

KIC 008008128

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})
008008128-01	OBS	6950.01	14.854416	136.559768	77461.5	5.143	3942.6	3302.4	1.02	6214	29.87	95.99
008008128-02	OBS	No	14.854419	132.923125	3973.7	5.937	202.9	202.8	1.02	6214	7.82	95.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008008128-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
008008128-02	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.

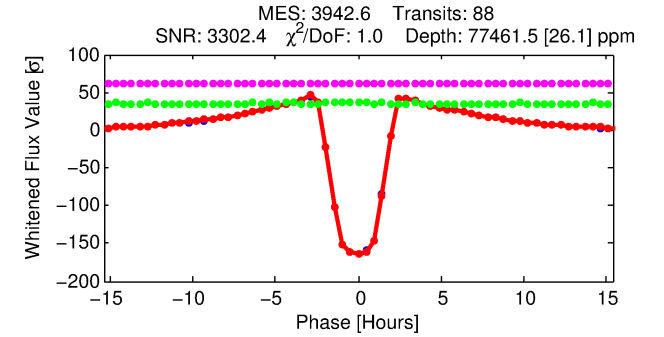
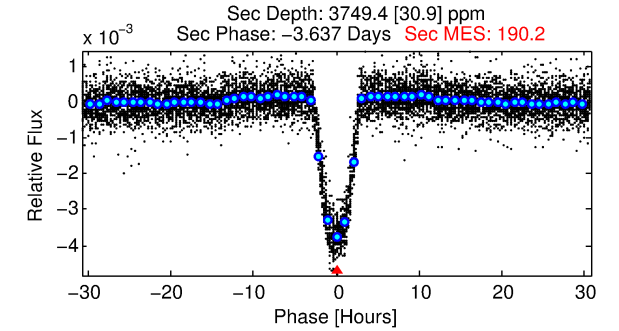
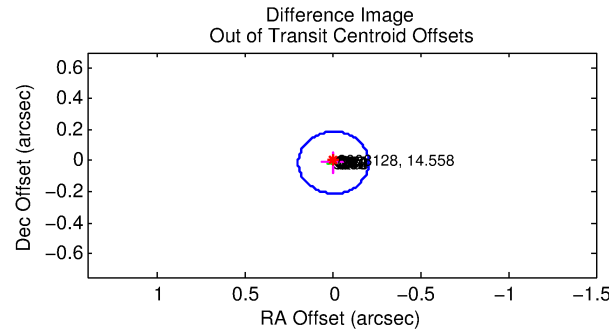
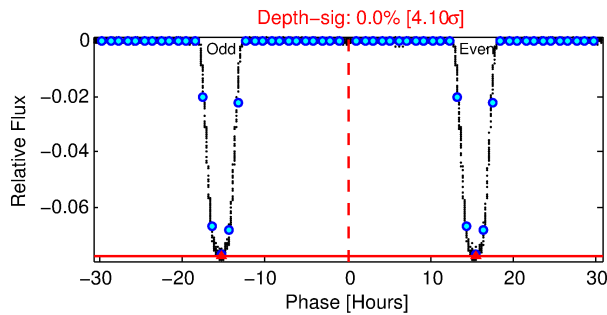
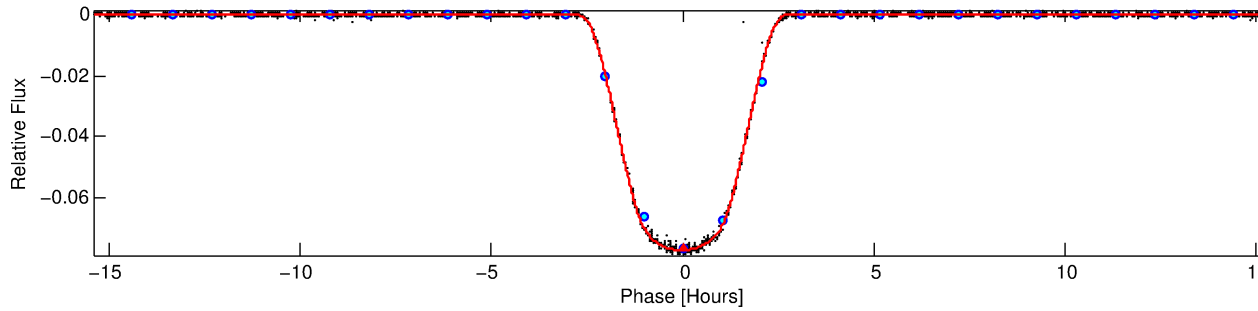
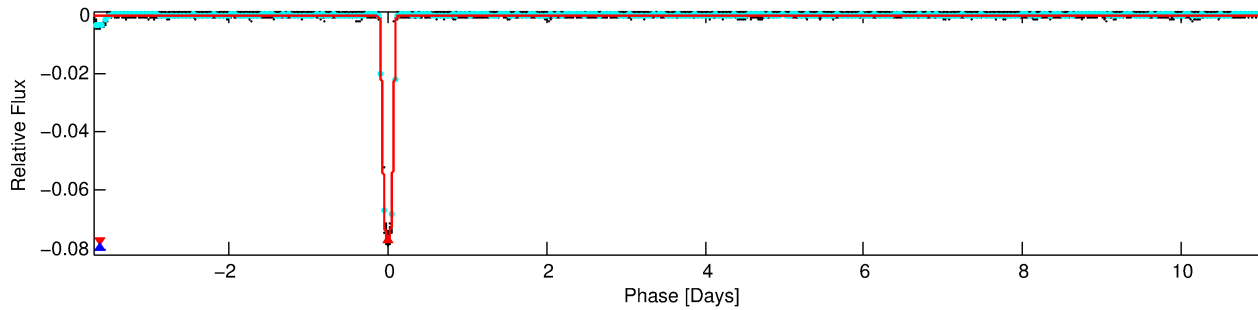
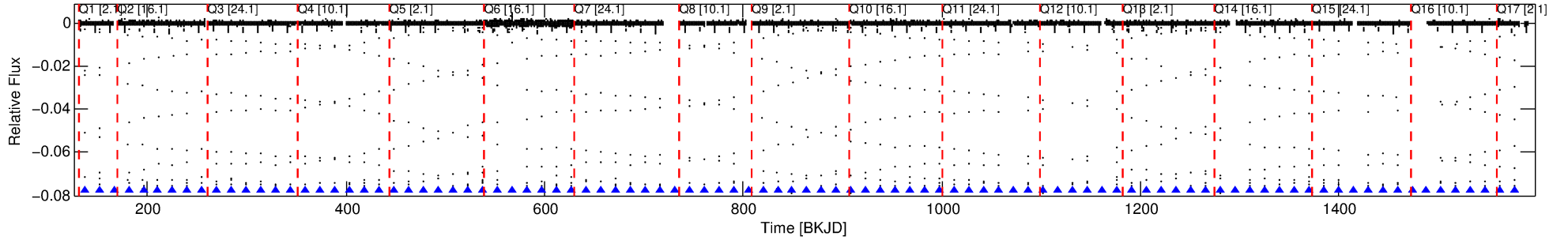
Ephemeris Match Information For 008008128-01

No Significant Match Found

DV One-Page Summary

KIC: 8008128 Candidate: 1 of 2 Period: 14.854 d
KOI: K06950.01 Corr: 0.999

Kp: 14.56 R*: 1.02 Rs Teff: 6214.0 K Logg: 4.44 Fe/H: -0.160



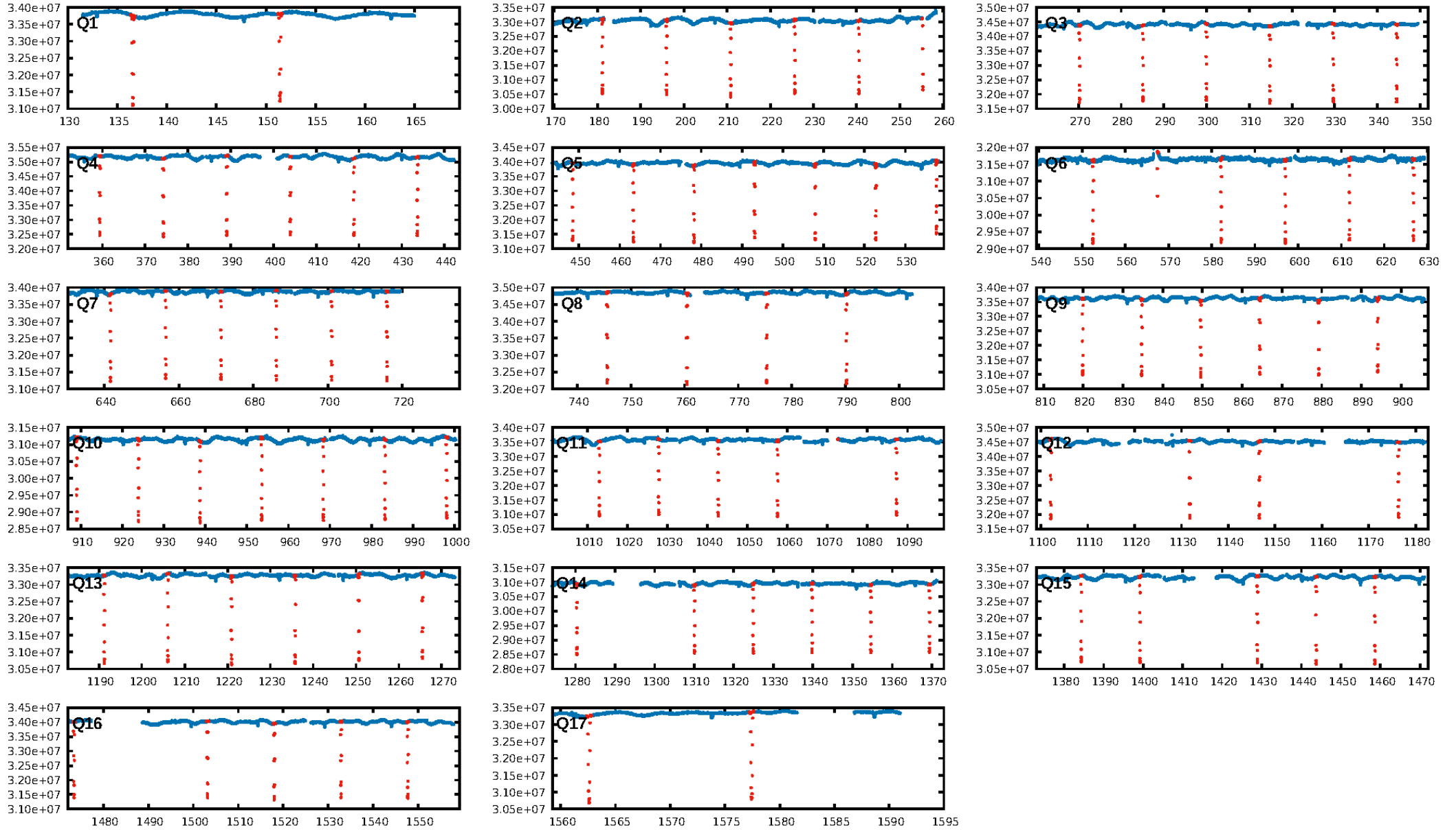
DV Fit Results:

Period = 14.85442 [0.00000] d
Epoch = 136.5598 [0.0000] BKJD
Rp/R* = 0.2679 [0.0001]
a/R* = 24.92 [0.01]
b = 0.58 [0.00]
Seff = 95.99 [41.45]
Teq = 798 [86] K
Rp = 29.87 [10.23] Re
a = 0.1206 [0.0345] AU
Ag = 33.60 [13.87] [2.35σ]
Teffp = 2971 [94] K [17.00σ]

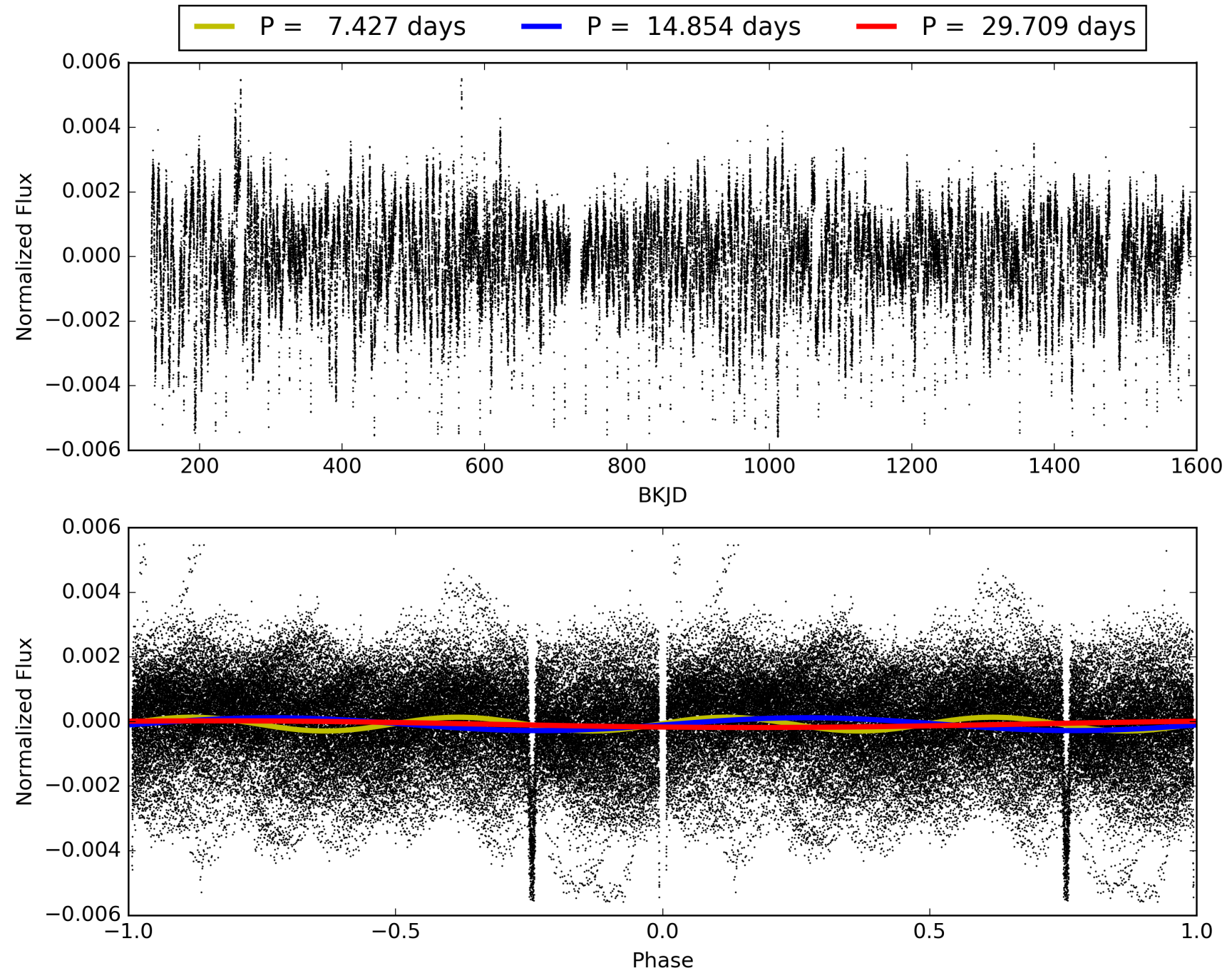
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [84/84]
GhostDiagnostic-chr: 3.479
Centroid-sig: 0.0%
Centroid-so: 0.082 arcsec [28.45σ]
OotOffset-rm: 0.013 arcsec [0.19σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.047 arcsec [0.70σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008008128-01, PDC Light Curves

