

KIC 006128141

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})
006128141-01	OBS	6665.01	1.872606	132.731580	816.9	1.236	92.8	106.9	1.00	6031	3.41	1366.72
006128141-02	OBS	No	1.872599	131.796395	356.8	1.049	31.4	45.1	1.00	6031	2.26	1366.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006128141-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
006128141-02	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.

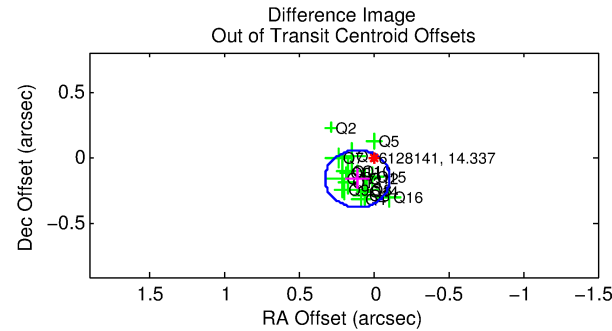
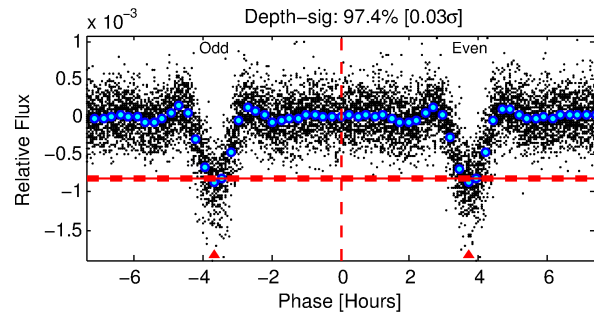
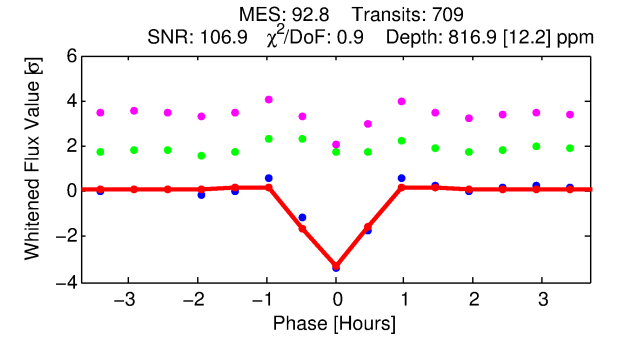
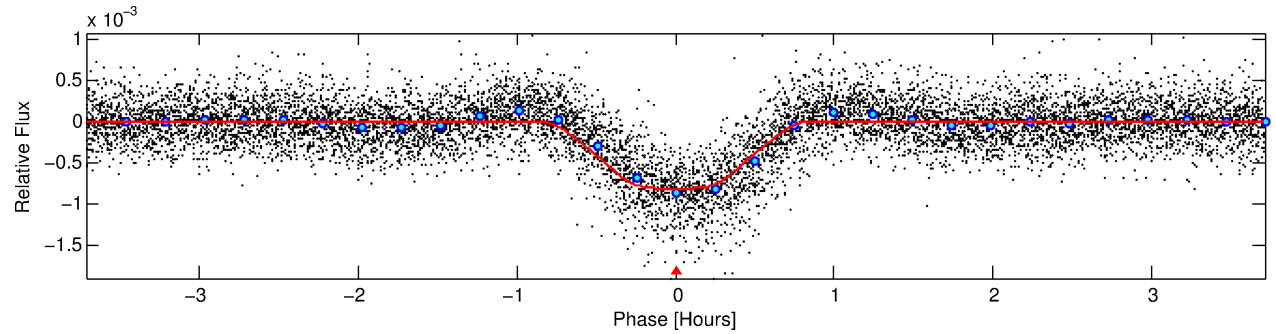
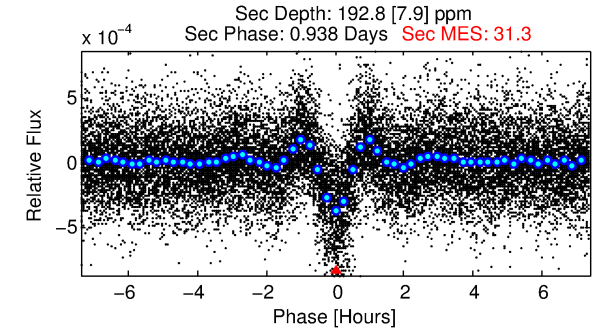
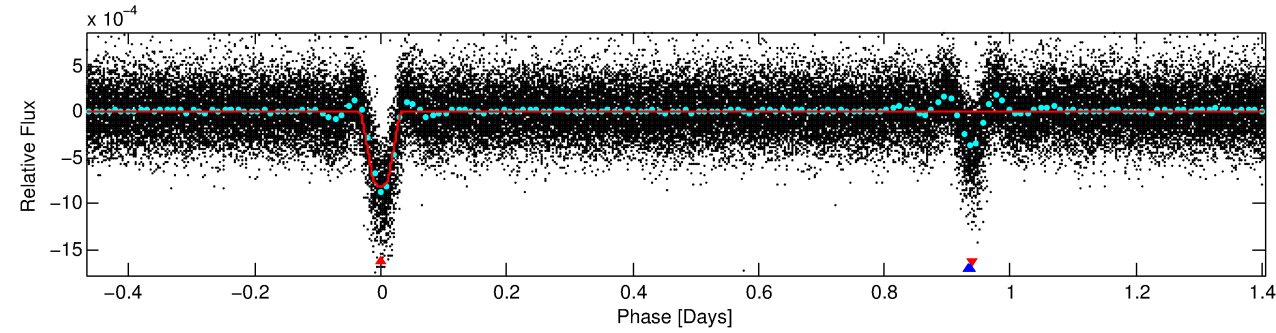
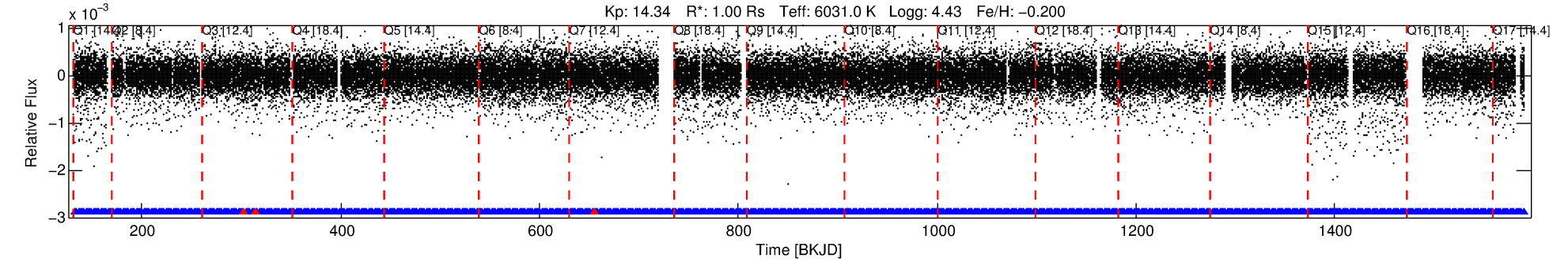
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006128141-01

No Significant Match Found

DV One-Page Summary

KIC: 6128141 Candidate: 1 of 2 Period: 1.873 d
KOI: K06665.01 Corr: 0.838



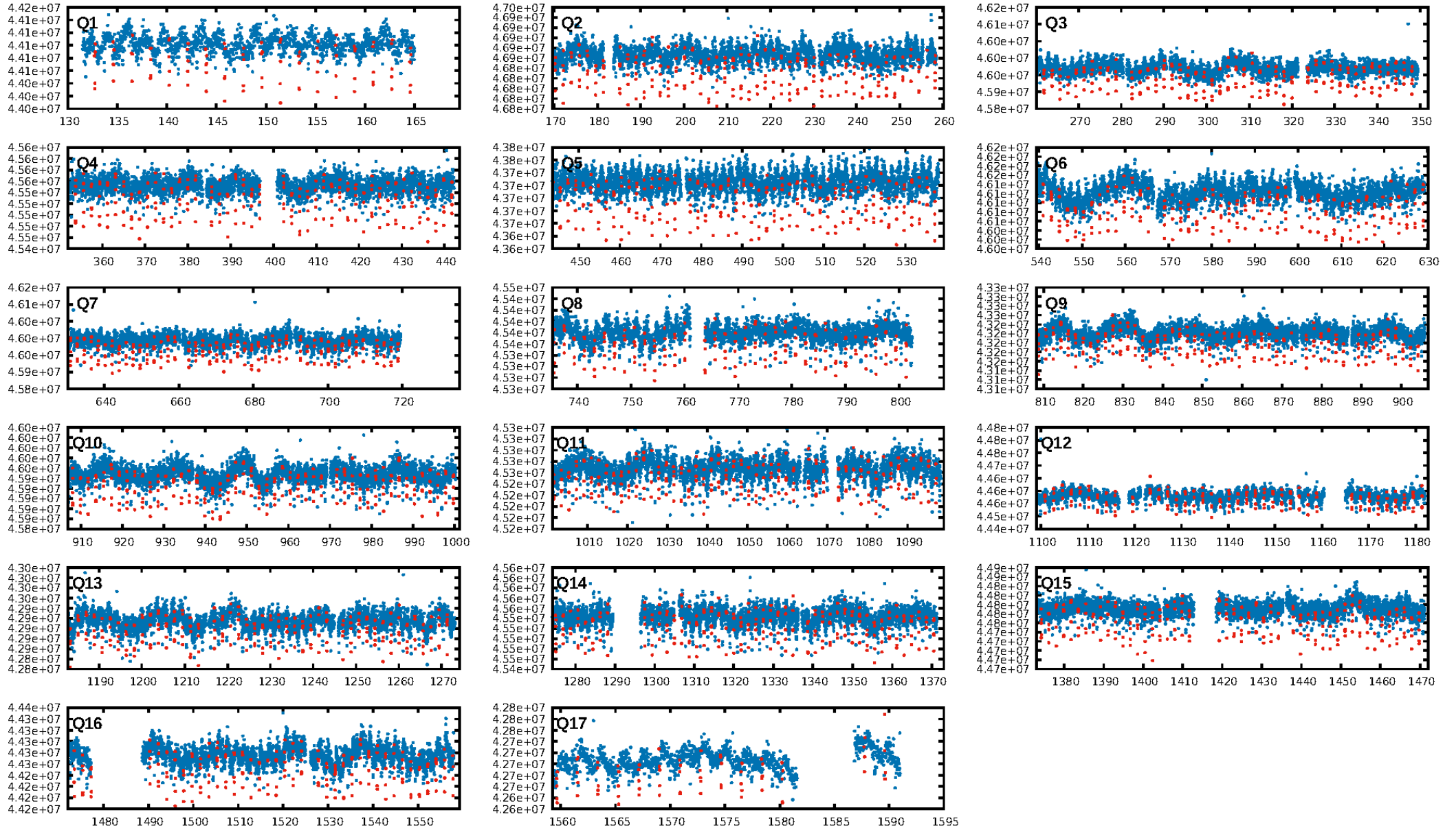
DV Fit Results:

Period = 1.87261 [0.00000] d
Epoch = 132.7316 [0.0002] BKJD
Rp/R* = 0.0311 [0.0014]
a/R* = 5.86 [1.23]
b = 0.90 [0.05]
Seff = 1366.72 [523.87]
Teff = 1550 [149] K
Rp = 3.41 [1.02] Re
a = 0.0296 [0.0073] AU
Ag = 7.97 [2.97] [2.34σ]
Teffp = 4027 [165] K [11.14σ]

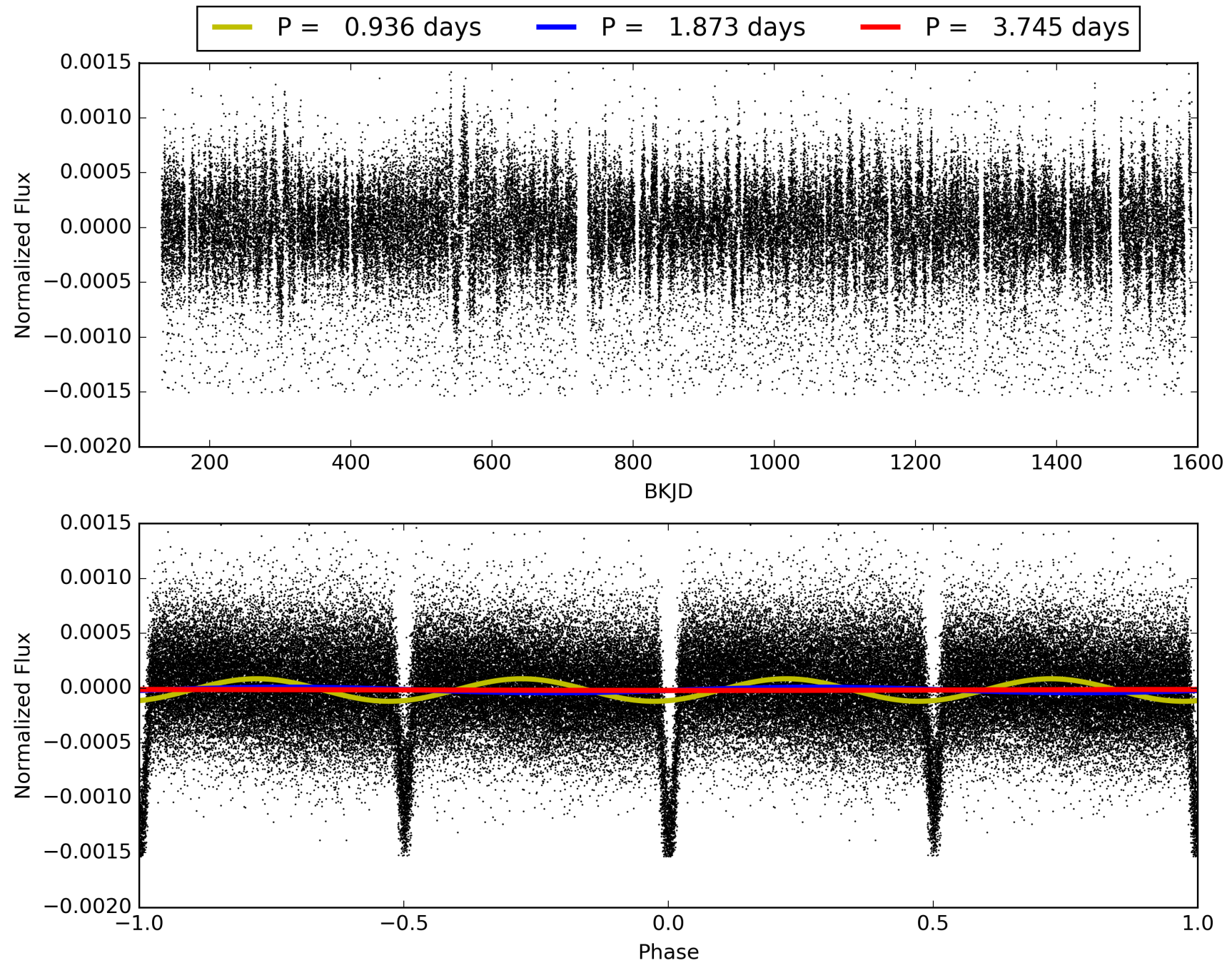
DV Diagnostic Results:

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 [674/677]
GhostDiagnostic-chr: 2.311
Centroid-sig: 0.0%
Centroid-so: 0.386 arcsec [3.83σ]
OotOffset-rm: 0.190 arcsec [2.63σ]
KicOffset-rm: 0.089 arcsec [1.15σ]
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 006128141-01, PDC Light Curves

