

KIC 005467102

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})
005467102-01	OBS	3840.01	2.845763	134.272006	22456.3	10.866	1104.8	767.3	0.96	5982	25.18	664.04
005467102-02	OBS	No	2.845706	132.866420	6740.5	4.500	87.8	-1.0	0.96	5982	7.85	664.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005467102-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—EPHEM_MATCH
005467102-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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 005467102-01

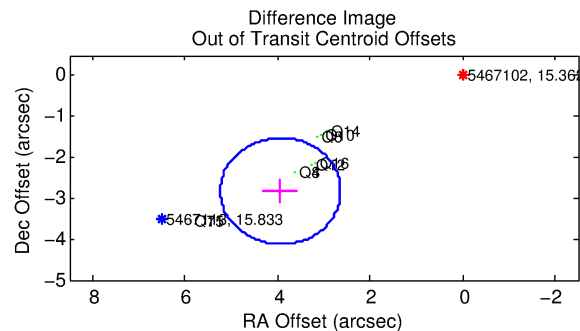
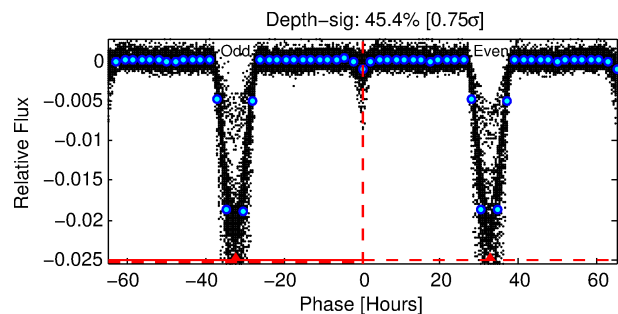
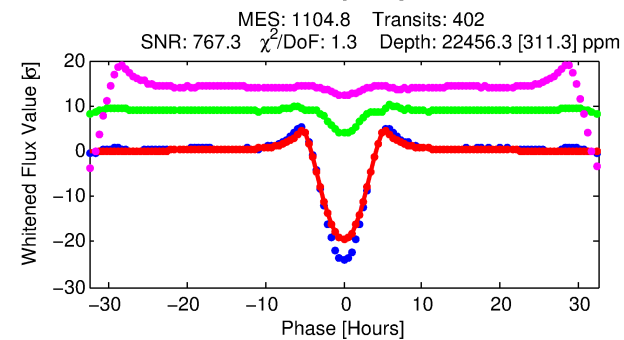
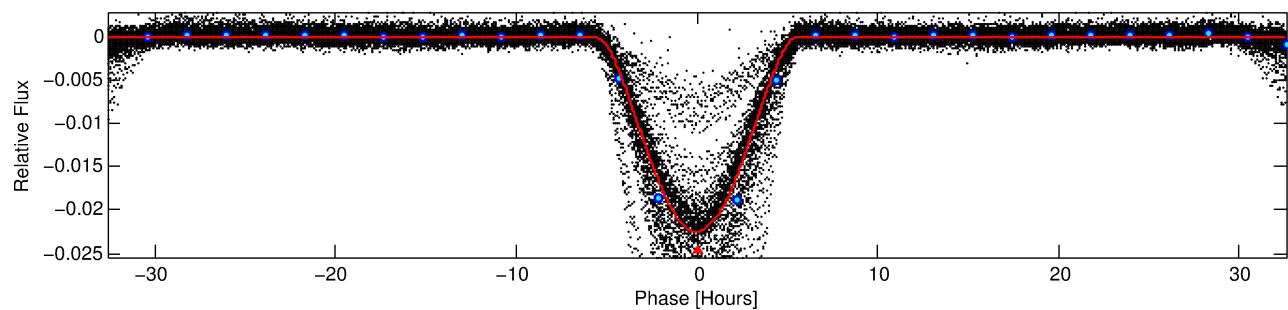
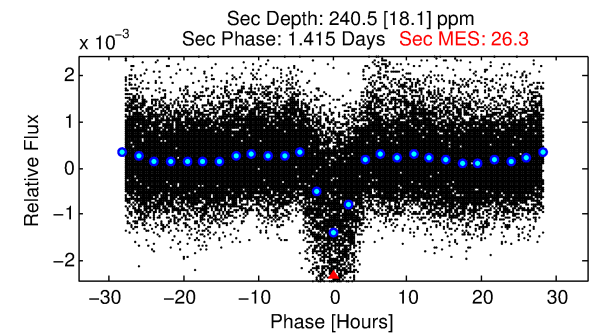
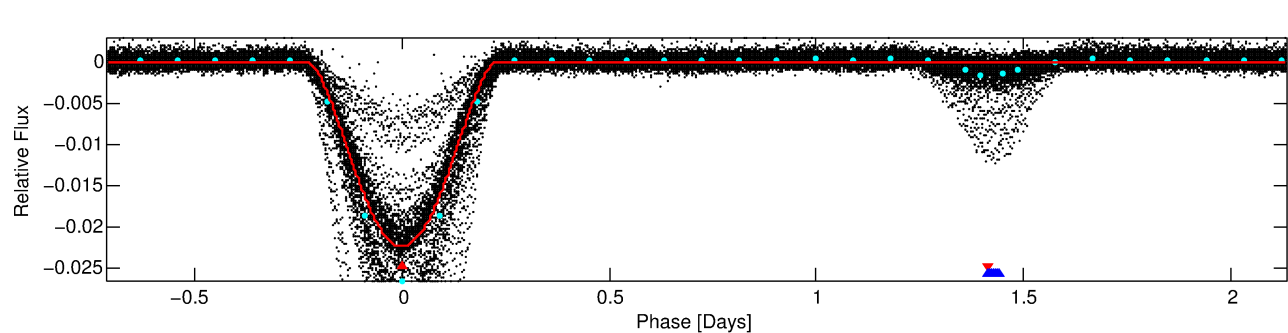
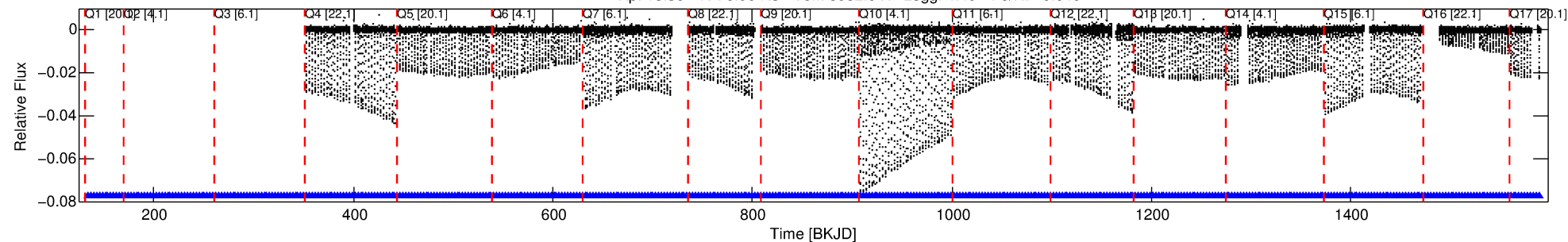
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005467102-01	5467102	3825.01	5467113	1:1	7.5	-1	-1	15.83	15.36	27.41	Direct-PRF	0	0.32	0.21

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5467102 Candidate: 1 of 2 Period: 2.846 d
KOI: K03840.01 Corr: 0.994

Kp: 15.36 R*: 0.96 Rs Teff: 5982.0 K Logg: 4.49 Fe/H: -0.040



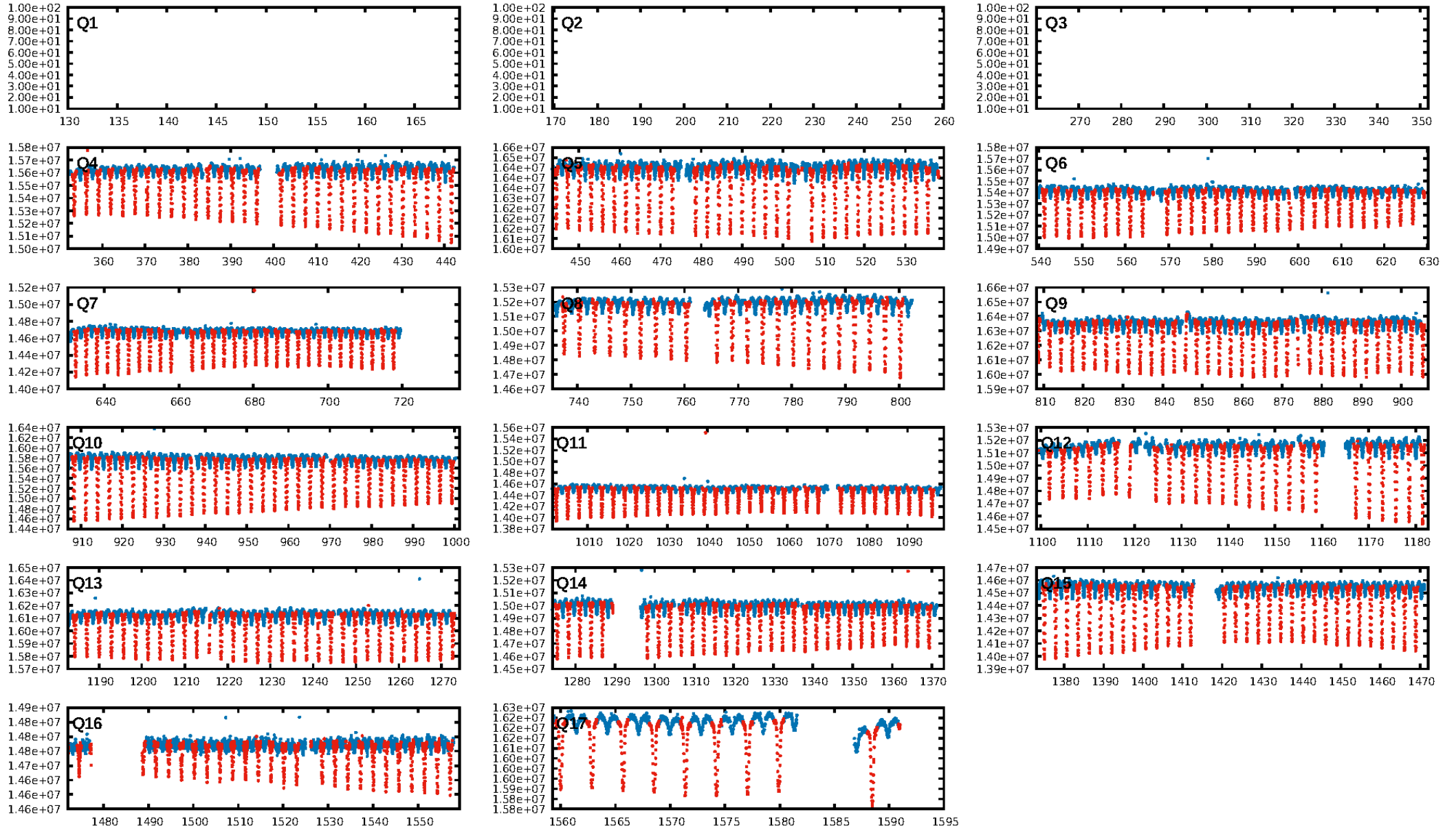
DV Fit Results:

Period = 2.84576 [0.00000] d
Epoch = 134.2720 [0.0002] BKJD
Rp/R* = 0.2403 [0.0098]
a/R* = 1.83 [0.00]
b = 1.00 [0.01]
Seff = 664.04 [276.25]
Teq = 1294 [135] K
Rp = 25.18 [7.93] Re
a = 0.0399 [0.0106] AU
Ag = 0.33 [0.14] [-4.94σ]
Teffp = 1520 [68] K [1.49σ]

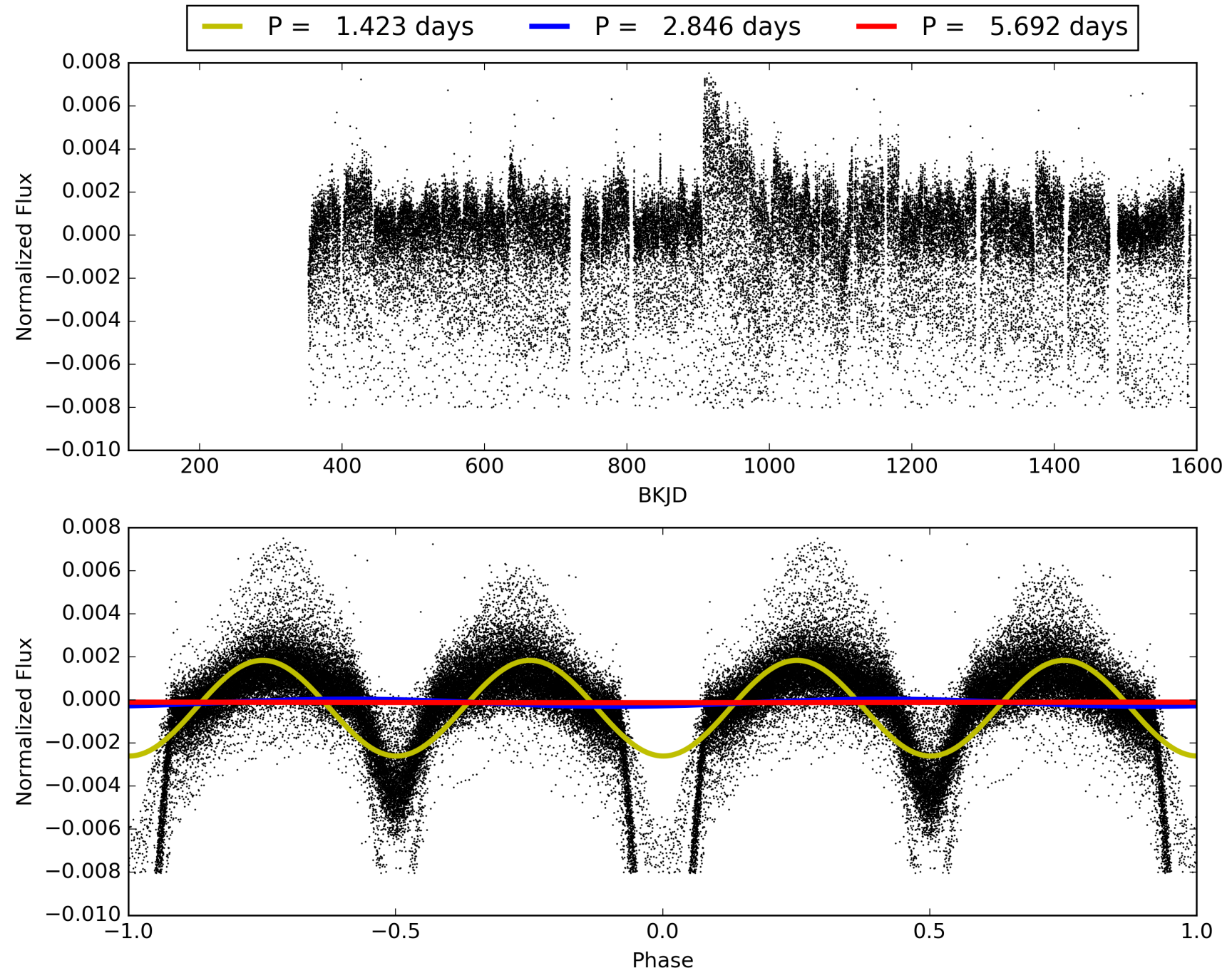
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [393/393]
GhostDiagnostic-chr: -0.7834
Centroid-sig: N/A
Centroid-so: 19.358 arcsec [663.91σ]
OotOffset-rm: 4.846 arcsec [11.18σ]
KicOffset-rm: 7.452 arcsec [22.75σ]
OotOffset-st: 3/3/4/0 [10]
KicOffset-st: 3/3/4/0 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005467102-01, PDC Light Curves