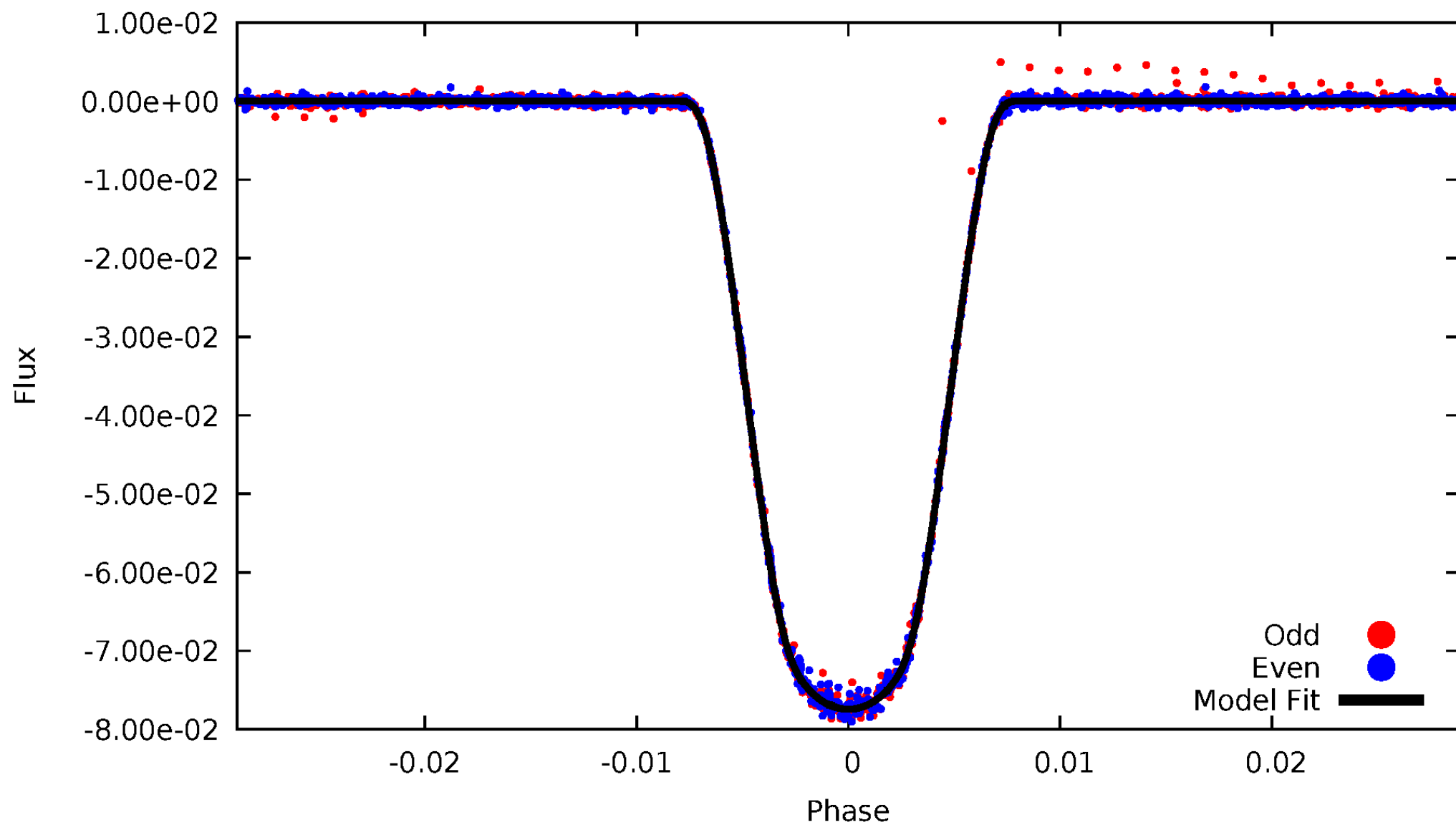


TCE 008008128-01



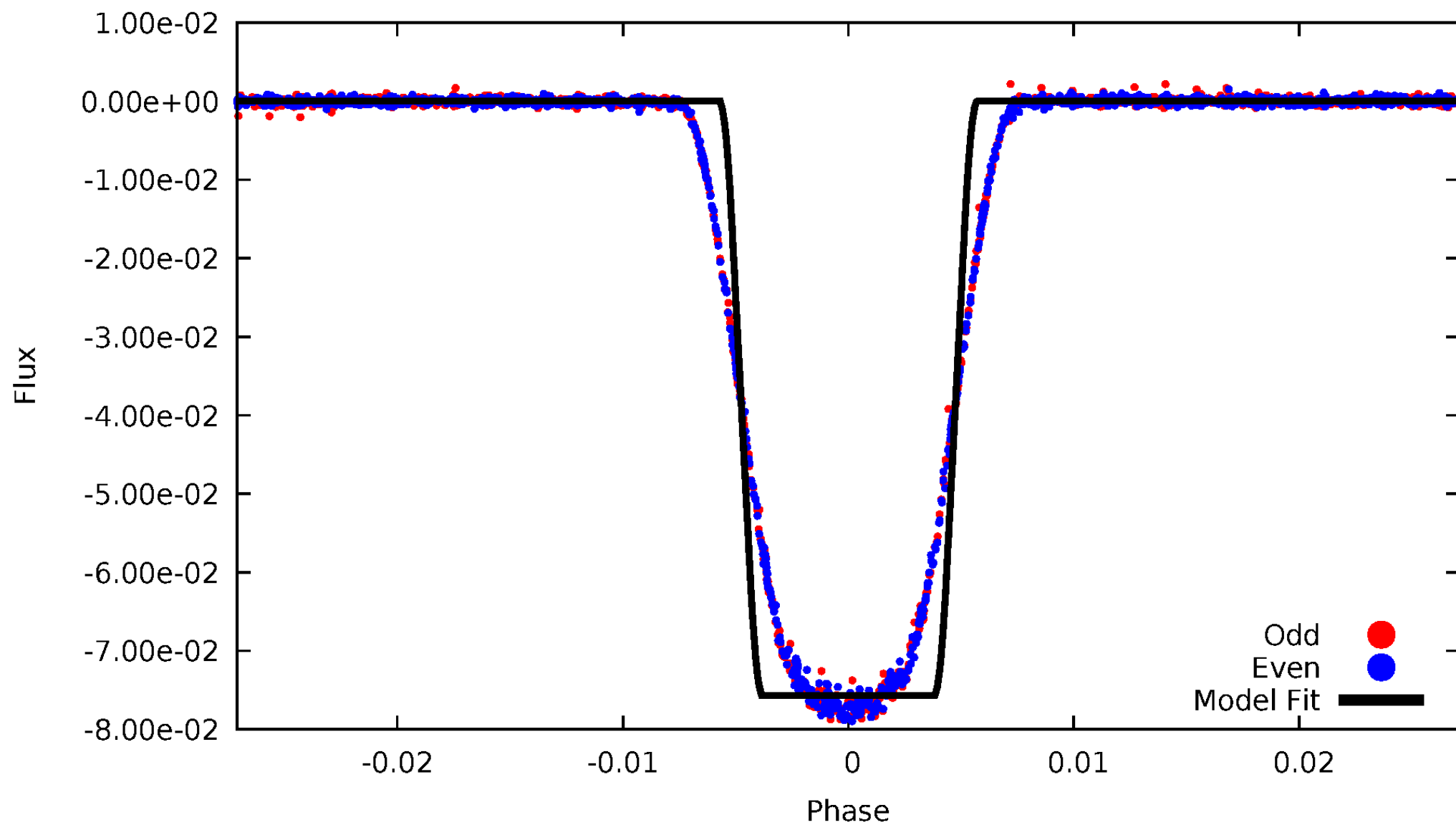
DV Odd/Even

TCE 008008128-01



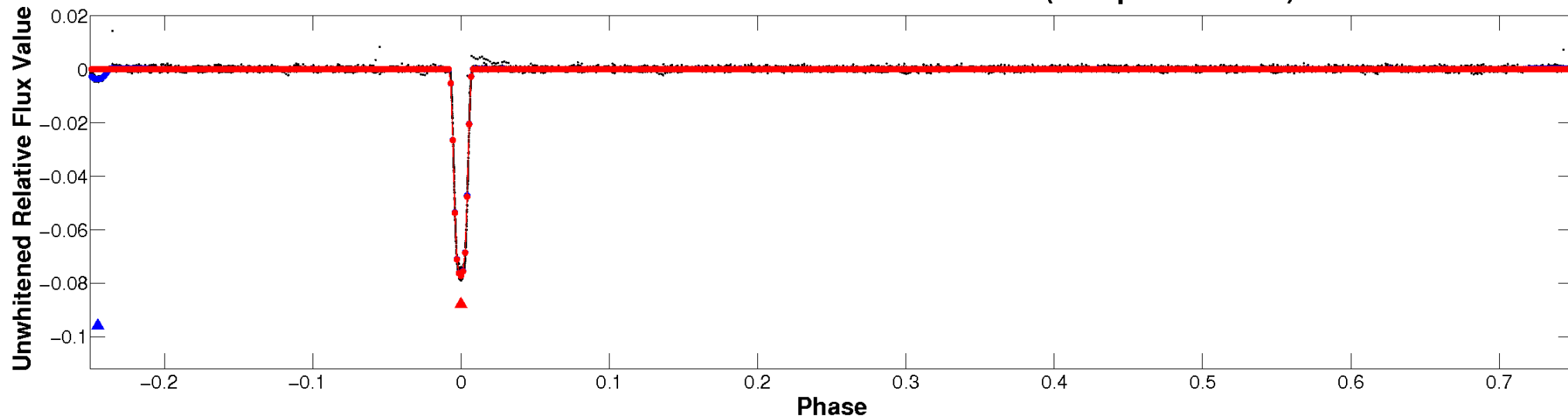
ALT Odd/Even

TCE 008008128-01

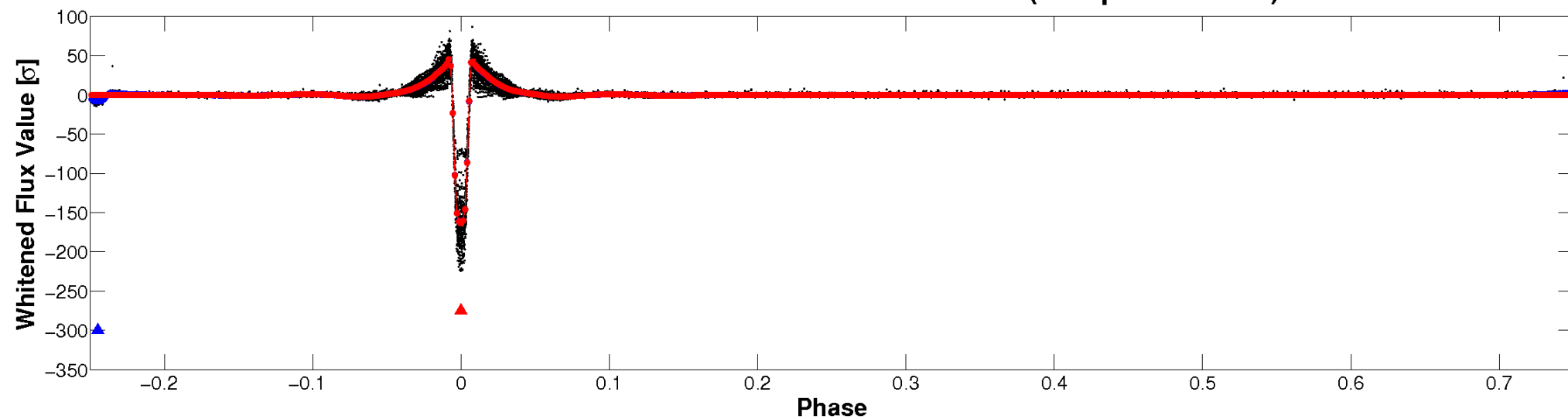


Non-Whitened Vs. Whitened Light Curve

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

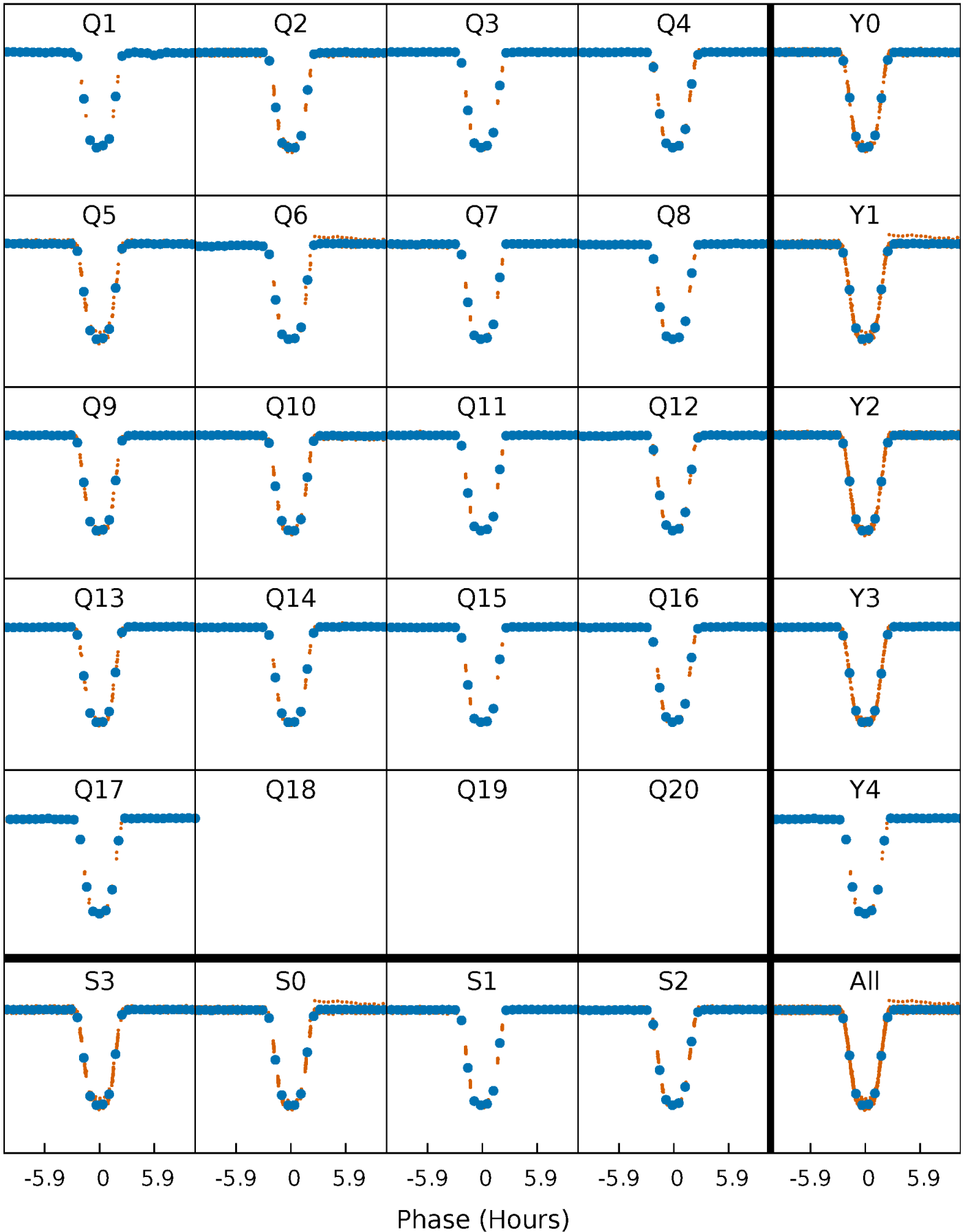


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



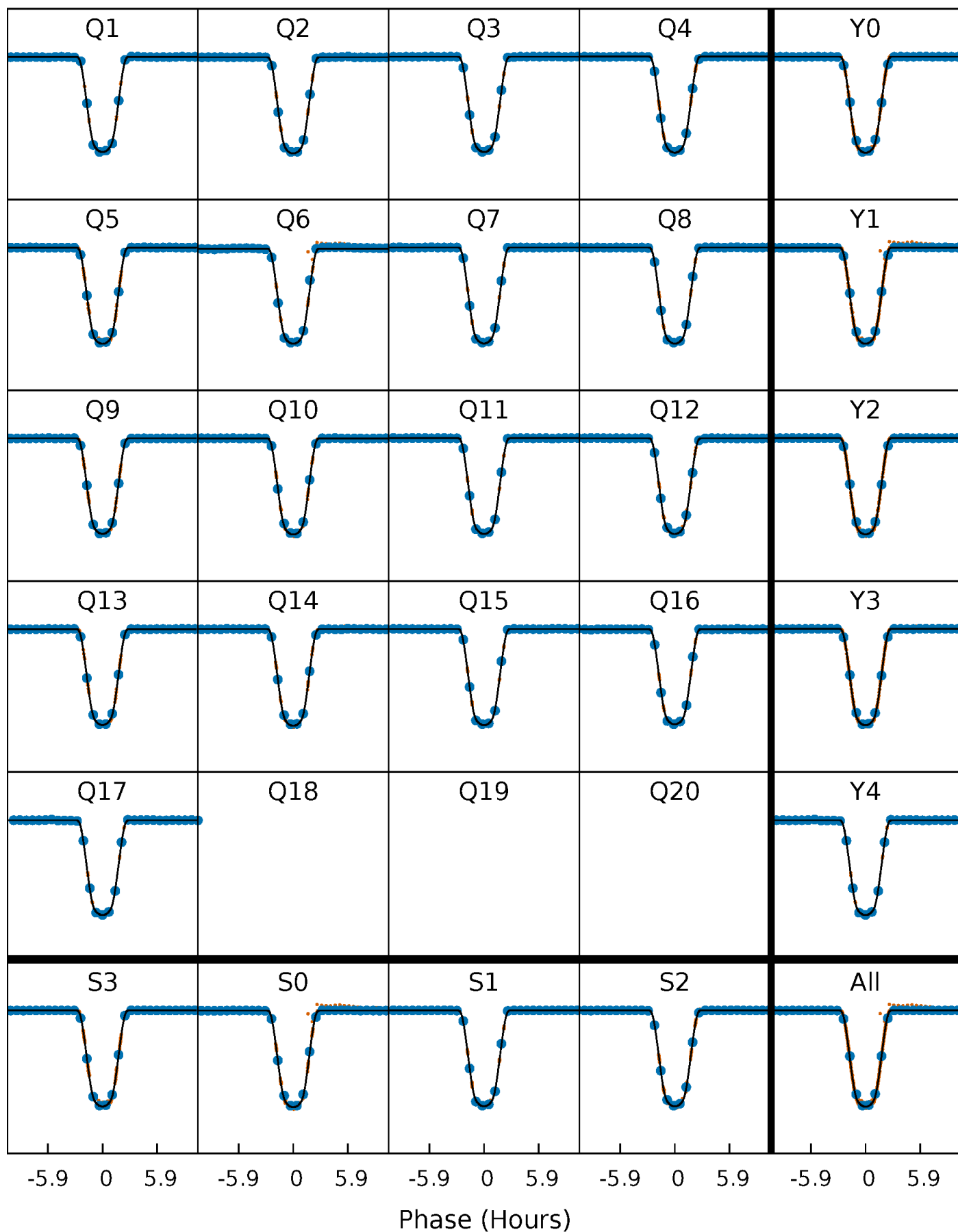
PDC Quarter-Phased Transit Curves

TCE 008008128-01 P= 14.854416 Days $T_0=136.559768$ (BKJD)



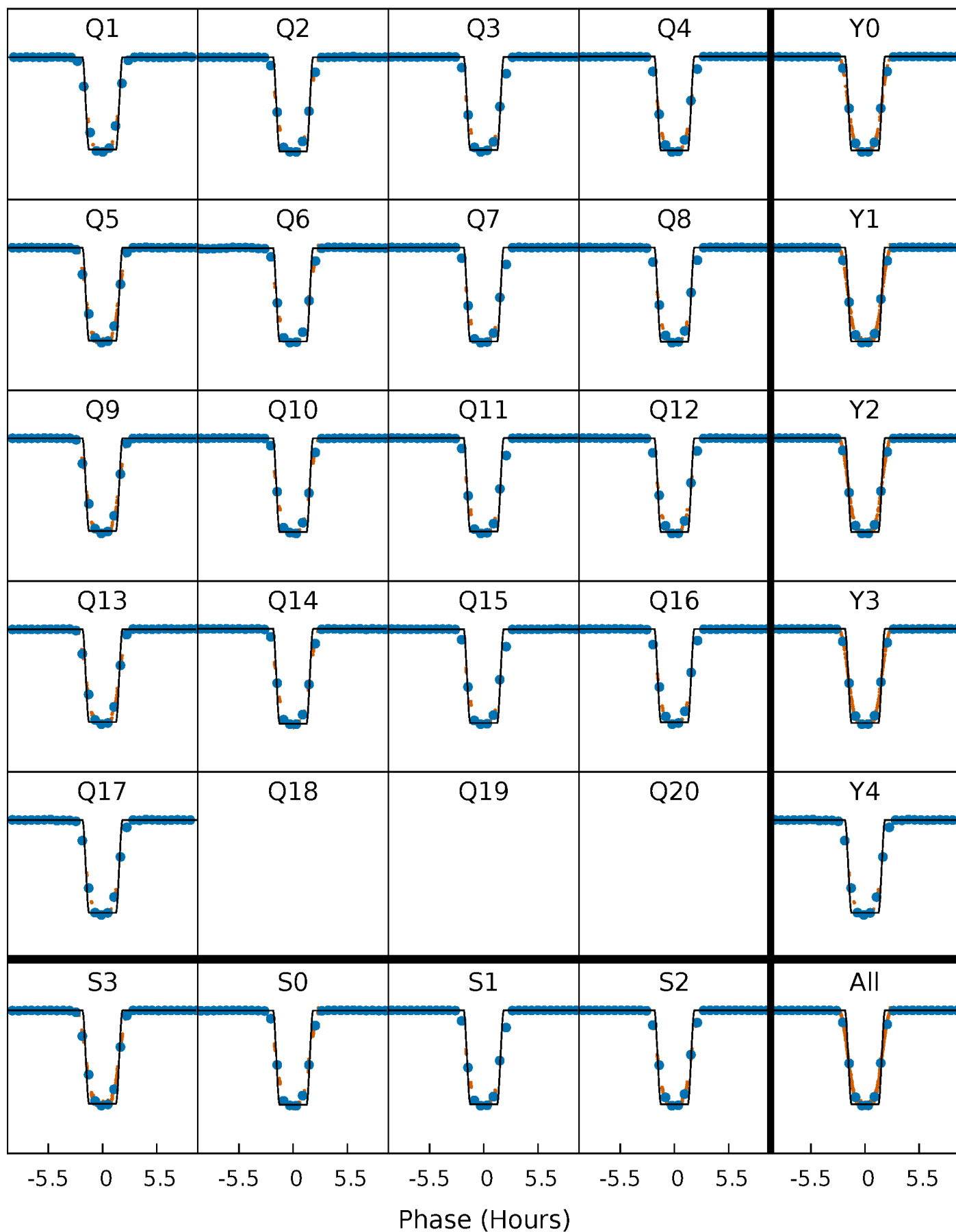
DV Quarter-Phased Transit Curves

TCE 008008128-01 P= 14.854416 Days $T_0=136.559768$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

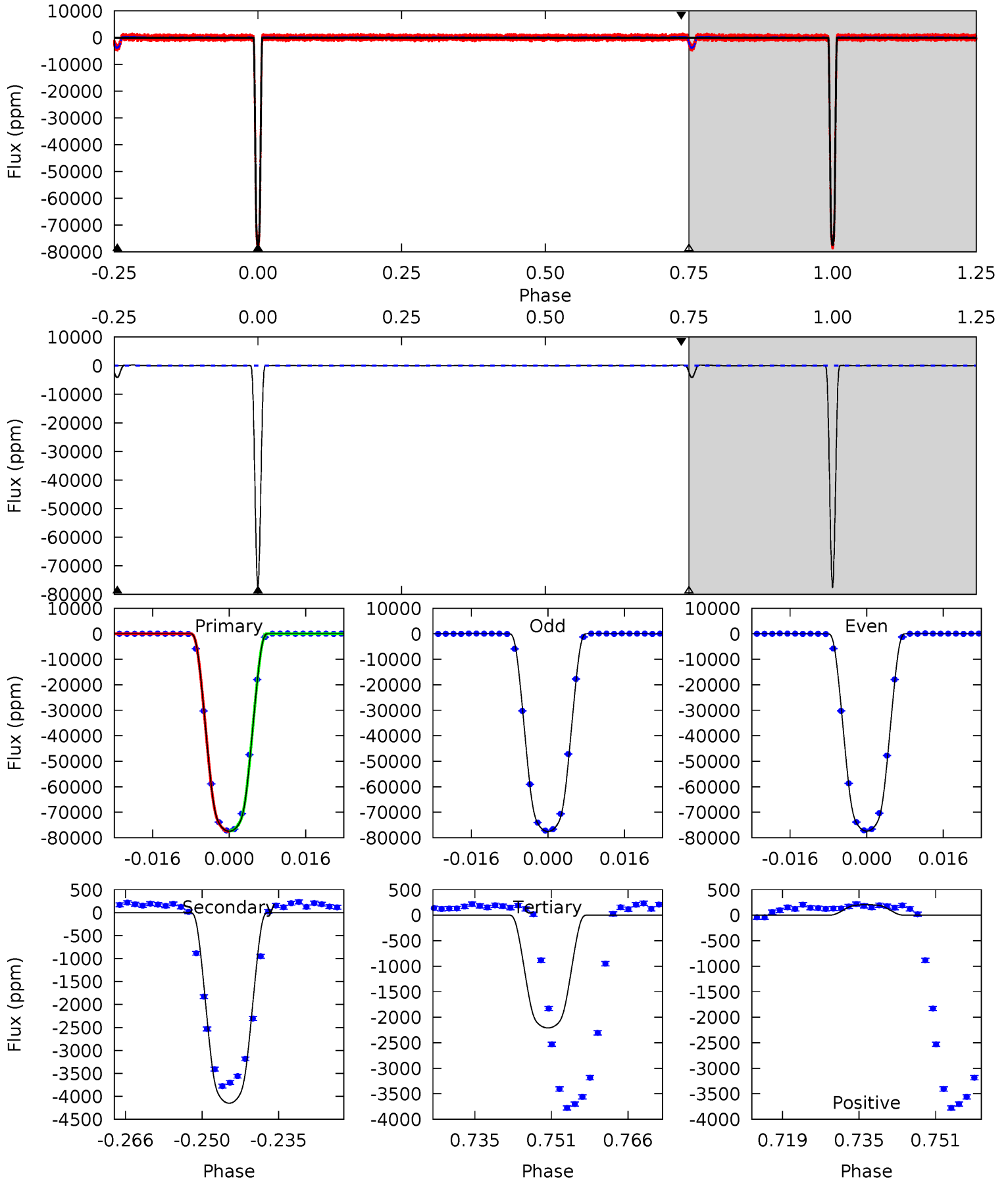
TCE 008008128-01 P= 14.854415 Days $T_0=136.559787$ (BKJD)



DV Model-Shift Uniqueness Test

008008128-01, P = 14.854416 Days, E = 121.705352 Days

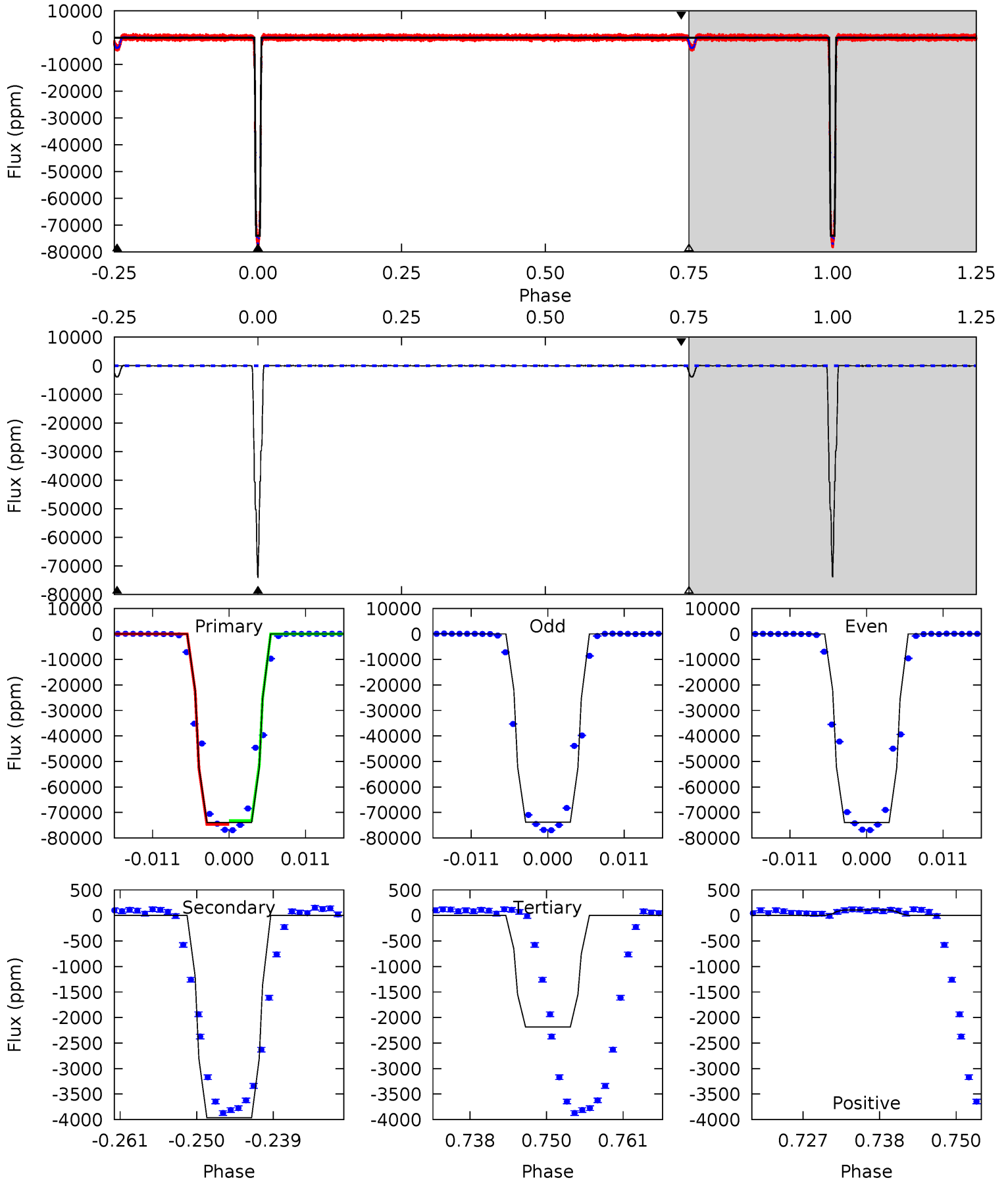
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6860	367.6	195.6	18.2	4.94	2.42	8.59	6664	6842	171.9	349.3	5.95	0.99	0.00	5.61



