

KIC 011872364

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})
011872364-01	OBS	No	360.051480	367.276375	1088.0	8.200	11.6	5.9	0.98	5573	3.78	0.95
011872364-02	OBS	No	326.903758	169.613218	1042.3	11.181	12.5	5.4	0.98	5573	3.14	1.08
011872364-03	OBS	No	254.017822	220.811137	733.0	8.713	12.1	5.5	0.98	5573	2.69	1.51
011872364-04	OBS	No	259.935489	303.117226	1040.3	3.143	11.0	7.5	0.98	5573	3.59	1.46
011872364-05	OBS	No	355.598390	339.978229	886.5	4.479	11.9	5.9	0.98	5573	2.90	0.96
011872364-06	OBS	8232.01	189.181150	132.379420	996.9	5.000	9.4	-1.0	0.98	5573	3.06	2.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011872364-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-02	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011872364-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
011872364-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
011872364-05	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-06	OBS	PC	0.49	0	0	0	0	CENT_NOFITS

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

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

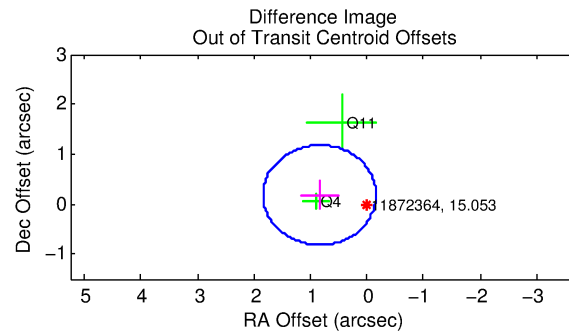
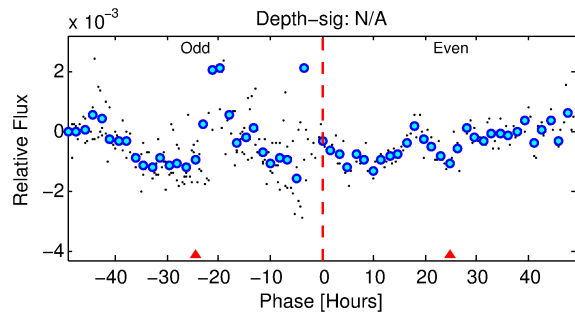
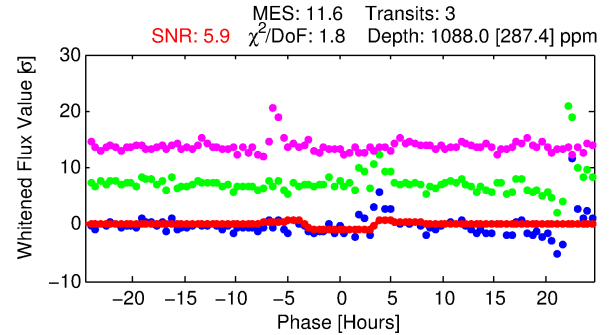
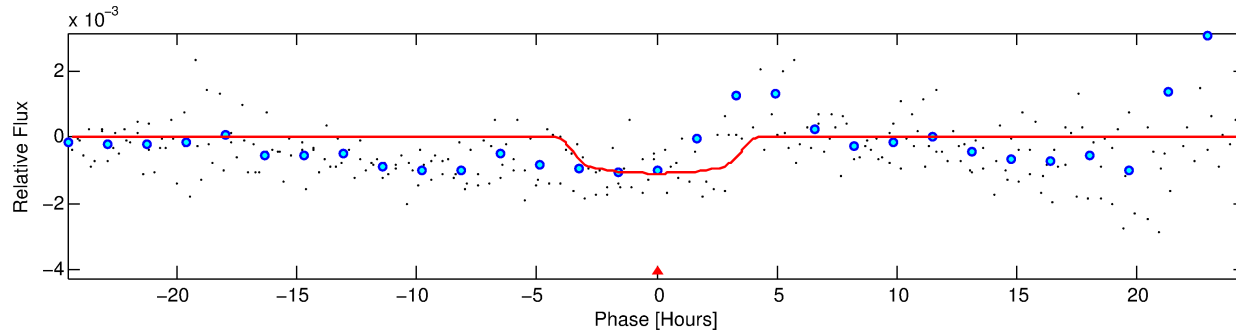
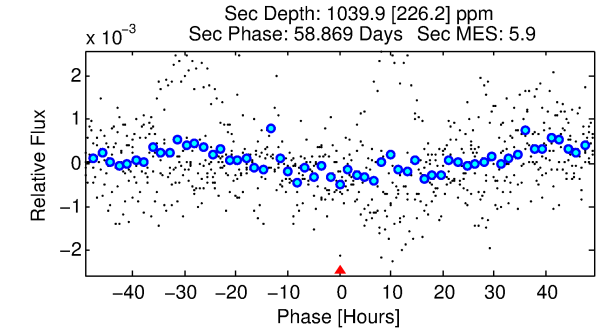
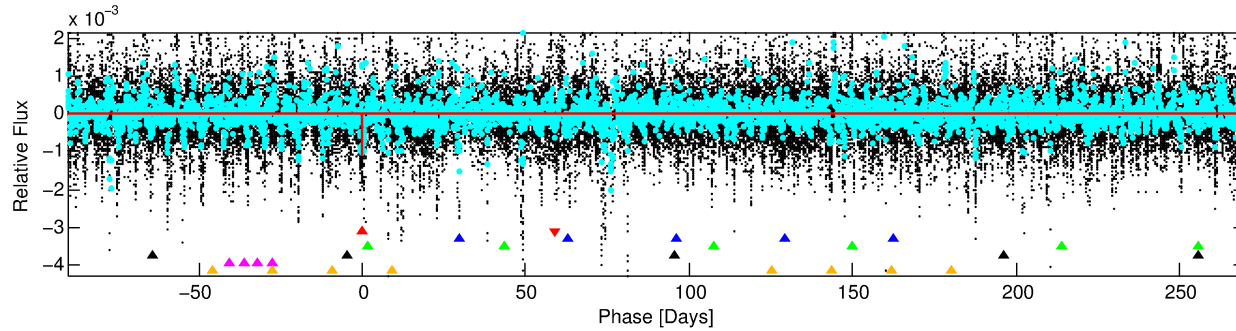
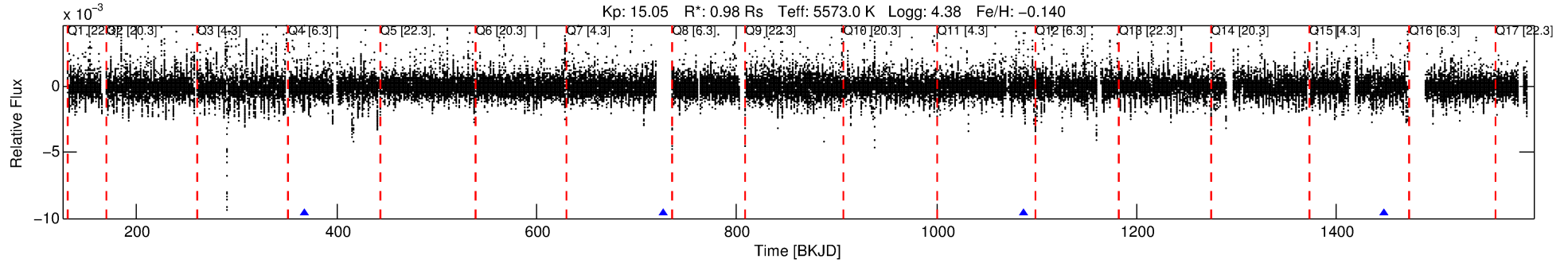
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011872364-01

No Significant Match Found

DV One-Page Summary

KIC: 11872364 Candidate: 1 of 6 Period: 360.051 d



DV Fit Results:

Period = 360.05148 [0.00938] d
Epoch = 367.2764 [0.0196] BKJD
Rp/R* = 0.0353 [0.0075]
a/R* = 185.11 [116.06]
b = 0.88 [0.17]
Seff = 0.95 [0.36]
Teq = 252 [24] K
Rp = 3.78 [1.35] Re
a = 0.9370 [0.2275] AU
Ag = 35164.60 [20840.62] [1.69 σ]
Teffp = 5326 [657] K [7.72 σ]

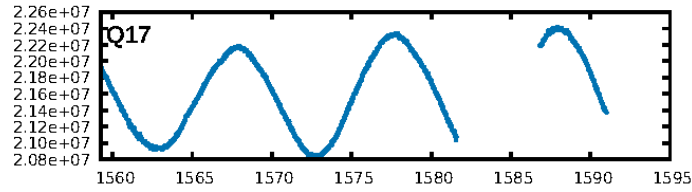
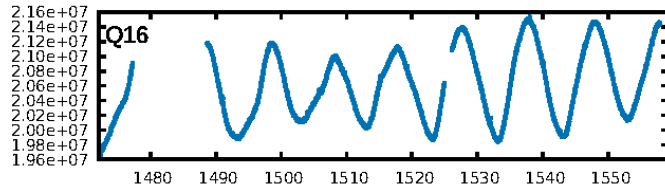
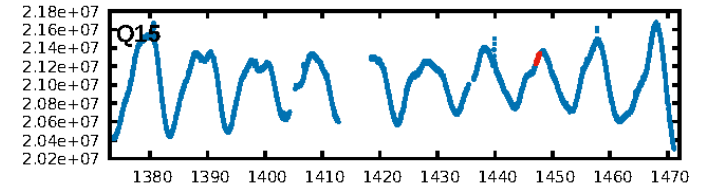
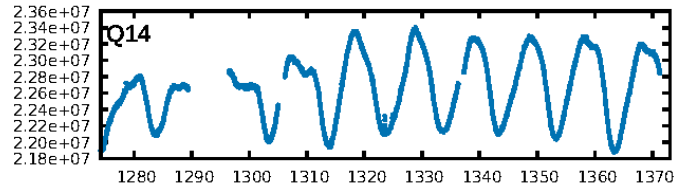
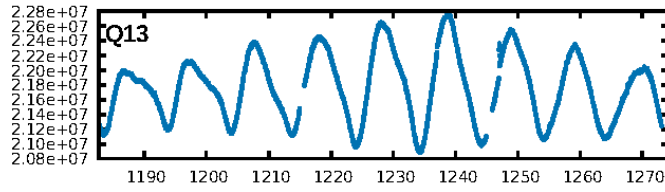
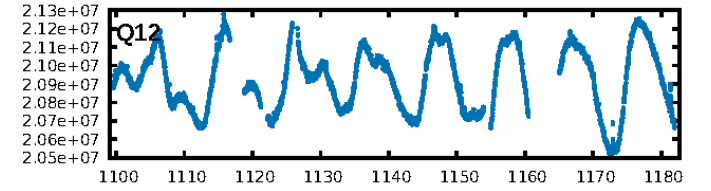
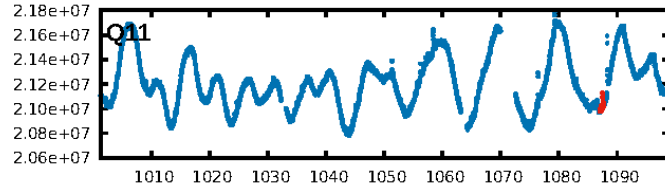
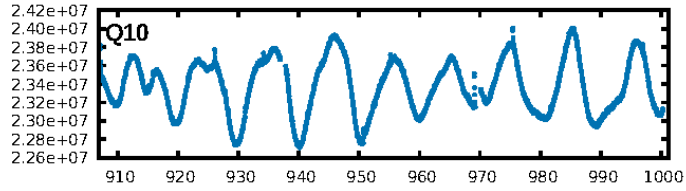
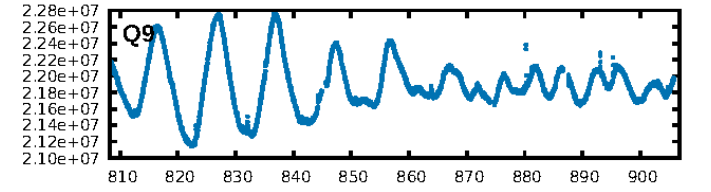
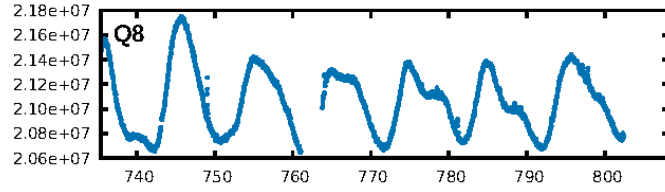
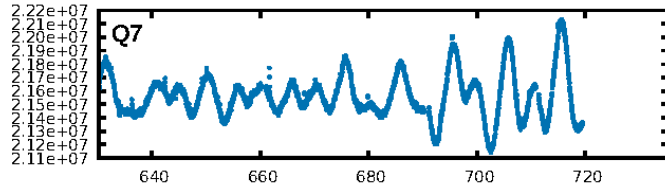
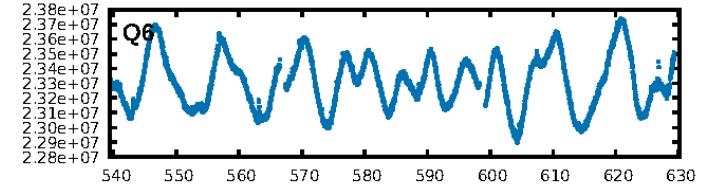
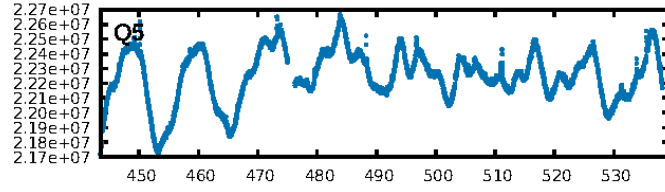
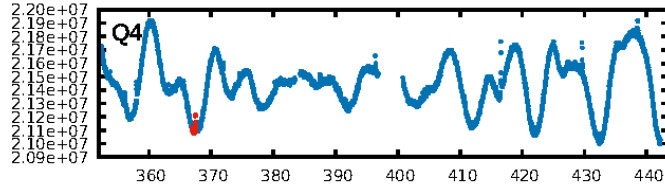
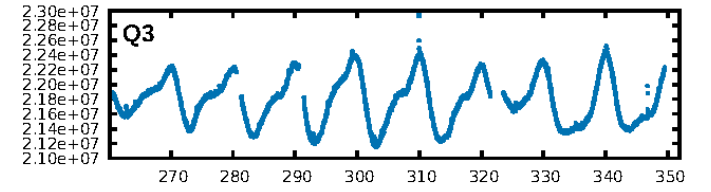
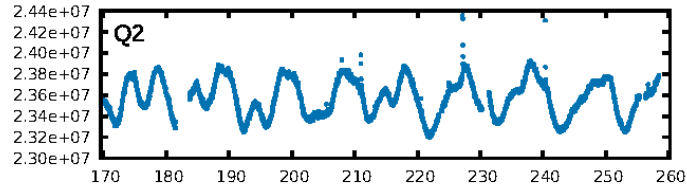
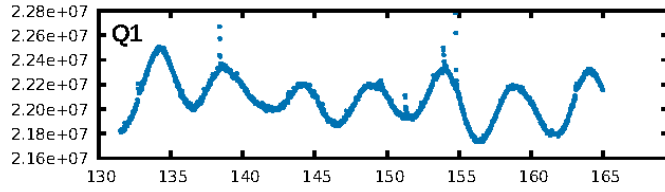
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.44 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 11.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.892
Centroid-sig: 28.5%
Centroid-so: 0.965 arcsec [0.98 σ]
OotOffset-rm: 0.859 arcsec [2.58 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 0.870 arcsec [2.63 σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

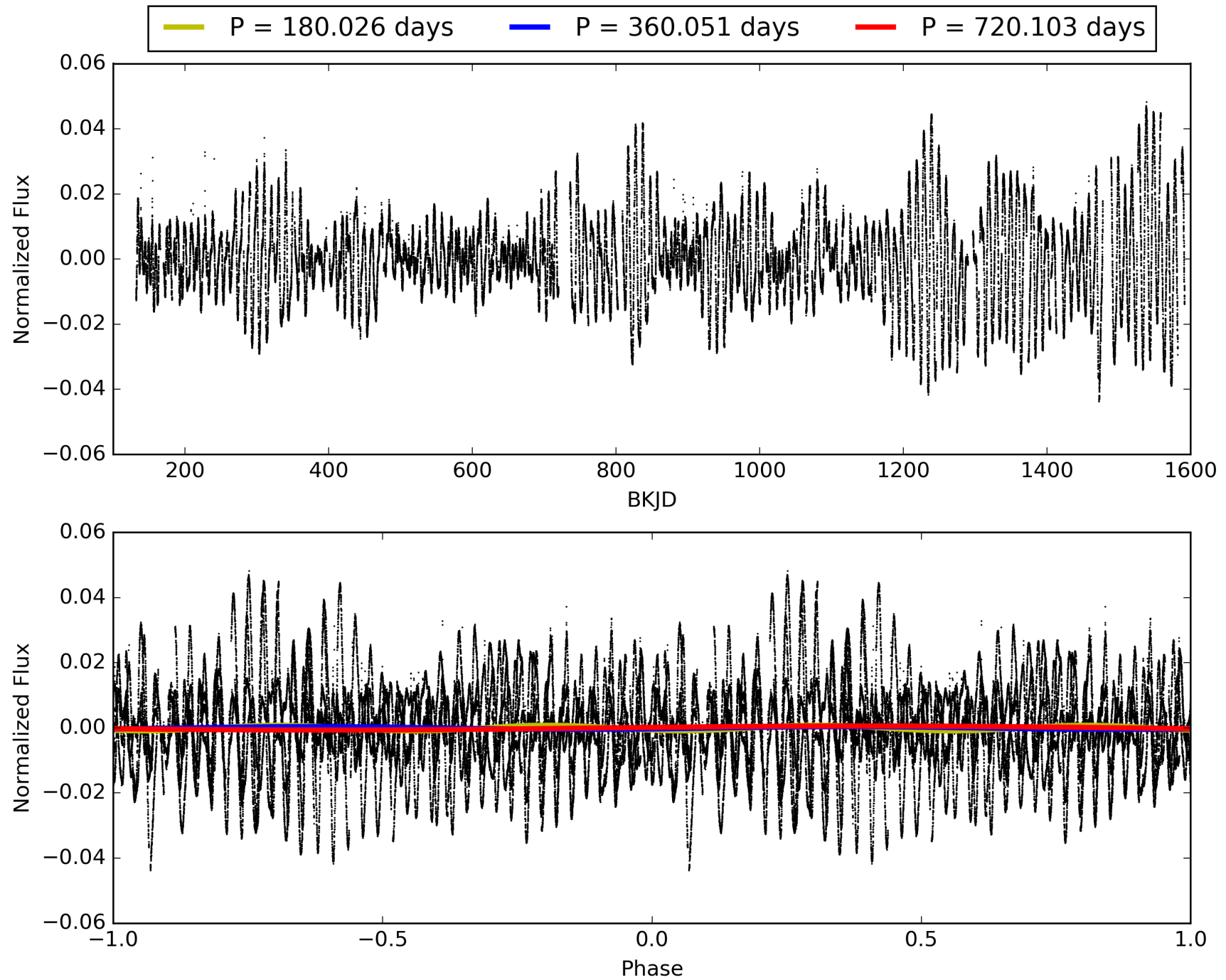
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:40:57 Z

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

TCE 011872364-01, PDC Light Curves

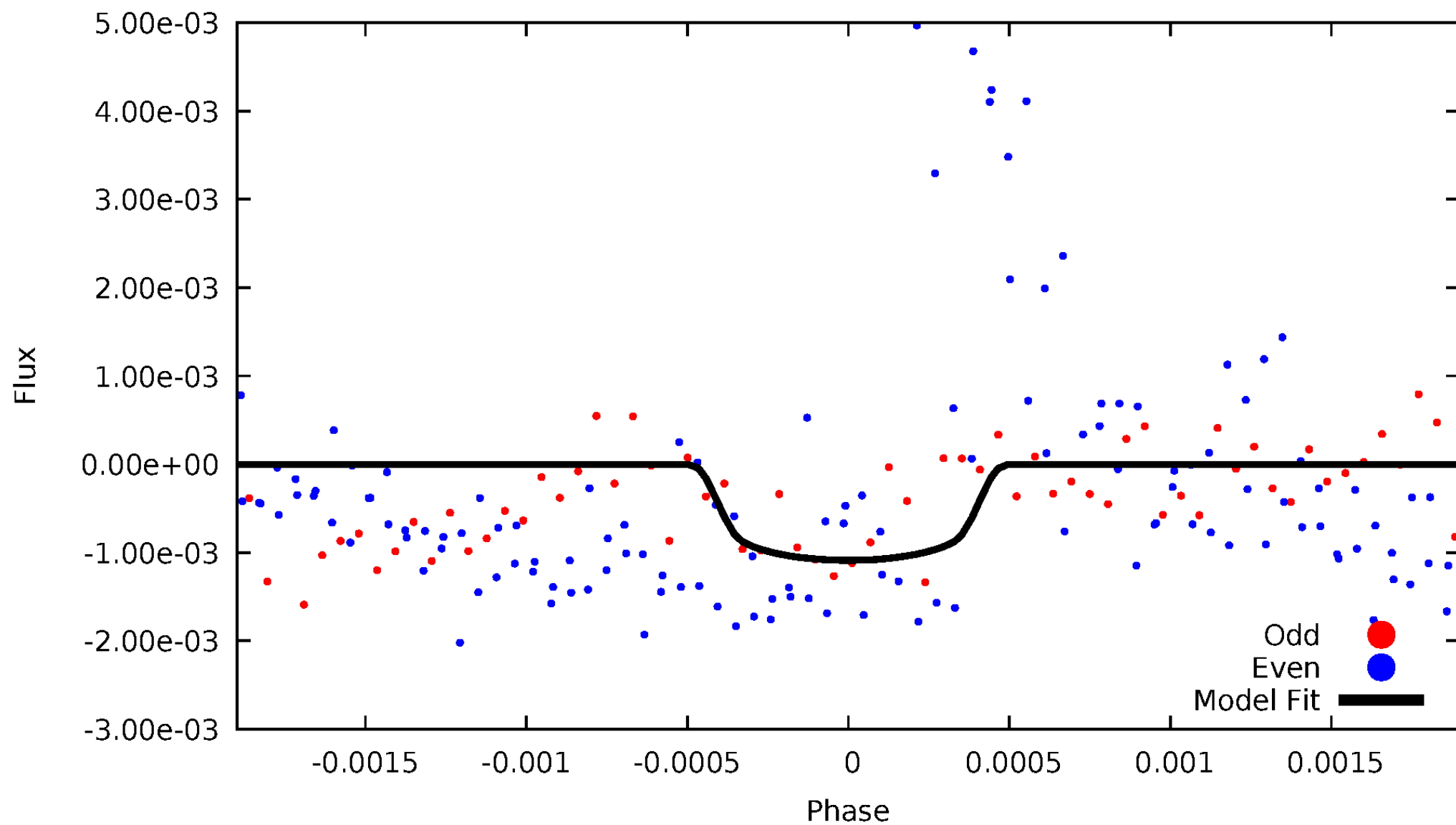


TCE 011872364-01



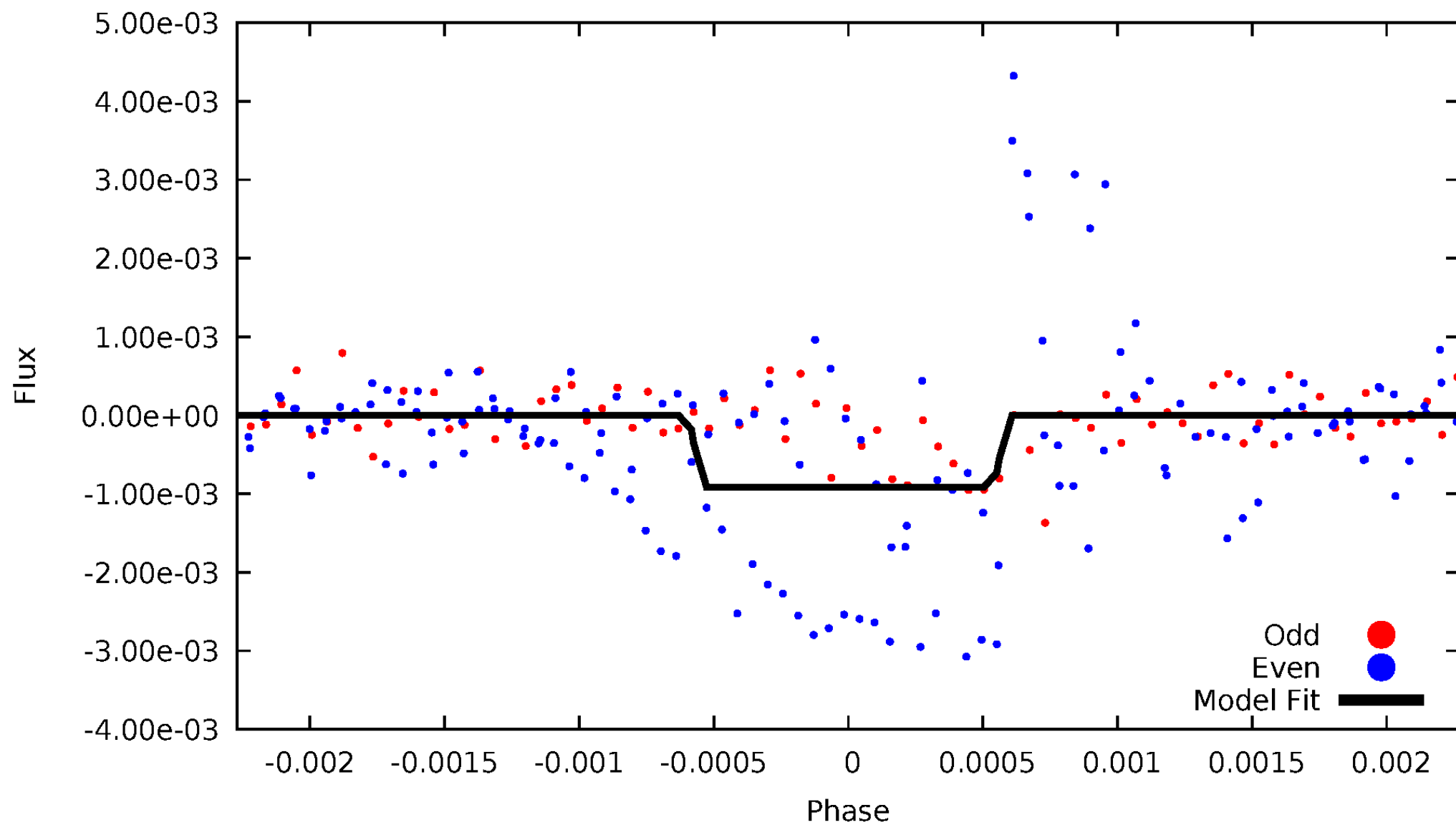
DV Odd/Even

TCE 011872364-01

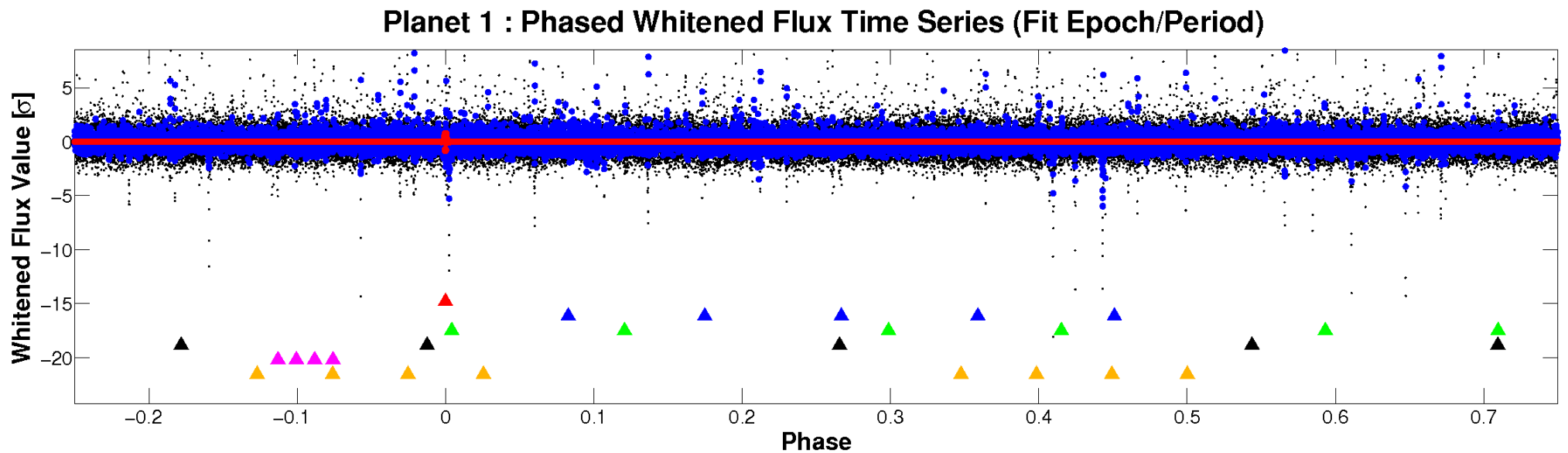
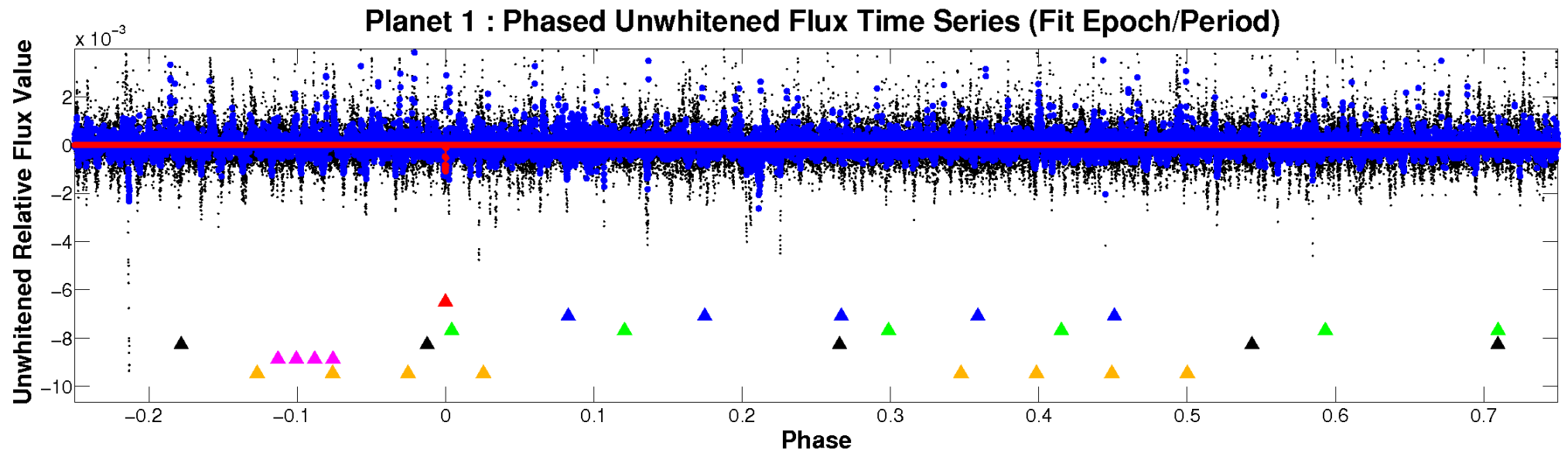


ALT Odd/Even

TCE 011872364-01

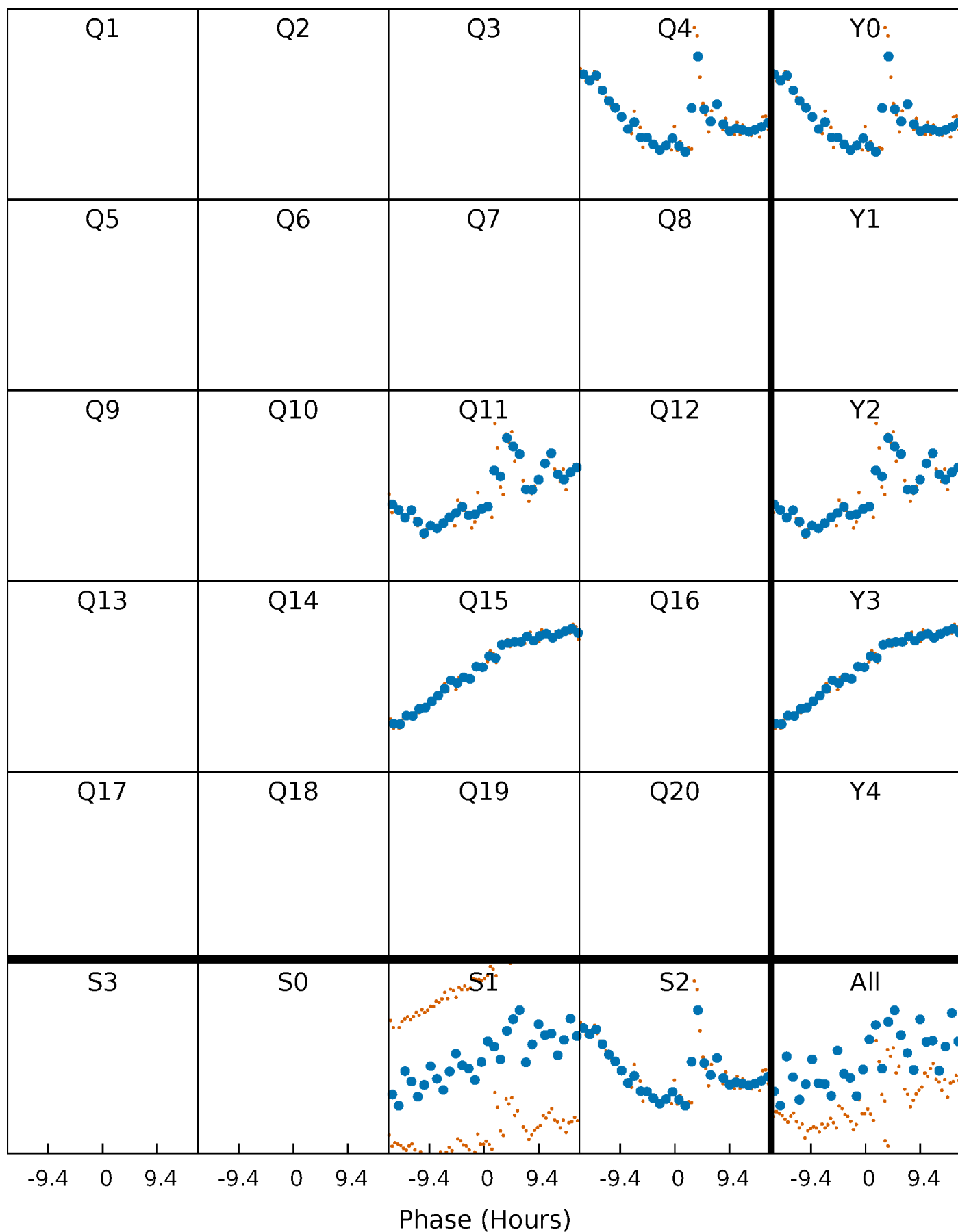


Non-Whitened Vs. Whitened Light Curve



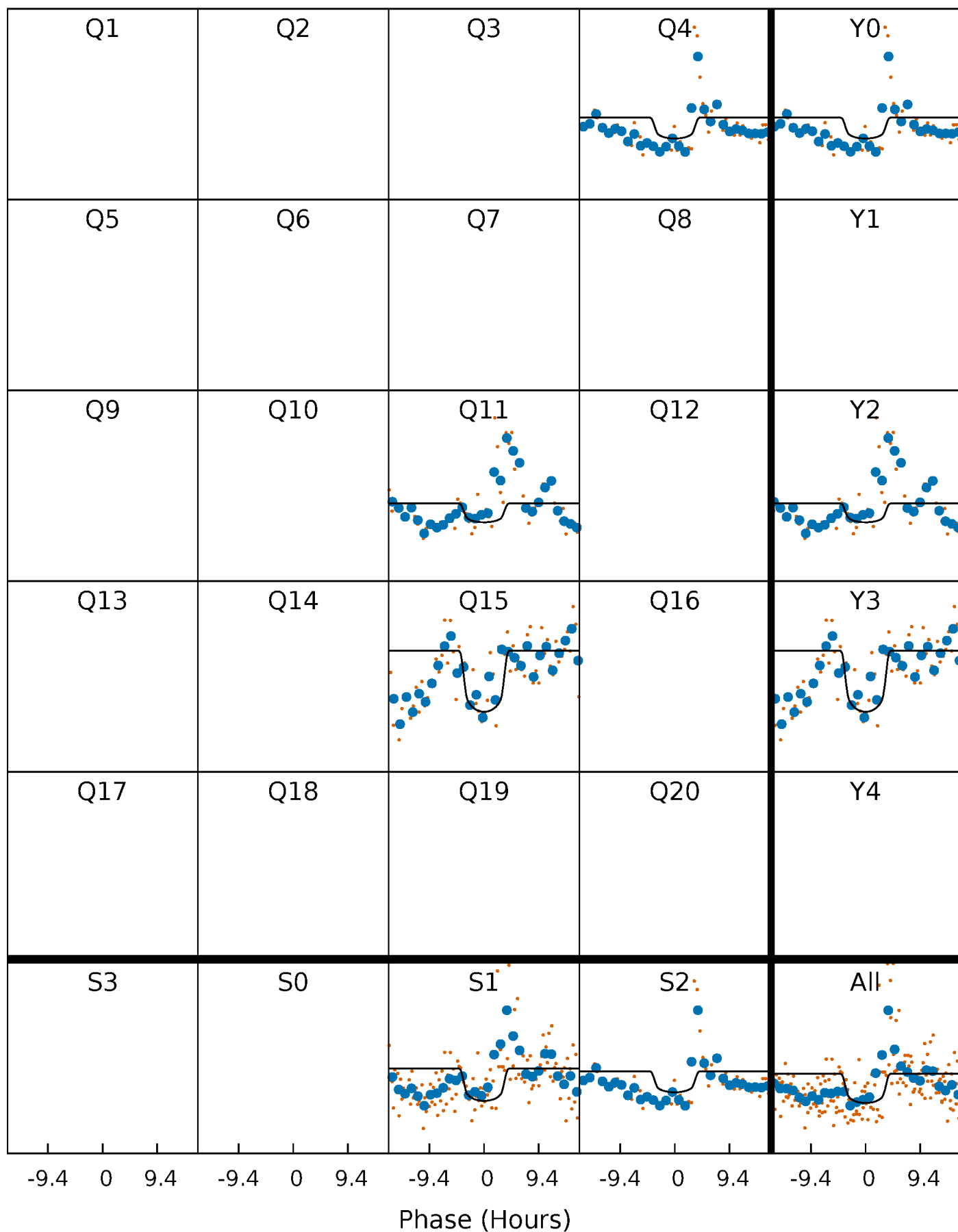
PDC Quarter-Phased Transit Curves

TCE 011872364-01 P=360.051480 Days $T_0=367.276375$ (BKJD)



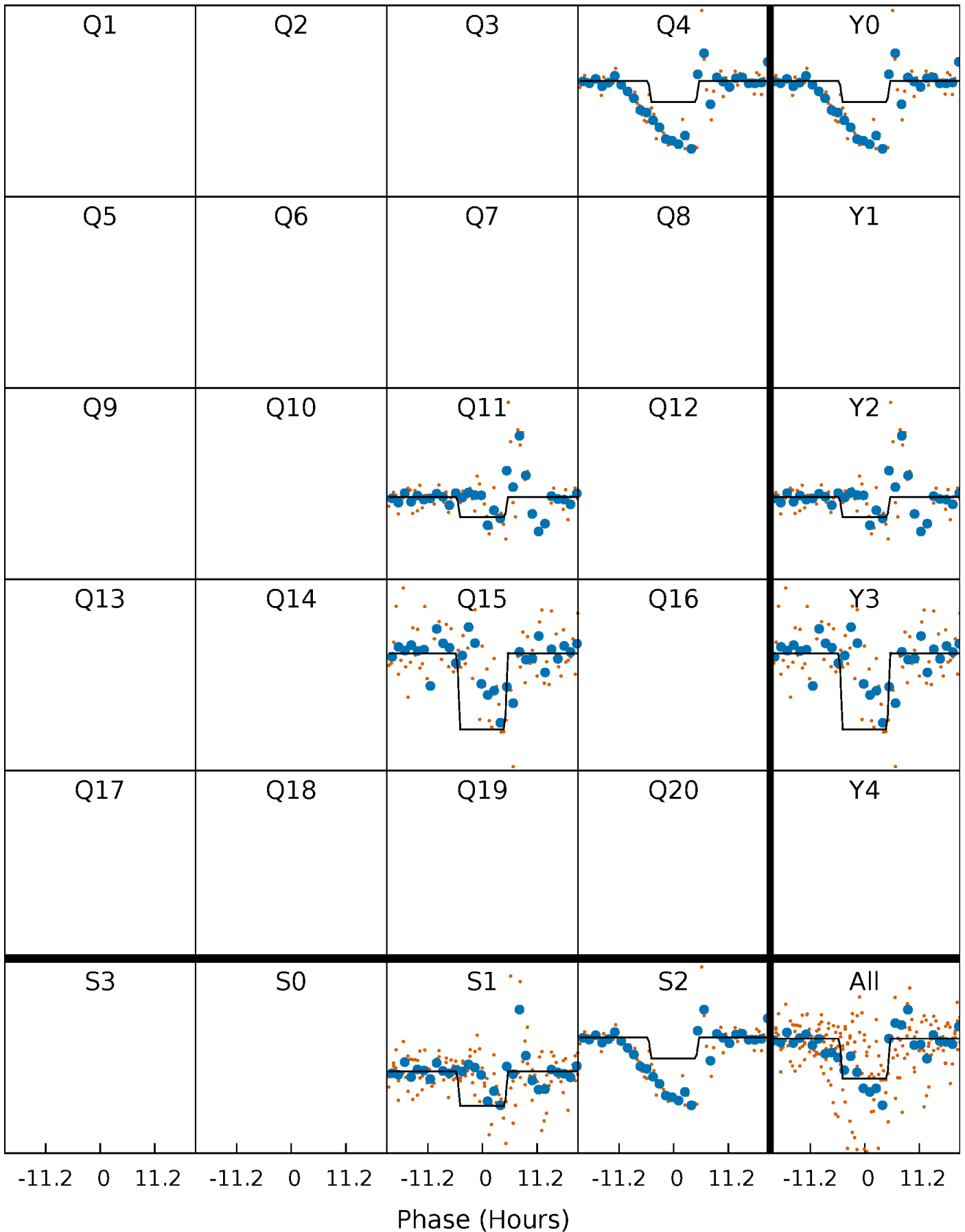
DV Quarter-Phased Transit Curves

TCE 011872364-01 P=360.051480 Days $T_0=367.276375$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

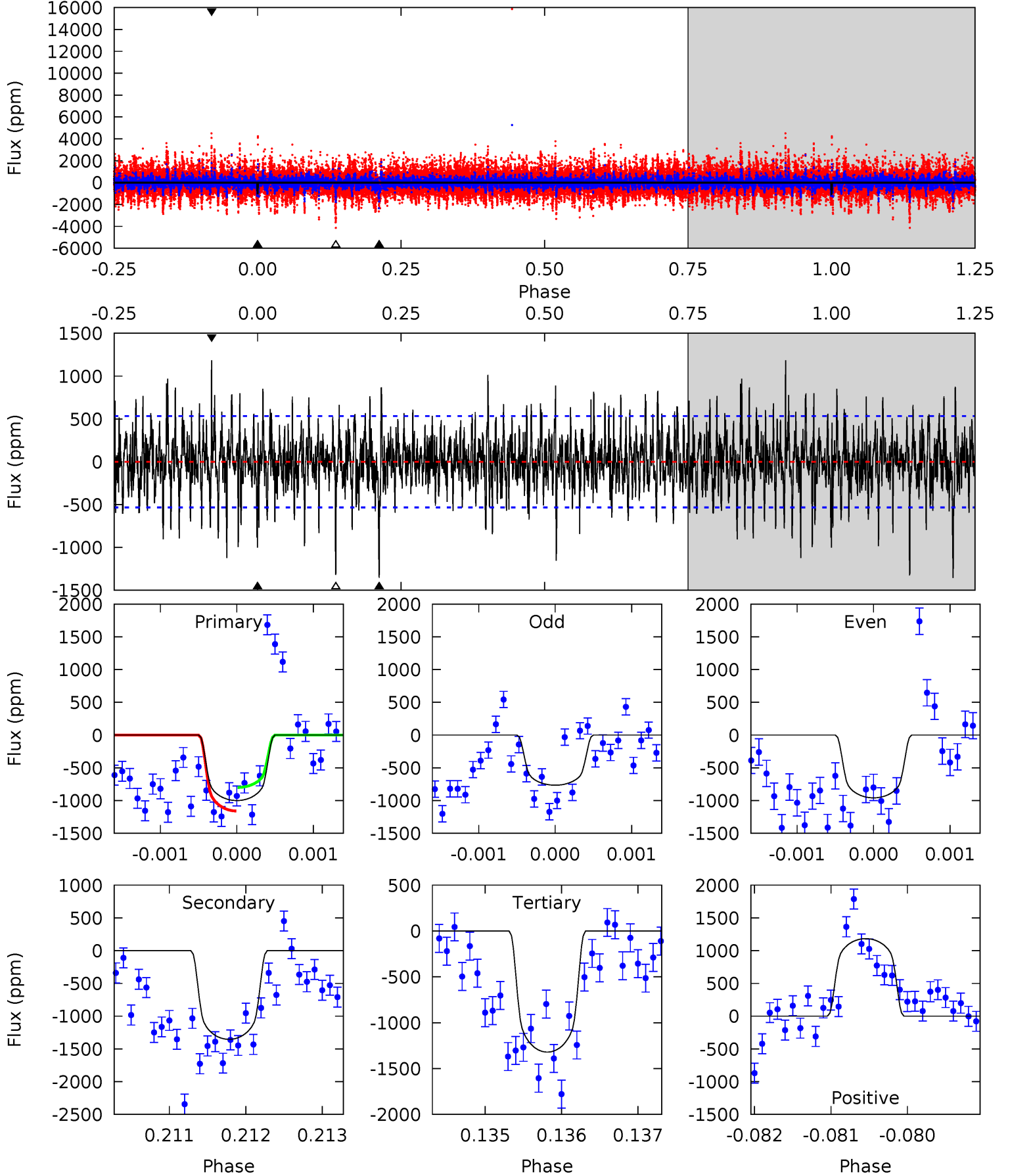
TCE 011872364-01 P=360.018894 Days $T_0=367.196956$ (BKJD)



DV Model-Shift Uniqueness Test

011872364-01, P = 360.051480 Days, E = 7.224895 Days

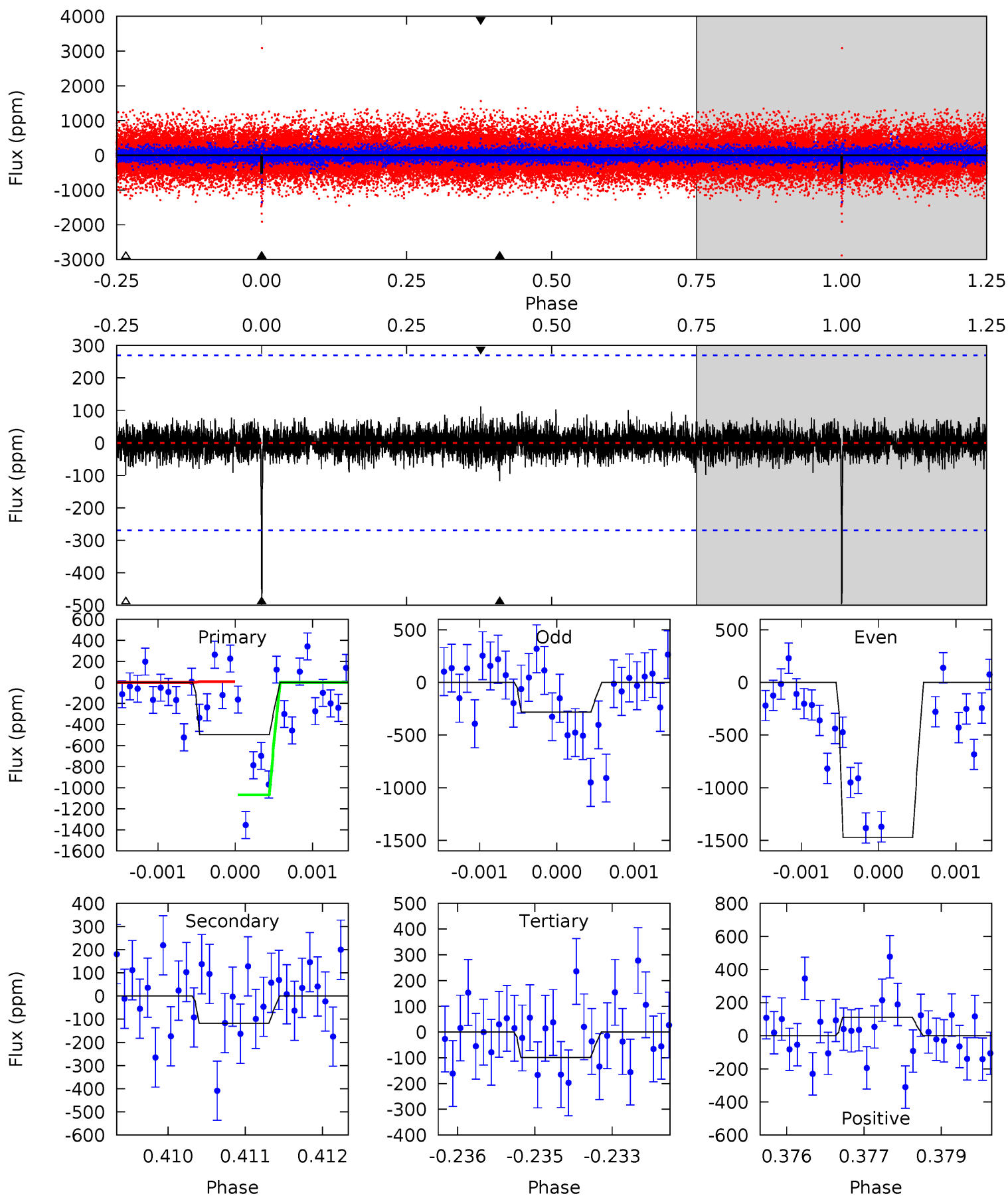
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	13.8	13.5	12.1	5.45	3.29	2.78	-3.28	-1.87	0.34	1.75	0.88	0.87	0.47	1.84



Alt Model-Shift Uniqueness Test

011872364-01, P = 360.018894 Days, E = 7.178062 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.00	2.37	1.98	2.26	5.43	3.25	0.49	8.02	7.74	0.39	0.11	13.1	2.65	0.18	10.7



Stellar Parameters For KIC 011872364

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5573^{+182}_{-166}	$4.382^{+0.158}_{-0.193}$	$-0.140^{+0.300}_{-0.300}$	$0.981^{+0.283}_{-0.174}$	$0.845^{+0.122}_{-0.071}$	$1.262^{+0.834}_{-0.641}$
	+3%/-3%	+4%/-4%	+214%/-214%	+29%/-18%	+14%/-8%	+66%/-51%
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 011872364-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1354 ± 98	$3.88^{+1.03}_{-0.95}$	352^{+29}_{-22}	5664^{+779}_{-506}	44105^{+32053}_{-16134}
Alt.	-118 ± 50	$3.27^{+1.08}_{-0.83}$	352^{+27}_{-21}	3704^{+496}_{-386}	5076^{+5750}_{-2761}

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

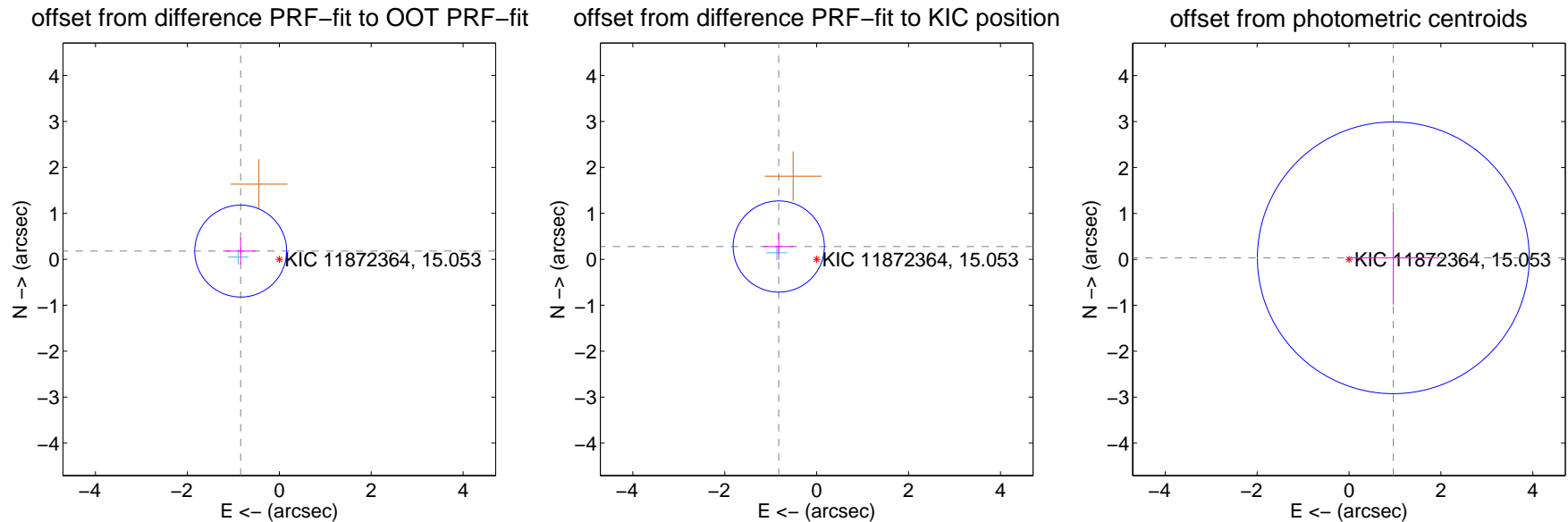
DV Centroid Data

Supplemental centroid analysis for 011872364-01. Kepler magnitude: 15.05. Transit SNR 5.87

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.859 ± 0.333	2.58	0.840 ± 0.335	0.179 ± 0.288
PRF-fit source offset from KIC position	0.870 ± 0.331	2.63	0.824 ± 0.335	0.278 ± 0.288
photometric centroid source offset	0.96 ± 0.99	0.98	-0.96 ± 0.99	0.03 ± 1.02



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.