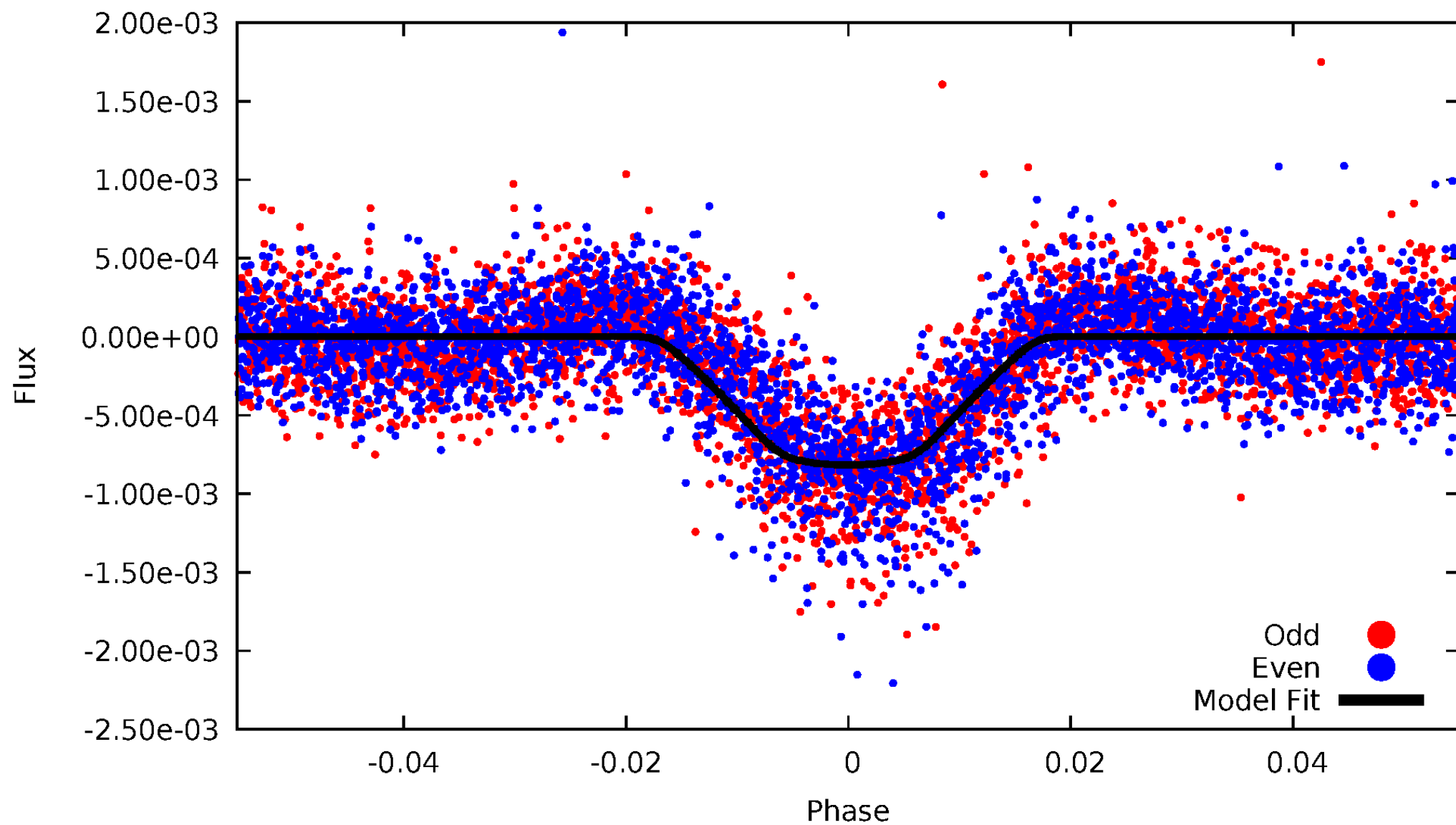


TCE 006128141-01



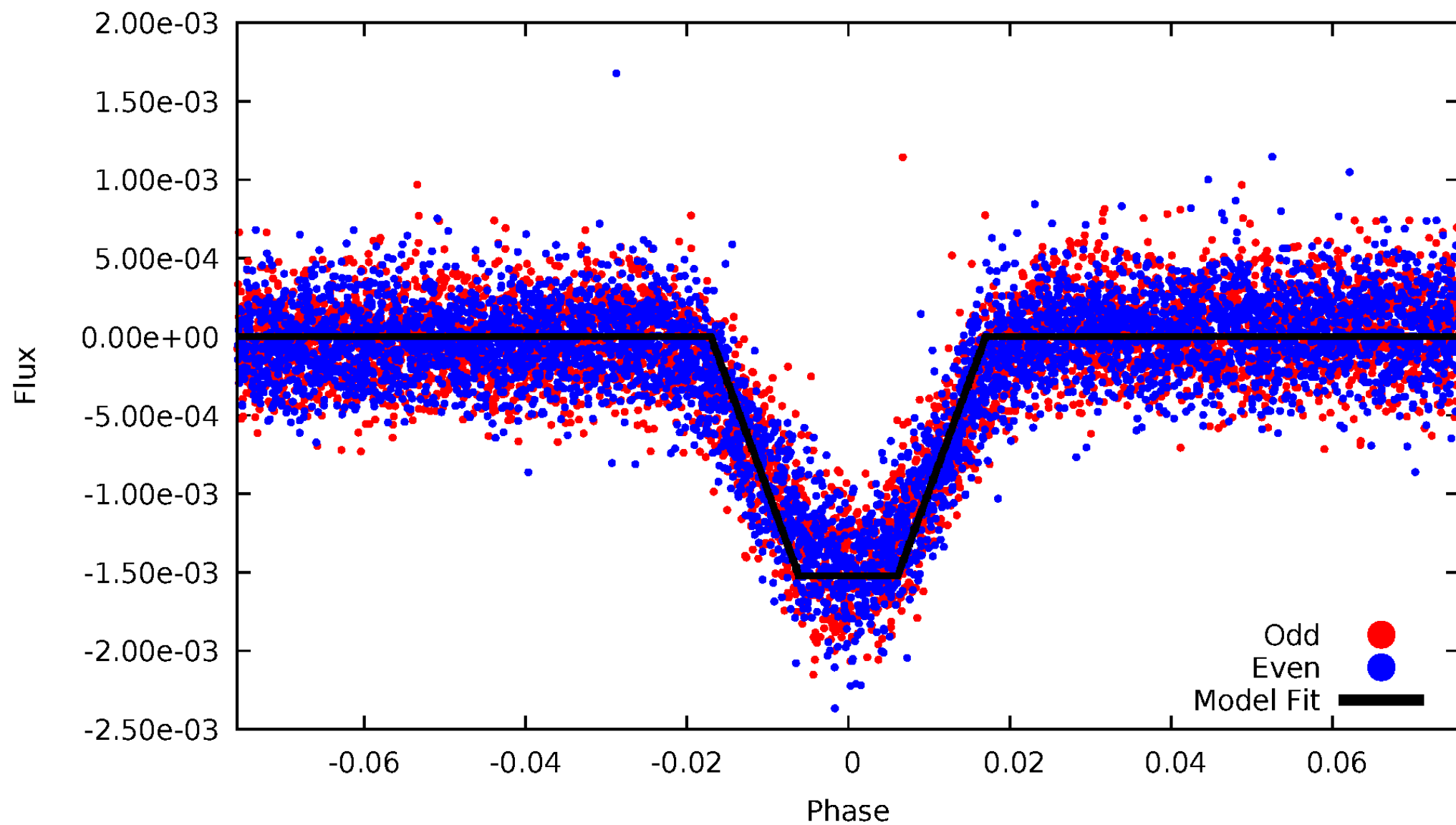
DV Odd/Even

TCE 006128141-01



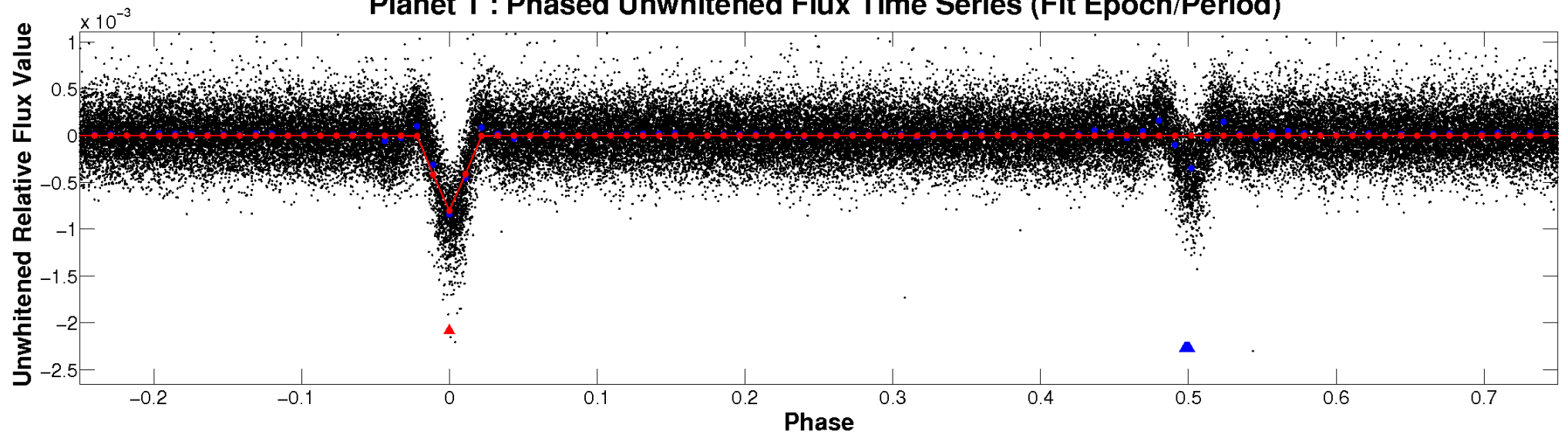
ALT Odd/Even

TCE 006128141-01

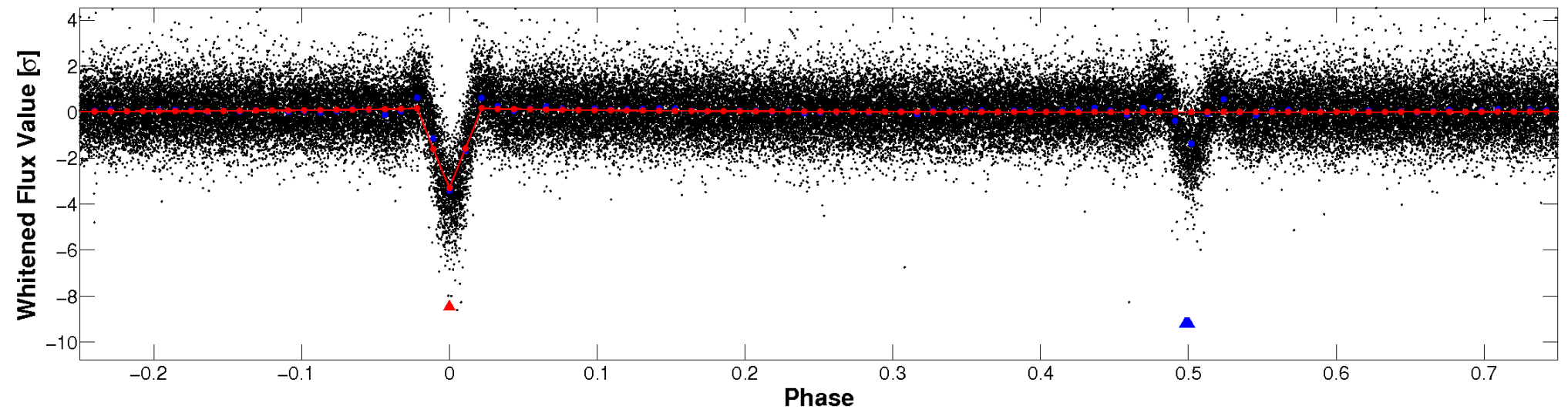


Non-Whitened Vs. Whitened Light Curve

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

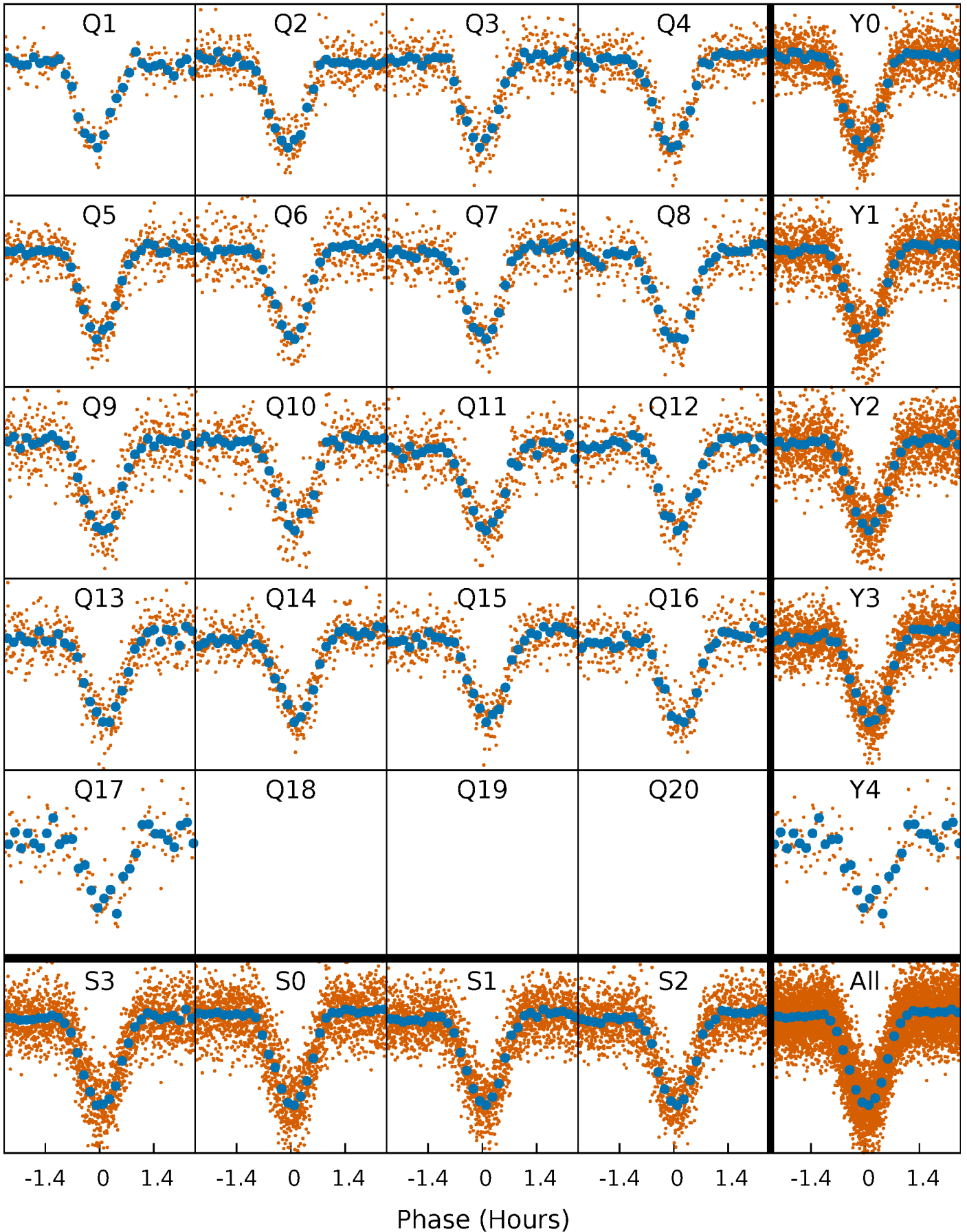


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



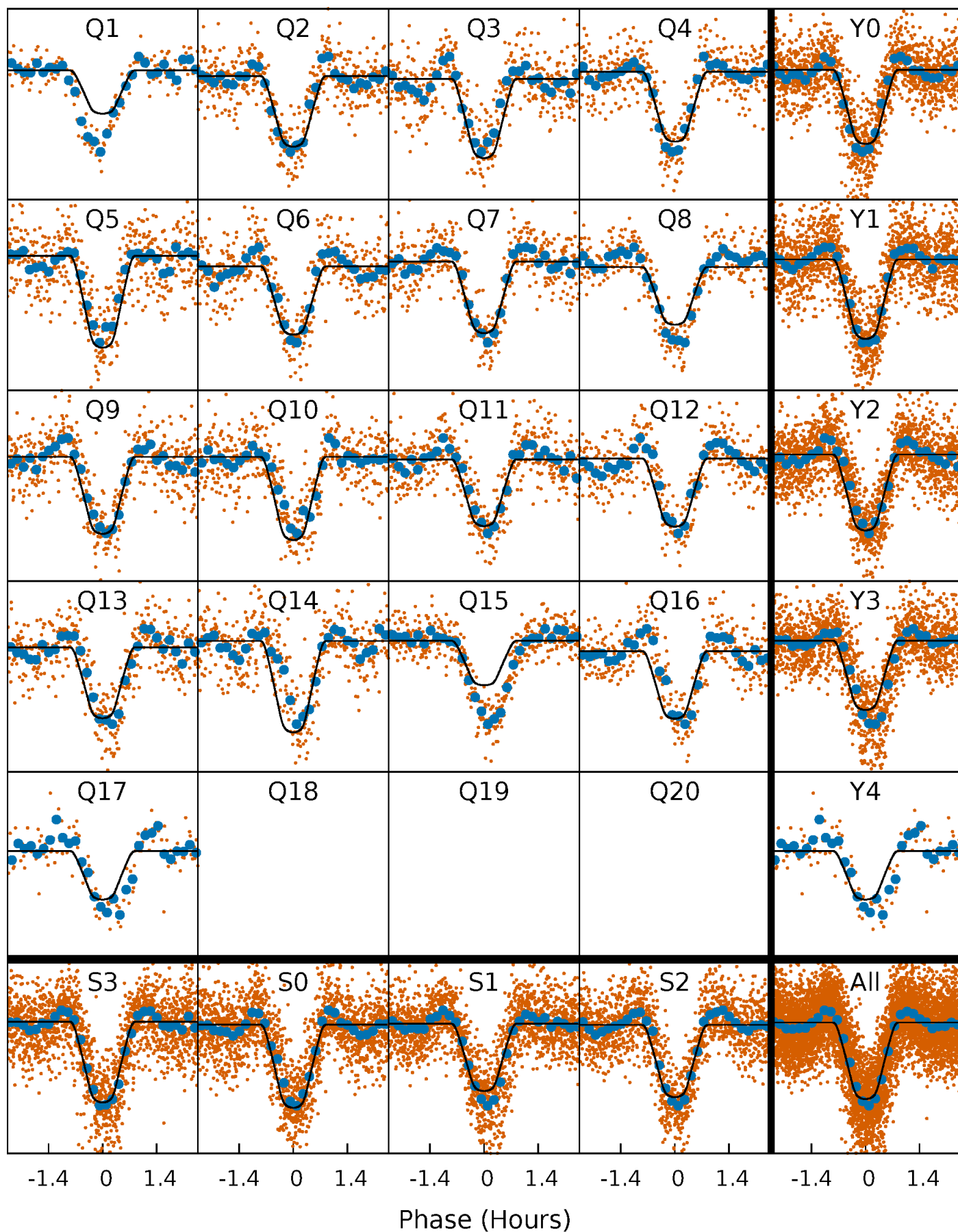
PDC Quarter-Phased Transit Curves

TCE 006128141-01 P= 1.872606 Days $T_0=132.731580$ (BKJD)



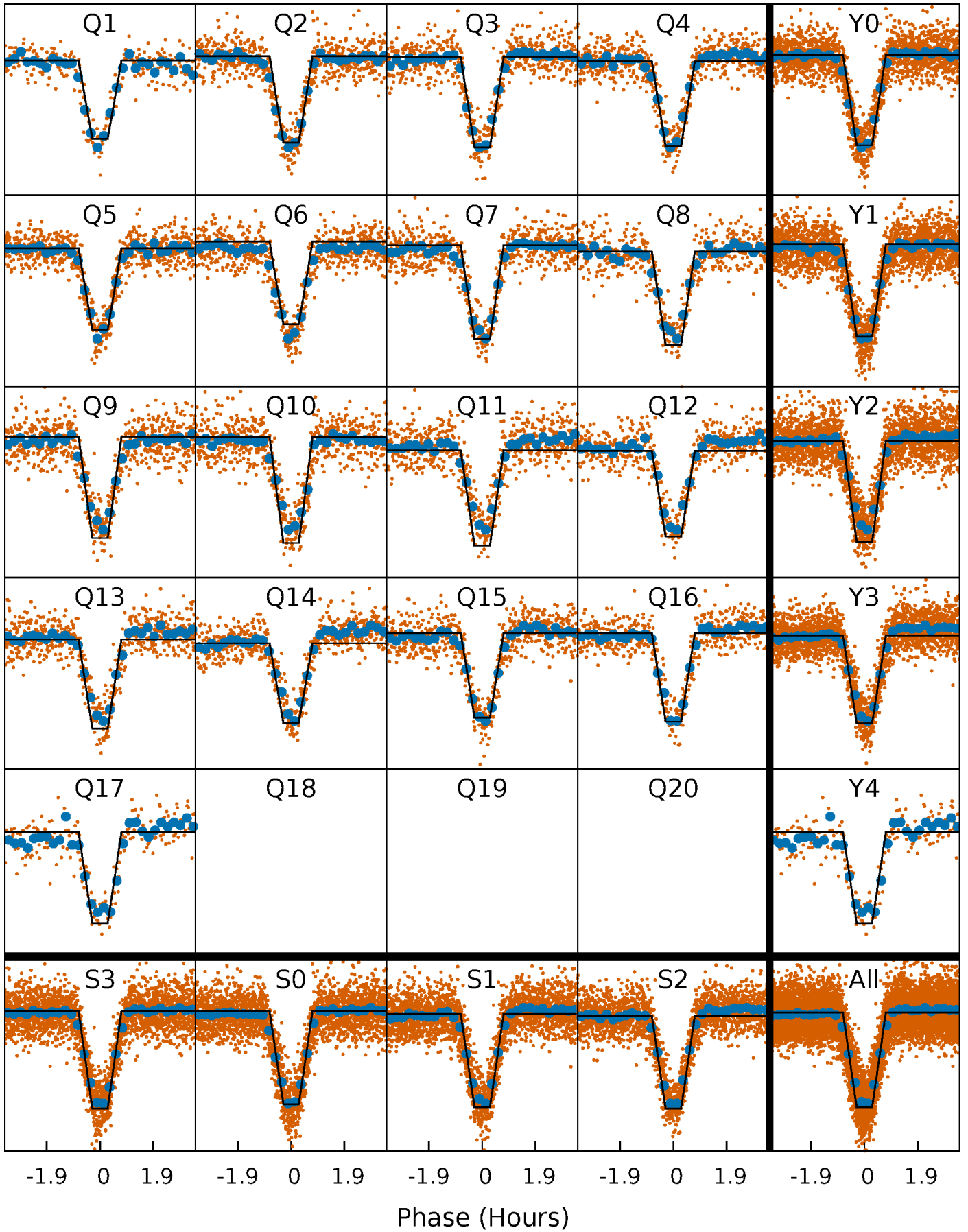
DV Quarter-Phased Transit Curves

TCE 006128141-01 P= 1.872606 Days $T_0=132.731580$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

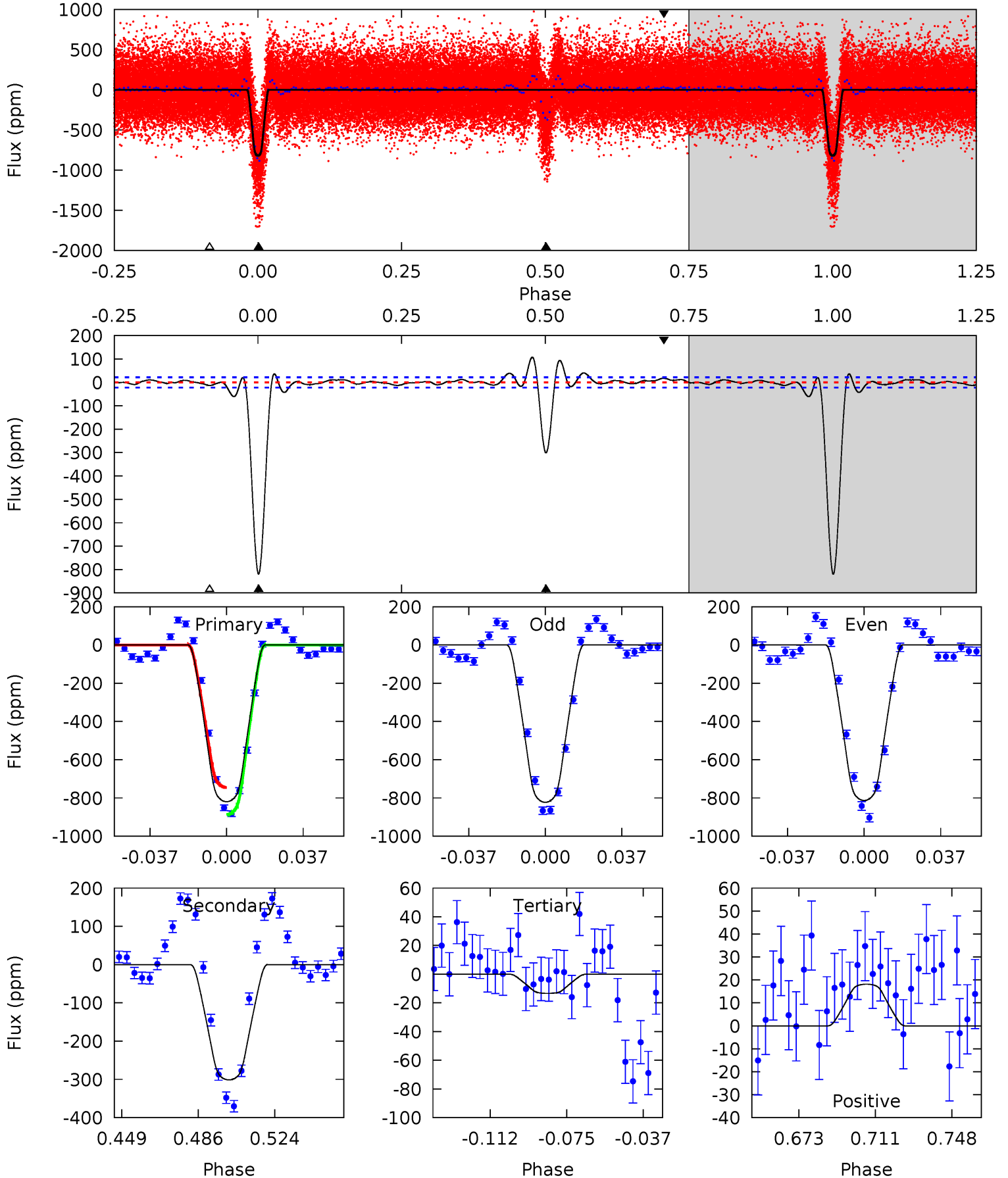
TCE 006128141-01 P= 1.872616 Days $T_0=132.729684$ (BKJD)



