

KIC 010779266

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})
010779266-01	OBS	No	325.550999	272.790672	1183.0	12.669	11.8	6.9	0.52	4607	1.81	0.19
010779266-02	OBS	No	442.040725	171.578294	1160.3	4.992	10.6	6.2	0.52	4607	1.84	0.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010779266-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV
010779266-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

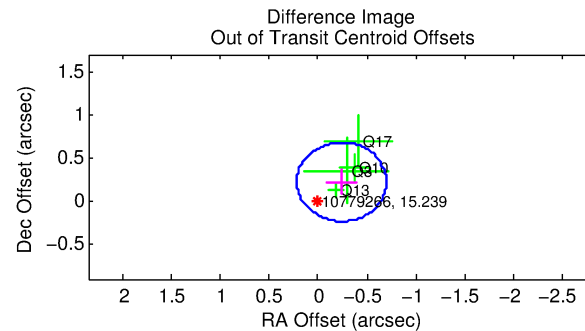
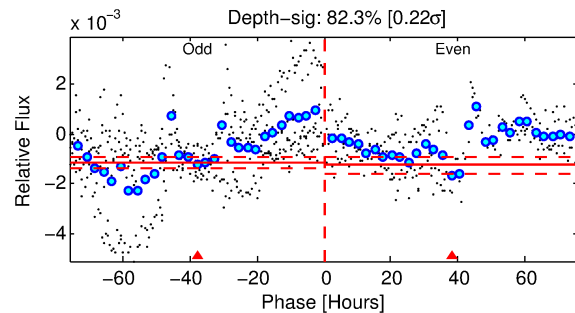
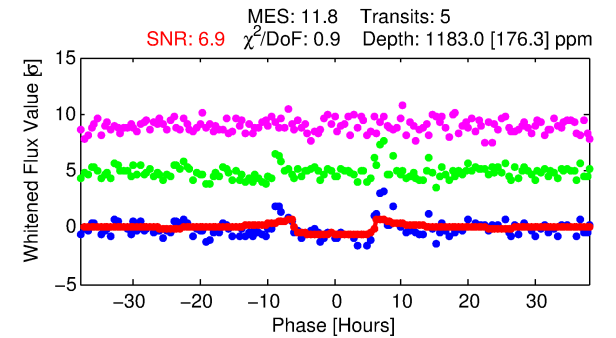
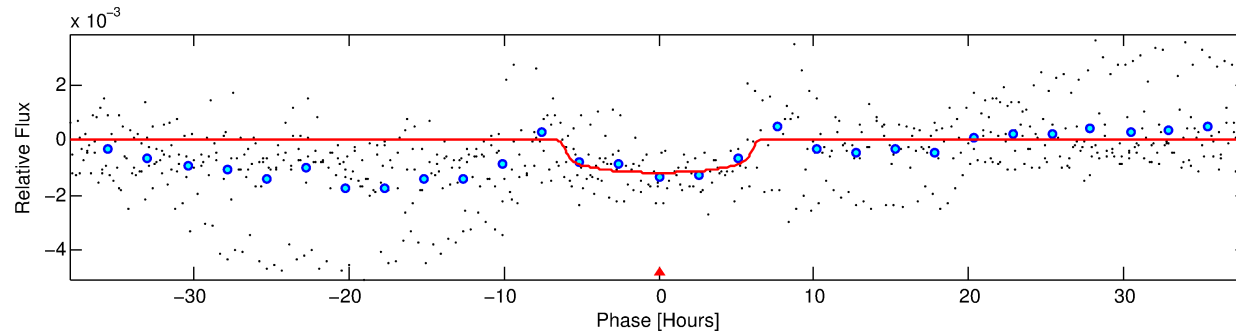
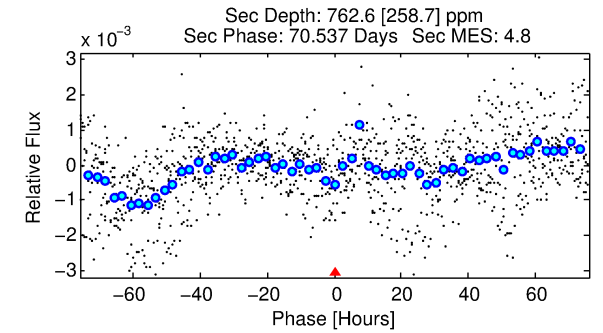
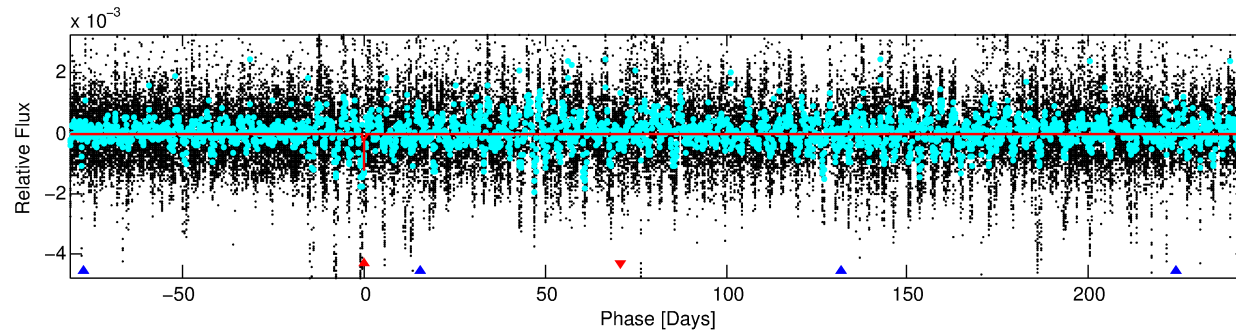
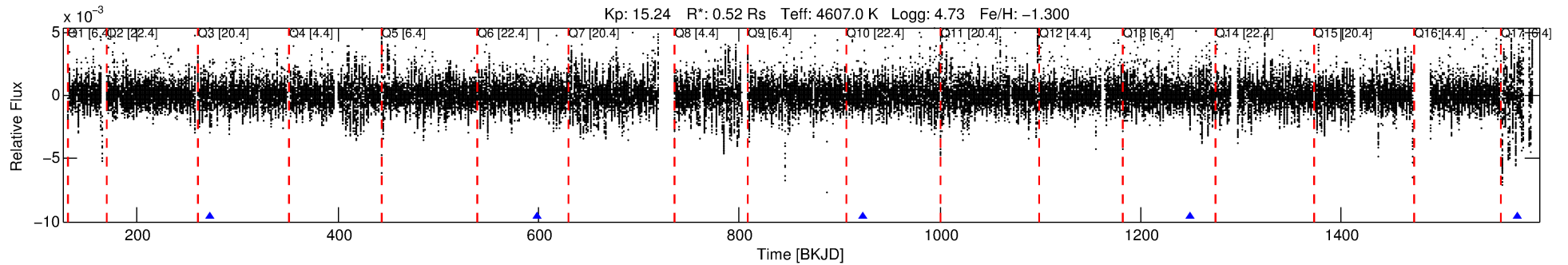
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010779266-01

No Significant Match Found

DV One-Page Summary

KIC: 10779266 Candidate: 1 of 2 Period: 325.551 d



DV Fit Results:

Period = 325.55100 [0.00492] d
Epoch = 272.7907 [0.0135] BKJD
Rp/R* = 0.0320 [0.0126]
a/R* = 177.56 [263.35]
b = 0.50 [2.27]
Seff = 0.19 [0.03]
Teq = 169 [6] K
Rp = 1.81 [0.72] Re
a = 0.7493 [0.0433] AU
Ag = 72051.14 [62026.86] [1.16σ]
Teffp = 4281 [926] K [4.44σ]

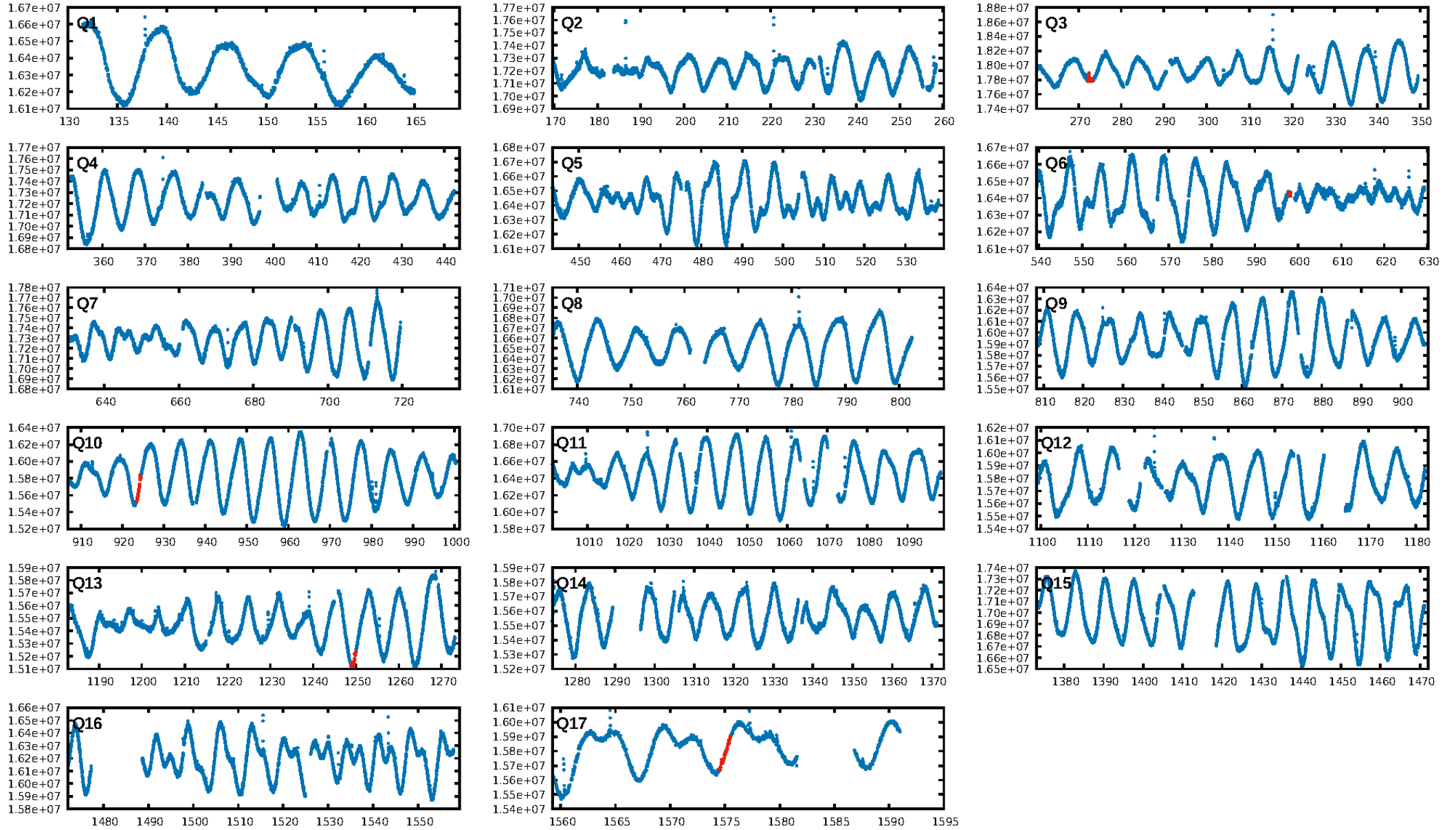
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [205.31σ]
ModelChiSquare2-sig: 14.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.44e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.9162
Centroid-sig: 96.9%
Centroid-so: 0.188 arcsec [0.26σ]
OotOffset-rm: 0.327 arcsec [2.15σ]
KicOffset-rm: 0.329 arcsec [2.14σ]
OotOffset-st: 1/1/0/2 [4]
KicOffset-st: 1/1/0/2 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

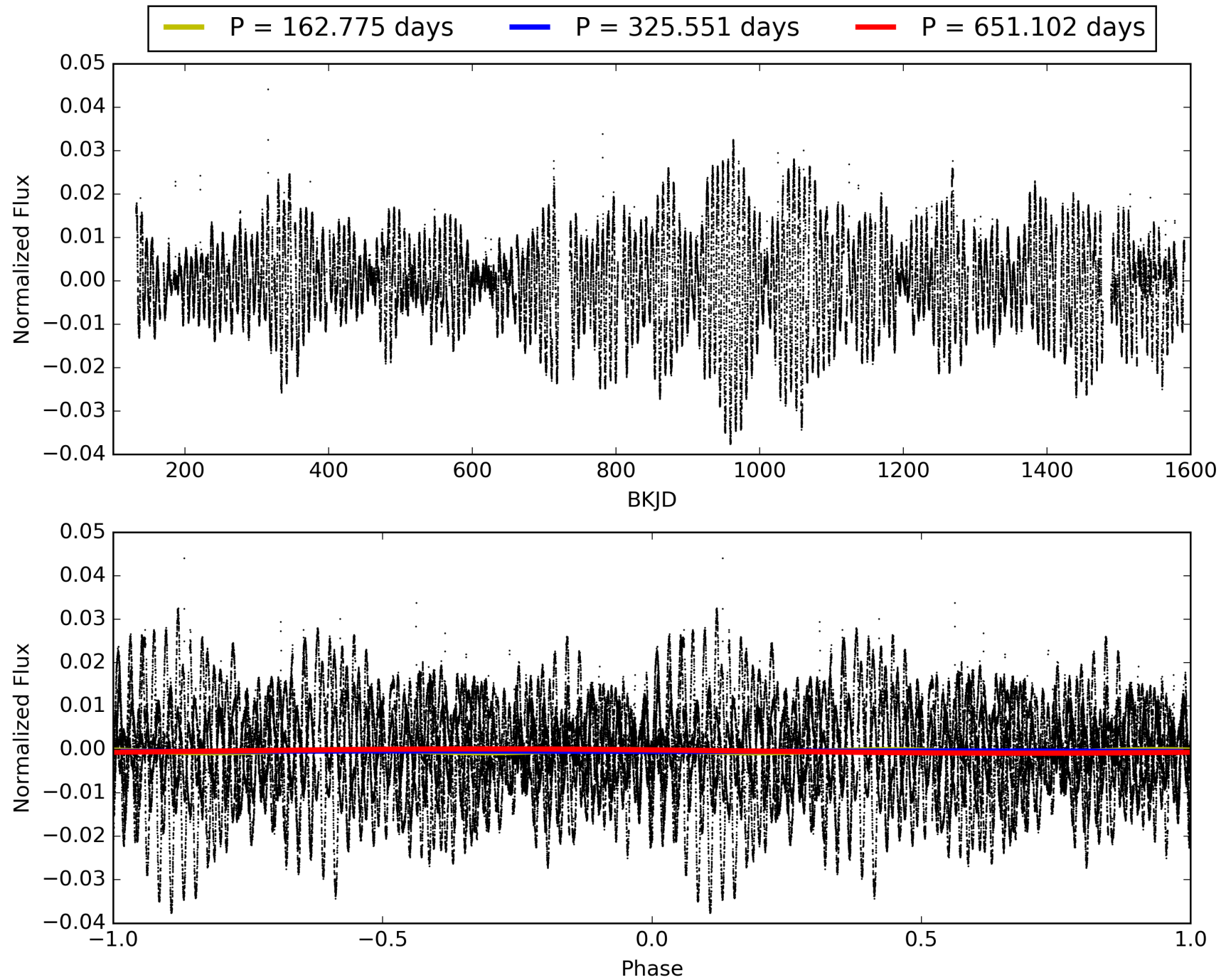
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 15:38:59 Z

