

KIC 010341777

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})
010341777-01	OBS	7610.01	0.933725	132.447867	13.8	3.280	10.9	9.1	0.81	6302	0.35	3038.23
010341777-02	OBS	No	249.164946	133.109352	202.2	15.521	9.9	8.7	0.81	6302	1.34	1.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010341777-01	OBS	FP	0.00	0	0	1	1	CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
010341777-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_FEW_DIFFS—HALO_GHOST

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.

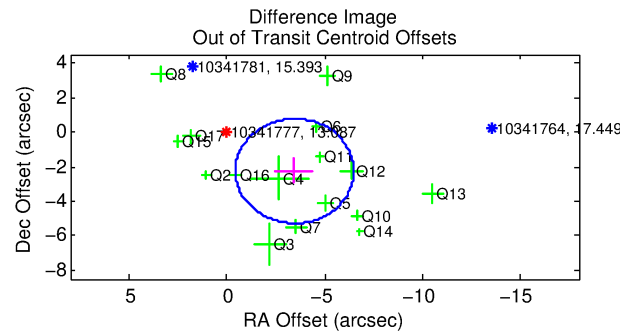
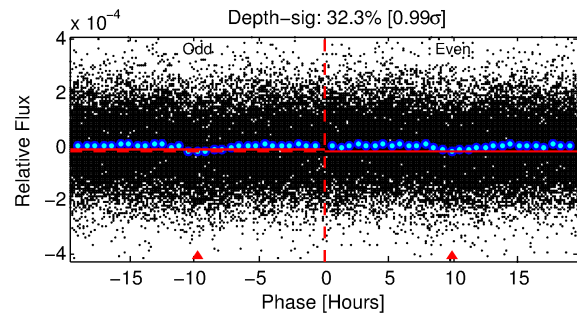
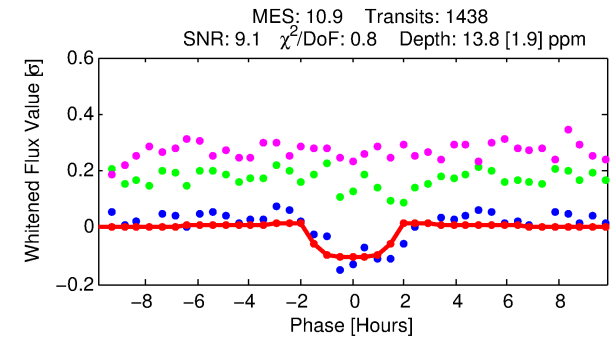
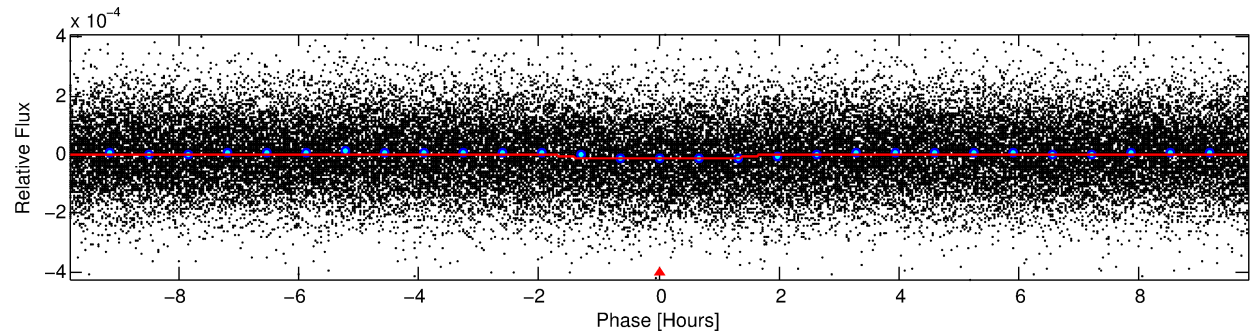
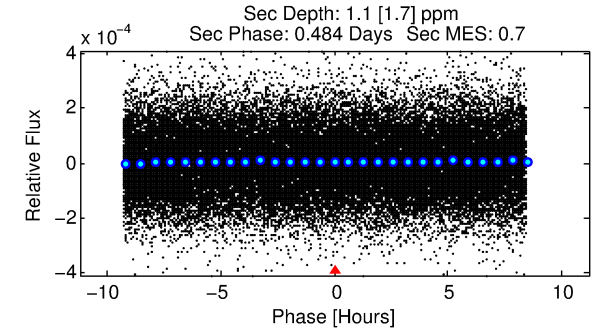
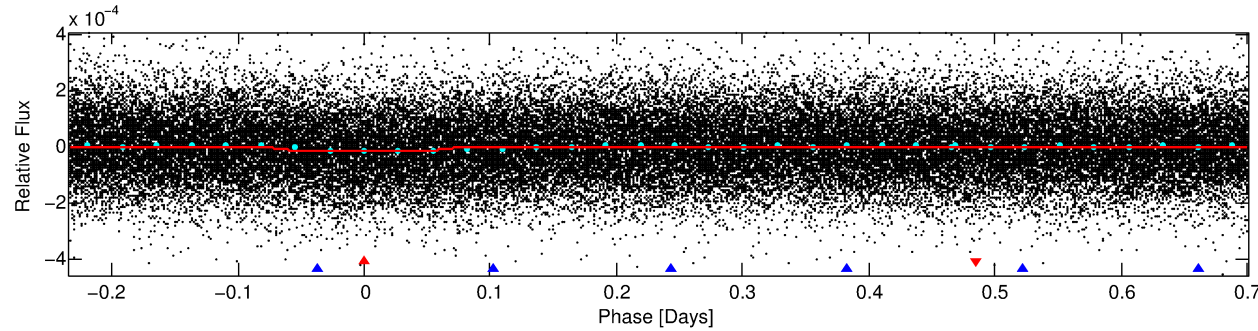
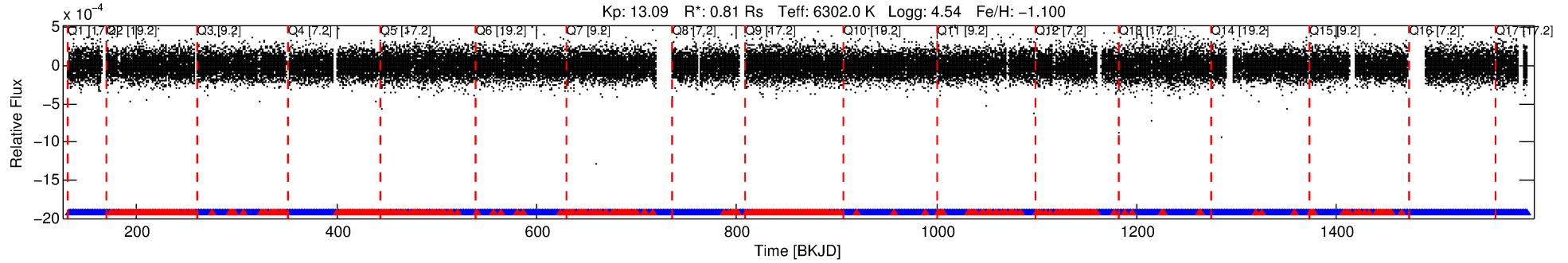
Ephemeris Match Information For 010341777-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
010341777-01	10341777	V2083-Cyg-pri	10342012	1:2	246.8	24	-58	6.90	13.08	14166.00	Direct-PRF	0	4.36	0.21

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 10341777 Candidate: 1 of 2 Period: 0.934 d
KOI: K07610.01 Corr: 0.824



DV Fit Results:

Period = 0.93373 [0.00001] d
Epoch = 132.4479 [0.0039] BKJD
Rp/R* = 0.0039 [0.0012]
a/R* = 1.39 [1.23]
b = 0.88 [0.46]
Seff = 3038.23 [998.32]
Teq = 1893 [156] K
Rp = 0.35 [0.14] Re
a = 0.0176 [0.0035] AU
Ag = 1.54 [2.65] [0.20σ]
Teffp = 3262 [1383] K [0.98σ]

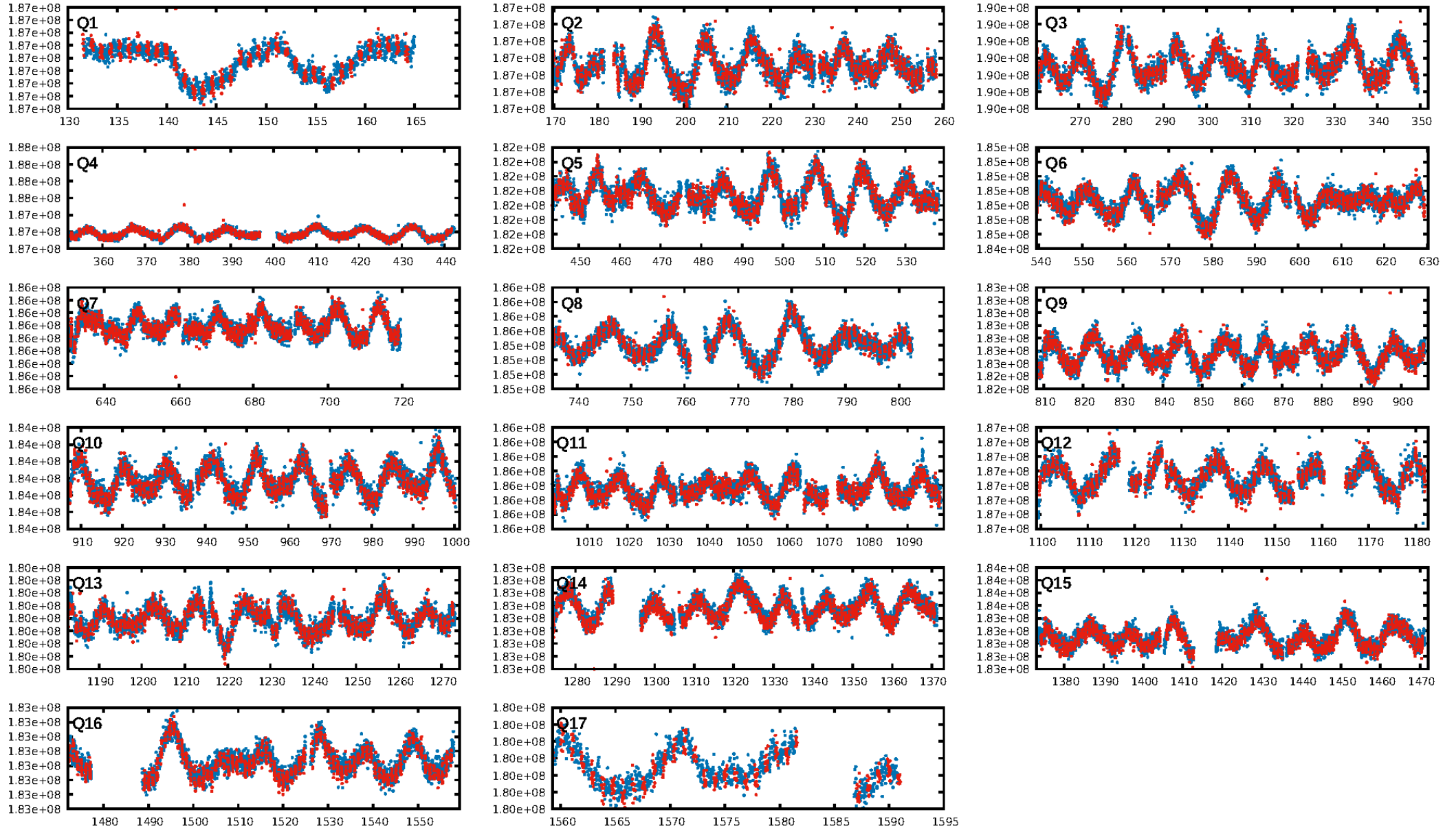
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [375.53σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.03e-25
RollingBand-fgt: 0.69 [940/1372]
GhostDiagnostic-chr: -0.06512
Centroid-sig: 0.0%
Centroid-so: 6.504 arcsec [6.55σ]
OotOffset-rm: 4.125 arcsec [4.09σ]
KicOffset-rm: 3.759 arcsec [3.68σ]
OotOffset-st: 4/4/4/4 [16]
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DiffImageQuality-fgm: 0.12 [2/16]
DiffImageOverlap-fno: 1.00 [17/17]

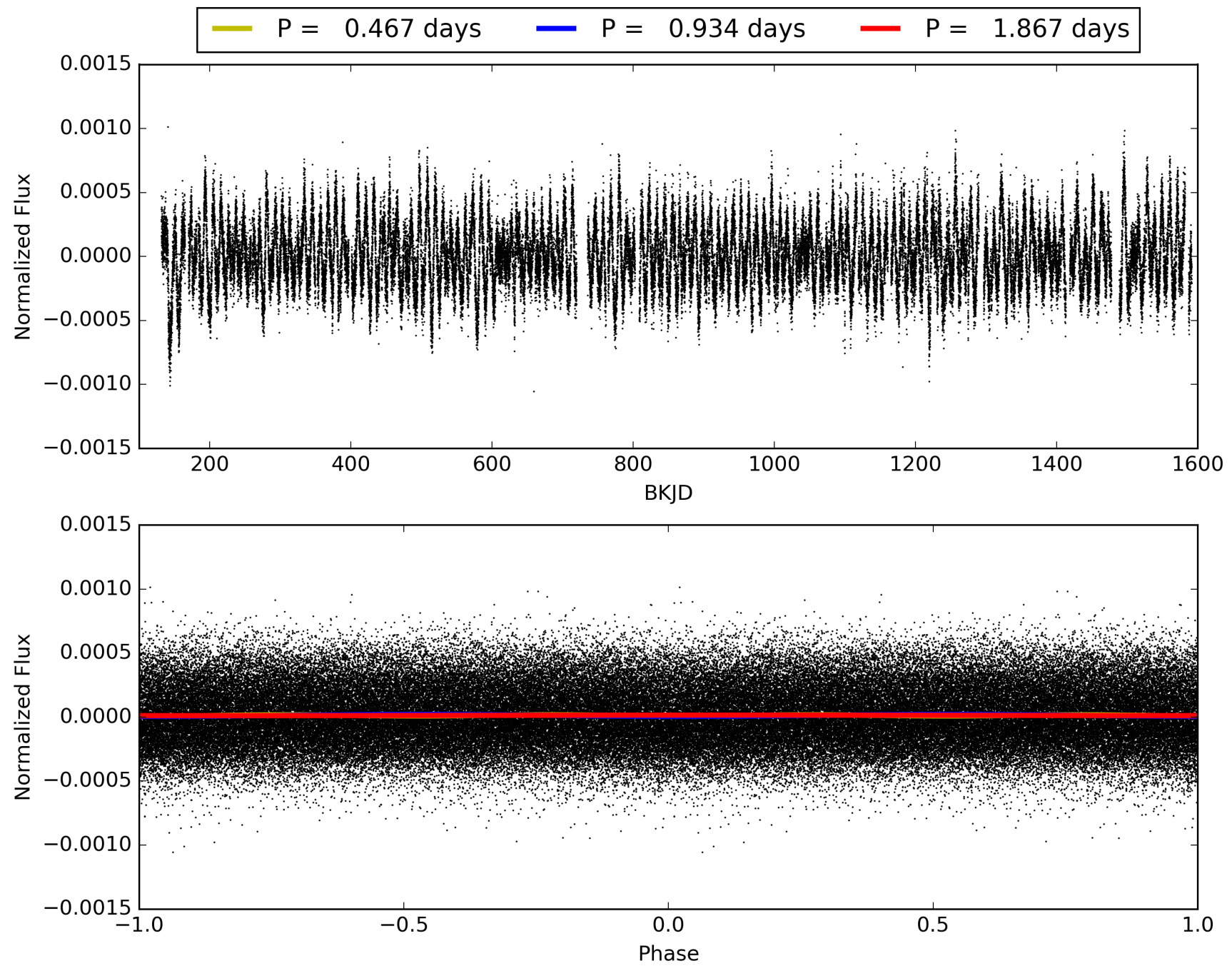
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:53:59 Z