DV Model-Shift Uniqueness Test

006128141-01, P = 1.872606 Days, E = 130.858974 Days

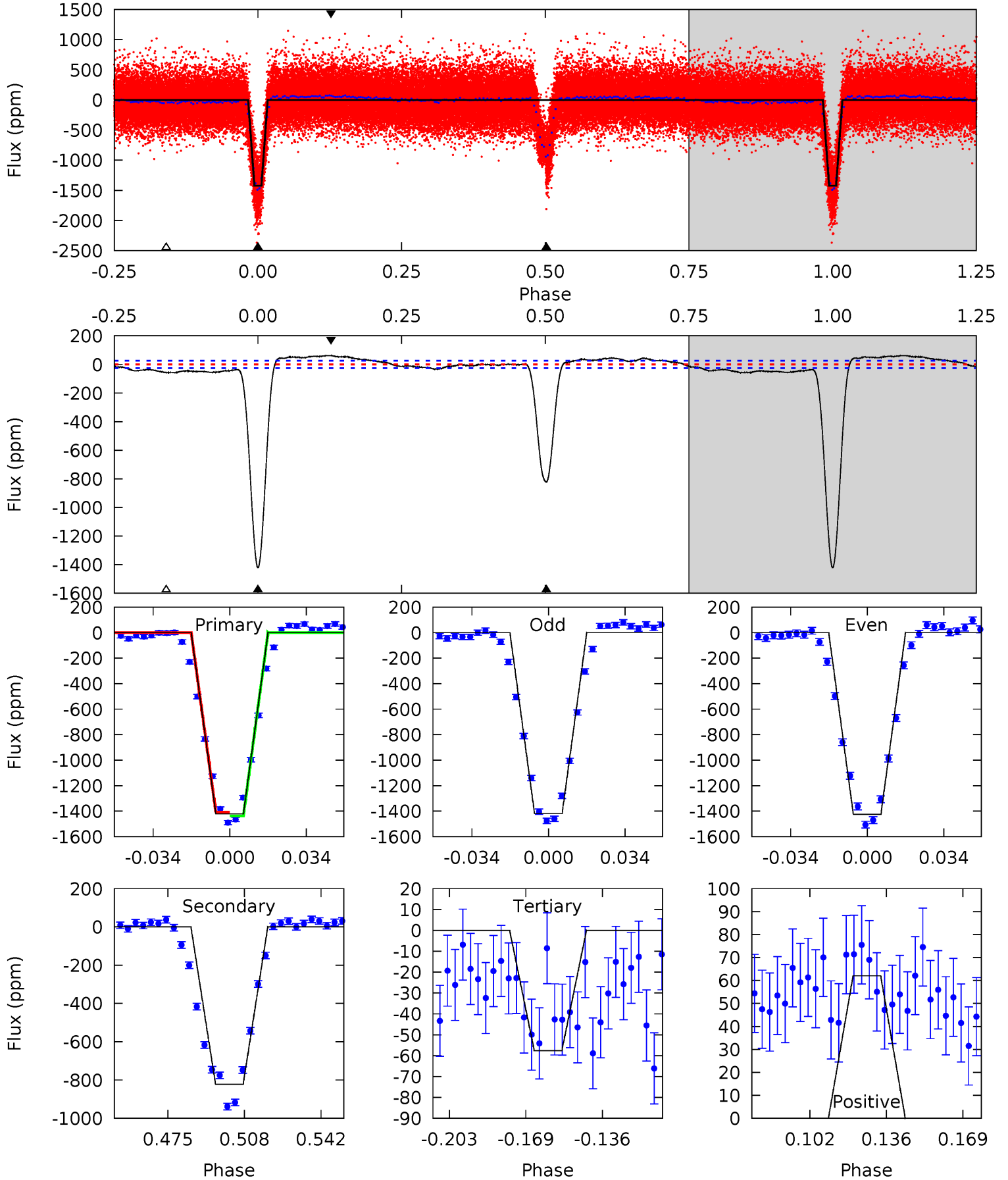
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
177.3	65.2	2.90	3.93	4.77	2.08	2.86	174.4	173.4	62.3	61.3	1.04	1.03	0.12	15.3



Alt Model-Shift Uniqueness Test

006128141-01, P = 1.872616 Days, E = 130.857068 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
262.6	151.9	10.6	11.5	4.79	2.12	6.54	251.9	251.1	141.3	140.5	0.55	1.00	0.04	2.79



Stellar Parameters For KIC 006128141

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6031^{+162}_{-198}	$4.427^{+0.084}_{-0.196}$	$-0.200^{+0.300}_{-0.300}$	$1.004^{+0.298}_{-0.128}$	$0.983^{+0.143}_{-0.117}$	$1.367^{+0.523}_{-0.732}$
	+3%/-3%	+2%/-4%	+150%/-150%	+30%/-13%	+15%/-12%	+38%/-54%
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 006128141-01 / KOI 6665.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-301 ± 5	$3.45^{+0.57}_{-0.30}$	2187^{+147}_{-112}	4624^{+140}_{-146}	12^{+2}_{-3}
Alt.	-822 ± 5	$4.36^{+0.69}_{-0.43}$	2194^{+160}_{-120}	5203^{+162}_{-163}	21^{+4}_{-5}

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 $A_{obs} \gg 1.0$

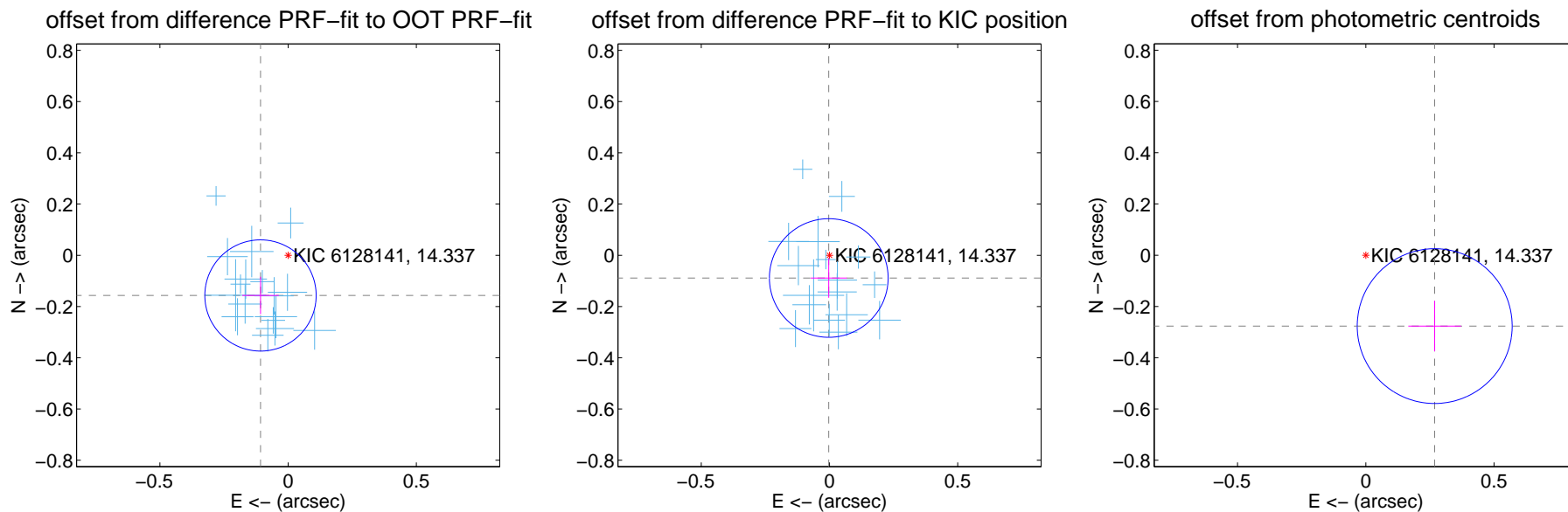
DV Centroid Data

Supplemental centroid analysis for 006128141-01. Kepler magnitude: 14.34. Transit SNR 106.94

There are 17 quarters with good PRF difference image offsets

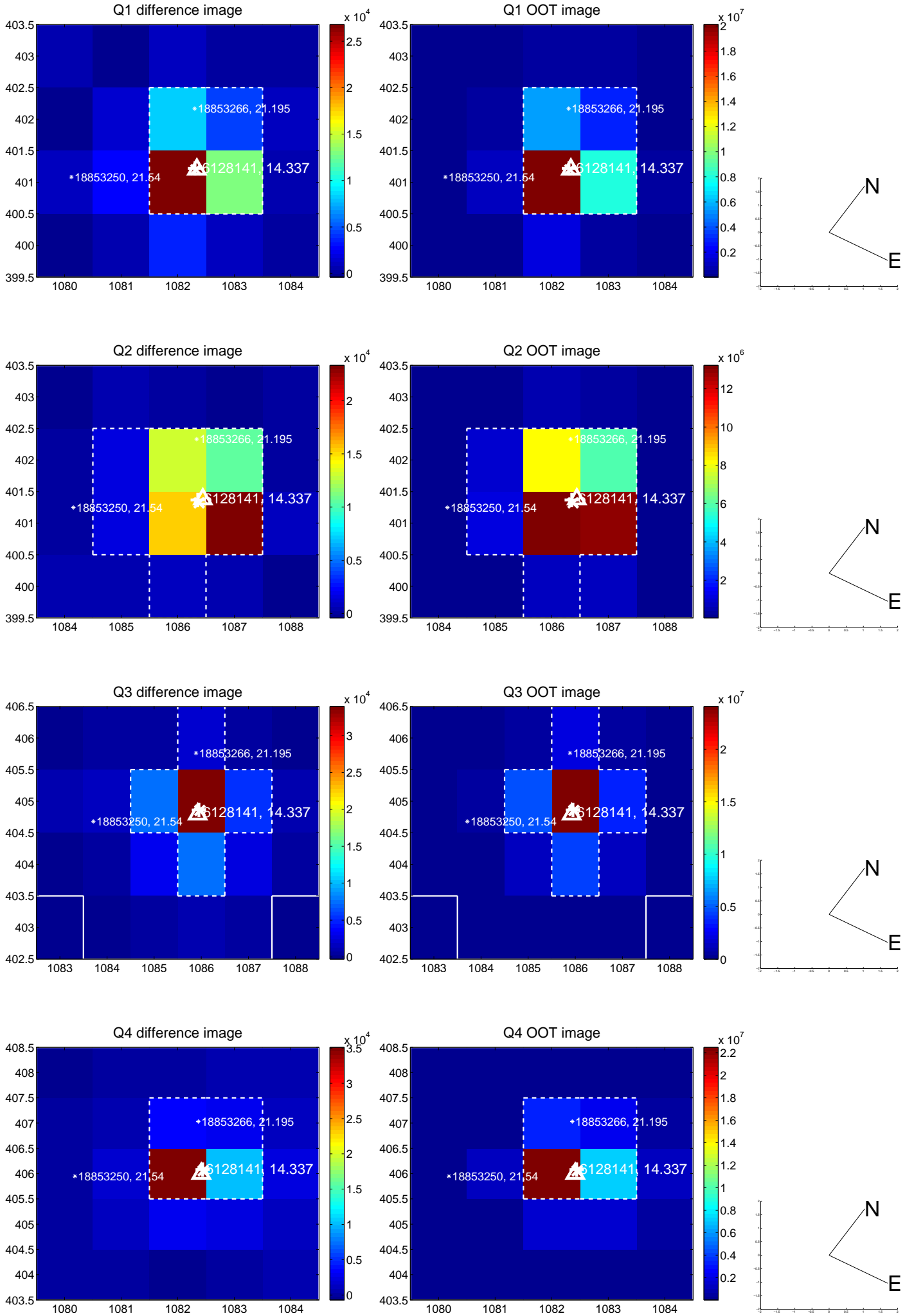
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.190 ± 0.072	2.63	0.108 ± 0.071	-0.157 ± 0.073
PRF-fit source offset from KIC position	0.089 ± 0.077	1.15	0.003 ± 0.071	-0.089 ± 0.077
photometric centroid source offset	0.39 ± 0.10	3.83	-0.27 ± 0.10	-0.28 ± 0.10

