

KIC 011724210

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})
011724210-01	OBS	6244.01	5.746018	132.042460	29005.9	3.619	1499.5	1453.8	0.96	5940	25.84	279.08
011724210-02	OBS	No	2.873014	132.040874	2719.4	3.489	142.0	140.2	0.96	5940	7.70	703.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011724210-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
011724210-02	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.

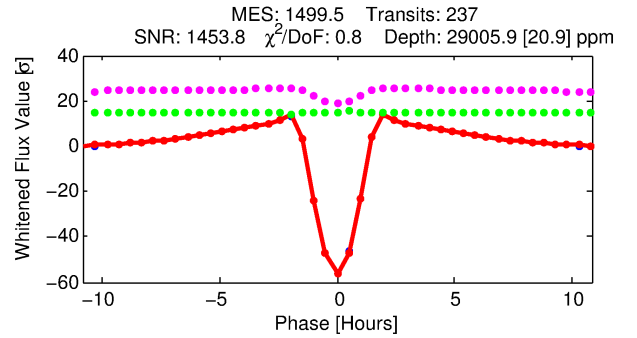
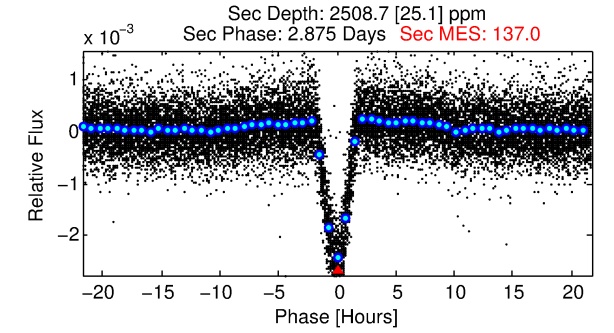
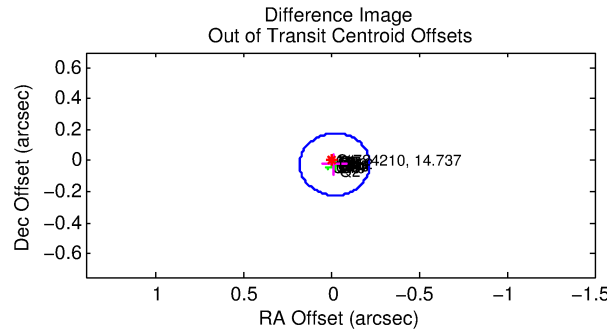
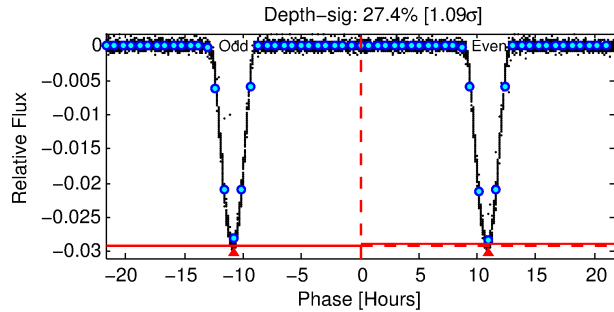
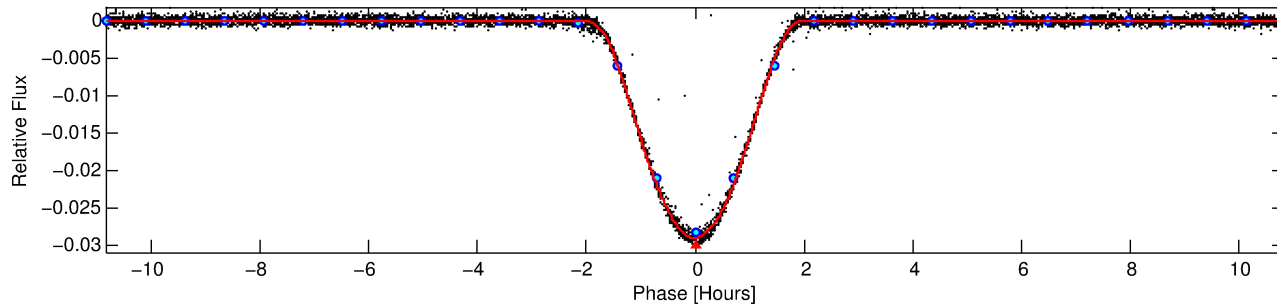
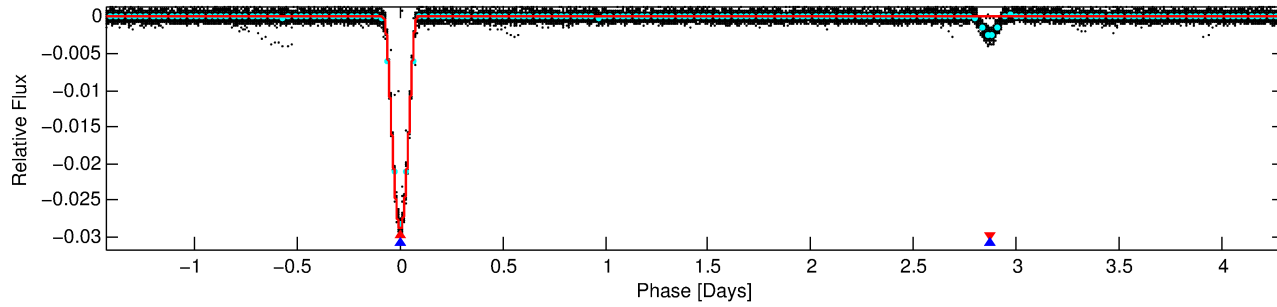
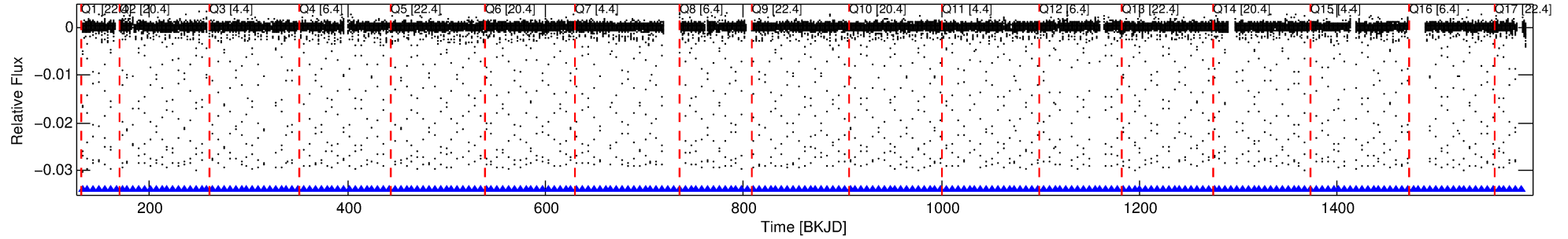
Ephemeris Match Information For 011724210-01

No Significant Match Found

DV One-Page Summary

KIC: 11724210 Candidate: 1 of 2 Period: 5.746 d
KOI: K06244.01 Corr: 1.000

Kp: 14.74 R*: 0.96 Rs Teff: 5940.0 K Logg: 4.43 Fe/H: -0.340



DV Fit Results:

Period = 5.74602 [0.00000] d
Epoch = 132.0425 [0.0000] BKJD
Rp/R* = 0.2466 [0.0065]
a/R* = 9.65 [0.03]
b = 0.96 [0.01]
Seff = 279.08 [102.61]
Teq = 1042 [96] K
Rp = 25.83 [7.54] Re
a = 0.0607 [0.0147] AU
Ag = 7.62 [2.68] [2.47σ]
Teffp = 2677 [88] K [12.57σ]

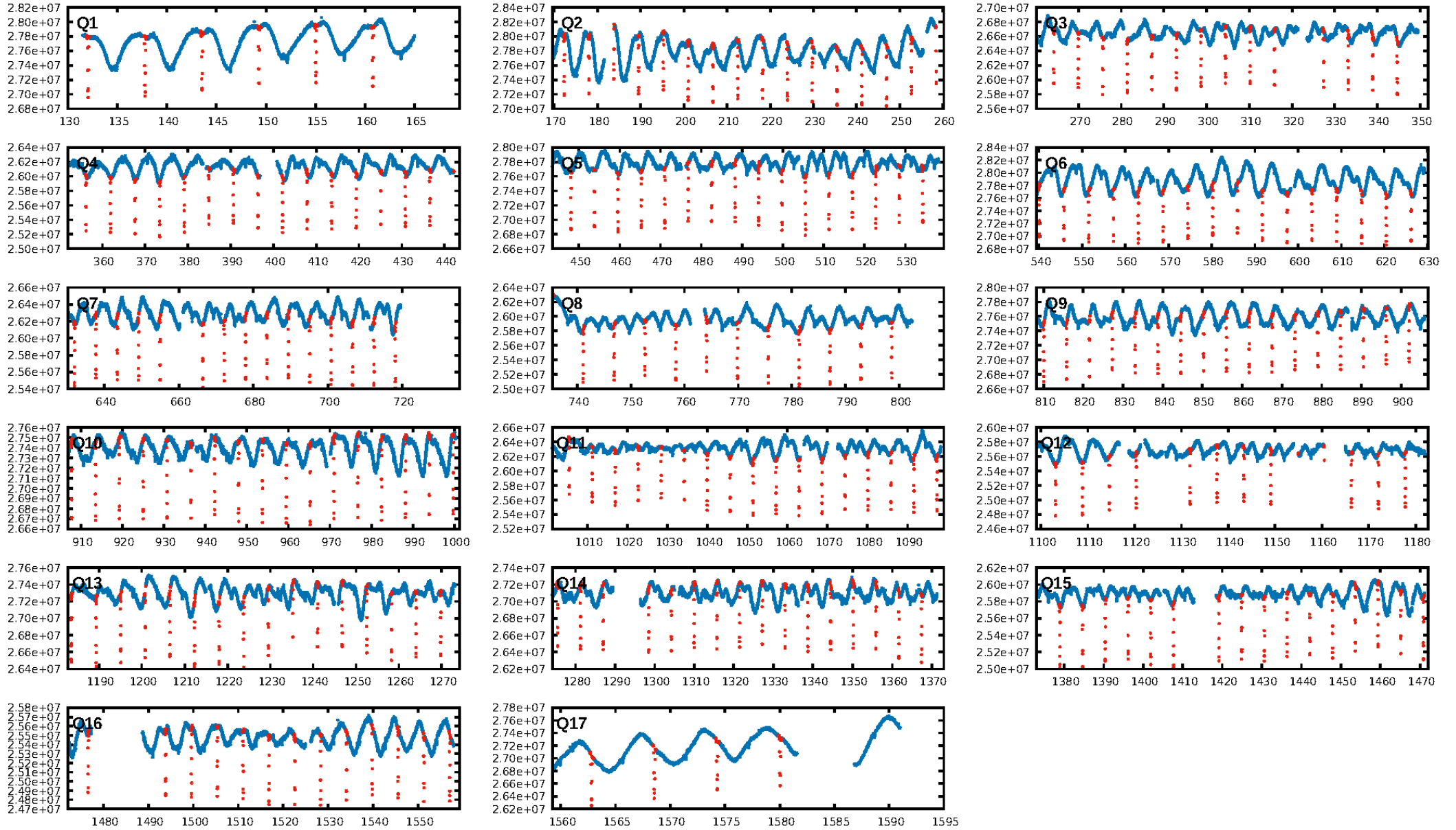
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.72σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [227/227]
GhostDiagnostic-chr: 3.268
Centroid-sig: 0.0%
Centroid-so: 0.106 arcsec [11.32σ]
OotOffset-rm: 0.030 arcsec [0.45σ]
KicOffset-rm: 0.093 arcsec [1.38σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

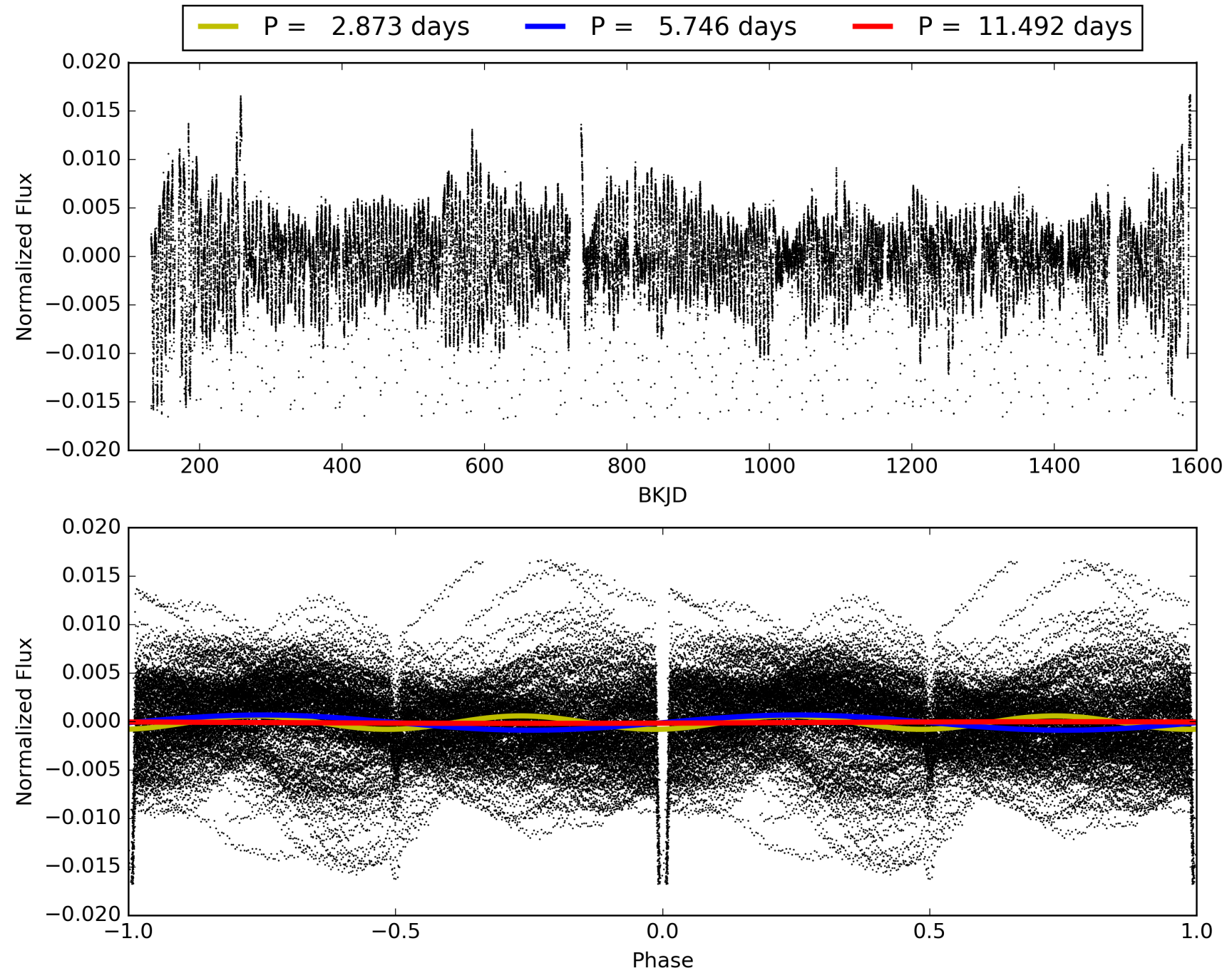
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:24:46 Z