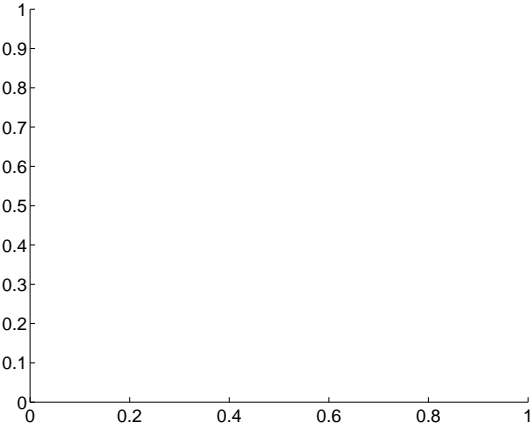
Q1 no difference image



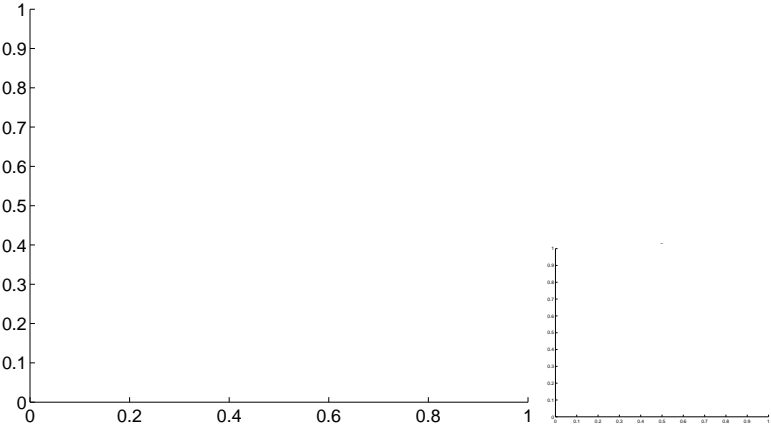
Q1 no OOT image



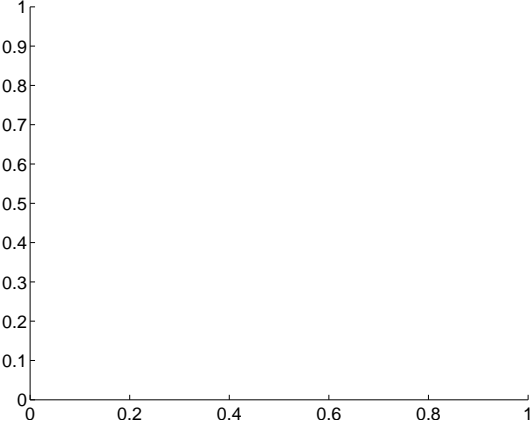
Q2 no difference image



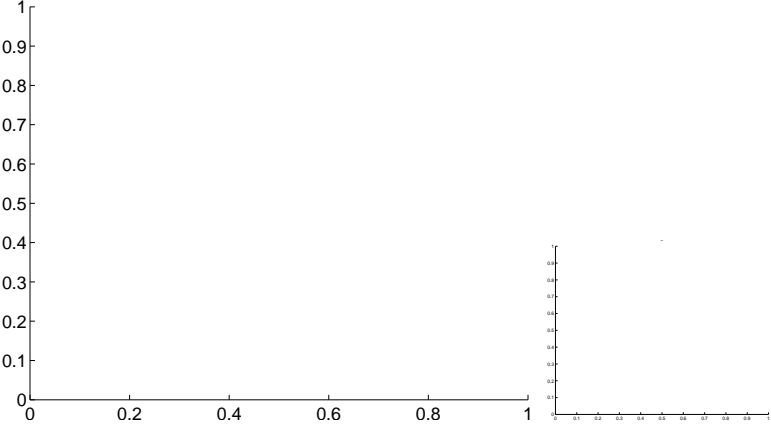
Q2 no OOT image



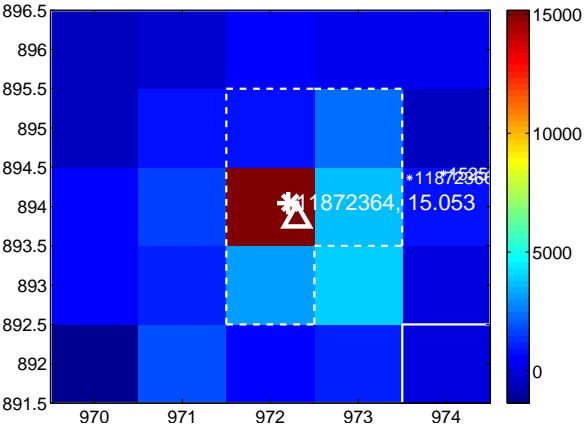
Q3 no difference image



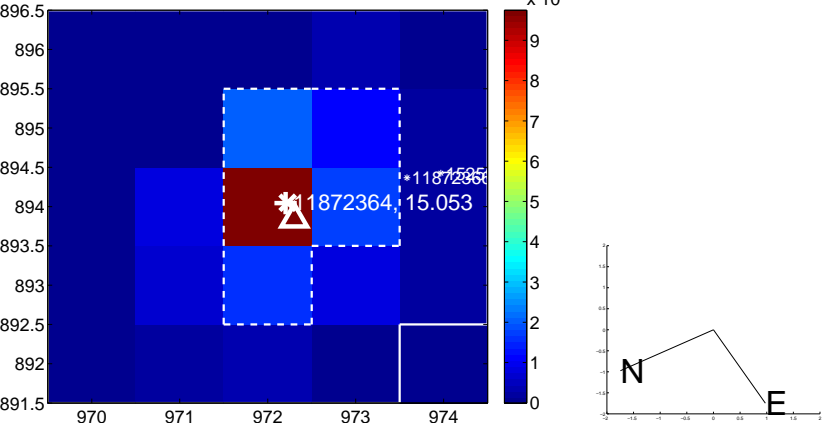
Q3 no OOT image



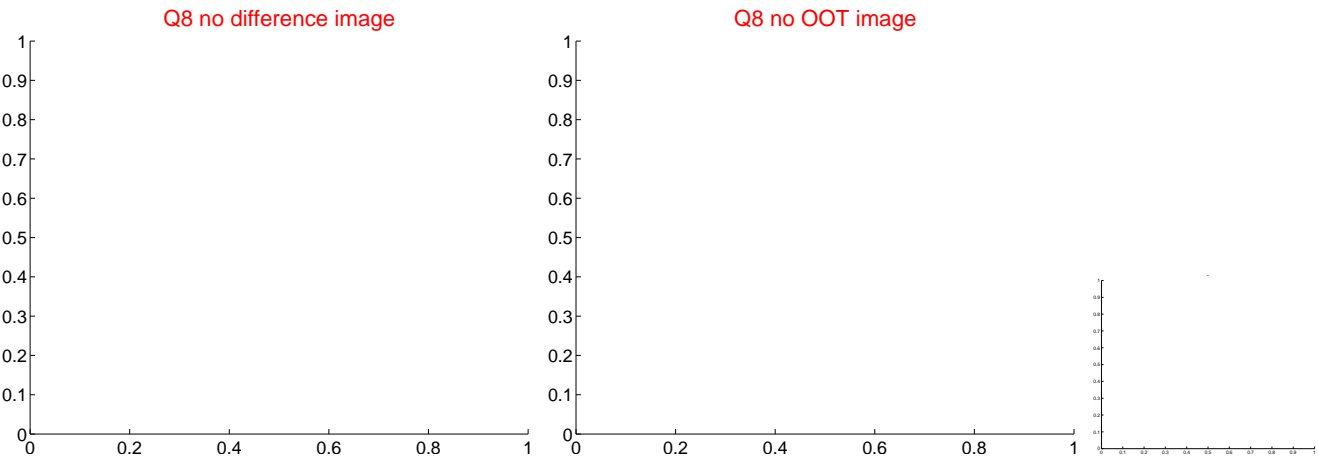
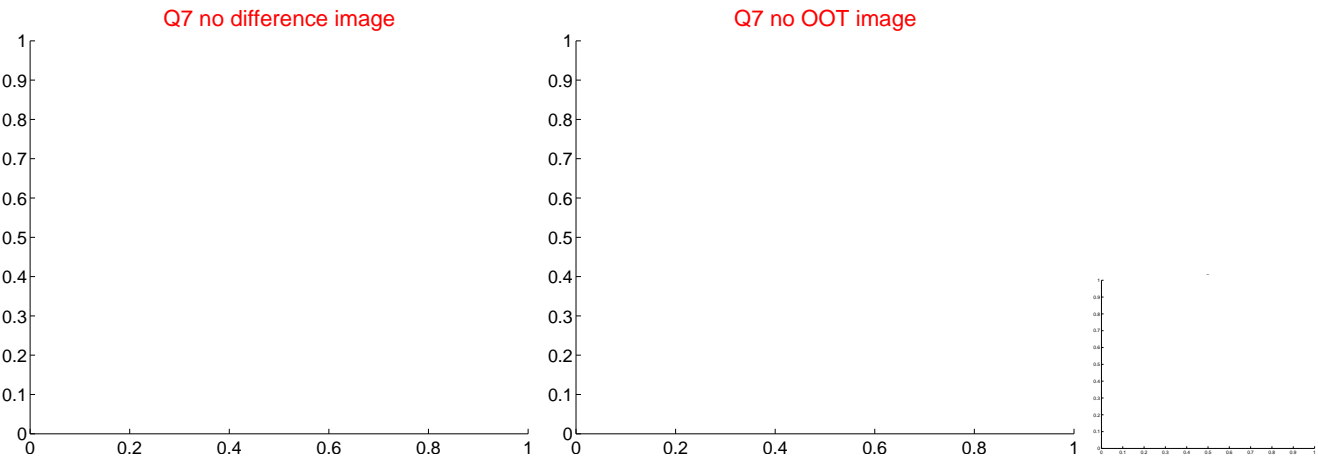
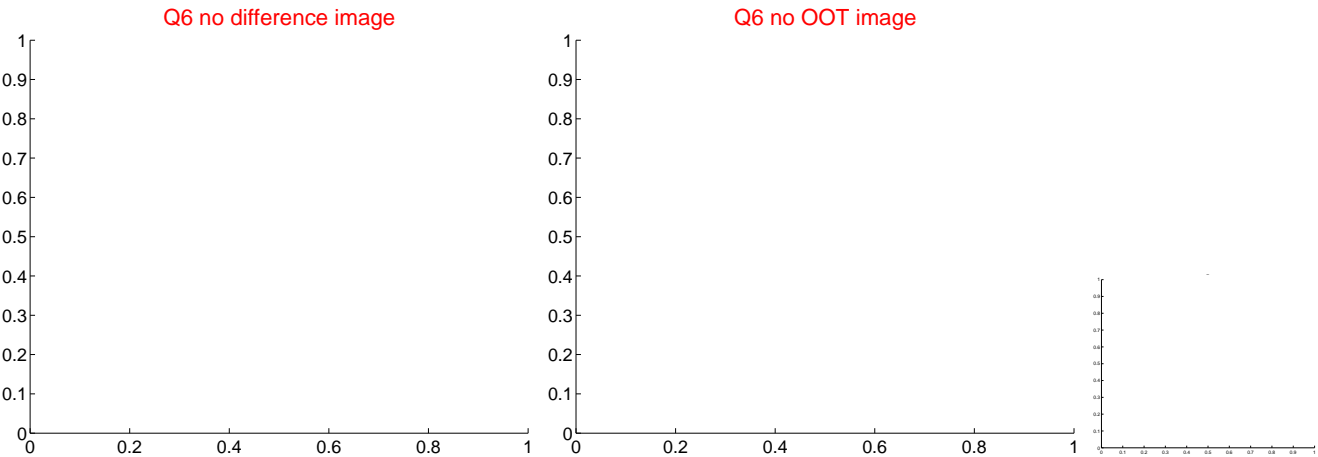
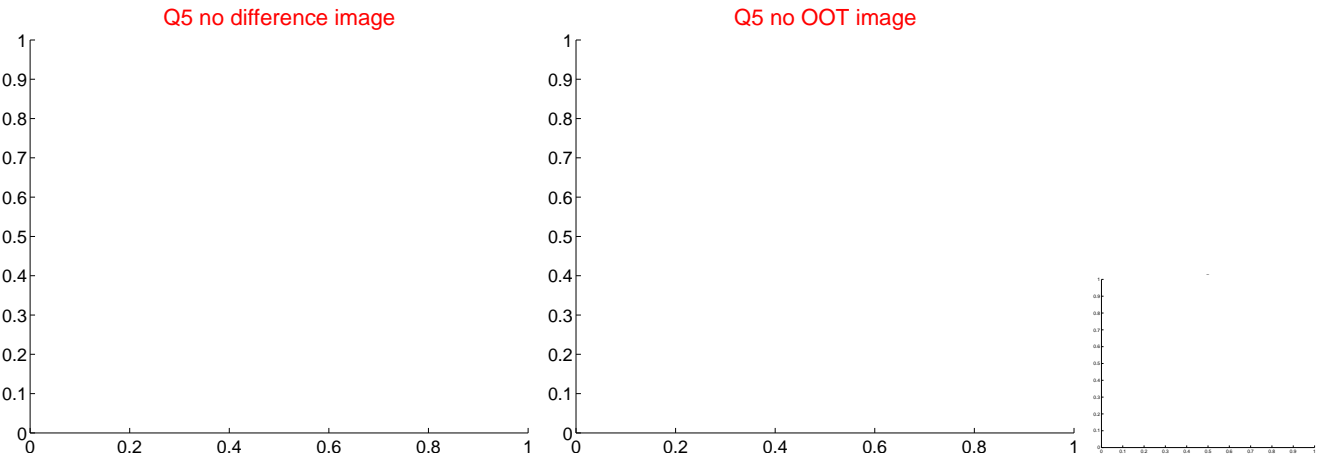
Q4 difference image



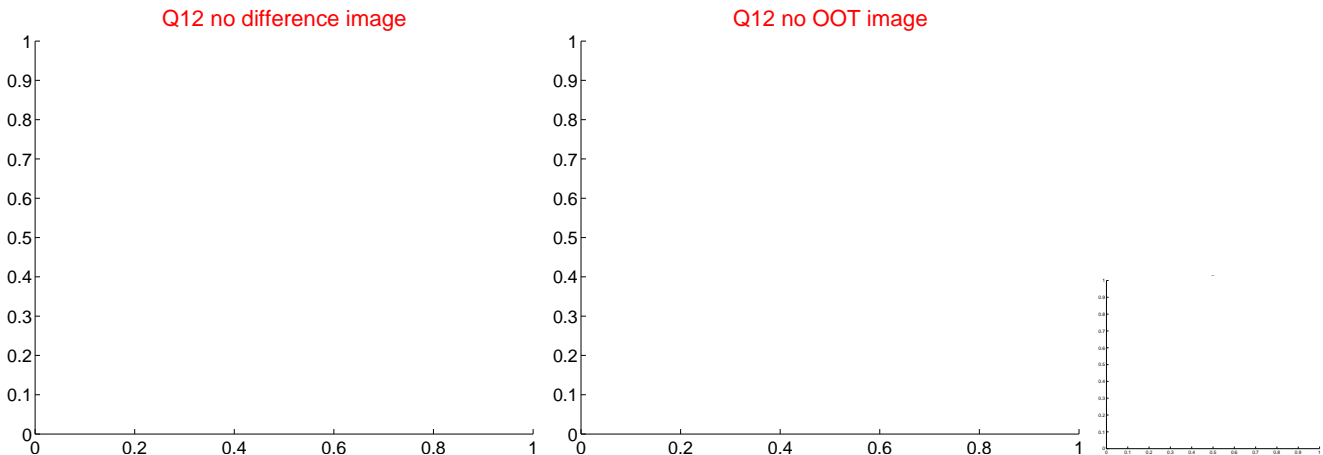
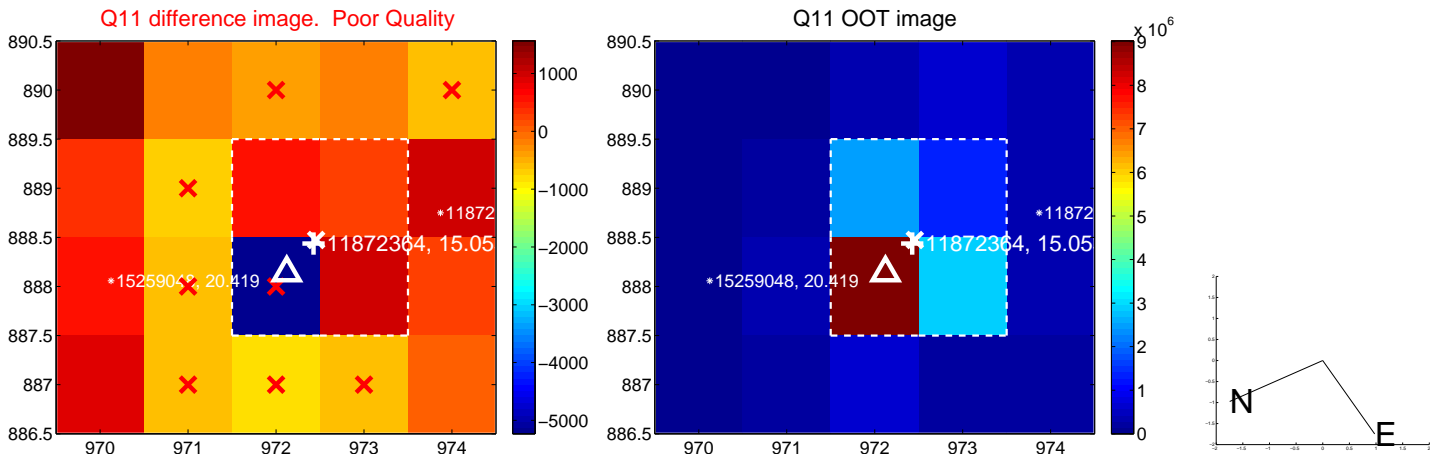
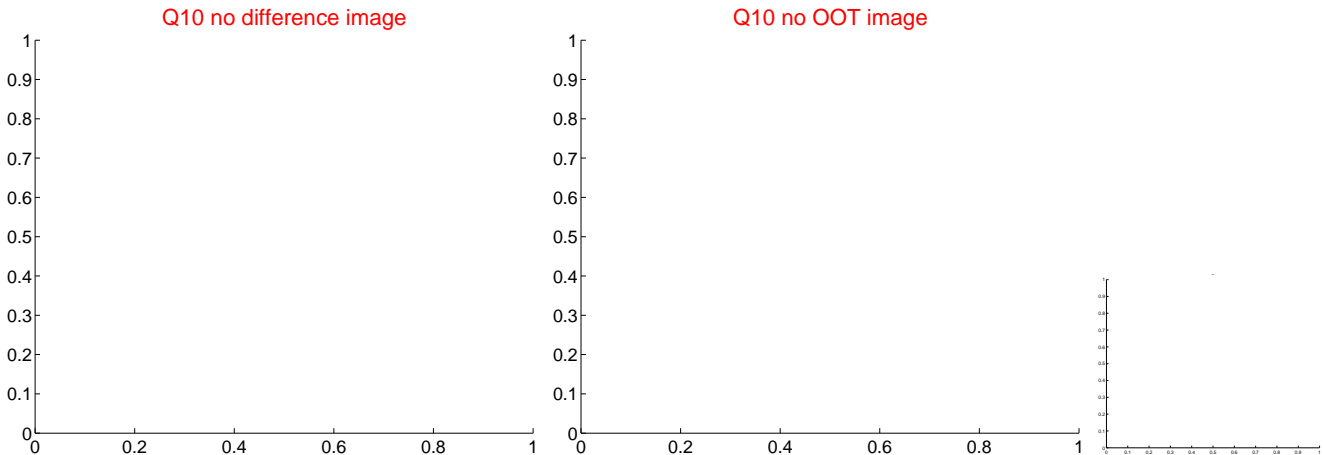
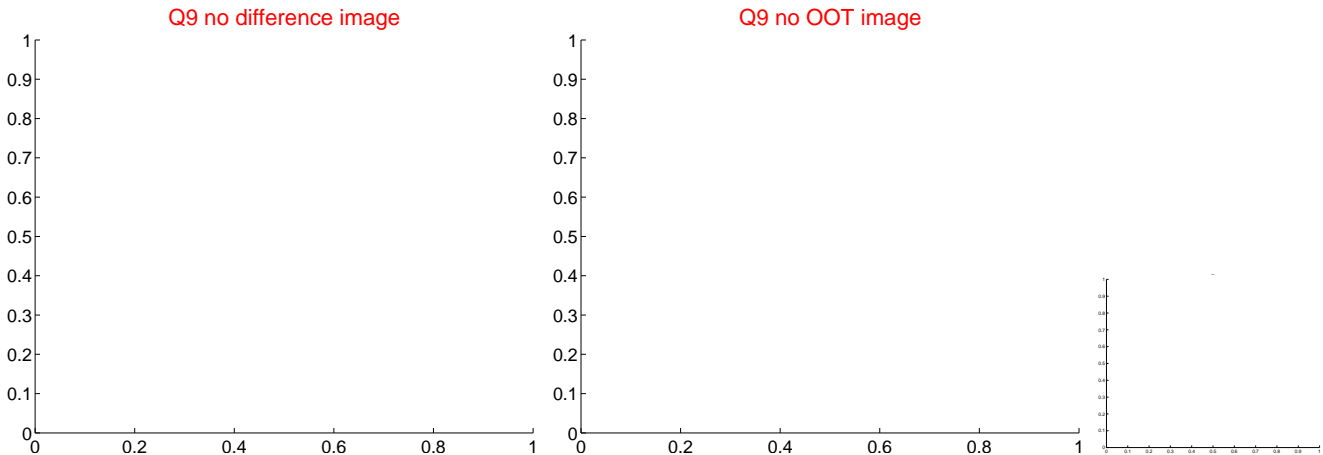
Q4 OOT image



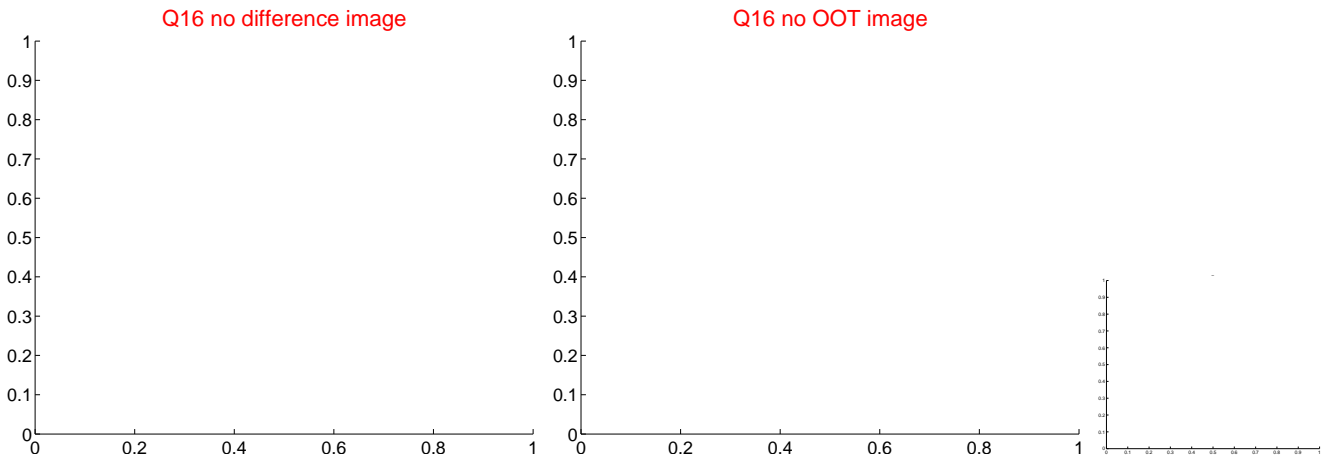
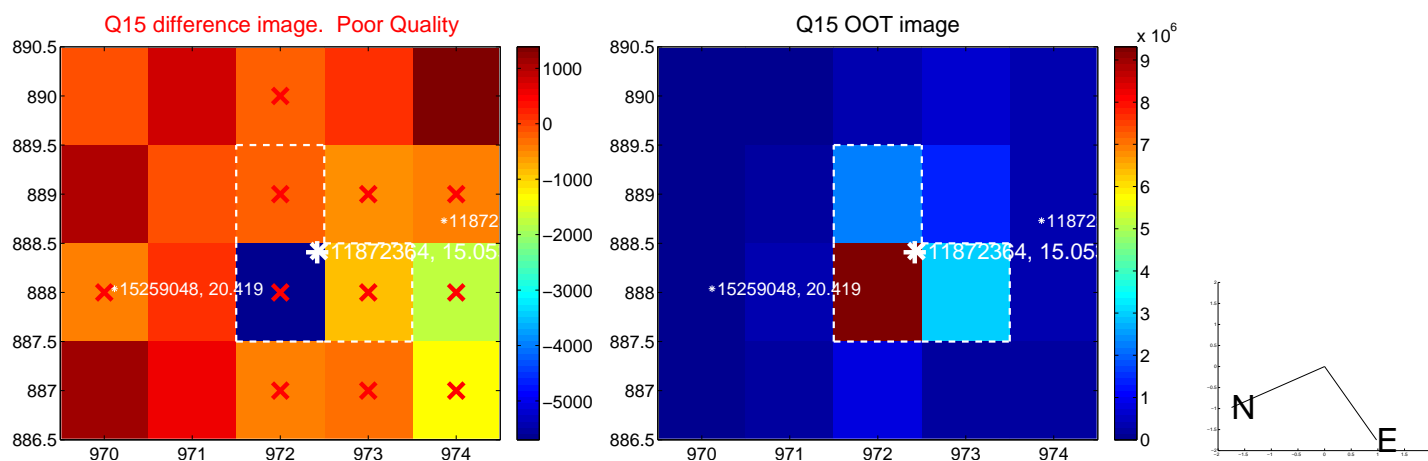
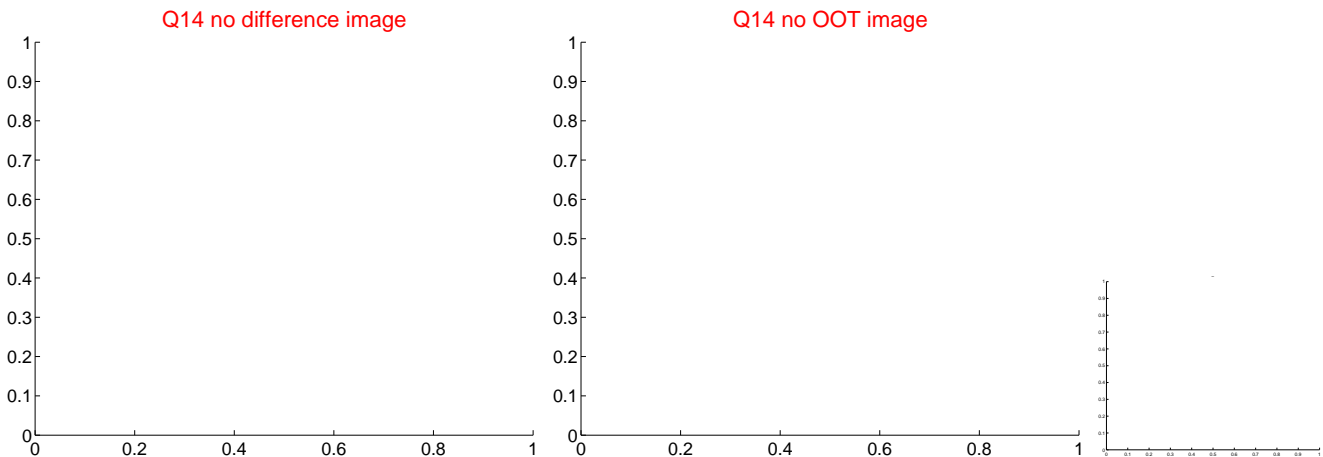
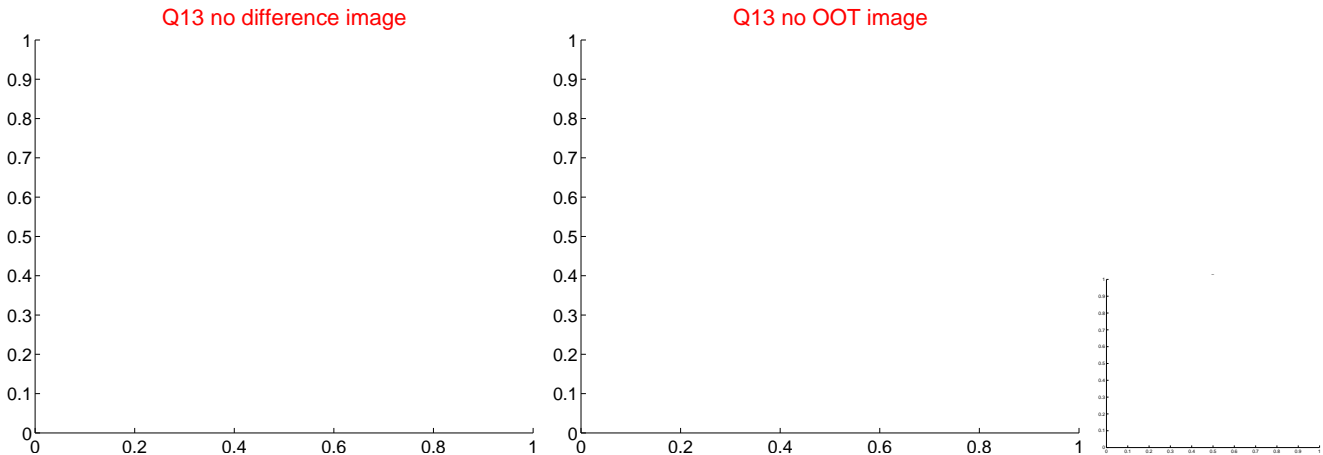
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



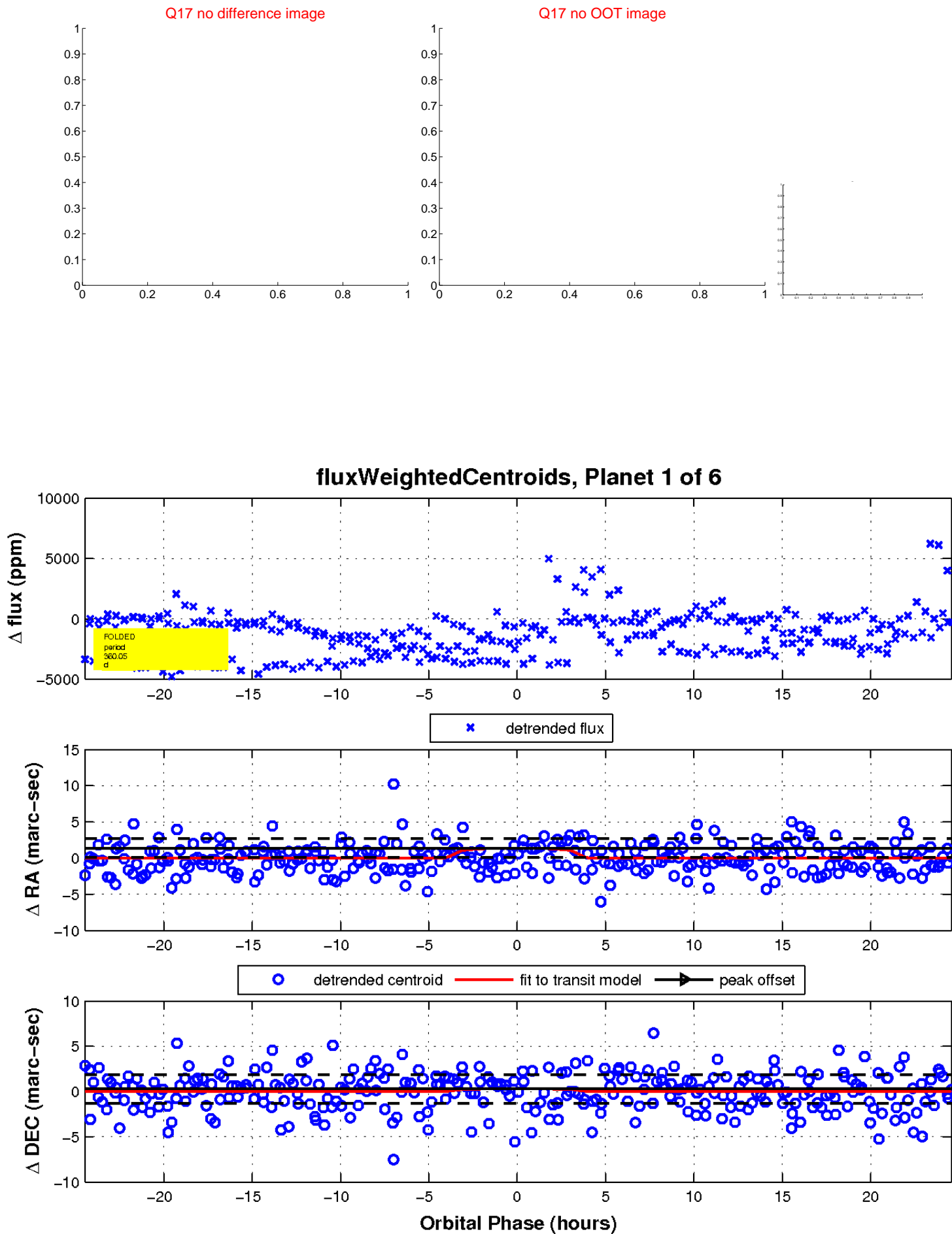
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



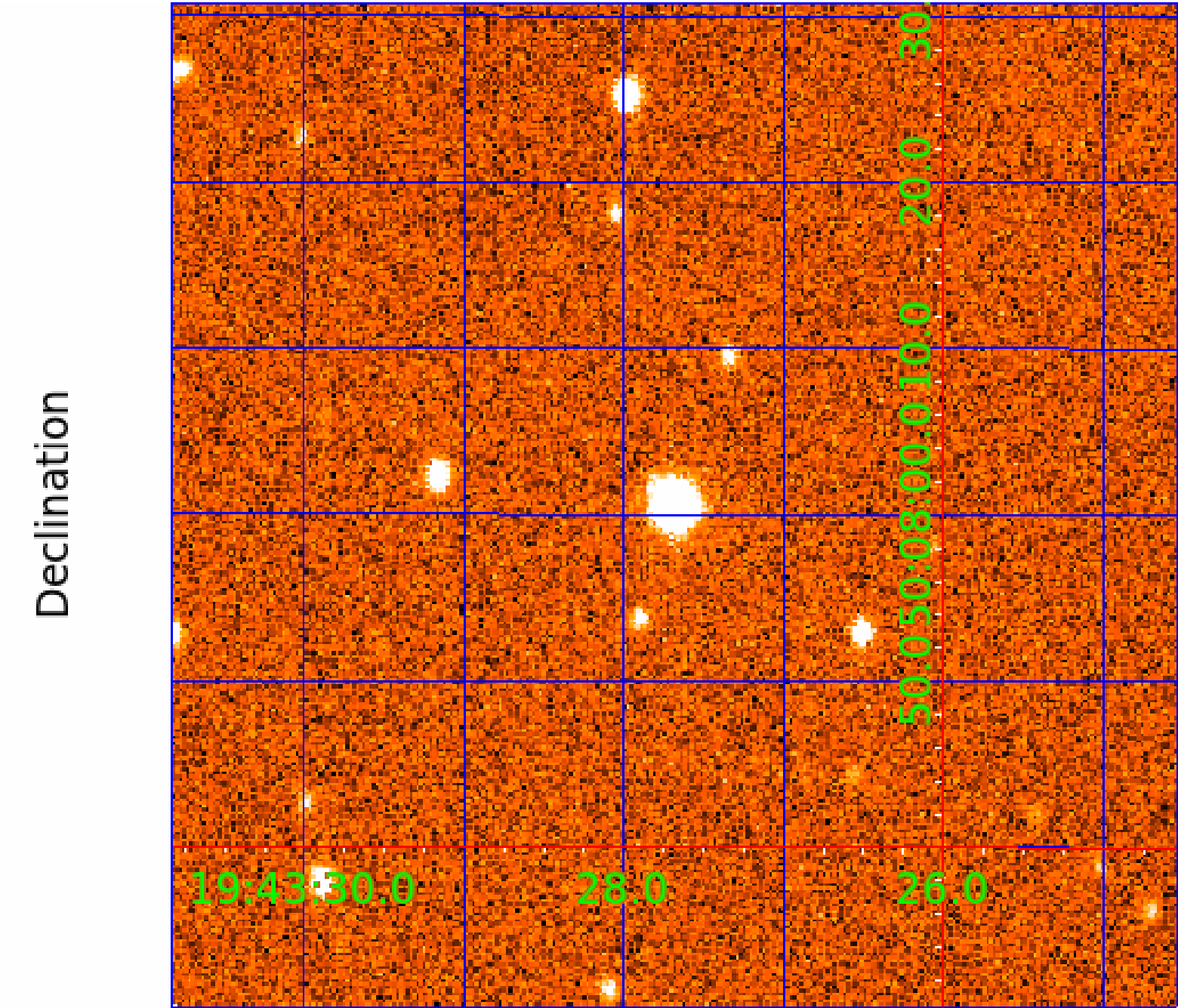
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image



KIC 011872364

Q1-17 DR25 TCE Parameters

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Robovetter Results

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011872364-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-02	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011872364-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
011872364-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
011872364-05	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-06	OBS	PC	0.49	0	0	0	0	CENT_NOFITS

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

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

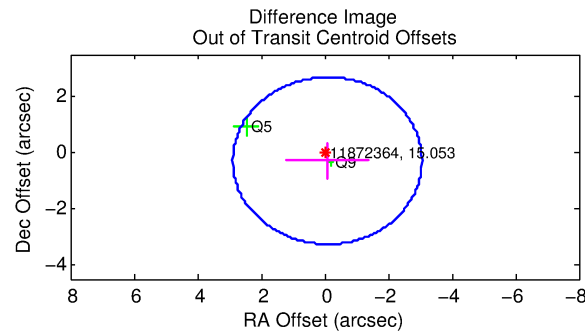
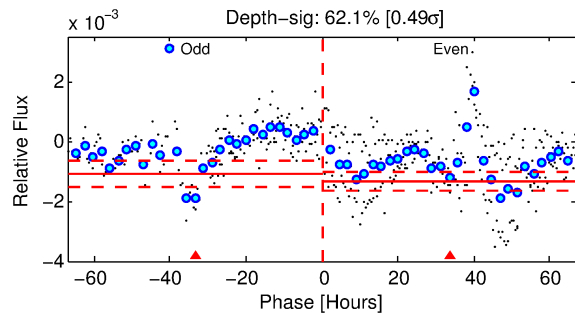
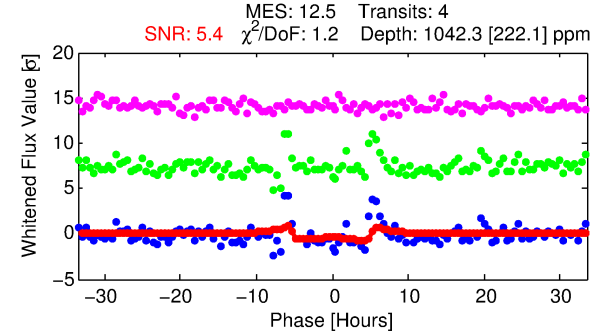
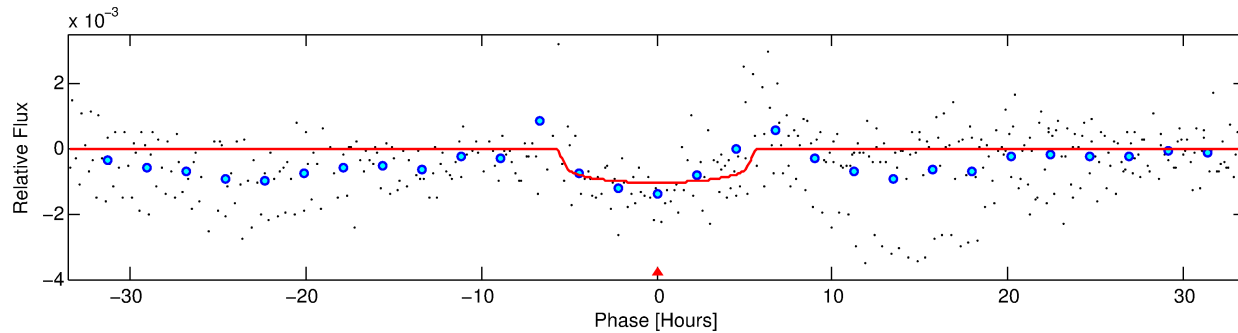
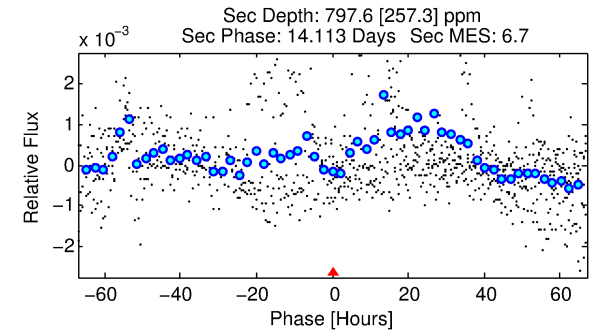
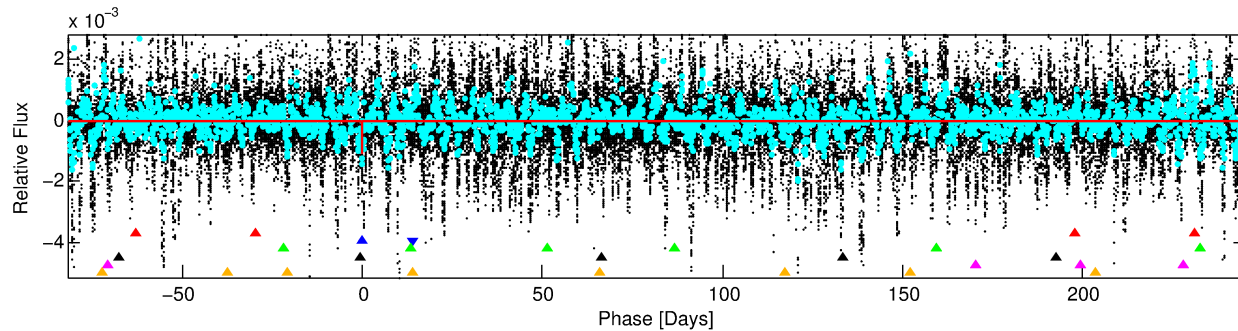
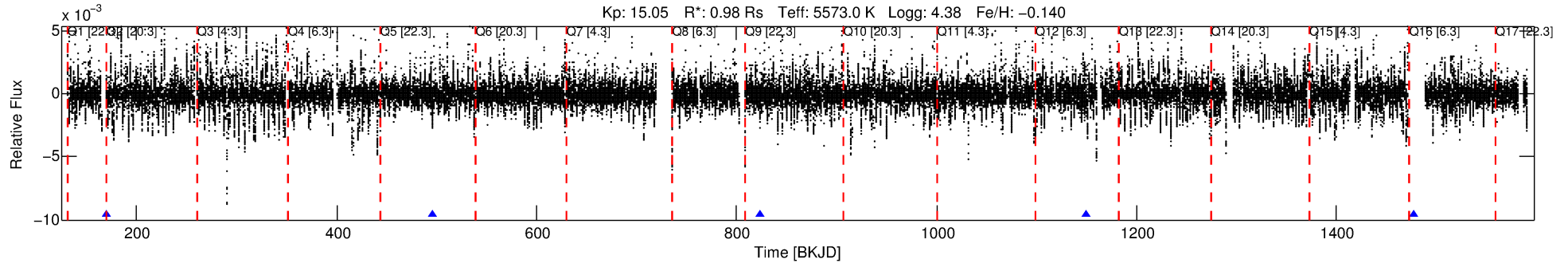
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011872364-02

No Significant Match Found

DV One-Page Summary

KIC: 11872364 Candidate: 2 of 6 Period: 326.904 d



DV Fit Results:

Period = 326.90376 [0.00802] d
Epoch = 169.6132 [0.0166] BKJD
Rp/R* = 0.0294 [0.0266]
a/R* = 223.78 [832.55]
b = 0.24 [14.97]
Seff = 1.08 [0.41]
Teq = 260 [24] K
Rp = 3.14 [2.98] Re
a = 0.8785 [0.2133] AU
Ag = 34304.06 [64196.23] [0.53σ]
Teffp = 5467 [2518] K [2.07σ]

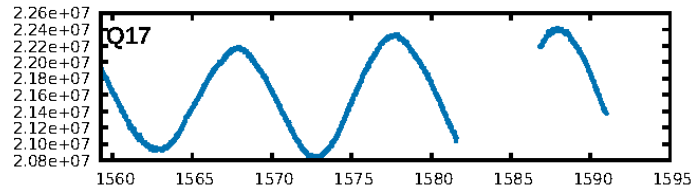
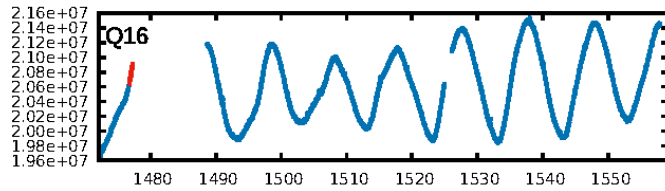
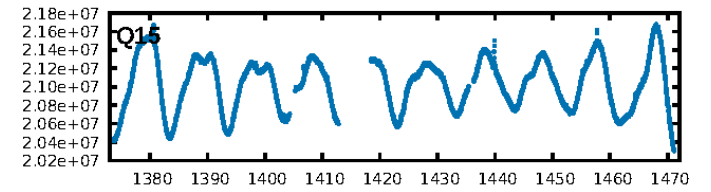
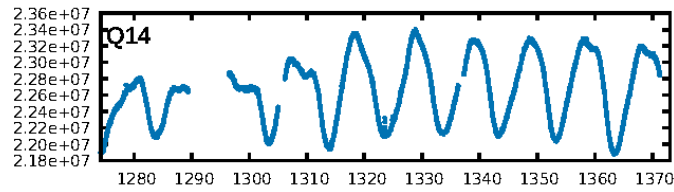
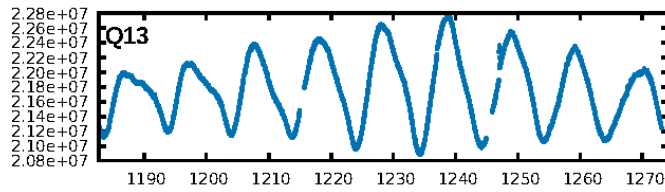
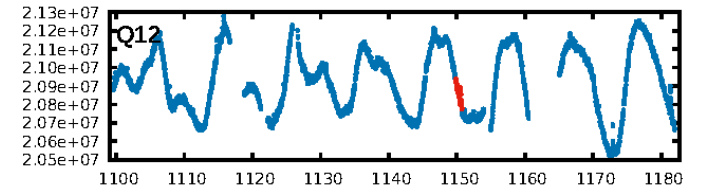
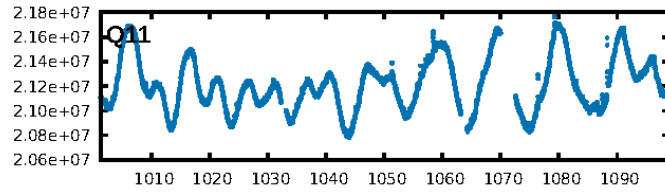
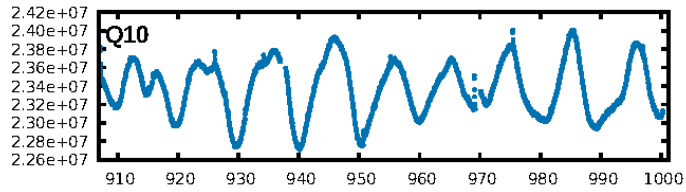
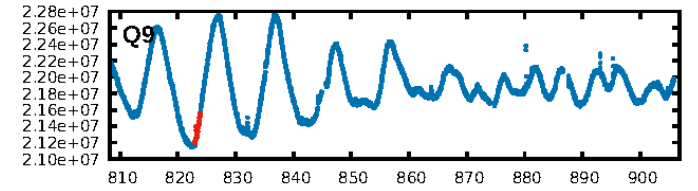
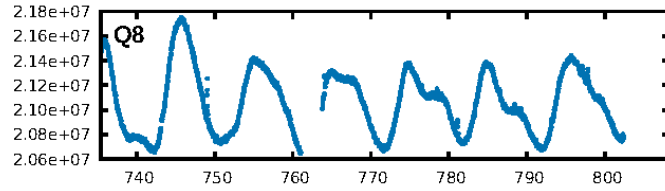
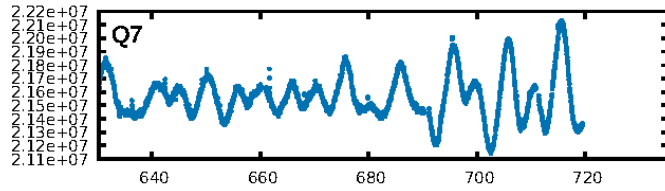
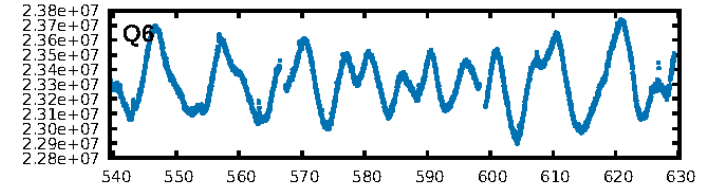
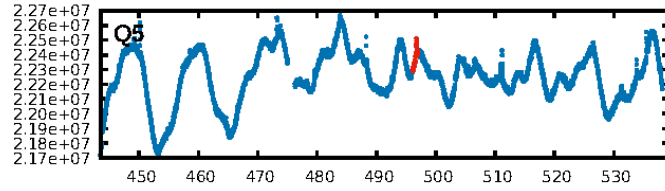
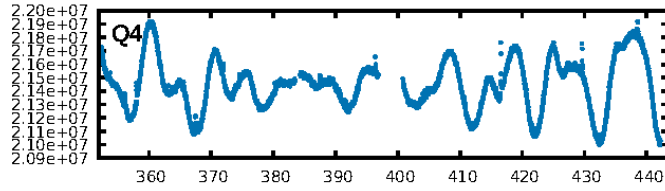
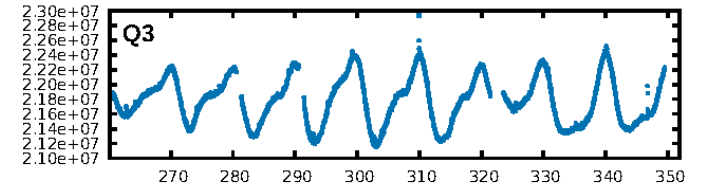
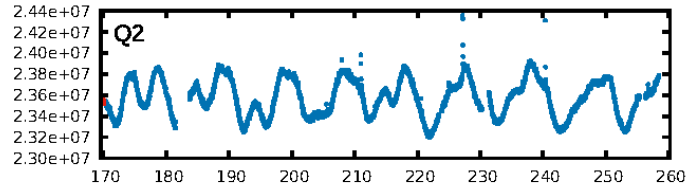
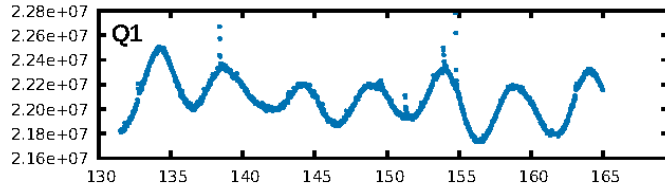
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [138.38σ]
LongPeriod-sig: 100.0% [57.18σ]
ModelChiSquare2-sig: 11.4%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.3536
Centroid-sig: 63.6%
Centroid-so: 0.872 arcsec [0.97σ]
OotOffset-rm: 0.302 arcsec [0.30σ]
KicOffset-rm: 0.297 arcsec [0.31σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.67 [2/3]

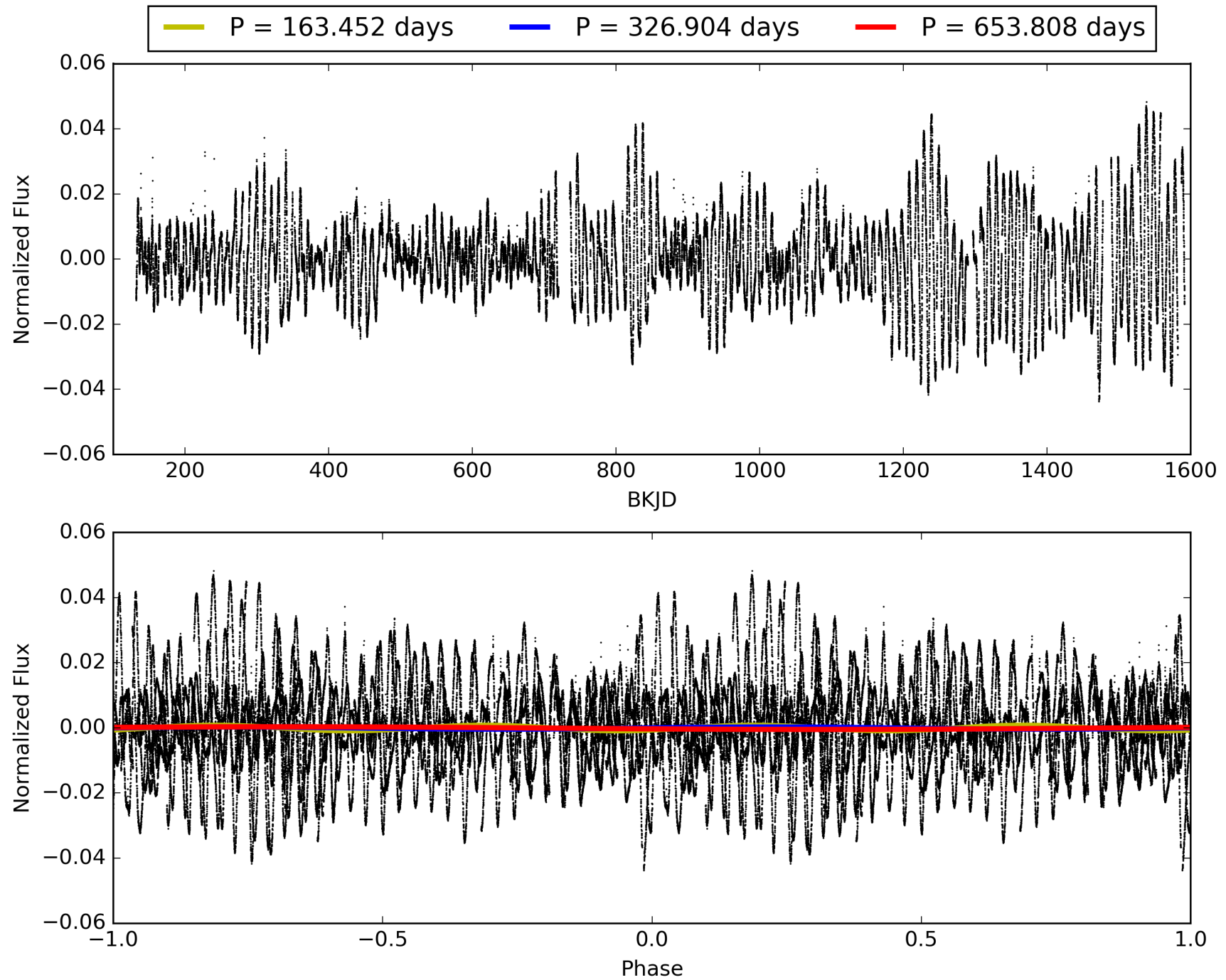
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:41:06 Z

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

TCE 011872364-02, PDC Light Curves

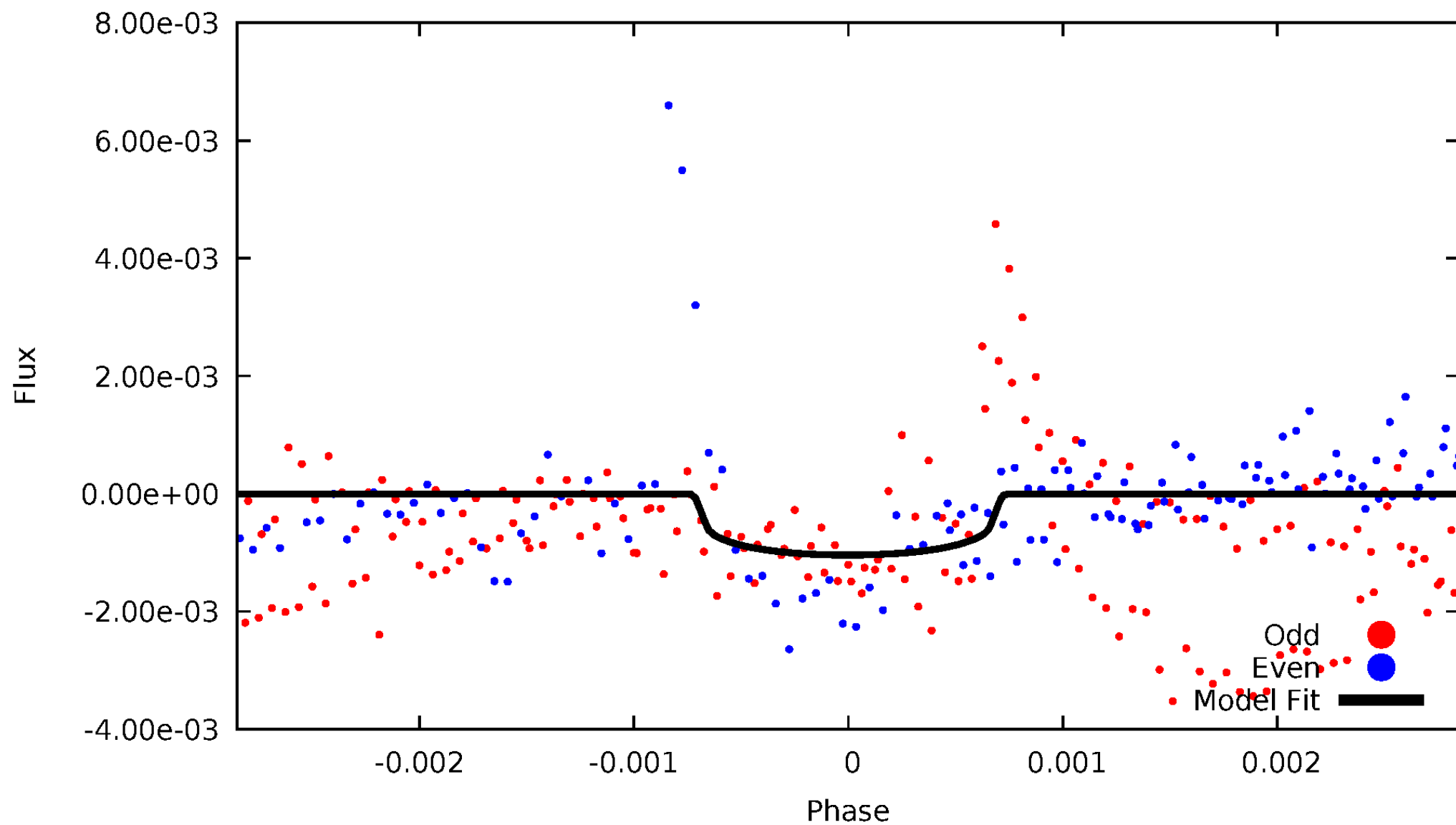


TCE 011872364-02



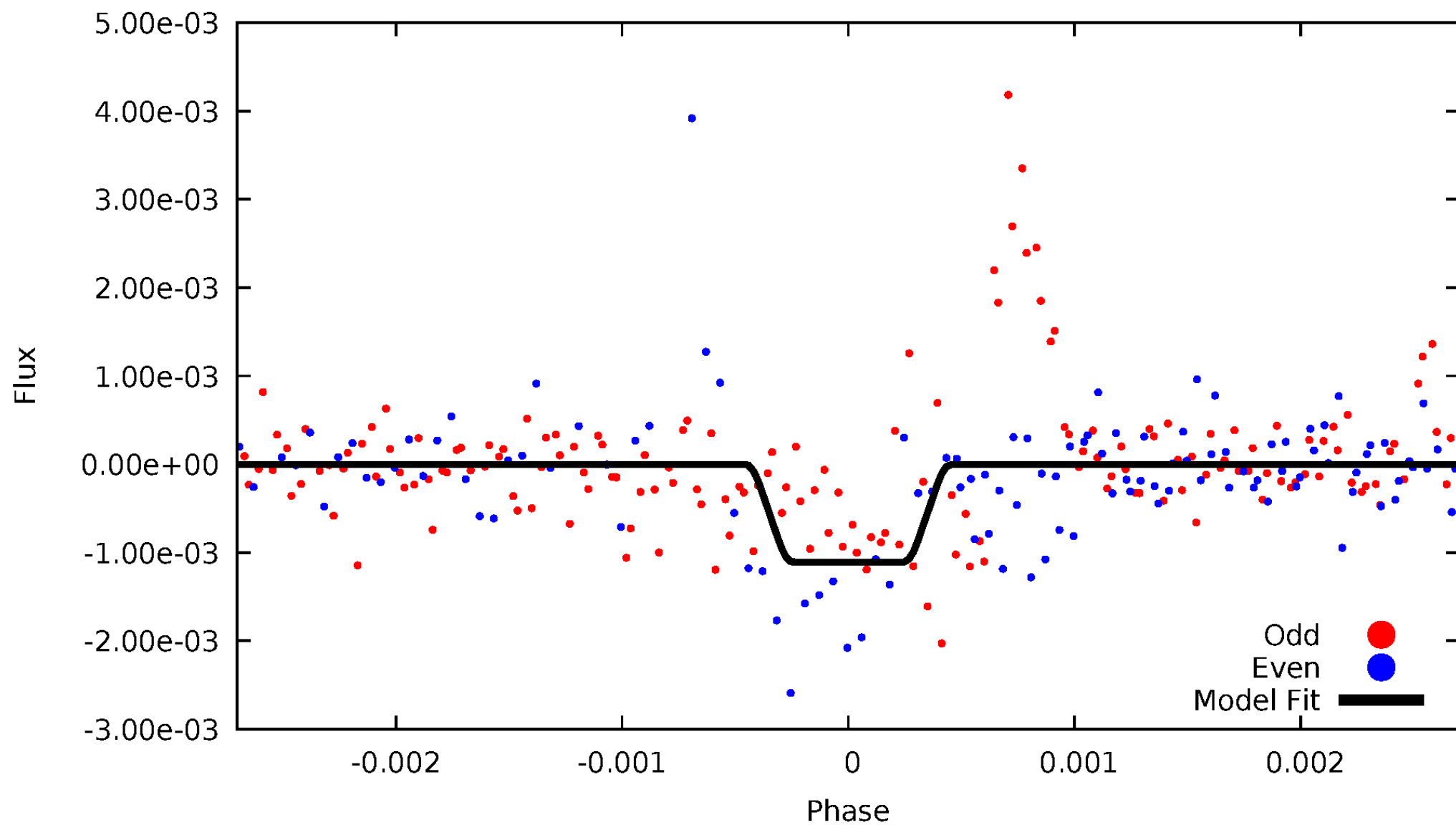
DV Odd/Even

TCE 011872364-02



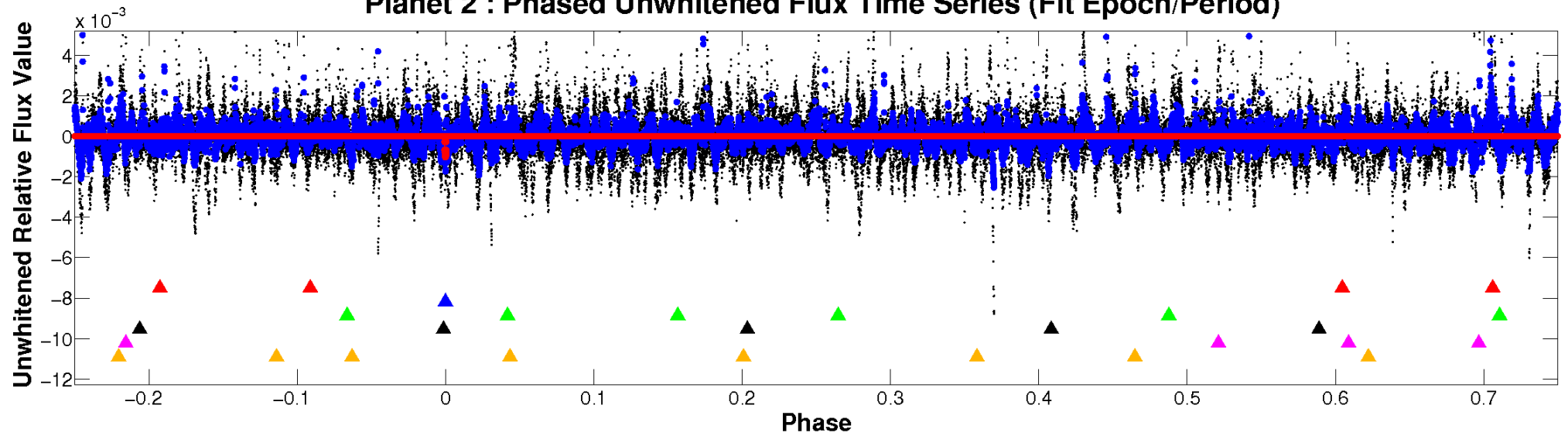
ALT Odd/Even

TCE 011872364-02

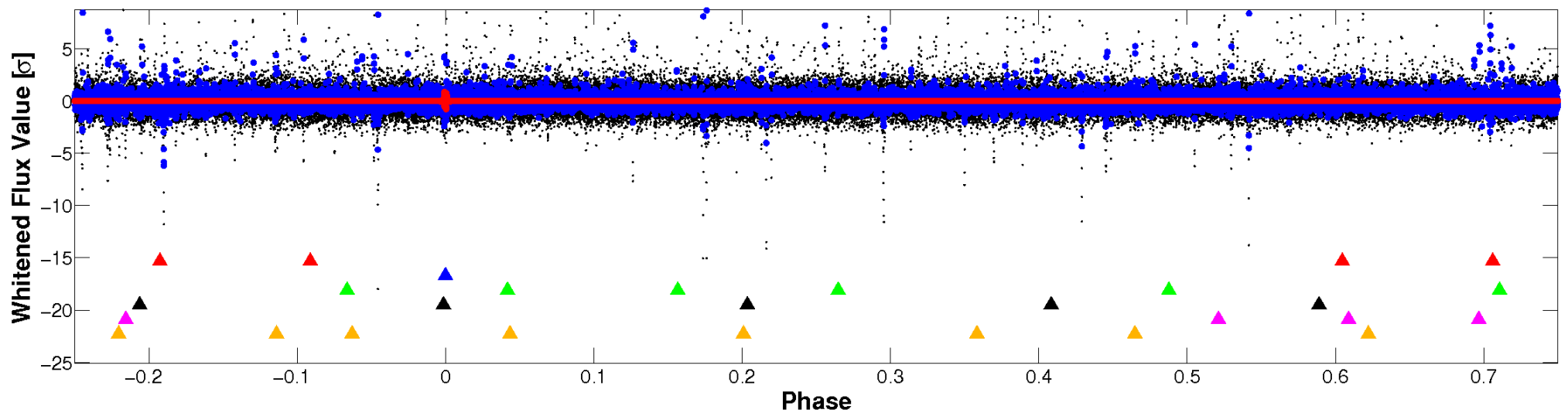


Non-Whitened Vs. Whitened Light Curve

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

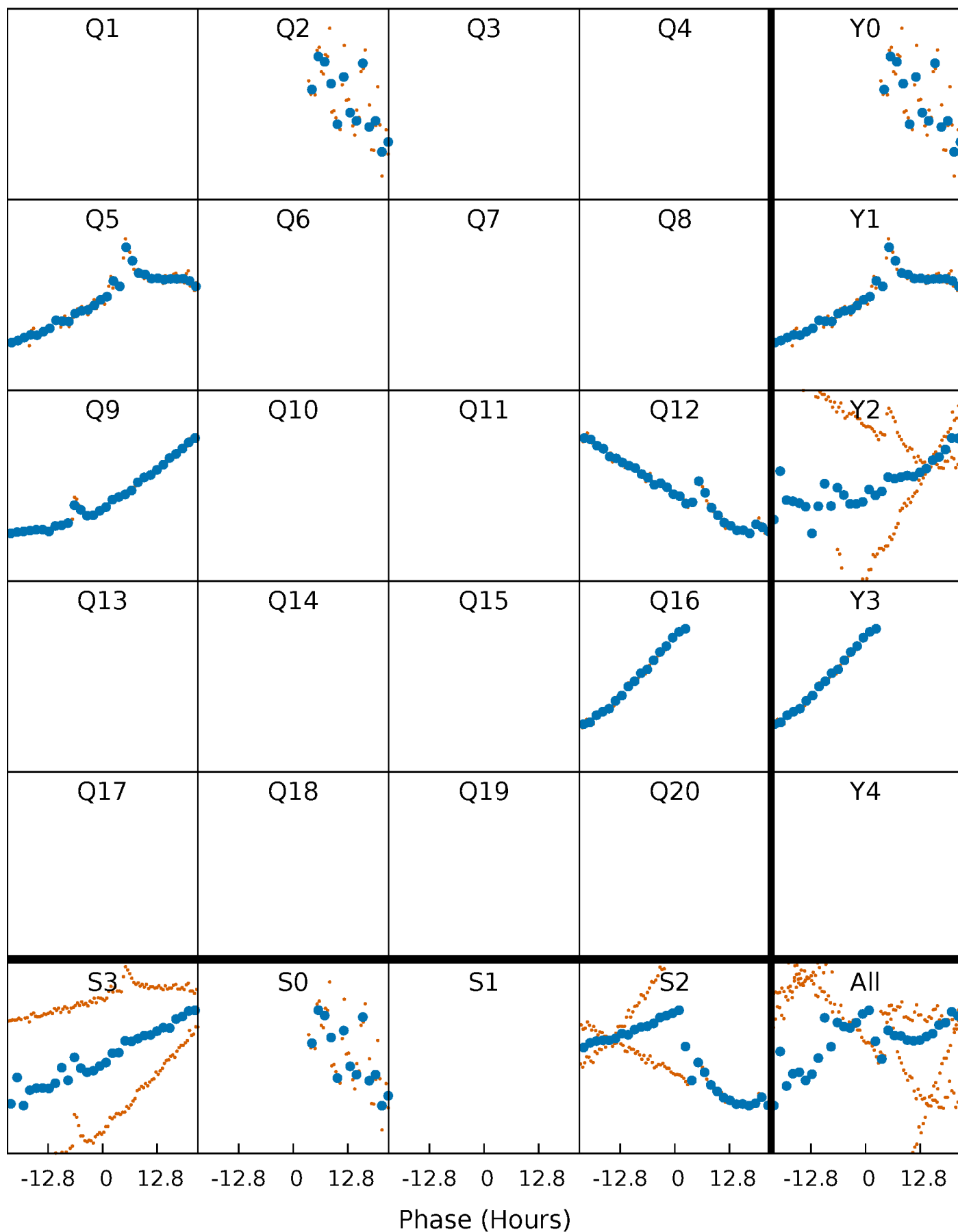


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



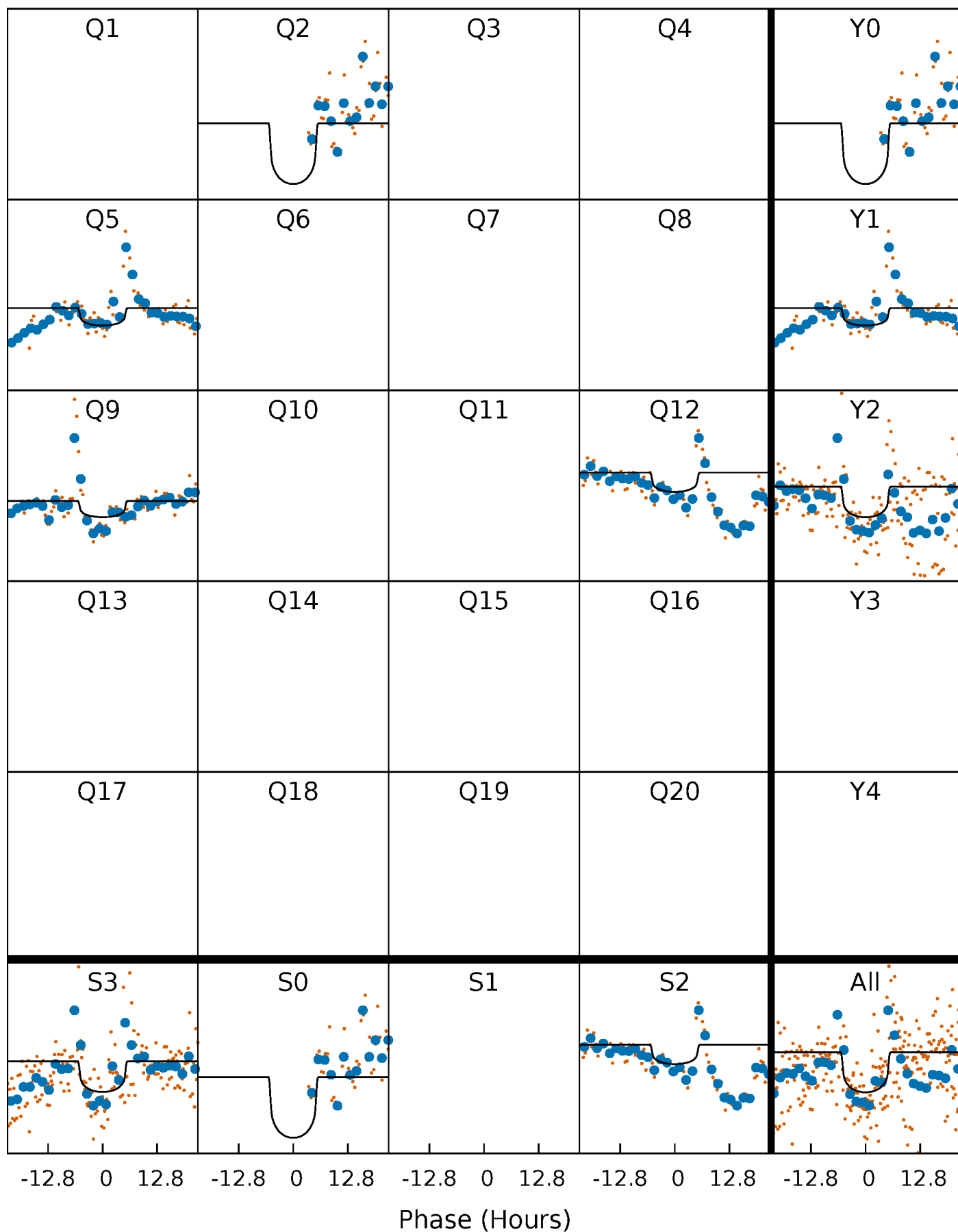
PDC Quarter-Phased Transit Curves

TCE 011872364-02 $P=326.903757$ Days $T_0=169.613217$ (BKJD)



