

KIC 005794379

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})
005794379-01	OBS	0842.01	12.718090	137.201424	1123.1	3.285	42.0	45.2	0.69	4702	2.66	23.64
005794379-02	OBS	0842.02	36.065947	162.517205	1593.9	4.421	39.5	43.8	0.69	4702	2.84	5.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005794379-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005794379-02	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.

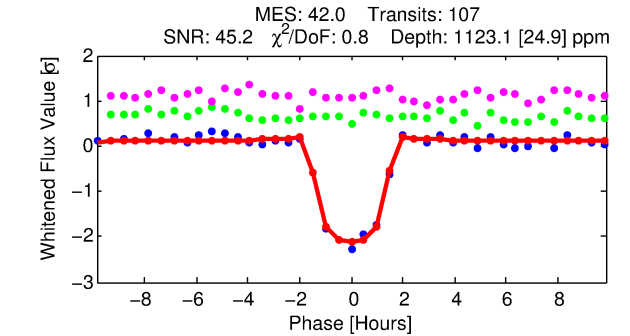
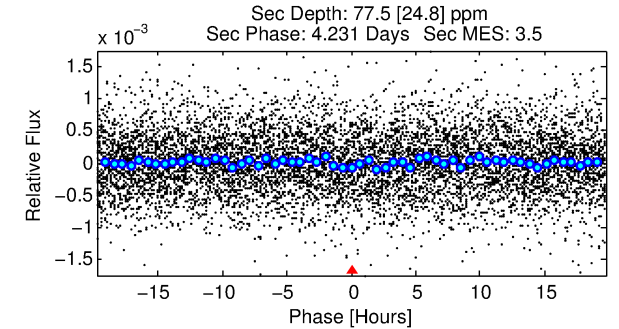
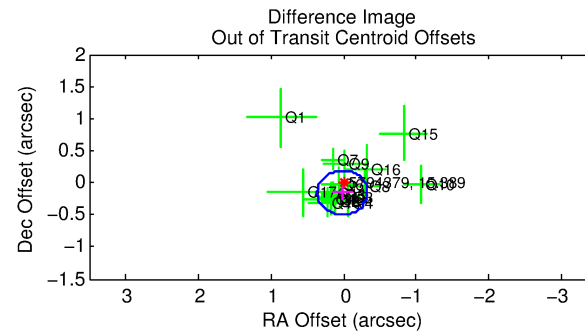
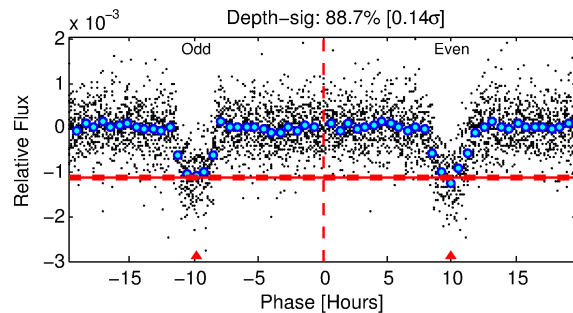
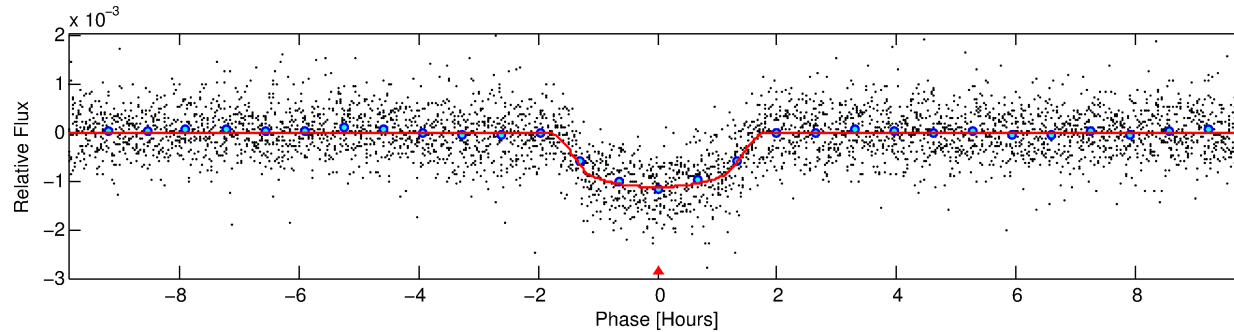
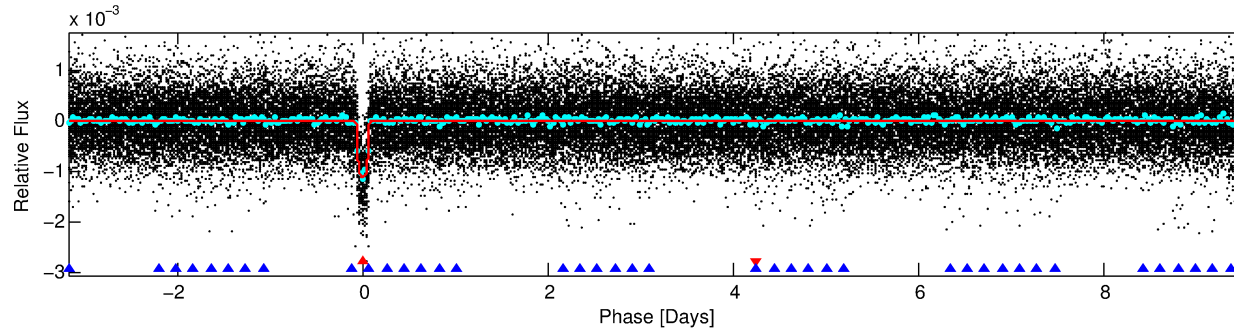
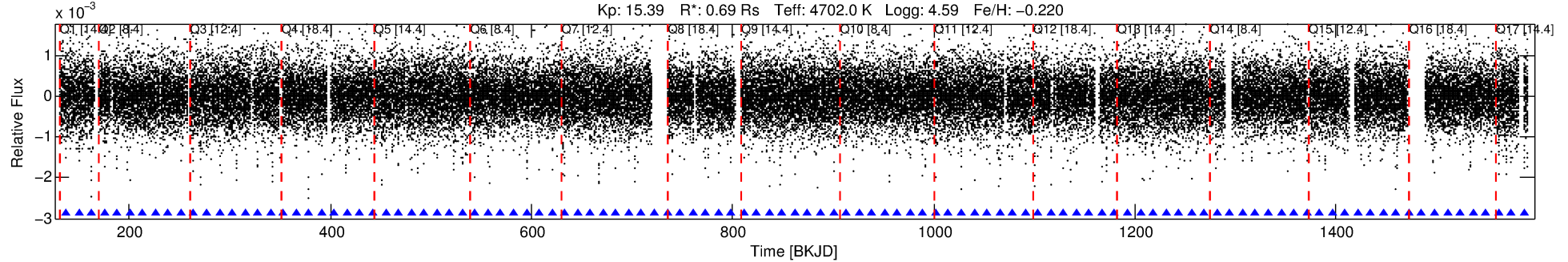
Ephemeris Match Information For 005794379-01

No Significant Match Found

DV One-Page Summary

KIC: 5794379 Candidate: 1 of 2 Period: 12.718 d
KOI: K00842.01 Name: Kepler-241b Corr: 0.965

Kp: 15.39 R*: 0.69 Rs Teff: 4702.0 K Logg: 4.59 Fe/H: -0.220



DV Fit Results:

Period = 12.71809 [0.00002] d
Epoch = 137.2014 [0.0015] BKJD
Rp/R* = 0.0355 [0.0038]
a/R* = 17.96 [6.54]
b = 0.84 [0.13]
Seff = 23.64 [3.87]
Teq = 562 [23] K
Rp = 2.66 [0.38] Re
a = 0.0934 [0.0074] AU
Ag = 52.57 [21.06] [2.45σ]
Teffp = 2341 [236] K [7.49σ]

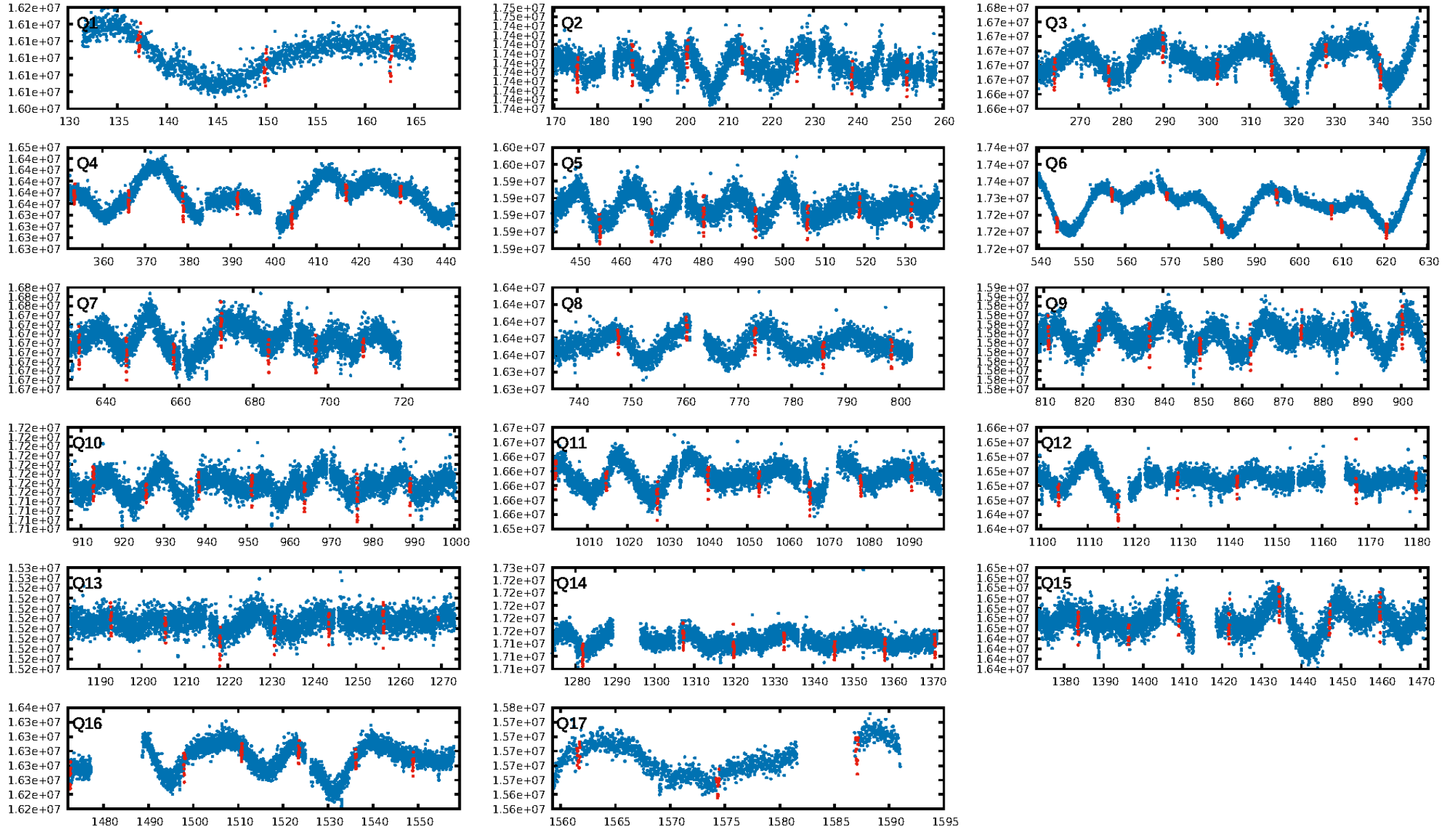
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [101.74σ]
ModelChiSquare2-sig: 96.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [101/101]
GhostDiagnostic-chr: 7.051
Centroid-sig: 83.2%
Centroid-so: 0.285 arcsec [0.91σ]
OotOffset-rm: 0.156 arcsec [1.35σ]
KicOffset-rm: 0.031 arcsec [0.26σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

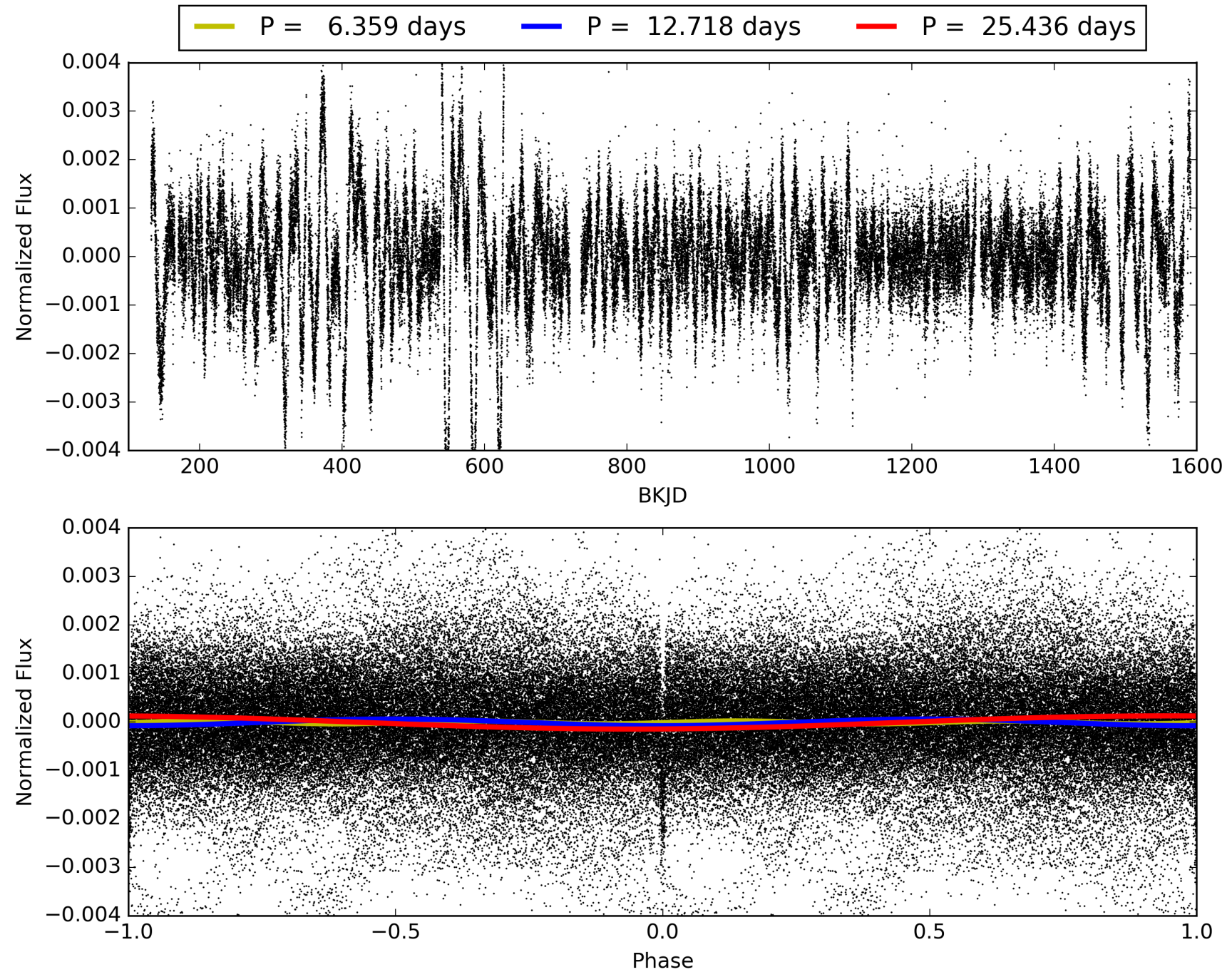
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:36:16 Z

