

KIC 007175184

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})
007175184-01	OBS	0369.01	5.885287	133.226499	118.4	2.009	31.5	35.4	1.43	6070	1.84	583.96
007175184-02	OBS	0369.02	10.104563	135.563521	114.8	2.526	26.0	28.7	1.43	6070	1.81	284.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007175184-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007175184-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

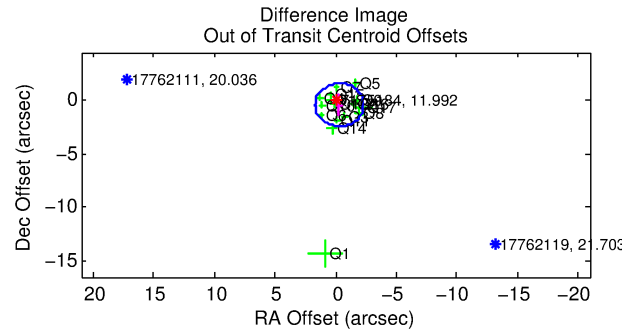
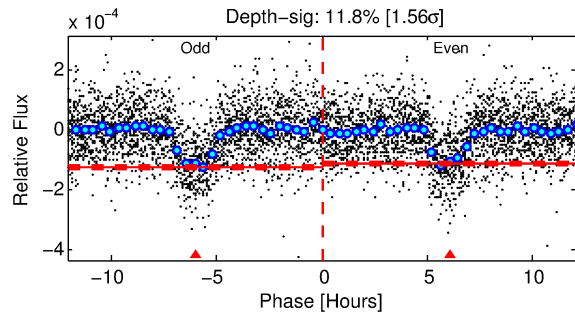
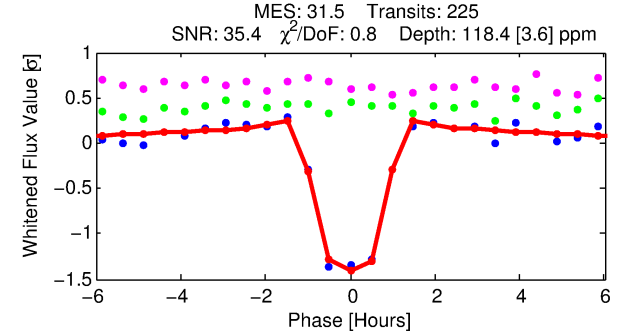
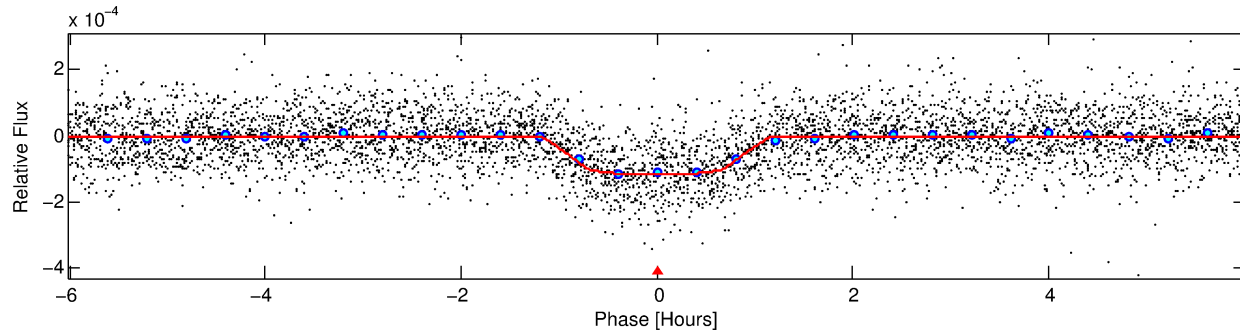
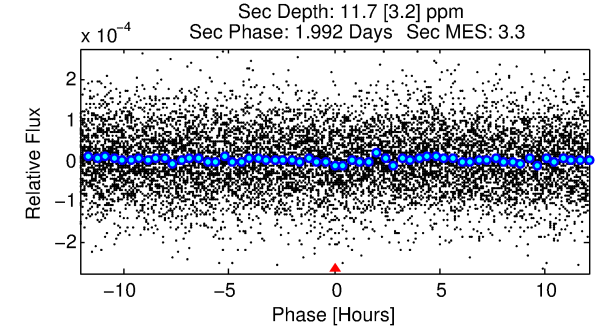
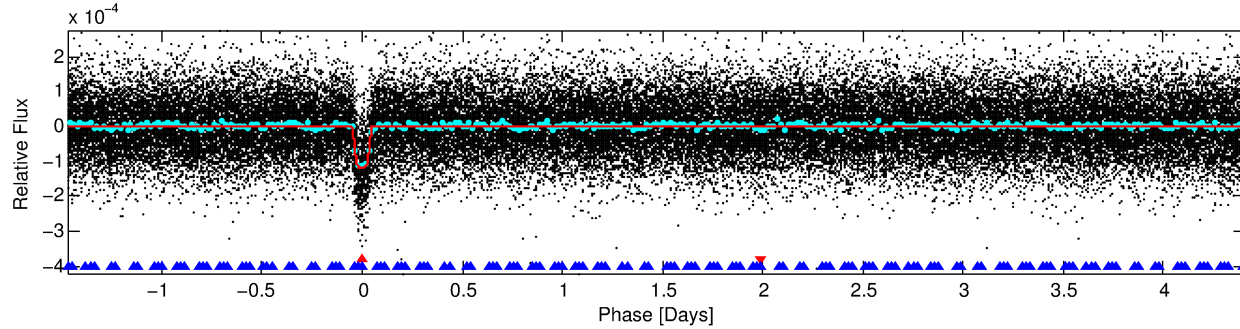
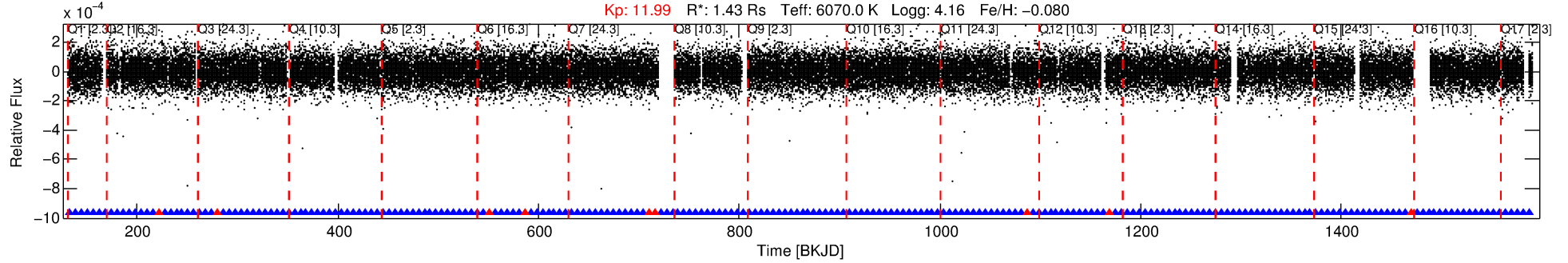
Ephemeris Match Information For 007175184-01

No Significant Match Found

DV One-Page Summary

KIC: 7175184 Candidate: 1 of 2 Period: 5.885 d
KOI: K00369.01 Name: Kepler-144b Corr: 0.974

Kp: 11.99 R*: 1.43 Rs Teff: 6070.0 K Logg: 4.16 Fe/H: -0.080



DV Fit Results:

Period = 5.88529 [0.00001] d
Epoch = 133.2265 [0.0011] BKJD
Rp/R* = 0.0118 [0.0021]
a/R* = 10.41 [9.57]
b = 0.90 [0.20]
Seff = 583.96 [177.06]
Teq = 1253 [95] K
Rp = 1.84 [0.49] Re
a = 0.0653 [0.0121] AU
Ag = 8.18 [4.36] [1.65σ]
Teffp = 3278 [373] K [5.25σ]

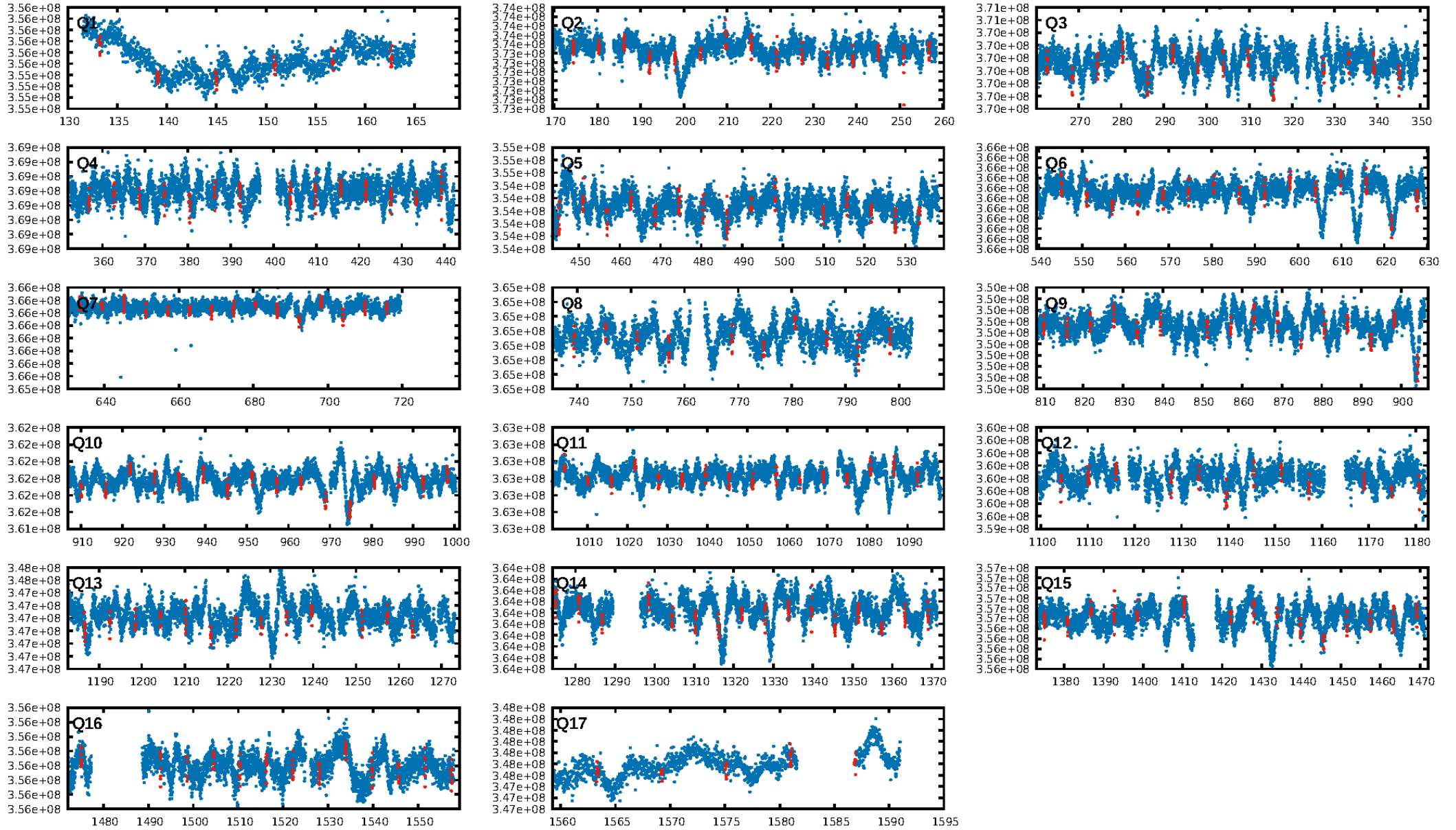
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [31.37σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.90e-209
RollingBand-fgt: 0.96 [205/214]
GhostDiagnostic-chr: 9.856
Centroid-sig: 30.8%
Centroid-so: 0.345 arcsec [0.85σ]
OotOffset-rm: 0.506 arcsec [0.76σ]
KicOffset-rm: 0.451 arcsec [1.32σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

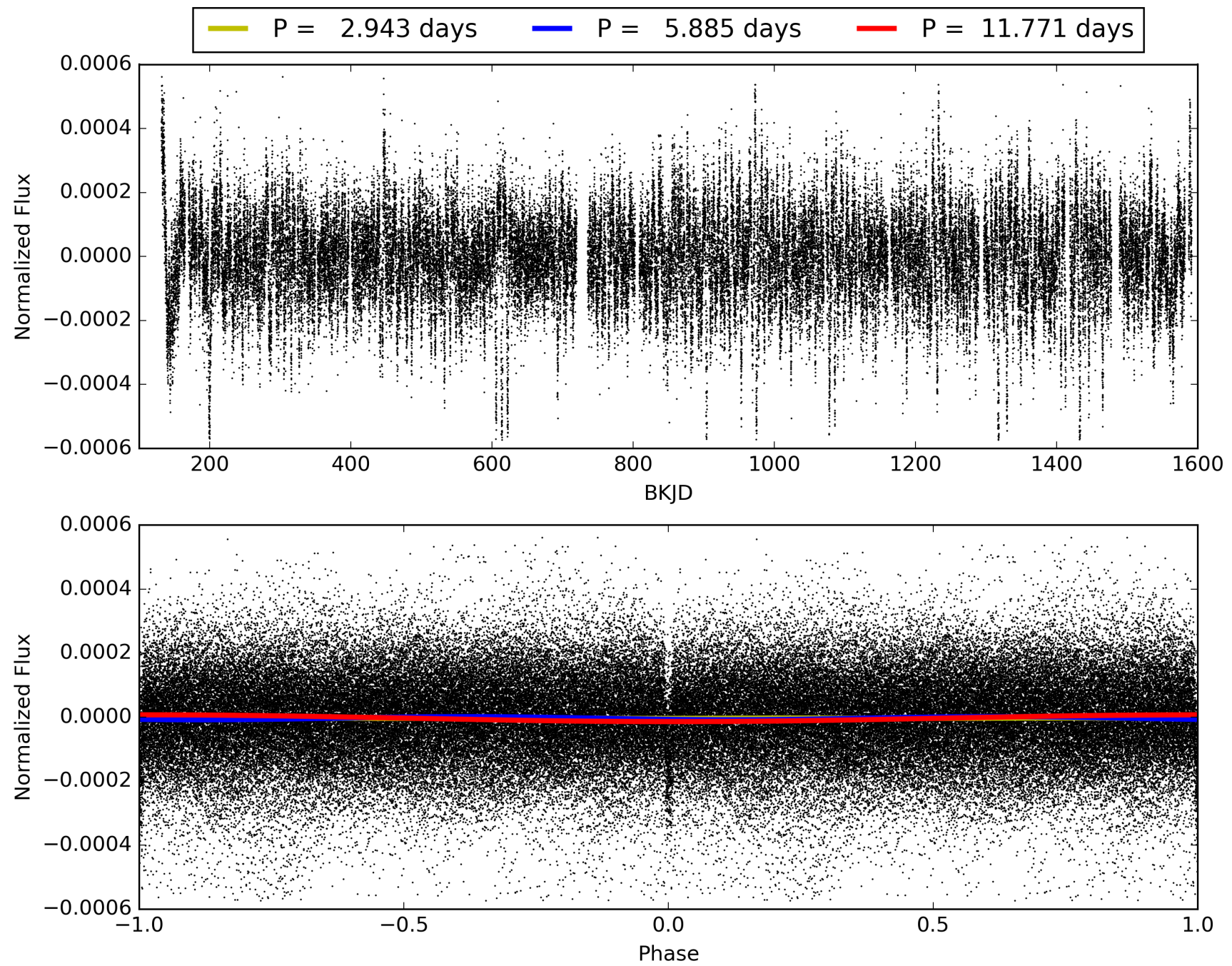
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:02:44 Z

