

KIC 006206694

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})
006206694-01	OBS	No	1.417008	132.792577	17.4	5.005	8.0	7.9	2.61	6056	1.27	12325.11
006206694-02	OBS	No	232.866882	341.978916	239.9	10.032	11.2	7.0	2.61	6056	4.56	13.69
006206694-03	OBS	No	469.344121	172.909089	234.9	5.330	9.6	5.9	2.61	6056	4.68	5.38
006206694-04	OBS	No	586.571004	330.479374	275.3	4.695	7.7	7.4	2.61	6056	5.00	4.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006206694-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006206694-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006206694-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET
006206694-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

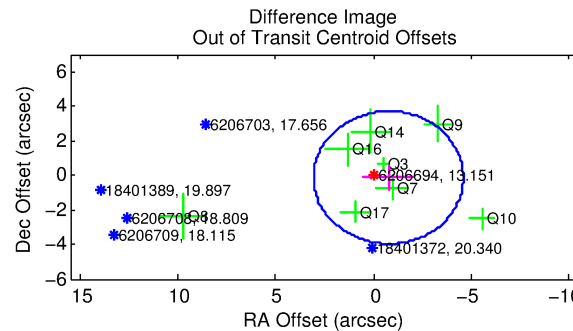
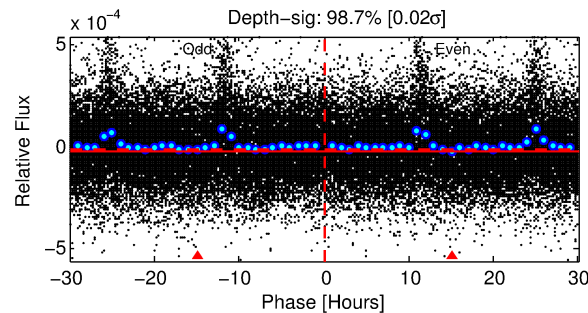
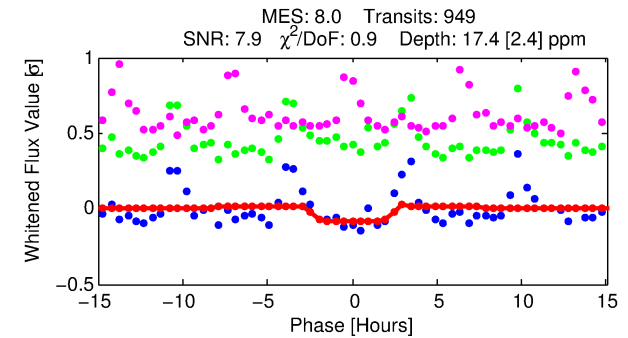
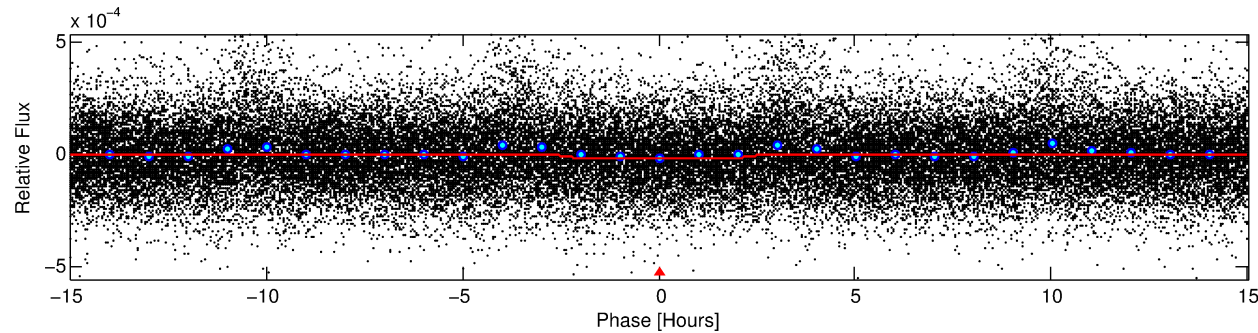
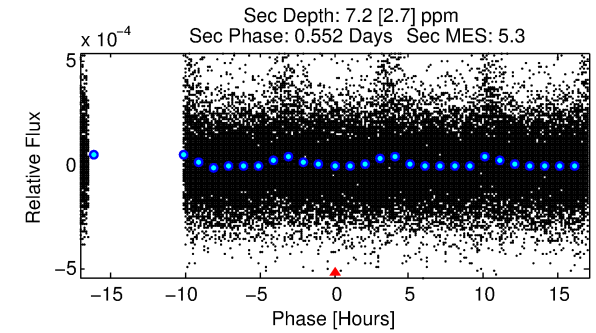
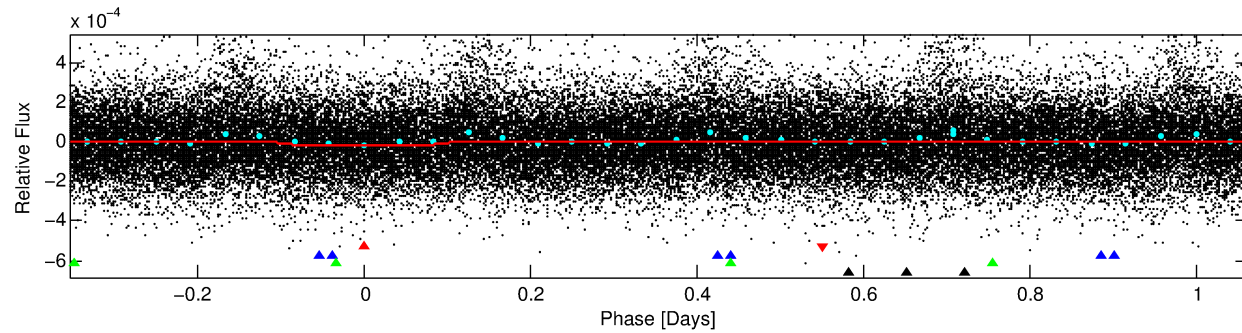
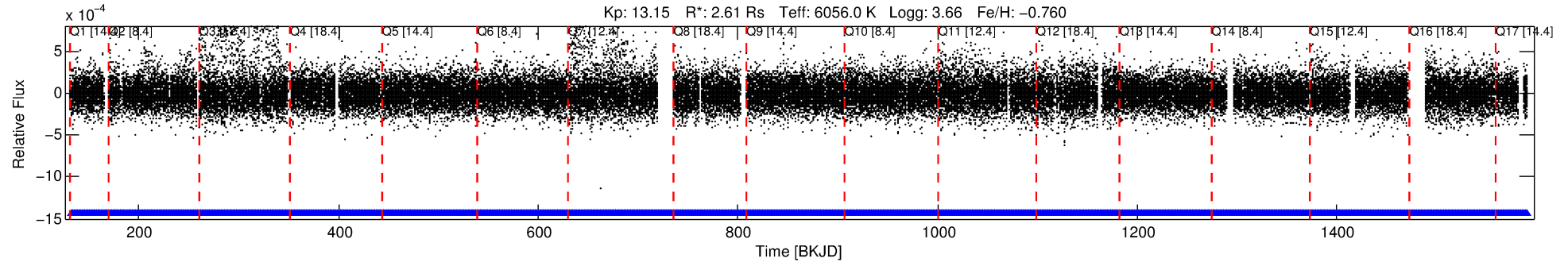
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006206694-01

No Significant Match Found

DV One-Page Summary

KIC: 6206694 Candidate: 1 of 4 Period: 1.417 d



DV Fit Results:

Period = 1.41701 [0.00002] d
Epoch = 132.7926 [0.0058] BKJD
Rp/R* = 0.0045 [0.0016]
a/R* = 1.35 [1.24]
b = 0.90 [0.44]
Seff = 12325.11 [6855.84]
Teq = 2687 [374] K
Rp = 1.27 [0.66] Re
a = 0.0258 [0.0089] AU
Ag = 1.63 [1.61] [0.39σ]
Teffp = 4694 [976] K [1.92σ]

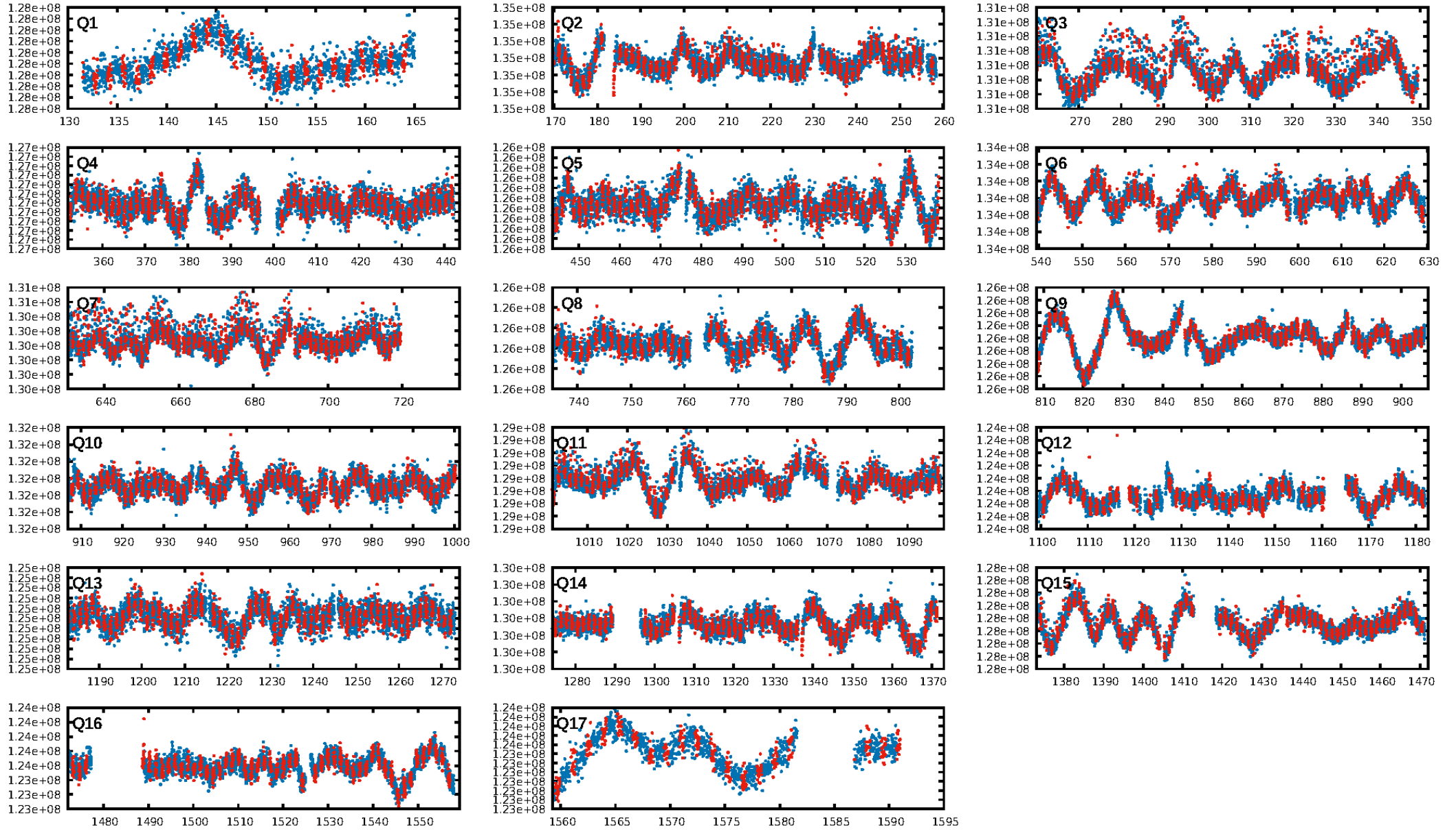
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [495.46σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.87e-14
RollingBand-fgt: 1.00 [907/907]
GhostDiagnostic-chr: 0.4357
Centroid-sig: 70.5%
Centroid-so: 0.866 arcsec [0.79σ]
OotOffset-rm: 0.772 arcsec [0.60σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-rm: 0.580 arcsec [0.47σ]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 1.00 [17/17]

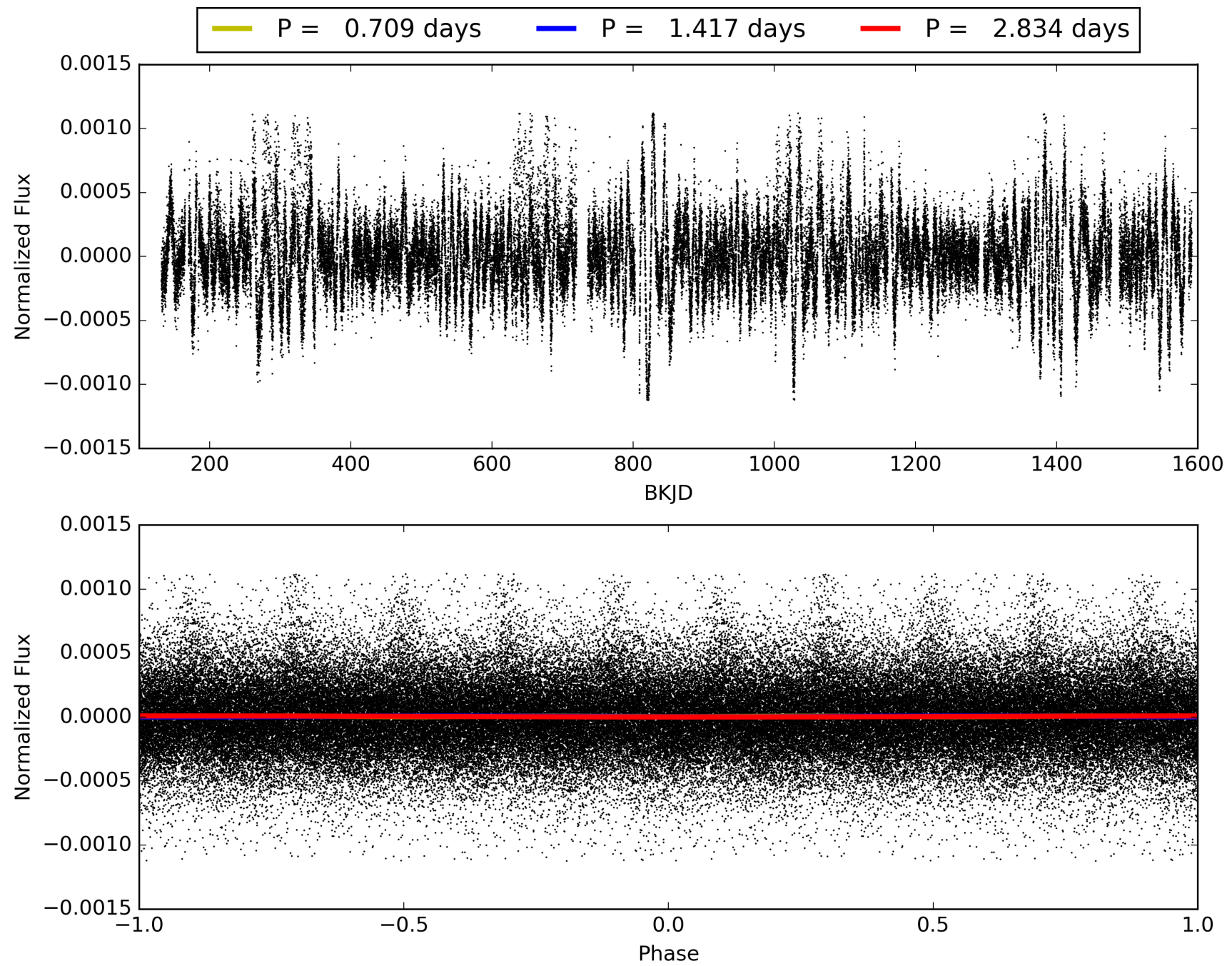
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:01:42 Z

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

TCE 006206694-01, PDC Light Curves

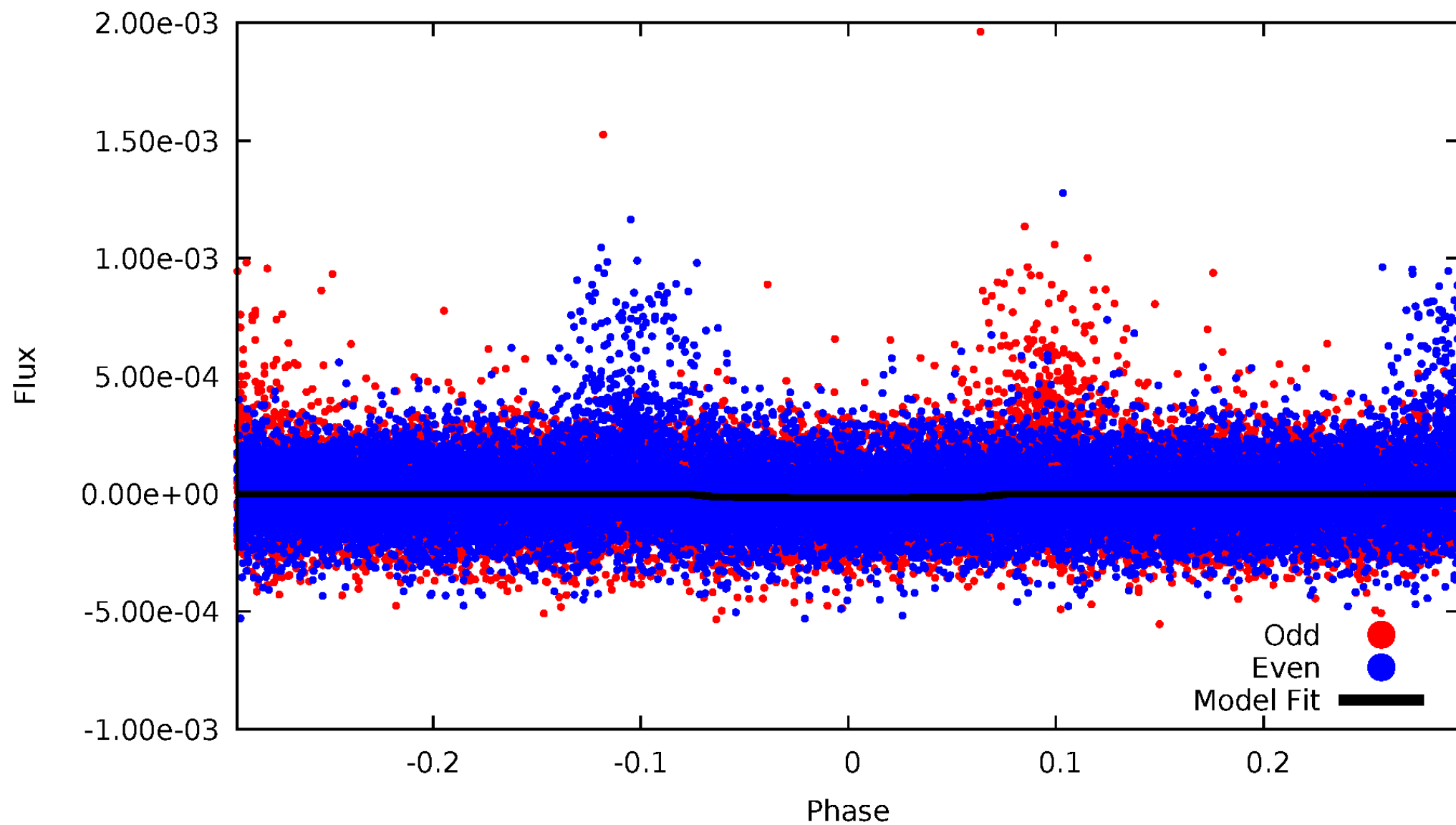


TCE 006206694-01



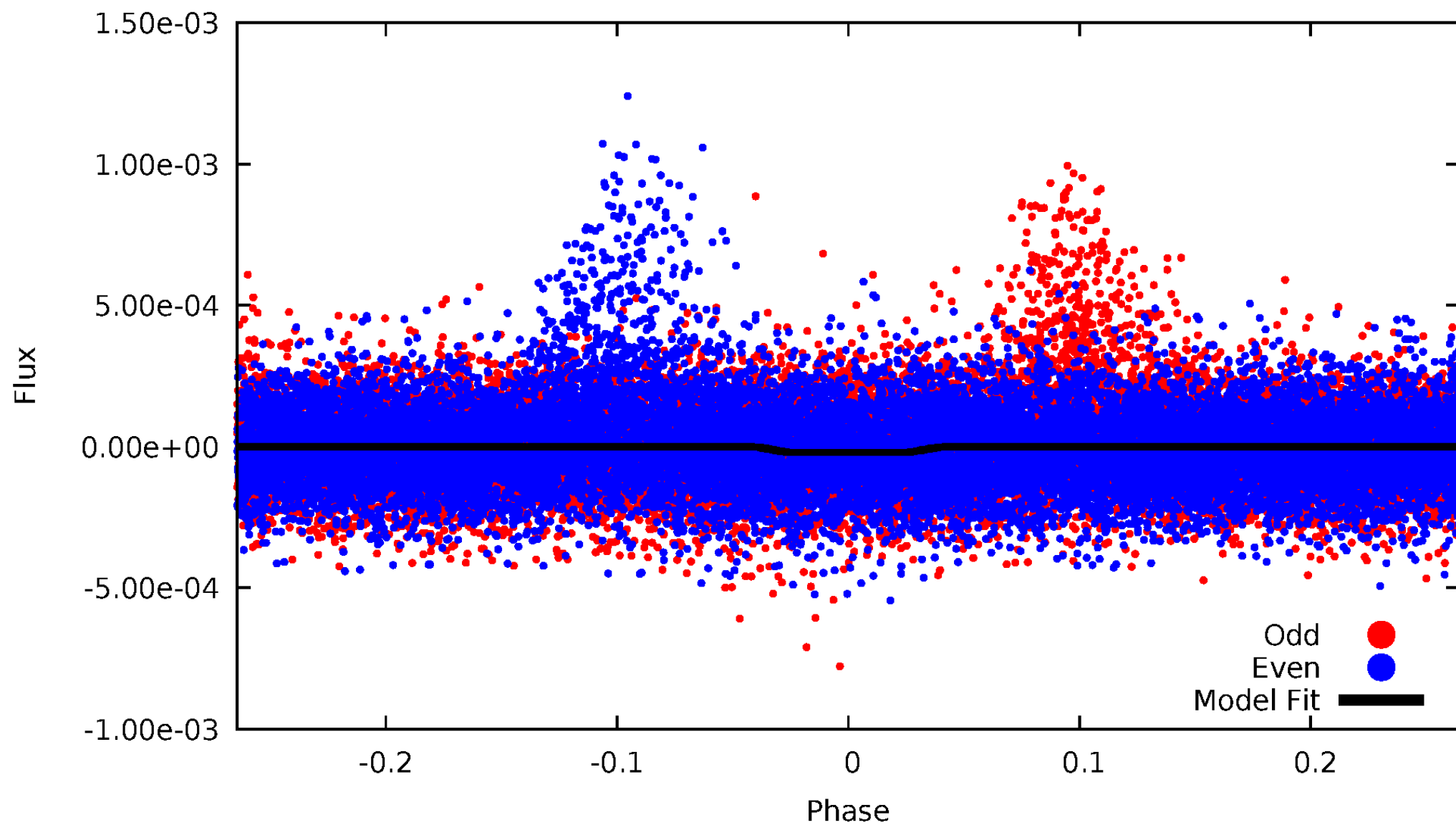
DV Odd/Even

TCE 006206694-01



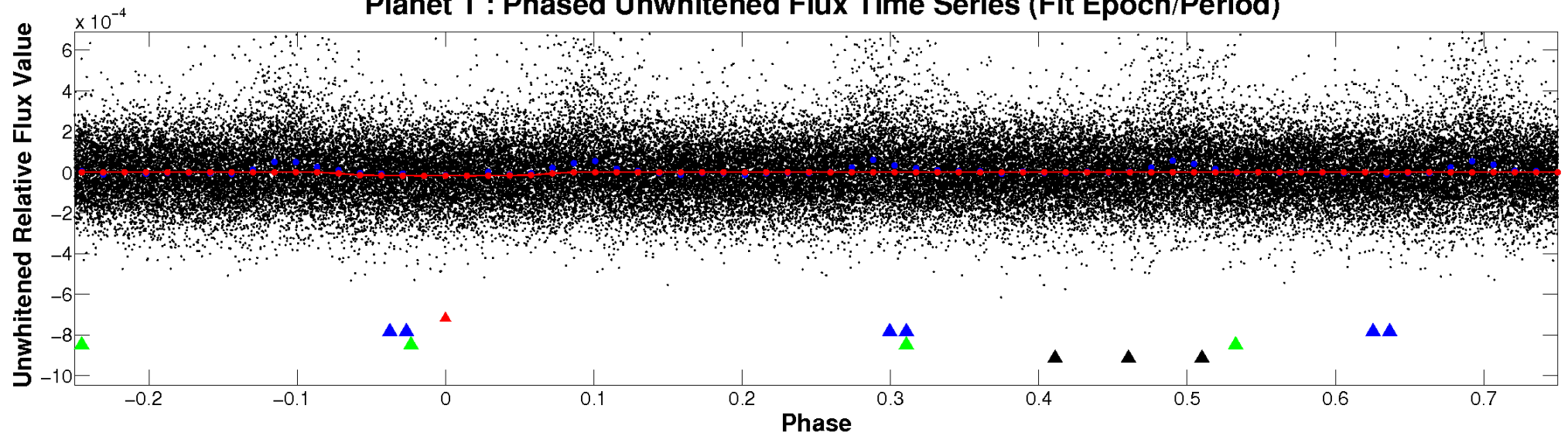
ALT Odd/Even

TCE 006206694-01

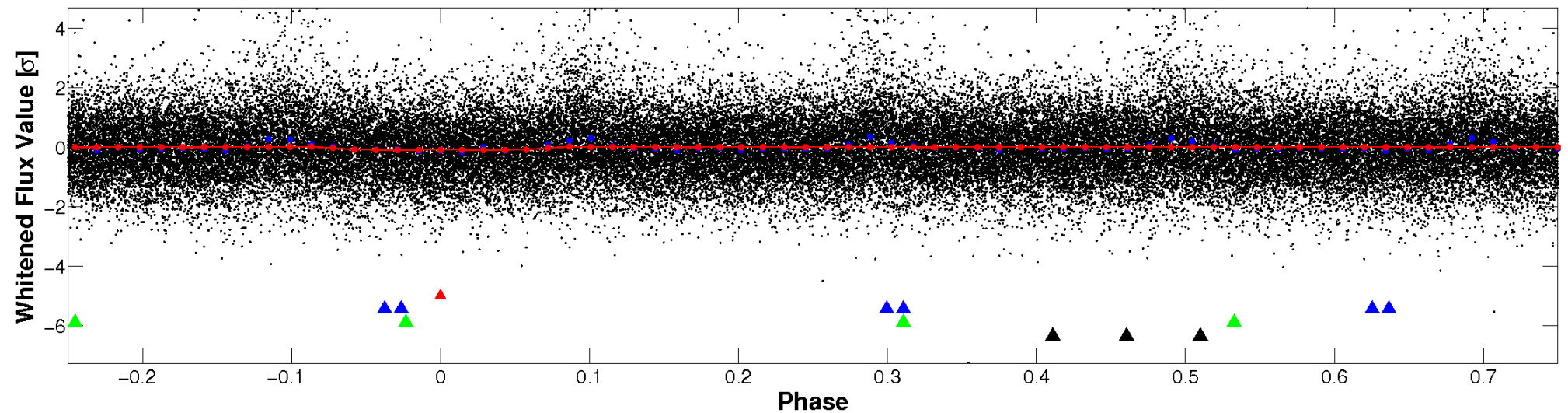


Non-Whitened Vs. Whitened Light Curve

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

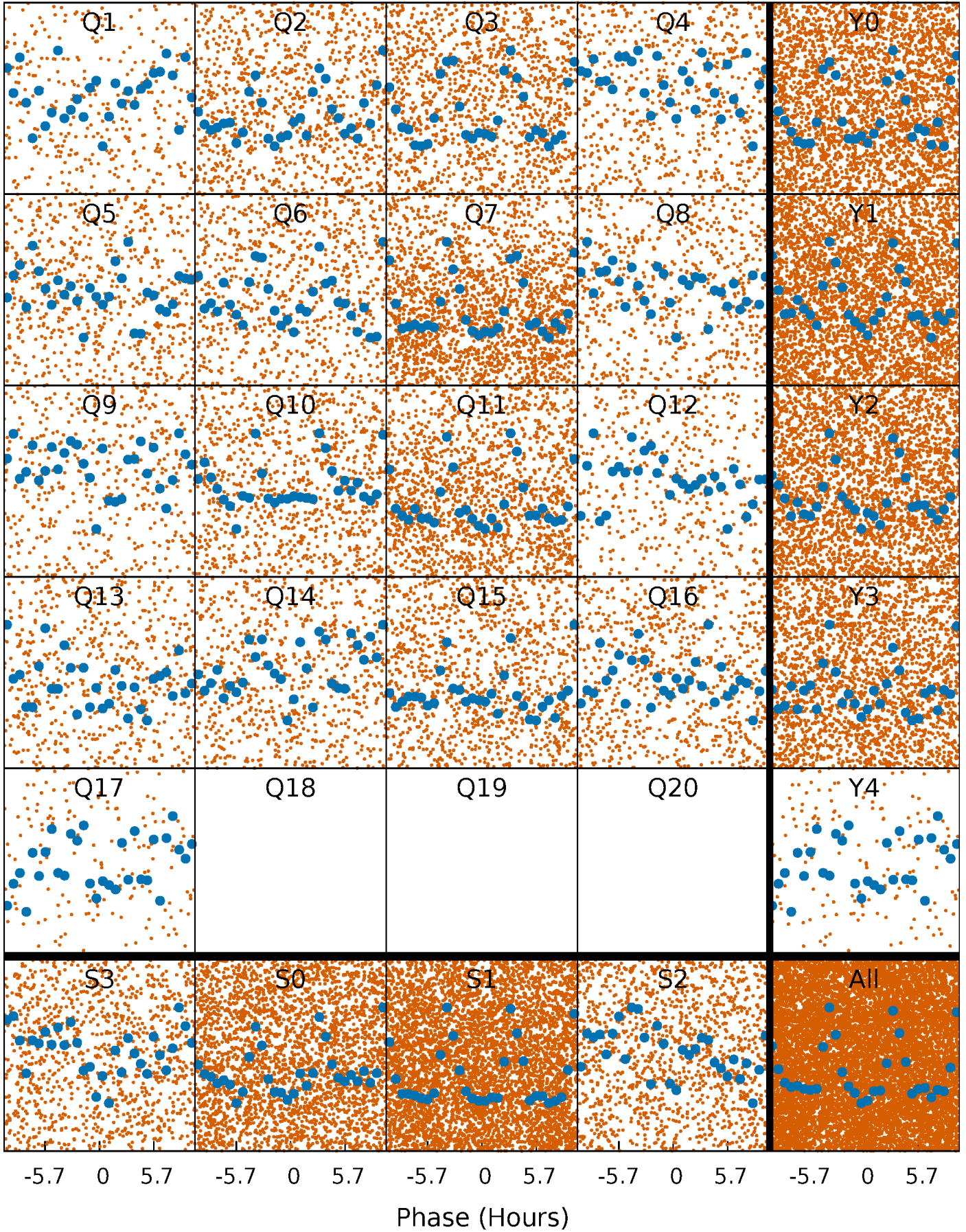


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



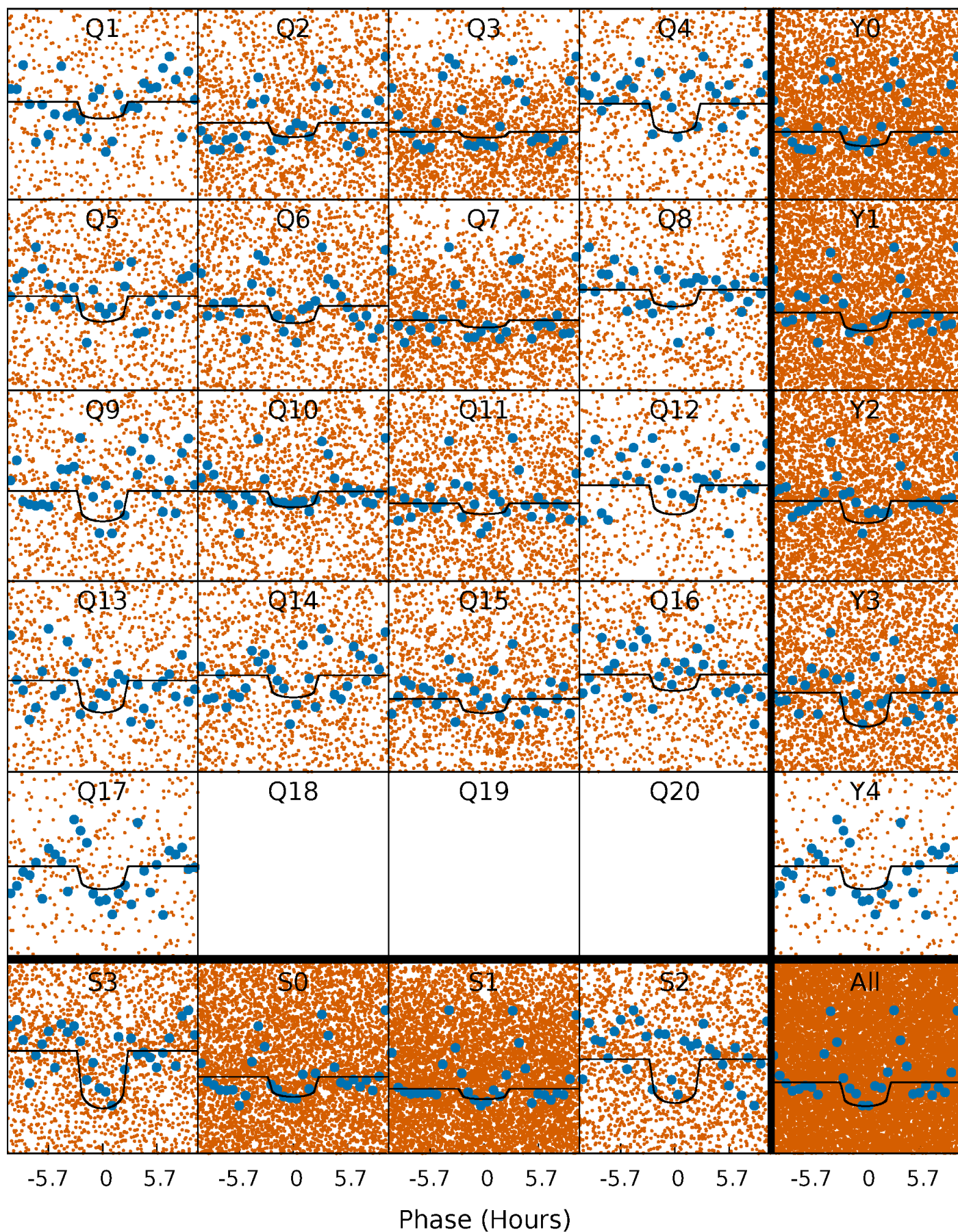
PDC Quarter-Phased Transit Curves

TCE 006206694-01 P= 1.417008 Days $T_0=132.792577$ (BKJD)



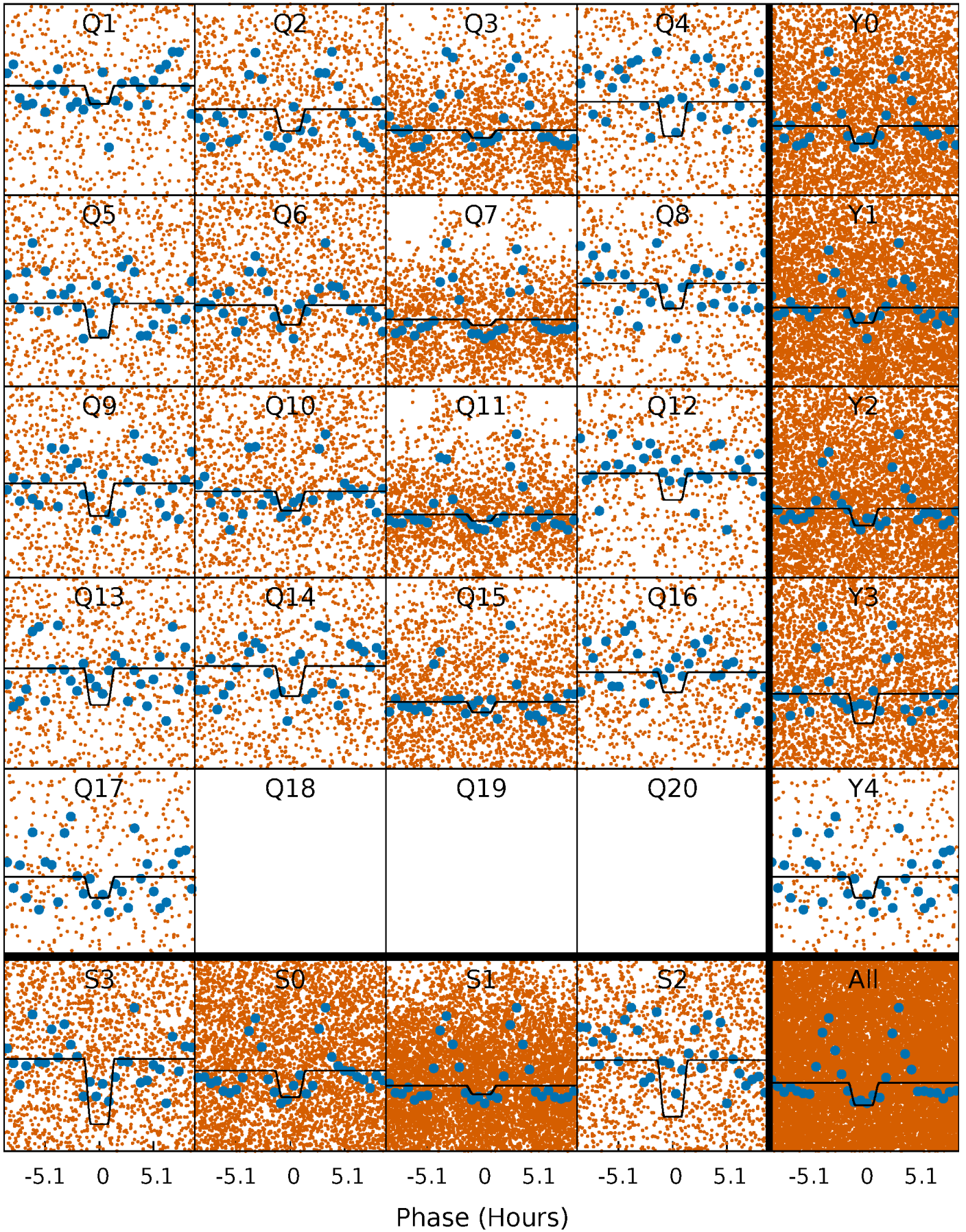
DV Quarter-Phased Transit Curves

TCE 006206694-01 P= 1.417008 Days $T_0=132.792577$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