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

TCE 005794379-01, PDC Light Curves

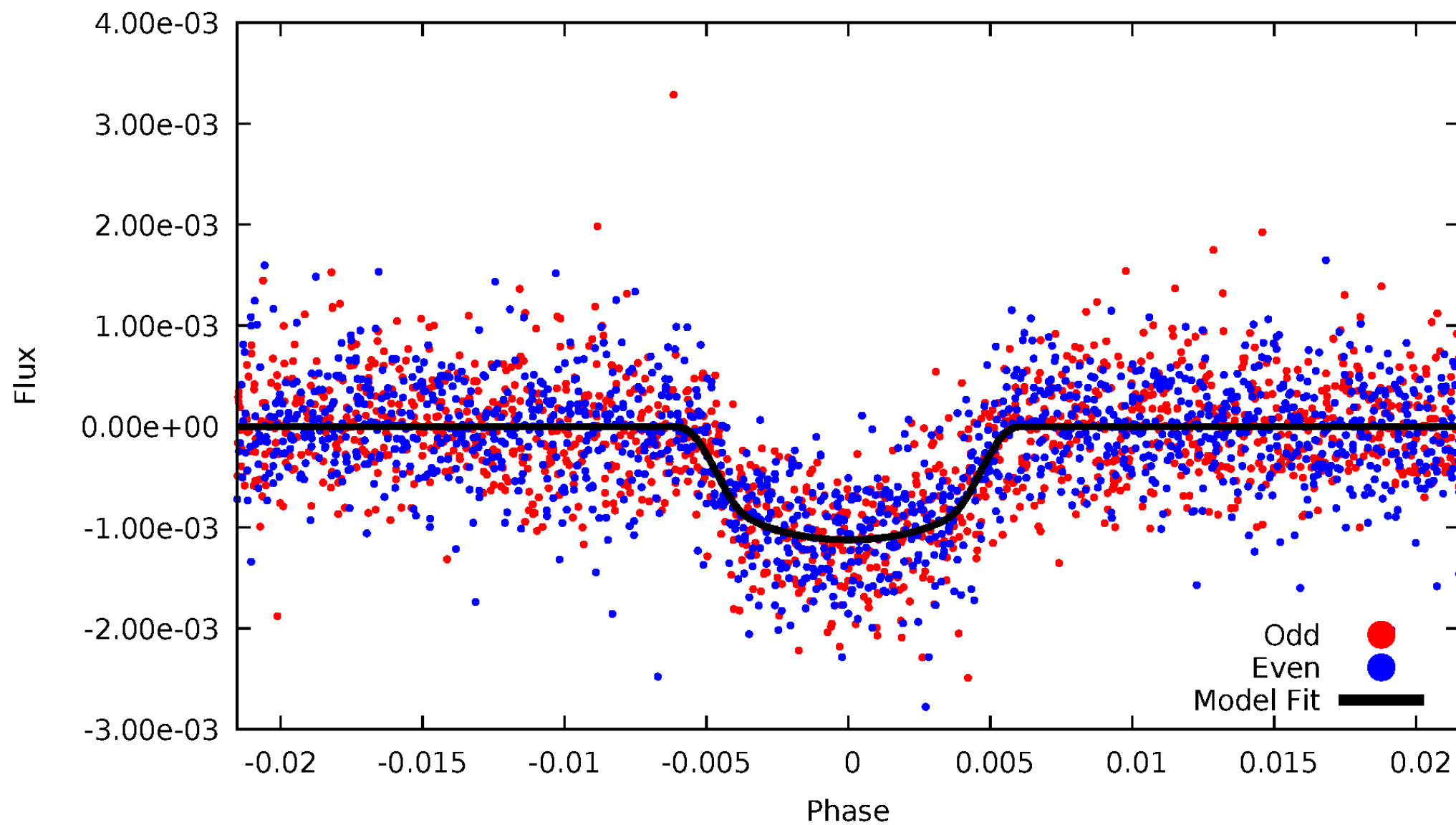


TCE 005794379-01



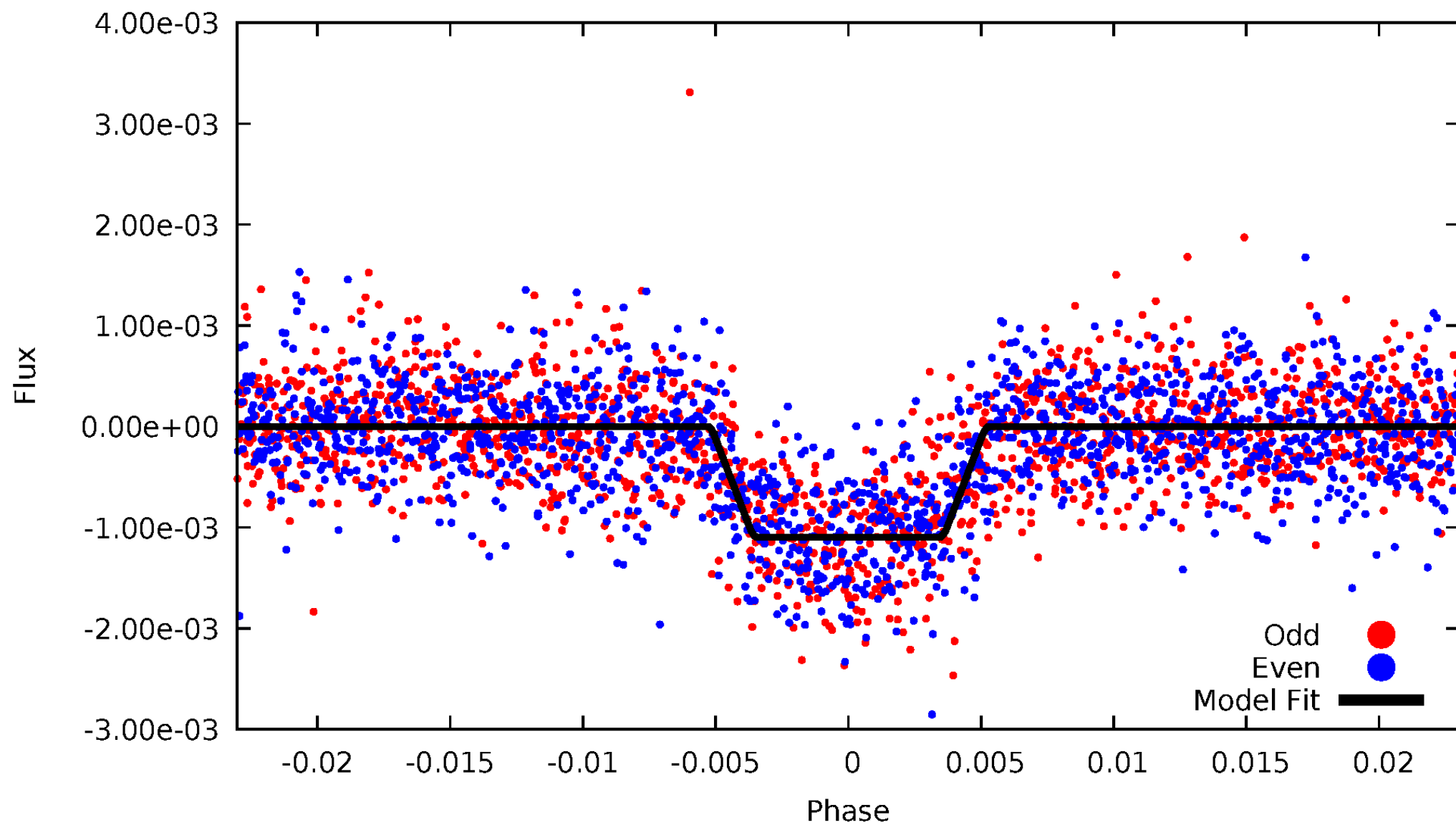
DV Odd/Even

TCE 005794379-01



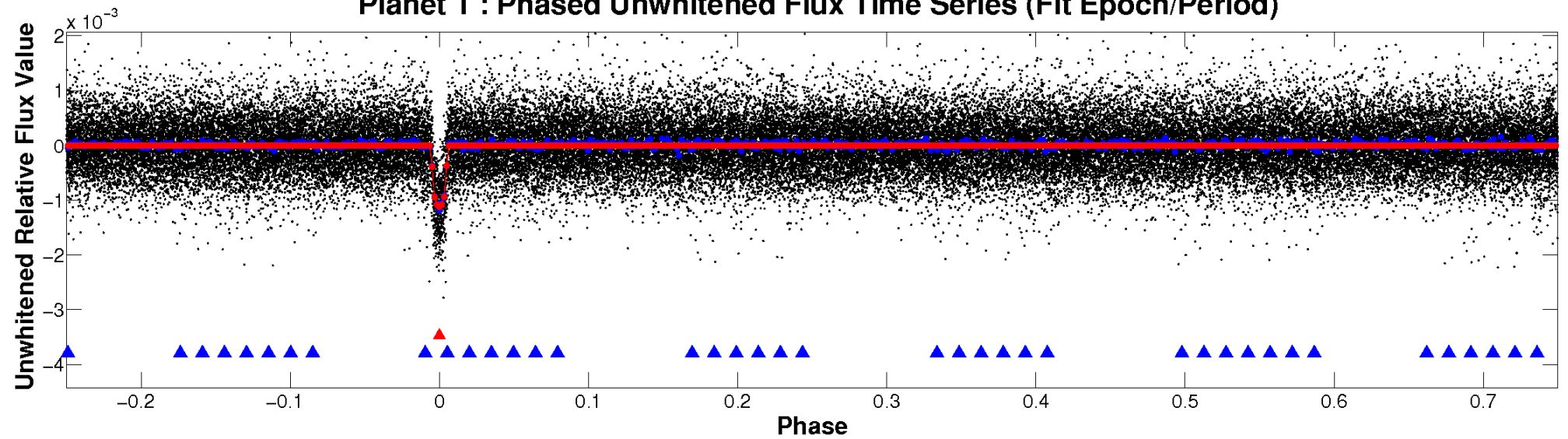
ALT Odd/Even

TCE 005794379-01

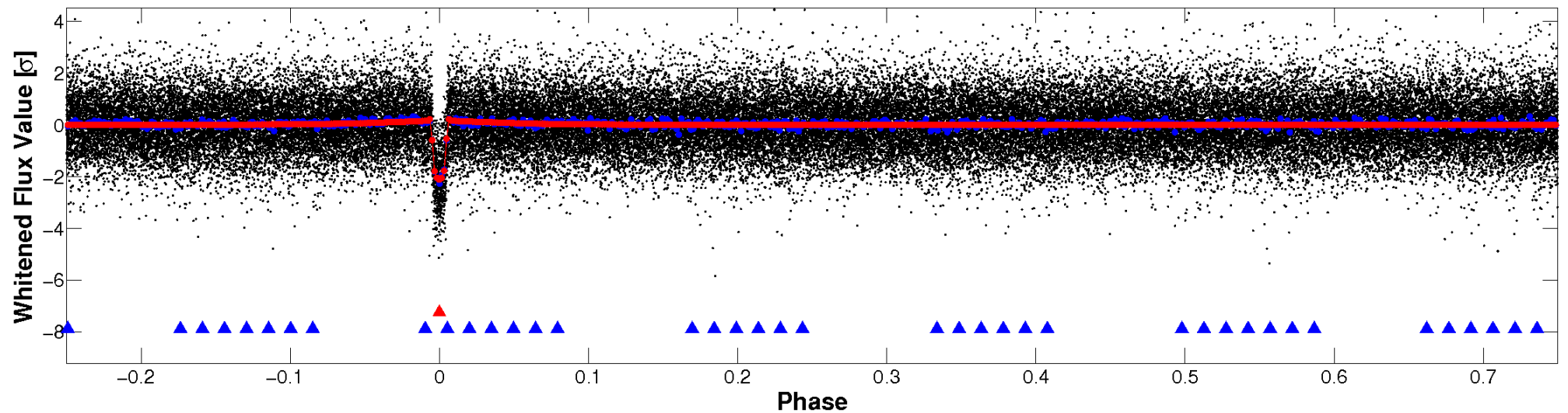


Non-Whitened Vs. Whitened Light Curve

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

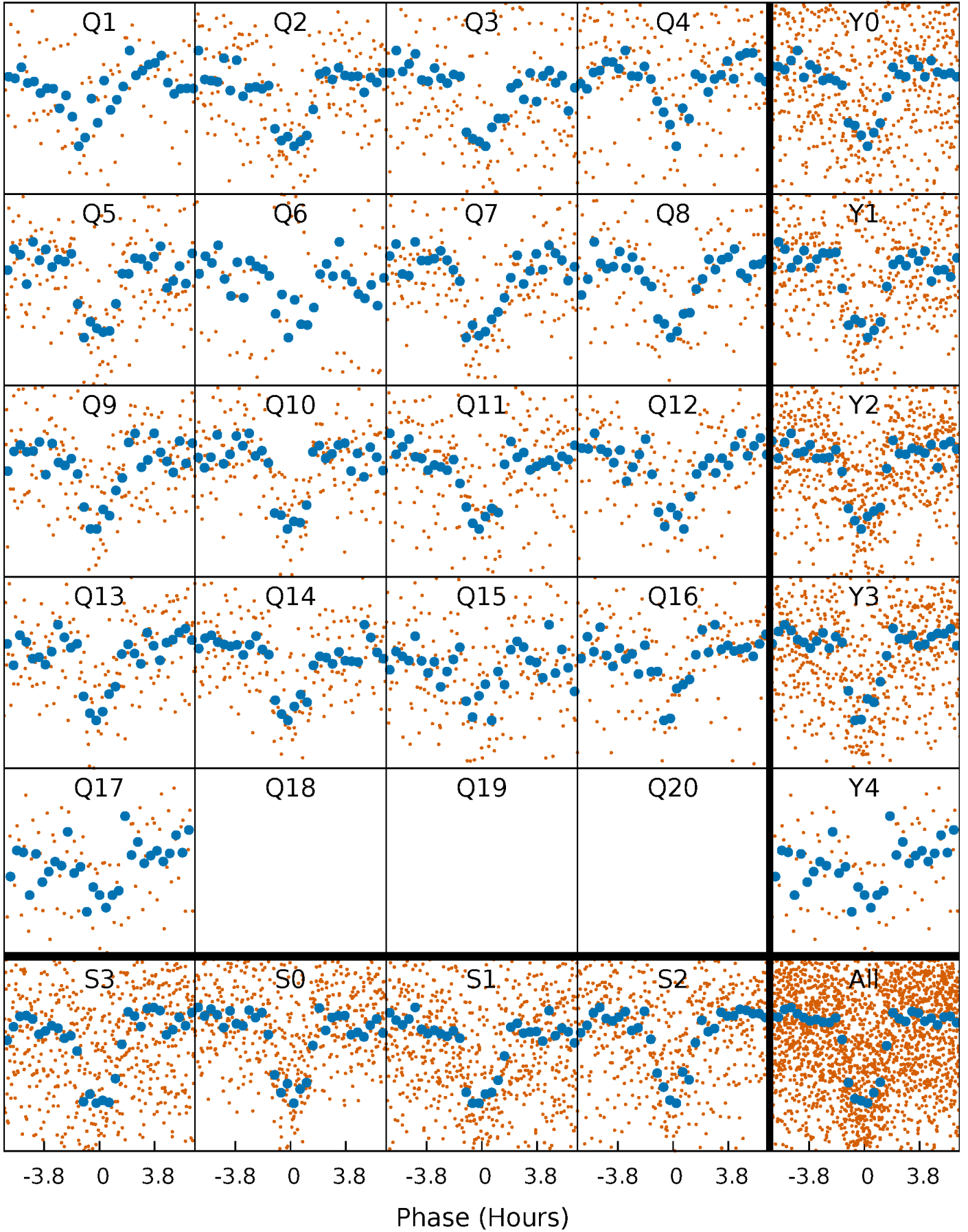


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



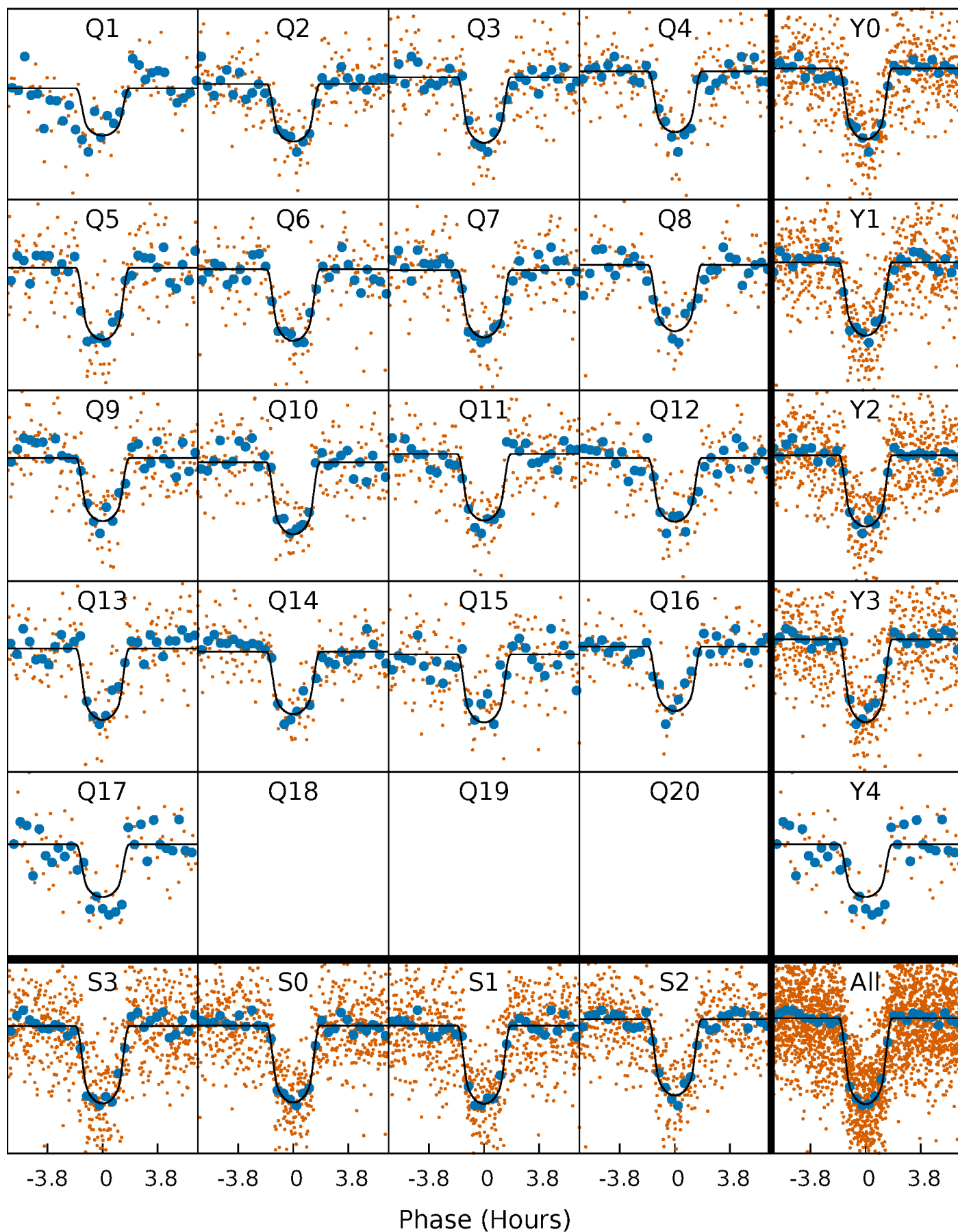
PDC Quarter-Phased Transit Curves

TCE 005794379-01 P= 12.718090 Days $T_0=137.201424$ (BKJD)



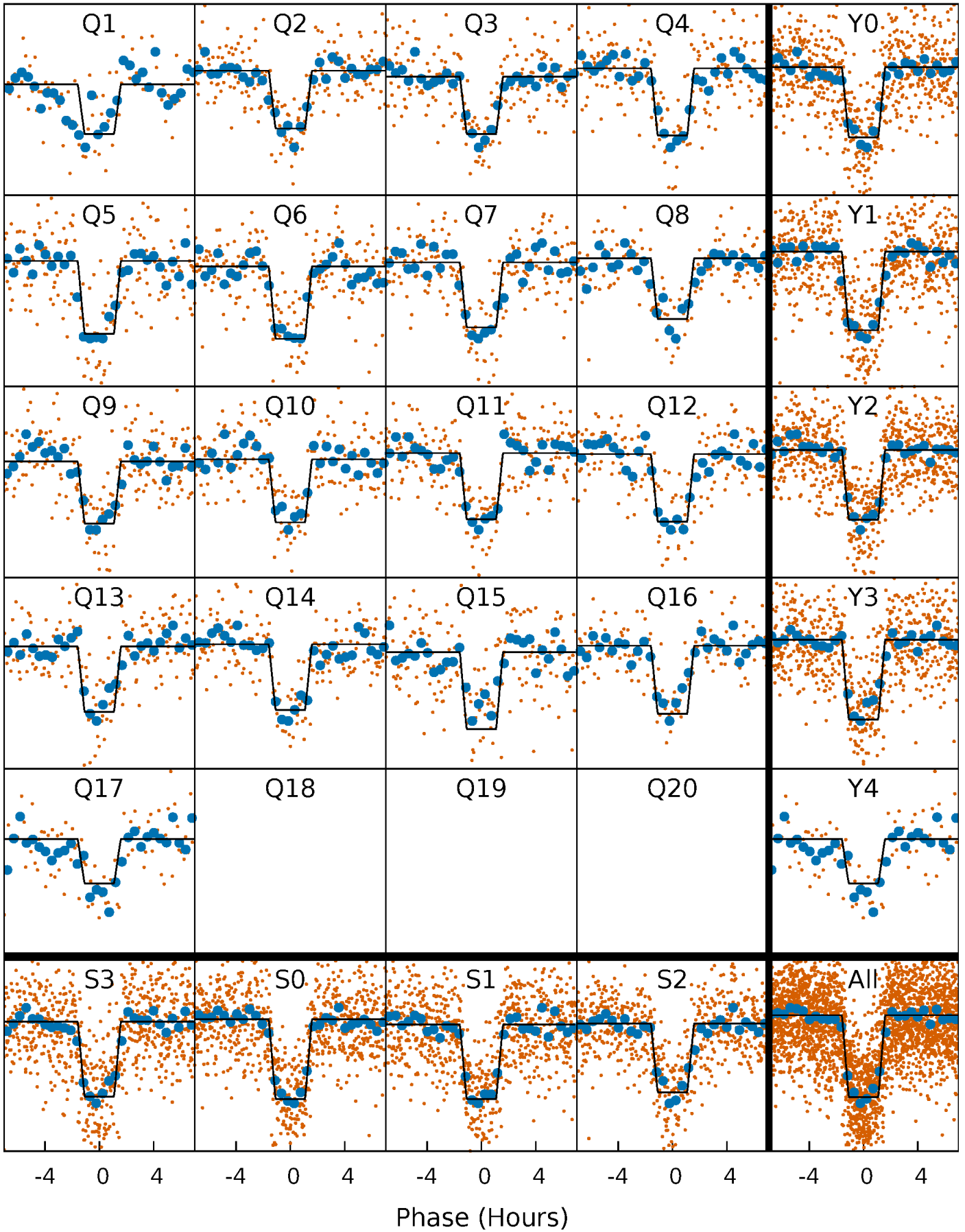
DV Quarter-Phased Transit Curves

TCE 005794379-01 P= 12.718090 Days $T_0=137.201424$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

