

KIC 006696381

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})
006696381-01	OBS	No	2.256630	132.561221	24.6	7.669	10.5	9.4	2.08	6541	1.21	4759.22
006696381-02	OBS	No	294.496532	403.871520	312.9	9.044	8.9	7.8	2.08	6541	4.66	7.19
006696381-03	OBS	No	226.336478	155.064151	300.2	9.153	8.6	7.1	2.08	6541	4.74	10.21
006696381-04	OBS	No	327.699429	340.787609	237.3	12.462	7.4	6.8	2.08	6541	3.27	6.24
006696381-05	OBS	No	176.031003	144.369887	157.9	7.488	8.8	7.3	2.08	6541	3.36	14.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006696381-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006696381-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
006696381-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
006696381-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT
006696381-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_ALT

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

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

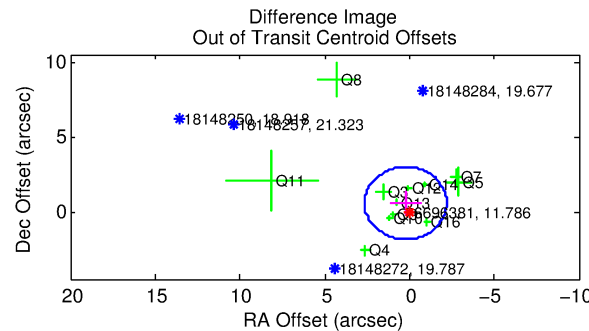
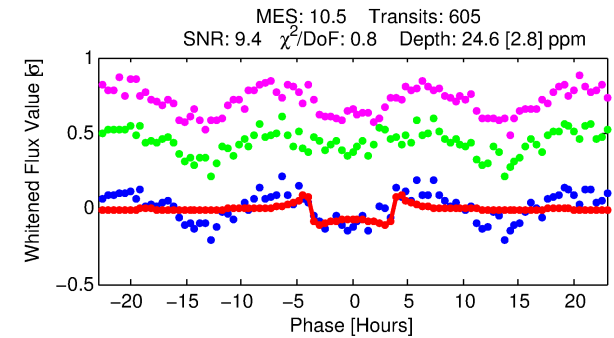
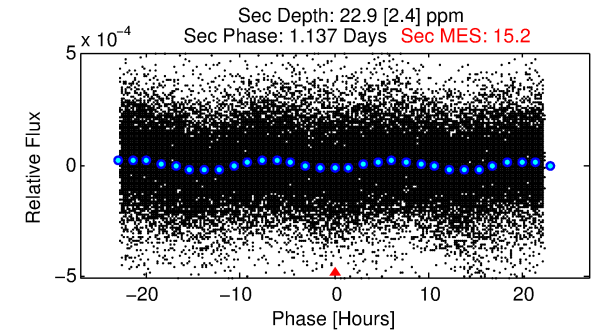
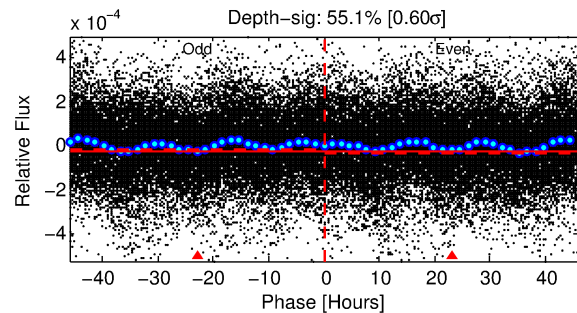
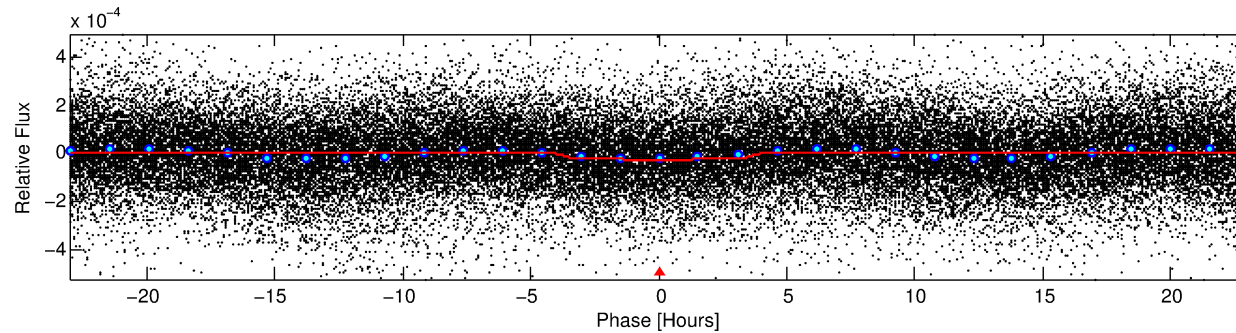
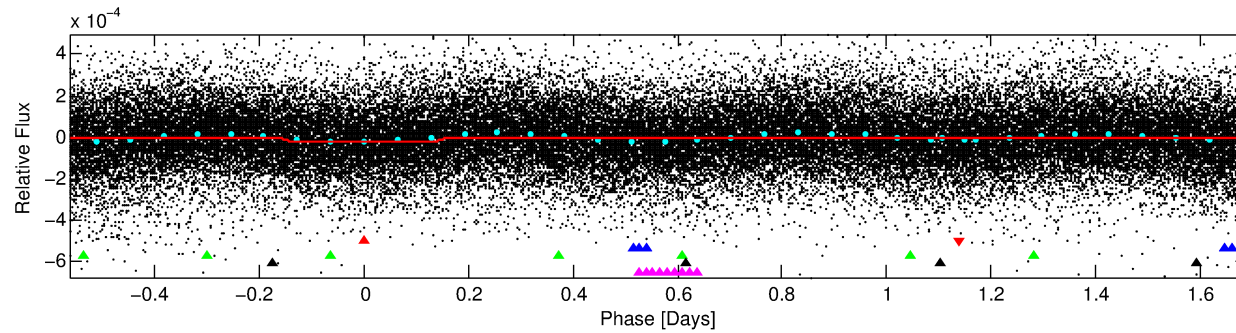
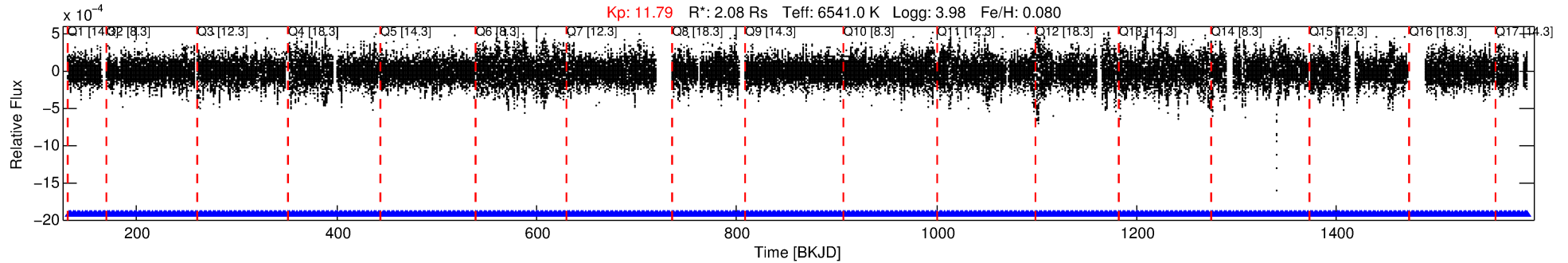
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006696381-01

No Significant Match Found

DV One-Page Summary

KIC: 6696381 Candidate: 1 of 5 Period: 2.257 d



DV Fit Results:

Period = 2.25663 [0.00001] d
Epoch = 132.5612 [0.0030] BKJD
Rp/R* = 0.0053 [0.0007]
a/R* = 1.37 [0.44]
b = 0.90 [0.14]
Seff = 4759.22 [2571.10]
Teq = 2118 [286] K
Rp = 1.20 [0.47] Re
a = 0.0385 [0.0128] AU
Ag = 12.86 [7.66] [1.55 σ]
Teffp = 6201 [510] K [6.98 σ]

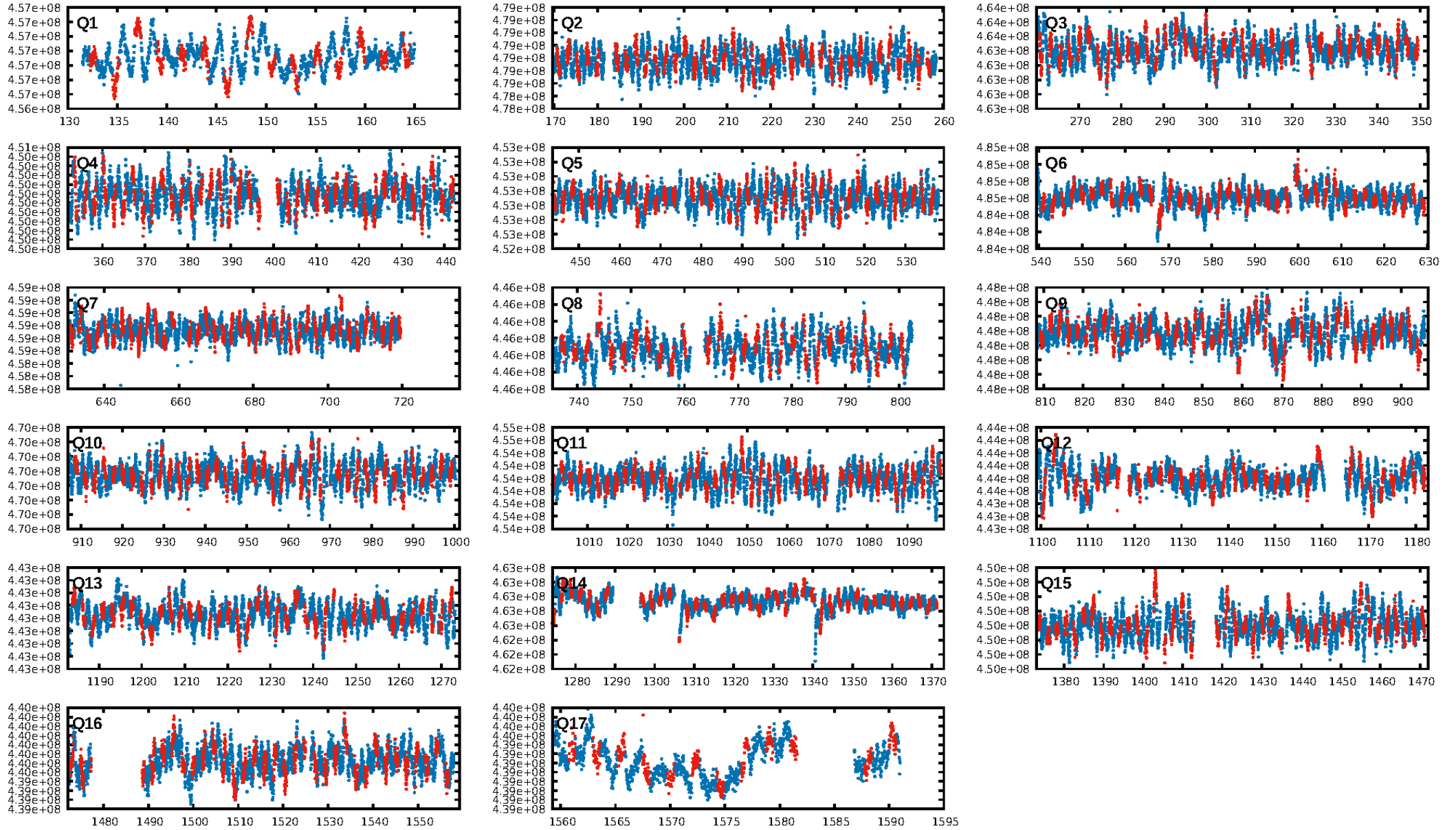
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [389.10 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.88e-17
RollingBand-fgt: 1.00 [578/578]
GhostDiagnostic-chr: 4.3
Centroid-sig: 16.2%
Centroid-so: 0.404 arcsec [1.09 σ]
OotOffset-rm: 0.610 arcsec [0.75 σ]
OotOffset-st: 2/3/4/3 [12]
KicOffset-rm: 0.620 arcsec [0.75 σ]
KicOffset-st: 2/3/4/3 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [17/17]

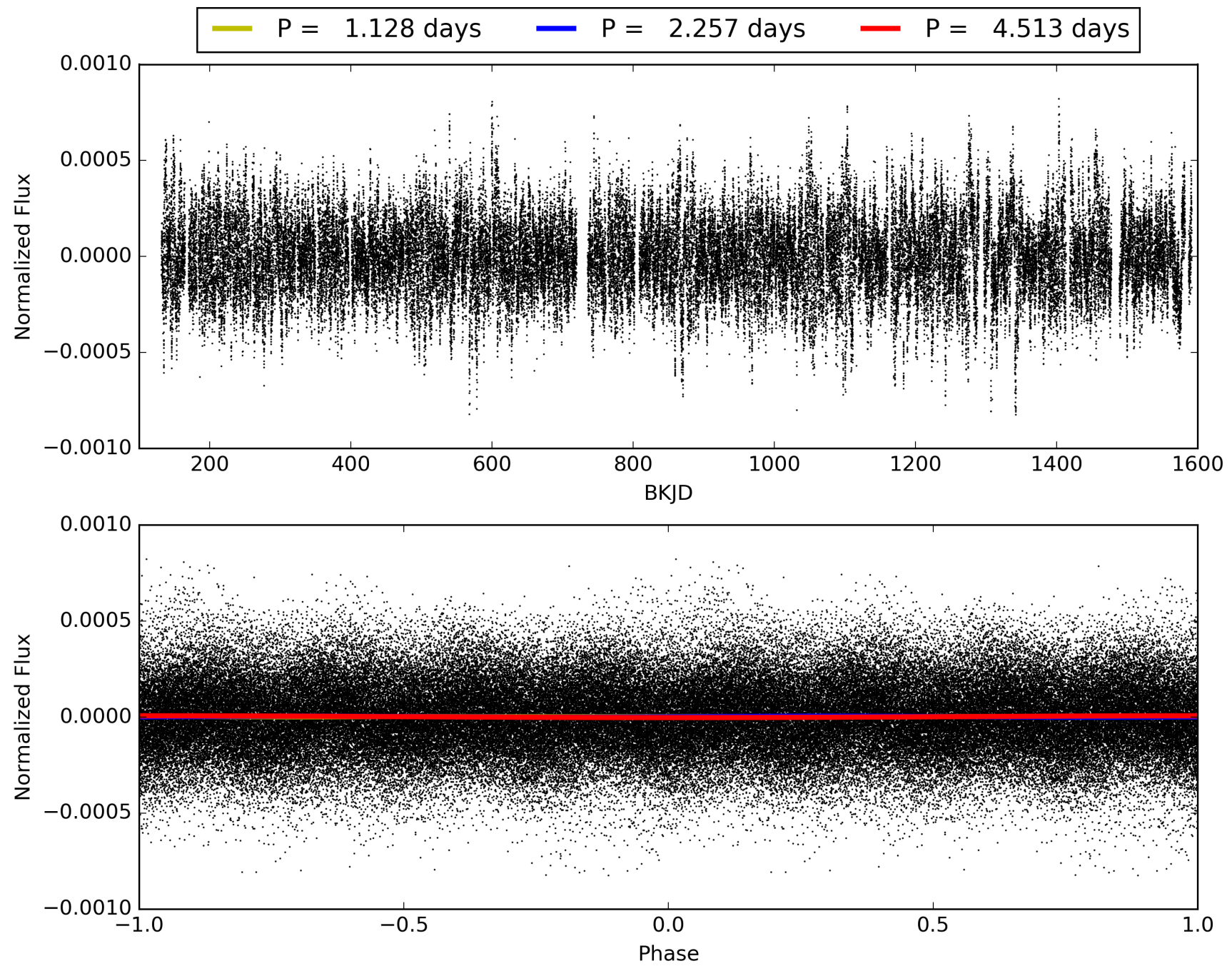
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:35:11 Z

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

TCE 006696381-01, PDC Light Curves

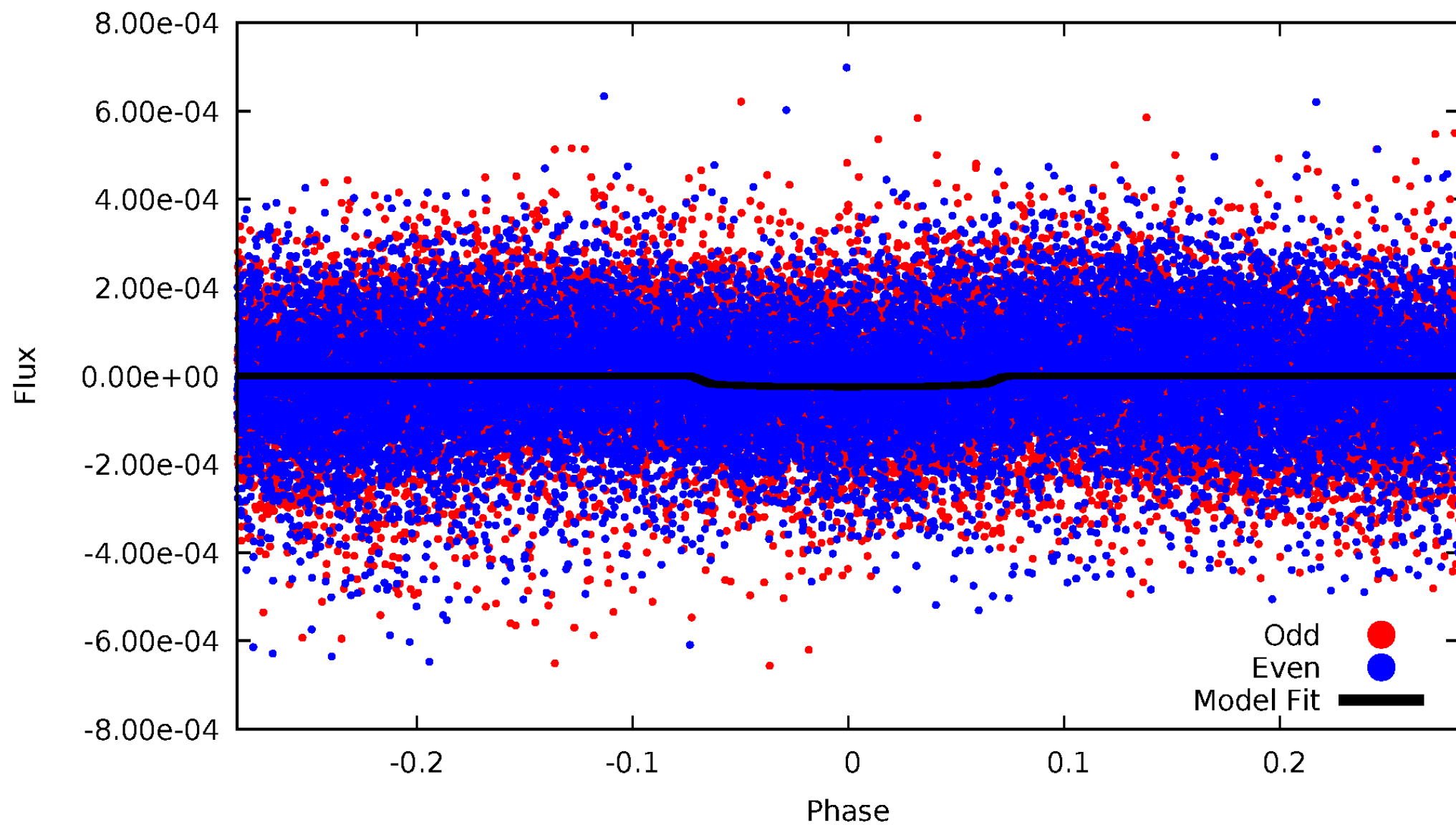


TCE 006696381-01



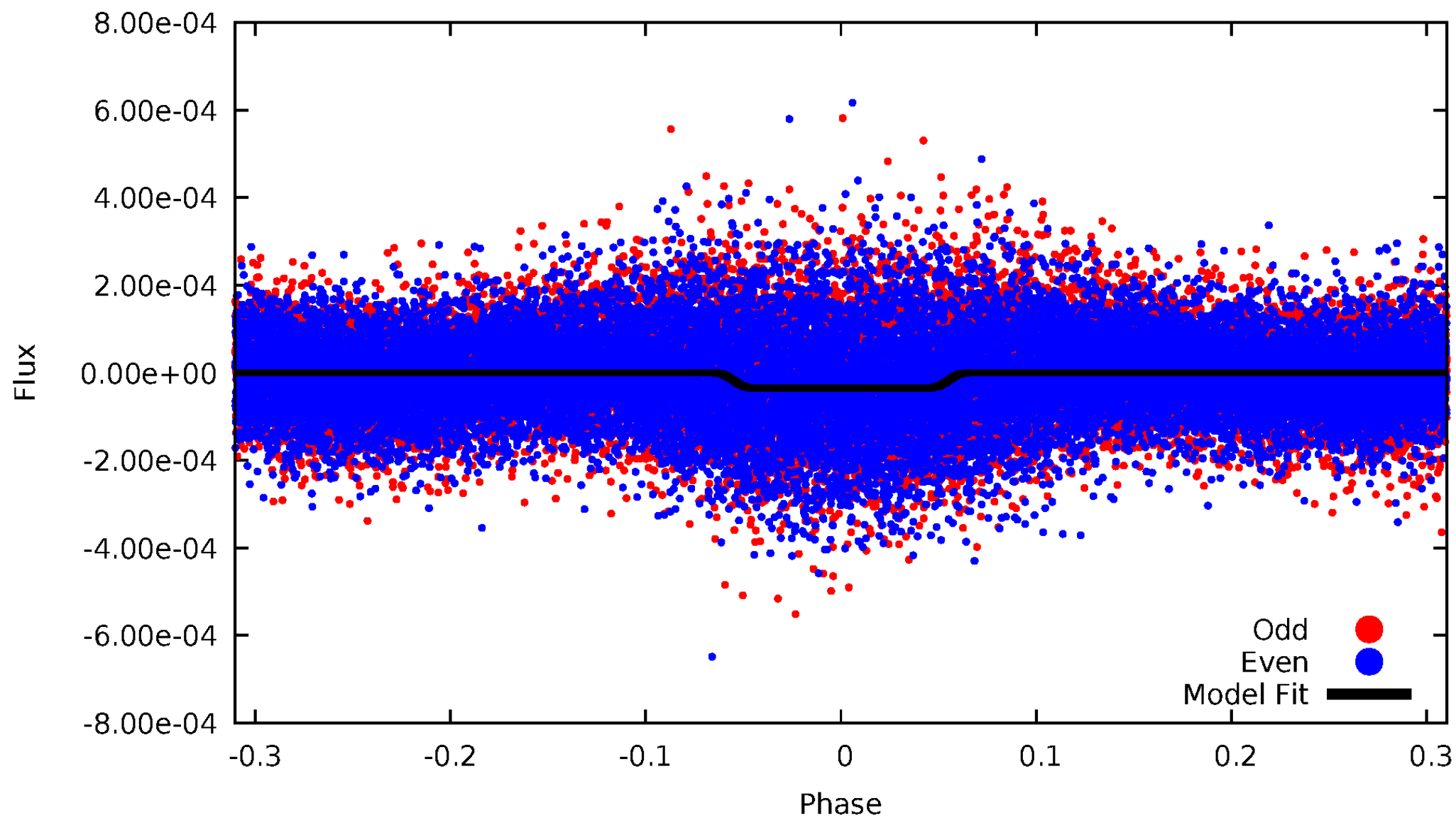
DV Odd/Even

TCE 006696381-01

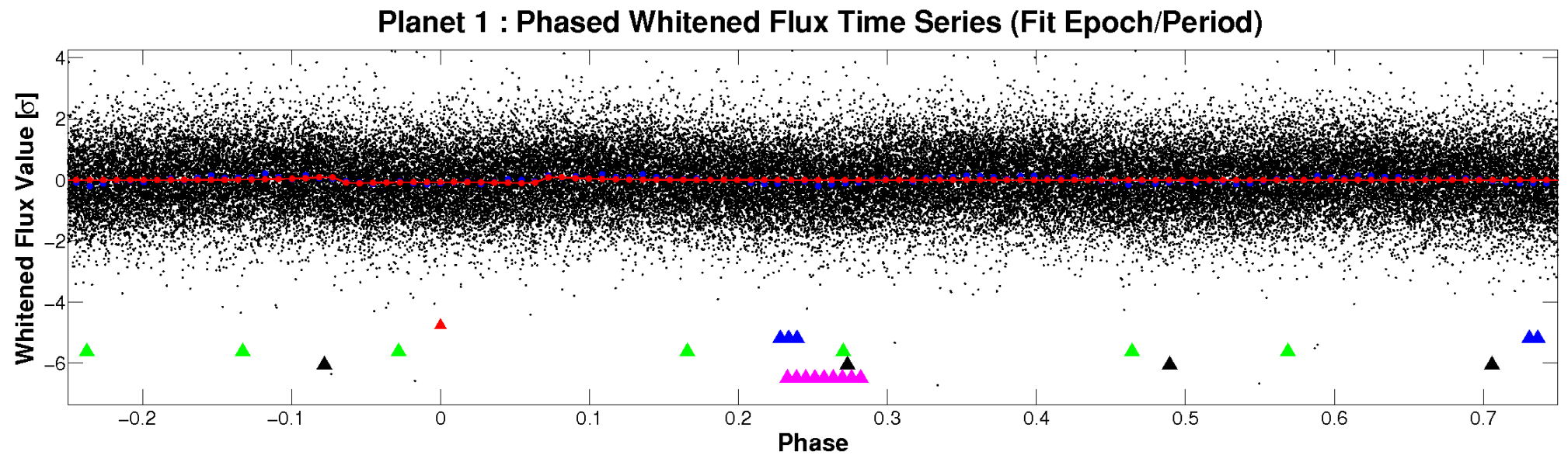
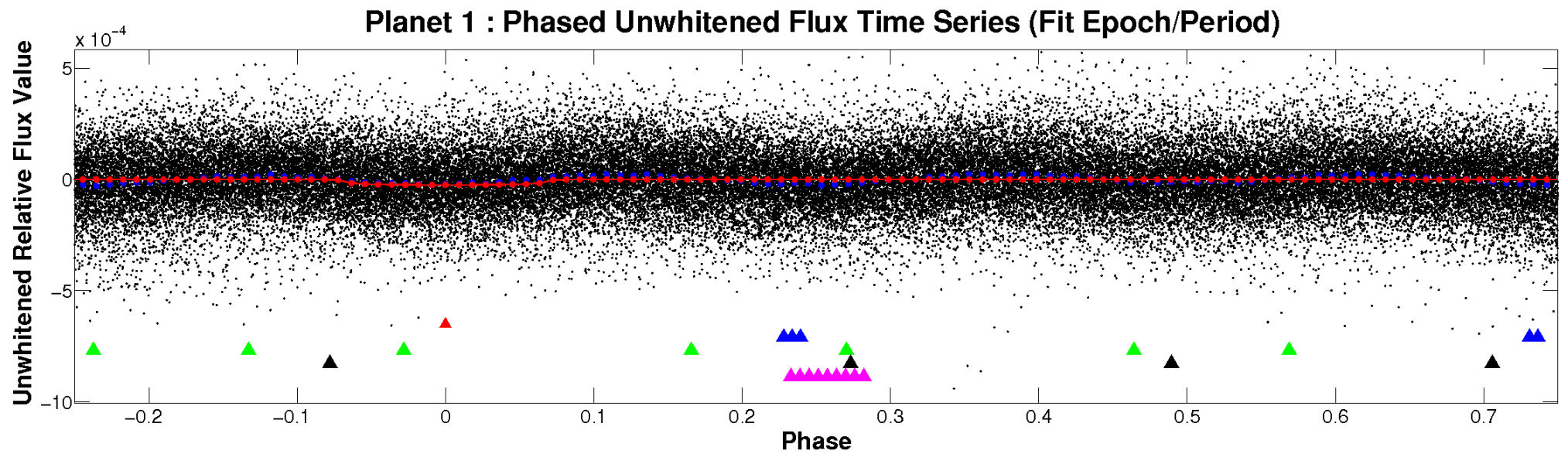


ALT Odd/Even

TCE 006696381-01

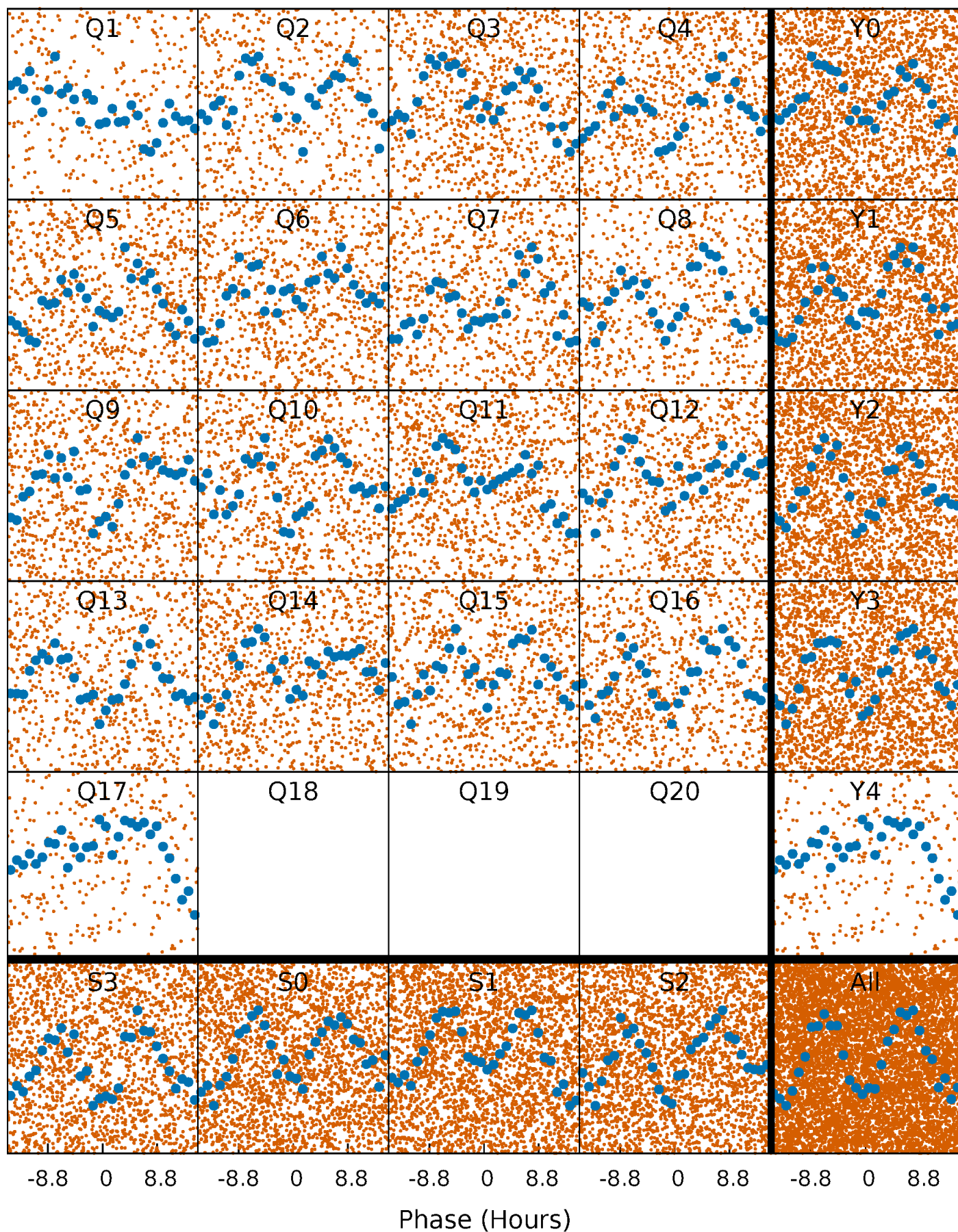


Non-Whitened Vs. Whitened Light Curve



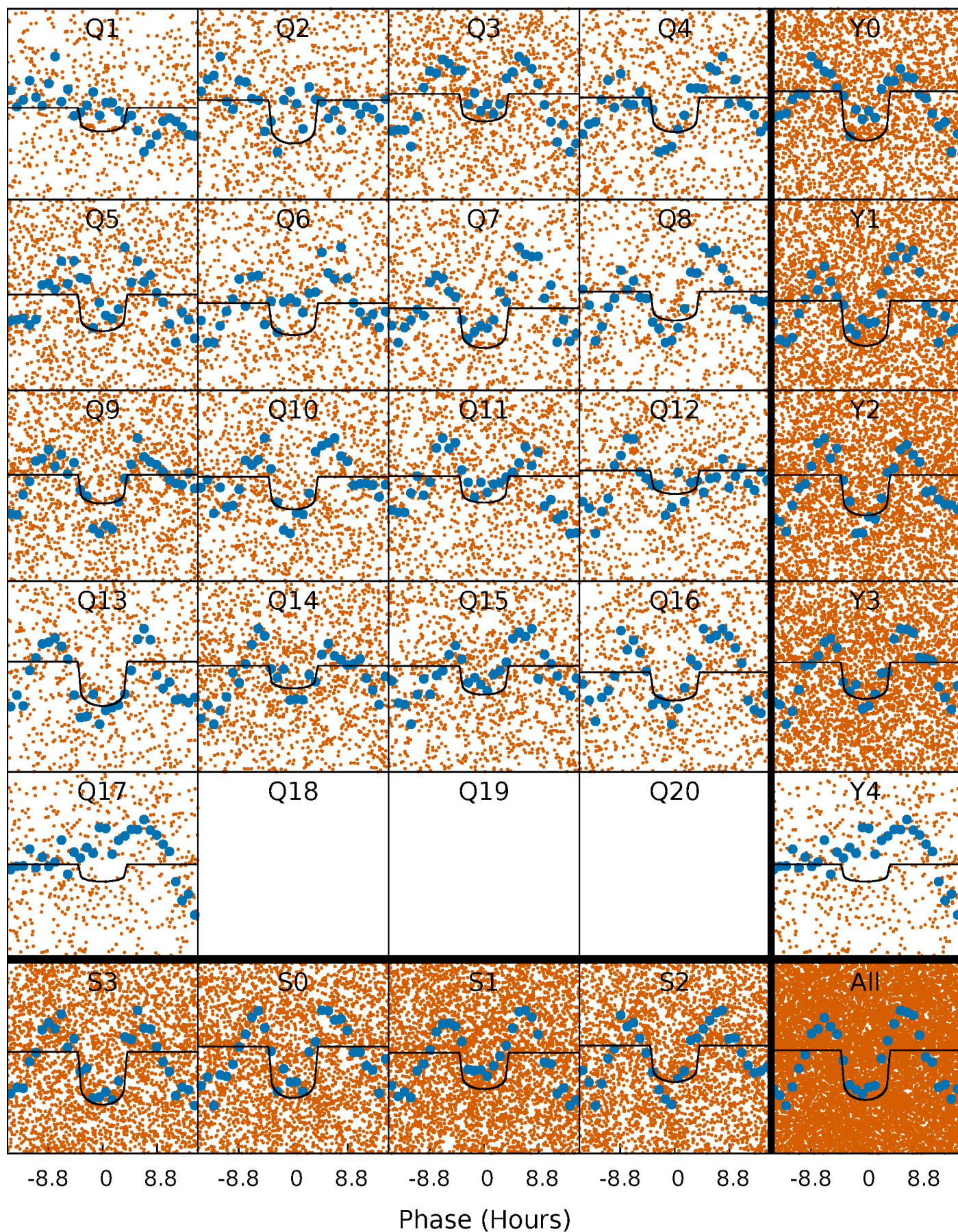
PDC Quarter-Phased Transit Curves

TCE 006696381-01 P= 2.256630 Days $T_0=132.561221$ (BKJD)



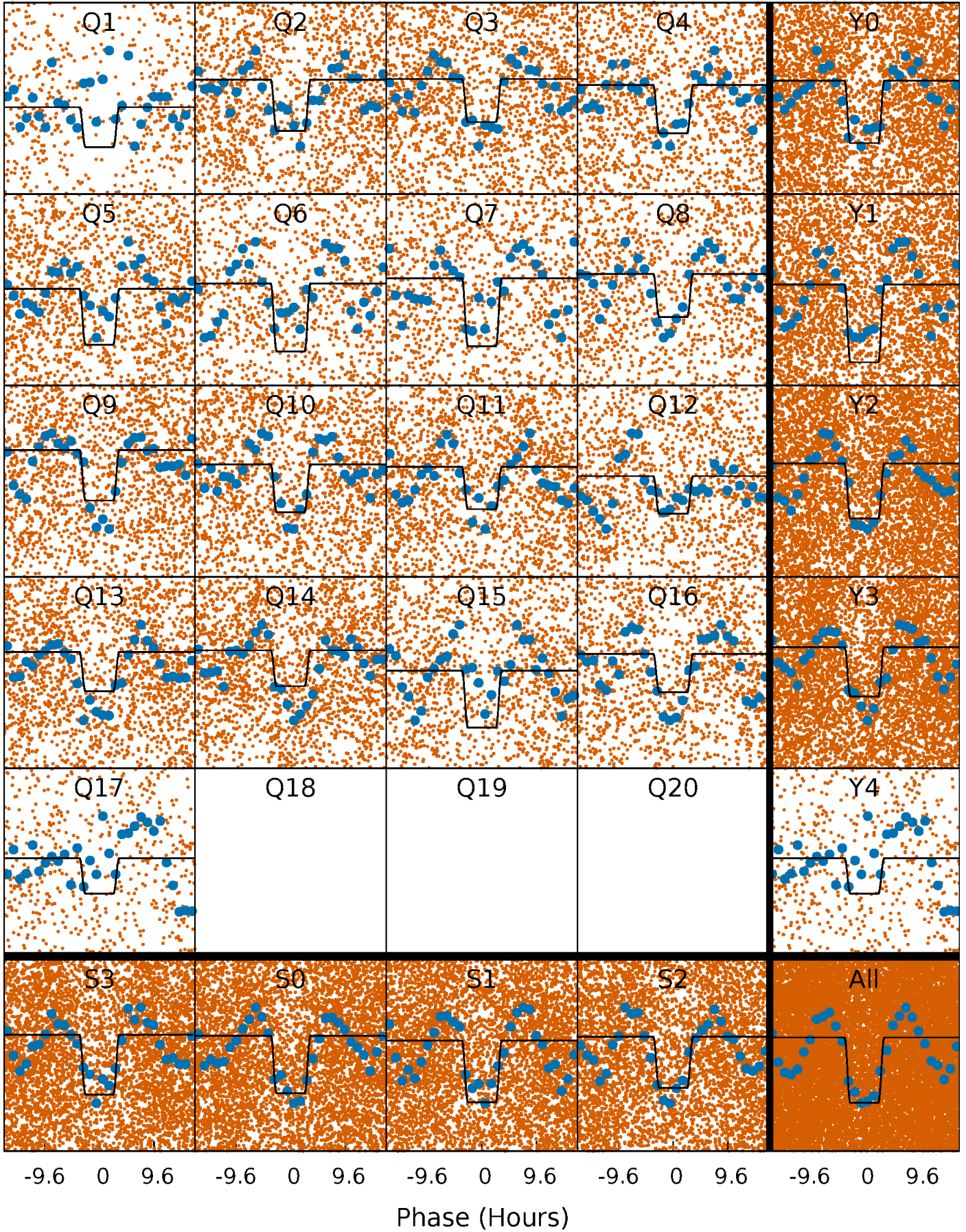
DV Quarter-Phased Transit Curves

TCE 006696381-01 P= 2.256630 Days $T_0=132.561221$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

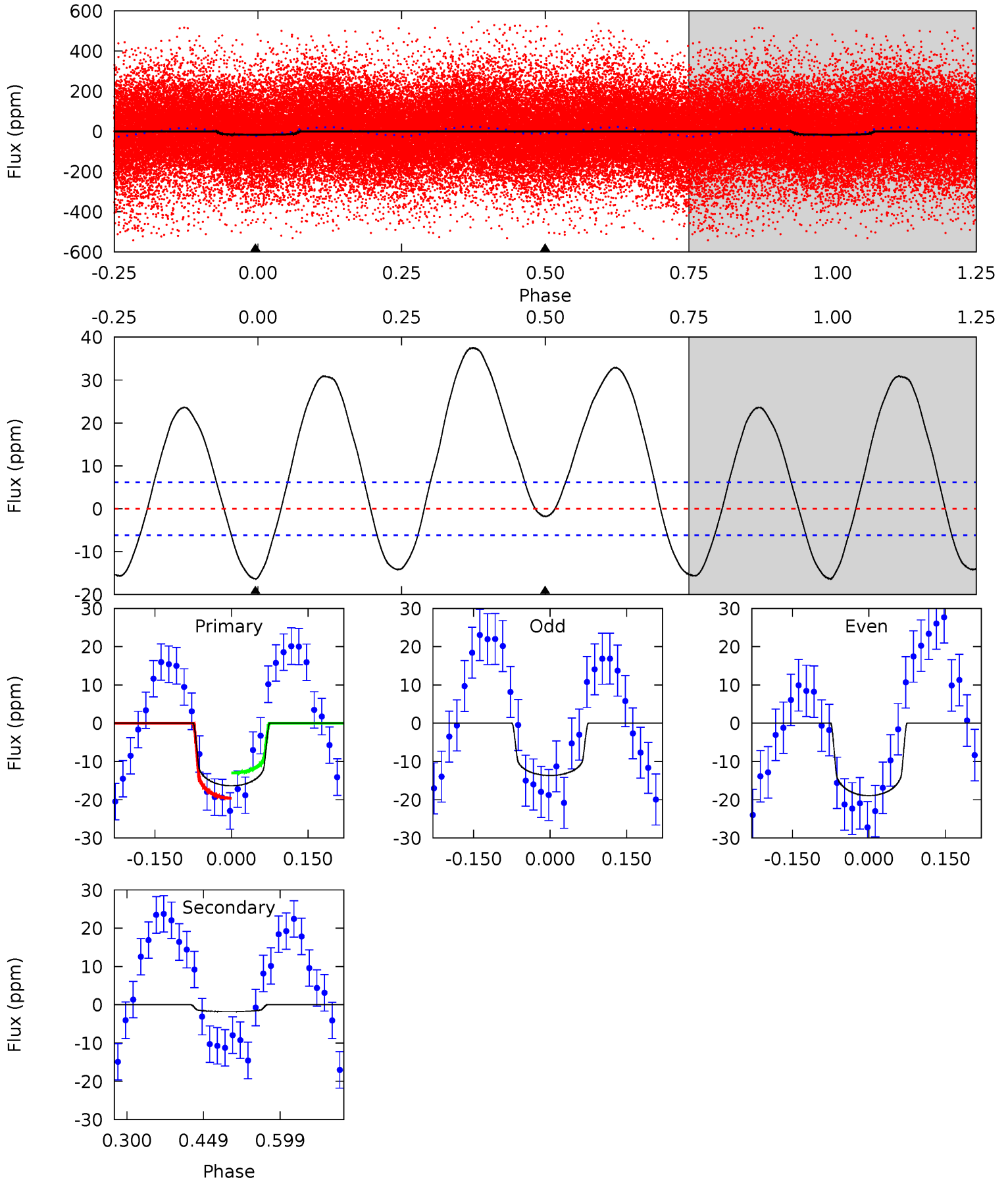
TCE 006696381-01 P= 2.256579 Days $T_0=132.566546$ (BKJD)



