

KIC 008749147

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})
008749147-01	OBS	No	472.348210	141.722531	2529.8	5.933	12.7	7.4	0.54	4650	2.63	0.13
008749147-02	OBS	No	518.029549	314.412889	2098.6	6.179	13.4	6.5	0.54	4650	2.42	0.11
008749147-03	OBS	No	353.704879	278.541586	3019.7	22.377	10.2	7.3	0.54	4650	2.92	0.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008749147-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008749147-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008749147-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_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.

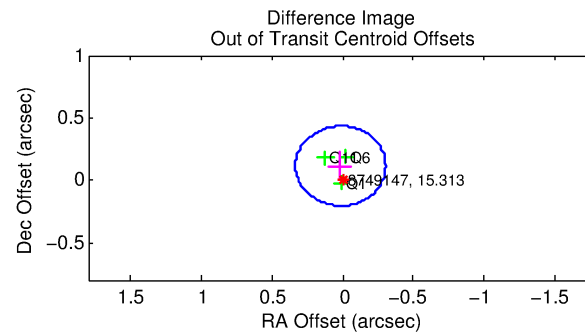
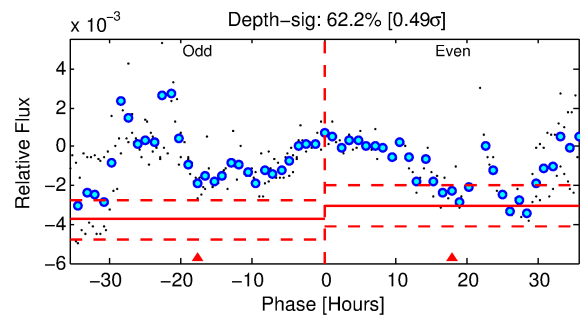
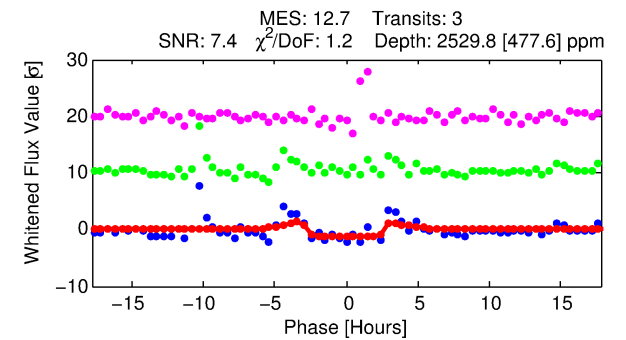
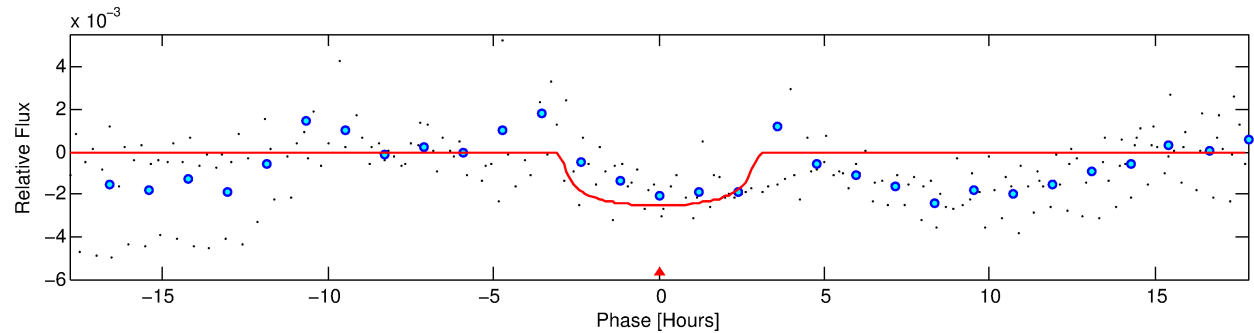
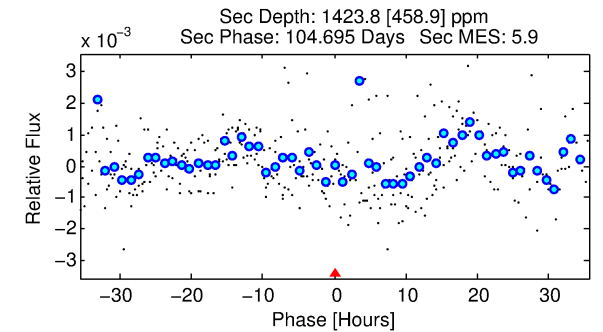
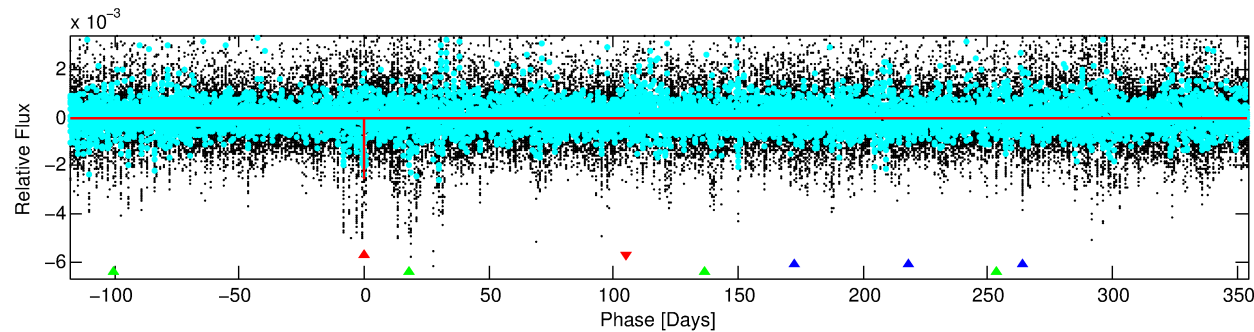
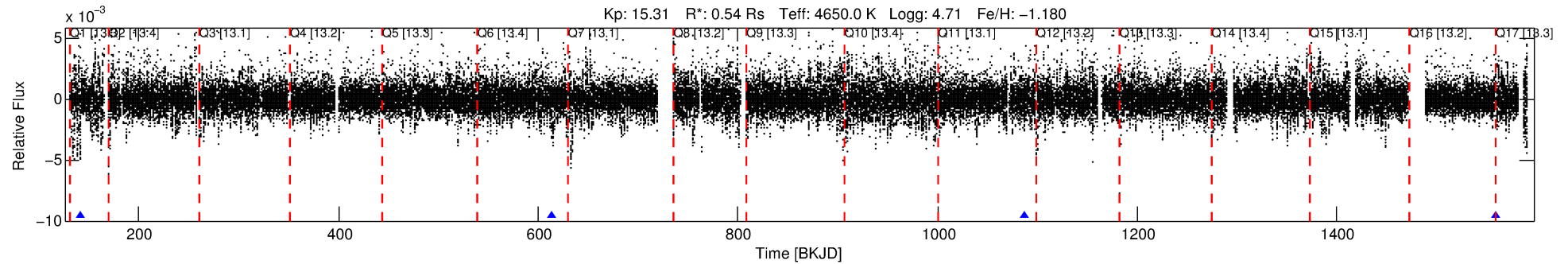
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008749147-01

No Significant Match Found

DV One-Page Summary

KIC: 8749147 Candidate: 1 of 3 Period: 472.348 d



DV Fit Results:

Period = 472.34821 [0.00659] d
Epoch = 141.7225 [0.0082] BKJD
Rp/R* = 0.0450 [0.0380]
a/R* = 634.36 [1970.49]
b = 0.07 [46.98]
Seff = 0.13 [0.02]
Teq = 153 [6] K
Rp = 2.63 [2.23] Re
a = 0.9660 [0.0542] AU
Ag = 105295.01 [181045.89] [0.58 σ]
Teffp = 4256 [1832] K [2.24 σ]

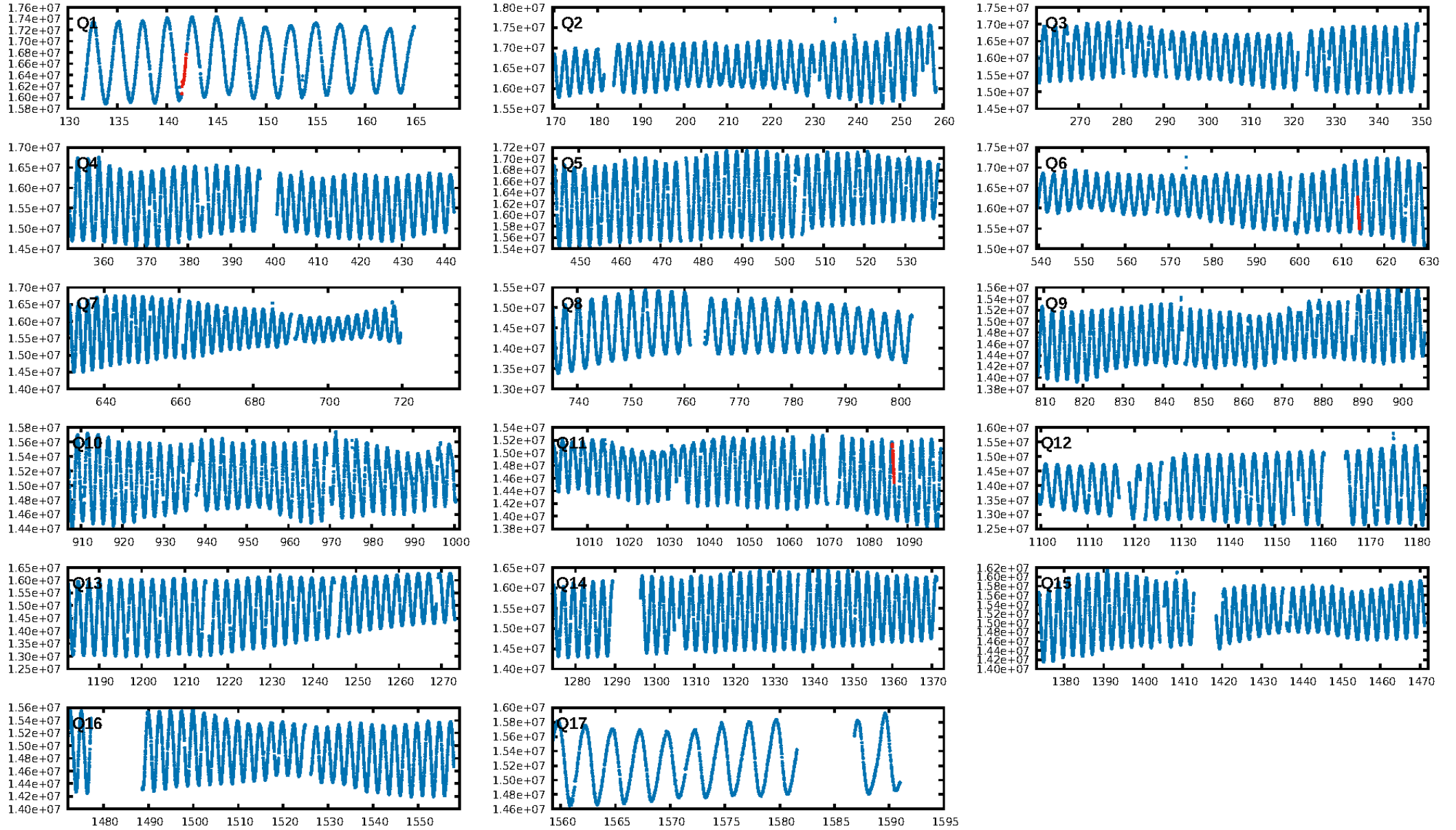
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [123.00 σ]
LongPeriod-sig: 100.0% [127.98 σ]
ModelChiSquare2-sig: 29.8%
ModelChiSquareGof-sig: 79.6%
Bootstrap-pfa: 2.99e-12
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.3646
Centroid-sig: 58.7%
Centroid-so: 0.658 arcsec [0.74 σ]
OotOffset-rm: 0.115 arcsec [1.08 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.275 arcsec [2.15 σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

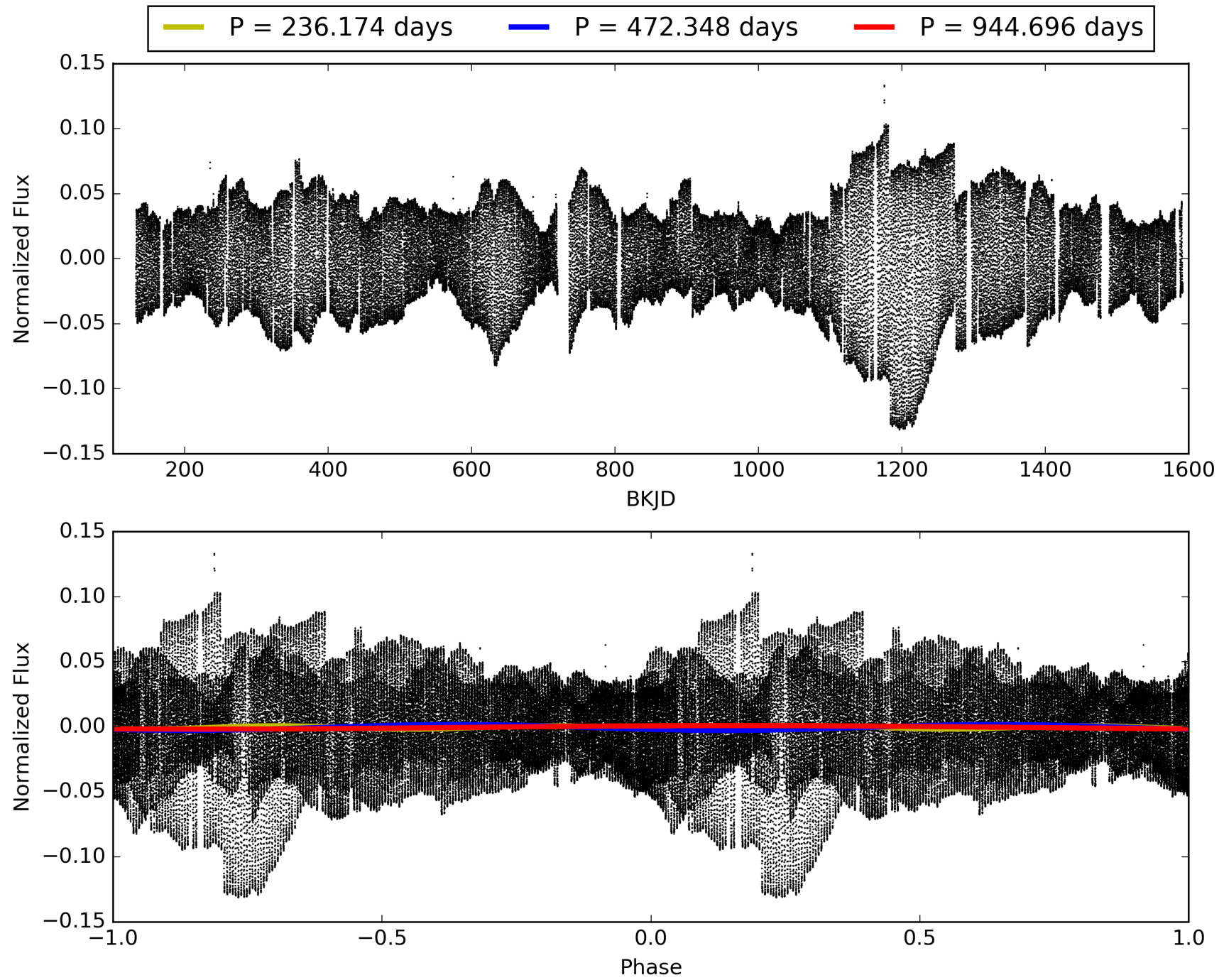
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:07:12 Z