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

TCE 007175184-01, PDC Light Curves

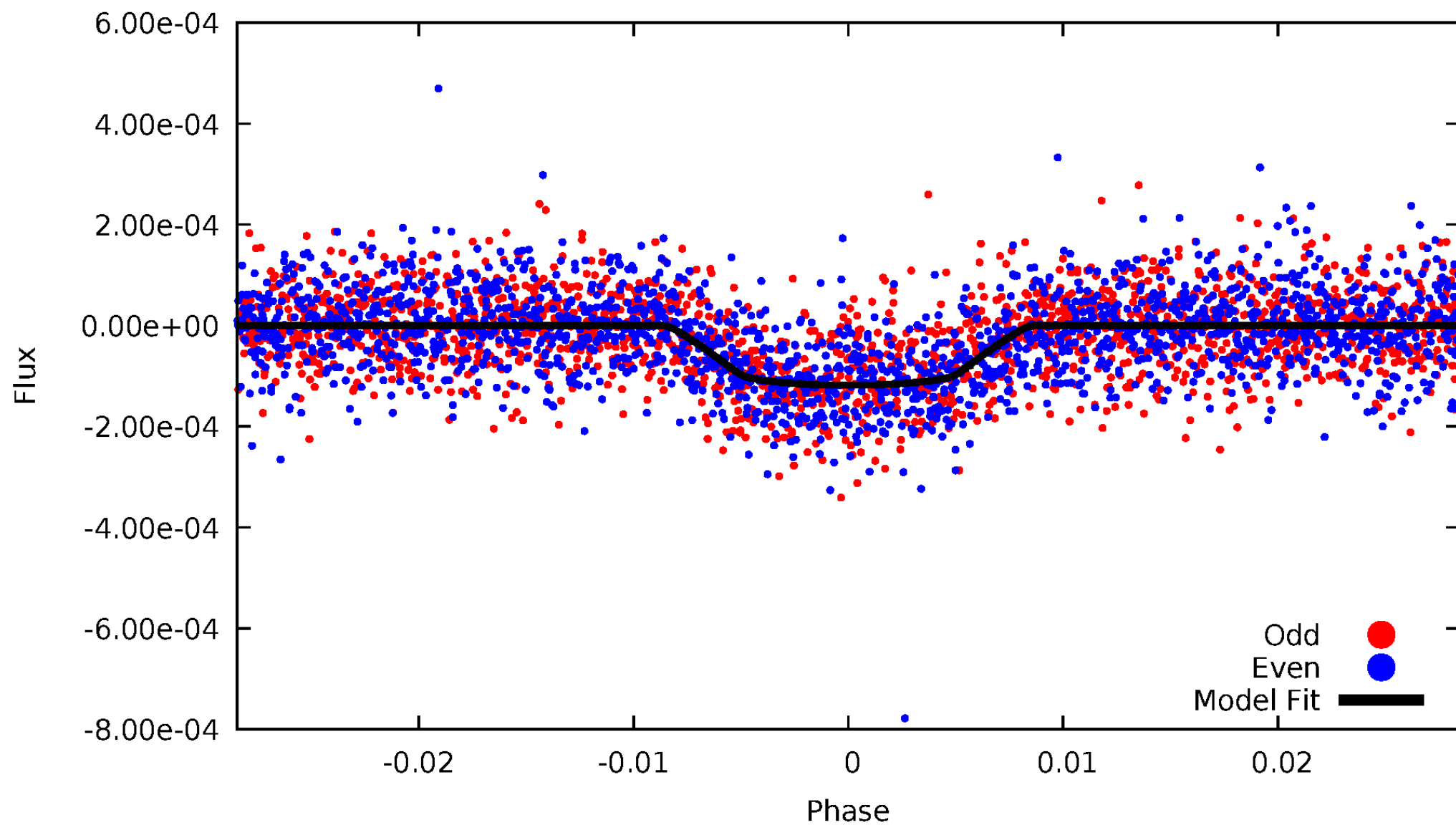


TCE 007175184-01



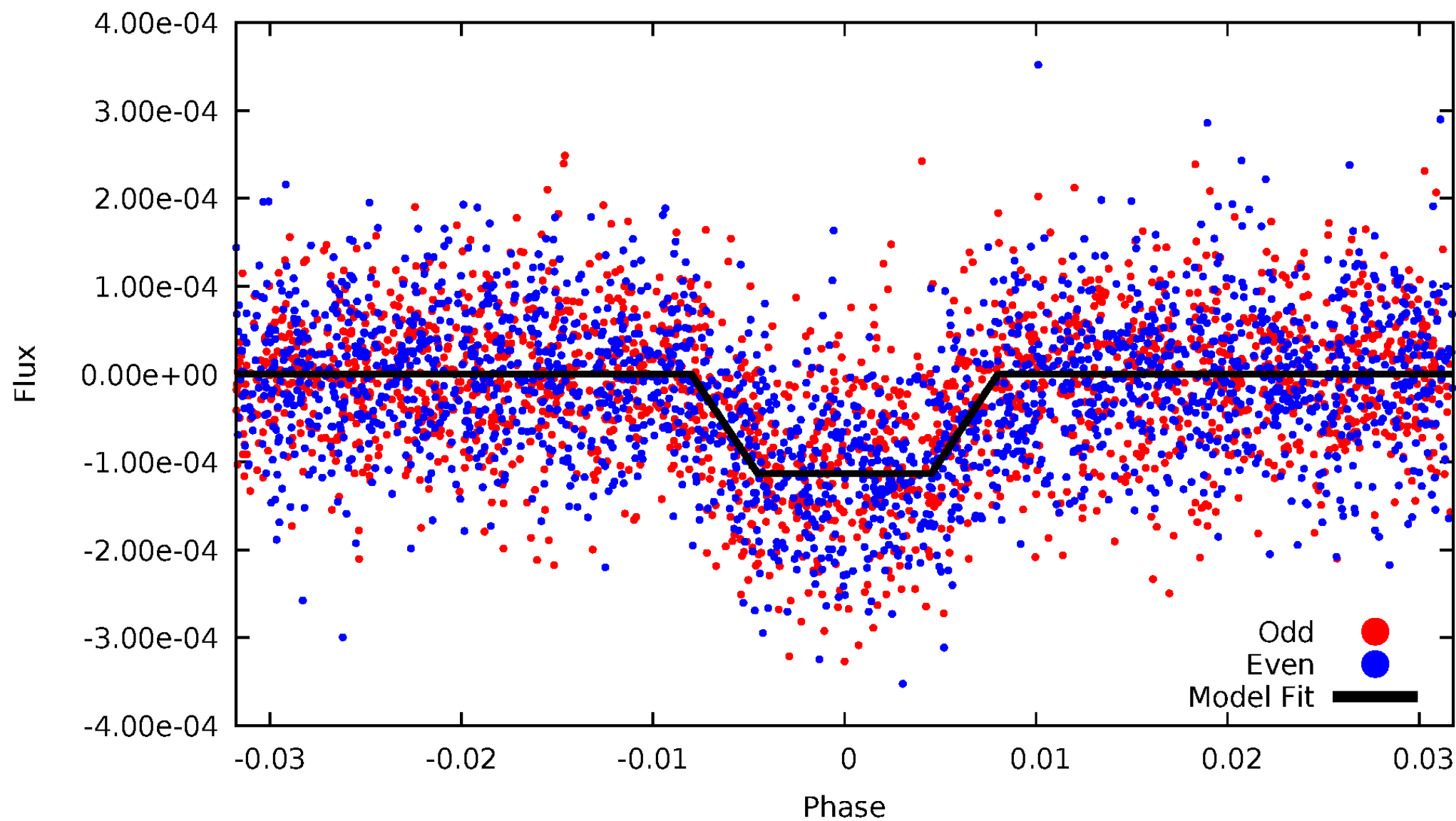
DV Odd/Even

TCE 007175184-01



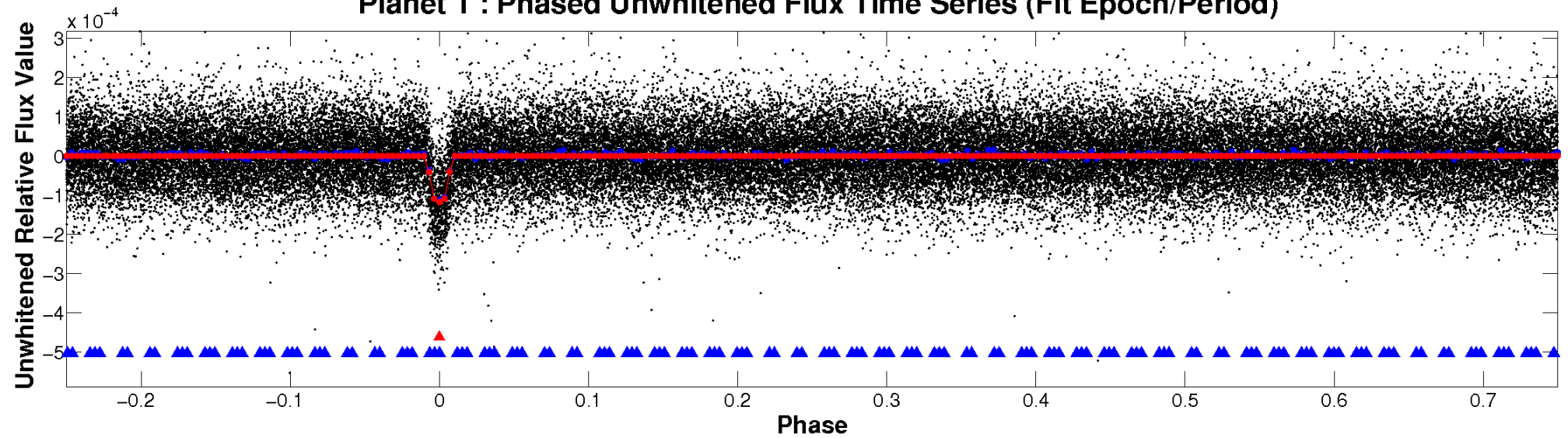
ALT Odd/Even

TCE 007175184-01

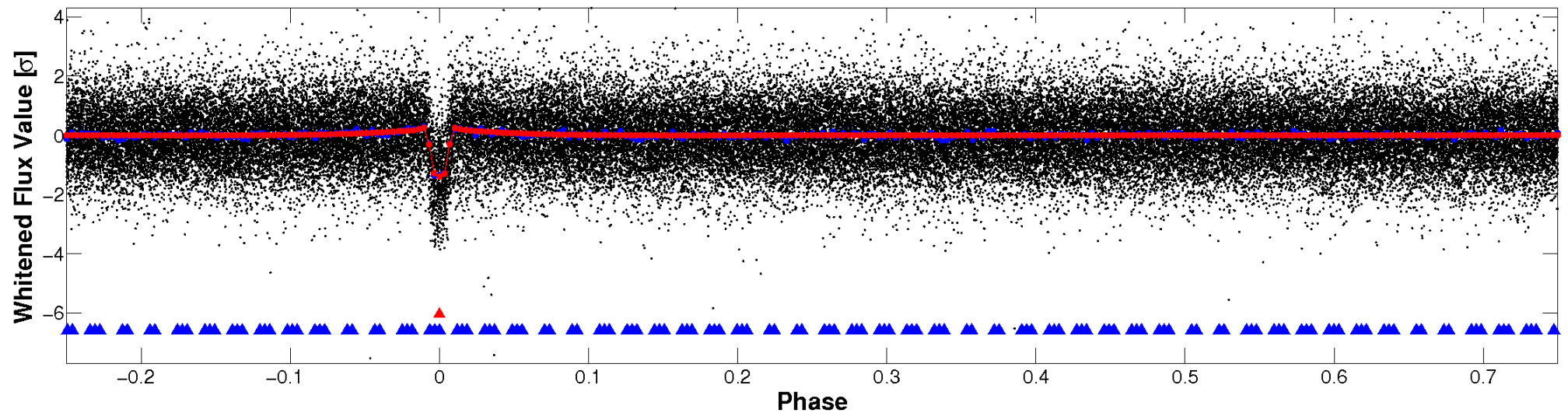


Non-Whitened Vs. Whitened Light Curve

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

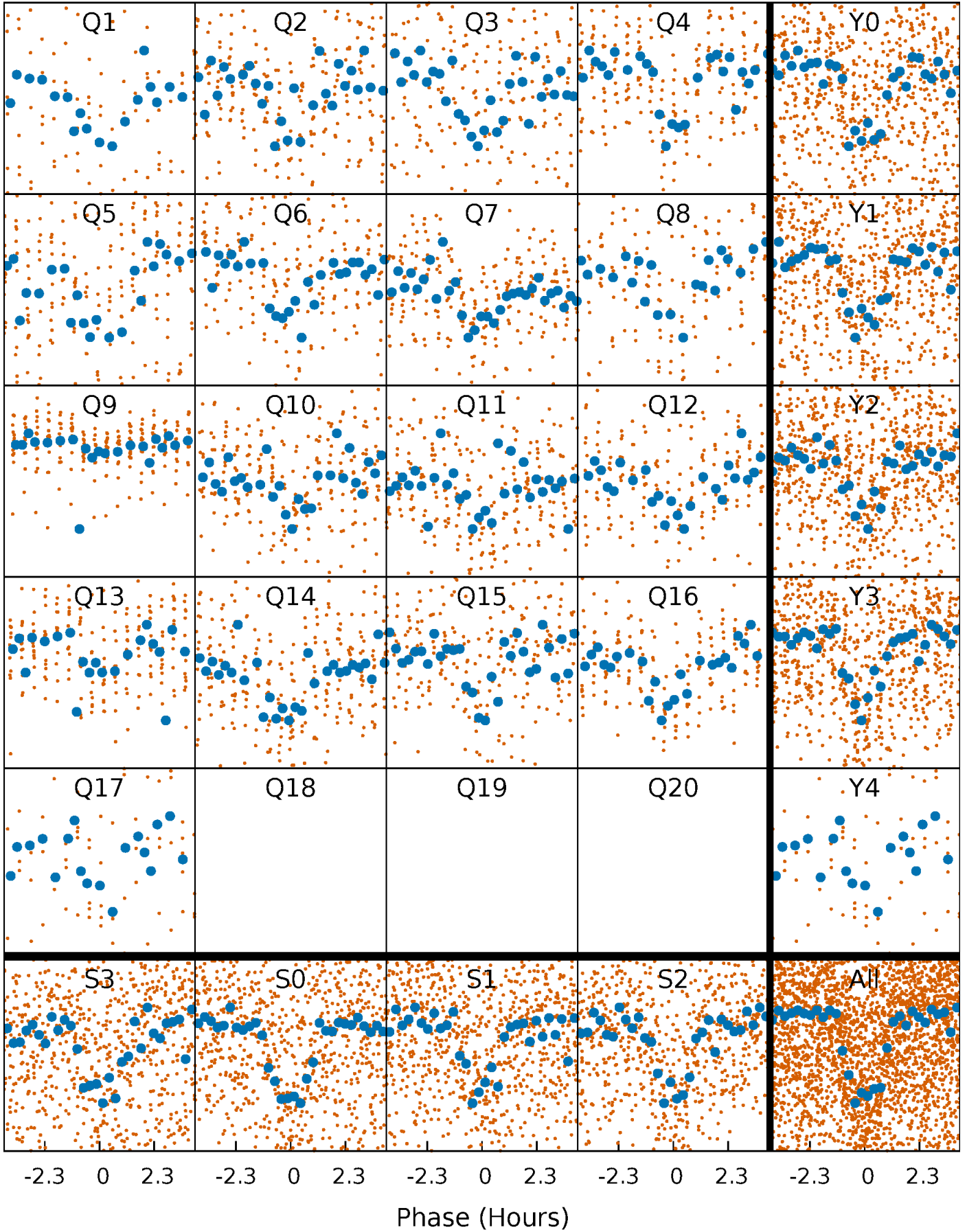


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



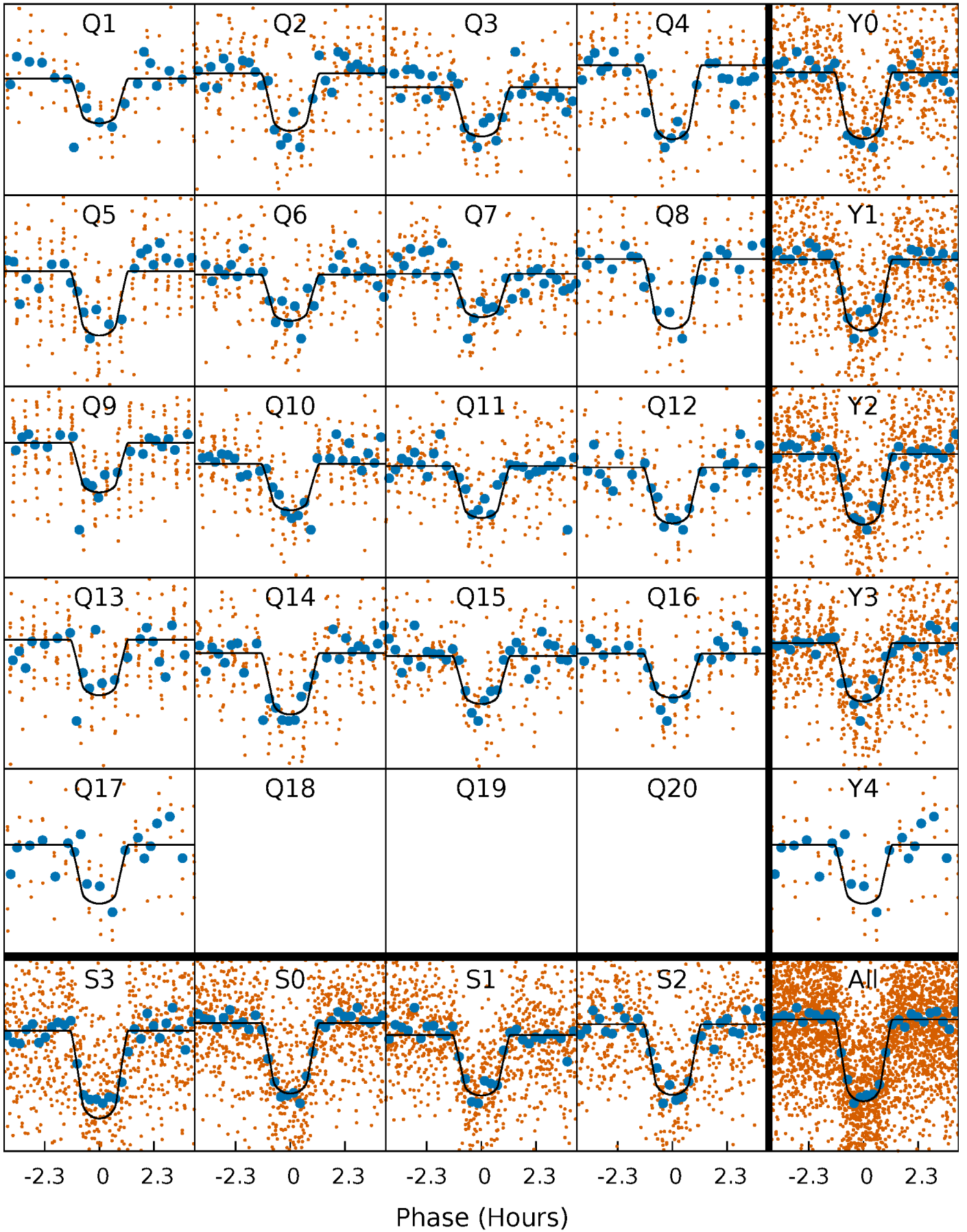
PDC Quarter-Phased Transit Curves

TCE 007175184-01 P= 5.885287 Days $T_0=133.226499$ (BKJD)



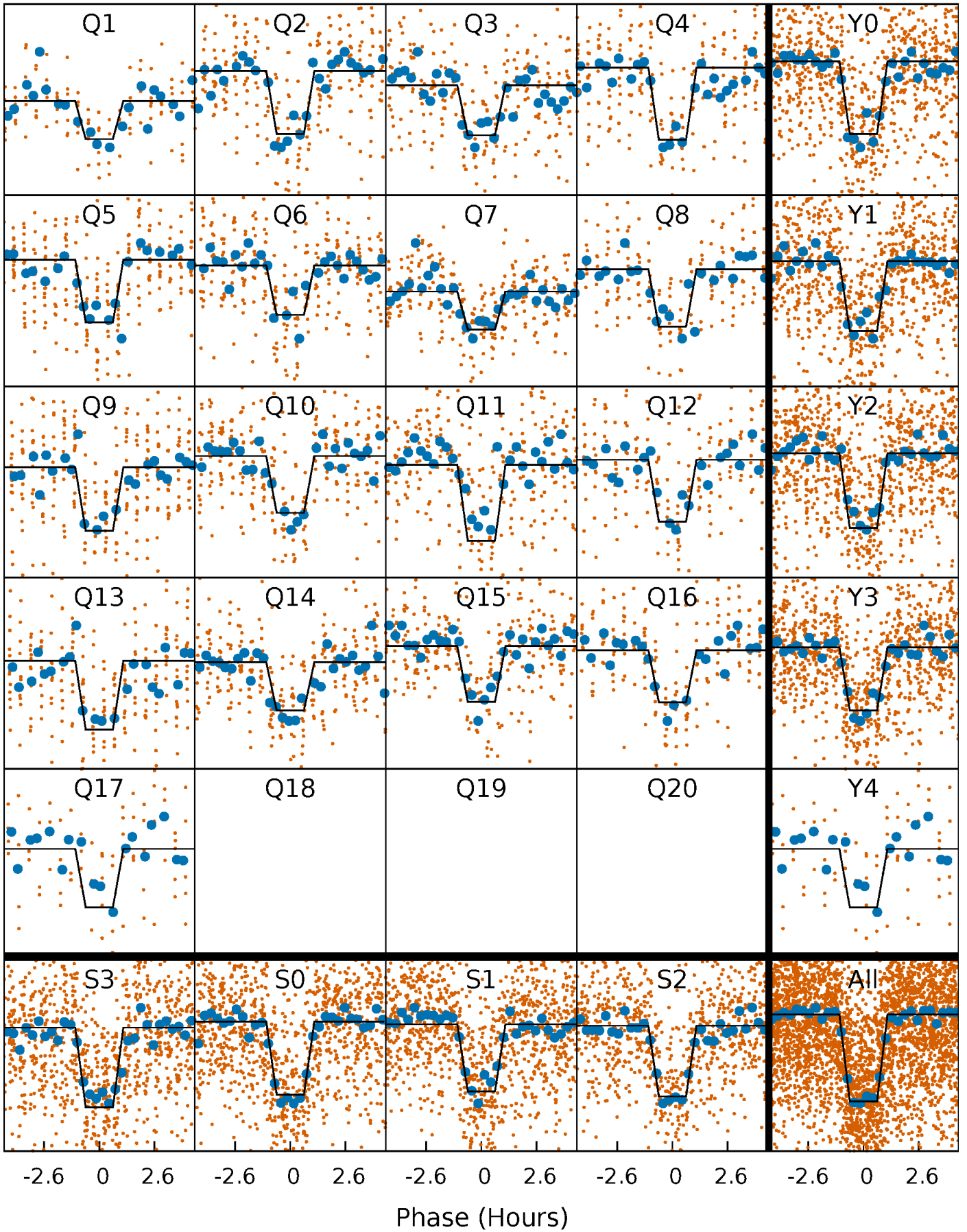
DV Quarter-Phased Transit Curves

TCE 007175184-01 P= 5.885287 Days $T_0=133.226499$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

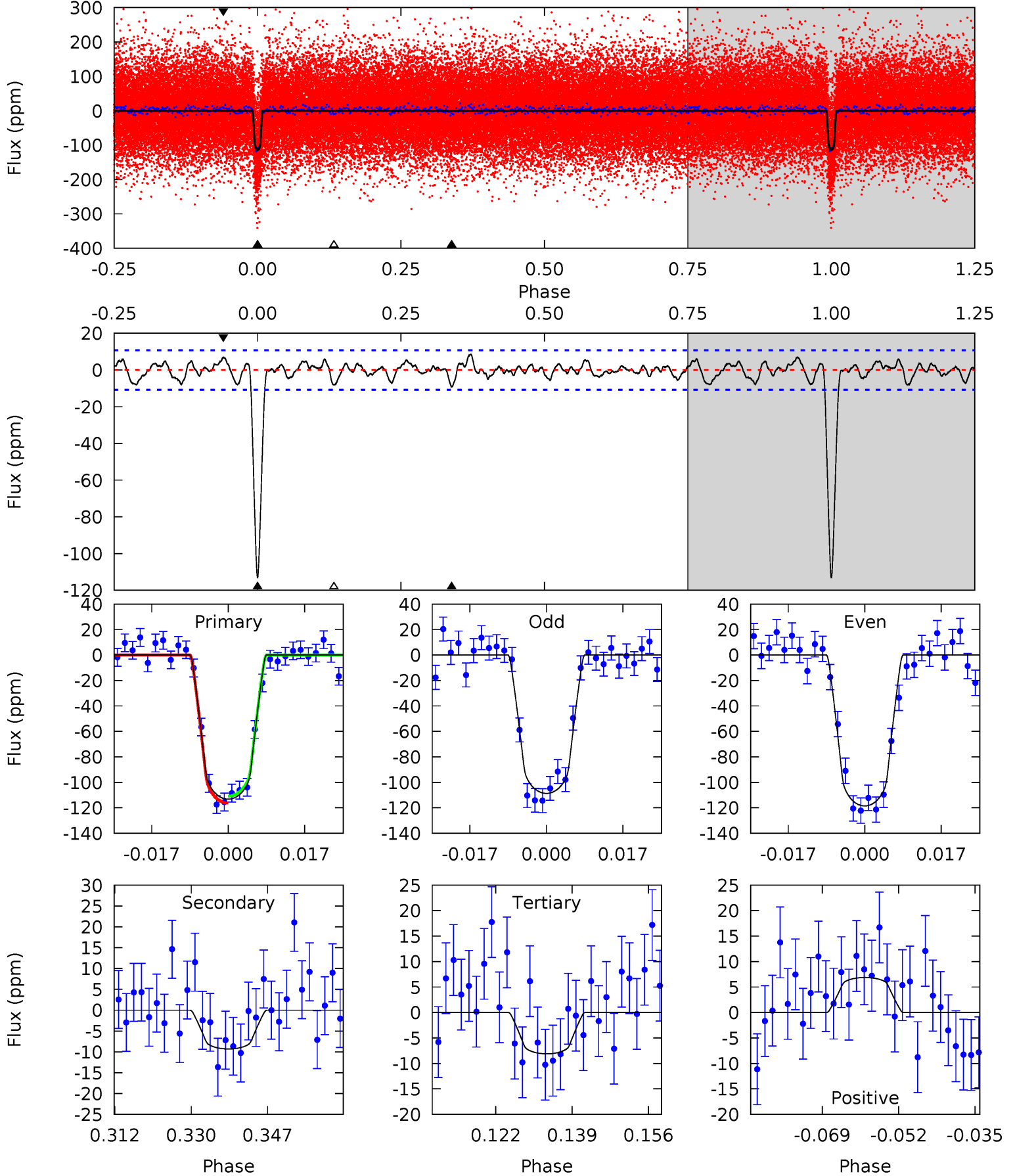
TCE 007175184-01 P= 5.885262 Days $T_0=133.229869$ (BKJD)



