

KIC 008454250

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})
008454250-01	OBS	1254.01	5.082653	132.187236	1167.5	6.085	61.0	62.9	1.00	5780	3.82	298.64
008454250-02	OBS	No	0.599989	131.517157	54.6	2.134	8.5	8.7	1.00	5780	0.88	5157.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008454250-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
008454250-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS

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.

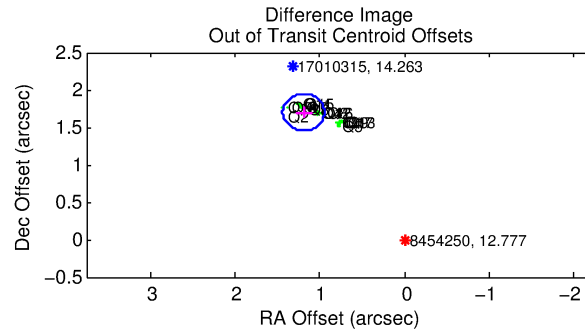
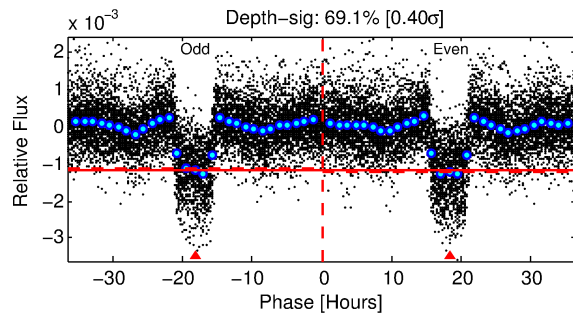
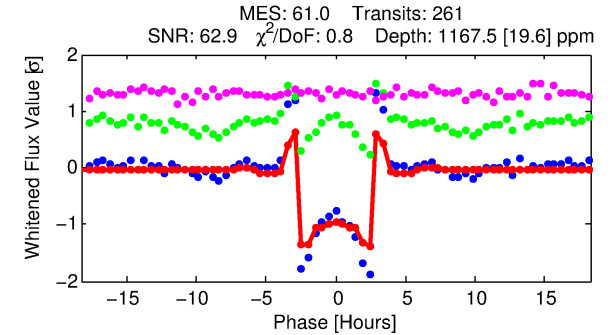
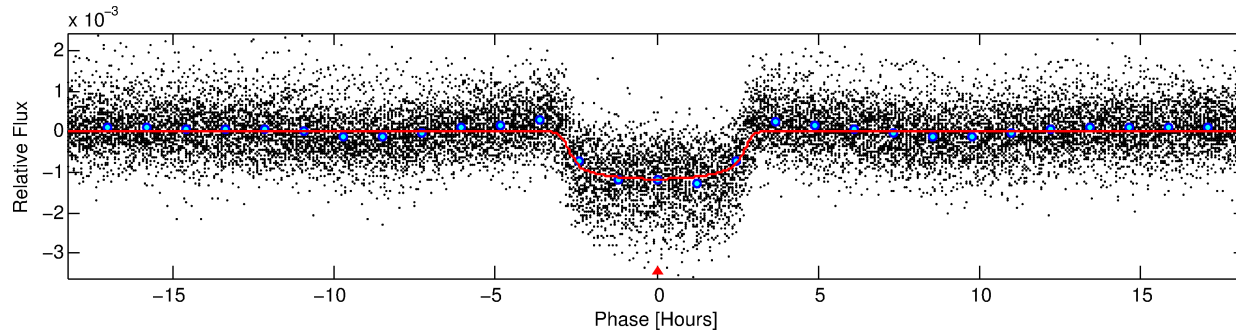
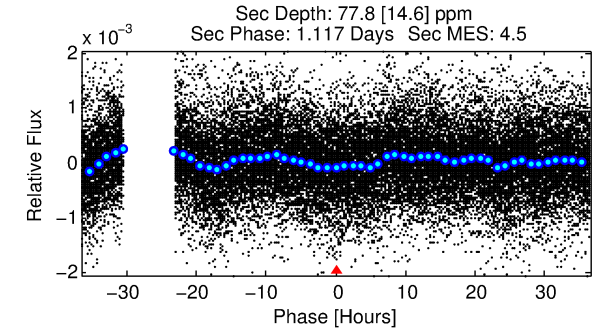
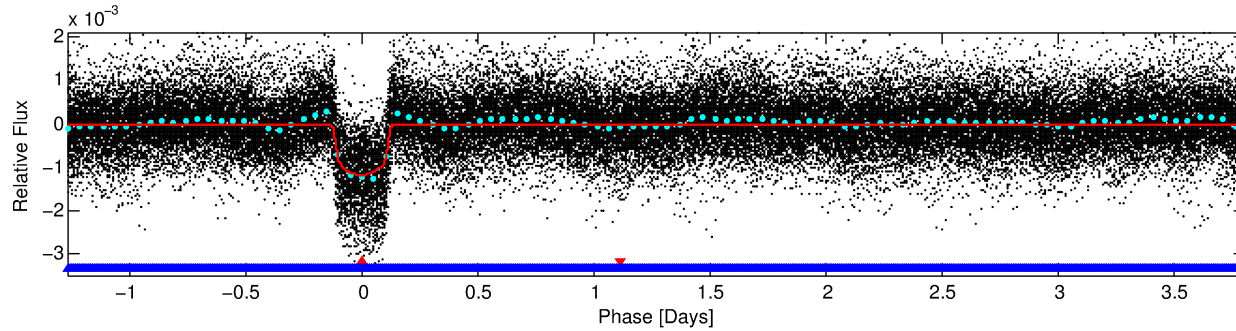
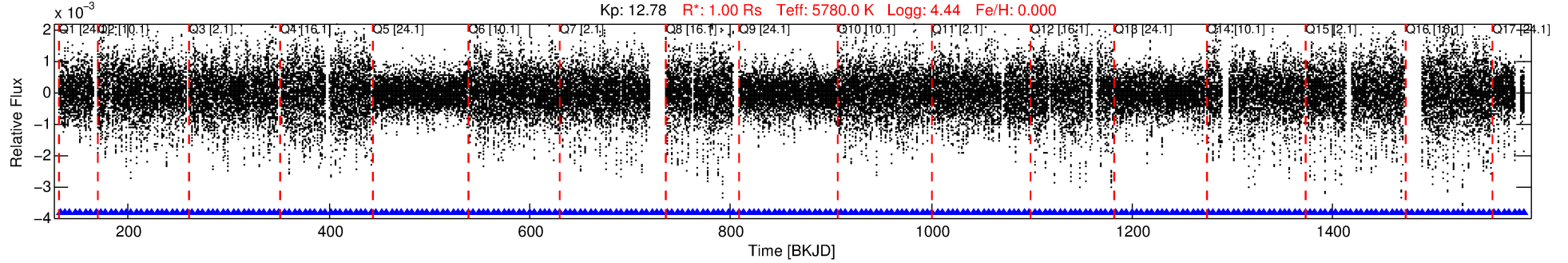
Ephemeris Match Information For 008454250-01

No Significant Match Found

DV One-Page Summary

KIC: 8454250 Candidate: 1 of 2 Period: 5.083 d
KOI: K01254.01 Corr: 0.976

Kp: 12.78 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



DV Fit Results:

Period = 5.08265 [0.00000] d
Epoch = 132.1872 [0.0005] BKJD
Rp/R* = 0.0350 [0.0005]
a/R* = 4.18 [0.17]
b = 0.81 [0.02]
Seff = 298.64 [0.00]
Teq = 1060 [0] K
Rp = 3.82 [0.05] Re
a = 0.0579 [0.0000] AU
Ag = 9.82 [1.86] [4.73σ]
Teffp = 2901 [138] K [13.37σ]

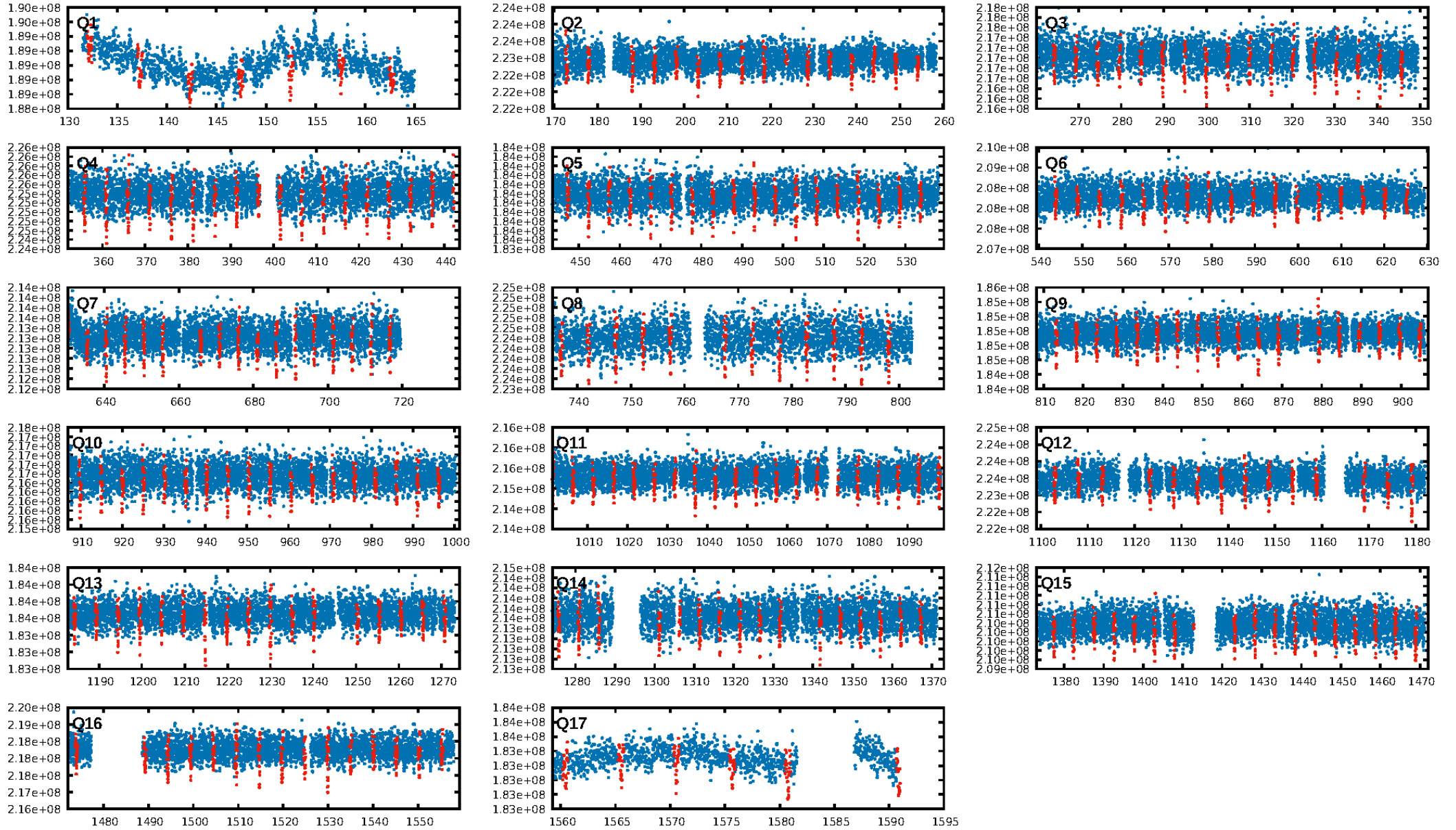
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.68σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [248/248]
GhostDiagnostic-chr: 0.7406
Centroid-sig: 0.0%
Centroid-so: 3.507 arcsec [41.50σ]
OotOffset-rm: 2.075 arcsec [25.18σ]
KicOffset-rm: 2.600 arcsec [38.55σ]
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]

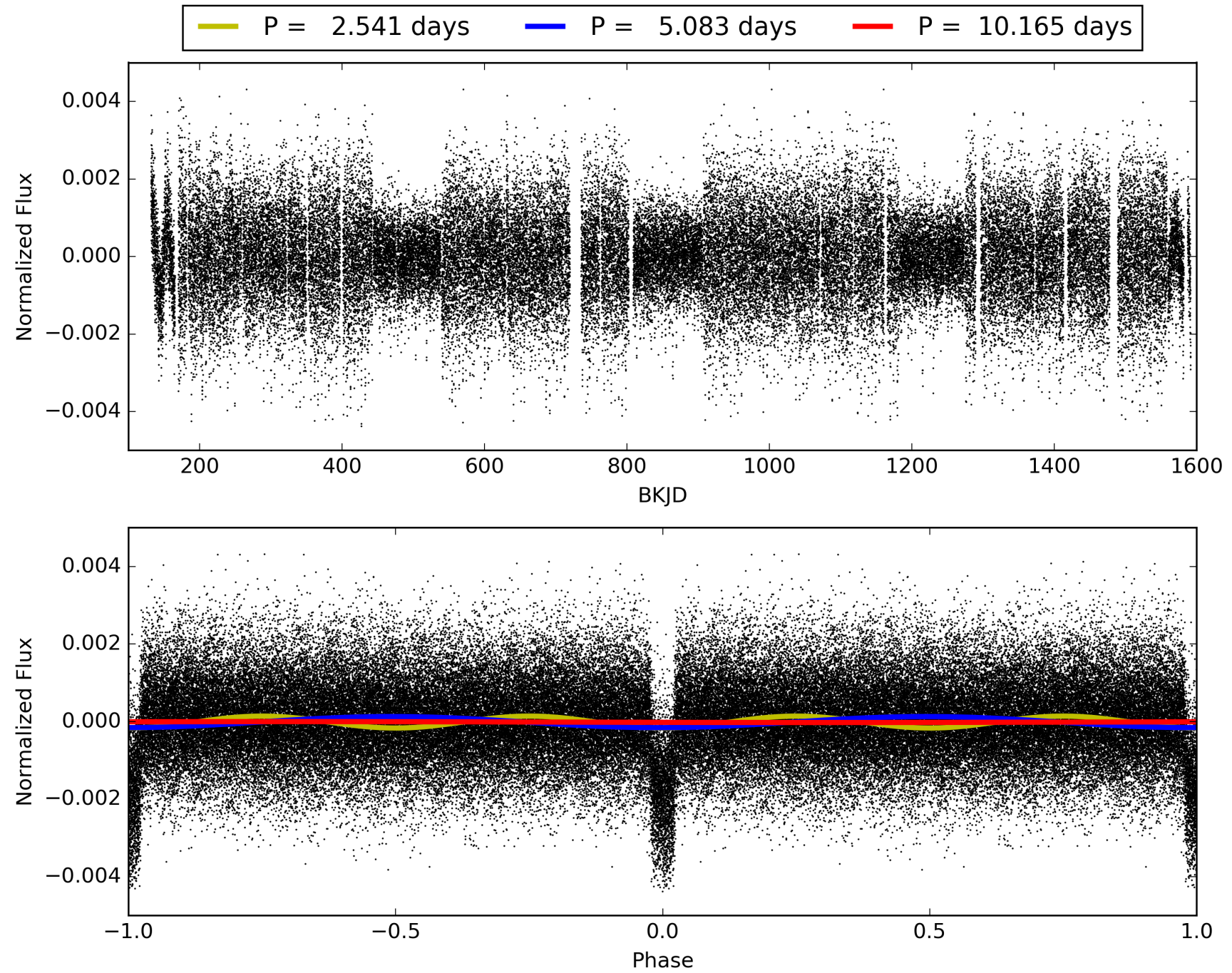
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:24:08 Z