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

TCE 008749147-01, PDC Light Curves

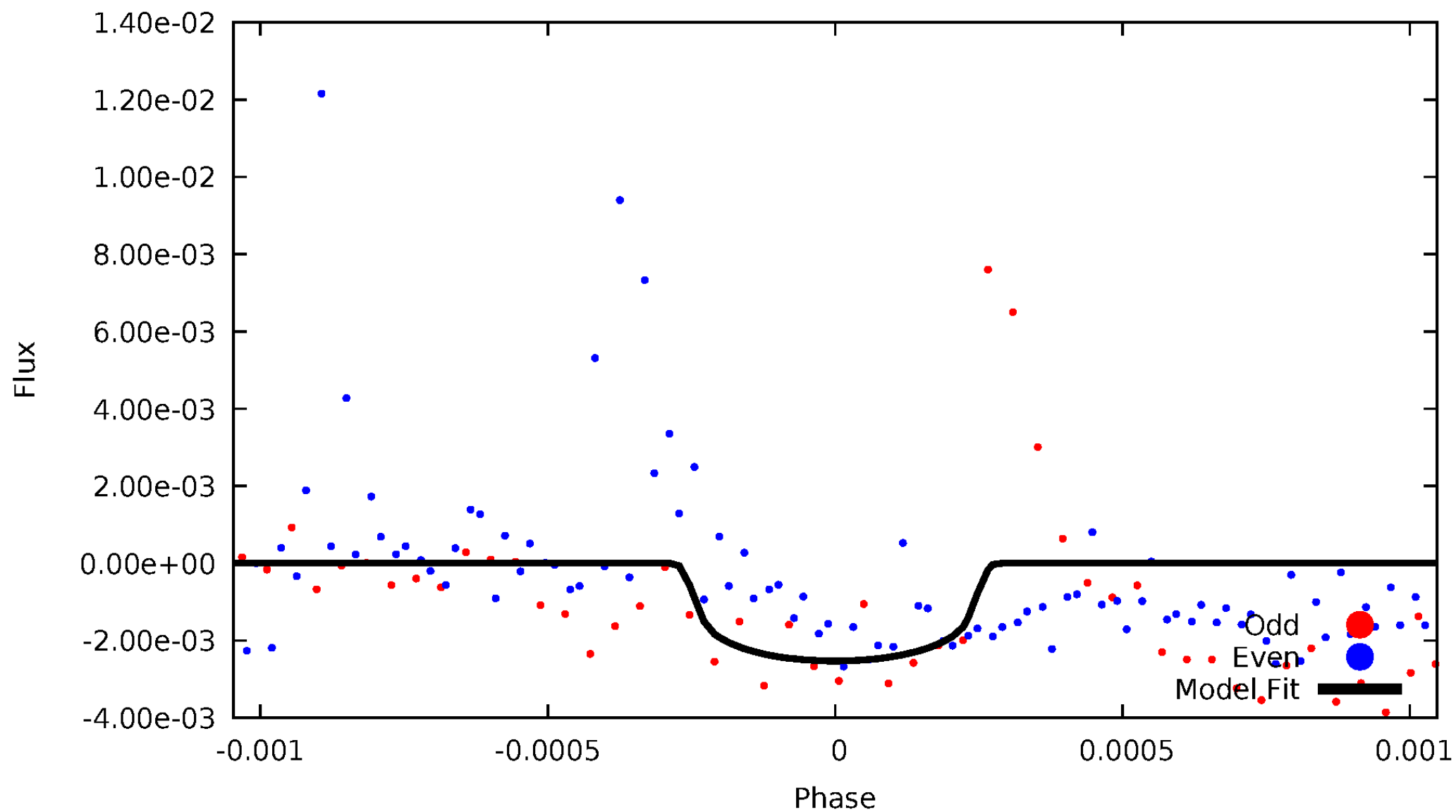


TCE 008749147-01



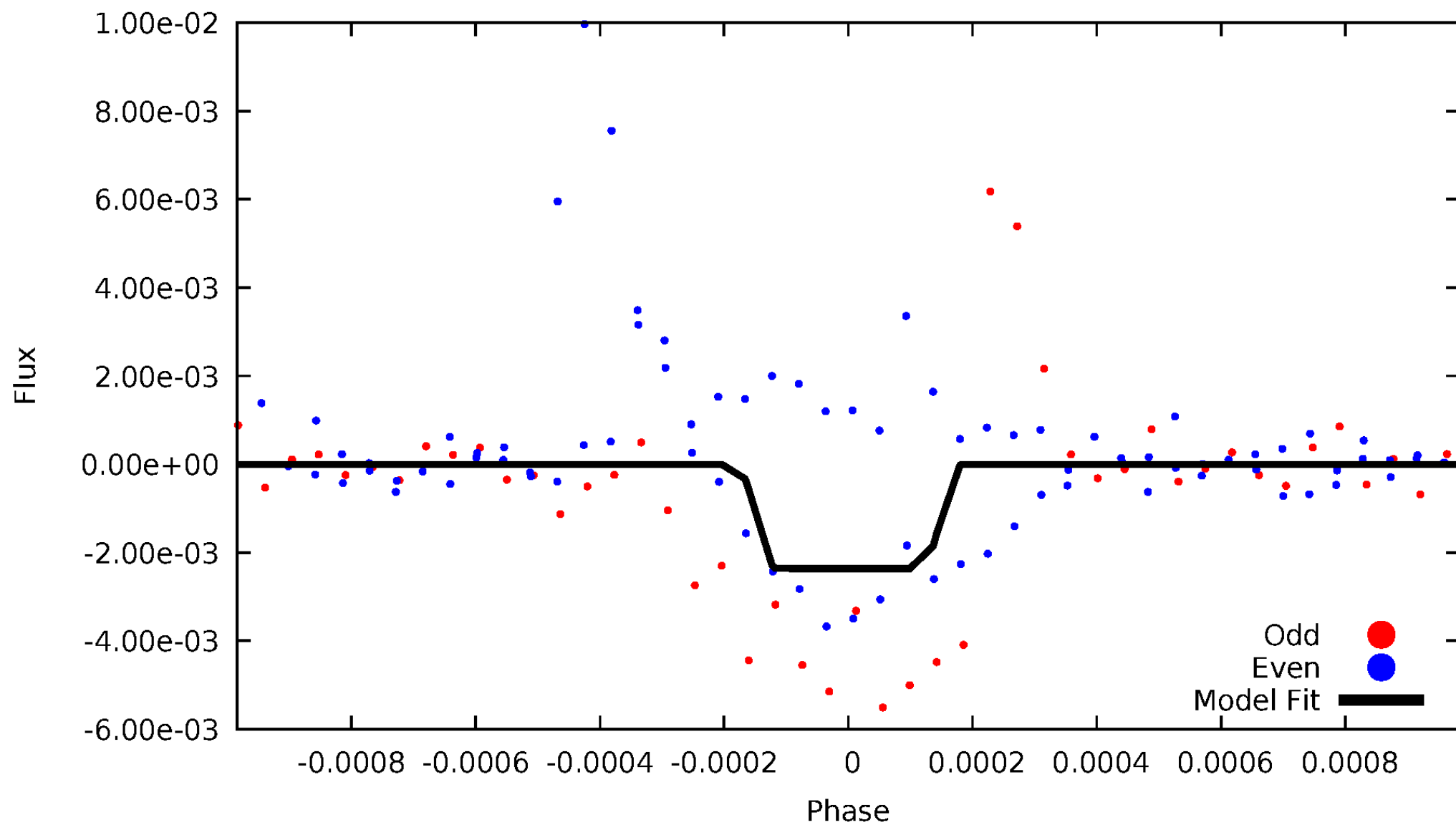
DV Odd/Even

TCE 008749147-01



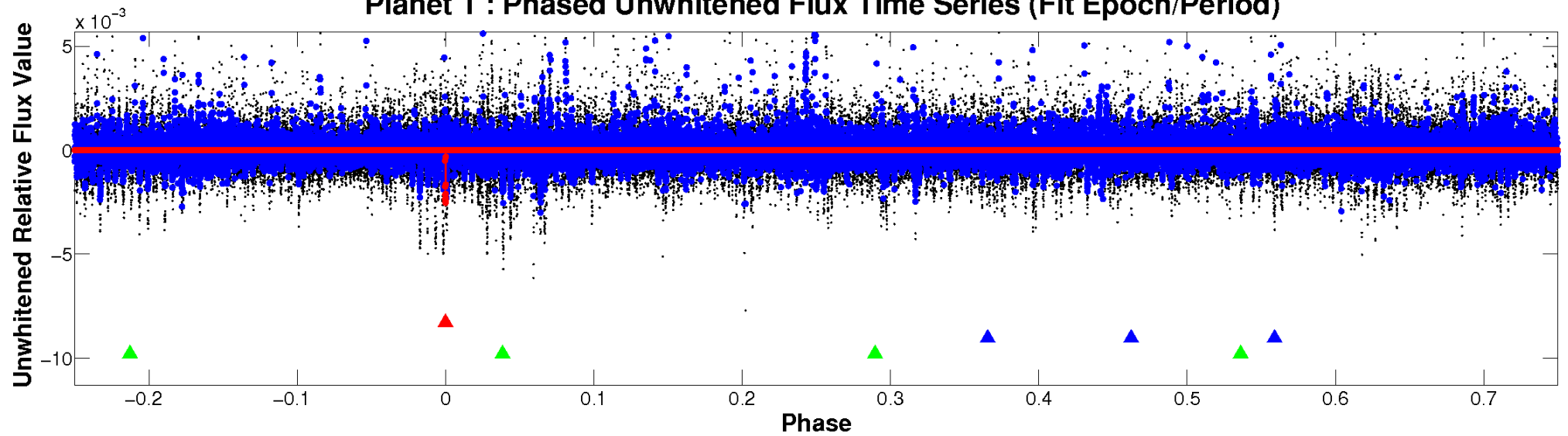
ALT Odd/Even

TCE 008749147-01

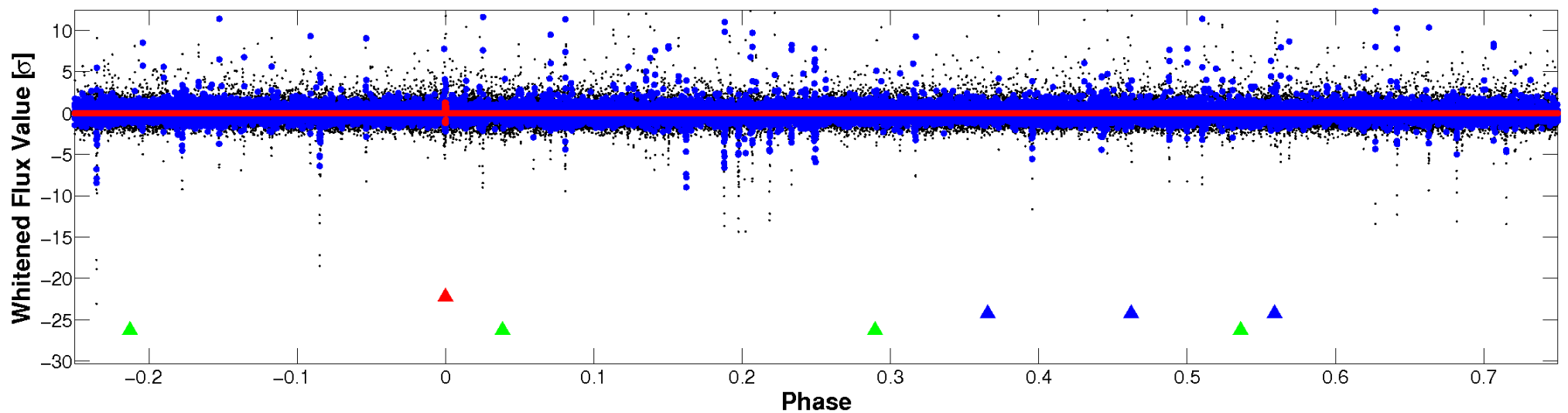


Non-Whitened Vs. Whitened Light Curve

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

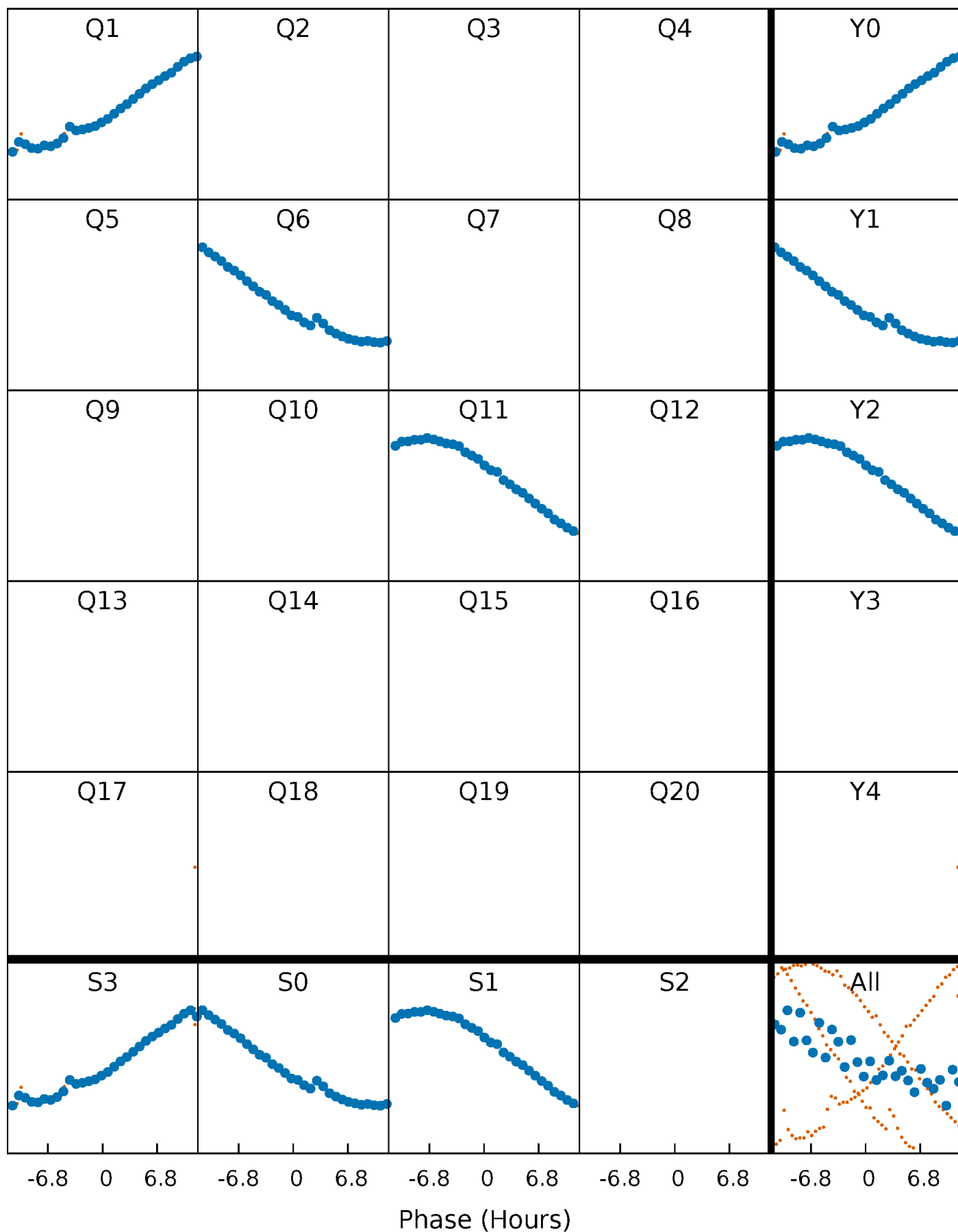


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



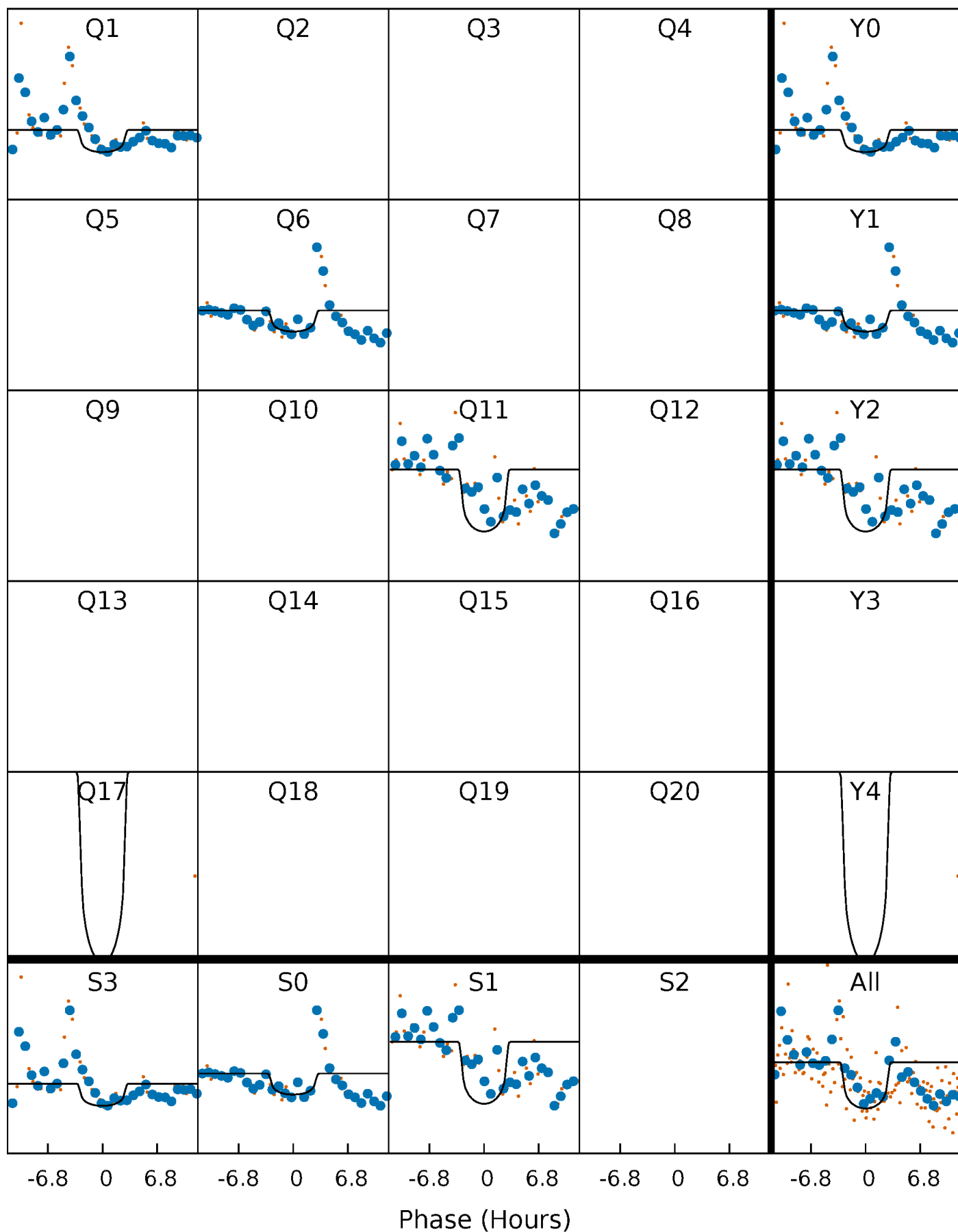
PDC Quarter-Phased Transit Curves

TCE 008749147-01 P=472.348210 Days $T_0=141.722531$ (BKJD)



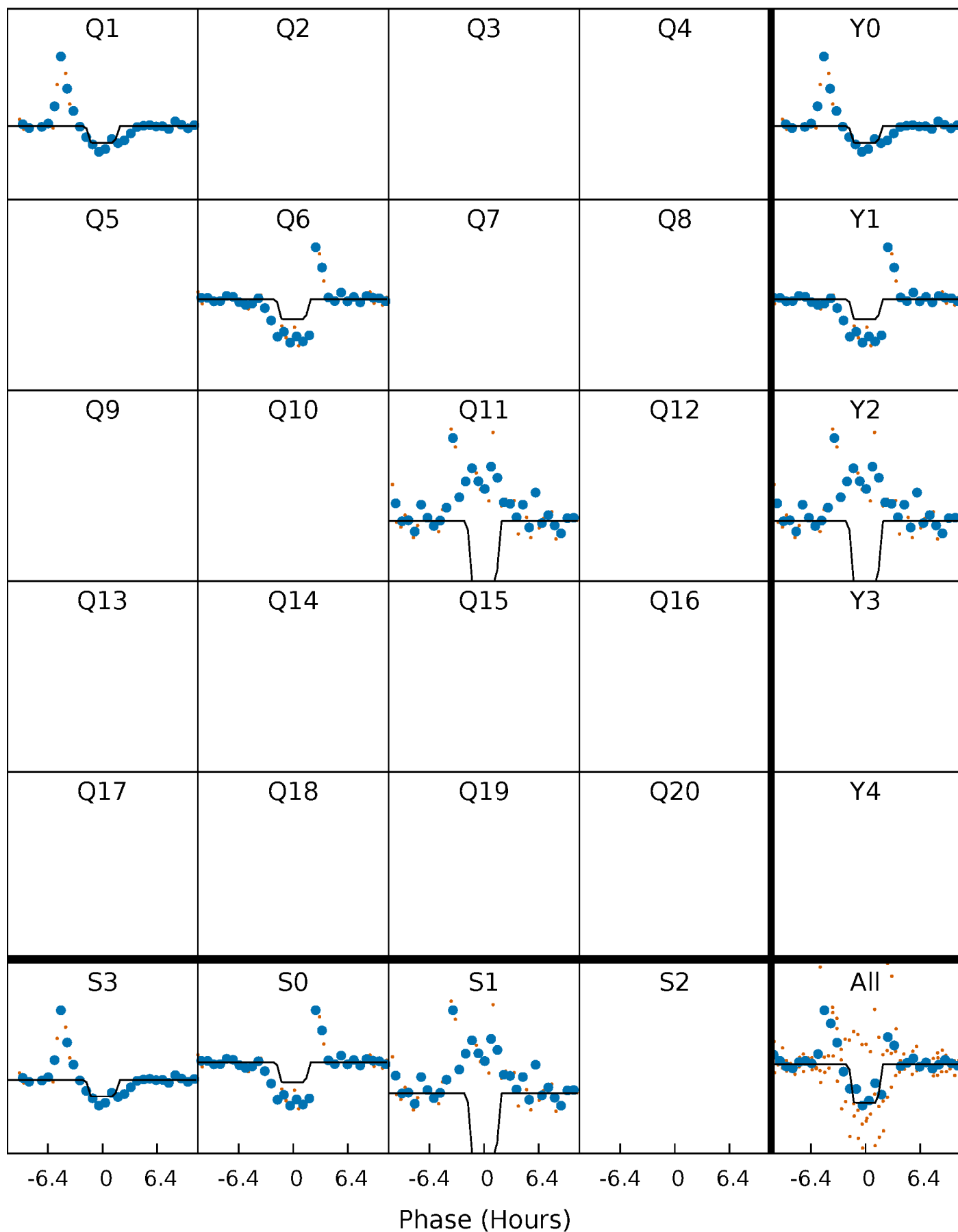
DV Quarter-Phased Transit Curves

TCE 008749147-01 P=472.348210 Days $T_0=141.722531$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

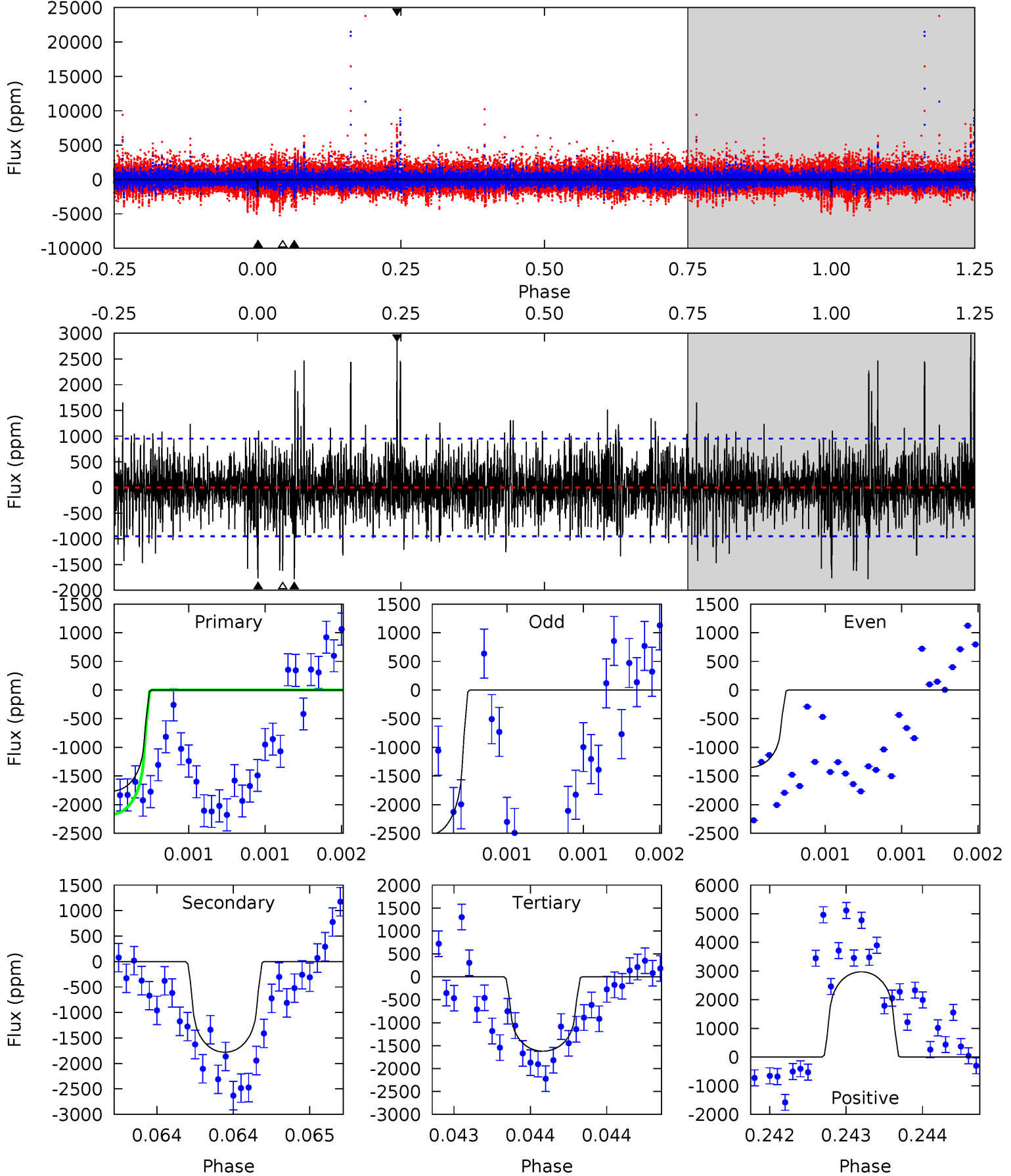
TCE 008749147-01 P=472.342173 Days $T_0=141.746153$ (BKJD)



DV Model-Shift Uniqueness Test

008749147-01, P = 472.348210 Days, E = 141.722531 Days

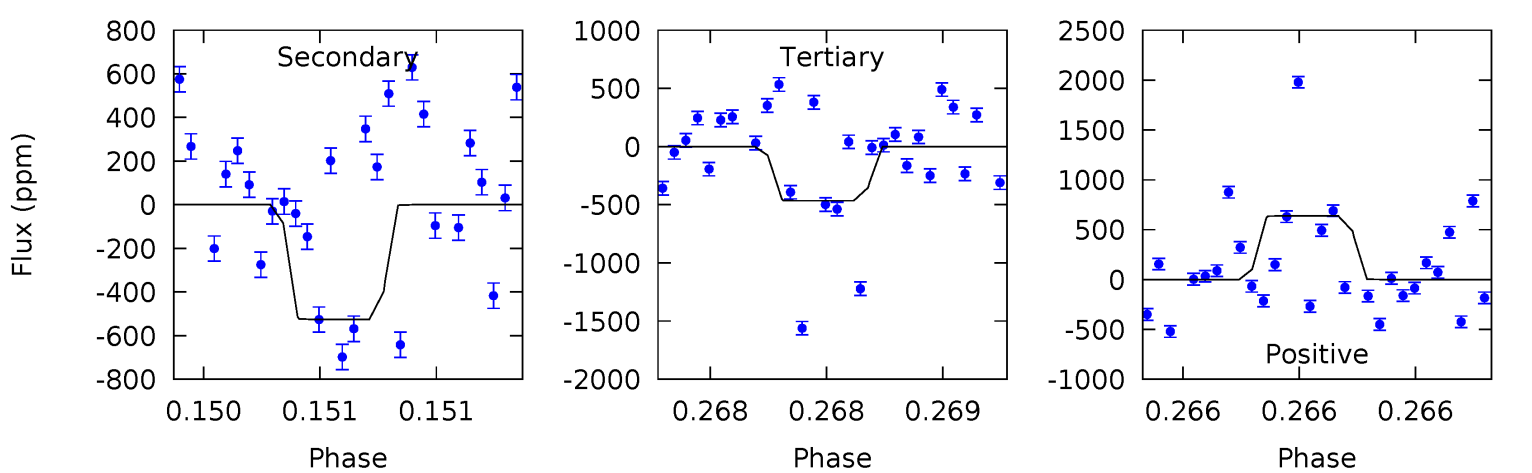
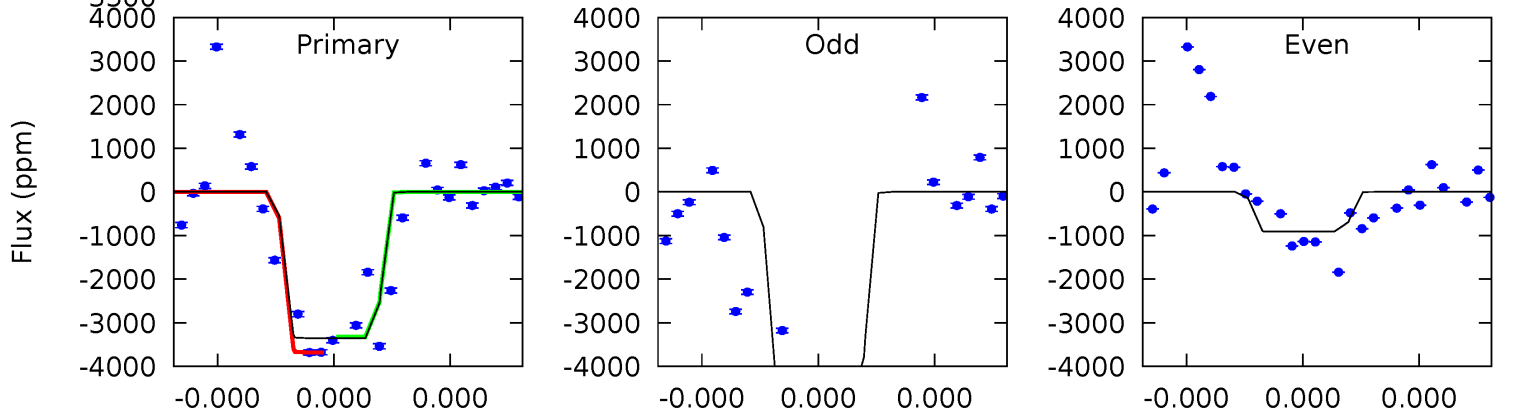
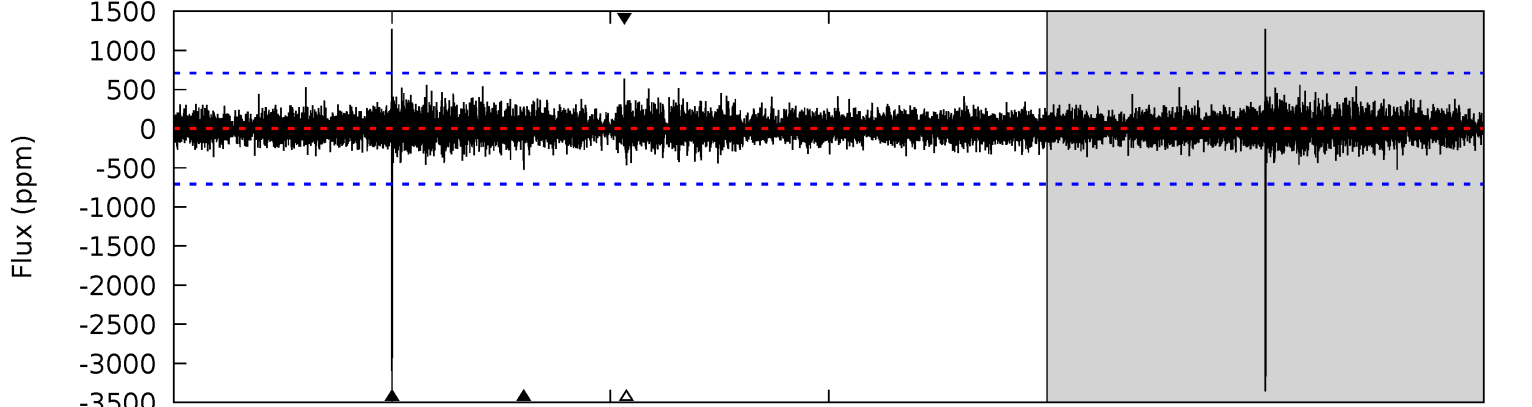
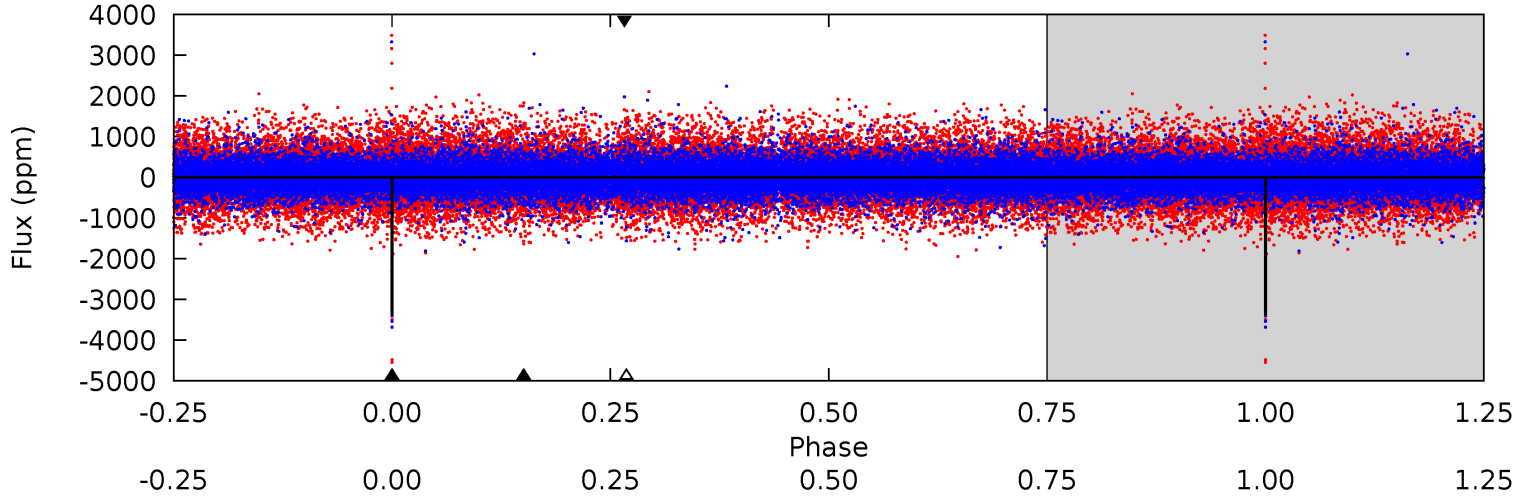
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	10.4	9.48	17.4	5.55	3.45	2.40	0.82	-7.09	0.93	-6.99	2.98	1.19	0.63	2.43



Alt Model-Shift Uniqueness Test

008749147-01, P = 472.342173 Days, E = 141.746153 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.6	4.17	3.69	5.07	5.63	3.57	0.80	22.9	21.6	0.48	-0.90	20.1	0.66	0.27	1.49



Stellar Parameters For KIC 008749147

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4650^{+139}_{-139}	$4.711^{+0.048}_{-0.028}$	$-1.180^{+0.300}_{-0.300}$	$0.536^{+0.034}_{-0.034}$	$0.538^{+0.039}_{-0.025}$	$4.929^{+0.968}_{-0.555}$
	+3%/-3%	+1%/-1%	+25%/-25%	+6%/-6%	+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 008749147-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1780 ± 171	$3.01^{+2.11}_{-1.80}$	213^{+7}_{-7}	4303^{+2050}_{-720}	$103419^{+525352}_{-68289}$
Alt.	-526 ± 126	$2.94^{+2.07}_{-1.79}$	213^{+7}_{-7}	3497^{+1410}_{-536}	$30688^{+169504}_{-20360}$