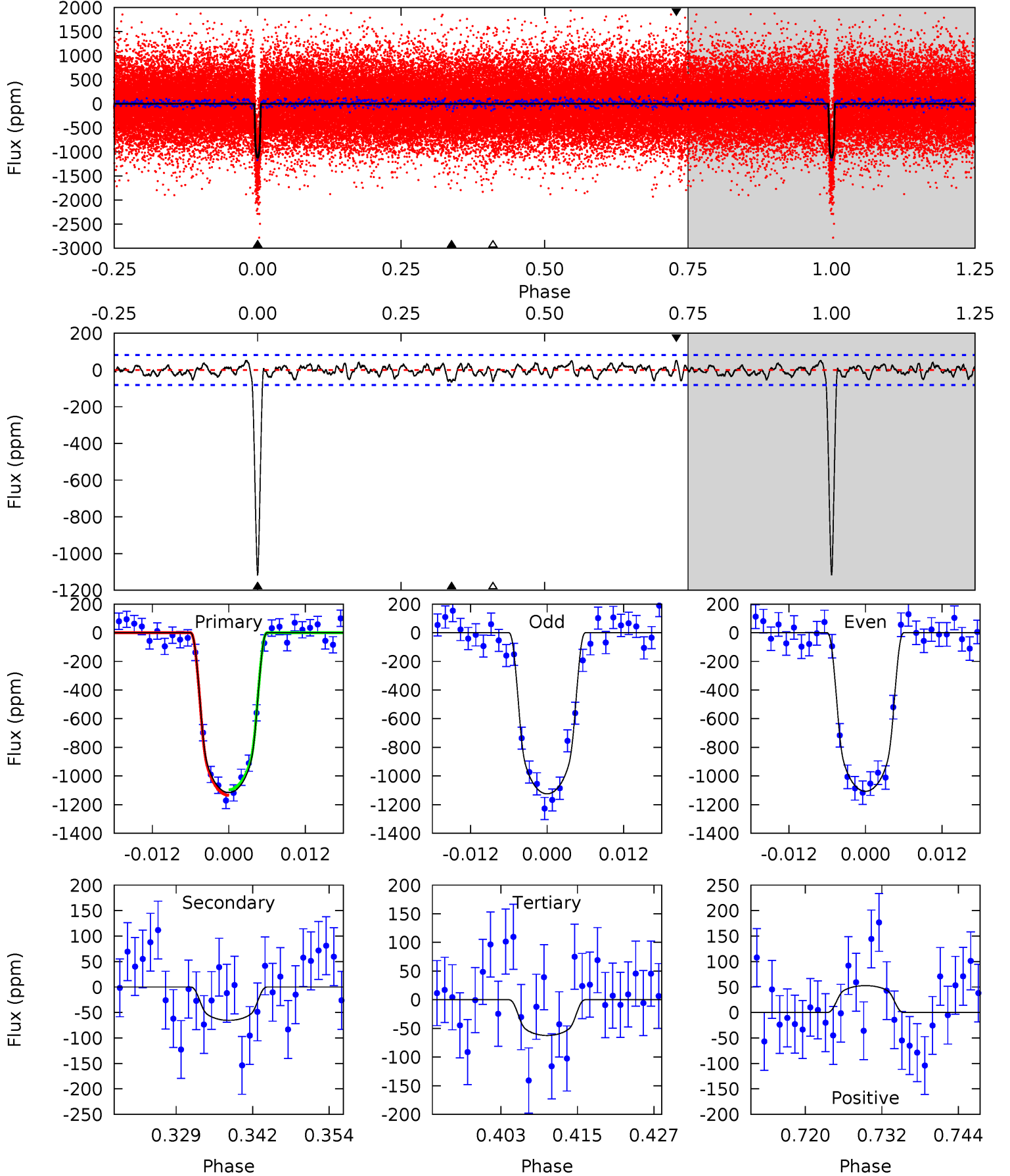
TCE 005794379-01 P= 12.717997 Days $T_0=137.206579$ (BKJD)



DV Model-Shift Uniqueness Test

005794379-01, $P = 12.718090$ Days, $E = 124.483334$ Days

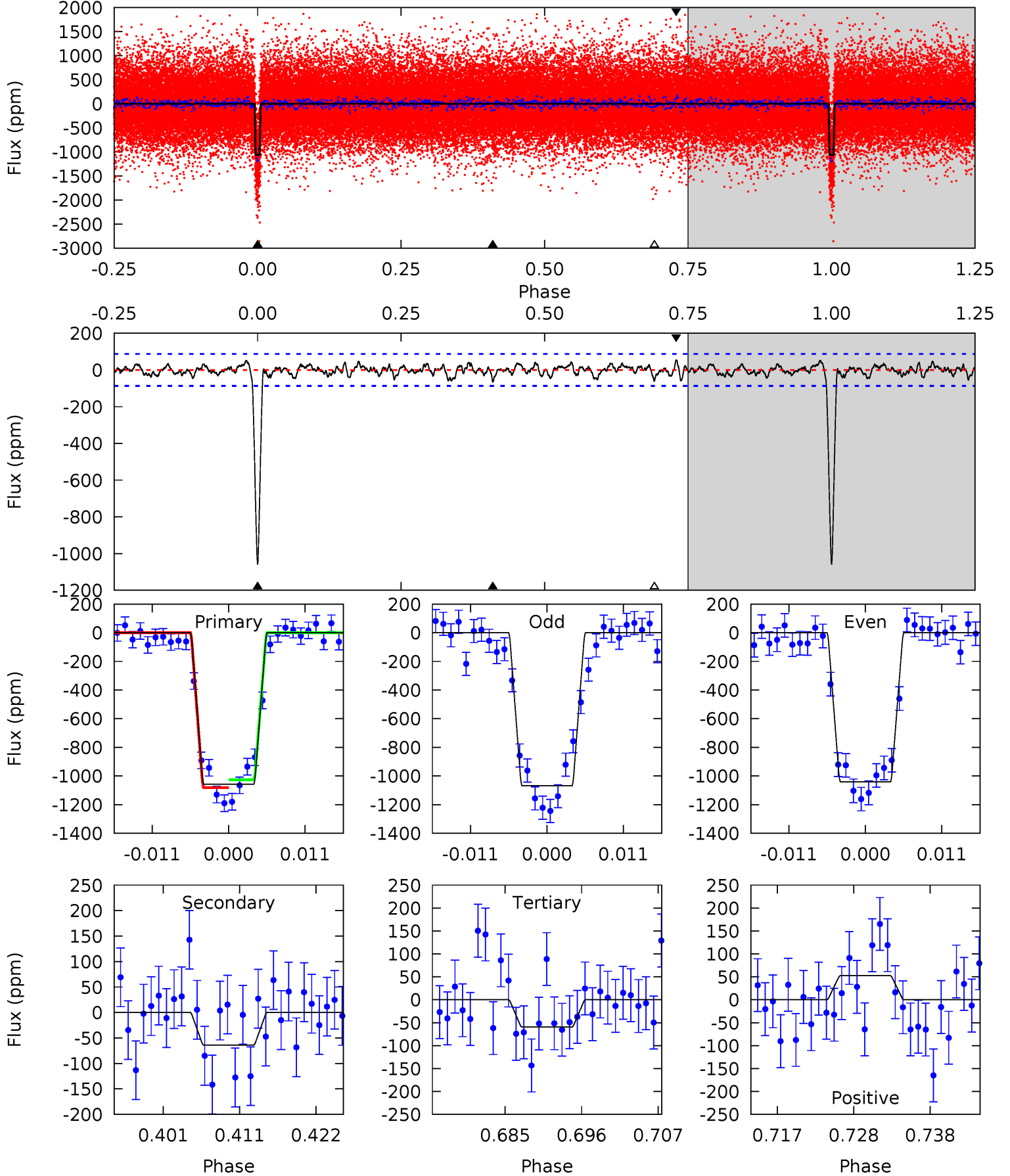
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
68.1	3.99	3.80	3.22	4.99	2.51	1.30	64.3	64.9	0.19	0.77	0.54	1.01	0.05	1.18



Alt Model-Shift Uniqueness Test

005794379-01, $P = 12.717997$ Days, $E = 124.488582$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.0	3.68	3.44	3.03	5.02	2.56	1.20	57.6	58.0	0.25	0.65	0.77	1.03	0.05	1.58



Stellar Parameters For KIC 005794379

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4702^{+128}_{-142}	$4.592^{+0.058}_{-0.027}$	$-0.220^{+0.300}_{-0.300}$	$0.686^{+0.049}_{-0.067}$	$0.670^{+0.081}_{-0.050}$	$2.926^{+0.730}_{-0.357}$
	+3%/-3%	+1%/-1%	+136%/-136%	+7%/-10%	+12%/-7%	+25%/-12%
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 005794379-01 / KOI 0842.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-65 ± 16	$2.66^{+0.31}_{-0.30}$	781^{+27}_{-27}	2874^{+158}_{-136}	45^{+17}_{-14}
Alt.	-64 ± 17	$2.46^{+0.32}_{-0.29}$	781^{+24}_{-28}	2927^{+156}_{-167}	51^{+22}_{-17}

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

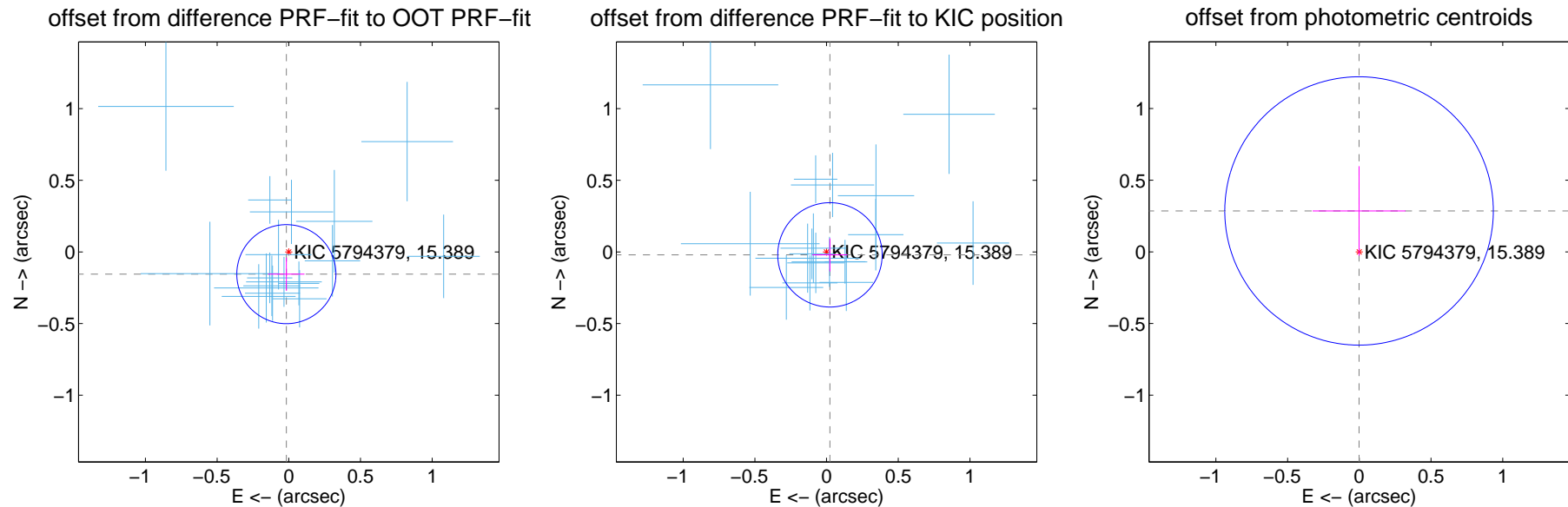
DV Centroid Data

Supplemental centroid analysis for 005794379-01. Kepler magnitude: 15.39. Transit SNR 45.18

There are 17 quarters with good PRF difference image offsets

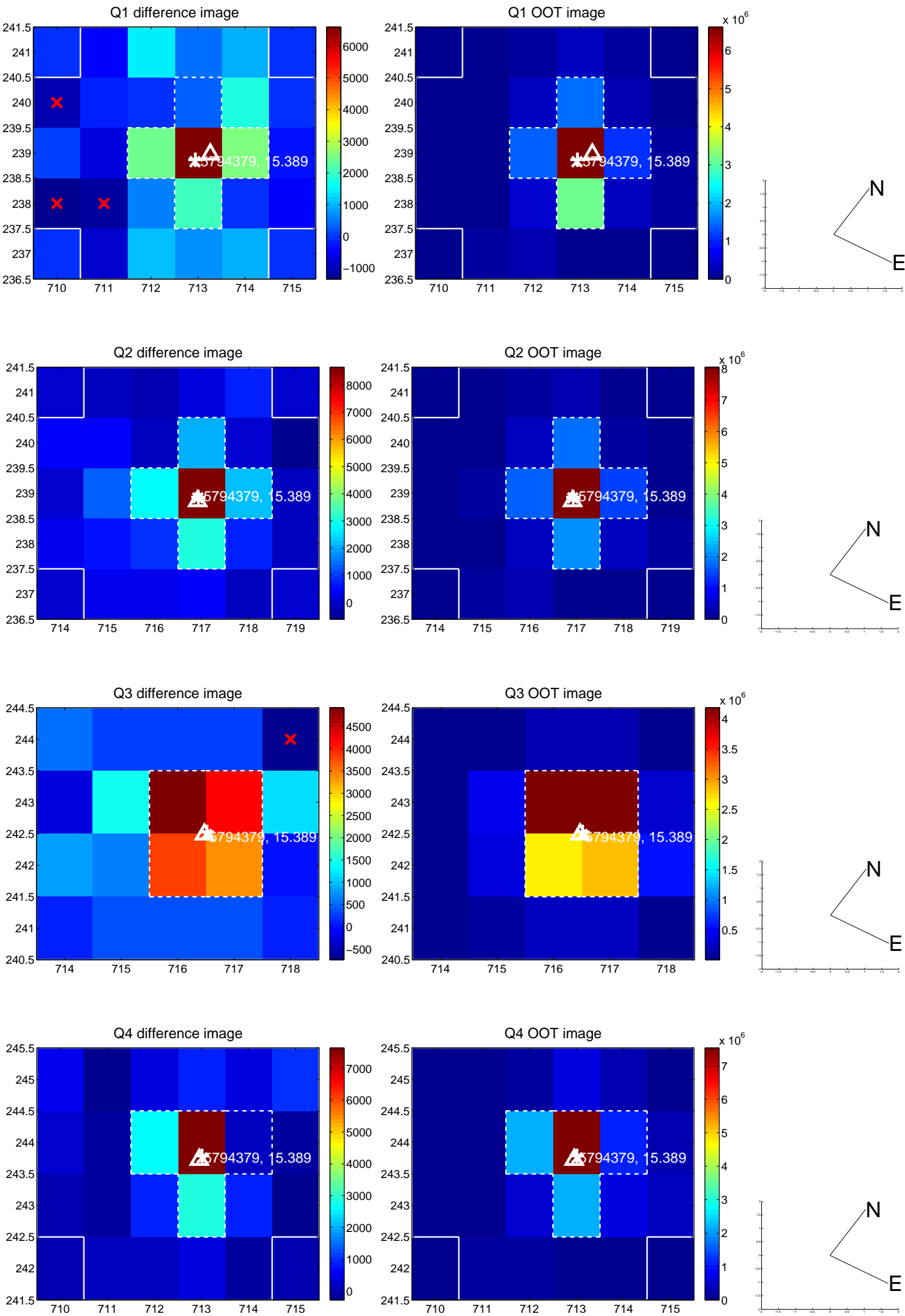
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.156 ± 0.115	1.35	0.017 ± 0.127	-0.155 ± 0.115
PRF-fit source offset from KIC position	0.031 ± 0.121	0.26	-0.024 ± 0.123	-0.021 ± 0.115
photometric centroid source offset	0.29 ± 0.31	0.91	0.00 ± 0.32	0.29 ± 0.31

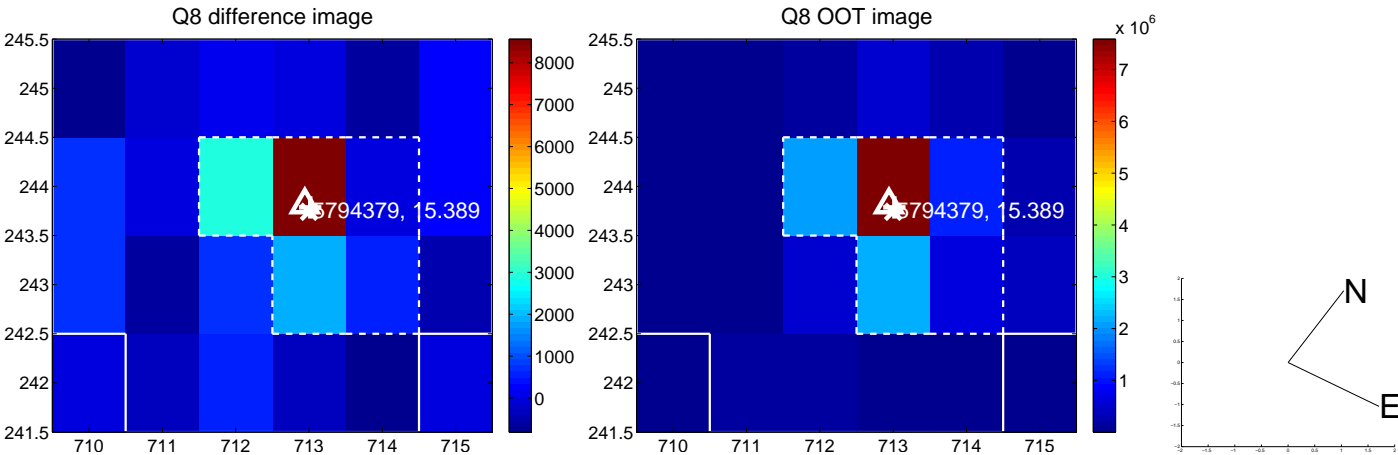
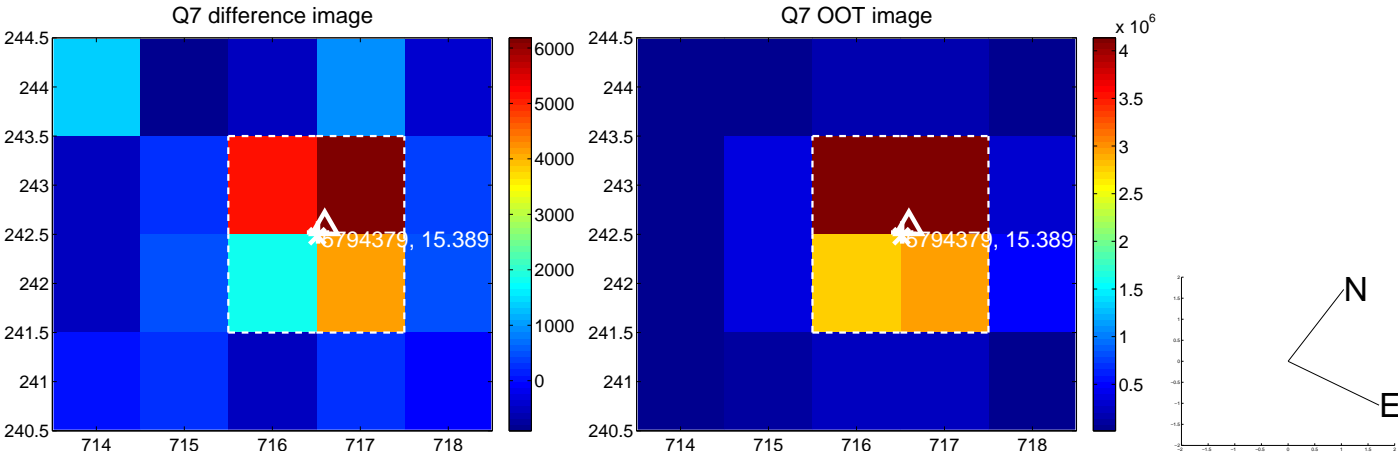
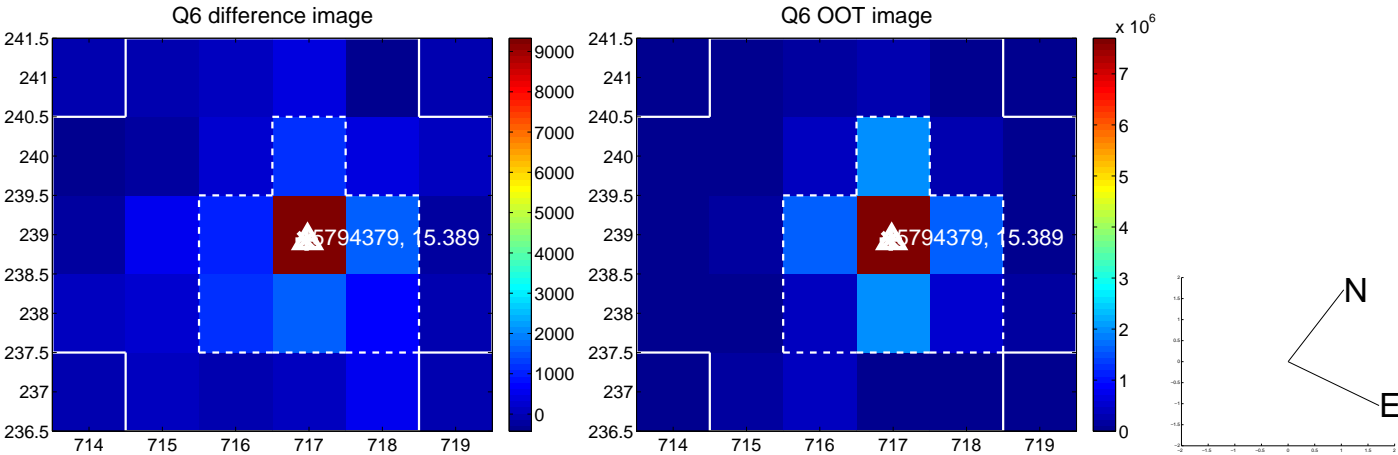
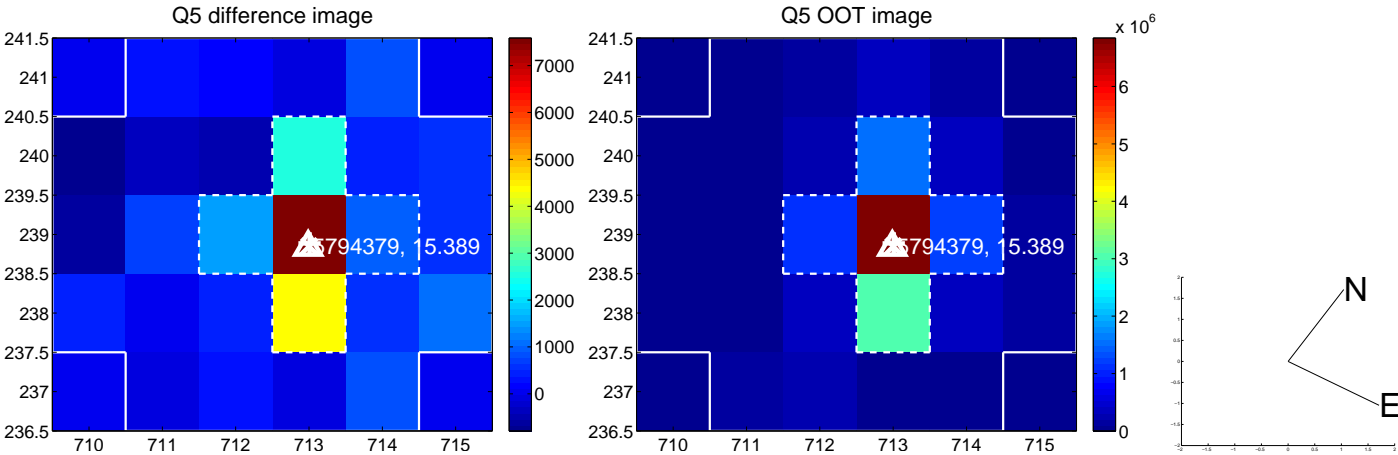