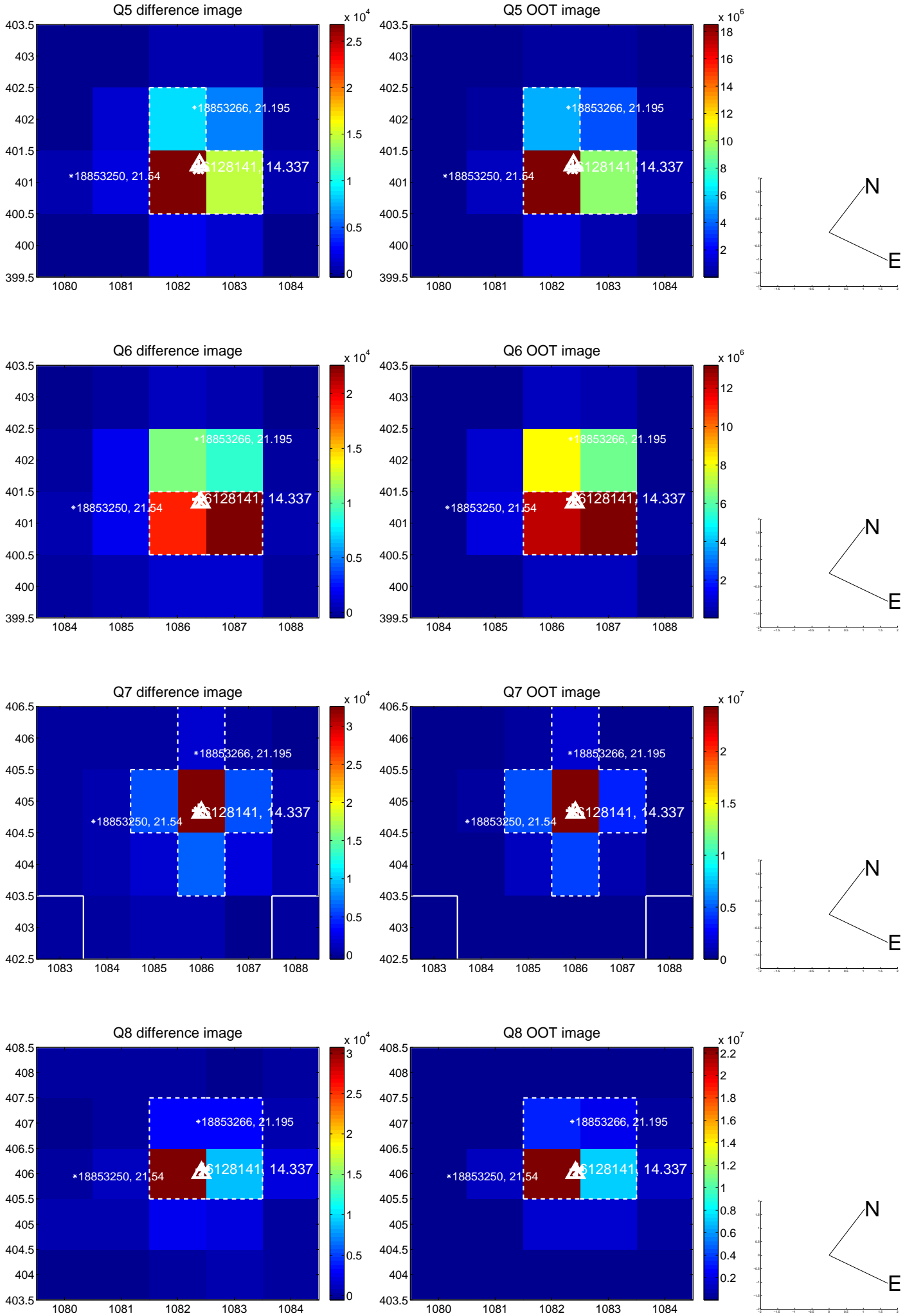


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

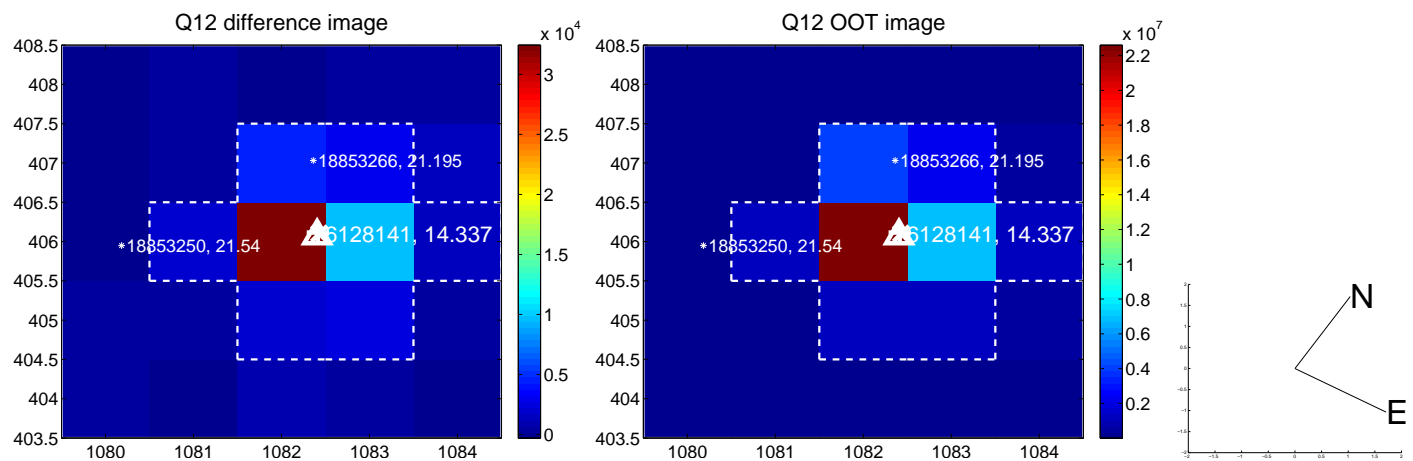
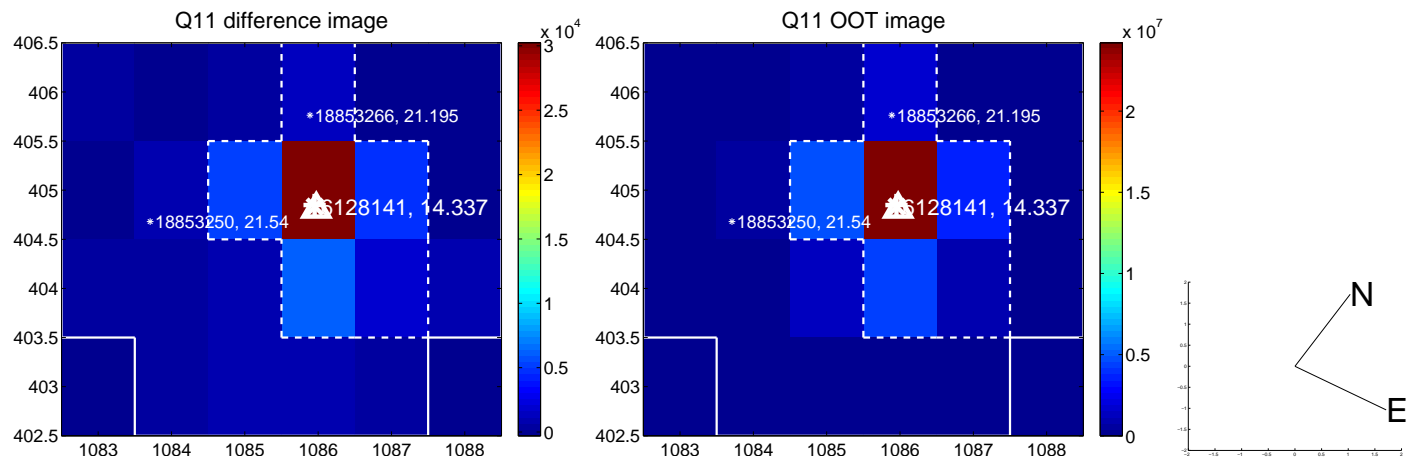
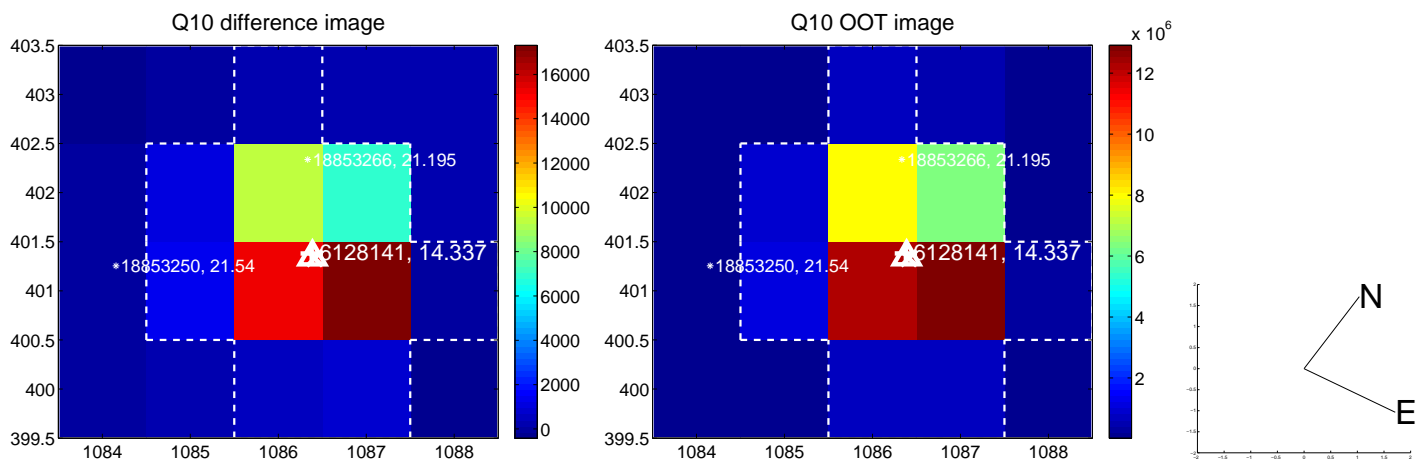
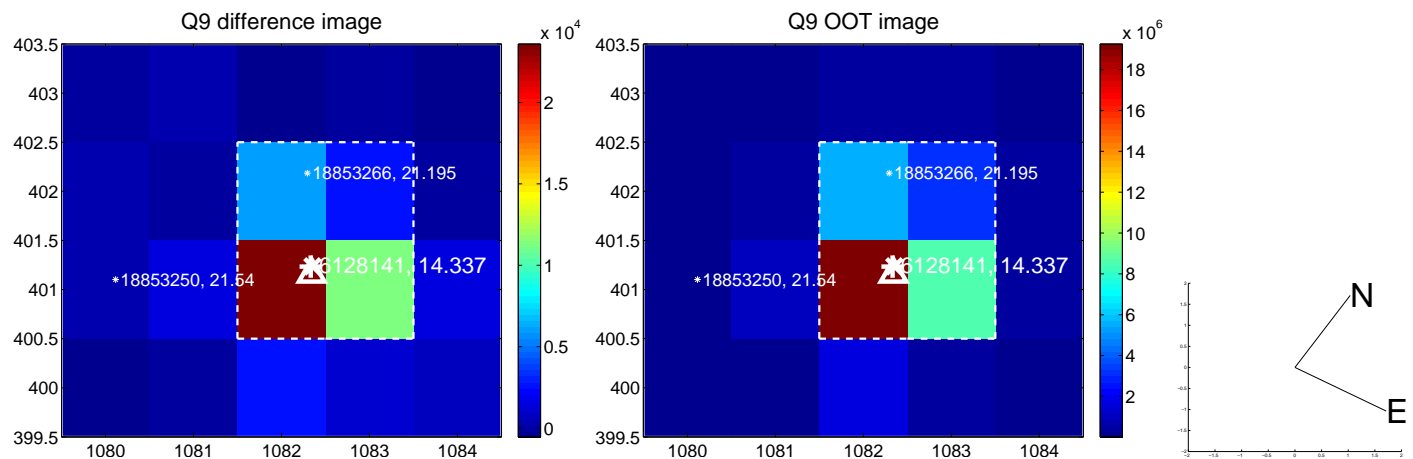
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



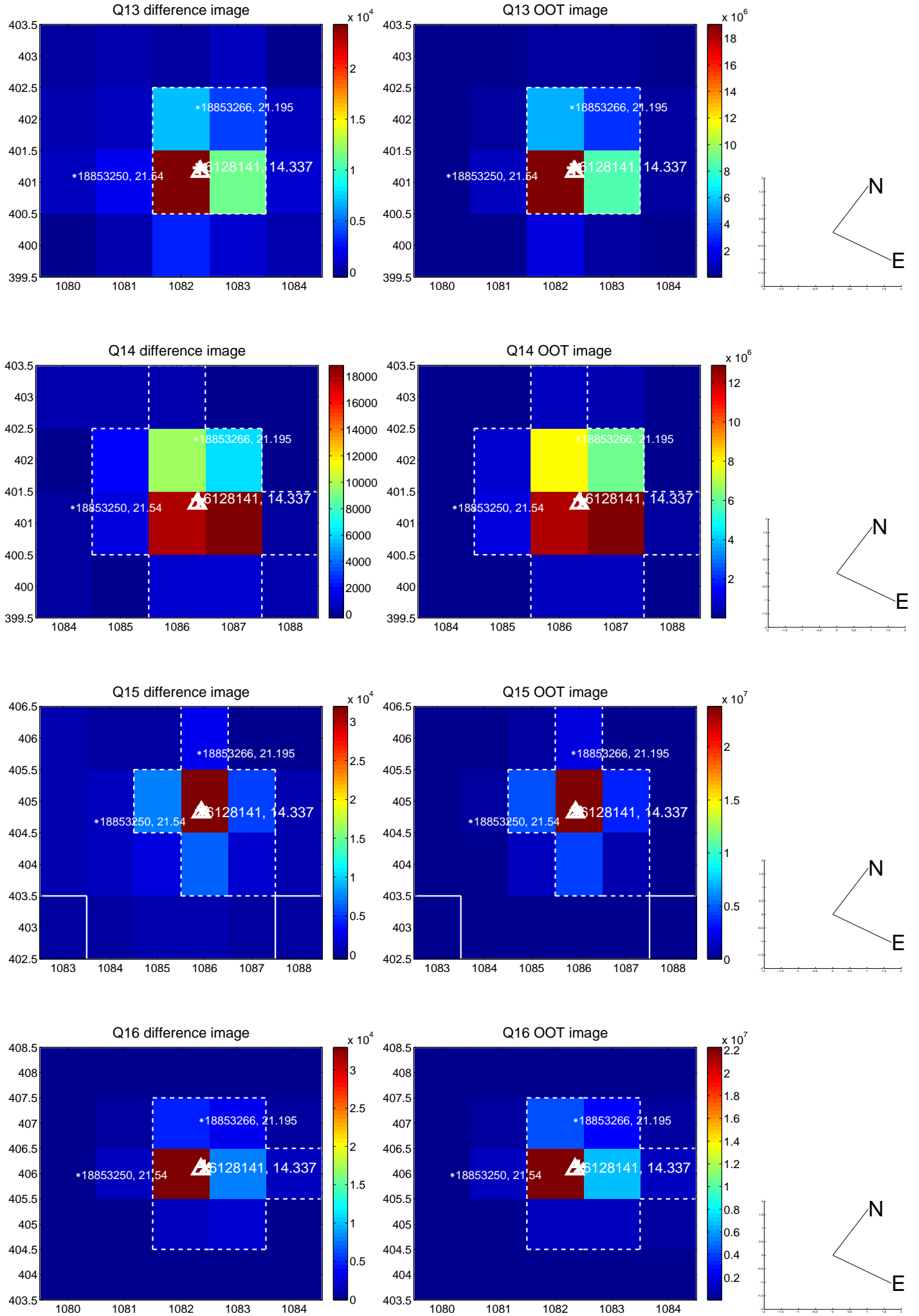
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



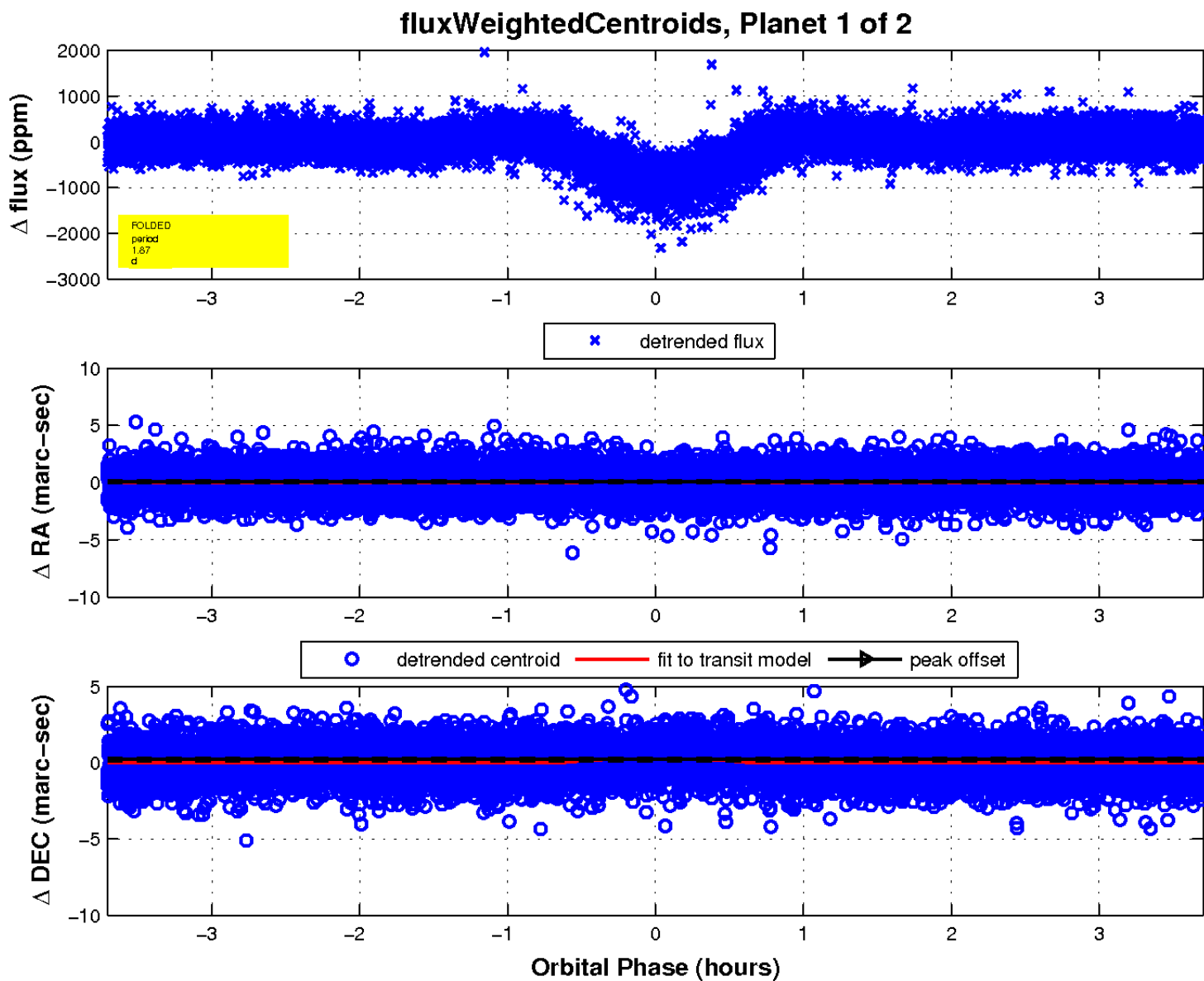
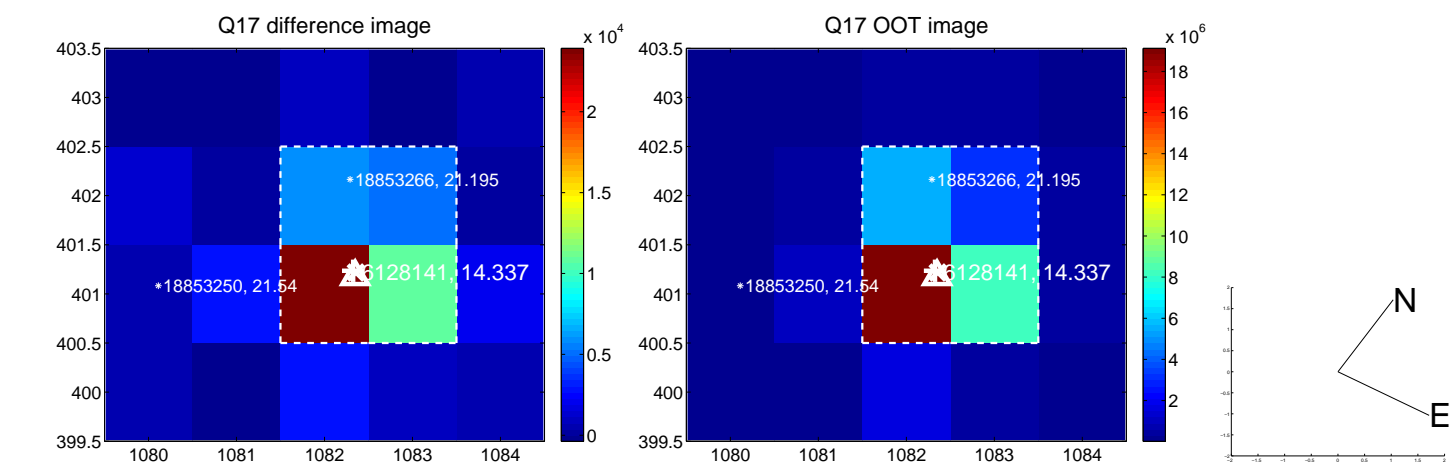
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

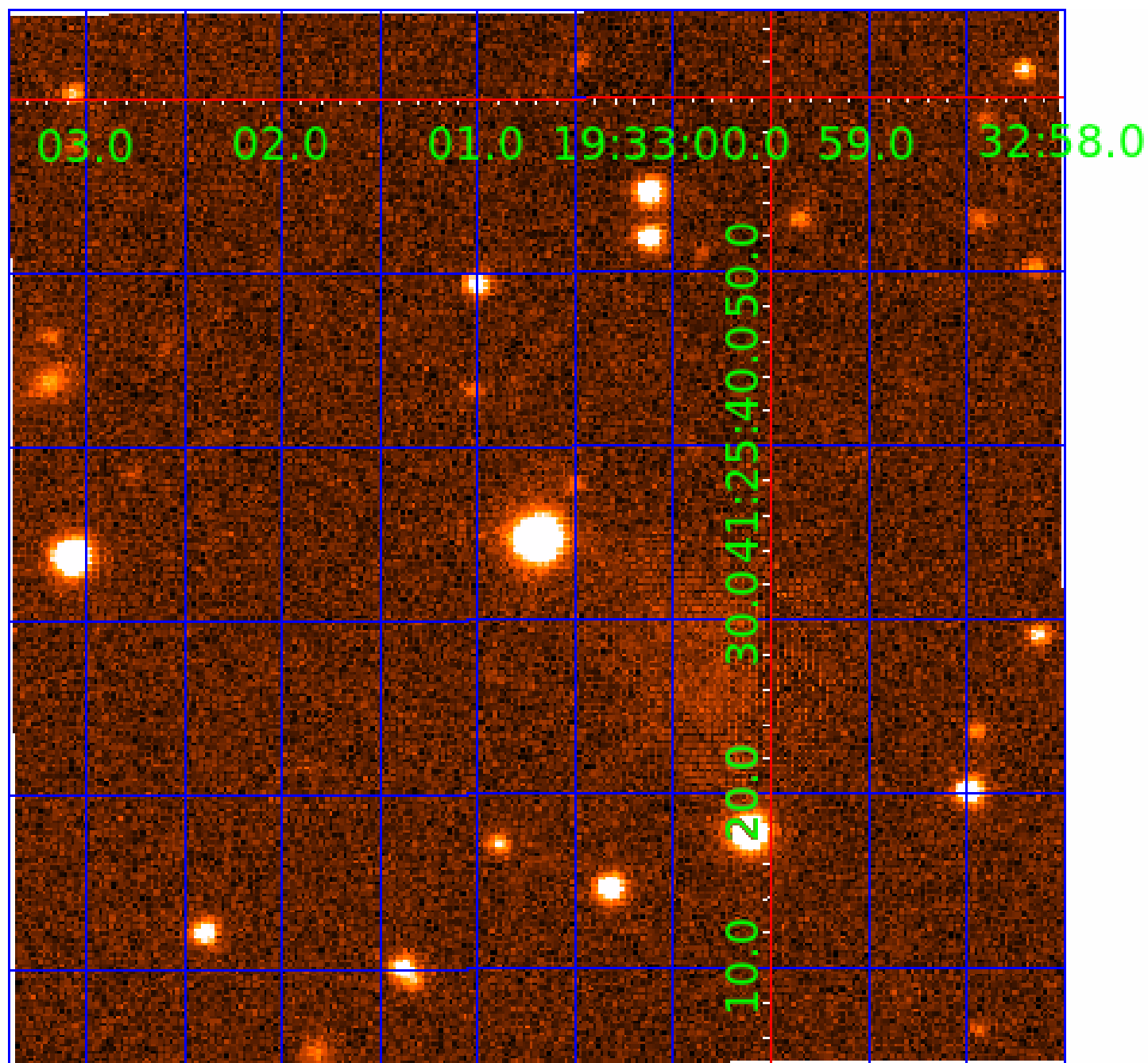


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006128141

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})
006128141-01	OBS	6665.01	1.872606	132.731580	816.9	1.236	92.8	106.9	1.00	6031	3.41	1366.72
006128141-02	OBS	No	1.872599	131.796395	356.8	1.049	31.4	45.1	1.00	6031	2.26	1366.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006128141-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
006128141-02	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.