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

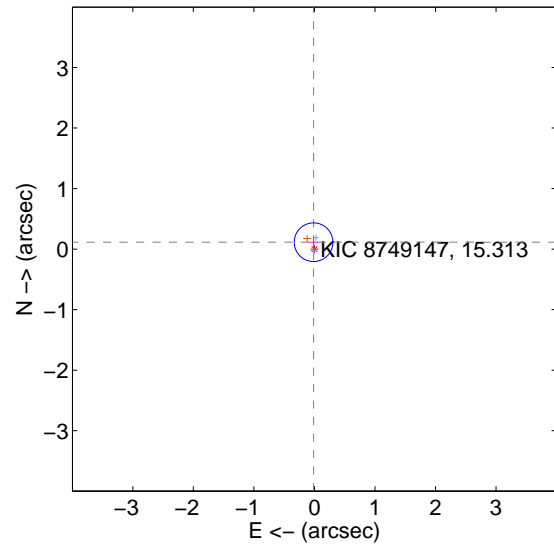
Supplemental centroid analysis for 008749147-01. Kepler magnitude: 15.31. Transit SNR 7.39

There are 2 quarters with good PRF difference image offsets

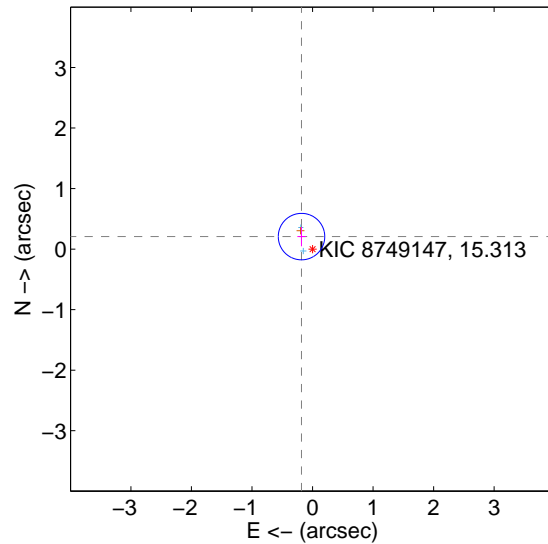
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.115 ± 0.106	1.08	0.015 ± 0.079	0.114 ± 0.107
PRF-fit source offset from KIC position	0.275 ± 0.128	2.15	0.182 ± 0.069	0.206 ± 0.159
photometric centroid source offset	0.66 ± 0.89	0.74	0.44 ± 0.73	0.49 ± 1.00

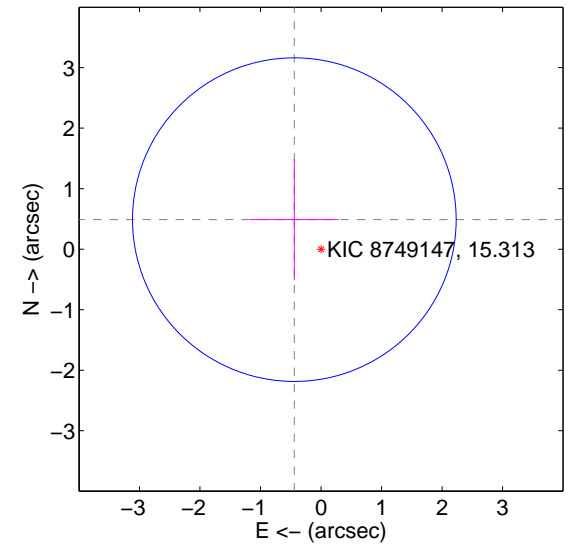
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

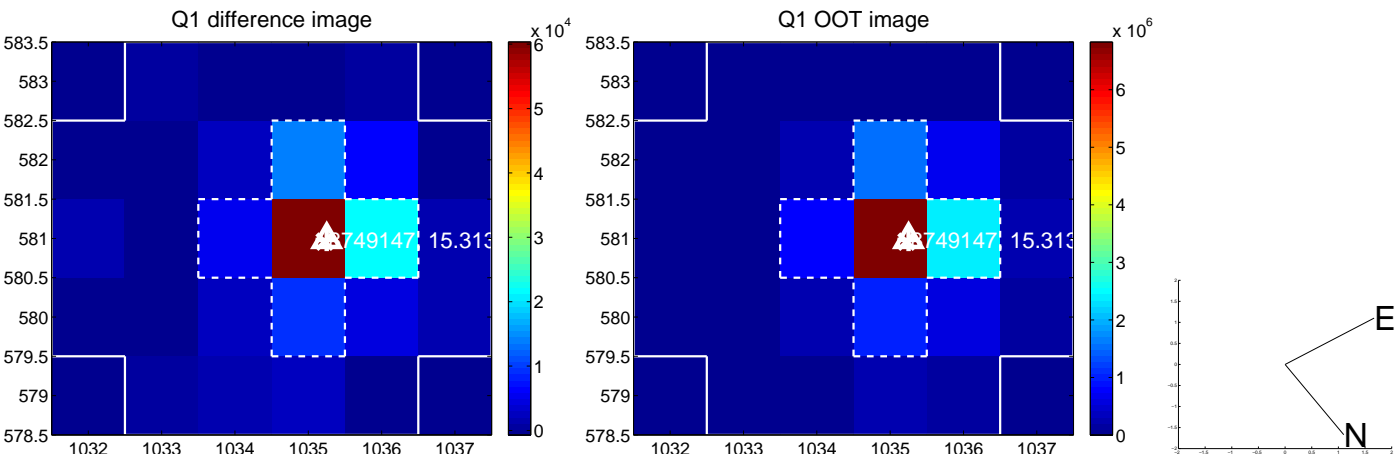


offset from photometric centroids

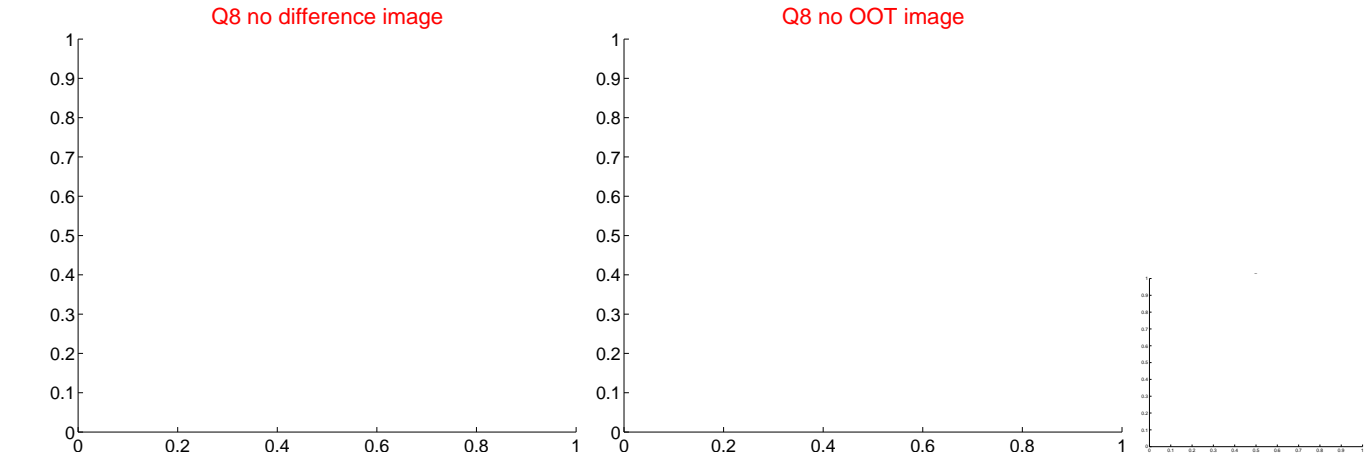
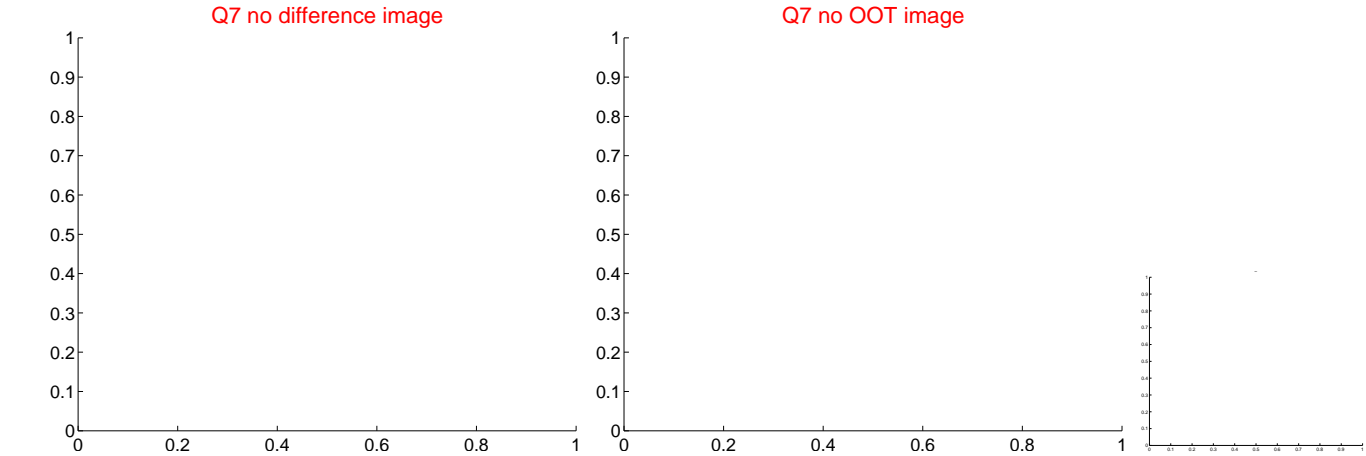
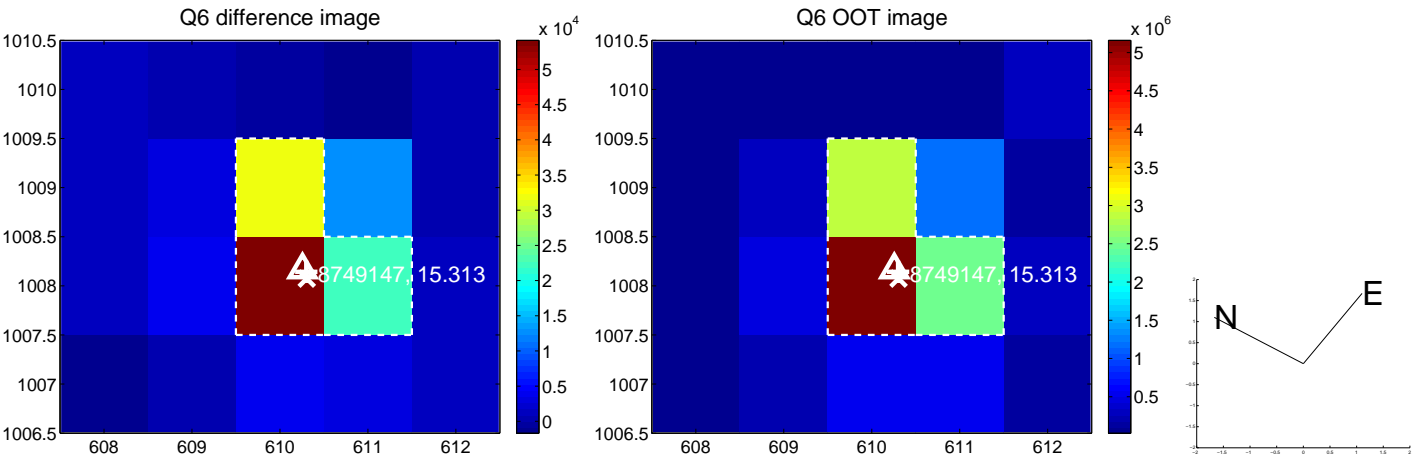
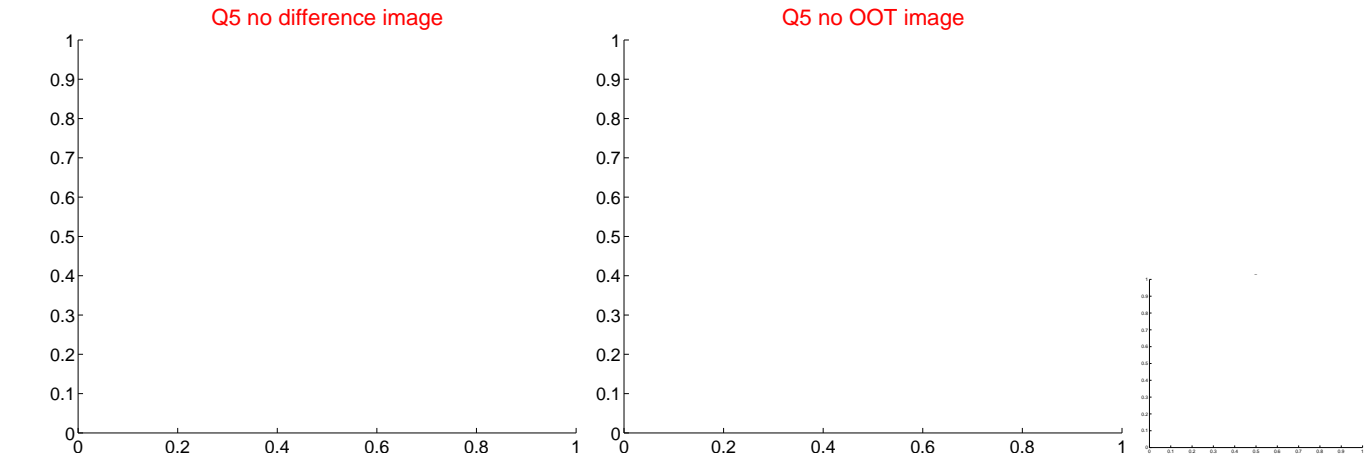


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

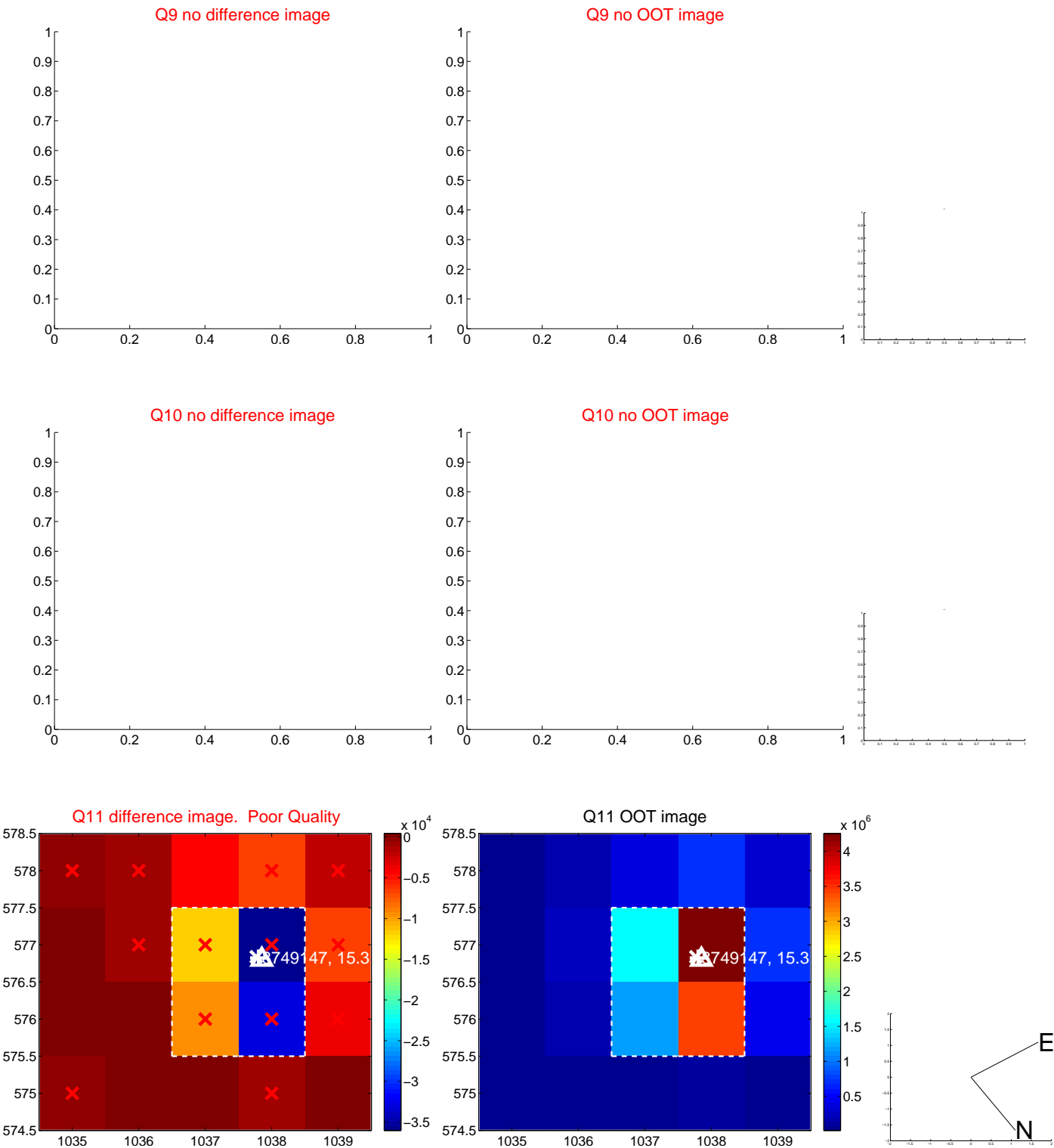
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



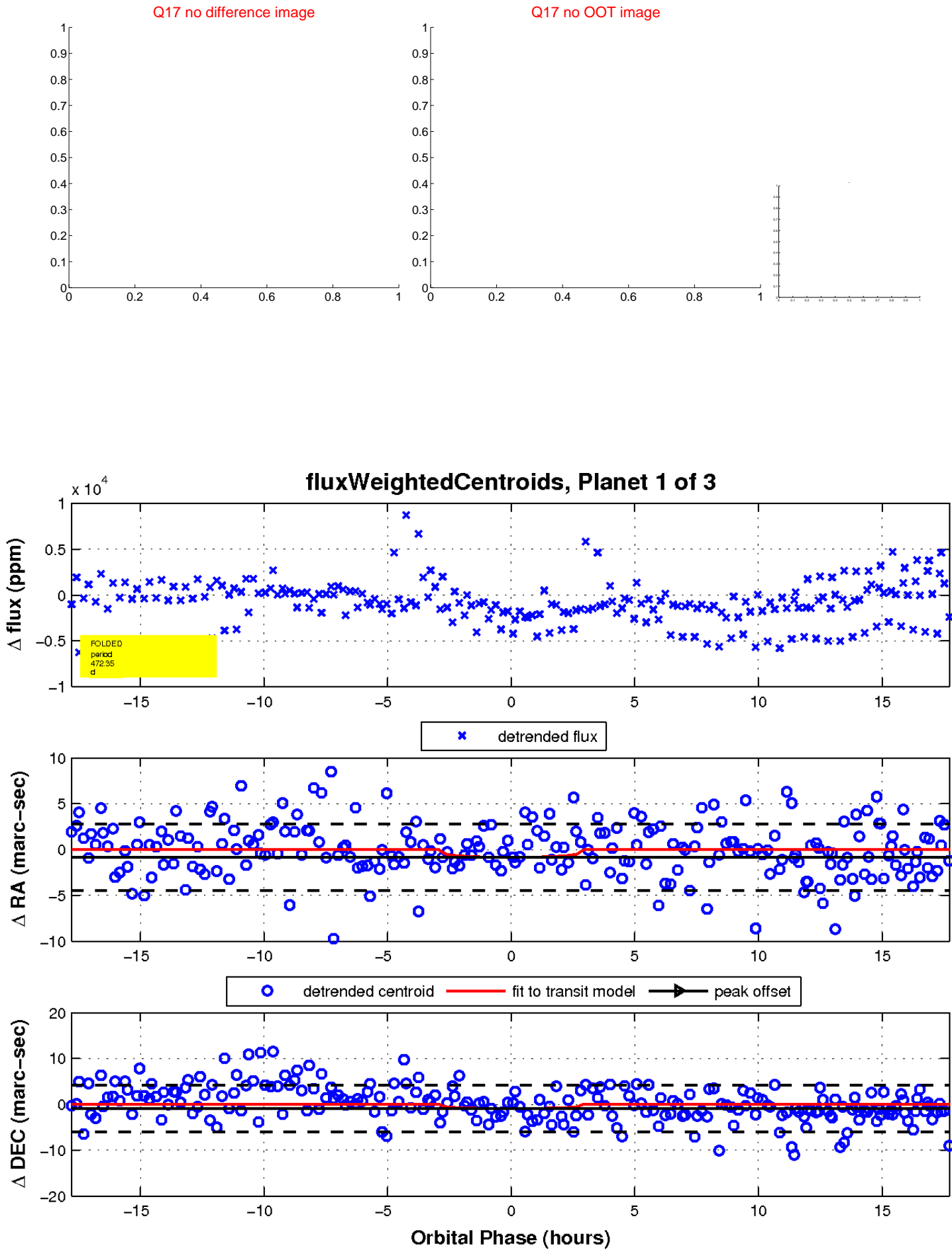
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

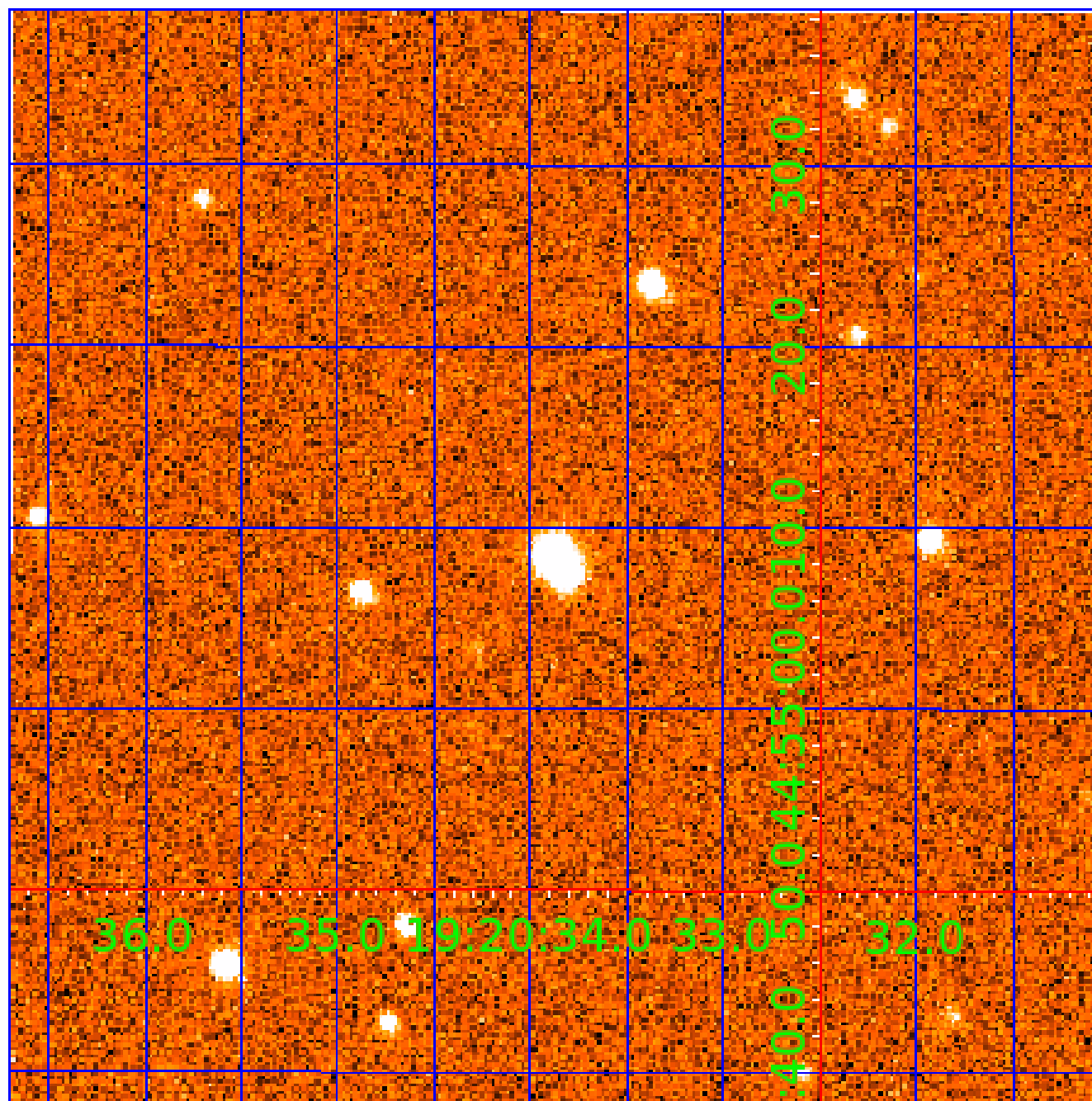


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008749147

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})
008749147-01	OBS	No	472.348210	141.722531	2529.8	5.933	12.7	7.4	0.54	4650	2.63	0.13
008749147-02	OBS	No	518.029549	314.412889	2098.6	6.179	13.4	6.5	0.54	4650	2.42	0.11
008749147-03	OBS	No	353.704879	278.541586	3019.7	22.377	10.2	7.3	0.54	4650	2.92	0.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008749147-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008749147-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008749147-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_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.