DV Model-Shift Uniqueness Test

006696381-01, P = 2.256630 Days, E = 130.304591 Days

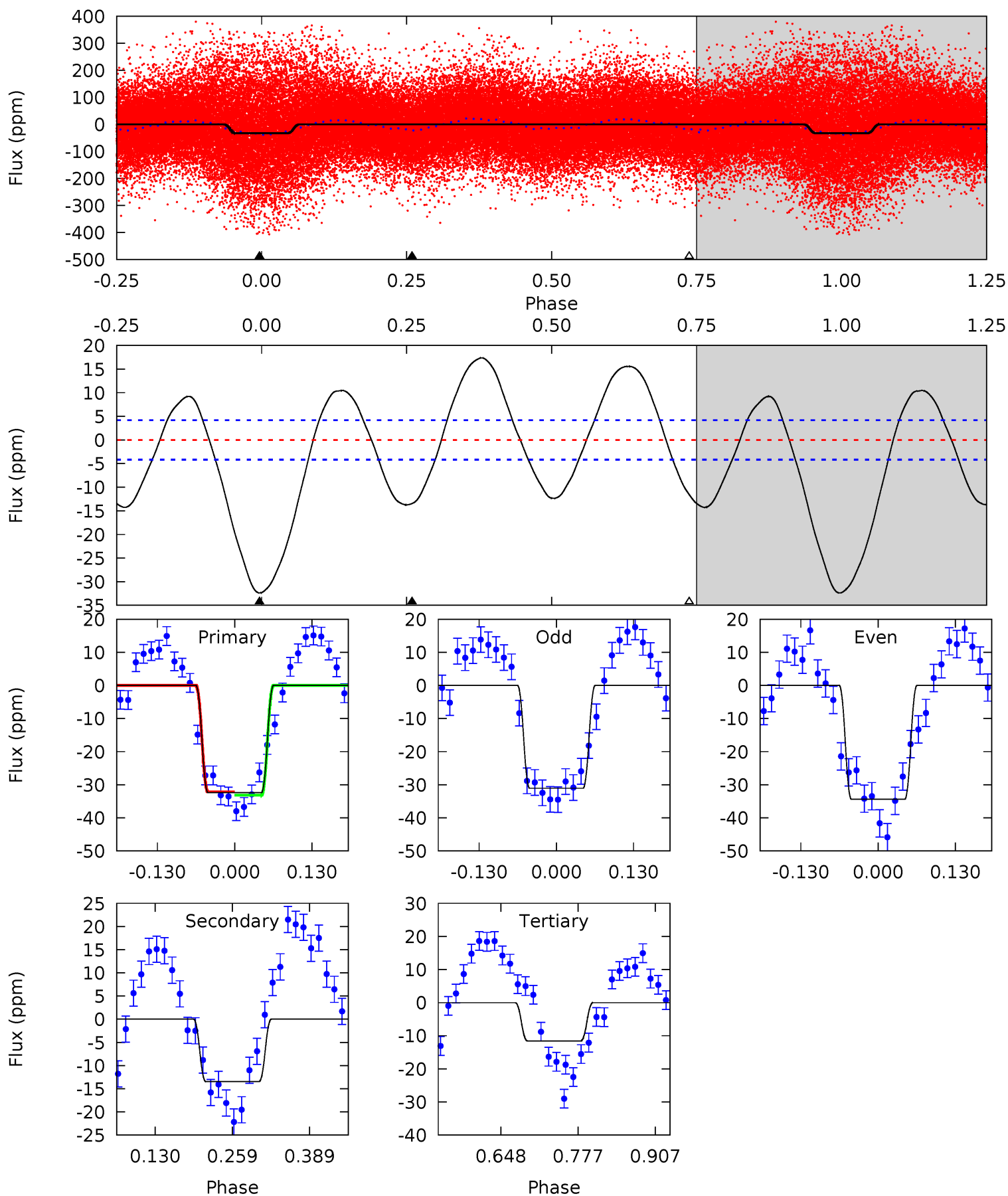
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	1.30	0	0	4.48	1.44	10.0	11.8	11.8	1.30	1.30	1.91	0.70	0.70	2.48



Alt Model-Shift Uniqueness Test

006696381-01, P = 2.256579 Days, E = 130.309967 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.0	14.5	12.5	0	4.51	1.52	10.6	22.5	35.0	2.03	14.5	1.81	0.85	0.35	0.56



Stellar Parameters For KIC 006696381

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6541^{+179}_{-247}	$3.979^{+0.299}_{-0.161}$	$0.080^{+0.250}_{-0.300}$	$2.075^{+0.615}_{-0.752}$	$1.495^{+0.208}_{-0.339}$	$0.236^{+0.501}_{-0.107}$
	+3%/-4%	+8%/-4%	+312%/-375%	+30%/-36%	+14%/-23%	+213%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006696381-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2 ± 1	$1.15^{+0.26}_{-0.25}$	2909^{+253}_{-280}	3493^{+510}_{-6164}	$1.078^{+1.124}_{-0.890}$
Alt.	-13 ± 1	$1.28^{+0.30}_{-0.27}$	2920^{+225}_{-294}	5129^{+336}_{-293}	$6.484^{+3.994}_{-2.074}$

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 $A_{obs} \gg 1.0$

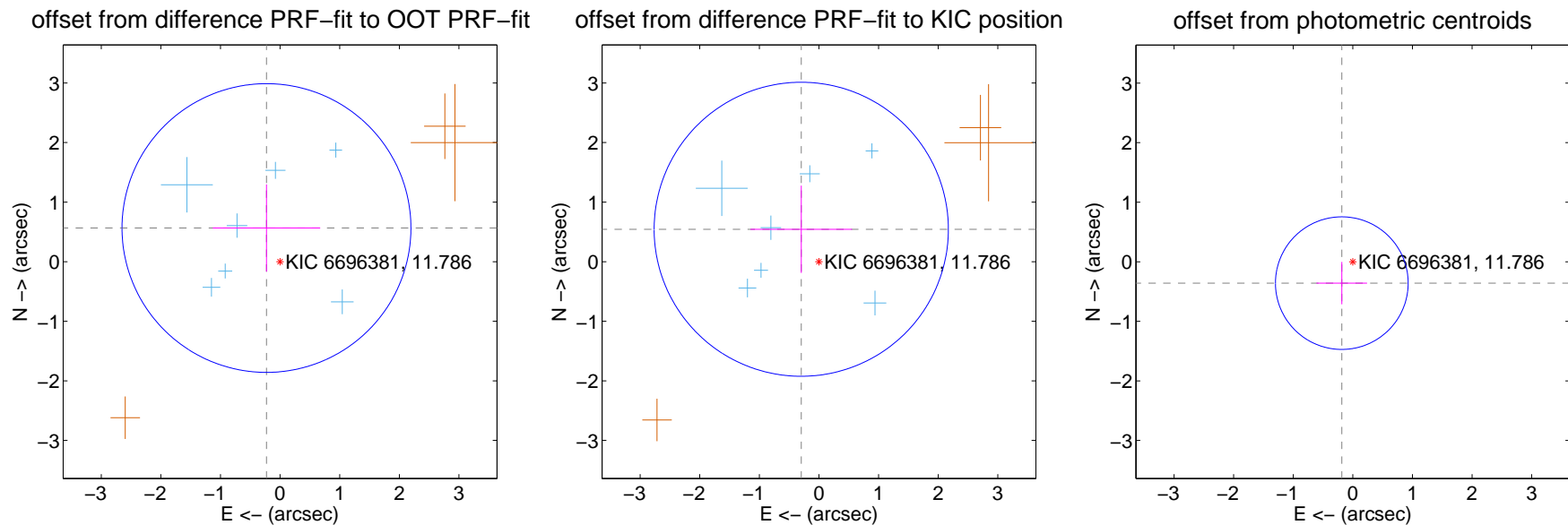
DV Centroid Data

Supplemental centroid analysis for 006696381-01. **Kepler magnitude: 11.79.** Transit SNR 9.41

There are 7 quarters with good PRF difference image offsets

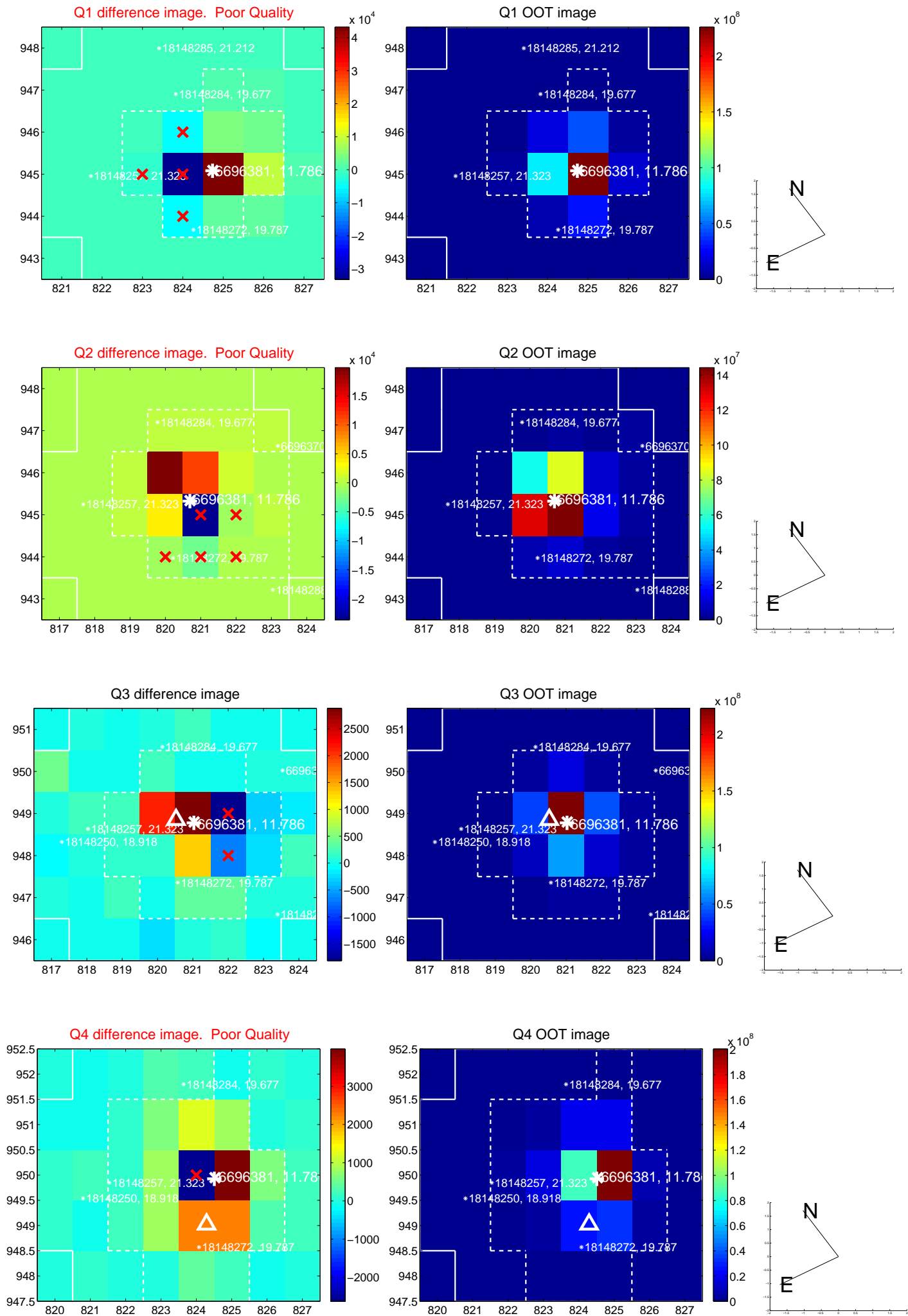
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.610 ± 0.808	0.75	0.229 ± 0.900	0.565 ± 0.733
PRF-fit source offset from KIC position	0.620 ± 0.822	0.75	0.298 ± 0.851	0.544 ± 0.733
photometric centroid source offset	0.40 ± 0.37	1.09	0.19 ± 0.42	-0.36 ± 0.36

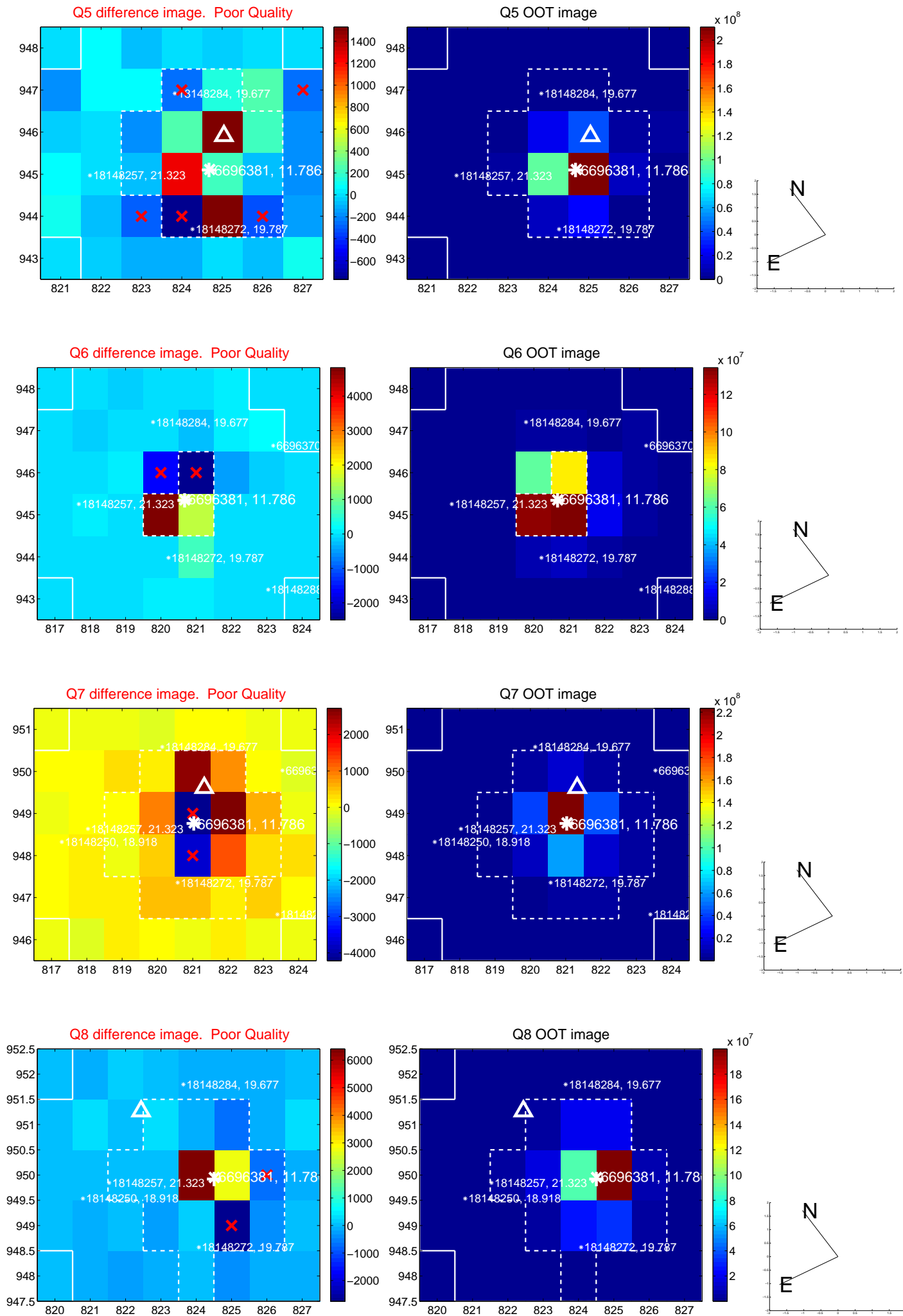


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

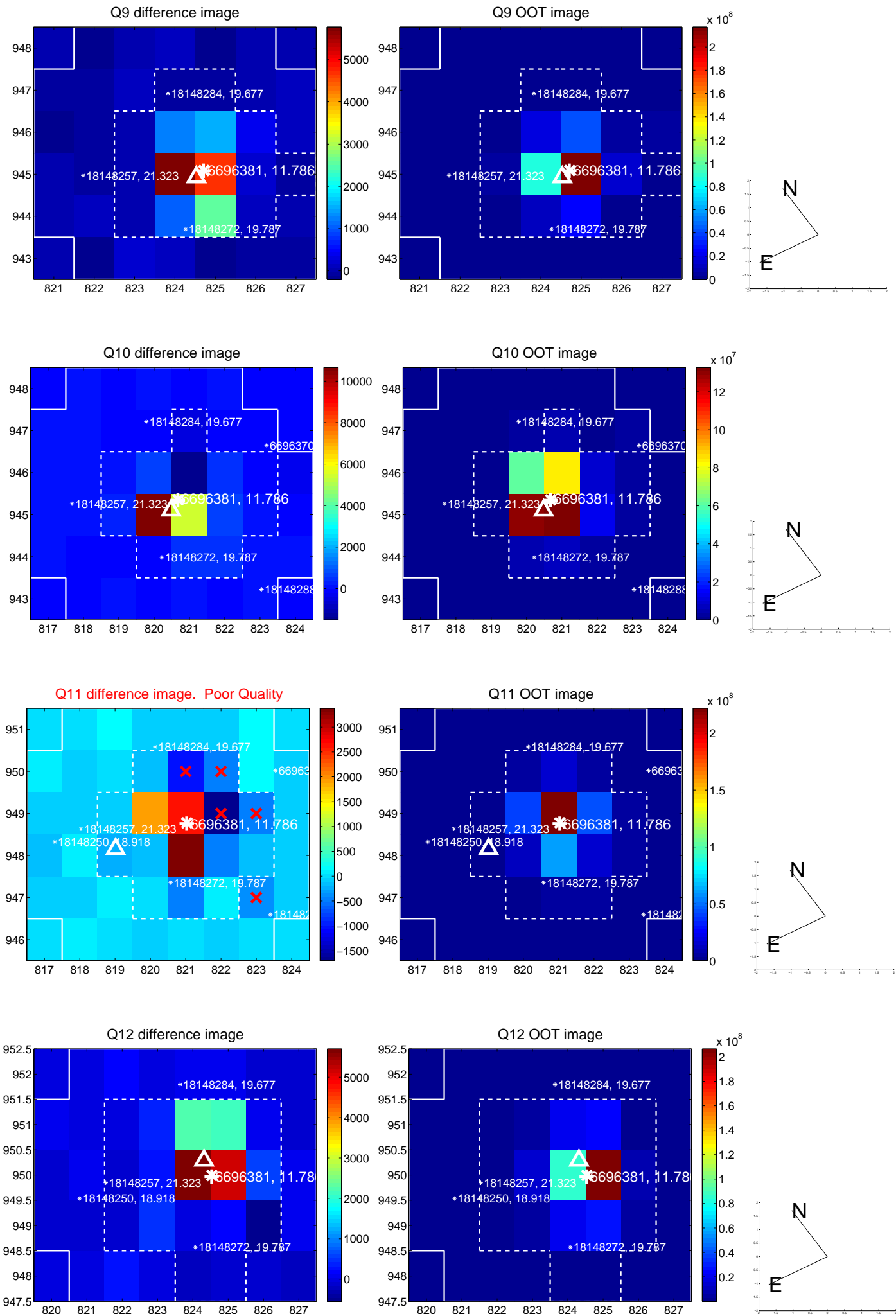
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



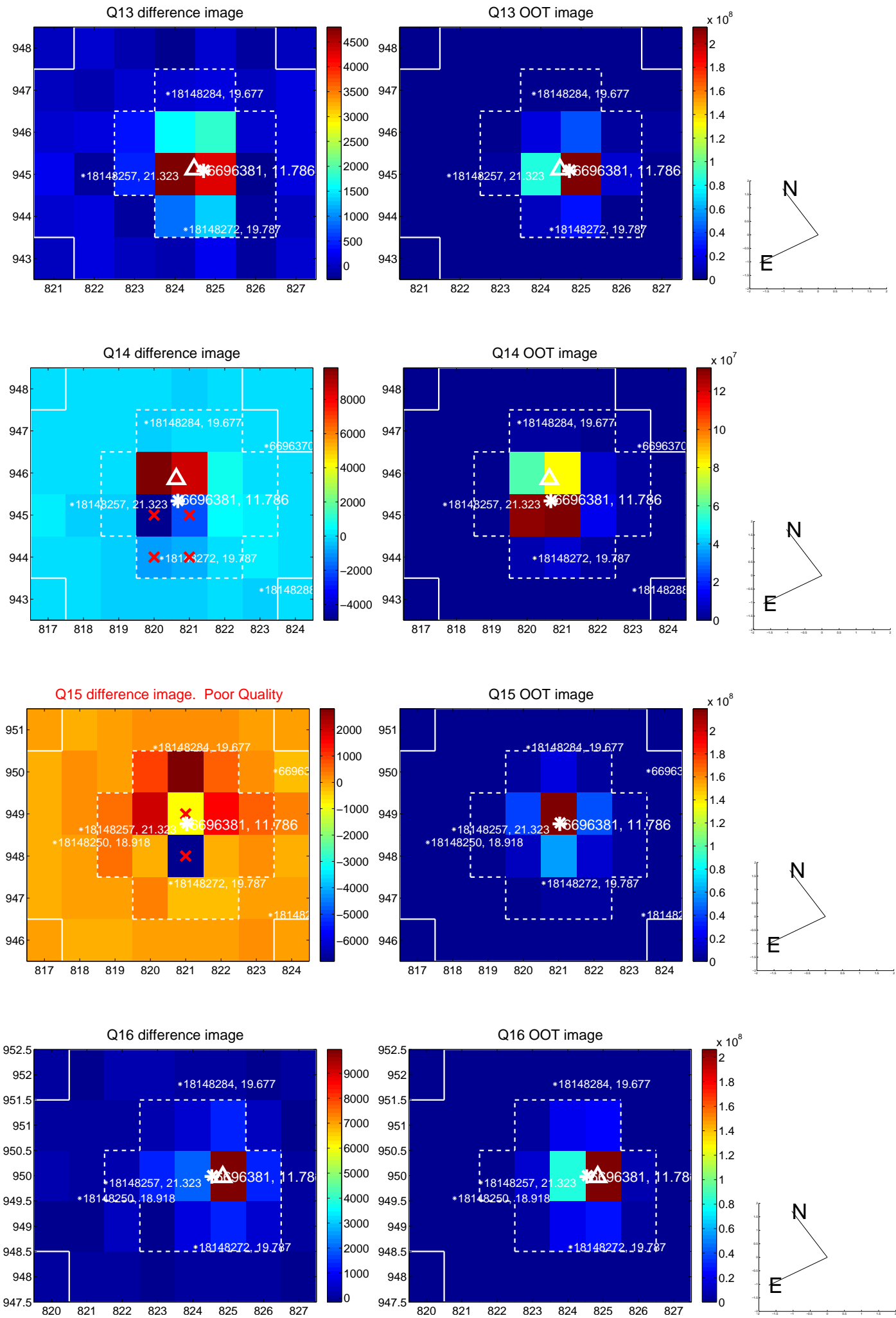
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



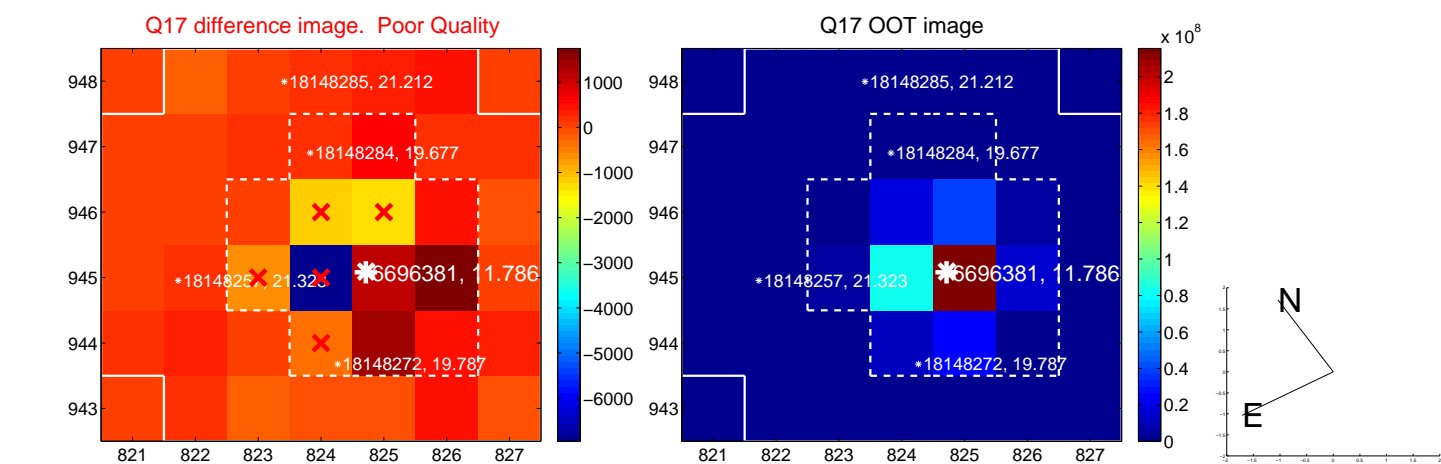
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



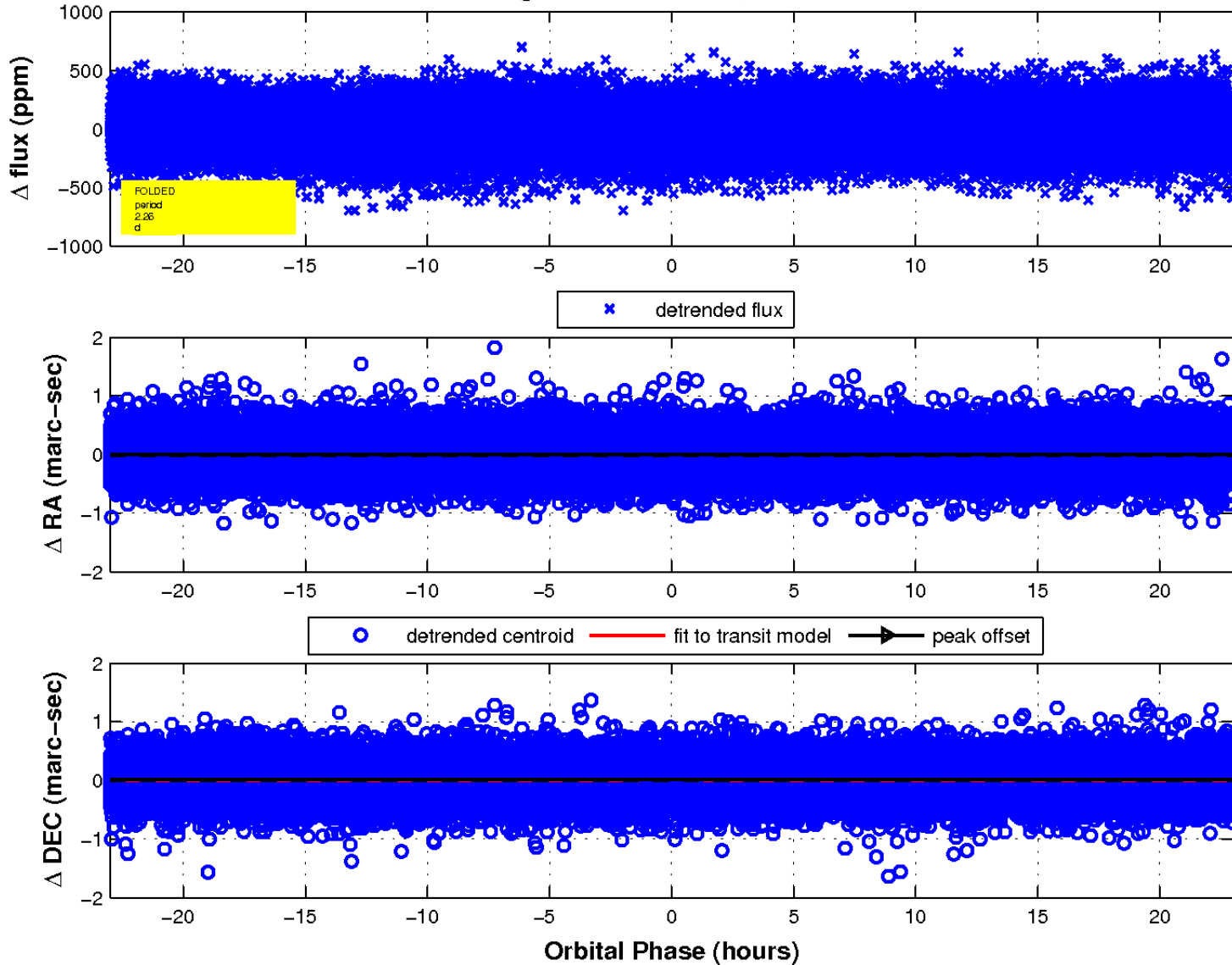
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



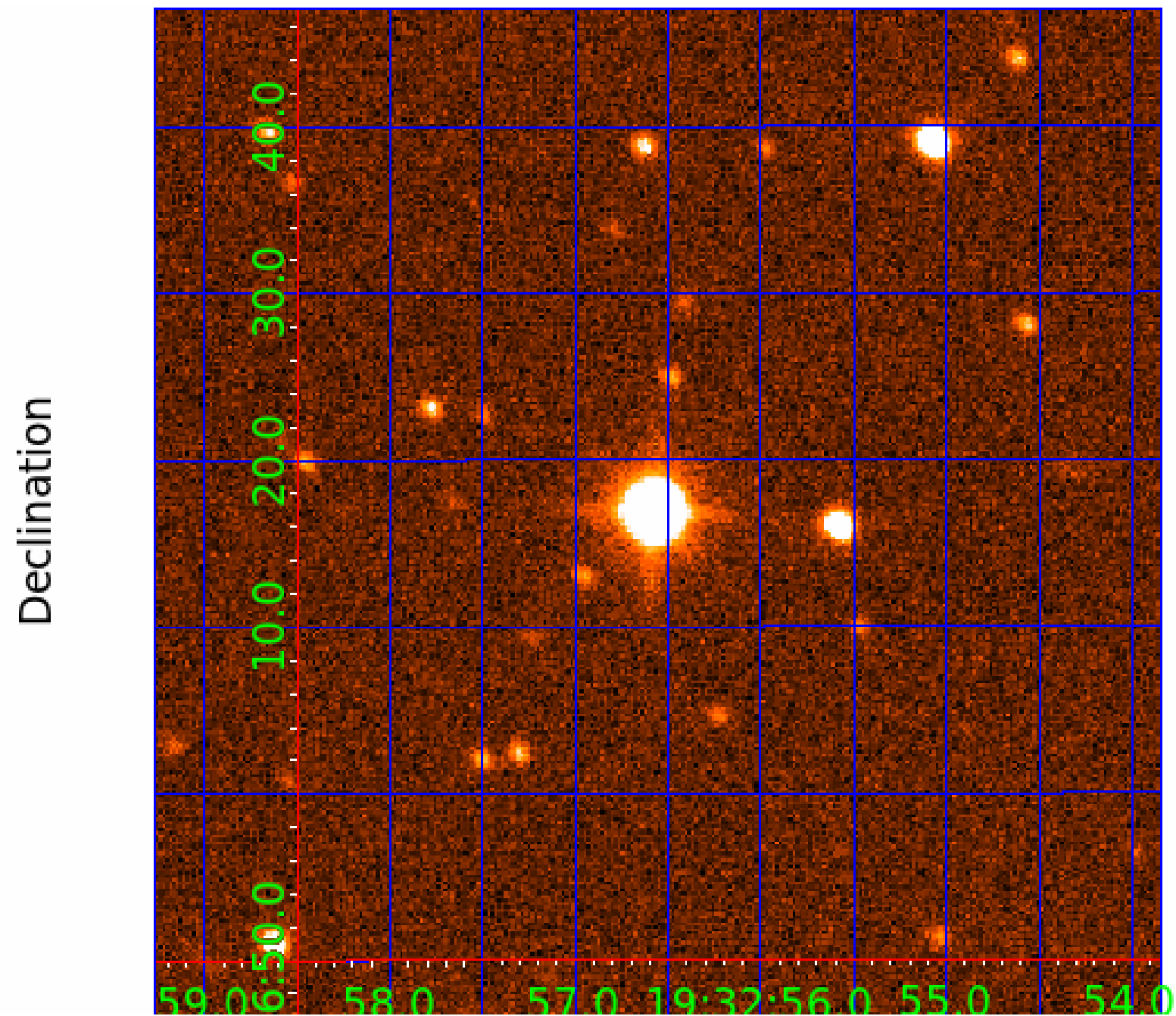
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 5



UKIRT Image



KIC 006696381

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})
006696381-01	OBS	No	2.256630	132.561221	24.6	7.669	10.5	9.4	2.08	6541	1.21	4759.22
006696381-02	OBS	No	294.496532	403.871520	312.9	9.044	8.9	7.8	2.08	6541	4.66	7.19
006696381-03	OBS	No	226.336478	155.064151	300.2	9.153	8.6	7.1	2.08	6541	4.74	10.21
006696381-04	OBS	No	327.699429	340.787609	237.3	12.462	7.4	6.8	2.08	6541	3.27	6.24
006696381-05	OBS	No	176.031003	144.369887	157.9	7.488	8.8	7.3	2.08	6541	3.36	14.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006696381-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006696381-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
006696381-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
006696381-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT
006696381-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_ALT

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

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

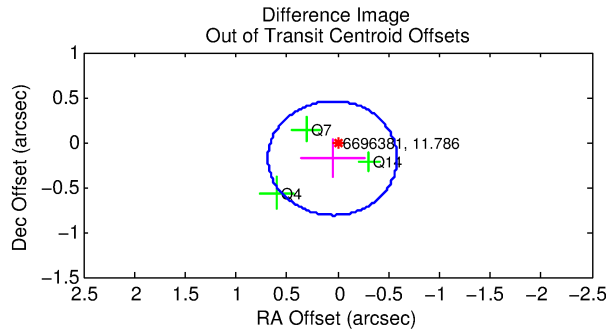
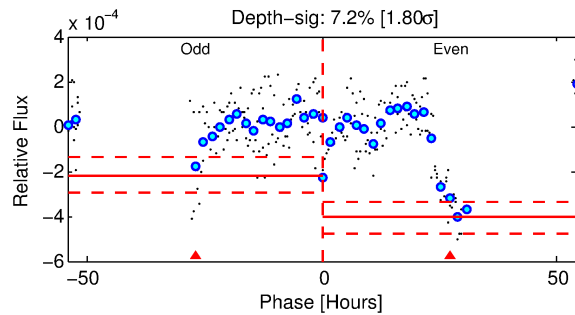
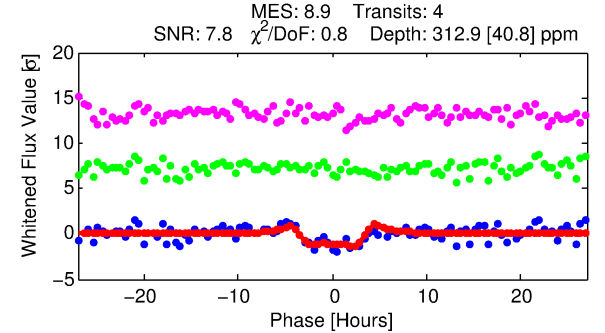
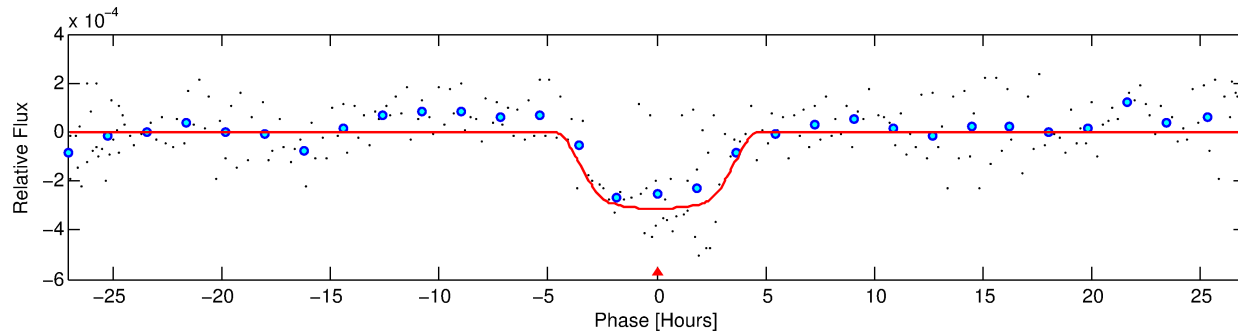
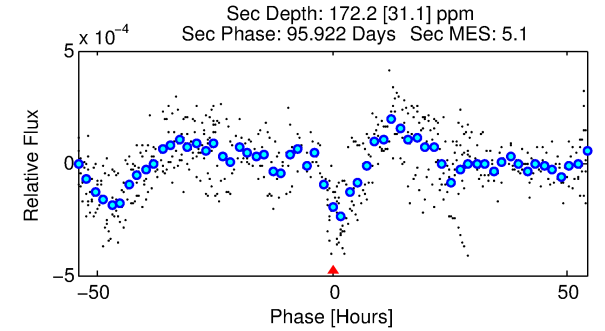
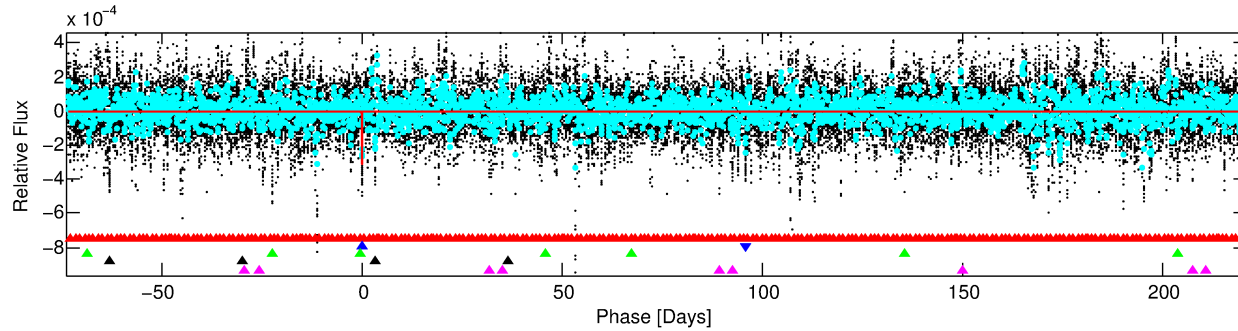
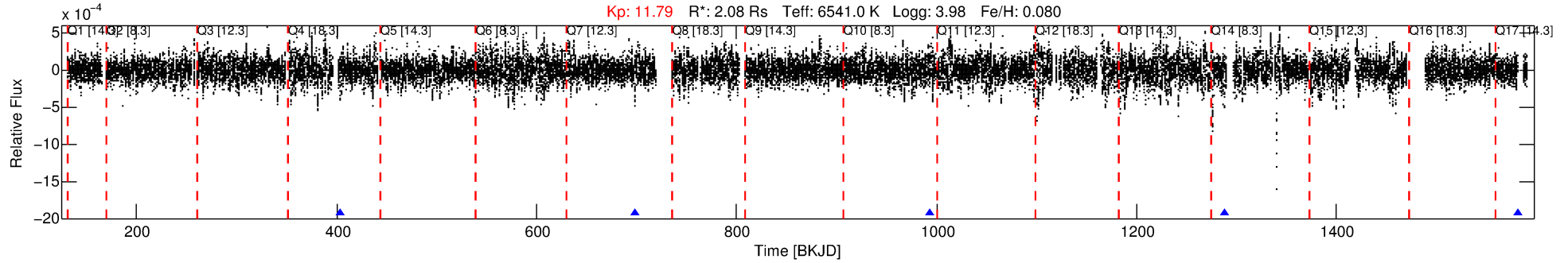
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006696381-02

No Significant Match Found

DV One-Page Summary

KIC: 6696381 Candidate: 2 of 5 Period: 294.497 d



DV Fit Results:

Period = 294.49653 [0.00795] d
Epoch = 403.8715 [0.0136] BKJD
Rp/R* = 0.0206 [0.0015]
a/R* = 83.49 [13.51]
b = 0.96 [0.01]
Seff = 7.19 [3.88]
Teff = 418 [56] K
Rp = 4.66 [1.73] Re
a = 0.9911 [0.3302] AU
Ag = 4283.19 [2438.59] [1.76σ]
Teffp = 5223 [364] K [13.03σ]

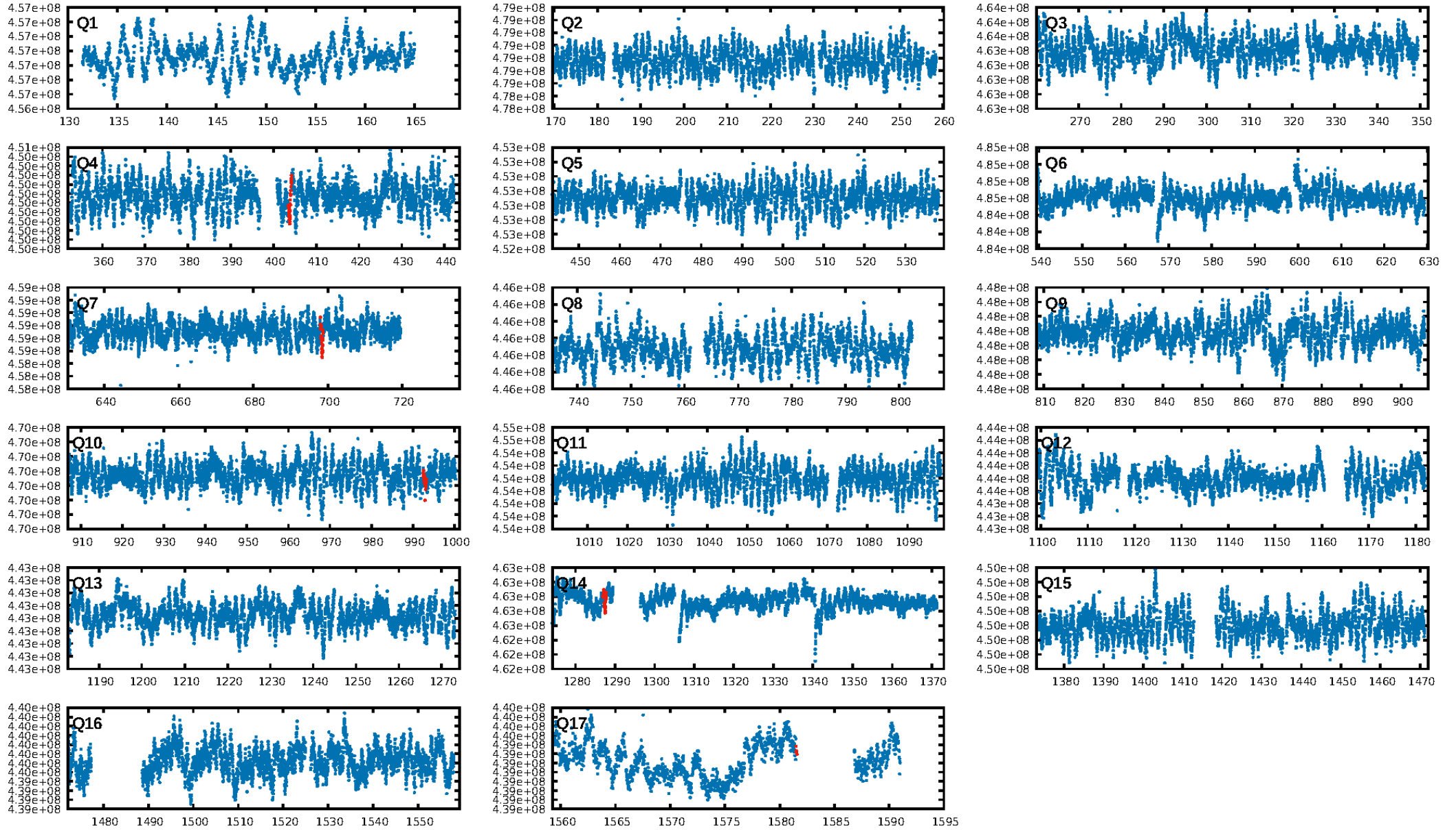
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [127.13σ]
LongPeriod-sig: 100.0% [51.75σ]
ModelChiSquare2-sig: 0.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.16e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.068
Centroid-sig: 26.1%
Centroid-so: 0.458 arcsec [0.91σ]
OotOffset-rm: 0.185 arcsec [0.87σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 0.245 arcsec [1.05σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/4]