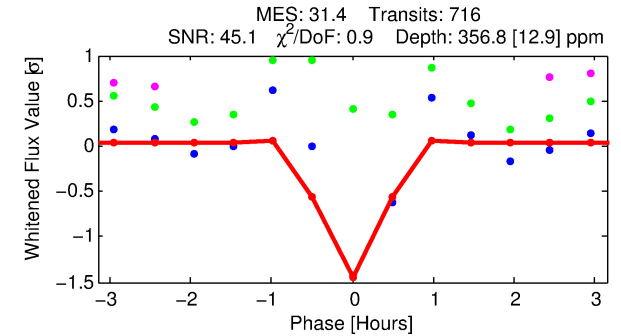
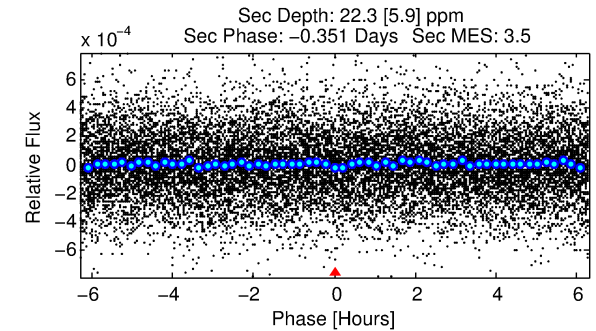
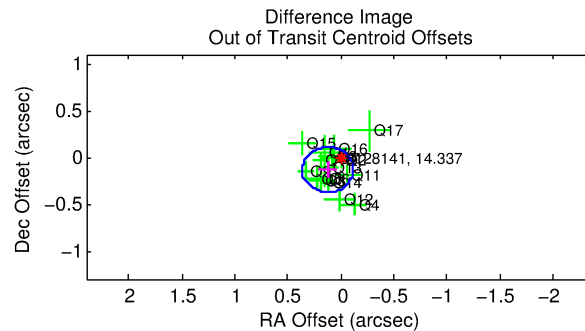
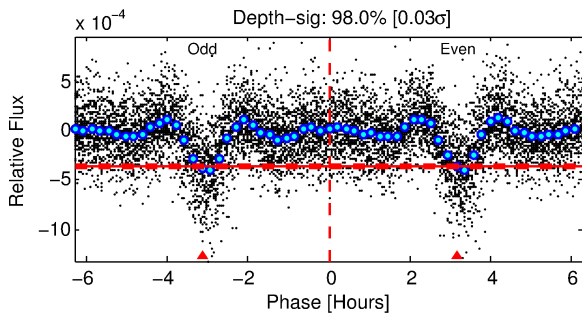
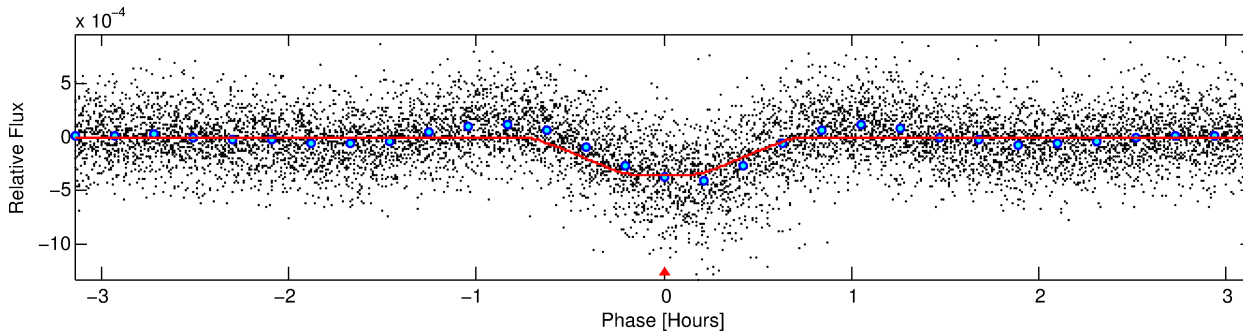
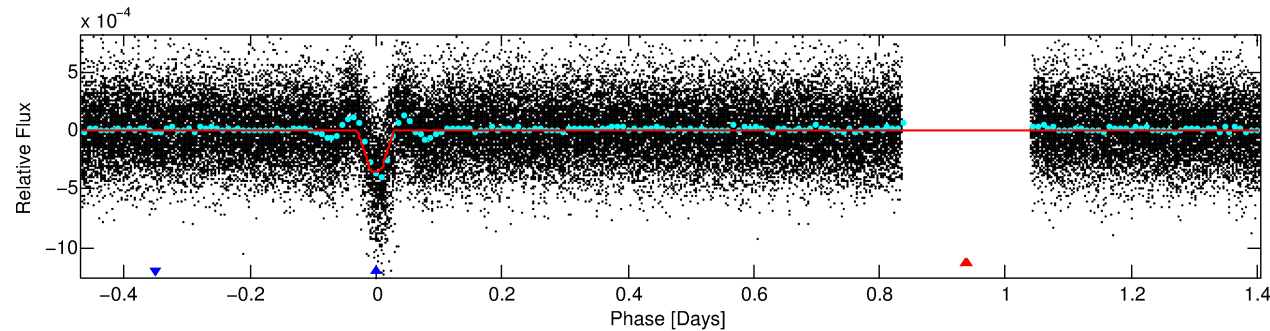
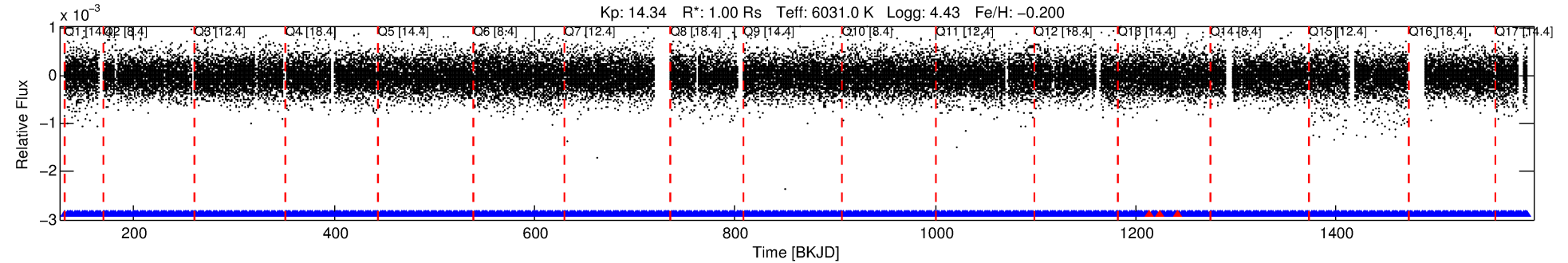
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006128141-02

No Significant Match Found

DV One-Page Summary

KIC: 6128141 Candidate: 2 of 2 Period: 1.873 d
KOI: K06665 Corr: No Ephemeris Match



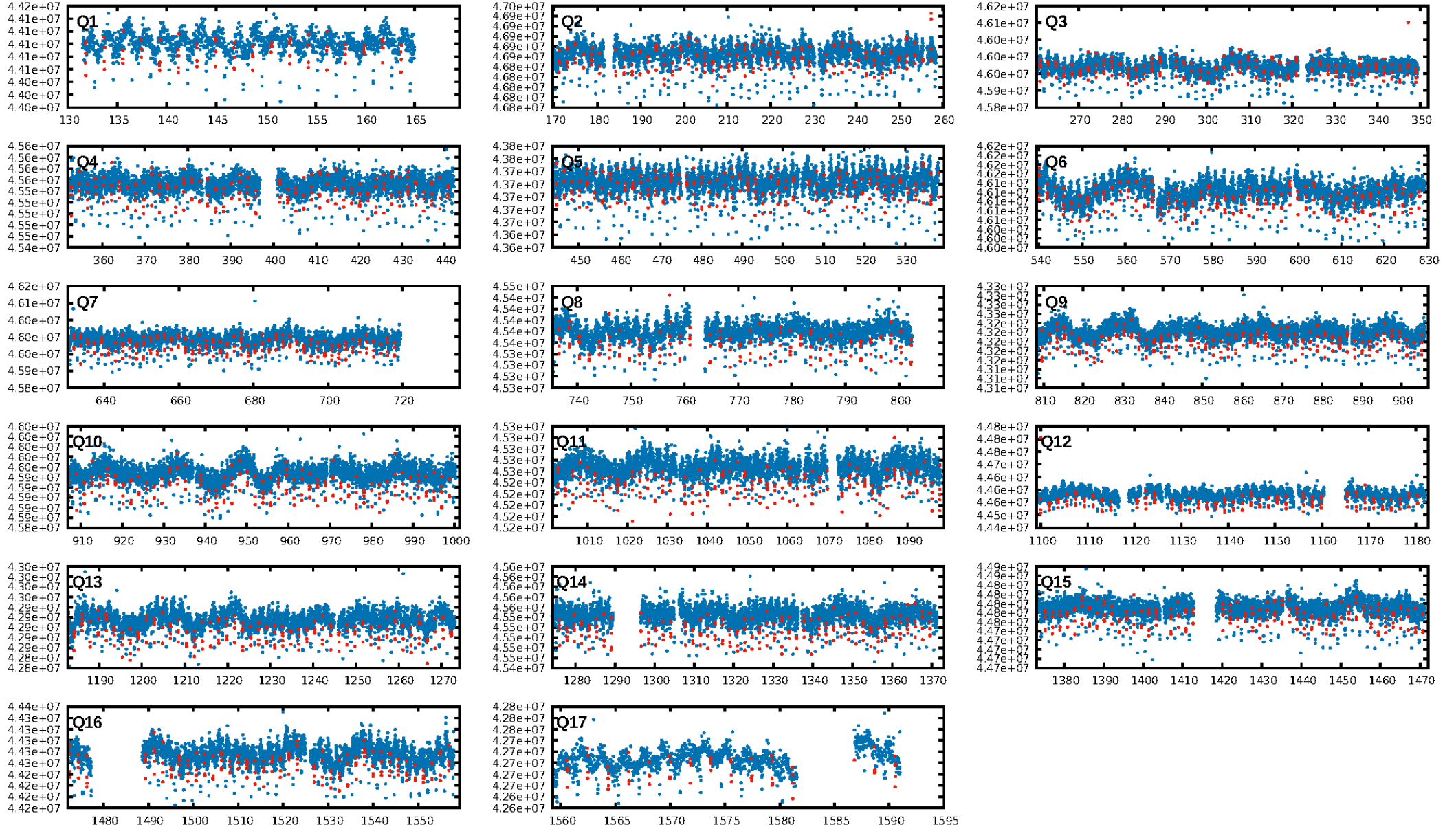
DV Fit Results:

Period = 1.87260 [0.00000] d
Epoch = 131.7964 [0.0004] BKJD
Rp/R* = 0.0206 [0.0033]
a/R* = 6.55 [5.28]
b = 0.90 [0.17]
Seff = 1366.72 [523.87]
Teq = 1550 [149] K
Rp = 2.26 [0.76] Re
a = 0.0296 [0.0073] AU
Ag = 2.09 [1.16] [0.95 σ]
Teffp = 2884 [316] K [3.82 σ]

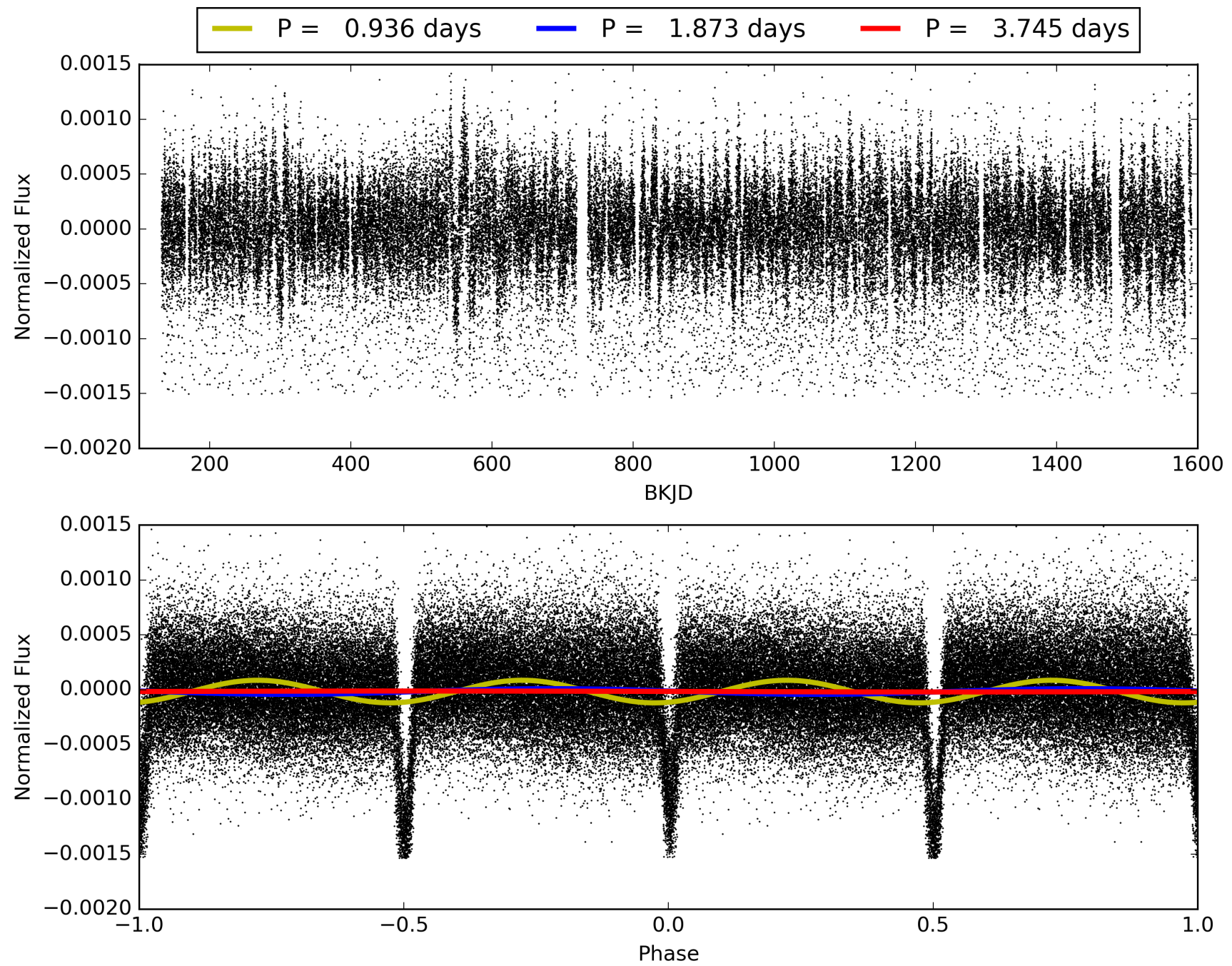
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.46e-209
RollingBand-fgt: 1.00 [680/683]
GhostDiagnostic-chr: 1.531
Centroid-sig: 0.1%
Centroid-so: 0.496 arcsec [2.03 σ]
OotOffset-rm: 0.180 arcsec [2.24 σ]
KicOffset-rm: 0.076 arcsec [0.93 σ]
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 006128141-02, PDC Light Curves