DV Model-Shift Uniqueness Test

007175184-01, P = 5.885287 Days, E = 127.341212 Days

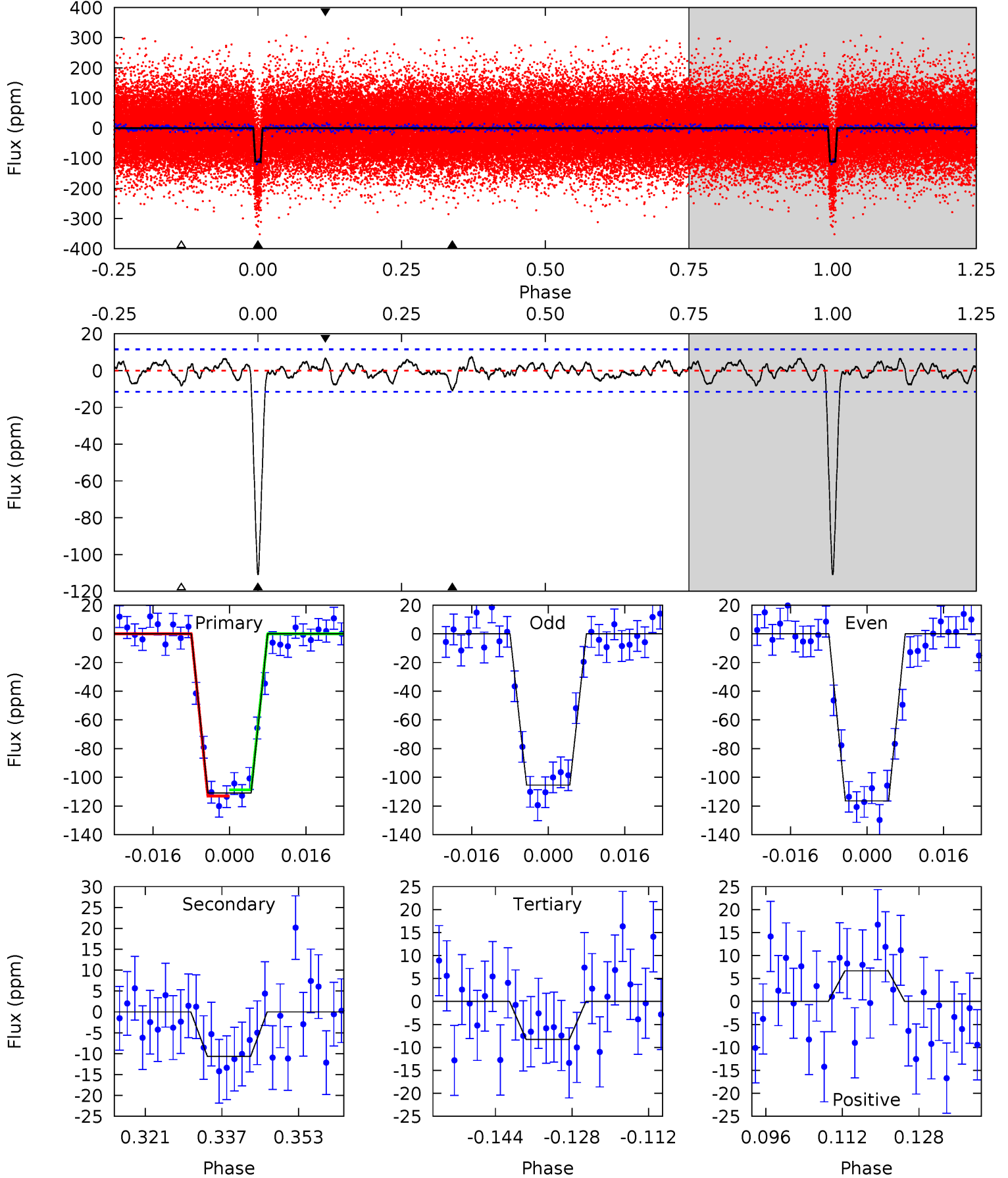
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.7	4.25	3.71	3.14	4.92	2.38	1.41	48.0	48.6	0.54	1.11	2.26	0.99	0.07	1.25



Alt Model-Shift Uniqueness Test

007175184-01, P = 5.885262 Days, E = 127.344607 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.5	4.56	3.53	2.85	4.93	2.41	1.31	43.9	44.6	1.03	1.71	2.36	1.00	0.06	0.93



Stellar Parameters For KIC 007175184

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6070^{+134}_{-122}	$4.157^{+0.168}_{-0.112}$	$-0.080^{+0.150}_{-0.150}$	$1.431^{+0.260}_{-0.285}$	$1.072^{+0.113}_{-0.092}$	$0.515^{+0.434}_{-0.171}$
	+2%/-2%	+4%/-3%	+188%/-188%	+18%/-20%	+11%/-9%	+84%/-33%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 007175184-01 / KOI 0369.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 2	$1.81^{+0.39}_{-0.34}$	1750^{+89}_{-90}	3524^{+286}_{-254}	$6.497^{+4.020}_{-2.518}$
Alt.	-11 ± 2	$1.66^{+0.38}_{-0.37}$	1747^{+93}_{-106}	3726^{+349}_{-274}	$9.116^{+6.222}_{-3.475}$

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 $A_{obs} \gg 1.0$

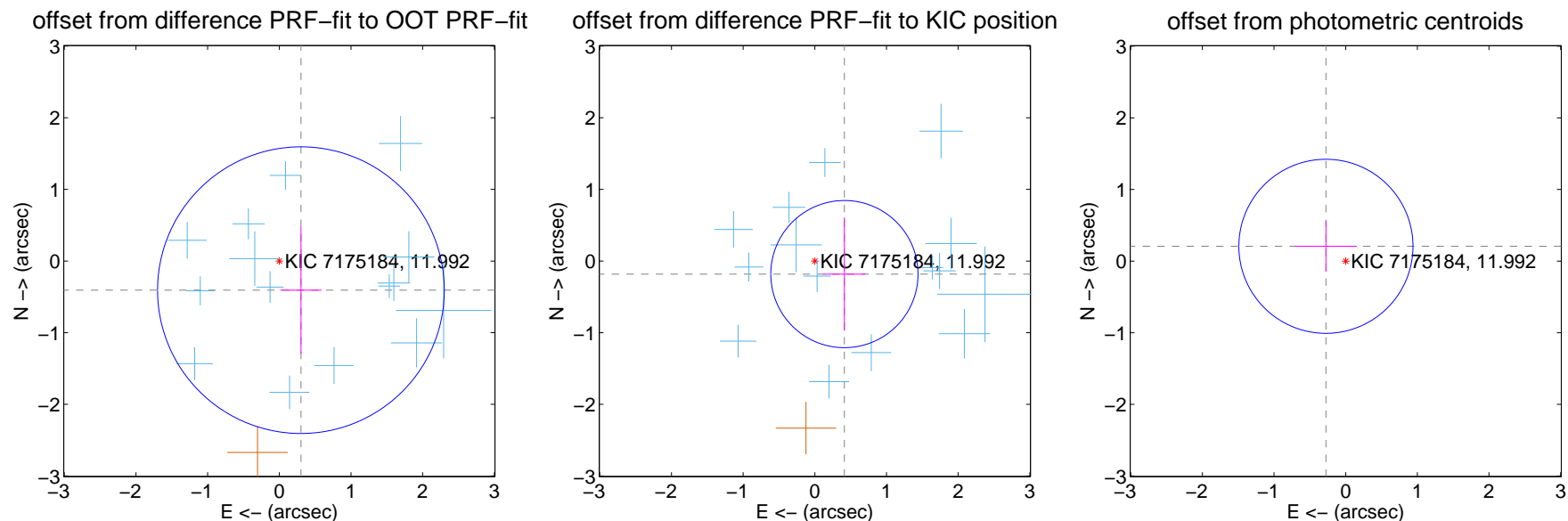
DV Centroid Data

Supplemental centroid analysis for 007175184-01. **Kepler magnitude: 11.99.** Transit SNR 35.42

There are 15 quarters with good PRF difference image offsets

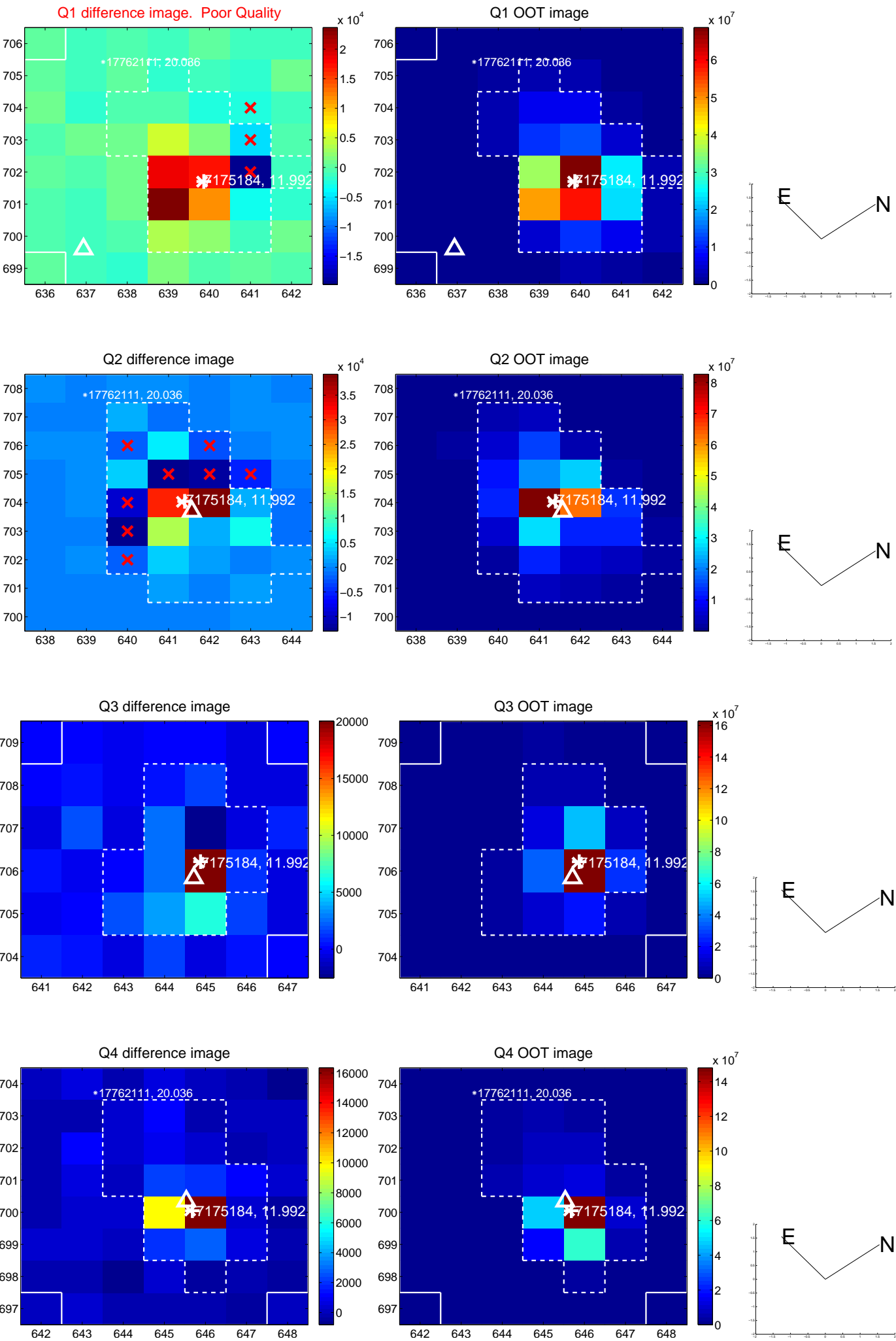
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.506 ± 0.667	0.76	-0.302 ± 0.287	-0.407 ± 0.886
PRF-fit source offset from KIC position	0.451 ± 0.342	1.32	-0.413 ± 0.293	-0.182 ± 0.791
photometric centroid source offset	0.34 ± 0.40	0.85	0.28 ± 0.43	0.21 ± 0.35

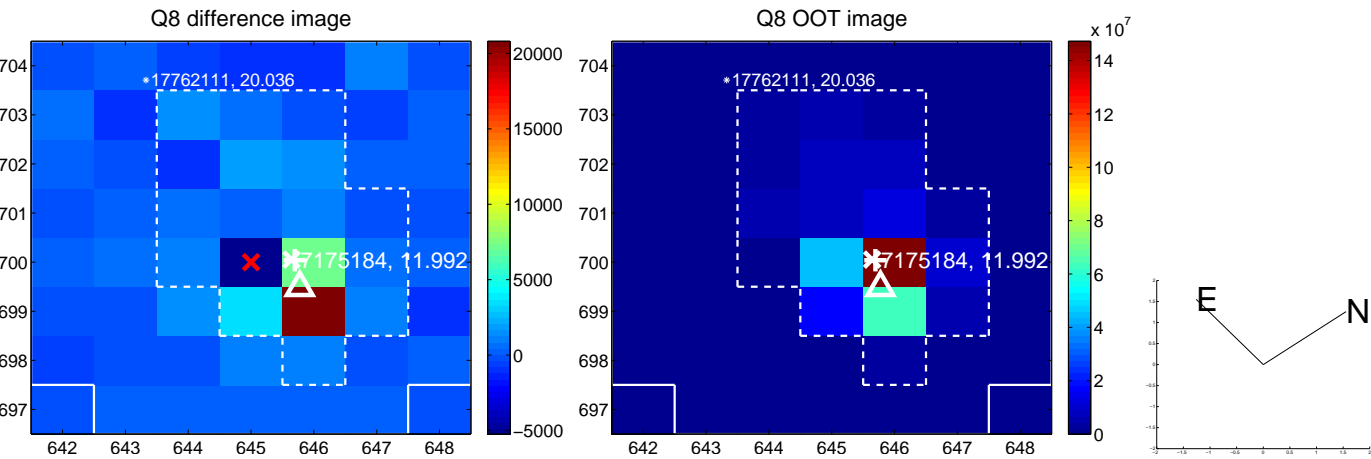
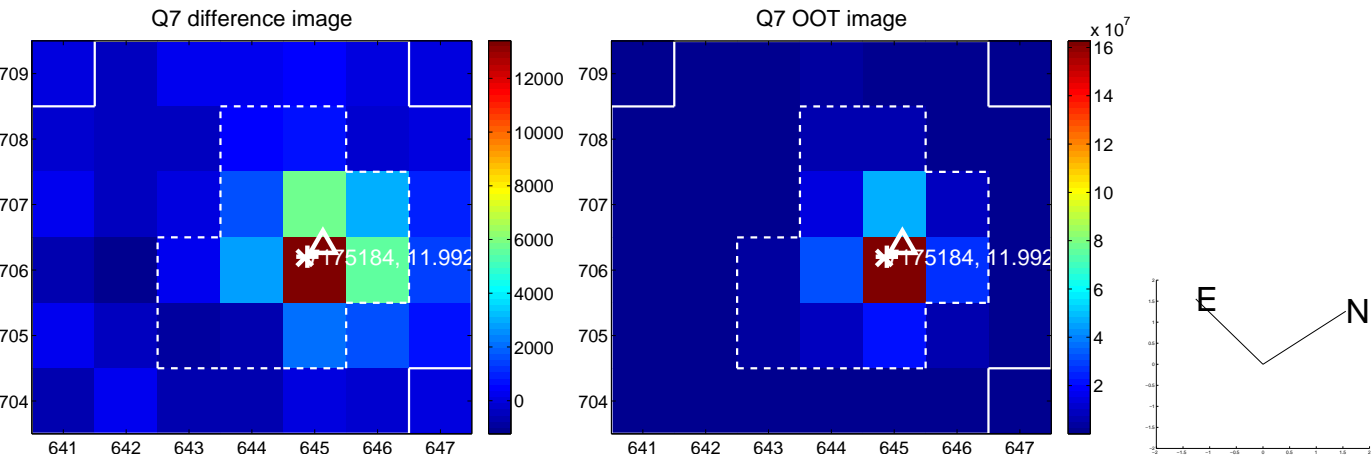
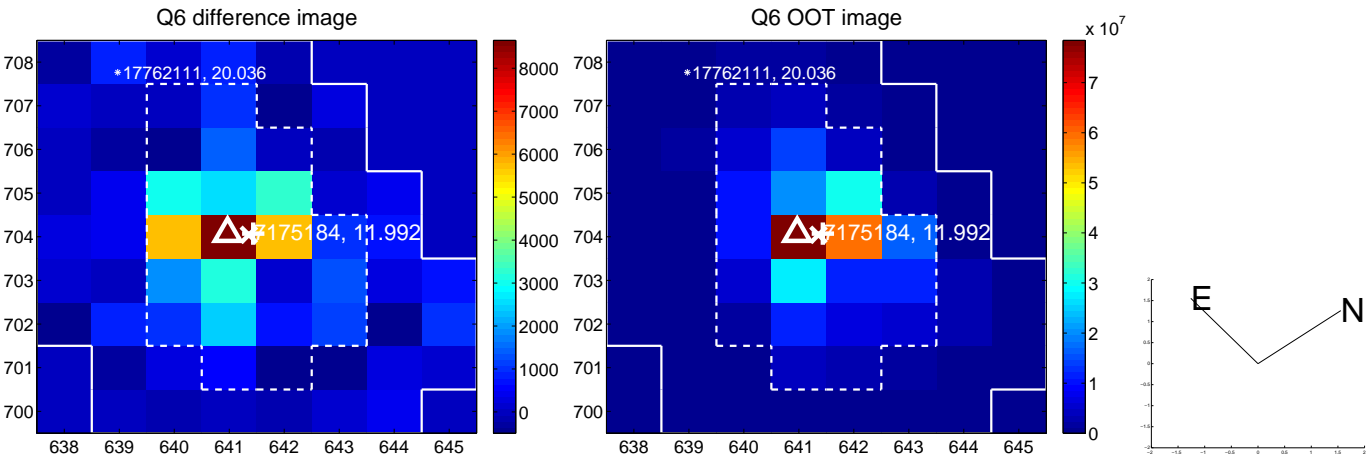
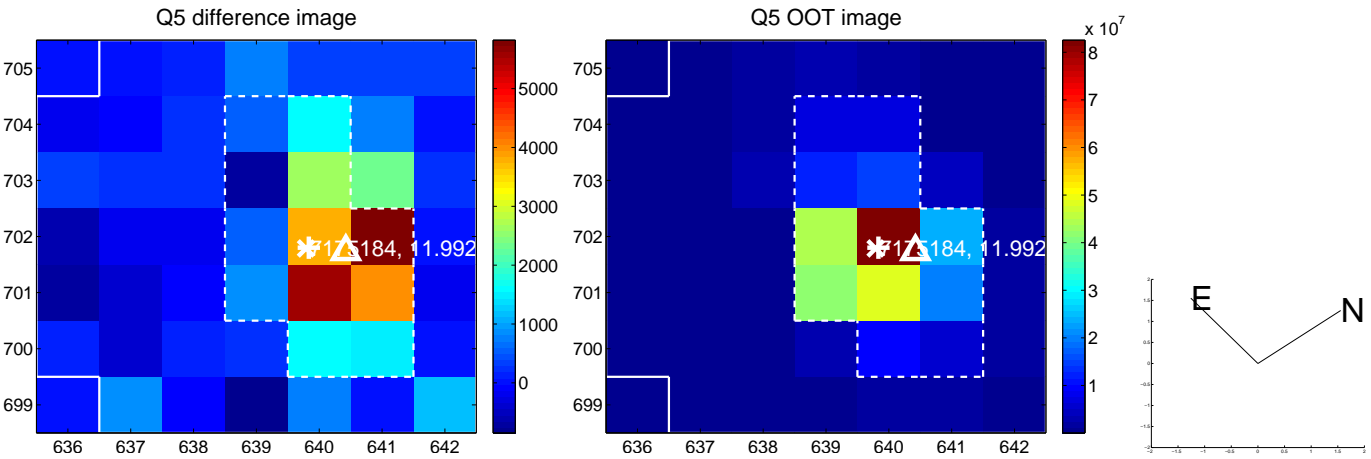