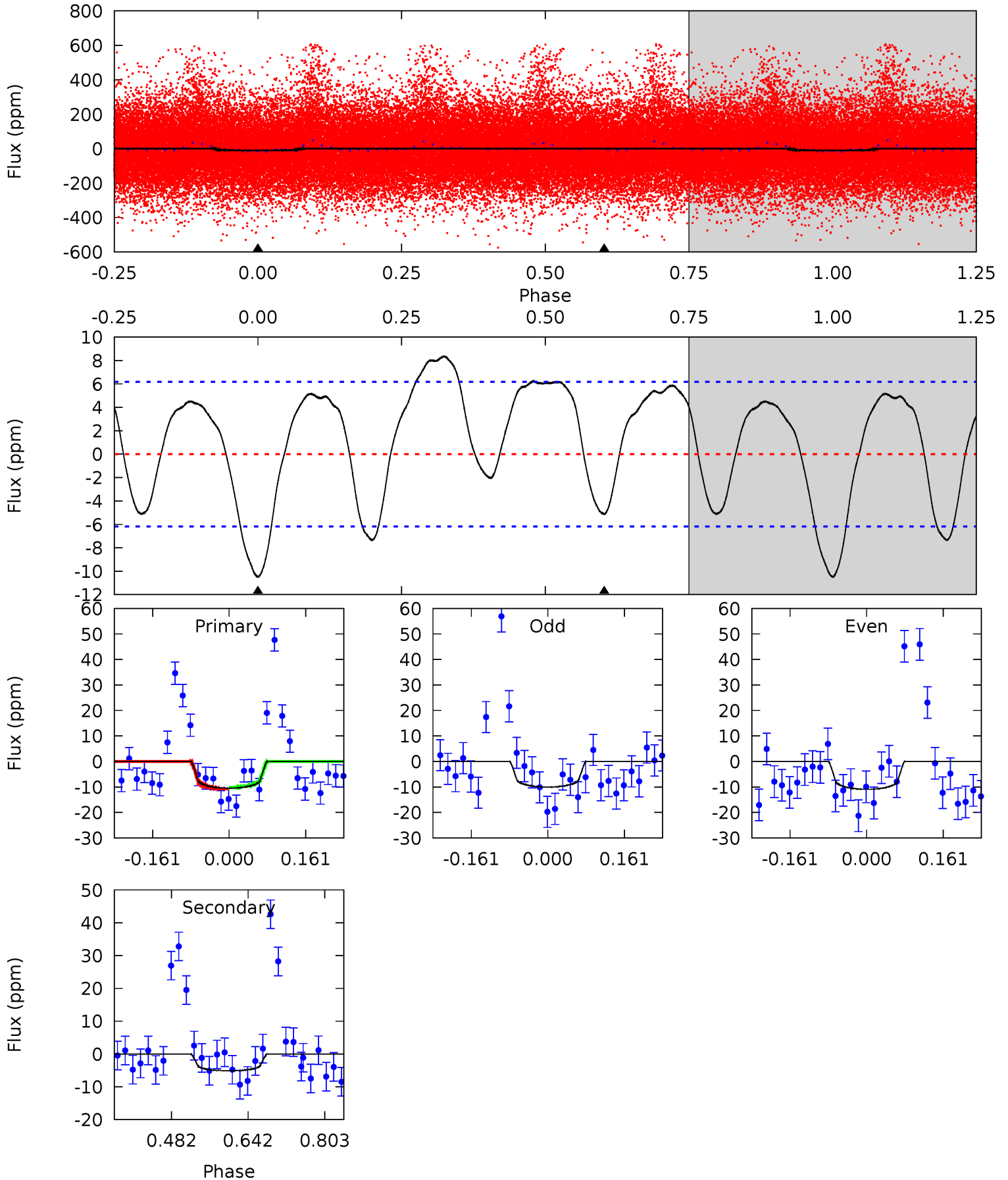
TCE 006206694-01 P= 1.417041 Days $T_0=132.775004$ (BKJD)



DV Model-Shift Uniqueness Test

006206694-01, P = 1.417008 Days, E = 131.375569 Days

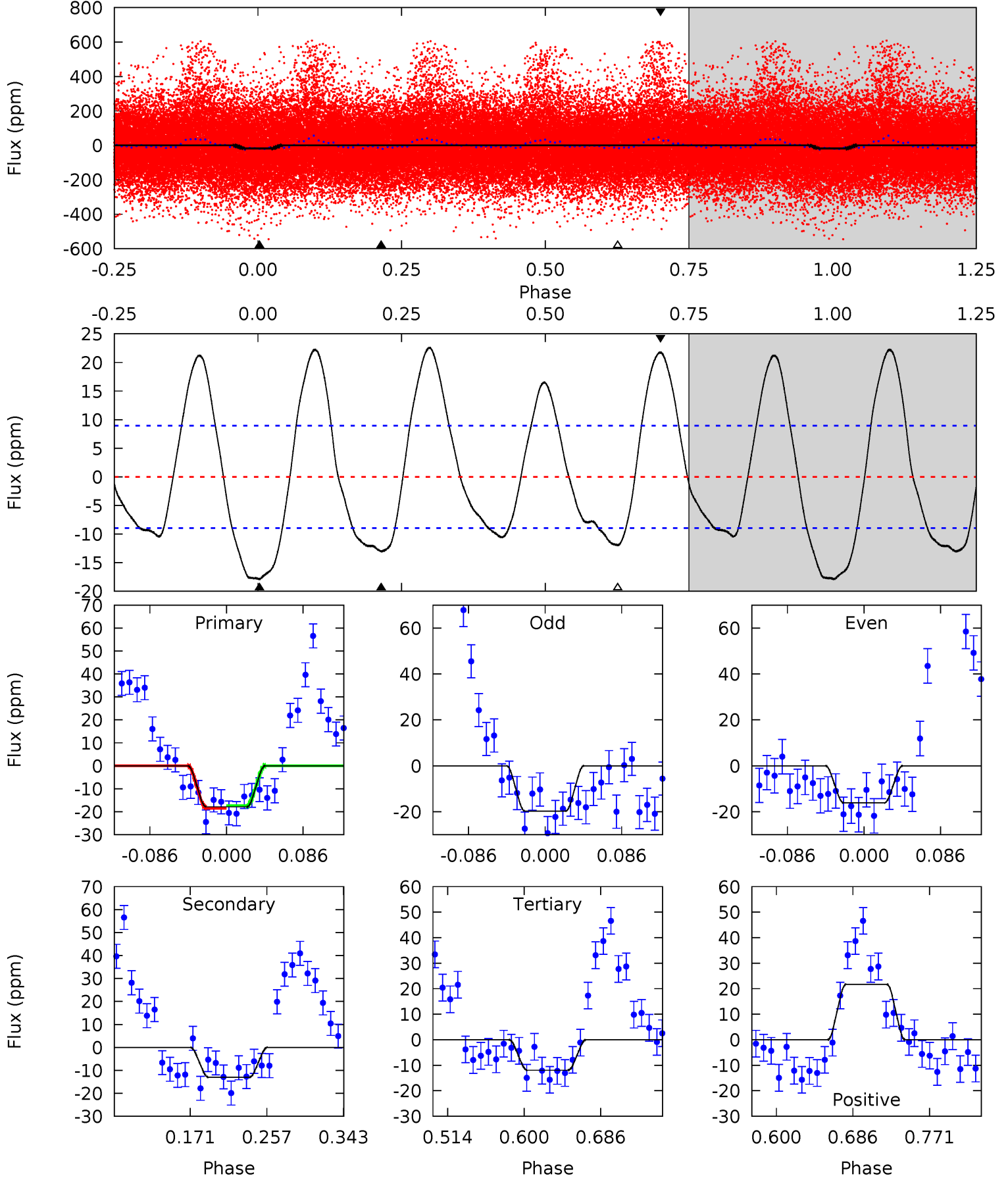
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.58	3.70	0	0	4.46	1.40	3.47	7.58	7.58	3.70	3.70	0.32	0.76	0.44	0.24



Alt Model-Shift Uniqueness Test

006206694-01, P = 1.417041 Days, E = 131.357963 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.19	6.69	6.14	11.2	4.60	1.72	5.85	3.04	-1.99	0.55	-4.48	0.90	1.08	0.56	0.28



Stellar Parameters For KIC 006206694

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6056^{+181}_{-181}	$3.662^{+0.315}_{-0.126}$	$-0.760^{+0.300}_{-0.250}$	$2.609^{+0.522}_{-0.969}$	$1.140^{+0.171}_{-0.256}$	$0.090^{+0.193}_{-0.035}$
	+3%/-3%	+9%/-3%	+39%/-33%	+20%/-37%	+15%/-22%	+214%/-39%
Source	PHO1	FLK73	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 006206694-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5 ± 1	$1.21^{+0.52}_{-0.45}$	3699^{+252}_{-342}	4209^{+1051}_{-726}	$1.248^{+1.998}_{-0.677}$
Alt.	-13 ± 2	$1.25^{+0.54}_{-0.46}$	3705^{+255}_{-337}	5187^{+1438}_{-723}	$2.987^{+4.621}_{-1.503}$

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

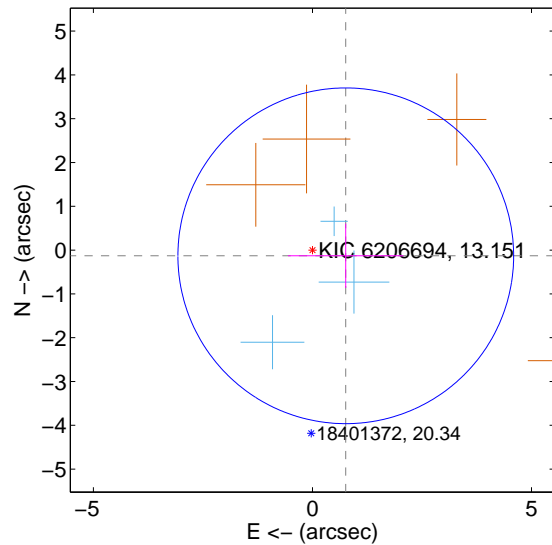
Supplemental centroid analysis for 006206694-01. Kepler magnitude: 13.15. Transit SNR 7.89

There are 3 quarters with good PRF difference image offsets

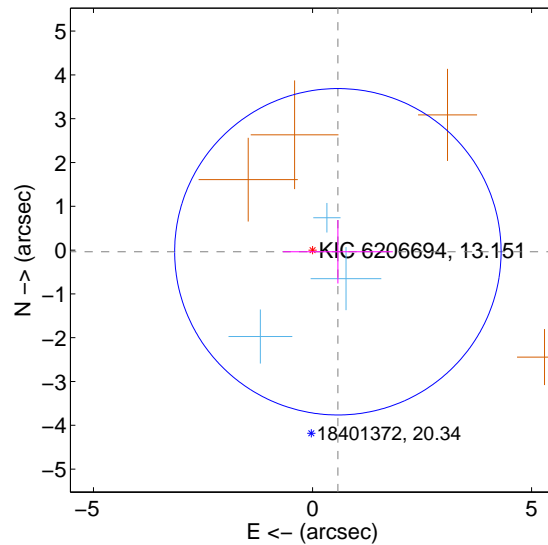
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.772 ± 1.278	0.60	-0.761 ± 1.318	-0.130 ± 0.734
PRF-fit source offset from KIC position	0.580 ± 1.242	0.47	-0.579 ± 1.254	-0.038 ± 0.725
photometric centroid source offset	0.87 ± 1.09	0.79	0.69 ± 1.14	0.52 ± 0.99

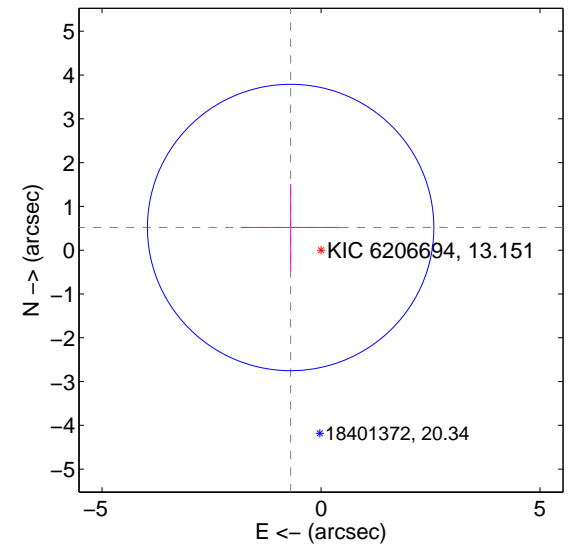
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

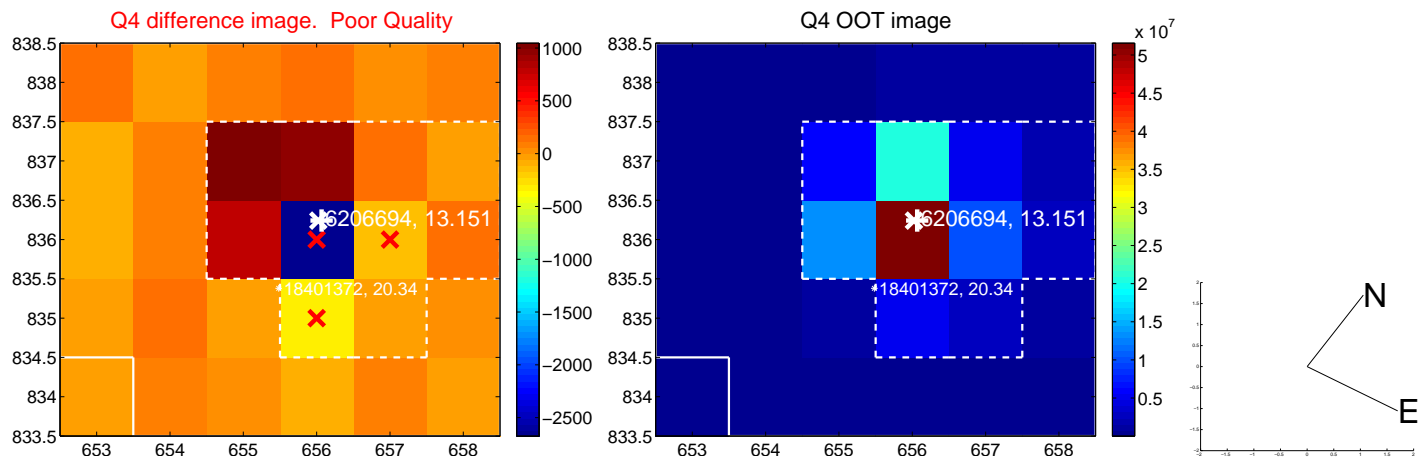
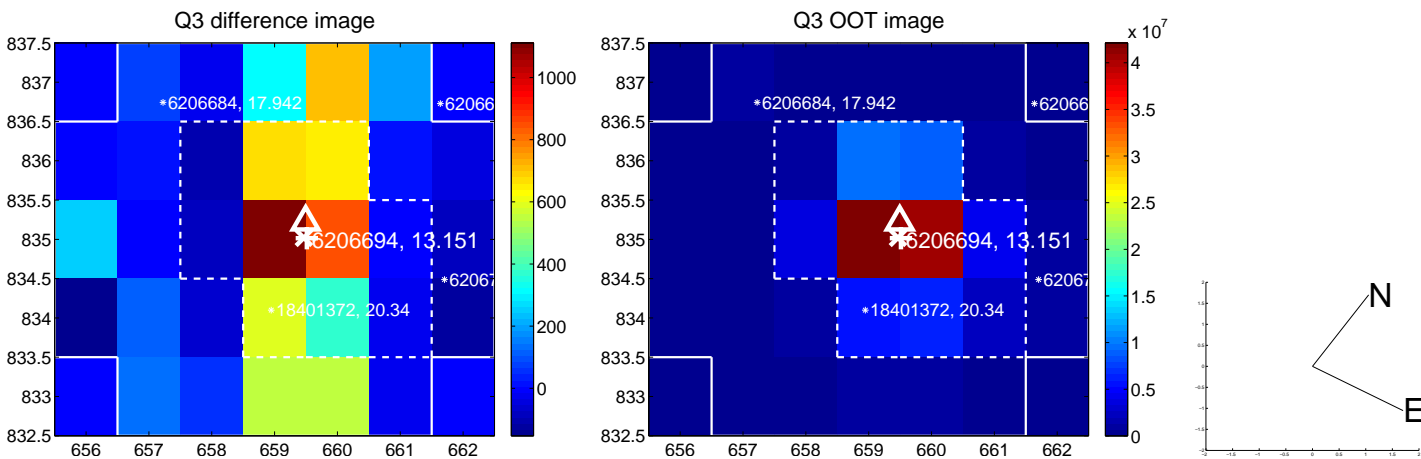
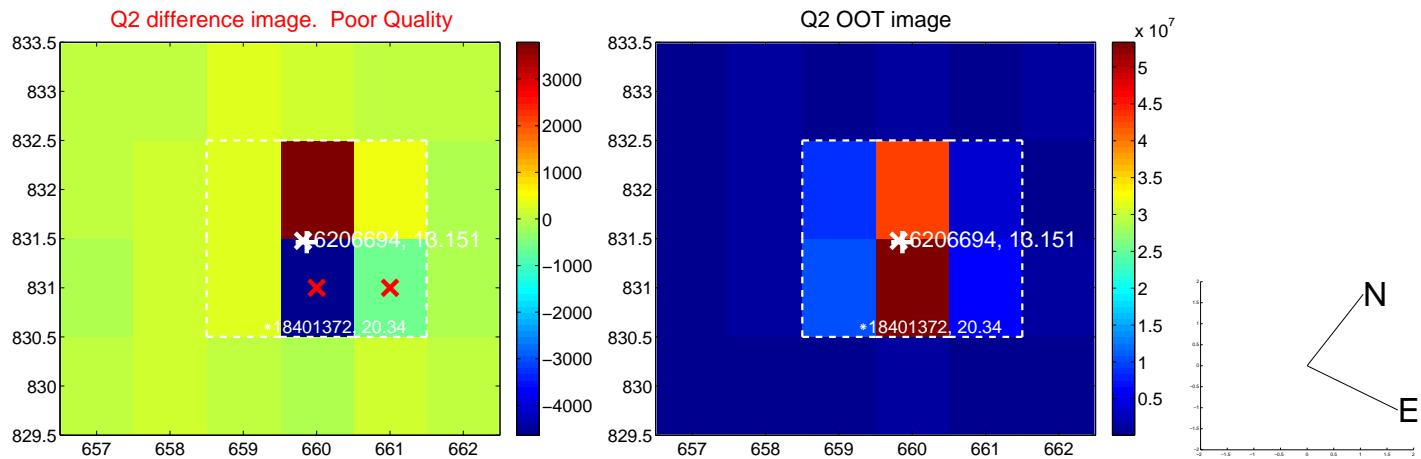
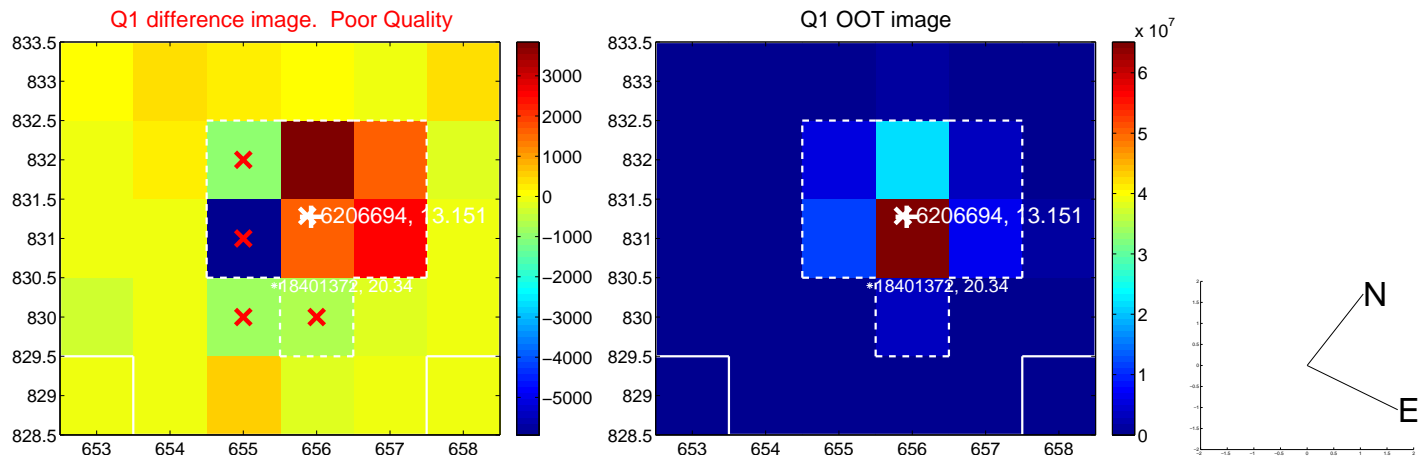


offset from photometric centroids

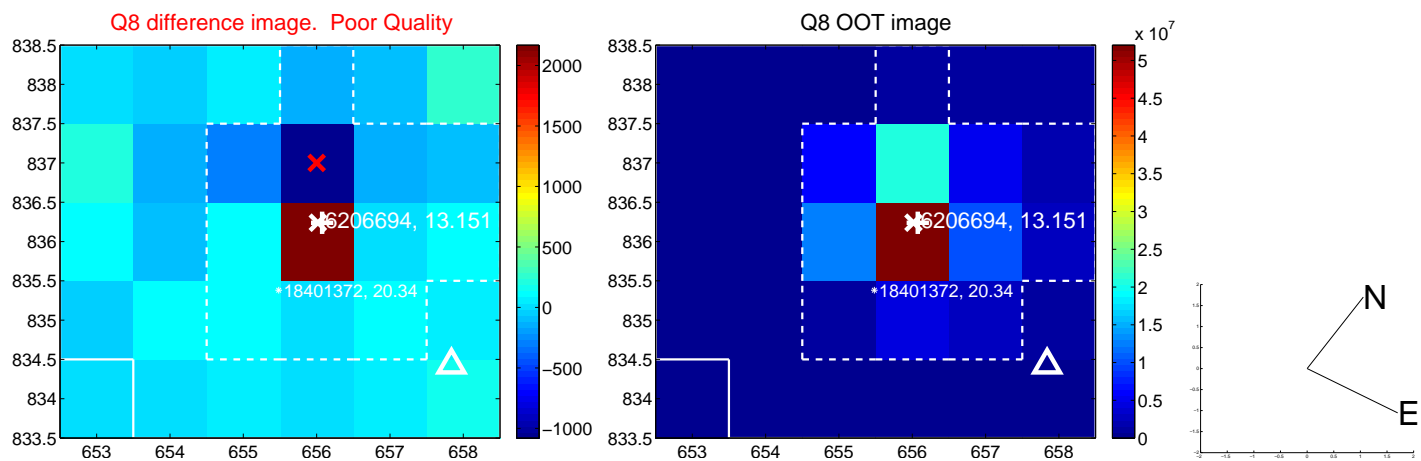
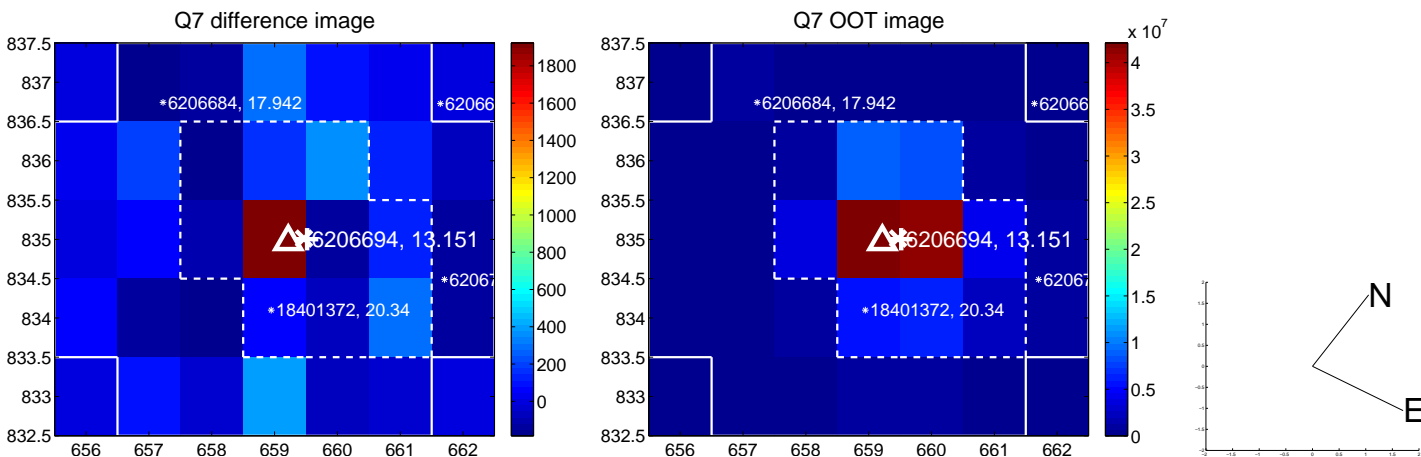
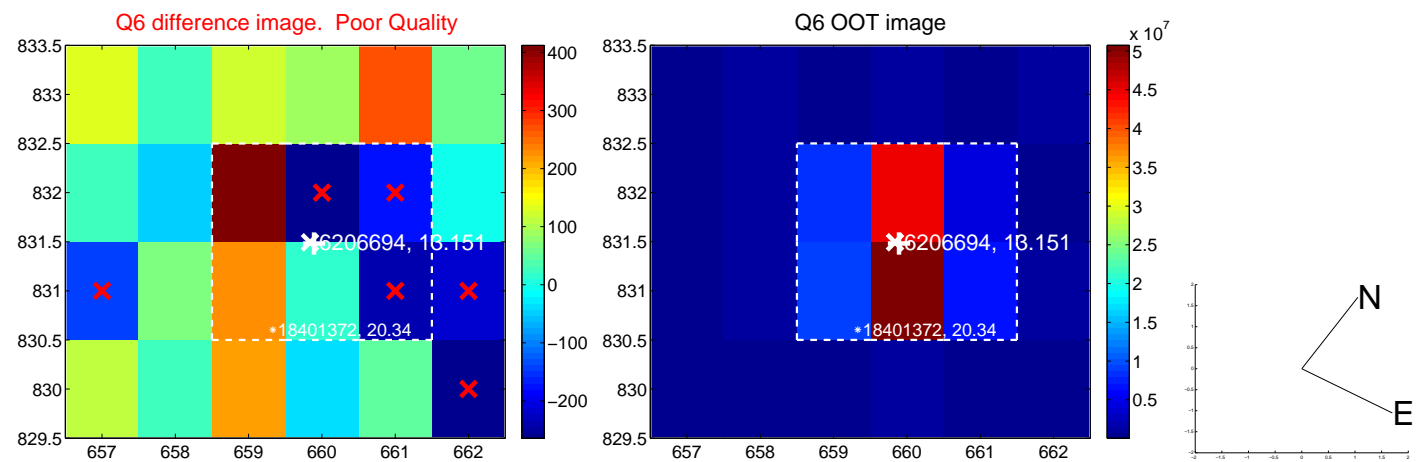
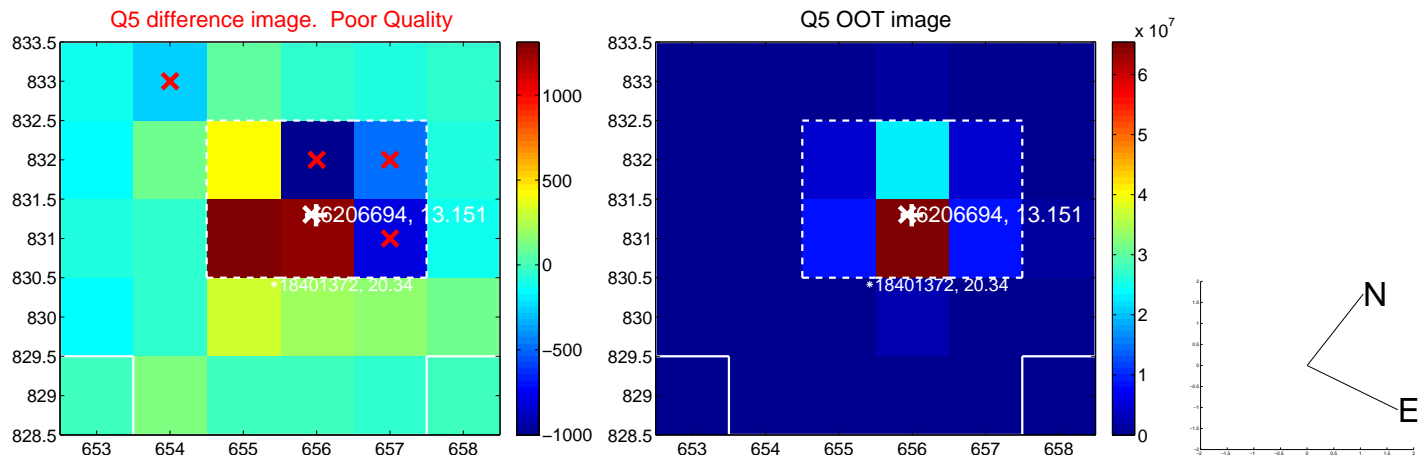


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

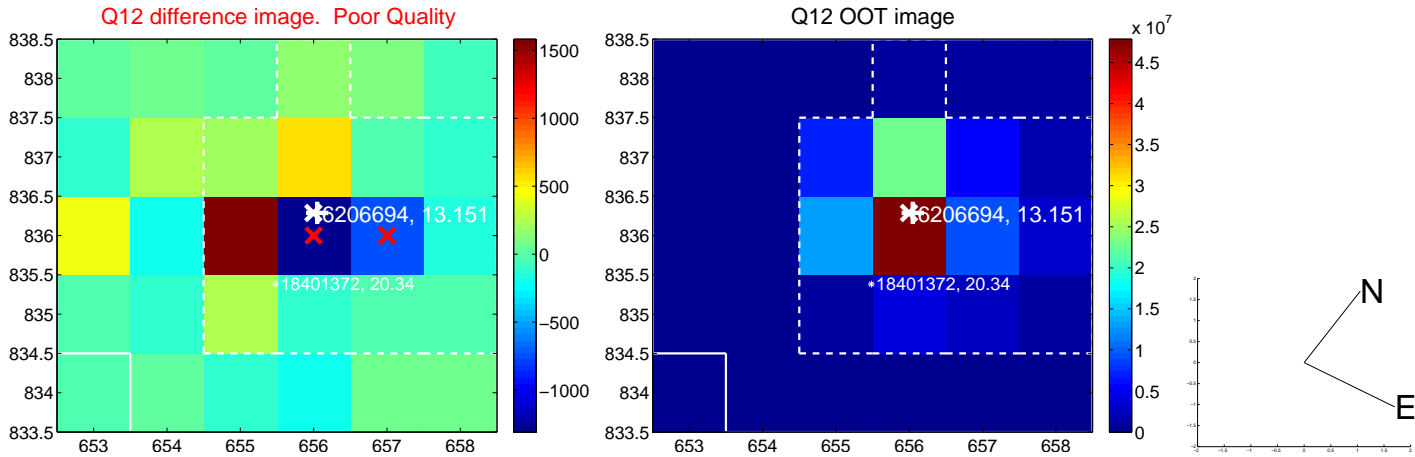
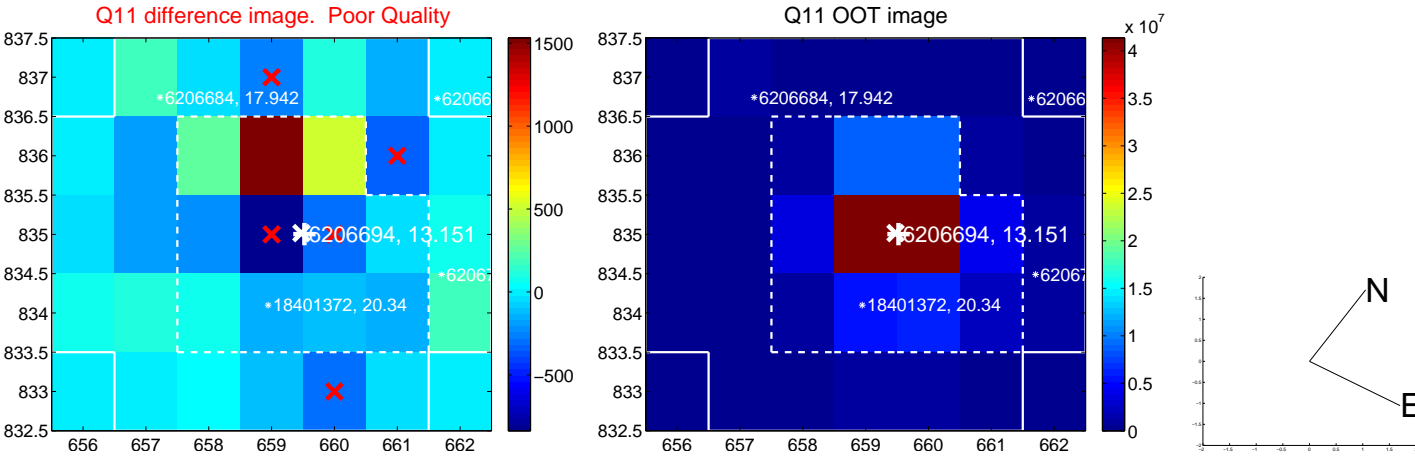
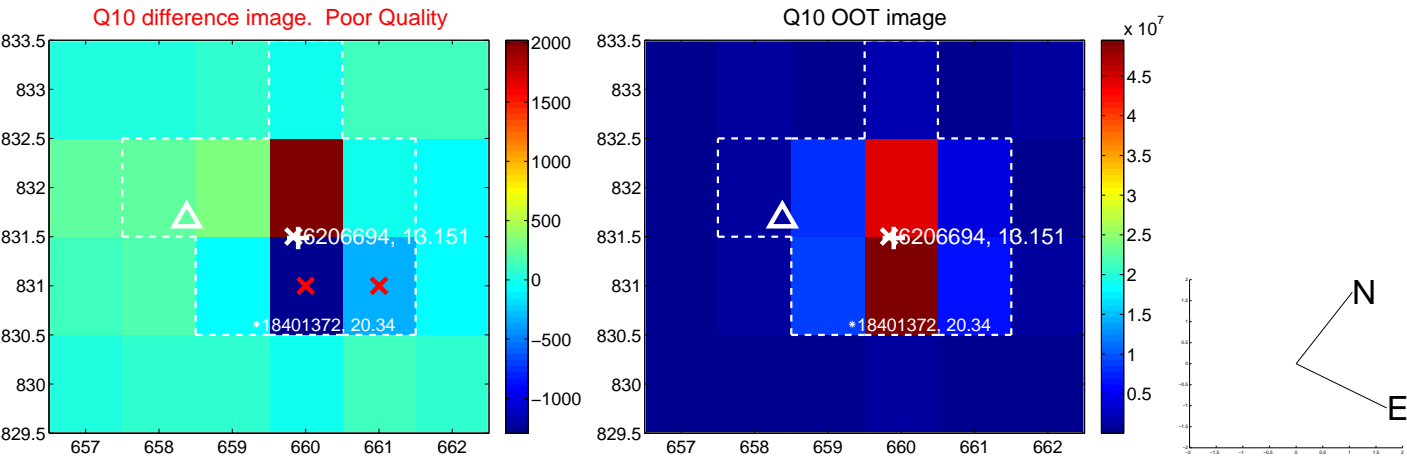
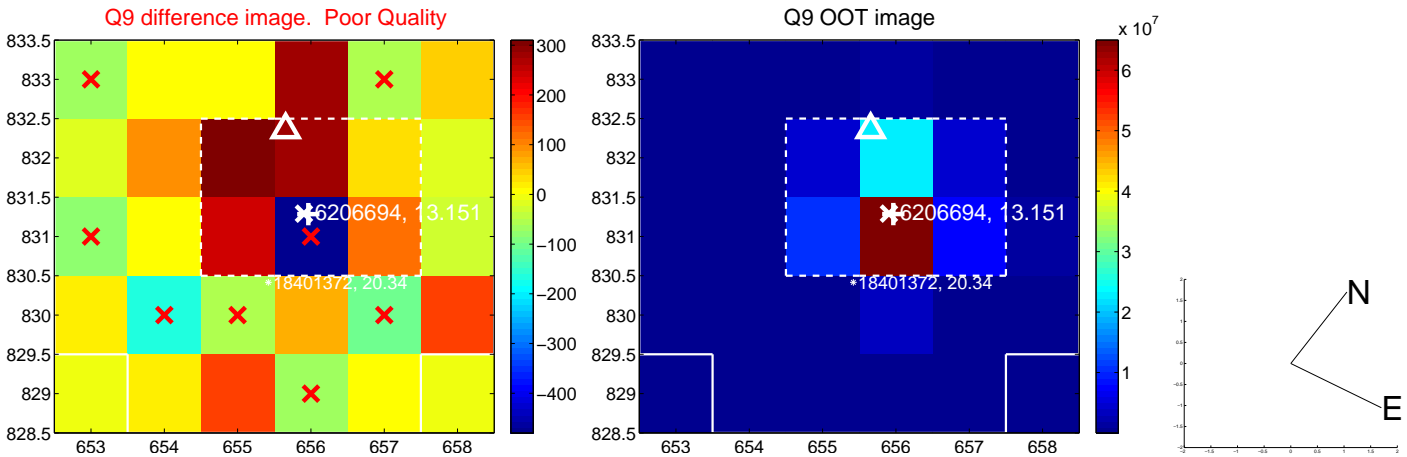
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