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

TCE 010779266-01, PDC Light Curves

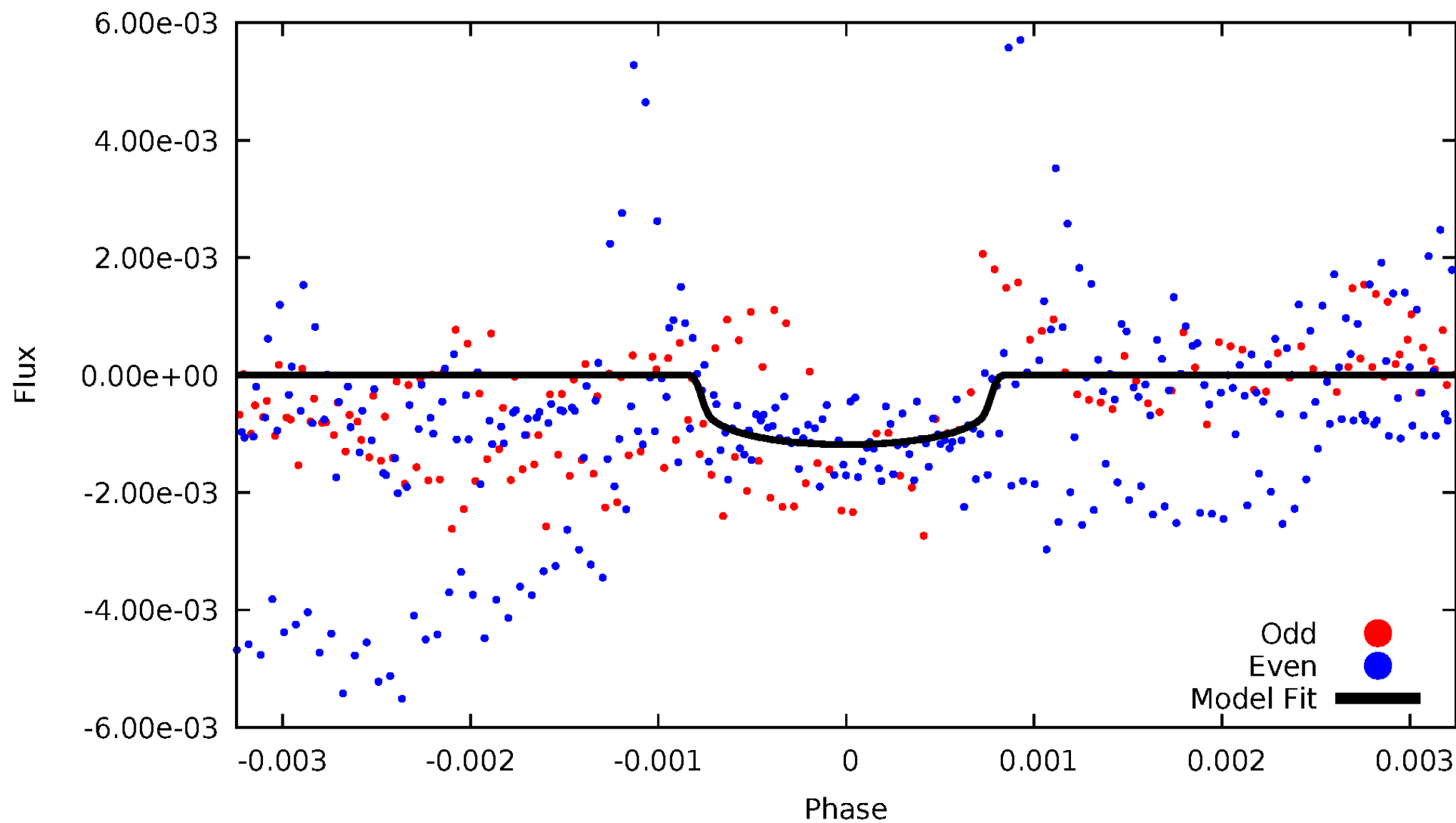


TCE 010779266-01



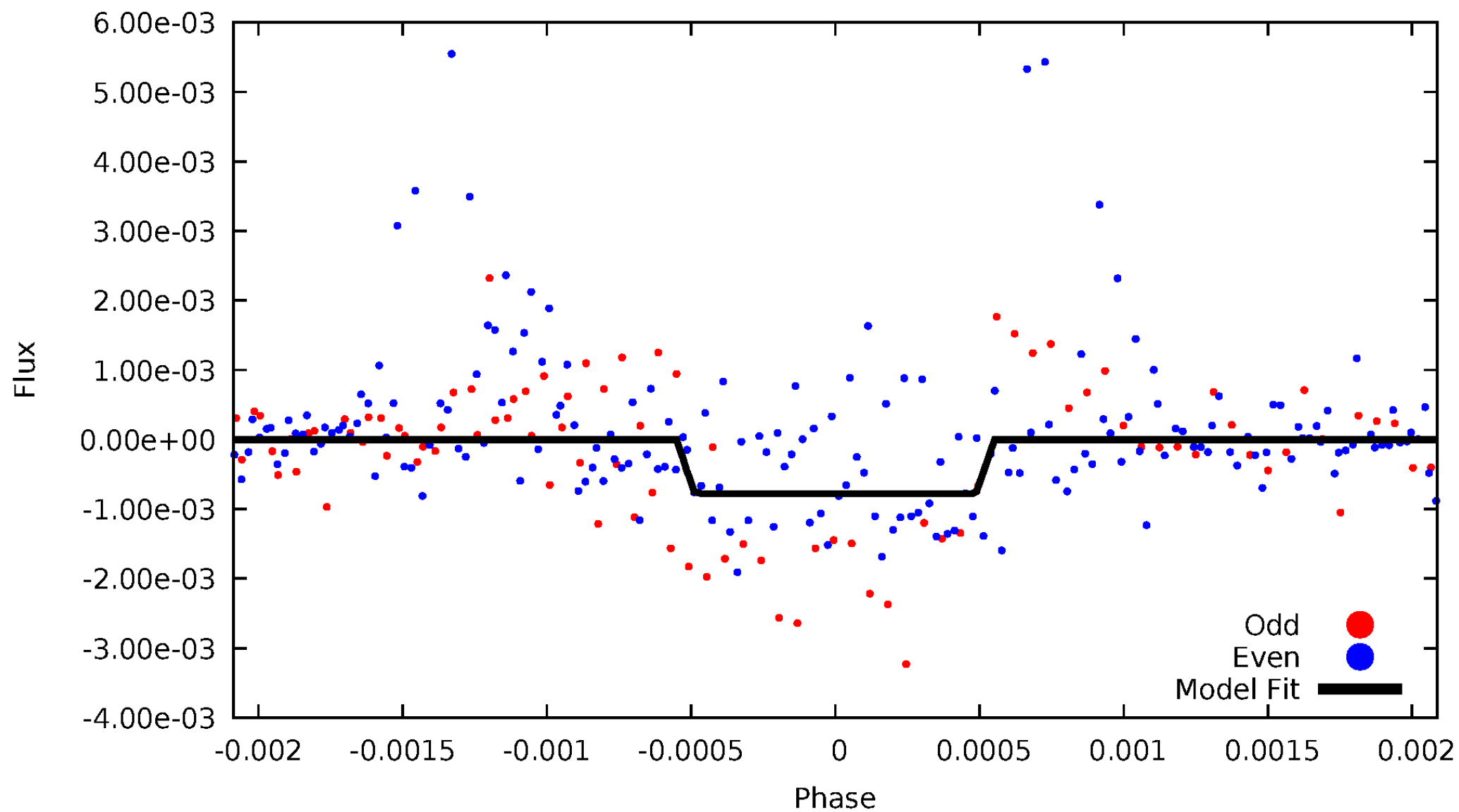
DV Odd/Even

TCE 010779266-01



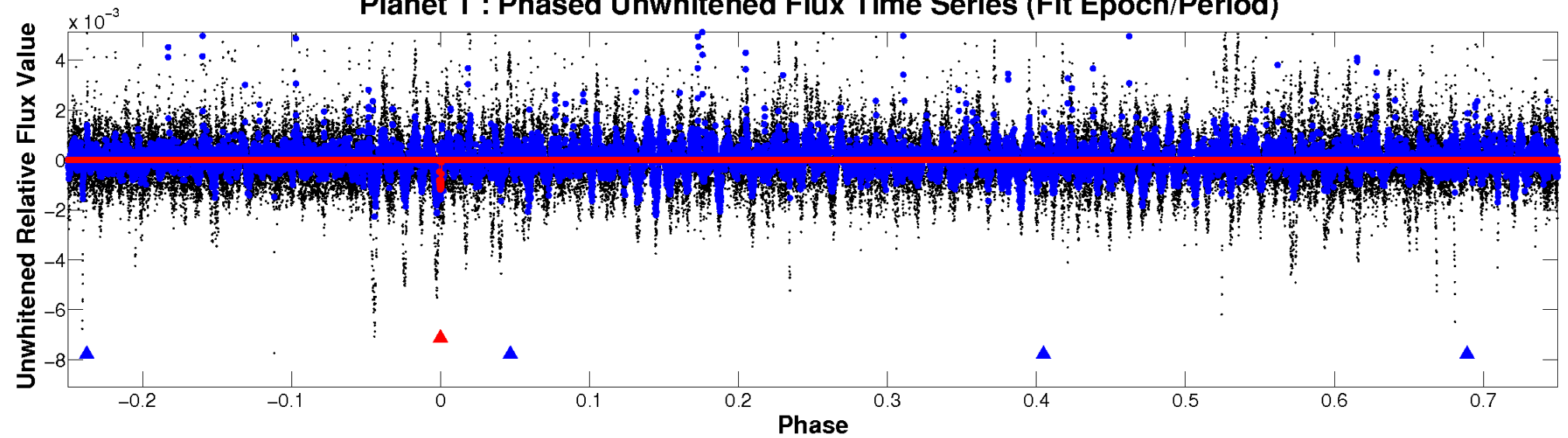
ALT Odd/Even

TCE 010779266-01

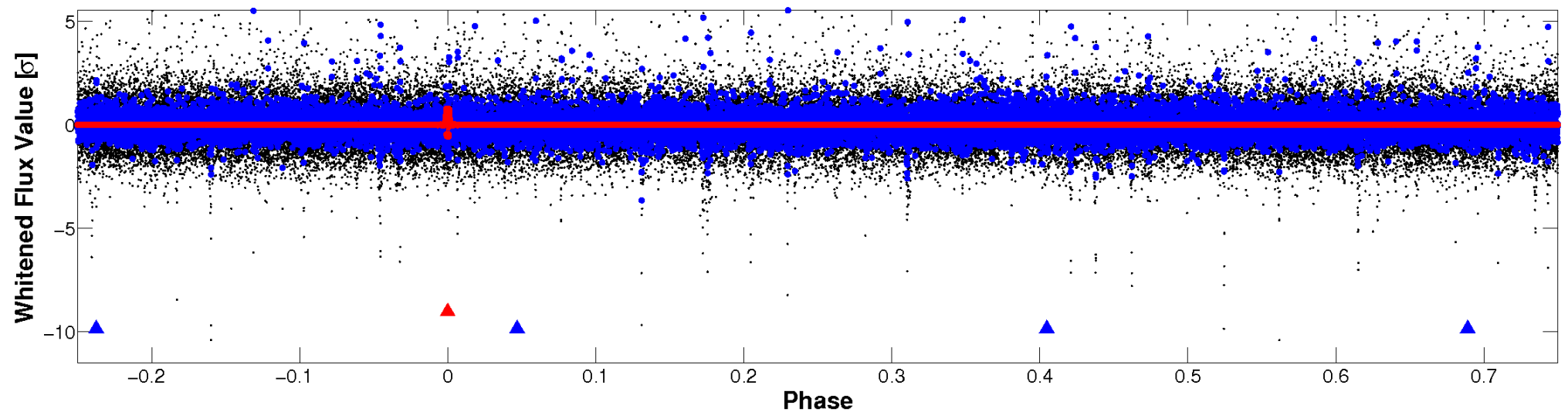


Non-Whitened Vs. Whitened Light Curve

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

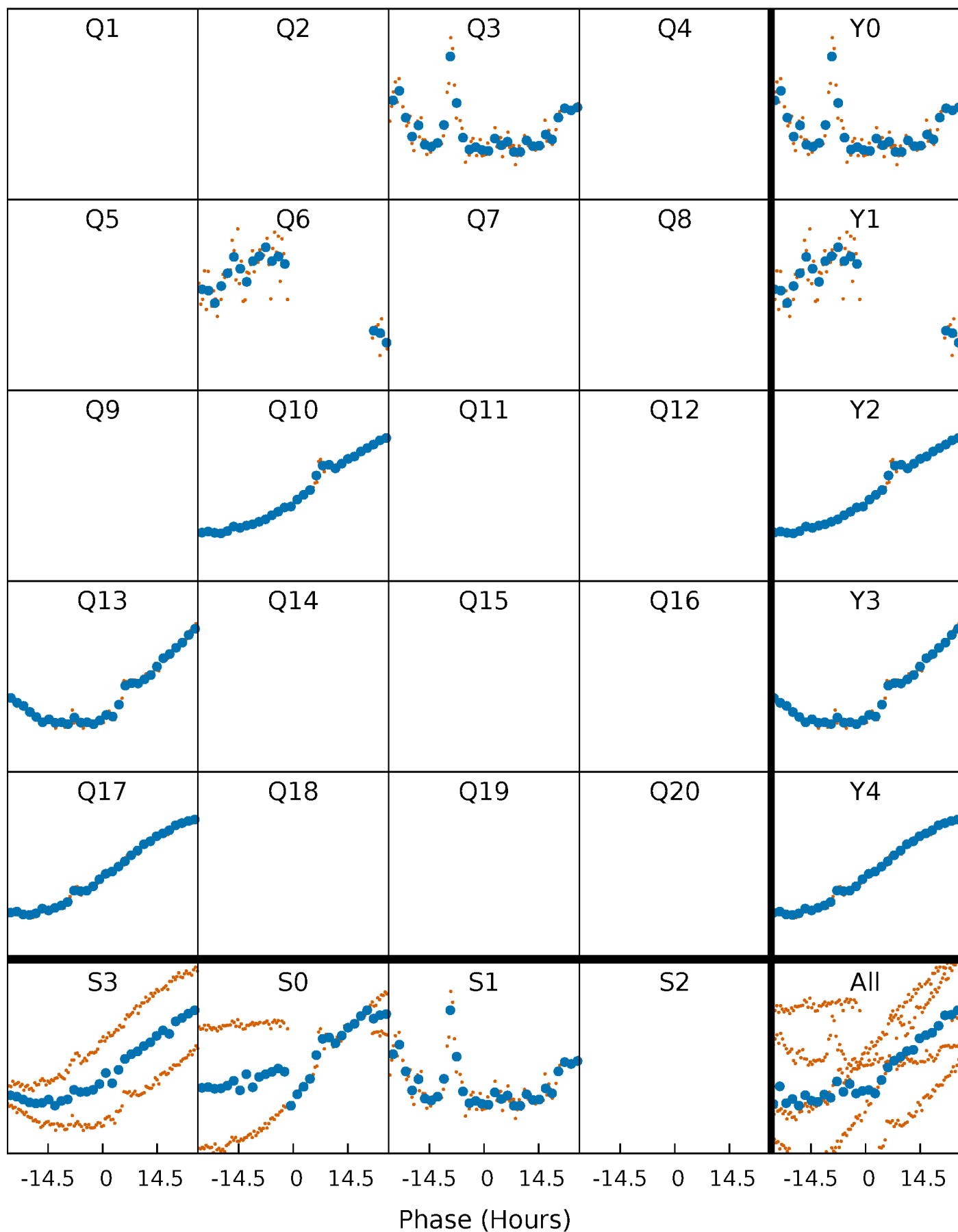


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



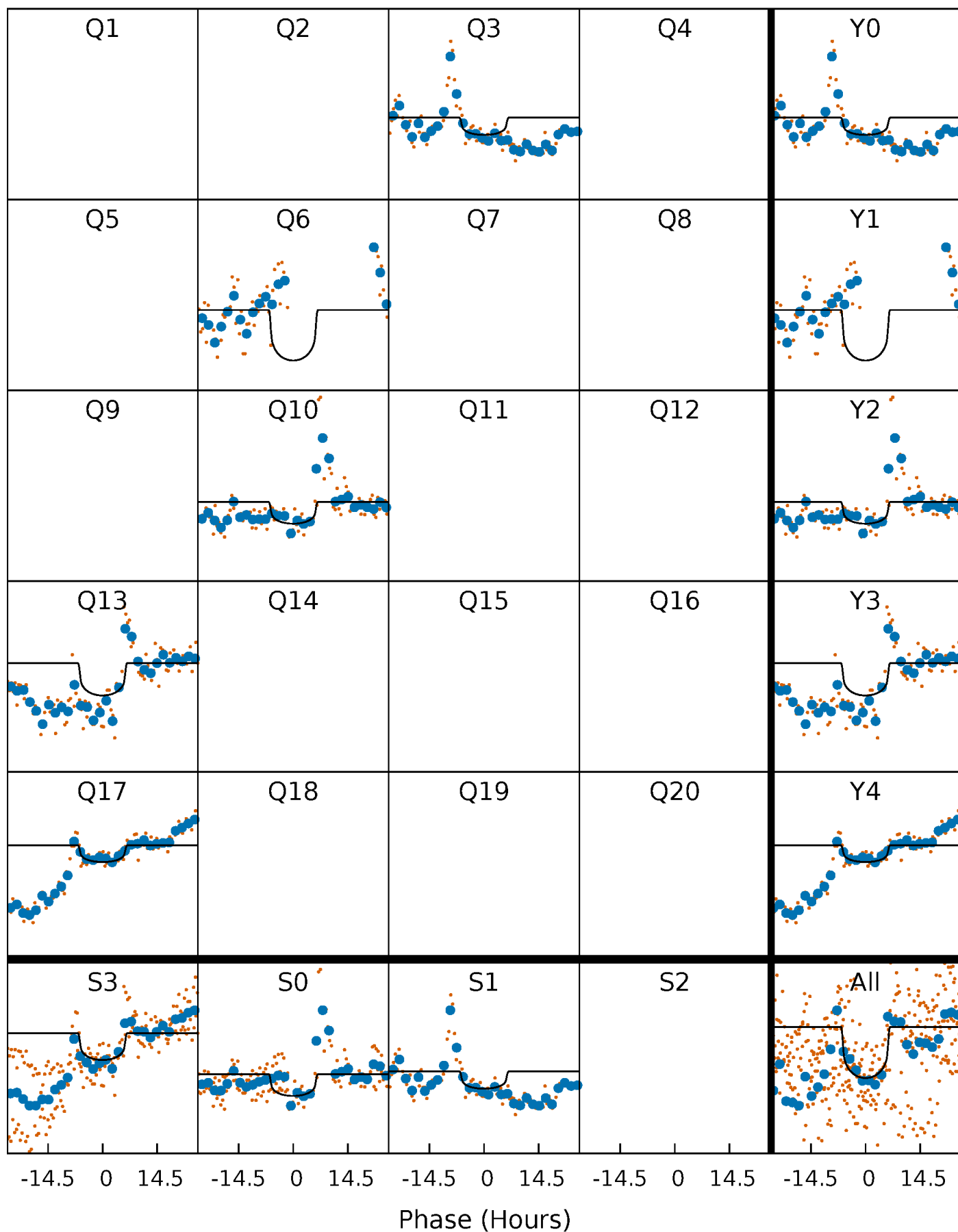
PDC Quarter-Phased Transit Curves

TCE 010779266-01 P=325.550999 Days $T_0=272.790672$ (BKJD)



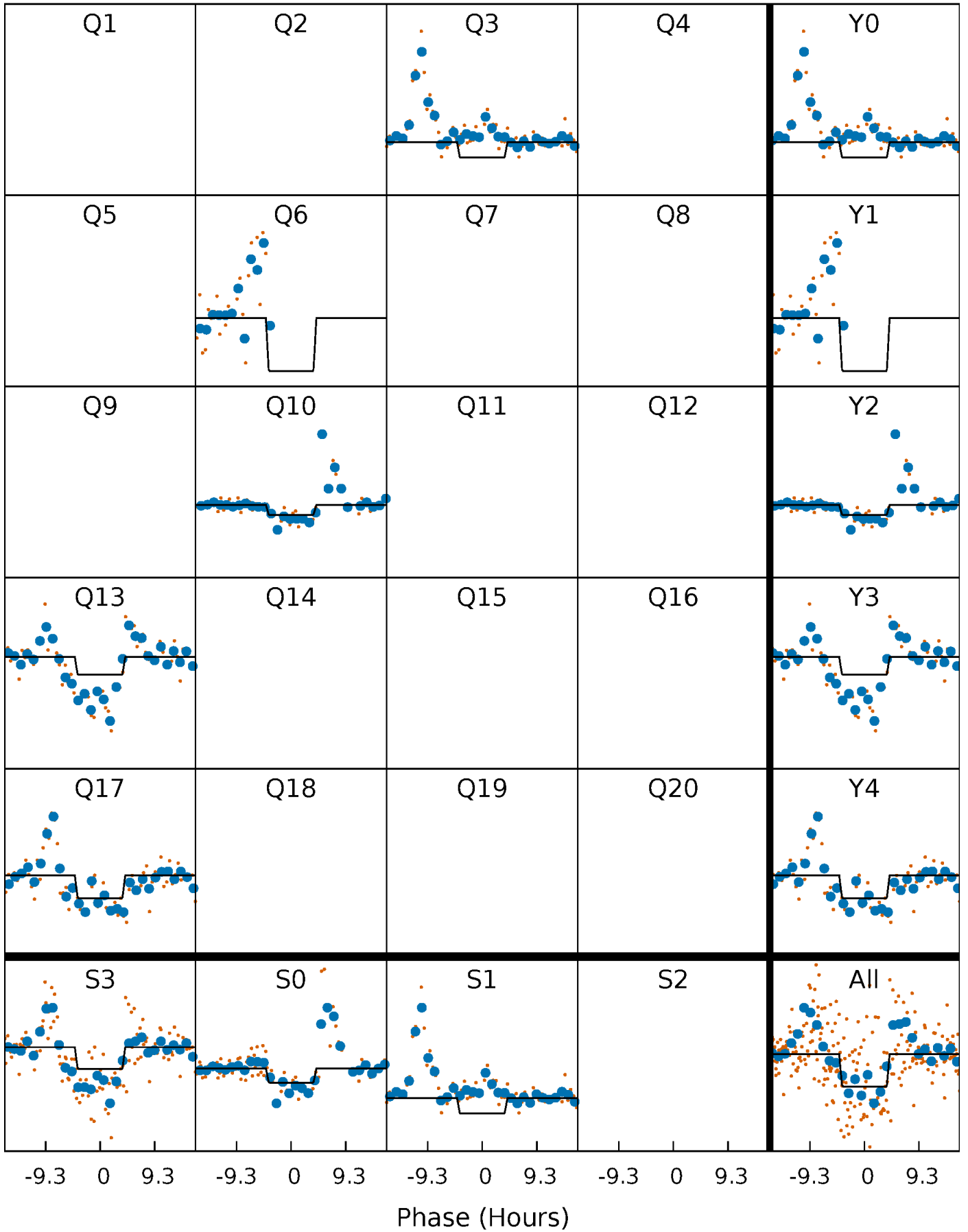
DV Quarter-Phased Transit Curves

TCE 010779266-01 P=325.550999 Days $T_0=272.790672$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

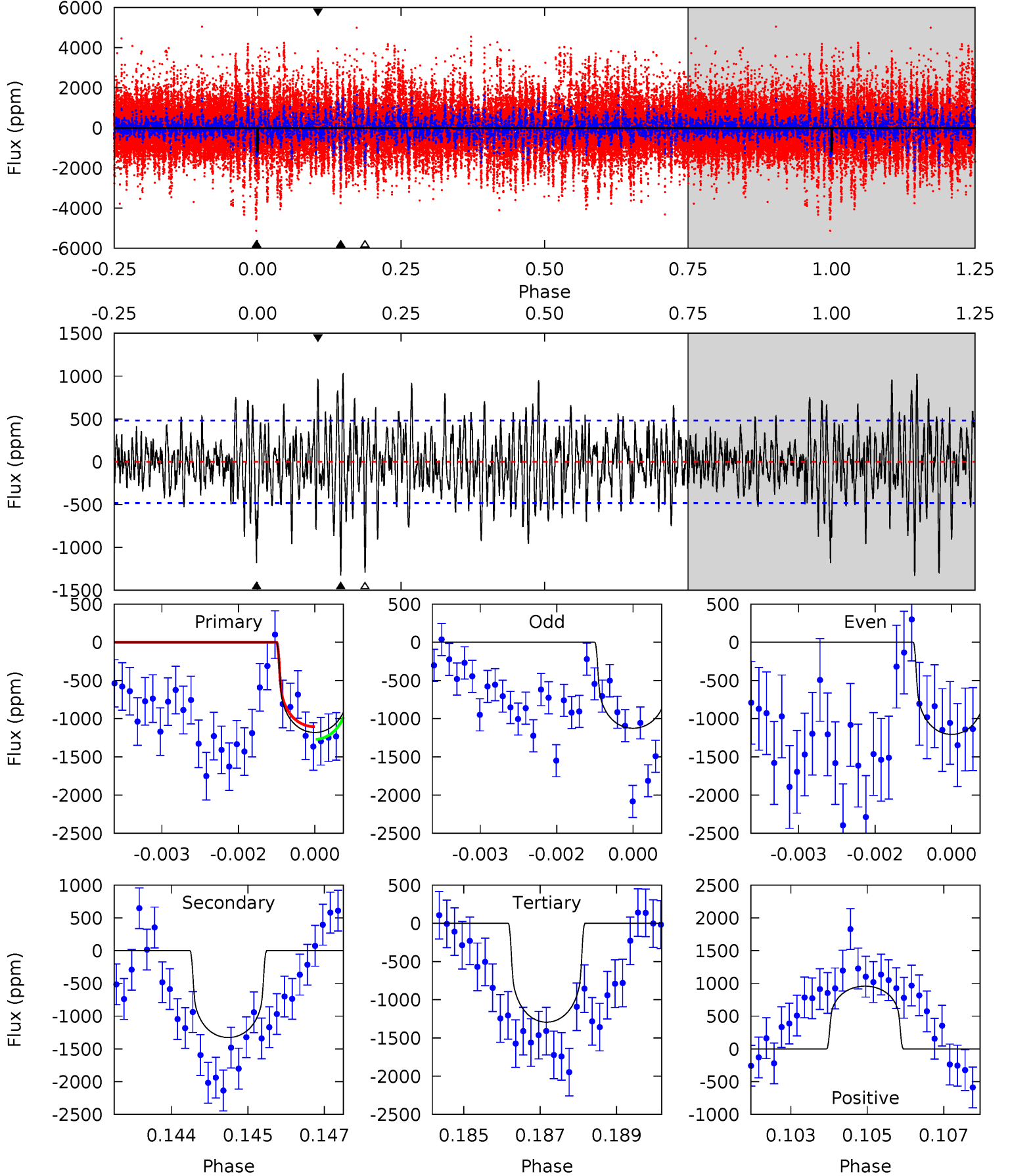
TCE 010779266-01 P=325.540667 Days $T_0=272.876090$ (BKJD)