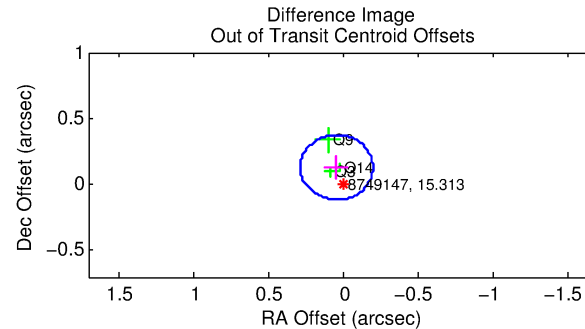
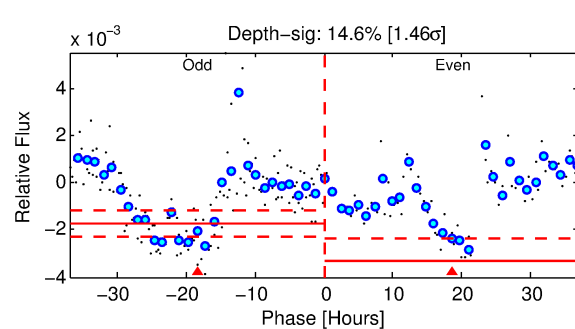
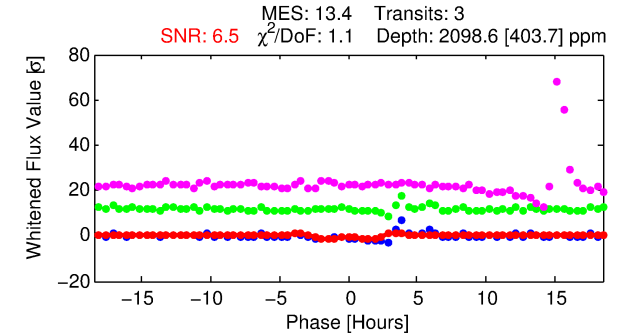
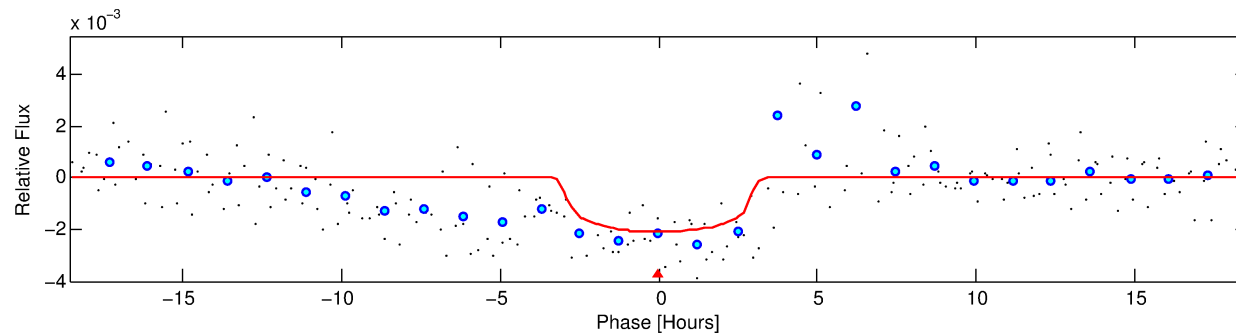
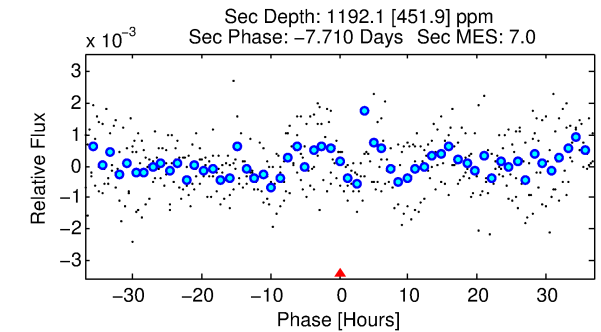
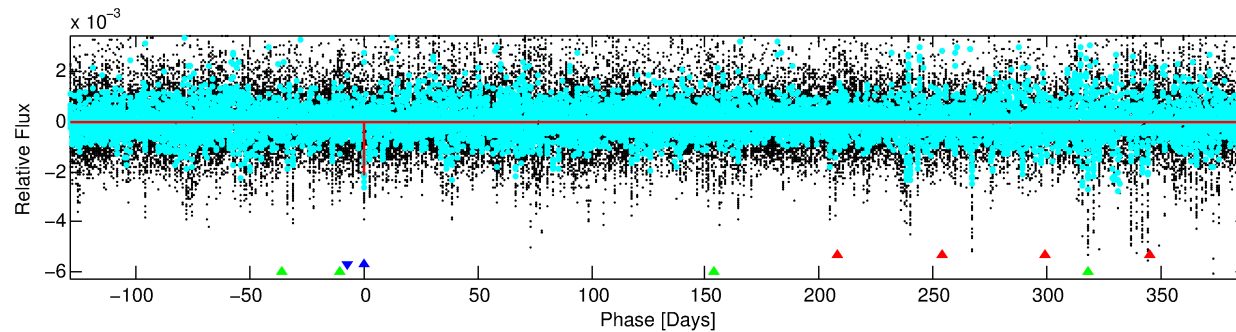
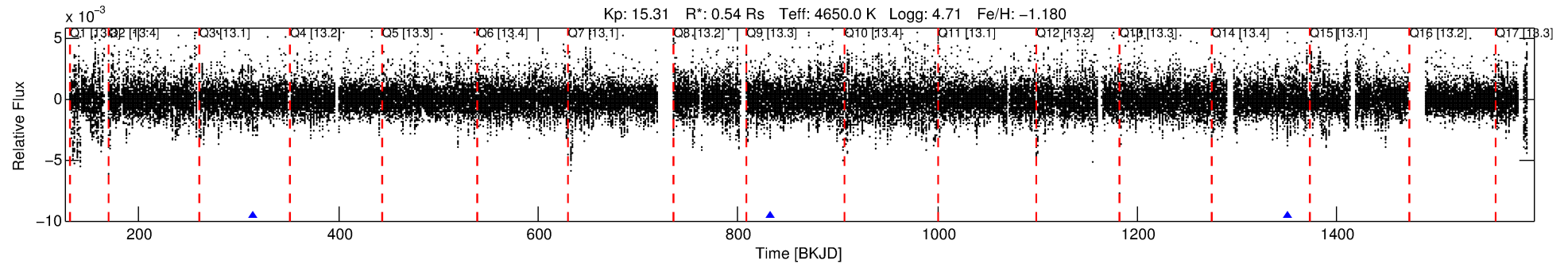
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008749147-02

No Significant Match Found

DV One-Page Summary

KIC: 8749147 Candidate: 2 of 3 Period: 518.030 d



DV Fit Results:

Period = 518.02955 [0.00705] d
Epoch = 314.4129 [0.0073] BKJD
Rp/R* = 0.0414 [0.0457]
a/R* = 641.65 [2633.49]
b = 0.28 [13.41]
Seff = 0.11 [0.02]
Teq = 148 [5] K
Rp = 2.42 [2.67] Re
a = 1.0273 [0.0576] AU
Ag = 117778.60 [263470.91] [0.45 σ]
Teffp = 4244 [2375] K [1.72 σ]

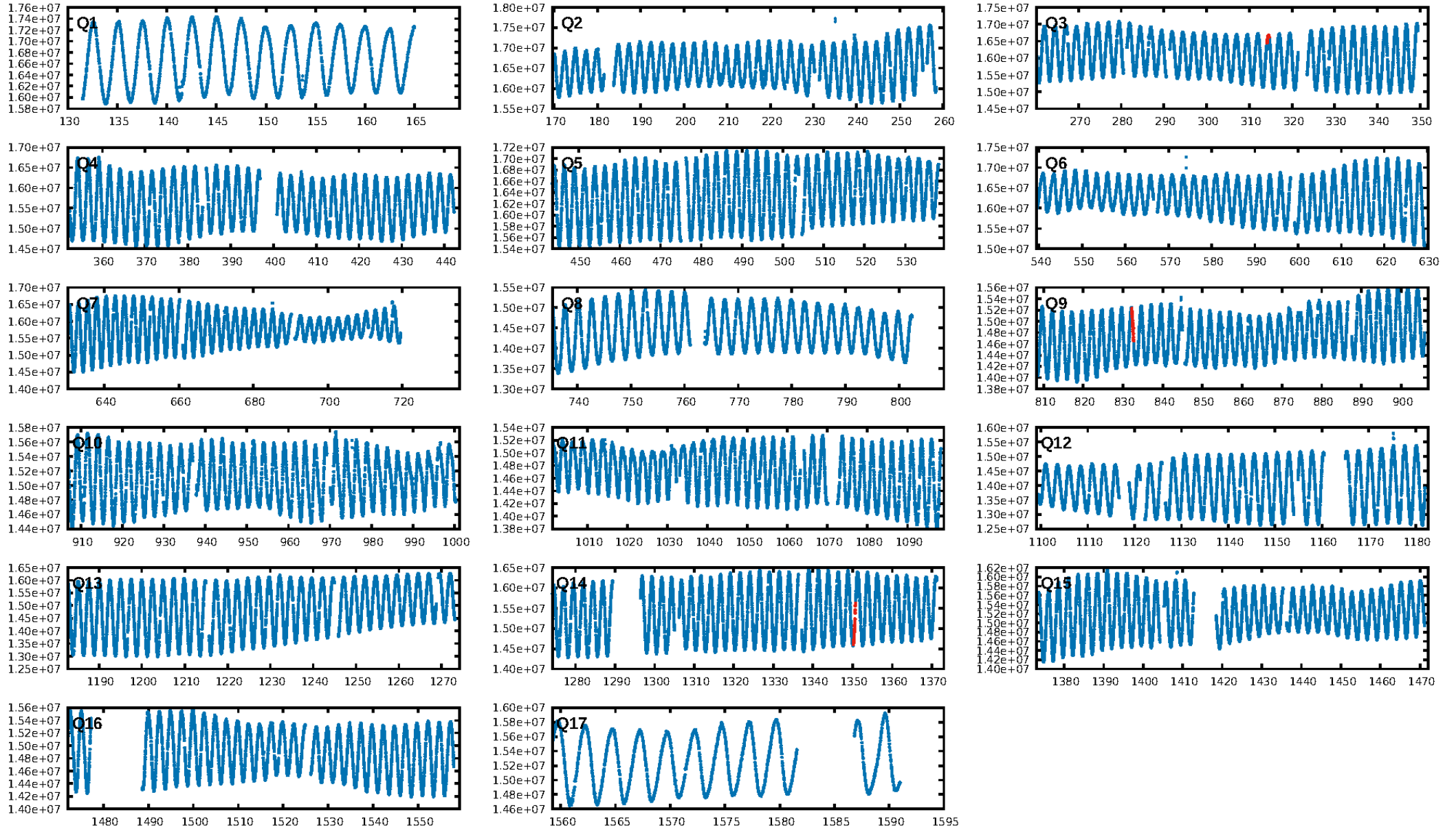
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [127.98 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.1%
ModelChiSquareGof-sig: 97.7%
Bootstrap-pfa: 1.94e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.303
Centroid-sig: 9.0%
Centroid-so: 1.323 arcsec [1.38 σ]
OotOffset-rm: 0.136 arcsec [1.67 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.333 arcsec [4.48 σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

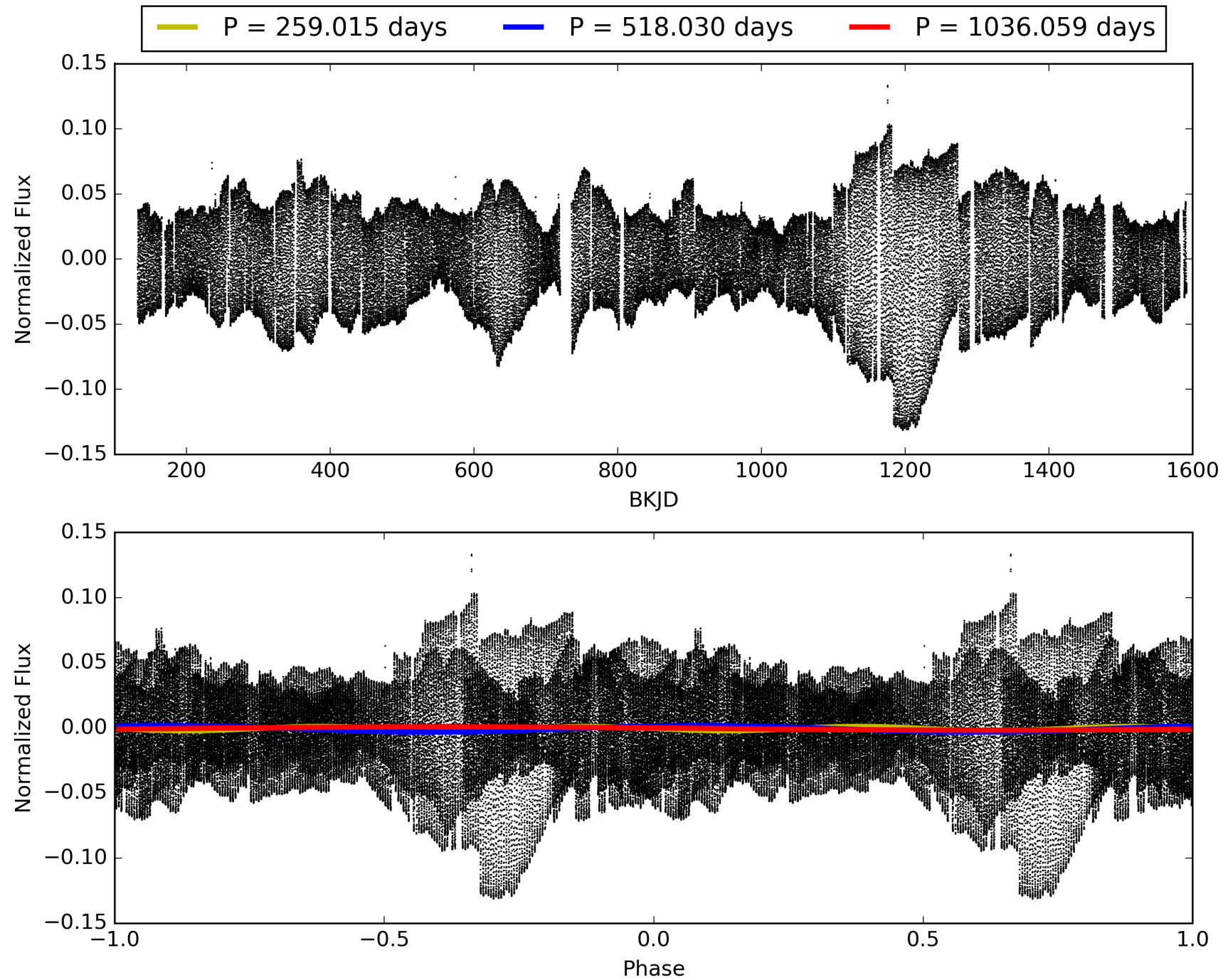
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:07:27 Z

