

KIC 007626506

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})
007626506-01	OBS	0150.01	8.408872	134.006882	790.4	3.629	132.8	133.5	0.81	5551	2.50	101.49
007626506-02	OBS	0150.02	28.574259	143.831666	830.3	5.066	87.1	86.6	0.81	5551	2.50	19.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007626506-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007626506-02	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.

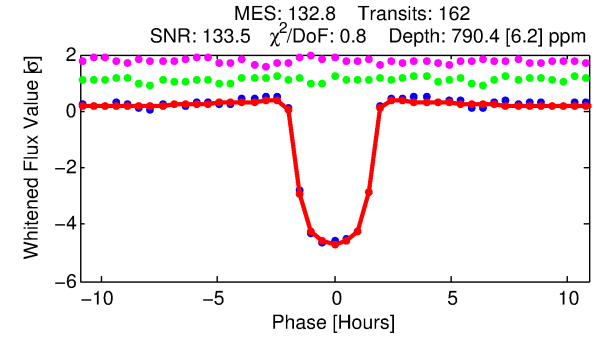
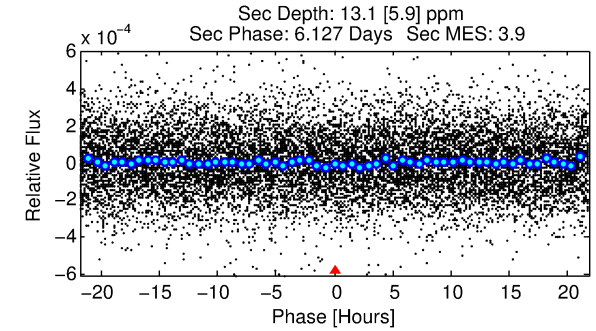
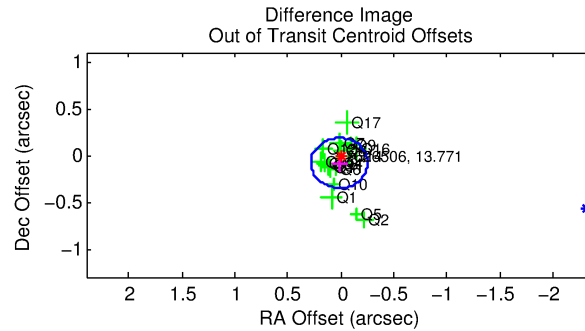
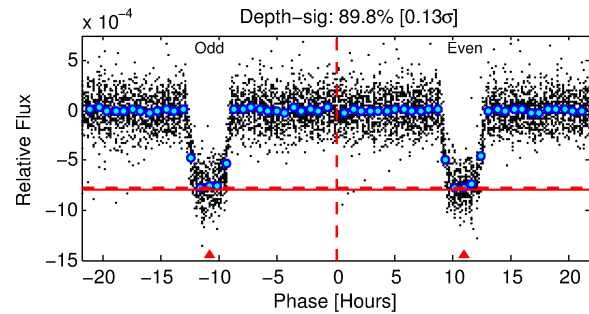
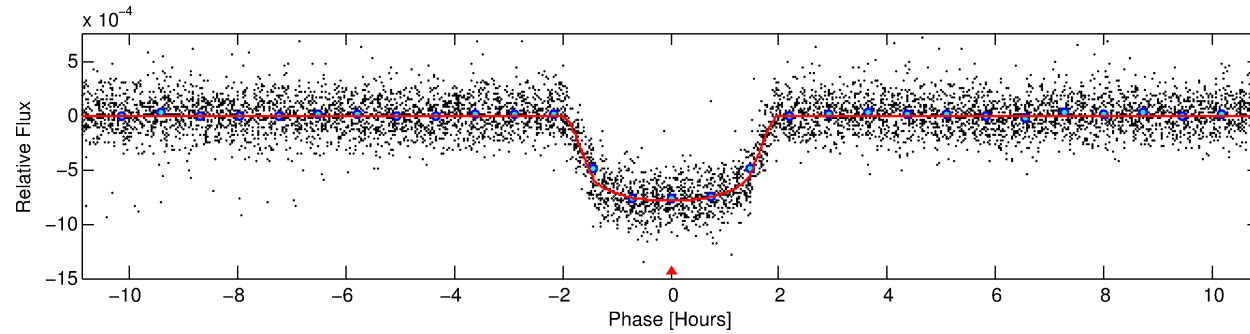
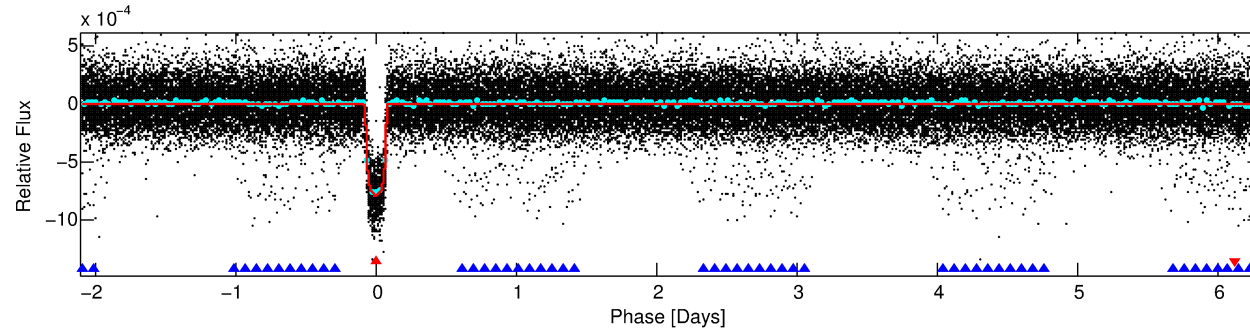
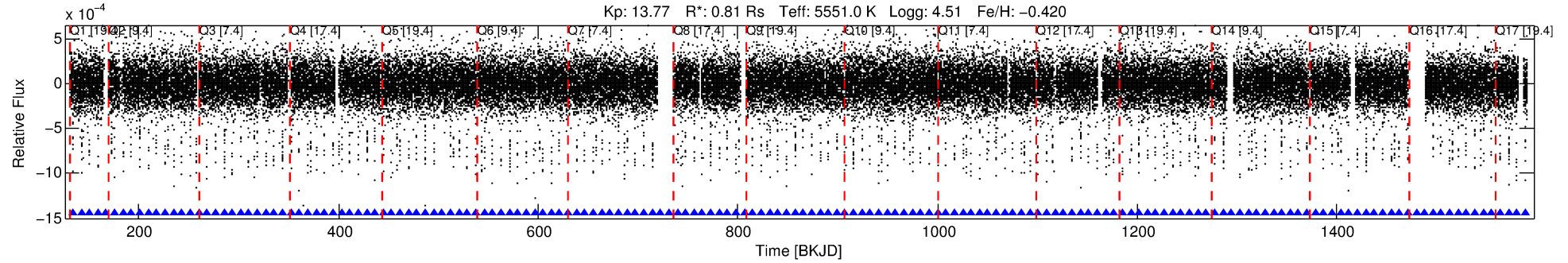
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007626506-01

No Significant Match Found

DV One-Page Summary

KIC: 7626506 Candidate: 1 of 2 Period: 8.409 d
KOI: K00150.01 Name: Kepler-112b Corr: 0.981



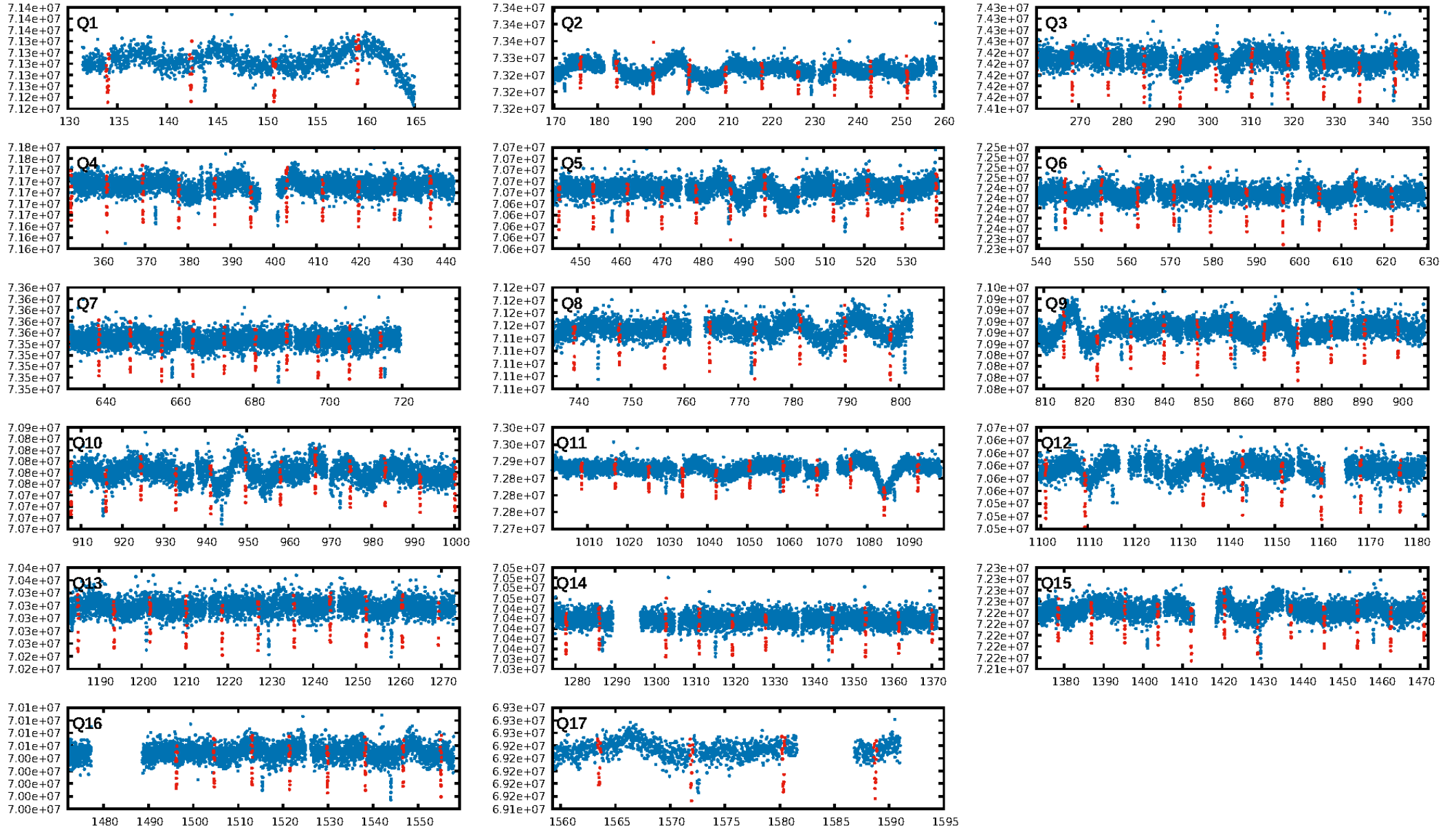
DV Fit Results:

Period = 8.40887 [0.00001] d
Epoch = 134.0069 [0.0005] BKJD
Rp/R* = 0.0283 [0.0015]
a/R* = 12.03 [2.74]
b = 0.77 [0.12]
Seff = 101.49 [15.62]
Req = 809 [31] K
Rp = 2.50 [0.25] Re
a = 0.0743 [0.0061] AU
Ag = 6.36 [3.03] [1.77 σ]
Teffp = 1987 [231] K [5.05 σ]

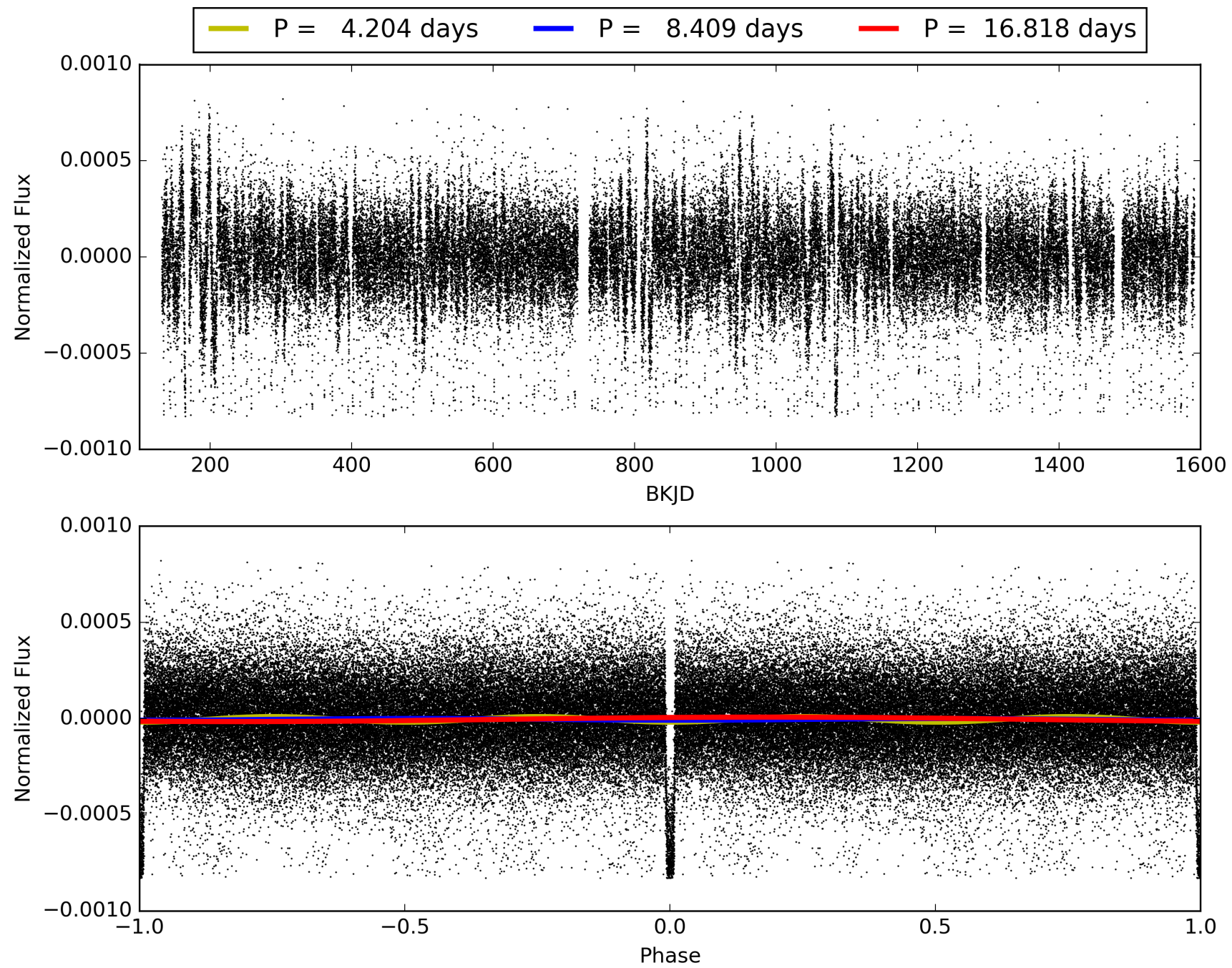
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [77.66 σ]
ModelChiSquare2-sig: 99.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [154/154]
GhostDiagnostic-chr: 7.982
Centroid-sig: 0.0%
Centroid-so: 0.393 arcsec [4.10 σ]
OotOffset-rm: 0.084 arcsec [0.94 σ]
KicOffset-rm: 0.294 arcsec [3.78 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007626506-01, PDC Light Curves