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

TCE 008454250-01, PDC Light Curves

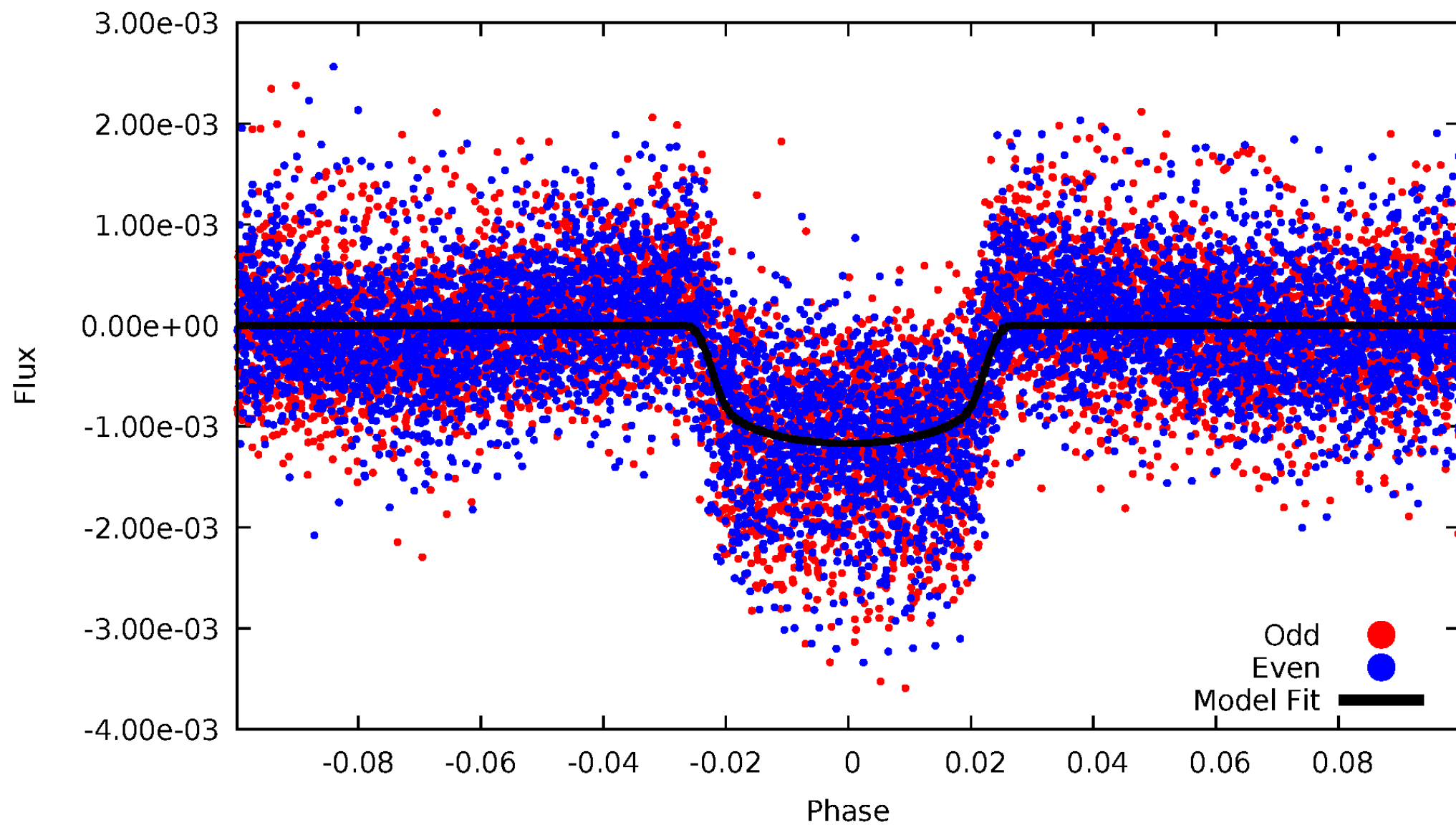


TCE 008454250-01



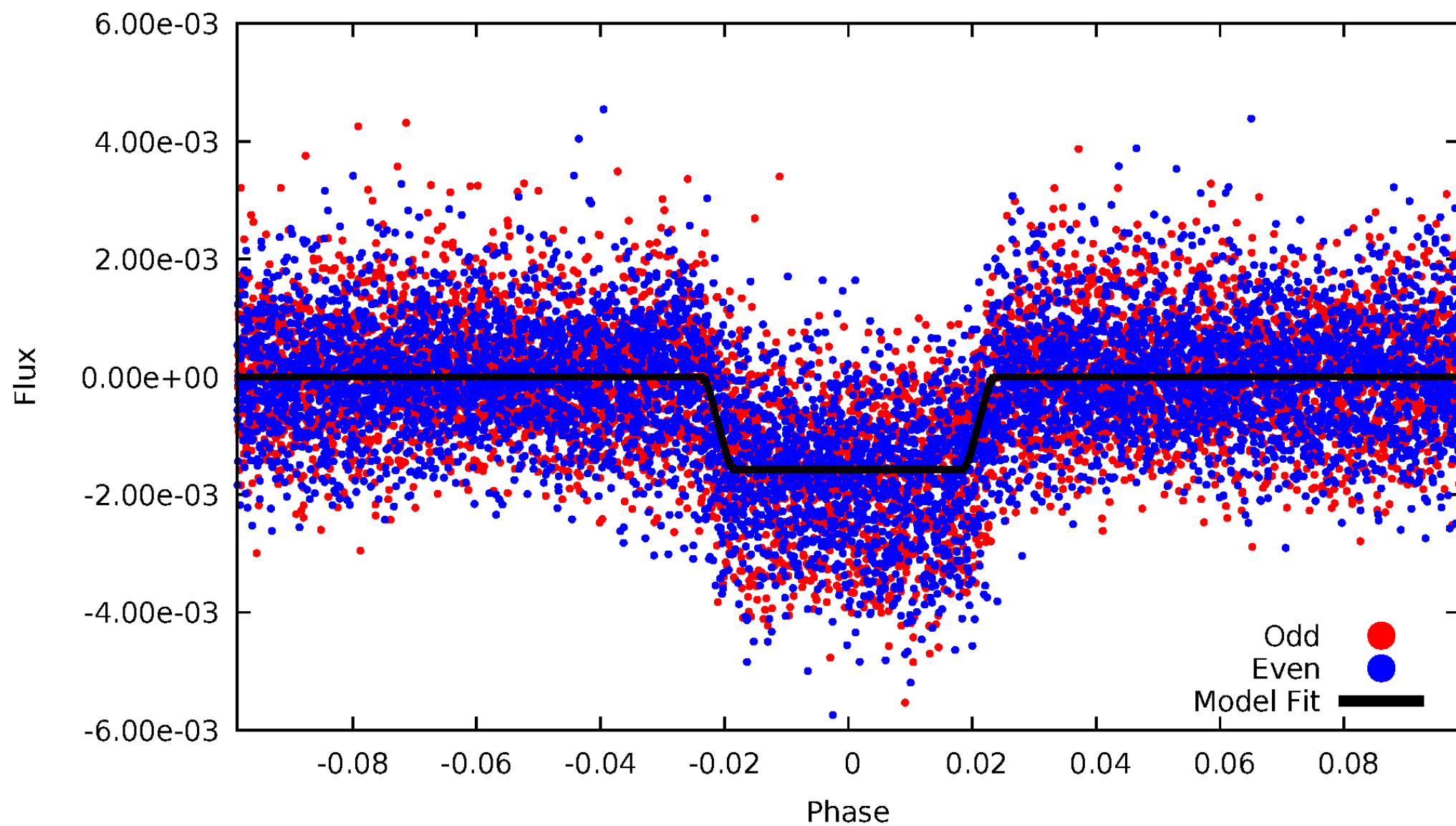
DV Odd/Even

TCE 008454250-01



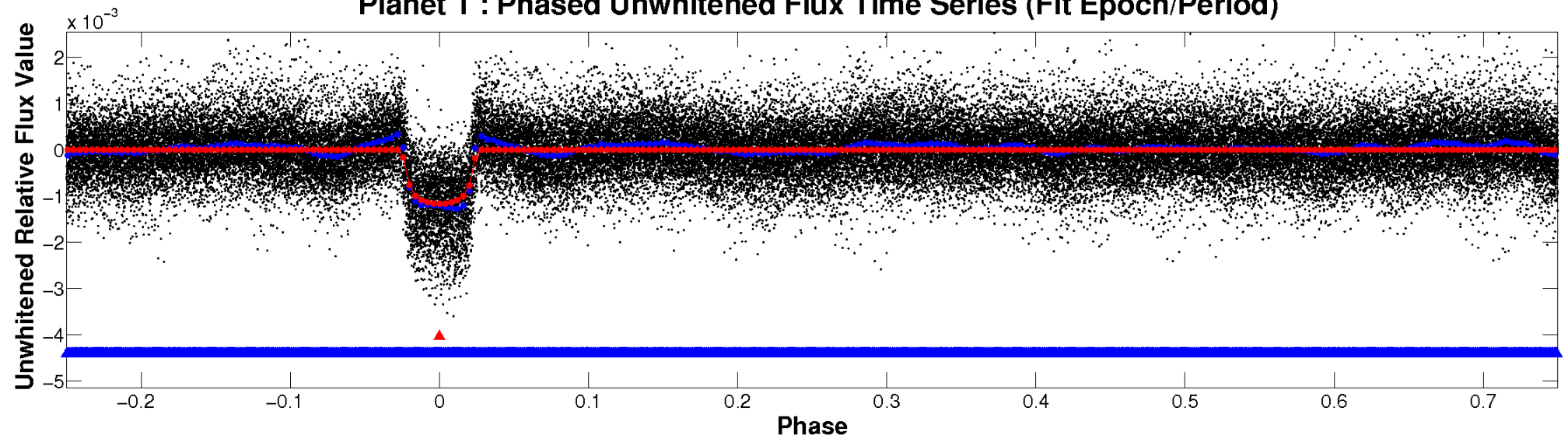
ALT Odd/Even

TCE 008454250-01

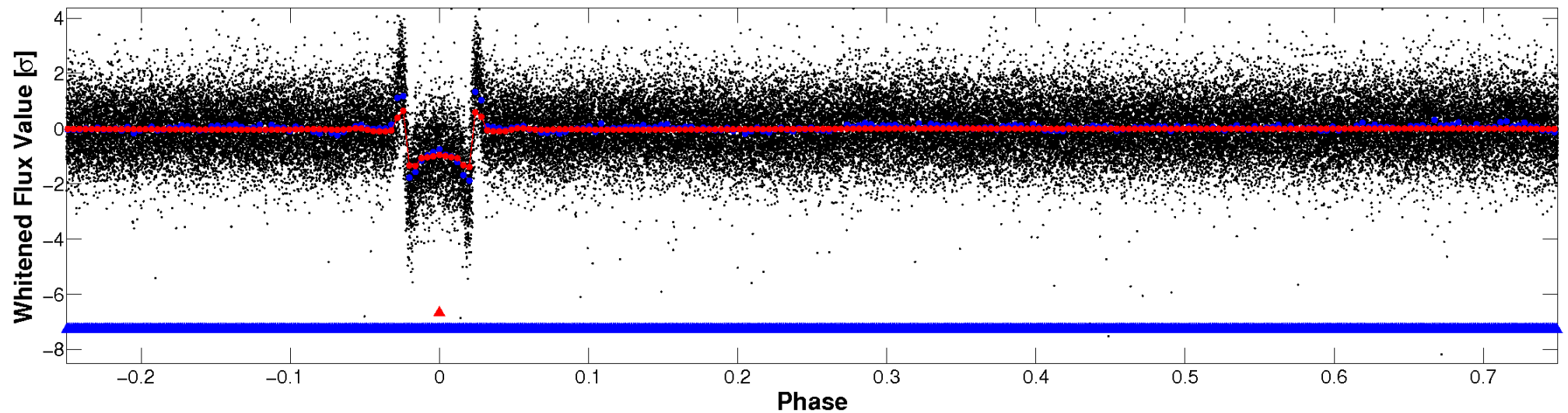


Non-Whitened Vs. Whitened Light Curve

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

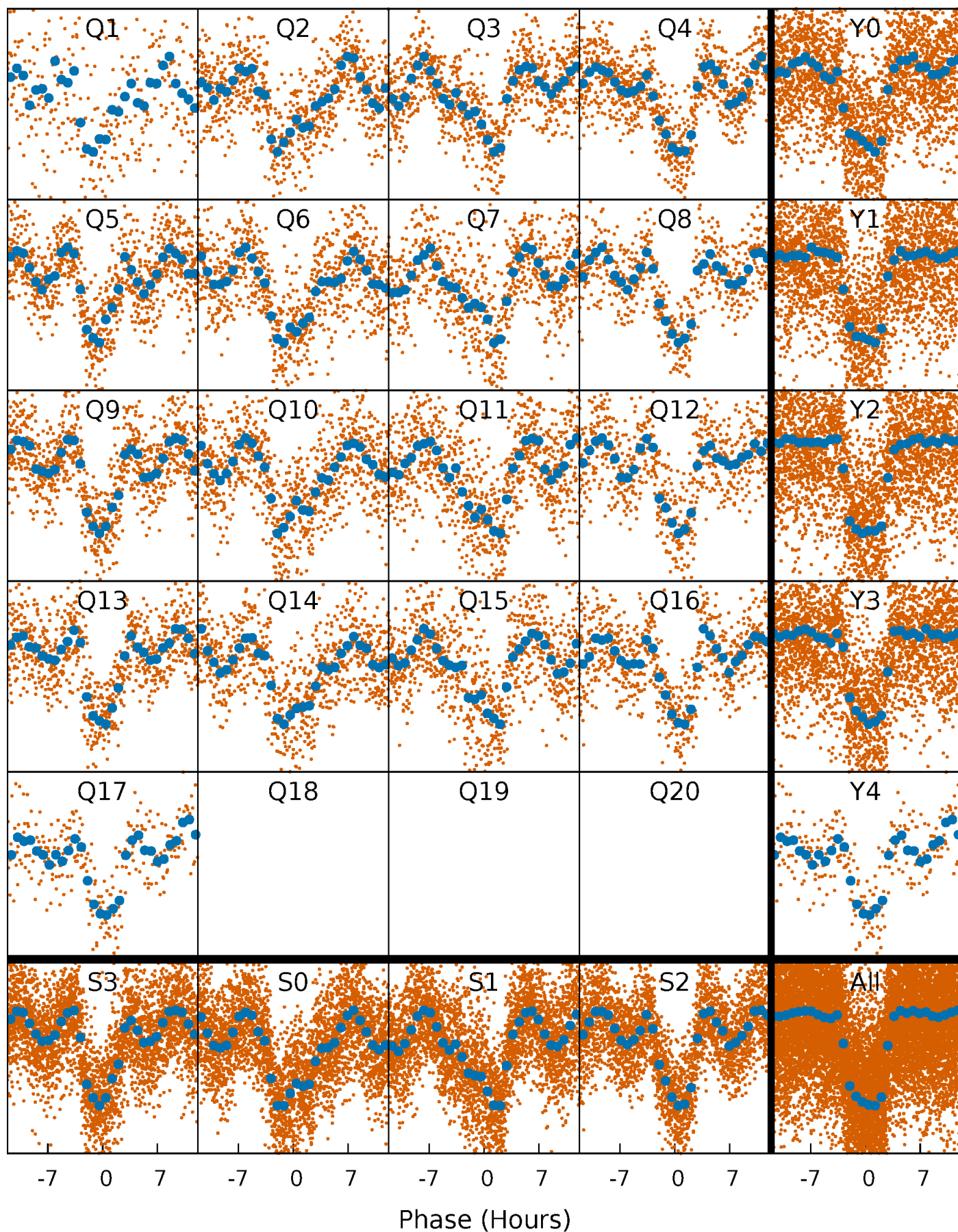


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



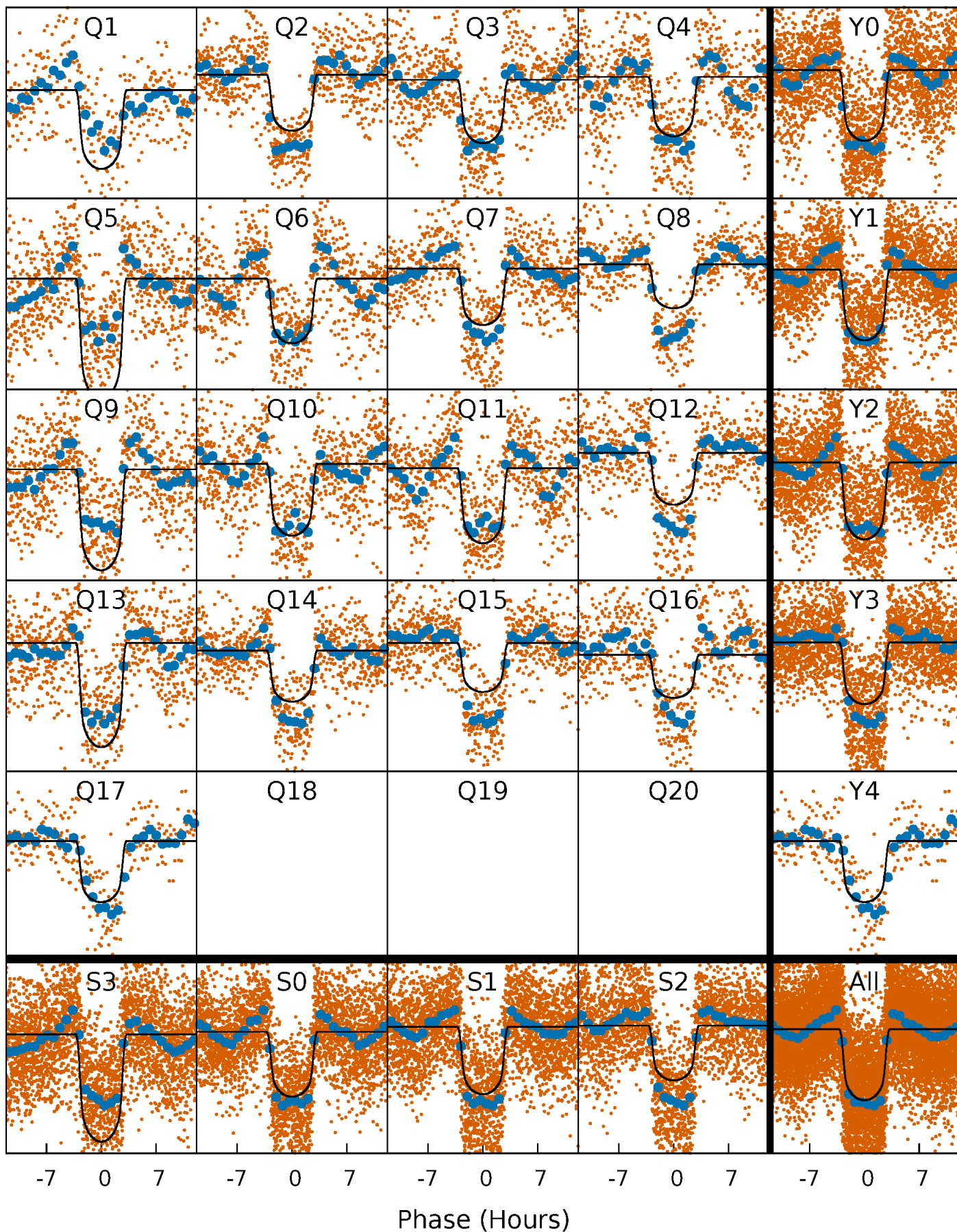
PDC Quarter-Phased Transit Curves

TCE 008454250-01 P= 5.082653 Days $T_0=132.187236$ (BKJD)



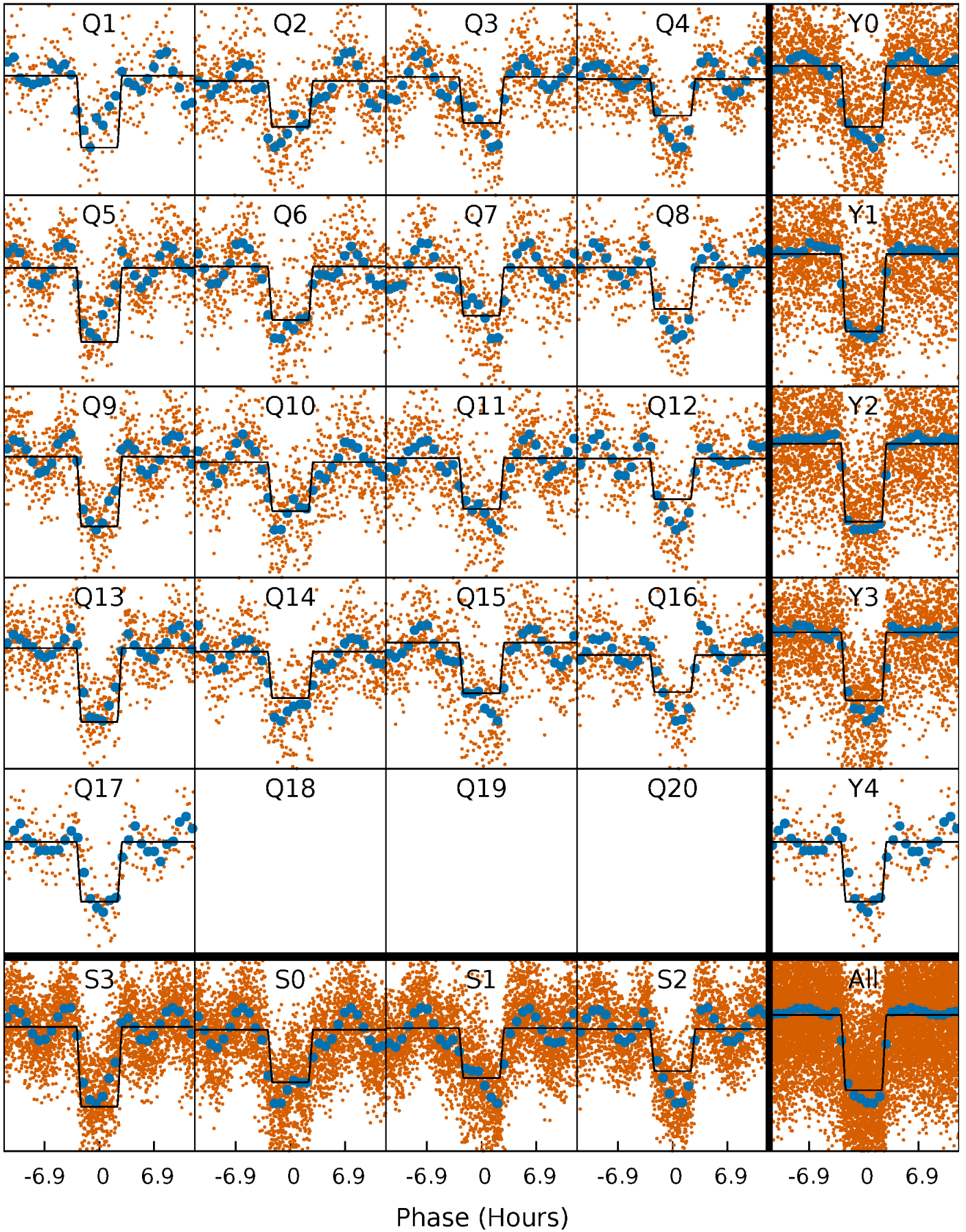
DV Quarter-Phased Transit Curves

TCE 008454250-01 P= 5.082653 Days $T_0=132.187236$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