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

TCE 010341777-01, PDC Light Curves

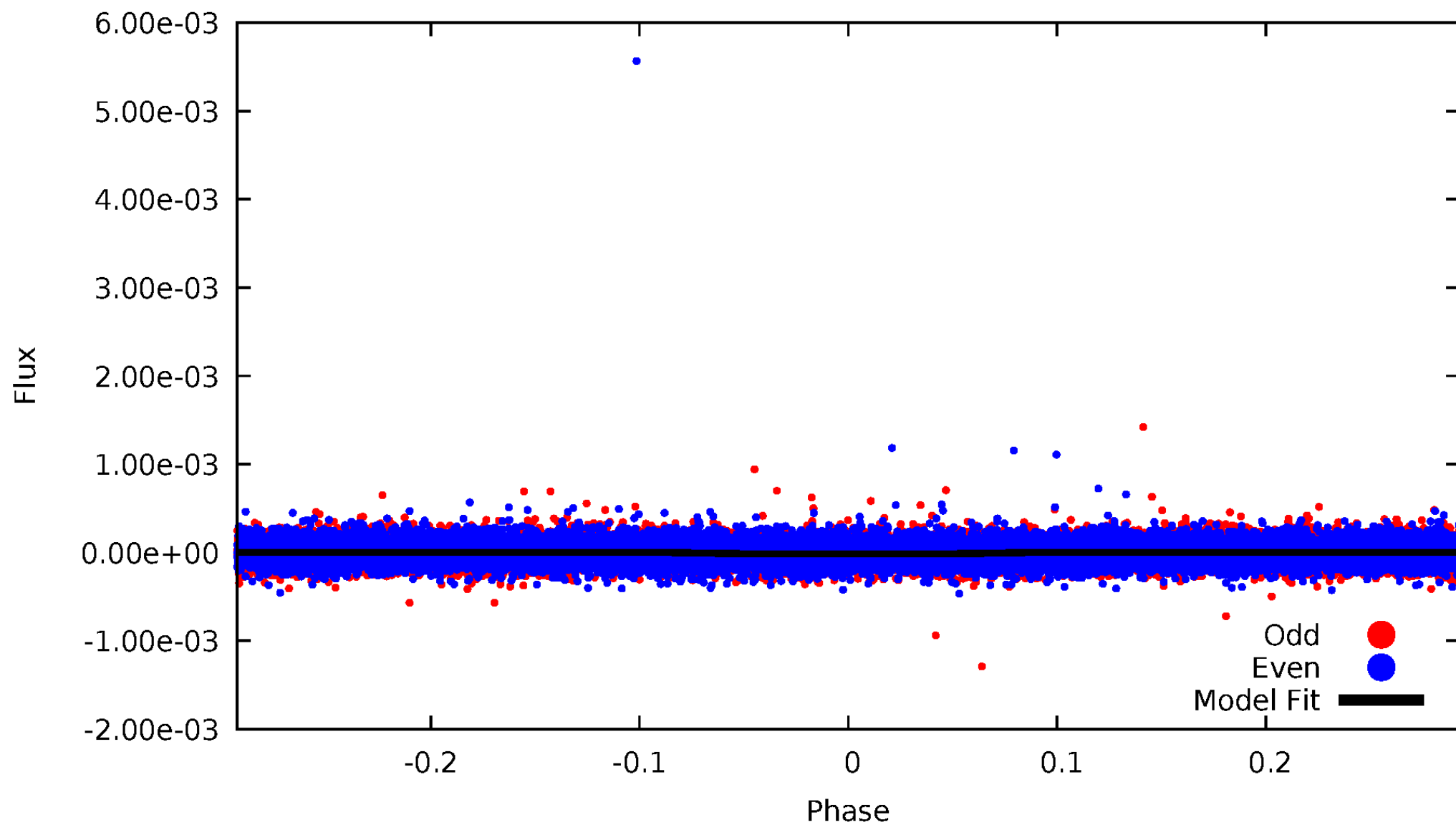


TCE 010341777-01



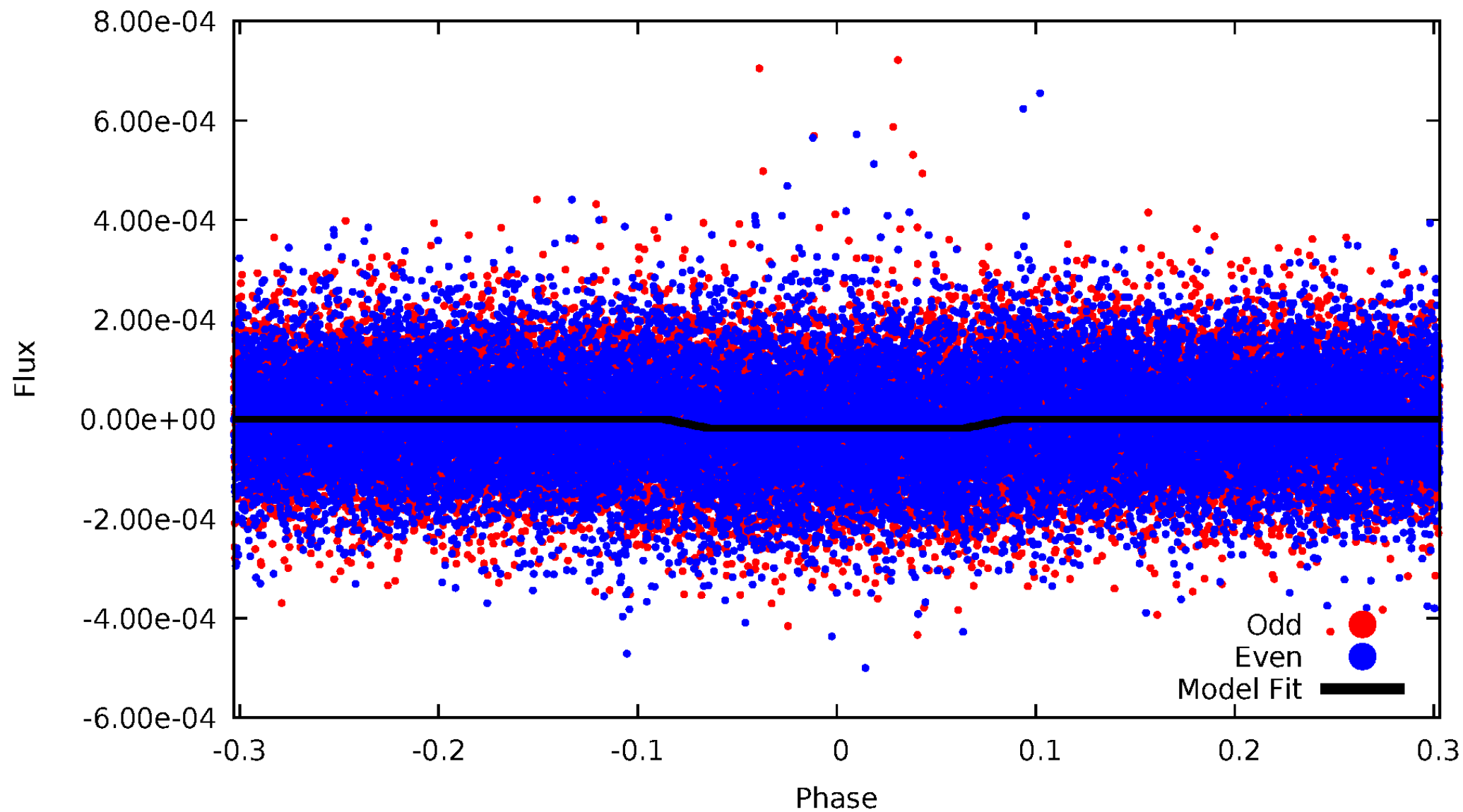
DV Odd/Even

TCE 010341777-01



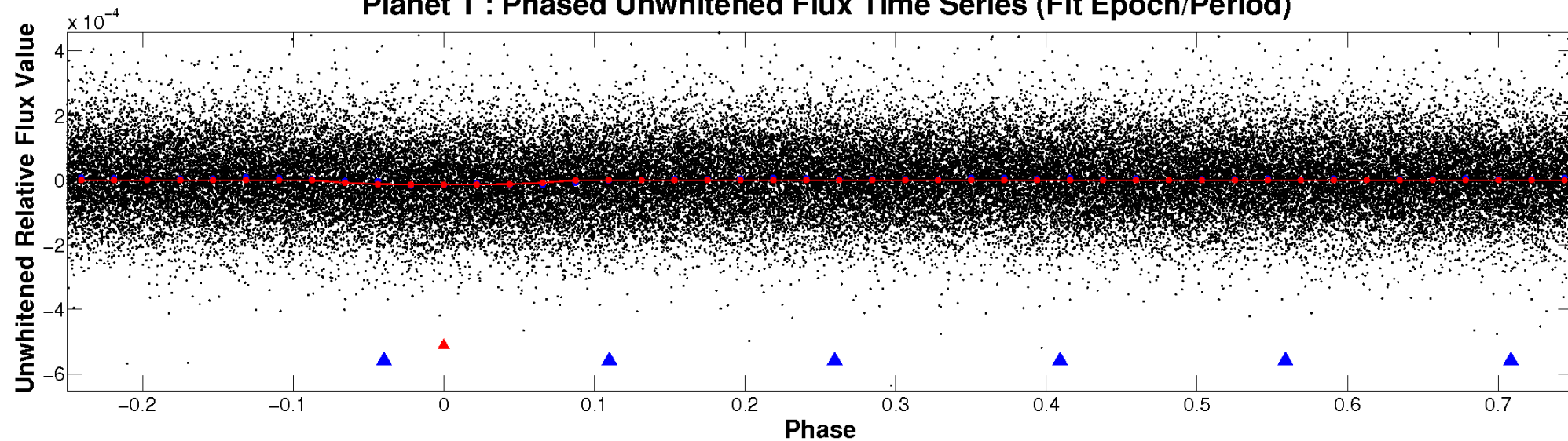
ALT Odd/Even

TCE 010341777-01

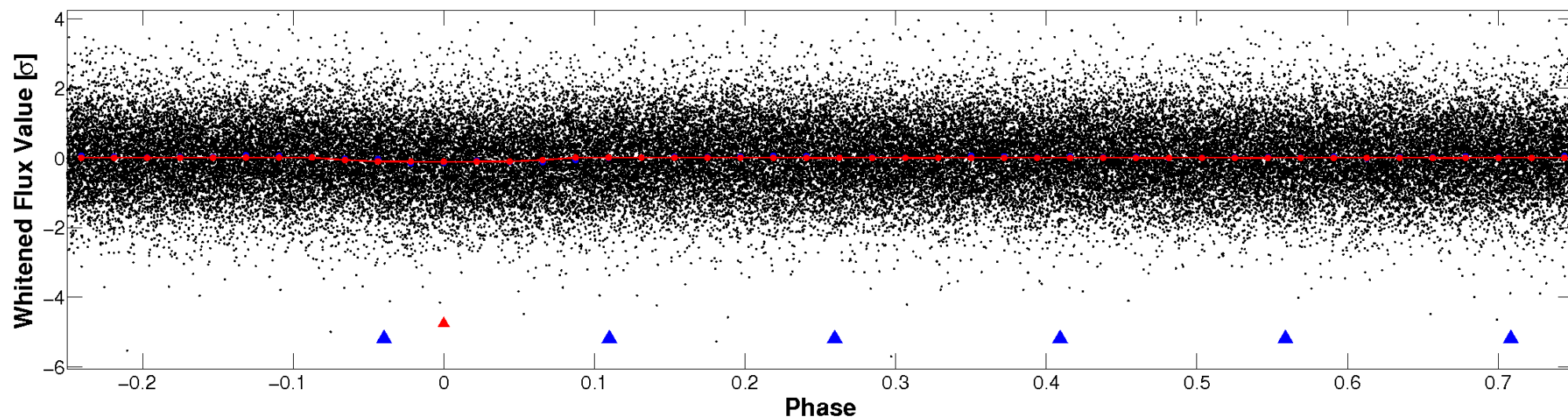


Non-Whitened Vs. Whitened Light Curve

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

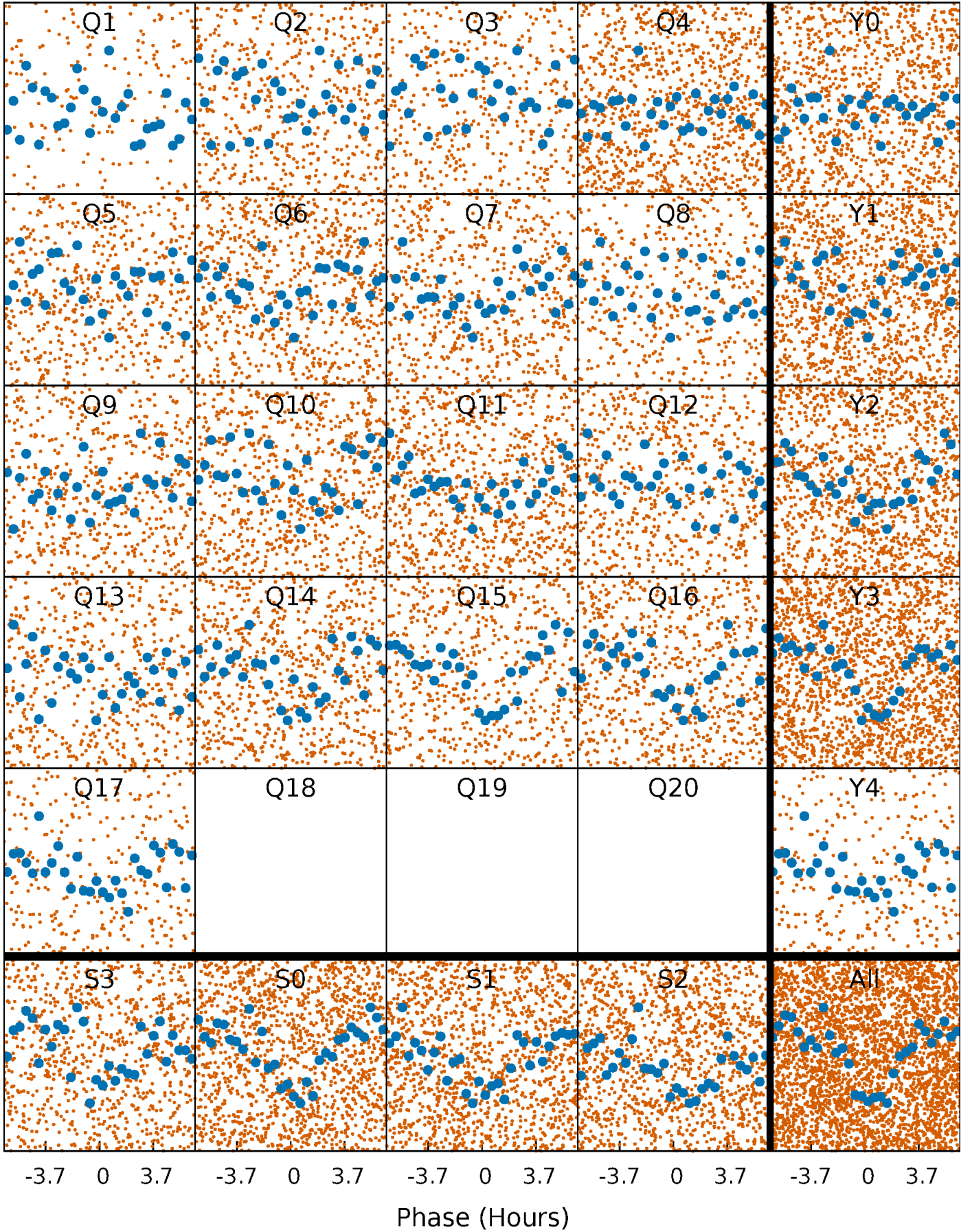


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



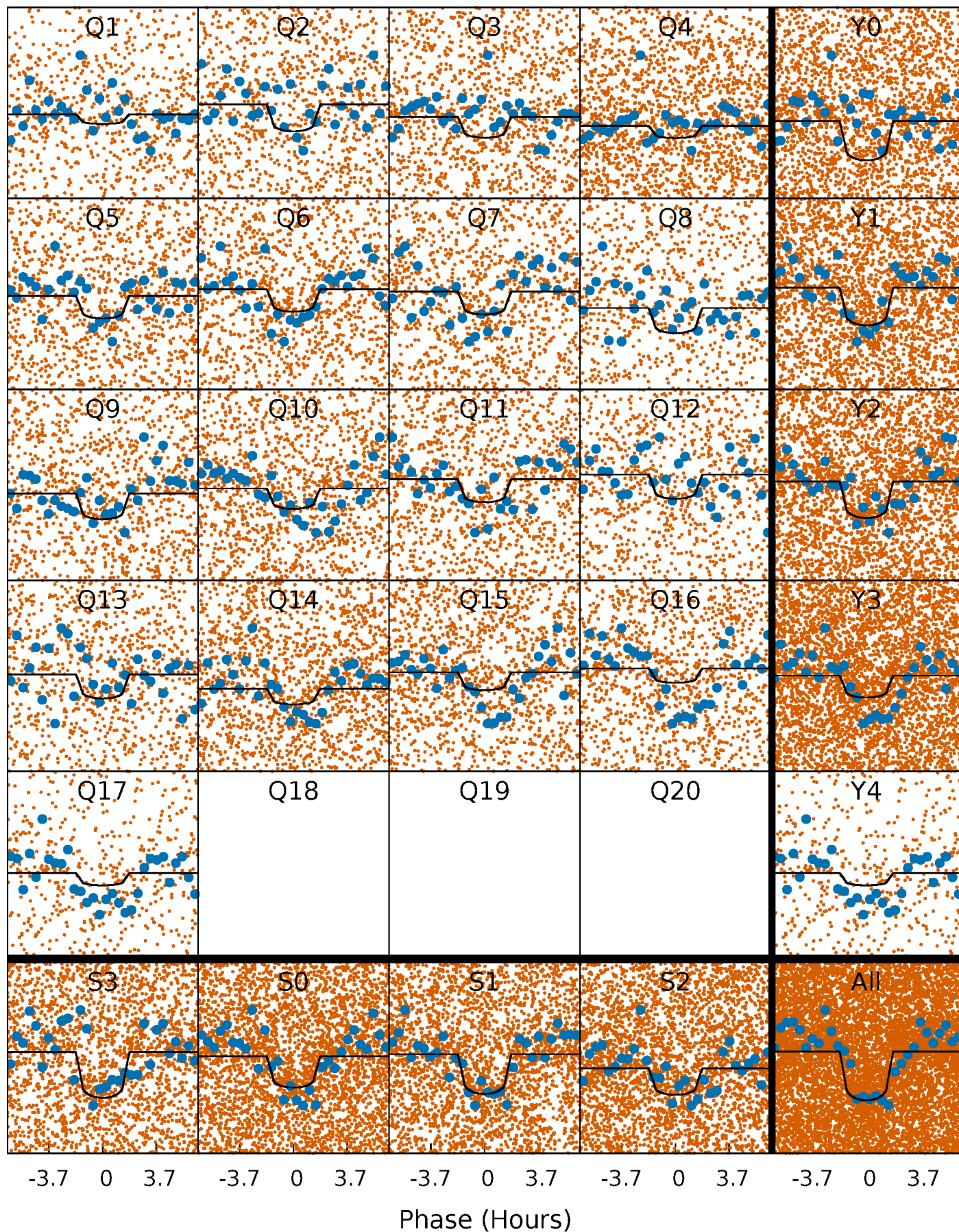
PDC Quarter-Phased Transit Curves

TCE 010341777-01 P= 0.933725 Days $T_0=132.447867$ (BKJD)



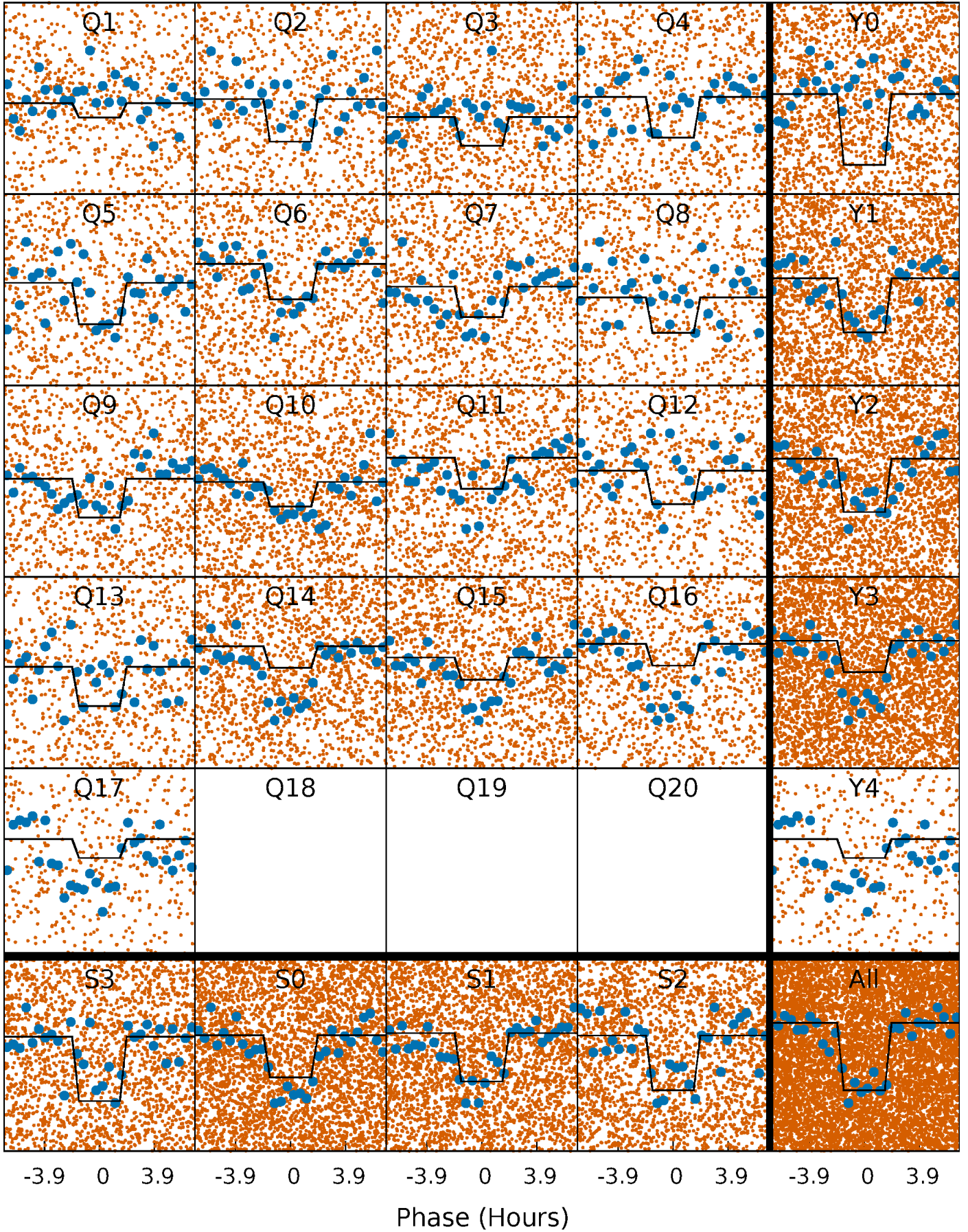
DV Quarter-Phased Transit Curves

TCE 010341777-01 P= 0.933725 Days $T_0=132.447867$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

