

KIC 011147271

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})
011147271-01	OBS	No	514.216055	235.881820	3632.6	5.487	15.6	6.7	0.27	3336	1.62	0.01
011147271-02	OBS	No	538.140710	172.417186	1197.1	2.841	18.6	2.6	0.27	3336	0.95	0.01
011147271-03	OBS	No	295.997085	330.723291	2750.5	4.515	15.1	7.4	0.27	3336	1.46	0.03
011147271-04	OBS	No	326.257261	172.909496	2458.2	3.933	12.0	6.3	0.27	3336	1.31	0.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011147271-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS
011147271-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011147271-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011147271-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—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.

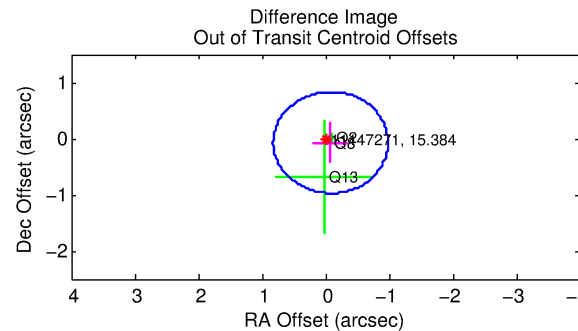
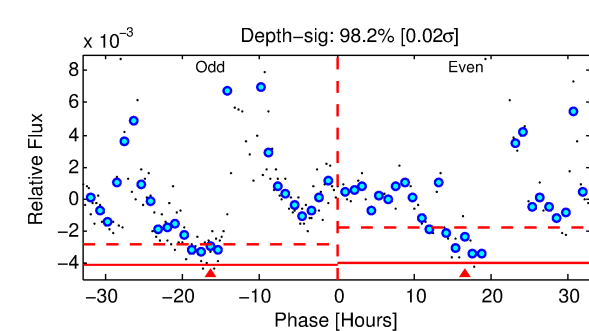
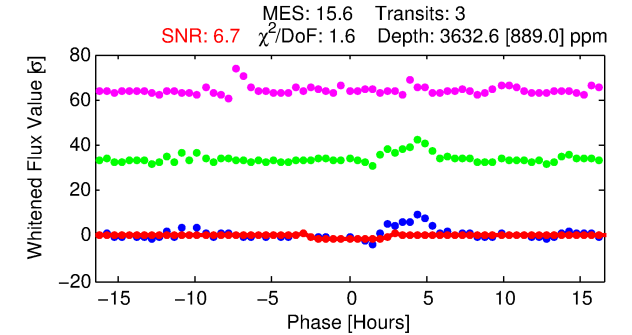
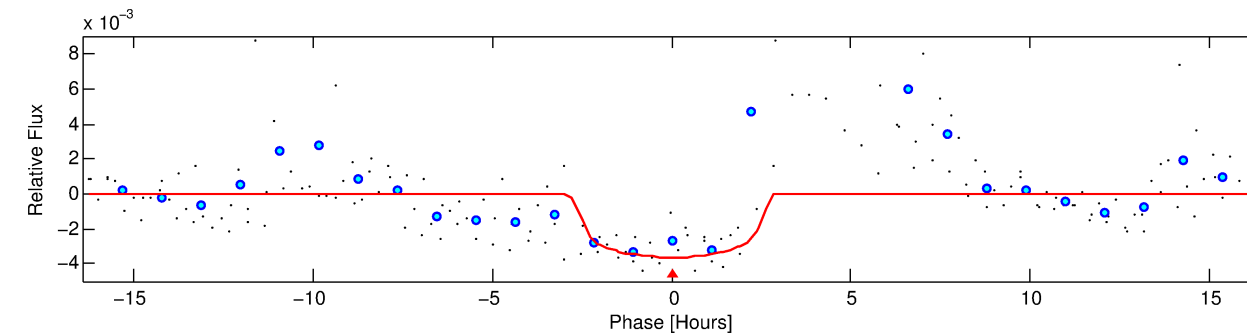
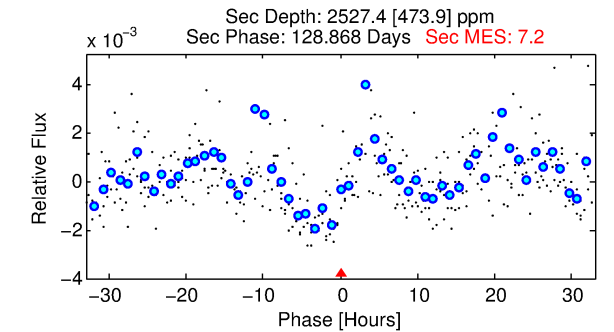
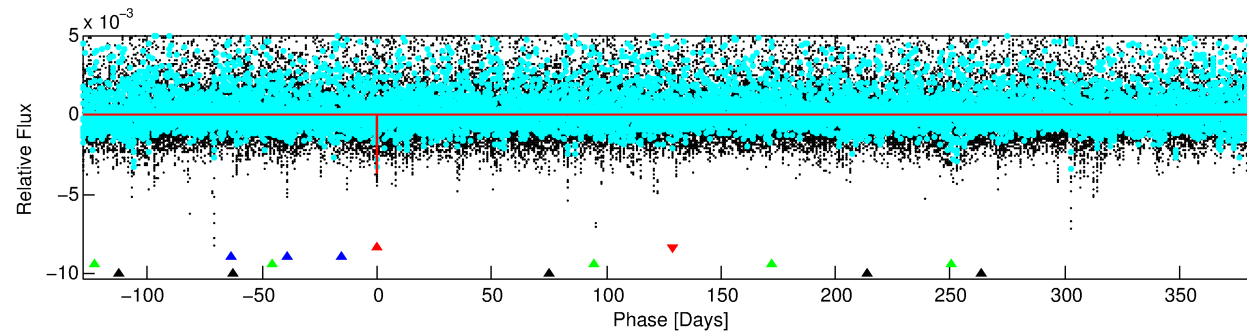
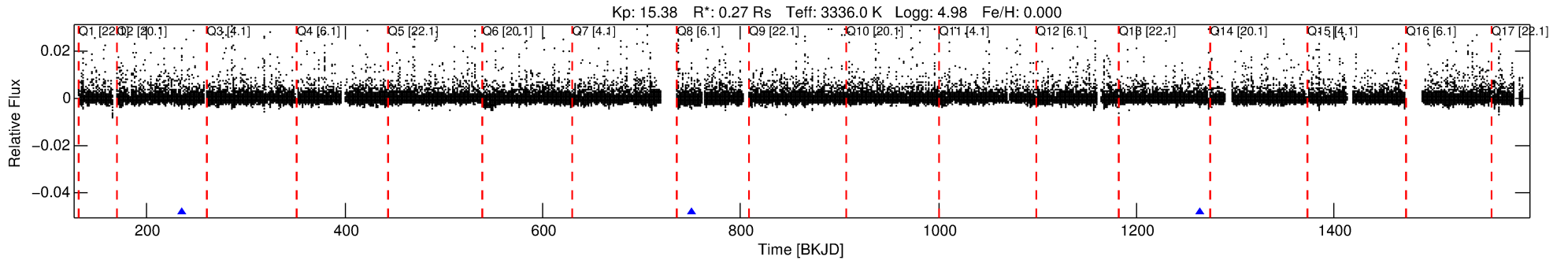
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011147271-01

No Significant Match Found

DV One-Page Summary

KIC: 11147271 Candidate: 1 of 4 Period: 514.216 d



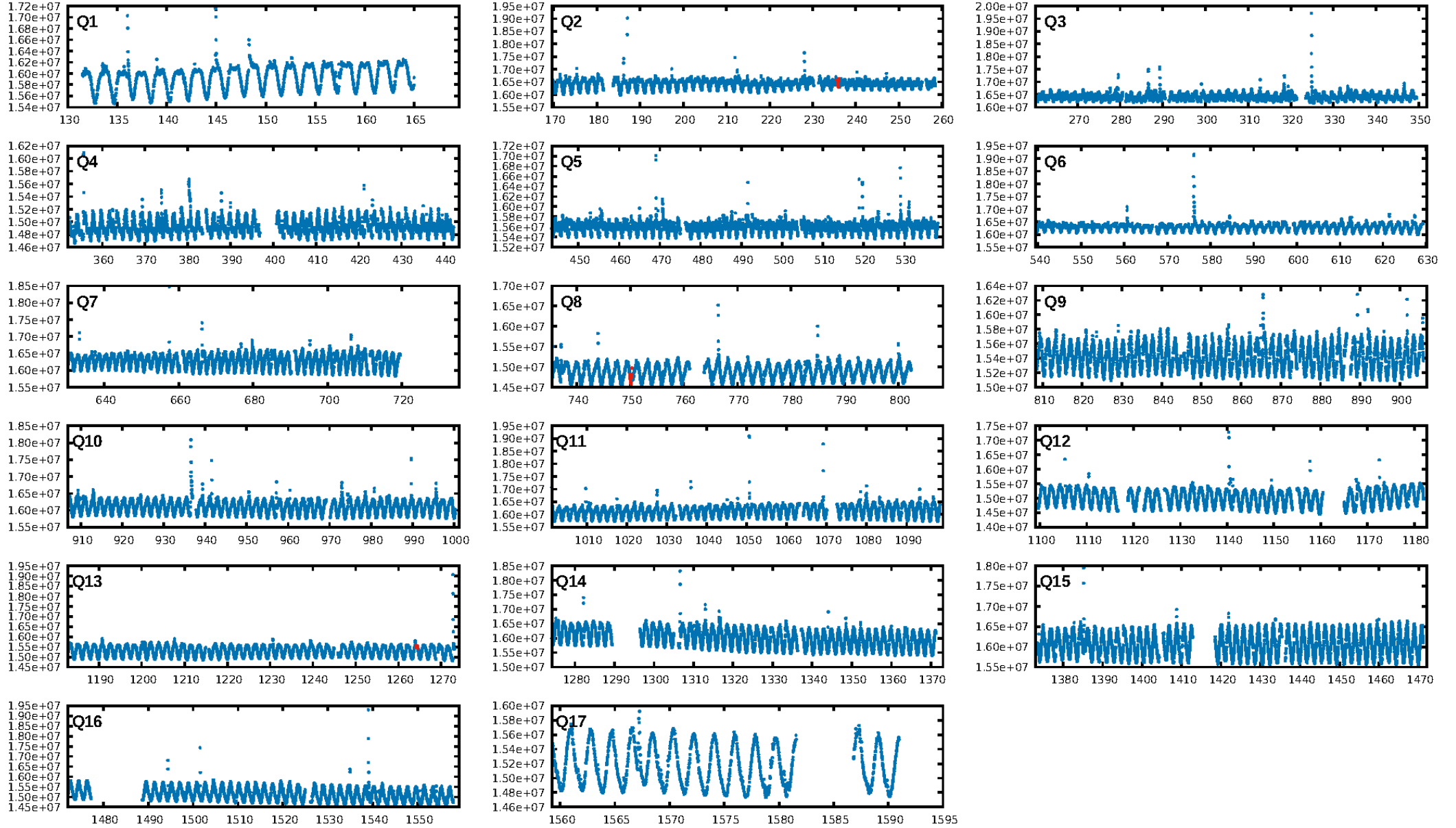
DV Fit Results:

Period = 514.21605 [0.01055] d
Epoch = 235.8818 [0.0134] BKJD
Rp/R* = 0.0553 [0.0524]
a/R* = 714.36 [2862.30]
b = 0.34 [10.24]
Seff = 0.01 [0.00]
Teq = 86 [3] K
Rp = 1.62 [1.55] Re
a = 0.7935 [0.0797] AU
Ag = 335267.32 [640107.54] [0.52σ]
Teffp = 3182 [1517] K [2.04σ]

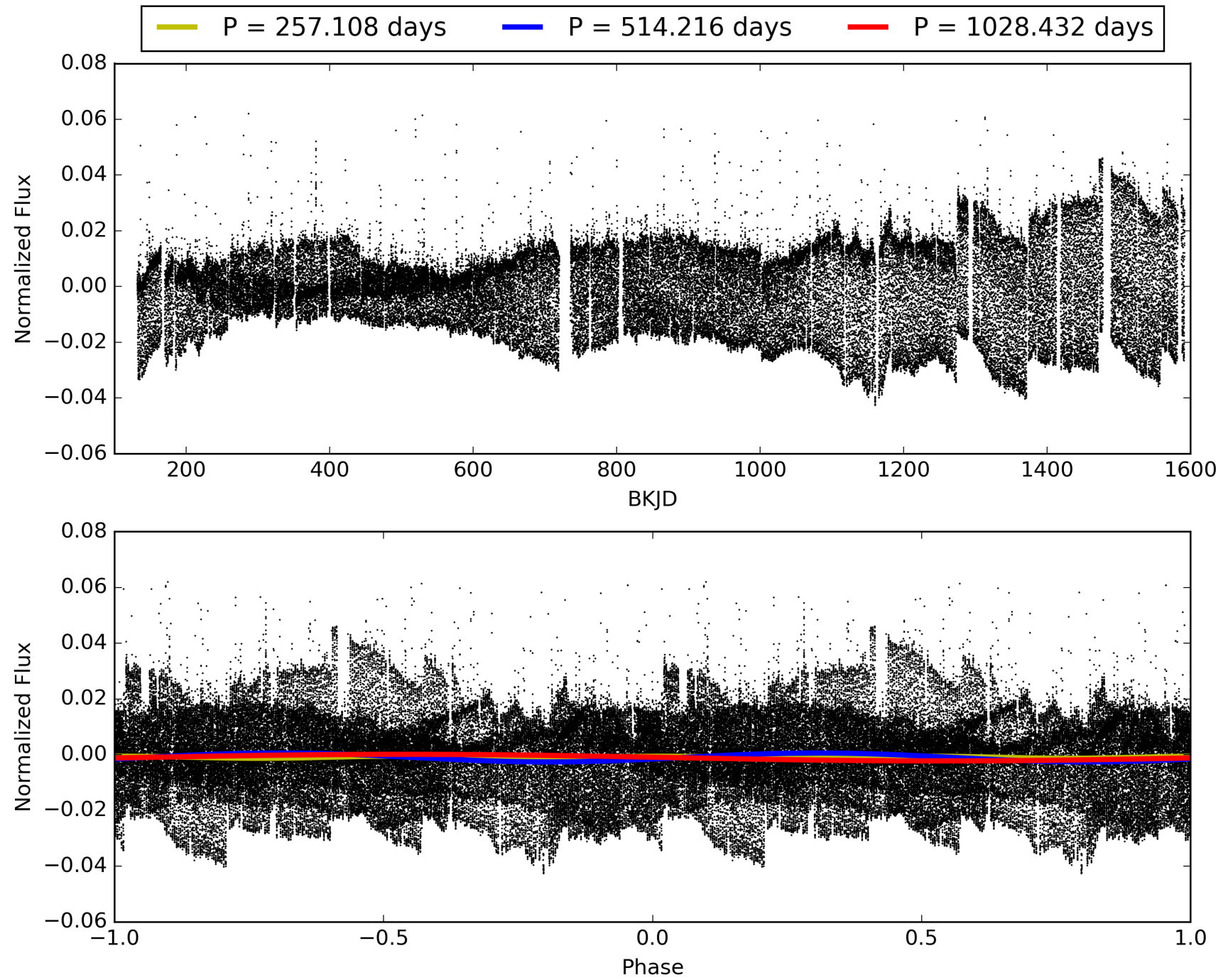
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [668.19σ]
LongPeriod-sig: 100.0% [92.92σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 43.8%
Bootstrap-pfa: 2.57e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.457
Centroid-sig: 0.0%
Centroid-so: 0.765 arcsec [1.93σ]
OotOffset-rm: 0.105 arcsec [0.35σ]
KicOffset-rm: 0.118 arcsec [0.37σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 011147271-01, PDC Light Curves

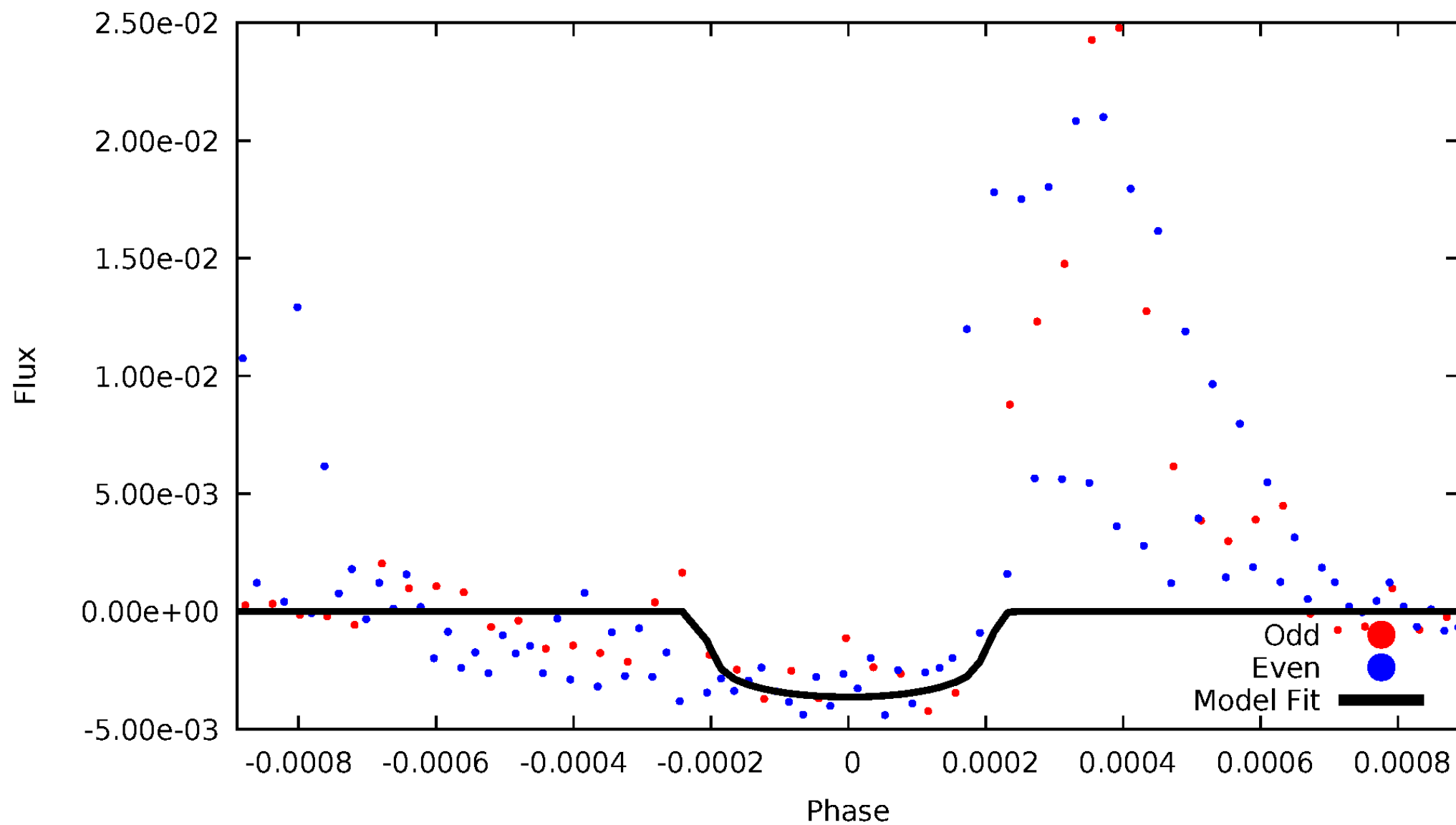


TCE 011147271-01



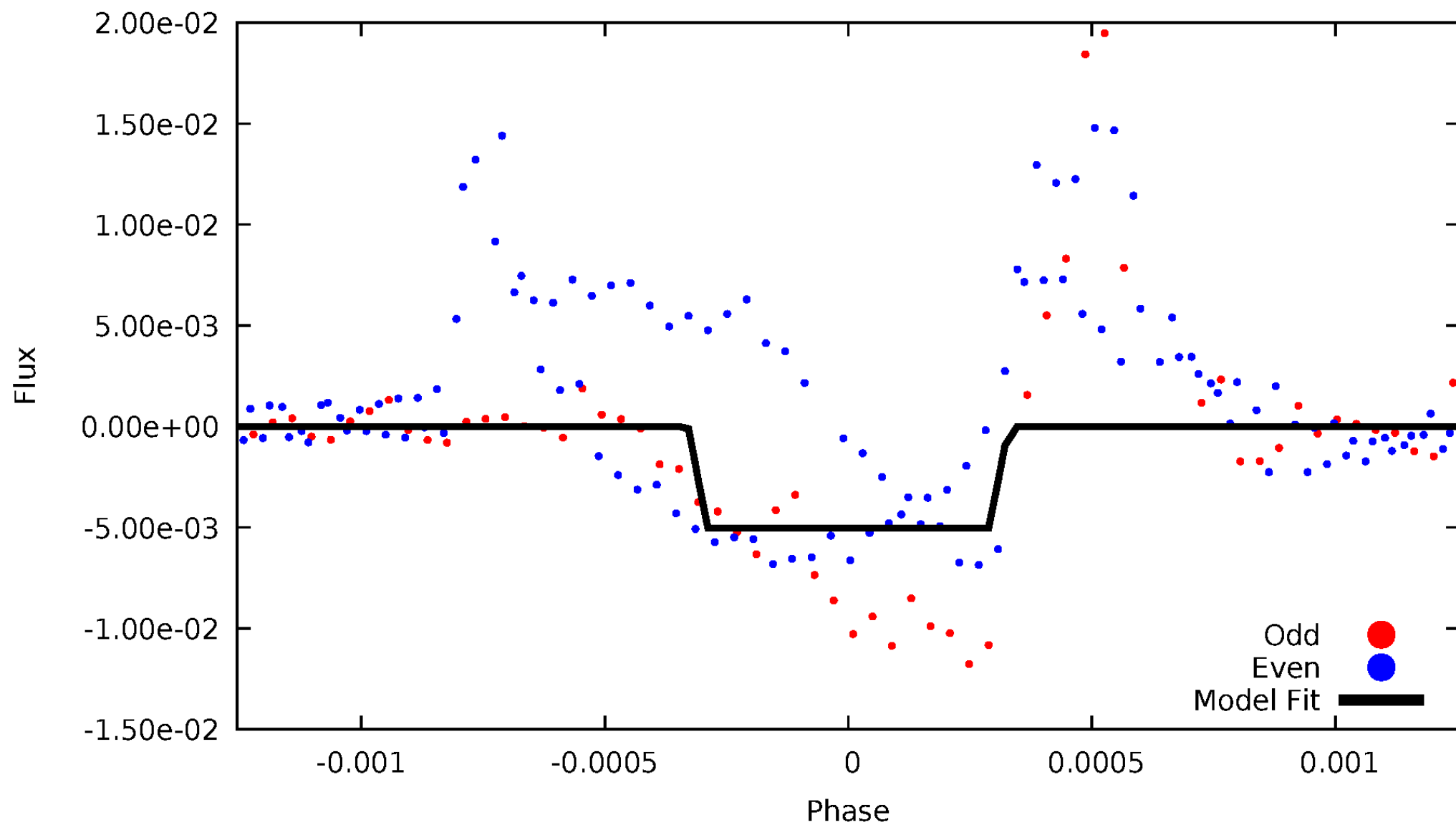
DV Odd/Even

TCE 011147271-01



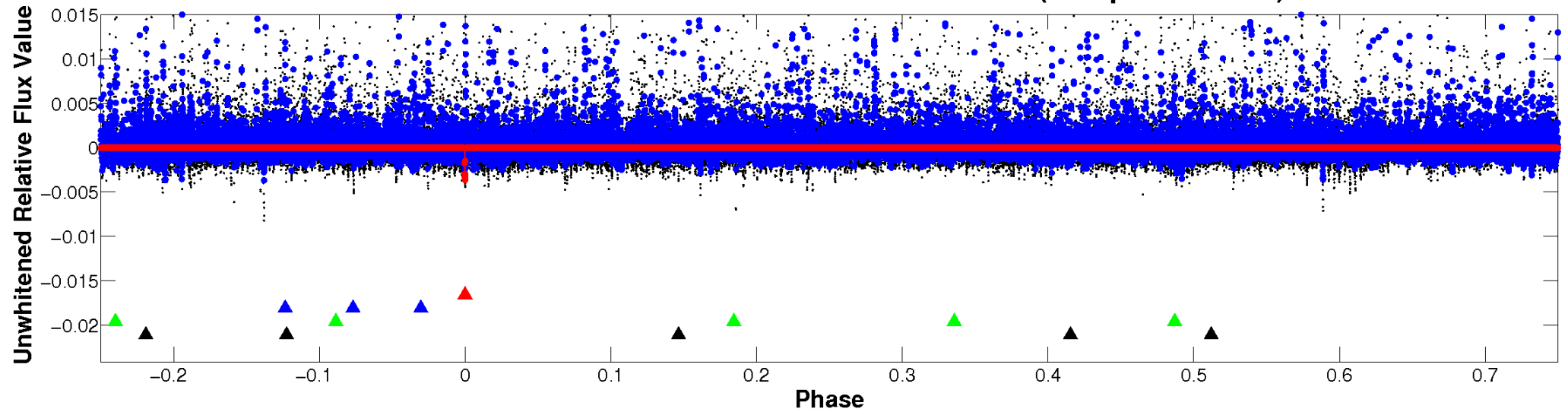
ALT Odd/Even

TCE 011147271-01

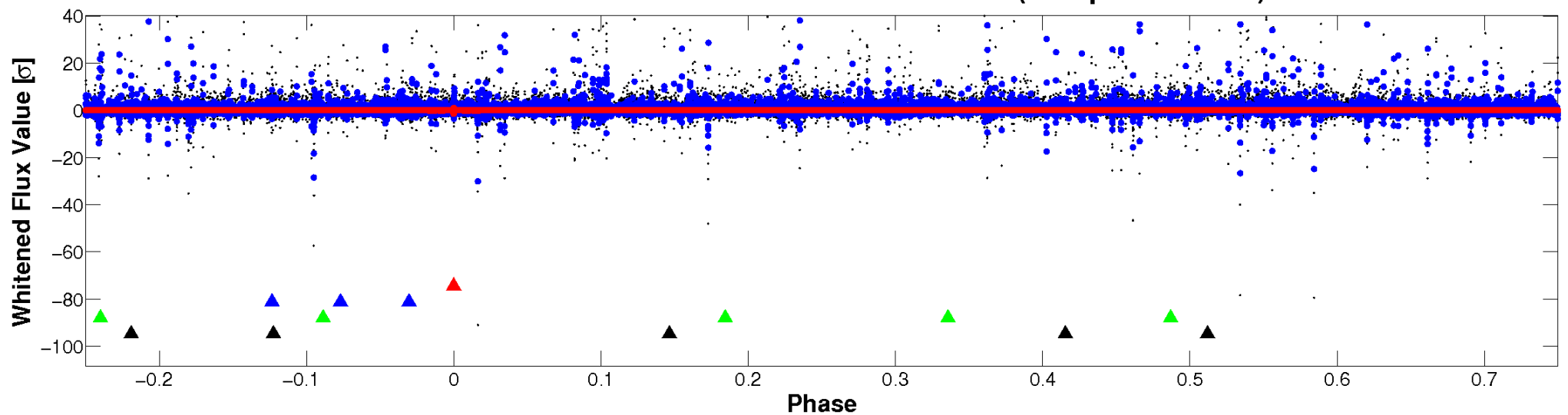


Non-Whitened Vs. Whitened Light Curve

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

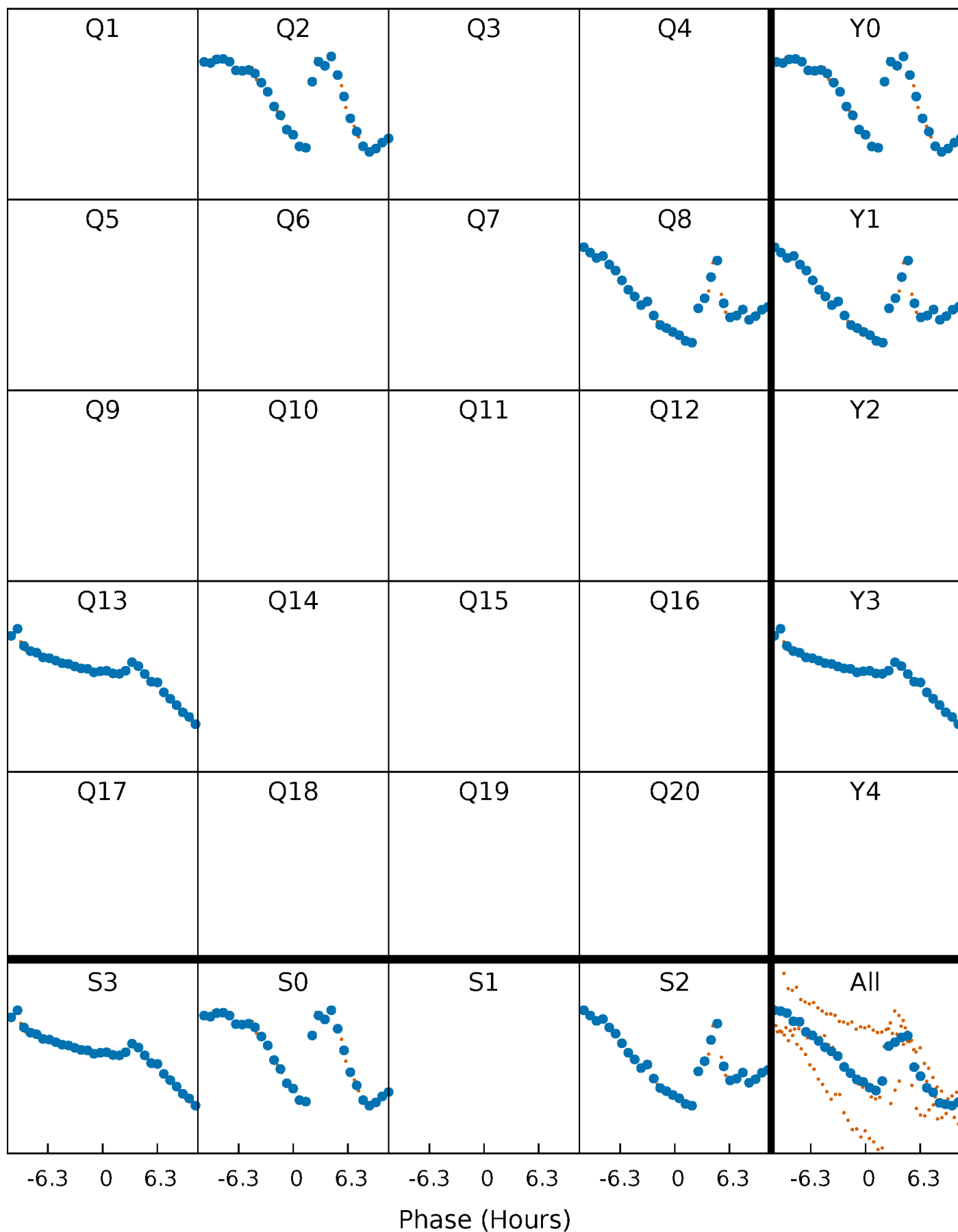


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



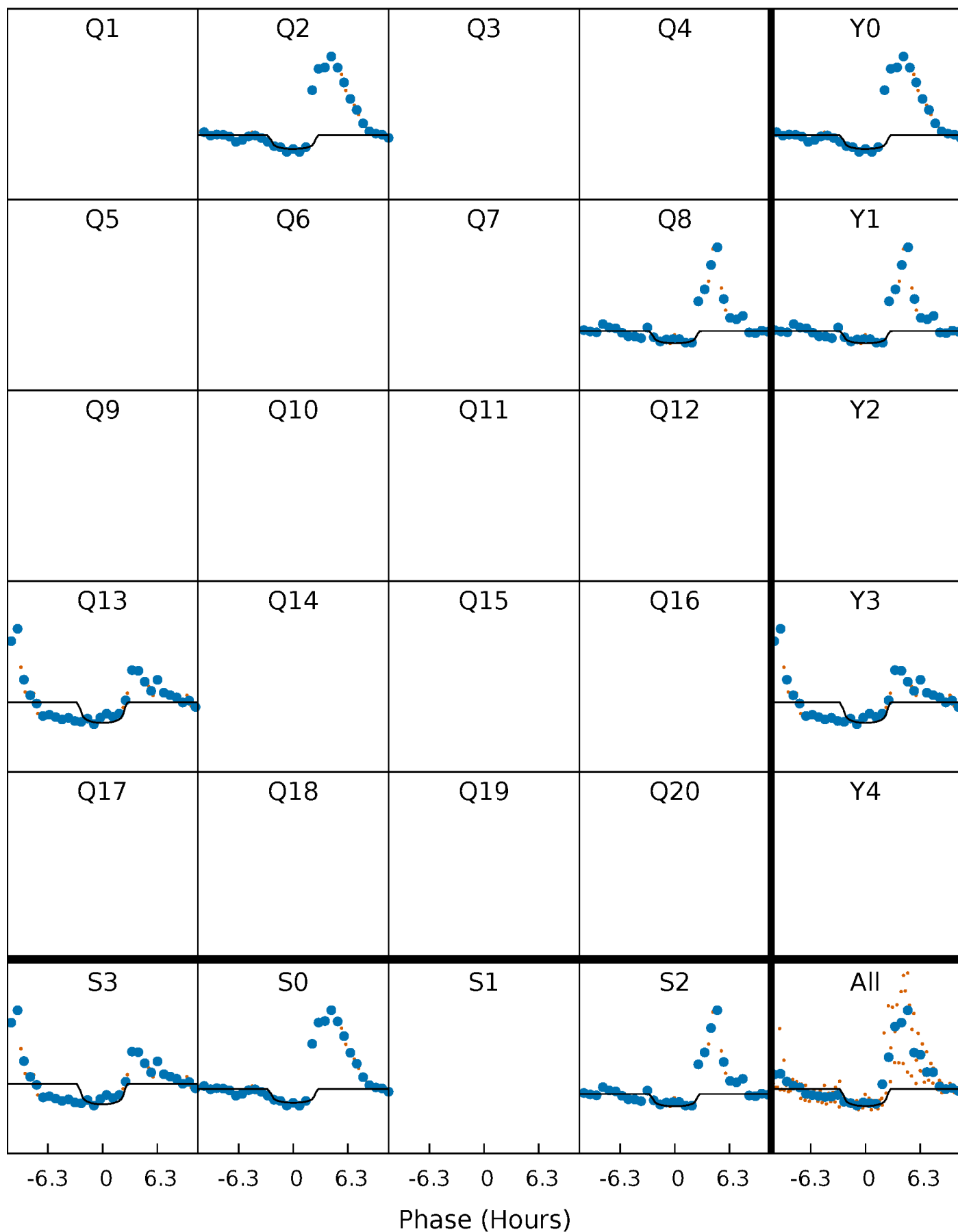
PDC Quarter-Phased Transit Curves

TCE 011147271-01 P=514.216055 Days $T_0=235.881820$ (BKJD)