Alt Model-Shift Uniqueness Test

008008128-01, P = 14.854415 Days, E = 121.705372 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4722	253.2	139.7	6.79	5.00	2.53	5.22	4583	4716	113.4	246.4	2.54	1.00	0.00	31.3



Stellar Parameters For KIC 008008128

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6214^{+175}_{-197}	$4.444^{+0.070}_{-0.224}$	$-0.160^{+0.250}_{-0.300}$	$1.022^{+0.350}_{-0.117}$	$1.051^{+0.159}_{-0.130}$	$1.385^{+0.418}_{-0.764}$
	+3%/-3%	+2%/-5%	+156%/-188%	+34%/-11%	+15%/-12%	+30%/-55%
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 008008128-01 / KOI 6950.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4150 ± 11	$29.87^{+5.10}_{-1.85}$	1130^{+77}_{-57}	3523^{+64}_{-71}	36^{+5}_{-8}
Alt.	-3964 ± 16	$31.31^{+5.70}_{-2.47}$	1133^{+92}_{-58}	3466^{+61}_{-74}	32^{+5}_{-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 $A_{\text{obs}} \gg 1.0$

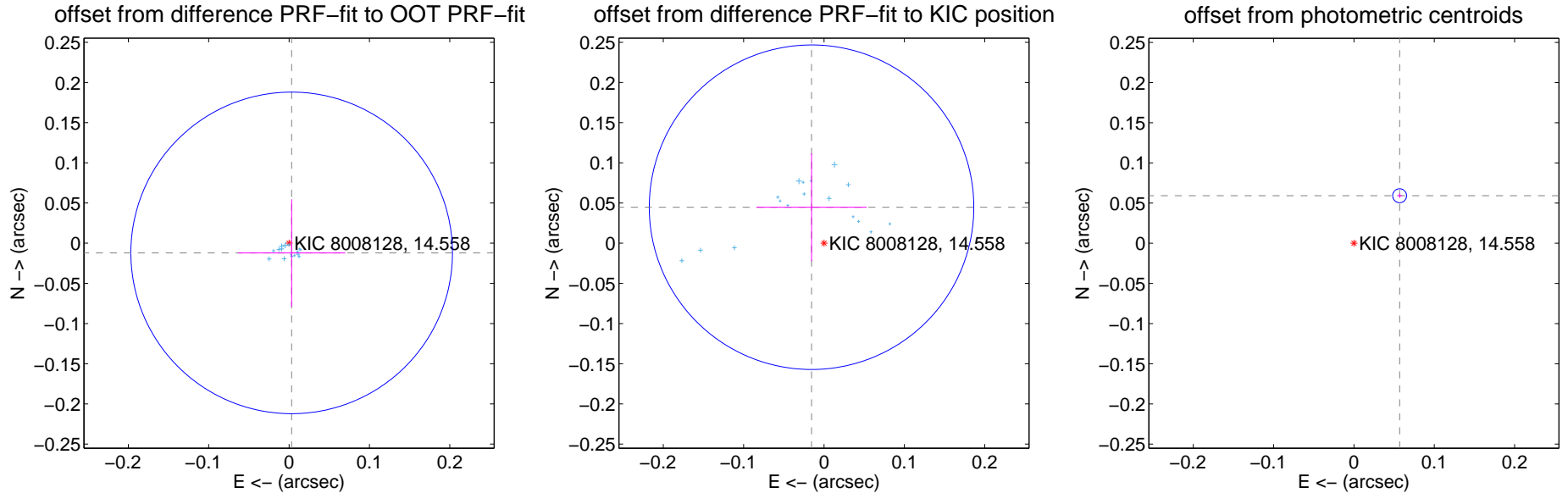
DV Centroid Data

Supplemental centroid analysis for 008008128-01. Kepler magnitude: 14.56. Transit SNR 3302.43

There are 17 quarters with good PRF difference image offsets

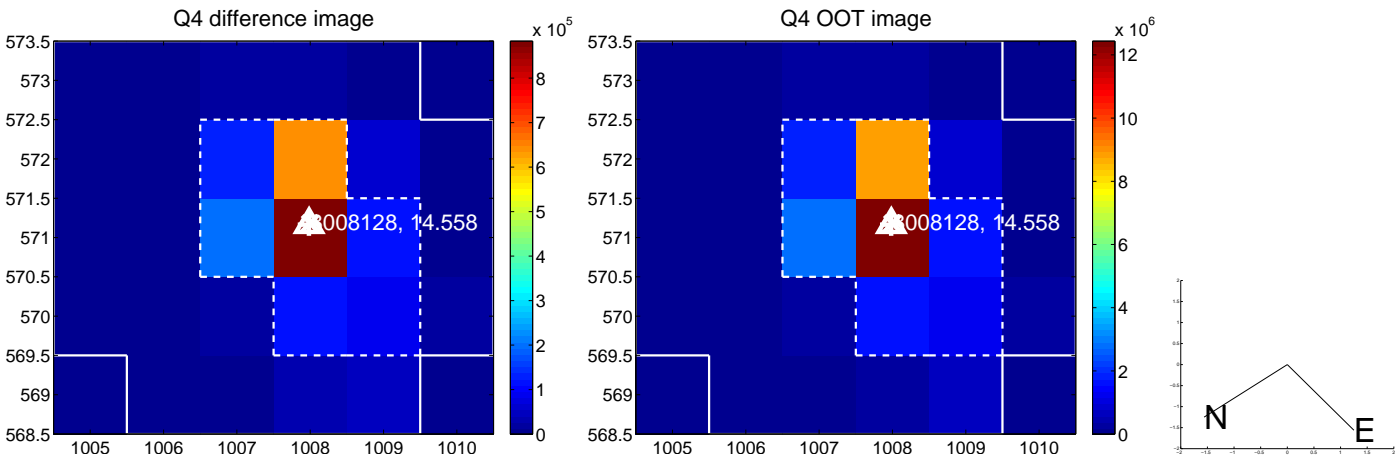
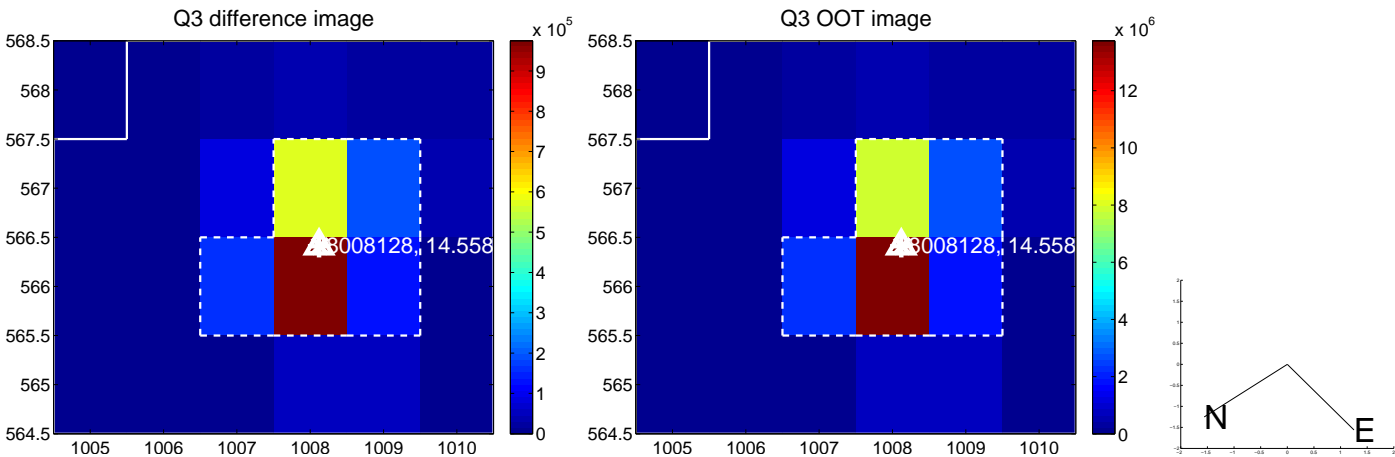
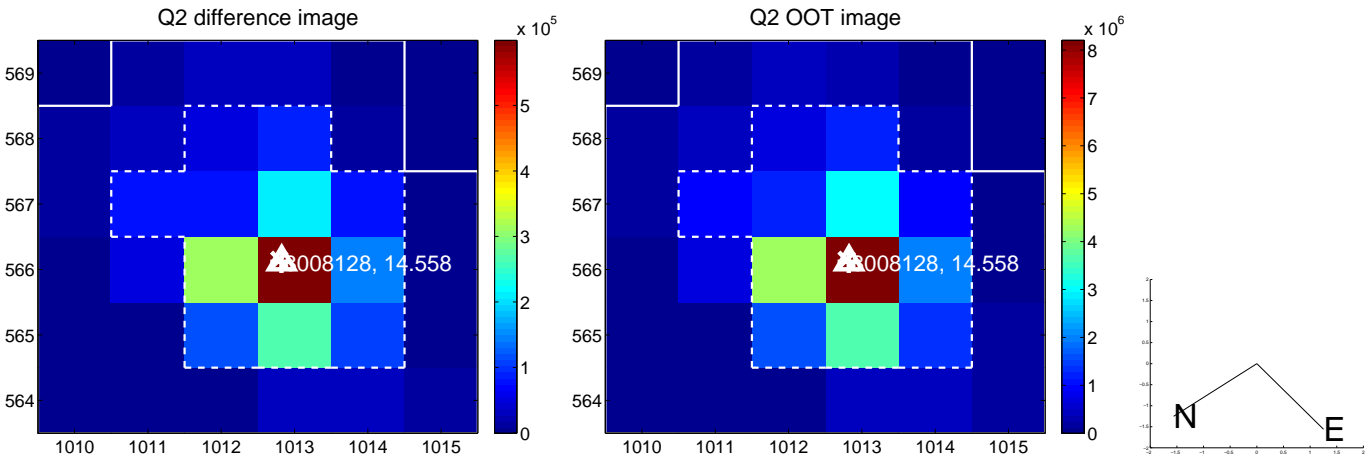
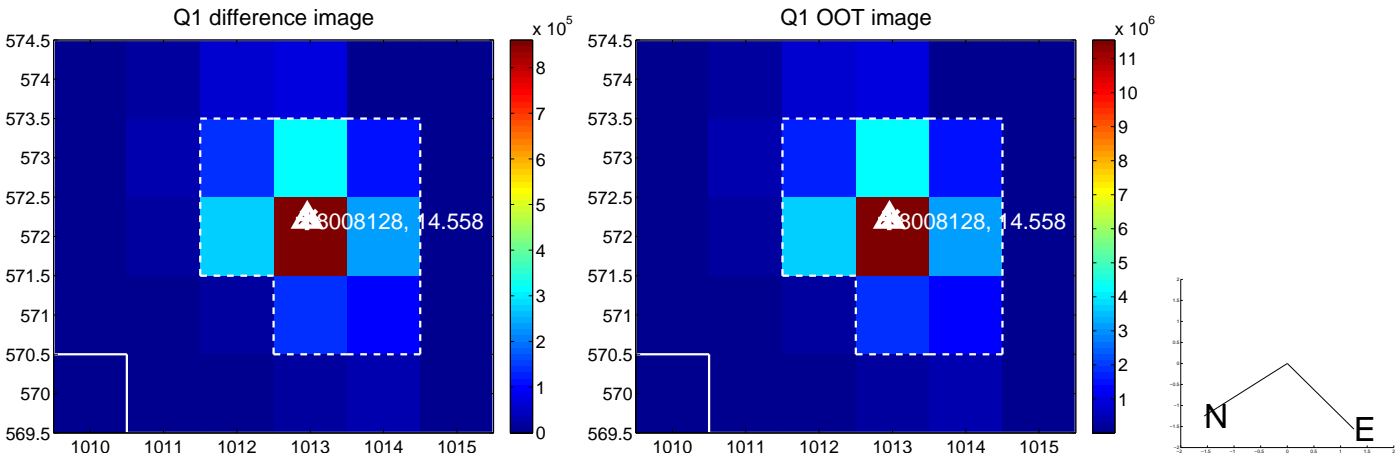
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.013 ± 0.067	0.19	-0.003 ± 0.067	-0.012 ± 0.067
PRF-fit source offset from KIC position	0.047 ± 0.067	0.70	0.016 ± 0.069	0.045 ± 0.067
photometric centroid source offset	0.08 ± 0.00	28.45	-0.06 ± 0.00	0.06 ± 0.00

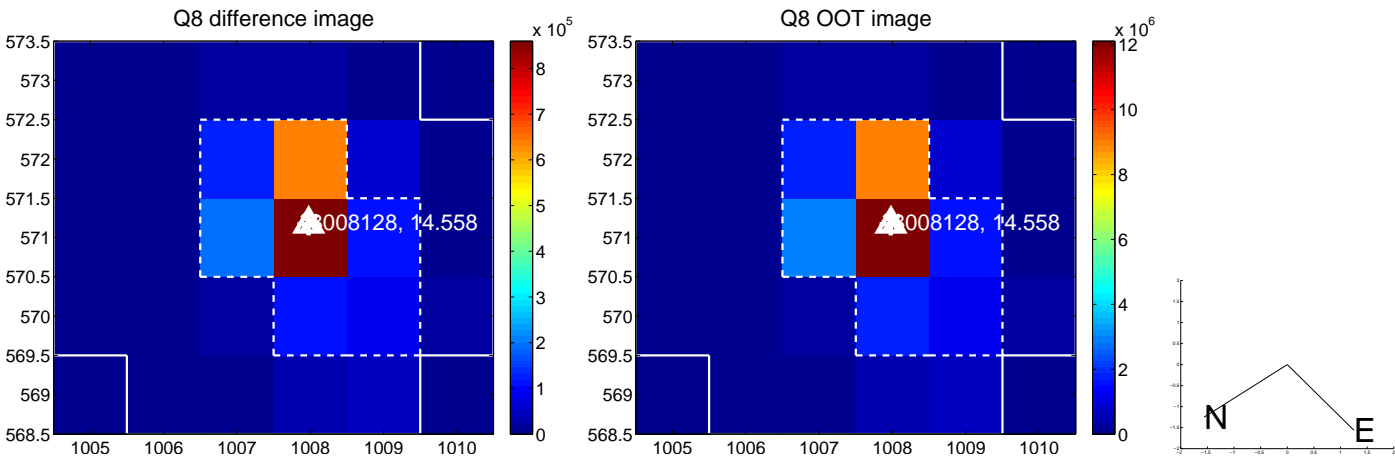
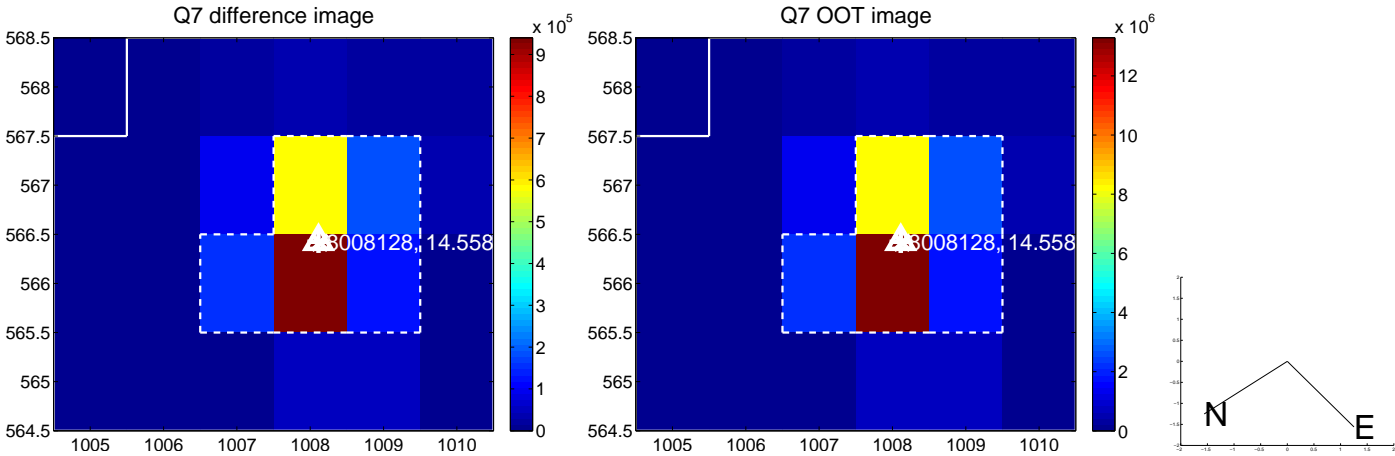
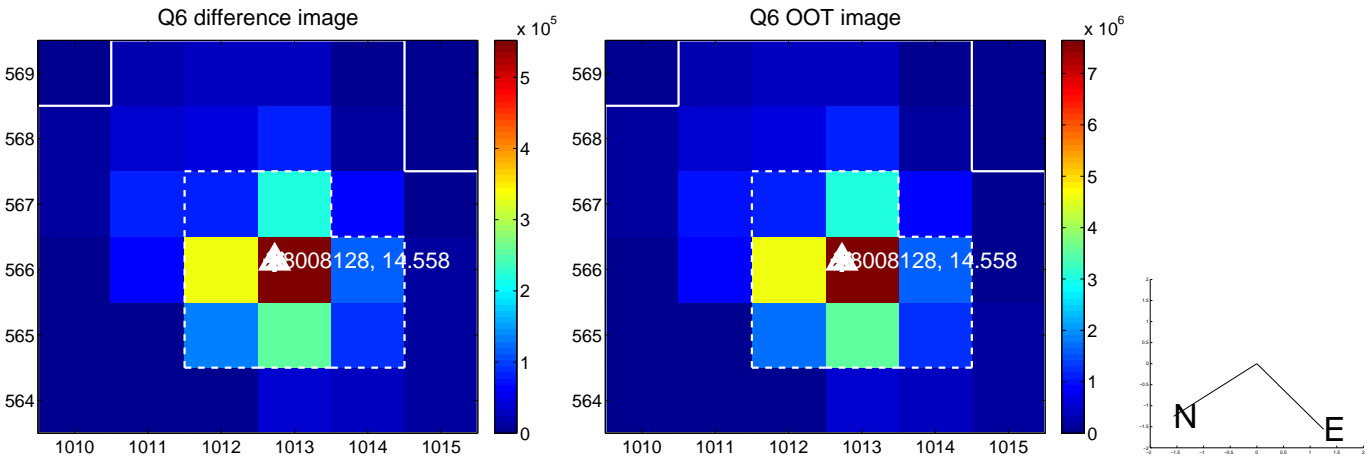
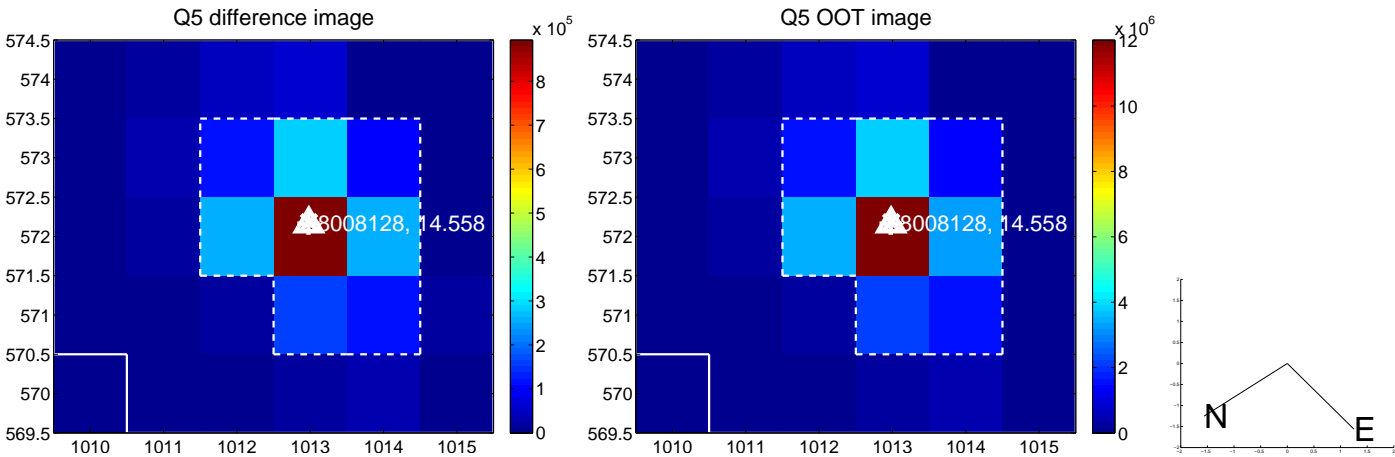