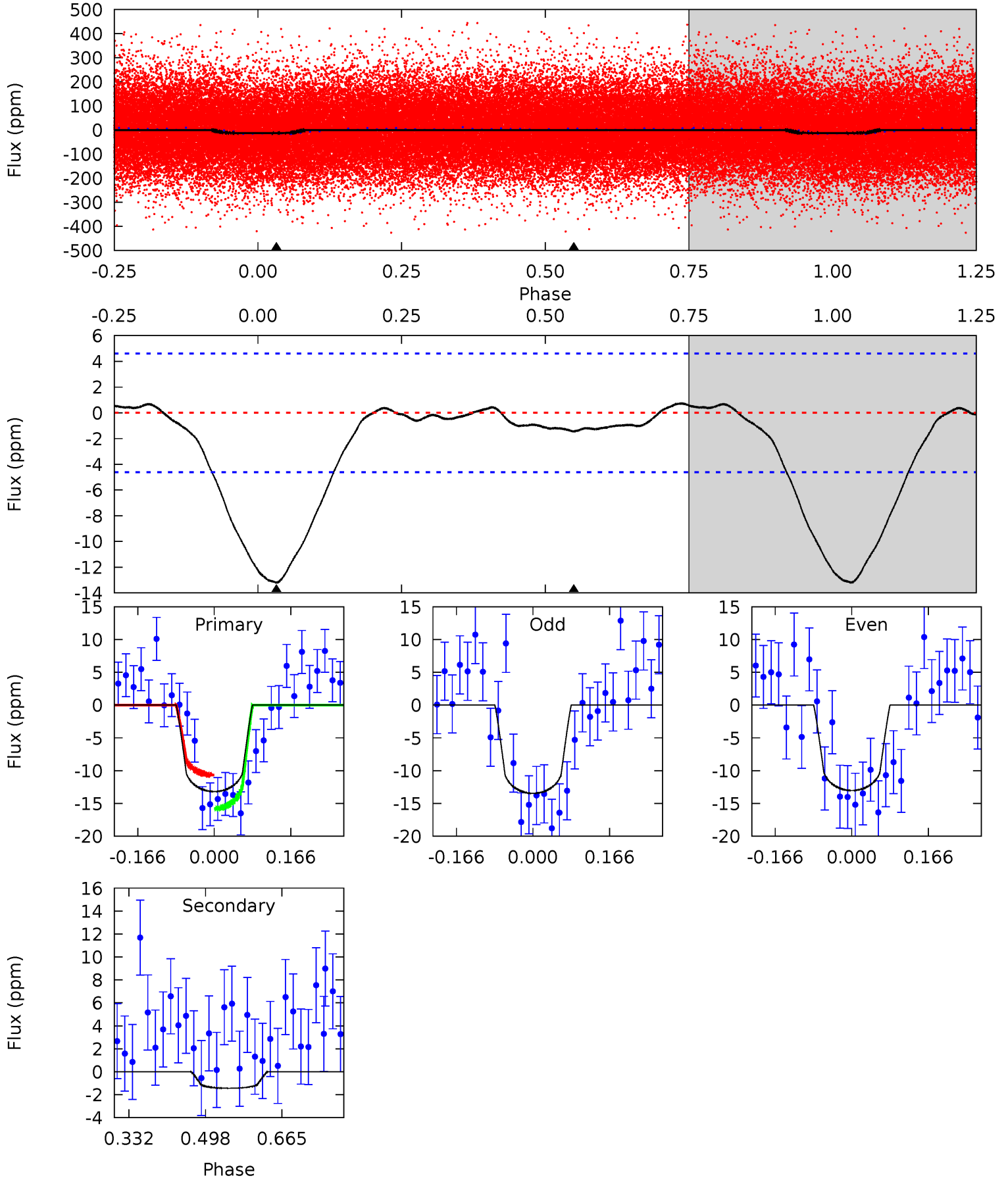
TCE 010341777-01 P= 0.933778 Days $T_0=132.417026$ (BKJD)



DV Model-Shift Uniqueness Test

010341777-01, P = 0.933725 Days, E = 130.580417 Days

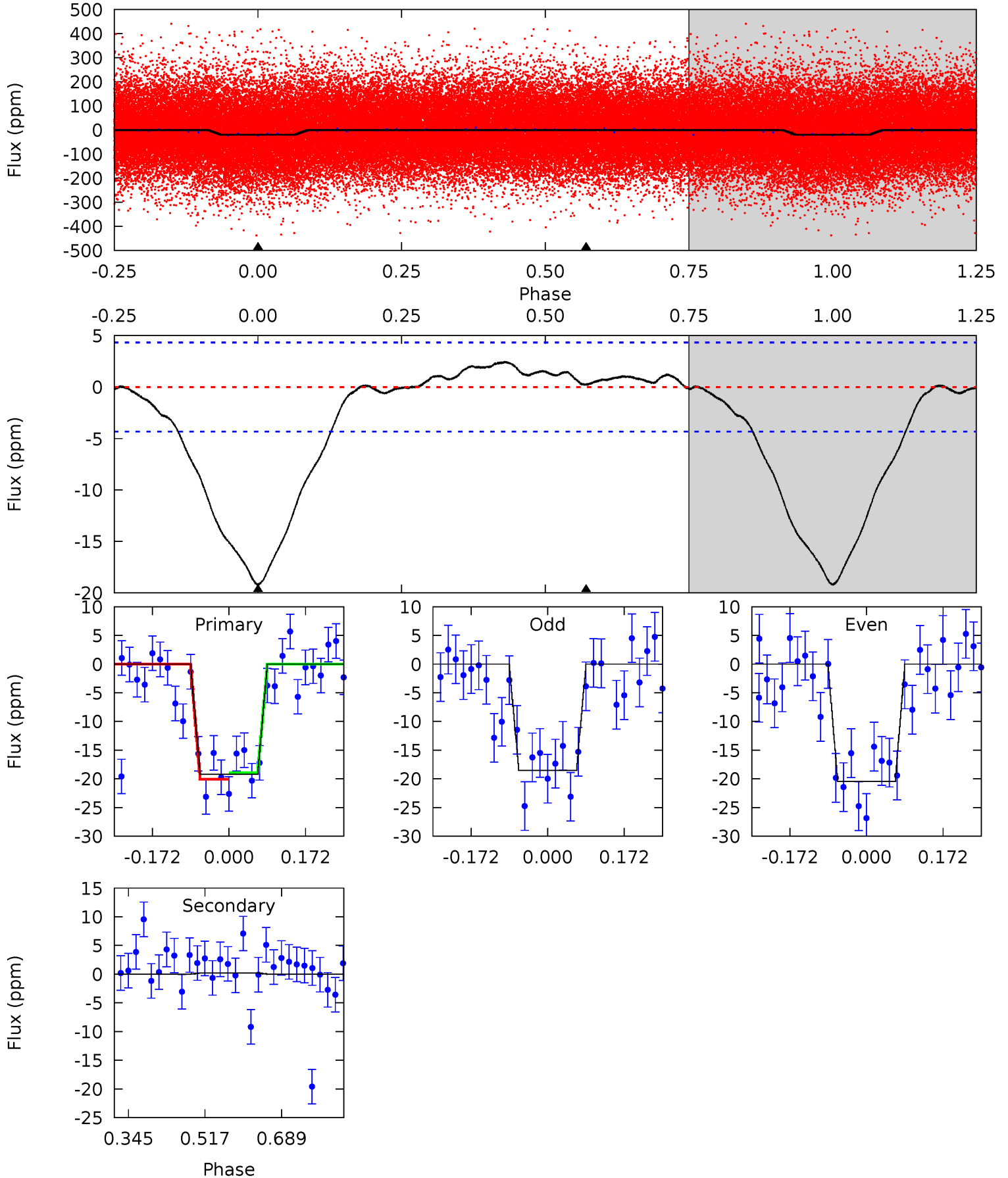
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	1.39	0	0	4.46	1.38	0.42	12.8	12.8	1.39	1.39	0.21	0.86	0.05	2.48



Alt Model-Shift Uniqueness Test

010341777-01, P = 0.933778 Days, E = 131.483248 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.8	-0.23	0	0	4.45	1.36	1.02	19.8	19.8	-0.23	-0.23	0.97	0.95	0.11	0.58



Stellar Parameters For KIC 010341777

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6302^{+171}_{-190}	$4.535^{+0.058}_{-0.173}$	$-1.100^{+0.300}_{-0.300}$	$0.815^{+0.185}_{-0.062}$	$0.831^{+0.064}_{-0.064}$	$2.163^{+0.600}_{-0.935}$
	+3%/-3%	+1%/-4%	+27%/-27%	+23%/-8%	+8%/-8%	+28%/-43%
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 010341777-01 / KOI 7610.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1 ± 1	$0.37^{+0.13}_{-0.13}$	2676^{+151}_{-118}	3657^{+778}_{-990}	$1.666^{+2.780}_{-1.231}$
Alt.	0 ± 1	$0.40^{+0.12}_{-0.12}$	2675^{+164}_{-109}	-3195^{+6264}_{-621}	$-0.256^{+1.007}_{-1.267}$

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

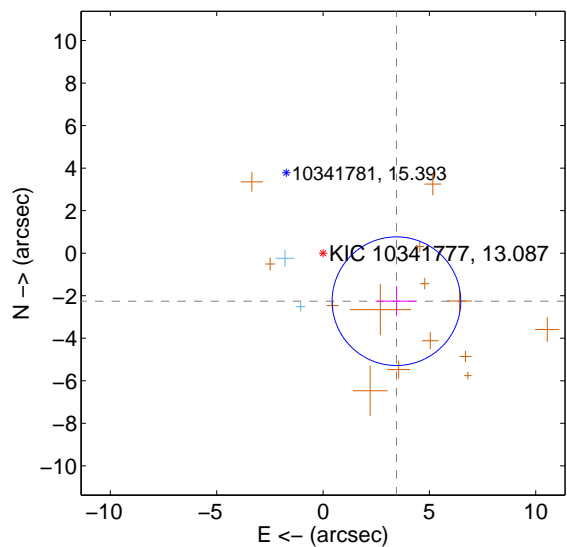
Supplemental centroid analysis for 010341777-01. Kepler magnitude: 13.09. Transit SNR 9.12

There are 2 quarters with good PRF difference image offsets

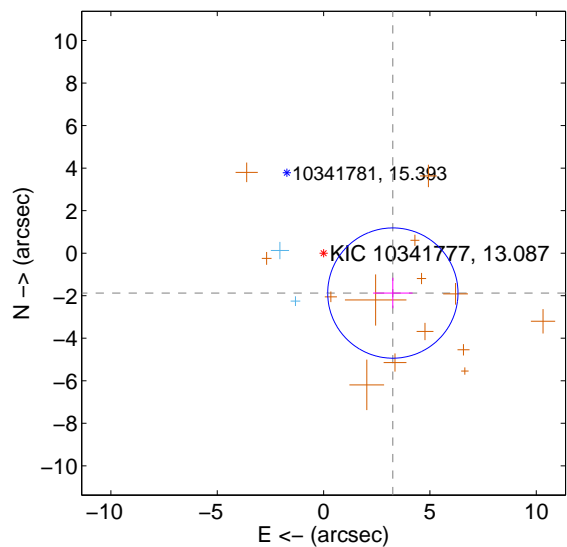
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.125 ± 1.008	4.09	-3.452 ± 0.945	-2.258 ± 0.707
PRF-fit source offset from KIC position	3.759 ± 1.021	3.68	-3.257 ± 0.927	-1.876 ± 0.719
photometric centroid source offset	6.50 ± 0.99	6.55	-5.31 ± 1.01	-3.76 ± 0.96

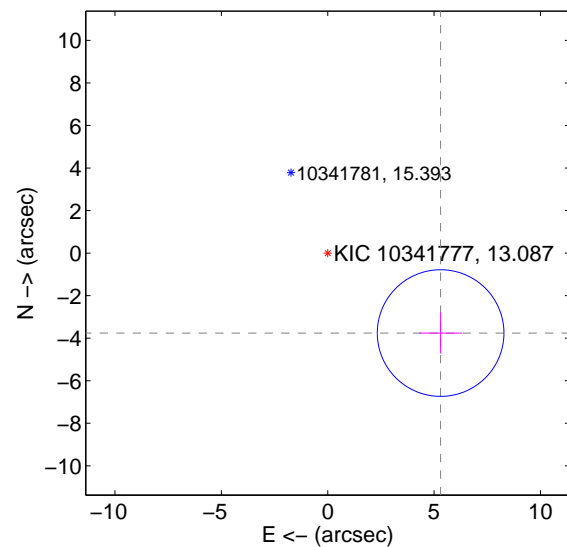
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

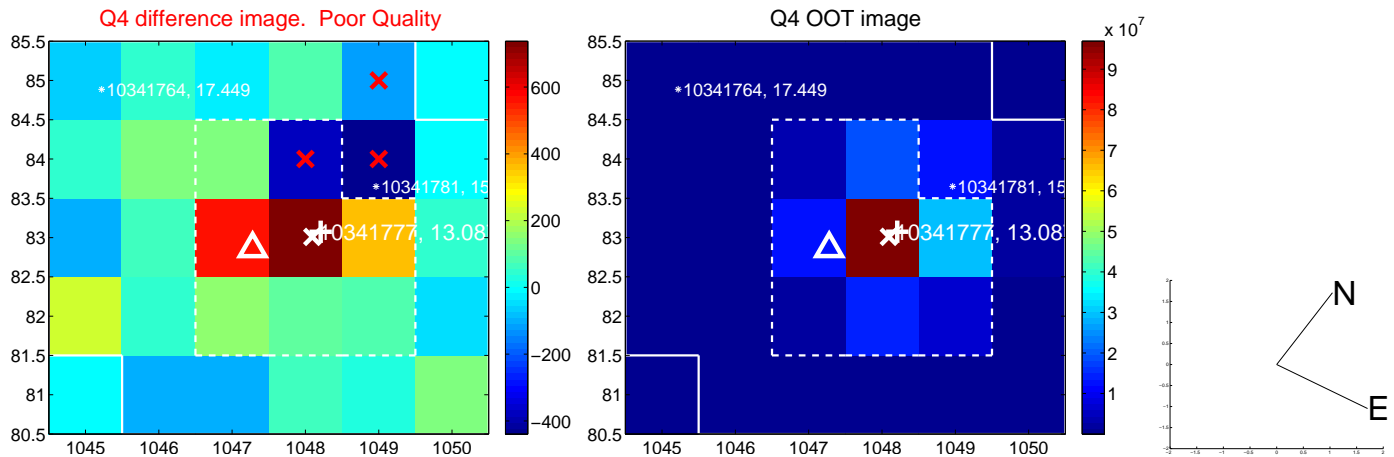
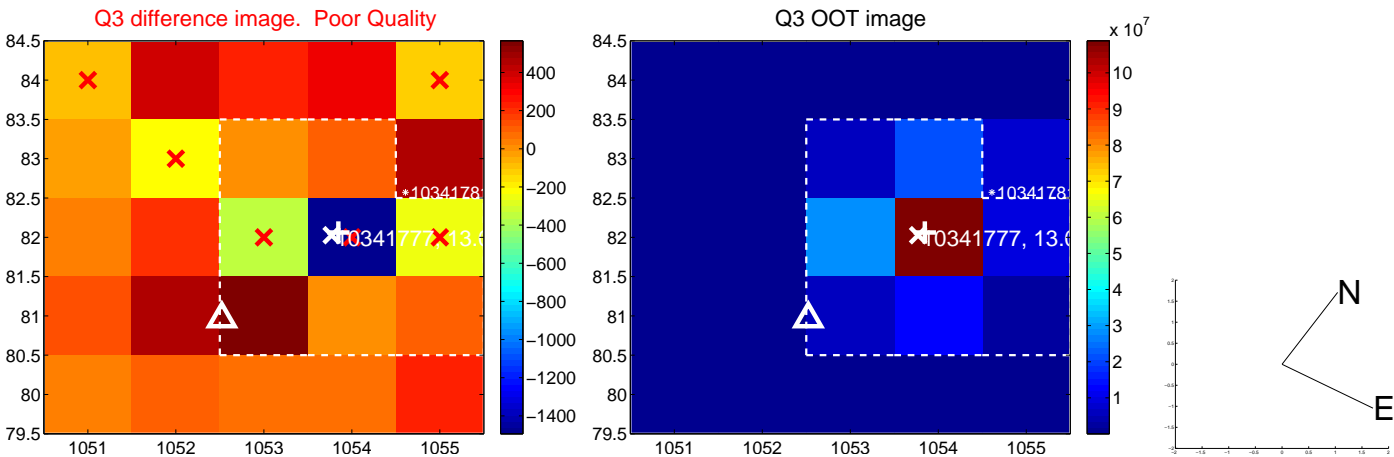
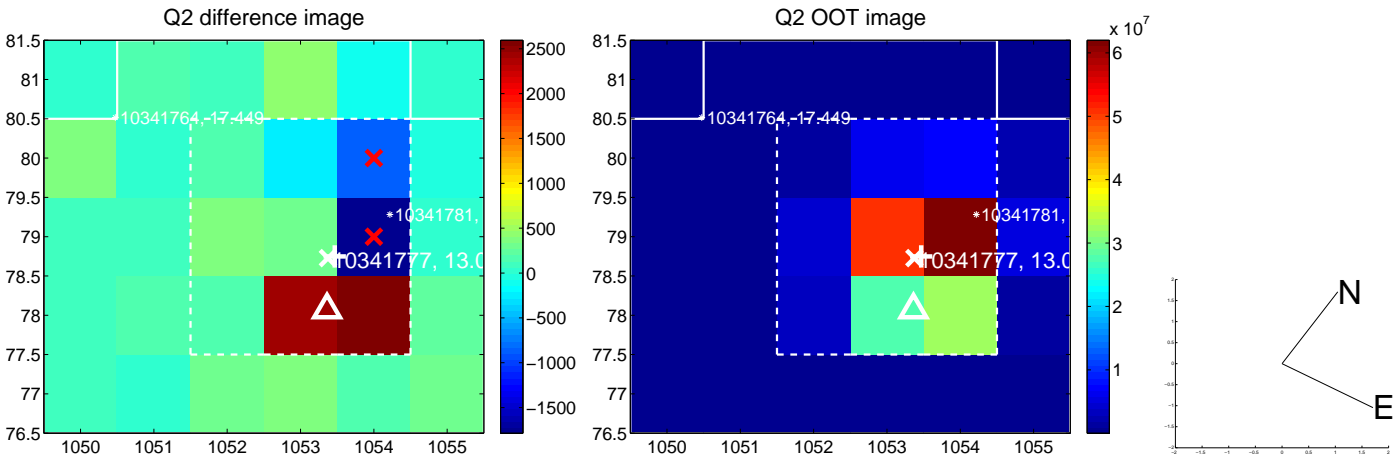
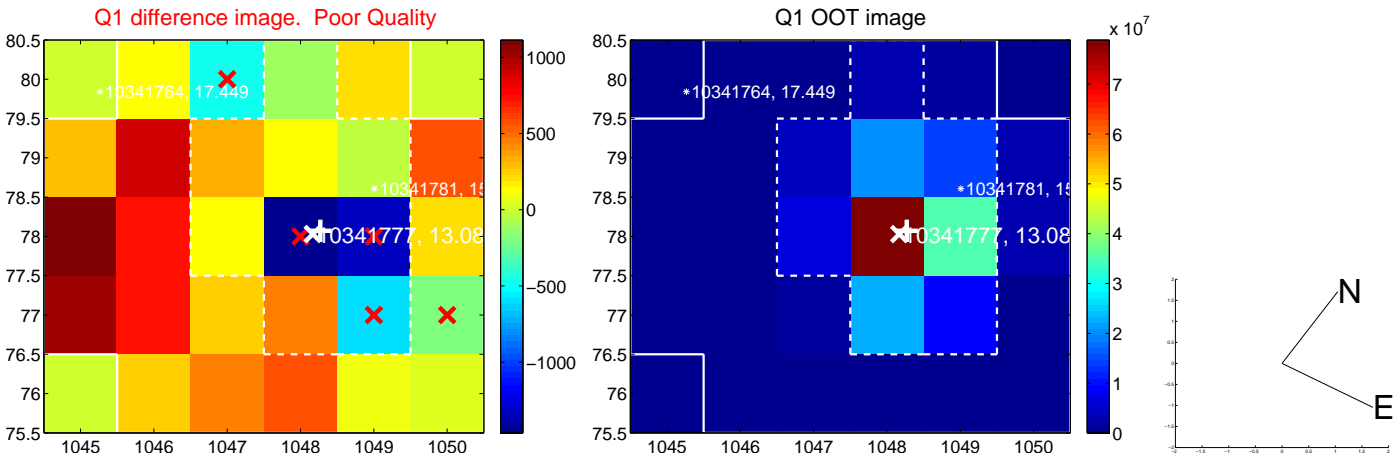