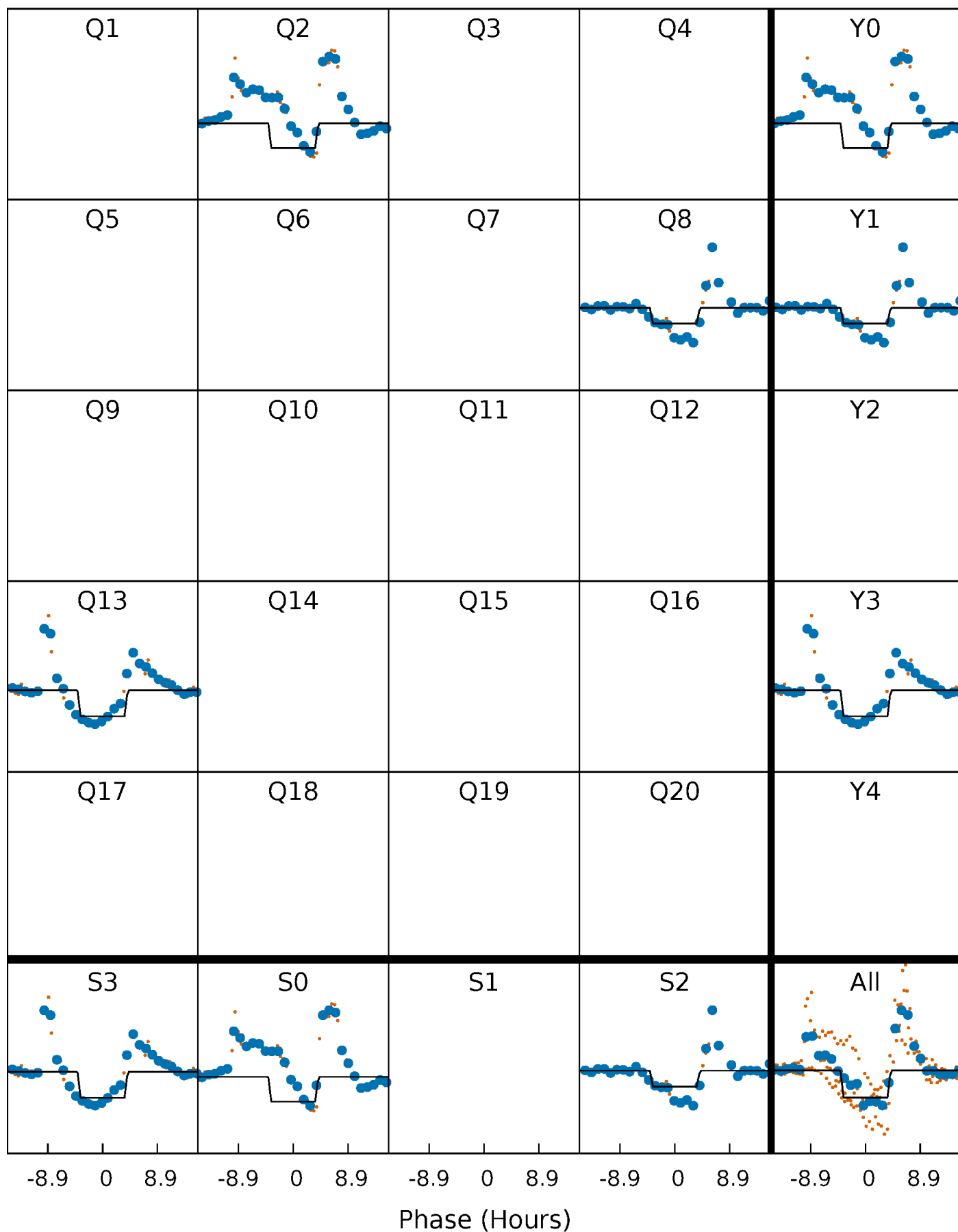
DV Quarter-Phased Transit Curves

TCE 011147271-01 P=514.216055 Days $T_0=235.881820$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

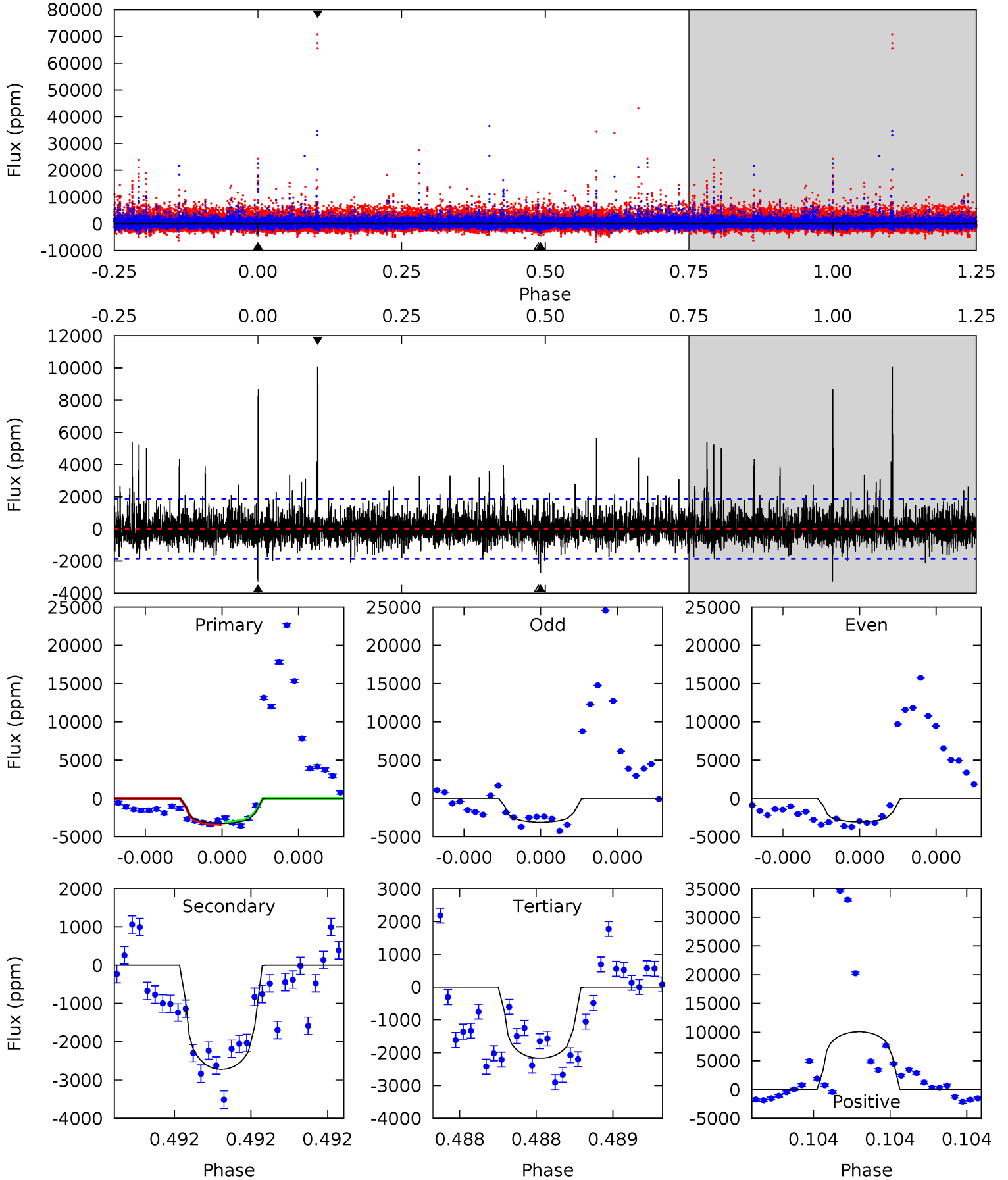
TCE 011147271-01 P=514.237782 Days $T_0=235.791906$ (BKJD)



DV Model-Shift Uniqueness Test

011147271-01, P = 514.216055 Days, E = 235.881820 Days

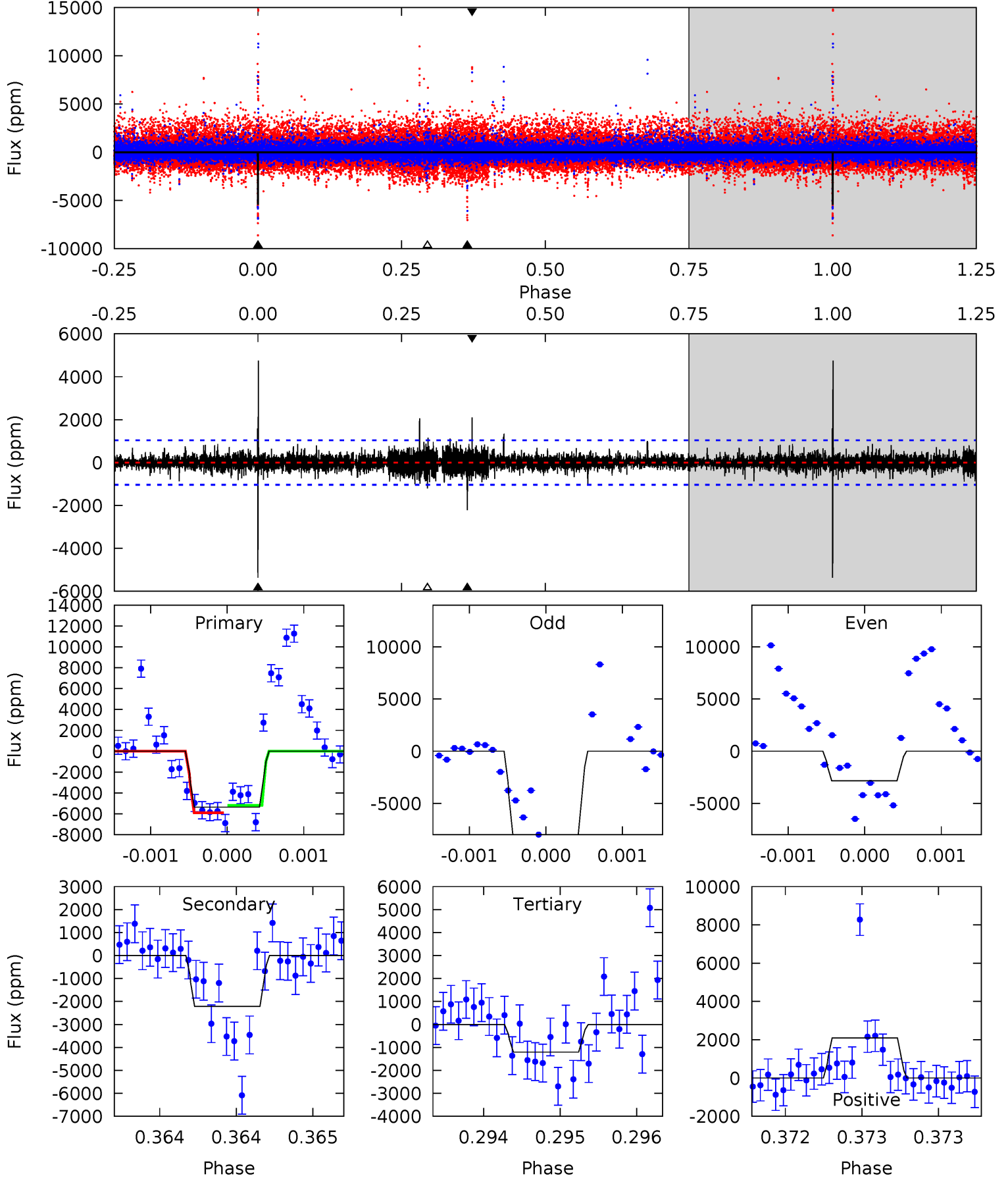
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.82	8.17	6.51	30.3	5.60	3.51	2.14	3.30	-20.5	1.66	-22.1	0.04	0.91	0.76	0.45



Alt Model-Shift Uniqueness Test

011147271-01, P = 514.237782 Days, E = 235.791906 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.7	11.9	6.43	11.2	5.53	3.42	1.36	22.2	17.5	5.43	0.68	16.3	0.94	0.47	0



Stellar Parameters For KIC 011147271

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3336^{+43}_{-36}	$4.983^{+0.040}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.268^{+0.038}_{-0.027}$	$0.252^{+0.049}_{-0.030}$	$18.420^{+4.033}_{-3.642}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-10%	+19%/-12%	+22%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011147271-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2722 ± 333	$1.88^{+1.39}_{-1.16}$	120^{+3}_{-3}	3128^{+1154}_{-439}	$267696^{+1525365}_{-181257}$
Alt.	-2218 ± 187	$2.31^{+1.37}_{-1.32}$	120^{+3}_{-3}	2902^{+842}_{-341}	$148362^{+623164}_{-89231}$

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 $A_{obs} \gg 1.0$

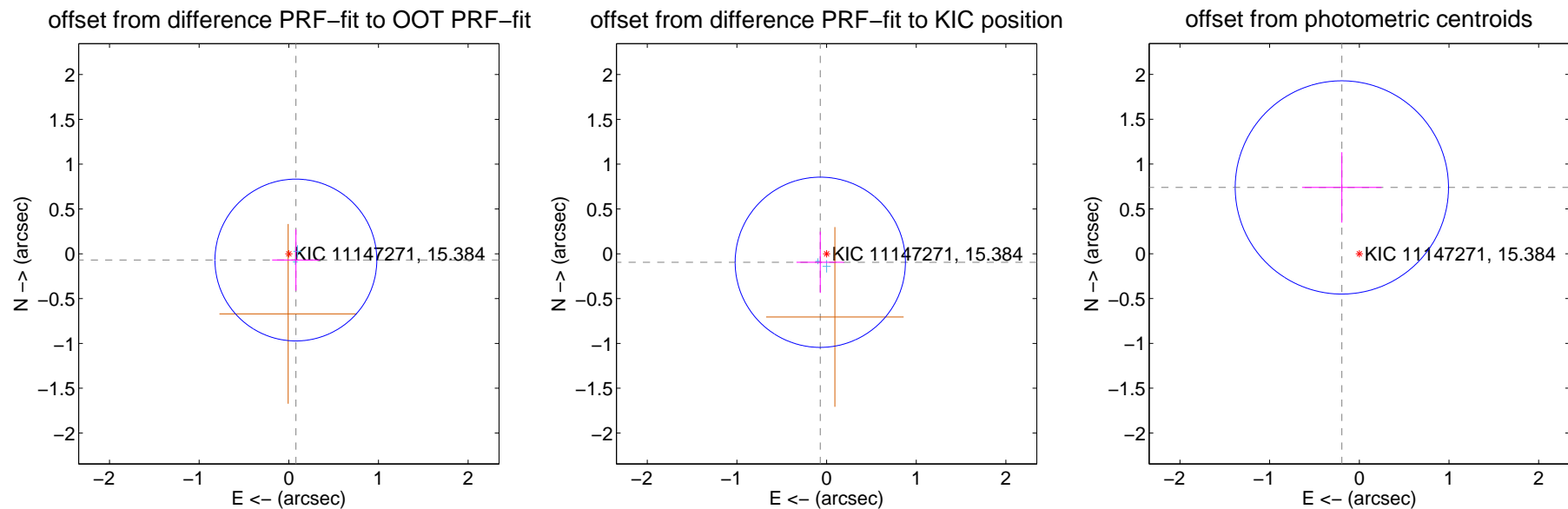
DV Centroid Data

Supplemental centroid analysis for 011147271-01. Kepler magnitude: 15.38. Transit SNR 6.73

There are 2 quarters with good PRF difference image offsets

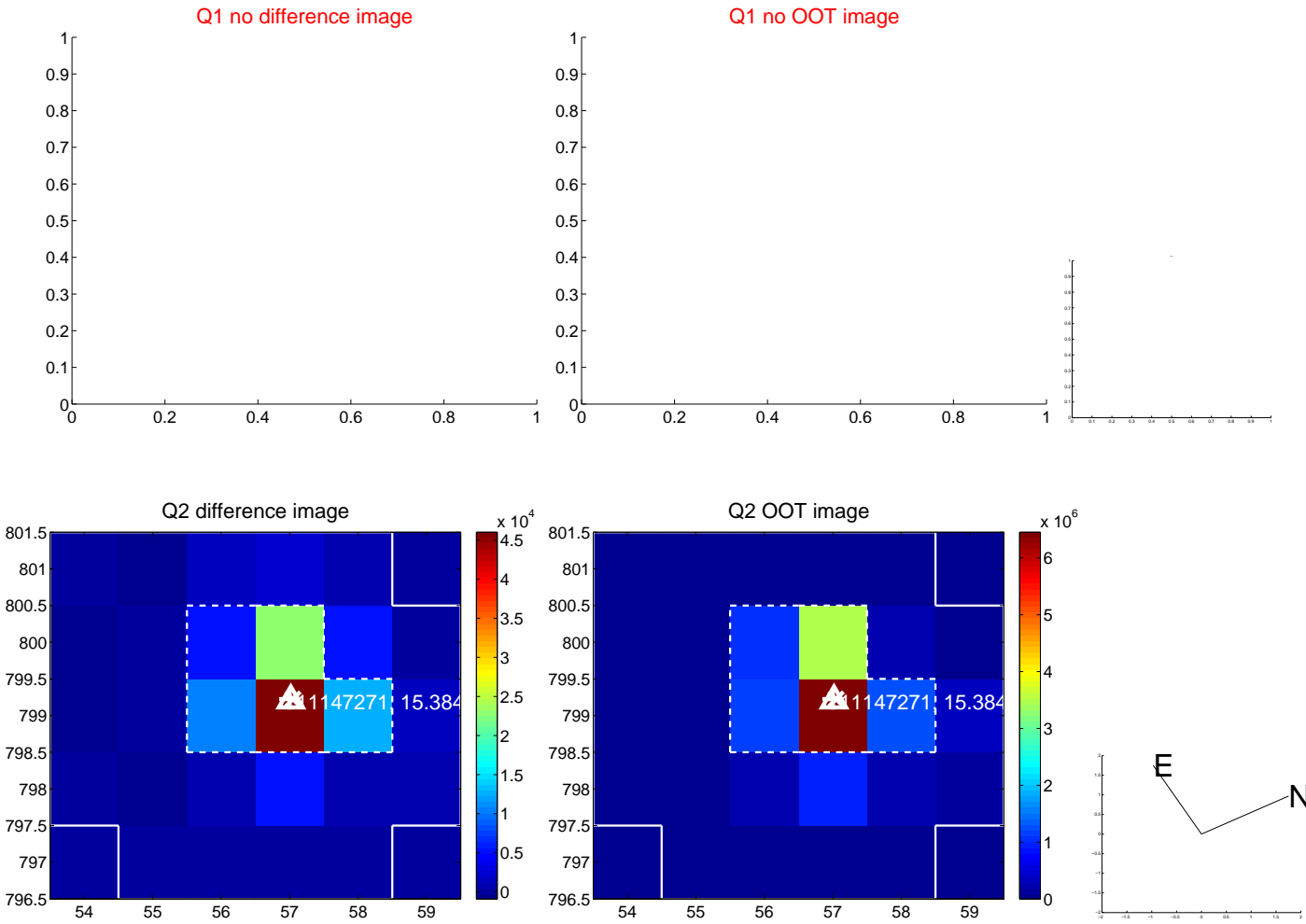
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.105 ± 0.301	0.35	-0.079 ± 0.265	-0.070 ± 0.342
PRF-fit source offset from KIC position	0.118 ± 0.317	0.37	0.070 ± 0.265	-0.095 ± 0.342
photometric centroid source offset	0.76 ± 0.40	1.93	0.19 ± 0.44	0.74 ± 0.39

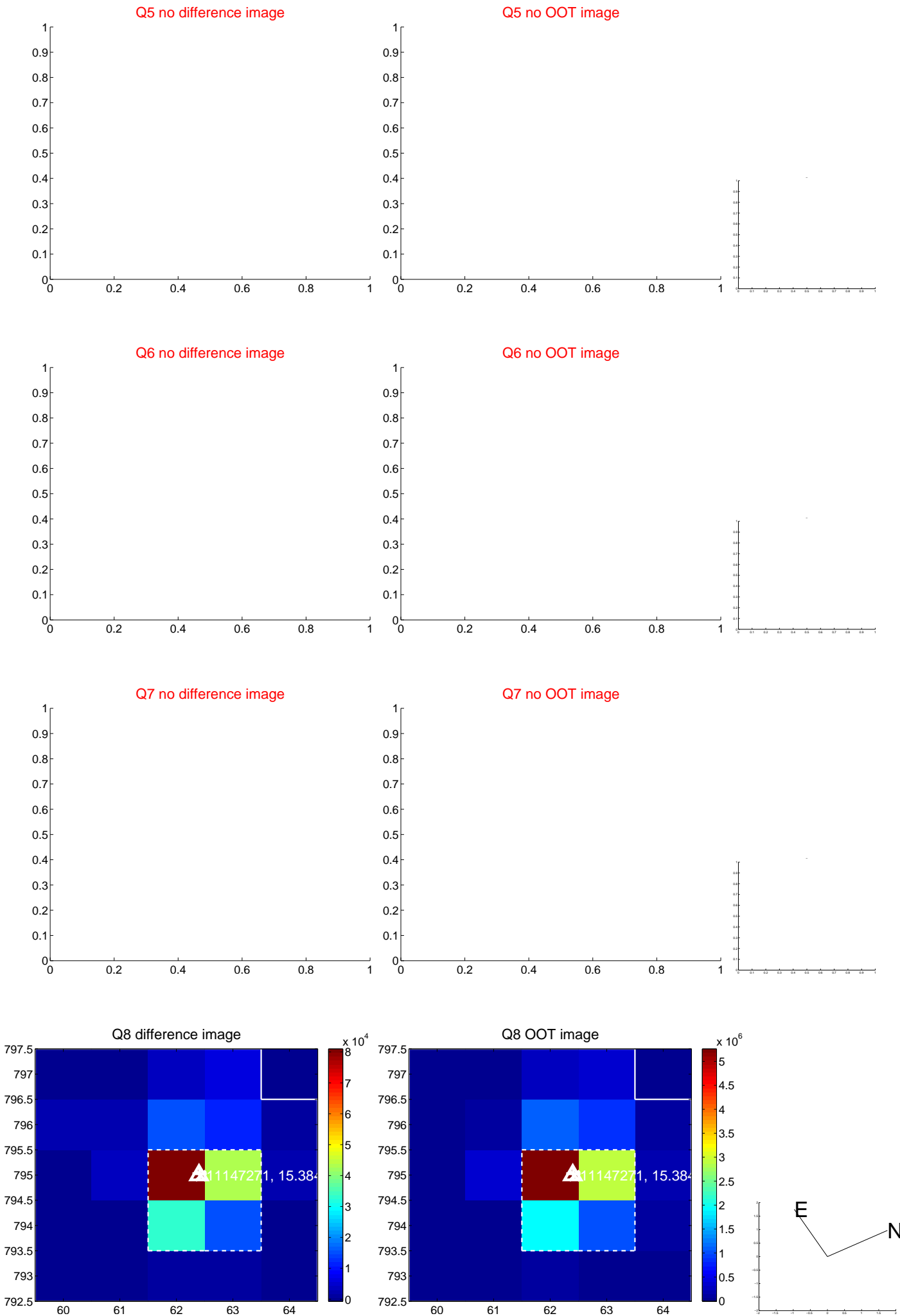


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



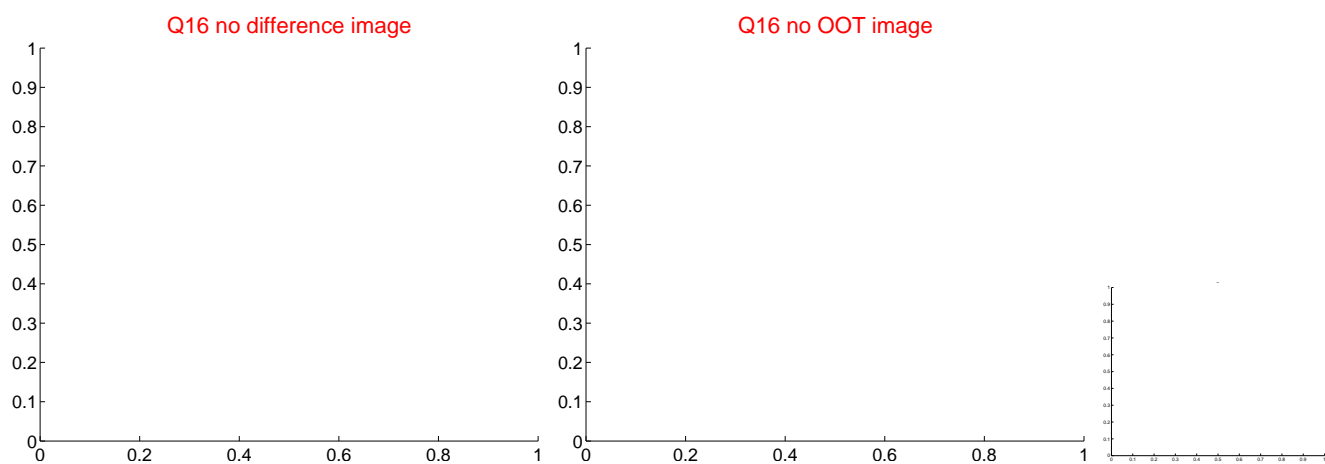
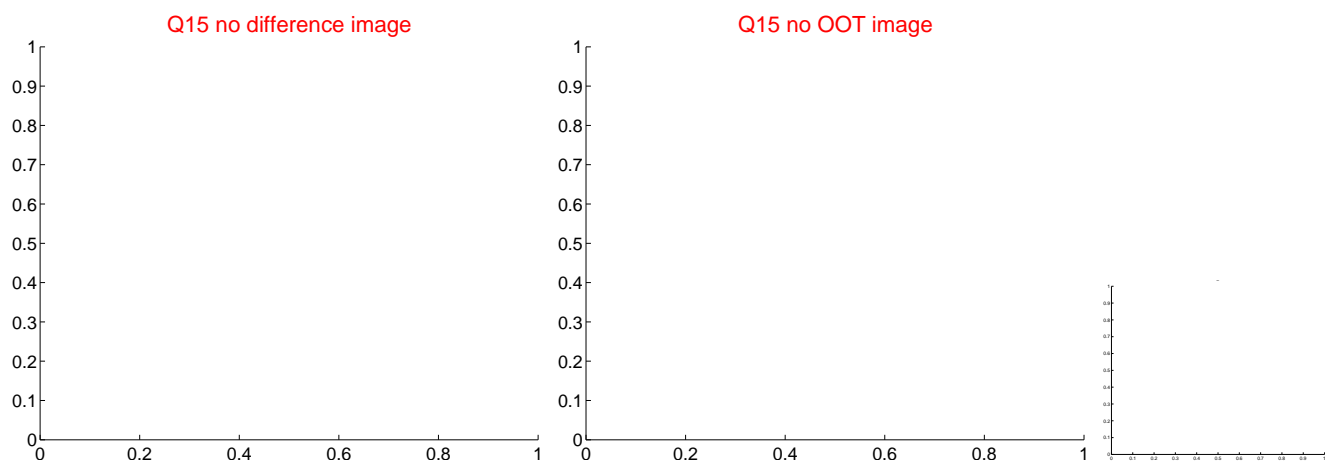
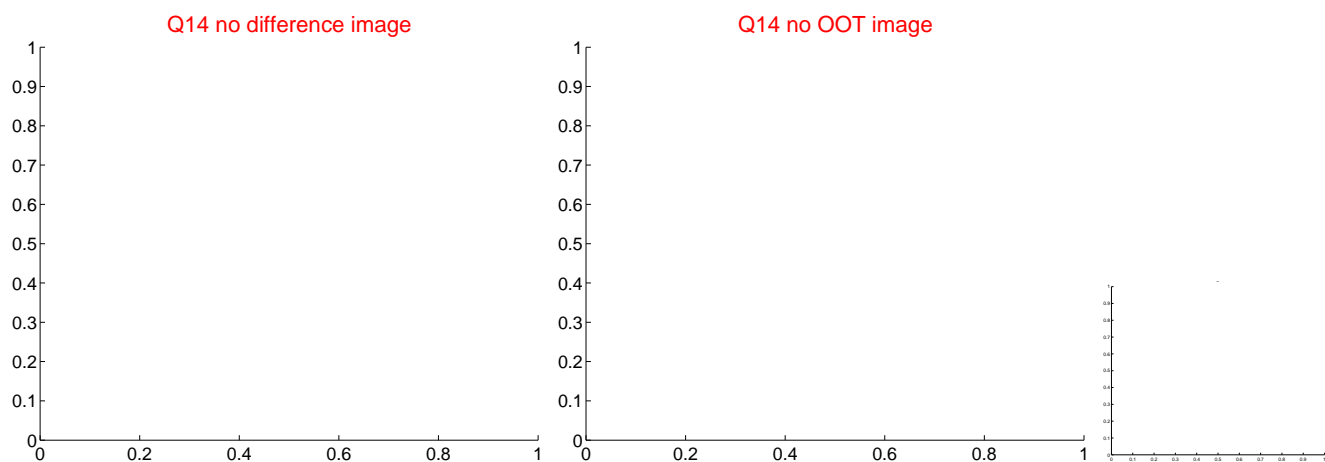
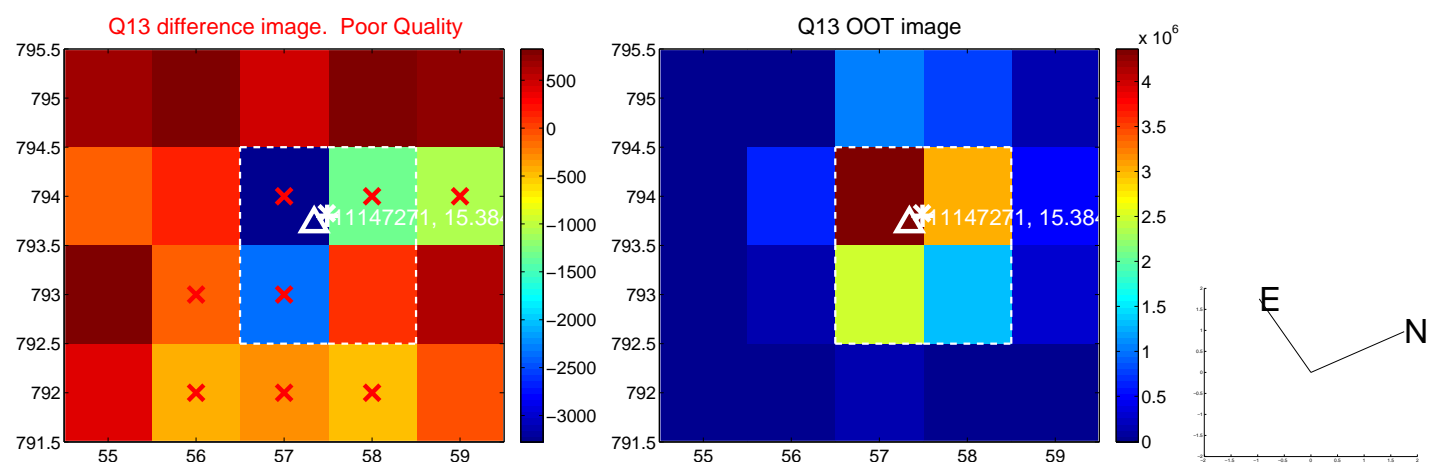
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



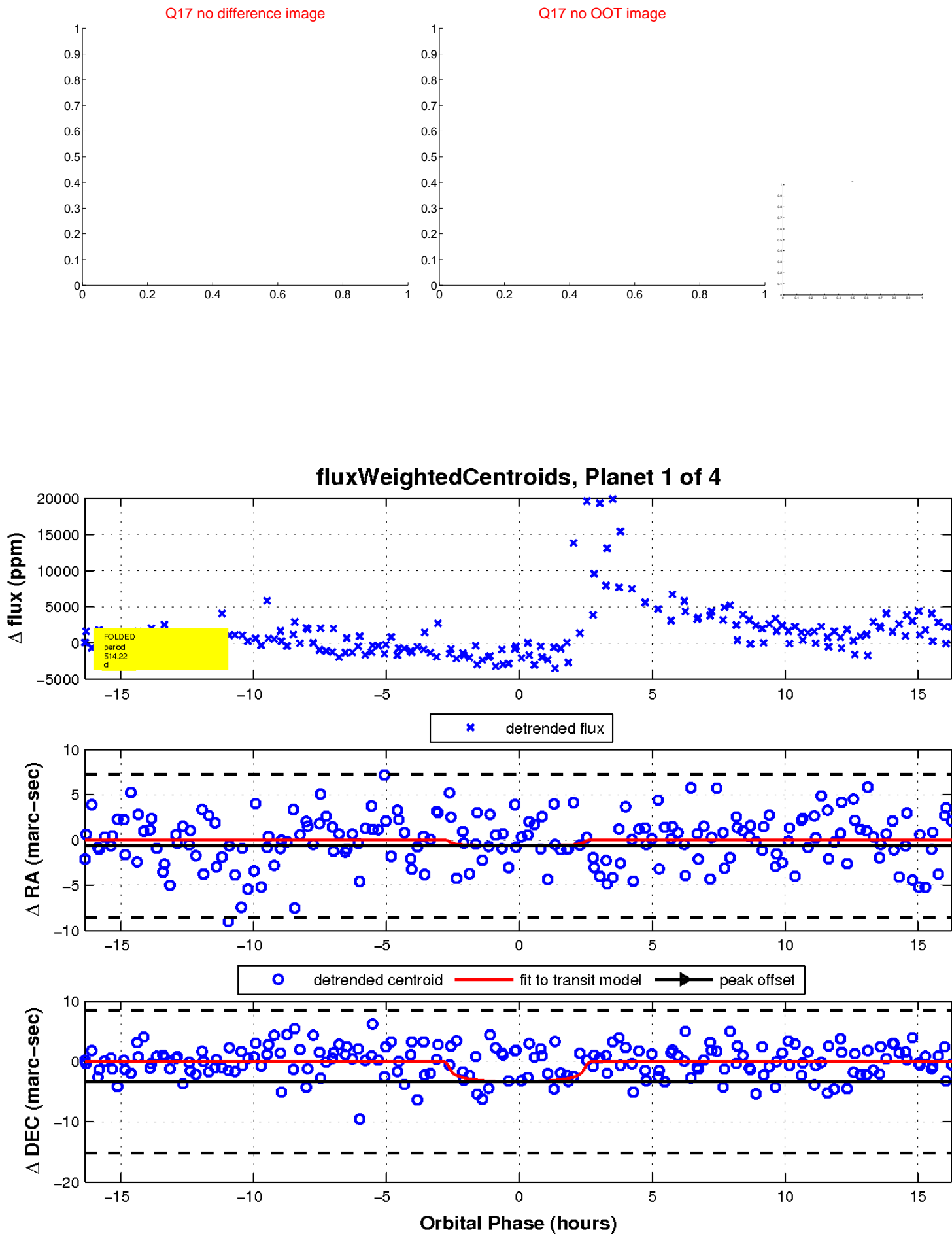
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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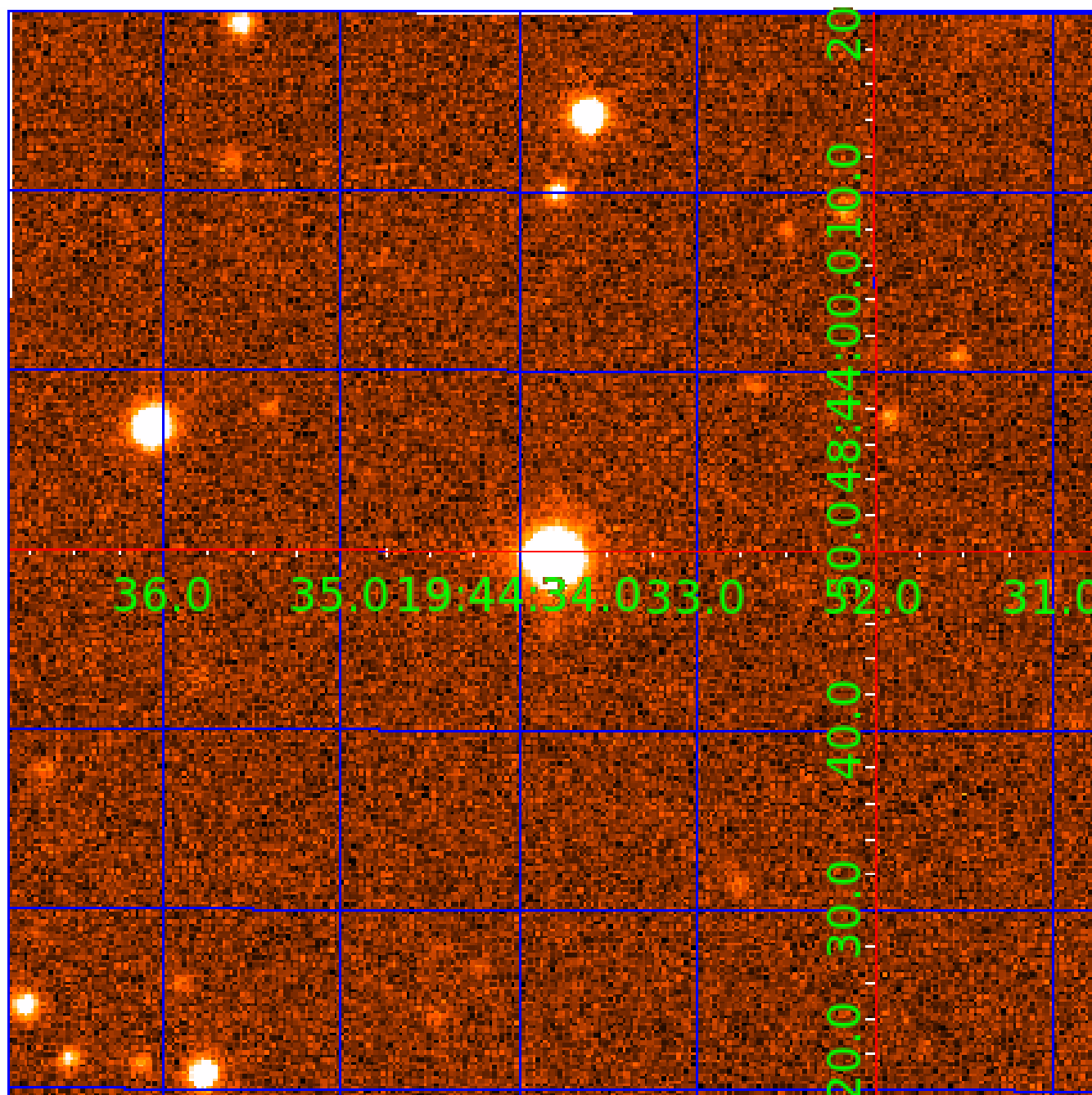


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011147271

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})
011147271-01	OBS	No	514.216055	235.881820	3632.6	5.487	15.6	6.7	0.27	3336	1.62	0.01
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011147271-04	OBS	No	326.257261	172.909496	2458.2	3.933	12.0	6.3	0.27	3336	1.31	0.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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011147271-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011147271-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011147271-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—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.

