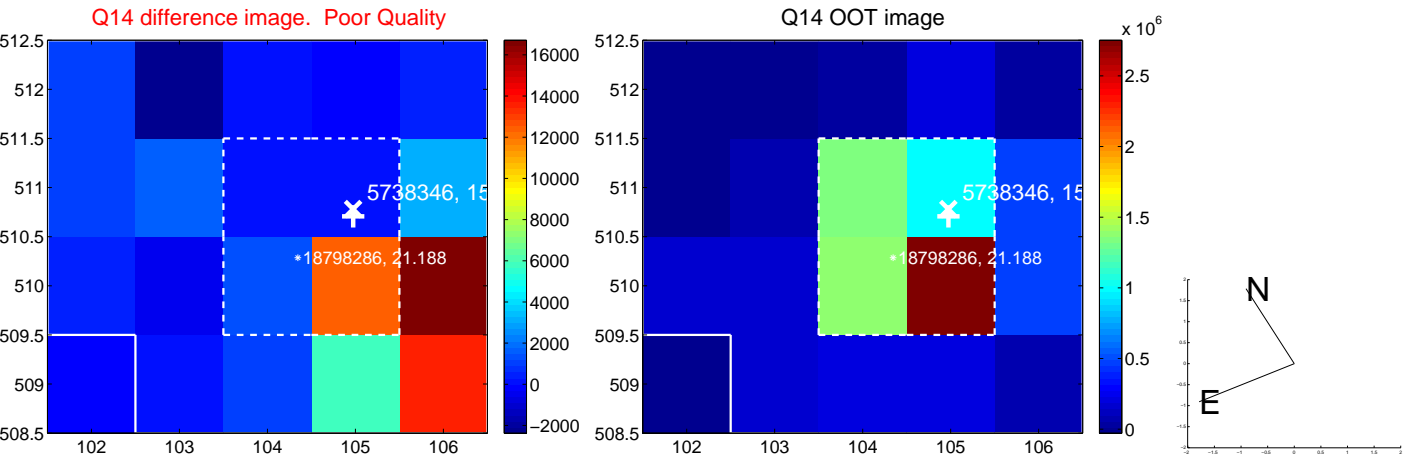
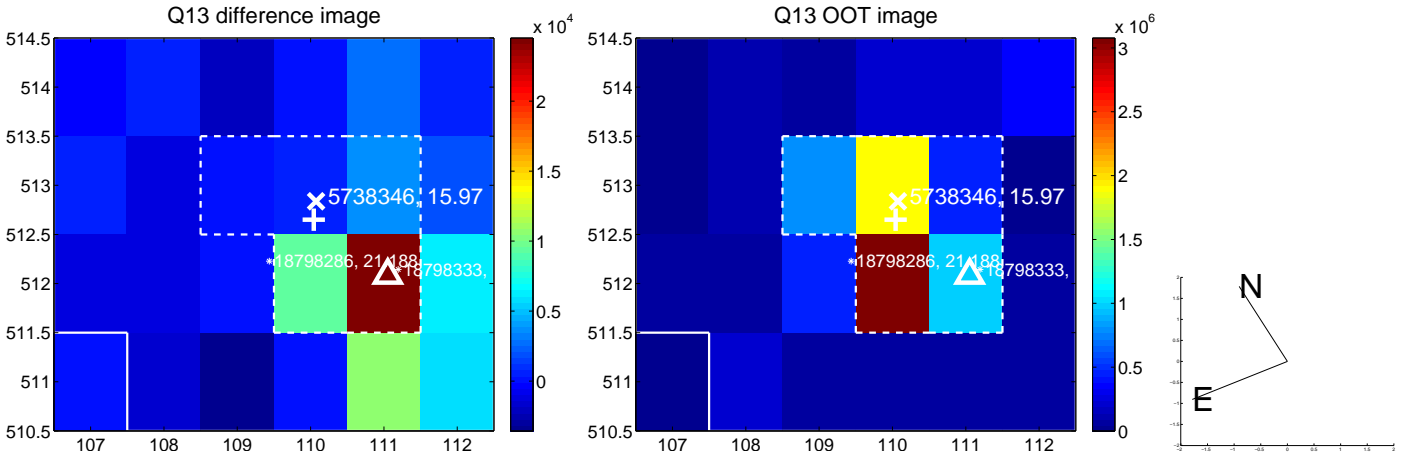
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



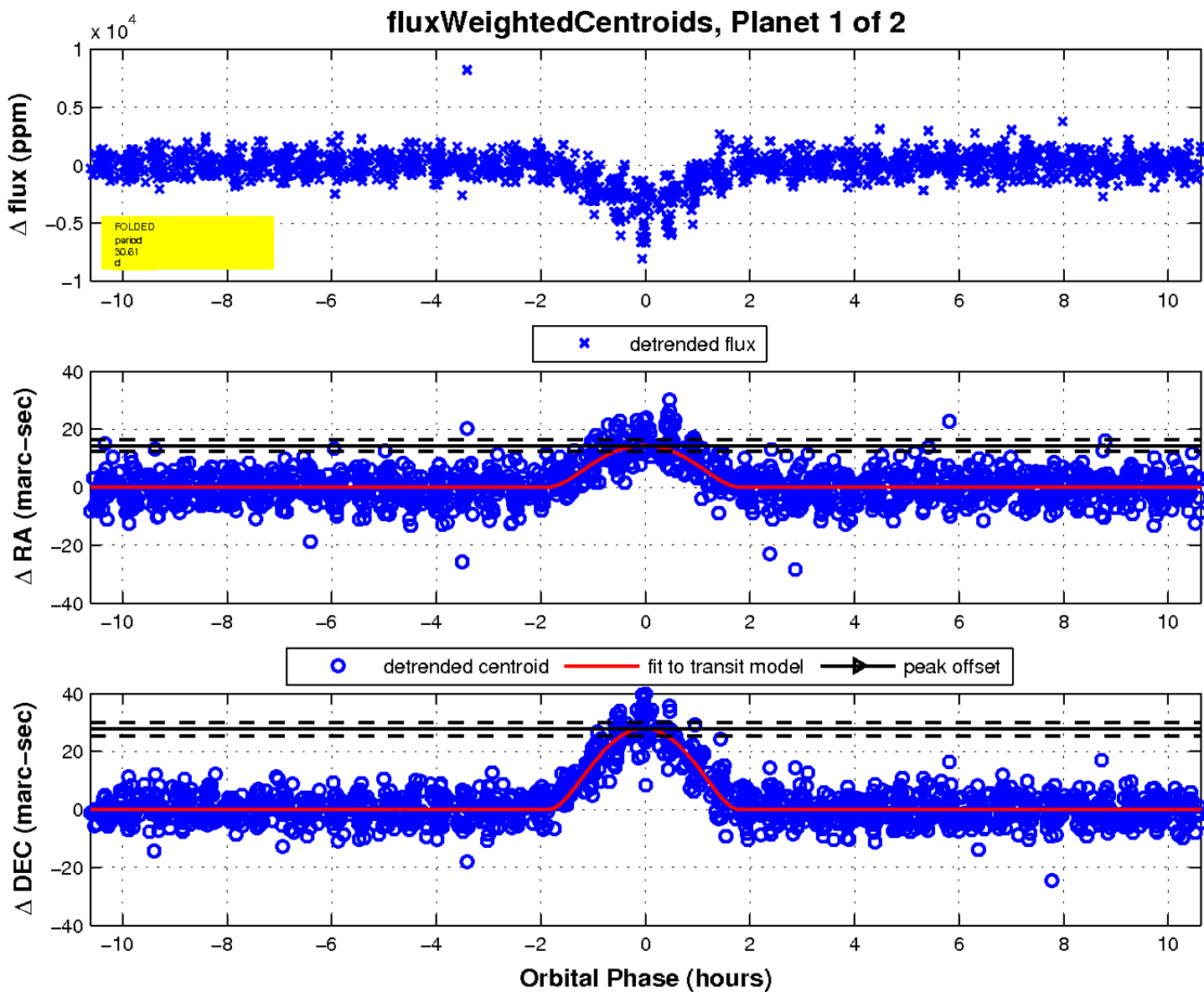
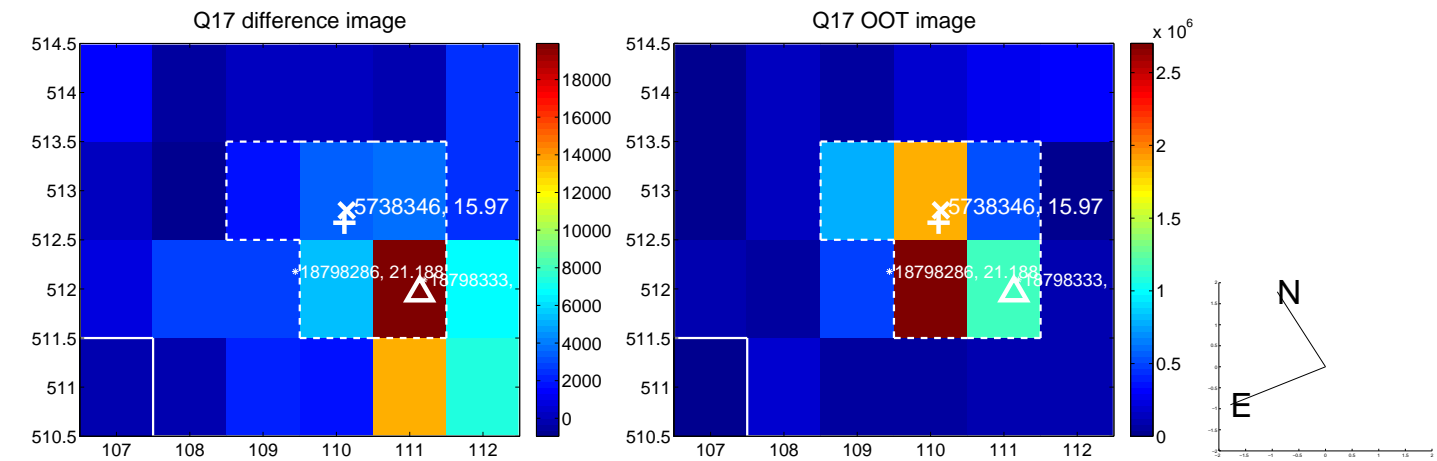
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