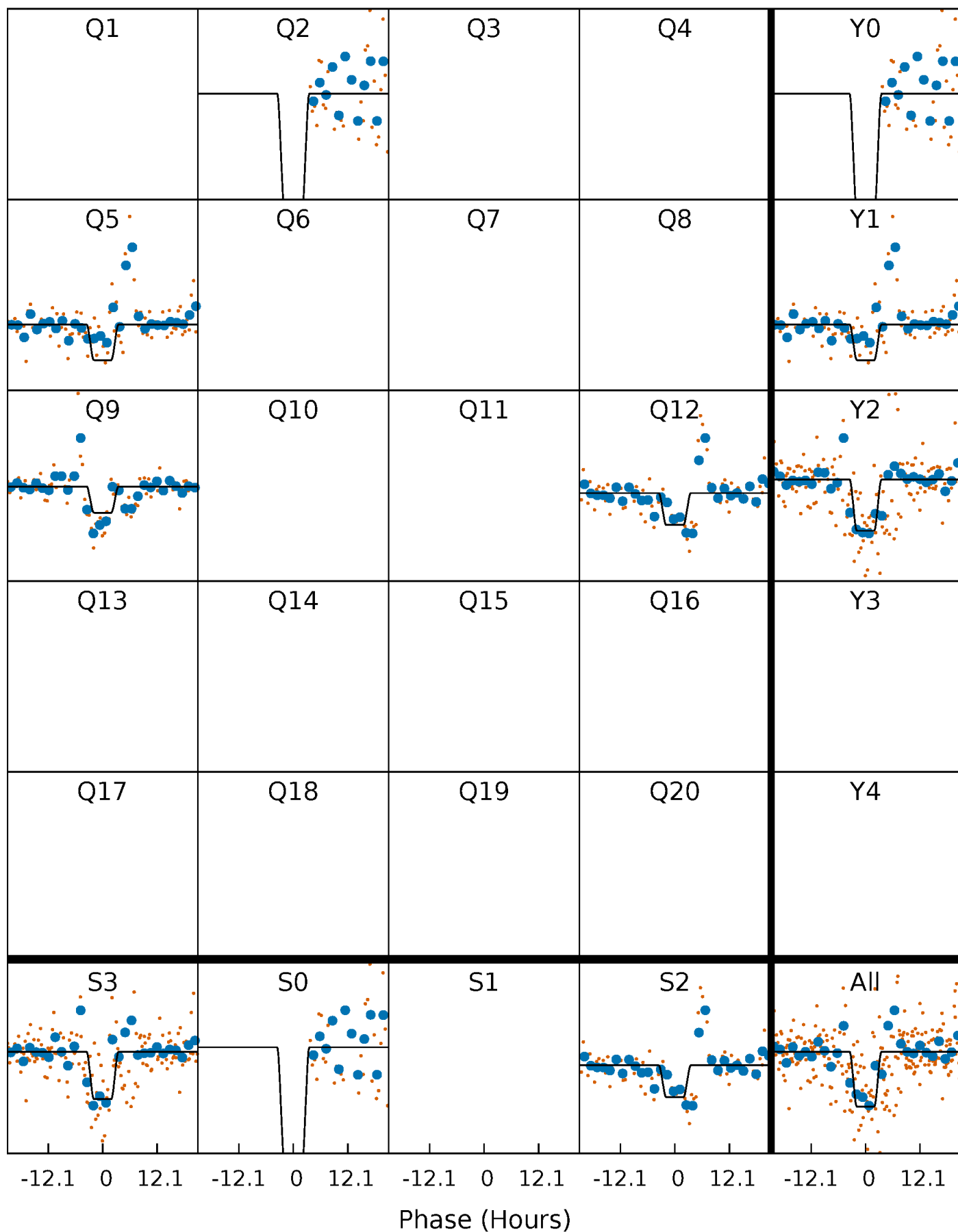
DV Quarter-Phased Transit Curves

TCE 011872364-02 $P=326.903757$ Days $T_0=169.613217$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

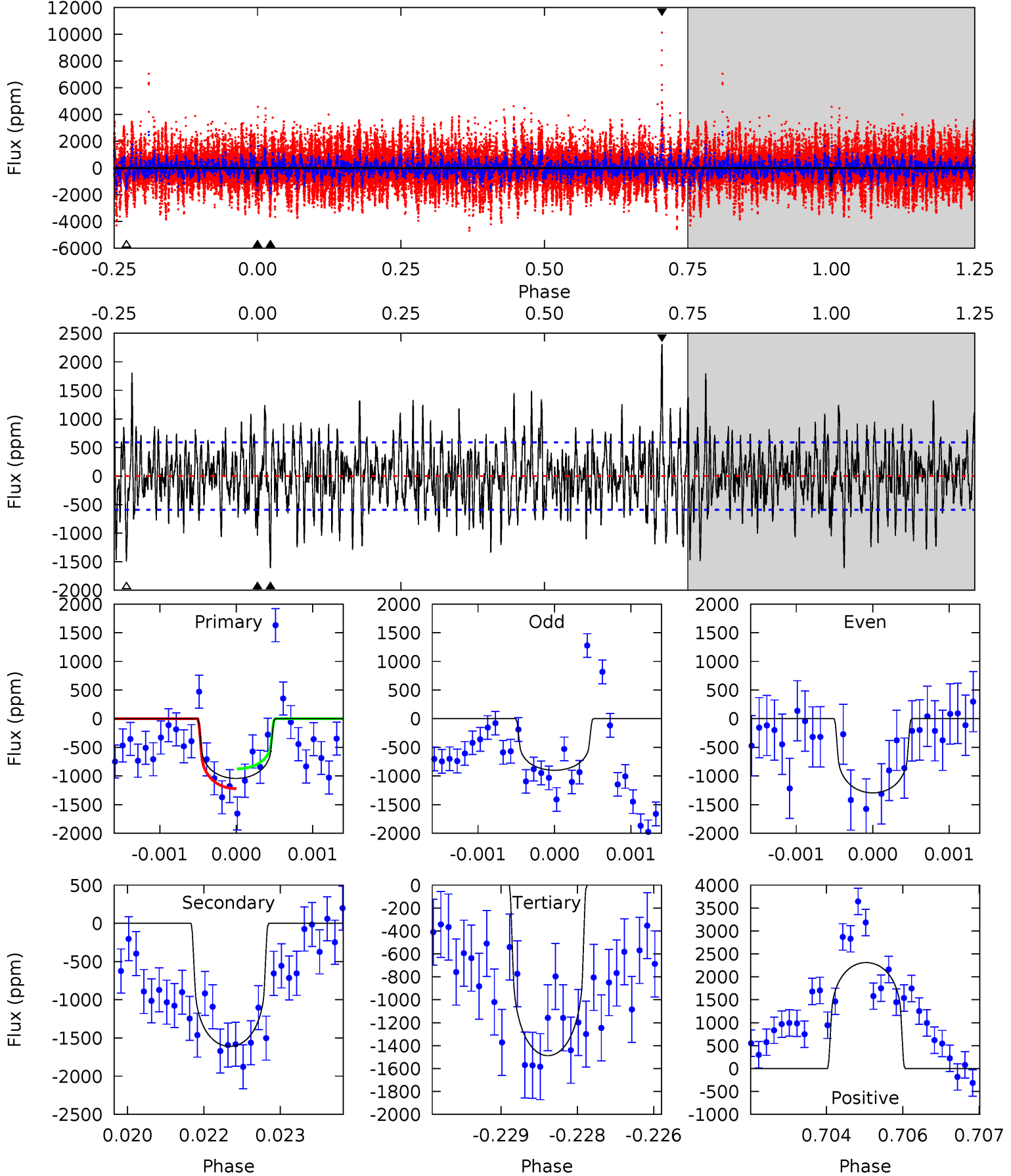
TCE 011872364-02 $P=326.902904$ Days $T_0=169.607882$ (BKJD)



DV Model-Shift Uniqueness Test

011872364-02, P = 326.903757 Days, E = 169.613217 Days

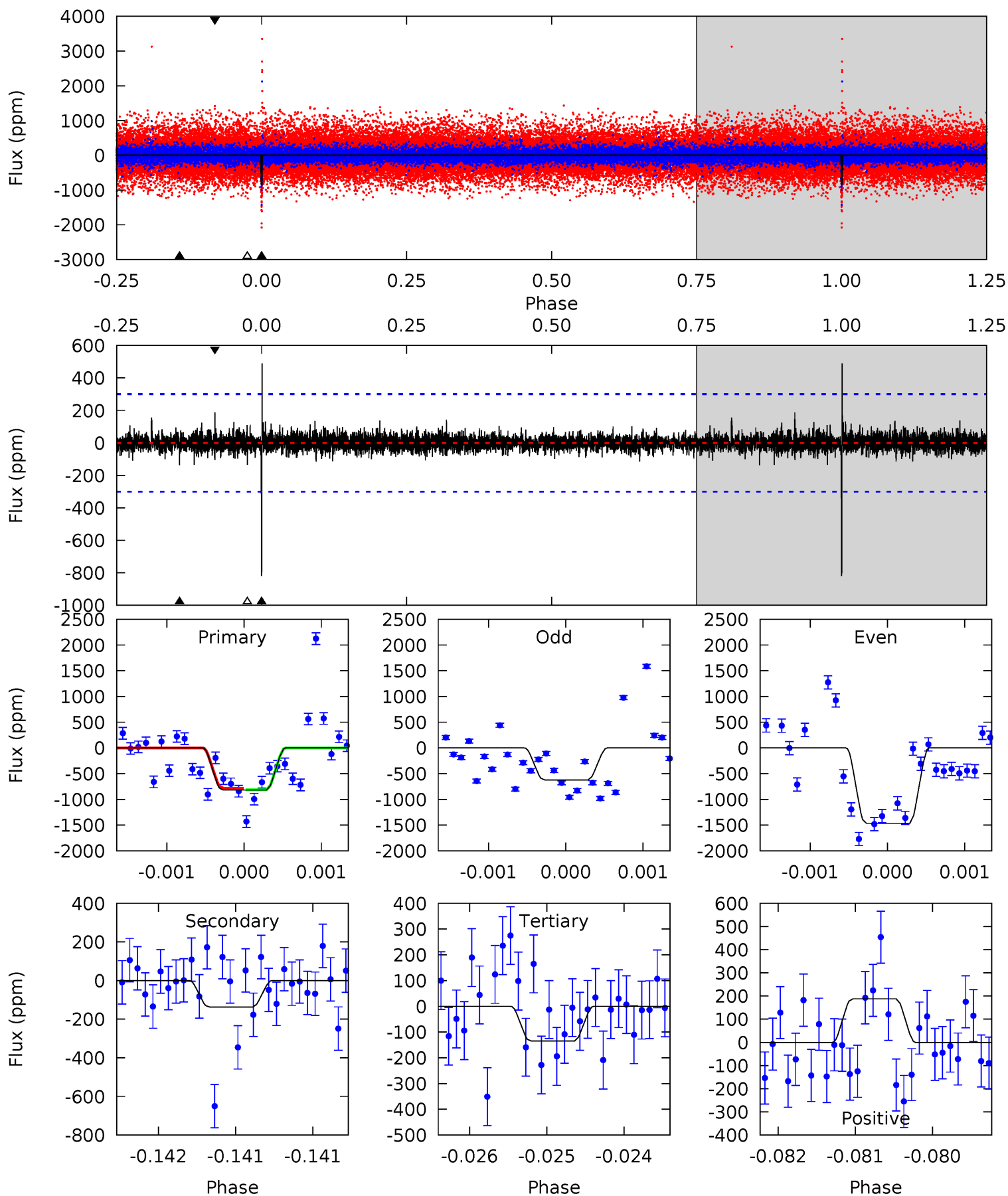
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.49	14.6	13.5	21.0	5.38	3.18	4.20	-4.04	-11.5	1.11	-6.38	1.63	0.99	0.59	1.59



Alt Model-Shift Uniqueness Test

011872364-02, P = 326.902904 Days, E = 169.607882 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	2.50	2.46	3.43	5.48	3.34	0.57	12.5	11.5	0.04	-0.93	7.60	1.07	0.37	0.29



Stellar Parameters For KIC 011872364

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5573^{+182}_{-166}	$4.382^{+0.158}_{-0.193}$	$-0.140^{+0.300}_{-0.300}$	$0.981^{+0.283}_{-0.174}$	$0.845^{+0.122}_{-0.071}$	$1.262^{+0.834}_{-0.641}$
	+3%/-3%	+4%/-4%	+214%/-214%	+29%/-18%	+14%/-8%	+66%/-51%
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 011872364-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1610 ± 110	$3.72^{+2.88}_{-2.42}$	362^{+31}_{-23}	6039^{+5602}_{-1331}	$50967^{+357105}_{-35355}$
Alt.	-137 ± 55	$3.91^{+2.82}_{-2.29}$	365^{+29}_{-24}	3599^{+1358}_{-570}	3675^{+18700}_{-2533}

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 $A_{obs} \gg 1.0$

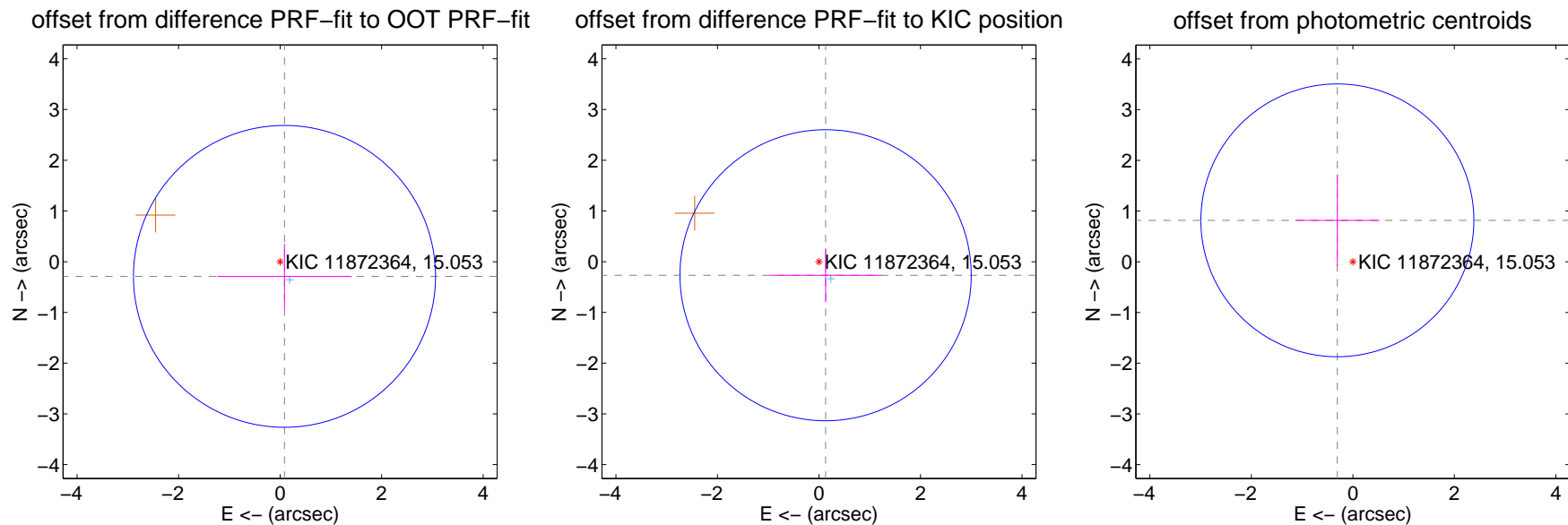
DV Centroid Data

Supplemental centroid analysis for 011872364-02. Kepler magnitude: 15.05. Transit SNR 5.40

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.302 ± 0.991	0.30	-0.087 ± 1.321	-0.289 ± 0.641
PRF-fit source offset from KIC position	0.297 ± 0.956	0.31	-0.130 ± 1.097	-0.267 ± 0.531
photometric centroid source offset	0.87 ± 0.90	0.97	0.31 ± 0.83	0.82 ± 0.91

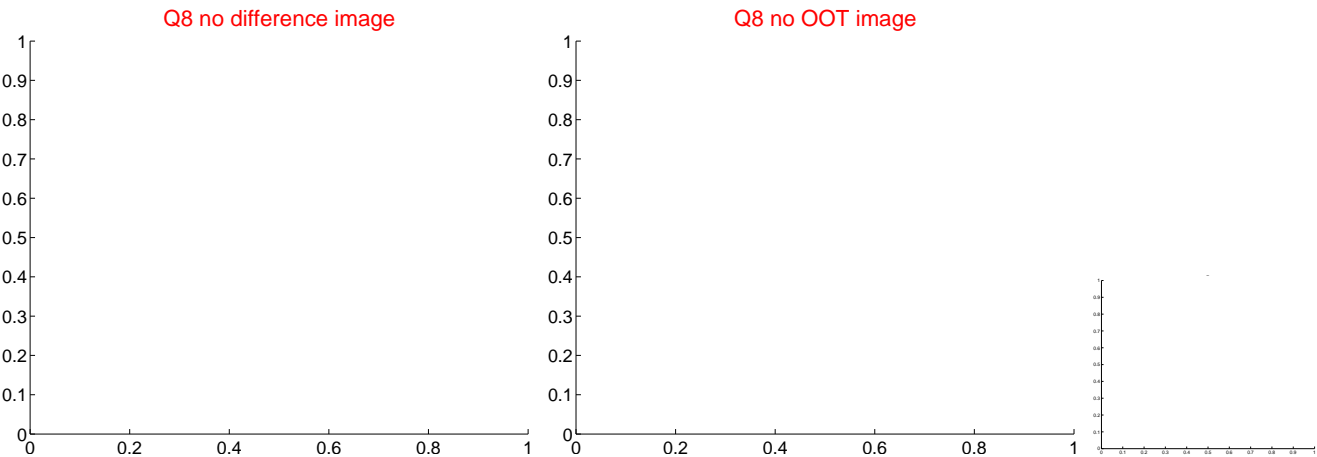
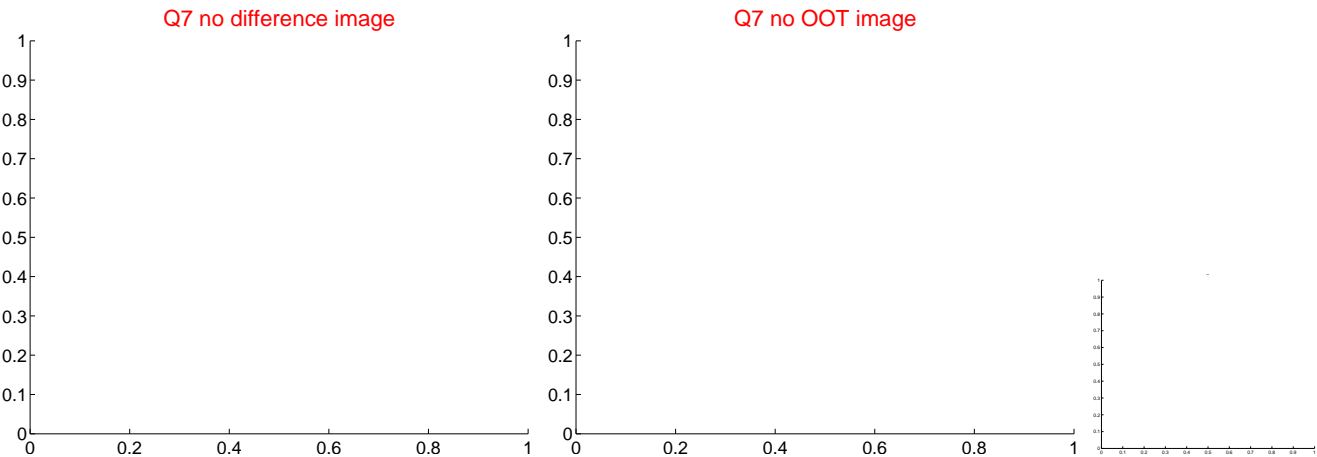
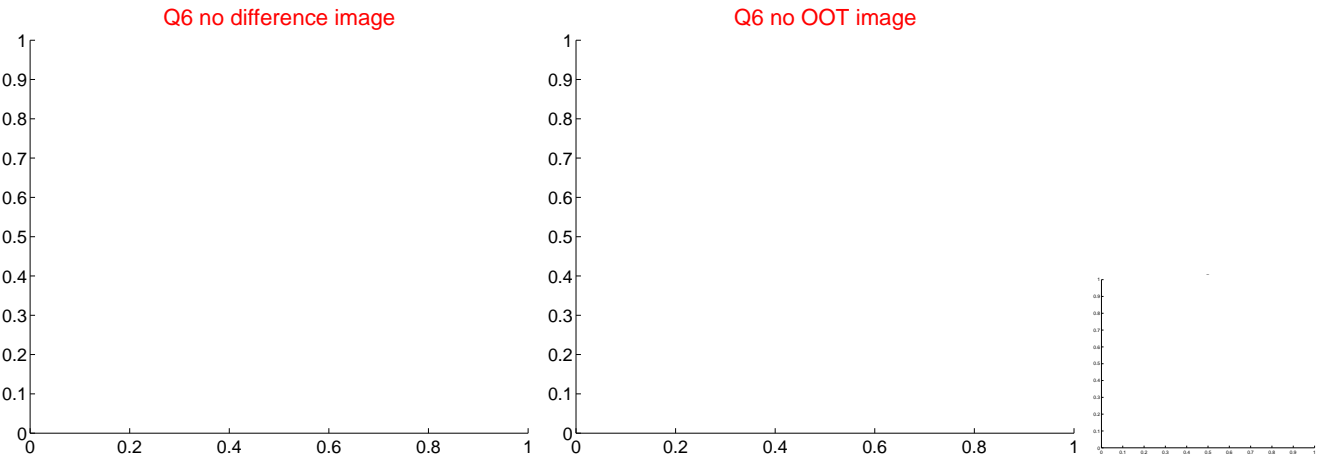
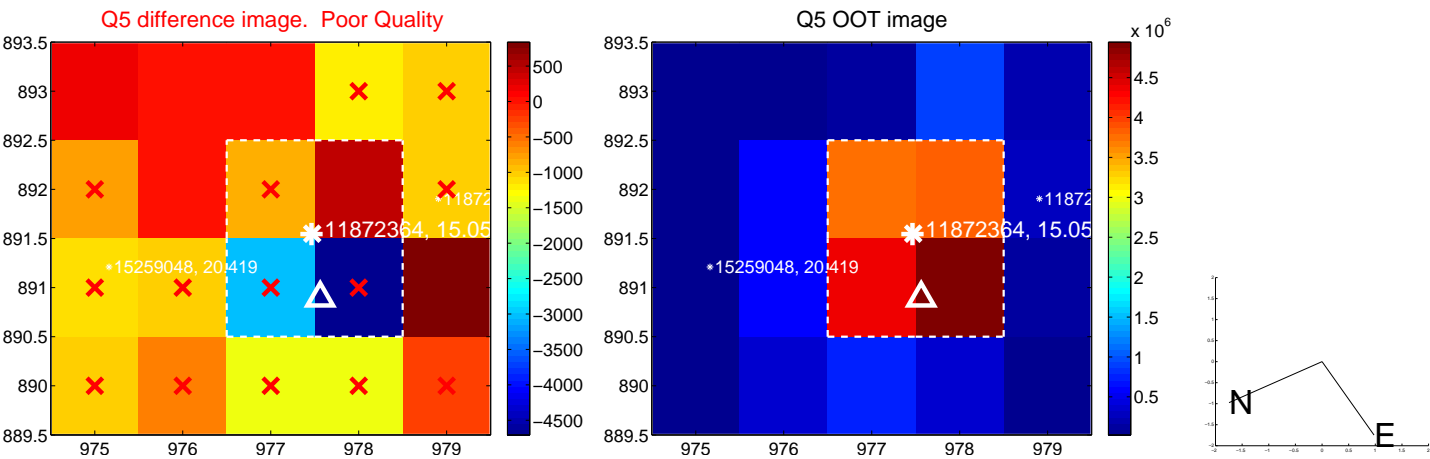


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

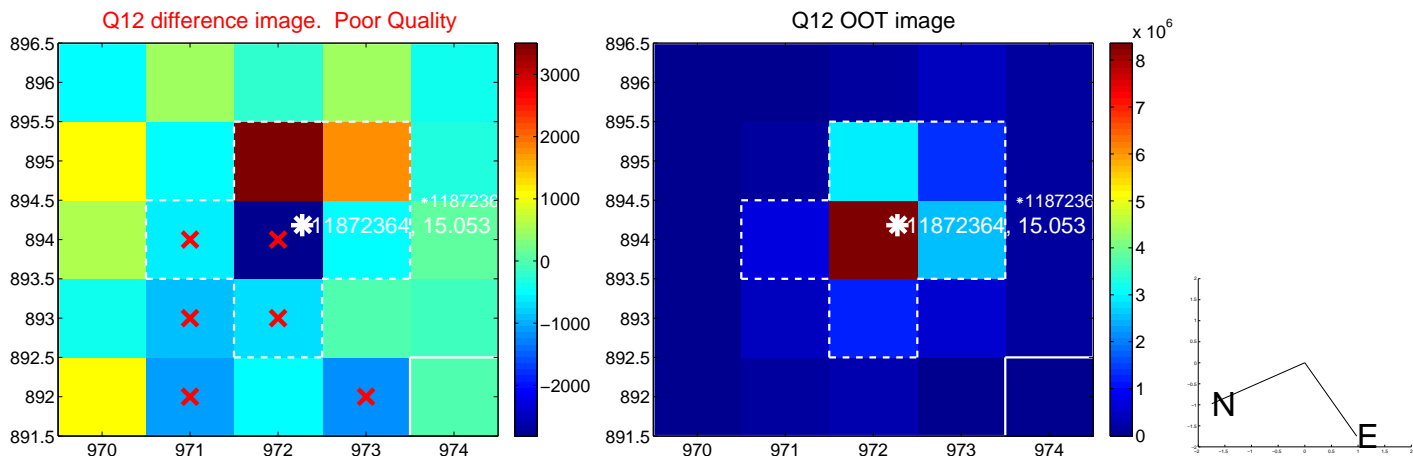
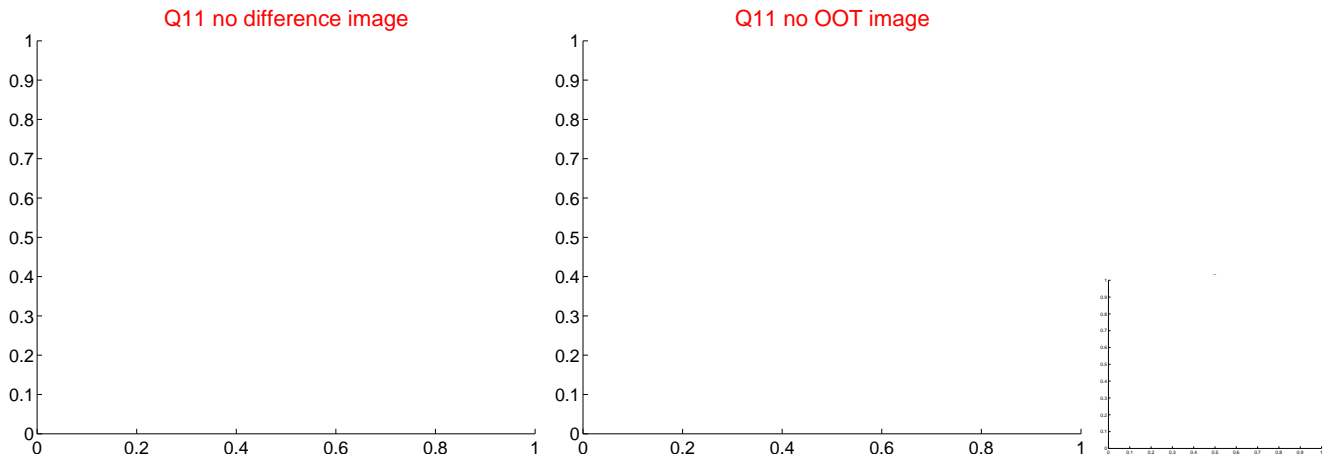
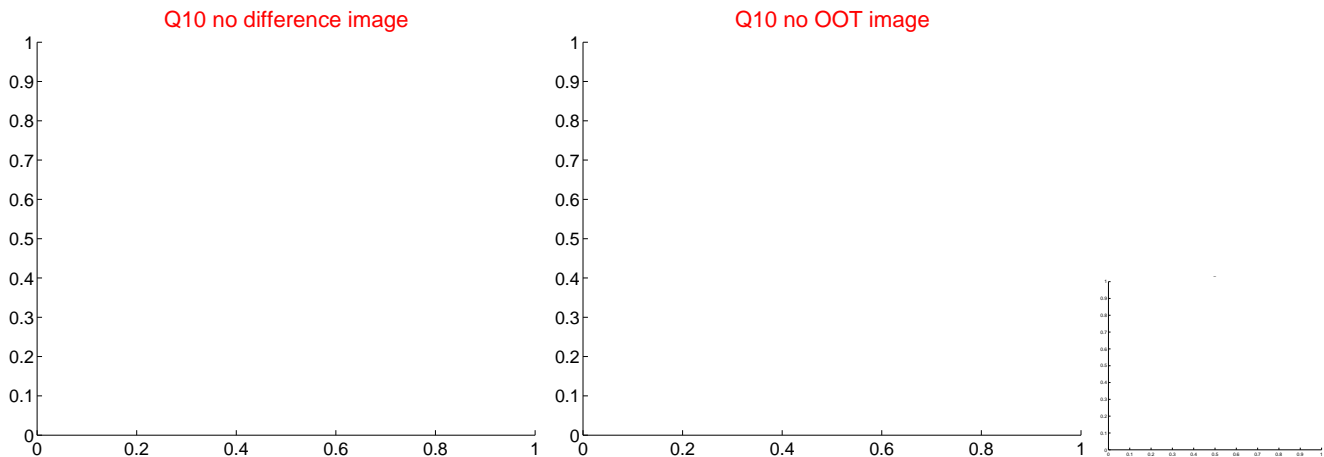
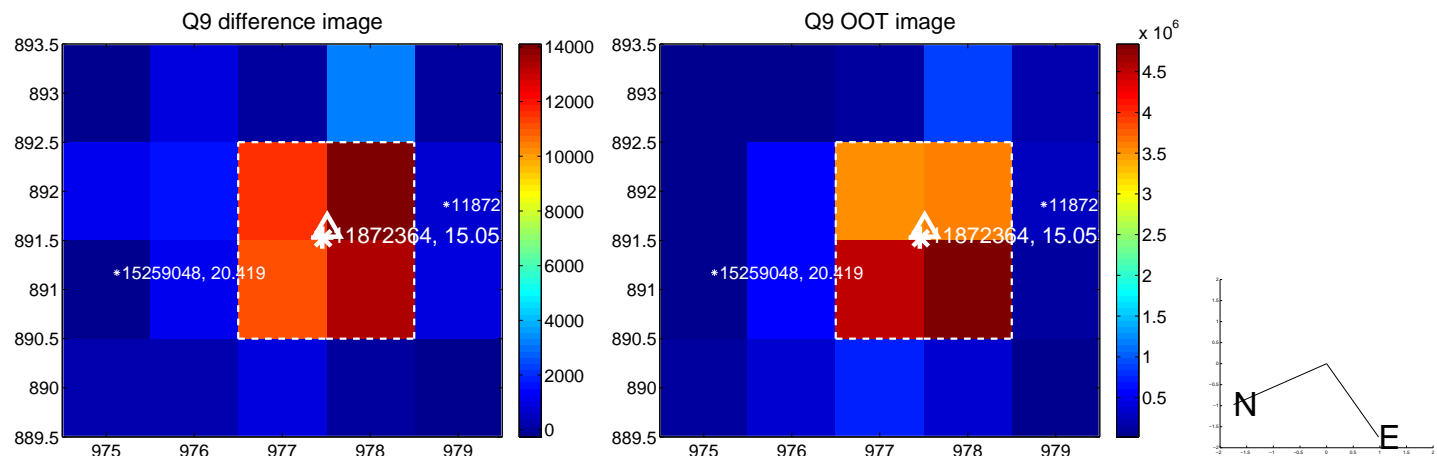
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



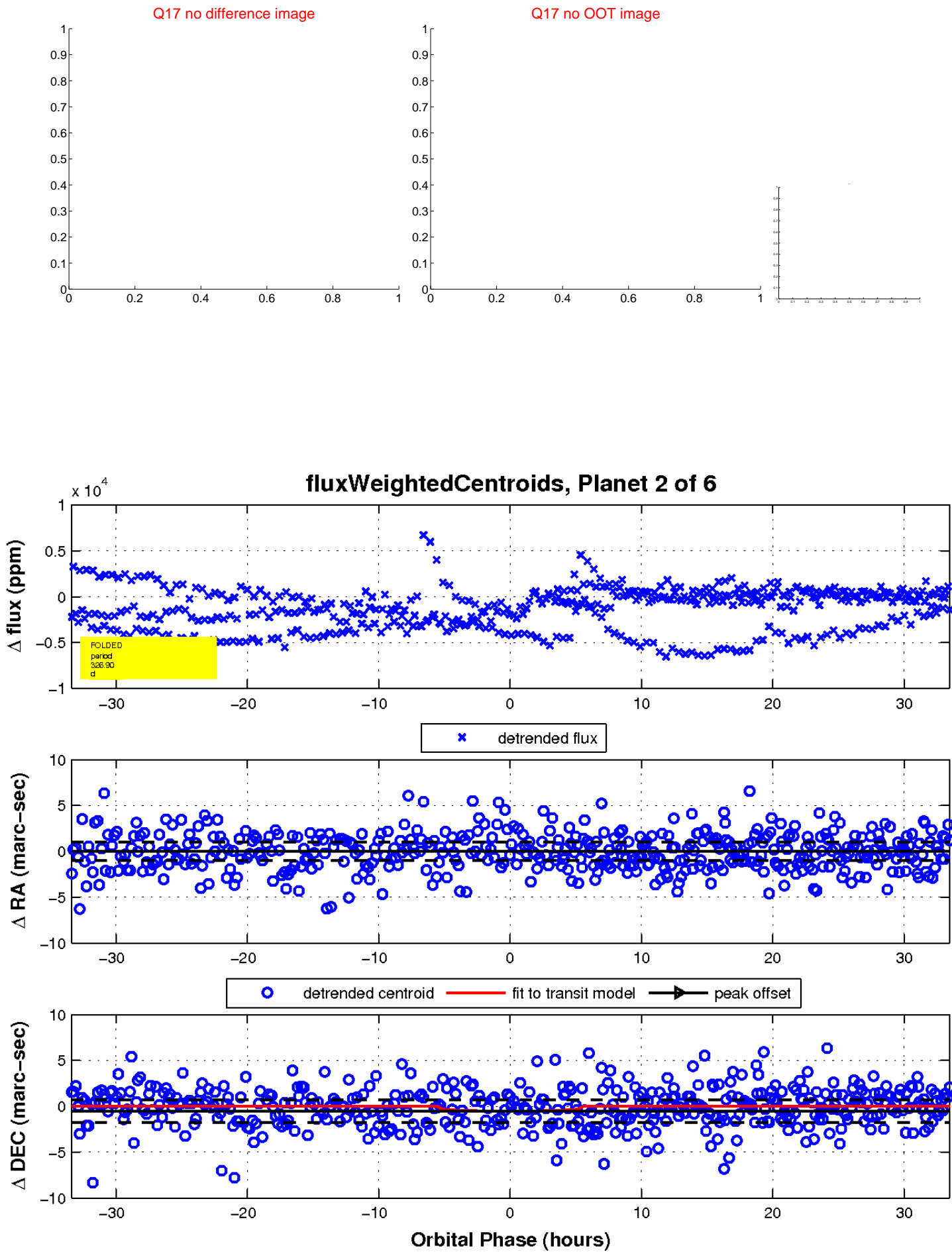
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

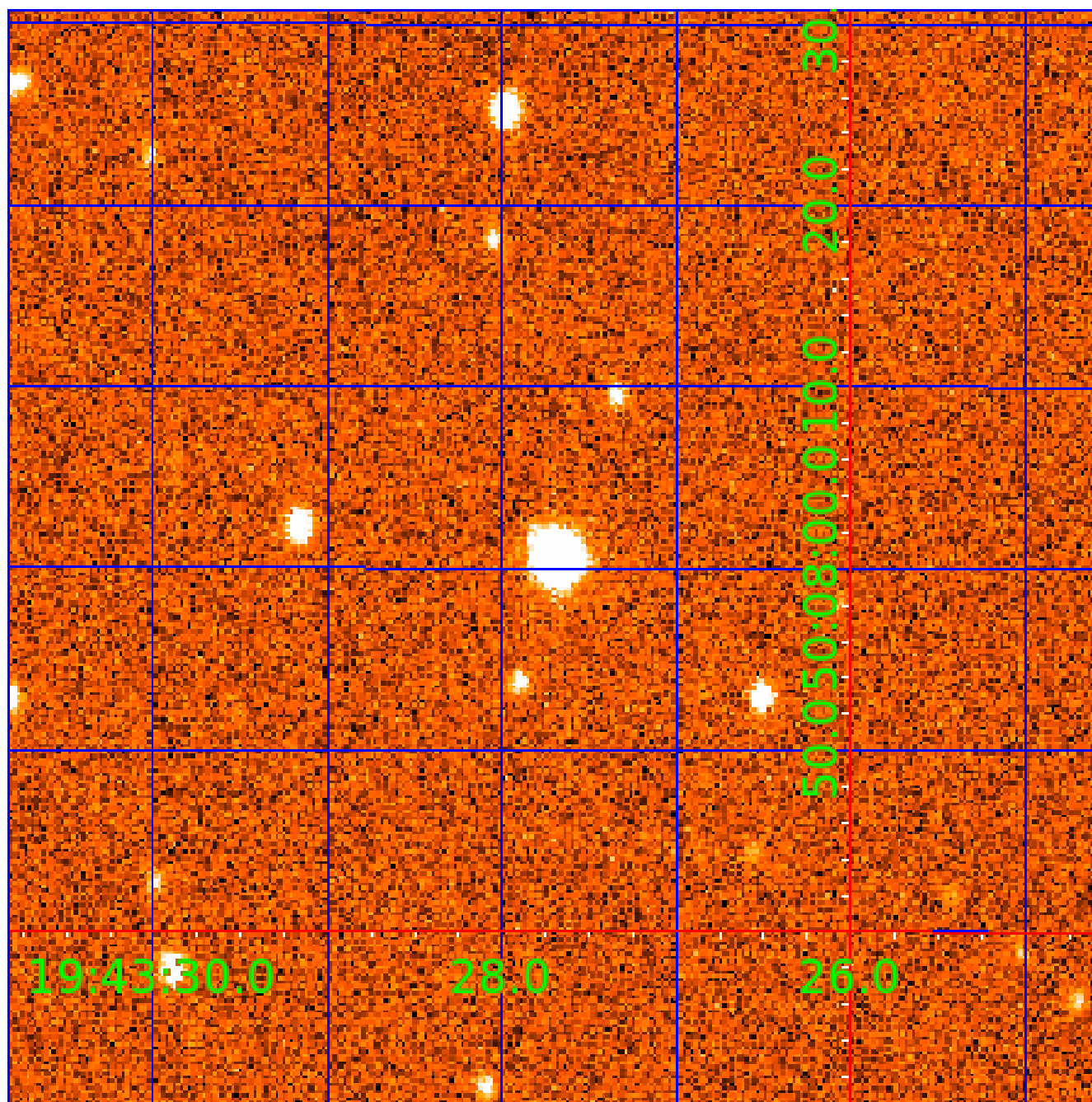


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011872364

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})
011872364-01	OBS	No	360.051480	367.276375	1088.0	8.200	11.6	5.9	0.98	5573	3.78	0.95
011872364-02	OBS	No	326.903758	169.613218	1042.3	11.181	12.5	5.4	0.98	5573	3.14	1.08
011872364-03	OBS	No	254.017822	220.811137	733.0	8.713	12.1	5.5	0.98	5573	2.69	1.51
011872364-04	OBS	No	259.935489	303.117226	1040.3	3.143	11.0	7.5	0.98	5573	3.59	1.46
011872364-05	OBS	No	355.598390	339.978229	886.5	4.479	11.9	5.9	0.98	5573	2.90	0.96
011872364-06	OBS	8232.01	189.181150	132.379420	996.9	5.000	9.4	-1.0	0.98	5573	3.06	2.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011872364-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-02	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011872364-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
011872364-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
011872364-05	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-06	OBS	PC	0.49	0	0	0	0	CENT_NOFITS

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

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

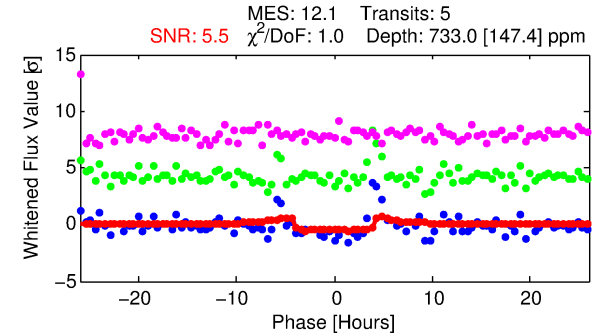
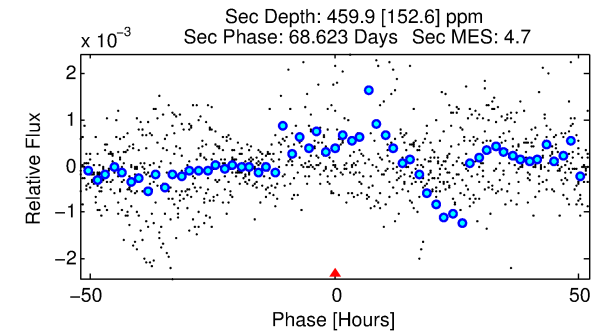
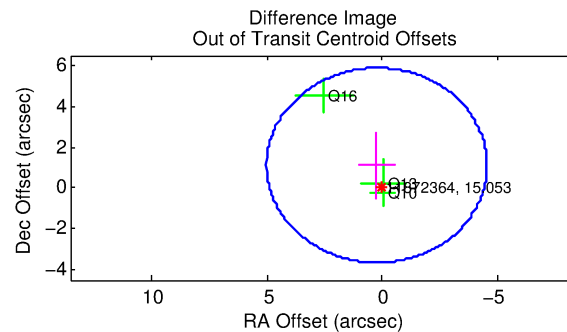
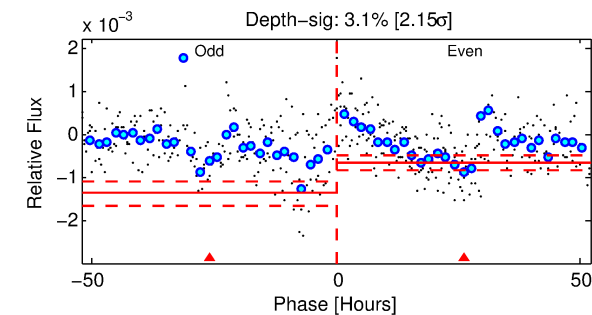
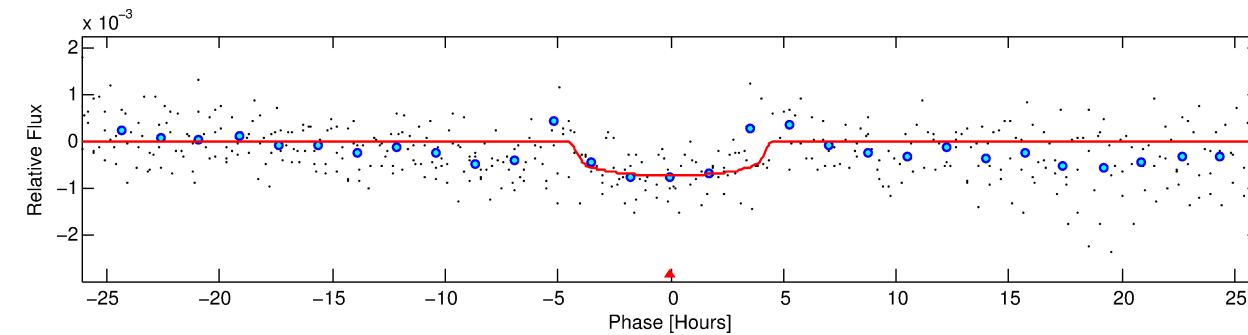
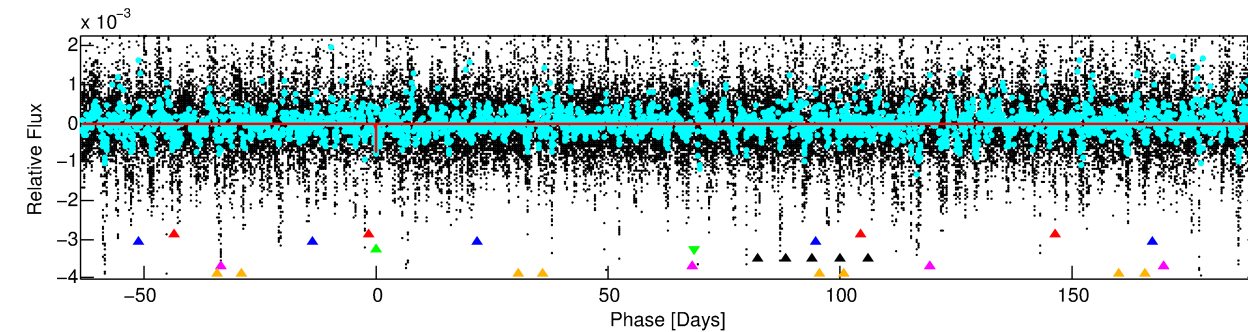
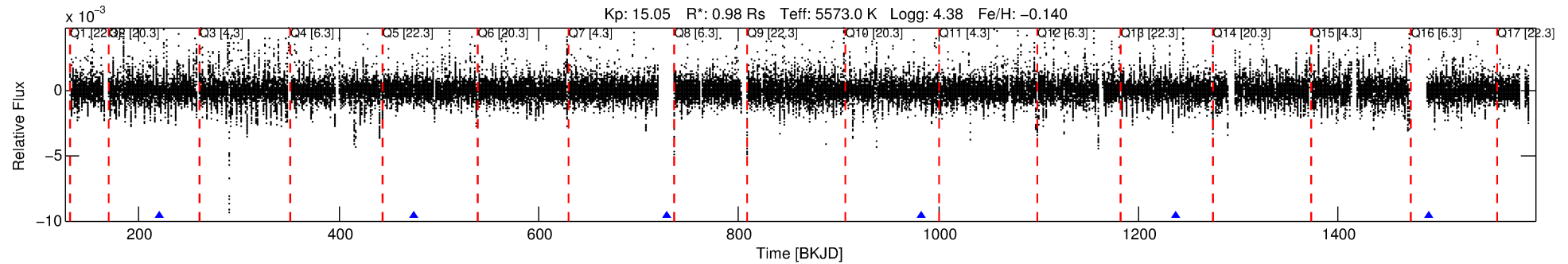
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011872364-03

No Significant Match Found

DV One-Page Summary

KIC: 11872364 Candidate: 3 of 6 Period: 254.018 d



DV Fit Results:

Period = 254.01782 [0.00414] d
Epoch = 220.8111 [0.0143] BKJD
Rp/R* = 0.0251 [0.0291]
a/R* = 205.19 [989.81]
b = 0.45 [8.62]
Seff = 1.51 [0.57]
Teq = 283 [27] K
Rp = 2.69 [3.21] Re
a = 0.7425 [0.1803] AU
Ag = 19306.87 [45718.78] [0.42 σ]
Teffp = 5150 [3020] K [1.61 σ]

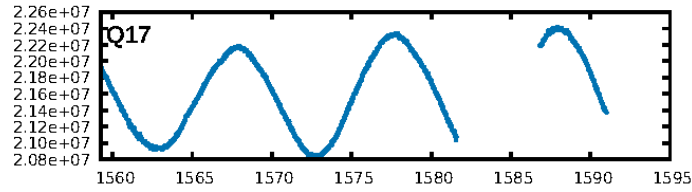
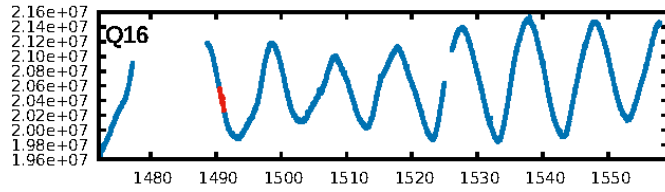
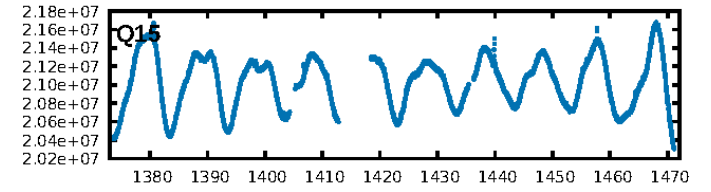
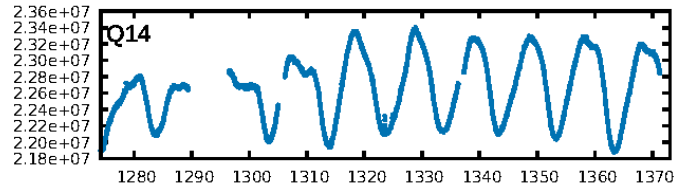
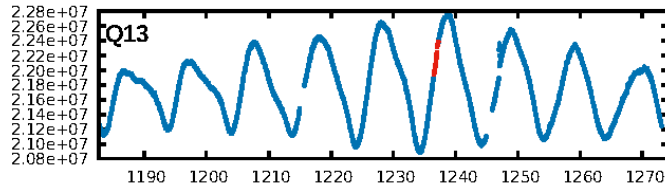
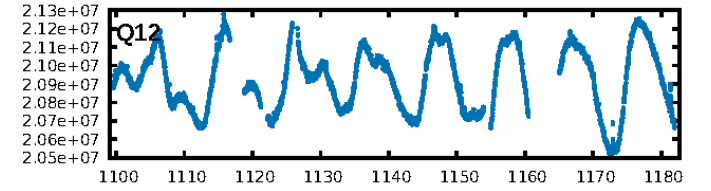
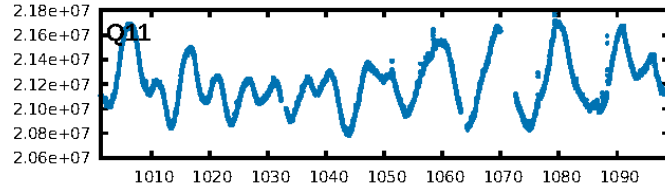
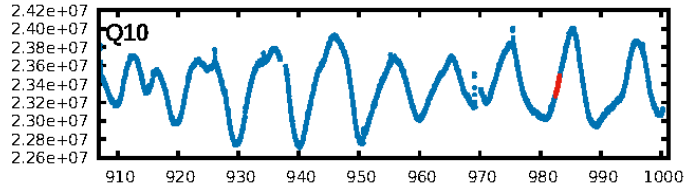
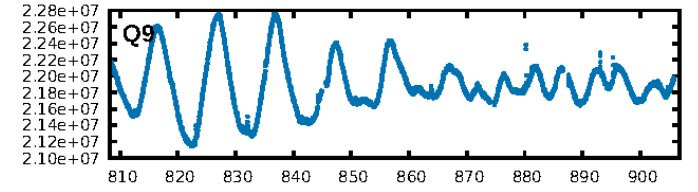
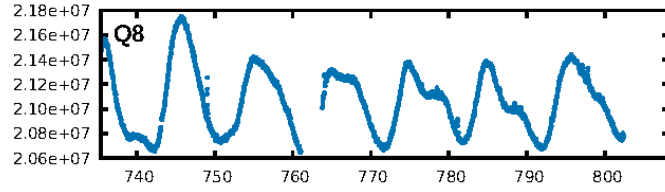
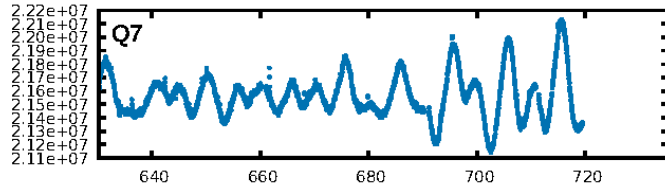
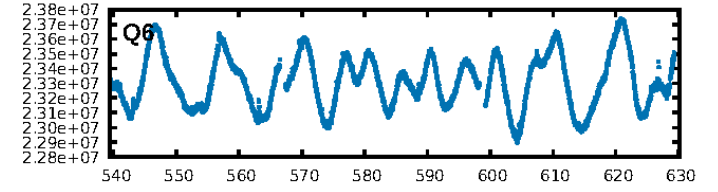
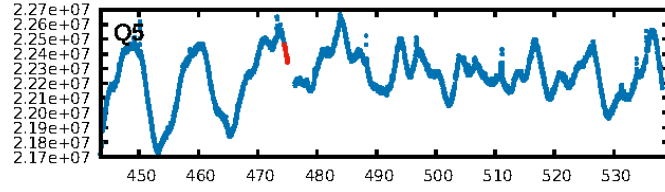
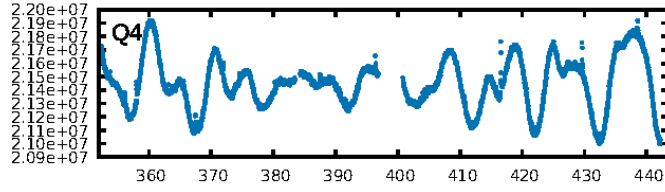
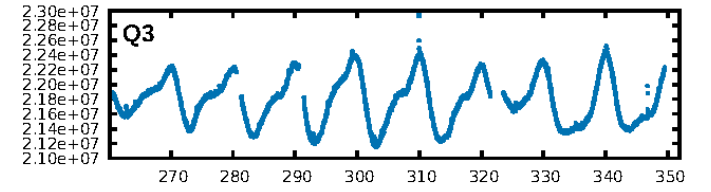
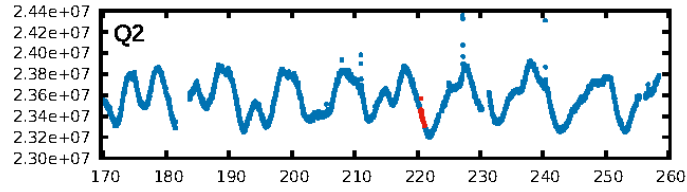
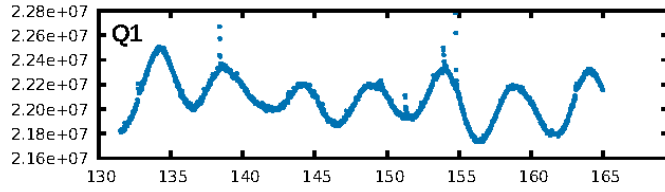
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [154.89 σ]
LongPeriod-sig: 100.0% [15.33 σ]
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 98.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 6.968
Centroid-sig: 0.7%
Centroid-so: 1.712 arcsec [1.49 σ]
OotOffset-rm: 1.141 arcsec [0.72 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 1.180 arcsec [0.72 σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [4/4]

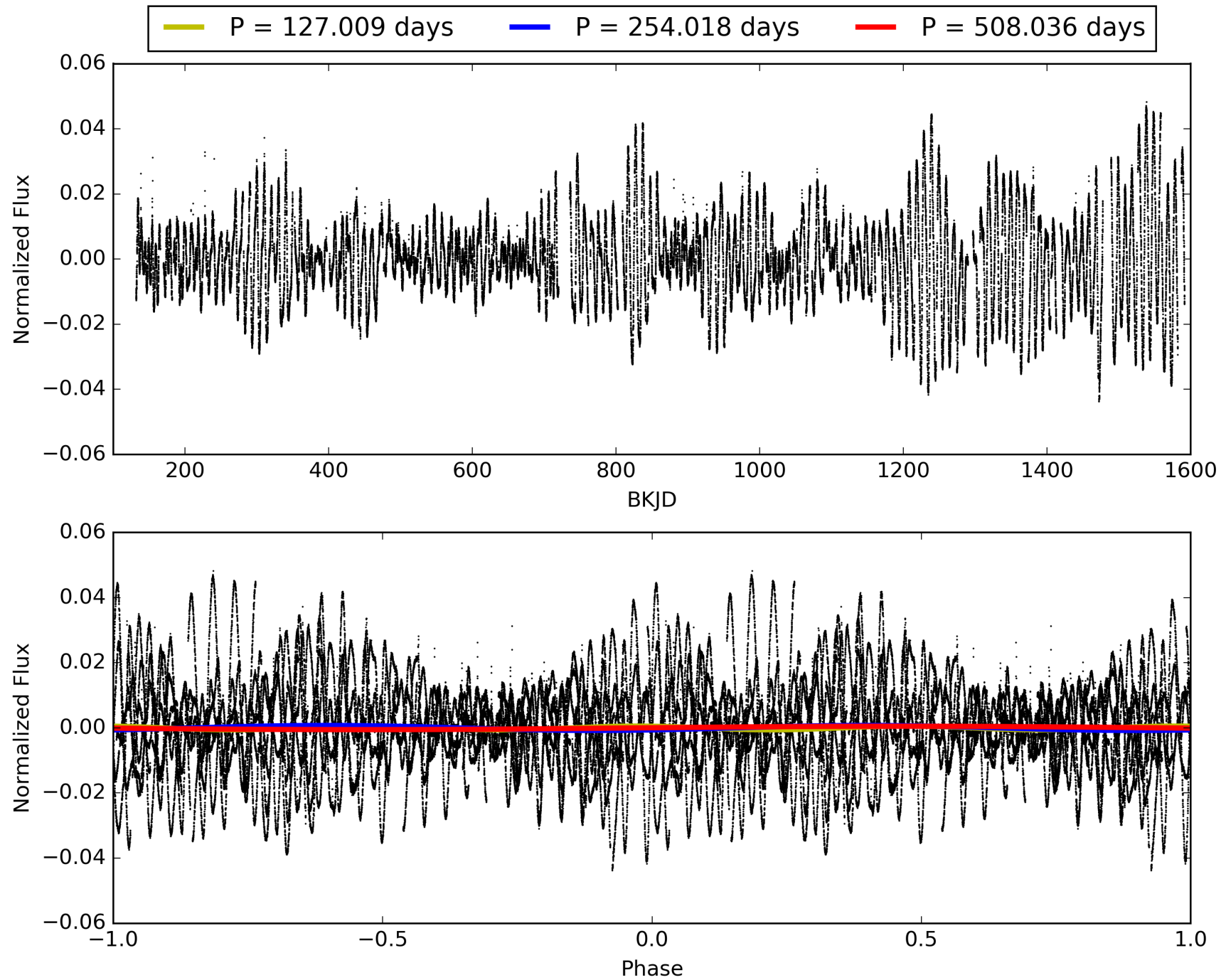
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:41:14 Z