offset from photometric centroids

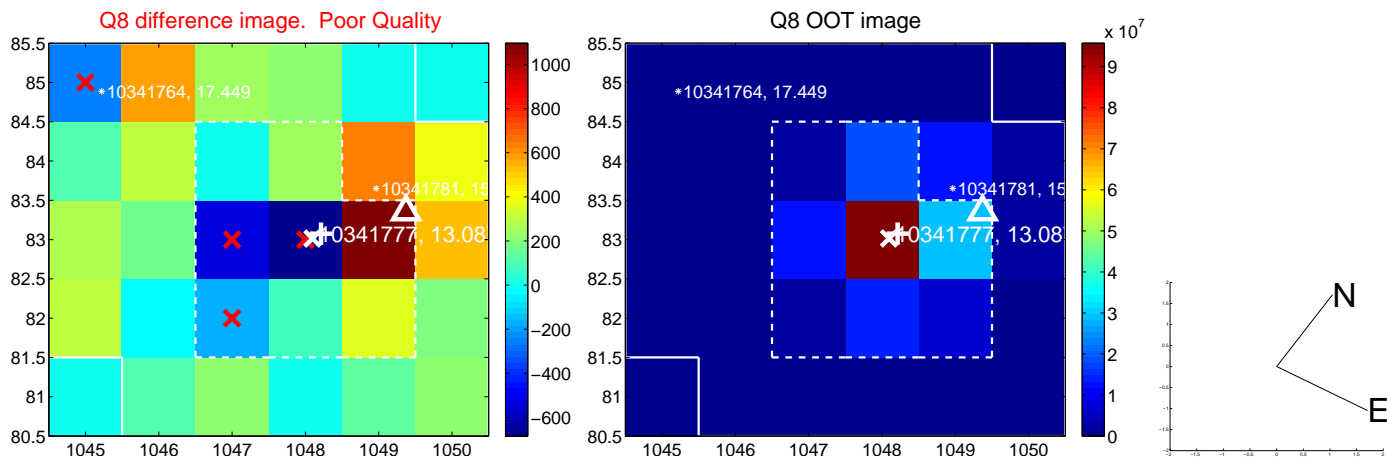
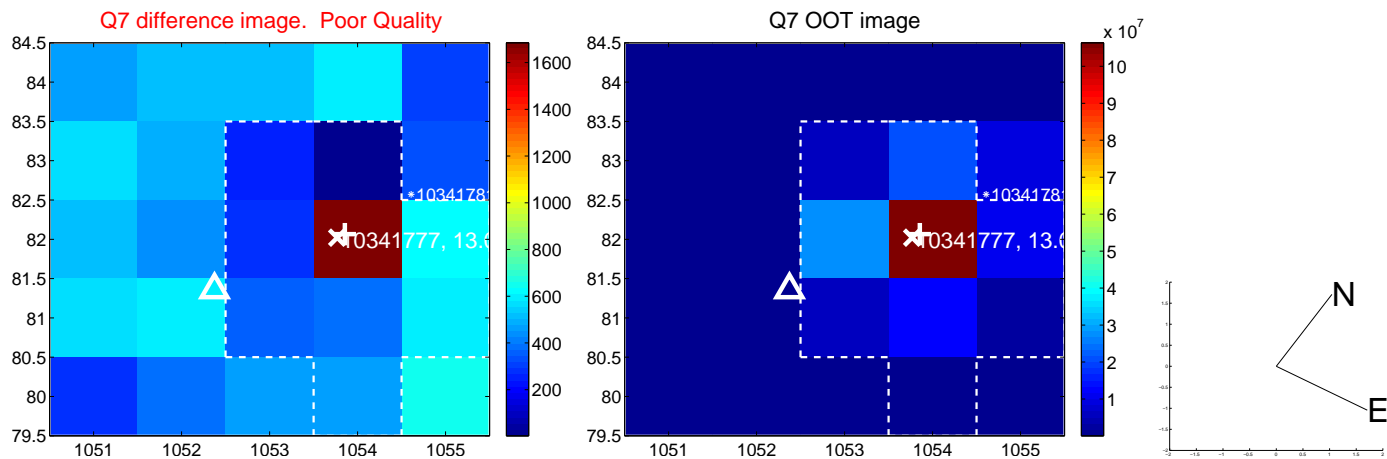
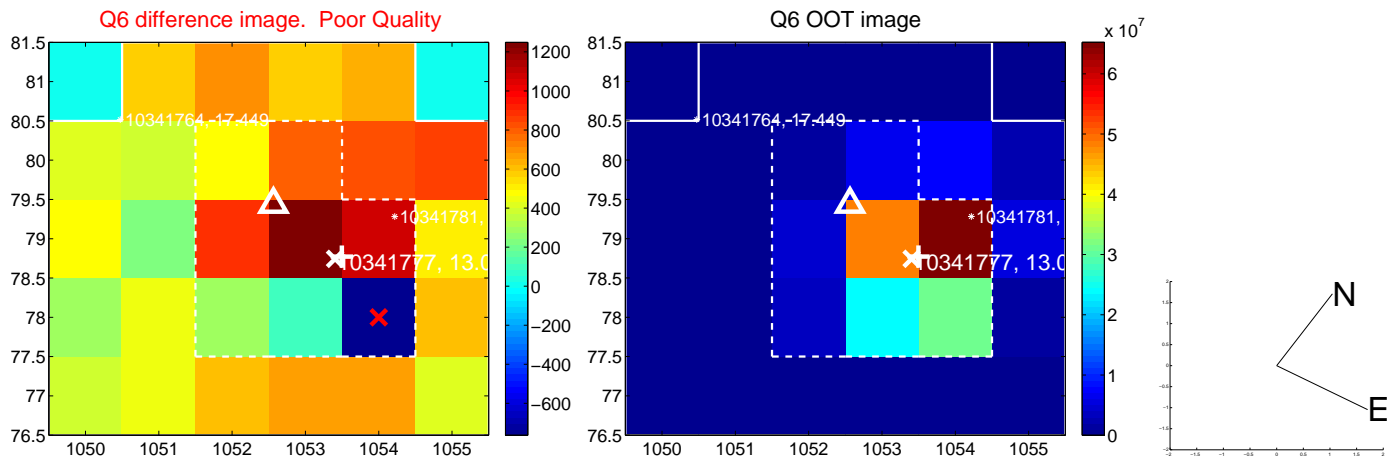
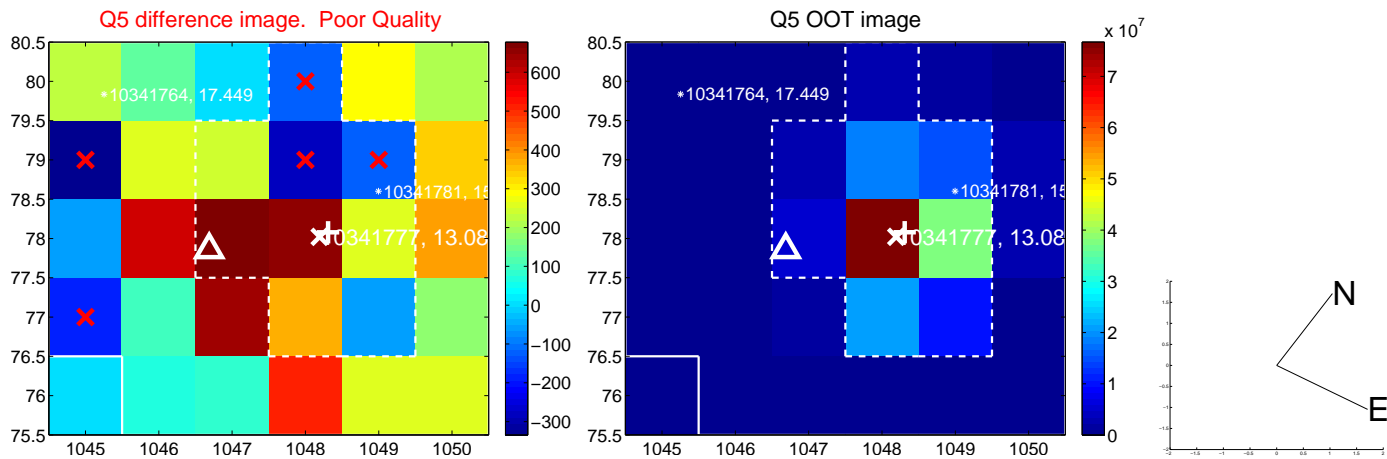


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

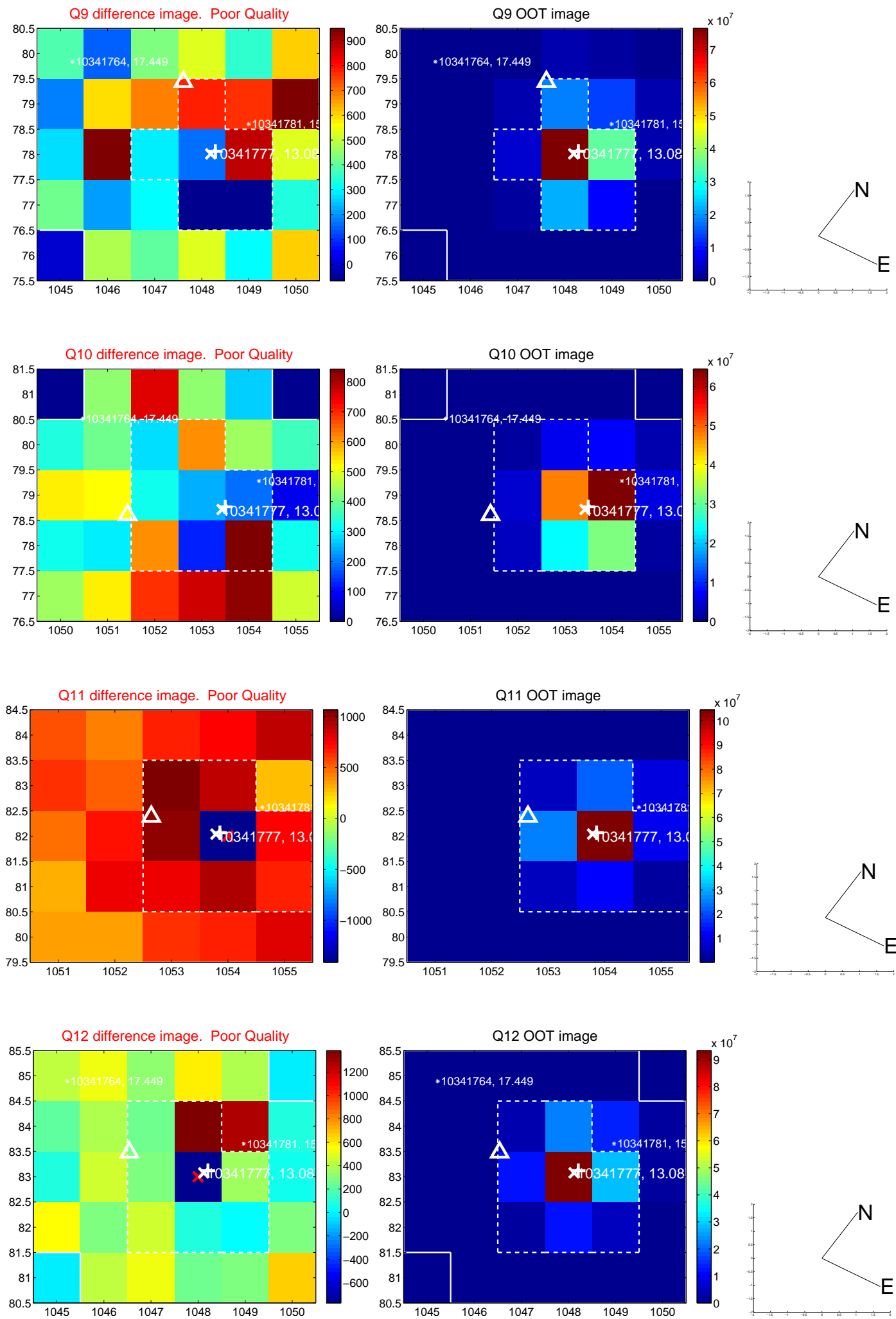
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



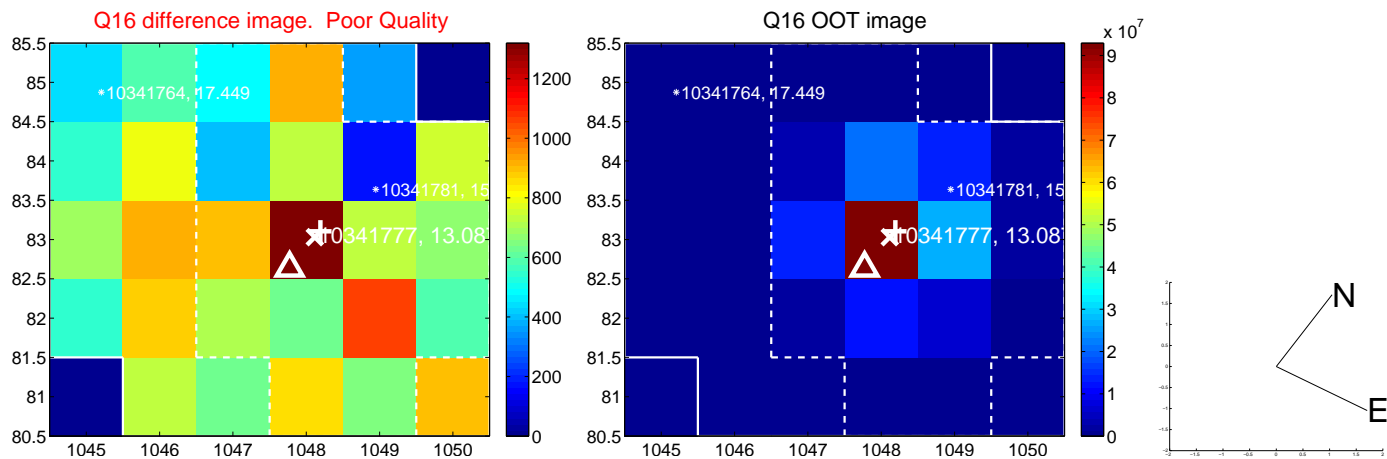
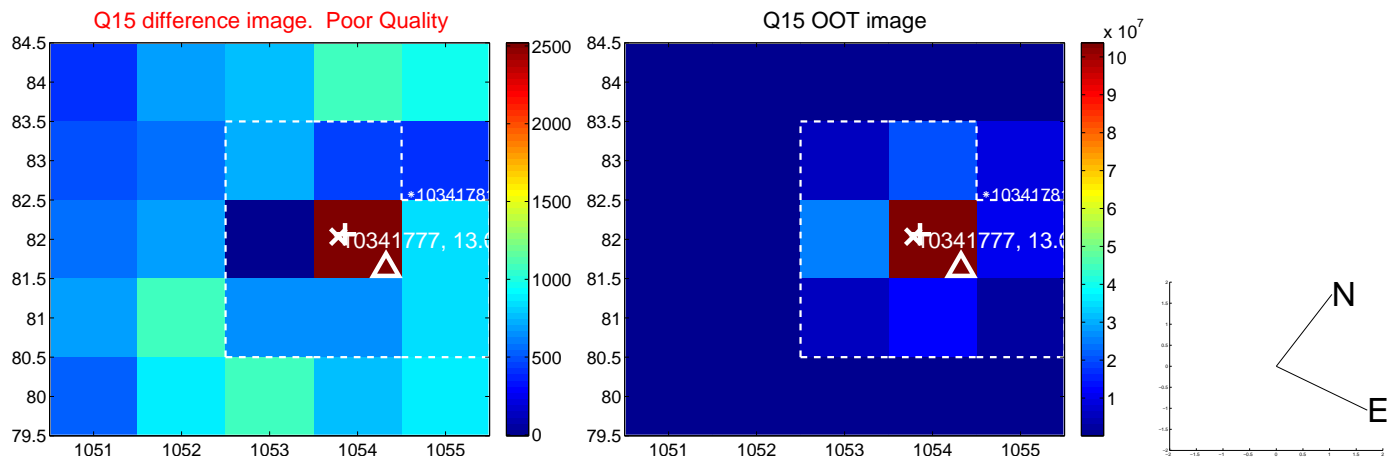
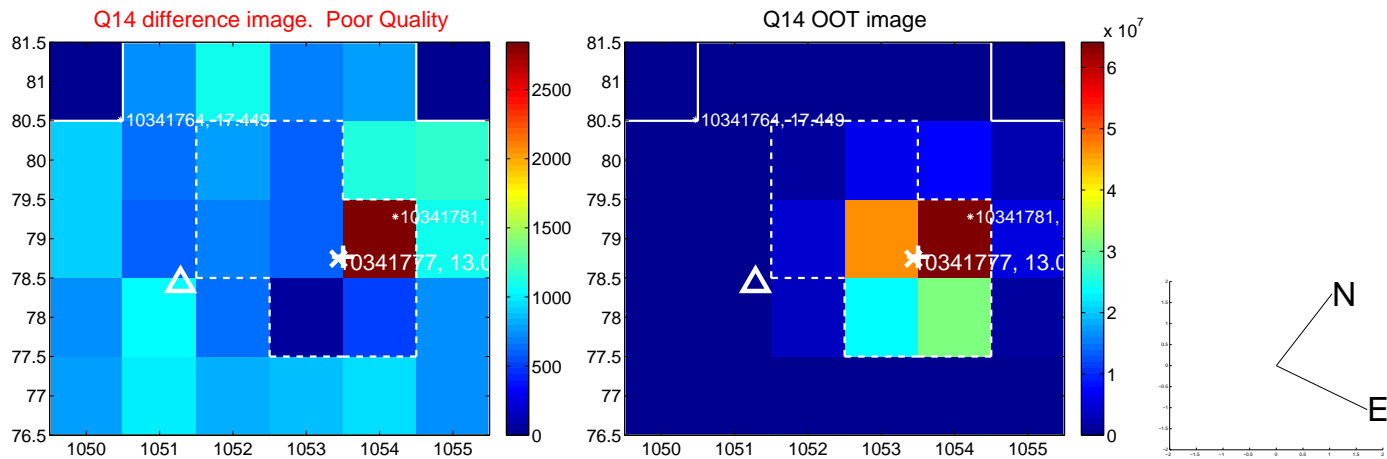
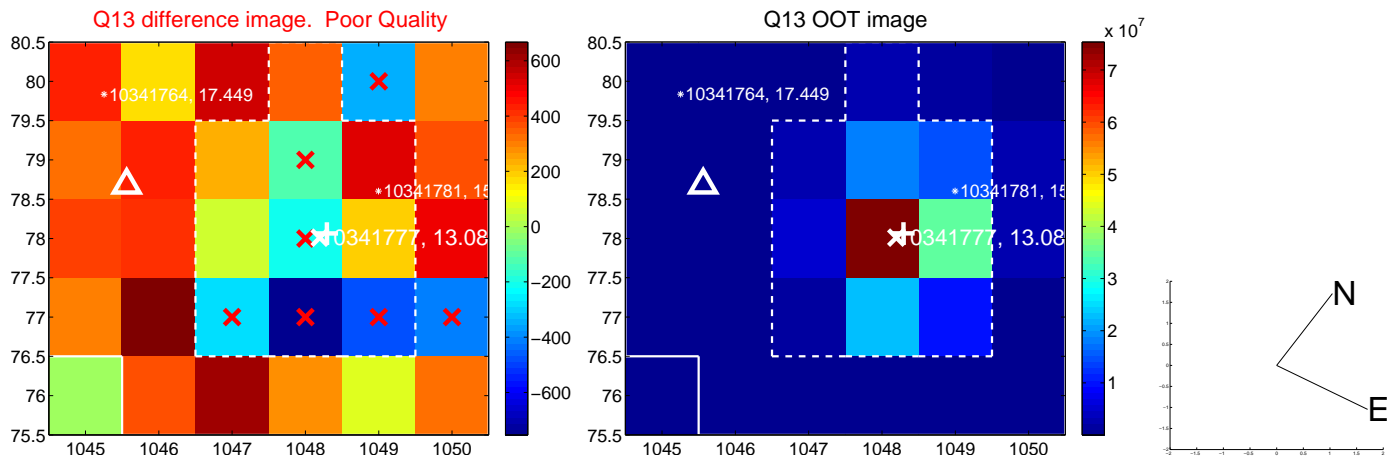
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



