

KIC 004358206

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})
004358206-01	OBS	No	1.901966	132.002772	176.4	9.433	120.7	4.6	2.04	6093	3.23	4976.15
004358206-02	OBS	No	0.951159	131.923494	7408.2	1.500	125.5	-1.0	2.04	6093	17.61	12536.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004358206-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004358206-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SAME_NTL_PERIOD—CENT_NOFITS

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.

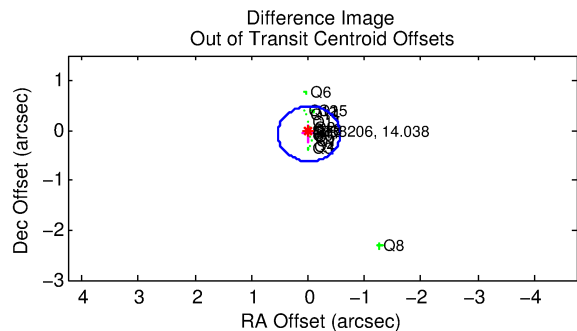
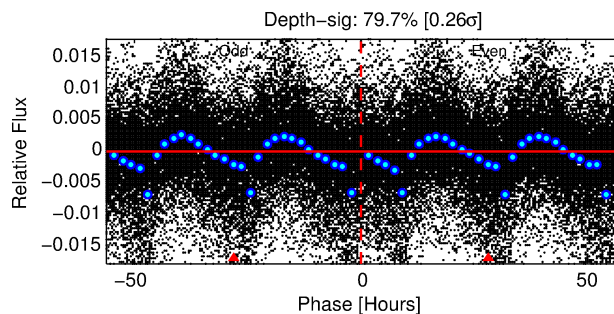
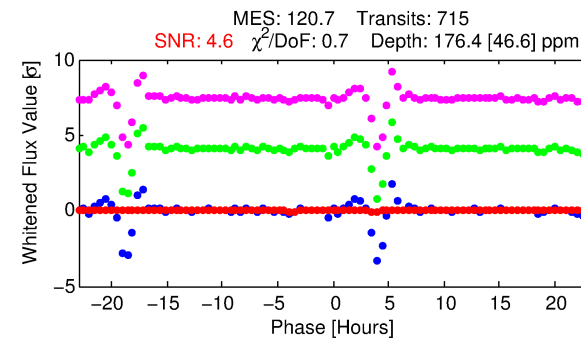
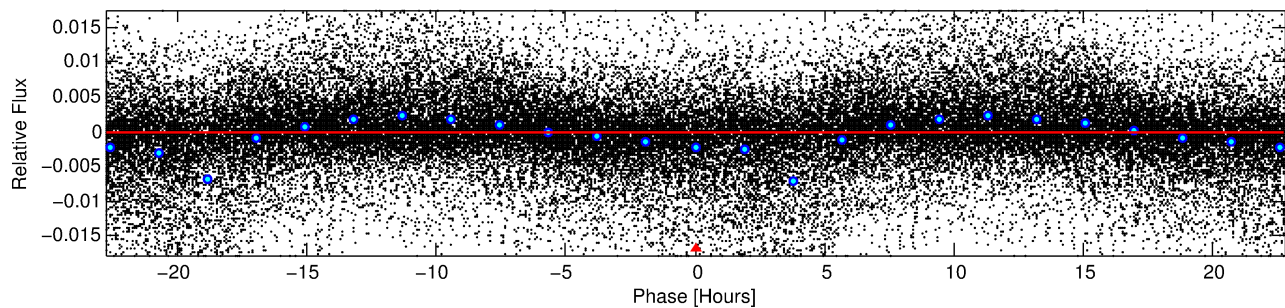
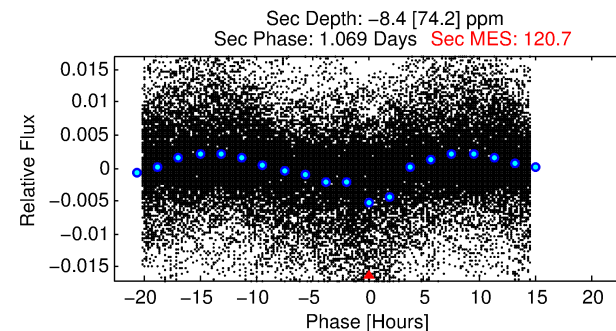
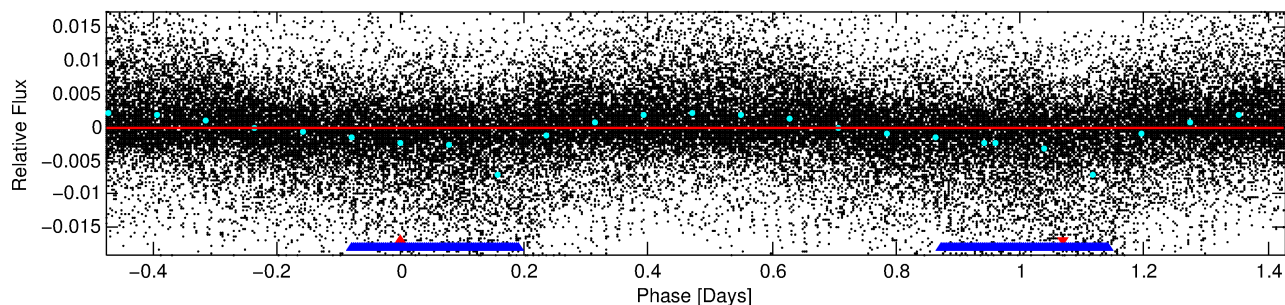
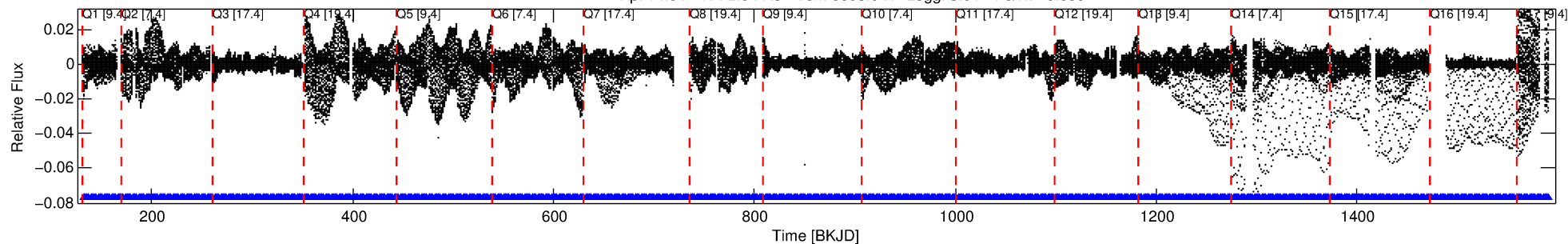
Ephemeris Match Information For 004358206-01

No Significant Match Found

DV One-Page Summary

KIC: 4358206 Candidate: 1 of 2 Period: 1.902 d

Kp: 14.04 R*: 2.04 Rs Teff: 6093.0 K Logg: 3.91 Fe/H: -0.080



DV Fit Results:

Period = 1.90197 [0.00002] d
Epoch = 132.0028 [0.0038] BKJD
Rp/R* = 0.0145 [0.0020]
a/R* = 1.17 [0.06]
b = 0.91 [0.04]
Seff = 4976.15 [3865.12]
Teq = 2142 [416] K
Rp = 3.23 [1.51] Re
a = 0.0321 [0.0148] AU
Ag = N/A
Teffp = N/A

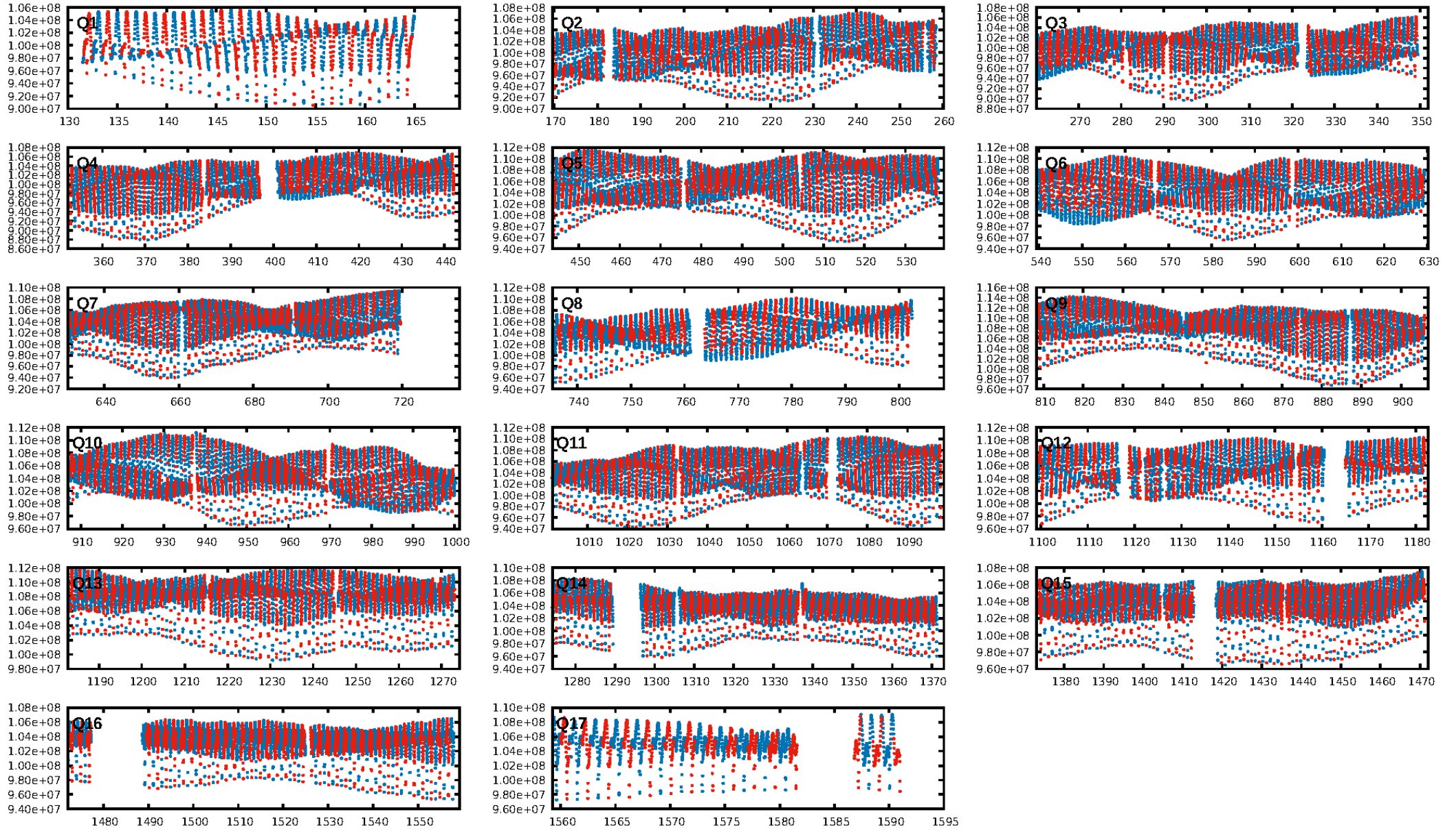
DV Diagnostic Results:

ShortPeriod-sig: 98.3% [2.39σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [682/682]
GhostDiagnostic-chr: 2.19
Centroid-sig: 95.6%
Centroid-so: 0.251 arcsec [1.78σ]
OotOffset-rm: 0.074 arcsec [0.40σ]
KicOffset-rm: 0.279 arcsec [1.58σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 0.00 [0/17]

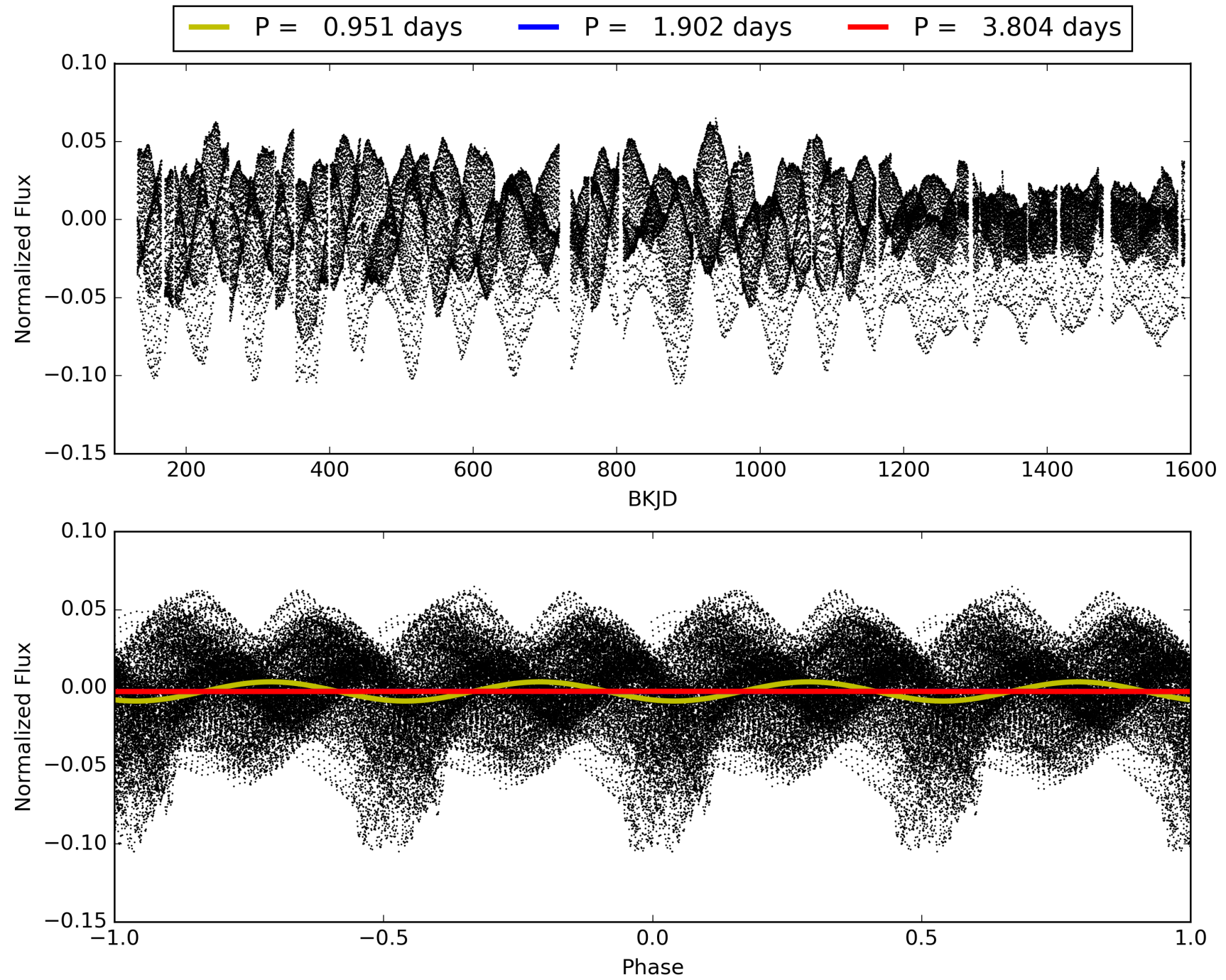
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:27:09 Z