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

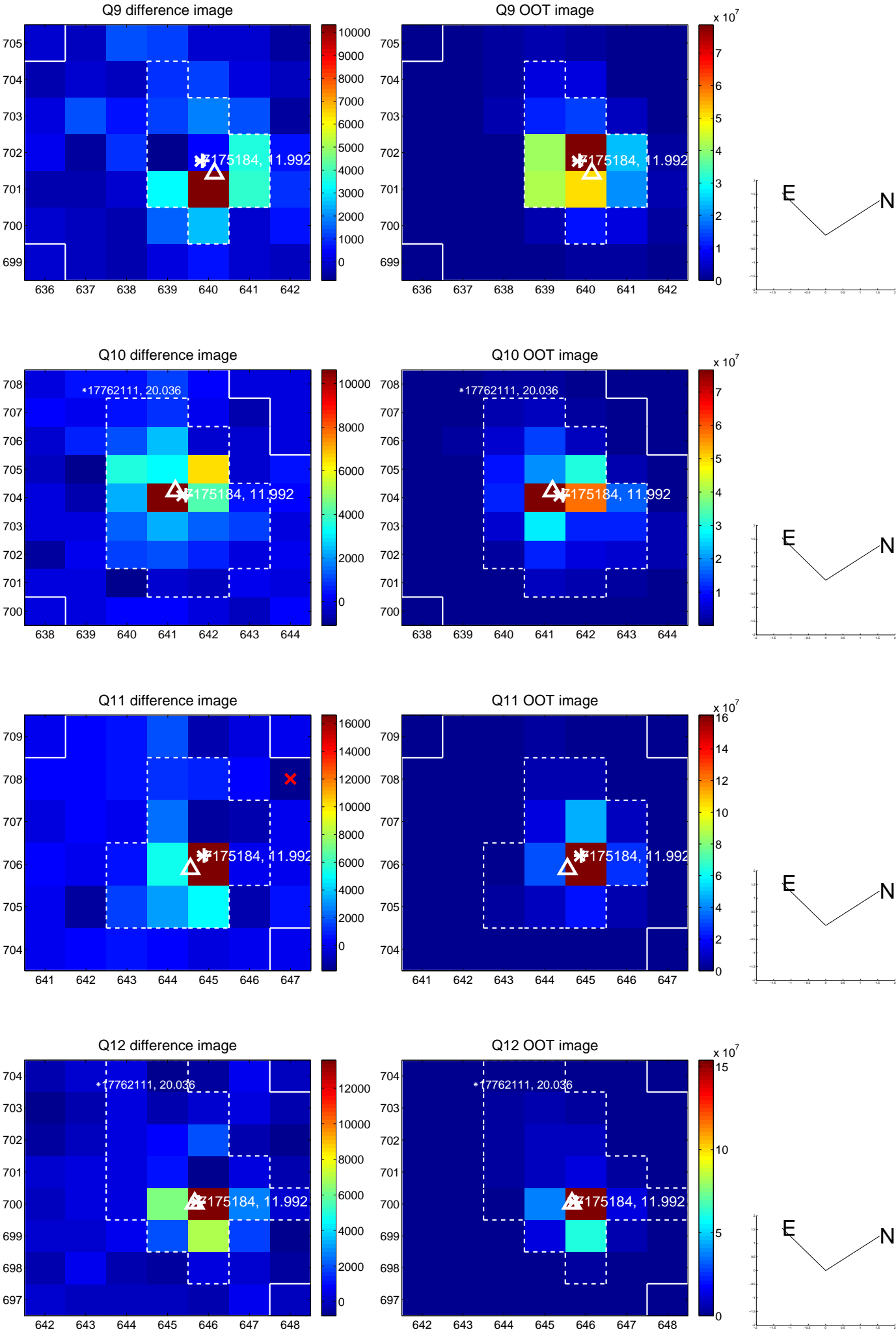
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



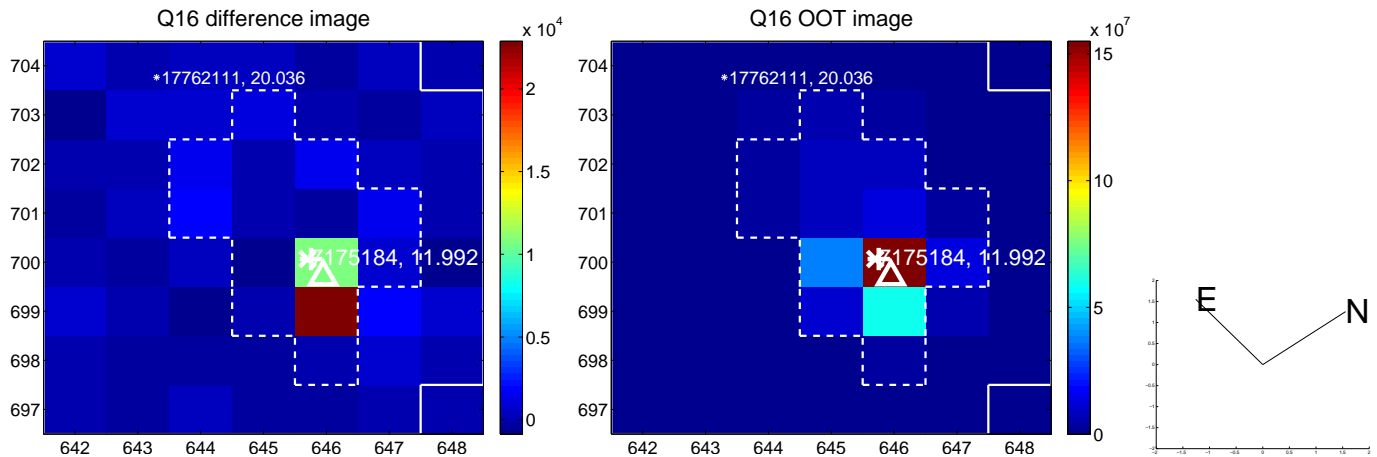
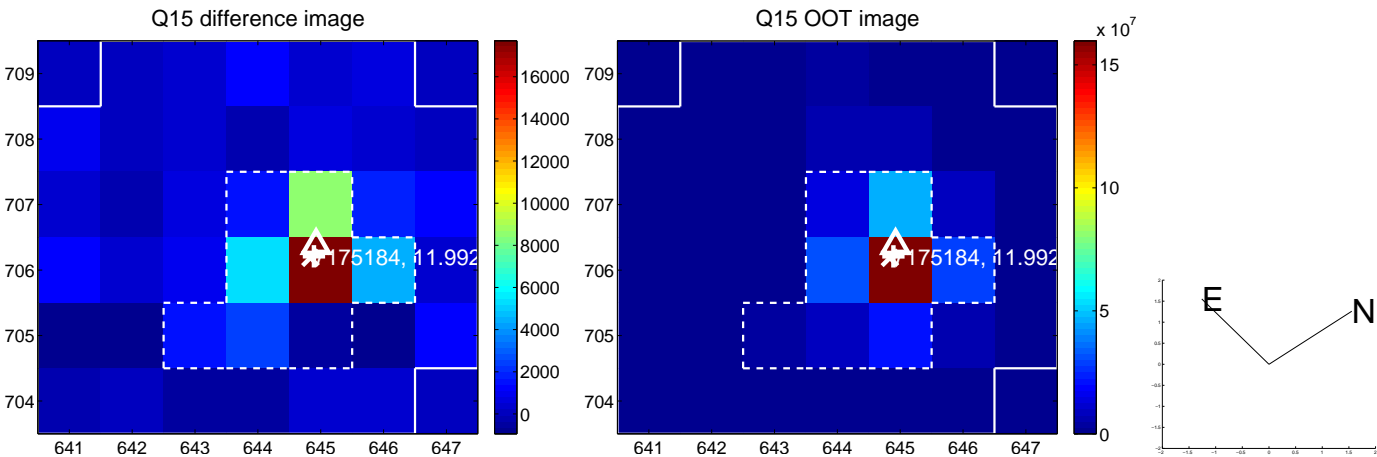
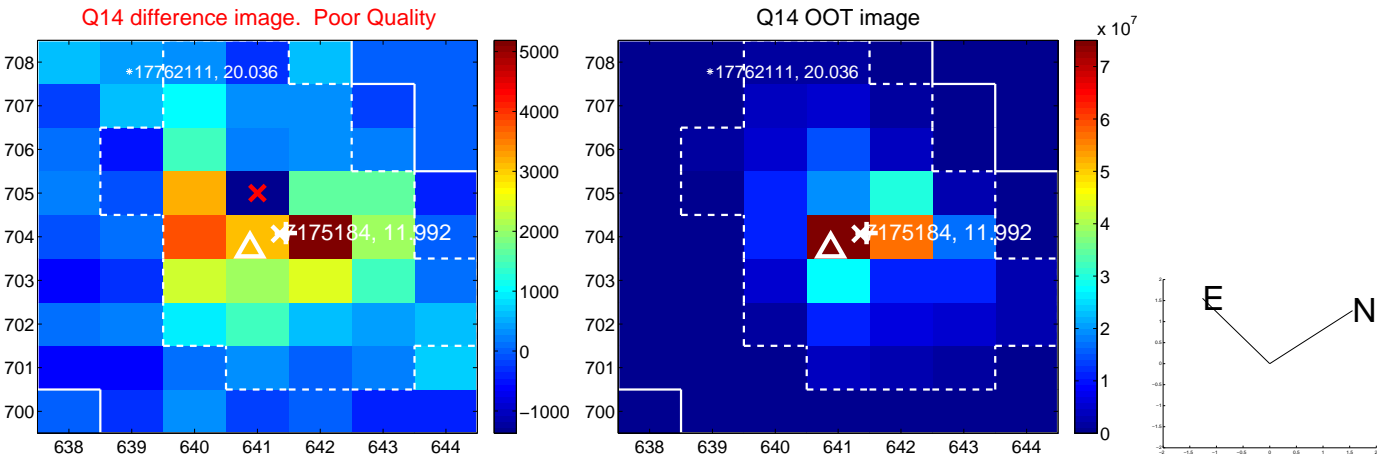
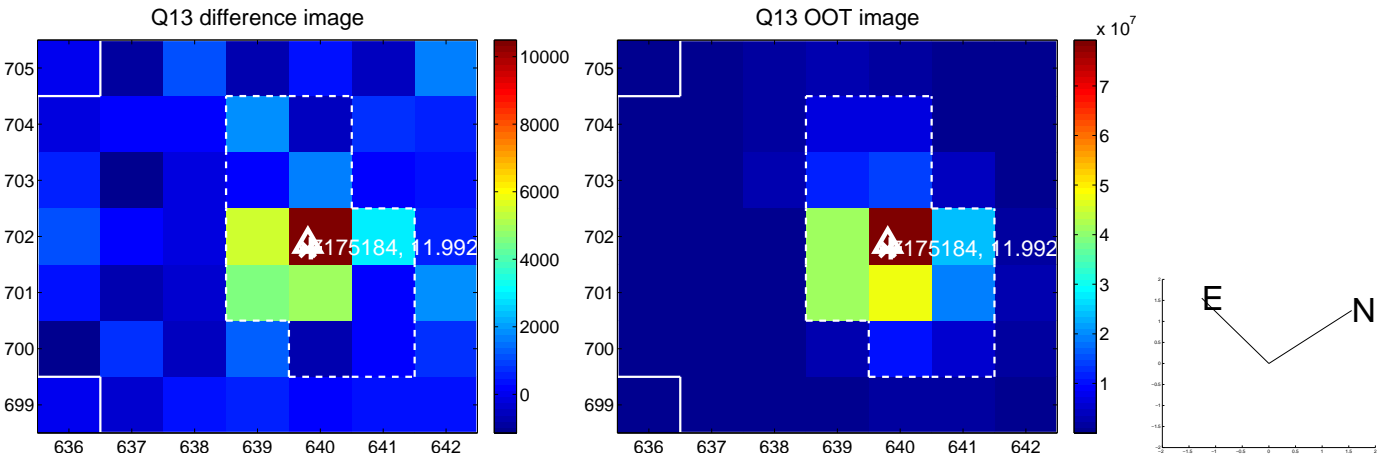
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



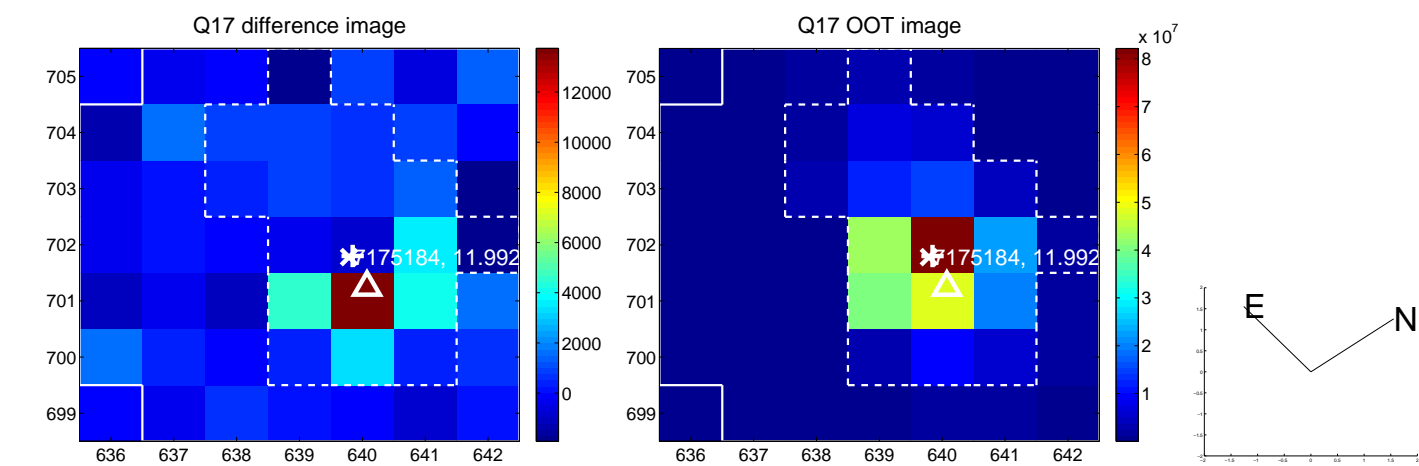
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



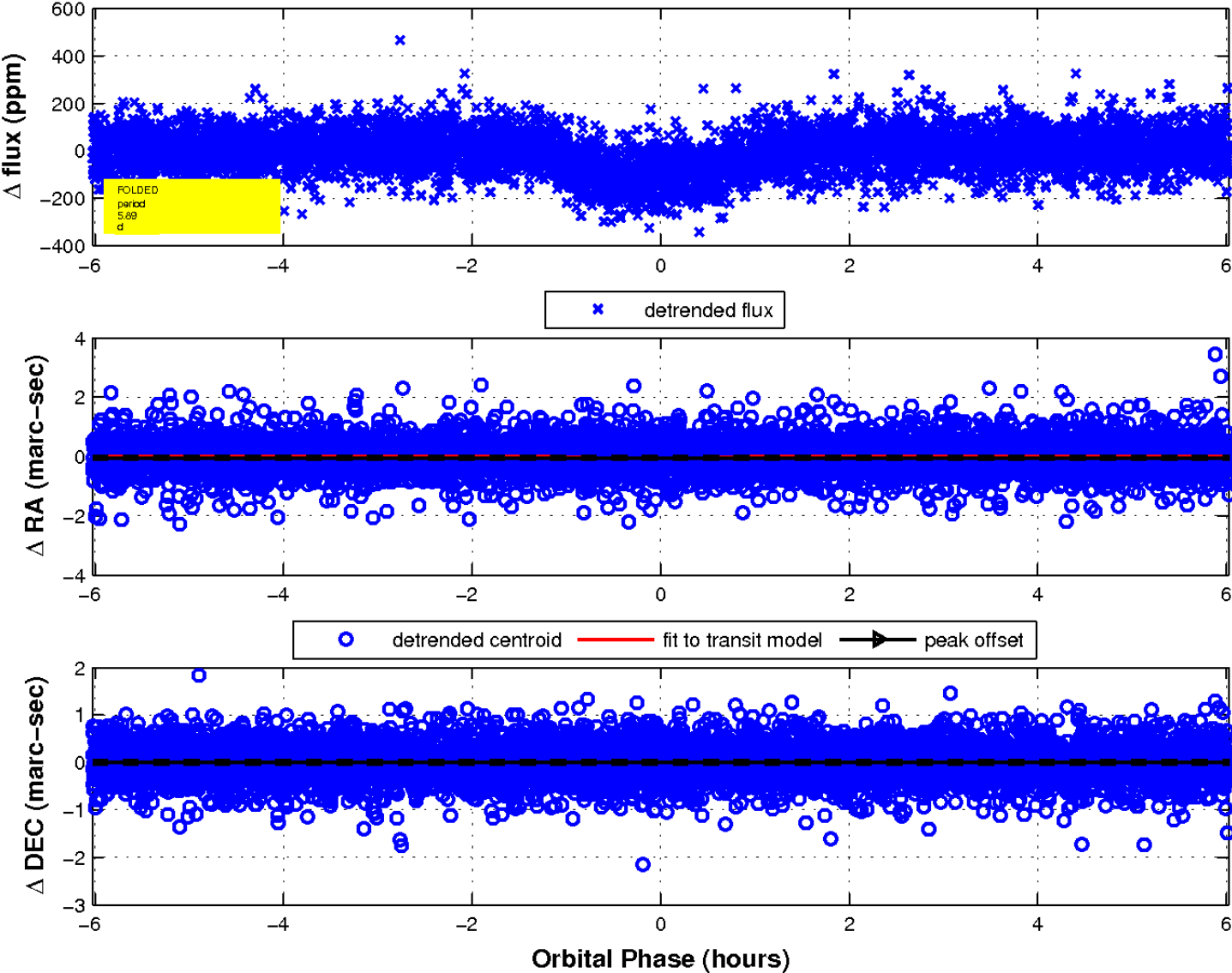
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