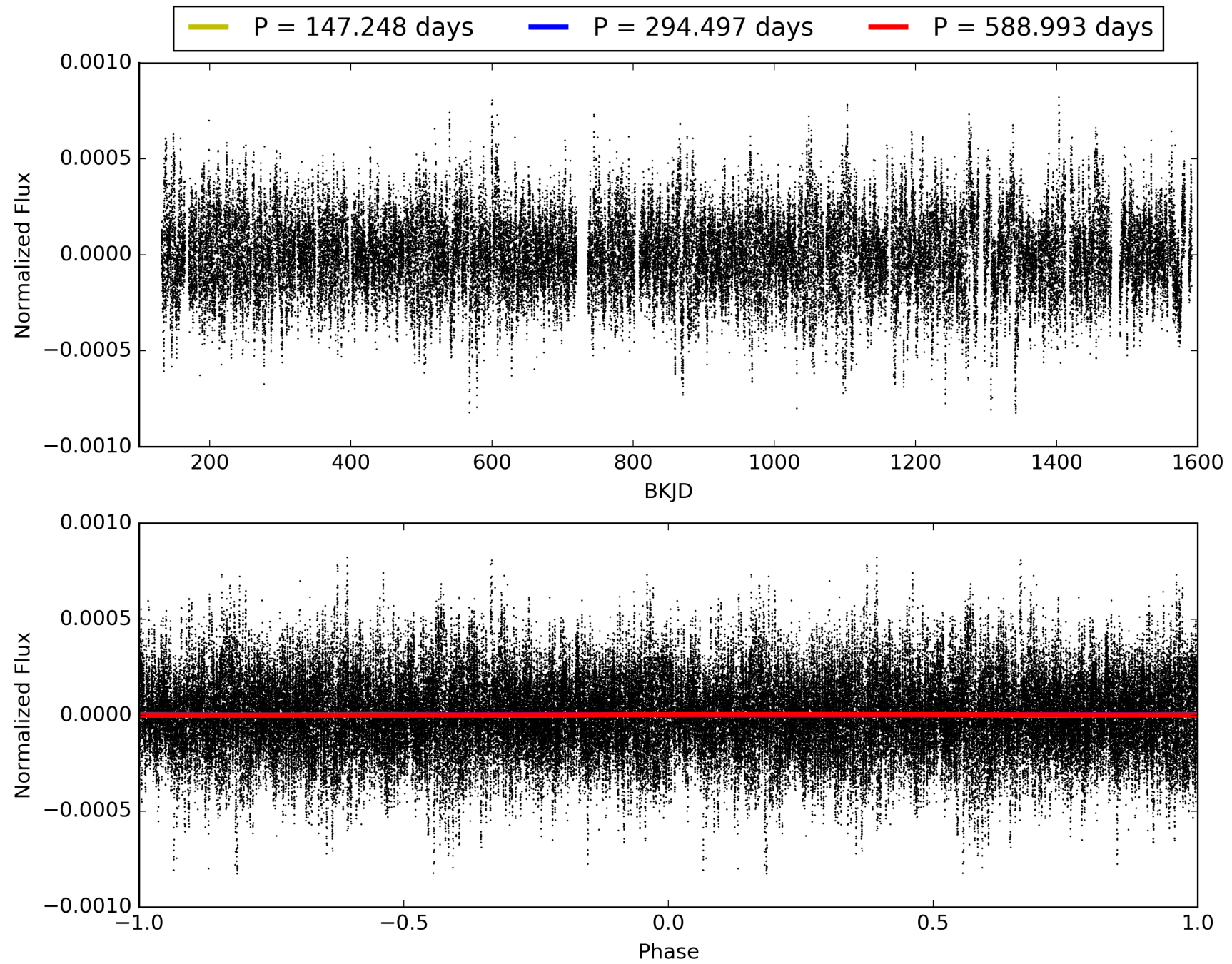
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:35:22 Z

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

TCE 006696381-02, PDC Light Curves

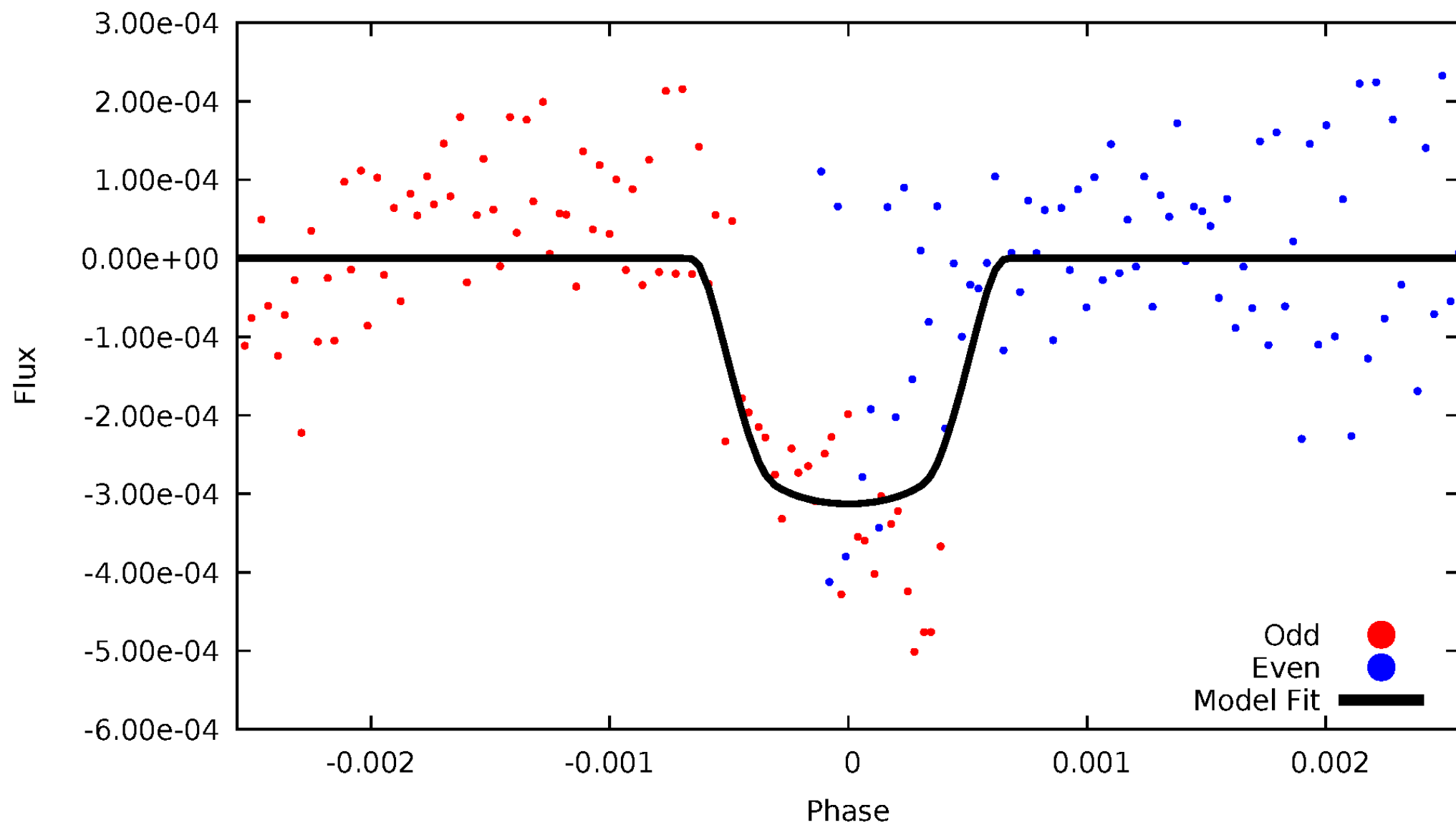


TCE 006696381-02



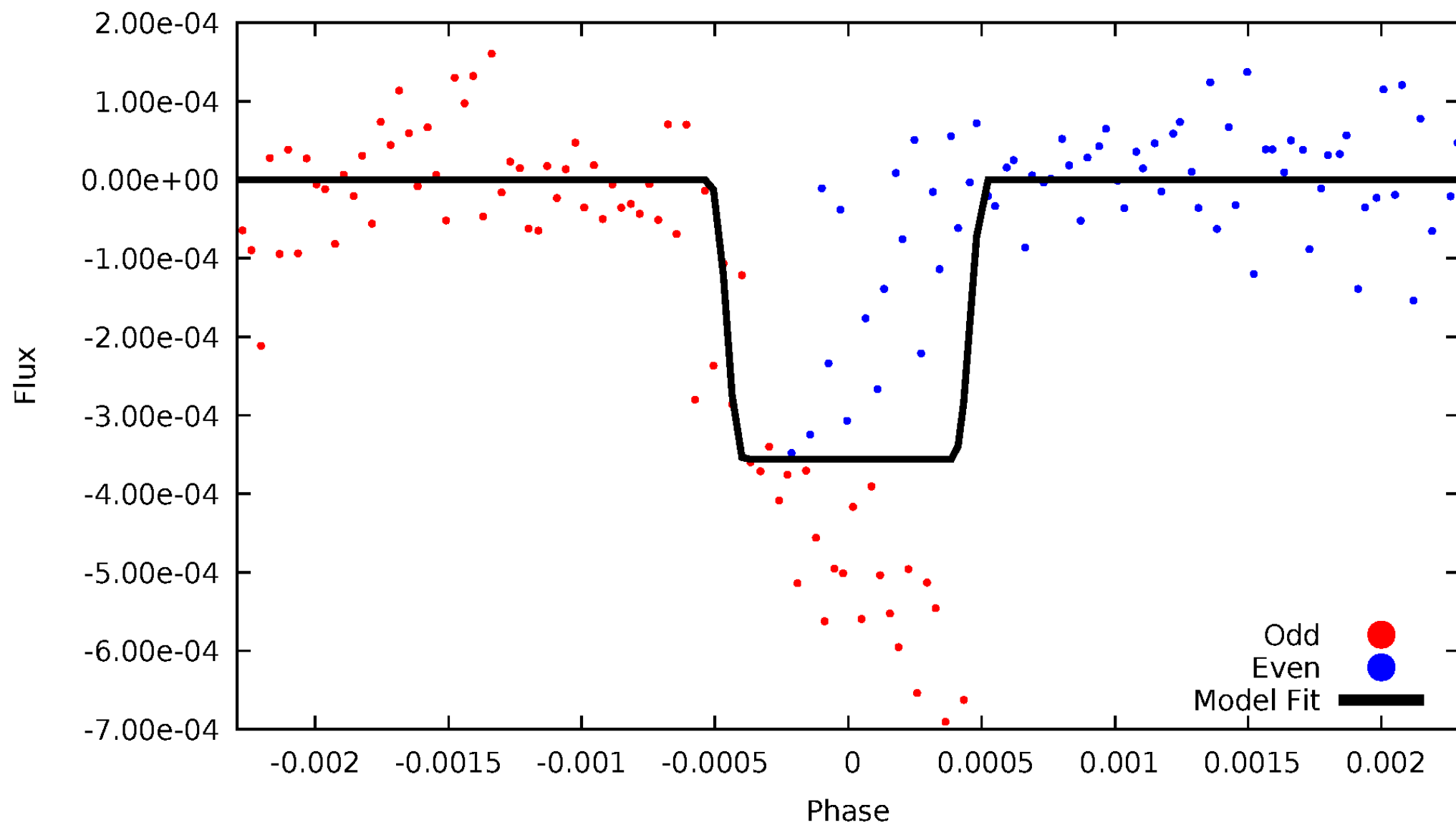
DV Odd/Even

TCE 006696381-02



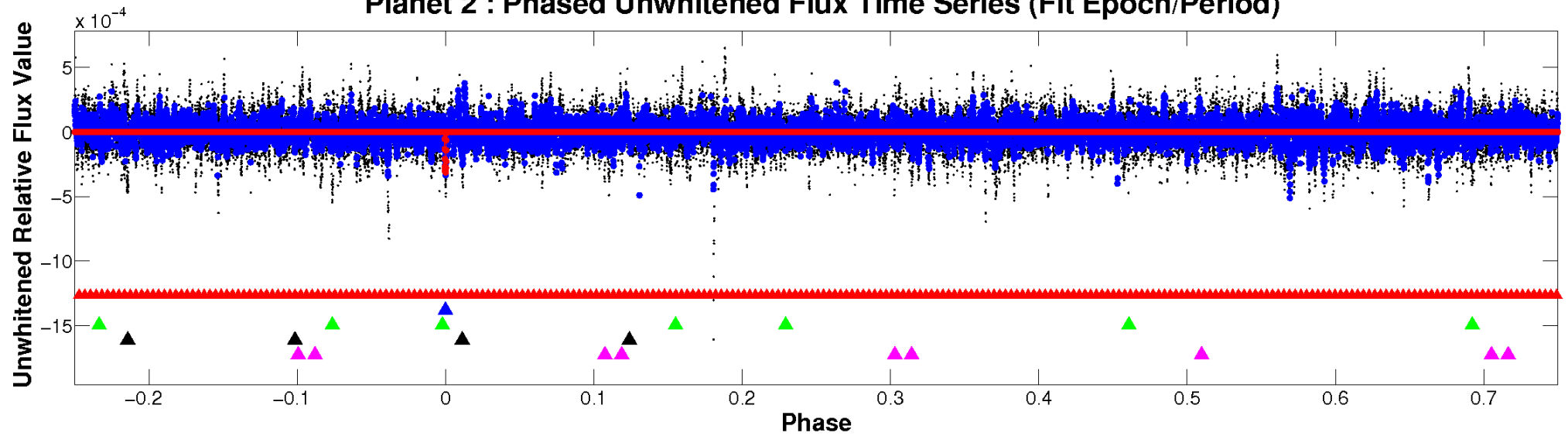
ALT Odd/Even

TCE 006696381-02

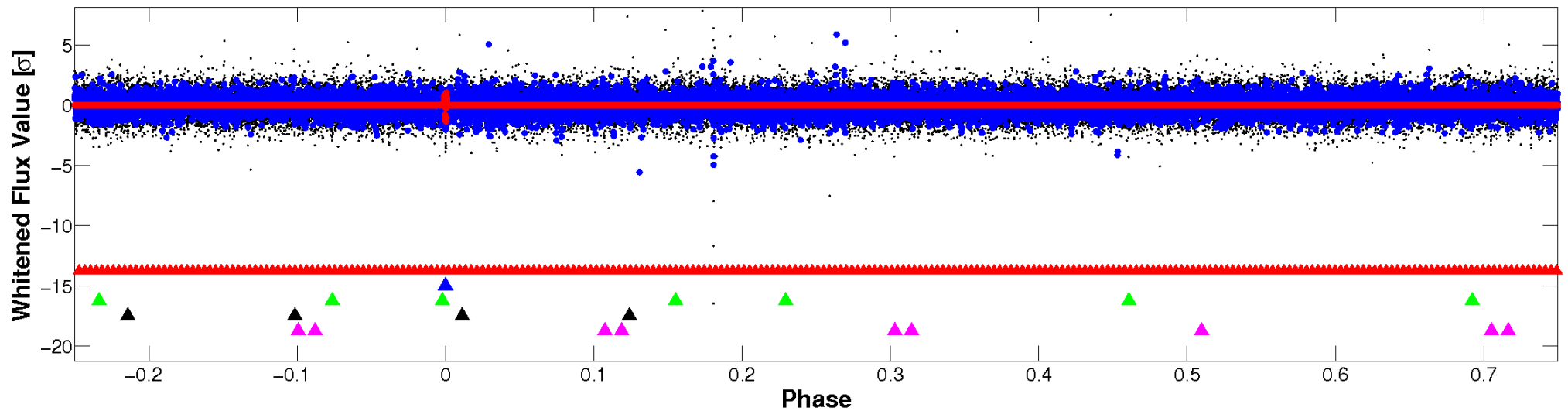


Non-Whitened Vs. Whitened Light Curve

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

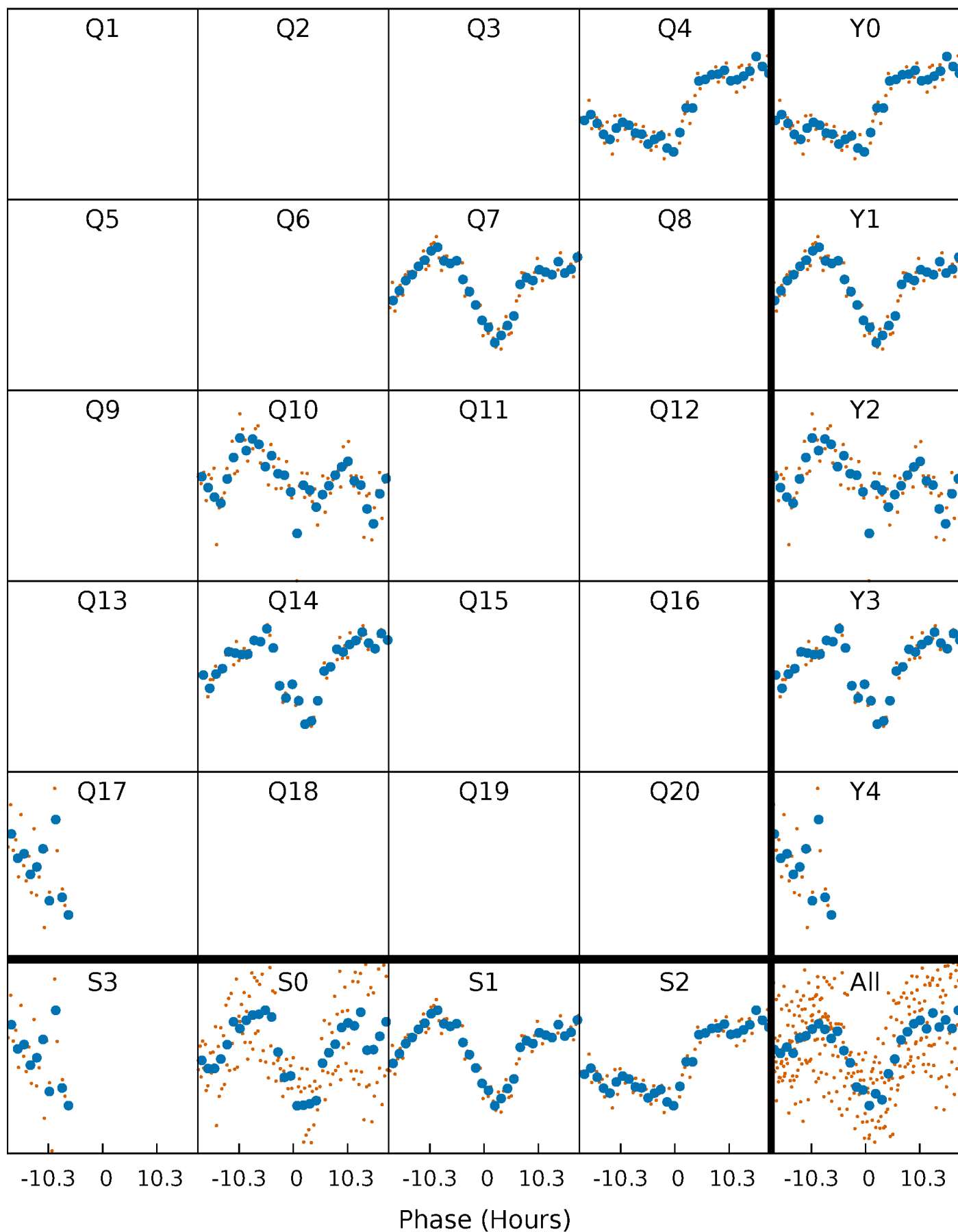


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



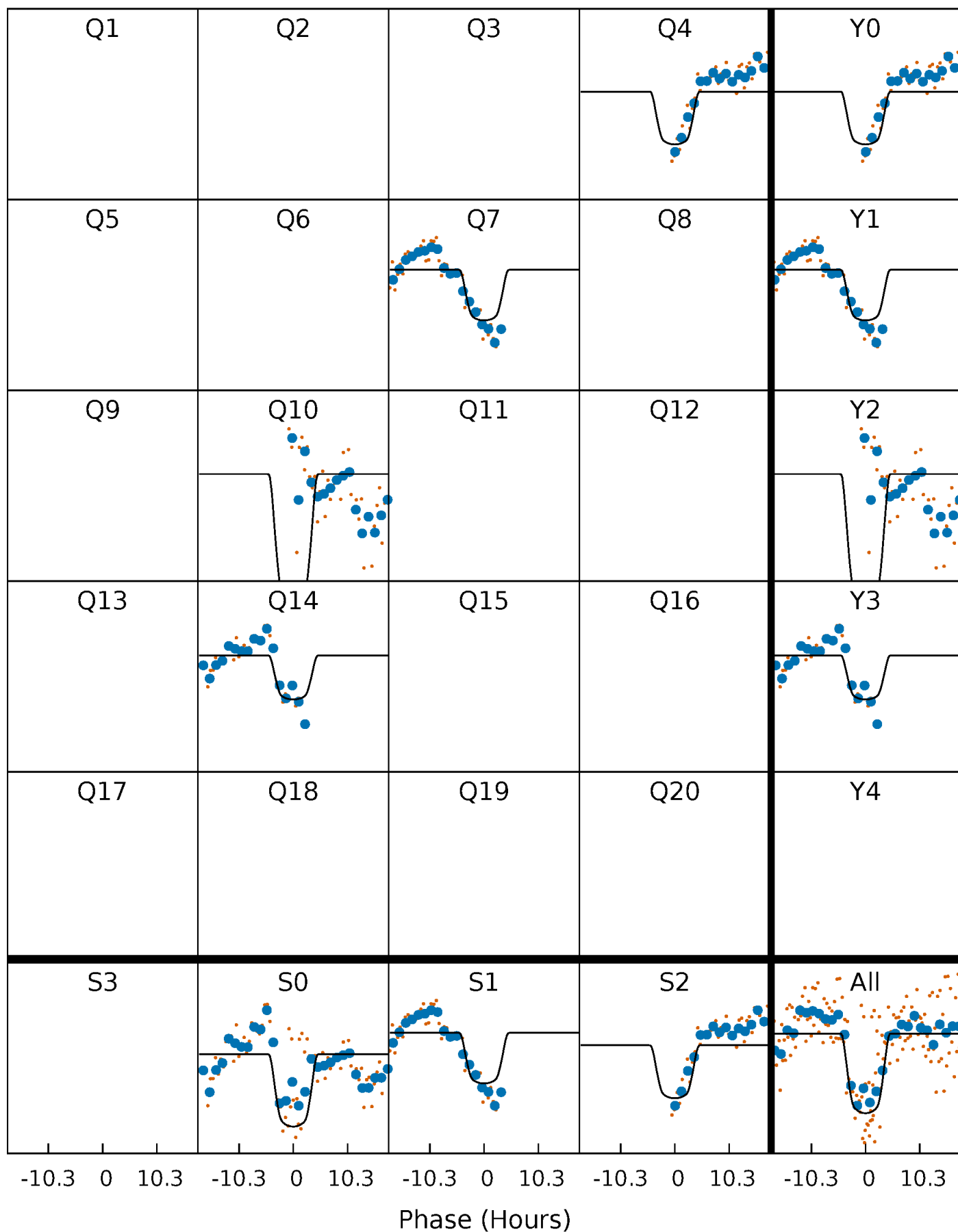
PDC Quarter-Phased Transit Curves

TCE 006696381-02 $P=294.496532$ Days $T_0=403.871520$ (BKJD)



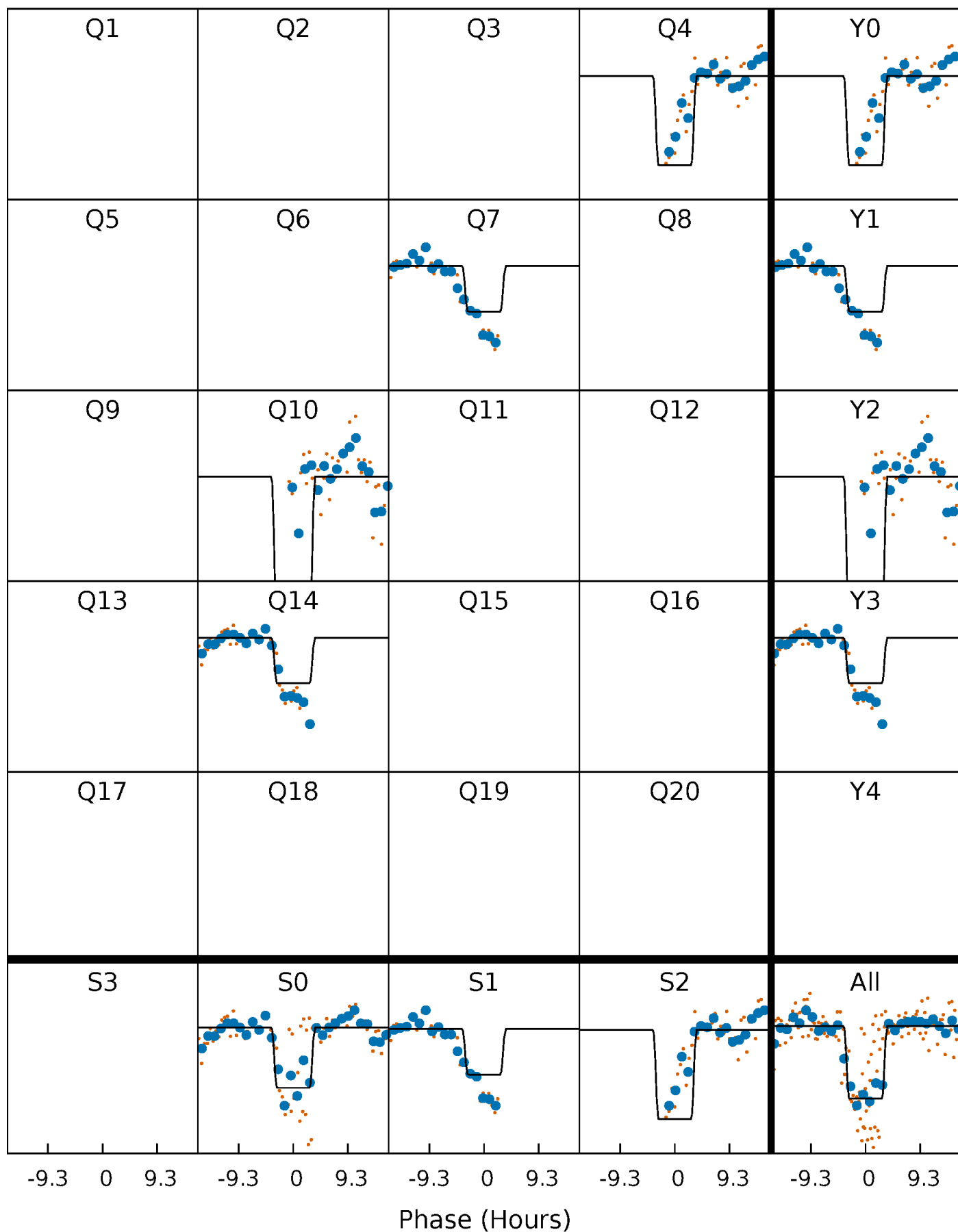
DV Quarter-Phased Transit Curves

TCE 006696381-02 $P=294.496532$ Days $T_0=403.871520$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

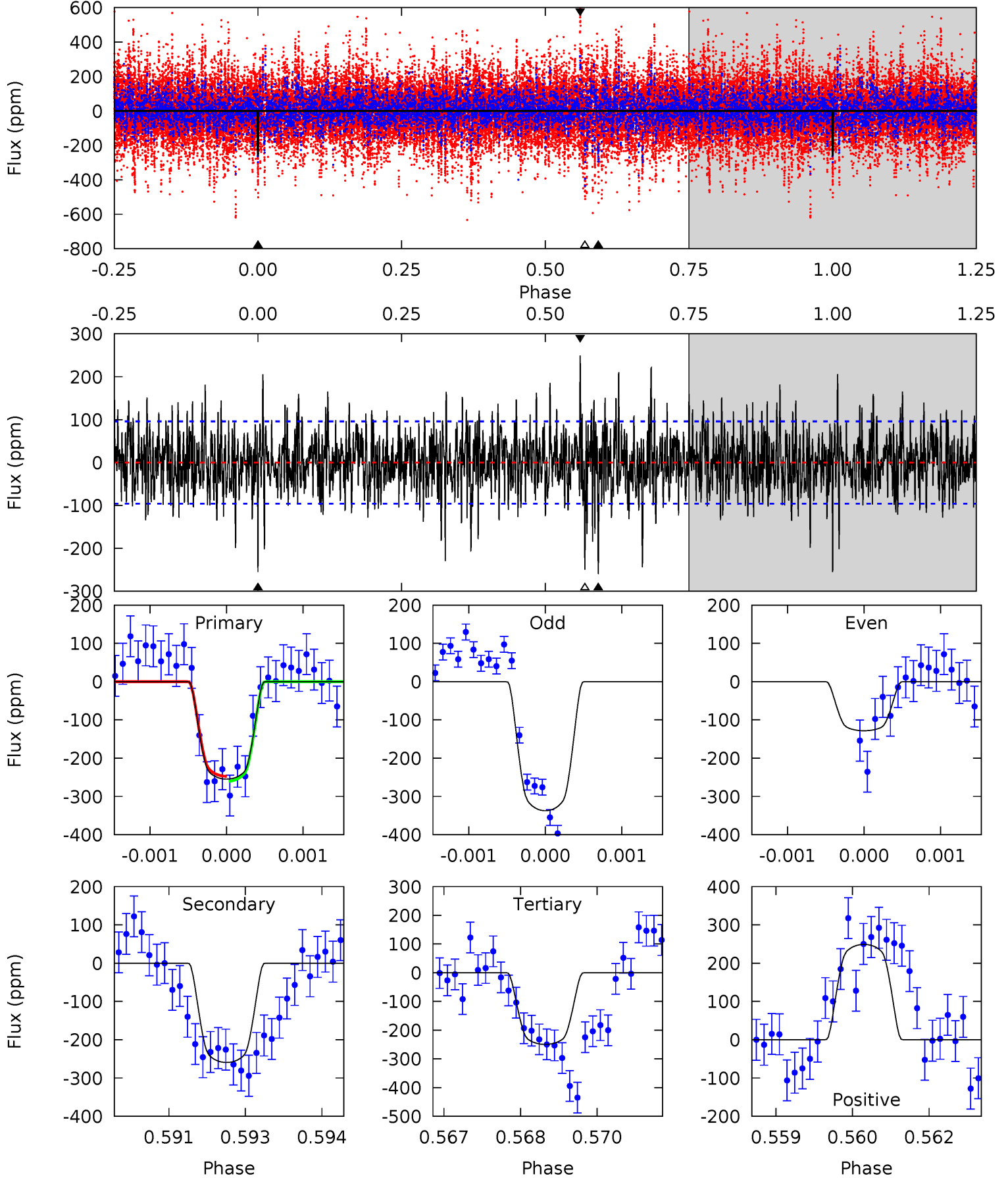
TCE 006696381-02 $P=294.474844$ Days $T_0=403.910769$ (BKJD)



DV Model-Shift Uniqueness Test

006696381-02, P = 294.496532 Days, E = 109.374988 Days

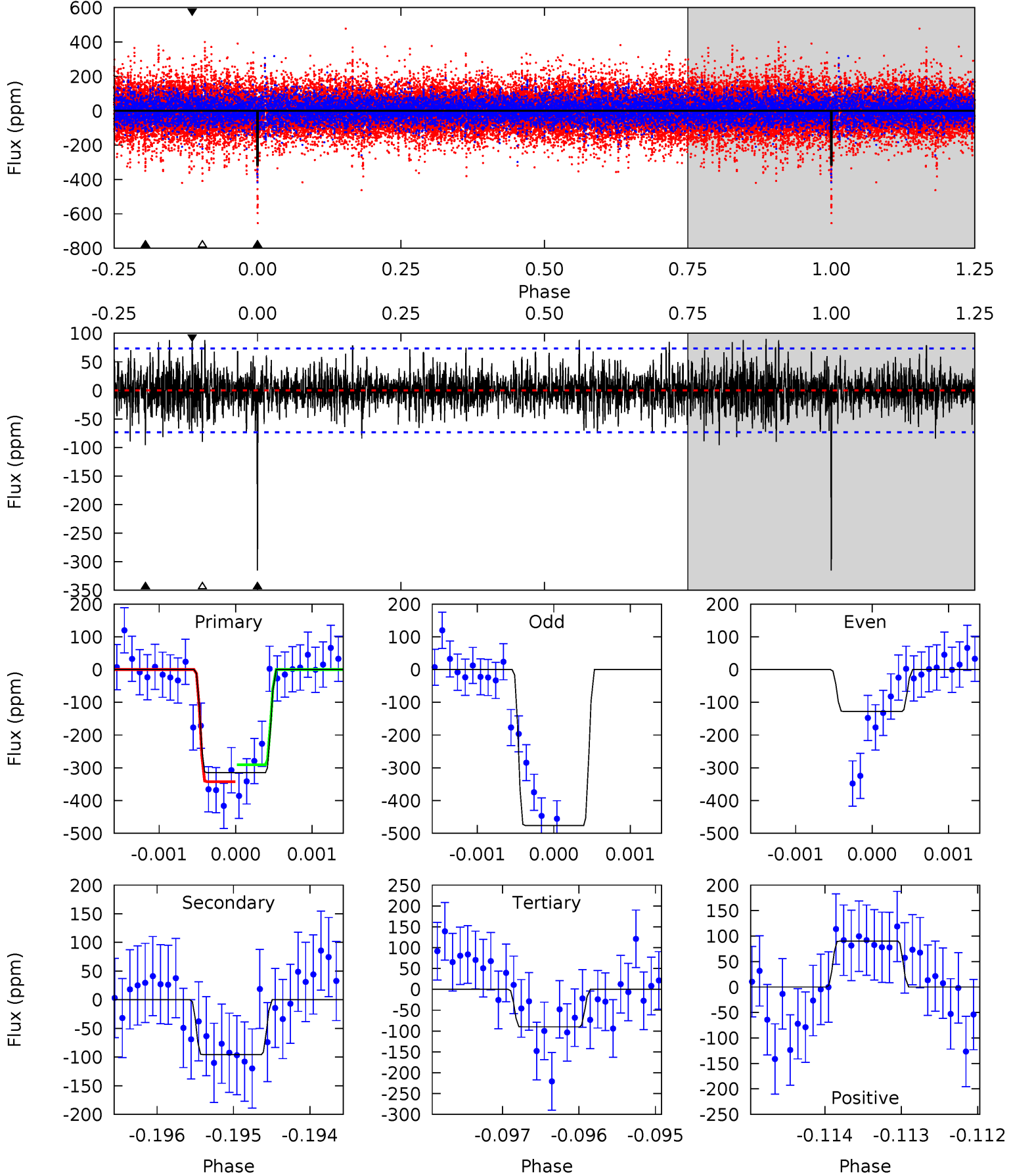
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	14.6	14.0	14.0	5.40	3.21	3.28	0.30	0.32	0.56	0.58	5.90	0.78	0.49	0.36



Alt Model-Shift Uniqueness Test

006696381-02, P = 294.474844 Days, E = 109.435925 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.4	7.11	6.68	6.68	5.45	3.29	1.80	16.7	16.7	0.42	0.42	13.1	0.88	0.22	1.92



Stellar Parameters For KIC 006696381

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6541^{+179}_{-247}	$3.979^{+0.299}_{-0.161}$	$0.080^{+0.250}_{-0.300}$	$2.075^{+0.615}_{-0.752}$	$1.495^{+0.208}_{-0.339}$	$0.236^{+0.501}_{-0.107}$
	+3%/-4%	+8%/-4%	+312%/-375%	+30%/-36%	+14%/-23%	+213%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006696381-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-259 ± 18	$4.57^{+0.77}_{-0.90}$	577^{+45}_{-53}	5775^{+293}_{-281}	6685^{+3181}_{-1767}
Alt.	-96 ± 13	$4.16^{+0.76}_{-0.86}$	575^{+47}_{-51}	4834^{+245}_{-259}	3022^{+1432}_{-940}

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

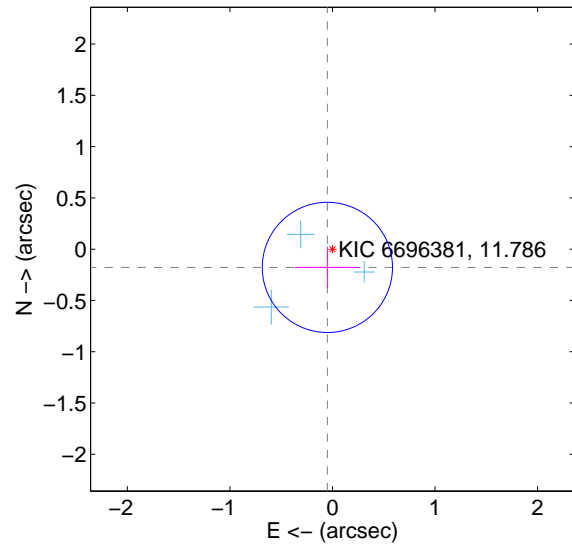
Supplemental centroid analysis for 006696381-02. **Kepler magnitude: 11.79.** Transit SNR 7.85

There are 3 quarters with good PRF difference image offsets

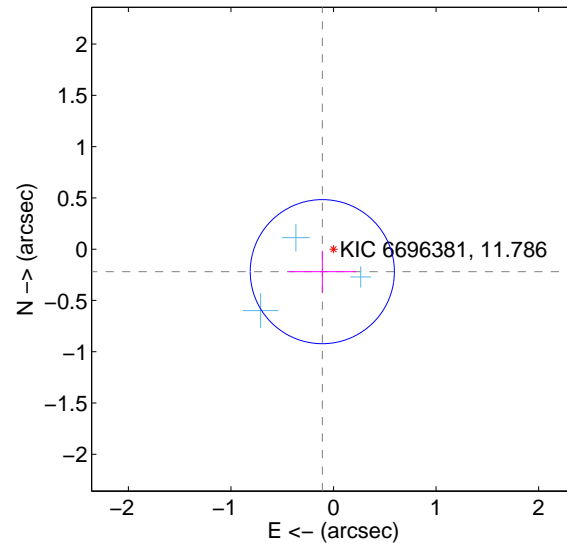
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.185 ± 0.212	0.87	0.050 ± 0.316	-0.178 ± 0.201
PRF-fit source offset from KIC position	0.245 ± 0.234	1.05	0.109 ± 0.329	-0.219 ± 0.204
photometric centroid source offset	0.46 ± 0.50	0.91	0.45 ± 0.50	0.06 ± 0.38

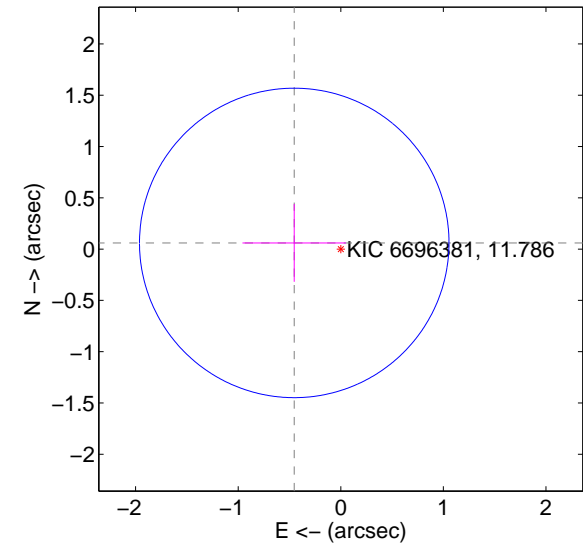
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

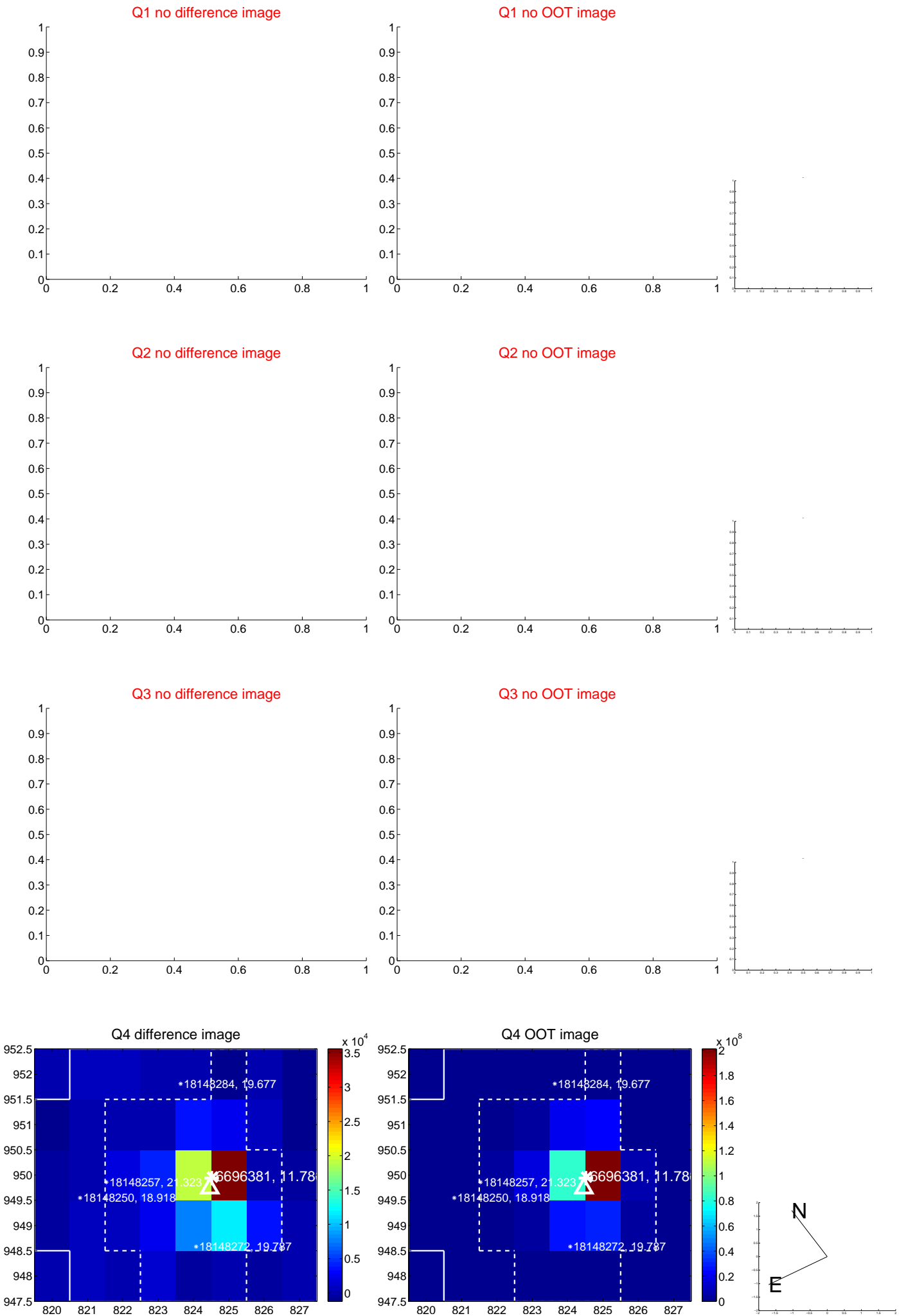


offset from photometric centroids



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.