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

TCE 008749147-02, PDC Light Curves

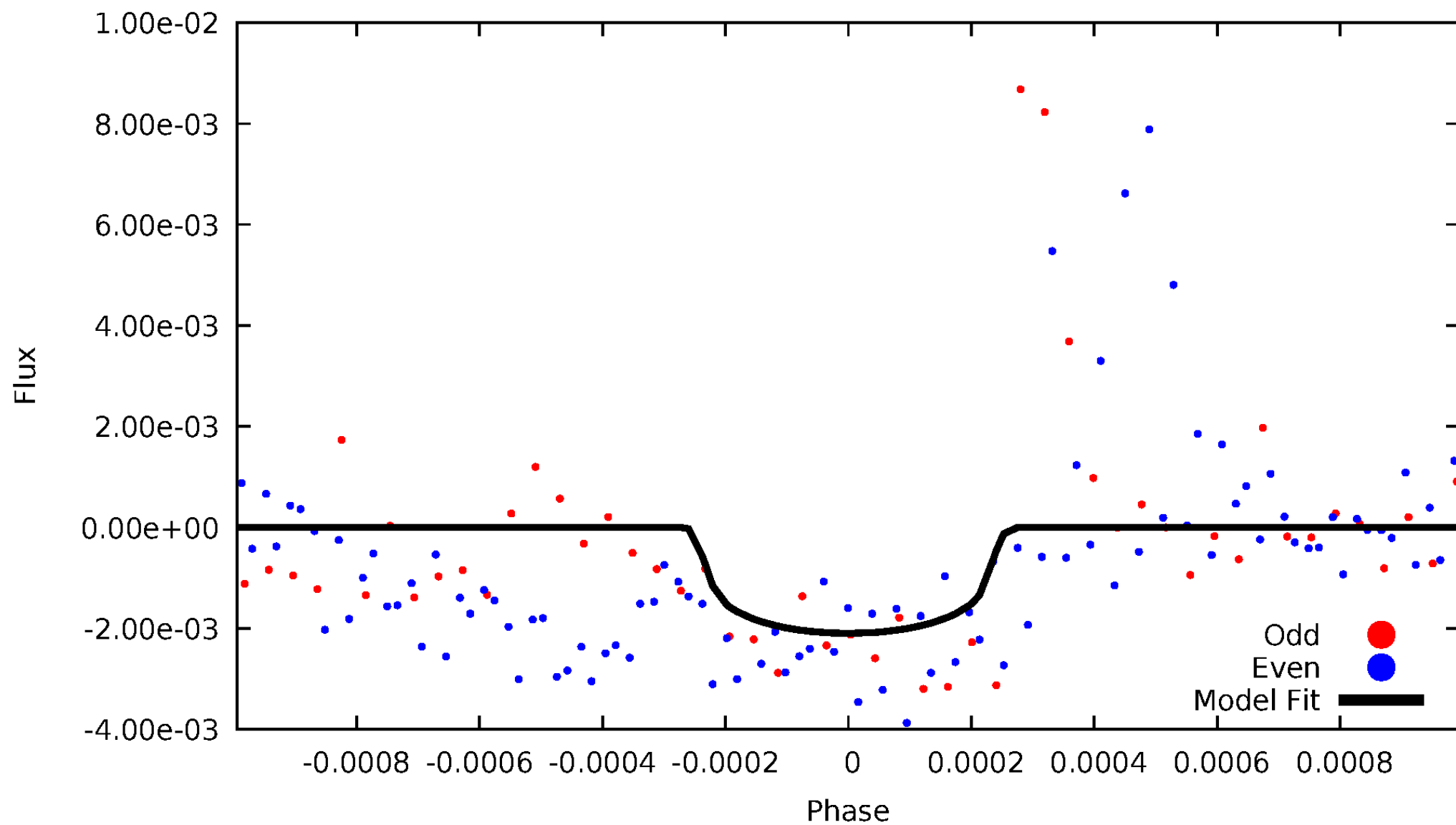


TCE 008749147-02



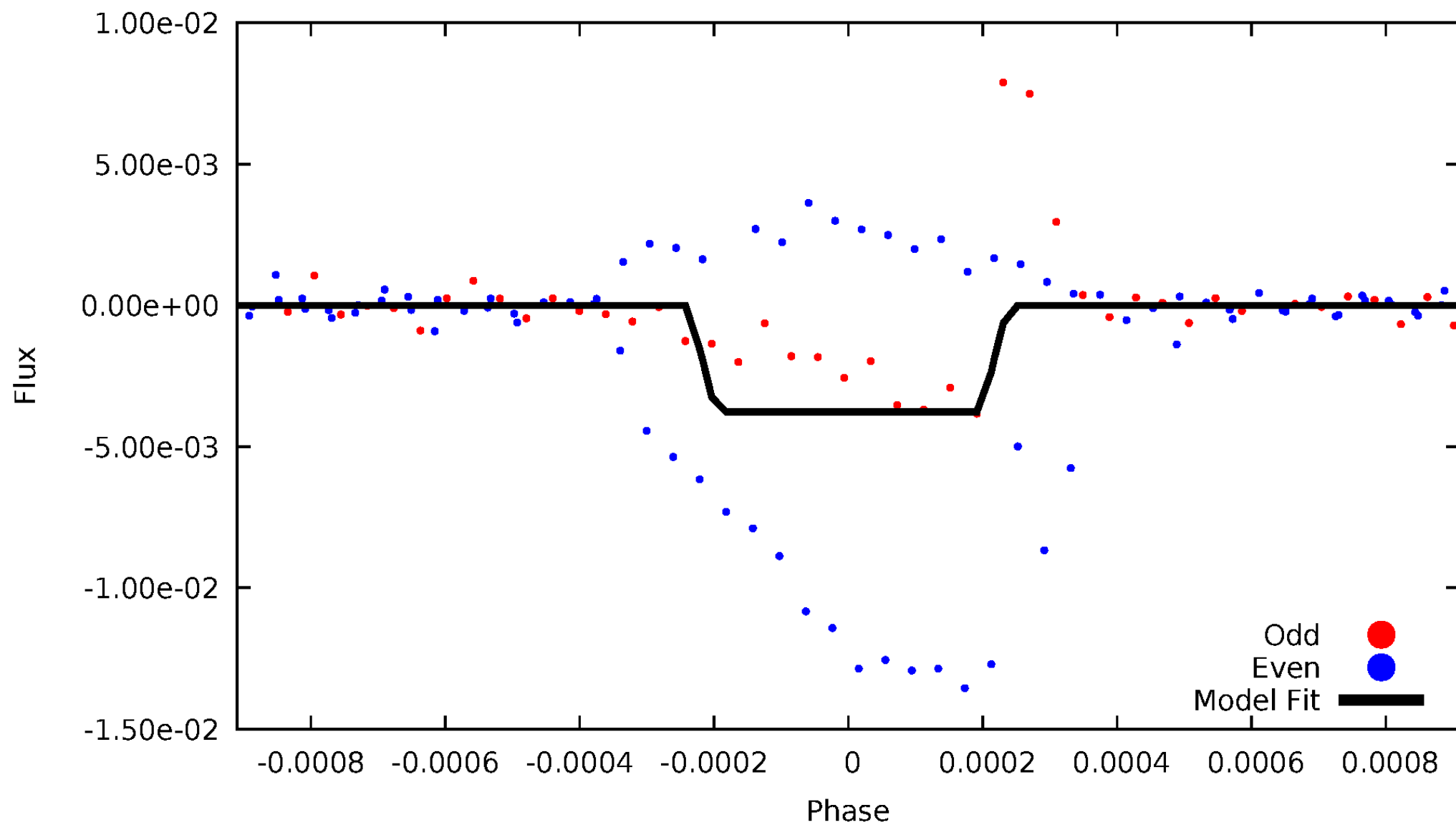
DV Odd/Even

TCE 008749147-02



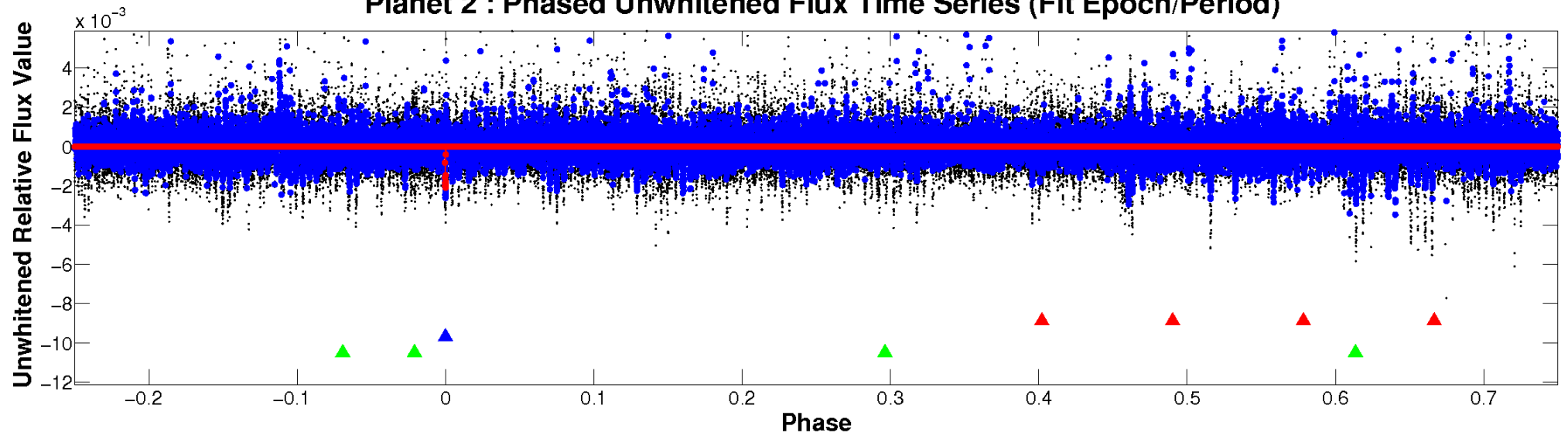
ALT Odd/Even

TCE 008749147-02

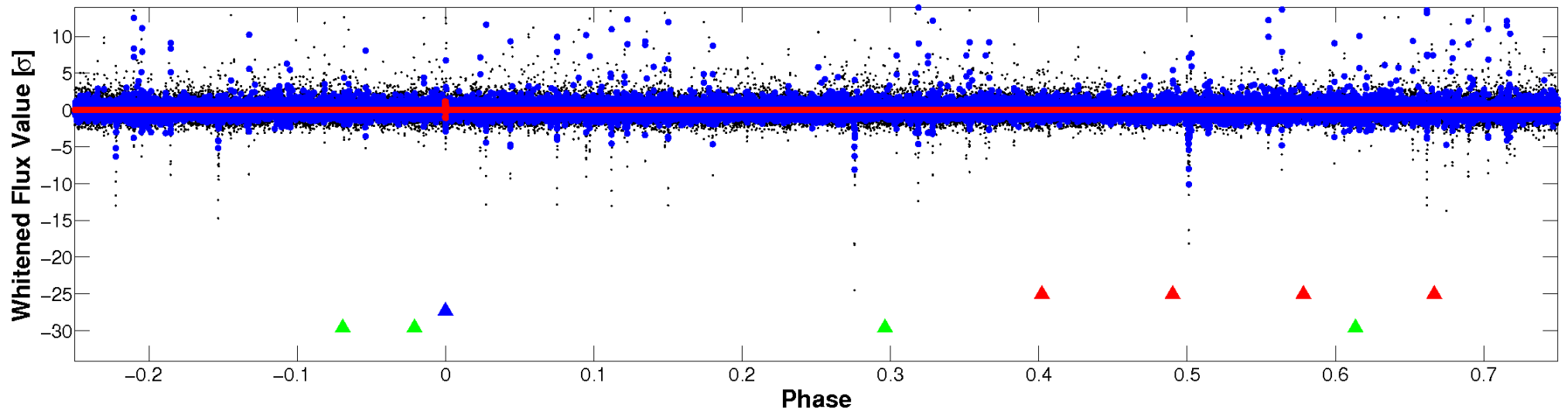


Non-Whitened Vs. Whitened Light Curve

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

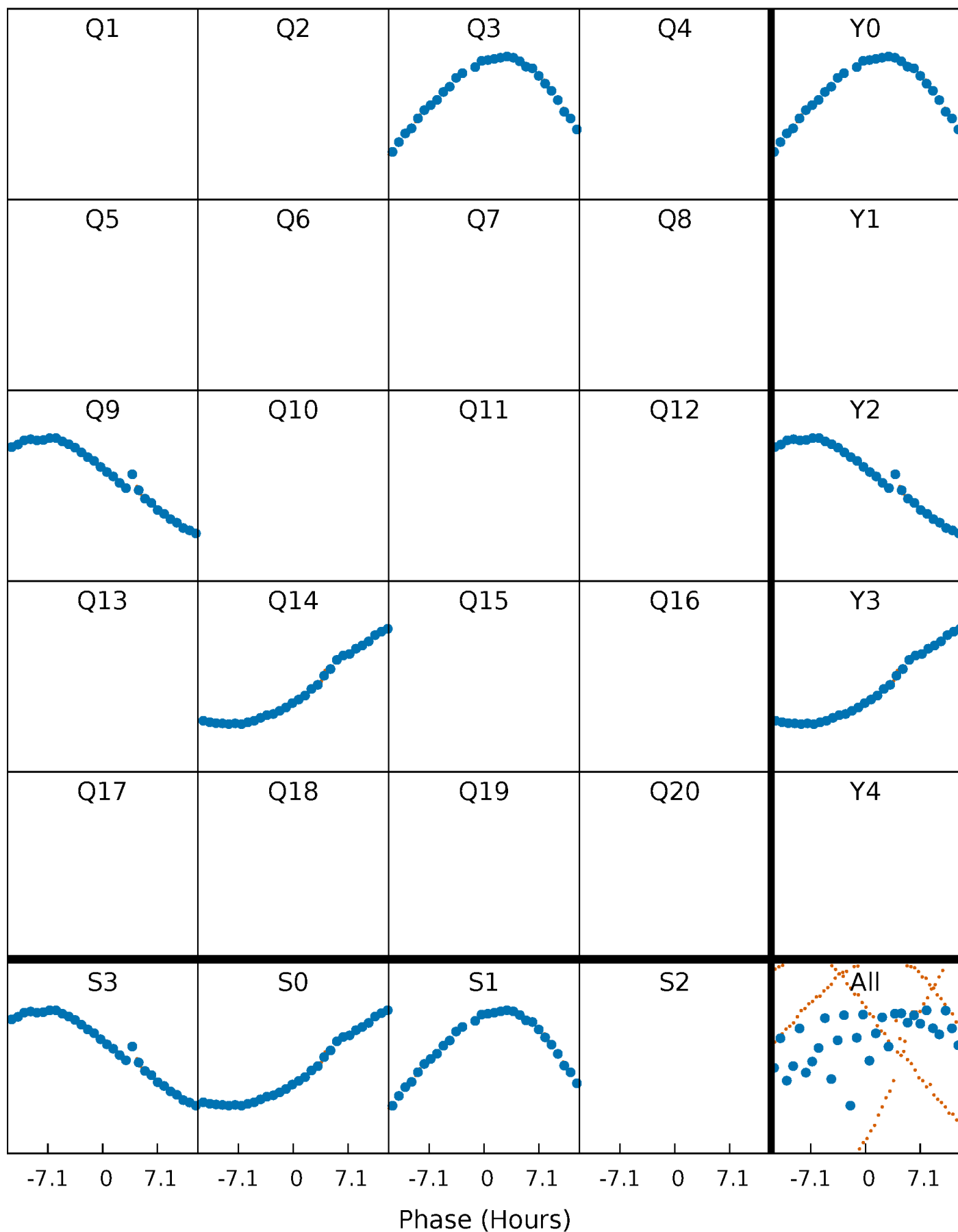


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



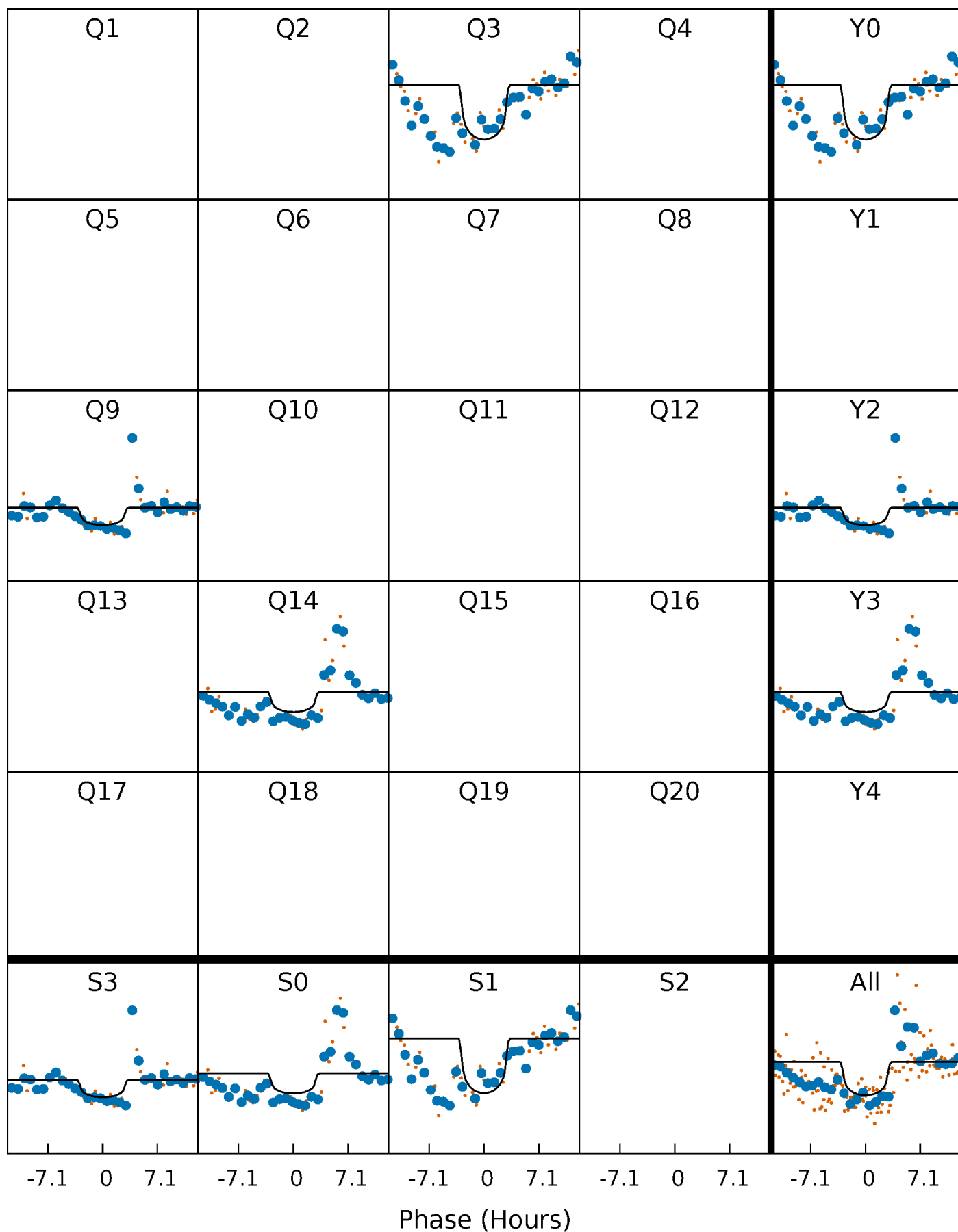
PDC Quarter-Phased Transit Curves

TCE 008749147-02 P=518.029549 Days $T_0=314.412889$ (BKJD)



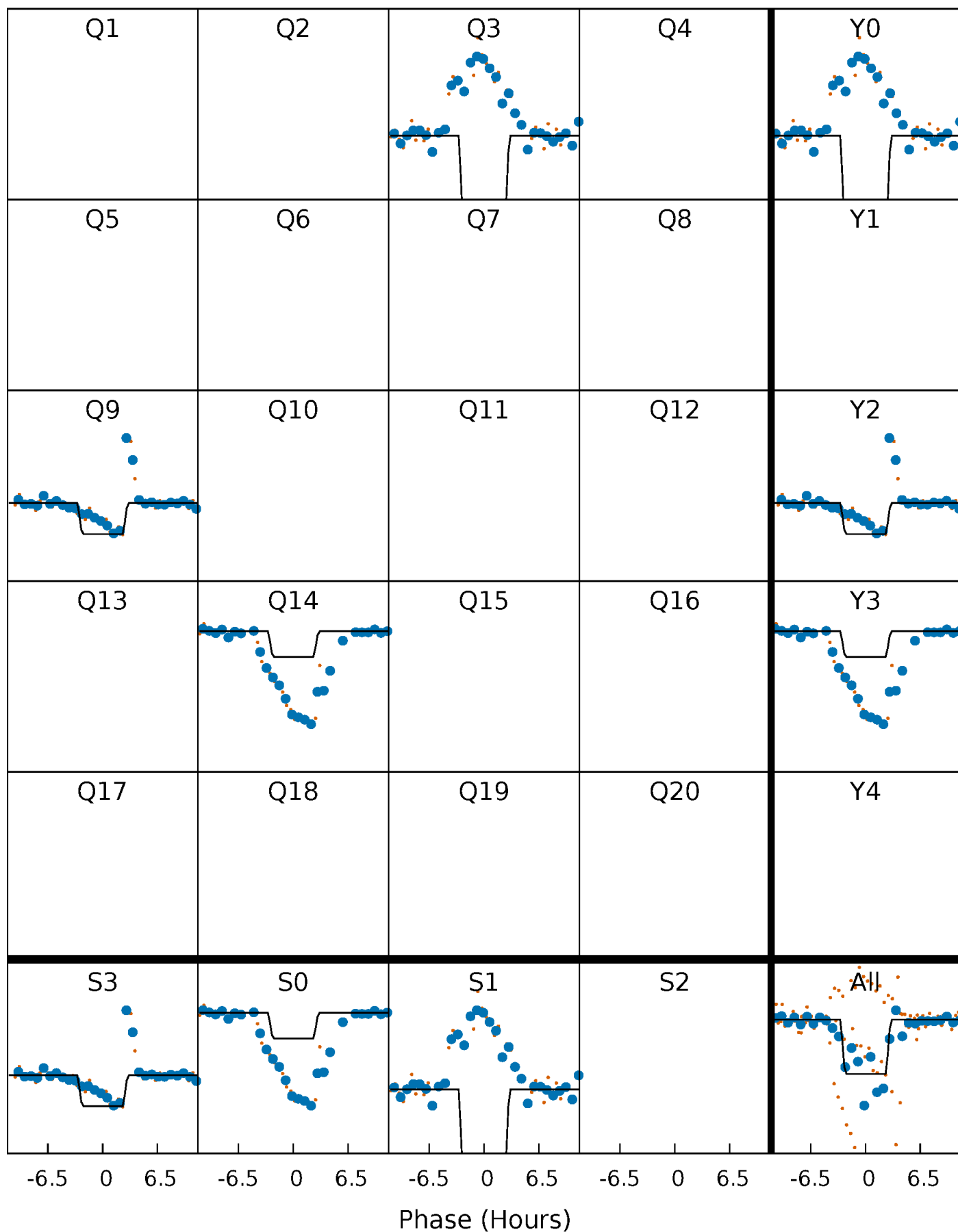
DV Quarter-Phased Transit Curves

TCE 008749147-02 $P=518.029549$ Days $T_0=314.412889$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

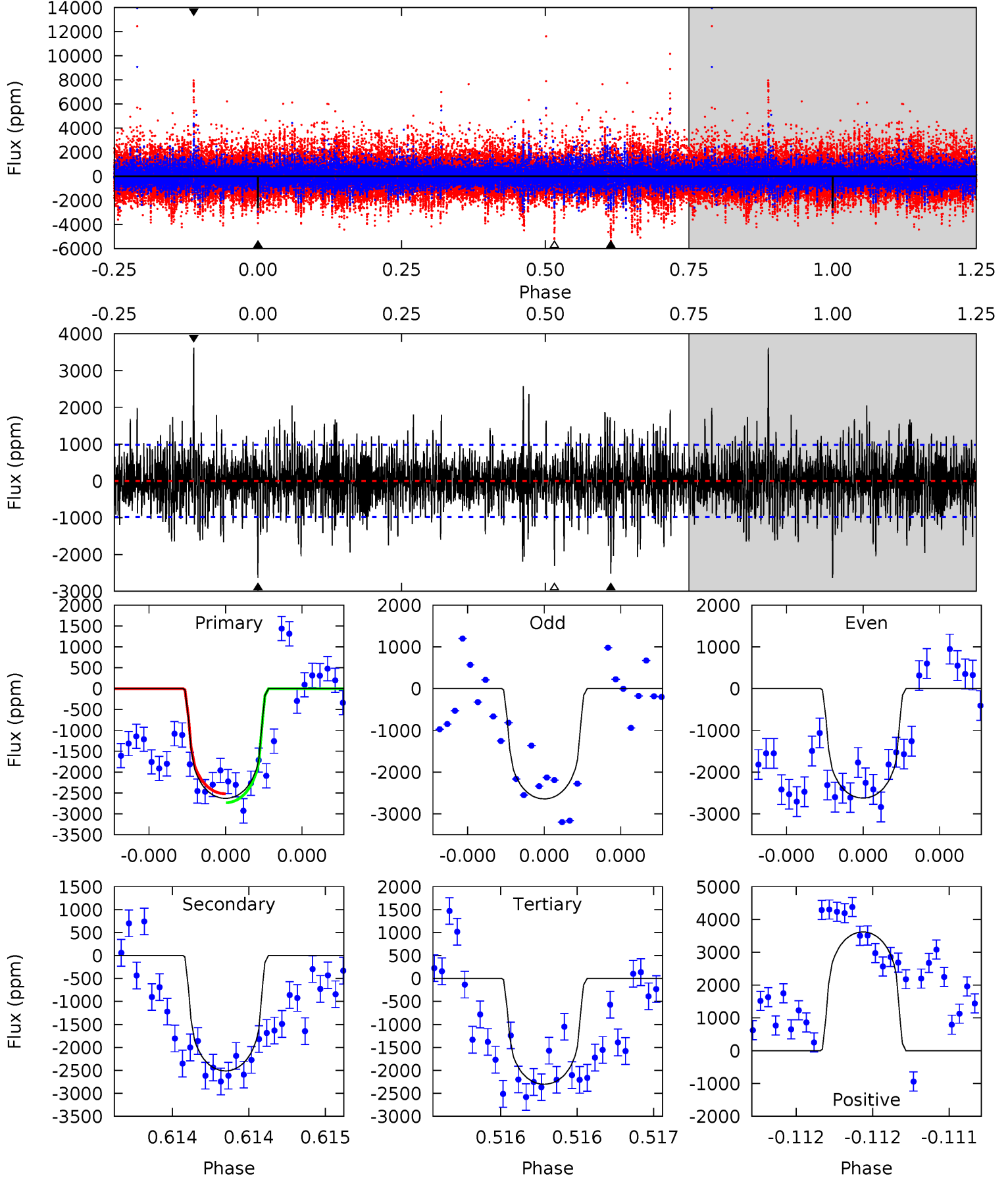
TCE 008749147-02 P=518.045235 Days $T_0=314.422722$ (BKJD)



DV Model-Shift Uniqueness Test

008749147-02, P = 518.029549 Days, E = 314.412889 Days

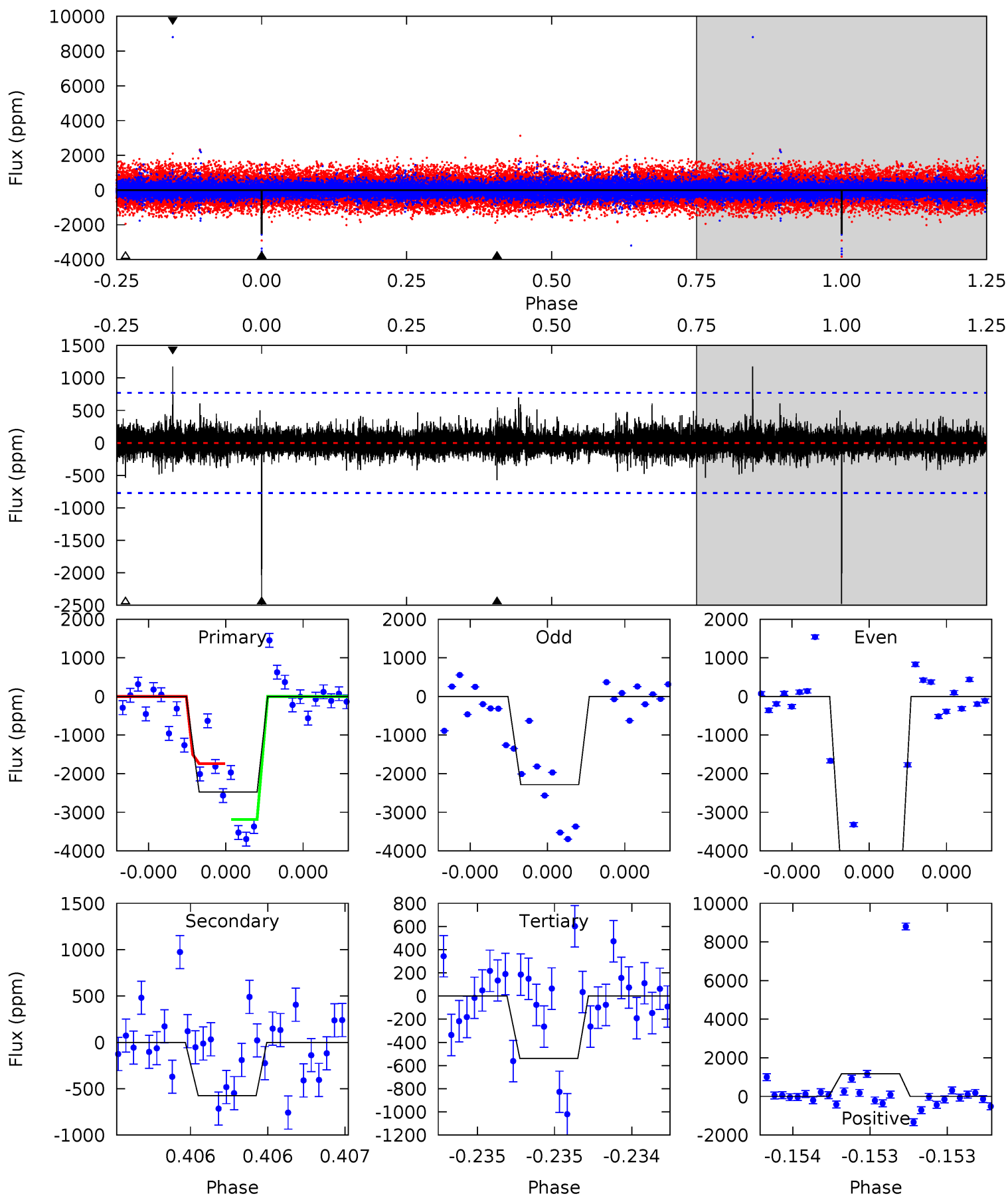
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	14.3	13.1	20.6	5.58	3.49	3.17	1.87	-5.63	1.20	-6.31	0.04	0.99	0.58	0.61



Alt Model-Shift Uniqueness Test

008749147-02, P = 518.045235 Days, E = 314.422722 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	4.16	3.89	8.50	5.58	3.50	0.73	14.0	9.43	0.27	-4.34	15.7	1.65	0.32	5.50



Stellar Parameters For KIC 008749147

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4650^{+139}_{-139}	$4.711^{+0.048}_{-0.028}$	$-1.180^{+0.300}_{-0.300}$	$0.536^{+0.034}_{-0.034}$	$0.538^{+0.039}_{-0.025}$	$4.929^{+0.968}_{-0.555}$
	+3%/-3%	+1%/-1%	+25%/-25%	+6%/-6%	+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 008749147-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2512 ± 175	$2.91^{+2.41}_{-1.94}$	207^{+7}_{-7}	4688^{+3503}_{-942}	$173479^{+1396710}_{-121257}$
Alt.	-574 ± 138	$3.81^{+2.42}_{-2.27}$	206^{+7}_{-7}	3288^{+1227}_{-464}	$23286^{+123008}_{-14844}$

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

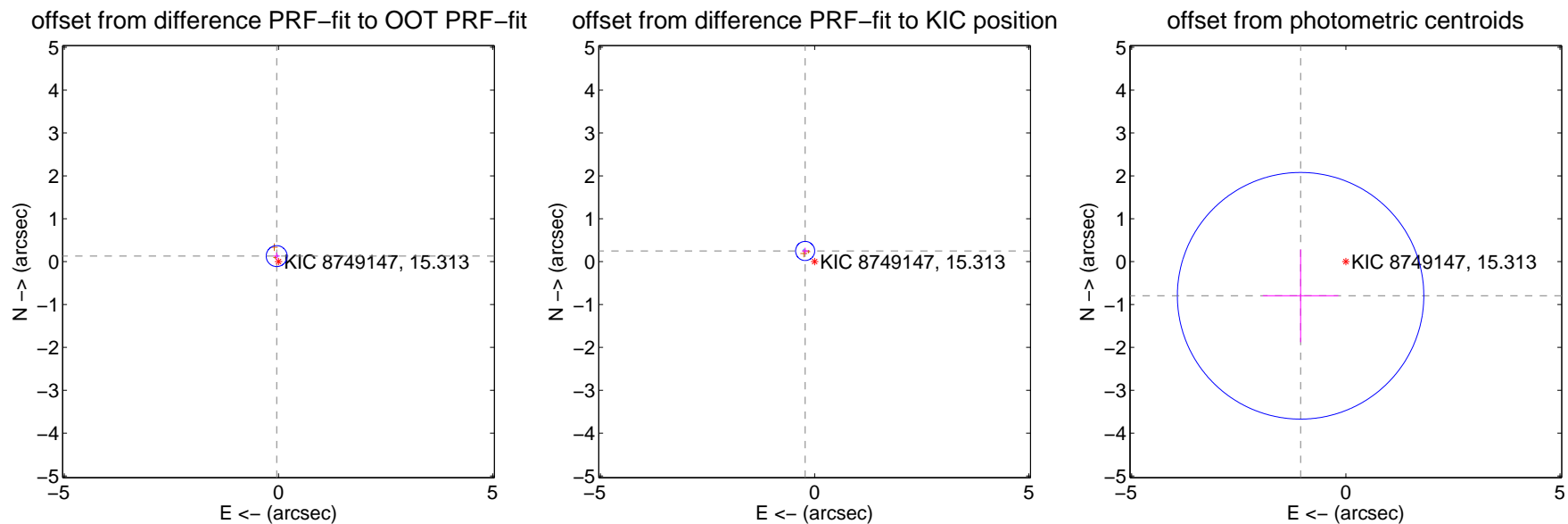
DV Centroid Data

Supplemental centroid analysis for 008749147-02. Kepler magnitude: 15.31. Transit SNR 6.48

There are 1 quarters with good PRF difference image offsets

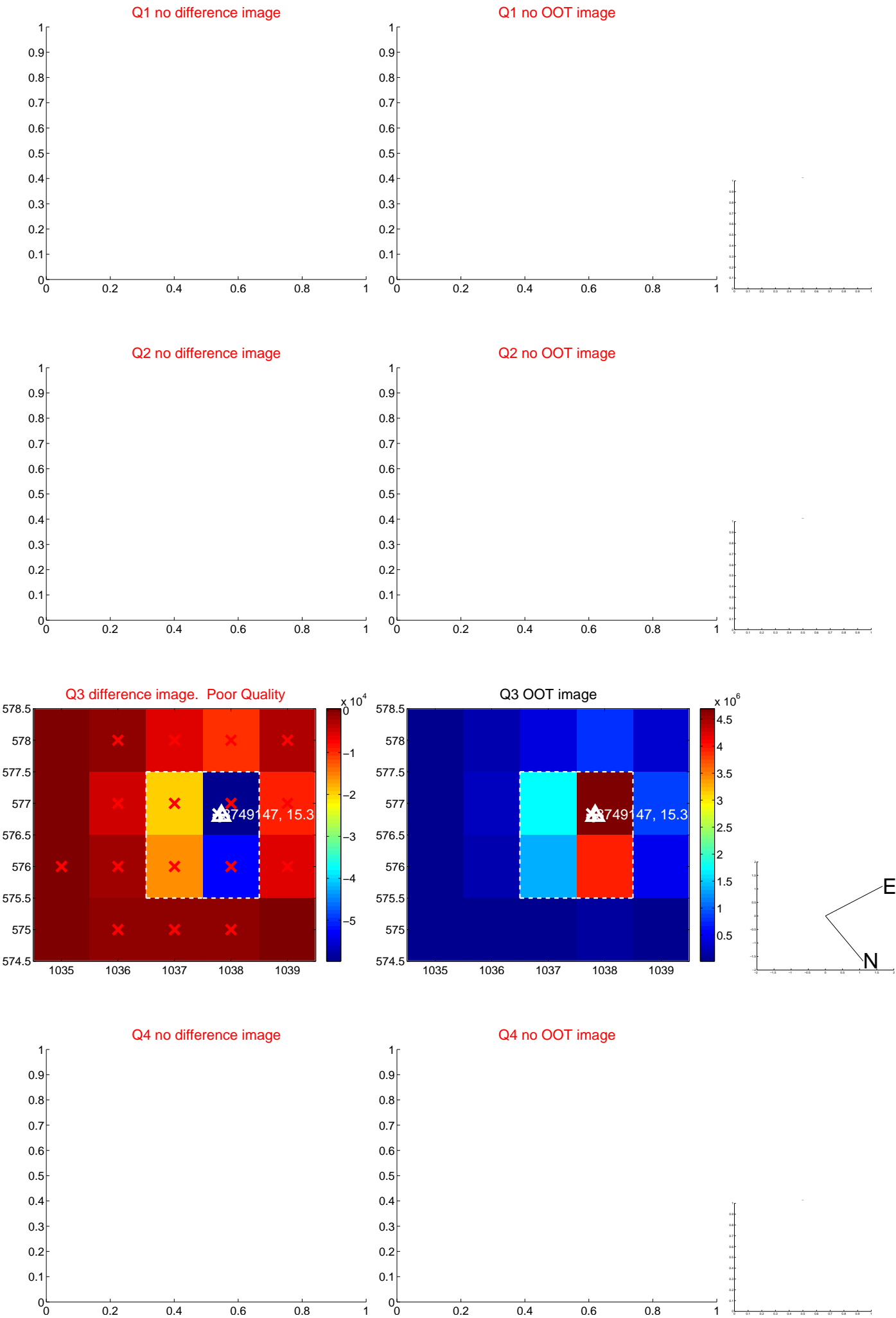
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.136 ± 0.081	1.67	0.042 ± 0.071	0.129 ± 0.083
PRF-fit source offset from KIC position	0.333 ± 0.074	4.48	0.221 ± 0.074	0.249 ± 0.075
photometric centroid source offset	1.32 ± 0.96	1.38	1.06 ± 0.88	-0.80 ± 1.08



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.