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

TCE 011724210-01, PDC Light Curves

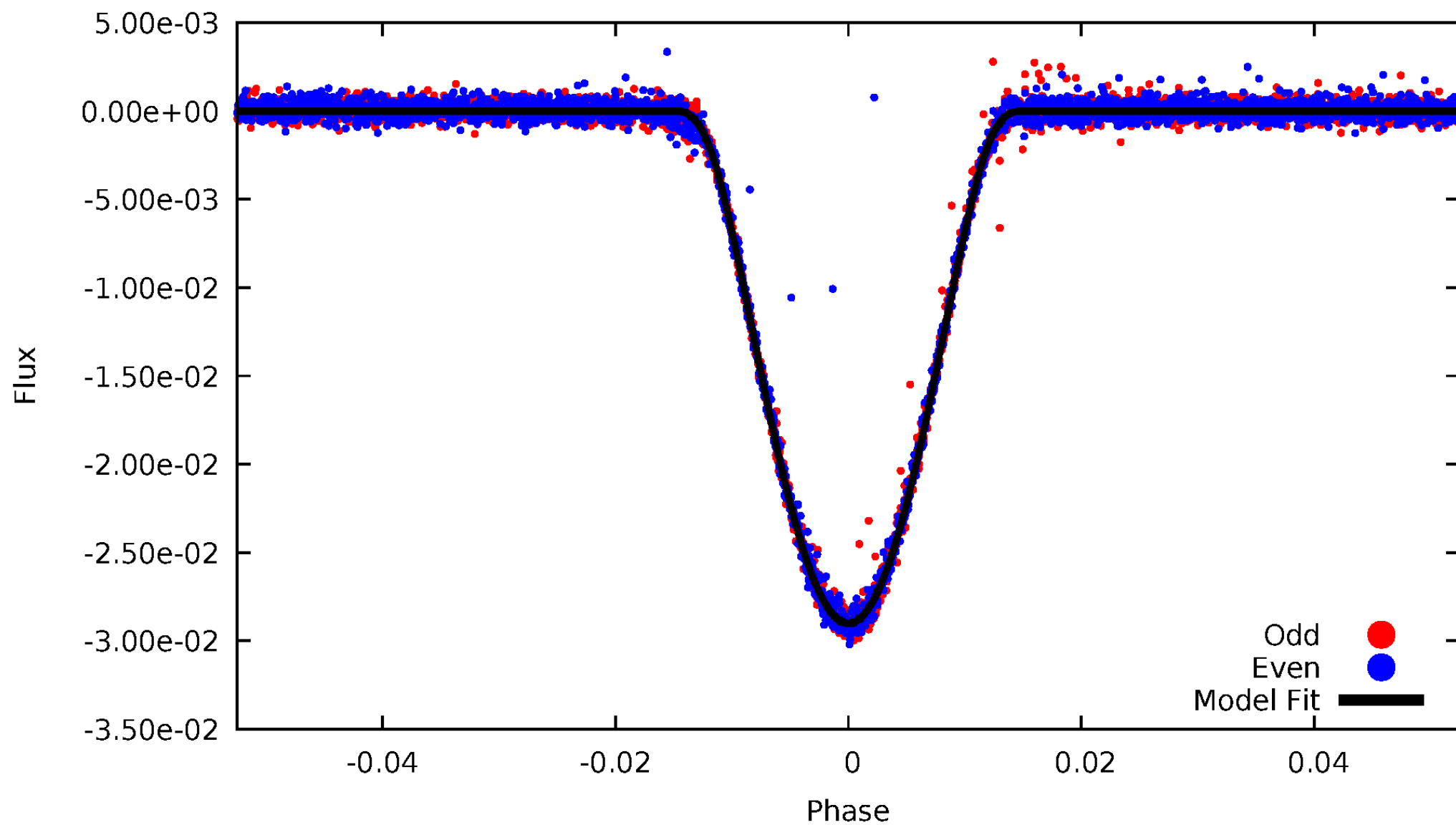


TCE 011724210-01



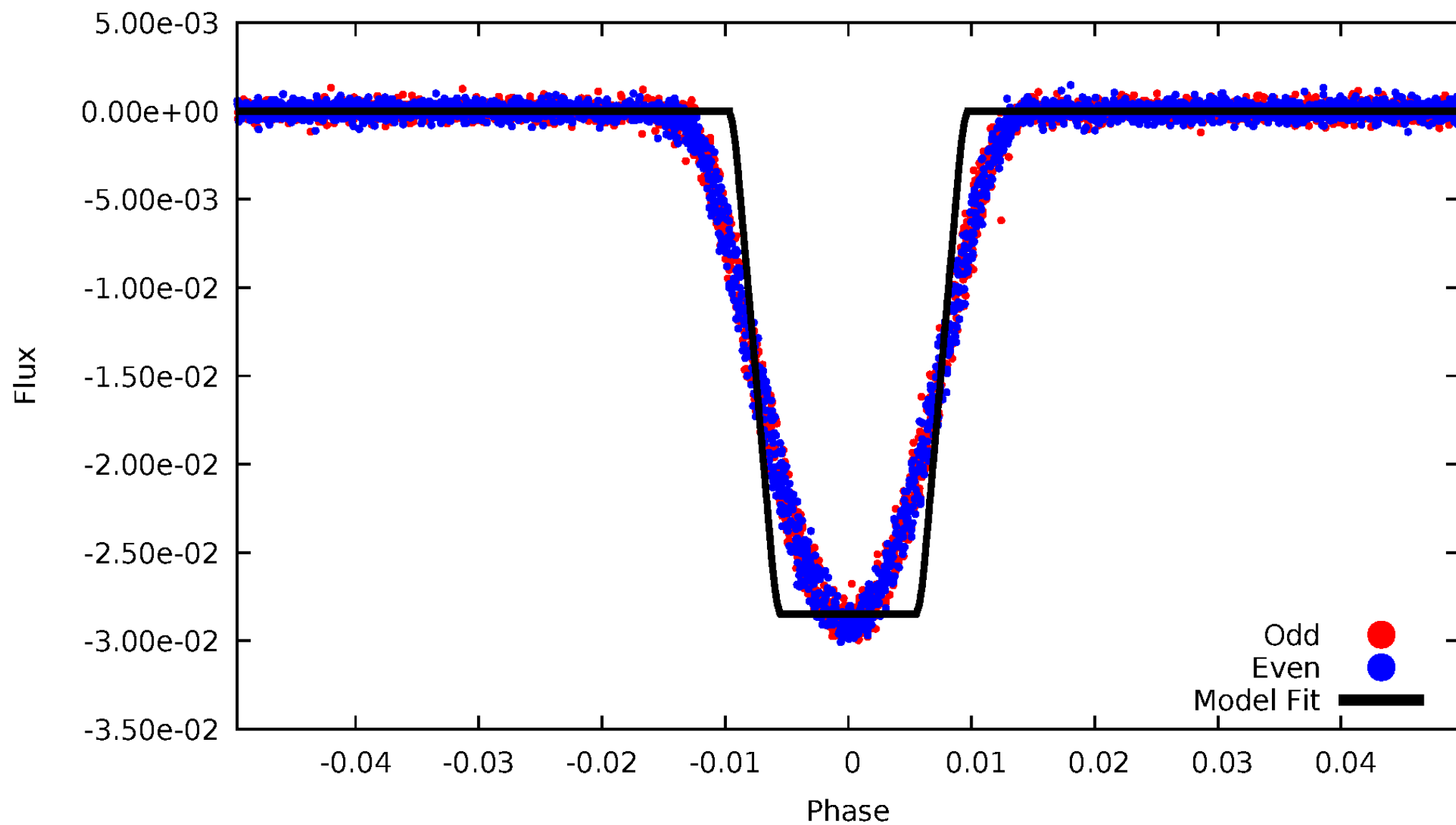
DV Odd/Even

TCE 011724210-01



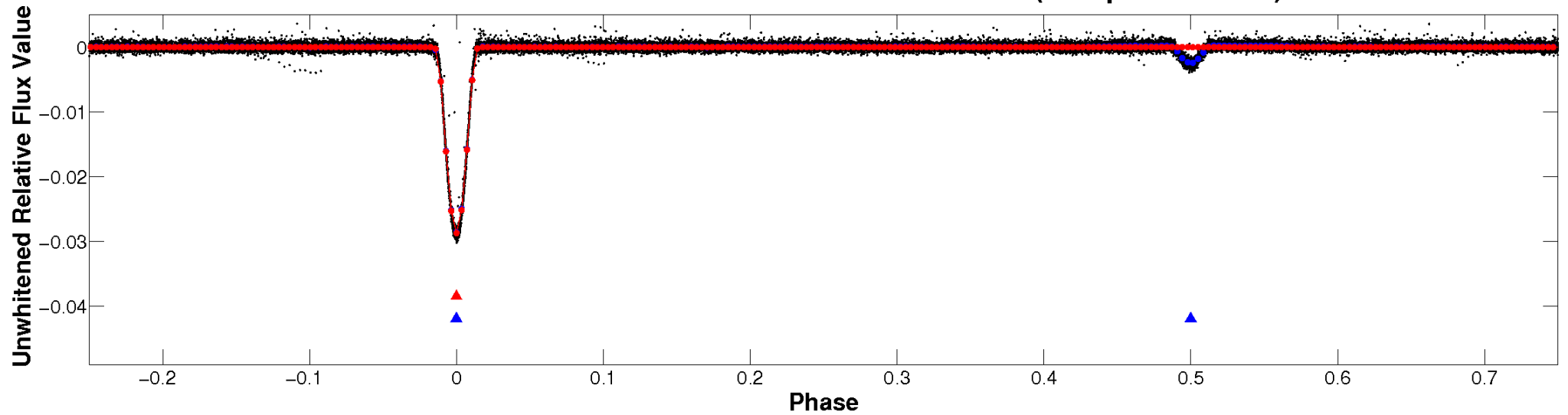
ALT Odd/Even

TCE 011724210-01

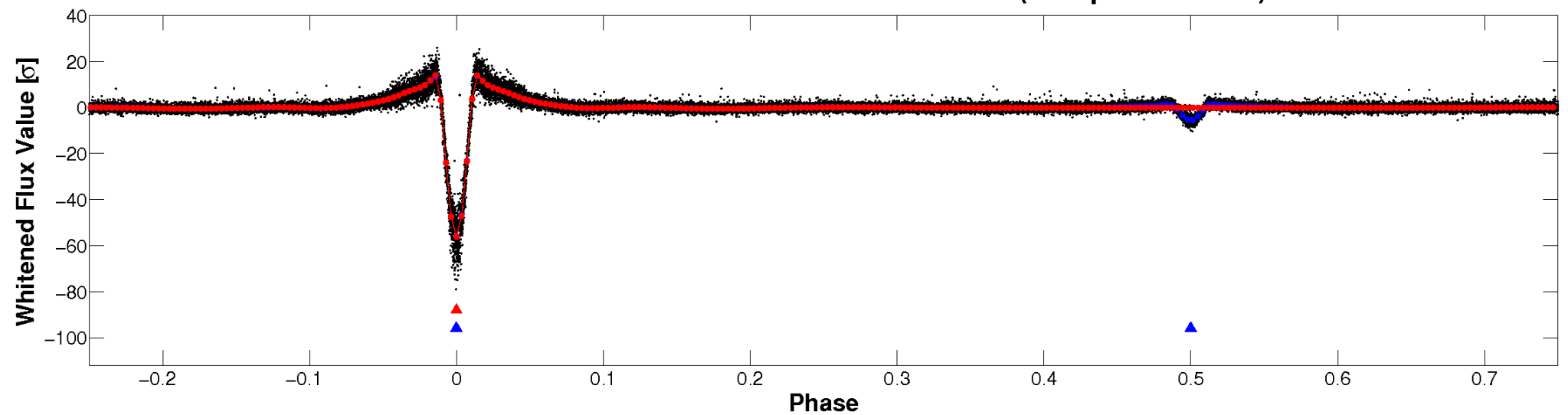


Non-Whitened Vs. Whitened Light Curve

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

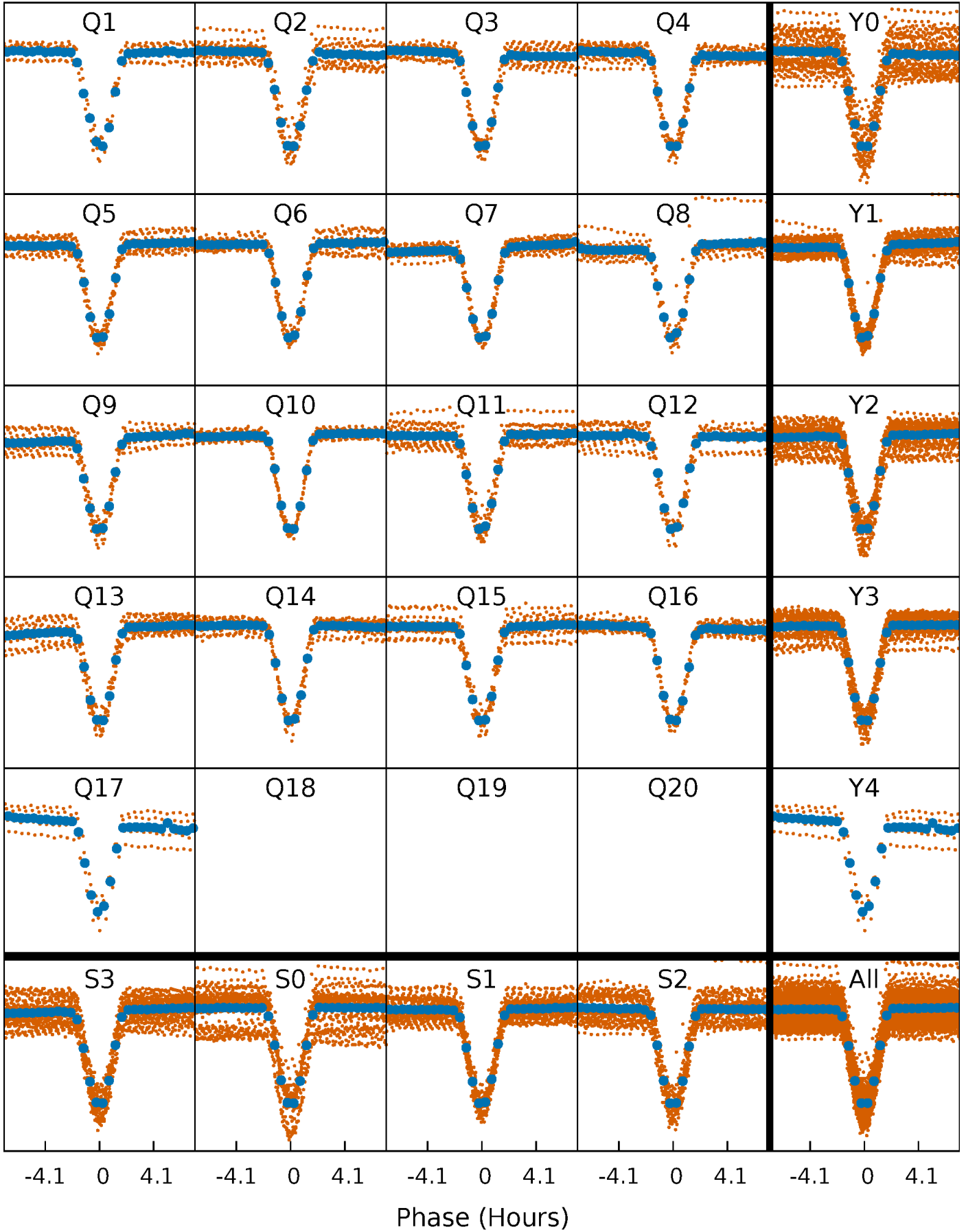


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



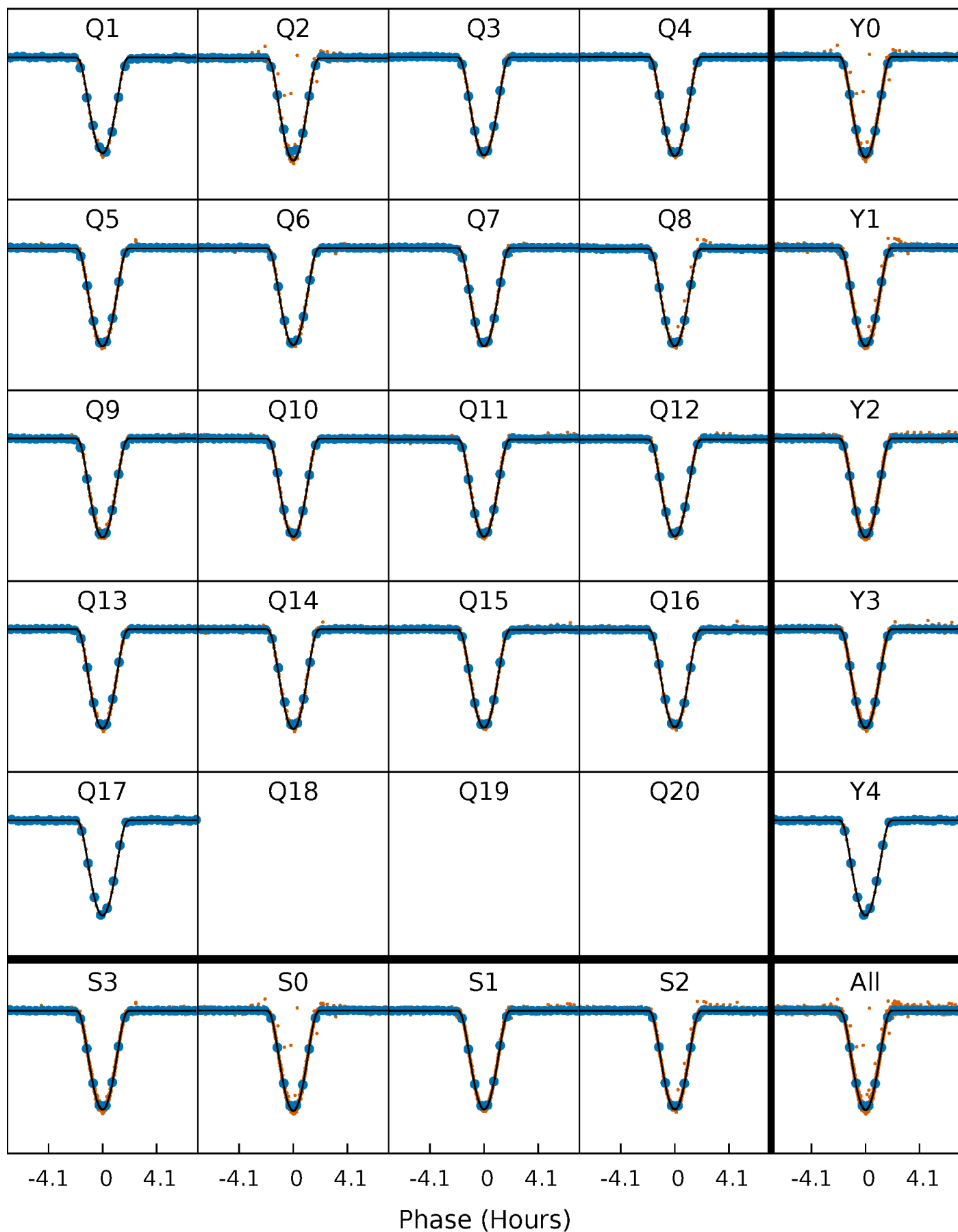
PDC Quarter-Phased Transit Curves

TCE 011724210-01 P= 5.746018 Days $T_0=132.042460$ (BKJD)



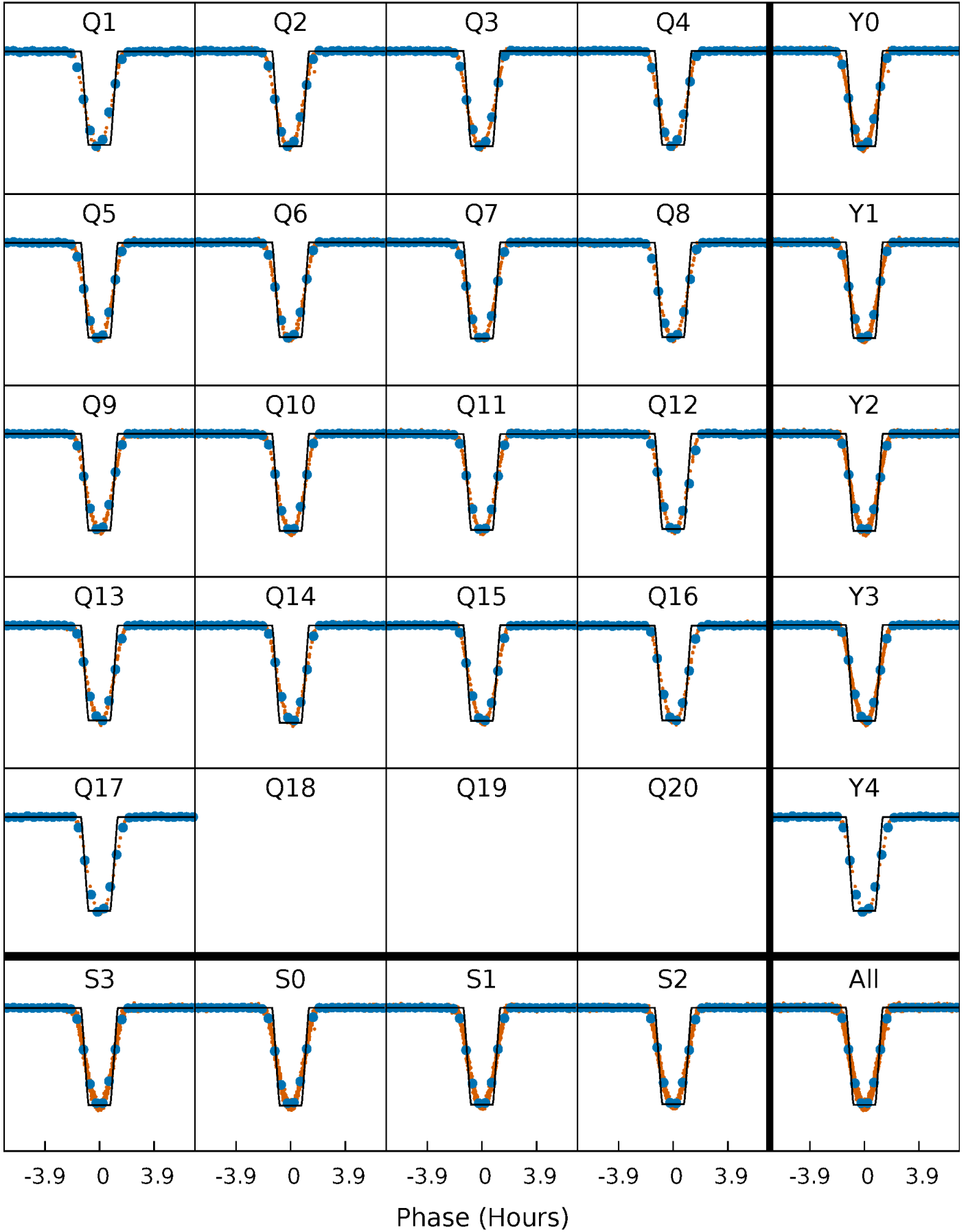
DV Quarter-Phased Transit Curves

TCE 011724210-01 P= 5.746018 Days $T_0=132.042460$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

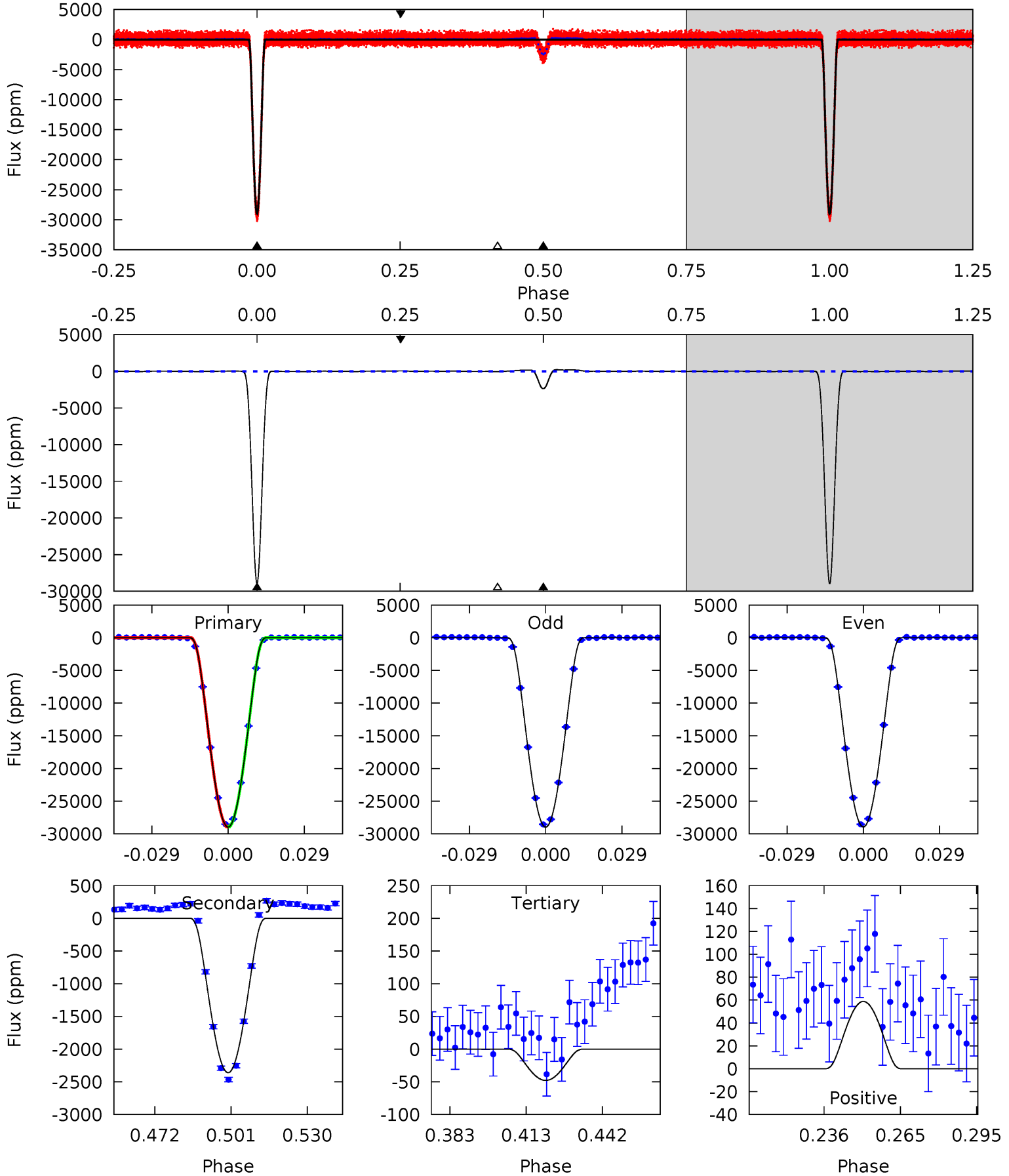
TCE 011724210-01 P= 5.745985 Days $T_0=132.046486$ (BKJD)