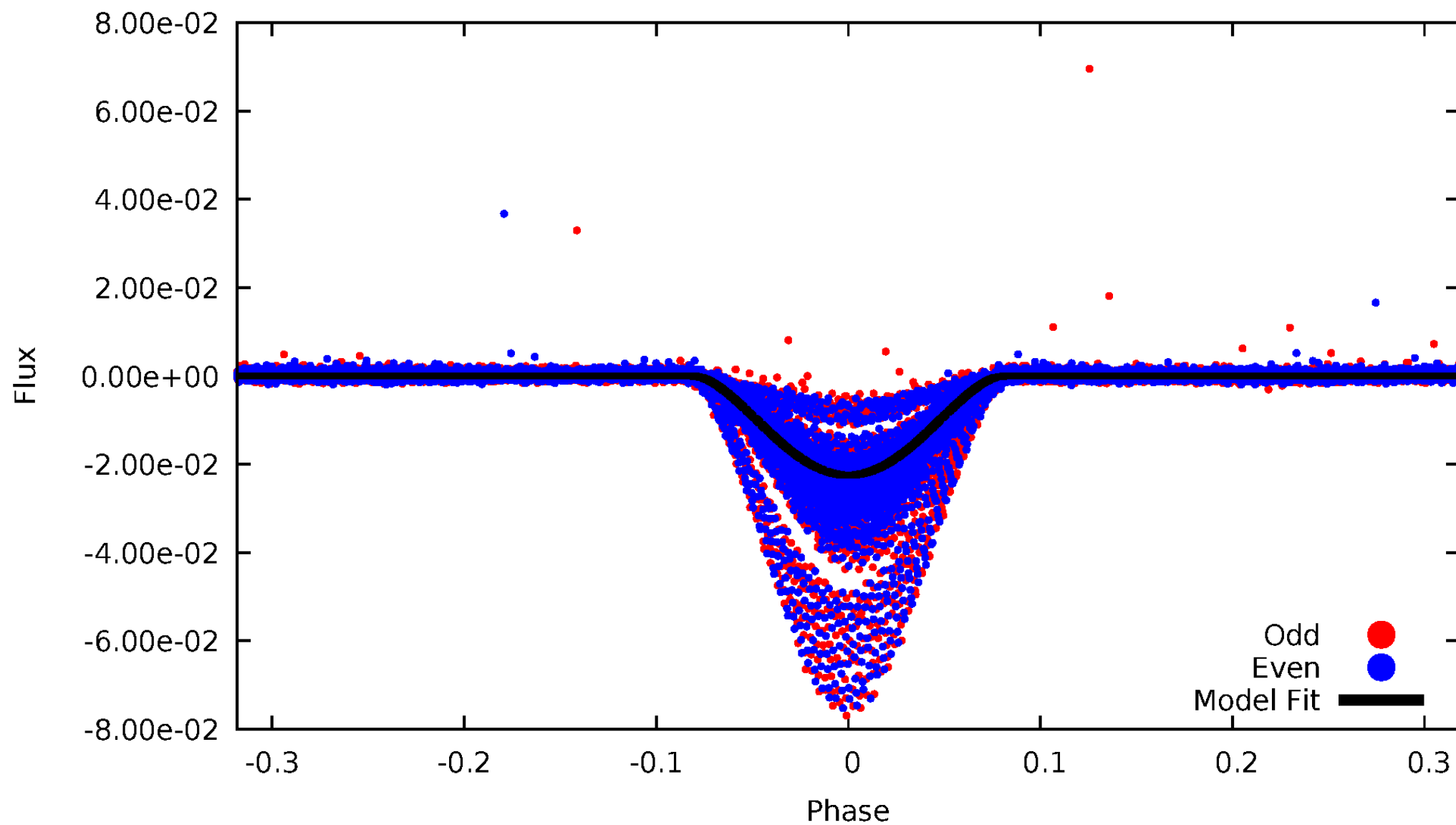


TCE 005467102-01



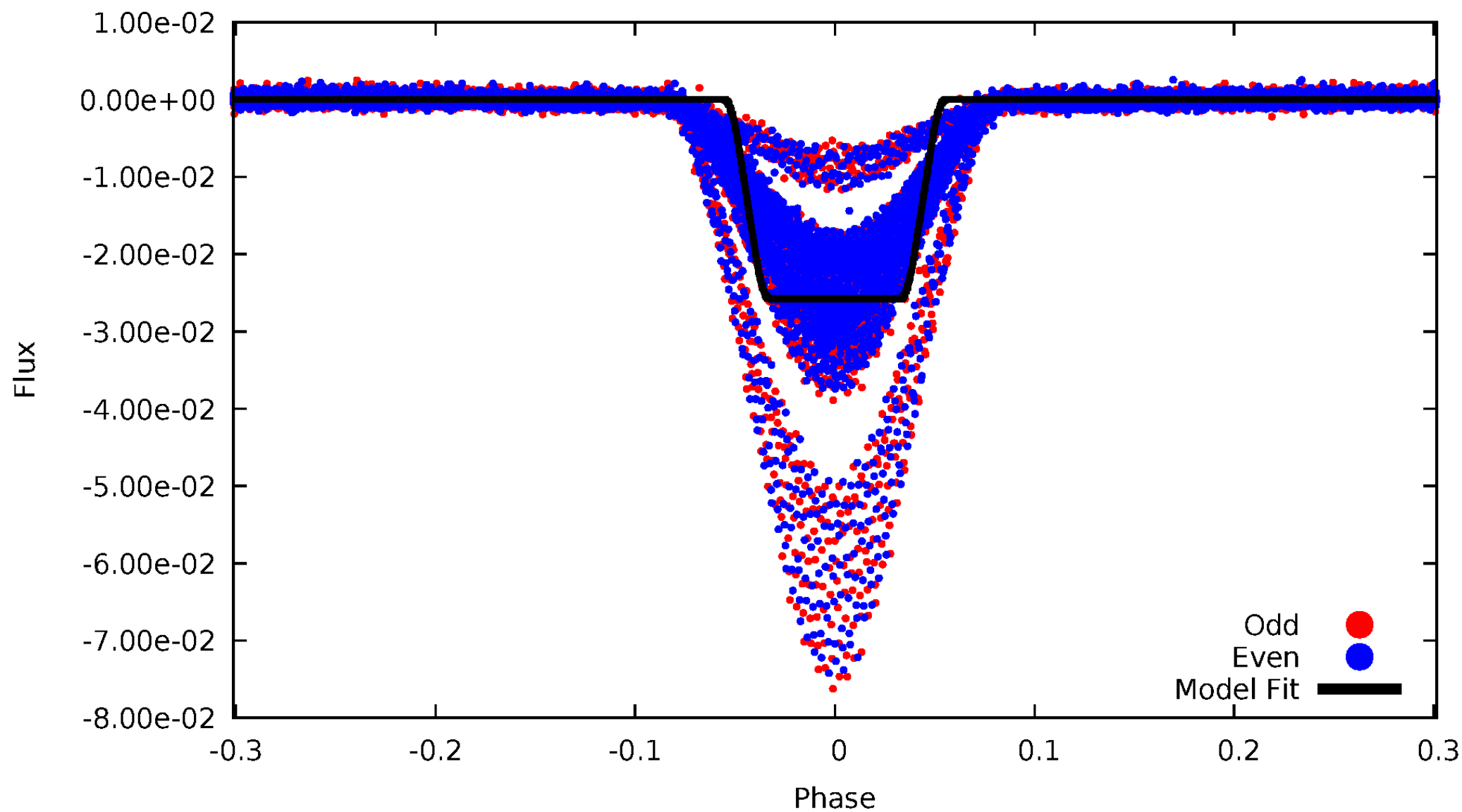
DV Odd/Even

TCE 005467102-01



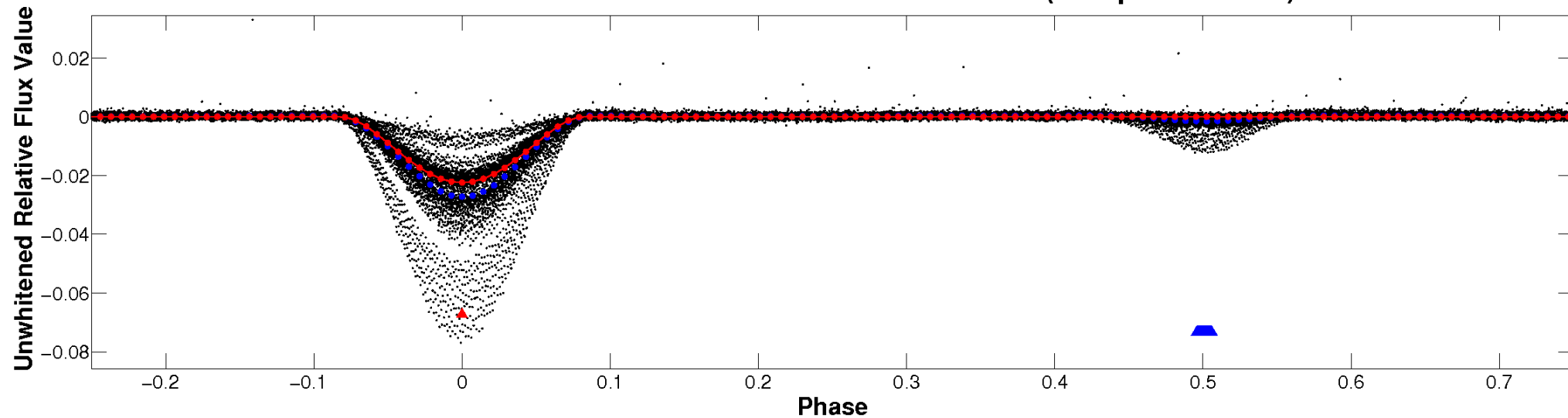
ALT Odd/Even

TCE 005467102-01

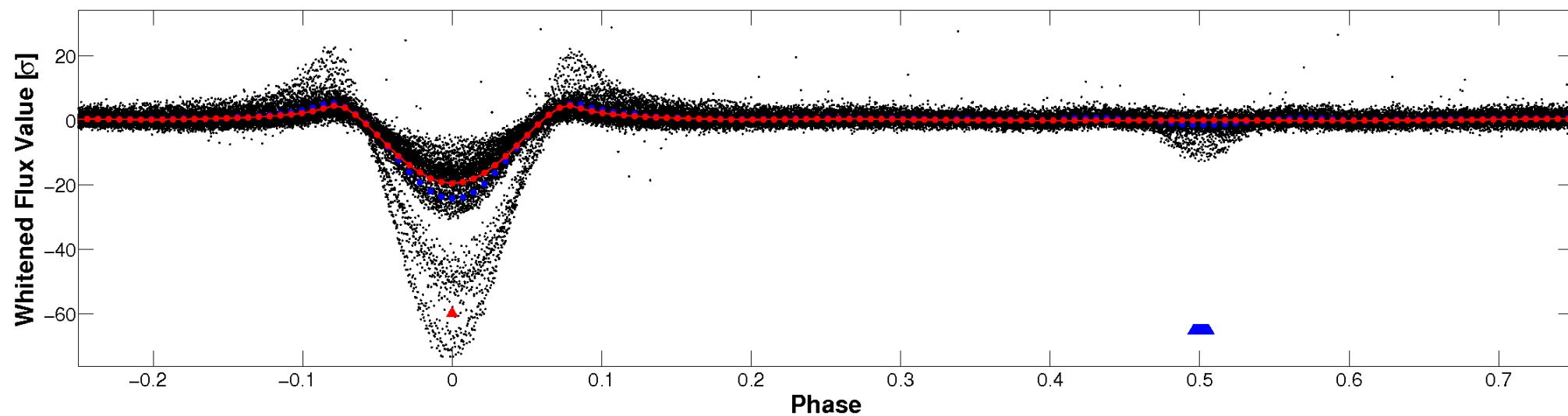


Non-Whitened Vs. Whitened Light Curve

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

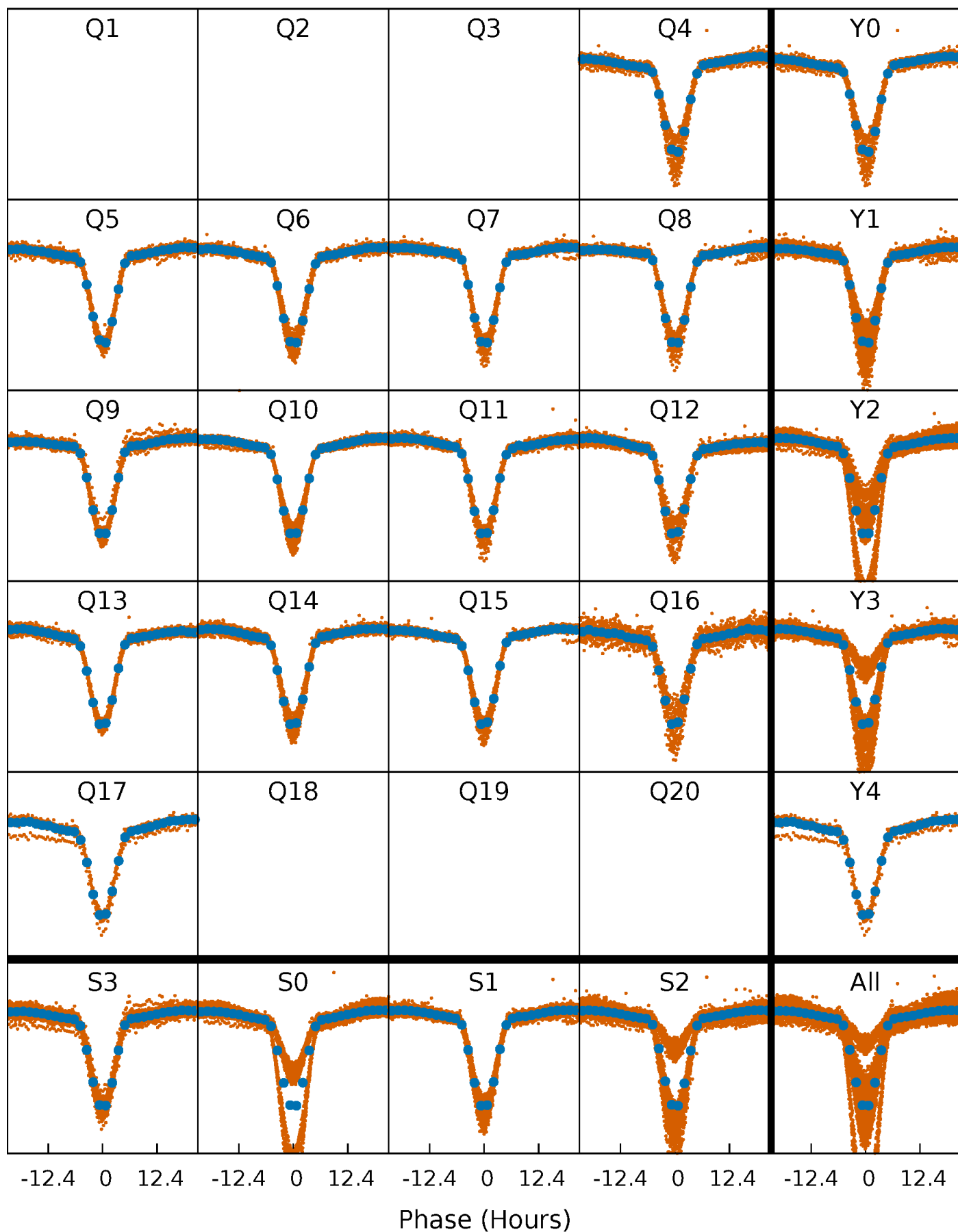


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



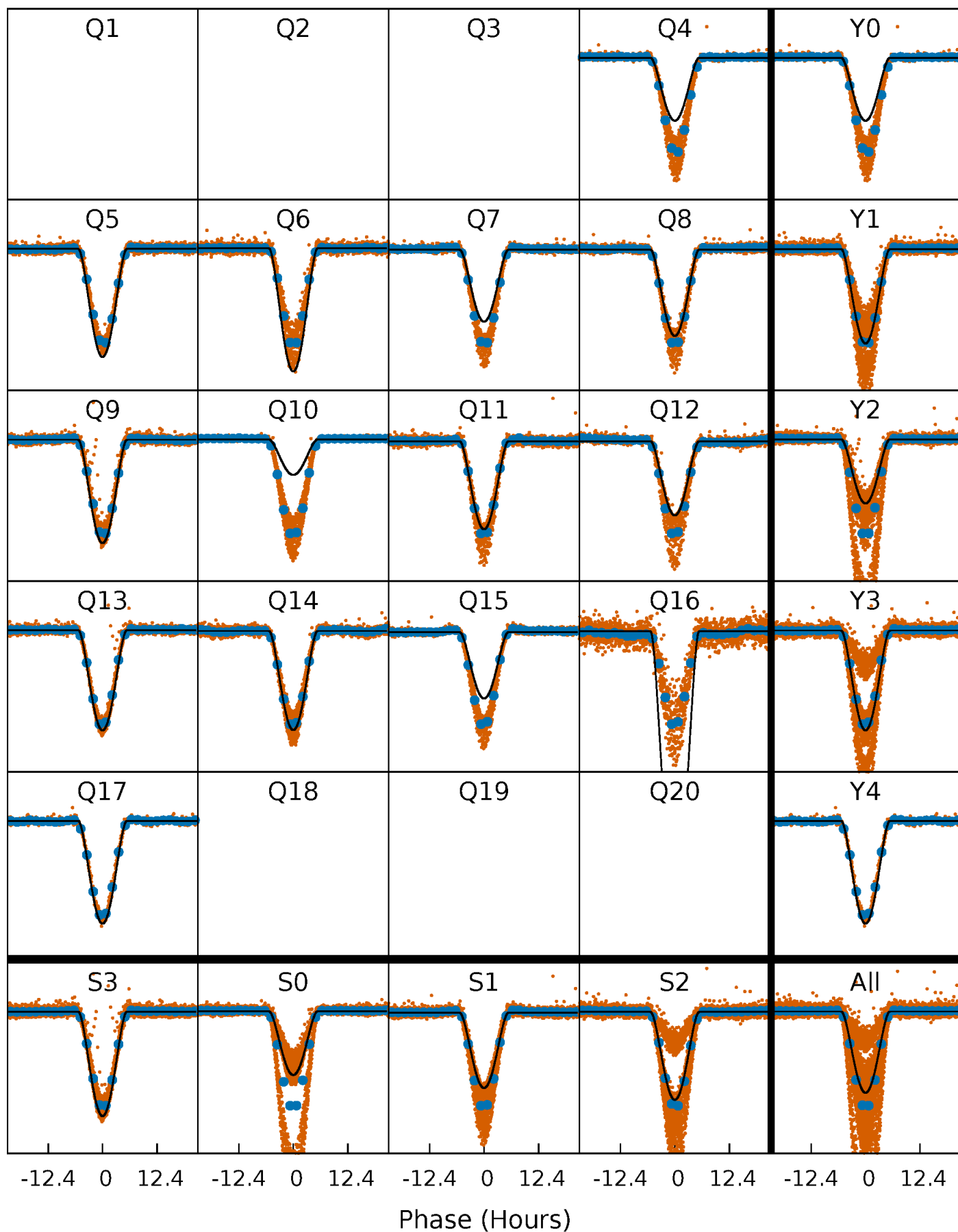
PDC Quarter-Phased Transit Curves

TCE 005467102-01 P= 2.845763 Days $T_0=134.272006$ (BKJD)



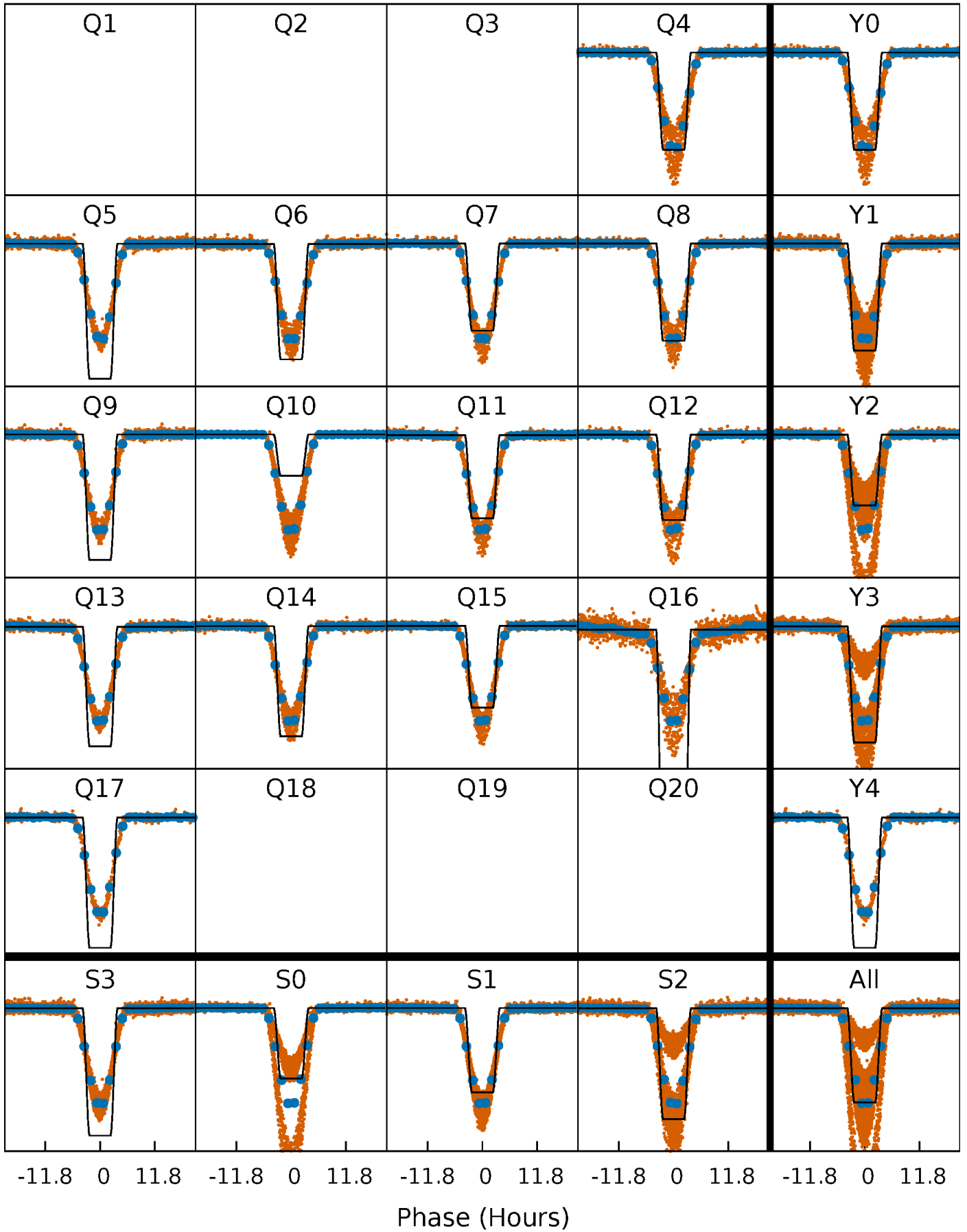
DV Quarter-Phased Transit Curves

TCE 005467102-01 P= 2.845763 Days $T_0=134.272006$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

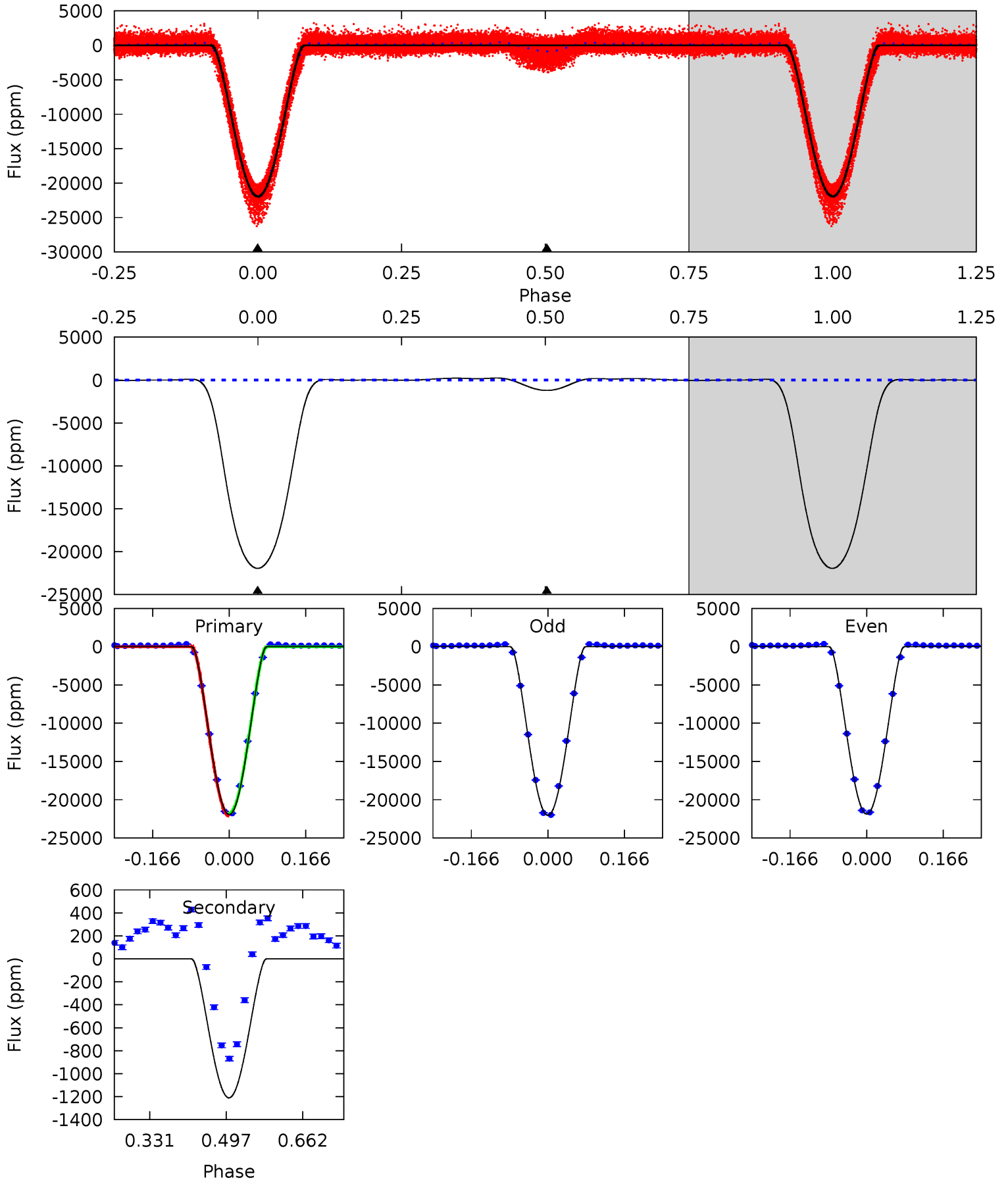
TCE 005467102-01 P= 2.845753 Days $T_0=134.275458$ (BKJD)