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

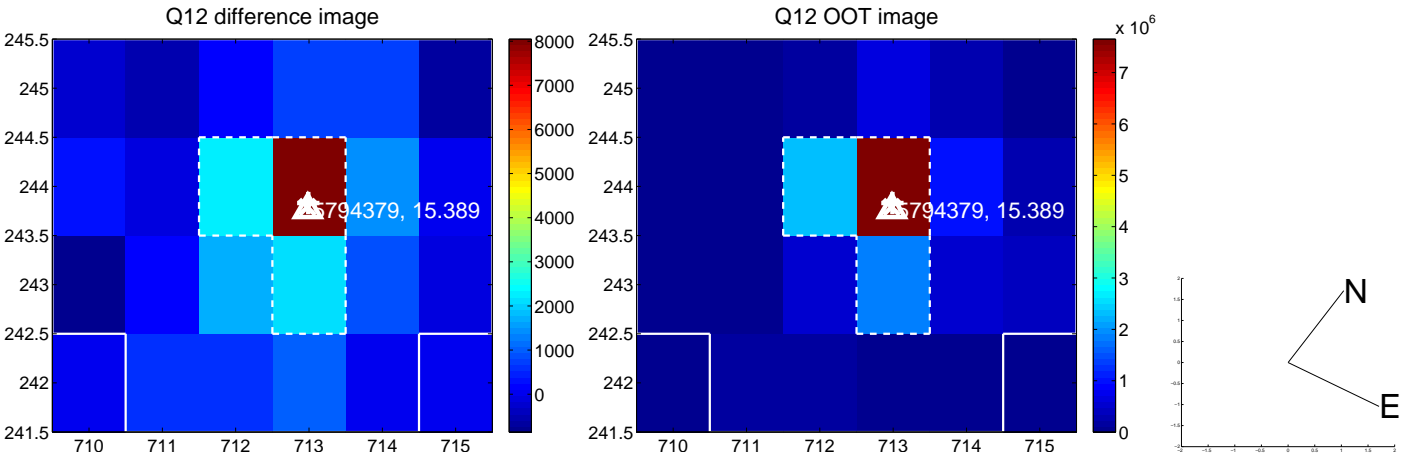
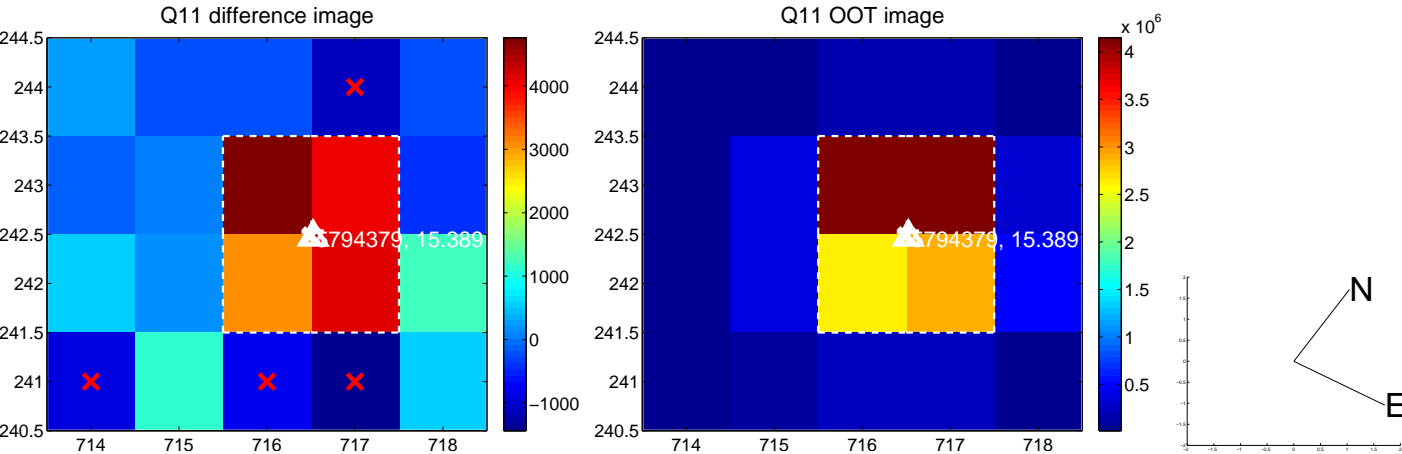
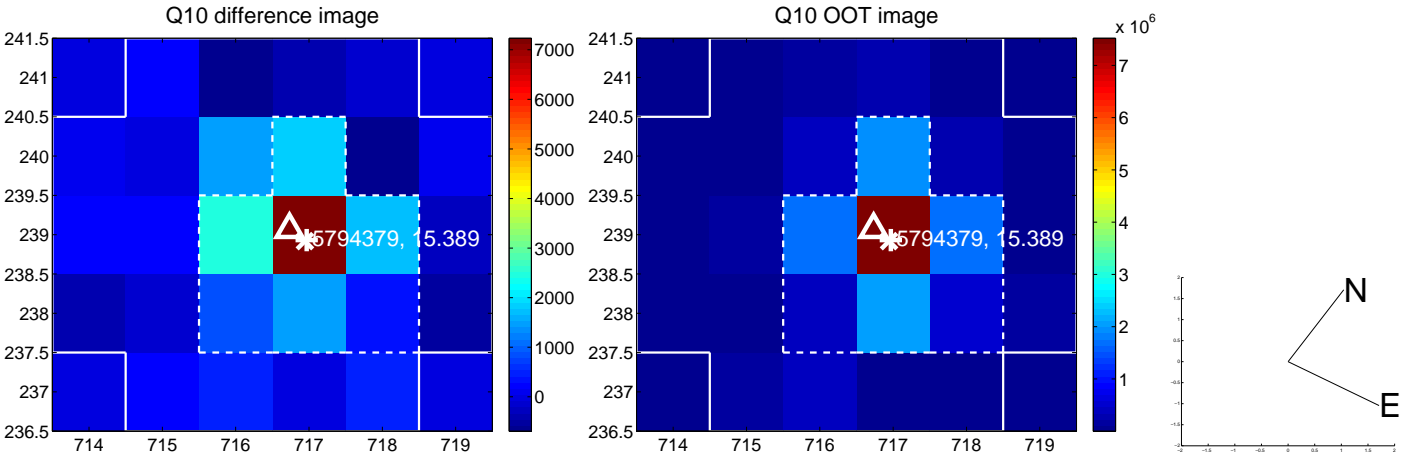
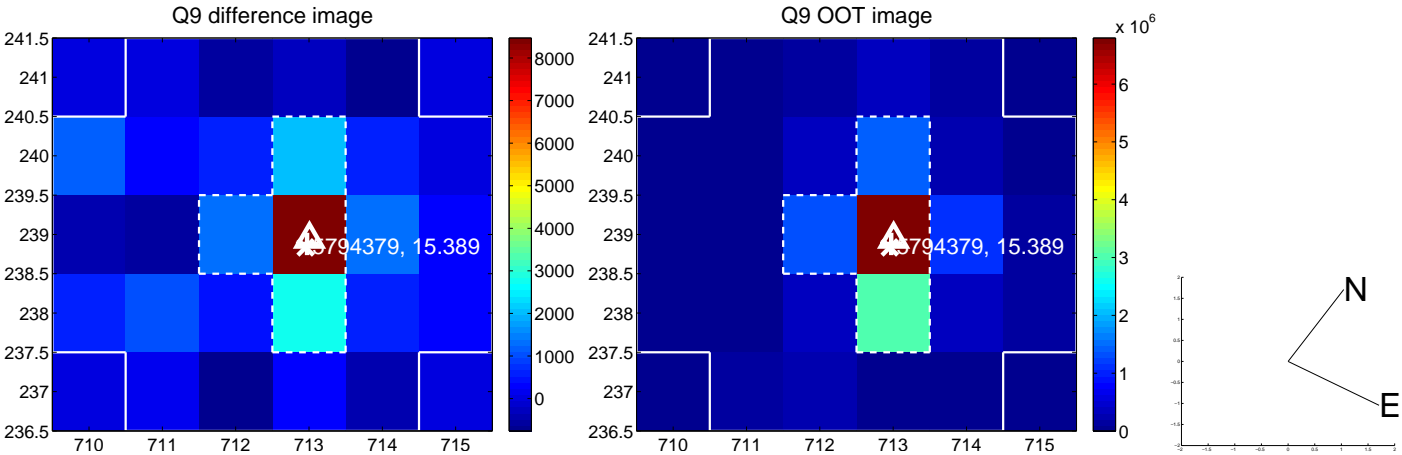
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



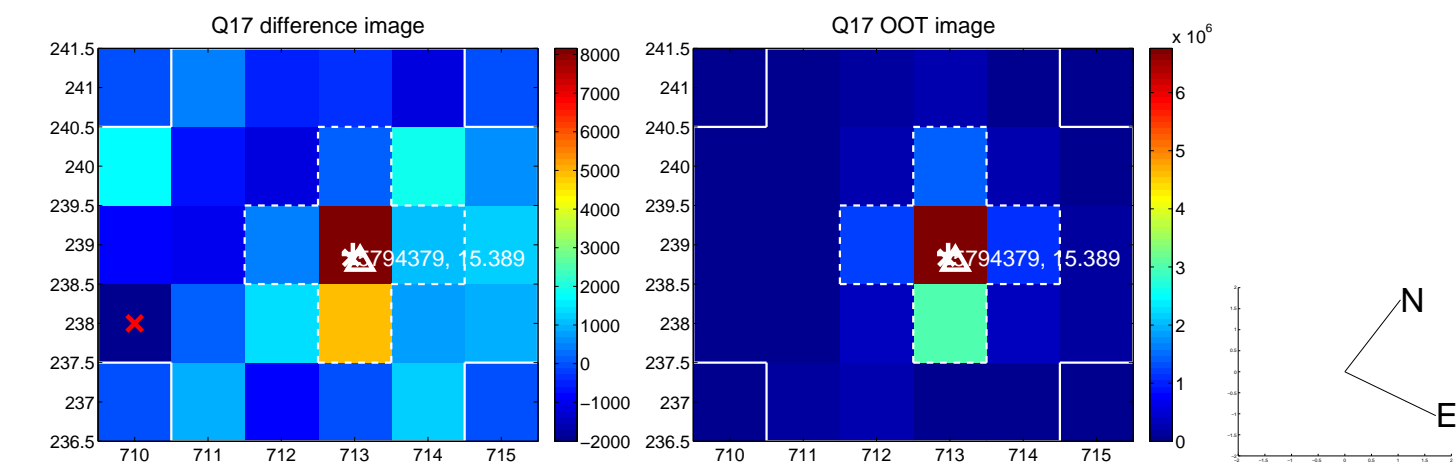
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



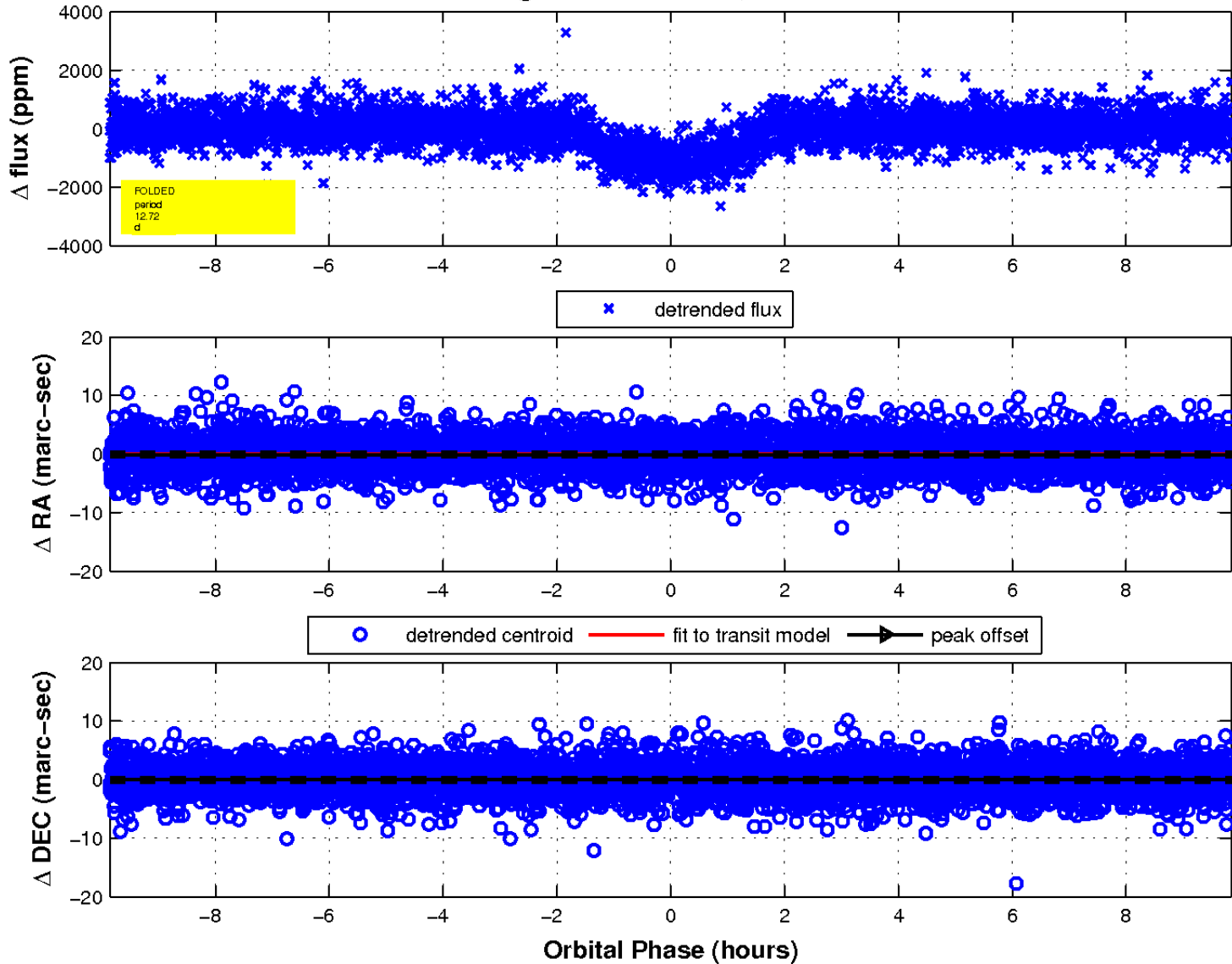
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

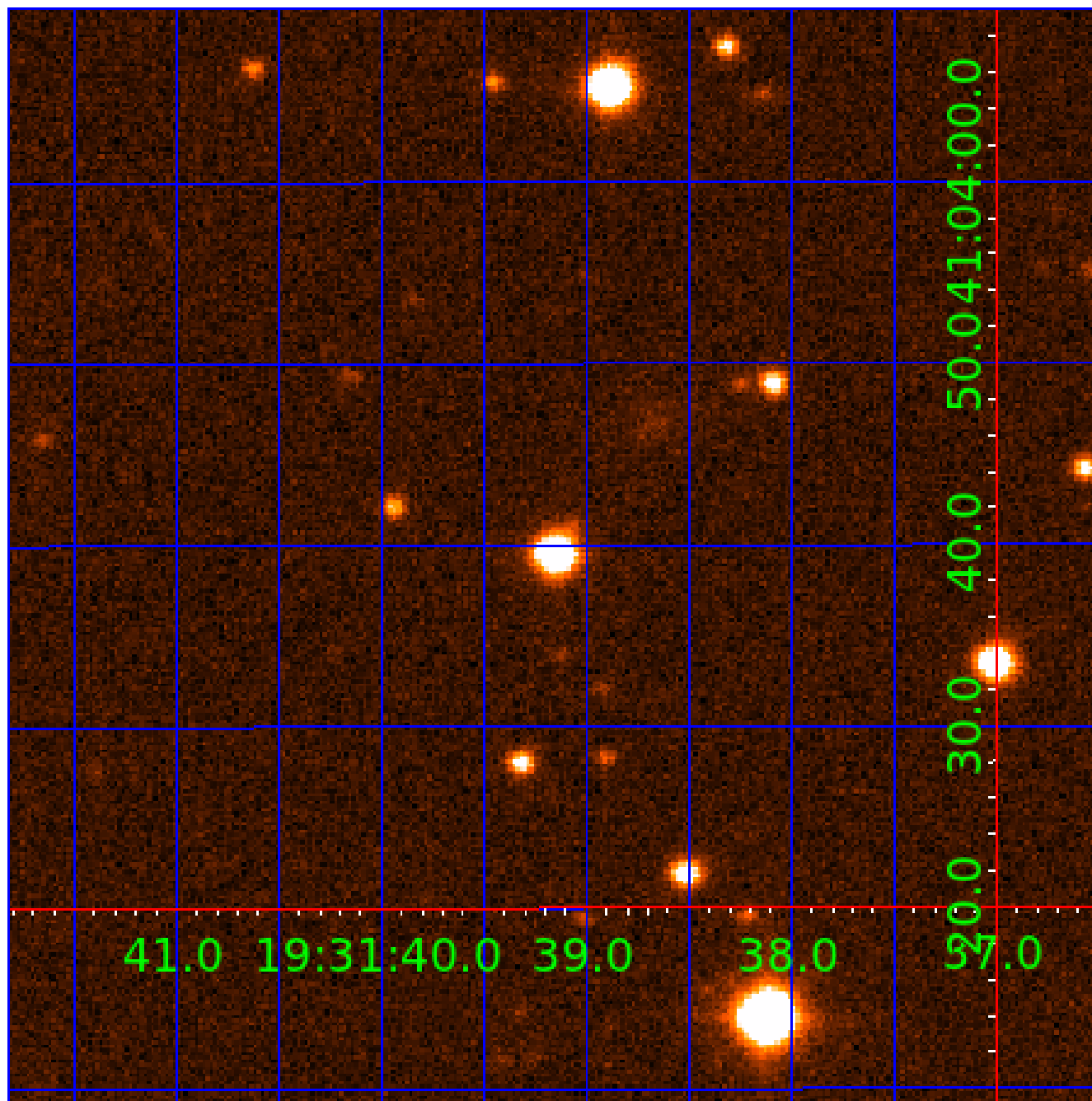


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 005794379

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})
005794379-01	OBS	0842.01	12.718090	137.201424	1123.1	3.285	42.0	45.2	0.69	4702	2.66	23.64
005794379-02	OBS	0842.02	36.065947	162.517205	1593.9	4.421	39.5	43.8	0.69	4702	2.84	5.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005794379-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005794379-02	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.