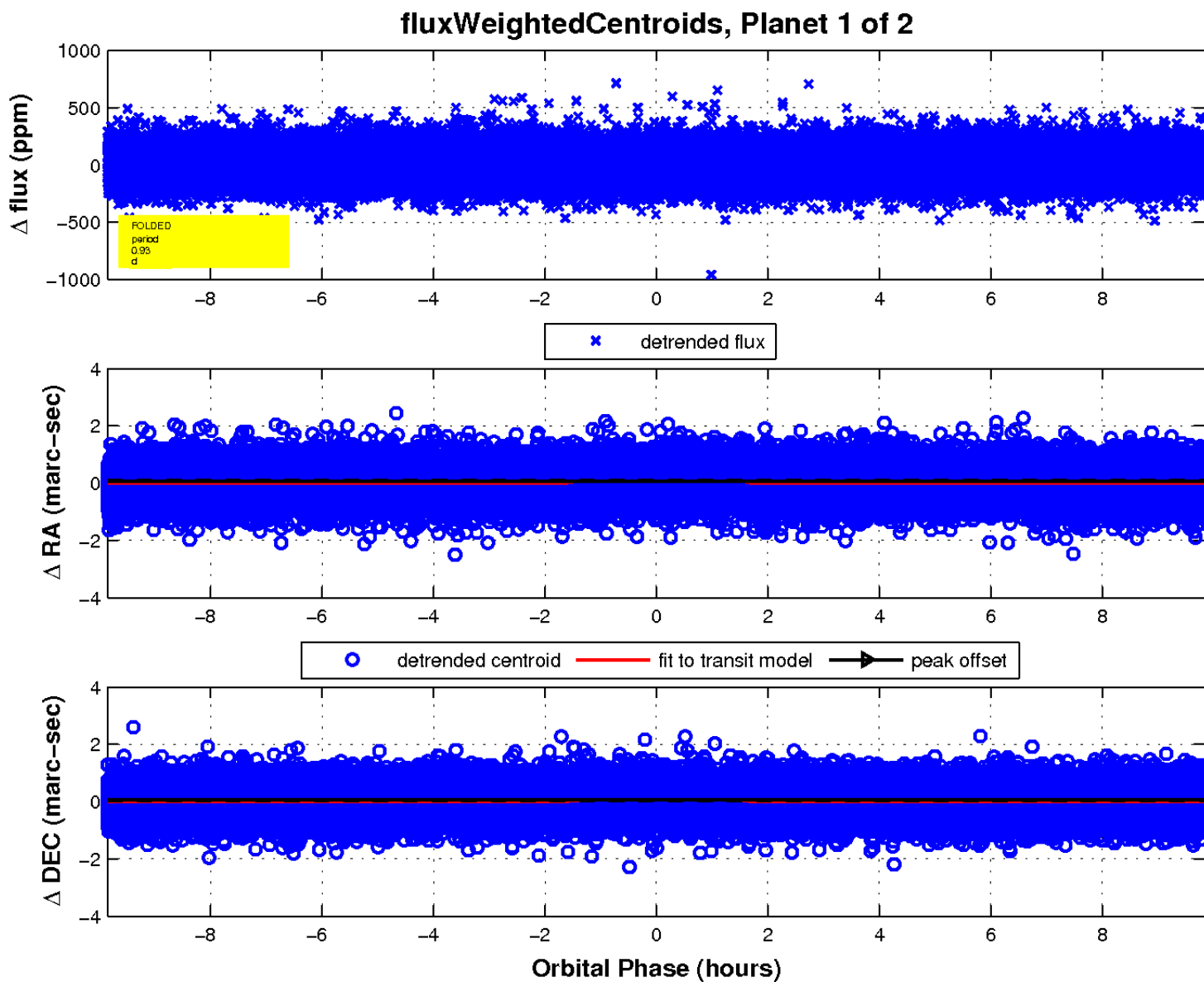
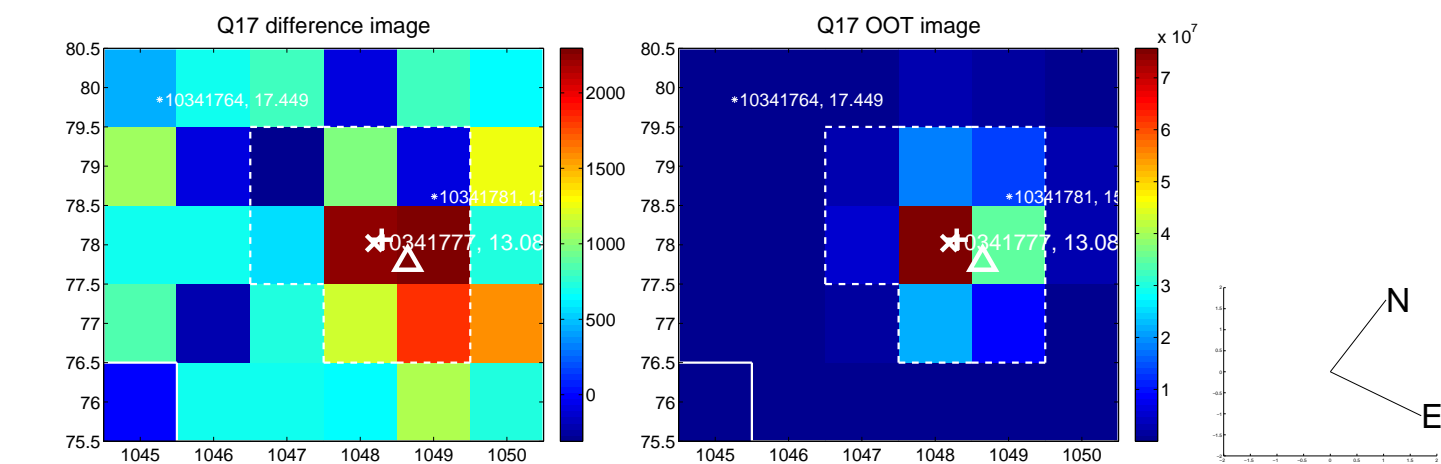
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

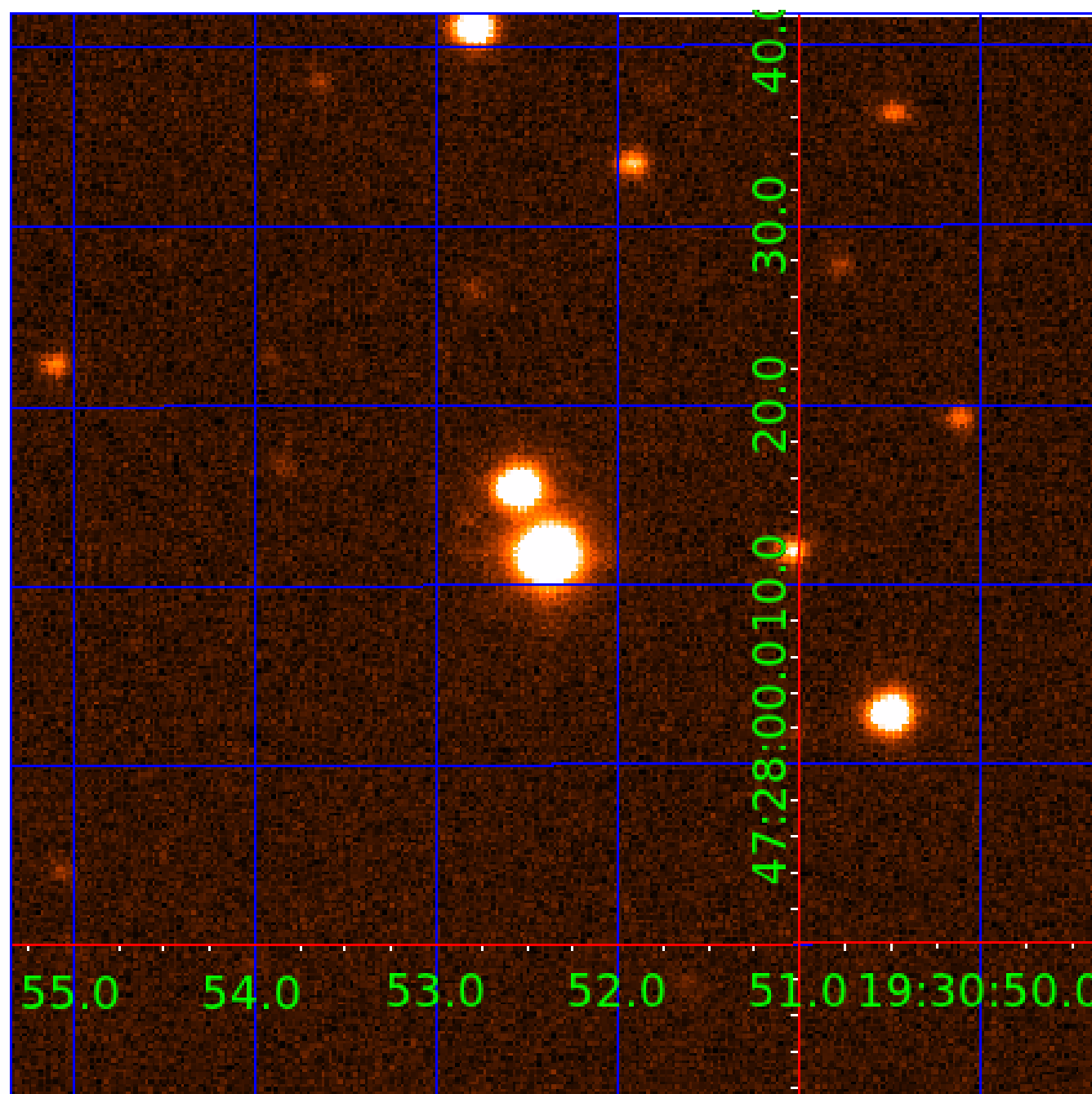


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010341777

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})
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010341777-02	OBS	No	249.164946	133.109352	202.2	15.521	9.9	8.7	0.81	6302	1.34	1.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010341777-01	OBS	FP	0.00	0	0	1	1	CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
010341777-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_FEW_DIFFS—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

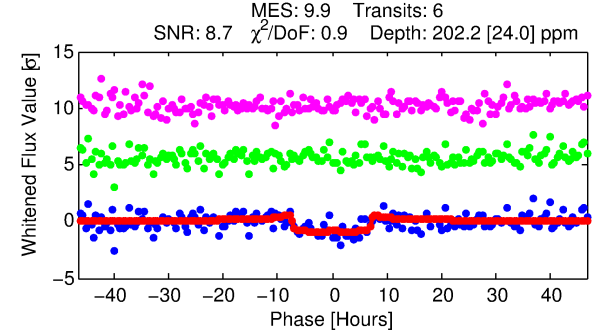
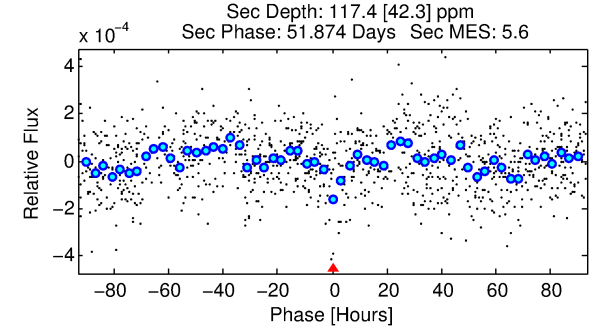
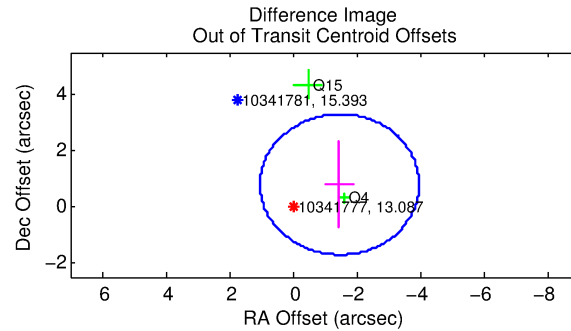
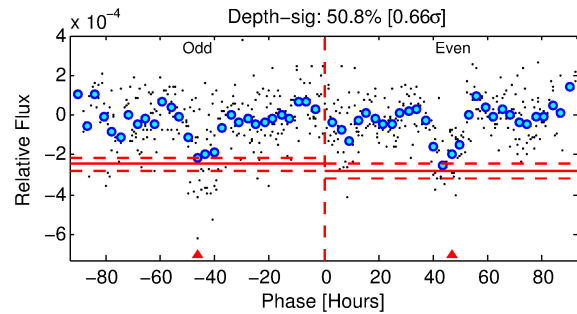
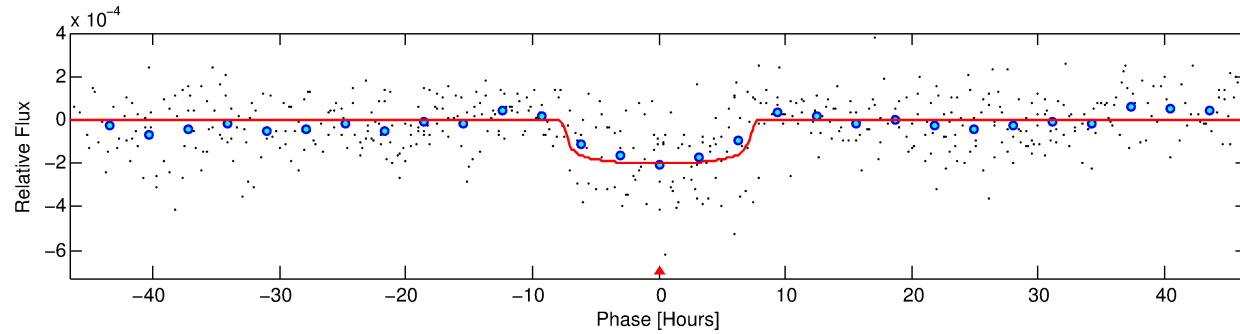
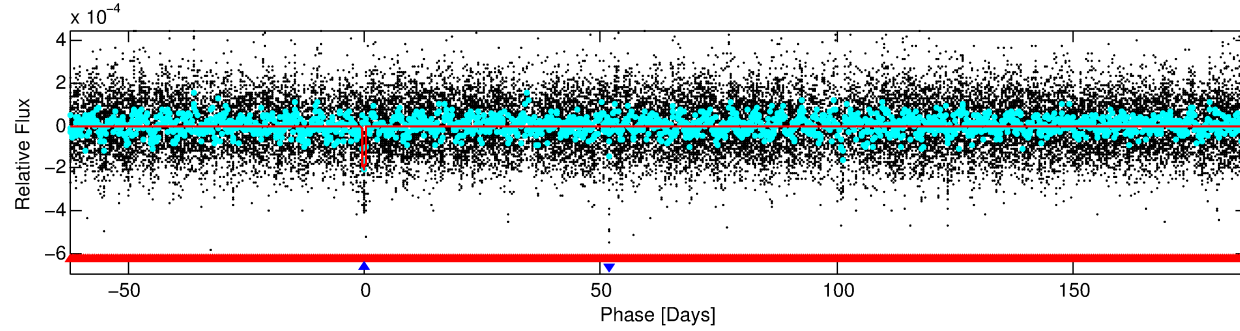
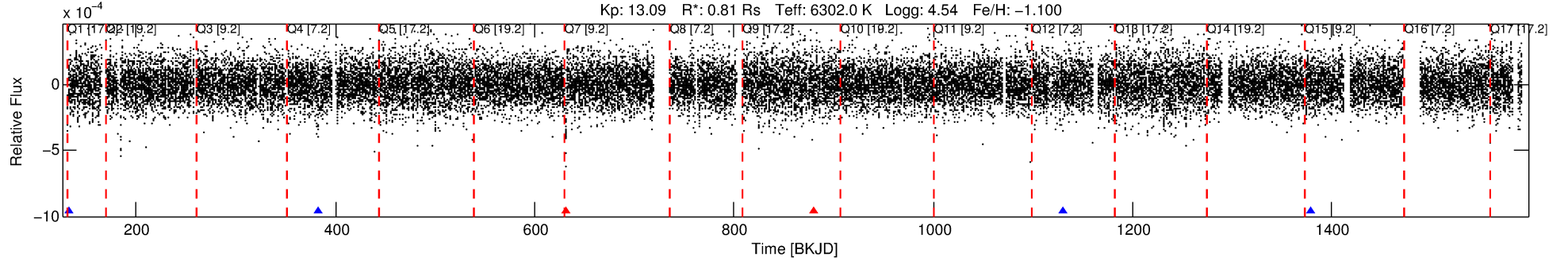
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010341777-02

No Significant Match Found

DV One-Page Summary

KIC: 10341777 Candidate: 2 of 2 Period: 249.165 d
KOI: K07610 Corr: No Ephemeris Match



DV Fit Results:

Period = 249.16495 [0.00557] d
Epoch = 133.1094 [0.0187] BKJD
Rp/R* = 0.0151 [0.0016]
a/R* = 60.13 [28.36]
b = 0.89 [0.11]
Seff = 1.77 [0.58]
Teq = 294 [24] K
Rp = 1.34 [0.33] Re
a = 0.7286 [0.1467] AU
Ag = 19100.47 [9879.71] [1.93 σ]
Teffp = 5345 [580] K [8.69 σ]

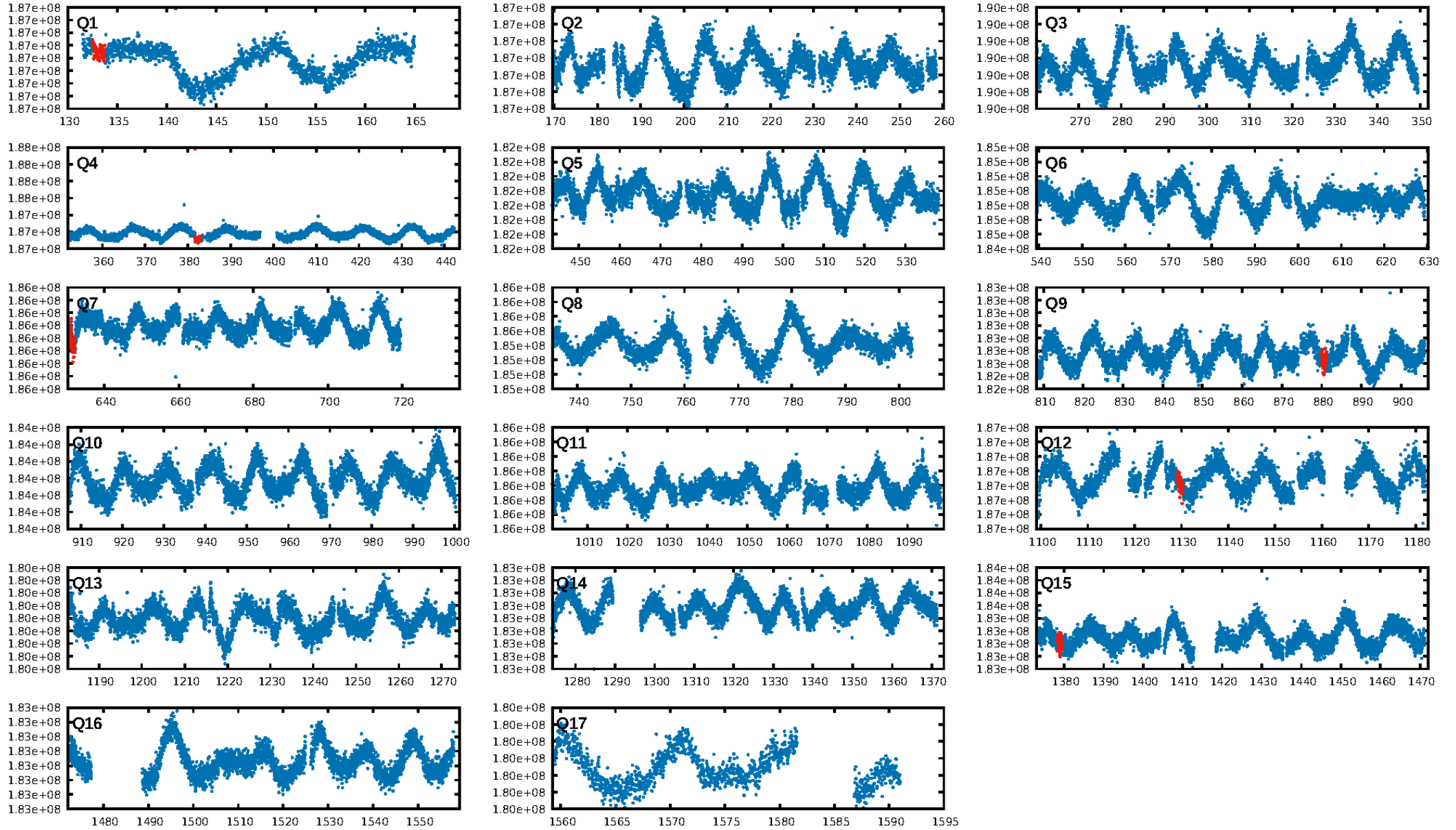
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [375.53 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.71e-18
RollingBand-fgt: 0.60 [3/5]
GhostDiagnostic-chr: -0.1168
Centroid-sig: 2.6%
Centroid-so: 1.484 arcsec [2.07 σ]
OotOffset-rm: 1.670 arcsec [2.00 σ]
KicOffset-rm: 1.740 arcsec [1.62 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/4]