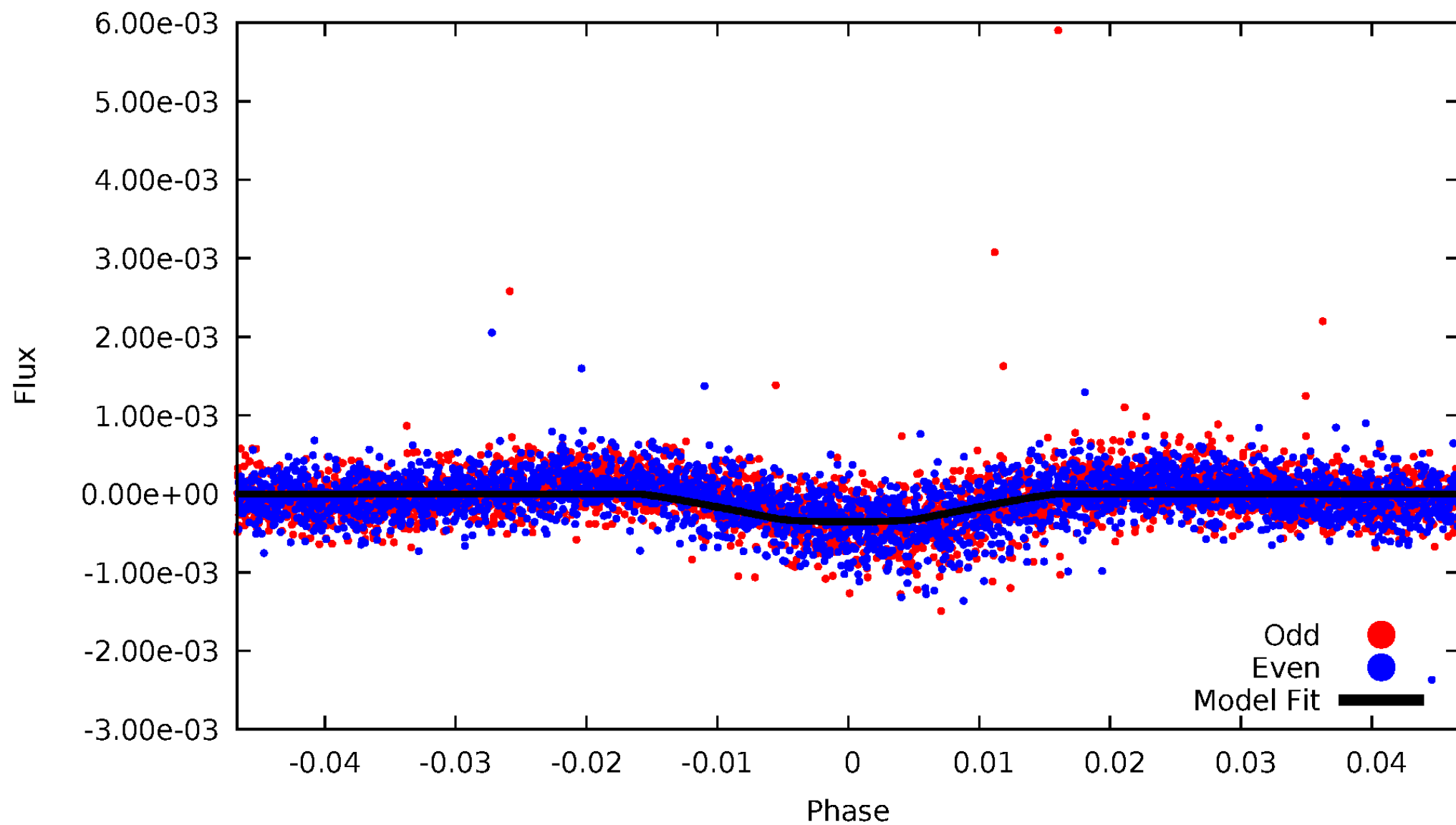


TCE 006128141-02



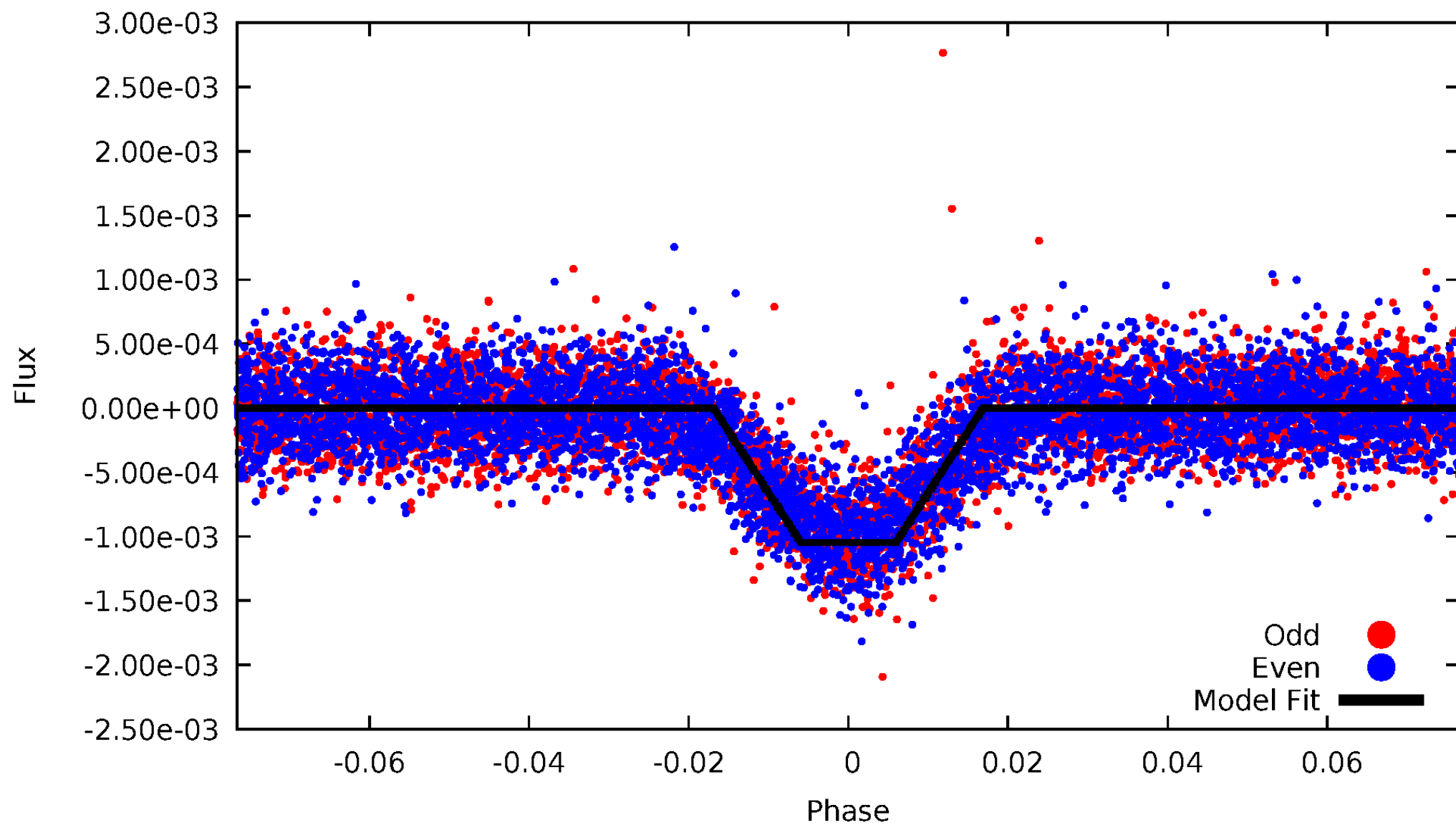
DV Odd/Even

TCE 006128141-02



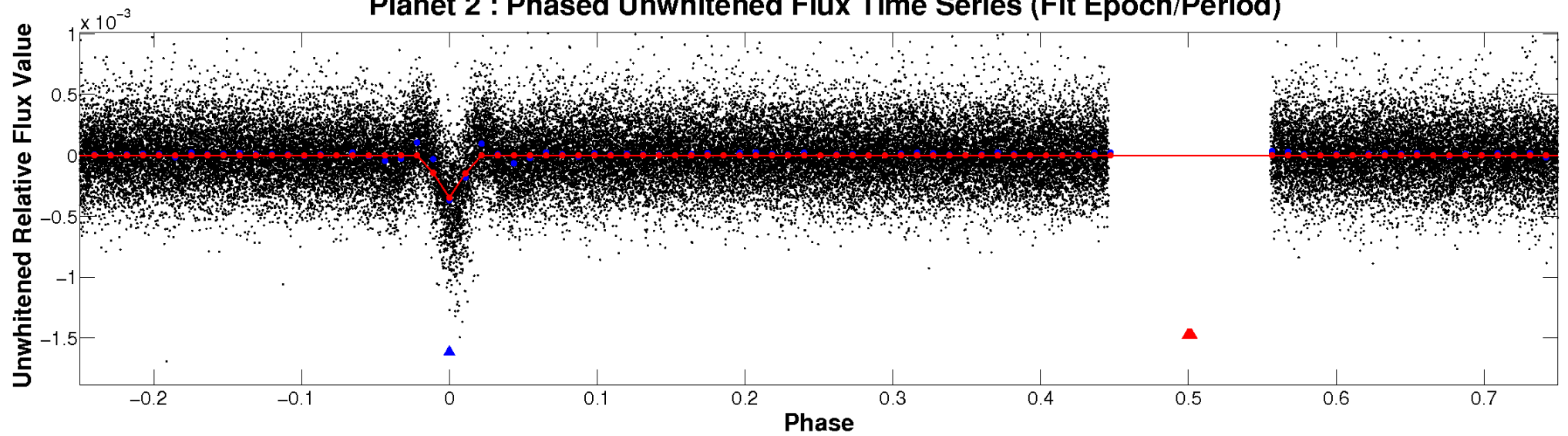
ALT Odd/Even

TCE 006128141-02

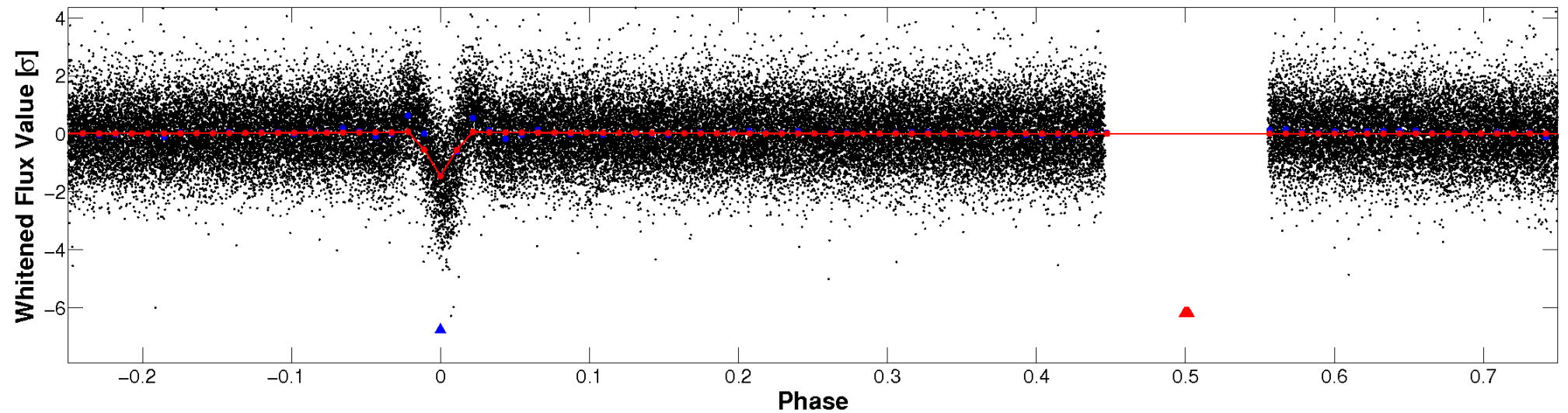


Non-Whitened Vs. Whitened Light Curve

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

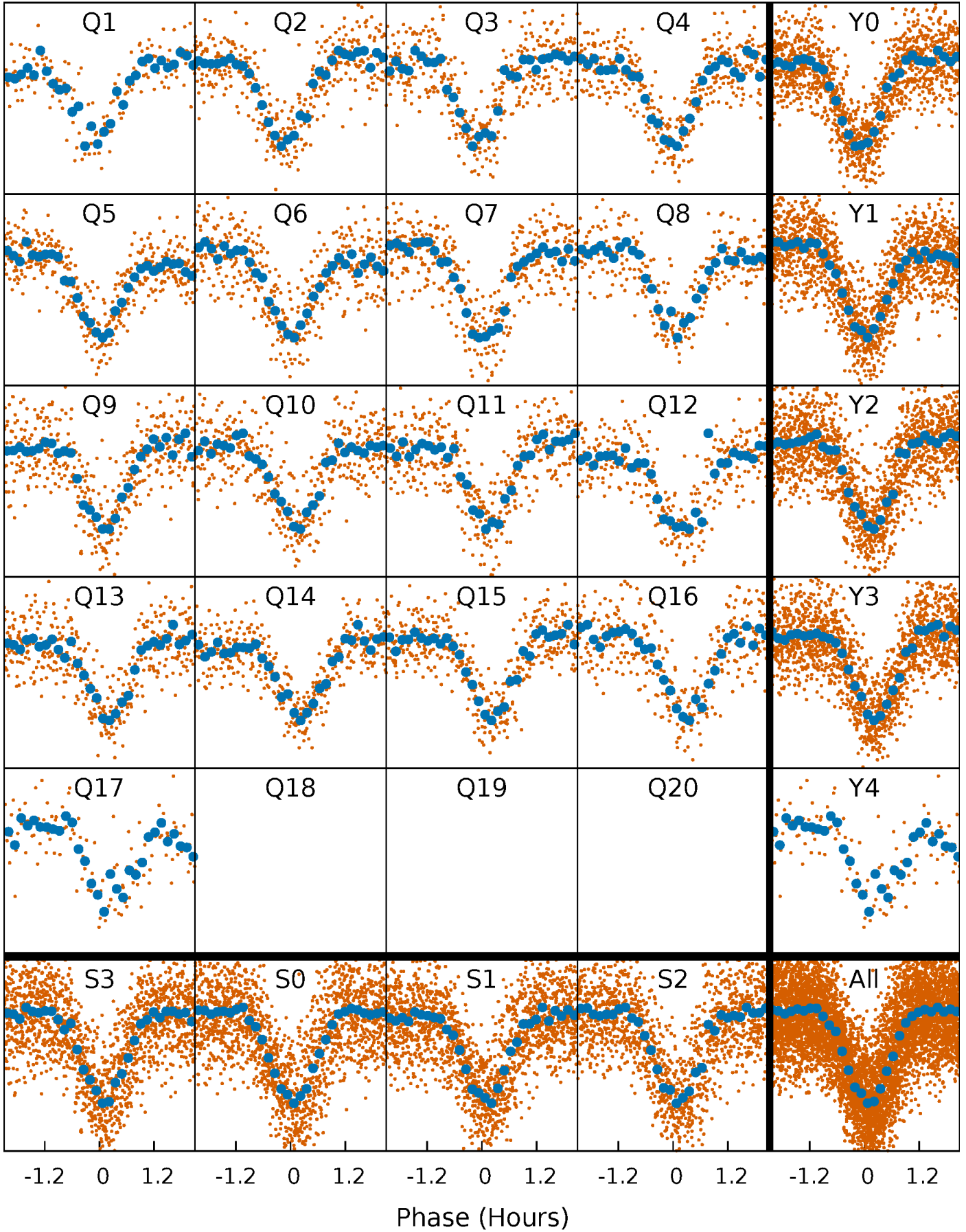


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



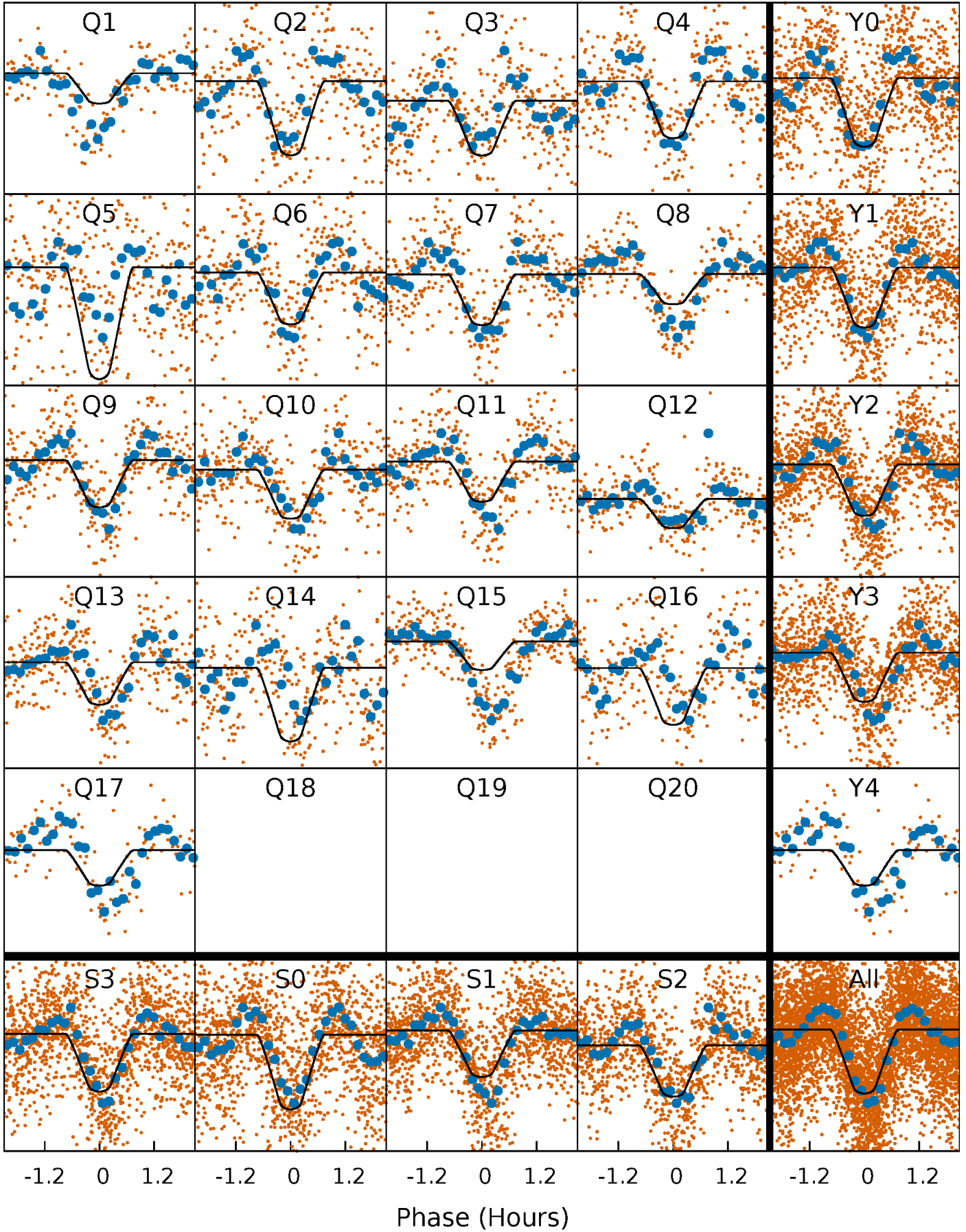
PDC Quarter-Phased Transit Curves

TCE 006128141-02 P= 1.872599 Days $T_0=131.796395$ (BKJD)



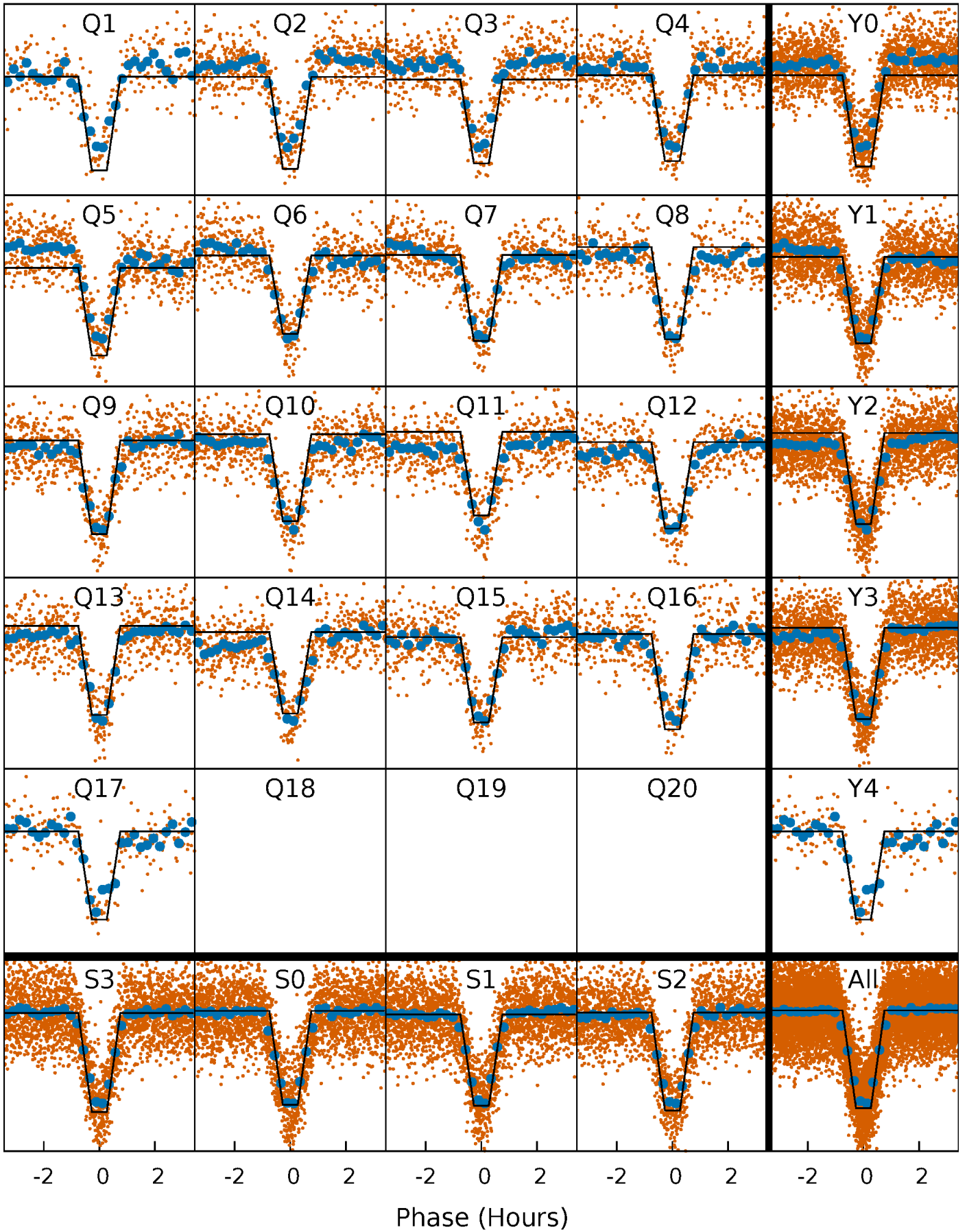
DV Quarter-Phased Transit Curves

TCE 006128141-02 P= 1.872599 Days $T_0=131.796395$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

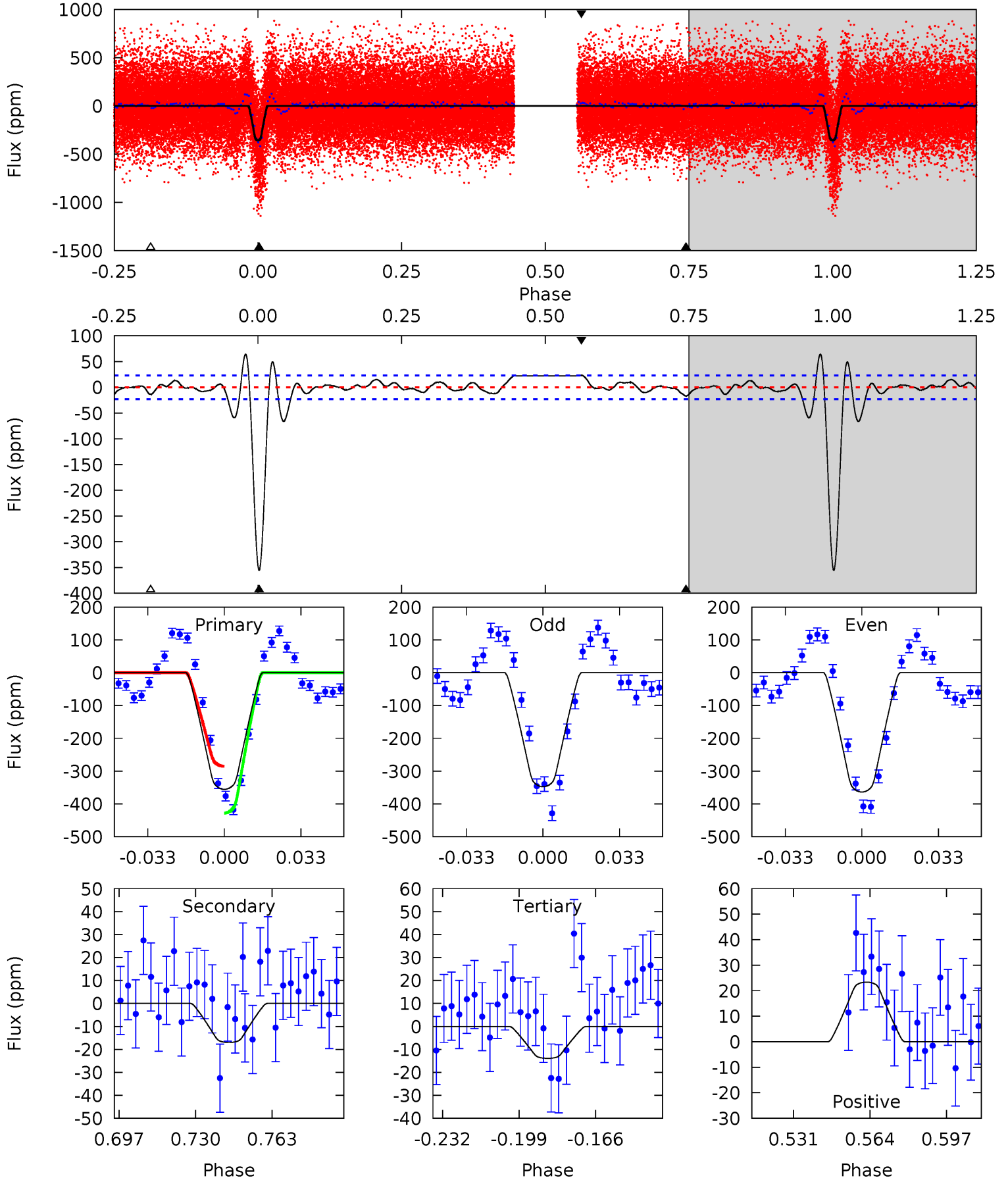
TCE 006128141-02 P= 1.872617 Days $T_0=131.793056$ (BKJD)