DV Model-Shift Uniqueness Test

010779266-01, $P = 325.550999$ Days, $E = 272.790672$ Days

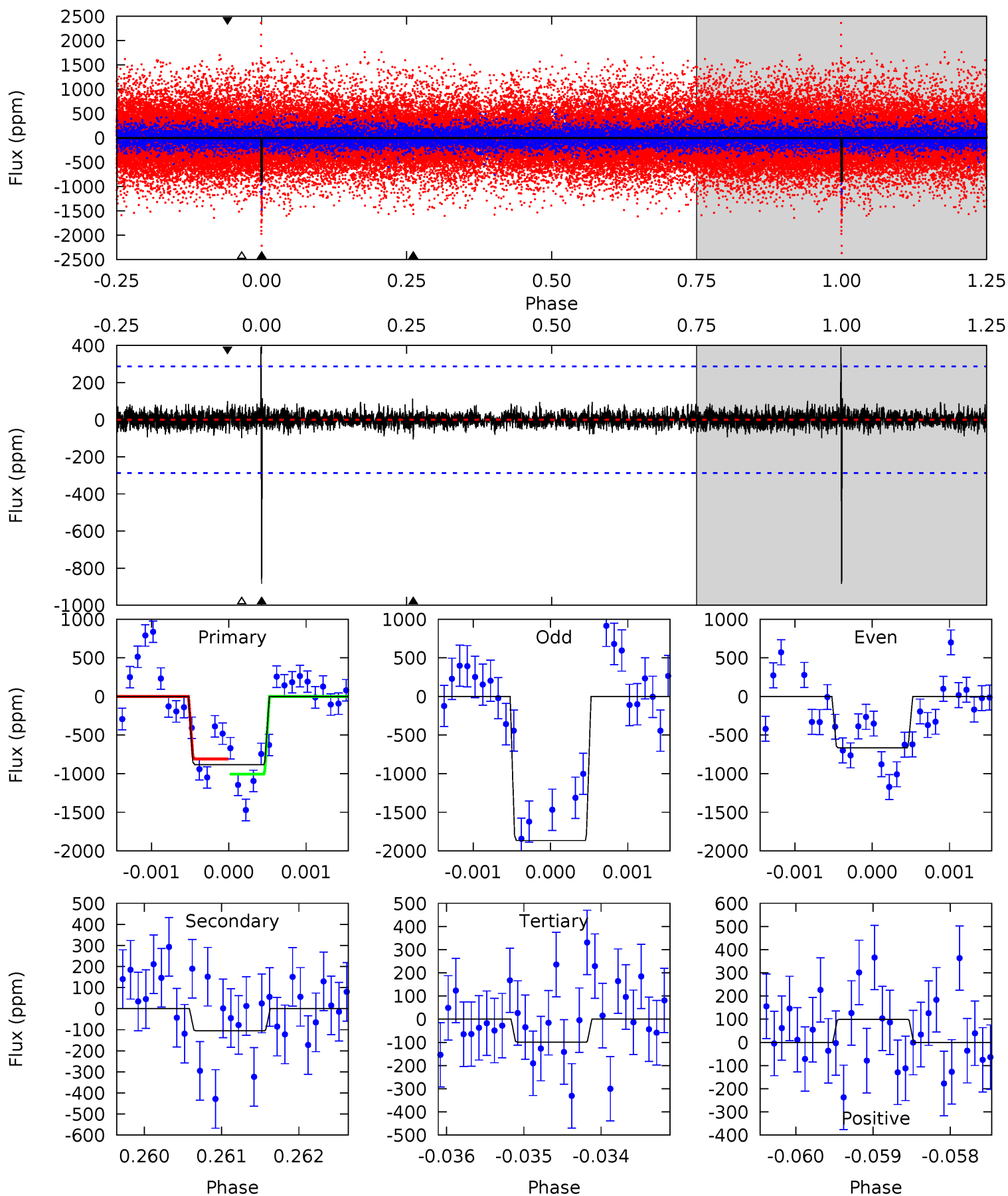
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	14.8	14.4	10.7	5.36	3.14	3.32	-1.25	2.48	0.37	4.10	0.40	0.85	0.44	0.91



Alt Model-Shift Uniqueness Test

010779266-01, P = 325.540667 Days, E = 272.876090 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	1.98	1.88	1.88	5.44	3.28	0.48	14.8	14.8	0.11	0.10	10.4	0.87	0.31	1.86



Stellar Parameters For KIC 010779266

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4607^{+138}_{-138}	$4.733^{+0.045}_{-0.028}$	$-1.300^{+0.300}_{-0.350}$	$0.518^{+0.030}_{-0.036}$	$0.529^{+0.035}_{-0.024}$	$5.362^{+1.049}_{-0.602}$
	+3%/-3%	+1%/-1%	+23%/-27%	+6%/-7%	+7%/-5%	+20%/-11%
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 010779266-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1326 ± 90	$1.82^{+0.73}_{-0.72}$	236^{+8}_{-8}	4834^{+1234}_{-600}	$122255^{+223216}_{-58697}$
Alt.	-105 ± 53	$1.61^{+0.65}_{-0.69}$	236^{+8}_{-8}	3231^{+728}_{-427}	12457^{+27943}_{-7614}

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

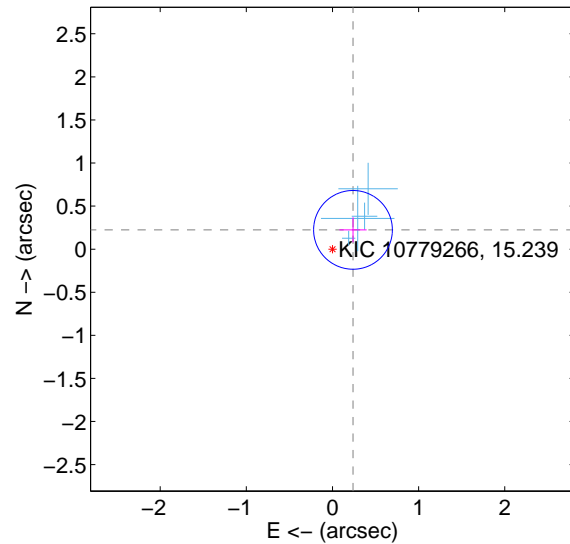
Supplemental centroid analysis for 010779266-01. Kepler magnitude: 15.24. Transit SNR 6.92

There are 4 quarters with good PRF difference image offsets

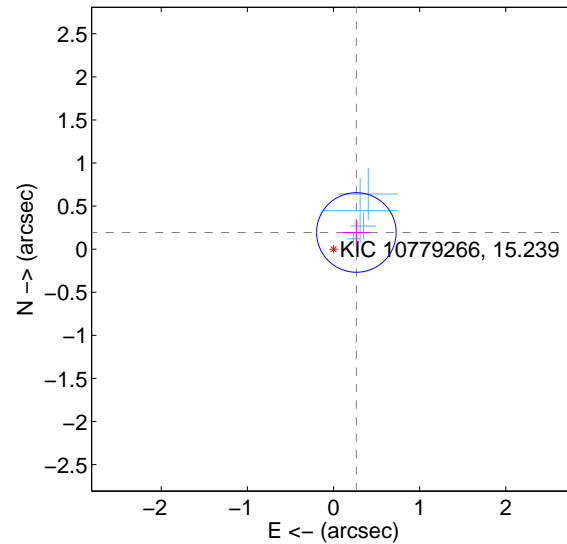
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.327 ± 0.152	2.15	-0.238 ± 0.158	0.224 ± 0.145
PRF-fit source offset from KIC position	0.329 ± 0.154	2.14	-0.265 ± 0.158	0.194 ± 0.145
photometric centroid source offset	0.19 ± 0.72	0.26	-0.16 ± 0.70	0.10 ± 0.76

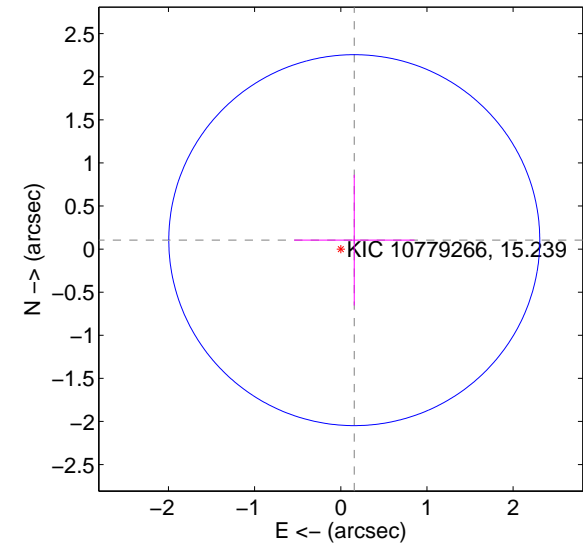
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

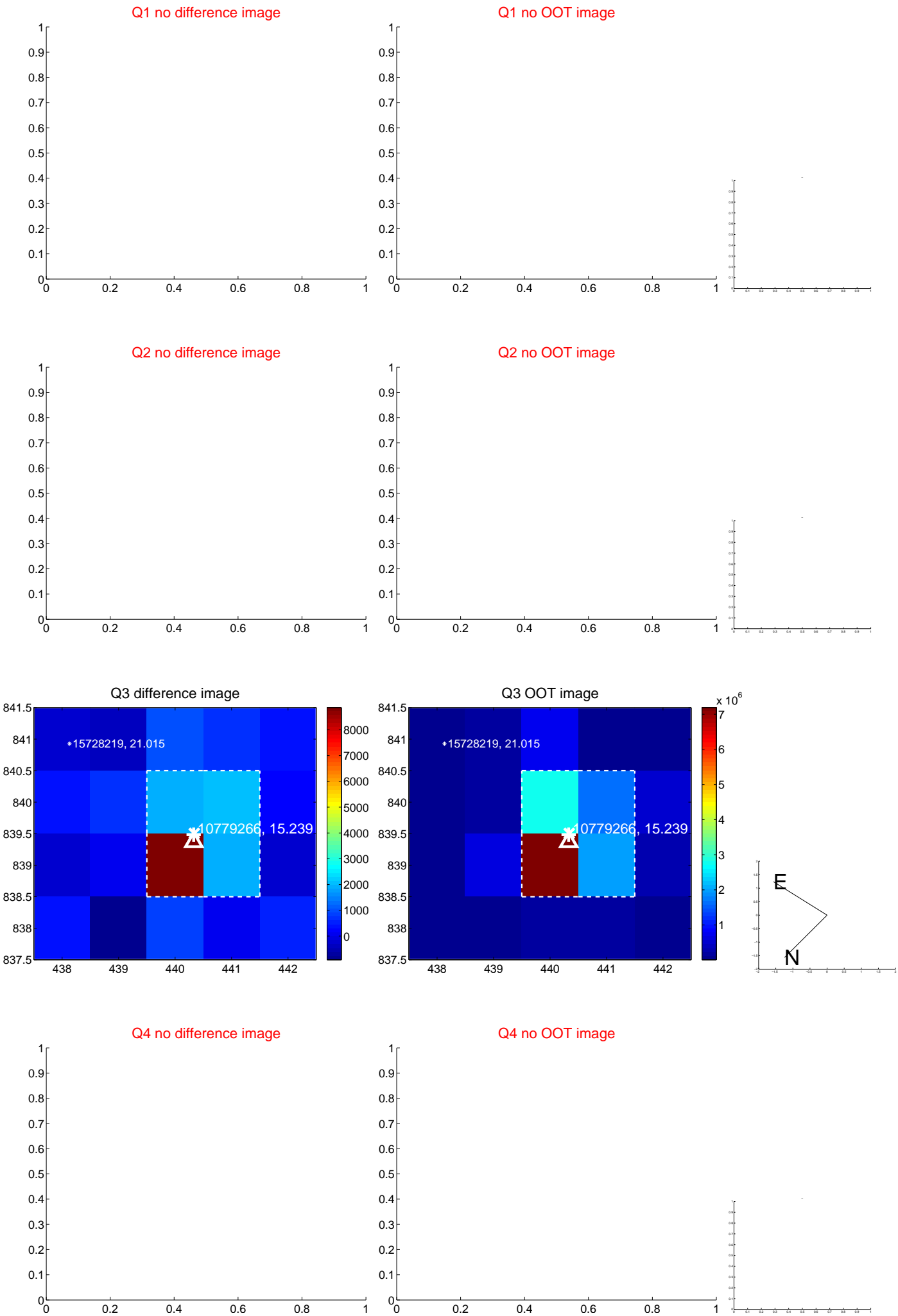


offset from photometric centroids

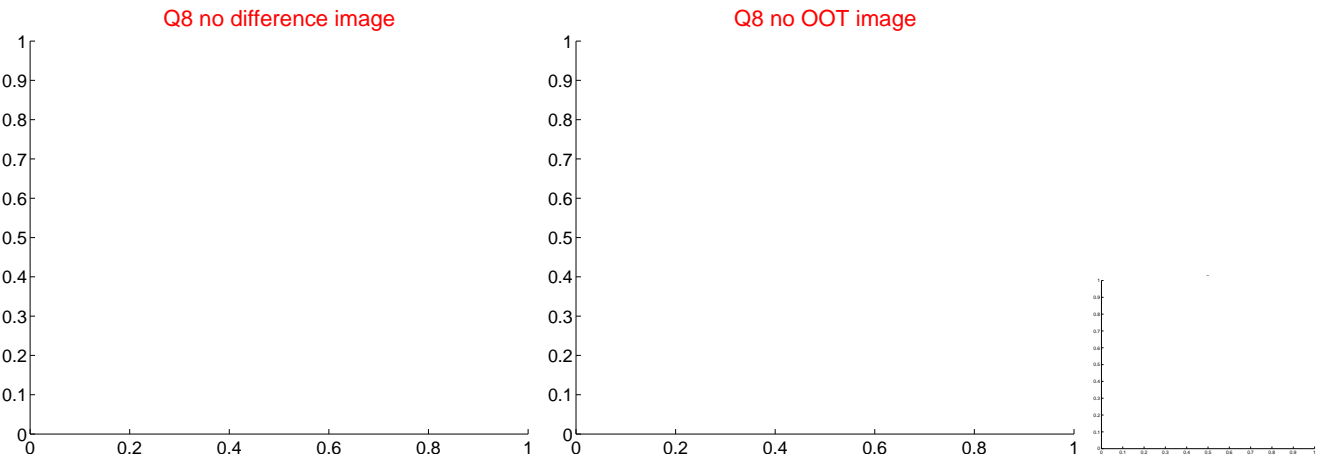
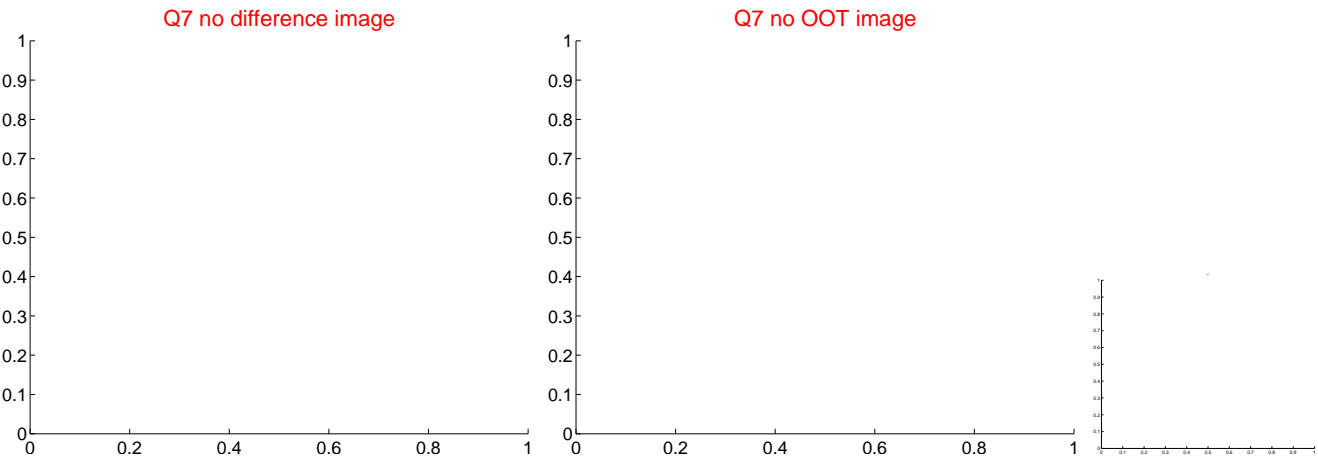
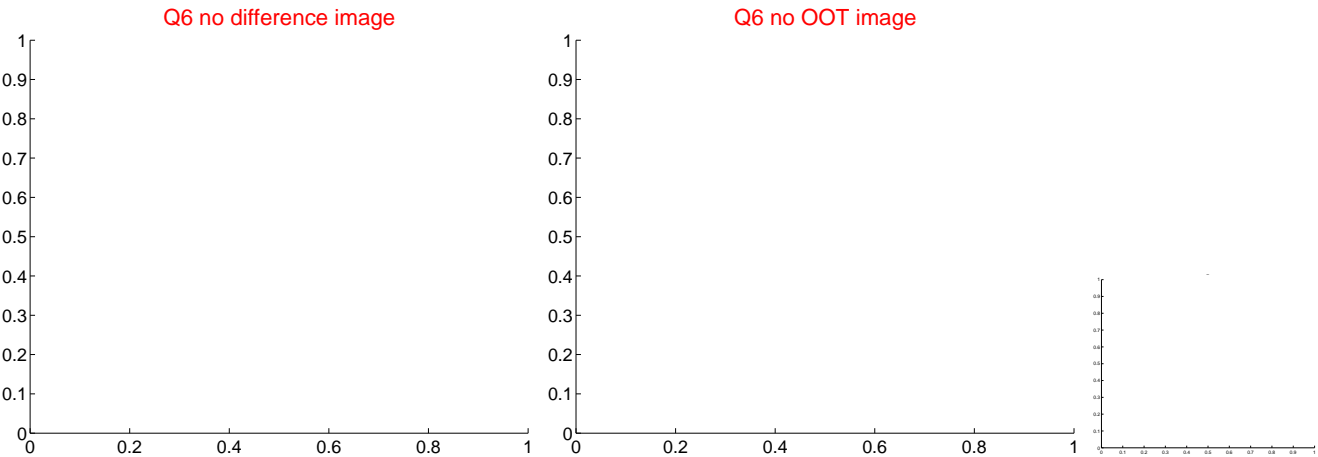
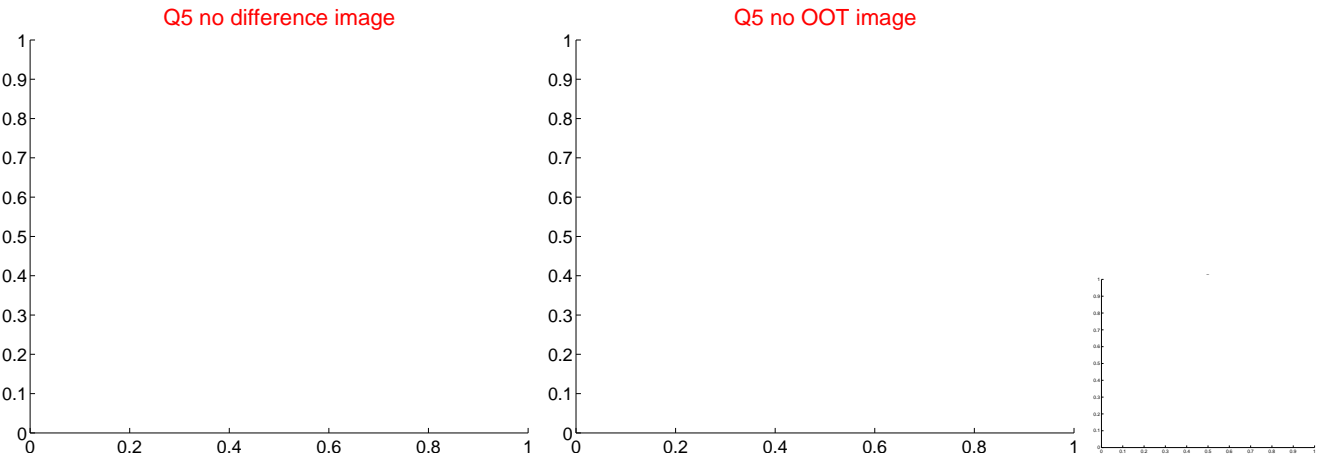