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

TCE 011872364-03, PDC Light Curves

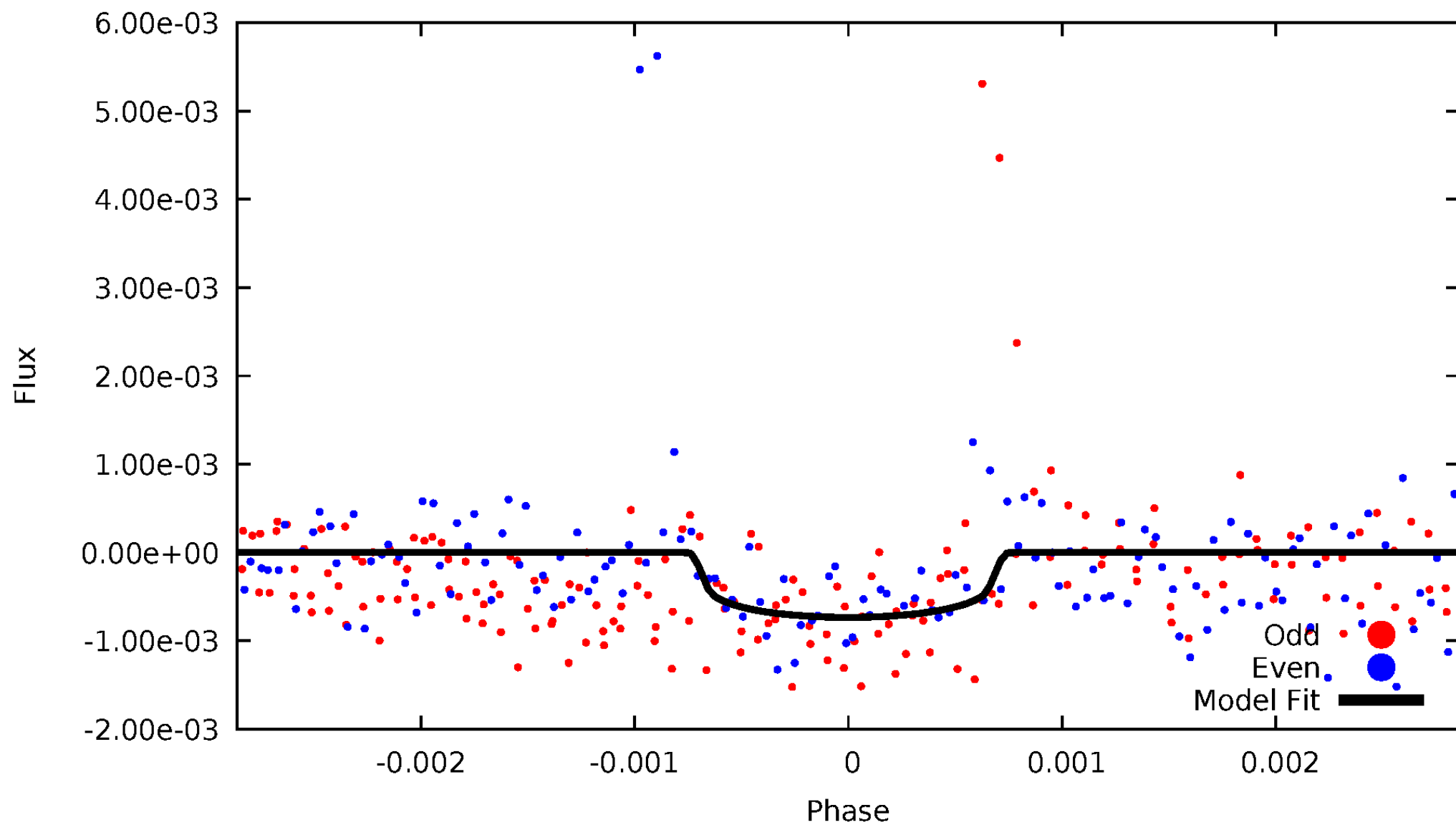


TCE 011872364-03



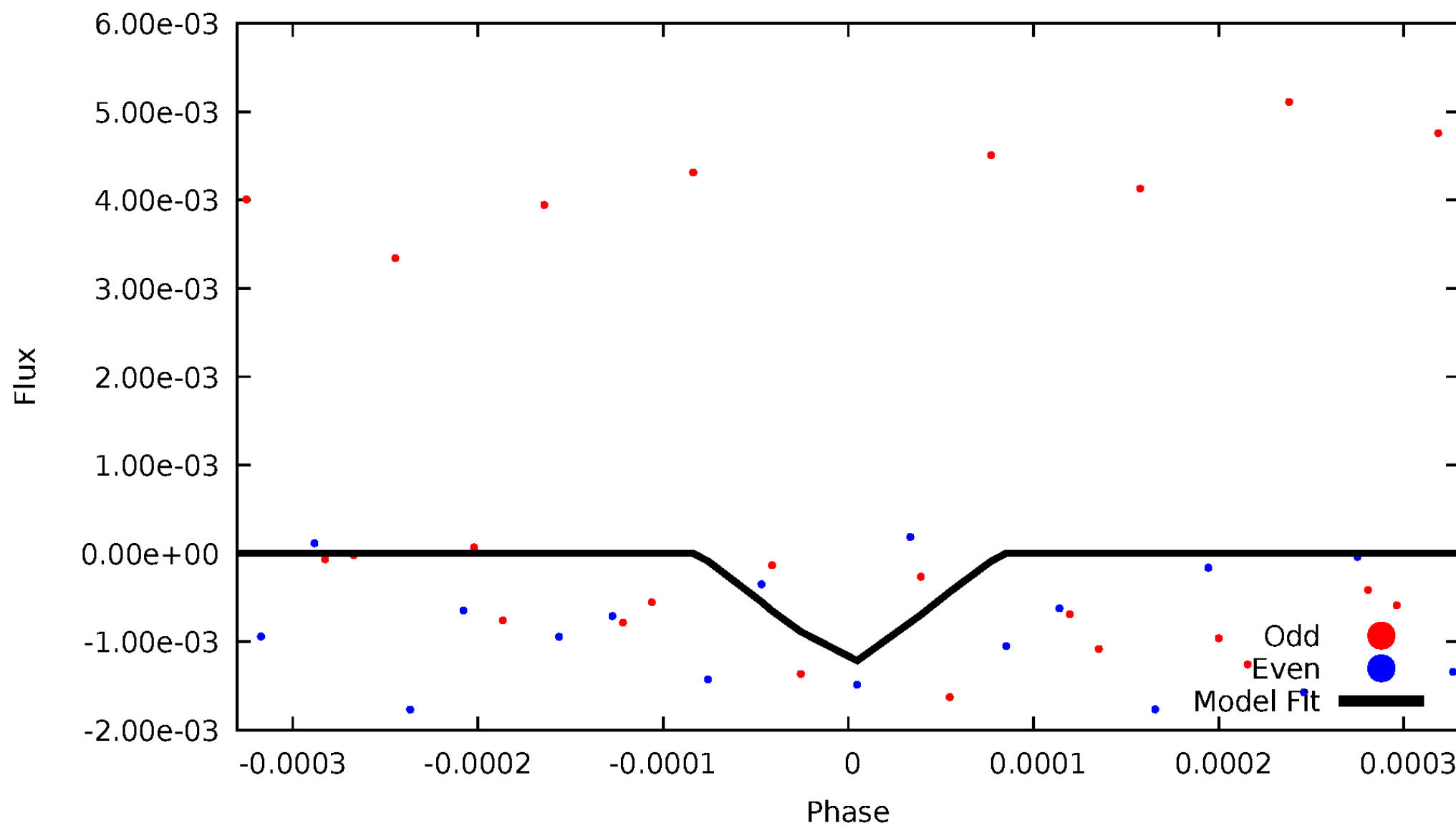
DV Odd/Even

TCE 011872364-03



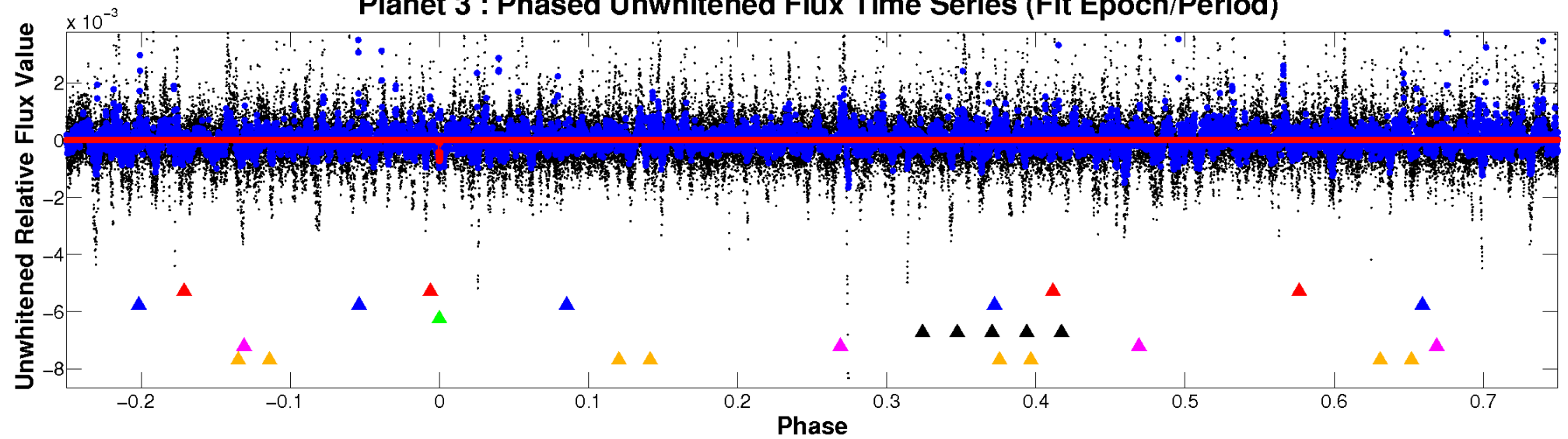
ALT Odd/Even

TCE 011872364-03

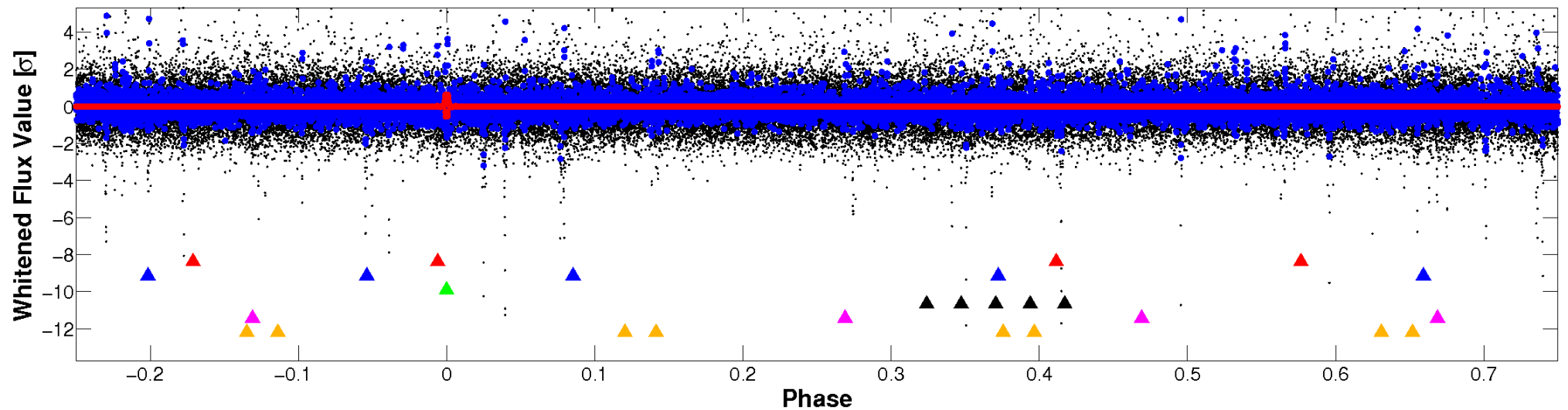


Non-Whitened Vs. Whitened Light Curve

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

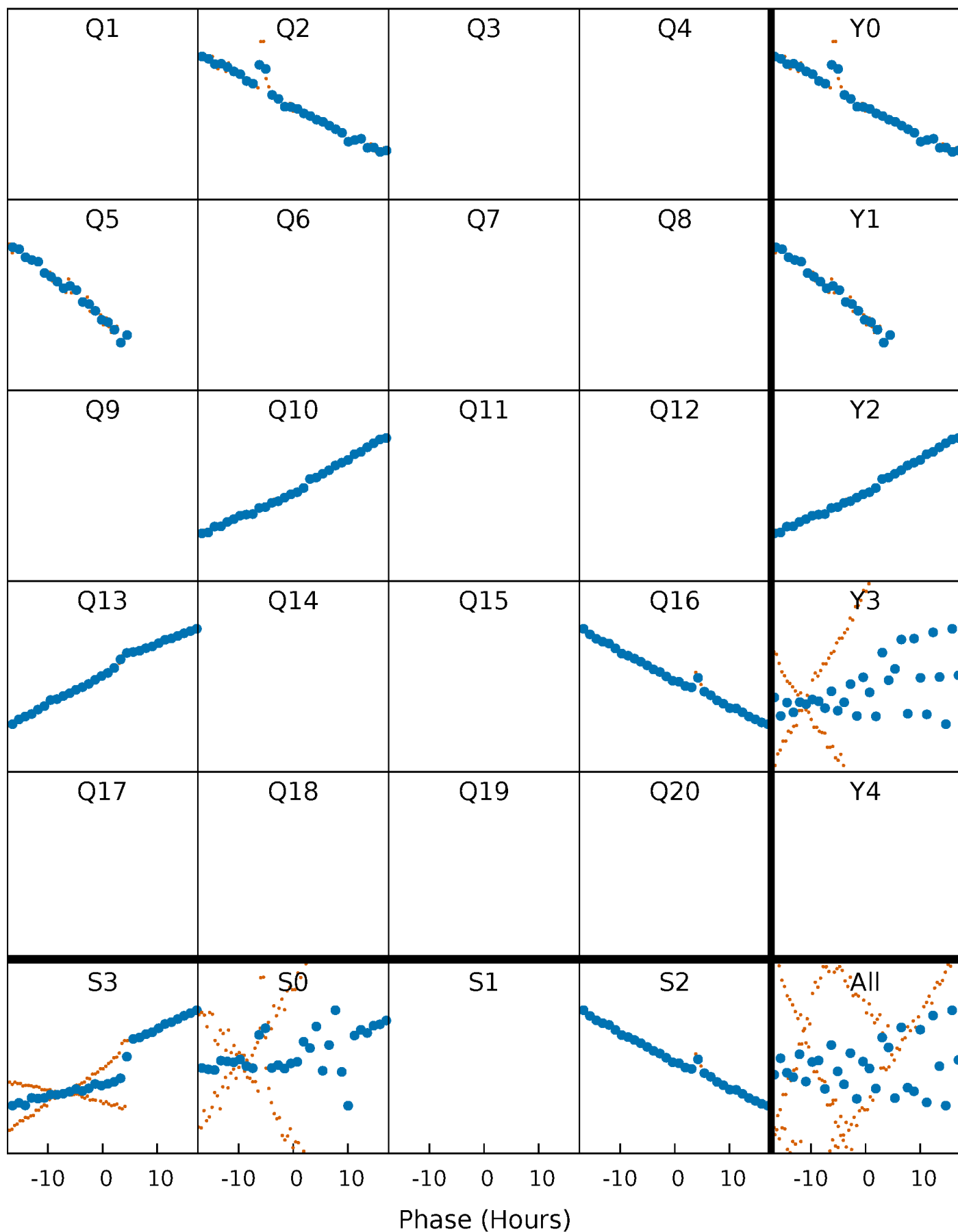


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



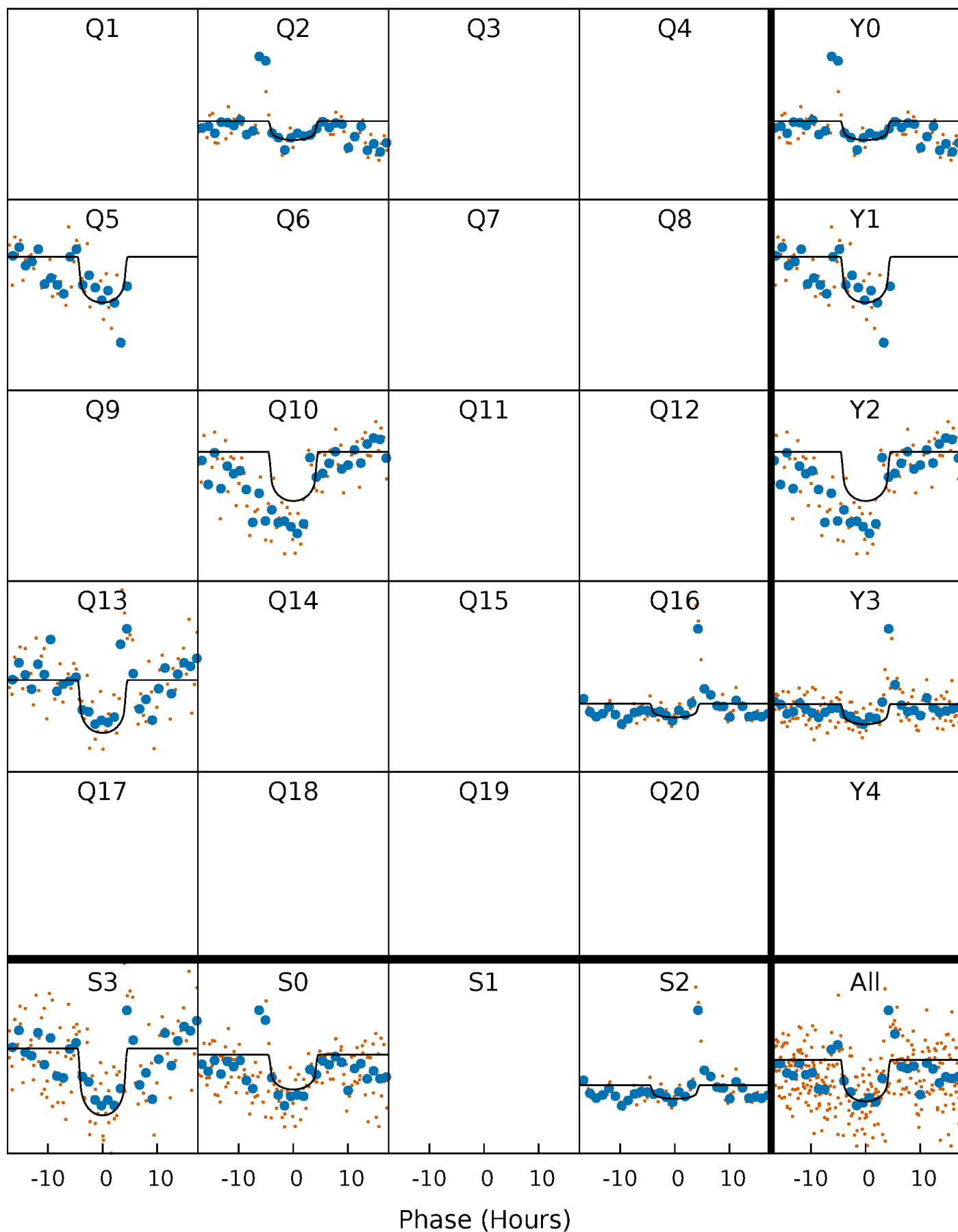
PDC Quarter-Phased Transit Curves

TCE 011872364-03 $P=254.017822$ Days $T_0=220.811137$ (BKJD)



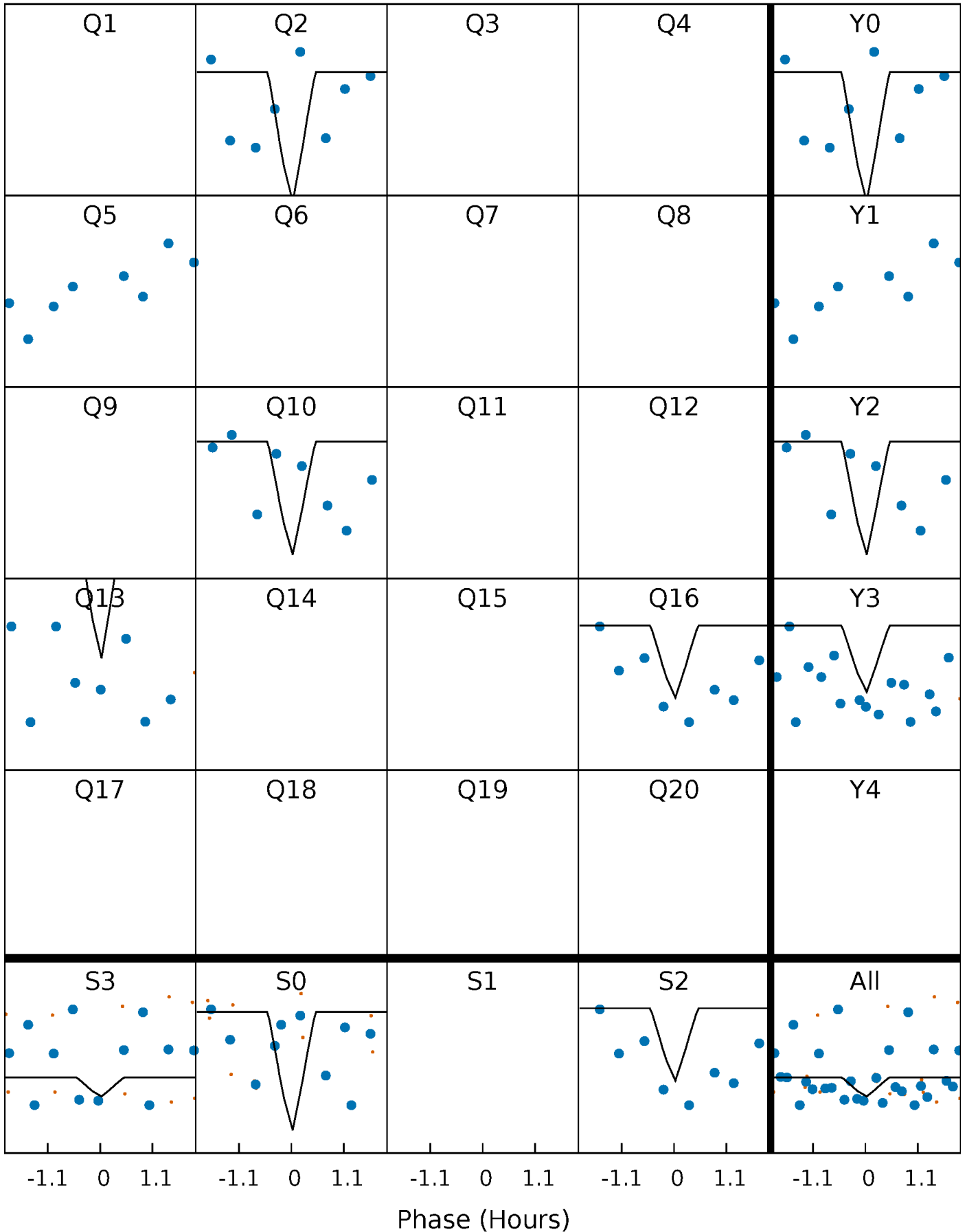
DV Quarter-Phased Transit Curves

TCE 011872364-03 $P=254.017822$ Days $T_0=220.811137$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

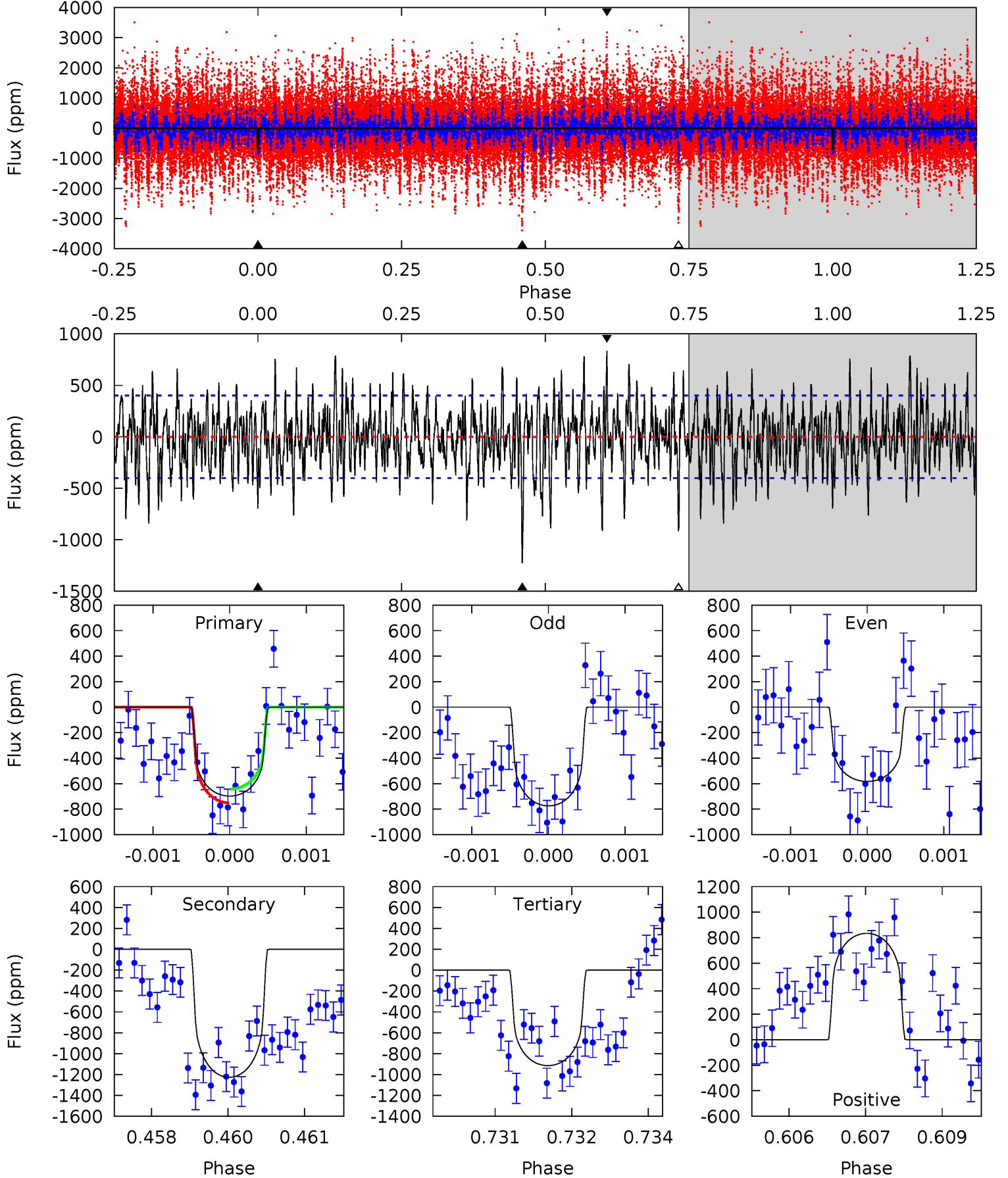
TCE 011872364-03 $P=254.016395$ Days $T_0=220.779718$ (BKJD)



DV Model-Shift Uniqueness Test

011872364-03, P = 254.017822 Days, E = 220.811137 Days

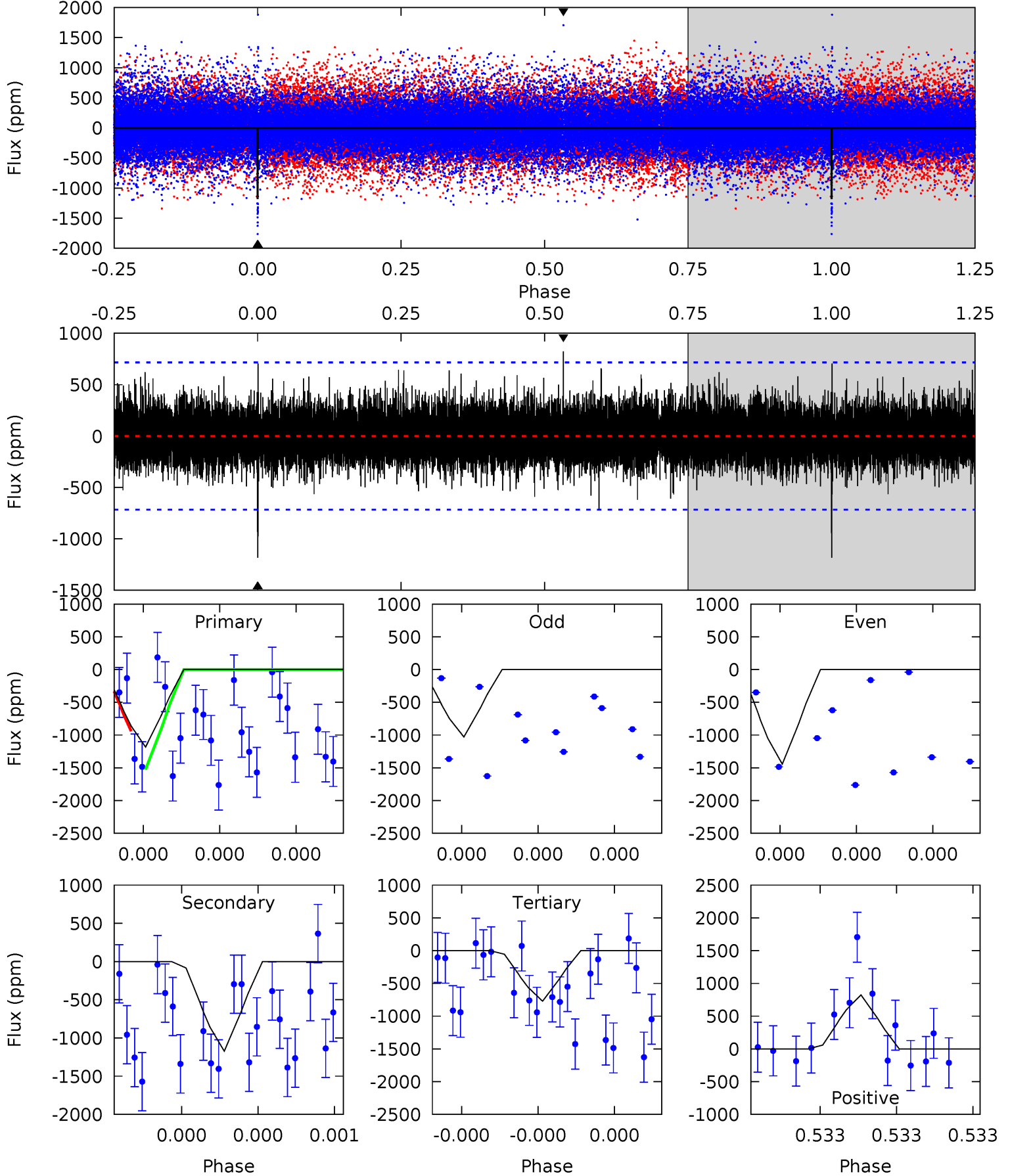
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.36	16.5	12.3	11.2	5.38	3.18	3.55	-2.91	-1.83	4.19	5.27	1.21	0.88	0.40	0.74



Alt Model-Shift Uniqueness Test

011872364-03, P = 254.016395 Days, E = 220.779718 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.53	9.46	6.21	6.65	5.77	3.77	1.18	3.32	2.89	3.24	2.81	1.46	1.13	0.41	2.19



Stellar Parameters For KIC 011872364

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5573^{+182}_{-166}	$4.382^{+0.158}_{-0.193}$	$-0.140^{+0.300}_{-0.300}$	$0.981^{+0.283}_{-0.174}$	$0.845^{+0.122}_{-0.071}$	$1.262^{+0.834}_{-0.641}$
	+3%/-3%	+4%/-4%	+214%/-214%	+29%/-18%	+14%/-8%	+66%/-51%
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 011872364-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1227 ± 75	$3.26^{+3.12}_{-2.00}$	394^{+32}_{-25}	5912^{+4757}_{-1387}	$34934^{+201721}_{-25521}$
Alt.	-1173 ± 124	$4.42^{+3.27}_{-2.70}$	397^{+29}_{-24}	5130^{+3200}_{-939}	$17888^{+105041}_{-11869}$

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 $A_{obs} \gg 1.0$

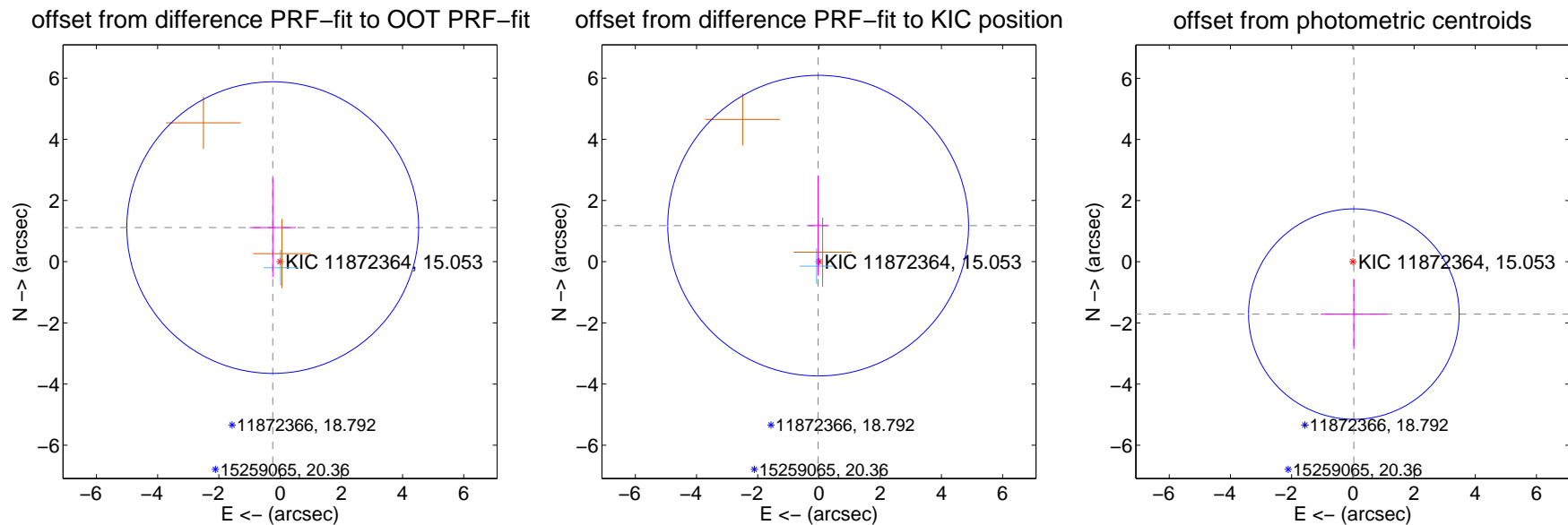
DV Centroid Data

Supplemental centroid analysis for 011872364-03. Kepler magnitude: 15.05. Transit SNR 5.47

There are 1 quarters with good PRF difference image offsets

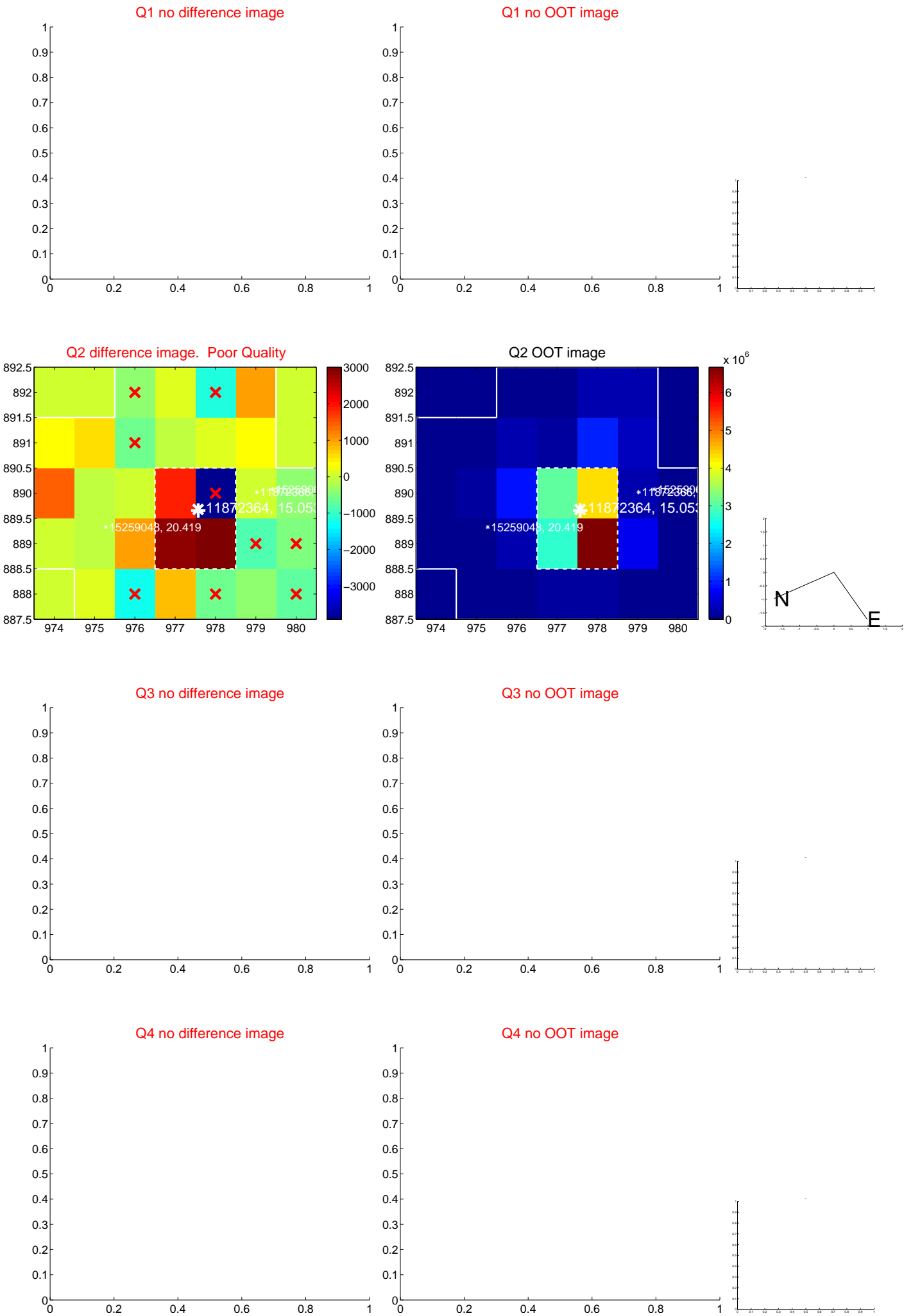
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.141 ± 1.589	0.72	0.241 ± 0.755	1.115 ± 1.618
PRF-fit source offset from KIC position	1.180 ± 1.638	0.72	0.027 ± 0.321	1.180 ± 1.639
photometric centroid source offset	1.71 ± 1.15	1.49	-0.03 ± 1.09	-1.71 ± 1.15



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.

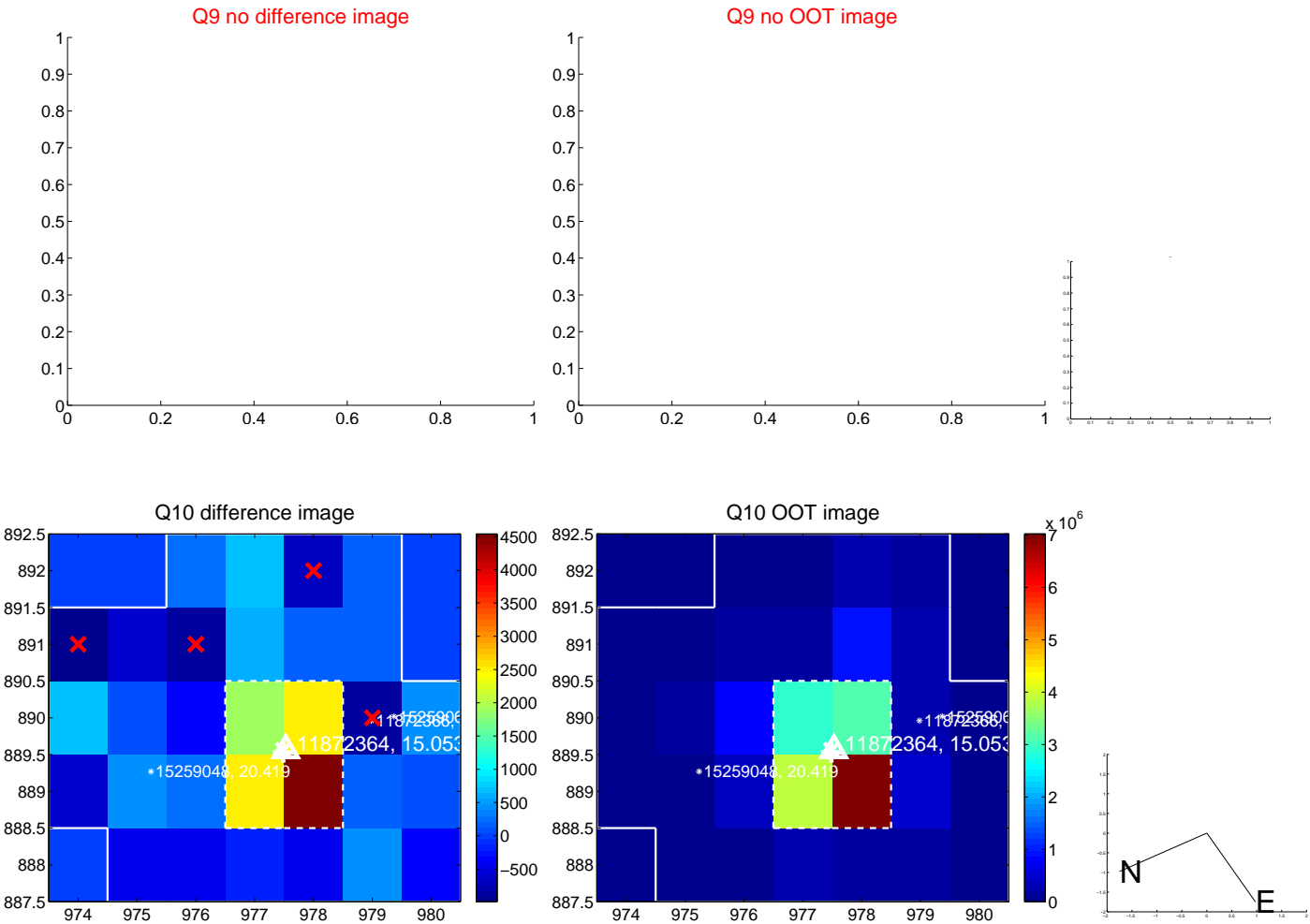
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



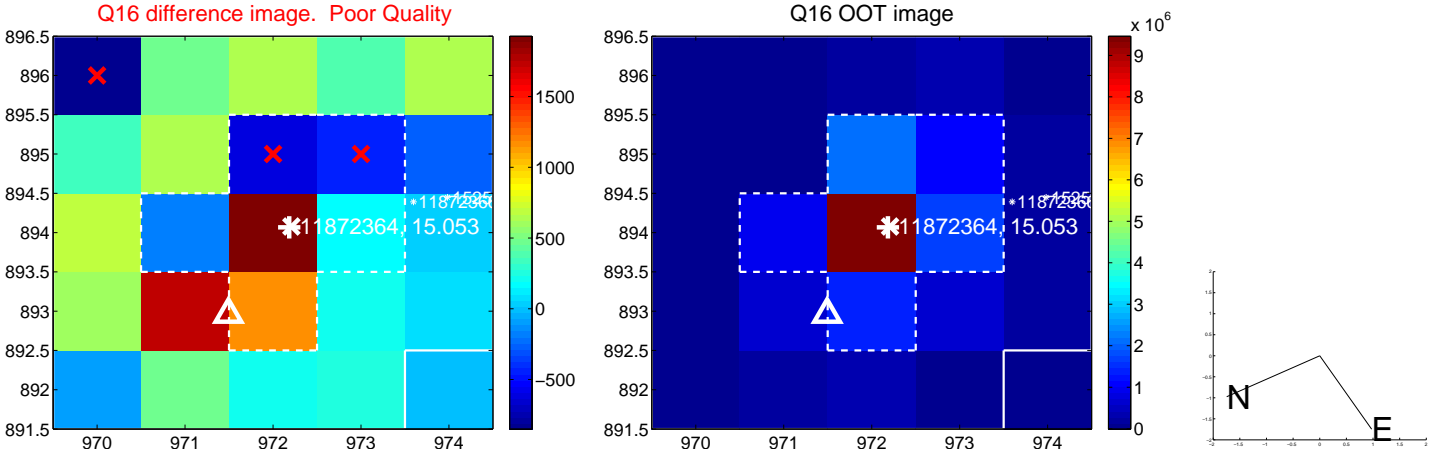
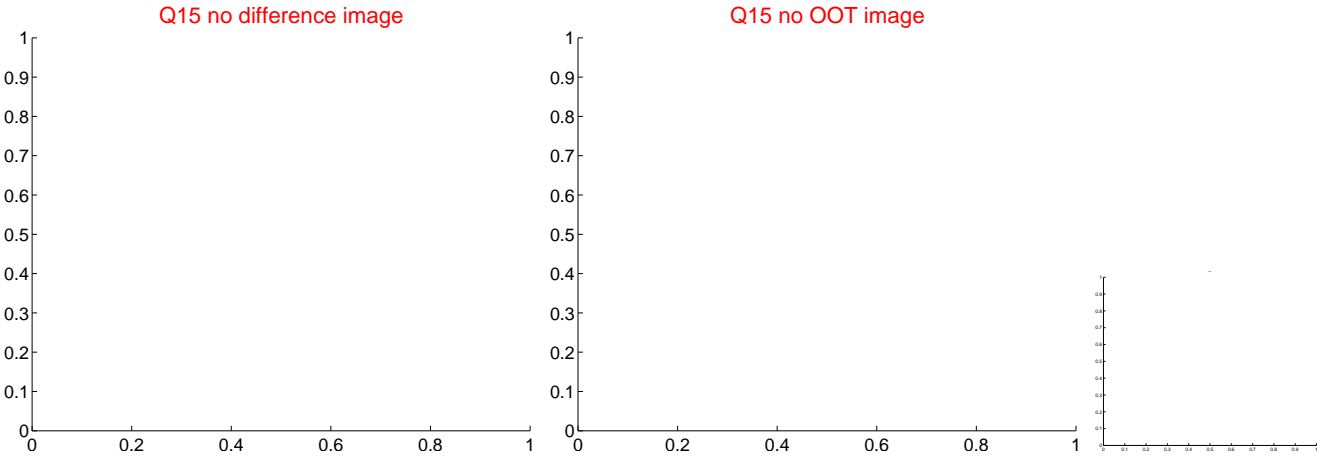
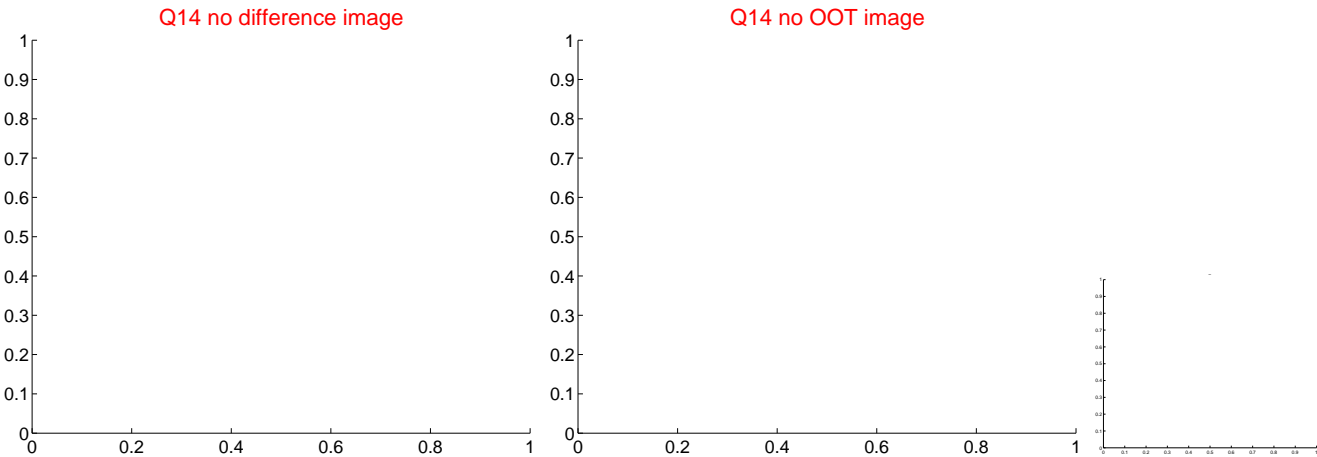
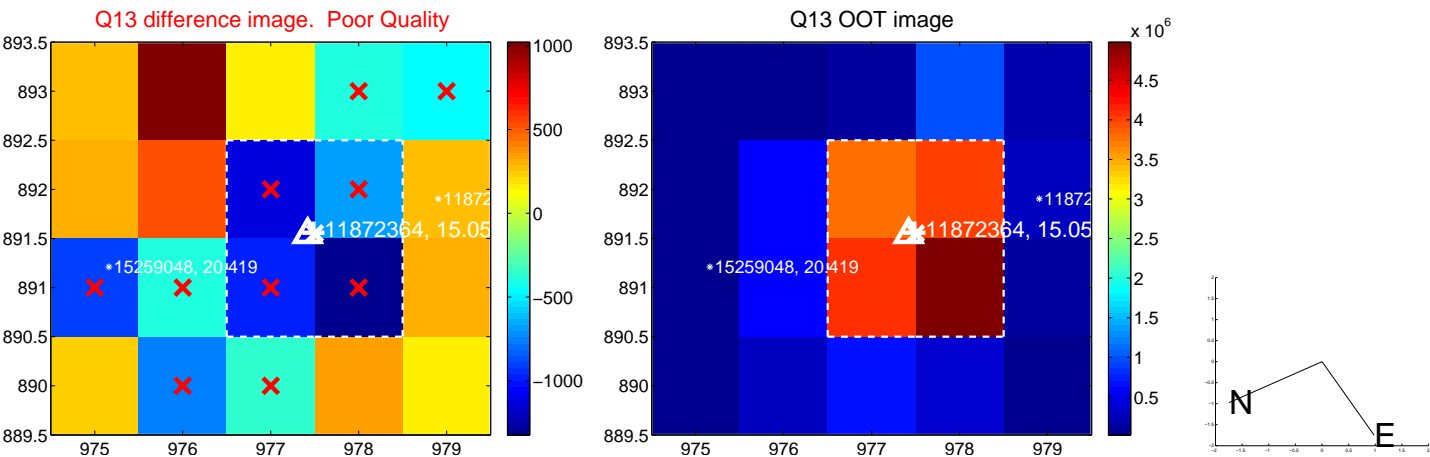
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



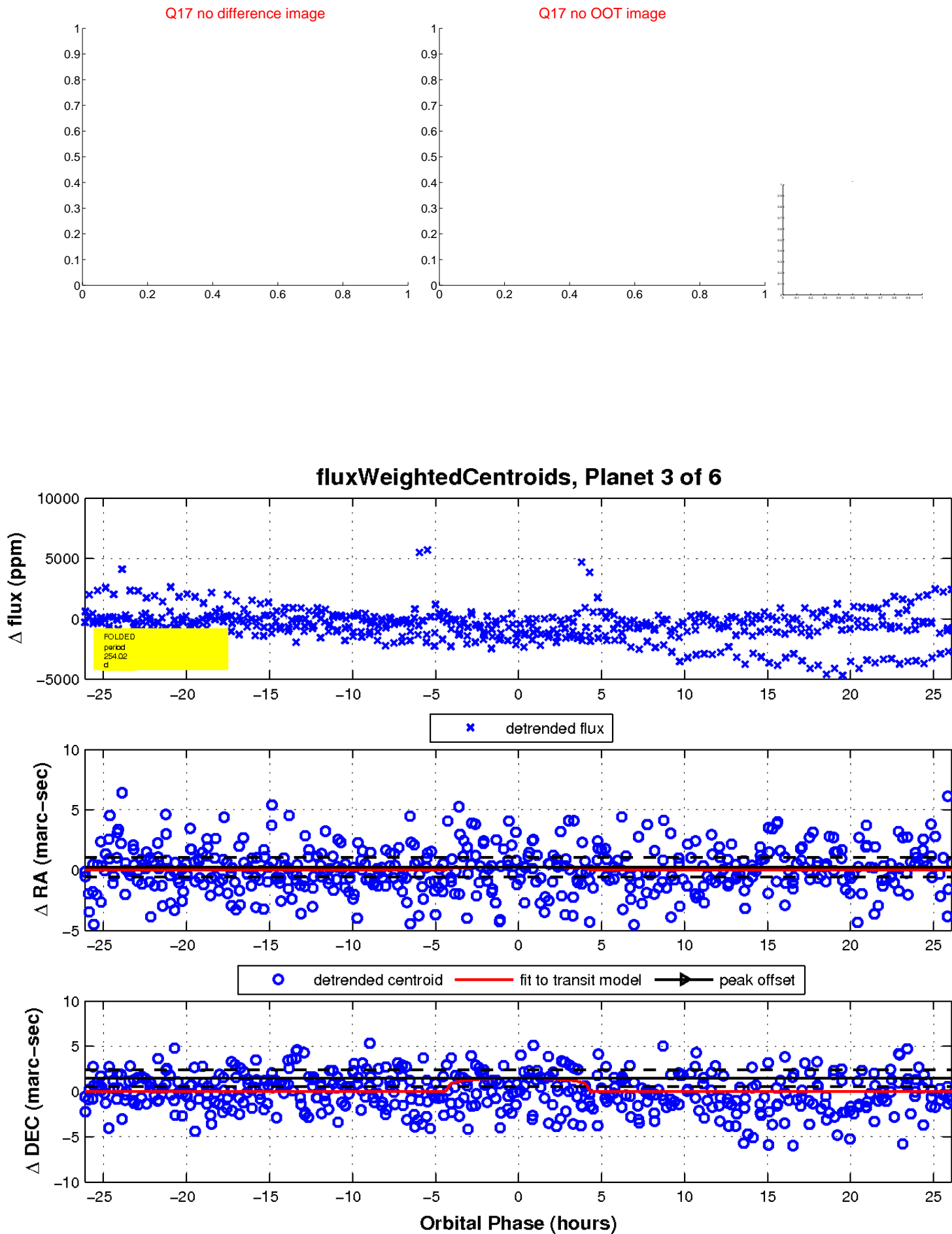
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

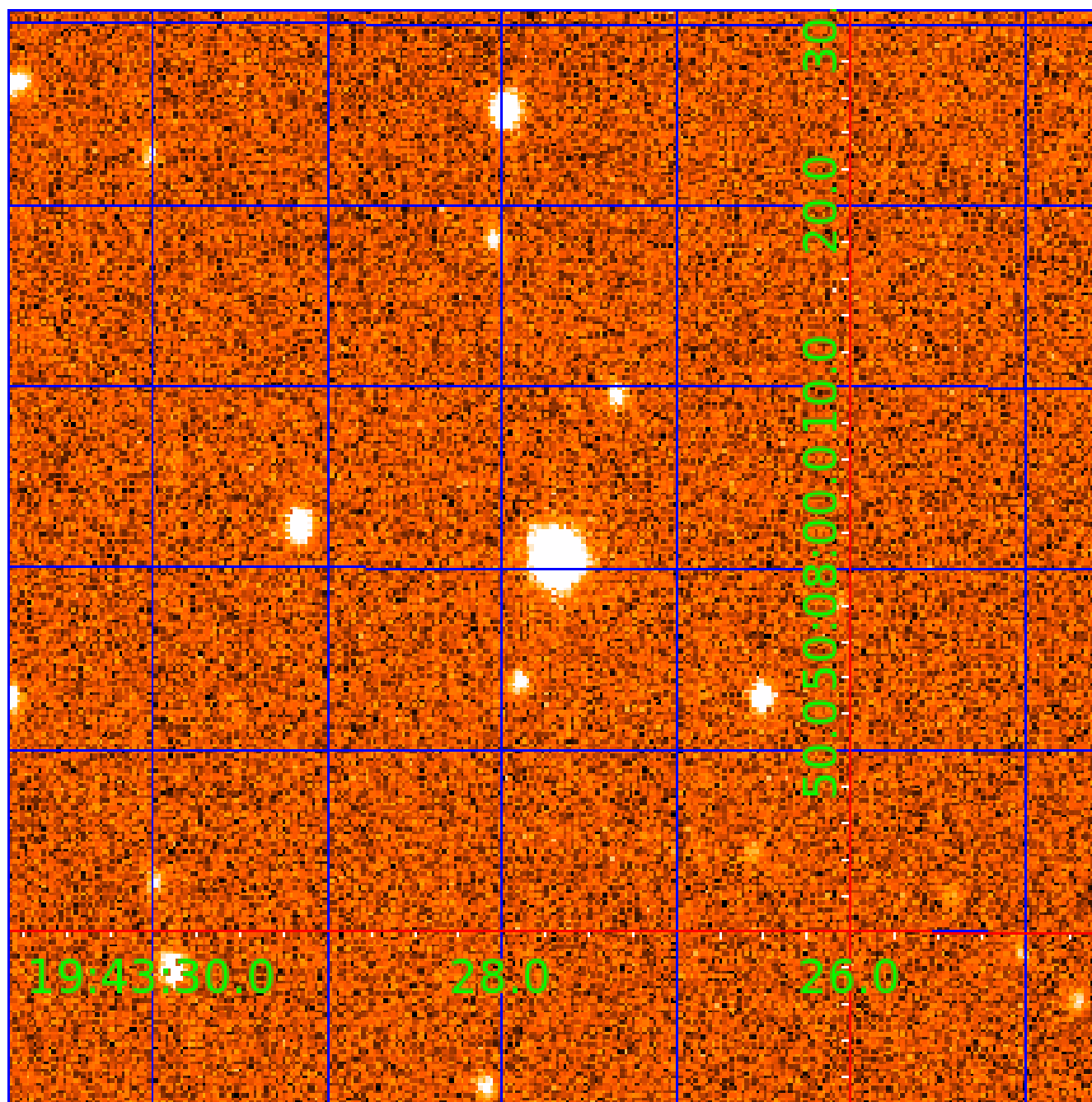


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011872364

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})
011872364-01	OBS	No	360.051480	367.276375	1088.0	8.200	11.6	5.9	0.98	5573	3.78	0.95
011872364-02	OBS	No	326.903758	169.613218	1042.3	11.181	12.5	5.4	0.98	5573	3.14	1.08
011872364-03	OBS	No	254.017822	220.811137	733.0	8.713	12.1	5.5	0.98	5573	2.69	1.51
011872364-04	OBS	No	259.935489	303.117226	1040.3	3.143	11.0	7.5	0.98	5573	3.59	1.46
011872364-05	OBS	No	355.598390	339.978229	886.5	4.479	11.9	5.9	0.98	5573	2.90	0.96
011872364-06	OBS	8232.01	189.181150	132.379420	996.9	5.000	9.4	-1.0	0.98	5573	3.06	2.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011872364-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-02	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011872364-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
011872364-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
011872364-05	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-06	OBS	PC	0.49	0	0	0	0	CENT_NOFITS

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

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

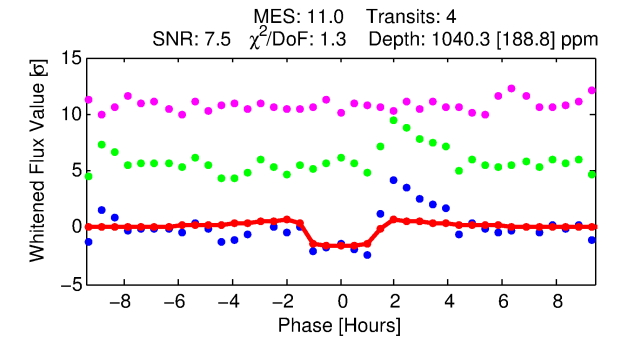
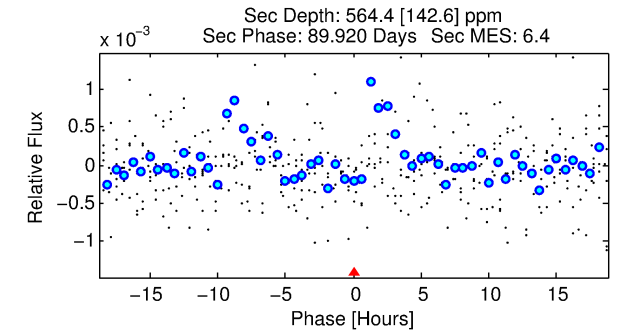
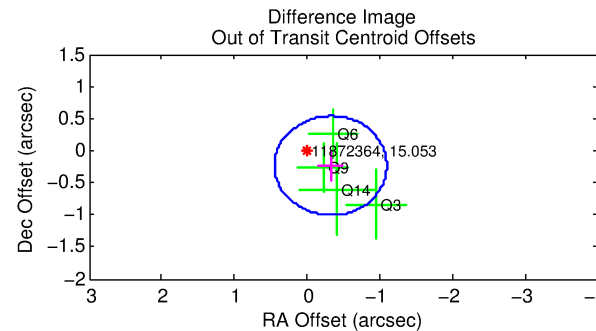
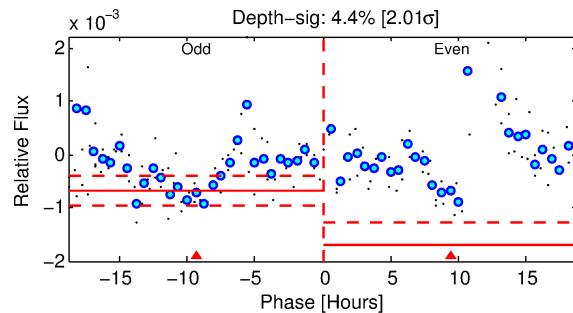
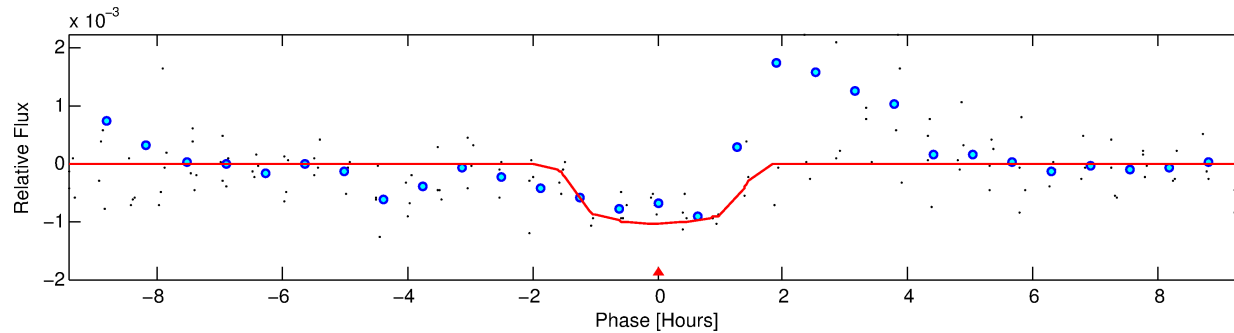
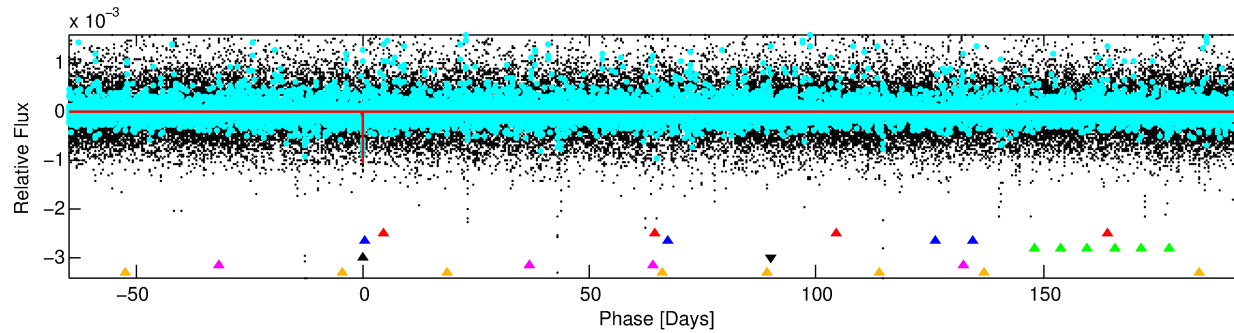
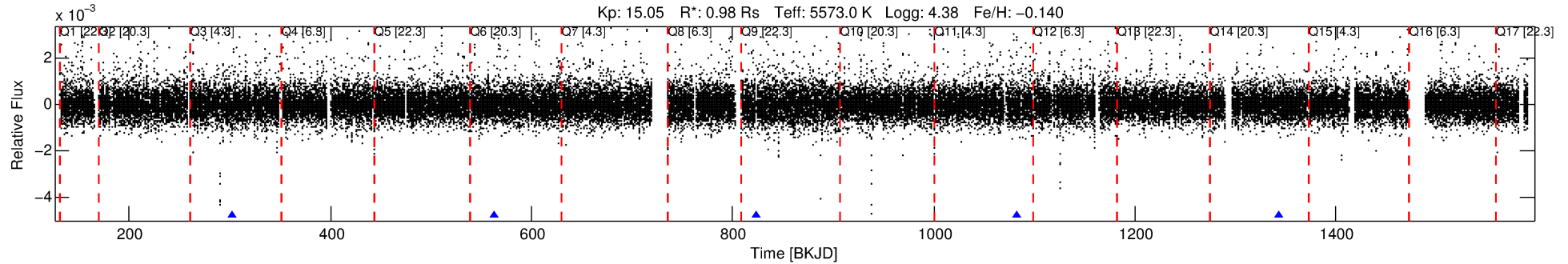
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011872364-04