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

TCE 004358206-01, PDC Light Curves

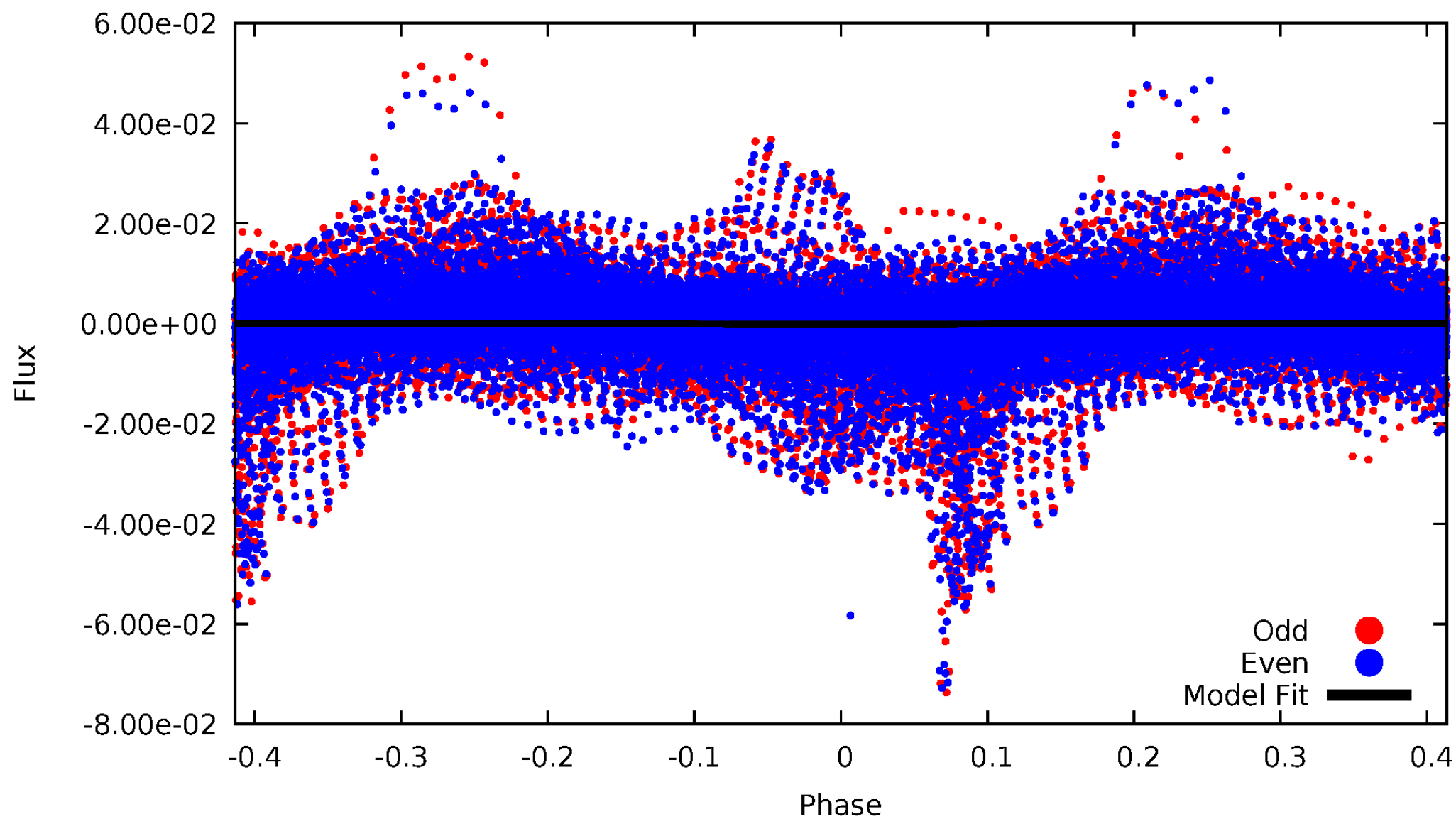


TCE 004358206-01



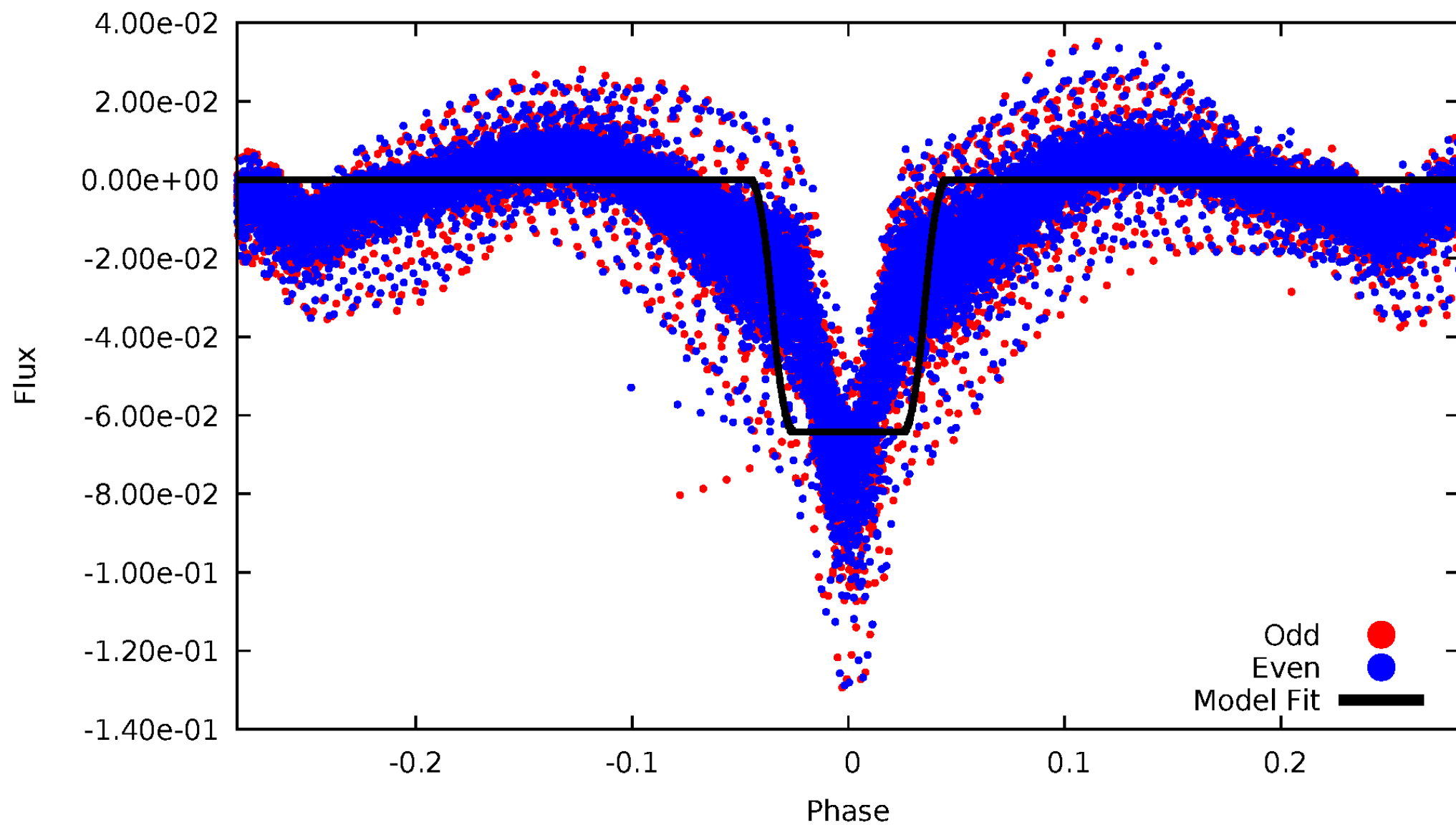
DV Odd/Even

TCE 004358206-01



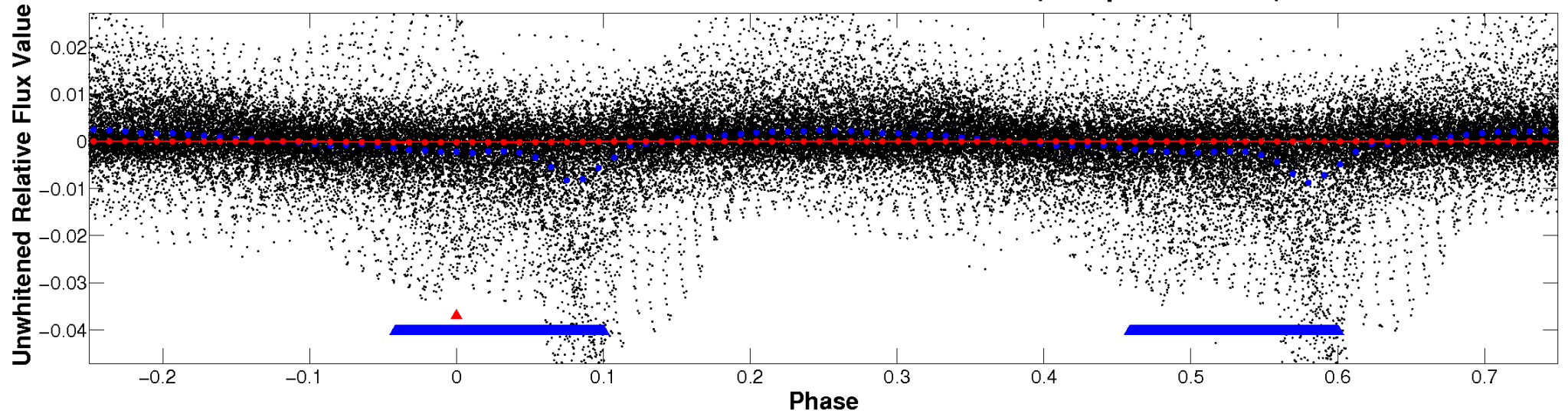
ALT Odd/Even

TCE 004358206-01

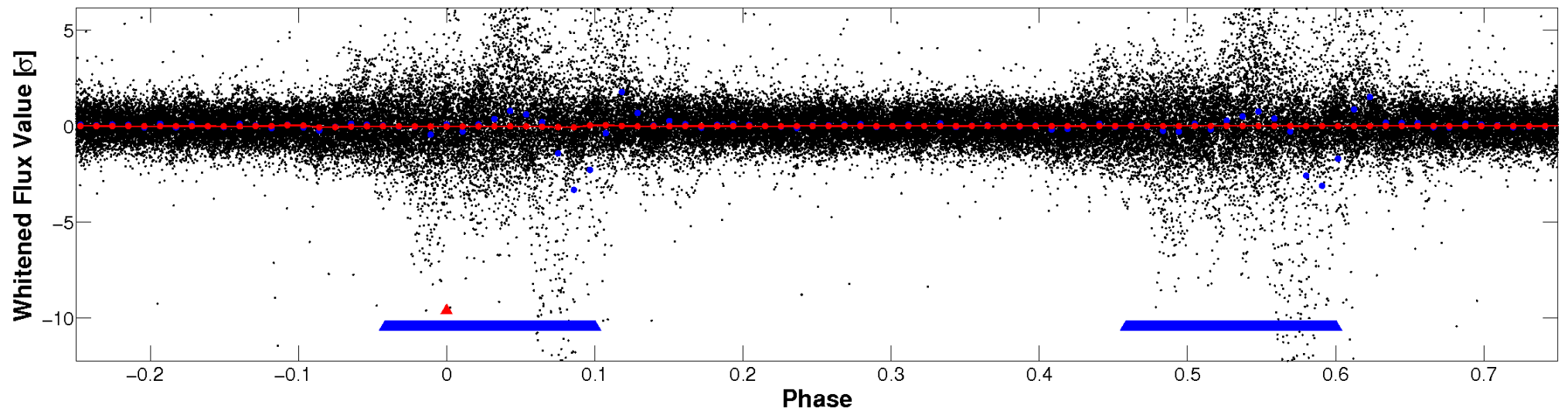


Non-Whitened Vs. Whitened Light Curve

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

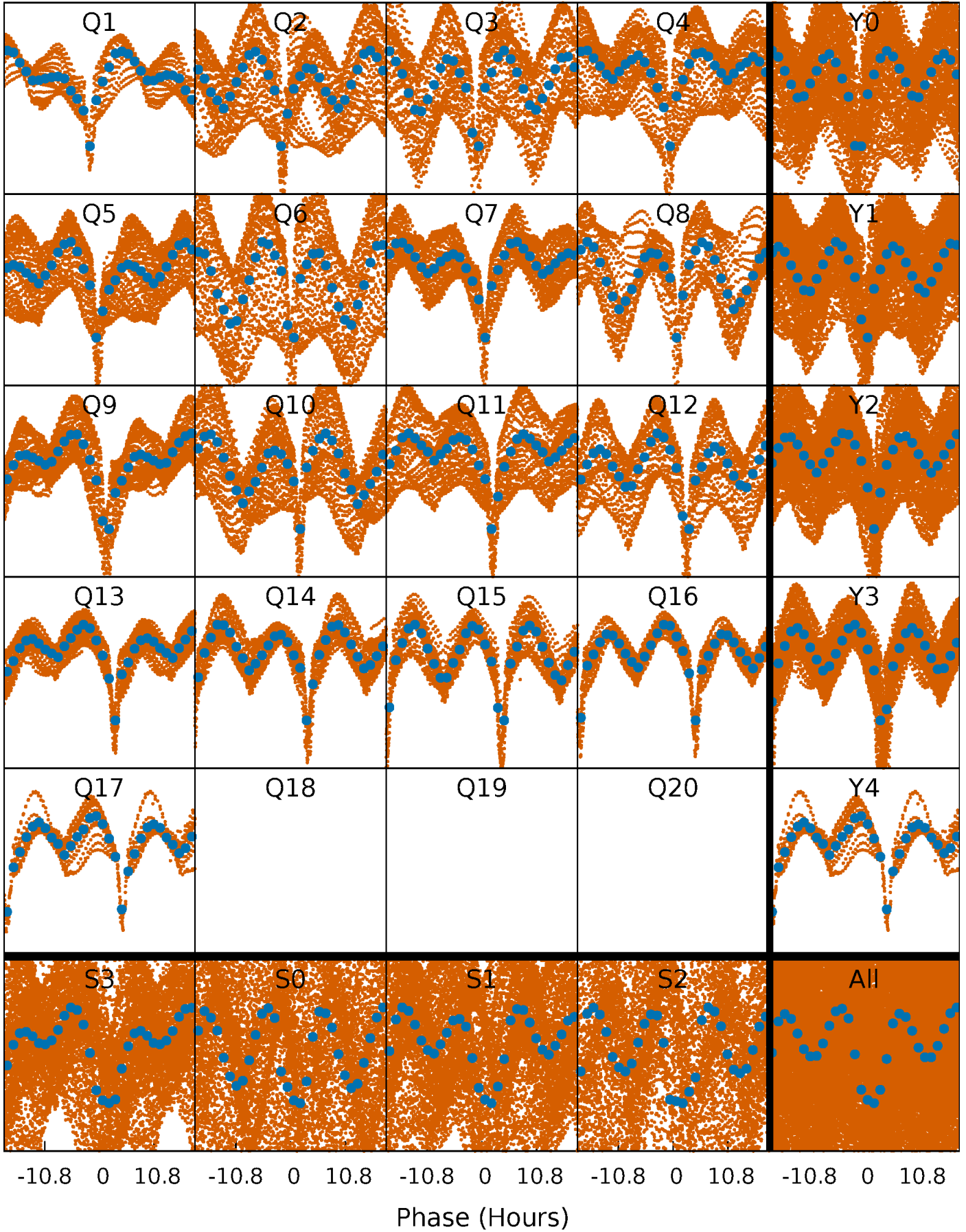


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



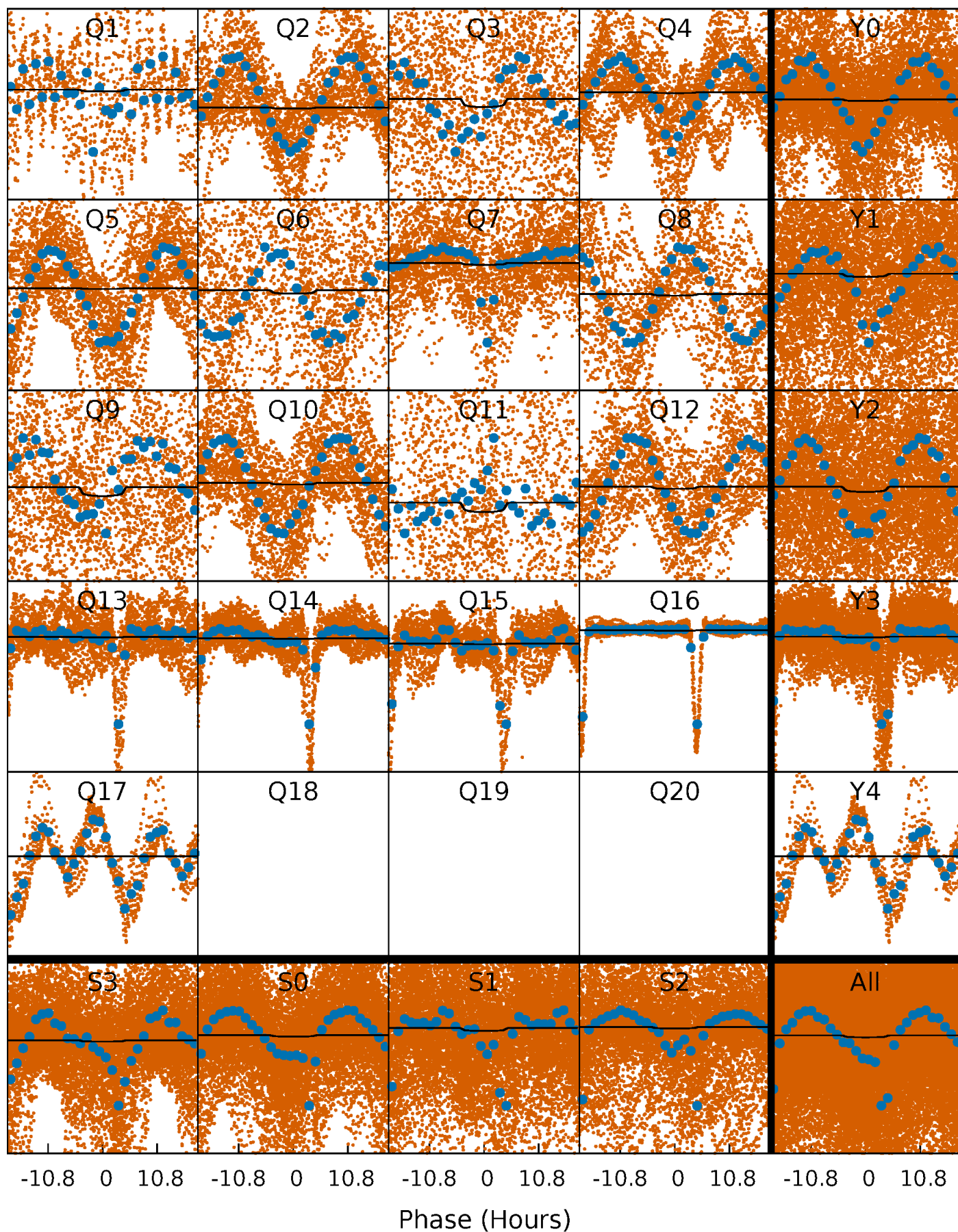
PDC Quarter-Phased Transit Curves

TCE 004358206-01 P= 1.901966 Days $T_0=132.002772$ (BKJD)



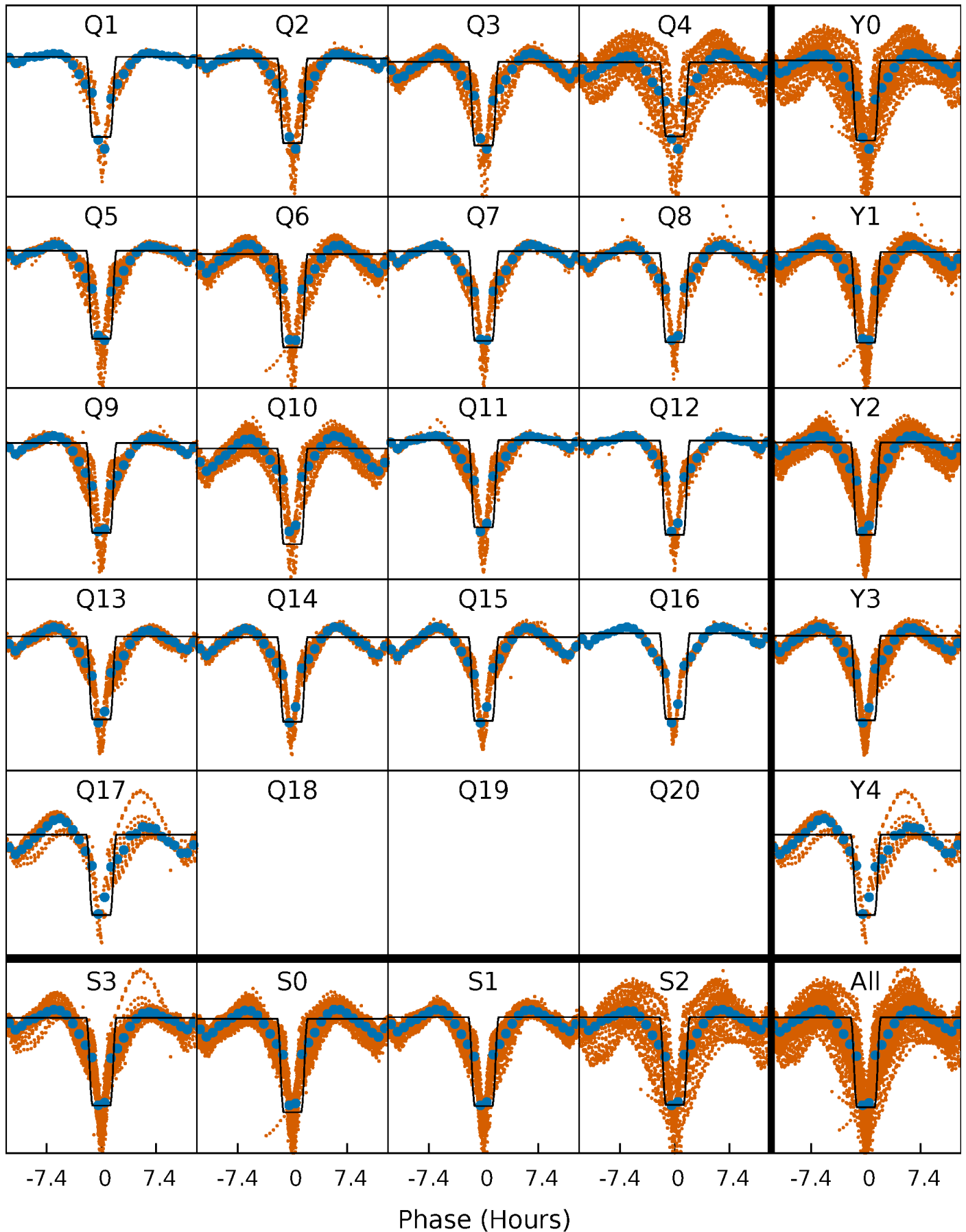
DV Quarter-Phased Transit Curves

TCE 004358206-01 P= 1.901966 Days $T_0=132.002772$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