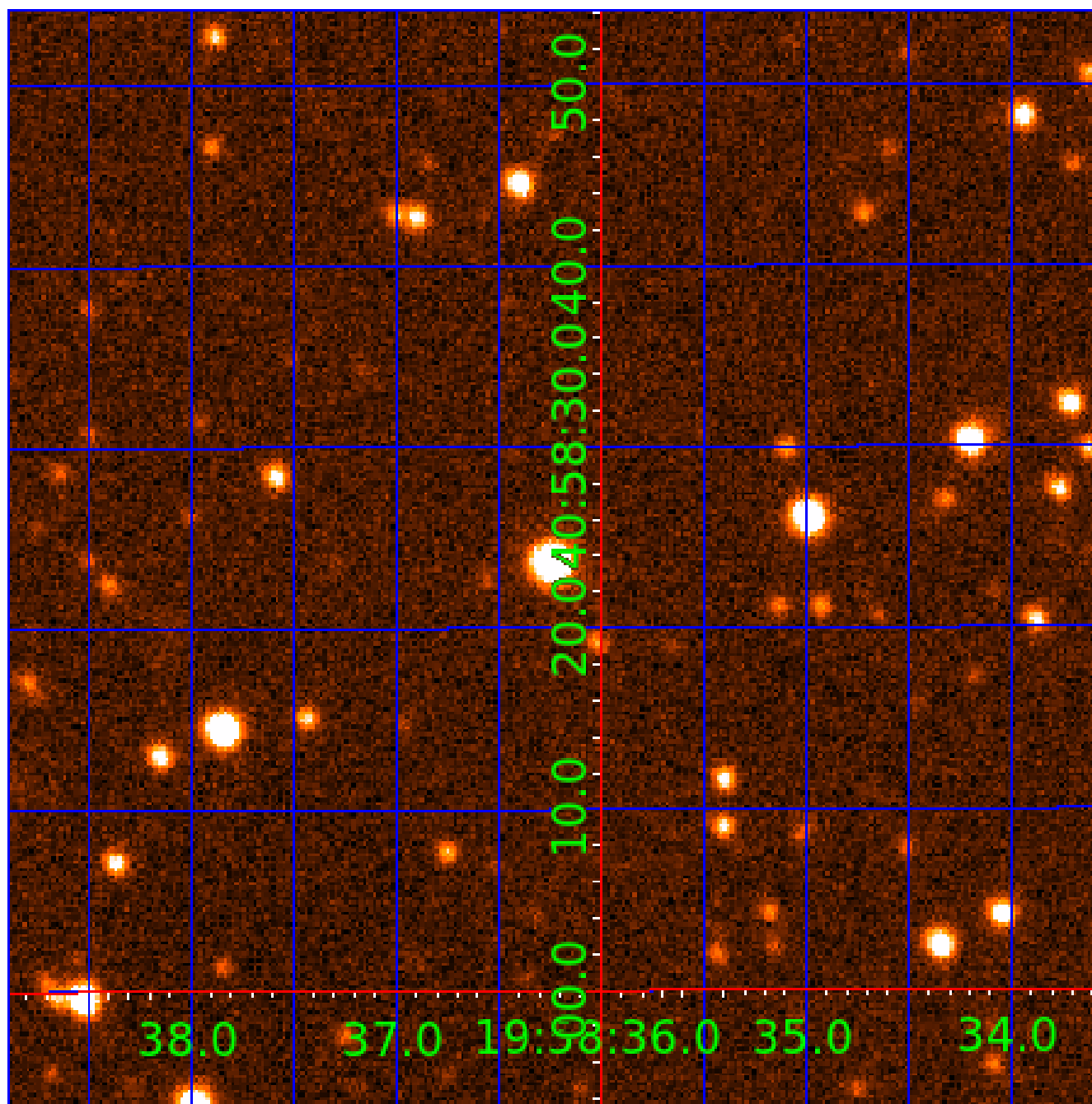


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005738346

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})
005738346-01	OBS	1006.01	30.611355	160.342355	3316.8	3.549	38.1	34.0	0.53	3900	5.58	2.39
005738346-02	OBS	No	30.610514	142.731035	985.1	8.021	13.0	15.9	0.53	3900	2.48	2.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005738346-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
005738346-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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 005738346-02

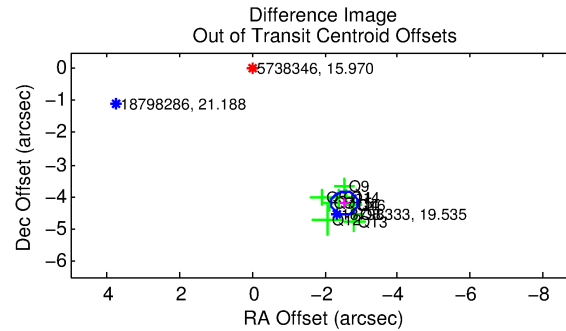
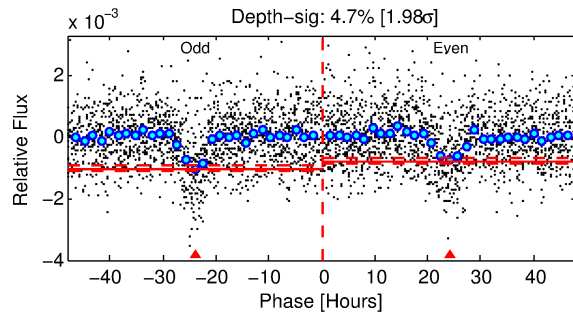
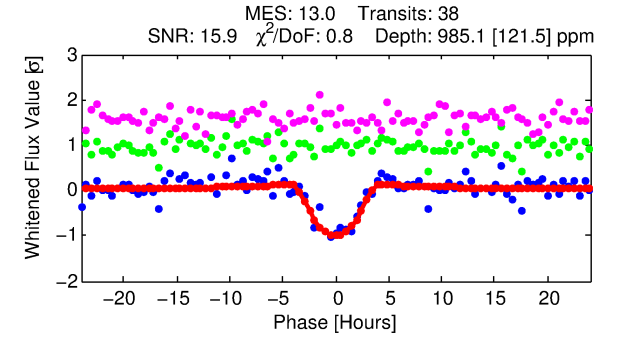
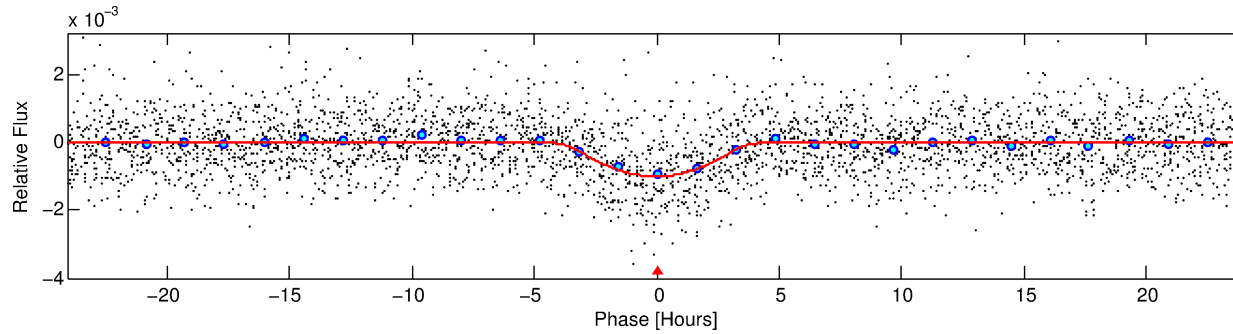
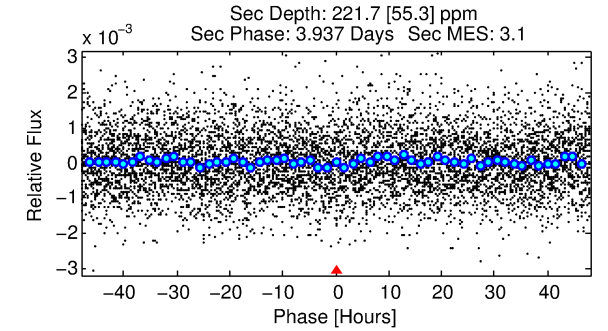
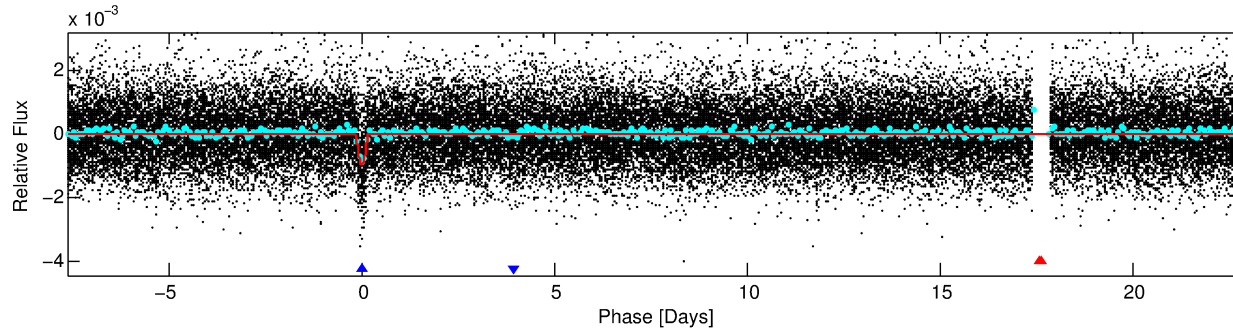
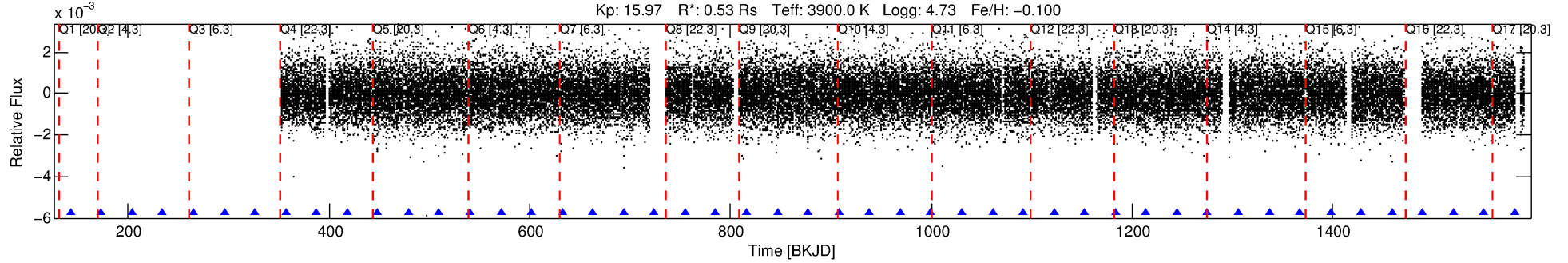
No Significant Match Found

DV One-Page Summary

KIC: 5738346 Candidate: 2 of 2 Period: 30.611 d

KOI: K01006 Corr: No Ephemeris Match

Kp: 15.97 R*: 0.53 Rs Teff: 3900.0 K Logg: 4.73 Fe/H: -0.100



DV Fit Results:

Period = 30.61051 [0.00046] d
Epoch = 142.7310 [0.0136] BKJD
Rp/R* = 0.0426 [0.0250]
a/R* = 10.81 [2.82]
b = 0.98 [0.05]
Seff = 2.39 [0.41]
Teq = 317 [14] K
Rp = 2.48 [1.48] Re
a = 0.1574 [0.0135] AU
Ag = 489.37 [588.57] [0.83σ]
Teffp = 2305 [694] K [2.86σ]

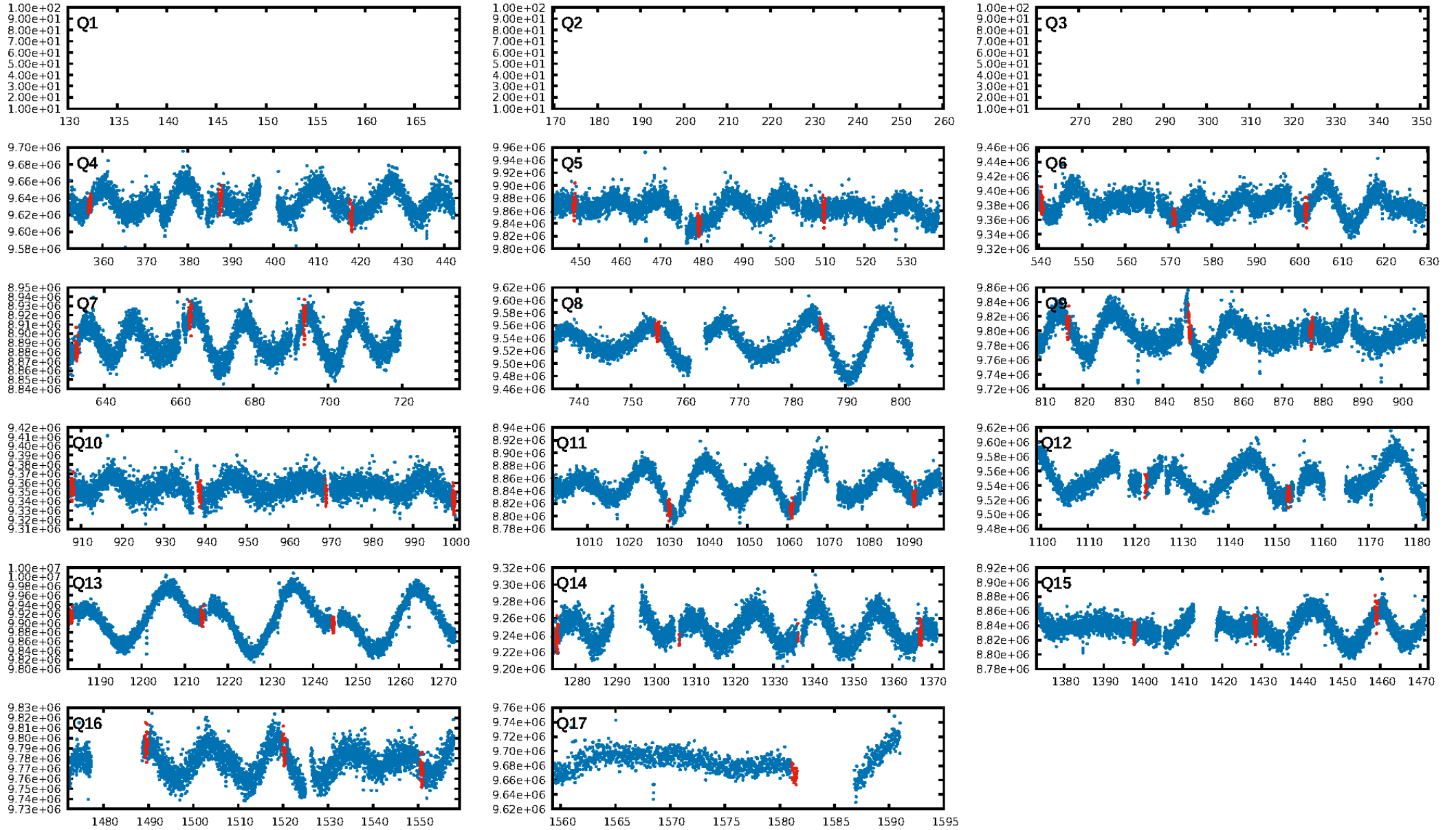
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.2% [0.00σ]
ModelChiSquare2-sig: 10.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.10e-35
RollingBand-fgt: 1.00 [37/37]
GhostDiagnostic-chr: 0.3567
Centroid-sig: 0.0%
Centroid-so: 9.494 arcsec [11.86σ]
OotOffset-rm: 4.913 arcsec [41.31σ]
KicOffset-rm: 5.171 arcsec [40.35σ]
OotOffset-st: 1/3/4/3 [11]
KicOffset-st: 1/3/4/3 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [12/12]