DV Model-Shift Uniqueness Test

011724210-01, P = 5.746018 Days, E = 126.296442 Days

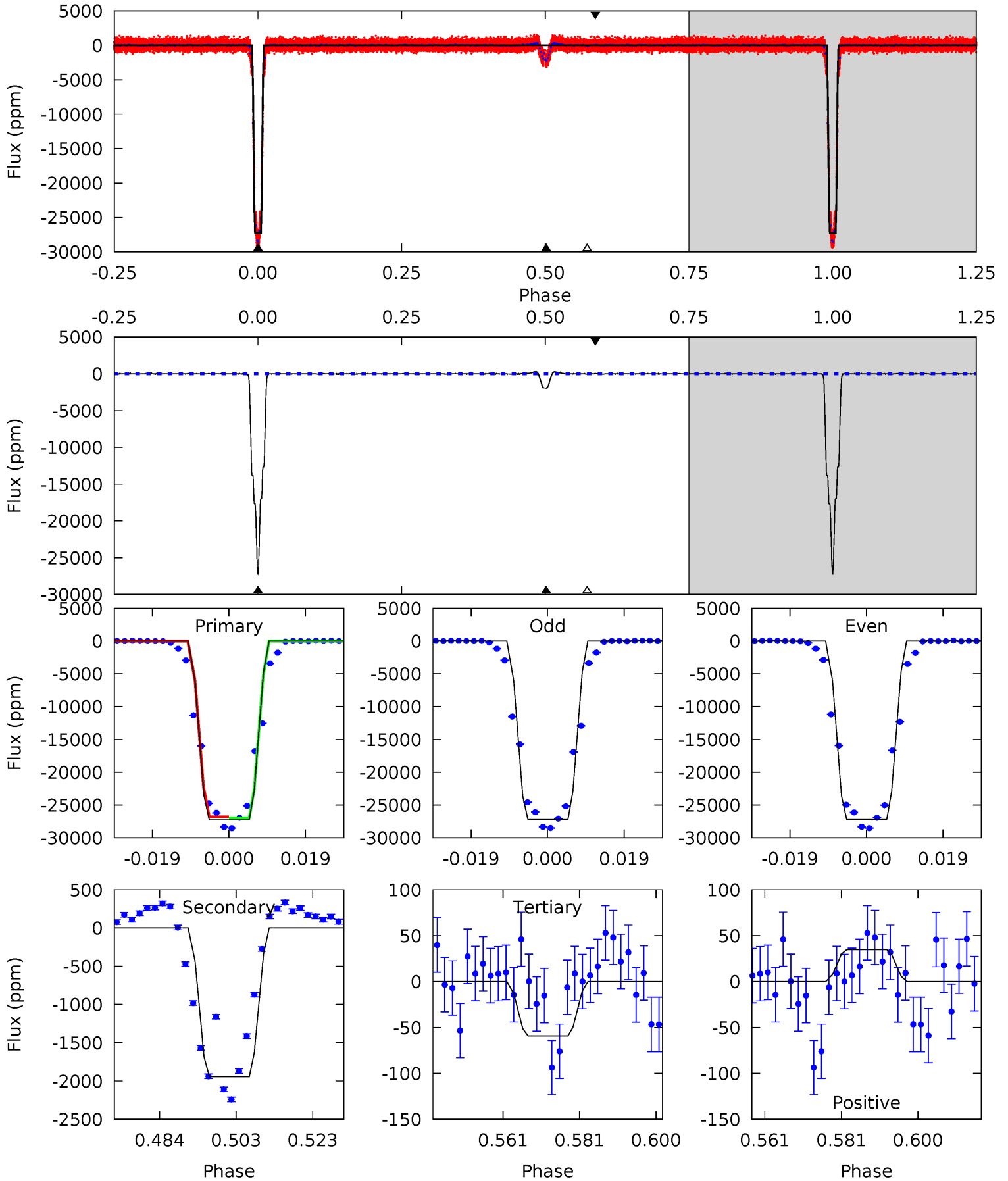
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3239	264.1	5.35	6.58	4.81	2.18	5.19	3234	3232	258.8	257.5	1.52	0.99	0.01	0.13



Alt Model-Shift Uniqueness Test

011724210-01, P = 5.745985 Days, E = 126.300501 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2062	147.1	4.48	2.63	4.90	2.34	2.15	2058	2060	142.6	144.4	0.17	1.00	0.01	0



Stellar Parameters For KIC 011724210

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5940^{+160}_{-178}	$4.429^{+0.101}_{-0.188}$	$-0.340^{+0.300}_{-0.300}$	$0.960^{+0.279}_{-0.139}$	$0.904^{+0.120}_{-0.087}$	$1.439^{+0.660}_{-0.724}$
	+3%/-3%	+2%/-4%	+88%/-88%	+29%/-14%	+13%/-10%	+46%/-50%
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 011724210-01 / KOI 6244.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2361 ± 9	$26.26^{+4.63}_{-2.27}$	1474^{+110}_{-79}	3201^{+64}_{-61}	$6.920^{+1.300}_{-1.656}$
Alt.	-1943 ± 13	$18.04^{+2.93}_{-1.85}$	1472^{+107}_{-78}	3505^{+75}_{-82}	12^{+3}_{-3}

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

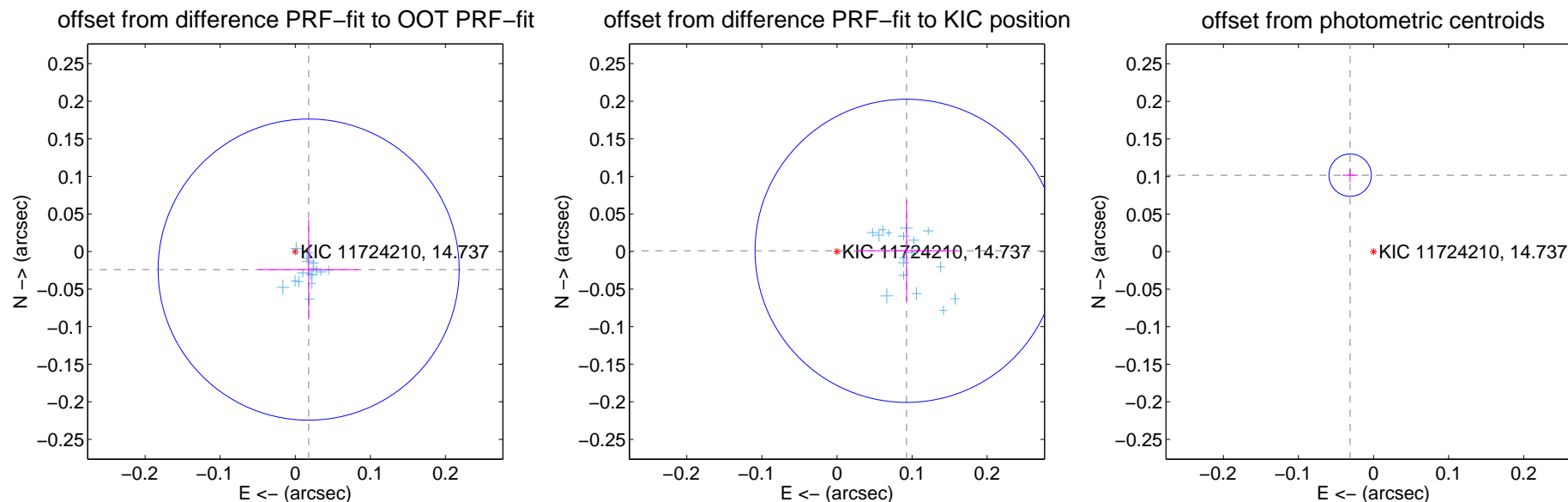
DV Centroid Data

Supplemental centroid analysis for 011724210-01. Kepler magnitude: 14.74. Transit SNR 1453.82

There are 17 quarters with good PRF difference image offsets

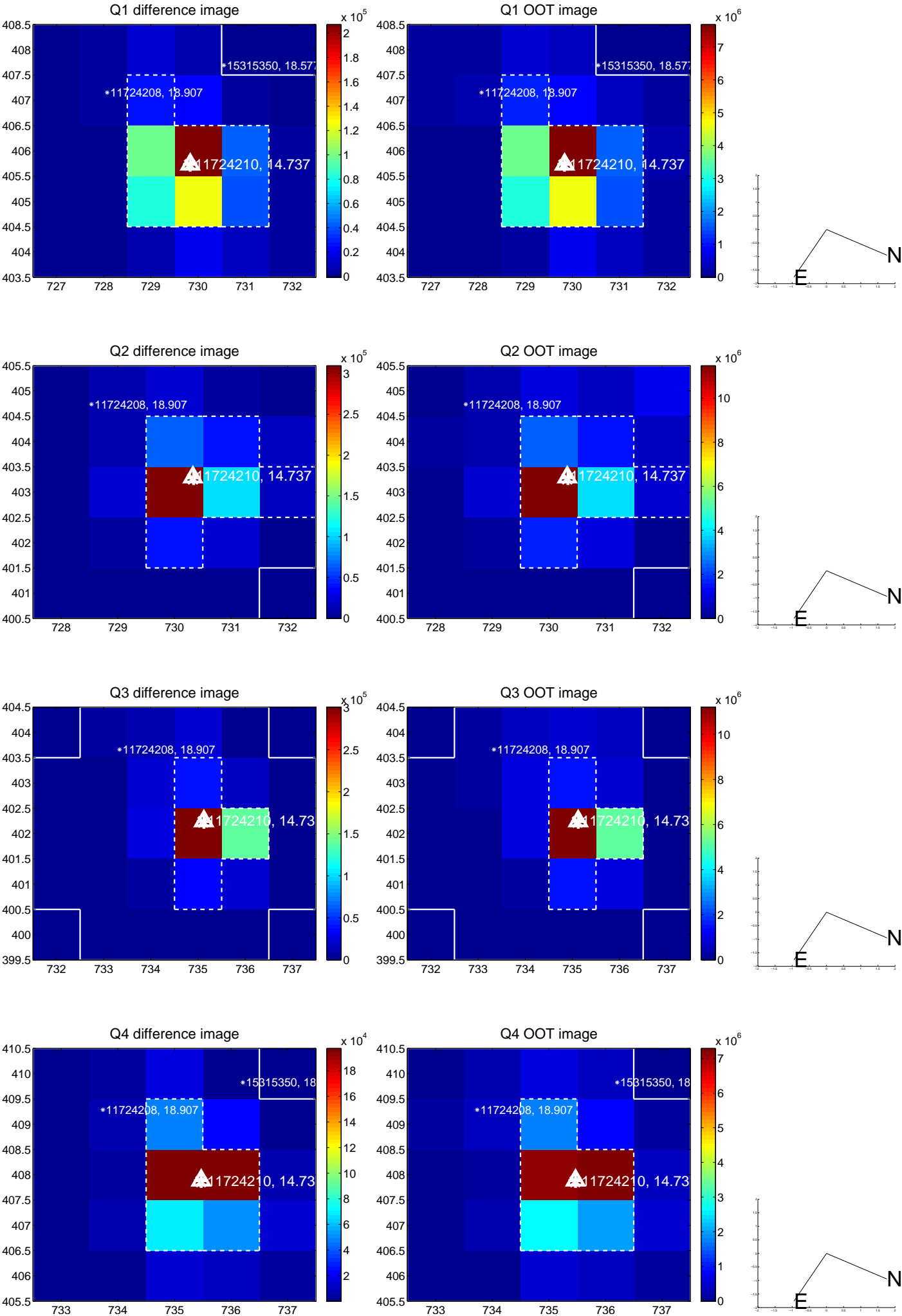
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.030 ± 0.067	0.45	-0.018 ± 0.067	-0.024 ± 0.067
PRF-fit source offset from KIC position	0.093 ± 0.067	1.38	-0.093 ± 0.067	0.001 ± 0.067
photometric centroid source offset	0.11 ± 0.01	11.32	0.03 ± 0.01	0.10 ± 0.01

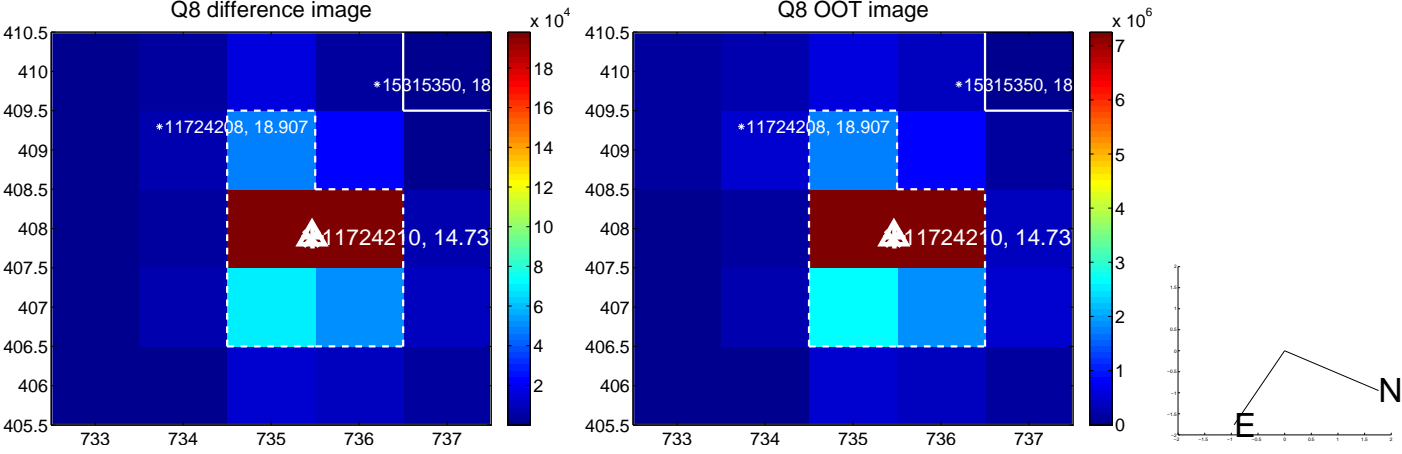
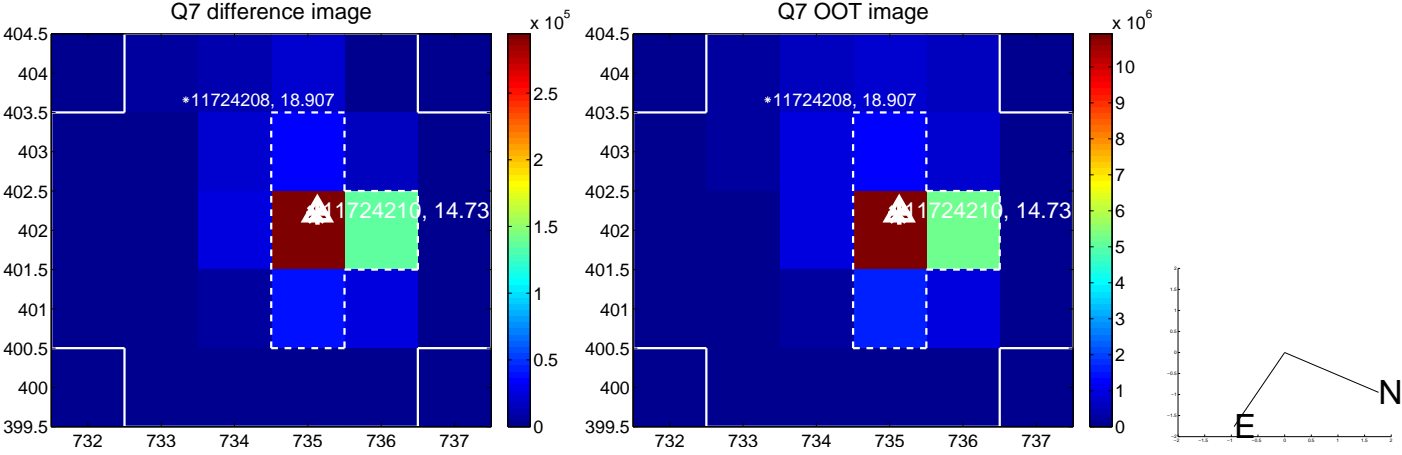
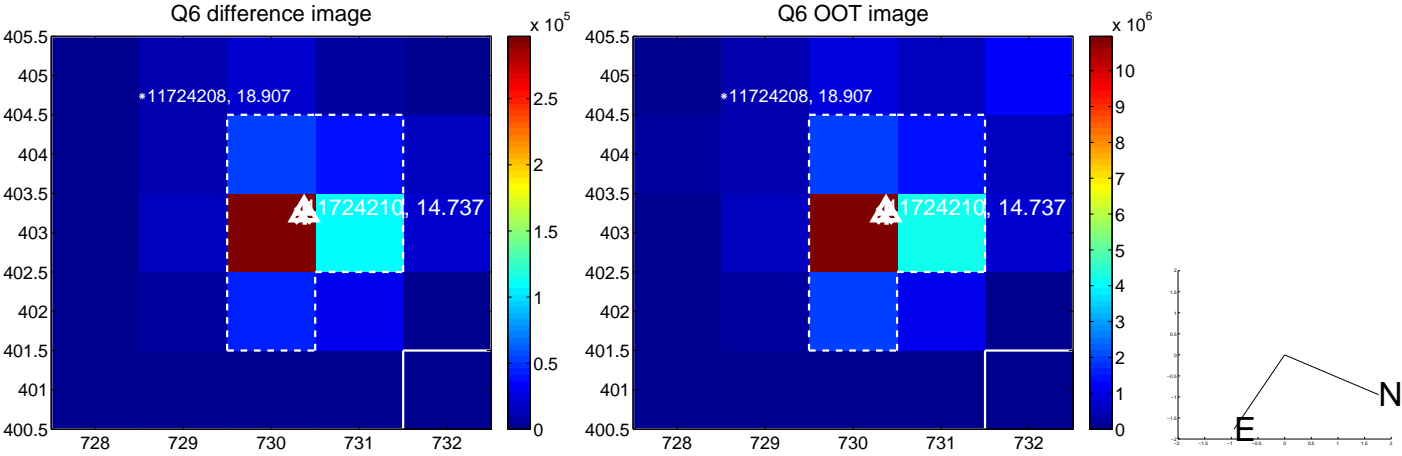
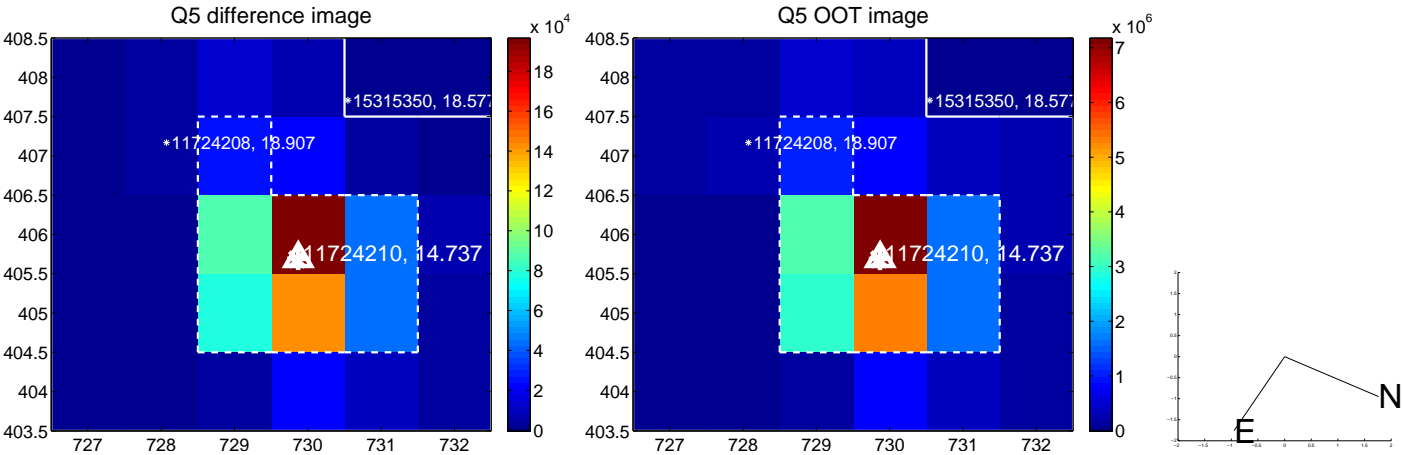