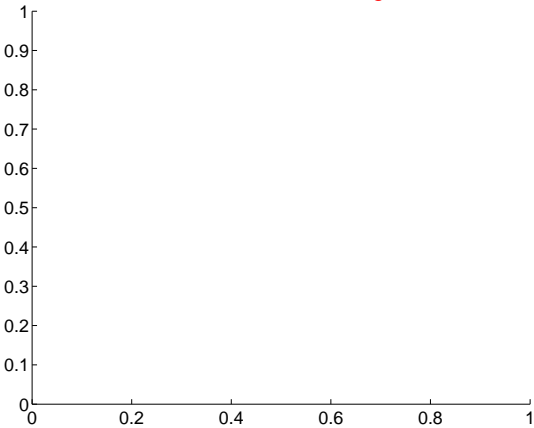
Q5 no difference image



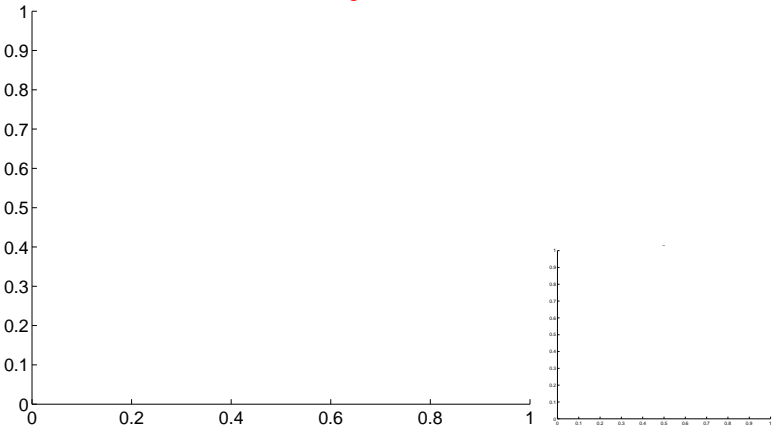
Q5 no OOT image



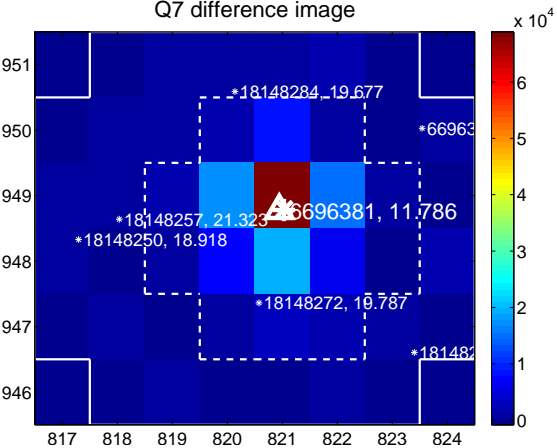
Q6 no difference image



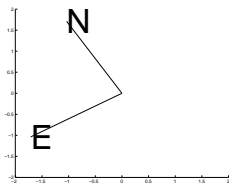
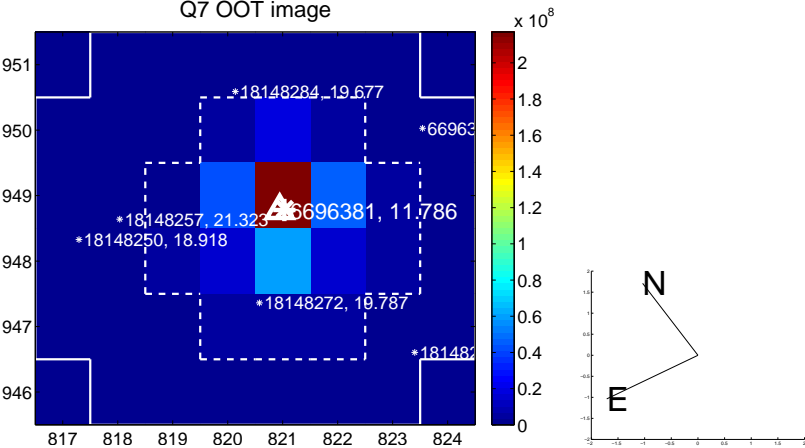
Q6 no OOT image



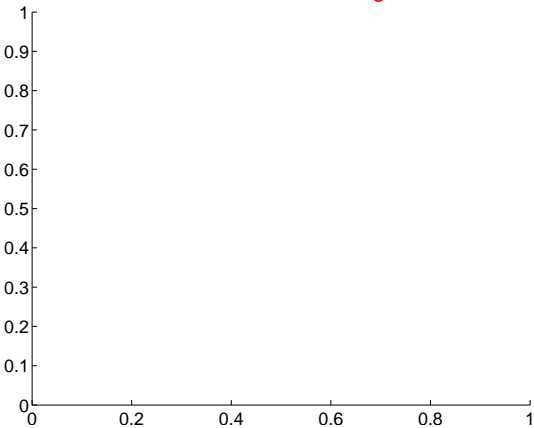
Q7 difference image



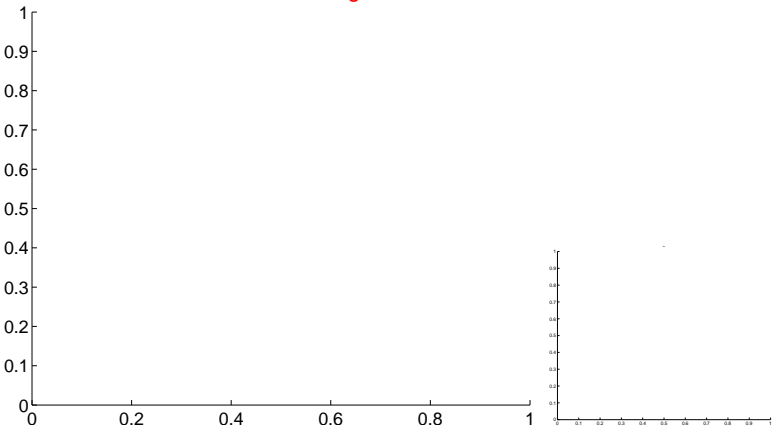
Q7 OOT image



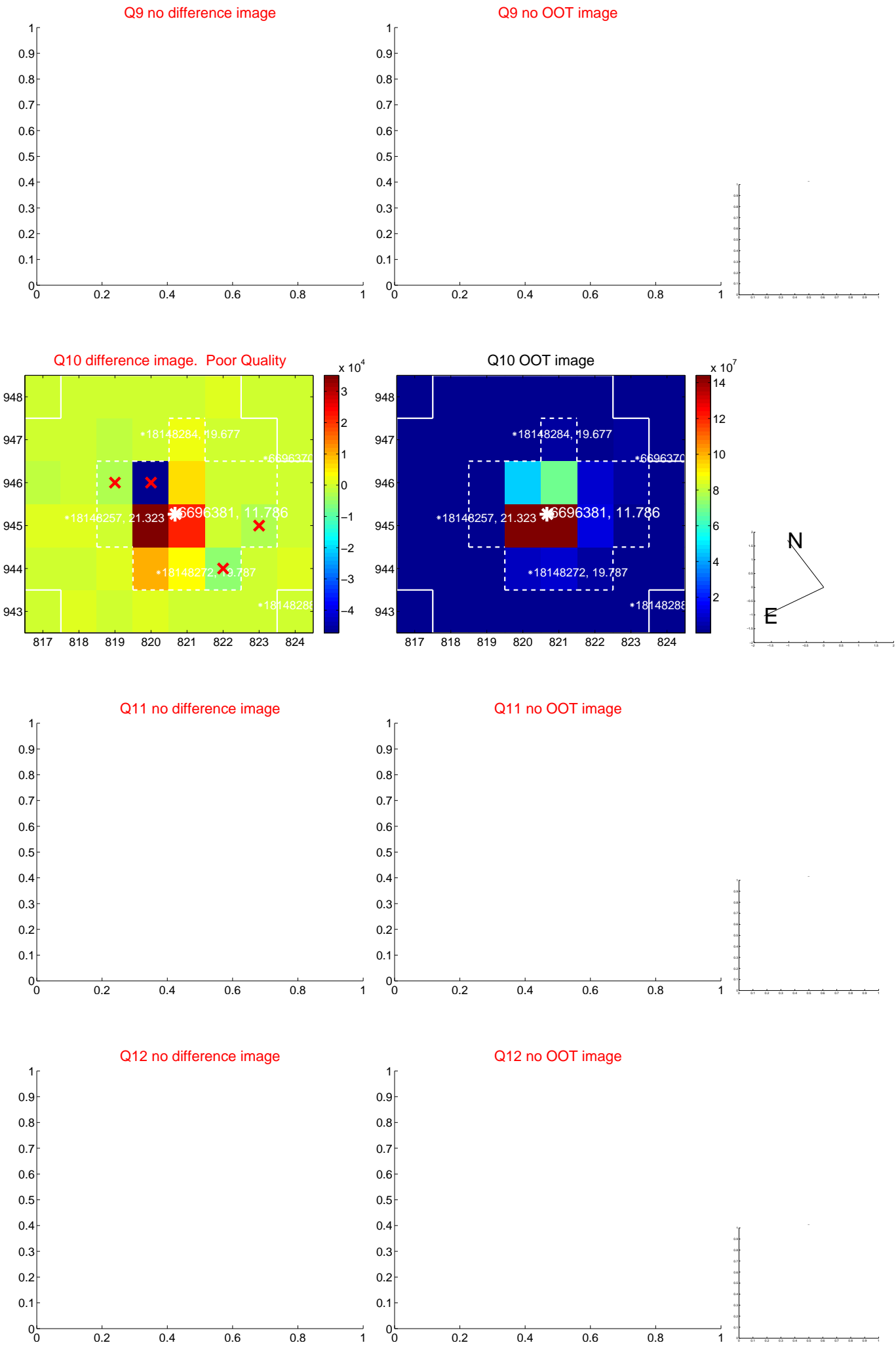
Q8 no difference image



Q8 no OOT image



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



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

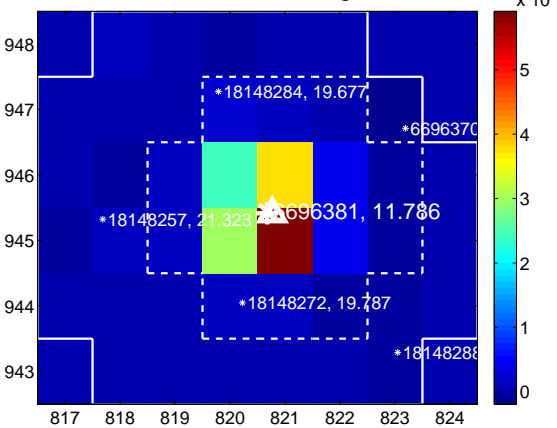
Q13 no difference image



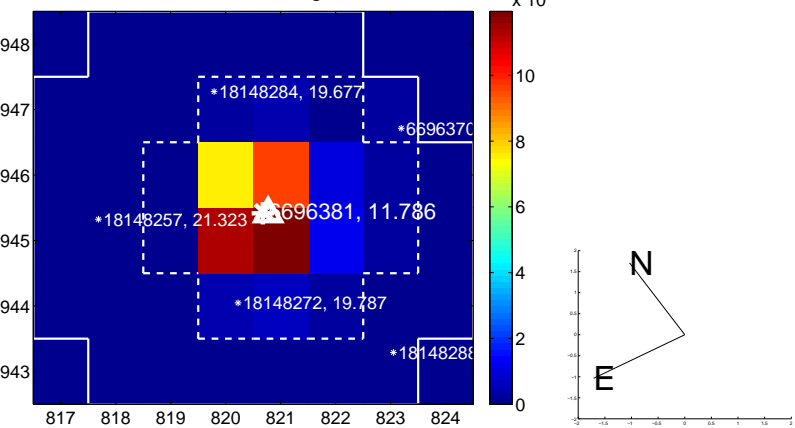
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



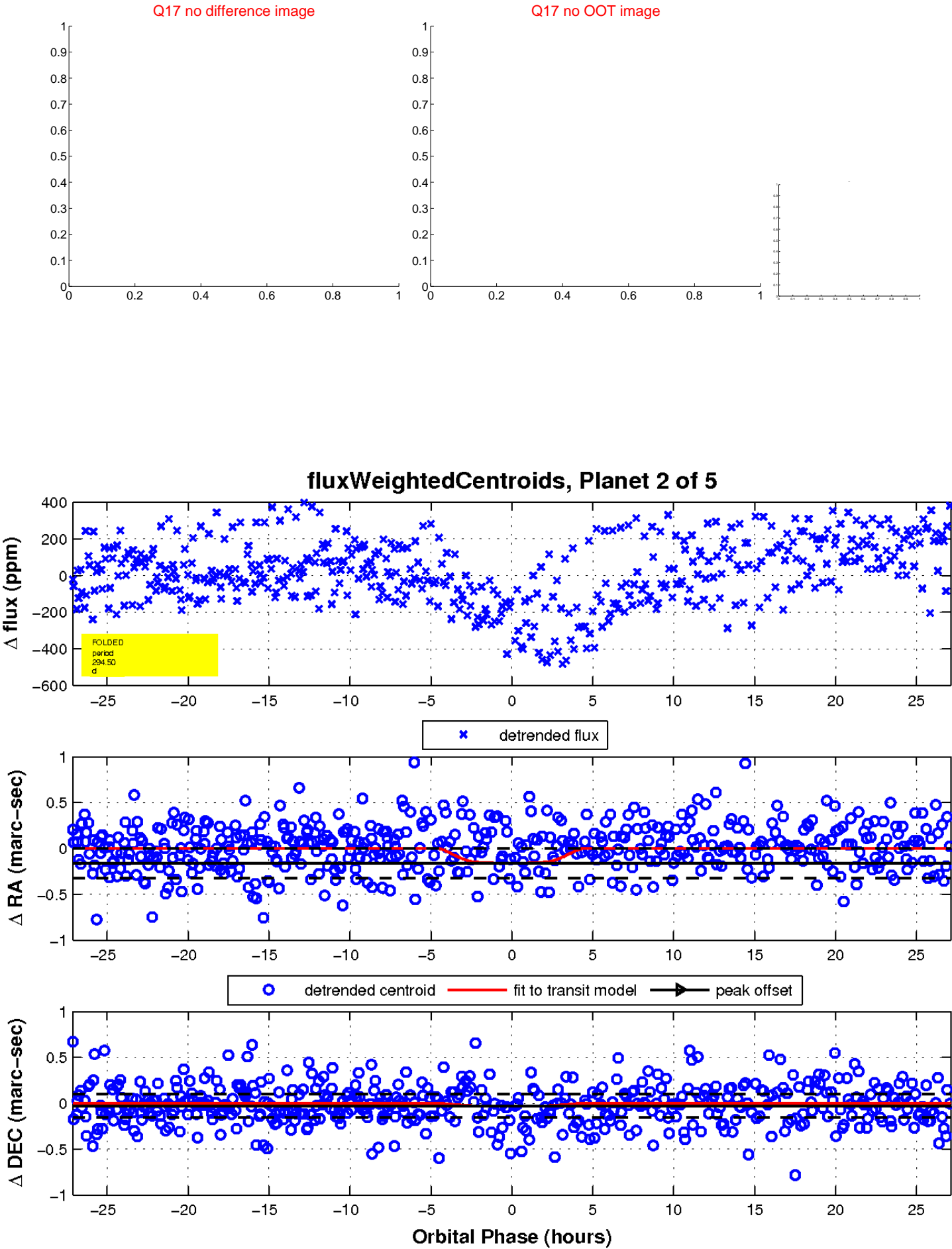
Q16 no difference image



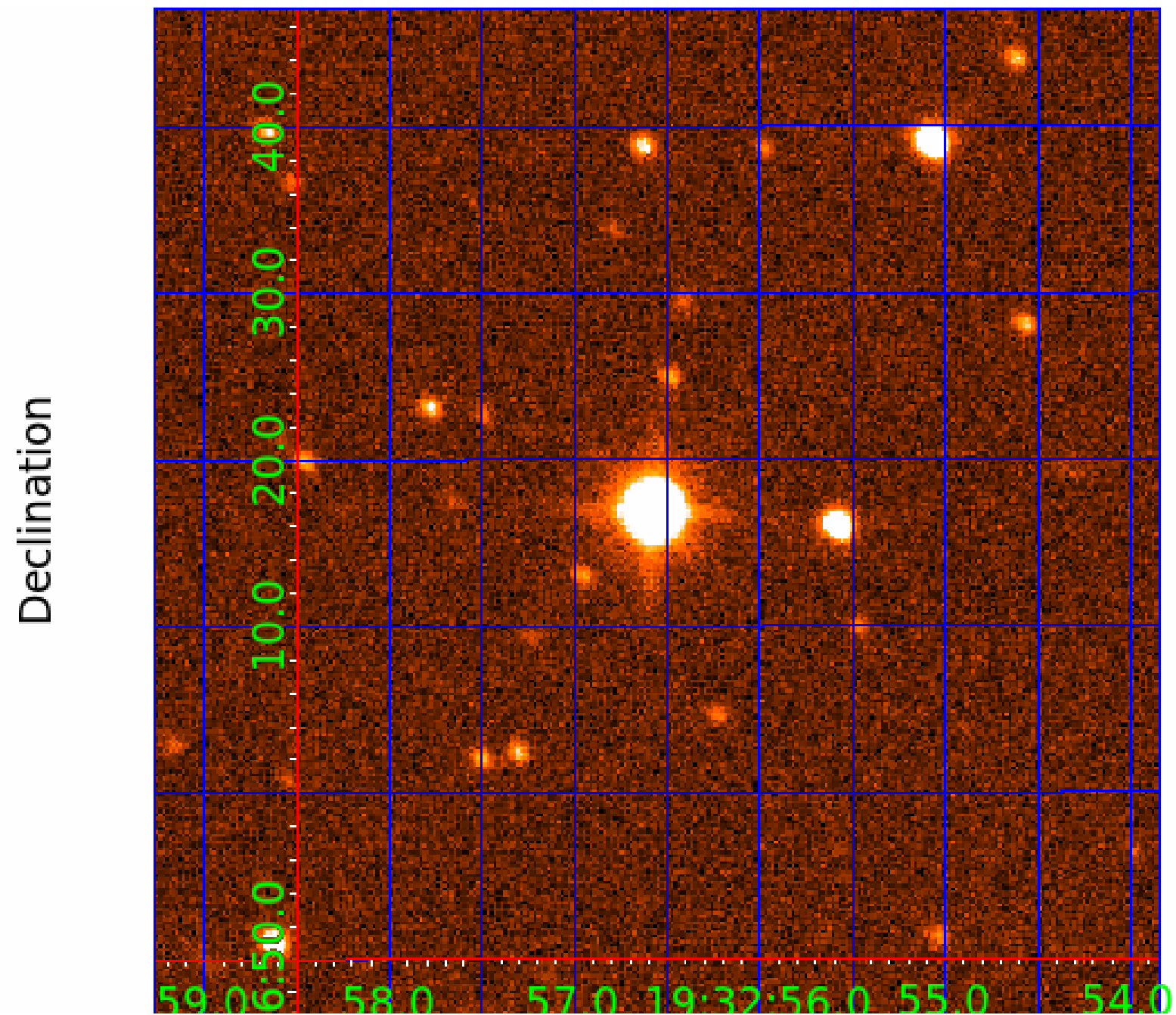
Q16 no OOT image



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



UKIRT Image



KIC 006696381

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})
006696381-01	OBS	No	2.256630	132.561221	24.6	7.669	10.5	9.4	2.08	6541	1.21	4759.22
006696381-02	OBS	No	294.496532	403.871520	312.9	9.044	8.9	7.8	2.08	6541	4.66	7.19
006696381-03	OBS	No	226.336478	155.064151	300.2	9.153	8.6	7.1	2.08	6541	4.74	10.21
006696381-04	OBS	No	327.699429	340.787609	237.3	12.462	7.4	6.8	2.08	6541	3.27	6.24
006696381-05	OBS	No	176.031003	144.369887	157.9	7.488	8.8	7.3	2.08	6541	3.36	14.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006696381-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006696381-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
006696381-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
006696381-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT
006696381-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_ALT

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

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

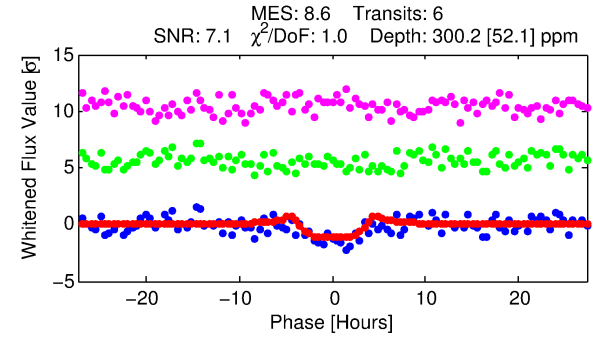
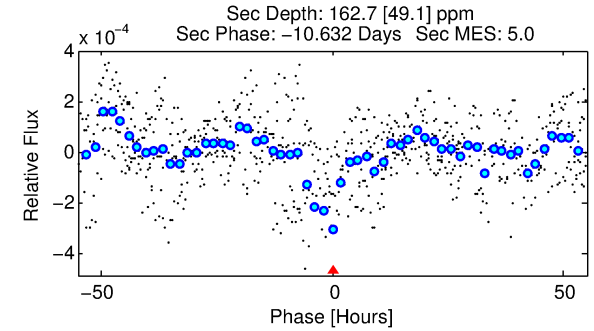
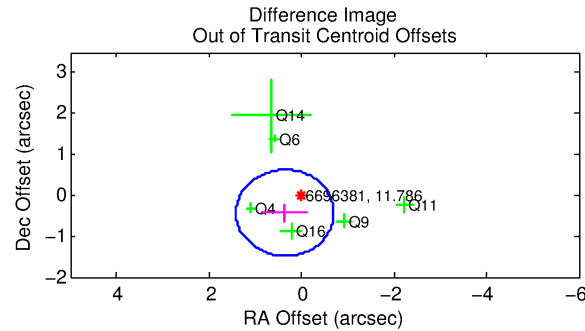
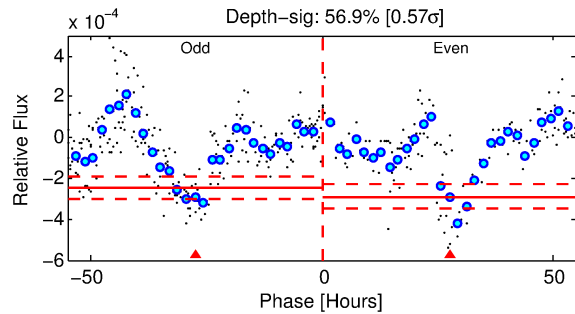
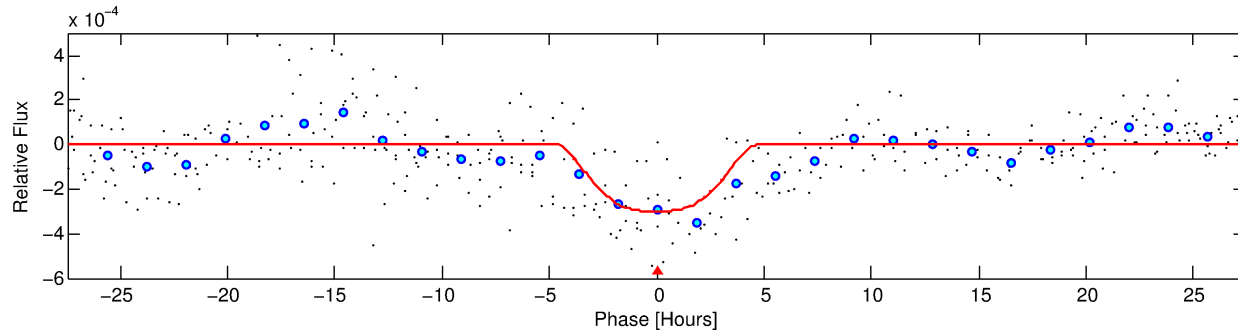
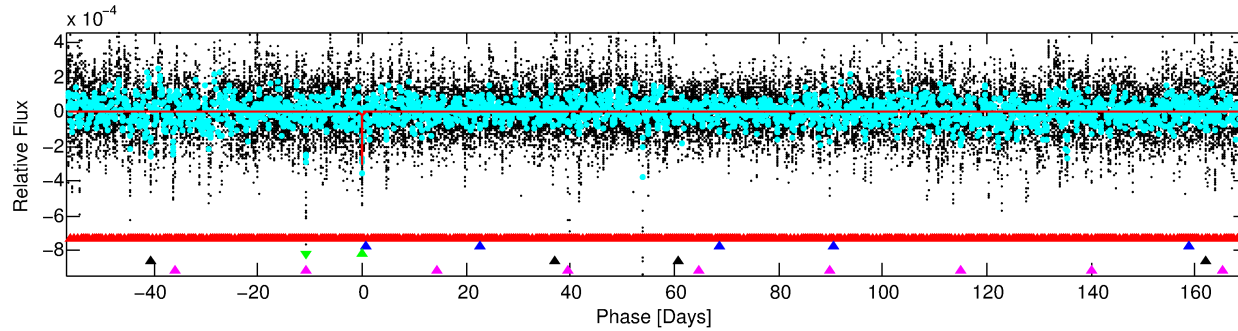
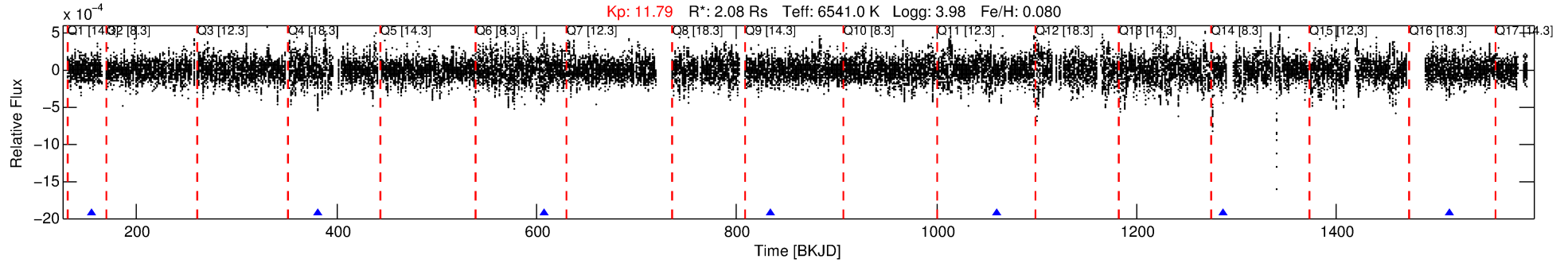
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006696381-03

No Significant Match Found

DV One-Page Summary

KIC: 6696381 Candidate: 3 of 5 Period: 226.336 d



DV Fit Results:

Period = 226.33648 [0.00685] d
Epoch = 155.0642 [0.0242] BKJD
Rp/R* = 0.0210 [0.0021]
a/R* = 55.96 [7.91]
b = 0.98 [0.01]
Seff = 10.21 [5.52]
Teq = 456 [62] K
Rp = 4.74 [1.78] Re
a = 0.8315 [0.2771] AU
Ag = 2749.36 [1736.48] [1.58 σ]
Teffp = 5103 [499] K [9.25 σ]

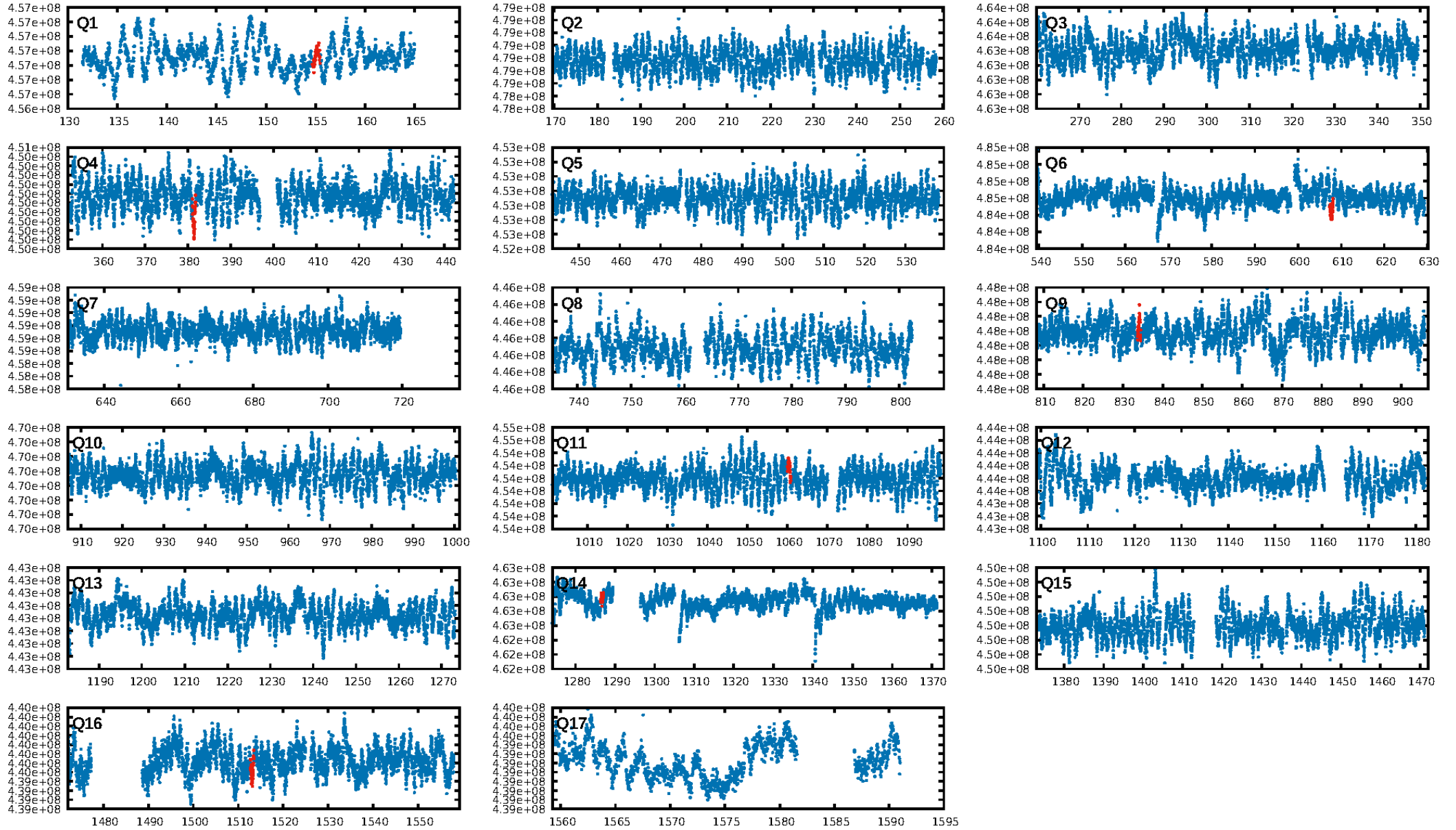
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [102.10 σ]
LongPeriod-sig: 100.0% [127.13 σ]
ModelChiSquare2-sig: 34.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.77e-11
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -1.133
Centroid-sig: 7.4%
Centroid-so: 0.343 arcsec [1.07 σ]
OotOffset-rm: 0.564 arcsec [1.60 σ]
OotOffset-st: 2/1/2/1 [6]
KicOffset-rm: 0.631 arcsec [1.67 σ]
KicOffset-st: 2/1/2/1 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 0.14 [1/7]

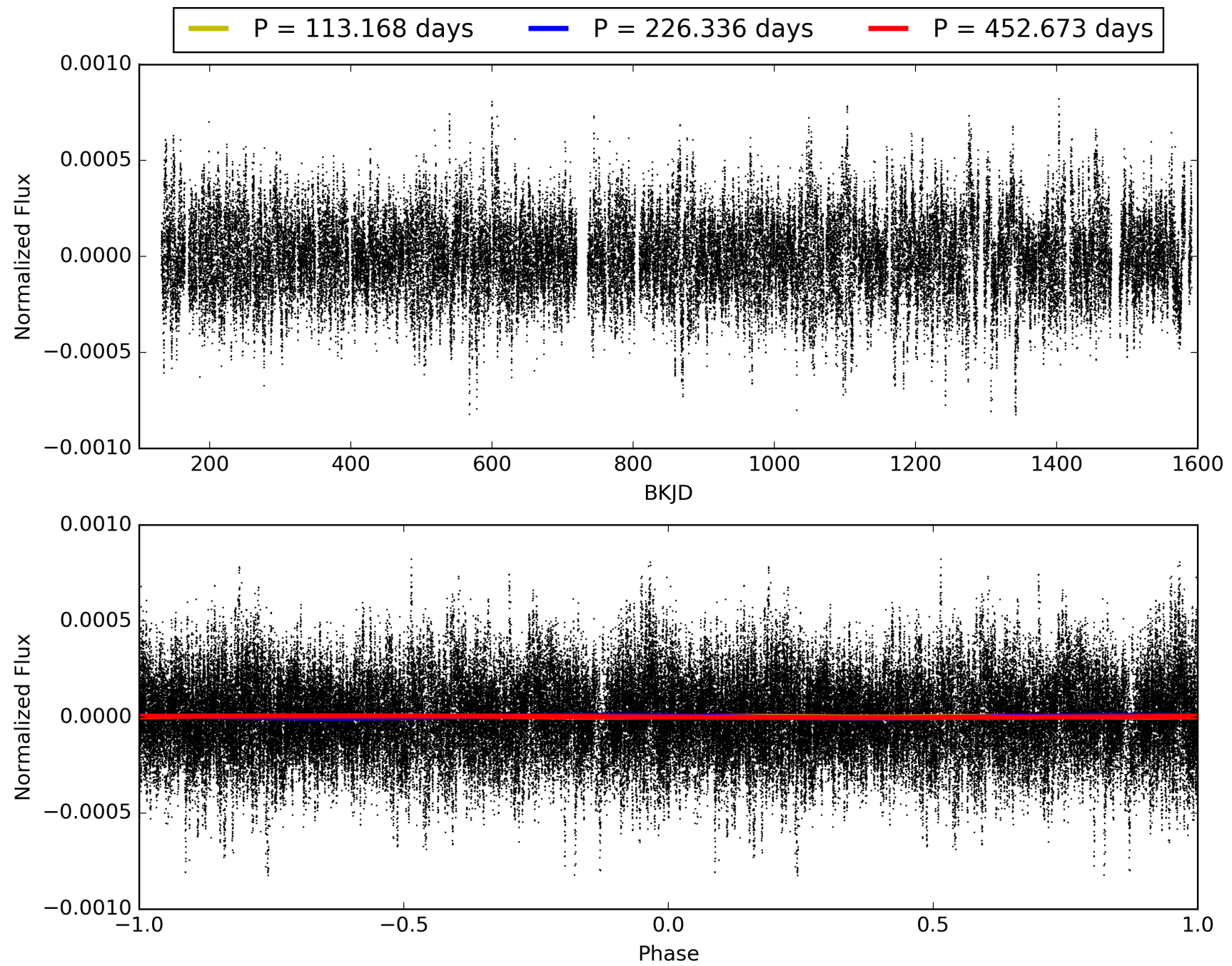
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:35:28 Z