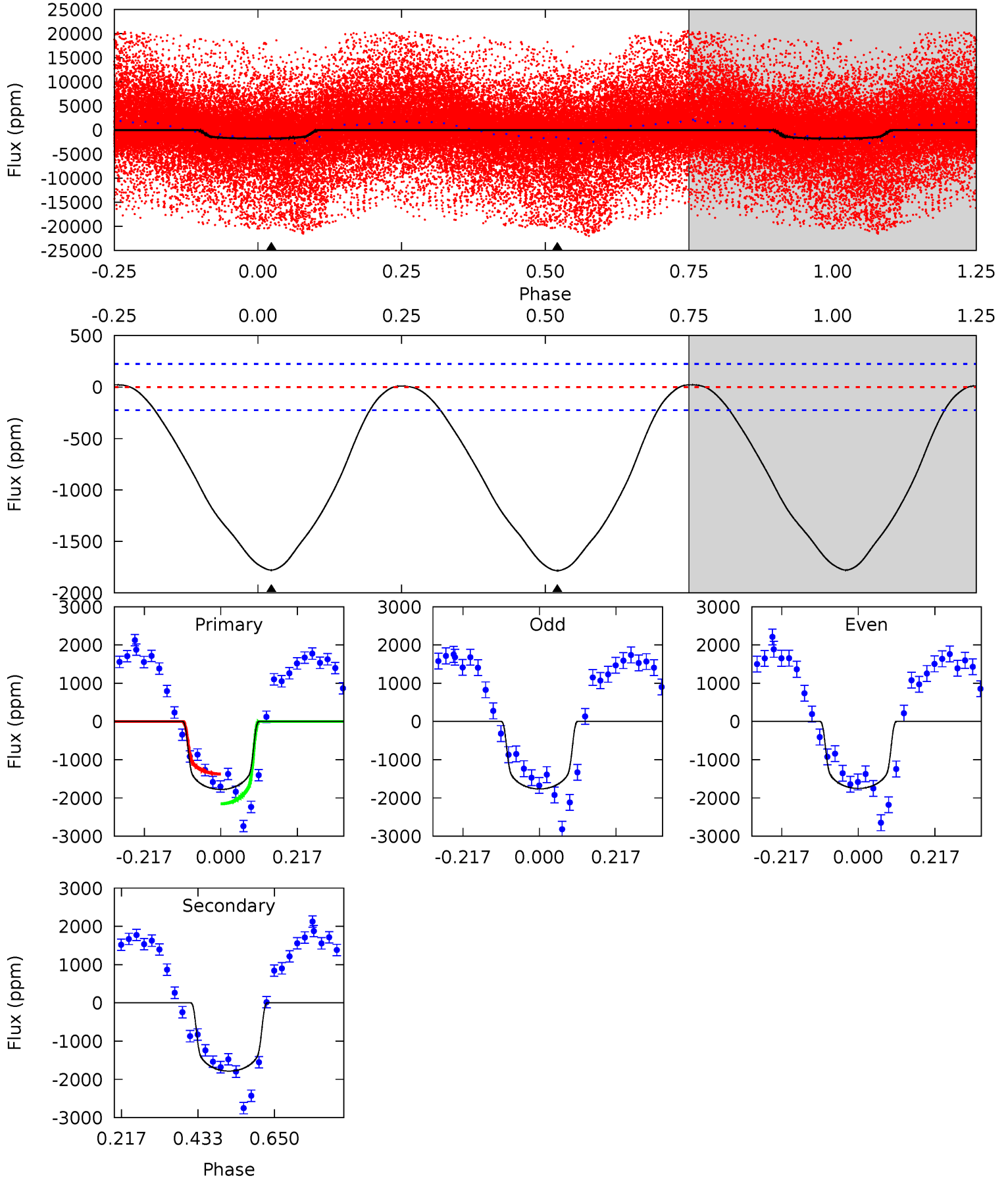
TCE 004358206-01 P= 1.902339 Days $T_0=131.916578$ (BKJD)



DV Model-Shift Uniqueness Test

004358206-01, P = 1.901966 Days, E = 130.100806 Days

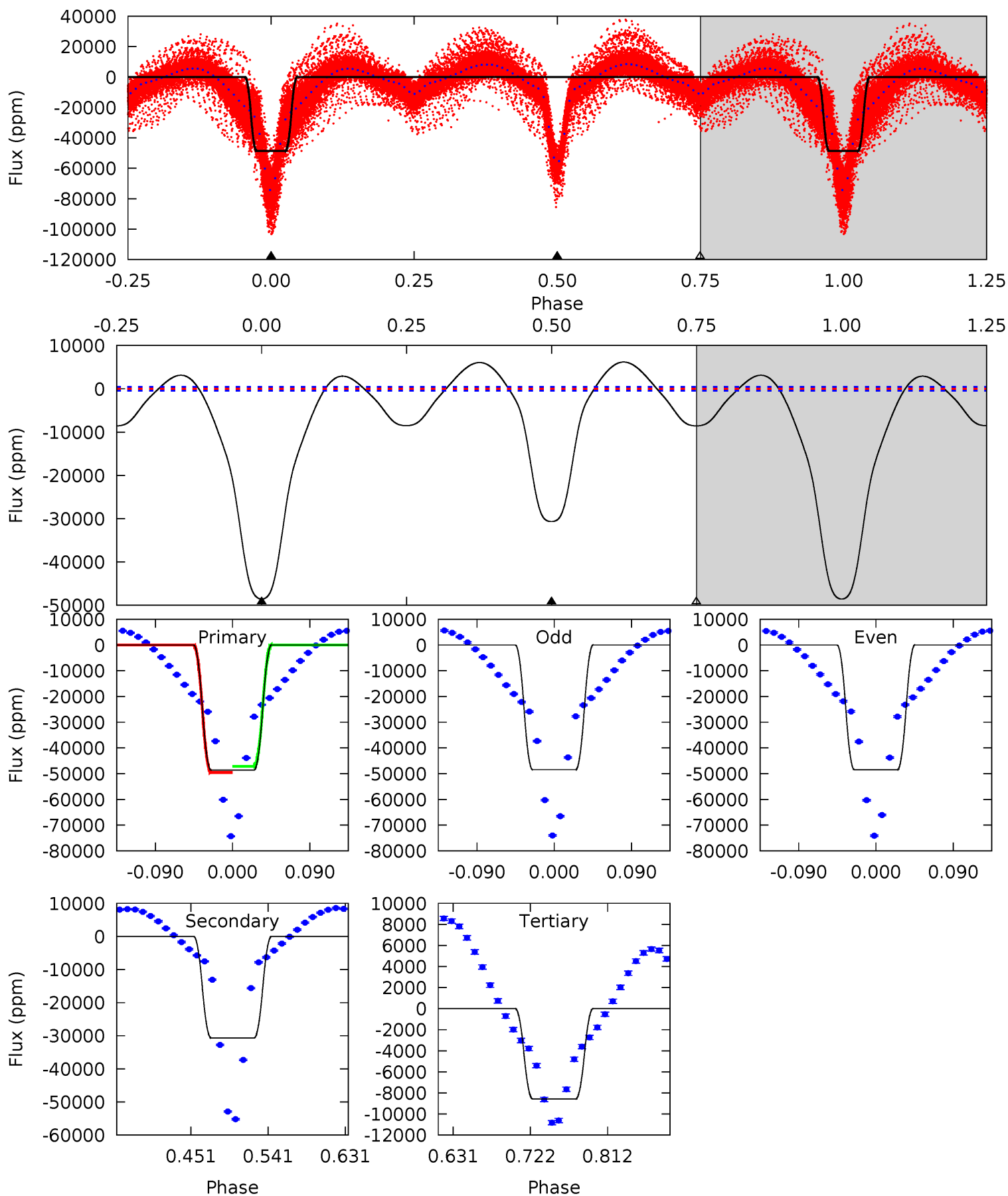
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.8	34.9	0	0	4.40	1.24	0.85	34.8	34.8	34.9	34.9	0.13	1.47	0.01	8.10



Alt Model-Shift Uniqueness Test

004358206-01, P = 1.902339 Days, E = 130.014239 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
501.3	316.5	88.4	0	4.59	1.69	48.6	412.9	501.3	228.1	316.5	0.01	1.03	0.11	12.3



Stellar Parameters For KIC 004358206

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6093^{+195}_{-238}	$3.906^{+0.456}_{-0.114}$	$-0.080^{+0.300}_{-0.300}$	$2.039^{+0.491}_{-0.912}$	$1.221^{+0.190}_{-0.254}$	$0.203^{+0.818}_{-0.086}$
	+3%/-4%	+12%/-3%	+375%/-375%	+24%/-45%	+16%/-21%	+403%/-43%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004358206-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1784 ± 51	$3.03^{+0.75}_{-0.76}$	2900^{+232}_{-336}	11996^{+1802}_{-1369}	111^{+88}_{-38}
Alt.	-30660 ± 97	$53.50^{+8.82}_{-13.30}$	2905^{+239}_{-380}	5122^{+146}_{-187}	$6.223^{+4.335}_{-1.420}$

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

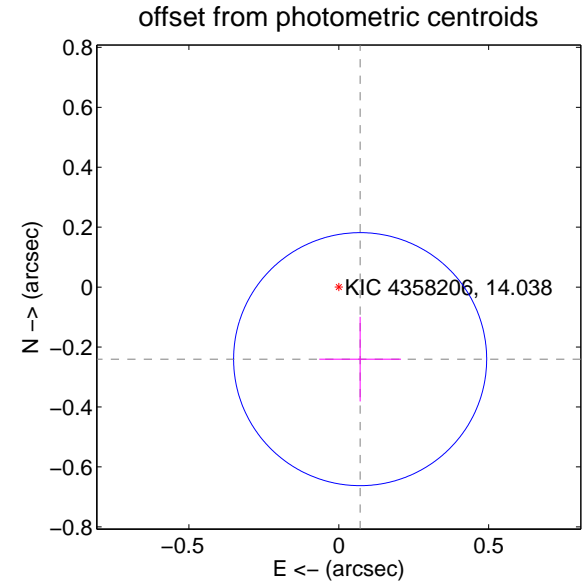
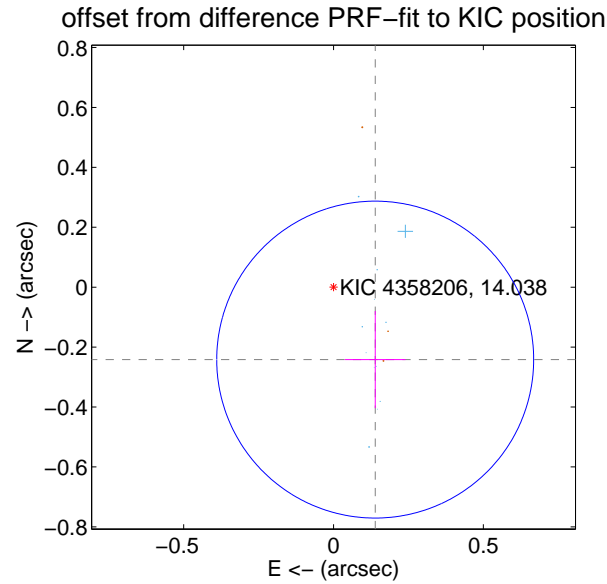
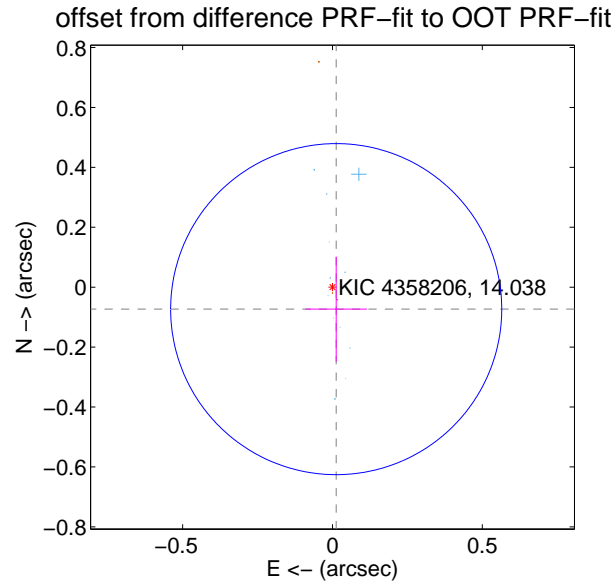
DV Centroid Data

Supplemental centroid analysis for 004358206-01. Kepler magnitude: 14.04. Transit SNR 4.58

There are 12 quarters with good PRF difference image offsets

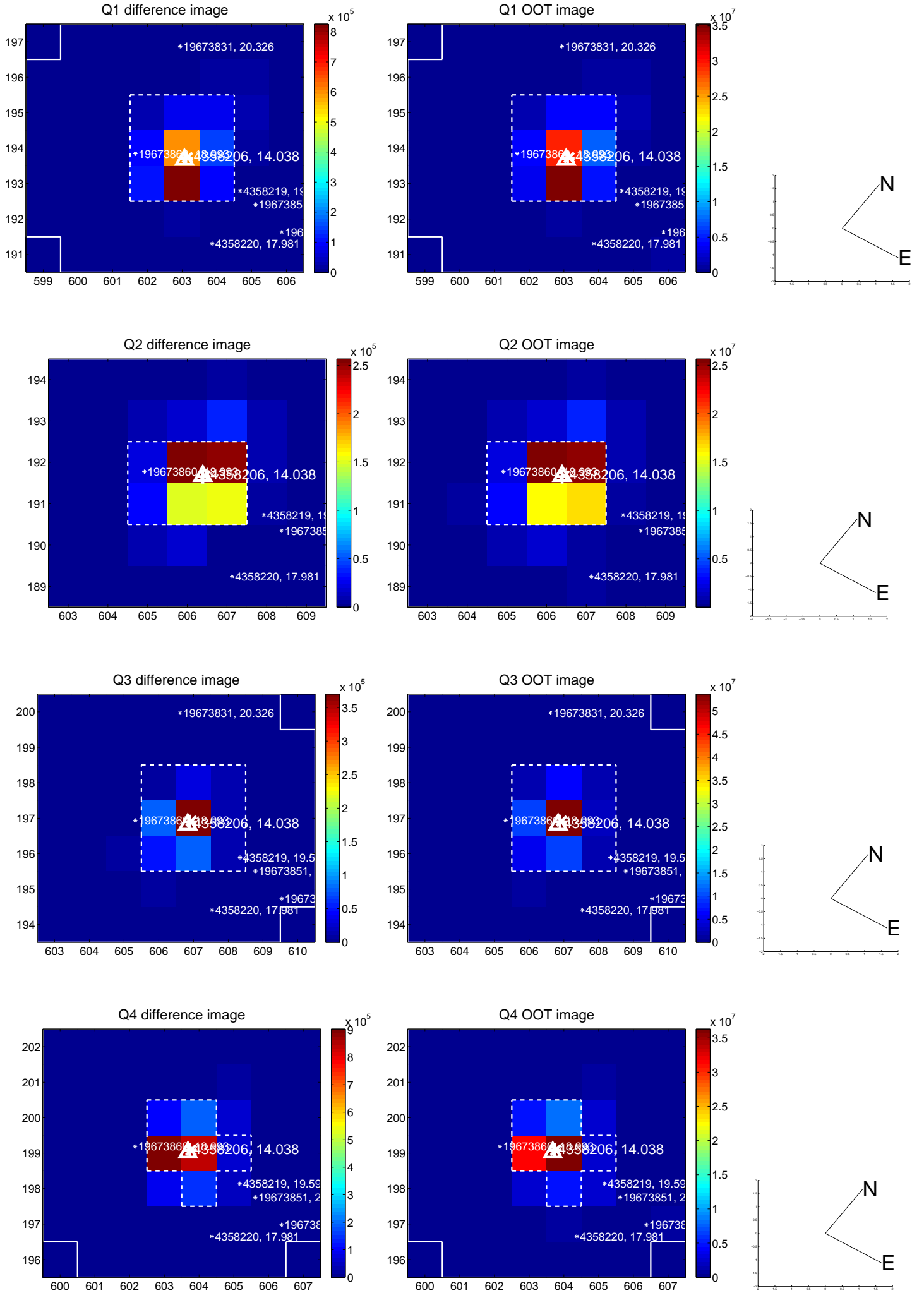
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.074 ± 0.184	0.40	-0.012 ± 0.102	-0.073 ± 0.175
PRF-fit source offset from KIC position	0.279 ± 0.176	1.58	-0.139 ± 0.101	-0.242 ± 0.162
photometric centroid source offset	0.25 ± 0.14	1.78	-0.07 ± 0.14	-0.24 ± 0.14