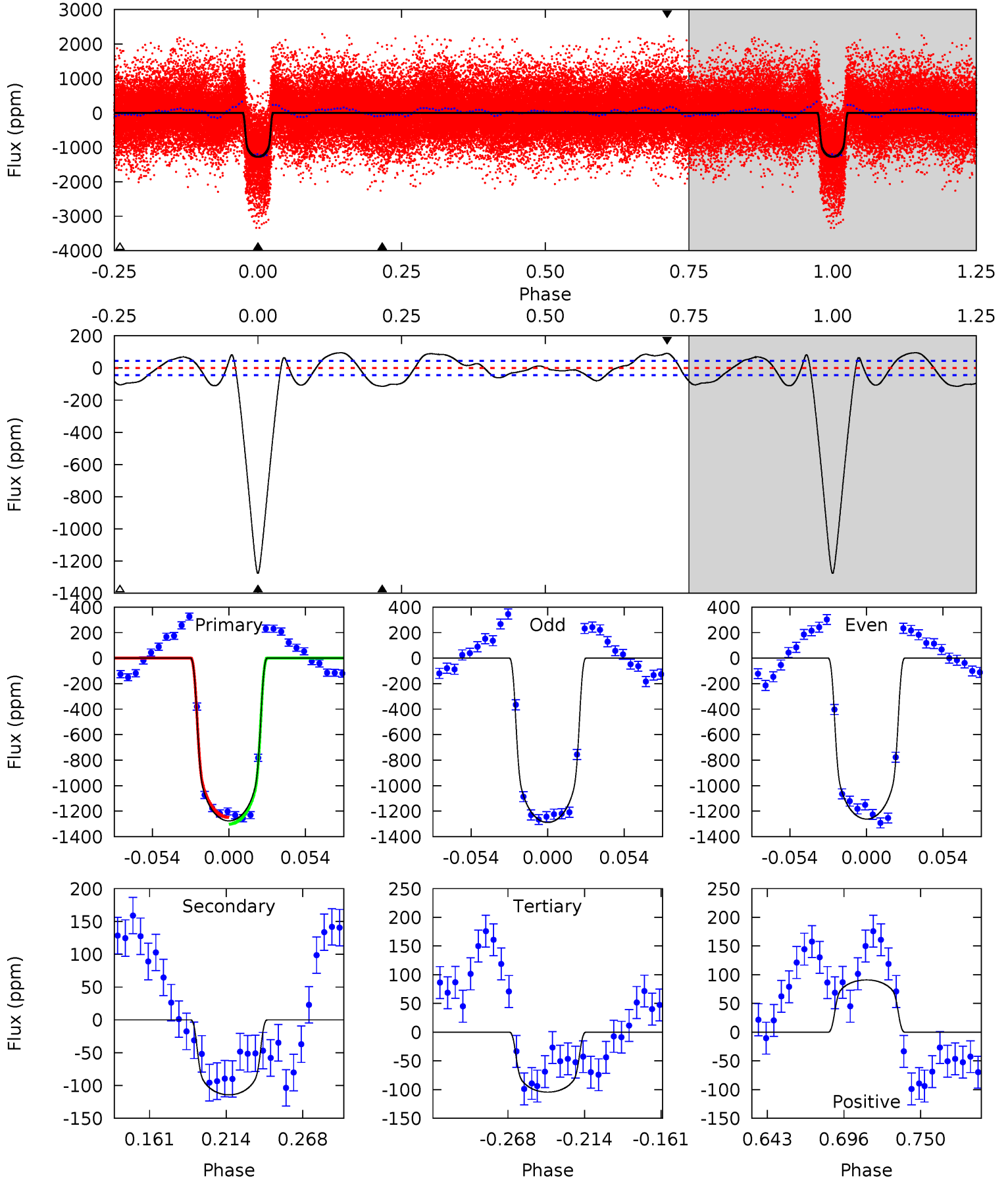
TCE 008454250-01 P= 5.082662 Days $T_0=132.185755$ (BKJD)



DV Model-Shift Uniqueness Test

008454250-01, P = 5.082653 Days, E = 127.104583 Days

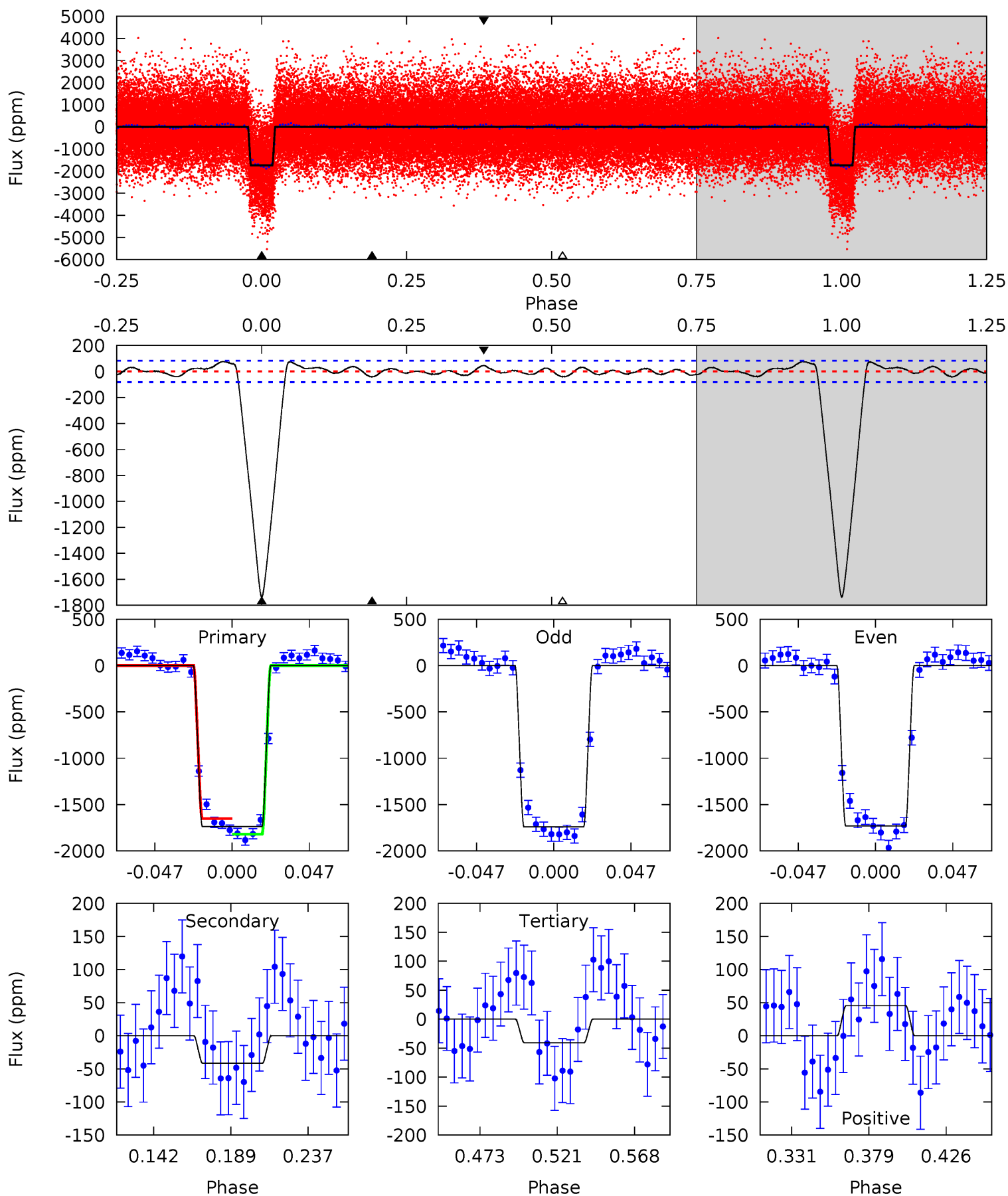
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
133.8	12.0	11.0	9.54	4.69	1.93	6.22	122.8	124.2	1.02	2.44	1.42	1.03	0.07	2.78



Alt Model-Shift Uniqueness Test

008454250-01, P = 5.082662 Days, E = 127.103093 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
99.4	2.39	2.33	2.60	4.72	1.98	1.39	97.1	96.8	0.06	-0.21	0.26	1.01	0.04	4.82



Stellar Parameters For KIC 008454250

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 008454250-01 / KOI 1254.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-114 ± 10	$3.82^{+0.29}_{-0.28}$	1480^{+77}_{-71}	3618^{+106}_{-104}	14^{+2}_{-2}
Alt.	-42 ± 17	$4.33^{+0.31}_{-0.29}$	1479^{+69}_{-68}	2973^{+171}_{-247}	$4.086^{+1.920}_{-1.695}$

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

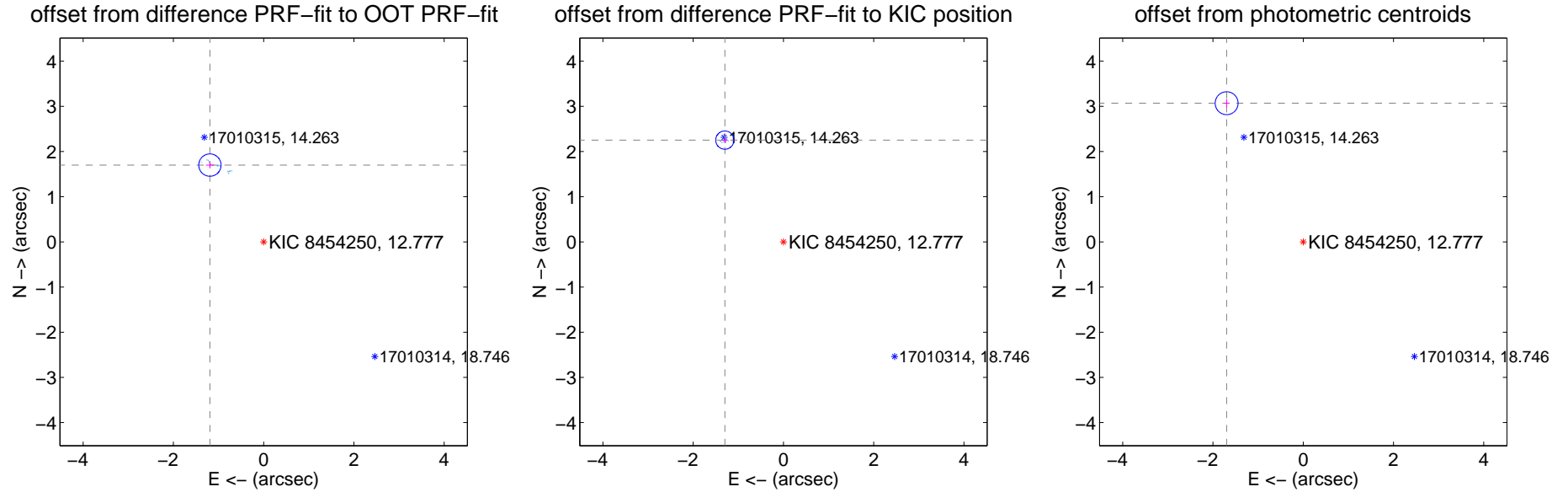
DV Centroid Data

Supplemental centroid analysis for 008454250-01. Kepler magnitude: 12.78. Transit SNR 62.91

There are 17 quarters with good PRF difference image offsets

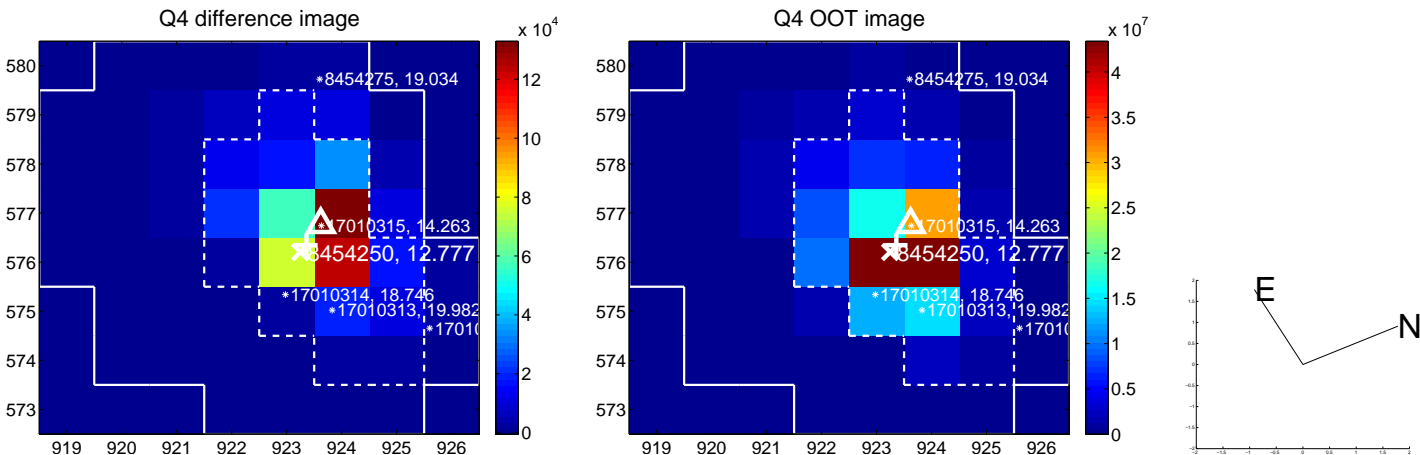
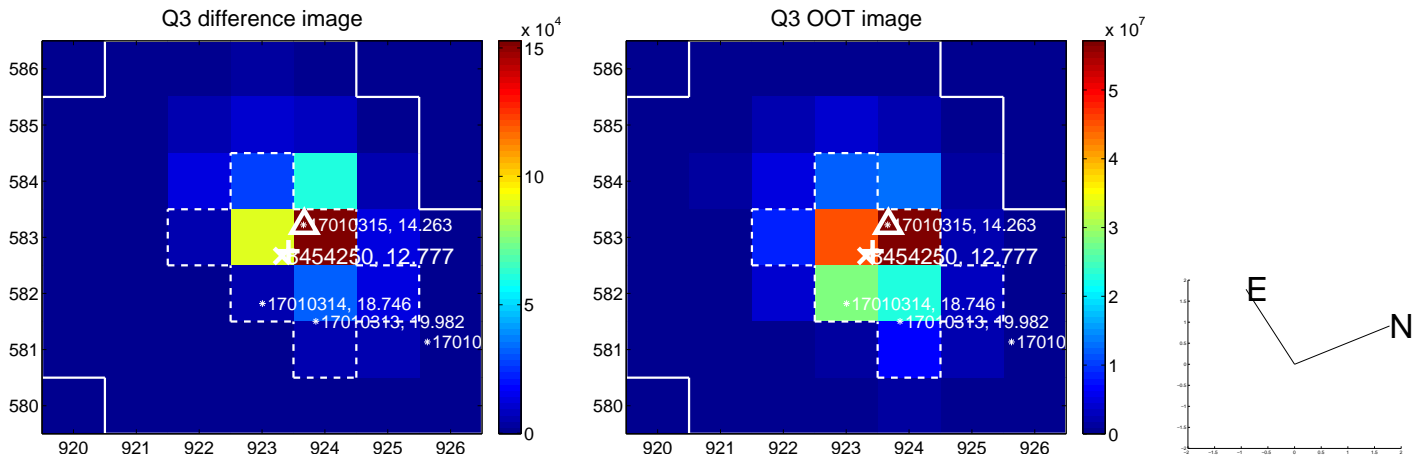
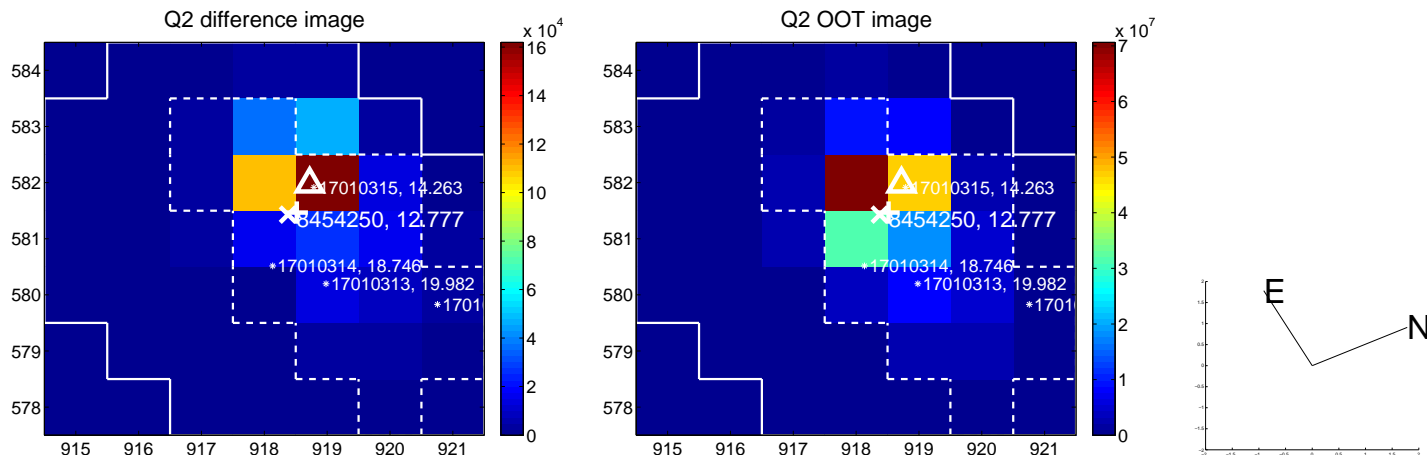
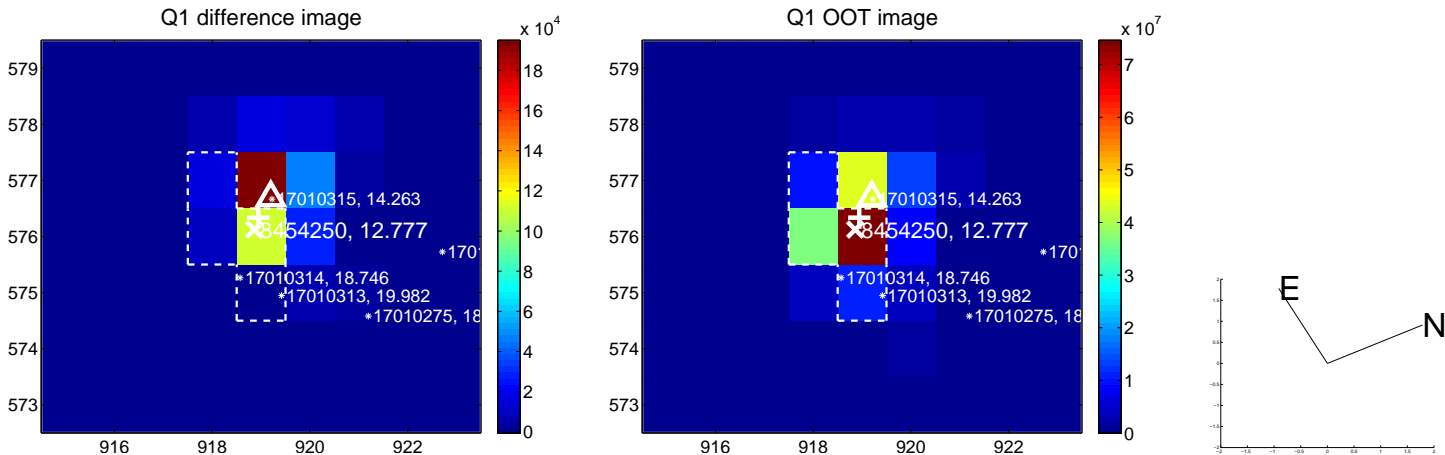
The direct PRF centroid is offset from the target star catalog position by about 0.83 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.075 ± 0.082	25.18	1.191 ± 0.089	1.700 ± 0.070
PRF-fit source offset from KIC position	2.600 ± 0.067	38.55	1.298 ± 0.067	2.253 ± 0.067
photometric centroid source offset	3.51 ± 0.08	41.50	1.70 ± 0.06	3.07 ± 0.09