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

TCE 006696381-03, PDC Light Curves

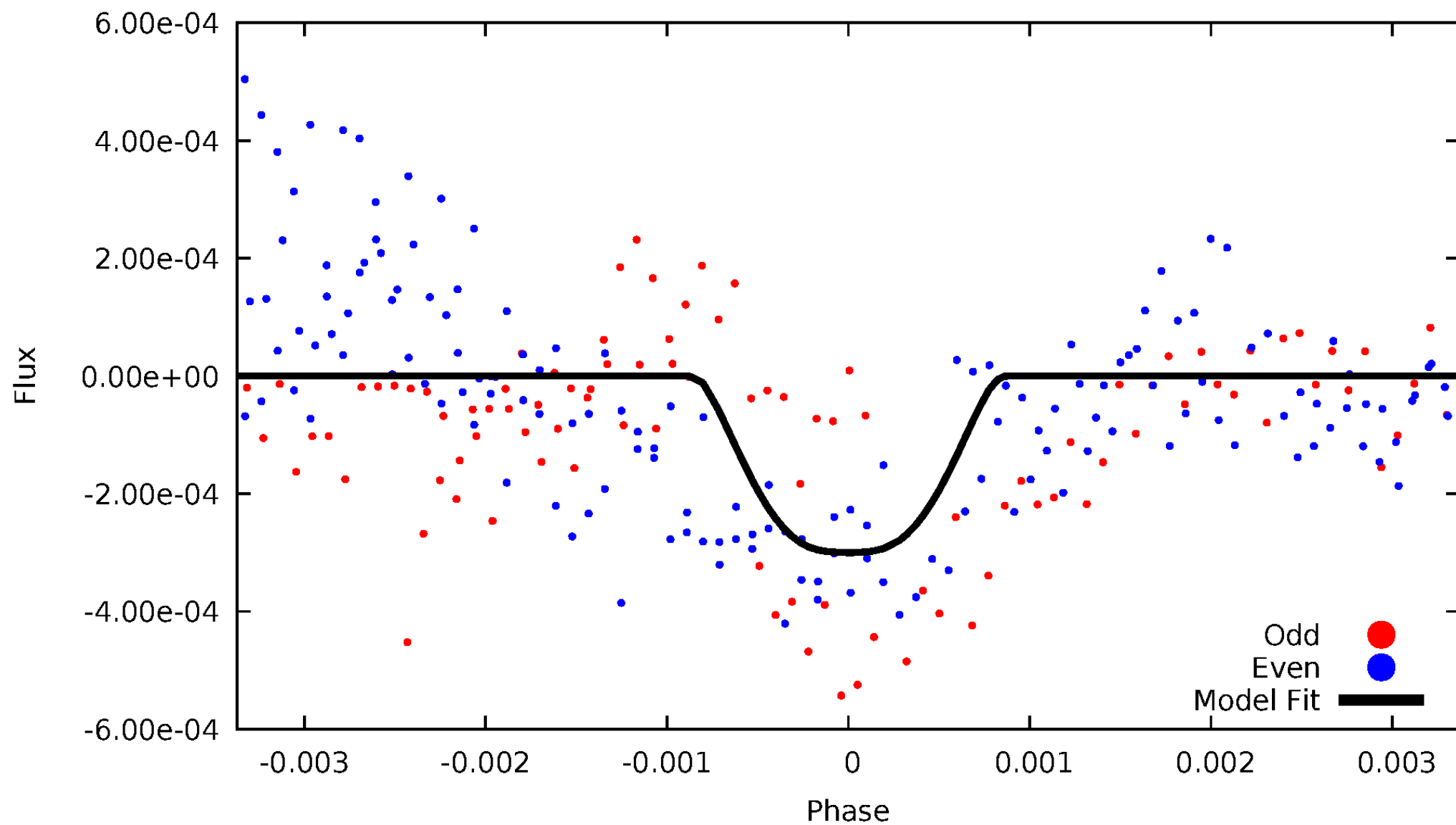


TCE 006696381-03



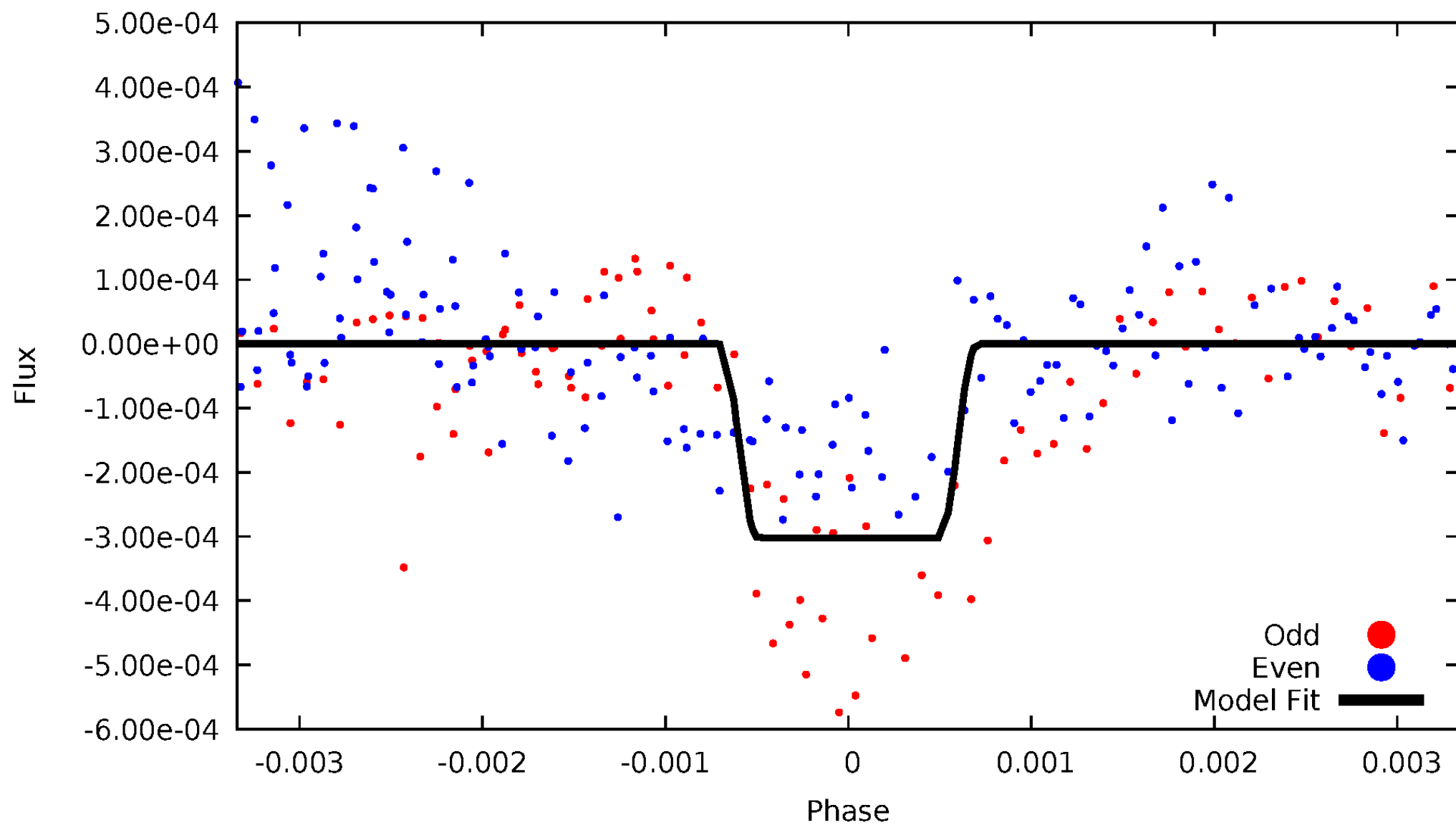
DV Odd/Even

TCE 006696381-03



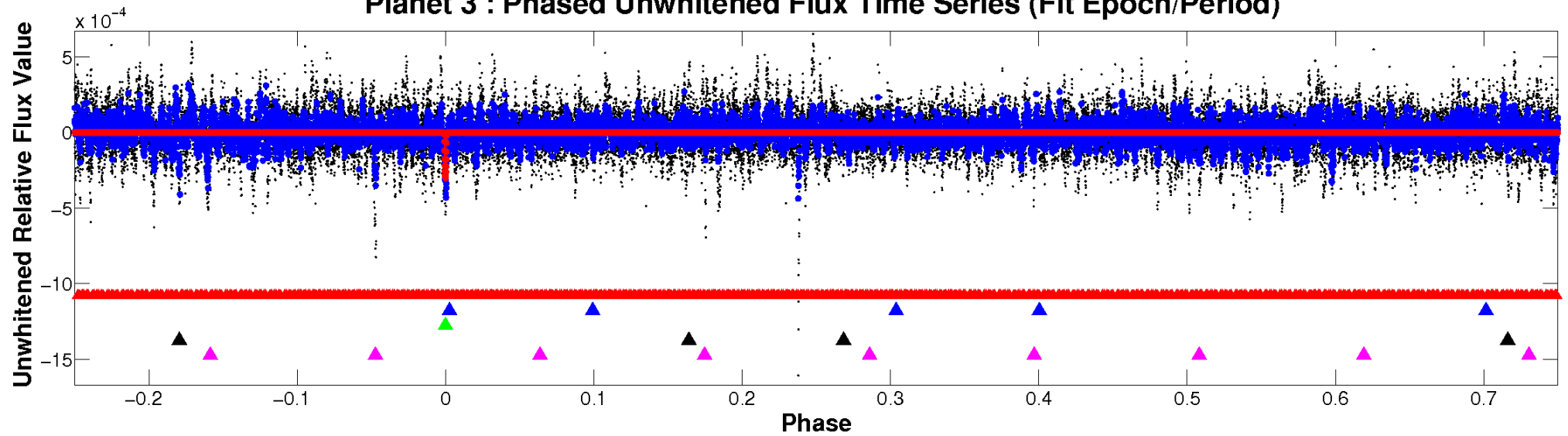
ALT Odd/Even

TCE 006696381-03

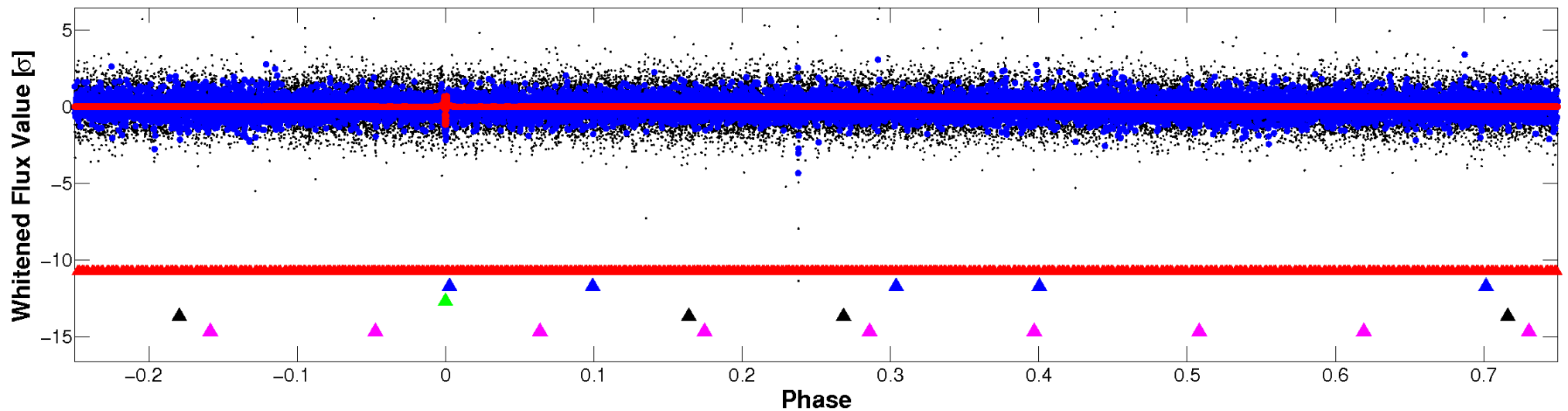


Non-Whitened Vs. Whitened Light Curve

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

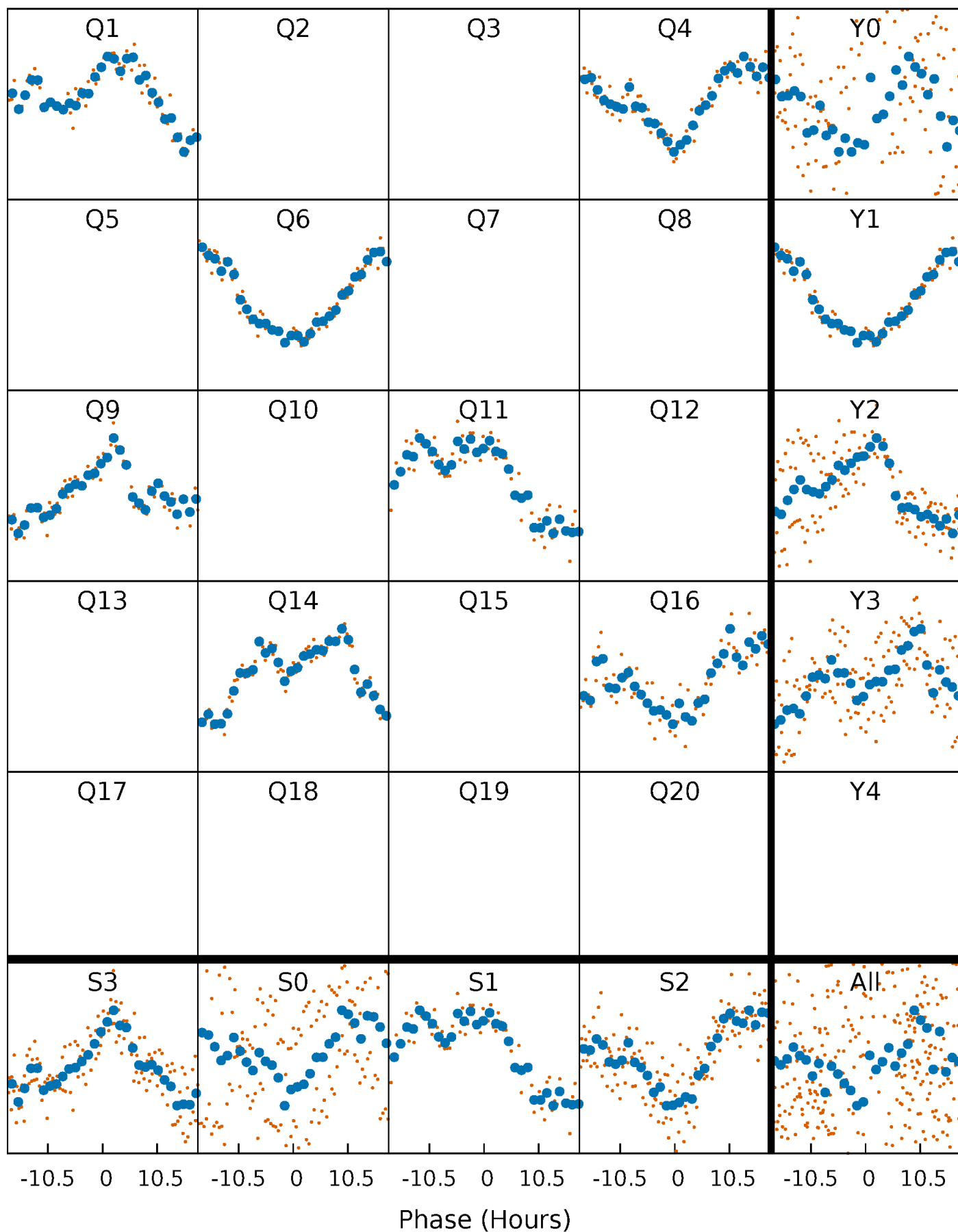


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



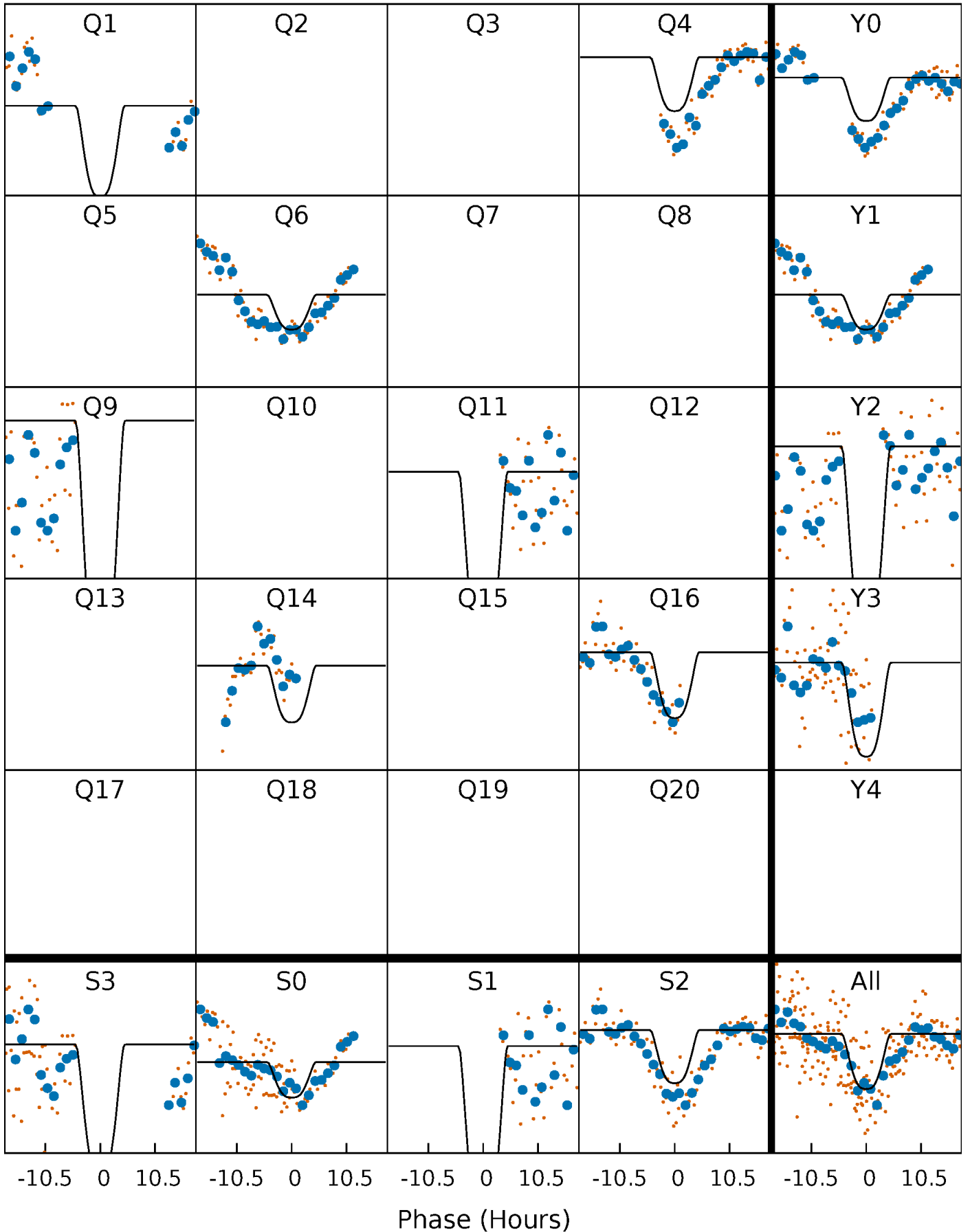
PDC Quarter-Phased Transit Curves

TCE 006696381-03 P=226.336478 Days $T_0=155.064151$ (BKJD)



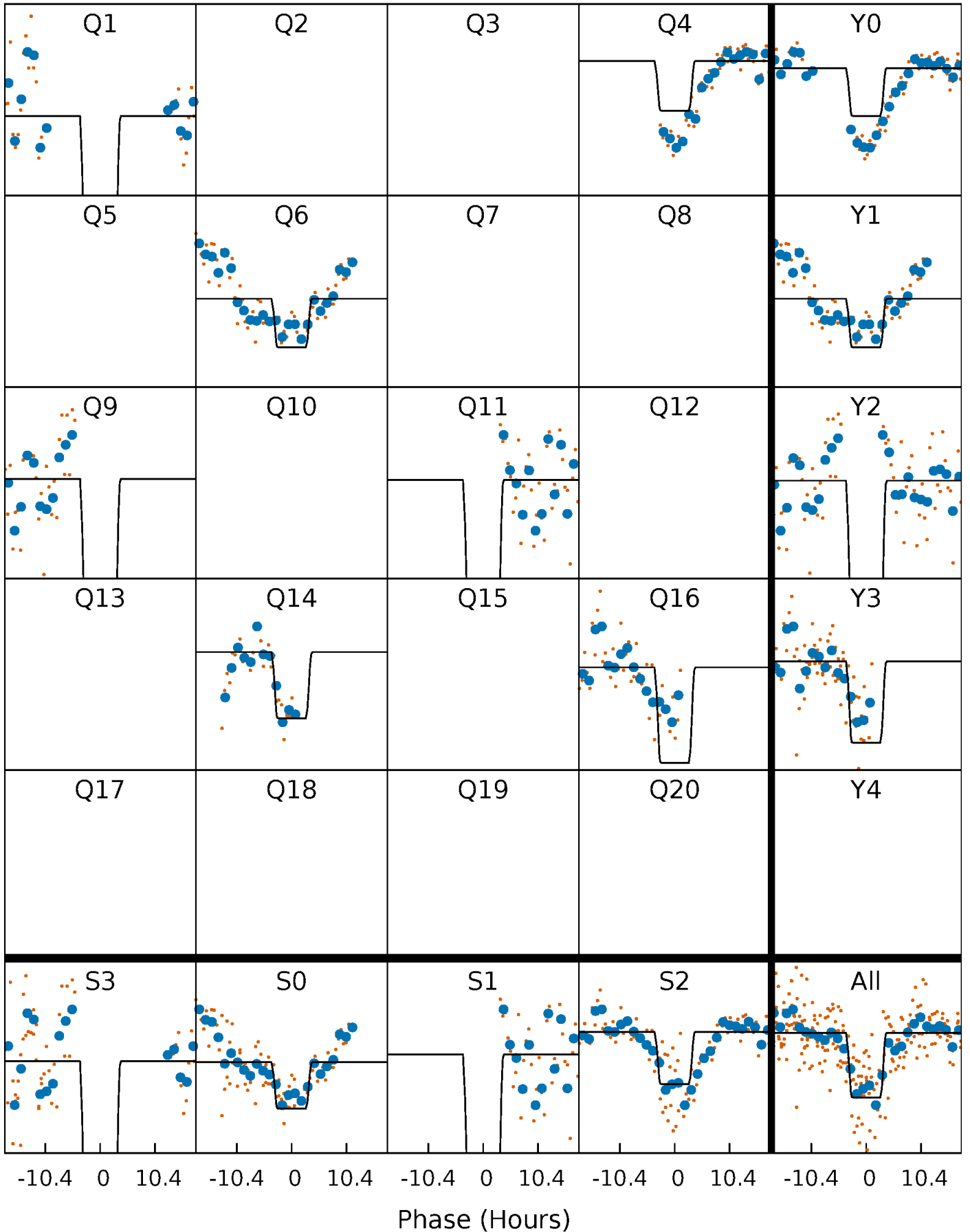
DV Quarter-Phased Transit Curves

TCE 006696381-03 P=226.336478 Days $T_0=155.064151$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

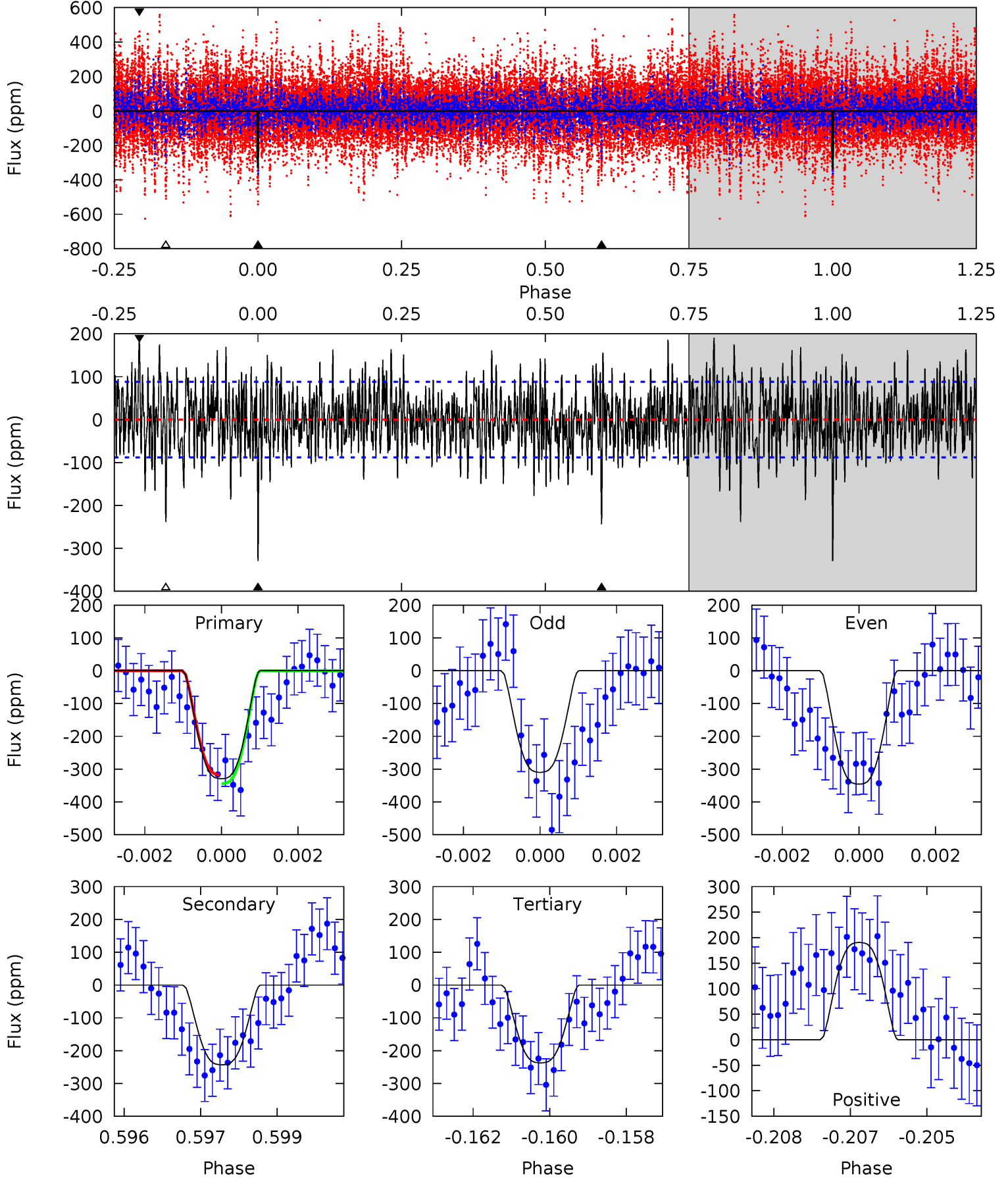
TCE 006696381-03 P=226.335733 Days $T_0=155.067412$ (BKJD)



DV Model-Shift Uniqueness Test

006696381-03, P = 226.336478 Days, E = 155.064151 Days

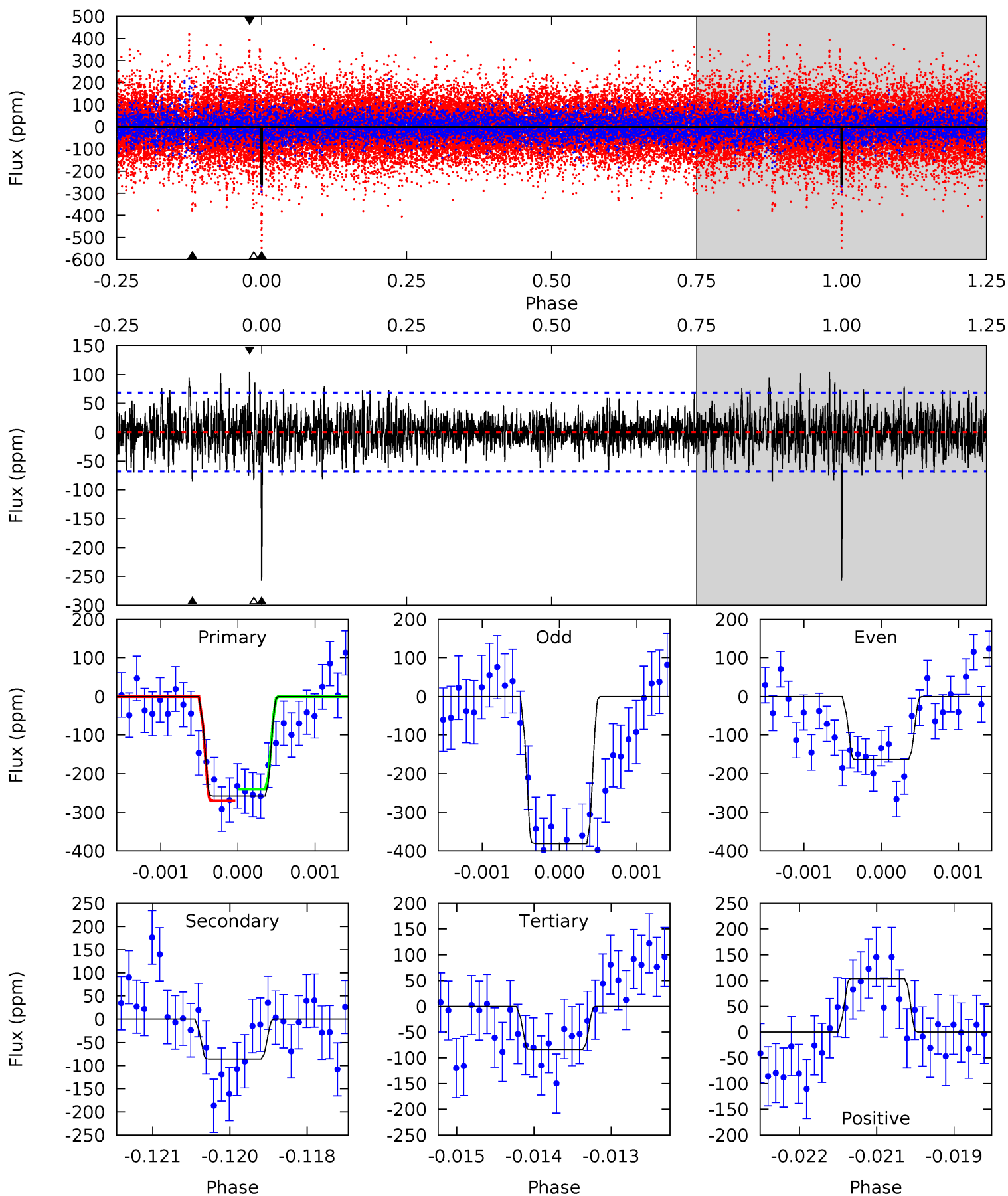
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	14.8	14.4	11.6	5.35	3.13	3.55	5.61	8.44	0.36	3.19	1.07	0.78	0.37	0.81



Alt Model-Shift Uniqueness Test

006696381-03, P = 226.335733 Days, E = 155.067412 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	6.79	6.60	8.22	5.39	3.20	1.91	13.8	12.1	0.18	-1.43	8.68	0.90	0.29	1.14



Stellar Parameters For KIC 006696381

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6541^{+179}_{-247}	$3.979^{+0.299}_{-0.161}$	$0.080^{+0.250}_{-0.300}$	$2.075^{+0.615}_{-0.752}$	$1.495^{+0.208}_{-0.339}$	$0.236^{+0.501}_{-0.107}$
	+3%/-4%	+8%/-4%	+312%/-375%	+30%/-36%	+14%/-23%	+213%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006696381-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-243 ± 16	$4.61^{+0.91}_{-0.99}$	626^{+53}_{-58}	5634^{+355}_{-312}	4276^{+2465}_{-1188}
Alt.	-86 ± 13	$3.77^{+0.86}_{-0.83}$	627^{+54}_{-61}	4876^{+350}_{-296}	2245^{+1466}_{-760}

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

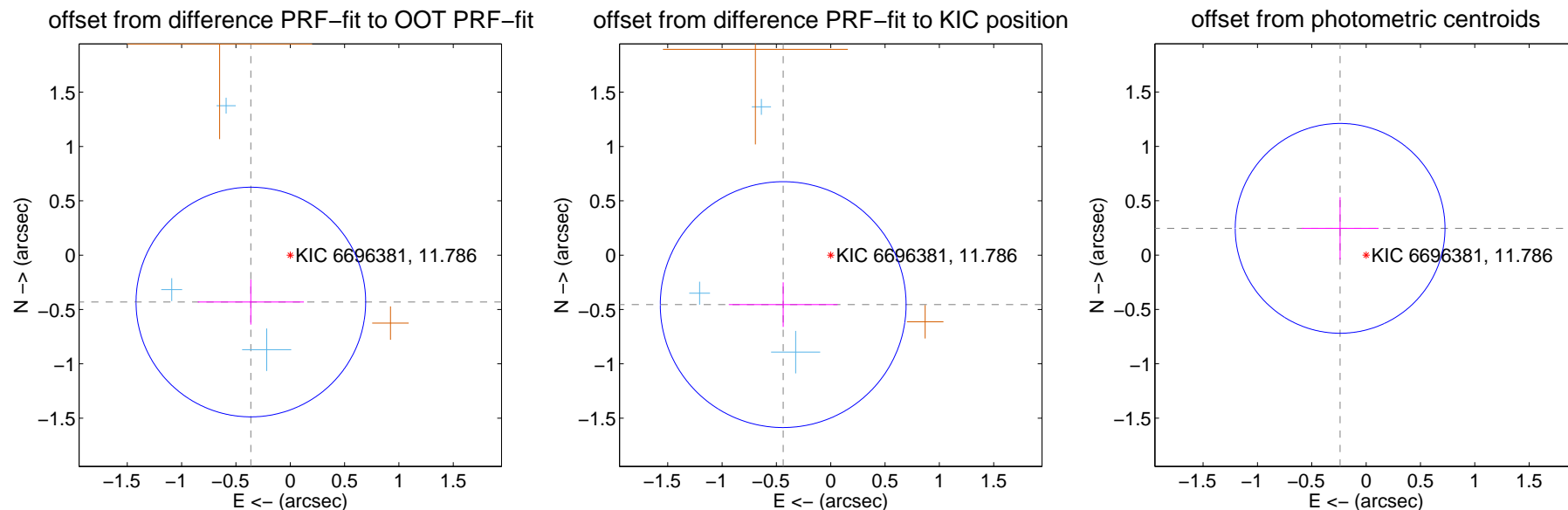
DV Centroid Data

Supplemental centroid analysis for 006696381-03. **Kepler magnitude: 11.79.** Transit SNR 7.14

There are 3 quarters with good PRF difference image offsets

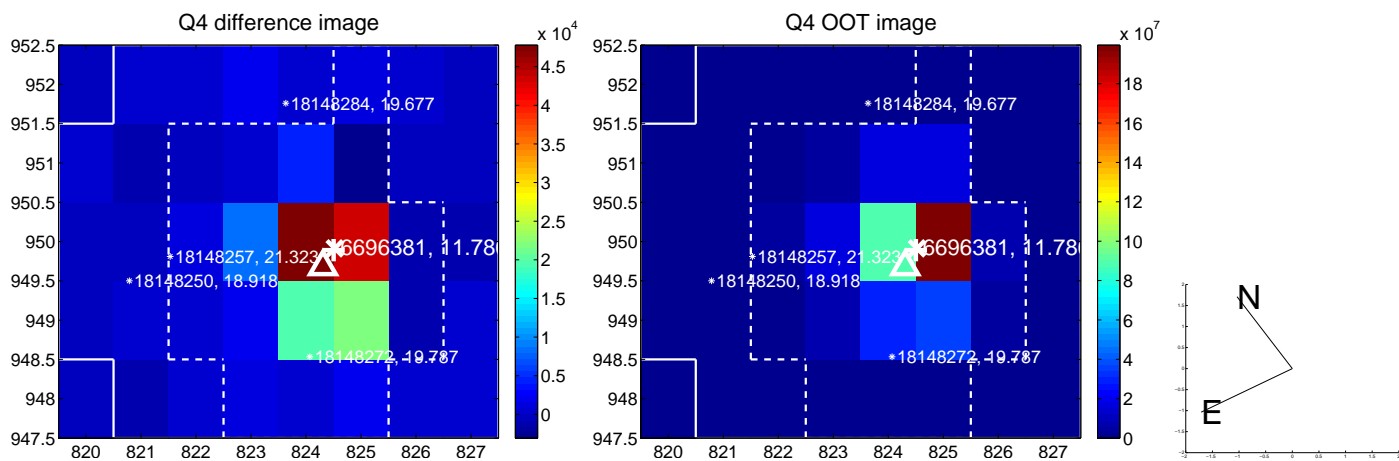
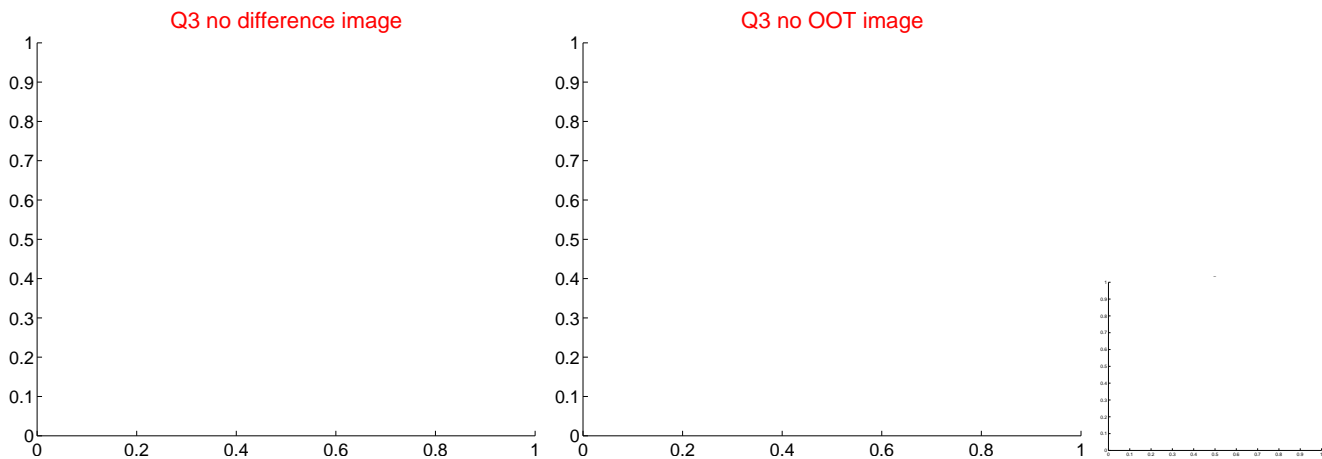
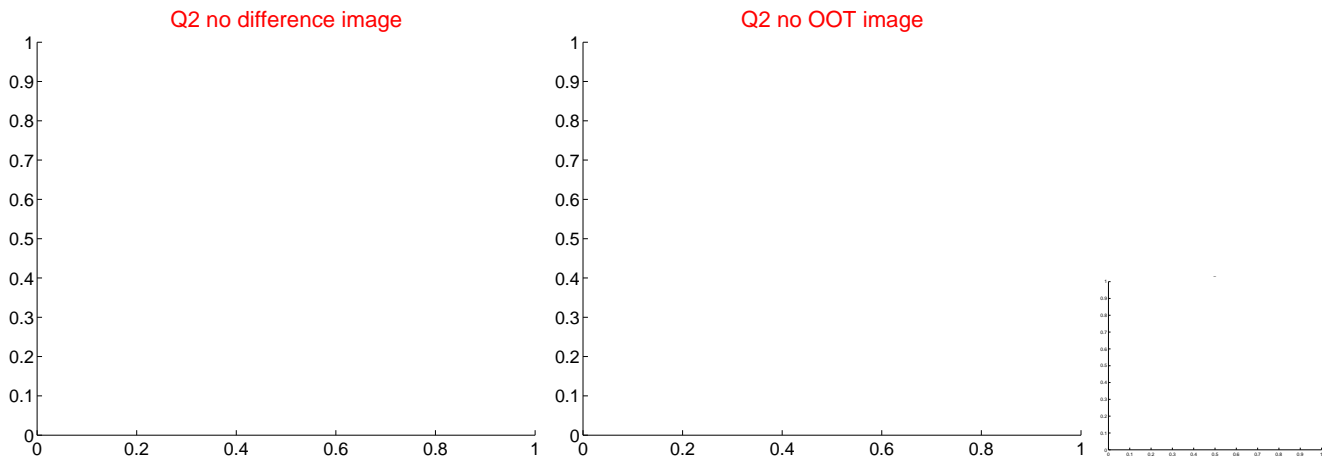
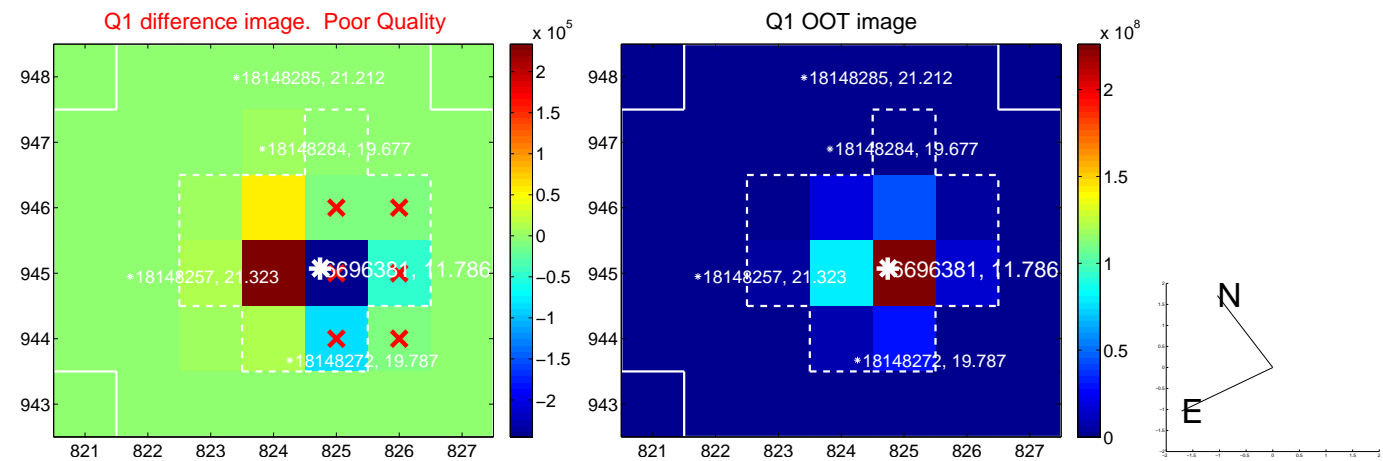
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.564 ± 0.352	1.60	0.363 ± 0.489	-0.431 ± 0.207
PRF-fit source offset from KIC position	0.631 ± 0.377	1.67	0.437 ± 0.501	-0.455 ± 0.205
photometric centroid source offset	0.34 ± 0.32	1.07	0.24 ± 0.35	0.25 ± 0.29

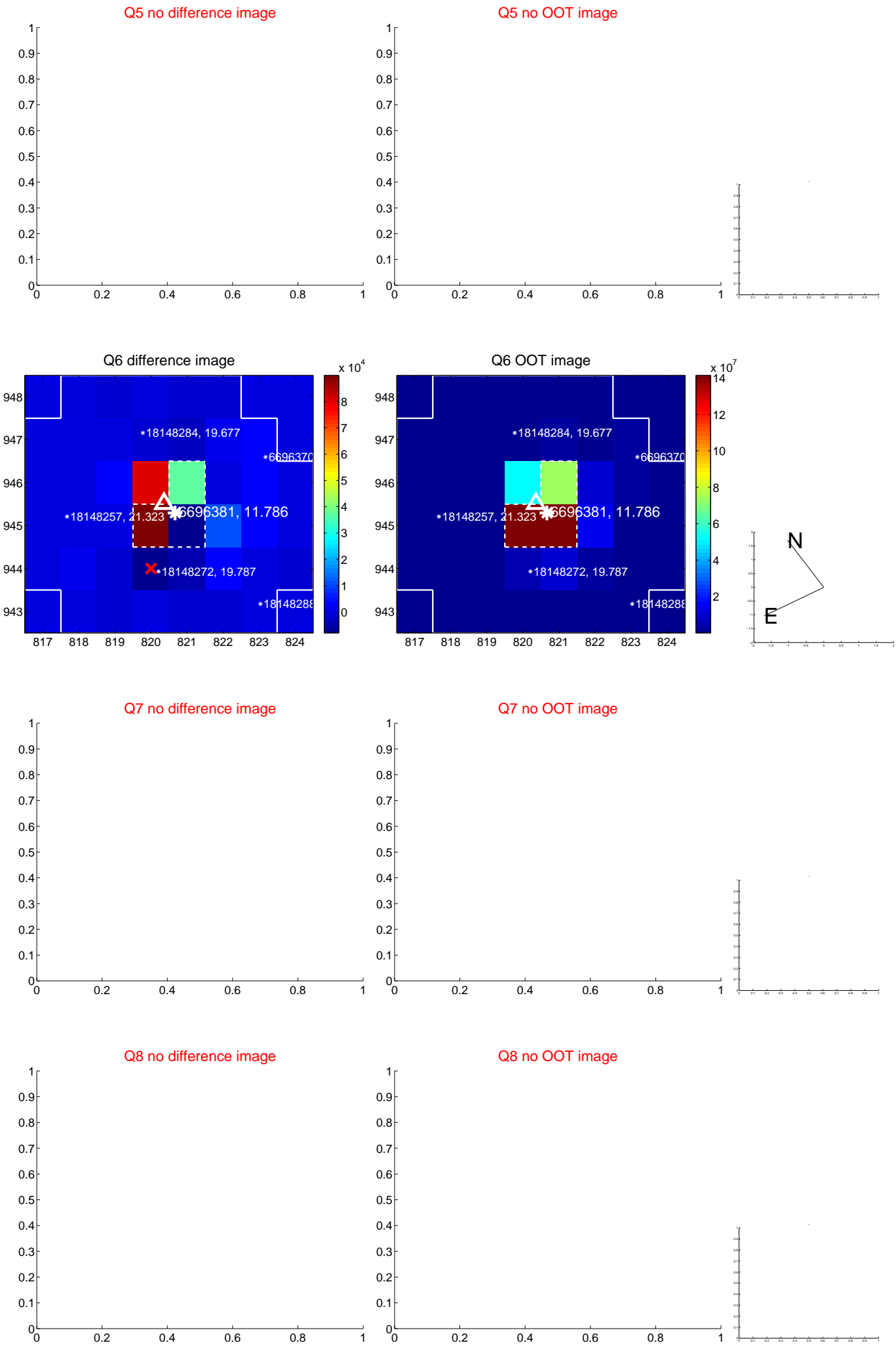


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

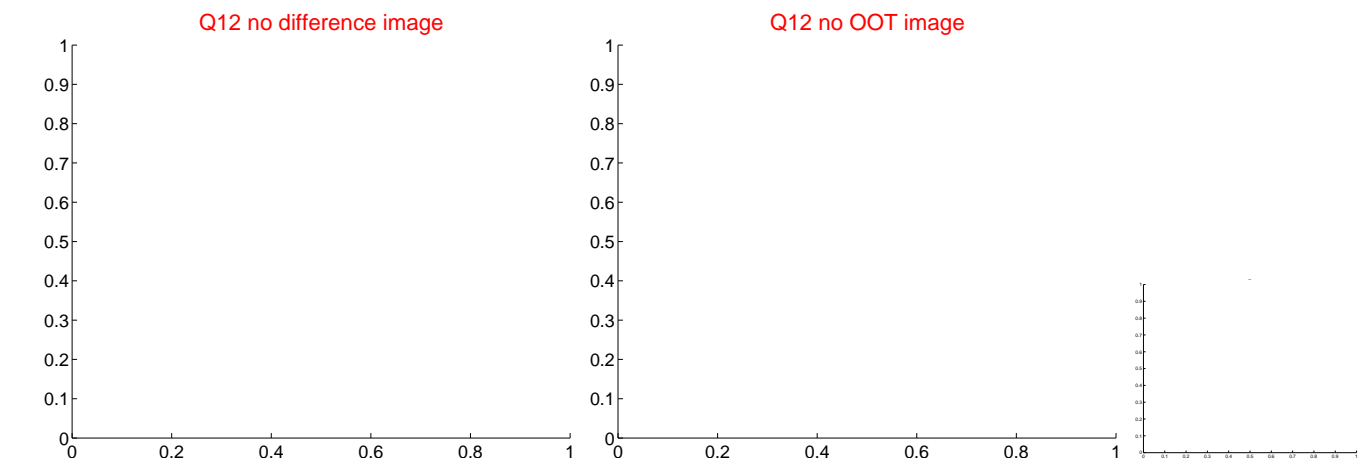
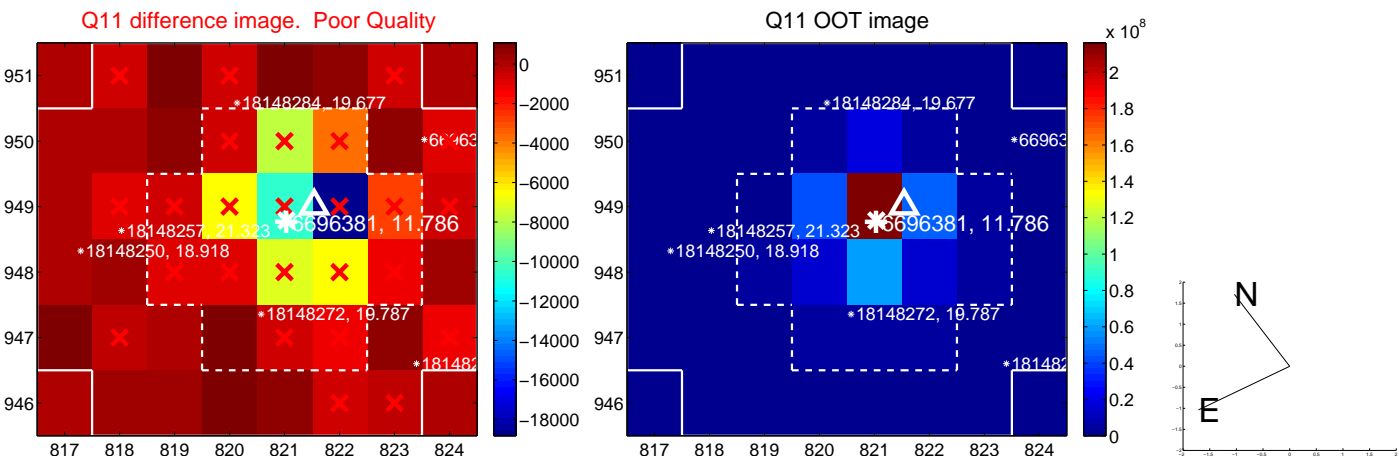
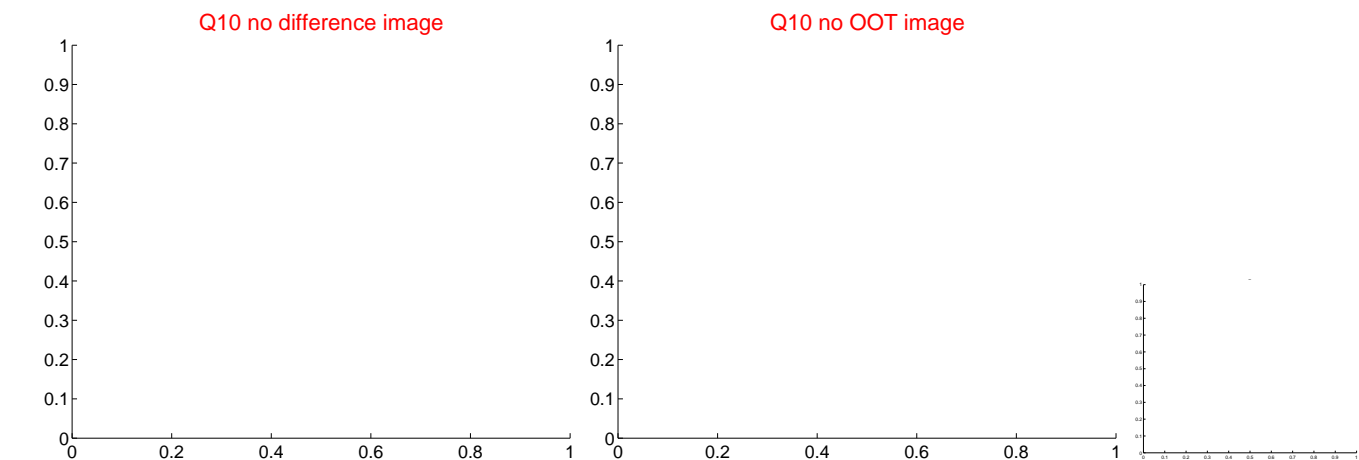
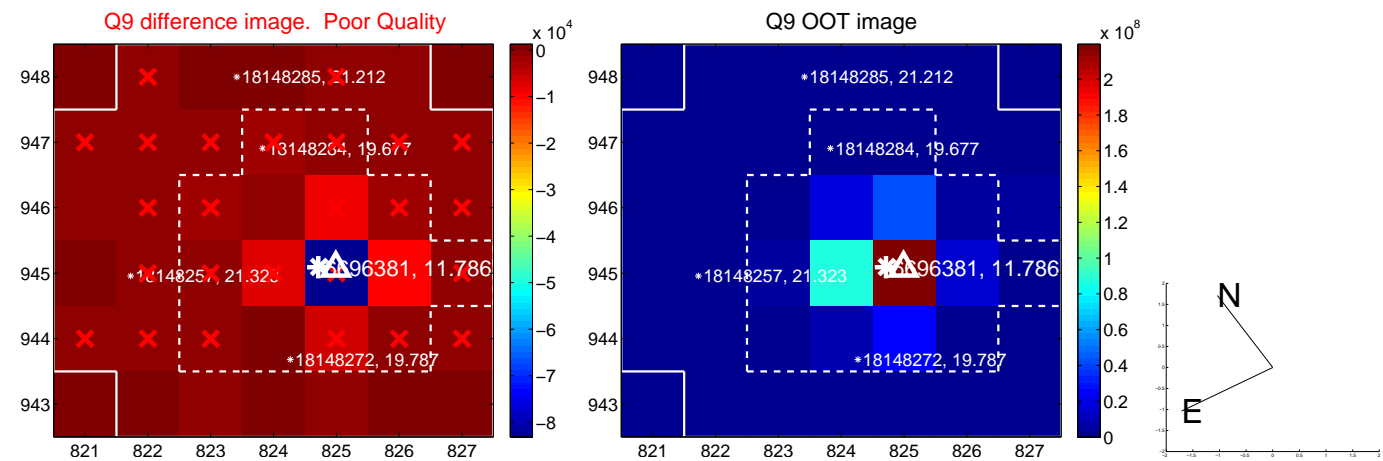
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