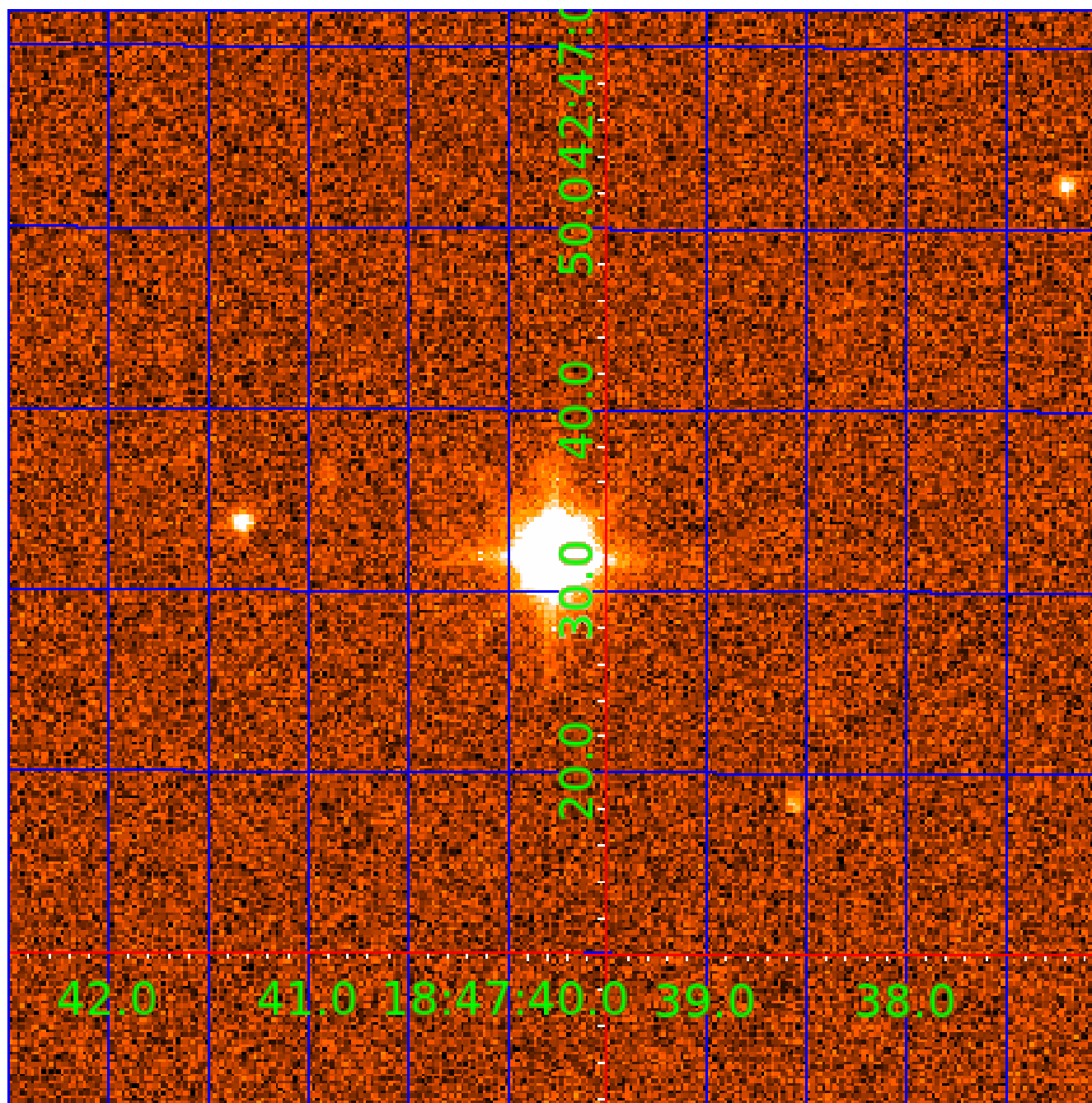


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007175184

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})
007175184-01	OBS	0369.01	5.885287	133.226499	118.4	2.009	31.5	35.4	1.43	6070	1.84	583.96
007175184-02	OBS	0369.02	10.104563	135.563521	114.8	2.526	26.0	28.7	1.43	6070	1.81	284.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007175184-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007175184-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

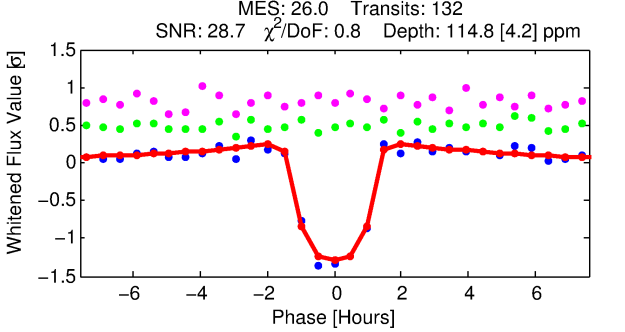
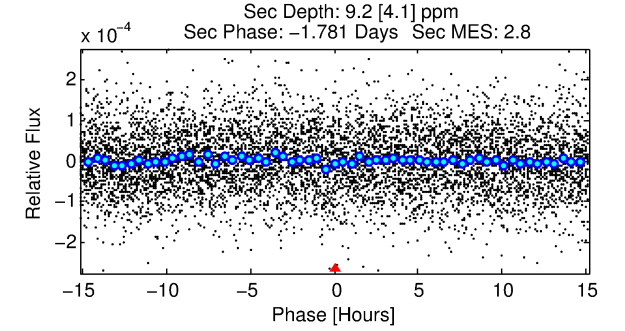
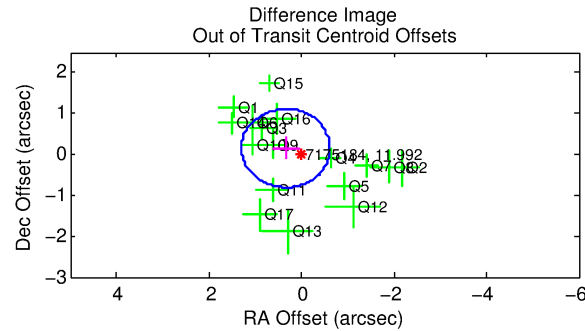
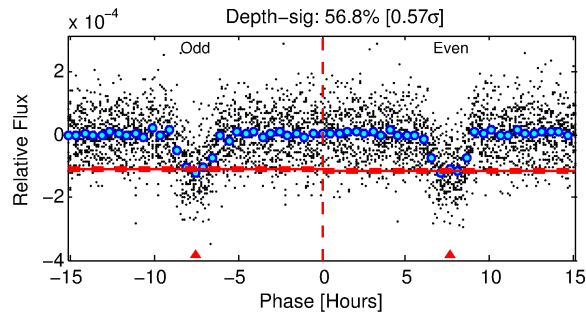
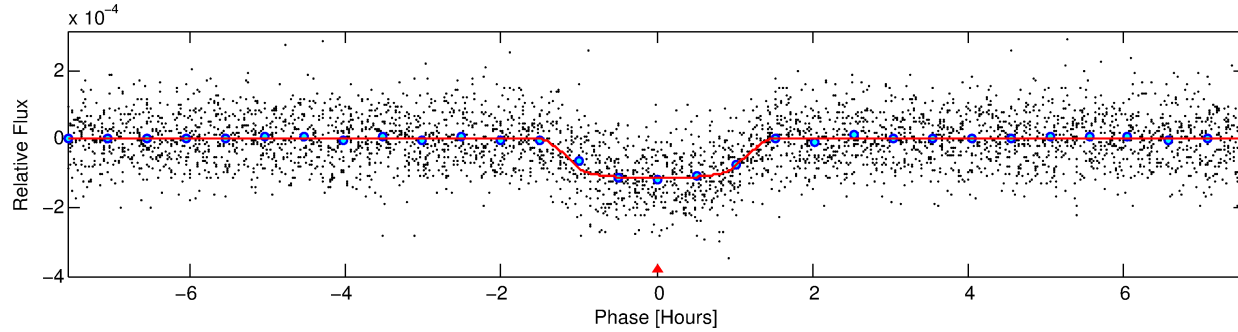
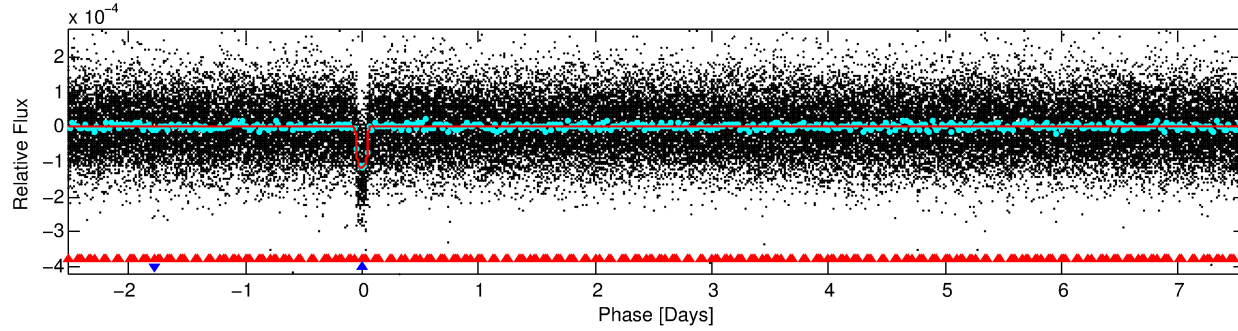
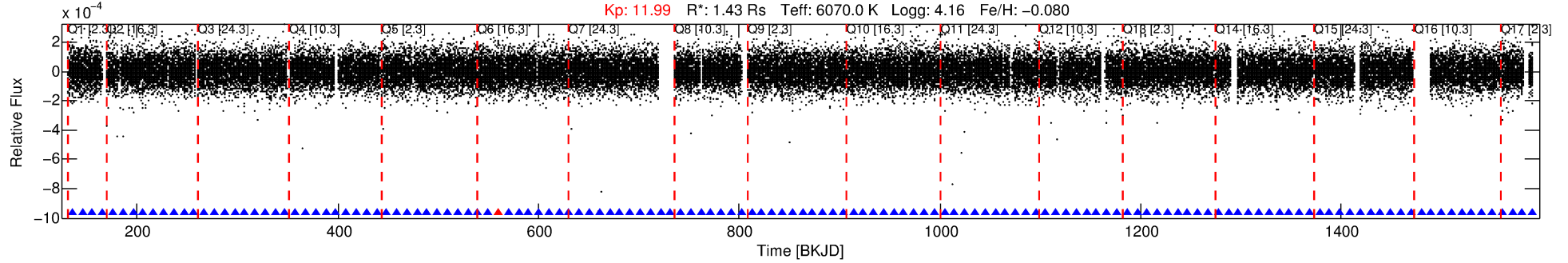
Ephemeris Match Information For 007175184-02

No Significant Match Found

DV One-Page Summary

KIC: 7175184 Candidate: 2 of 2 Period: 10.105 d
KOI: K00369.02 Name: Kepler-144c Corr: 0.957

Kp: 11.99 R*: 1.43 Rs Teff: 6070.0 K Logg: 4.16 Fe/H: -0.080



DV Fit Results:

Period = 10.10456 [0.00002] d
Epoch = 135.5635 [0.0018] BKJD
Rp/R* = 0.0116 [0.0024]
a/R* = 14.12 [14.98]
b = 0.90 [0.23]
Seff = 284.04 [86.12]
Teq = 1047 [79] K
Rp = 1.81 [0.51] Re
a = 0.0936 [0.0173] AU
Ag = 13.54 [9.11] [1.38σ]
Teffp = 3104 [476] K [4.26σ]

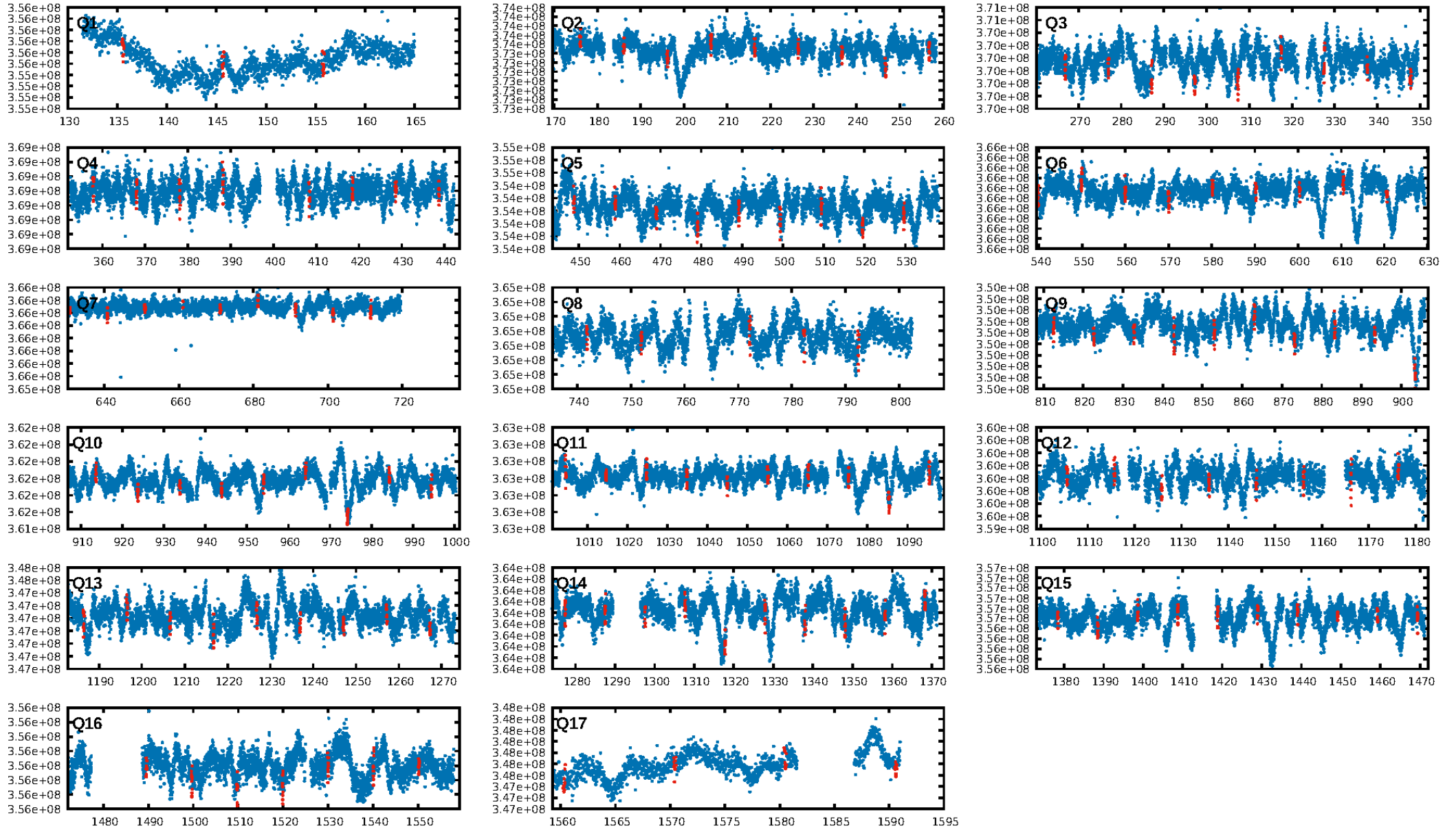
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [31.37σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.30e-143
RollingBand-fgt: 0.99 [124/125]
GhostDiagnostic-chr: 8.16
Centroid-sig: 42.6%
Centroid-so: 0.229 arcsec [0.45σ]
OotOffset-rm: 0.374 arcsec [1.17σ]
KicOffset-rm: 0.425 arcsec [1.33σ]
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]

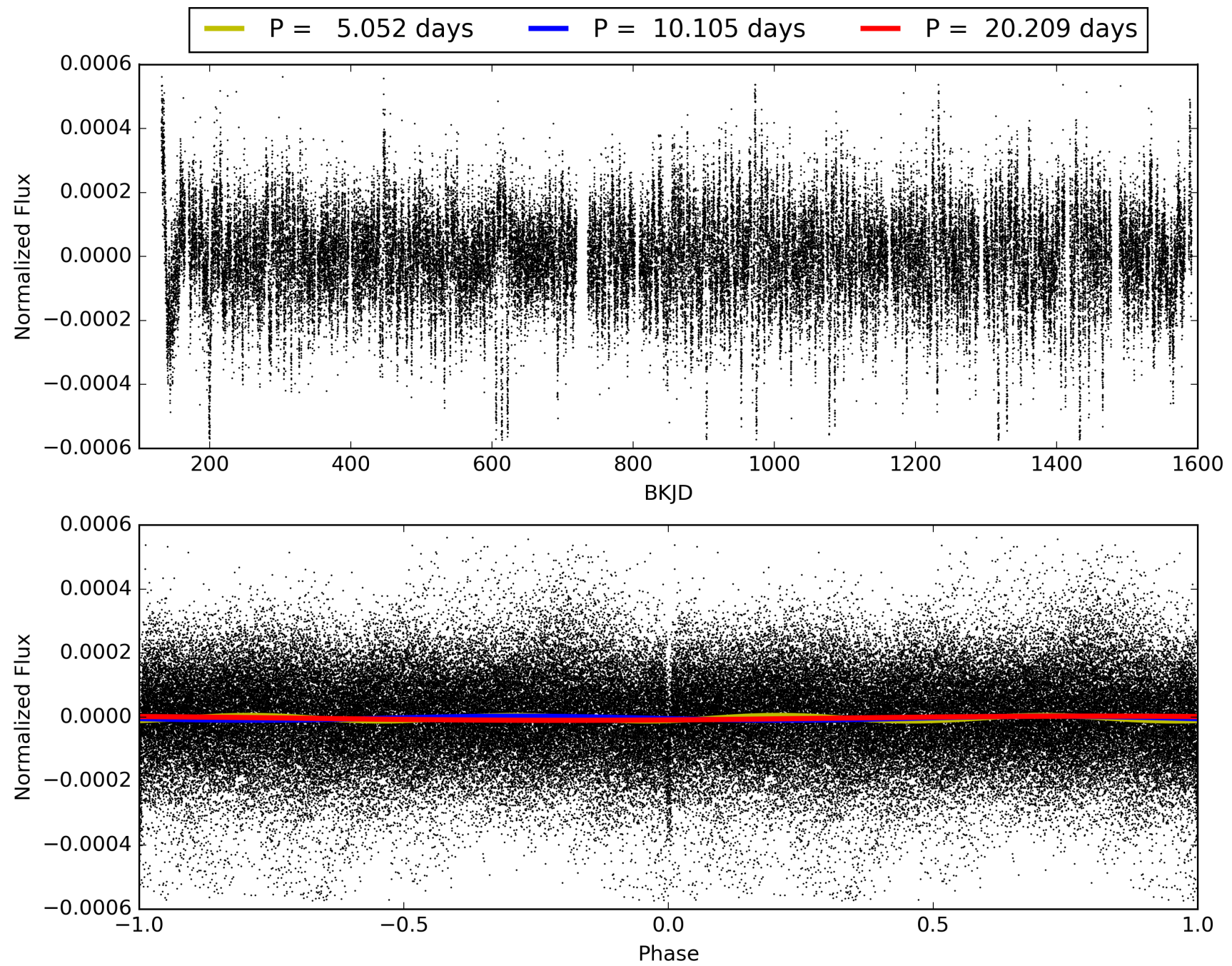
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007175184-02, PDC Light Curves