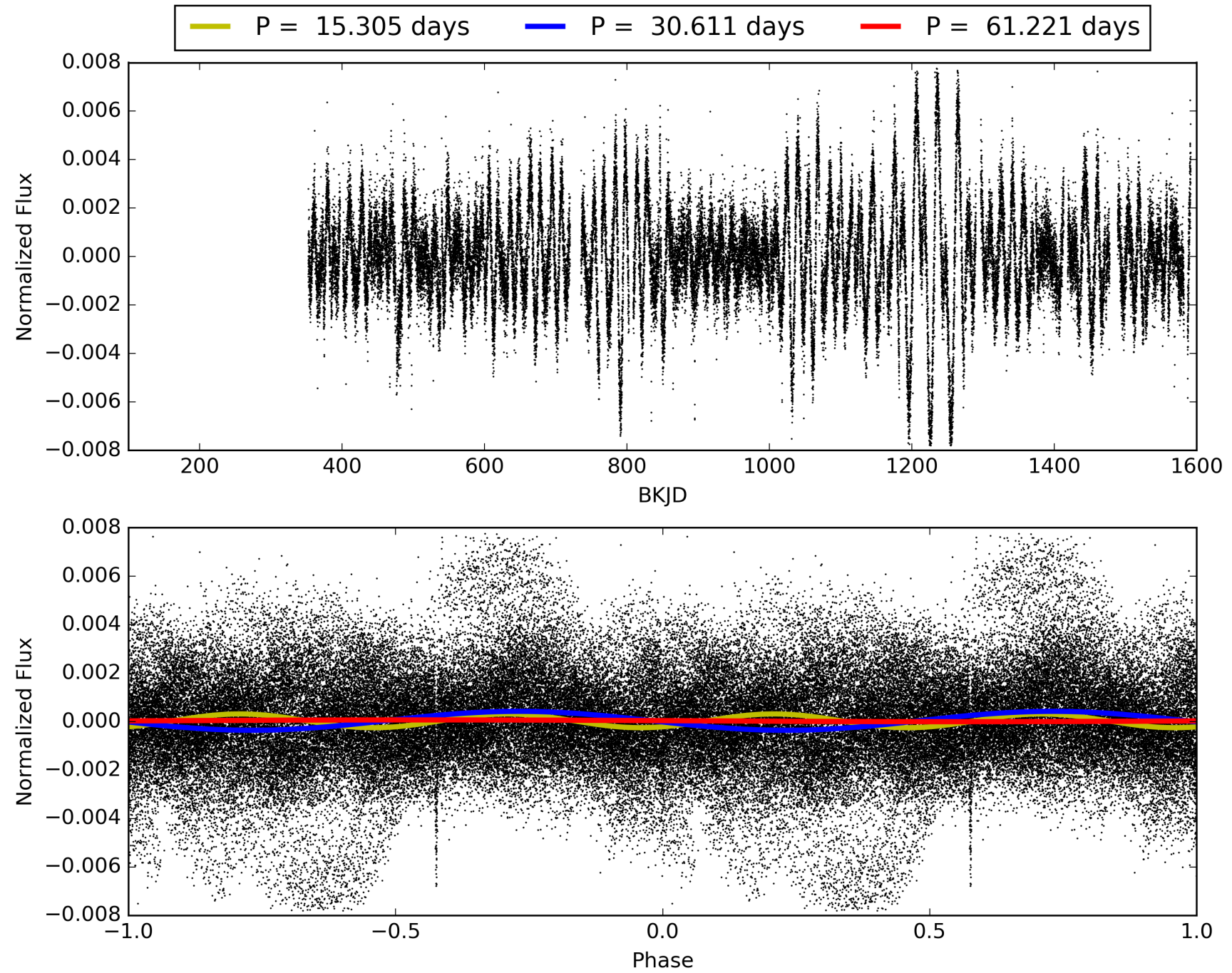
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:46:16 Z