DV Model-Shift Uniqueness Test

006128141-02, P = 1.872599 Days, E = 129.923796 Days

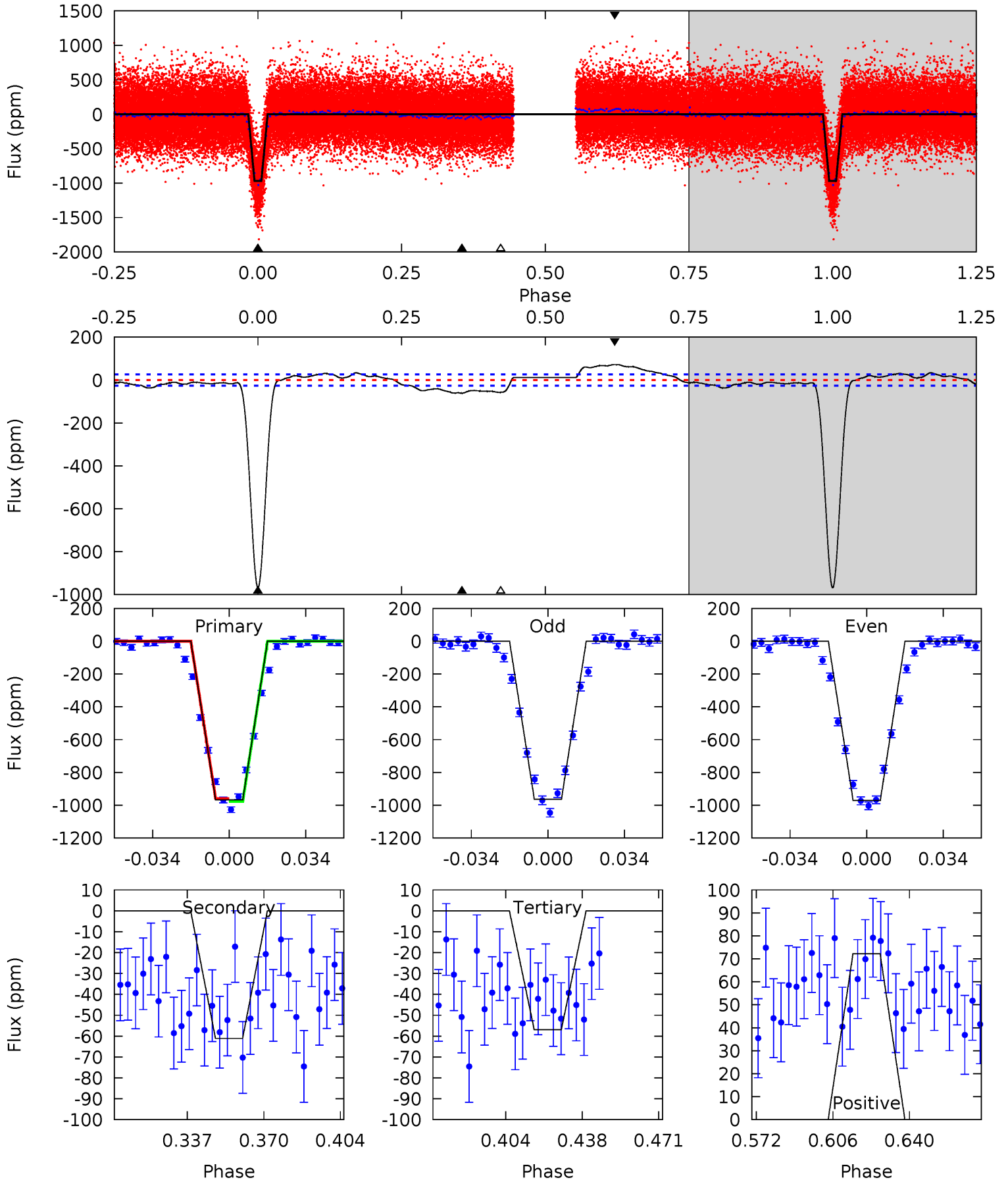
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.7	3.52	2.88	4.84	4.79	2.13	2.81	70.8	68.8	0.64	-1.32	1.69	1.03	0.15	14.8



Alt Model-Shift Uniqueness Test

006128141-02, P = 1.872617 Days, E = 129.920439 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
175.8	11.1	10.3	13.1	4.79	2.12	6.24	165.5	162.7	0.76	-2.03	0.71	1.00	0.07	1.63



Stellar Parameters For KIC 006128141

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6031^{+162}_{-198}	$4.427^{+0.084}_{-0.196}$	$-0.200^{+0.300}_{-0.300}$	$1.004^{+0.298}_{-0.128}$	$0.983^{+0.143}_{-0.117}$	$1.367^{+0.523}_{-0.732}$
	+3%/-3%	+2%/-4%	+150%/-150%	+30%/-13%	+15%/-12%	+38%/-54%
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 006128141-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-17 ± 5	$2.33^{+0.50}_{-0.40}$	2178^{+151}_{-110}	3132^{+245}_{-269}	$1.465^{+0.859}_{-0.589}$
Alt.	-61 ± 6	$3.63^{+0.66}_{-0.55}$	2190^{+156}_{-110}	3373^{+165}_{-146}	$2.177^{+0.814}_{-0.599}$

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 $A_{obs} \gg 1.0$

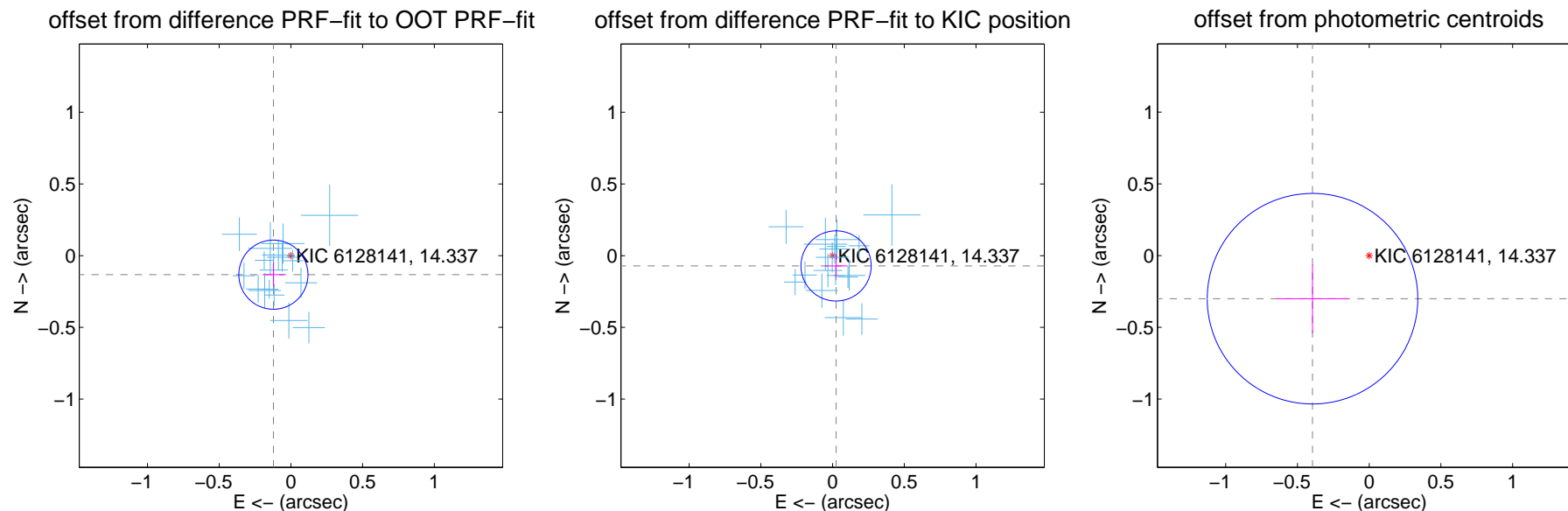
DV Centroid Data

Supplemental centroid analysis for 006128141-02. Kepler magnitude: 14.34. Transit SNR 45.05

There are 17 quarters with good PRF difference image offsets

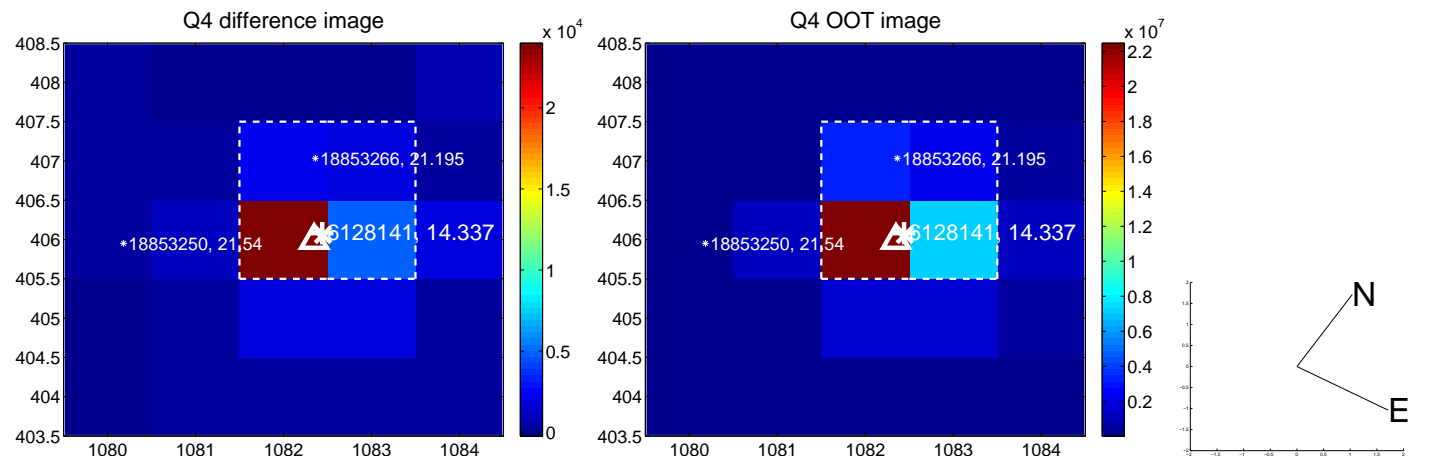
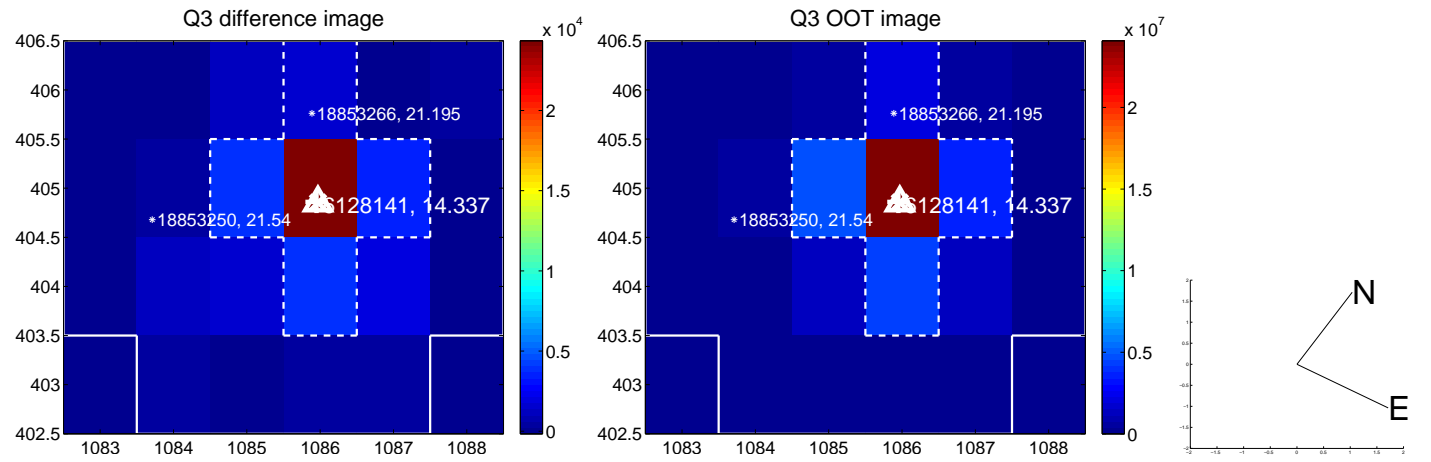
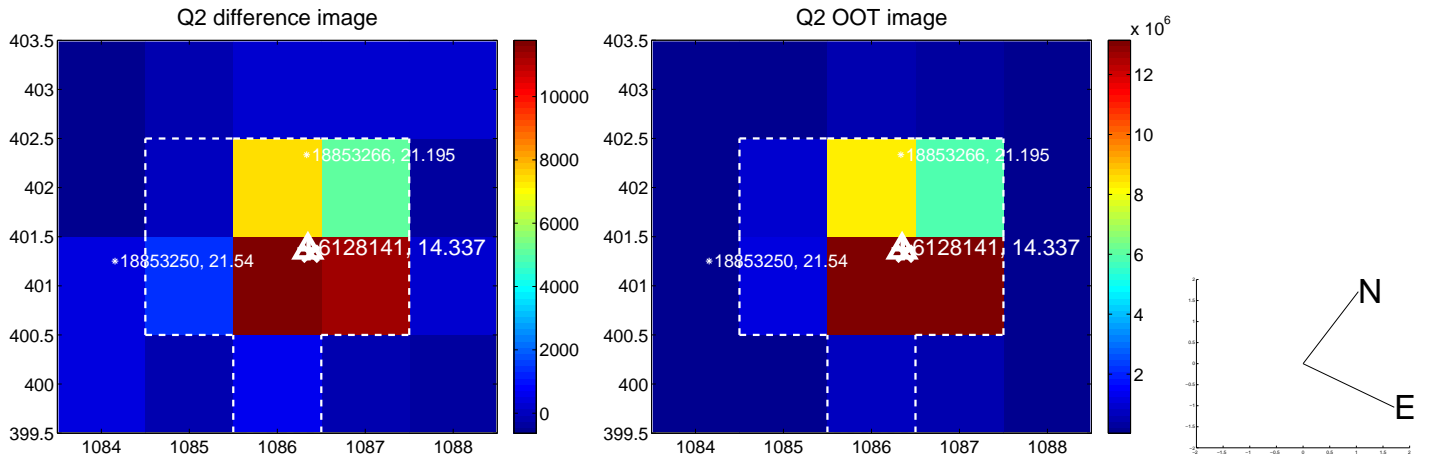
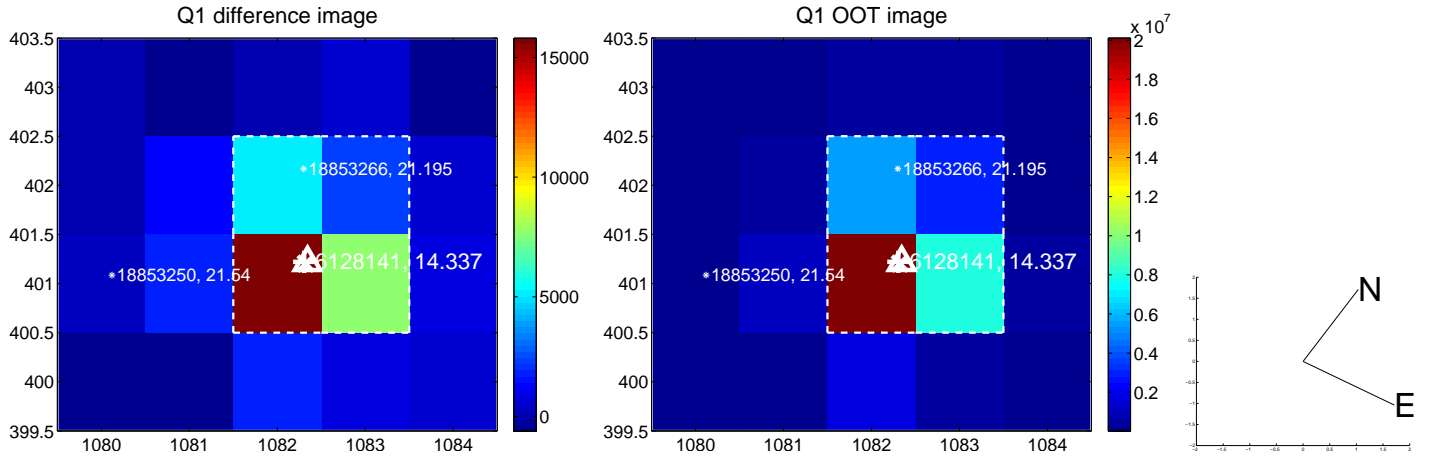
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.180 ± 0.080	2.24	0.122 ± 0.076	-0.133 ± 0.084
PRF-fit source offset from KIC position	0.076 ± 0.082	0.93	-0.025 ± 0.079	-0.072 ± 0.082
photometric centroid source offset	0.50 ± 0.24	2.03	0.39 ± 0.25	-0.30 ± 0.24