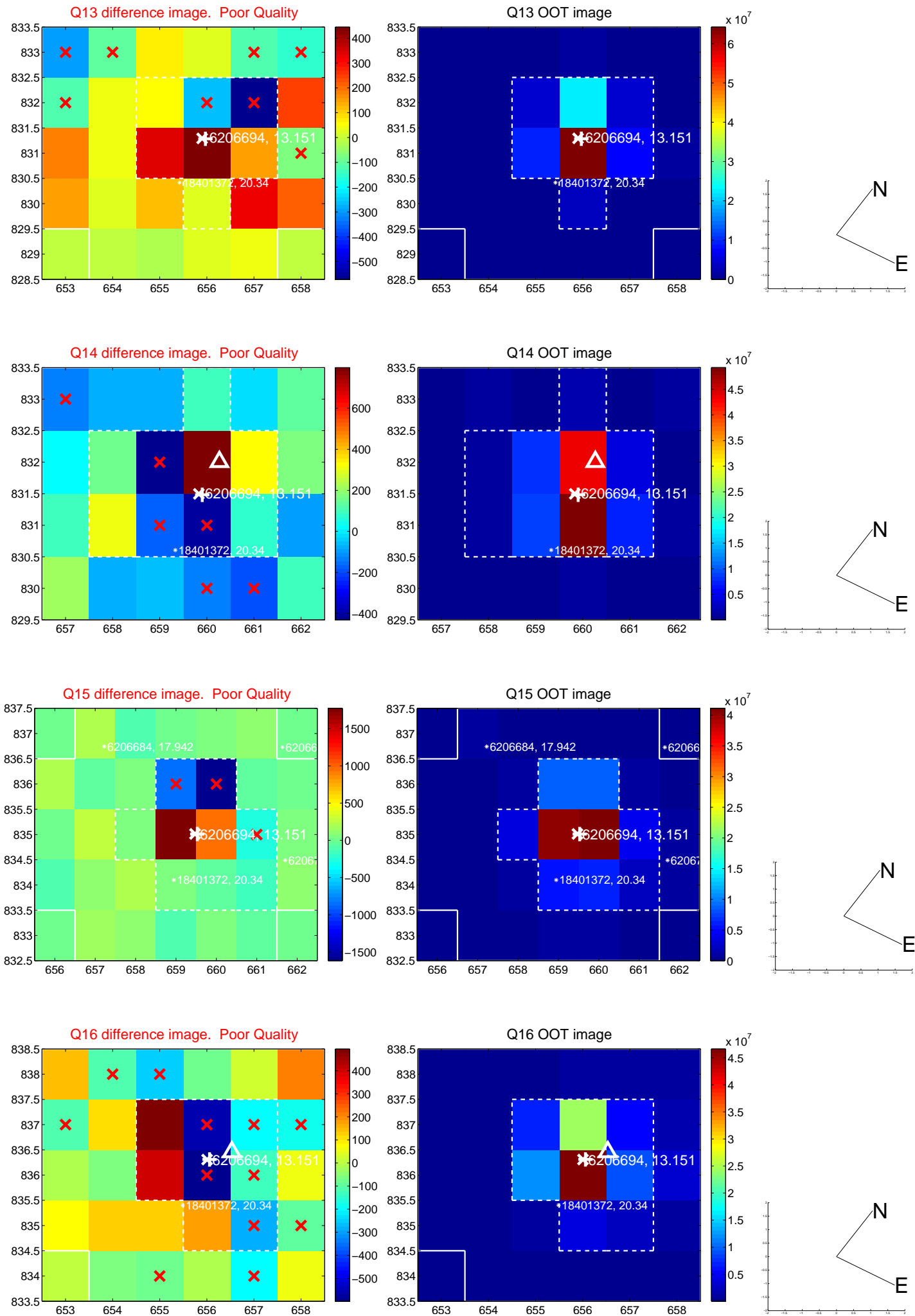
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



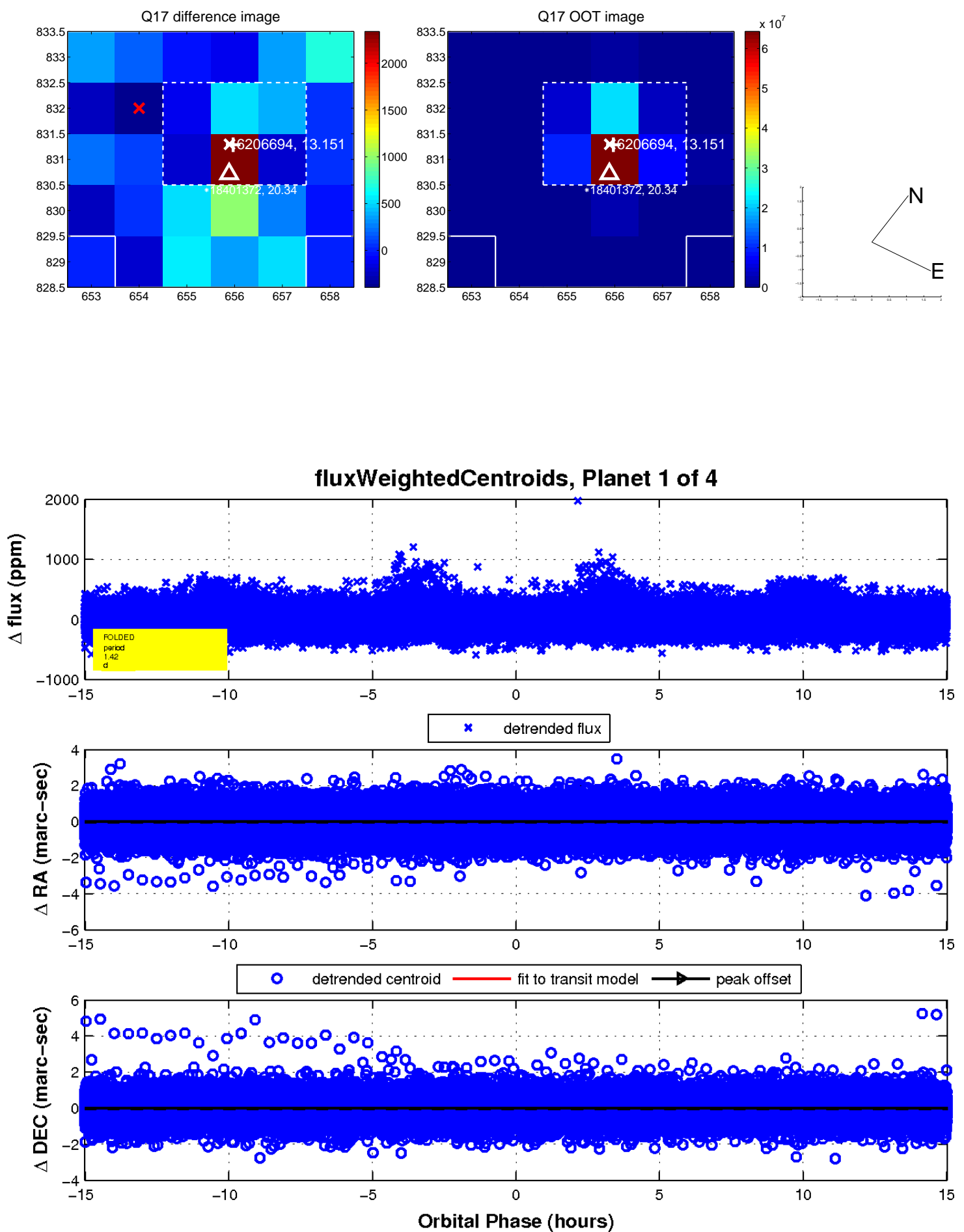
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



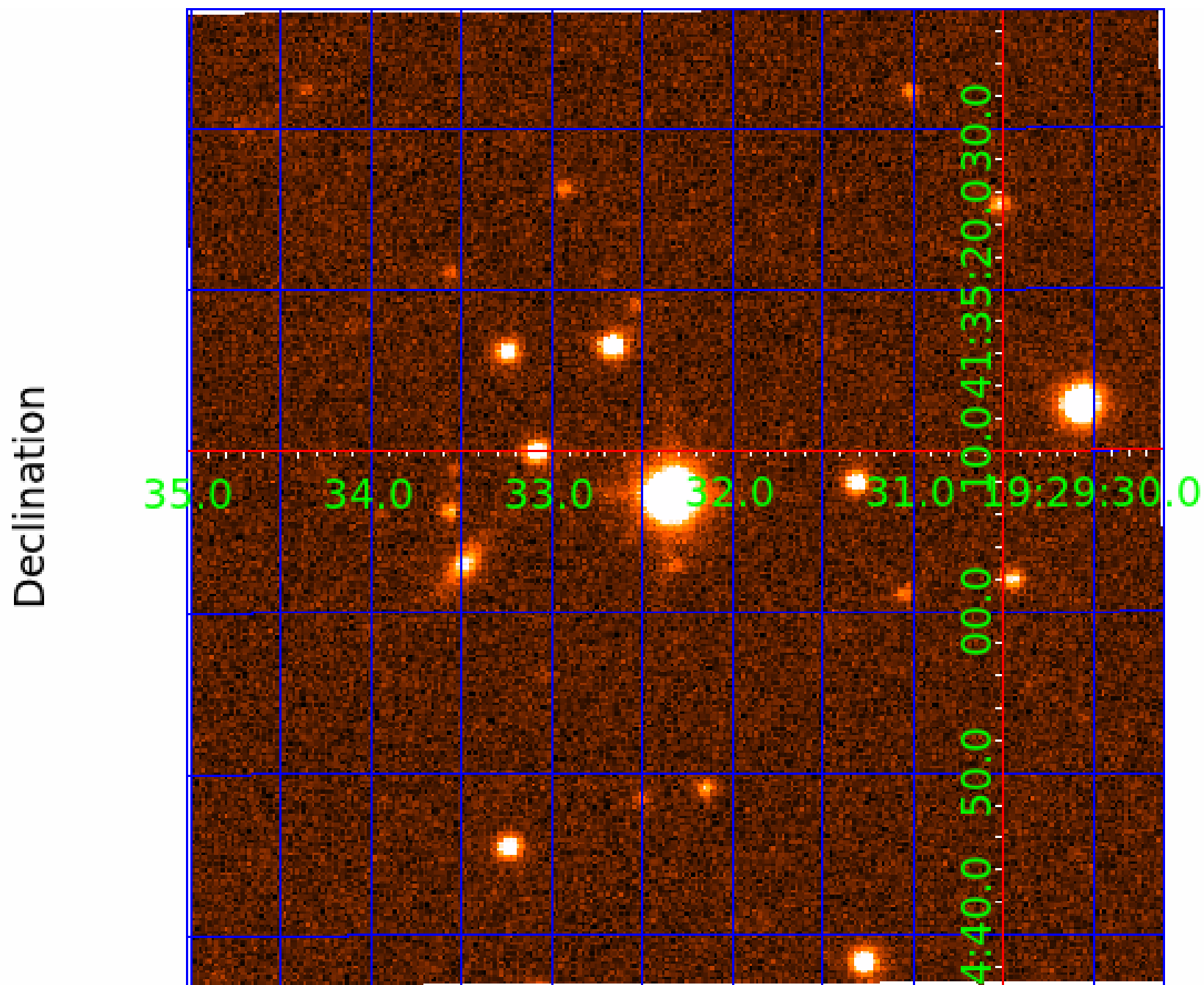
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006206694

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})
006206694-01	OBS	No	1.417008	132.792577	17.4	5.005	8.0	7.9	2.61	6056	1.27	12325.11
006206694-02	OBS	No	232.866882	341.978916	239.9	10.032	11.2	7.0	2.61	6056	4.56	13.69
006206694-03	OBS	No	469.344121	172.909089	234.9	5.330	9.6	5.9	2.61	6056	4.68	5.38
006206694-04	OBS	No	586.571004	330.479374	275.3	4.695	7.7	7.4	2.61	6056	5.00	4.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006206694-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006206694-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006206694-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET
006206694-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

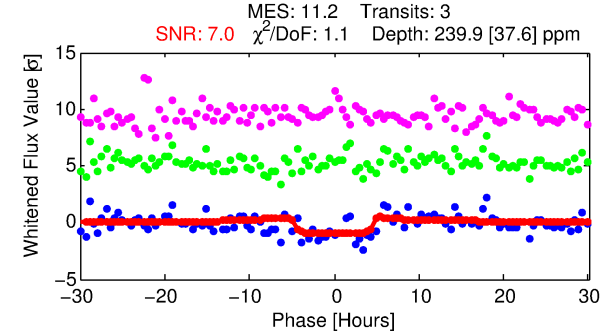
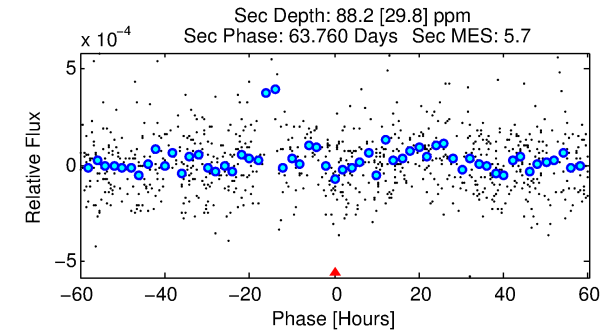
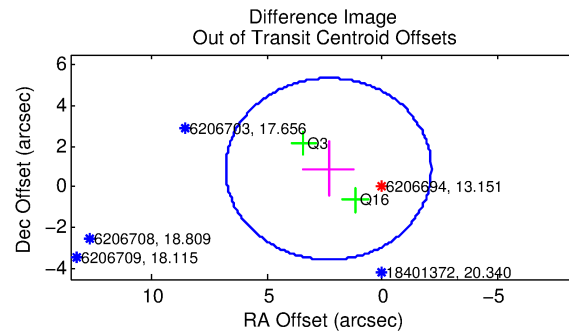
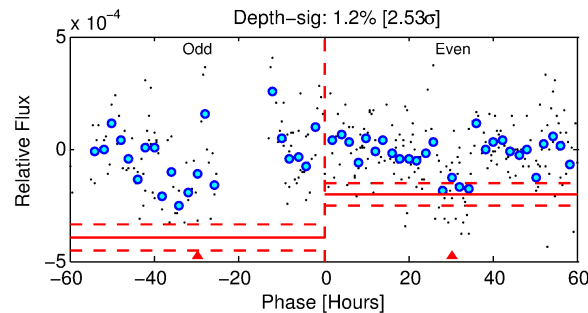
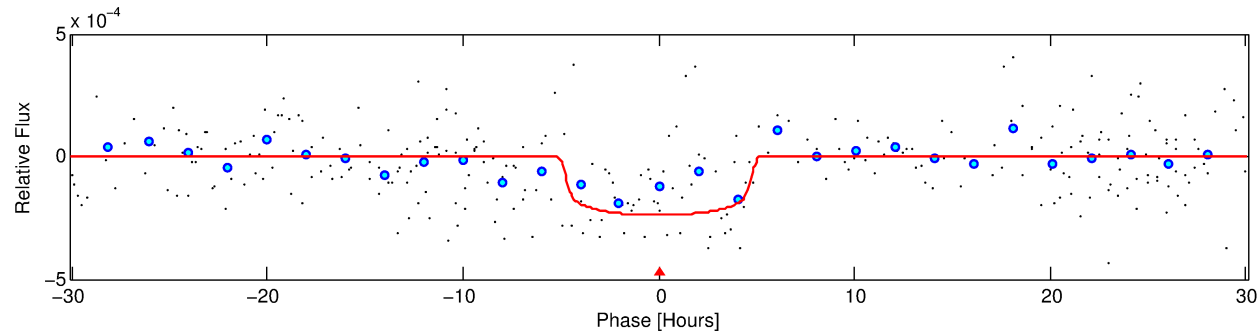
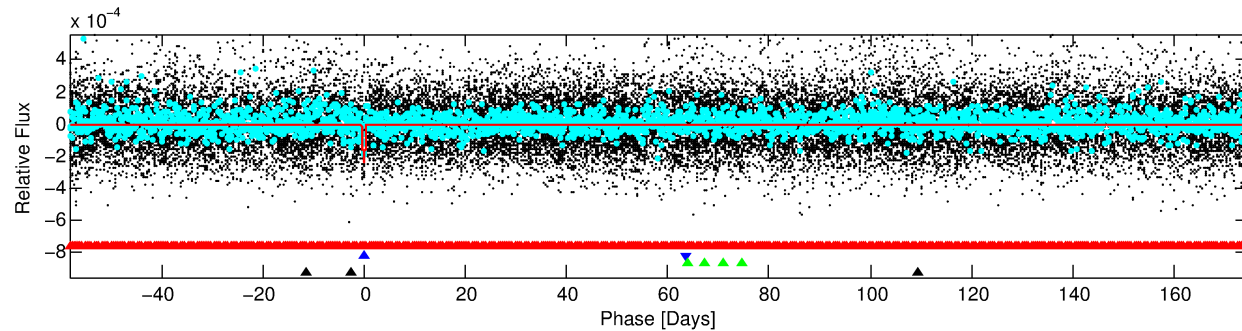
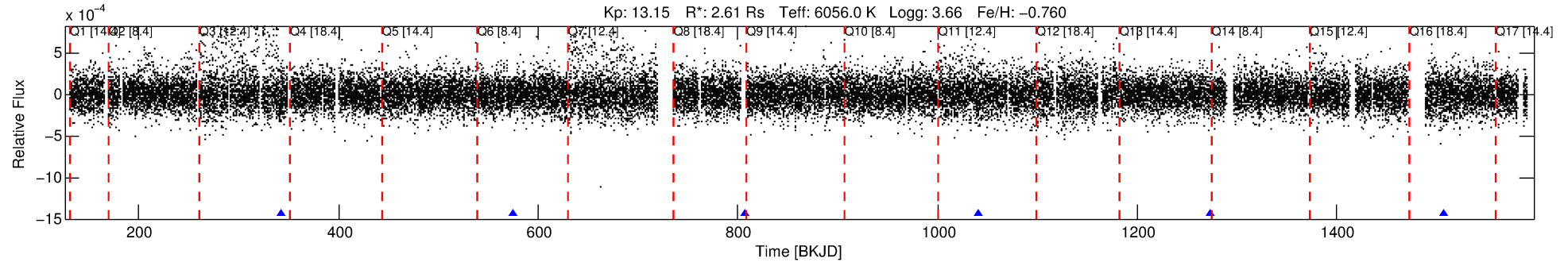
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006206694-02

No Significant Match Found

DV One-Page Summary

KIC: 6206694 Candidate: 2 of 4 Period: 232.867 d



DV Fit Results:

Period = 232.86688 [0.00575] d
Epoch = 341.9789 [0.0158] BKJD
Rp/R* = 0.0160 [0.0044]
a/R* = 99.79 [139.58]
b = 0.85 [0.48]
Seff = 13.69 [7.62]
Teq = 491 [68] K
Rp = 4.56 [2.11] Re
a = 0.7740 [0.2679] AU
Ag = 1396.06 [1179.02] [1.18σ]
Teffp = 4636 [762] K [5.42σ]

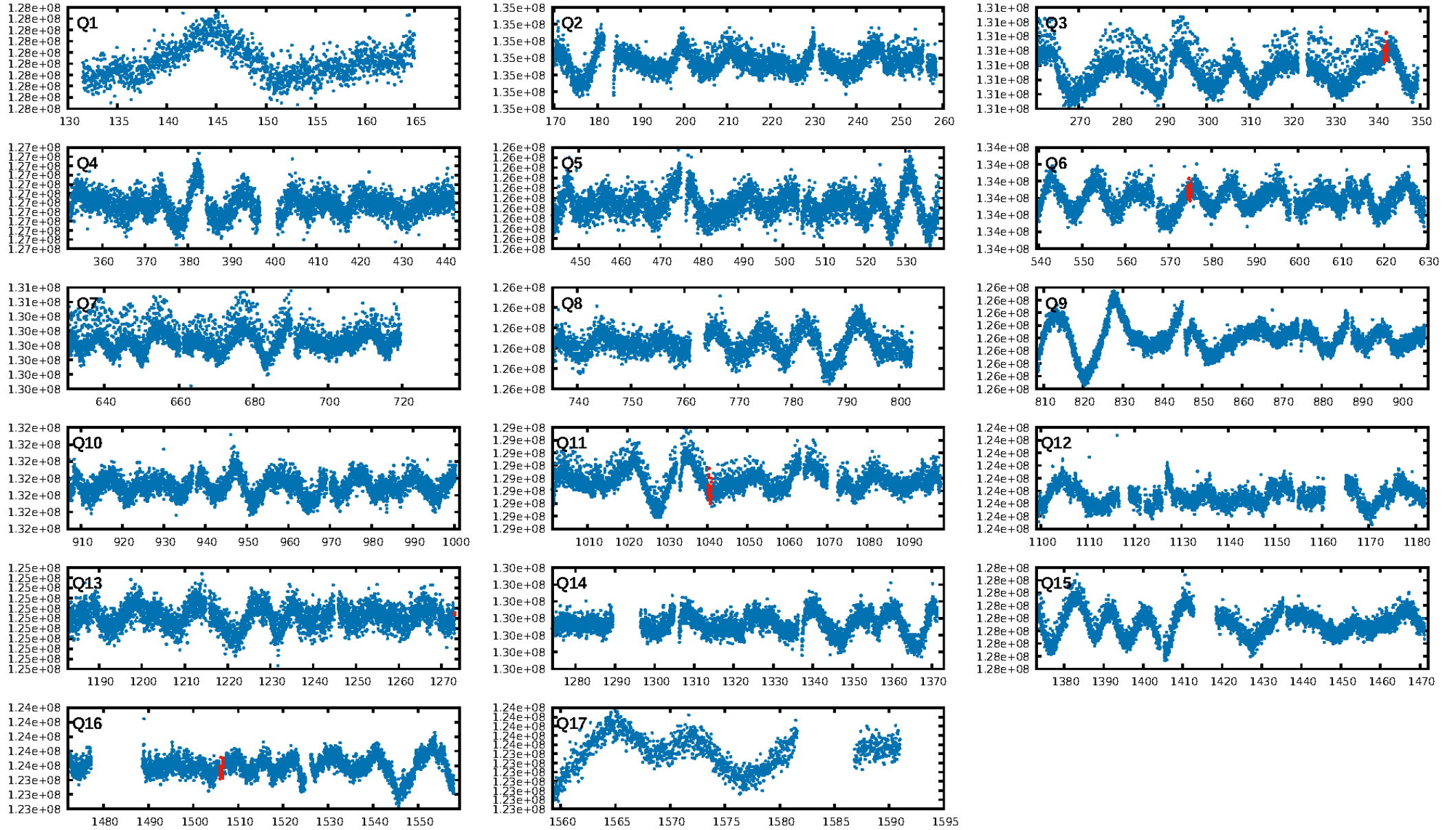
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [495.46σ]
LongPeriod-sig: 100.0% [499.58σ]
ModelChiSquare2-sig: 6.3%
ModelChiSquareGof-sig: 97.3%
Bootstrap-pfa: 5.29e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7279
Centroid-sig: 11.9%
Centroid-so: 1.362 arcsec [1.33σ]
OotOffset-rm: 2.493 arcsec [1.68σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 2.694 arcsec [2.01σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/3]

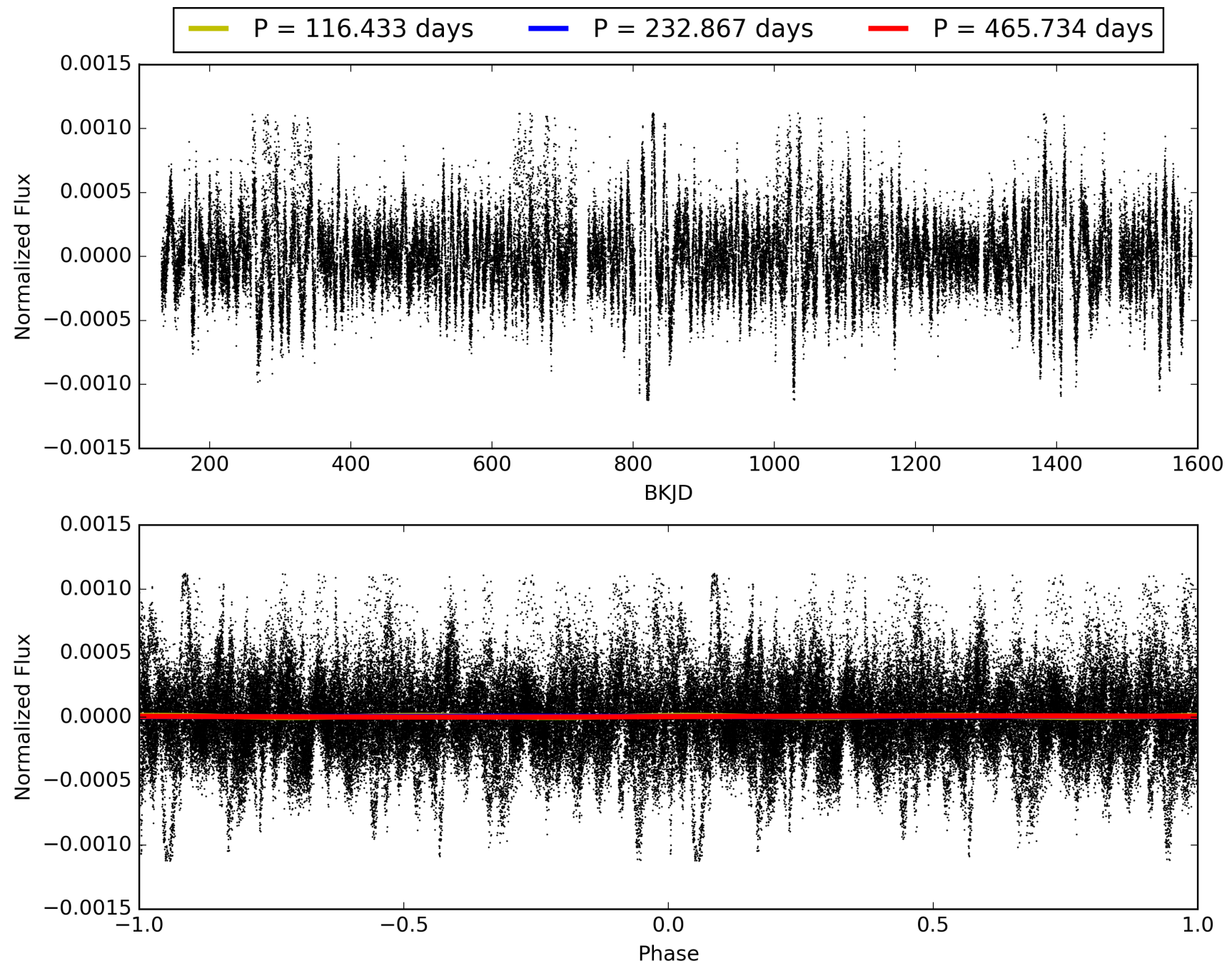
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:01:53 Z