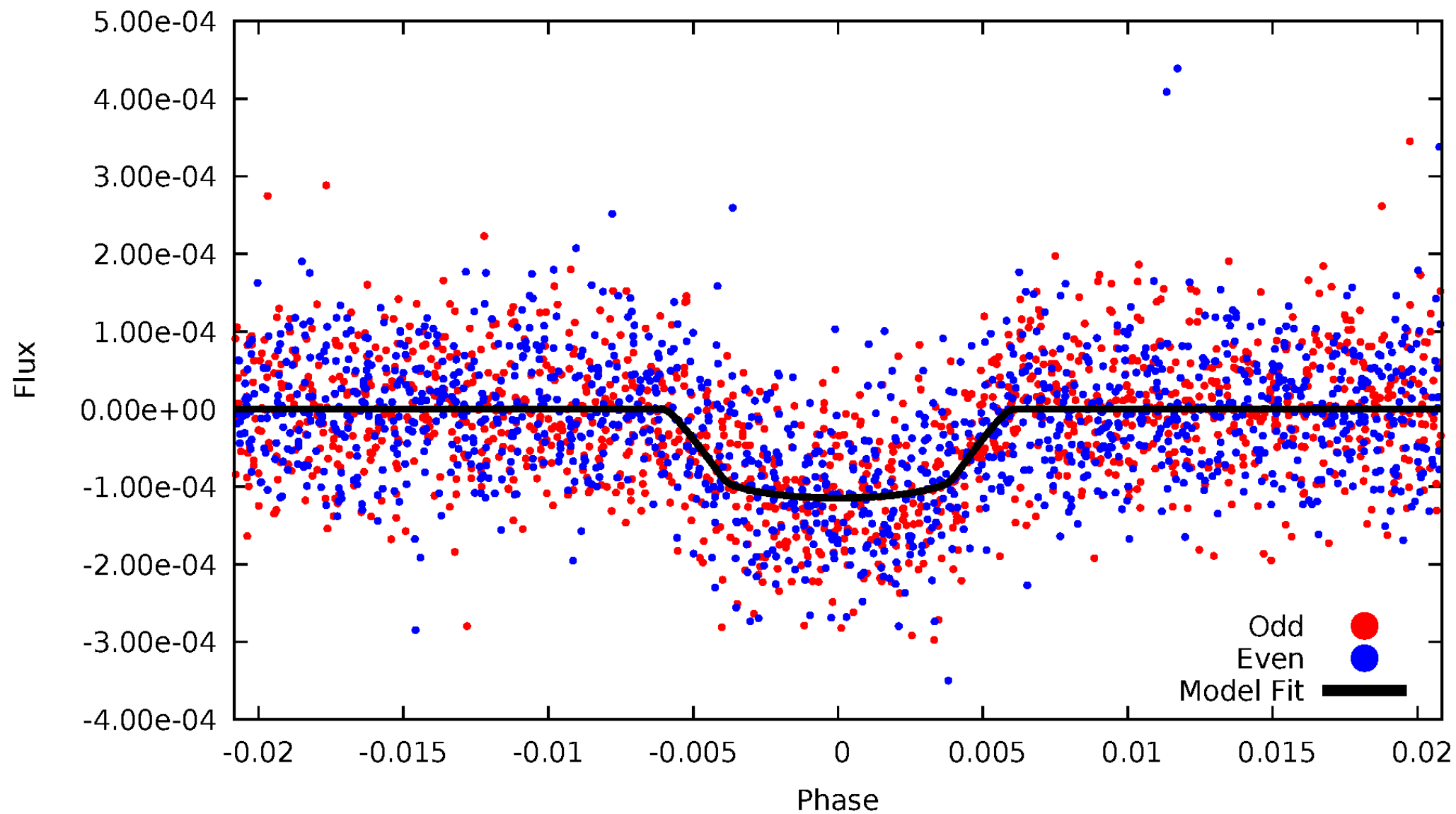


TCE 007175184-02



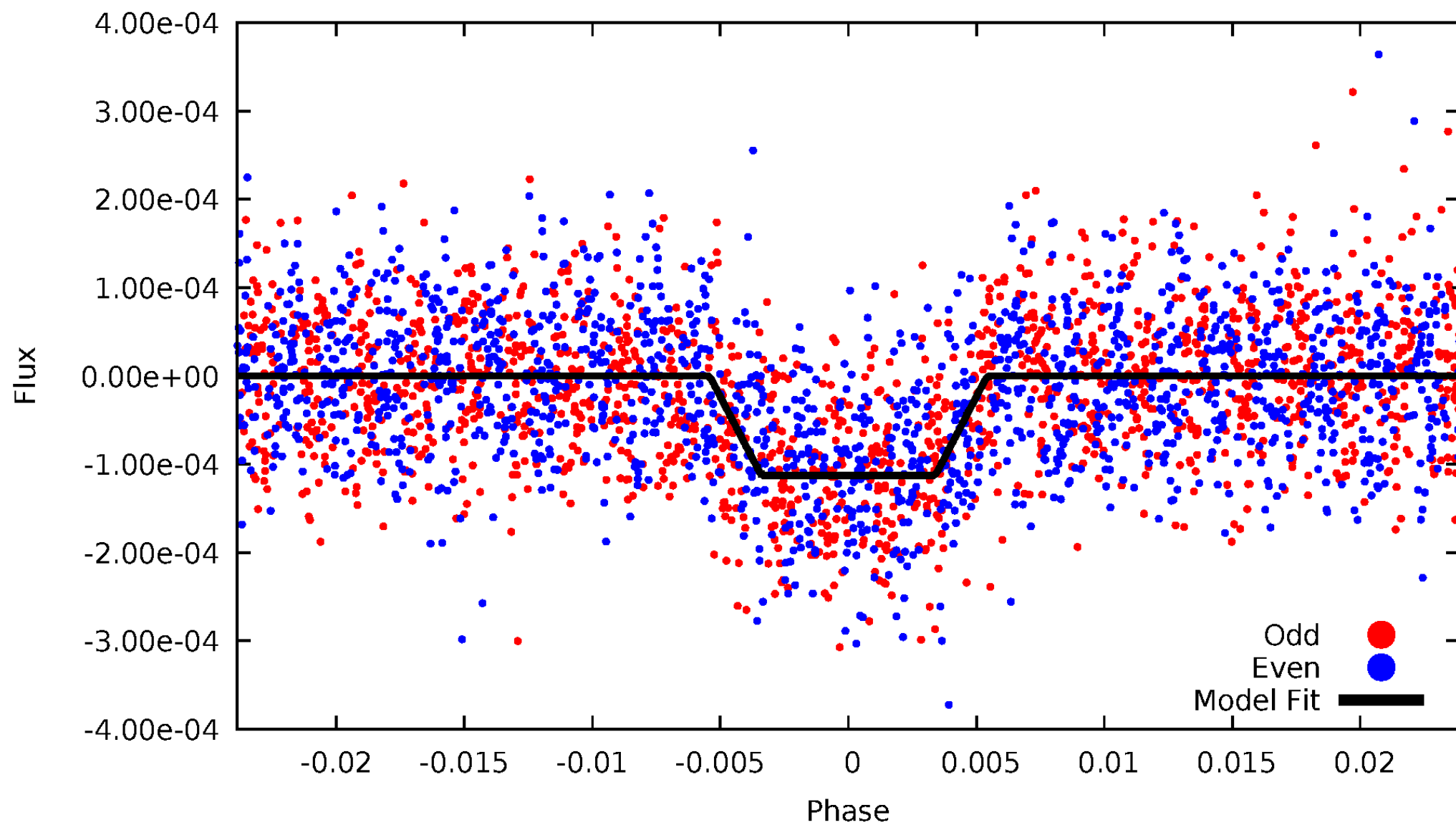
DV Odd/Even

TCE 007175184-02



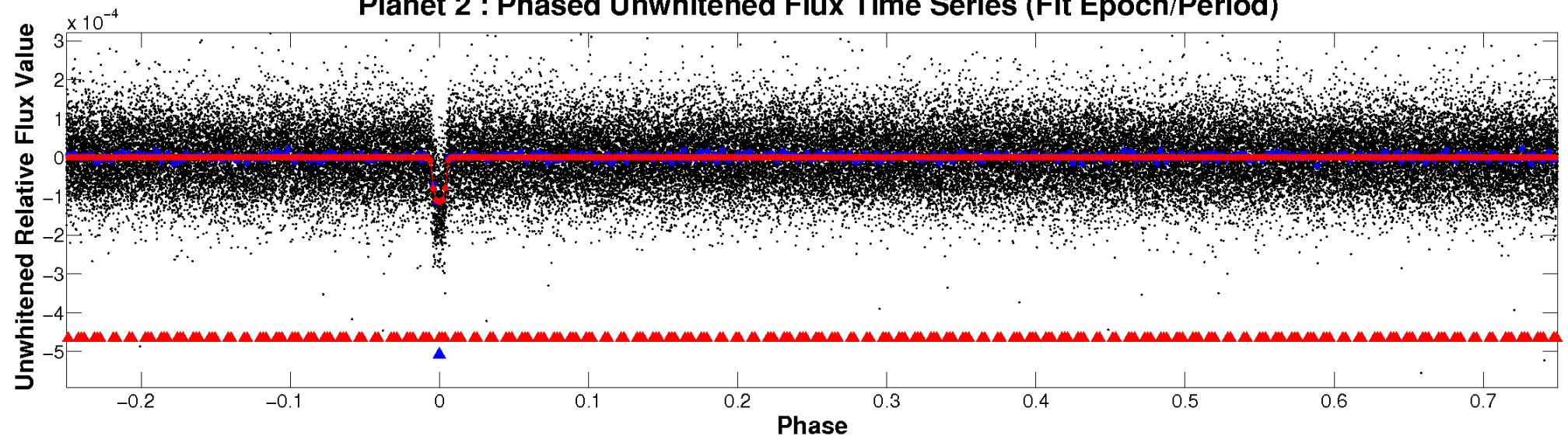
ALT Odd/Even

TCE 007175184-02

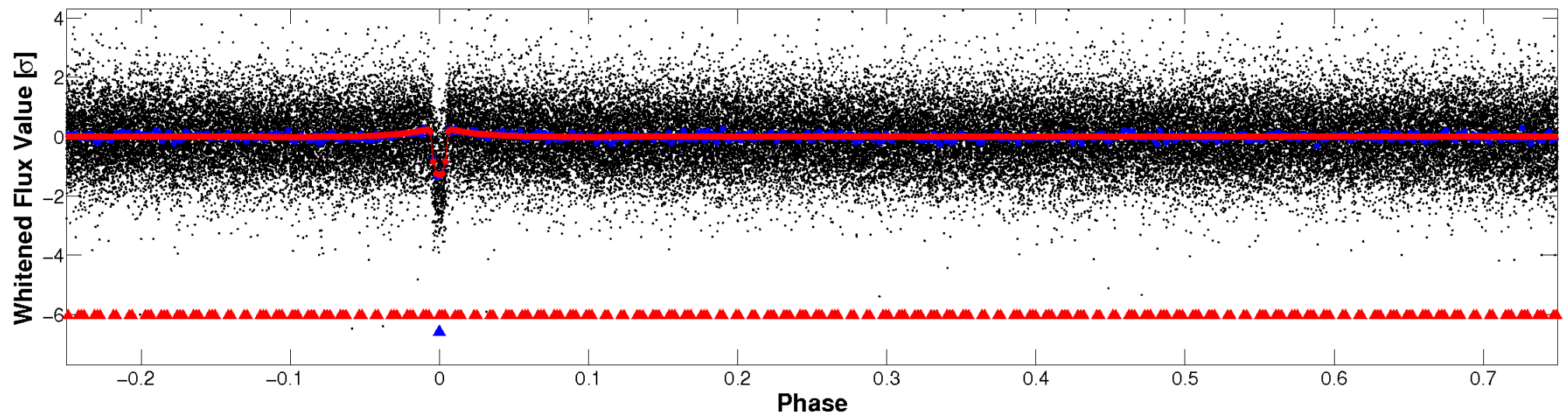


Non-Whitened Vs. Whitened Light Curve

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

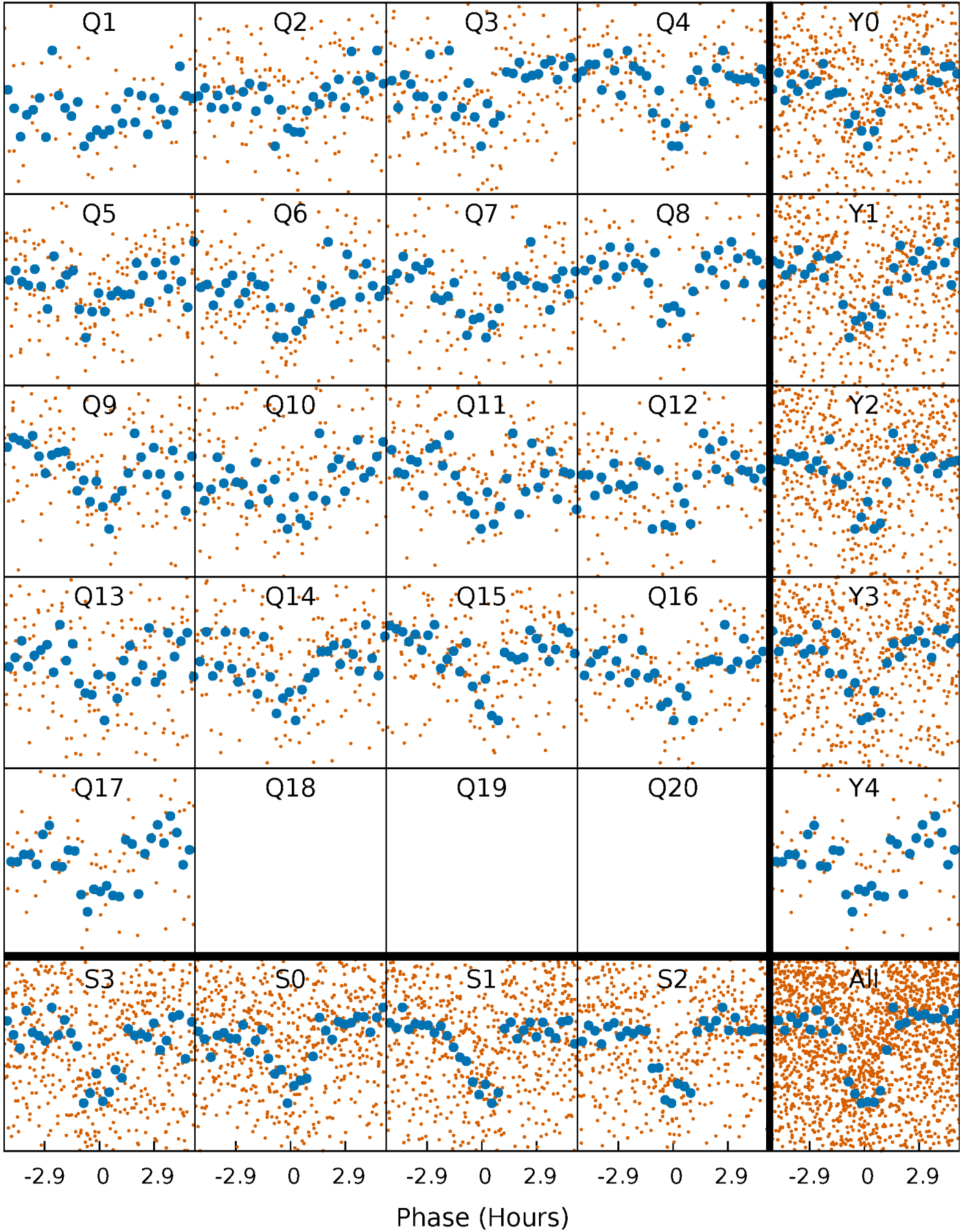


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



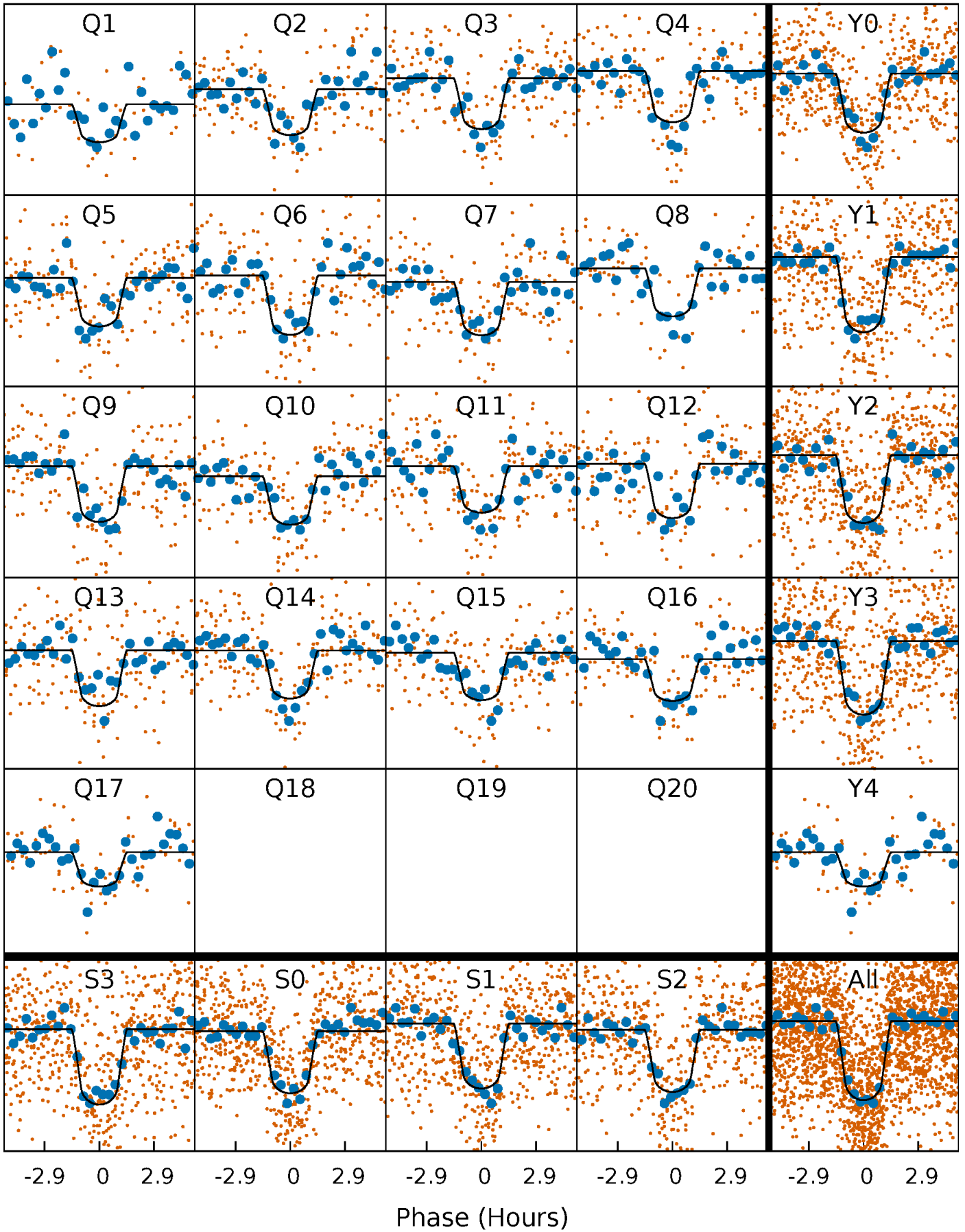
PDC Quarter-Phased Transit Curves

TCE 007175184-02 P= 10.104563 Days $T_0=135.563521$ (BKJD)



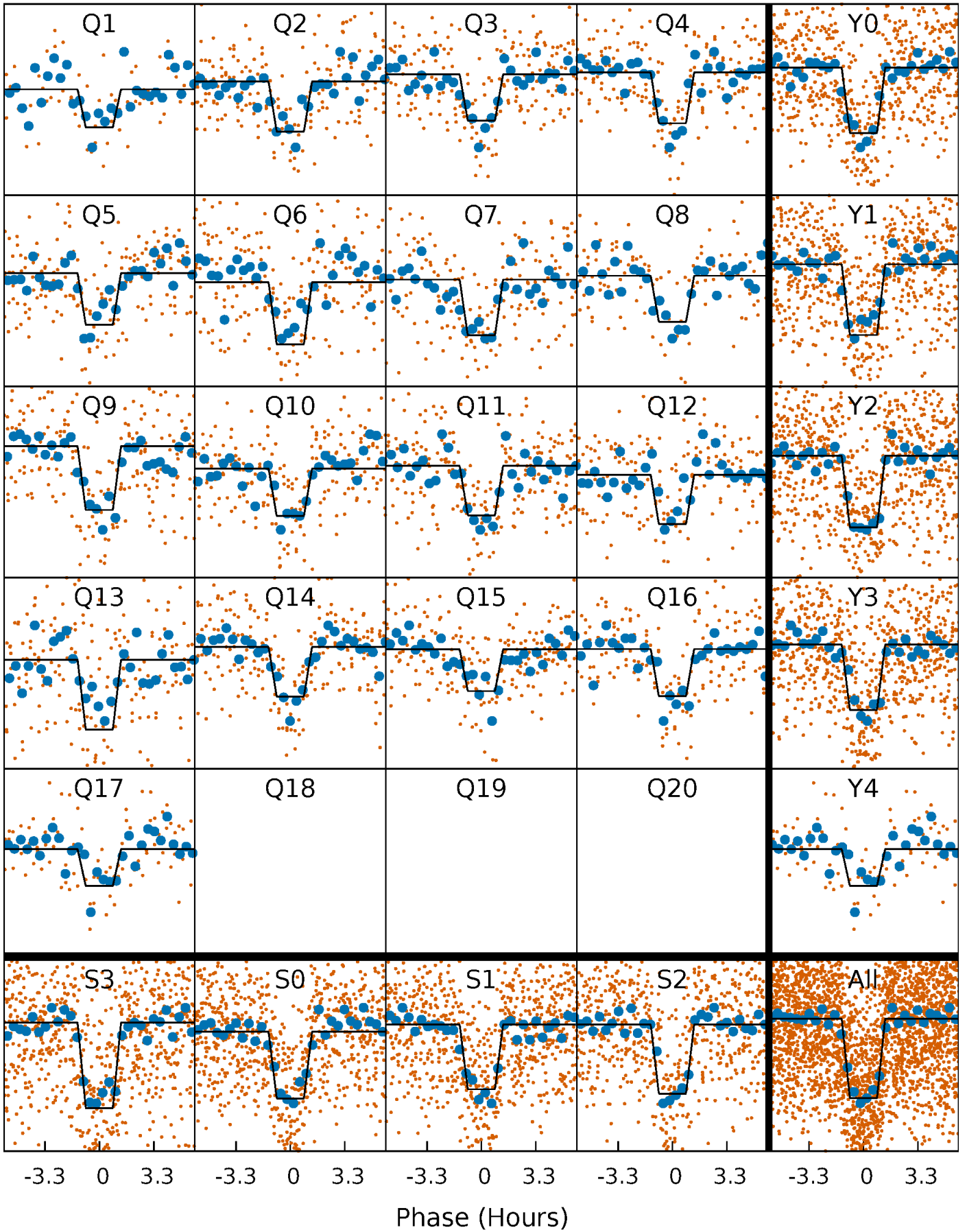
DV Quarter-Phased Transit Curves

TCE 007175184-02 P= 10.104563 Days $T_0=135.563521$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