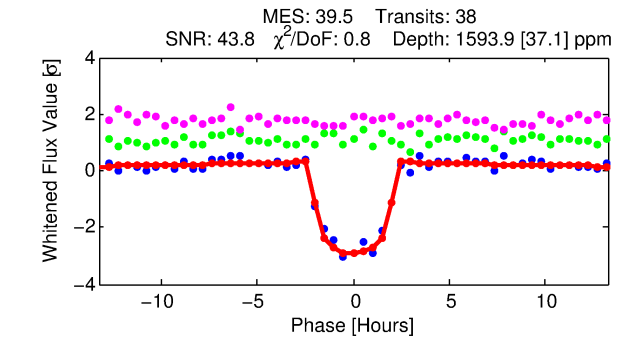
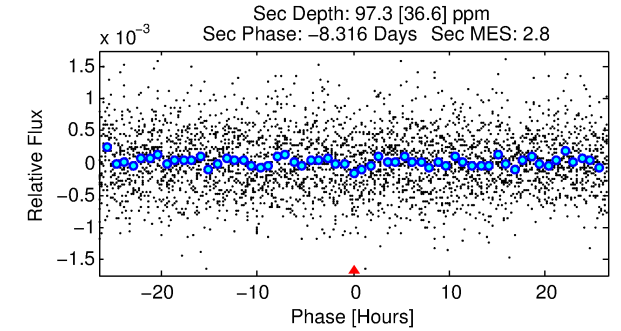
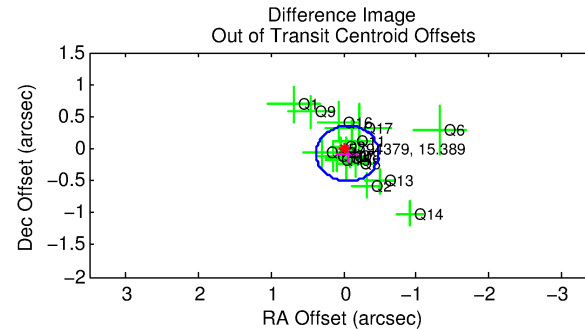
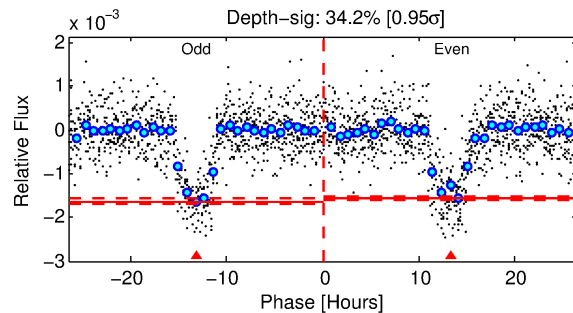
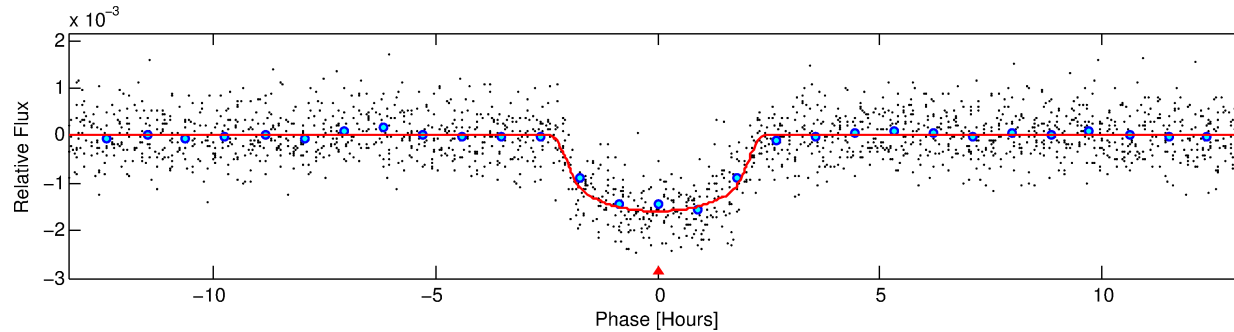
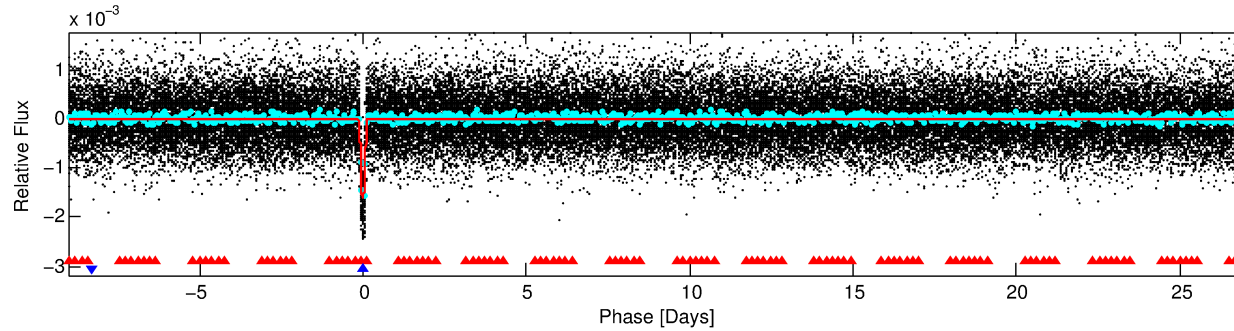
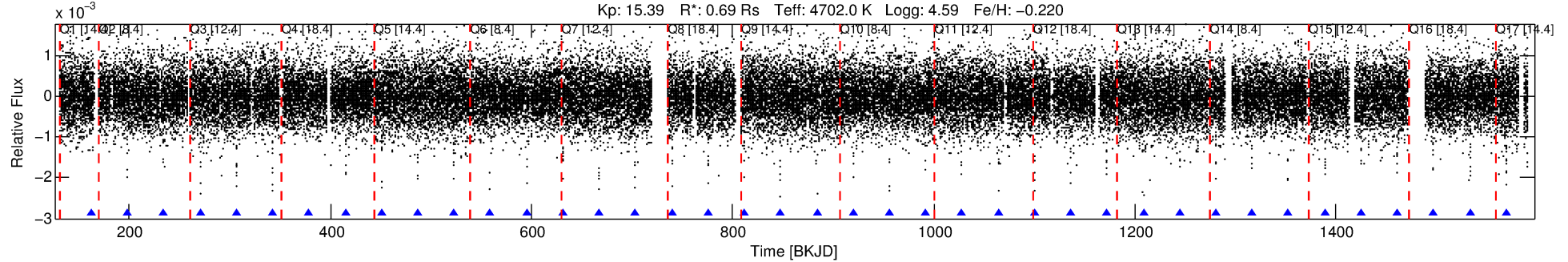
Ephemeris Match Information For 005794379-02

No Significant Match Found

DV One-Page Summary

KIC: 5794379 Candidate: 2 of 2 Period: 36.066 d
KOI: K00842.02 Name: Kepler-241c Corr: 0.986

Kp: 15.39 R*: 0.69 Rs Teff: 4702.0 K Logg: 4.59 Fe/H: -0.220



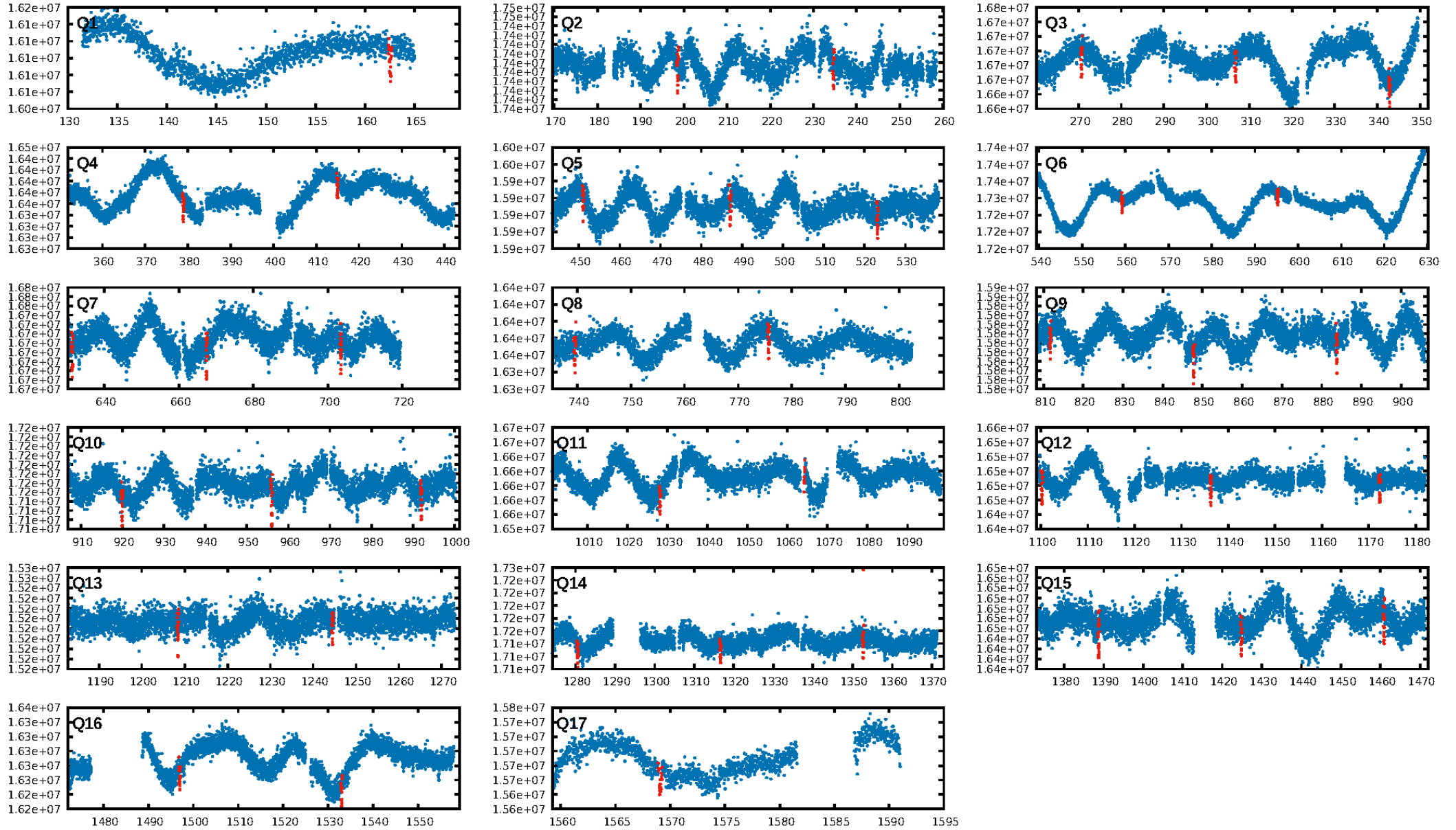
DV Fit Results:

Period = 36.06595 [0.00010] d
Epoch = 162.5172 [0.0022] BKJD
Rp/R* = 0.0379 [0.0094]
a/R* = 52.04 [41.20]
b = 0.62 [0.82]
Seff = 5.89 [0.96]
Teq = 397 [16] K
Rp = 2.84 [0.76] Re
a = 0.1871 [0.0148] AU
Ag = 232.94 [147.60] [1.57σ]
Teffp = 2399 [381] K [5.25σ]

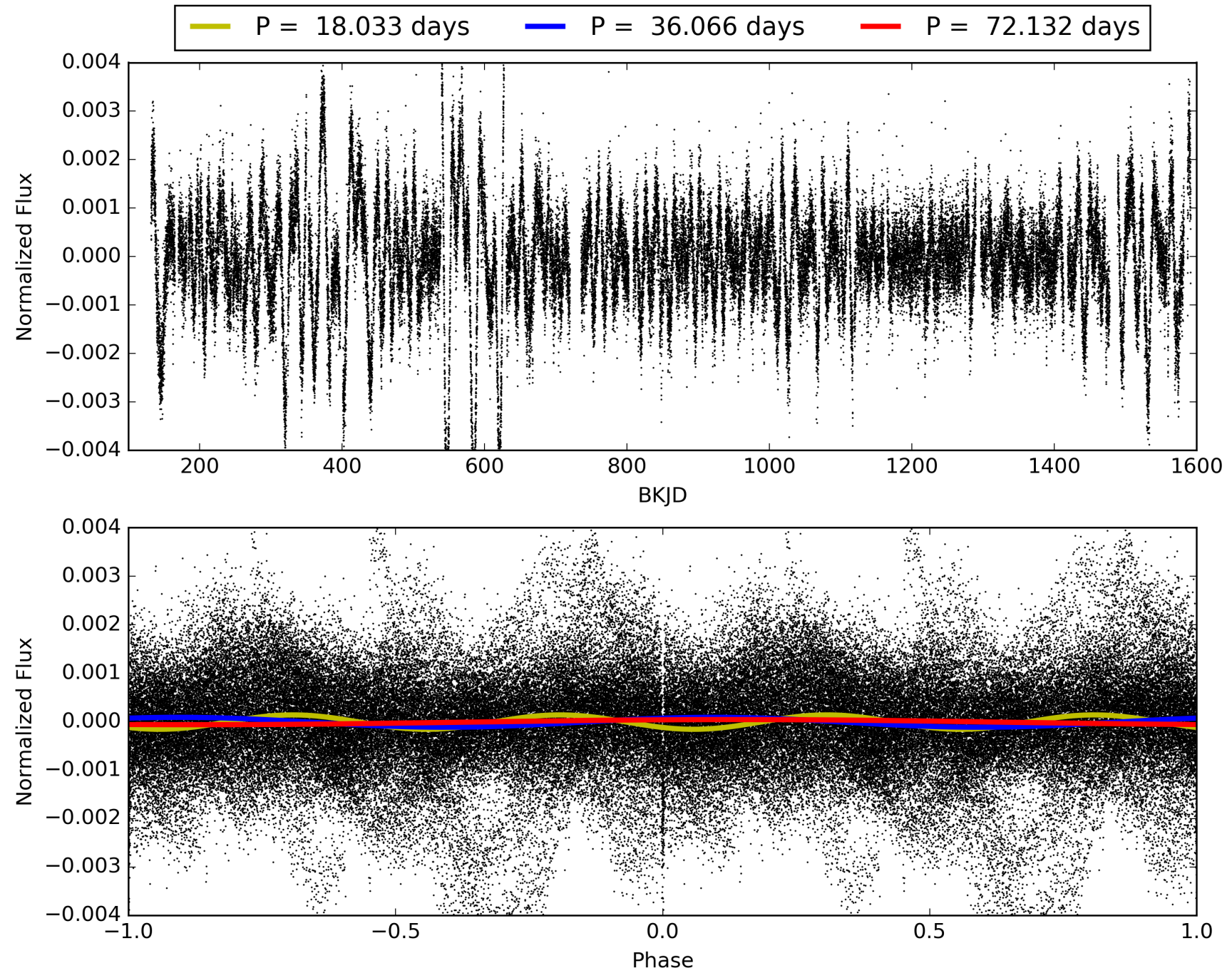
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [101.74σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [37/37]
GhostDiagnostic-chr: 8.594
Centroid-sig: 62.2%
Centroid-so: 0.104 arcsec [0.34σ]
OotOffset-rm: 0.094 arcsec [0.65σ]
KicOffset-rm: 0.130 arcsec [1.15σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
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DiffImageOverlap-fno: 0.94 [16/17]