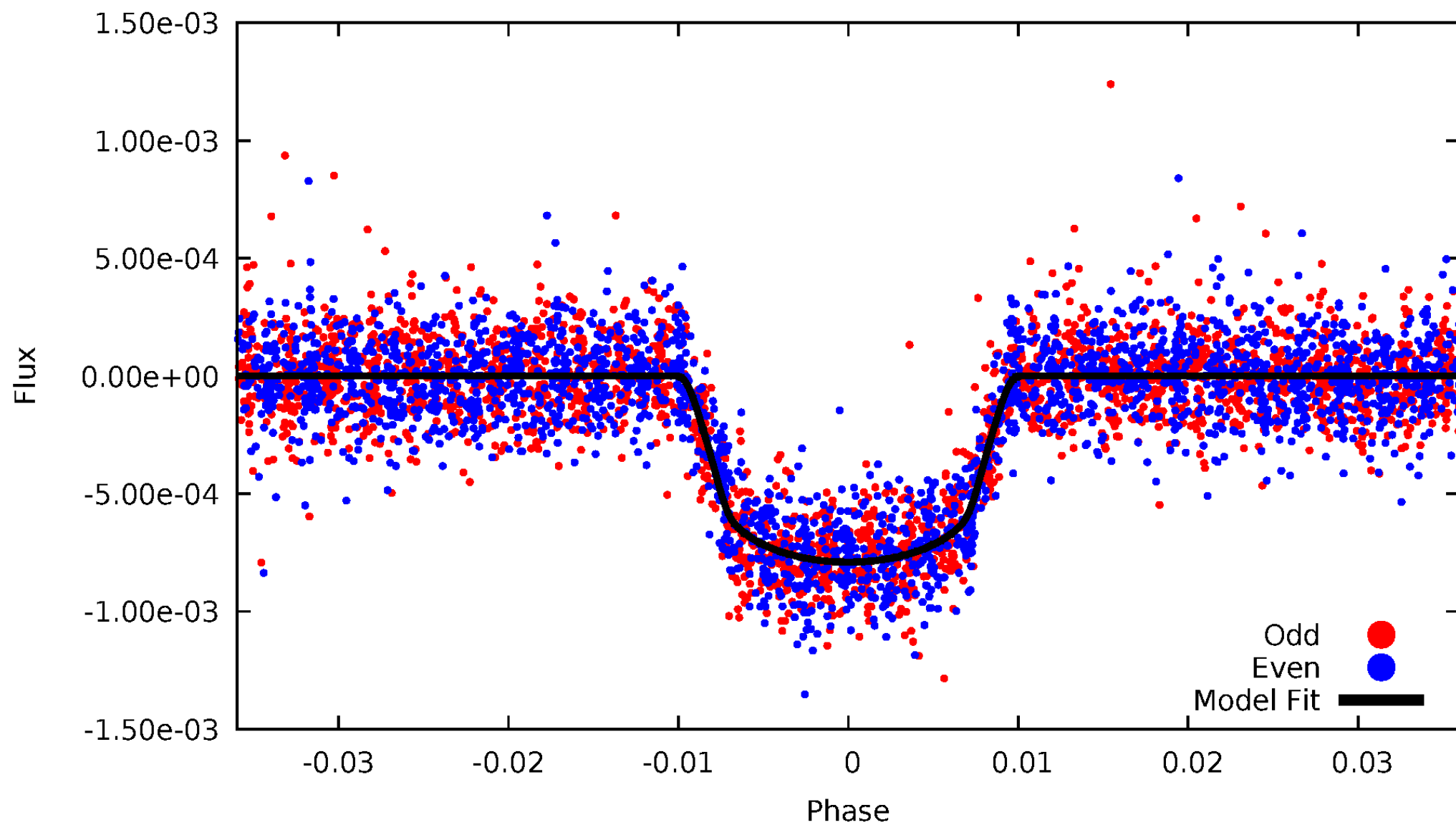


TCE 007626506-01



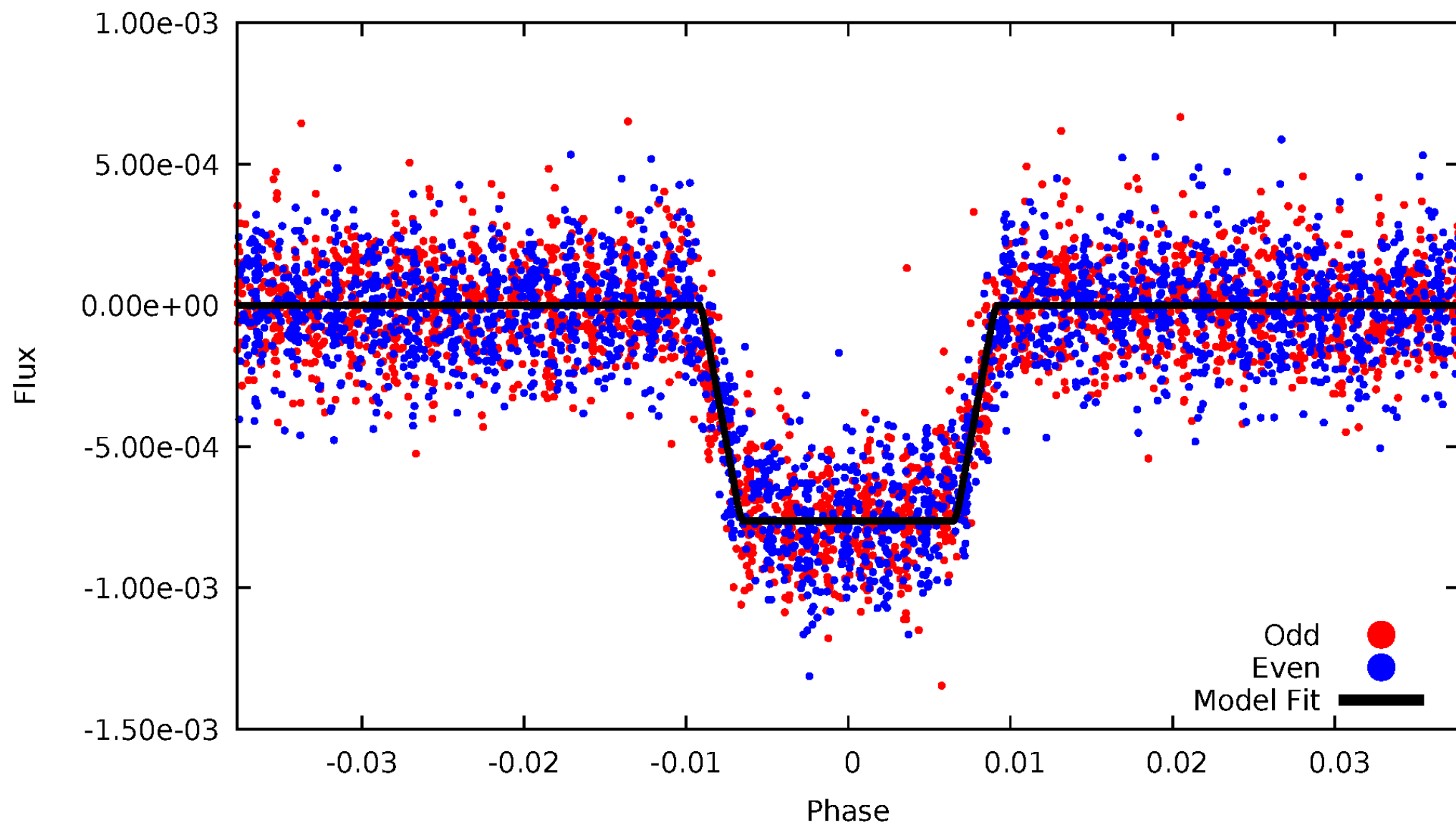
DV Odd/Even

TCE 007626506-01



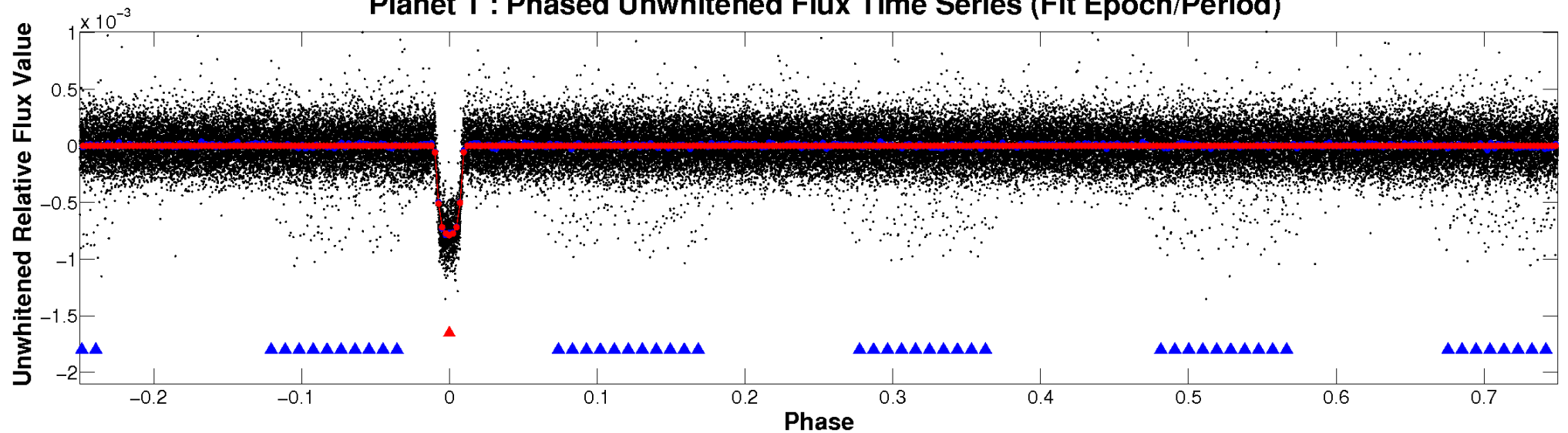
ALT Odd/Even

TCE 007626506-01

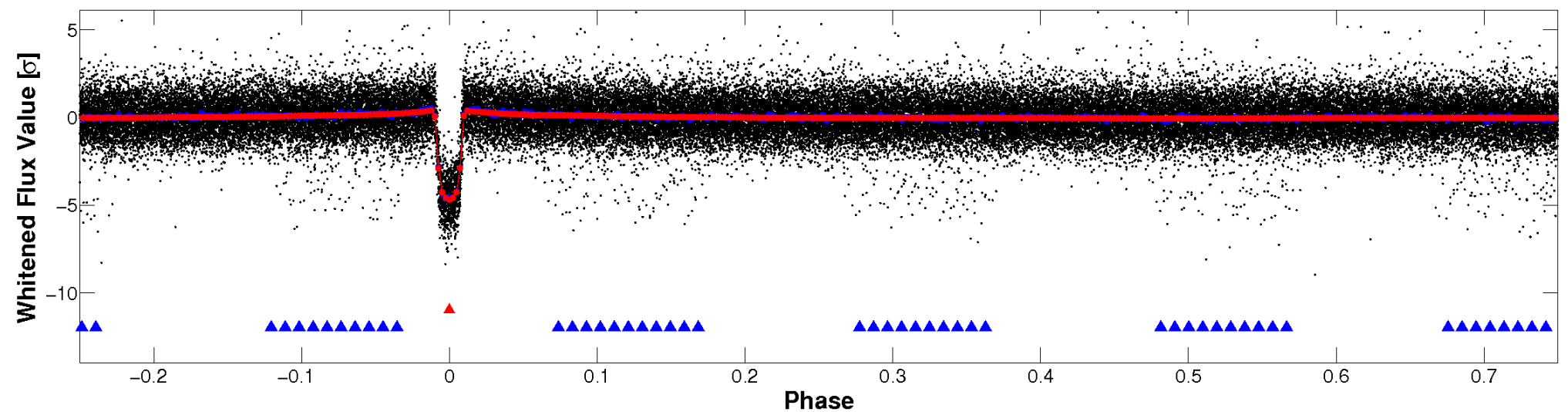


Non-Whitened Vs. Whitened Light Curve

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

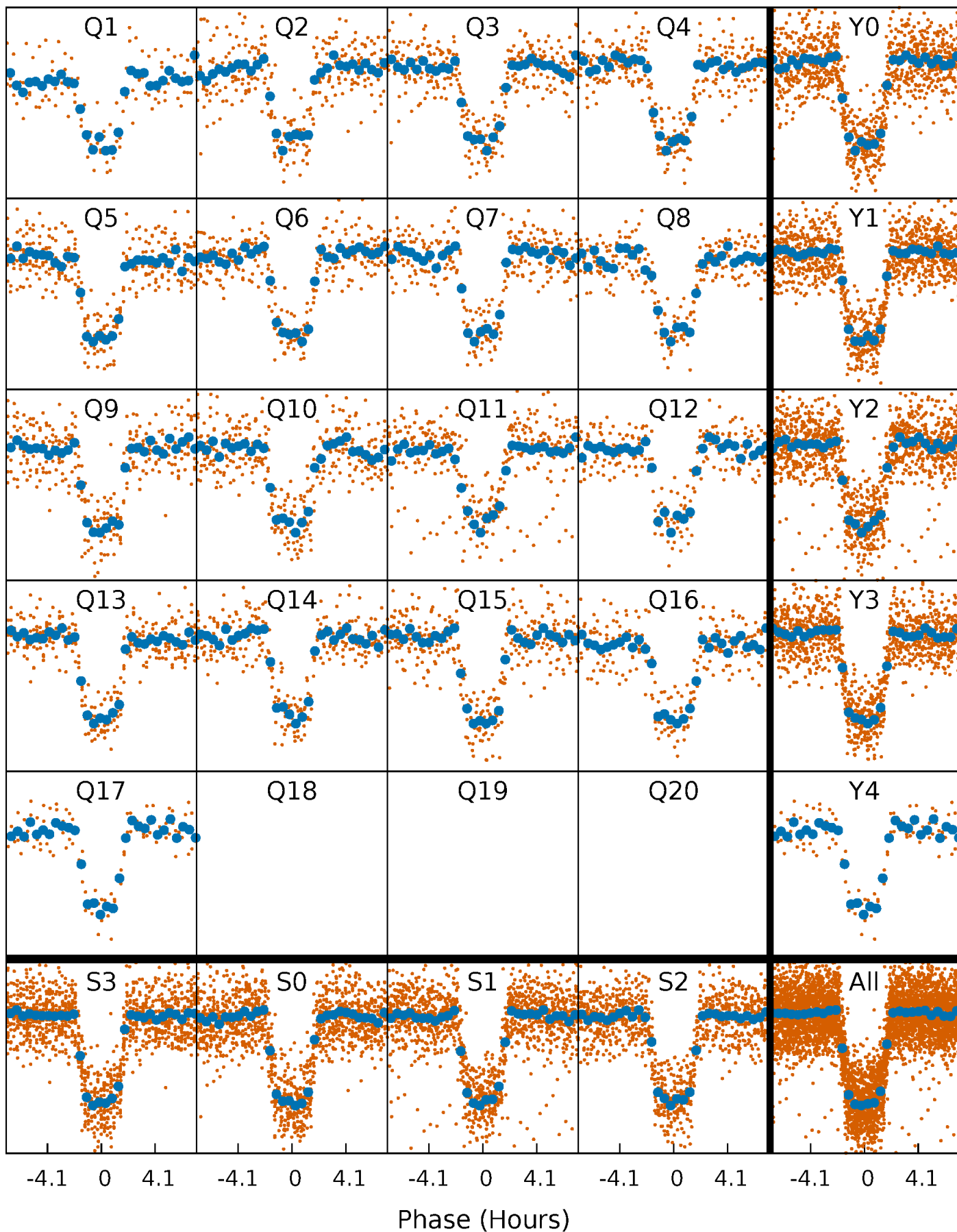


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



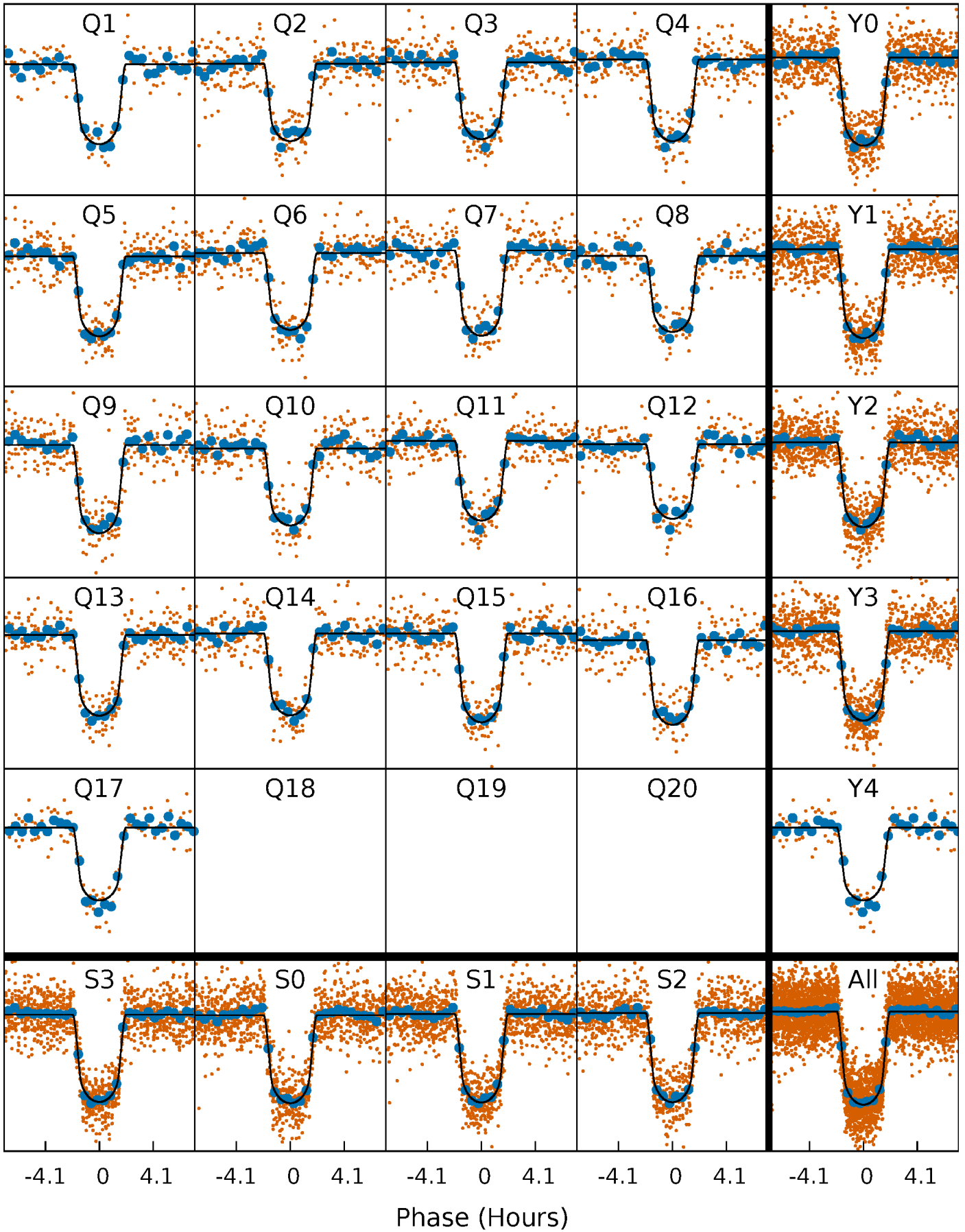
PDC Quarter-Phased Transit Curves

TCE 007626506-01 P= 8.408872 Days $T_0=134.006882$ (BKJD)



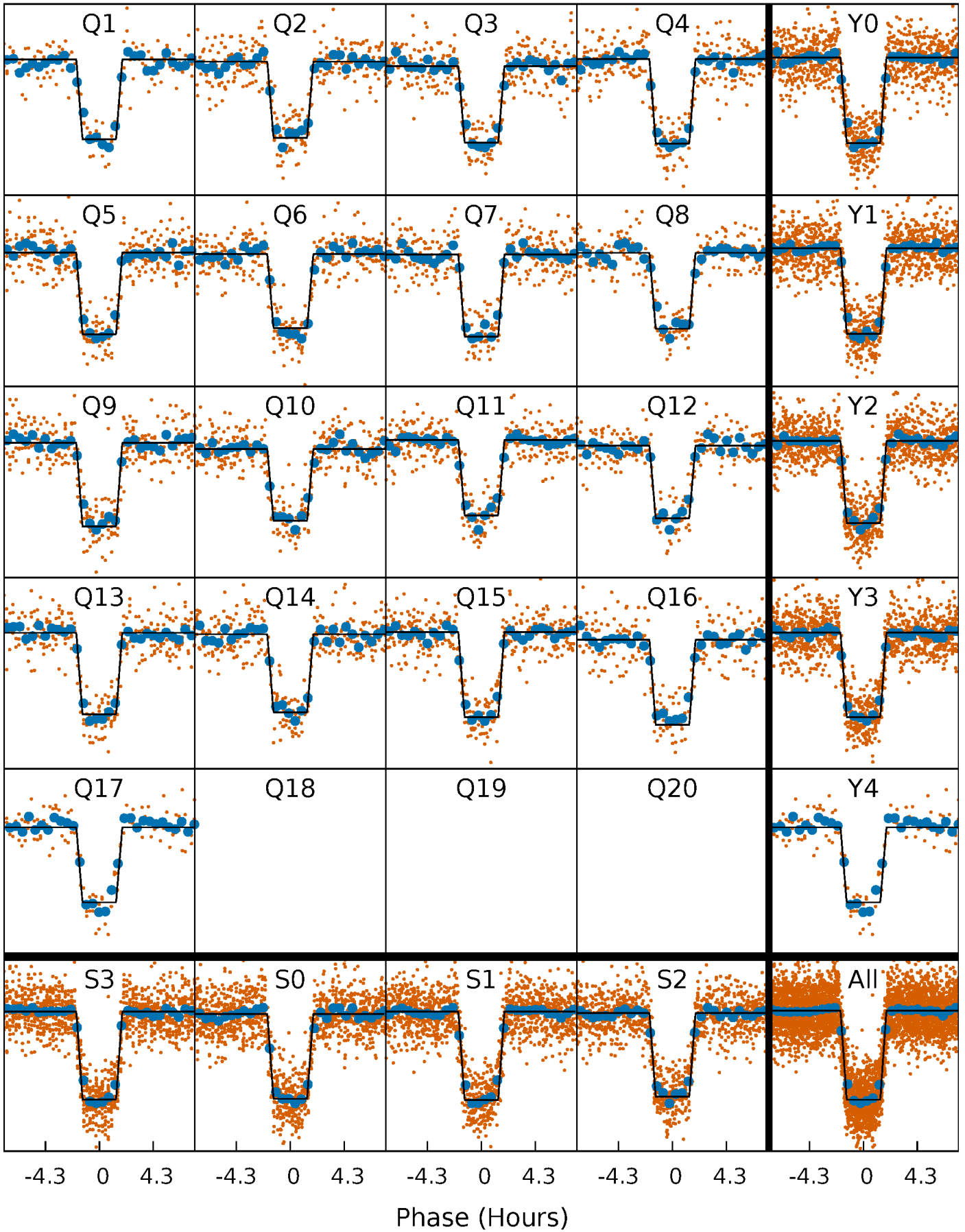
DV Quarter-Phased Transit Curves

TCE 007626506-01 P= 8.408872 Days $T_0=134.006882$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

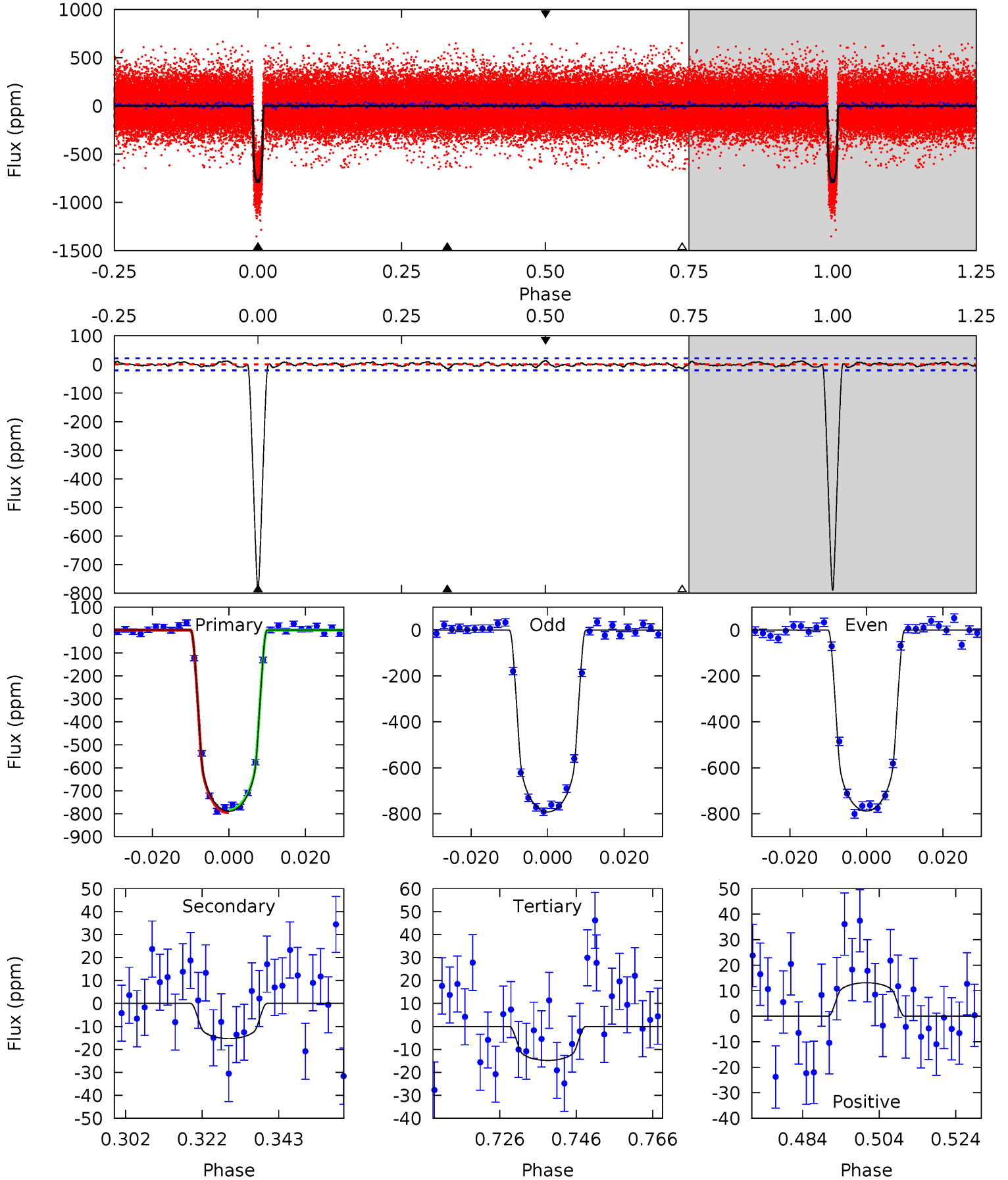
TCE 007626506-01 P= 8.408900 Days $T_0=134.004474$ (BKJD)