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

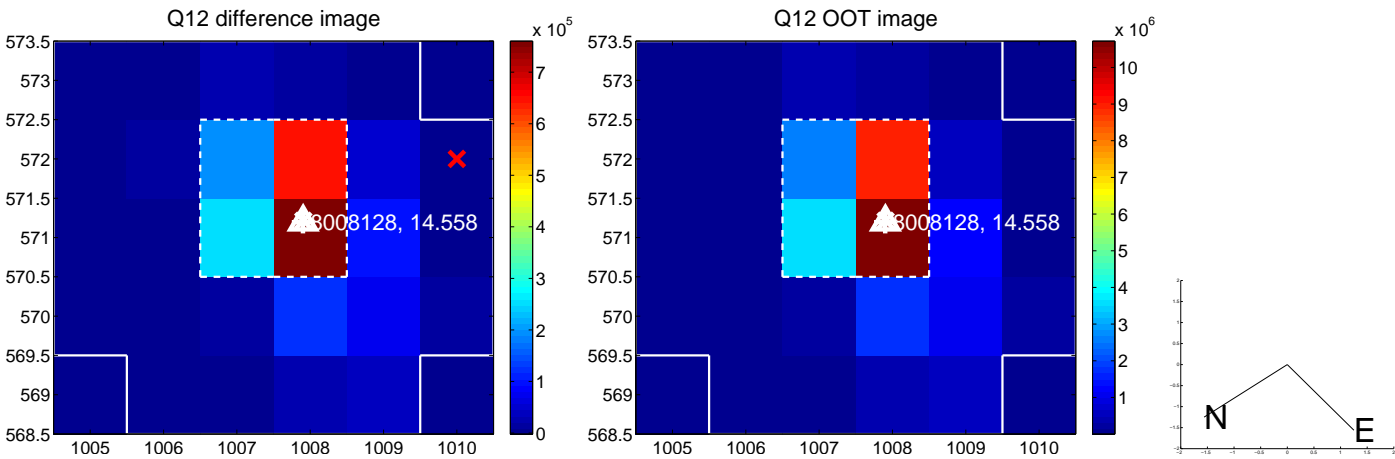
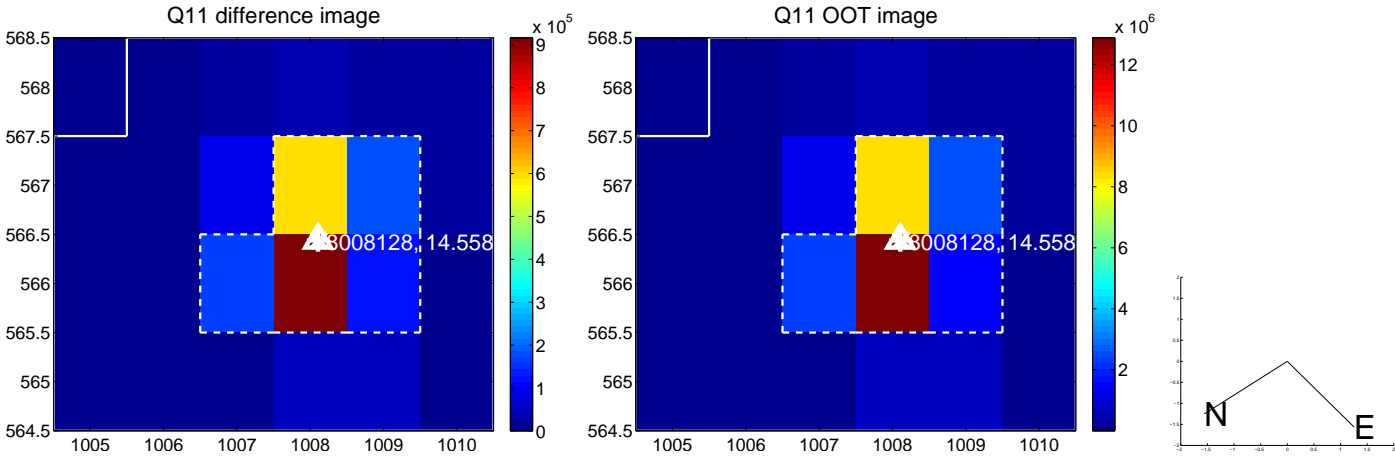
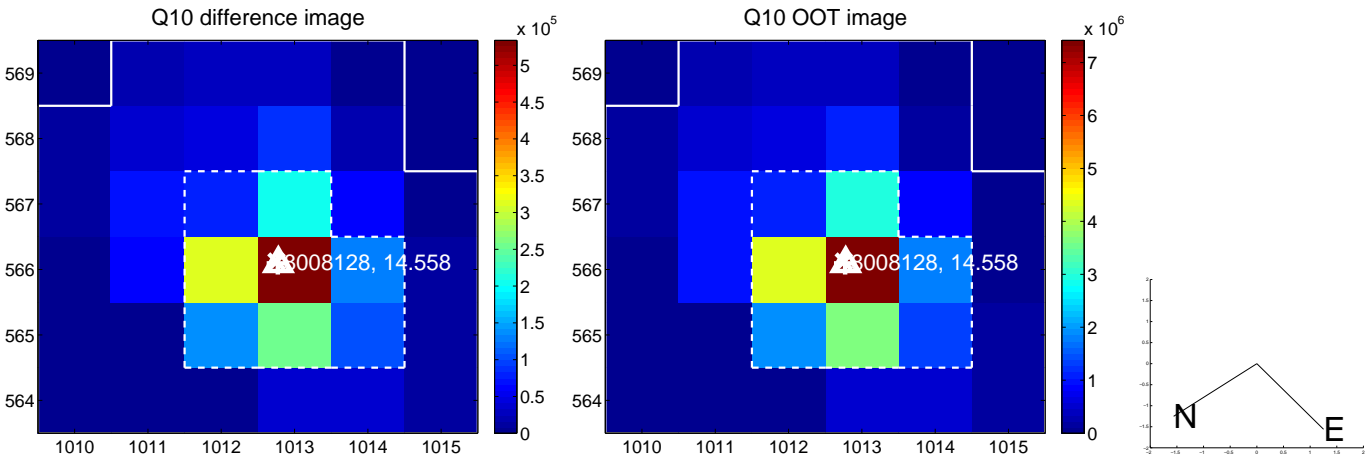
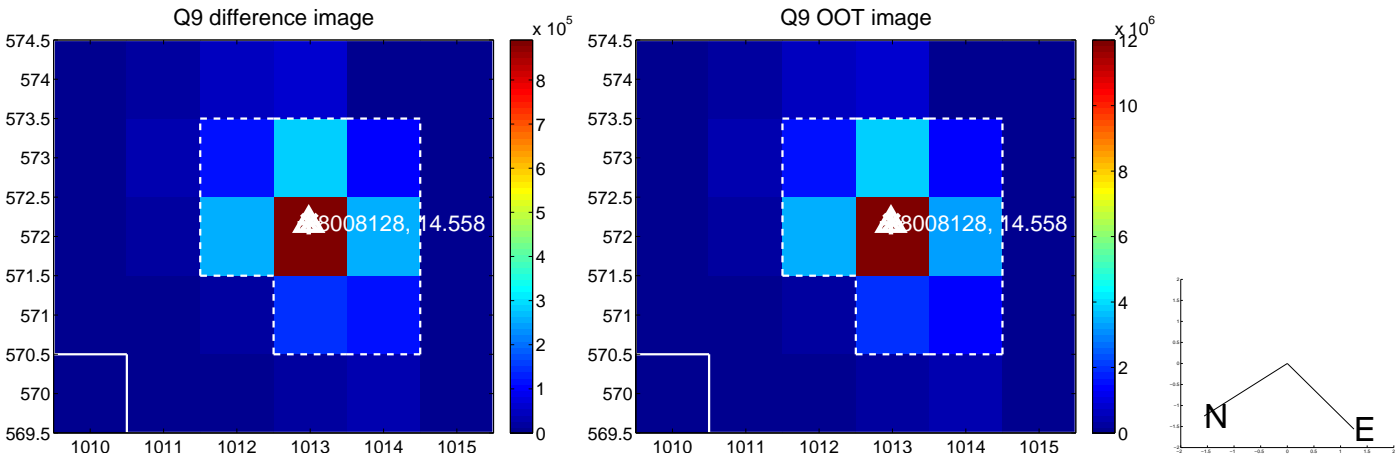
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



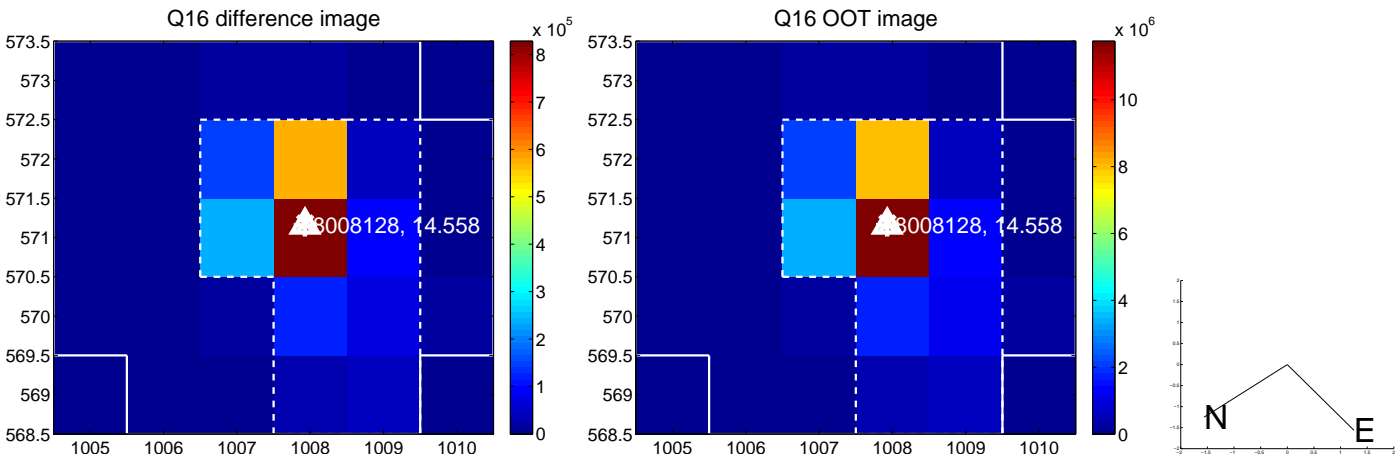
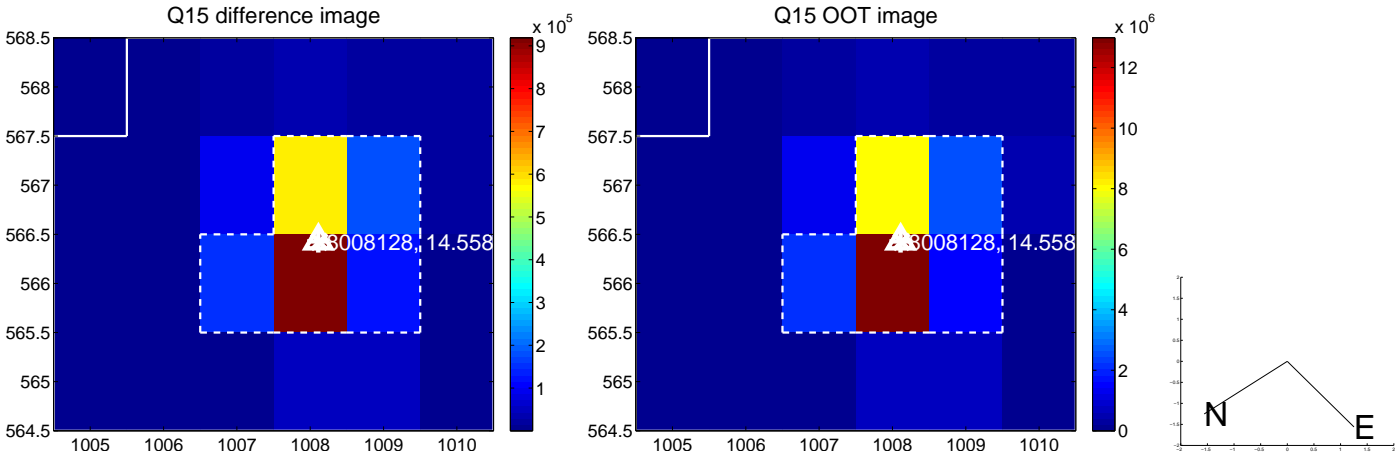
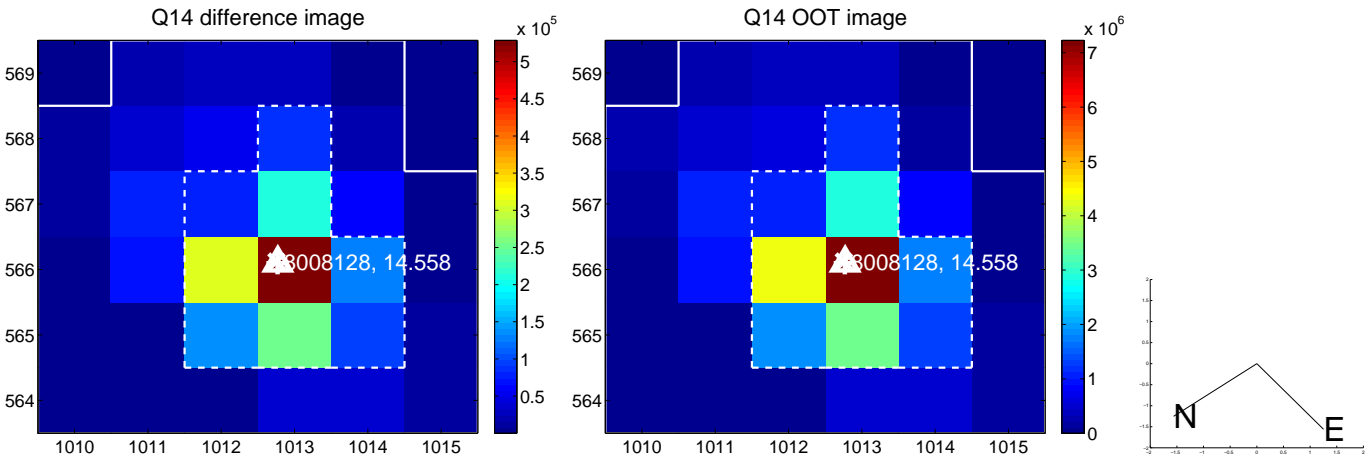
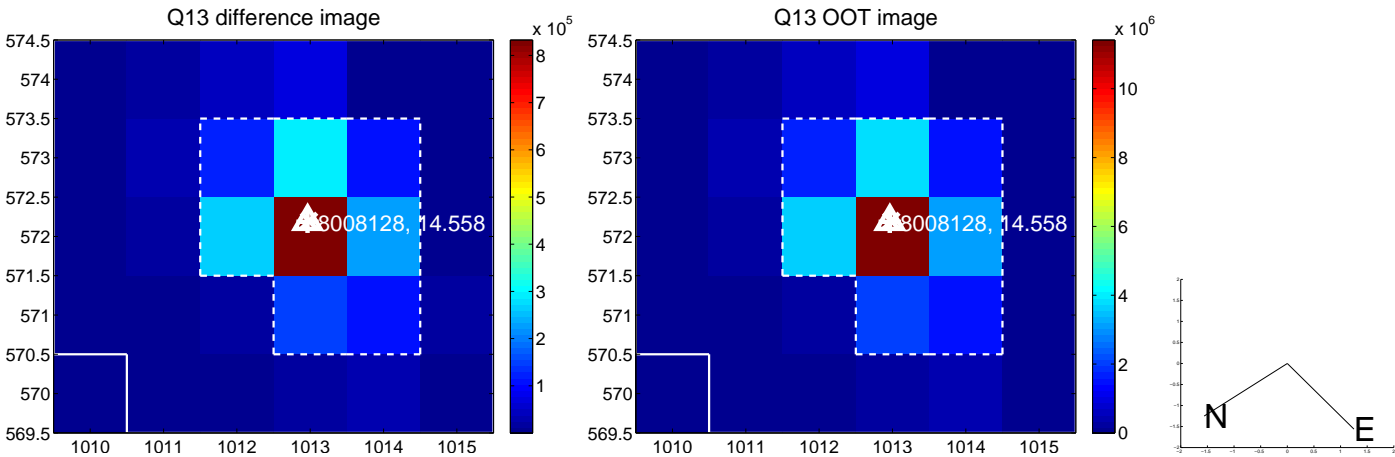
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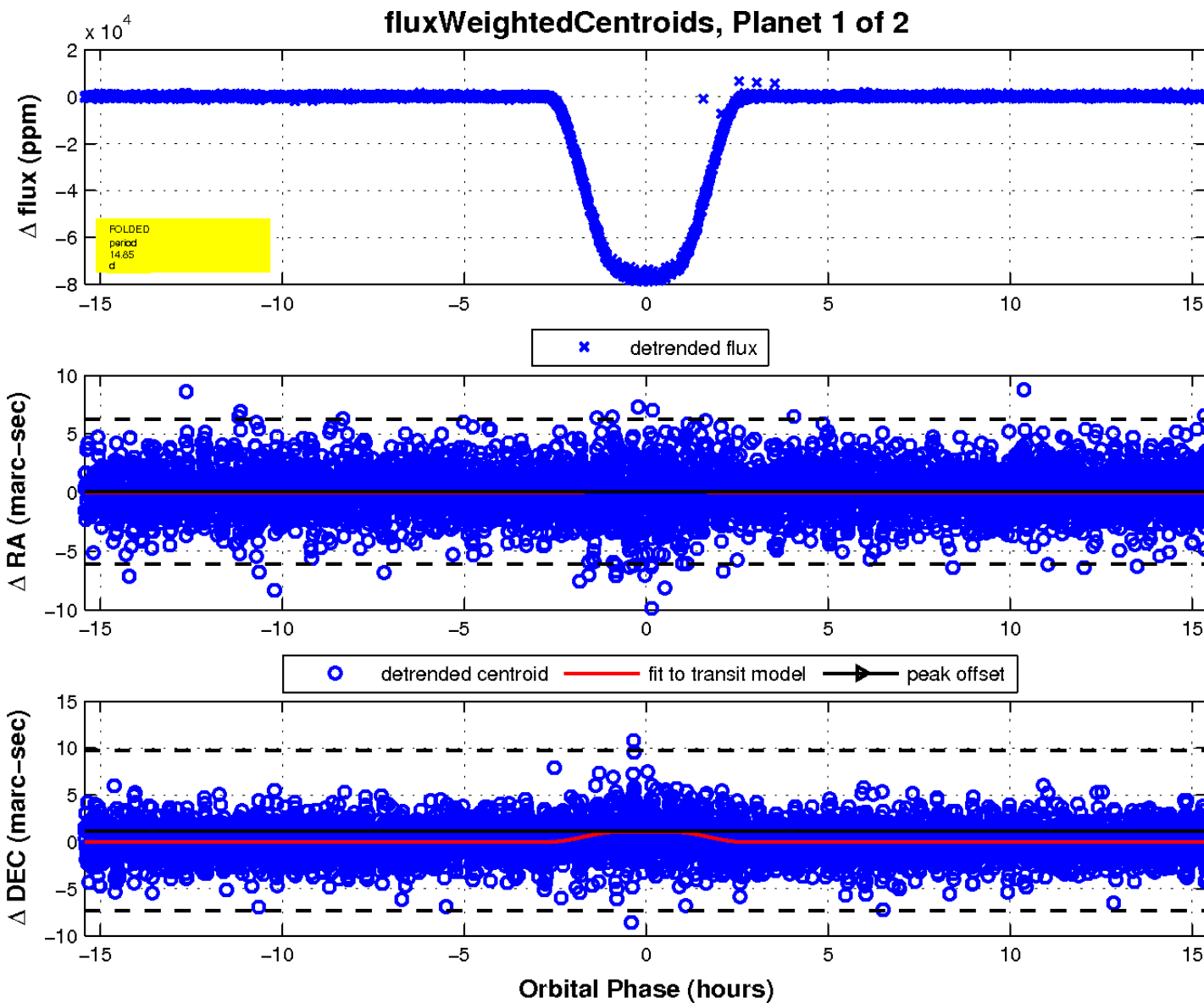
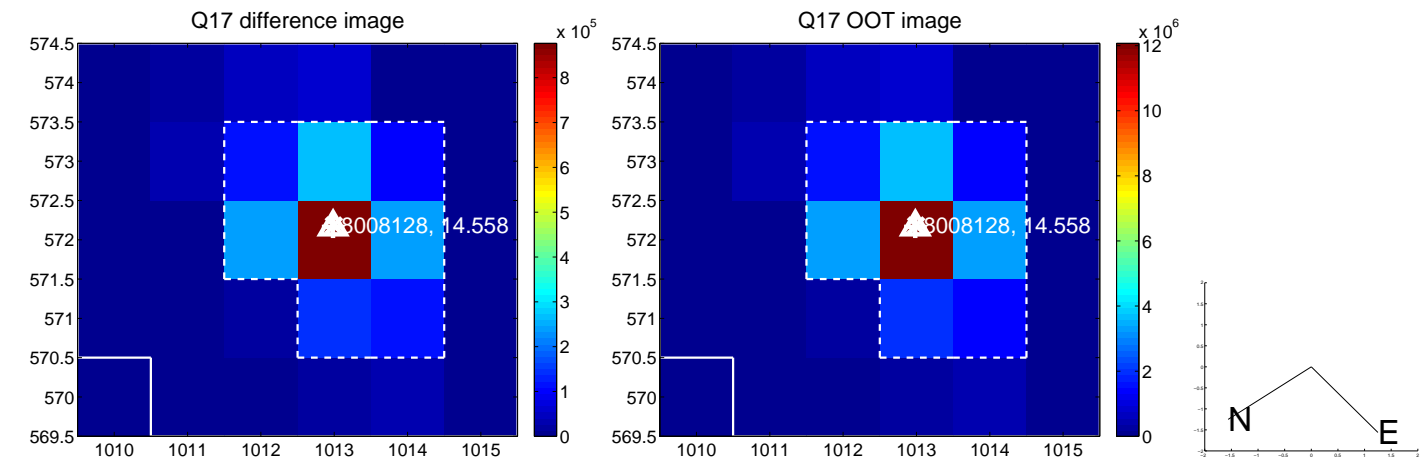
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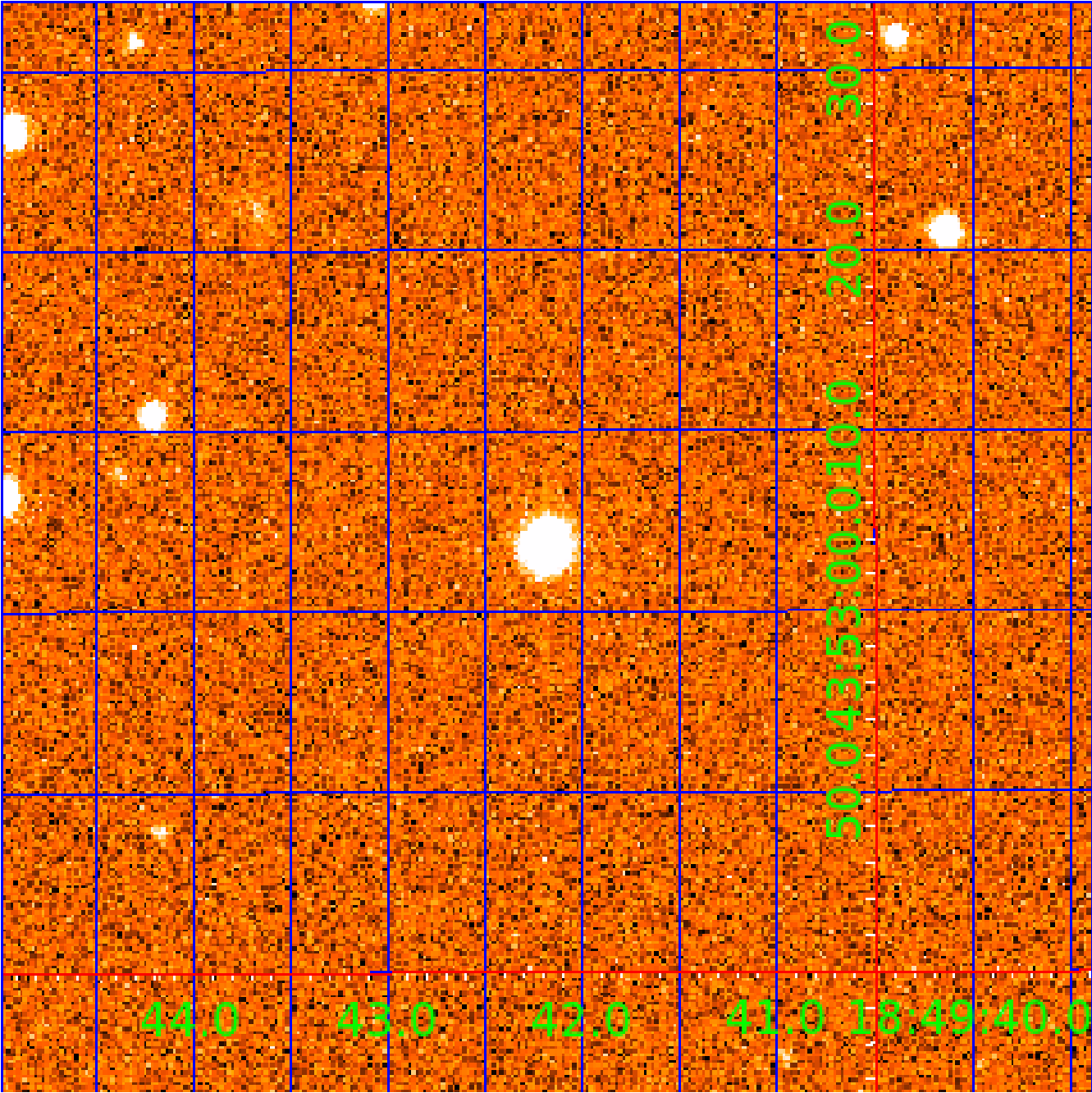


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008008128

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})
008008128-01	OBS	6950.01	14.854416	136.559768	77461.5	5.143	3942.6	3302.4	1.02	6214	29.87	95.99
008008128-02	OBS	No	14.854419	132.923125	3973.7	5.937	202.9	202.8	1.02	6214	7.82	95.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008008128-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
008008128-02	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.