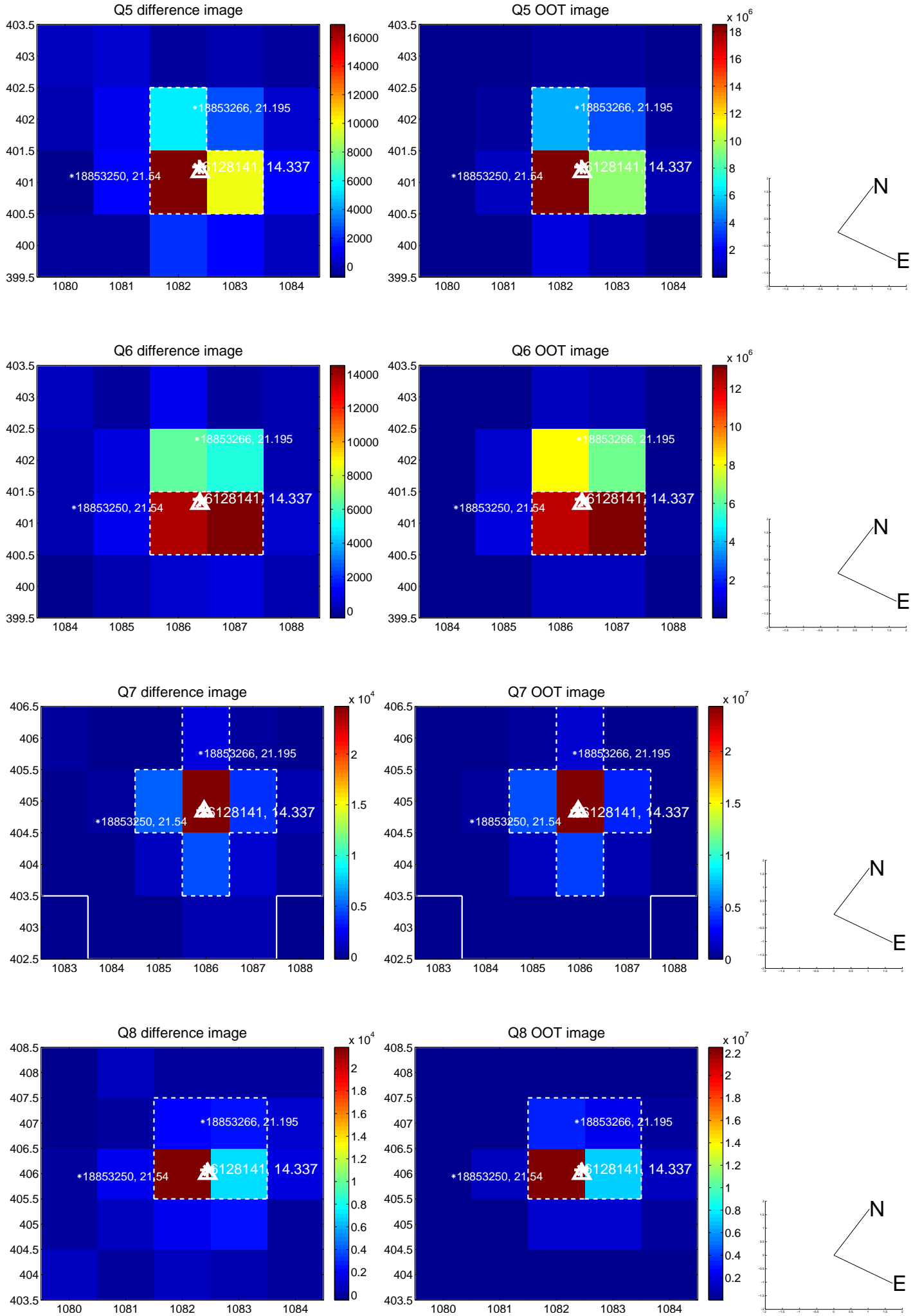


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

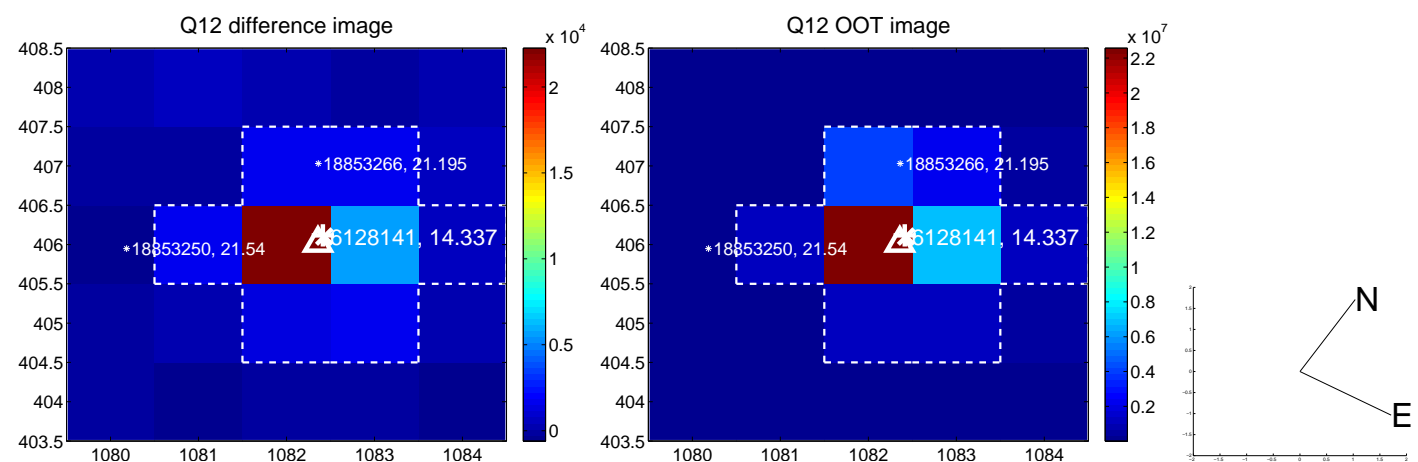
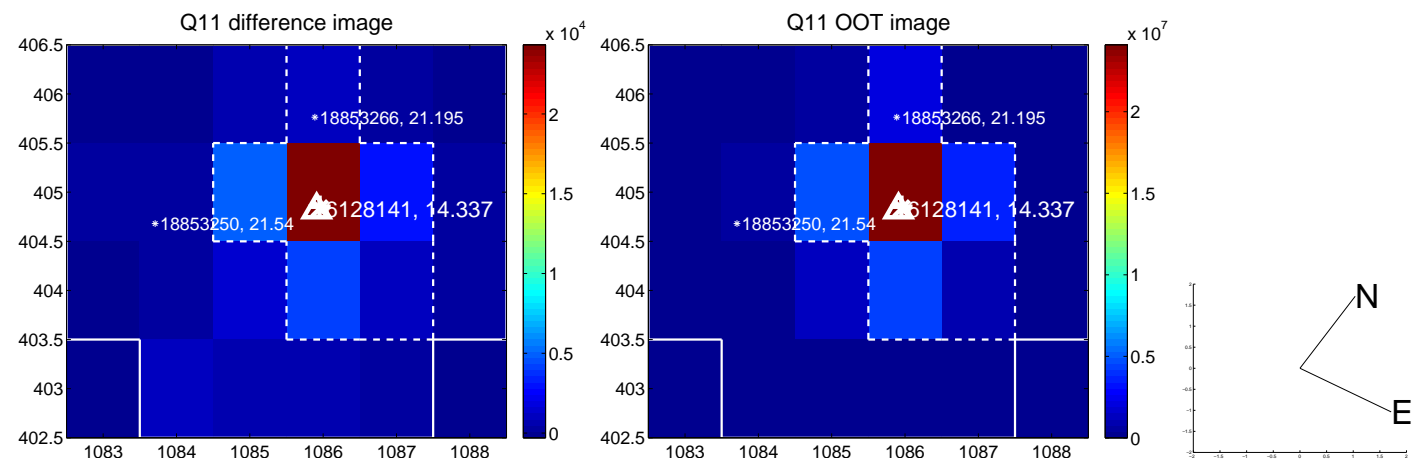
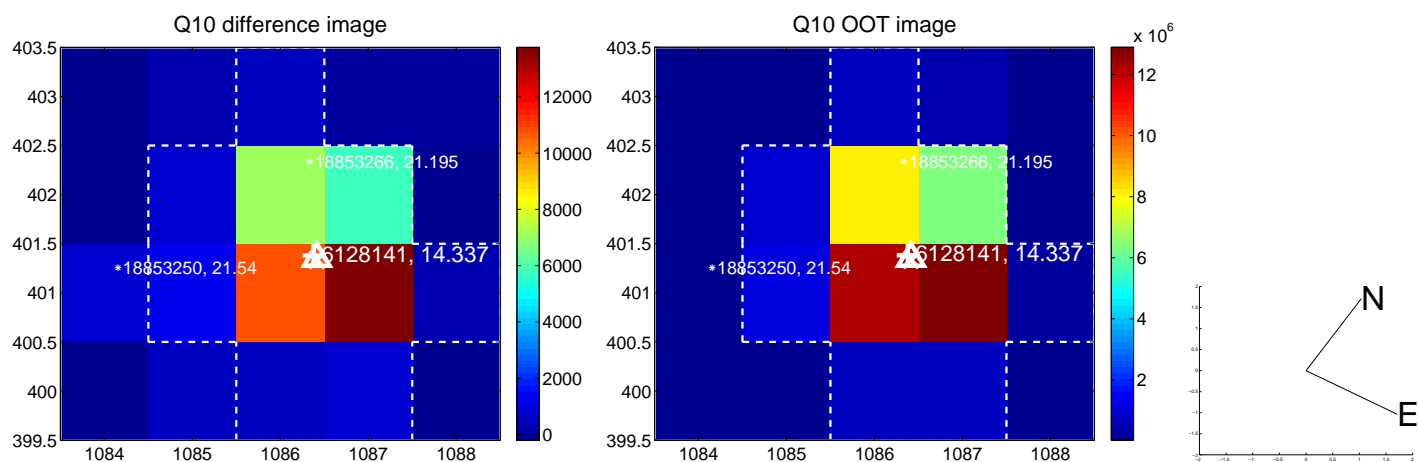
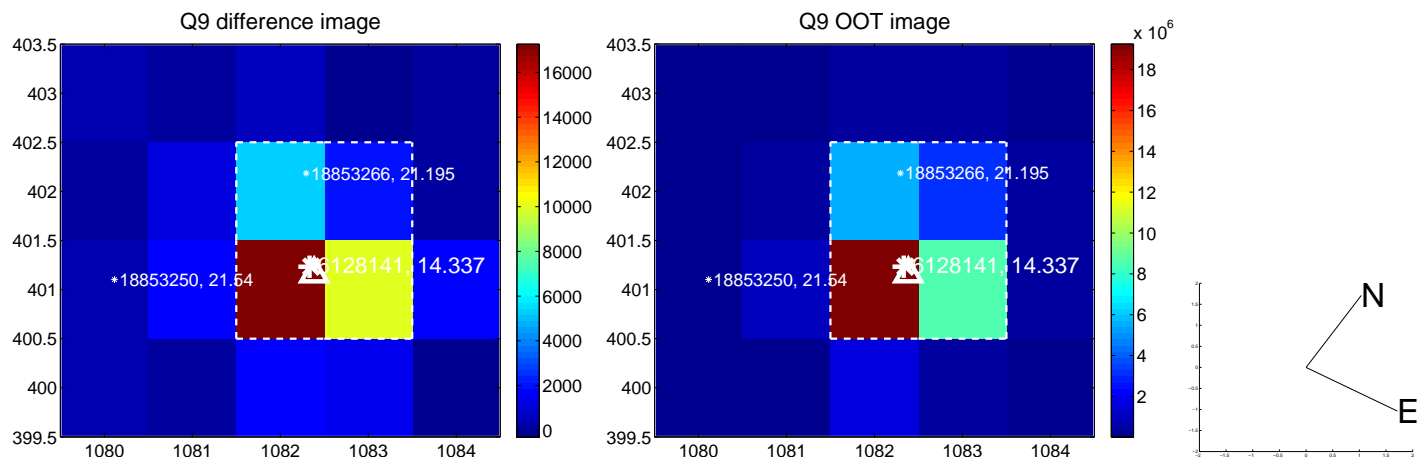
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



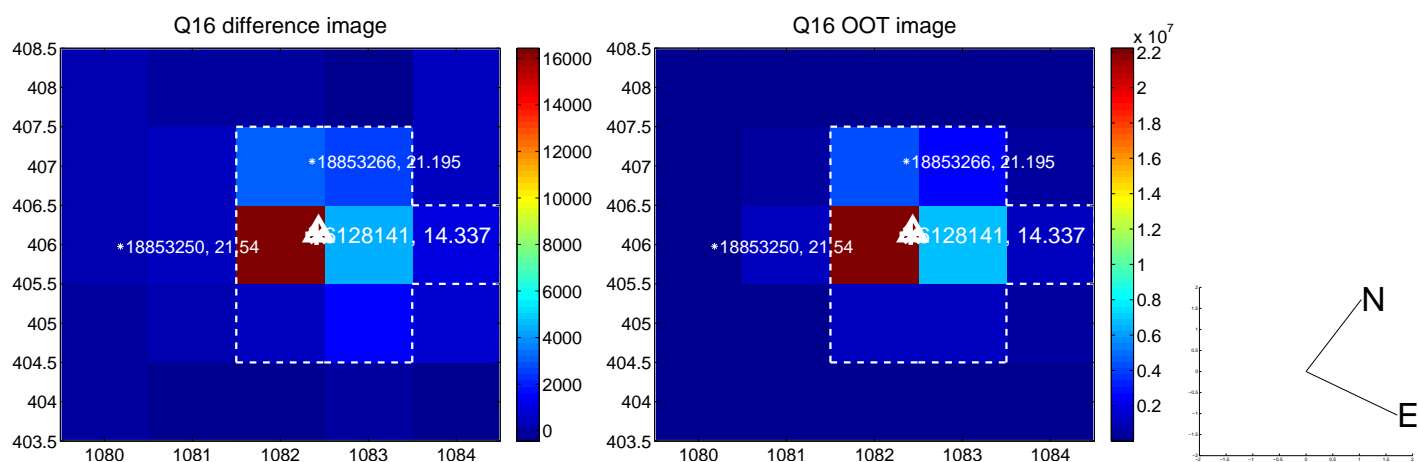
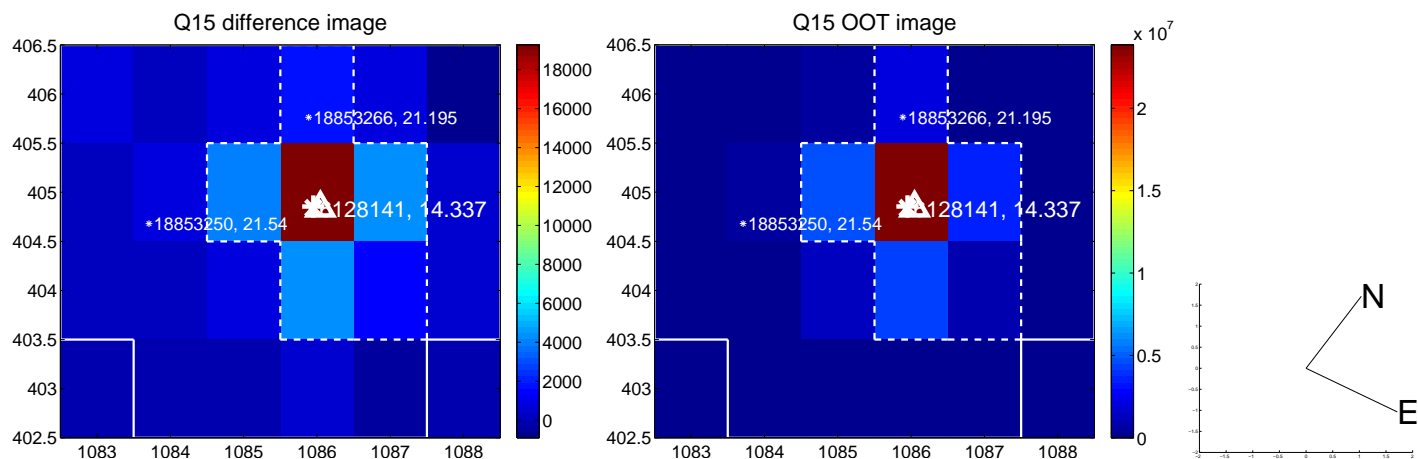
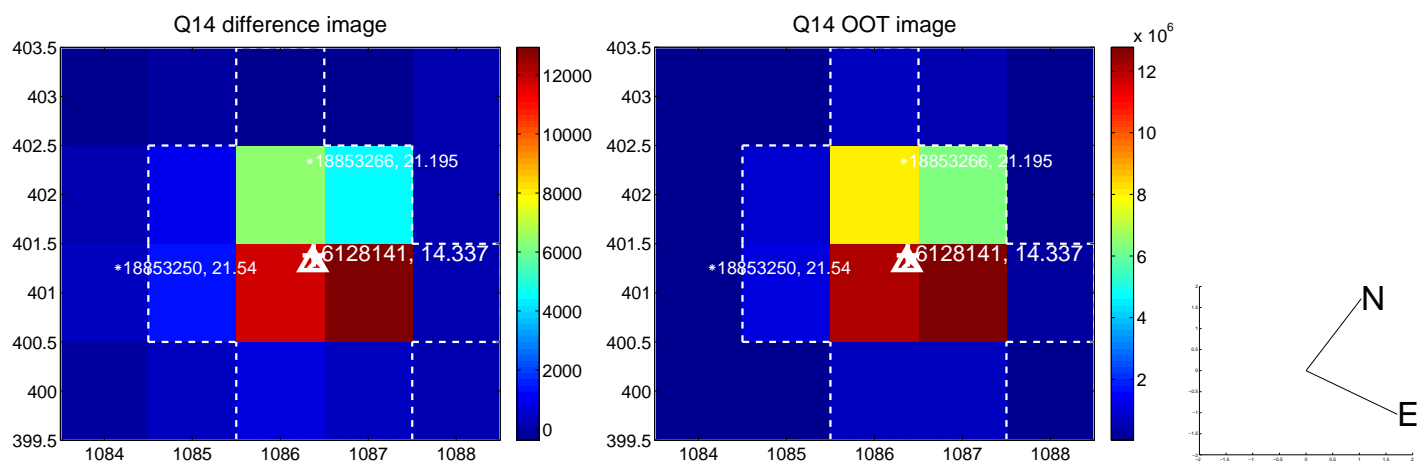
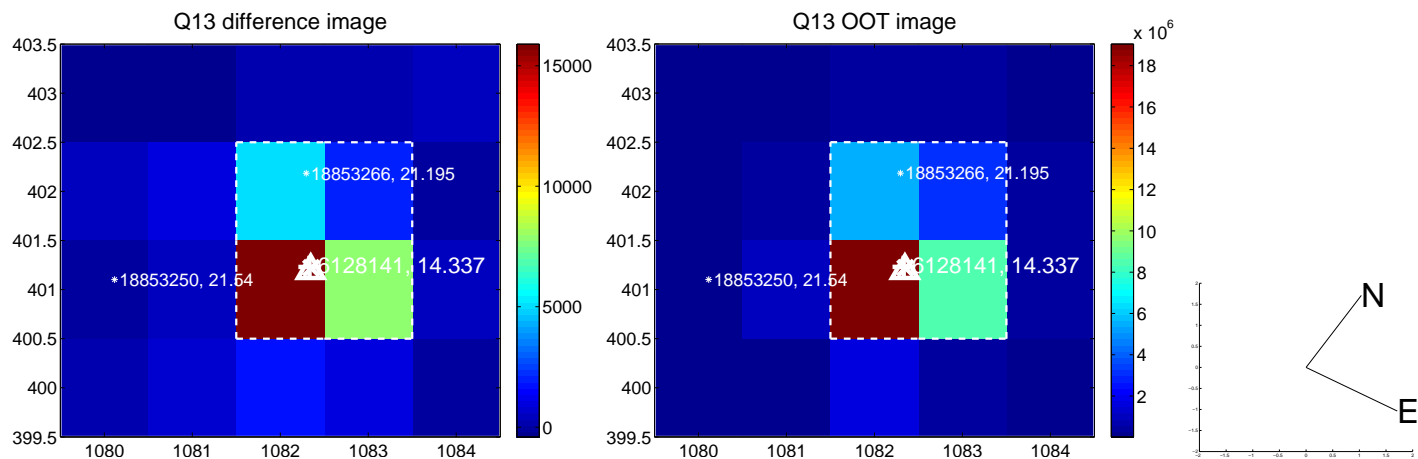
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



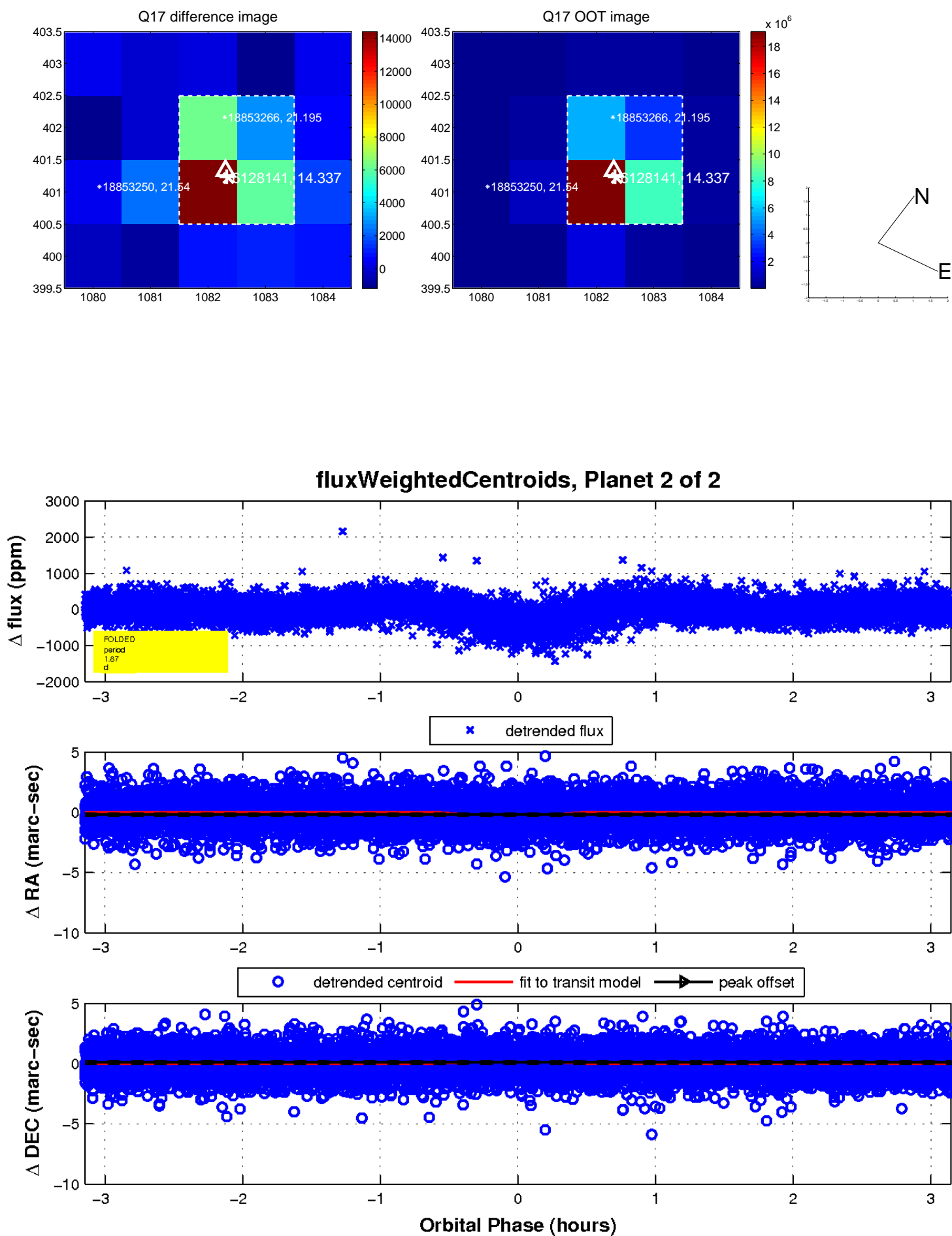
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