No Significant Match Found

DV One-Page Summary

KIC: 11872364 Candidate: 4 of 6 Period: 259.935 d



DV Fit Results:

Period = 259.93549 [0.00316] d
Epoch = 303.1172 [0.0091] BKJD
Rp/R* = 0.0335 [0.0438]
a/R* = 385.04 [2137.86]
b = 0.83 [2.08]
Seff = 1.46 [0.55]
Teq = 280 [26] K
Rp = 3.59 [4.80] Re
a = 0.7540 [0.1830] AU
Ag = 13695.41 [36229.84] [0.38 σ]
Teffp = 4690 [3078] K [1.43 σ]

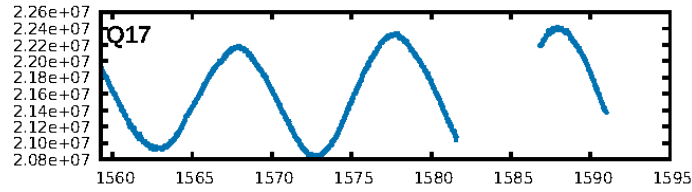
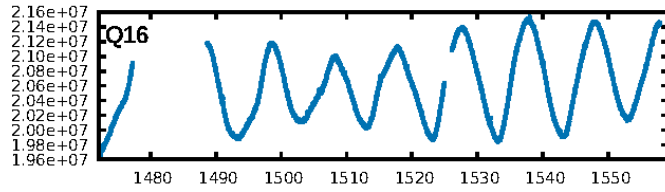
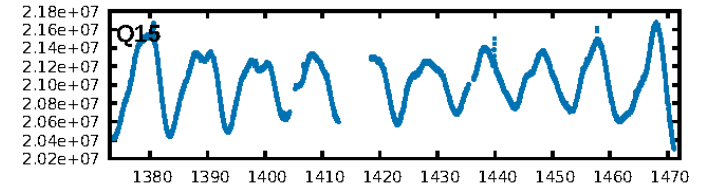
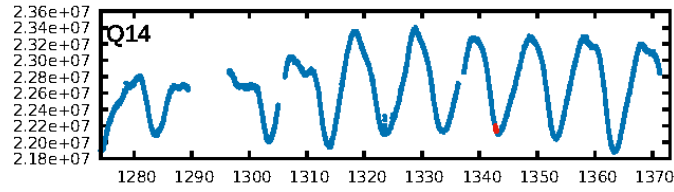
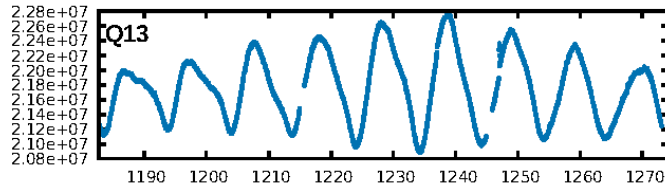
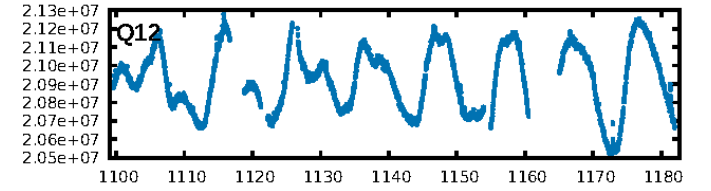
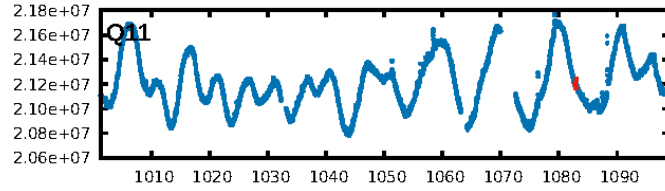
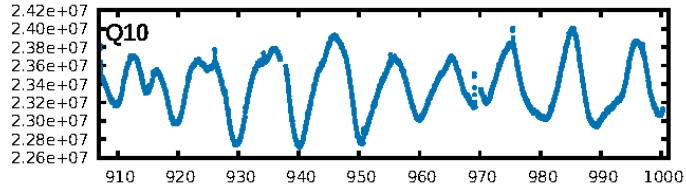
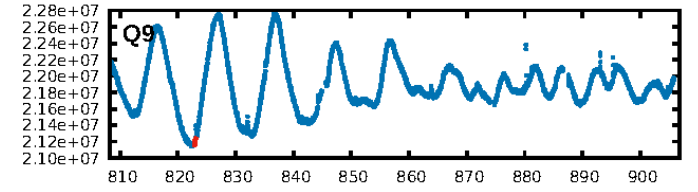
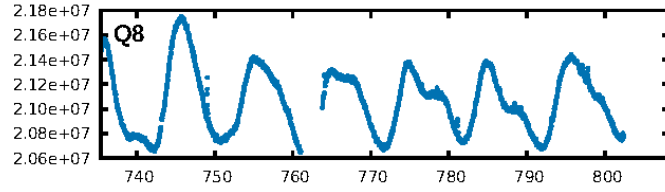
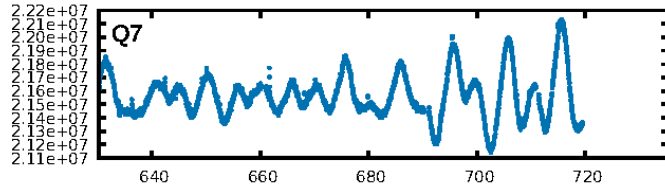
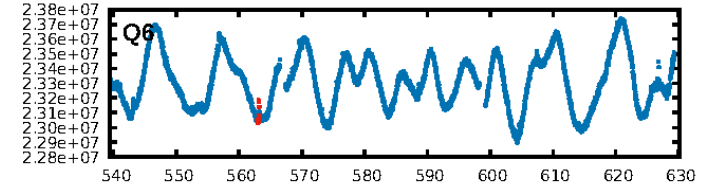
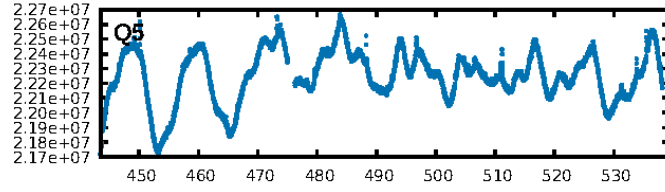
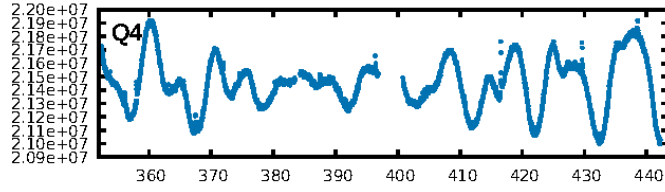
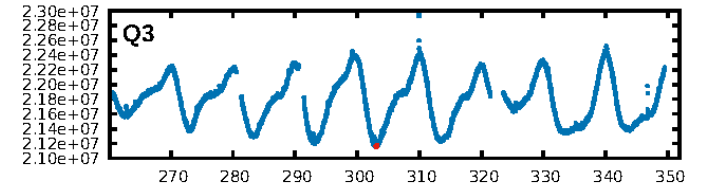
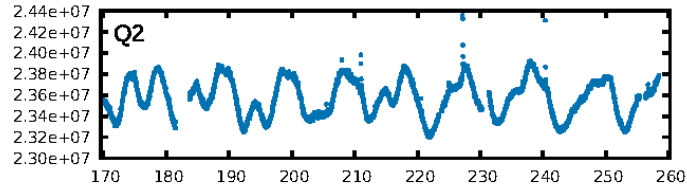
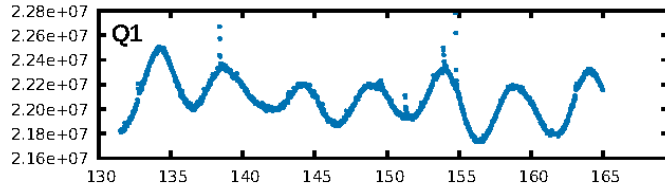
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.33 σ]
LongPeriod-sig: 100.0% [138.38 σ]
ModelChiSquare2-sig: 3.0%
ModelChiSquareGof-sig: 89.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.354
Centroid-sig: 51.9%
Centroid-so: 0.548 arcsec [0.45 σ]
OotOffset-rm: 0.399 arcsec [1.55 σ]
OotOffset-st: 2/1/0/1 [4]
KicOffset-rm: 0.350 arcsec [1.50 σ]
KicOffset-st: 2/1/0/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 0.75 [3/4]

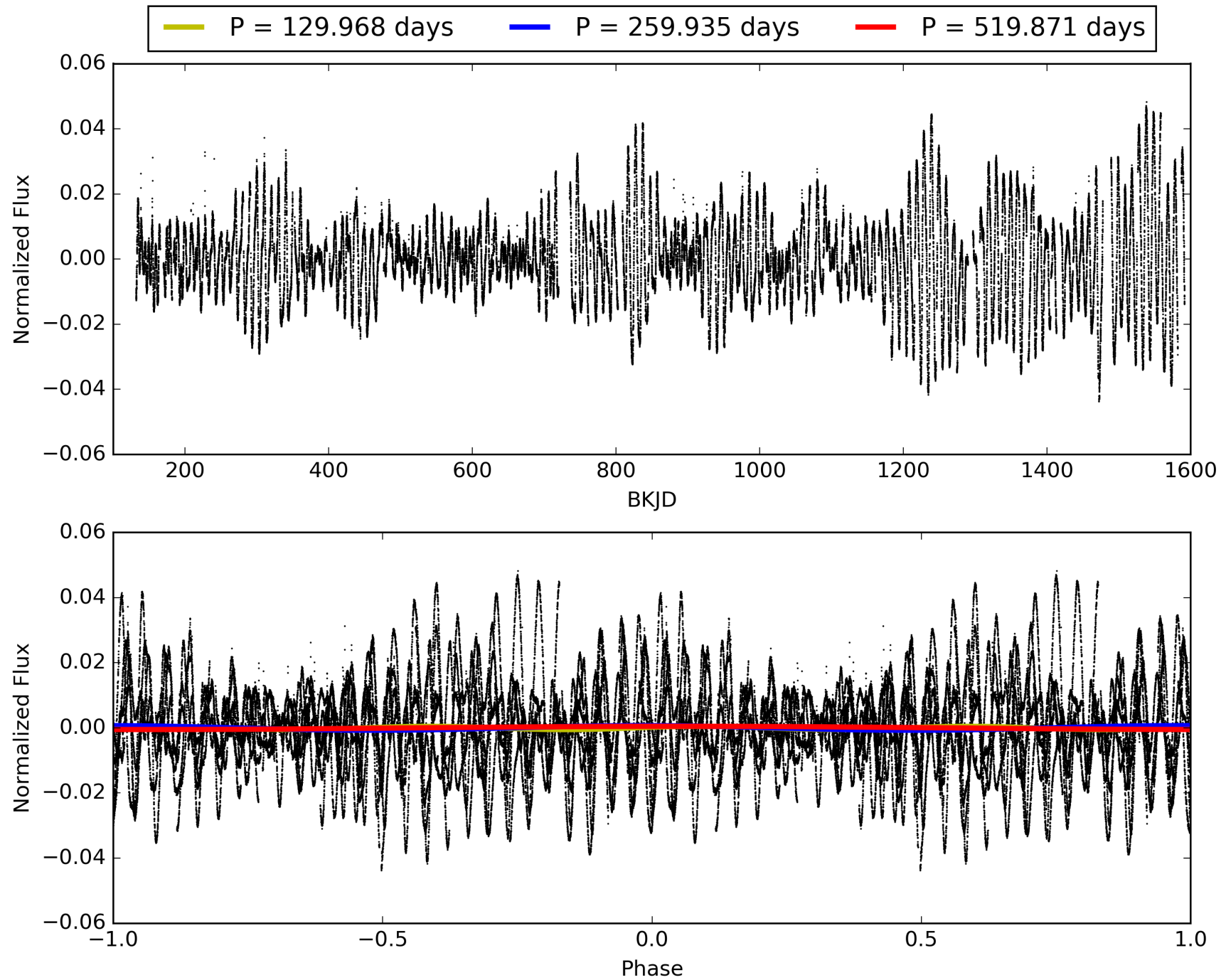
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:41:28 Z

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

TCE 011872364-04, PDC Light Curves

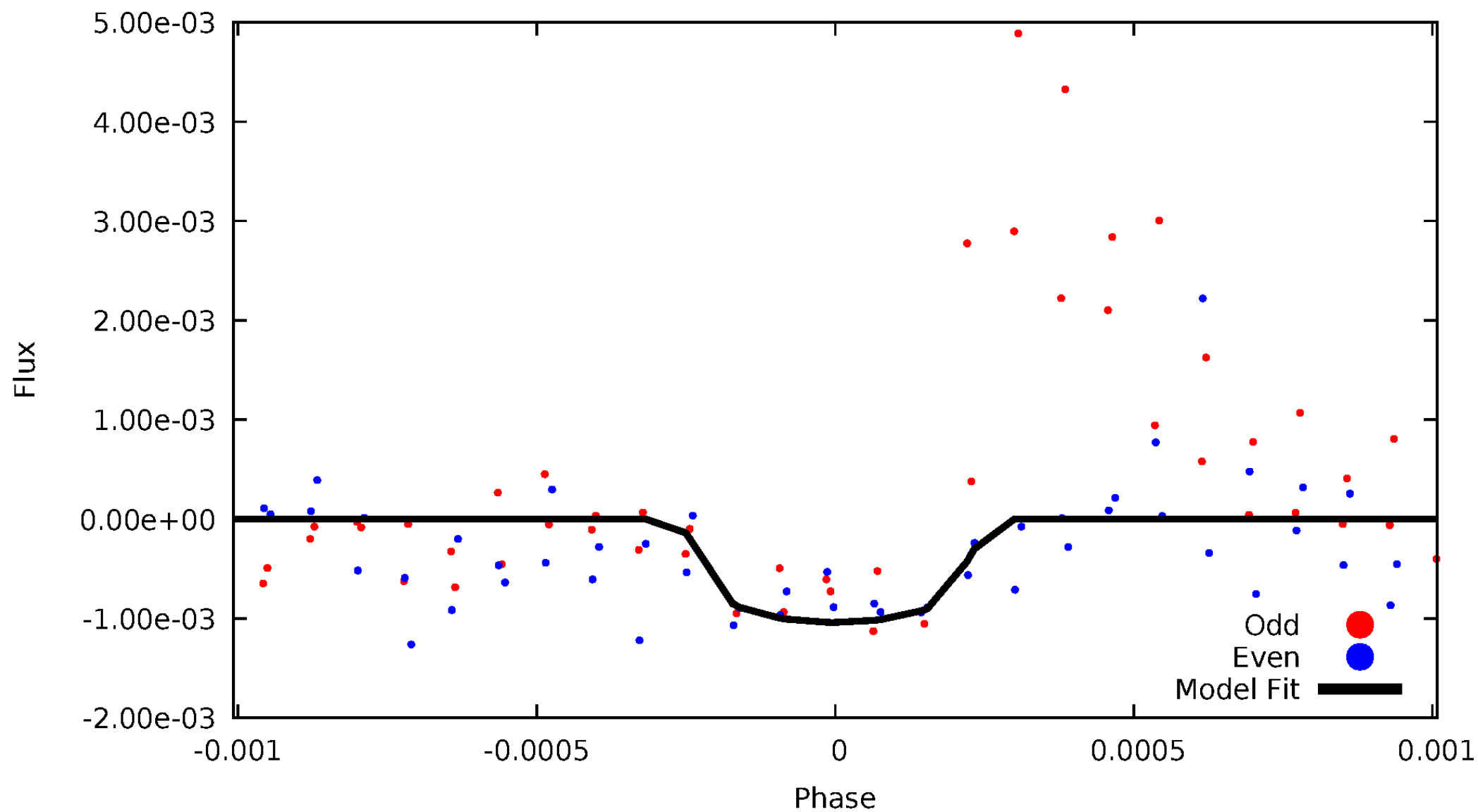


TCE 011872364-04



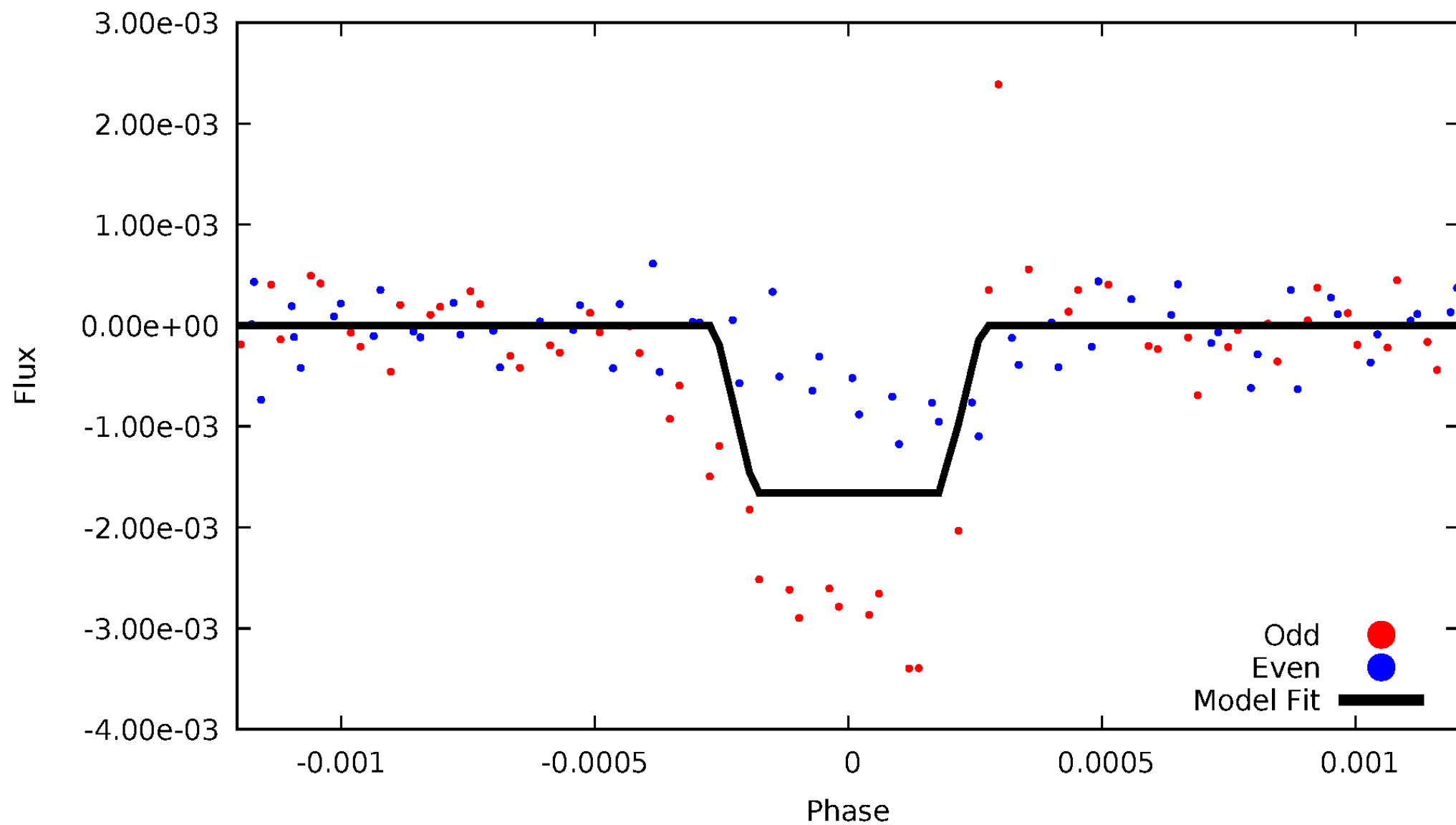
DV Odd/Even

TCE 011872364-04



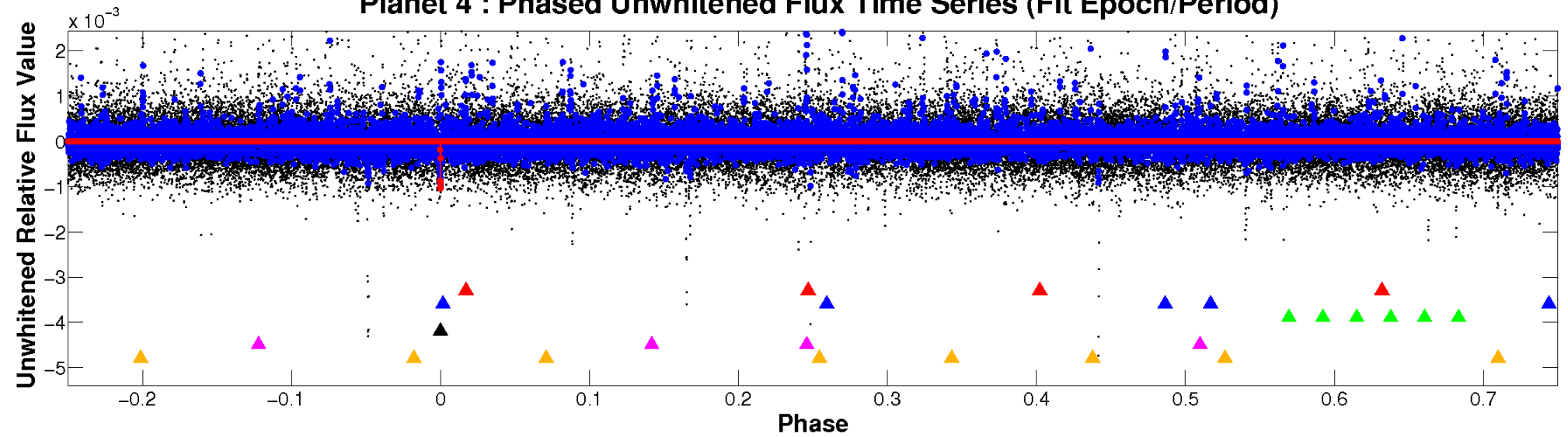
ALT Odd/Even

TCE 011872364-04

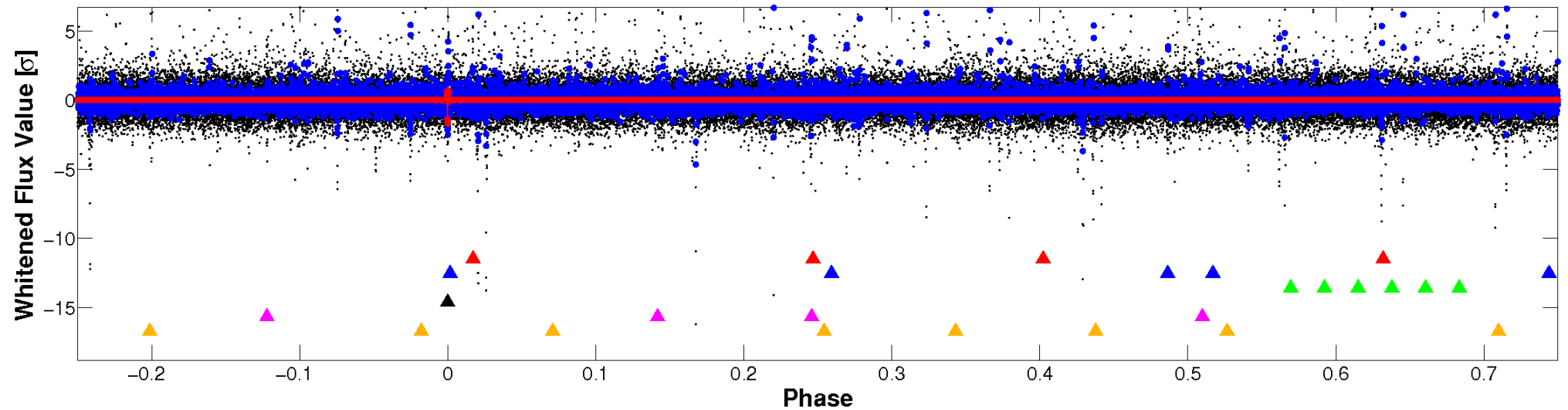


Non-Whitened Vs. Whitened Light Curve

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

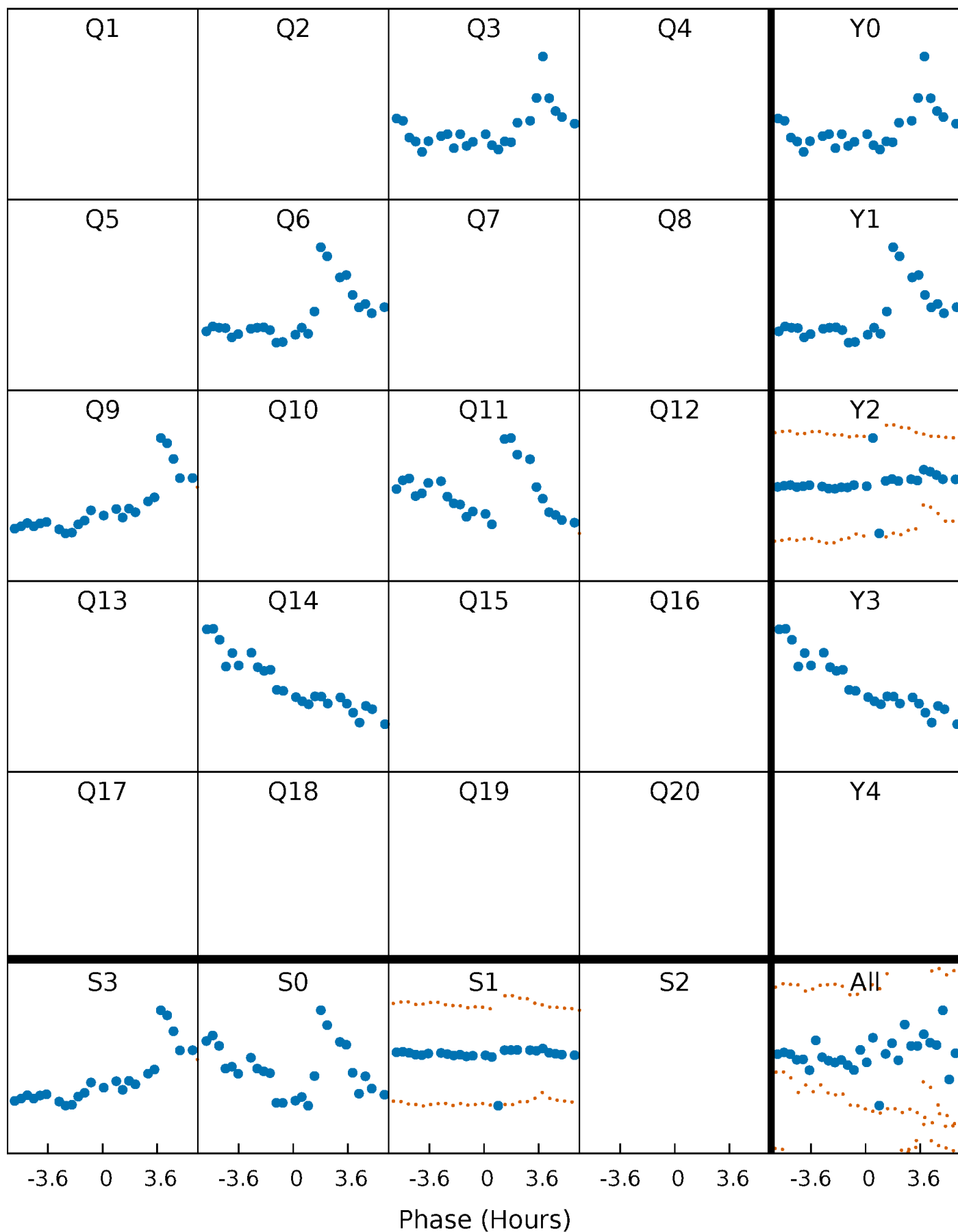


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



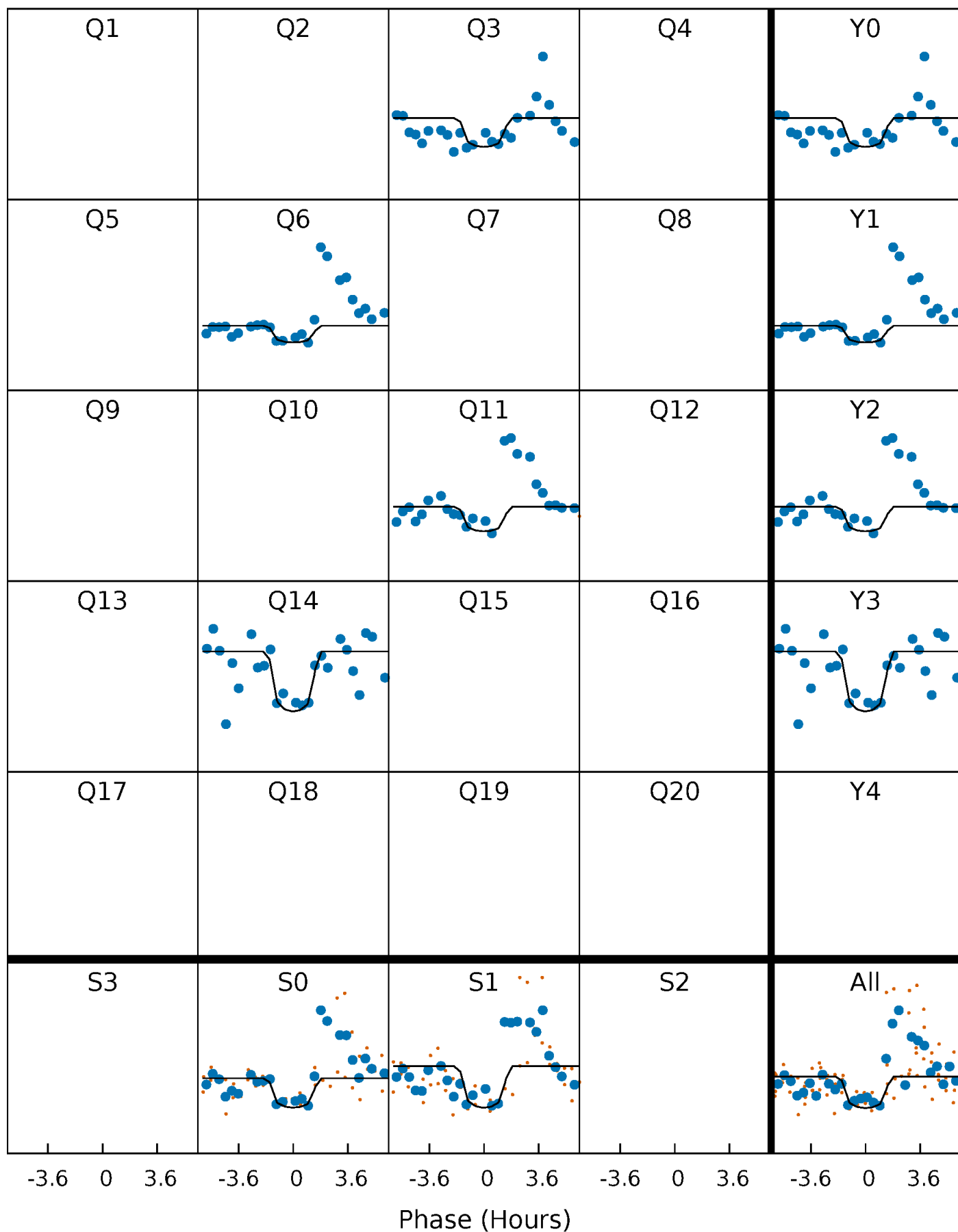
PDC Quarter-Phased Transit Curves

TCE 011872364-04 P=259.935489 Days $T_0=303.117226$ (BKJD)



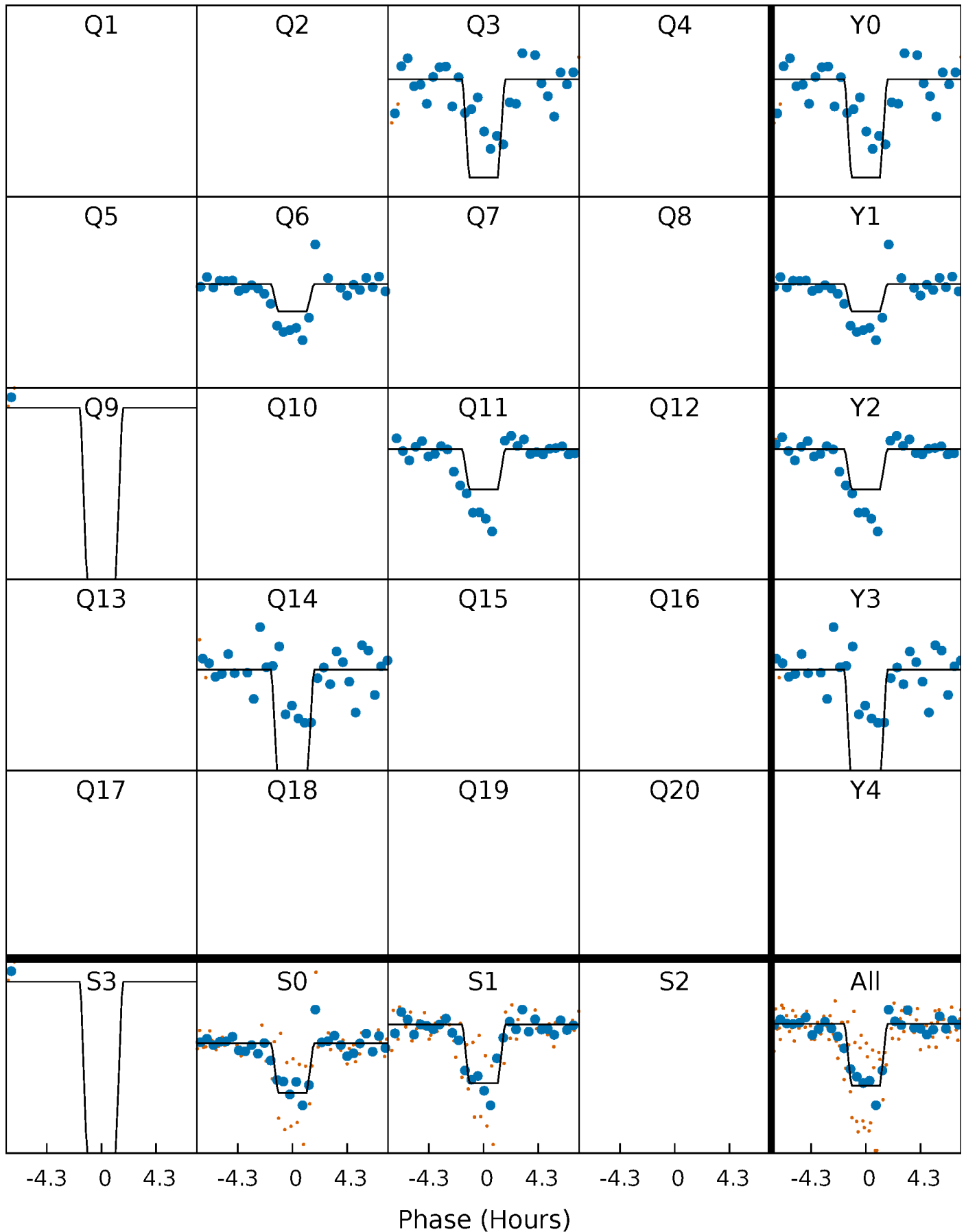
DV Quarter-Phased Transit Curves

TCE 011872364-04 $P=259.935489$ Days $T_0=303.117226$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

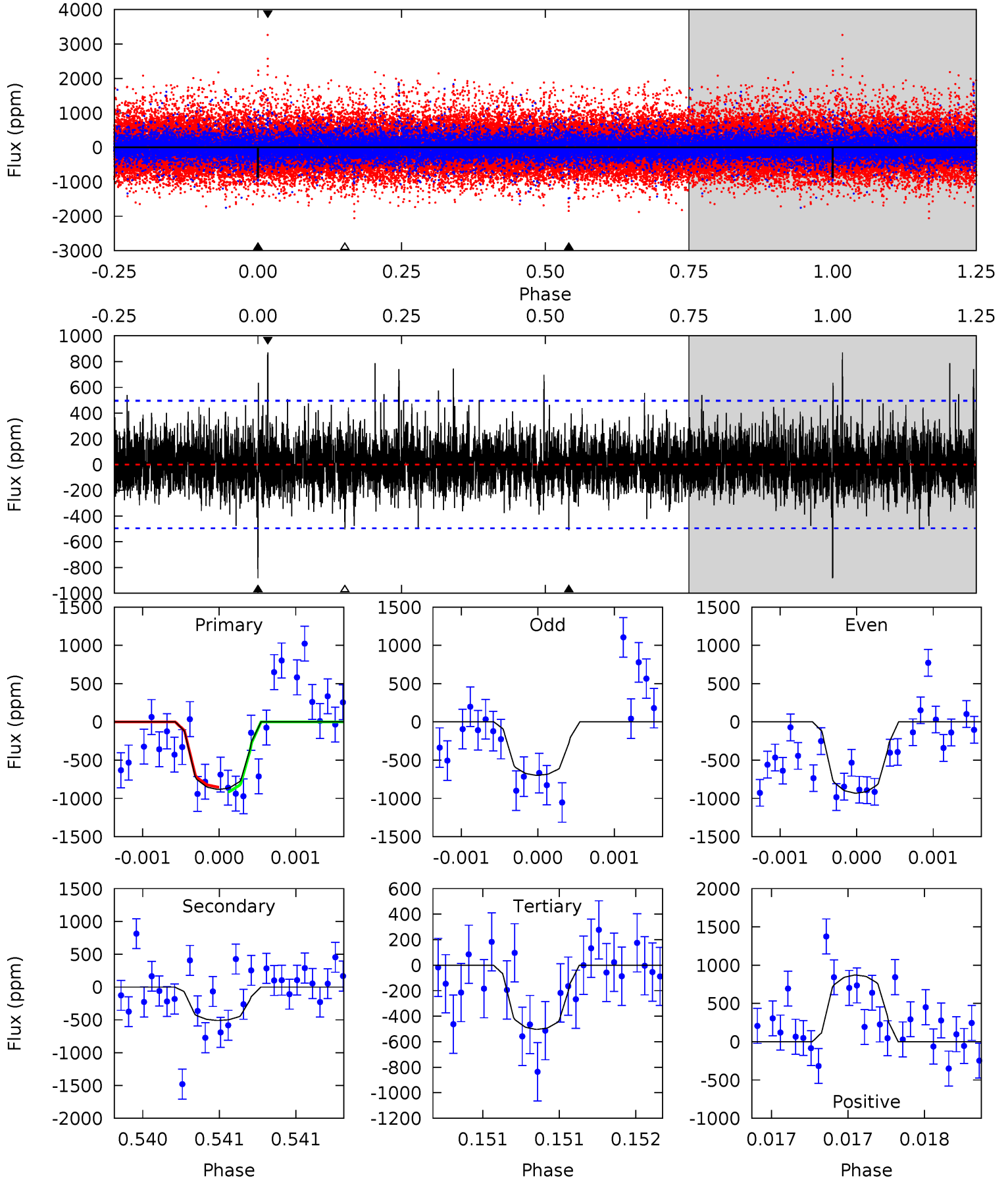
TCE 011872364-04 P=259.926833 Days $T_0=303.128657$ (BKJD)



DV Model-Shift Uniqueness Test

011872364-04, P = 259.935489 Days, E = 43.181737 Days

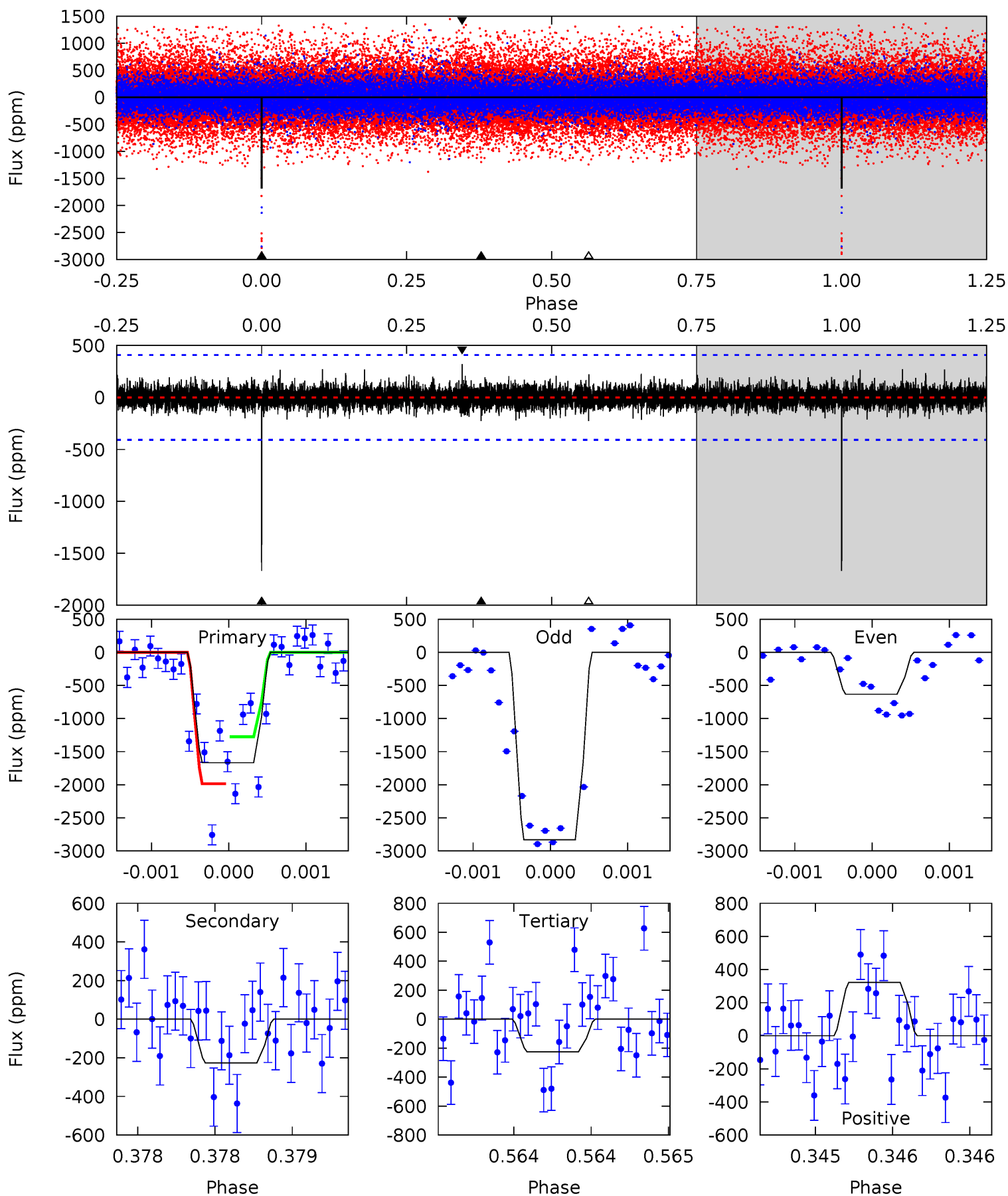
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.91	5.72	5.65	9.78	5.56	3.46	1.51	4.26	0.13	0.07	-4.06	1.25	0.91	0.50	0.35



Alt Model-Shift Uniqueness Test

011872364-04, P = 259.926833 Days, E = 43.201824 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	3.10	3.07	4.39	5.57	3.47	0.78	19.7	18.4	0.03	-1.29	16.4	0.98	0.16	4.57



Stellar Parameters For KIC 011872364

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5573^{+182}_{-166}	$4.382^{+0.158}_{-0.193}$	$-0.140^{+0.300}_{-0.300}$	$0.981^{+0.283}_{-0.174}$	$0.845^{+0.122}_{-0.071}$	$1.262^{+0.834}_{-0.641}$
	+3%/-3%	+4%/-4%	+214%/-214%	+29%/-18%	+14%/-8%	+66%/-51%
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 011872364-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-510 ± 89	$5.03^{+4.39}_{-3.19}$	395^{+30}_{-23}	4165^{+2311}_{-784}	6529^{+41568}_{-4754}
Alt.	-227 ± 73	$5.19^{+4.15}_{-3.36}$	395^{+29}_{-25}	3560^{+1735}_{-611}	2517^{+17537}_{-1791}

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 $A_{obs} \gg 1.0$

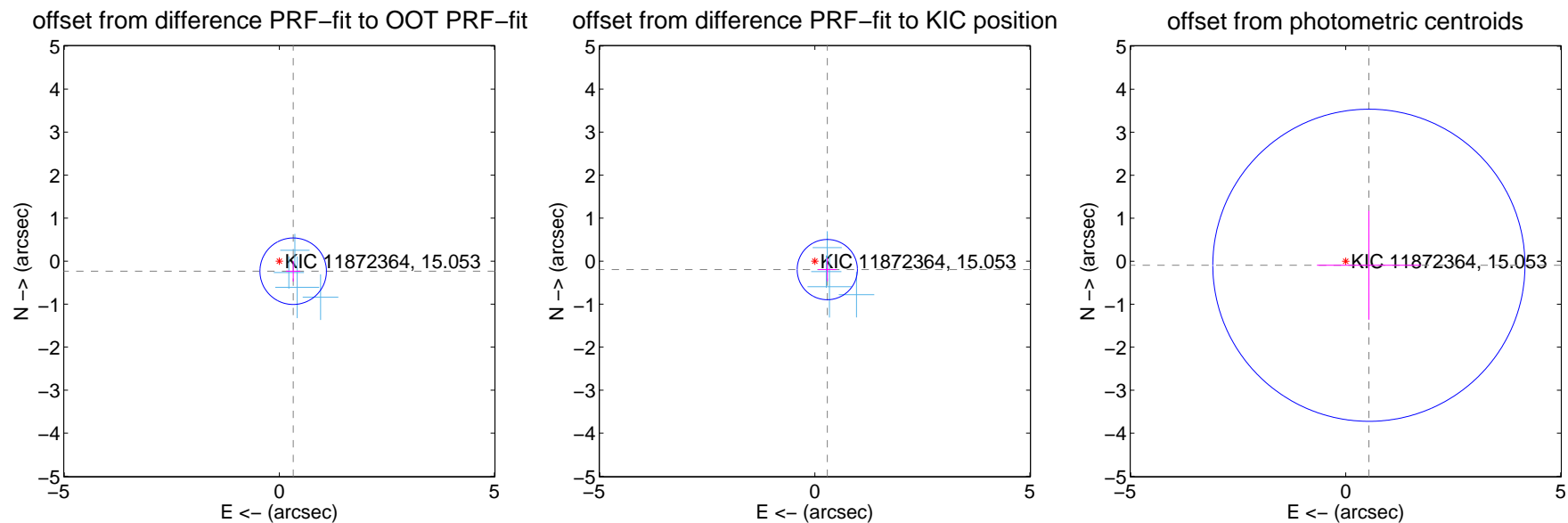
DV Centroid Data

Supplemental centroid analysis for 011872364-04. Kepler magnitude: 15.05. Transit SNR 7.49

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

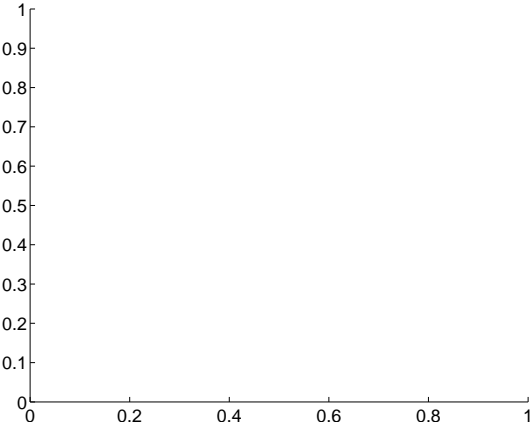
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.399 ± 0.258	1.55	-0.323 ± 0.165	-0.234 ± 0.240
PRF-fit source offset from KIC position	0.350 ± 0.233	1.50	-0.290 ± 0.215	-0.196 ± 0.269
photometric centroid source offset	0.55 ± 1.21	0.45	-0.54 ± 1.21	-0.09 ± 1.27



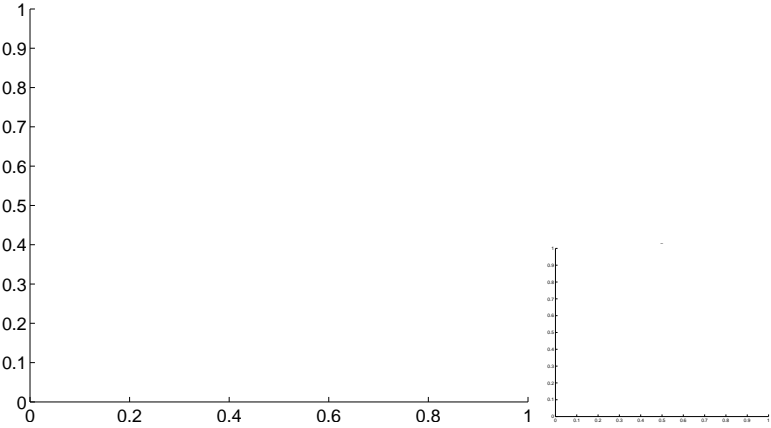
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

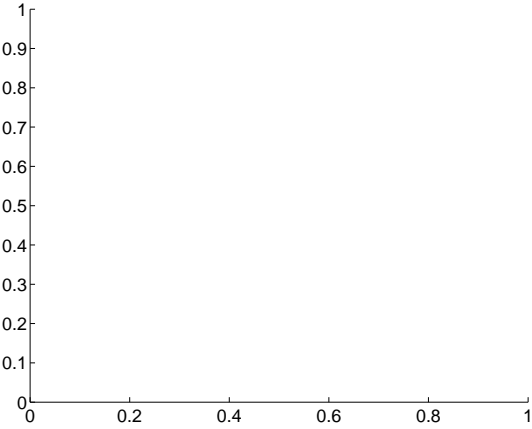
Q1 no difference image



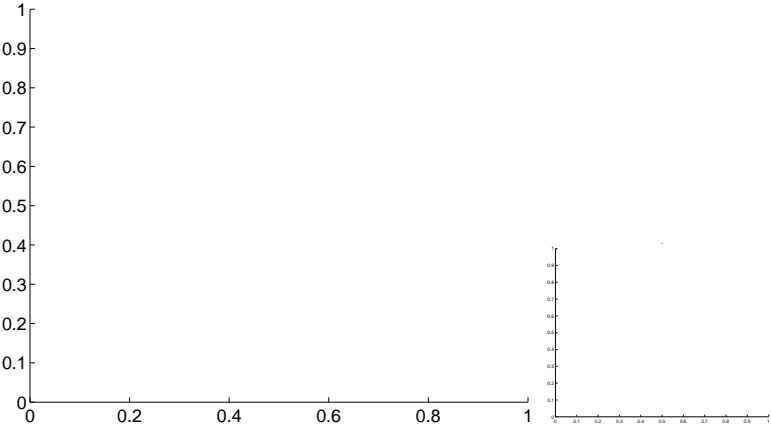
Q1 no OOT image



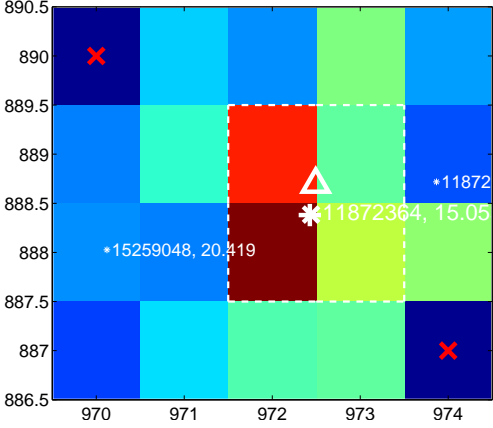
Q2 no difference image



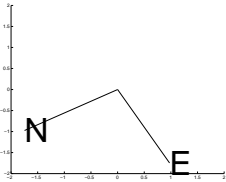
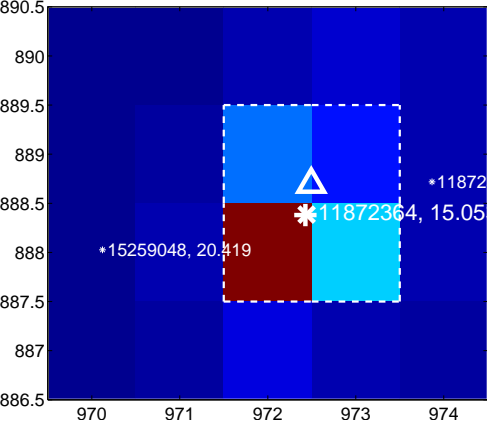
Q2 no OOT image



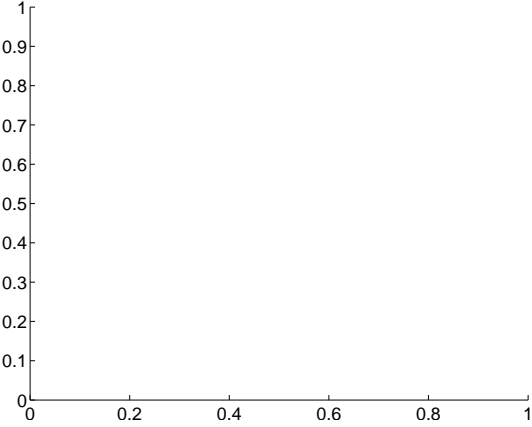
Q3 difference image



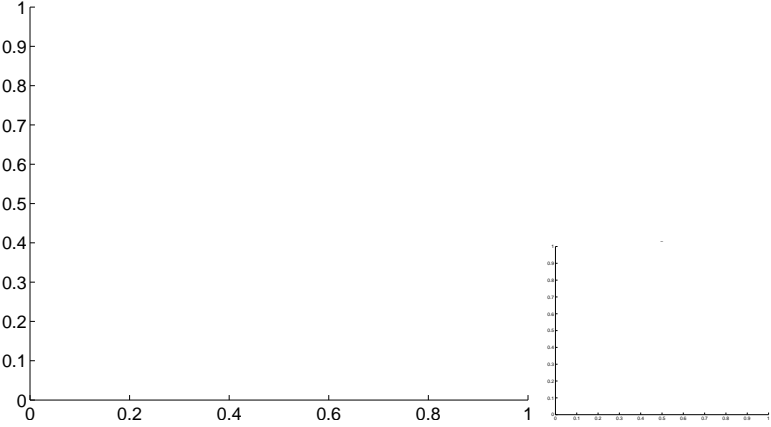
Q3 OOT image



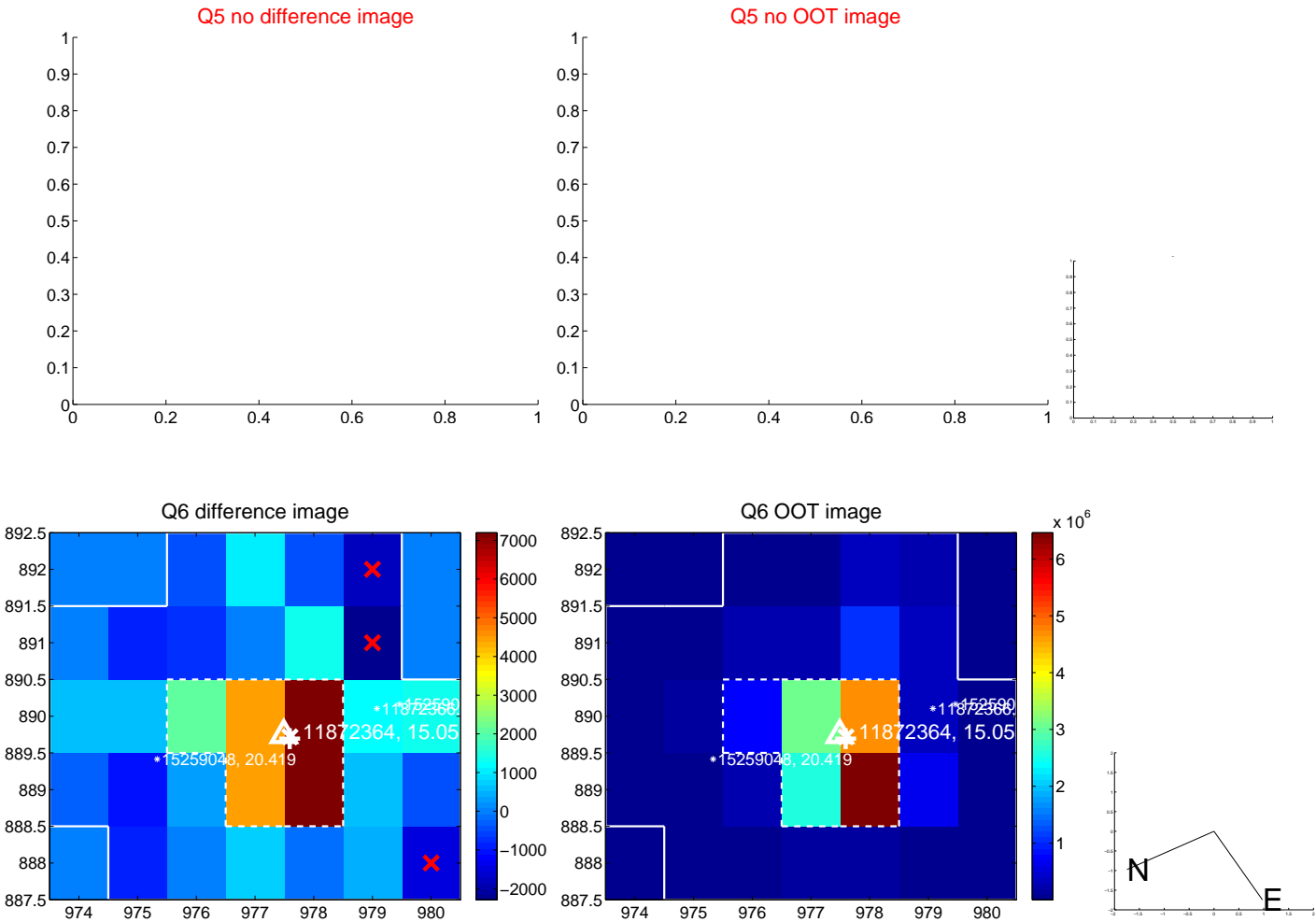
Q4 no difference image



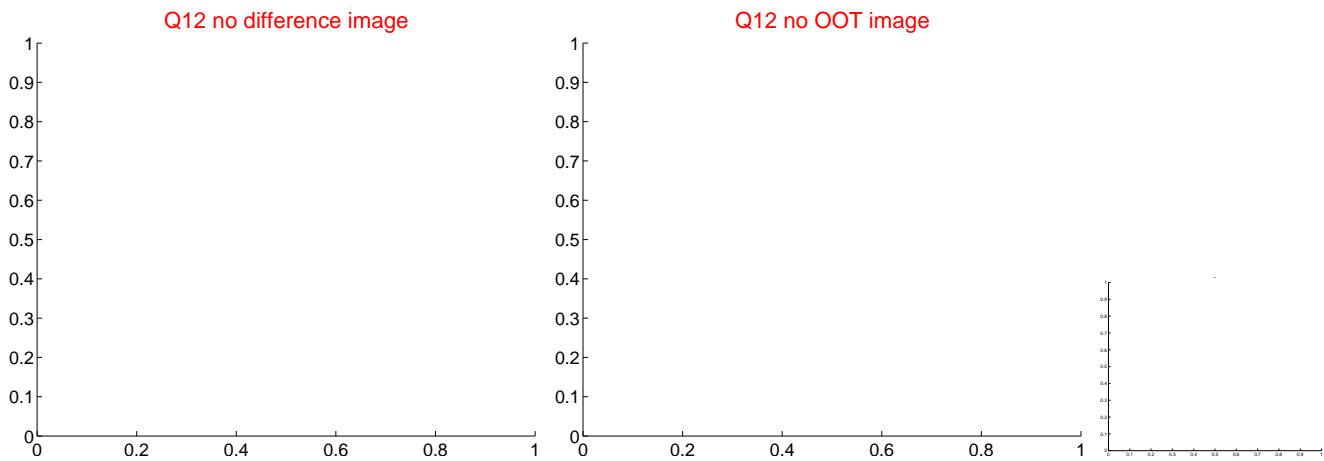
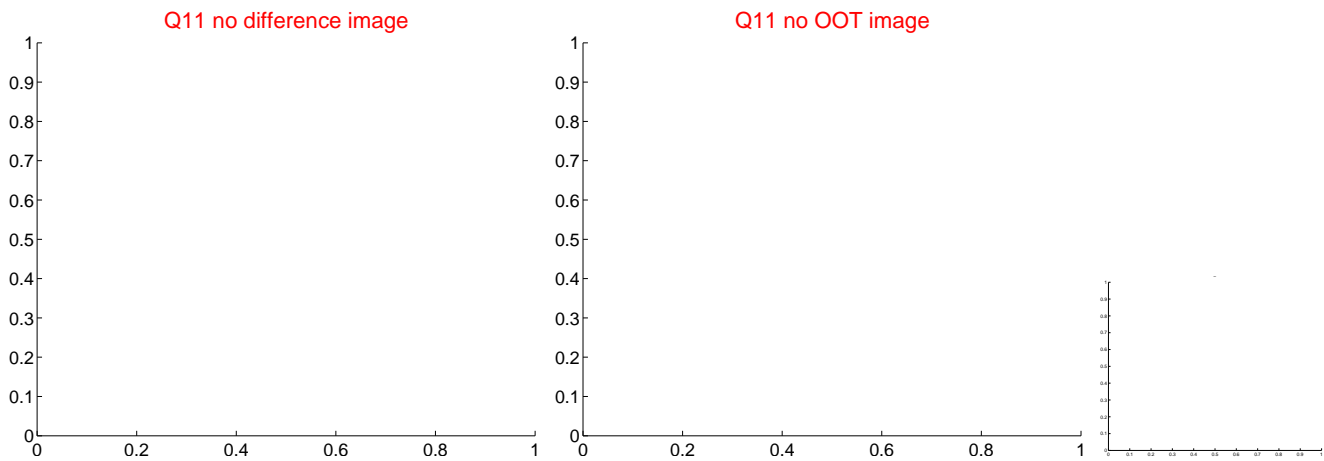
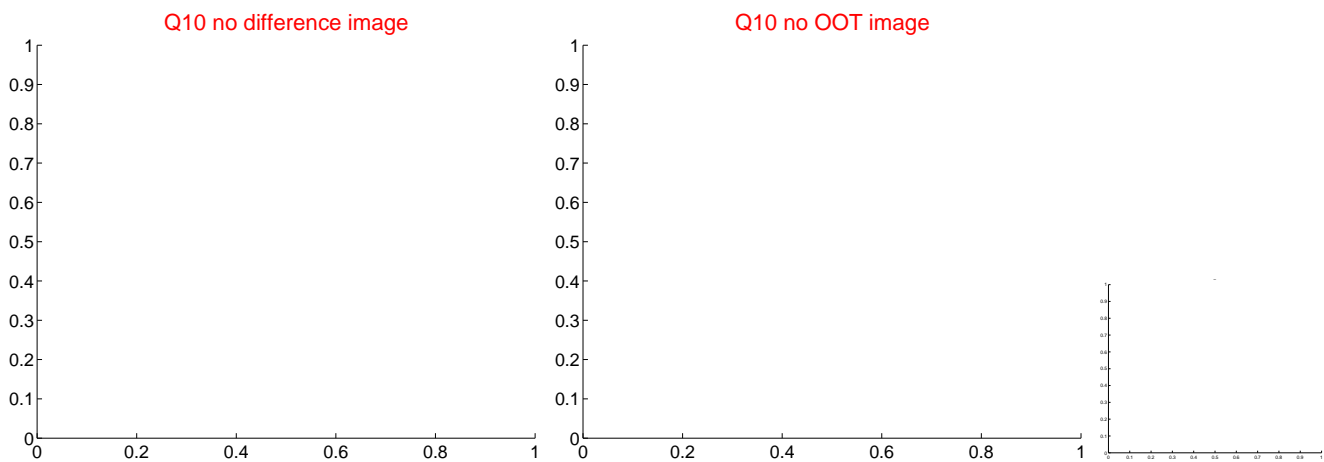
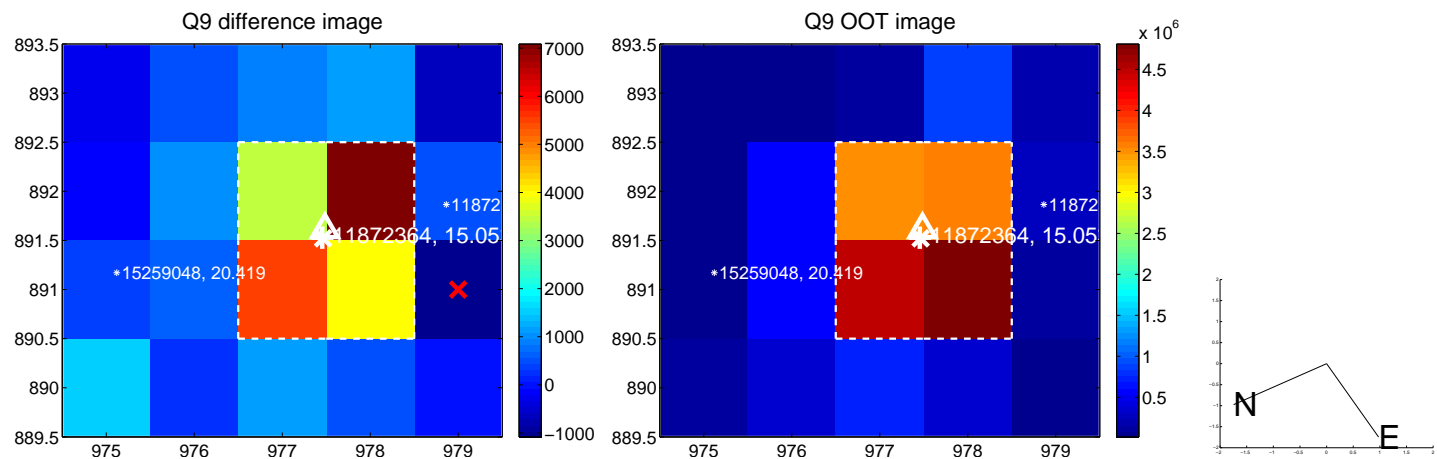
Q4 no OOT image