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

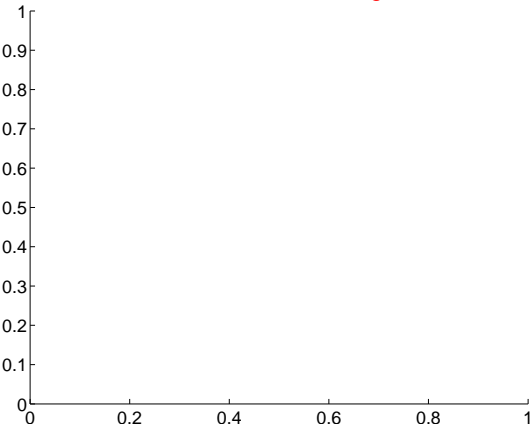


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

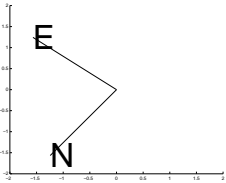
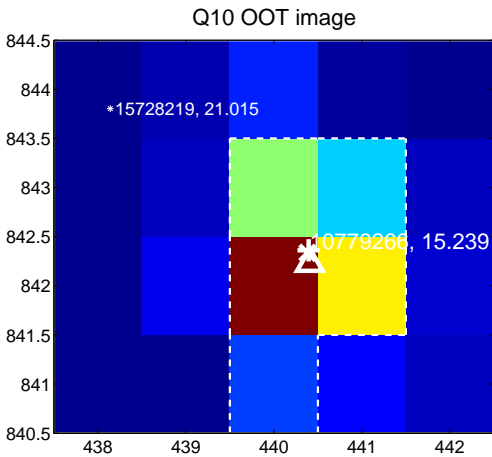
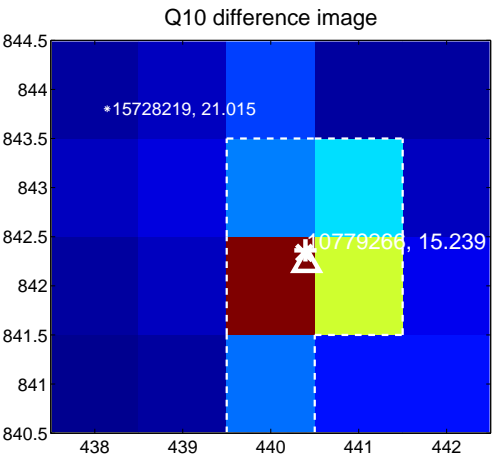
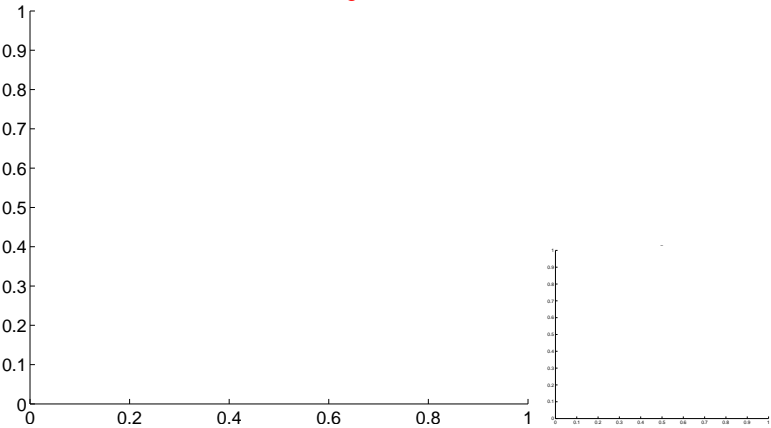


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

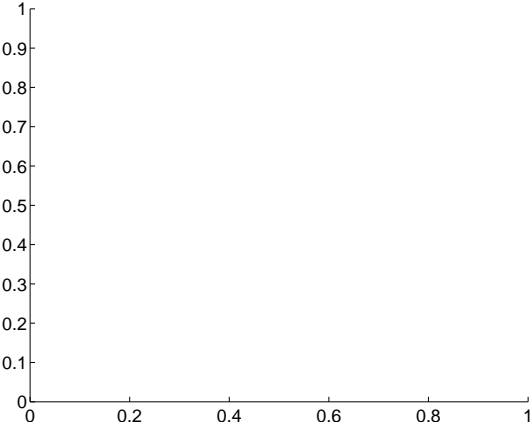
Q9 no difference image



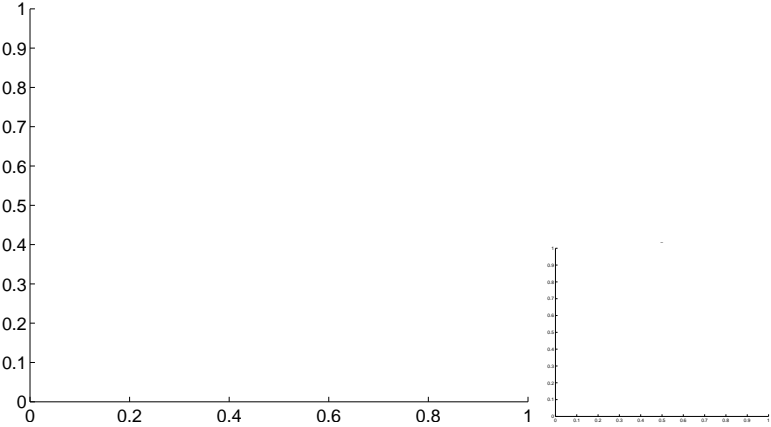
Q9 no OOT image



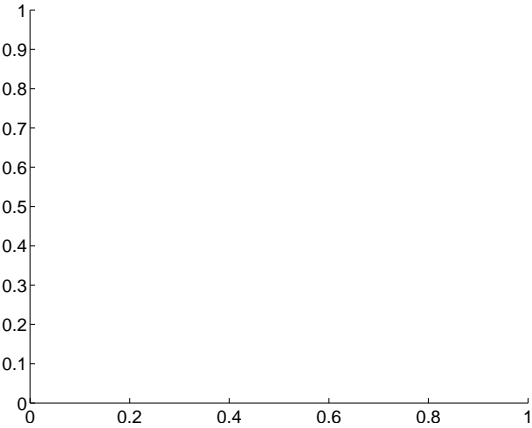
Q11 no difference image



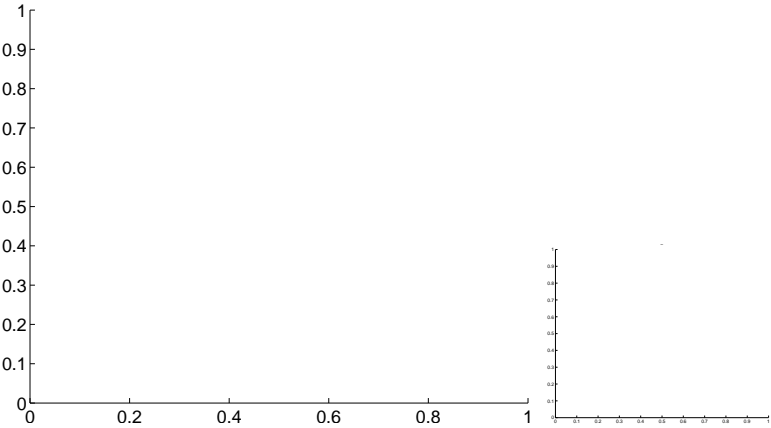
Q11 no OOT image



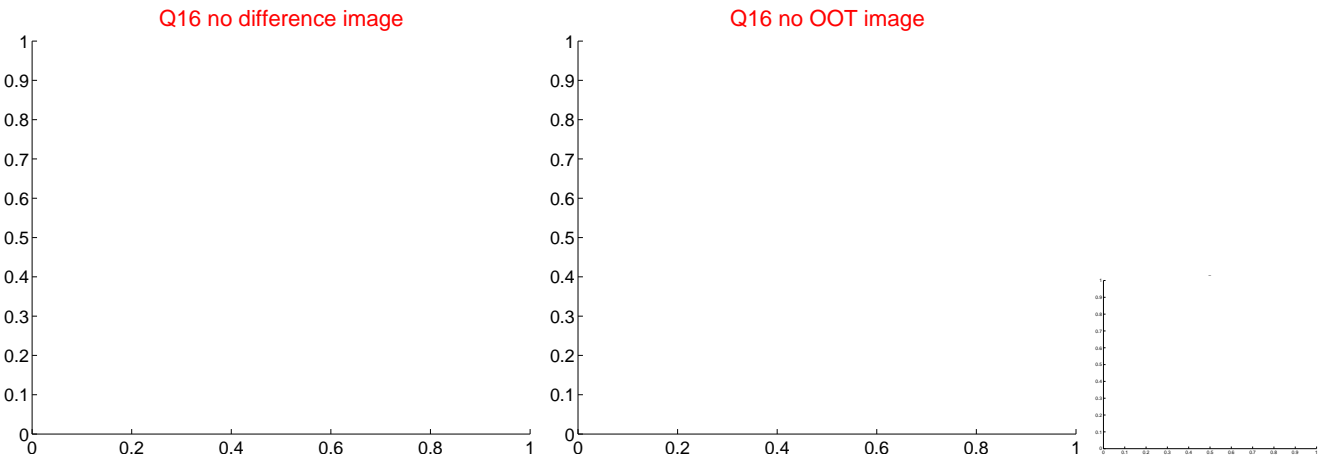
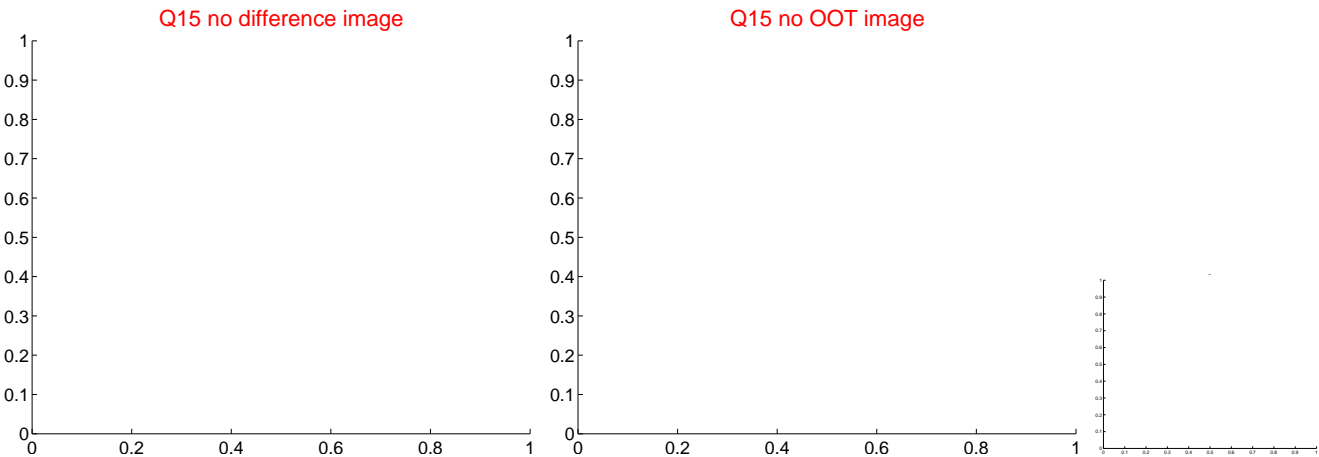
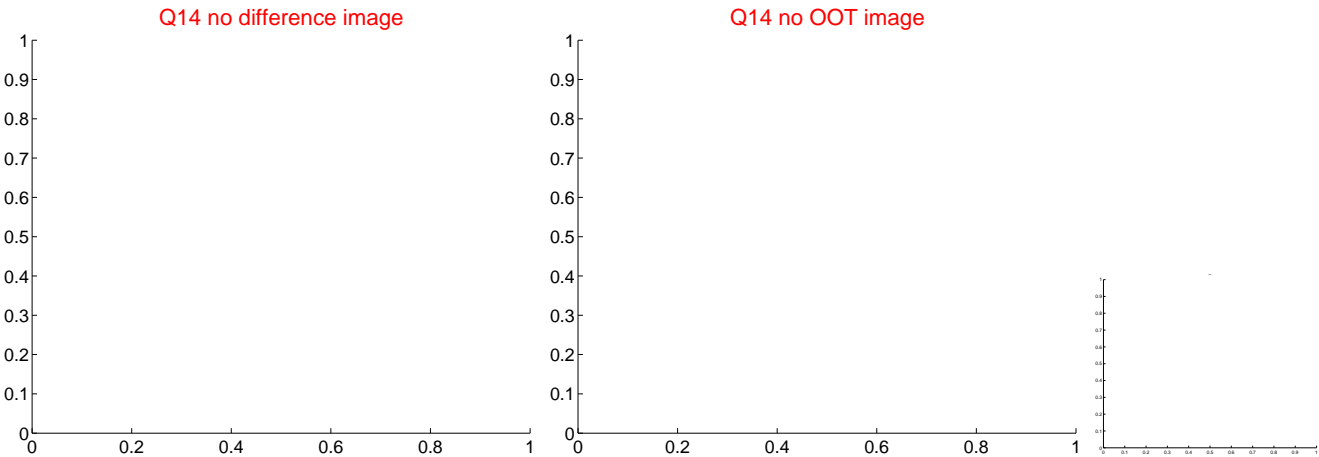
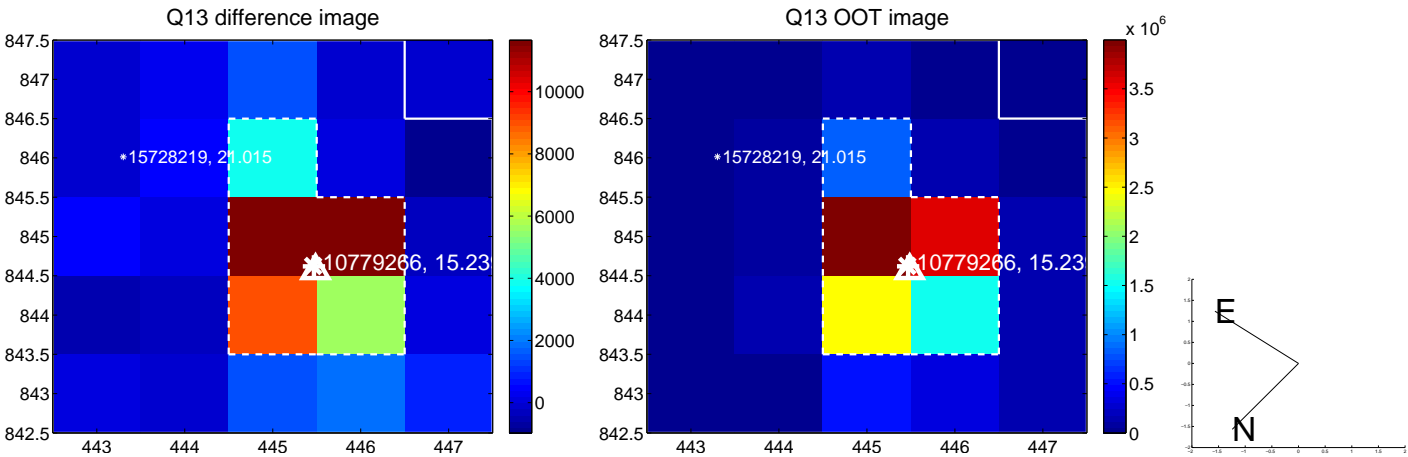
Q12 no difference image



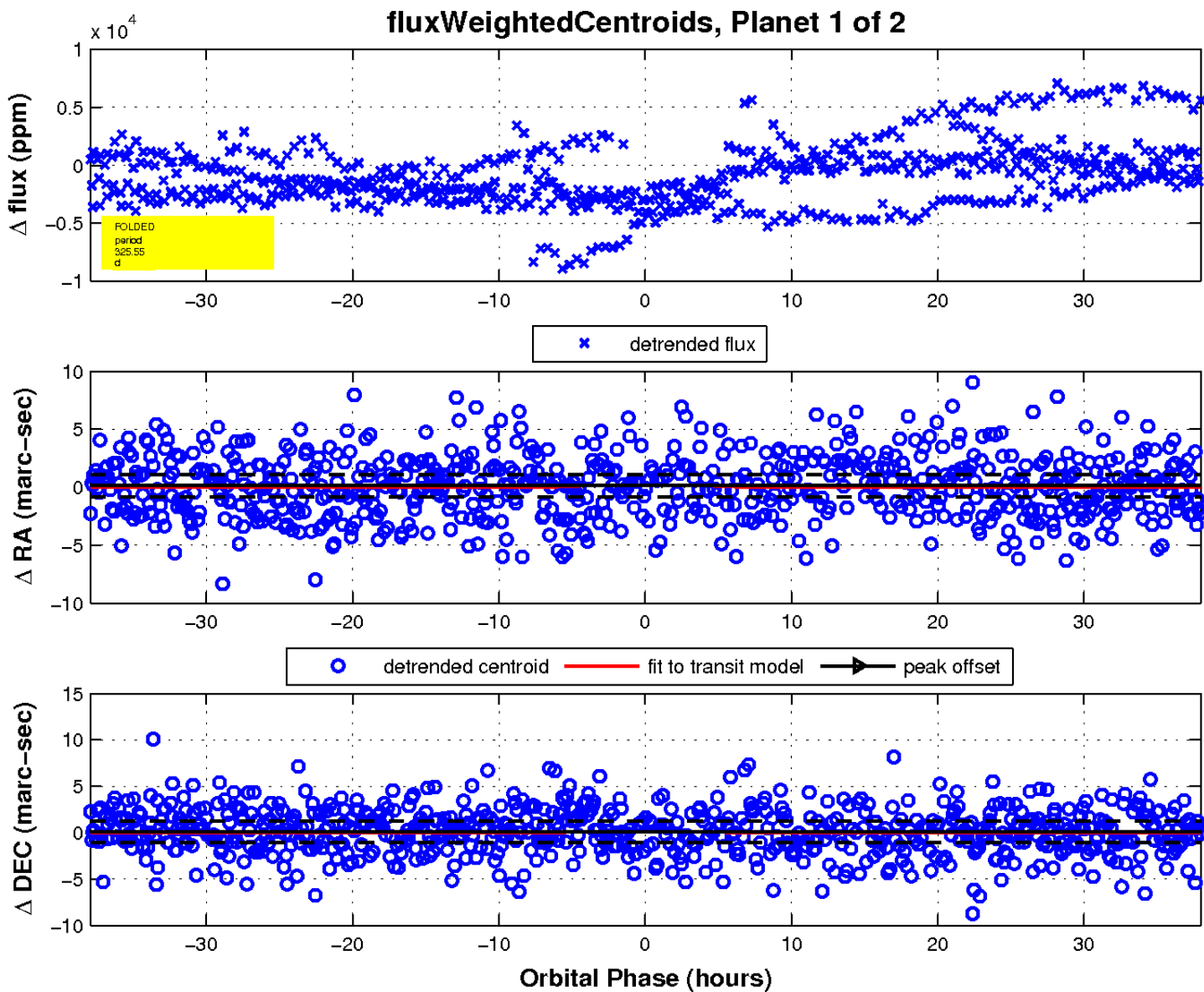
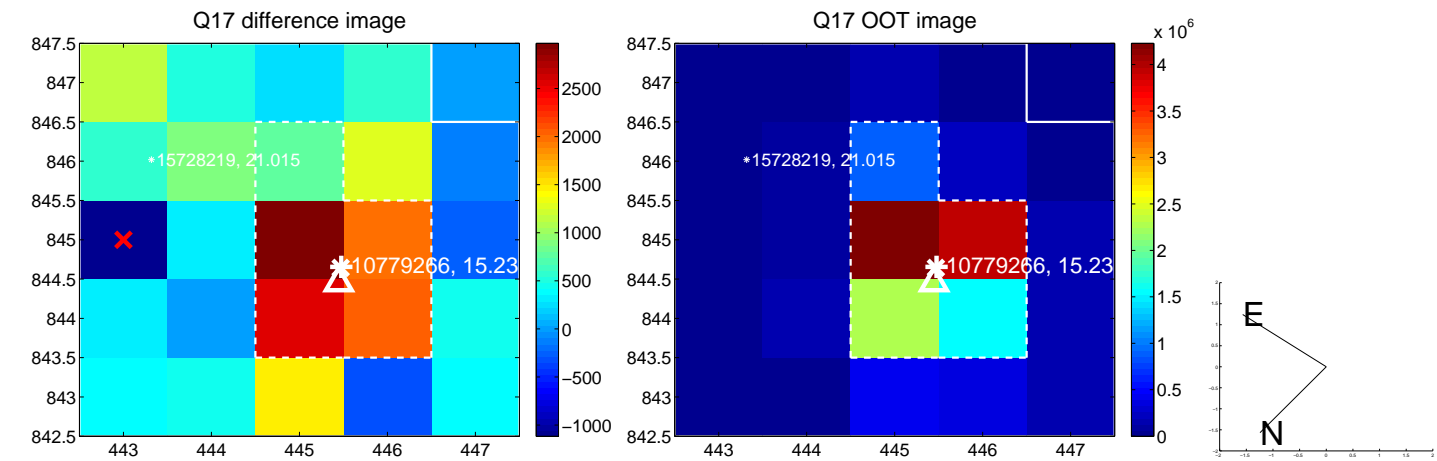
Q12 no OOT image