DV Model-Shift Uniqueness Test

005467102-01, P = 2.845763 Days, E = 134.272006 Days

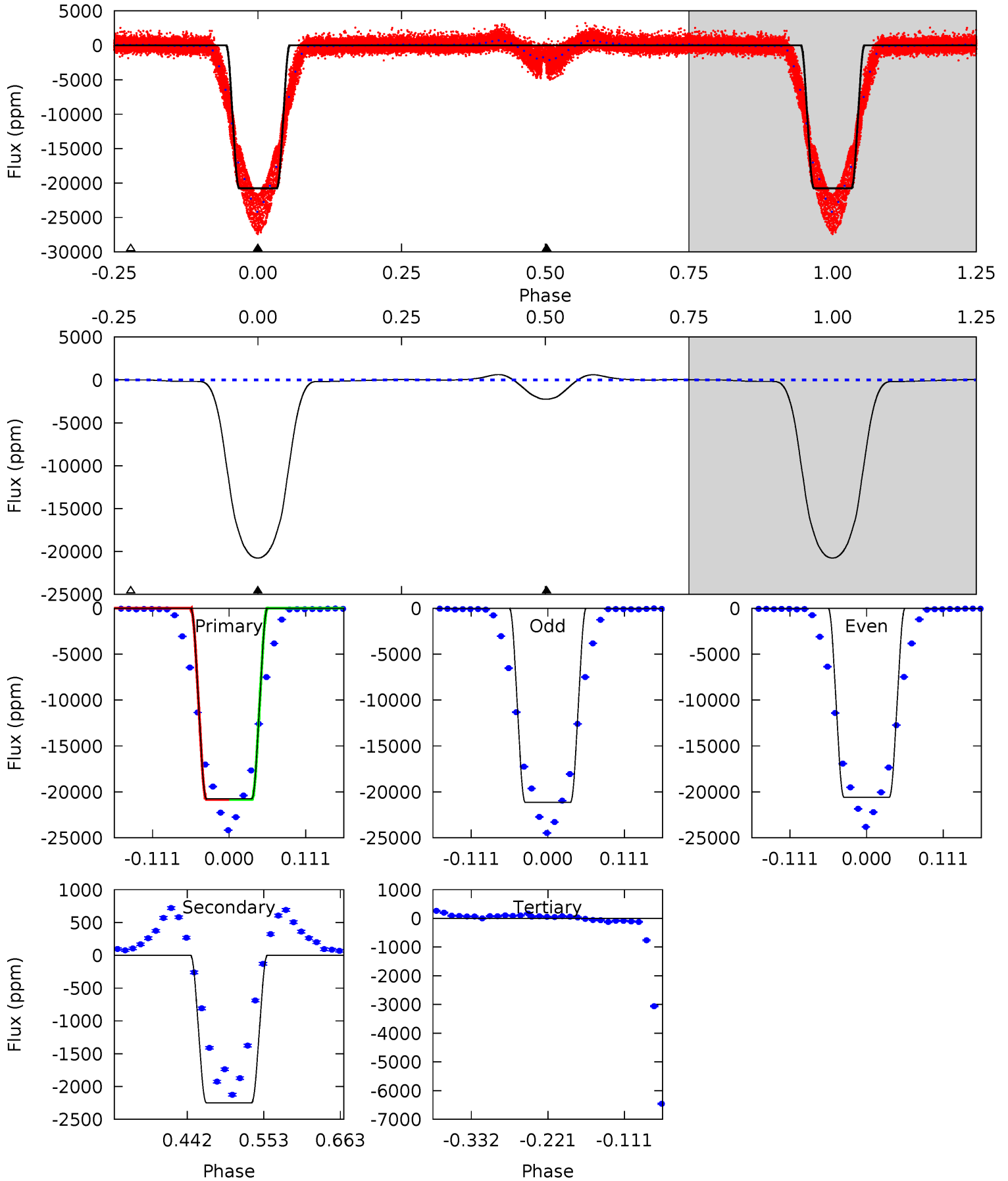
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2708	149.3	0	0	4.46	1.39	8.26	2708	2708	149.3	149.3	10.7	1.19	0.01	20.2



Alt Model-Shift Uniqueness Test

005467102-01, P = 2.845753 Days, E = 134.275458 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2129	230.5	0.16	0	4.54	1.60	9.36	2129	2129	230.4	230.5	27.6	1.11	0.03	0.16



Stellar Parameters For KIC 005467102

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5982^{+189}_{-210}	$4.493^{+0.054}_{-0.216}$	$-0.040^{+0.250}_{-0.300}$	$0.960^{+0.300}_{-0.100}$	$1.047^{+0.139}_{-0.139}$	$1.667^{+0.381}_{-0.903}$
	+3%/-4%	+1%/-5%	+625%/-750%	+31%/-10%	+13%/-13%	+23%/-54%
Source	KIC0	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 005467102-01 / KOI 3840.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1210 ± 8	$25.78^{+4.70}_{-2.19}$	1848^{+131}_{-94}	2866^{+65}_{-73}	$1.553^{+0.269}_{-0.389}$
Alt.	-2248 ± 10	$17.31^{+3.11}_{-1.85}$	1855^{+133}_{-100}	3653^{+116}_{-114}	$6.408^{+1.490}_{-1.603}$

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 $A_{obs} \gg 1.0$

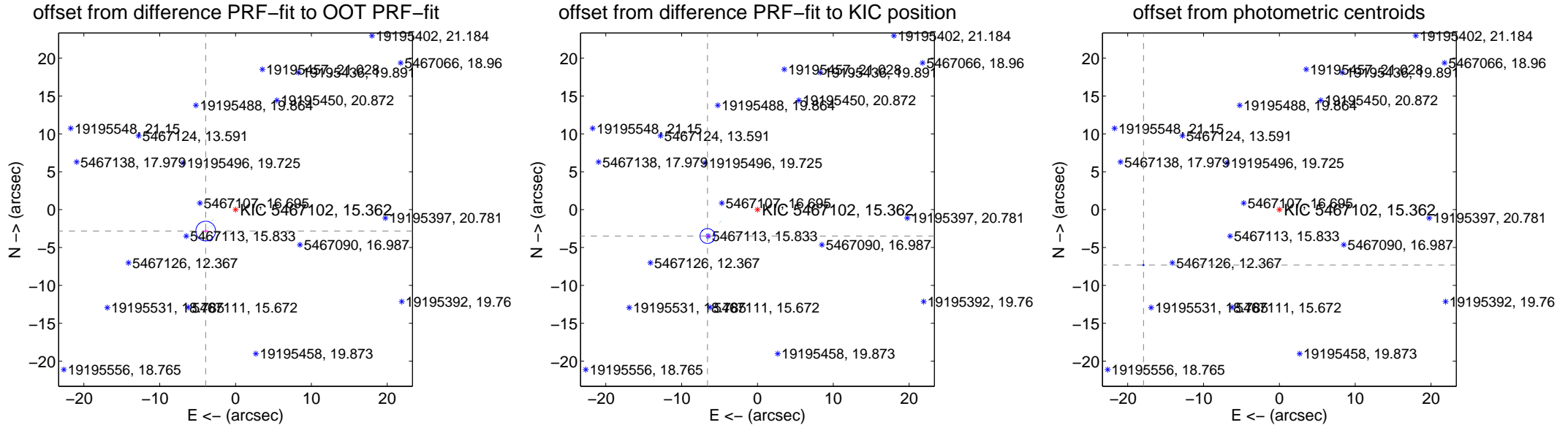
DV Centroid Data

Supplemental centroid analysis for 005467102-01. Kepler magnitude: 15.36. Transit SNR 767.27

There are 10 quarters with good PRF difference image offsets

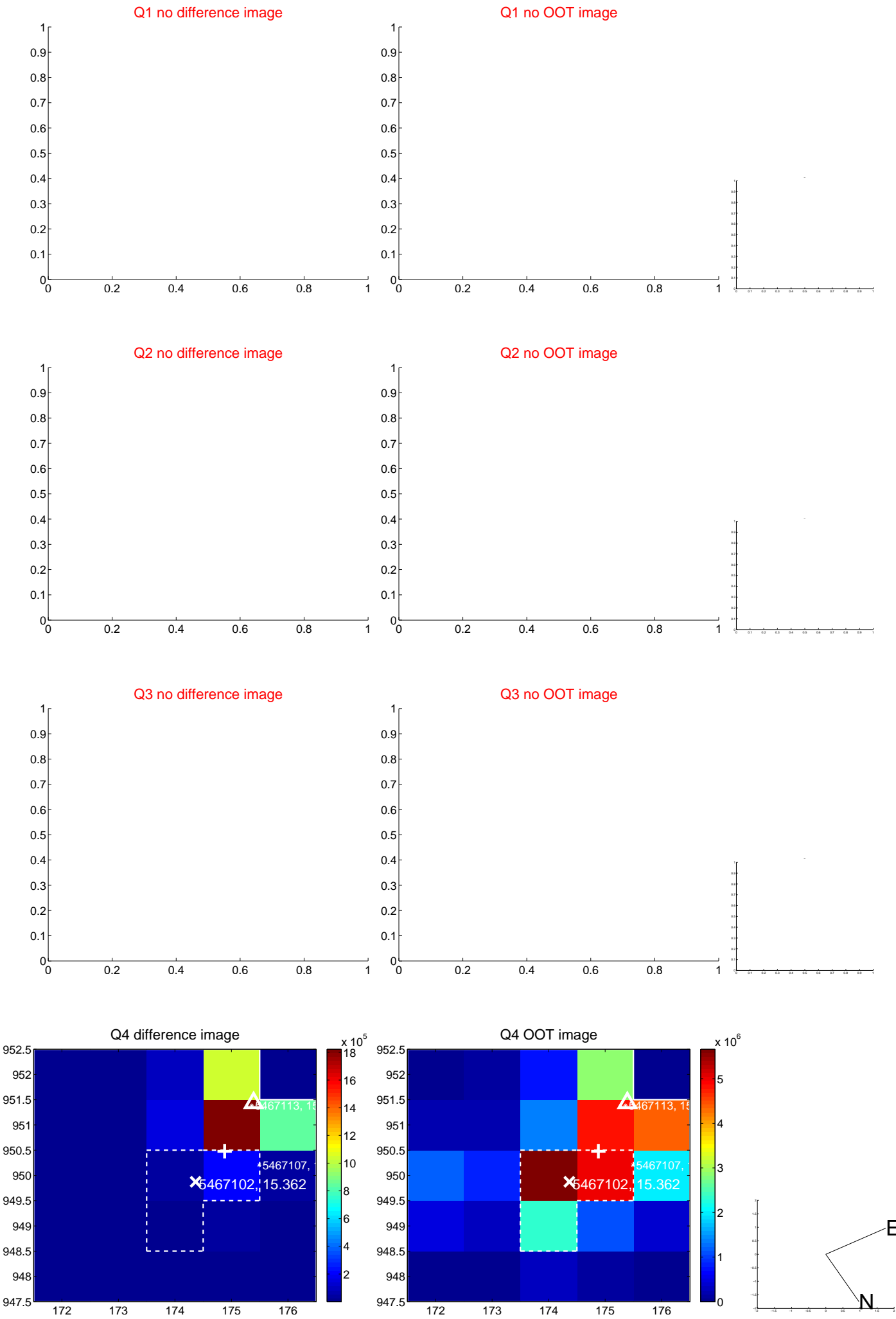
The OOT PRF centroid is offset from the target star catalog position by about 3.60 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.846 \pm 0.434	11.18	3.938 \pm 0.363	-2.825 \pm 0.256
PRF-fit source offset from KIC position	7.452 \pm 0.328	22.75	6.589 \pm 0.238	-3.480 \pm 0.263
photometric centroid source offset	19.36 \pm 0.03	663.91	17.92 \pm 0.03	-7.32 \pm 0.01

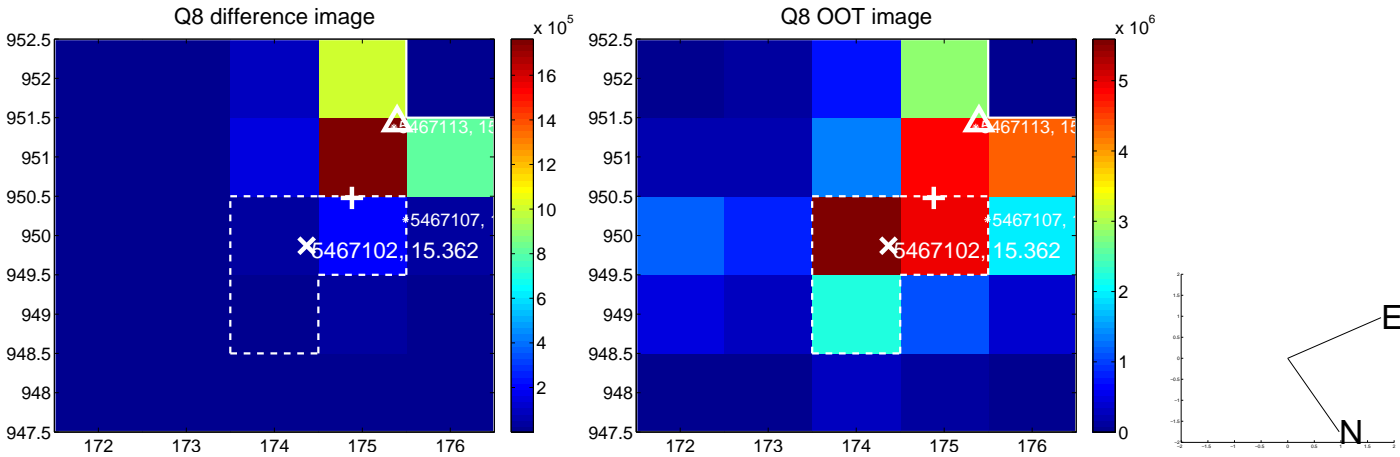
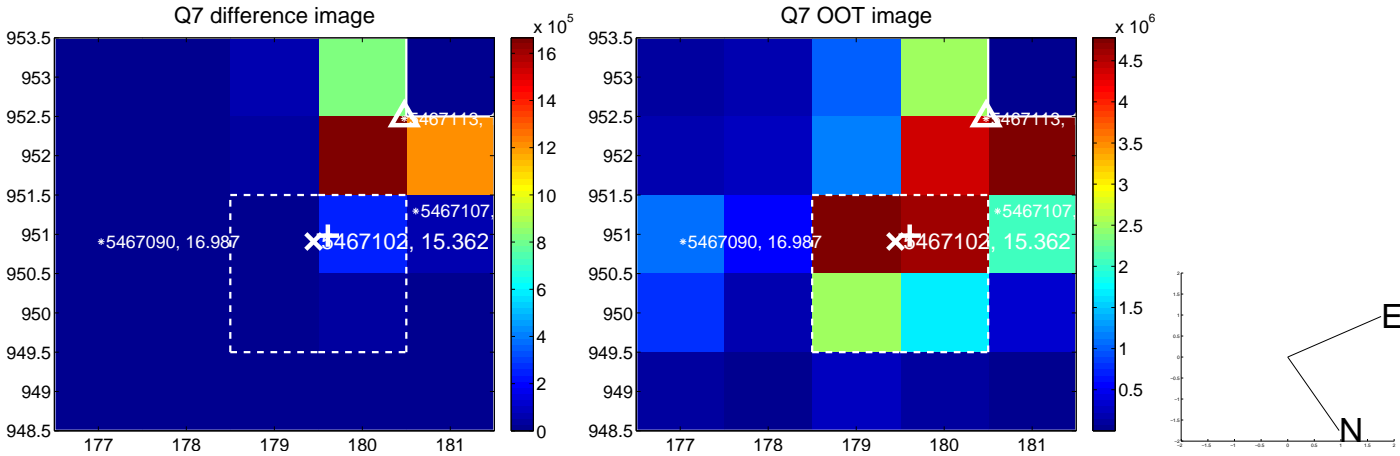
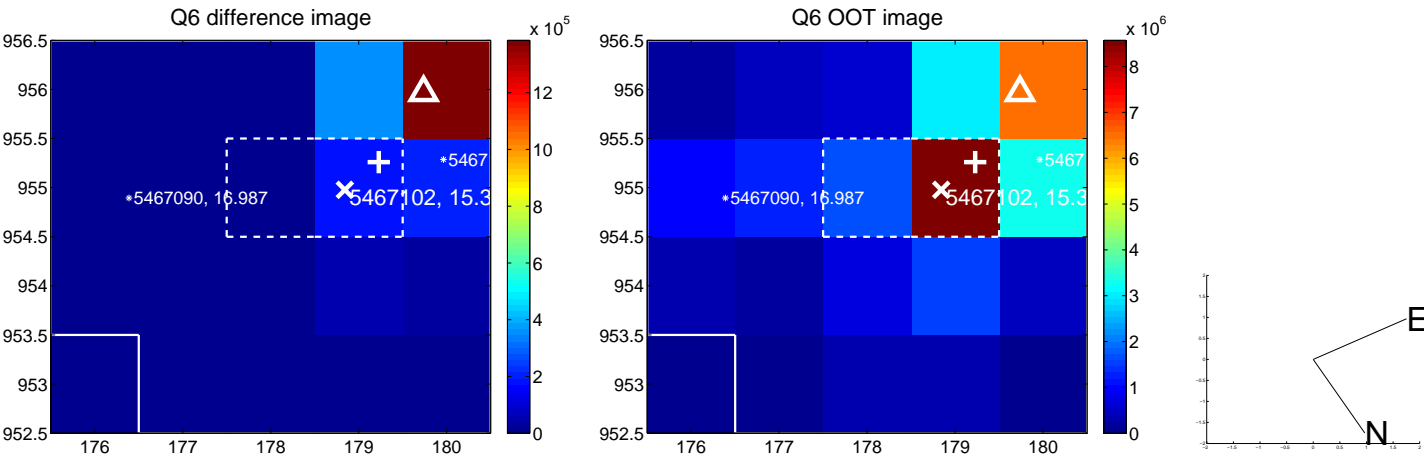
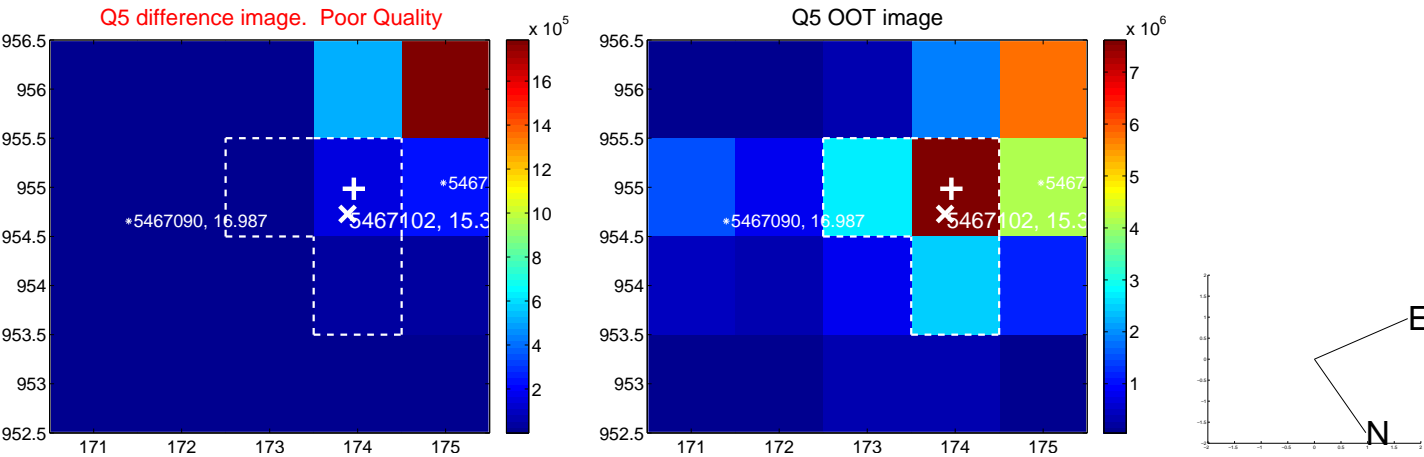