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

TCE 006206694-02, PDC Light Curves

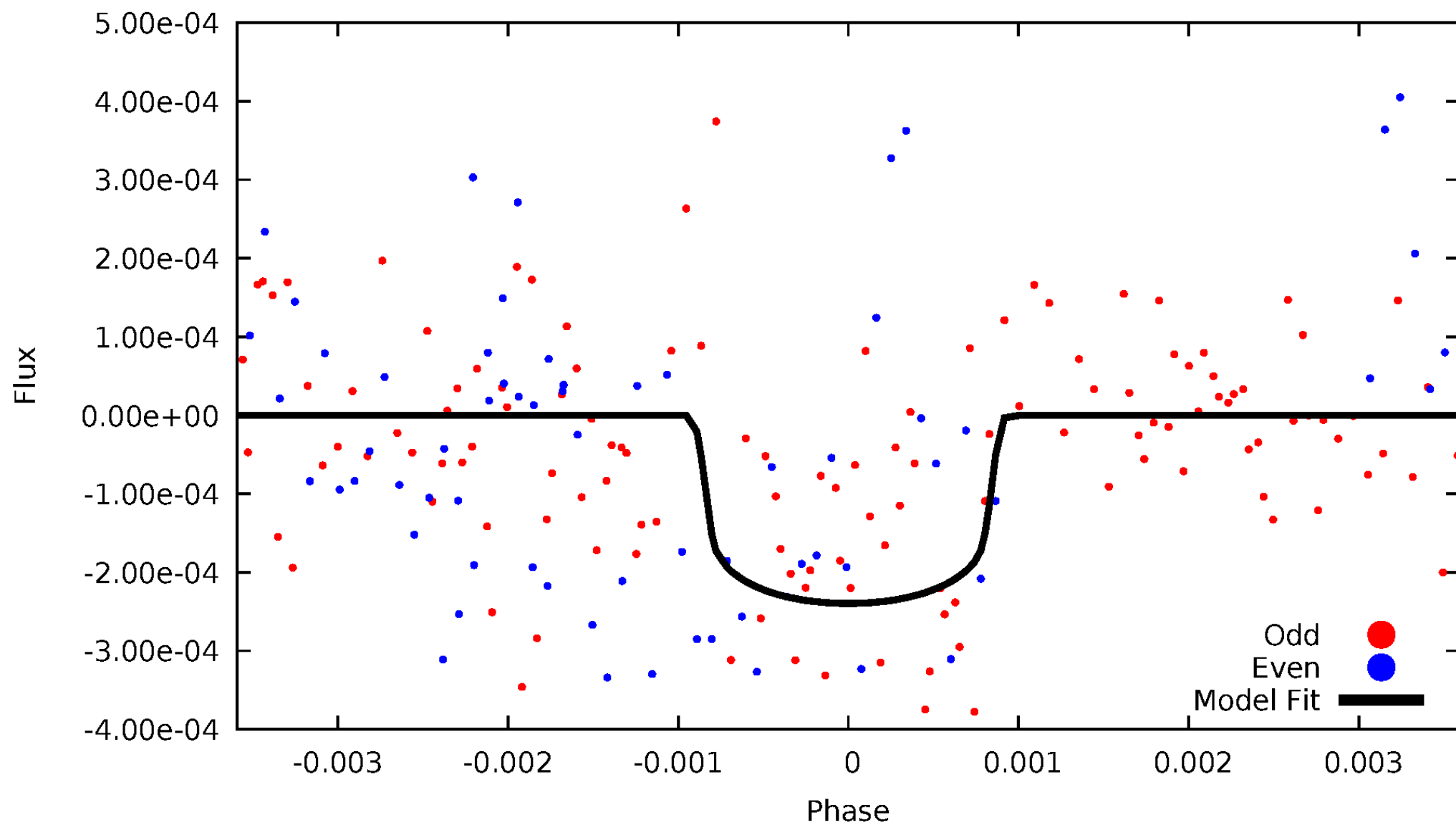


TCE 006206694-02



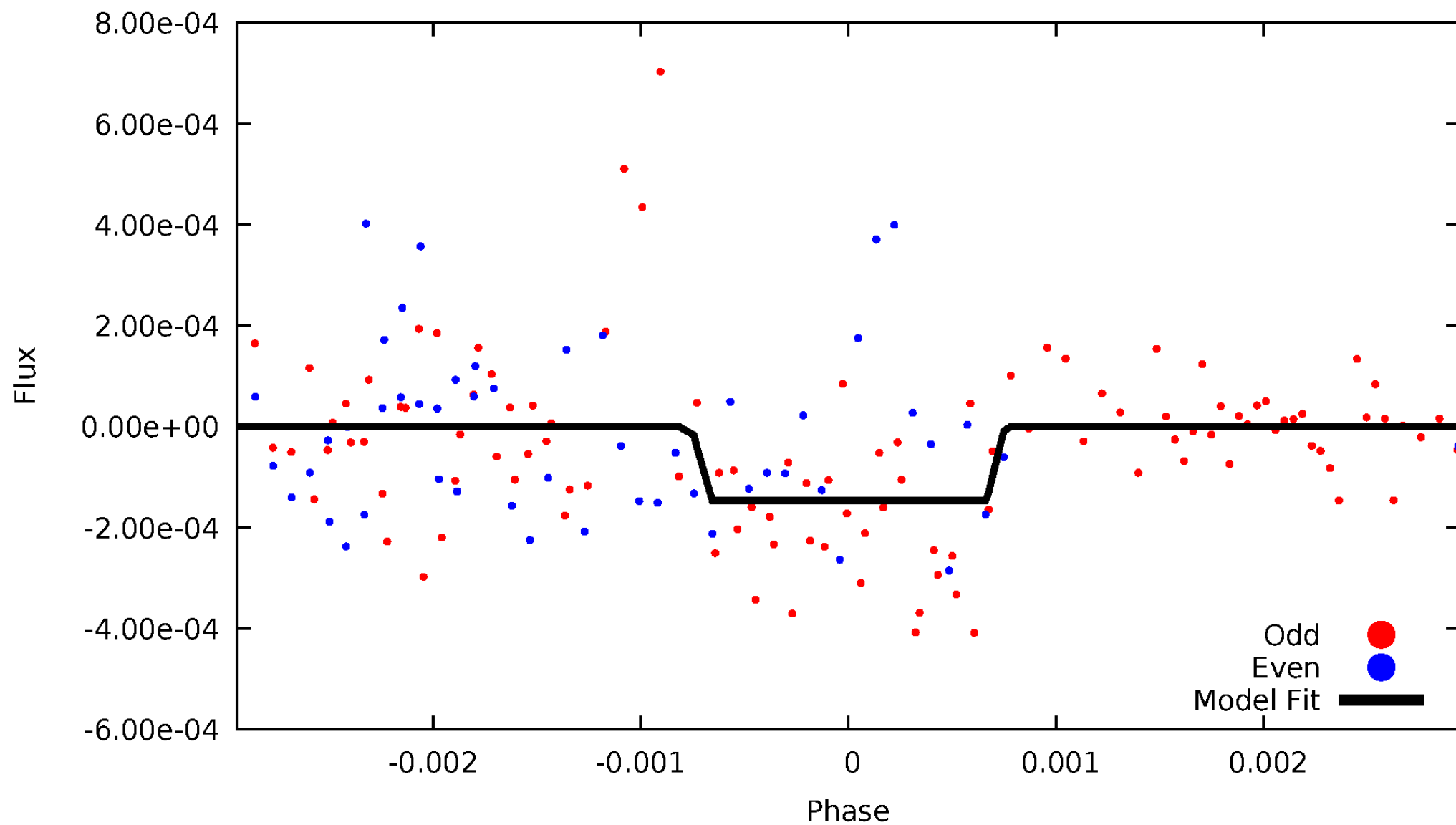
DV Odd/Even

TCE 006206694-02



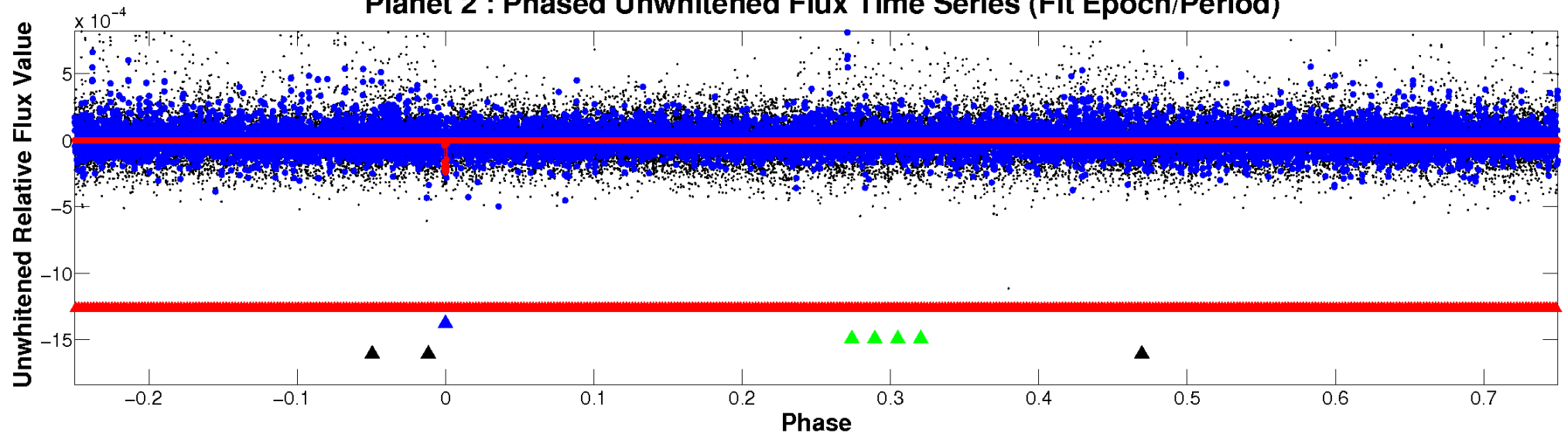
ALT Odd/Even

TCE 006206694-02

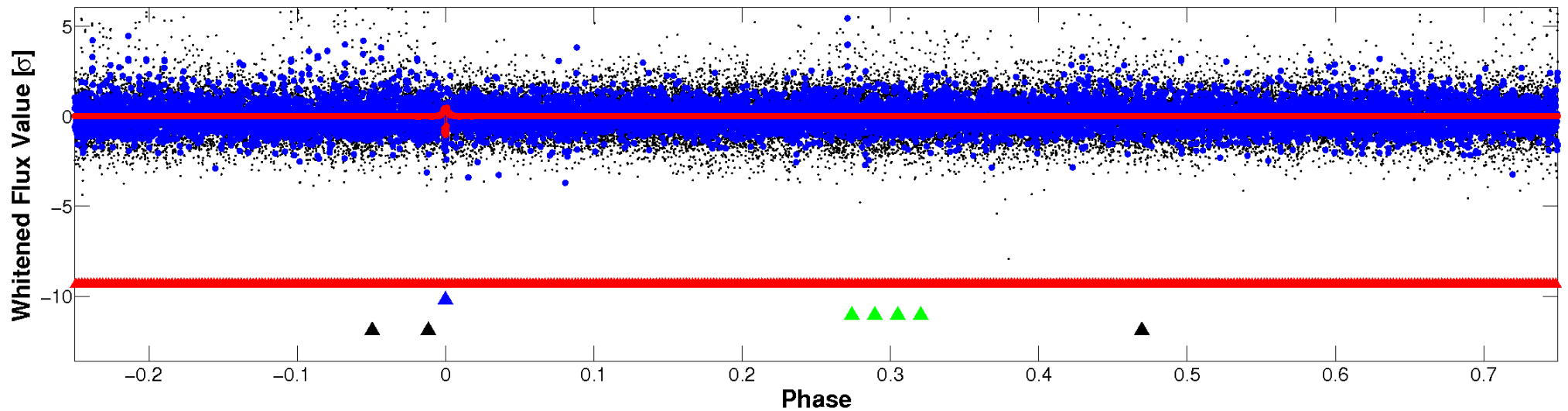


Non-Whitened Vs. Whitened Light Curve

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

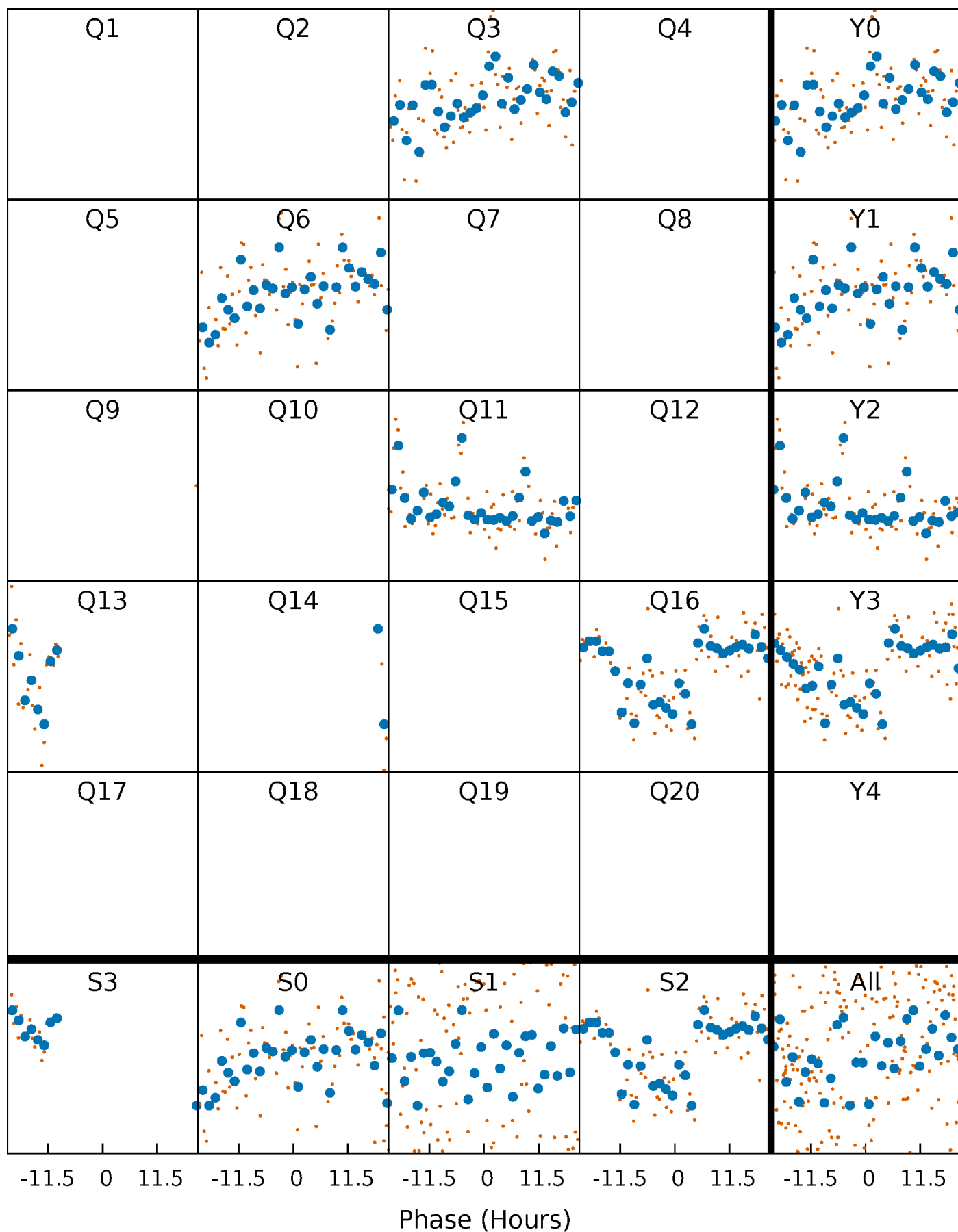


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



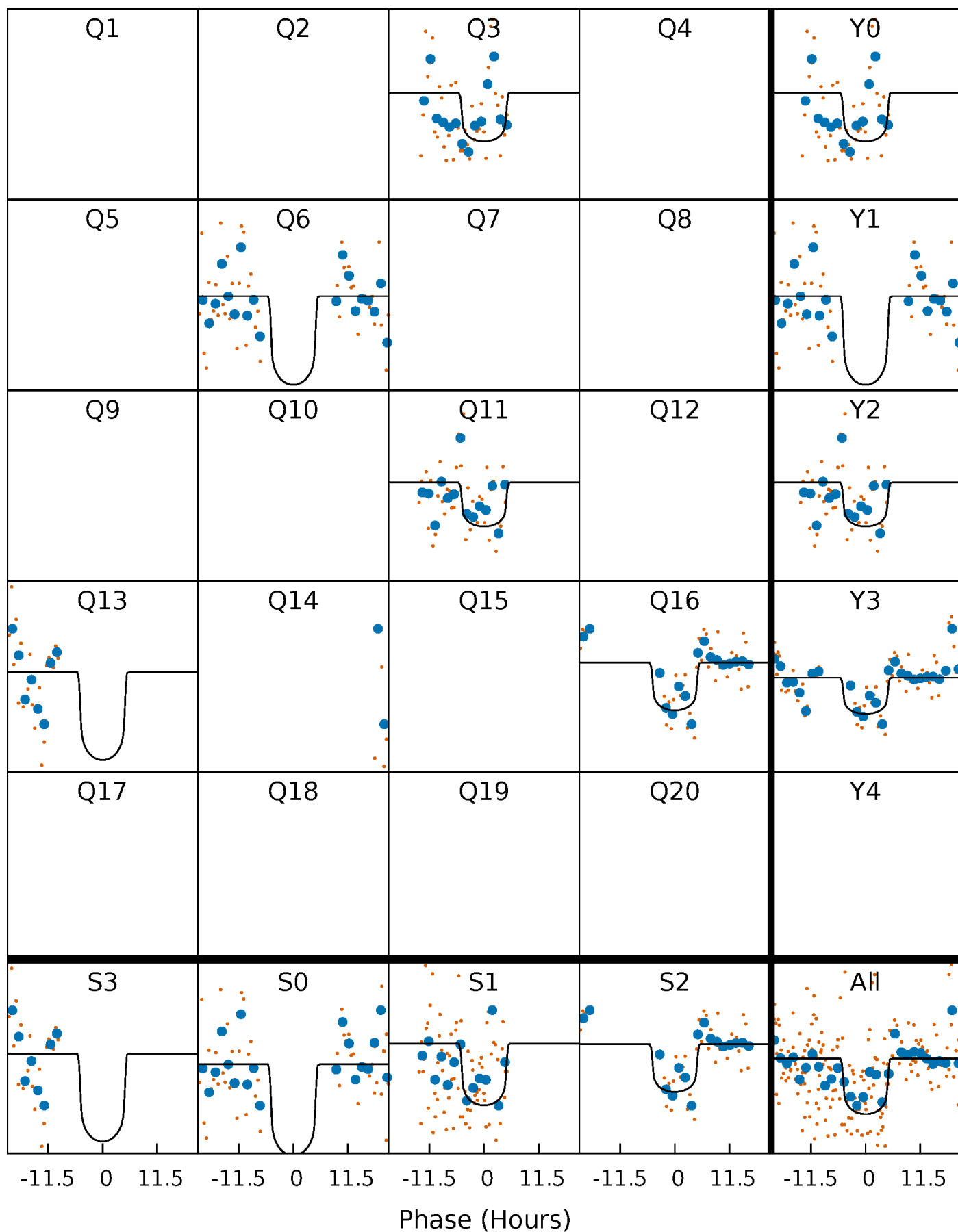
PDC Quarter-Phased Transit Curves

TCE 006206694-02 P=232.866882 Days $T_0=341.978916$ (BKJD)



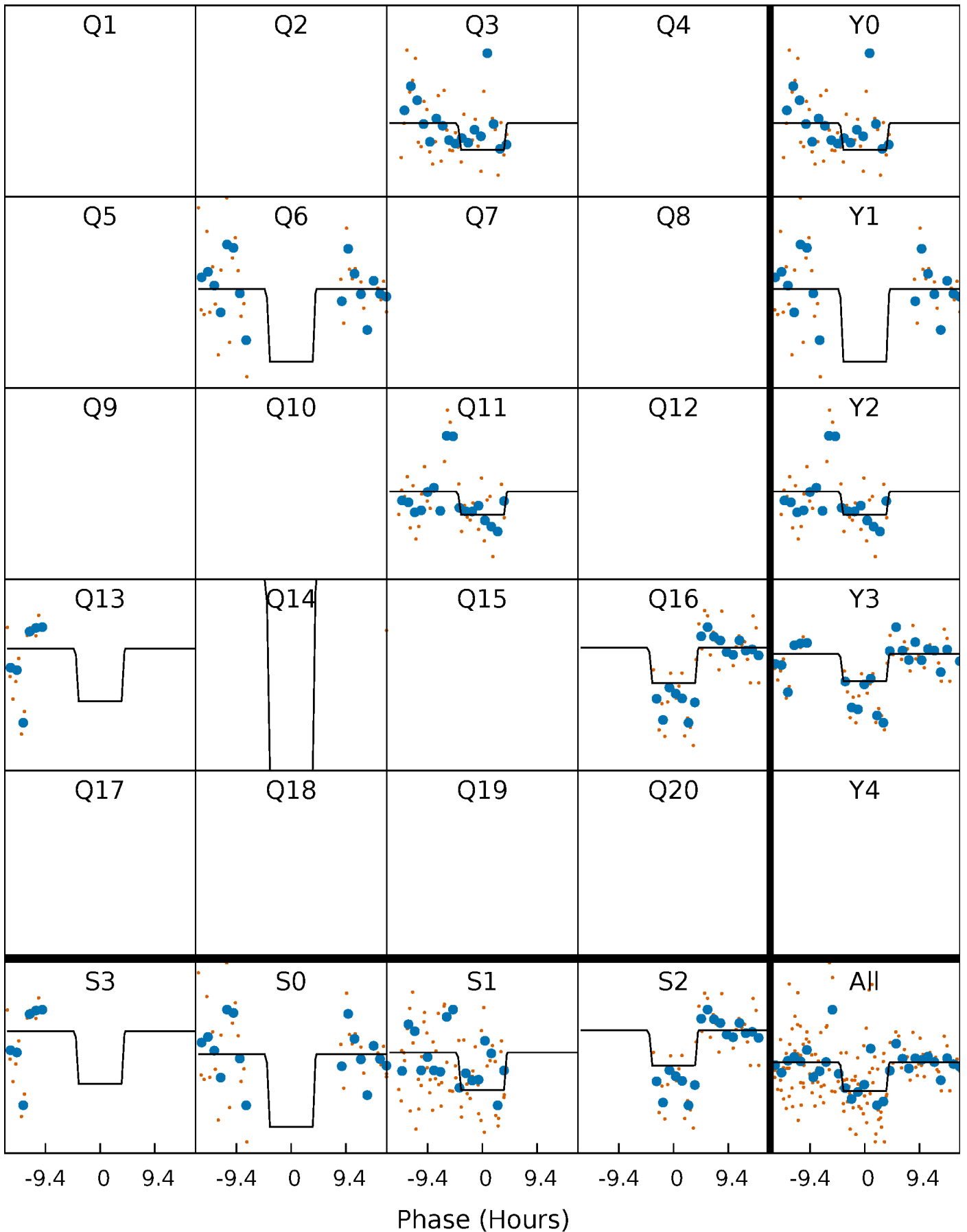
DV Quarter-Phased Transit Curves

TCE 006206694-02 P=232.866882 Days $T_0=341.978916$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

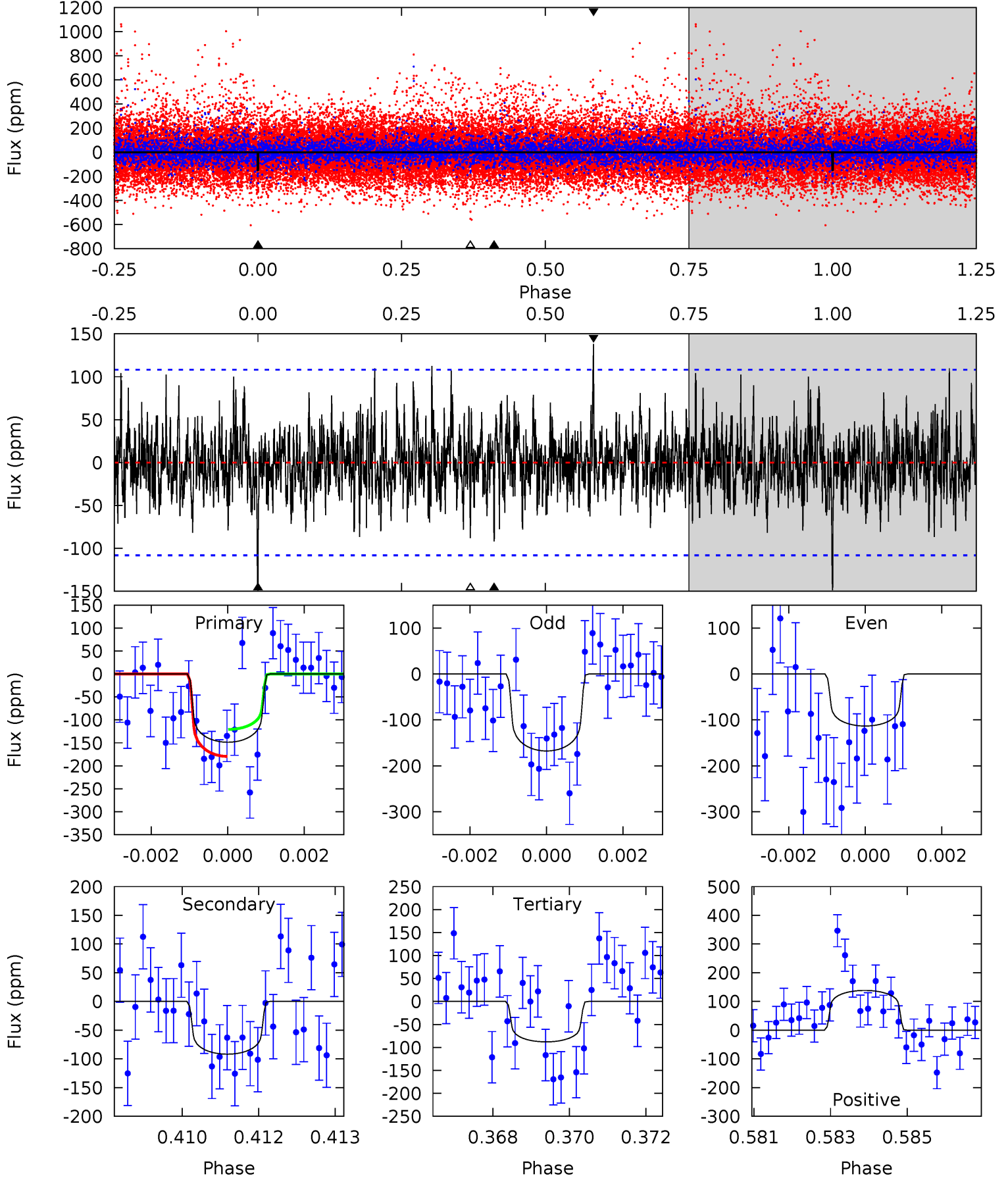
TCE 006206694-02 P=232.867661 Days $T_0=342.006281$ (BKJD)



DV Model-Shift Uniqueness Test

006206694-02, P = 232.866882 Days, E = 109.112034 Days

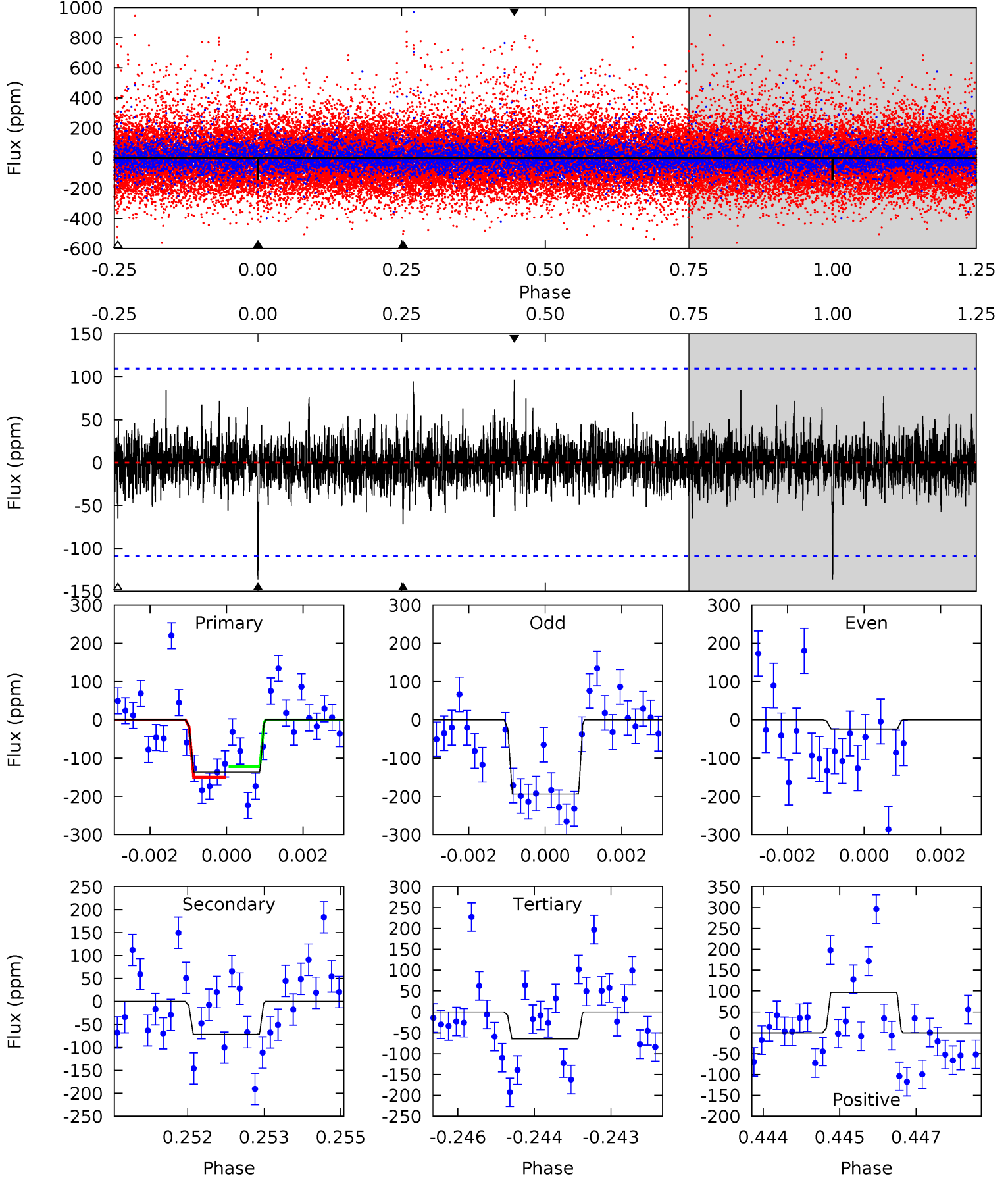
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.35	4.54	4.35	6.83	5.35	3.12	1.47	3.00	0.51	0.19	-2.30	1.26	1.13	0.48	1.45



Alt Model-Shift Uniqueness Test

006206694-02, P = 232.867661 Days, E = 109.138620 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.70	3.50	3.18	4.75	5.38	3.17	0.91	3.52	1.96	0.33	-1.24	3.87	0.91	0.41	0.68



Stellar Parameters For KIC 006206694

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6056^{+181}_{-181}	$3.662^{+0.315}_{-0.126}$	$-0.760^{+0.300}_{-0.250}$	$2.609^{+0.522}_{-0.969}$	$1.140^{+0.171}_{-0.256}$	$0.090^{+0.193}_{-0.035}$
	+3%/-3%	+9%/-3%	+39%/-33%	+20%/-37%	+15%/-22%	+214%/-39%
Source	PHO1	FLK73	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 006206694-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-92 ± 20	$4.30^{+1.46}_{-1.32}$	678^{+47}_{-59}	4822^{+744}_{-519}	1616^{+1734}_{-781}
Alt.	-71 ± 20	$3.29^{+1.36}_{-1.30}$	675^{+47}_{-61}	5108^{+1252}_{-702}	2132^{+3396}_{-1159}

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

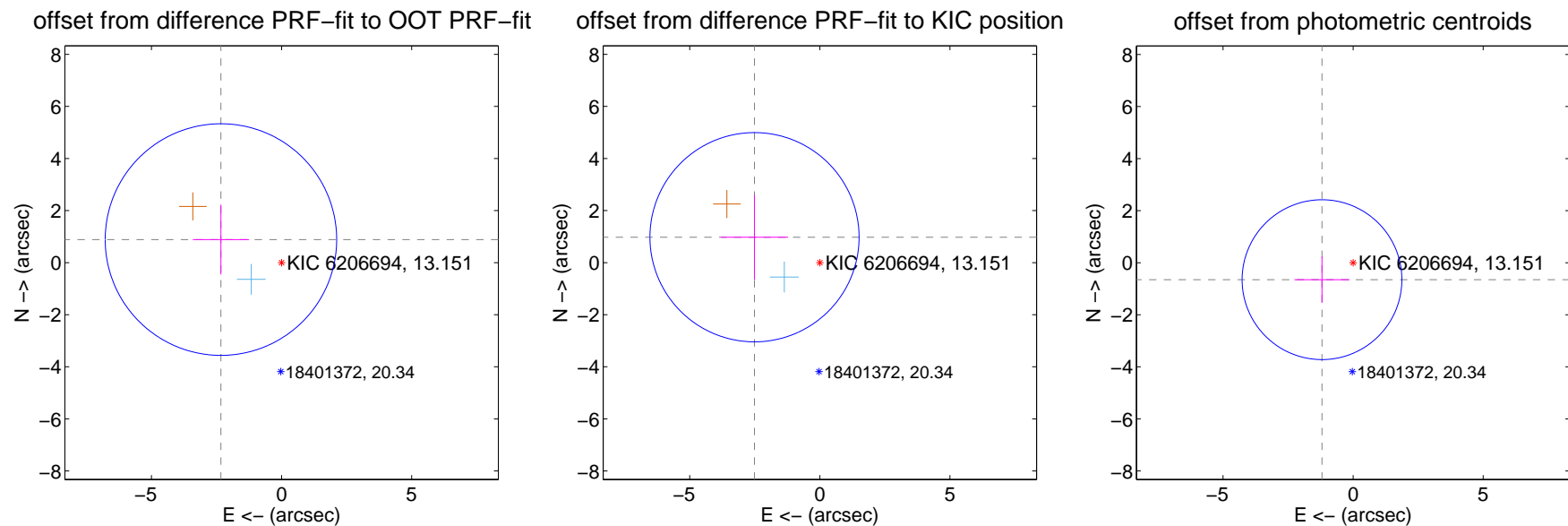
DV Centroid Data

Supplemental centroid analysis for 006206694-02. Kepler magnitude: 13.15. Transit SNR 7.04

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.493 ± 1.483	1.68	2.330 ± 1.077	0.886 ± 1.342
PRF-fit source offset from KIC position	2.694 ± 1.339	2.01	2.511 ± 1.289	0.976 ± 1.633
photometric centroid source offset	1.36 ± 1.02	1.33	1.20 ± 1.06	-0.65 ± 0.89



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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

Q1 no difference image



Q1 no OOT image



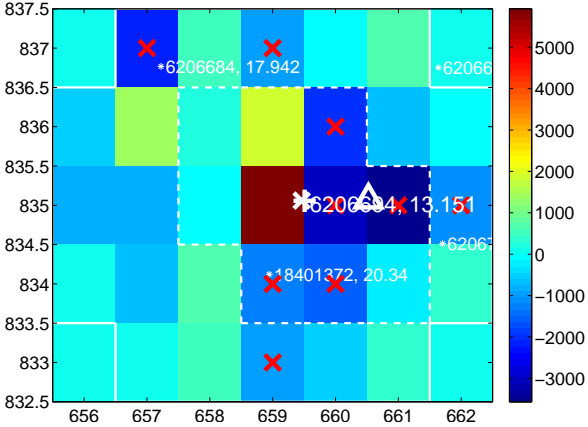
Q2 no difference image



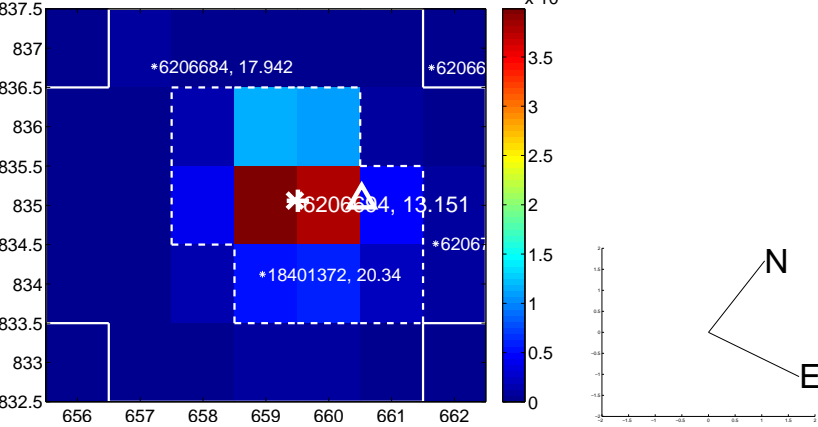
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



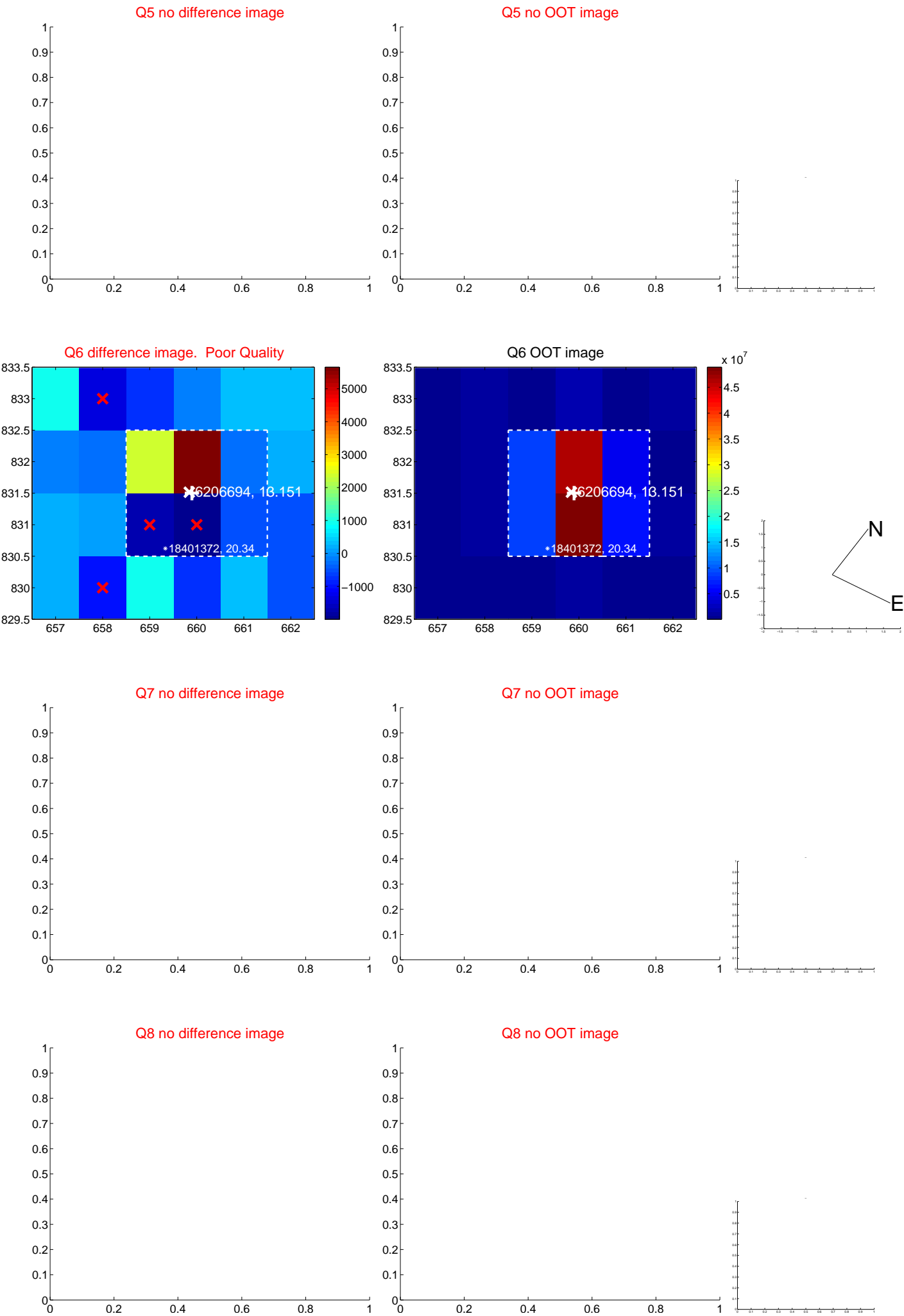
Q4 no difference image



Q4 no OOT image



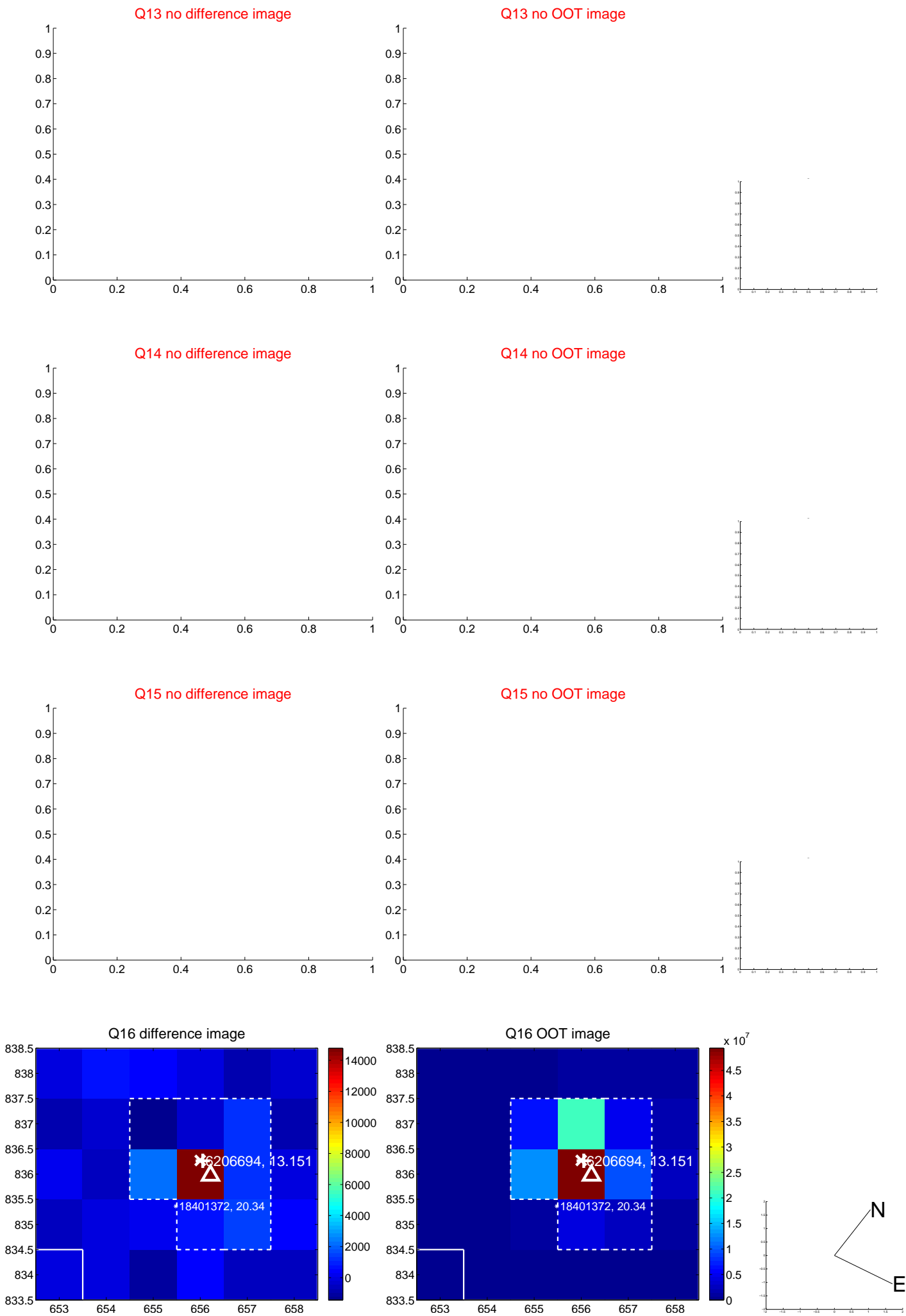
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