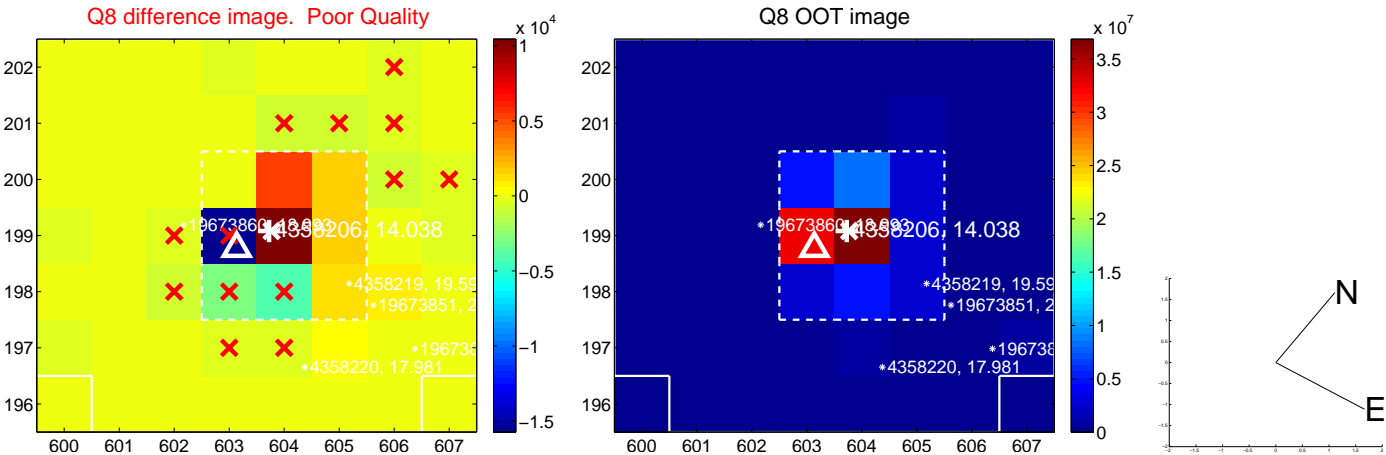
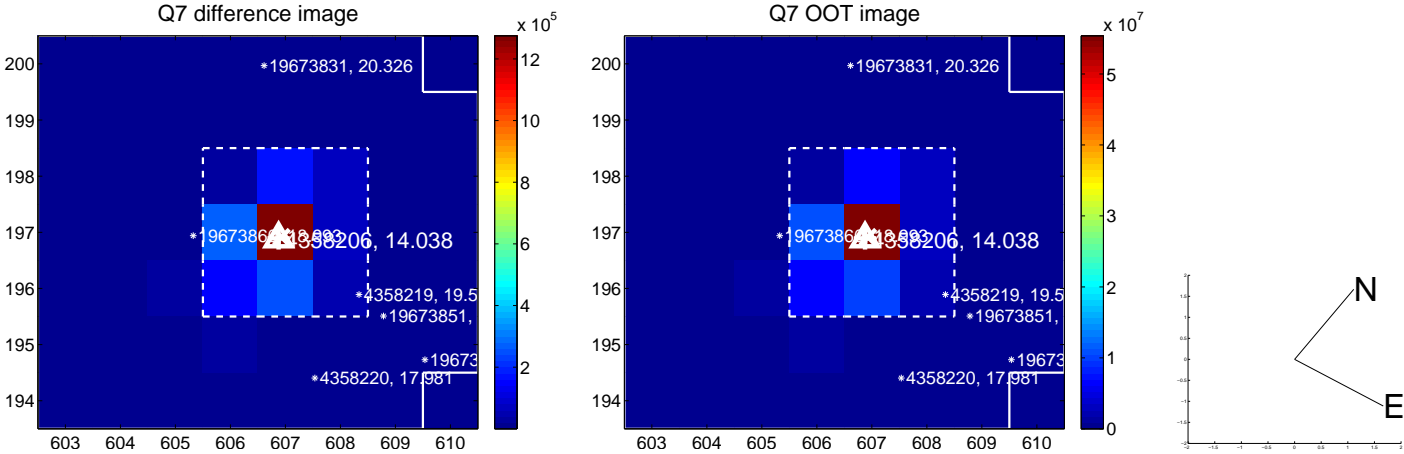
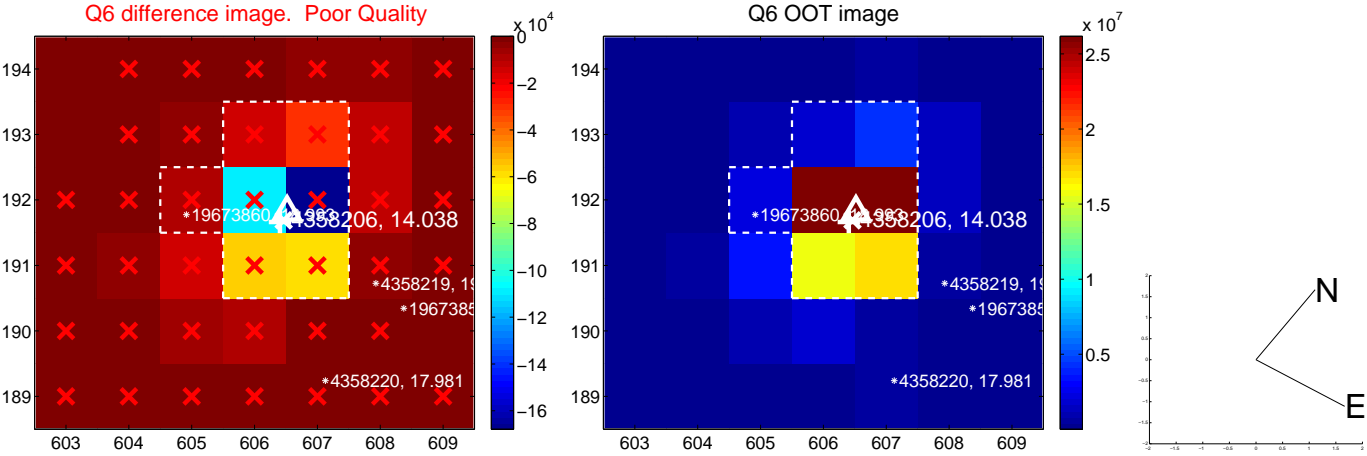
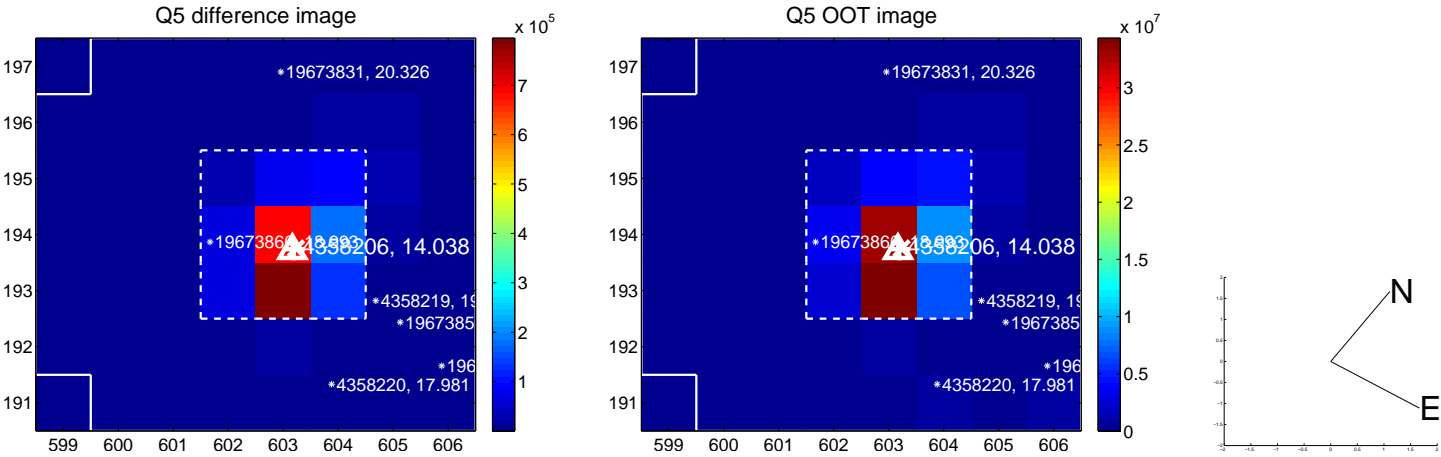


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

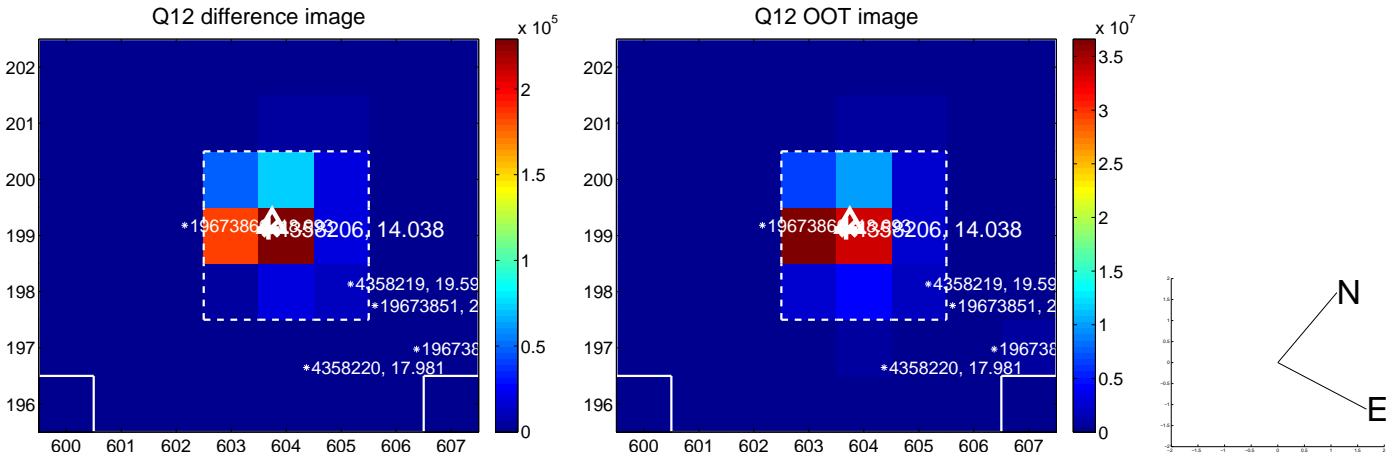
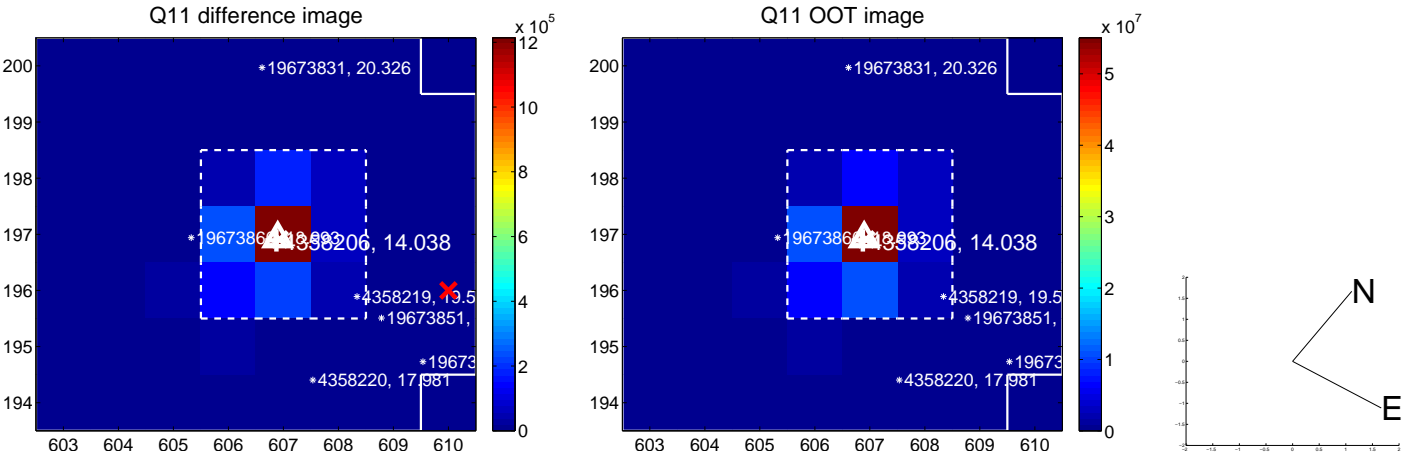
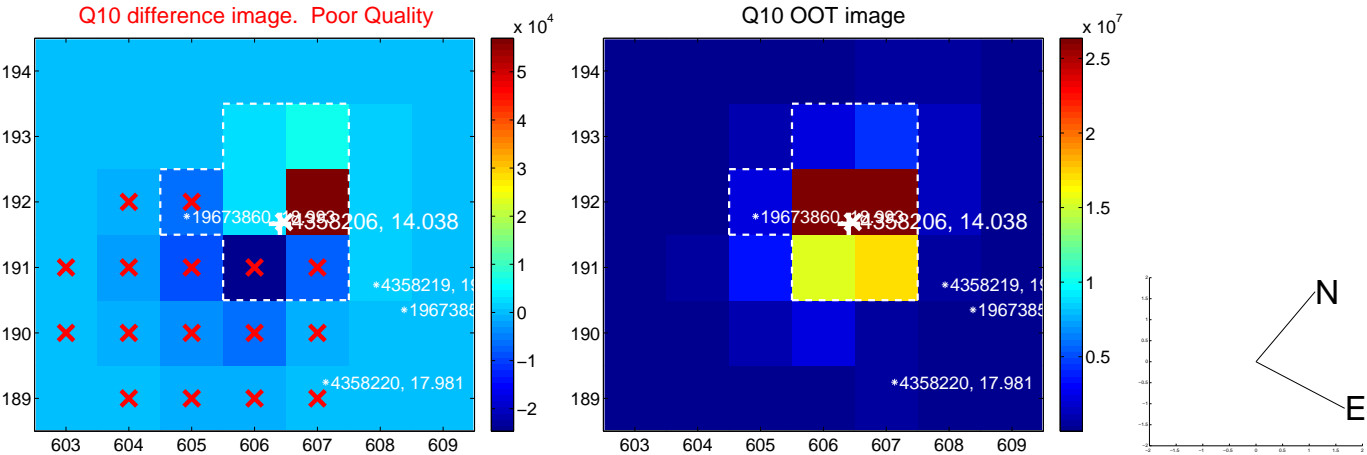
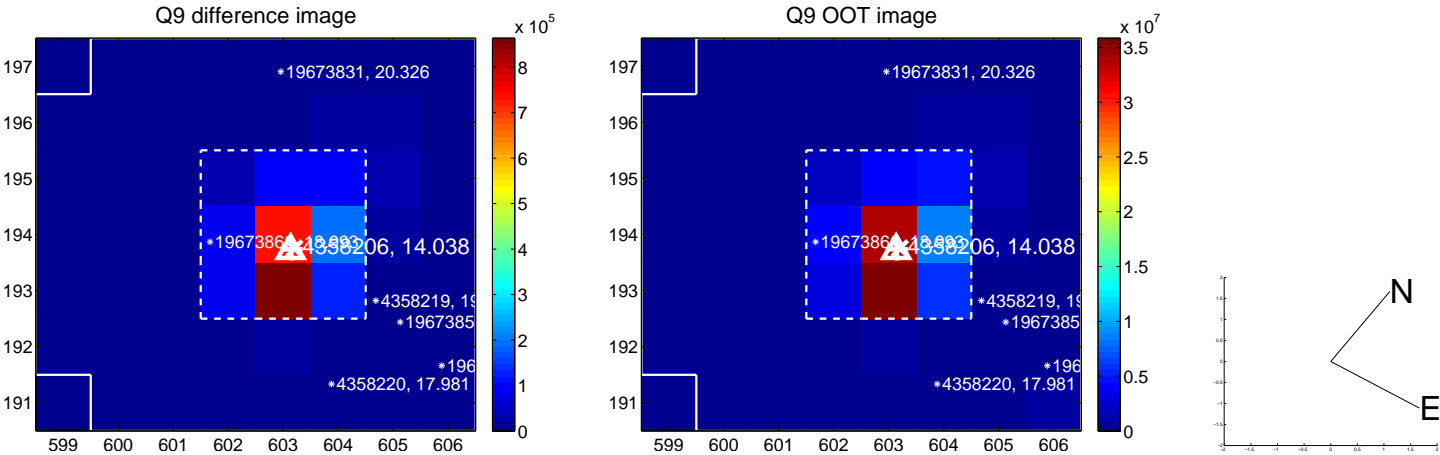
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

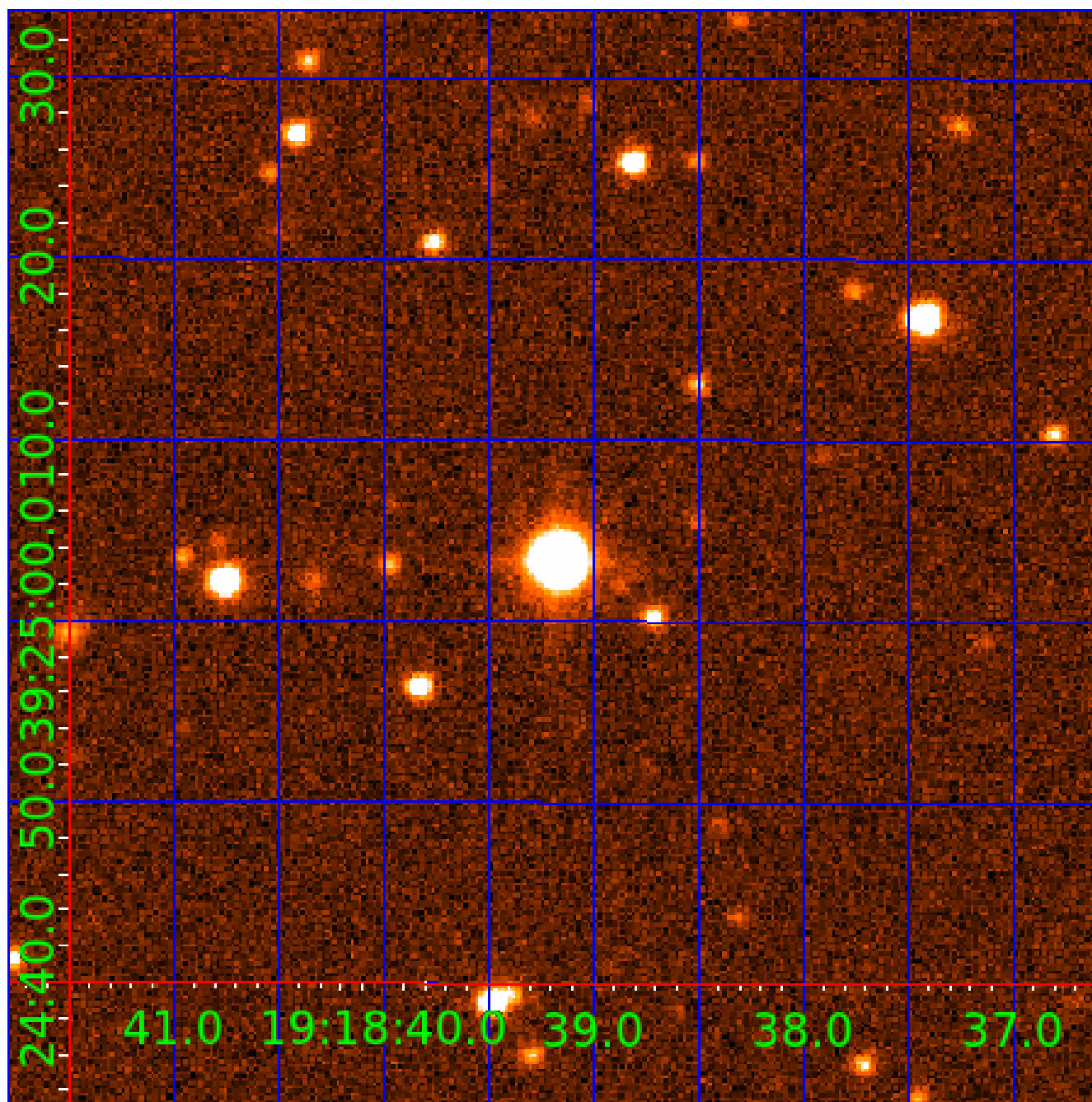


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004358206

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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004358206-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SAME_NTL_PERIOD—CENT_NOFITS