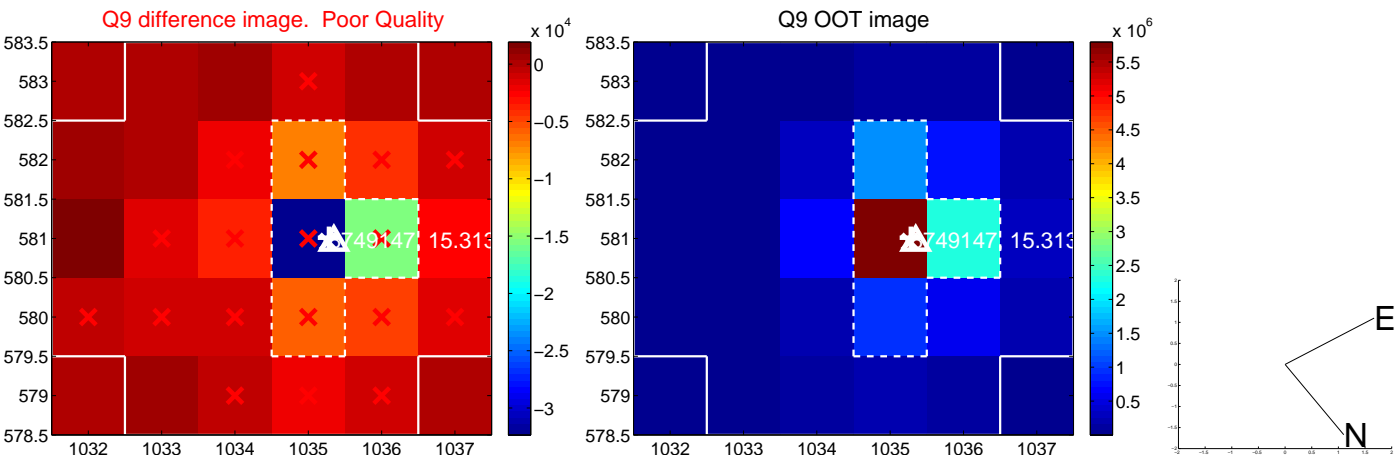
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.

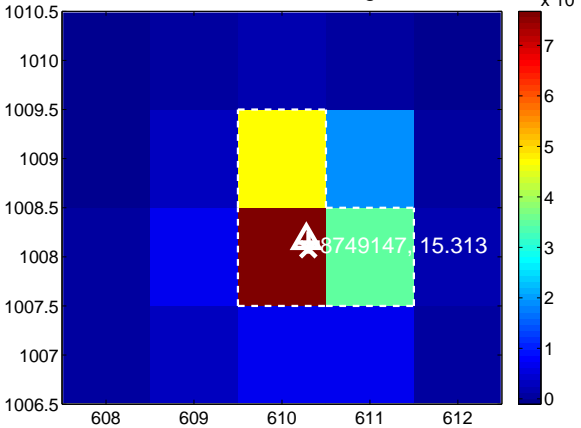
Q13 no difference image



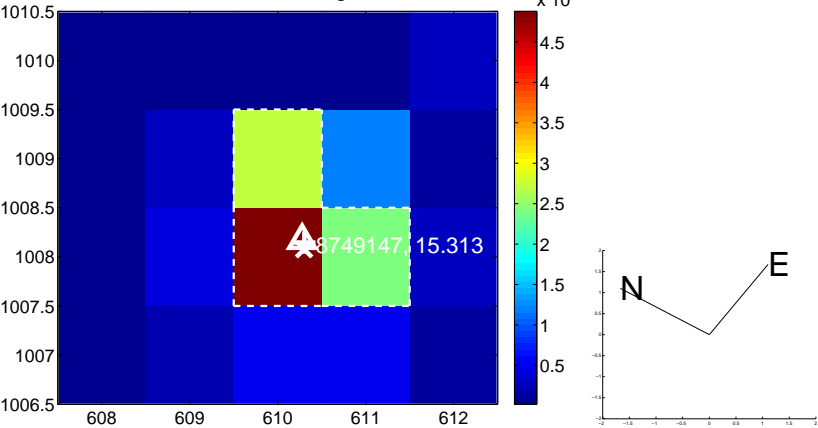
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



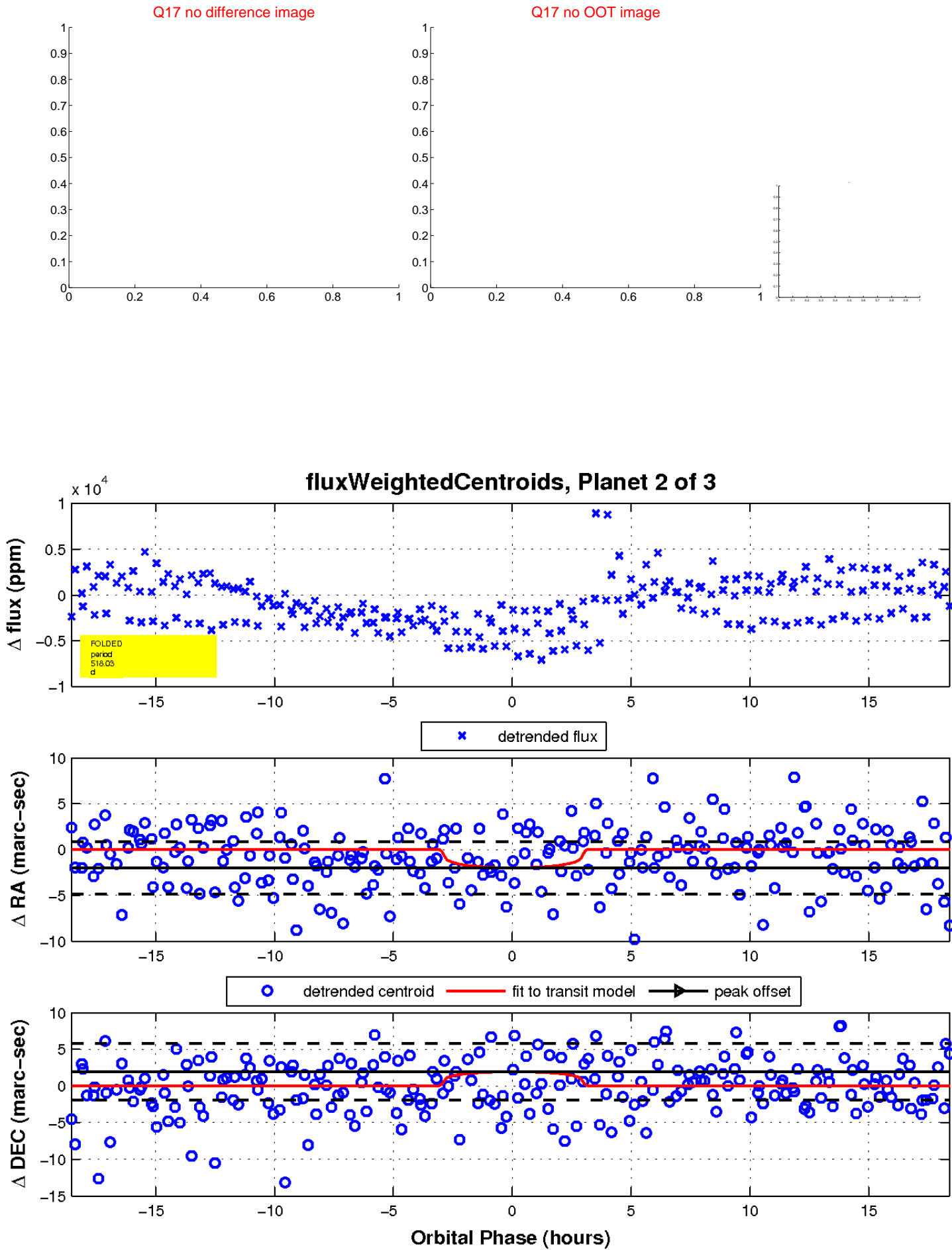
Q16 no difference image



Q16 no OOT image

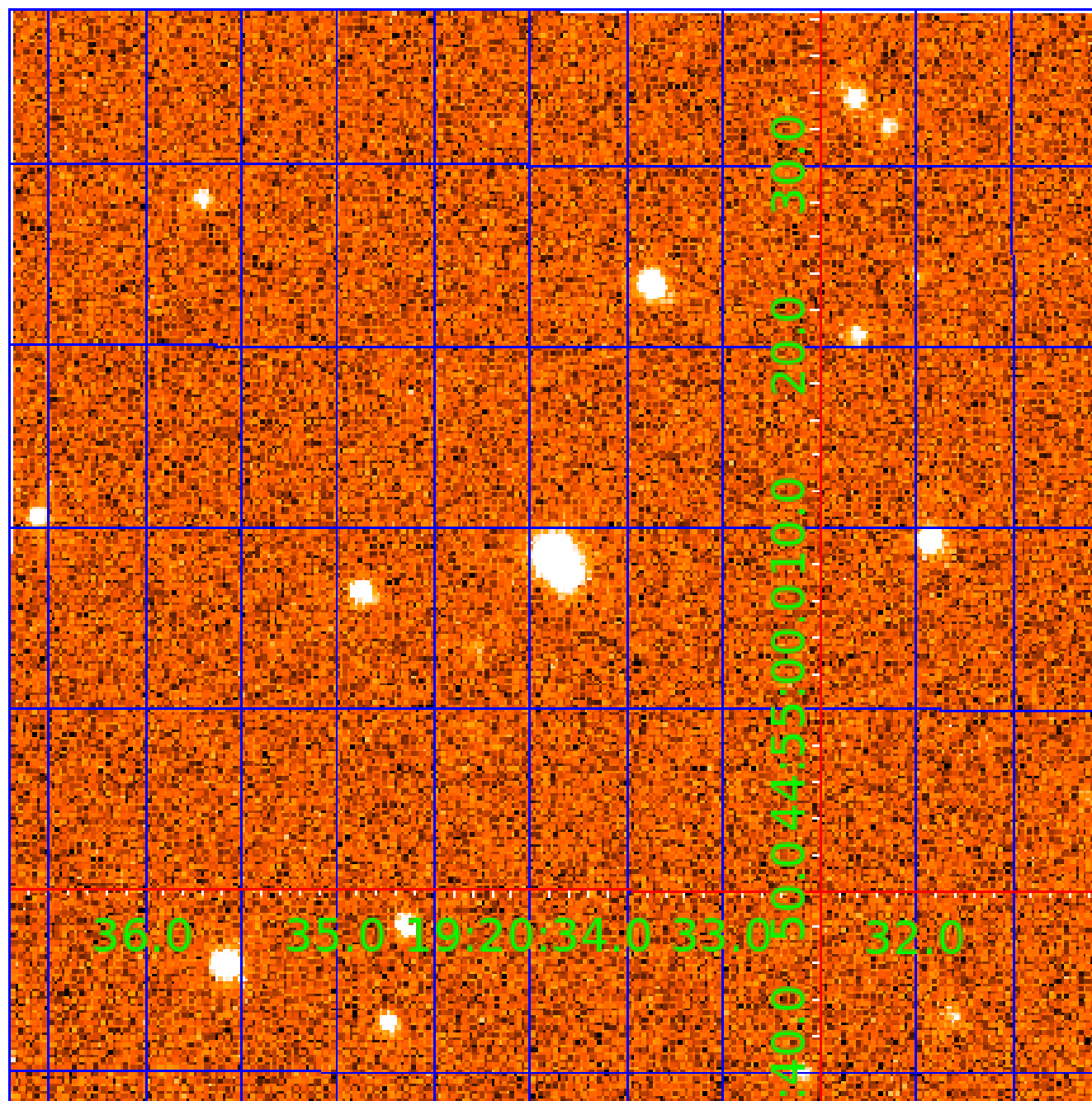


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008749147

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})
008749147-01	OBS	No	472.348210	141.722531	2529.8	5.933	12.7	7.4	0.54	4650	2.63	0.13
008749147-02	OBS	No	518.029549	314.412889	2098.6	6.179	13.4	6.5	0.54	4650	2.42	0.11
008749147-03	OBS	No	353.704879	278.541586	3019.7	22.377	10.2	7.3	0.54	4650	2.92	0.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008749147-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008749147-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008749147-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_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.

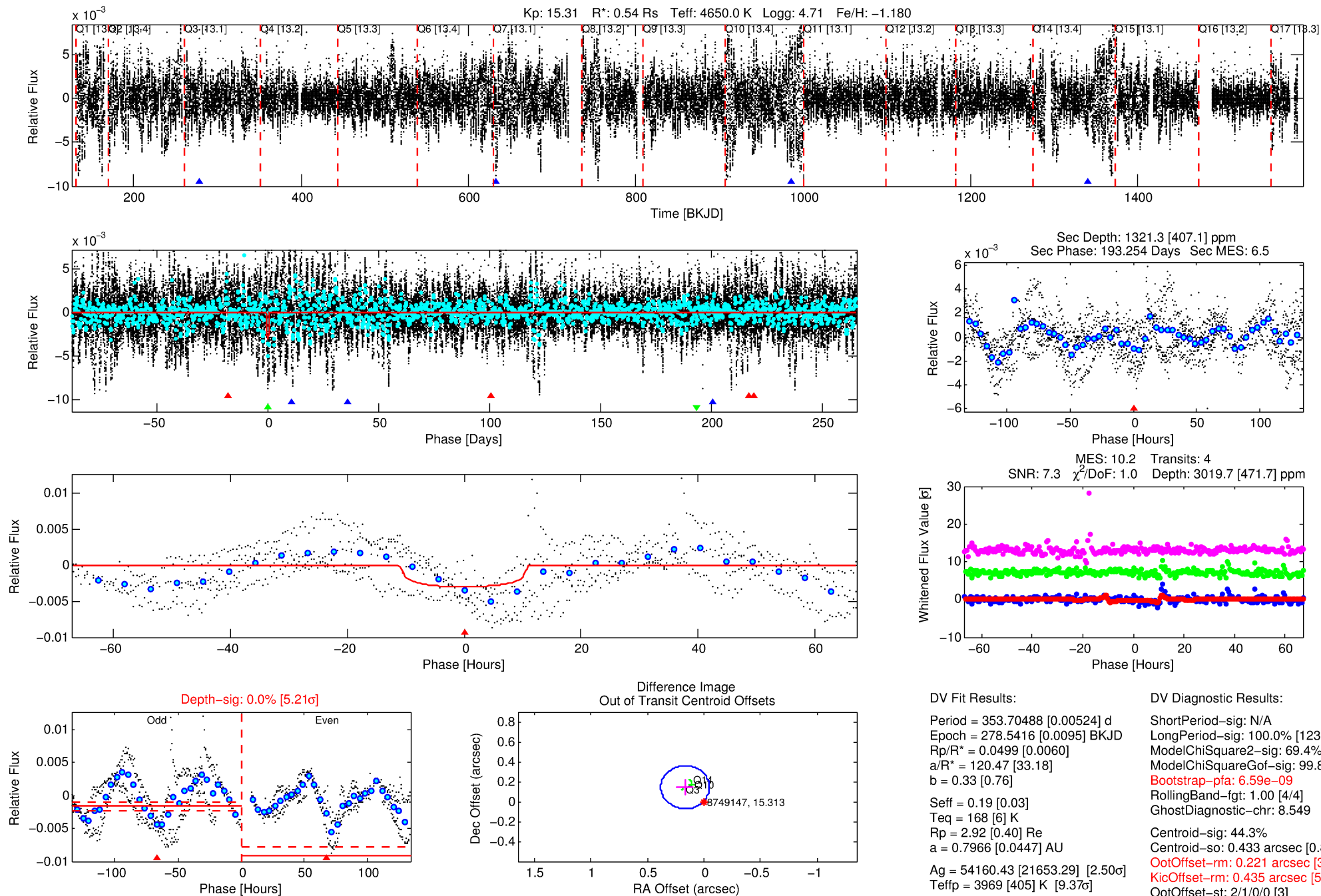
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008749147-03

No Significant Match Found

DV One-Page Summary

KIC: 8749147 Candidate: 3 of 3 Period: 353.705 d



DV Fit Results:

Period = 353.70488 [0.00524] d
Epoch = 278.5416 [0.0095] BKJD
Rp/R* = 0.0499 [0.0060]
a/R* = 120.47 [33.18]
b = 0.33 [0.76]
Seff = 0.19 [0.03]
Teq = 168 [6] K
Rp = 2.92 [0.40] Re
a = 0.7966 [0.0447] AU
Ag = 54160.43 [21653.29] [2.50σ]
Teff = 3969 [405] K [9.37σ]

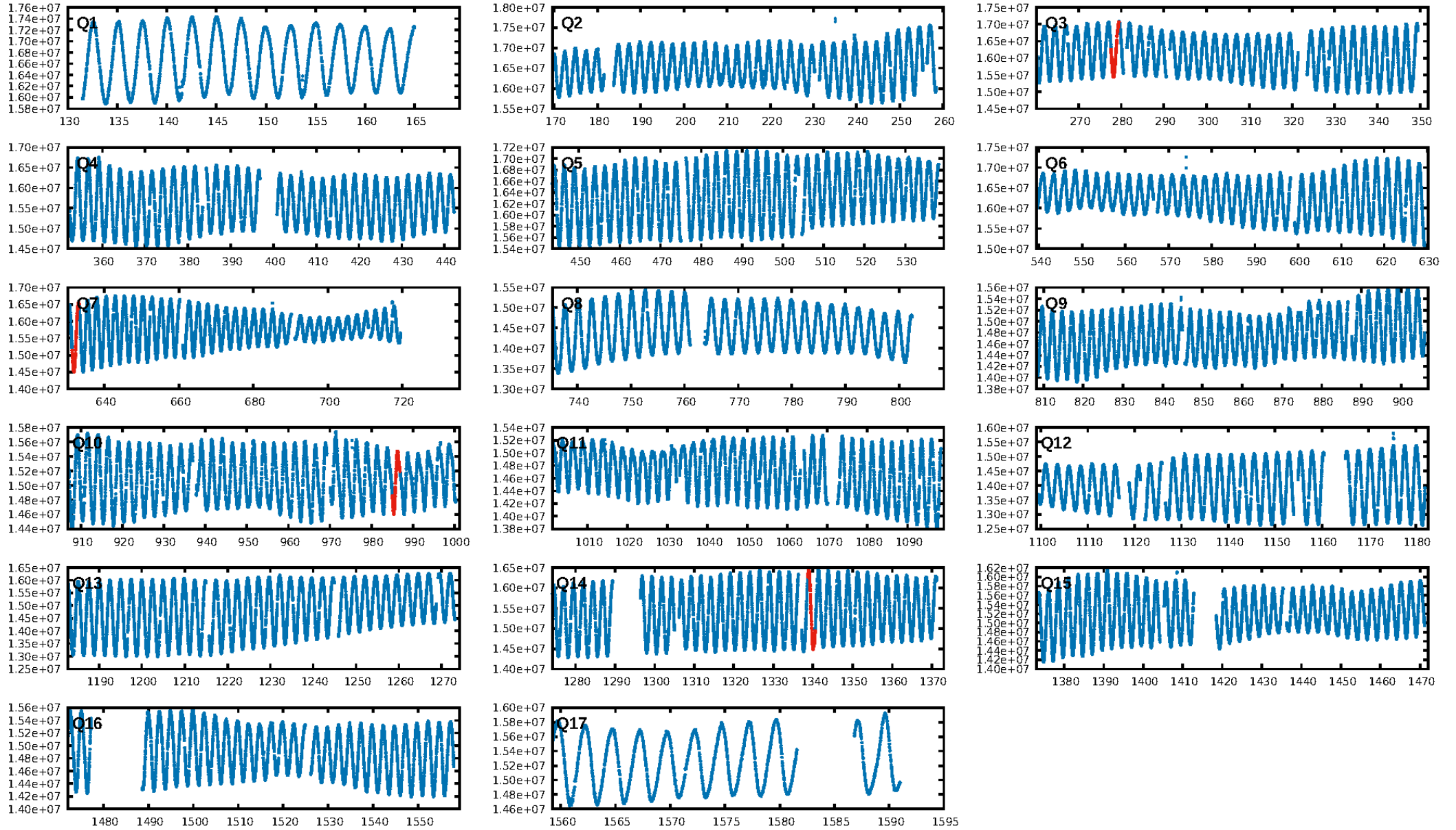
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [123.00σ]
ModelChiSquare2-sig: 69.4%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 6.59e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 8.549
Centroid-sig: 44.3%
Centroid-so: 0.433 arcsec [0.83σ]
OotOffset-rm: 0.221 arcsec [3.08σ]
KicOffset-rm: 0.435 arcsec [5.52σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

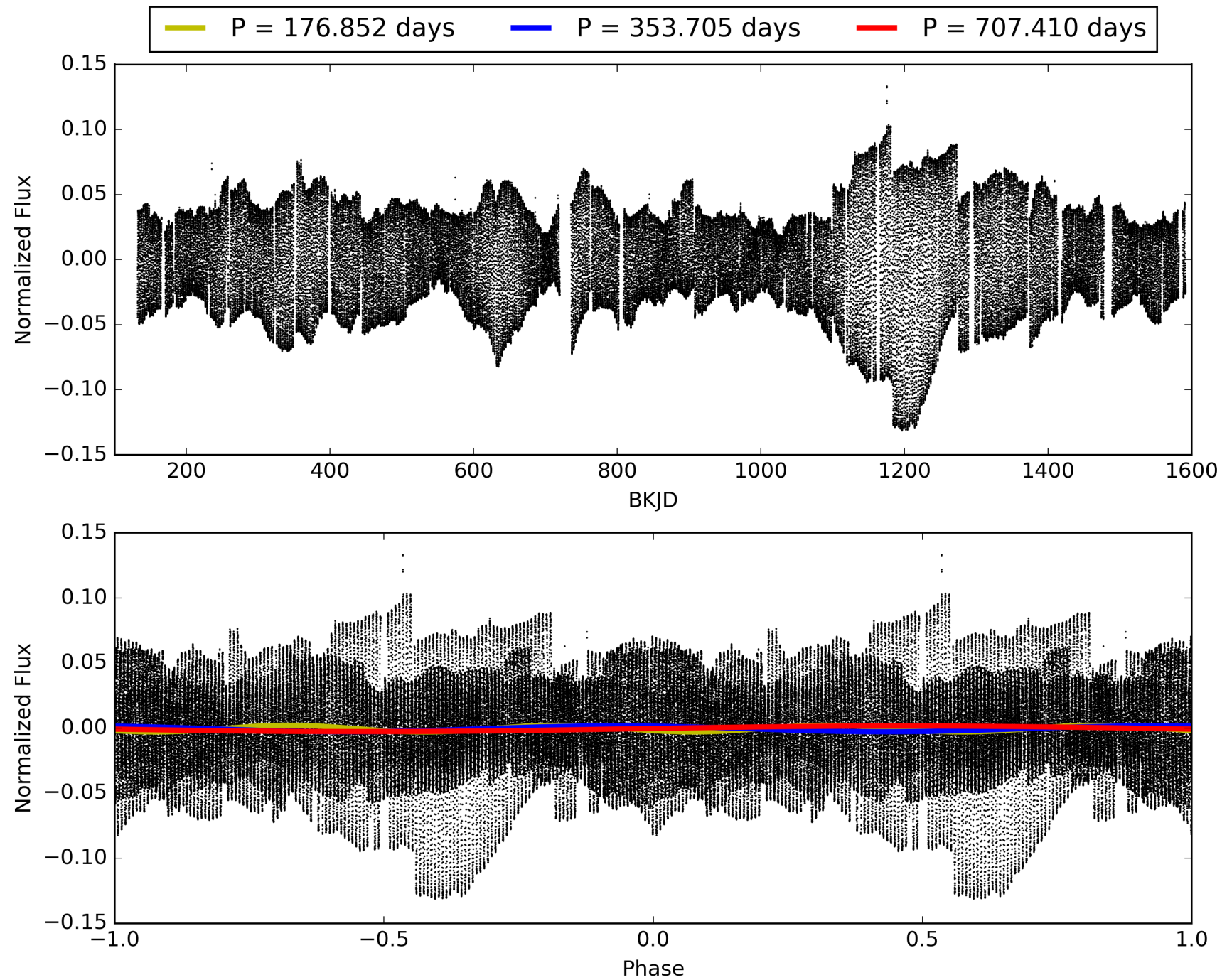
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:07:35 Z