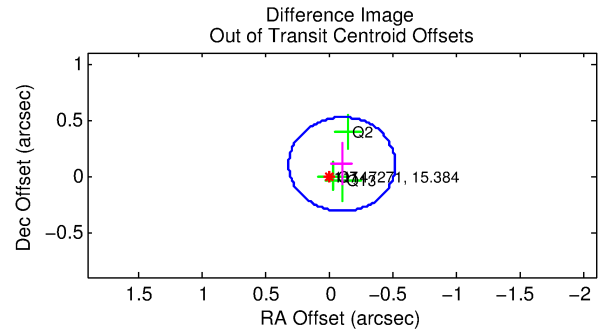
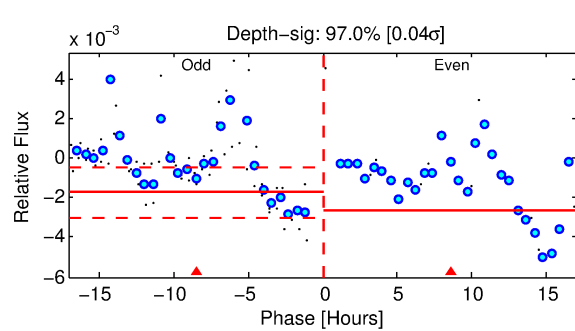
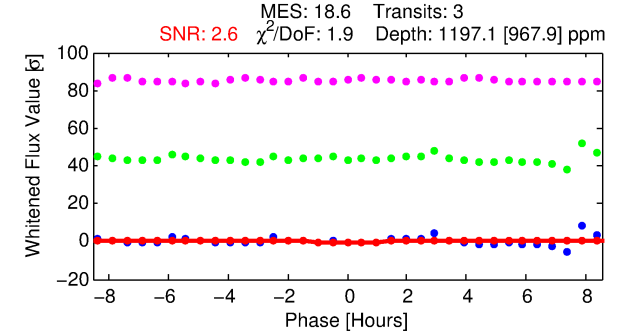
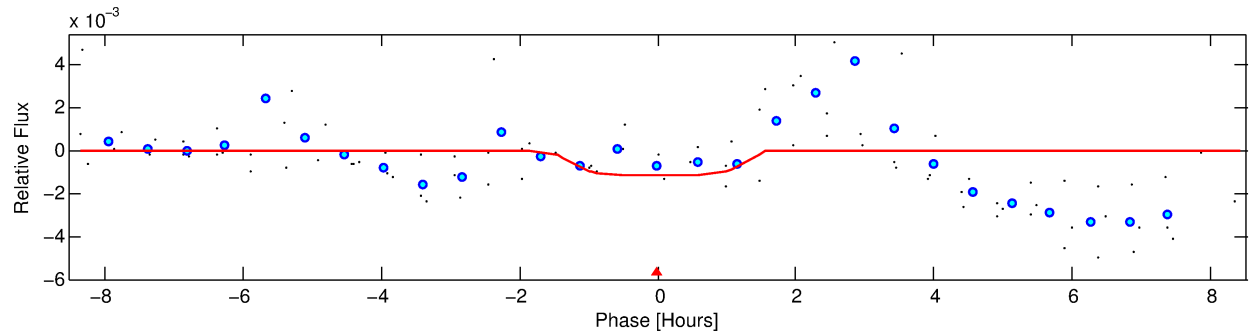
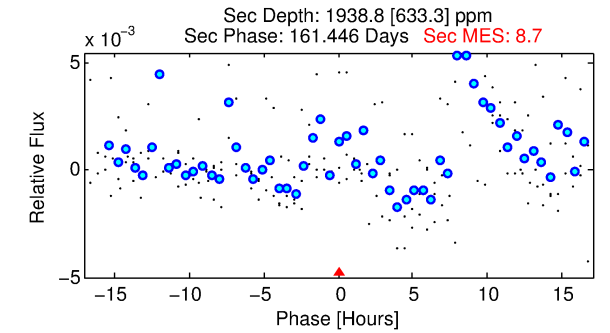
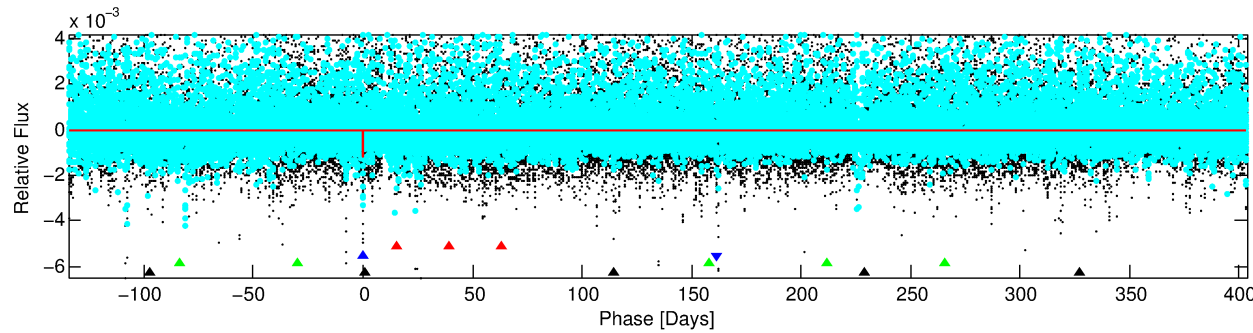
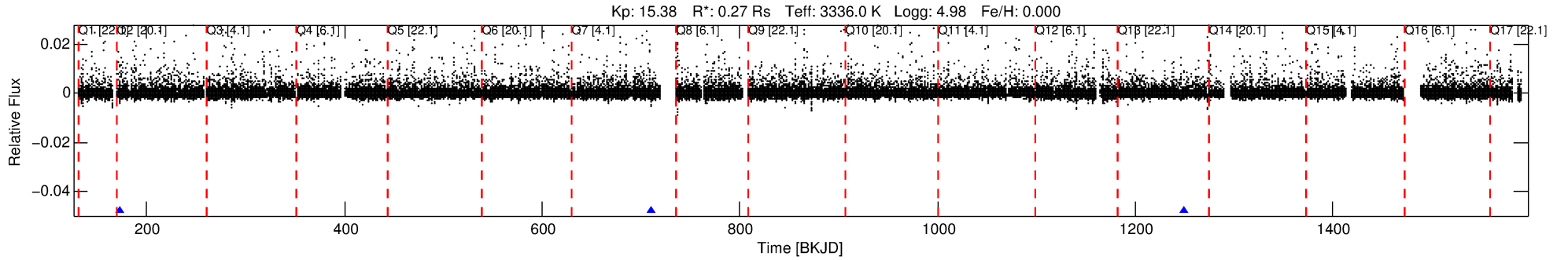
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011147271-02

No Significant Match Found

DV One-Page Summary

KIC: 11147271 Candidate: 2 of 4 Period: 538.141 d



DV Fit Results:

Period = 538.14071 [0.02106] d
Epoch = 172.4172 [0.0284] BKJD
Rp/R* = 0.0325 [0.2420]
a/R* = 1285.70 [40798.31]
b = 0.53 [43.96]
Seff = 0.01 [0.00]
Teq = 84 [3] K
Rp = 0.95 [7.08] Re
a = 0.8179 [0.0821] AU
Ag = 791439.15 [11798841.98] [0.07σ]
Teffp = 3885 [14479] K [0.26σ]

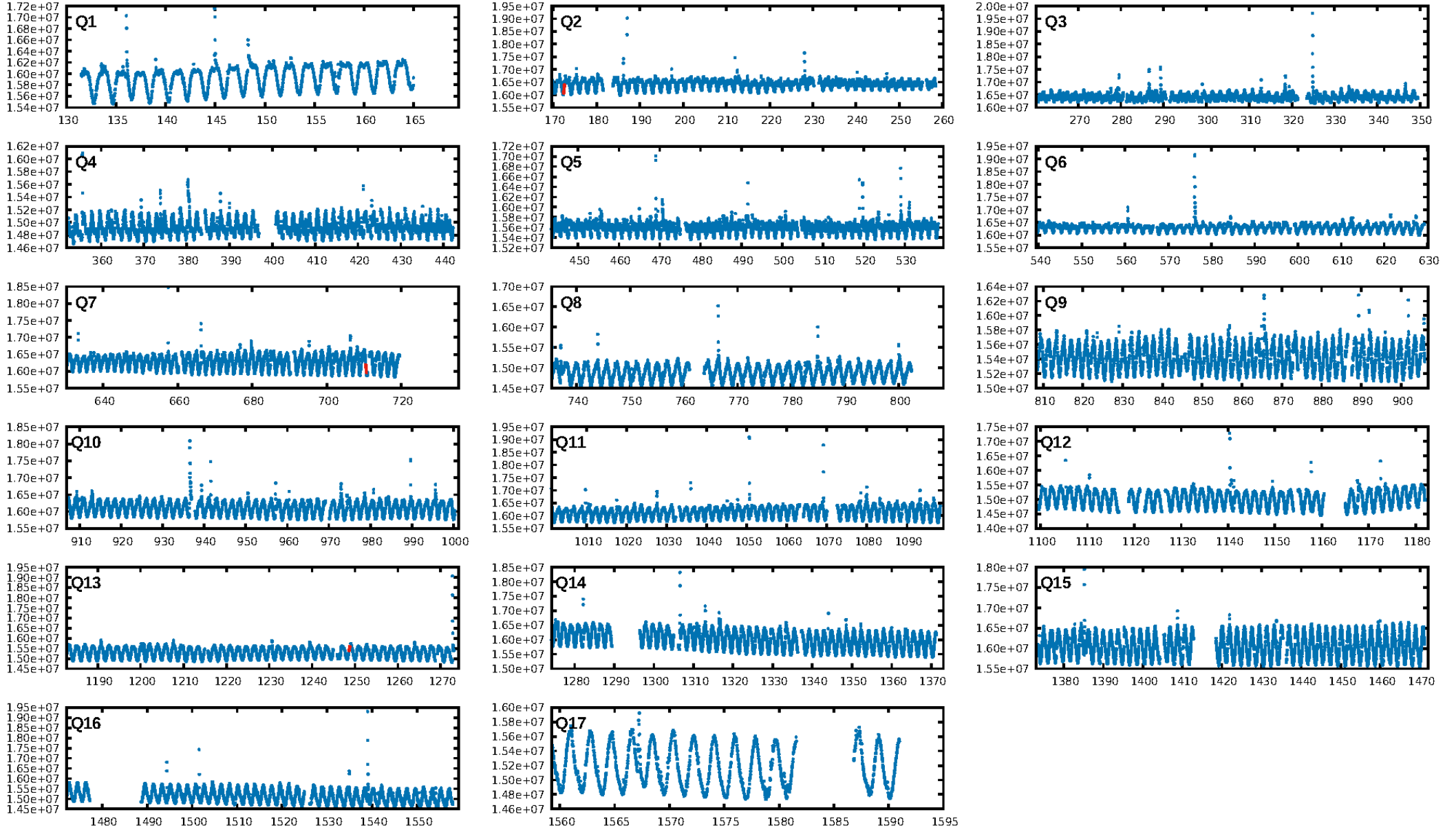
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [92.92σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 23.0%
ModelChiSquareGof-sig: 78.9%
Bootstrap-pfa: 2.47e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.9951
Centroid-sig: 46.1%
Centroid-so: 1.182 arcsec [0.71σ]
OotOffset-rm: 0.146 arcsec [1.05σ]
KicOffset-rm: 0.122 arcsec [1.19σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

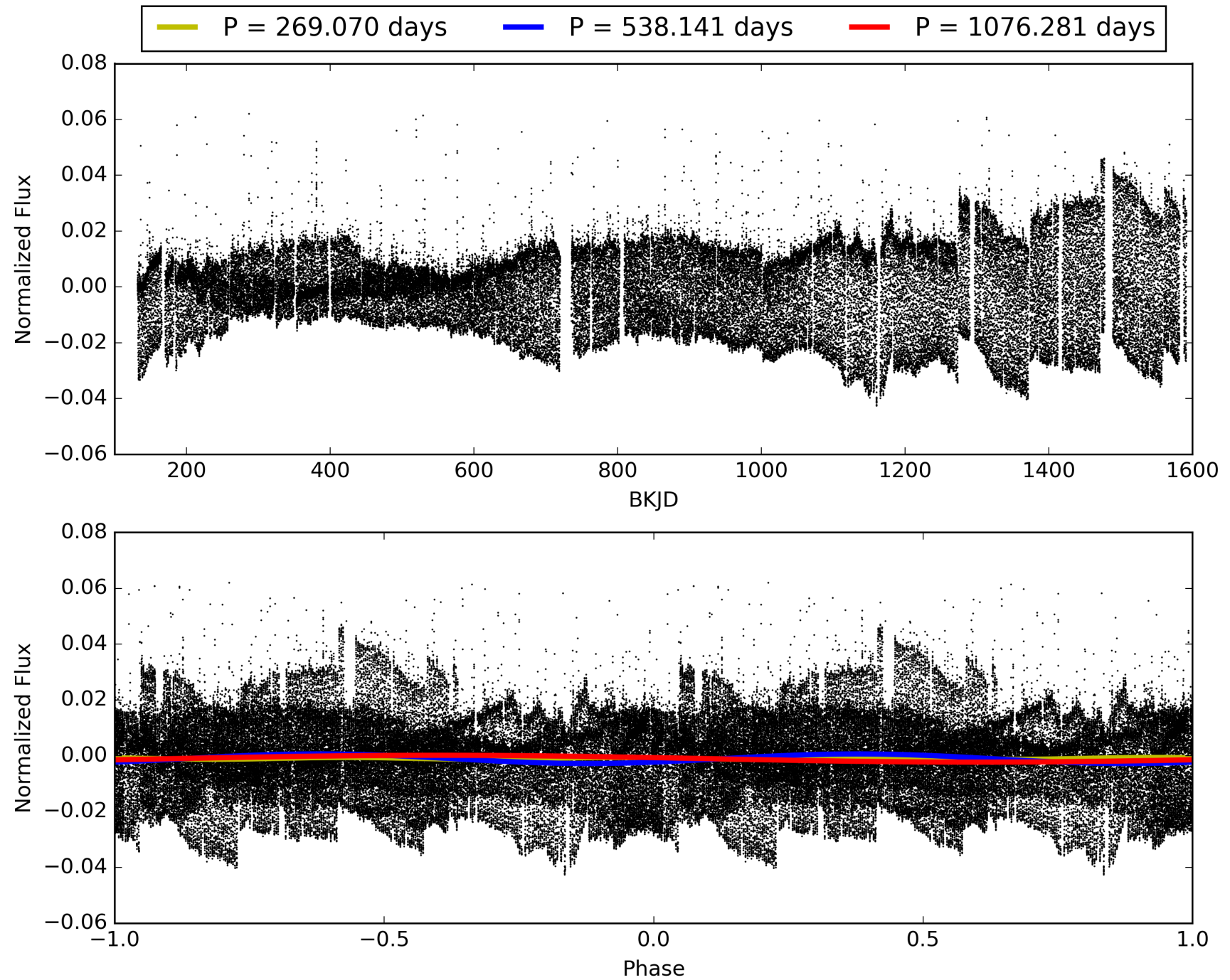
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:43:44 Z

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

TCE 011147271-02, PDC Light Curves

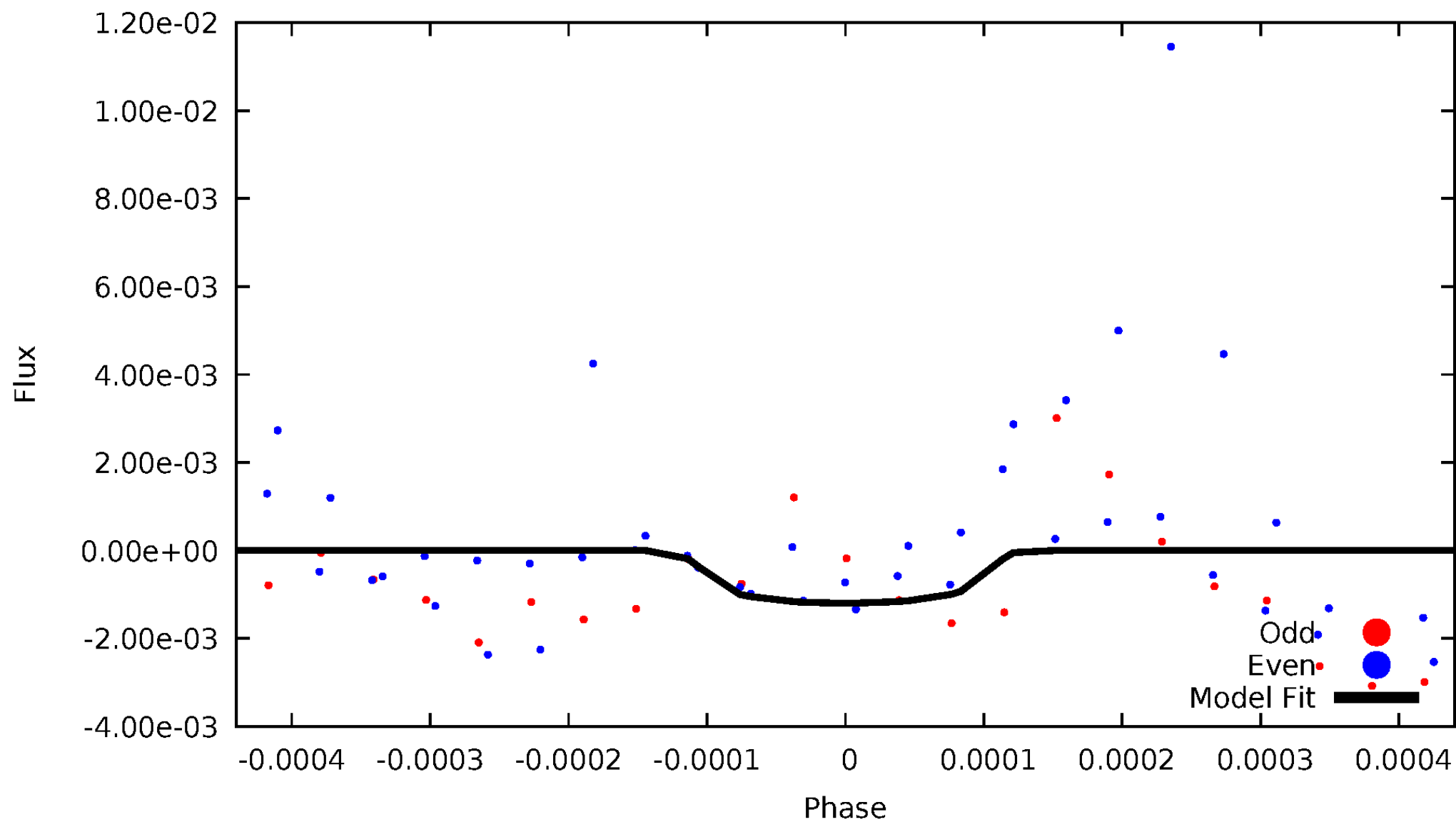


TCE 011147271-02



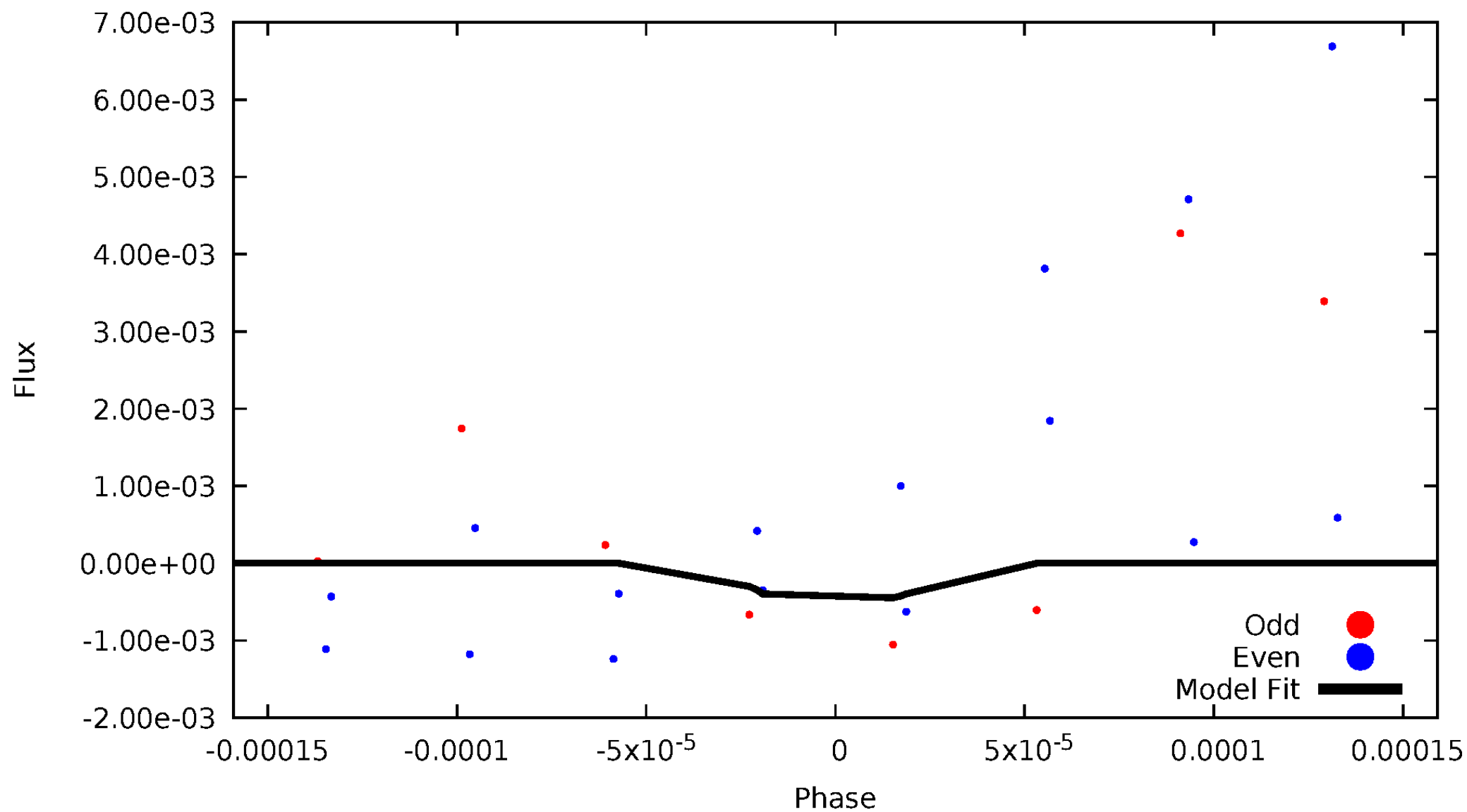
DV Odd/Even

TCE 011147271-02



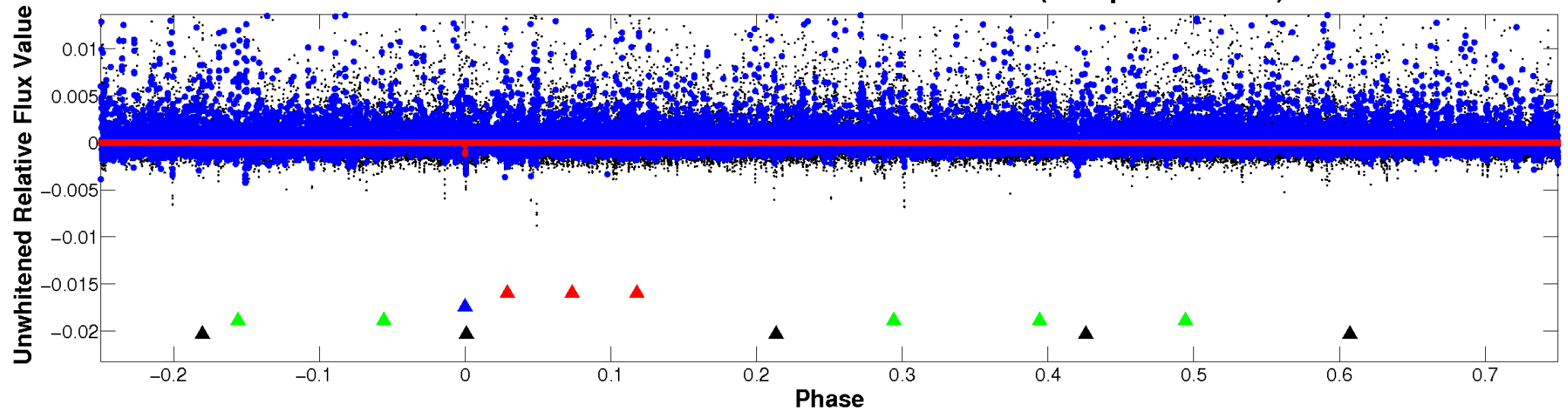
ALT Odd/Even

TCE 011147271-02

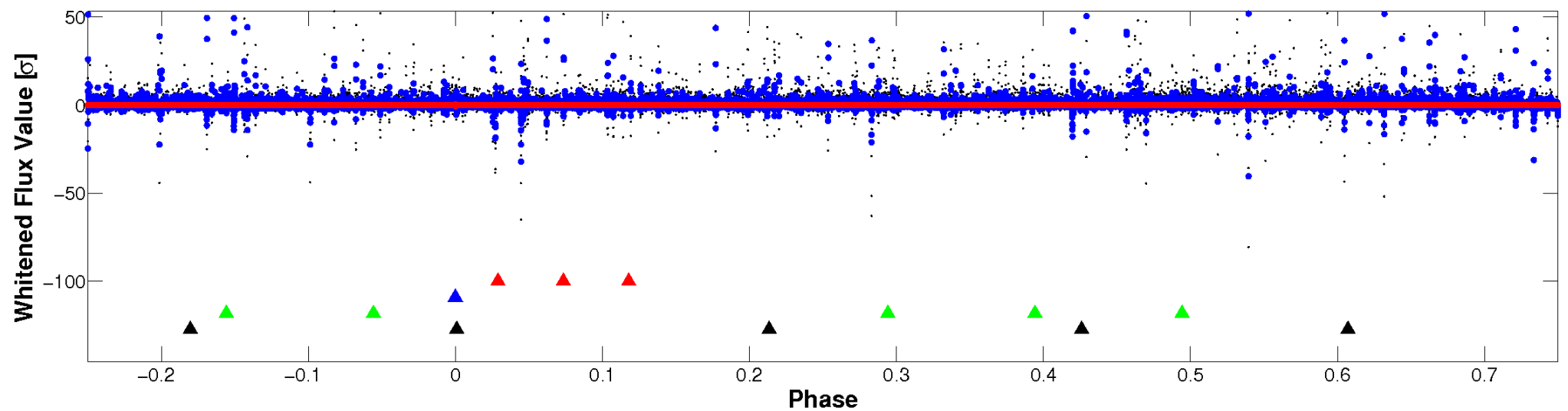


Non-Whitened Vs. Whitened Light Curve

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

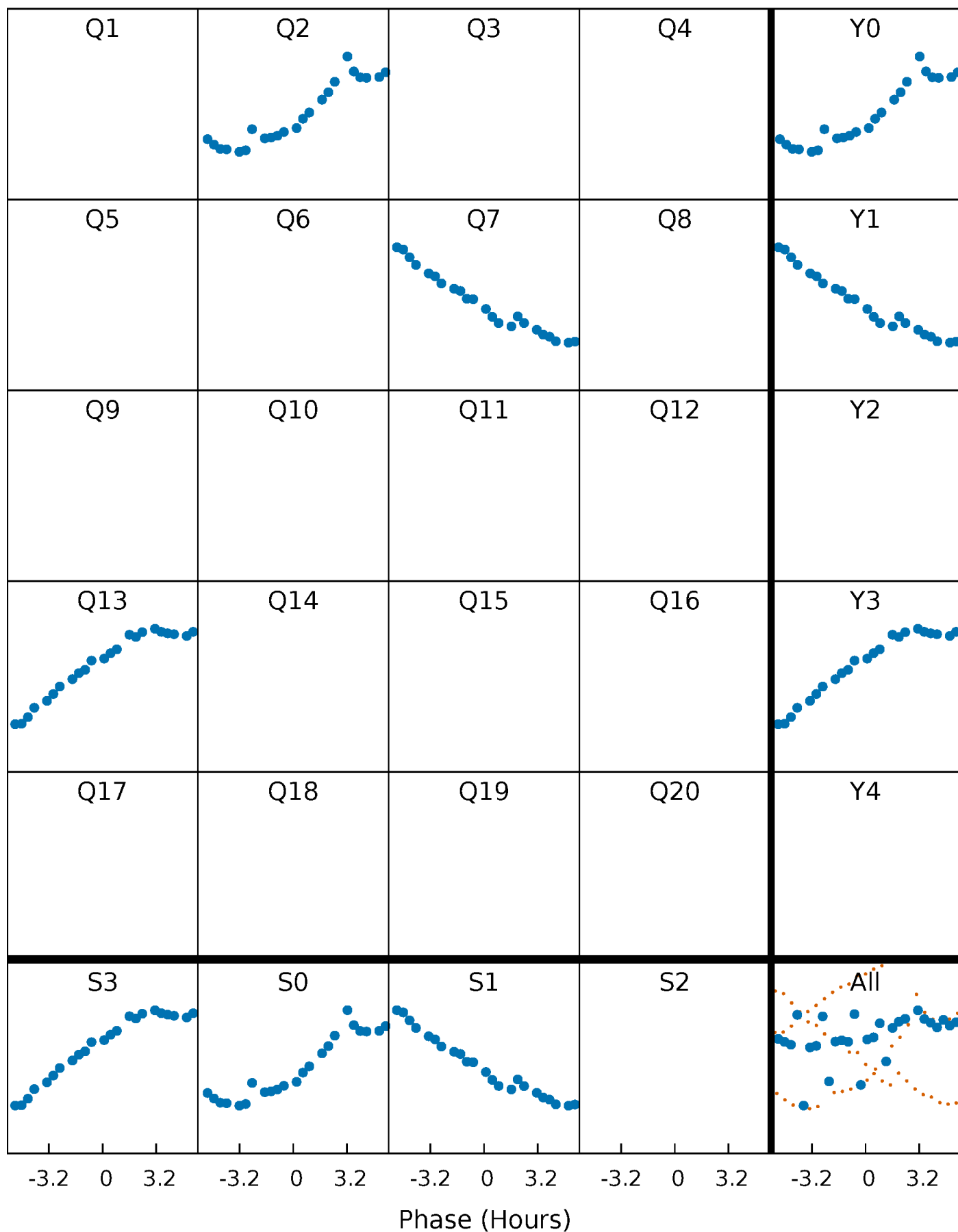


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



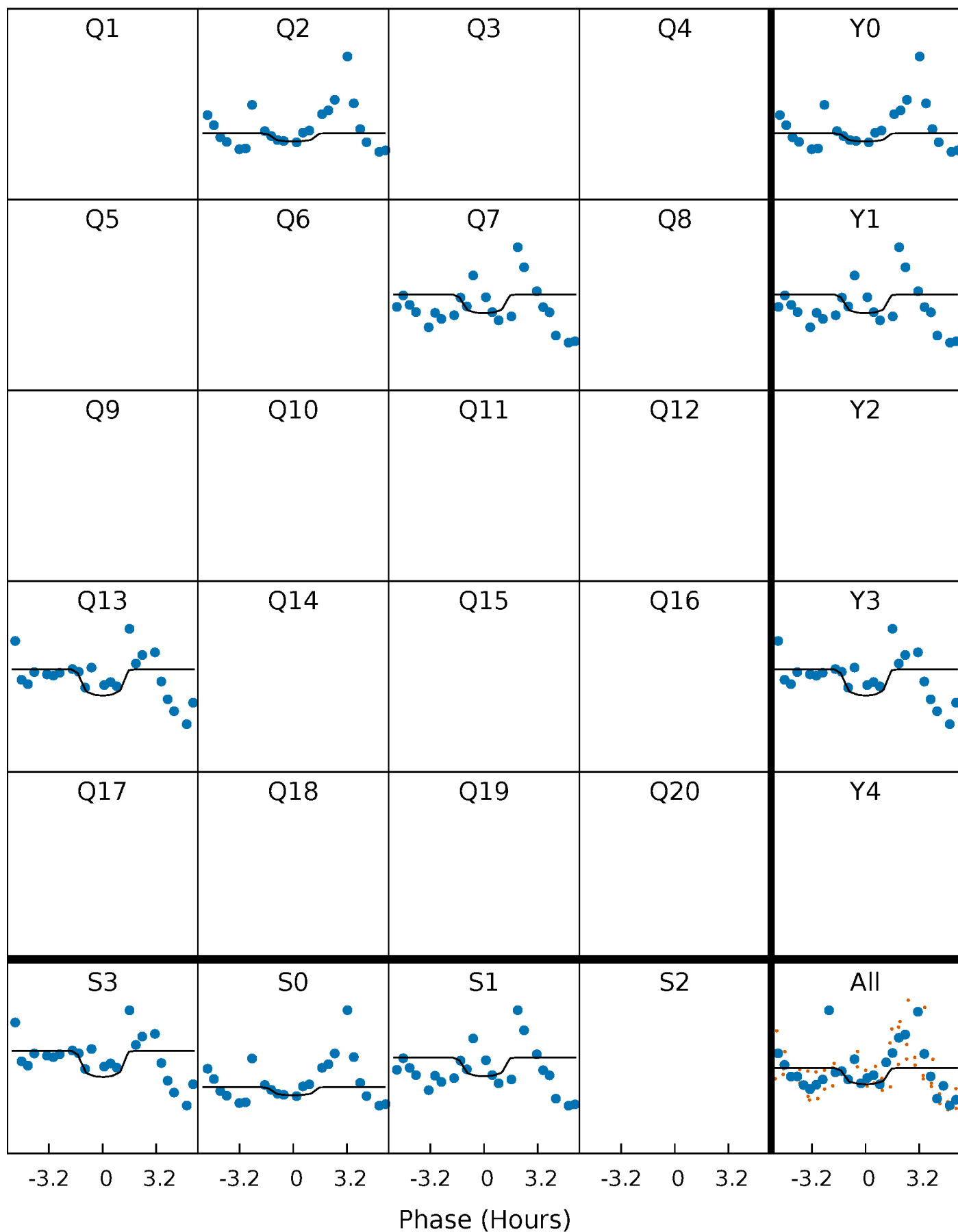
PDC Quarter-Phased Transit Curves

TCE 011147271-02 P=538.140710 Days $T_0=172.417186$ (BKJD)