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

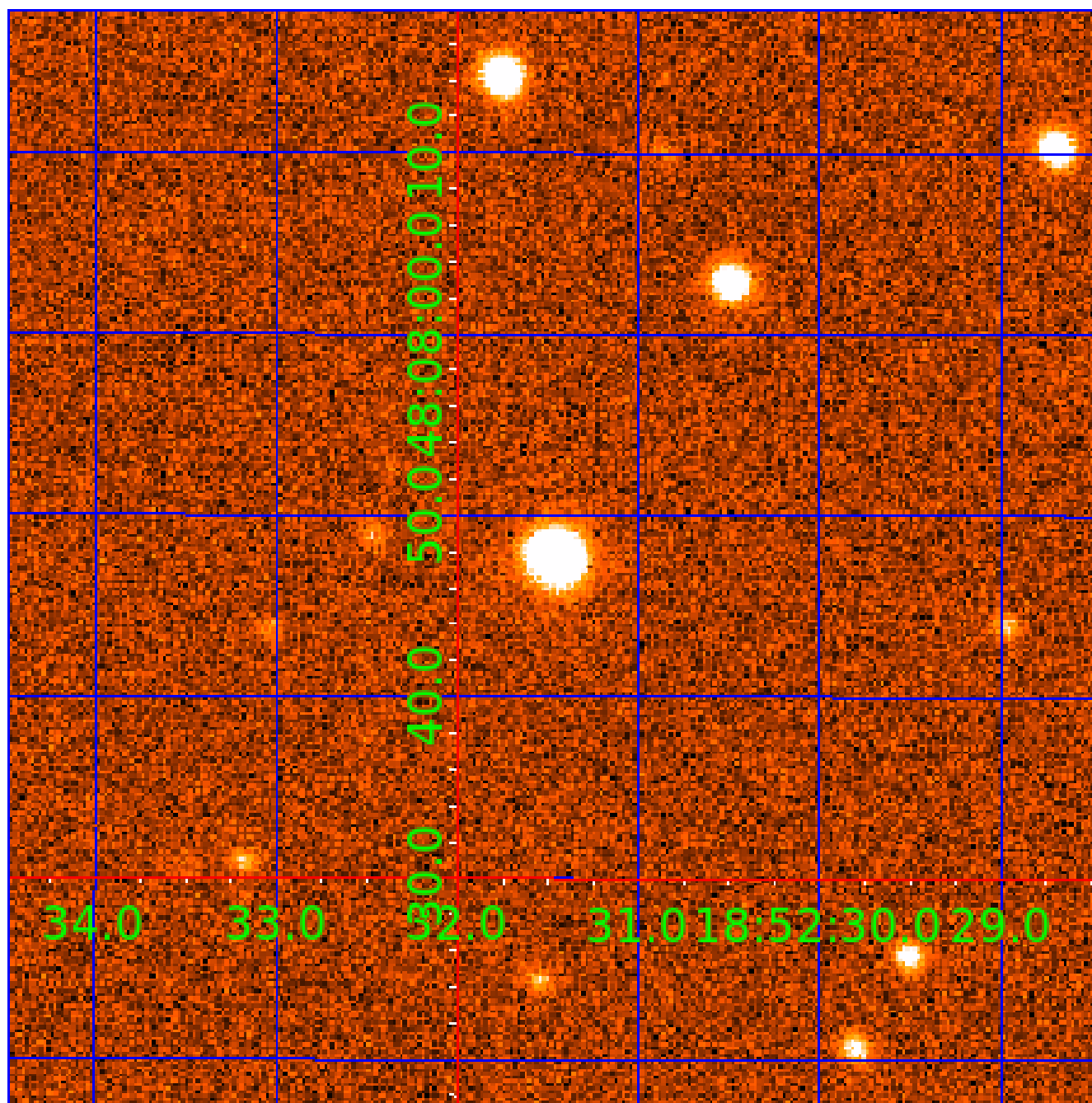


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010779266

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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Robovetter Results

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010779266-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

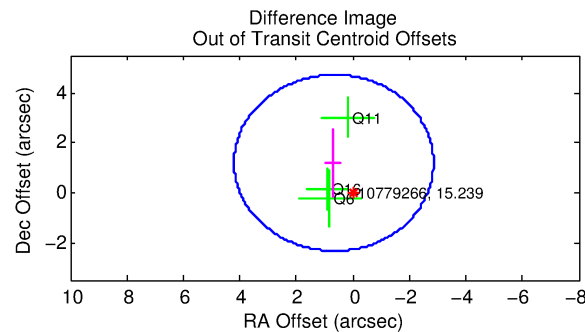
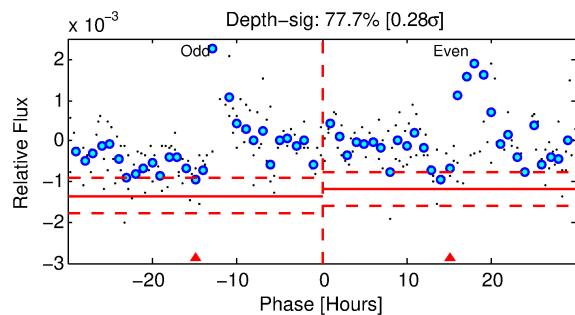
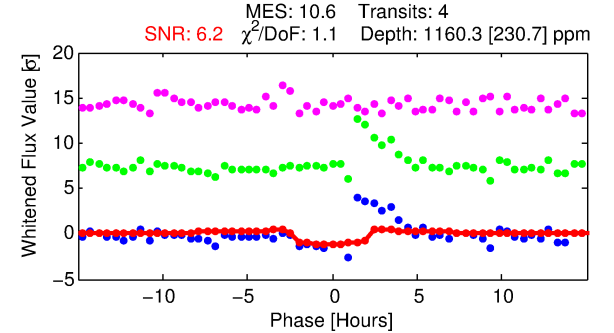
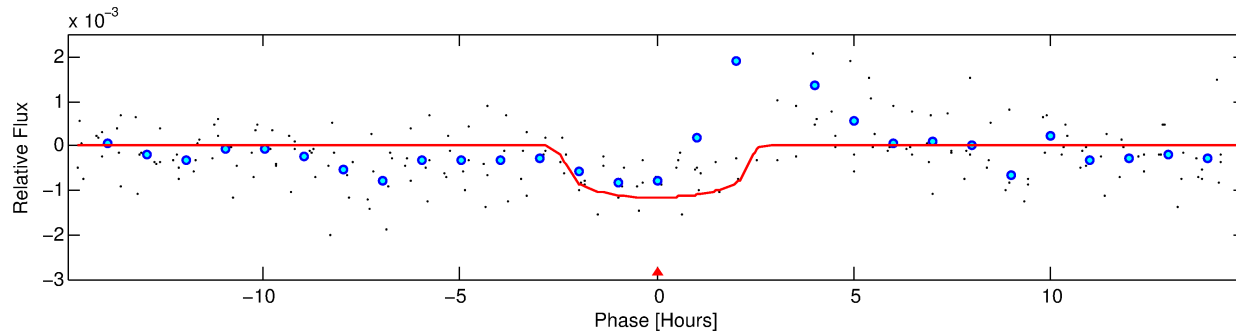
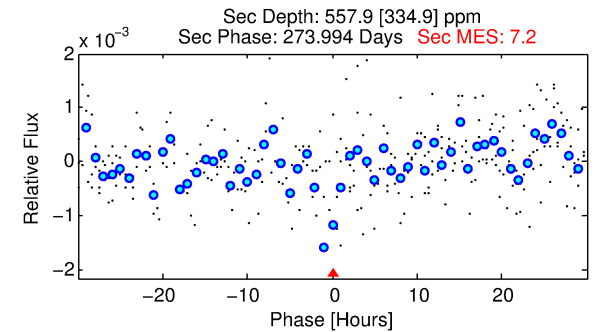
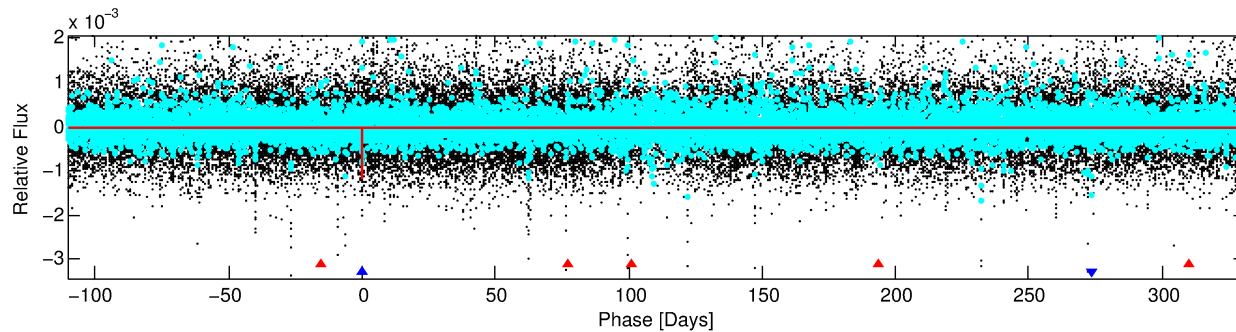
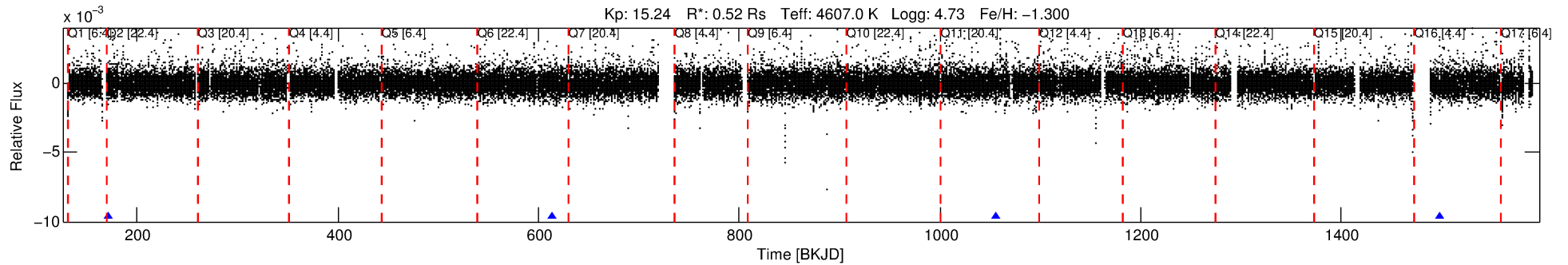
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010779266-02

No Significant Match Found

DV One-Page Summary

KIC: 10779266 Candidate: 2 of 2 Period: 442.041 d



DV Fit Results:

Period = 442.04073 [0.00575] d
Epoch = 171.5783 [0.0128] BKJD
Rp/R* = 0.0326 [0.0418]
a/R* = 551.15 [2751.26]
b = 0.63 [4.77]
Seff = 0.13 [0.02]
Teq = 153 [6] K
Rp = 1.84 [2.36] Re
a = 0.9188 [0.0531] AU
Ag = 76169.47 [200337.40] [0.38σ]
Teffp = 3920 [2579] K [1.46σ]

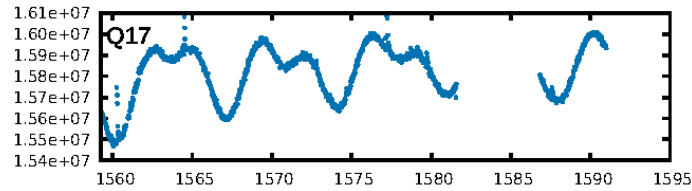
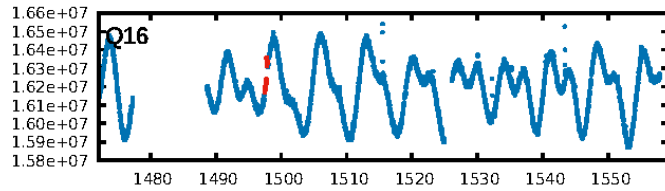
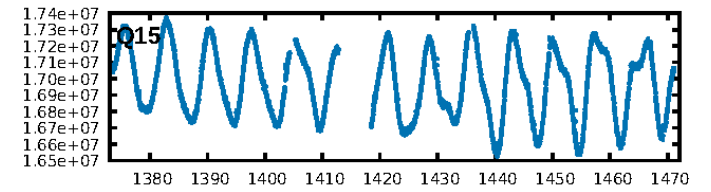
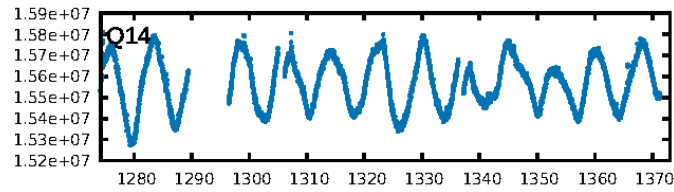
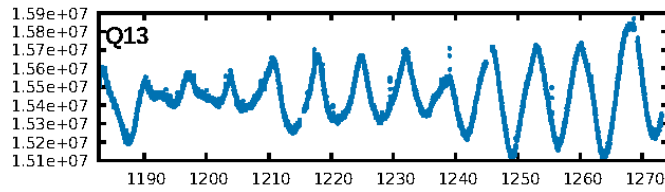
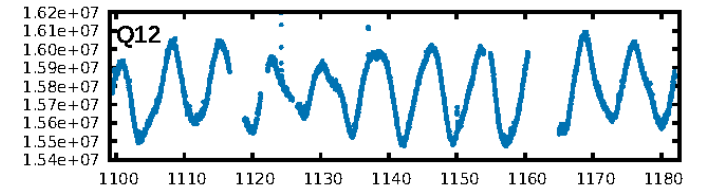
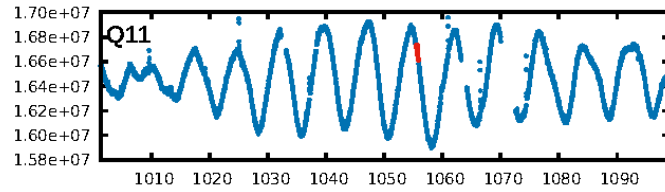
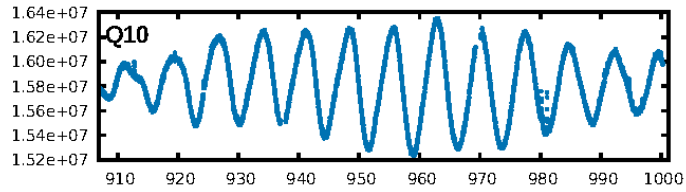
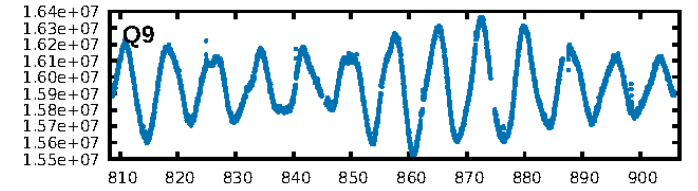
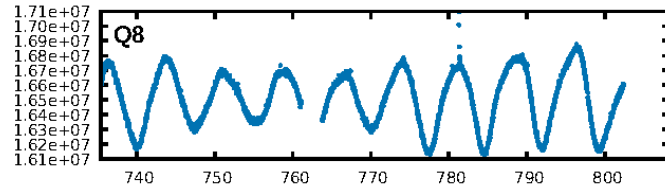
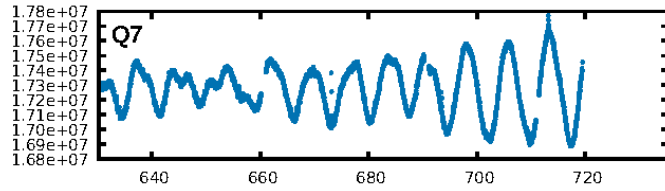
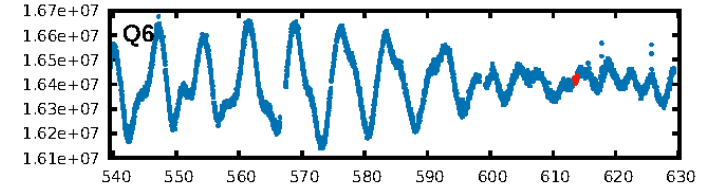
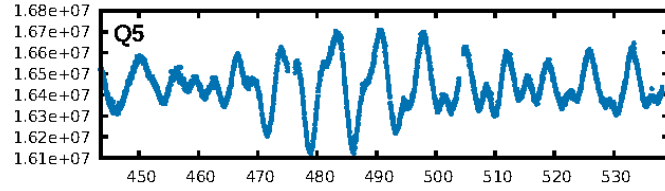
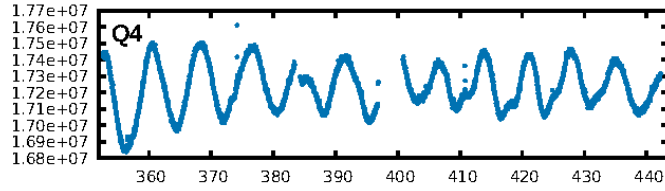
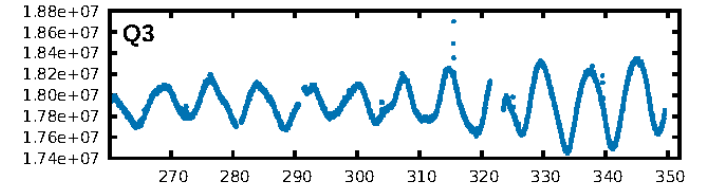
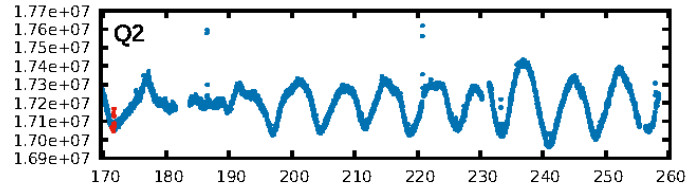
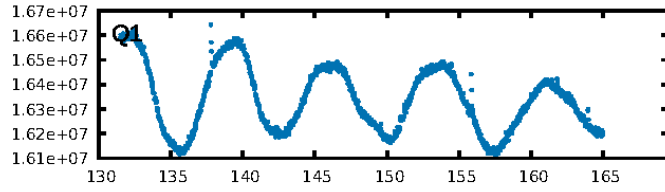
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [205.31σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 16.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.28e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.267
Centroid-sig: 4.7%
Centroid-so: 1.376 arcsec [1.18σ]
OotOffset-rm: 1.366 arcsec [1.16σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 1.414 arcsec [1.15σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [4/4]

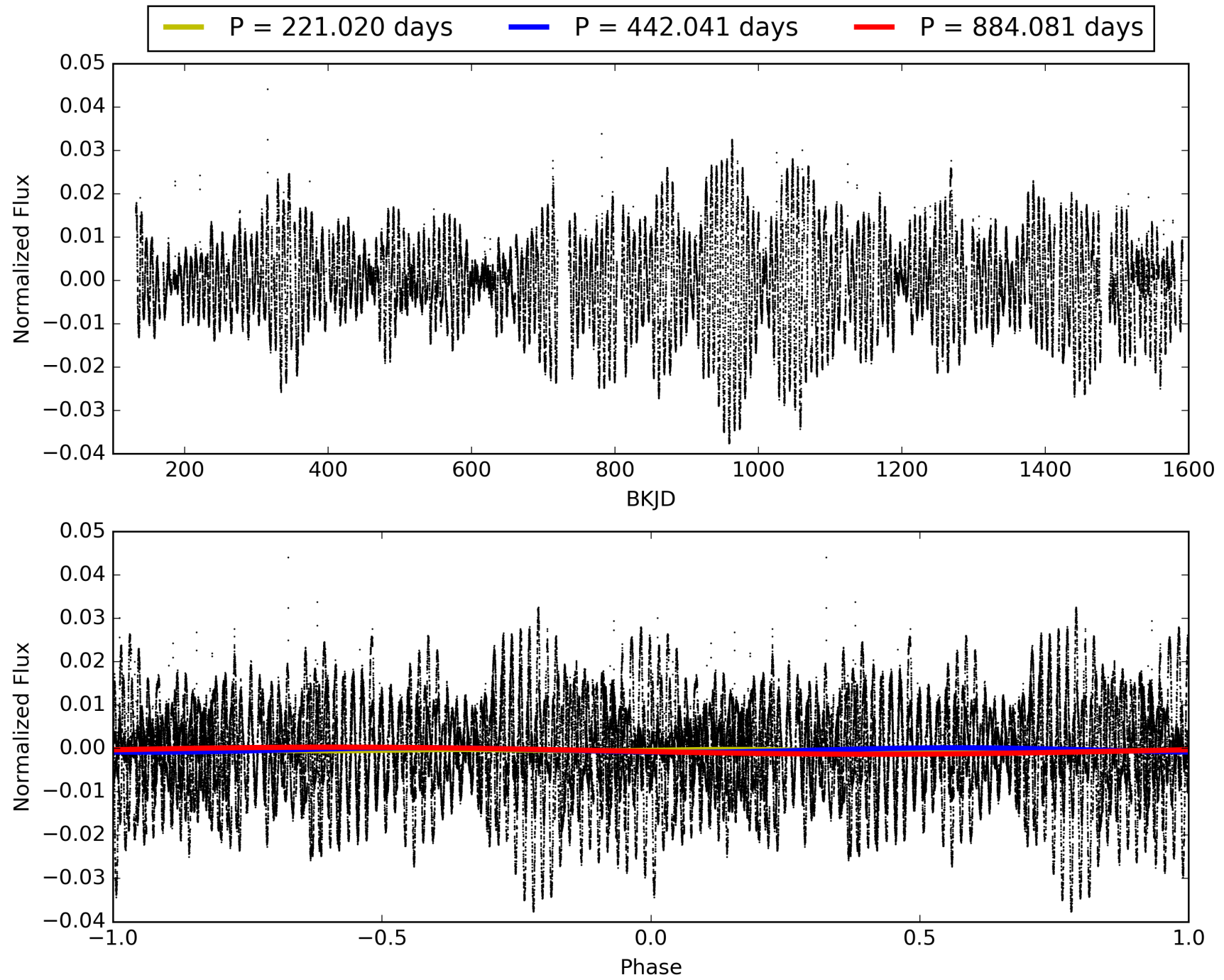
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 15:39:14 Z