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

TCE 008749147-03, PDC Light Curves

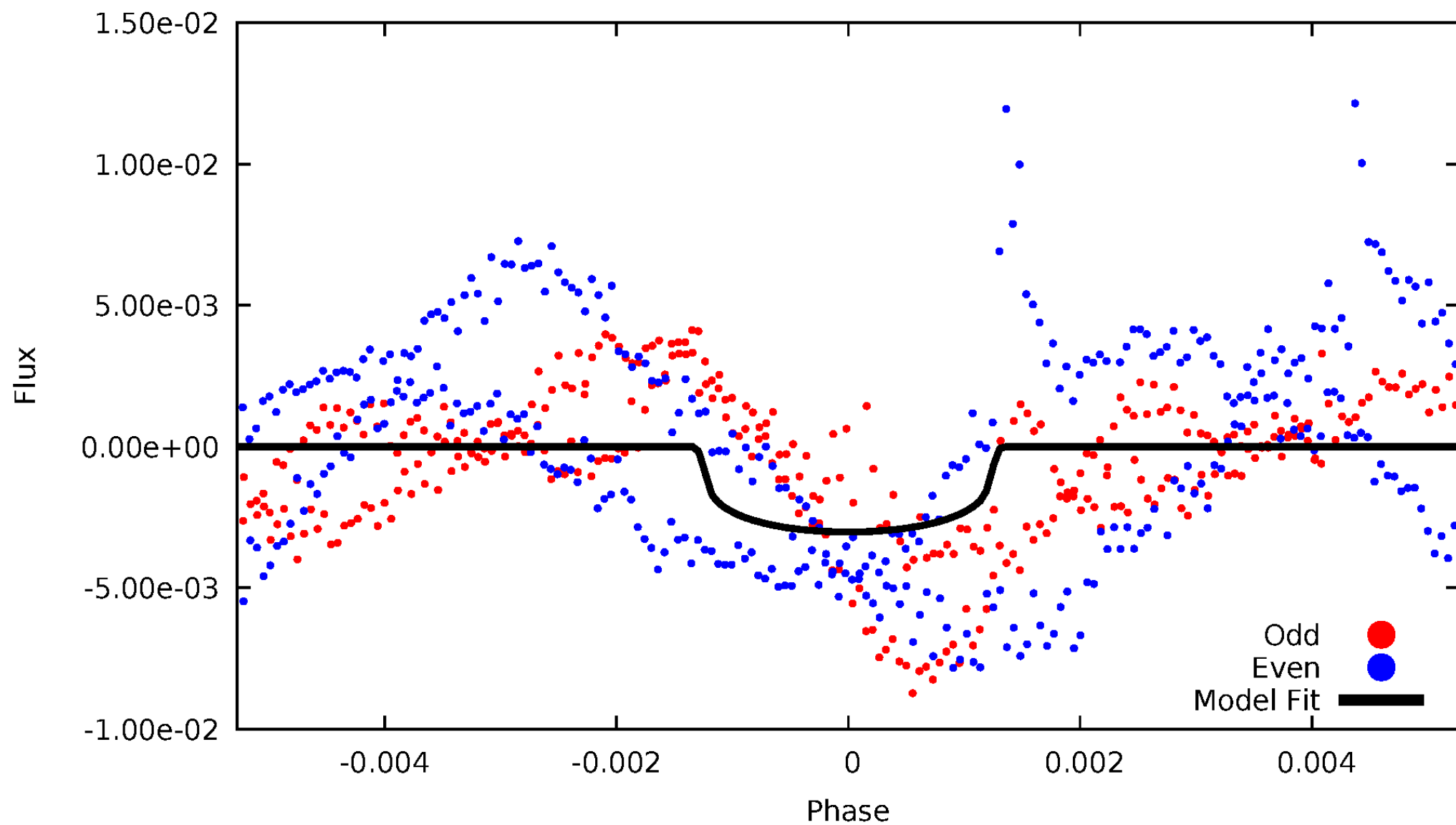


TCE 008749147-03



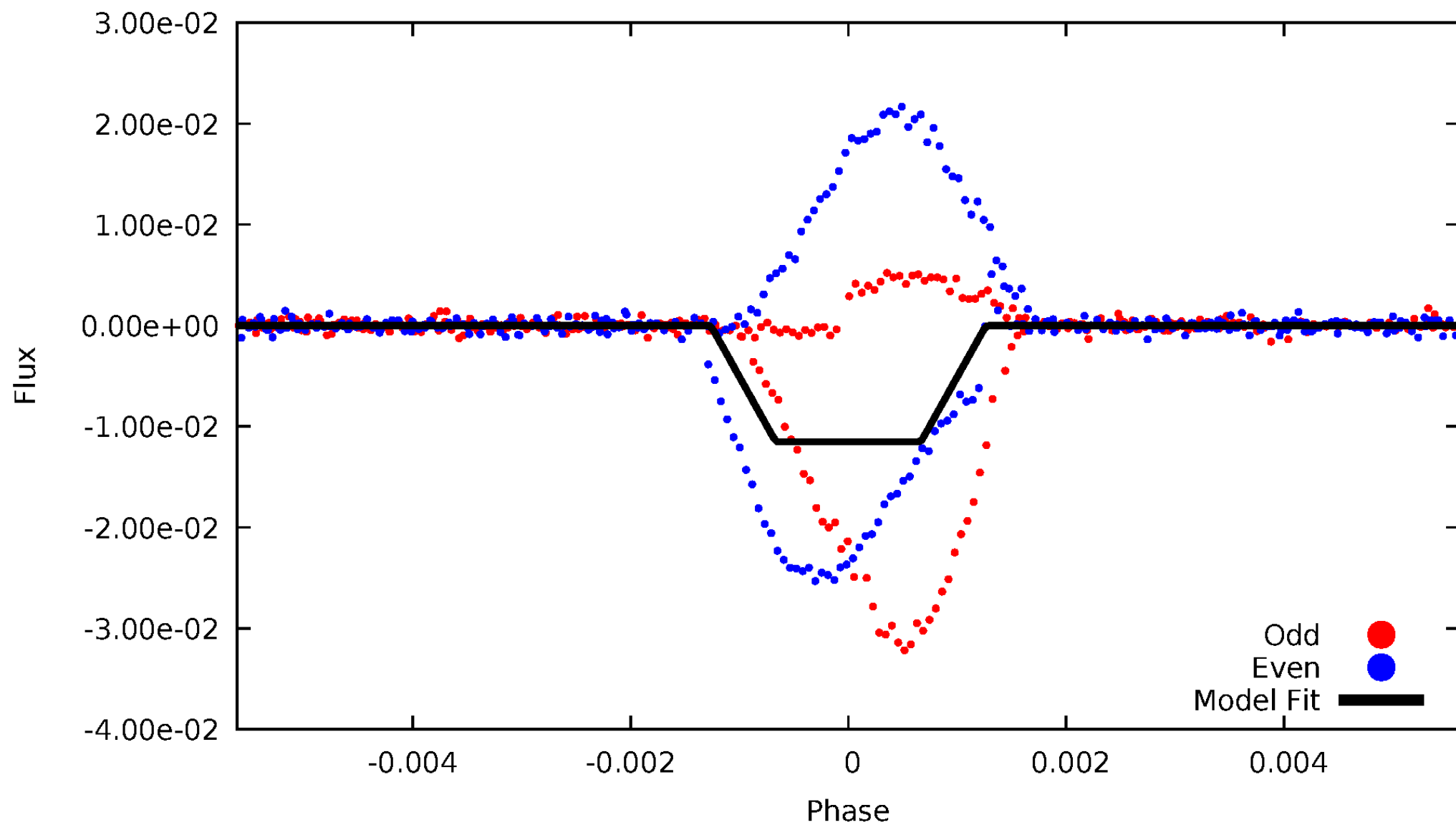
DV Odd/Even

TCE 008749147-03



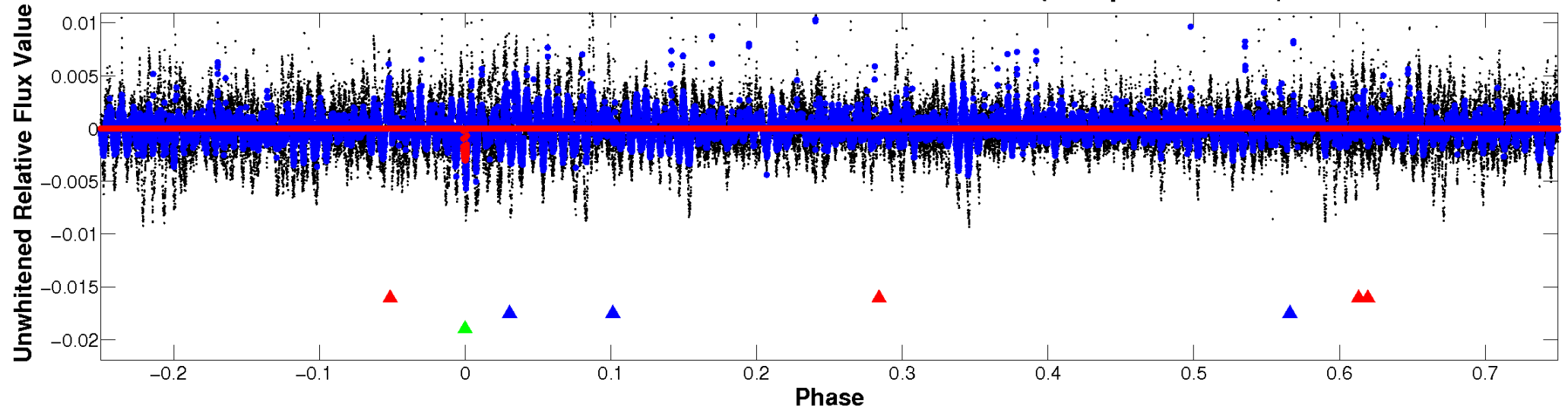
ALT Odd/Even

TCE 008749147-03

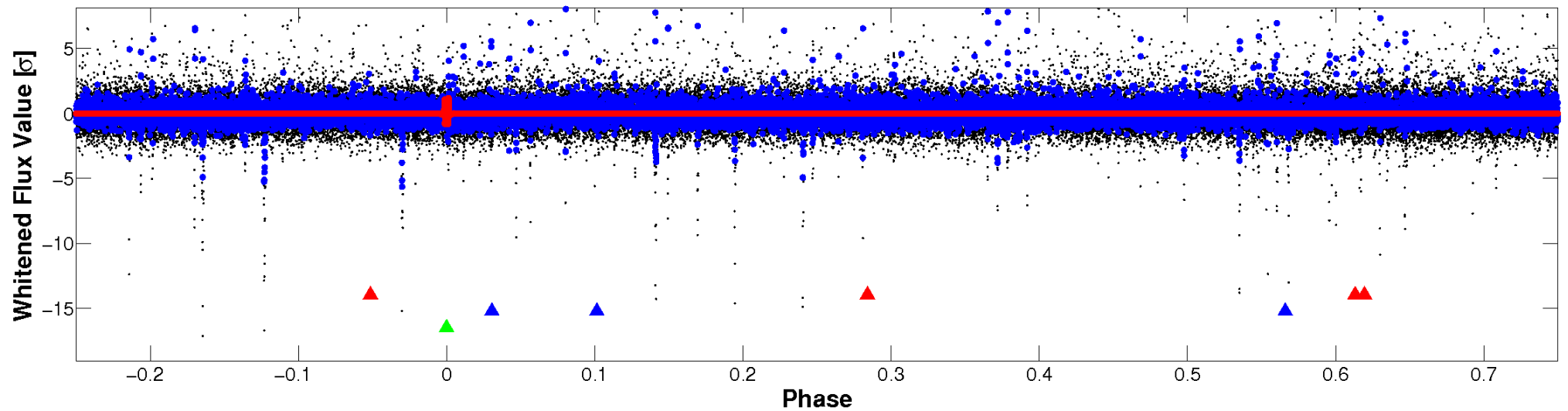


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

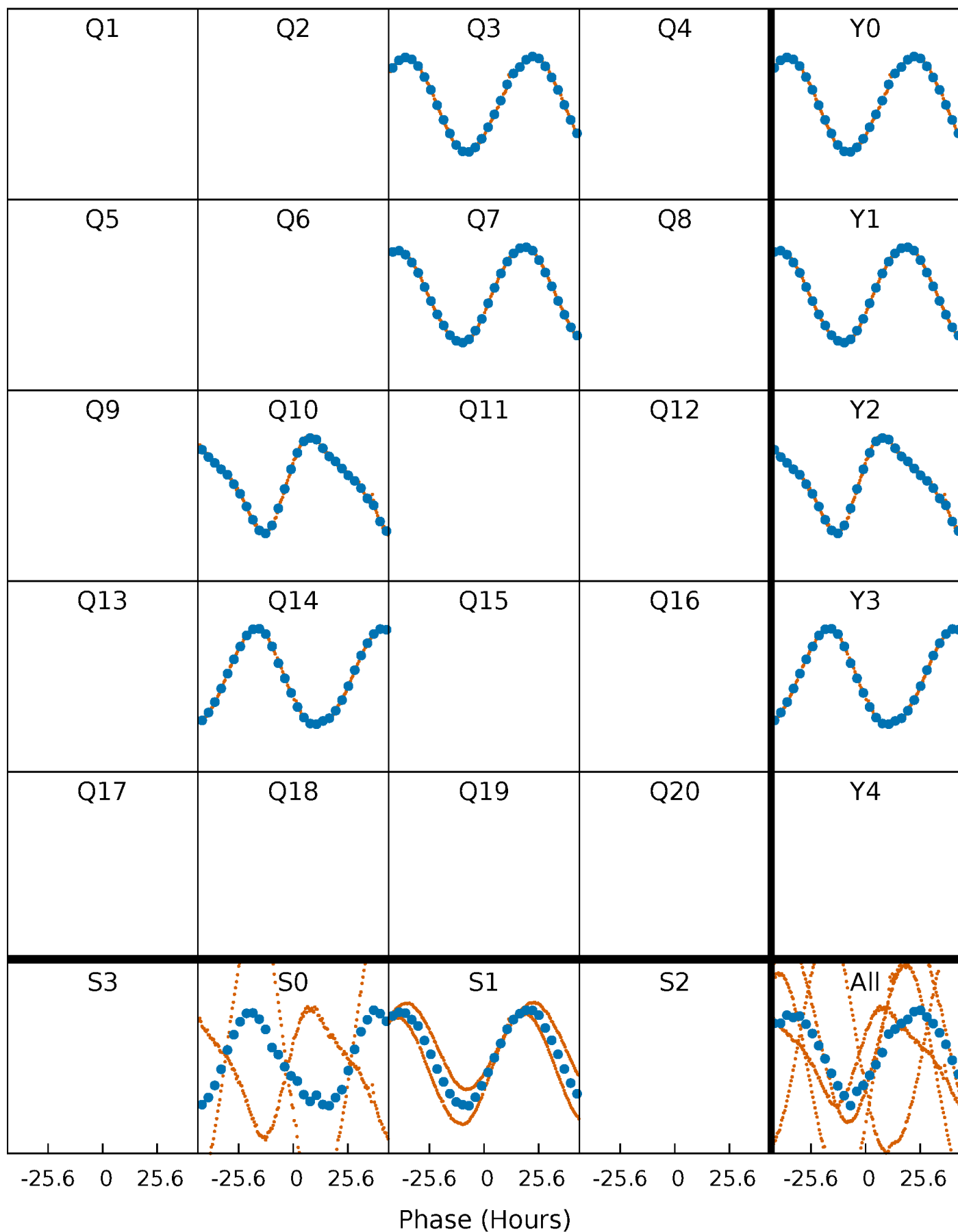


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



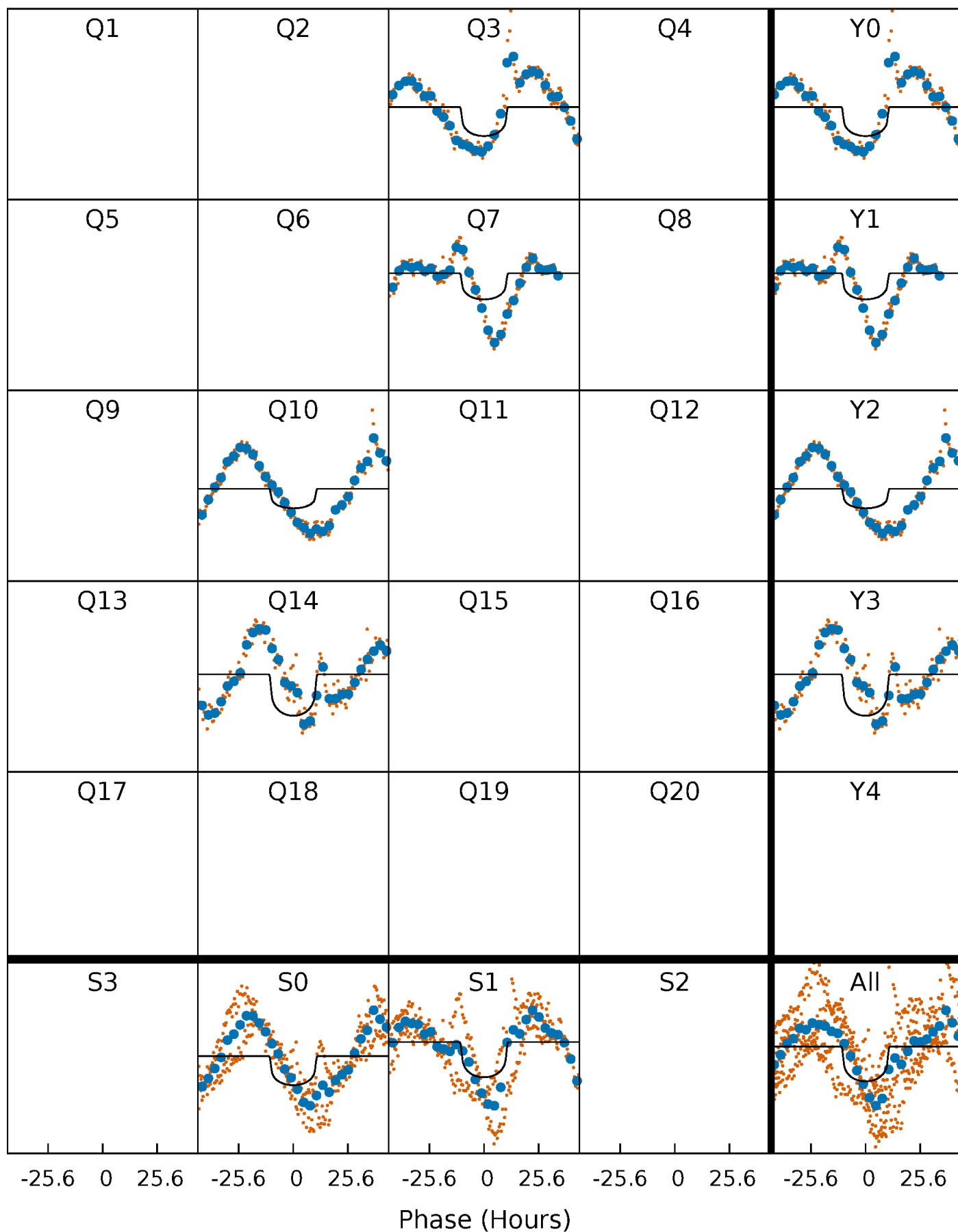
PDC Quarter-Phased Transit Curves

TCE 008749147-03 $P=353.704879$ Days $T_0=278.541586$ (BKJD)



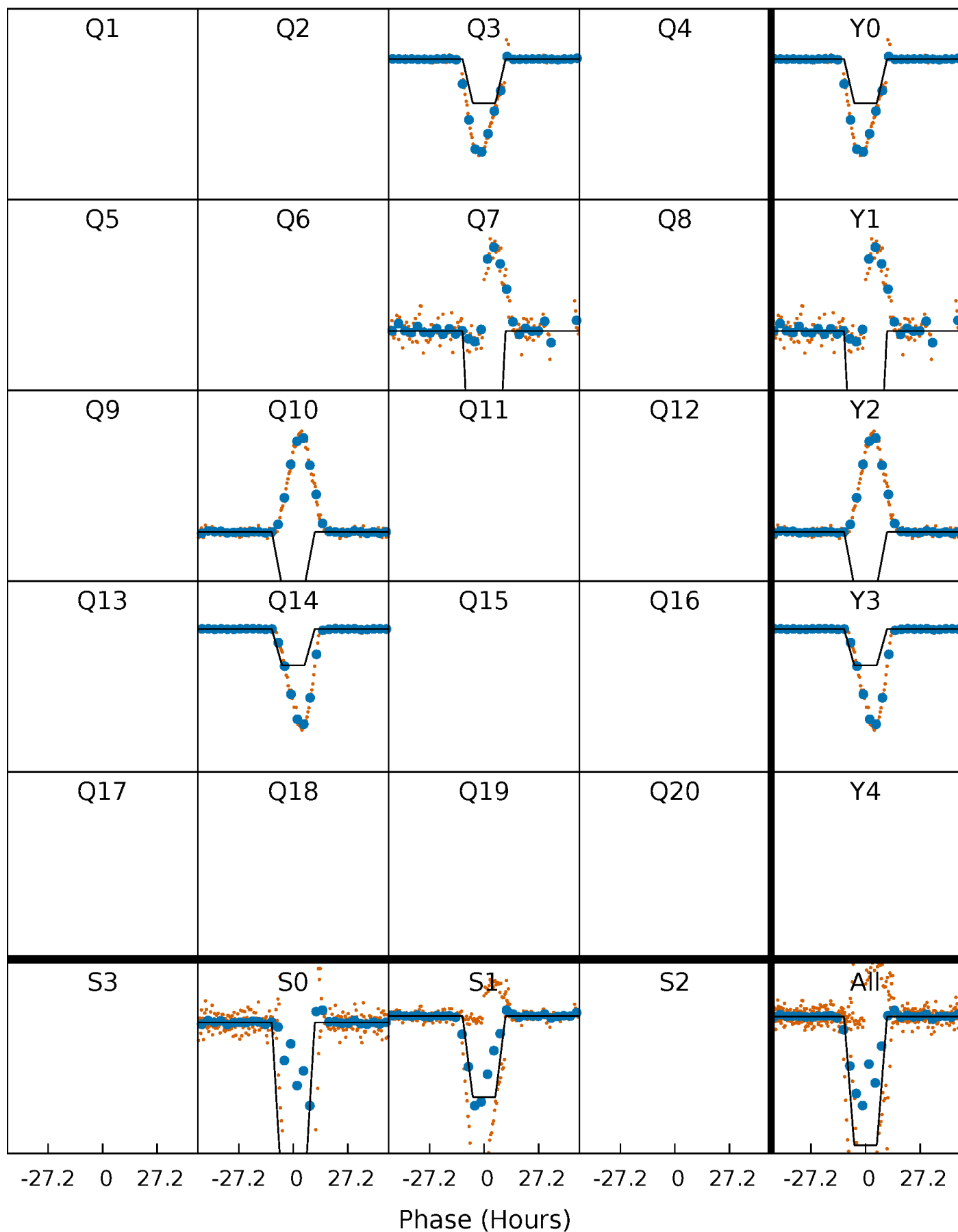
DV Quarter-Phased Transit Curves

TCE 008749147-03 $P=353.704879$ Days $T_0=278.541586$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

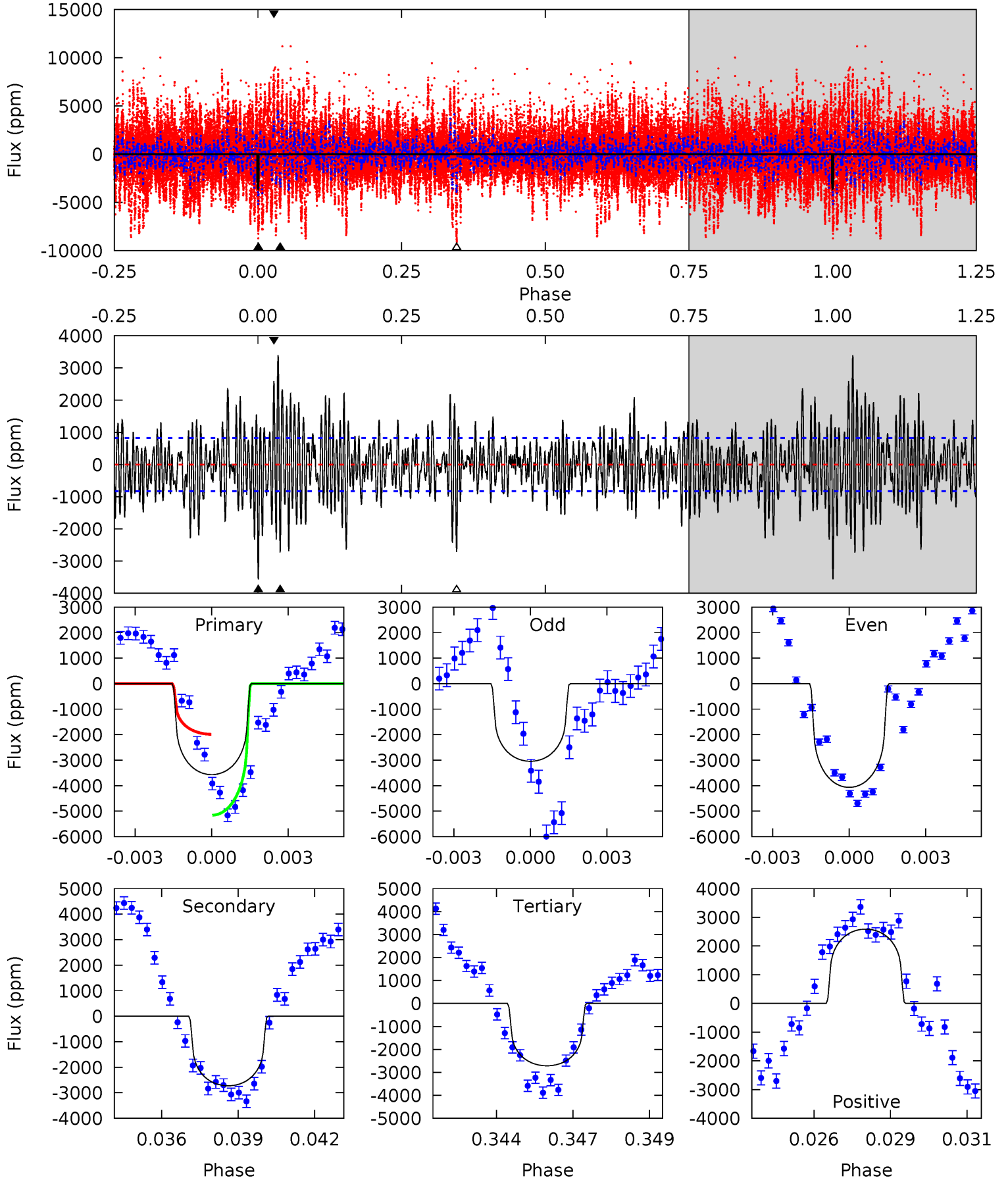
TCE 008749147-03 P=353.698112 Days $T_0=278.558197$ (BKJD)