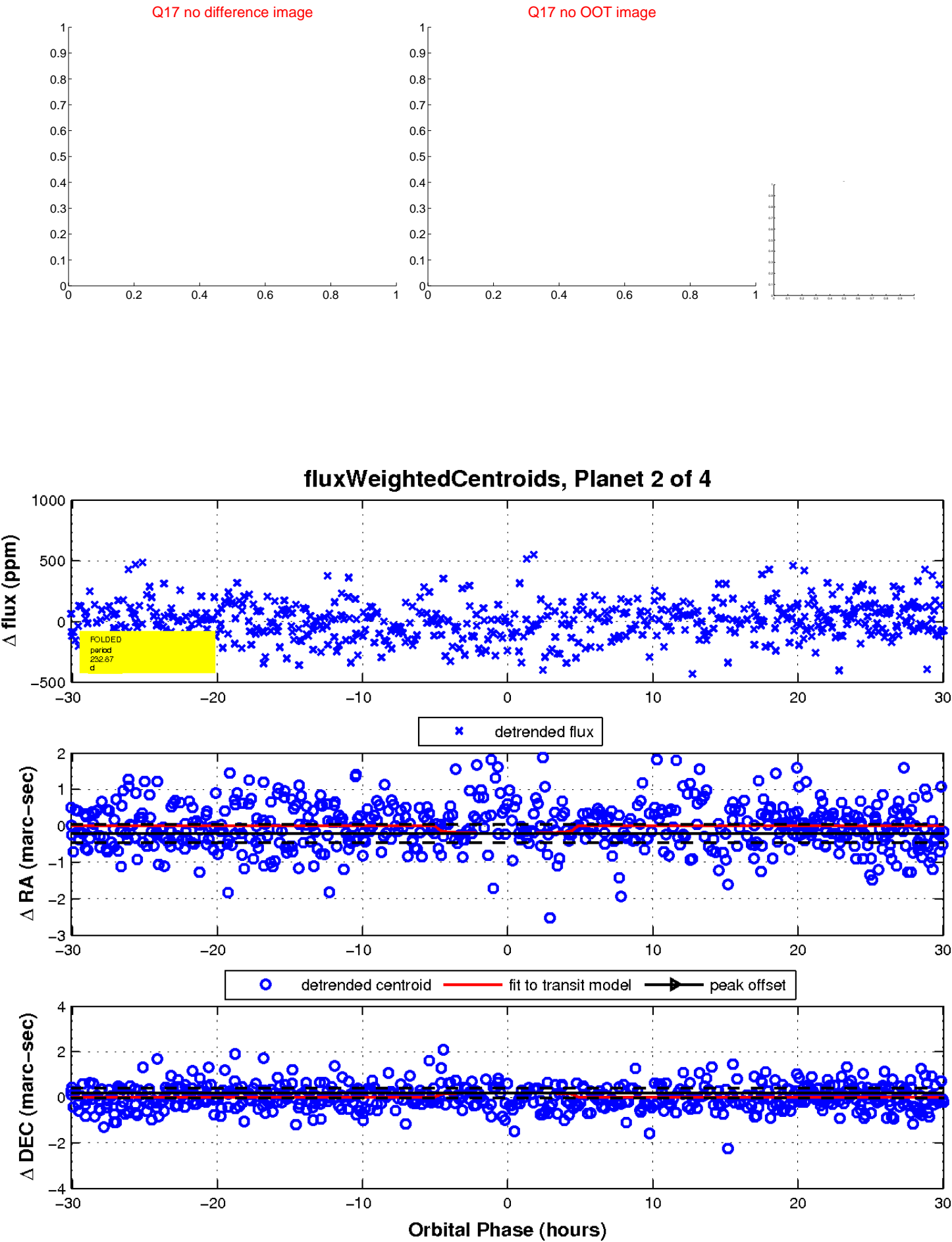
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



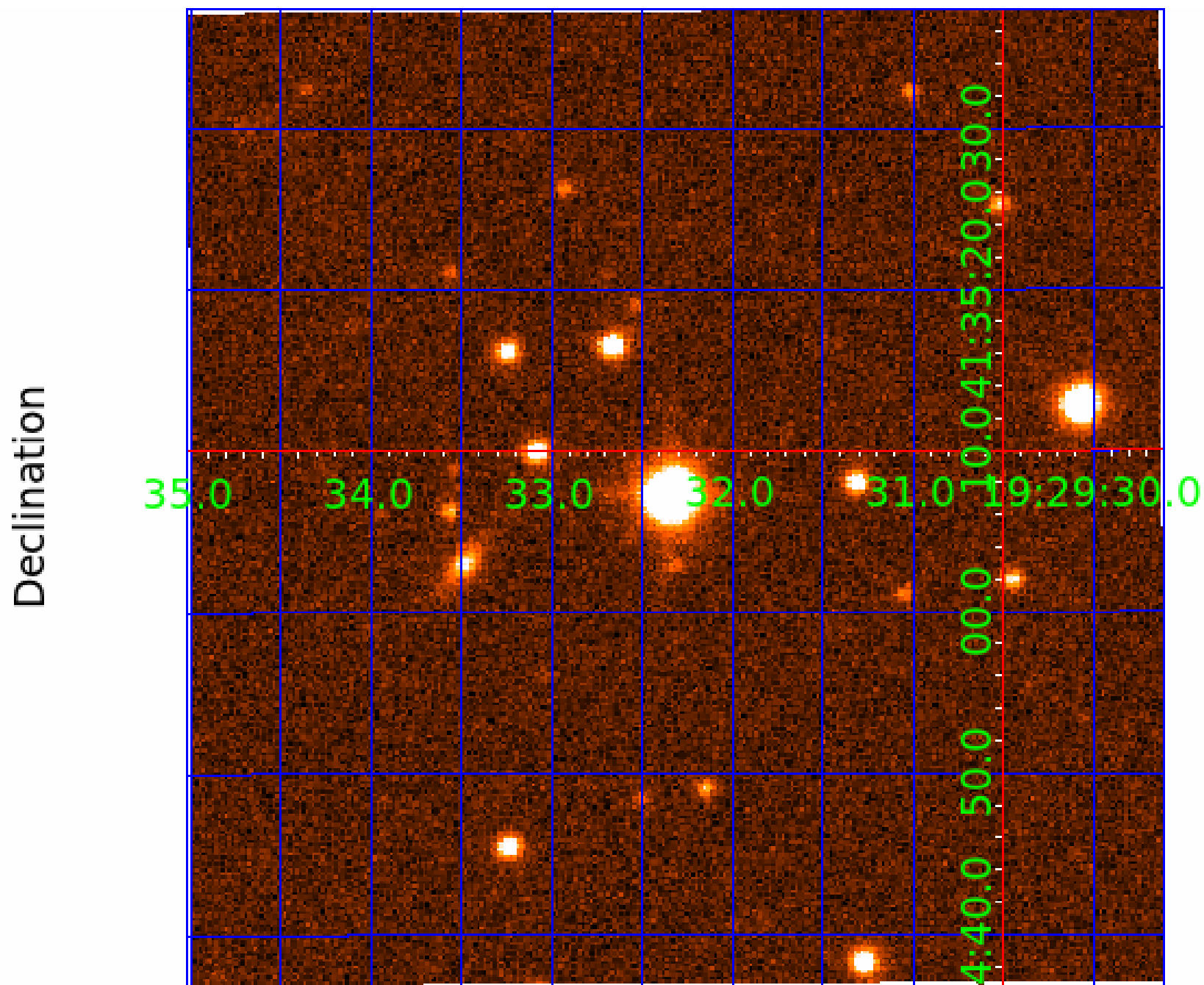
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



KIC 006206694

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})
006206694-01	OBS	No	1.417008	132.792577	17.4	5.005	8.0	7.9	2.61	6056	1.27	12325.11
006206694-02	OBS	No	232.866882	341.978916	239.9	10.032	11.2	7.0	2.61	6056	4.56	13.69
006206694-03	OBS	No	469.344121	172.909089	234.9	5.330	9.6	5.9	2.61	6056	4.68	5.38
006206694-04	OBS	No	586.571004	330.479374	275.3	4.695	7.7	7.4	2.61	6056	5.00	4.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006206694-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006206694-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006206694-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET
006206694-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

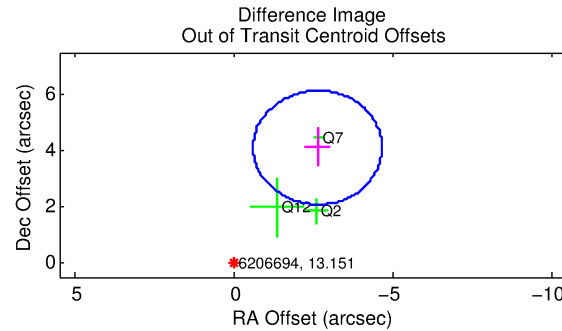
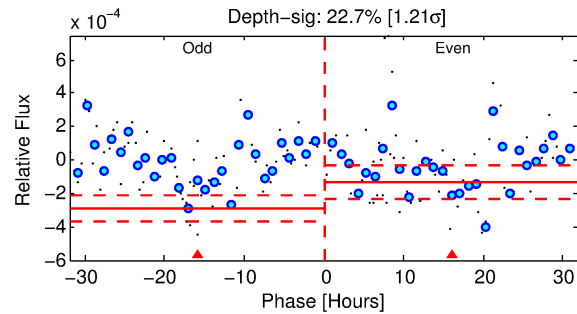
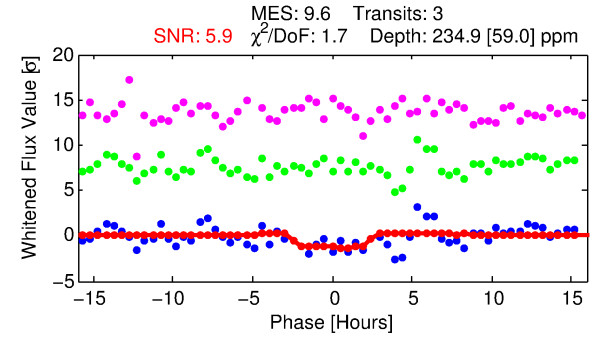
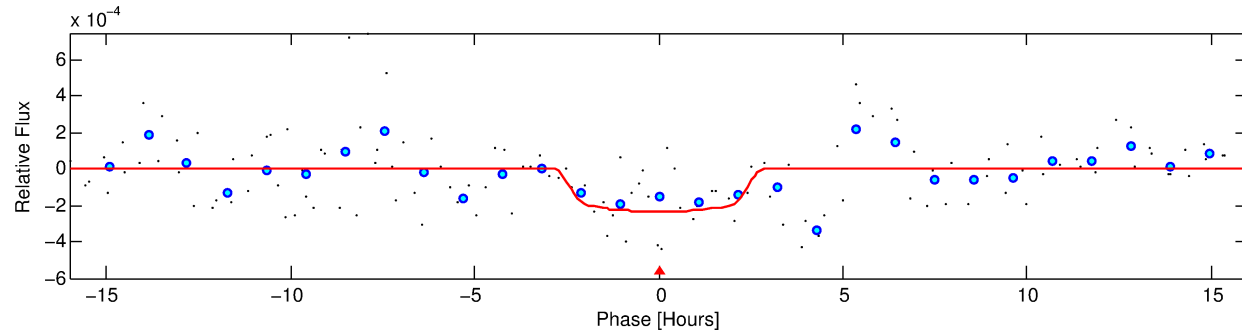
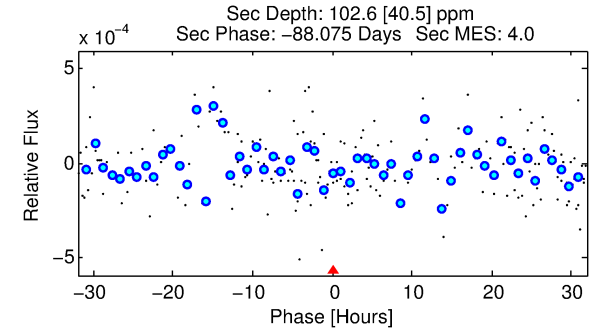
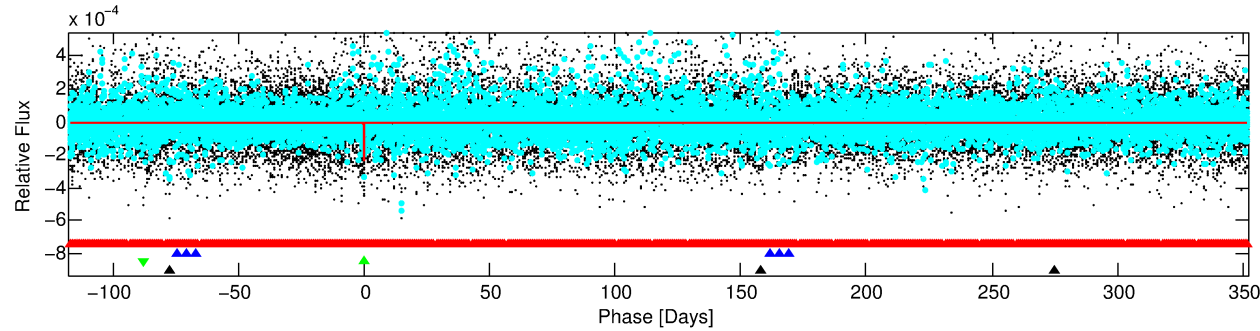
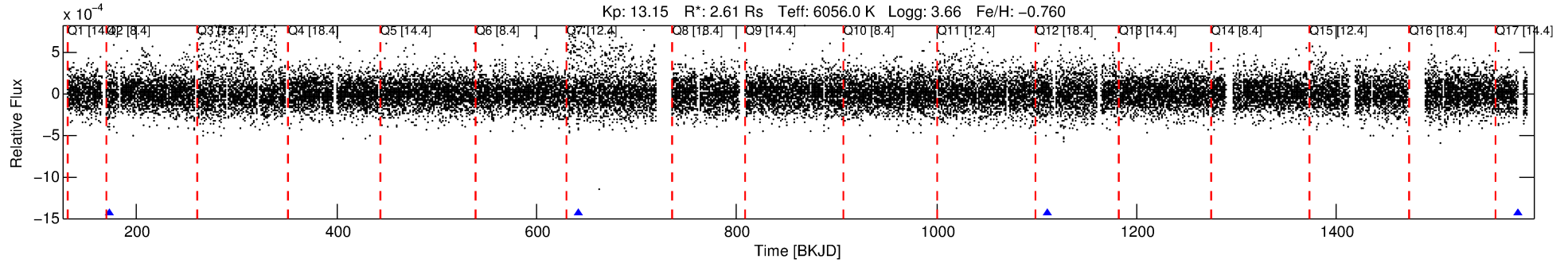
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006206694-03

No Significant Match Found

DV One-Page Summary

KIC: 6206694 Candidate: 3 of 4 Period: 469.344 d



DV Fit Results:

Period = 469.34412 [0.01579] d
Epoch = 172.9091 [0.0155] BKJD
Rp/R* = 0.0164 [0.0128]
a/R* = 319.96 [1360.61]
b = 0.90 [0.93]
Seff = 5.38 [2.99]
Teq = 388 [54] K
Rp = 4.68 [4.05] Re
a = 1.2350 [0.4274] AU
Ag = 3934.56 [6689.70] [0.59σ]
Teffp = 4755 [1920] K [2.27σ]

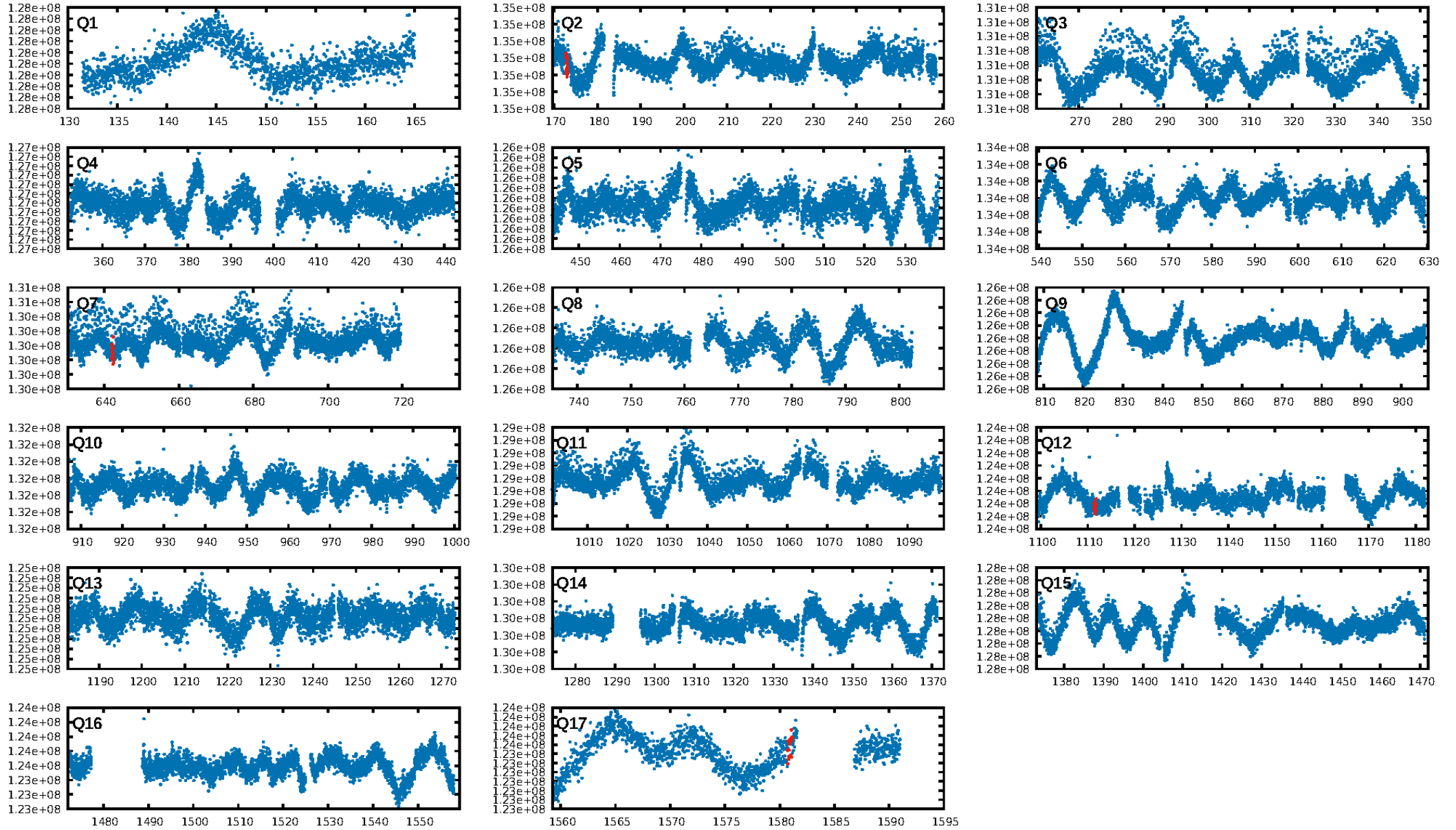
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [499.58σ]
LongPeriod-sig: 100.0% [396.08σ]
ModelChiSquare2-sig: 19.9%
ModelChiSquareGof-sig: 93.3%
Bootstrap-pfa: 1.71e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.853
Centroid-sig: 11.3%
Centroid-so: 1.532 arcsec [1.12σ]
OotOffset-rm: 4.872 arcsec [7.21σ]
KicOffset-rm: 4.832 arcsec [7.40σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.25 [1/4]

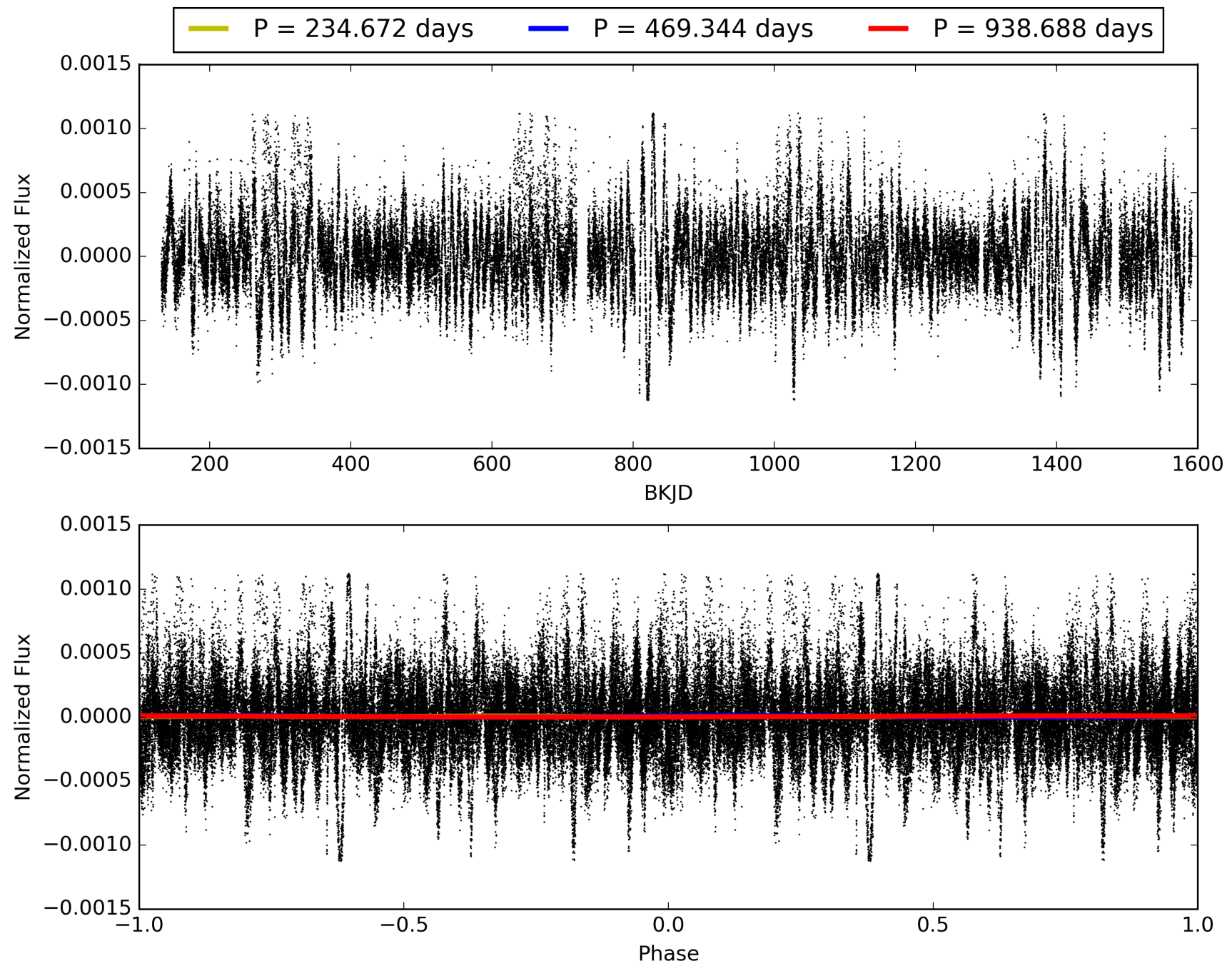
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:02:03 Z

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

TCE 006206694-03, PDC Light Curves

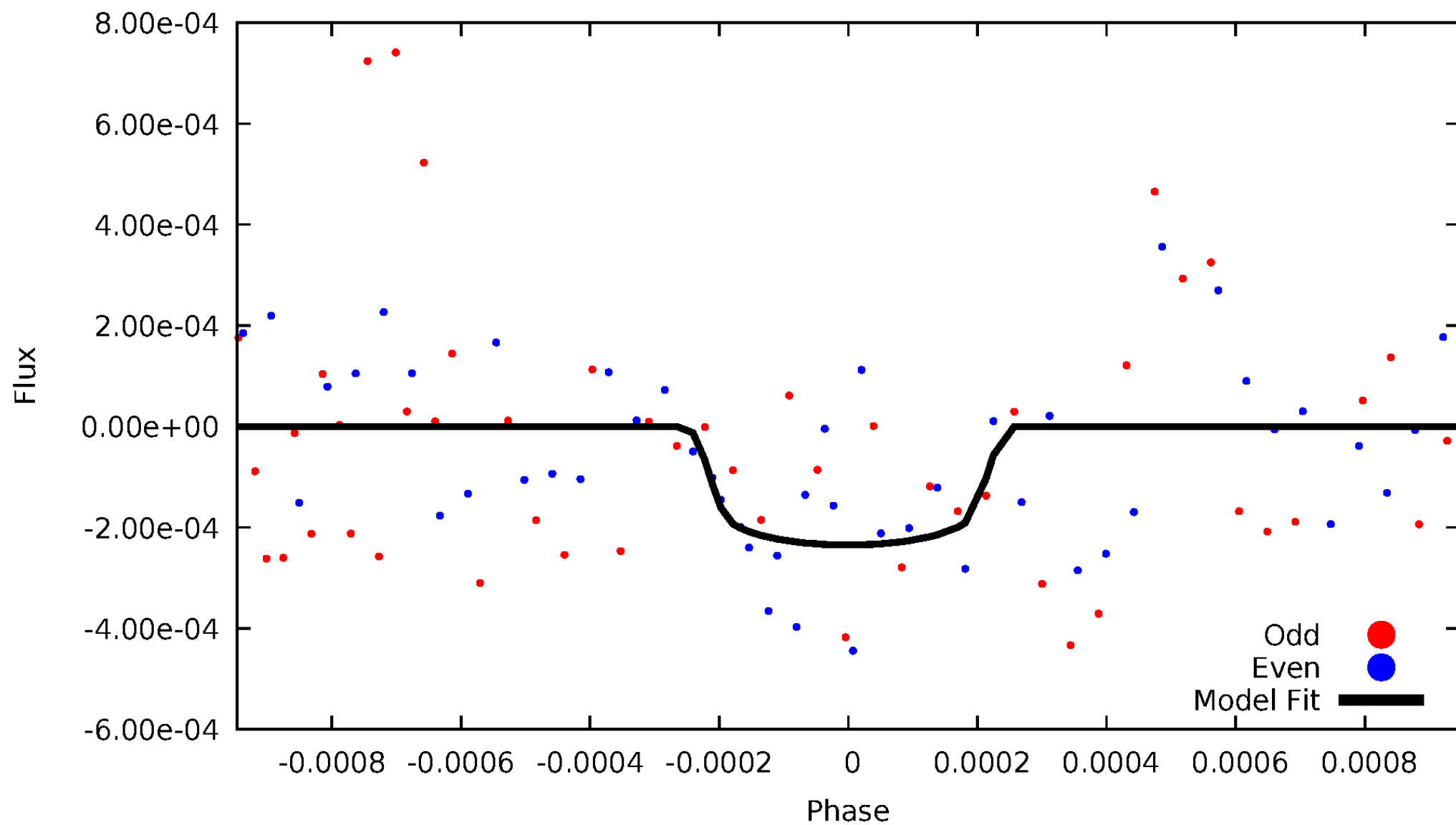


TCE 006206694-03



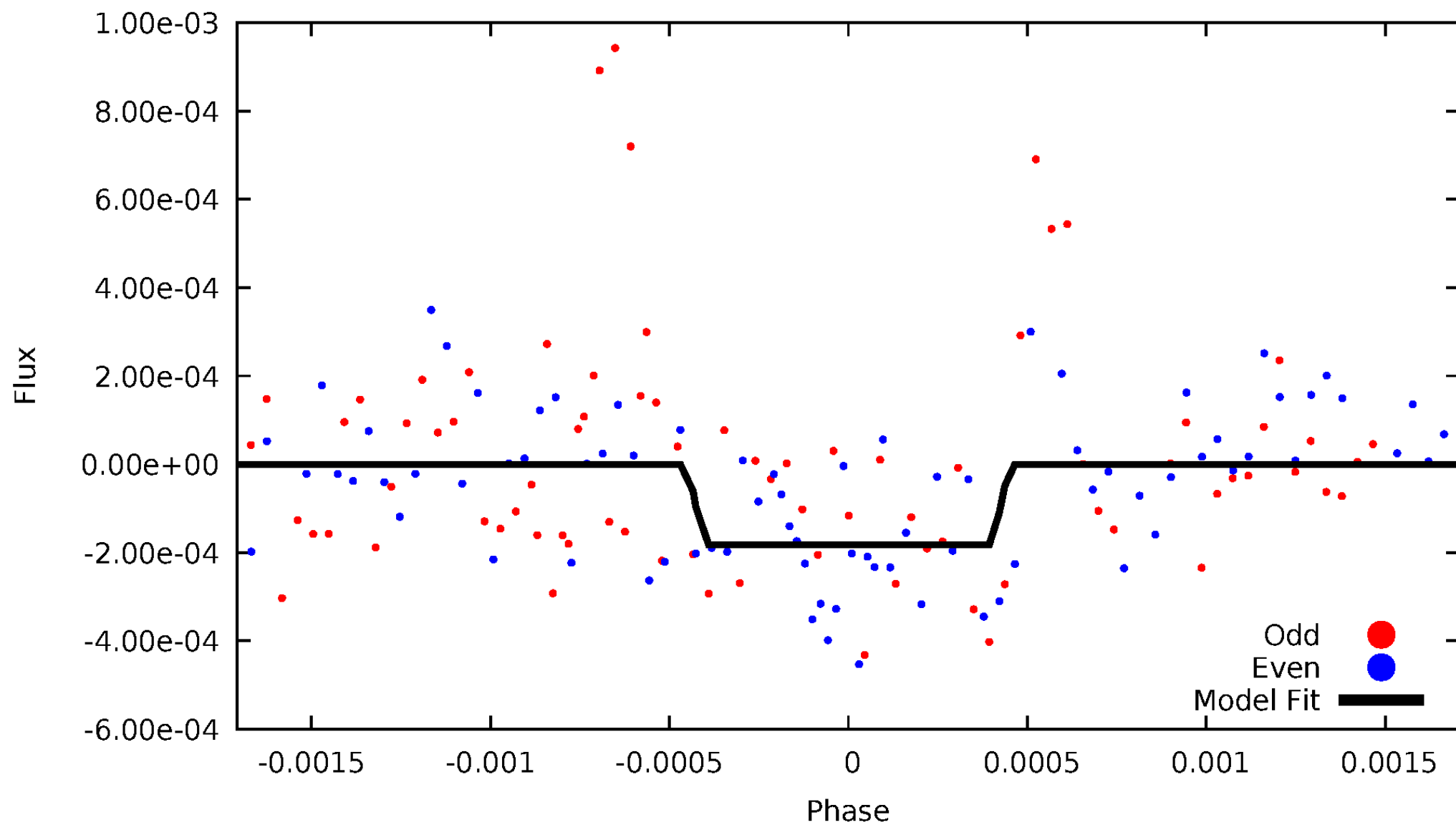
DV Odd/Even

TCE 006206694-03



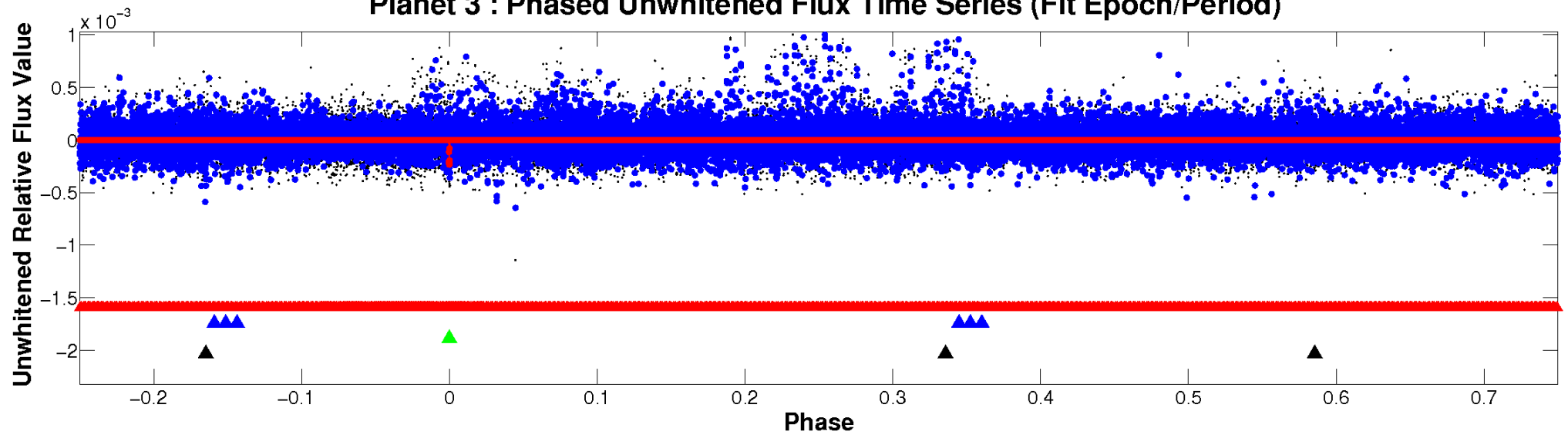
ALT Odd/Even

TCE 006206694-03

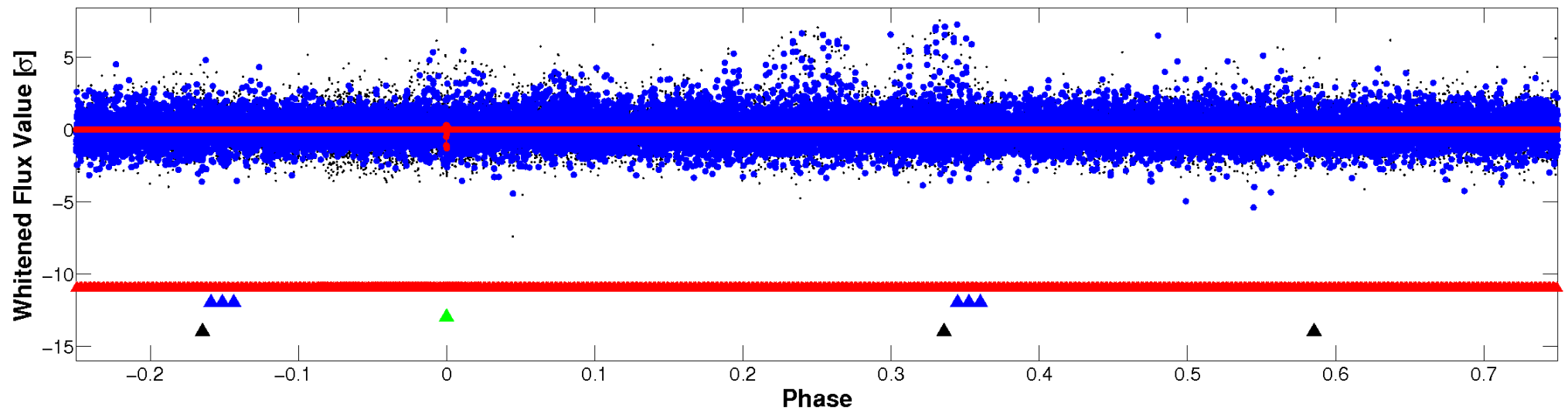


Non-Whitened Vs. Whitened Light Curve

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

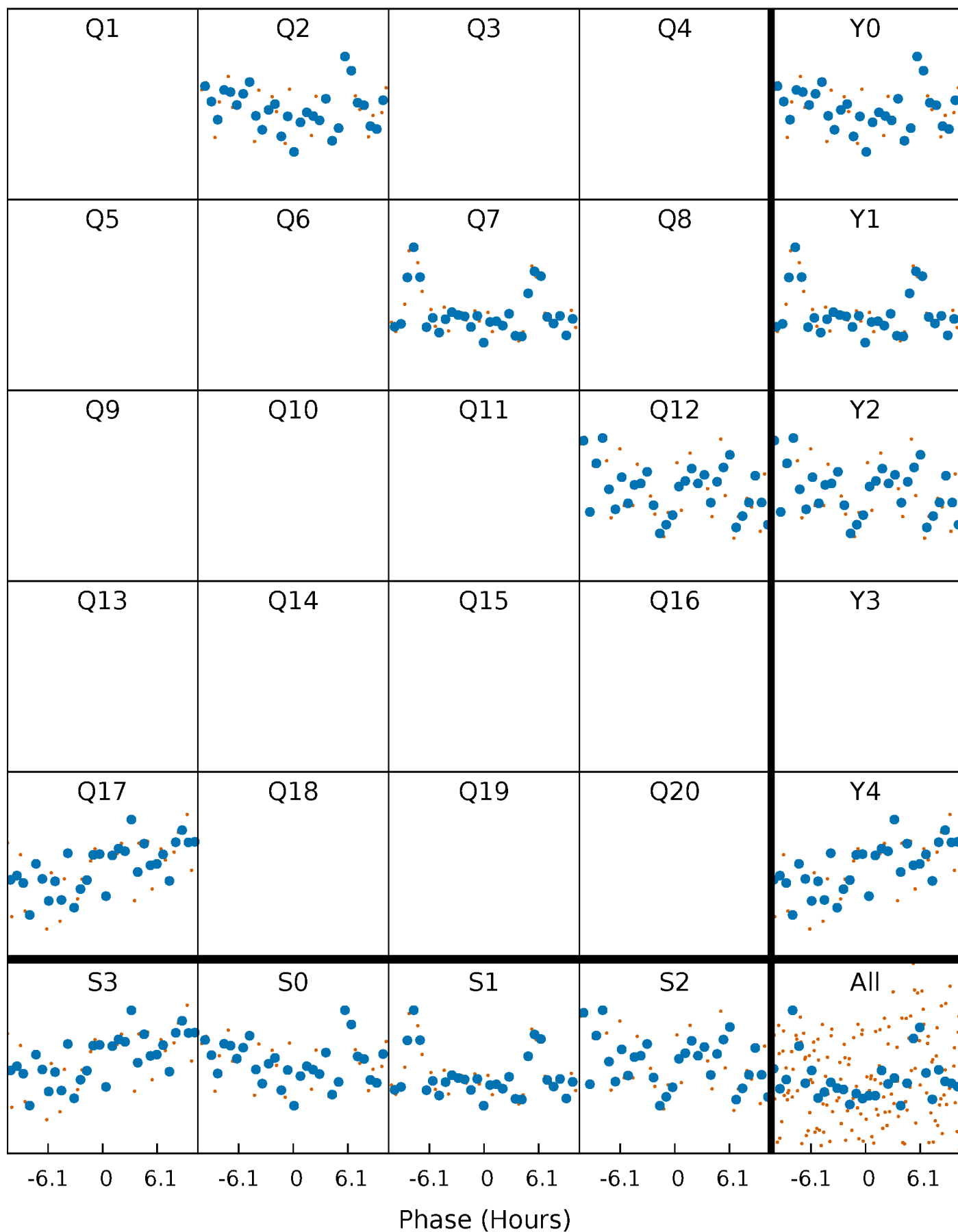


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



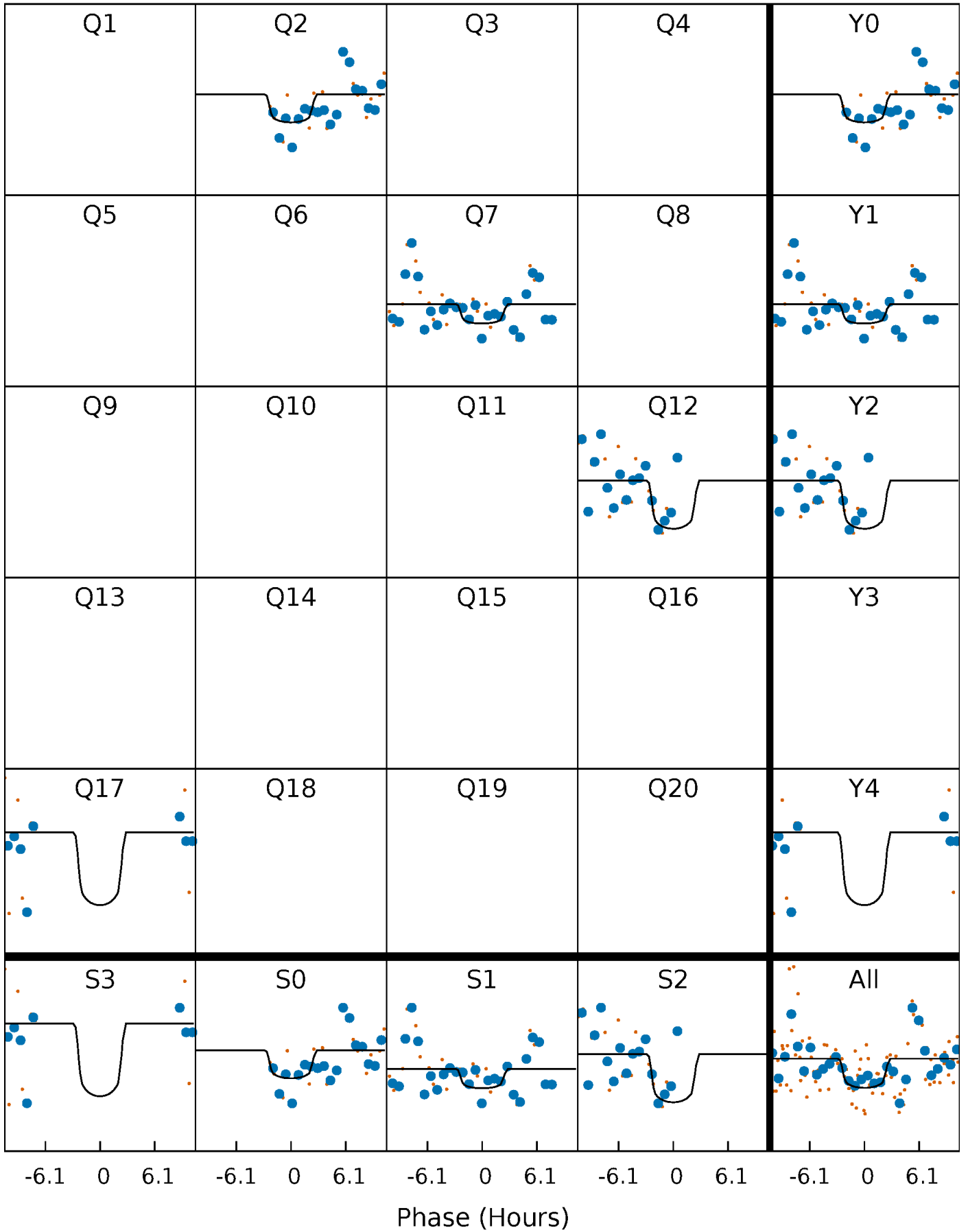
PDC Quarter-Phased Transit Curves

TCE 006206694-03 P=469.344121 Days $T_0=172.909089$ (BKJD)