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

TCE 005738346-02, PDC Light Curves

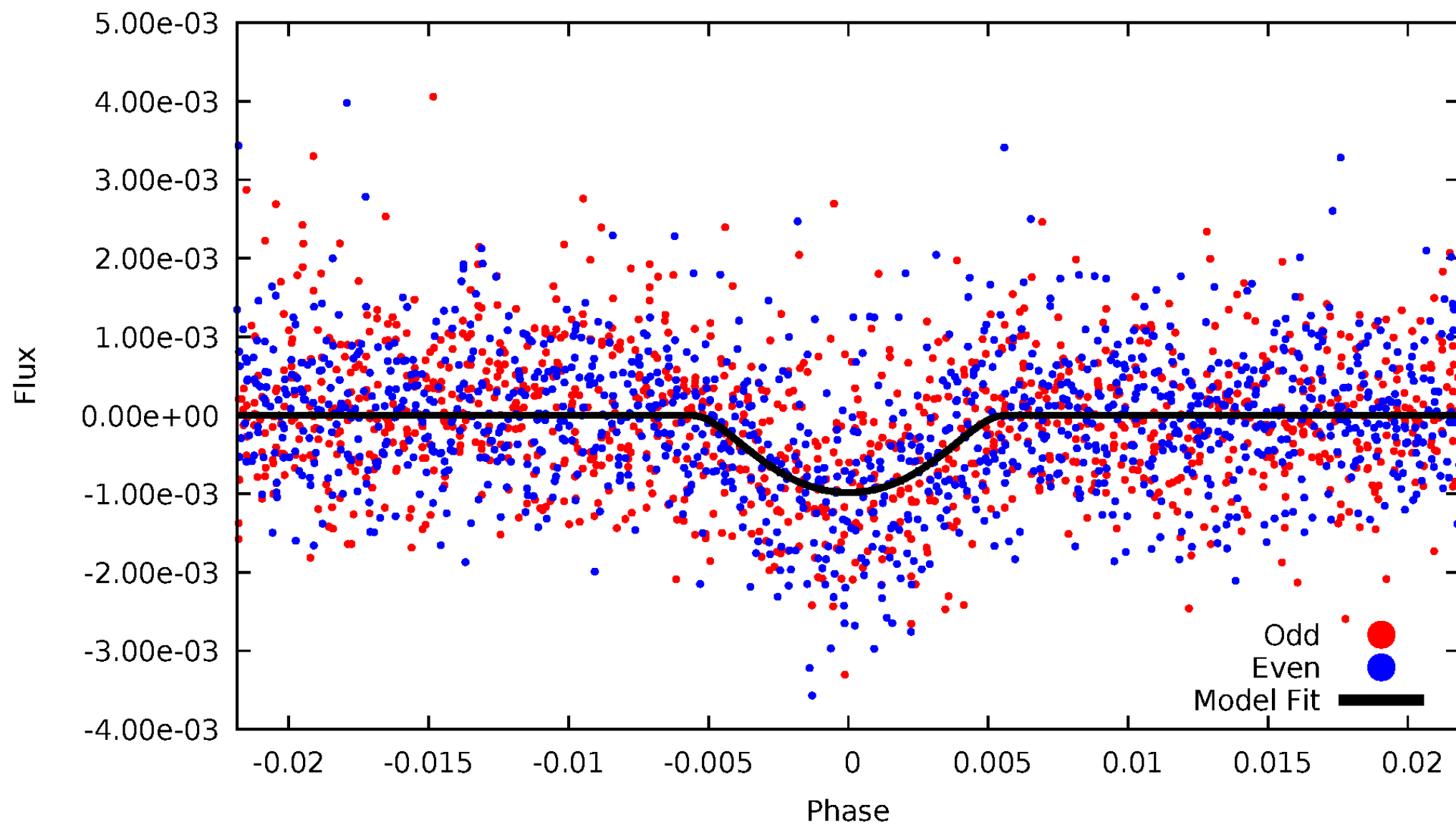


TCE 005738346-02



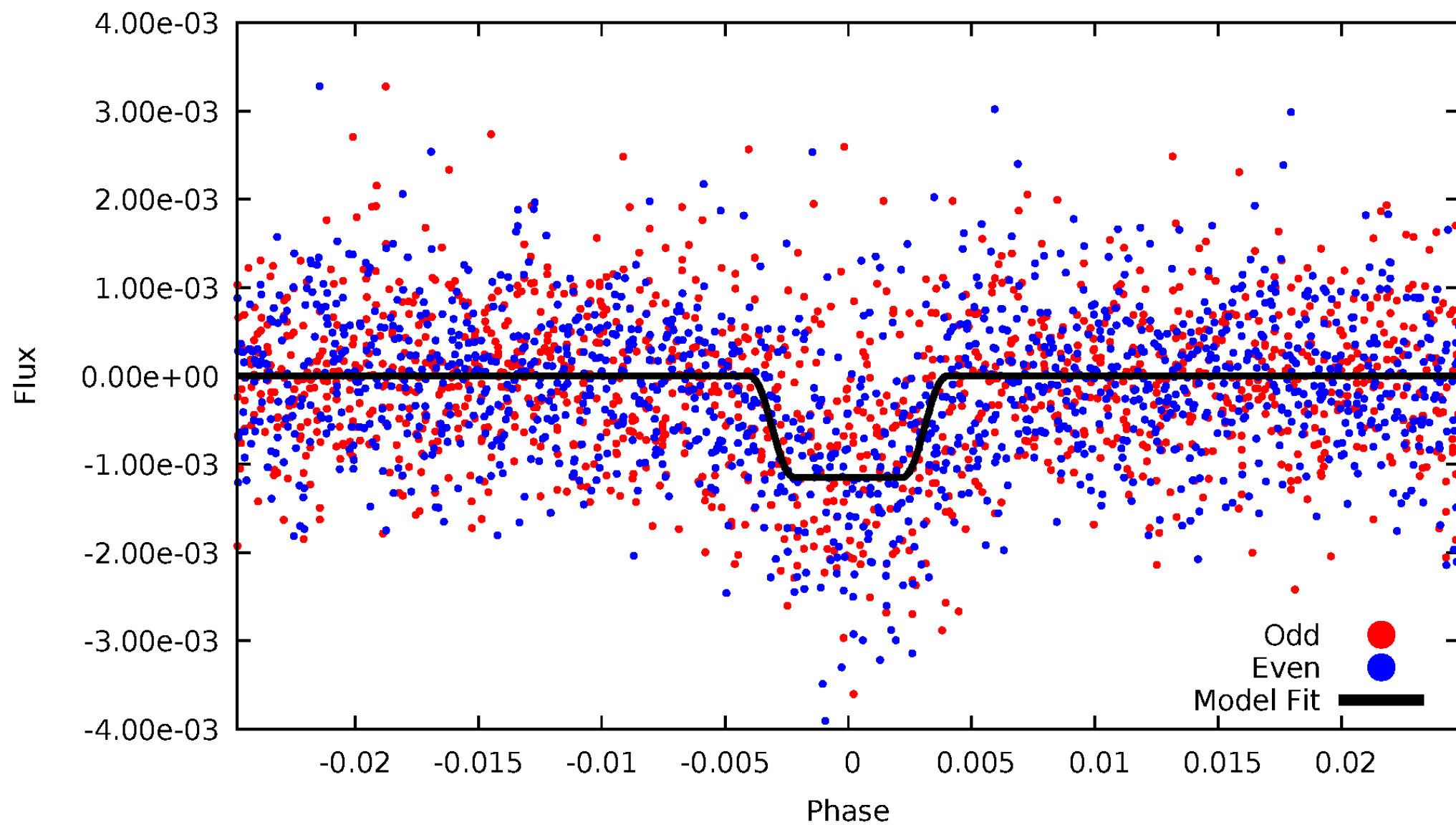
DV Odd/Even

TCE 005738346-02



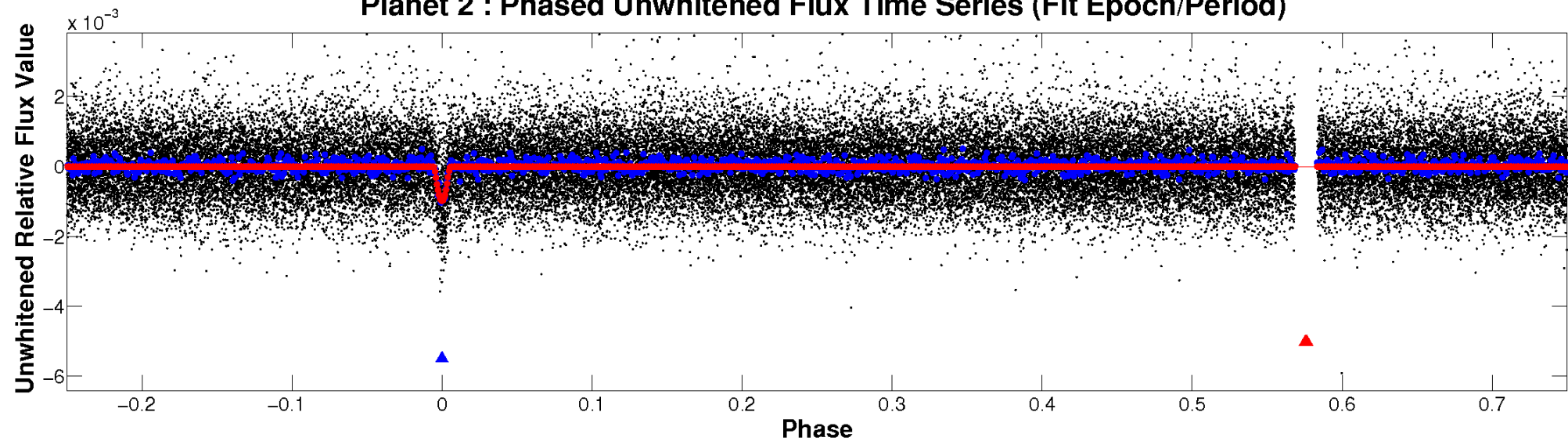
ALT Odd/Even

TCE 005738346-02

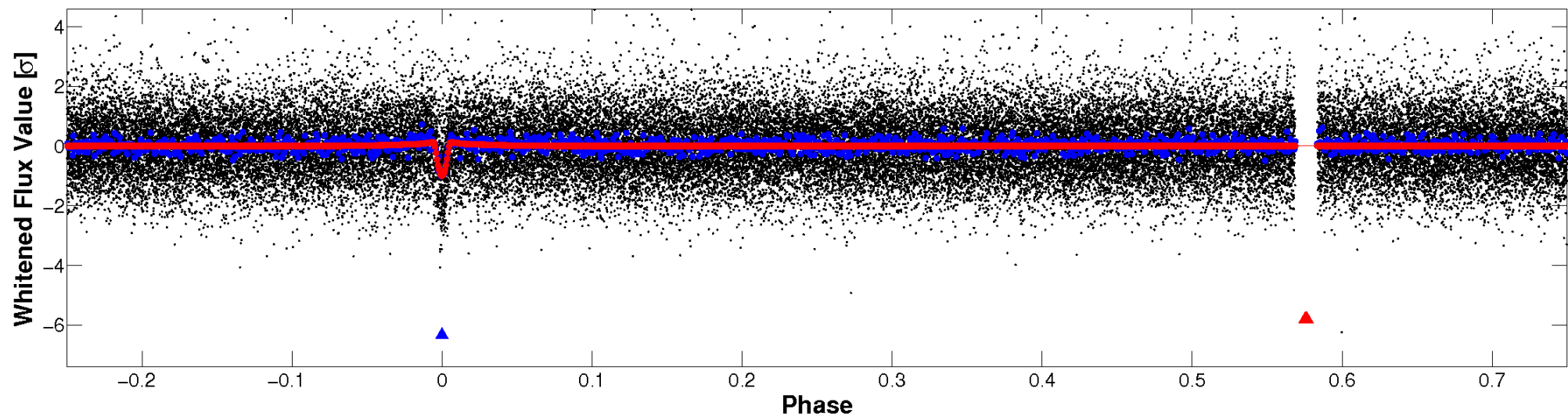


Non-Whitened Vs. Whitened Light Curve

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

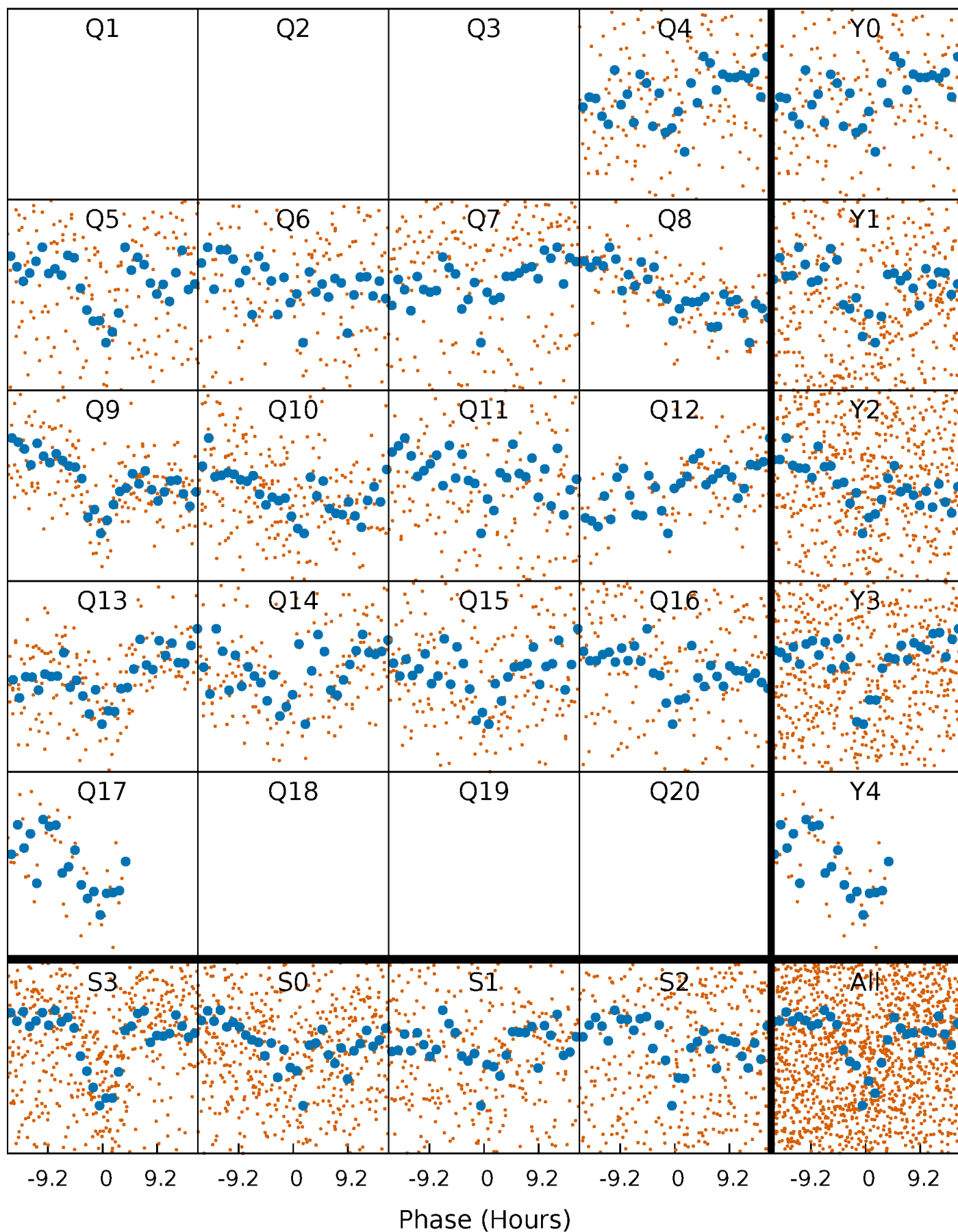


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



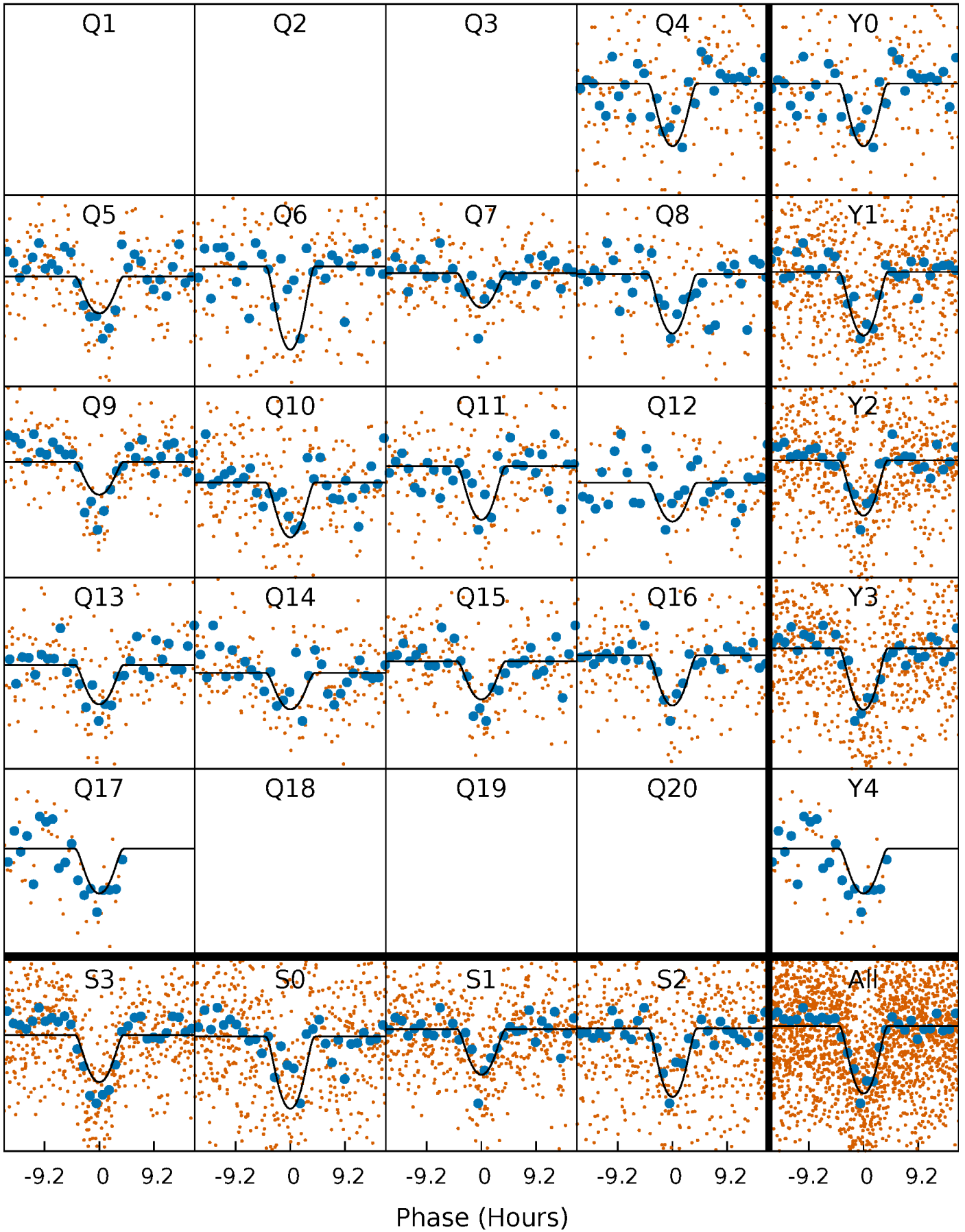
PDC Quarter-Phased Transit Curves

TCE 005738346-02 P= 30.610514 Days $T_0=142.731035$ (BKJD)