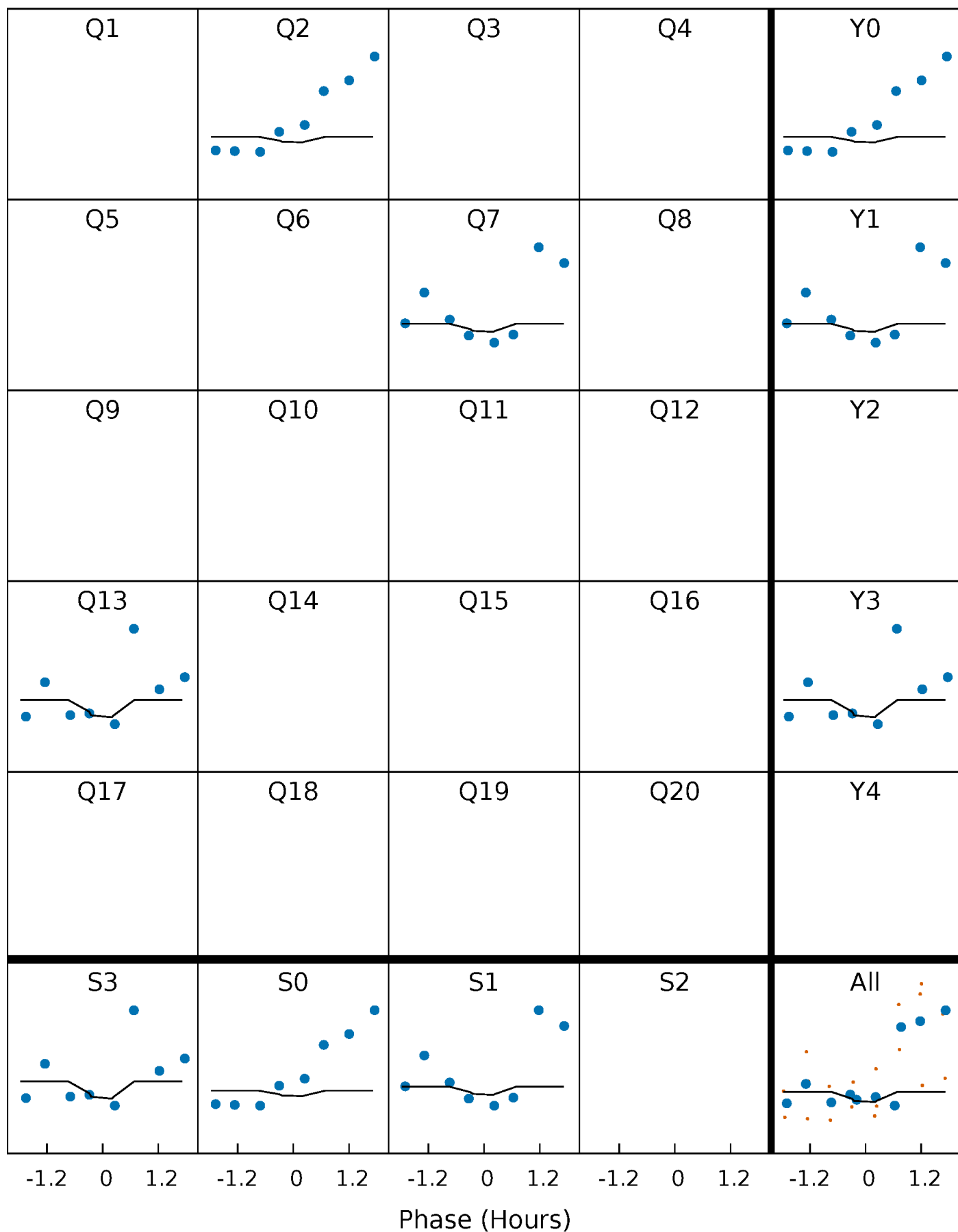
DV Quarter-Phased Transit Curves

TCE 011147271-02 P=538.140710 Days $T_0=172.417186$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

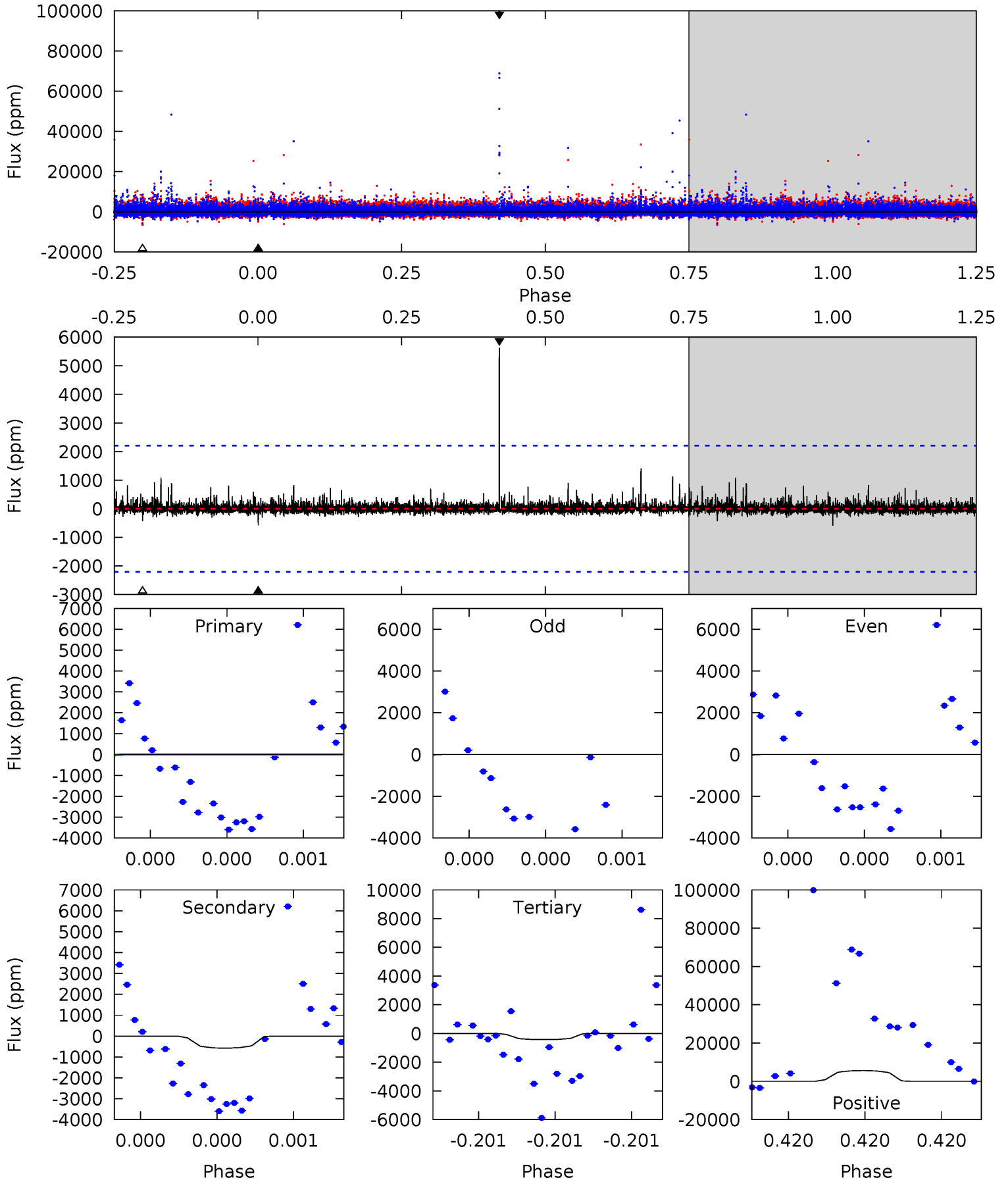
TCE 011147271-02 P=538.138236 Days $T_0=172.452778$ (BKJD)



DV Model-Shift Uniqueness Test

011147271-02, P = 538.140710 Days, E = 172.417186 Days

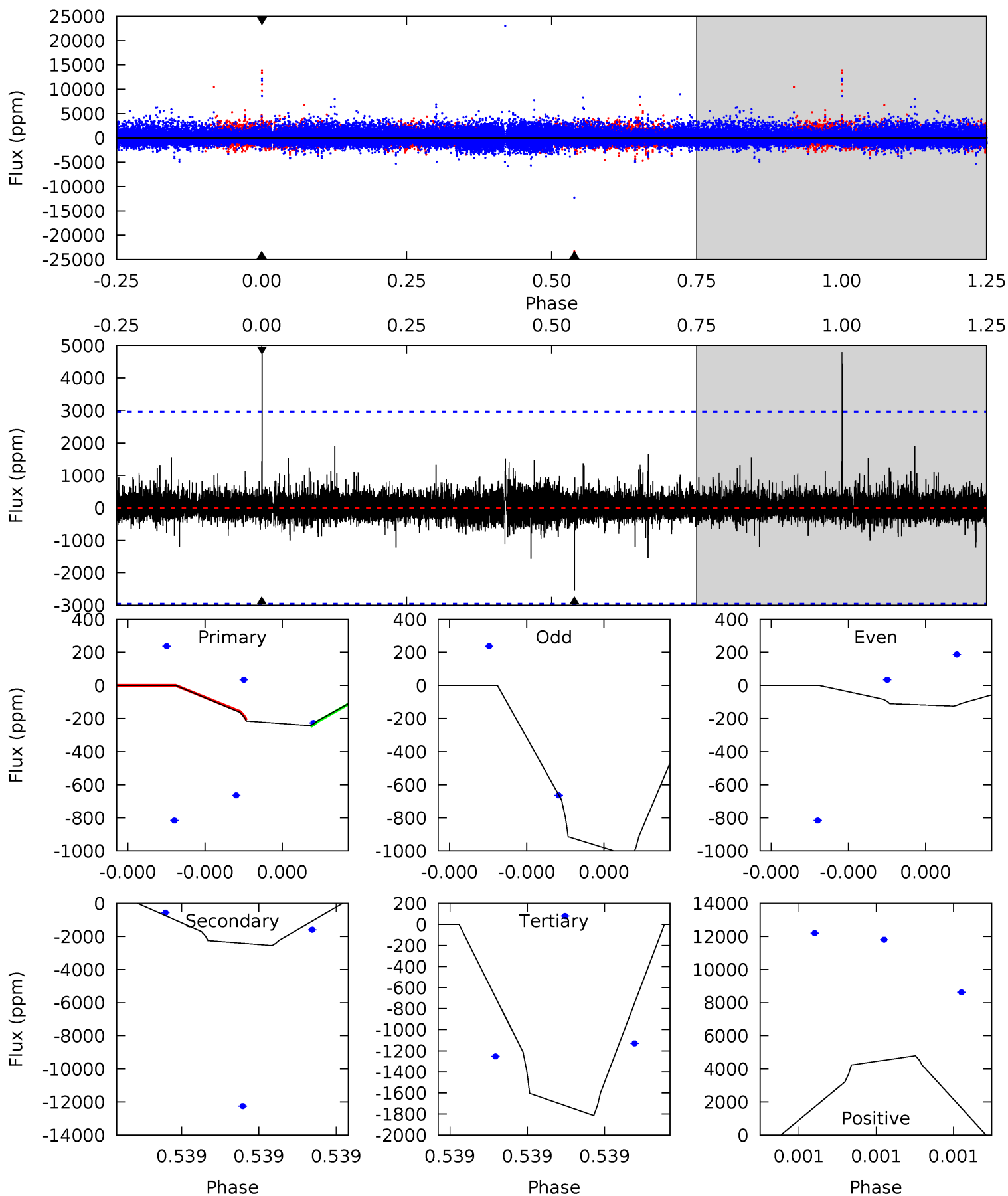
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.50	1.49	1.10	14.5	5.70	3.68	0.36	0.39	-13.0	0.39	-13.0	0.04	1.07	0.91	0.25



Alt Model-Shift Uniqueness Test

011147271-02, P = 538.138236 Days, E = 172.452778 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.49	5.18	3.68	9.72	5.99	4.10	0.48	-3.19	-9.22	1.50	-4.54	0.77	0.44	0.65	0.04



Stellar Parameters For KIC 011147271

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3336^{+43}_{-36}	$4.983^{+0.040}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.268^{+0.038}_{-0.027}$	$0.252^{+0.049}_{-0.030}$	$18.420^{+4.033}_{-3.642}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-10%	+19%/-12%	+22%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011147271-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-578 ± 387	$5.19^{+5.51}_{-3.80}$	118^{+3}_{-2}	1975^{+692}_{-320}	6107^{+74487}_{-5156}
Alt.	-2554 ± 493	$4.90^{+5.40}_{-3.37}$	118^{+3}_{-3}	2417^{+874}_{-370}	$38144^{+368972}_{-29613}$

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

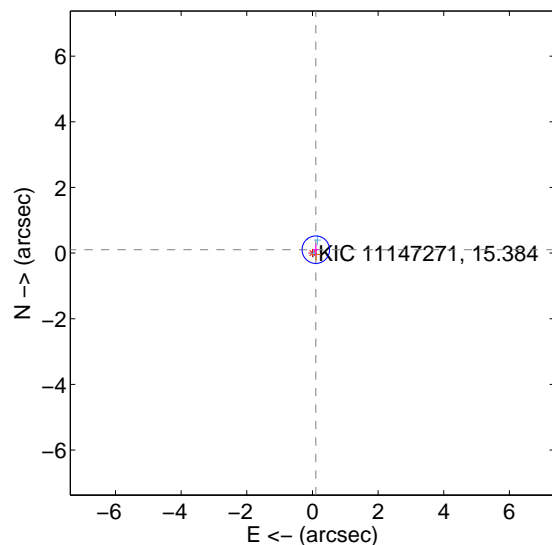
Supplemental centroid analysis for 011147271-02. Kepler magnitude: 15.38. Transit SNR 2.64

There are 2 quarters with good PRF difference image offsets

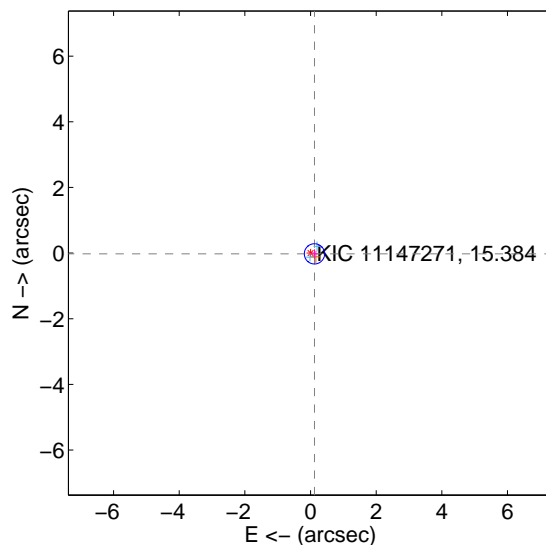
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.146 ± 0.139	1.05	-0.103 ± 0.078	0.104 ± 0.181
PRF-fit source offset from KIC position	0.122 ± 0.103	1.19	-0.120 ± 0.101	-0.023 ± 0.141
photometric centroid source offset	1.18 ± 1.65	0.71	-0.42 ± 1.58	-1.10 ± 1.67

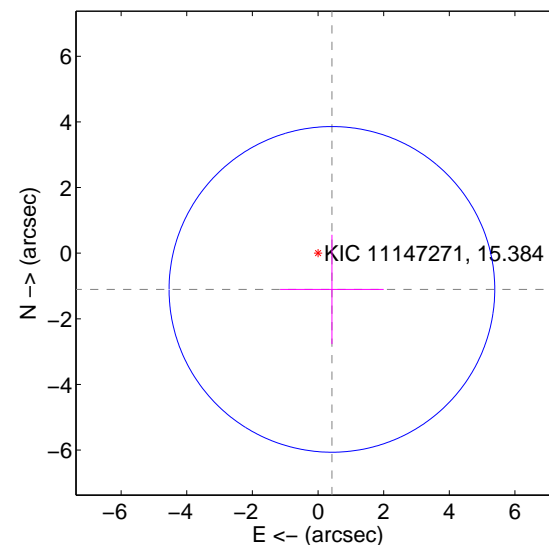
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

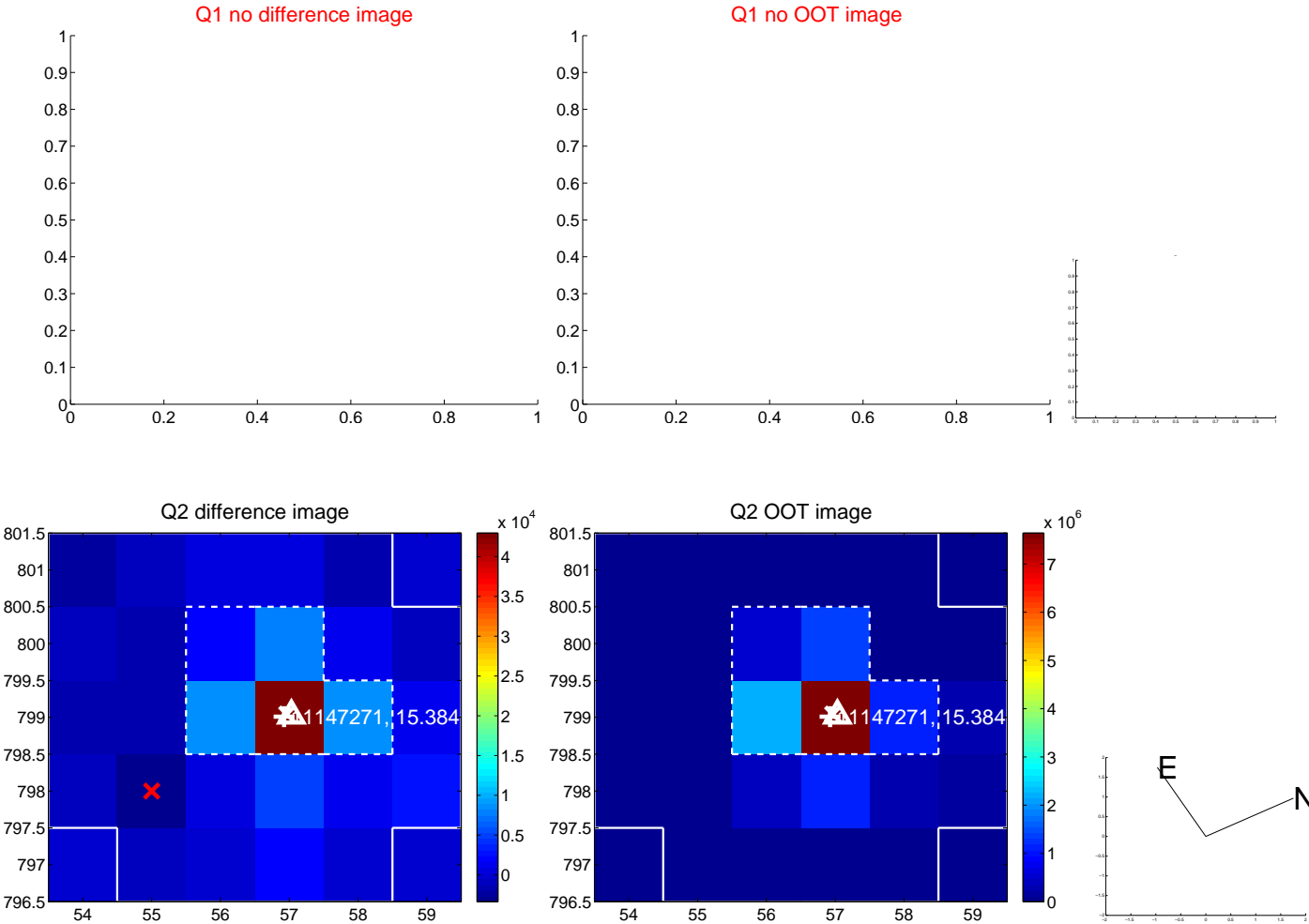


offset from photometric centroids

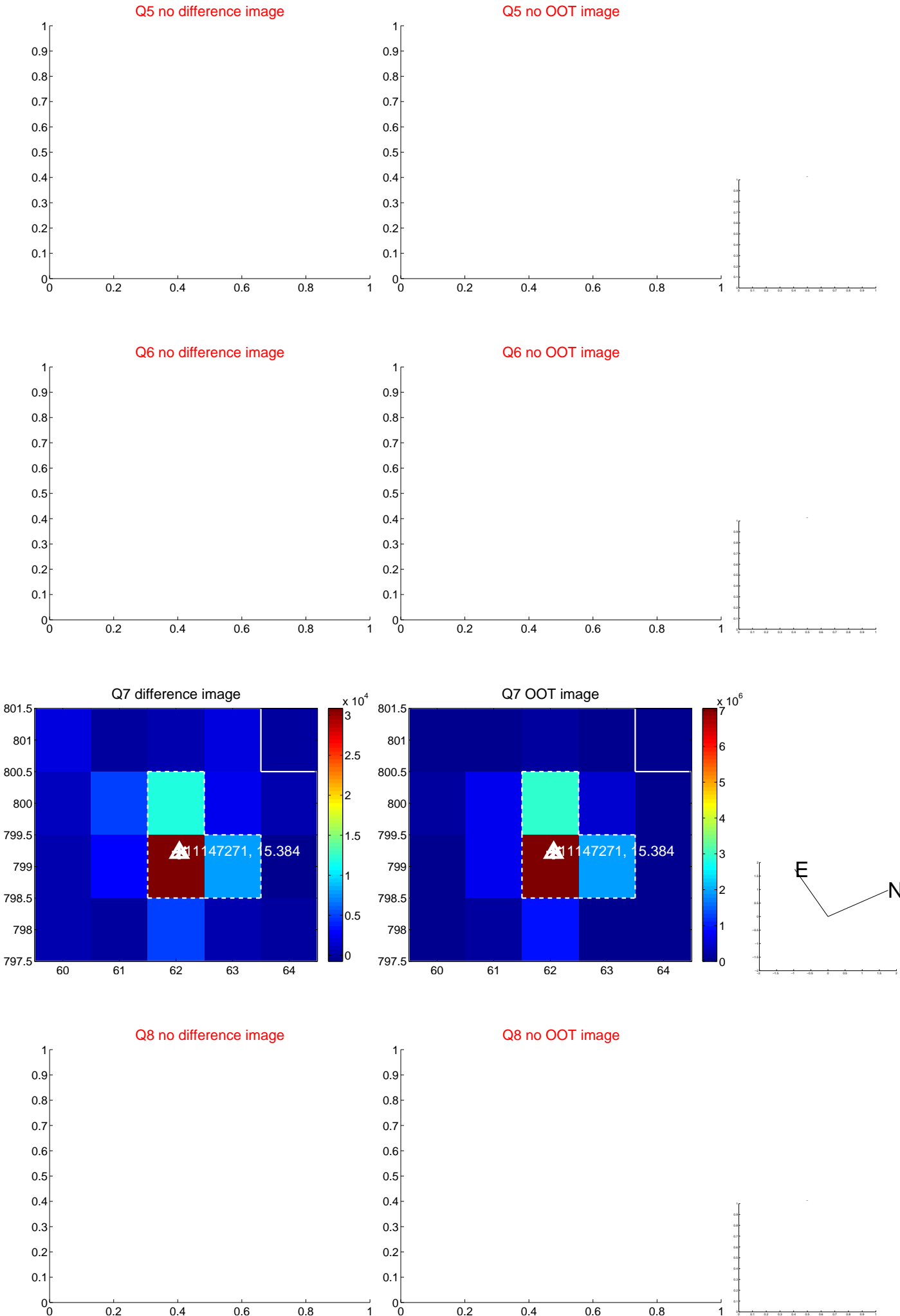


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



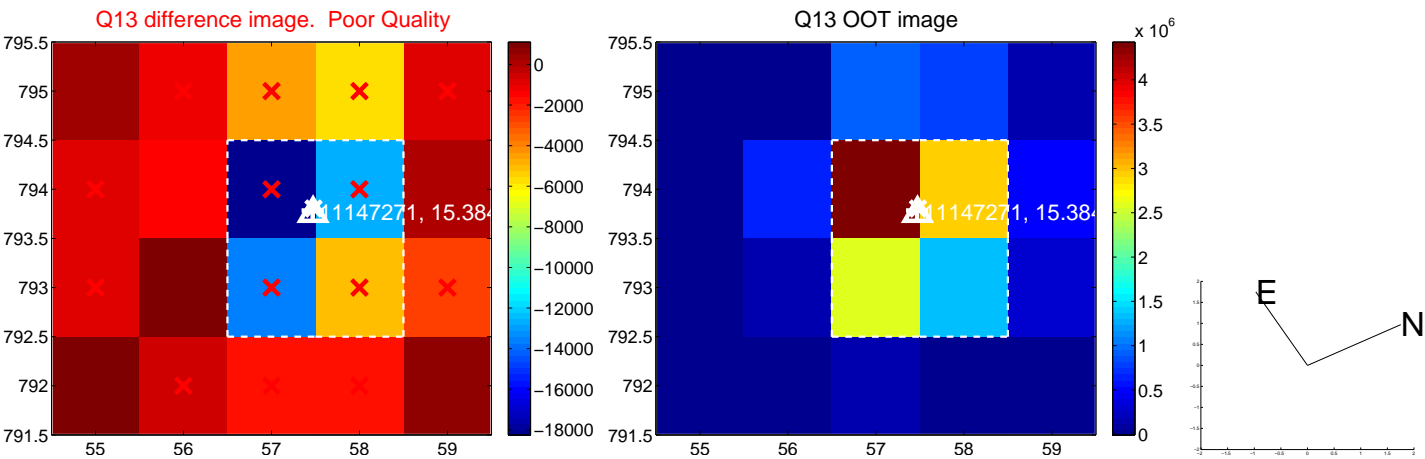
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



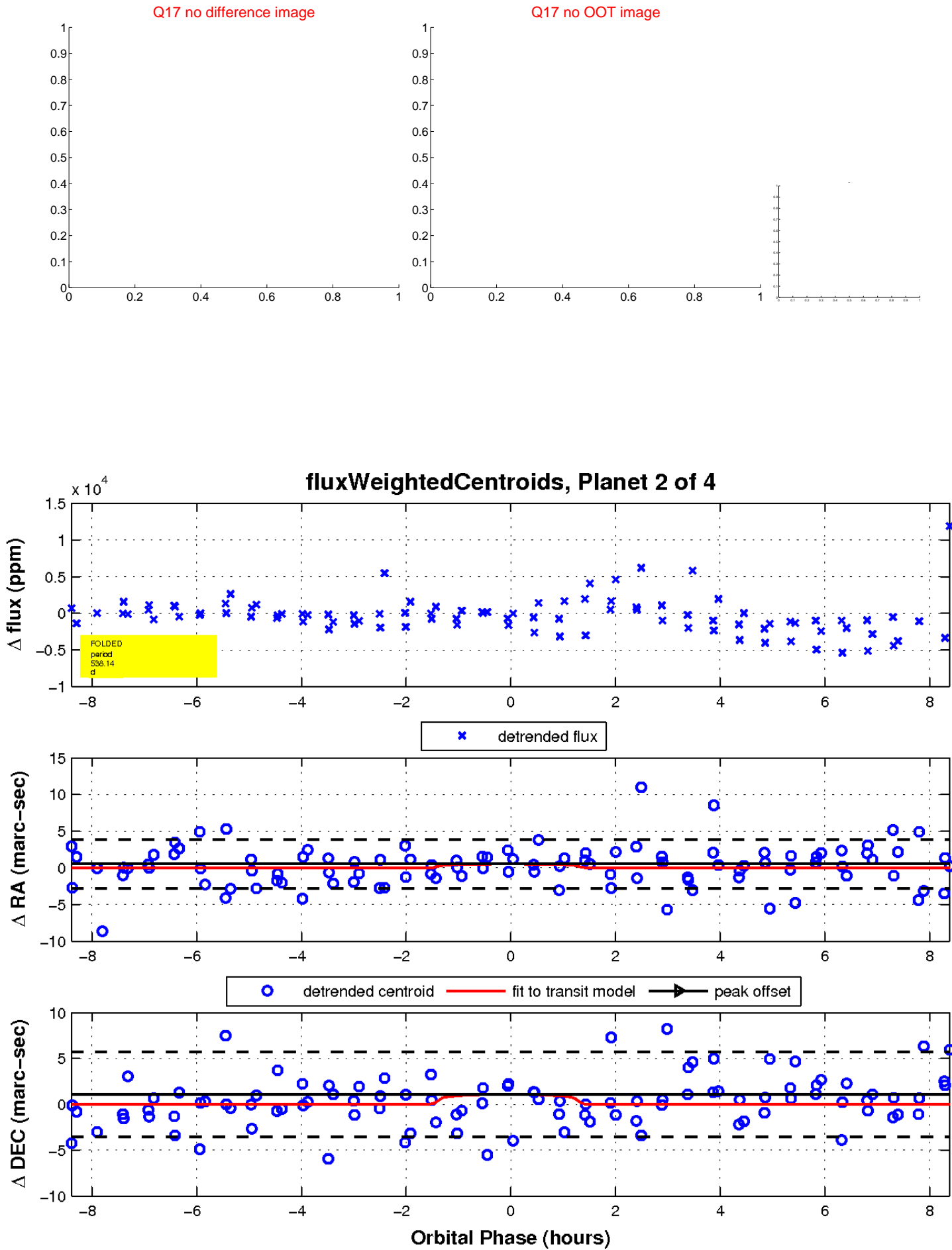
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

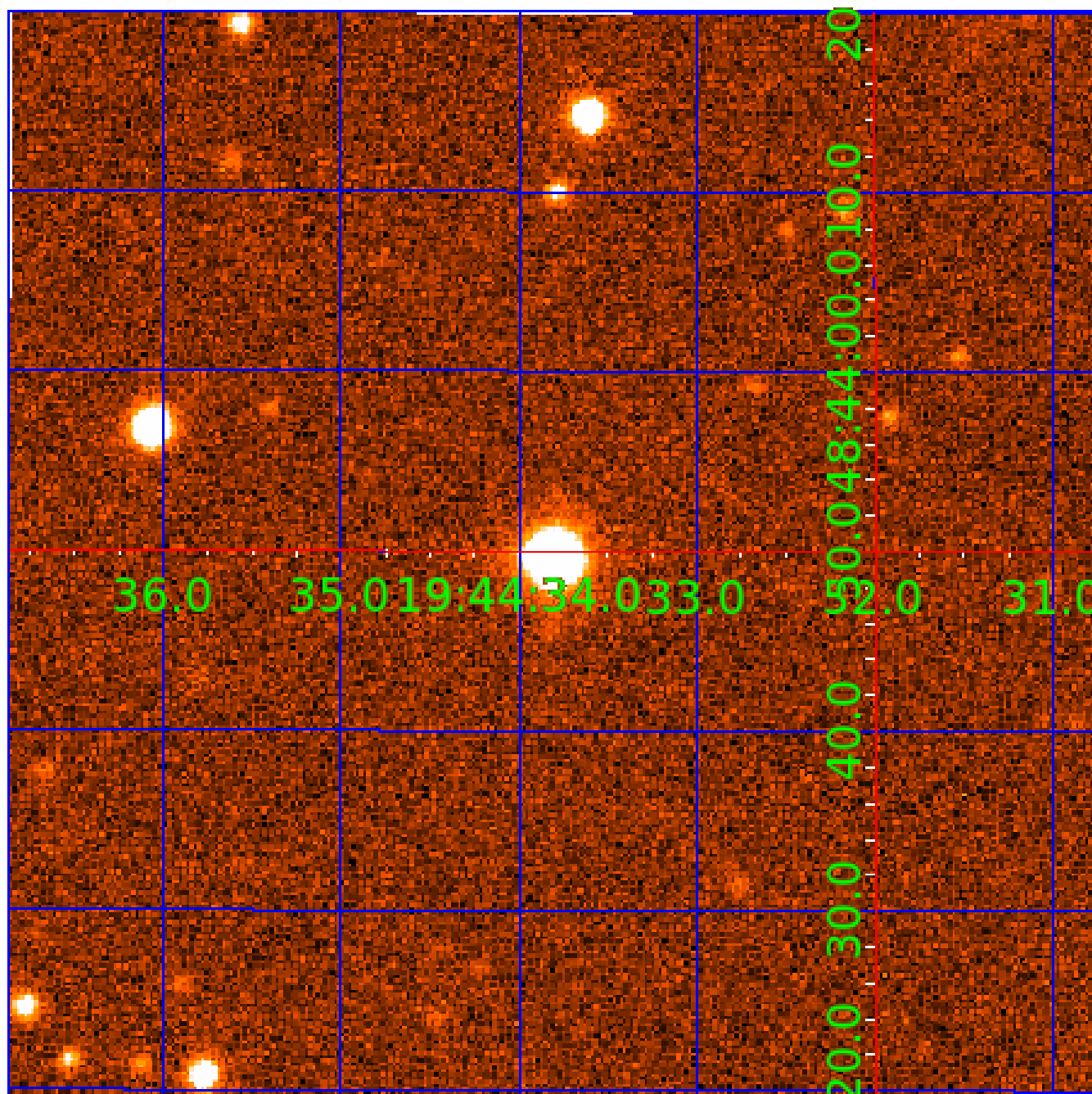


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011147271

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})
011147271-01	OBS	No	514.216055	235.881820	3632.6	5.487	15.6	6.7	0.27	3336	1.62	0.01
011147271-02	OBS	No	538.140710	172.417186	1197.1	2.841	18.6	2.6	0.27	3336	0.95	0.01
011147271-03	OBS	No	295.997085	330.723291	2750.5	4.515	15.1	7.4	0.27	3336	1.46	0.03
011147271-04	OBS	No	326.257261	172.909496	2458.2	3.933	12.0	6.3	0.27	3336	1.31	0.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011147271-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS
011147271-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011147271-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011147271-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—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.