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

TCE 010779266-02, PDC Light Curves

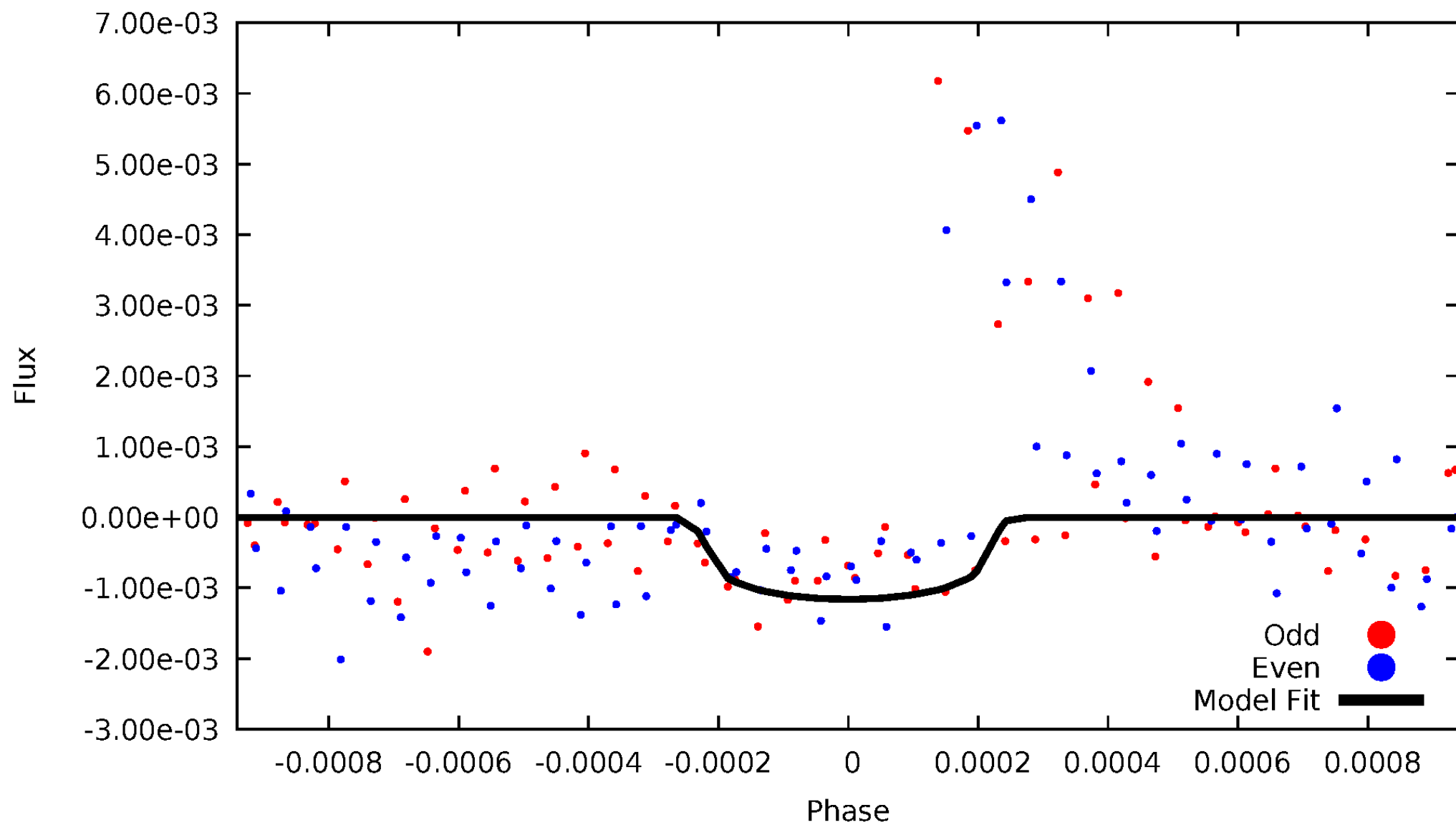


TCE 010779266-02



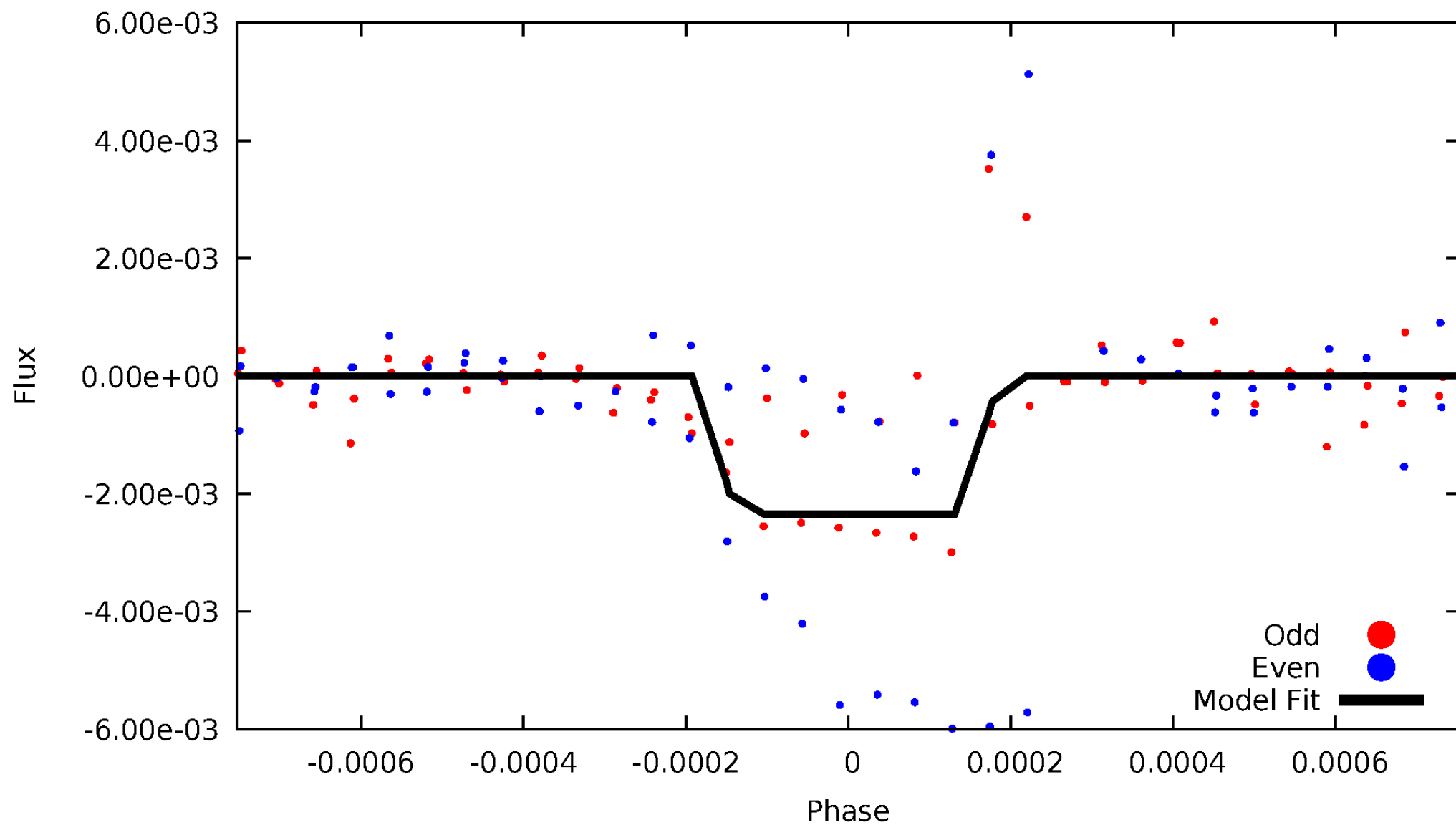
DV Odd/Even

TCE 010779266-02



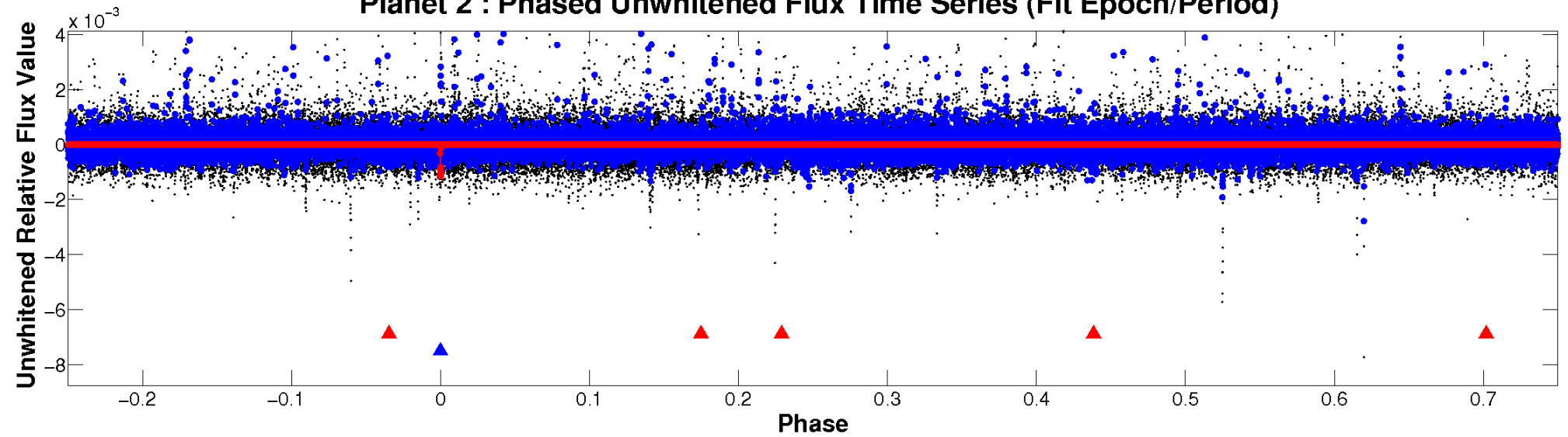
ALT Odd/Even

TCE 010779266-02

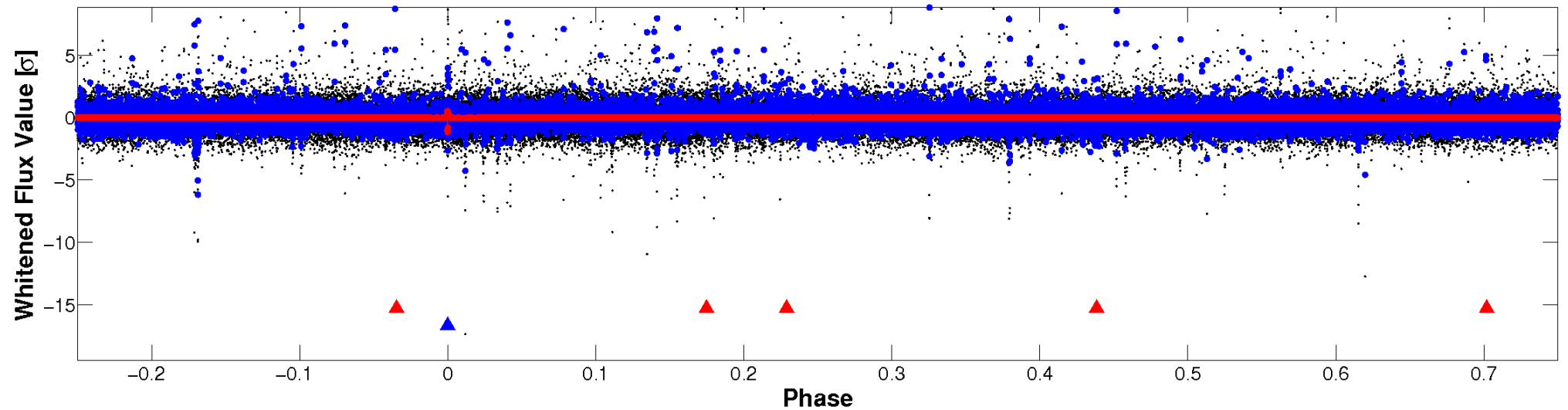


Non-Whitened Vs. Whitened Light Curve

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

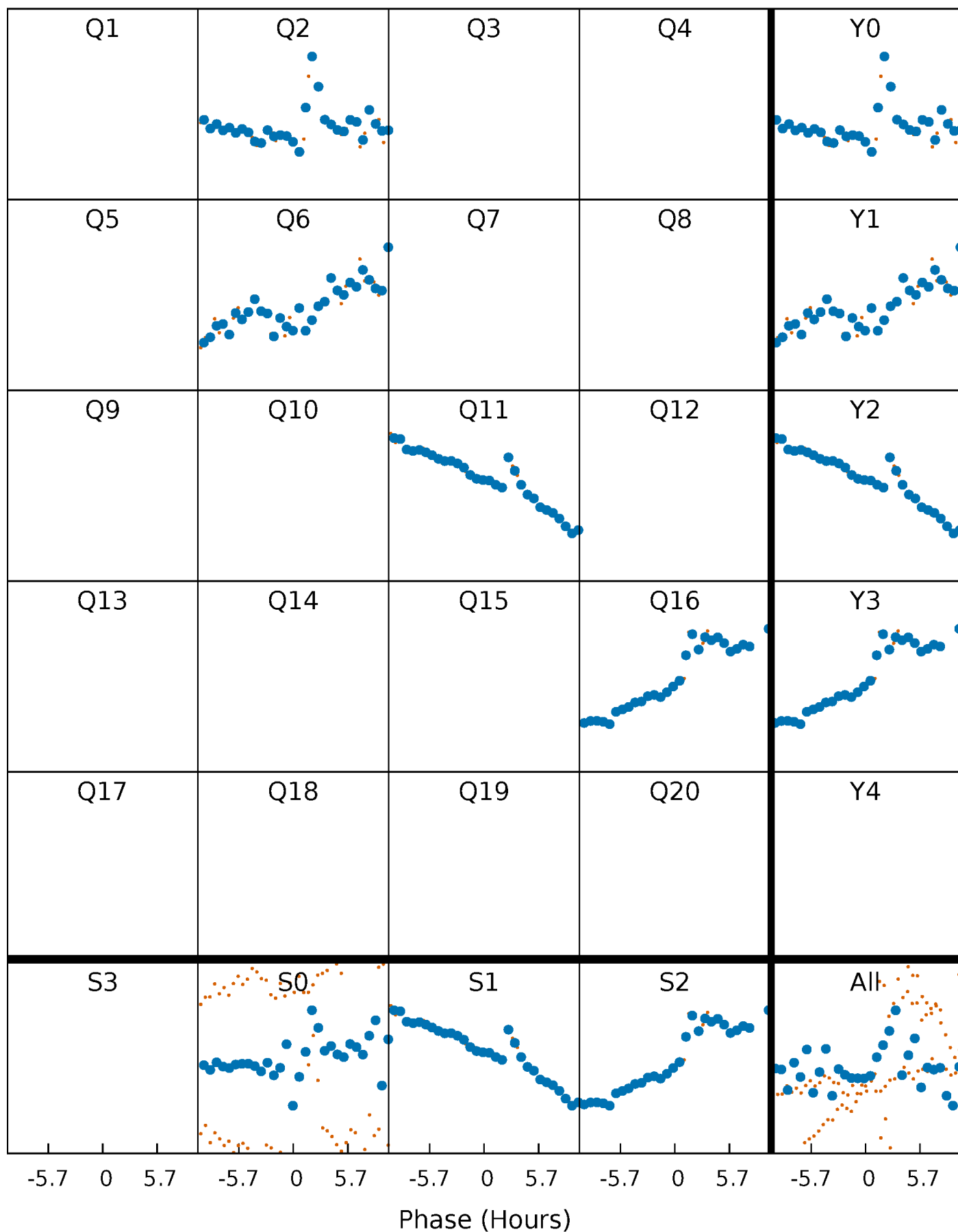


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



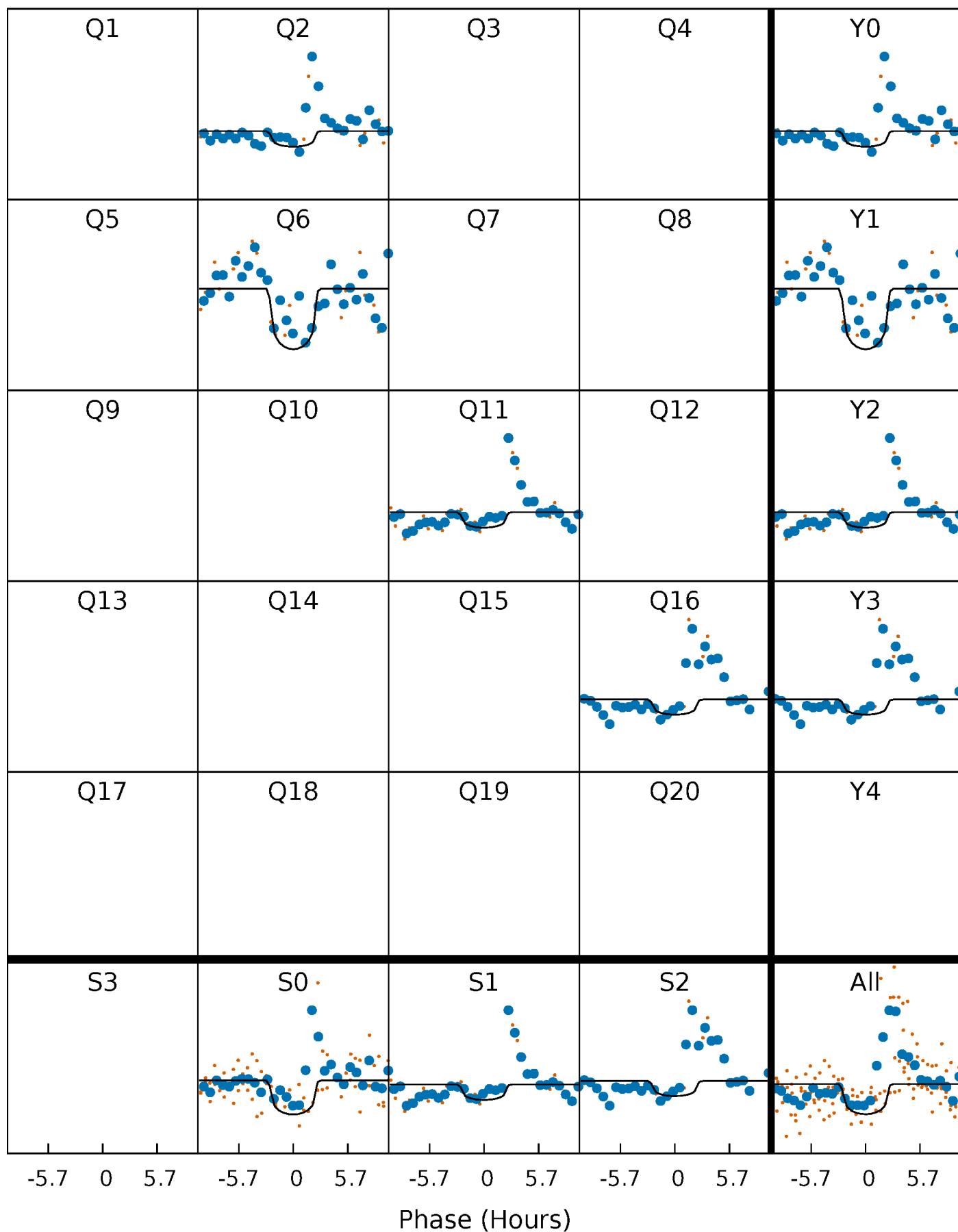
PDC Quarter-Phased Transit Curves

TCE 010779266-02 $P=442.040725$ Days $T_0=171.578294$ (BKJD)



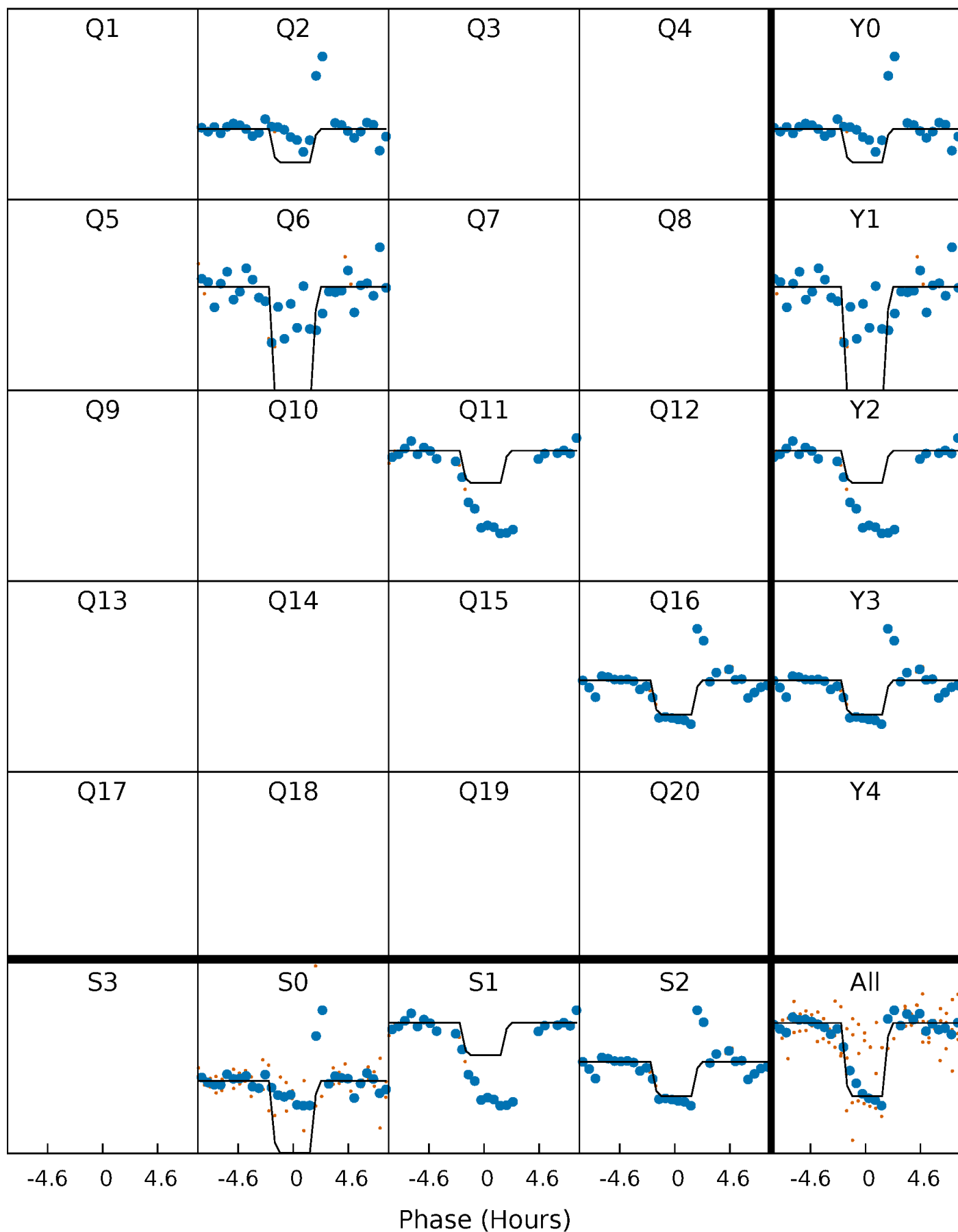
DV Quarter-Phased Transit Curves

TCE 010779266-02 P=442.040725 Days $T_0=171.578294$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