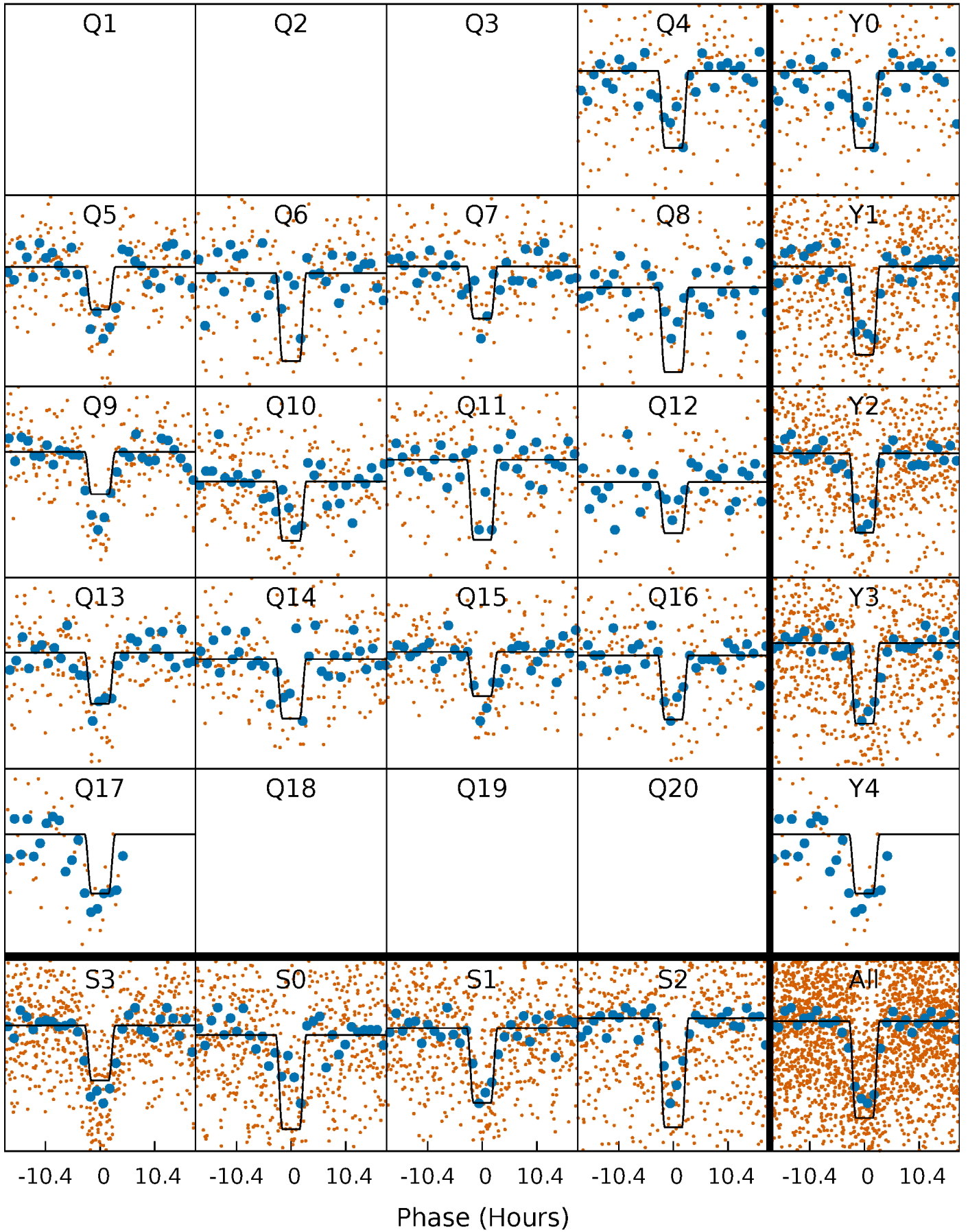
DV Quarter-Phased Transit Curves

TCE 005738346-02 P= 30.610514 Days $T_0=142.731035$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

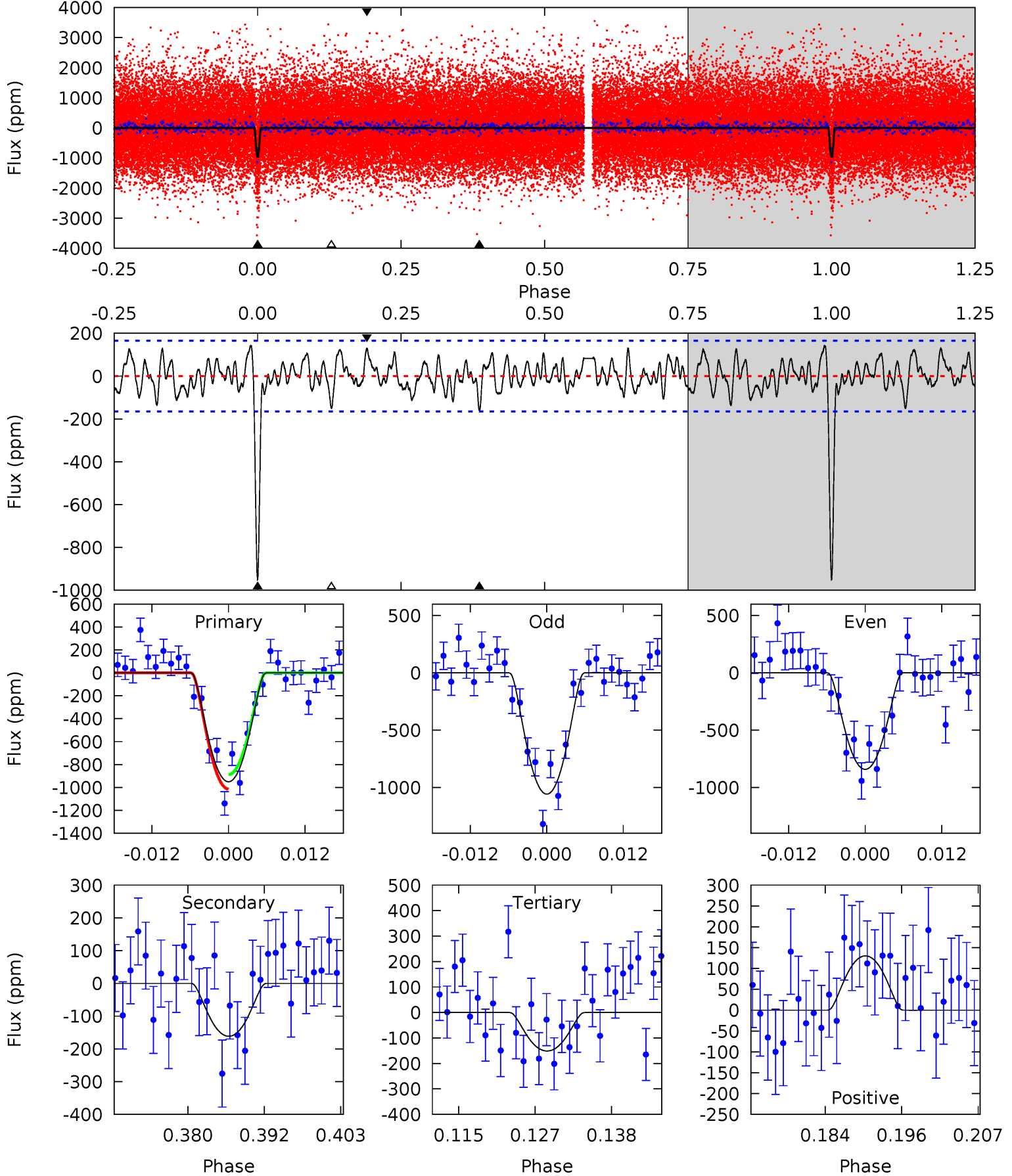
TCE 005738346-02 P= 30.610532 Days $T_0=142.719898$ (BKJD)



DV Model-Shift Uniqueness Test

005738346-02, $P = 30.610514$ Days, $E = 142.731035$ Days

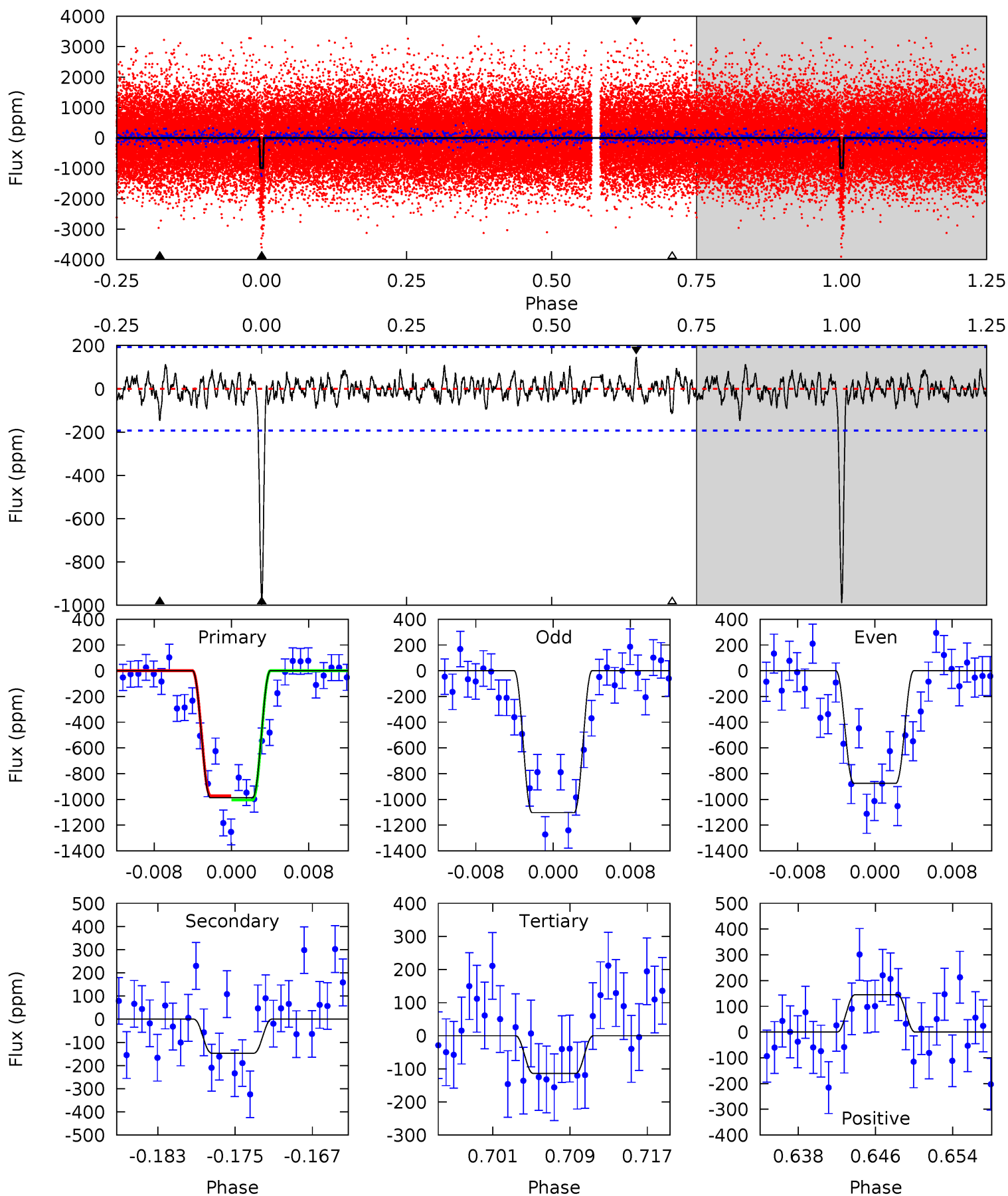
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.8	4.89	4.58	3.95	5.00	2.53	1.67	24.2	24.8	0.31	0.94	3.27	0.98	0.13	1.90