DV Model-Shift Uniqueness Test

007626506-01, P = 8.408872 Days, E = 125.598010 Days

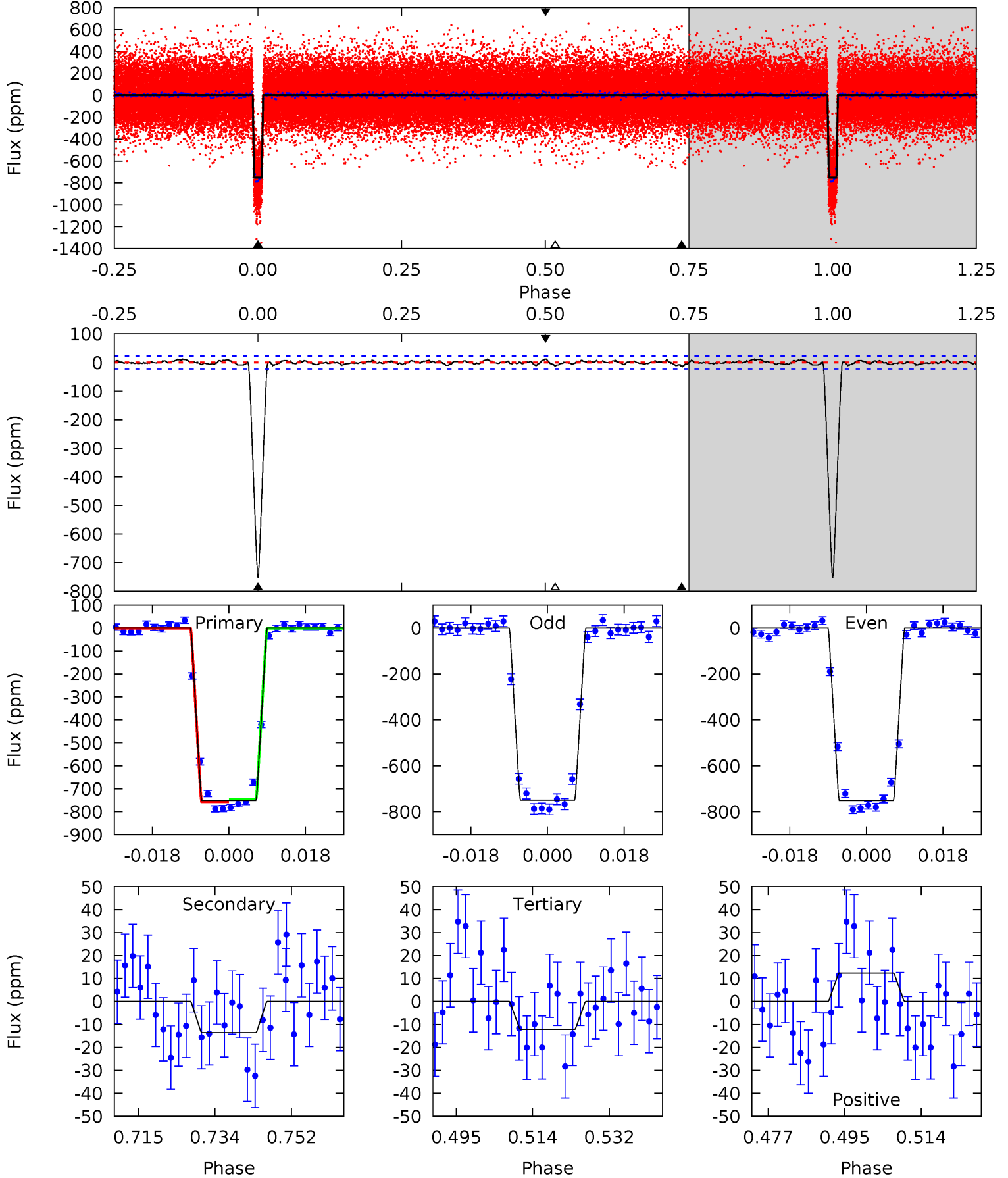
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
181.9	3.52	3.41	3.02	4.89	2.32	1.11	178.4	178.8	0.11	0.50	0.46	1.00	0.02	1.34



Alt Model-Shift Uniqueness Test

007626506-01, P = 8.408900 Days, E = 125.595574 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
165.6	2.98	2.69	2.73	4.91	2.36	0.98	162.9	162.8	0.29	0.25	0.12	1.00	0.02	1.36



Stellar Parameters For KIC 007626506

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5551^{+111}_{-111}	$4.508^{+0.077}_{-0.063}$	$-0.420^{+0.150}_{-0.150}$	$0.812^{+0.070}_{-0.070}$	$0.776^{+0.058}_{-0.039}$	$2.038^{+0.618}_{-0.397}$
	+2%/-2%	+2%/-1%	+36%/-36%	+9%/-9%	+7%/-5%	+30%/-19%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 007626506-01 / KOI 0150.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-15 ± 4	$2.51^{+0.17}_{-0.19}$	1128^{+35}_{-36}	2786^{+114}_{-134}	$7.412^{+2.567}_{-2.106}$
Alt.	-14 ± 5	$2.45^{+0.19}_{-0.19}$	1128^{+33}_{-37}	2752^{+138}_{-147}	$6.869^{+2.722}_{-2.238}$

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

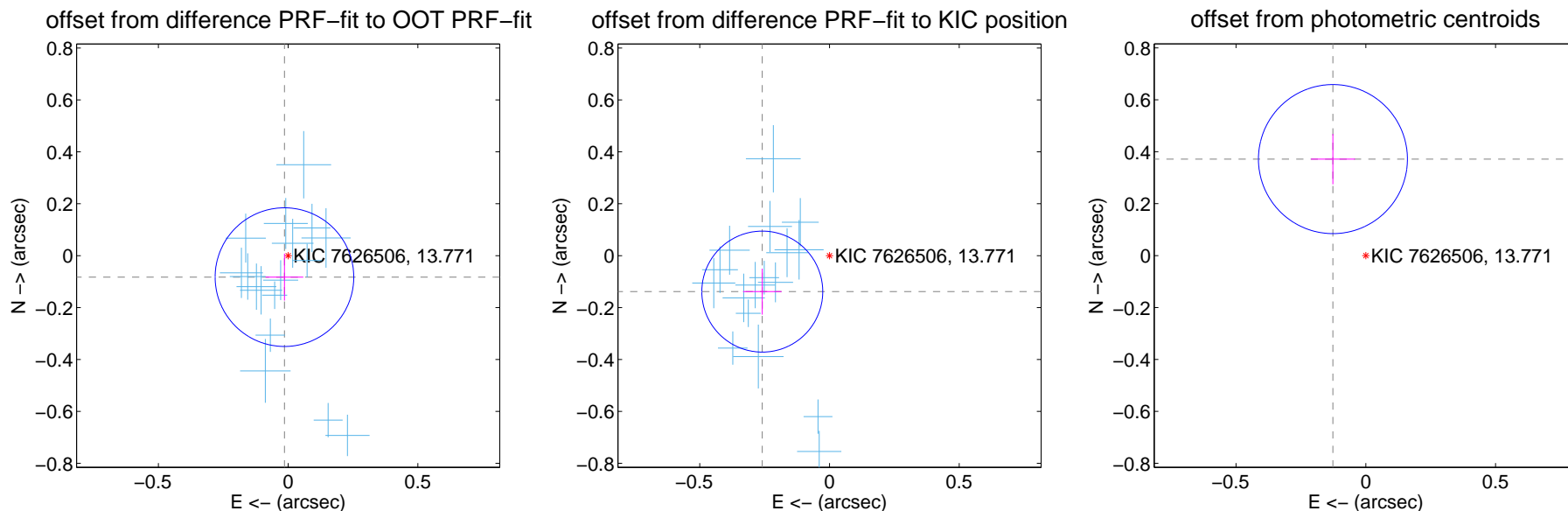
DV Centroid Data

Supplemental centroid analysis for 007626506-01. Kepler magnitude: 13.77. Transit SNR 133.51

There are 17 quarters with good PRF difference image offsets

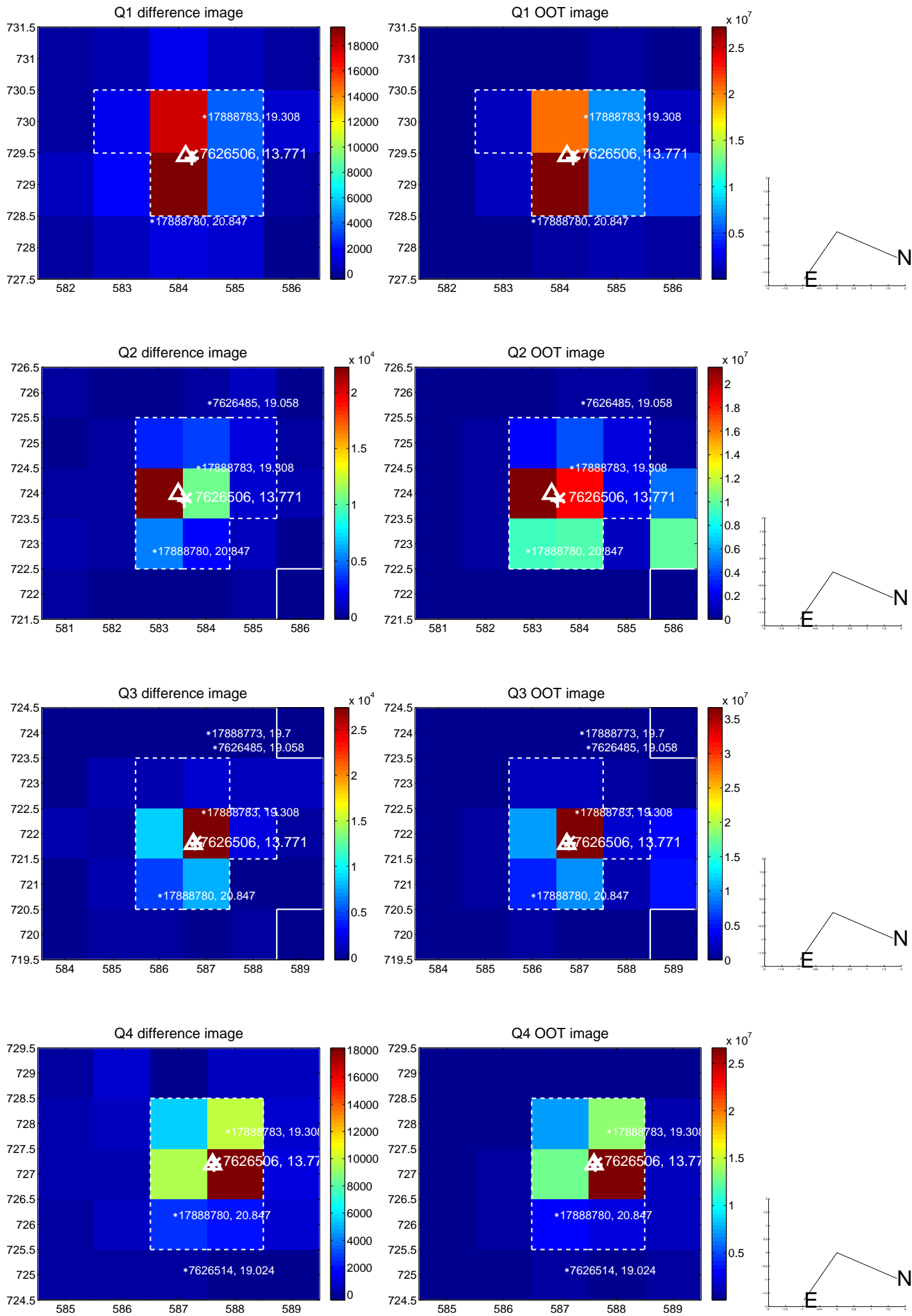
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.084 ± 0.089	0.94	0.014 ± 0.073	-0.083 ± 0.091
PRF-fit source offset from KIC position	0.294 ± 0.078	3.78	0.259 ± 0.074	-0.138 ± 0.089
photometric centroid source offset	0.39 ± 0.10	4.10	0.13 ± 0.09	0.37 ± 0.10

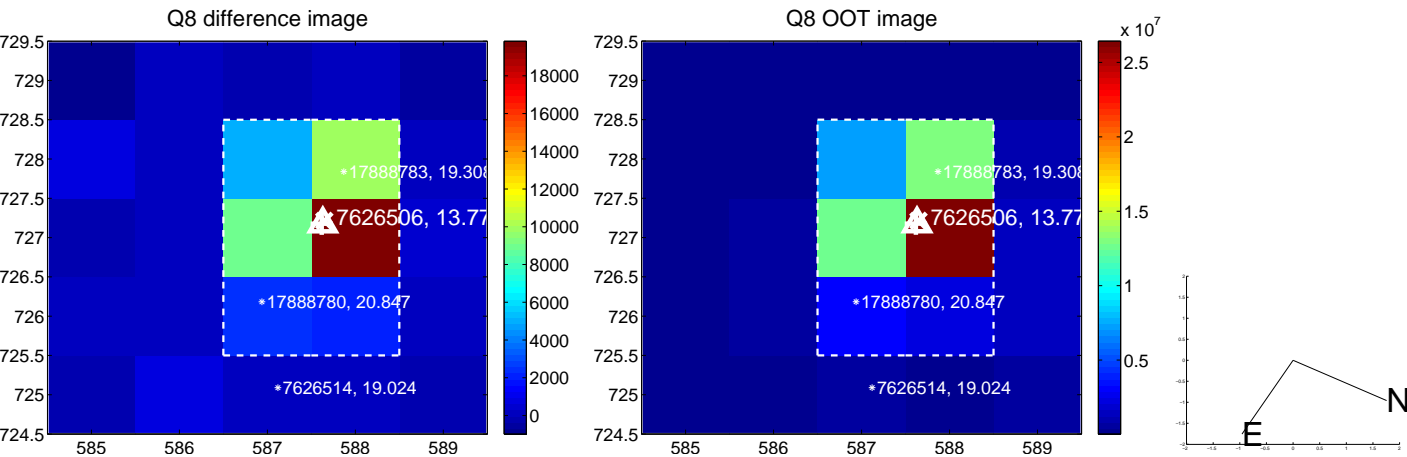
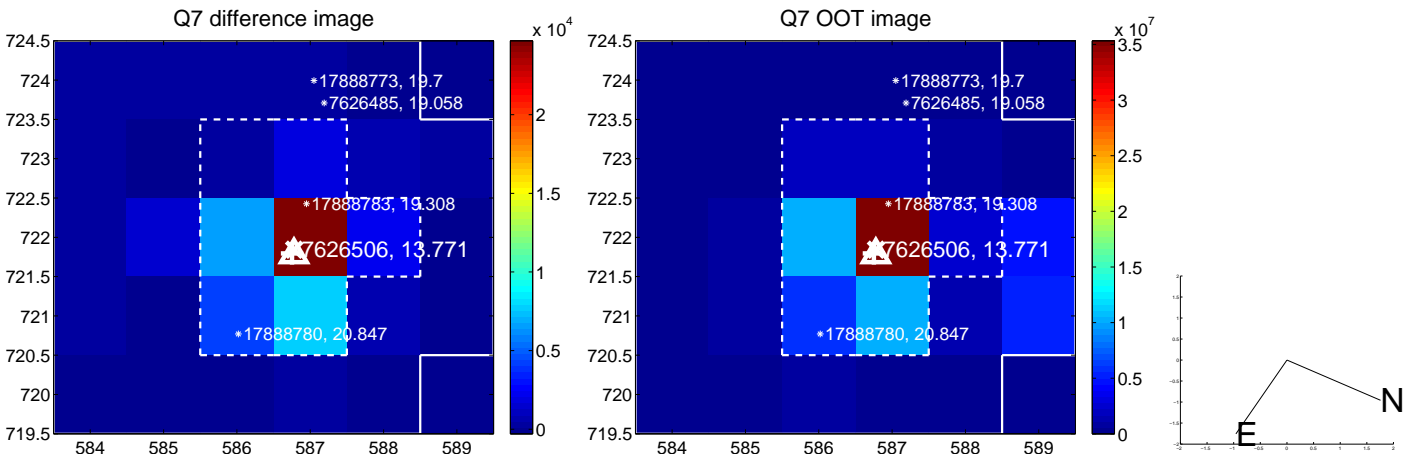
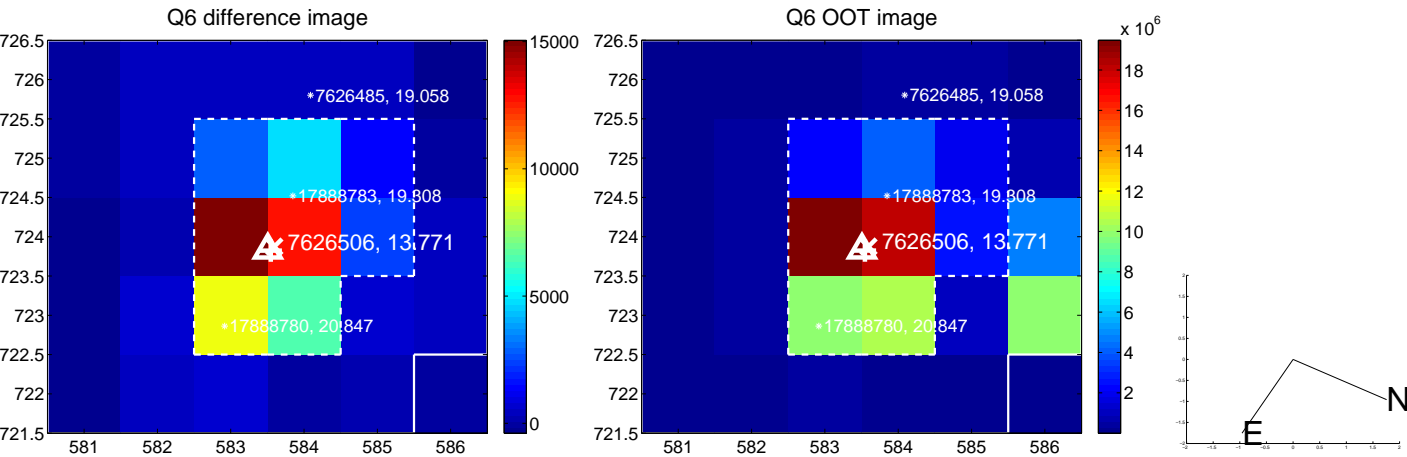
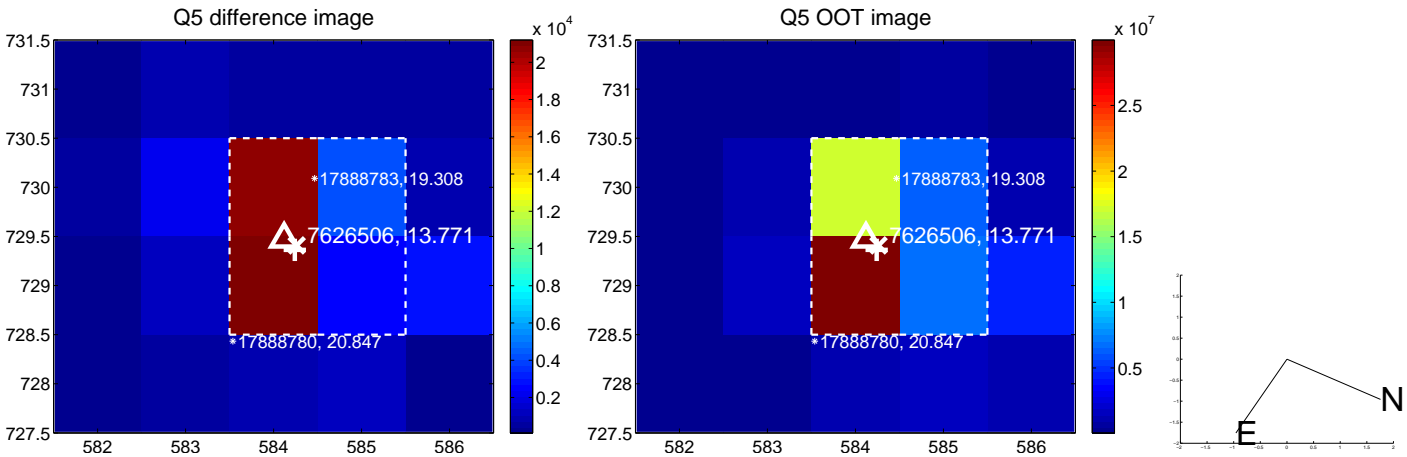