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

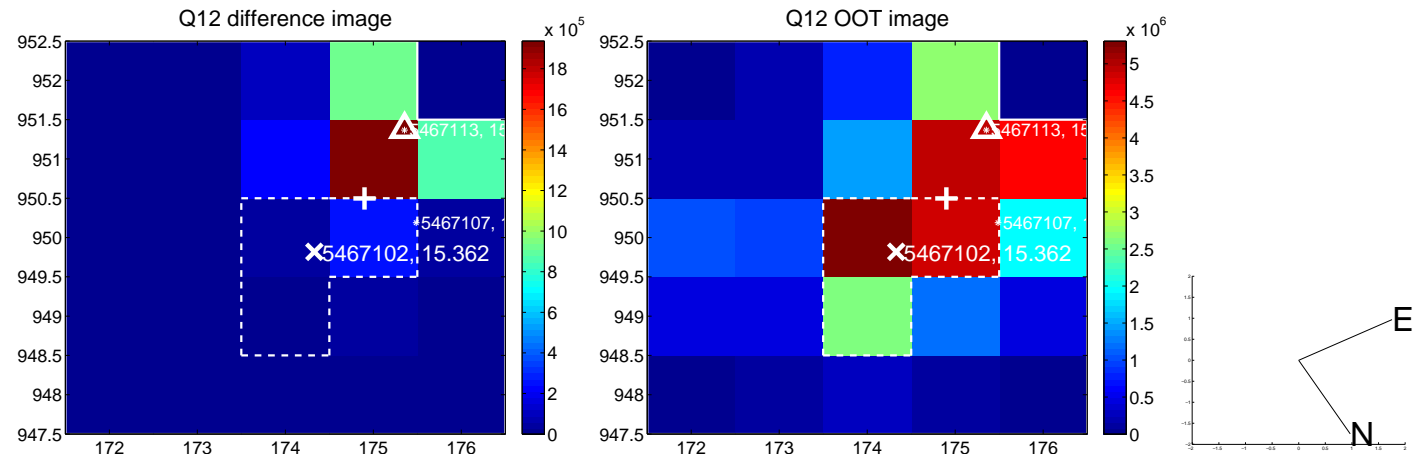
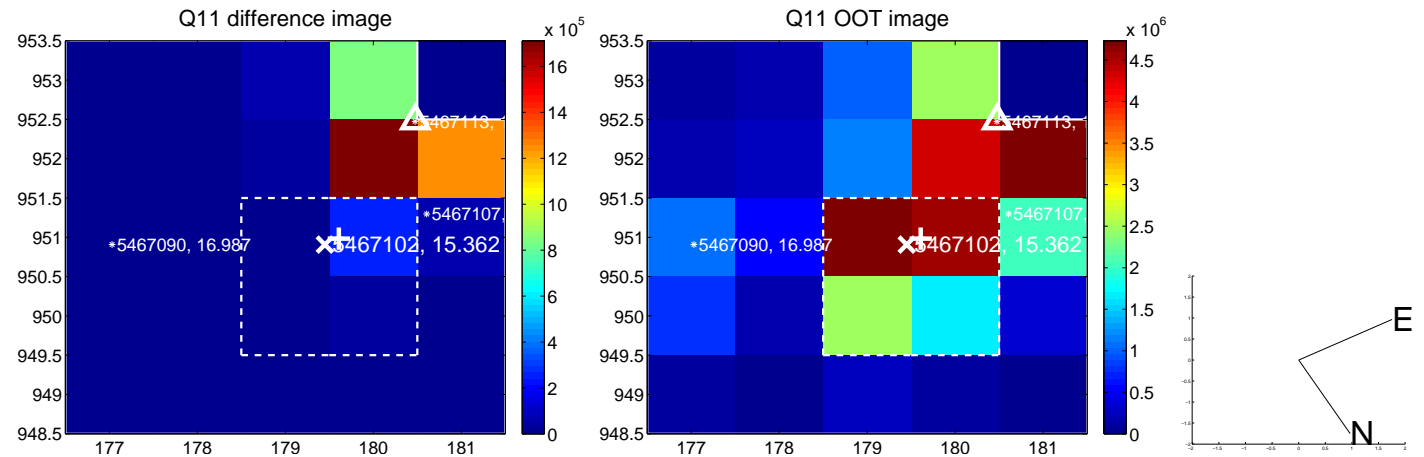
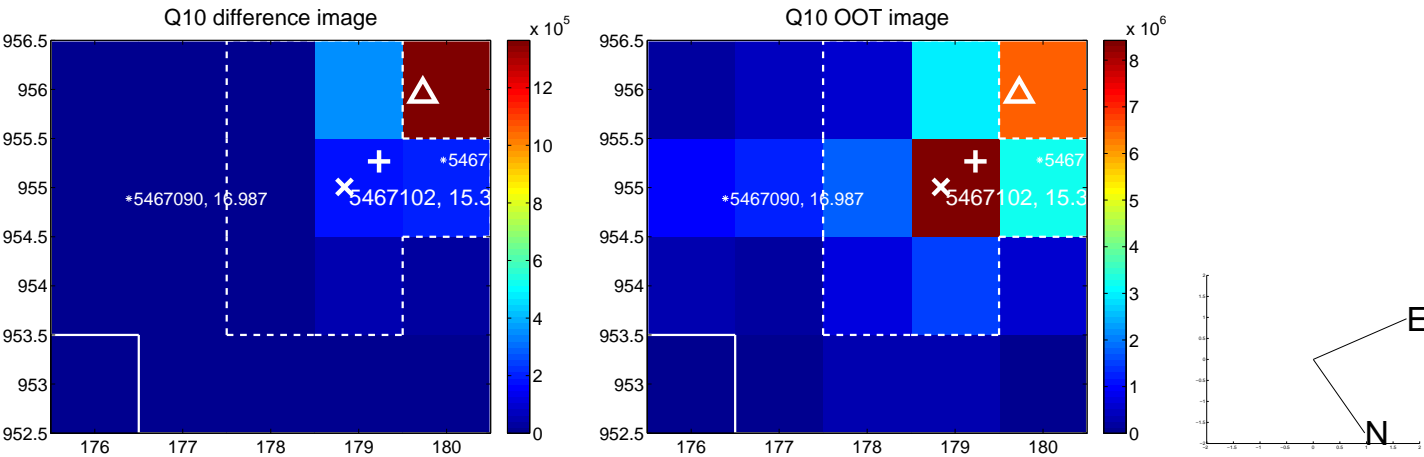
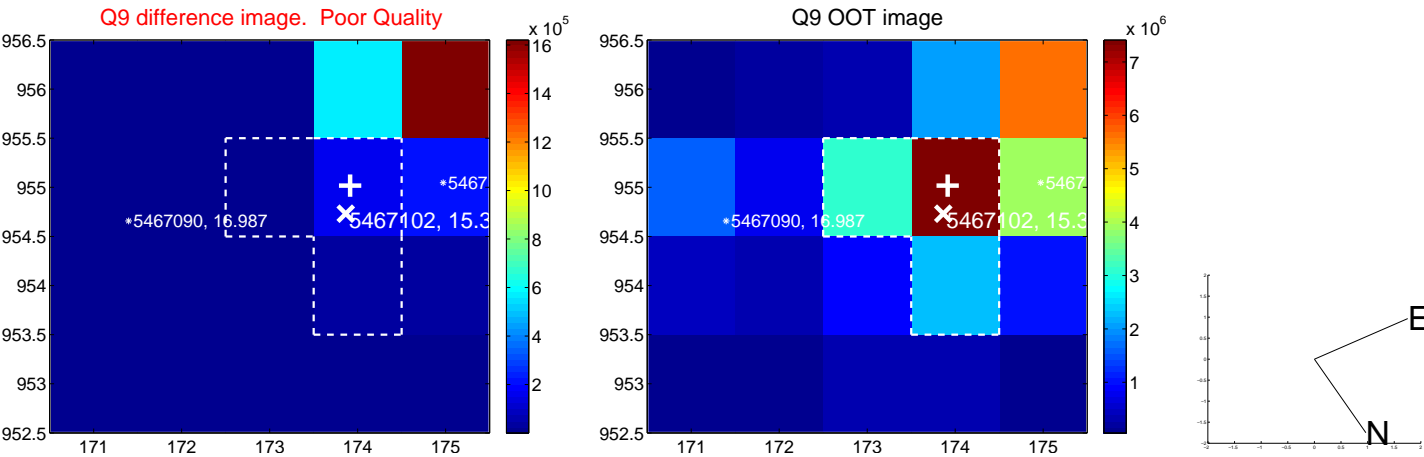
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



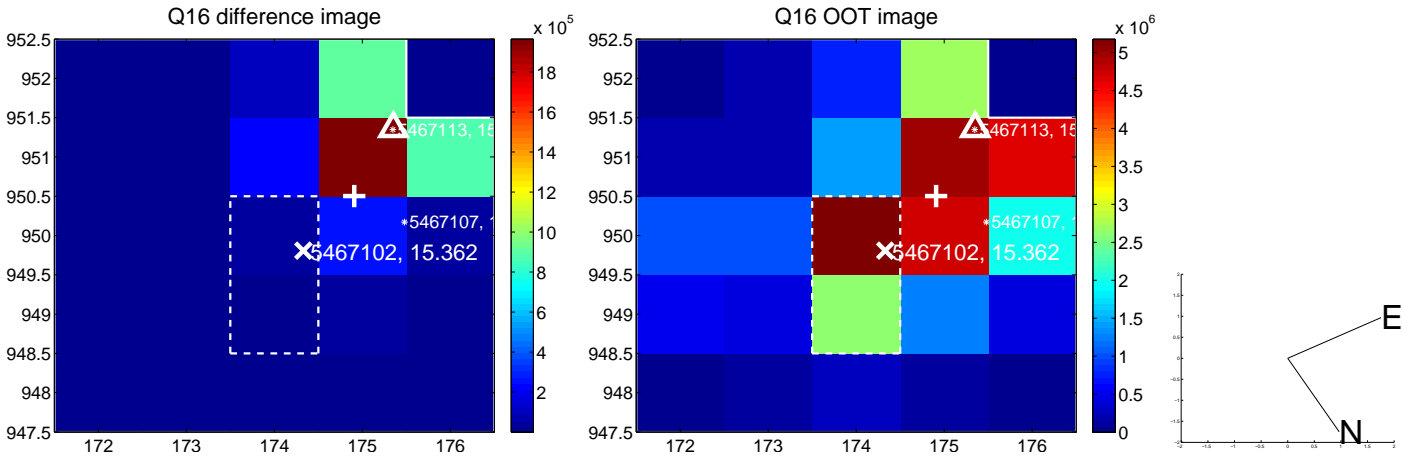
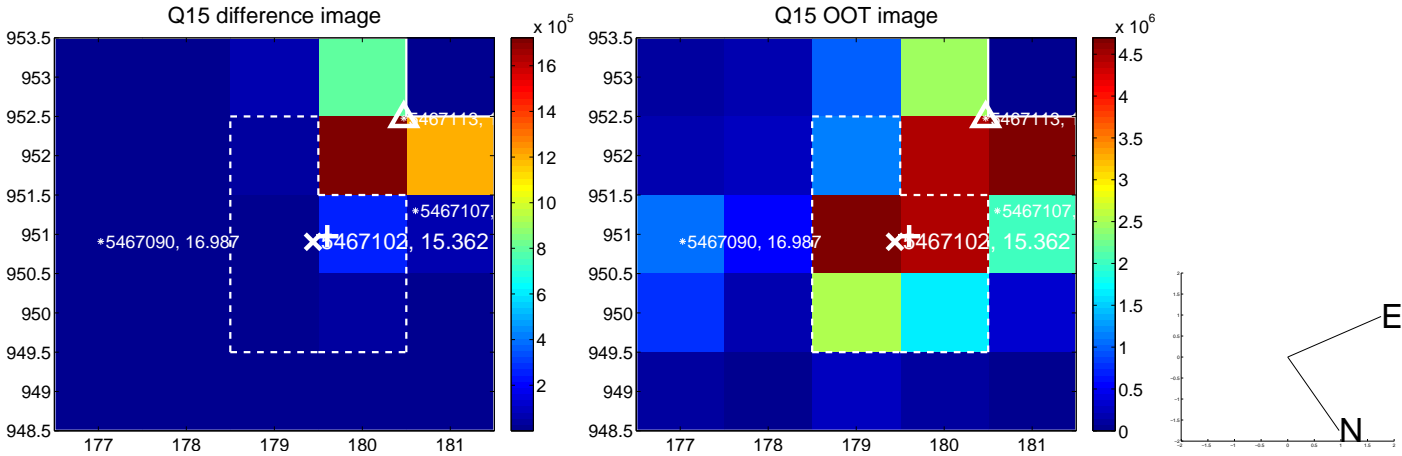
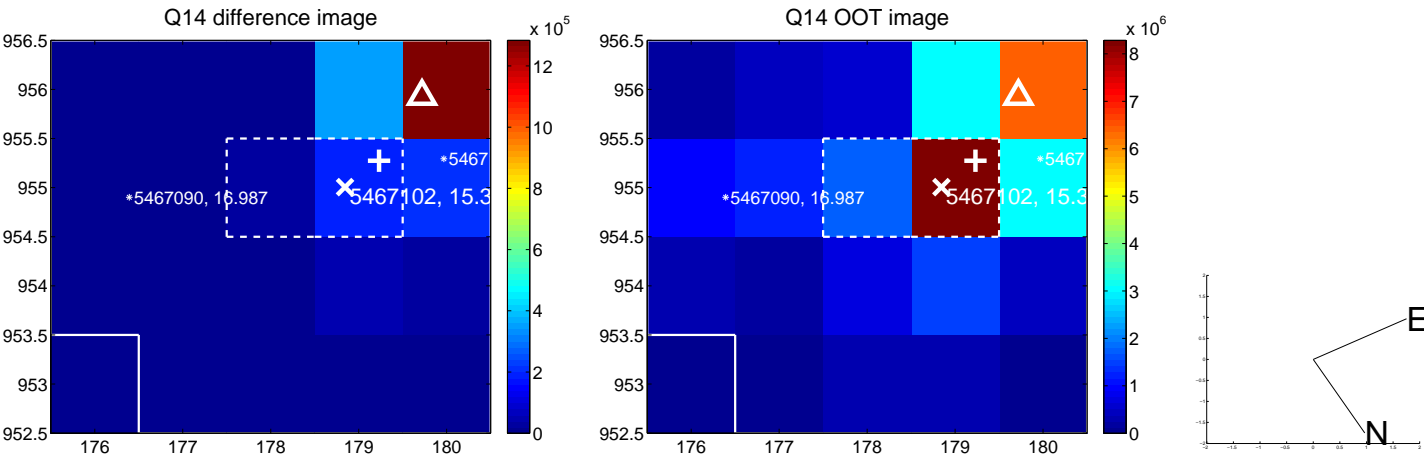
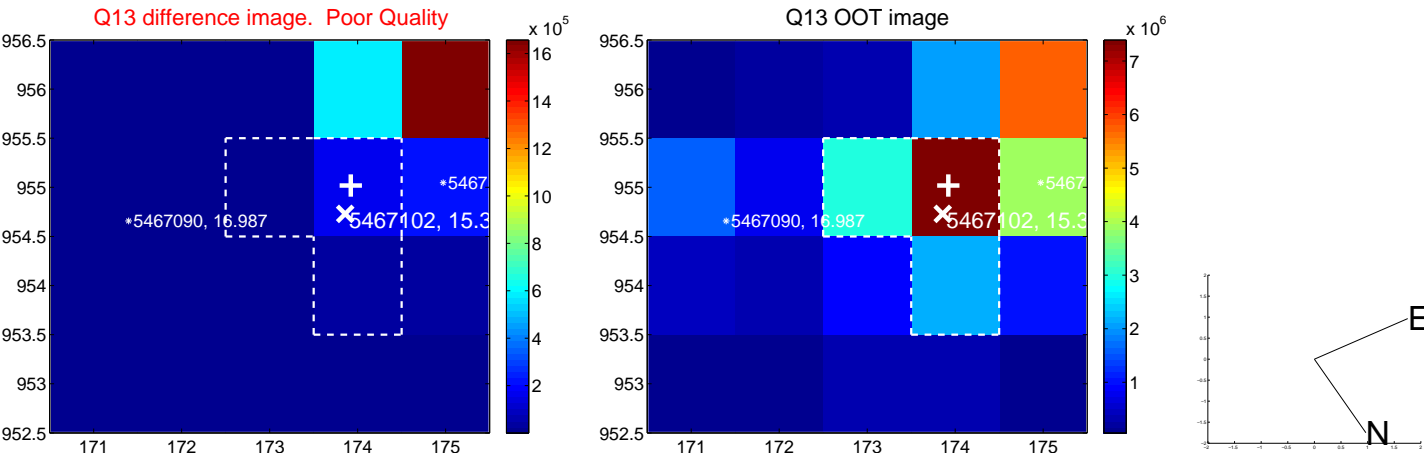
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



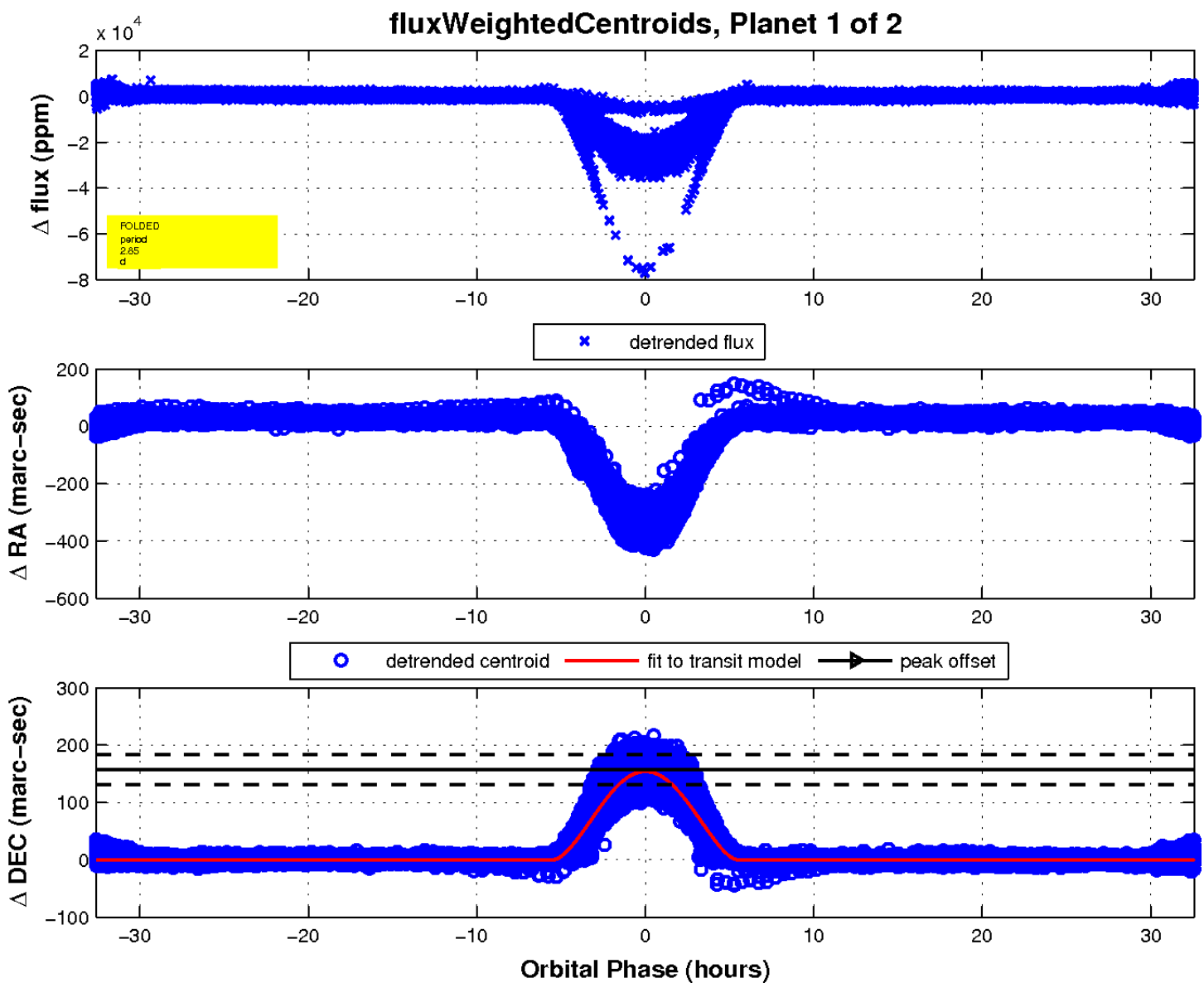
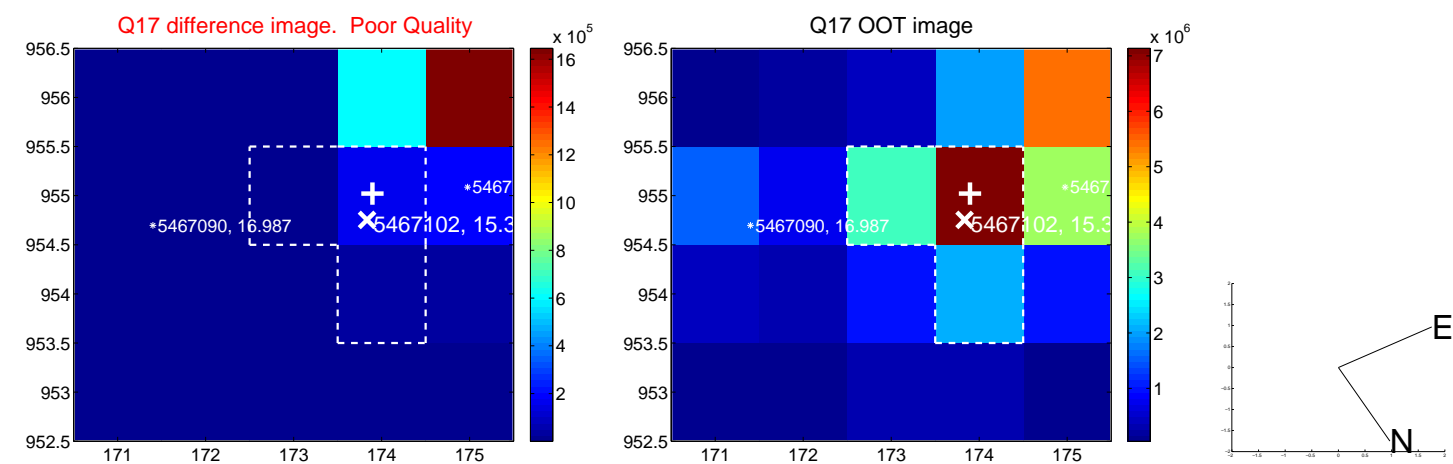
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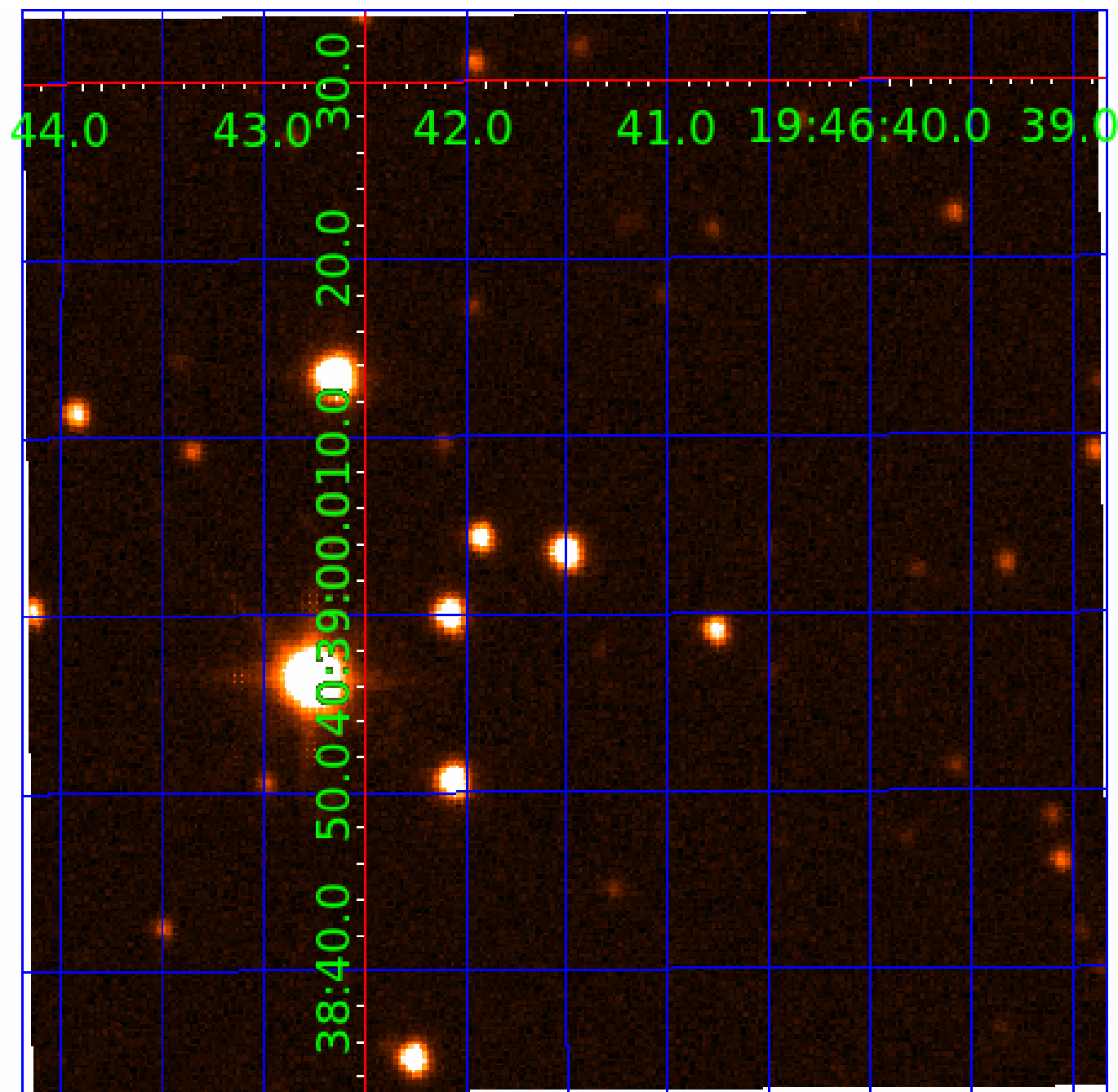