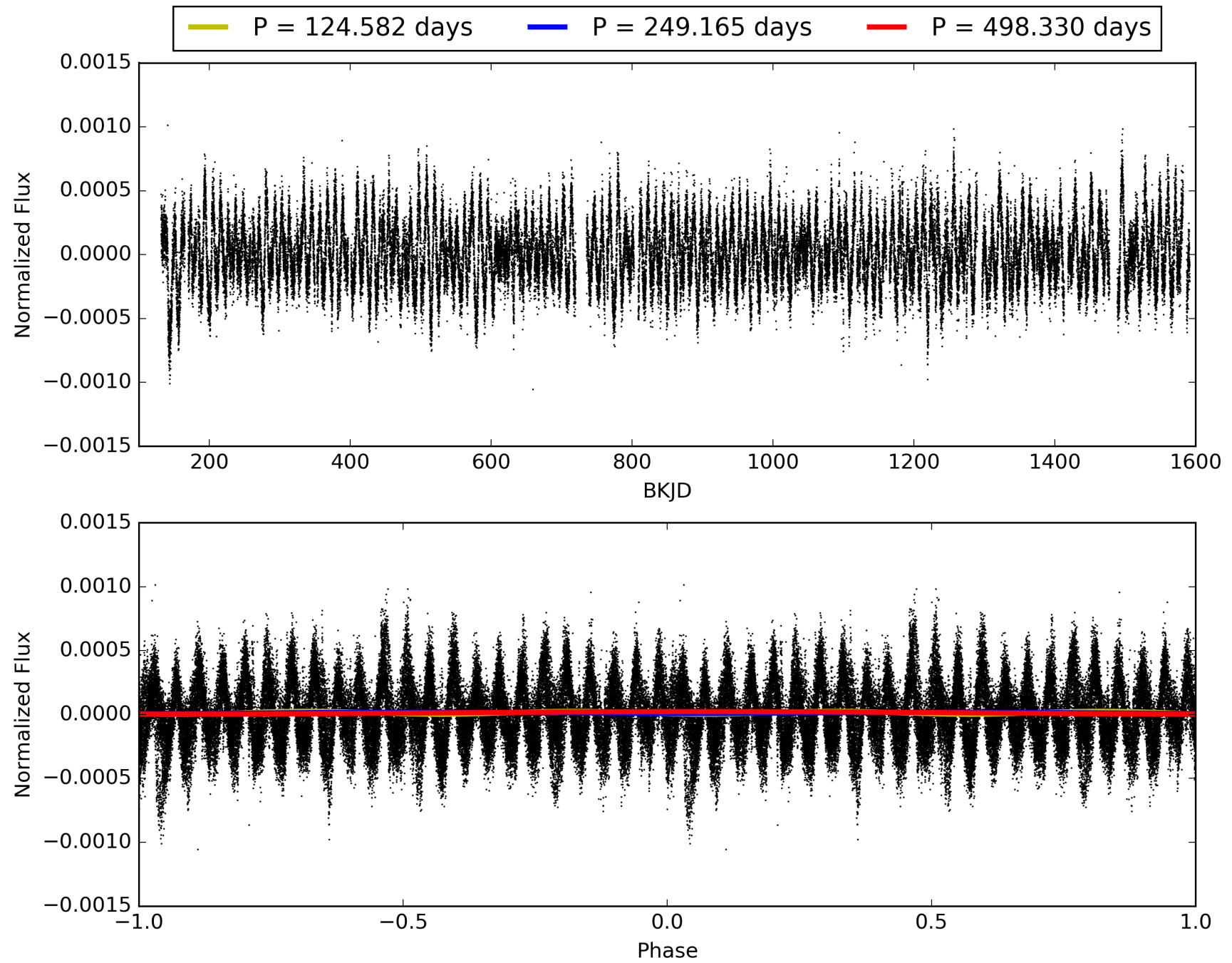
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:54:09 Z

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

TCE 010341777-02, PDC Light Curves

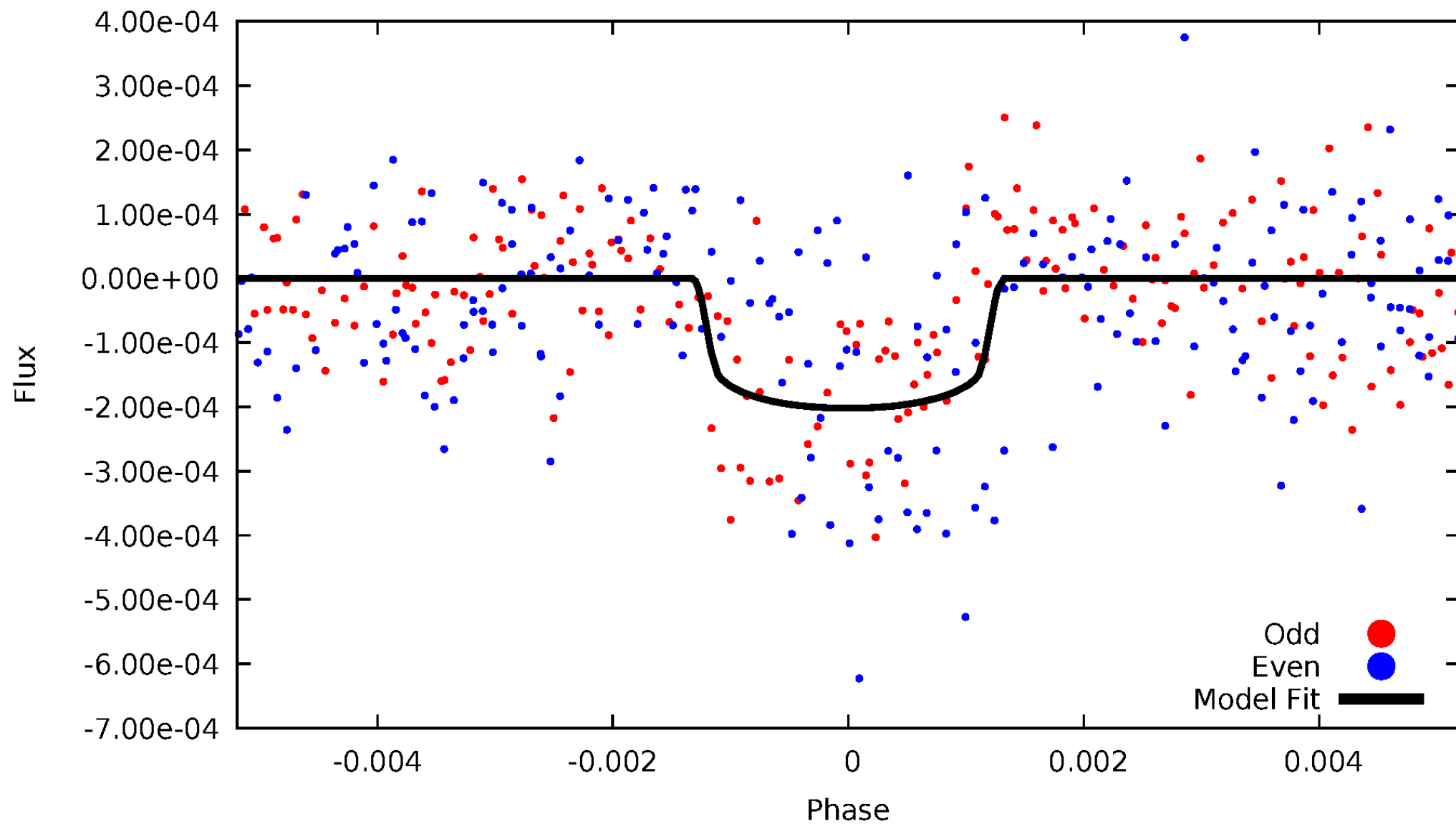


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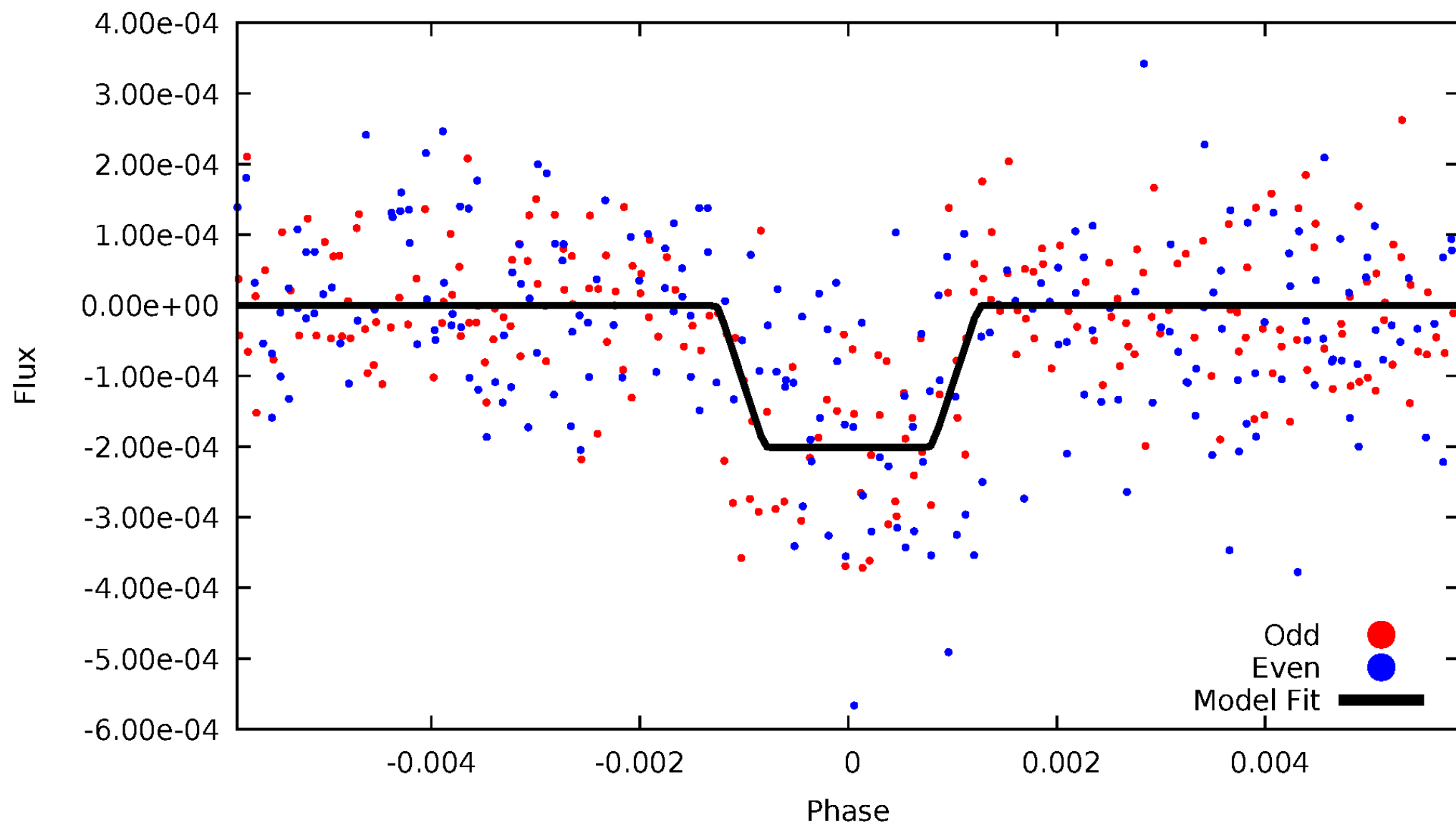
DV Odd/Even

TCE 010341777-02



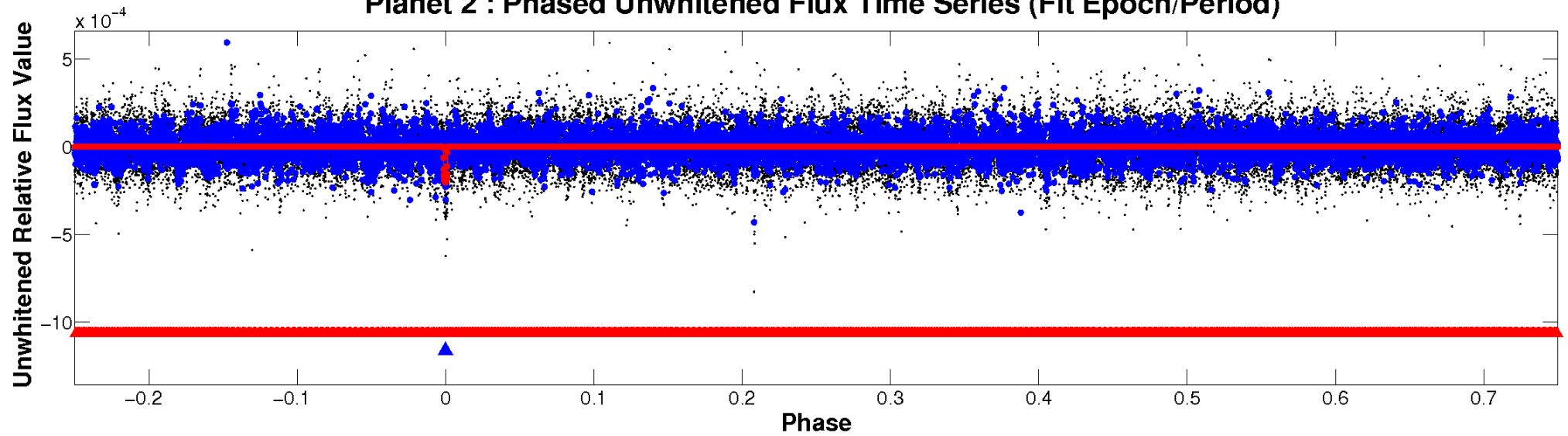
ALT Odd/Even

TCE 010341777-02

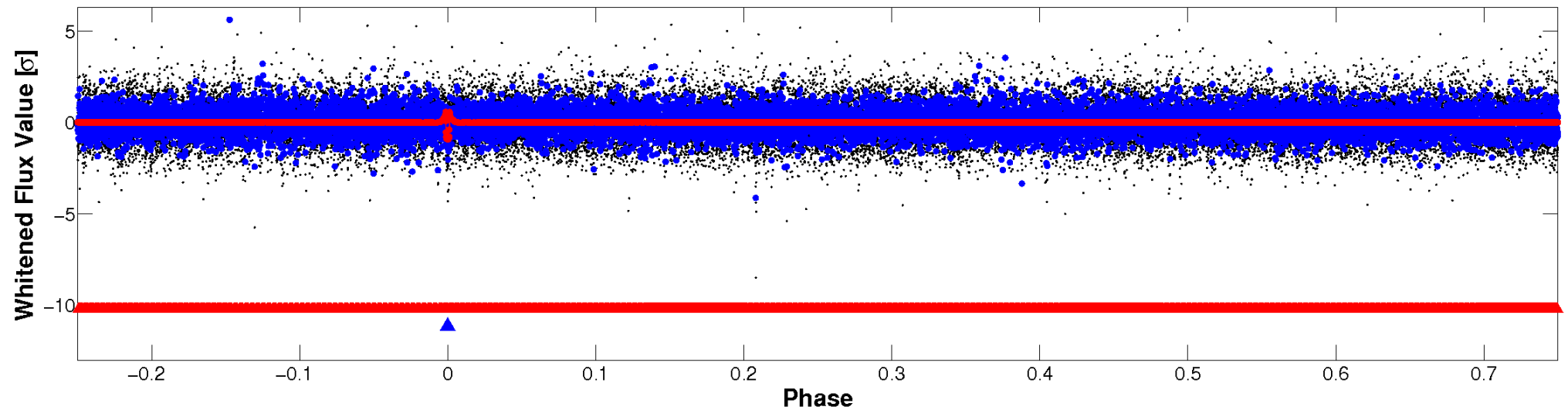


Non-Whitened Vs. Whitened Light Curve

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

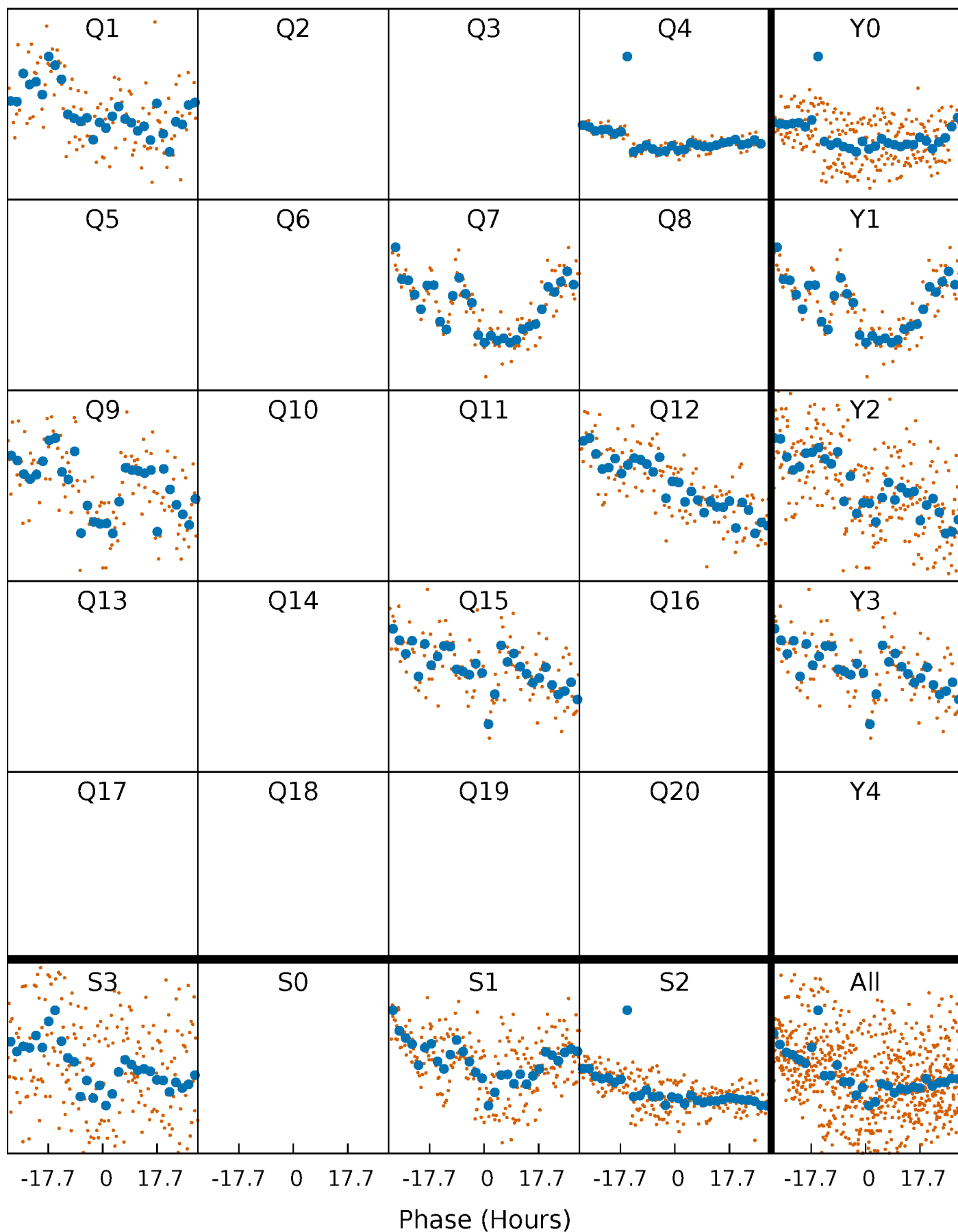


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



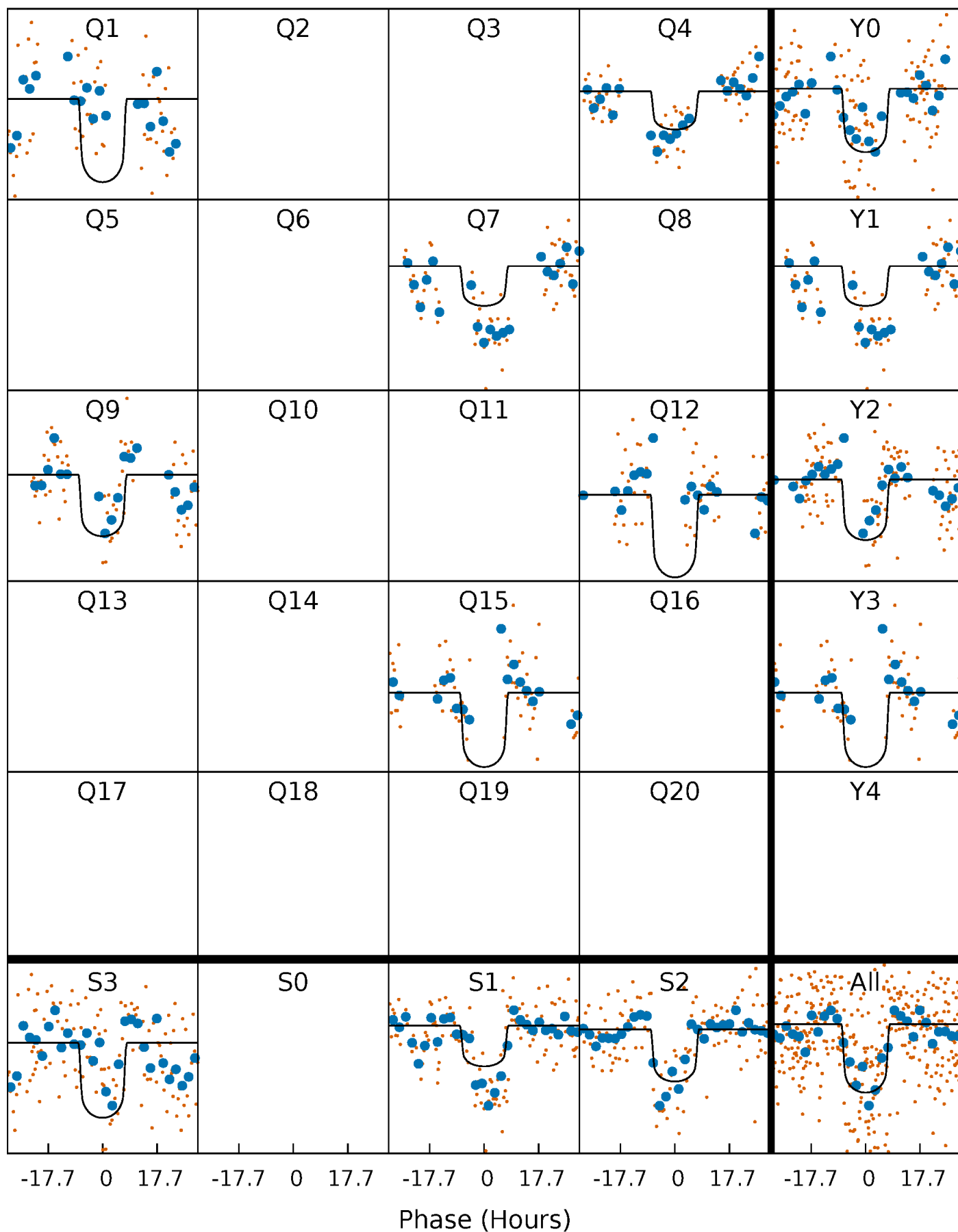
PDC Quarter-Phased Transit Curves

TCE 010341777-02 P=249.164946 Days $T_0=133.109352$ (BKJD)