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

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

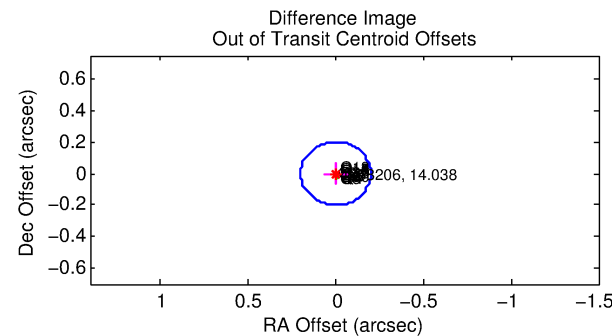
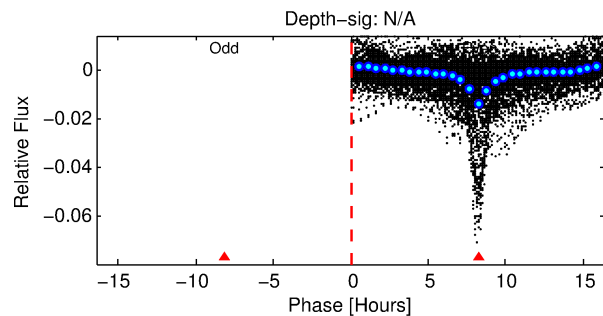
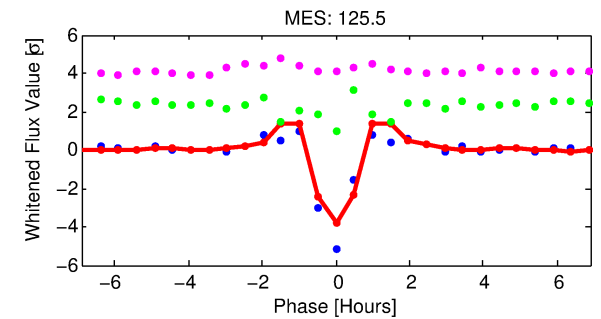
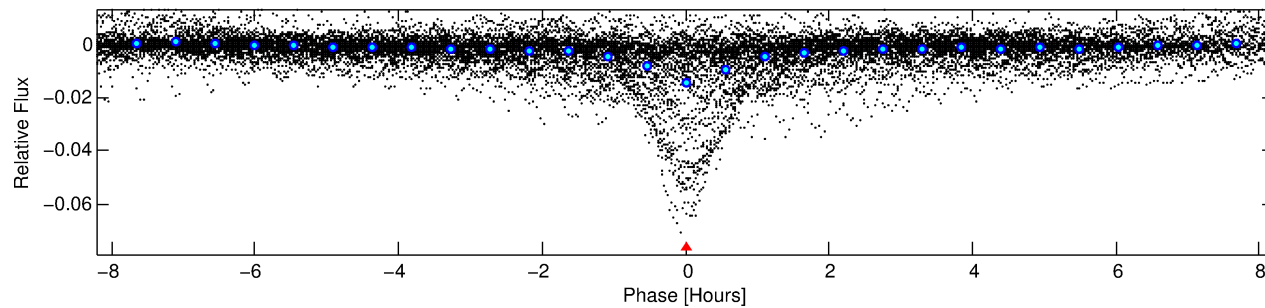
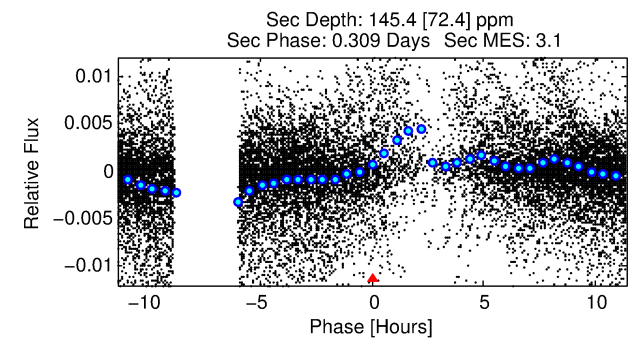
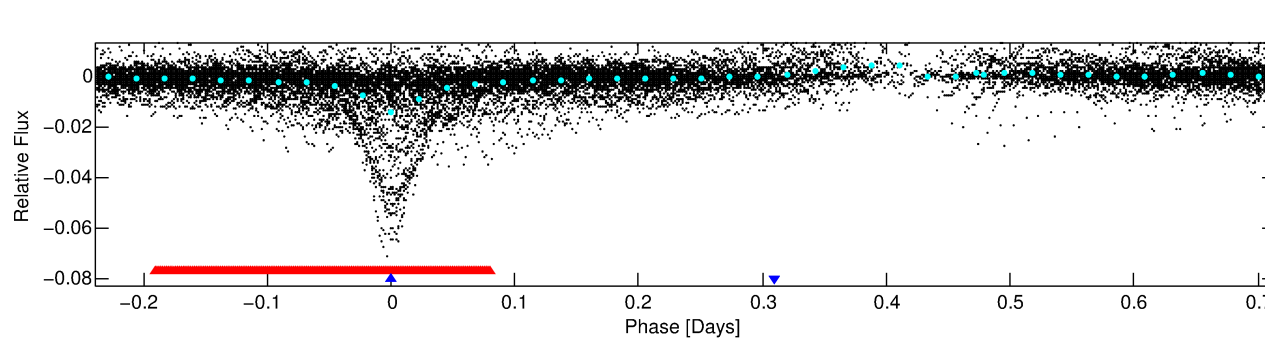
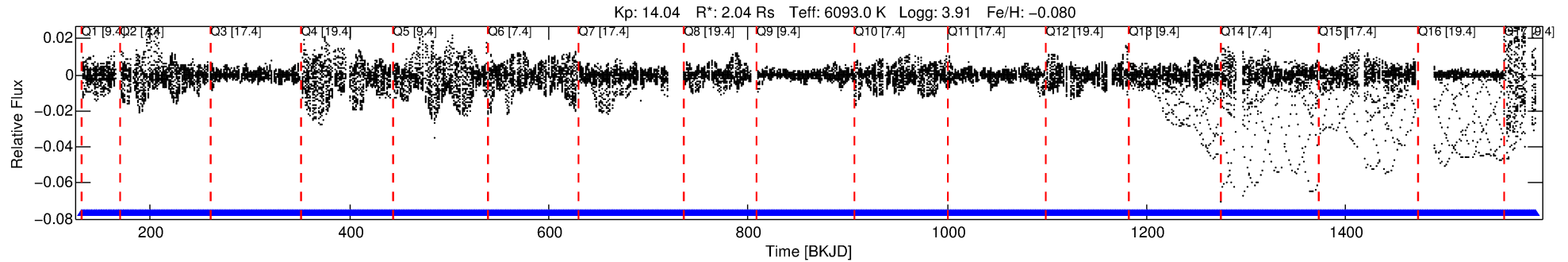
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004358206-02

No Significant Match Found

DV One-Page Summary

KIC: 4358206 Candidate: 2 of 2 Period: 0.951 d



TPS TCE Results:

Period = 0.95116 d
Epoch = 131.9235 BKJD

DV fit results are unavailable

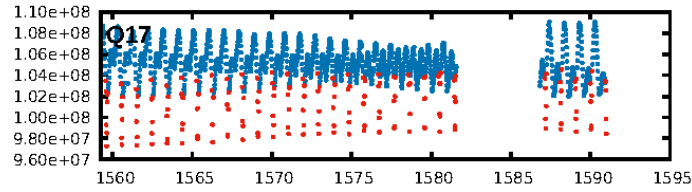
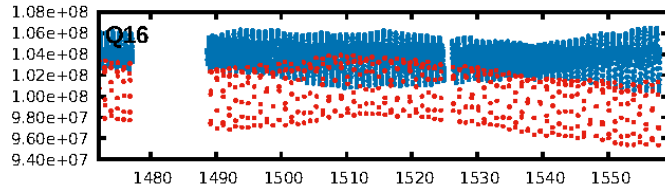
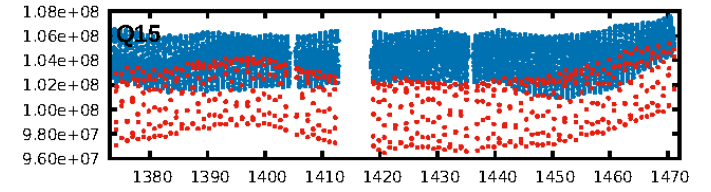
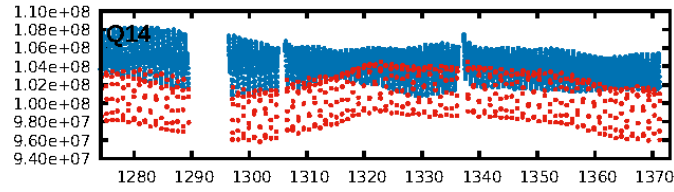
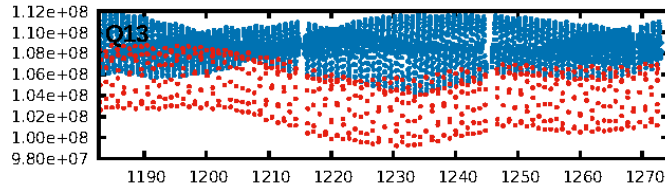
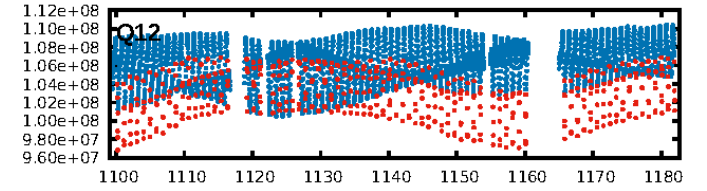
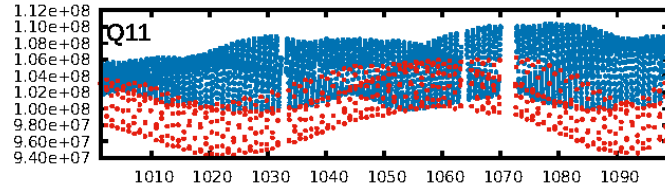
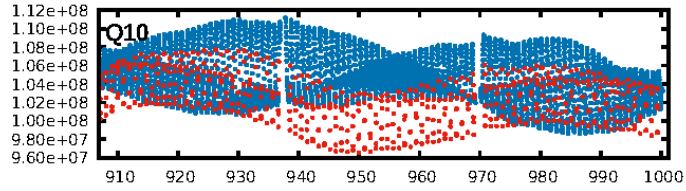
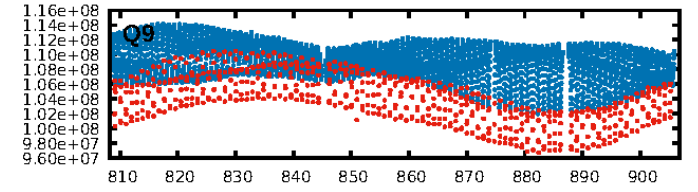
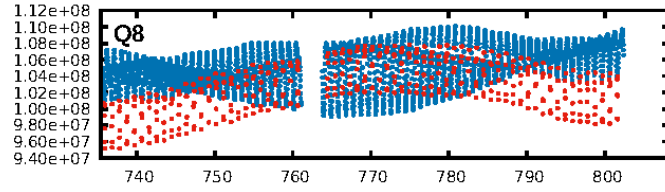
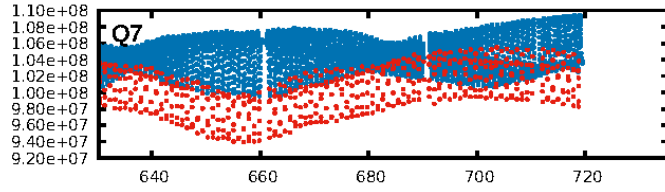
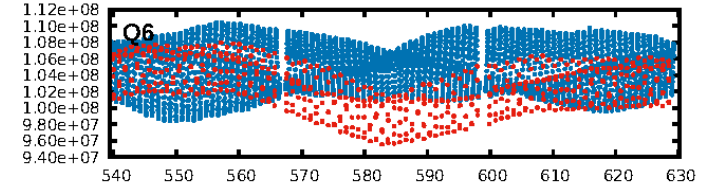
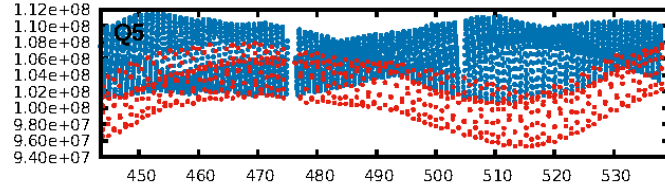
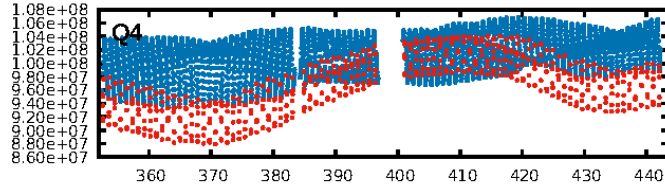
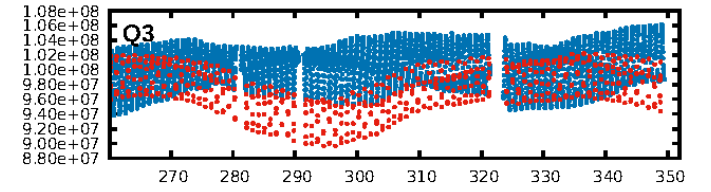
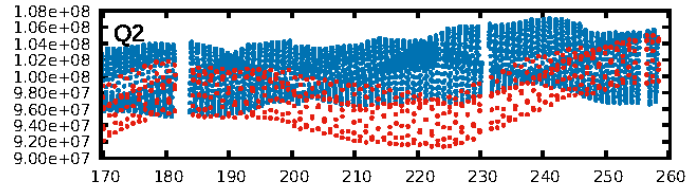
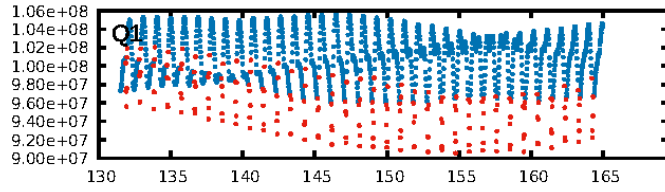
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 98.3% [2.39σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [670/670]
GhostDiagnostic-chr: 0.9296
Centroid-sig: 0.0%
Centroid-so: 0.243 arcsec [408.96σ]
OotOffset-rm: 0.001 arcsec [0.01σ]
KicOffset-rm: 0.216 arcsec [3.21σ]
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]

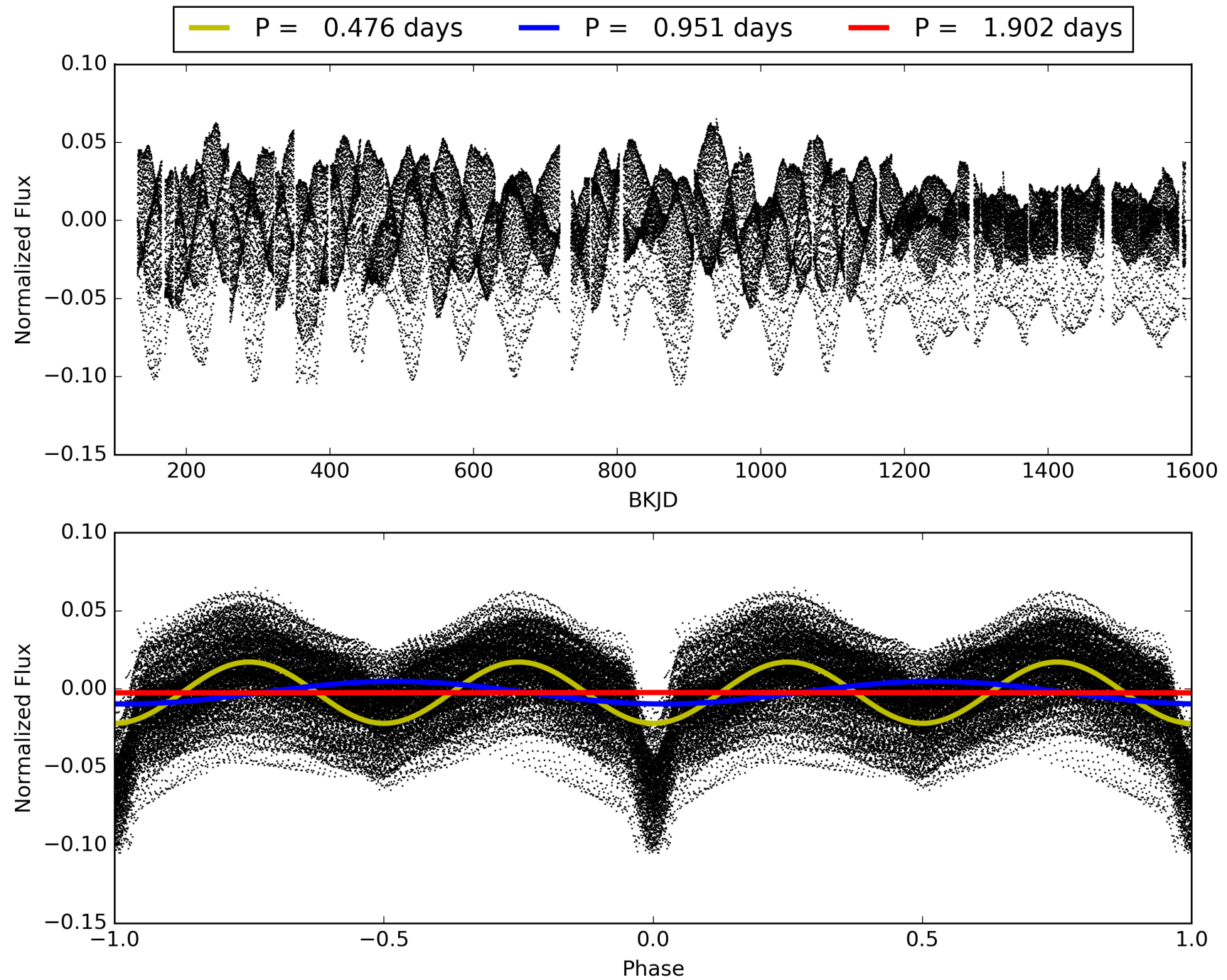
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:27:20 Z