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

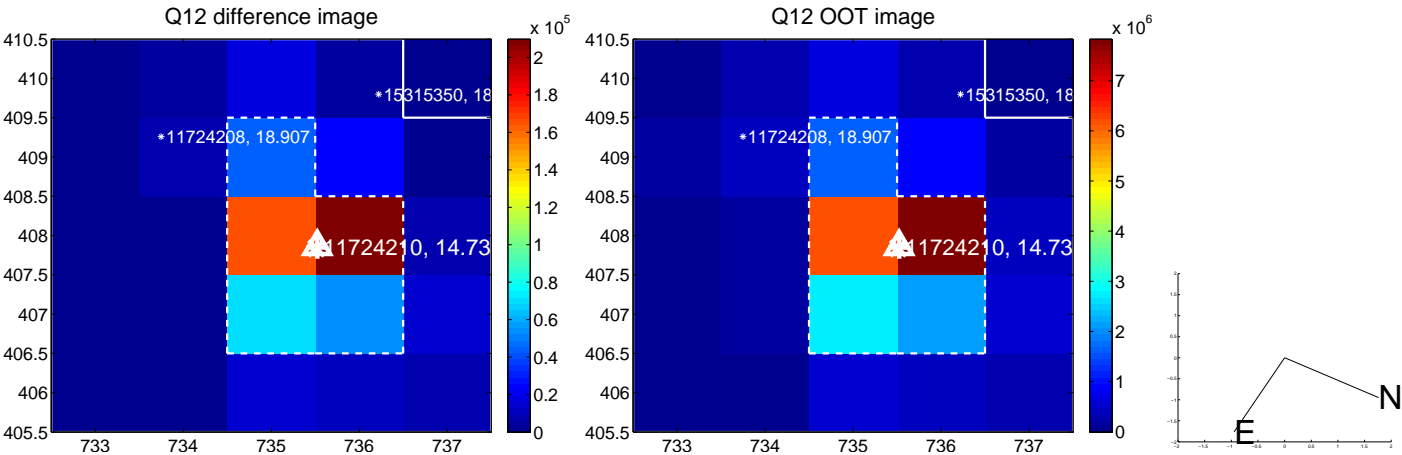
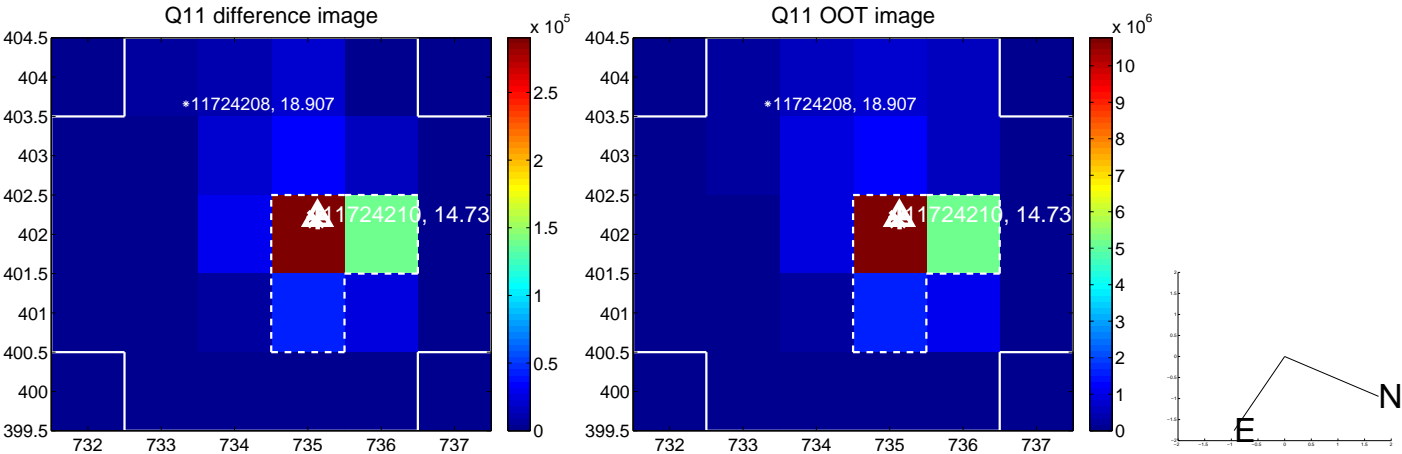
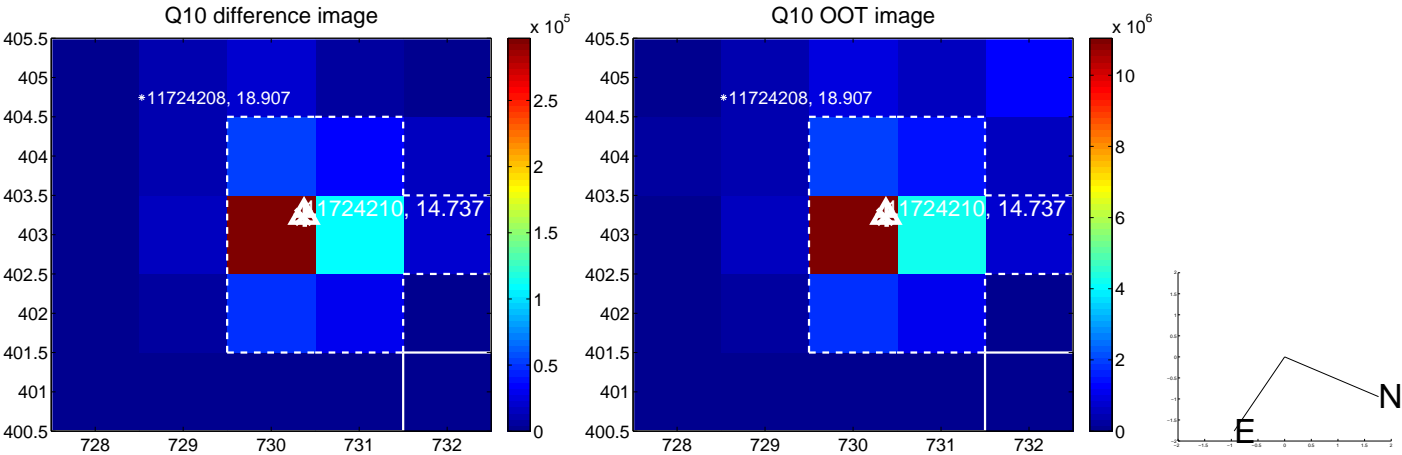
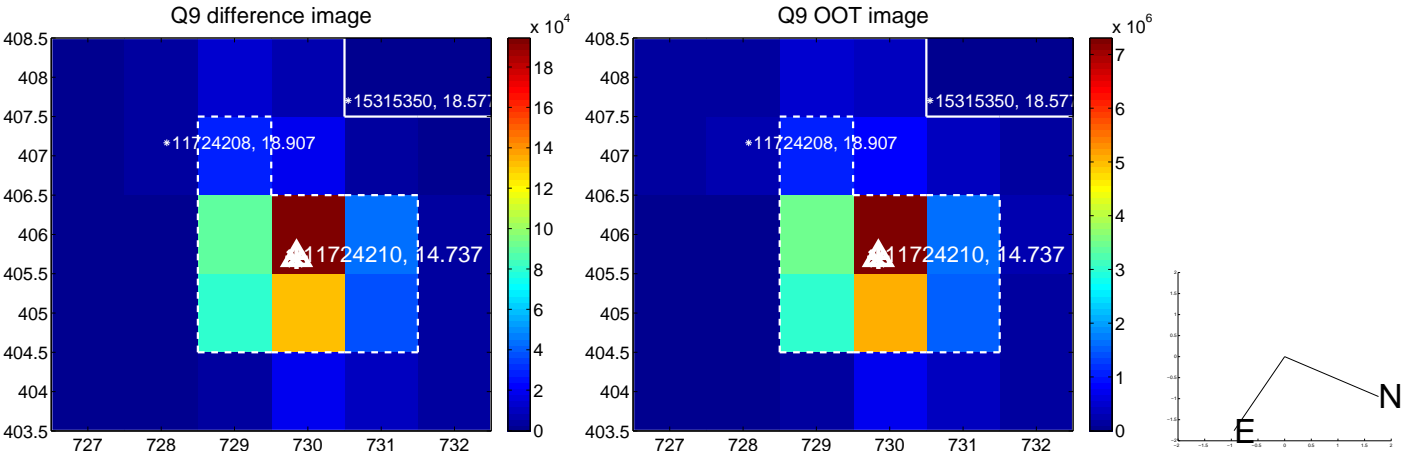
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



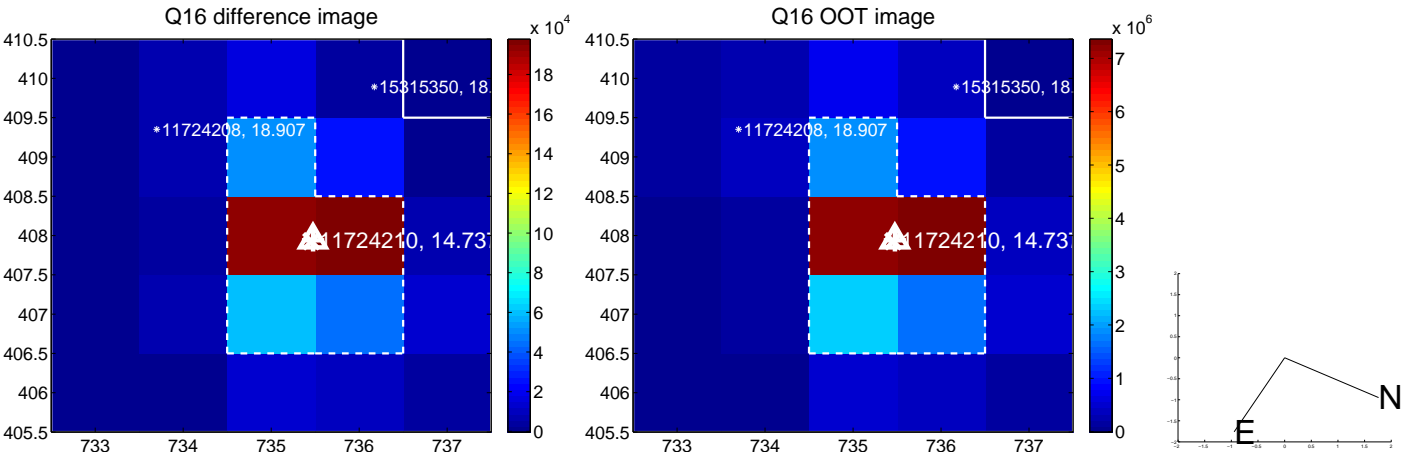
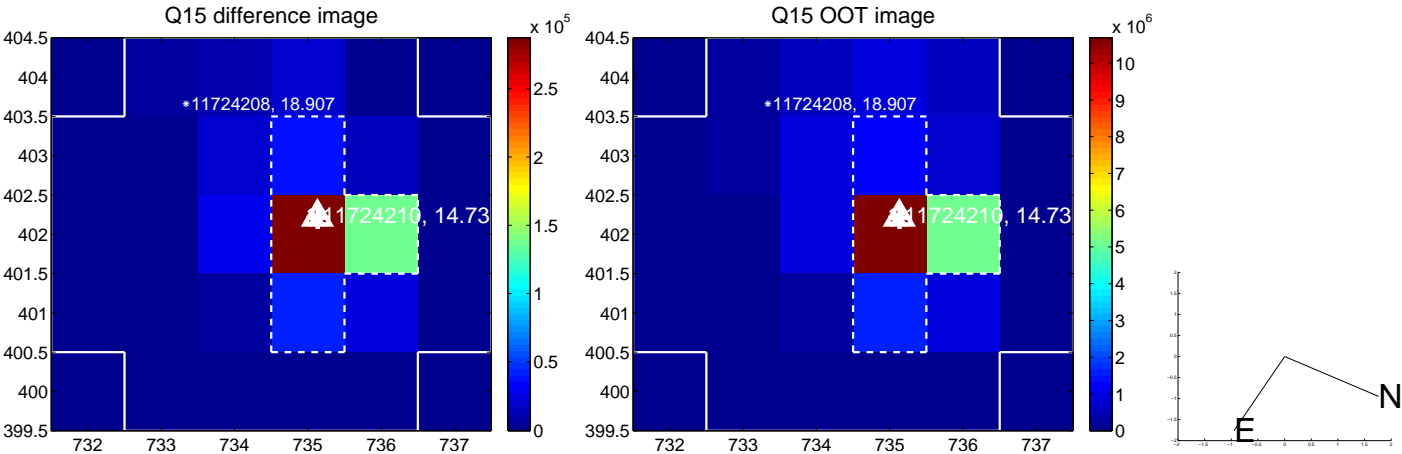
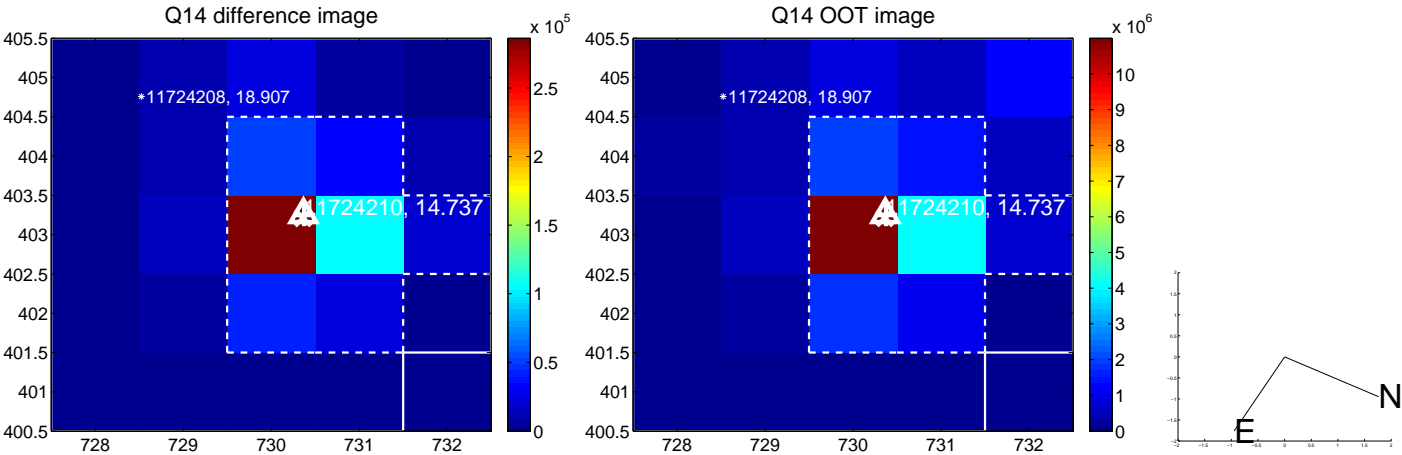
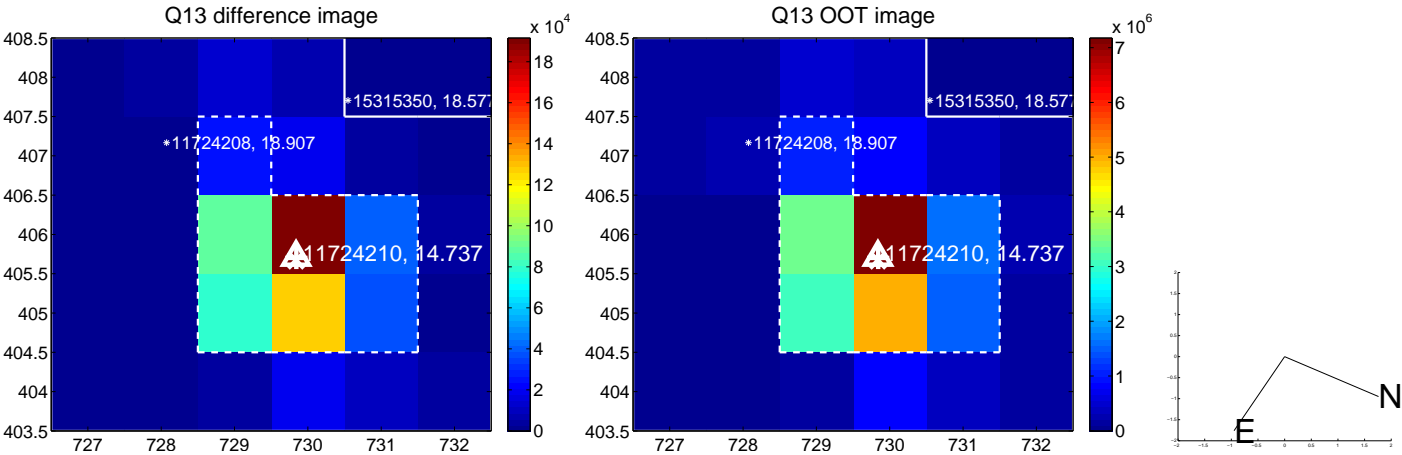
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



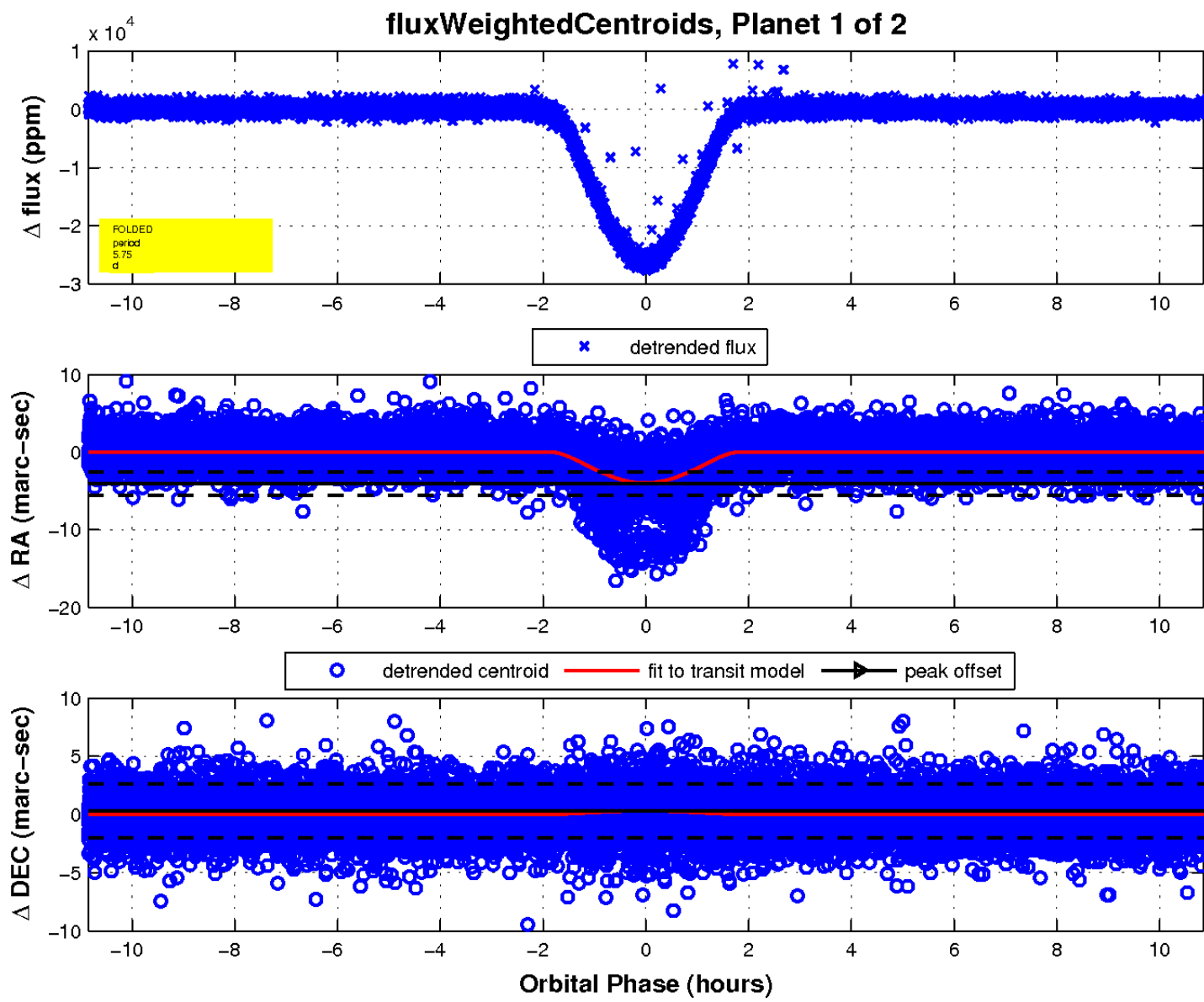
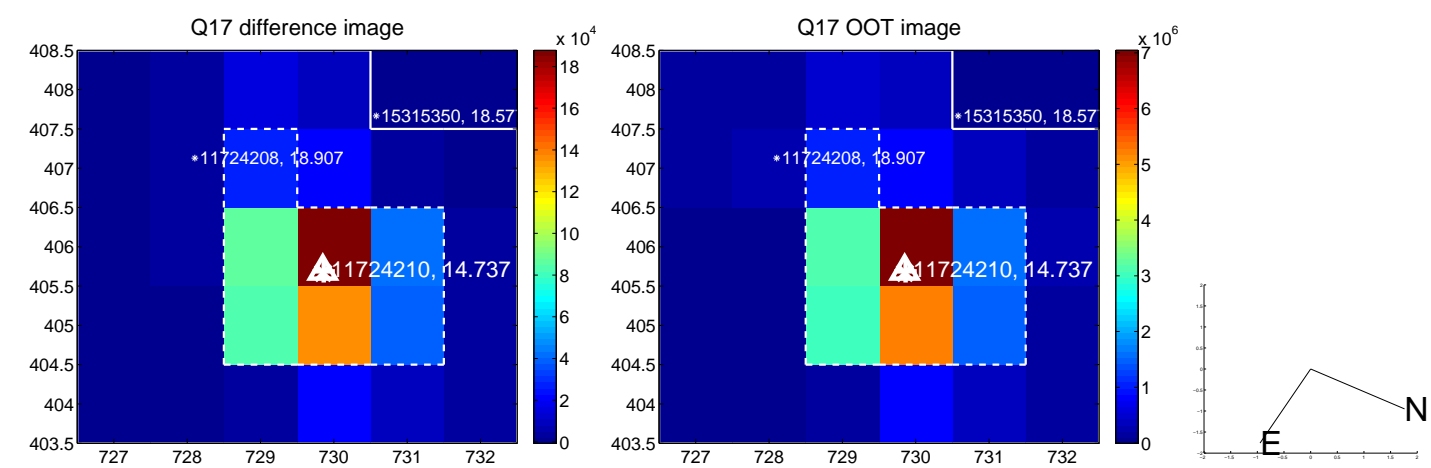
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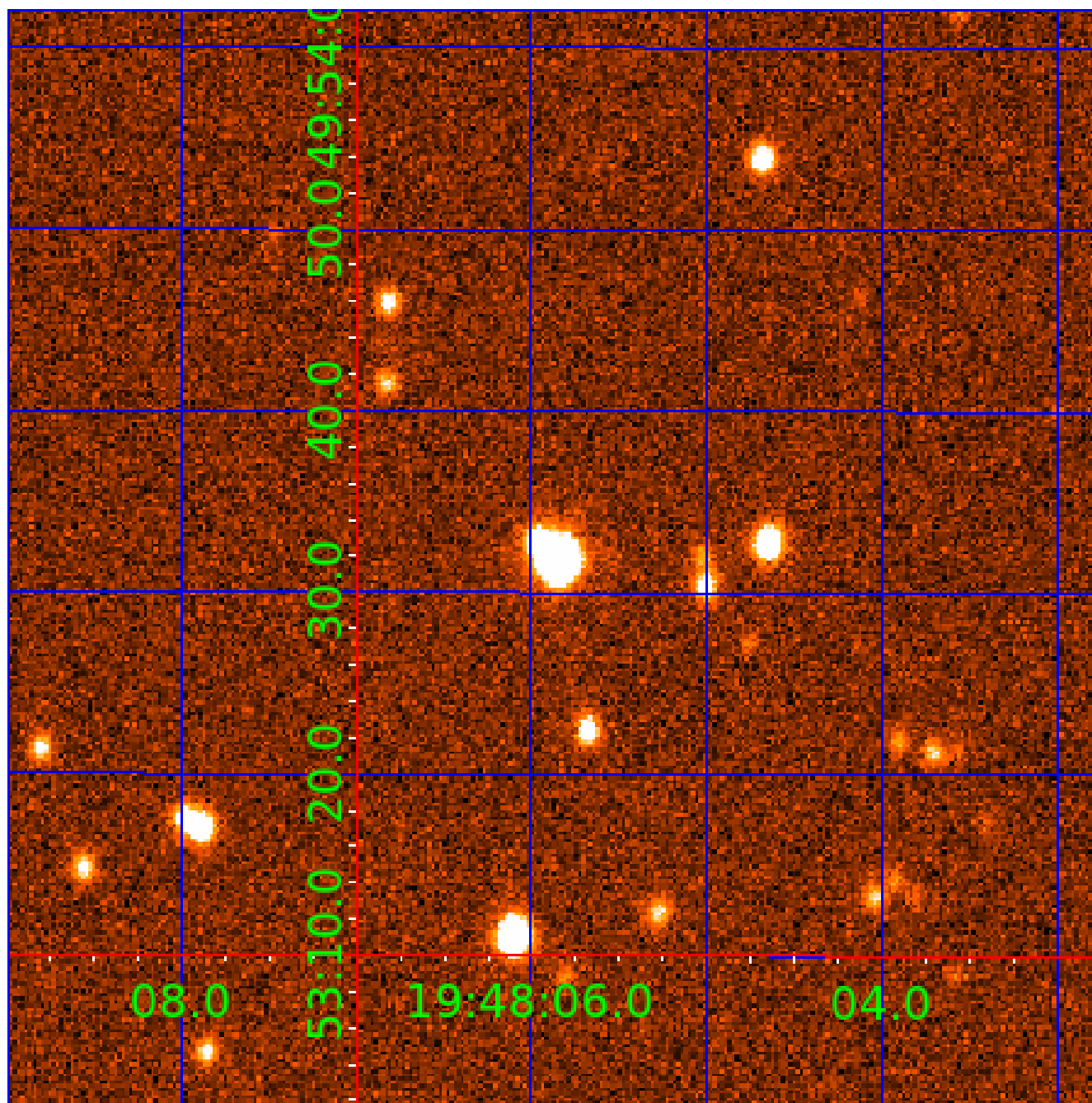