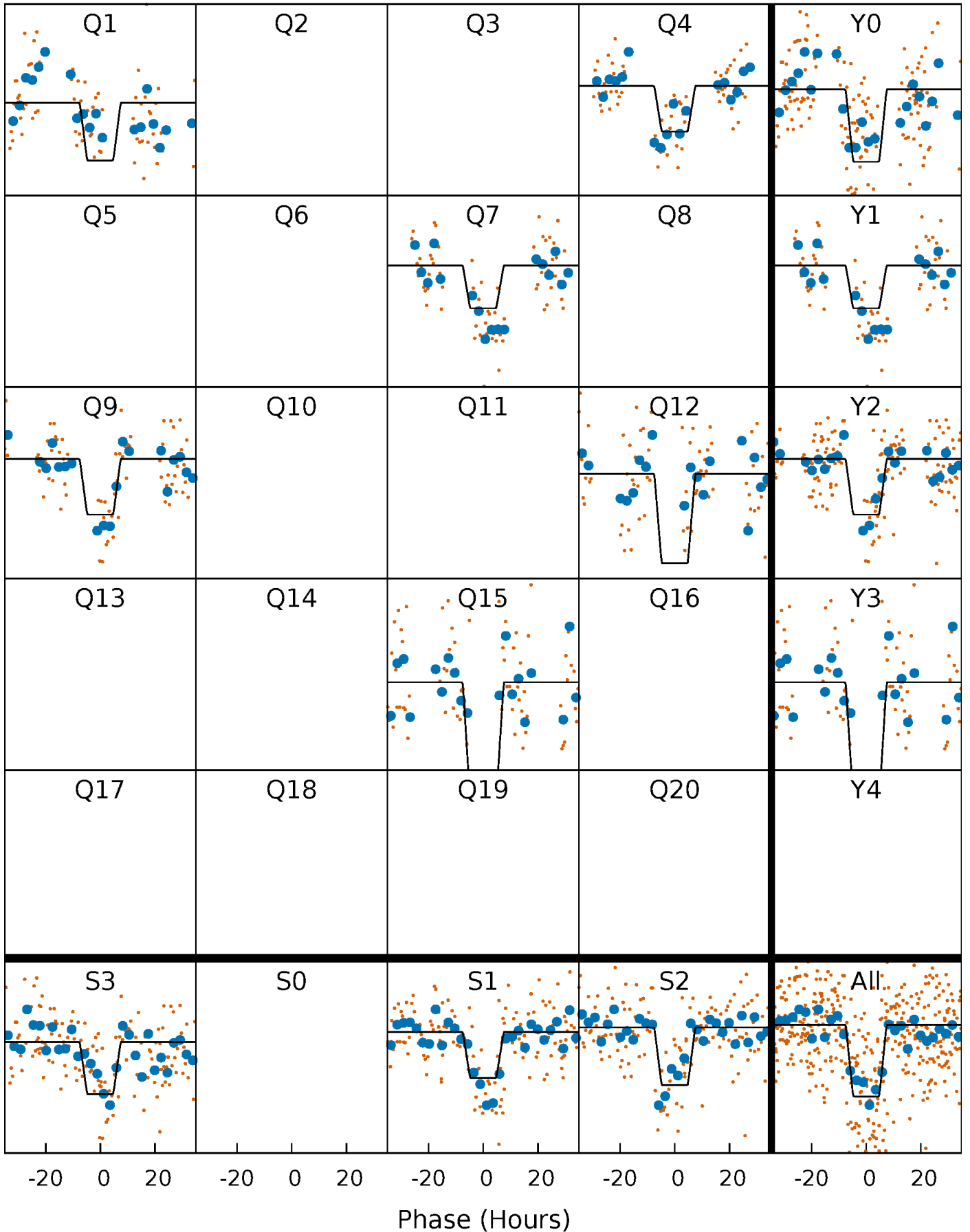
DV Quarter-Phased Transit Curves

TCE 010341777-02 $P=249.164946$ Days $T_0=133.109352$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

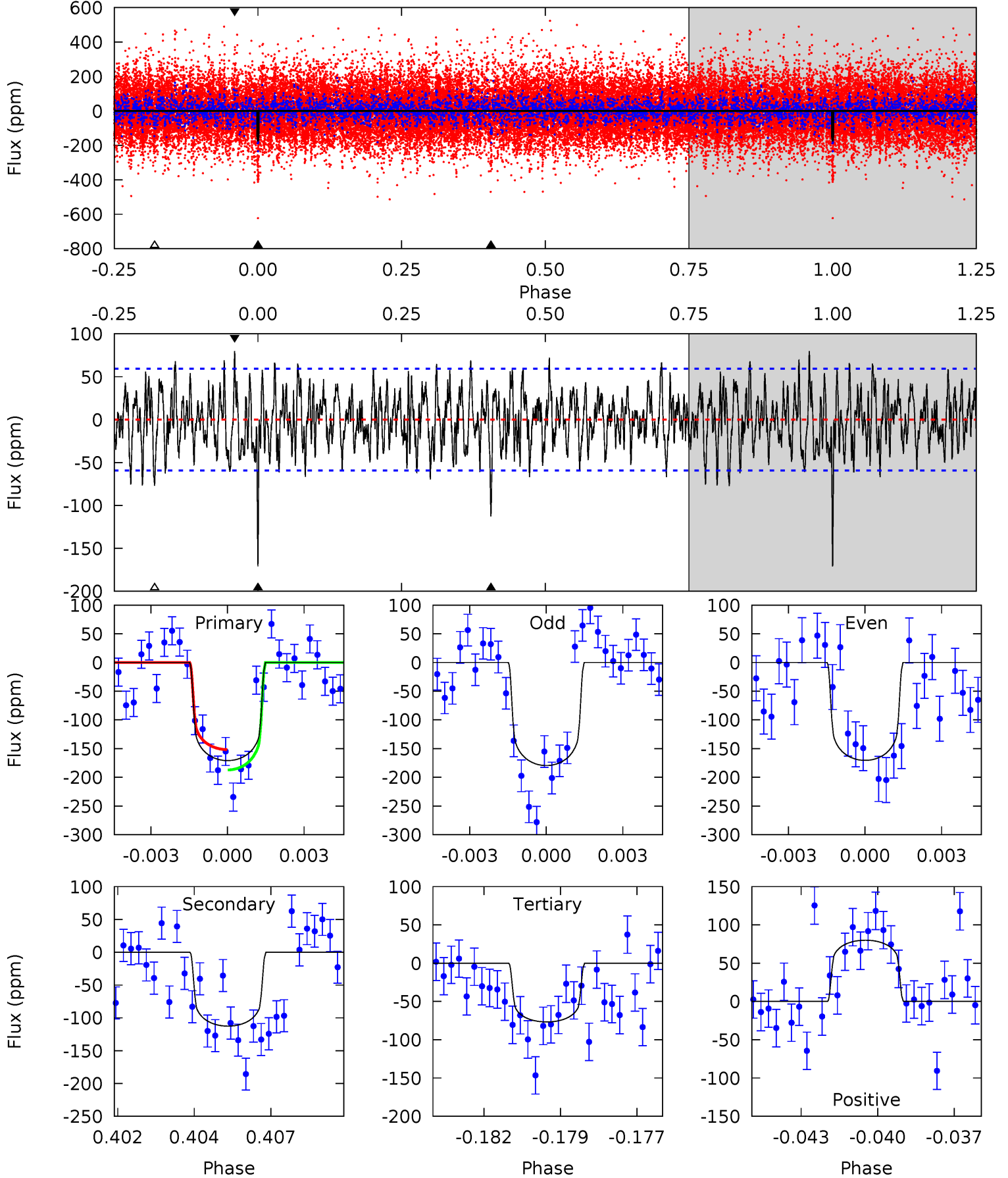
TCE 010341777-02 $P=249.166831$ Days $T_0=133.114420$ (BKJD)



DV Model-Shift Uniqueness Test

010341777-02, P = 249.164946 Days, E = 133.109352 Days

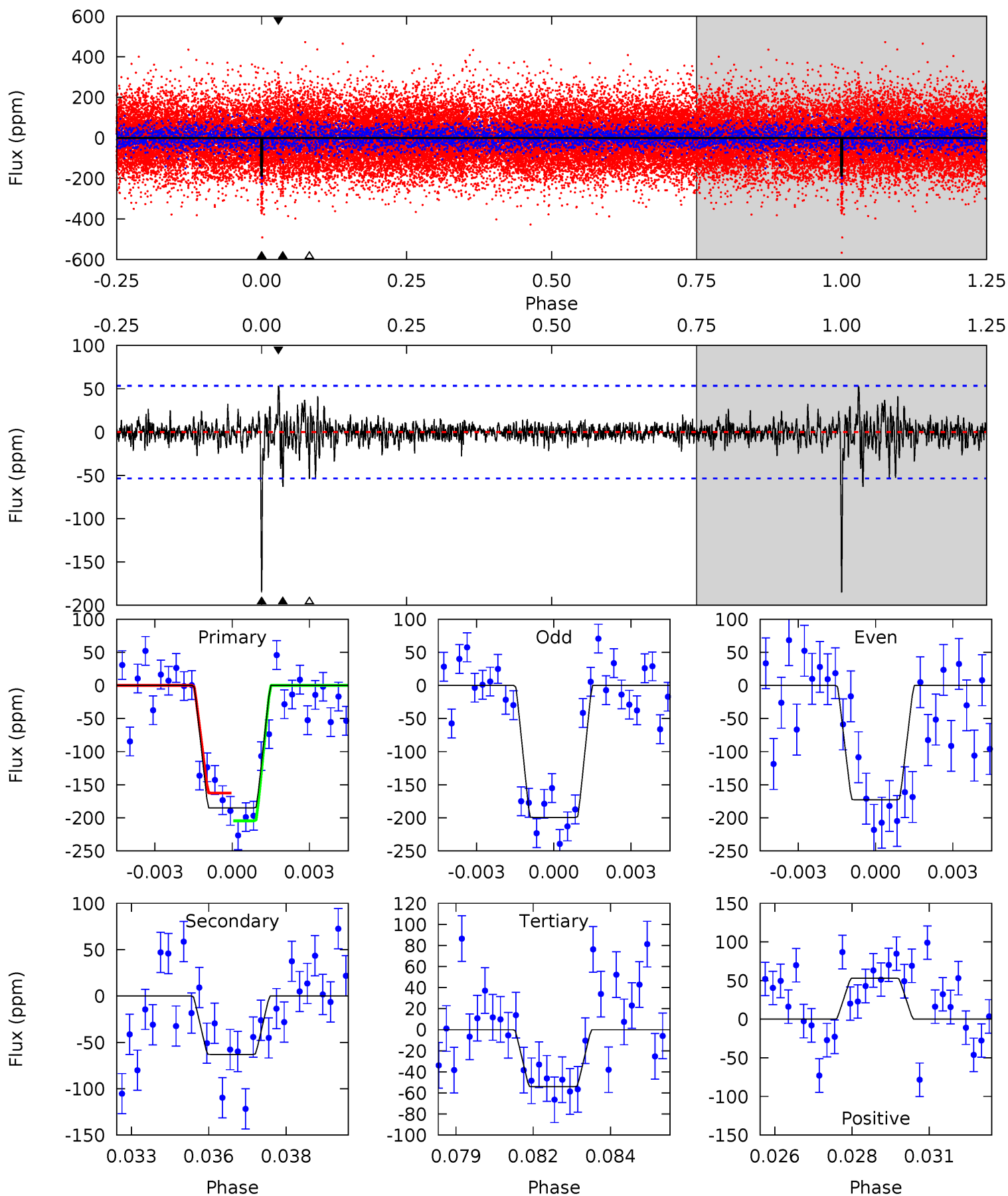
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	10.0	6.83	7.11	5.27	3.00	2.41	8.37	8.08	3.19	2.90	0.40	1.44	0.32	1.57



Alt Model-Shift Uniqueness Test

010341777-02, P = 249.166831 Days, E = 133.114420 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.3	6.20	5.32	5.23	5.28	3.02	0.92	12.9	13.0	0.88	0.98	1.32	1.07	0.22	2.06



Stellar Parameters For KIC 010341777

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6302^{+171}_{-190}	$4.535^{+0.058}_{-0.173}$	$-1.100^{+0.300}_{-0.300}$	$0.815^{+0.185}_{-0.062}$	$0.831^{+0.064}_{-0.064}$	$2.163^{+0.600}_{-0.935}$
	+3%/-3%	+1%/-4%	+27%/-27%	+23%/-8%	+8%/-8%	+28%/-43%
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 010341777-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-113 ± 11	$1.38^{+0.19}_{-0.17}$	416^{+24}_{-18}	5320^{+335}_{-277}	16864^{+5992}_{-4052}
Alt.	-63 ± 10	$1.29^{+0.20}_{-0.15}$	414^{+25}_{-17}	4814^{+318}_{-278}	10840^{+3905}_{-3043}

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

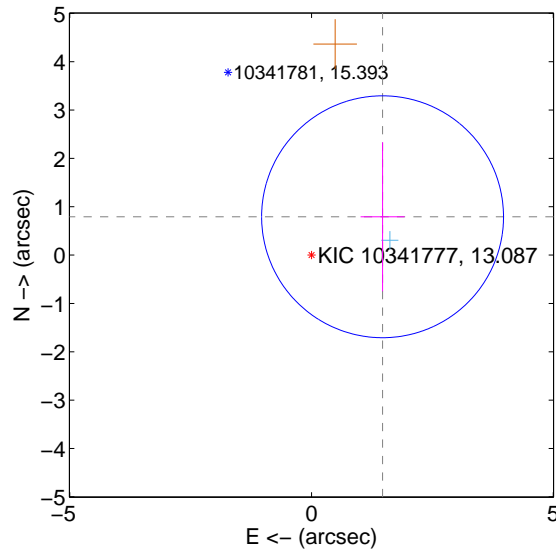
Supplemental centroid analysis for 010341777-02. Kepler magnitude: 13.09. Transit SNR 8.73

There are 1 quarters with good PRF difference image offsets

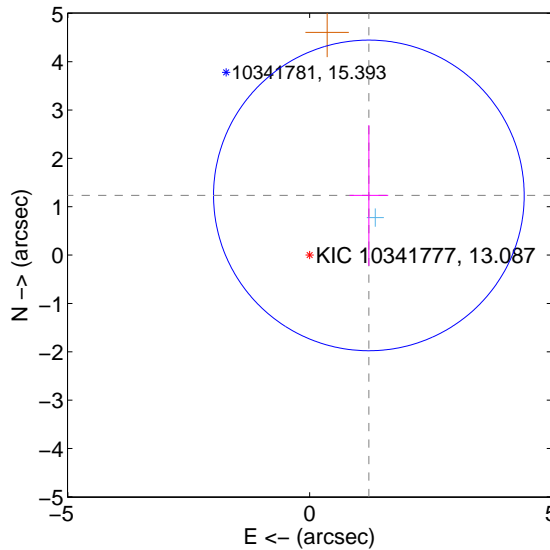
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.670 ± 0.834	2.00	-1.470 ± 0.454	0.793 ± 1.541
PRF-fit source offset from KIC position	1.740 ± 1.071	1.62	-1.226 ± 0.401	1.234 ± 1.456
photometric centroid source offset	1.48 ± 0.72	2.07	-0.45 ± 0.67	1.42 ± 0.72

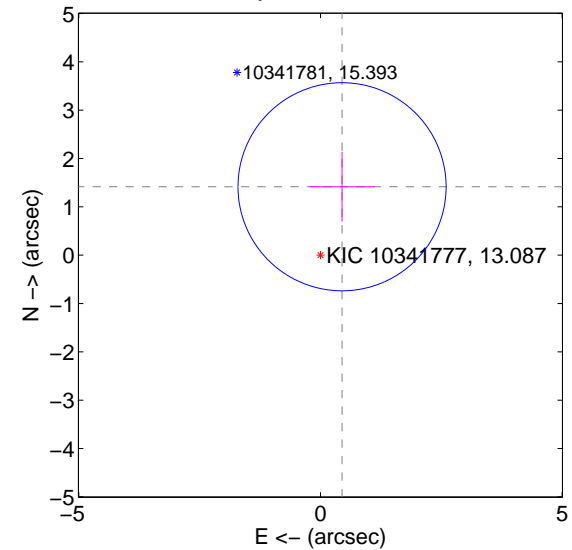
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