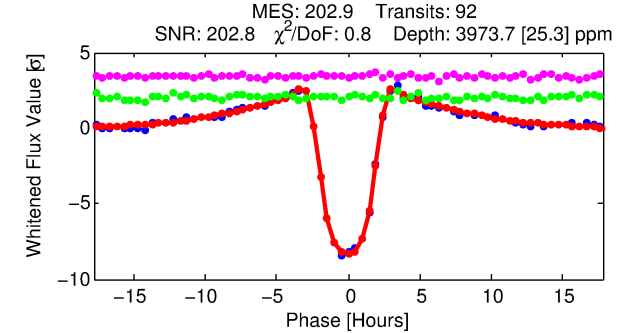
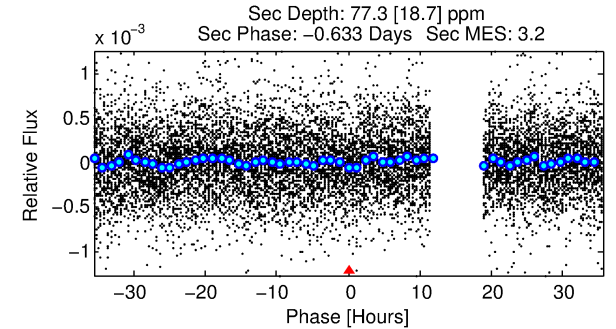
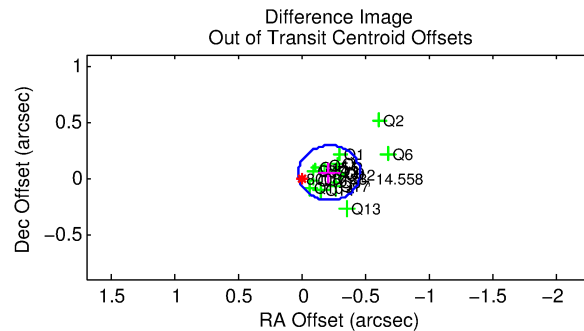
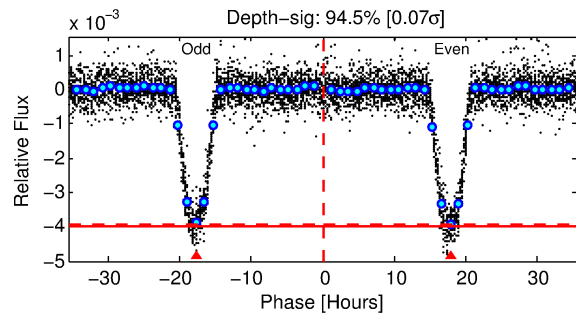
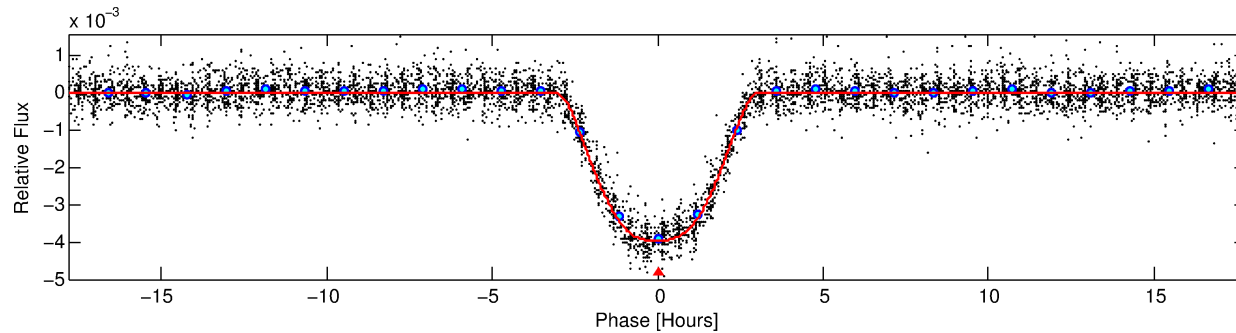
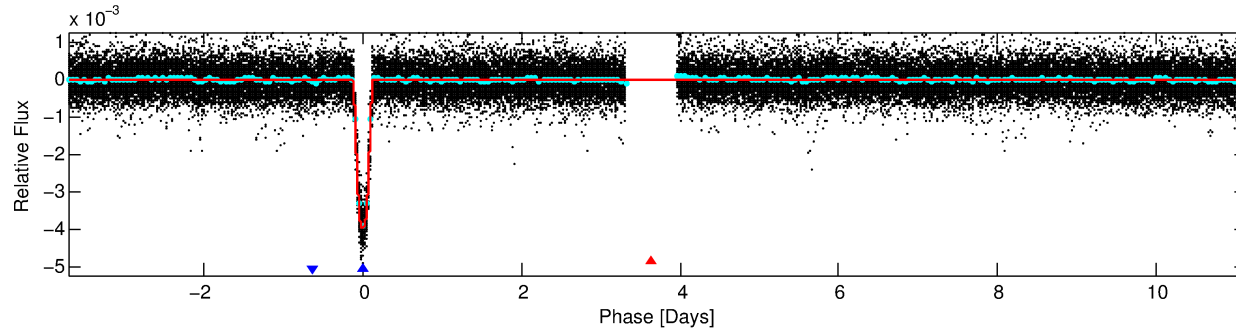
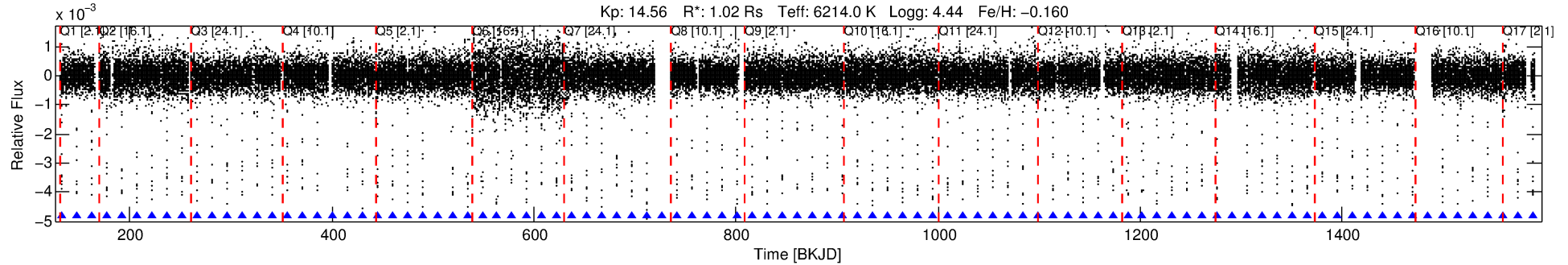
Ephemeris Match Information For 008008128-02

No Significant Match Found

DV One-Page Summary

KIC: 8008128 Candidate: 2 of 2 Period: 14.854 d
KOI: K06950 Corr: No Ephemeris Match

Kp: 14.56 R*: 1.02 Rs Teff: 6214.0 K Logg: 4.44 Fe/H: -0.160



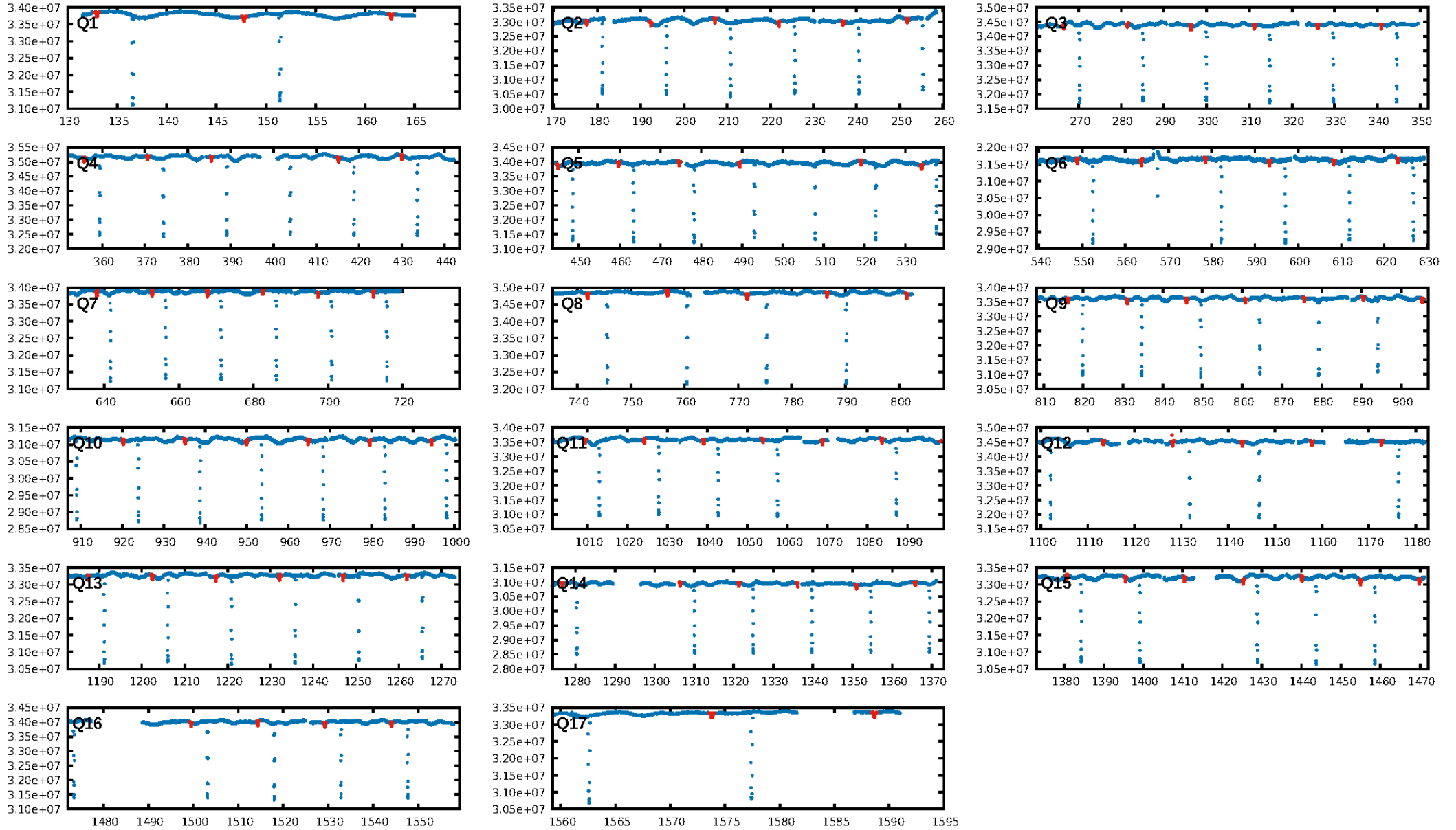
DV Fit Results:

Period = 14.85442 [0.00001] d
Epoch = 132.9231 [0.0006] BKJD
Rp/R* = 0.0701 [0.0003]
a/R* = 10.35 [0.08]
b = 0.92 [0.00]
Seff = 95.99 [41.45]
Teq = 798 [86] K
Rp = 7.82 [2.68] Re
a = 0.1206 [0.0345] AU
Ag = 10.11 [4.84] [1.88σ]
Teffp = 2200 [150] K [8.09σ]

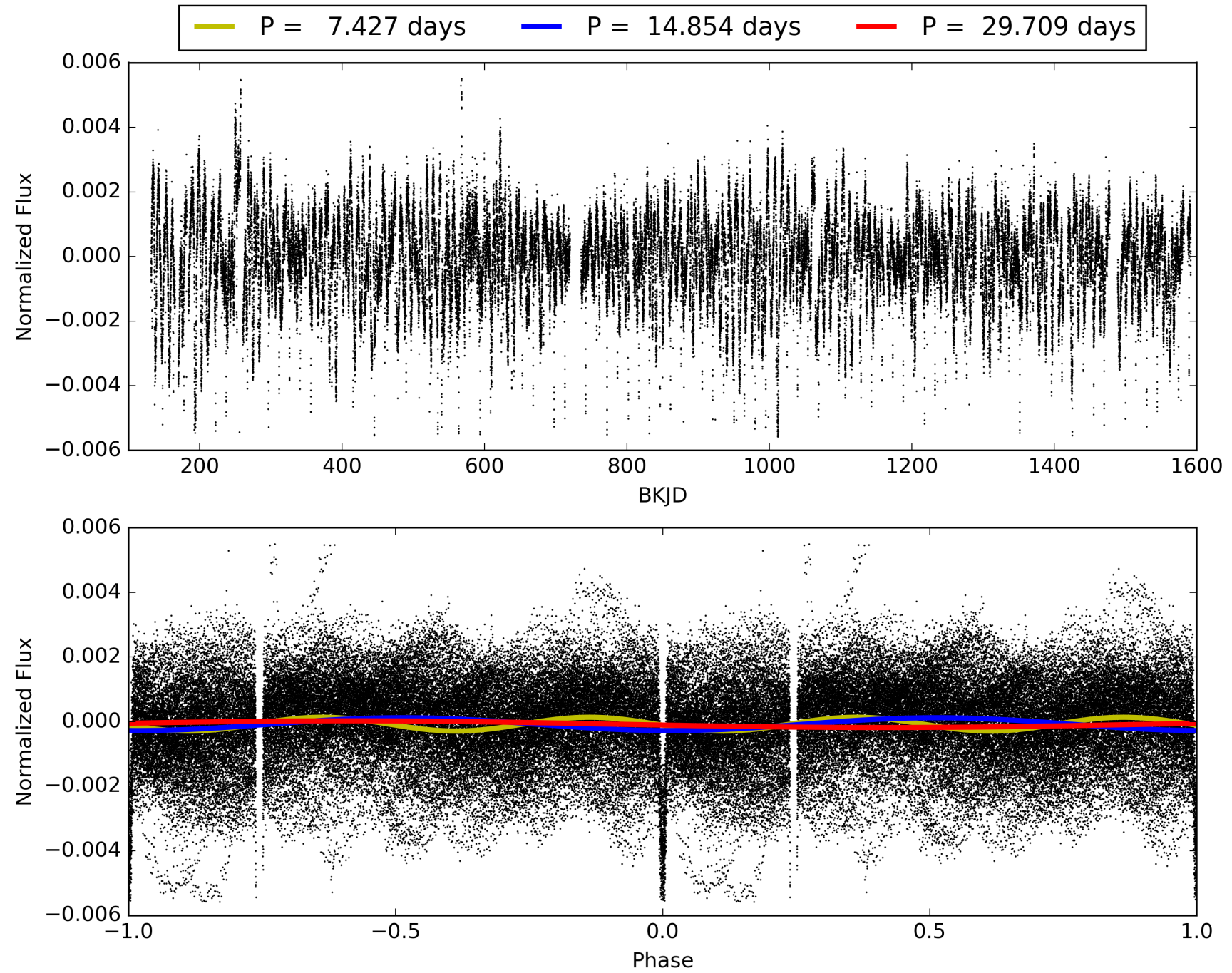
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 76.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [87/87]
GhostDiagnostic-chr: 4.694
Centroid-sig: 0.0%
Centroid-so: 0.271 arcsec [5.09σ]
OotOffset-rm: 0.215 arcsec [2.64σ]
KicOffset-rm: 0.231 arcsec [2.82σ]
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 008008128-02, PDC Light Curves