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005467102

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})
005467102-01	OBS	3840.01	2.845763	134.272006	22456.3	10.866	1104.8	767.3	0.96	5982	25.18	664.04
005467102-02	OBS	No	2.845706	132.866420	6740.5	4.500	87.8	-1.0	0.96	5982	7.85	664.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005467102-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—EPHEM_MATCH
005467102-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

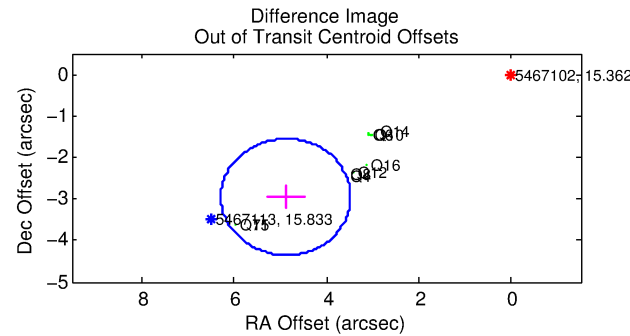
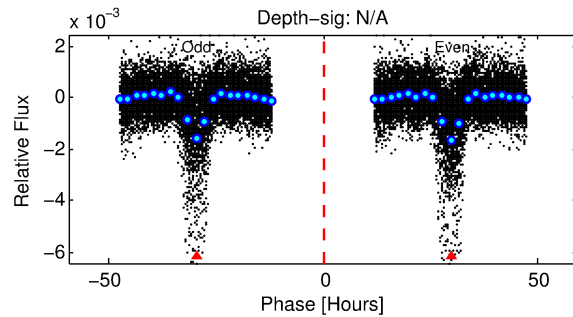
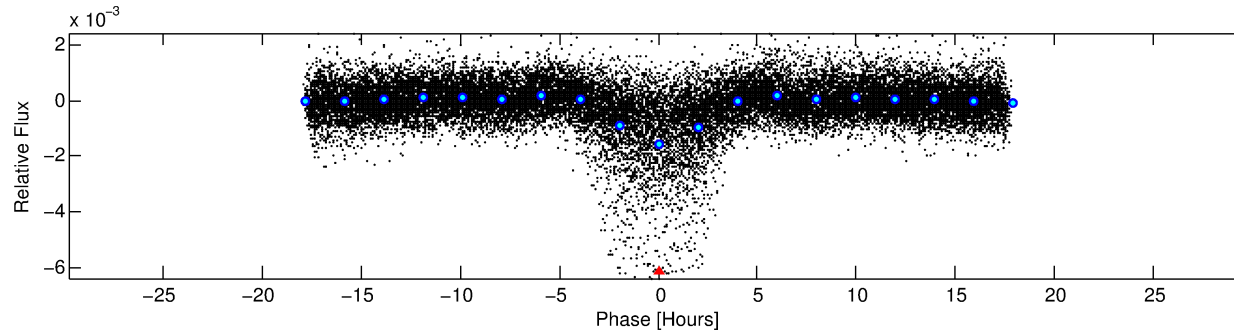
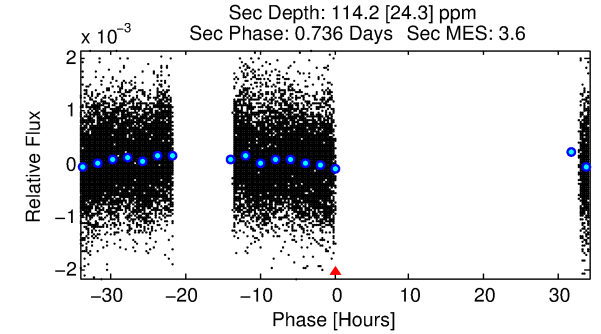
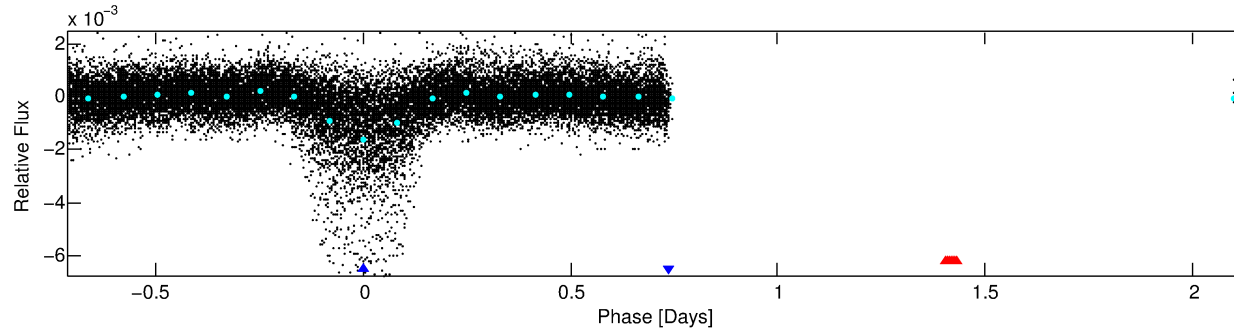
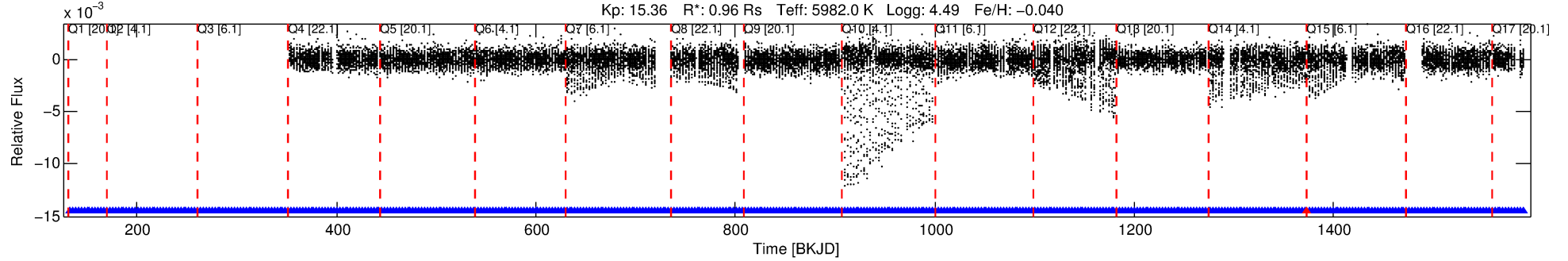
Ephemeris Match Information For 005467102-02

No Significant Match Found

DV One-Page Summary

KIC: 5467102 Candidate: 2 of 2 Period: 2.846 d
KOI: K03840 Corr: No Ephemeris Match

Kp: 15.36 R*: 0.96 Rs Teff: 5982.0 K Logg: 4.49 Fe/H: -0.040



TPS TCE Results:

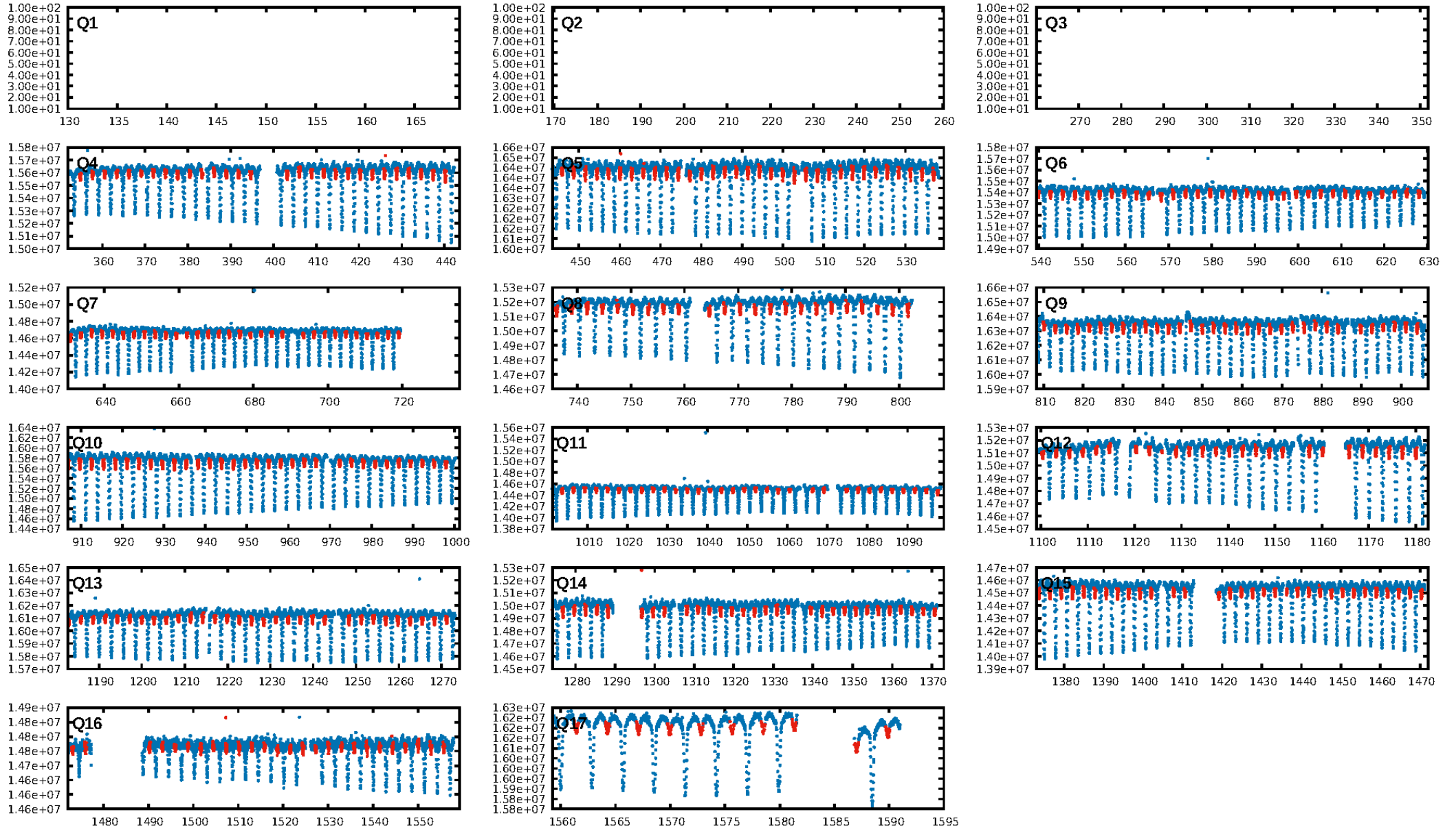
Period = 2.84571 d
Epoch = 132.8664 BKJD

DV fit results are unavailable

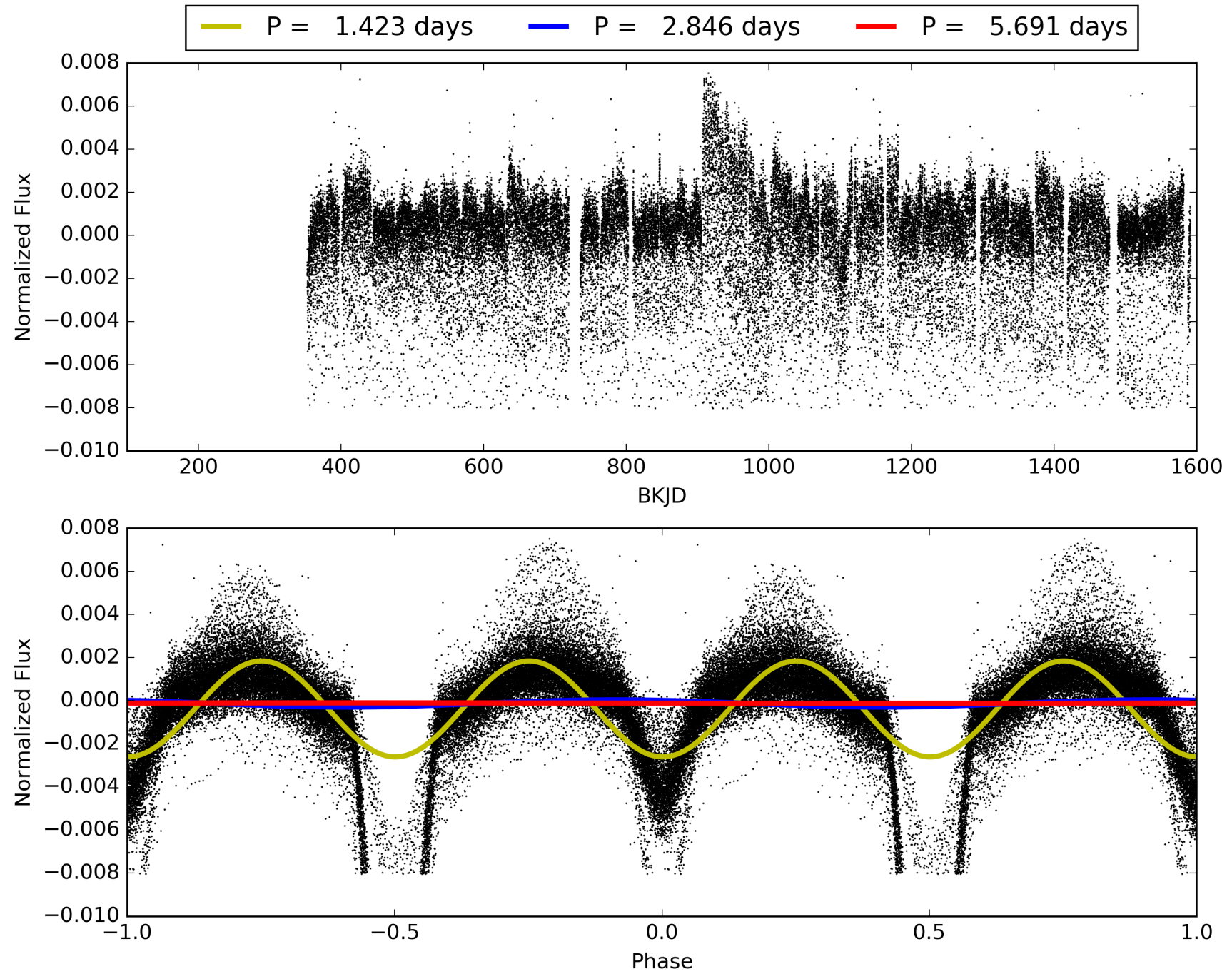
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [389/390]
GhostDiagnostic-chr: -1.014
Centroid-sig: N/A
Centroid-so: 5.855 arcsec [52.39σ]
OotOffset-rm: 5.703 arcsec [12.21σ]
KicOffset-rm: 7.526 arcsec [20.12σ]
OotOffset-st: 3/3/4/0 [10]
KicOffset-st: 3/3/4/0 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005467102-02, PDC Light Curves