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011724210

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})
011724210-01	OBS	6244.01	5.746018	132.042460	29005.9	3.619	1499.5	1453.8	0.96	5940	25.84	279.08
011724210-02	OBS	No	2.873014	132.040874	2719.4	3.489	142.0	140.2	0.96	5940	7.70	703.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011724210-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
011724210-02	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.

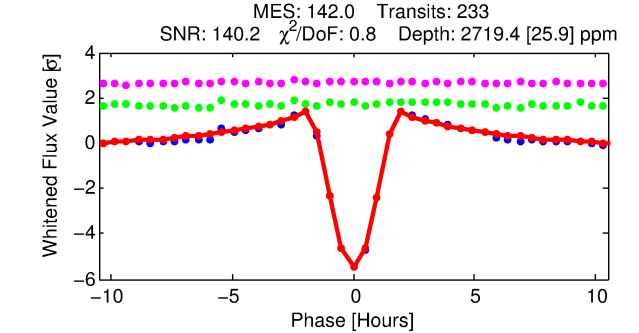
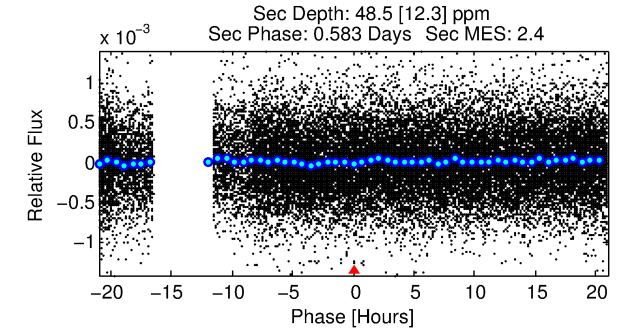
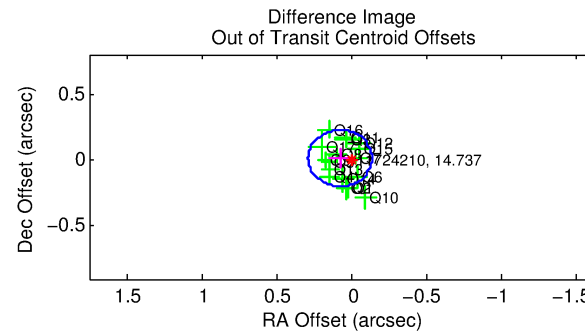
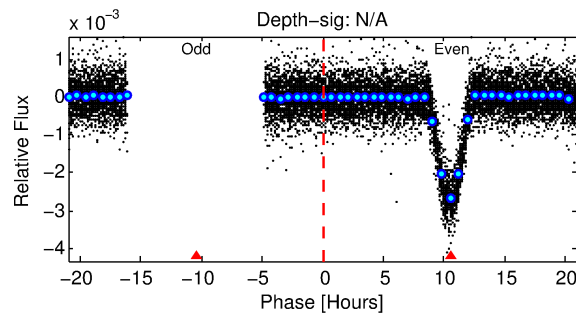
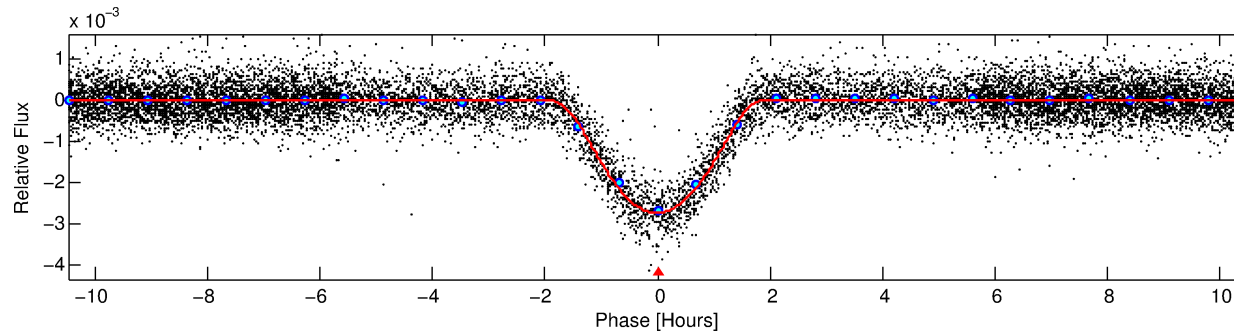
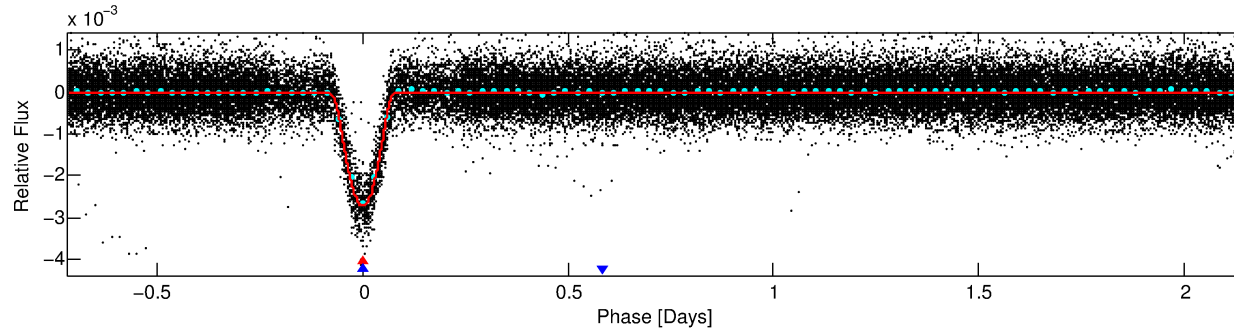
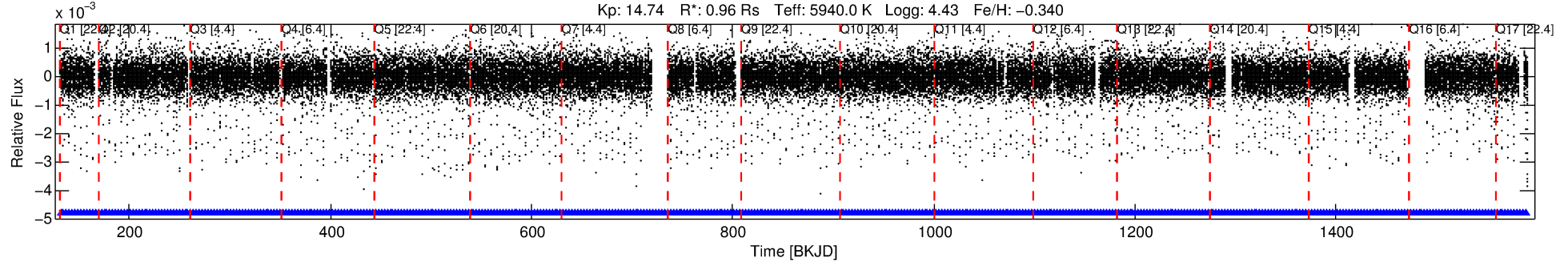
Ephemeris Match Information For 011724210-02

No Significant Match Found

DV One-Page Summary

KIC: 11724210 Candidate: 2 of 2 Period: 2.873 d
KOI: K06244 Corr: No Ephemeris Match

Kp: 14.74 R*: 0.96 Rs Teff: 5940.0 K Logg: 4.43 Fe/H: -0.340



DV Fit Results:

Period = 2.87301 [0.00000] d
Epoch = 132.0409 [0.0004] BKJD
Rp/R* = 0.0735 [0.0084]
a/R* = 3.00 [0.09]
b = 0.97 [0.01]
Seff = 703.24 [258.57]
Teff = 1313 [121] K
Rp = 7.70 [2.40] Re
a = 0.0382 [0.0092] AU
Ag = 0.66 [0.32] [-1.06σ]
Teffp = 1829 [165] K [2.52σ]

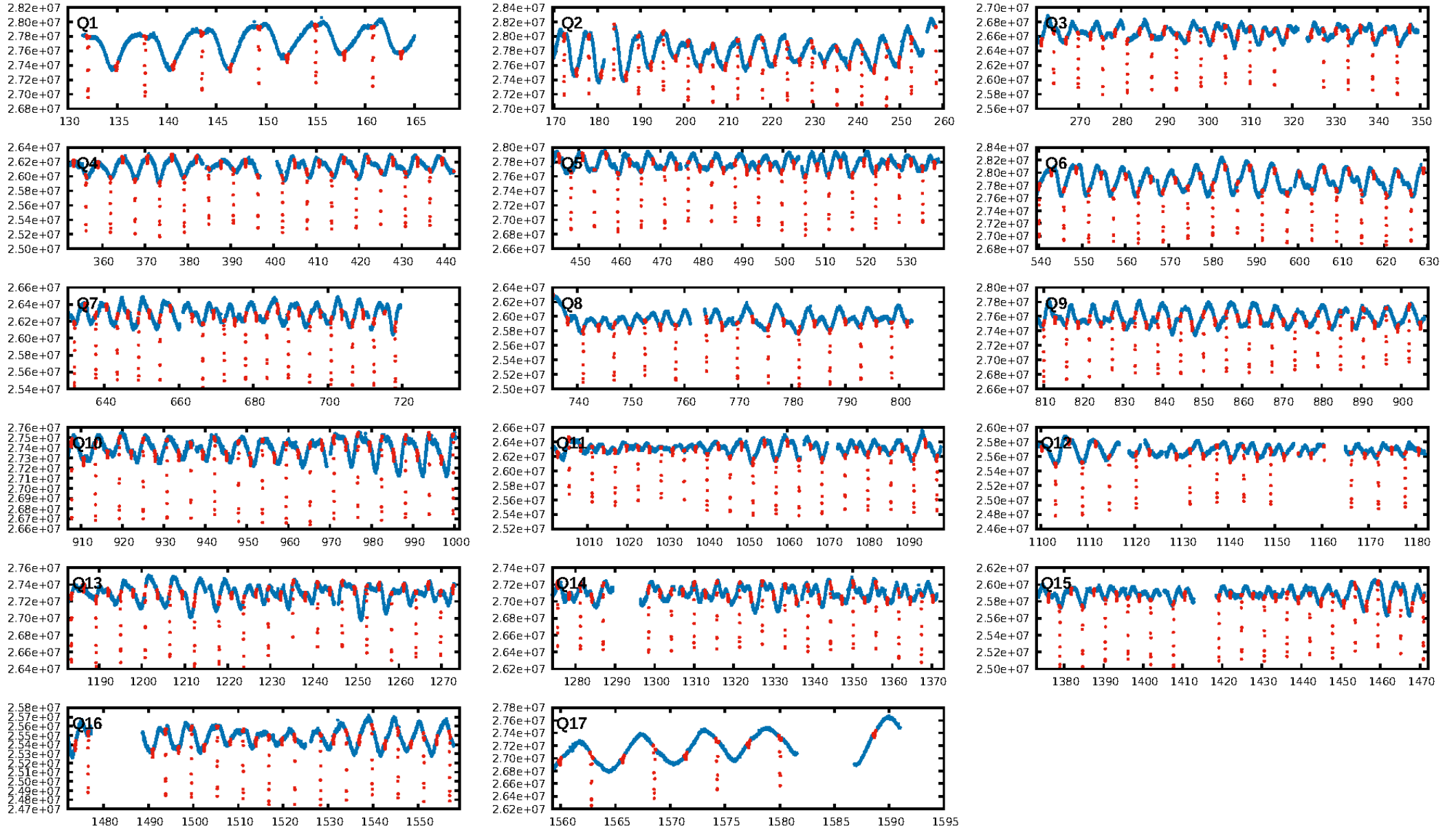
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [13.72σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [222/222]
GhostDiagnostic-chr: 3.392
Centroid-sig: 0.0%
Centroid-so: 0.347 arcsec [4.80σ]
OotOffset-rm: 0.076 arcsec [1.06σ]
KicOffset-rm: 0.040 arcsec [0.51σ]
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]

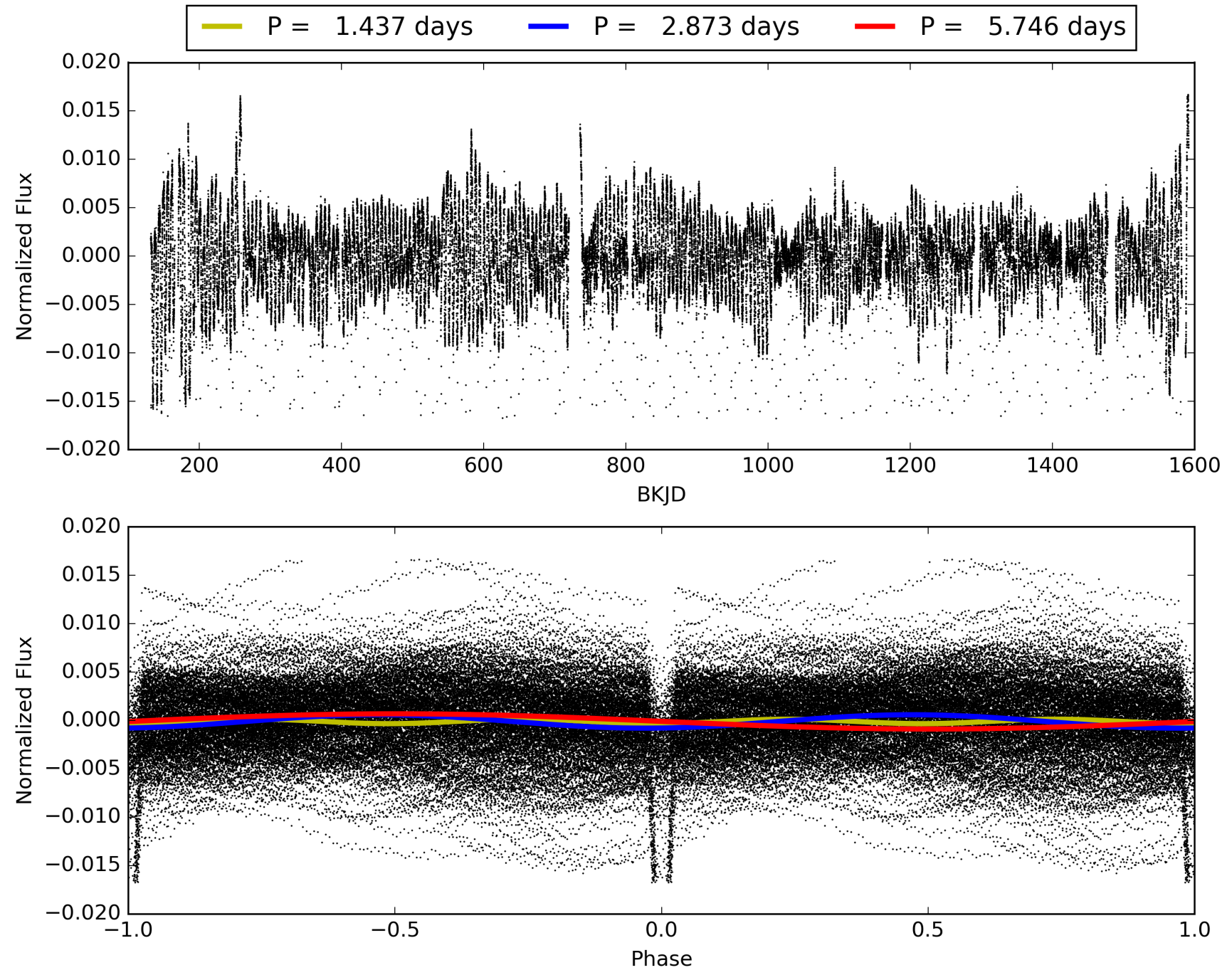
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:24:52 Z