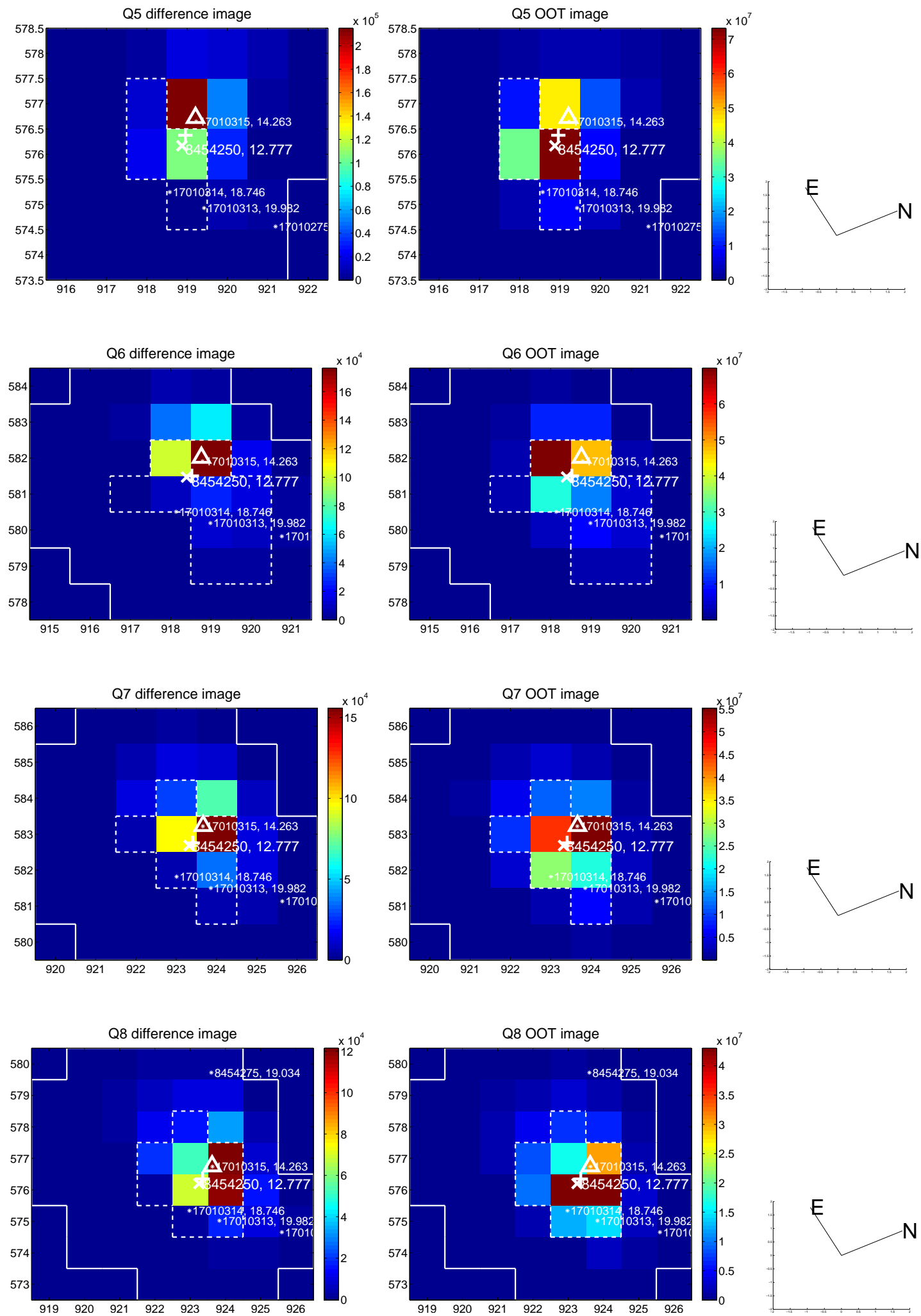


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

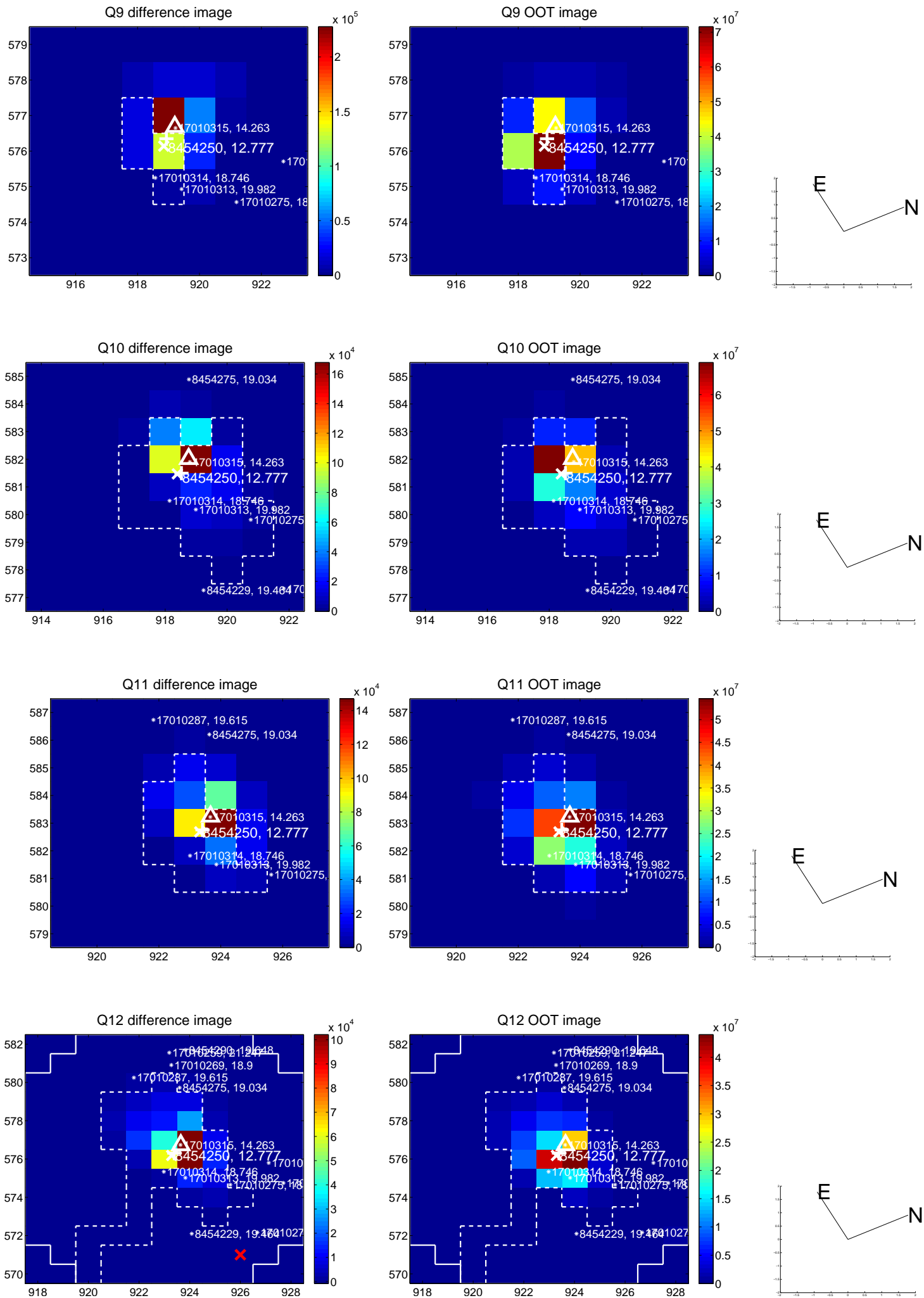
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



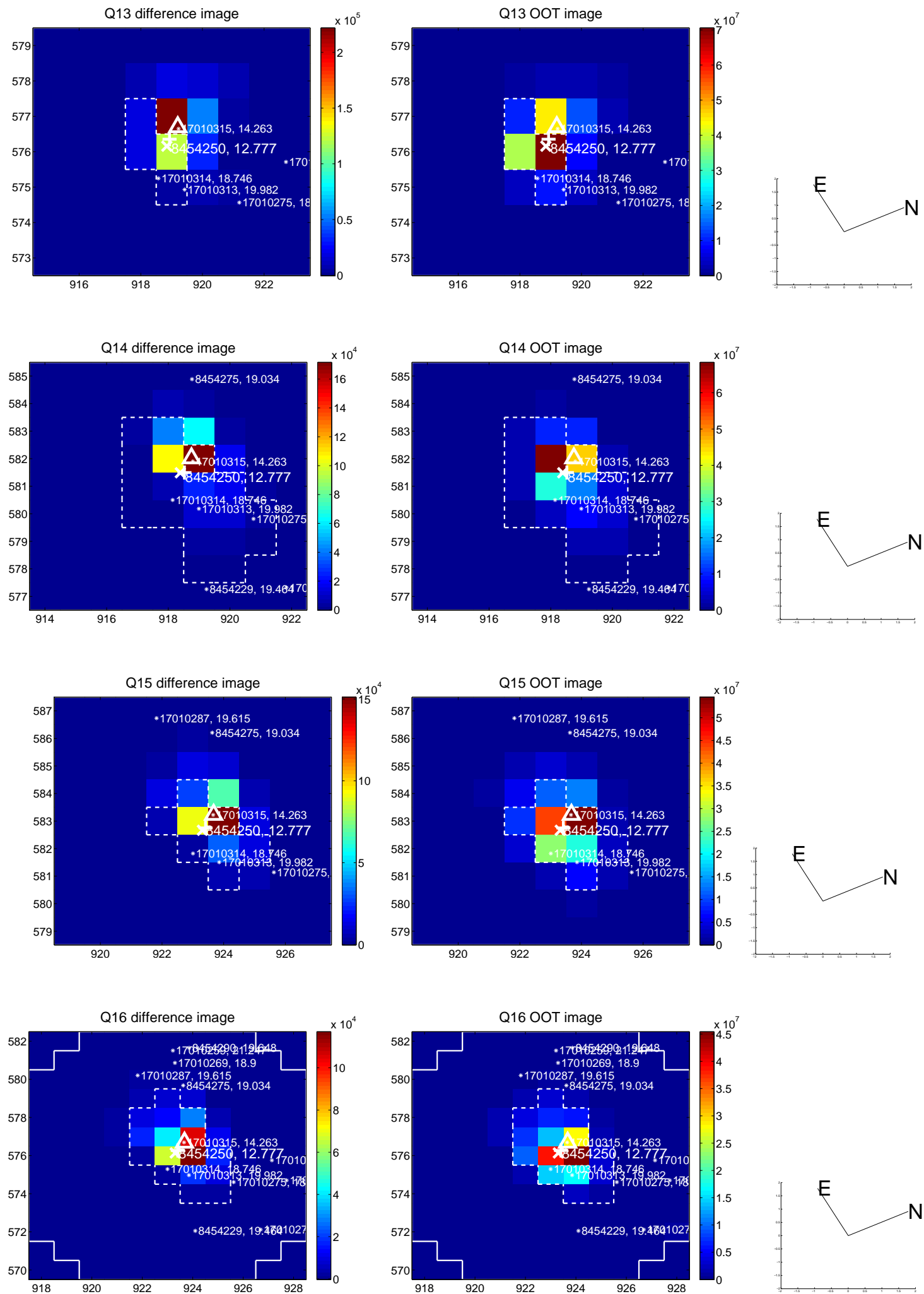
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



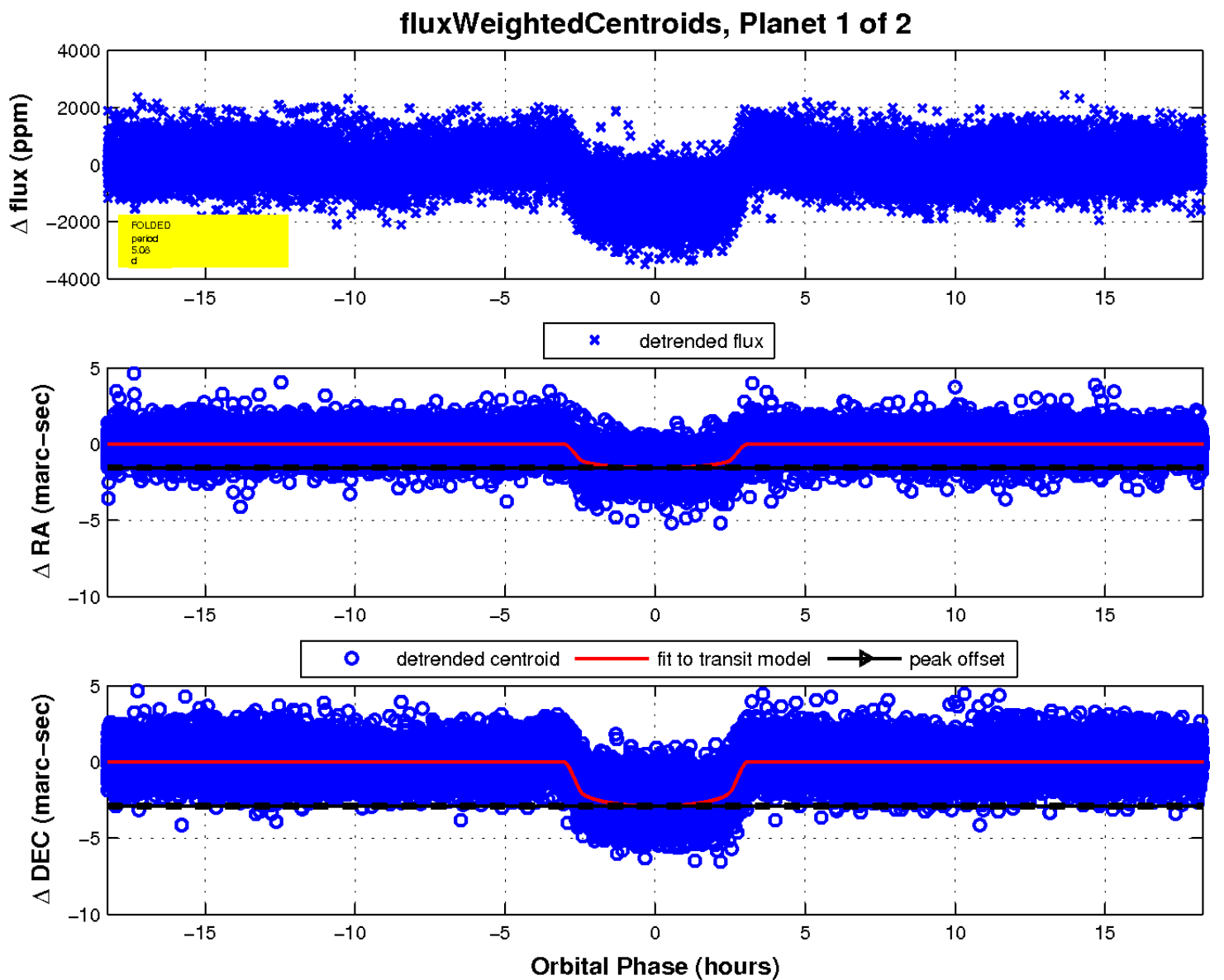
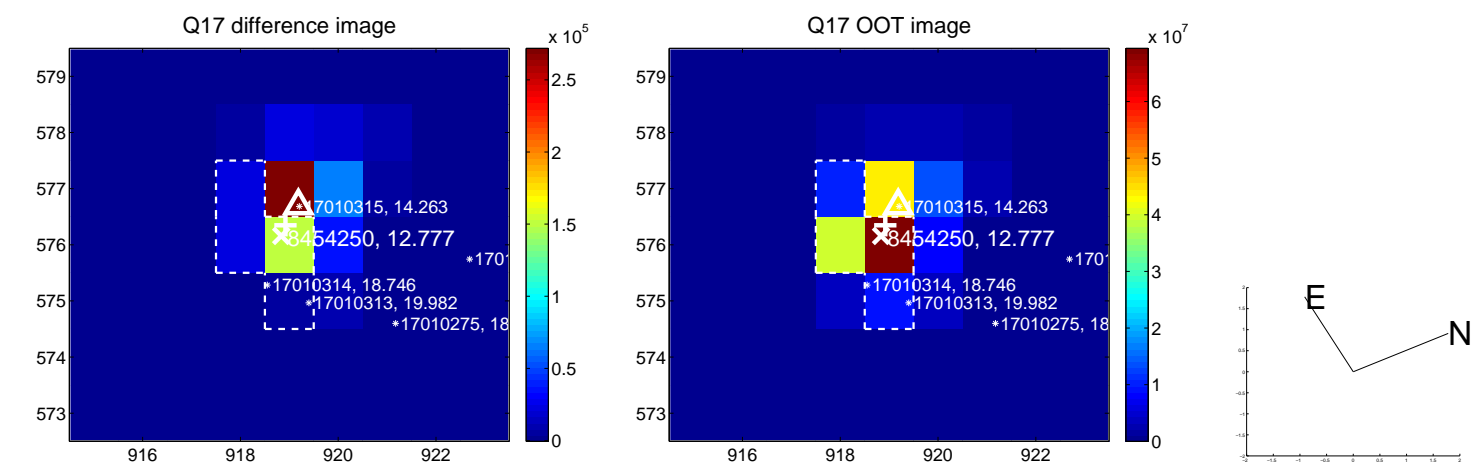
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