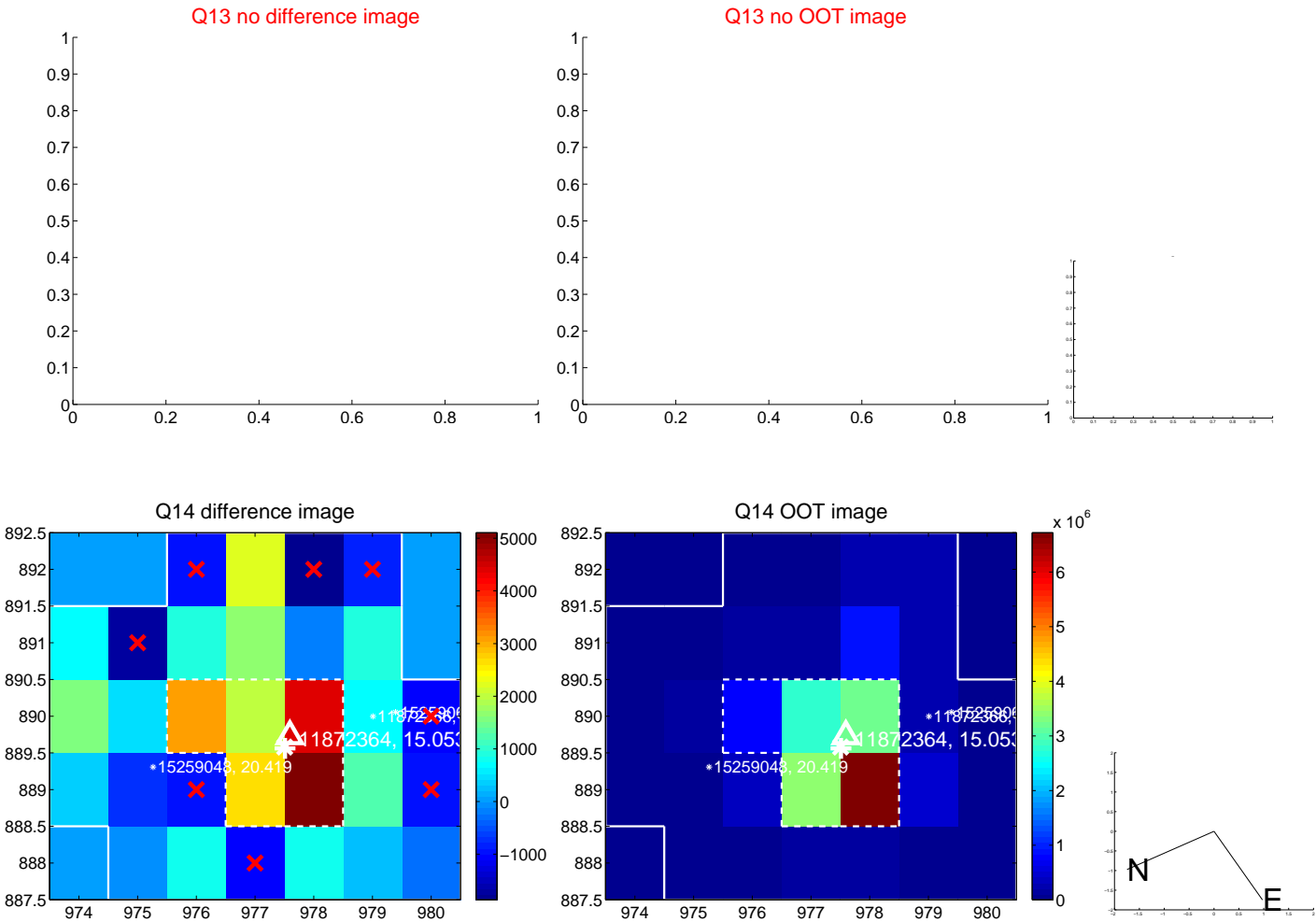
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



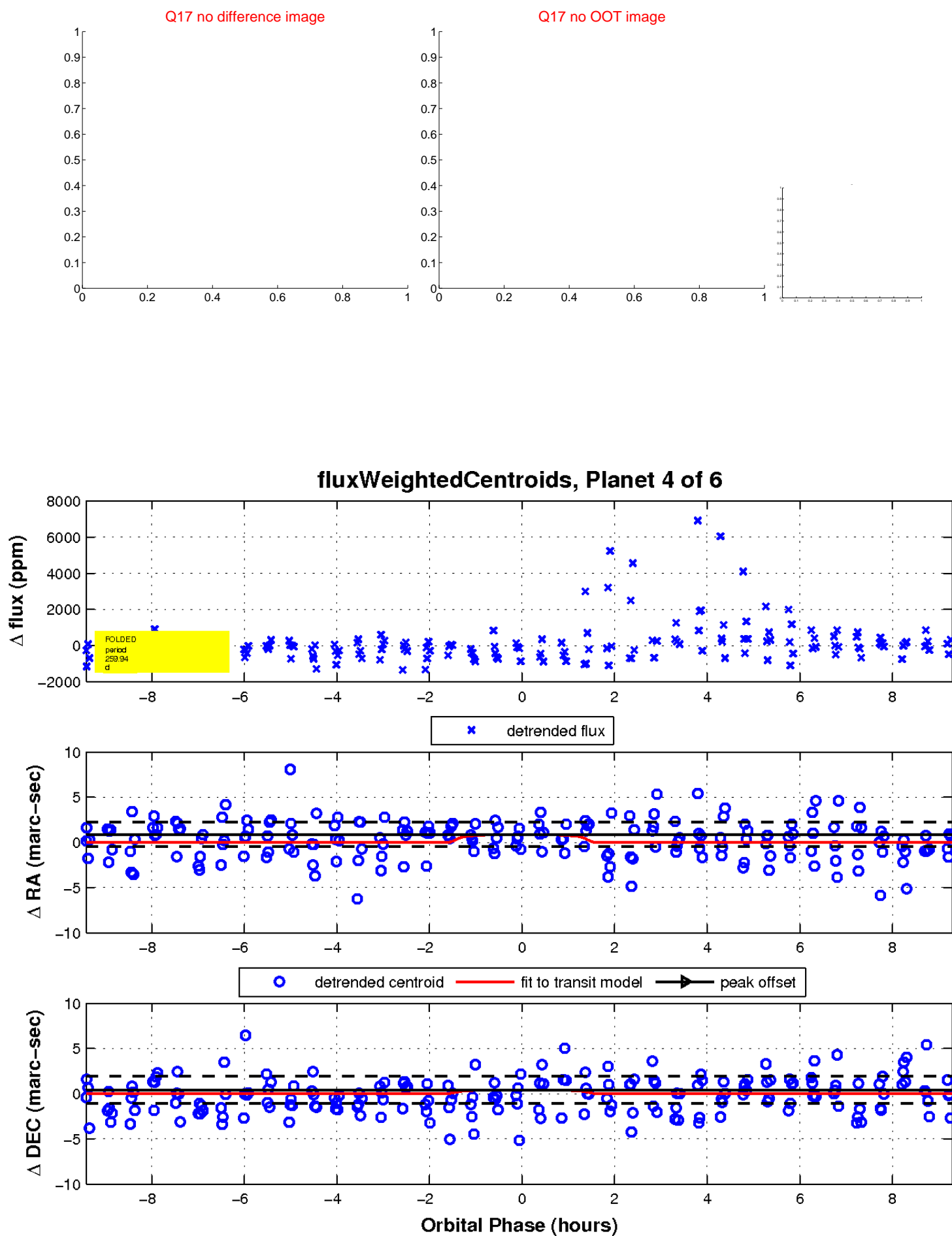
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

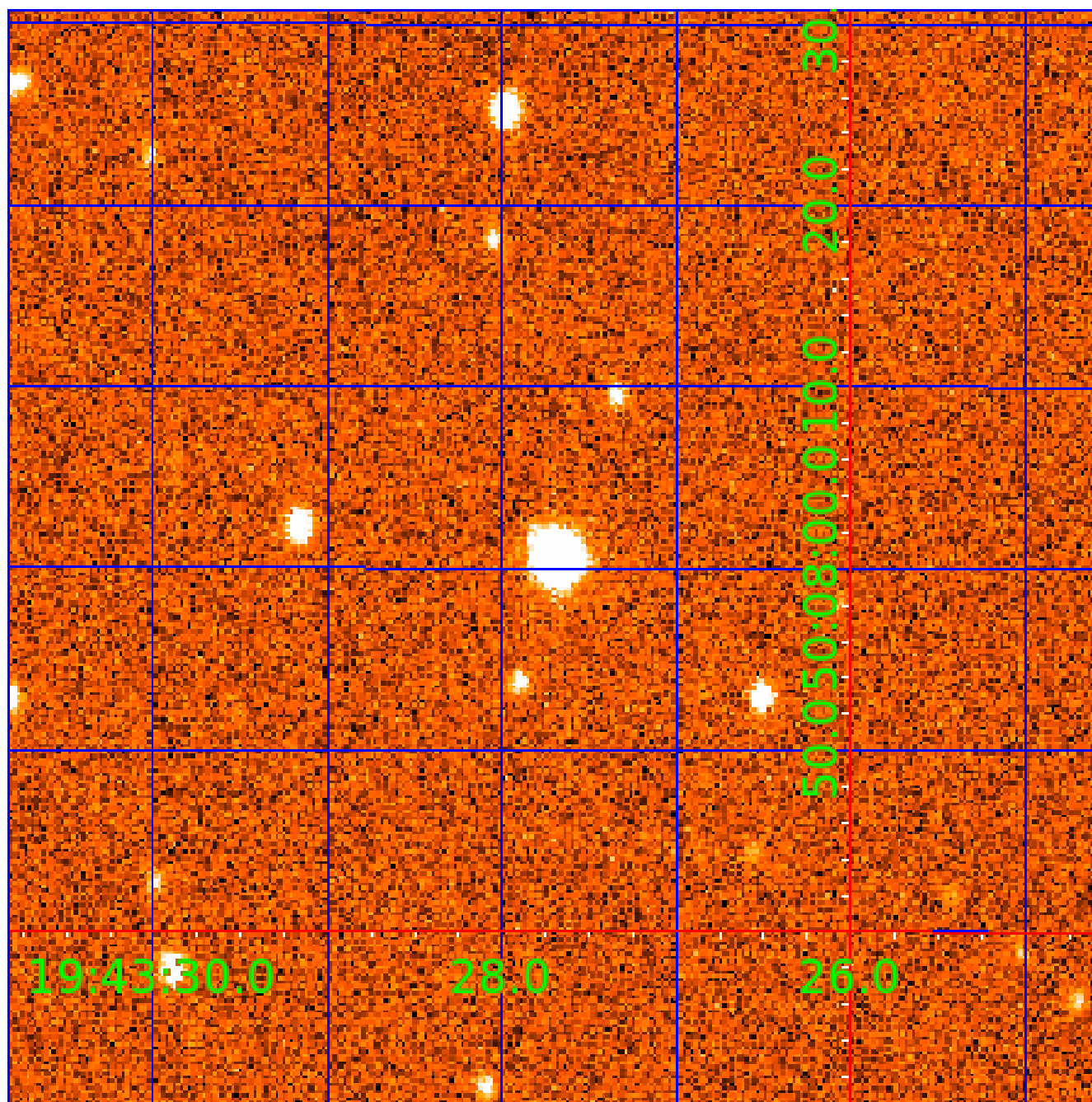


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011872364

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})
011872364-01	OBS	No	360.051480	367.276375	1088.0	8.200	11.6	5.9	0.98	5573	3.78	0.95
011872364-02	OBS	No	326.903758	169.613218	1042.3	11.181	12.5	5.4	0.98	5573	3.14	1.08
011872364-03	OBS	No	254.017822	220.811137	733.0	8.713	12.1	5.5	0.98	5573	2.69	1.51
011872364-04	OBS	No	259.935489	303.117226	1040.3	3.143	11.0	7.5	0.98	5573	3.59	1.46
011872364-05	OBS	No	355.598390	339.978229	886.5	4.479	11.9	5.9	0.98	5573	2.90	0.96
011872364-06	OBS	8232.01	189.181150	132.379420	996.9	5.000	9.4	-1.0	0.98	5573	3.06	2.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011872364-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-02	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011872364-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
011872364-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
011872364-05	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-06	OBS	PC	0.49	0	0	0	0	CENT_NOFITS

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

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

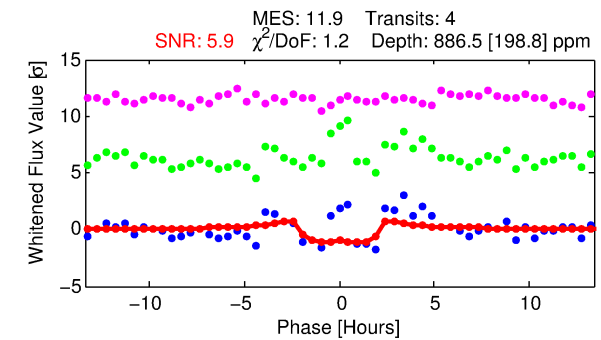
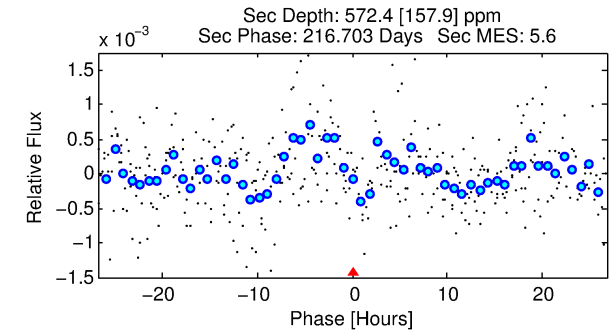
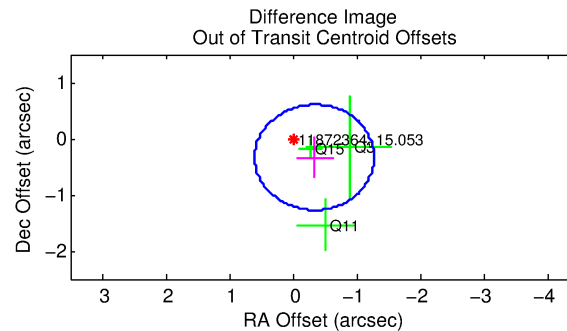
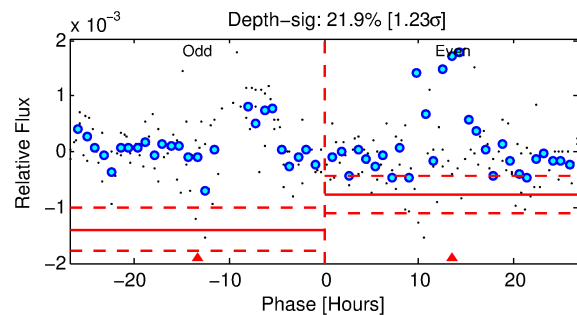
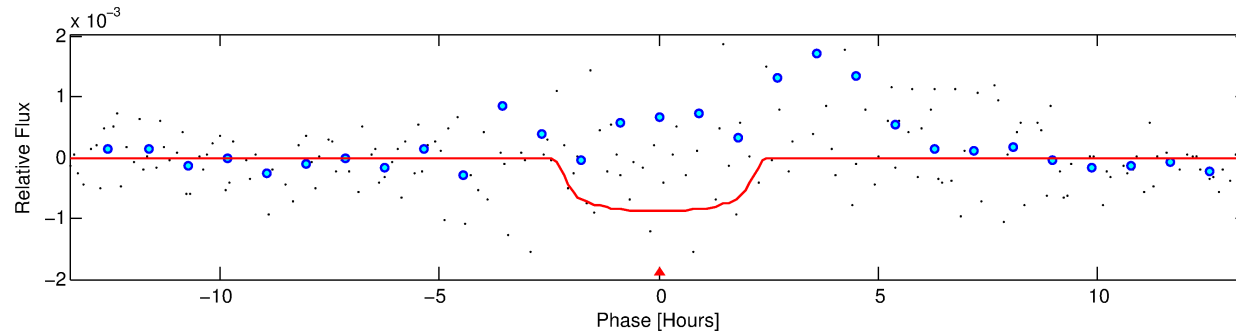
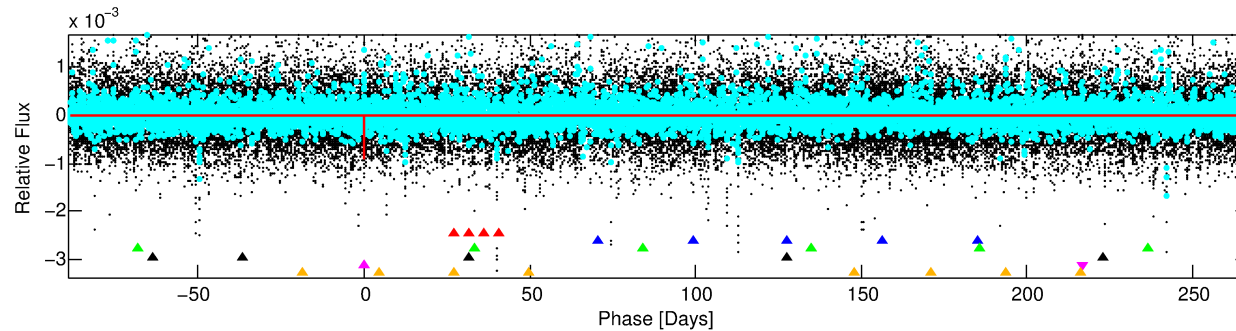
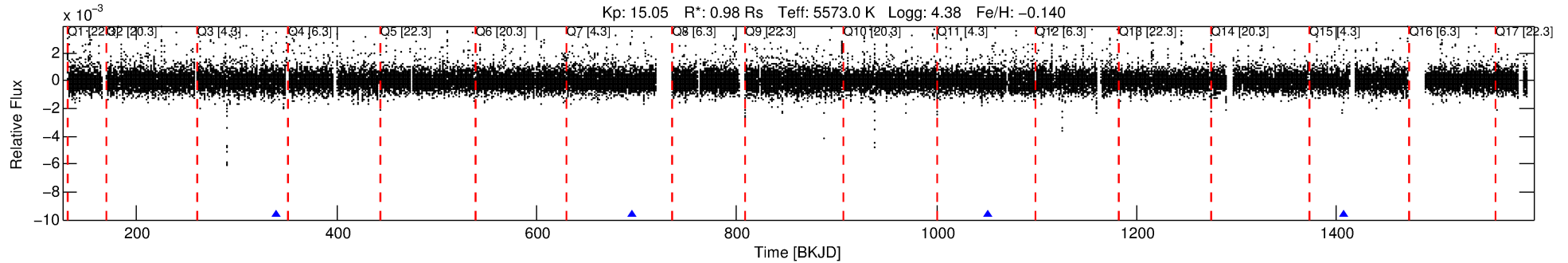
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011872364-05

No Significant Match Found

DV One-Page Summary

KIC: 11872364 Candidate: 5 of 6 Period: 355.598 d



DV Fit Results:

Period = 355.59839 [0.00694] d
Epoch = 339.9782 [0.0109] BKJD
Rp/R* = 0.0271 [0.0931]
a/R* = 608.72 [8765.20]
b = 0.22 [63.58]
Seff = 0.96 [0.36]
Teq = 253 [24] K
Rp = 2.90 [10.01] Re
a = 0.9292 [0.2256] AU
Ag = 32422.83 [223749.75] [0.14 σ]
Teffp = 5241 [9032] K [0.55 σ]

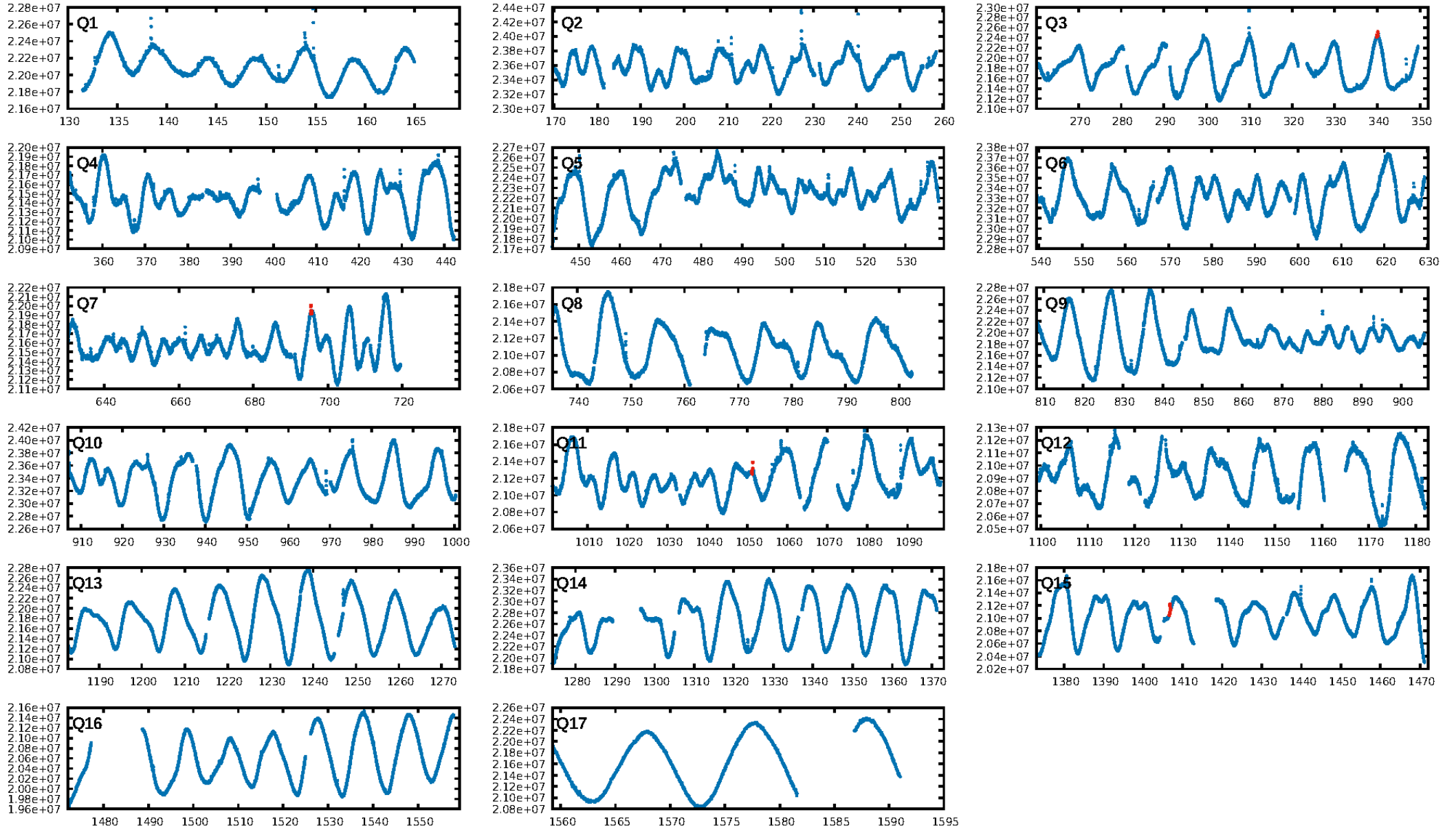
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [57.18 σ]
LongPeriod-sig: 100.0% [11.44 σ]
ModelChiSquare2-sig: 49.4%
ModelChiSquareGof-sig: 92.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.523
Centroid-sig: 84.7%
Centroid-so: 0.874 arcsec [0.69 σ]
OotOffset-rm: 0.476 arcsec [1.52 σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-rm: 0.380 arcsec [1.25 σ]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [4/4]

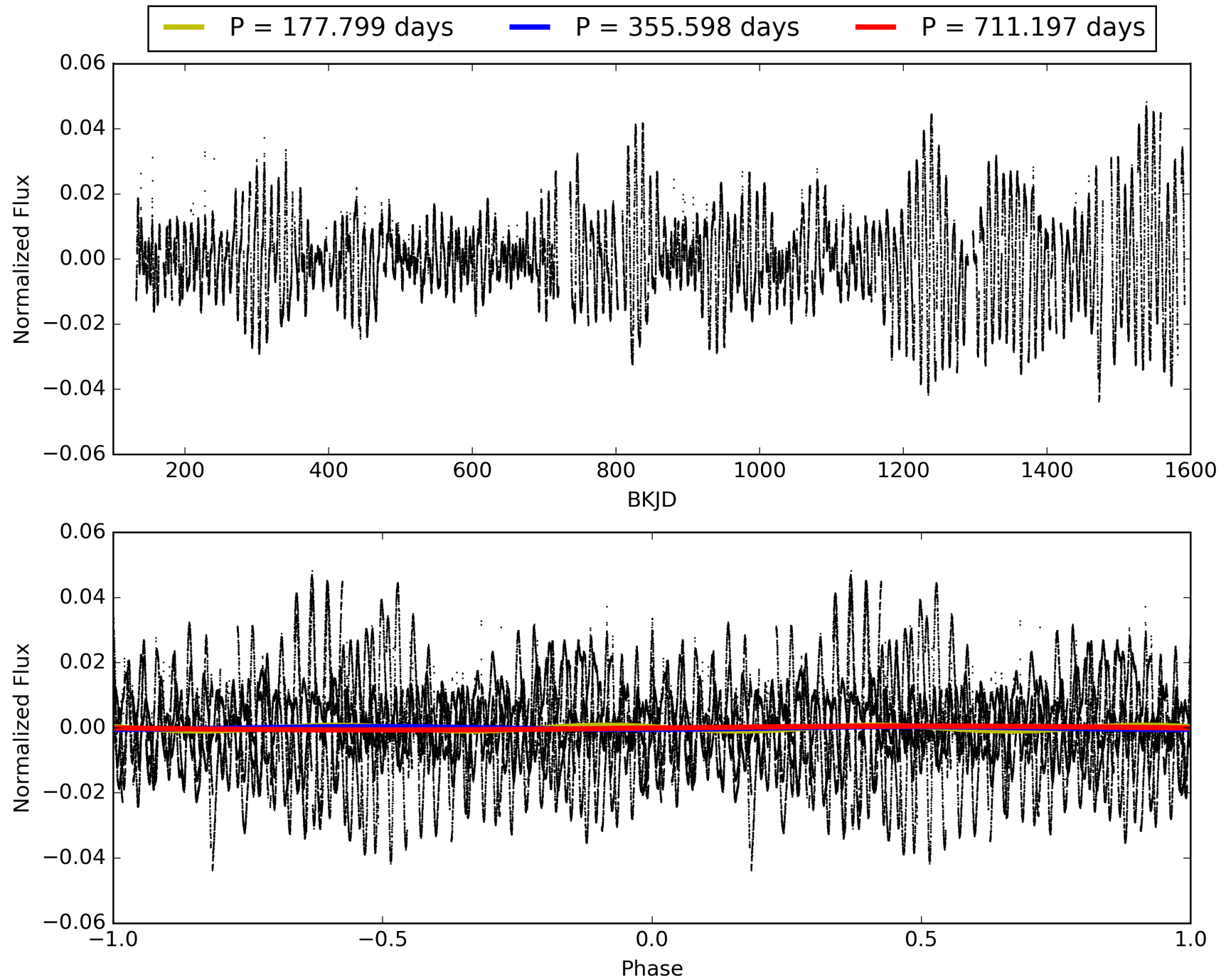
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:41:42 Z

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

TCE 011872364-05, PDC Light Curves

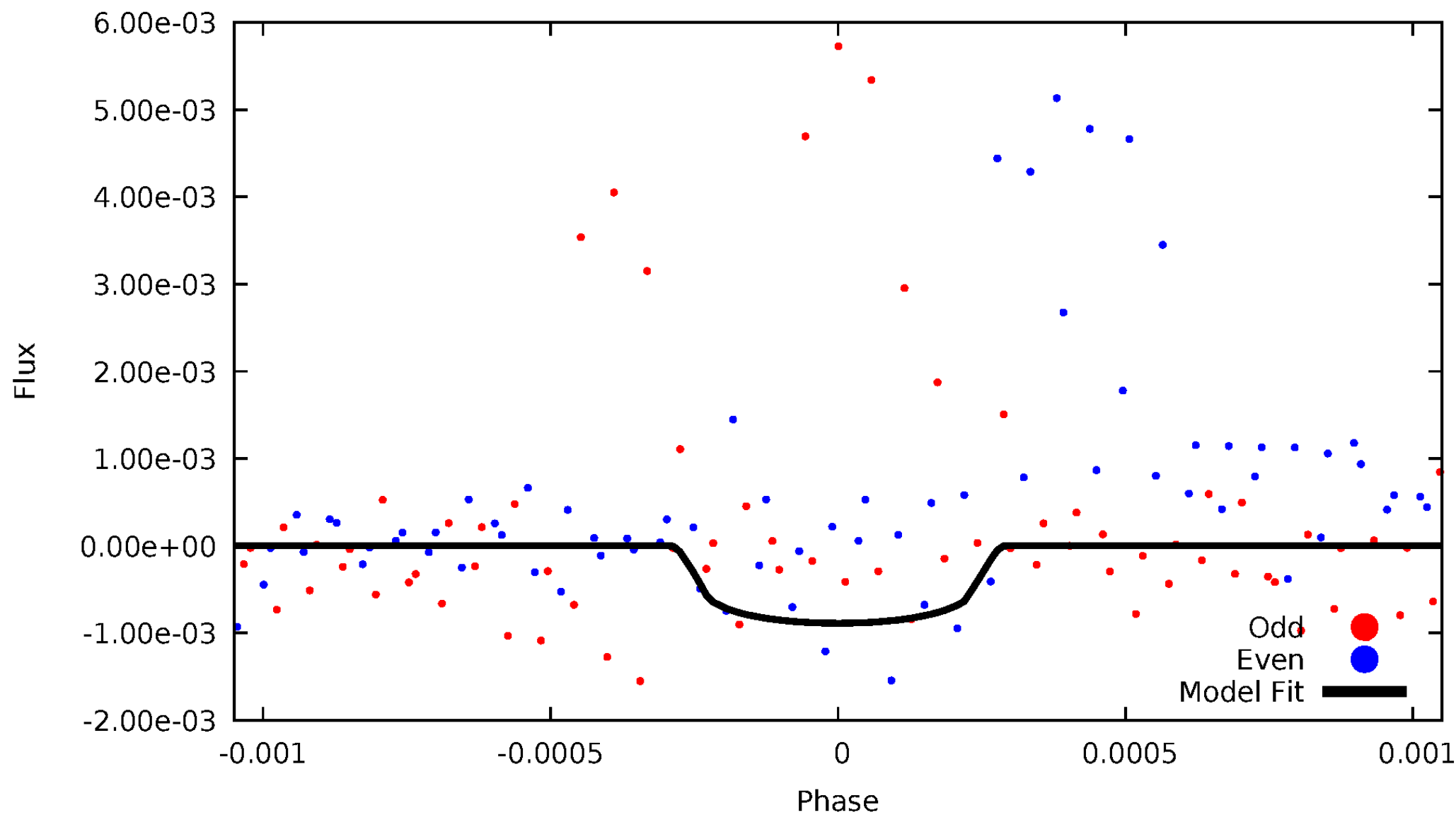


TCE 011872364-05



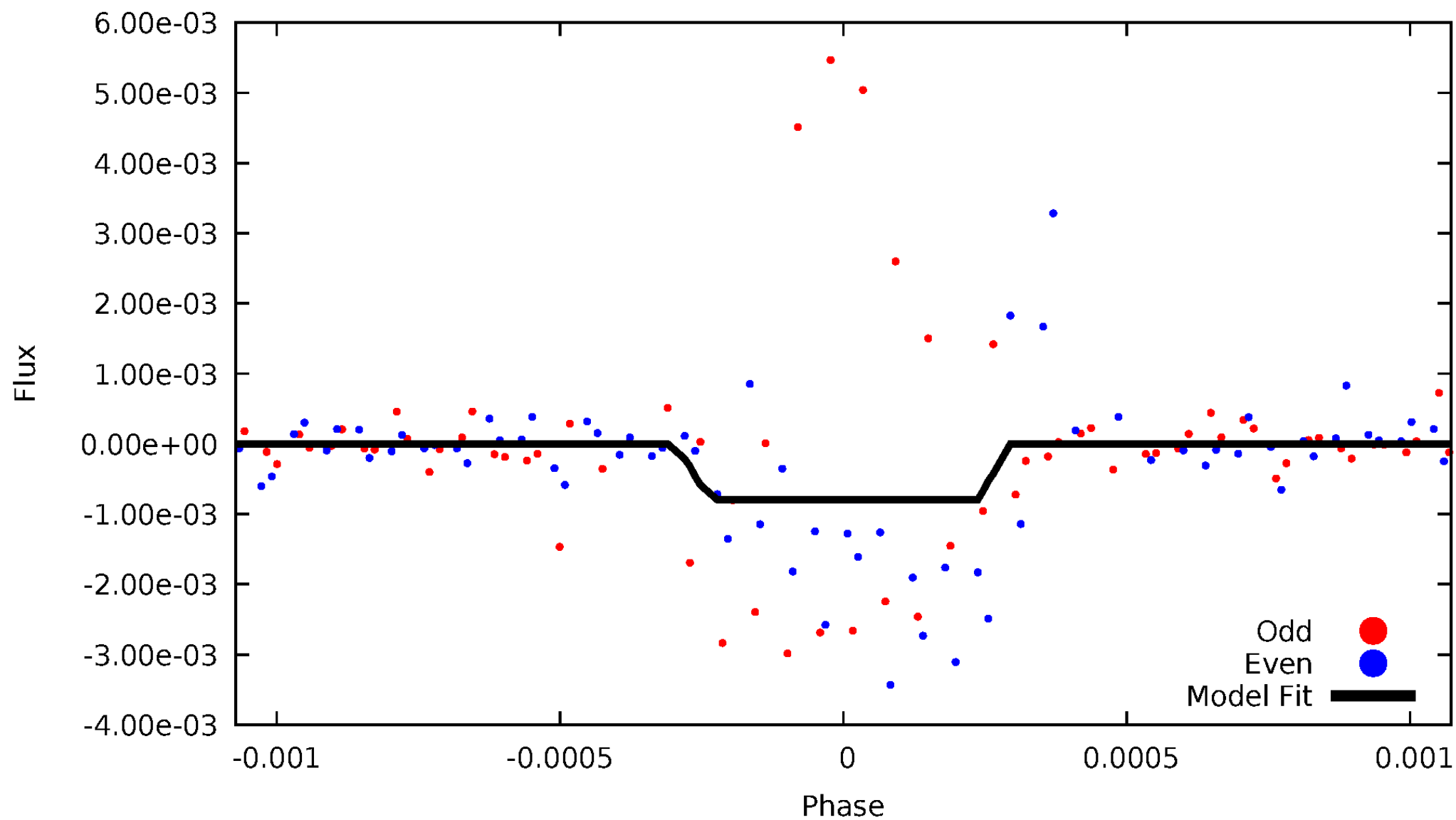
DV Odd/Even

TCE 011872364-05



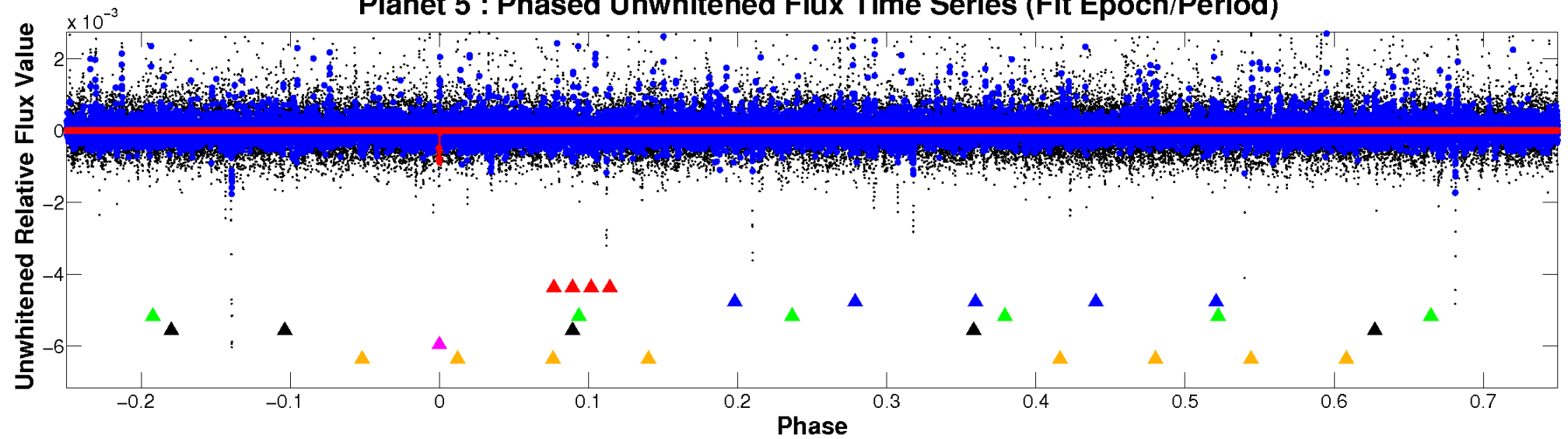
ALT Odd/Even

TCE 011872364-05

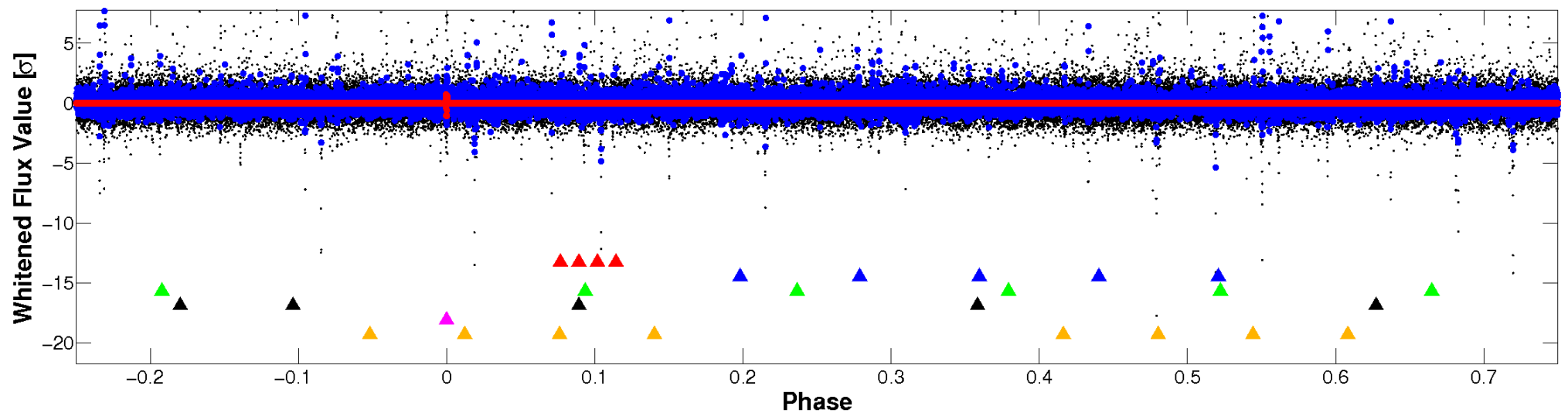


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

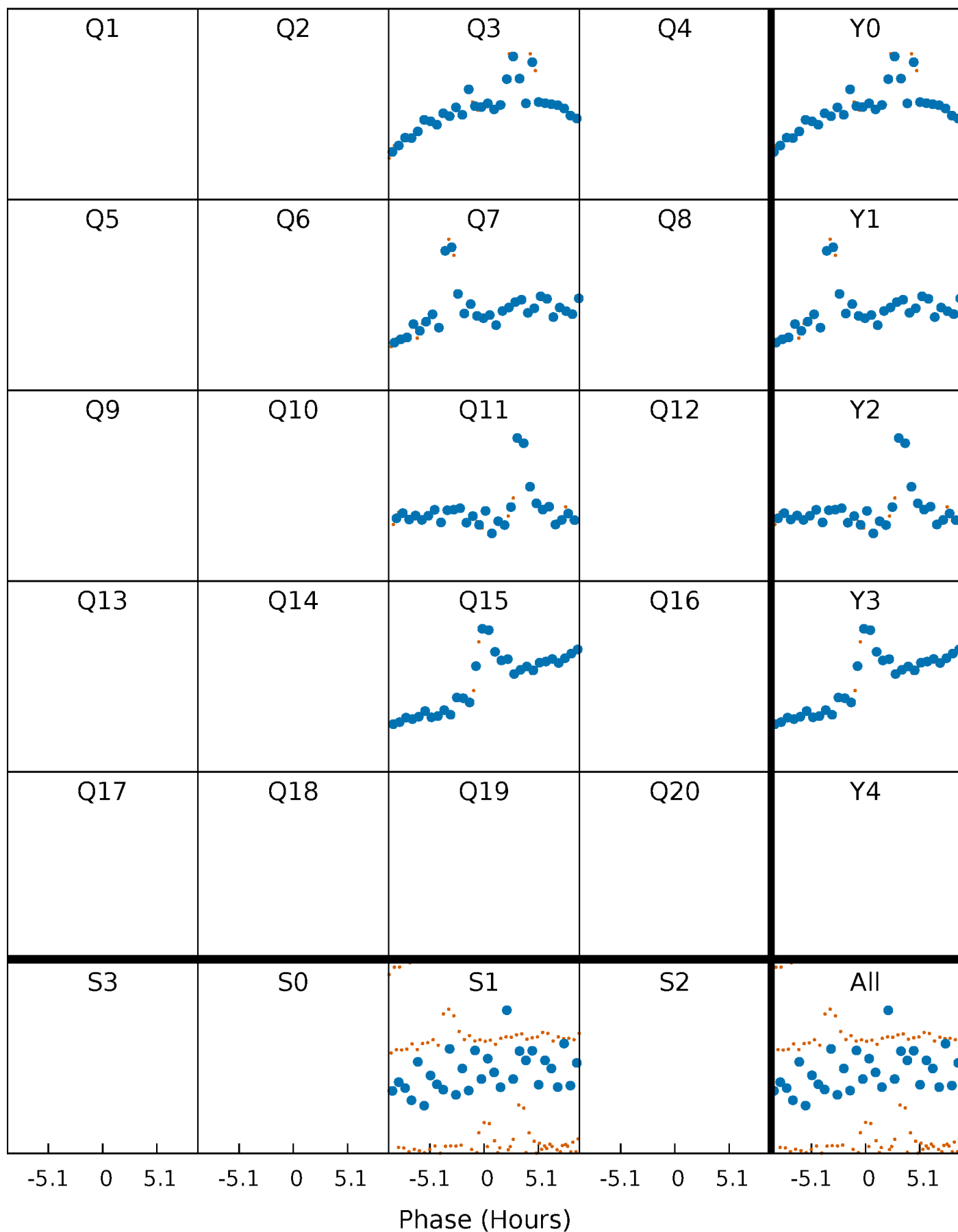


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



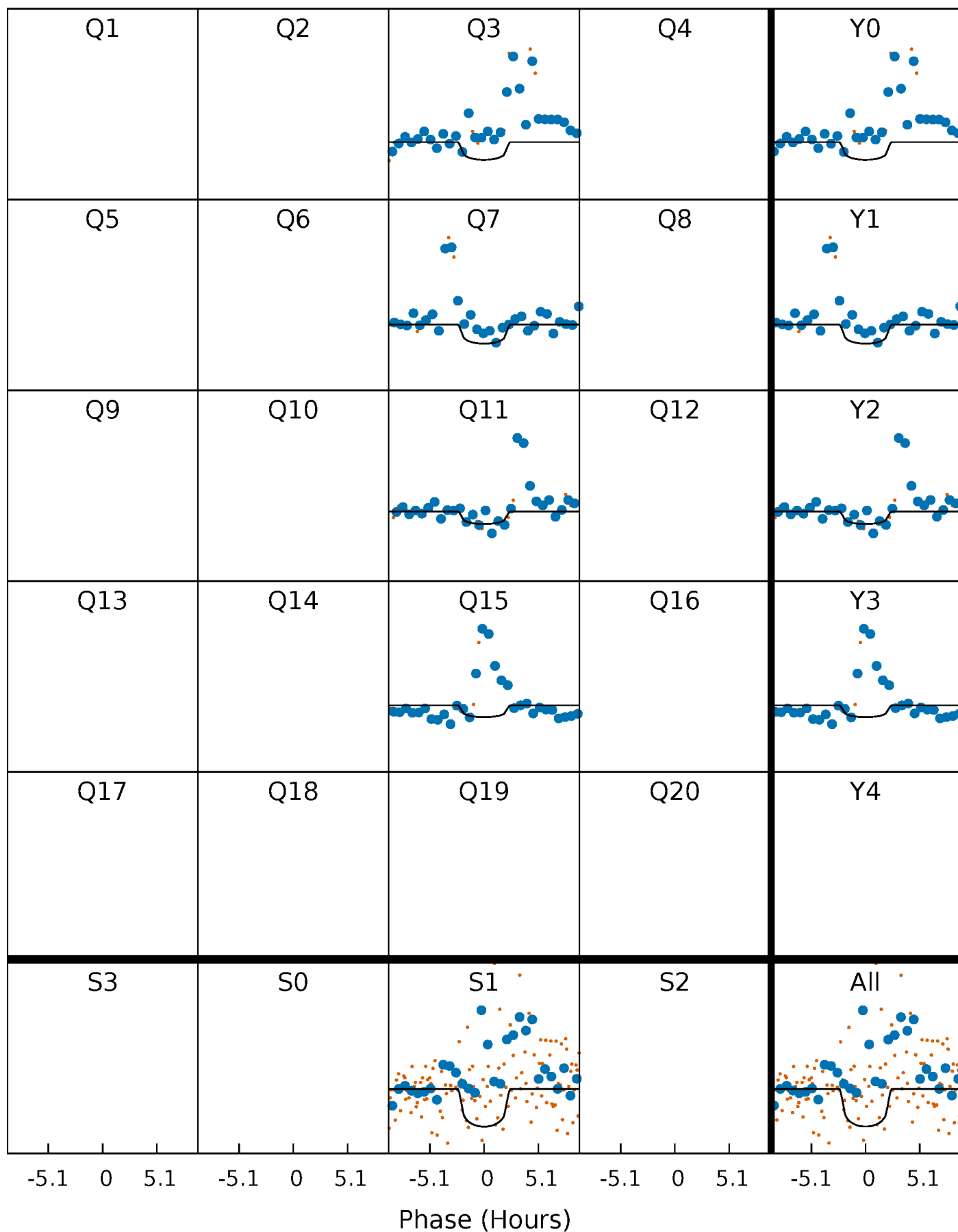
PDC Quarter-Phased Transit Curves

TCE 011872364-05 $P=355.598390$ Days $T_0=339.978229$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 011872364-05 $P=355.598390$ Days $T_0=339.978229$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

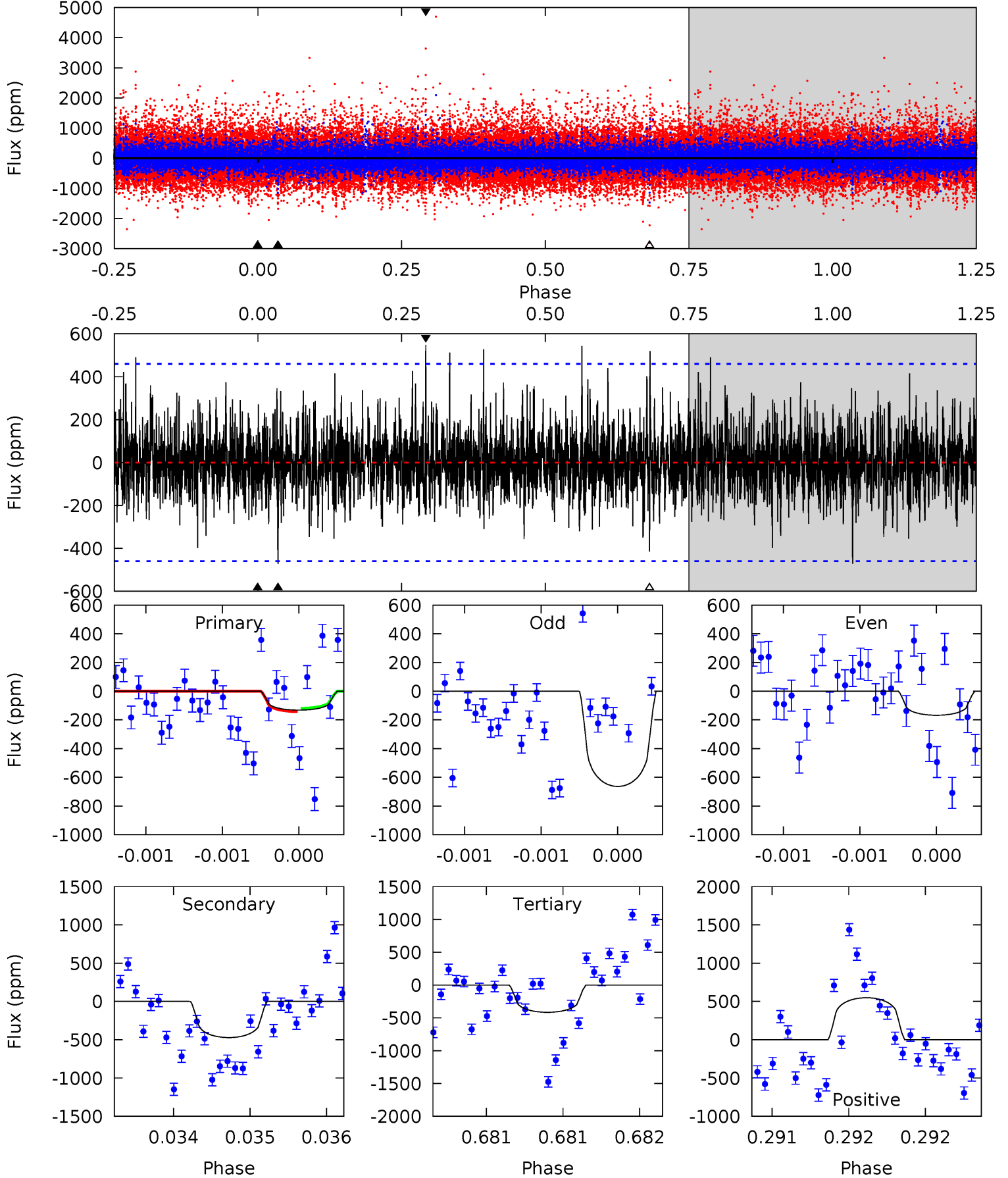
TCE 011872364-05 $P=355.603245$ Days $T_0=339.971989$ (BKJD)



DV Model-Shift Uniqueness Test

011872364-05, $P = 355.598390$ Days, $E = 339.978229$ Days

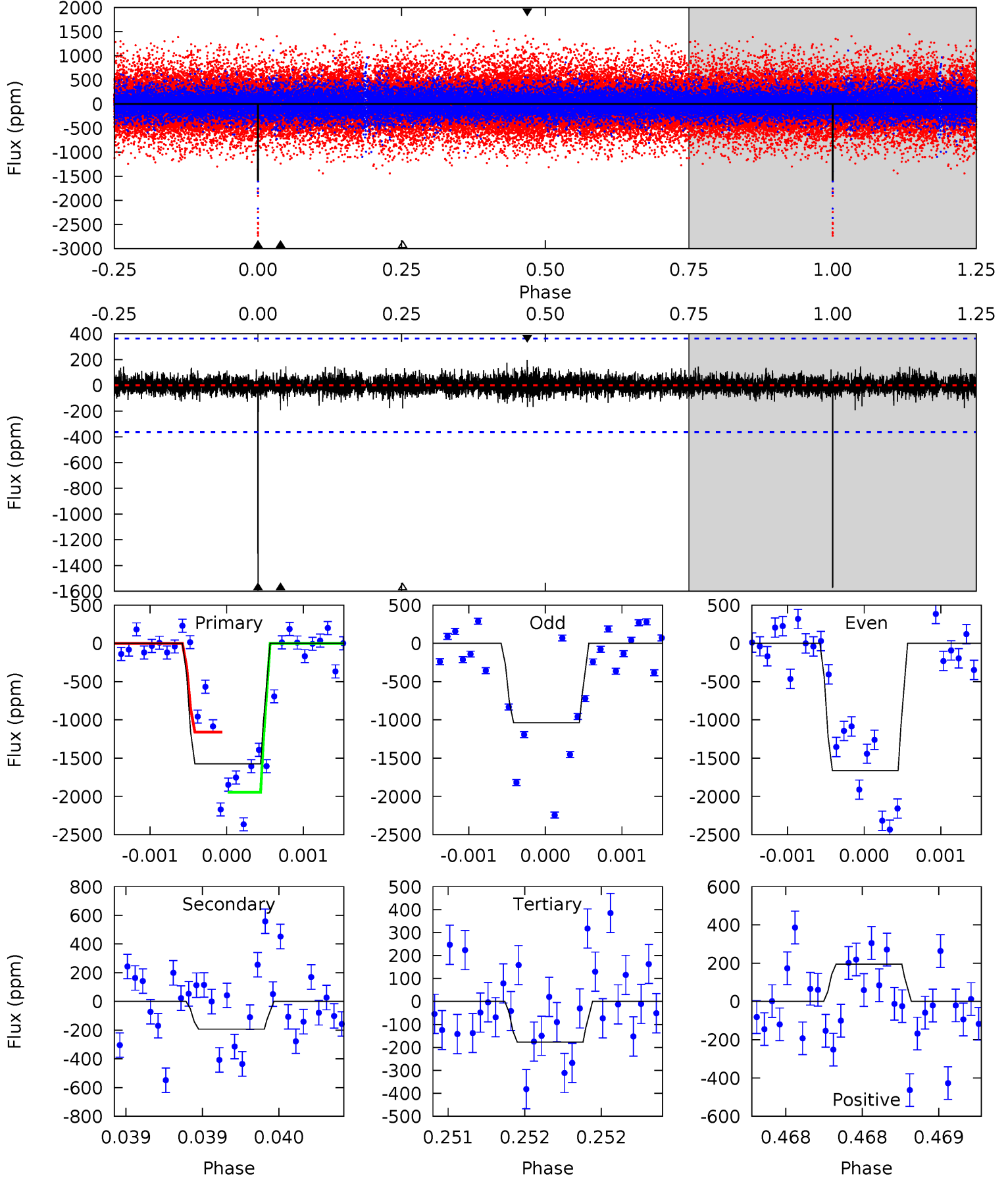
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.59	5.69	5.01	6.62	5.55	3.44	1.35	-3.42	-5.03	0.68	-0.93	2.80	4.41	0.54	0.14



Alt Model-Shift Uniqueness Test

011872364-05, P = 355.603245 Days, E = 339.971989 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	2.95	2.71	2.99	5.56	3.46	0.57	21.4	21.1	0.24	-0.03	5.30	0.49	0.11	0



Stellar Parameters For KIC 011872364

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5573^{+182}_{-166}	$4.382^{+0.158}_{-0.193}$	$-0.140^{+0.300}_{-0.300}$	$0.981^{+0.283}_{-0.174}$	$0.845^{+0.122}_{-0.071}$	$1.262^{+0.834}_{-0.641}$
	+3%/-3%	+4%/-4%	+214%/-214%	+29%/-18%	+14%/-8%	+66%/-51%
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 011872364-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-472 ± 83	$7.97^{+8.21}_{-5.49}$	355^{+27}_{-23}	3524^{+1937}_{-659}	3498^{+35552}_{-2665}
Alt.	-193 ± 65	$8.20^{+7.56}_{-5.58}$	353^{+25}_{-21}	3020^{+1384}_{-498}	1317^{+12560}_{-981}

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 $A_{obs} \gg 1.0$

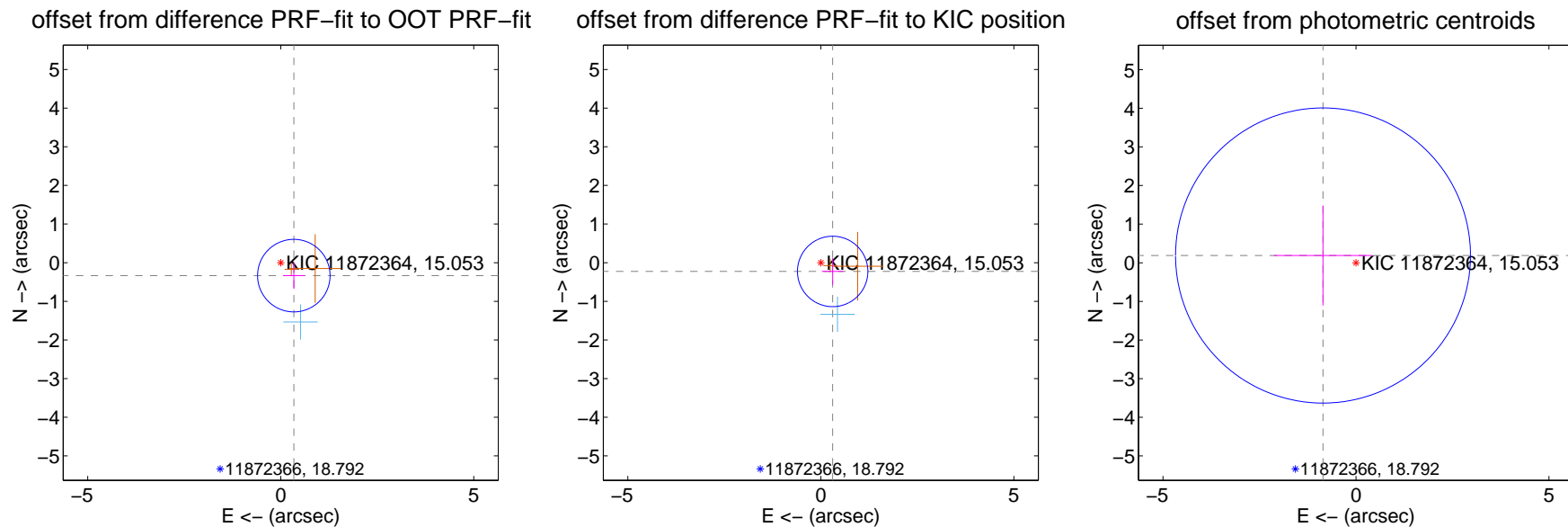
DV Centroid Data

Supplemental centroid analysis for 011872364-05. Kepler magnitude: 15.05. Transit SNR 5.86

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

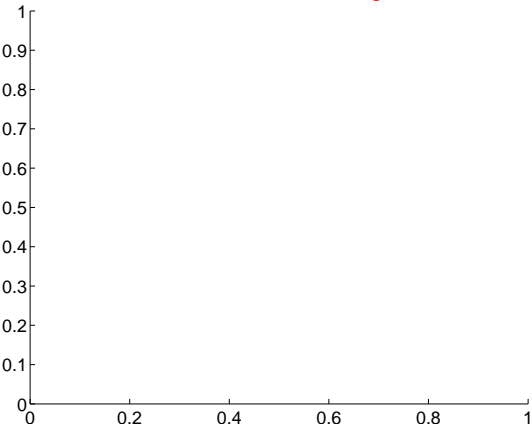
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.476 ± 0.313	1.52	-0.339 ± 0.279	-0.335 ± 0.344
PRF-fit source offset from KIC position	0.380 ± 0.304	1.25	-0.305 ± 0.279	-0.226 ± 0.344
photometric centroid source offset	0.87 ± 1.27	0.69	0.85 ± 1.27	0.19 ± 1.29



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.