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

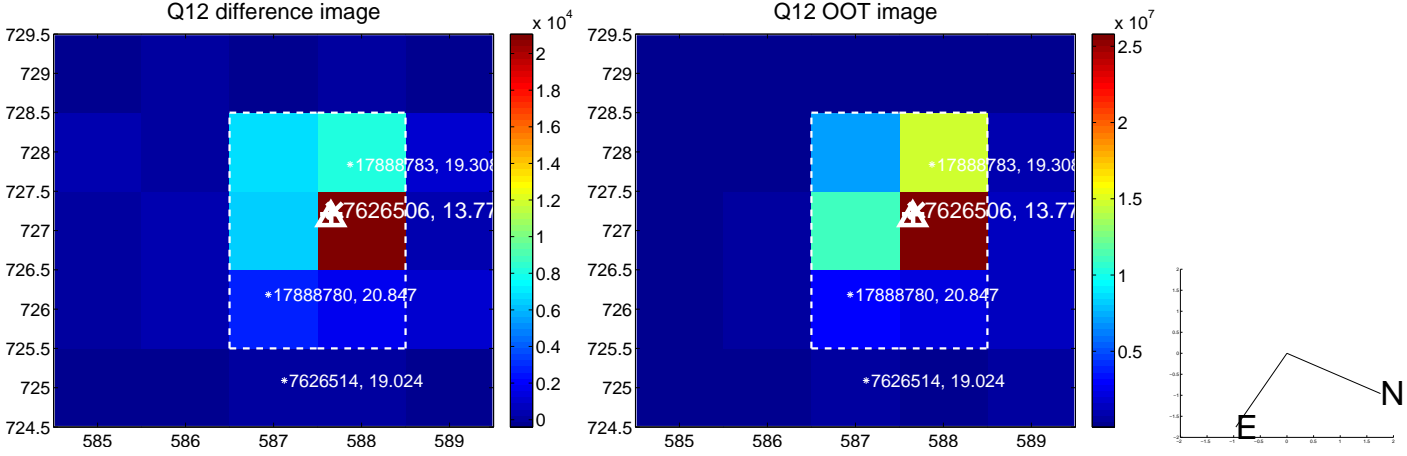
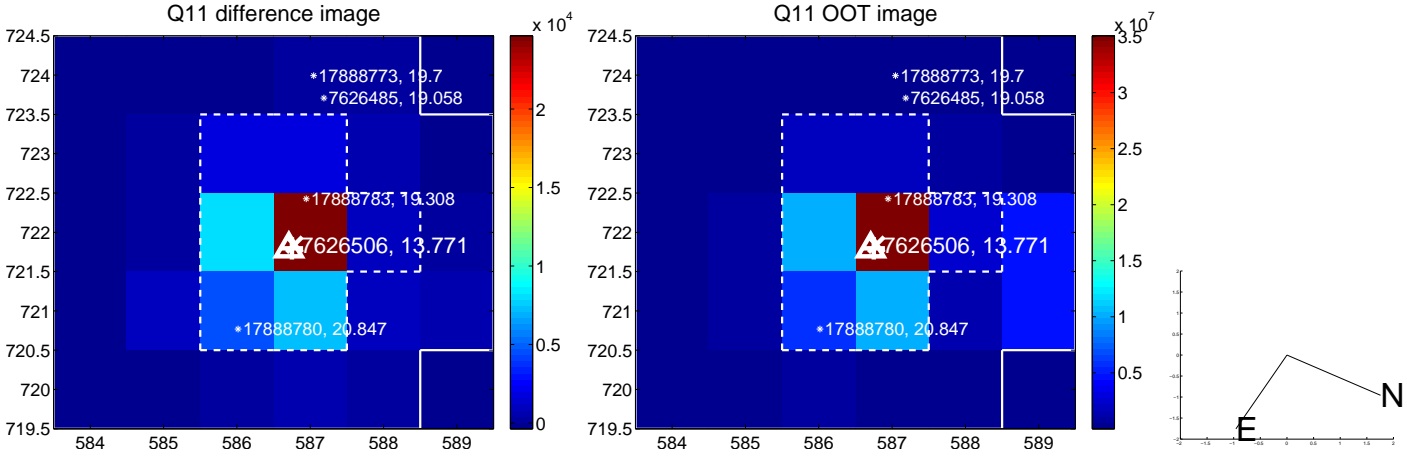
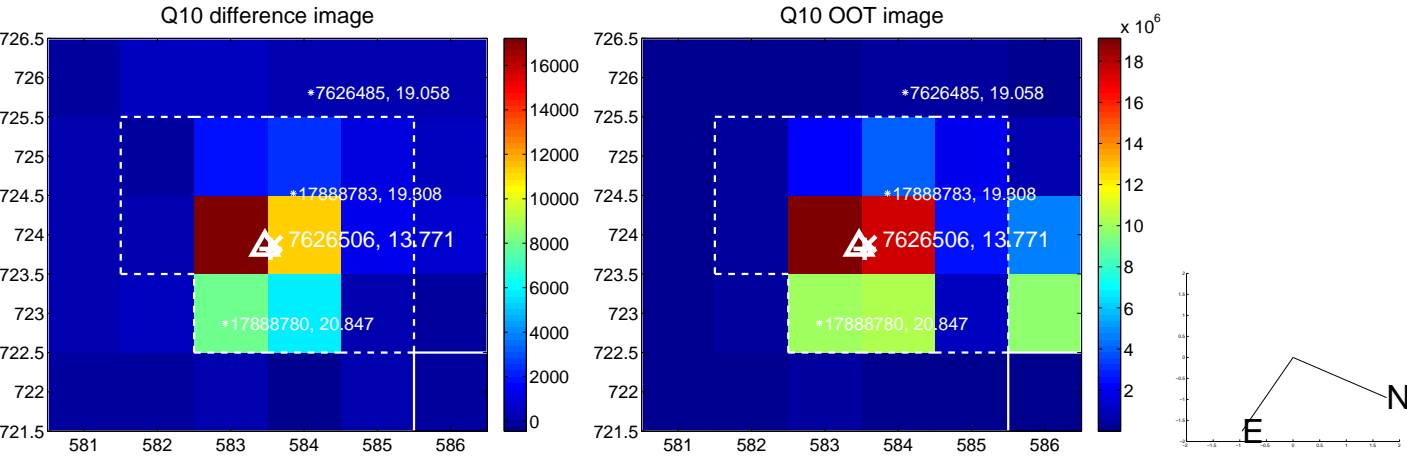
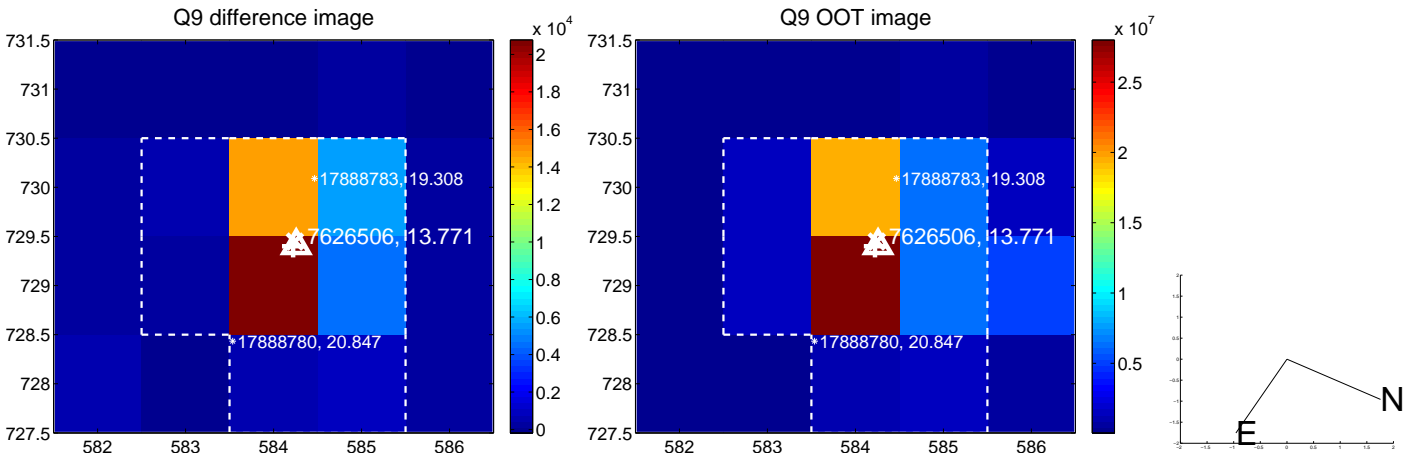
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



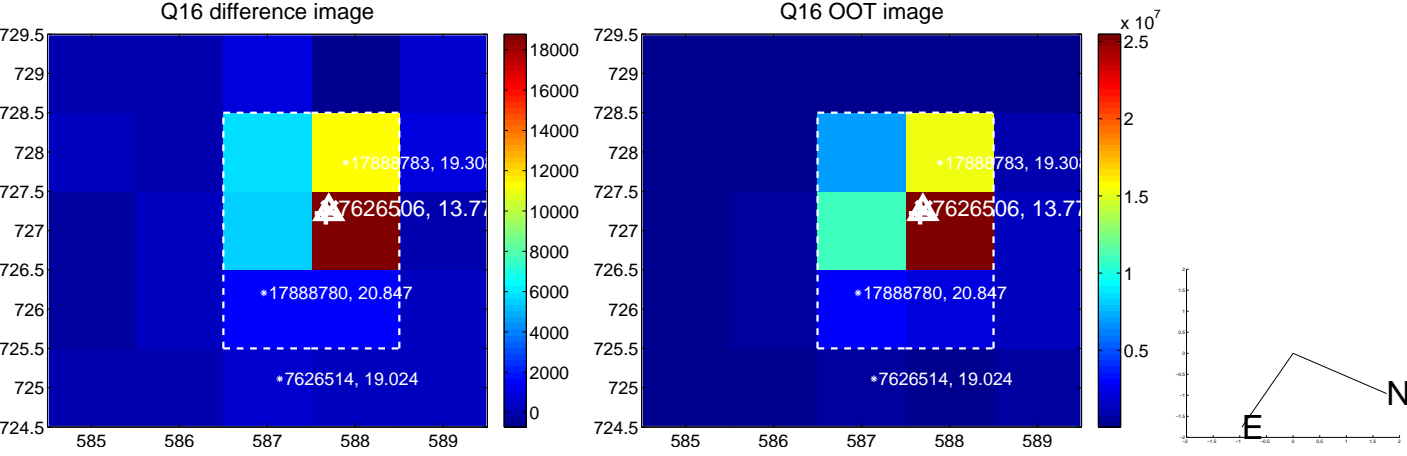
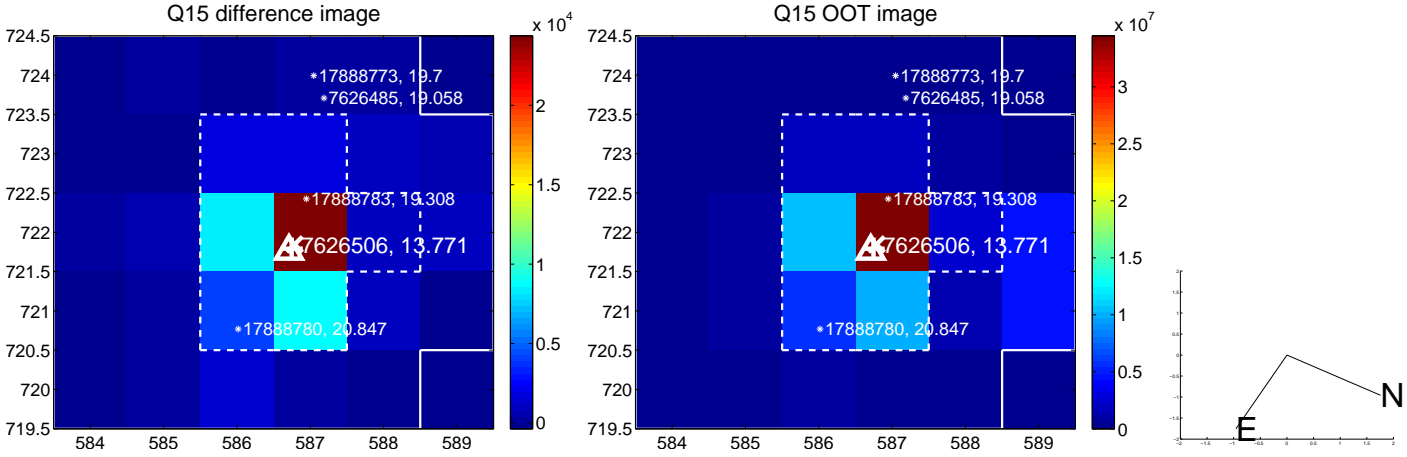
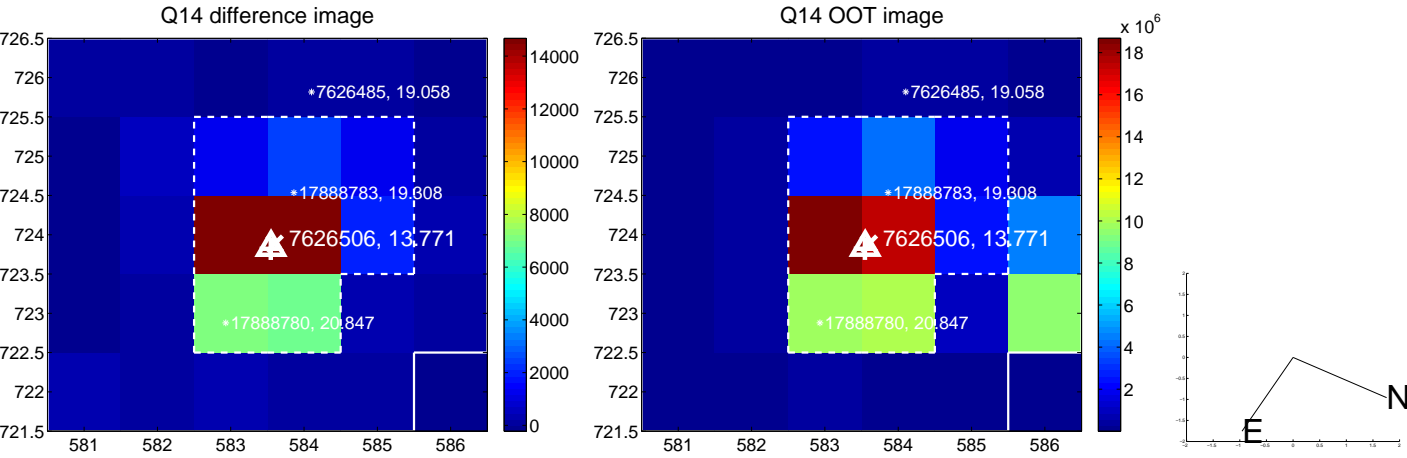
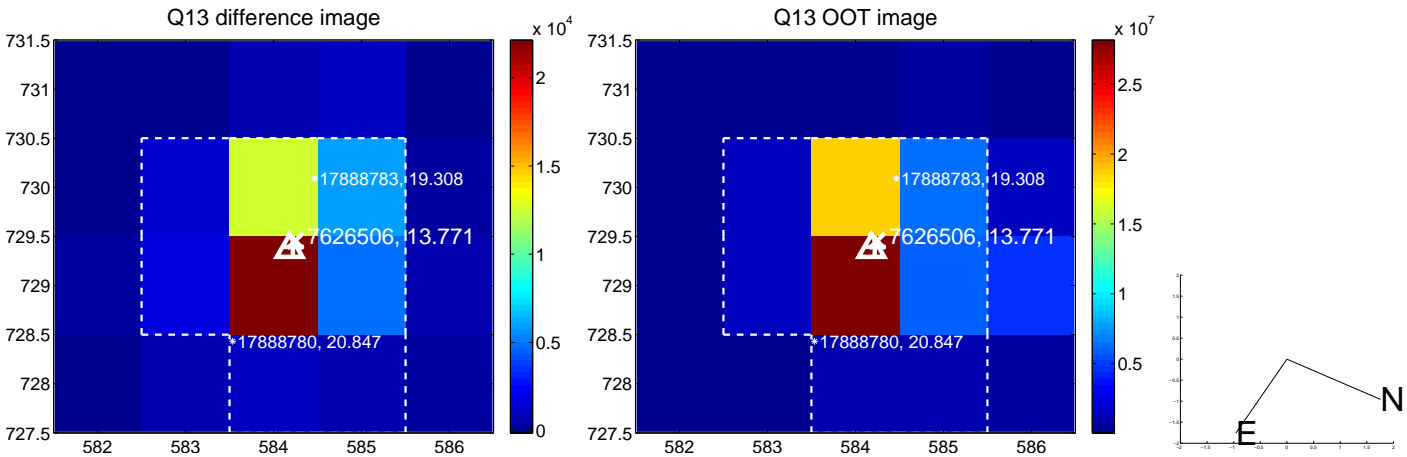
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



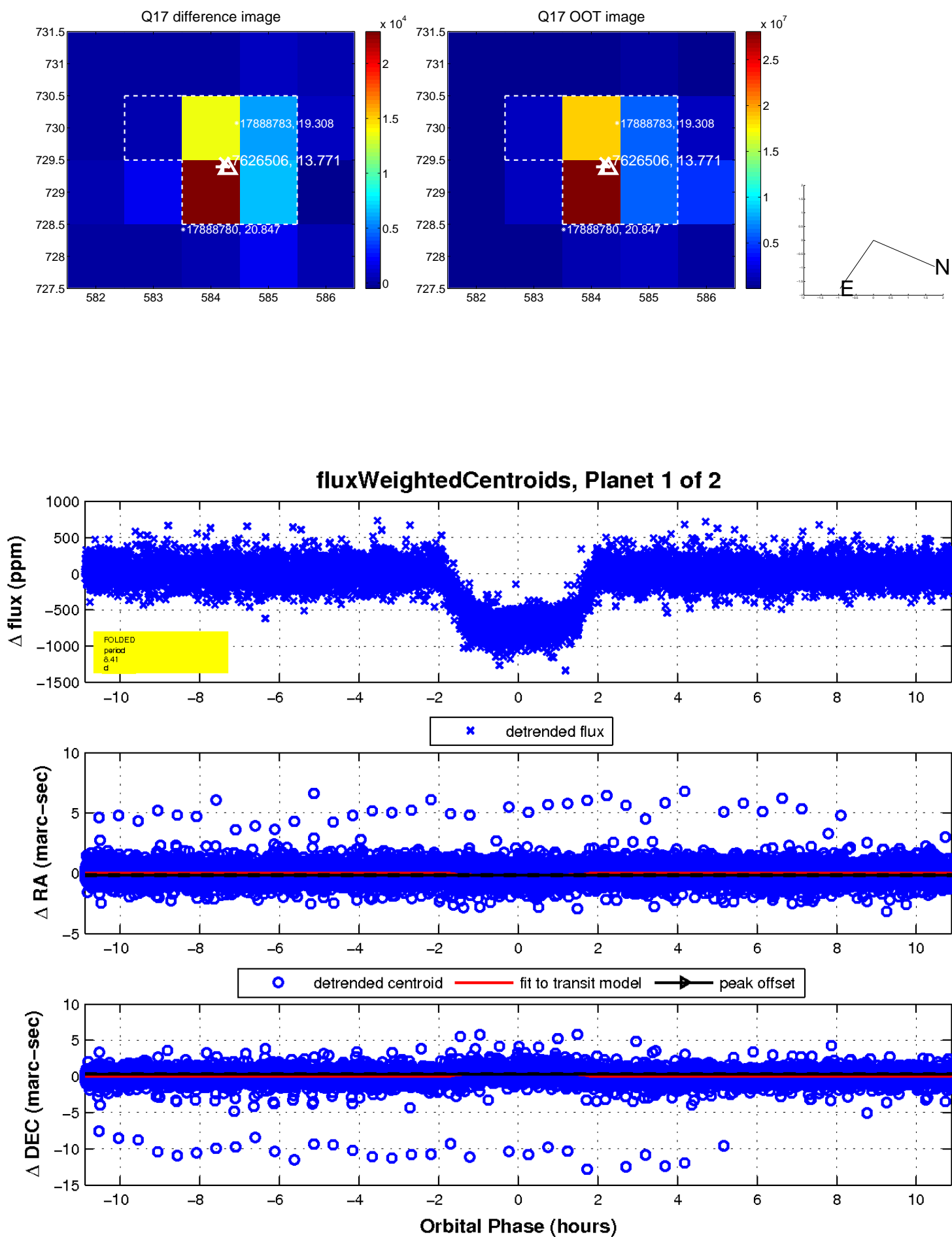
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

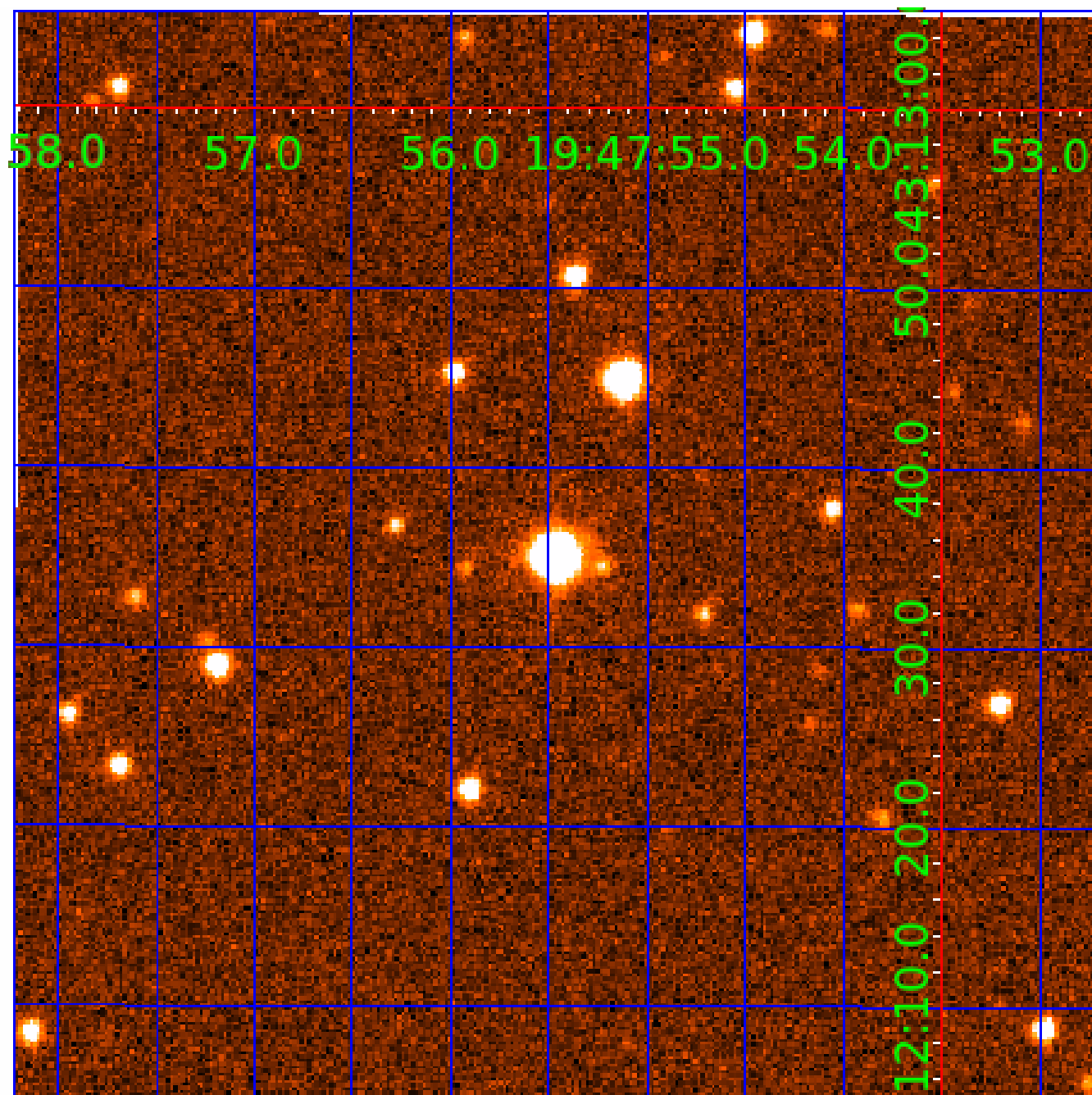


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007626506

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})
007626506-01	OBS	0150.01	8.408872	134.006882	790.4	3.629	132.8	133.5	0.81	5551	2.50	101.49
007626506-02	OBS	0150.02	28.574259	143.831666	830.3	5.066	87.1	86.6	0.81	5551	2.50	19.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007626506-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007626506-02	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.