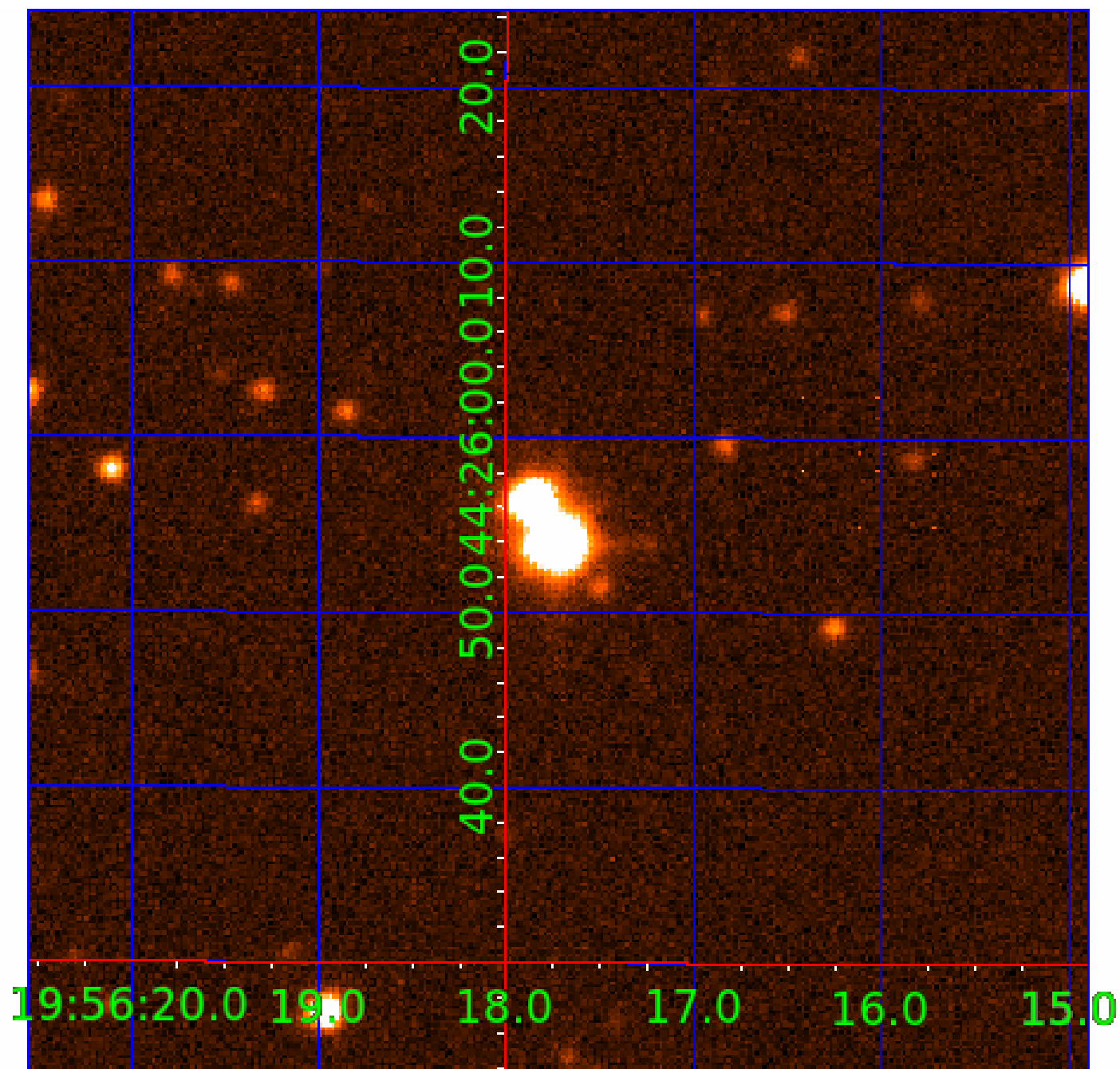


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008454250

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})
008454250-01	OBS	1254.01	5.082653	132.187236	1167.5	6.085	61.0	62.9	1.00	5780	3.82	298.64
008454250-02	OBS	No	0.599989	131.517157	54.6	2.134	8.5	8.7	1.00	5780	0.88	5157.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008454250-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
008454250-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS

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 008454250-02

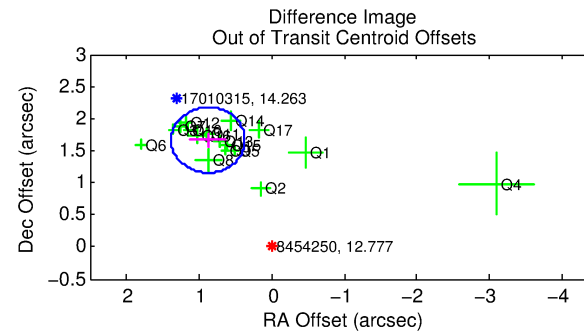
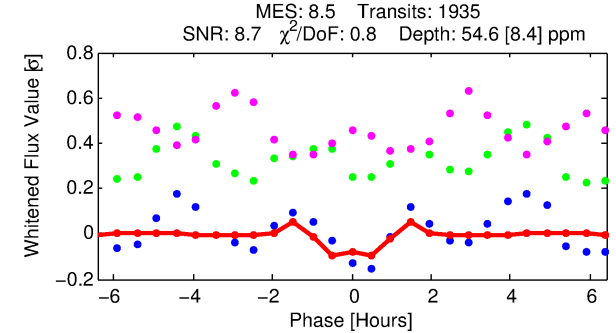
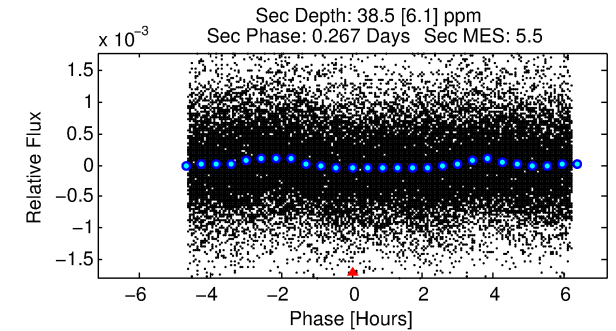
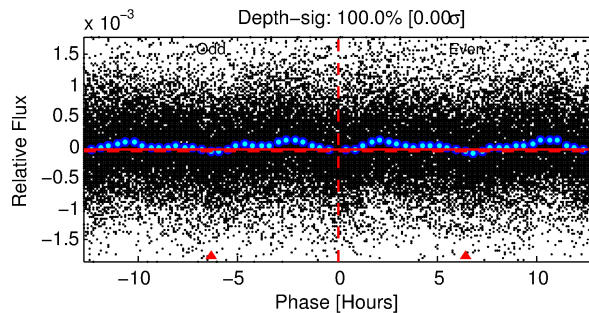
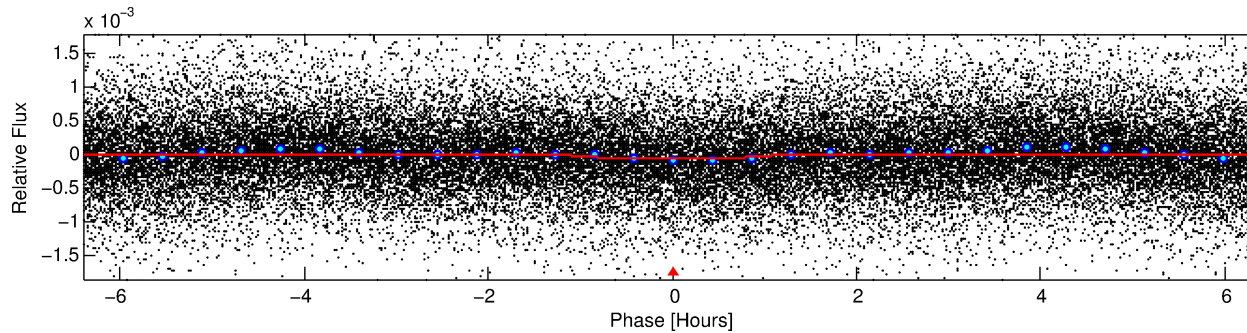
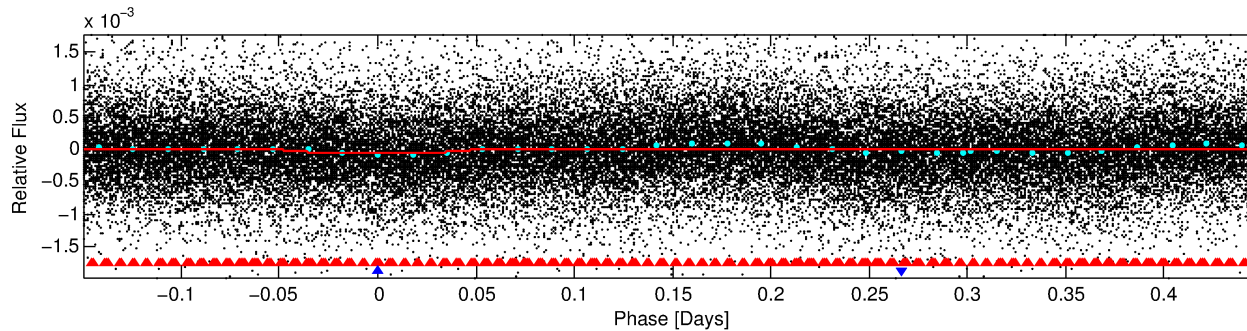
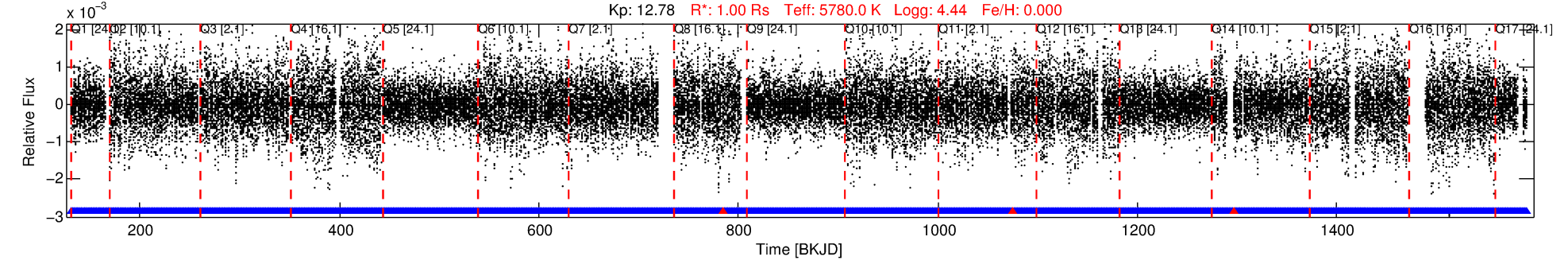
No Significant Match Found

DV One-Page Summary

KIC: 8454250 Candidate: 2 of 2 Period: 0.600 d

KOI: K01254 Corr: No Ephemeris Match

Kp: 12.78 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



DV Fit Results:

Period = 0.59999 [0.00001] d
Epoch = 131.5172 [0.0016] BKJD
Rp/R* = 0.0081 [0.0026]
a/R* = 1.35 [0.92]
b = 0.90 [0.32]
Seff = 5157.21 [0.13]
Teff = 2161 [0] K
Rp = 0.88 [0.28] Re
a = 0.0139 [0.0000] AU
Ag = 5.31 [3.46] [1.24σ]
Teffp = 5071 [828] K [3.52σ]

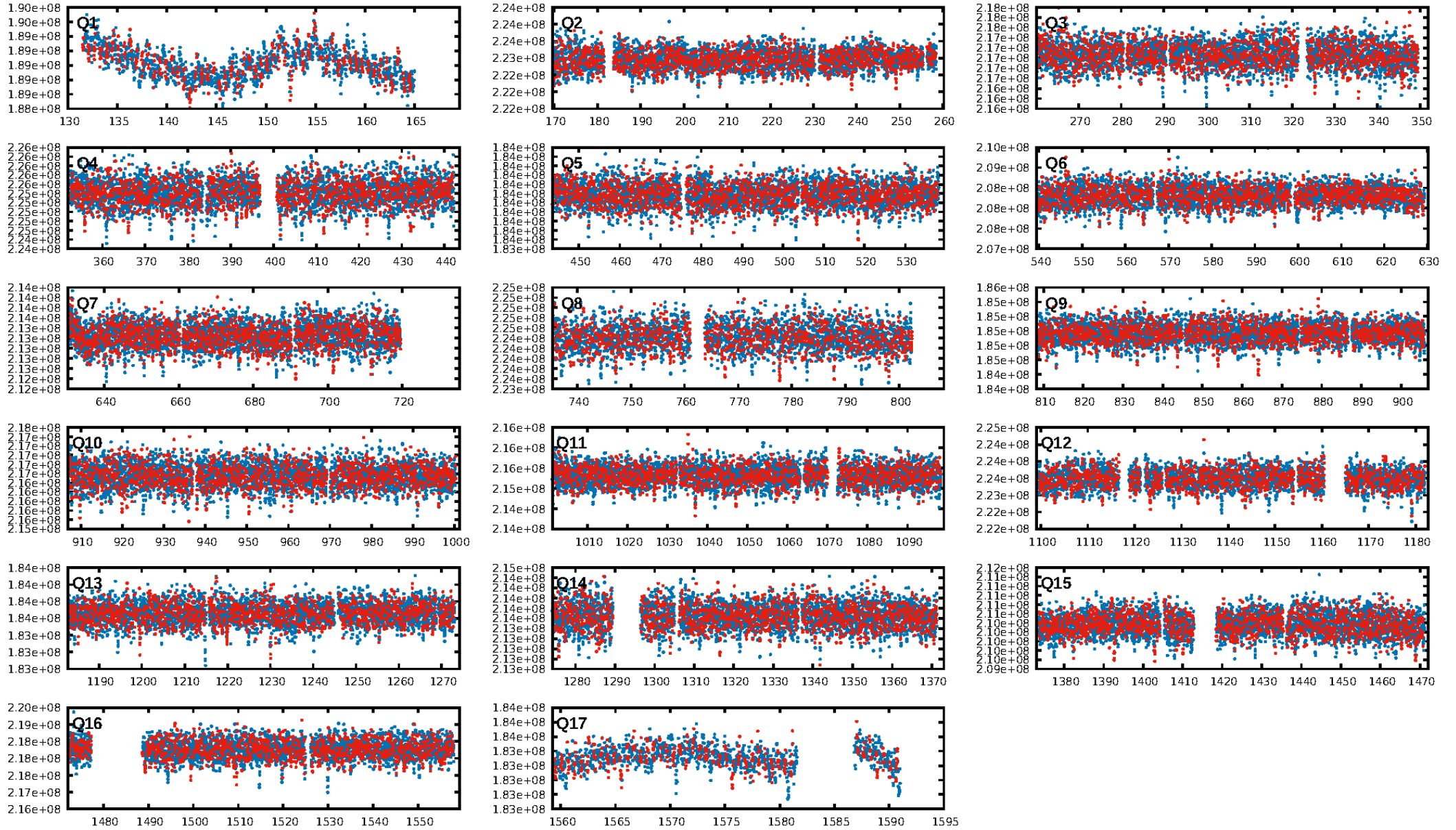
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [16.68σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.14e-15
RollingBand-fgt: 1.00 [1850/1853]
GhostDiagnostic-chr: 0.7029
Centroid-sig: 0.0%
Centroid-so: 2.600 arcsec [3.56σ]
OotOffset-rm: 1.880 arcsec [11.10σ]
KicOffset-rm: 2.500 arcsec [14.29σ]
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]

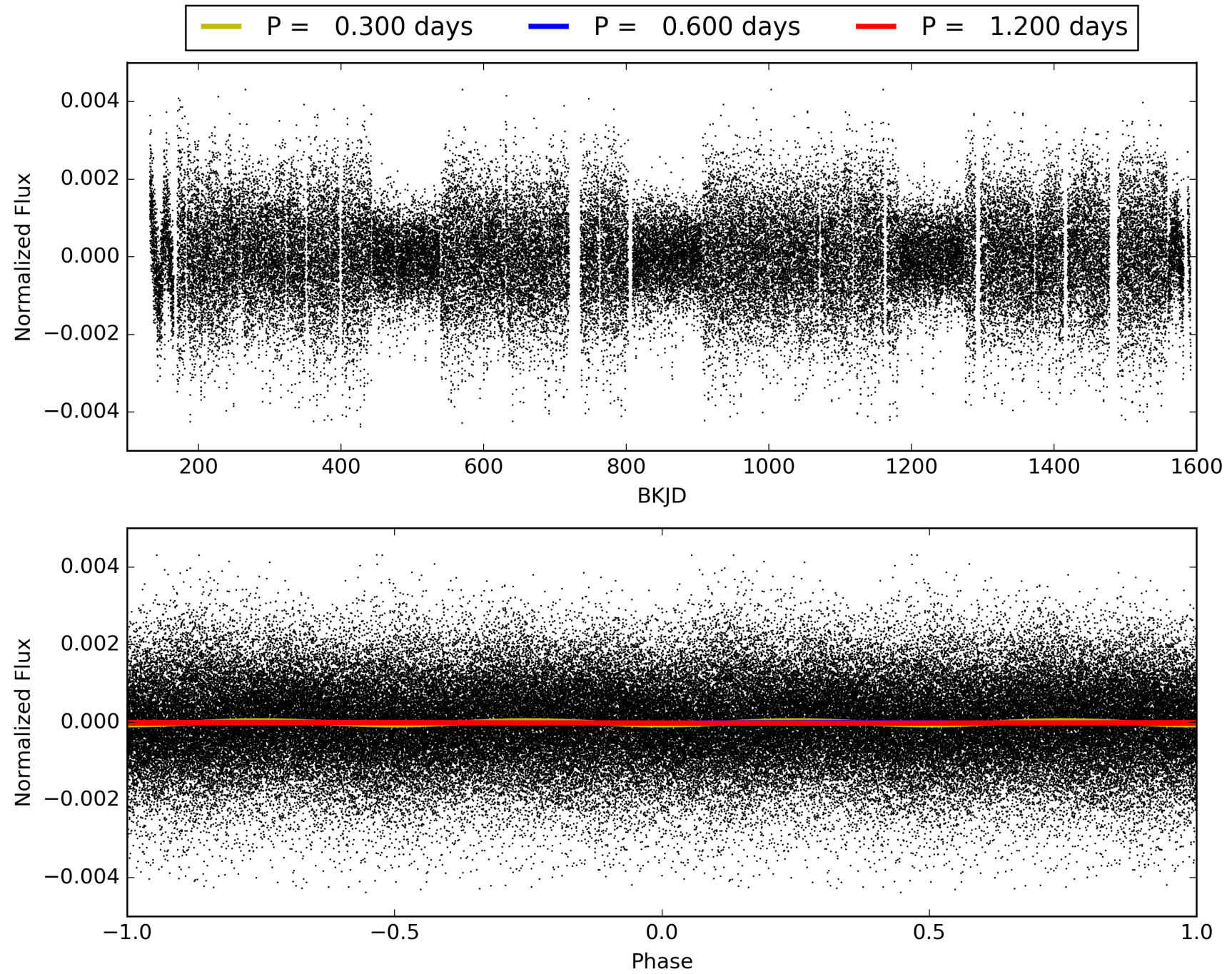
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:24:18 Z