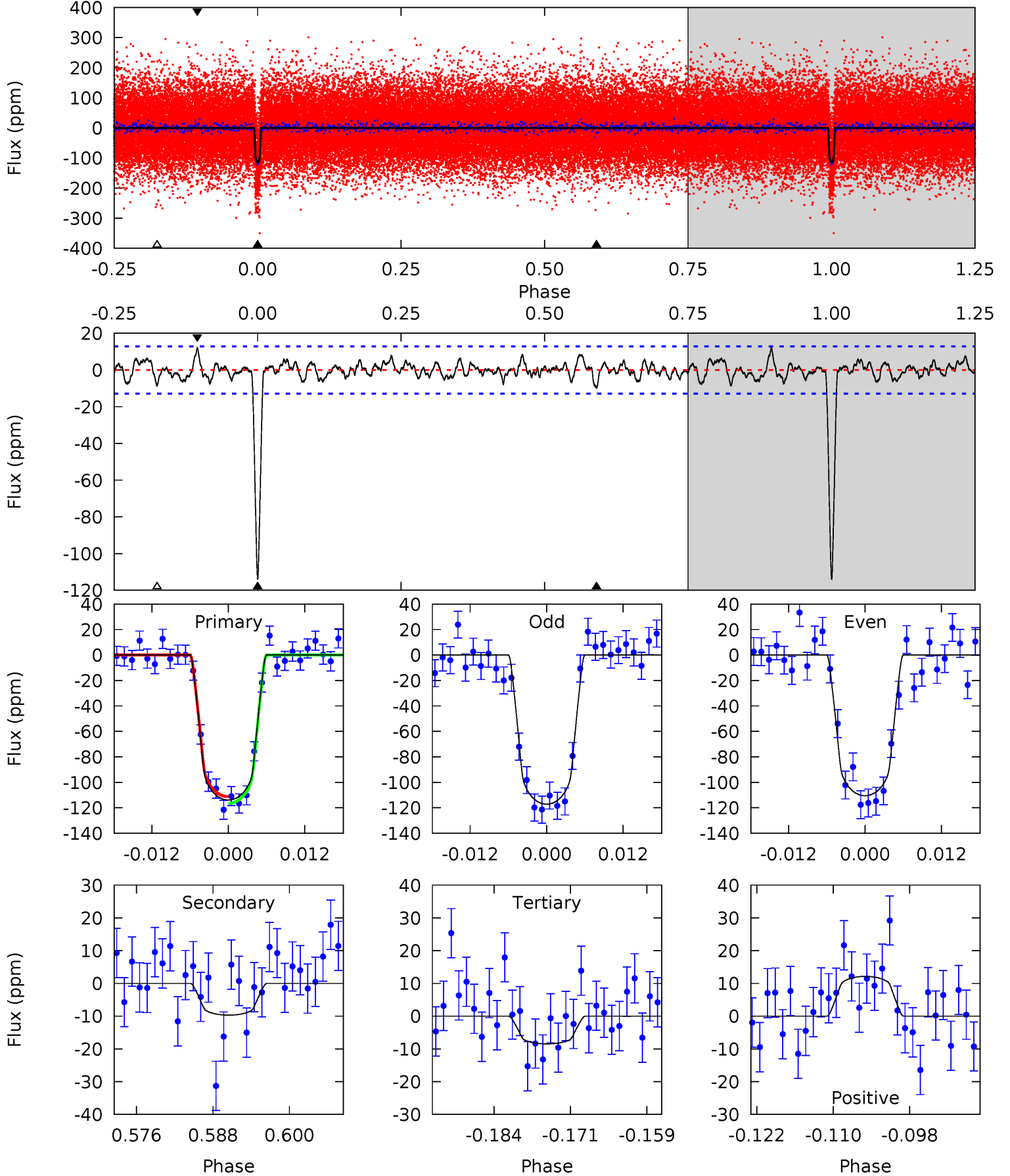
TCE 007175184-02 P= 10.104496 Days $T_0=135.569123$ (BKJD)



DV Model-Shift Uniqueness Test

007175184-02, $P = 10.104563$ Days, $E = 125.458958$ Days

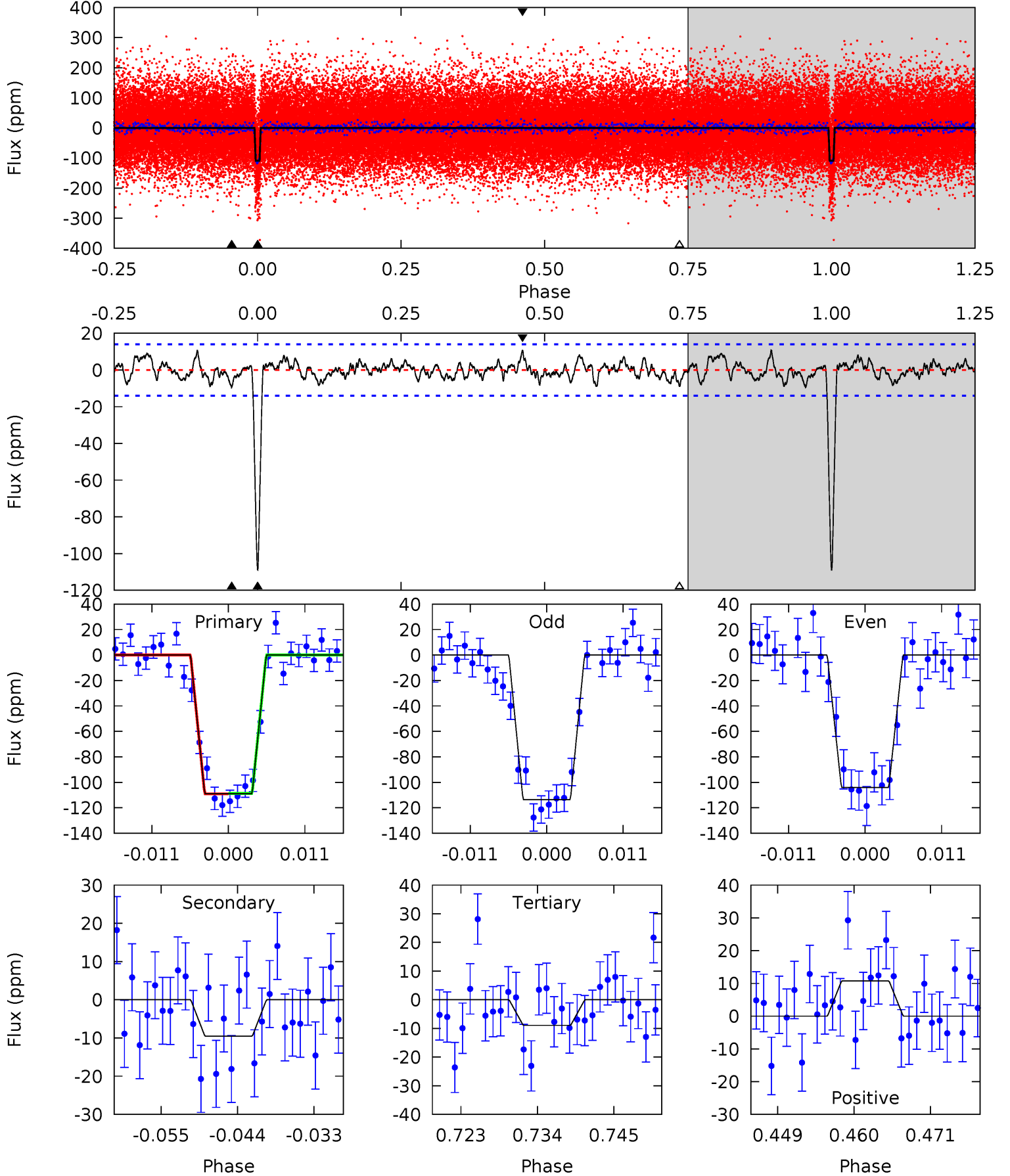
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.0	3.74	3.27	4.69	4.99	2.50	1.26	40.7	39.3	0.48	-0.94	1.29	1.02	0.10	1.03



Alt Model-Shift Uniqueness Test

007175184-02, $P = 10.104496$ Days, $E = 125.464627$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.8	3.40	3.18	3.83	5.01	2.54	1.29	35.7	35.0	0.21	-0.43	1.70	1.04	0.09	0.07



Stellar Parameters For KIC 007175184

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6070^{+134}_{-122}	$4.157^{+0.168}_{-0.112}$	$-0.080^{+0.150}_{-0.150}$	$1.431^{+0.260}_{-0.285}$	$1.072^{+0.113}_{-0.092}$	$0.515^{+0.434}_{-0.171}$
	+2%/-2%	+4%/-3%	+188%/-188%	+18%/-20%	+11%/-9%	+84%/-33%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 007175184-02 / KOI 0369.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 3	$1.79^{+0.43}_{-0.43}$	1454^{+75}_{-75}	3601^{+338}_{-280}	15^{+12}_{-6}
Alt.	-10 ± 3	$1.62^{+0.45}_{-0.40}$	1452^{+77}_{-77}	3677^{+419}_{-311}	17^{+16}_{-8}

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

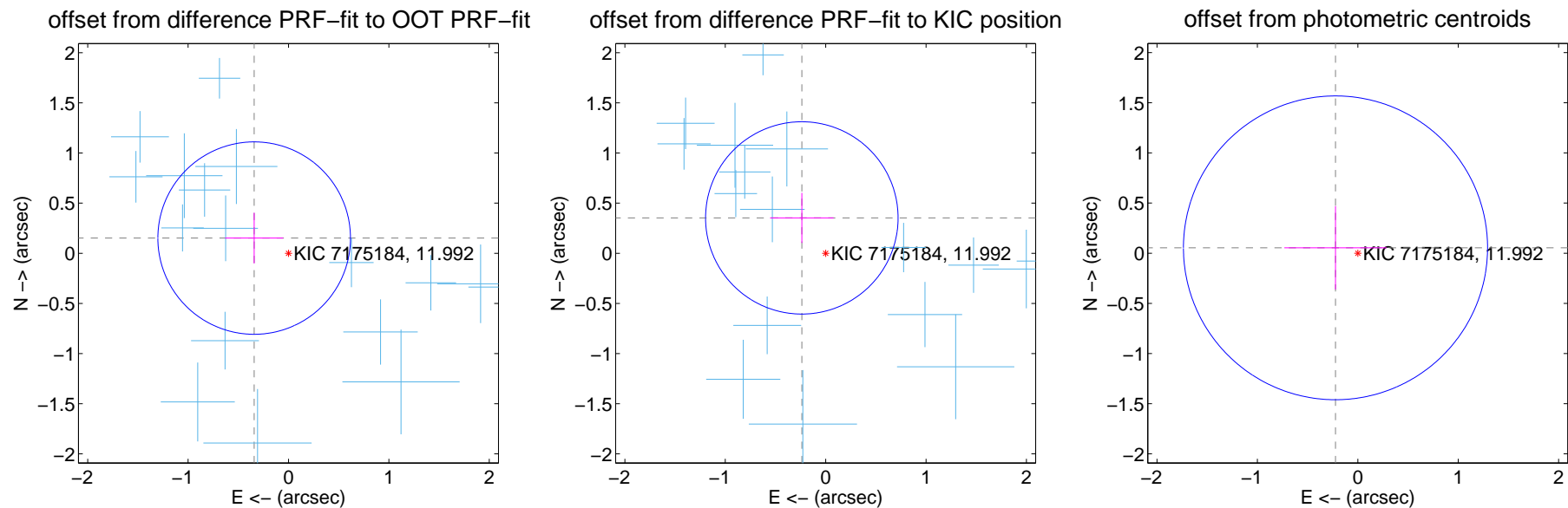
DV Centroid Data

Supplemental centroid analysis for 007175184-02. **Kepler magnitude: 11.99.** Transit SNR 28.71

There are 17 quarters with good PRF difference image offsets

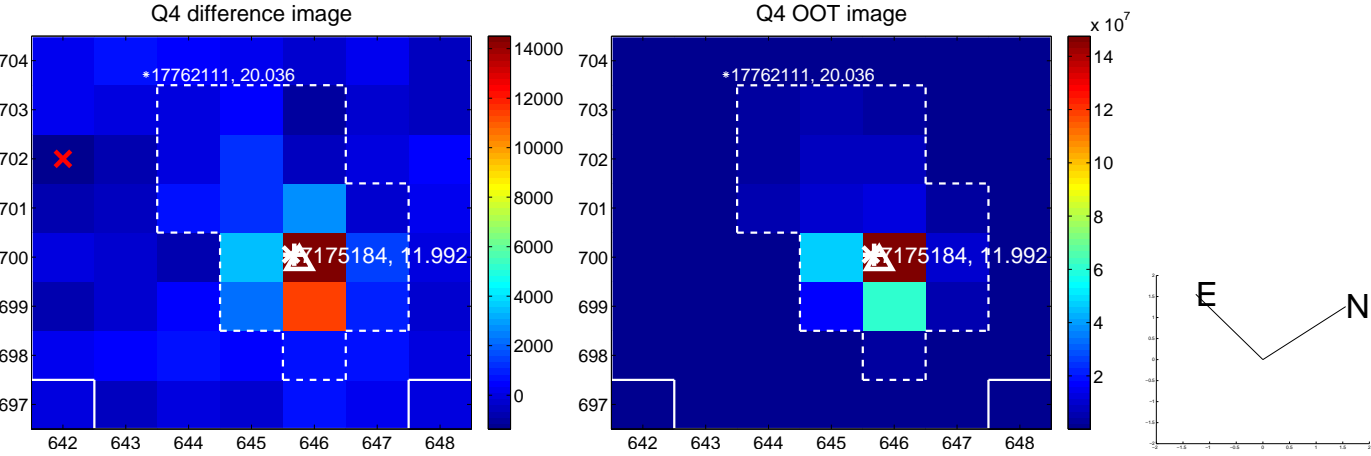
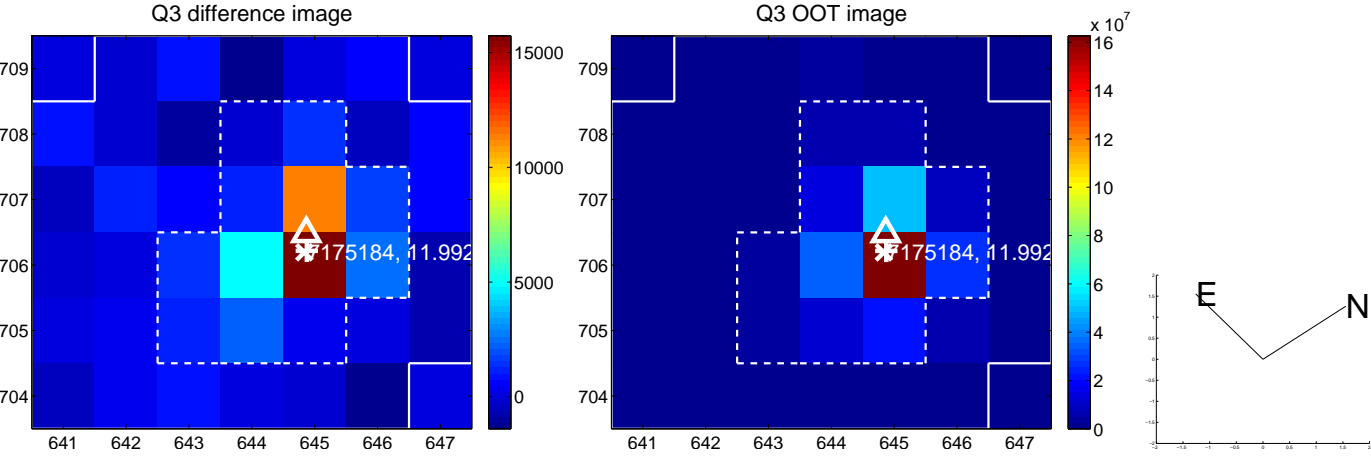
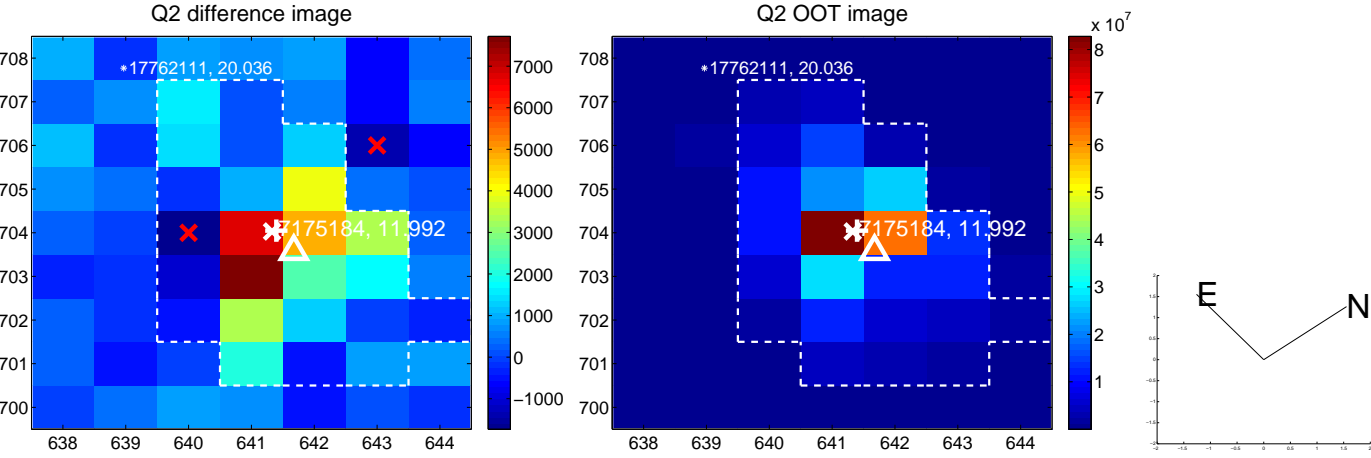
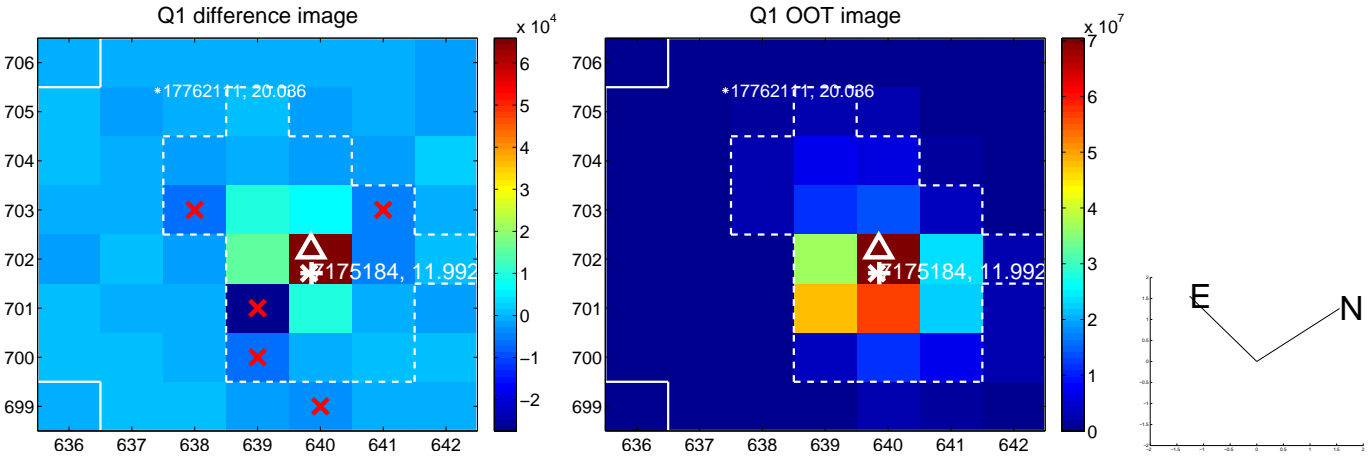
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.374 ± 0.320	1.17	0.342 ± 0.289	0.152 ± 0.253
PRF-fit source offset from KIC position	0.425 ± 0.320	1.33	0.238 ± 0.316	0.353 ± 0.249
photometric centroid source offset	0.23 ± 0.50	0.45	0.22 ± 0.51	0.05 ± 0.42