TCE 005794379-02, PDC Light Curves

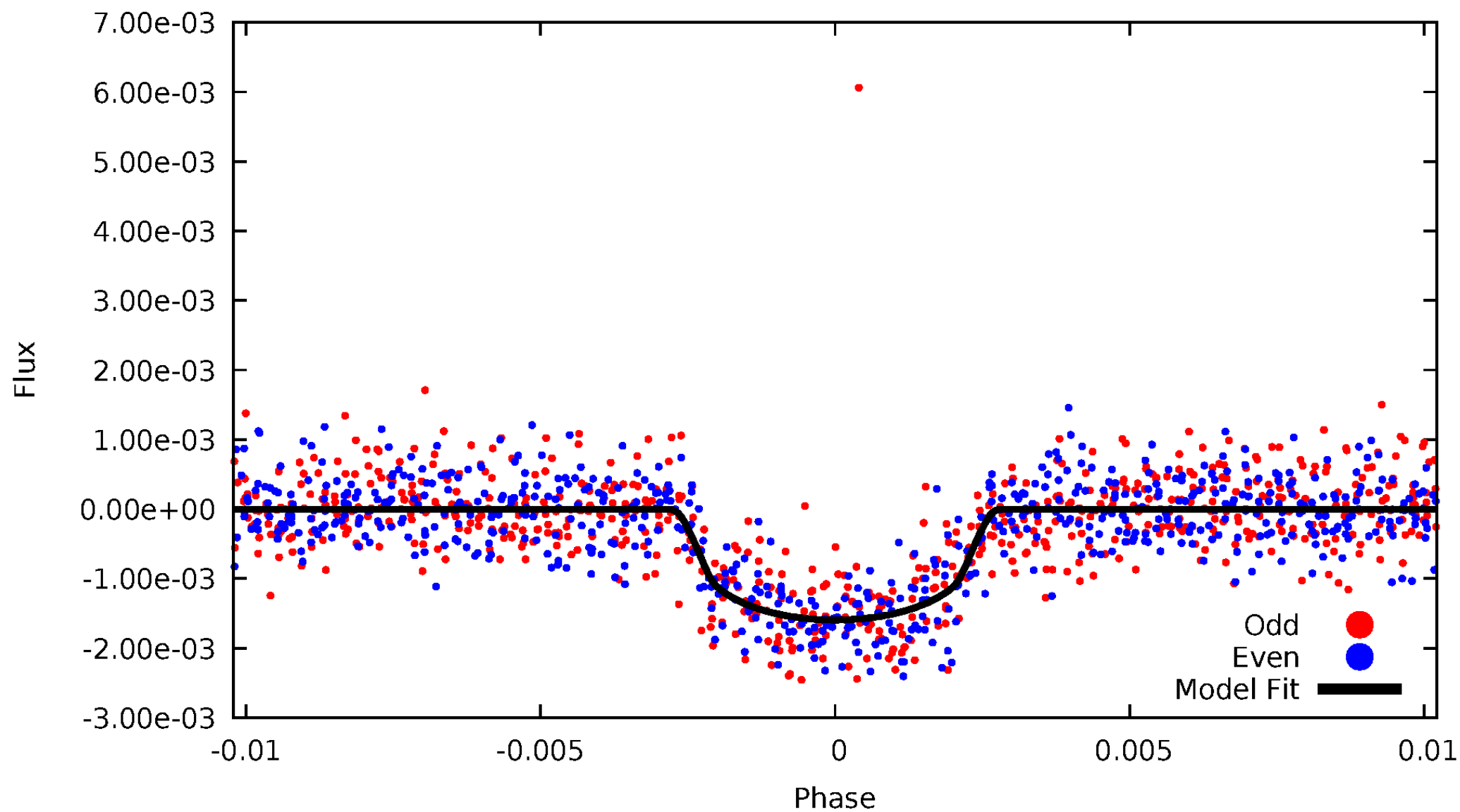


TCE 005794379-02



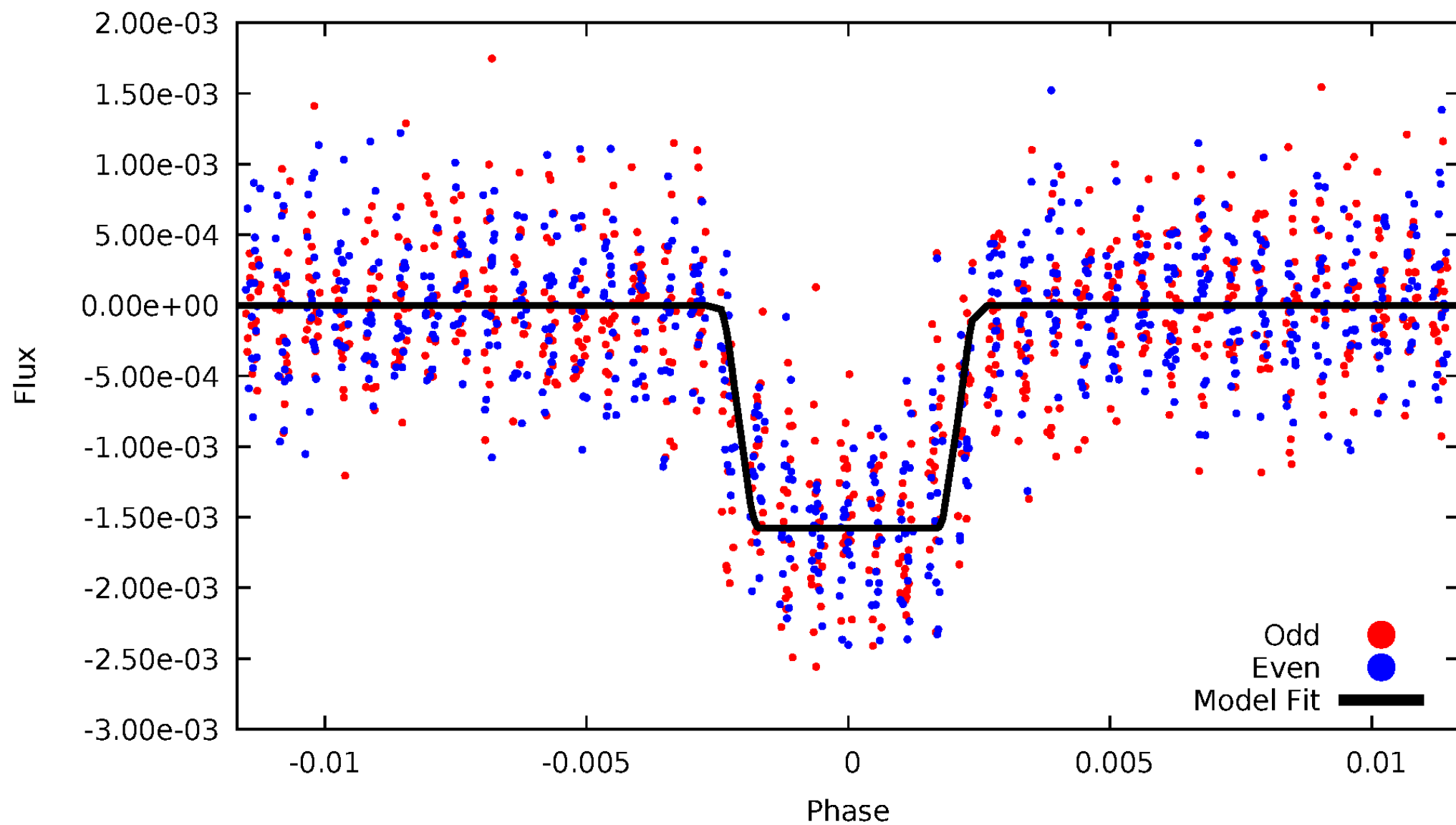
DV Odd/Even

TCE 005794379-02



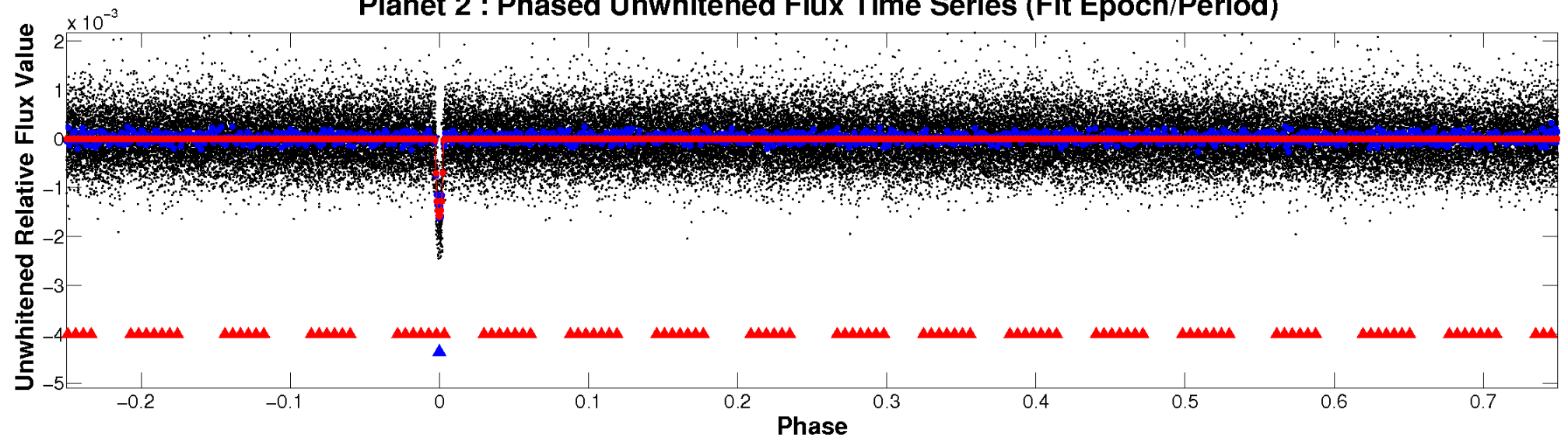
ALT Odd/Even

TCE 005794379-02

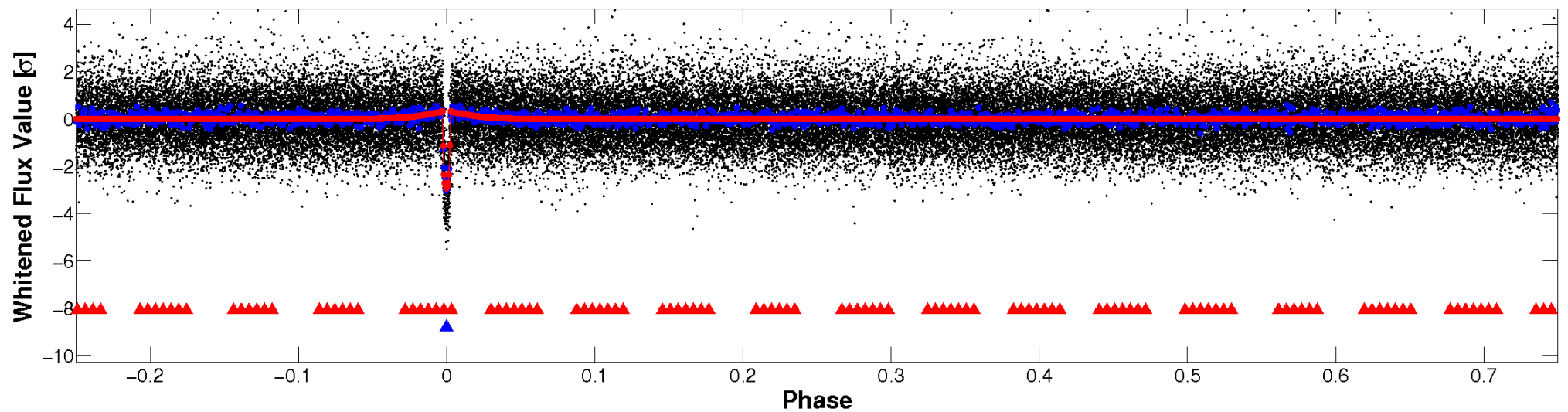


Non-Whitened Vs. Whitened Light Curve

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

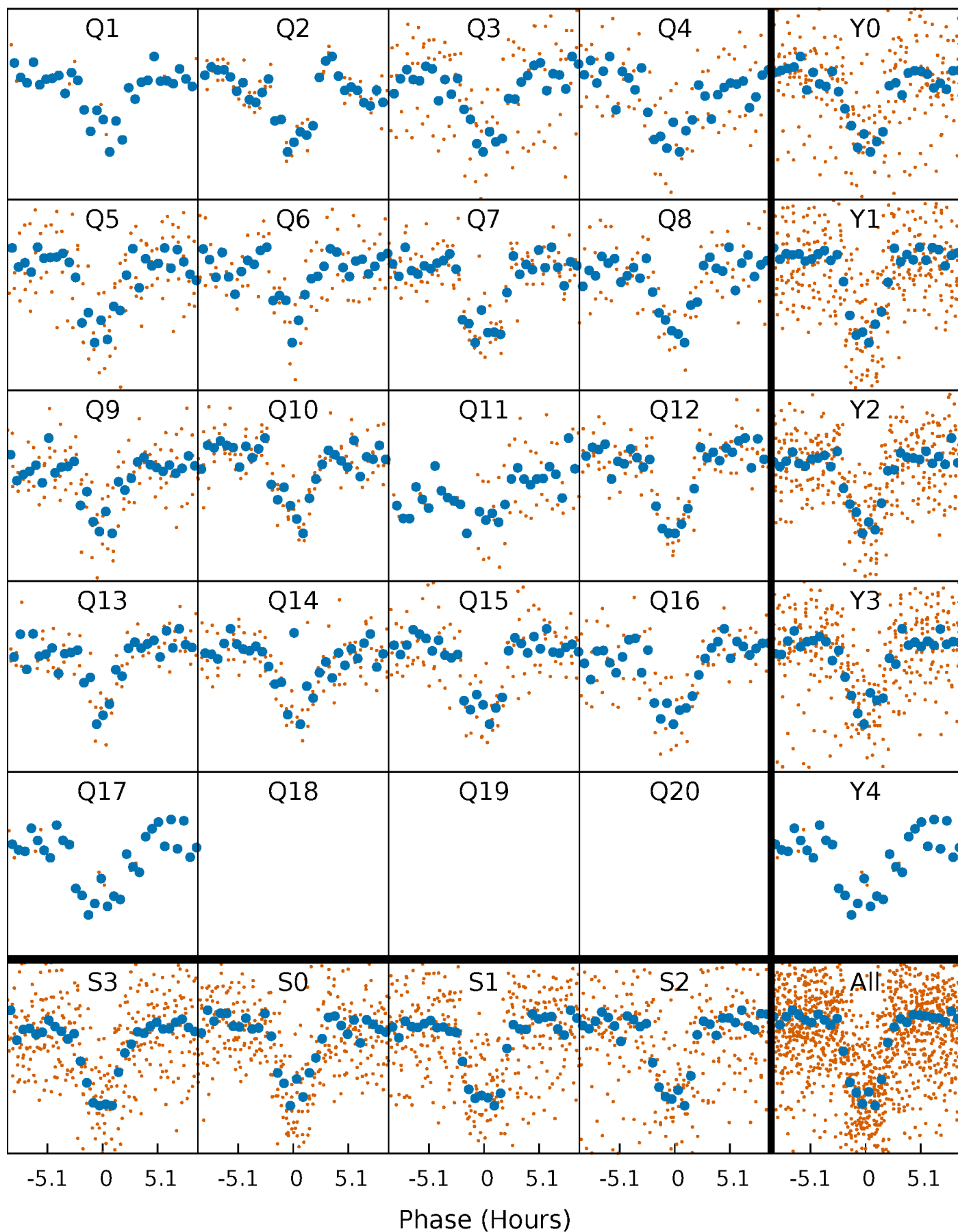


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



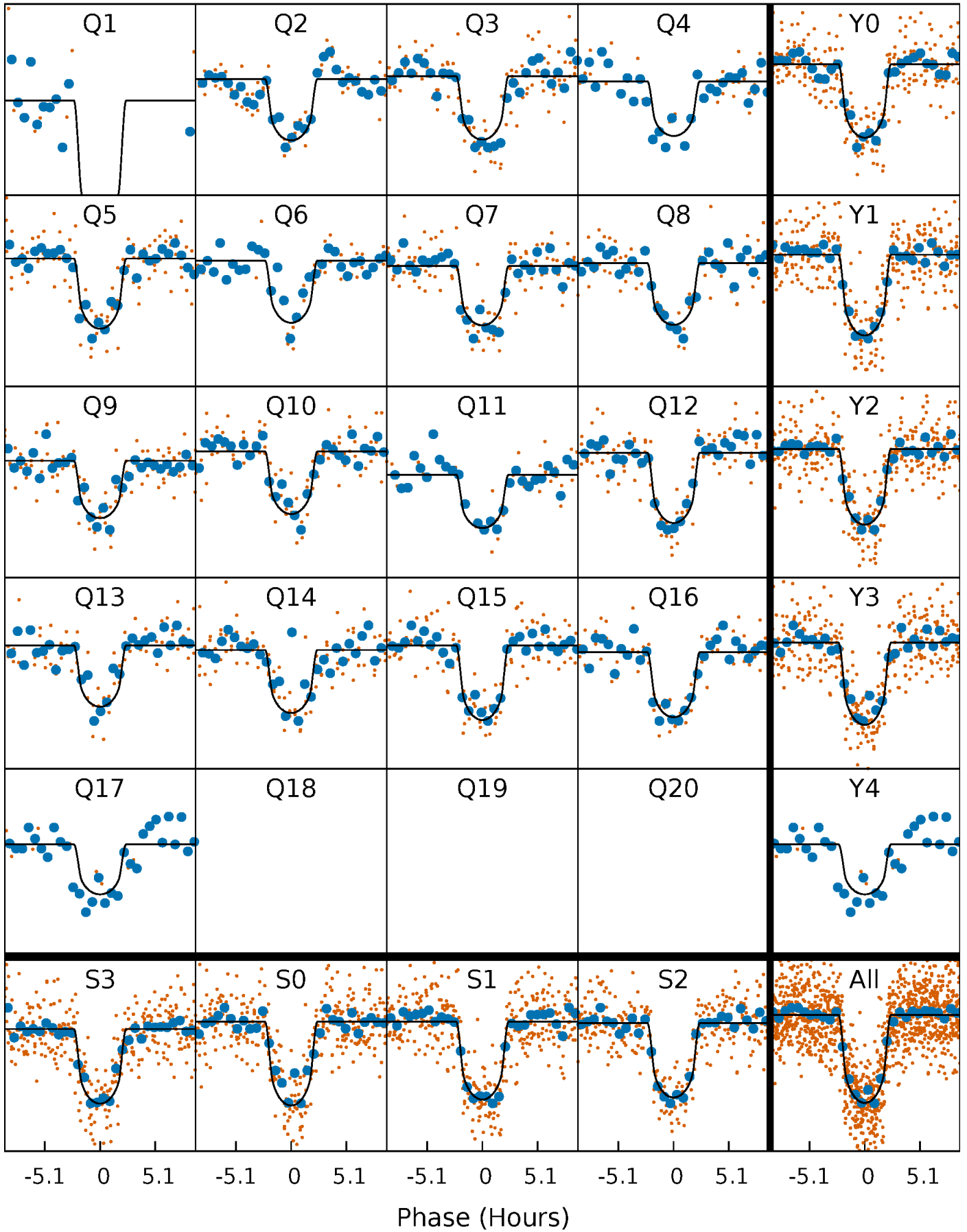
PDC Quarter-Phased Transit Curves

TCE 005794379-02 P= 36.065947 Days $T_0=162.517205$ (BKJD)



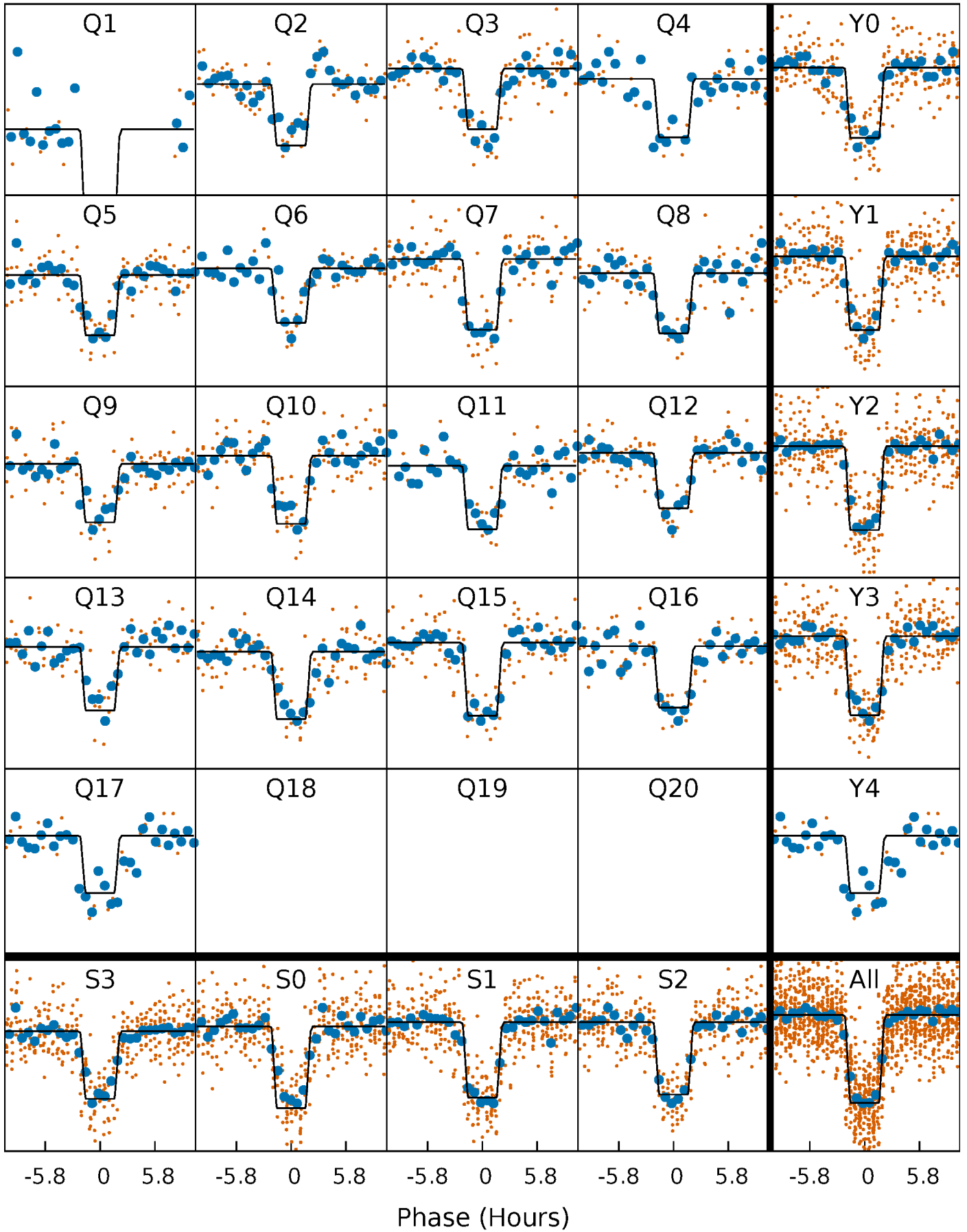
DV Quarter-Phased Transit Curves

TCE 005794379-02 P= 36.065947 Days $T_0=162.517205$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