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

TCE 008454250-02, PDC Light Curves

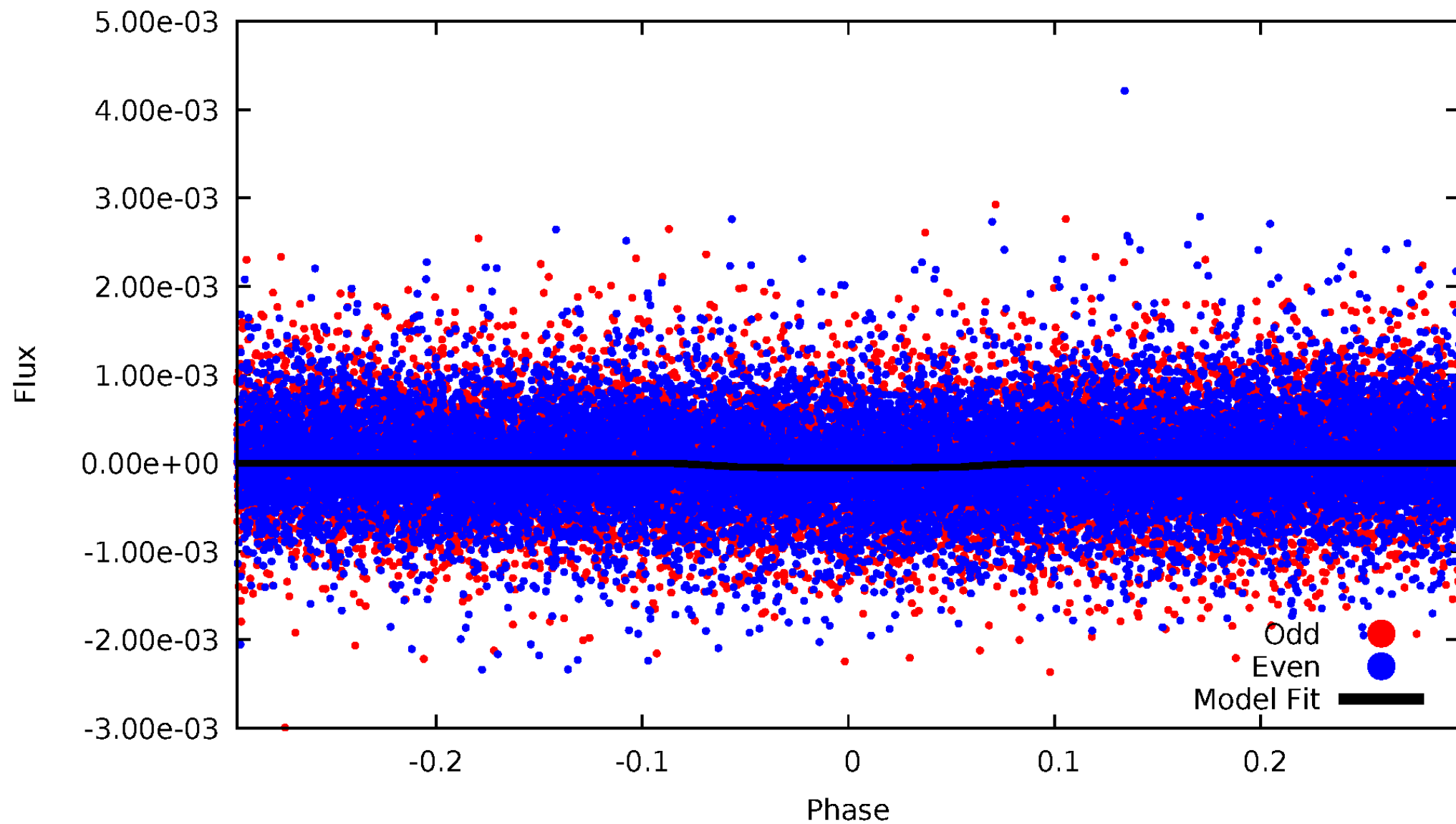


TCE 008454250-02



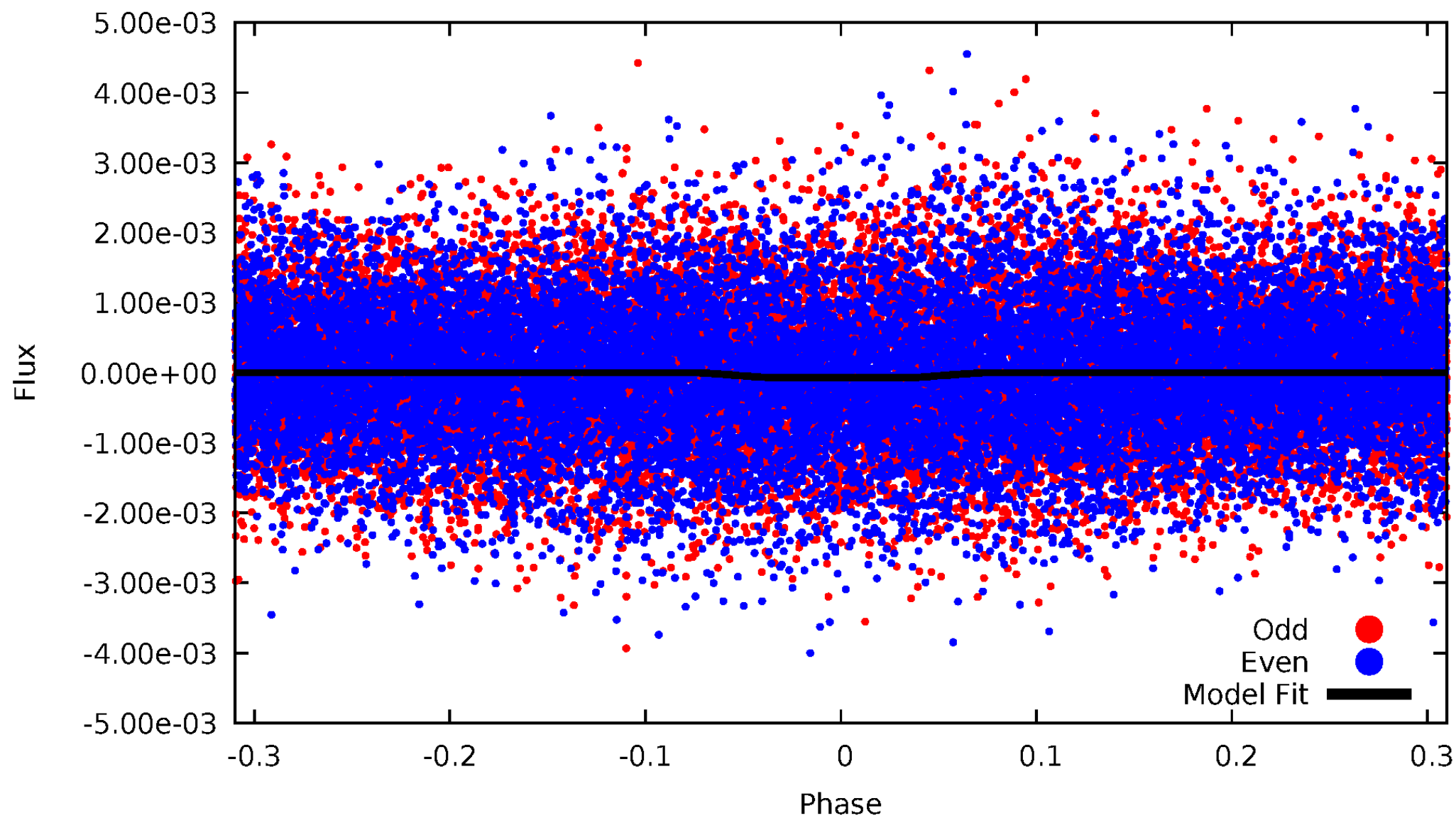
DV Odd/Even

TCE 008454250-02



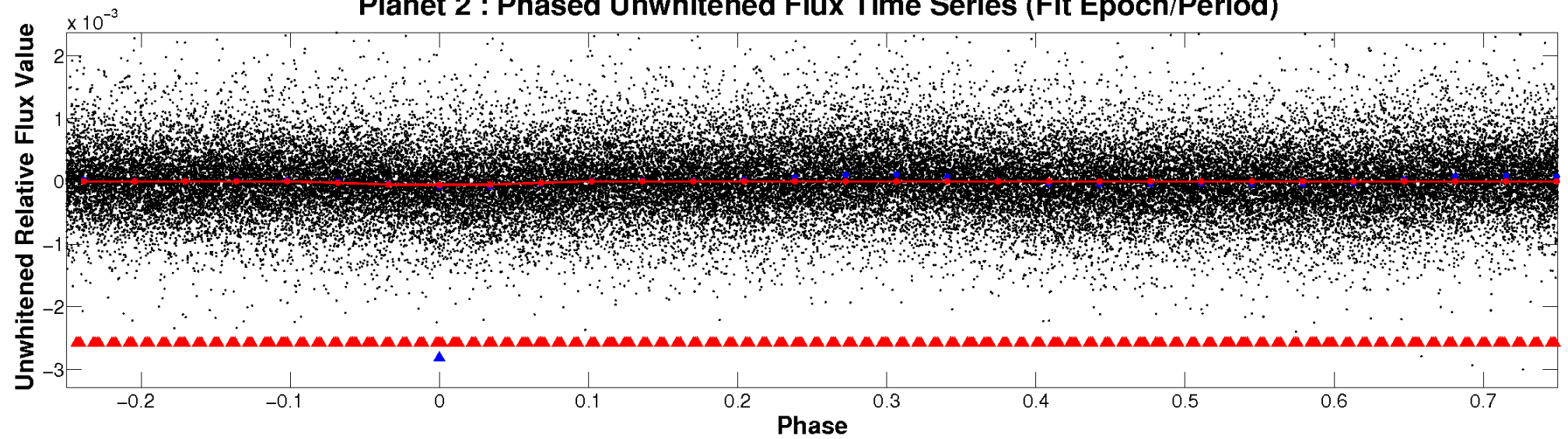
ALT Odd/Even

TCE 008454250-02

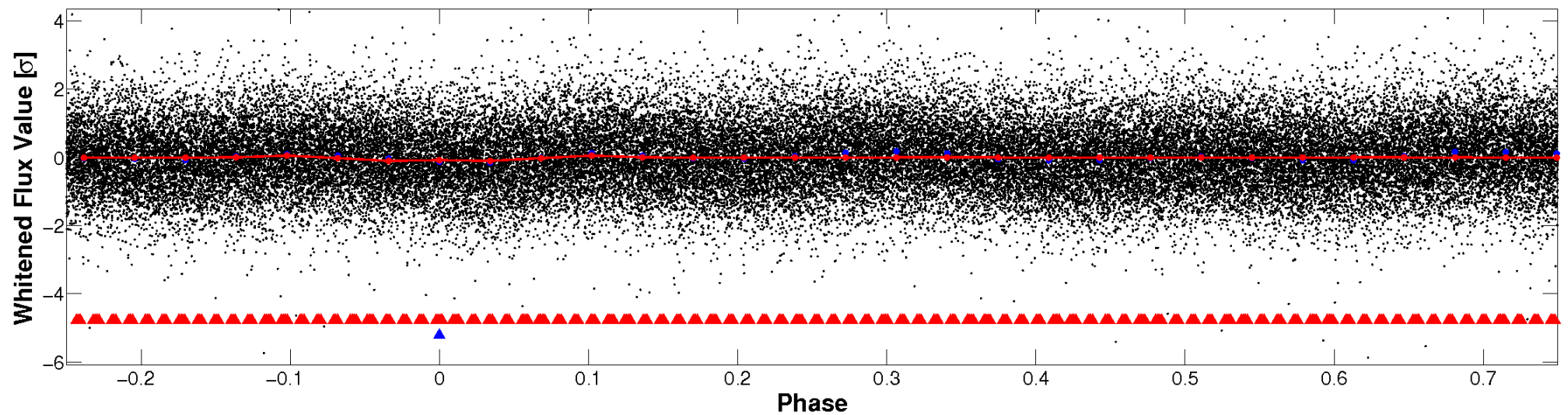


Non-Whitened Vs. Whitened Light Curve

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

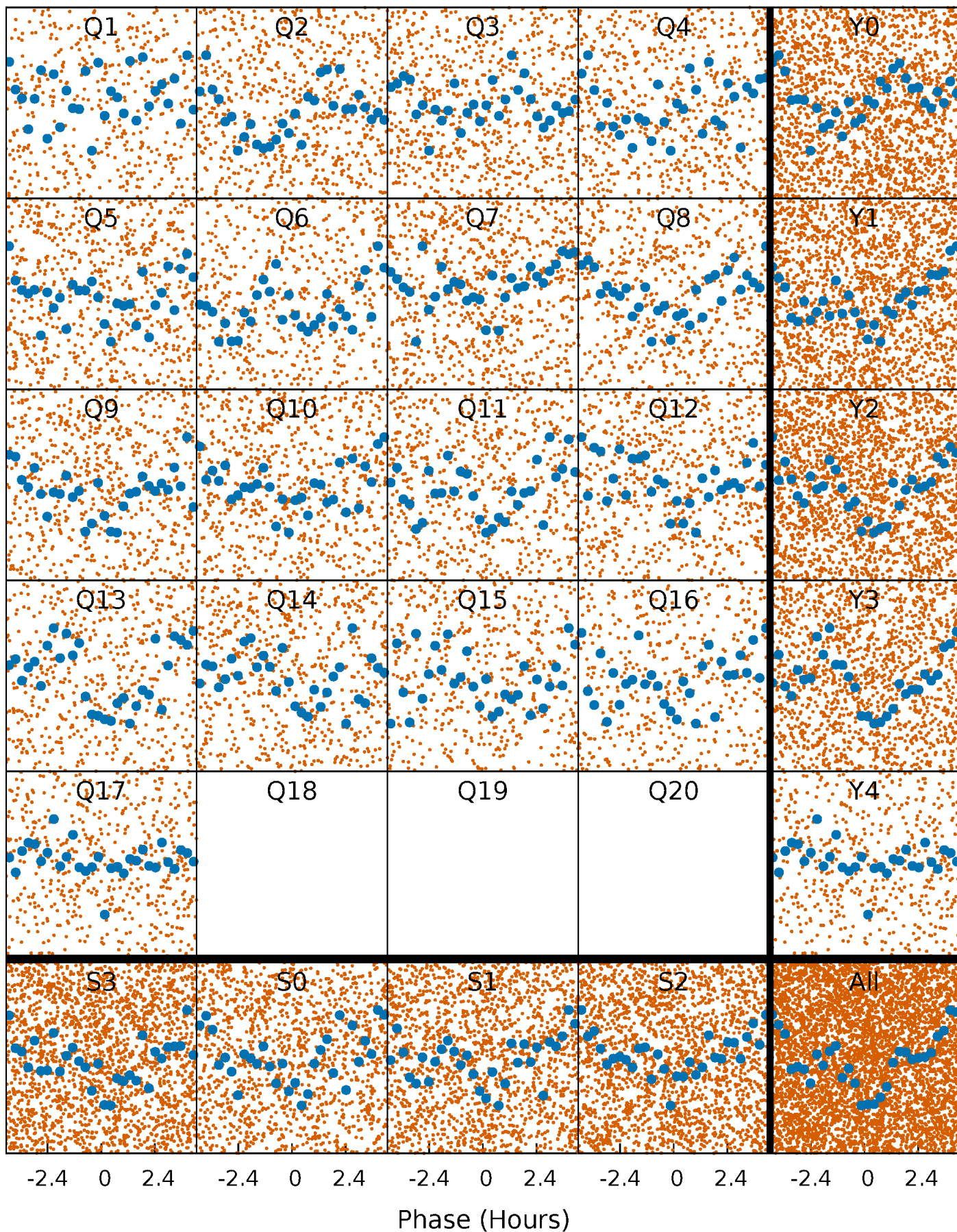


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



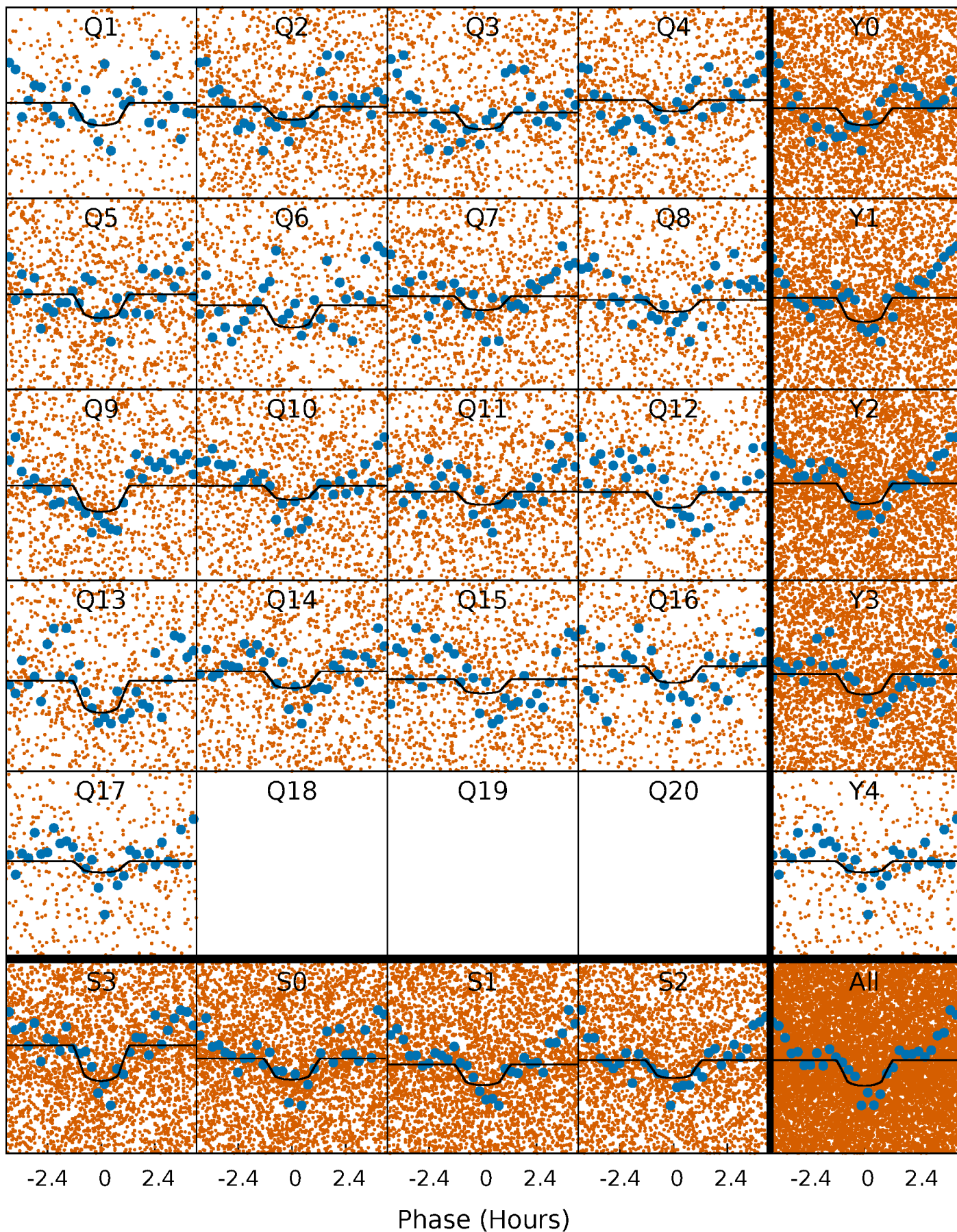
PDC Quarter-Phased Transit Curves

TCE 008454250-02 P= 0.599989 Days $T_0=131.517157$ (BKJD)