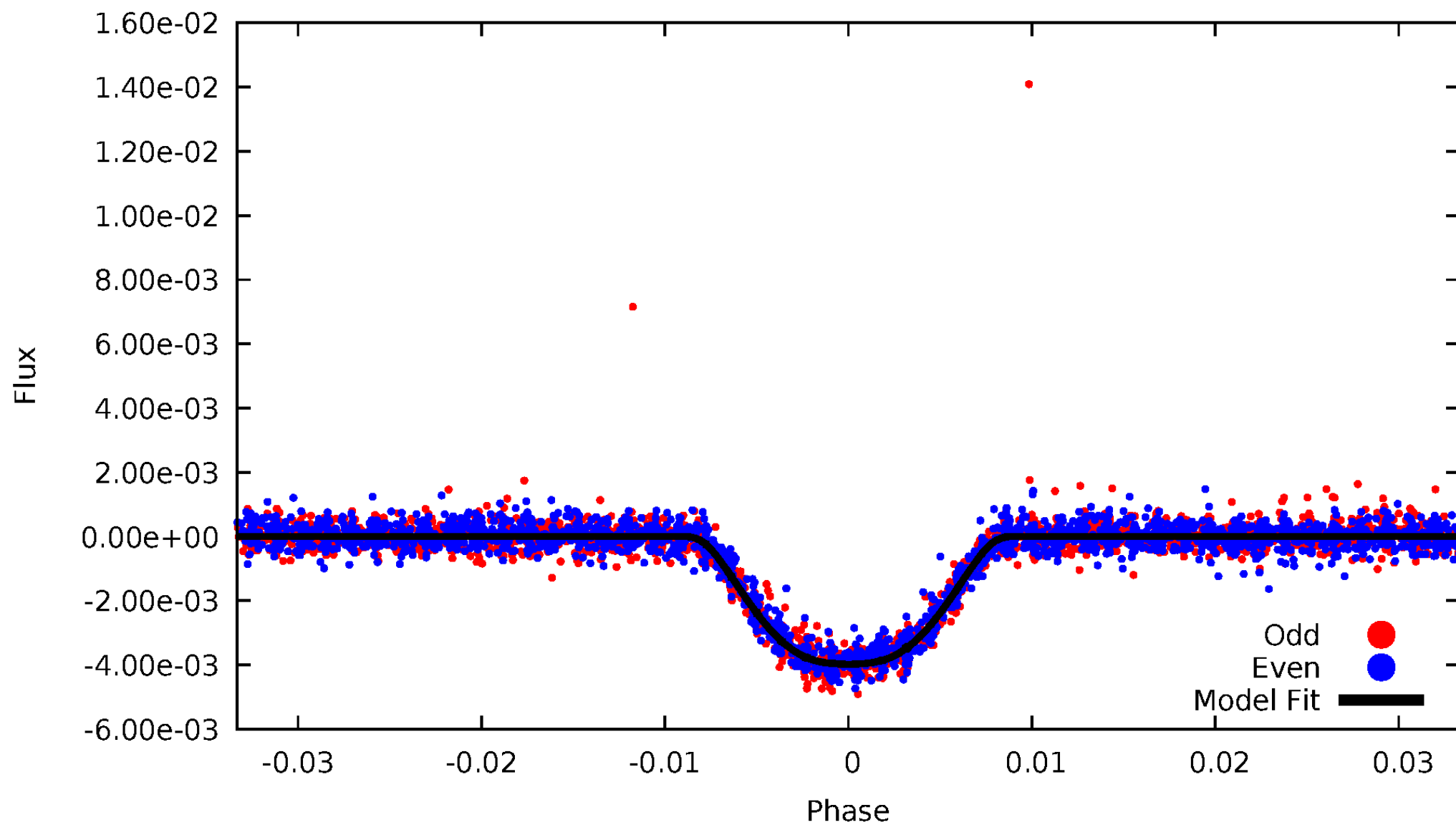


TCE 008008128-02



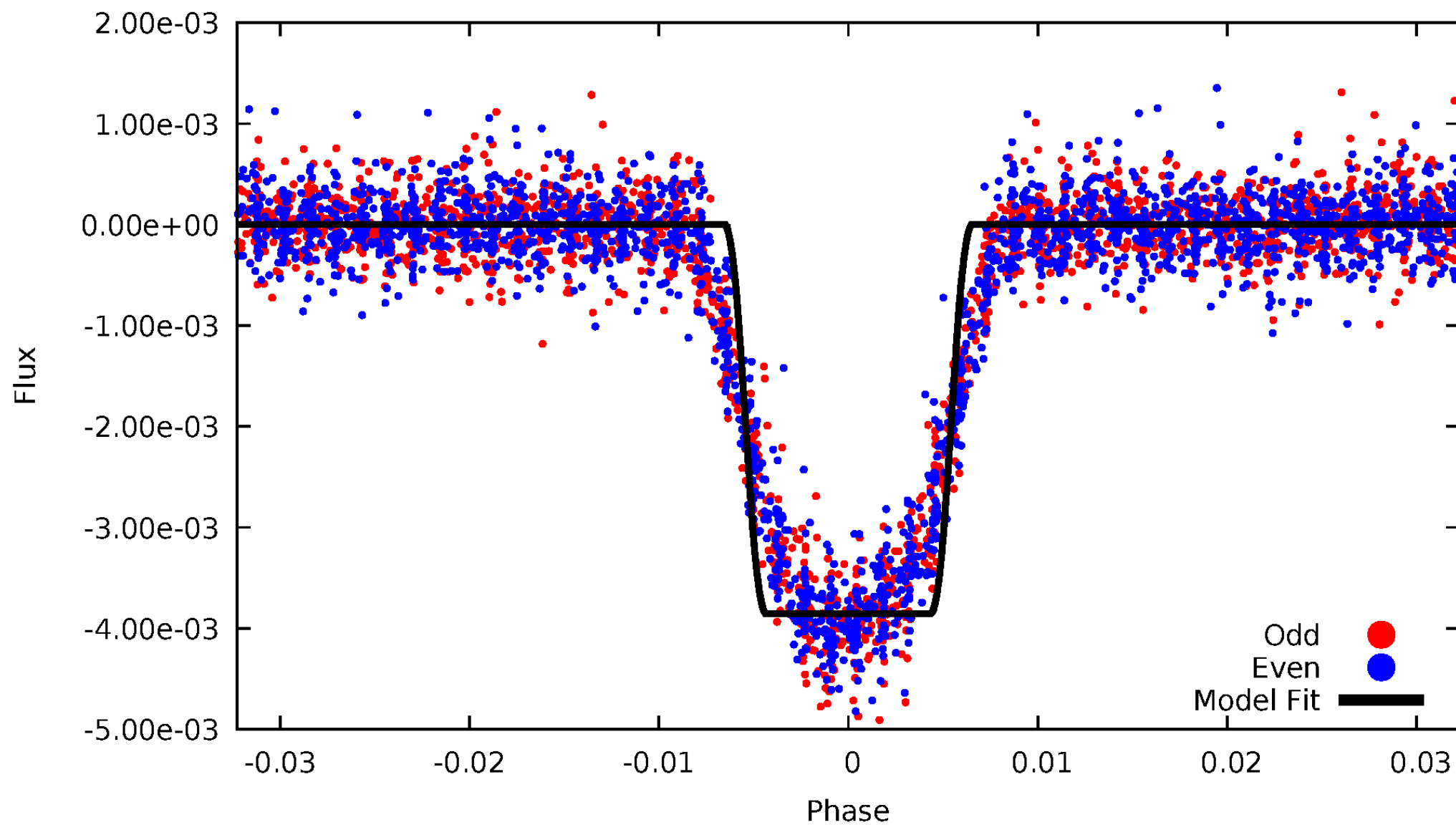
DV Odd/Even

TCE 008008128-02



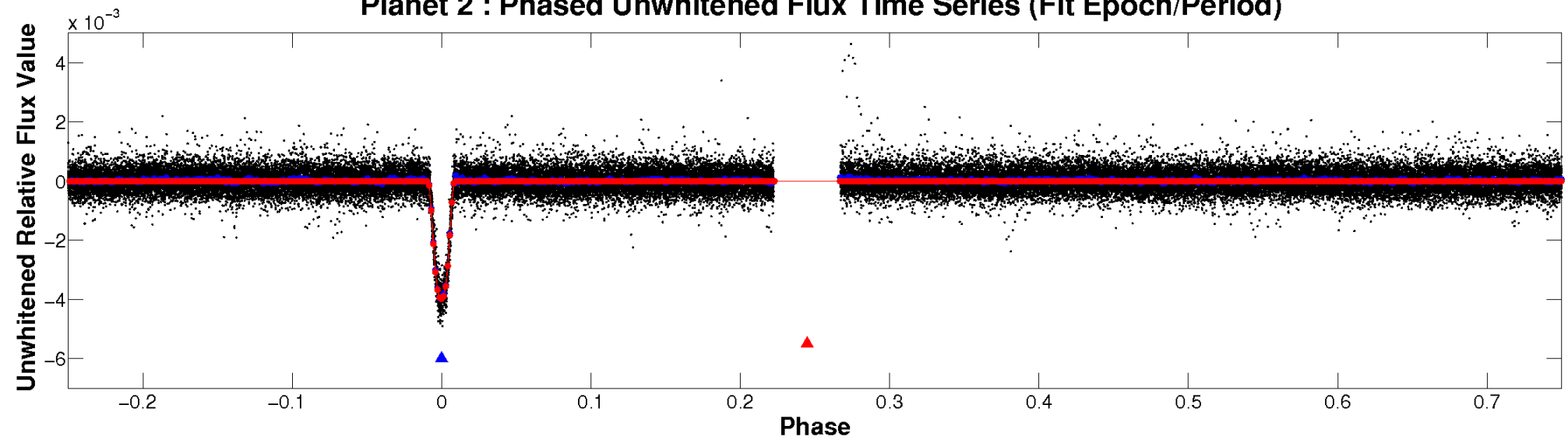
ALT Odd/Even

TCE 008008128-02

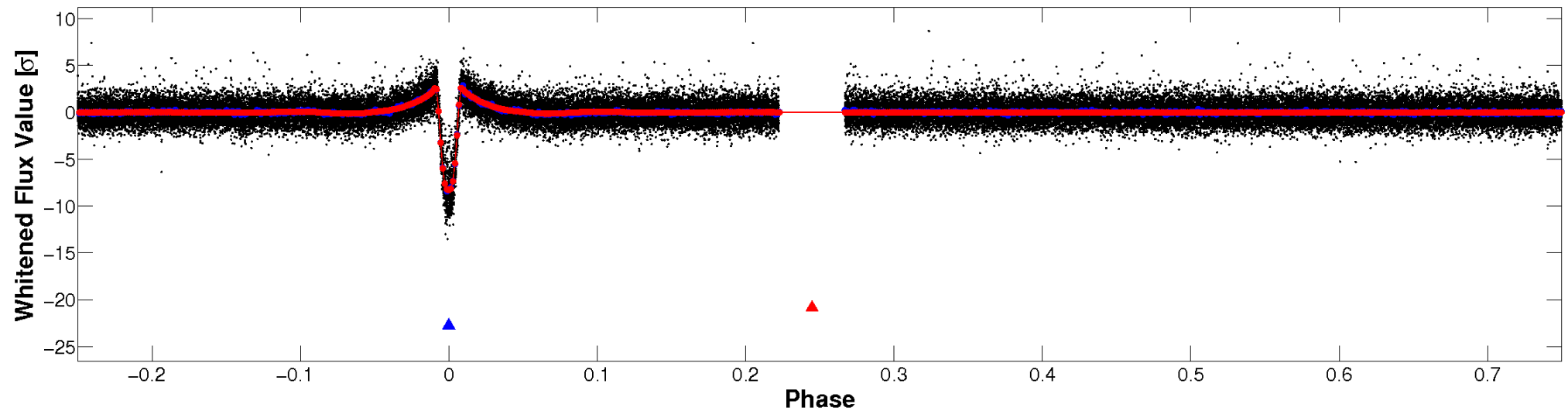


Non-Whitened Vs. Whitened Light Curve

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

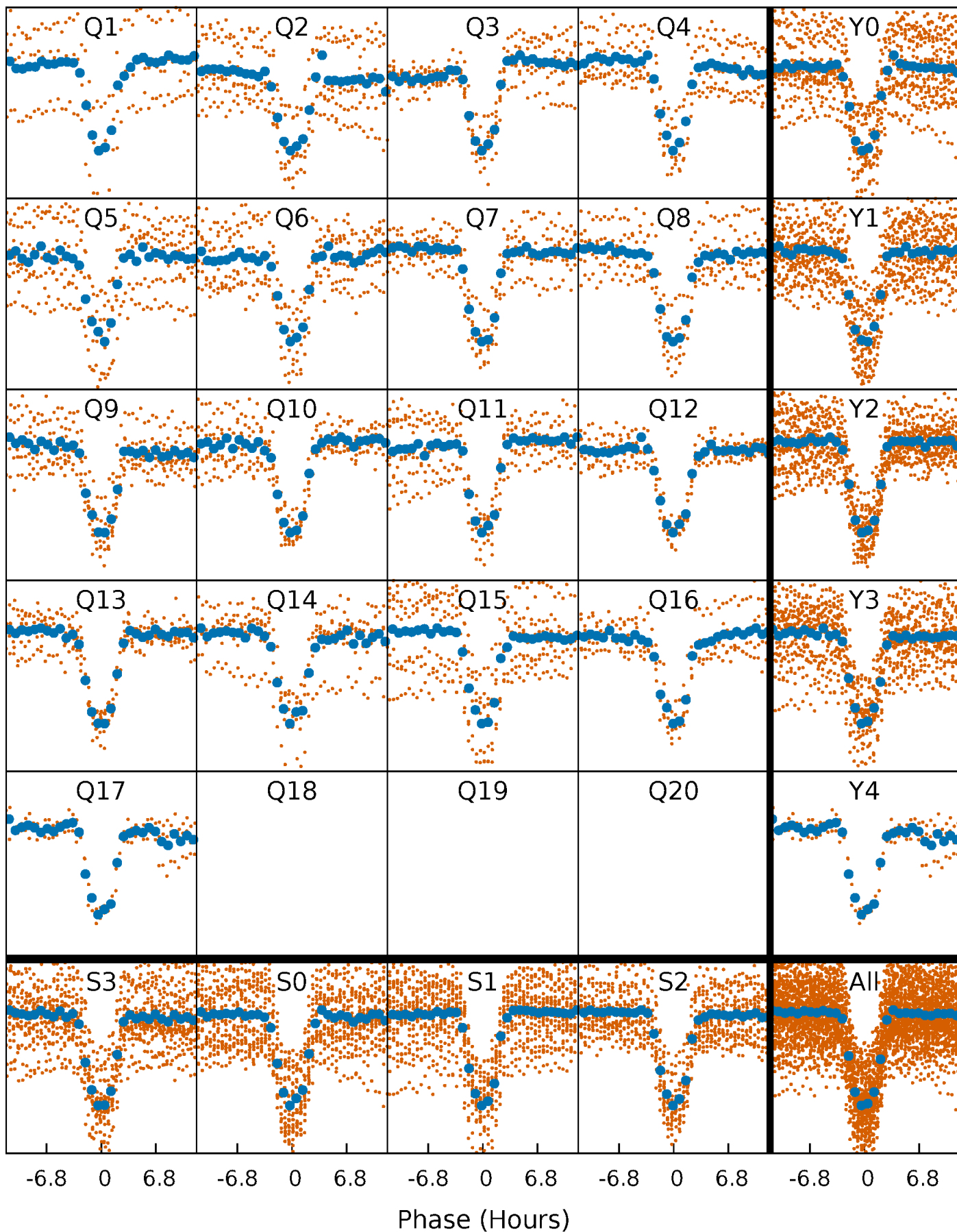


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



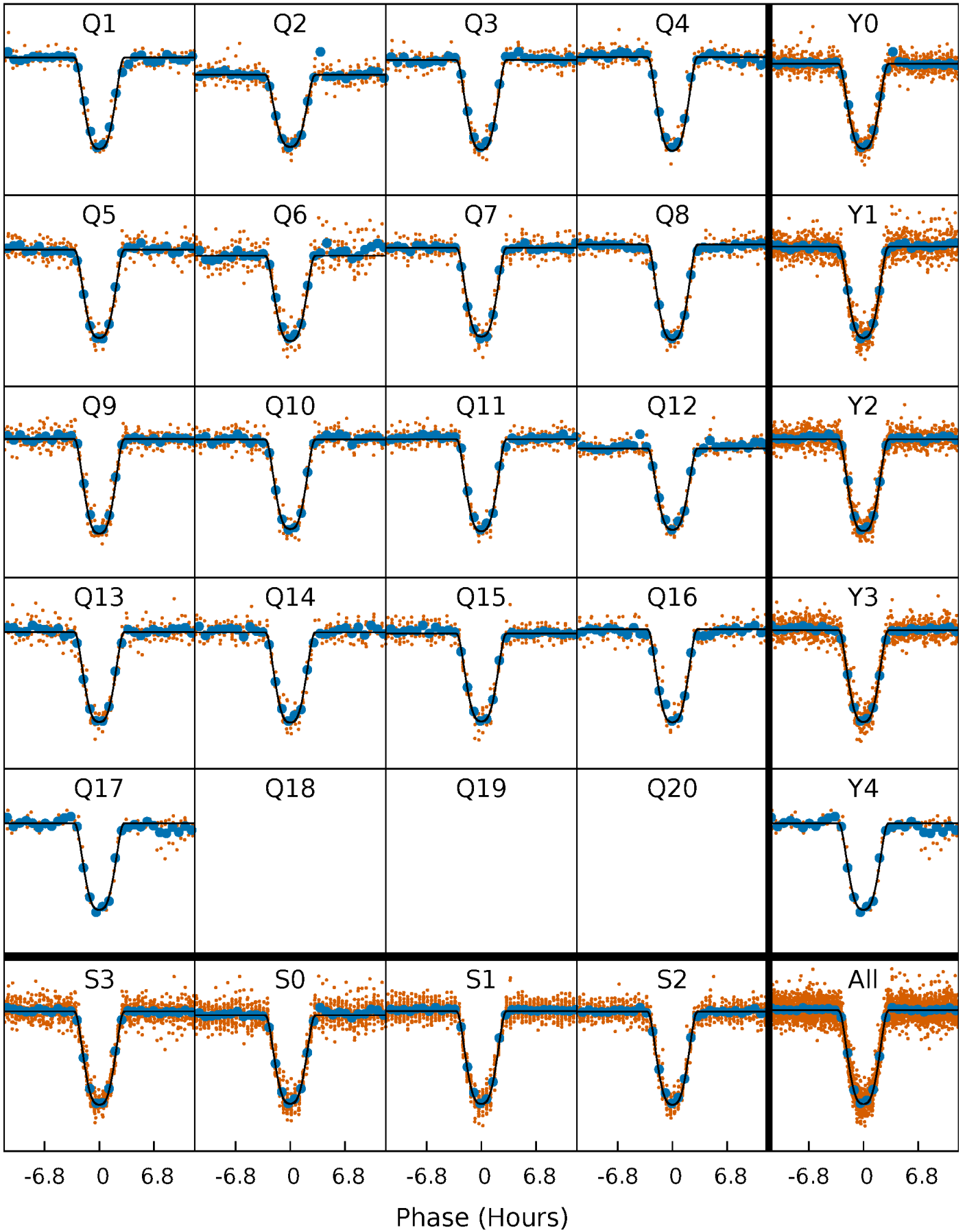
PDC Quarter-Phased Transit Curves

TCE 008008128-02 P= 14.854419 Days $T_0=132.923125$ (BKJD)



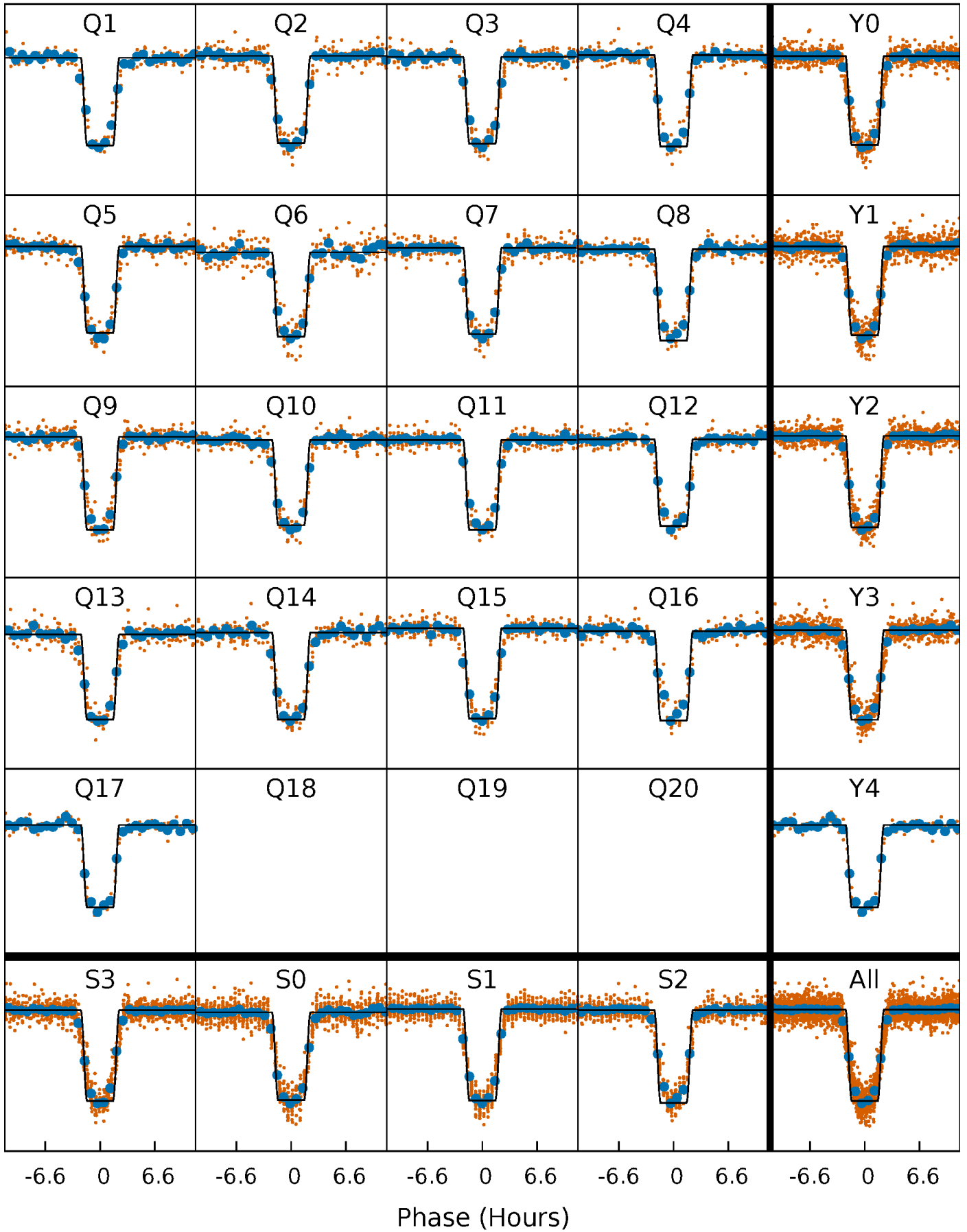
DV Quarter-Phased Transit Curves

TCE 008008128-02 P= 14.854419 Days $T_0=132.923125$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

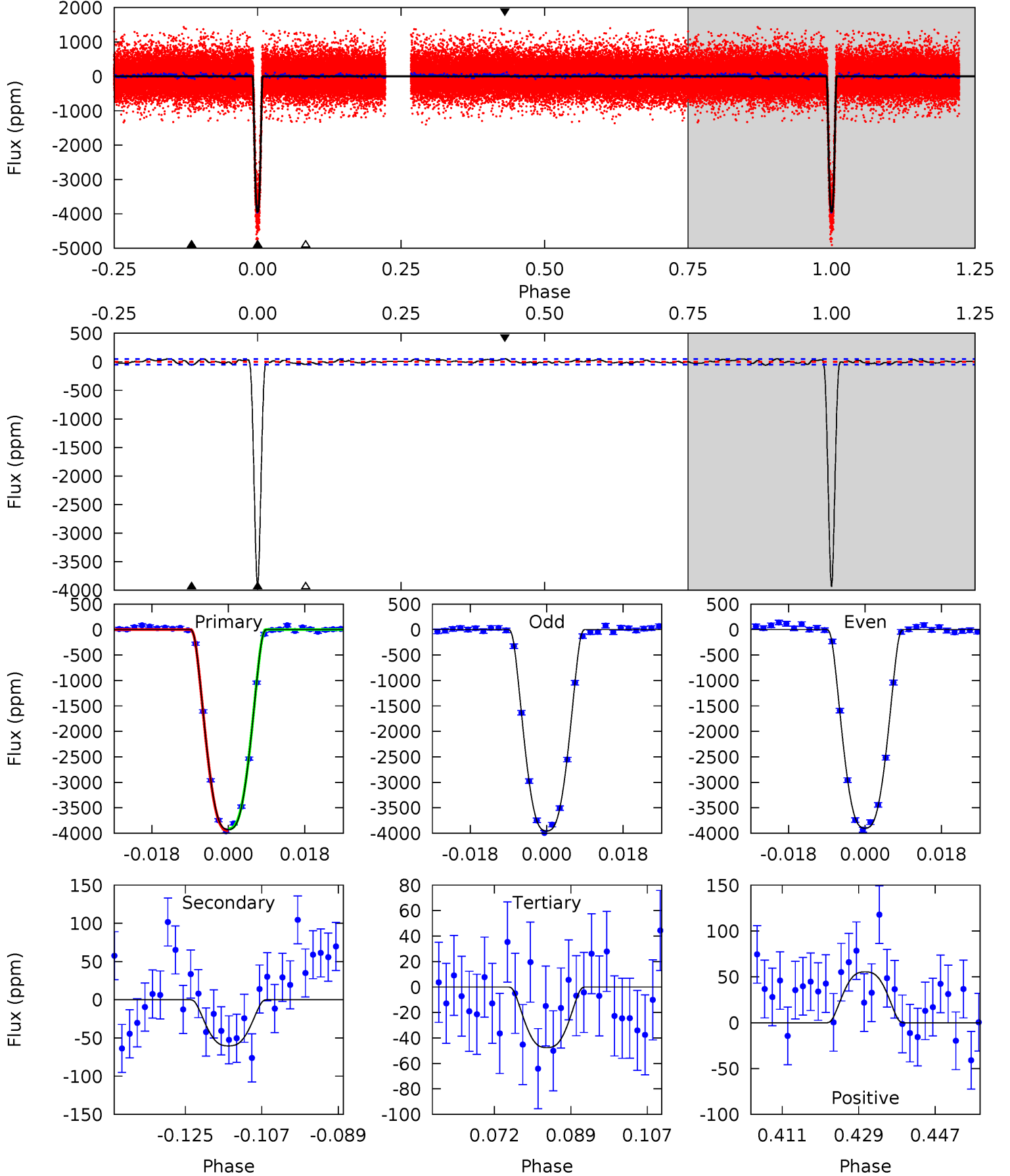
TCE 008008128-02 P= 14.854427 Days $T_0=132.922849$ (BKJD)