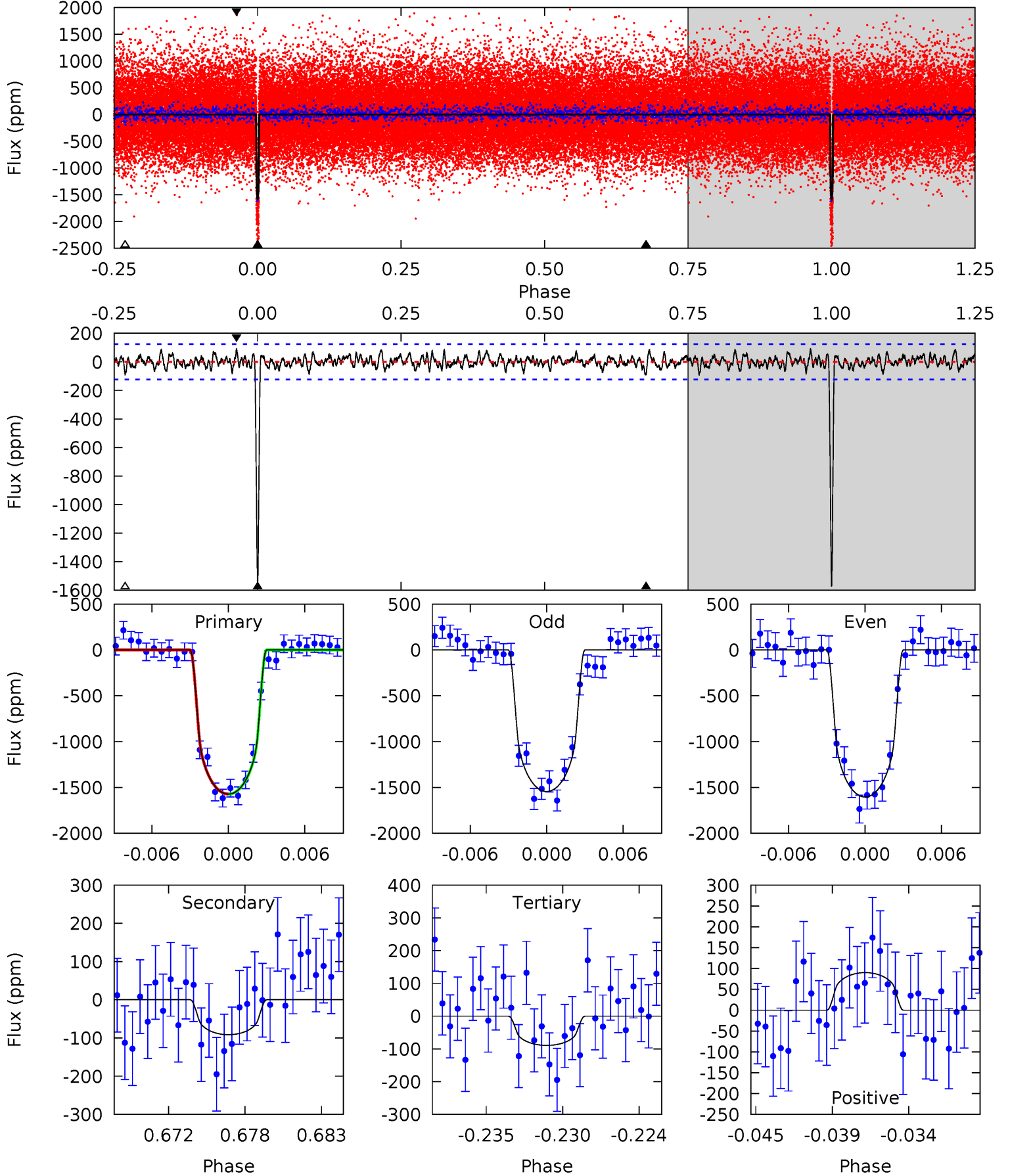
TCE 005794379-02 P= 36.065427 Days $T_0=162.528767$ (BKJD)



DV Model-Shift Uniqueness Test

005794379-02, P = 36.065947 Days, E = 126.451258 Days

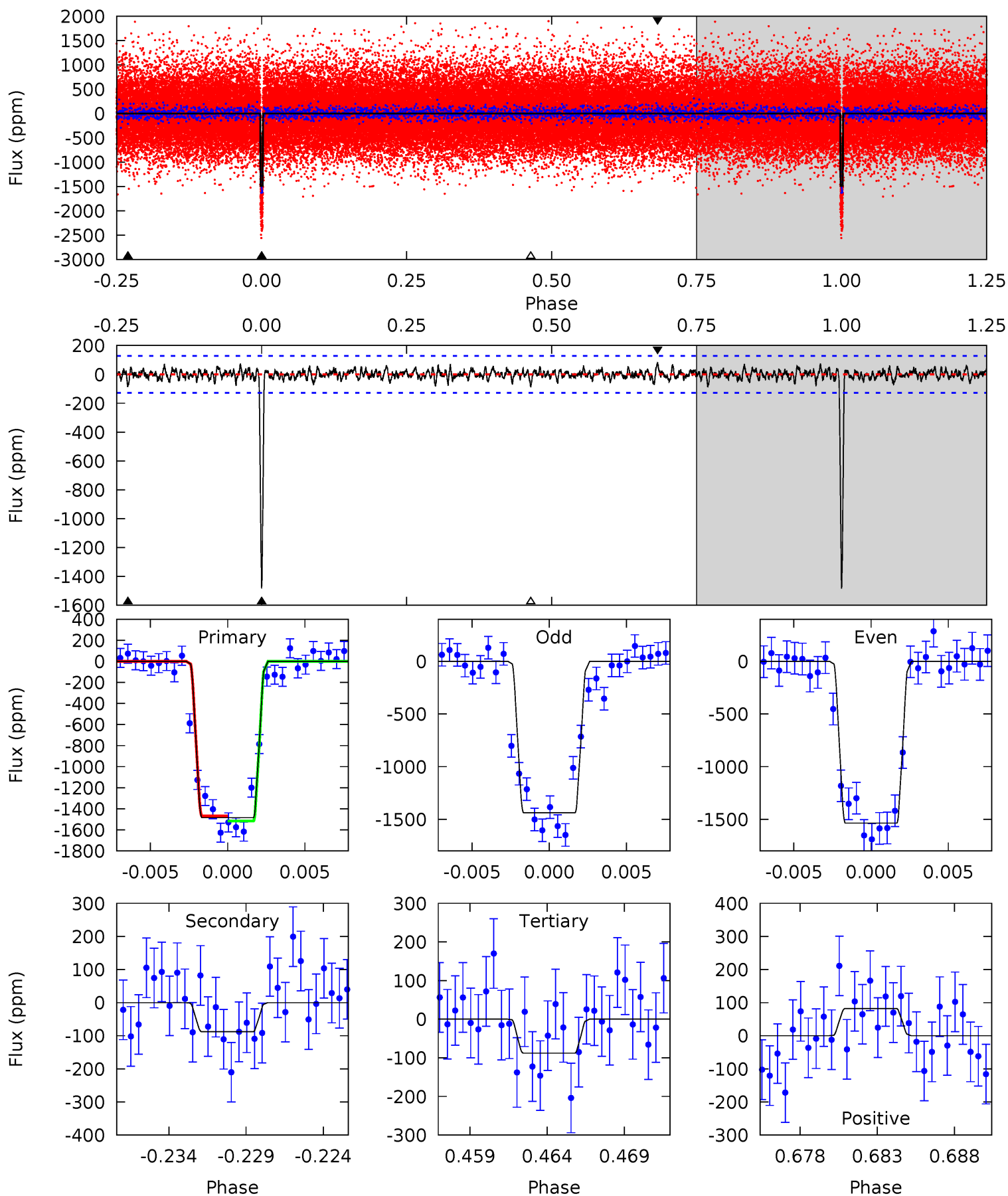
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
65.4	3.80	3.71	3.74	5.14	2.77	1.25	61.7	61.6	0.09	0.06	1.24	0.99	0.05	0.03



Alt Model-Shift Uniqueness Test

005794379-02, $P = 36.065427$ Days, $E = 126.463340$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.9	3.55	3.55	3.32	5.15	2.80	0.97	56.4	56.6	0.00	0.23	1.99	1.03	0.05	0.95



Stellar Parameters For KIC 005794379

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4702^{+128}_{-142}	$4.592^{+0.058}_{-0.027}$	$-0.220^{+0.300}_{-0.300}$	$0.686^{+0.049}_{-0.067}$	$0.670^{+0.081}_{-0.050}$	$2.926^{+0.730}_{-0.357}$
	+3%/-3%	+1%/-1%	+136%/-136%	+7%/-10%	+12%/-7%	+25%/-12%
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 005794379-02 / KOI 0842.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-91 ± 24	$2.80^{+0.69}_{-0.71}$	550^{+19}_{-18}	2952^{+324}_{-196}	220^{+211}_{-89}
Alt.	-88 ± 25	$2.94^{+0.73}_{-0.68}$	552^{+18}_{-20}	2909^{+275}_{-199}	198^{+171}_{-84}

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

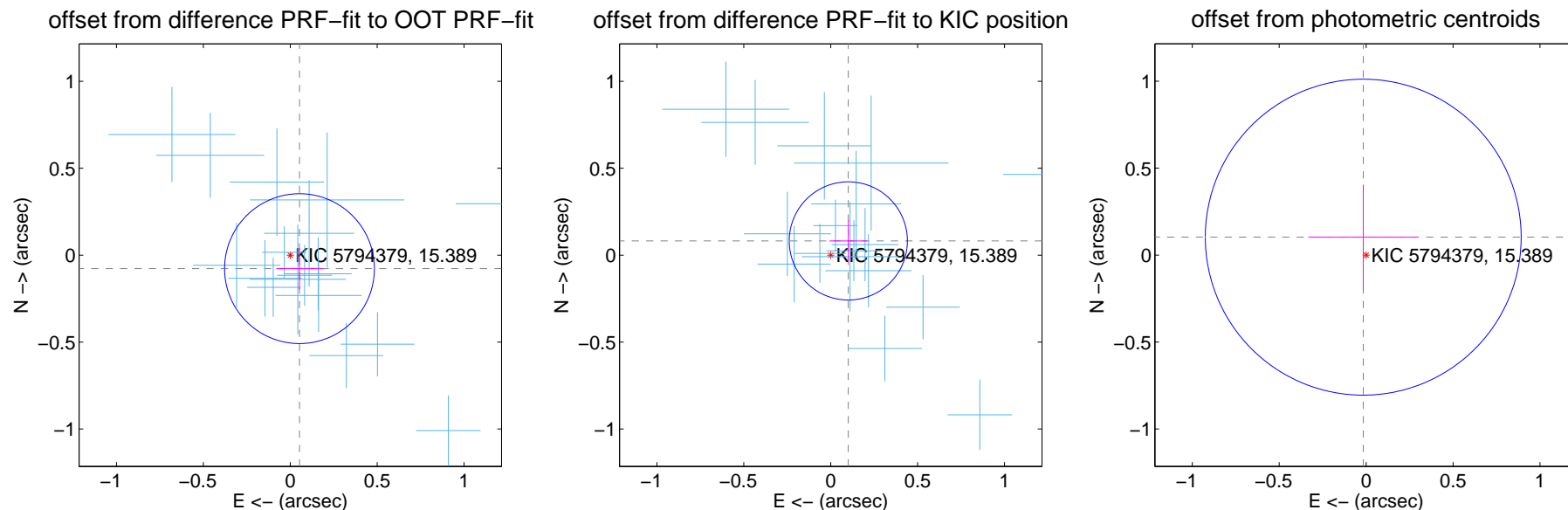
DV Centroid Data

Supplemental centroid analysis for 005794379-02. Kepler magnitude: 15.39. Transit SNR 43.82

There are 17 quarters with good PRF difference image offsets

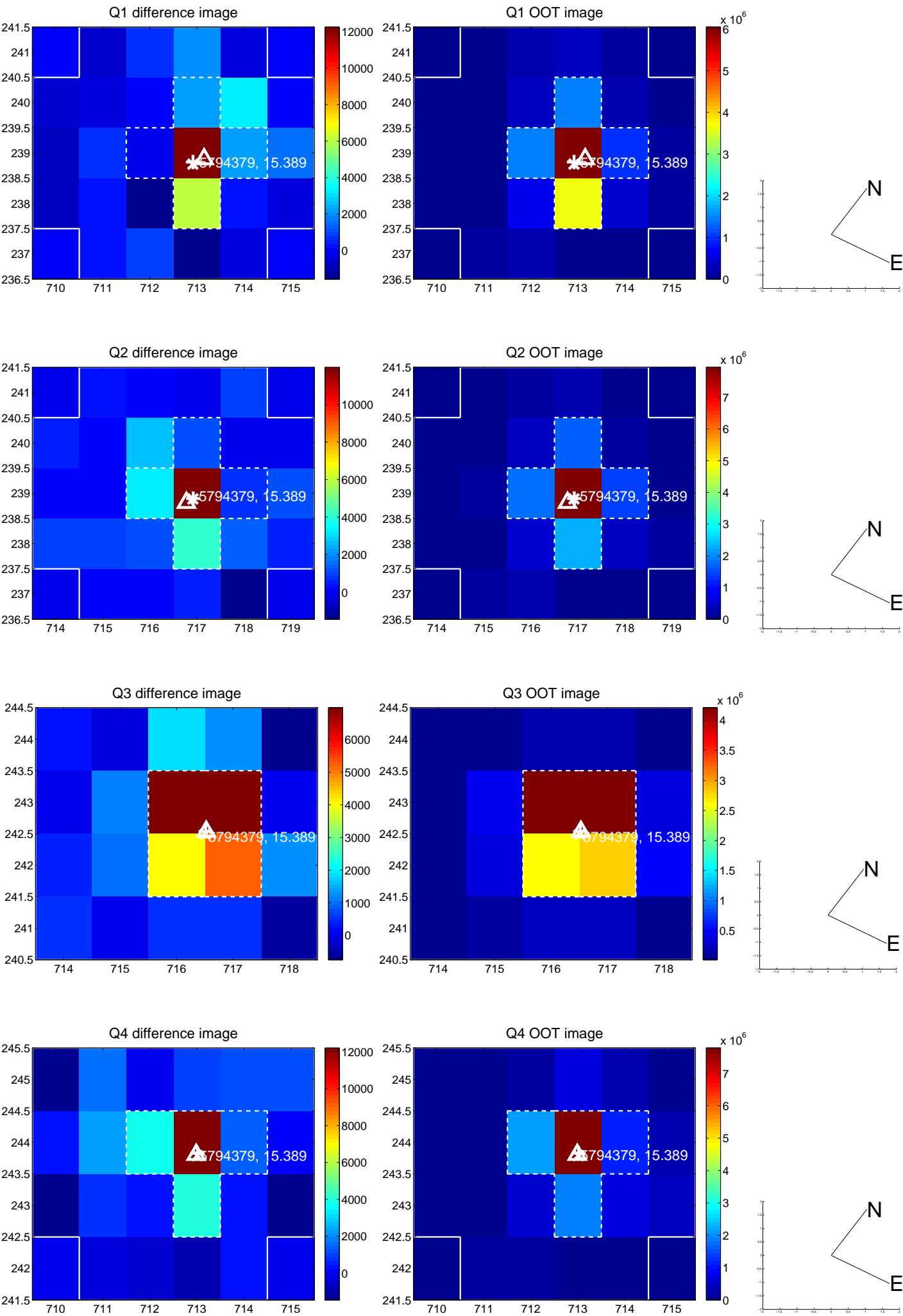
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.094 ± 0.144	0.65	-0.053 ± 0.133	-0.078 ± 0.119
PRF-fit source offset from KIC position	0.130 ± 0.113	1.15	-0.101 ± 0.109	0.082 ± 0.120
photometric centroid source offset	0.10 ± 0.30	0.34	0.02 ± 0.32	0.10 ± 0.30