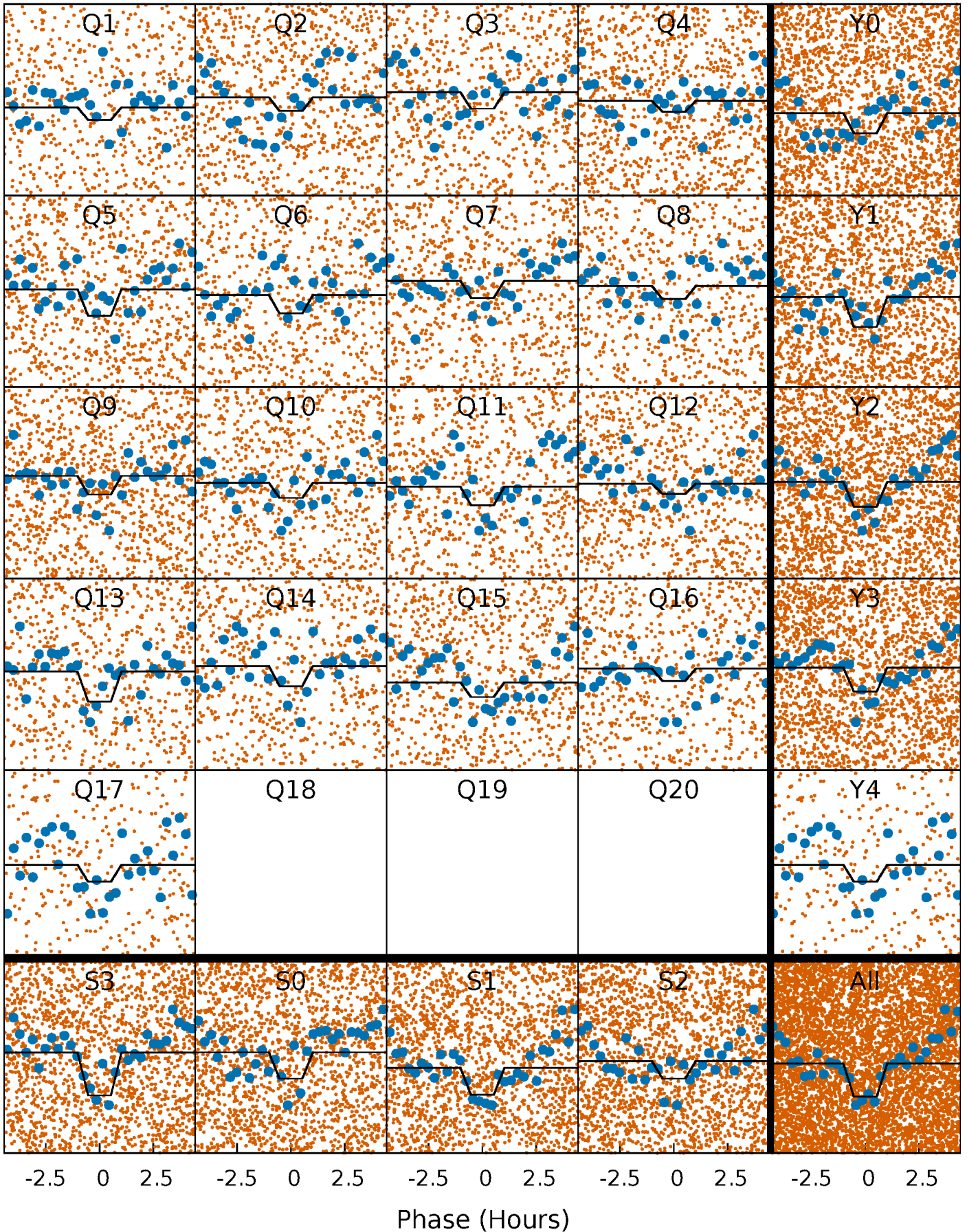
DV Quarter-Phased Transit Curves

TCE 008454250-02 P= 0.599989 Days $T_0=131.517157$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

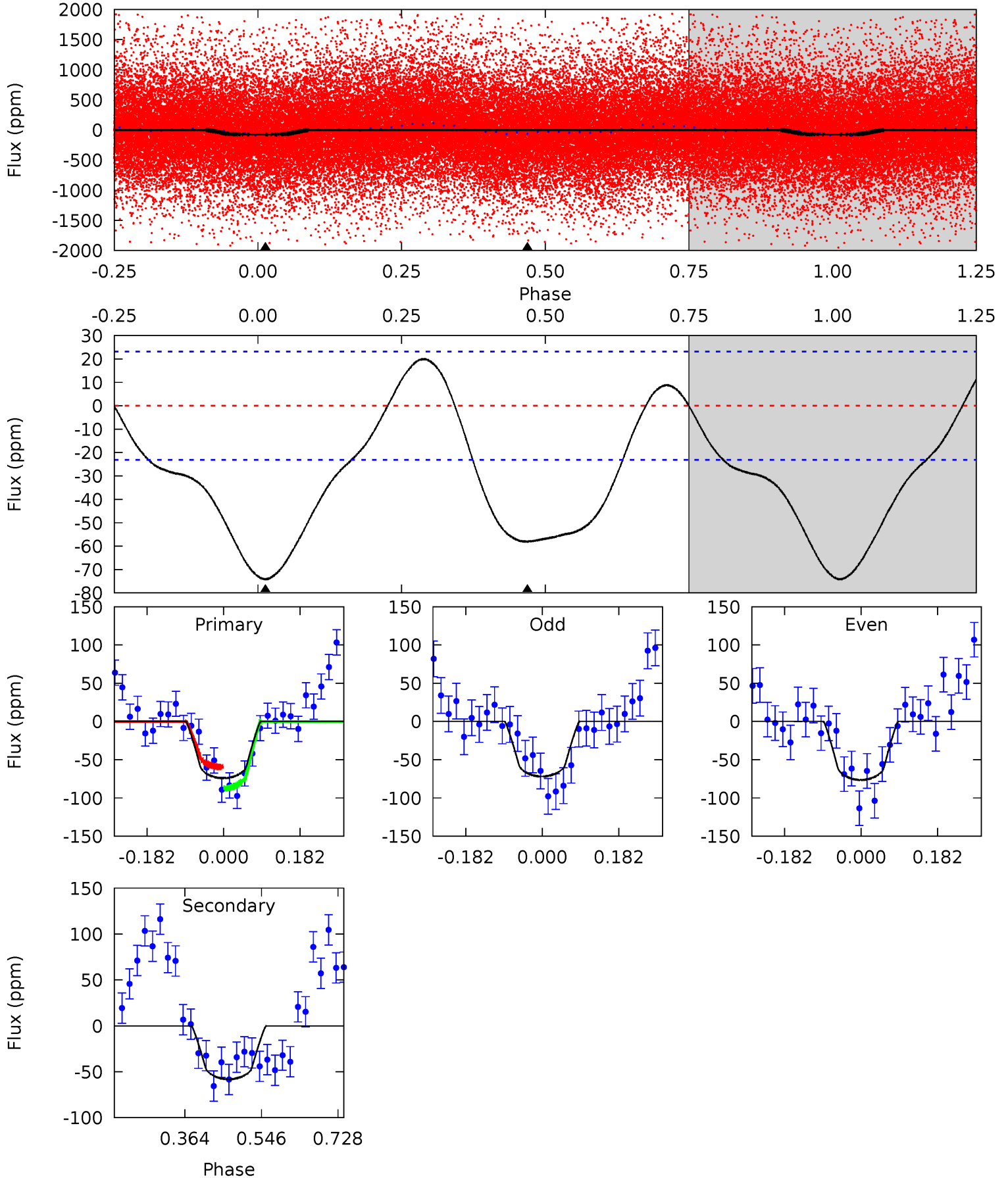
TCE 008454250-02 $P = 0.599996$ Days $T_0 = 131.517737$ (BKJD)



DV Model-Shift Uniqueness Test

008454250-02, P = 0.599989 Days, E = 130.917168 Days

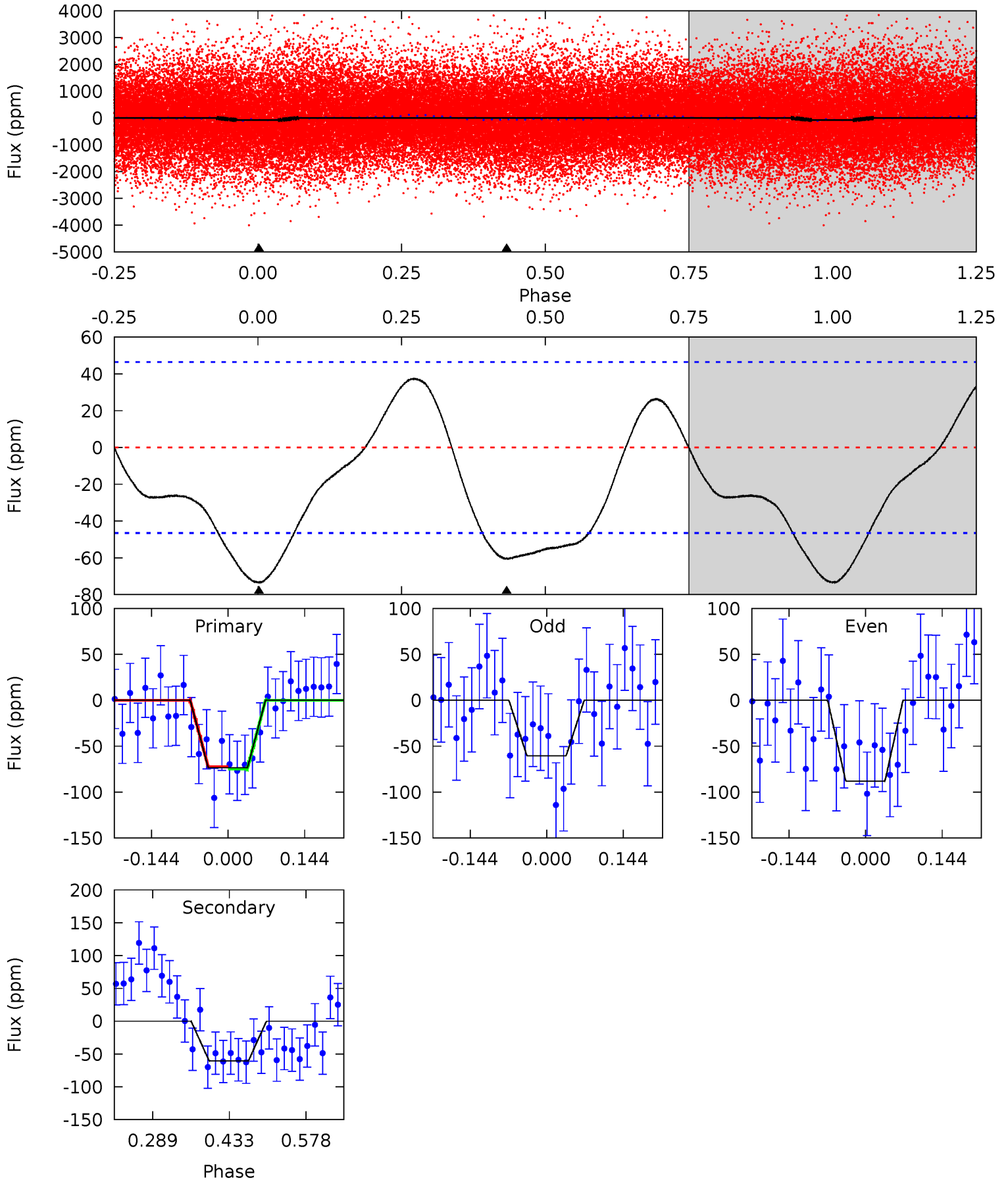
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	11.2	0	0	4.44	1.33	2.42	14.2	14.2	11.2	11.2	0.44	0.91	0.21	2.68



Alt Model-Shift Uniqueness Test

008454250-02, P = 0.599996 Days, E = 130.917741 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.10	5.86	0	0	4.49	1.46	2.21	7.10	7.10	5.86	5.86	1.33	1.20	0.34	0.11



Stellar Parameters For KIC 008454250

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 008454250-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-58 ± 5	$0.88^{+0.29}_{-0.29}$	3009^{+145}_{-133}	5547^{+1336}_{-730}	$7.917^{+9.487}_{-3.552}$
Alt.	-61 ± 10	$0.92^{+0.27}_{-0.32}$	3029^{+149}_{-148}	5555^{+1248}_{-716}	$7.748^{+9.365}_{-3.476}$

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 $A_{obs} \gg 1.0$

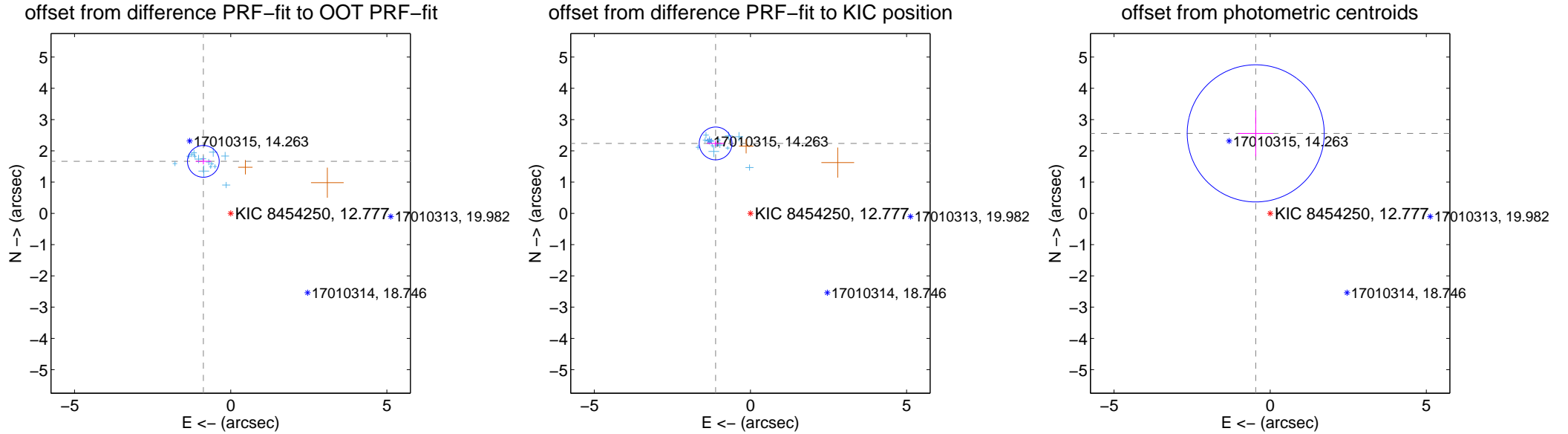
DV Centroid Data

Supplemental centroid analysis for 008454250-02. Kepler magnitude: 12.78. Transit SNR 8.67

There are 15 quarters with good PRF difference image offsets

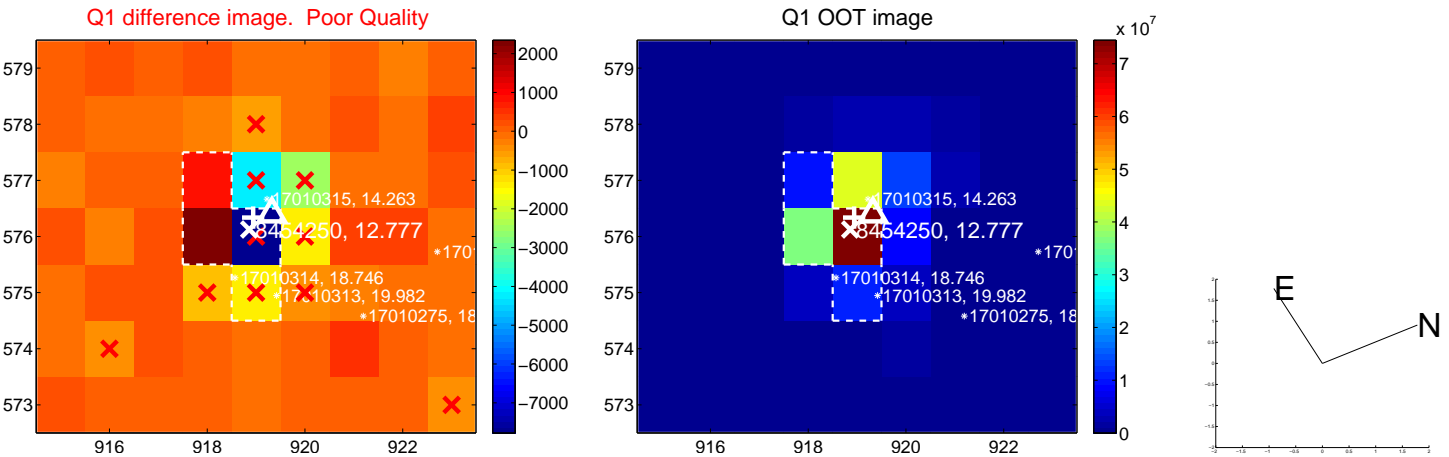
The direct PRF centroid is offset from the target star catalog position by about 0.83 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.880 ± 0.169	11.10	0.876 ± 0.247	1.664 ± 0.096
PRF-fit source offset from KIC position	2.500 ± 0.175	14.29	1.115 ± 0.270	2.237 ± 0.095
photometric centroid source offset	2.60 ± 0.73	3.56	0.46 ± 0.56	2.56 ± 0.74