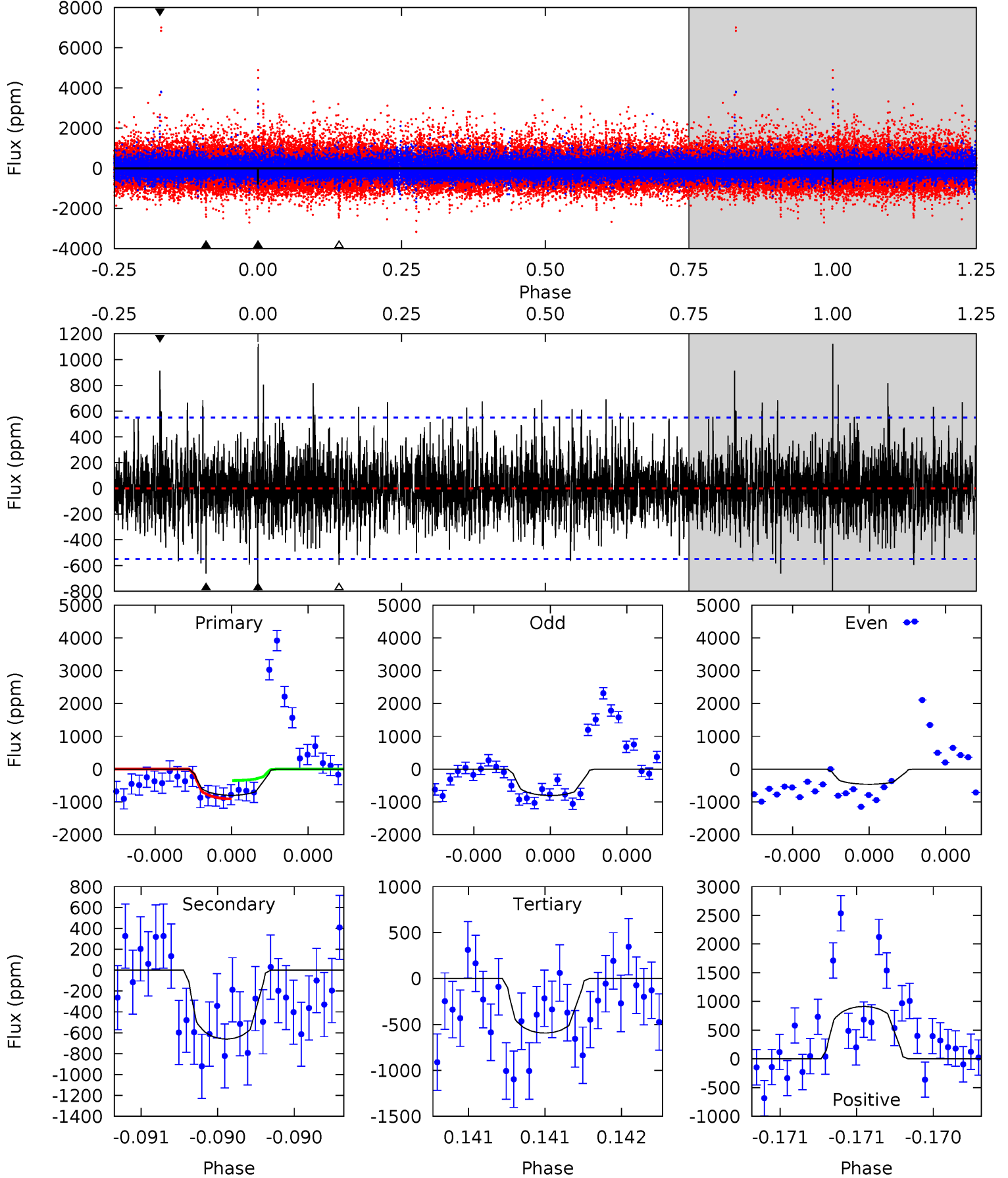
TCE 010779266-02 $P=442.039203$ Days $T_0=171.567395$ (BKJD)



DV Model-Shift Uniqueness Test

010779266-02, P = 442.040725 Days, E = 171.578294 Days

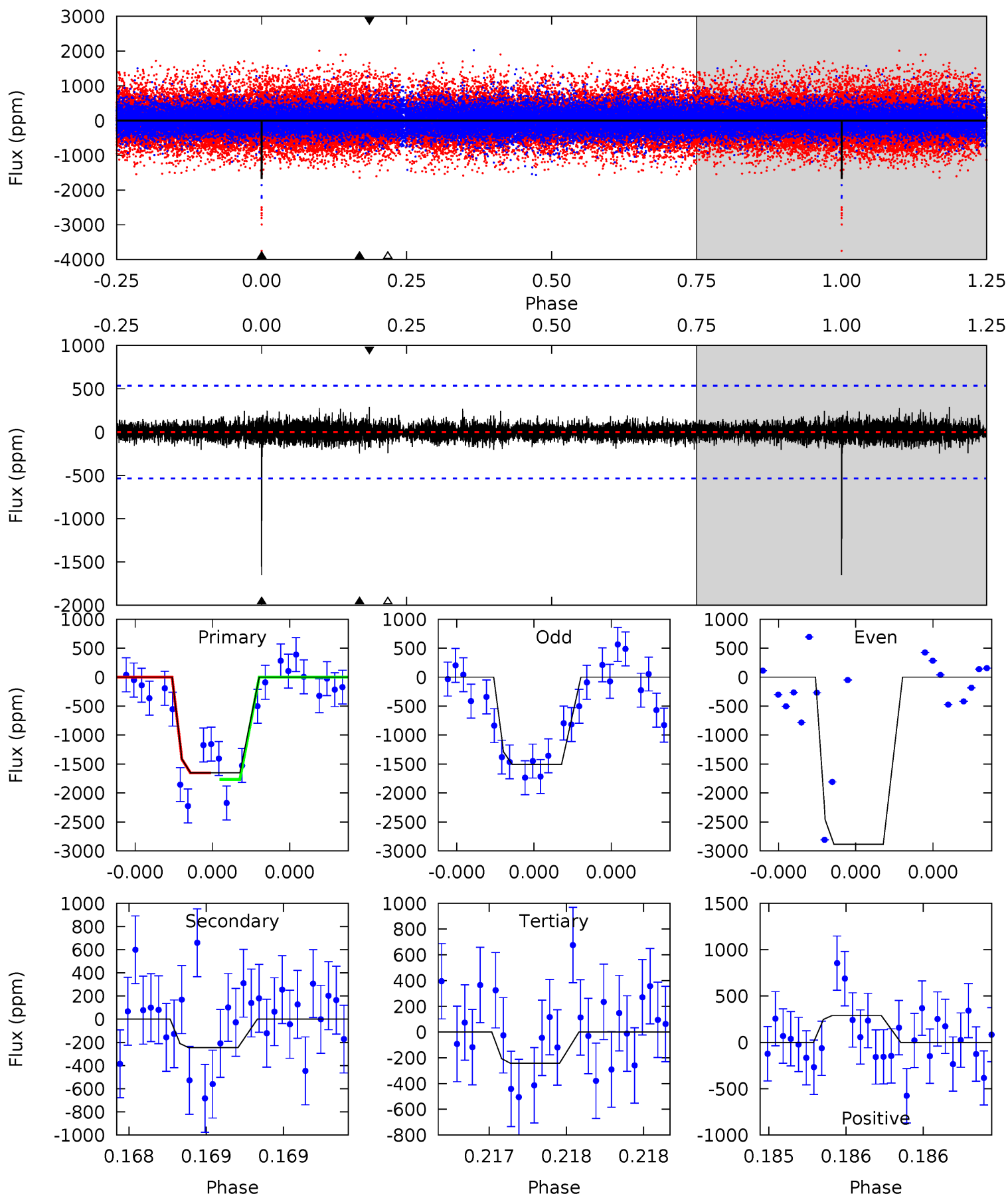
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.12	6.71	6.04	9.27	5.58	3.49	1.73	2.09	-1.15	0.67	-2.56	1.65	0.74	0.58	2.86



Alt Model-Shift Uniqueness Test

010779266-02, P = 442.039203 Days, E = 171.567395 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	2.58	2.54	3.03	5.63	3.56	0.57	14.8	14.3	0.04	-0.45	8.50	1.40	0.15	0.55



Stellar Parameters For KIC 010779266

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4607^{+138}_{-138}	$4.733^{+0.045}_{-0.028}$	$-1.300^{+0.300}_{-0.350}$	$0.518^{+0.030}_{-0.036}$	$0.529^{+0.035}_{-0.024}$	$5.362^{+1.049}_{-0.602}$
	+3%/-3%	+1%/-1%	+23%/-27%	+6%/-7%	+7%/-5%	+20%/-11%
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 010779266-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-660 ± 98	$2.46^{+2.04}_{-1.62}$	213^{+7}_{-7}	3816^{+2108}_{-679}	$51815^{+386144}_{-36682}$
Alt.	-246 ± 95	$3.21^{+2.23}_{-2.03}$	212^{+8}_{-7}	3013^{+1036}_{-459}	11316^{+63459}_{-7976}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

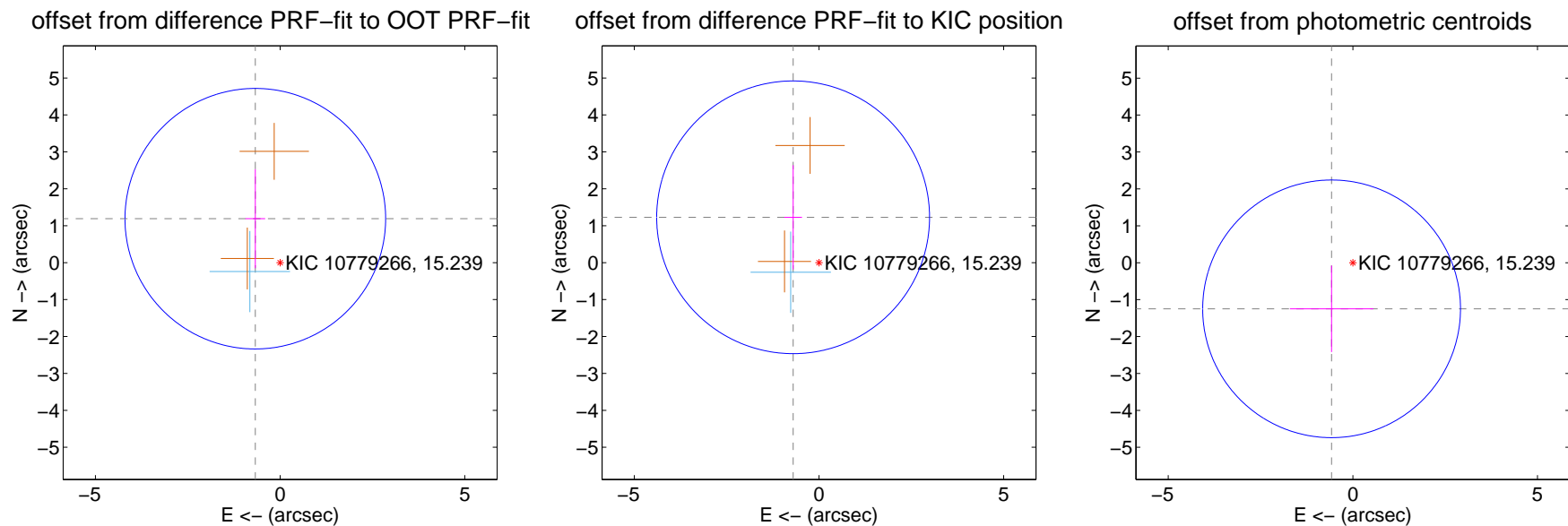
DV Centroid Data

Supplemental centroid analysis for 010779266-02. Kepler magnitude: 15.24. Transit SNR 6.20

There are 1 quarters with good PRF difference image offsets

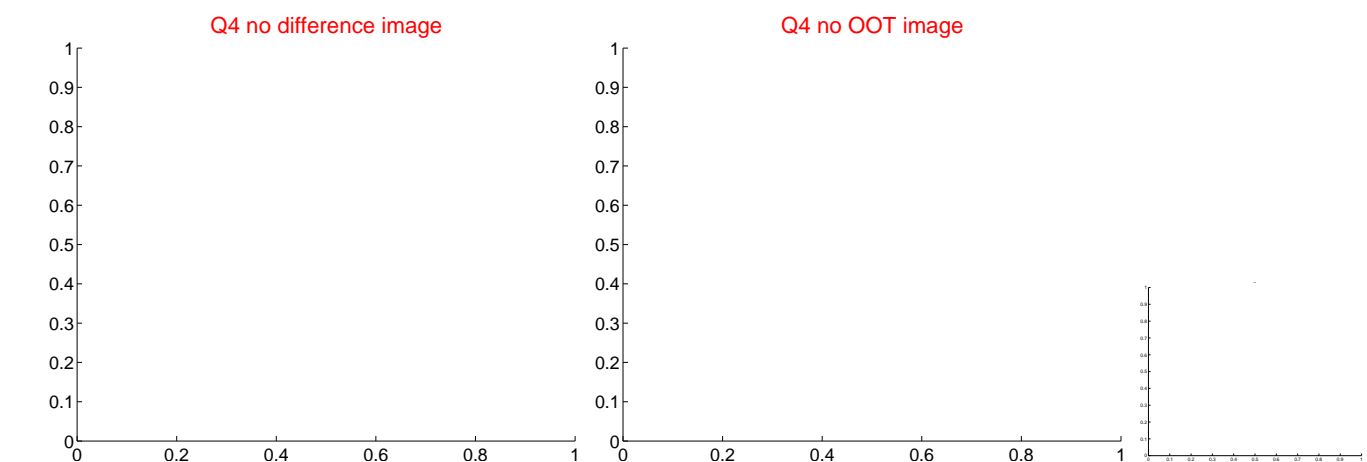
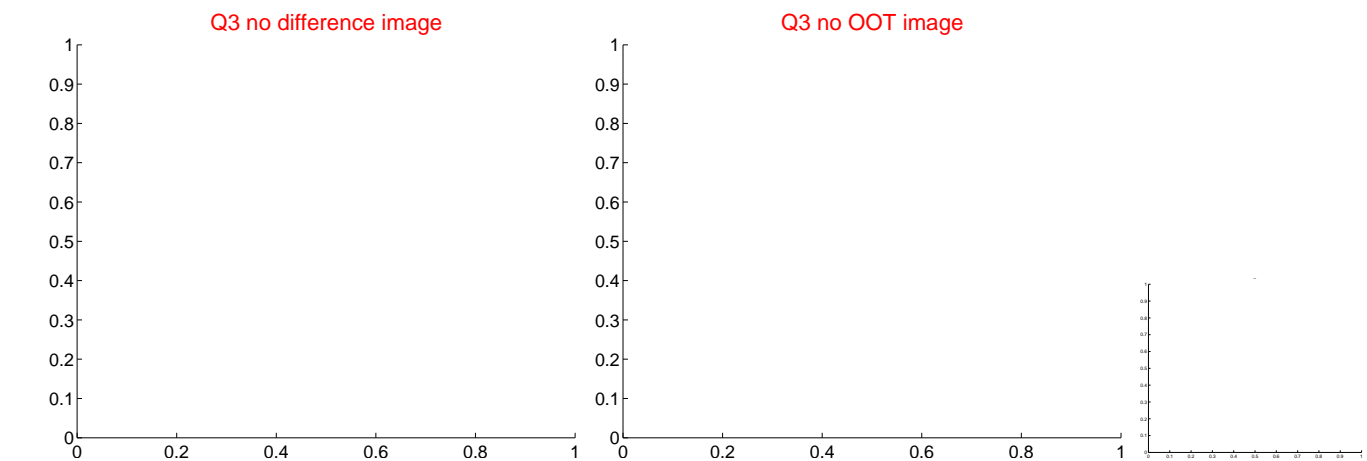
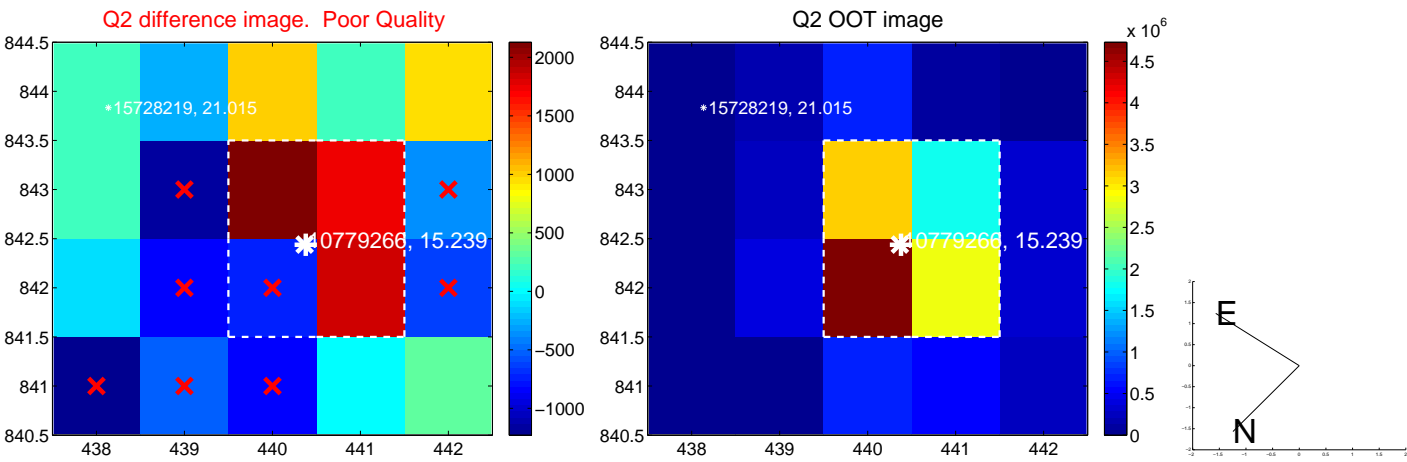
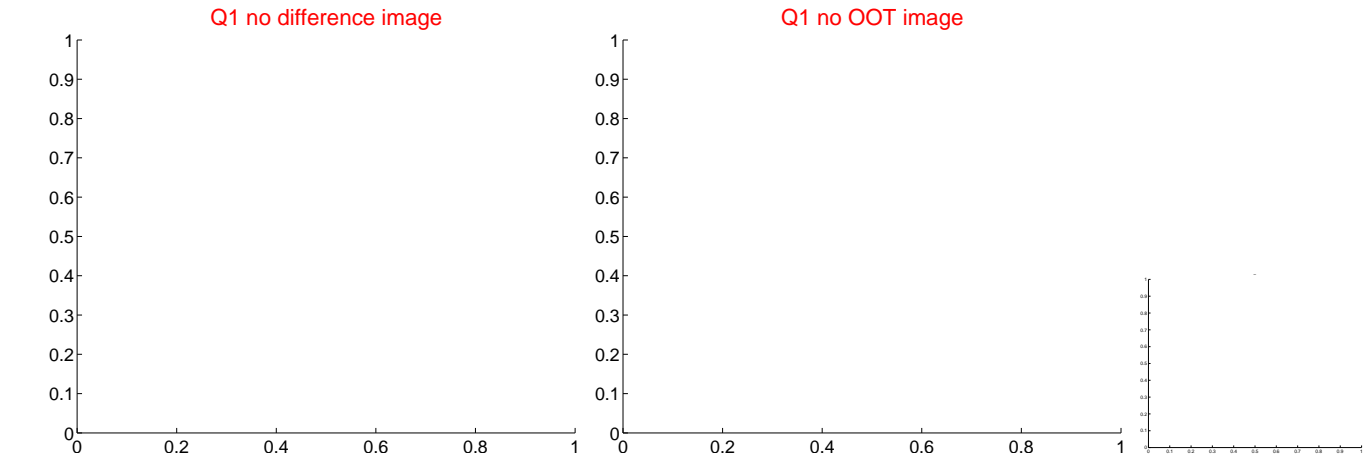
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.366 ± 1.176	1.16	0.671 ± 0.266	1.190 ± 1.342
PRF-fit source offset from KIC position	1.414 ± 1.231	1.15	0.700 ± 0.241	1.228 ± 1.410
photometric centroid source offset	1.38 ± 1.16	1.18	0.58 ± 1.13	-1.25 ± 1.17