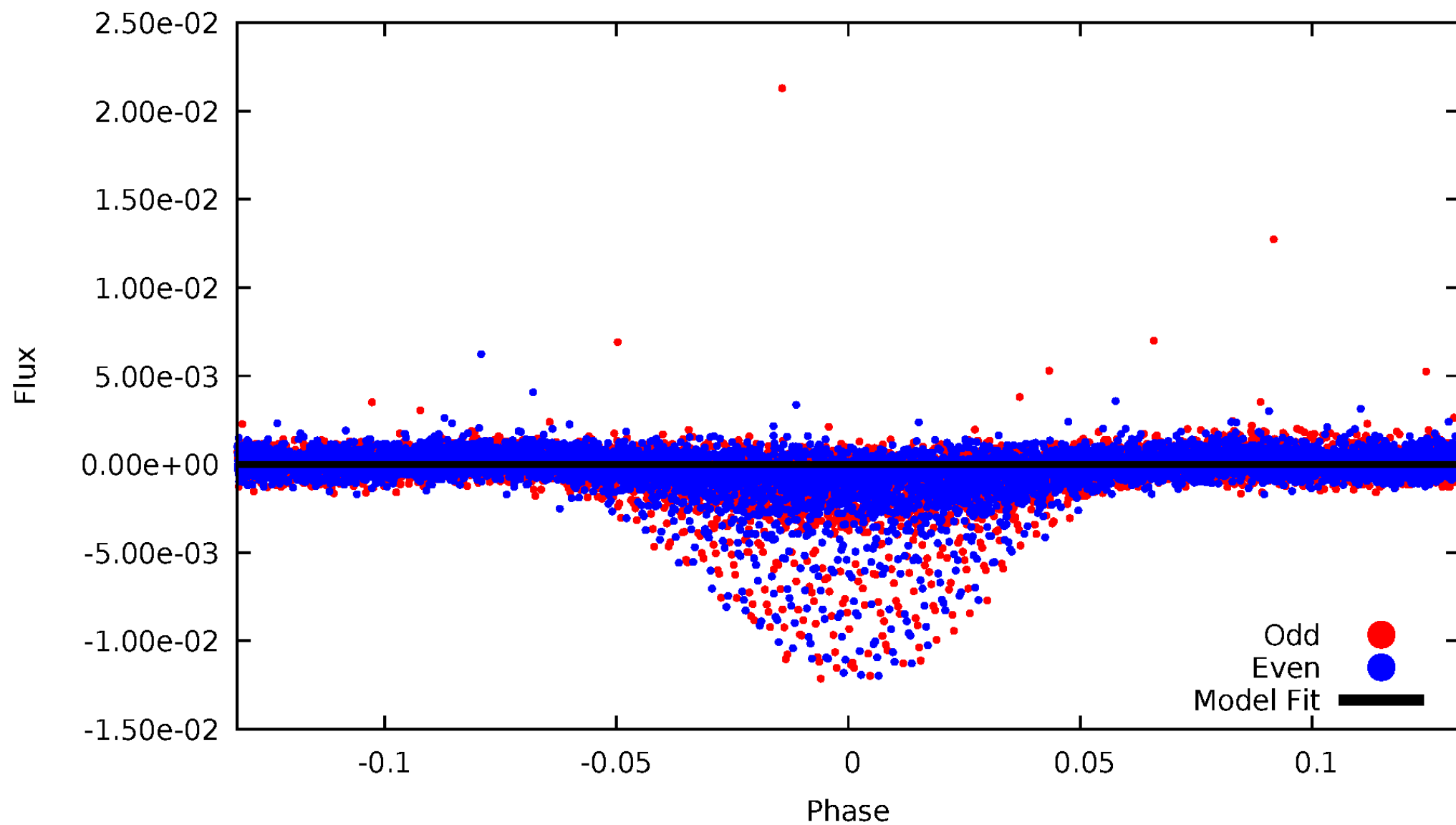


TCE 005467102-02



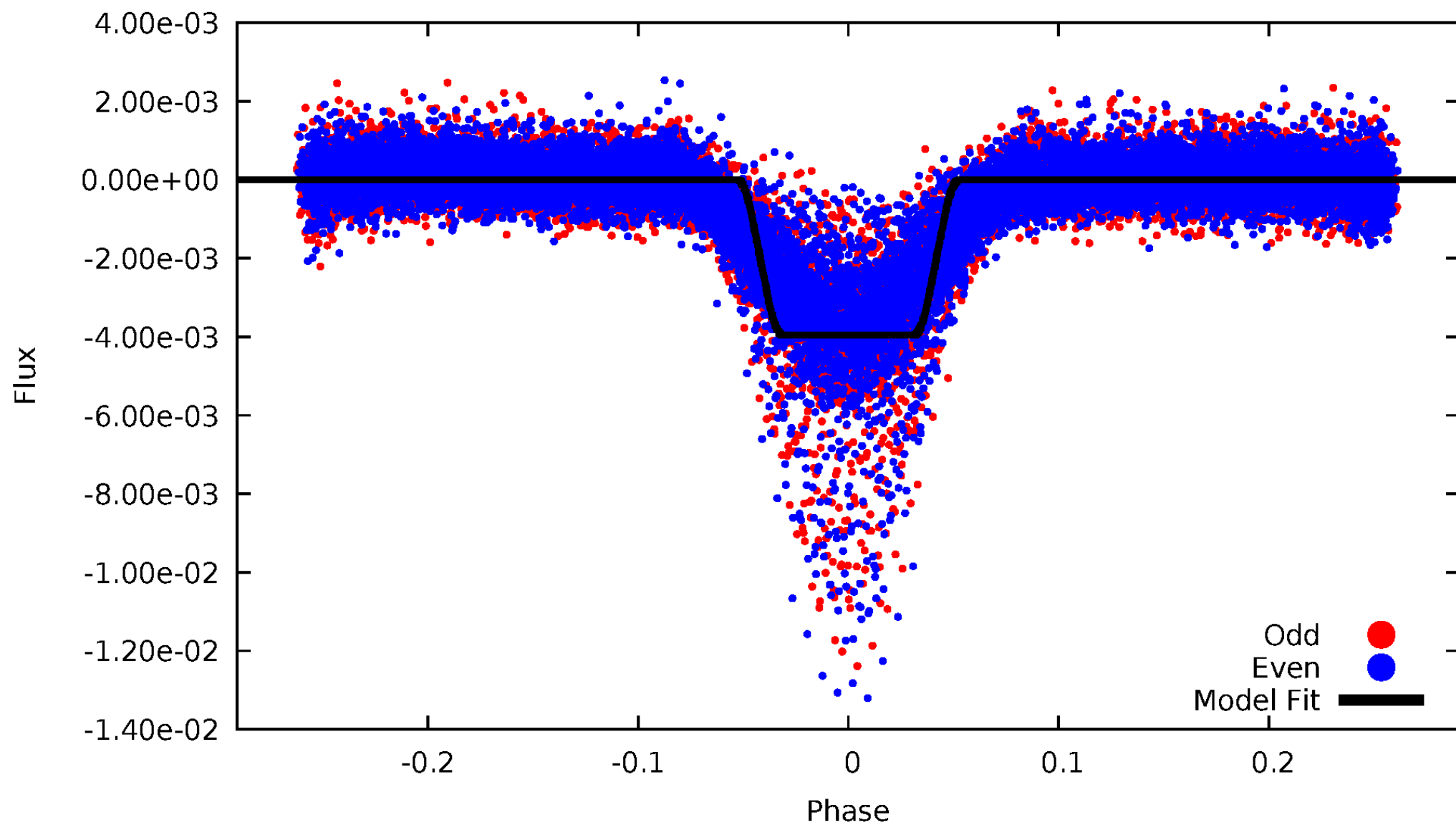
DV Odd/Even

TCE 005467102-02



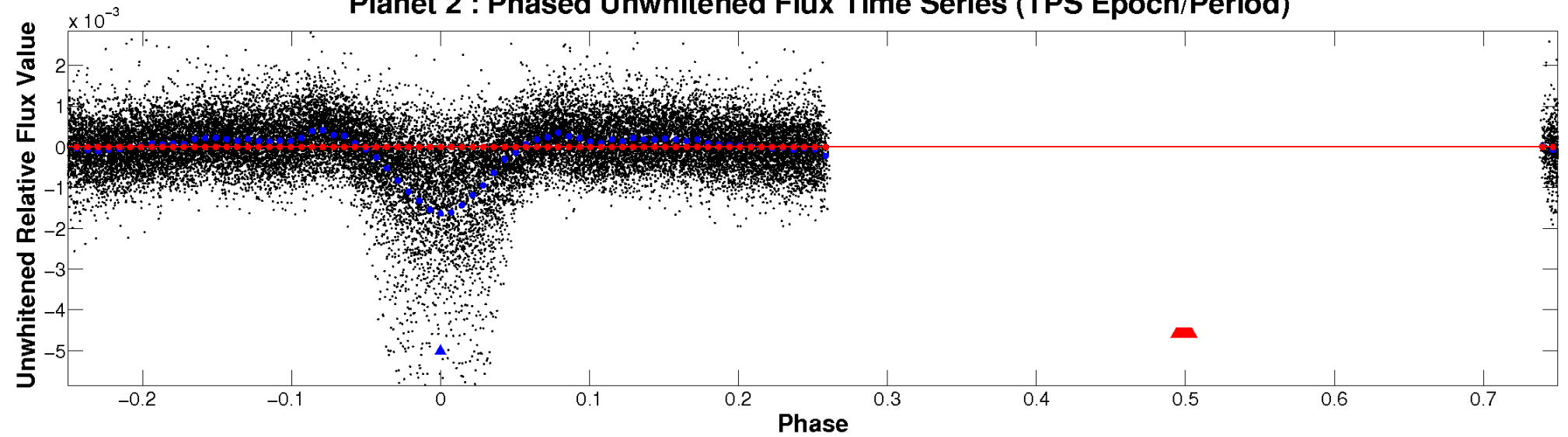
ALT Odd/Even

TCE 005467102-02

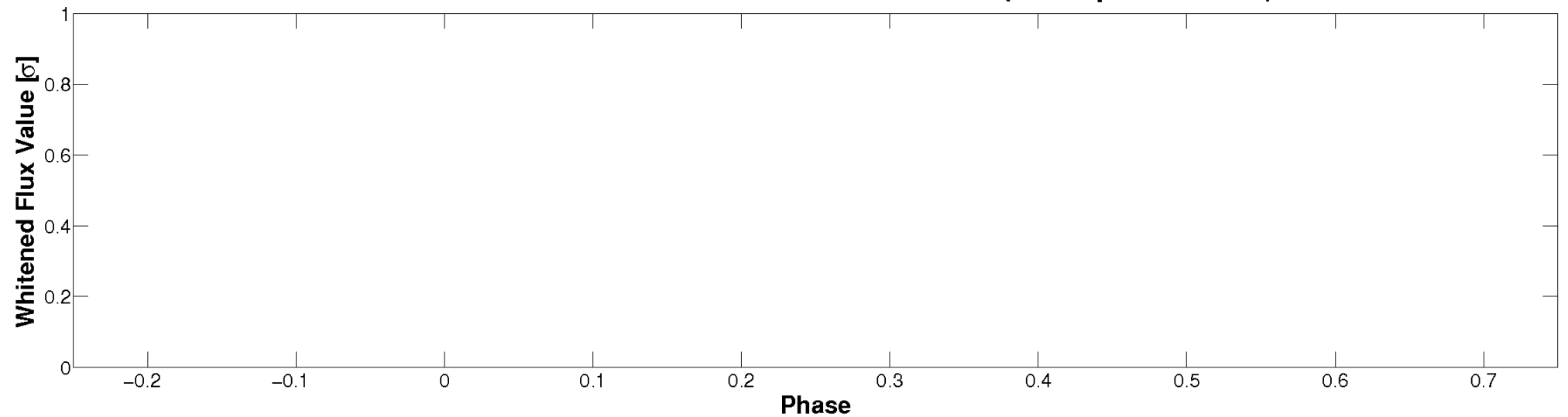


Non-Whitened Vs. Whitened Light Curve

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

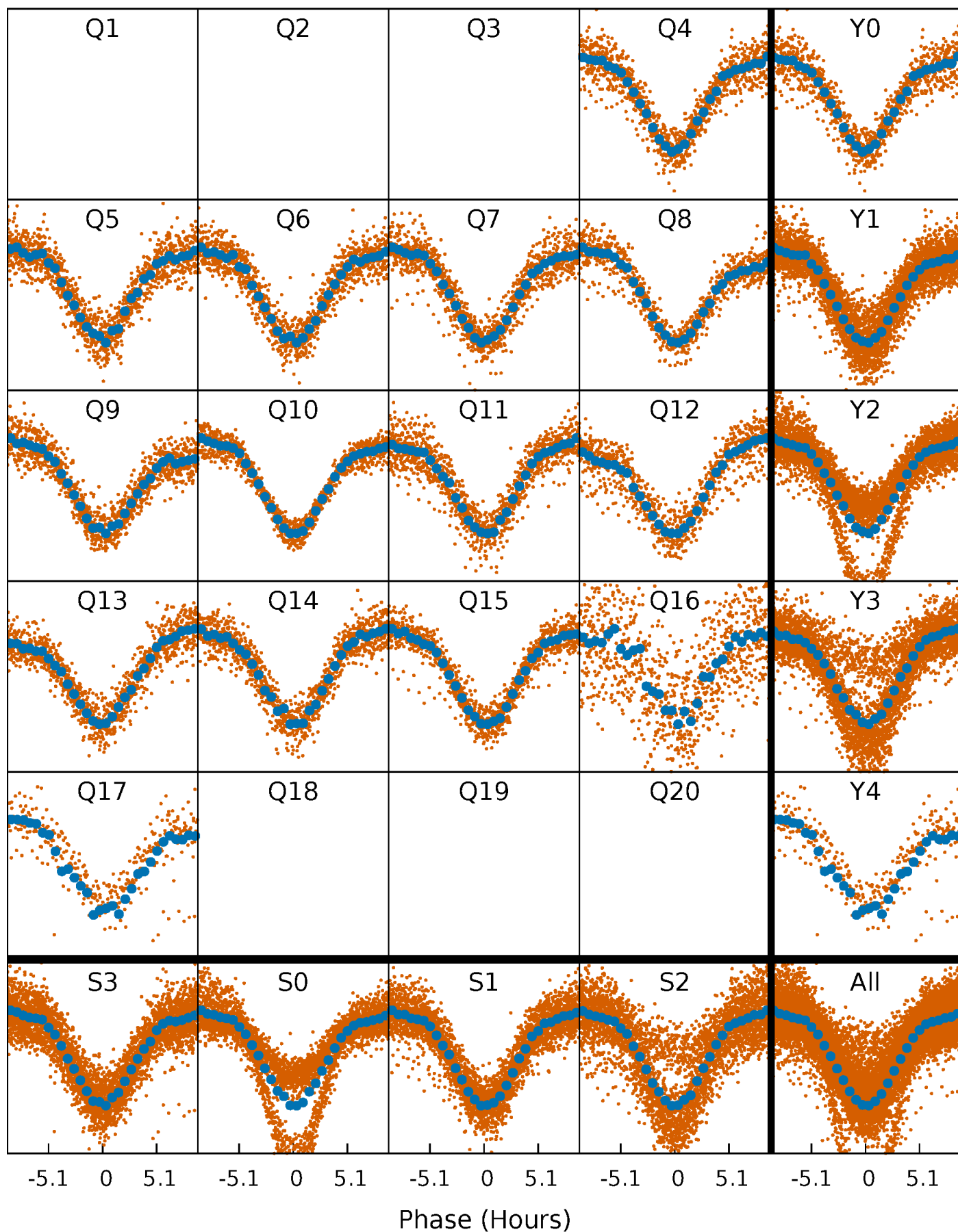


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



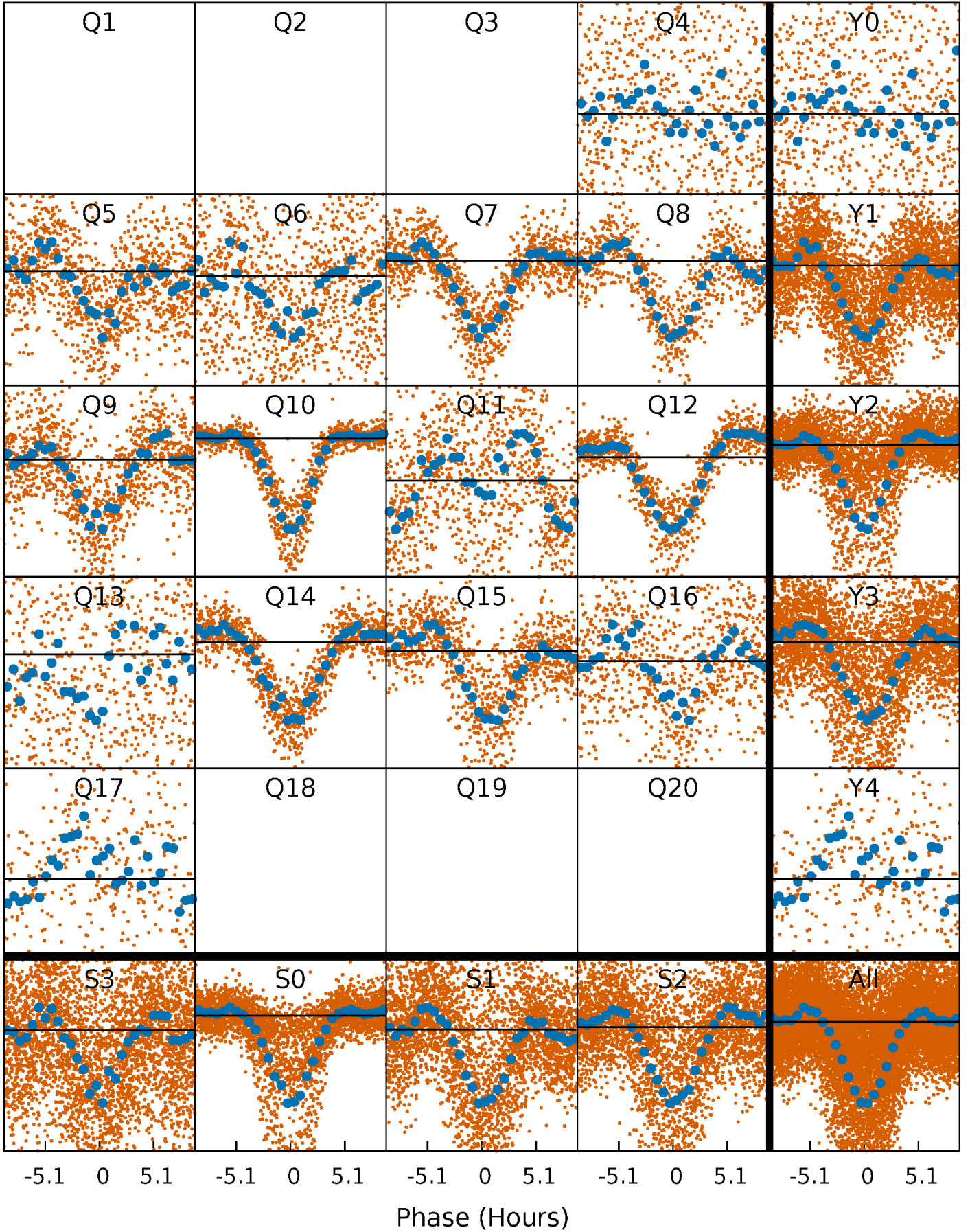
PDC Quarter-Phased Transit Curves

TCE 005467102-02 P= 2.845706 Days $T_0=132.866420$ (BKJD)



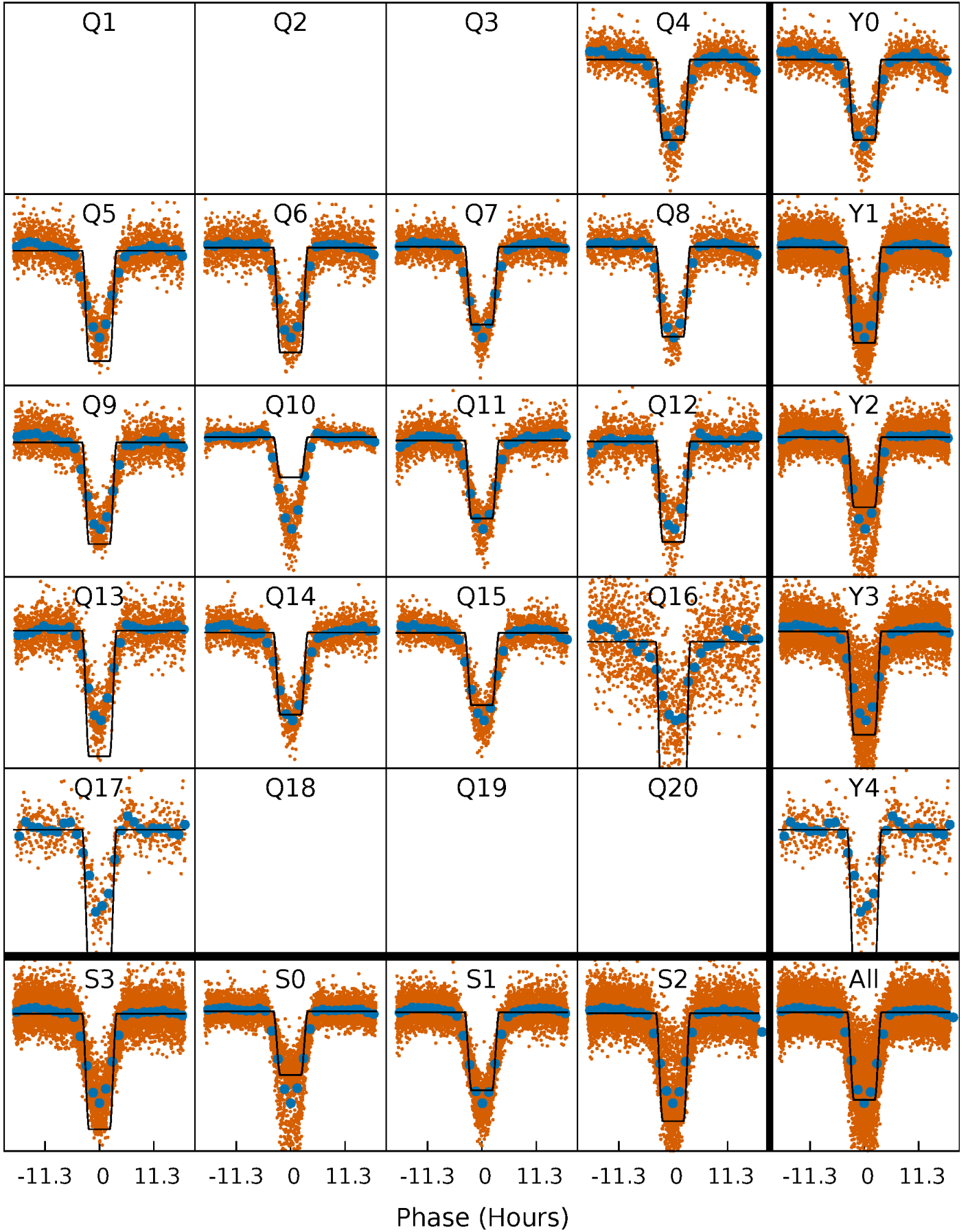
DV Quarter-Phased Transit Curves

TCE 005467102-02 P= 2.845706 Days $T_0=132.866420$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

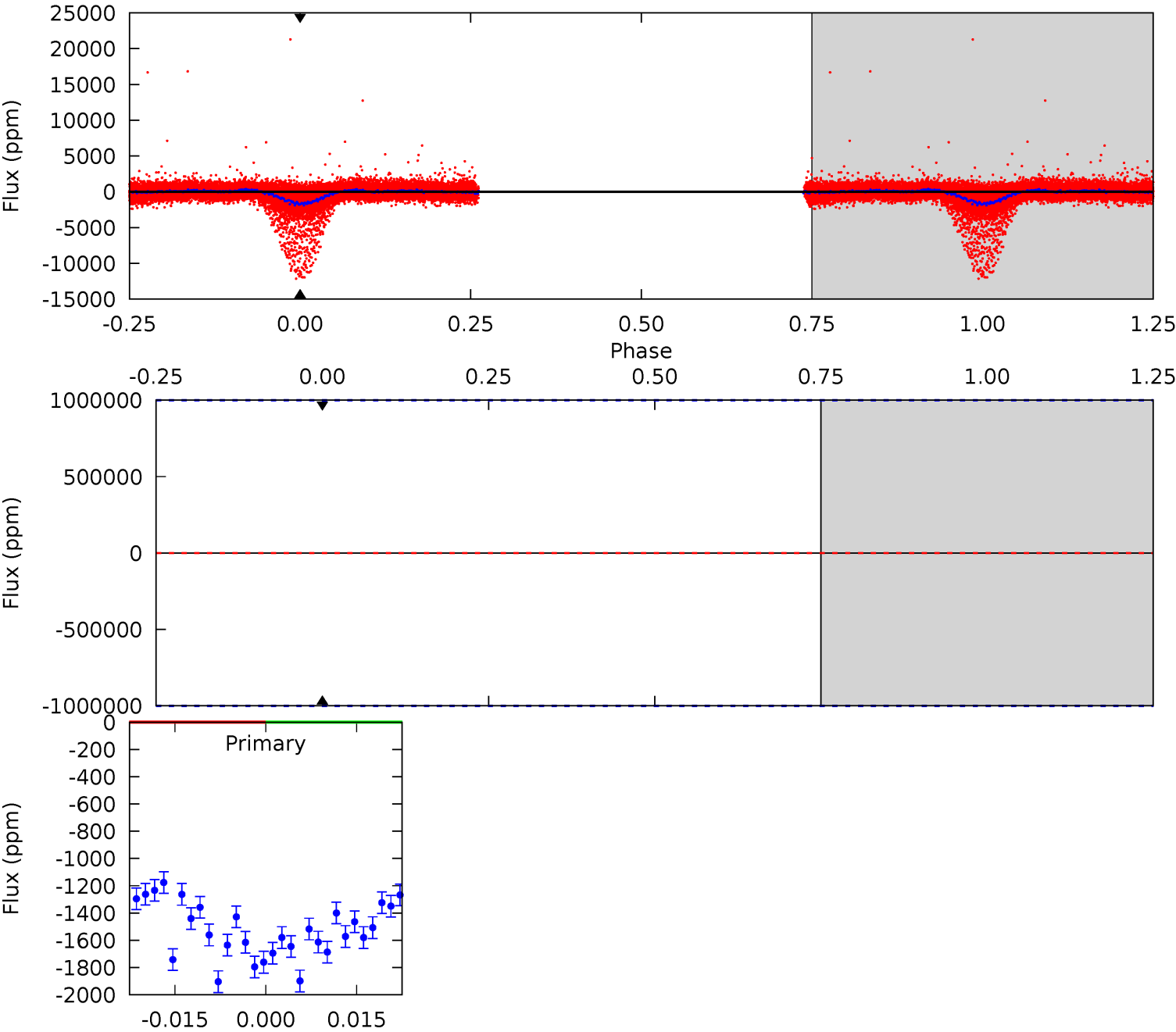
TCE 005467102-02 $P = 2.845706$ Days $T_0 = 132.867445$ (BKJD)