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

TCE 011724210-02, PDC Light Curves

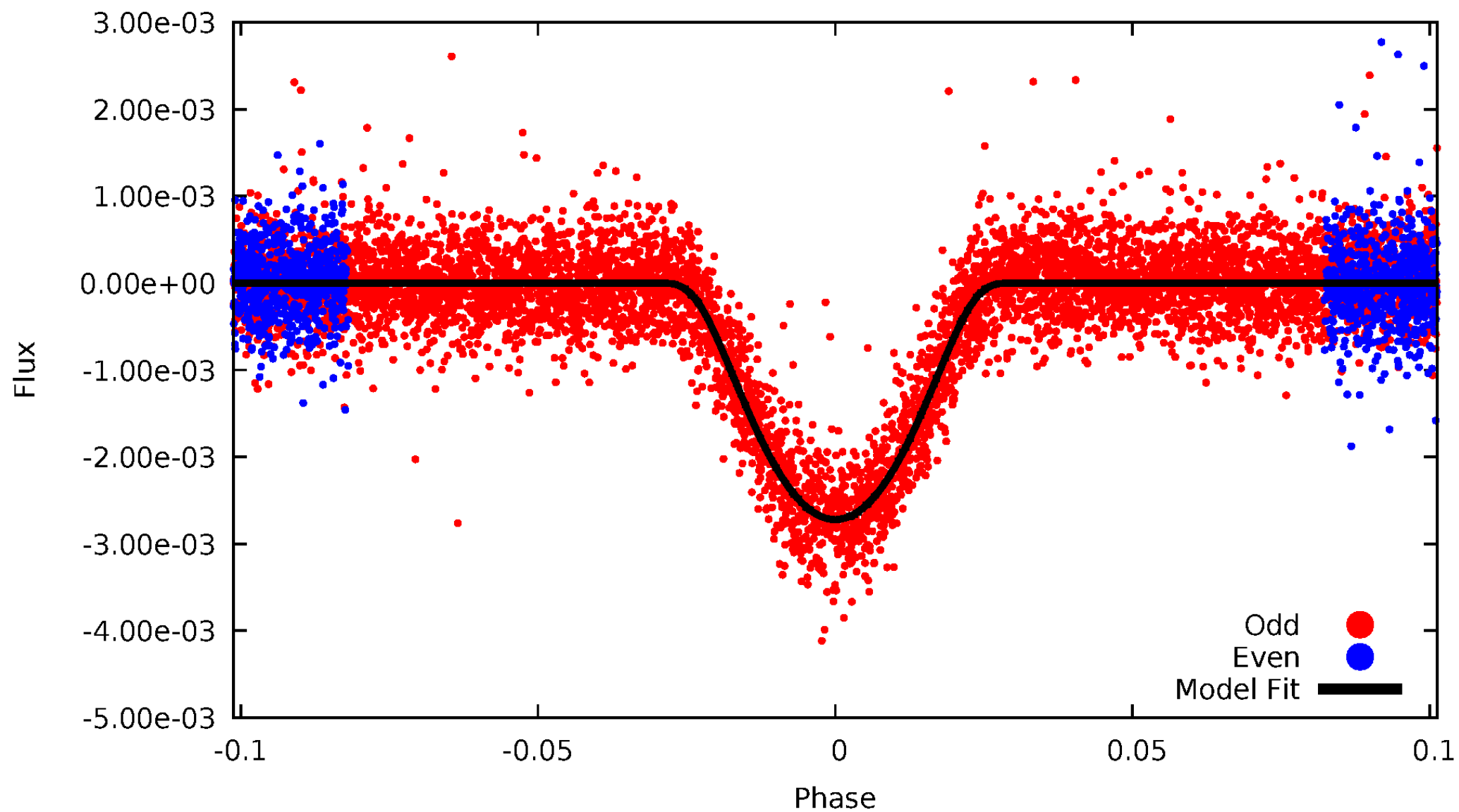


TCE 011724210-02



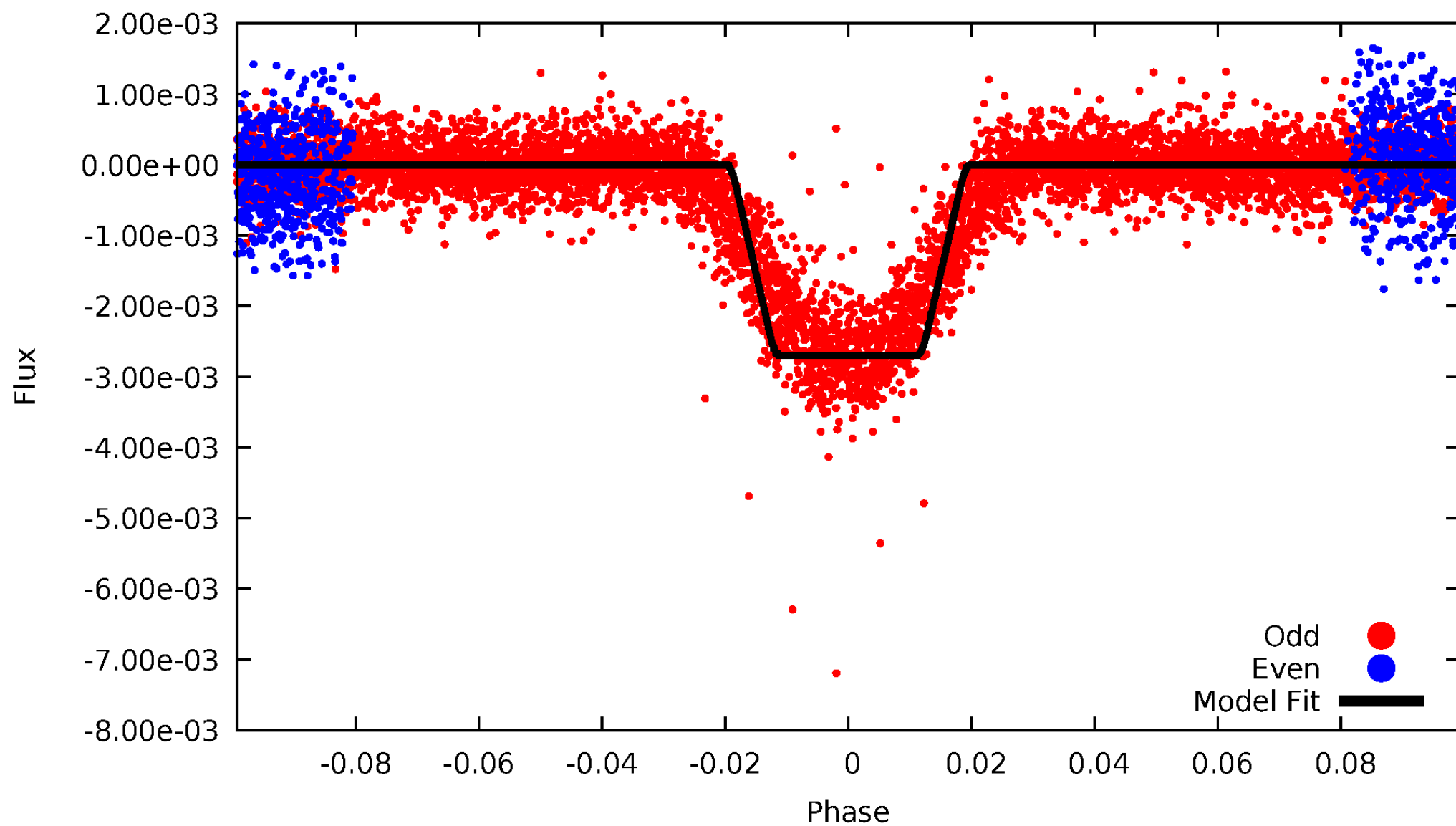
DV Odd/Even

TCE 011724210-02



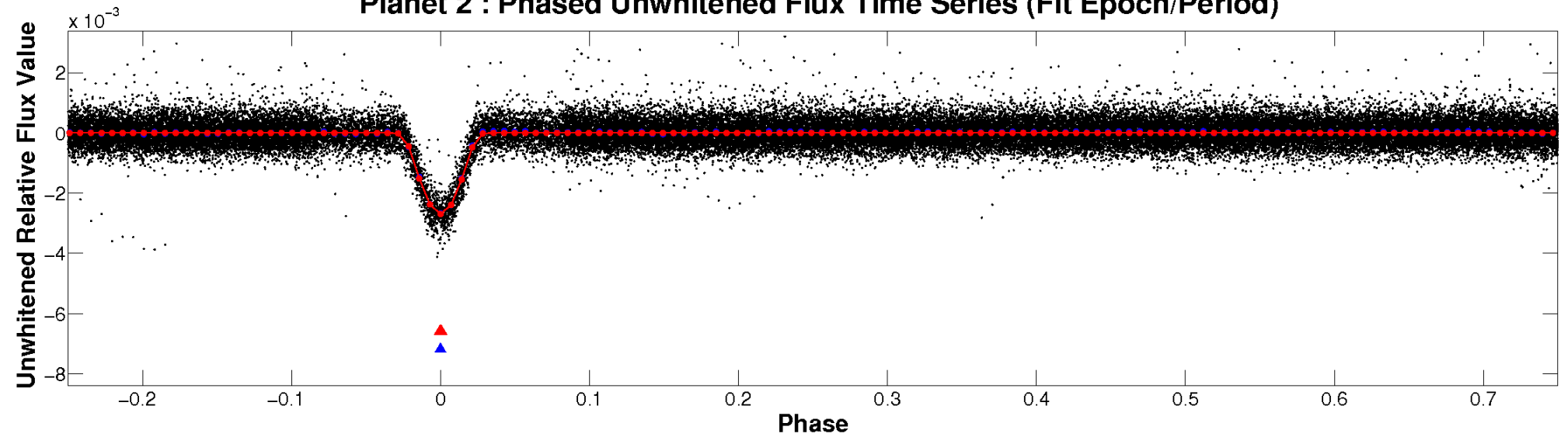
ALT Odd/Even

TCE 011724210-02

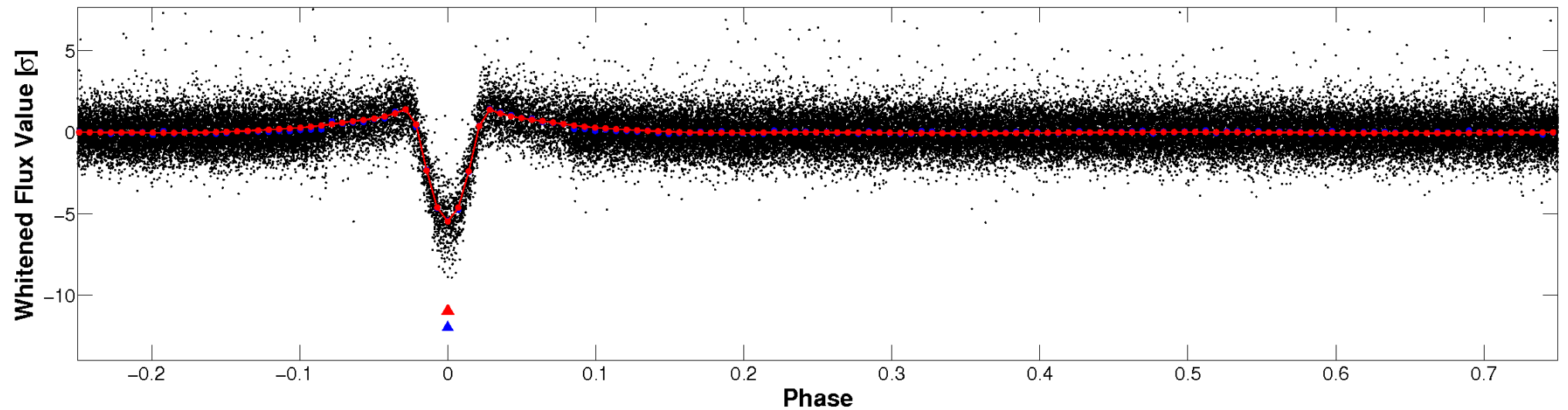


Non-Whitened Vs. Whitened Light Curve

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

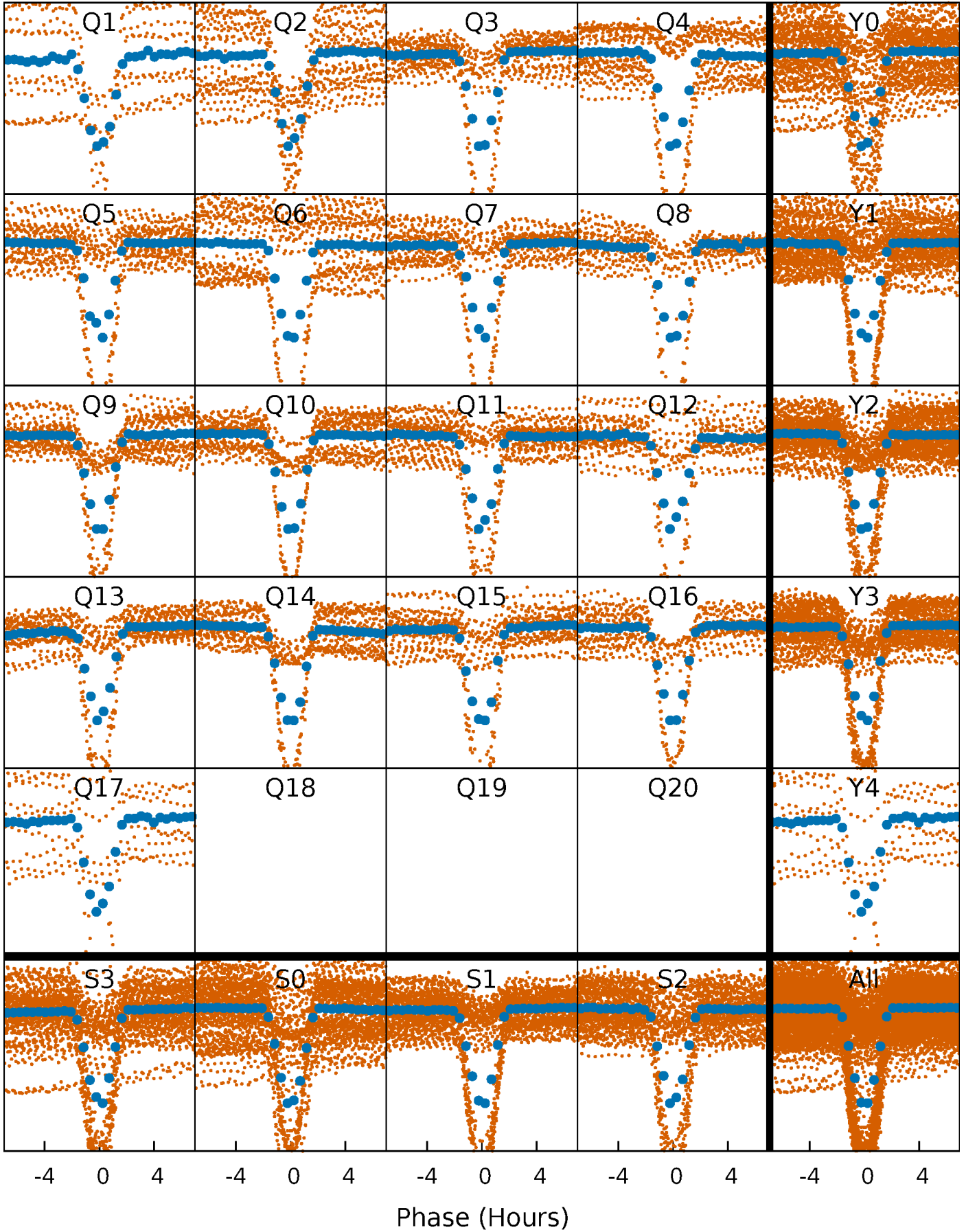


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



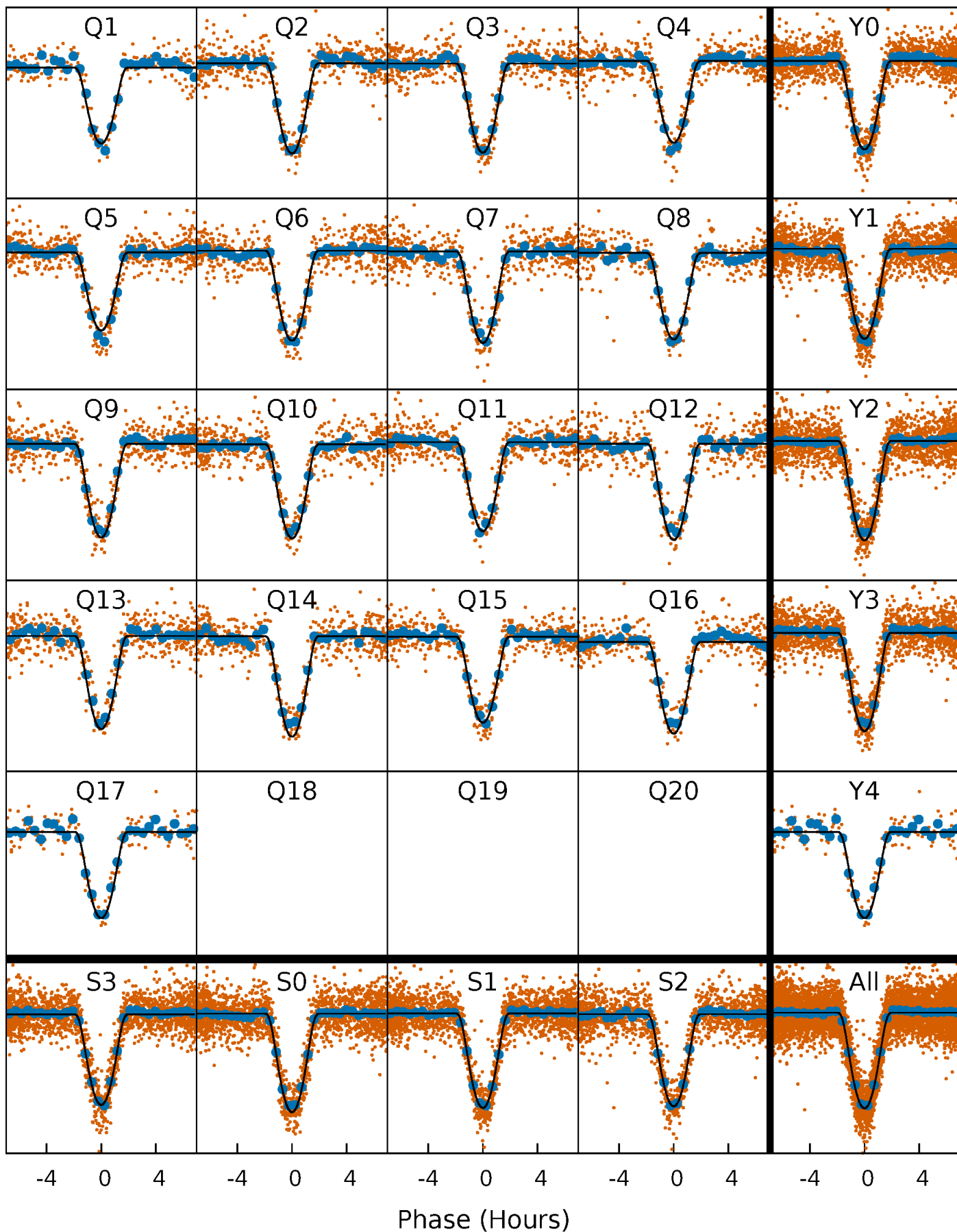
PDC Quarter-Phased Transit Curves

TCE 011724210-02 P= 2.873014 Days $T_0=132.040874$ (BKJD)



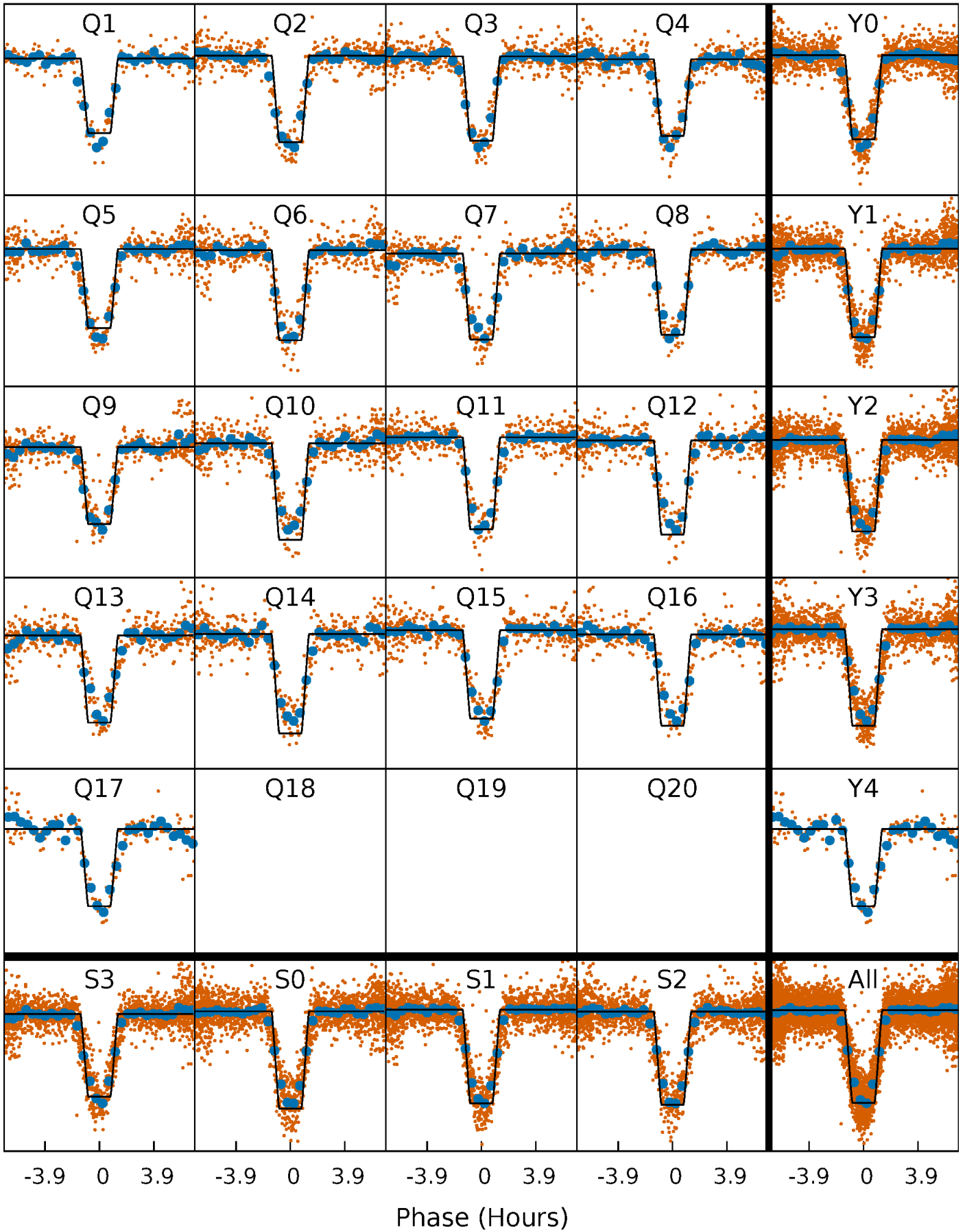
DV Quarter-Phased Transit Curves

TCE 011724210-02 P= 2.873014 Days $T_0=132.040874$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