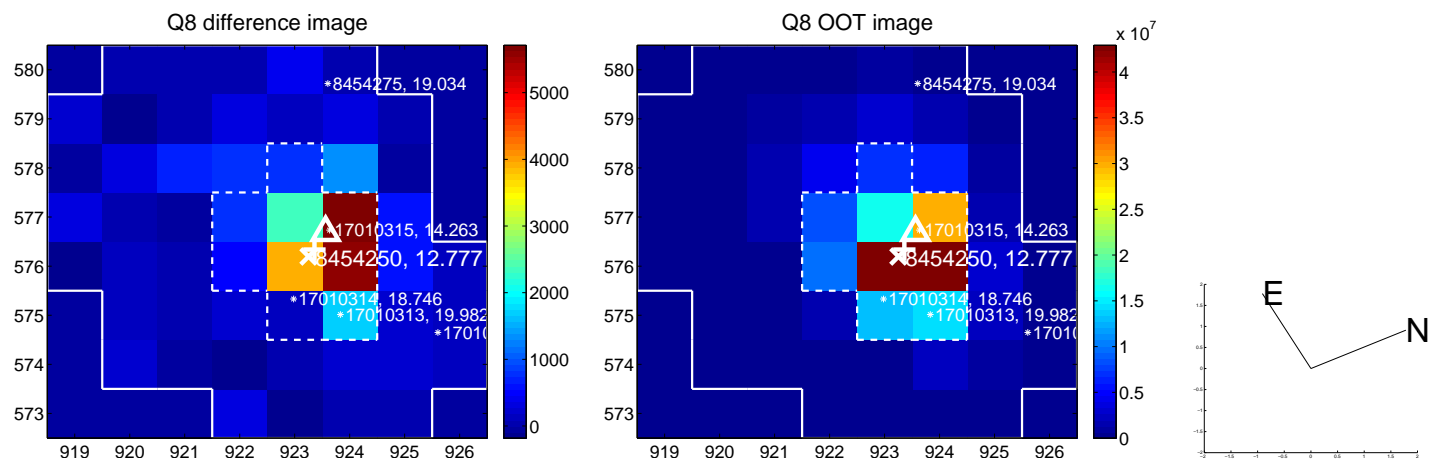
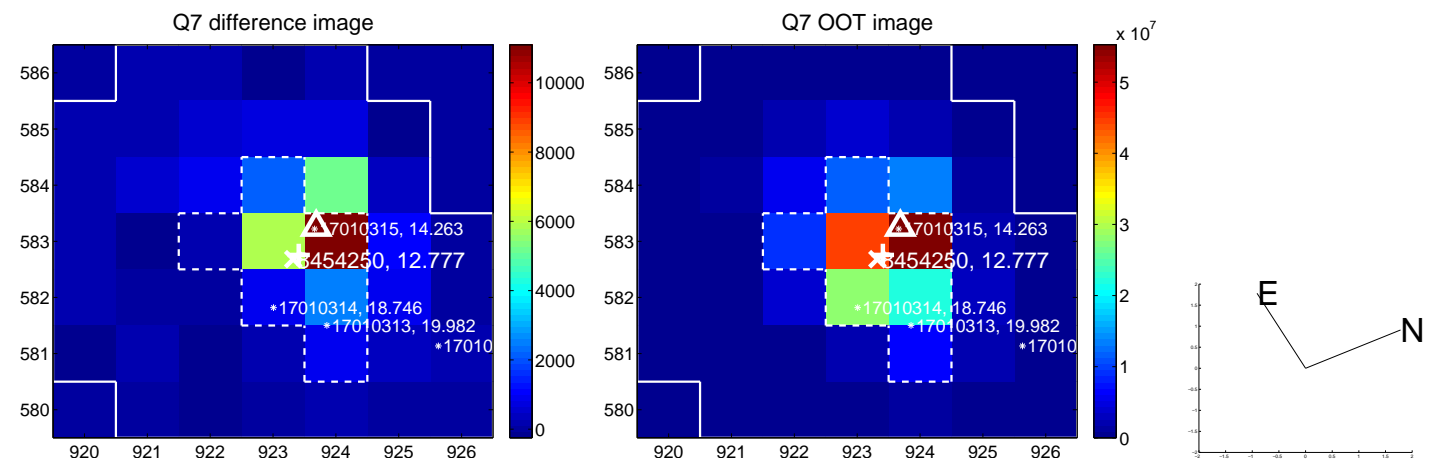
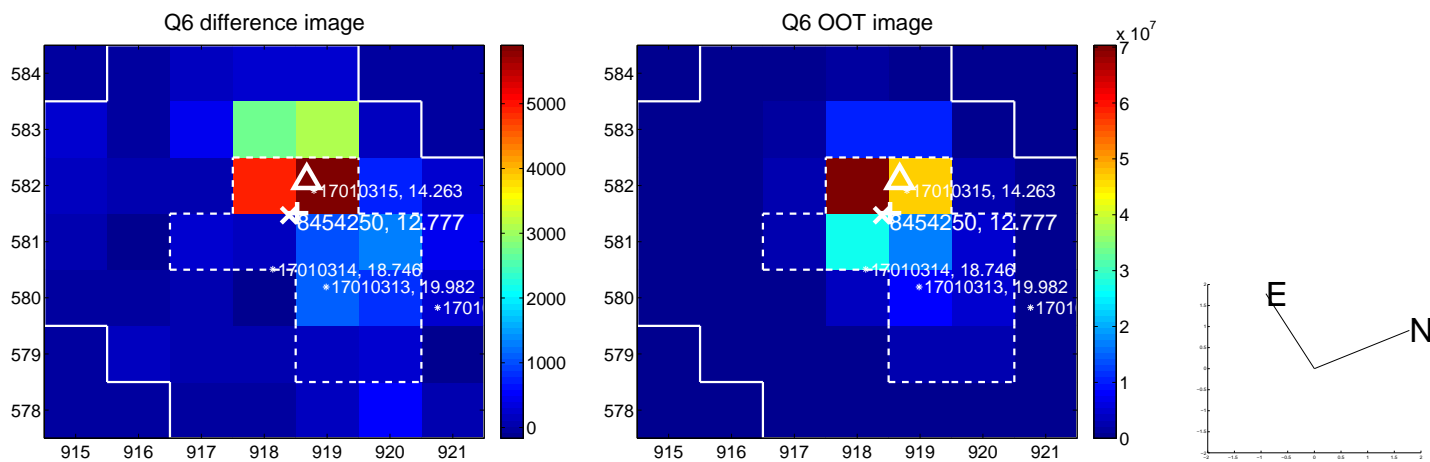
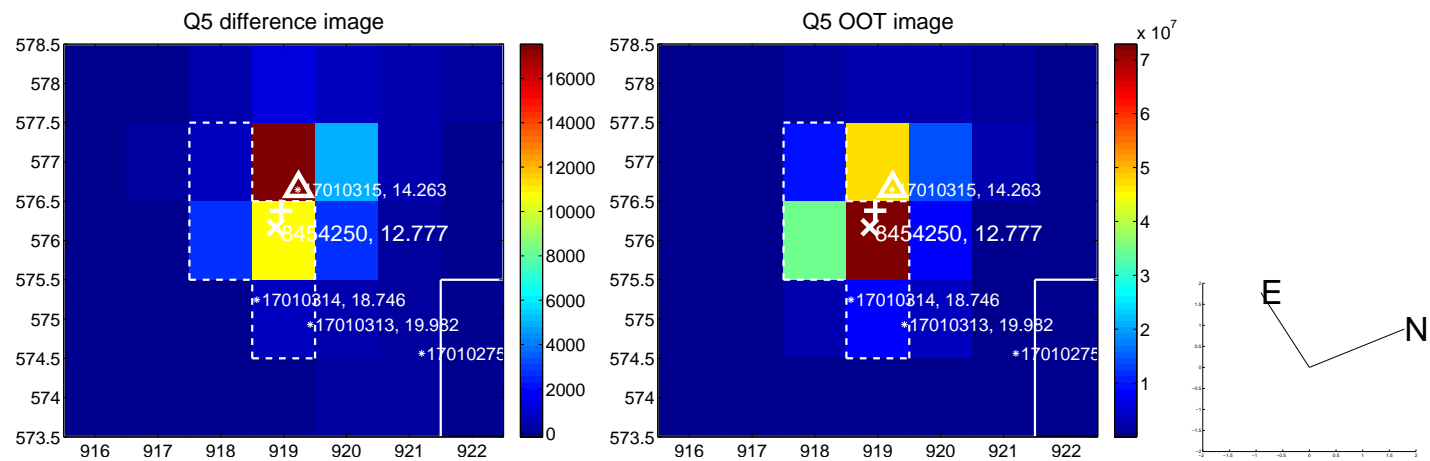


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

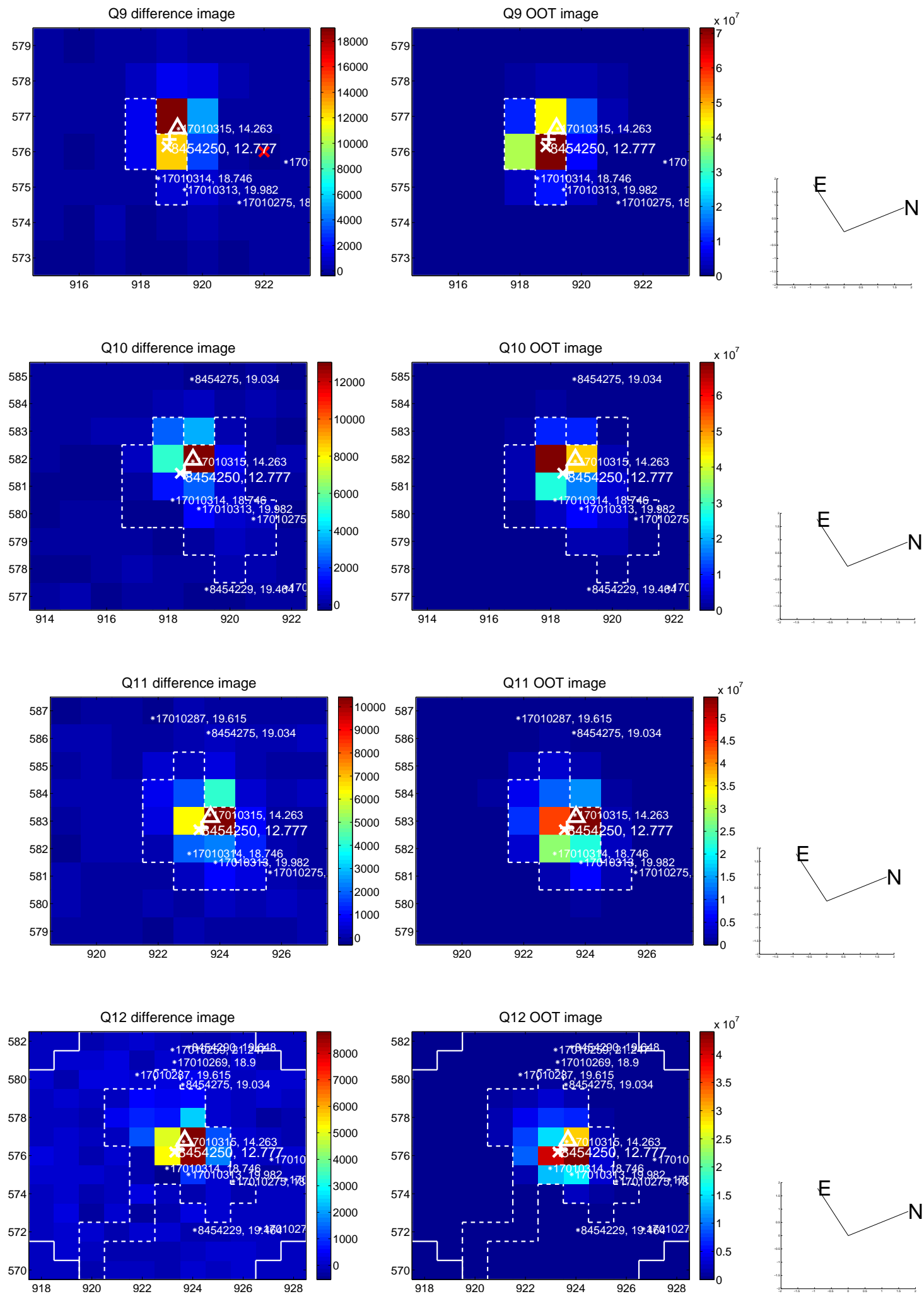
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



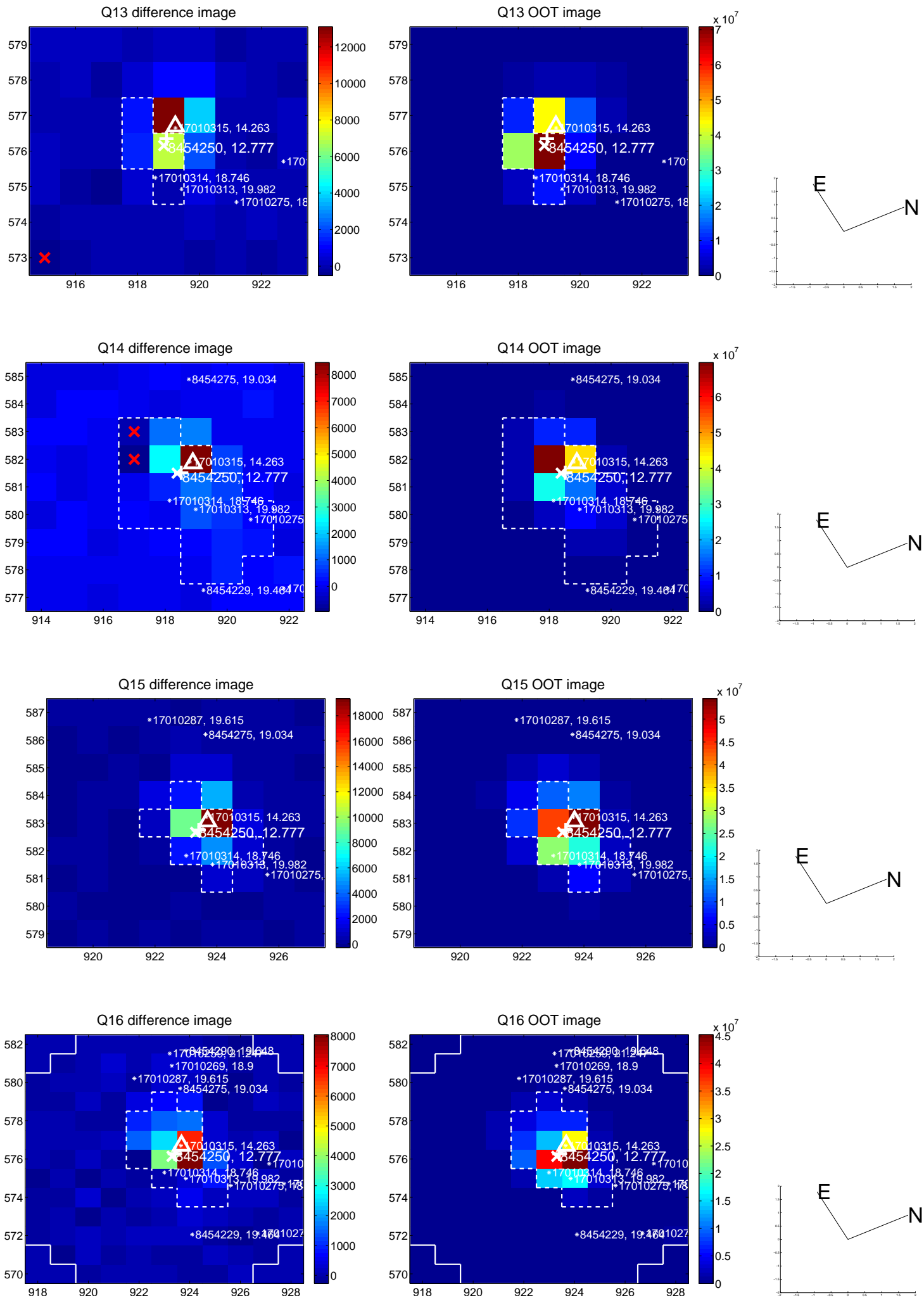
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



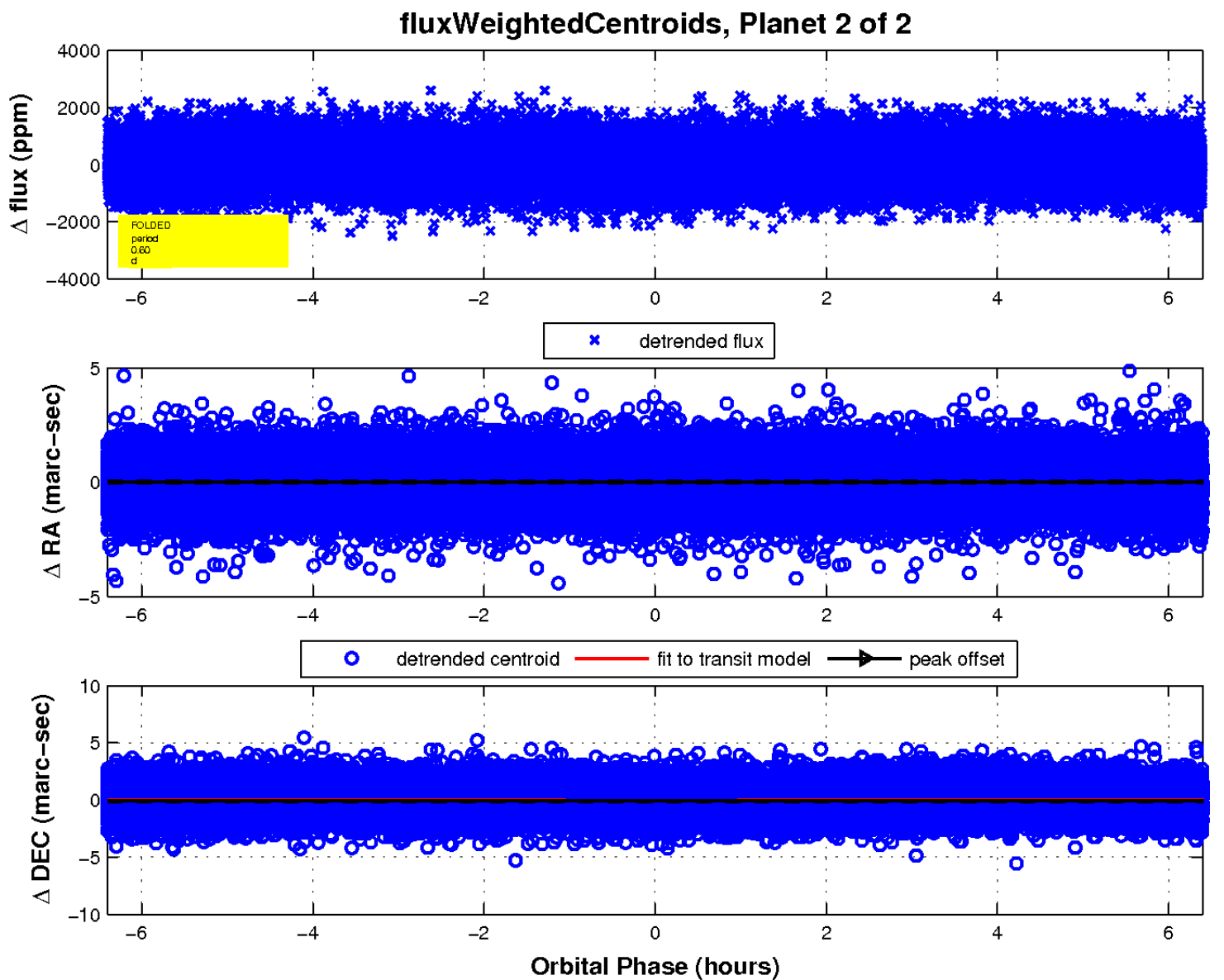
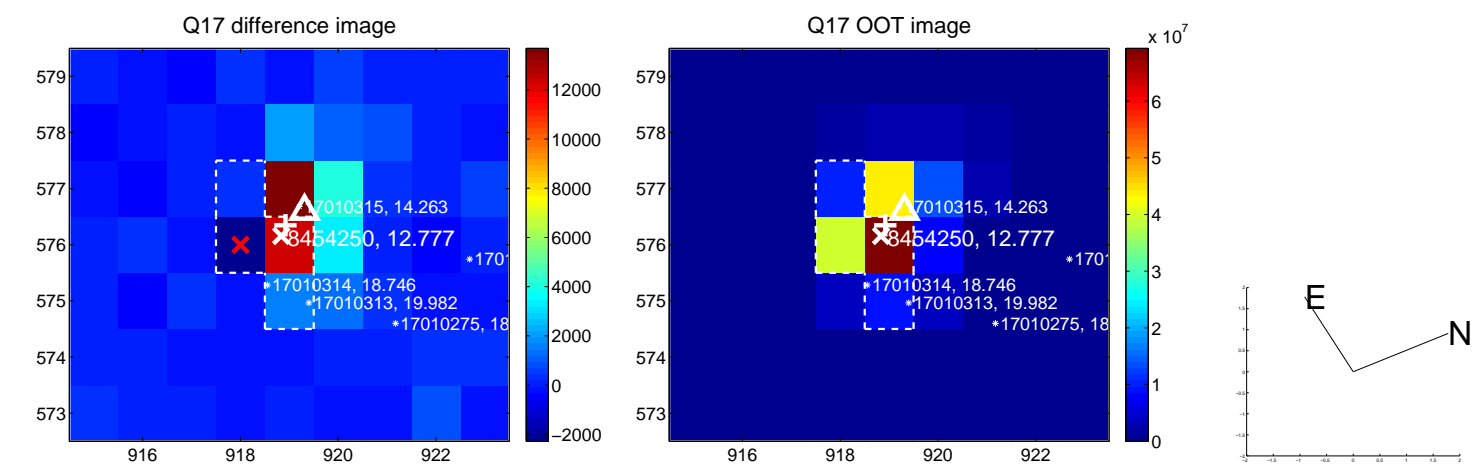
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