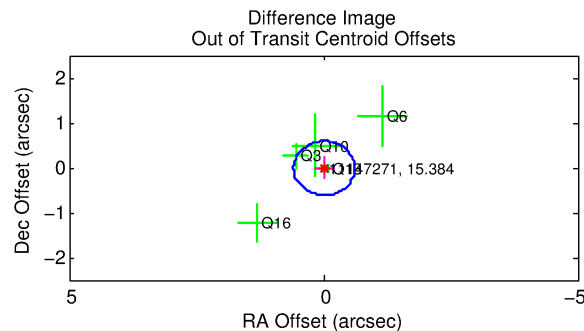
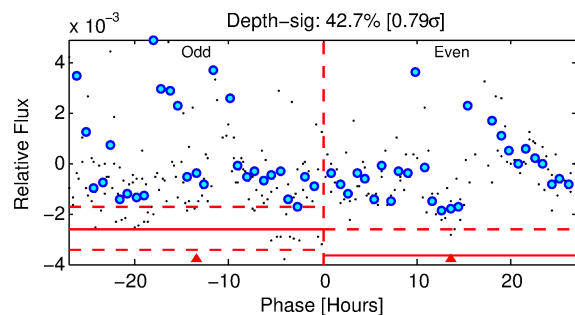
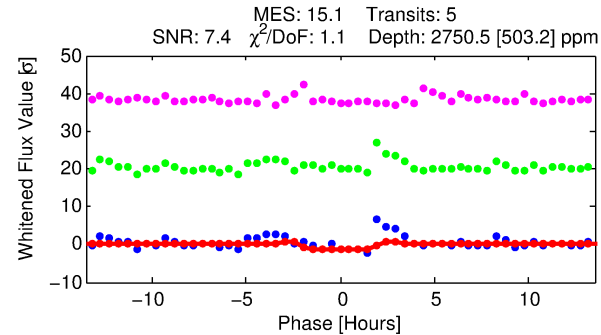
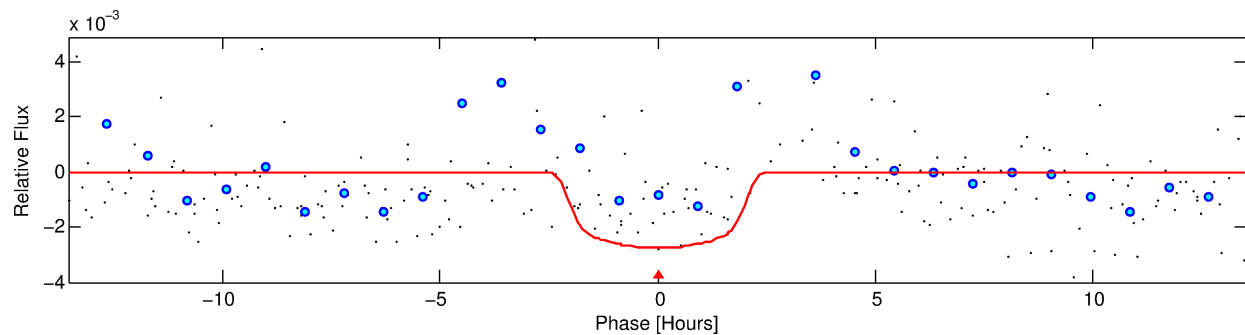
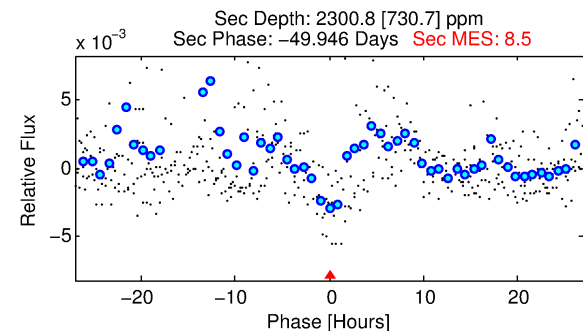
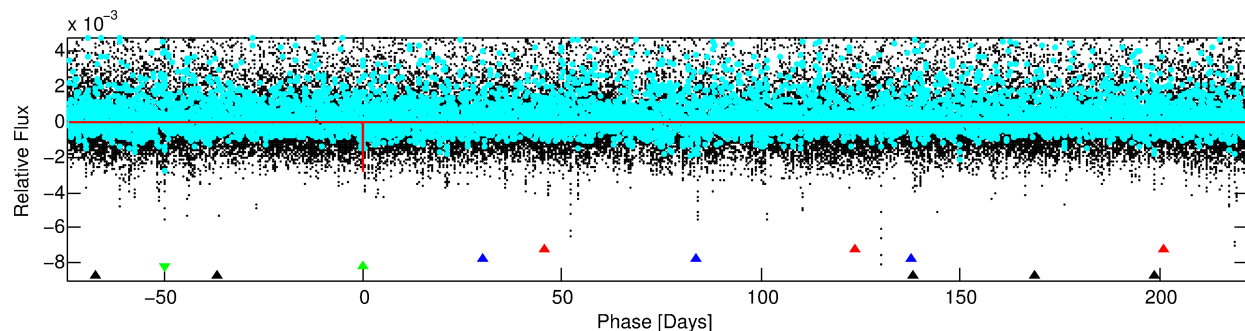
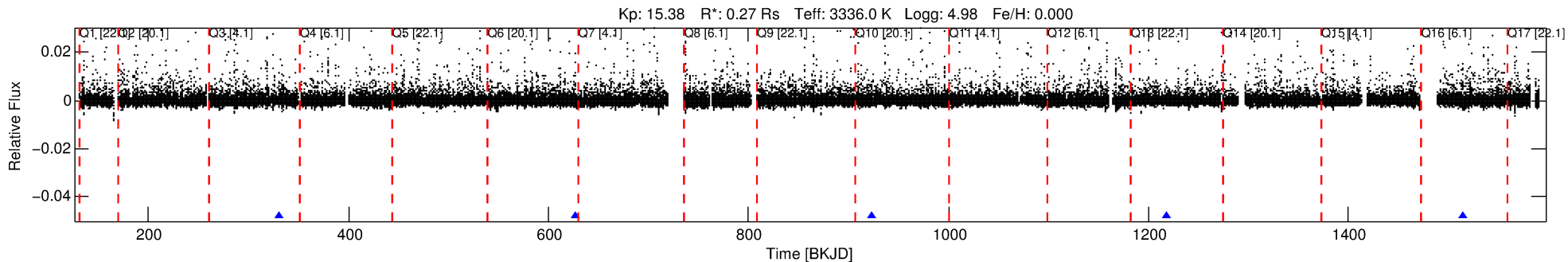
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011147271-03

No Significant Match Found

DV One-Page Summary

KIC: 11147271 Candidate: 3 of 4 Period: 295.997 d



DV Fit Results:

Period = 295.99708 [0.00358] d
Epoch = 330.7233 [0.0078] BKJD
Rp/R* = 0.0498 [0.0222]
a/R* = 433.61 [769.25]
b = 0.59 [1.94]
Seff = 0.03 [0.00]
Teq = 103 [3] K
Rp = 1.46 [0.68] Re
a = 0.5491 [0.0551] AU
Ag = 179765.37 [171525.77] [1.05σ]
Teffp = 3273 [776] K [4.08σ]

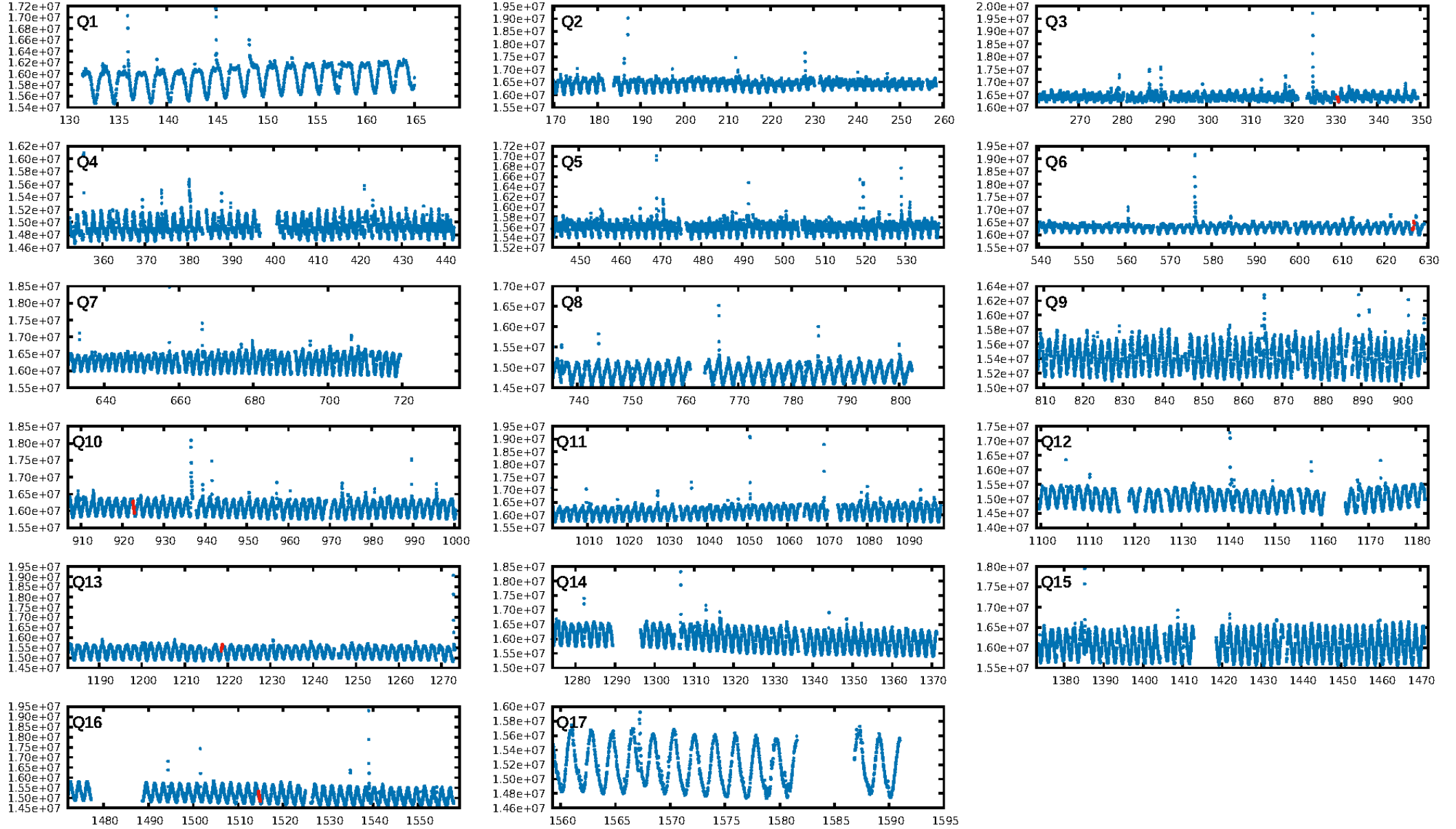
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [121.29σ]
ModelChiSquare2-sig: 7.2%
ModelChiSquareGof-sig: 98.3%
Bootstrap-pfa: 8.45e-13
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.971
Centroid-sig: 71.0%
Centroid-so: 0.368 arcsec [0.77σ]
OotOffset-rm: 0.014 arcsec [0.07σ]
OotOffset-st: 2/1/1/1 [5]
KicOffset-rm: 0.114 arcsec [0.32σ]
KicOffset-st: 2/1/1/1 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 1.00 [5/5]

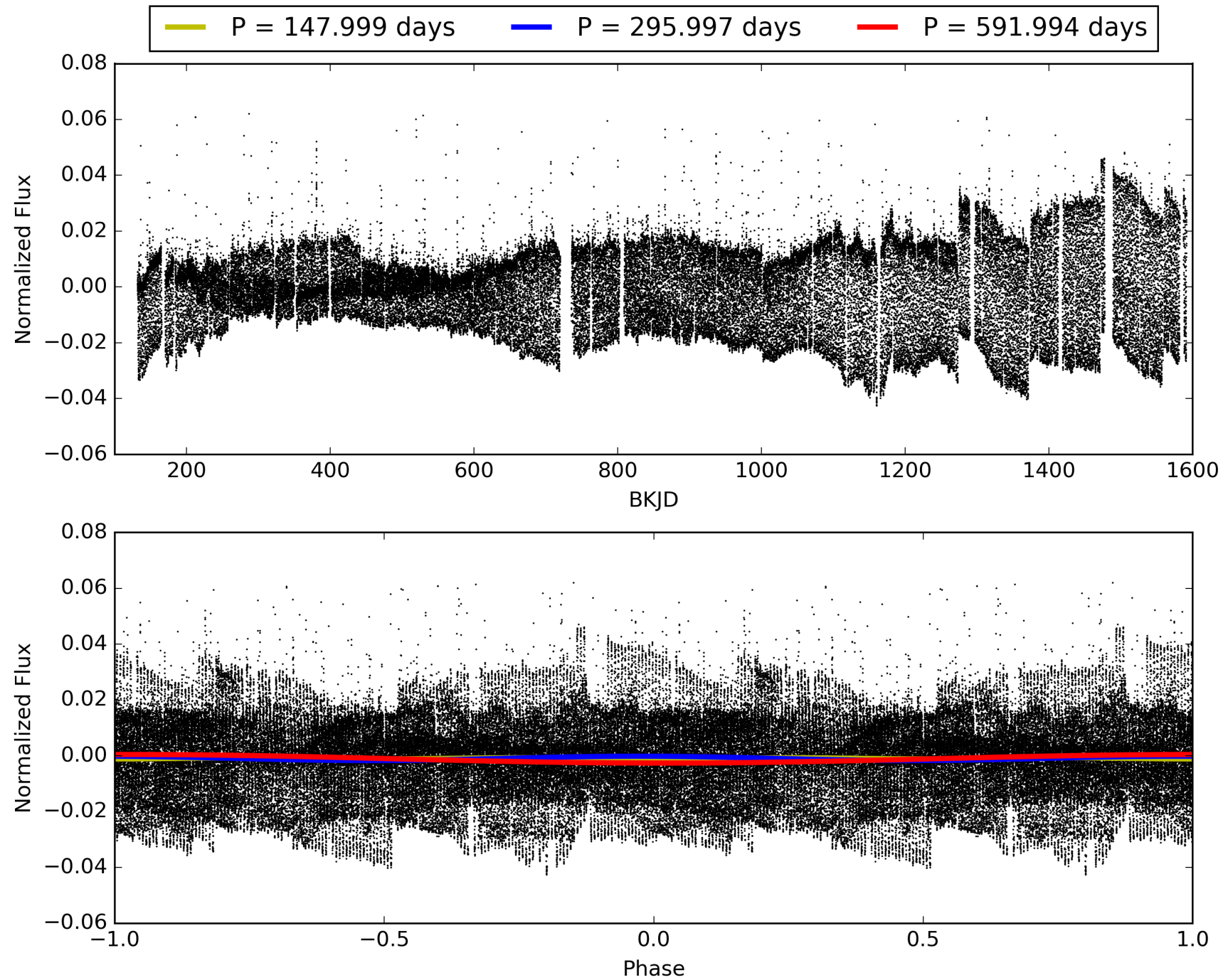
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:43:57 Z

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

TCE 011147271-03, PDC Light Curves

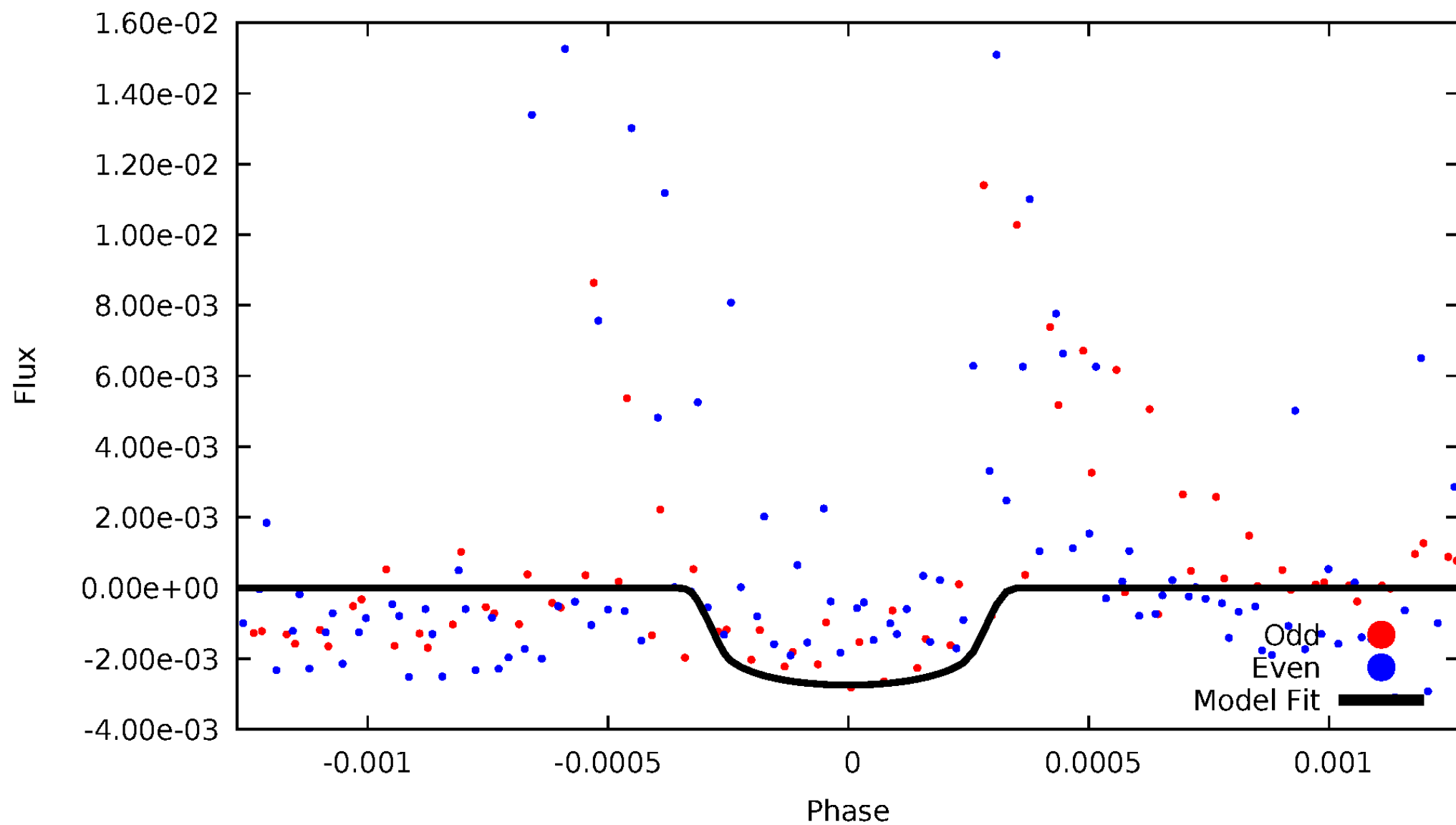


TCE 011147271-03



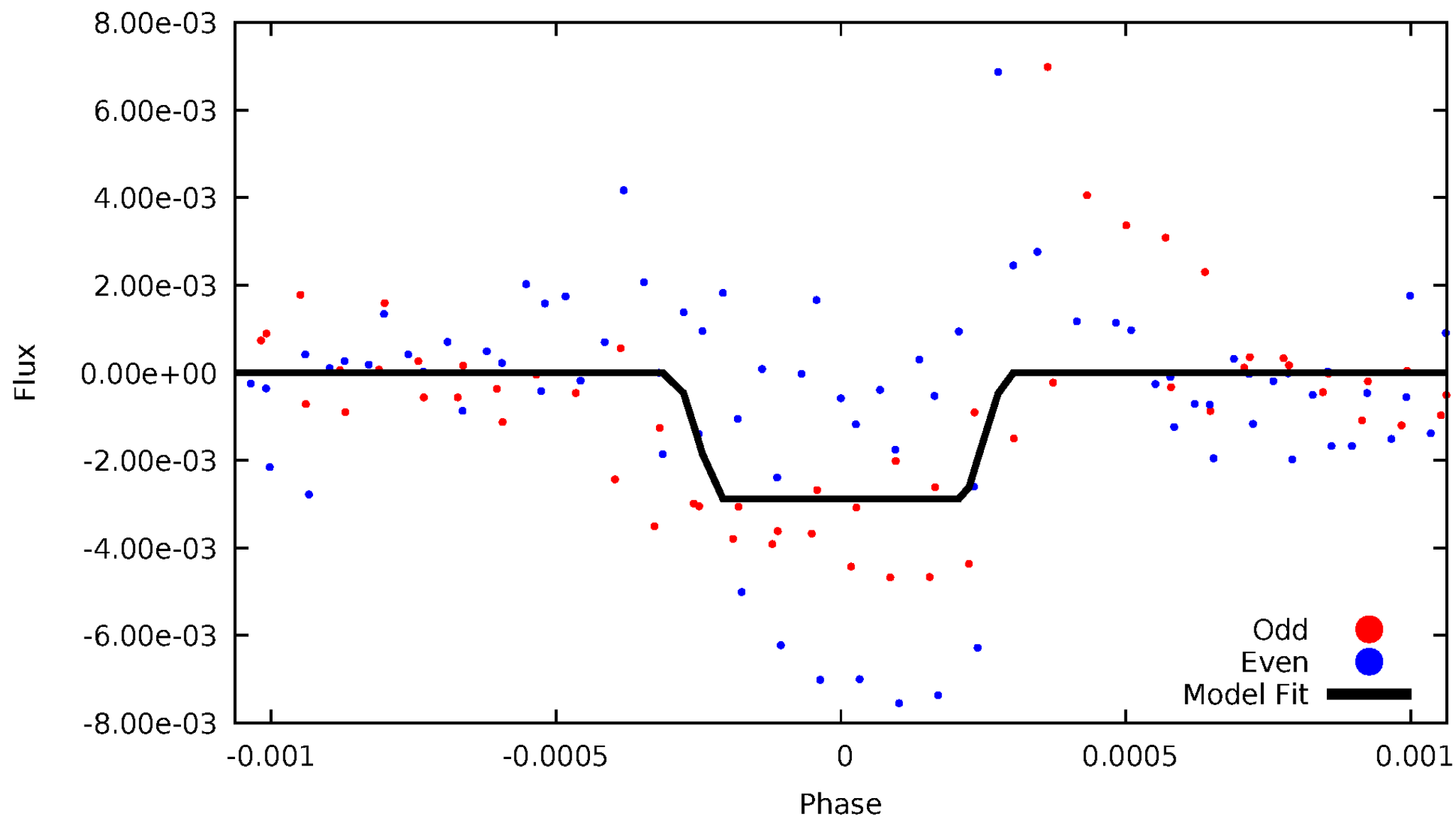
DV Odd/Even

TCE 011147271-03



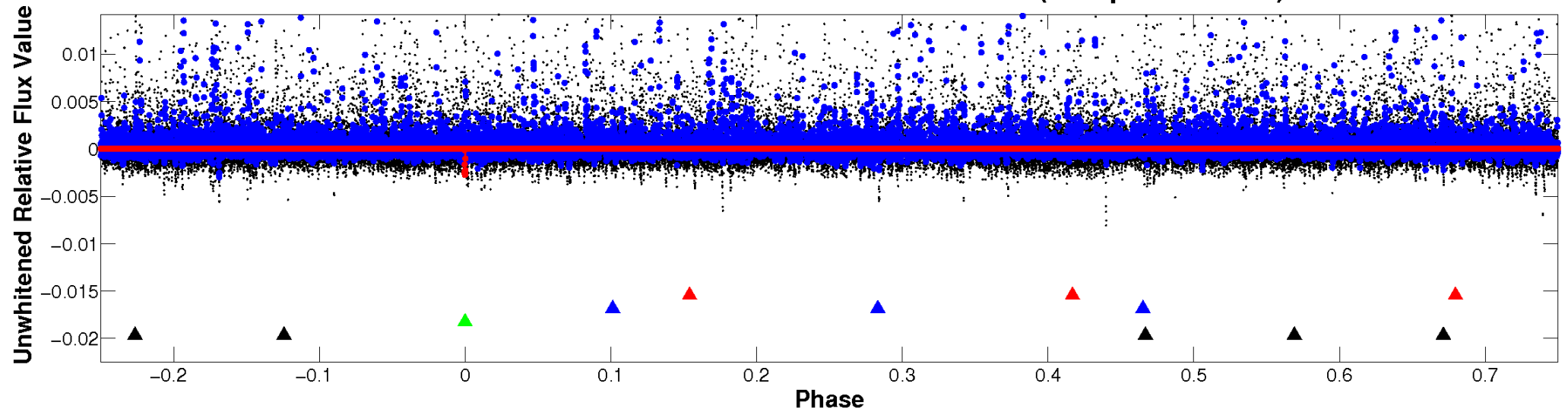
ALT Odd/Even

TCE 011147271-03

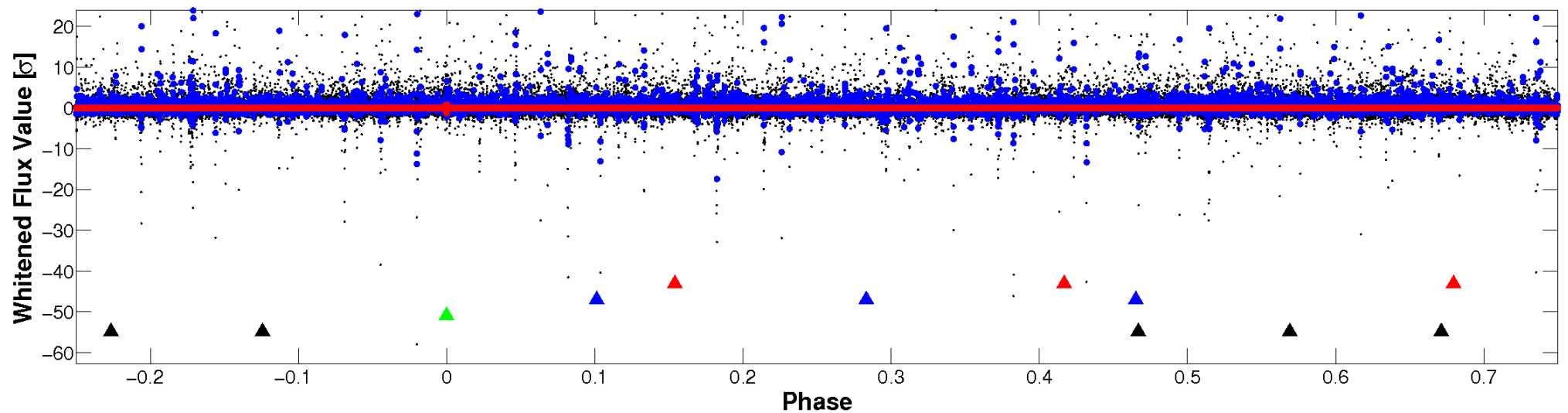


Non-Whitened Vs. Whitened Light Curve

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

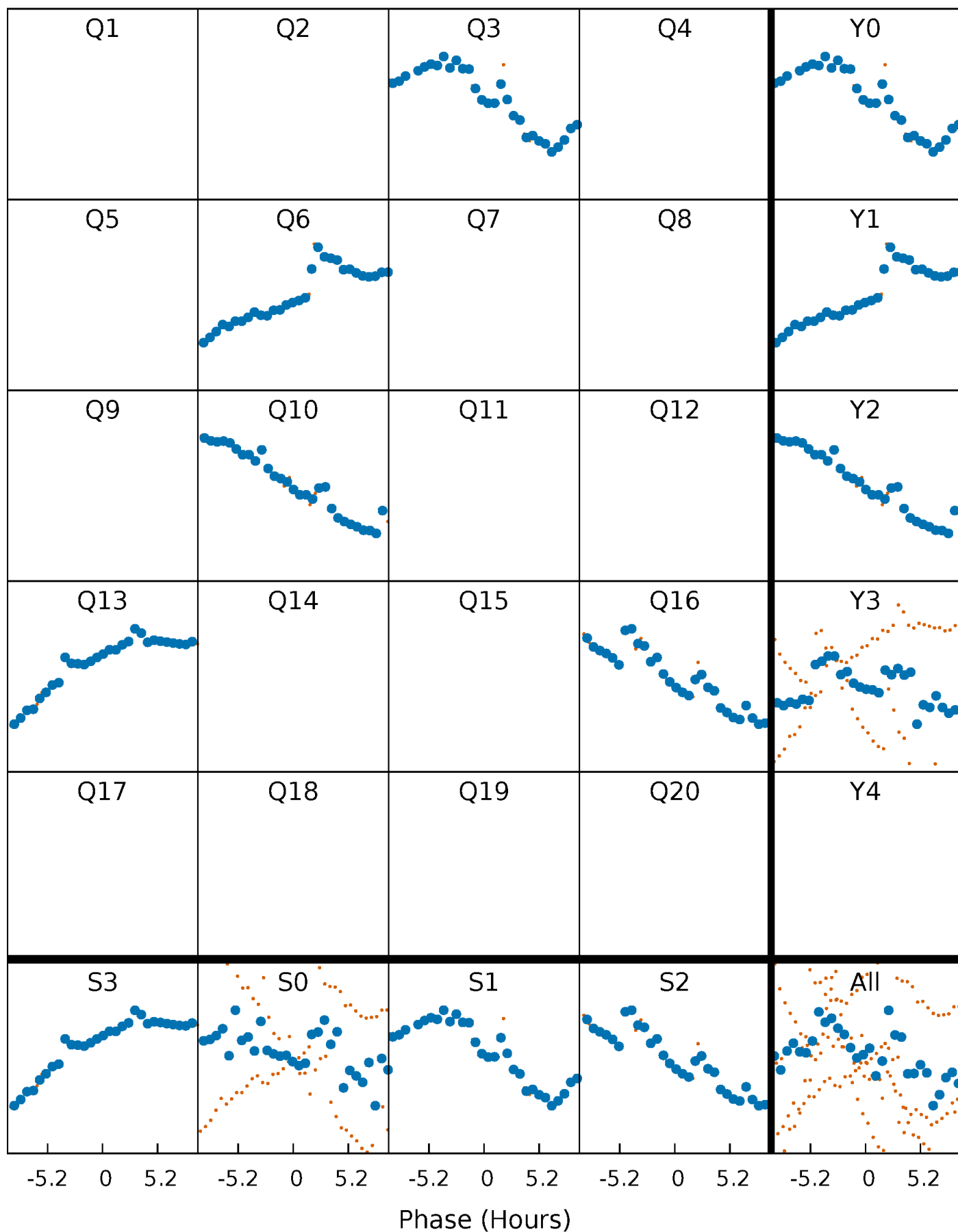


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



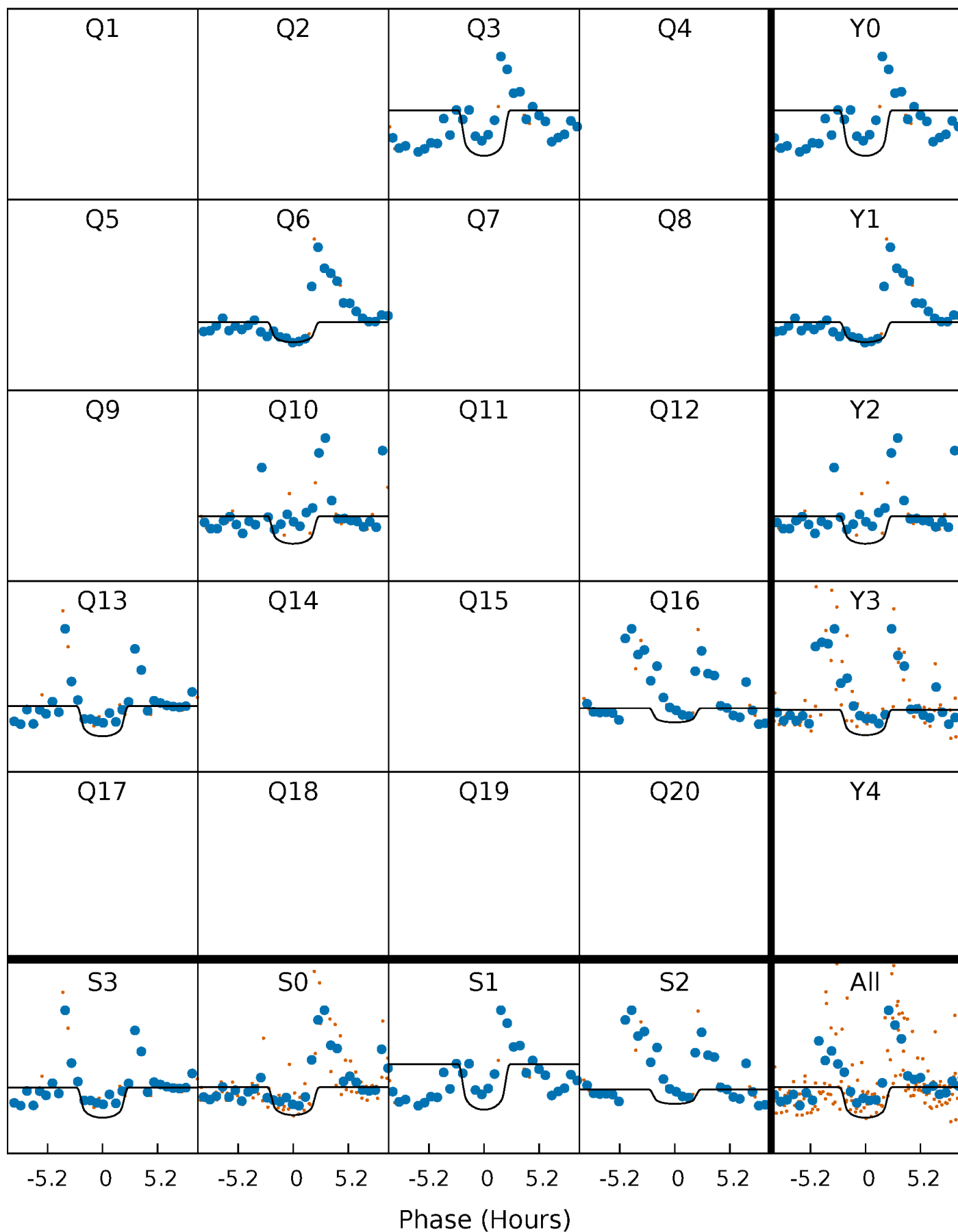
PDC Quarter-Phased Transit Curves

TCE 011147271-03 P=295.997085 Days $T_0=330.723291$ (BKJD)



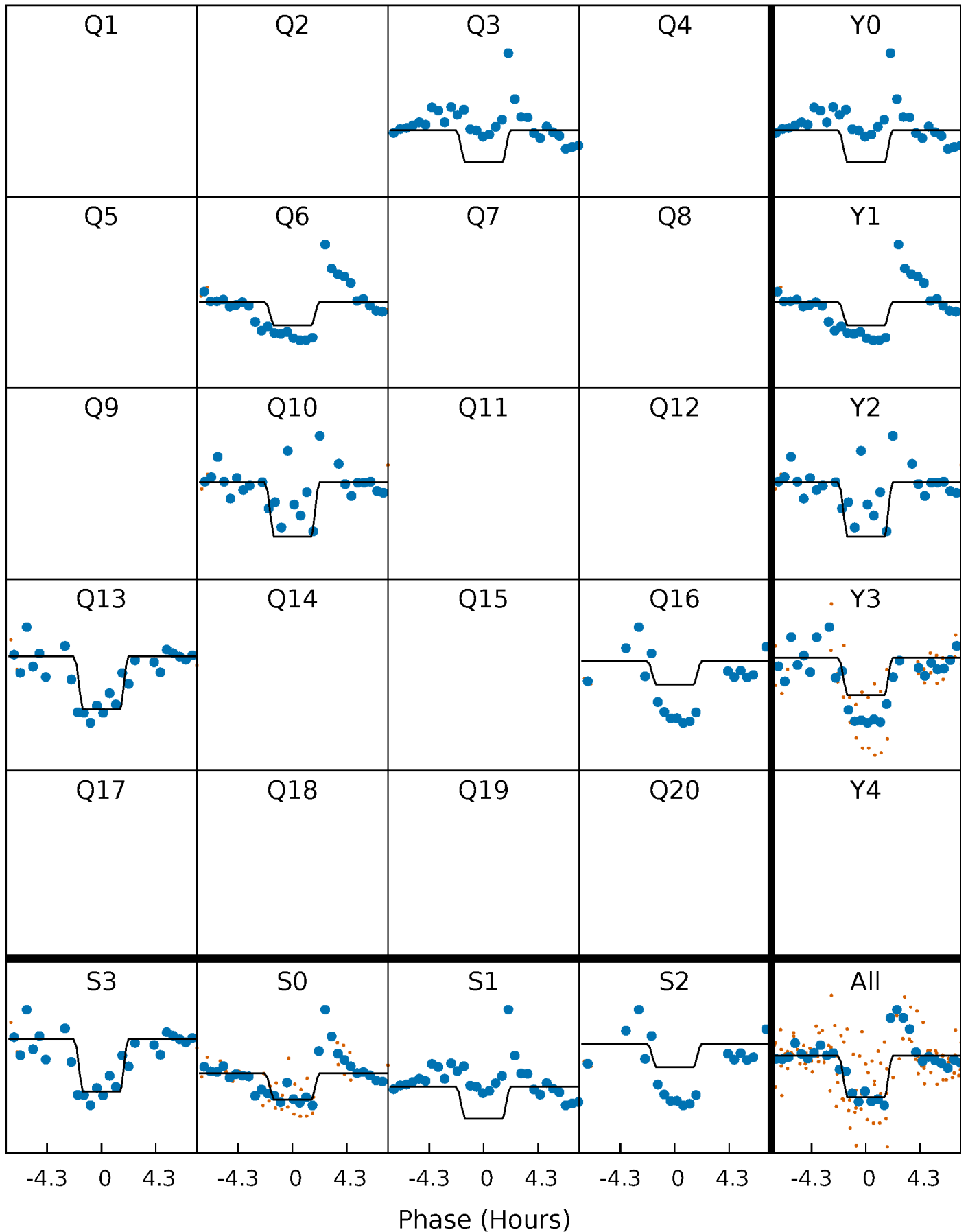
DV Quarter-Phased Transit Curves

TCE 011147271-03 P=295.997085 Days $T_0=330.723291$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