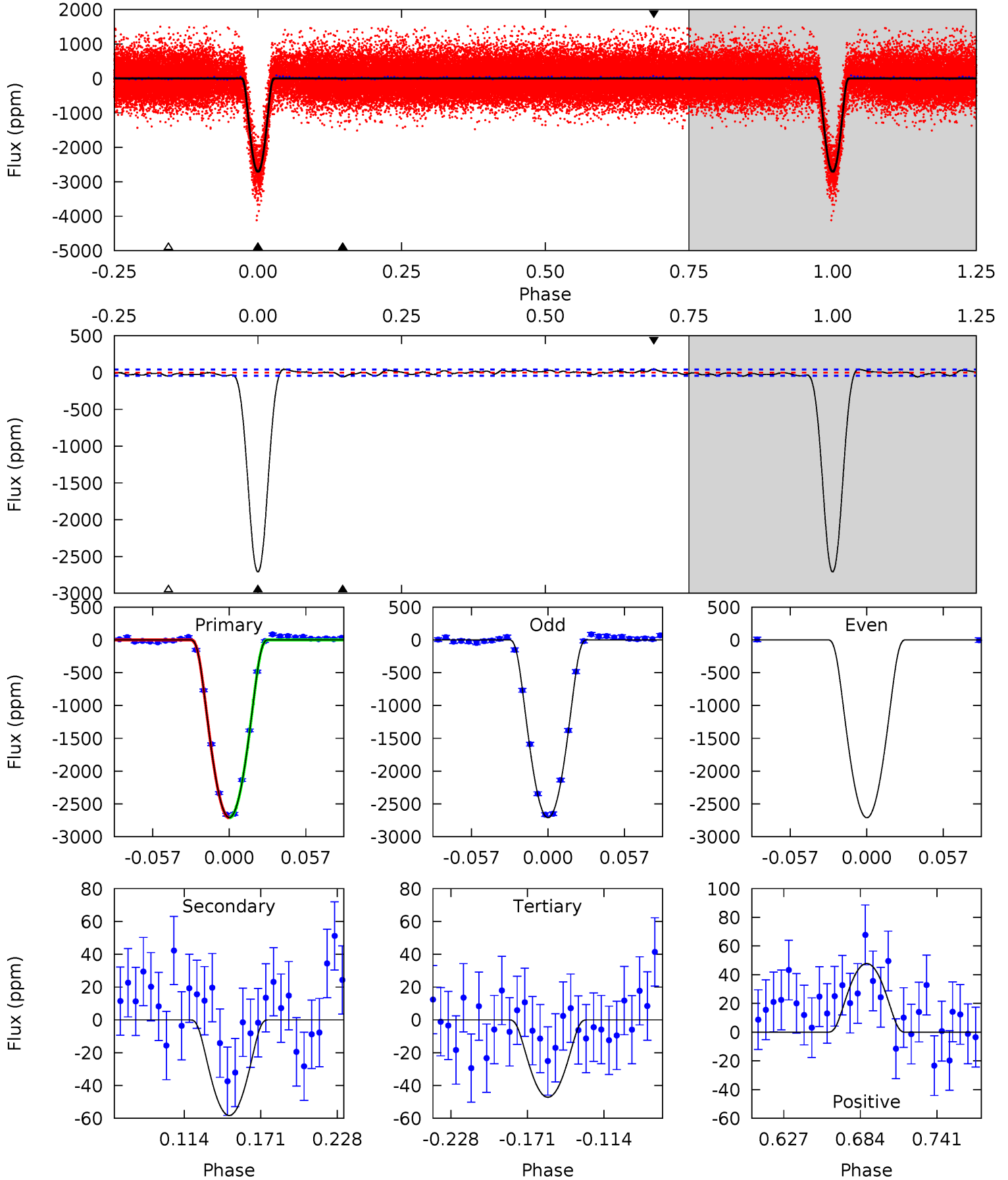
TCE 011724210-02 P= 2.872982 Days $T_0=132.048416$ (BKJD)



DV Model-Shift Uniqueness Test

011724210-02, P = 2.873014 Days, E = 129.167860 Days

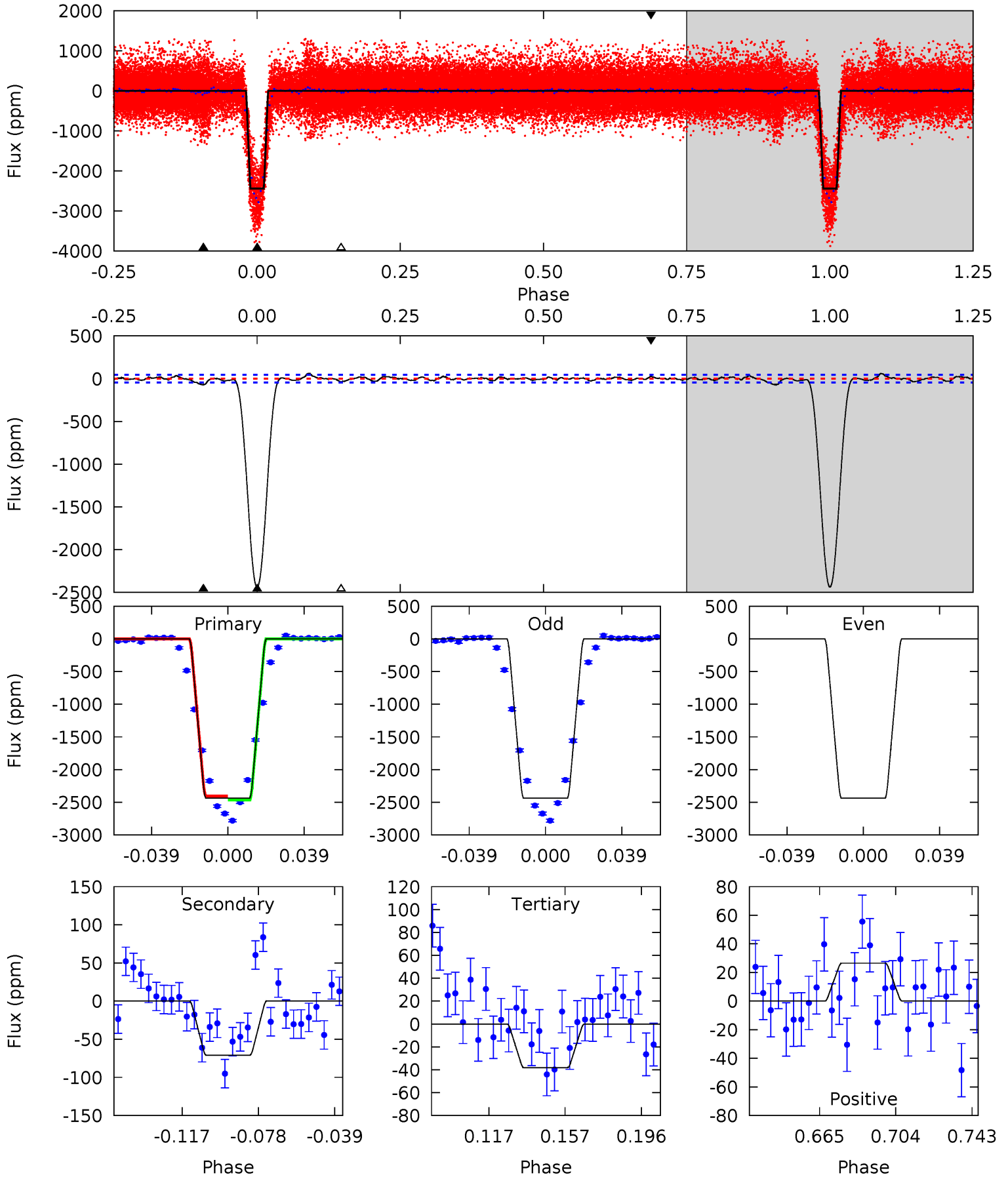
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
300.2	6.46	5.23	5.30	4.68	1.90	2.14	295.0	294.9	1.23	1.16	0	1.00	0.02	0.06



Alt Model-Shift Uniqueness Test

011724210-02, P = 2.872982 Days, E = 129.175434 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
258.8	7.54	4.06	2.82	4.76	2.06	1.48	254.7	255.9	3.48	4.72	0	1.01	0.02	3.12



Stellar Parameters For KIC 011724210

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5940^{+160}_{-178}	$4.429^{+0.101}_{-0.188}$	$-0.340^{+0.300}_{-0.300}$	$0.960^{+0.279}_{-0.139}$	$0.904^{+0.120}_{-0.087}$	$1.439^{+0.660}_{-0.724}$
	+3%/-3%	+2%/-4%	+88%/-88%	+29%/-14%	+13%/-10%	+46%/-50%
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 011724210-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-58 ± 9	$7.91^{+1.47}_{-1.15}$	1851^{+138}_{-97}	2514^{+153}_{-158}	$0.729^{+0.338}_{-0.209}$
Alt.	-71 ± 9	$5.60^{+1.16}_{-1.04}$	1852^{+143}_{-100}	2963^{+197}_{-169}	$1.796^{+0.998}_{-0.558}$

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

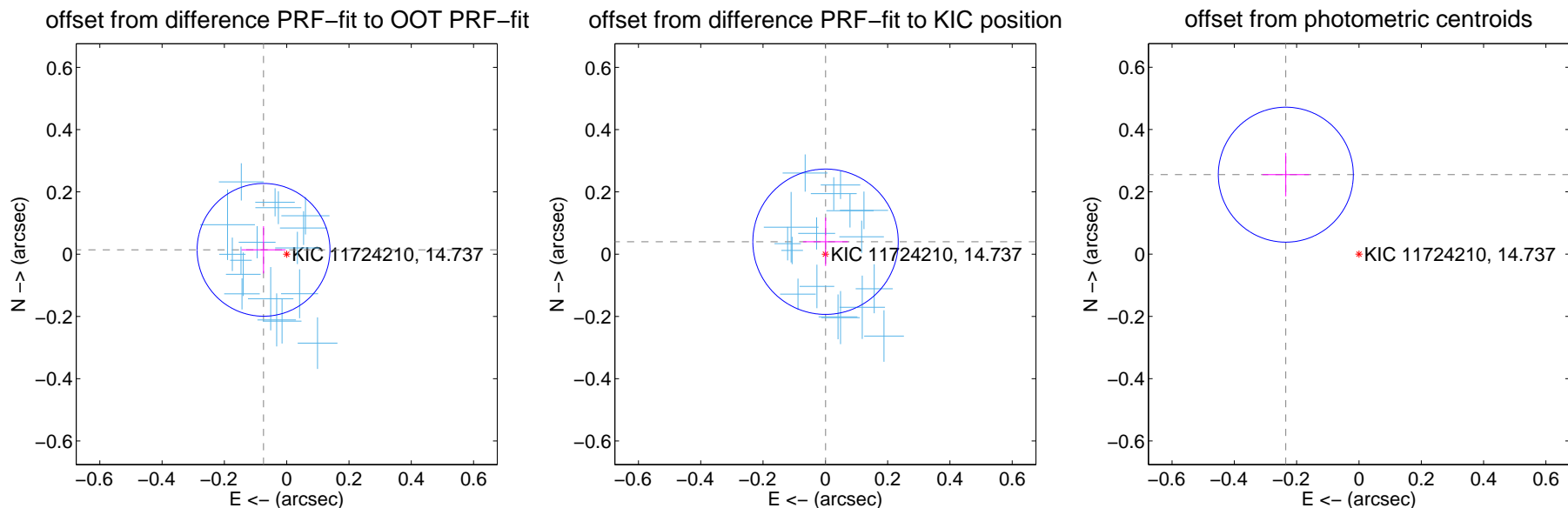
DV Centroid Data

Supplemental centroid analysis for 011724210-02. Kepler magnitude: 14.74. Transit SNR 140.25

There are 17 quarters with good PRF difference image offsets

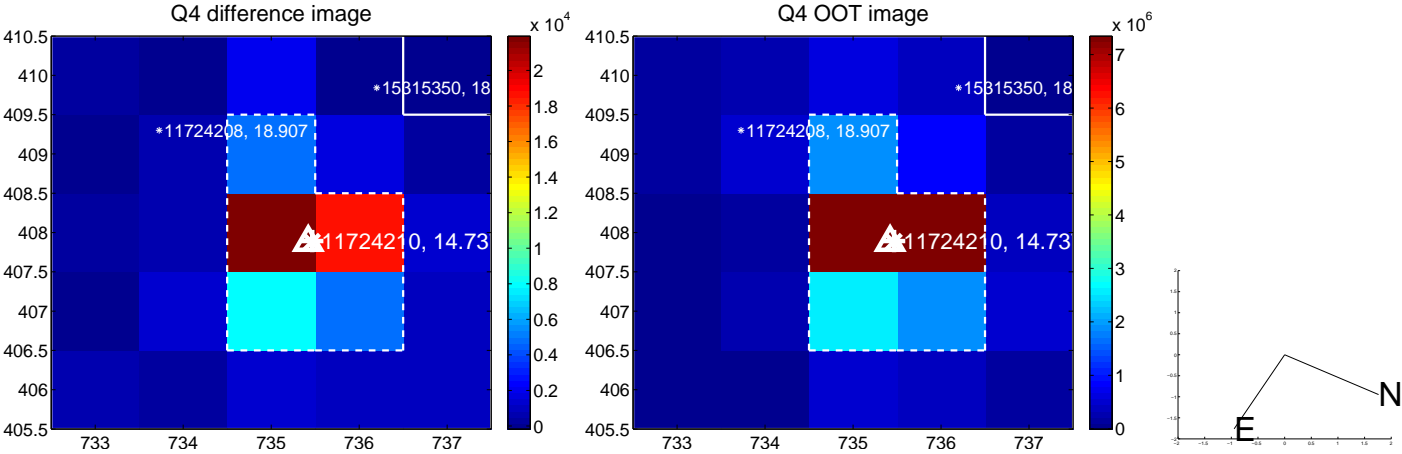
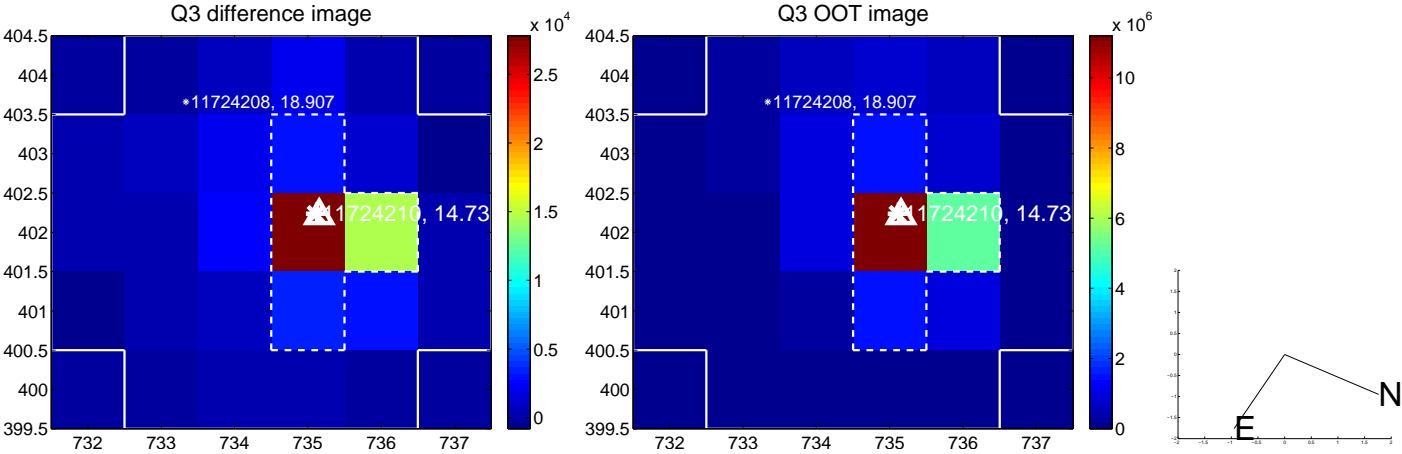
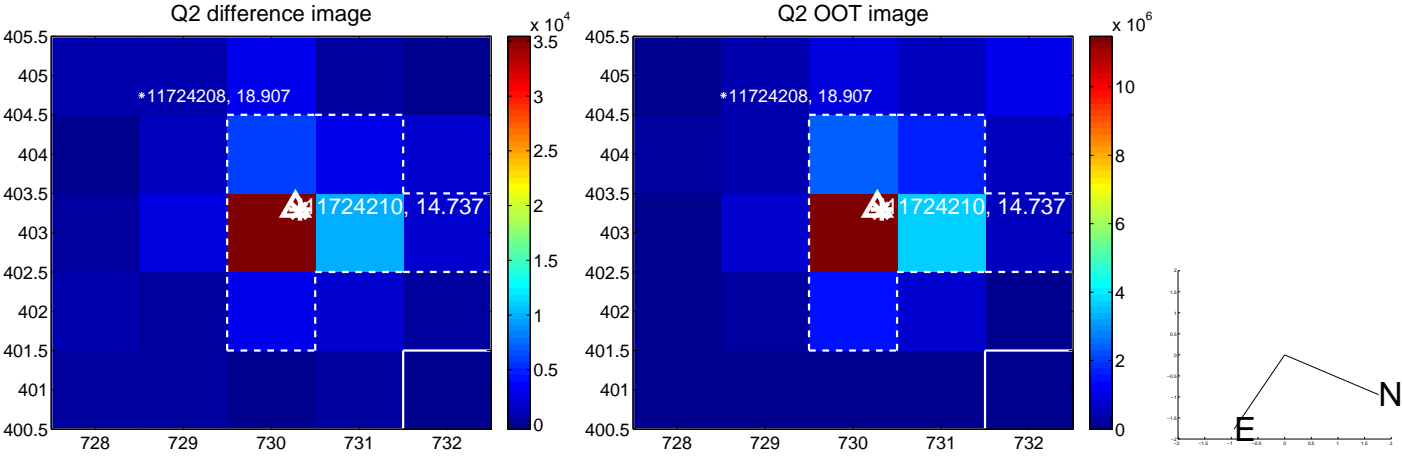
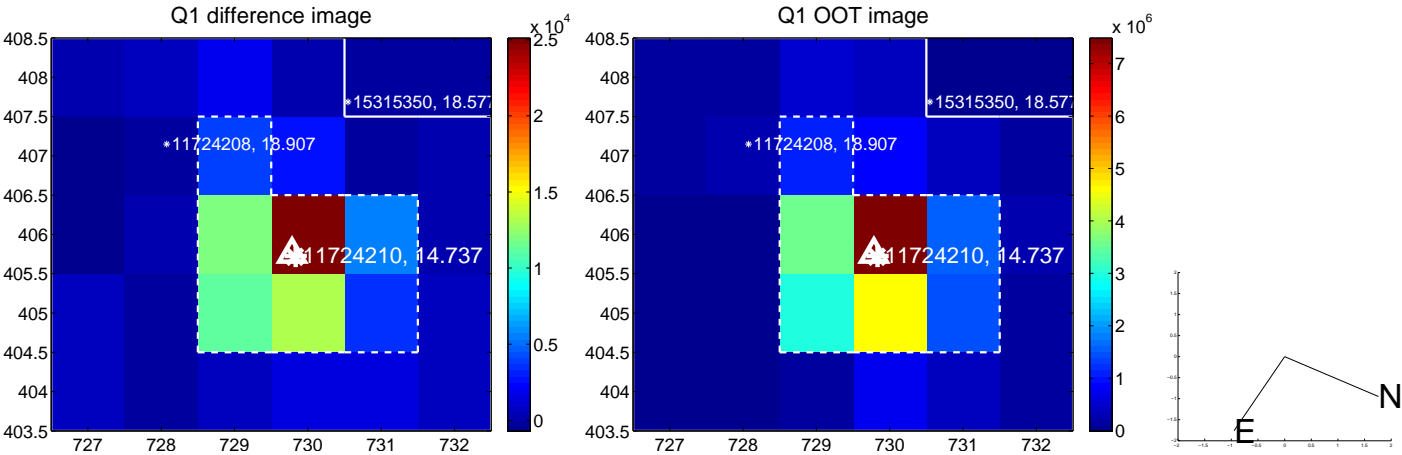
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.076 ± 0.071	1.06	0.074 ± 0.071	0.014 ± 0.076
PRF-fit source offset from KIC position	0.040 ± 0.078	0.51	-0.001 ± 0.072	0.040 ± 0.078
photometric centroid source offset	0.35 ± 0.07	4.80	0.23 ± 0.08	0.25 ± 0.07