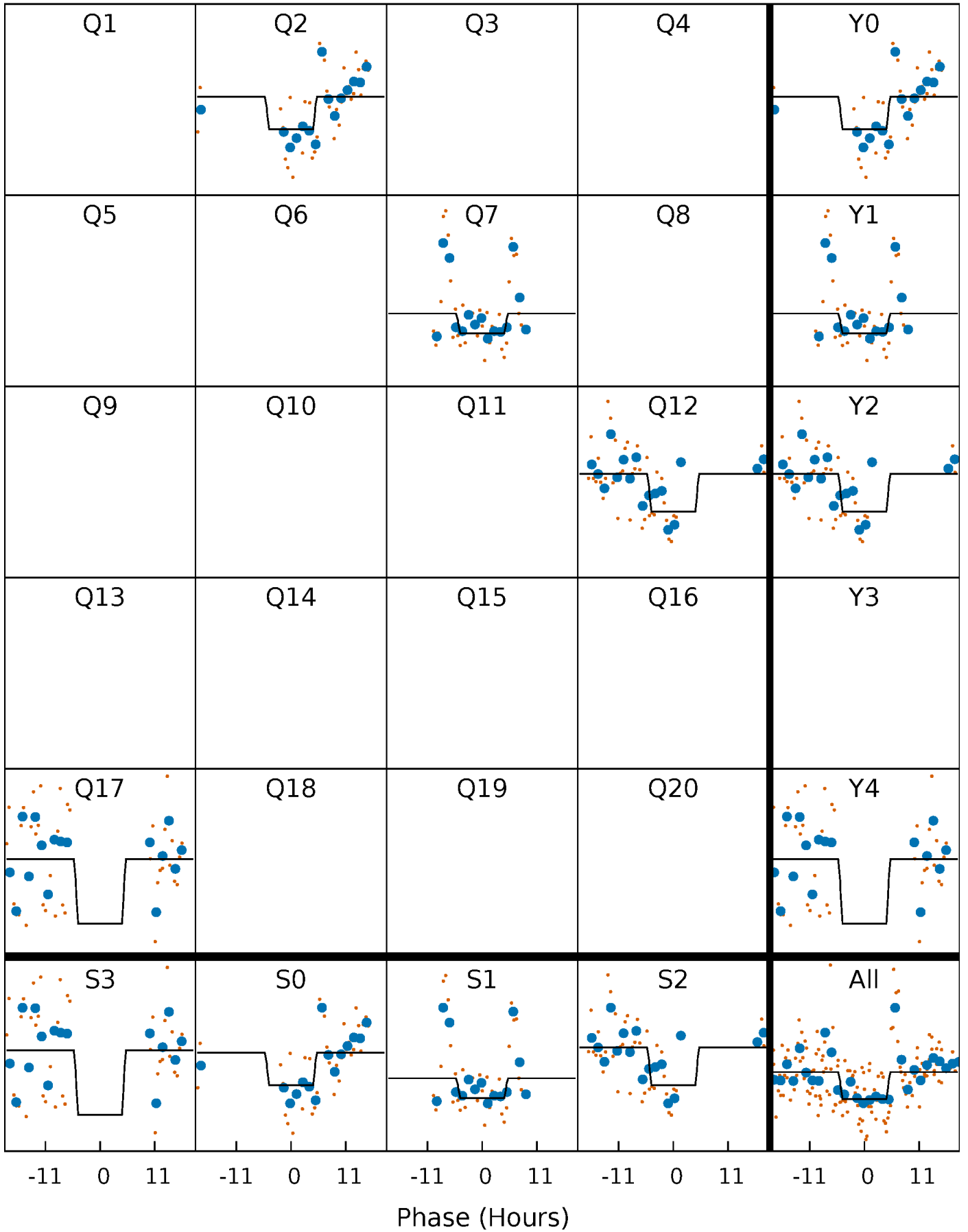
DV Quarter-Phased Transit Curves

TCE 006206694-03 P=469.344121 Days $T_0=172.909089$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

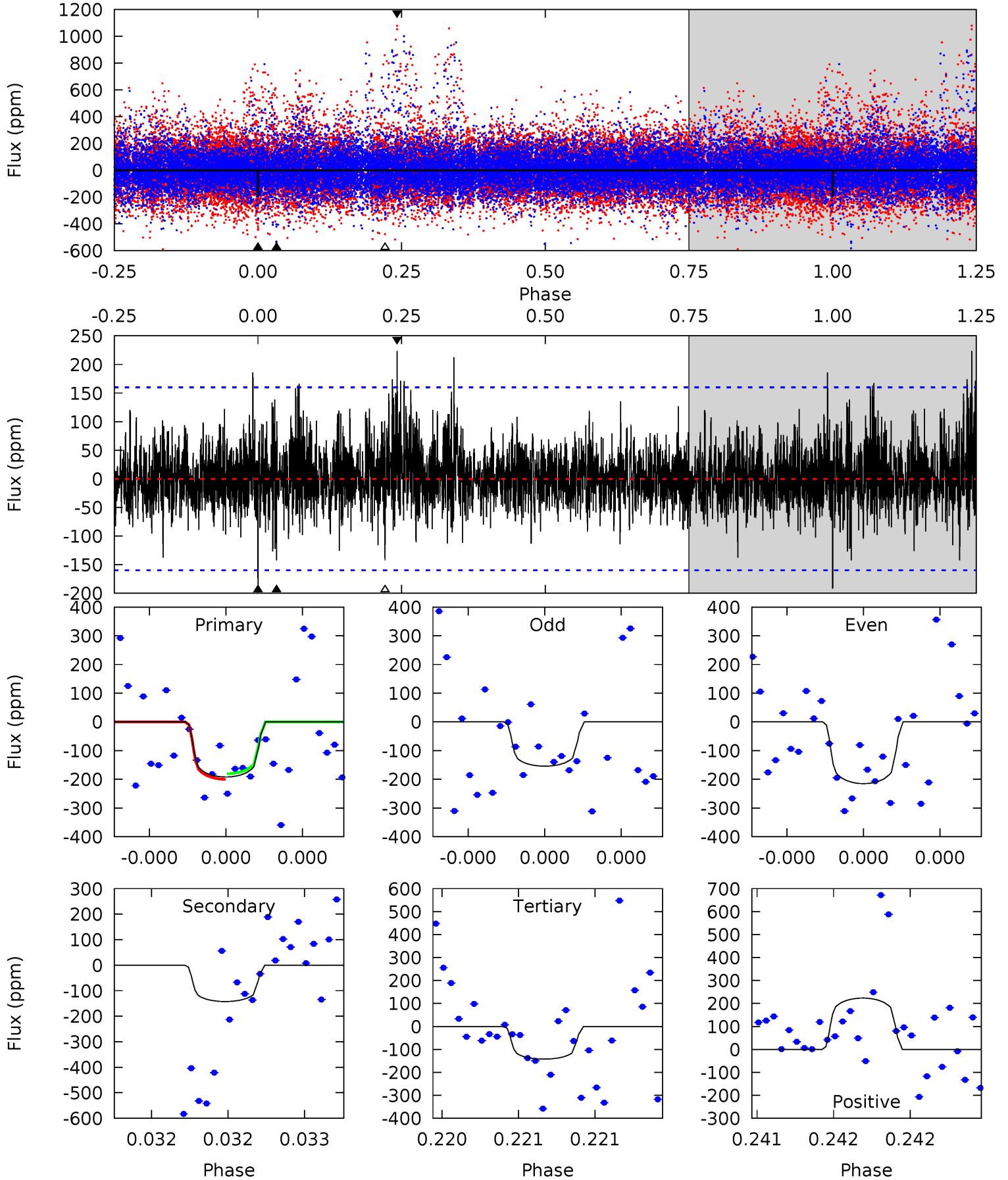
TCE 006206694-03 $P=469.331628$ Days $T_0=172.898258$ (BKJD)



DV Model-Shift Uniqueness Test

006206694-03, P = 469.344121 Days, E = 172.909089 Days

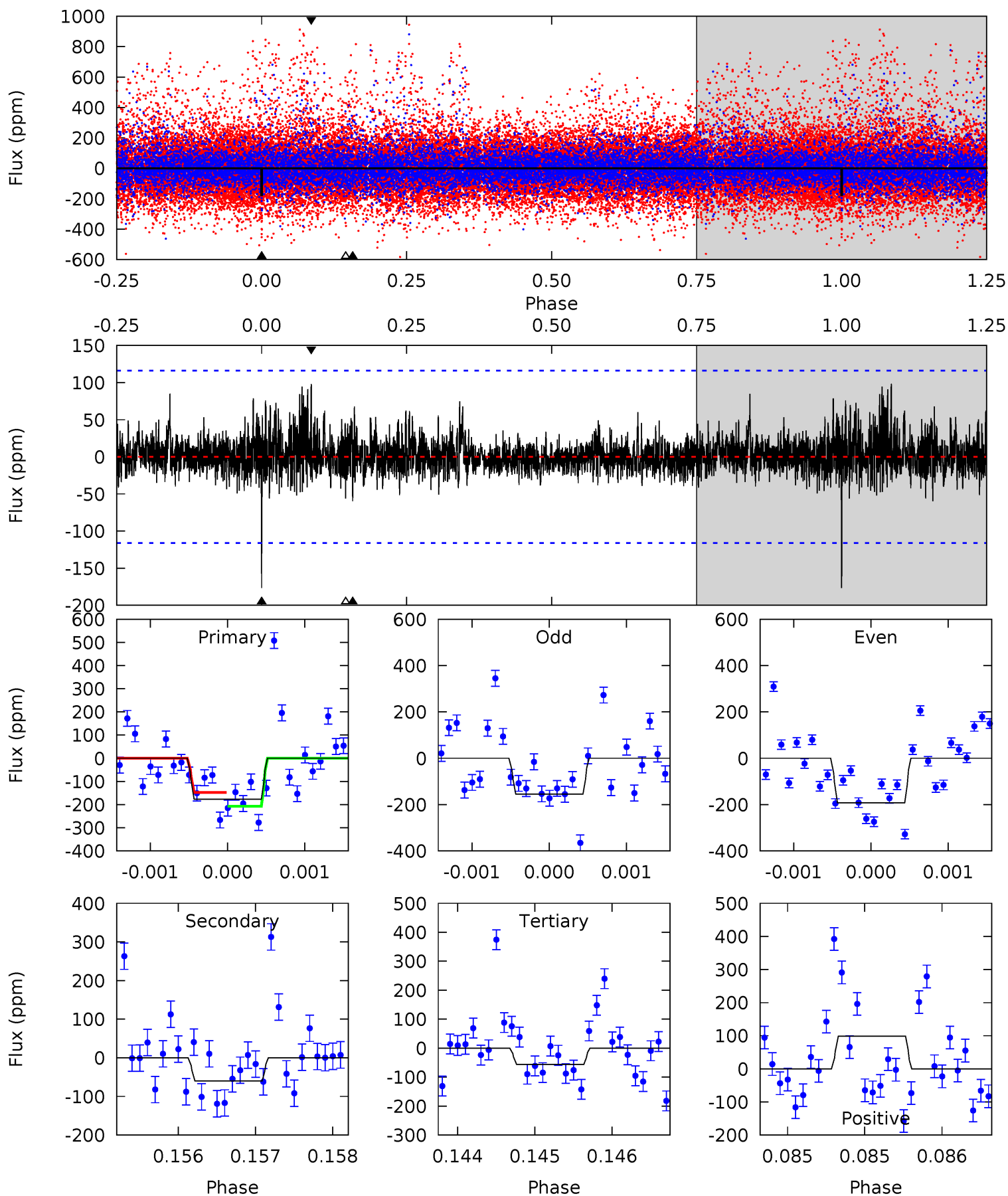
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.69	4.97	4.96	7.79	5.57	3.48	1.41	1.73	-1.10	0.01	-2.82	1.04	1.20	0.54	0.33



Alt Model-Shift Uniqueness Test

006206694-03, P = 469.331628 Days, E = 172.898258 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.32	2.81	2.65	4.63	5.47	3.32	0.85	5.67	3.69	0.17	-1.81	0.88	1.12	0.36	1.40



Stellar Parameters For KIC 006206694

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6056^{+181}_{-181}	$3.662^{+0.315}_{-0.126}$	$-0.760^{+0.300}_{-0.250}$	$2.609^{+0.522}_{-0.969}$	$1.140^{+0.171}_{-0.256}$	$0.090^{+0.193}_{-0.035}$
	+3%/-3%	+9%/-3%	+39%/-33%	+20%/-37%	+15%/-22%	+214%/-39%
Source	PHO1	FLK73	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 006206694-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-142 ± 29	$4.76^{+3.67}_{-2.76}$	537^{+37}_{-49}	4986^{+2624}_{-894}	5137^{+24083}_{-3543}
Alt.	-60 ± 21	$4.22^{+3.56}_{-2.71}$	536^{+34}_{-50}	4377^{+2578}_{-812}	2646^{+17722}_{-1894}

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

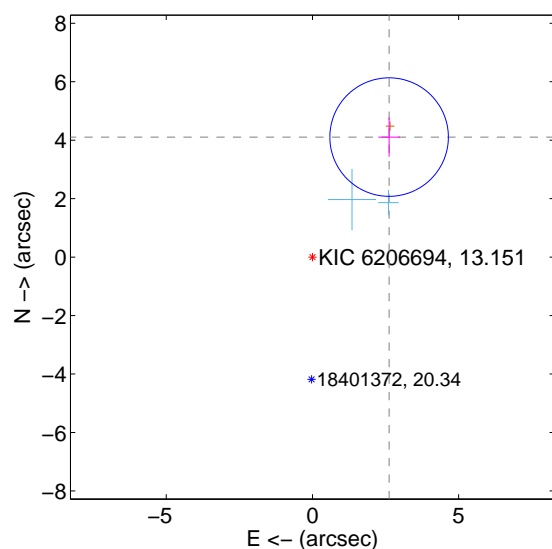
Supplemental centroid analysis for 006206694-03. Kepler magnitude: 13.15. Transit SNR 5.87

There are 2 quarters with good PRF difference image offsets

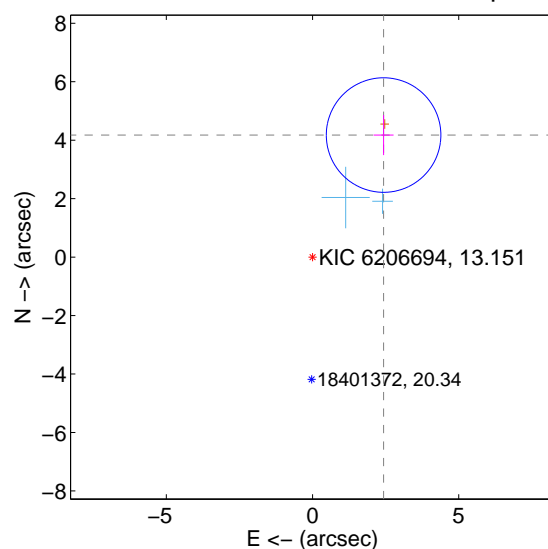
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.872 ± 0.676	7.21	-2.623 ± 0.372	4.106 ± 0.673
PRF-fit source offset from KIC position	4.832 ± 0.653	7.40	-2.431 ± 0.340	4.176 ± 0.685
photometric centroid source offset	1.53 ± 1.37	1.12	-1.53 ± 1.37	-0.04 ± 1.17

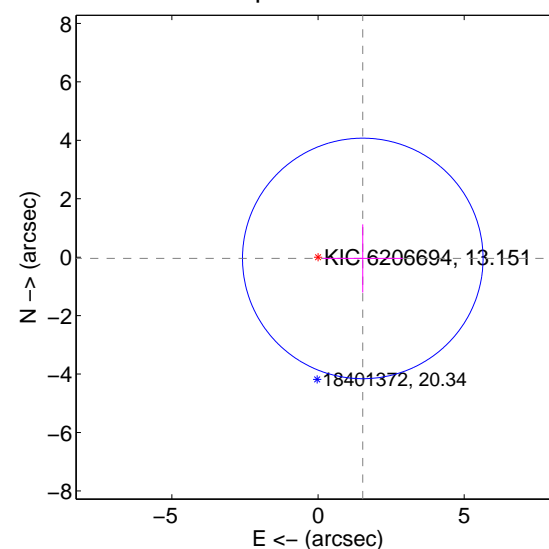
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



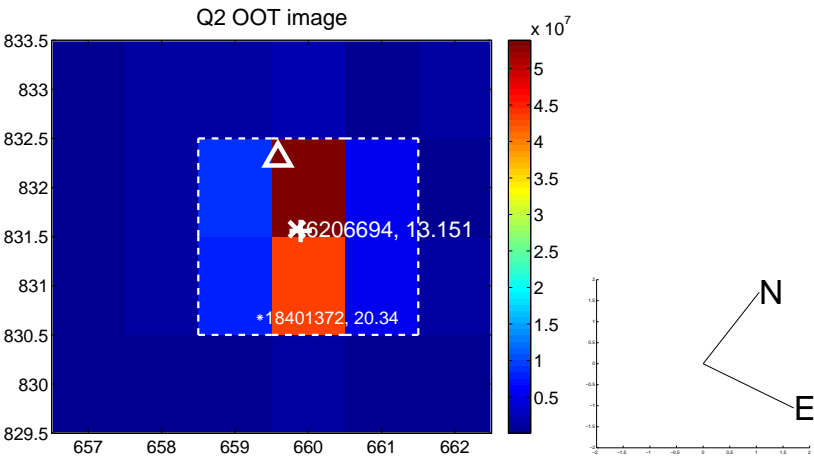
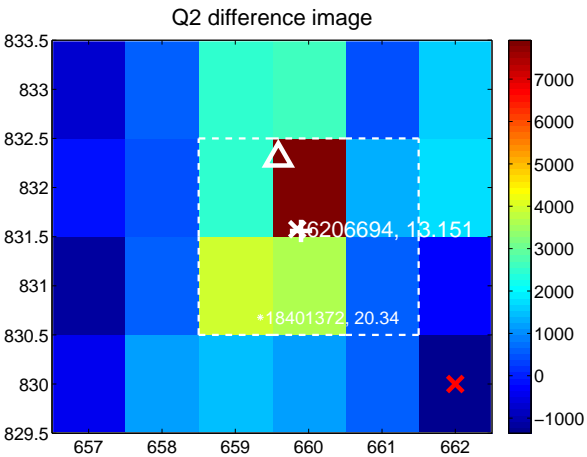
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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

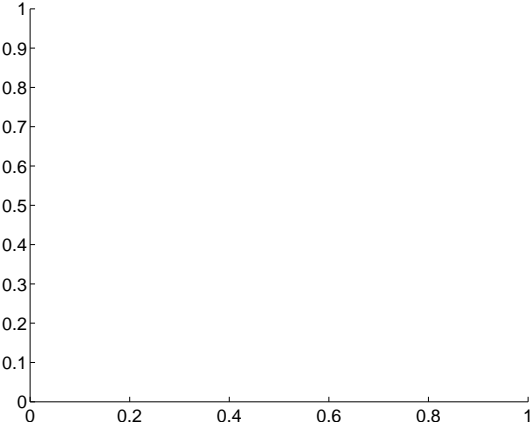
Q1 no difference image



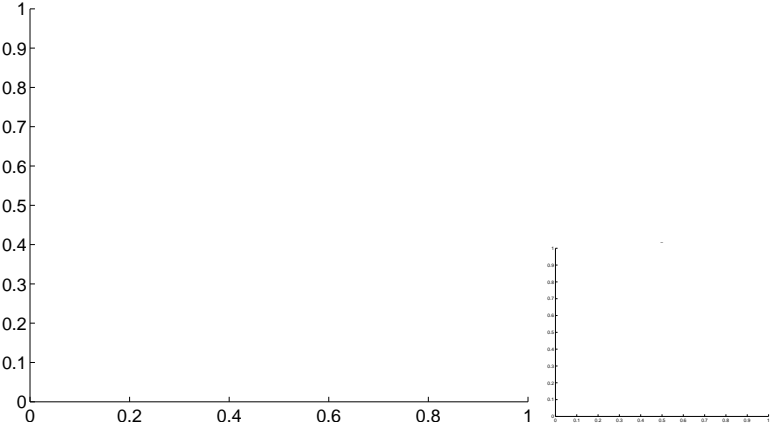
Q1 no OOT image



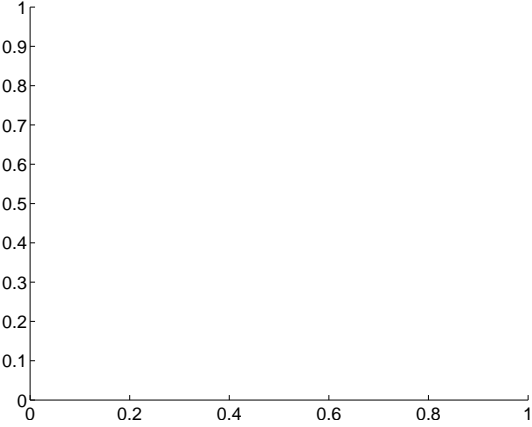
Q3 no difference image



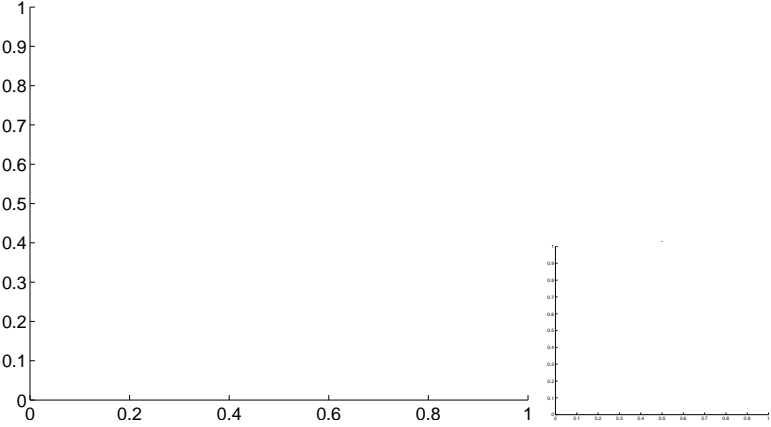
Q3 no OOT image



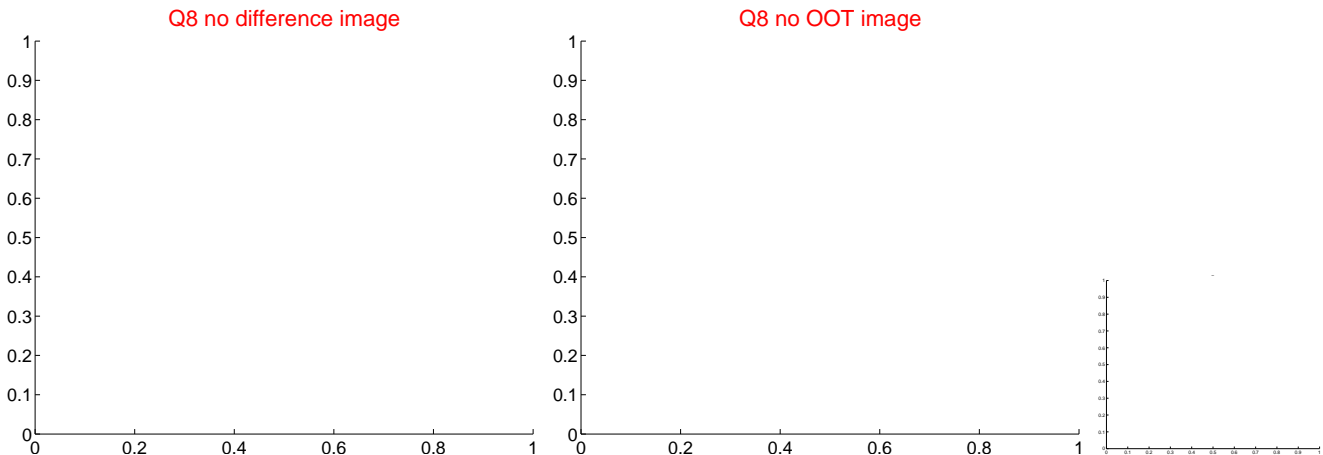
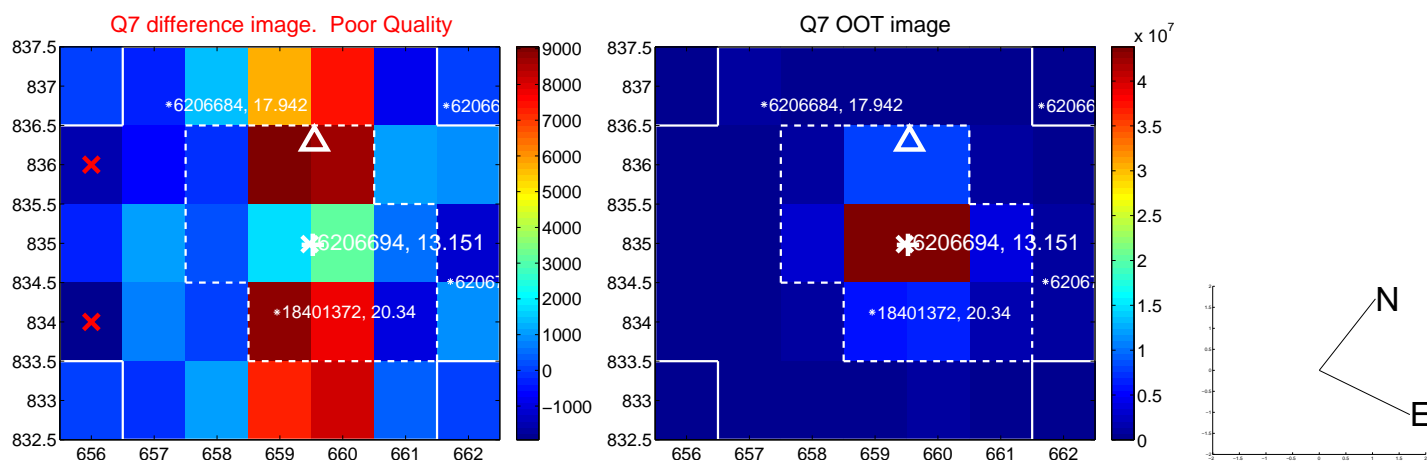
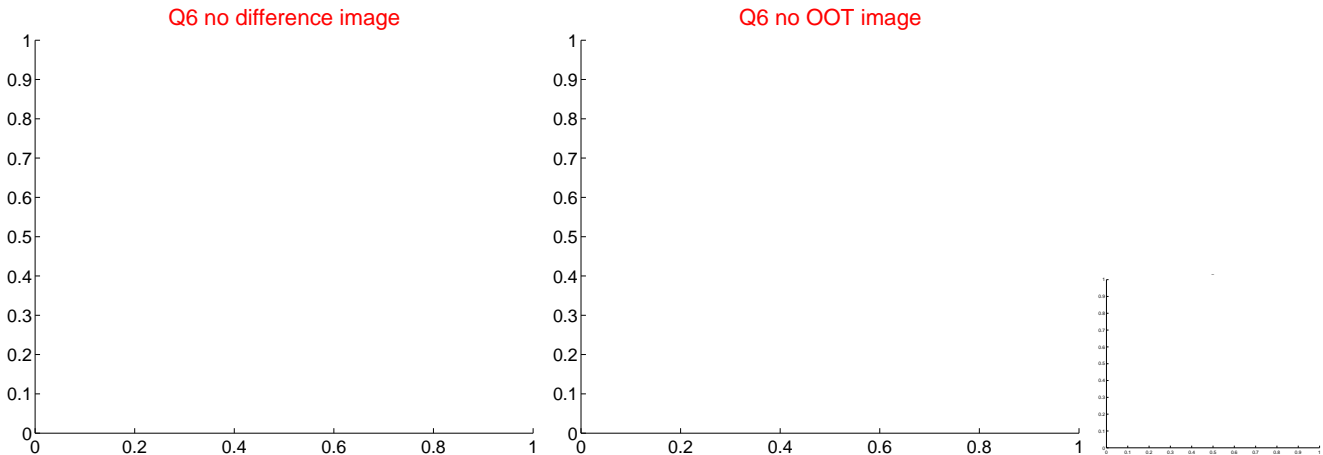
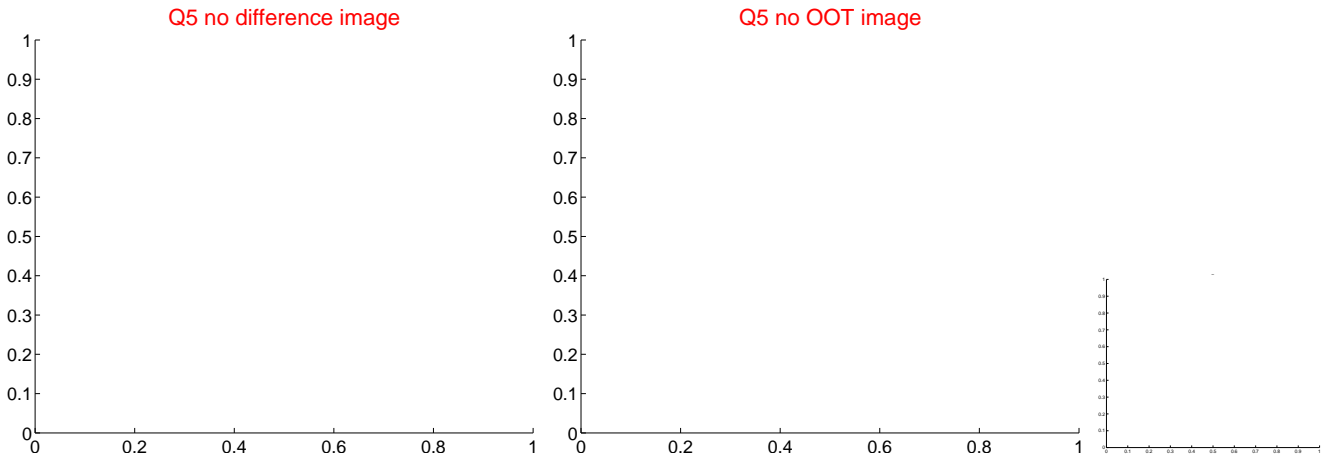
Q4 no difference image



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.