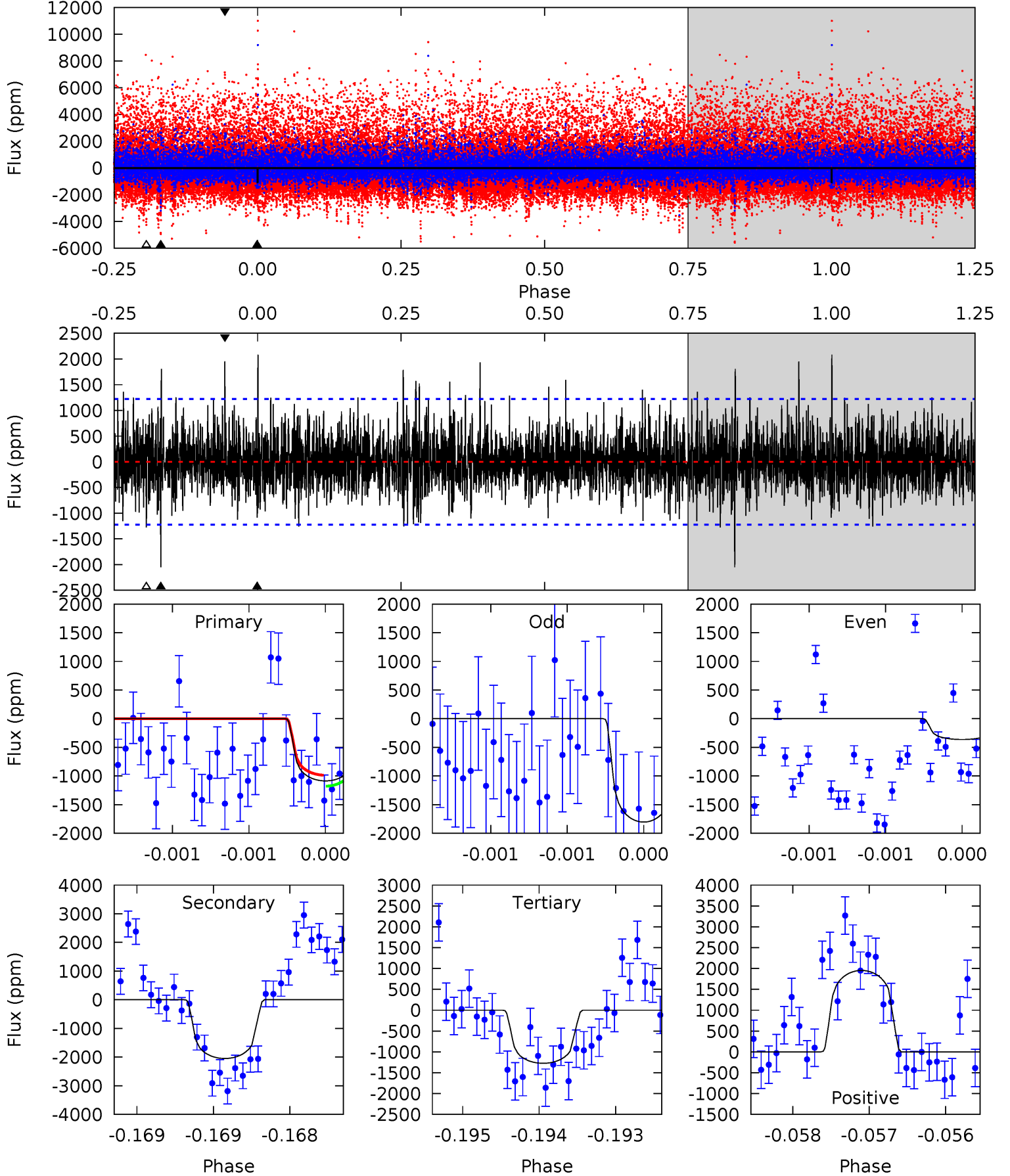
TCE 011147271-03 P=295.998230 Days $T_0=330.718501$ (BKJD)



DV Model-Shift Uniqueness Test

011147271-03, P = 295.997085 Days, E = 34.726206 Days

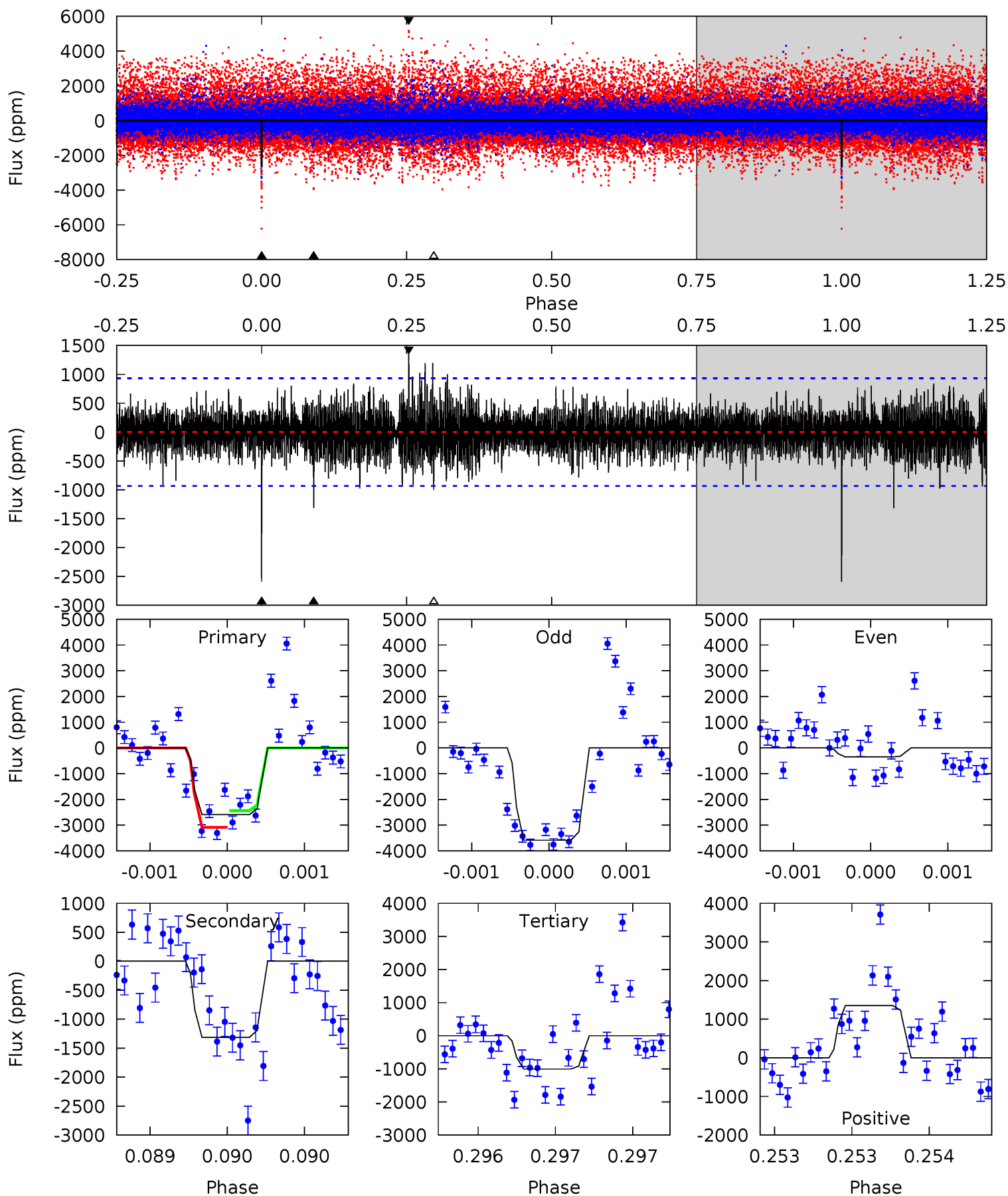
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.91	9.26	5.76	8.83	5.52	3.40	1.86	-0.85	-3.92	3.50	0.43	2.53	1.18	0.50	0.44



Alt Model-Shift Uniqueness Test

011147271-03, P = 295.998230 Days, E = 34.720271 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	7.82	5.99	8.06	5.55	3.44	1.55	9.42	7.34	1.83	-0.24	9.46	1.01	0.34	1.88



Stellar Parameters For KIC 011147271

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3336^{+43}_{-36}	$4.983^{+0.040}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.268^{+0.038}_{-0.027}$	$0.252^{+0.049}_{-0.030}$	$18.420^{+4.033}_{-3.642}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-10%	+19%/-12%	+22%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011147271-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2049 ± 221	$1.50^{+0.62}_{-0.69}$	144^{+3}_{-3}	3223^{+684}_{-324}	$149838^{+359932}_{-74146}$
Alt.	-1314 ± 168	$1.58^{+0.63}_{-0.66}$	144^{+3}_{-3}	2997^{+512}_{-294}	$91346^{+173211}_{-48068}$

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

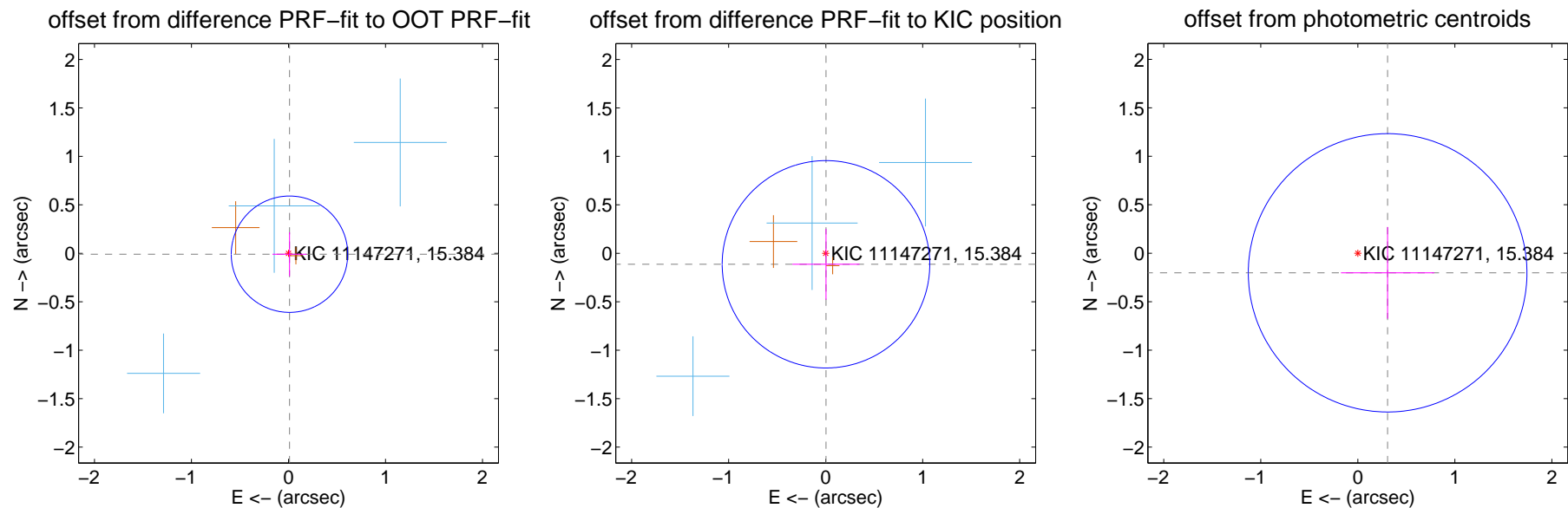
DV Centroid Data

Supplemental centroid analysis for 011147271-03. Kepler magnitude: 15.38. Transit SNR 7.36

There are 3 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	0.014 ± 0.200	0.07	-0.010 ± 0.175	-0.009 ± 0.226
PRF-fit source offset from KIC position	0.114 ± 0.357	0.32	-0.003 ± 0.346	-0.114 ± 0.365
photometric centroid source offset	0.37 ± 0.48	0.77	-0.31 ± 0.48	-0.20 ± 0.47



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.

Q1 no difference image



Q1 no OOT image



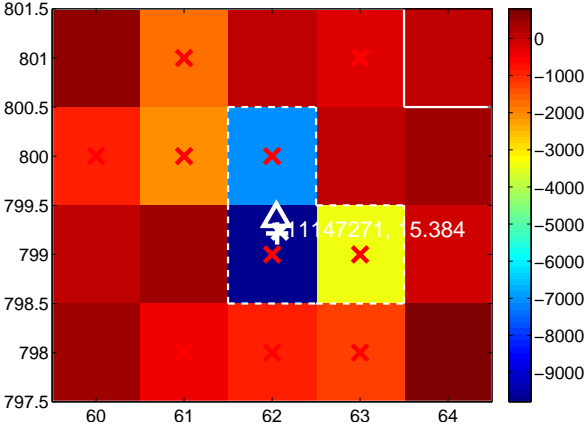
Q2 no difference image



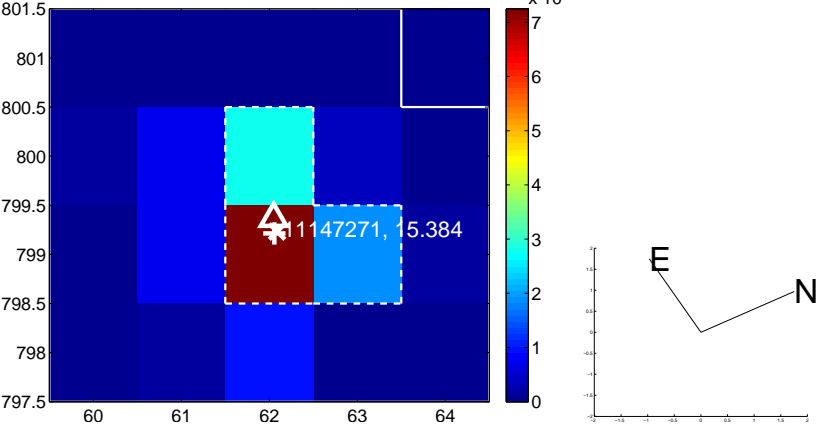
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



Q4 no OOT image



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

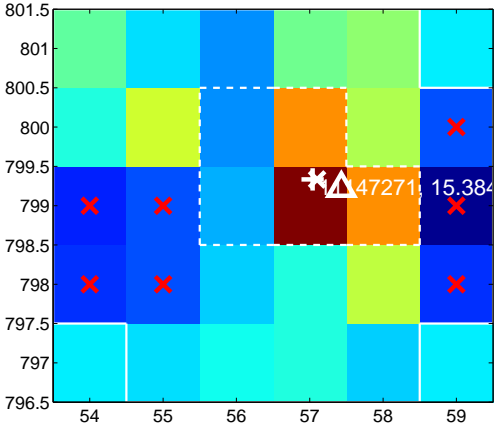
Q5 no difference image



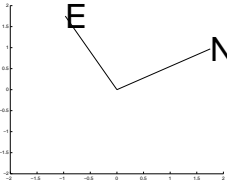
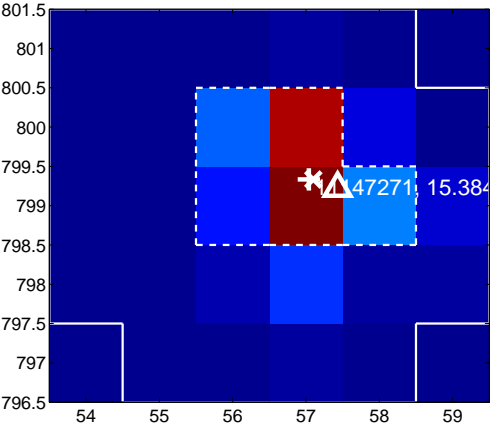
Q5 no OOT image



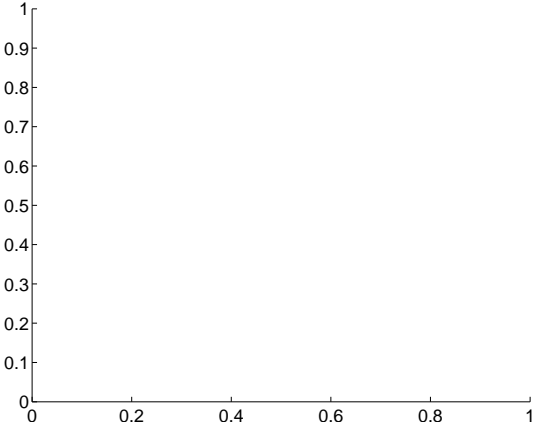
Q6 difference image



Q6 OOT image



Q7 no difference image



Q7 no OOT image



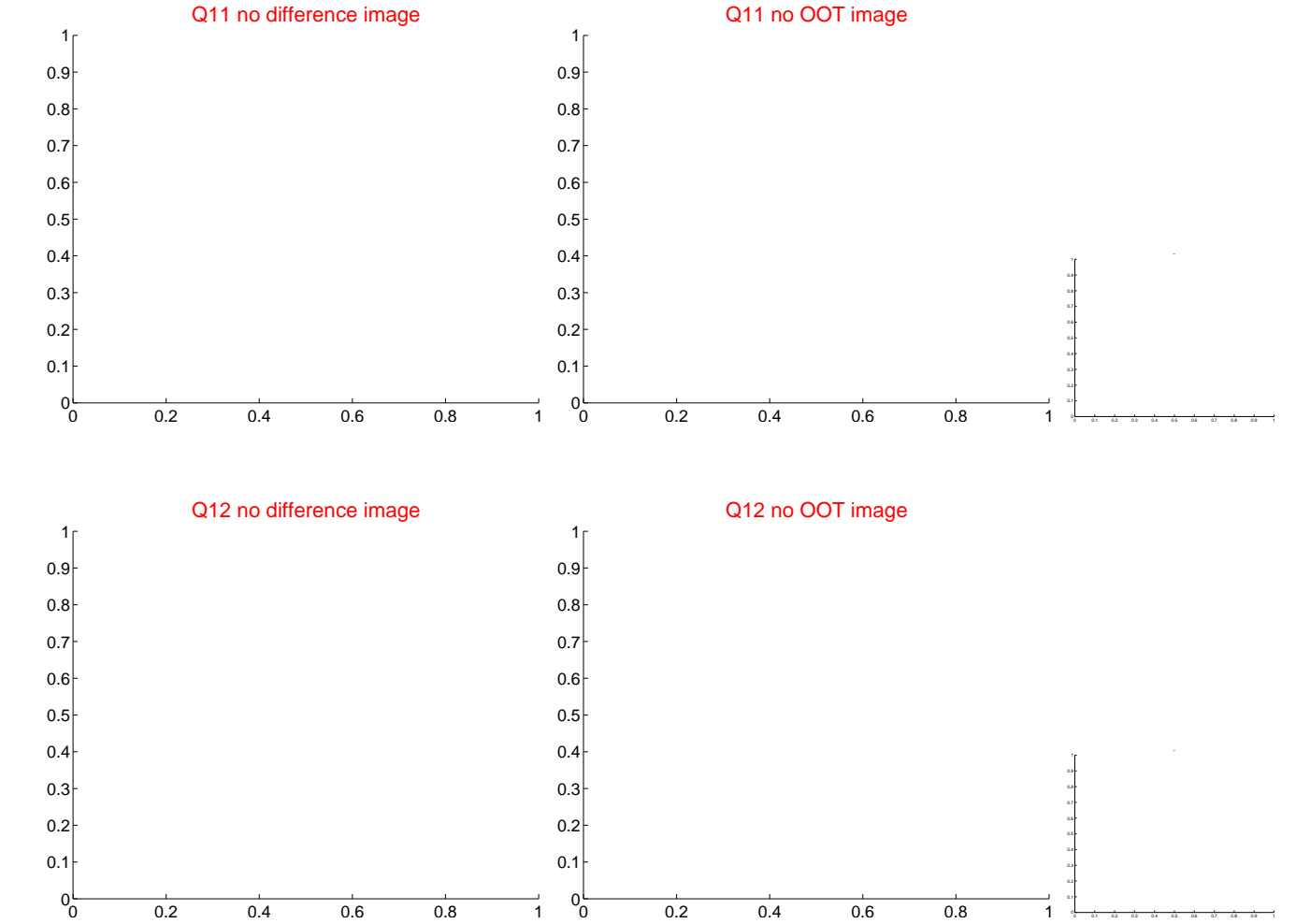
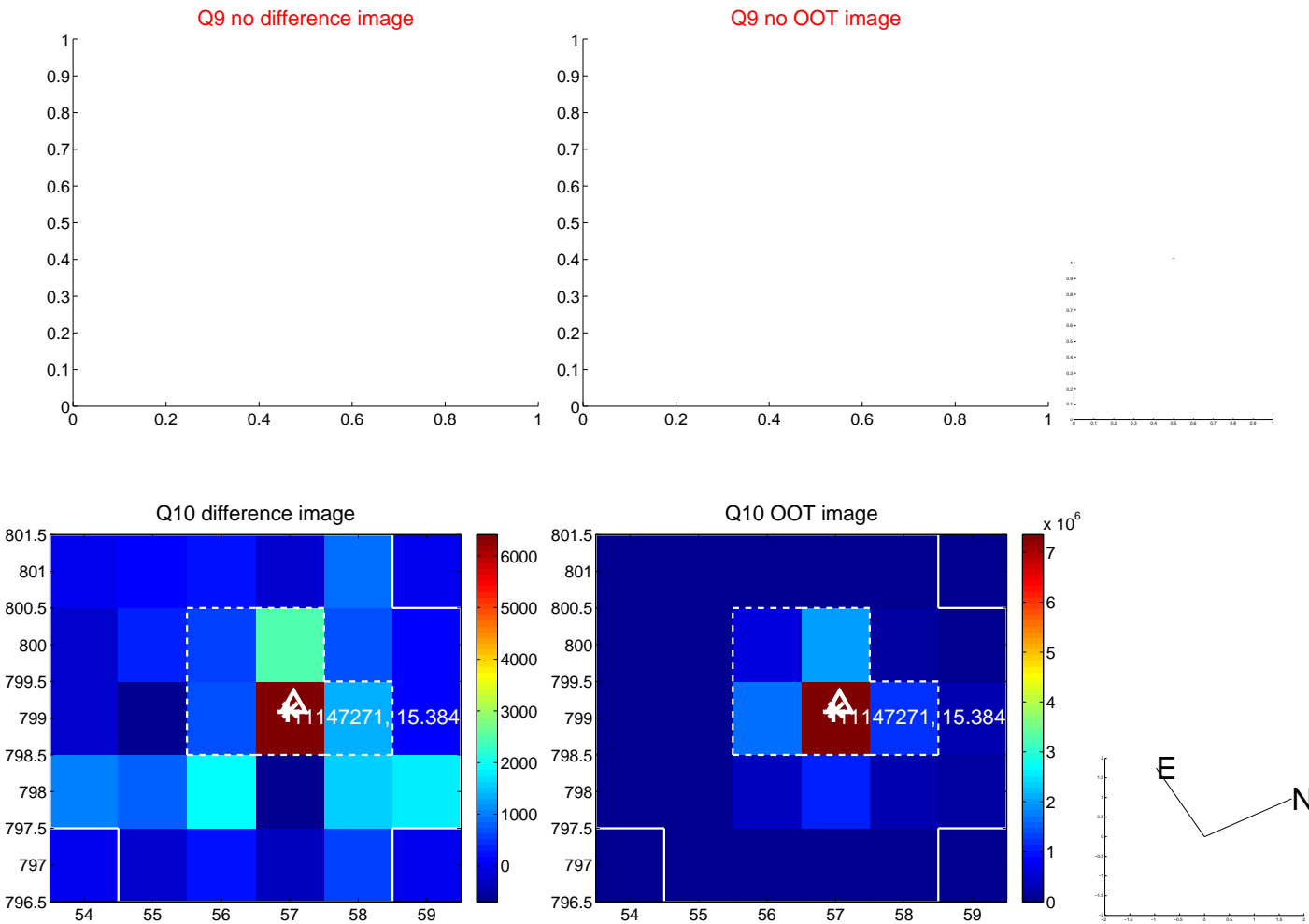
Q8 no difference image



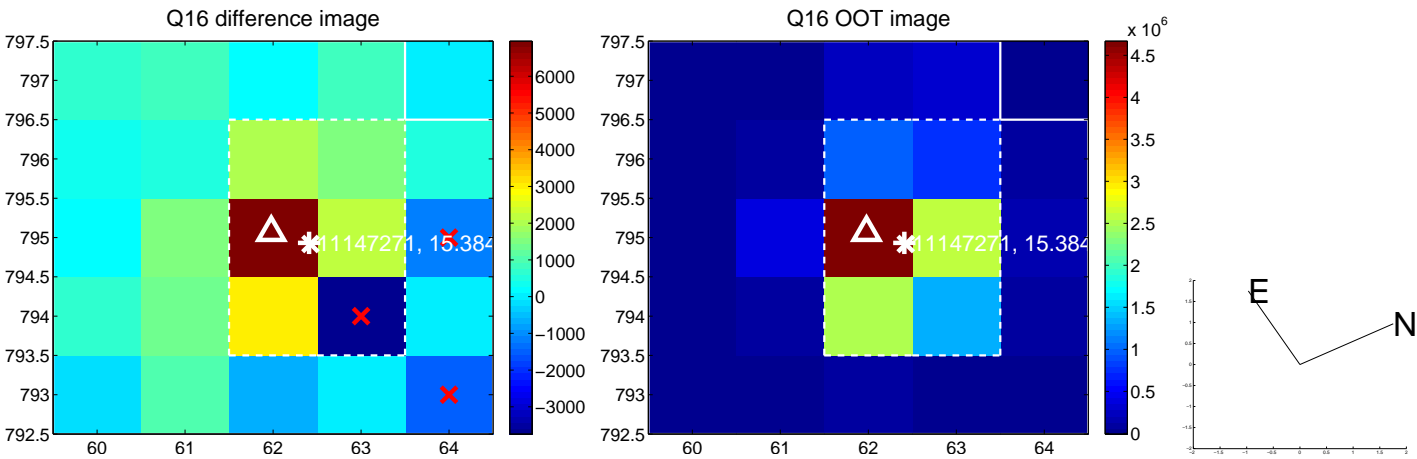
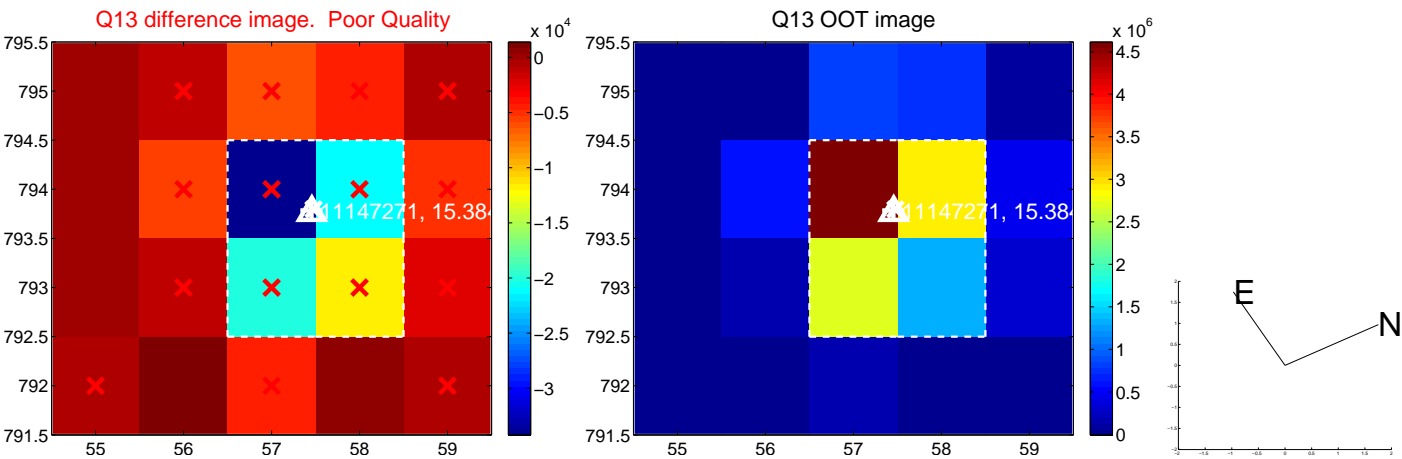
Q8 no OOT image



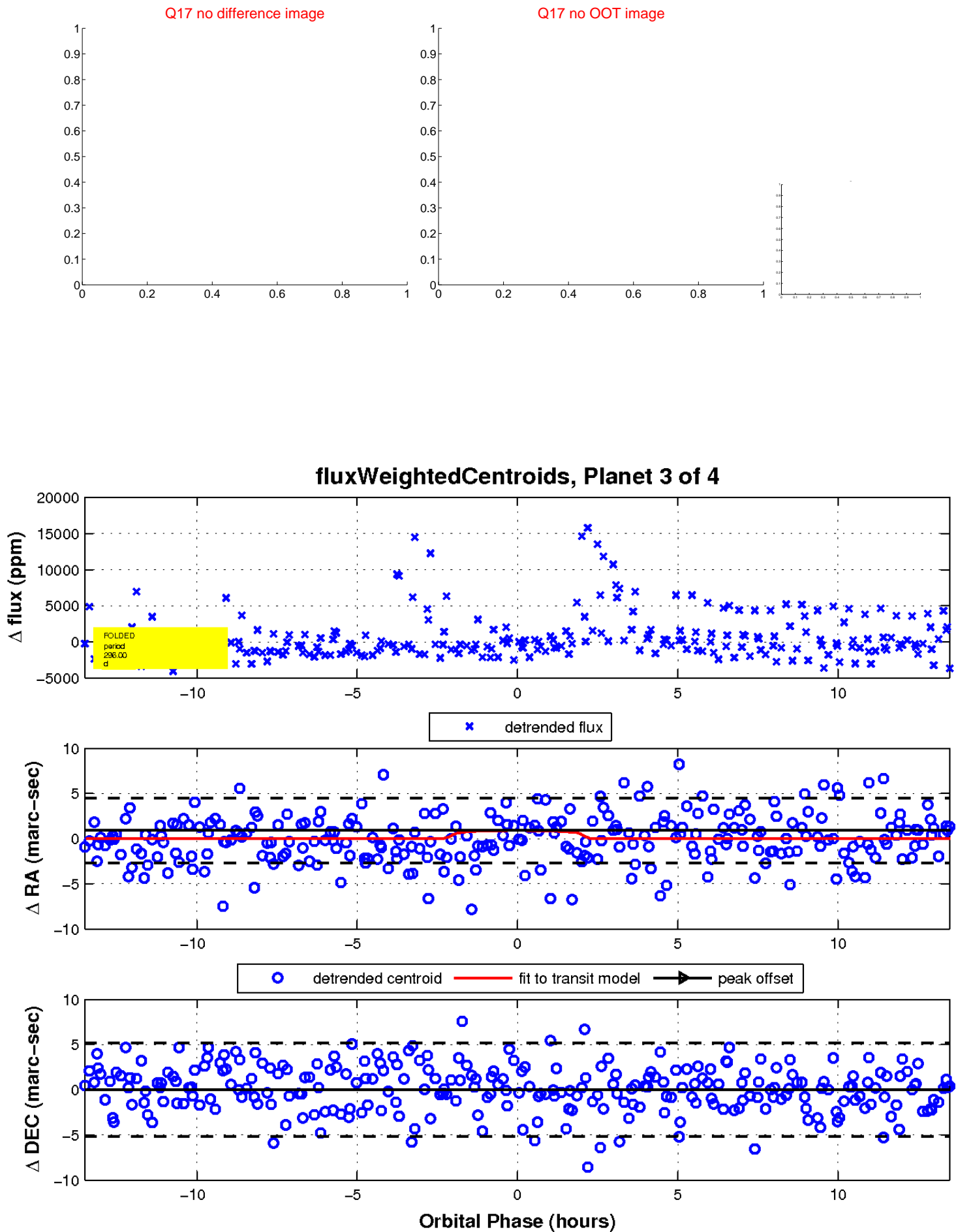
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

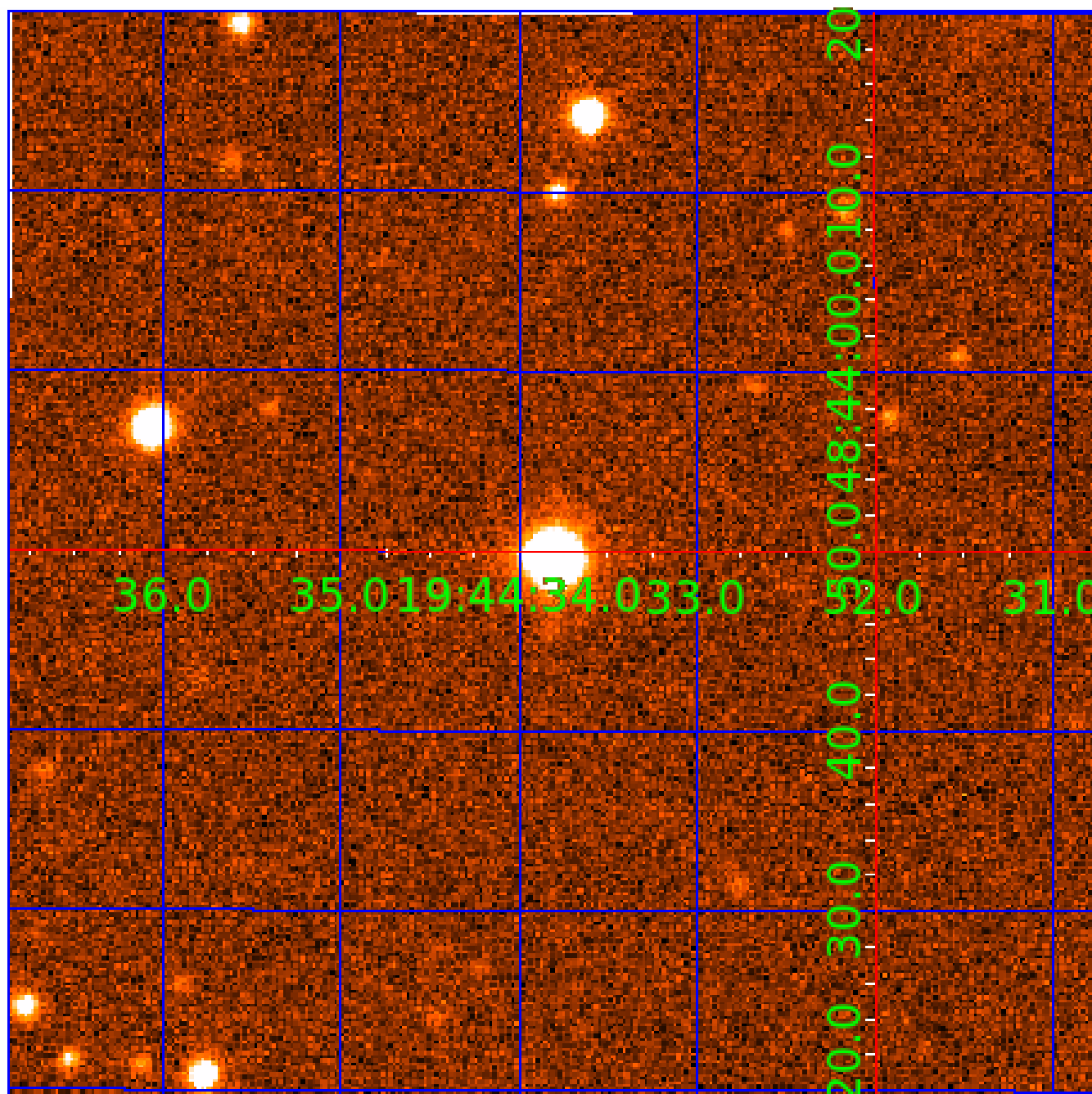


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011147271

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})
011147271-01	OBS	No	514.216055	235.881820	3632.6	5.487	15.6	6.7	0.27	3336	1.62	0.01
011147271-02	OBS	No	538.140710	172.417186	1197.1	2.841	18.6	2.6	0.27	3336	0.95	0.01
011147271-03	OBS	No	295.997085	330.723291	2750.5	4.515	15.1	7.4	0.27	3336	1.46	0.03
011147271-04	OBS	No	326.257261	172.909496	2458.2	3.933	12.0	6.3	0.27	3336	1.31	0.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011147271-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS
011147271-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011147271-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011147271-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—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.