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

TCE 004358206-02, PDC Light Curves

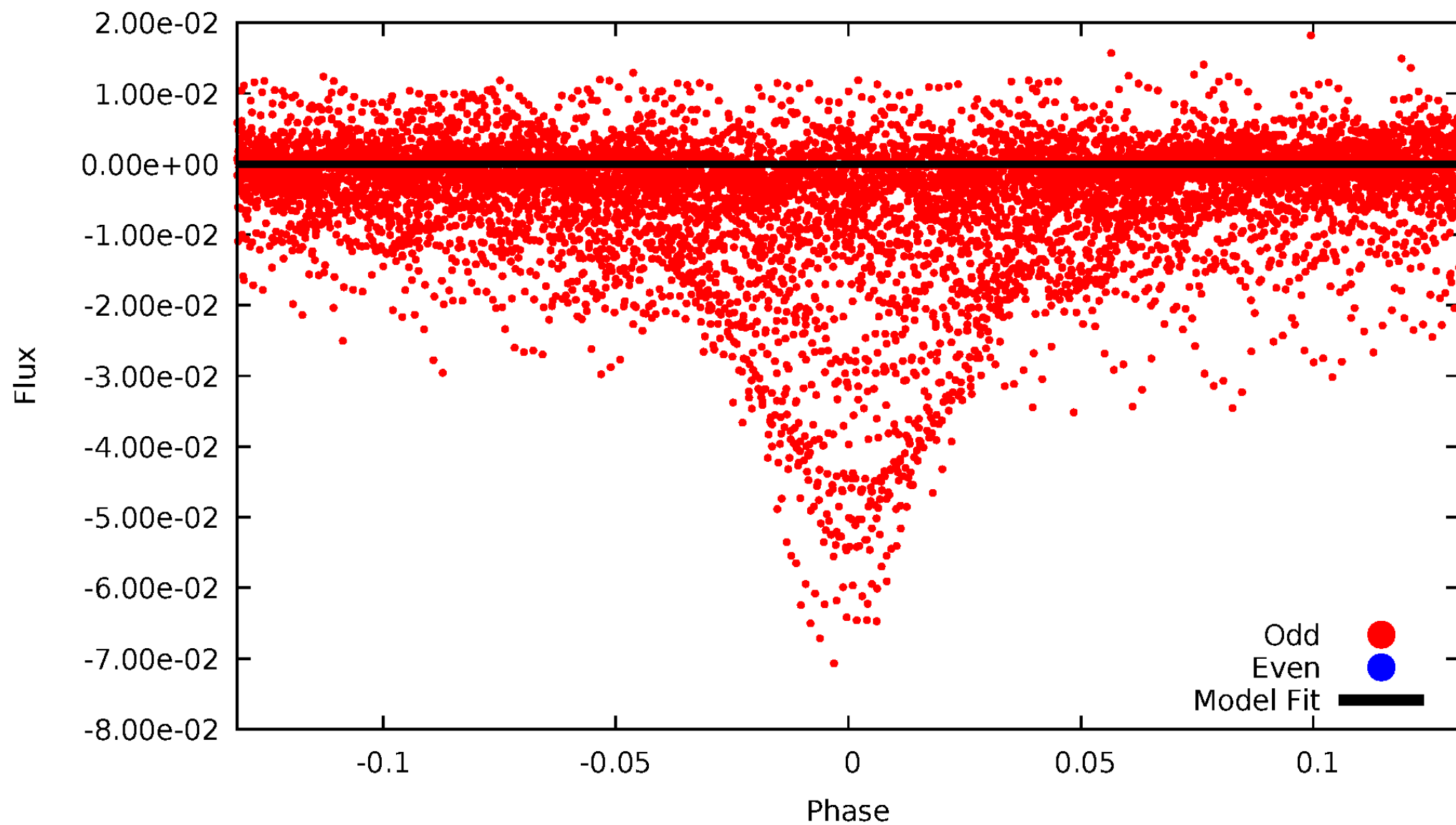


TCE 004358206-02



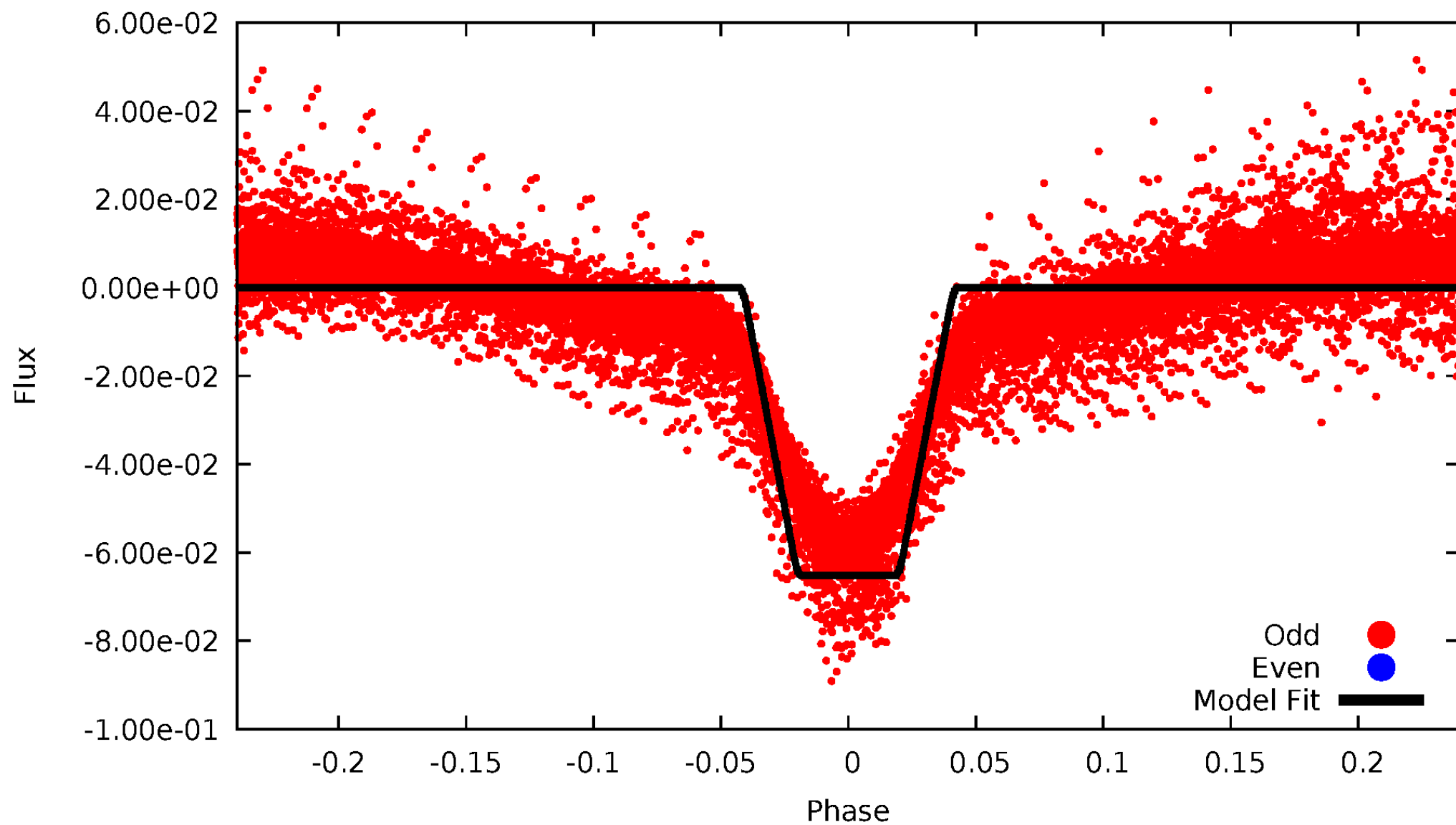
DV Odd/Even

TCE 004358206-02



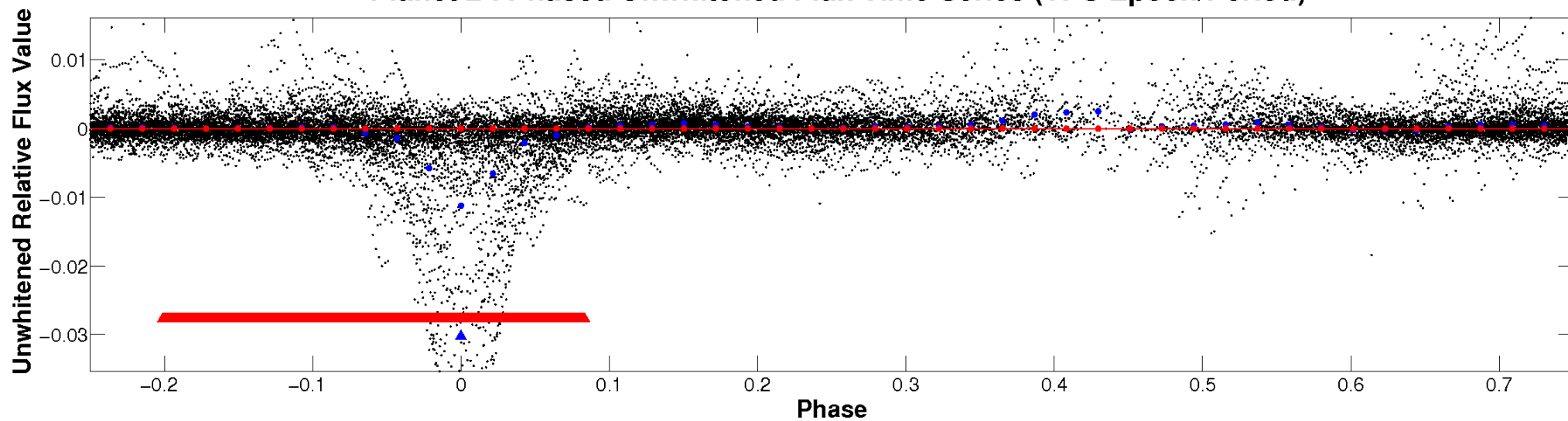
ALT Odd/Even

TCE 004358206-02

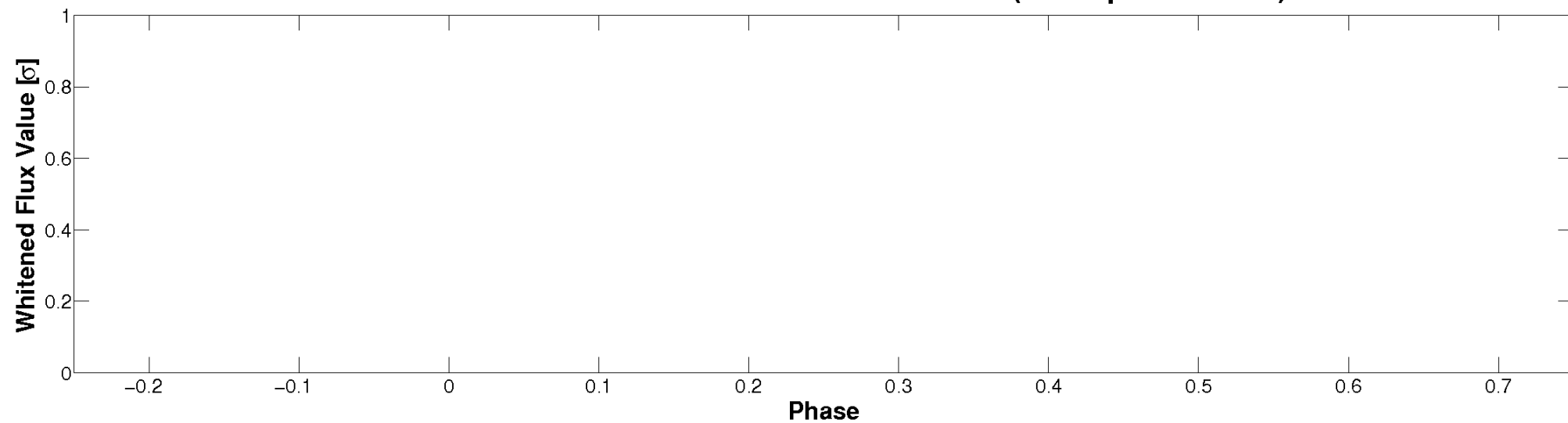


Non-Whitened Vs. Whitened Light Curve

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

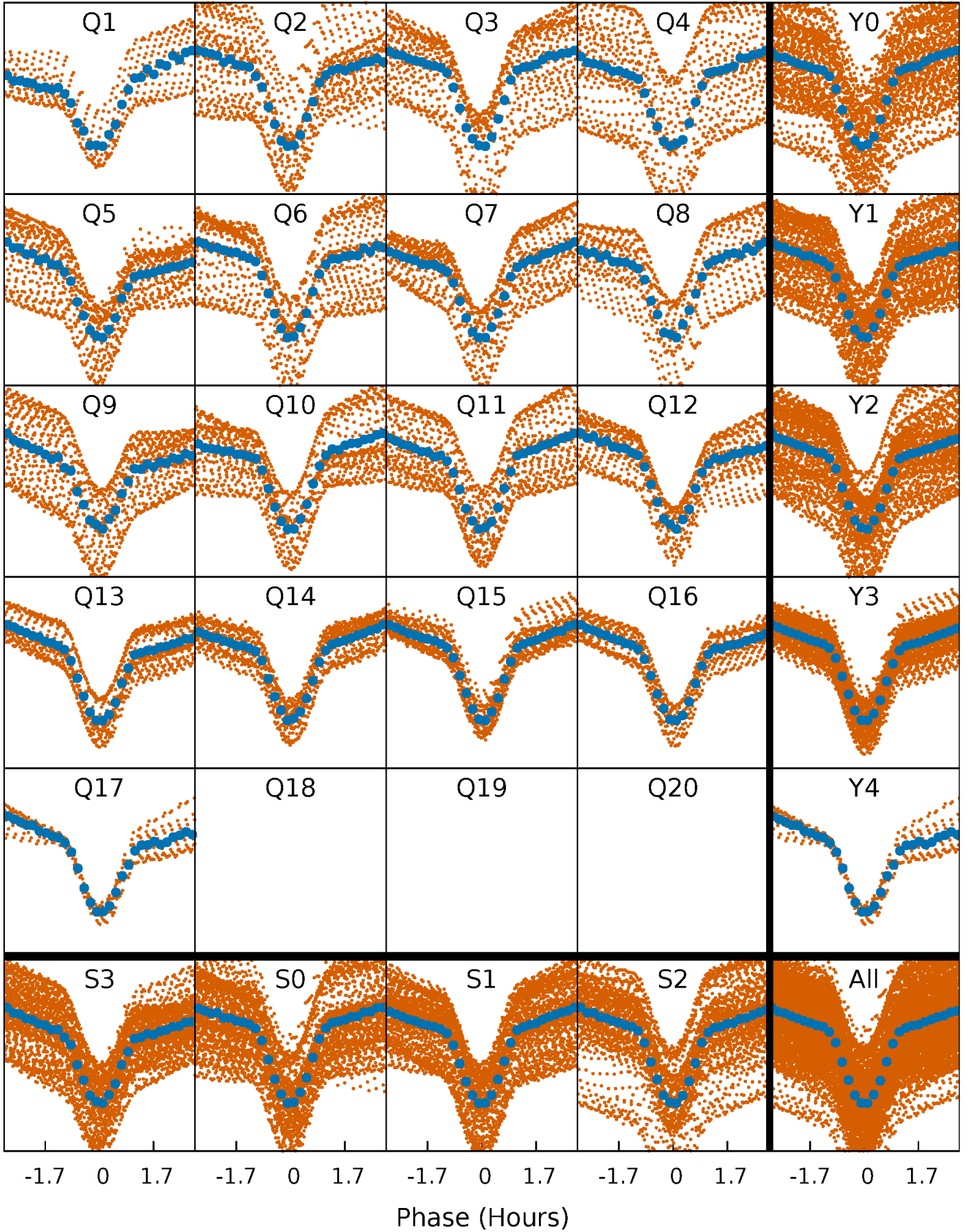


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



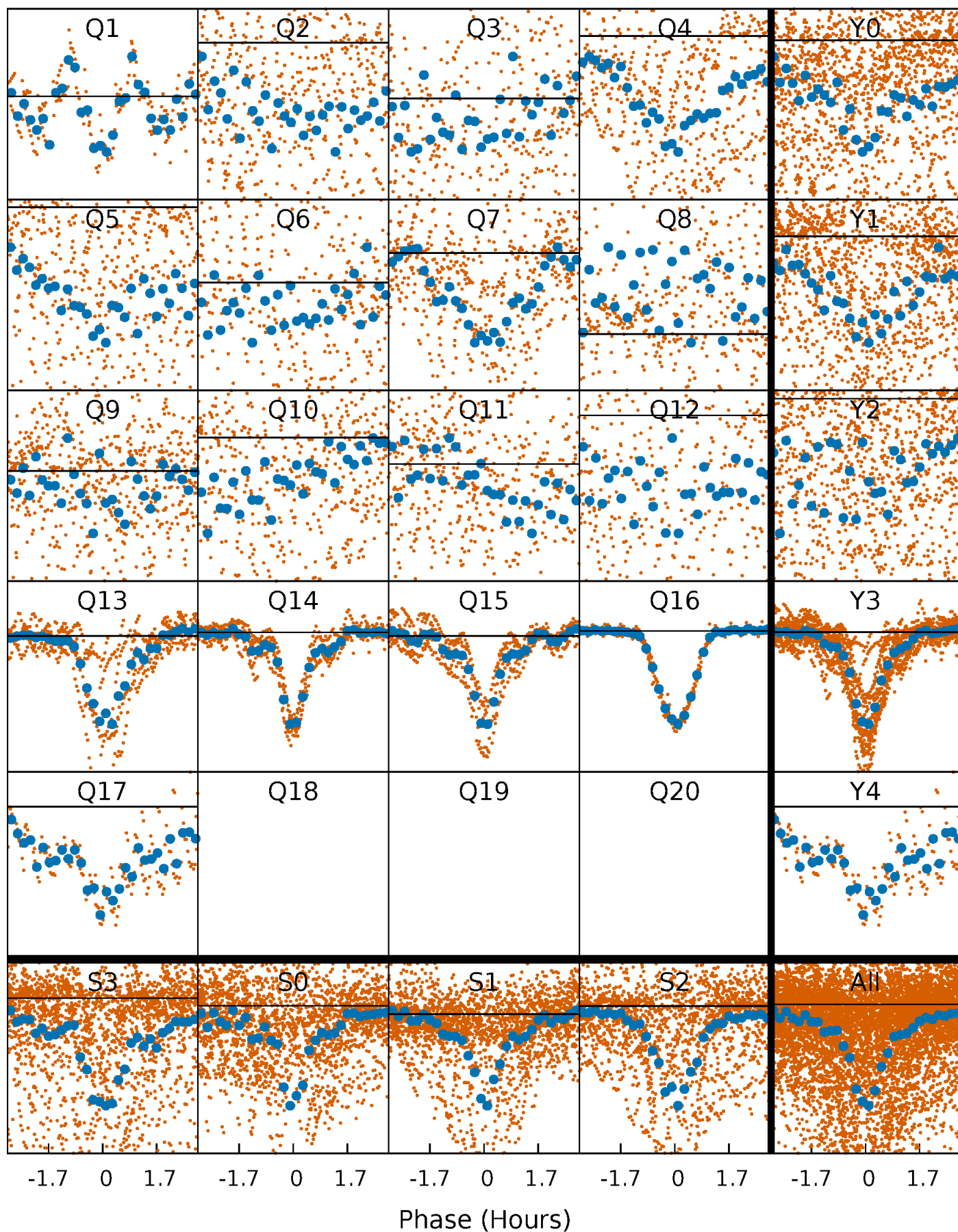
PDC Quarter-Phased Transit Curves

TCE 004358206-02 P= 0.951159 Days $T_0=131.923494$ (BKJD)



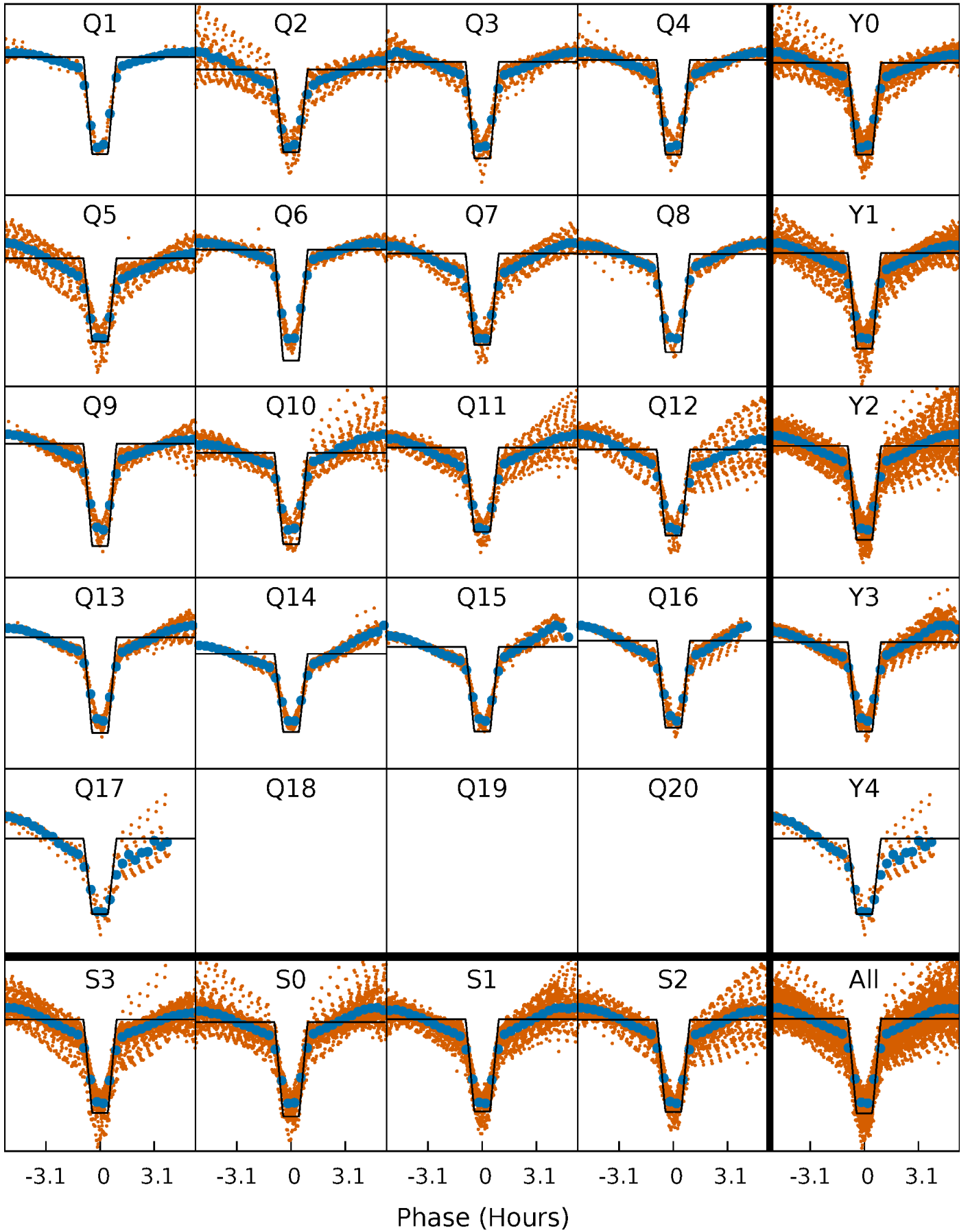
DV Quarter-Phased Transit Curves

TCE 004358206-02 $P = 0.951159$ Days $T_0 = 131.923494$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