Q9 no difference image



Q9 no OOT image



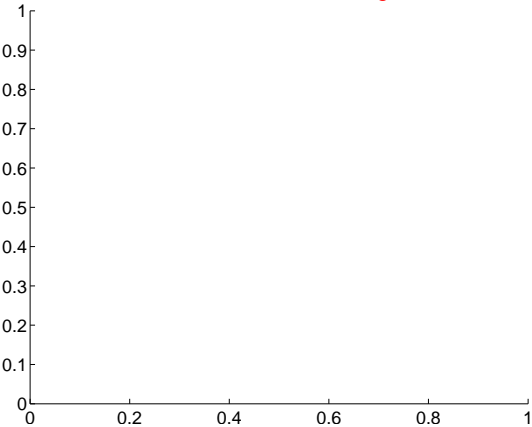
Q10 no difference image



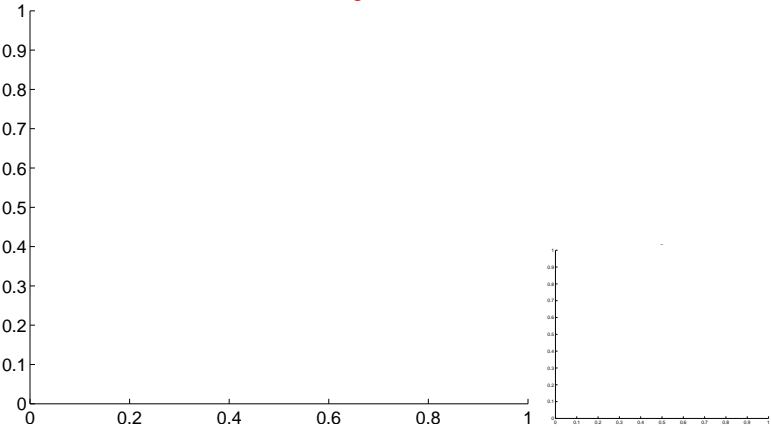
Q10 no OOT image



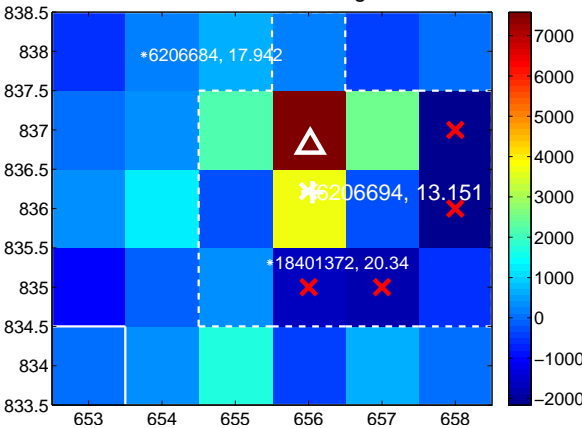
Q11 no difference image



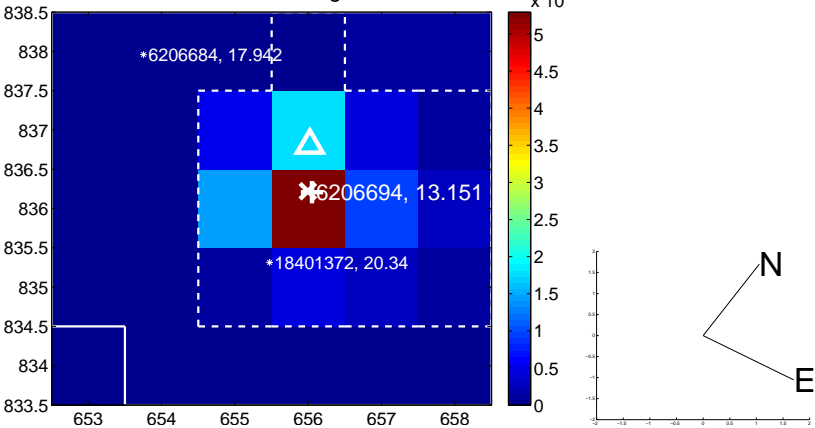
Q11 no OOT image



Q12 difference image



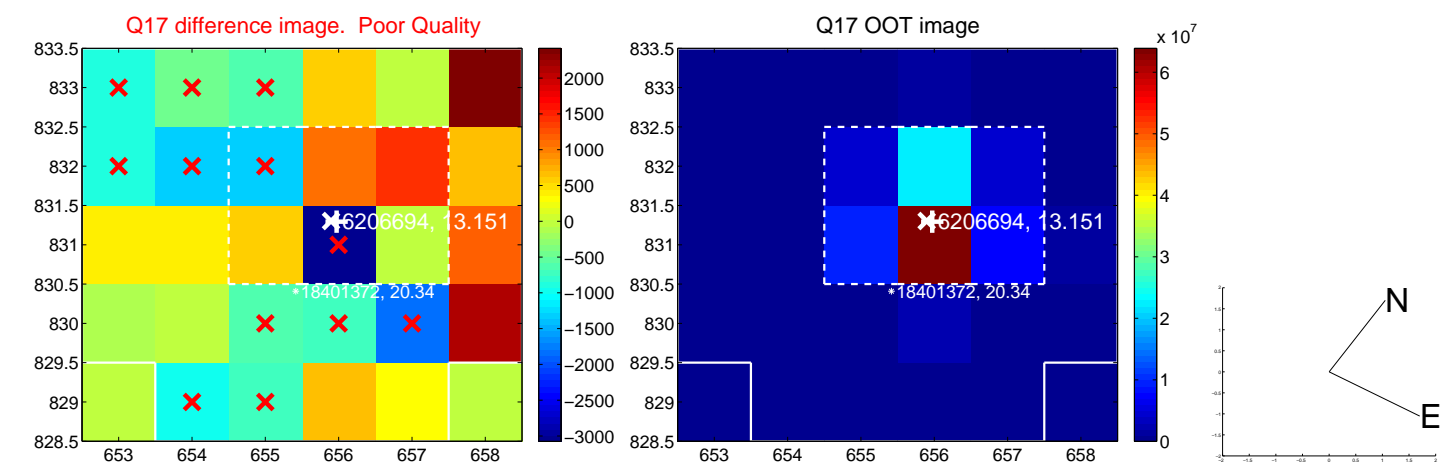
Q12 OOT image



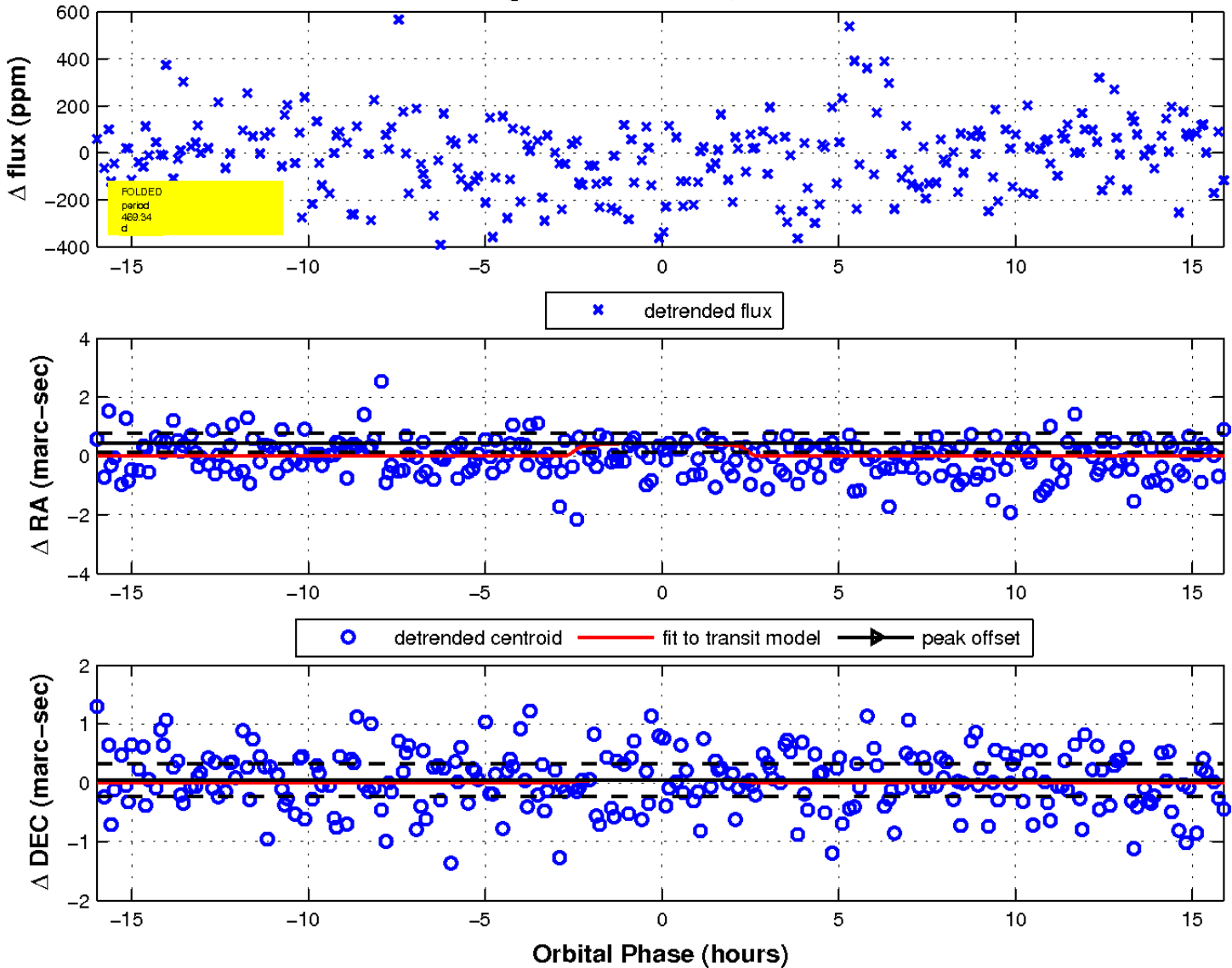
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



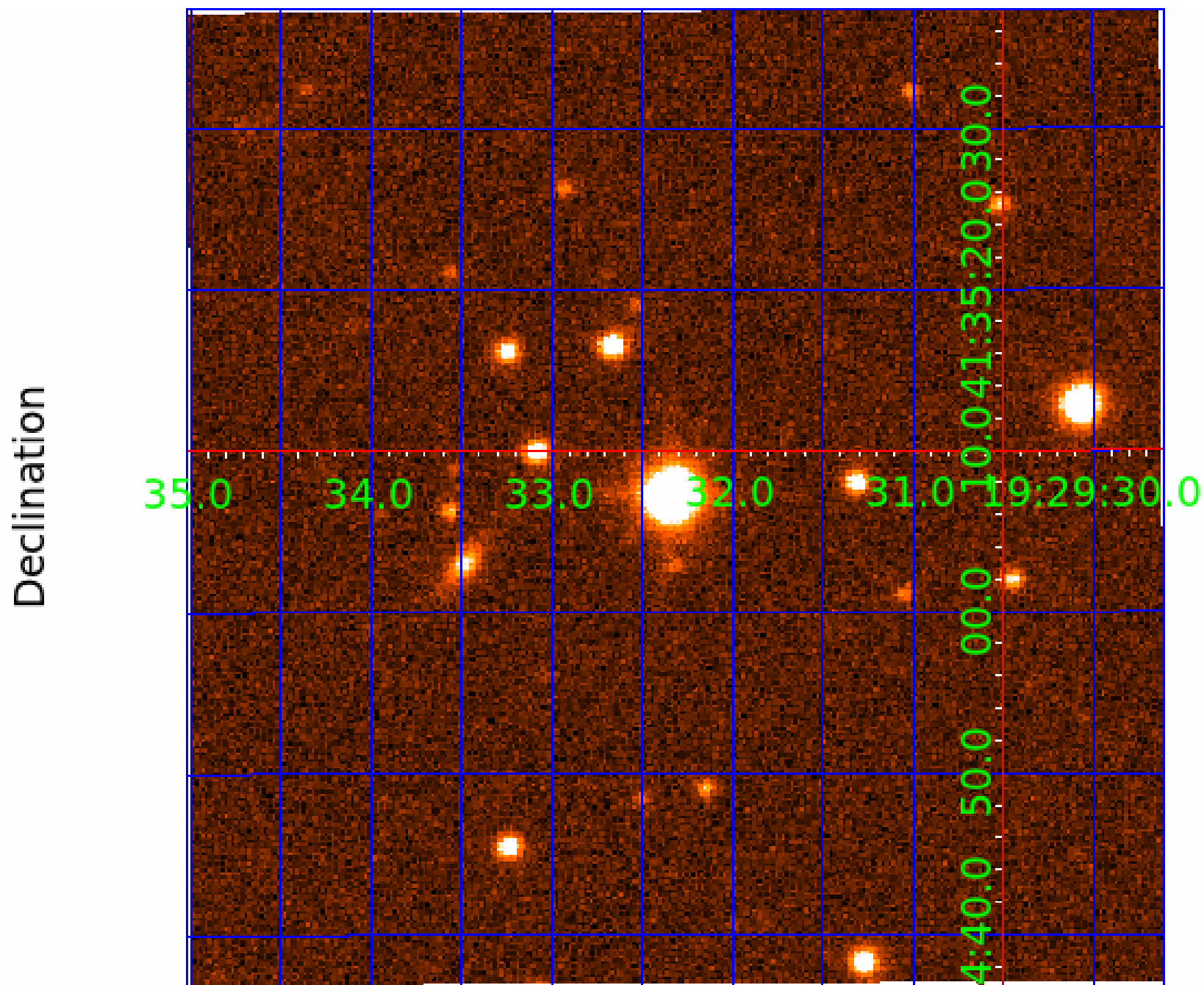
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 3 of 4



UKIRT Image



KIC 006206694

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})
006206694-01	OBS	No	1.417008	132.792577	17.4	5.005	8.0	7.9	2.61	6056	1.27	12325.11
006206694-02	OBS	No	232.866882	341.978916	239.9	10.032	11.2	7.0	2.61	6056	4.56	13.69
006206694-03	OBS	No	469.344121	172.909089	234.9	5.330	9.6	5.9	2.61	6056	4.68	5.38
006206694-04	OBS	No	586.571004	330.479374	275.3	4.695	7.7	7.4	2.61	6056	5.00	4.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006206694-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006206694-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006206694-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET
006206694-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

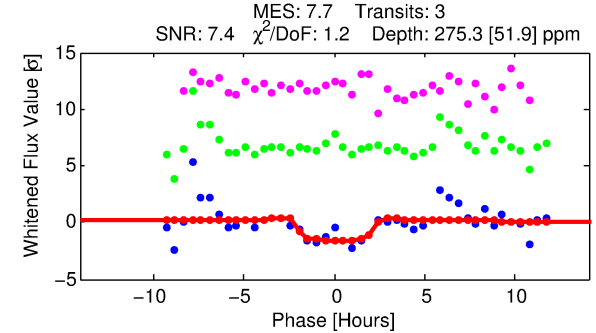
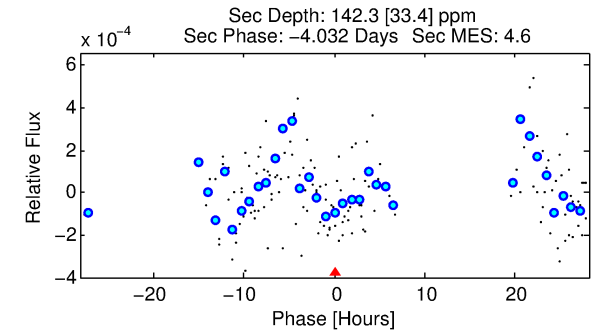
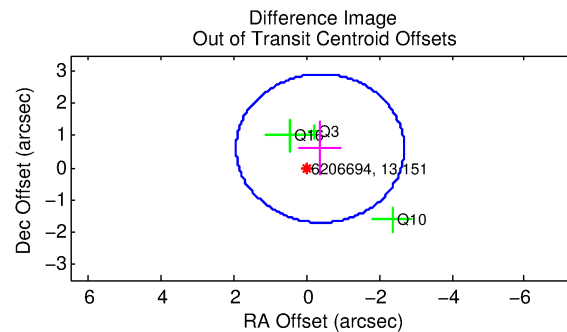
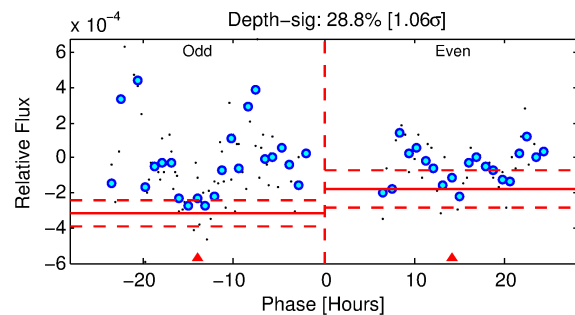
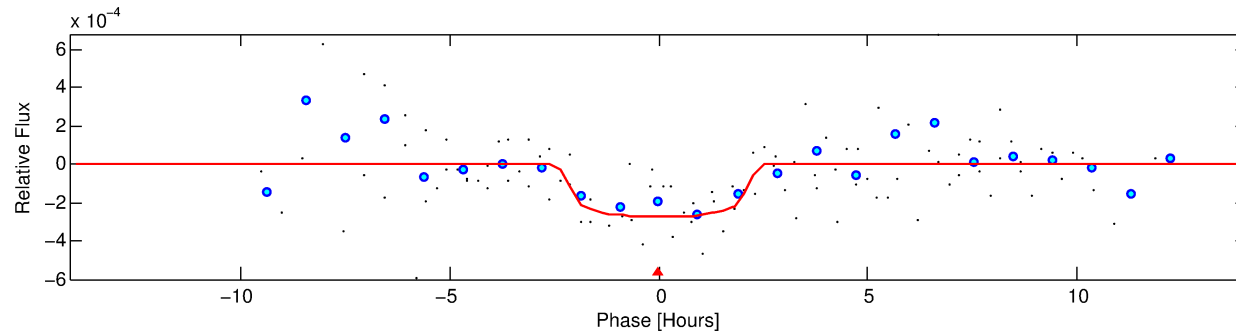
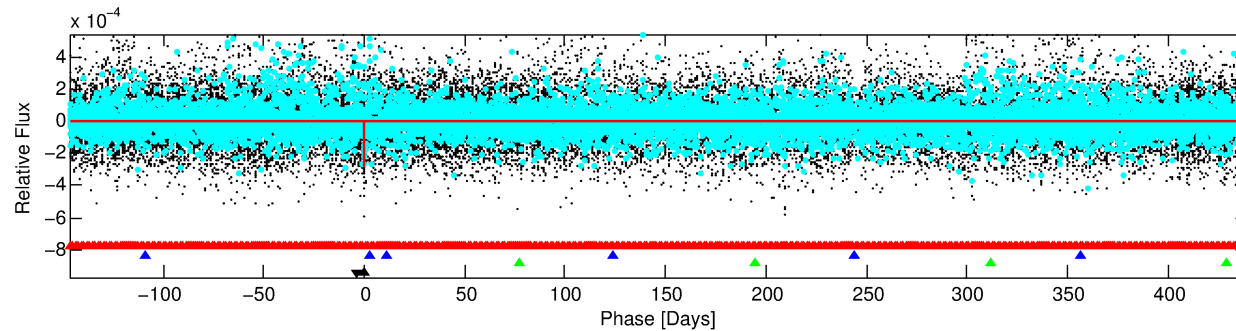
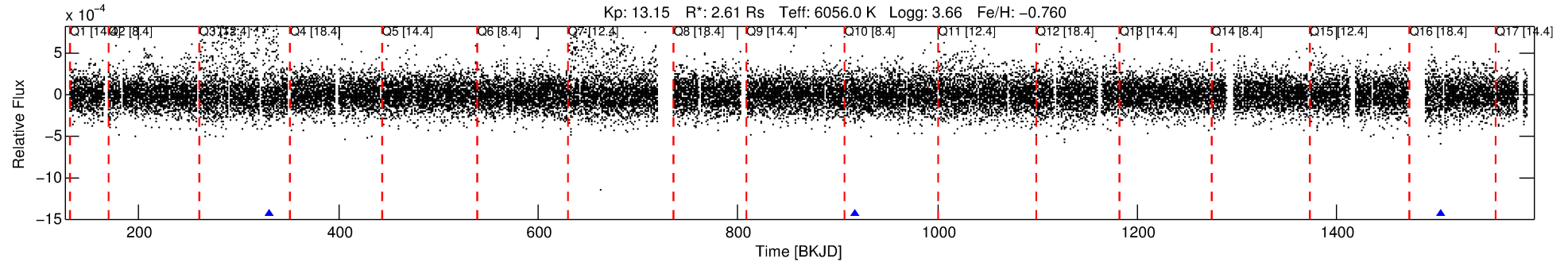
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006206694-04

No Significant Match Found

DV One-Page Summary

KIC: 6206694 Candidate: 4 of 4 Period: 586.571 d



DV Fit Results:

Period = 586.57100 [0.00925] d
Epoch = 330.4794 [0.0108] BKJD
Rp/R* = 0.0176 [0.0135]
a/R* = 486.10 [2004.65]
b = 0.88 [1.07]
Seff = 4.00 [2.22]
Teq = 361 [50] K
Rp = 5.00 [4.26] Re
a = 1.4329 [0.4959] AU
Ag = 6434.07 [10588.00] [0.61 σ]
Teffp = 4992 [1944] K [2.38 σ]

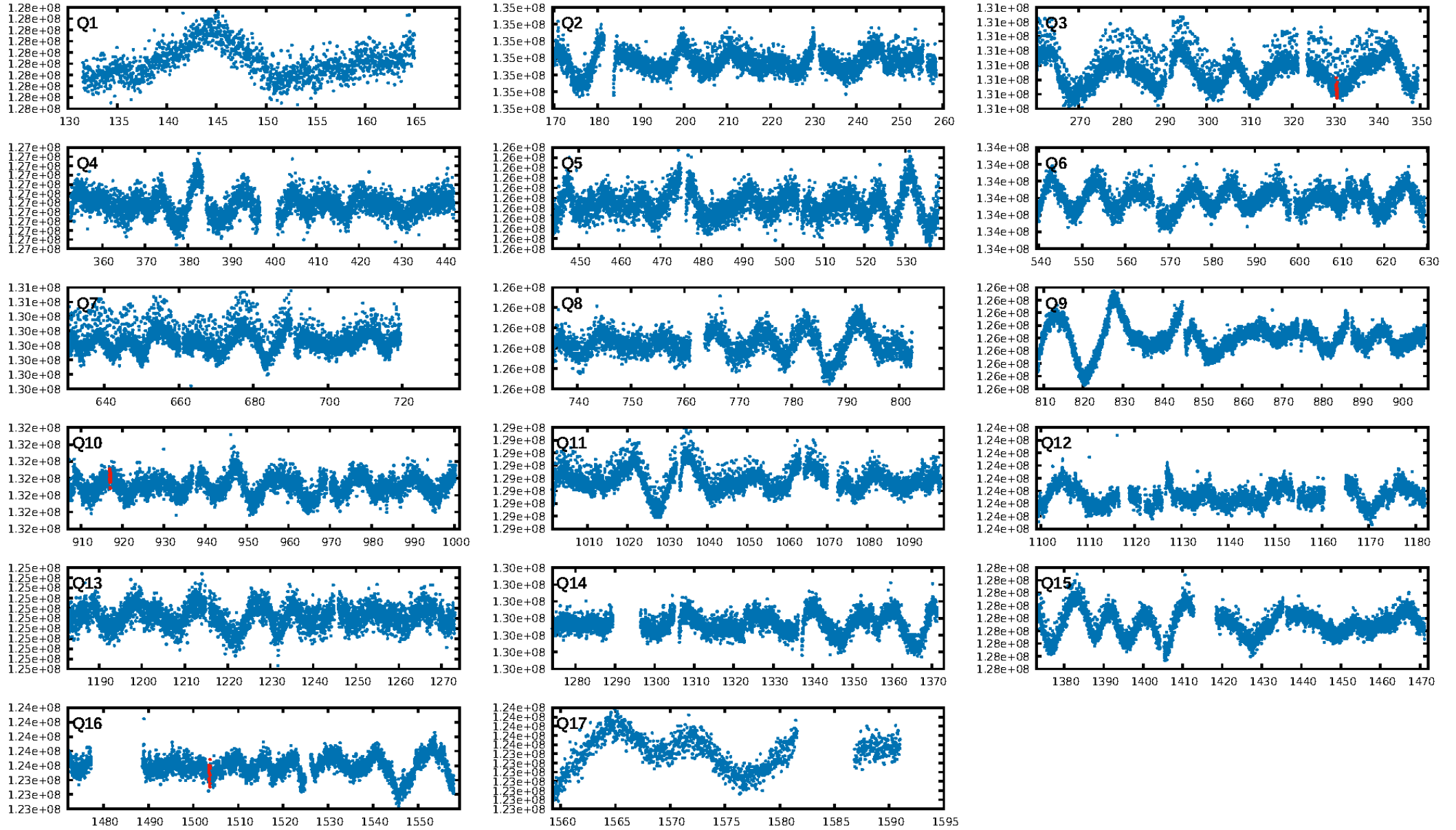
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [396.08 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.0%
ModelChiSquareGof-sig: 96.5%
Bootstrap-pfa: 1.55e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 50.14
Centroid-sig: 25.4%
Centroid-so: 1.237 arcsec [1.00 σ]
OotOffset-rm: 0.709 arcsec [0.92 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 0.714 arcsec [0.87 σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

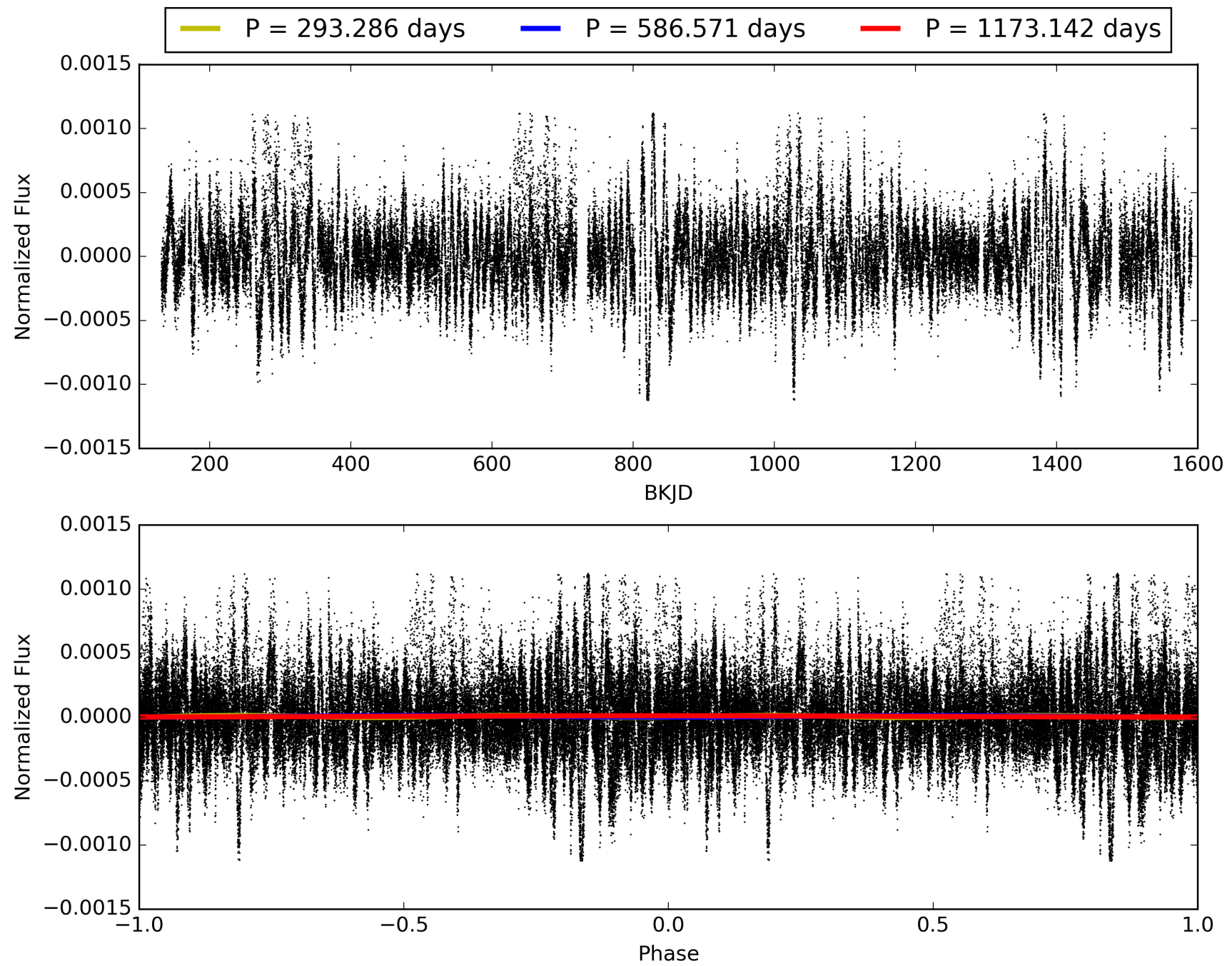
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:02:15 Z