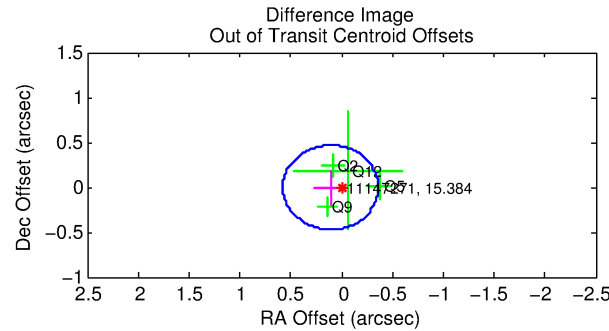
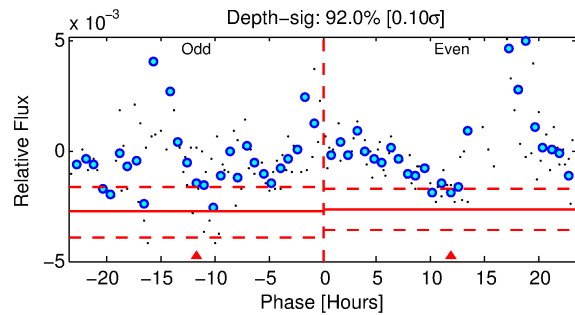
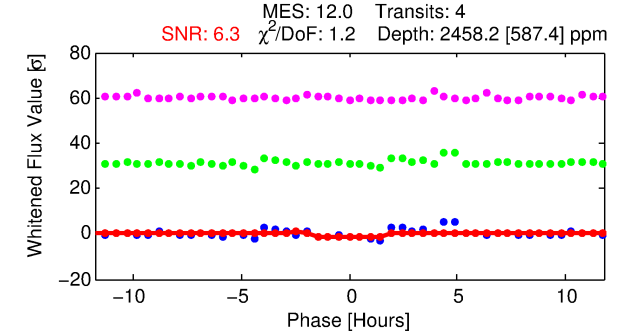
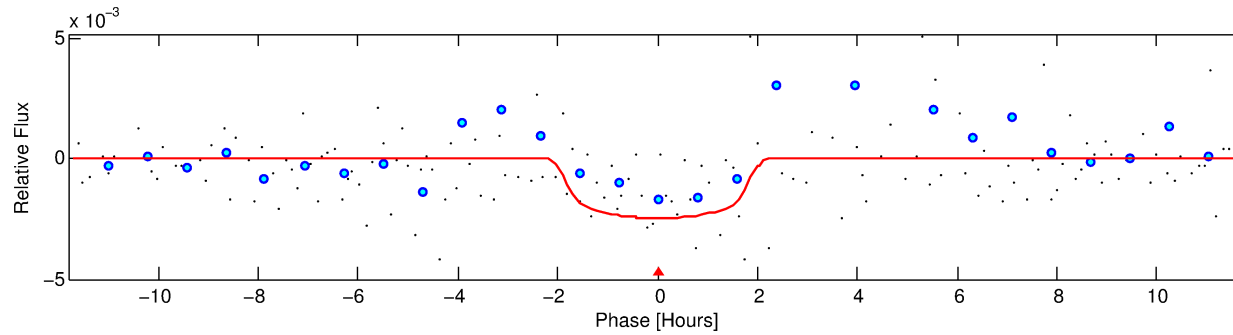
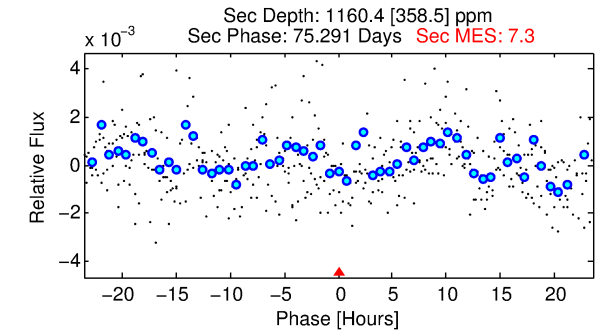
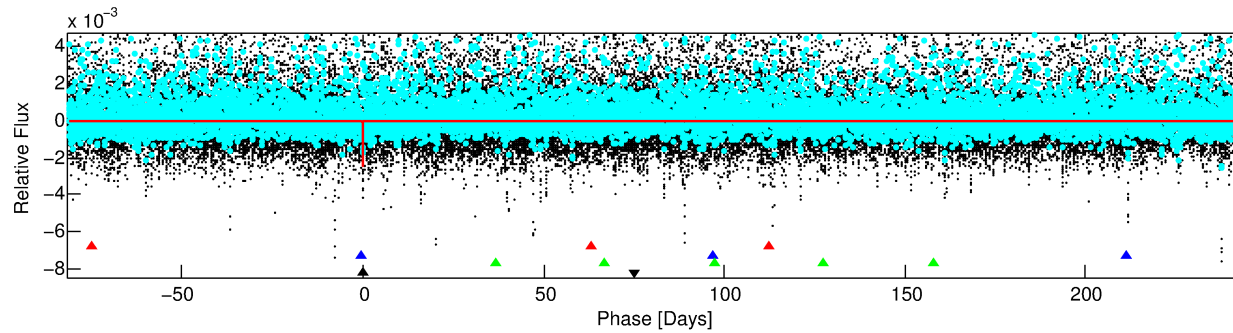
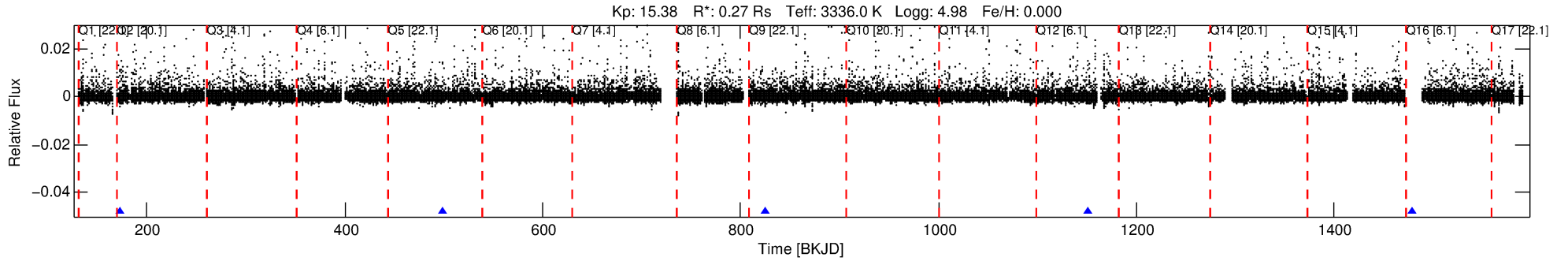
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011147271-04

No Significant Match Found

DV One-Page Summary

KIC: 11147271 Candidate: 4 of 4 Period: 326.257 d



DV Fit Results:

Period = 326.25726 [0.00530] d
Epoch = 172.9095 [0.0095] BKJD
Rp/R* = 0.0448 [0.0553]
a/R* = 661.57 [3466.67]
b = 0.04 [122.02]
Seff = 0.02 [0.00]
Teq = 100 [3] K
Rp = 1.31 [1.63] Re
a = 0.5859 [0.0588] AU
Ag = 127470.37 [317489.91] [0.40σ]
Teffp = 2908 [1809] K [1.55σ]

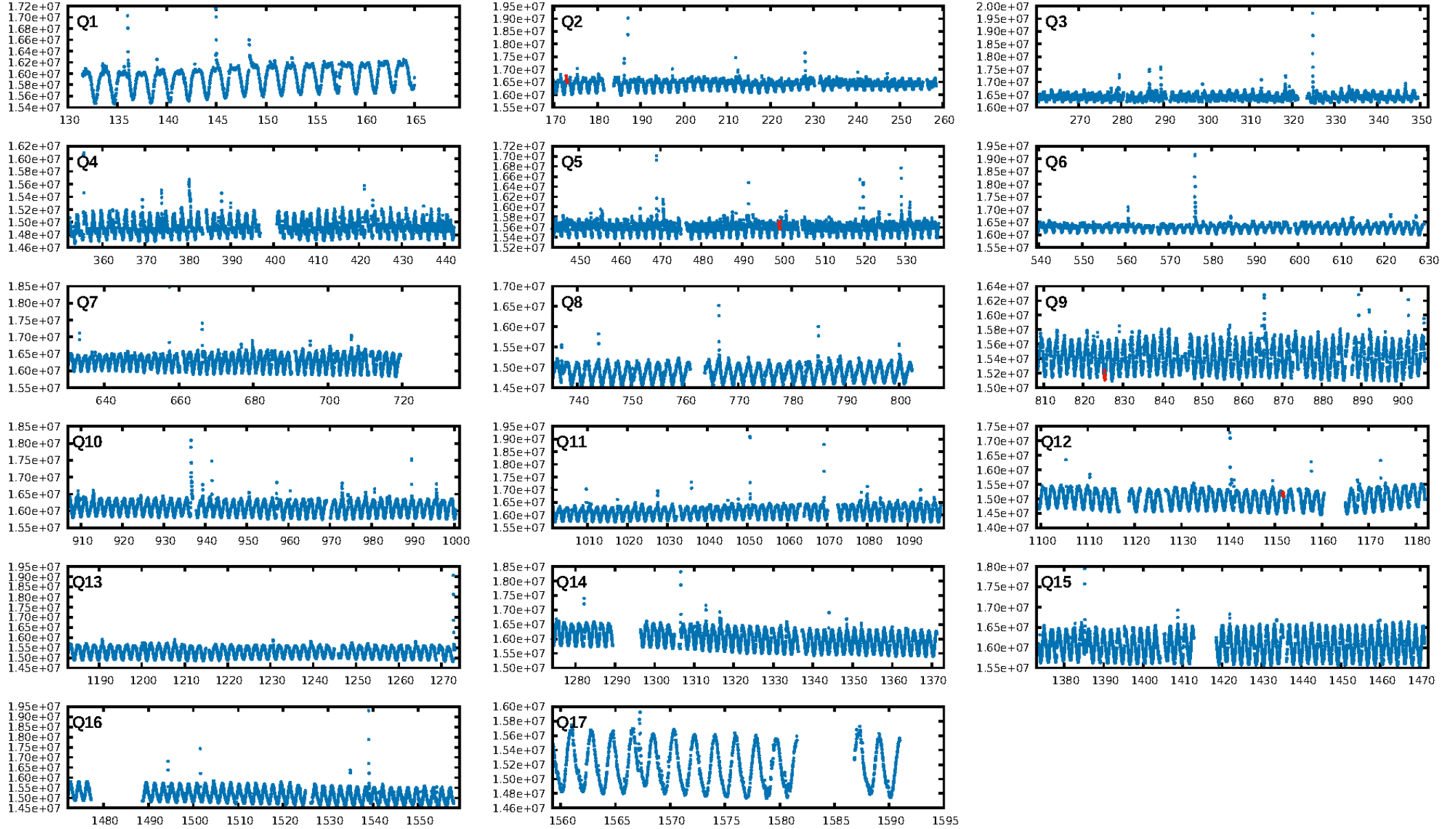
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [121.29σ]
LongPeriod-sig: 100.0% [668.19σ]
ModelChiSquare2-sig: 59.0%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: 1.97e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.205
Centroid-sig: 71.4%
Centroid-so: 0.293 arcsec [0.47σ]
OotOffset-rm: 0.109 arcsec [0.70σ]
KicOffset-rm: 0.082 arcsec [0.45σ]
OotOffset-st: 1/0/1/2 [4]
KicOffset-st: 1/0/1/2 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

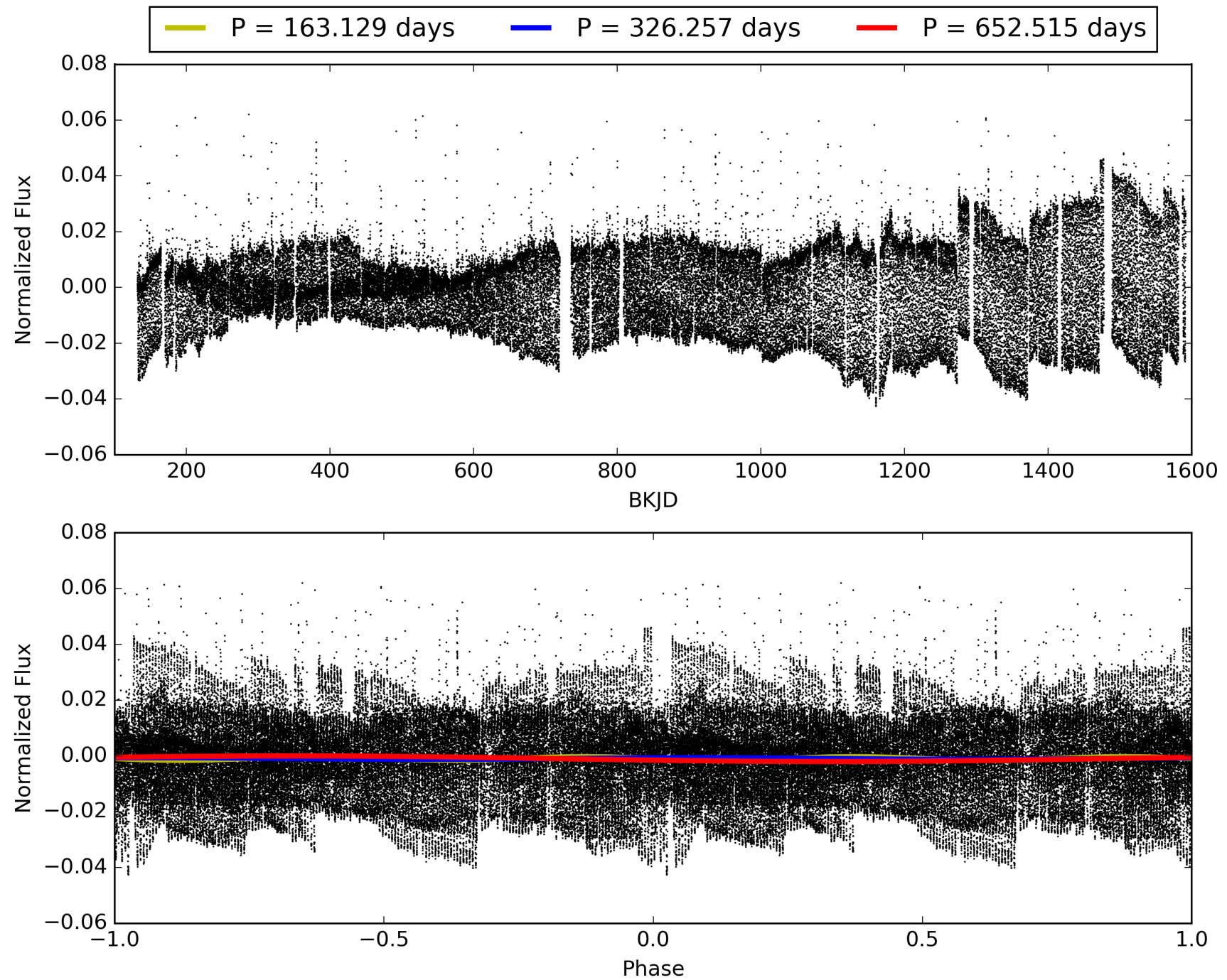
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:44:10 Z

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

TCE 011147271-04, PDC Light Curves

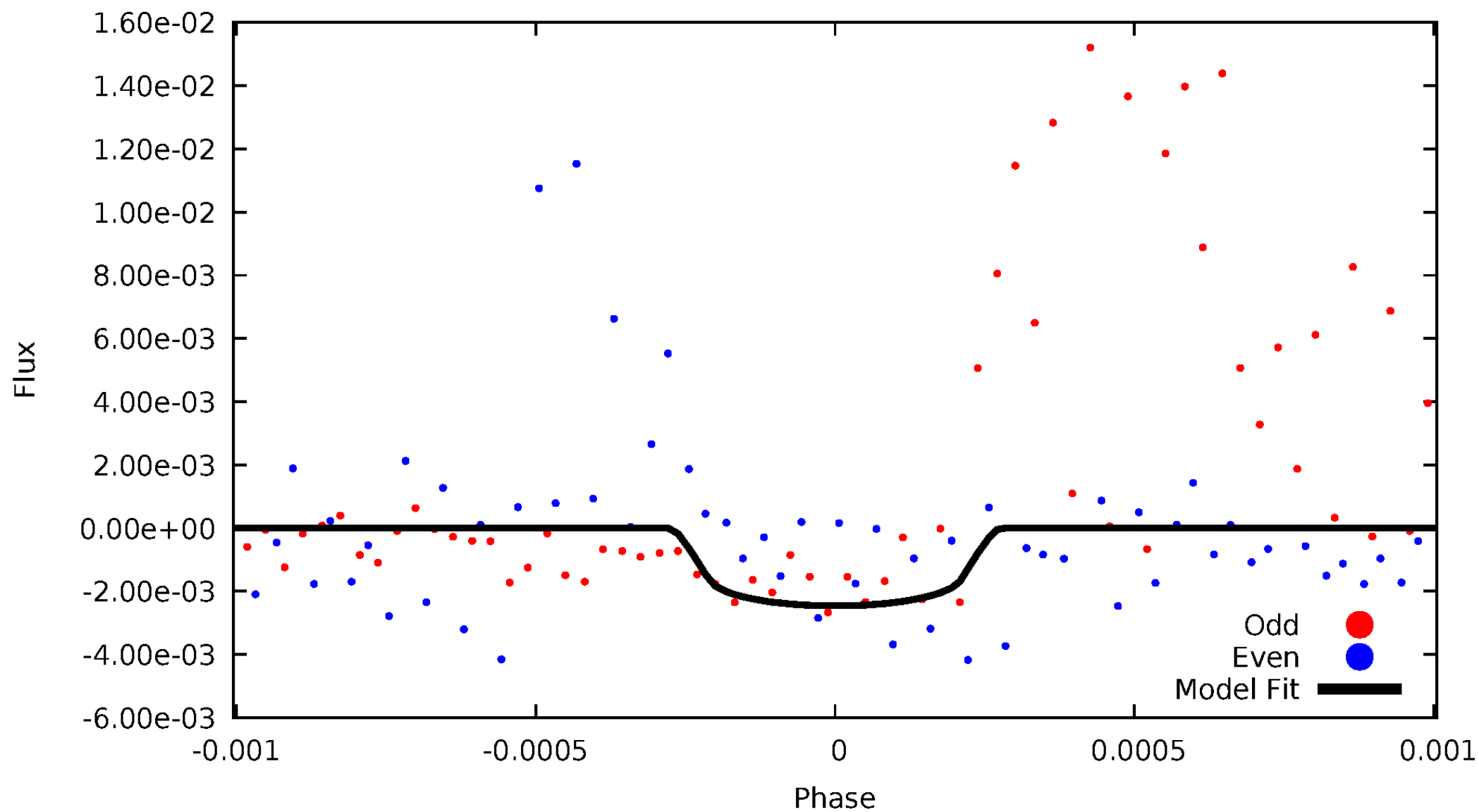


TCE 011147271-04



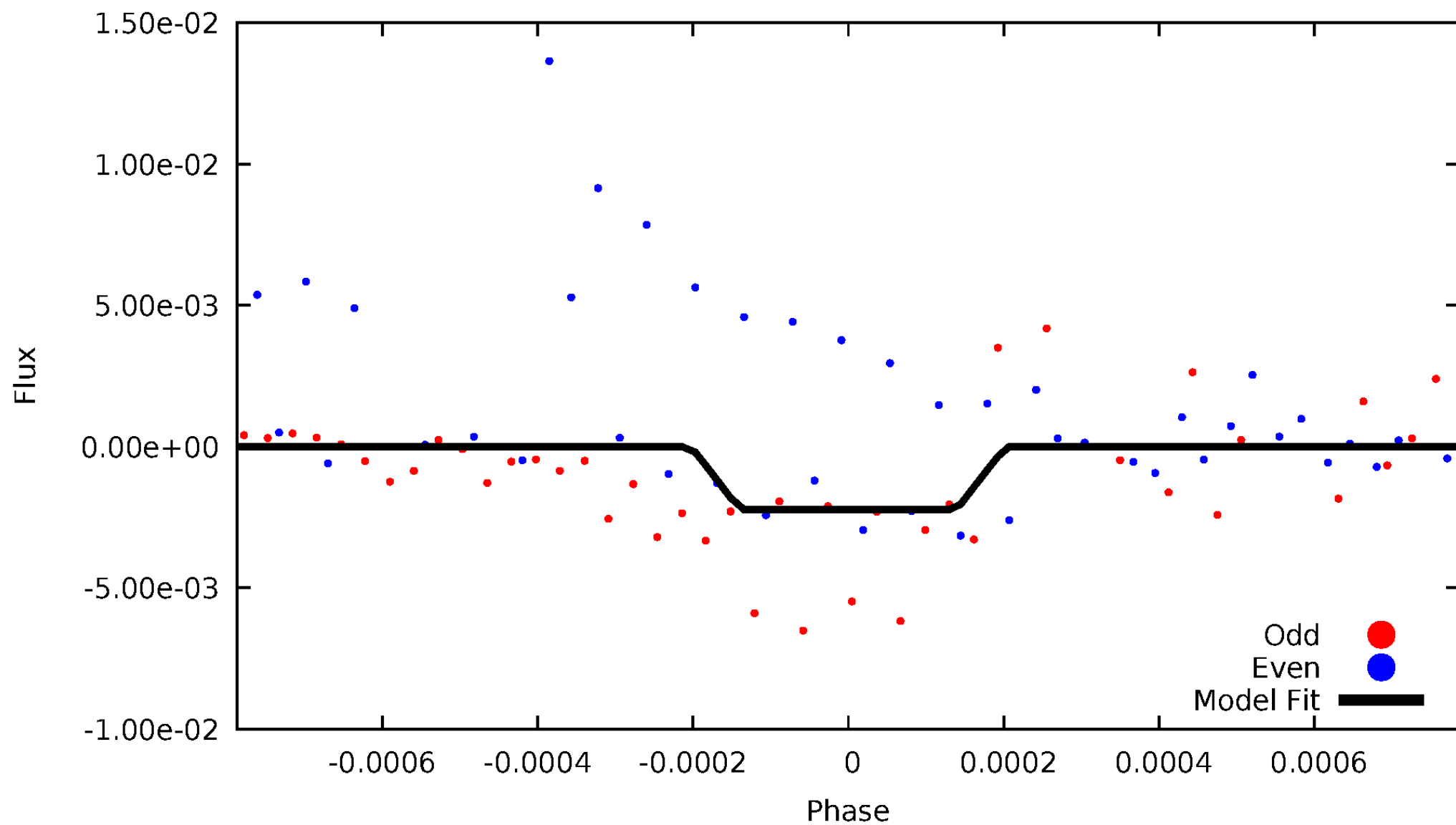
DV Odd/Even

TCE 011147271-04



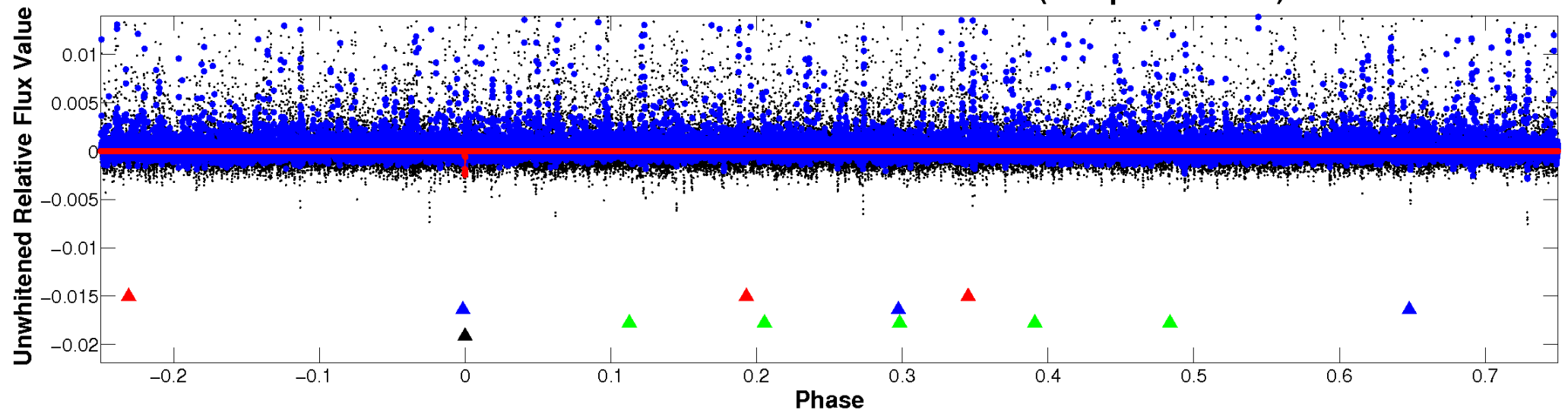
ALT Odd/Even

TCE 011147271-04

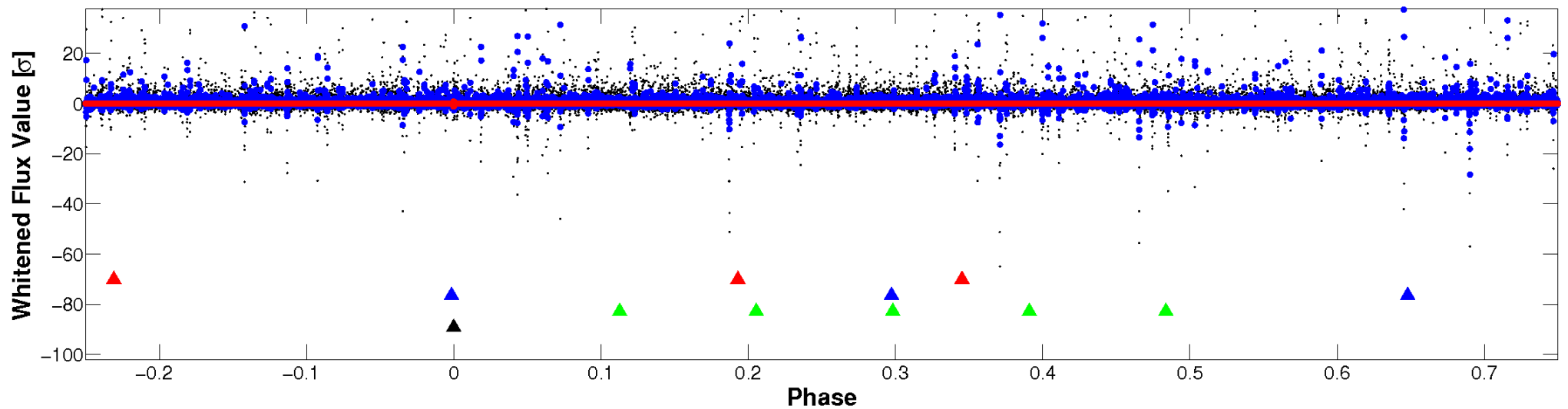


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

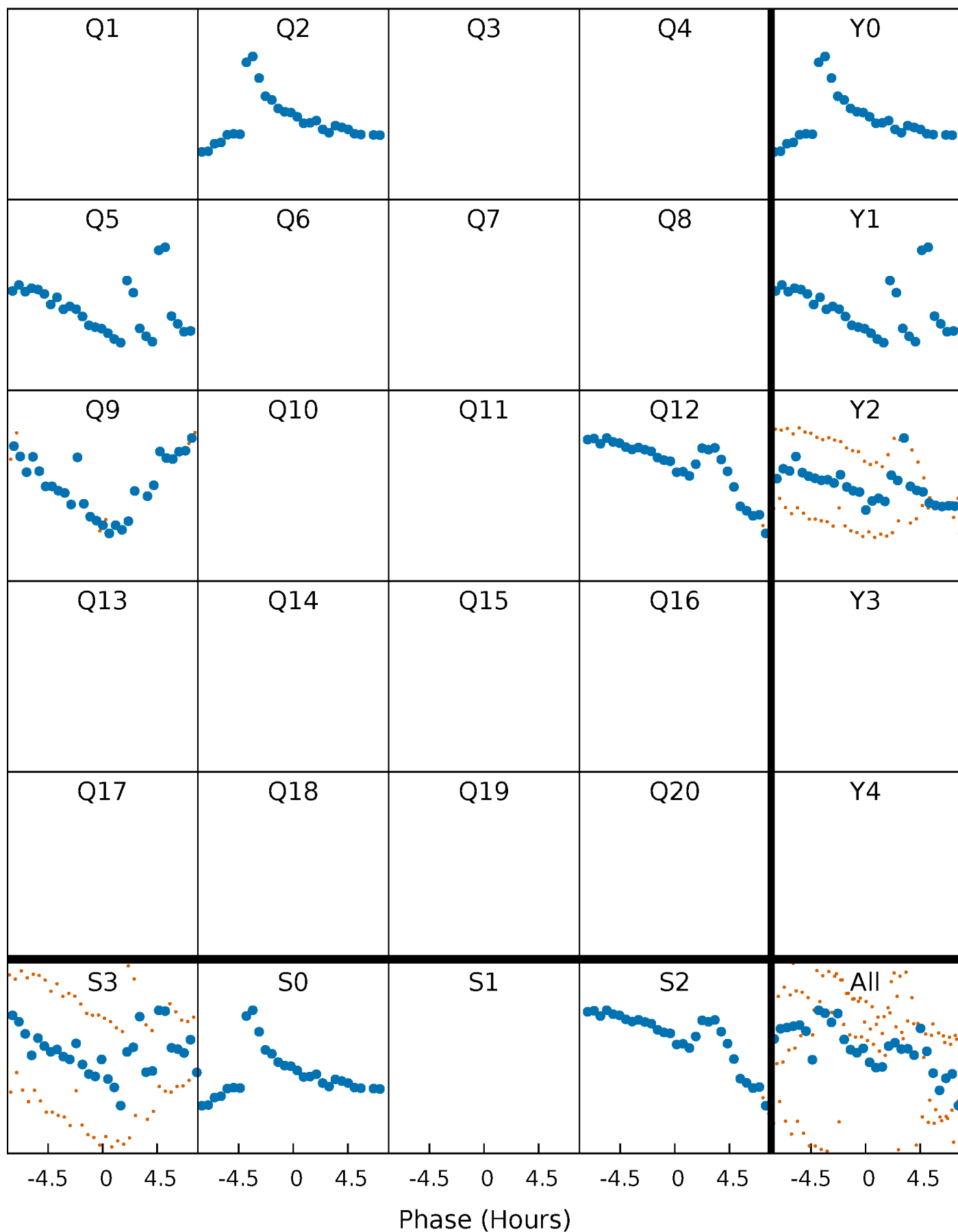


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



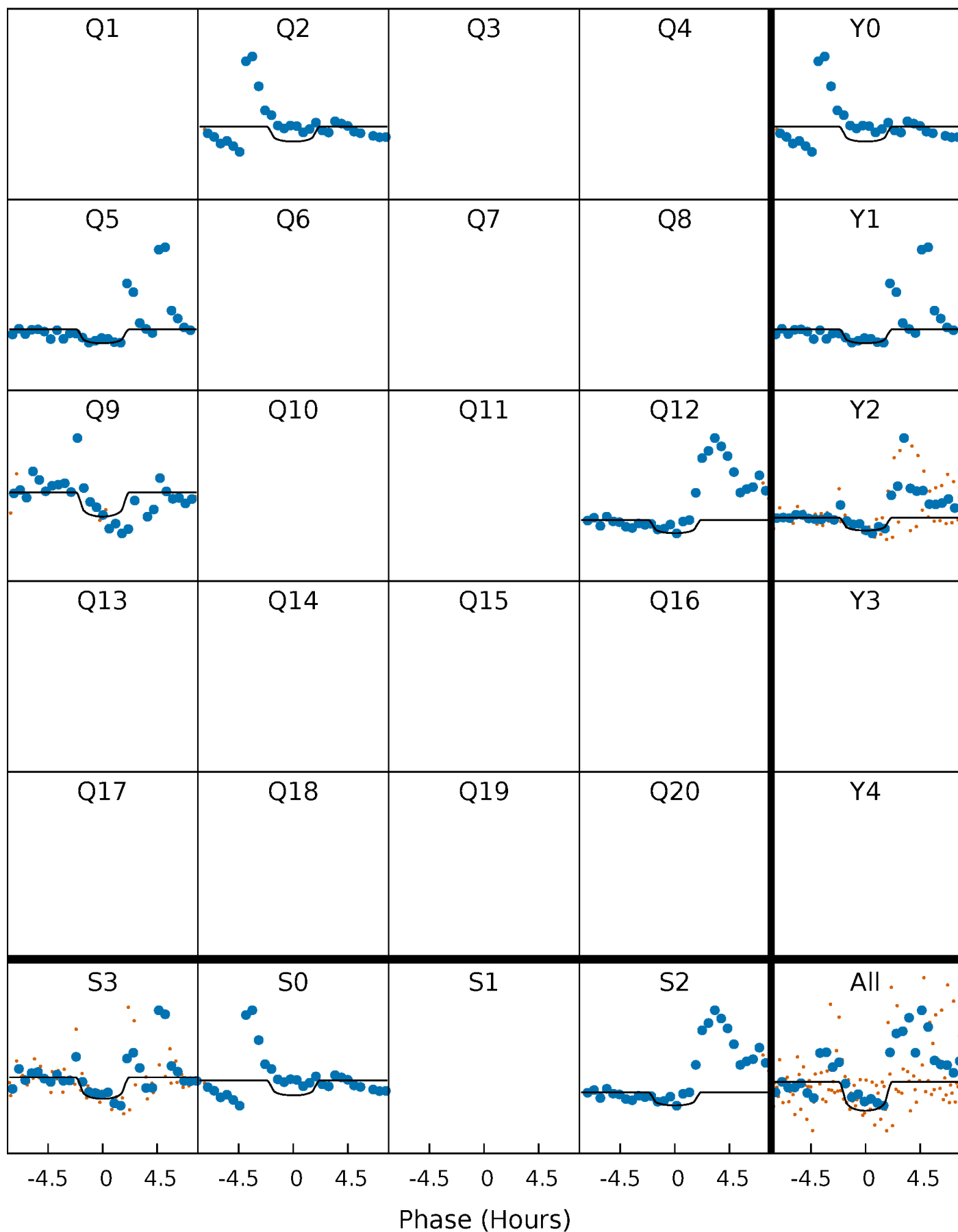
PDC Quarter-Phased Transit Curves

TCE 011147271-04 $P=326.257261$ Days $T_0=172.909496$ (BKJD)