DV Model-Shift Uniqueness Test

005467102-02, P = 2.845706 Days, E = 132.866420 Days

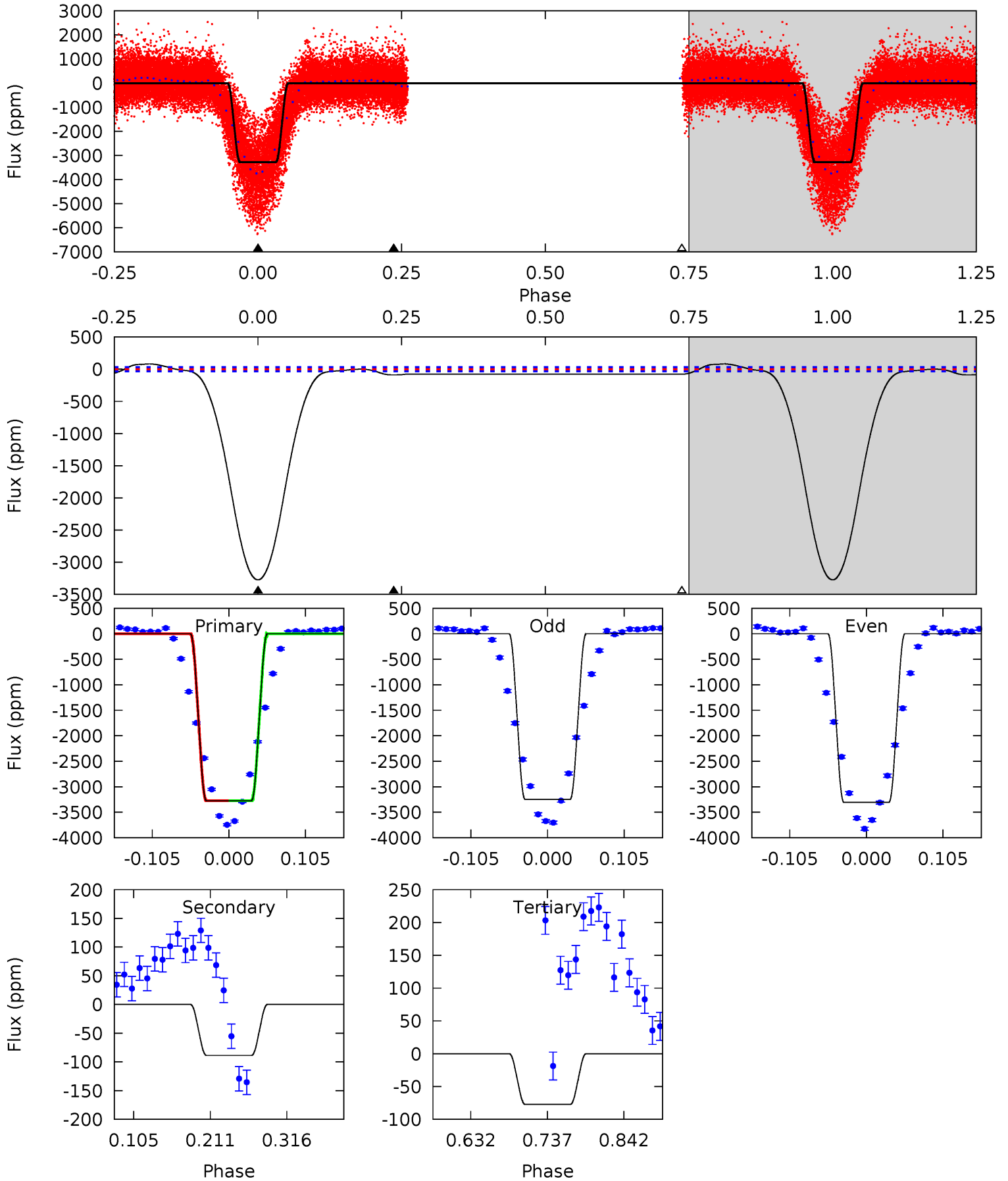
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005467102-02, P = 2.845706 Days, E = 132.867445 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
456.7	12.4	10.8	0	4.55	1.62	7.49	446.0	456.7	1.59	12.4	4.07	1.08	0.02	0.10



Stellar Parameters For KIC 005467102

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5982^{+189}_{-210}	$4.493^{+0.054}_{-0.216}$	$-0.040^{+0.250}_{-0.300}$	$0.960^{+0.300}_{-0.100}$	$1.047^{+0.139}_{-0.139}$	$1.667^{+0.381}_{-0.903}$
	+3%/-4%	+1%/-5%	+625%/-750%	+31%/-10%	+13%/-13%	+23%/-54%
Source	KIC0	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 005467102-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$11.50^{+9.31}_{-7.51}$	1843^{+130}_{-91}	-3339^{+18442}_{-11053}	$-3.125^{+1177.727}_{-914.624}$
Alt.	-89 ± 7	$10.71^{+9.85}_{-7.41}$	1851^{+133}_{-97}	2455^{+1248}_{-4616}	$0.686^{+5.791}_{-0.505}$

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

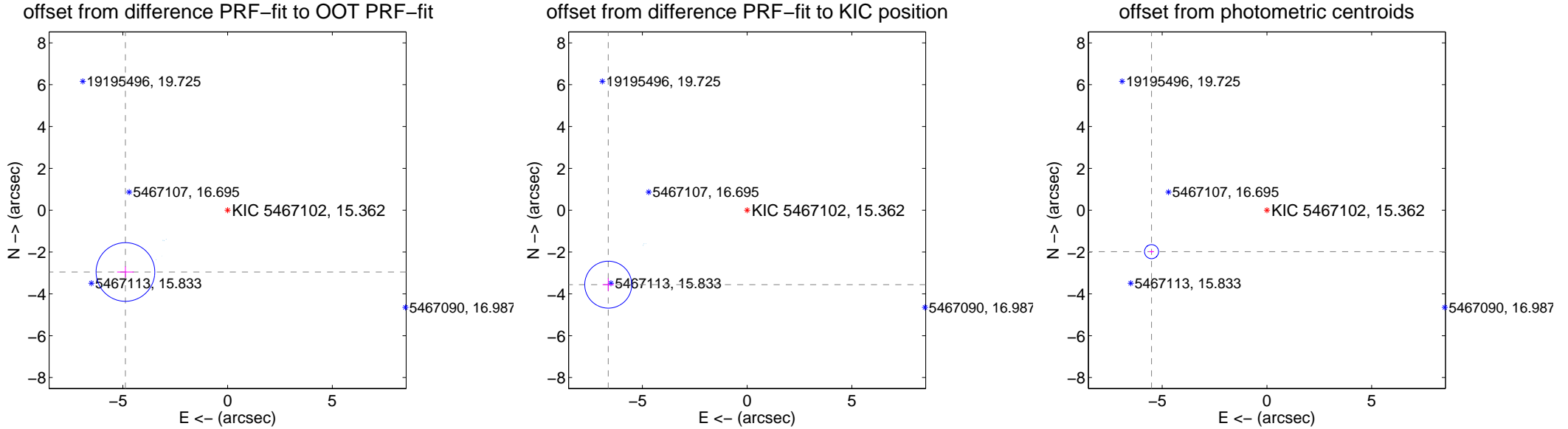
DV Centroid Data

Supplemental centroid analysis for 005467102-02. Kepler magnitude: 15.36. Transit SNR -1.00

There are 10 quarters with good PRF difference image offsets

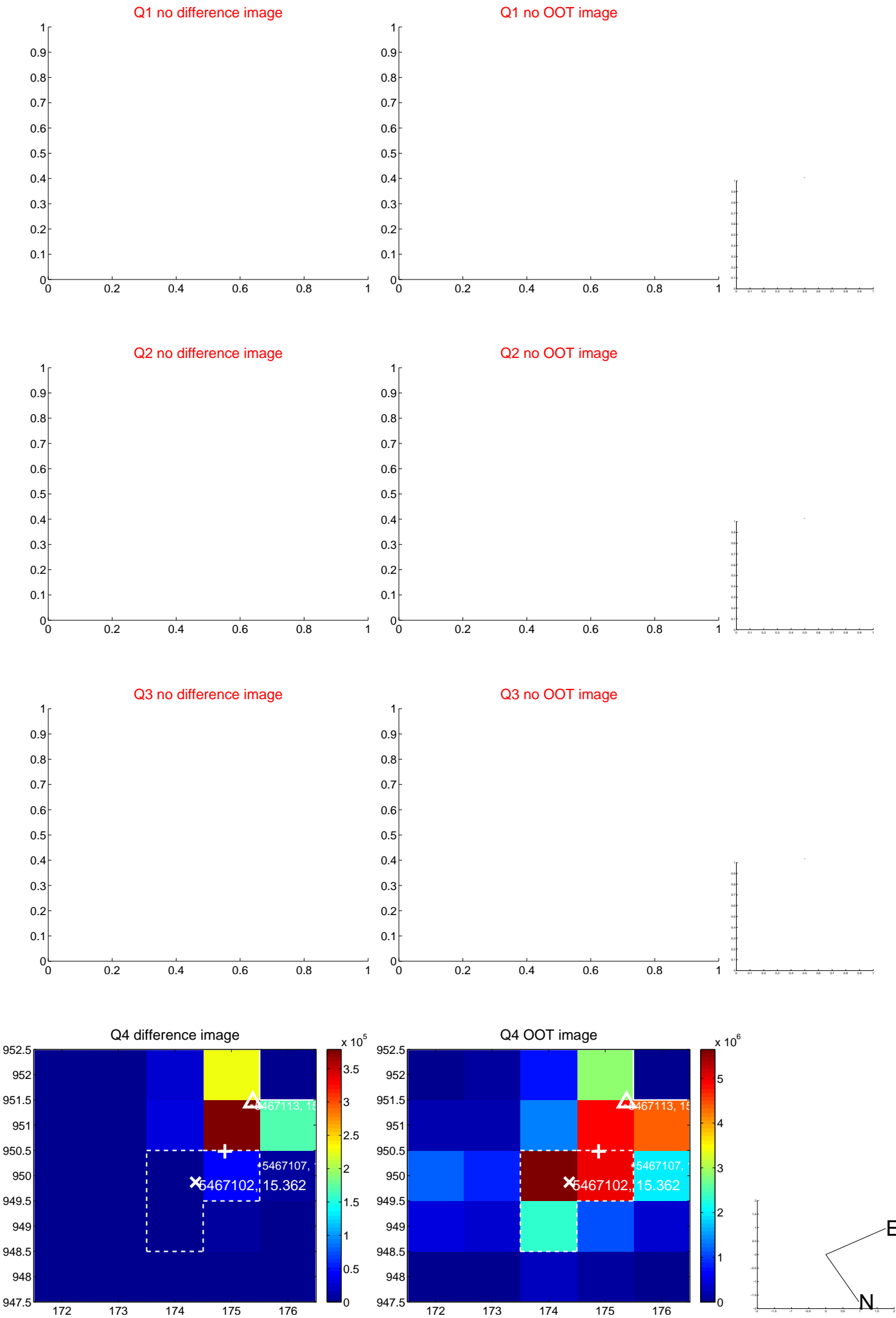
The OOT PRF centroid is offset from the target star catalog position by about 3.65 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.703 ± 0.467	12.21	4.878 ± 0.397	-2.953 ± 0.264
PRF-fit source offset from KIC position	7.526 ± 0.374	20.12	6.631 ± 0.269	-3.559 ± 0.301
photometric centroid source offset	5.85 ± 0.11	52.39	5.51 ± 0.12	-1.98 ± 0.06

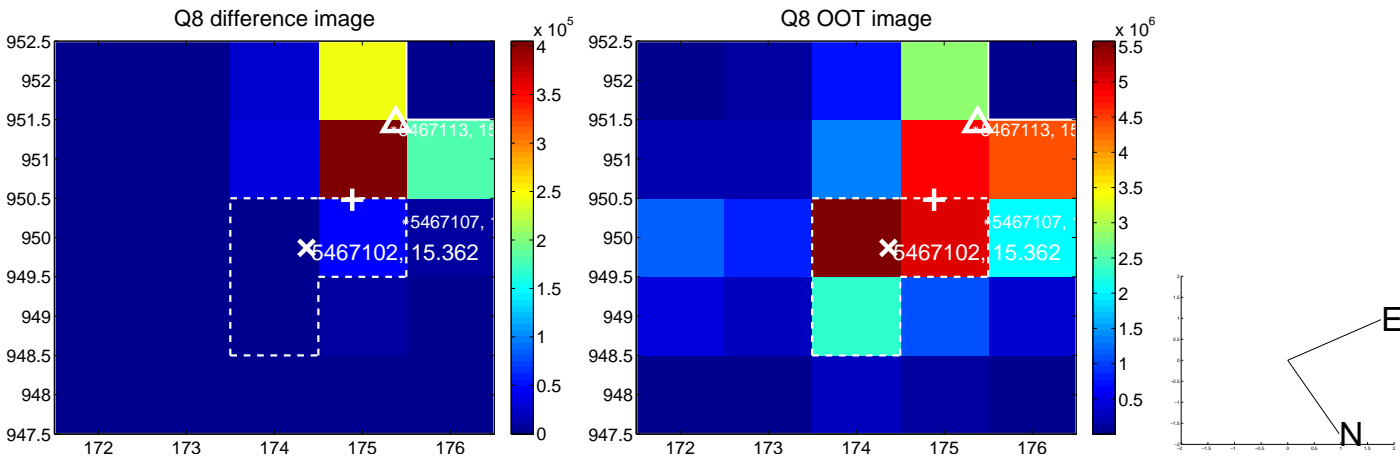
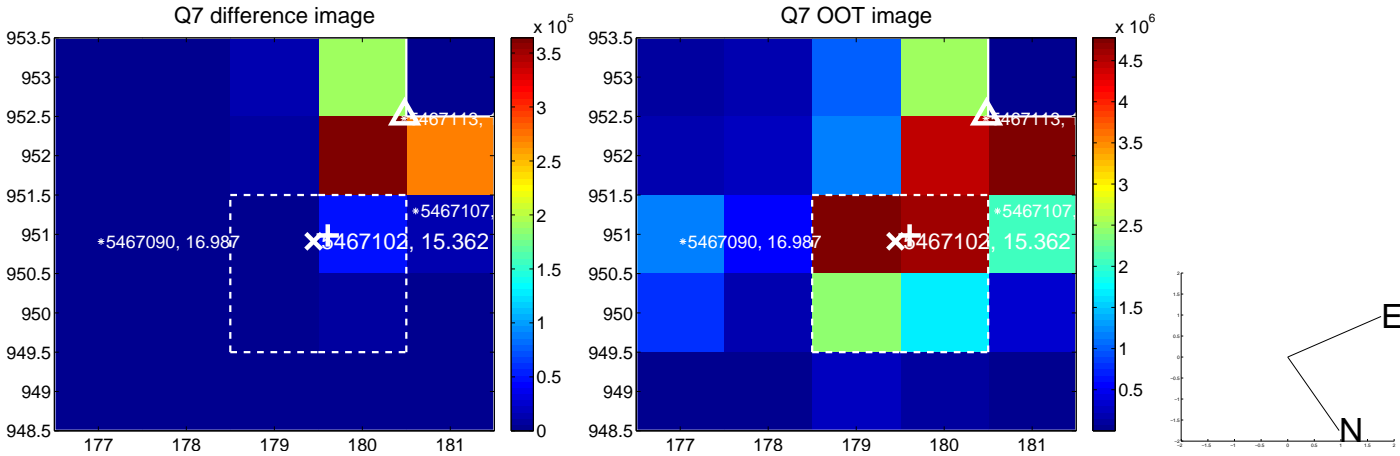
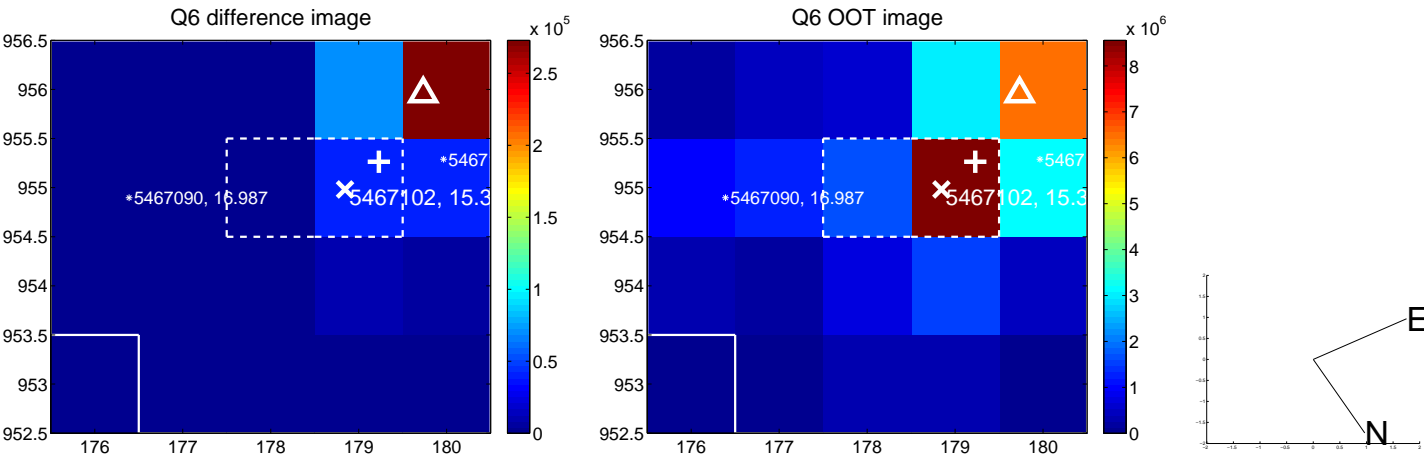
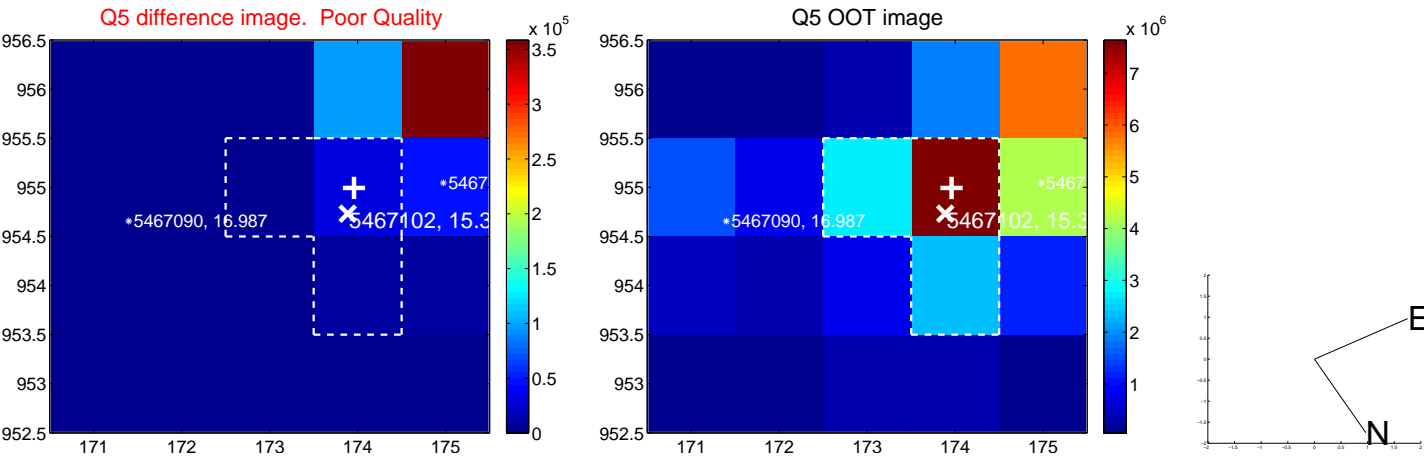