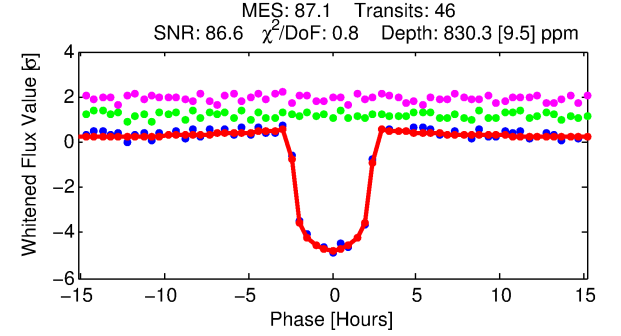
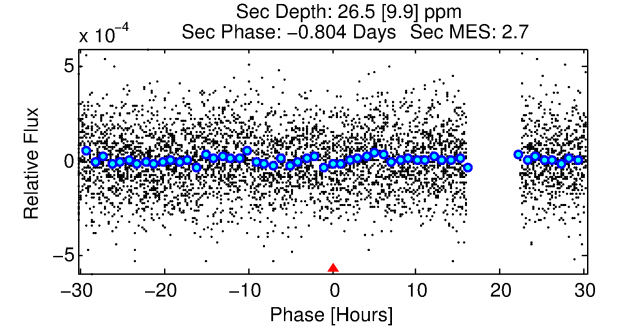
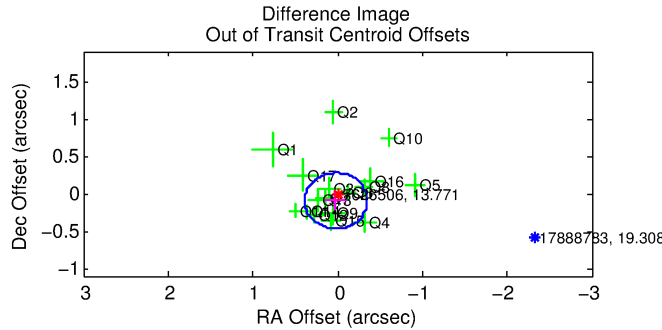
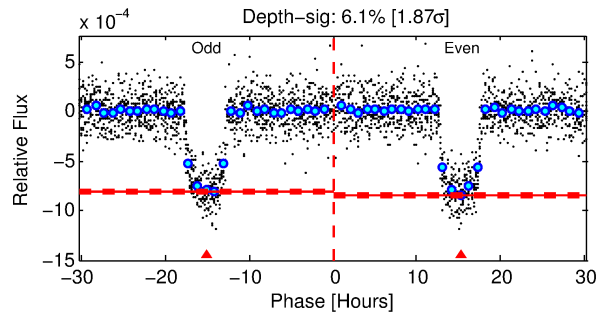
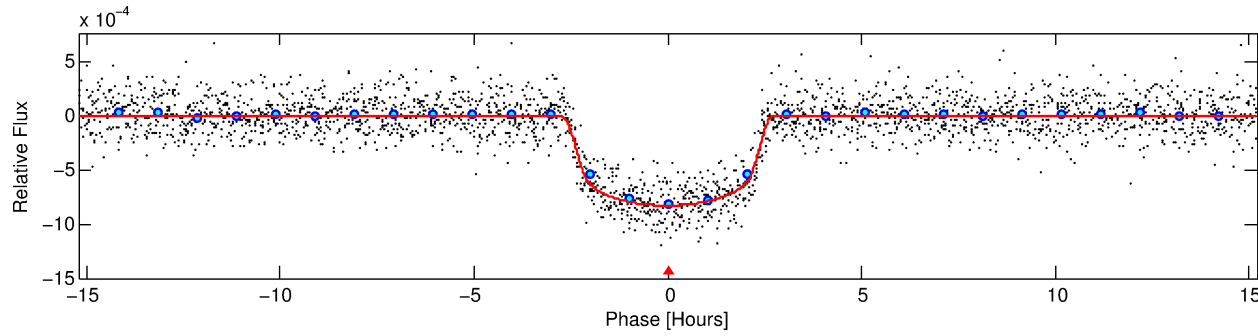
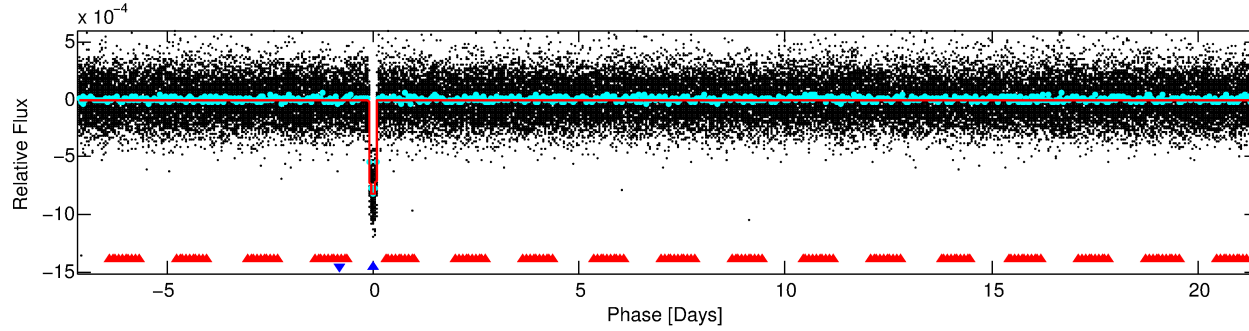
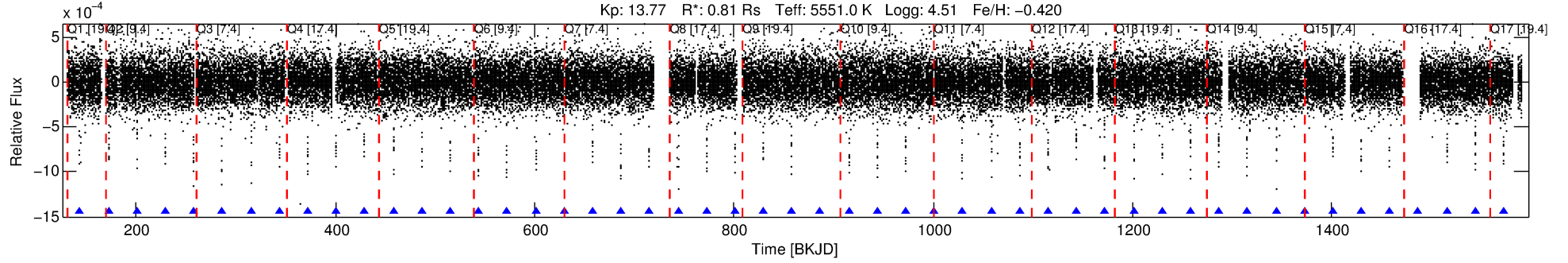
Ephemeris Match Information For 007626506-02

No Significant Match Found

DV One-Page Summary

KIC: 7626506 Candidate: 2 of 2 Period: 28.574 d
KOI: K00150.02 Name: Kepler-112c Corr: 0.991

Kp: 13.77 R*: 0.81 Rs Teff: 5551.0 K Logg: 4.51 Fe/H: -0.420



DV Fit Results:

Period = 28.57426 [0.00004] d
Epoch = 143.8317 [0.0011] BKJD
Rp/R* = 0.0282 [0.0024]
a/R* = 32.27 [11.93]
b = 0.70 [0.27]
Seff = 19.87 [3.06]
Teq = 538 [21] K
Rp = 2.50 [0.30] Re
a = 0.1680 [0.0139] AU
Ag = 65.79 [28.36] [2.28σ]
Teffp = 2370 [248] K [7.37σ]

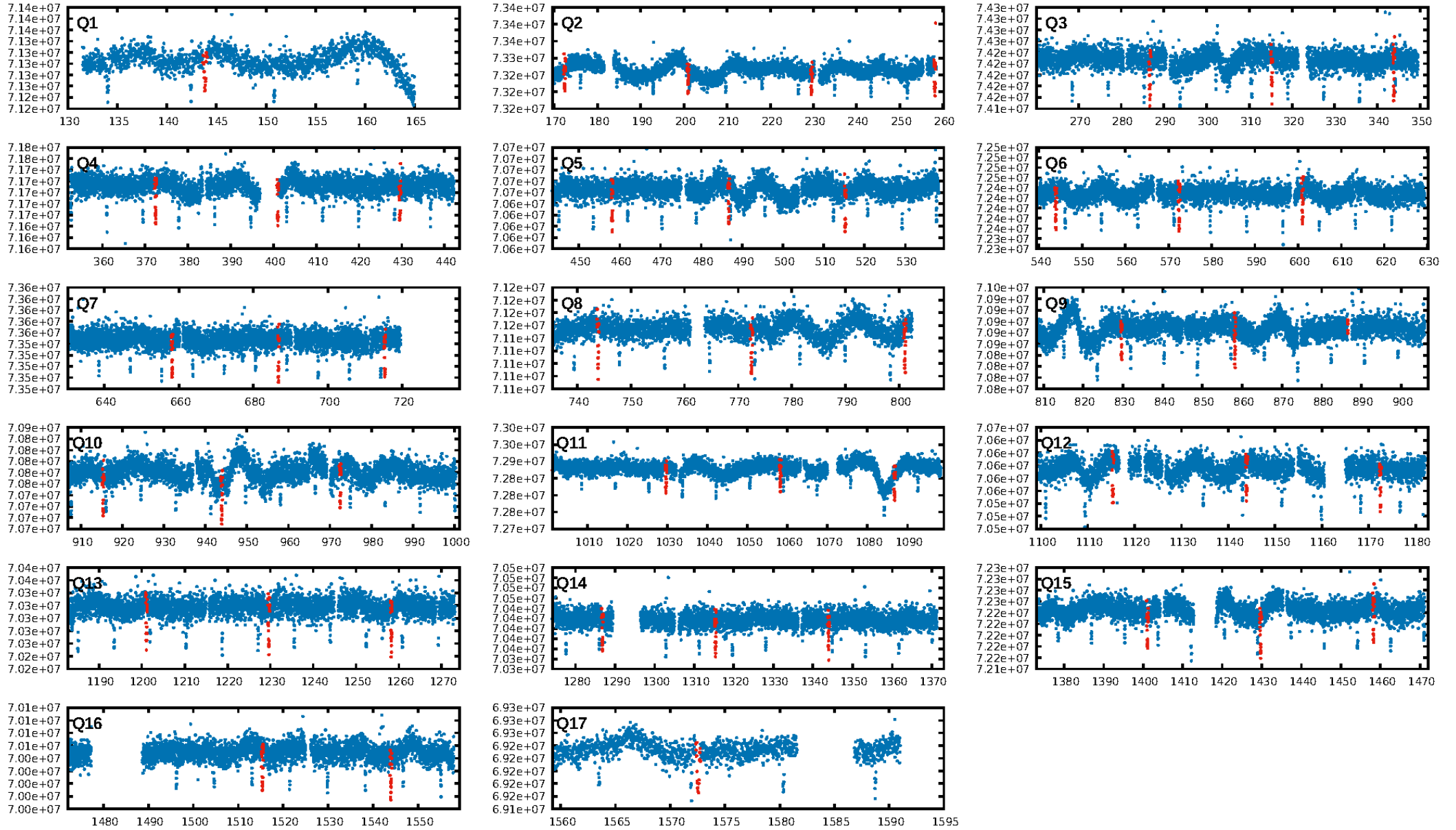
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [77.66σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 84.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [44/44]
GhostDiagnostic-chr: 25.18
Centroid-sig: 0.0%
Centroid-so: 0.267 arcsec [1.92σ]
OotOffset-rm: 0.098 arcsec [0.79σ]
KicOffset-rm: 0.285 arcsec [2.29σ]
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]

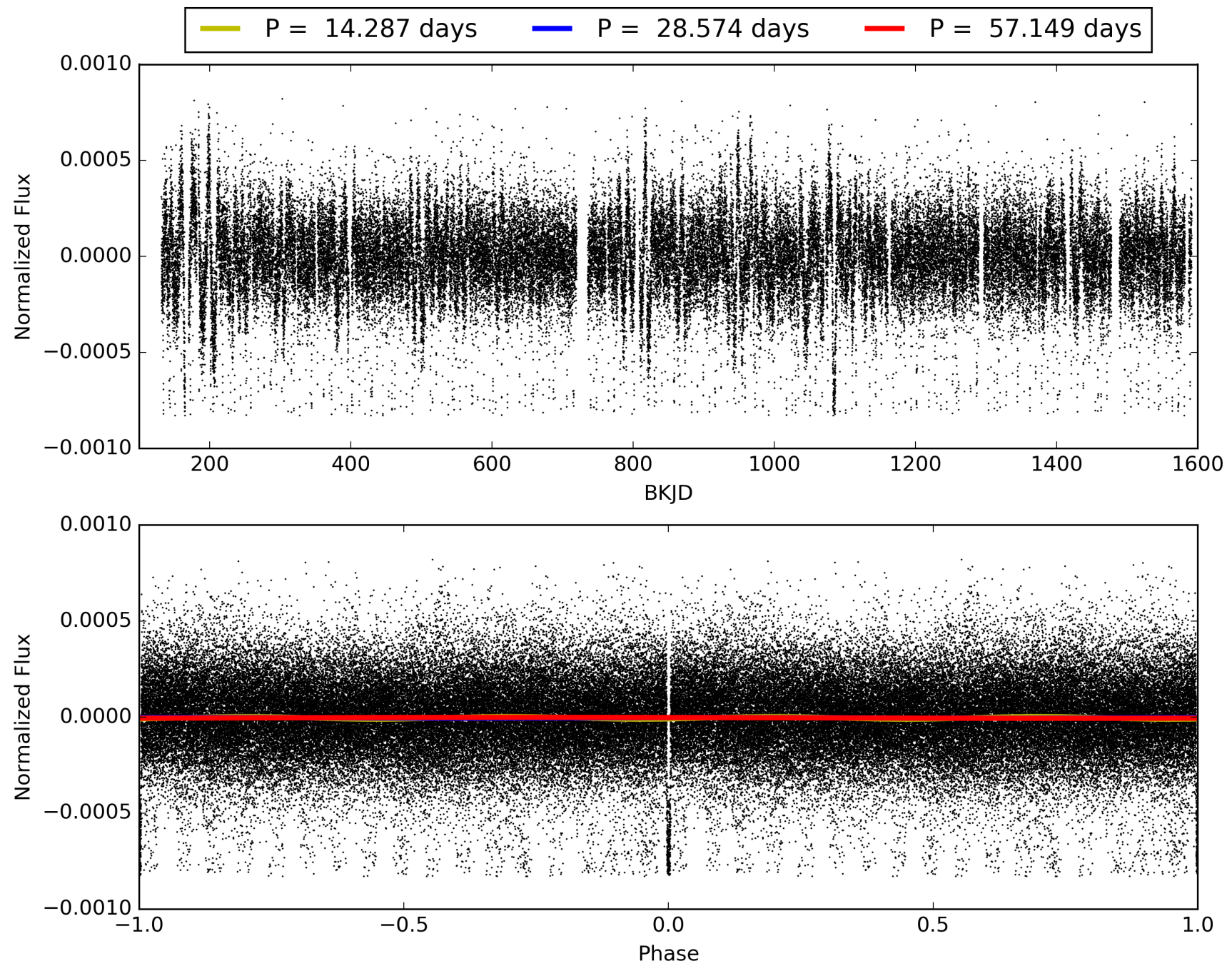
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:50:24 Z