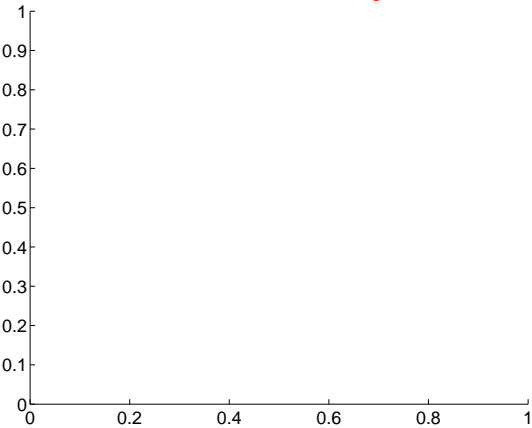
Q1 no difference image



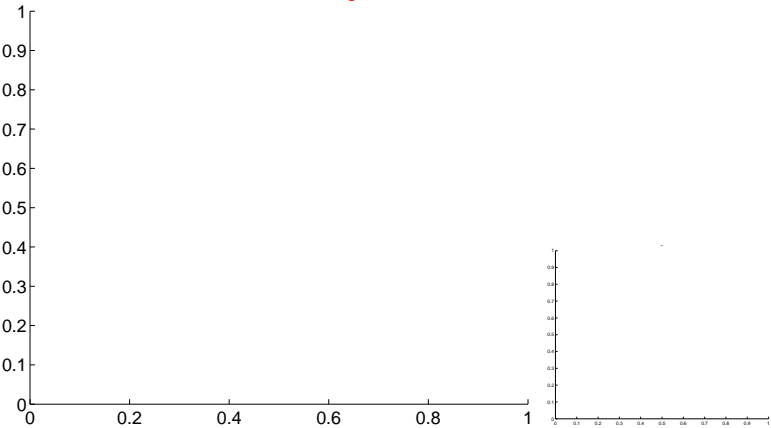
Q1 no OOT image



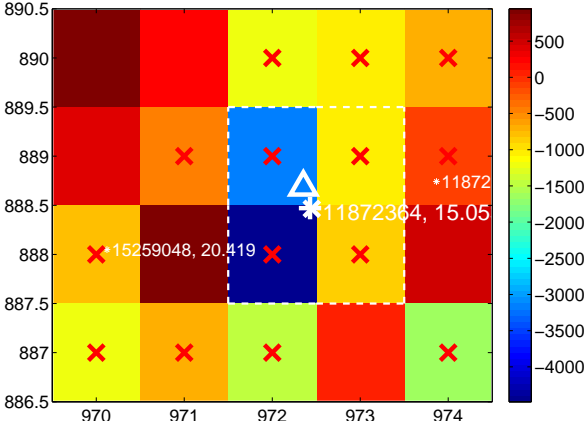
Q2 no difference image



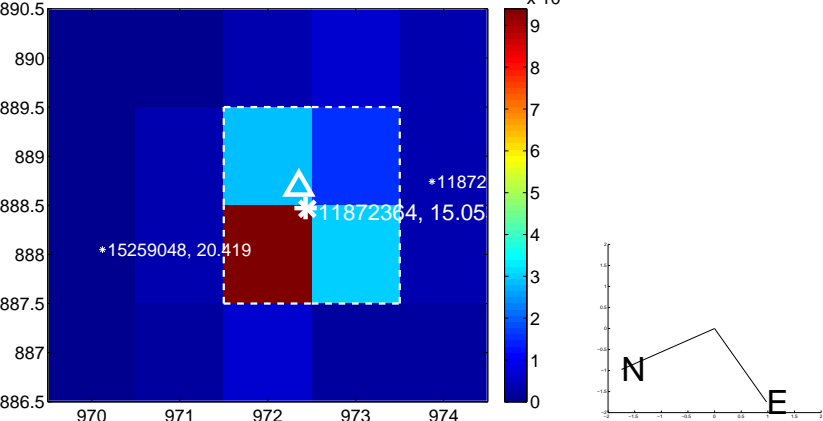
Q2 no OOT image



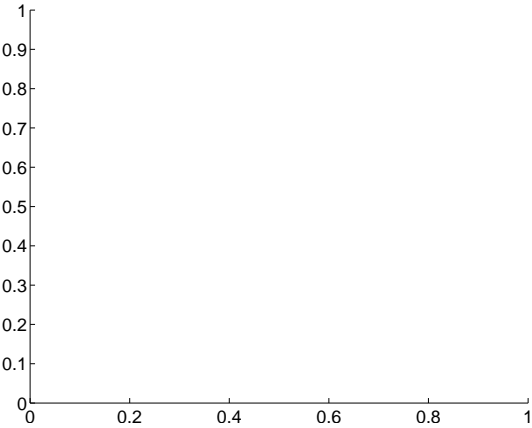
Q3 difference image. Poor Quality



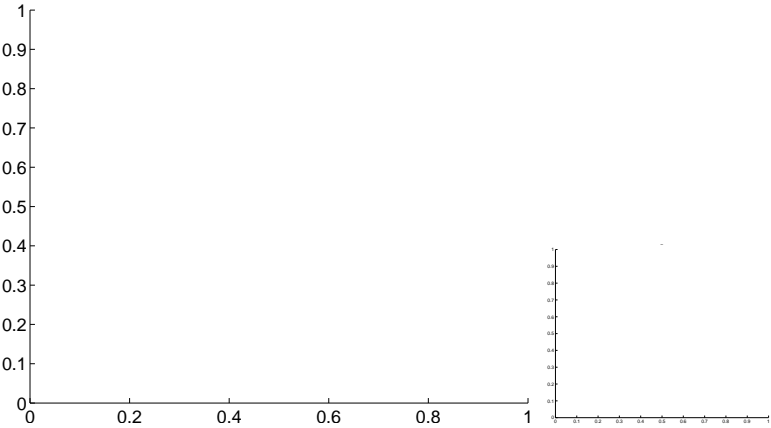
Q3 OOT image



Q4 no difference image

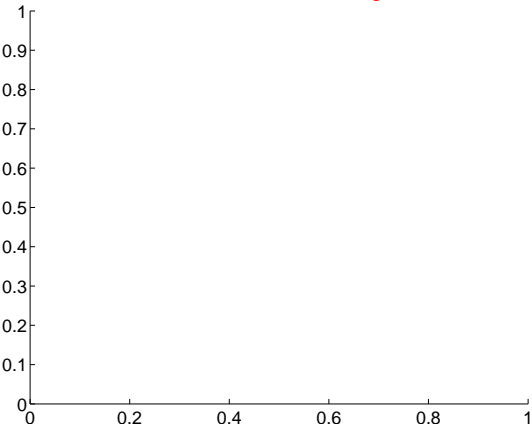


Q4 no OOT image

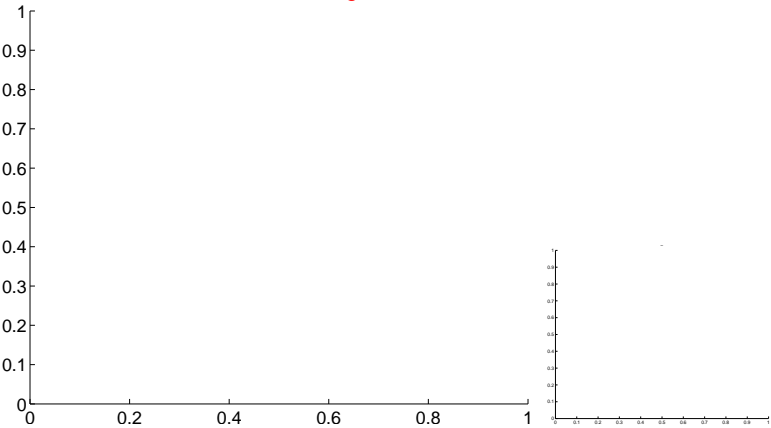


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

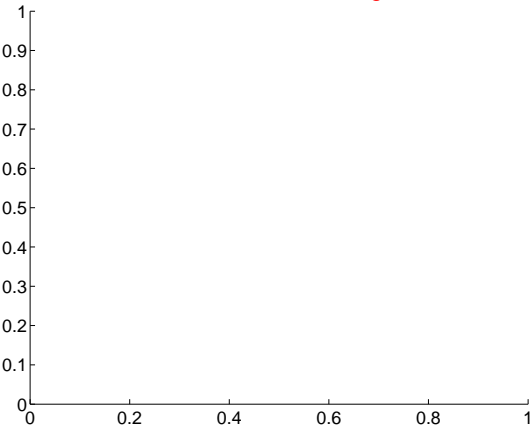
Q5 no difference image



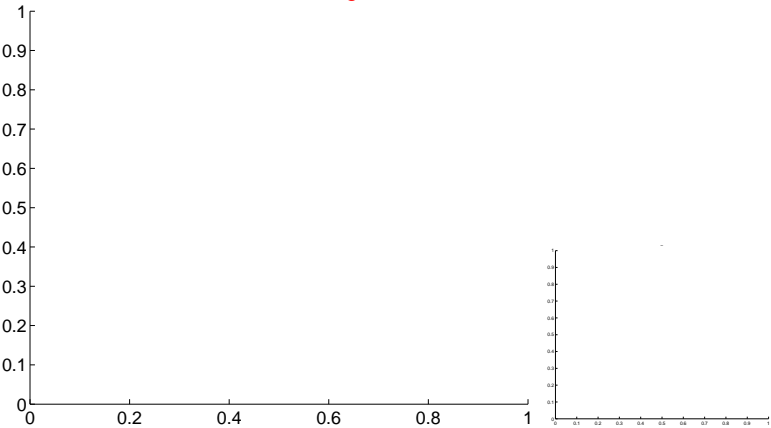
Q5 no OOT image



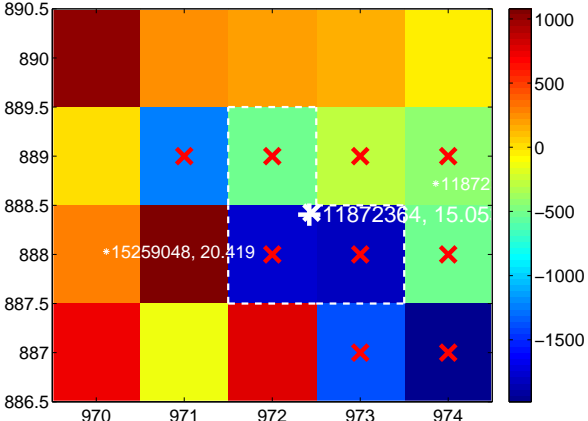
Q6 no difference image



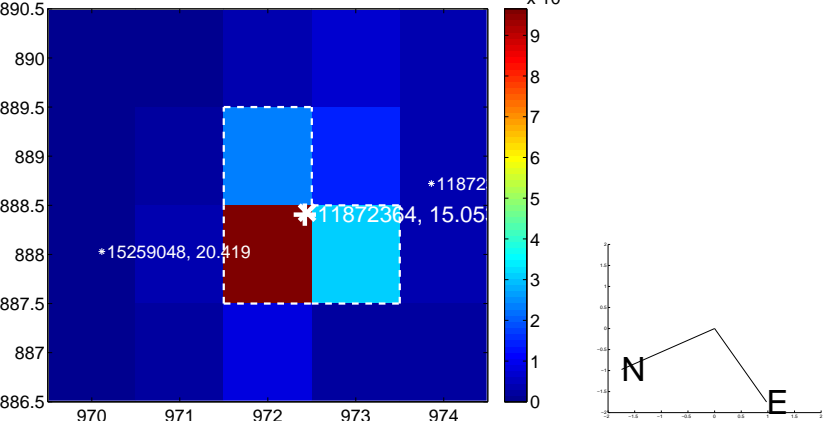
Q6 no OOT image



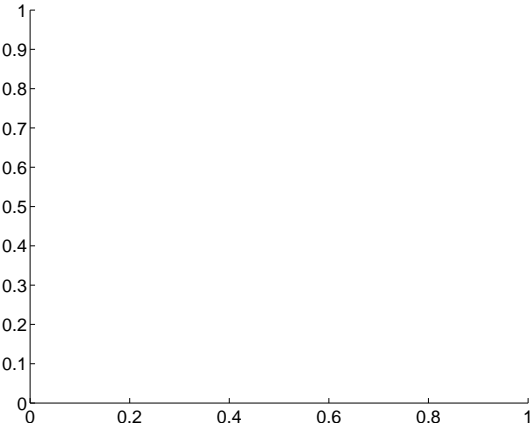
Q7 difference image. Poor Quality



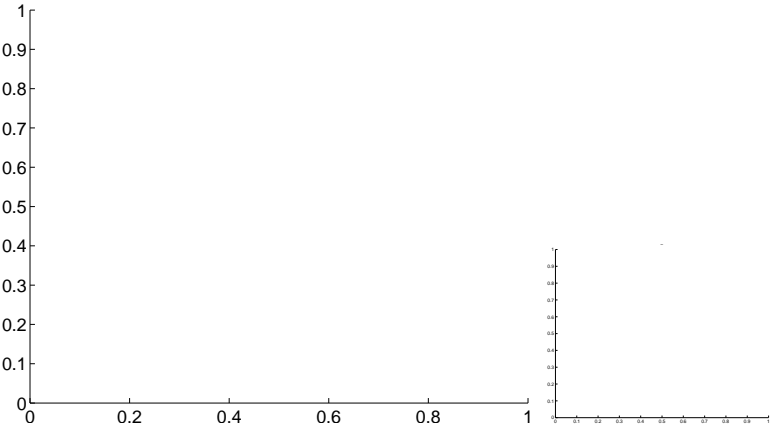
Q7 OOT image



Q8 no difference image

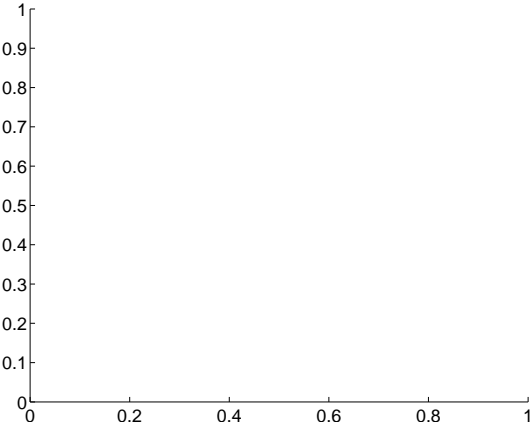


Q8 no OOT image

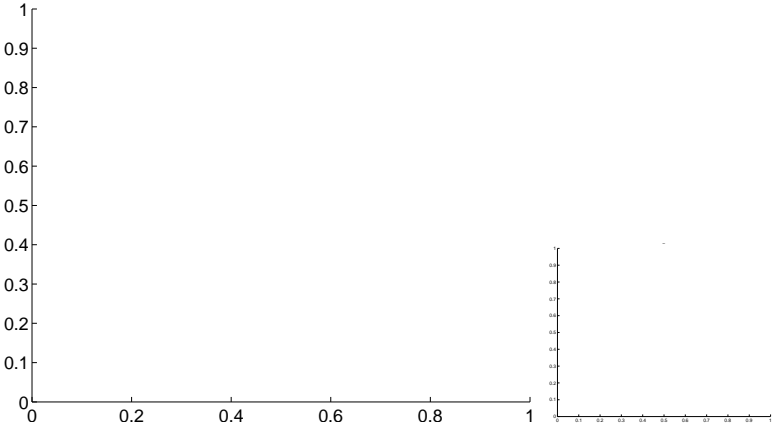


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

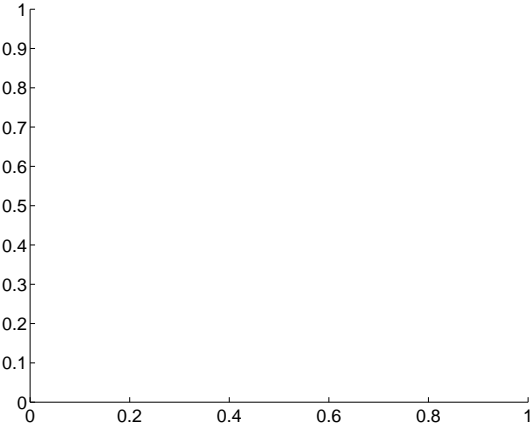
Q9 no difference image



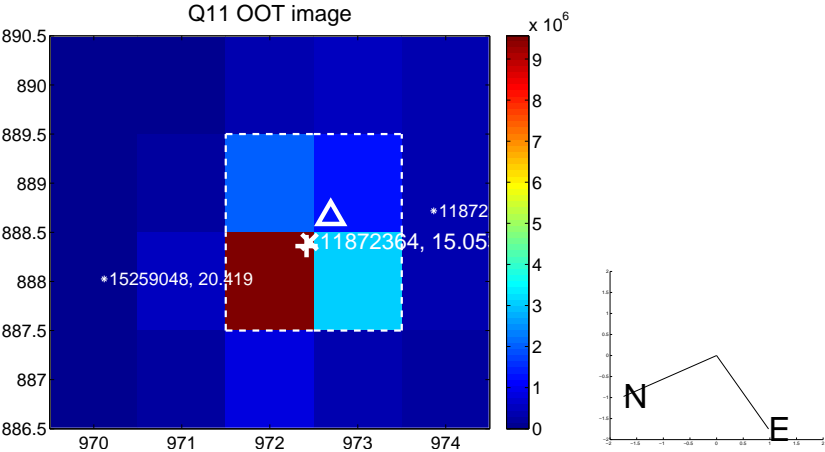
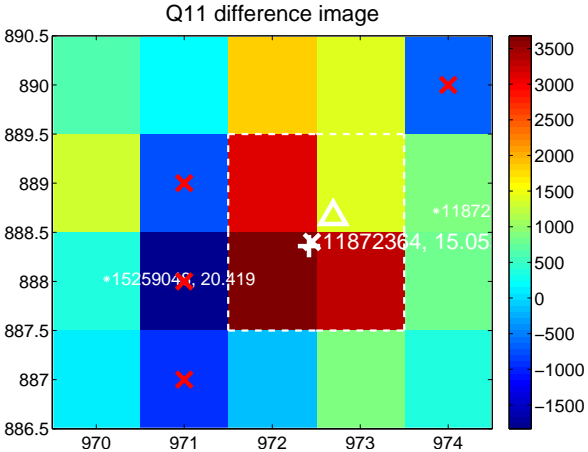
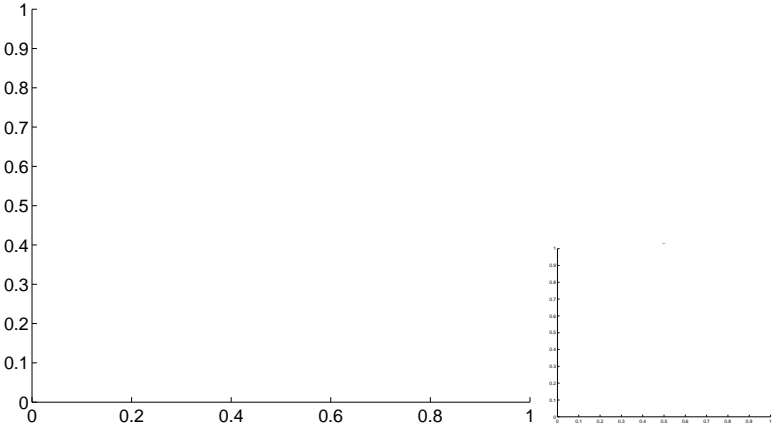
Q9 no OOT image



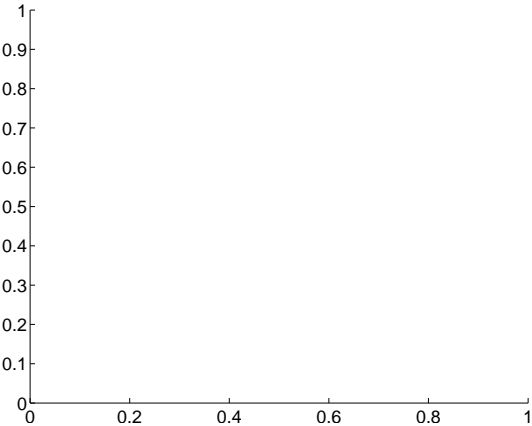
Q10 no difference image



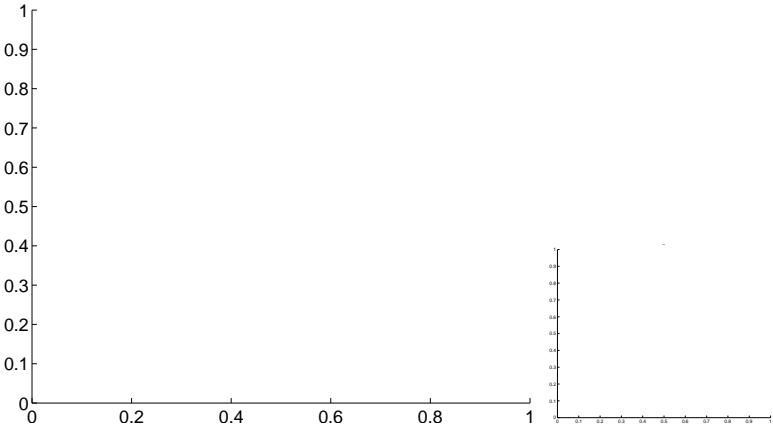
Q10 no OOT image



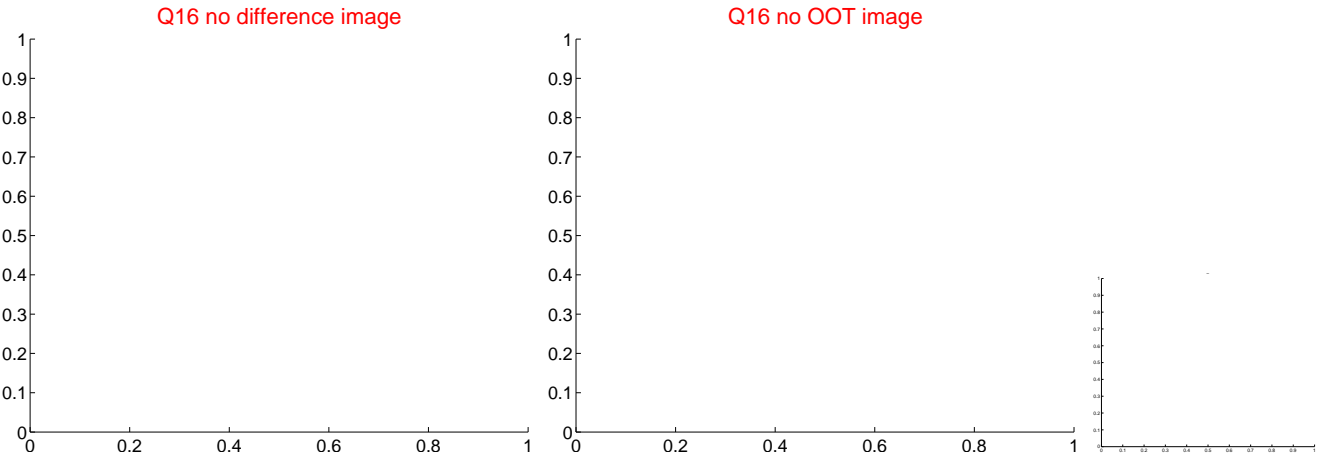
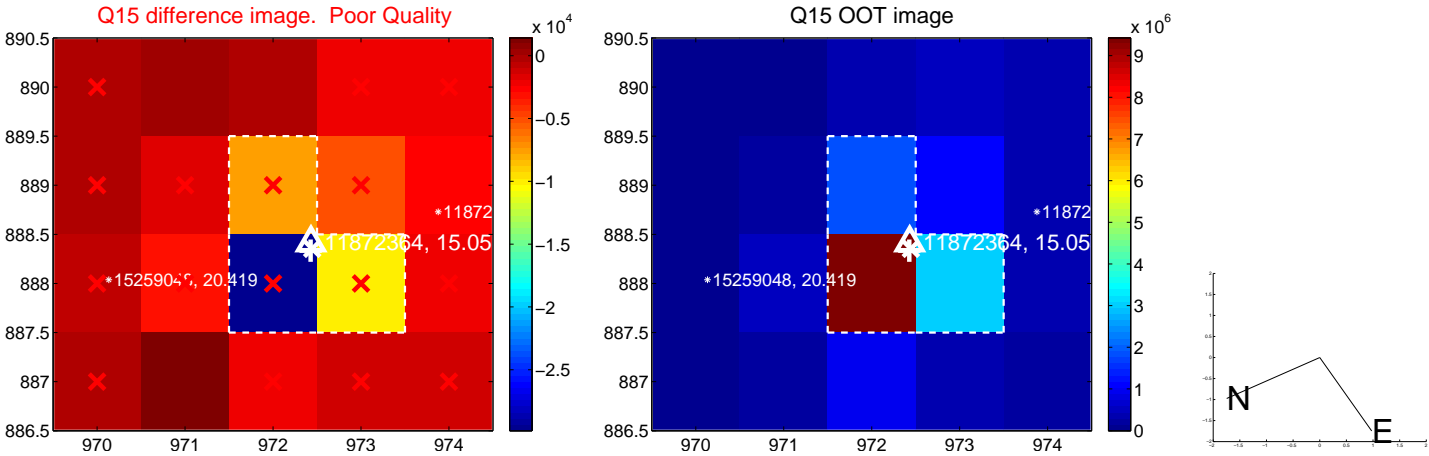
Q12 no difference image



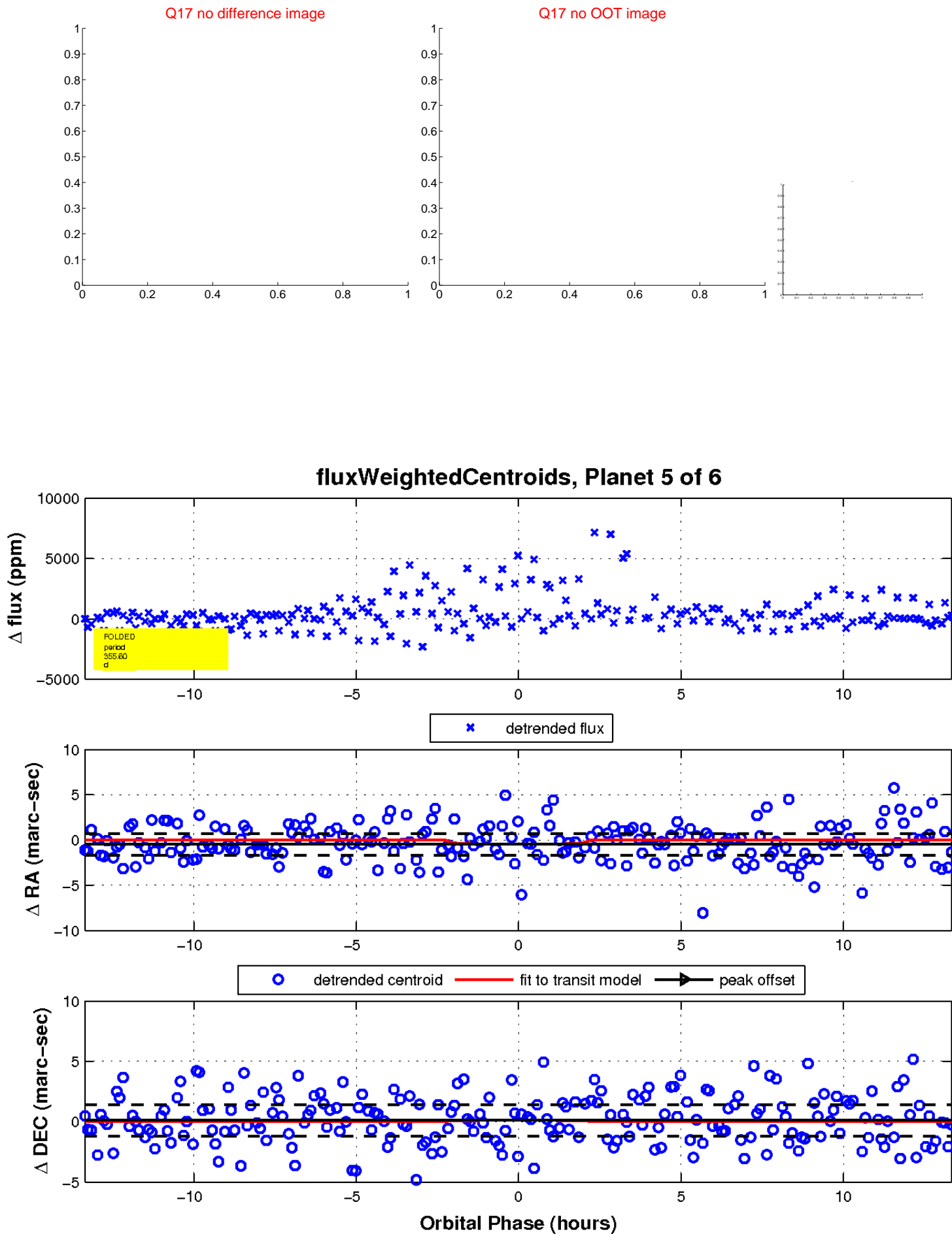
Q12 no OOT image



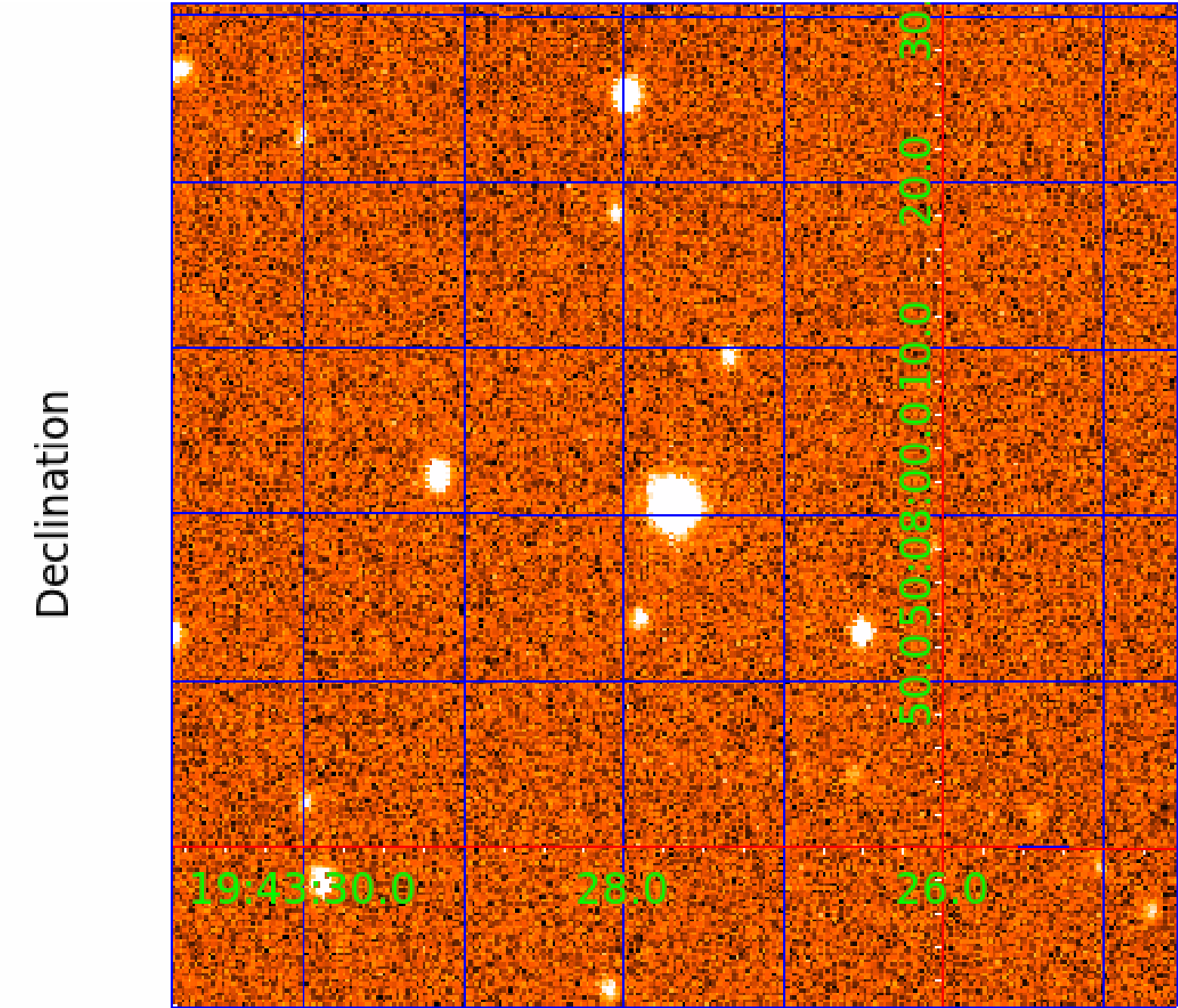
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011872364

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})
011872364-01	OBS	No	360.051480	367.276375	1088.0	8.200	11.6	5.9	0.98	5573	3.78	0.95
011872364-02	OBS	No	326.903758	169.613218	1042.3	11.181	12.5	5.4	0.98	5573	3.14	1.08
011872364-03	OBS	No	254.017822	220.811137	733.0	8.713	12.1	5.5	0.98	5573	2.69	1.51
011872364-04	OBS	No	259.935489	303.117226	1040.3	3.143	11.0	7.5	0.98	5573	3.59	1.46
011872364-05	OBS	No	355.598390	339.978229	886.5	4.479	11.9	5.9	0.98	5573	2.90	0.96
011872364-06	OBS	8232.01	189.181150	132.379420	996.9	5.000	9.4	-1.0	0.98	5573	3.06	2.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011872364-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-02	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011872364-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
011872364-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
011872364-05	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011872364-06	OBS	PC	0.49	0	0	0	0	CENT_NOFITS

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

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

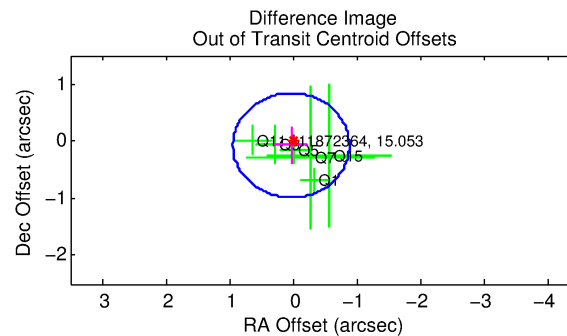
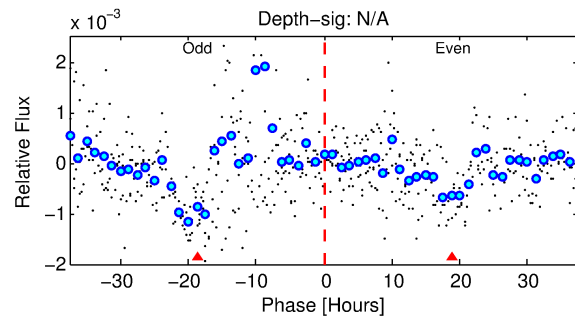
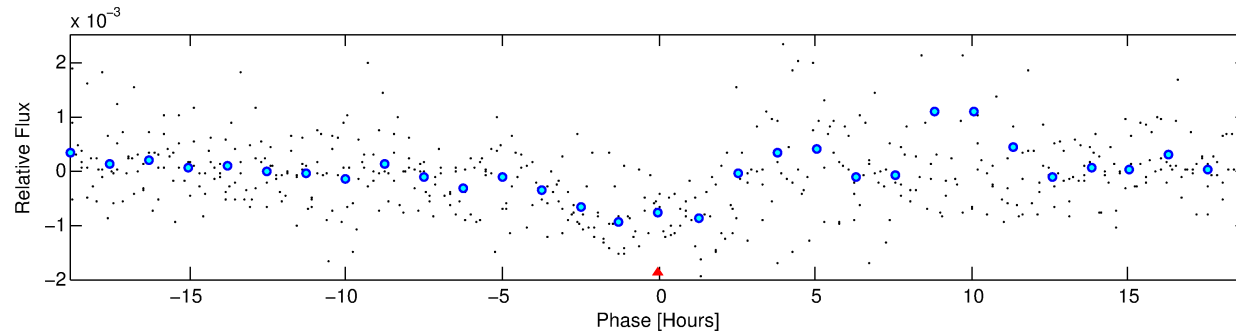
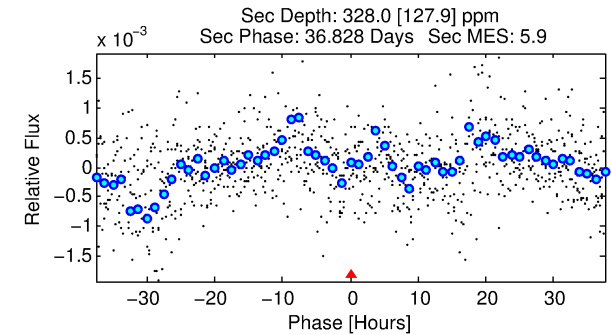
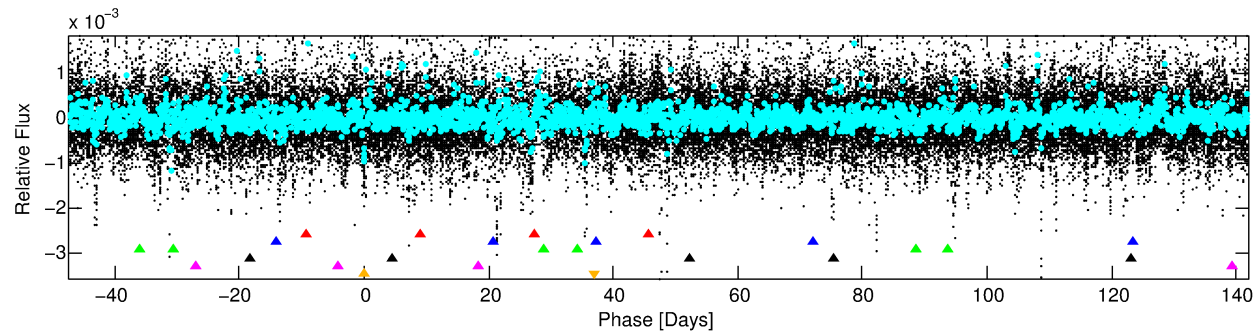
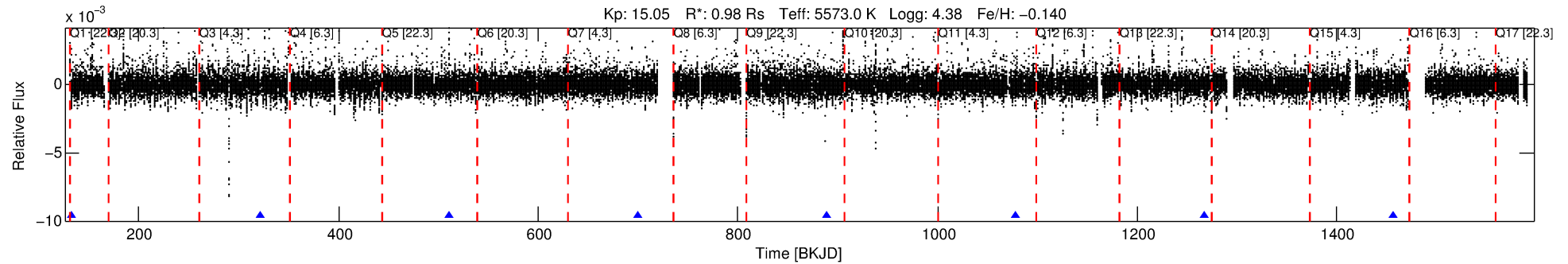
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011872364-06

No Significant Match Found

DV One-Page Summary

KIC: 11872364 Candidate: 6 of 6 Period: 189.181 d



TPS TCE Results:

Period = 189.18115 d
Epoch = 132.3794 BKJD

DV fit results are unavailable

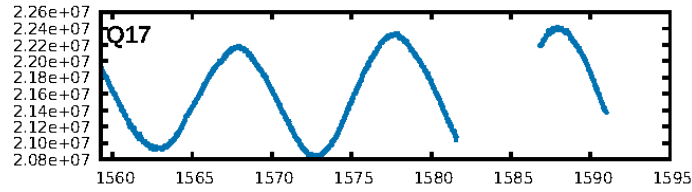
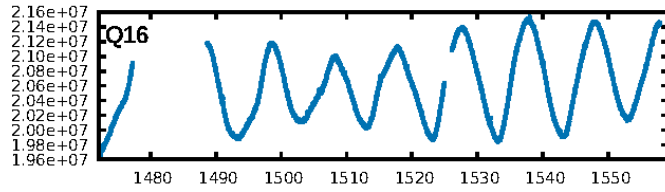
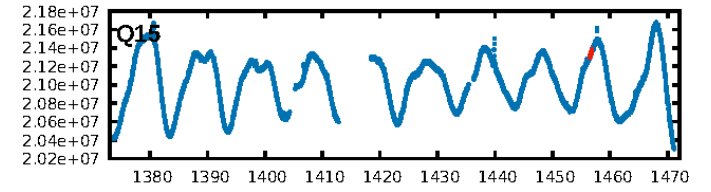
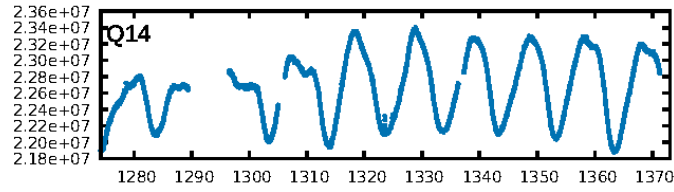
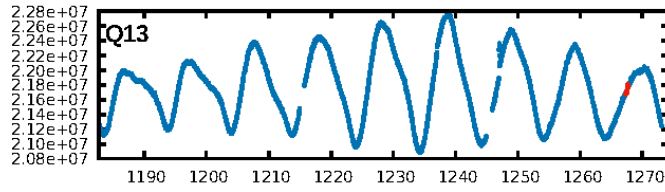
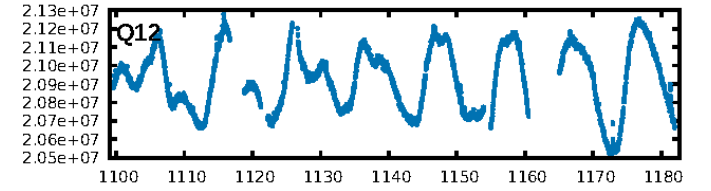
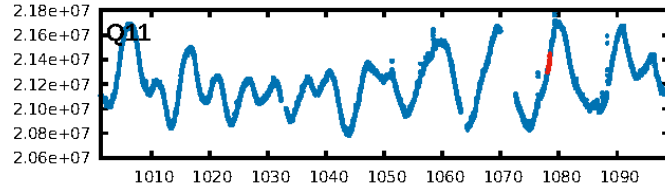
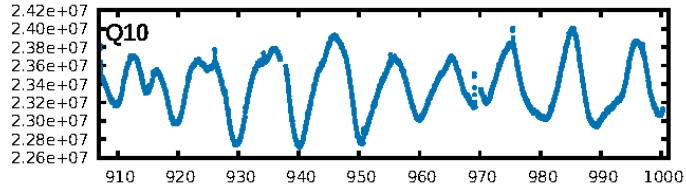
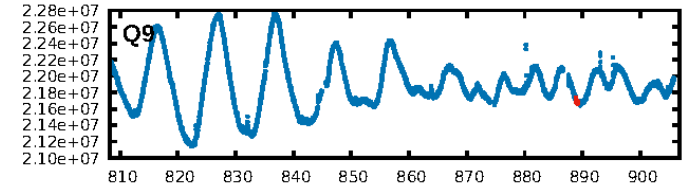
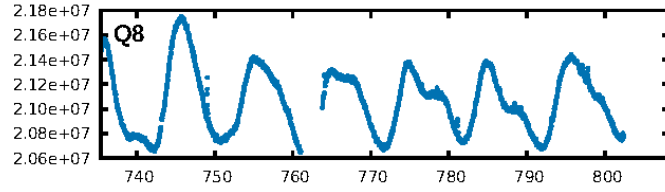
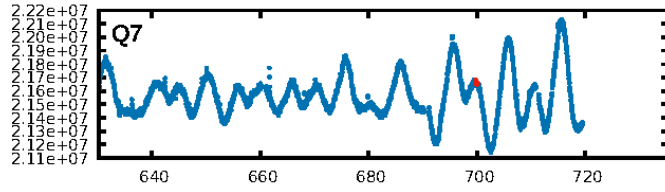
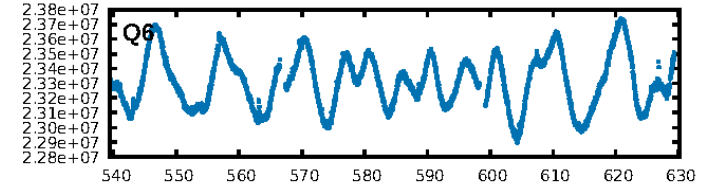
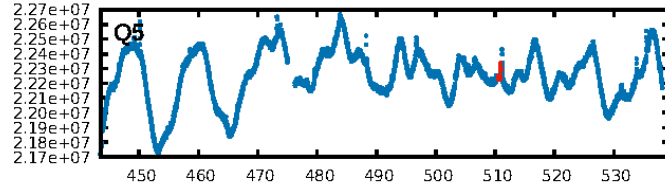
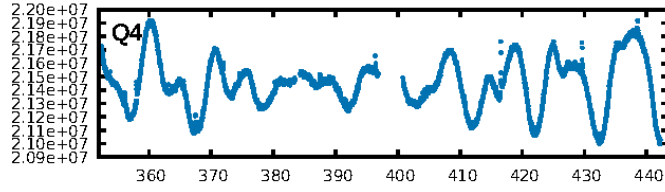
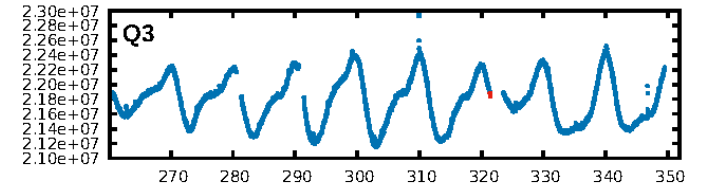
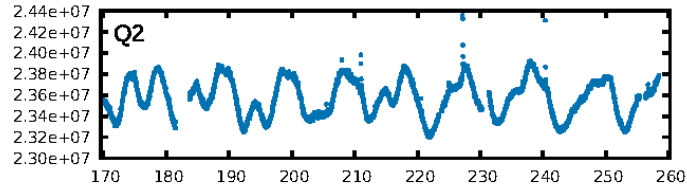
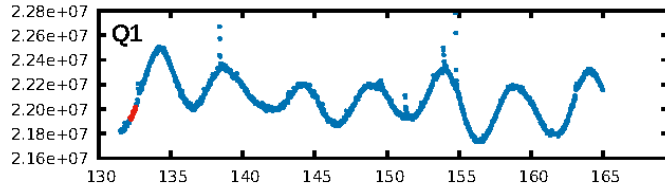
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [154.89 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -0.7222
Centroid-sig: 0.4%
Centroid-so: 1.907 arcsec [2.25 σ]
OotOffset-rm: 0.078 arcsec [0.26 σ]
KicOffset-rm: 0.091 arcsec [0.29 σ]
OotOffset-st: 0/3/0/3 [6]
KicOffset-st: 0/3/0/3 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 1.00 [6/6]

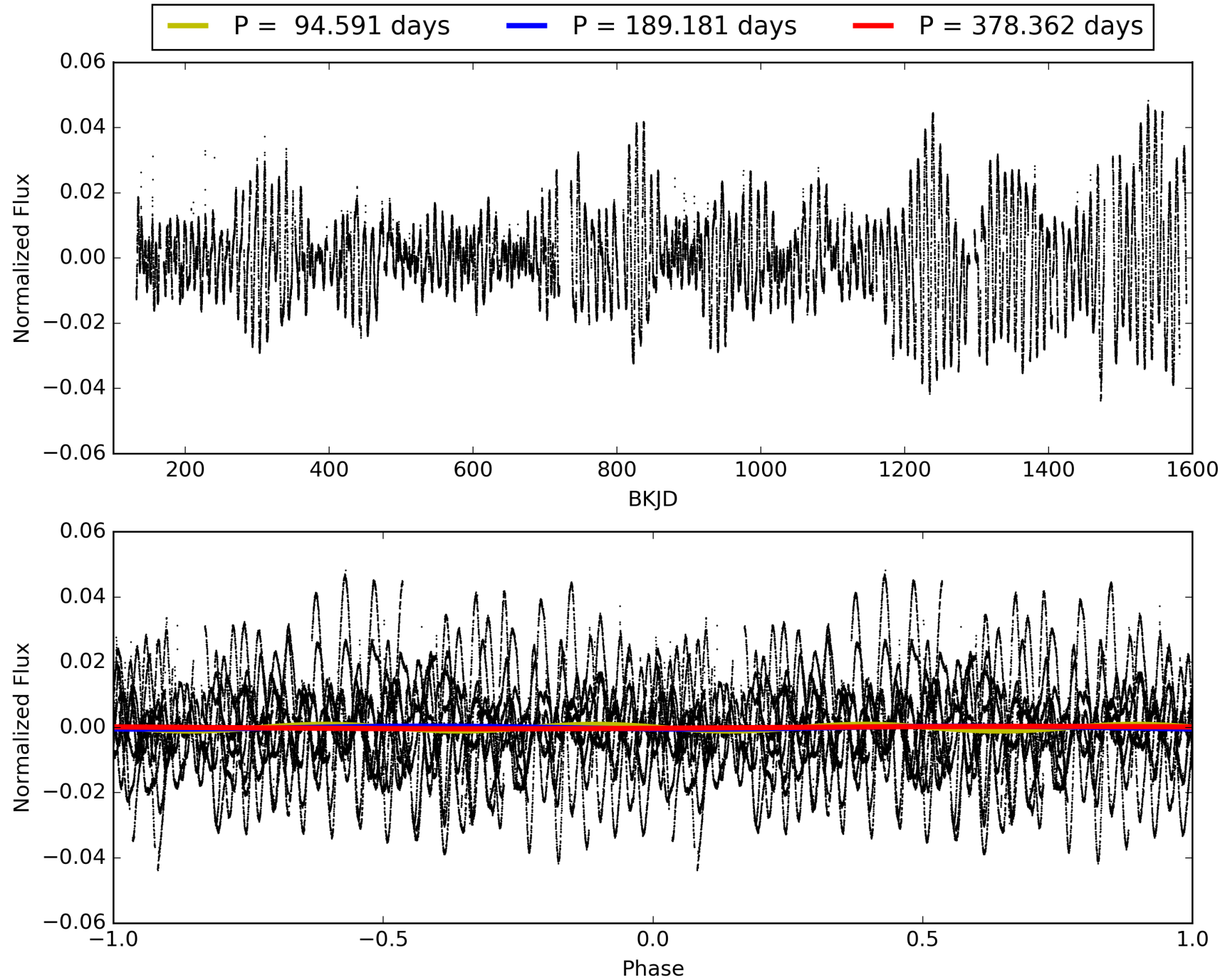
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:41:51 Z