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

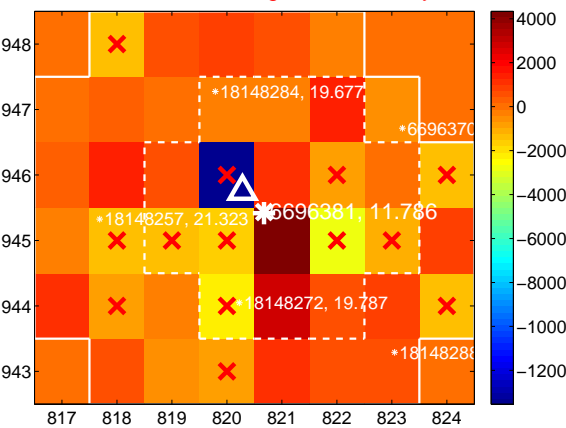
Q13 no difference image



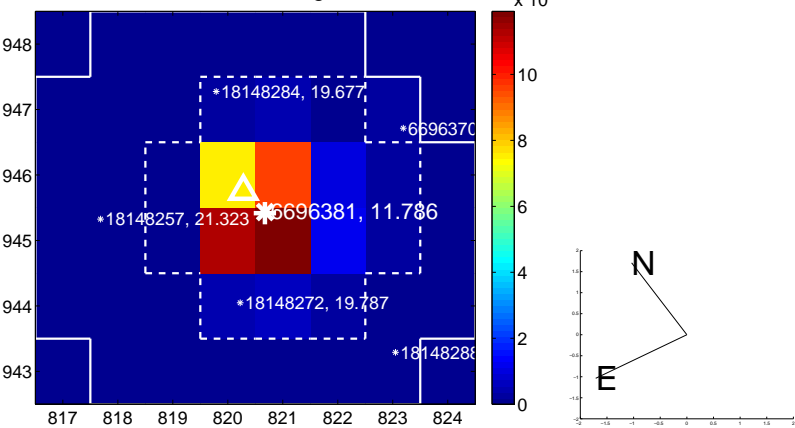
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



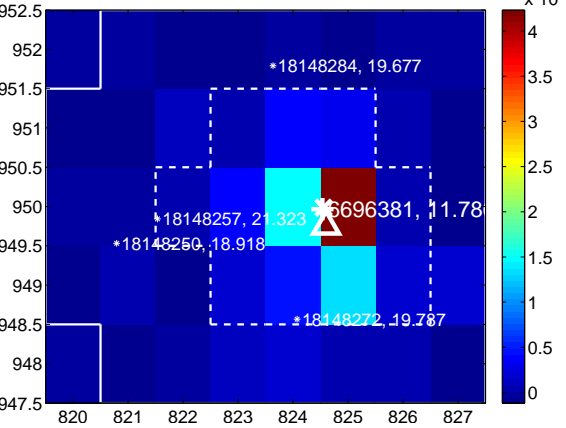
Q15 no difference image



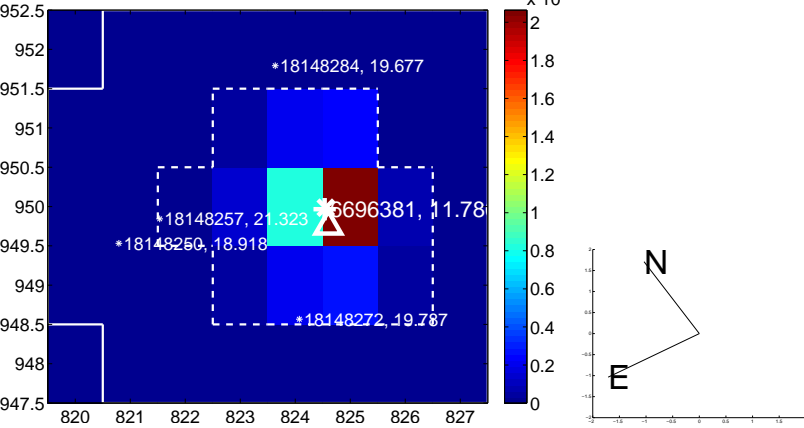
Q15 no OOT image



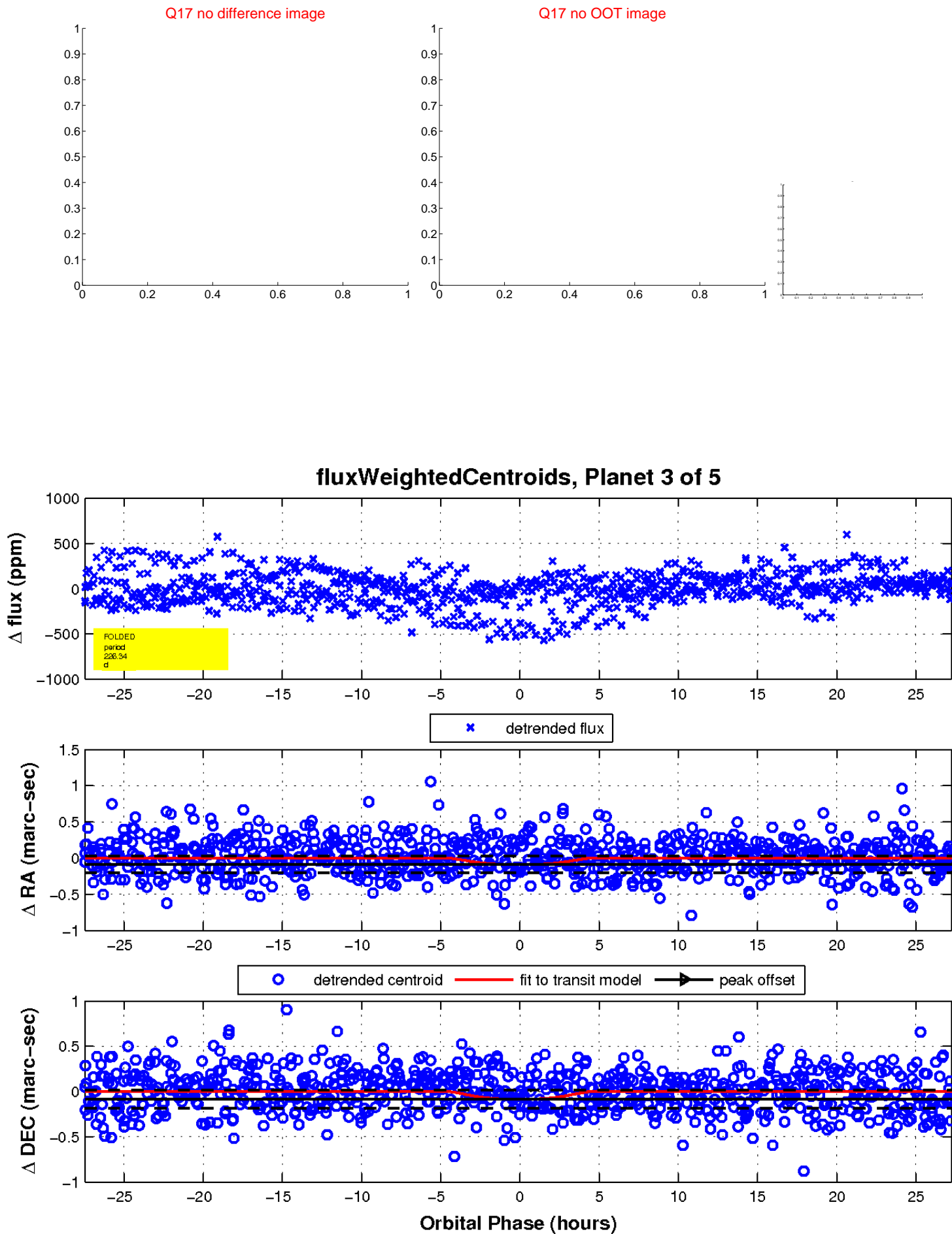
Q16 difference image



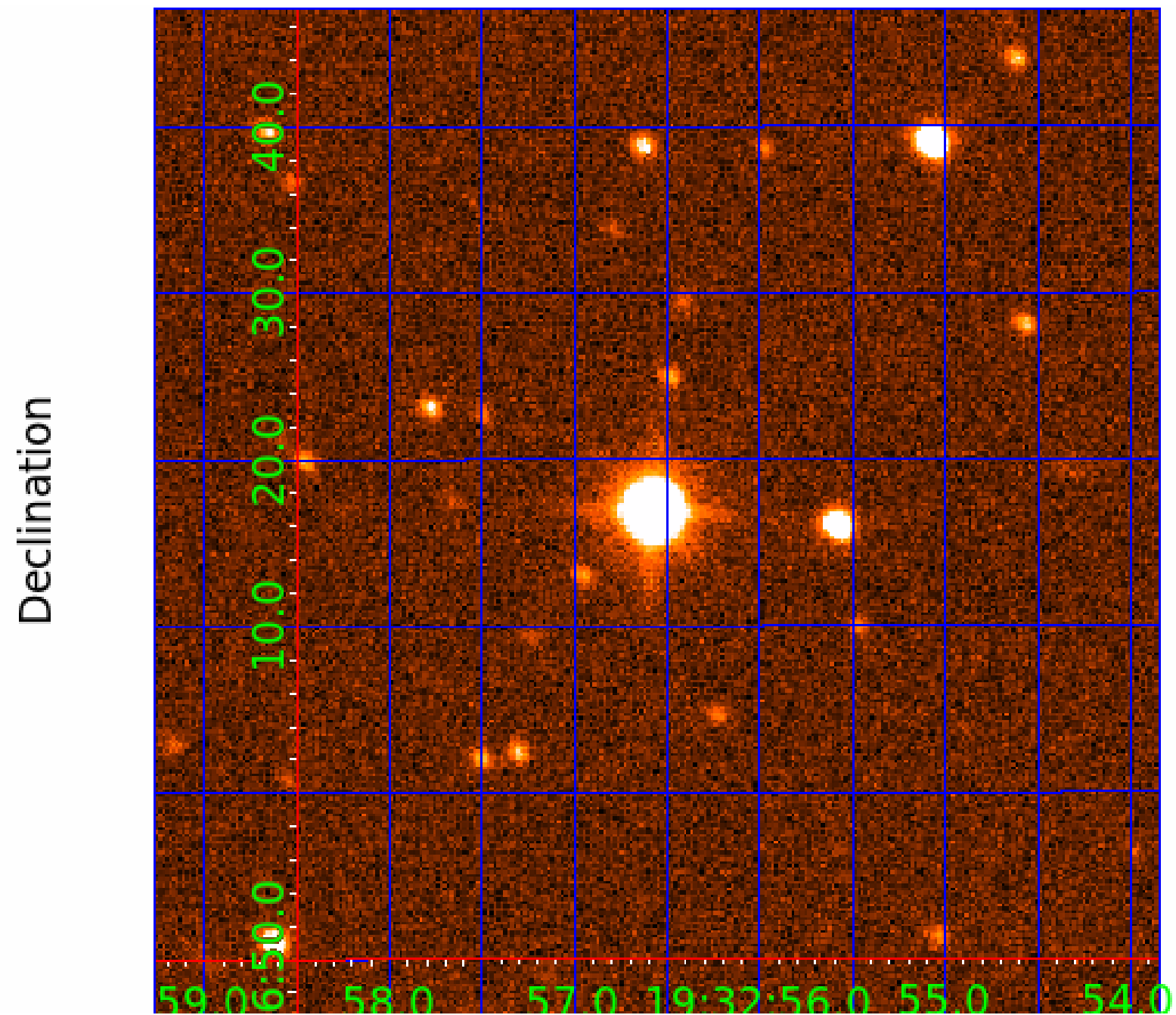
Q16 OOT image



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



UKIRT Image



KIC 006696381

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})
006696381-01	OBS	No	2.256630	132.561221	24.6	7.669	10.5	9.4	2.08	6541	1.21	4759.22
006696381-02	OBS	No	294.496532	403.871520	312.9	9.044	8.9	7.8	2.08	6541	4.66	7.19
006696381-03	OBS	No	226.336478	155.064151	300.2	9.153	8.6	7.1	2.08	6541	4.74	10.21
006696381-04	OBS	No	327.699429	340.787609	237.3	12.462	7.4	6.8	2.08	6541	3.27	6.24
006696381-05	OBS	No	176.031003	144.369887	157.9	7.488	8.8	7.3	2.08	6541	3.36	14.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006696381-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006696381-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
006696381-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
006696381-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT
006696381-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_ALT

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

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

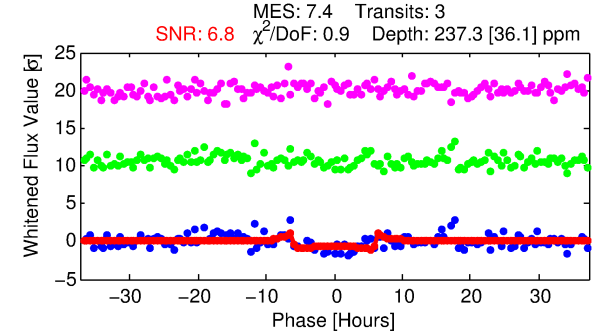
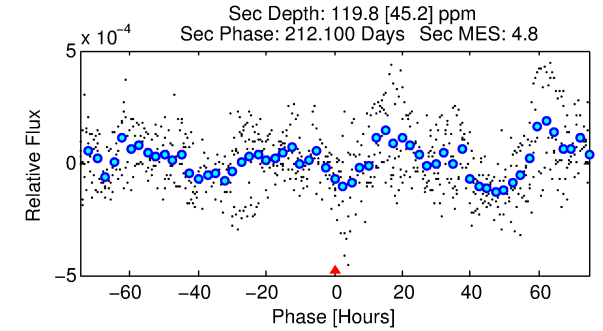
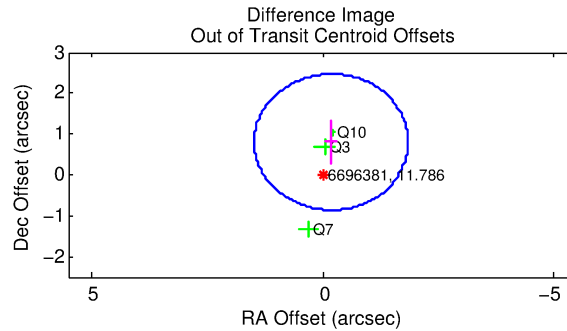
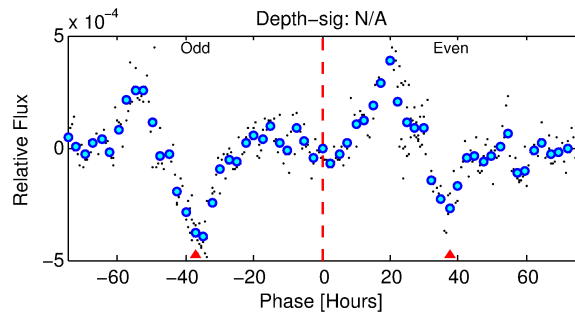
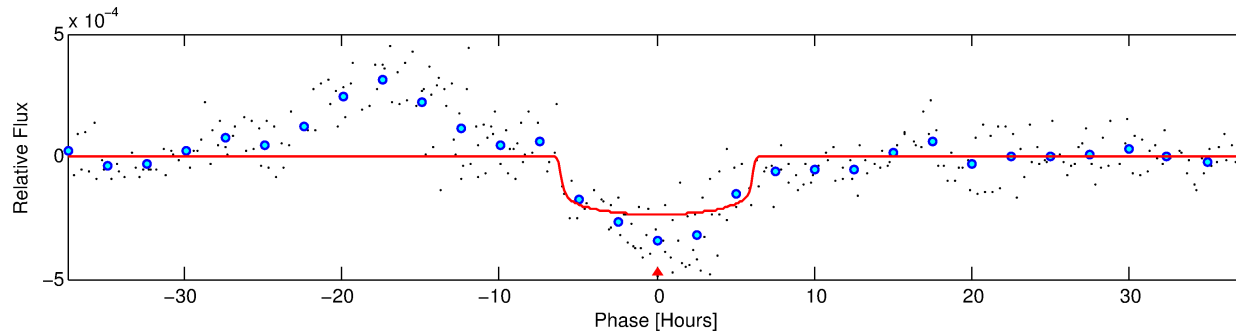
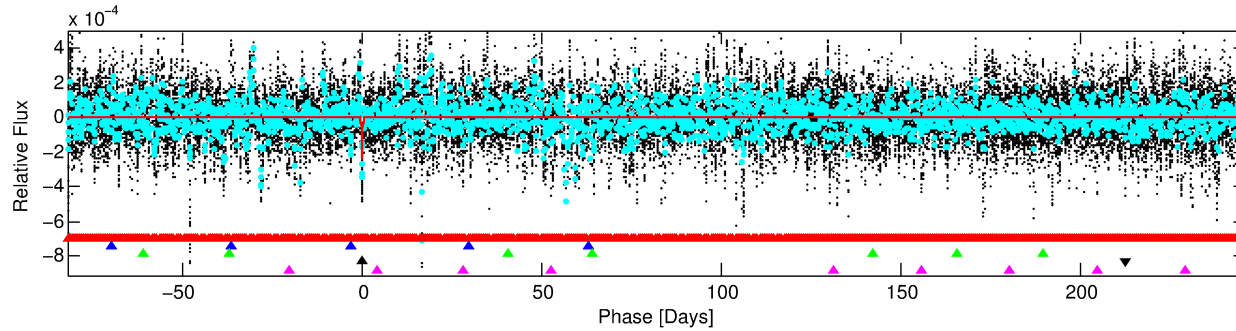
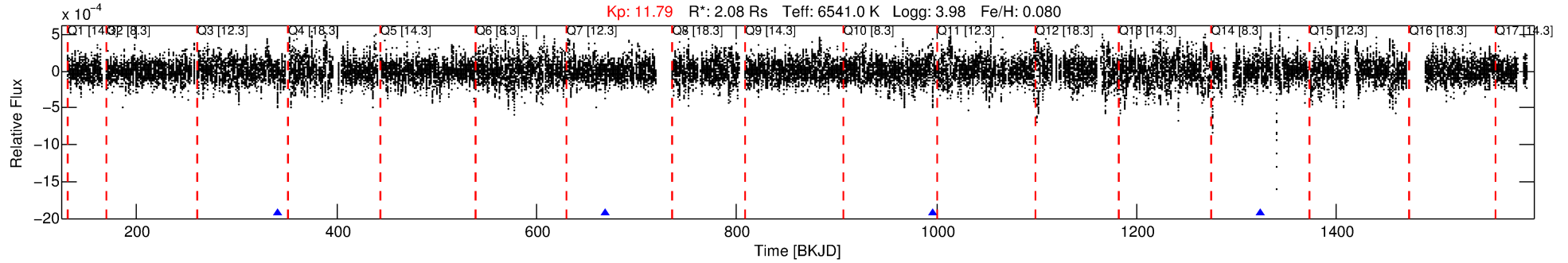
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006696381-04

No Significant Match Found

DV One-Page Summary

KIC: 6696381 Candidate: 4 of 5 Period: 327.699 d



DV Fit Results:

Period = 327.69943 [0.01327] d
Epoch = 340.7876 [0.0142] BKJD
Rp/R* = 0.0145 [0.0079]
a/R* = 184.01 [528.25]
b = 0.44 [5.29]
Seff = 6.24 [3.37]
Teq = 403 [54] K
Rp = 3.27 [2.15] Re
a = 1.0642 [0.3546] AU
Ag = 6962.09 [8838.64] [0.79σ]
Teffp = 5691 [1663] K [3.18σ]

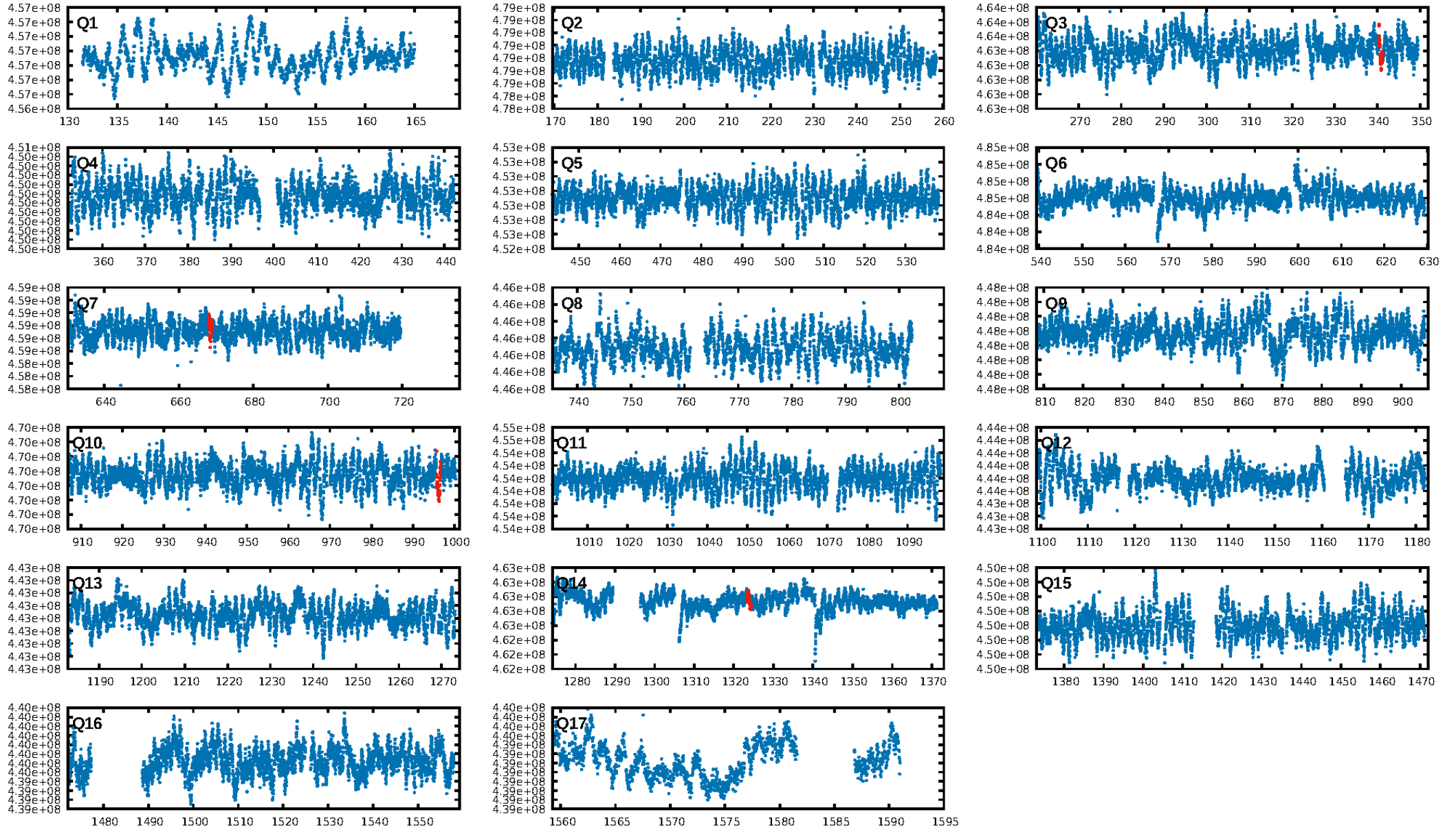
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [51.75σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.91e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.6445
Centroid-sig: 12.8%
Centroid-so: 0.563 arcsec [1.15σ]
OotOffset-rm: 0.824 arcsec [1.49σ]
KicOffset-rm: 0.816 arcsec [0.89σ]
OotOffset-st: 1/2/0/0 [3]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.25 [1/4]

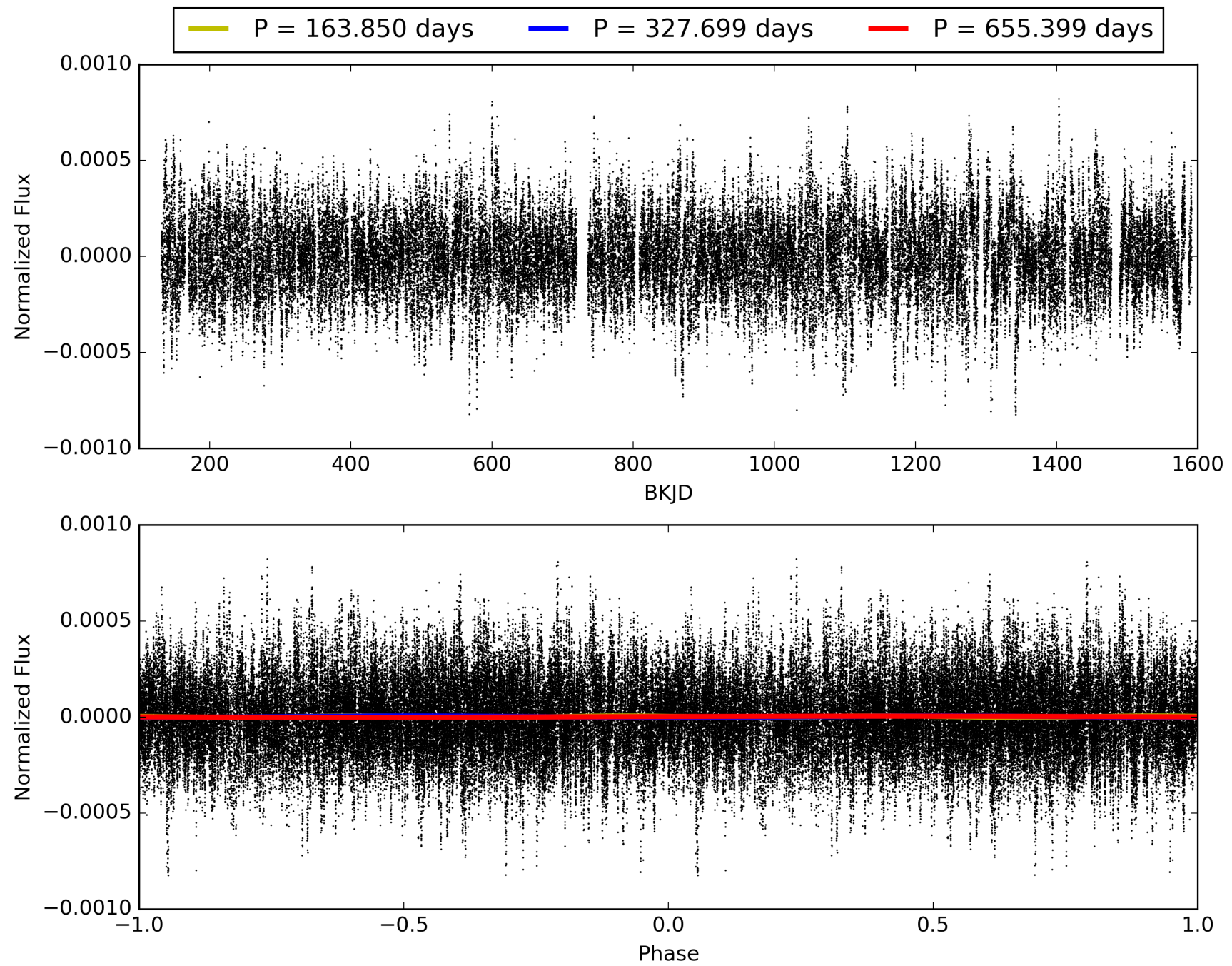
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:35:34 Z

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

TCE 006696381-04, PDC Light Curves

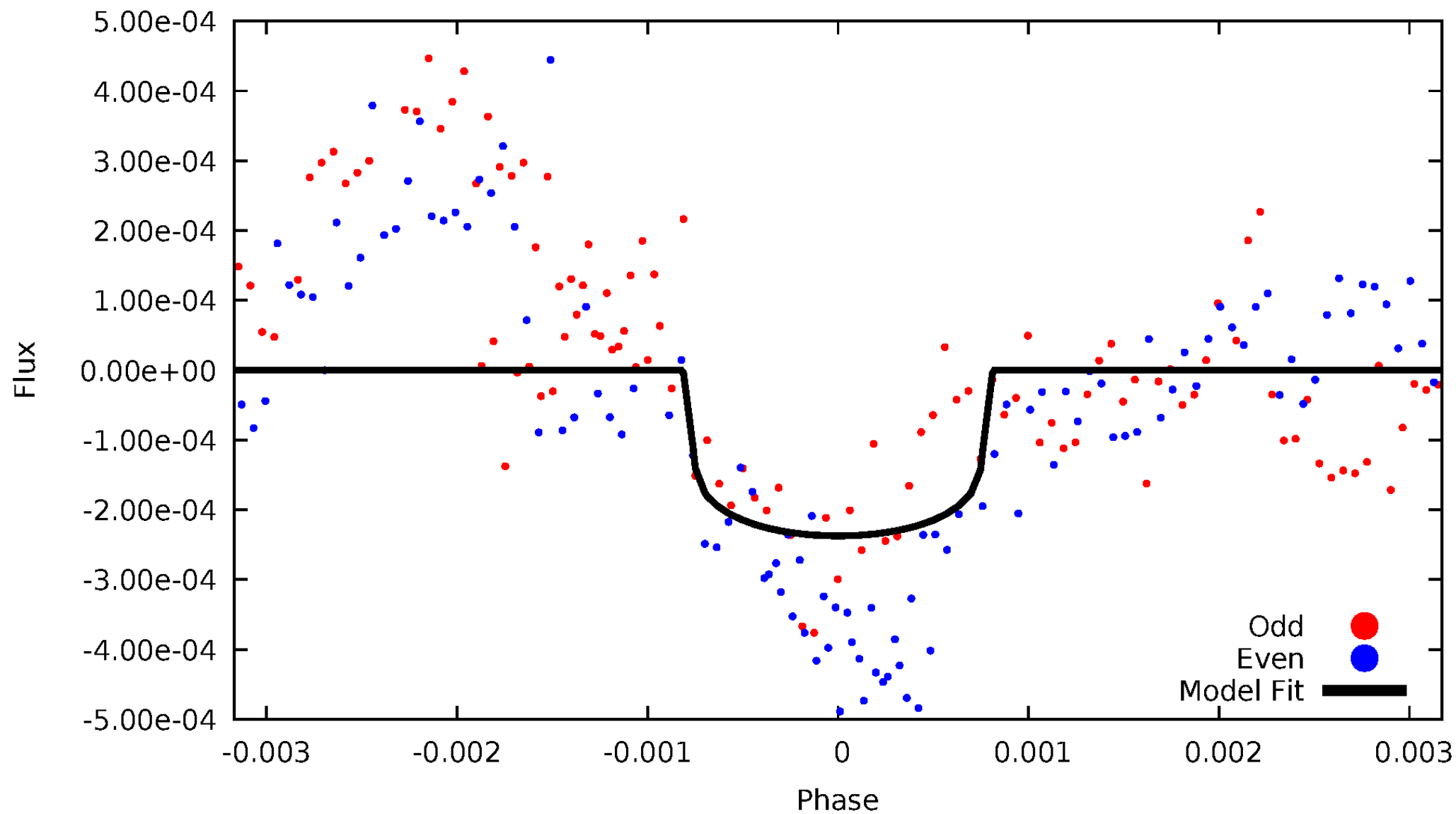


TCE 006696381-04



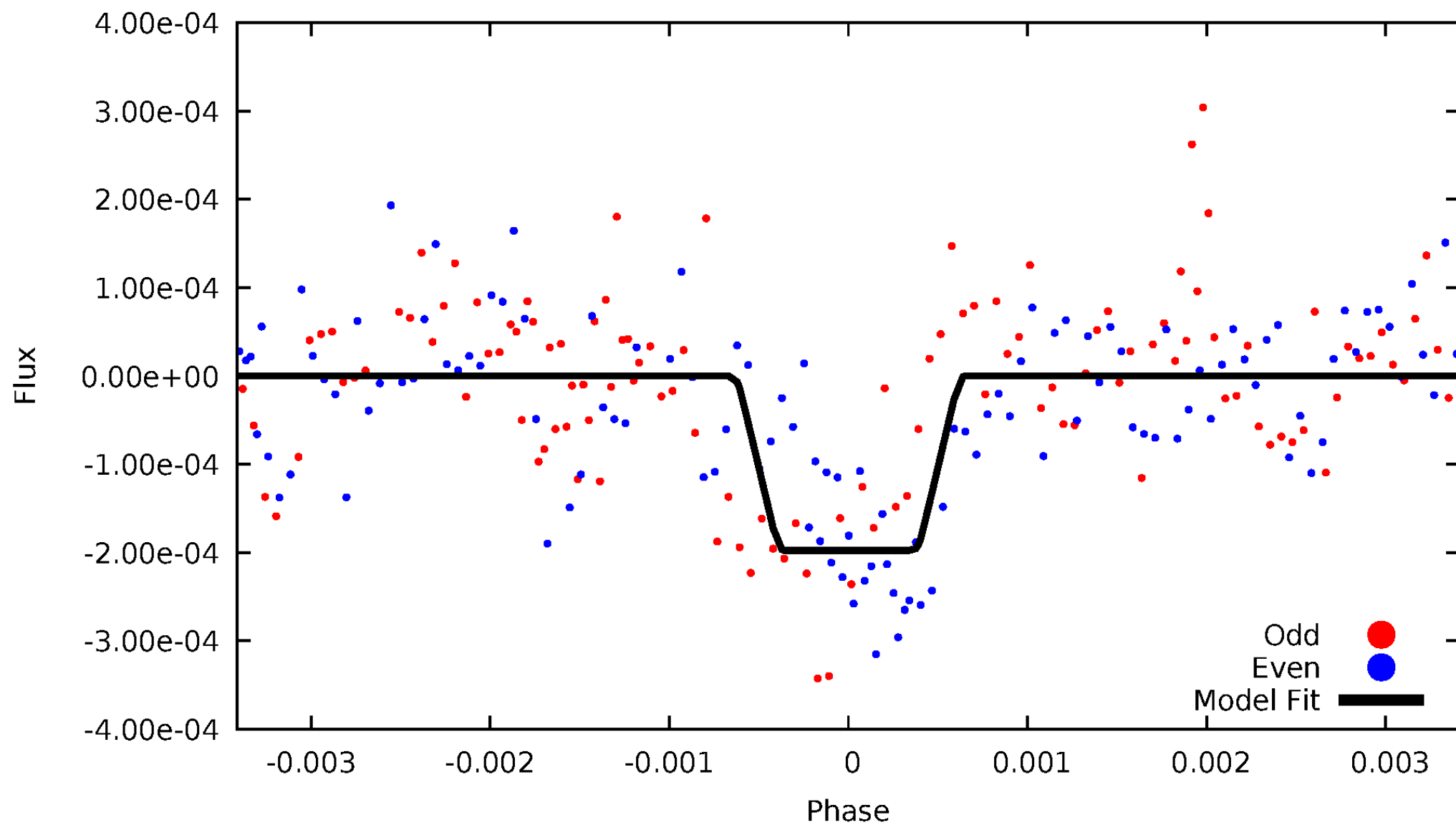
DV Odd/Even

TCE 006696381-04



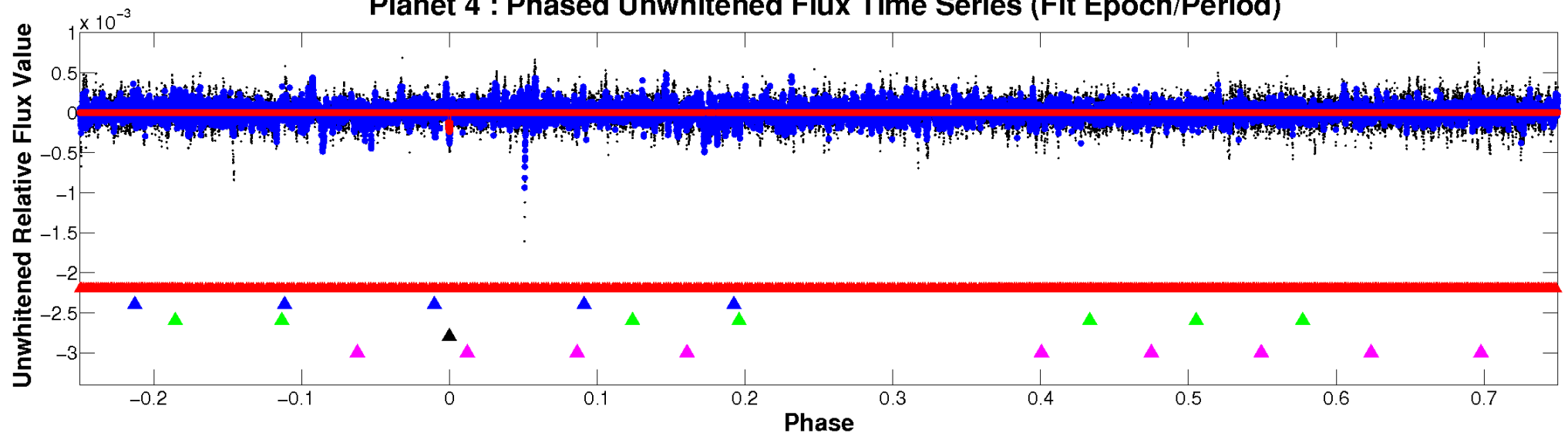
ALT Odd/Even

TCE 006696381-04

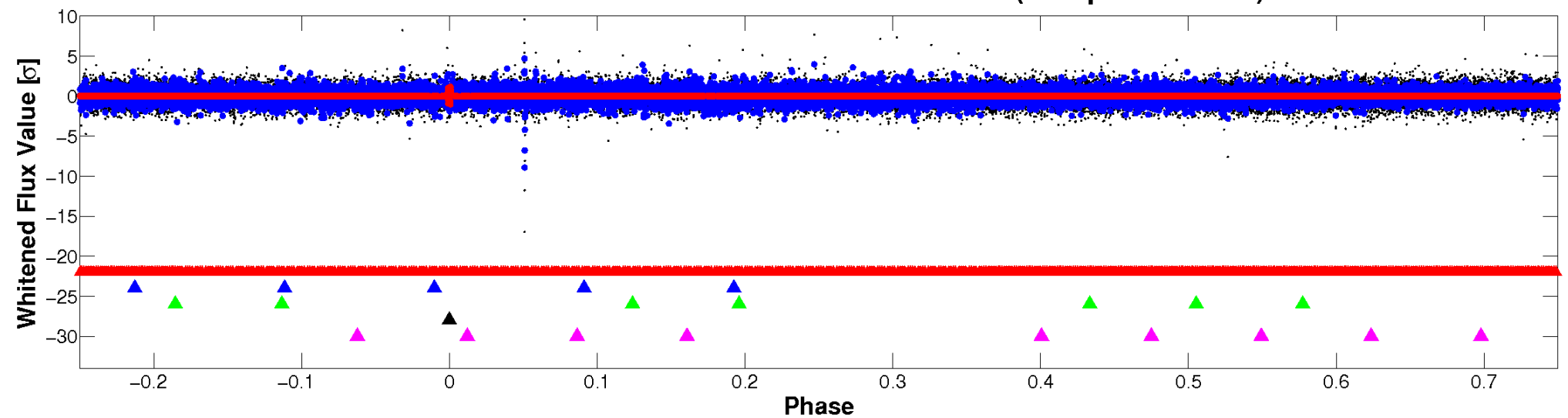


Non-Whitened Vs. Whitened Light Curve

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

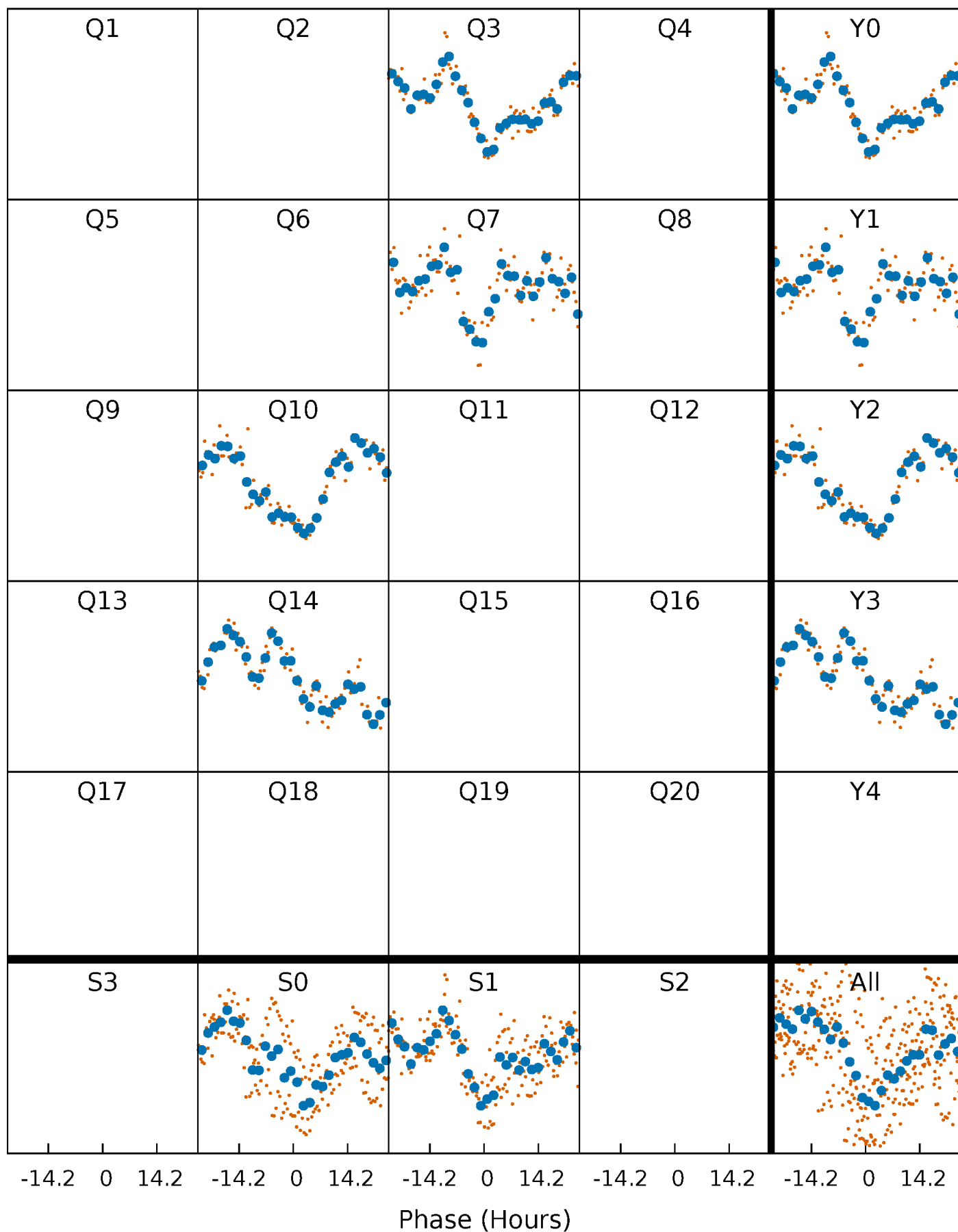


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



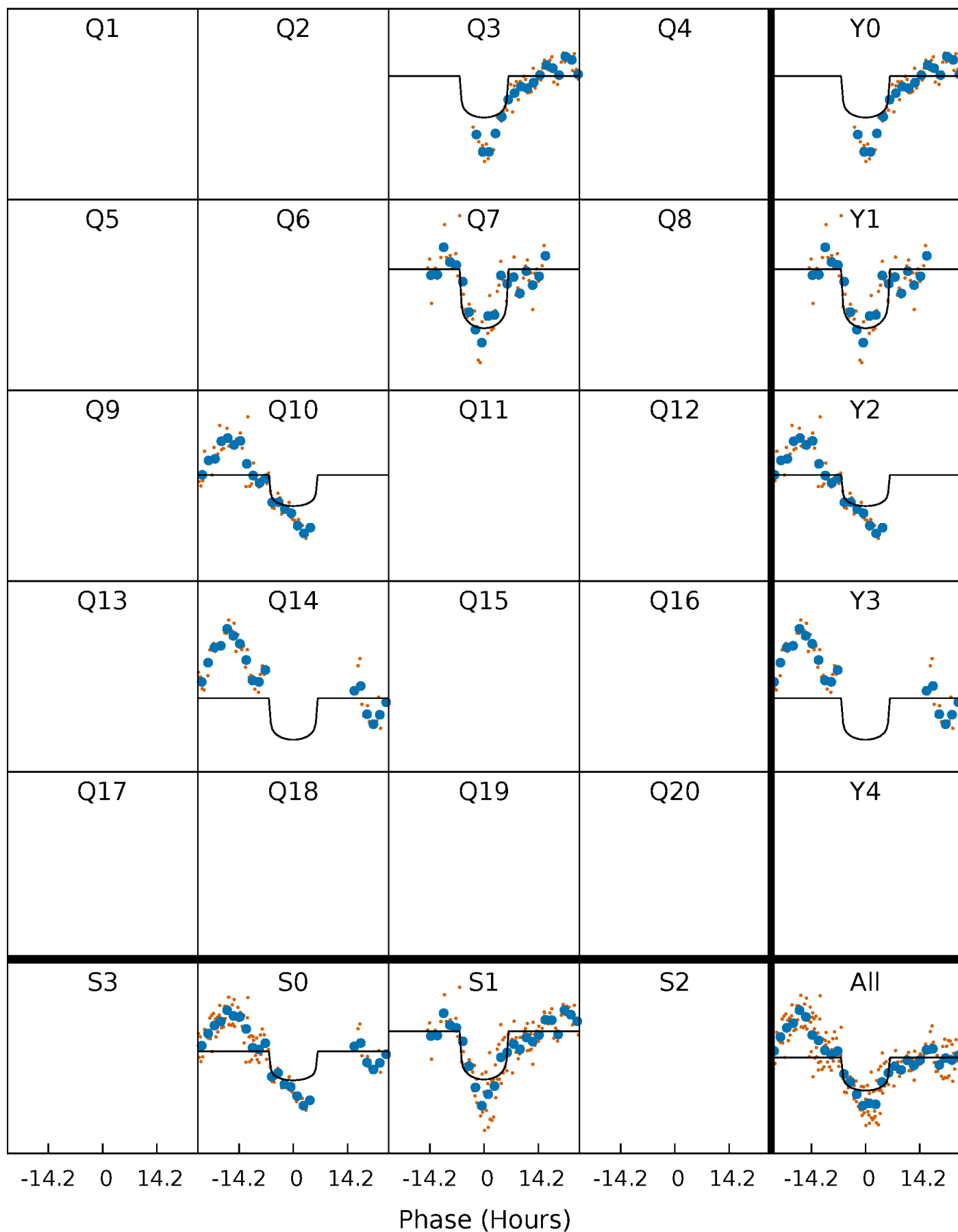
PDC Quarter-Phased Transit Curves

TCE 006696381-04 $P=327.699429$ Days $T_0=340.787609$ (BKJD)