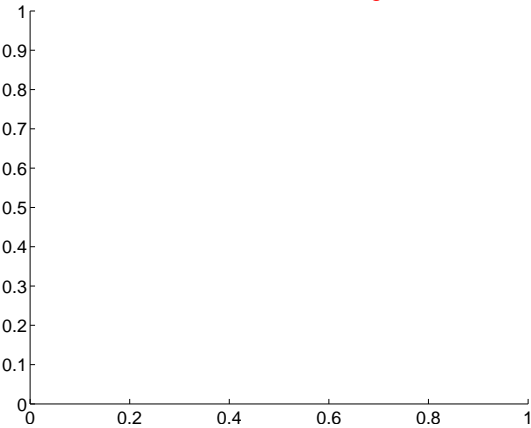
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

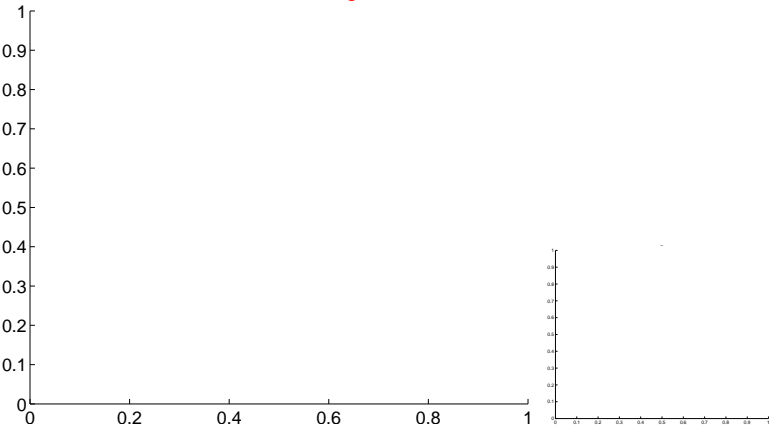


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

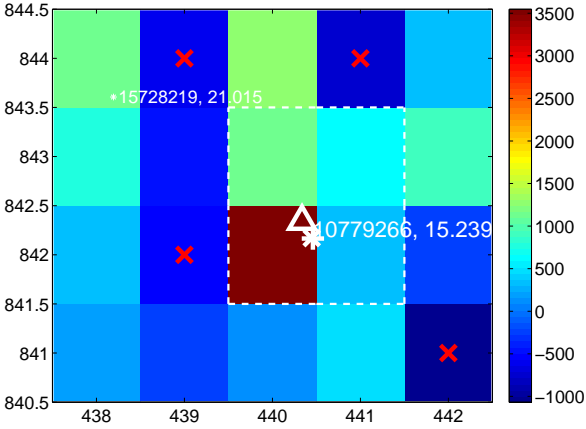
Q5 no difference image



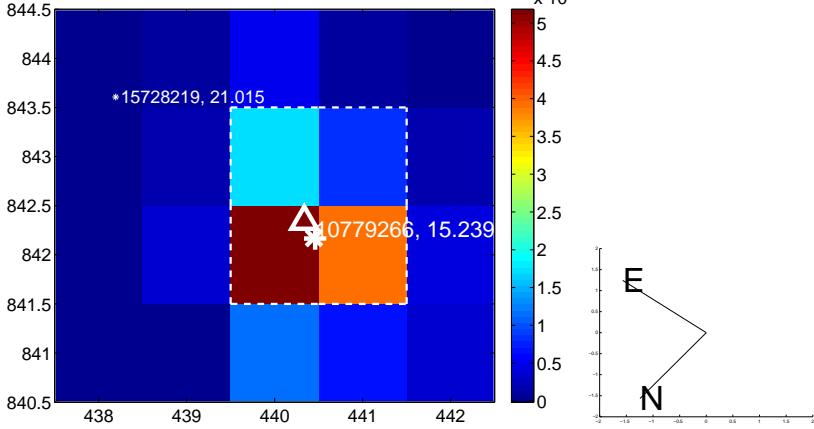
Q5 no OOT image



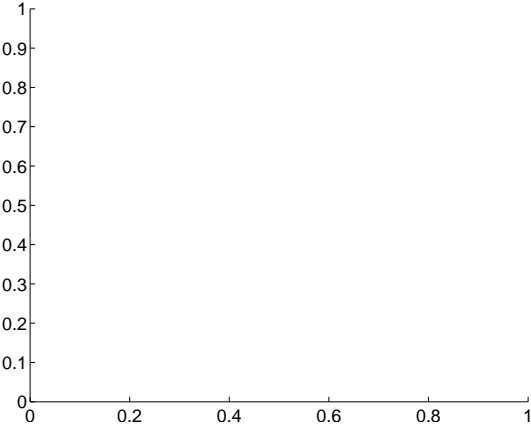
Q6 difference image



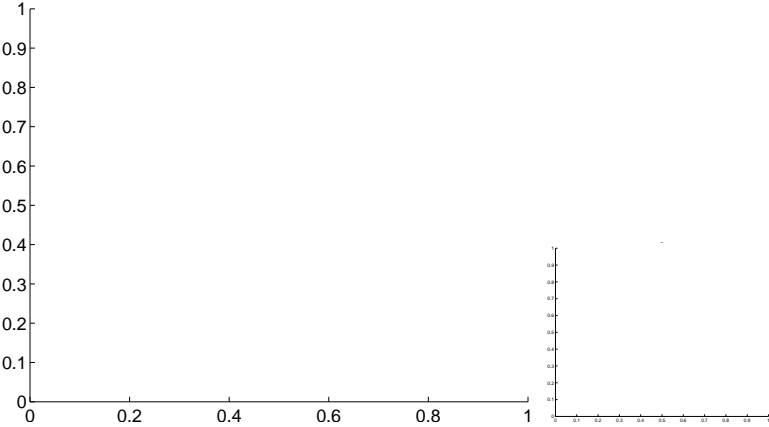
Q6 OOT image



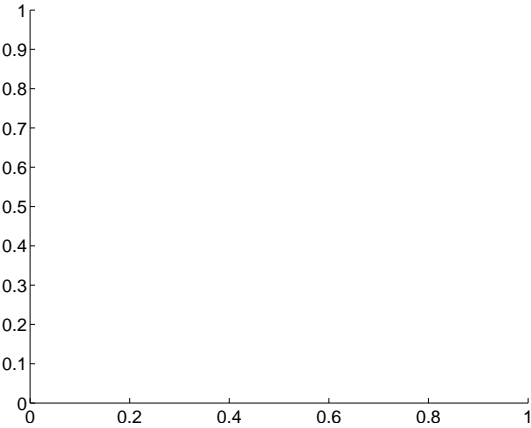
Q7 no difference image



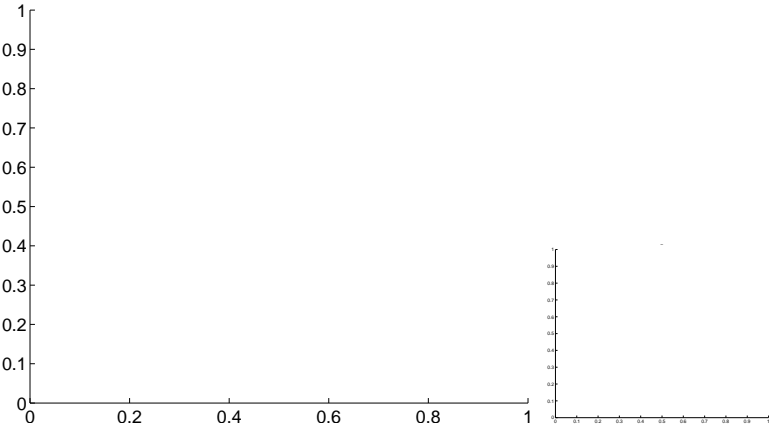
Q7 no OOT image



Q8 no difference image



Q8 no OOT image



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

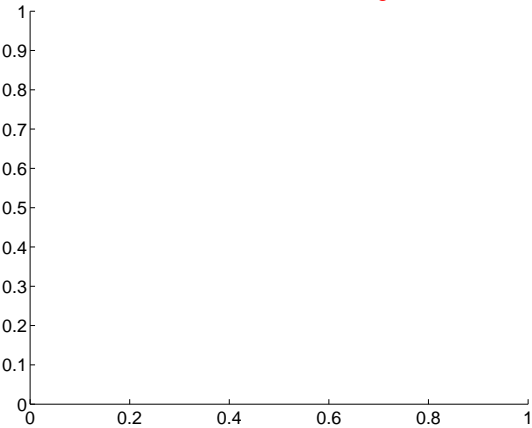
Q9 no difference image



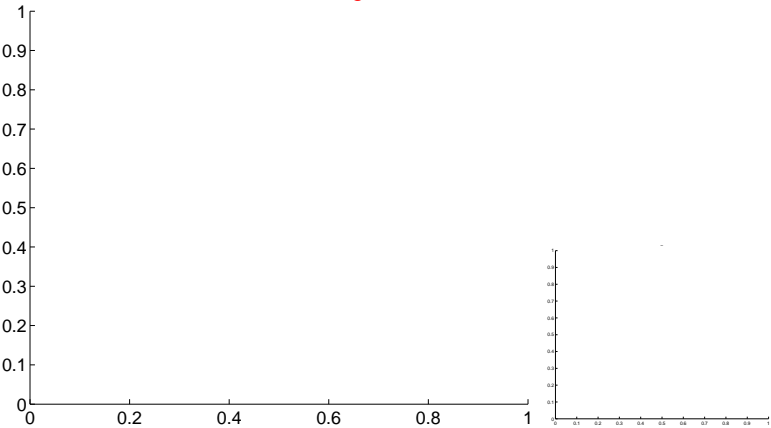
Q9 no OOT image



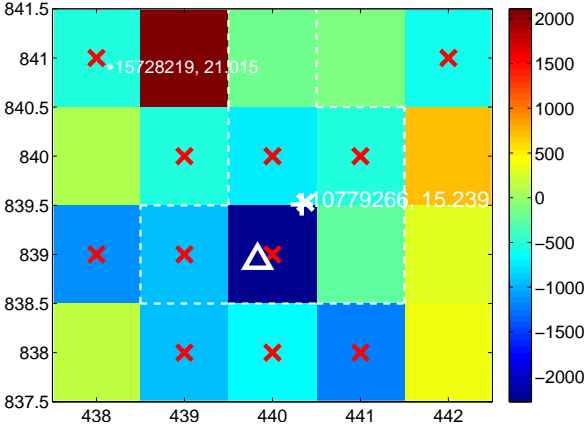
Q10 no difference image



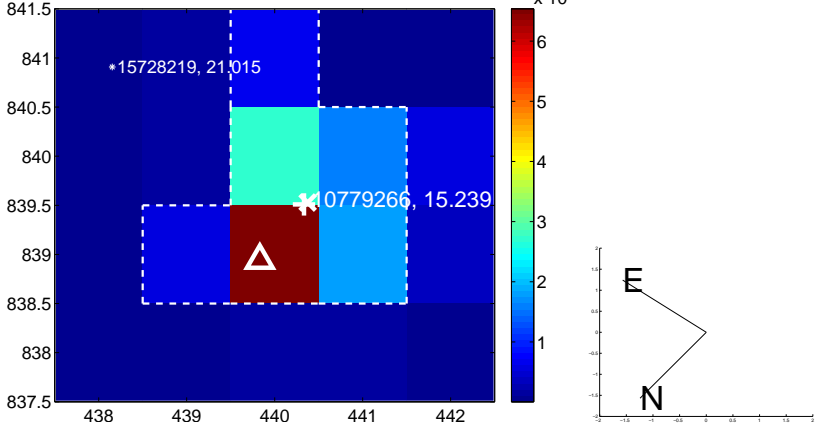
Q10 no OOT image



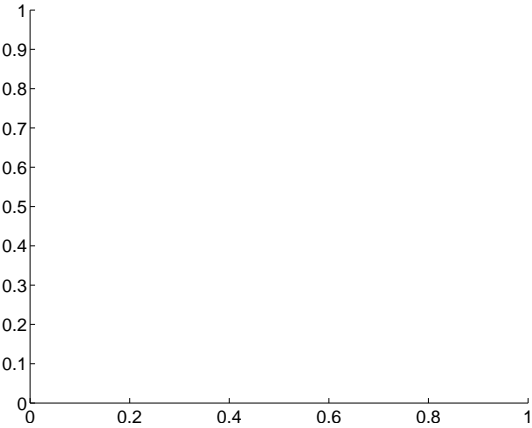
Q11 difference image. Poor Quality



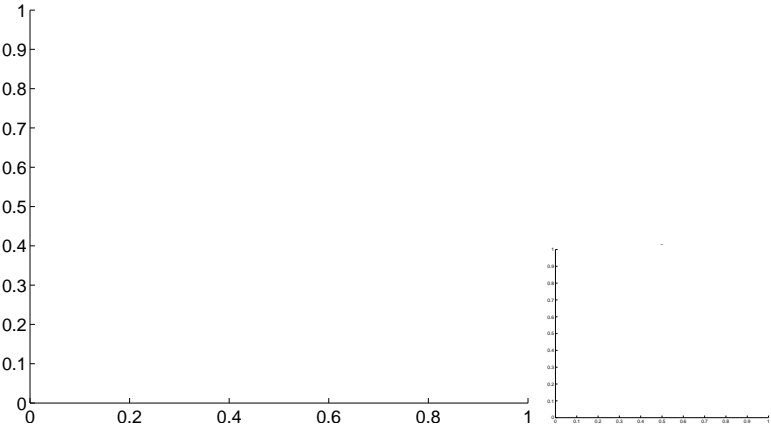
Q11 OOT image



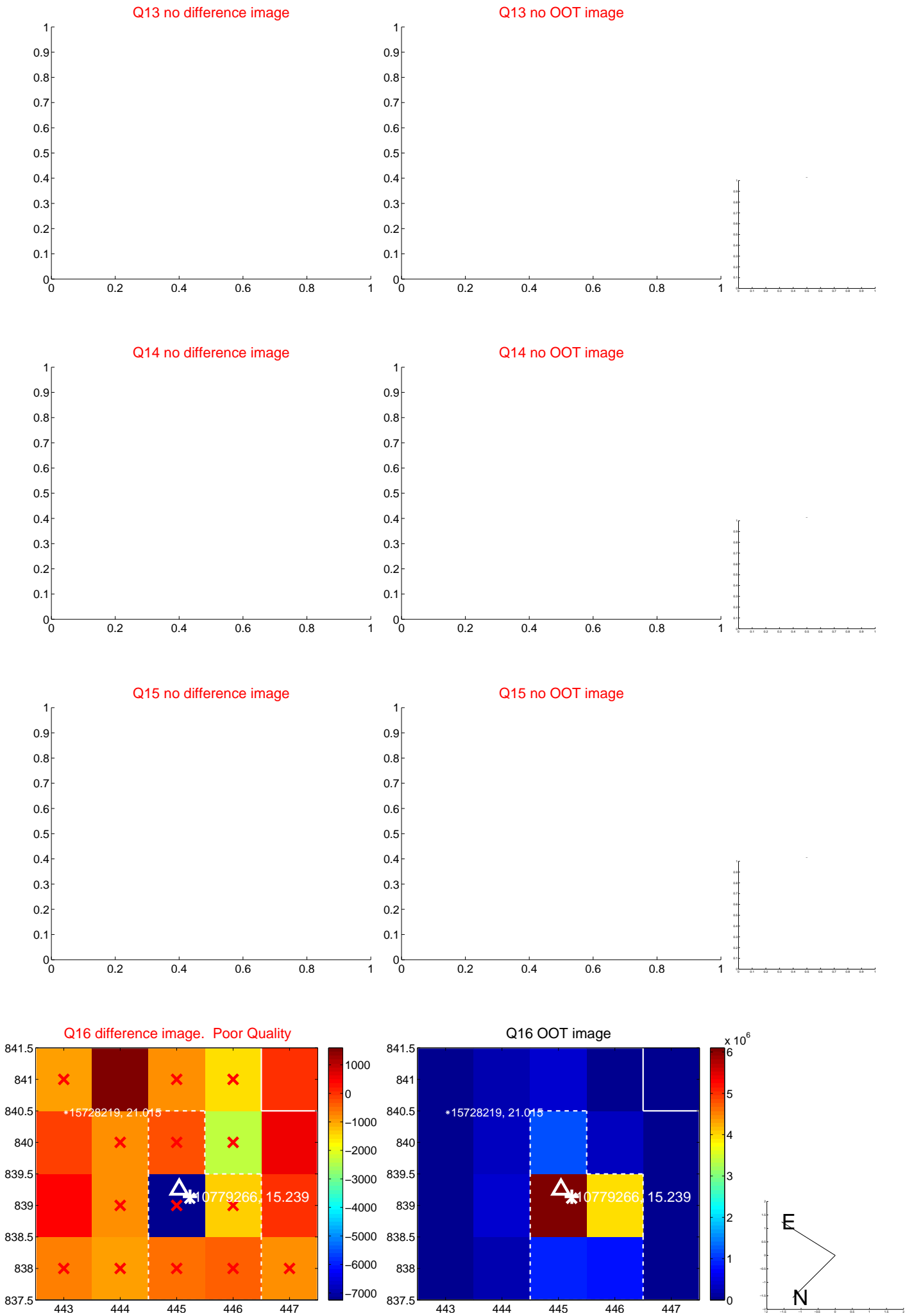
Q12 no difference image



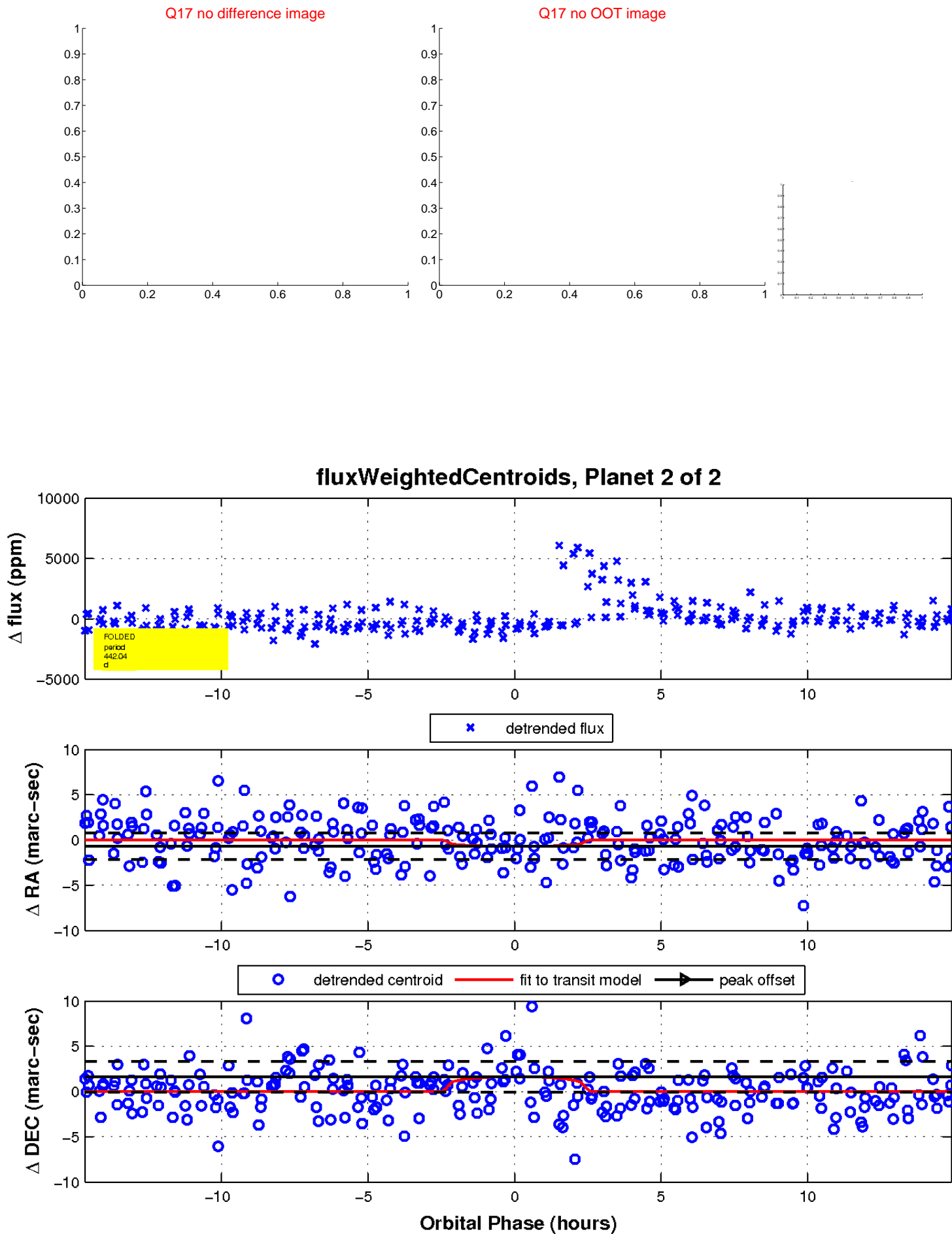
Q12 no OOT image



white \times : KIC target position; $+$: OOT centroid; Δ : 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