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

TCE 007626506-02, PDC Light Curves

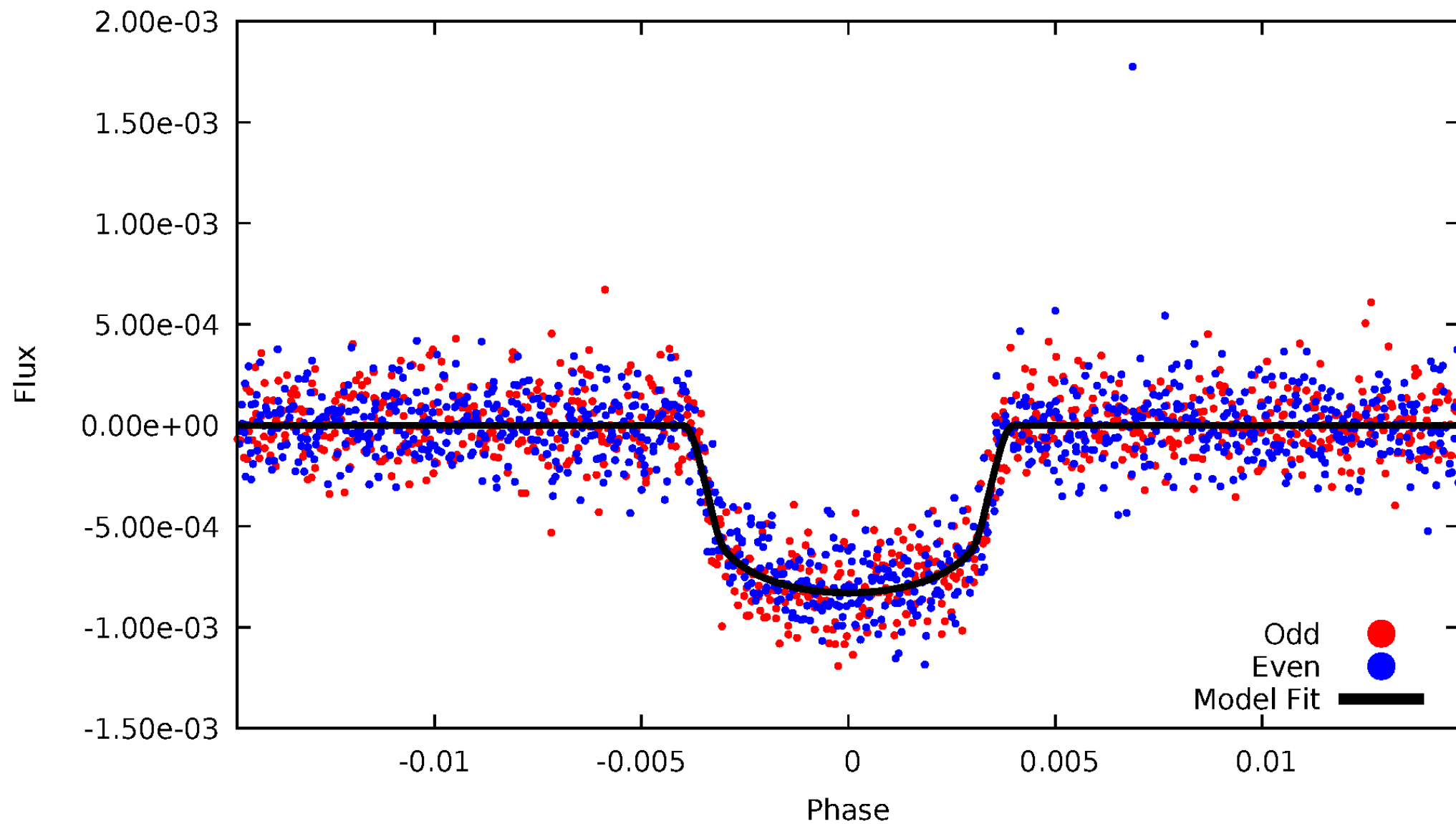


TCE 007626506-02



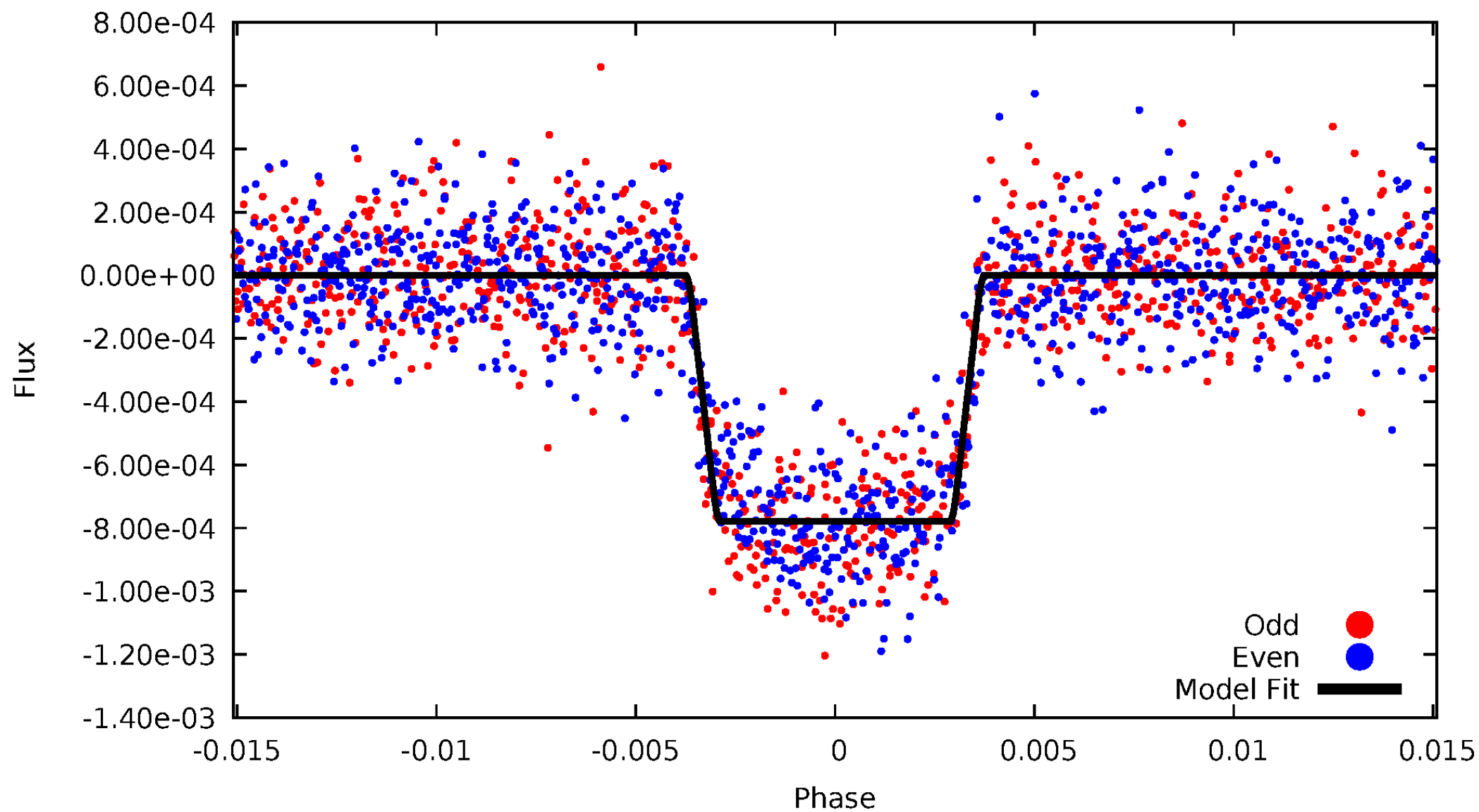
DV Odd/Even

TCE 007626506-02



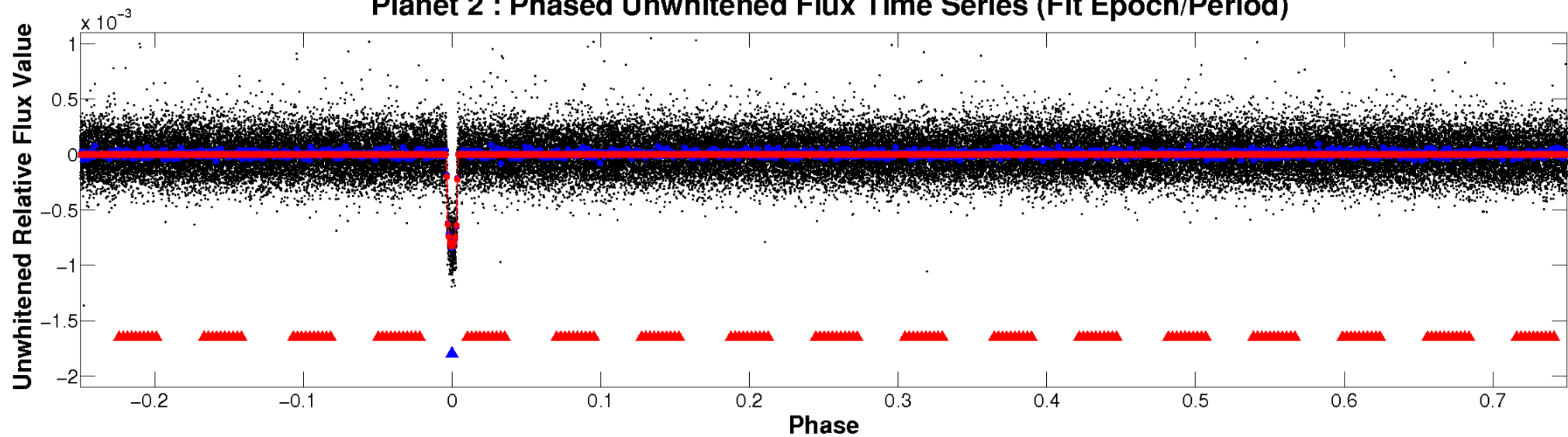
ALT Odd/Even

TCE 007626506-02

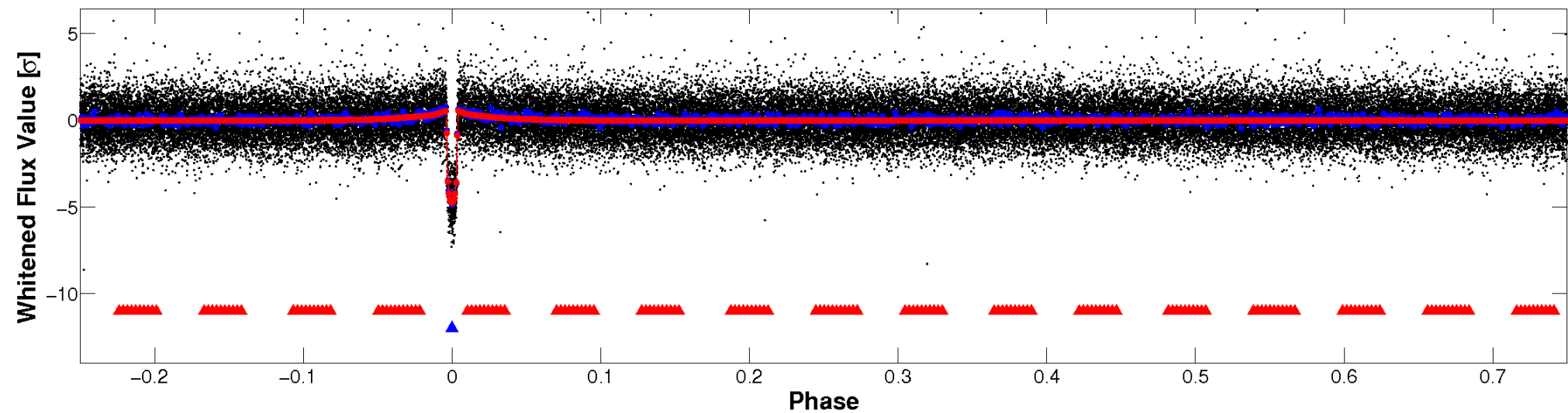


Non-Whitened Vs. Whitened Light Curve

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

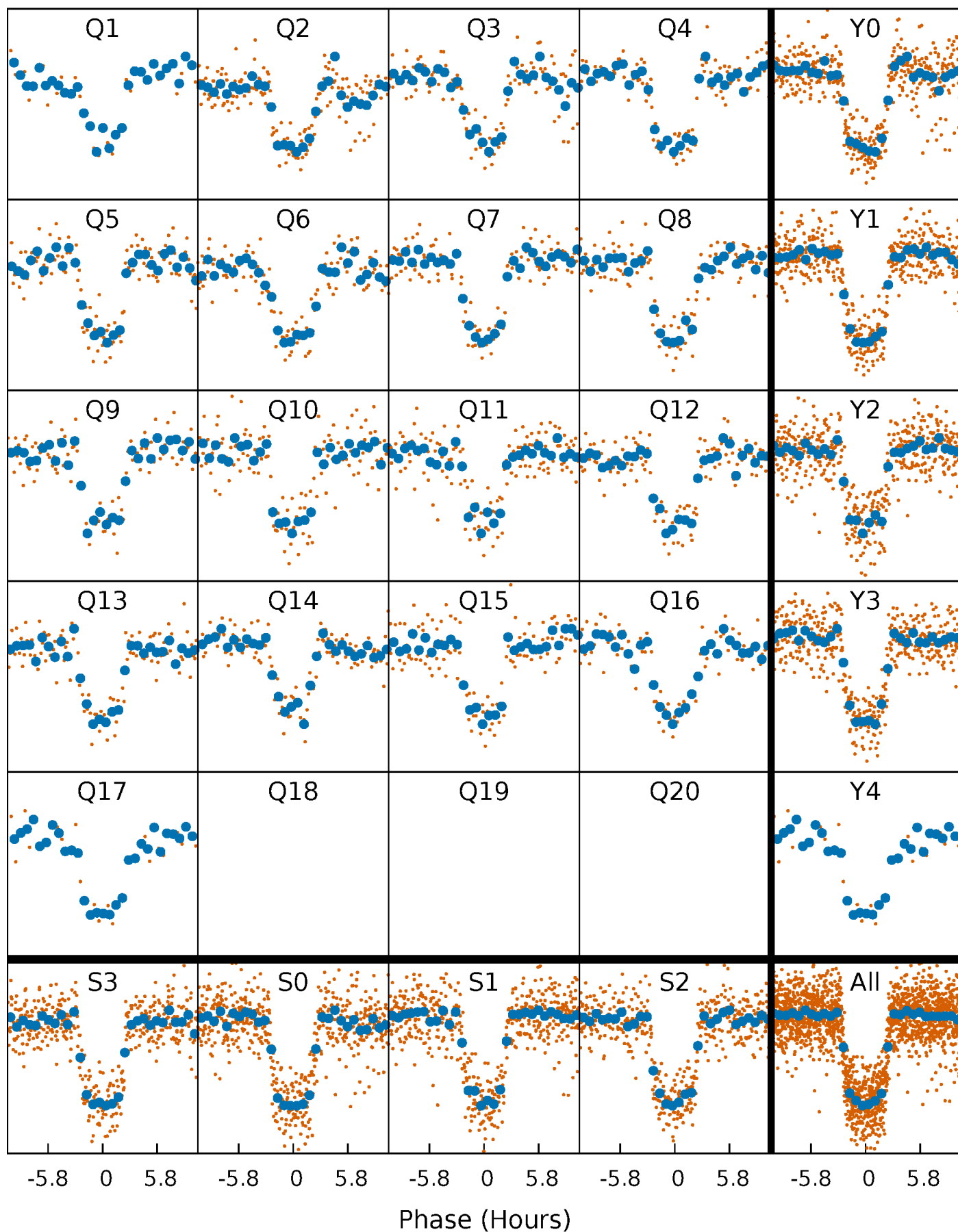


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



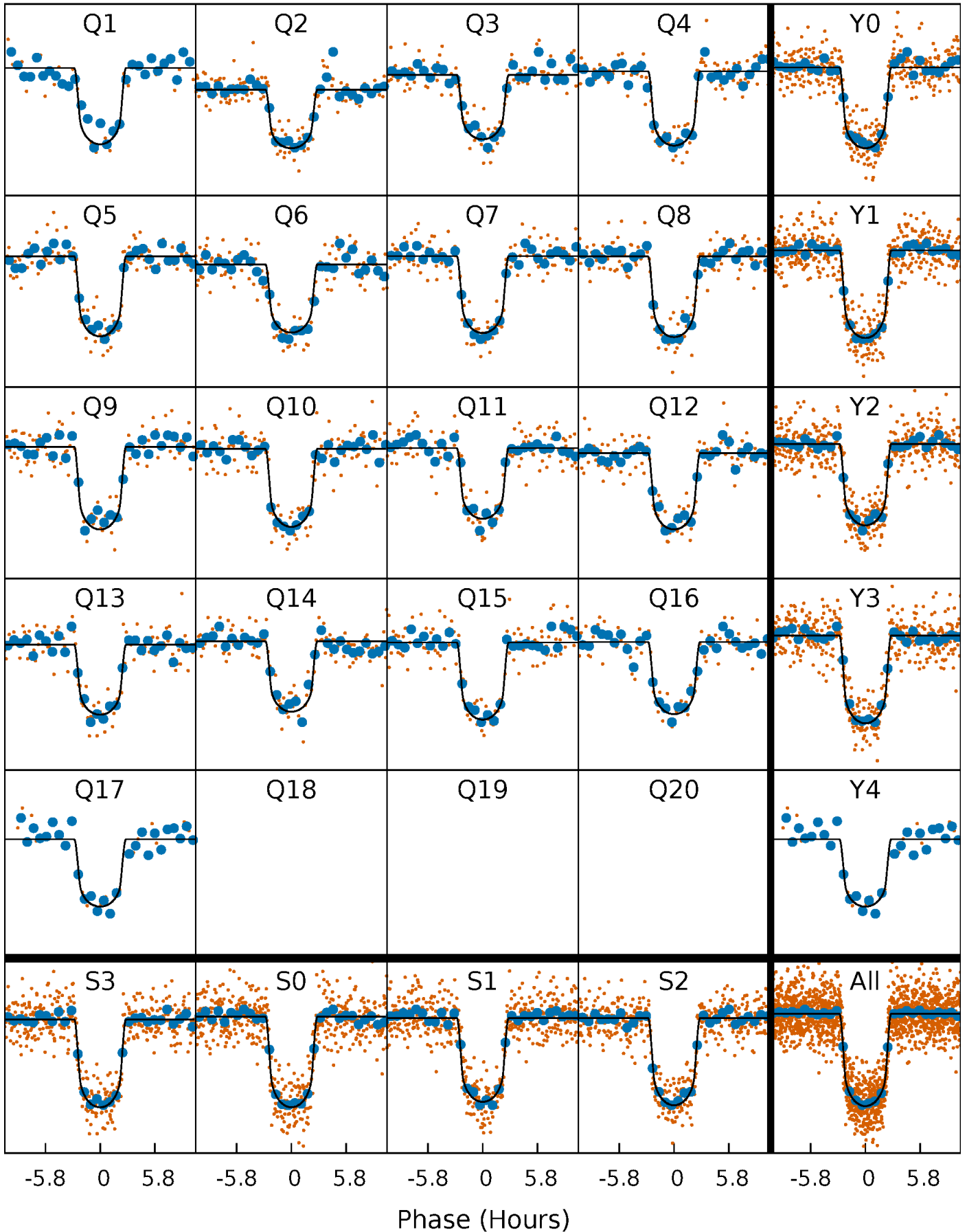
PDC Quarter-Phased Transit Curves

TCE 007626506-02 P= 28.574259 Days $T_0=143.831666$ (BKJD)



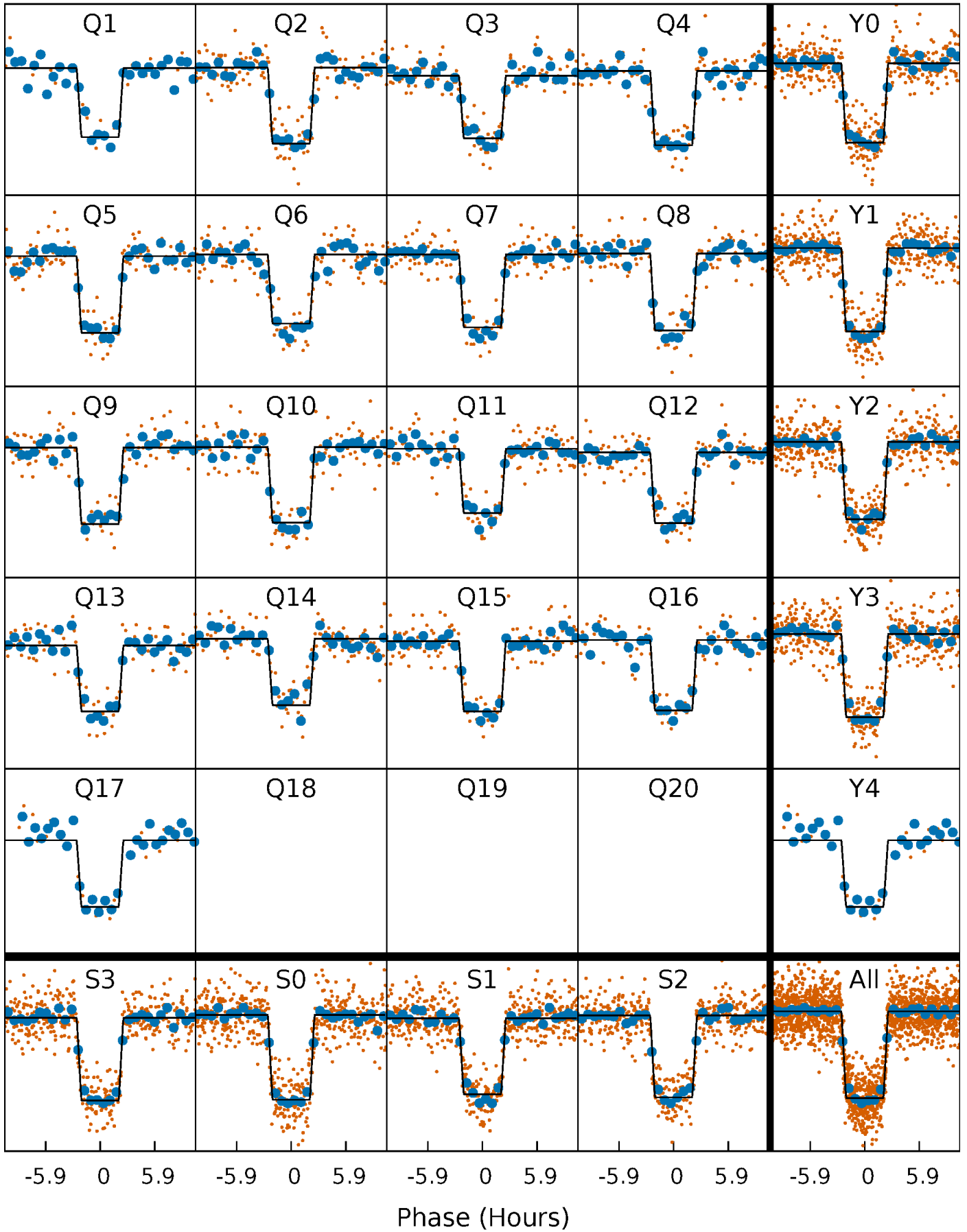
DV Quarter-Phased Transit Curves

TCE 007626506-02 P= 28.574259 Days $T_0=143.831666$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

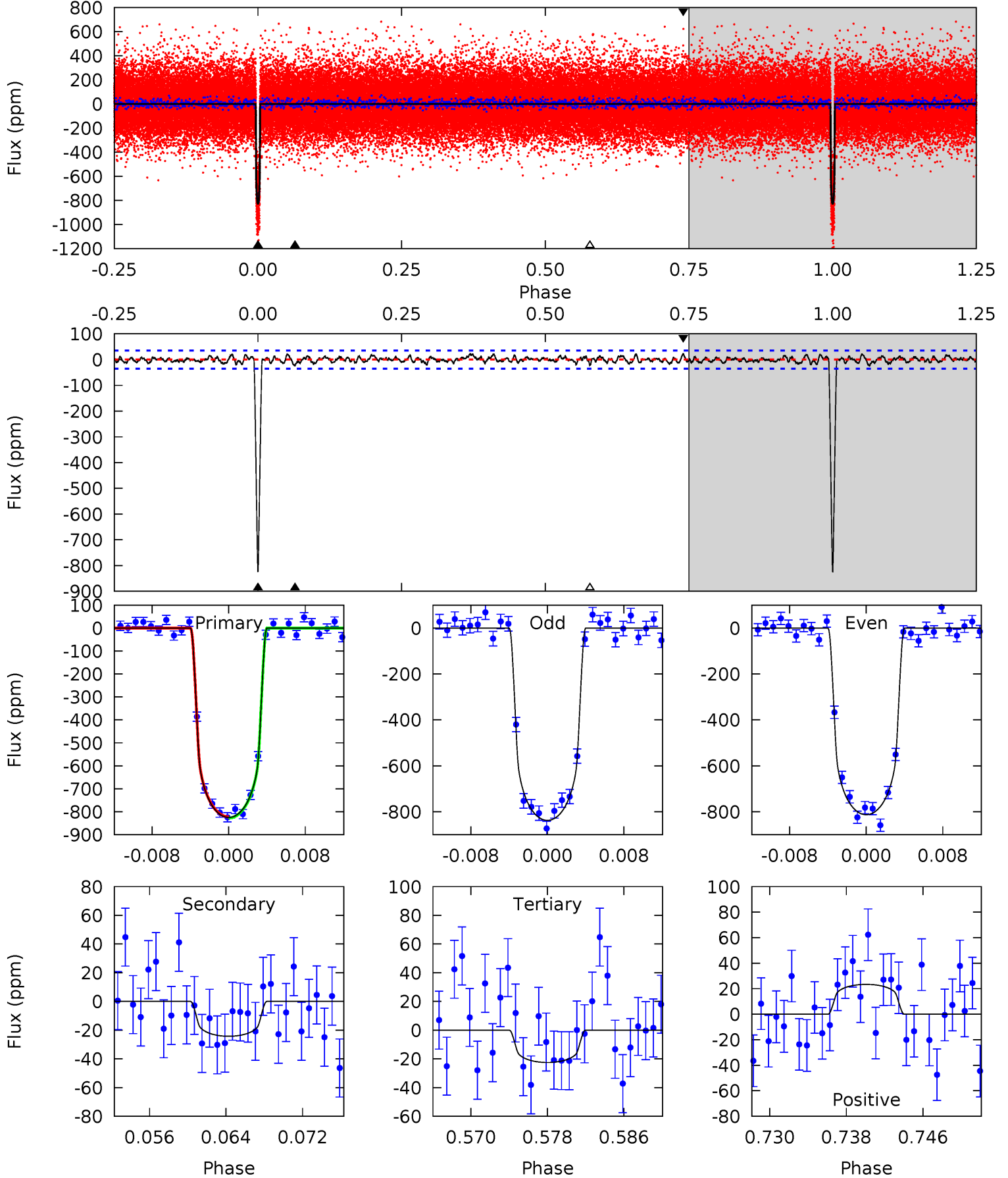
TCE 007626506-02 P= 28.574288 Days $T_0=143.831220$ (BKJD)