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

TCE 011872364-06, PDC Light Curves

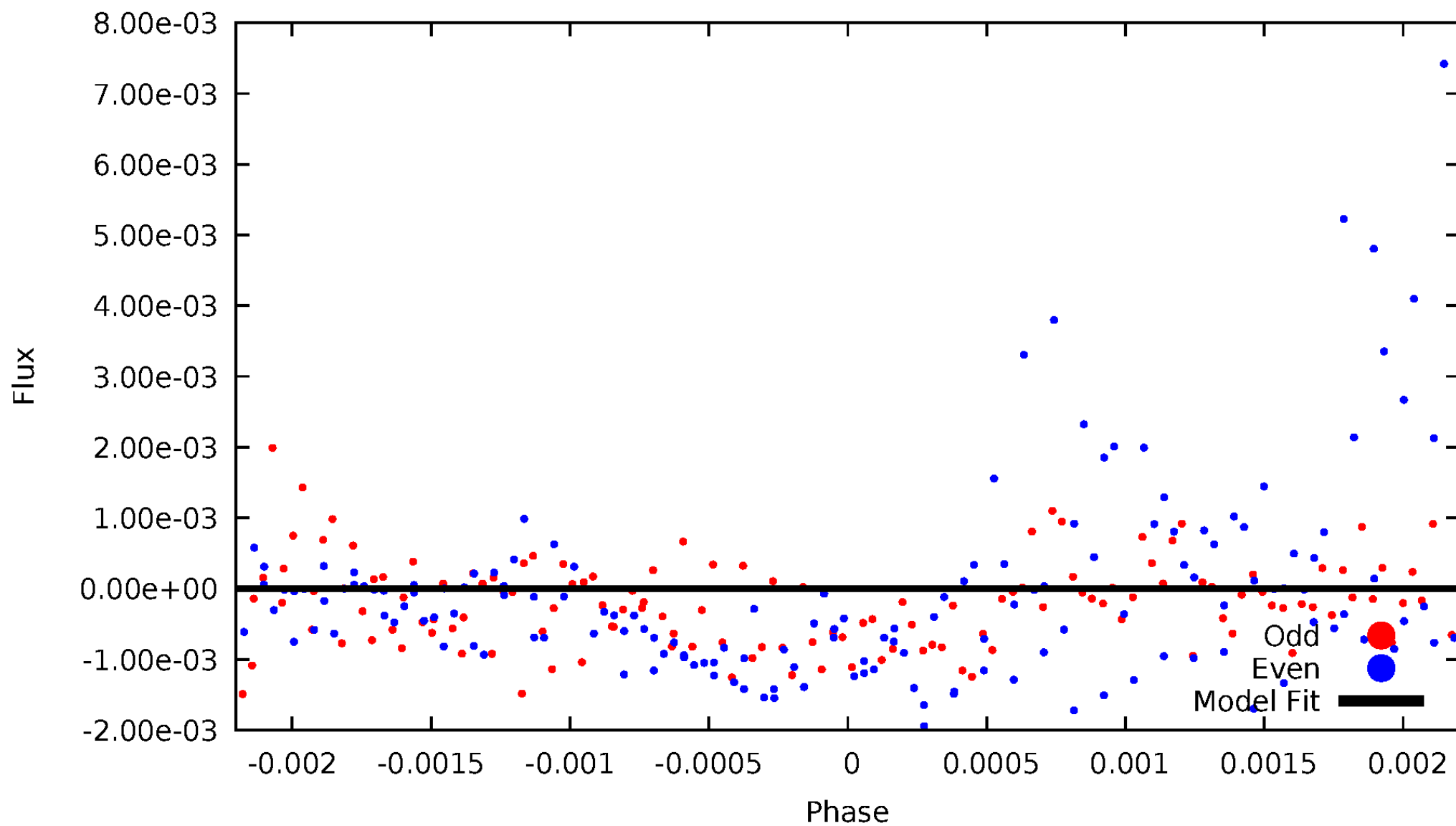


TCE 011872364-06



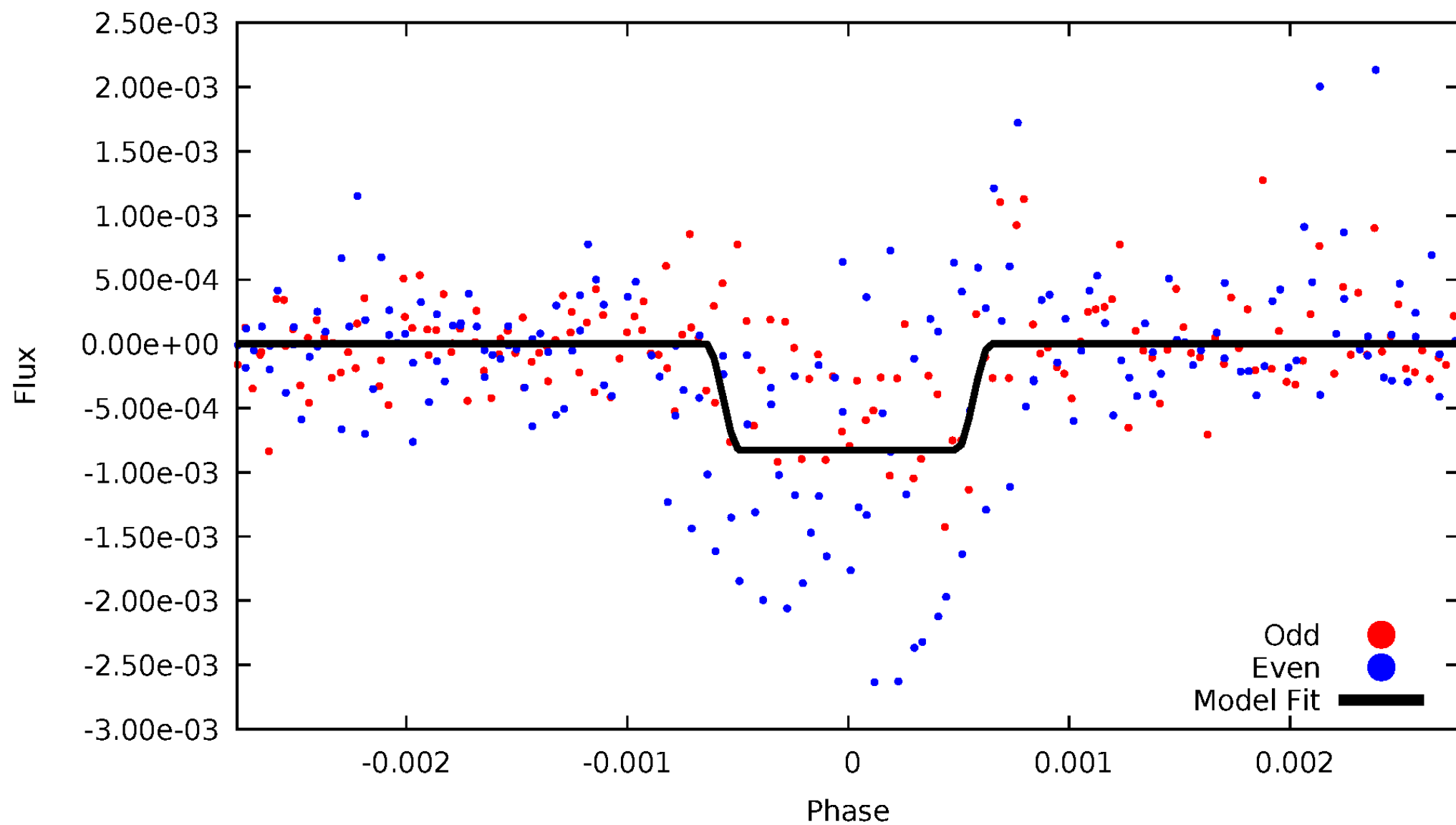
DV Odd/Even

TCE 011872364-06



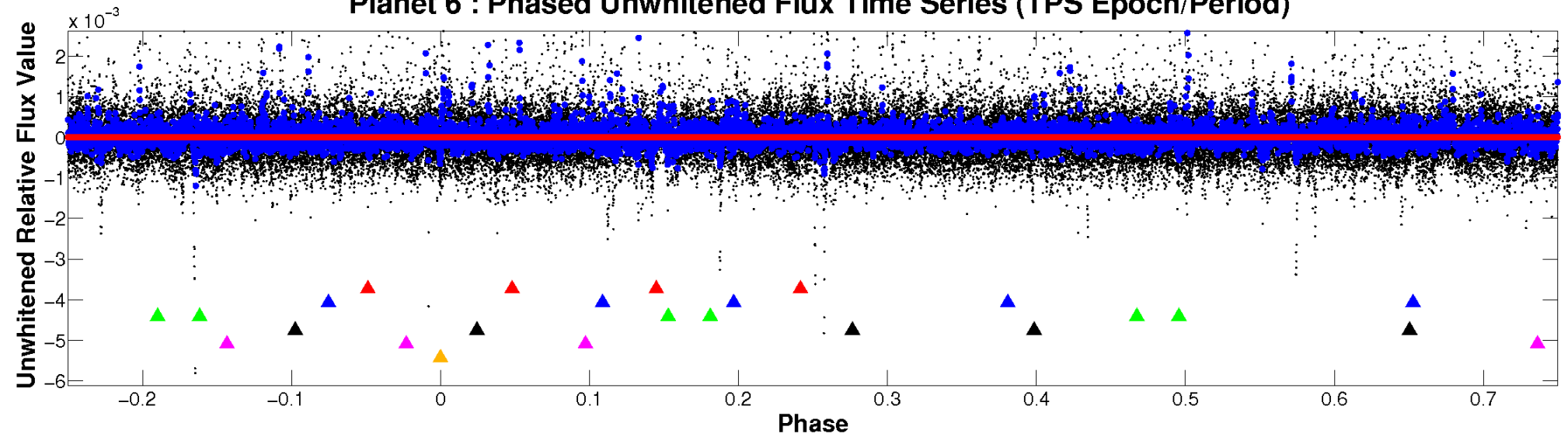
ALT Odd/Even

TCE 011872364-06

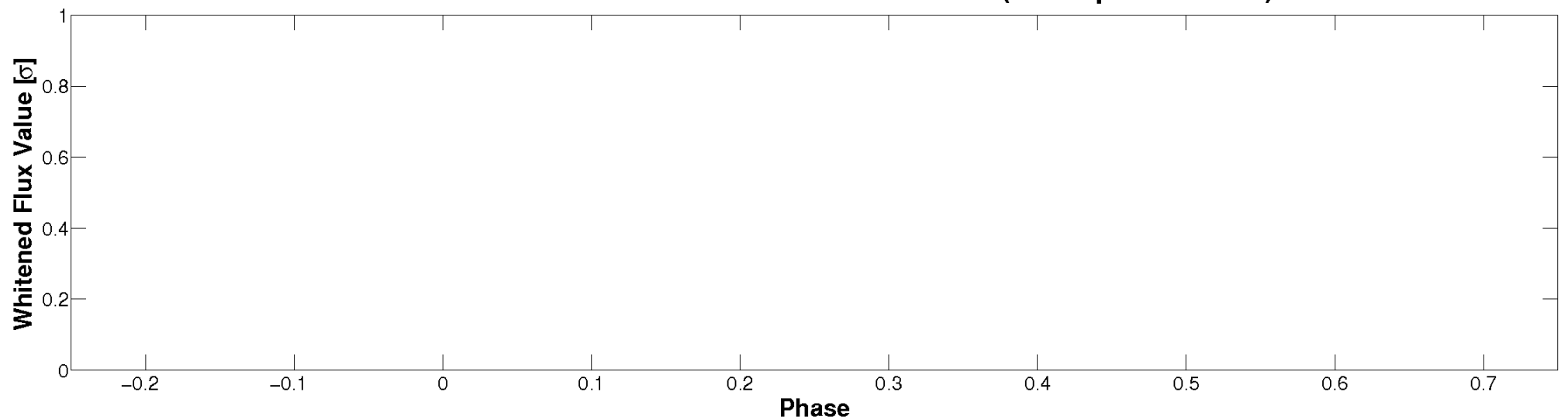


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

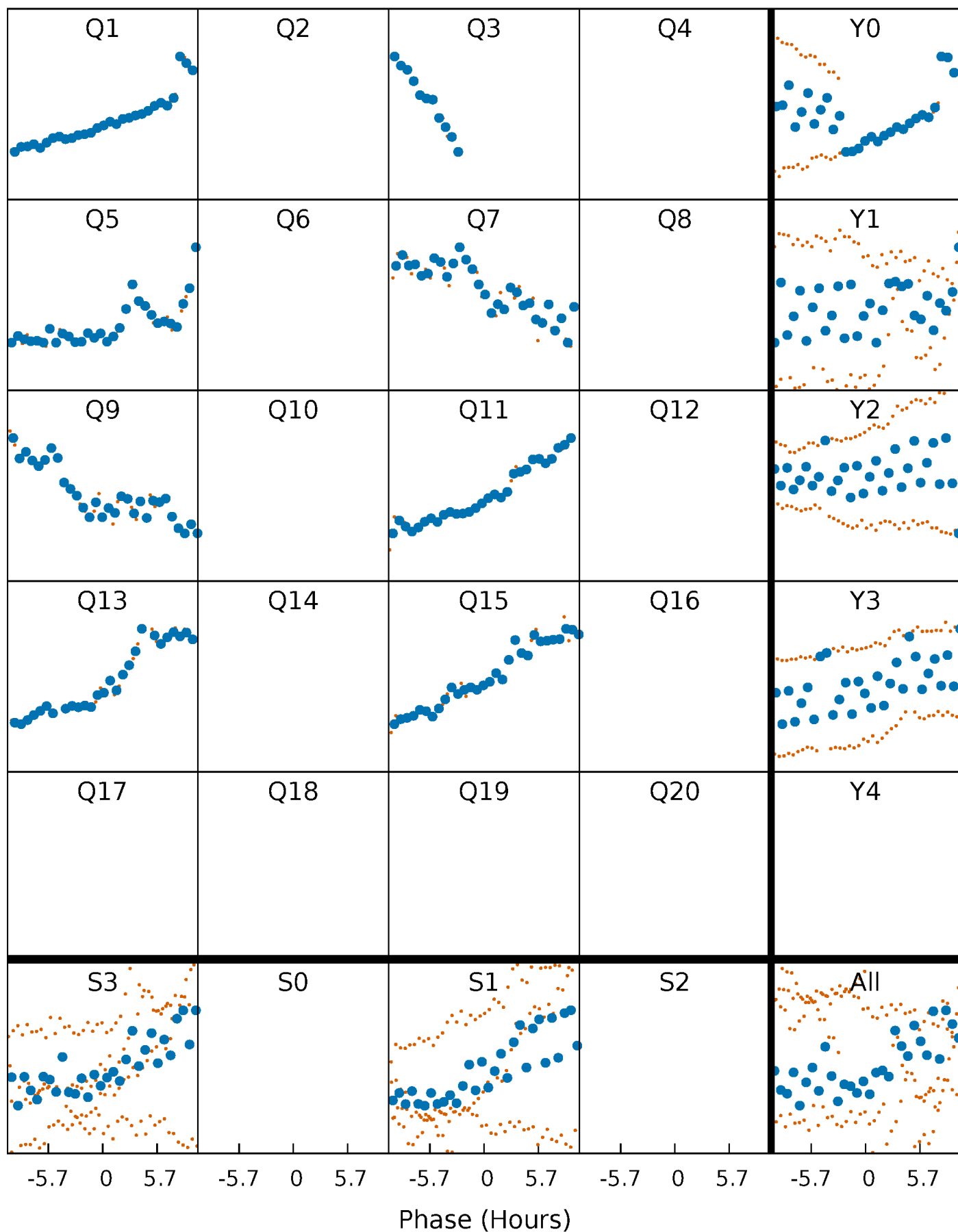


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



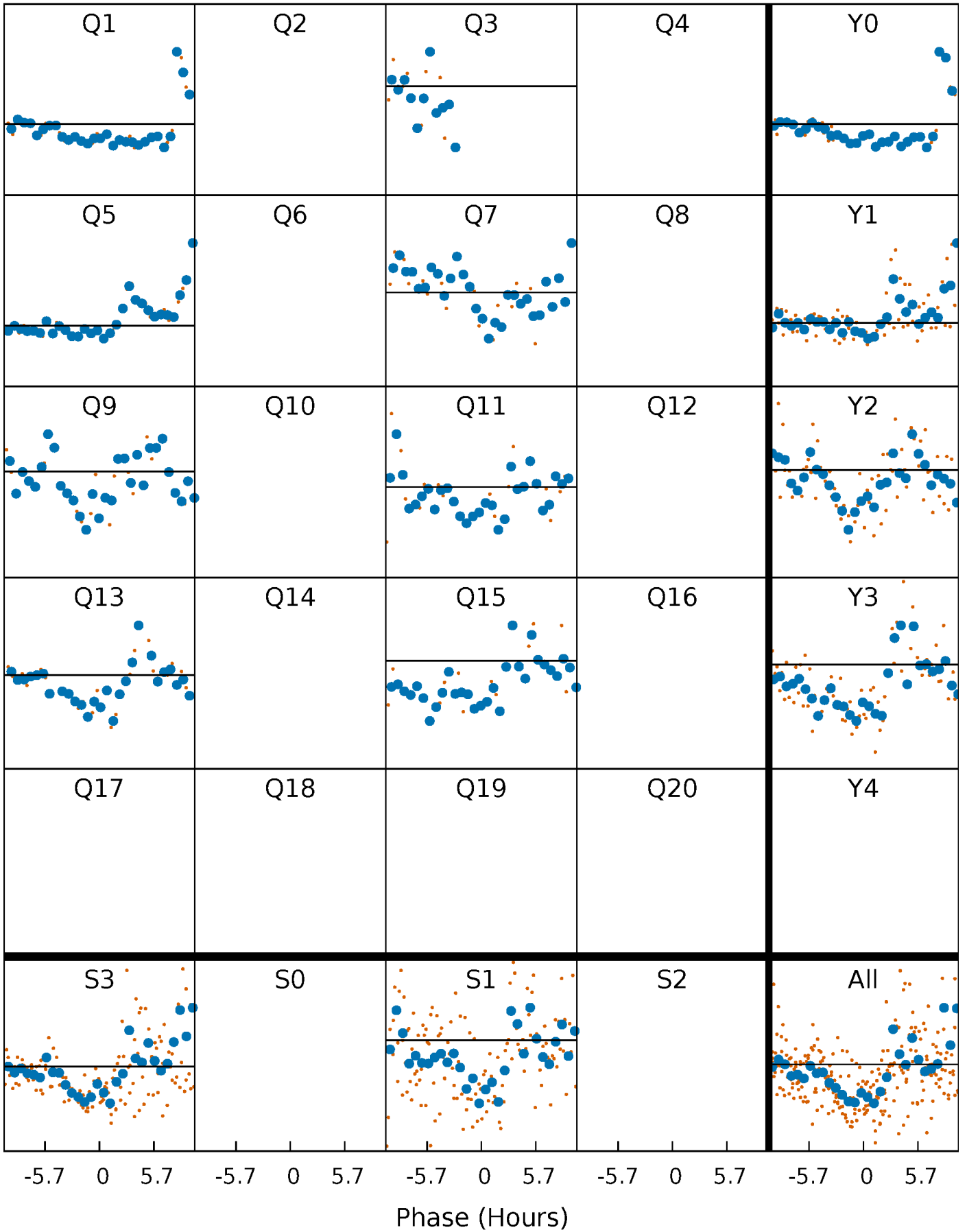
PDC Quarter-Phased Transit Curves

TCE 011872364-06 P=189.181150 Days $T_0=132.379420$ (BKJD)



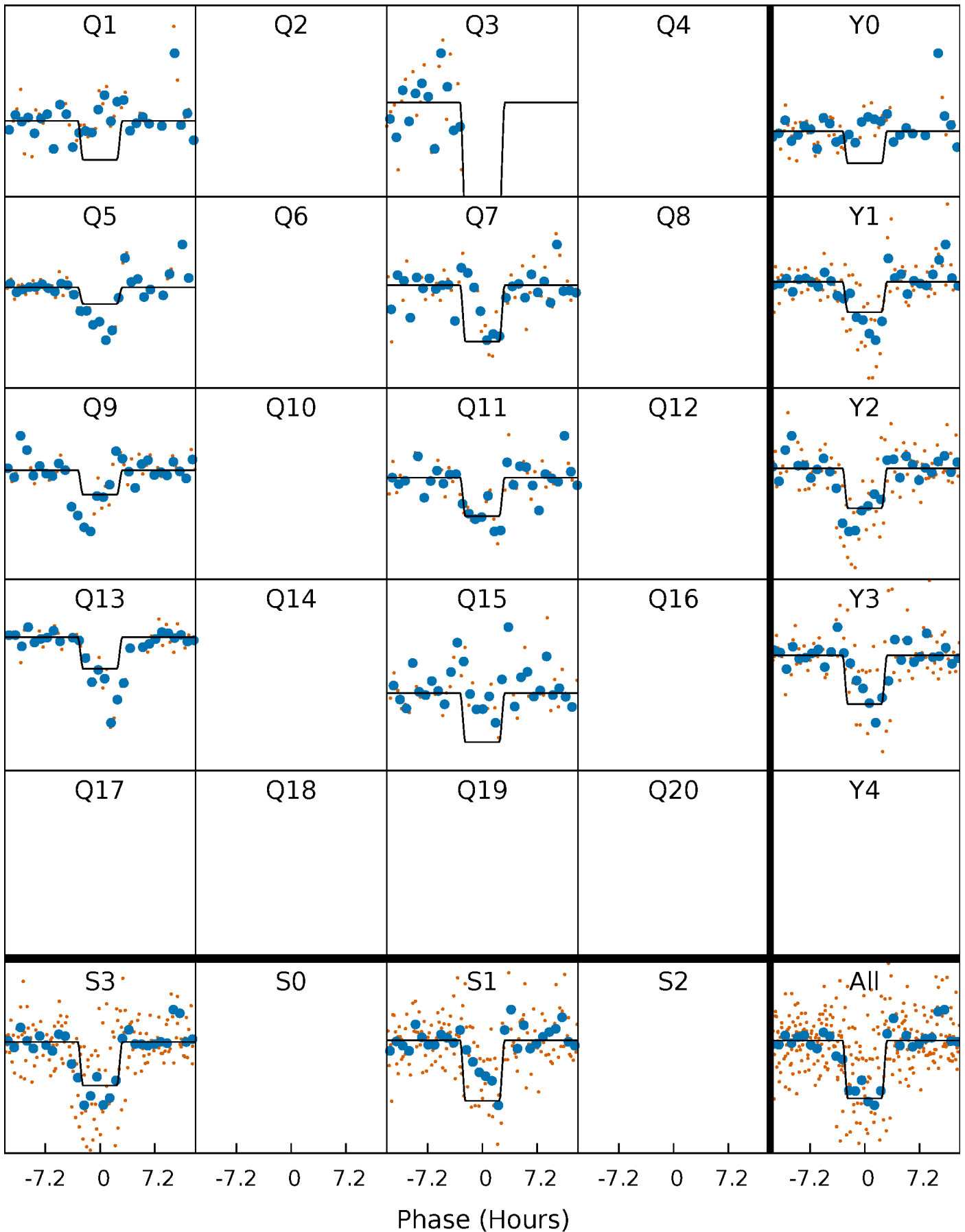
DV Quarter-Phased Transit Curves

TCE 011872364-06 P=189.181150 Days $T_0=132.379420$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

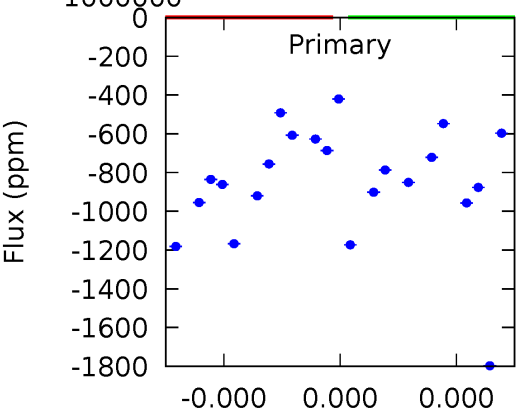
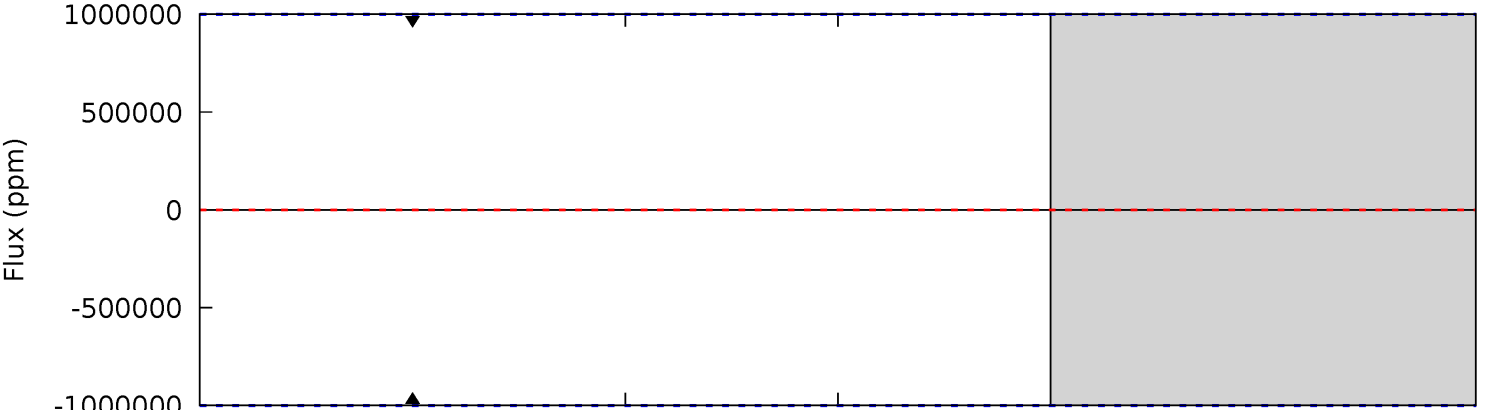
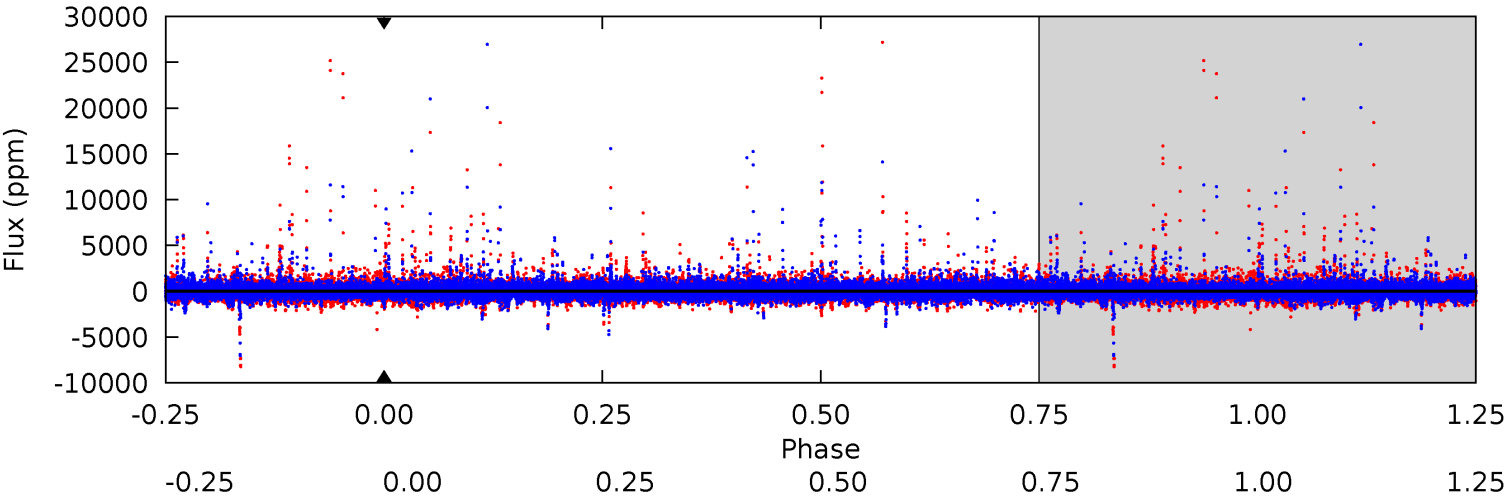
TCE 011872364-06 P=189.181150 Days $T_0=132.374918$ (BKJD)



DV Model-Shift Uniqueness Test

011872364-06, P = 189.181150 Days, E = 132.379420 Days

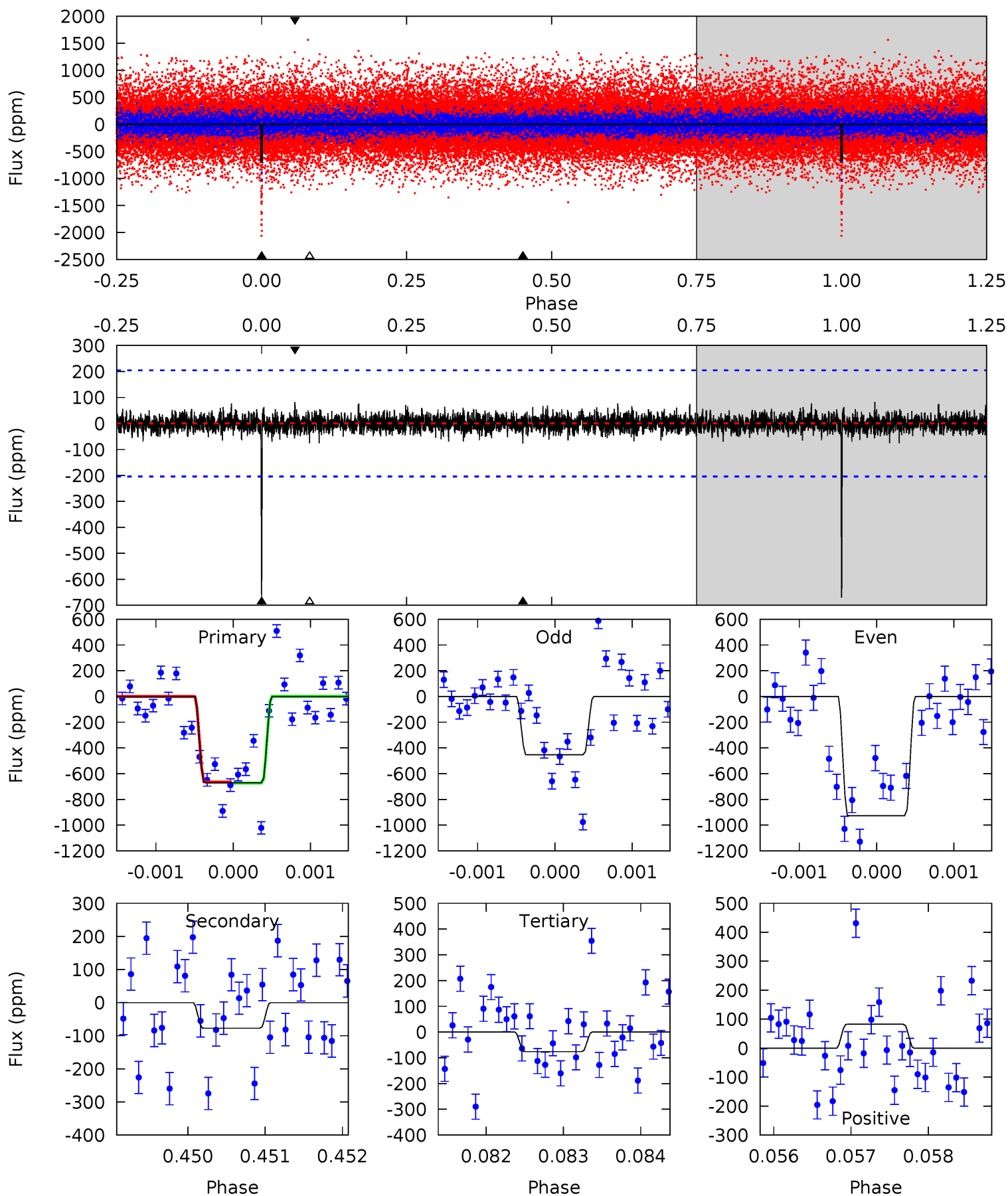
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011872364-06, P = 189.181150 Days, E = 132.374918 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	2.04	2.01	2.18	5.41	3.22	0.52	15.7	15.5	0.03	-0.13	6.37	0.88	0.11	0.12



Stellar Parameters For KIC 011872364

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5573^{+182}_{-166}	$4.382^{+0.158}_{-0.193}$	$-0.140^{+0.300}_{-0.300}$	$0.981^{+0.283}_{-0.174}$	$0.845^{+0.122}_{-0.071}$	$1.262^{+0.834}_{-0.641}$
	+3%/-3%	+4%/-4%	+214%/-214%	+29%/-18%	+14%/-8%	+66%/-51%
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 011872364-06 / KOI 8232.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$8.28^{+9.19}_{-5.71}$	436^{+31}_{-26}	-4083^{+23728}_{-15922}	$-3064.719^{+580650.358}_{-598961.156}$
Alt.	-77 ± 38	$8.36^{+9.33}_{-5.71}$	437^{+35}_{-28}	2658^{+952}_{-478}	209^{+1774}_{-165}

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 $A_{obs} \gg 1.0$

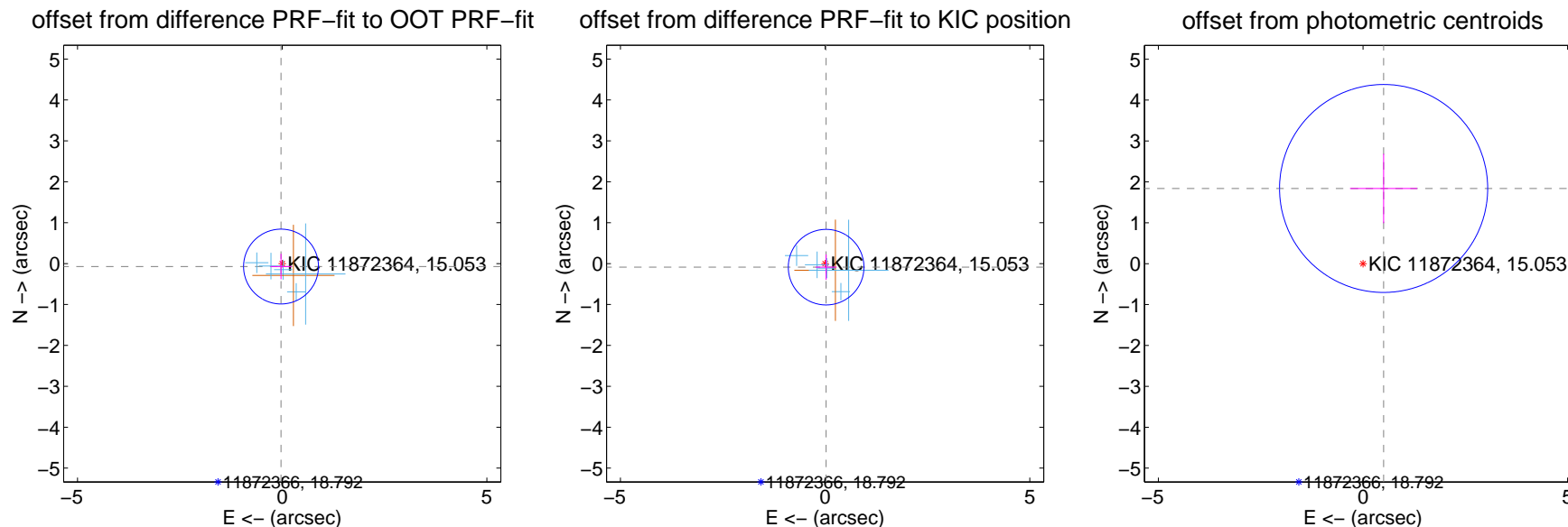
DV Centroid Data

Supplemental centroid analysis for 011872364-06. Kepler magnitude: 15.05. Transit SNR -1.00

There are 5 quarters with good PRF difference image offsets

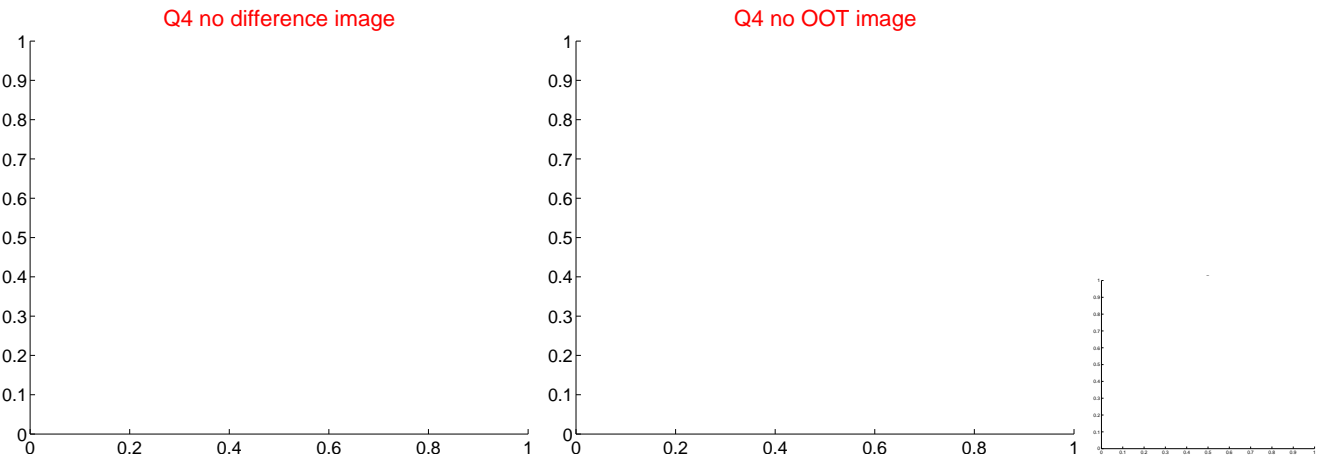
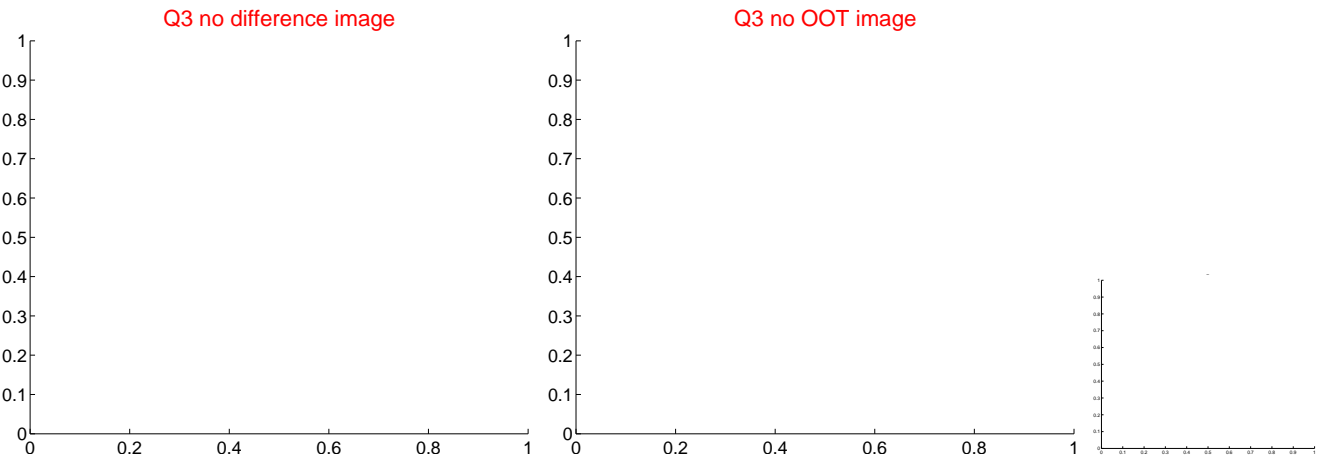
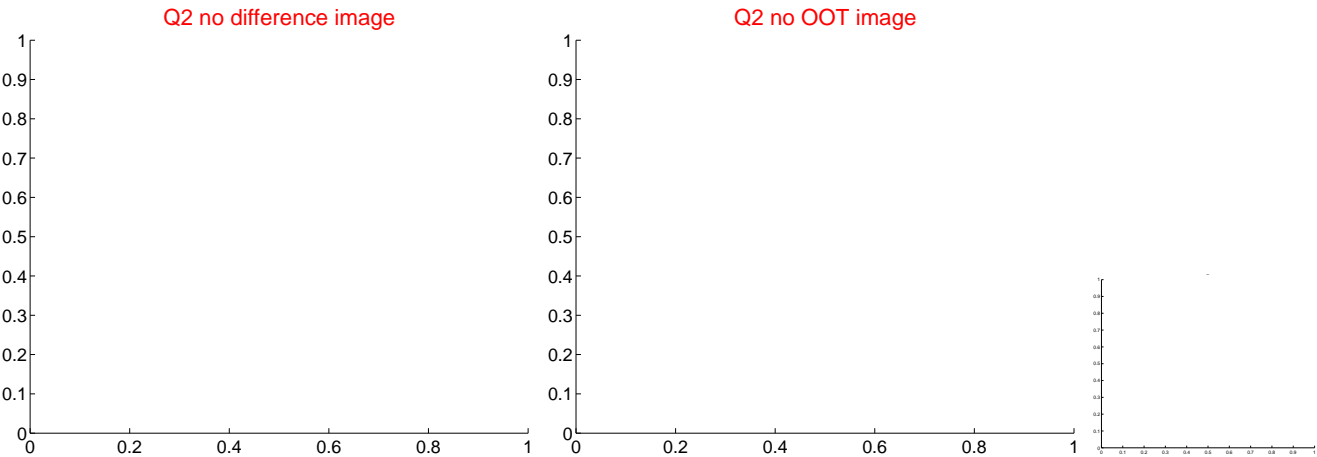
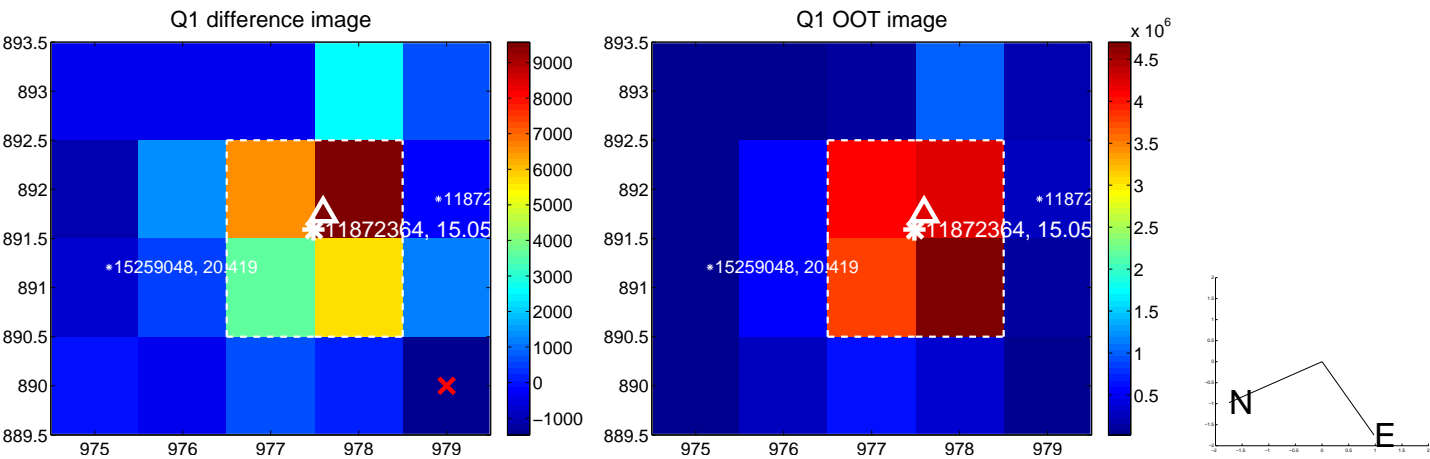
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.078 ± 0.305	0.26	0.028 ± 0.257	-0.072 ± 0.312
PRF-fit source offset from KIC position	0.091 ± 0.308	0.29	-0.025 ± 0.257	-0.087 ± 0.312
photometric centroid source offset	1.91 ± 0.85	2.25	-0.50 ± 0.82	1.84 ± 0.85

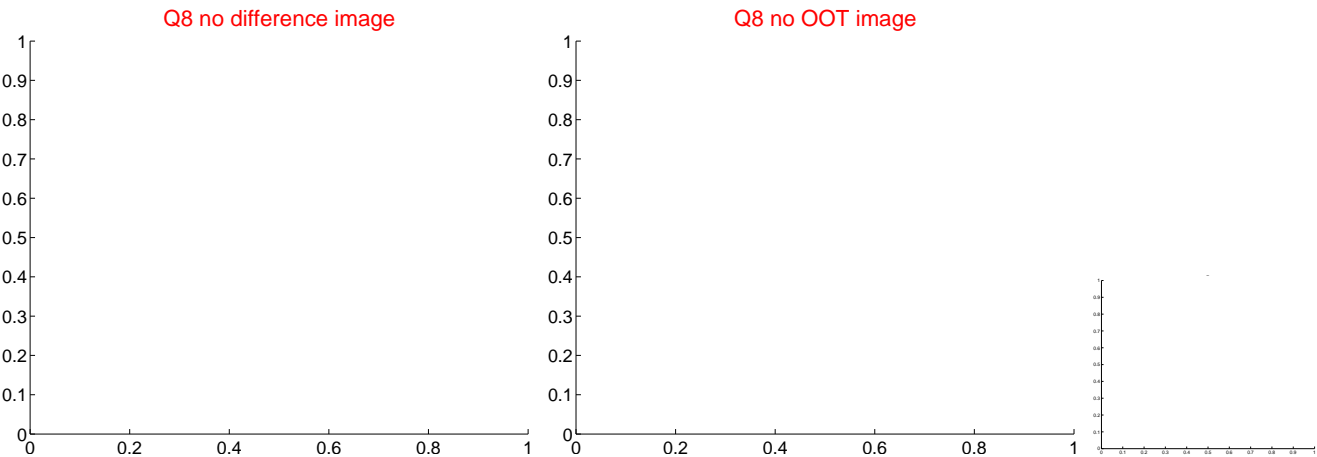
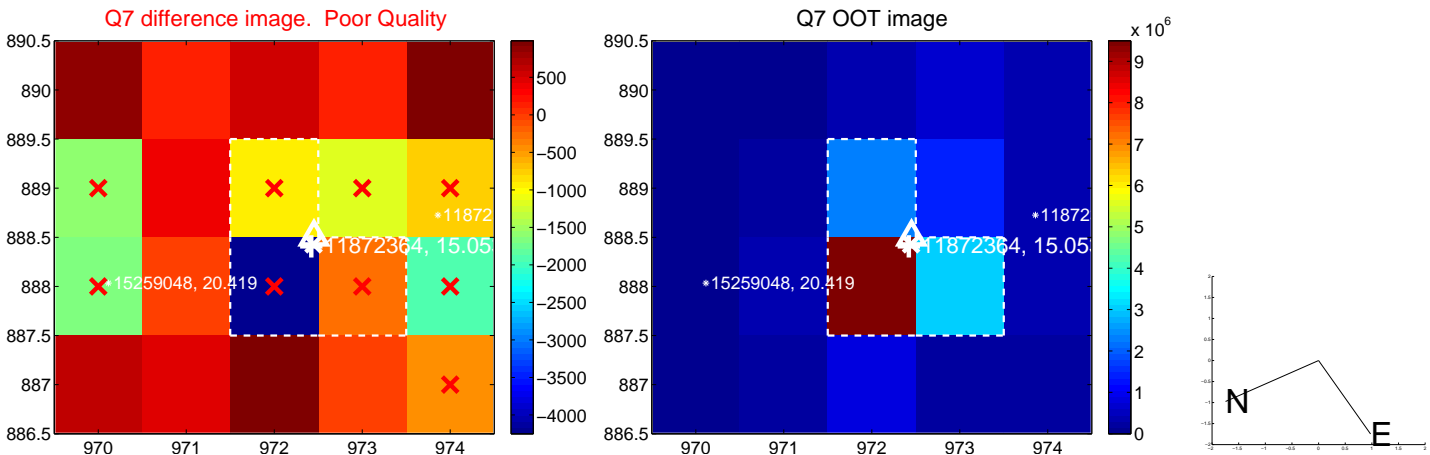
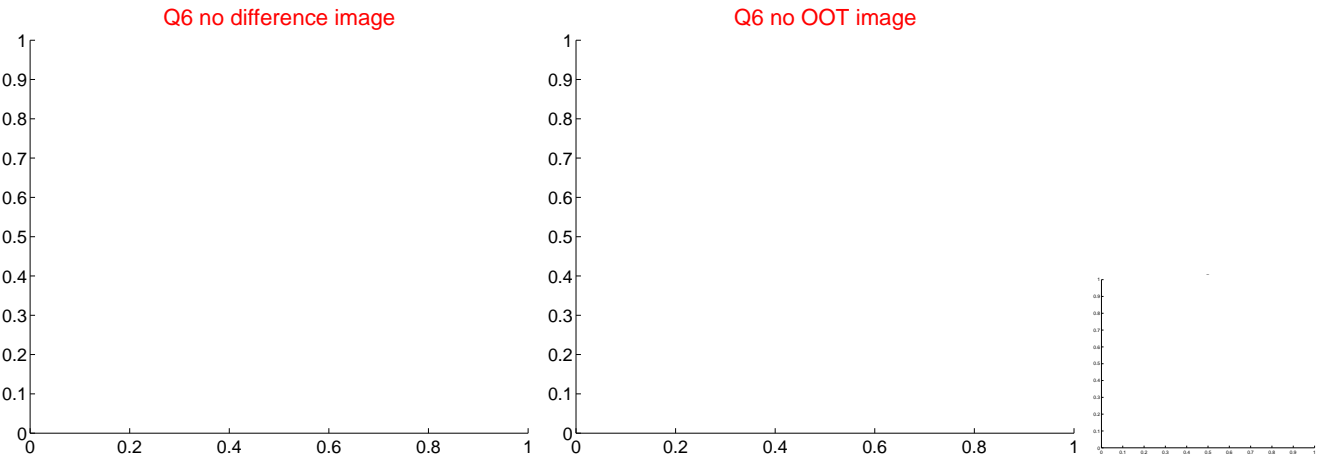
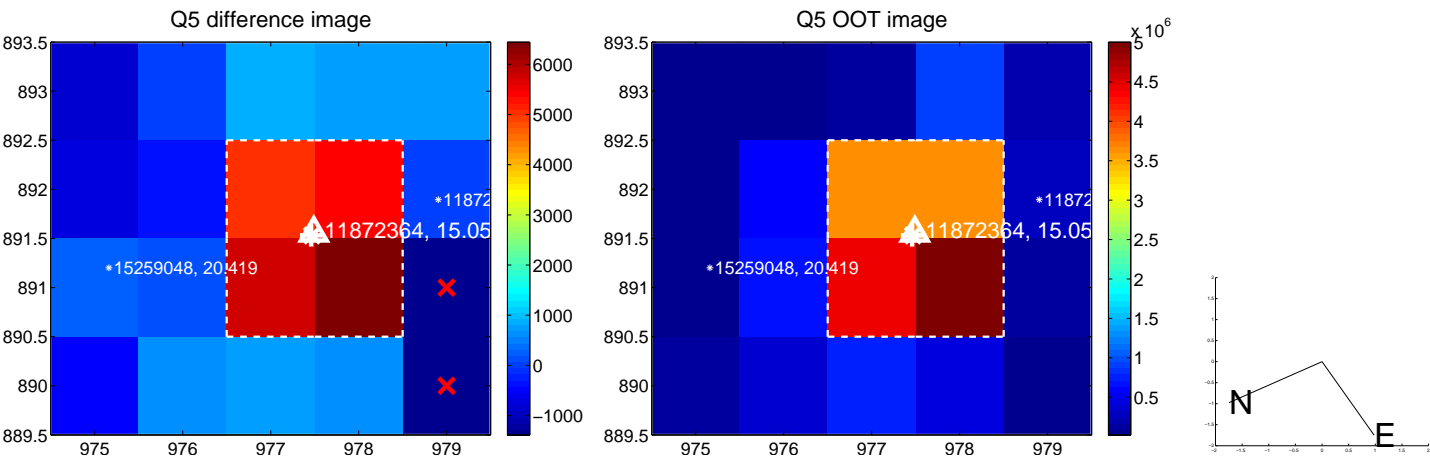


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

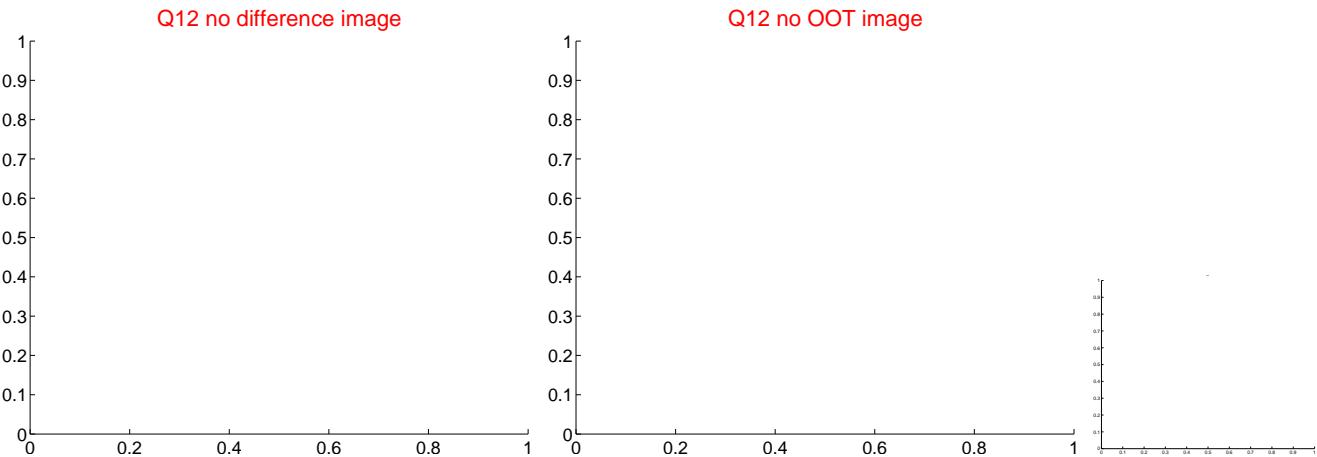
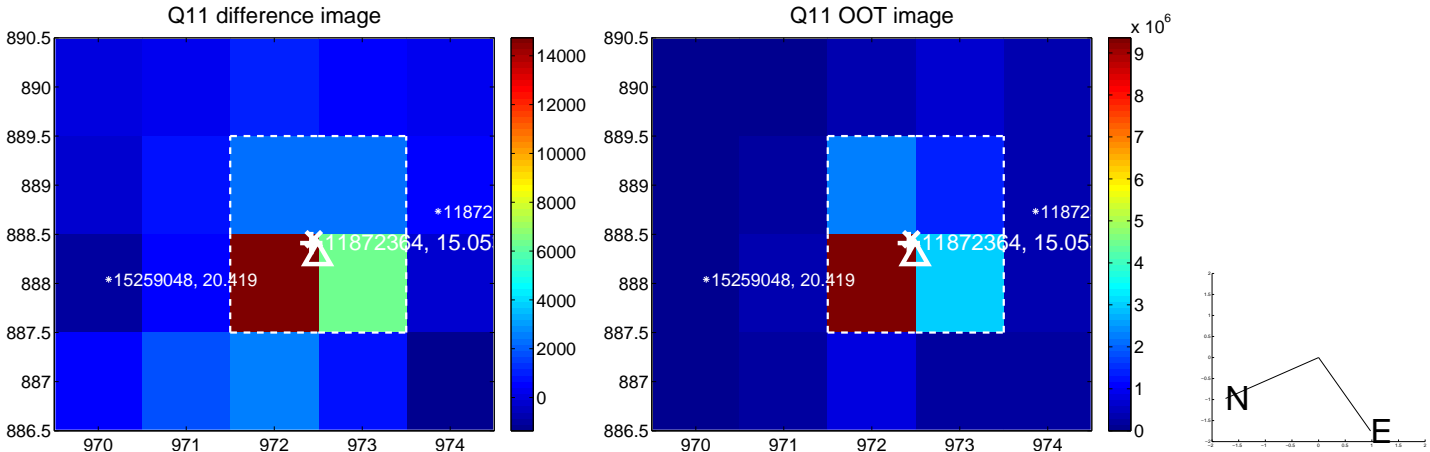
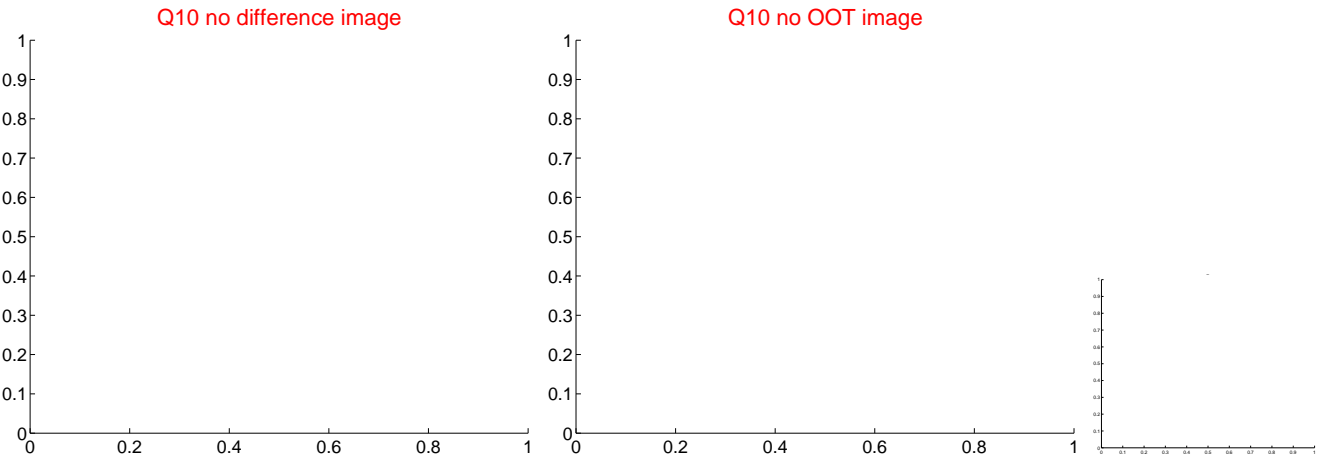
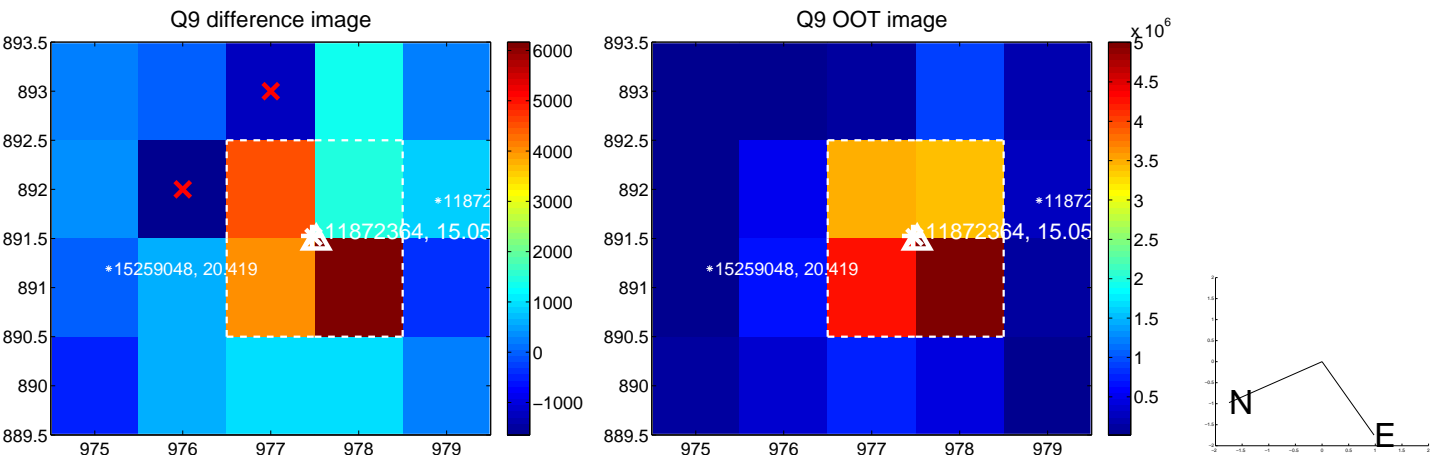
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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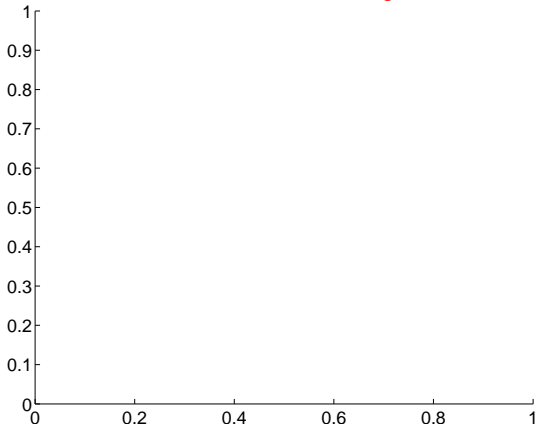


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

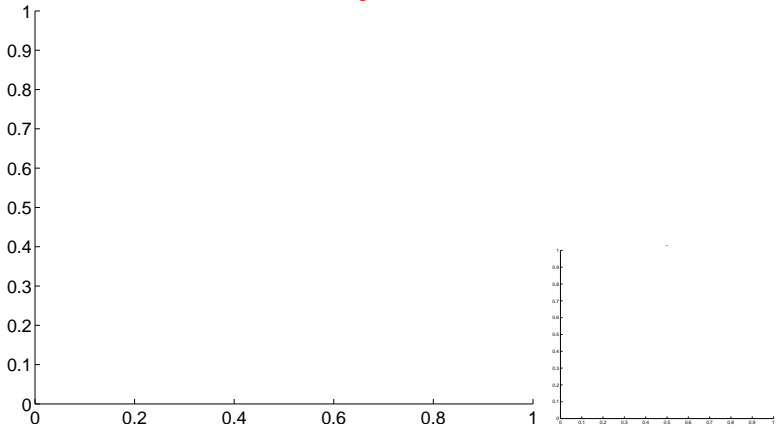


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

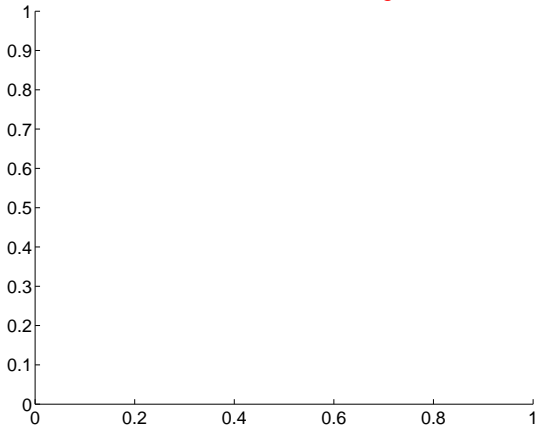
Q13 no difference image



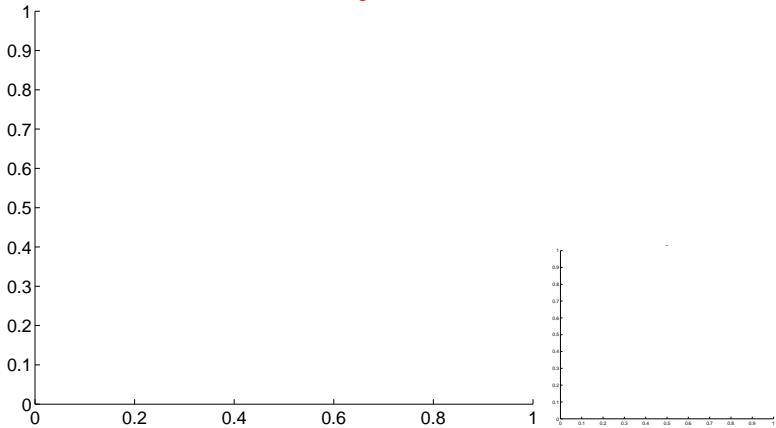
Q13 no OOT image



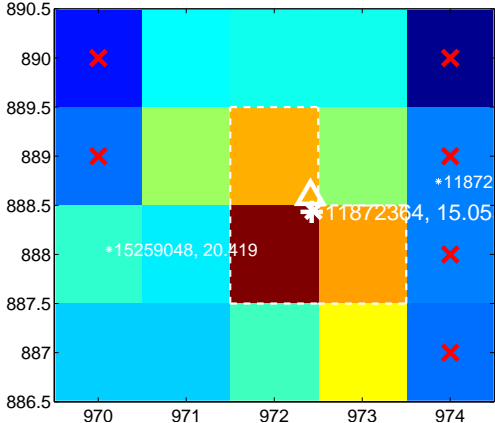
Q14 no difference image



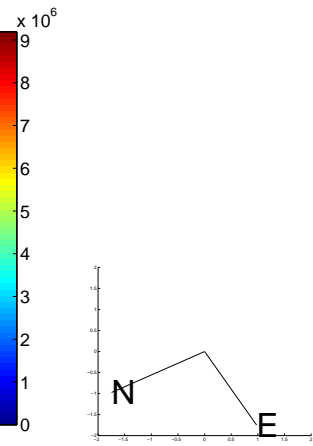
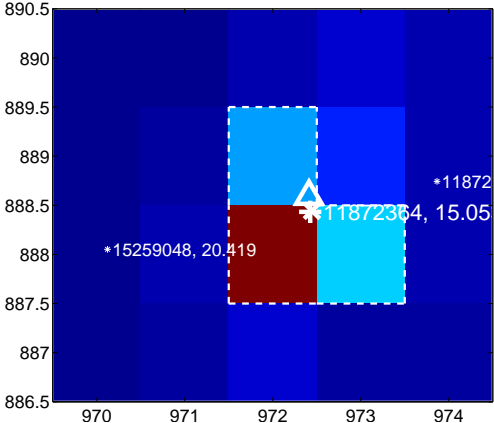
Q14 no OOT image



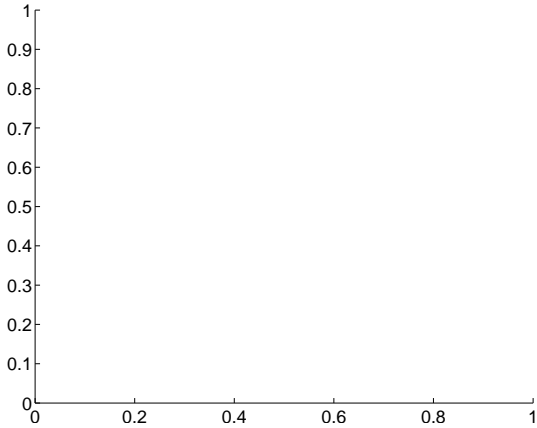
Q15 difference image



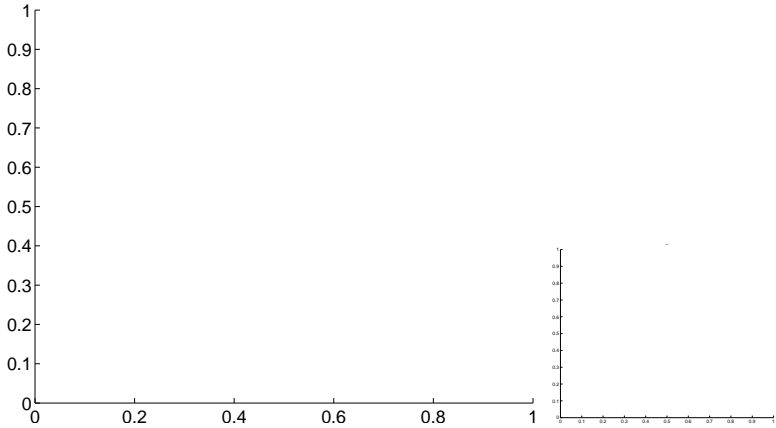
Q15 OOT image



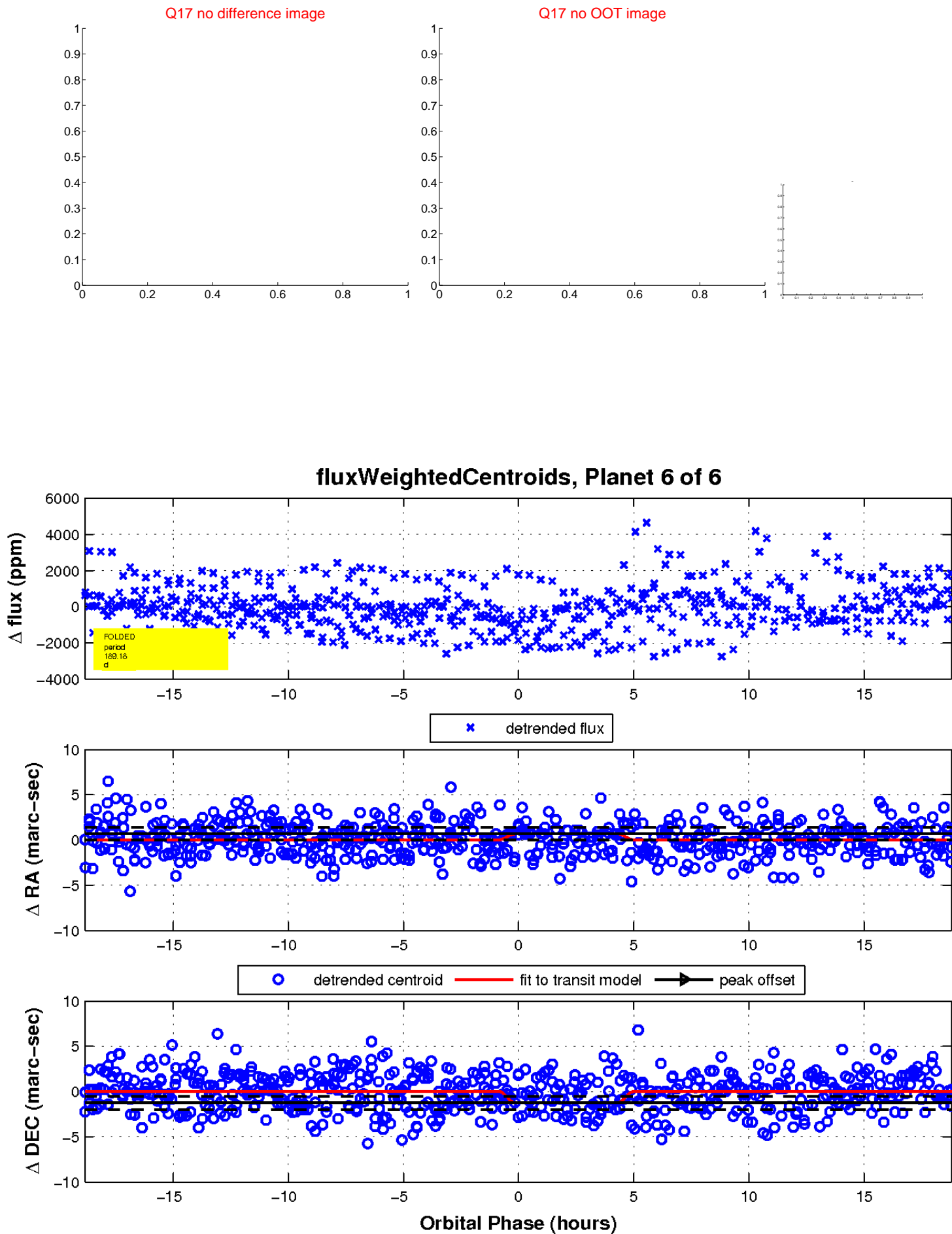
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