Alt Model-Shift Uniqueness Test

005738346-02, $P = 30.610532$ Days, $E = 142.719898$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.0	3.86	3.00	3.82	5.07	2.65	1.02	23.0	22.2	0.86	0.04	3.00	1.08	0.13	0.43



Stellar Parameters For KIC 005738346

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3900^{+105}_{-128}	$4.727^{+0.054}_{-0.040}$	$-0.100^{+0.250}_{-0.300}$	$0.534^{+0.048}_{-0.060}$	$0.555^{+0.052}_{-0.063}$	$5.136^{+1.404}_{-0.922}$
	+3%/-3%	+1%/-1%	+250%/-300%	+9%/-11%	+9%/-11%	+27%/-18%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 005738346-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-161 ± 33	$2.59^{+1.44}_{-1.43}$	440^{+15}_{-17}	2678^{+665}_{-296}	329^{+1251}_{-195}
Alt.	-147 ± 38	$2.04^{+1.46}_{-1.04}$	440^{+15}_{-16}	2795^{+687}_{-363}	478^{+1509}_{-320}

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

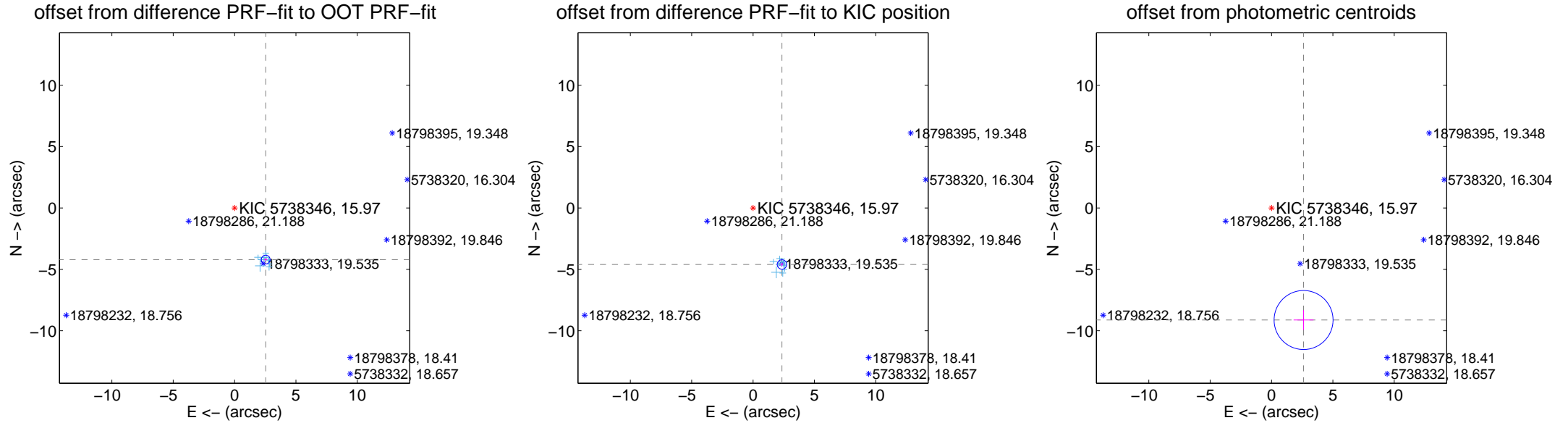
DV Centroid Data

Supplemental centroid analysis for 005738346-02. Kepler magnitude: 15.97. Transit SNR 15.93

There are 11 quarters with good PRF difference image offsets

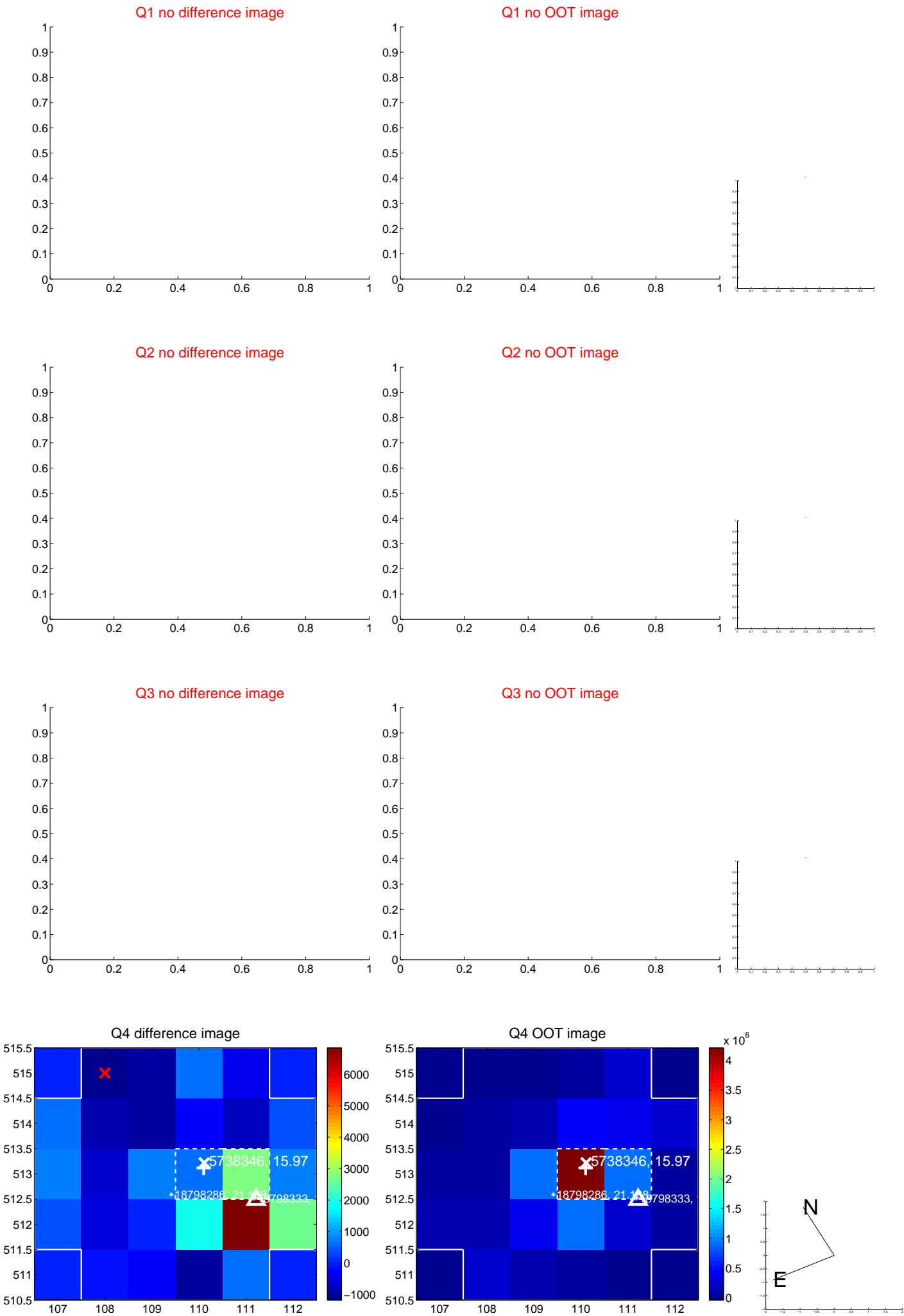
The direct PRF centroid is offset from the target star catalog position by about 0.52 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.913 ± 0.119	41.31	-2.540 ± 0.122	-4.205 ± 0.111
PRF-fit source offset from KIC position	5.171 ± 0.128	40.35	-2.355 ± 0.109	-4.603 ± 0.129
photometric centroid source offset	9.49 ± 0.80	11.86	-2.61 ± 0.81	-9.13 ± 0.80

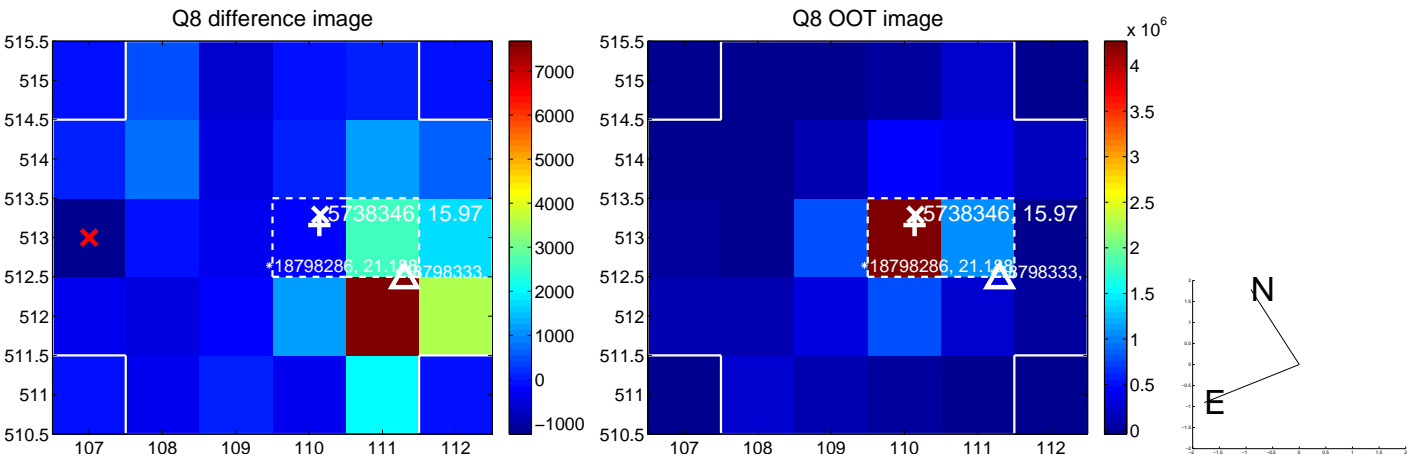
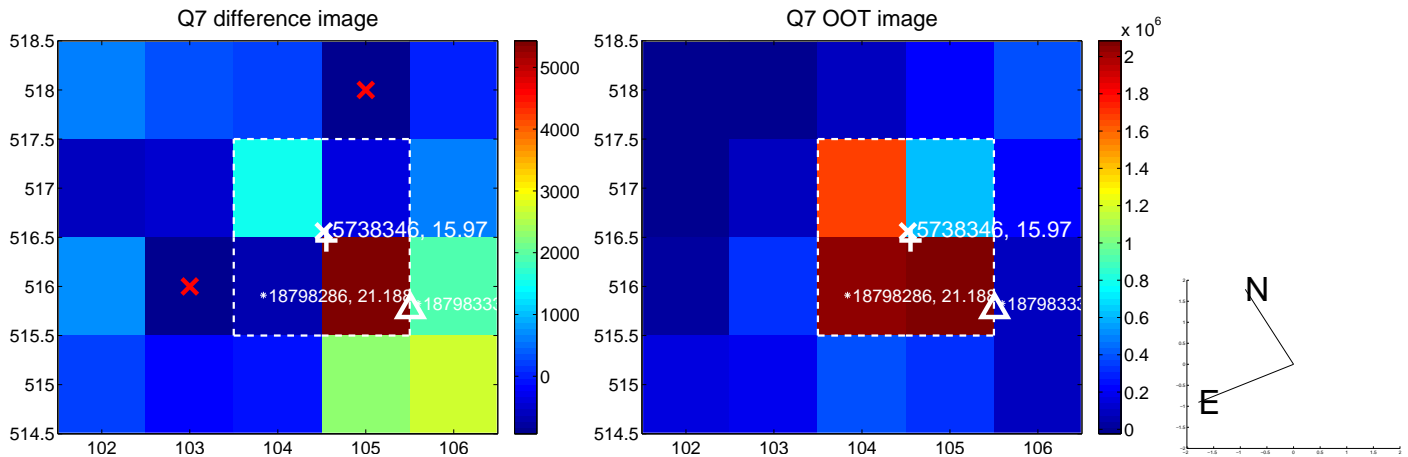
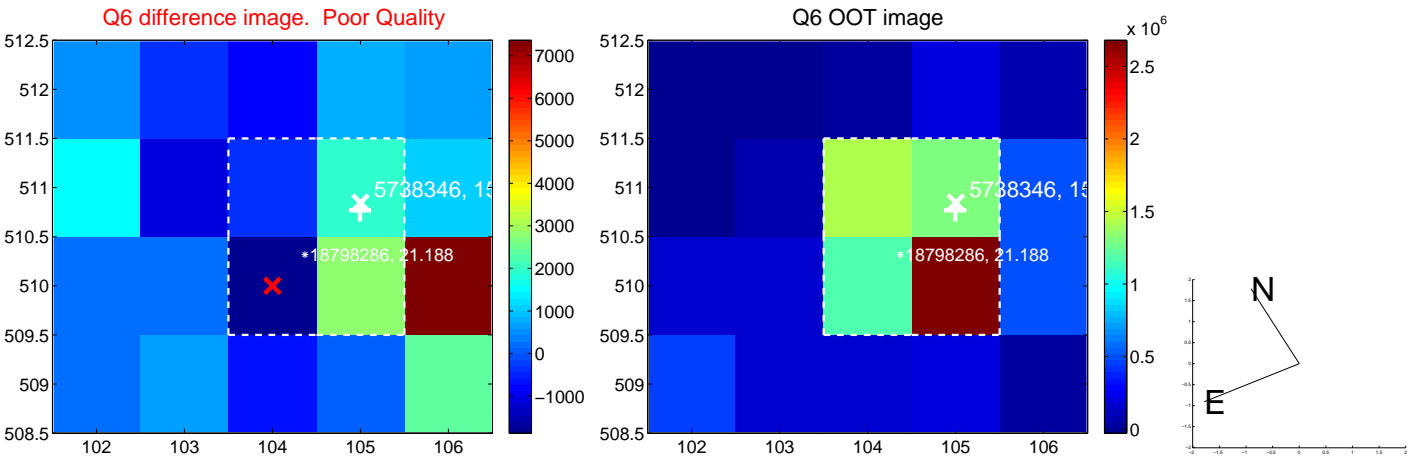
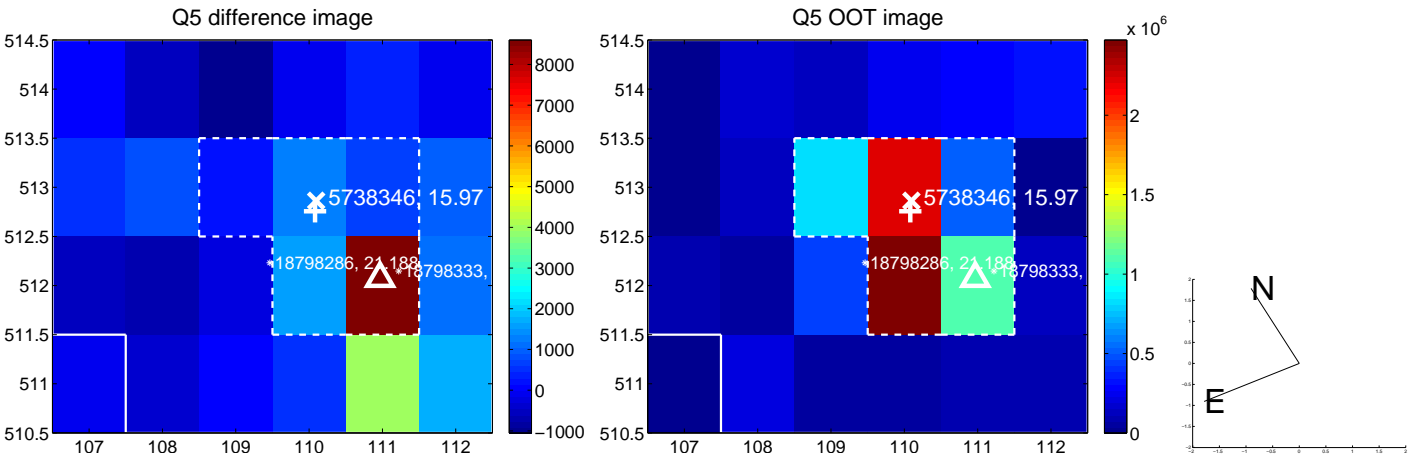