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

TCE 006206694-04, PDC Light Curves

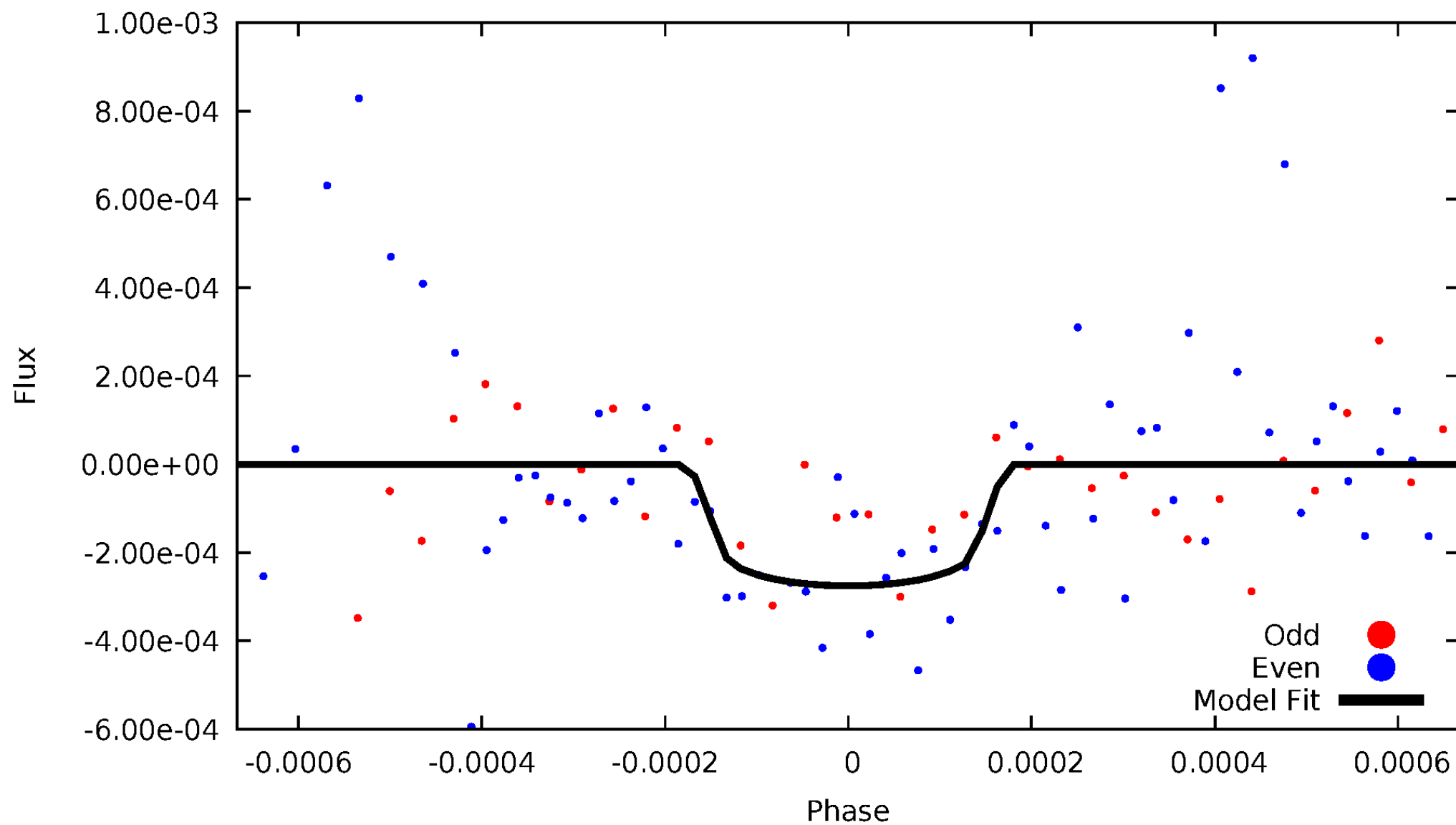


TCE 006206694-04



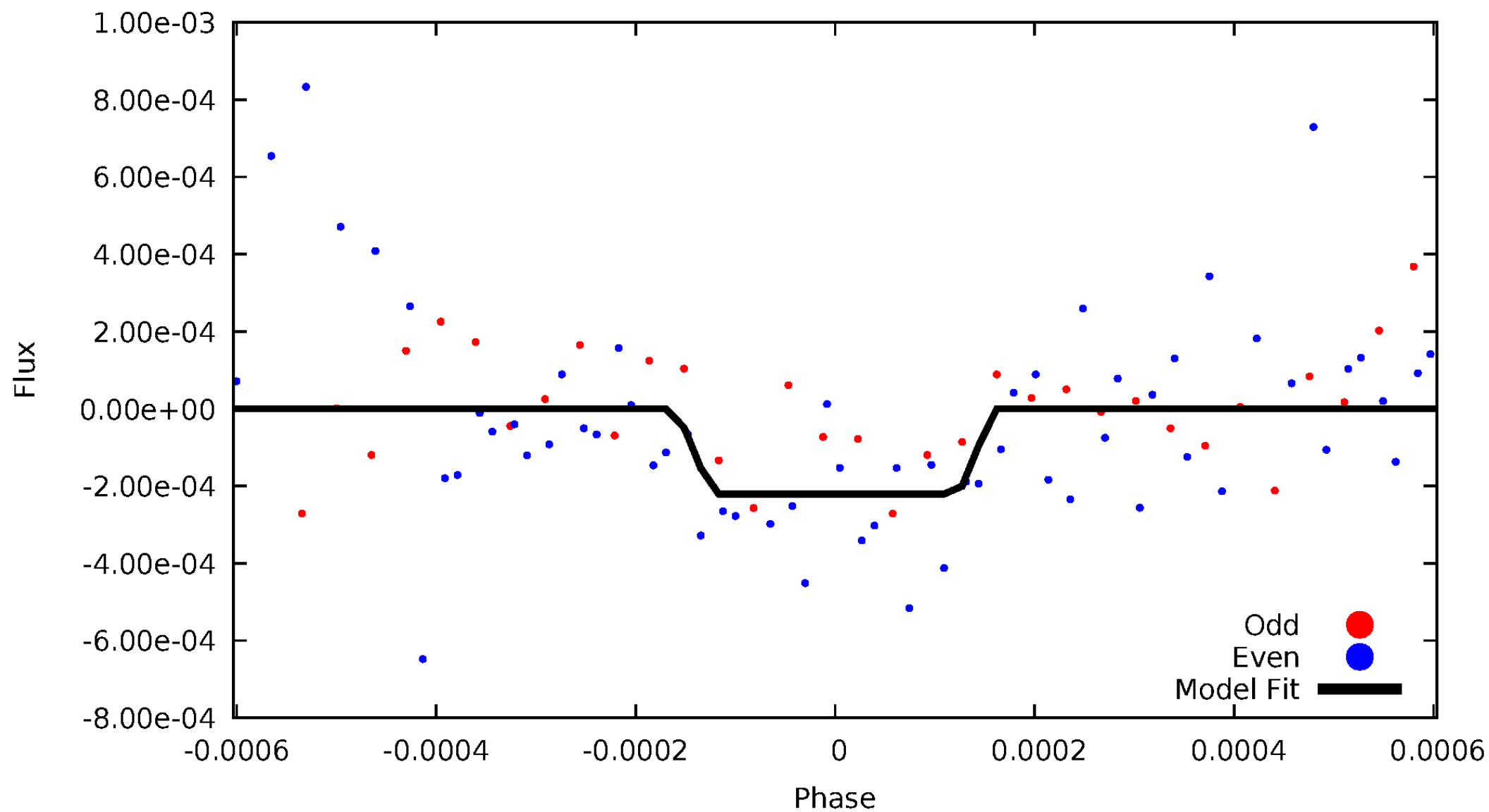
DV Odd/Even

TCE 006206694-04



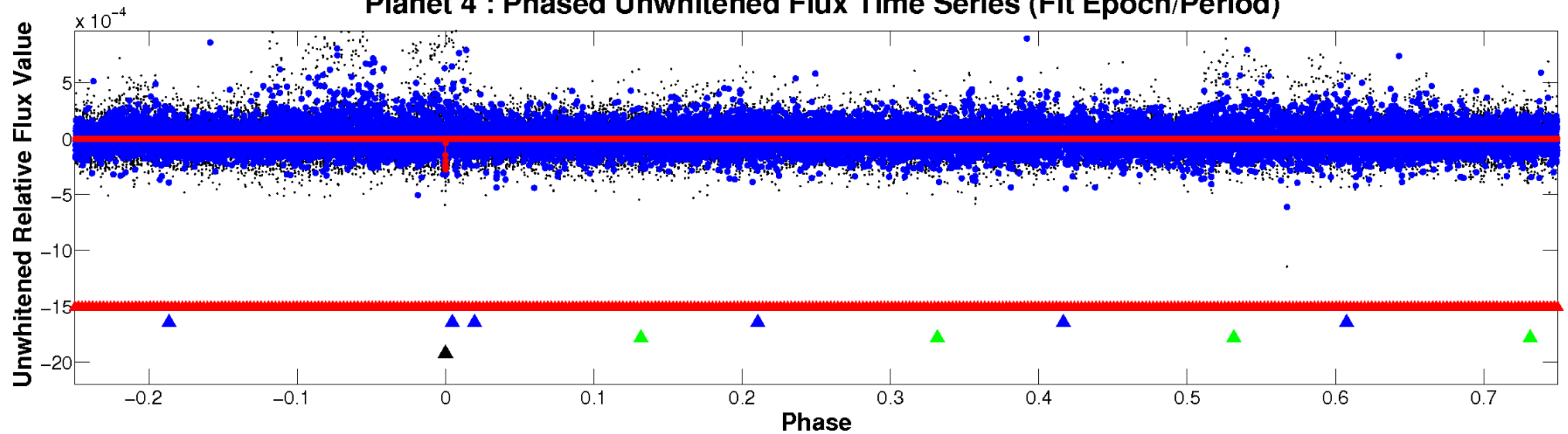
ALT Odd/Even

TCE 006206694-04

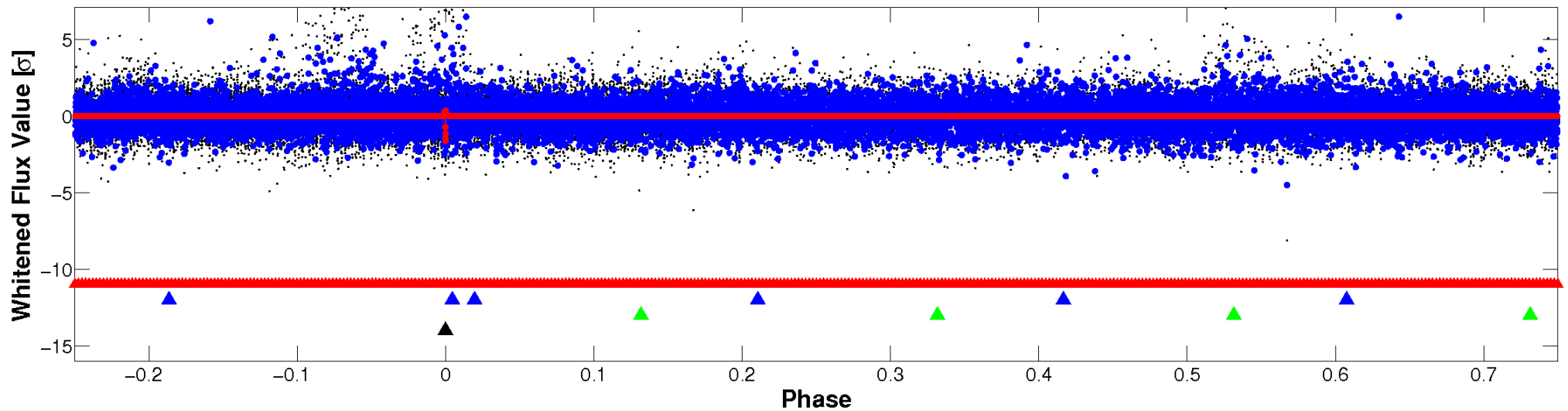


Non-Whitened Vs. Whitened Light Curve

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

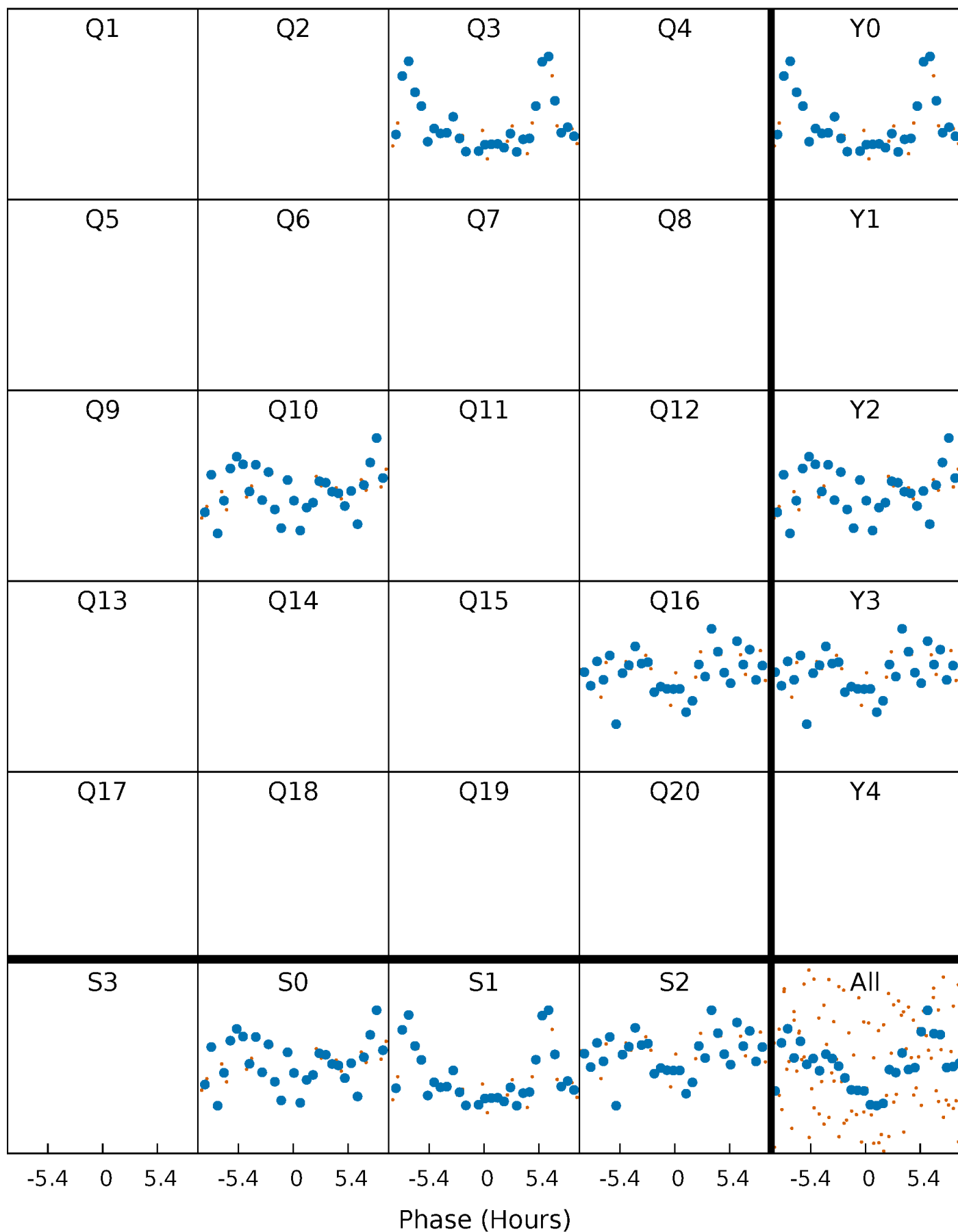


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



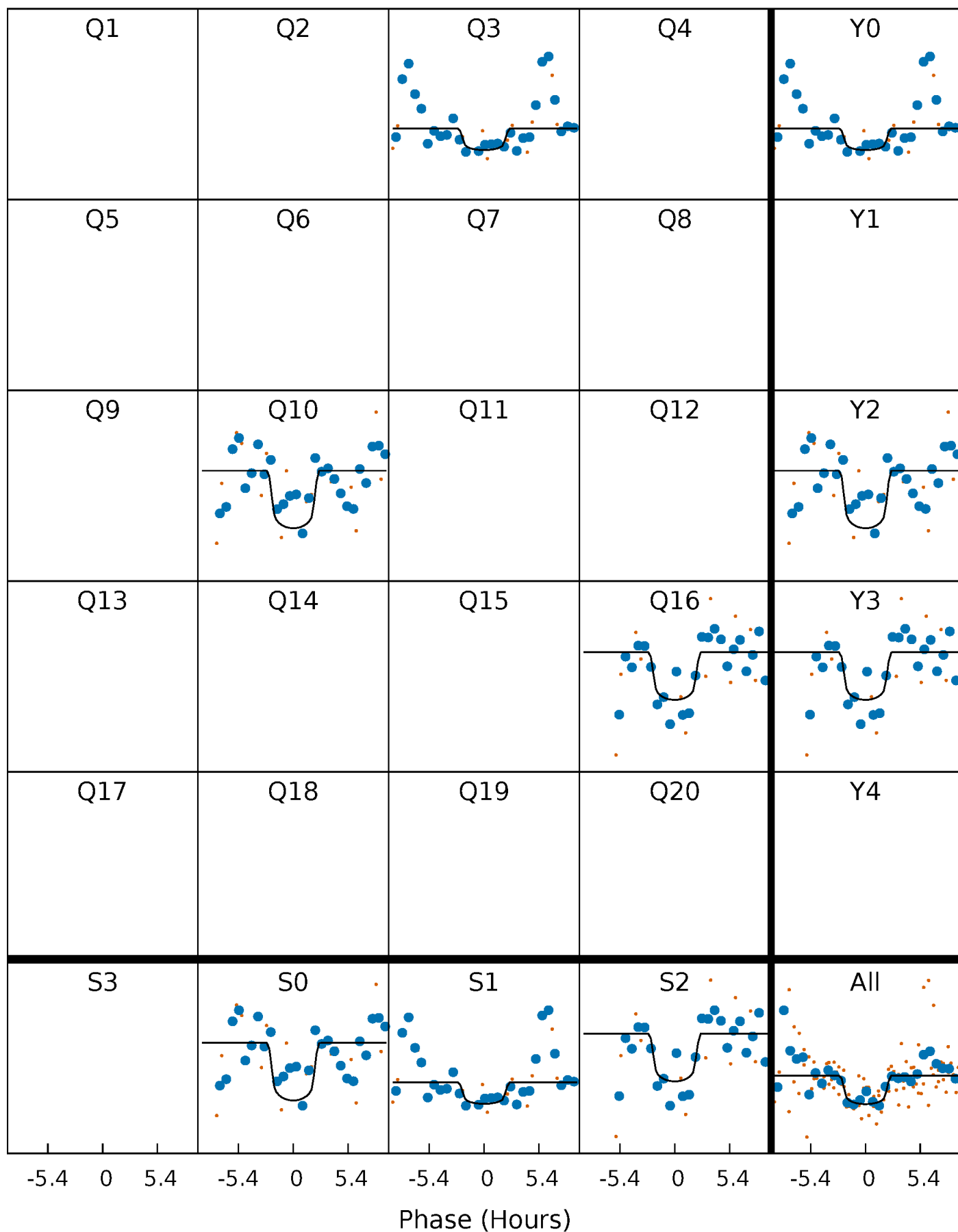
PDC Quarter-Phased Transit Curves

TCE 006206694-04 $P=586.571004$ Days $T_0=330.479374$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006206694-04 $P=586.571004$ Days $T_0=330.479374$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

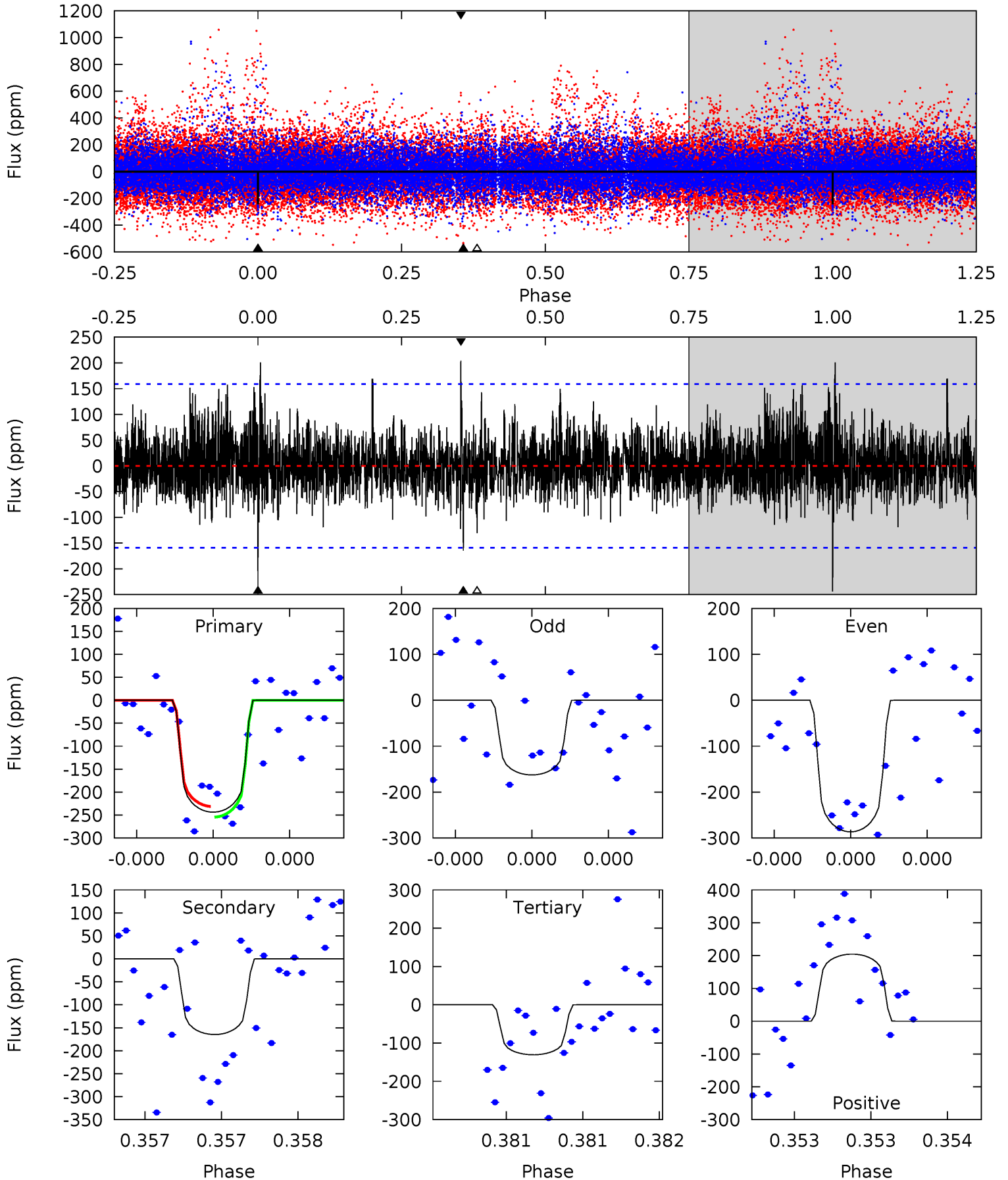
TCE 006206694-04 $P=586.572584$ Days $T_0=330.477309$ (BKJD)



DV Model-Shift Uniqueness Test

006206694-04, P = 586.571004 Days, E = 330.479374 Days

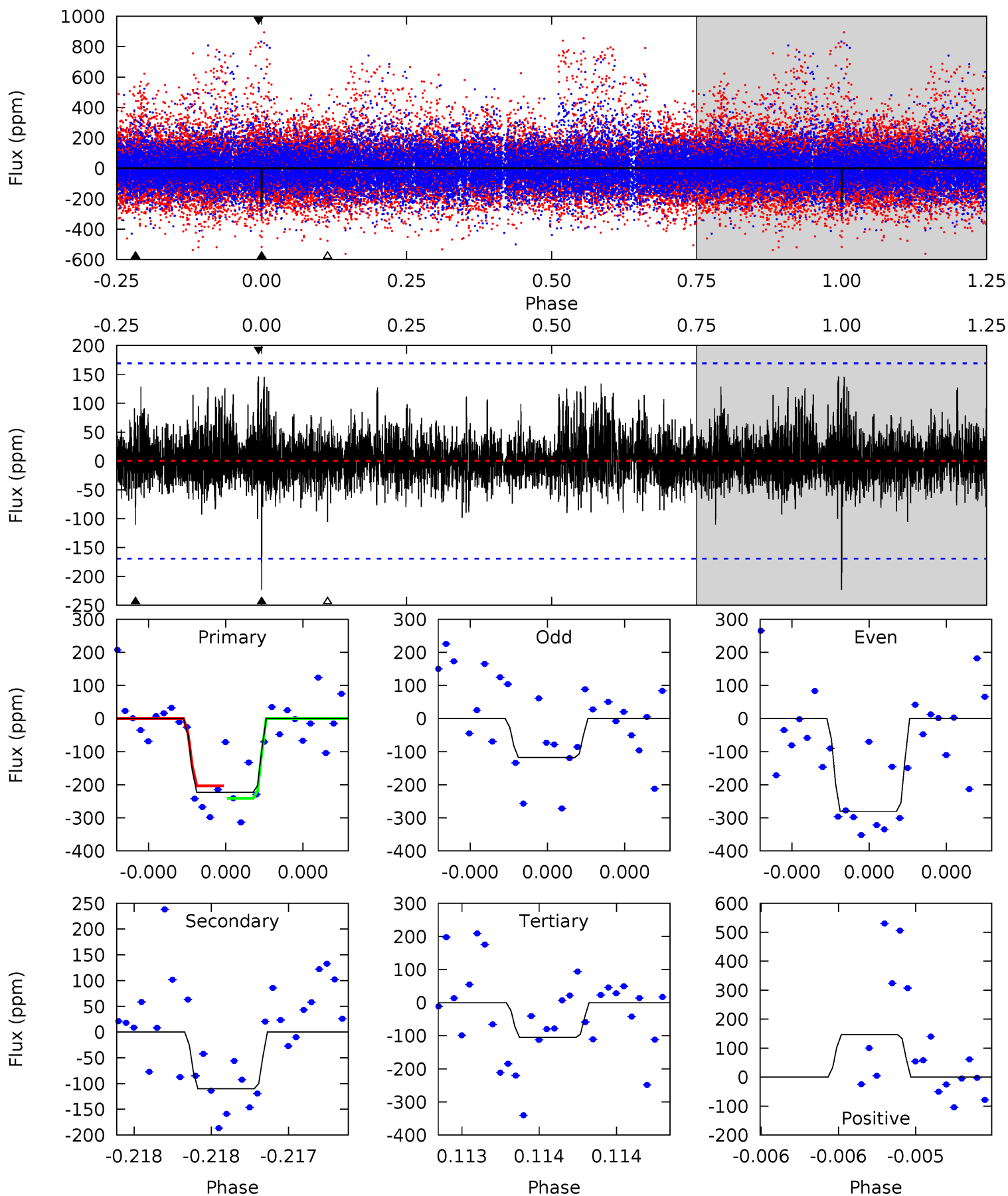
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.63	5.84	4.63	7.24	5.64	3.58	1.42	4.01	1.39	1.21	-1.40	2.00	0.98	0.46	0.41



Alt Model-Shift Uniqueness Test

006206694-04, P = 586.572584 Days, E = 330.477309 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.46	3.68	3.52	4.89	5.66	3.61	1.06	3.94	2.57	0.16	-1.21	2.45	1.14	0.40	0.63



Stellar Parameters For KIC 006206694

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6056^{+181}_{-181}	$3.662^{+0.315}_{-0.126}$	$-0.760^{+0.300}_{-0.250}$	$2.609^{+0.522}_{-0.969}$	$1.140^{+0.171}_{-0.256}$	$0.090^{+0.193}_{-0.035}$
	+3%/-3%	+9%/-3%	+39%/-33%	+20%/-37%	+15%/-22%	+214%/-39%
Source	PHO1	FLK73	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 006206694-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-165 ± 28	$4.97^{+3.93}_{-2.90}$	498^{+31}_{-48}	5068^{+2618}_{-971}	7608^{+35344}_{-5322}
Alt.	-110 ± 30	$4.52^{+3.47}_{-2.84}$	497^{+34}_{-46}	4910^{+3069}_{-988}	6011^{+33575}_{-4170}

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

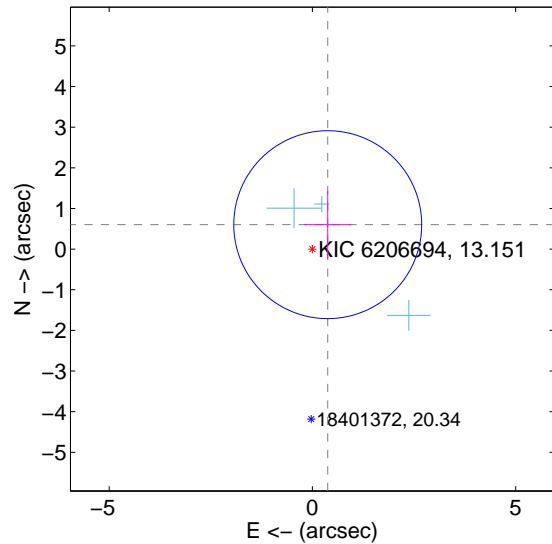
Supplemental centroid analysis for 006206694-04. Kepler magnitude: 13.15. Transit SNR 7.45

There are 3 quarters with good PRF difference image offsets

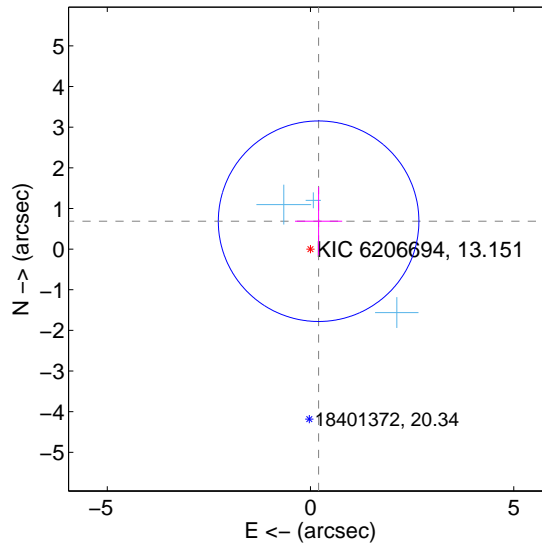
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.709 ± 0.771	0.92	-0.376 ± 0.581	0.601 ± 0.833
PRF-fit source offset from KIC position	0.714 ± 0.823	0.87	-0.199 ± 0.579	0.686 ± 0.840
photometric centroid source offset	1.24 ± 1.24	1.00	0.72 ± 1.41	1.01 ± 1.15

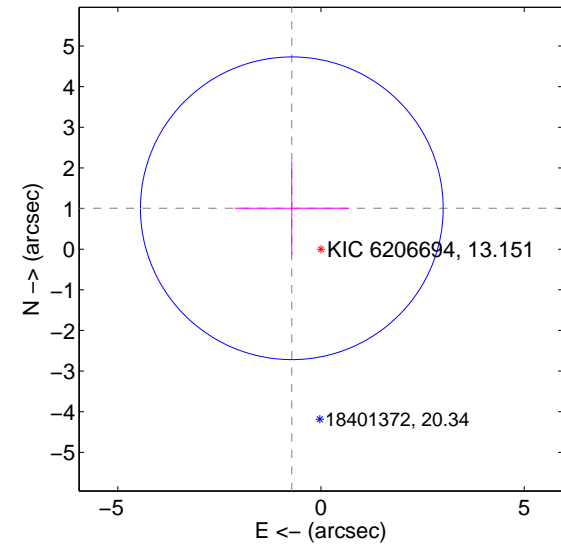
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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

Q1 no difference image



Q1 no OOT image



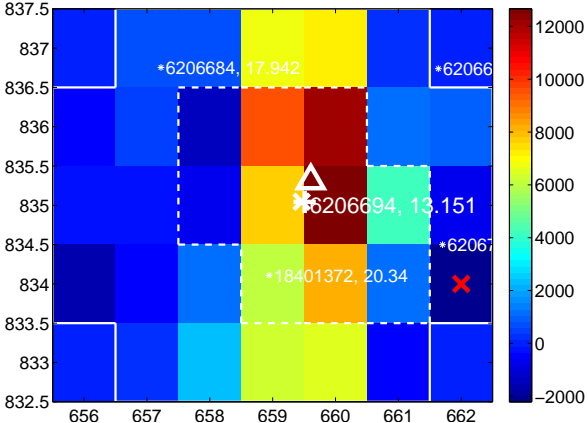
Q2 no difference image



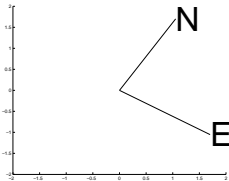
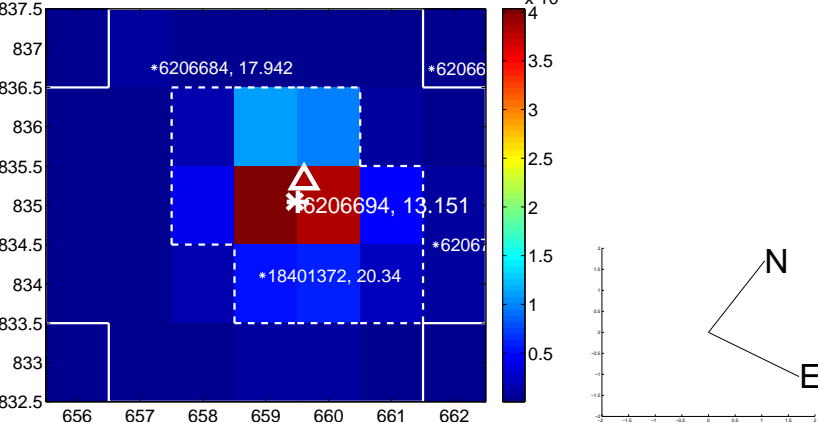
Q2 no OOT image



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.

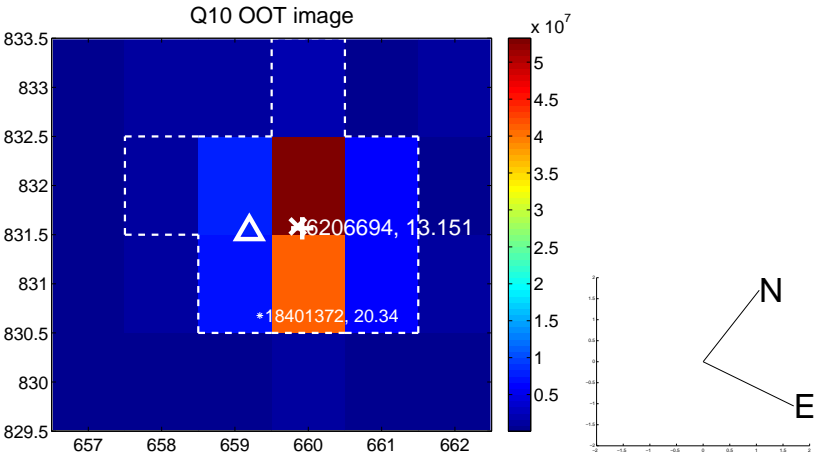
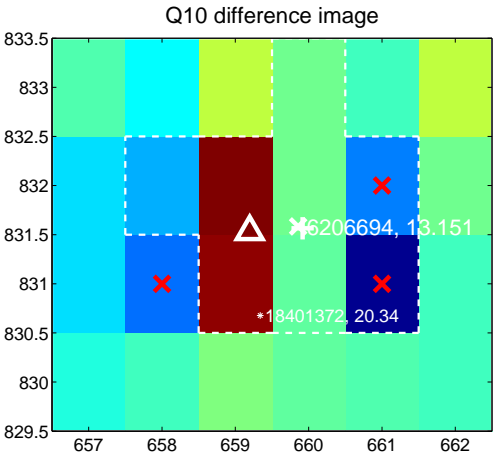


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

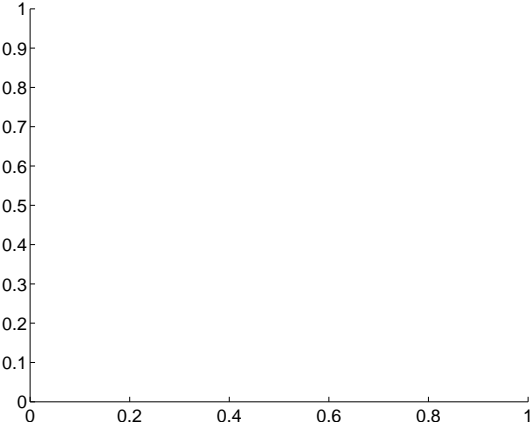
Q9 no difference image



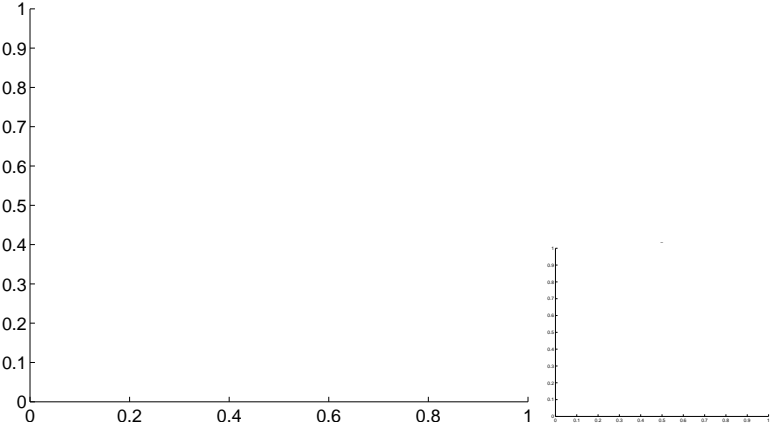
Q9 no OOT image



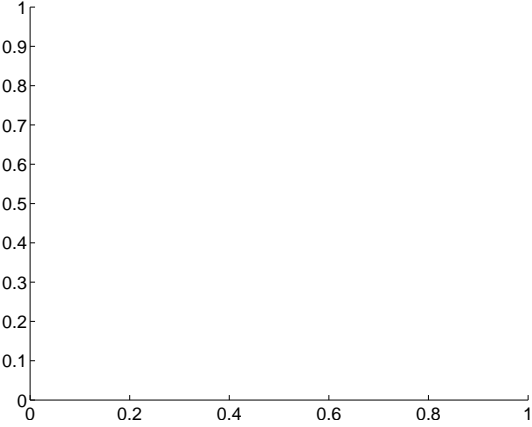
Q11 no difference image



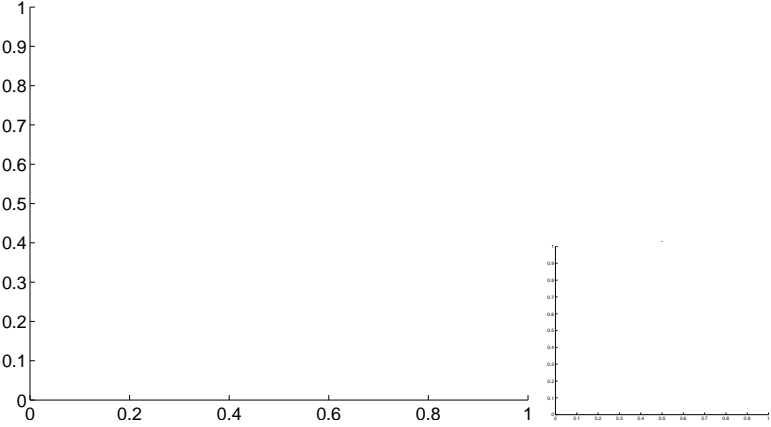
Q11 no OOT image



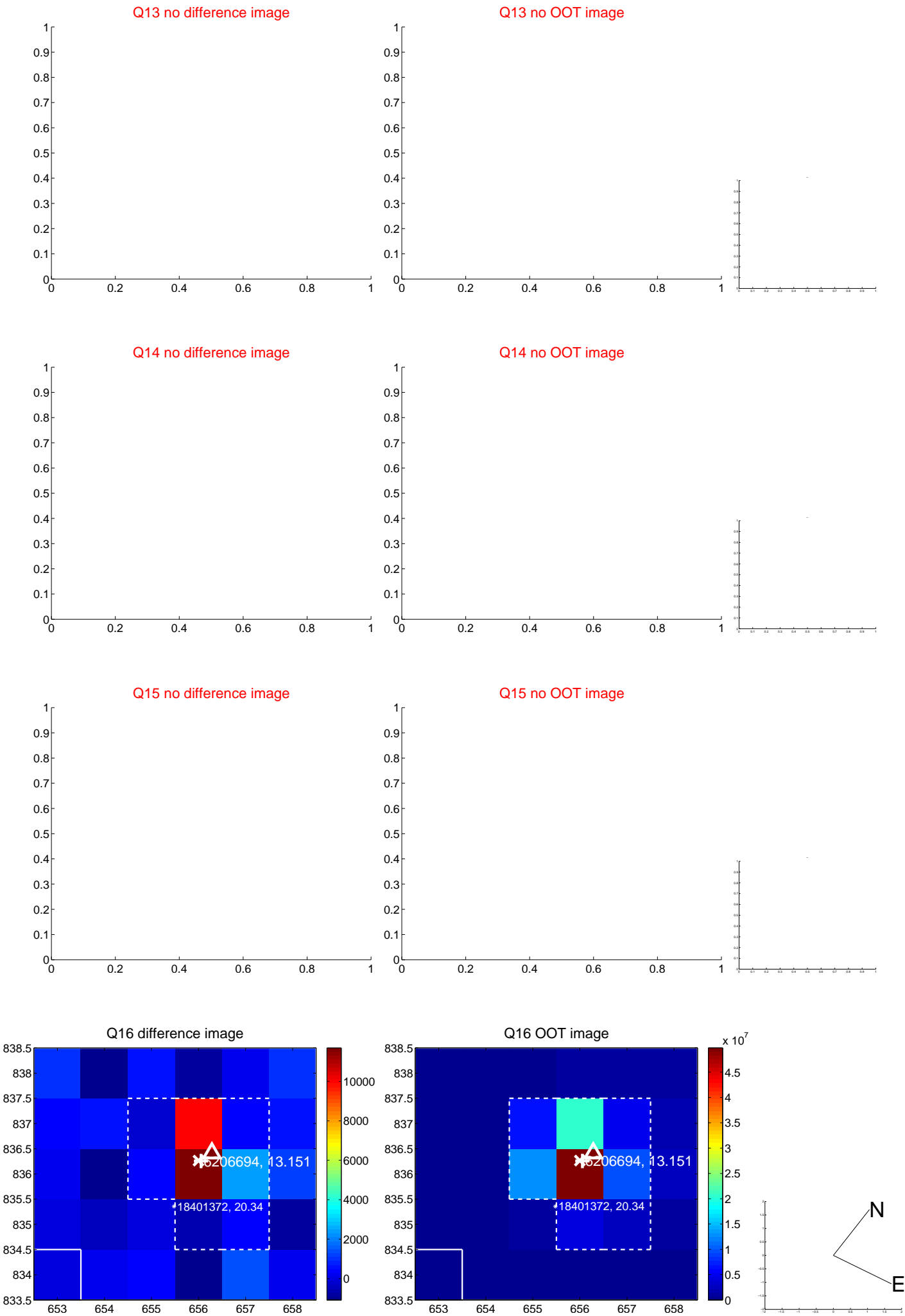
Q12 no difference image



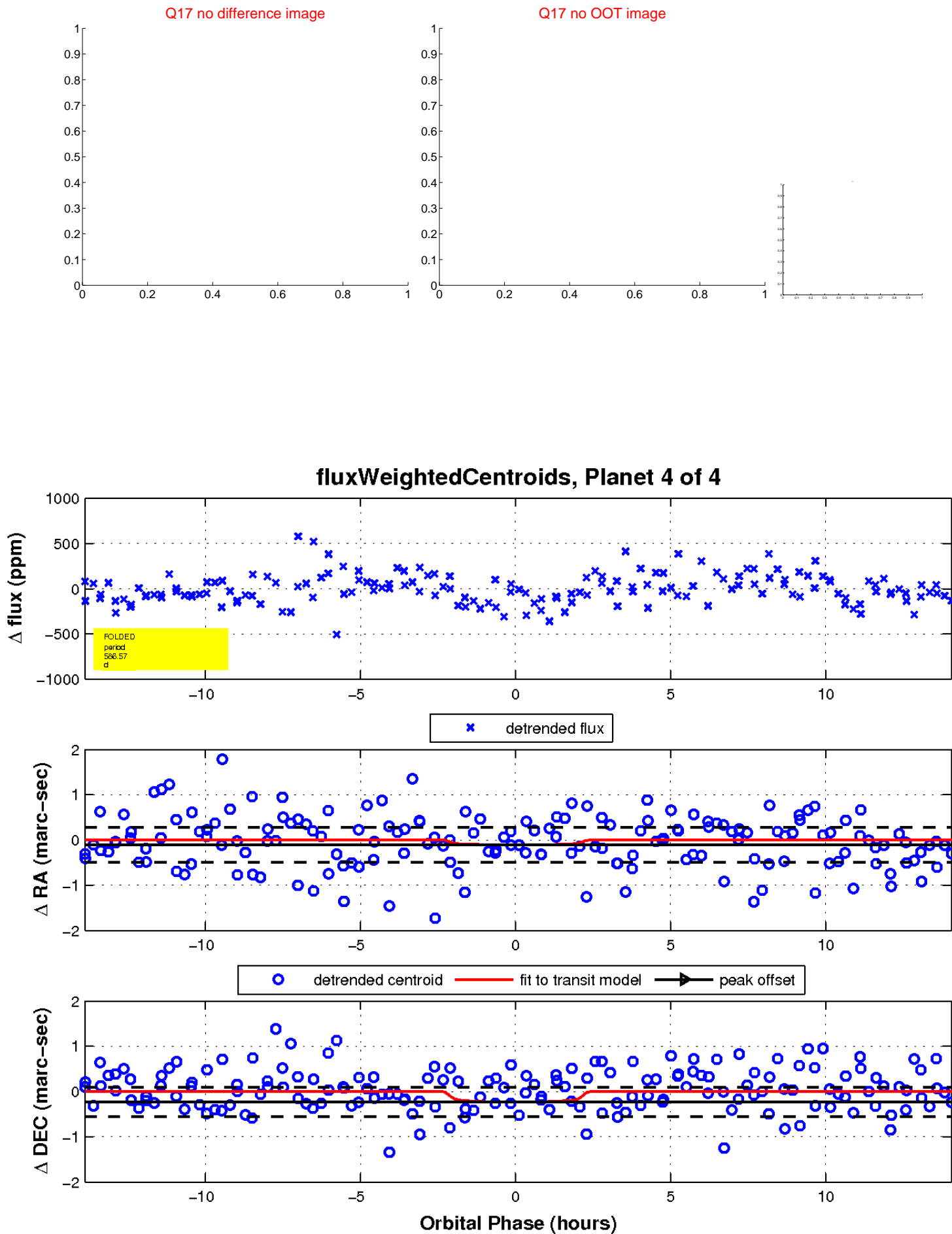
Q12 no OOT image



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



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



UKIRT Image