DV Model-Shift Uniqueness Test

008008128-02, P = 14.854419 Days, E = 118.068706 Days

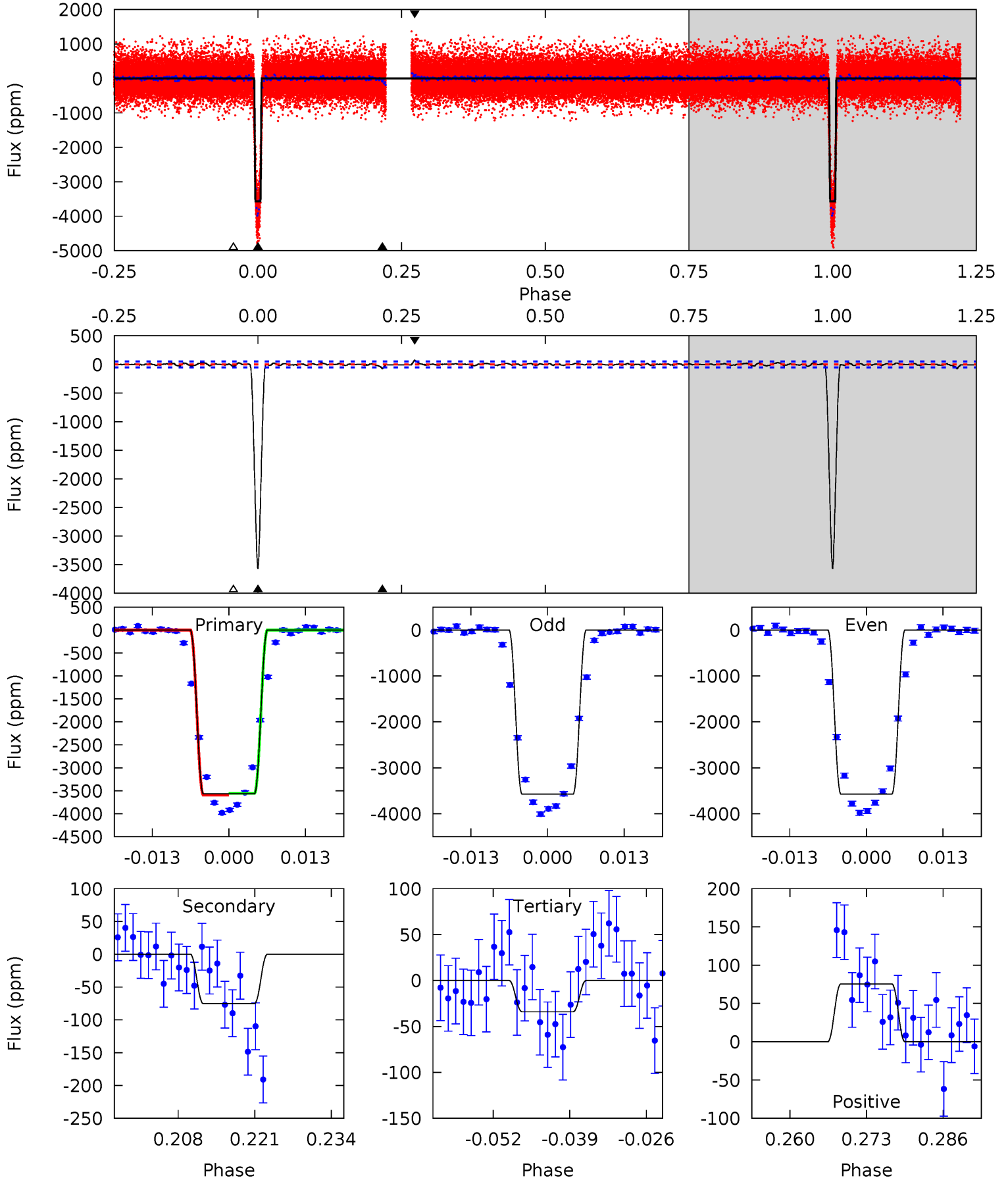
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
395.4	6.07	4.78	5.57	4.91	2.37	2.14	390.6	389.8	1.29	0.50	2.75	1.00	0.01	1.70



Alt Model-Shift Uniqueness Test

008008128-02, P = 14.854427 Days, E = 118.068422 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
345.4	7.29	3.30	7.30	4.98	2.48	1.13	342.1	338.1	3.99	-0.02	0.19	1.00	0.02	1.59



Stellar Parameters For KIC 008008128

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6214^{+175}_{-197}	$4.444^{+0.070}_{-0.224}$	$-0.160^{+0.250}_{-0.300}$	$1.022^{+0.350}_{-0.117}$	$1.051^{+0.159}_{-0.130}$	$1.385^{+0.418}_{-0.764}$
	+3%/-3%	+2%/-5%	+156%/-188%	+34%/-11%	+15%/-12%	+30%/-55%
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 008008128-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-60 ± 10	$8.02^{+1.38}_{-0.64}$	1137^{+85}_{-57}	2790^{+75}_{-83}	$7.113^{+1.858}_{-1.966}$
Alt.	-75 ± 10	$7.05^{+1.26}_{-0.56}$	1136^{+87}_{-62}	2981^{+74}_{-86}	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 $A_{\text{obs}} \gg 1.0$

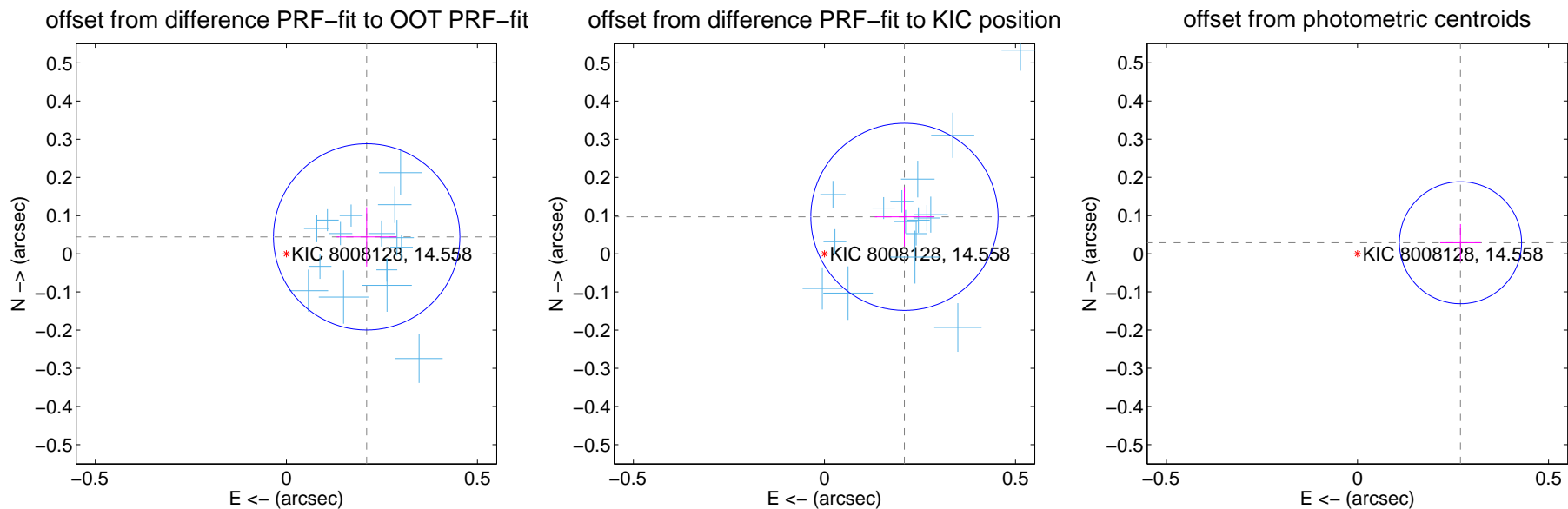
DV Centroid Data

Supplemental centroid analysis for 008008128-02. Kepler magnitude: 14.56. Transit SNR 202.78

There are 17 quarters with good PRF difference image offsets

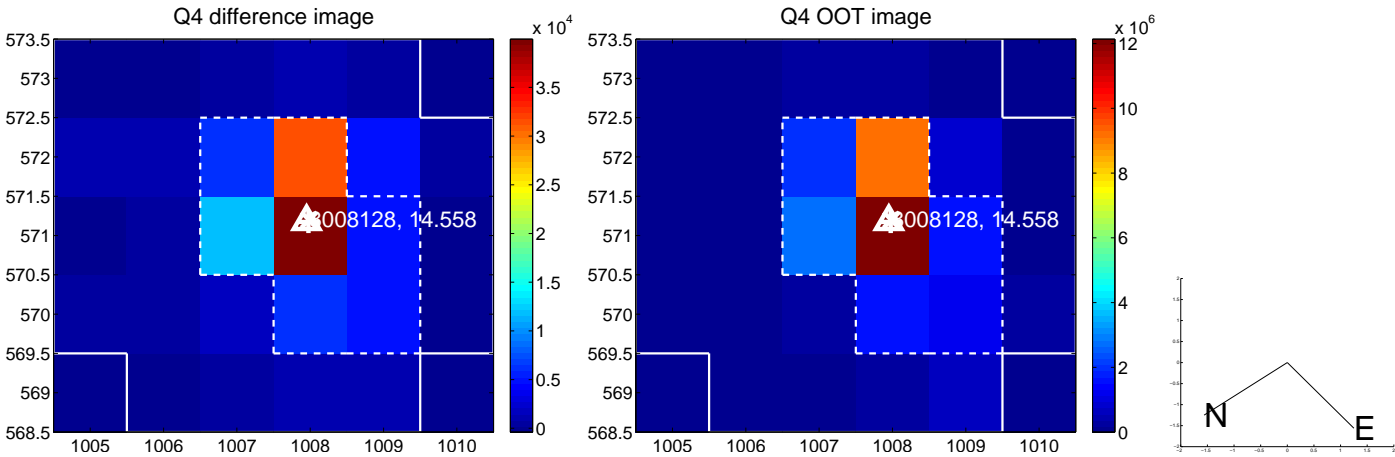
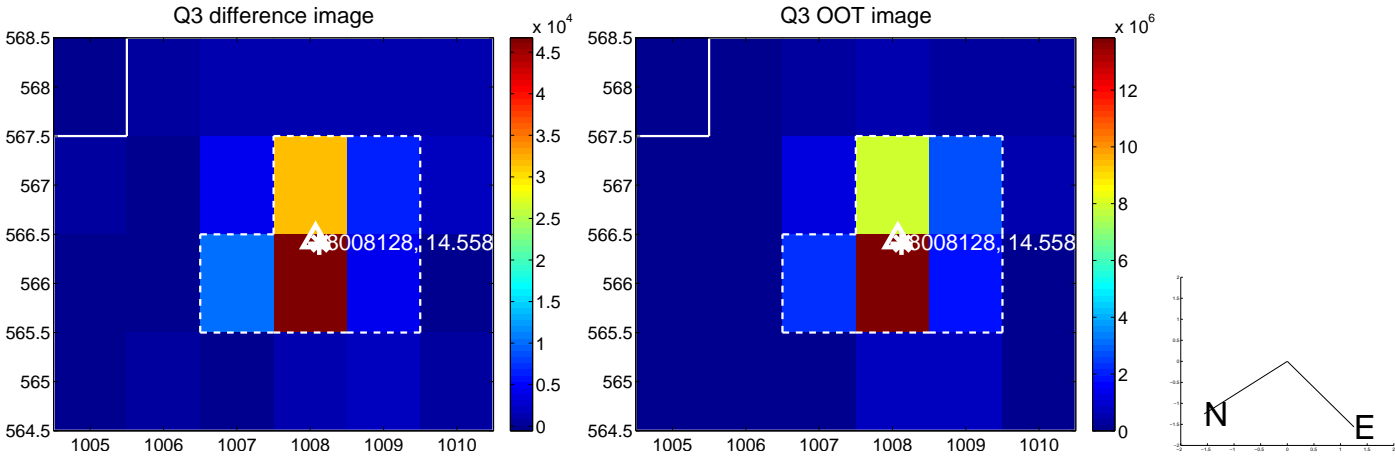
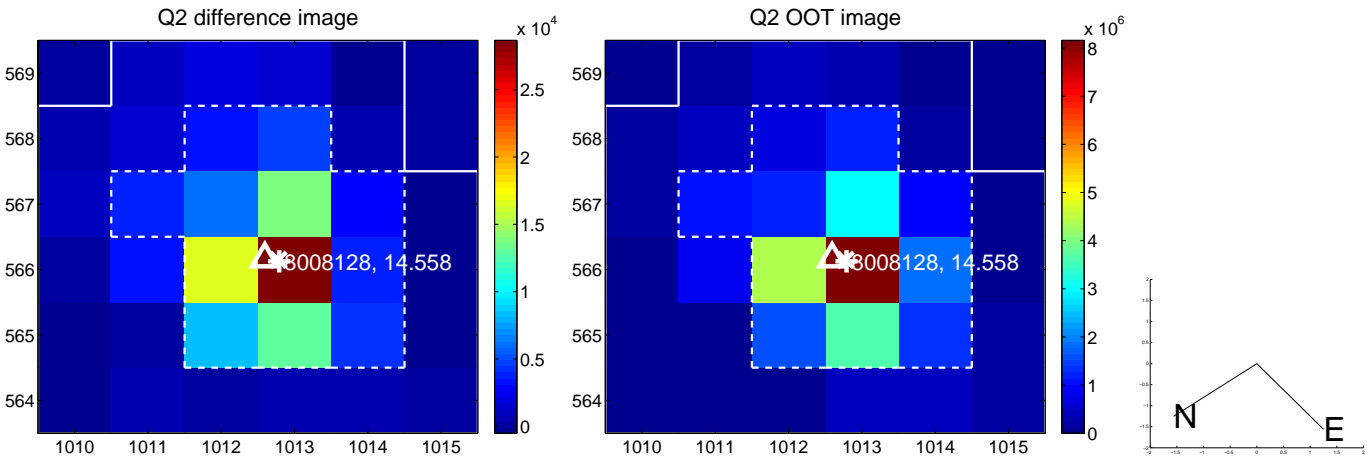
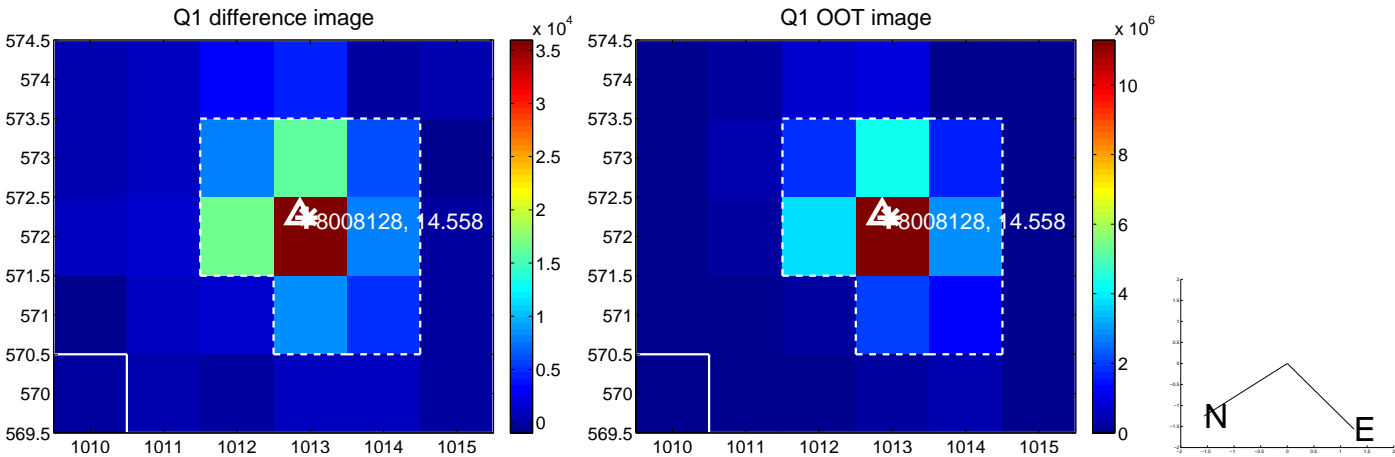
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.215 ± 0.081	2.64	-0.210 ± 0.079	0.044 ± 0.078
PRF-fit source offset from KIC position	0.231 ± 0.082	2.82	-0.209 ± 0.078	0.097 ± 0.078
photometric centroid source offset	0.27 ± 0.05	5.09	-0.27 ± 0.05	0.03 ± 0.05

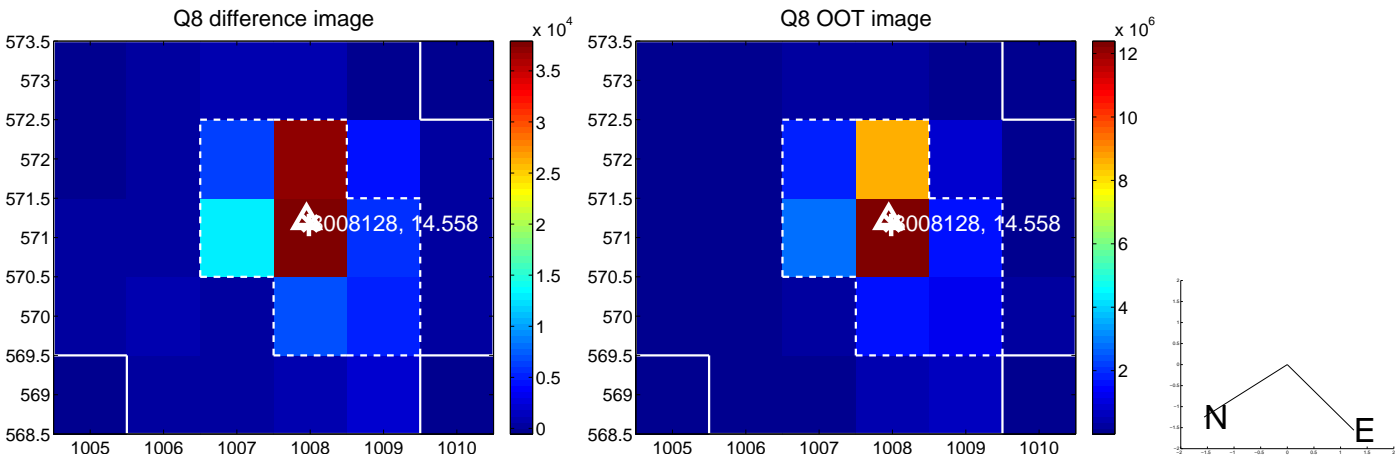
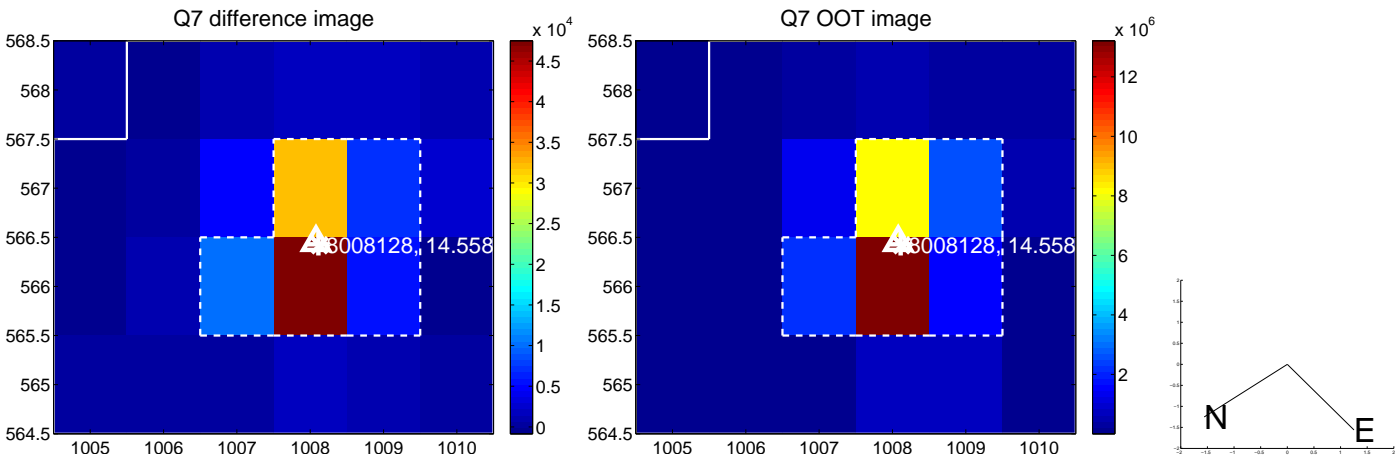
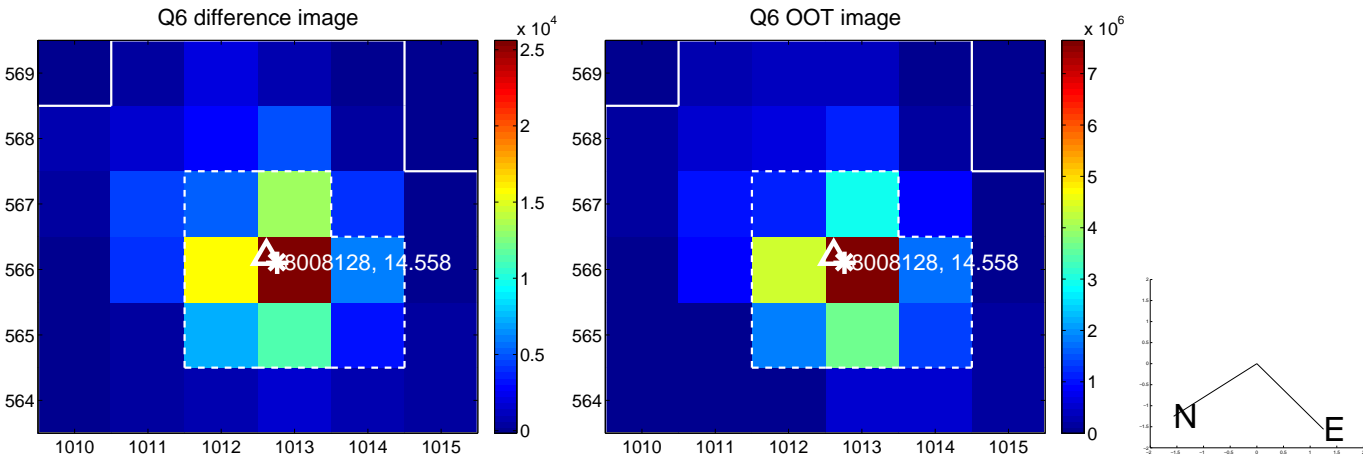
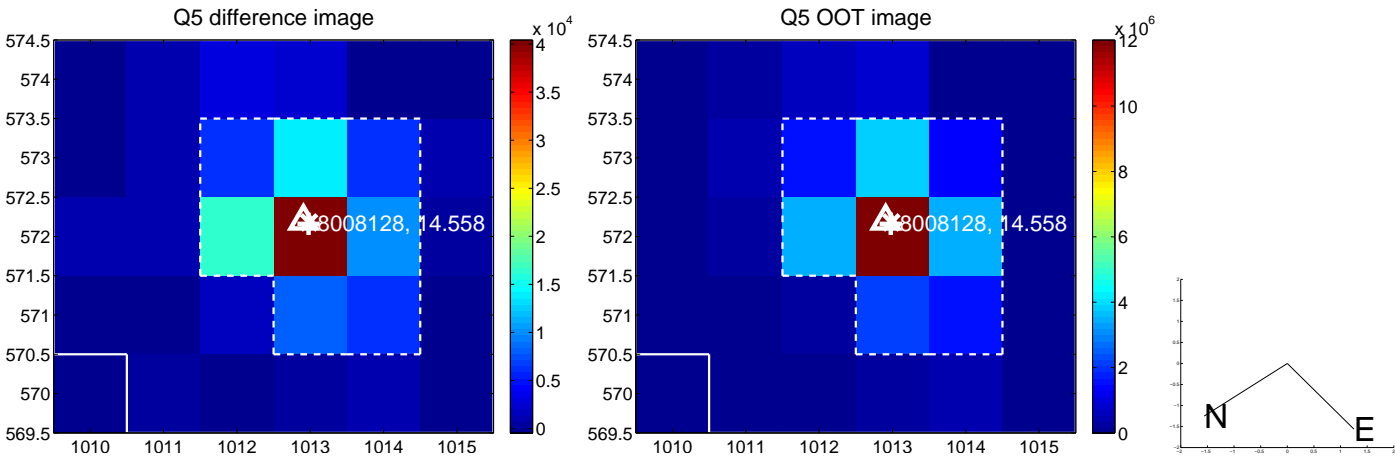