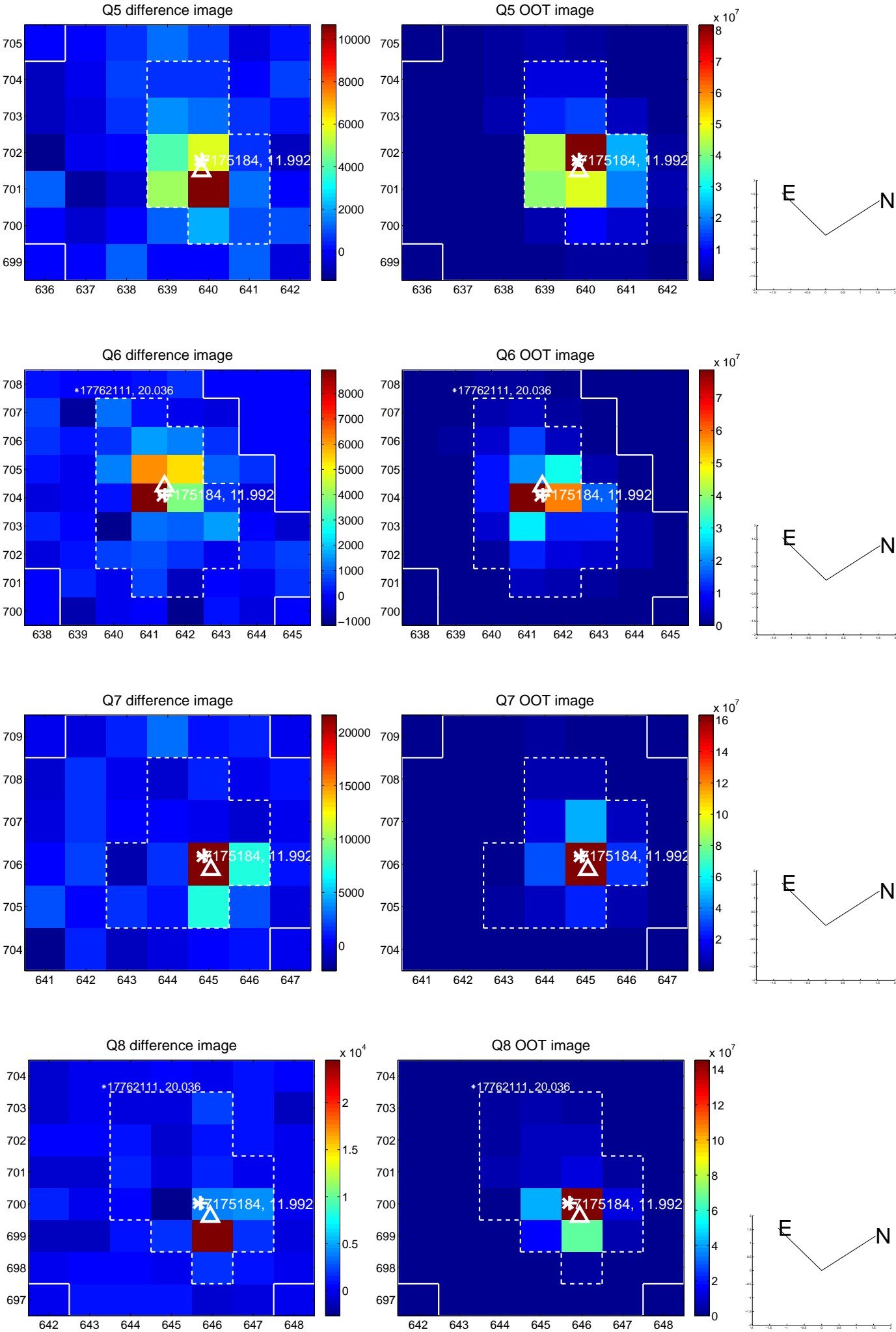


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

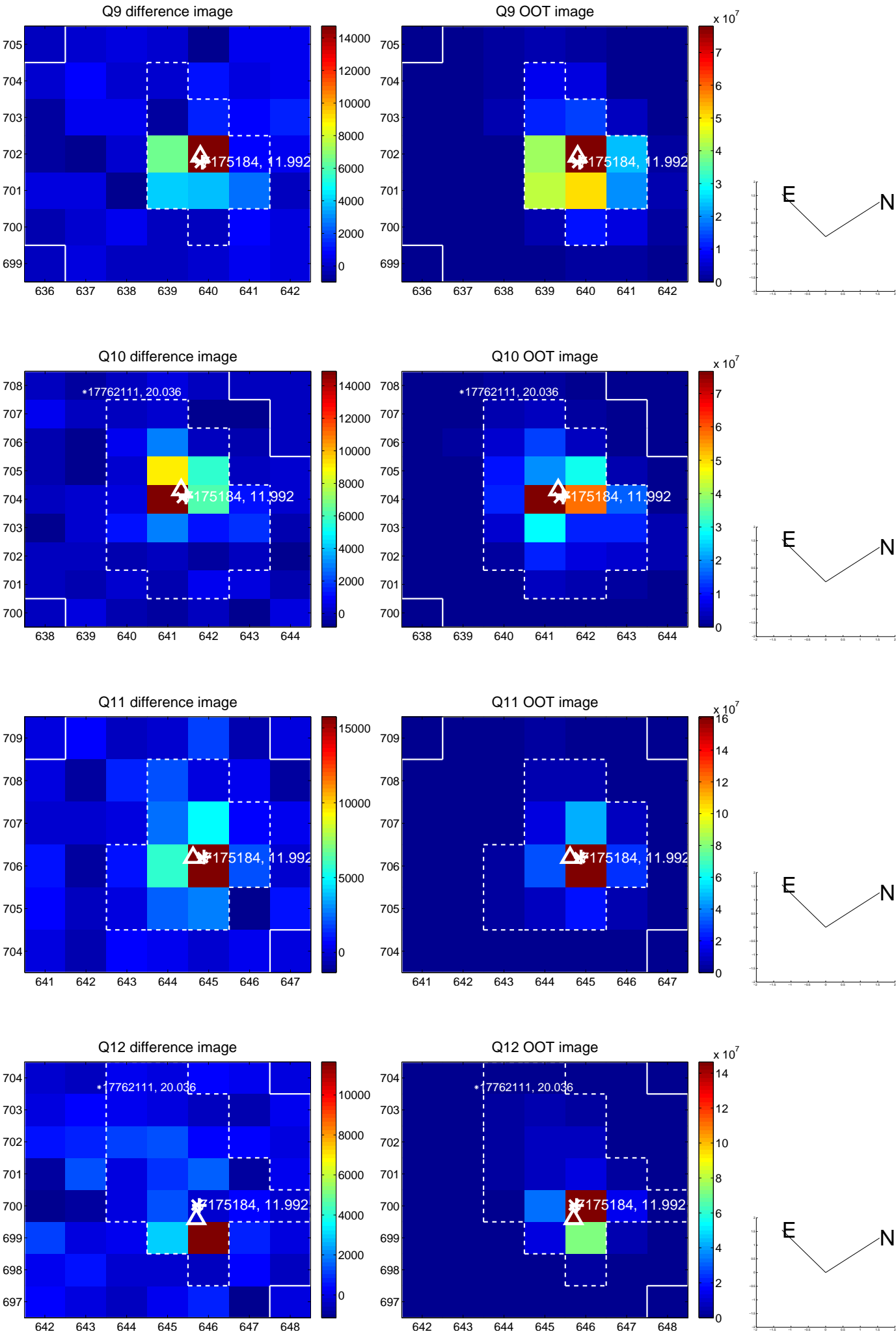
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



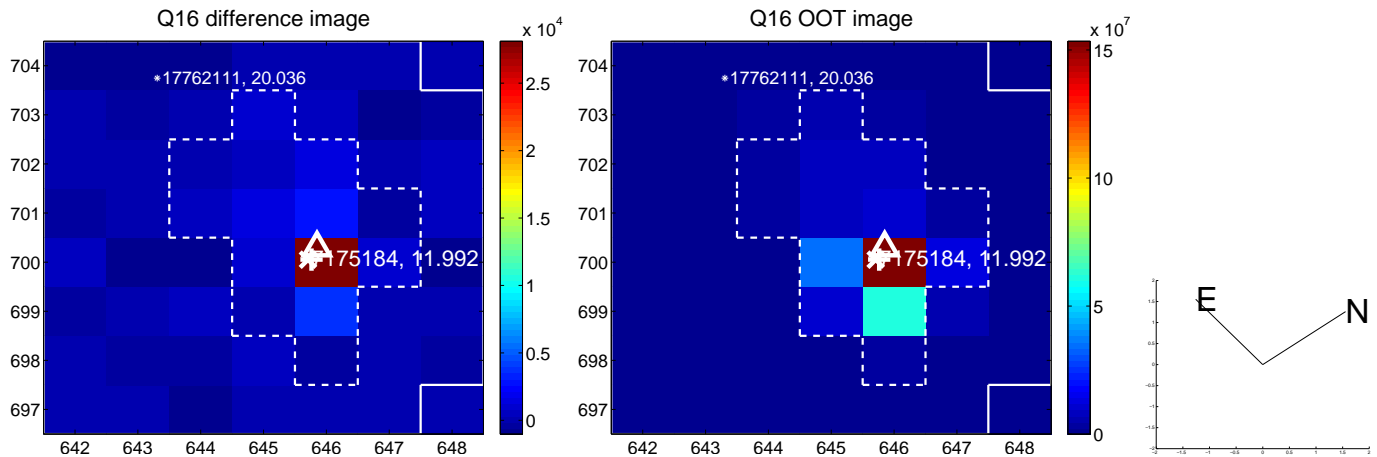
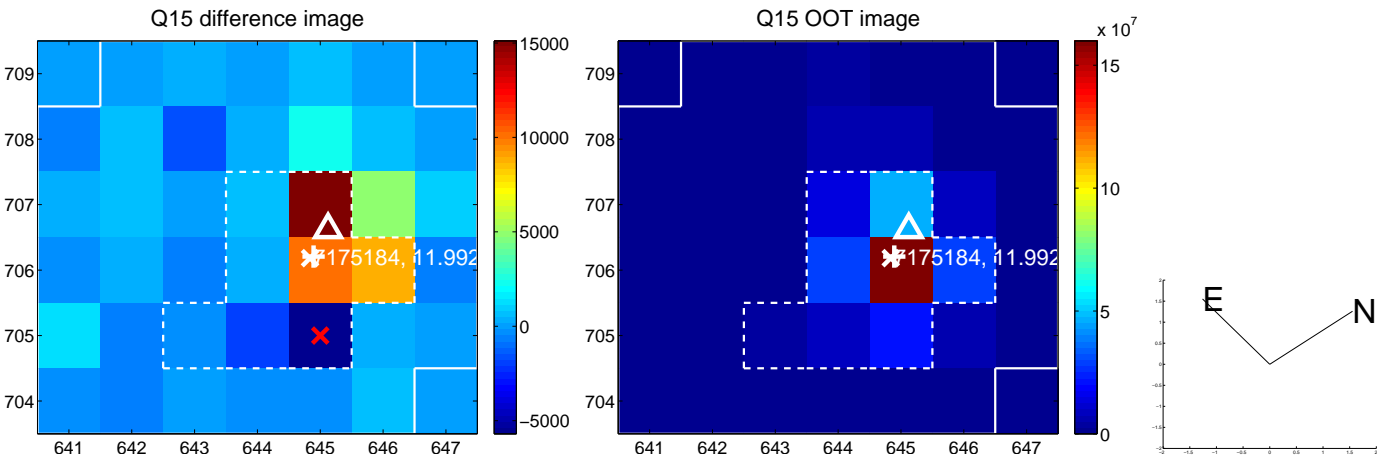
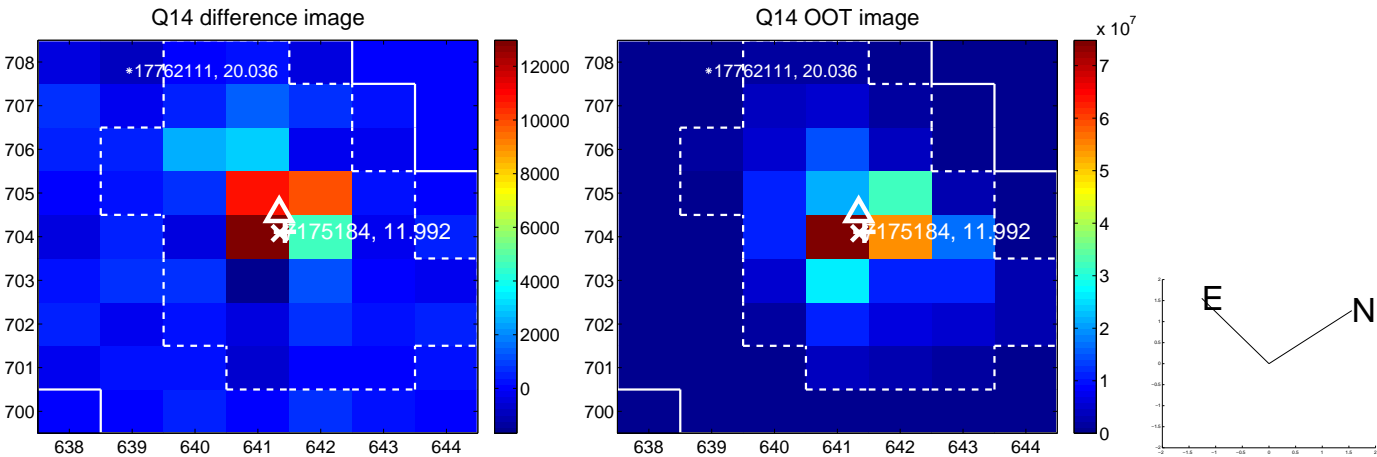
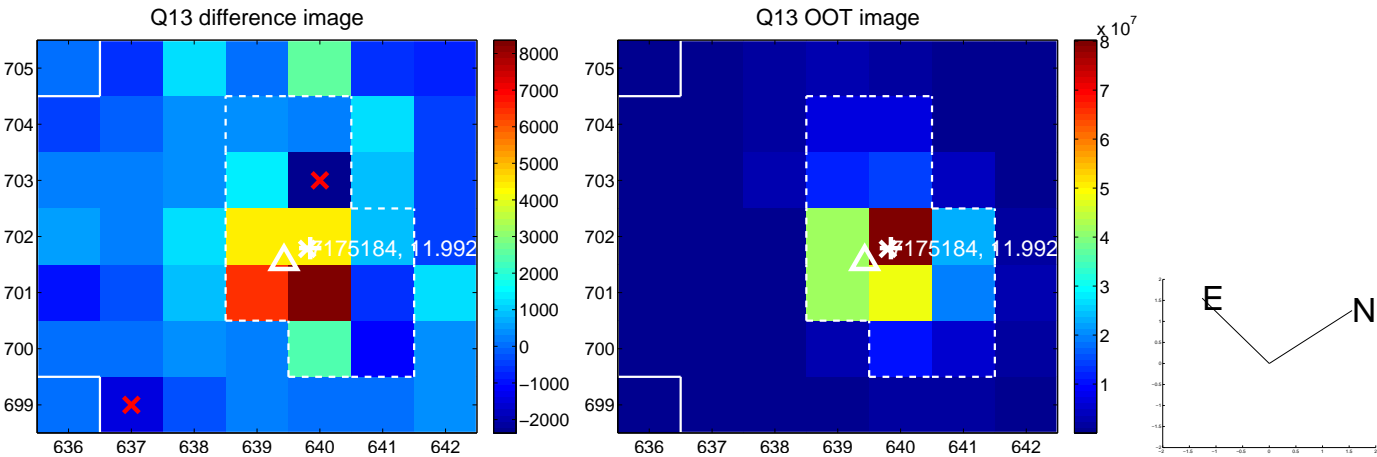
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



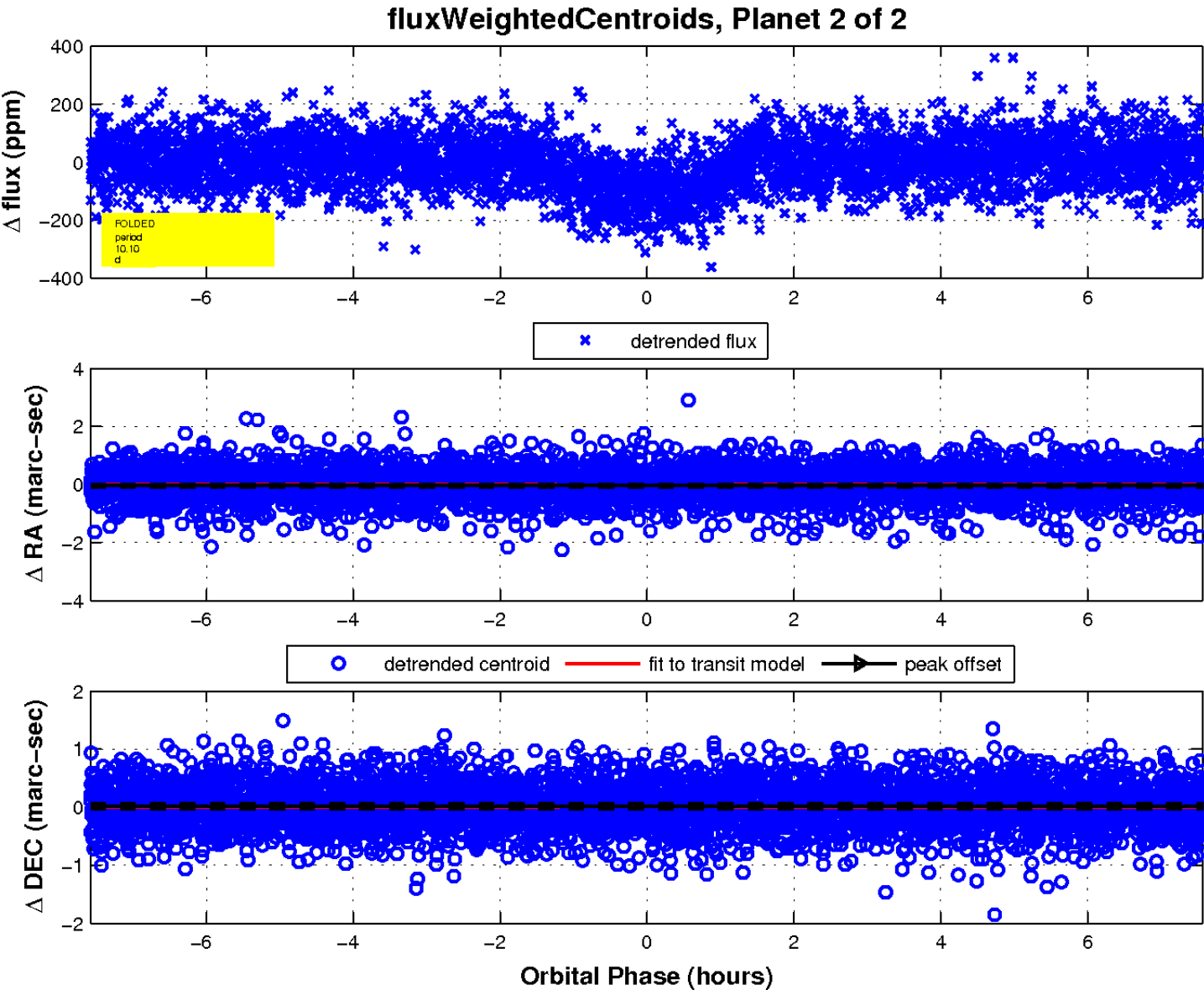
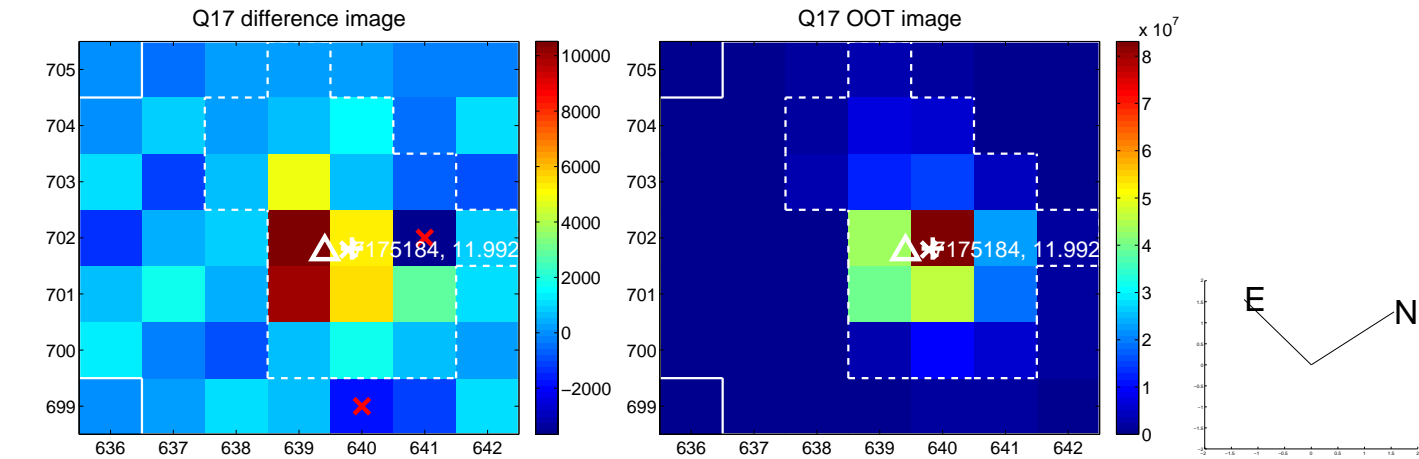
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