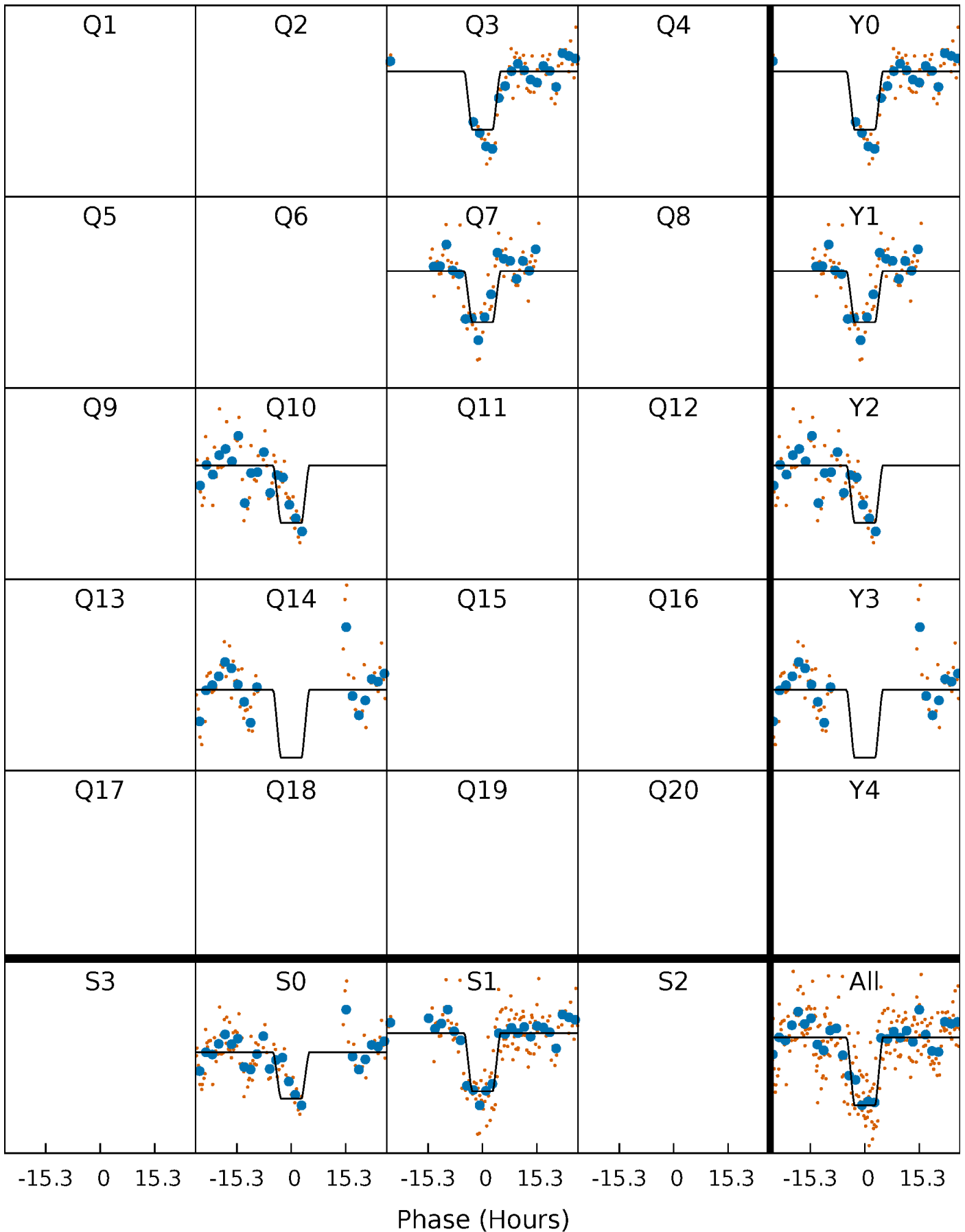
DV Quarter-Phased Transit Curves

TCE 006696381-04 $P=327.699429$ Days $T_0=340.787609$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

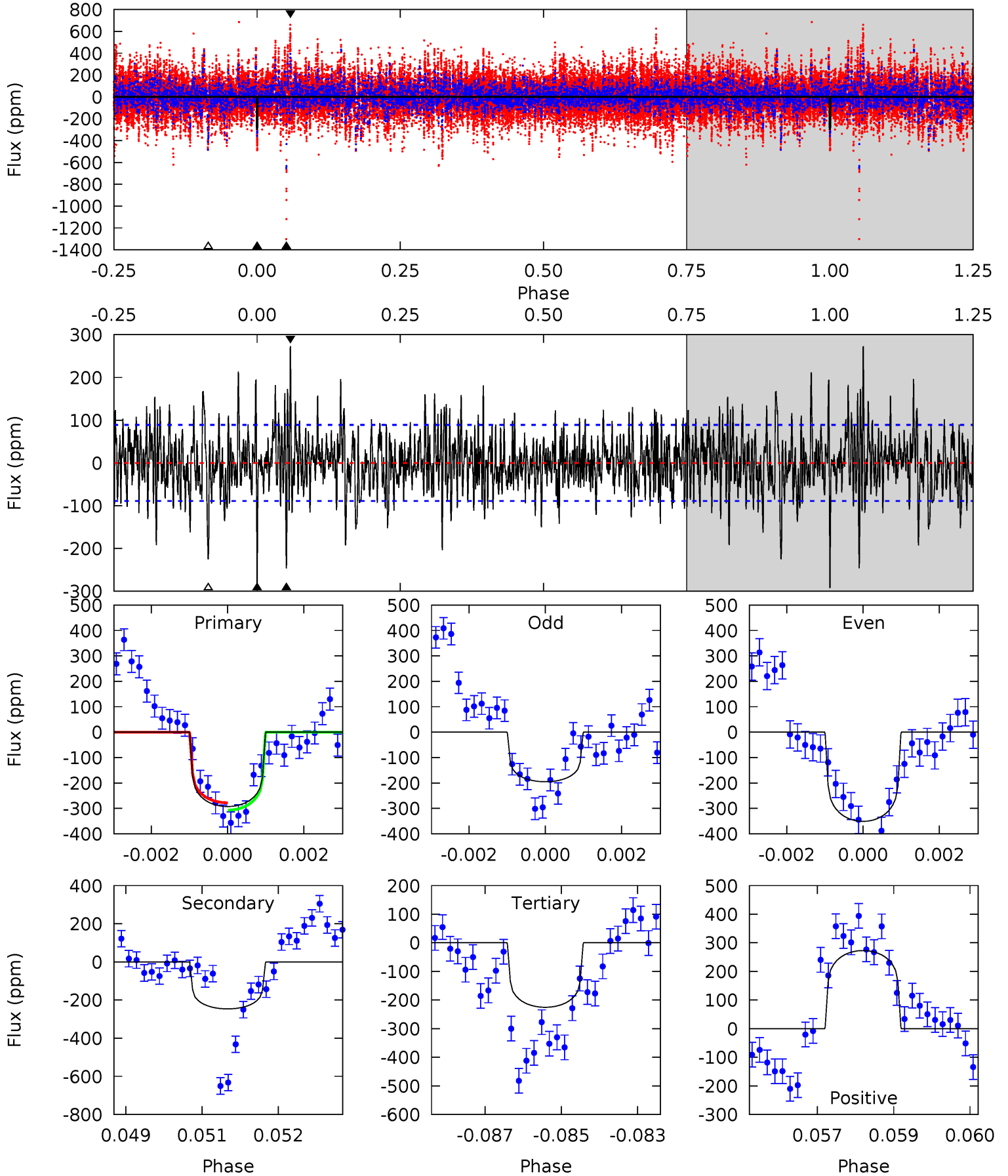
TCE 006696381-04 $P=327.740680$ Days $T_0=340.740756$ (BKJD)



DV Model-Shift Uniqueness Test

006696381-04, P = 327.699429 Days, E = 13.088180 Days

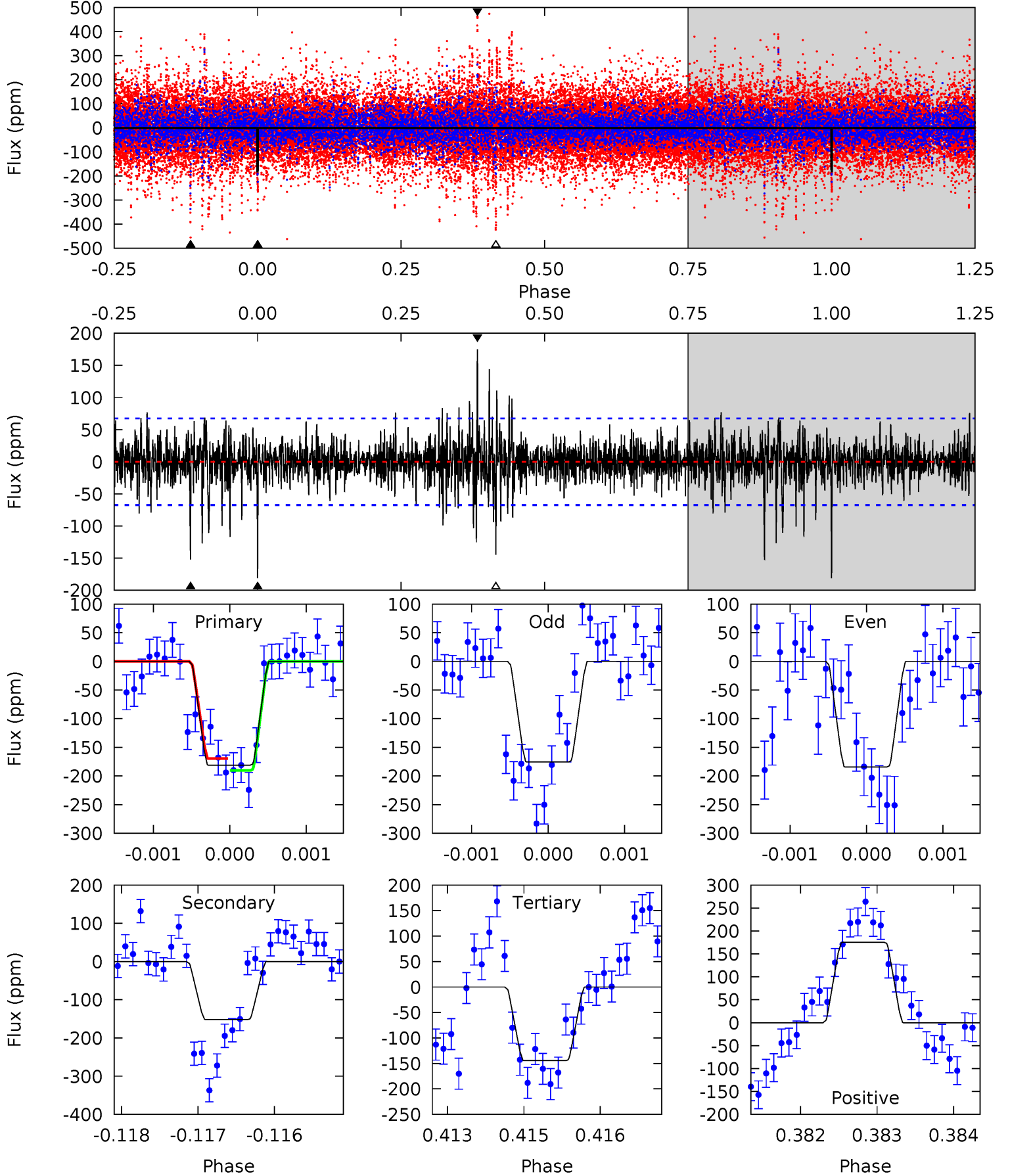
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	14.8	13.6	16.4	5.36	3.15	3.42	4.05	1.18	1.27	-1.60	4.50	0.90	0.48	0.88



Alt Model-Shift Uniqueness Test

006696381-04, P = 327.740680 Days, E = 13.000076 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	12.2	11.6	14.1	5.41	3.22	2.08	2.94	0.48	0.60	-1.86	0.34	1.05	0.49	0.83



Stellar Parameters For KIC 006696381

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6541^{+179}_{-247}	$3.979^{+0.299}_{-0.161}$	$0.080^{+0.250}_{-0.300}$	$2.075^{+0.615}_{-0.752}$	$1.495^{+0.208}_{-0.339}$	$0.236^{+0.501}_{-0.107}$
	+3%/-4%	+8%/-4%	+312%/-375%	+30%/-36%	+14%/-23%	+213%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006696381-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-246 ± 17	$3.11^{+1.86}_{-1.59}$	556^{+44}_{-52}	6779^{+3493}_{-1272}	15783^{+46925}_{-9524}
Alt.	-152 ± 12	$3.07^{+1.84}_{-1.57}$	554^{+45}_{-55}	6012^{+3092}_{-1069}	9923^{+30309}_{-6065}

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

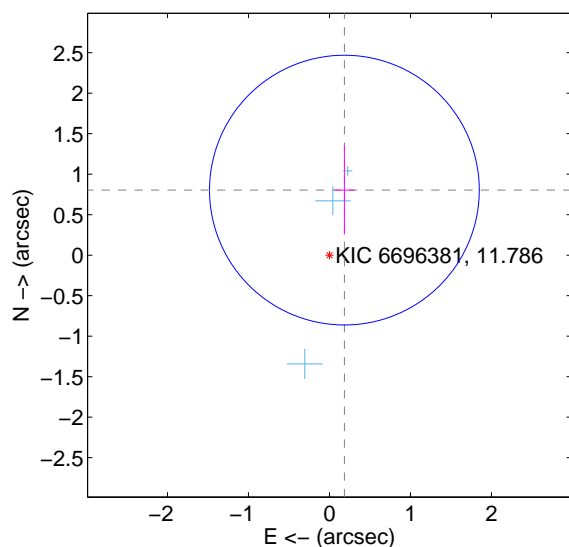
Supplemental centroid analysis for 006696381-04. **Kepler magnitude: 11.79.** Transit SNR 6.82

There are 3 quarters with good PRF difference image offsets

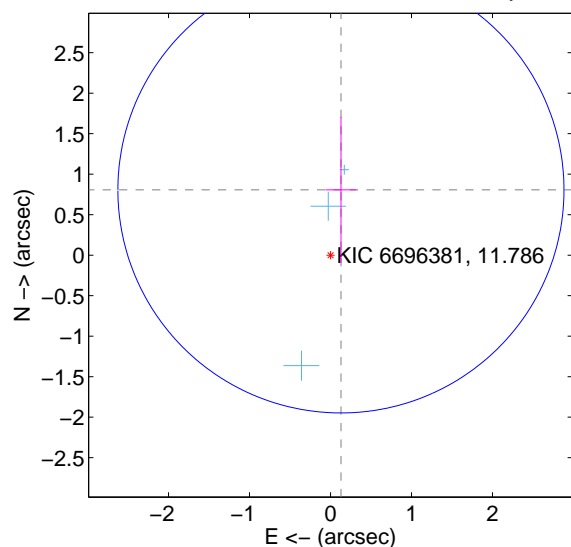
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.824 ± 0.555	1.49	-0.184 ± 0.121	0.803 ± 0.546
PRF-fit source offset from KIC position	0.816 ± 0.918	0.89	-0.129 ± 0.191	0.806 ± 0.901
photometric centroid source offset	0.56 ± 0.49	1.15	-0.38 ± 0.54	0.41 ± 0.45

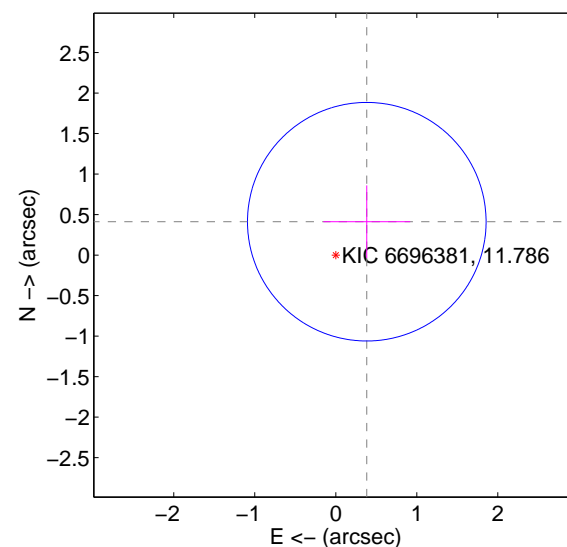
offset from difference PRF-fit to OOT PRF-fit



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



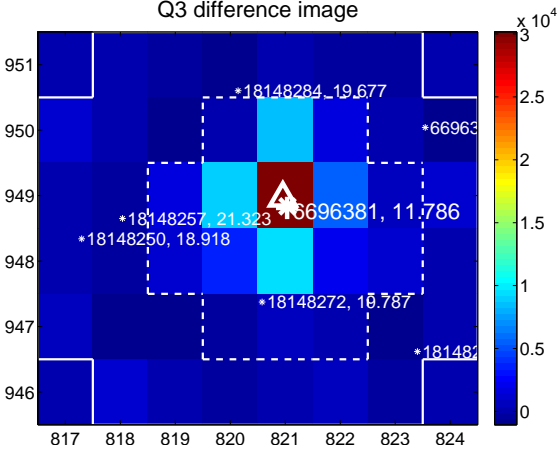
Q2 no difference image



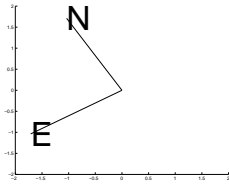
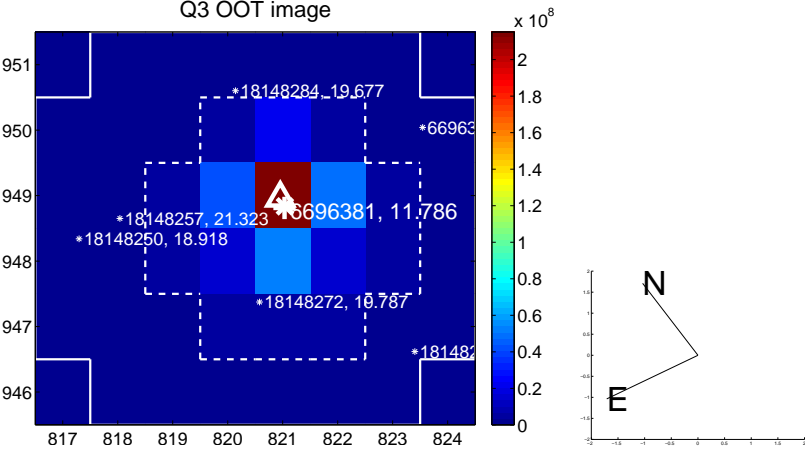
Q2 no OOT image



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.

Q5 no difference image



Q5 no OOT image



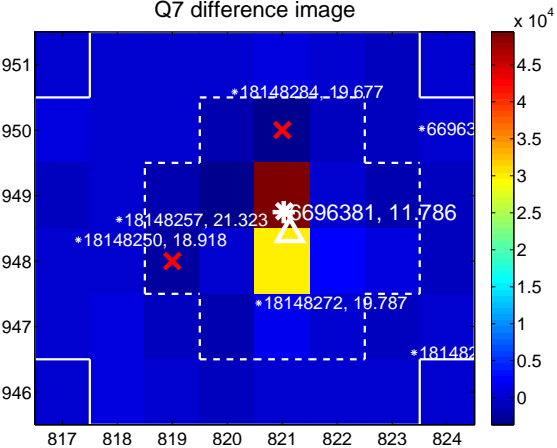
Q6 no difference image



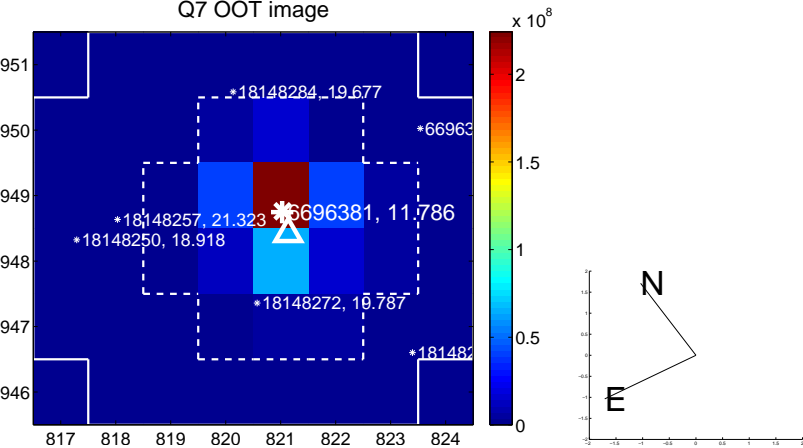
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



Q8 no OOT image



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

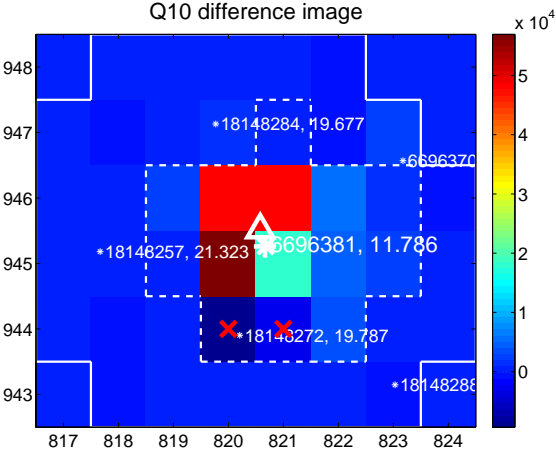
Q9 no difference image



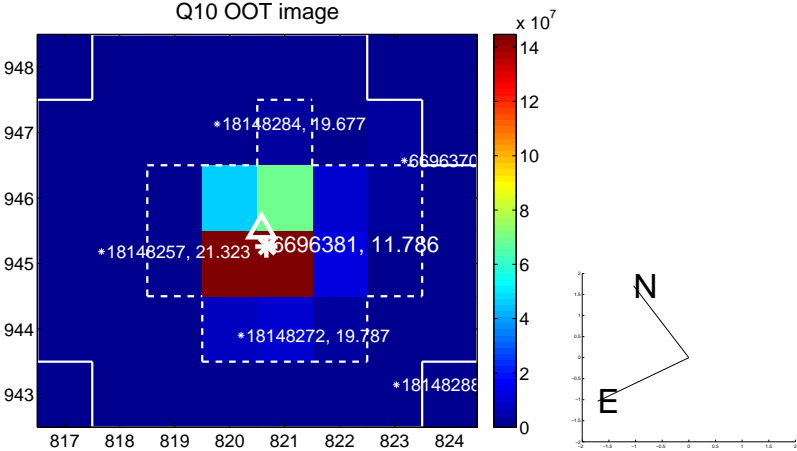
Q9 no OOT image



Q10 difference image



Q10 OOT image



Q11 no difference image



Q11 no OOT image



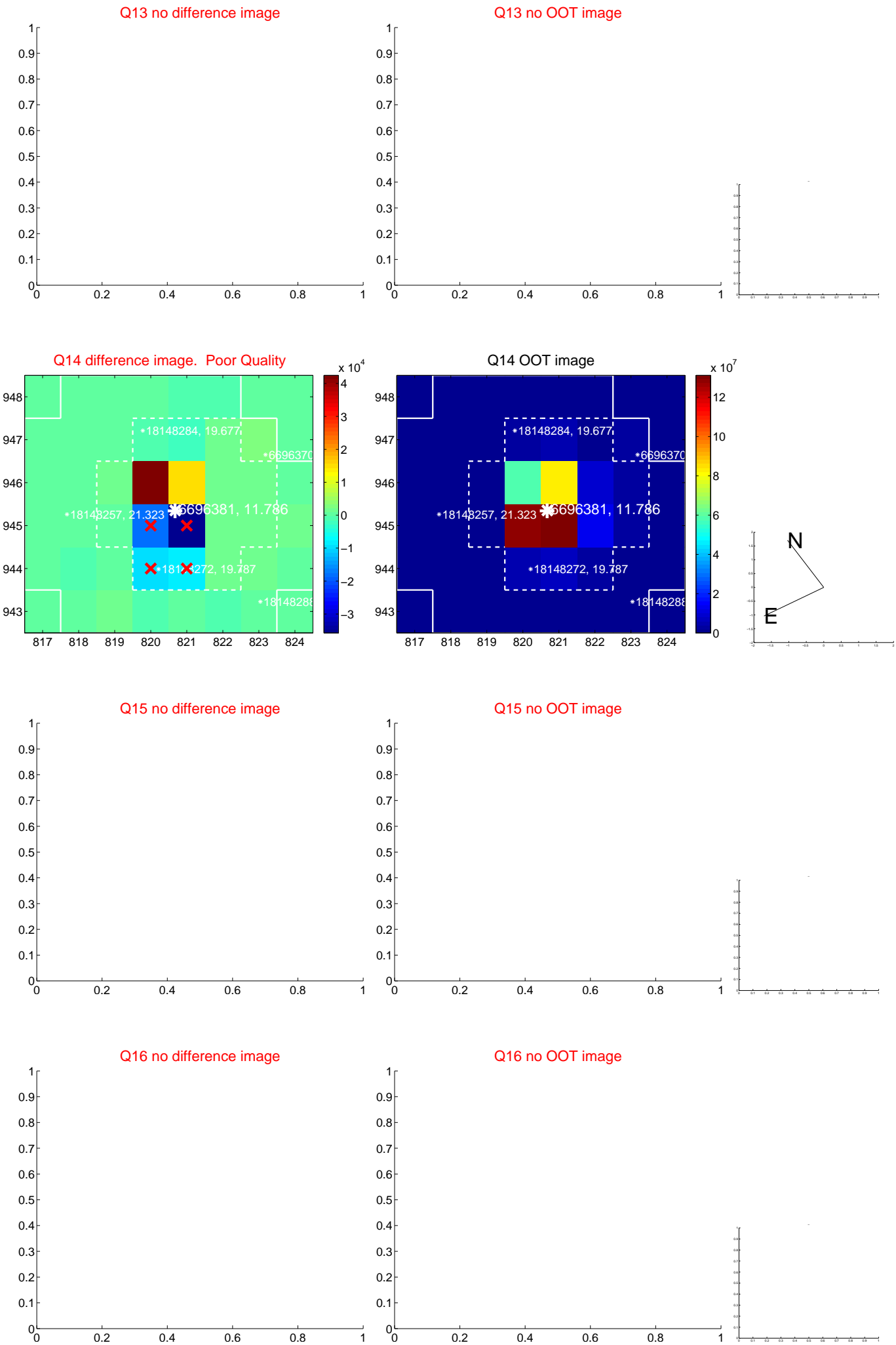
Q12 no difference image



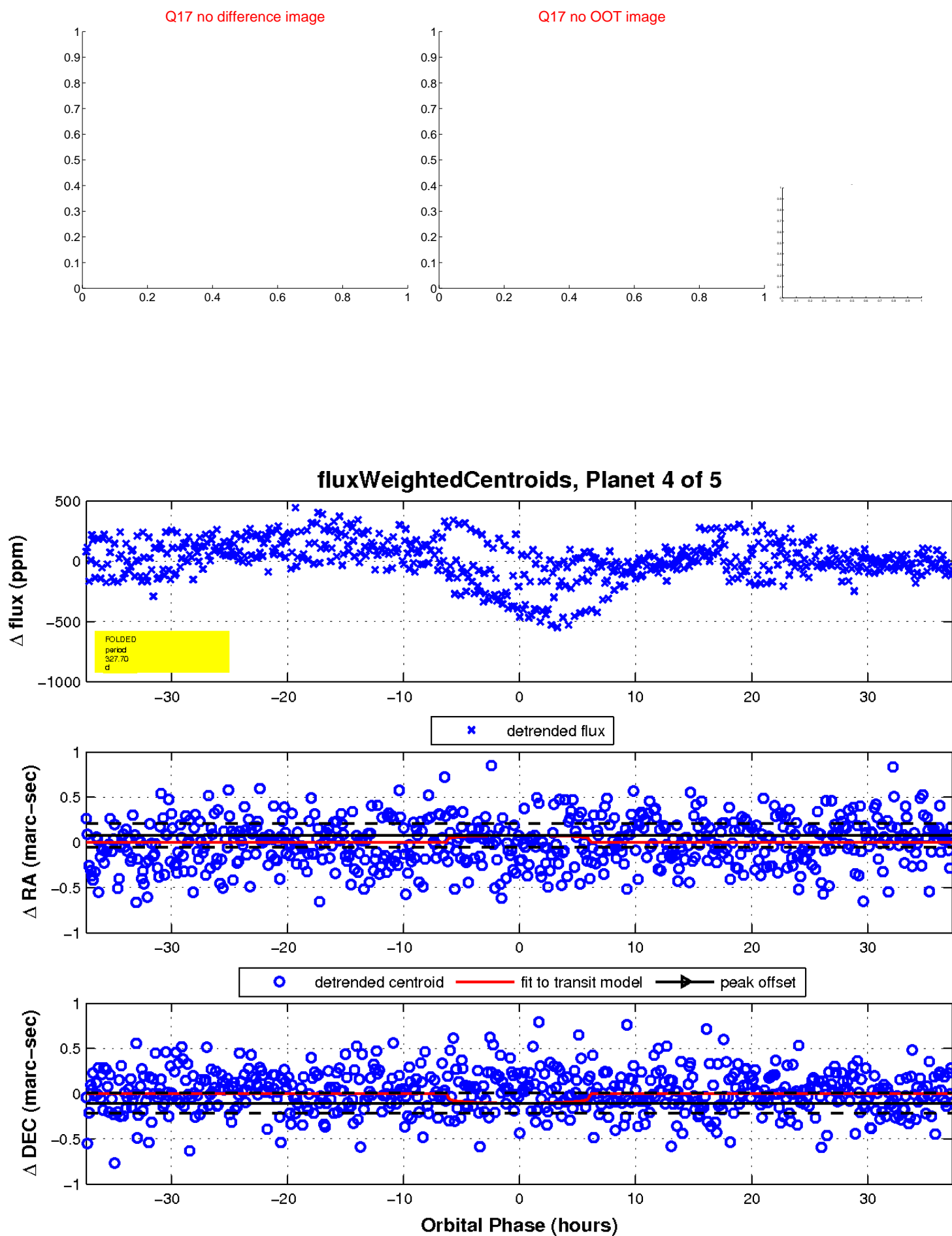
Q12 no OOT image



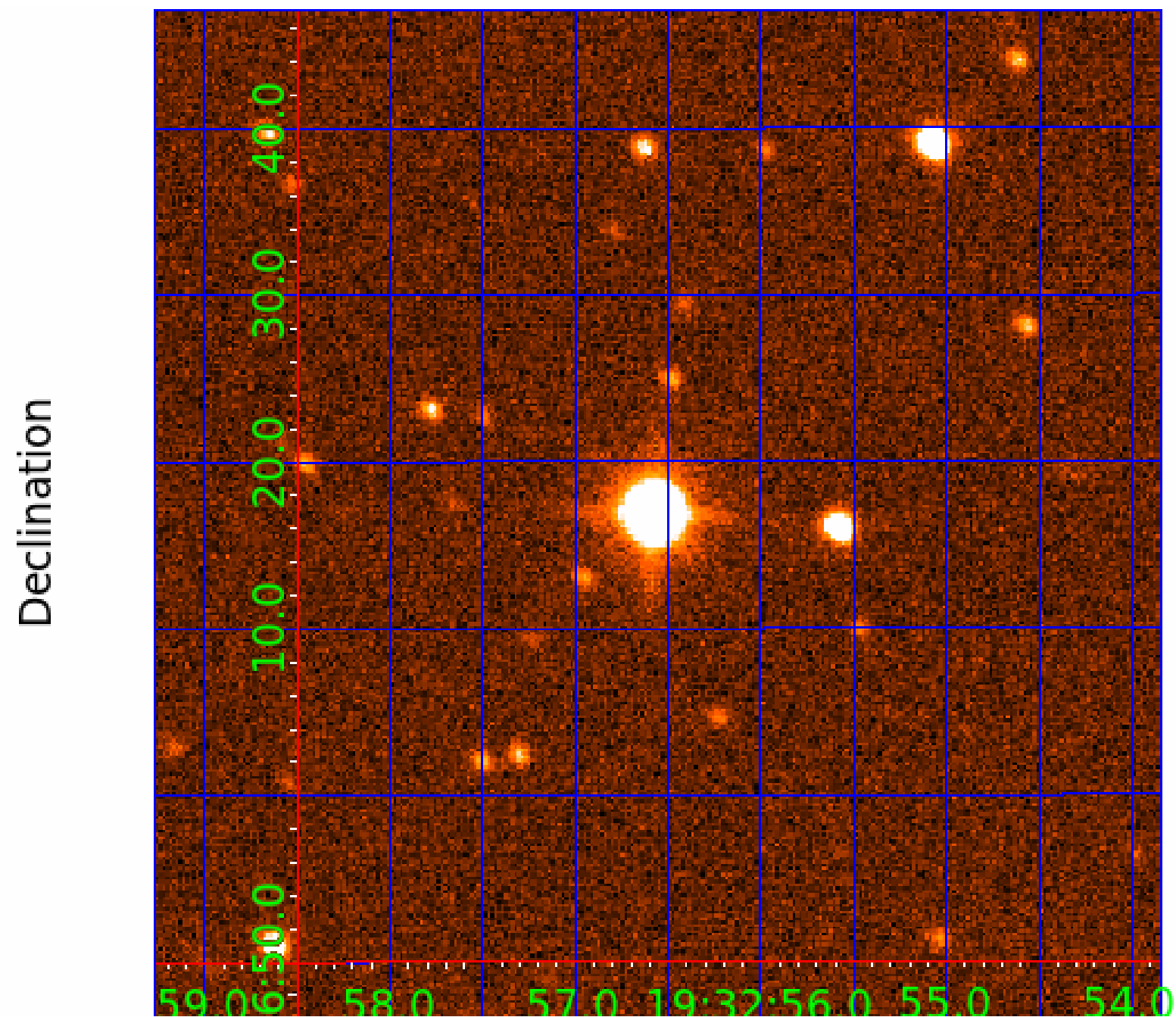
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006696381

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})
006696381-01	OBS	No	2.256630	132.561221	24.6	7.669	10.5	9.4	2.08	6541	1.21	4759.22
006696381-02	OBS	No	294.496532	403.871520	312.9	9.044	8.9	7.8	2.08	6541	4.66	7.19
006696381-03	OBS	No	226.336478	155.064151	300.2	9.153	8.6	7.1	2.08	6541	4.74	10.21
006696381-04	OBS	No	327.699429	340.787609	237.3	12.462	7.4	6.8	2.08	6541	3.27	6.24
006696381-05	OBS	No	176.031003	144.369887	157.9	7.488	8.8	7.3	2.08	6541	3.36	14.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006696381-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006696381-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
006696381-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
006696381-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT
006696381-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_ALT