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

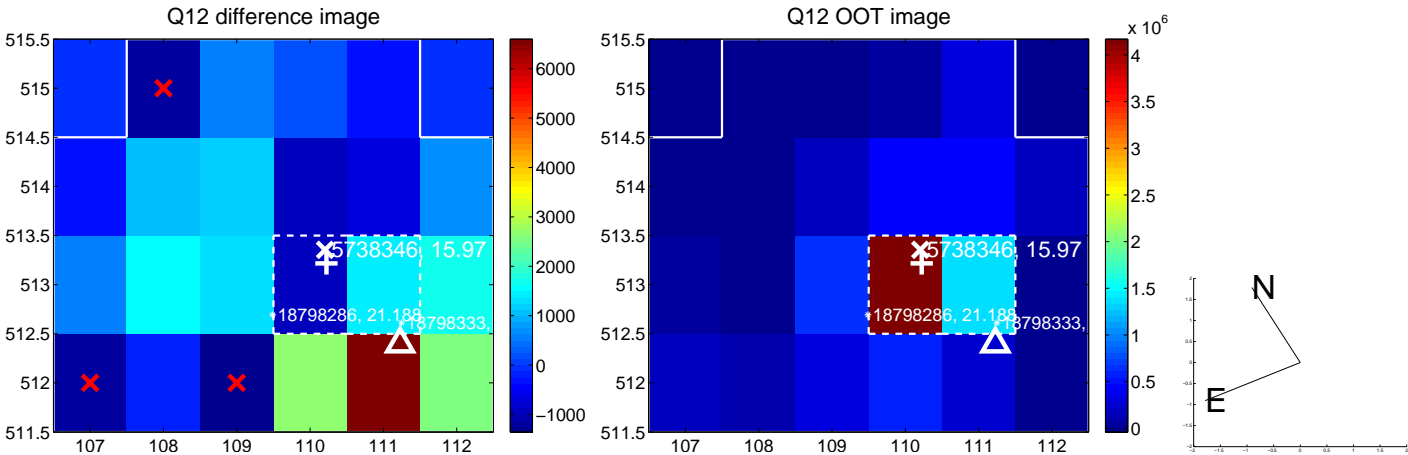
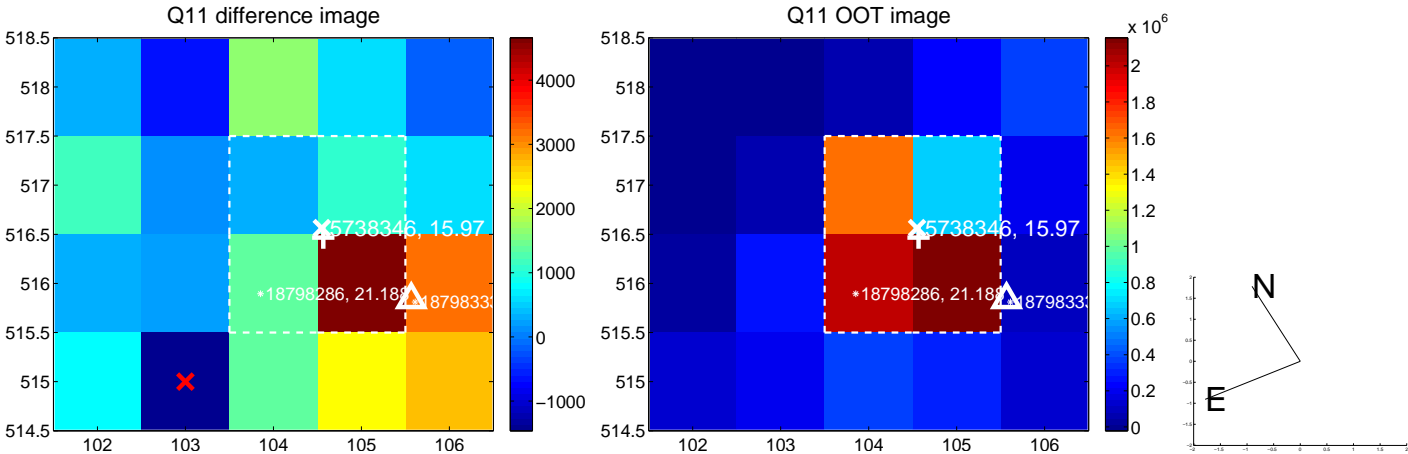
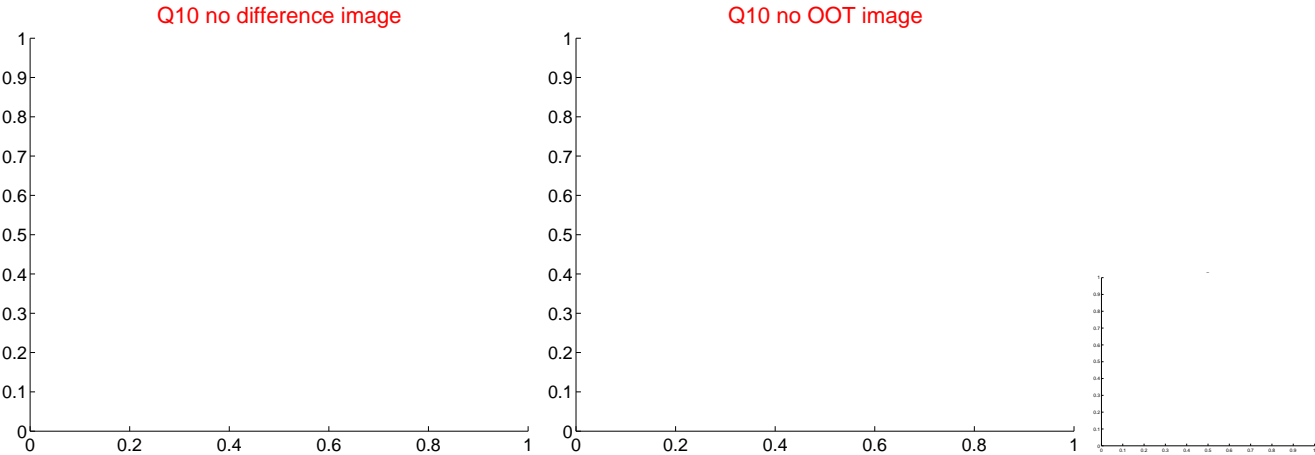
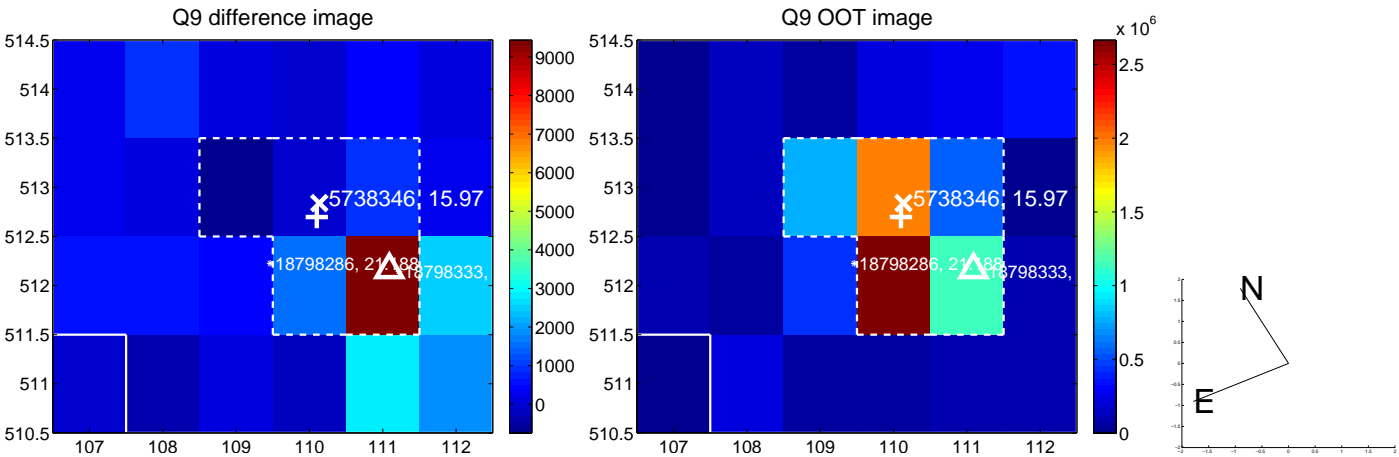
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