DV Model-Shift Uniqueness Test

008749147-03, P = 353.704879 Days, E = 278.541586 Days

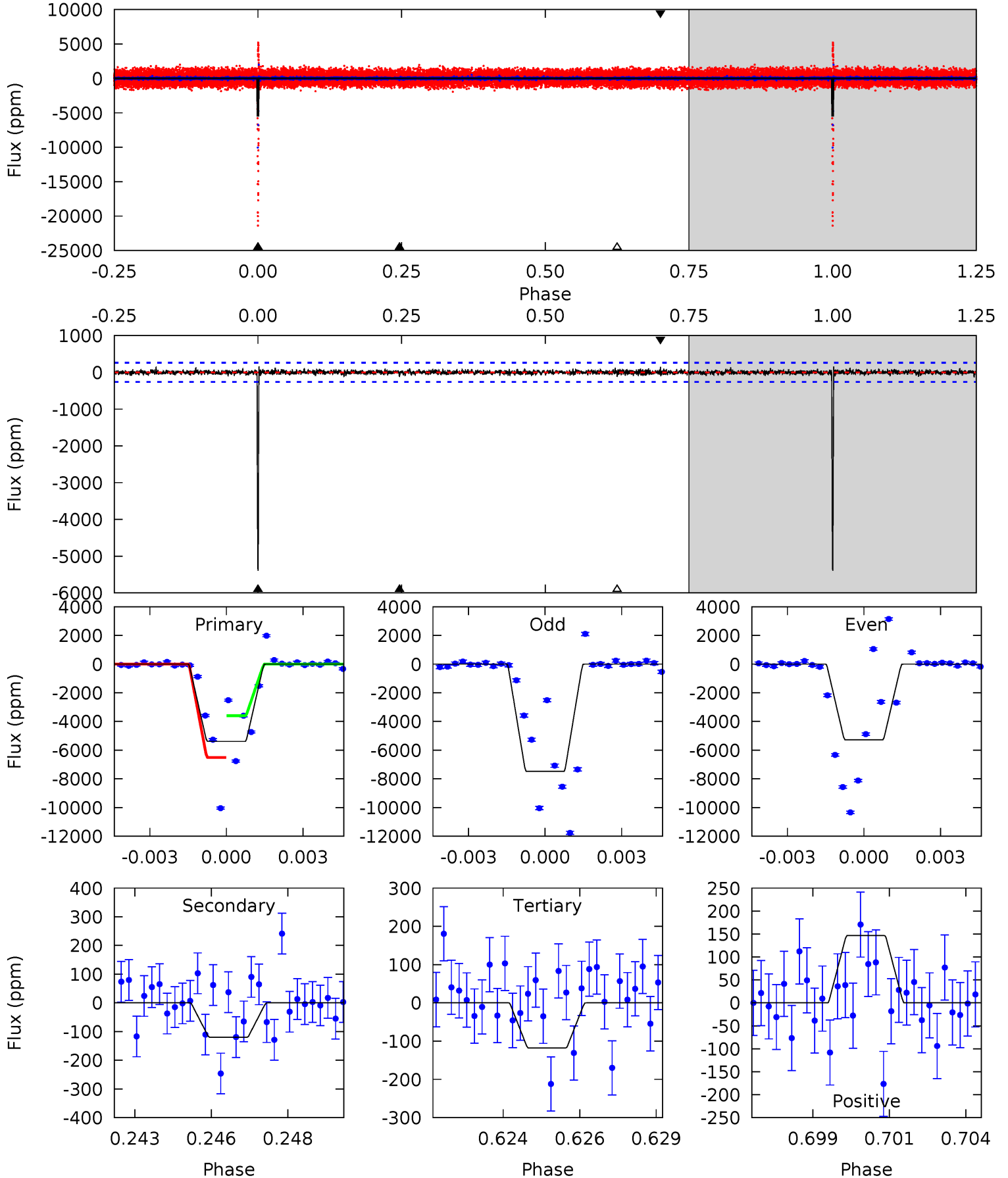
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	17.4	17.3	16.5	5.28	3.01	5.14	5.44	6.24	0.07	0.87	3.19	0.87	0.49	10.2



Alt Model-Shift Uniqueness Test

008749147-03, P = 353.698112 Days, E = 278.558197 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
108.8	2.42	2.37	2.96	5.28	3.01	0.59	106.5	105.9	0.04	-0.54	29.2	0.70	0.03	29.5



Stellar Parameters For KIC 008749147

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4650^{+139}_{-139}	$4.711^{+0.048}_{-0.028}$	$-1.180^{+0.300}_{-0.300}$	$0.536^{+0.034}_{-0.034}$	$0.538^{+0.039}_{-0.025}$	$4.929^{+0.968}_{-0.555}$
	+3%/-3%	+1%/-1%	+25%/-25%	+6%/-6%	+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 008749147-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2726 ± 157	$2.87^{+0.40}_{-0.34}$	235^{+7}_{-8}	4767^{+308}_{-282}	117550^{+31868}_{-27647}
Alt.	-120 ± 50	$6.28^{+0.42}_{-0.45}$	234^{+7}_{-8}	2340^{+112}_{-147}	1085^{+506}_{-475}

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

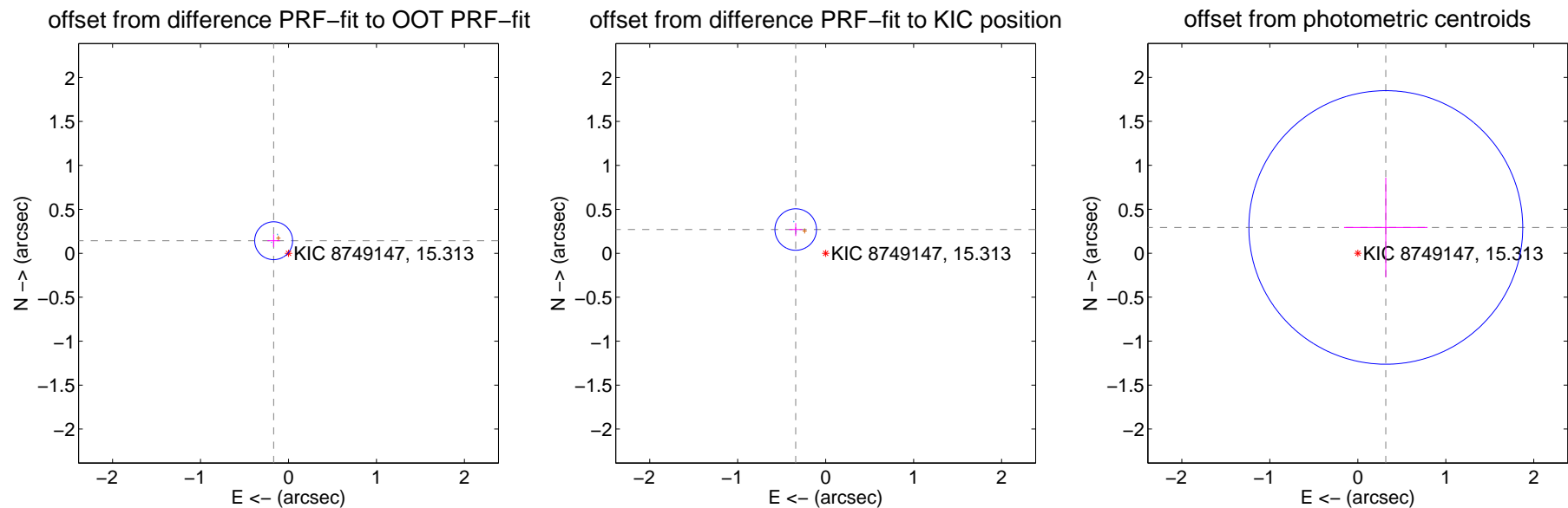
DV Centroid Data

Supplemental centroid analysis for 008749147-03. Kepler magnitude: 15.31. Transit SNR 7.30

There are 2 quarters with good PRF difference image offsets

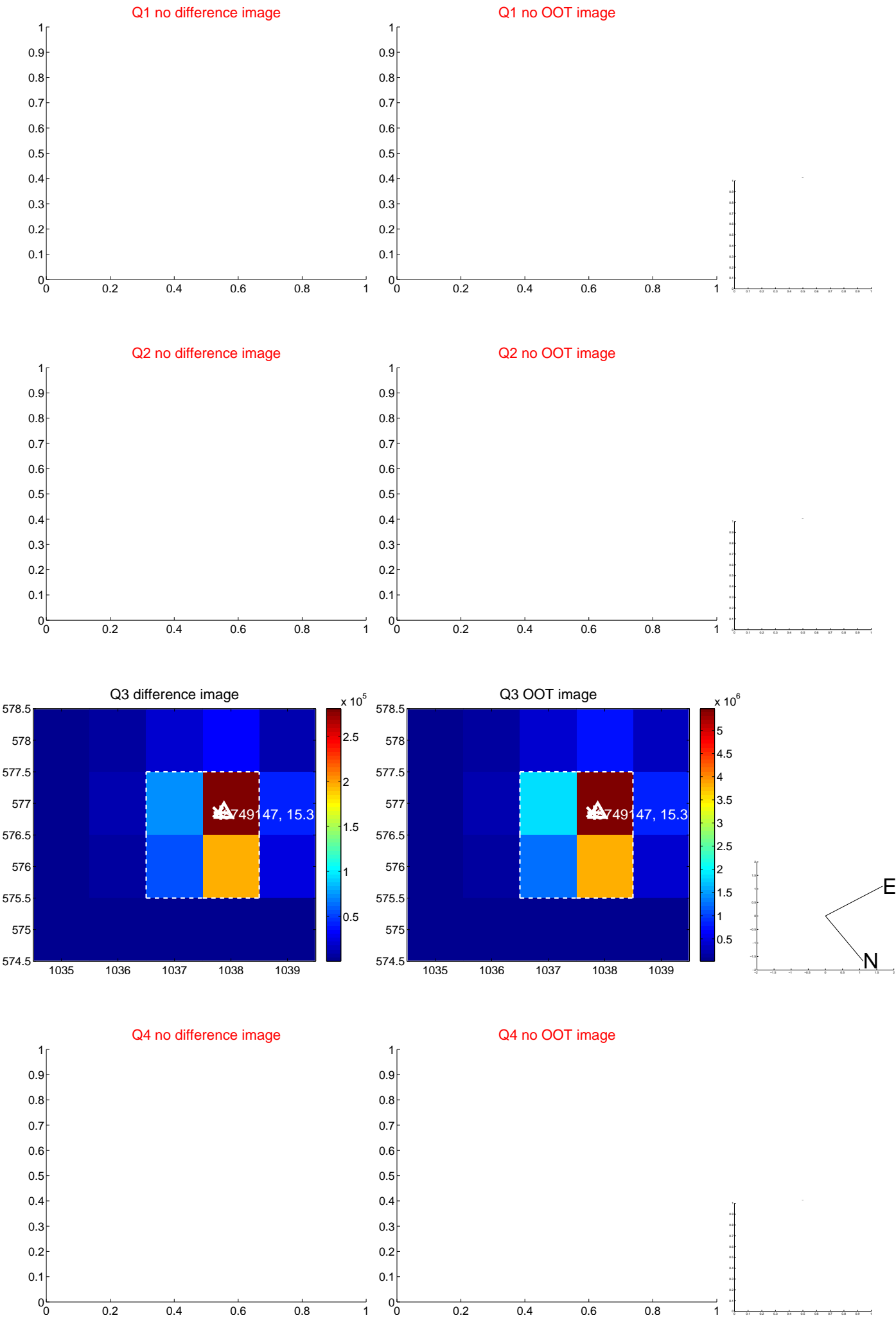
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.221 ± 0.072	3.08	0.169 ± 0.072	0.143 ± 0.072
PRF-fit source offset from KIC position	0.435 ± 0.079	5.52	0.341 ± 0.074	0.270 ± 0.074
photometric centroid source offset	0.43 ± 0.52	0.83	-0.32 ± 0.47	0.29 ± 0.57



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.

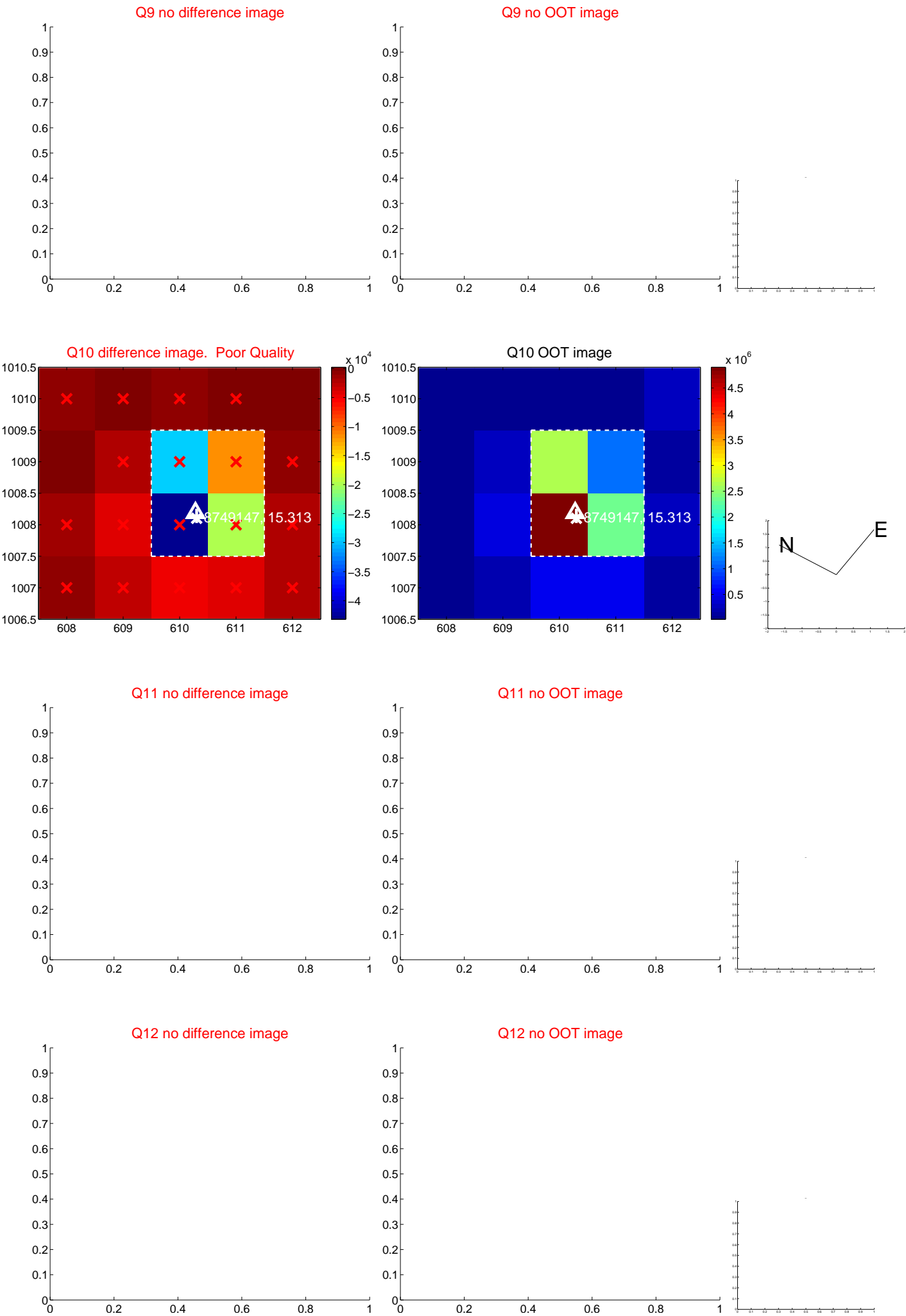
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



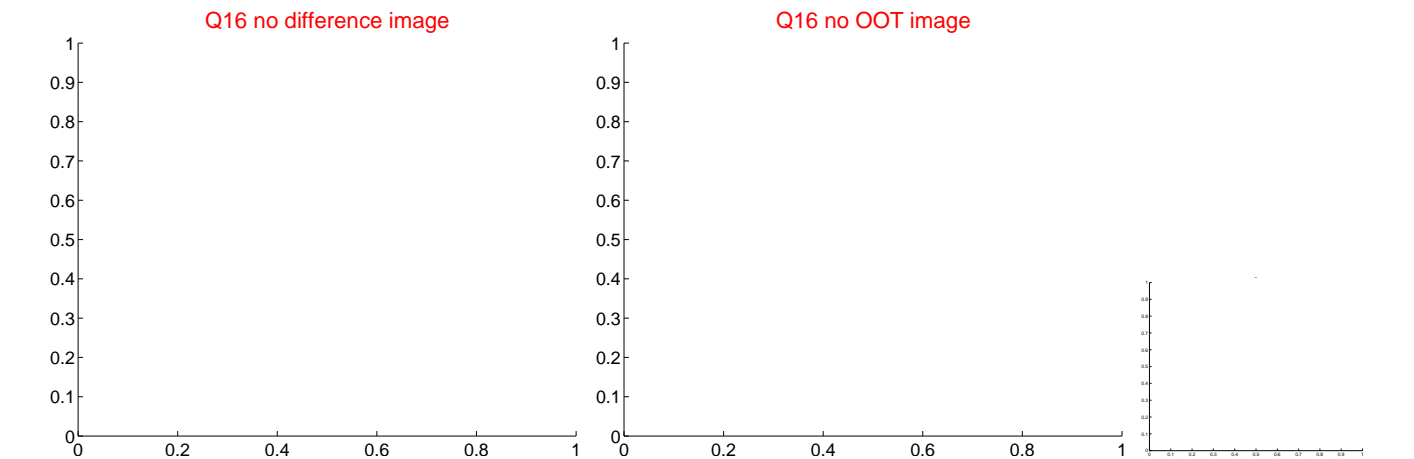
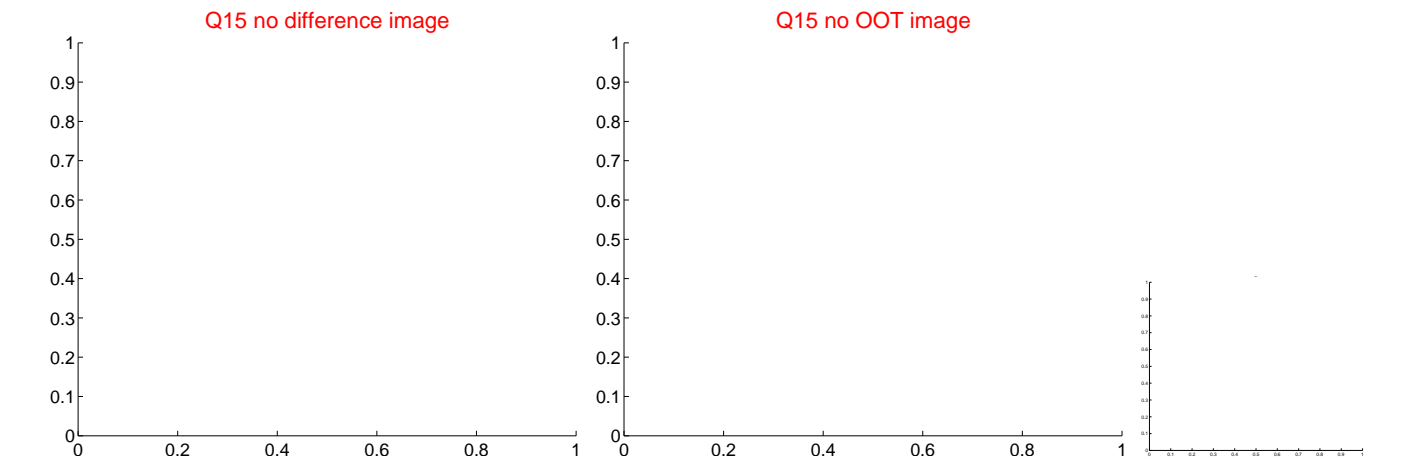
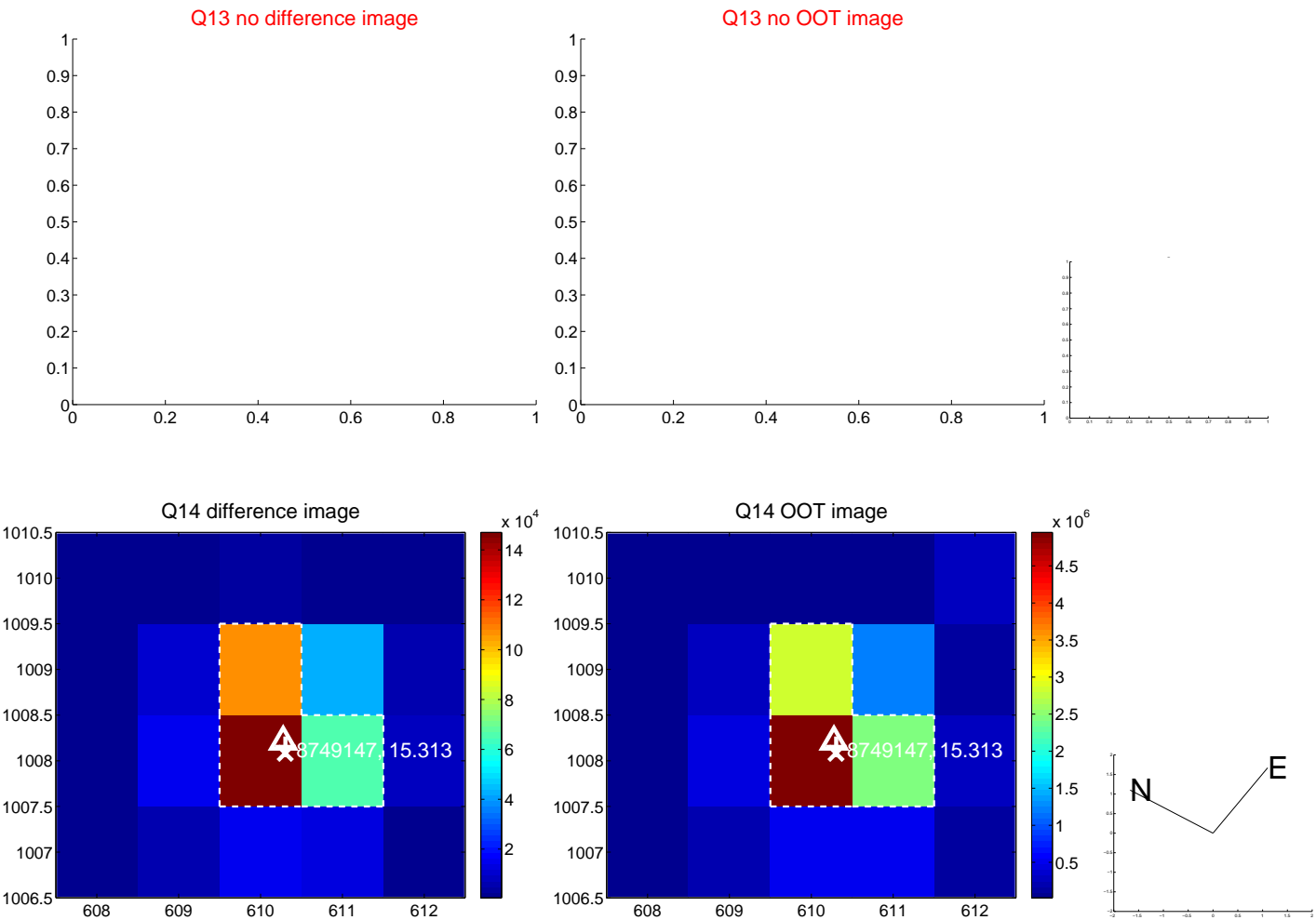
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



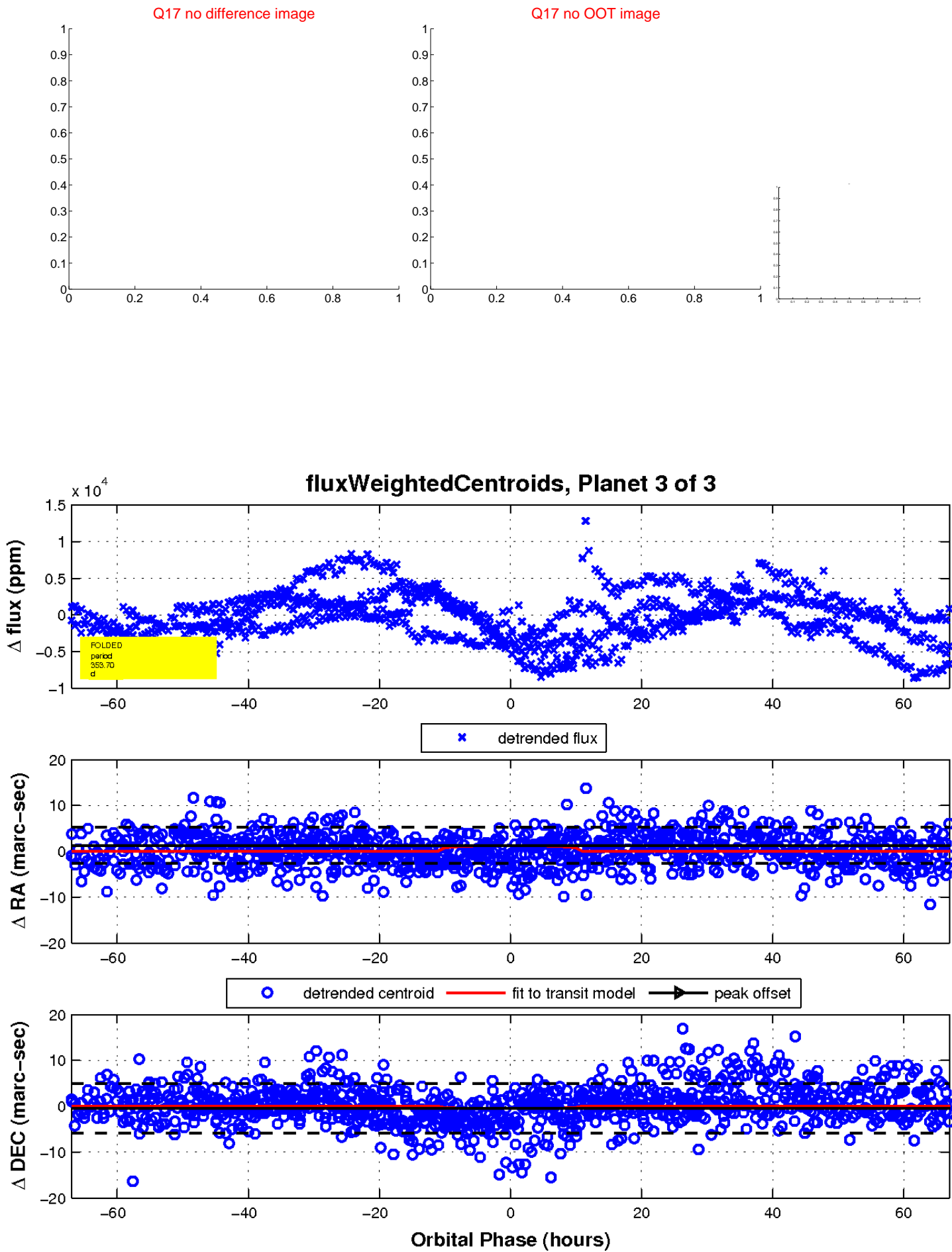
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