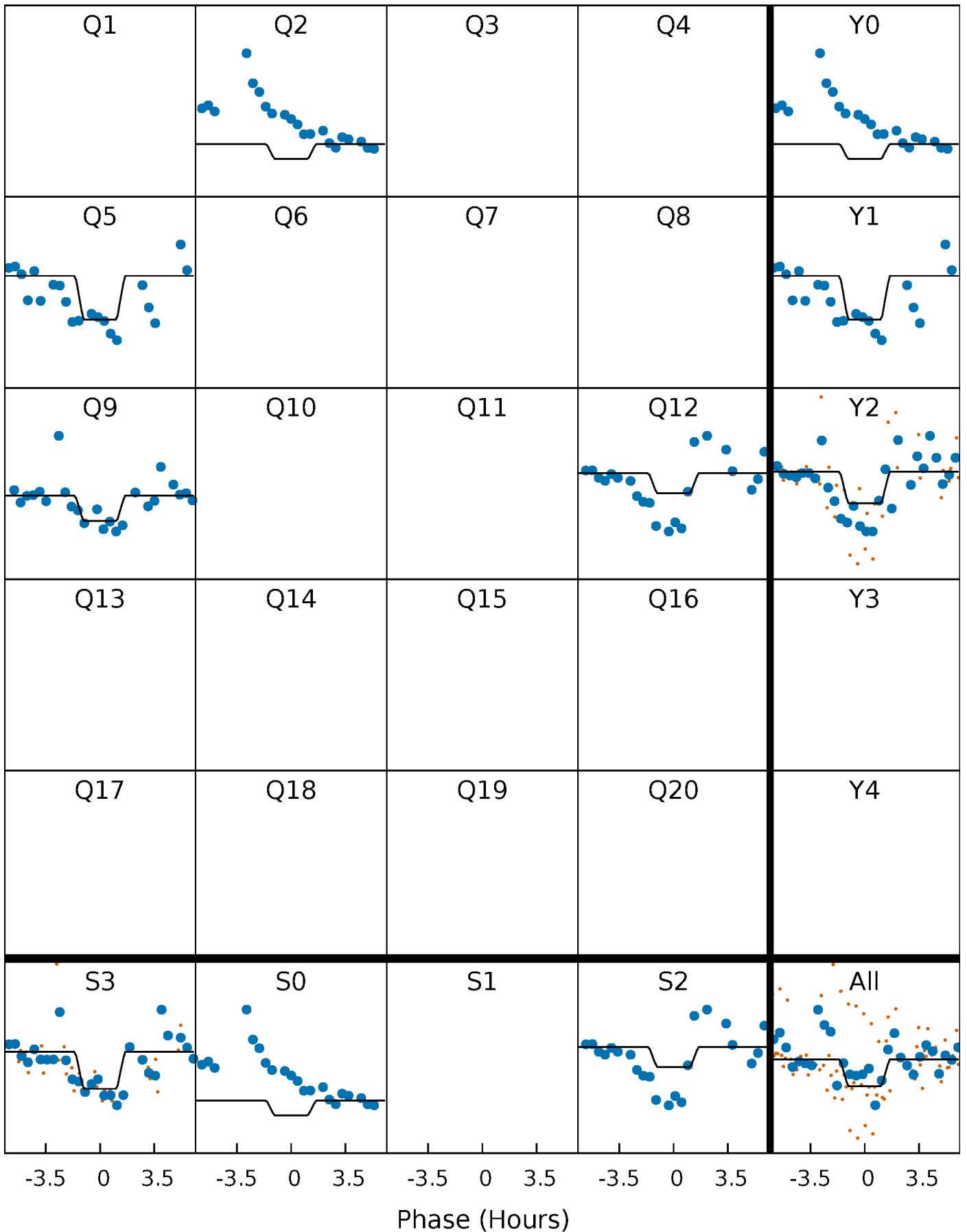
DV Quarter-Phased Transit Curves

TCE 011147271-04 $P=326.257261$ Days $T_0=172.909496$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

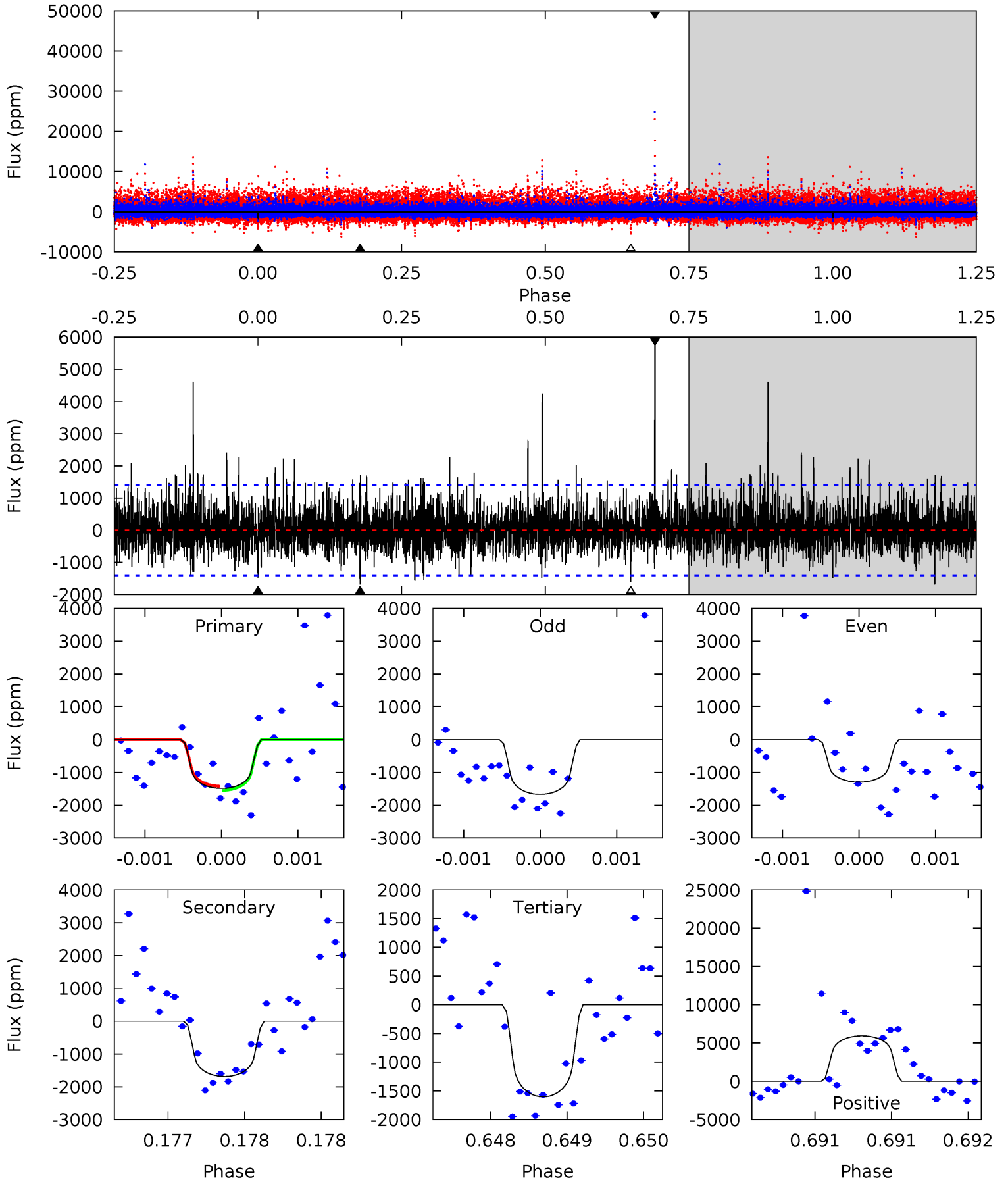
TCE 011147271-04 $P=326.267404$ Days $T_0=172.914568$ (BKJD)



DV Model-Shift Uniqueness Test

011147271-04, P = 326.257261 Days, E = 172.909496 Days

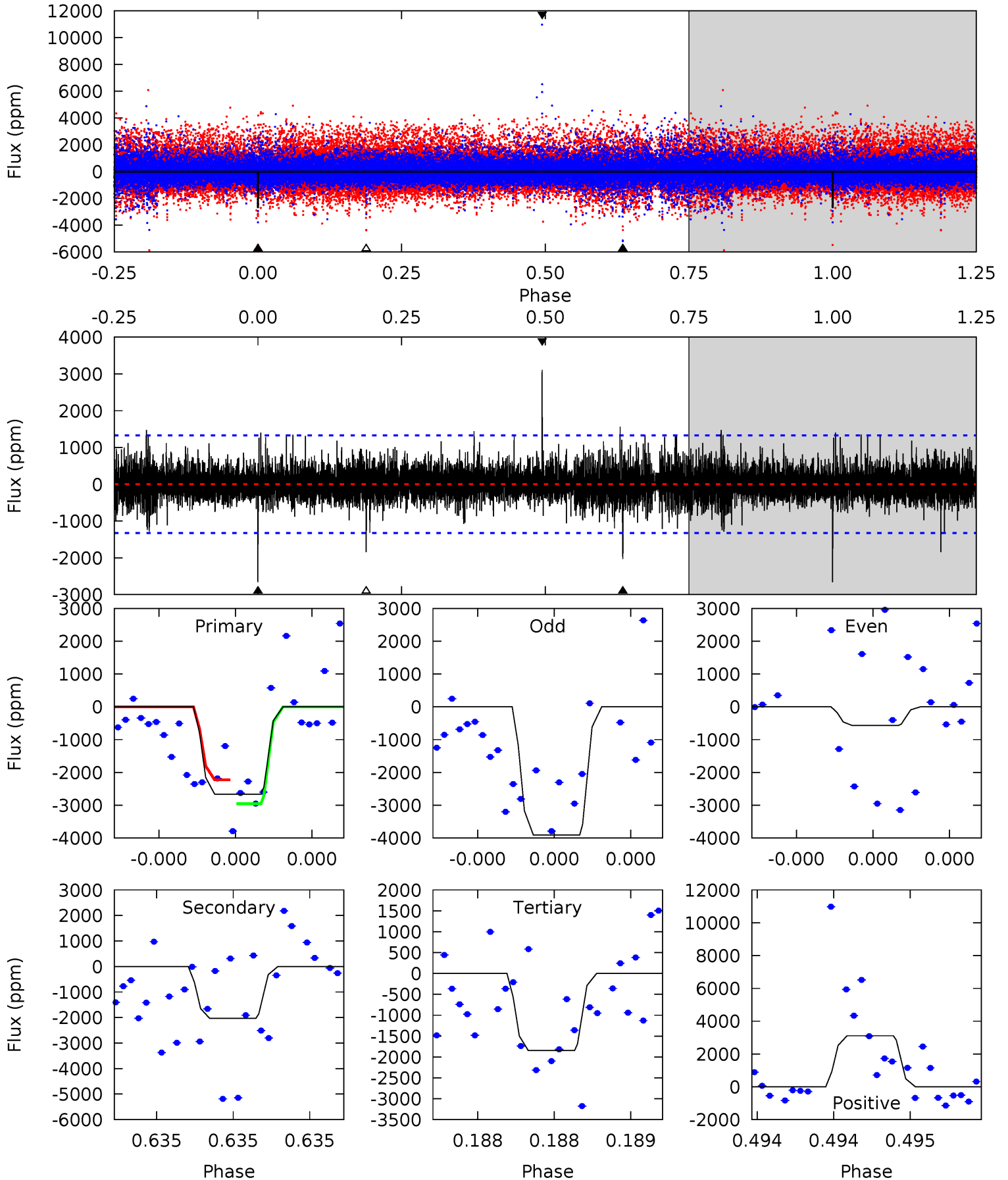
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.90	6.69	6.36	23.6	5.56	3.46	2.06	-0.45	-17.7	0.33	-16.9	0.44	0.89	0.78	0.26



Alt Model-Shift Uniqueness Test

011147271-04, P = 326.267404 Days, E = 172.914568 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	8.58	7.81	13.2	5.62	3.55	1.39	3.46	-1.91	0.78	-4.58	8.03	0.66	0.54	0



Stellar Parameters For KIC 011147271

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3336^{+43}_{-36}	$4.983^{+0.040}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.268^{+0.038}_{-0.027}$	$0.252^{+0.049}_{-0.030}$	$18.420^{+4.033}_{-3.642}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-10%	+19%/-12%	+22%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011147271-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1686 ± 252	$1.72^{+1.50}_{-1.10}$	139^{+3}_{-3}	3006^{+1173}_{-446}	$108515^{+714605}_{-76640}$
Alt.	-2027 ± 236	$1.72^{+1.39}_{-1.12}$	139^{+3}_{-3}	3082^{+1228}_{-468}	$128602^{+878440}_{-91274}$

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 $A_{obs} \gg 1.0$

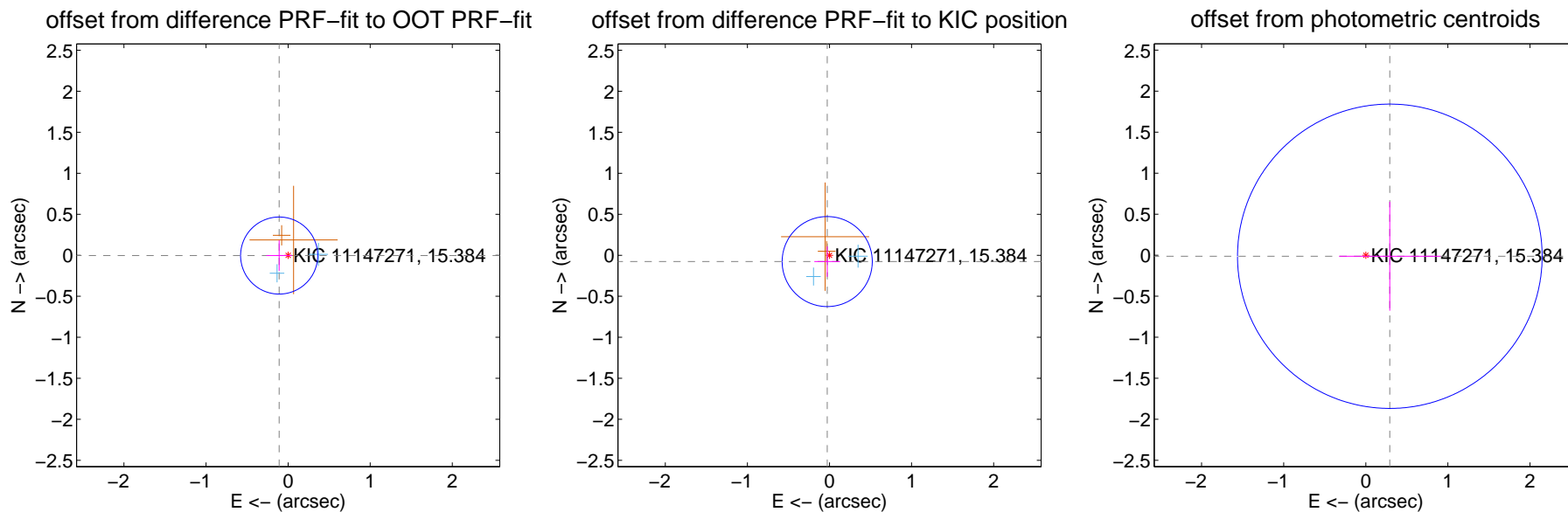
DV Centroid Data

Supplemental centroid analysis for 011147271-04. Kepler magnitude: 15.38. Transit SNR 6.29

There are 2 quarters with good PRF difference image offsets

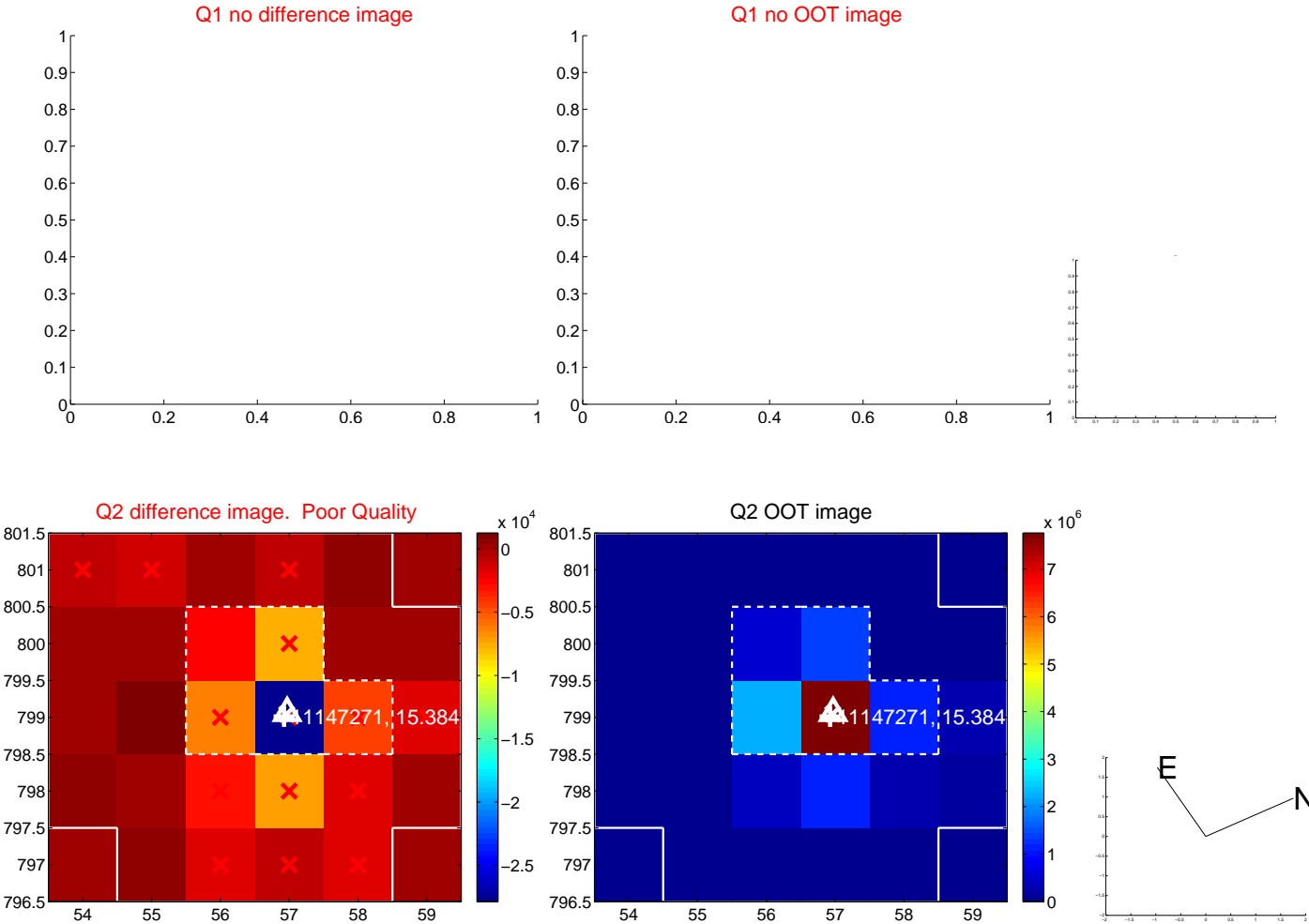
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.109 ± 0.157	0.70	0.109 ± 0.157	-0.003 ± 0.186
PRF-fit source offset from KIC position	0.082 ± 0.183	0.45	0.028 ± 0.157	-0.077 ± 0.186
photometric centroid source offset	0.29 ± 0.62	0.47	-0.29 ± 0.62	-0.01 ± 0.66

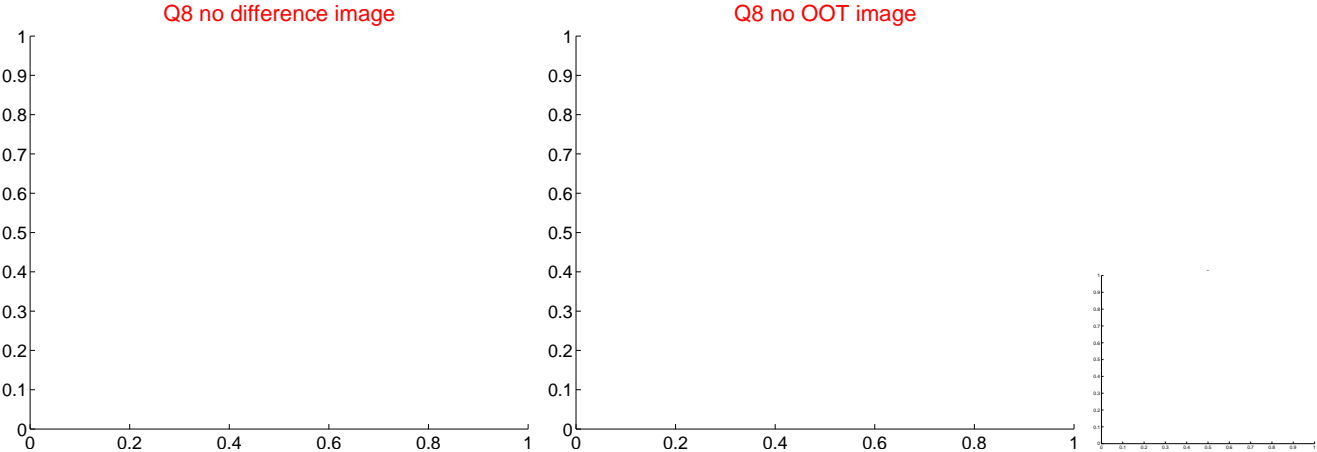
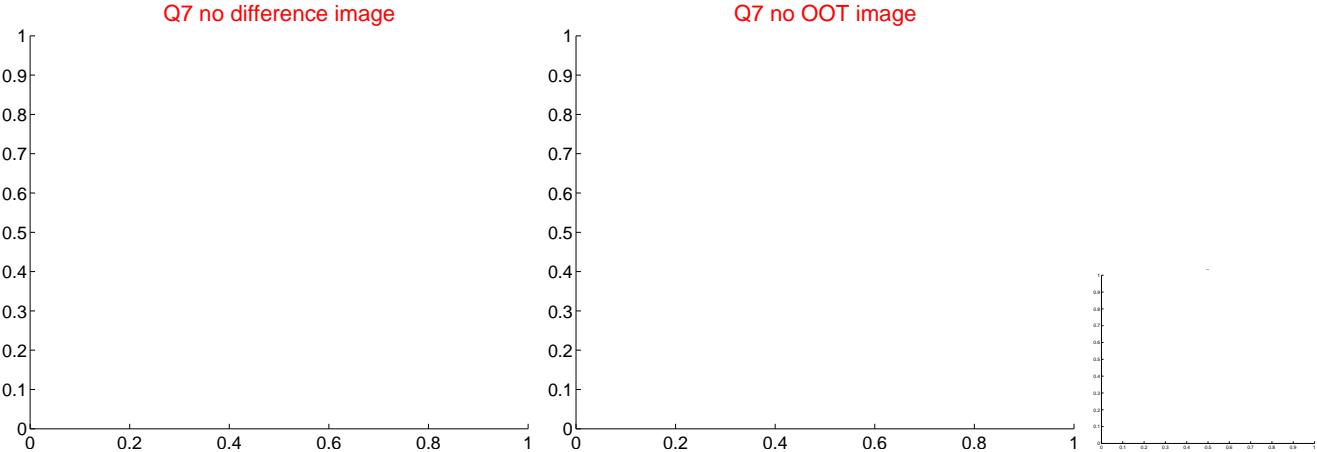
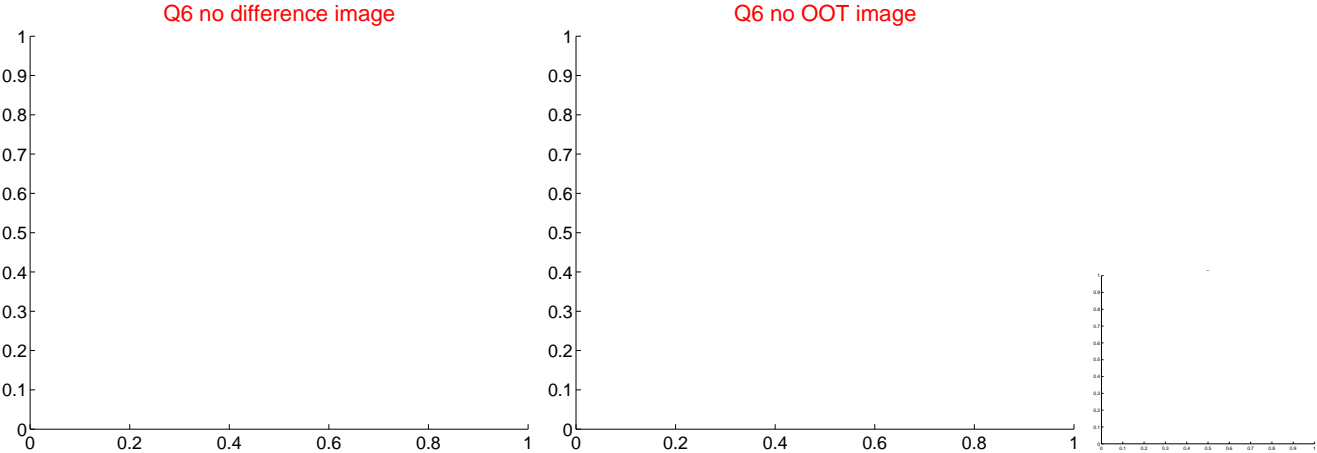
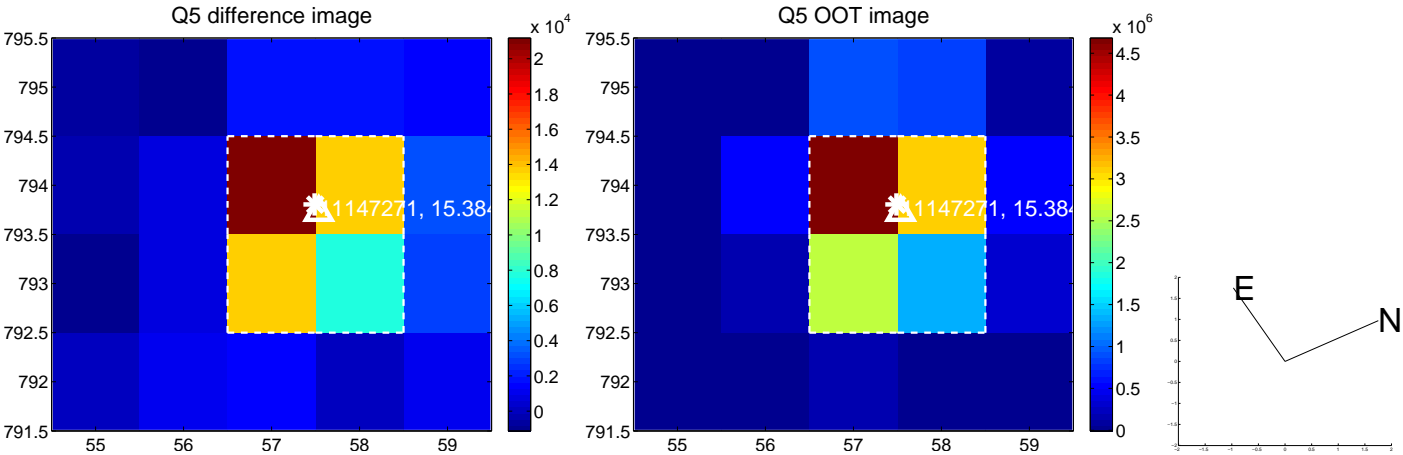


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

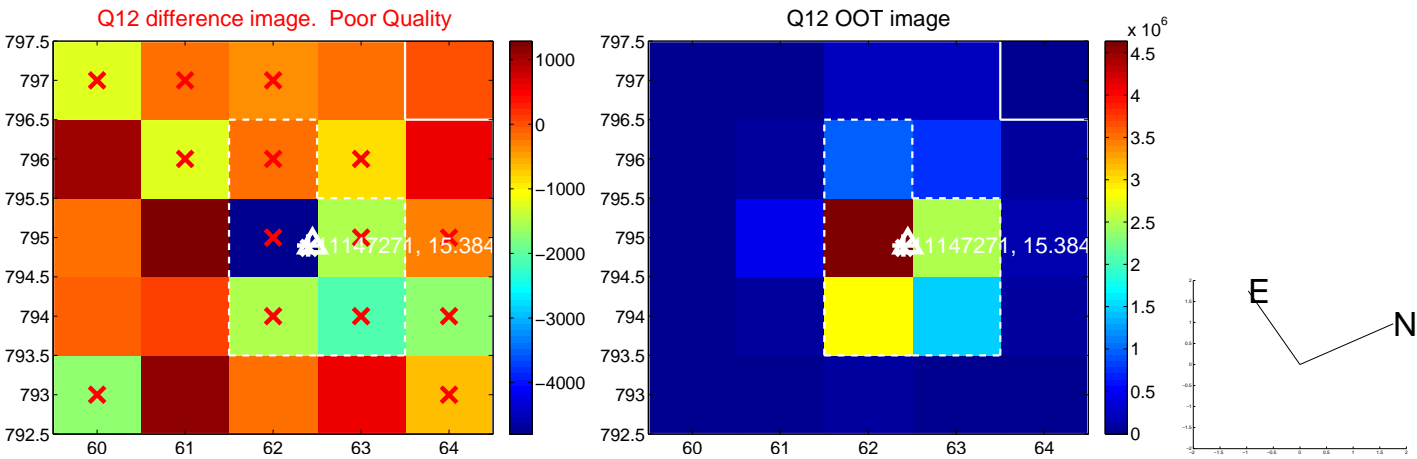
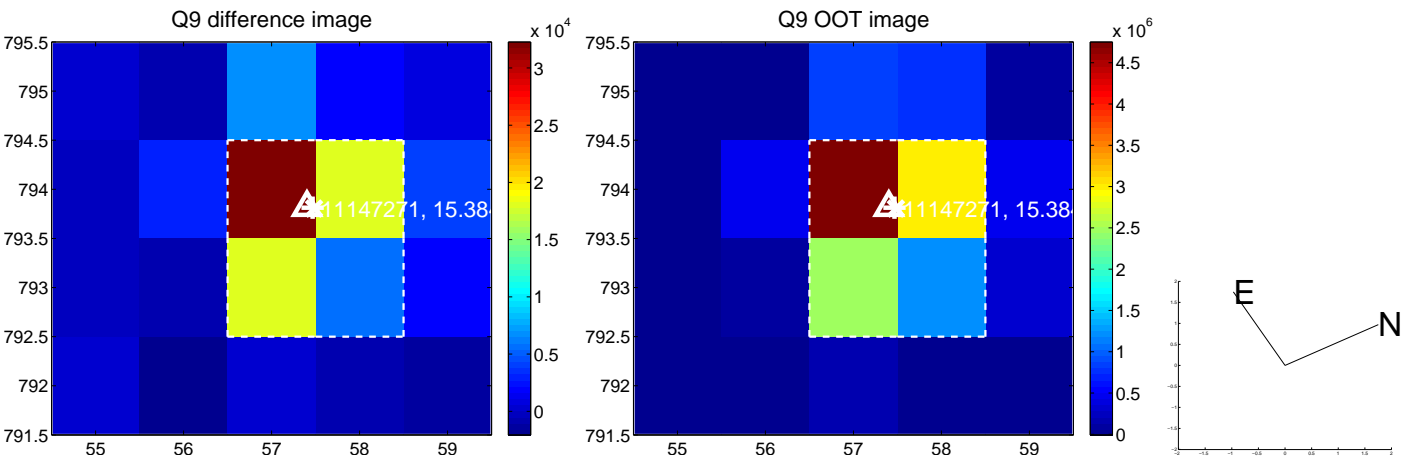
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



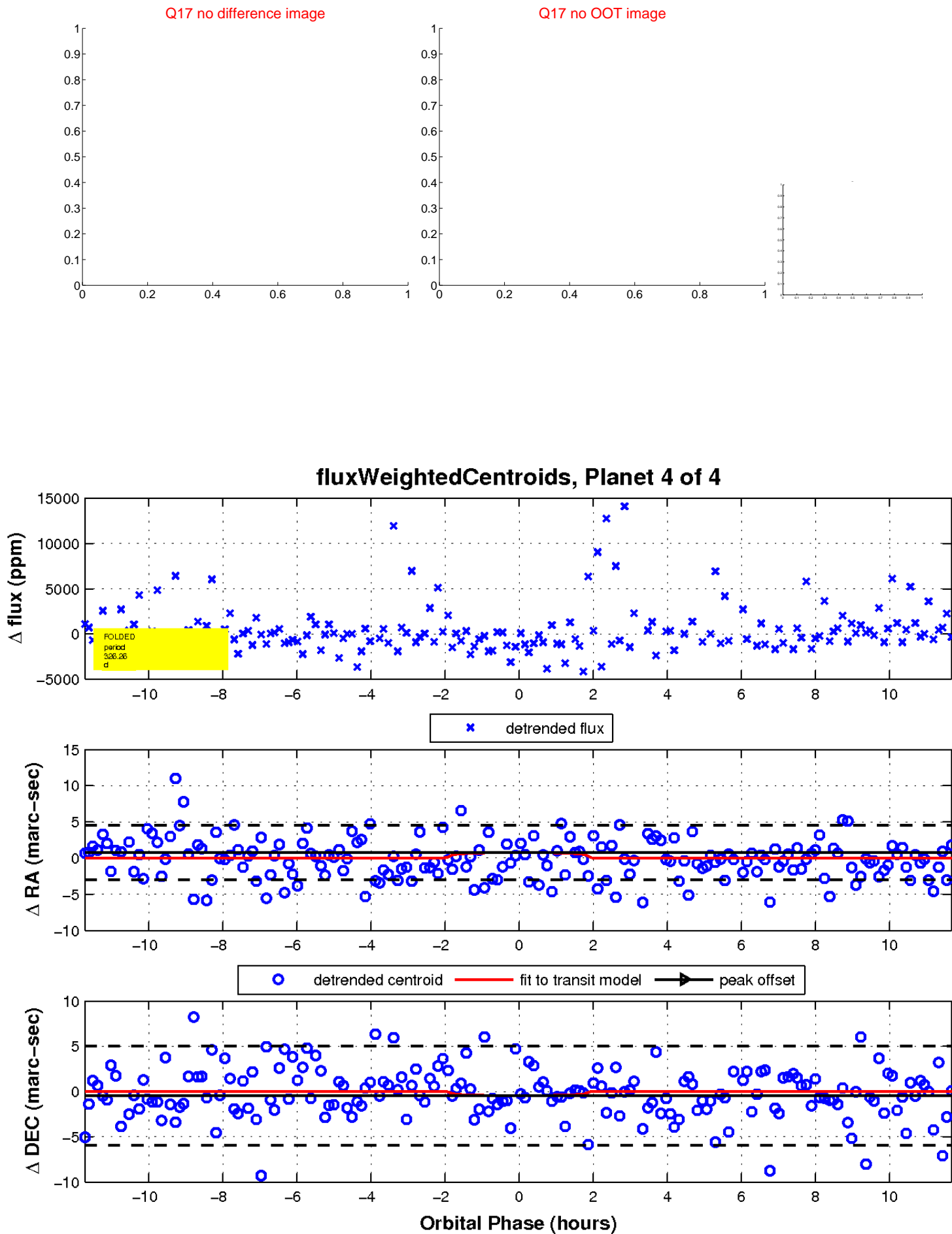
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