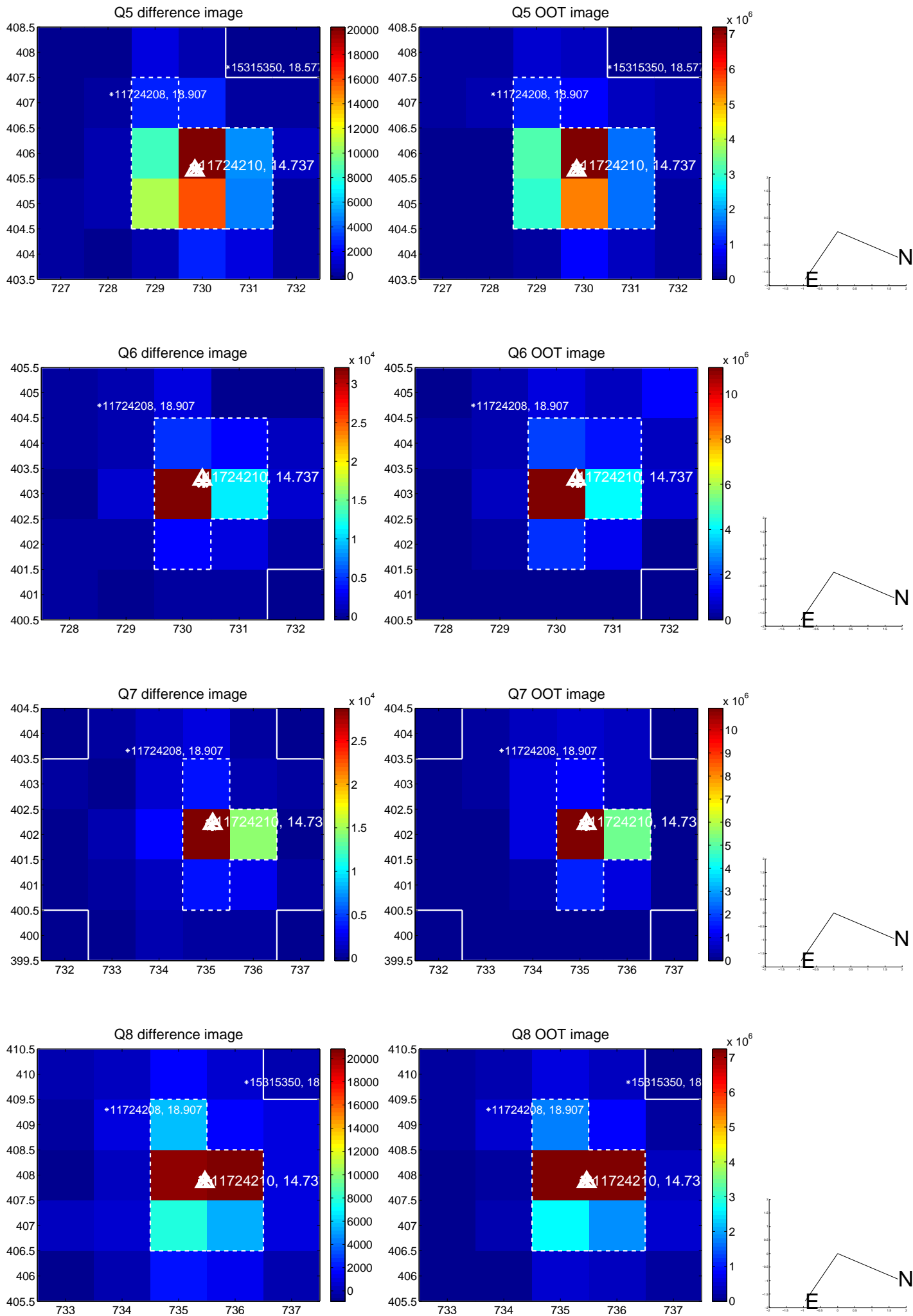


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

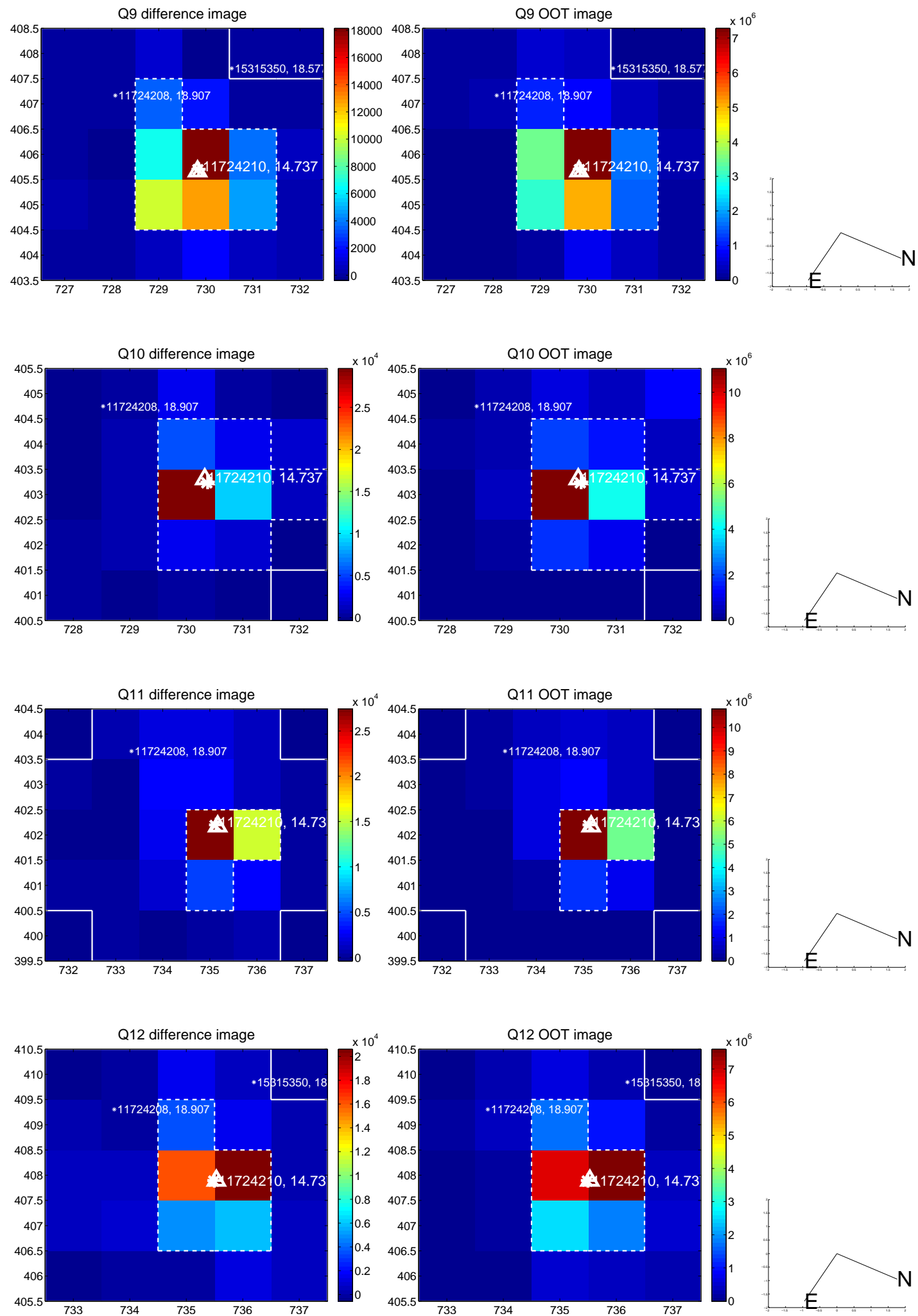
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



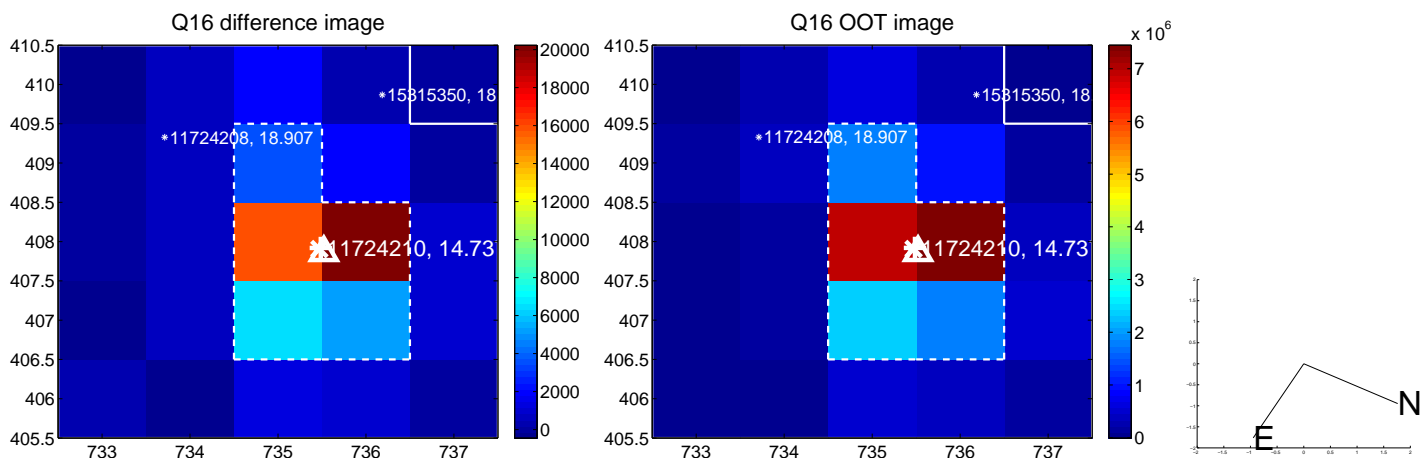
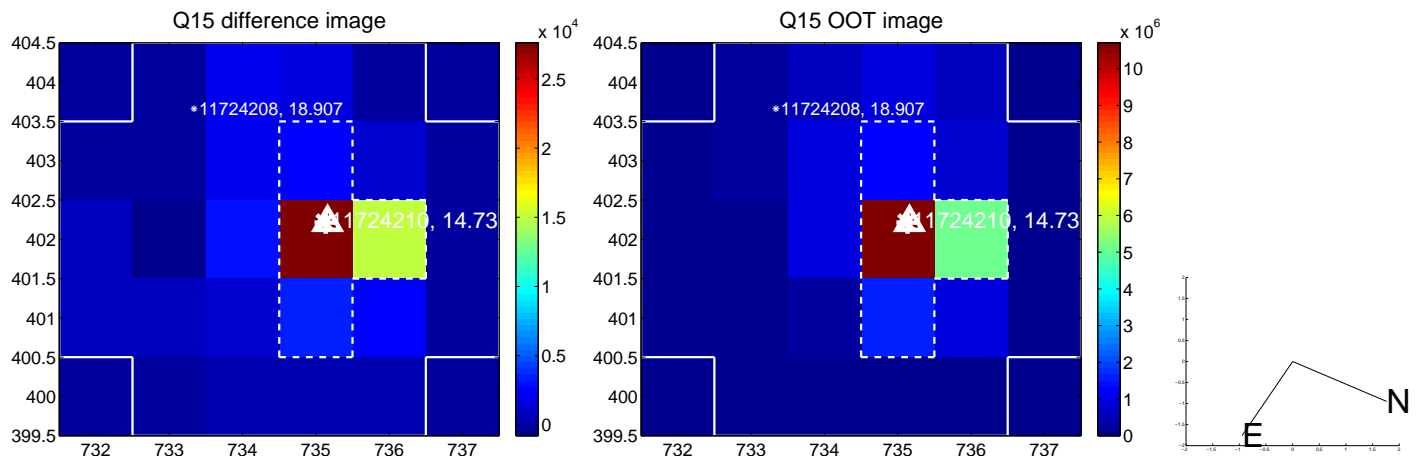
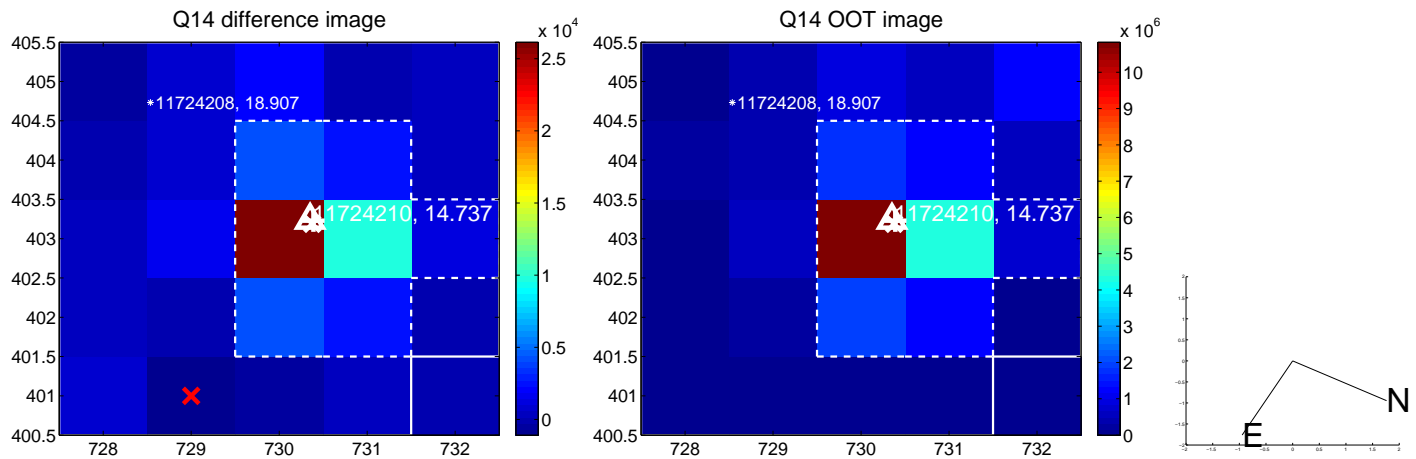
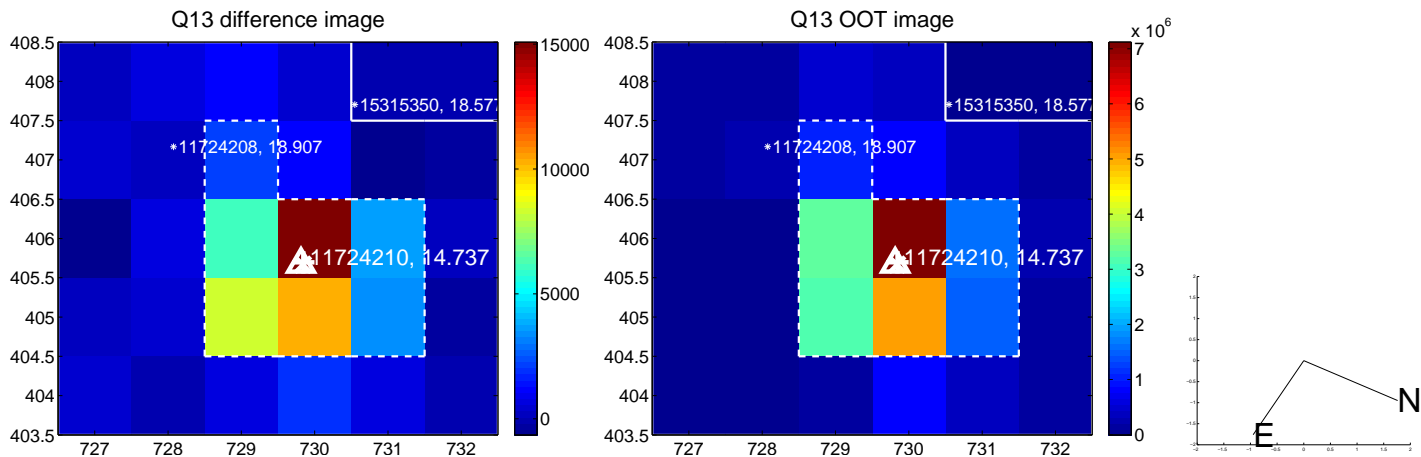
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



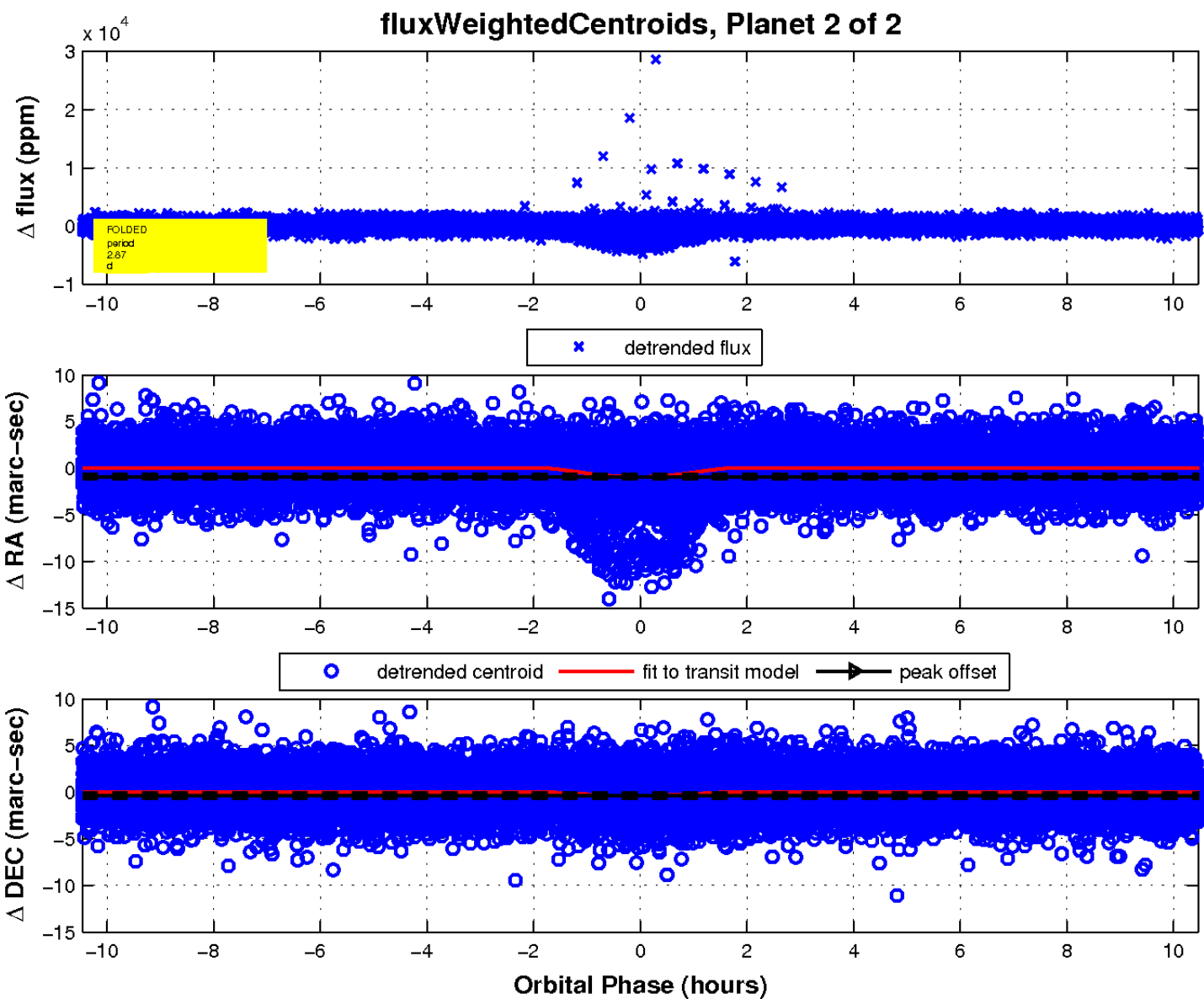
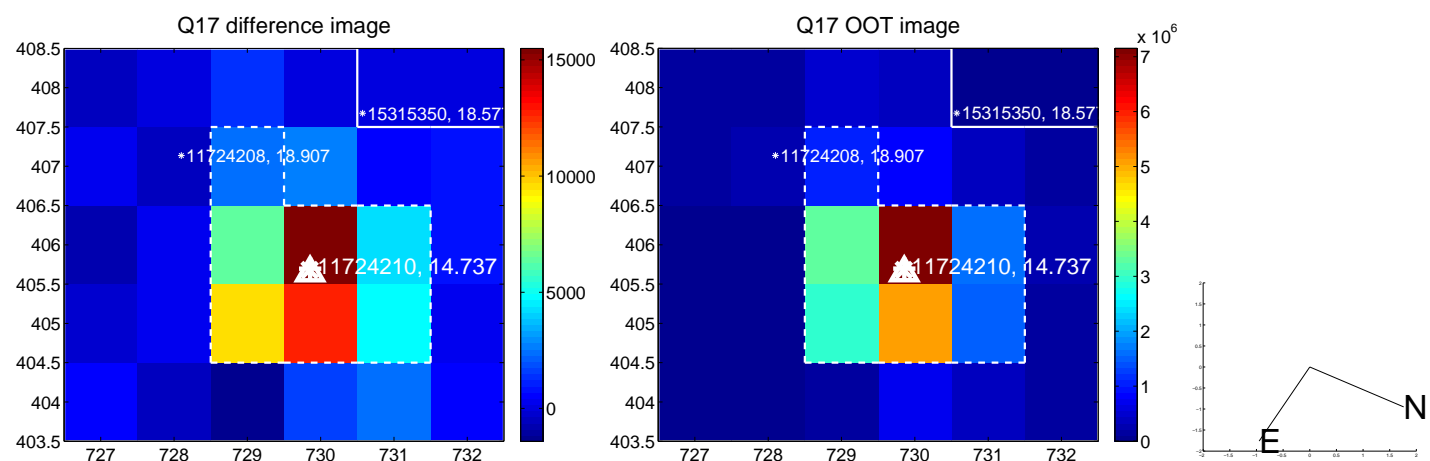
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