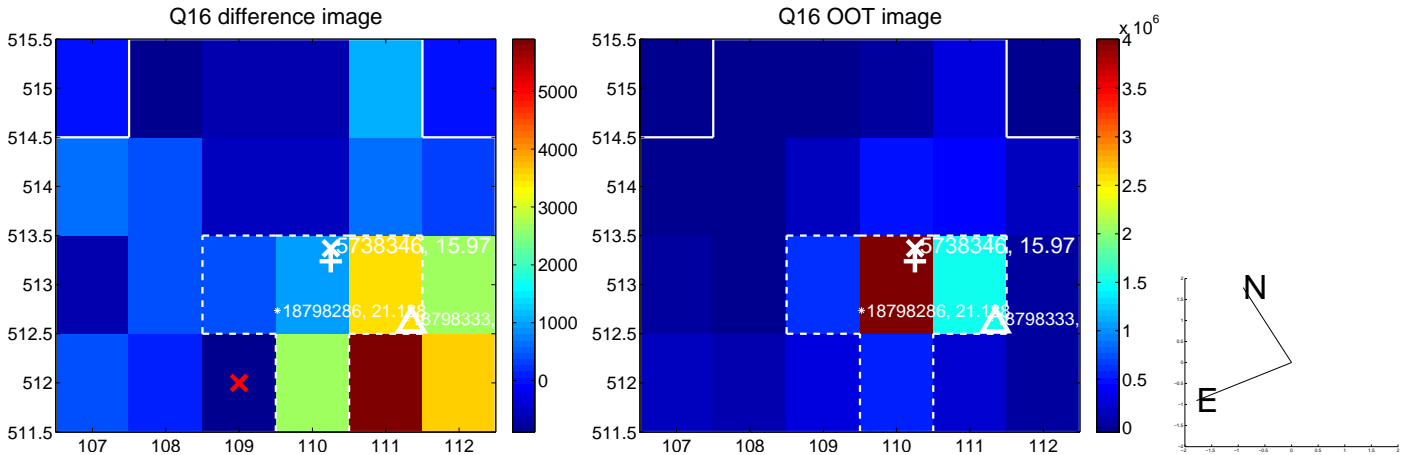
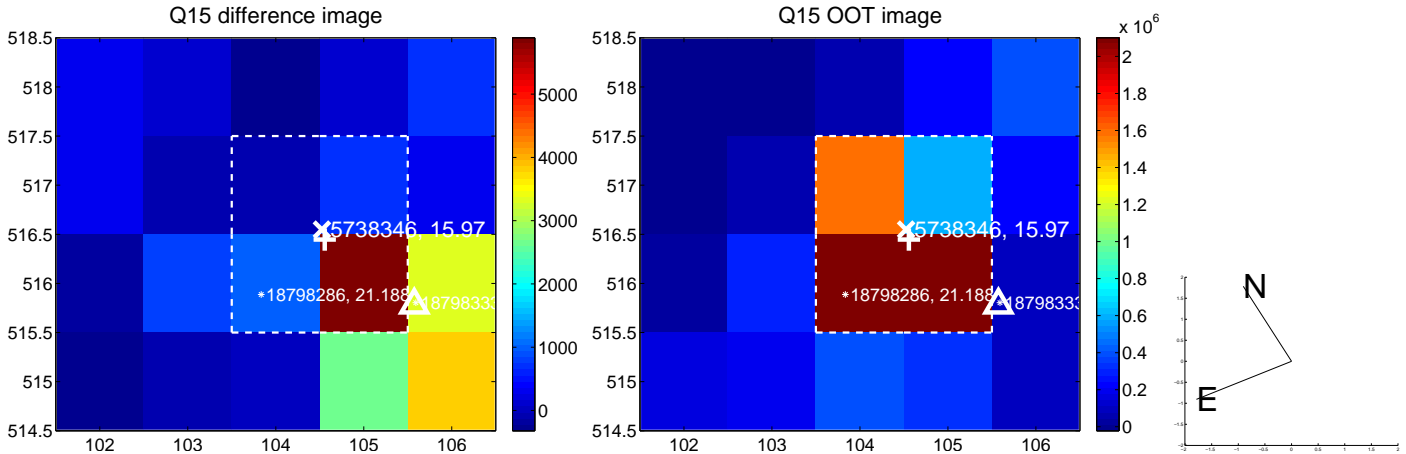
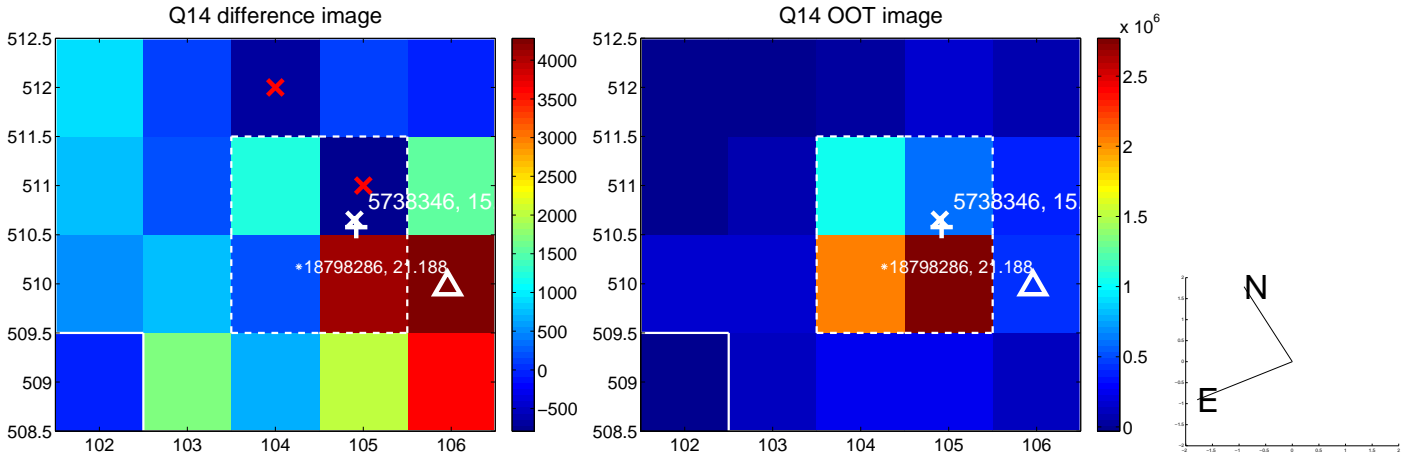
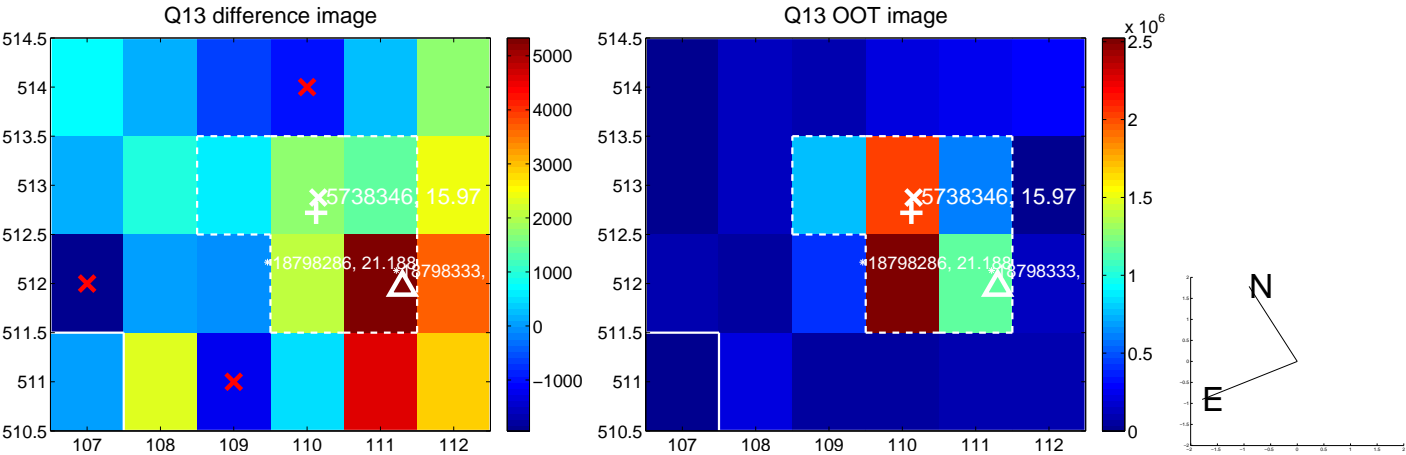
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



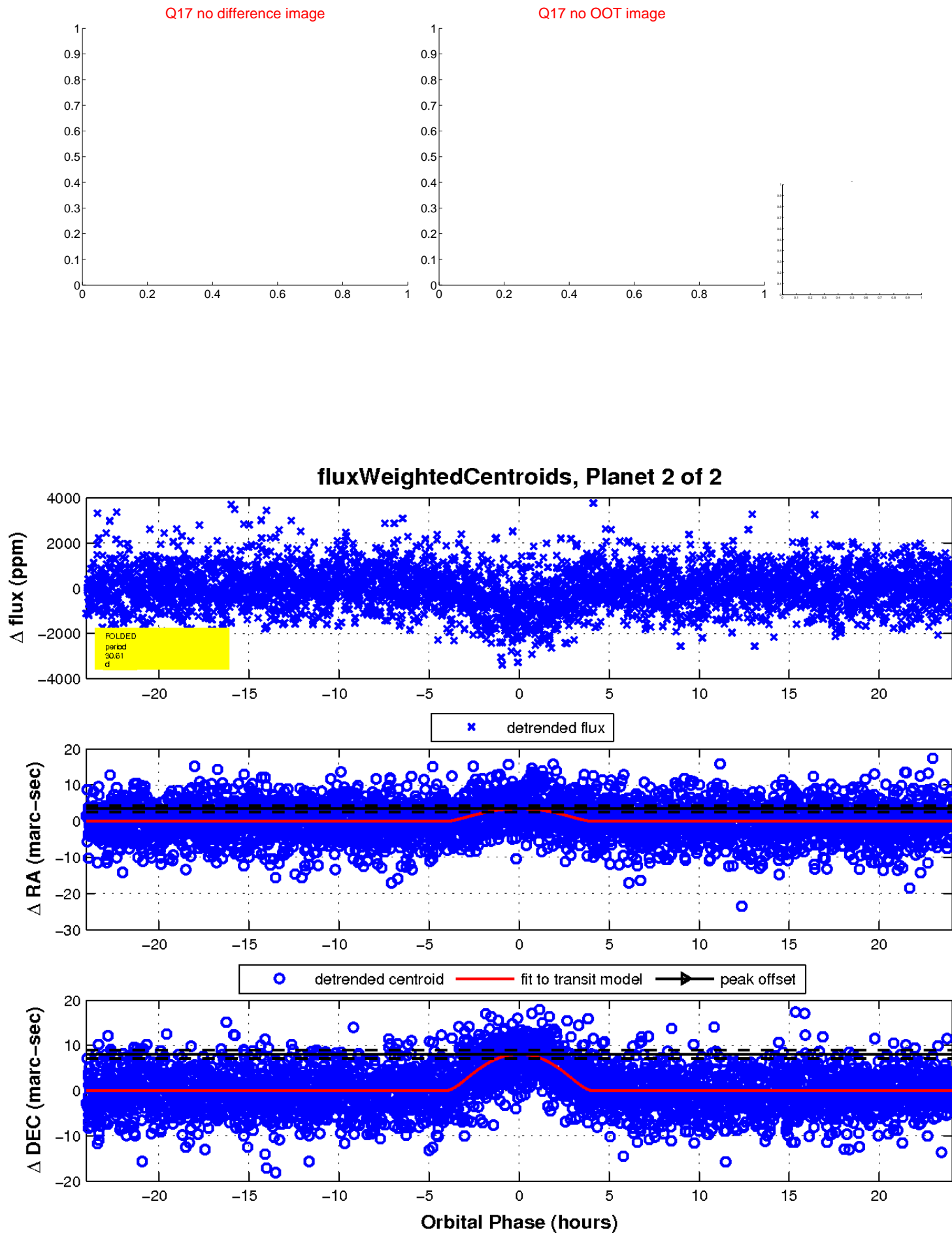
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Declination