DV Model-Shift Uniqueness Test

007626506-02, P = 28.574259 Days, E = 115.257407 Days

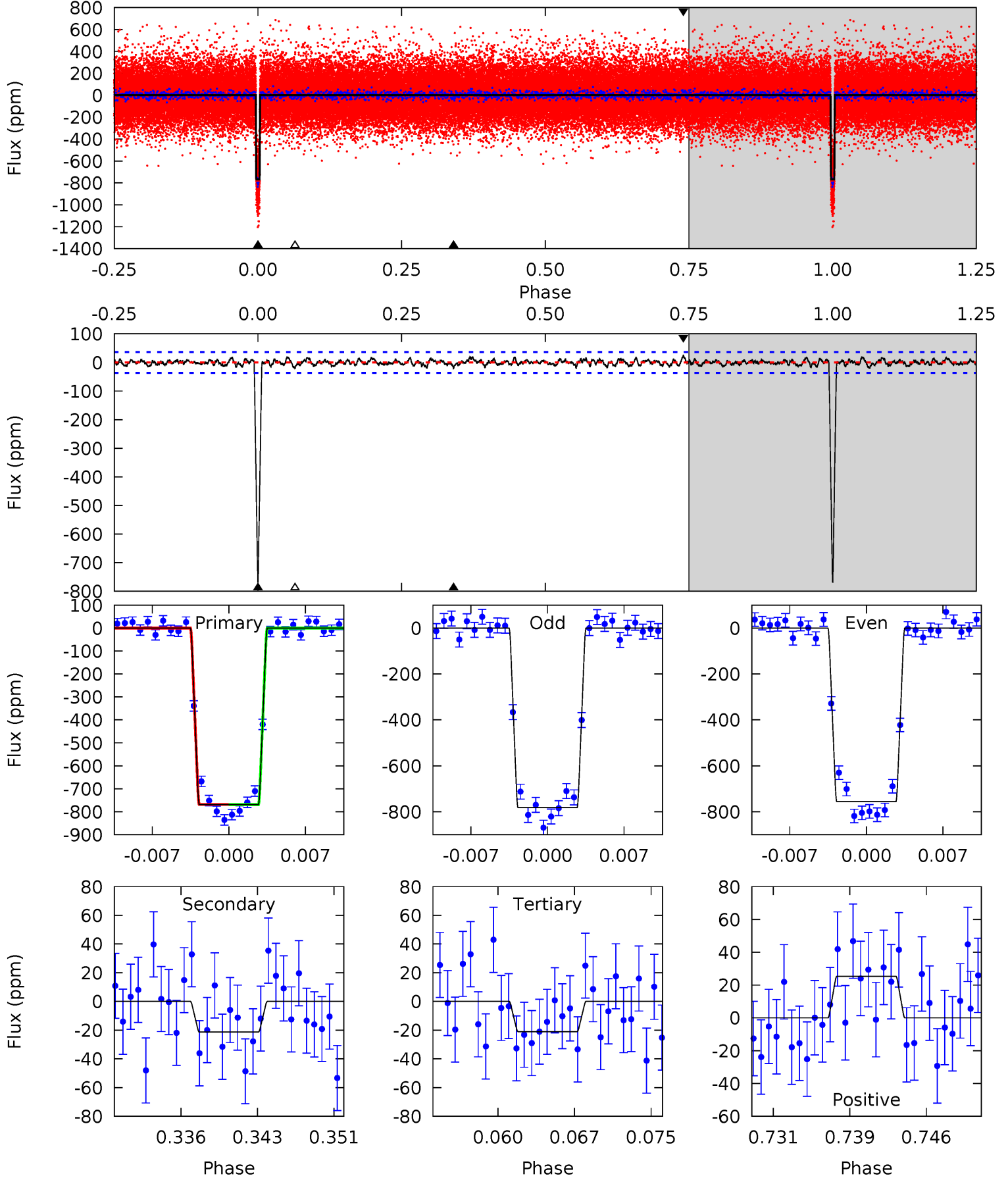
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
118.6	3.49	3.24	3.36	5.07	2.65	1.17	115.3	115.2	0.25	0.13	1.78	1.00	0.03	0.36



Alt Model-Shift Uniqueness Test

007626506-02, P = 28.574288 Days, E = 115.256932 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
107.5	2.98	2.94	3.53	5.08	2.68	1.02	104.6	104.0	0.04	-0.55	1.77	1.00	0.03	0.03



Stellar Parameters For KIC 007626506

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5551^{+111}_{-111}	$4.508^{+0.077}_{-0.063}$	$-0.420^{+0.150}_{-0.150}$	$0.812^{+0.070}_{-0.070}$	$0.776^{+0.058}_{-0.039}$	$2.038^{+0.618}_{-0.397}$
	+2%/-2%	+2%/-1%	+36%/-36%	+9%/-9%	+7%/-5%	+30%/-19%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 007626506-02 / KOI 0150.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-24 ± 7	$2.51^{+0.26}_{-0.24}$	752^{+23}_{-23}	2972^{+147}_{-157}	58^{+25}_{-18}
Alt.	-21 ± 7	$2.46^{+0.27}_{-0.23}$	749^{+24}_{-22}	2940^{+160}_{-183}	55^{+25}_{-20}

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

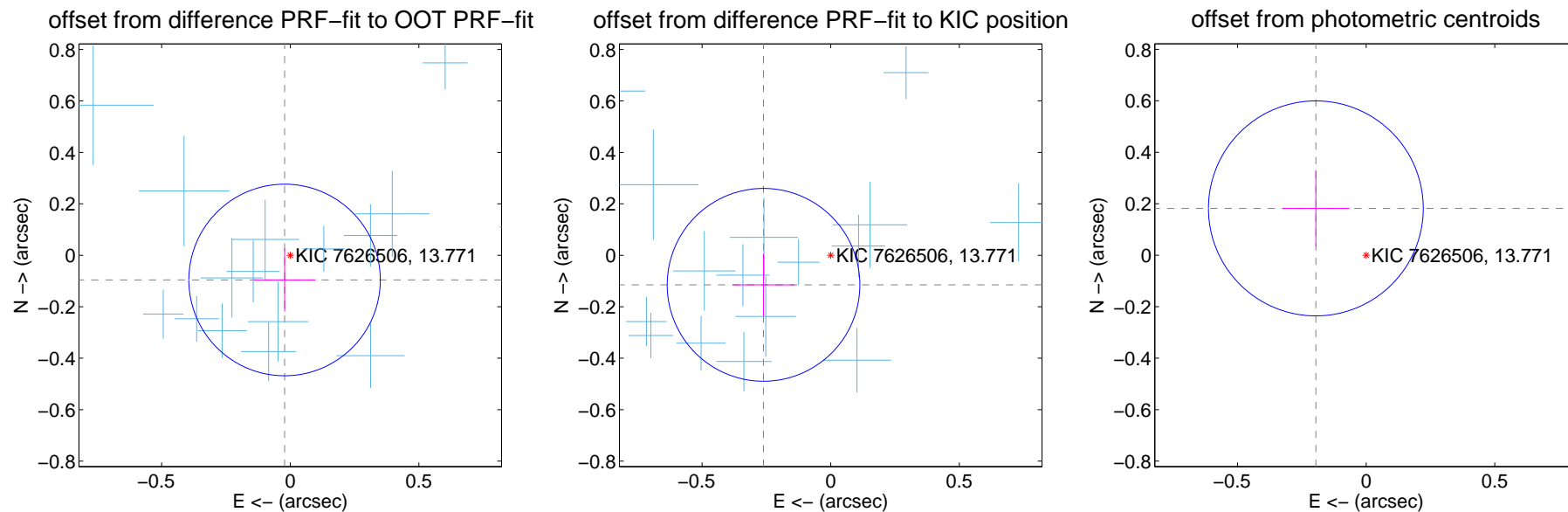
DV Centroid Data

Supplemental centroid analysis for 007626506-02. Kepler magnitude: 13.77. Transit SNR 86.56

There are 17 quarters with good PRF difference image offsets

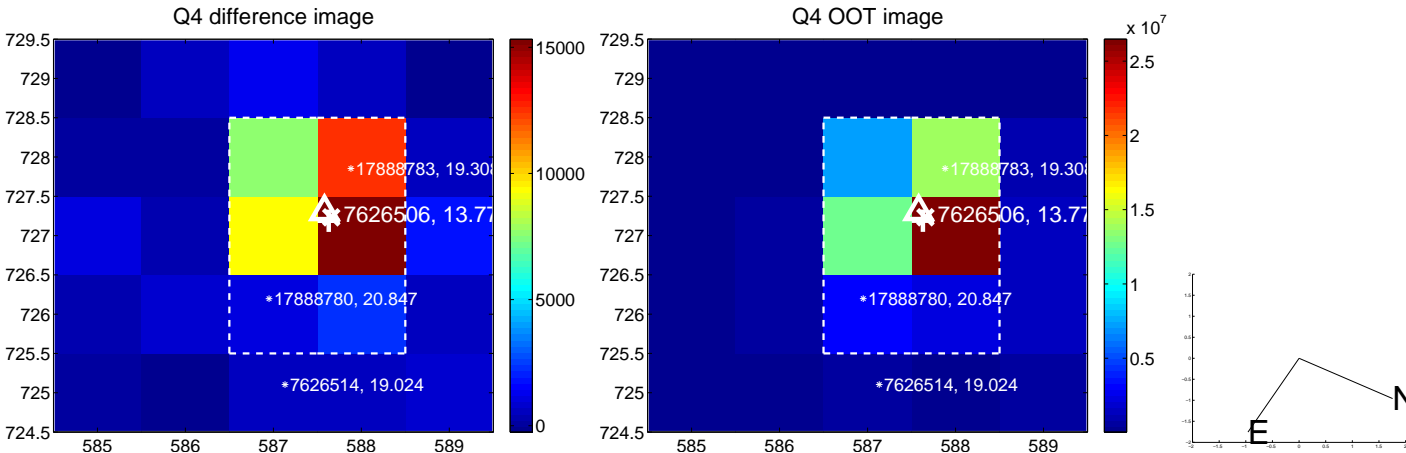
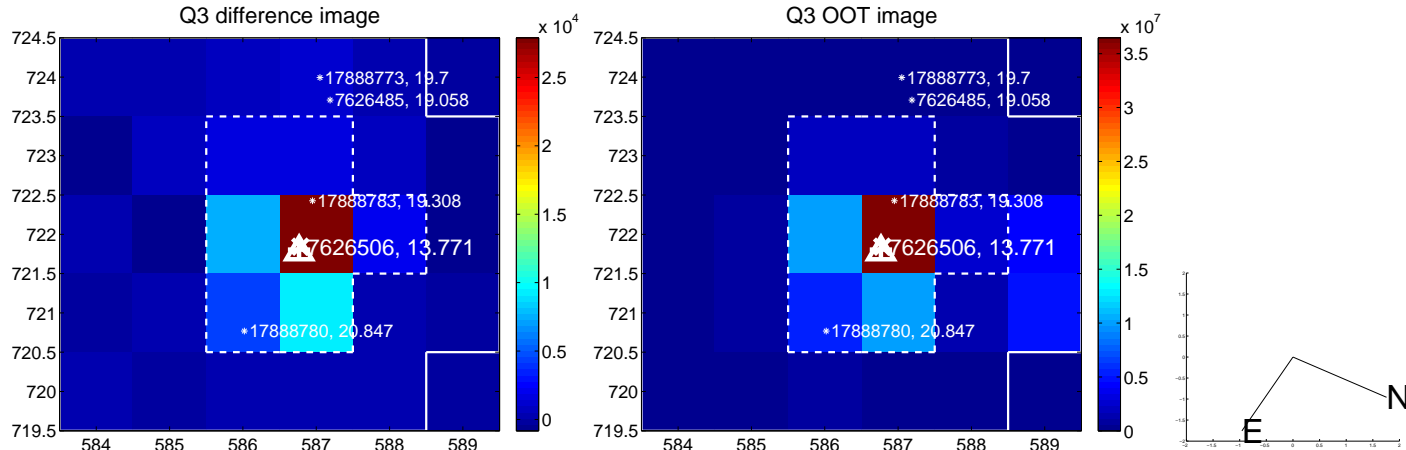
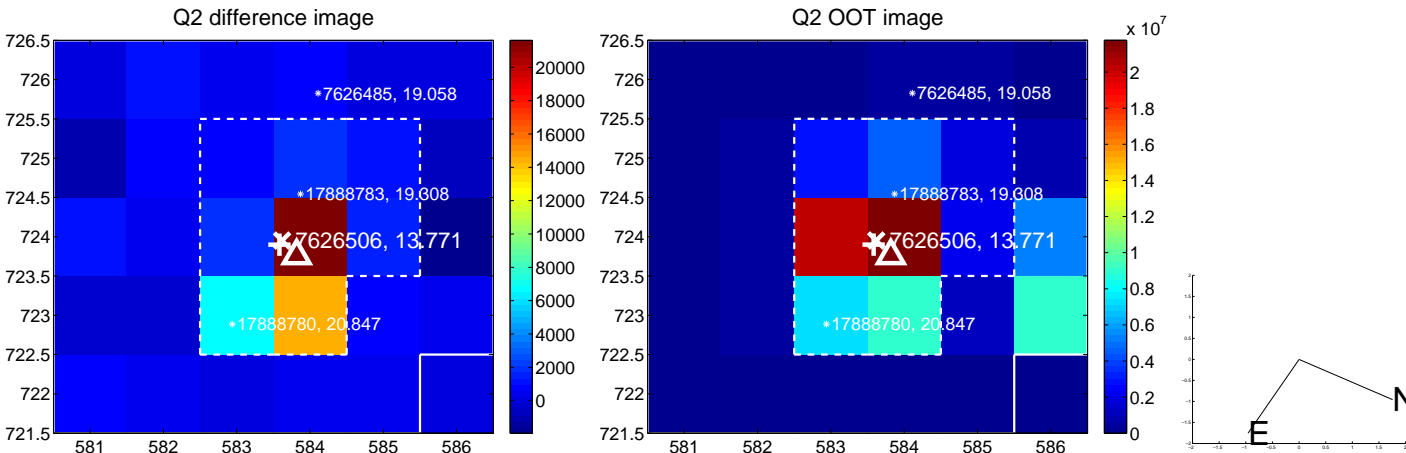
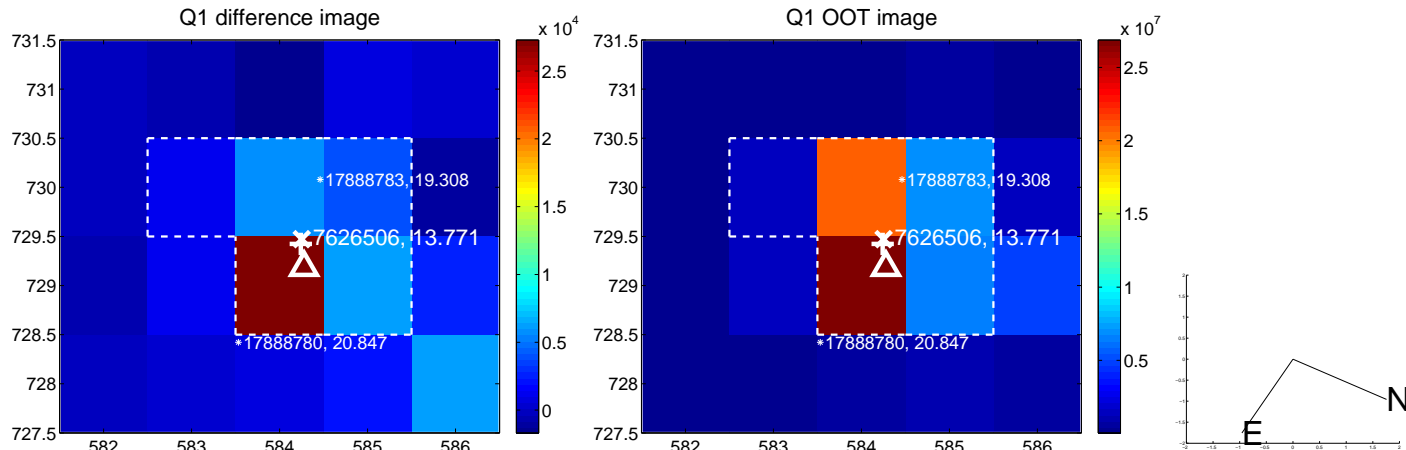
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.098 ± 0.124	0.79	0.022 ± 0.121	-0.096 ± 0.123
PRF-fit source offset from KIC position	0.285 ± 0.125	2.29	0.261 ± 0.121	-0.115 ± 0.121
photometric centroid source offset	0.27 ± 0.14	1.92	0.20 ± 0.13	0.18 ± 0.15