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

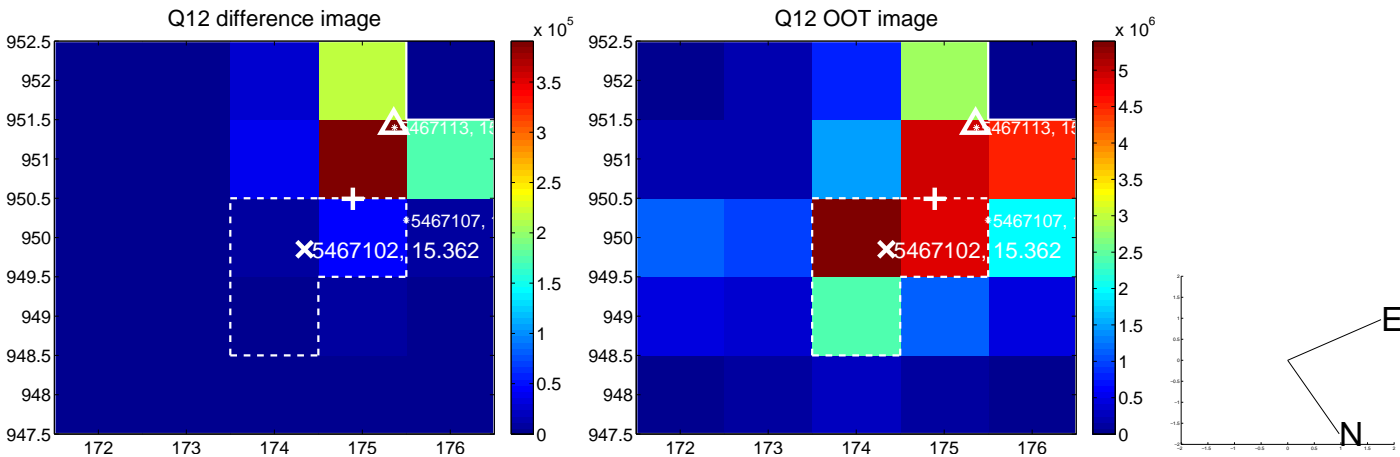
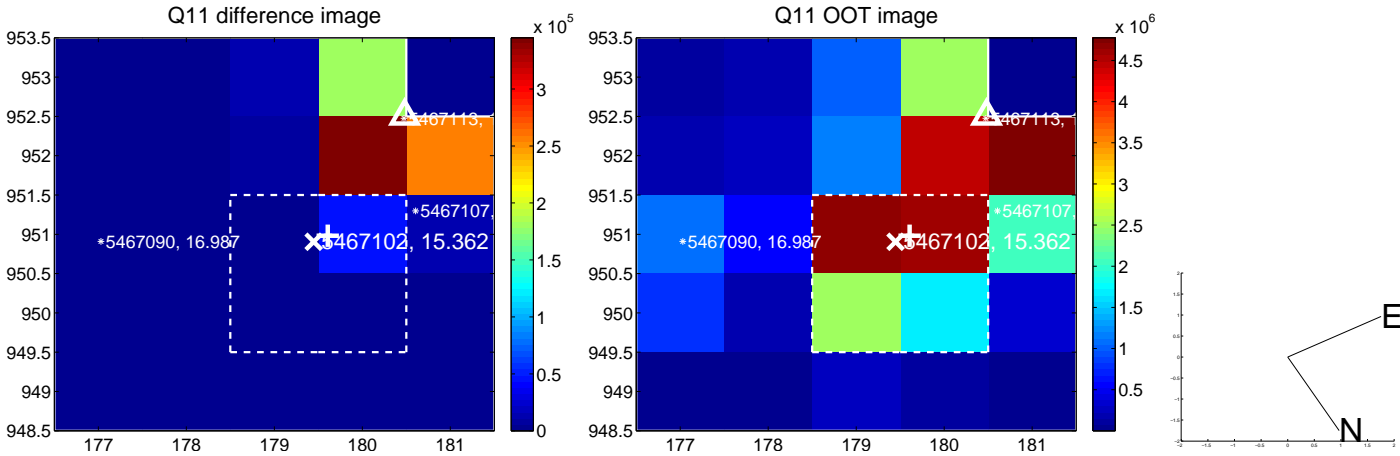
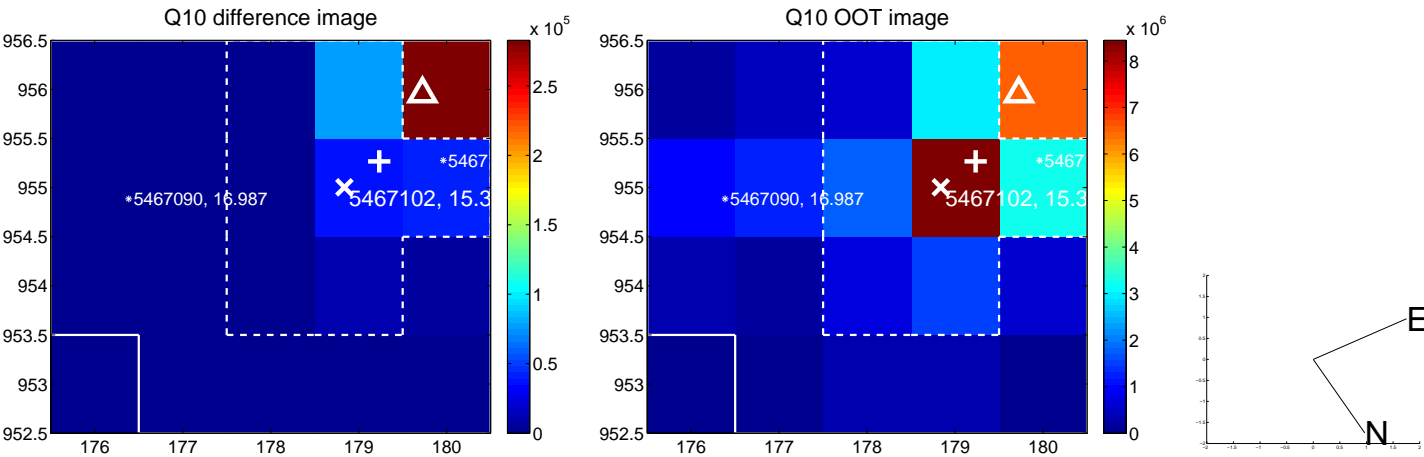
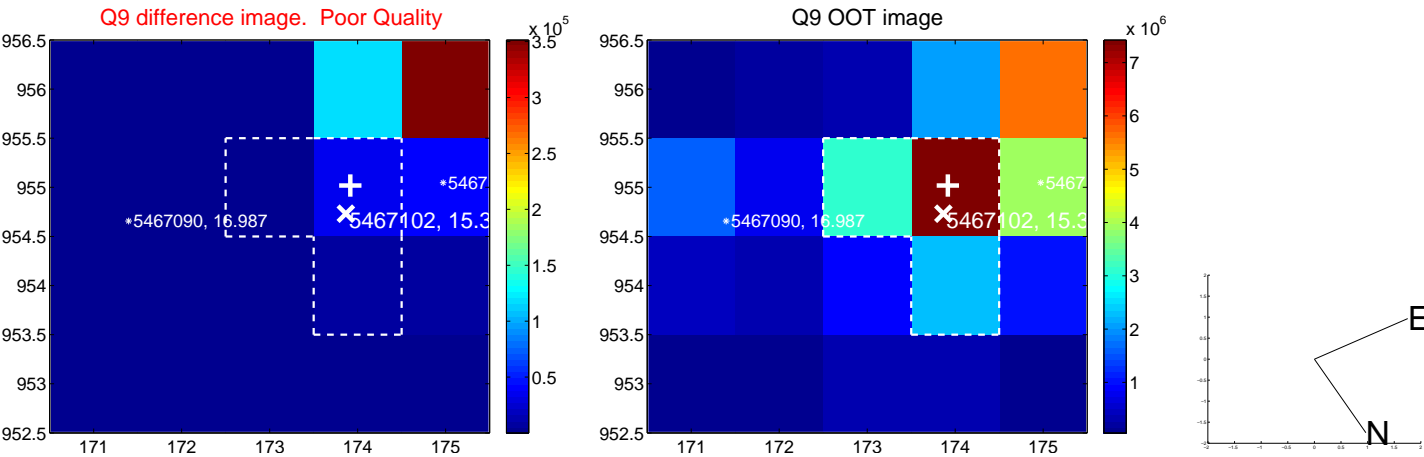
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



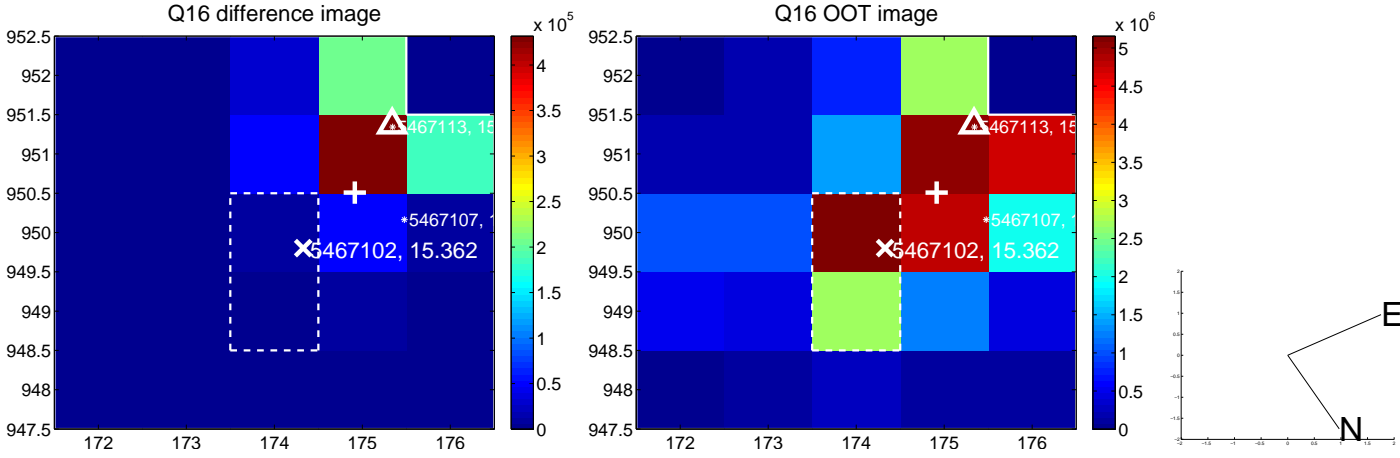
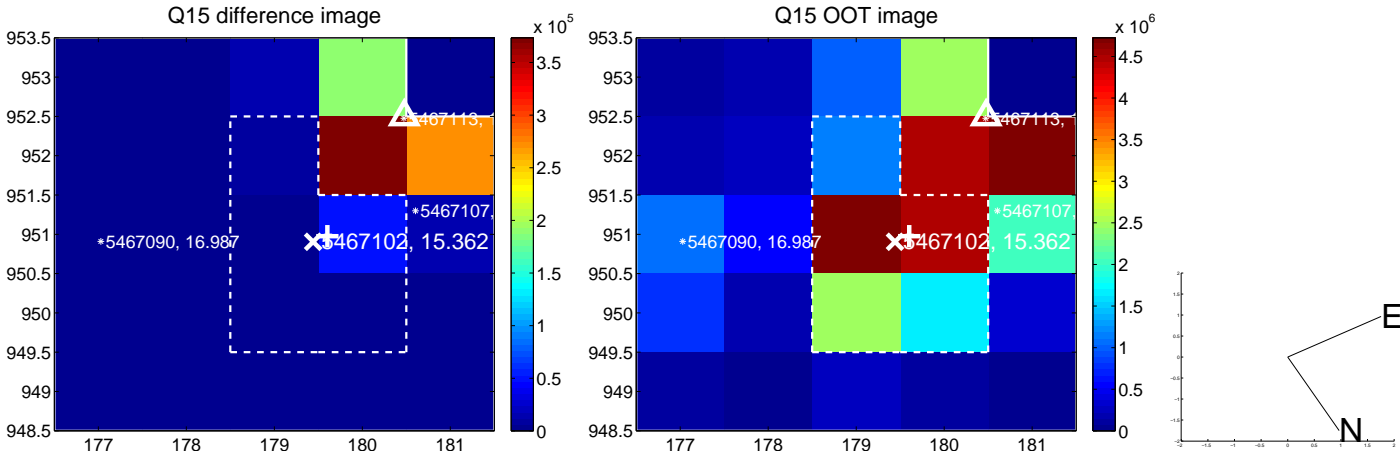
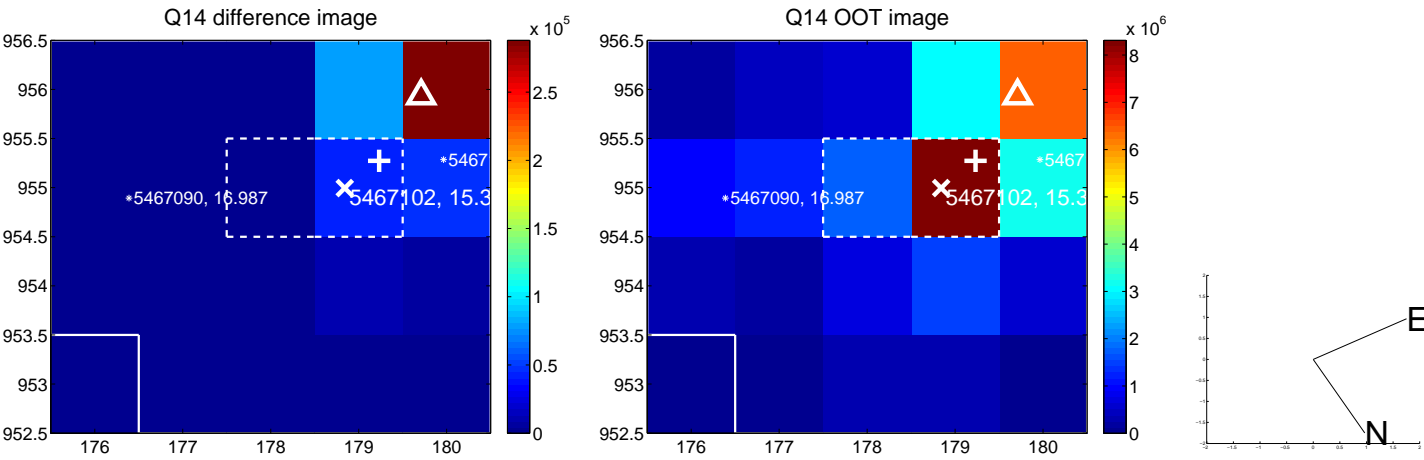
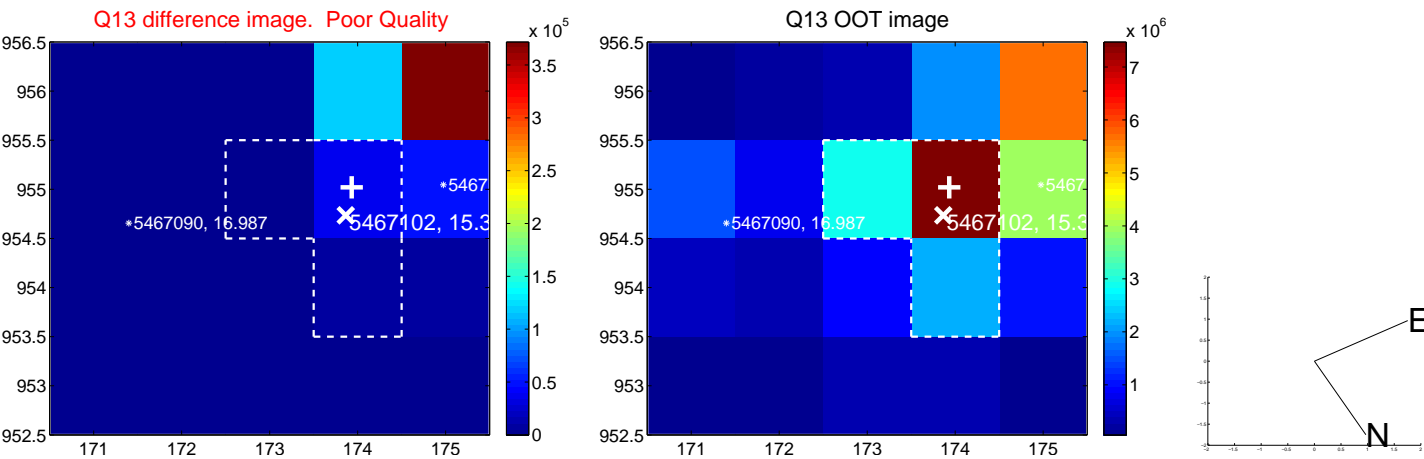
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



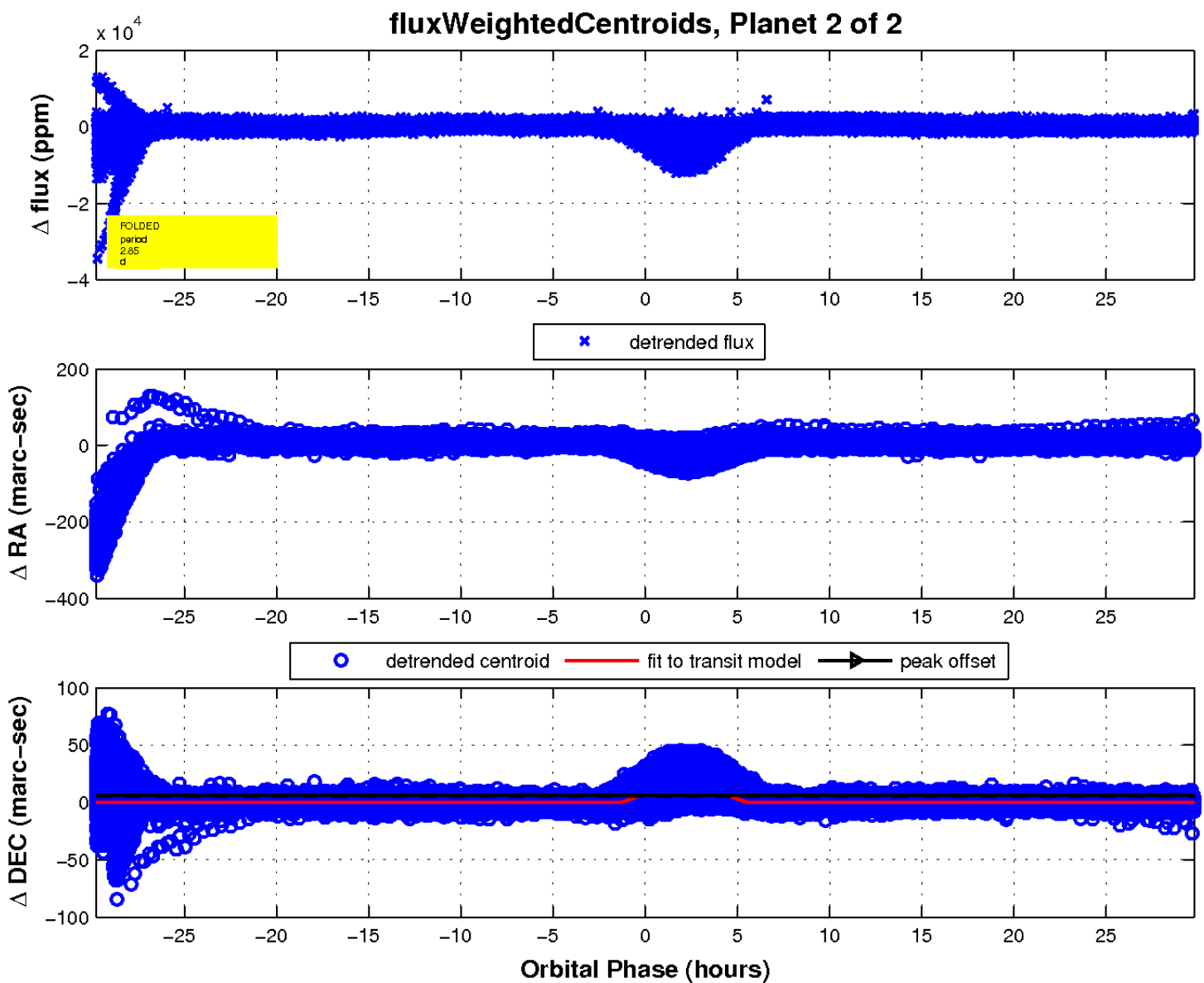
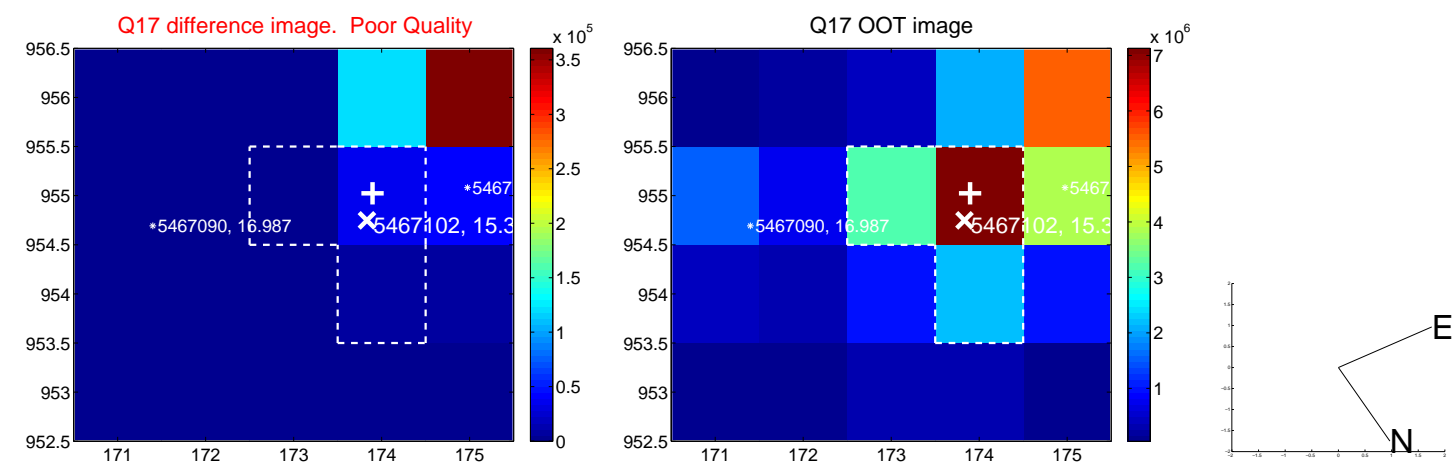
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