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

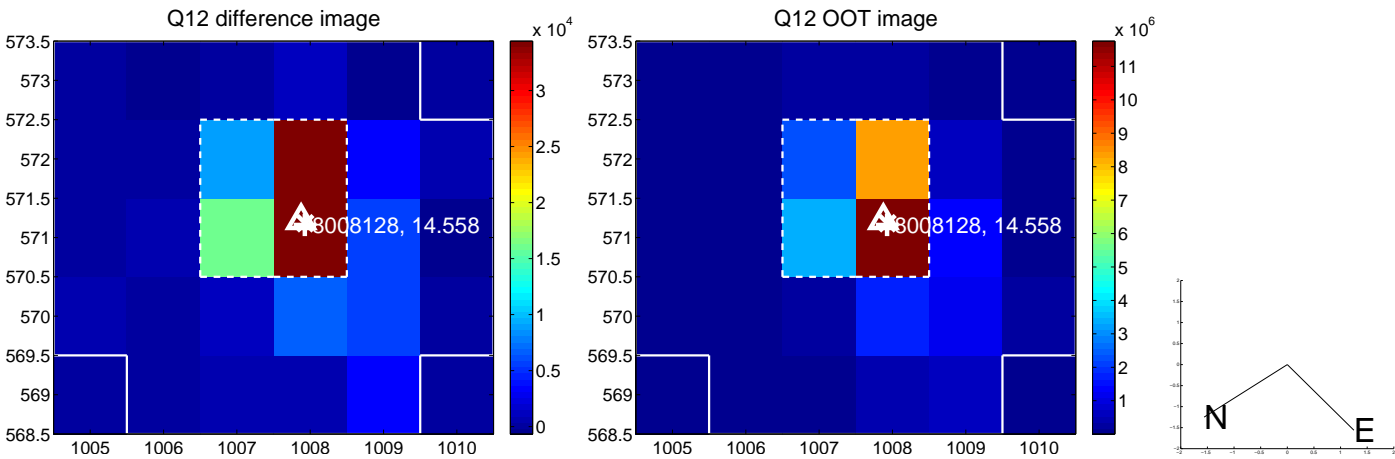
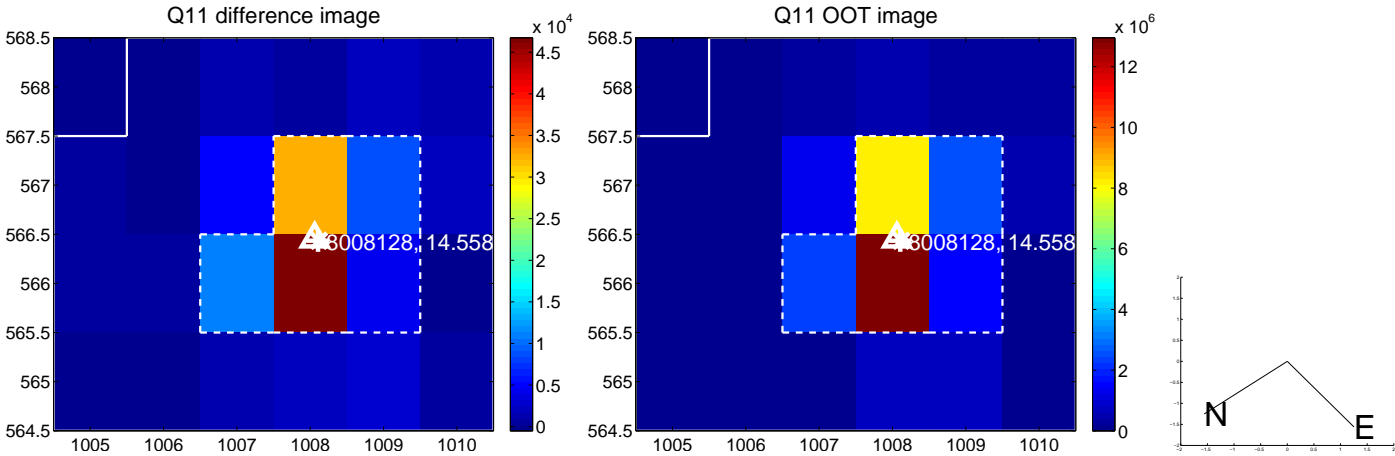
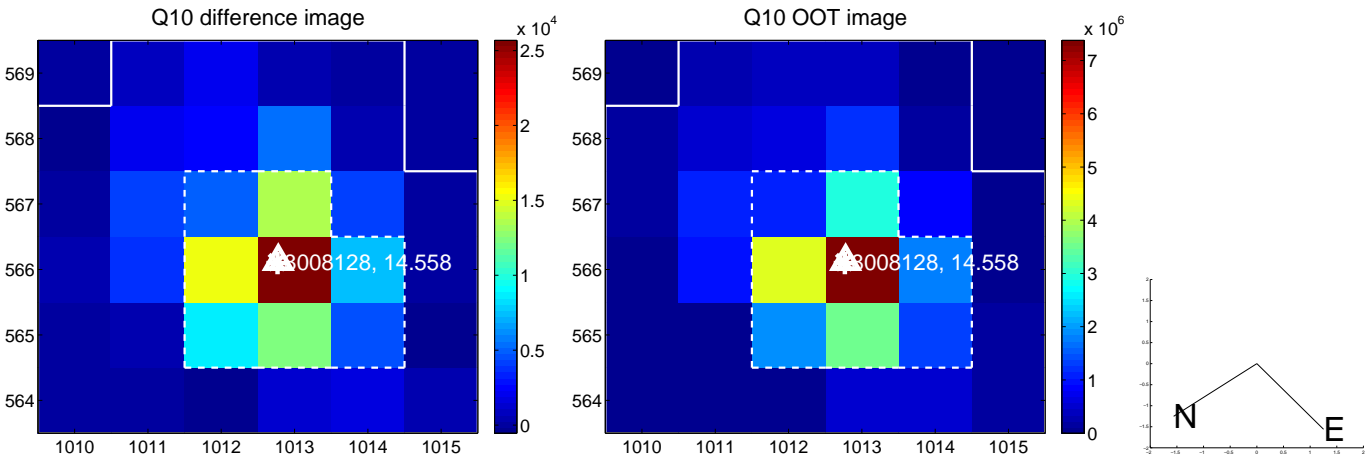
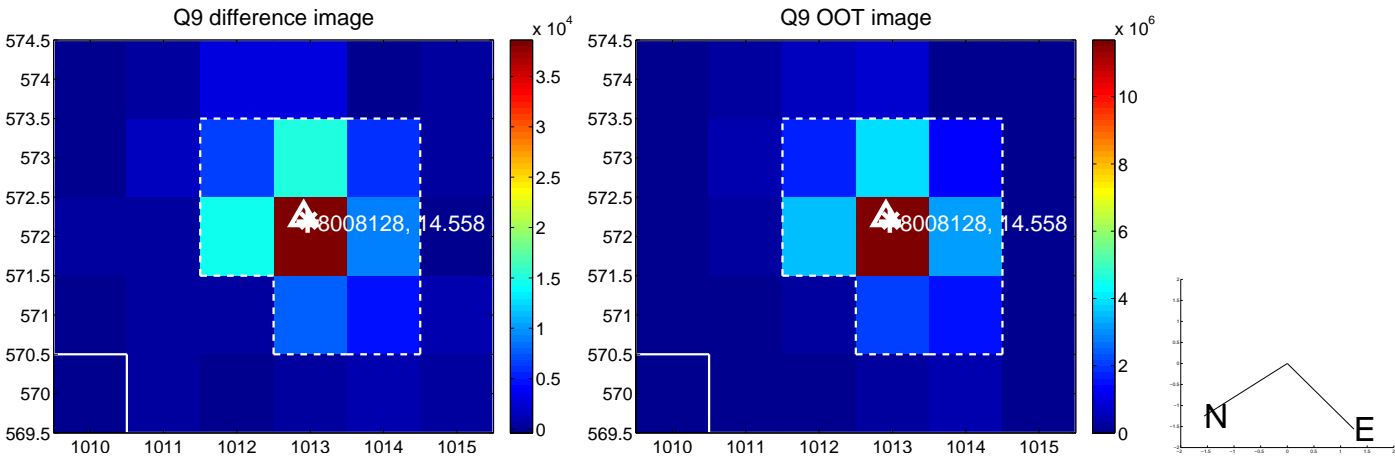
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



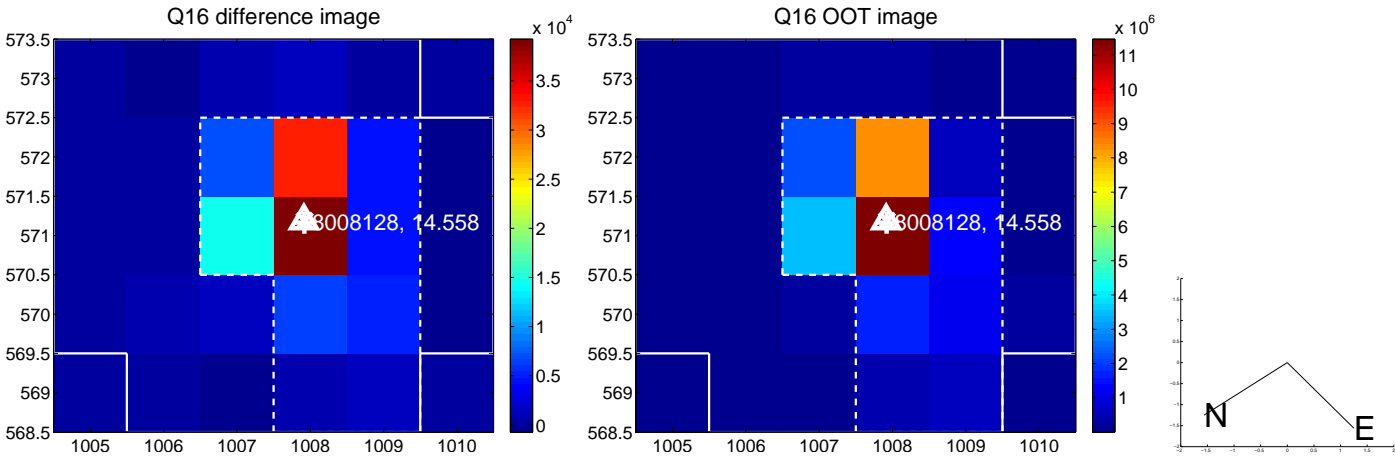
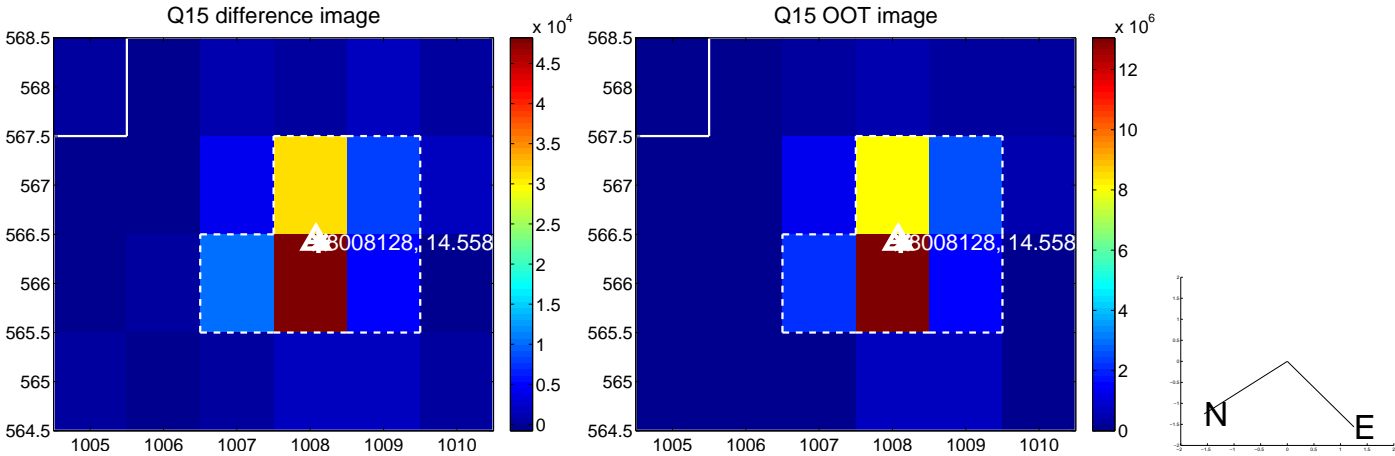
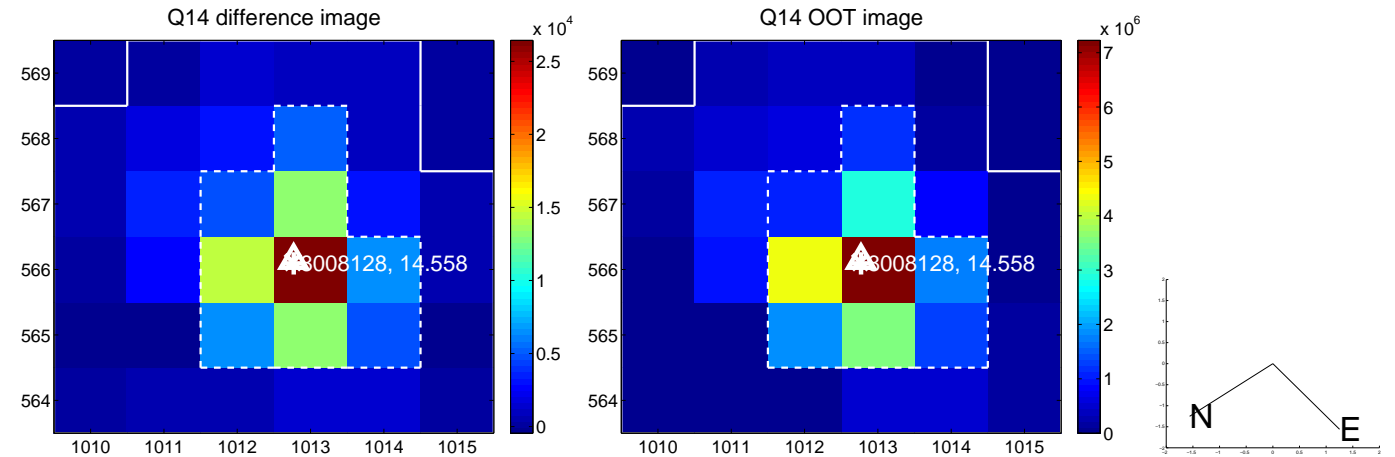
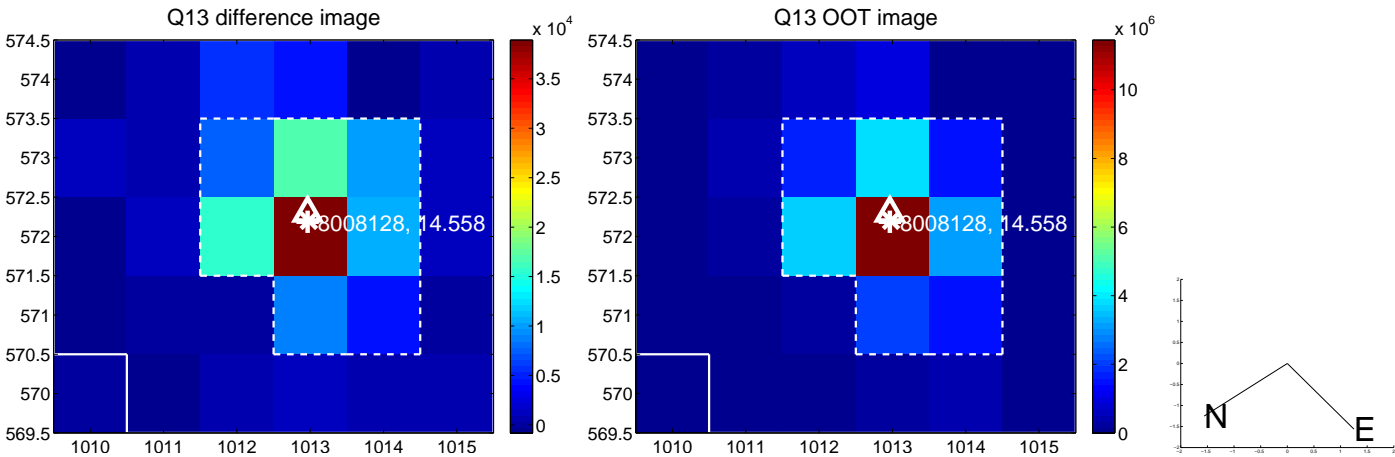
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



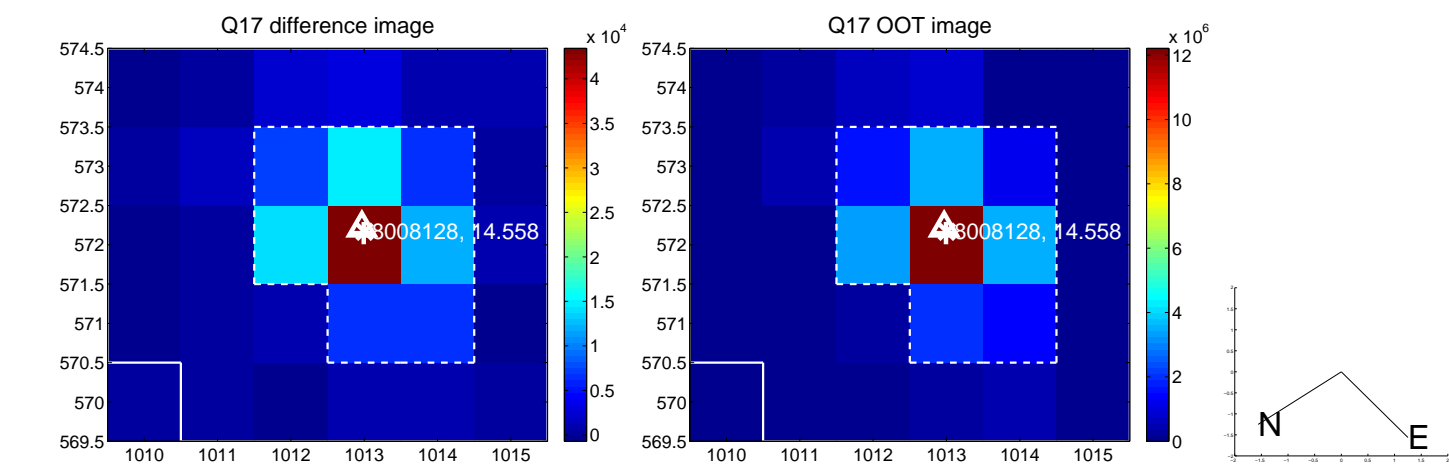
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



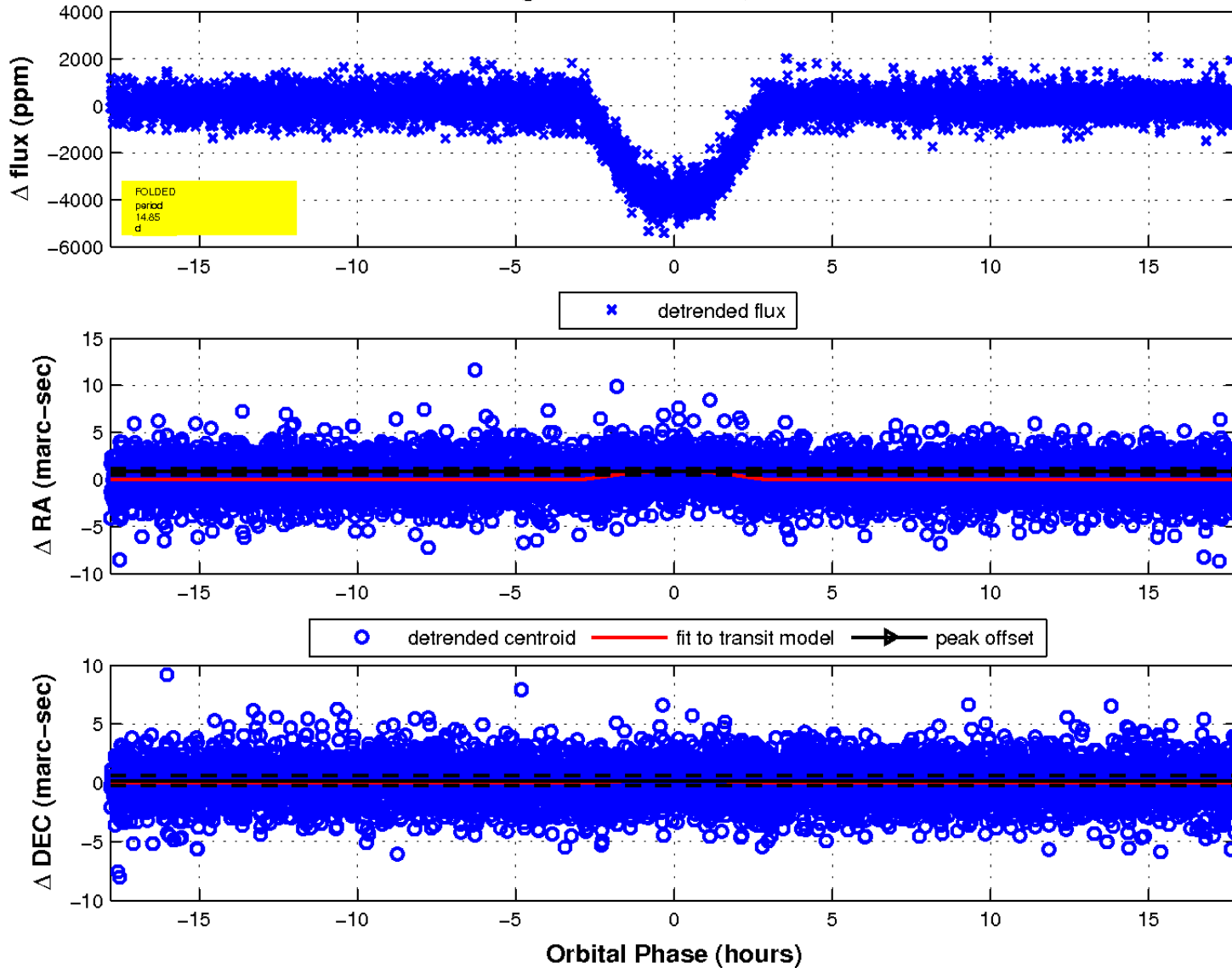
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