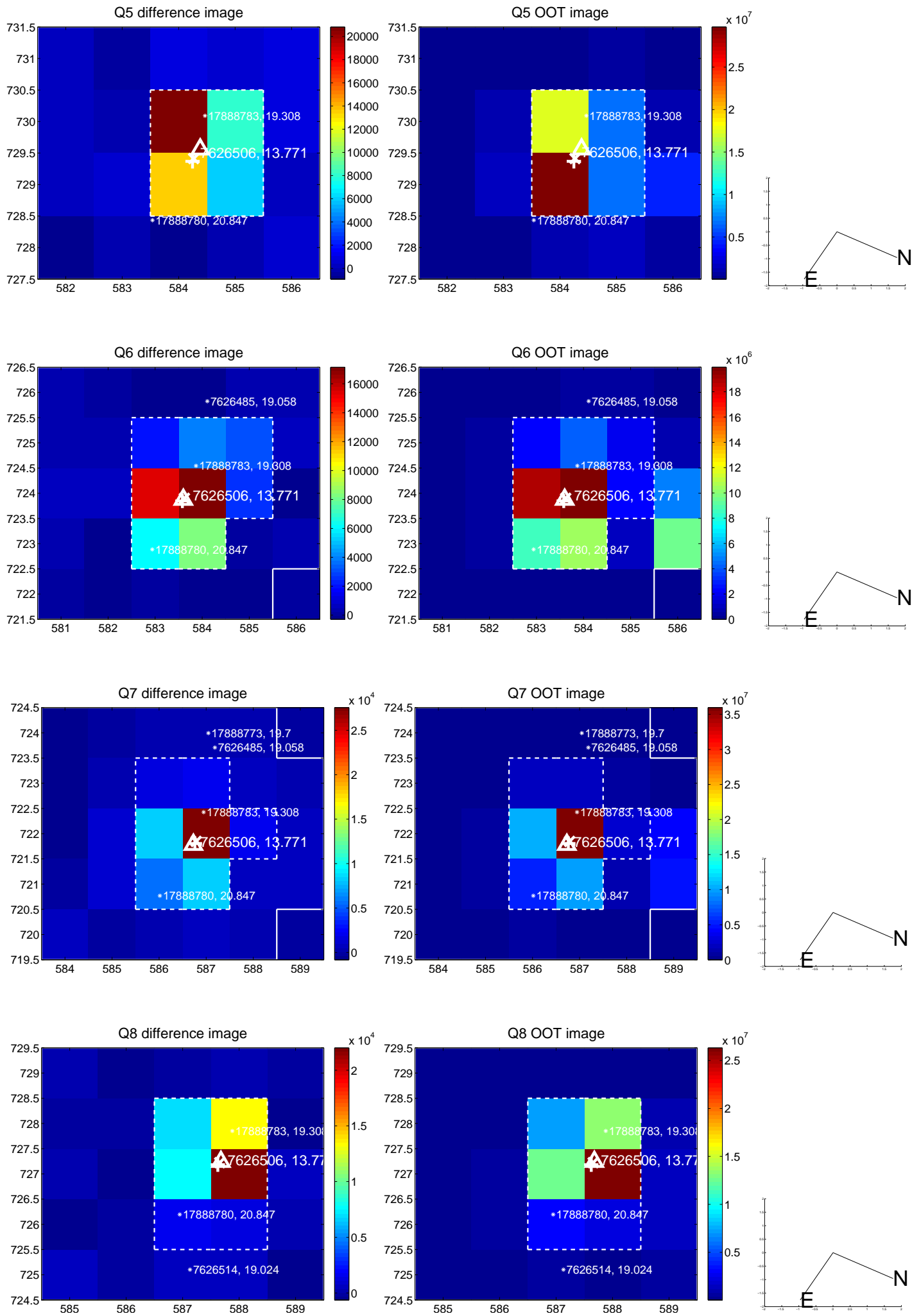


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

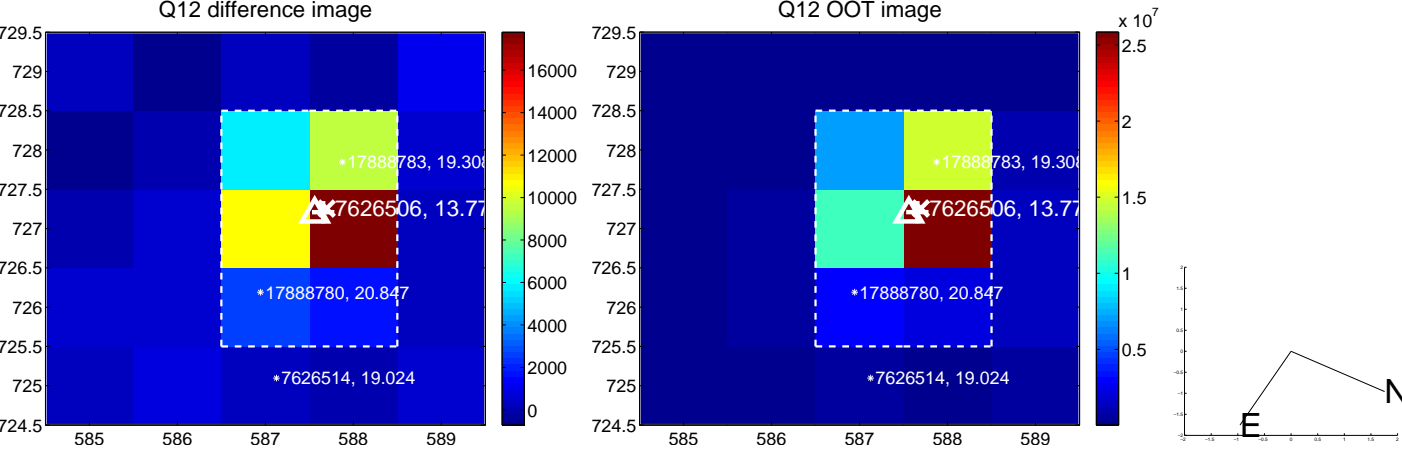
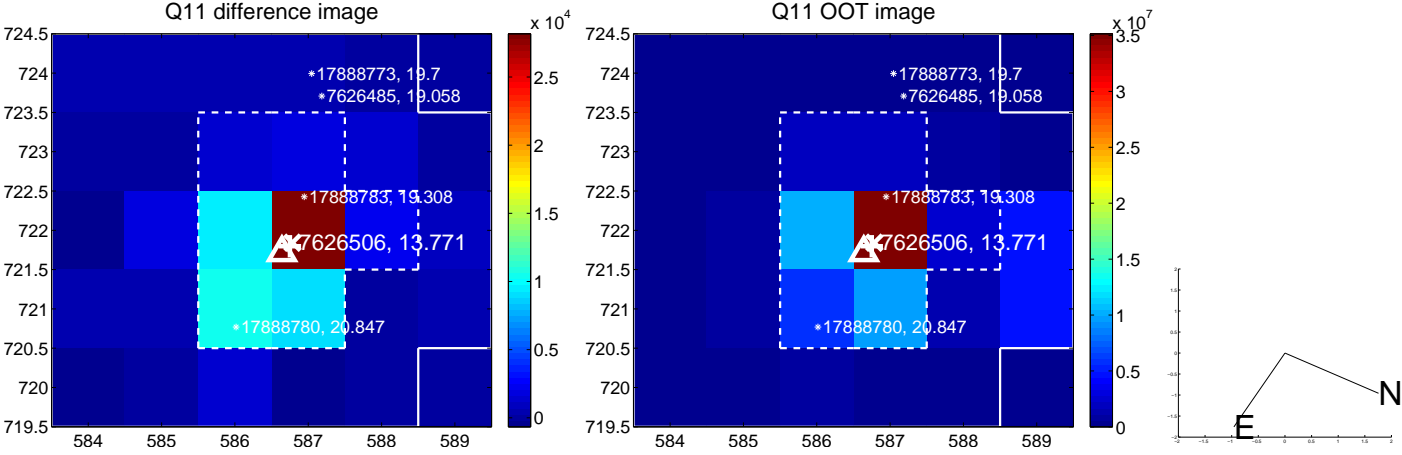
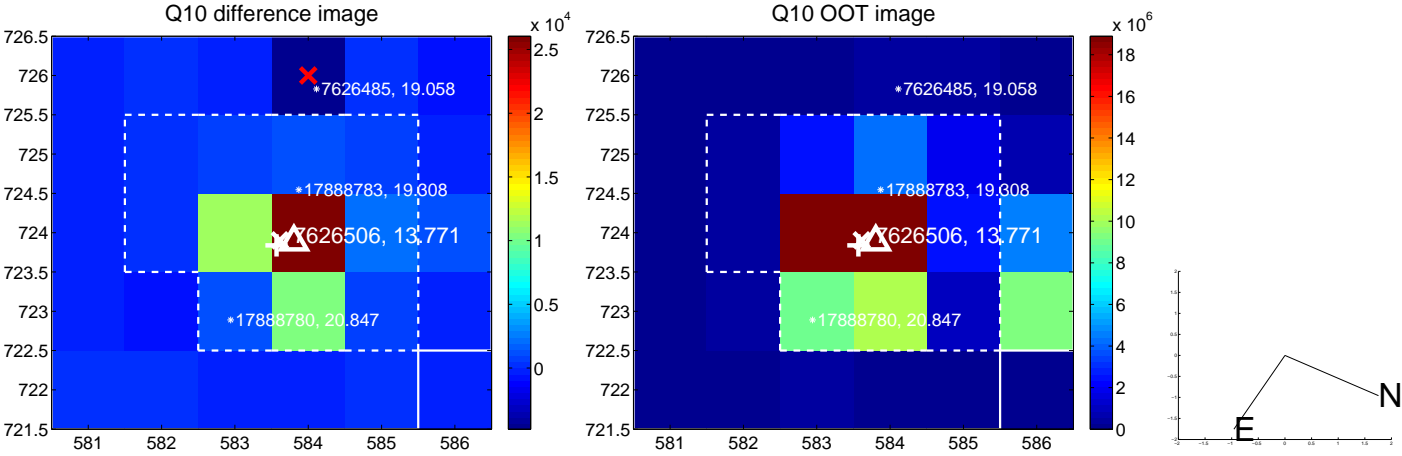
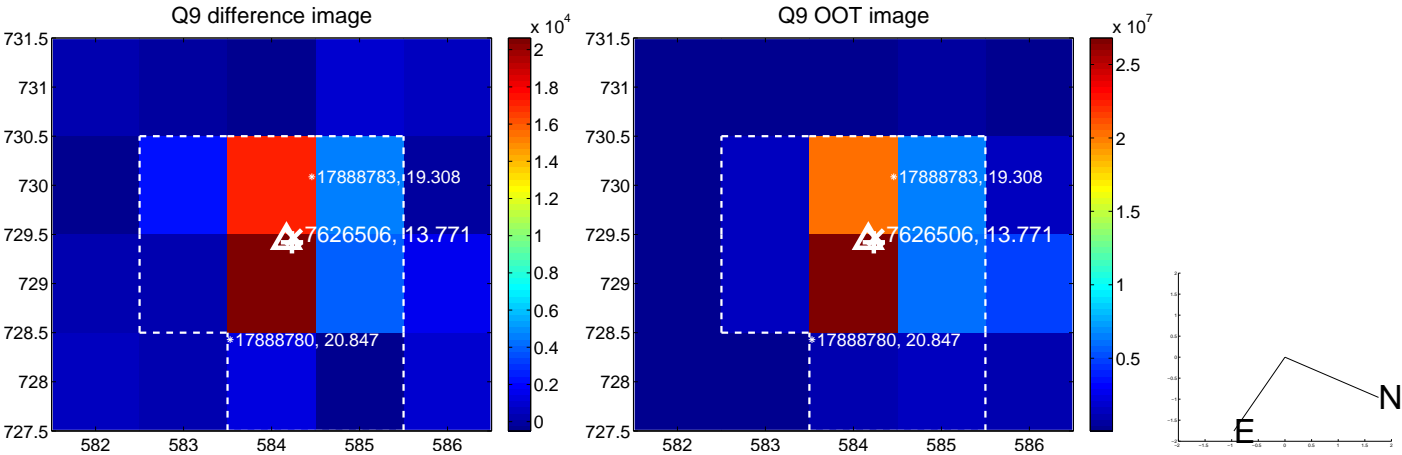
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



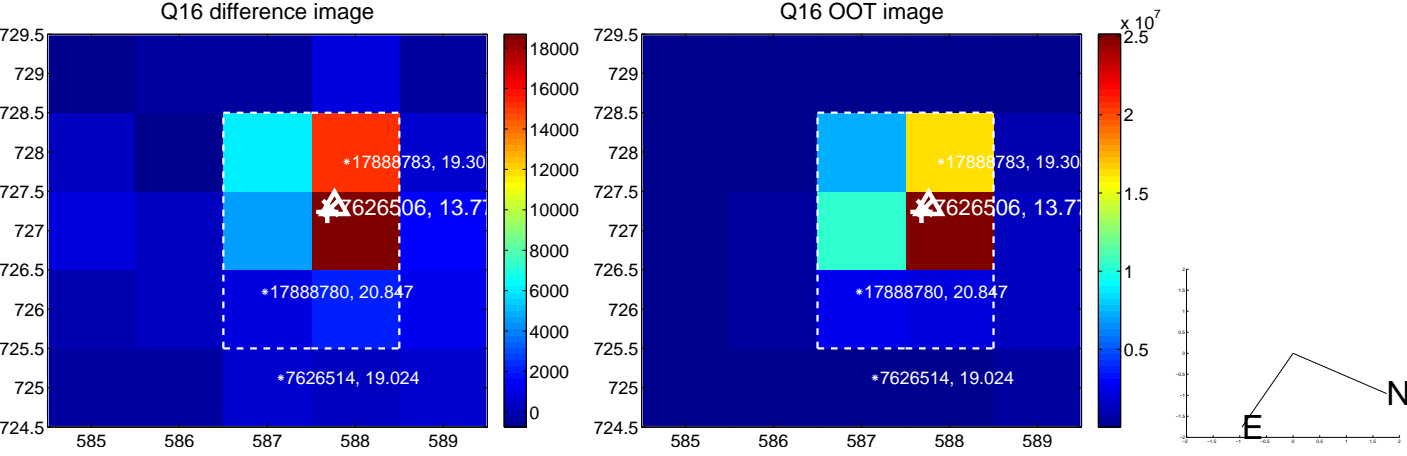
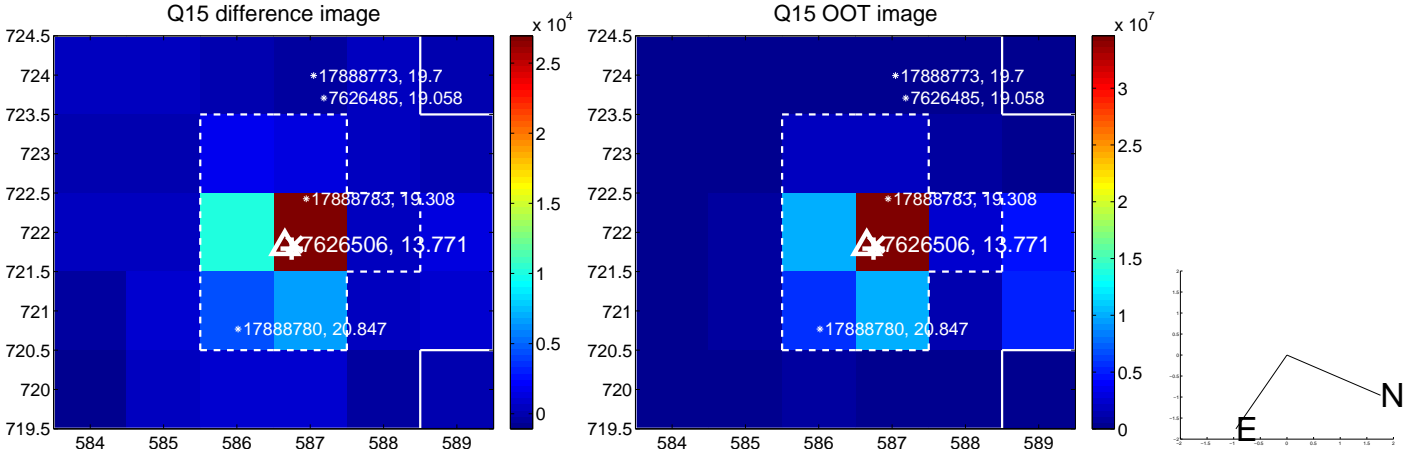
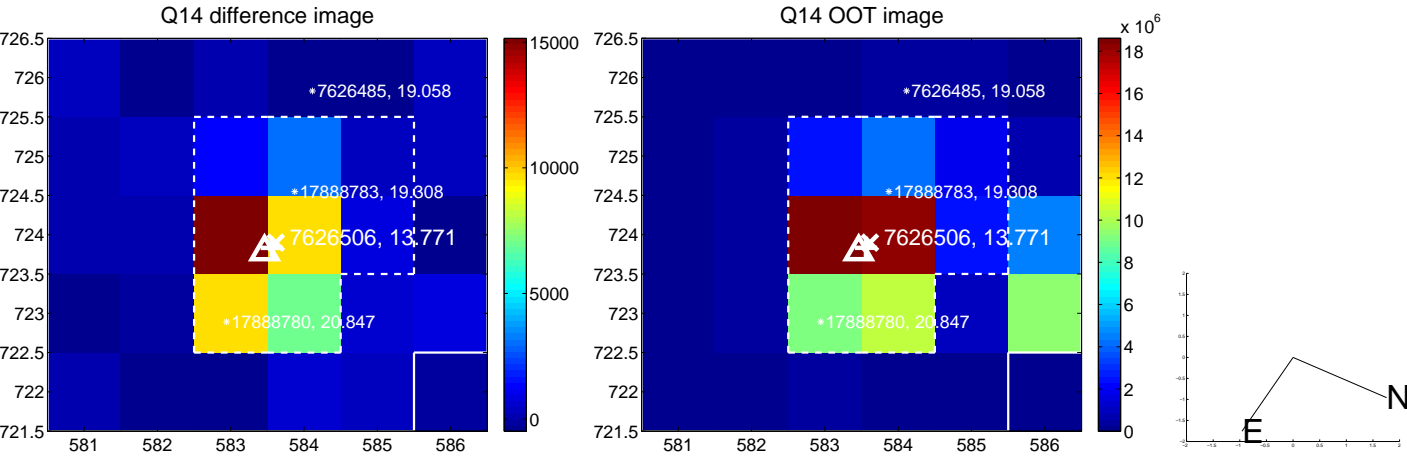
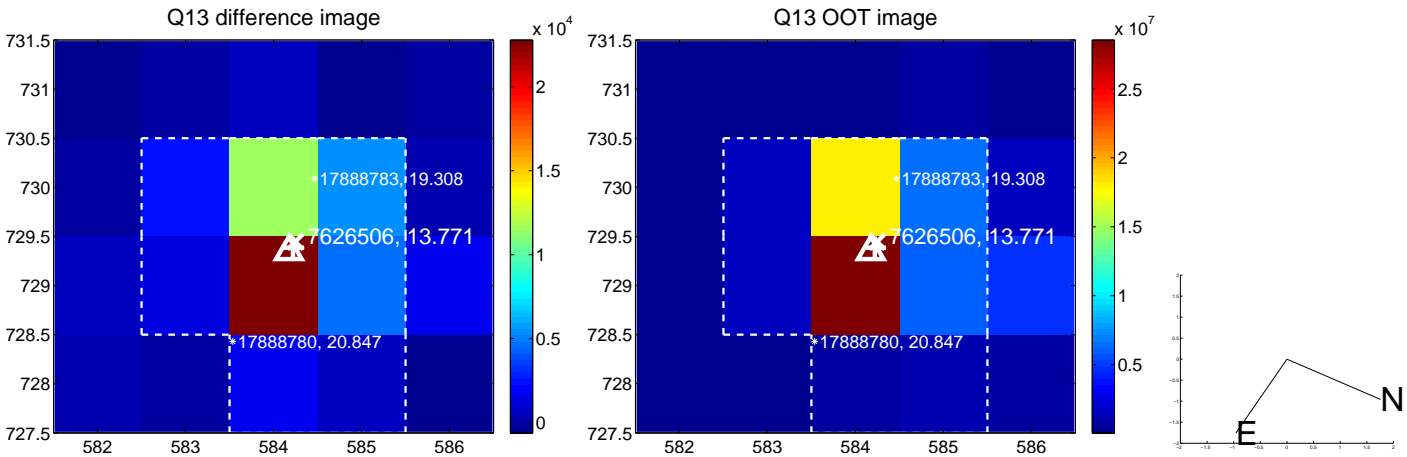
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



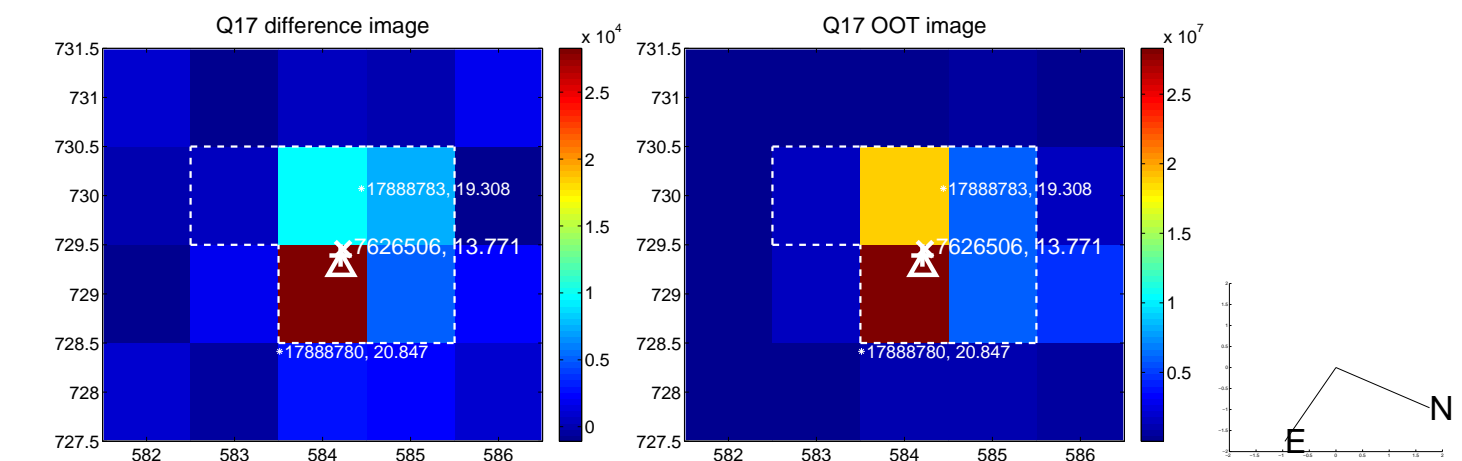
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



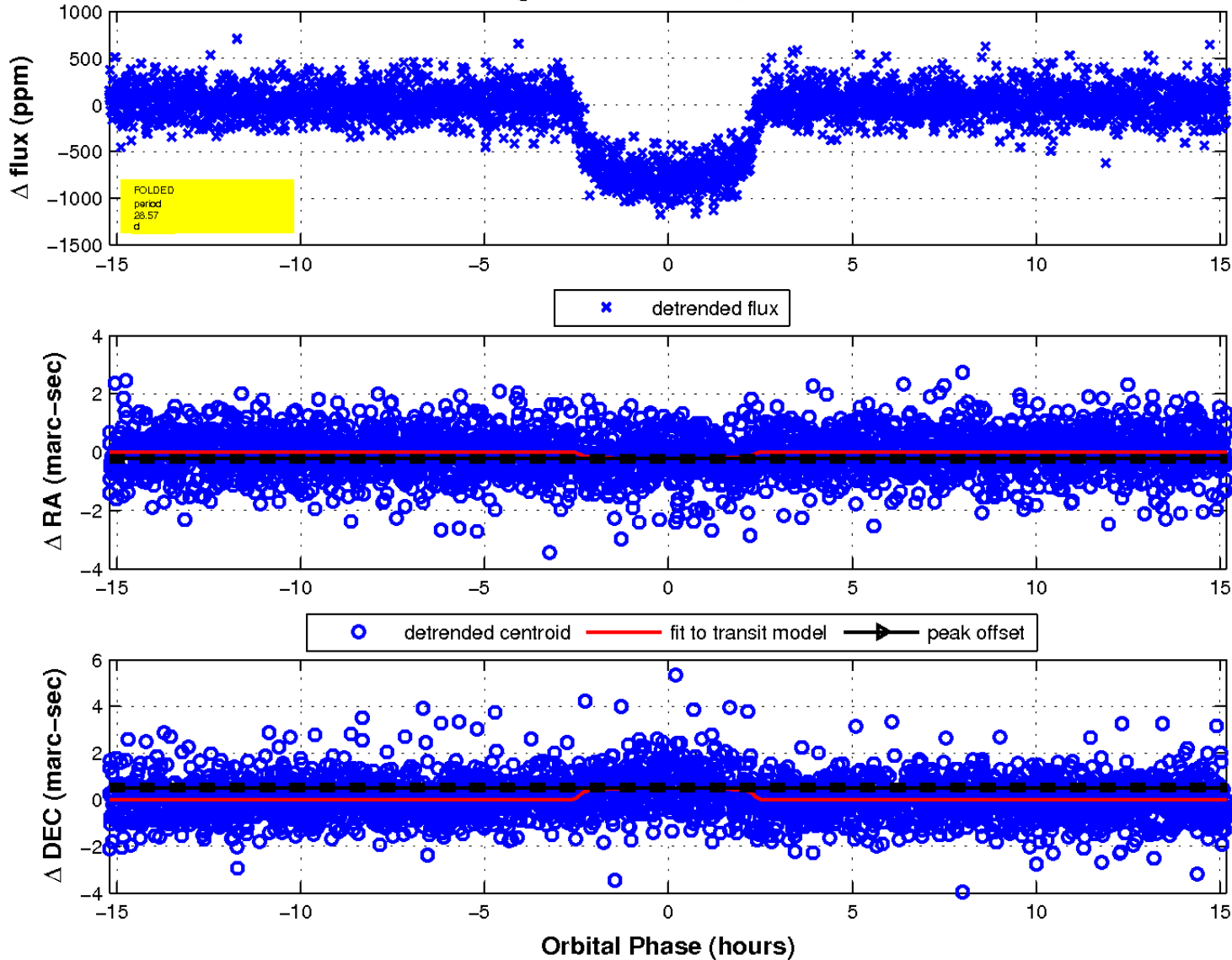
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