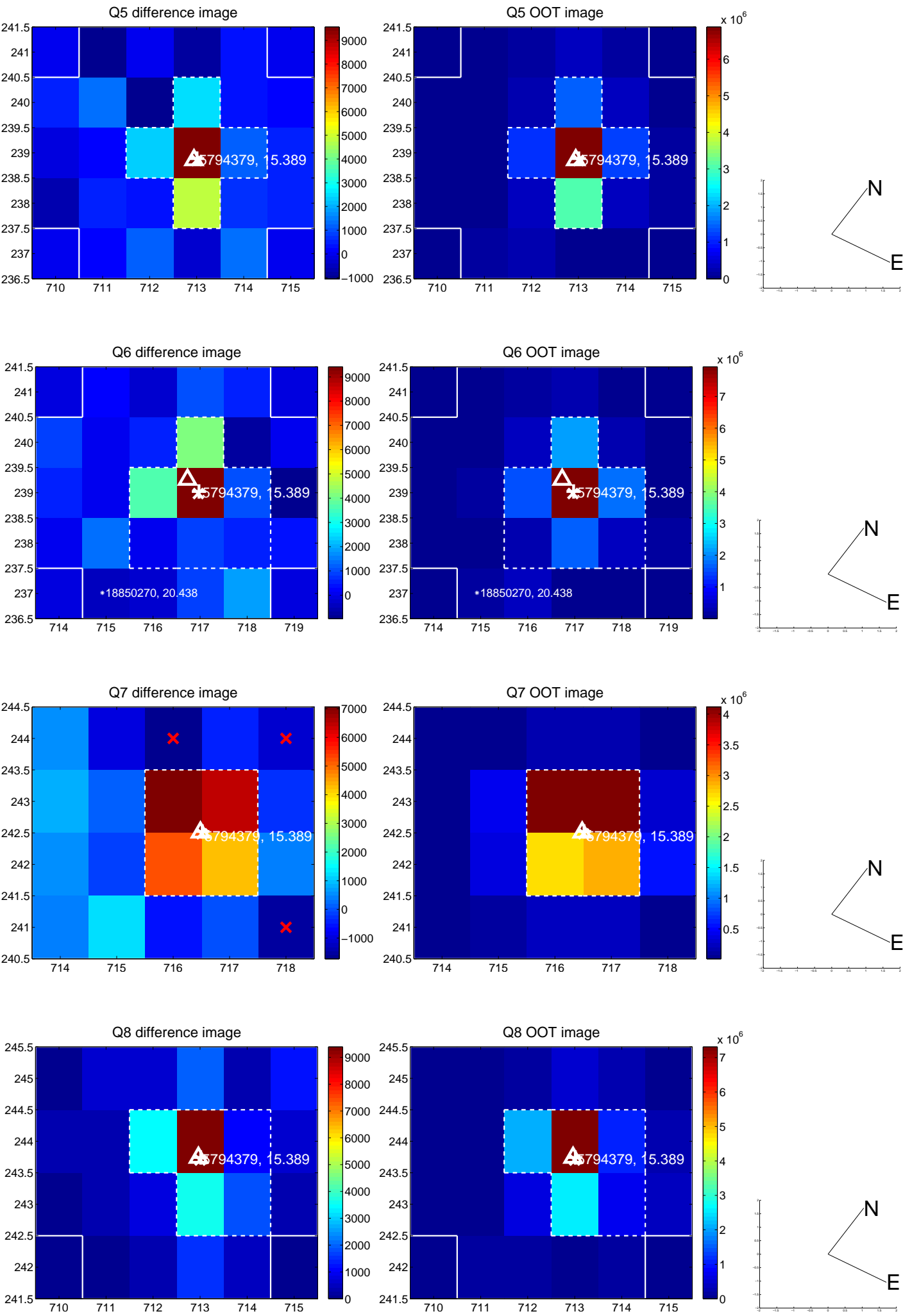


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

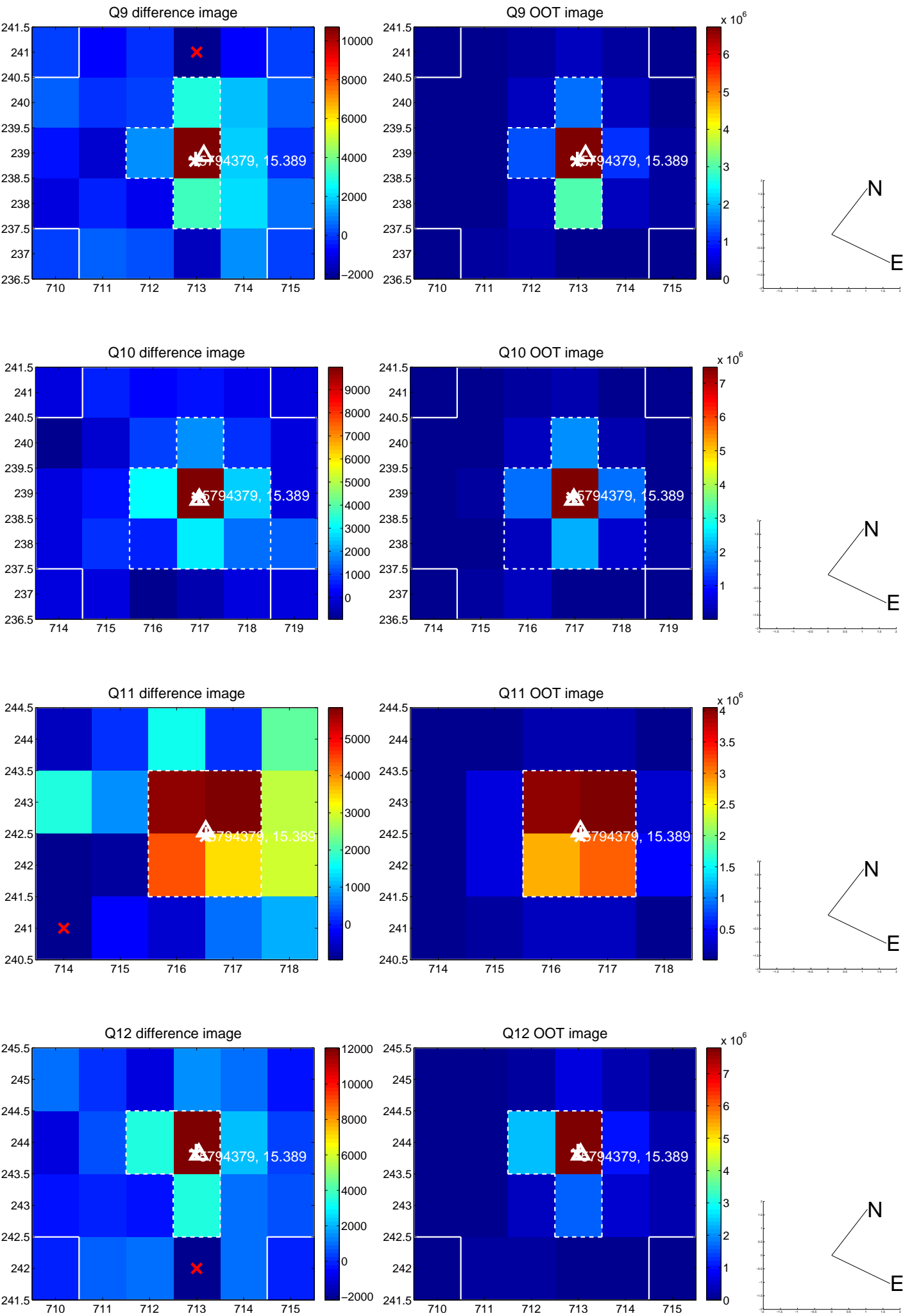
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



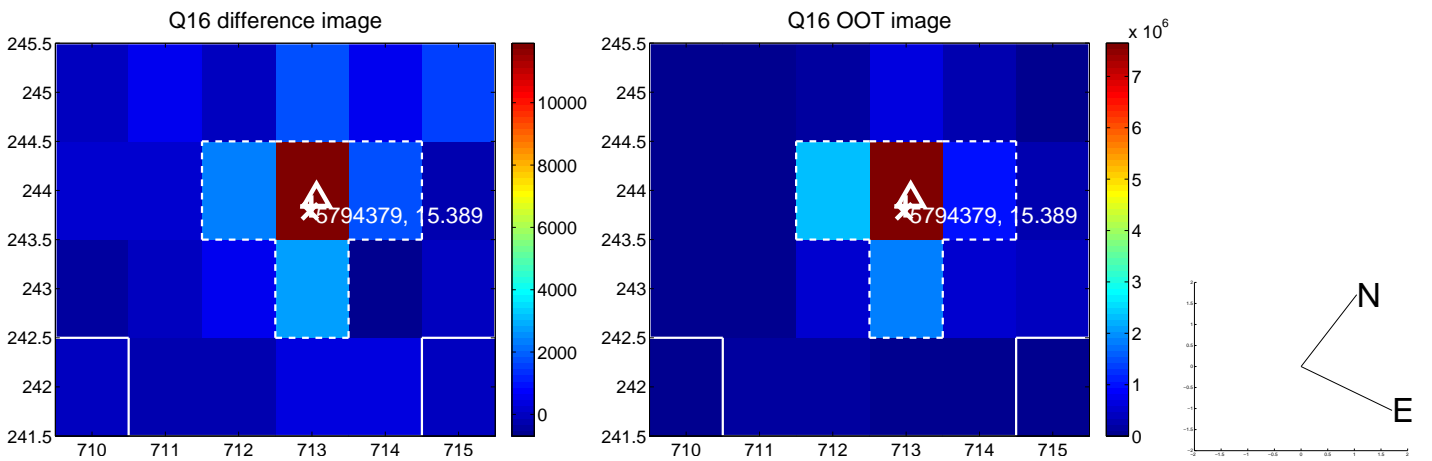
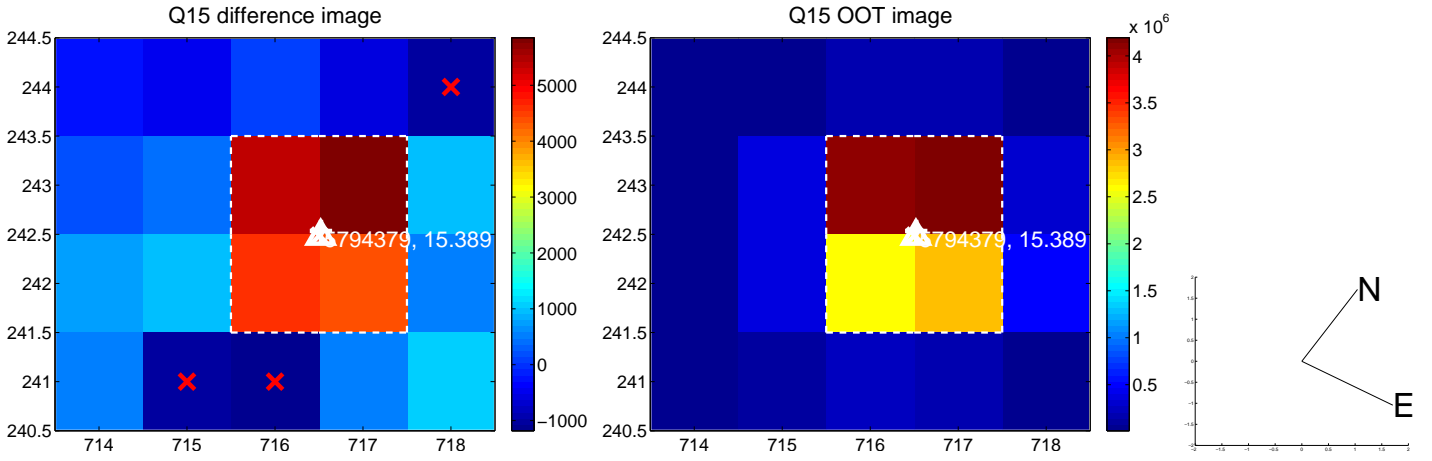
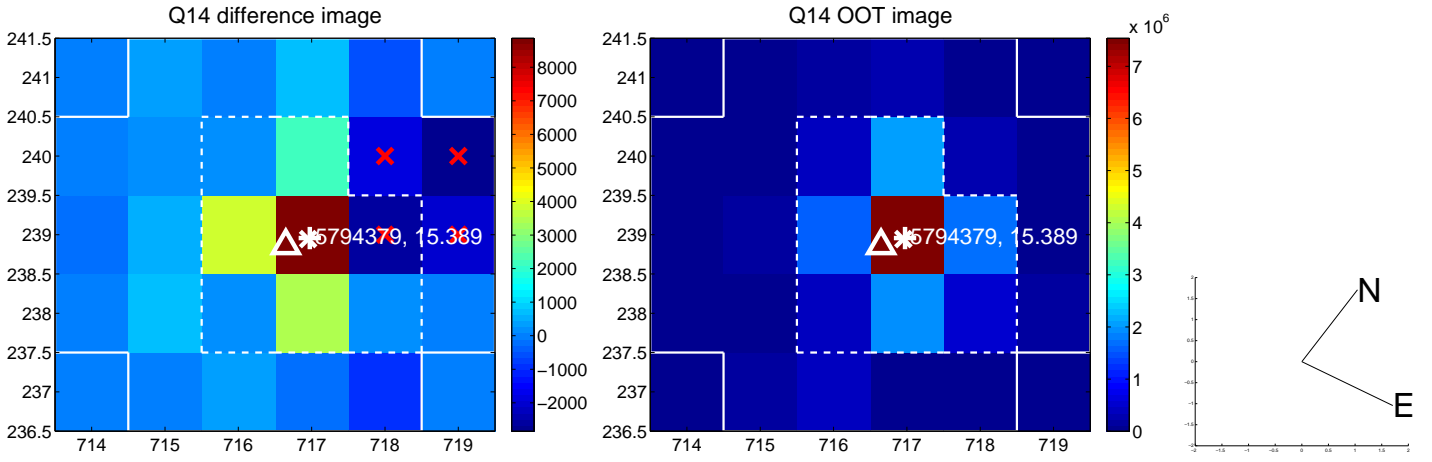
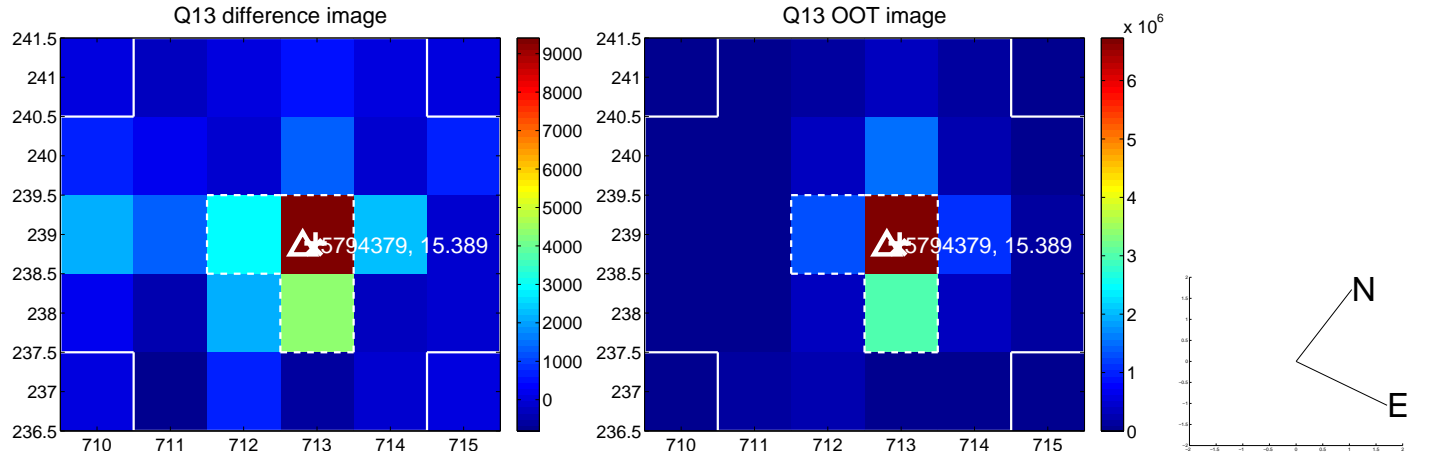
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



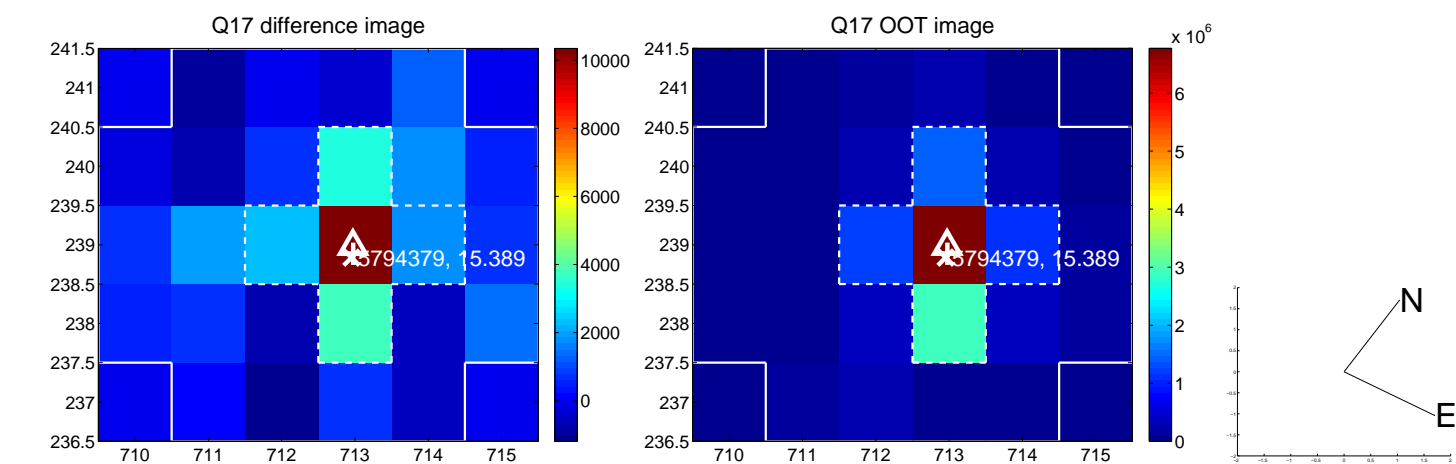
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



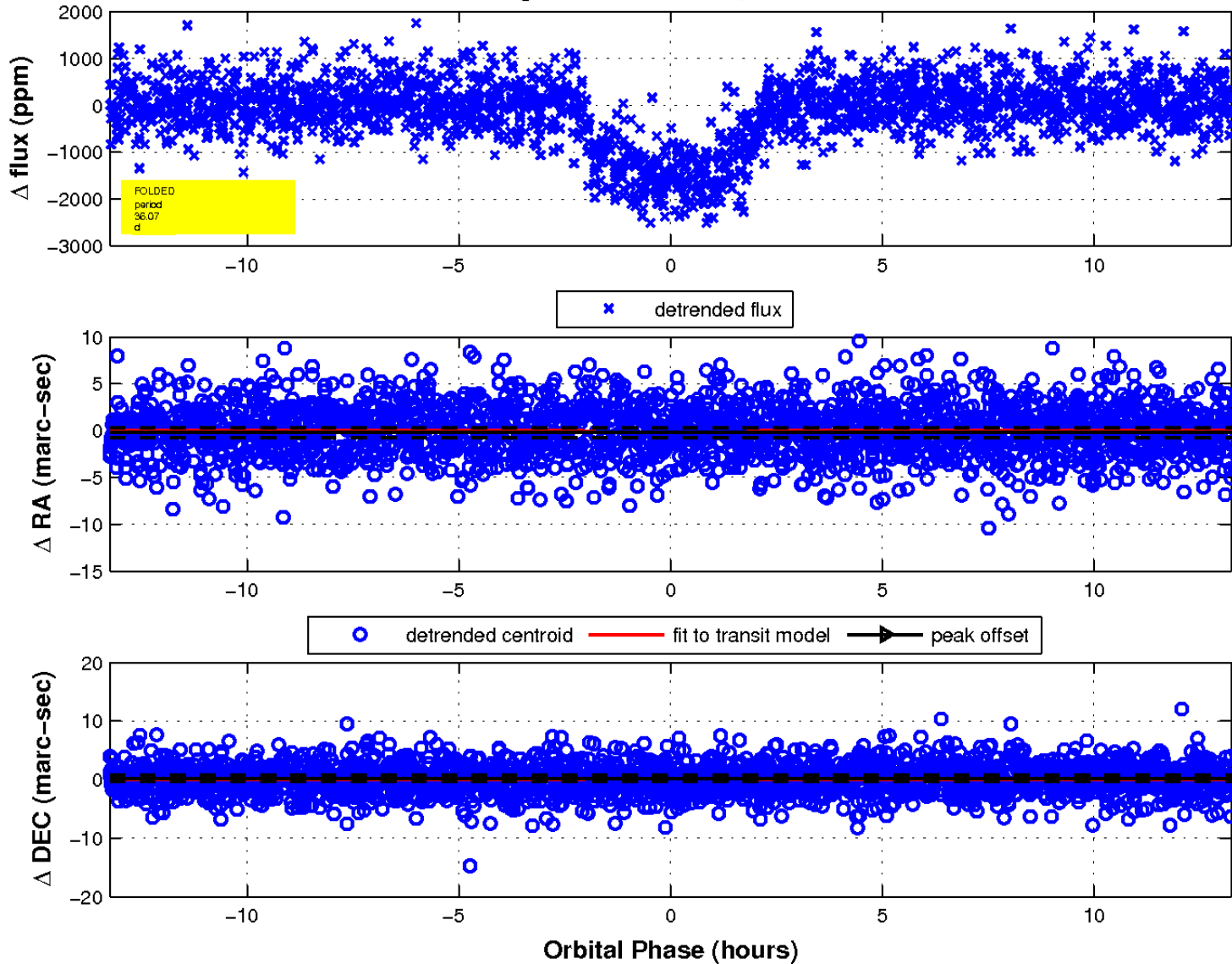
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