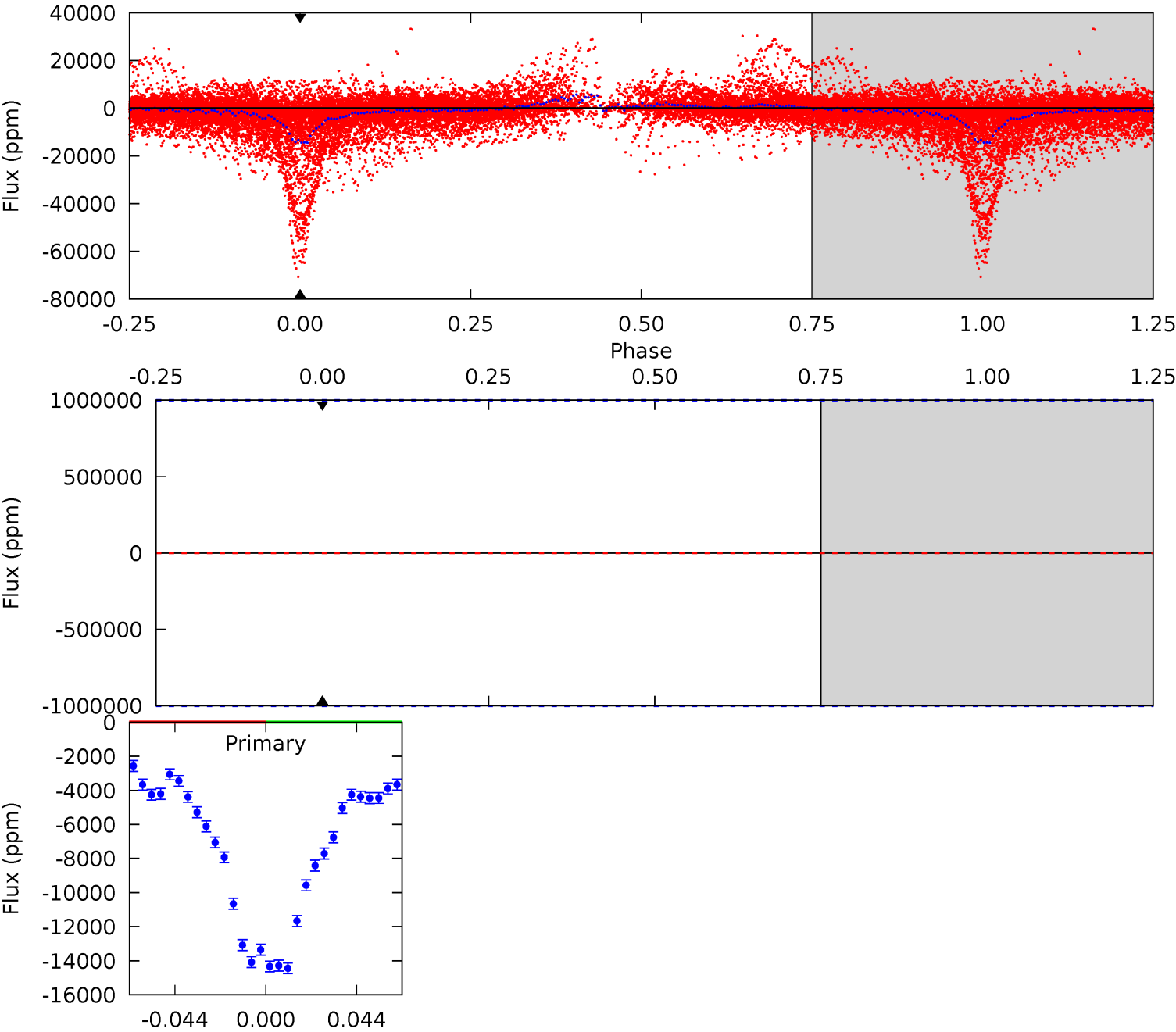
TCE 004358206-02 P= 0.951159 Days $T_0=131.923012$ (BKJD)



DV Model-Shift Uniqueness Test

004358206-02, P = 0.951159 Days, E = 131.923494 Days

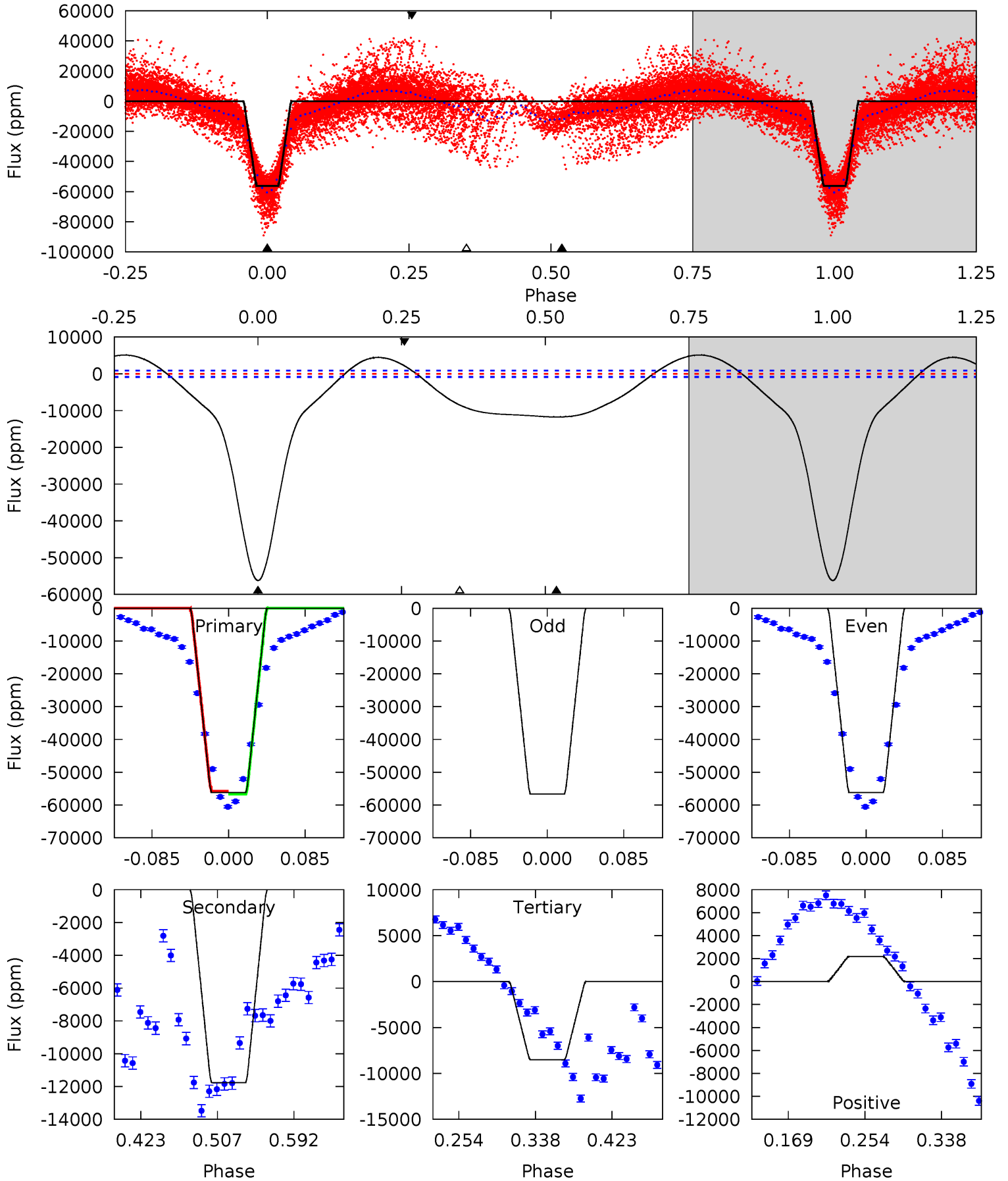
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004358206-02, P = 0.951159 Days, E = 131.923012 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
299.7	62.7	45.3	11.6	4.60	1.73	25.1	254.4	288.1	17.4	51.1	1.23	1.03	0.08	2.36



Stellar Parameters For KIC 004358206

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6093^{+195}_{-238}	$3.906^{+0.456}_{-0.114}$	$-0.080^{+0.300}_{-0.300}$	$2.039^{+0.491}_{-0.912}$	$1.221^{+0.190}_{-0.254}$	$0.203^{+0.818}_{-0.086}$
	+3%/-4%	+12%/-3%	+375%/-375%	+24%/-45%	+16%/-21%	+403%/-43%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004358206-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$21.28^{+18.86}_{-13.97}$	3644^{+312}_{-426}	-4331^{+18965}_{-10569}	$-0.649^{+76.518}_{-73.261}$
Alt.	-11763 ± 188	$52.12^{+23.63}_{-23.18}$	3655^{+302}_{-434}	3927^{+983}_{-725}	$1.006^{+1.919}_{-0.545}$

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 $A_{obs} \gg 1.0$

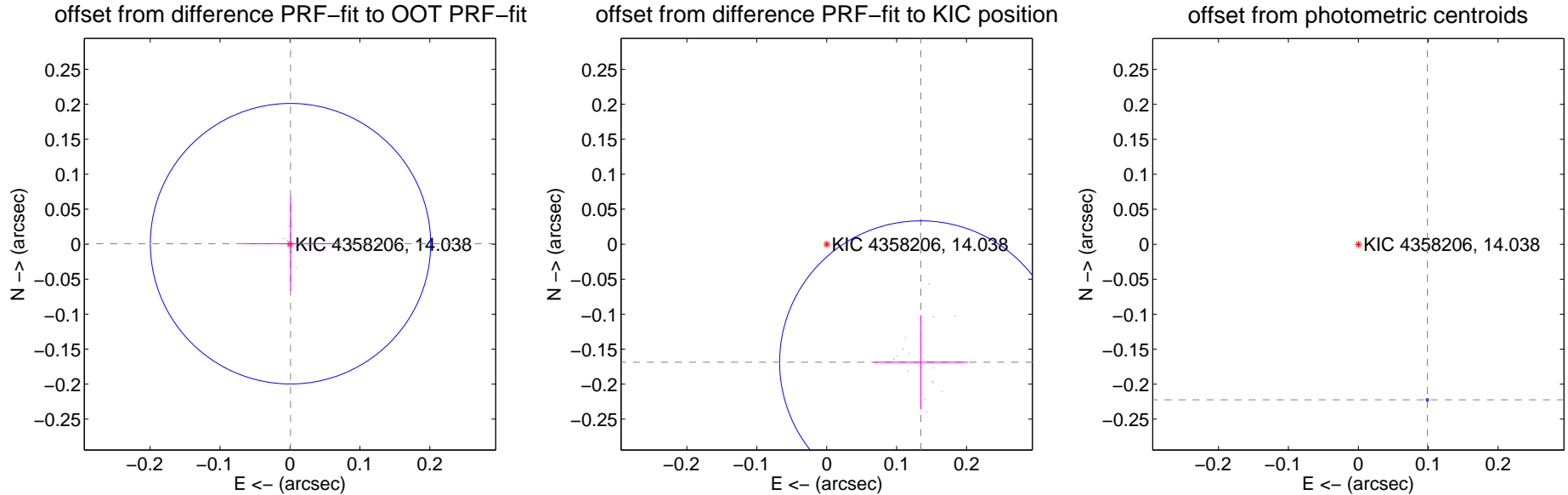
DV Centroid Data

Supplemental centroid analysis for 004358206-02. Kepler magnitude: 14.04. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

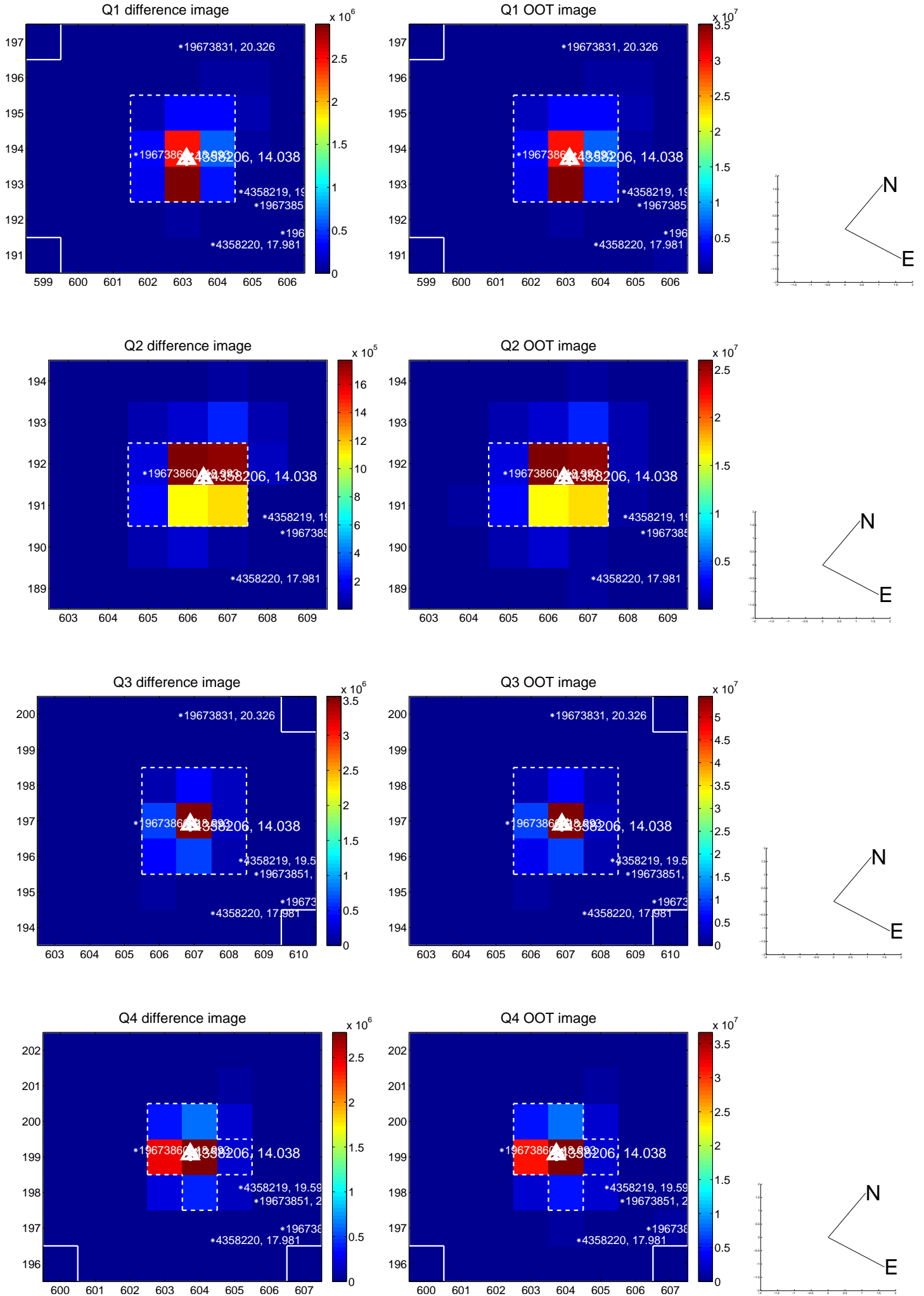
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.001 ± 0.067	0.01	-0.001 ± 0.067	0.001 ± 0.067
PRF-fit source offset from KIC position	0.216 ± 0.067	3.21	-0.135 ± 0.067	-0.169 ± 0.068
photometric centroid source offset	0.24 ± 0.00	408.96	-0.10 ± 0.00	-0.22 ± 0.00