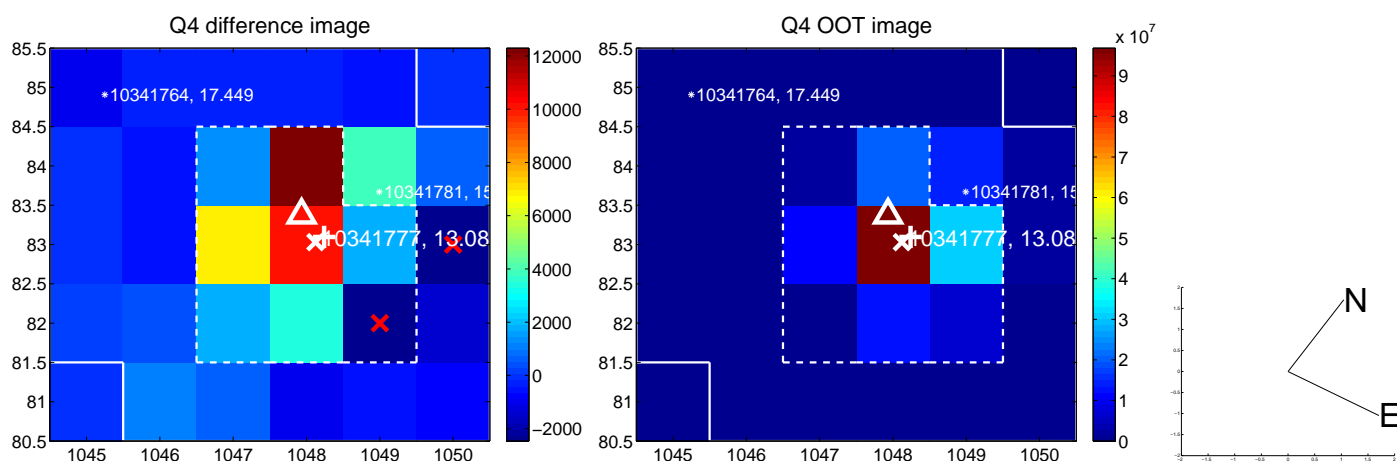
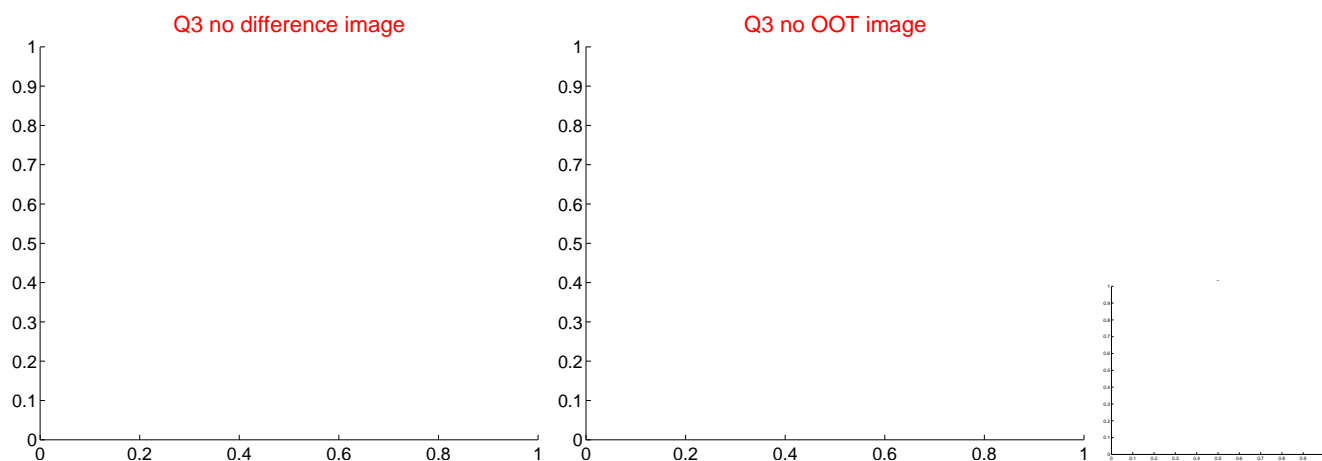
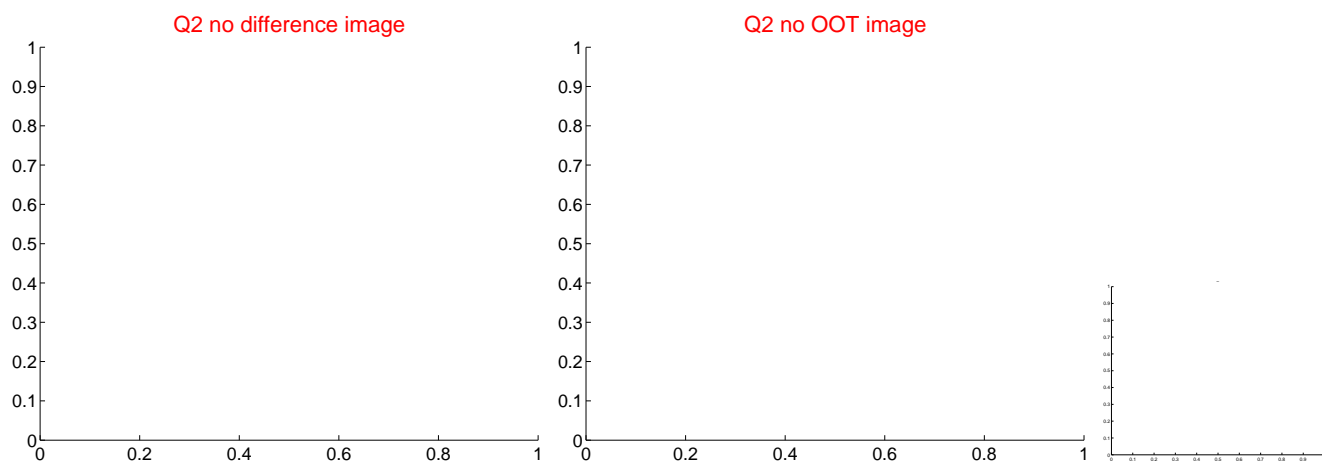
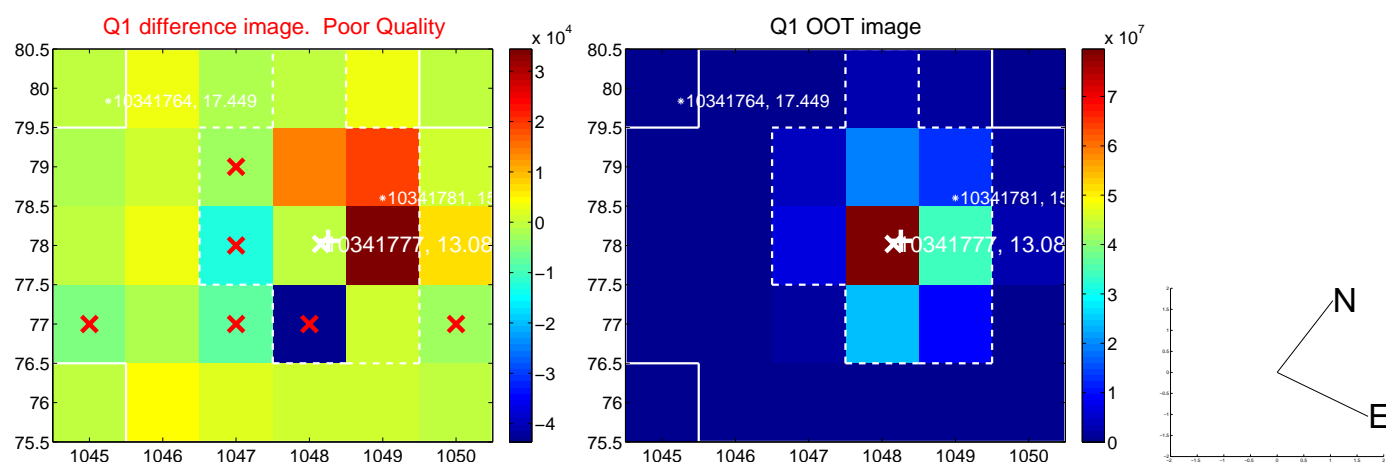


offset from photometric centroids



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.

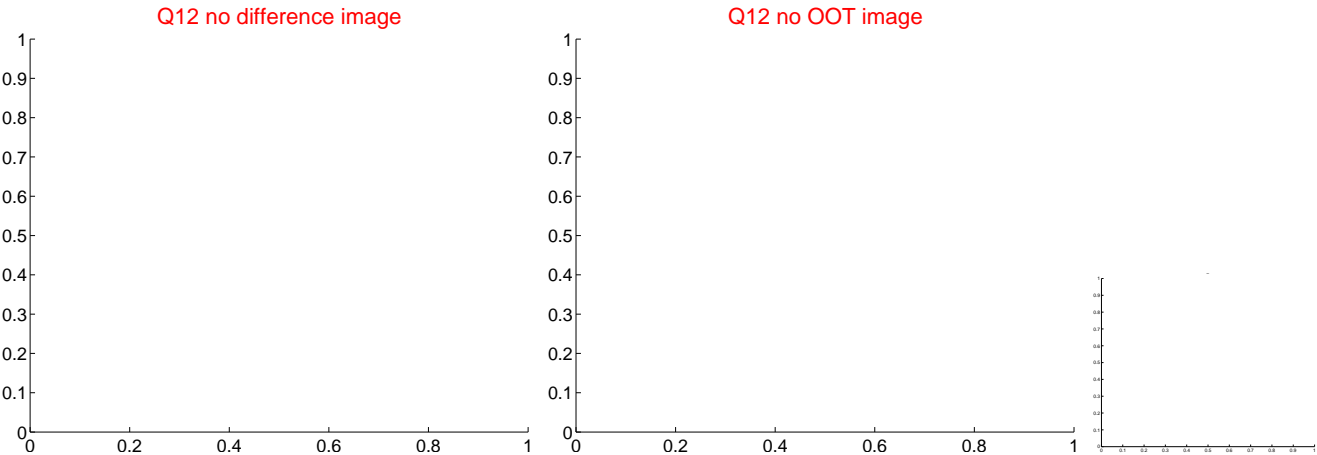
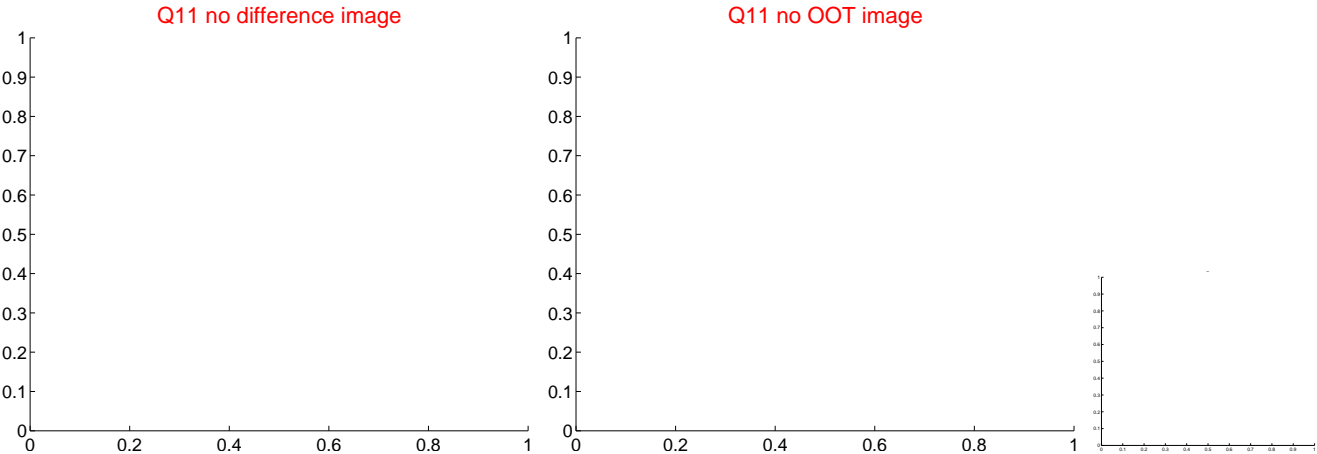
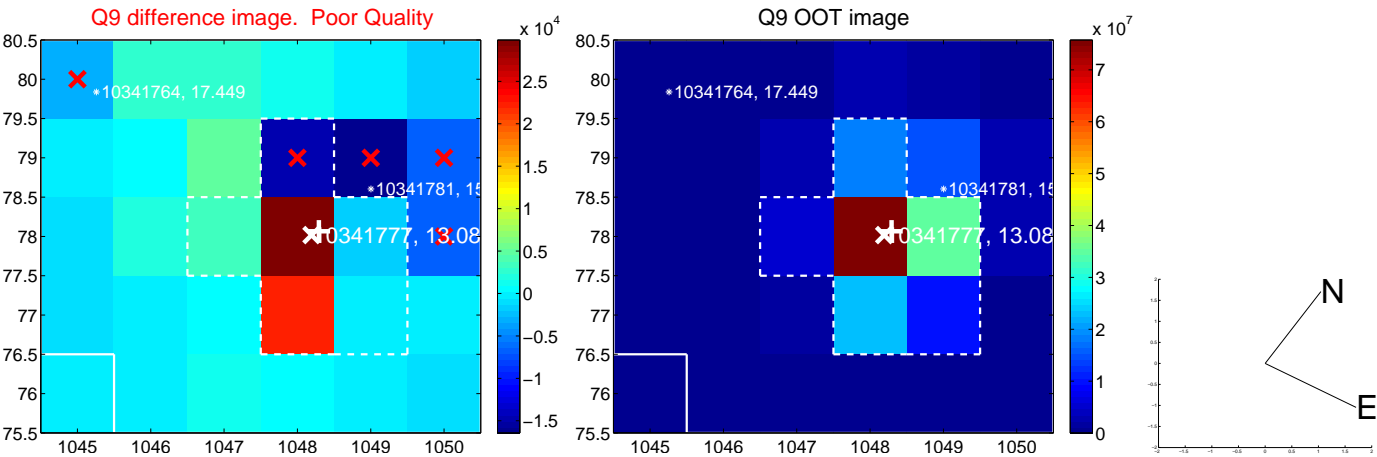
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



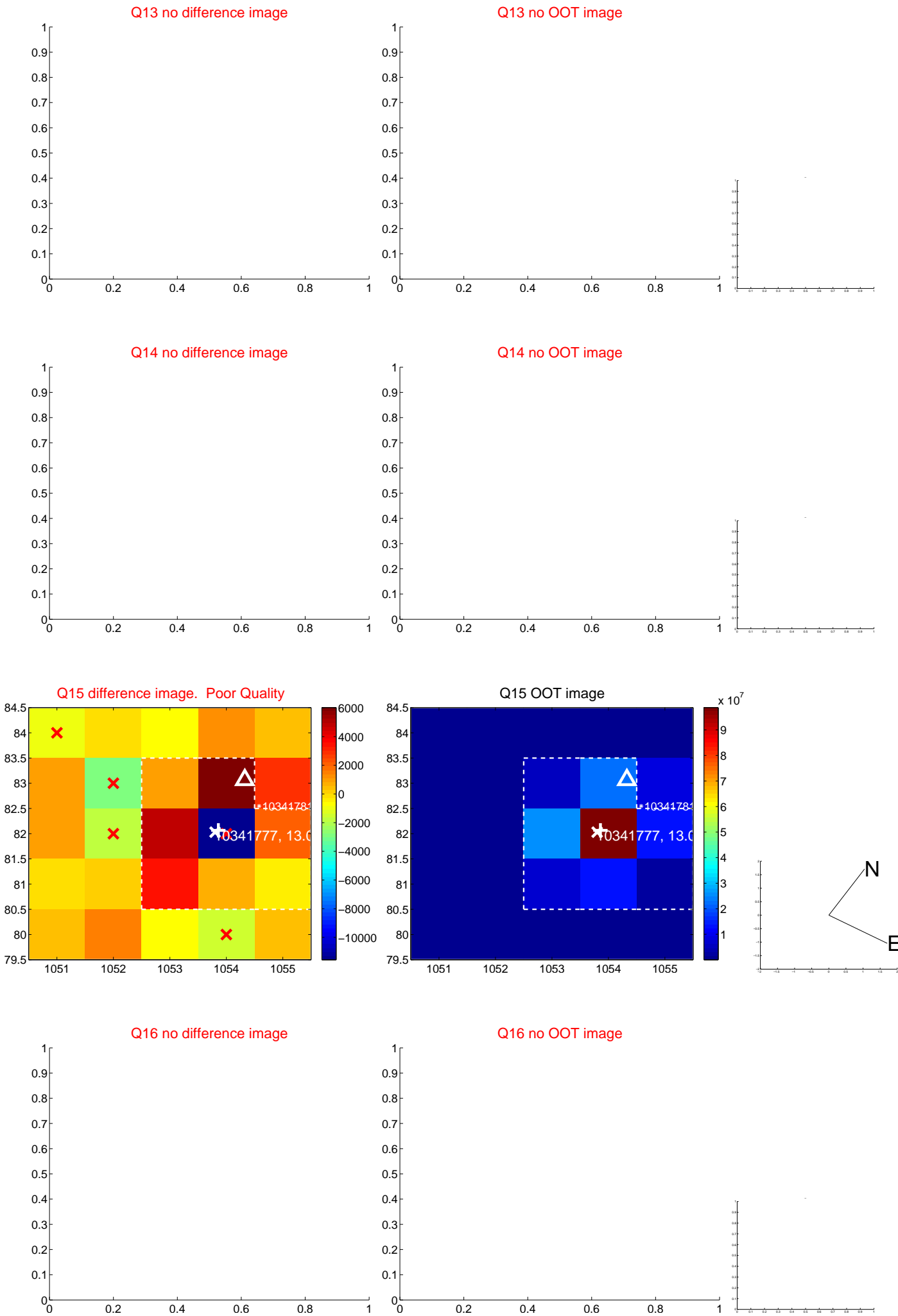
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



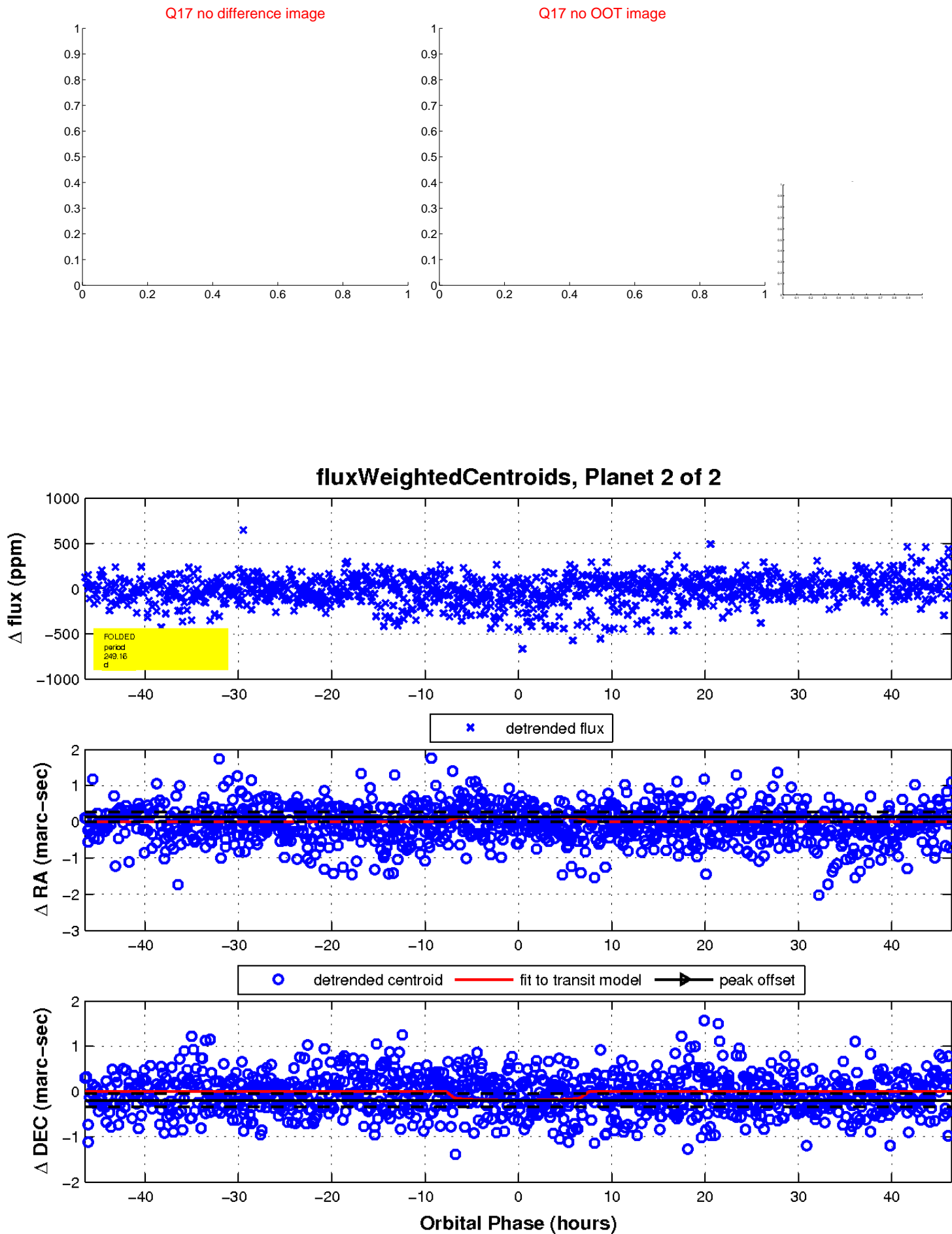
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