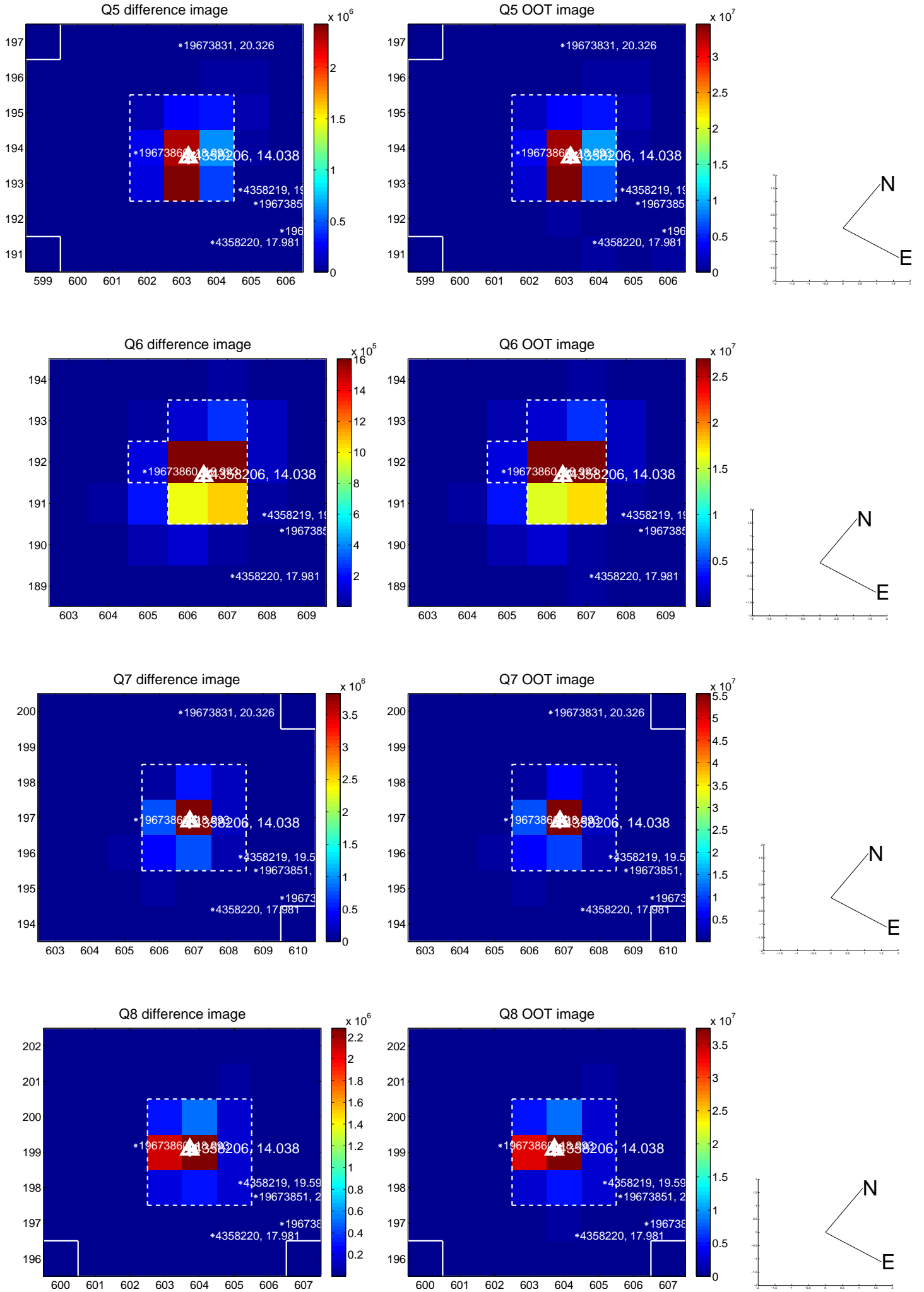


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

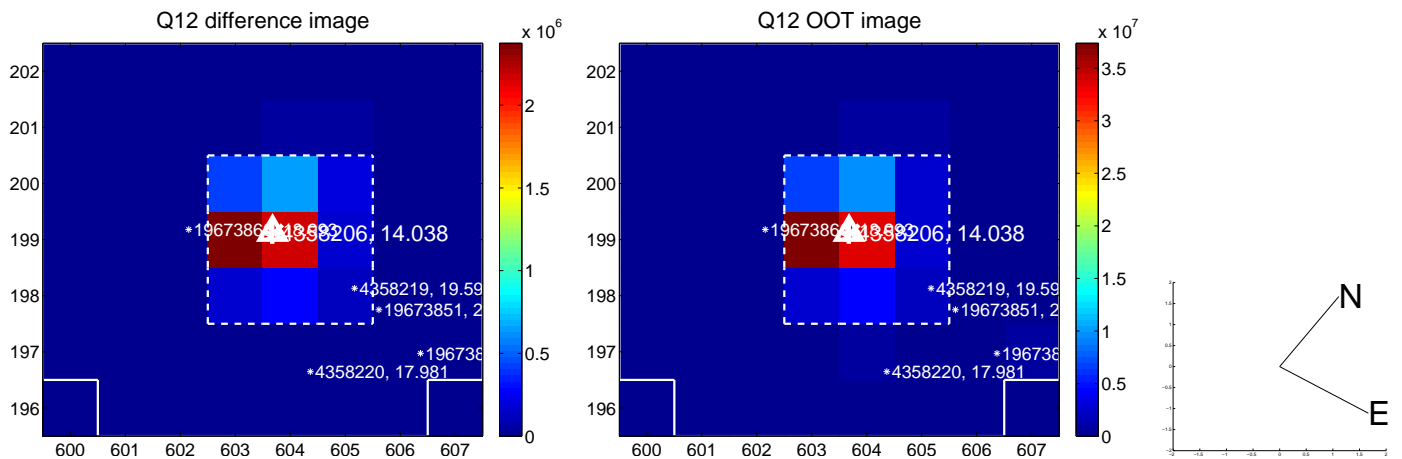
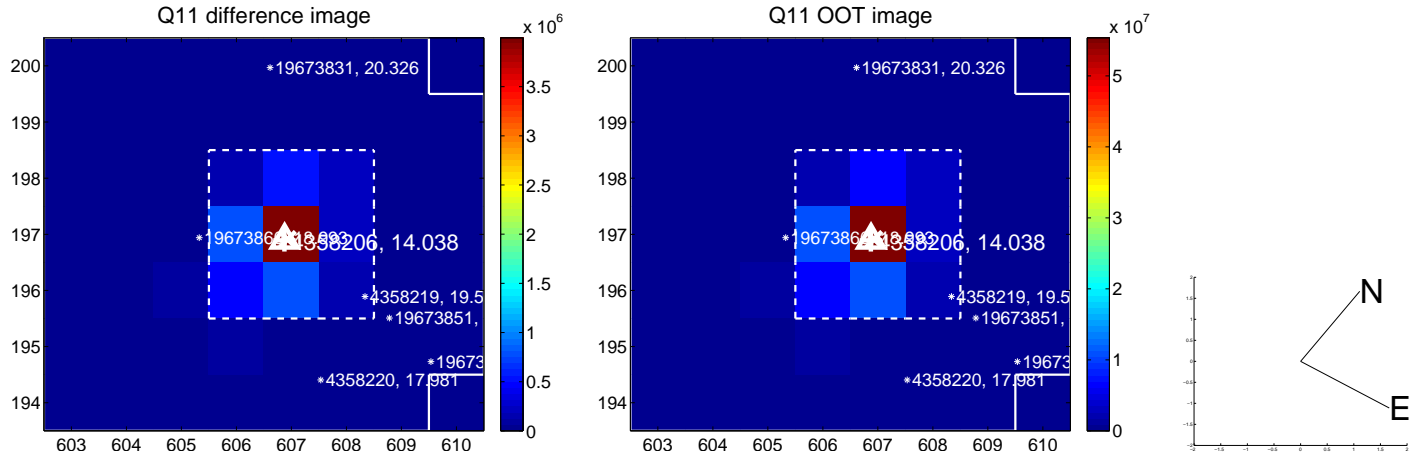
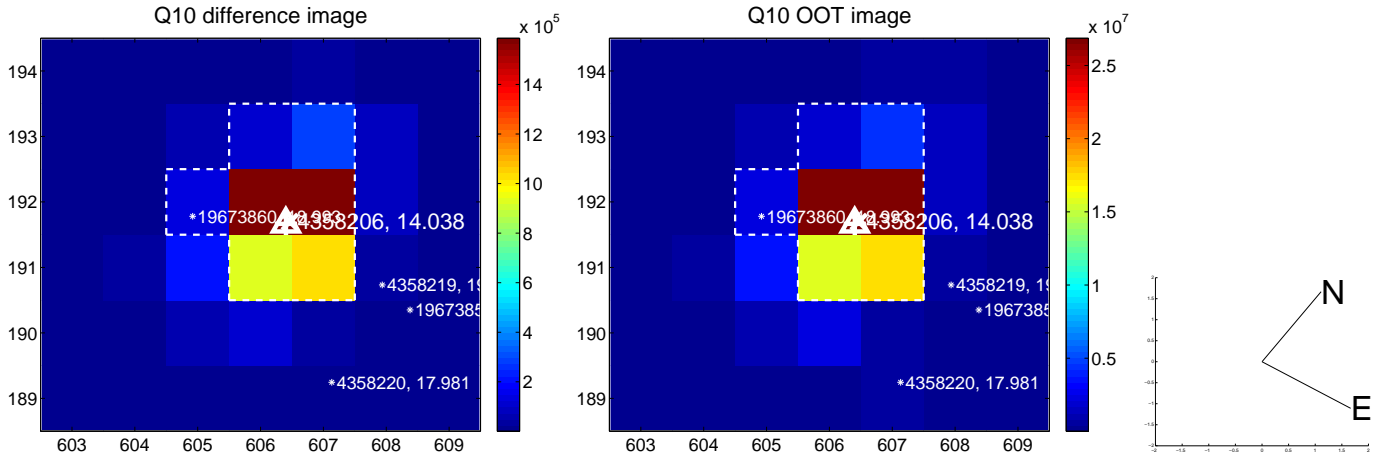
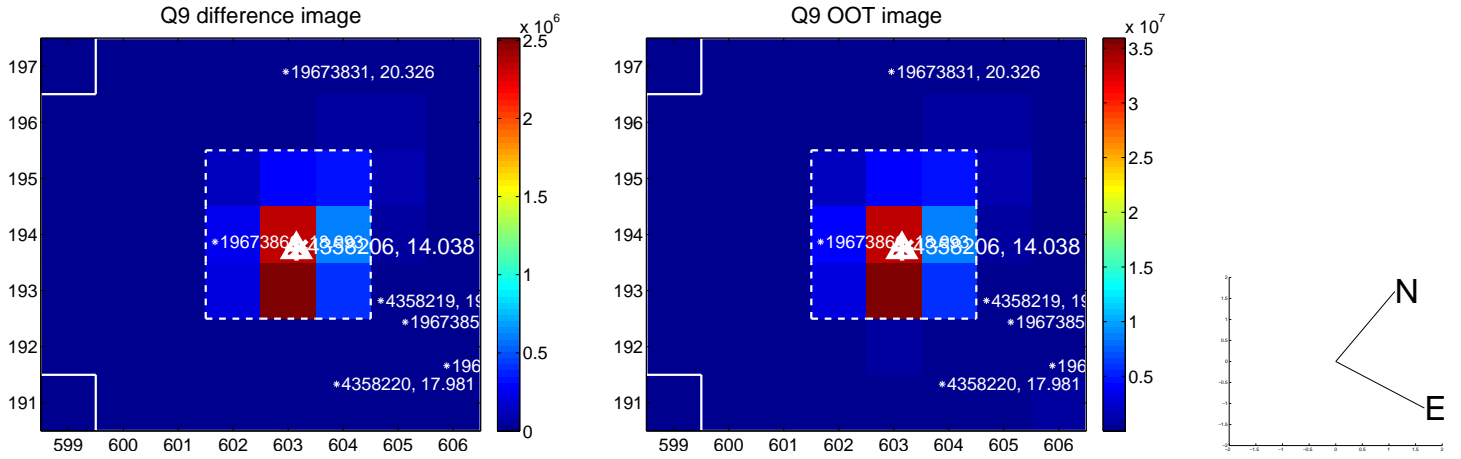
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



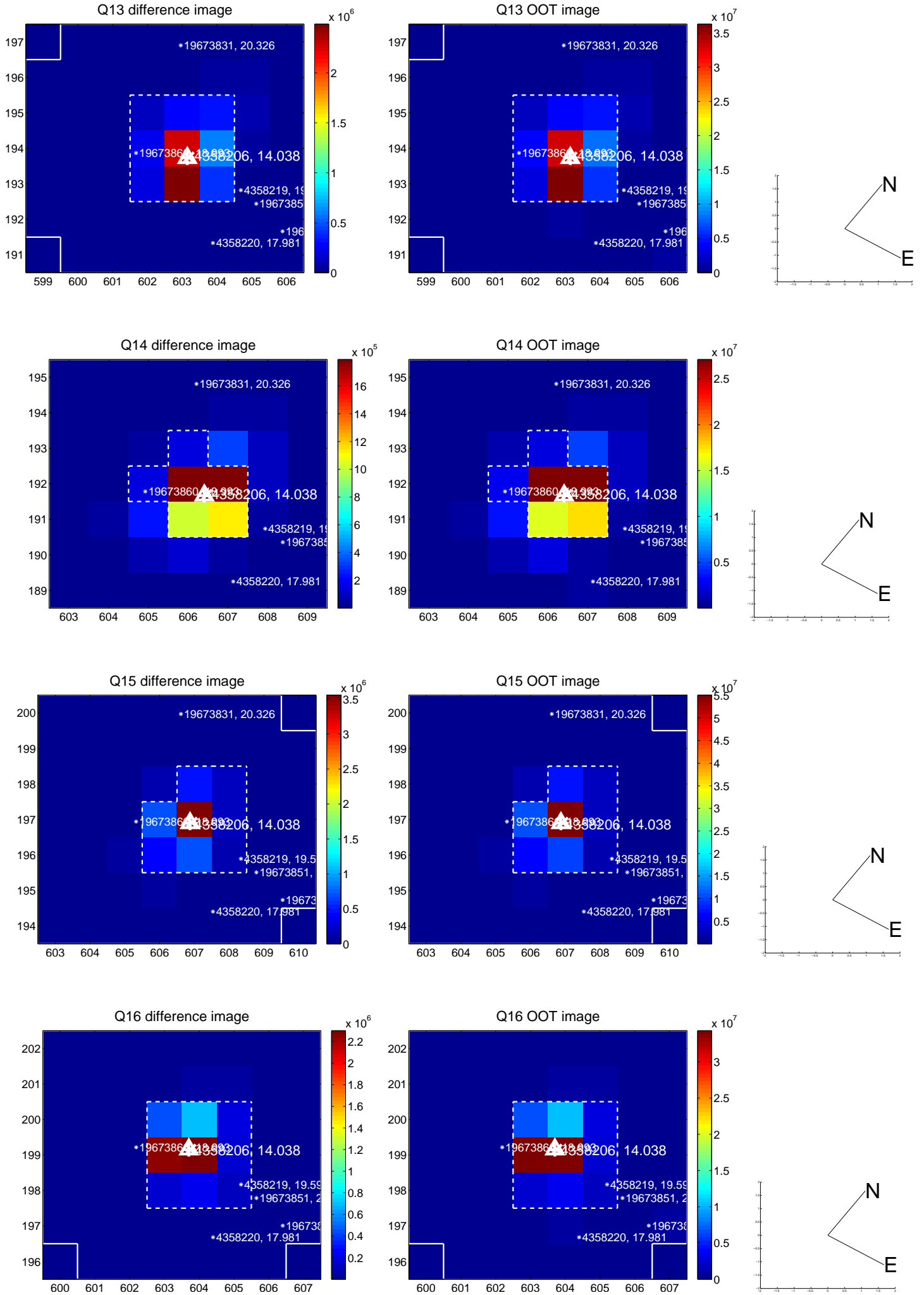
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



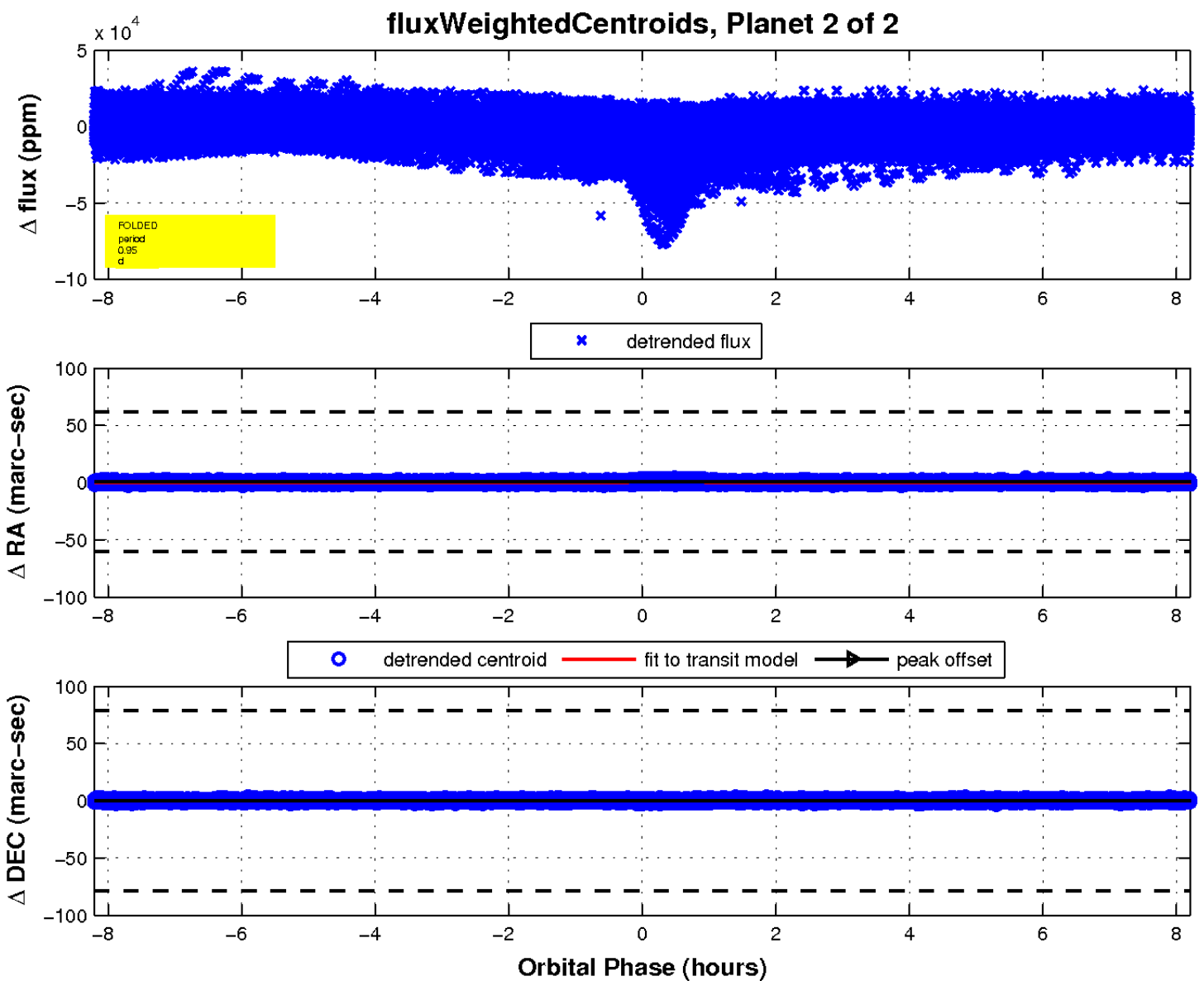
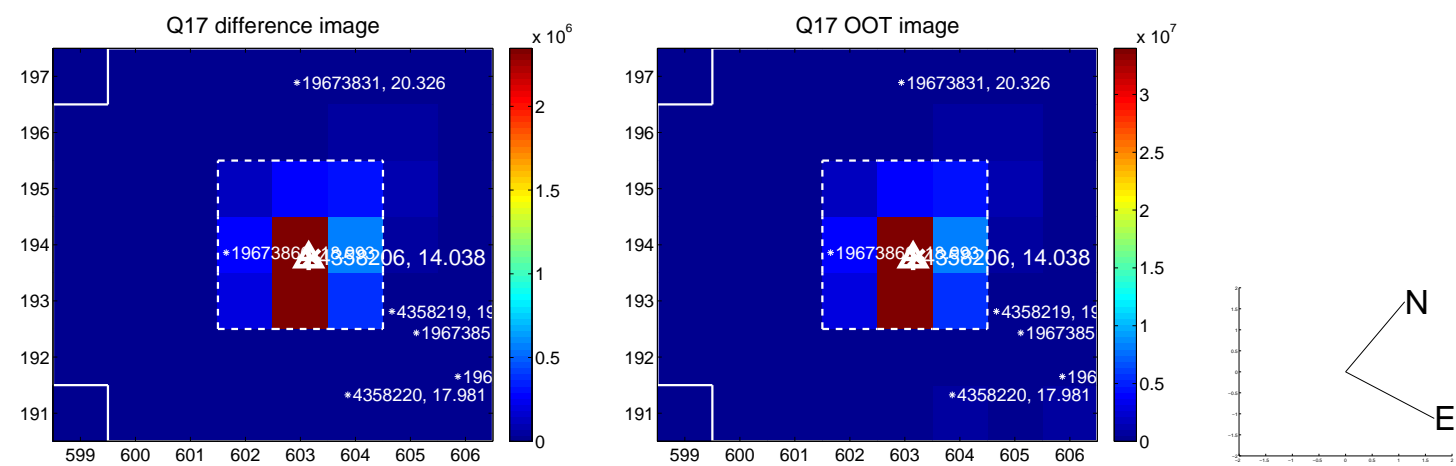
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