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

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

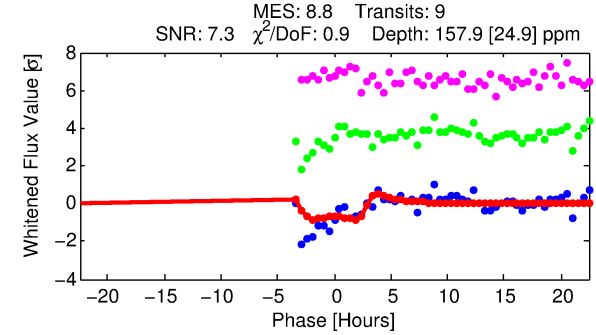
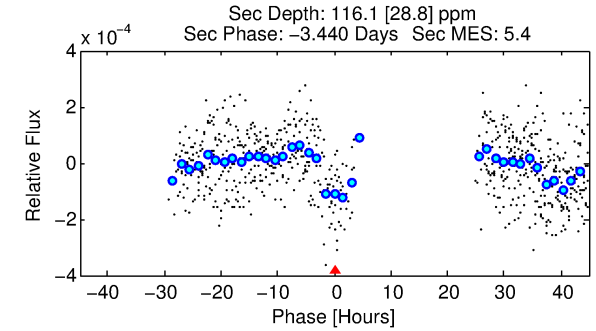
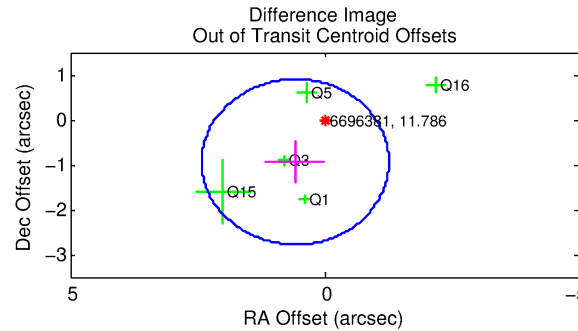
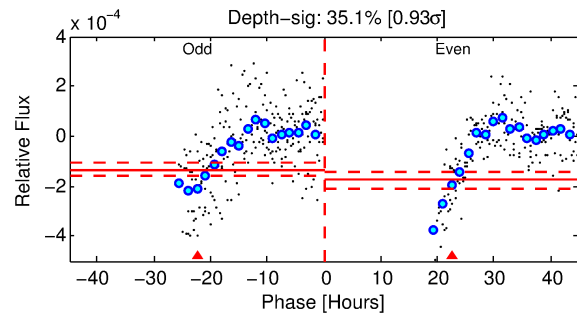
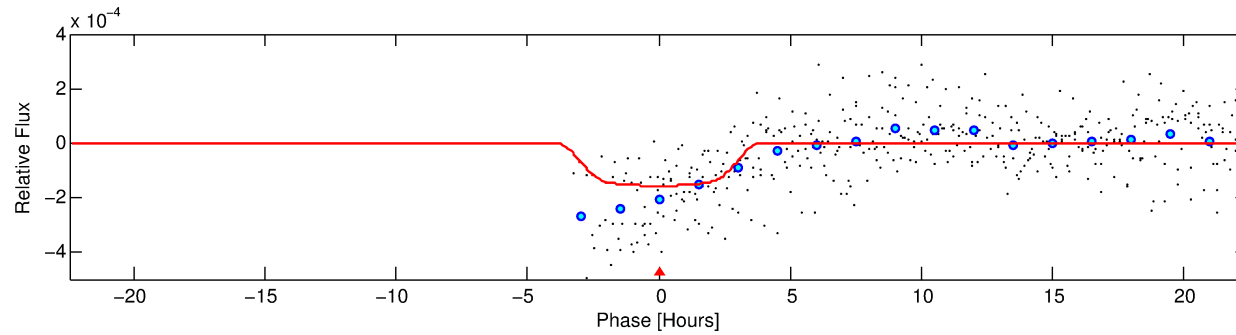
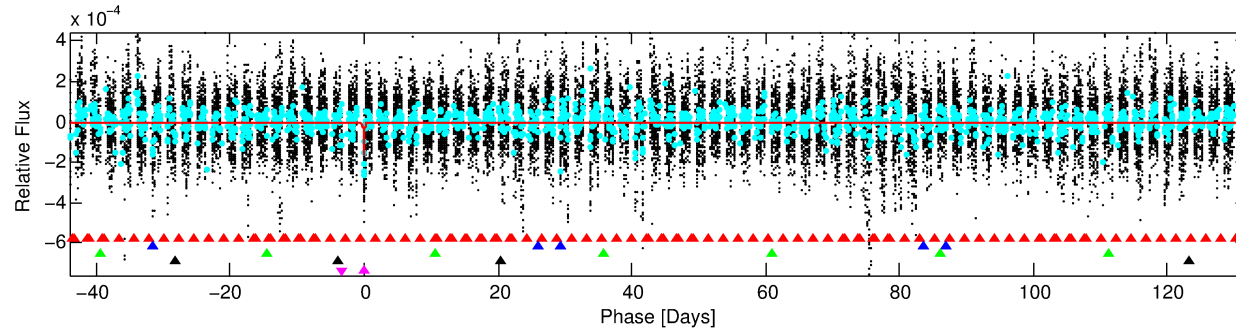
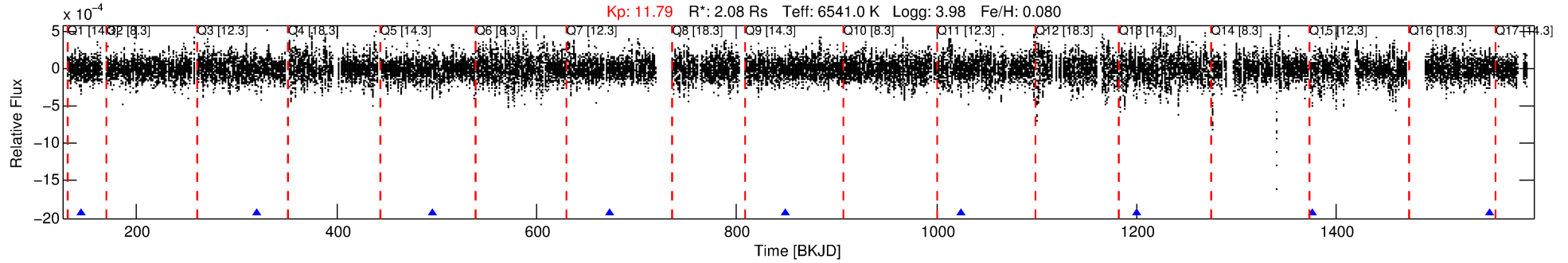
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006696381-05

No Significant Match Found

DV One-Page Summary

KIC: 6696381 Candidate: 5 of 5 Period: 176.031 d



DV Fit Results:

Period = 176.03100 [0.00323] d
Epoch = 144.3699 [0.0208] BKJD
Rp/R* = 0.0148 [0.0014]
a/R* = 53.45 [13.48]
b = 0.97 [0.01]
Seff = 14.28 [7.71]
Teq = 496 [67] K
Rp = 3.36 [1.26] Re
a = 0.7032 [0.2343] AU
Ag = 2801.61 [1695.59] [1.65 σ]
Teffp = 5576 [483] K [10.42 σ]

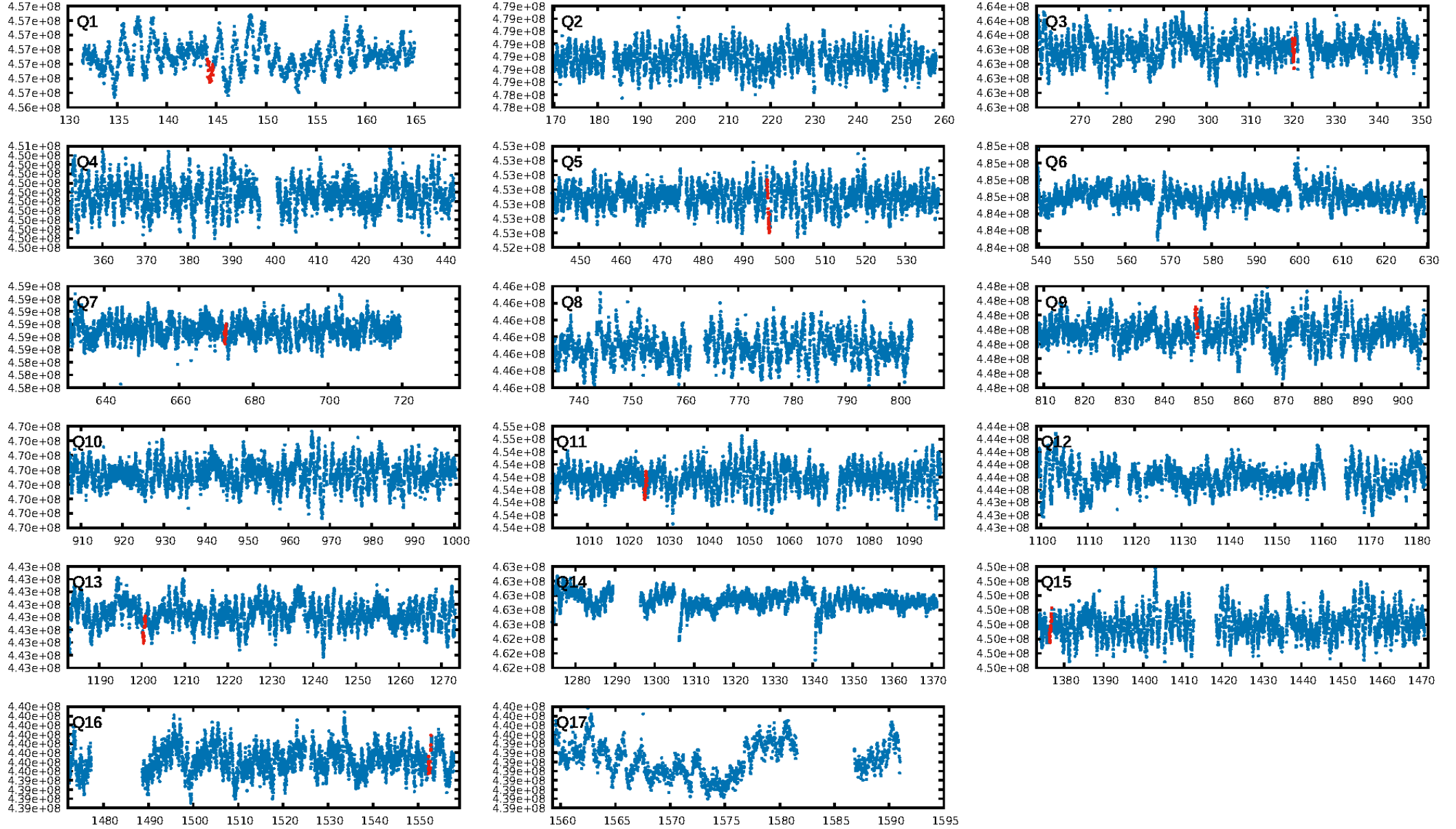
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [389.10 σ]
LongPeriod-sig: 100.0% [102.10 σ]
ModelChiSquare2-sig: 30.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.24e-12
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -3.886
Centroid-sig: 0.4%
Centroid-so: 1.107 arcsec [1.92 σ]
OotOffset-rm: 1.103 arcsec [1.80 σ]
KicOffset-rm: 1.154 arcsec [1.75 σ]
OotOffset-st: 0/2/1/2 [5]
KicOffset-st: 0/2/1/2 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.00 [0/8]

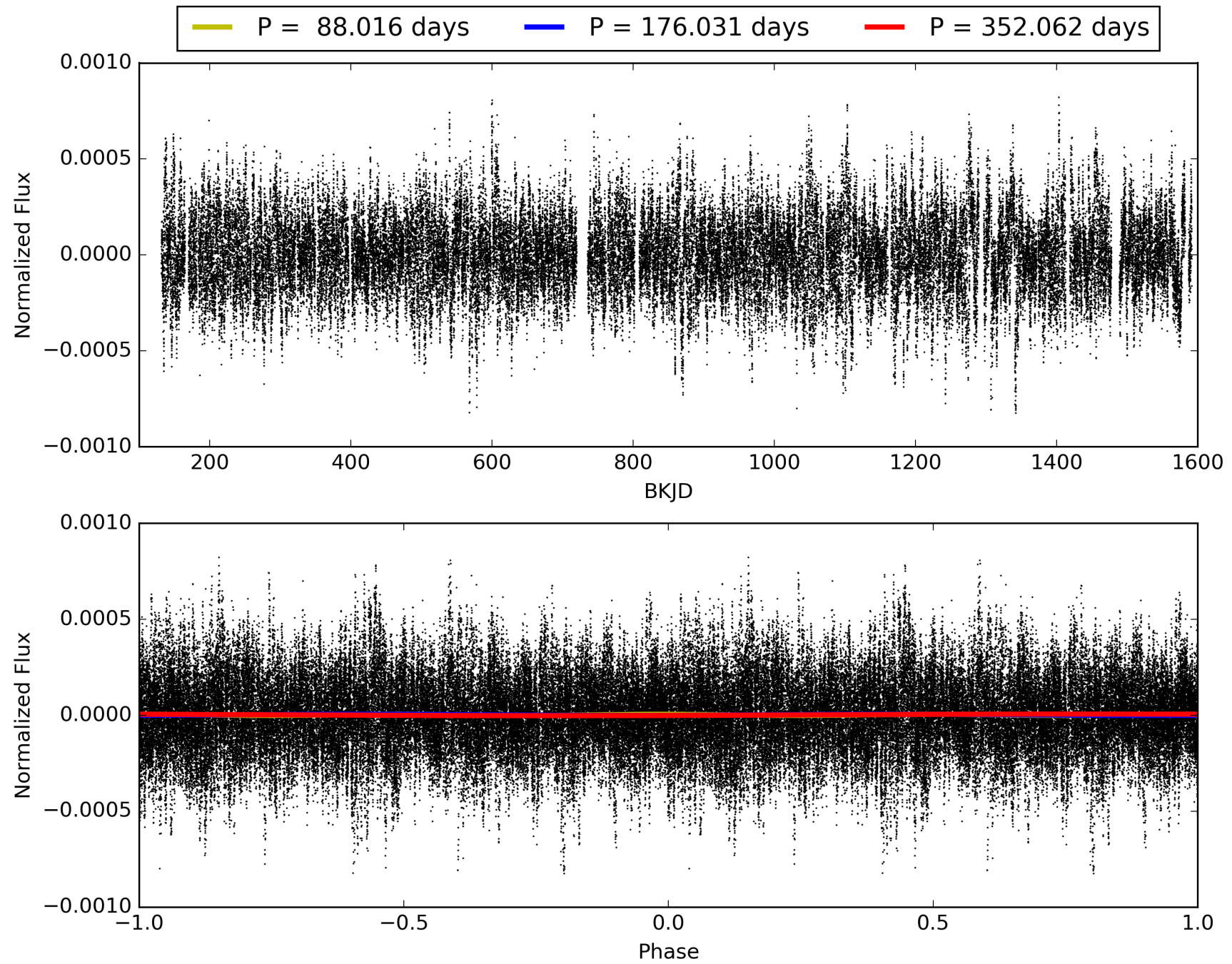
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:35:40 Z

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

TCE 006696381-05, PDC Light Curves

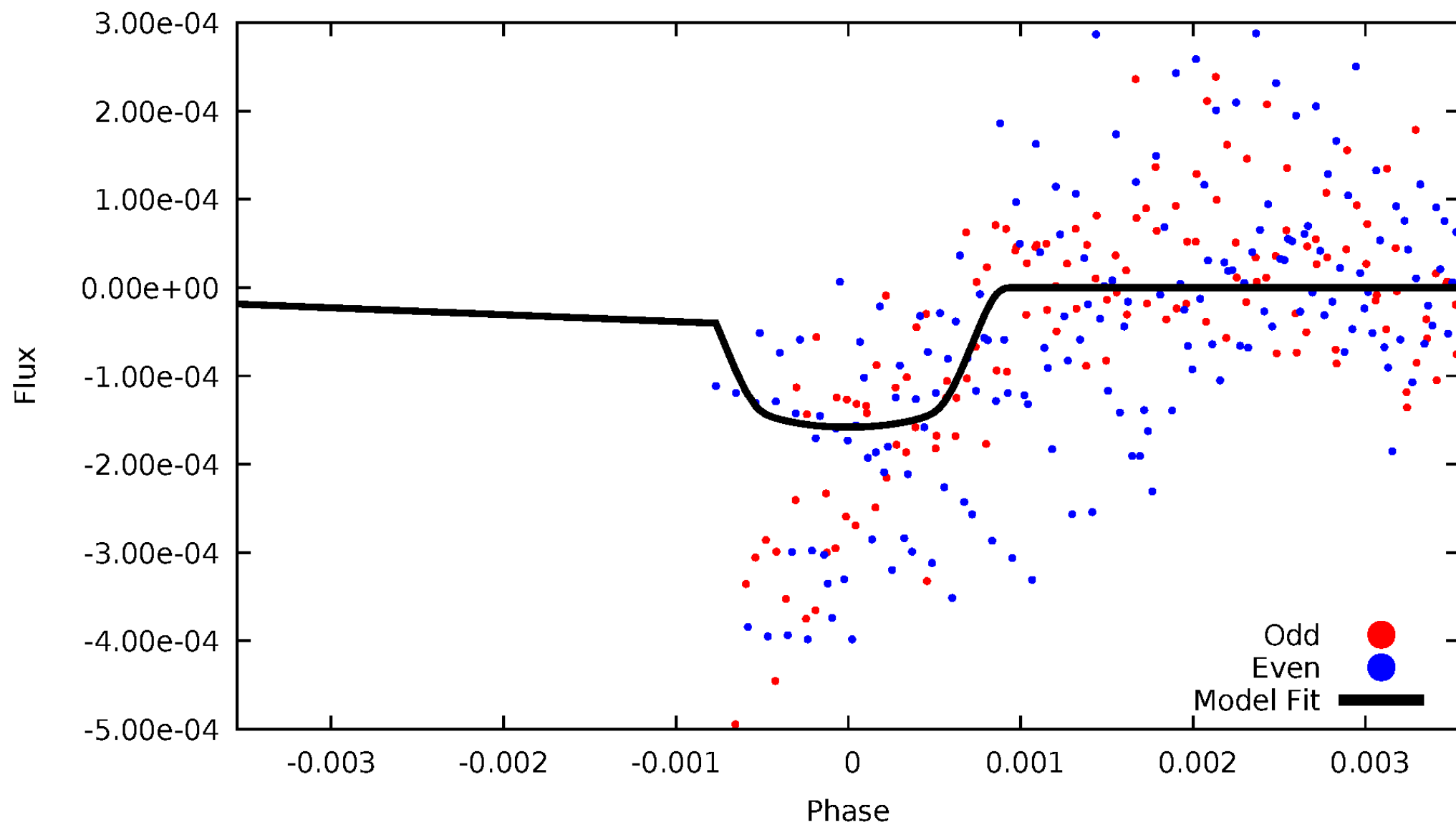


TCE 006696381-05



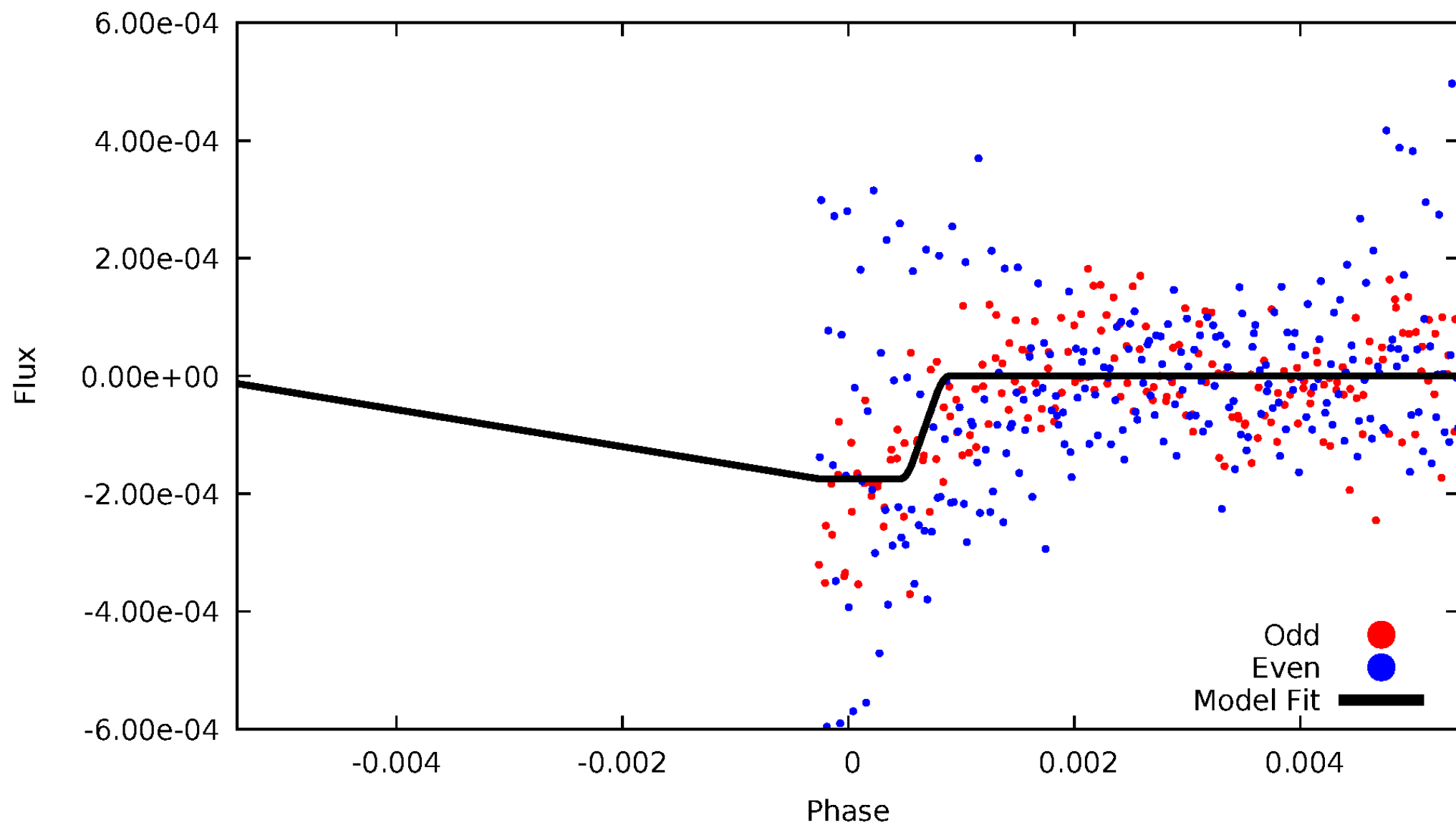
DV Odd/Even

TCE 006696381-05



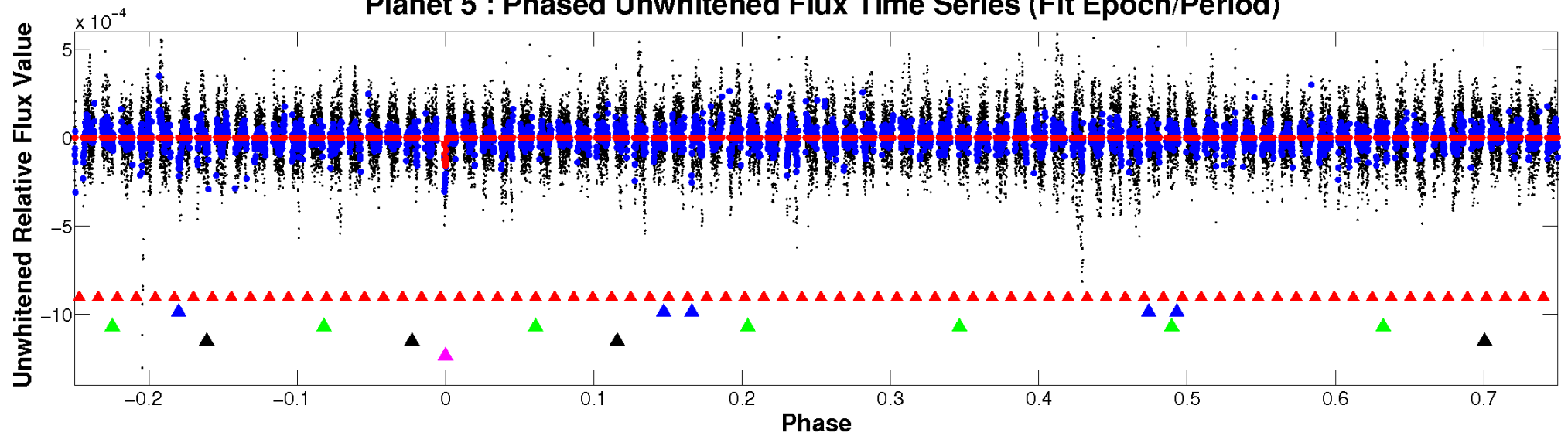
ALT Odd/Even

TCE 006696381-05

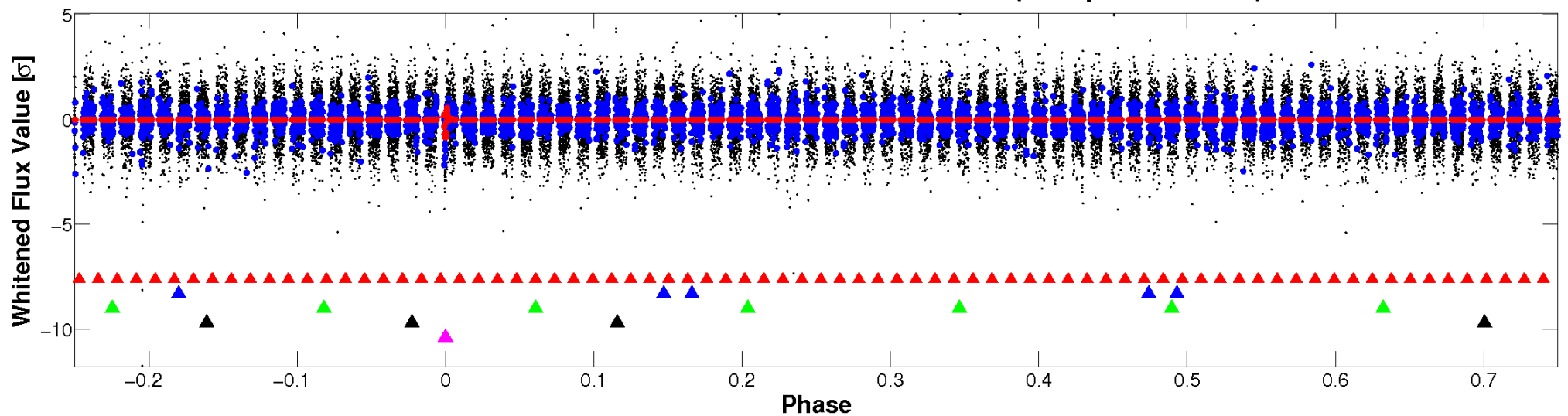


Non-Whitened Vs. Whitened Light Curve

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

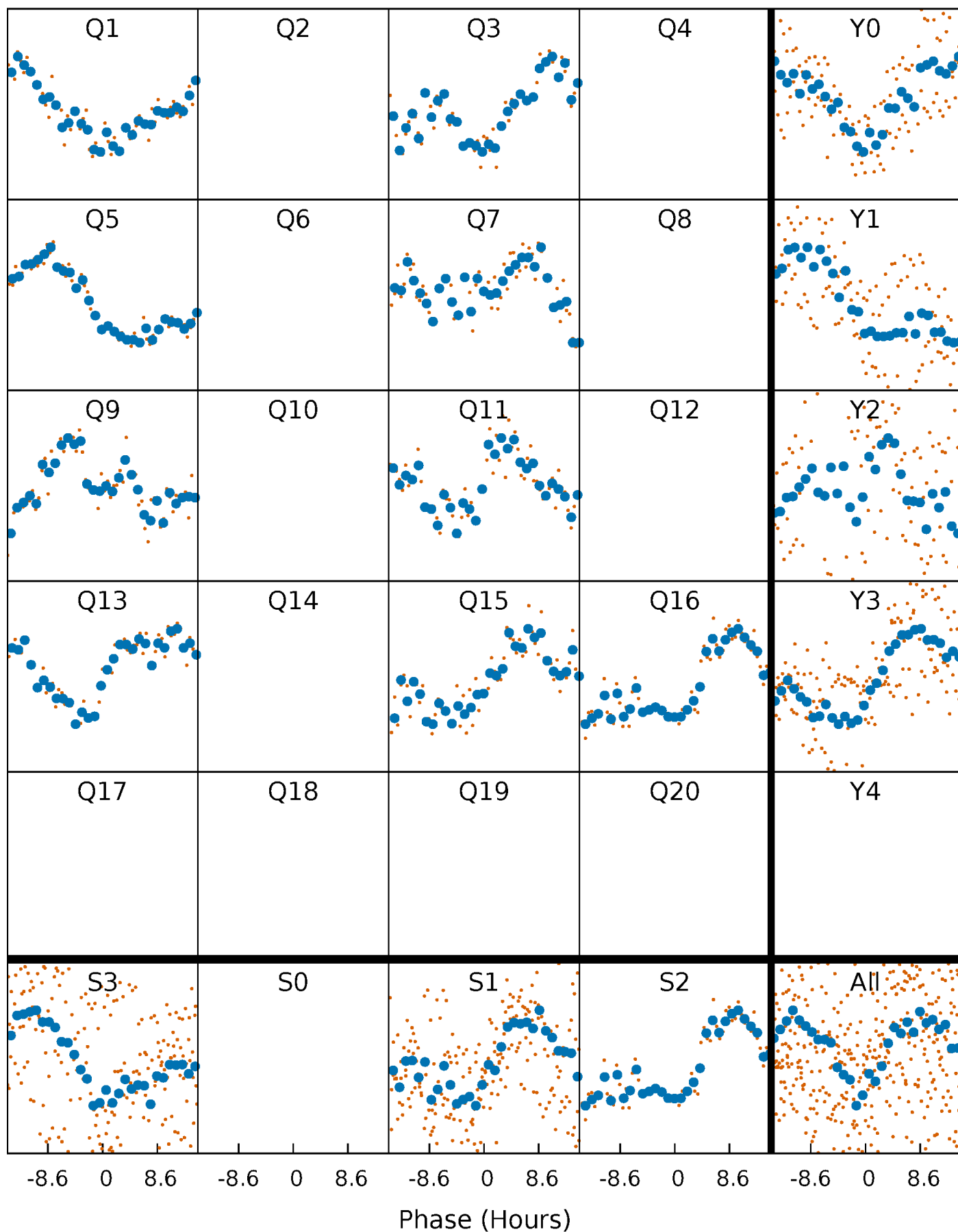


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



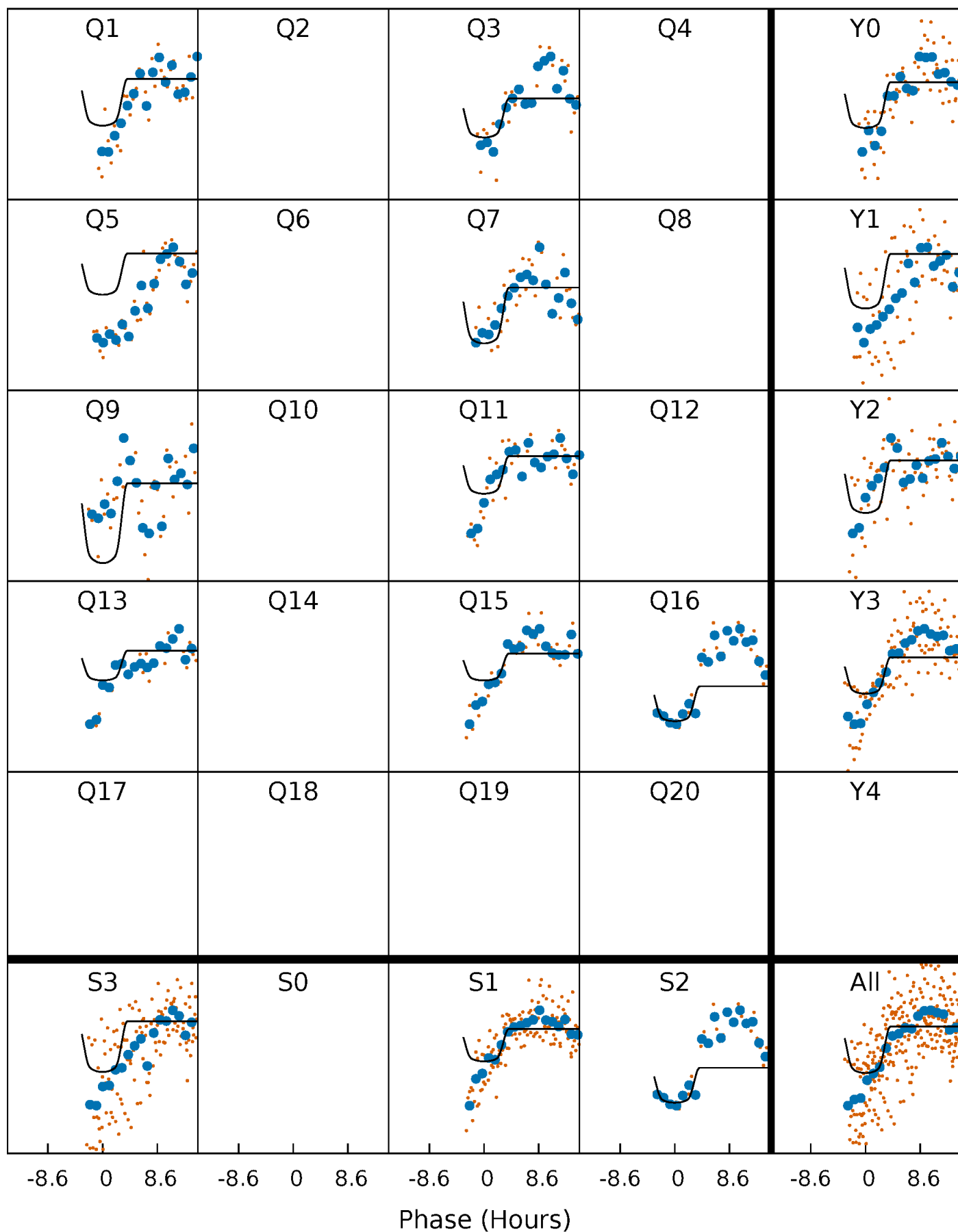
PDC Quarter-Phased Transit Curves

TCE 006696381-05 $P=176.031003$ Days $T_0=144.369887$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006696381-05 $P=176.031003$ Days $T_0=144.369887$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

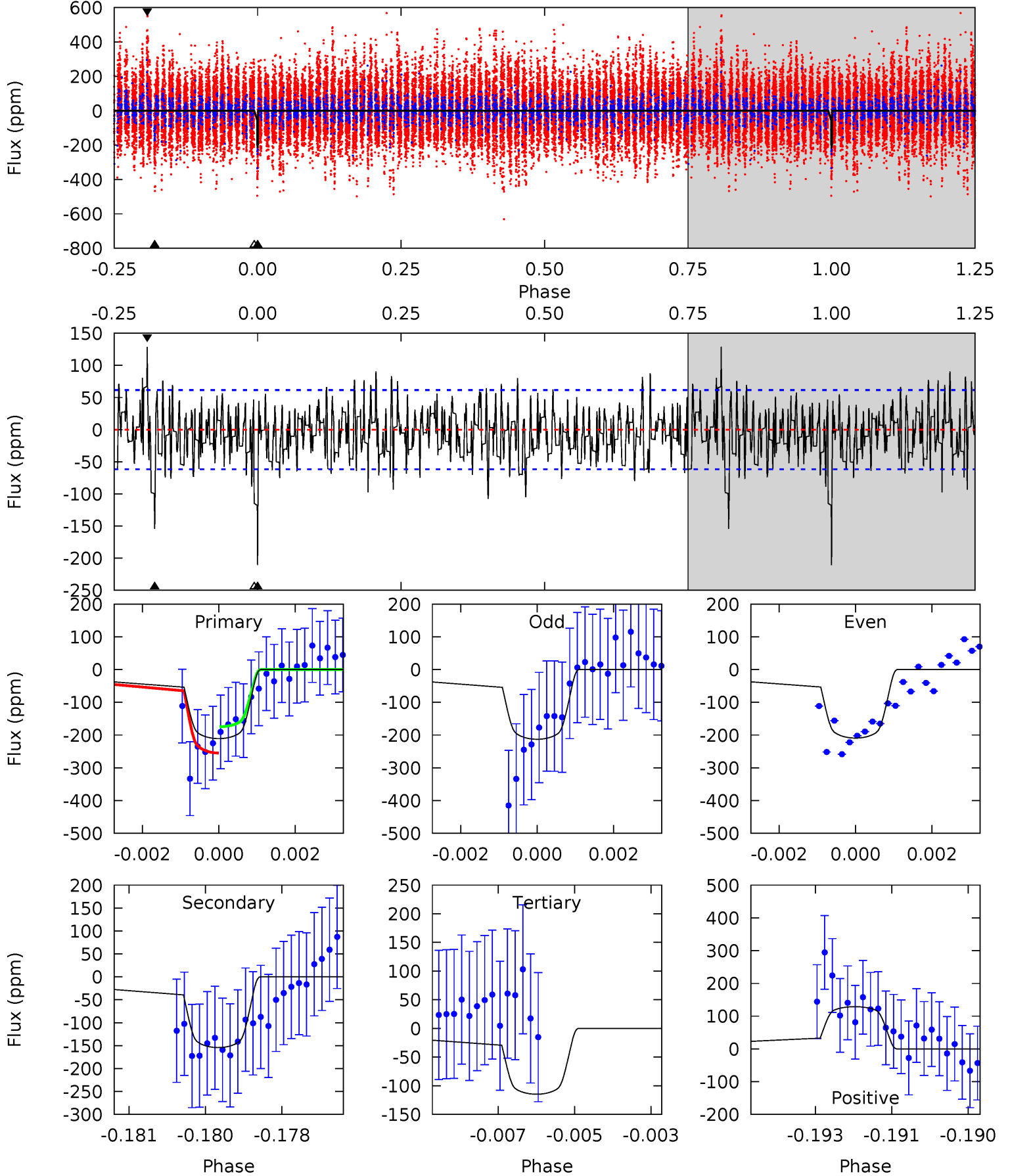
TCE 006696381-05 $P=176.020267$ Days $T_0=144.364879$ (BKJD)



DV Model-Shift Uniqueness Test

006696381-05, P = 176.031003 Days, E = 144.369887 Days

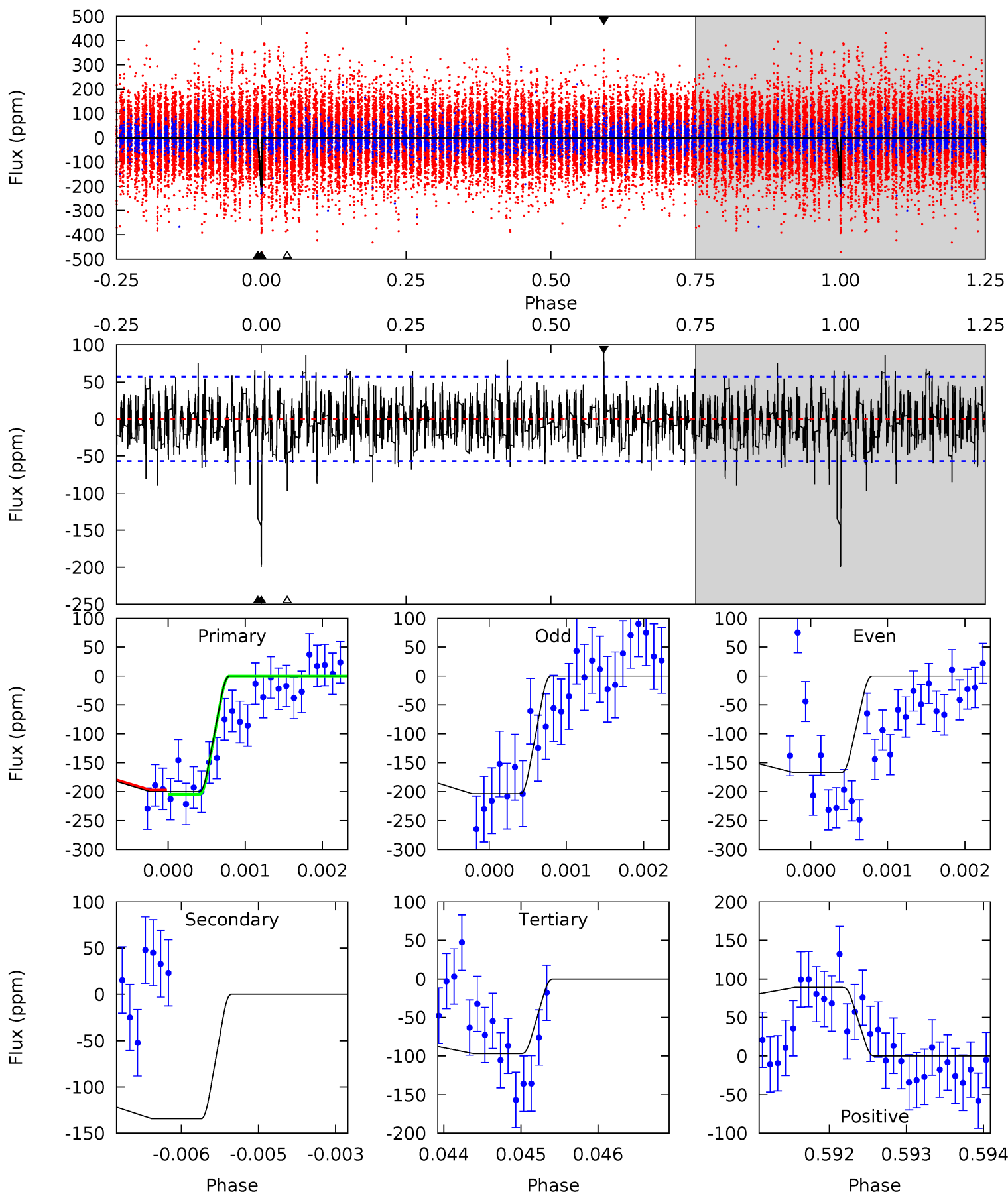
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	13.4	10.00	11.2	5.36	3.14	2.88	8.37	7.15	3.44	2.22	0.15	0.98	0.38	3.38



Alt Model-Shift Uniqueness Test

006696381-05, P = 176.020267 Days, E = 144.364879 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	12.8	9.24	8.48	5.43	3.26	2.28	9.85	10.6	3.60	4.35	1.75	0.85	0.31	0



Stellar Parameters For KIC 006696381

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6541^{+179}_{-247}	$3.979^{+0.299}_{-0.161}$	$0.080^{+0.250}_{-0.300}$	$2.075^{+0.615}_{-0.752}$	$1.495^{+0.208}_{-0.339}$	$0.236^{+0.501}_{-0.107}$
	+3%/-4%	+8%/-4%	+312%/-375%	+30%/-36%	+14%/-23%	+213%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006696381-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-154 ± 11	$3.27^{+0.65}_{-0.65}$	681^{+58}_{-62}	5950^{+405}_{-353}	3843^{+1974}_{-1122}
Alt.	-135 ± 10	$2.88^{+0.62}_{-0.59}$	684^{+55}_{-66}	6113^{+438}_{-380}	4342^{+2473}_{-1357}

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

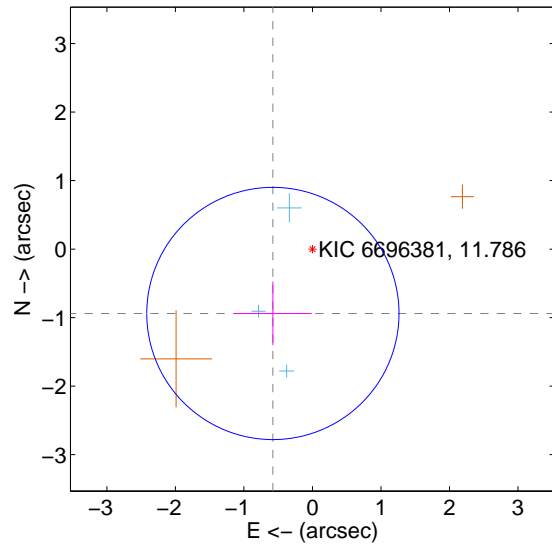
Supplemental centroid analysis for 006696381-05. **Kepler magnitude: 11.79.** Transit SNR 7.30

There are 3 quarters with good PRF difference image offsets

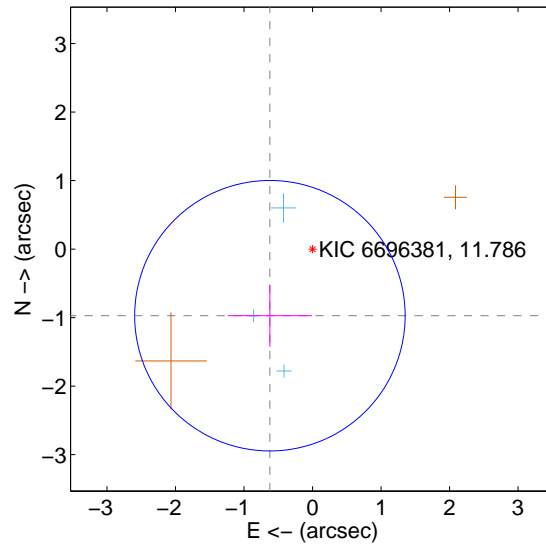
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.103 ± 0.614	1.80	0.577 ± 0.567	-0.940 ± 0.464
PRF-fit source offset from KIC position	1.154 ± 0.658	1.75	0.622 ± 0.614	-0.972 ± 0.453
photometric centroid source offset	1.11 ± 0.58	1.92	-0.86 ± 0.59	0.70 ± 0.56

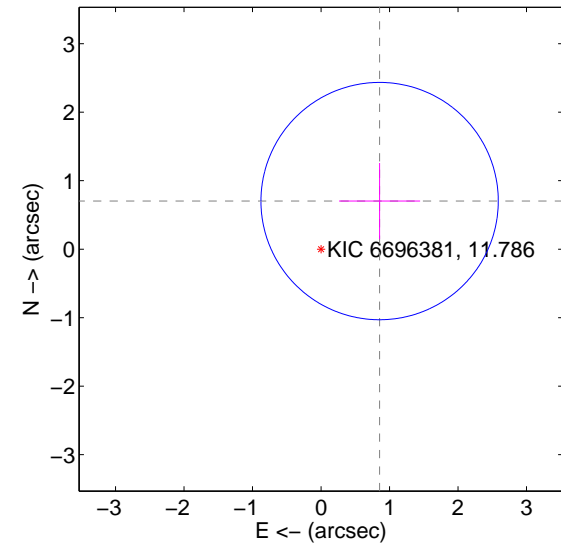
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

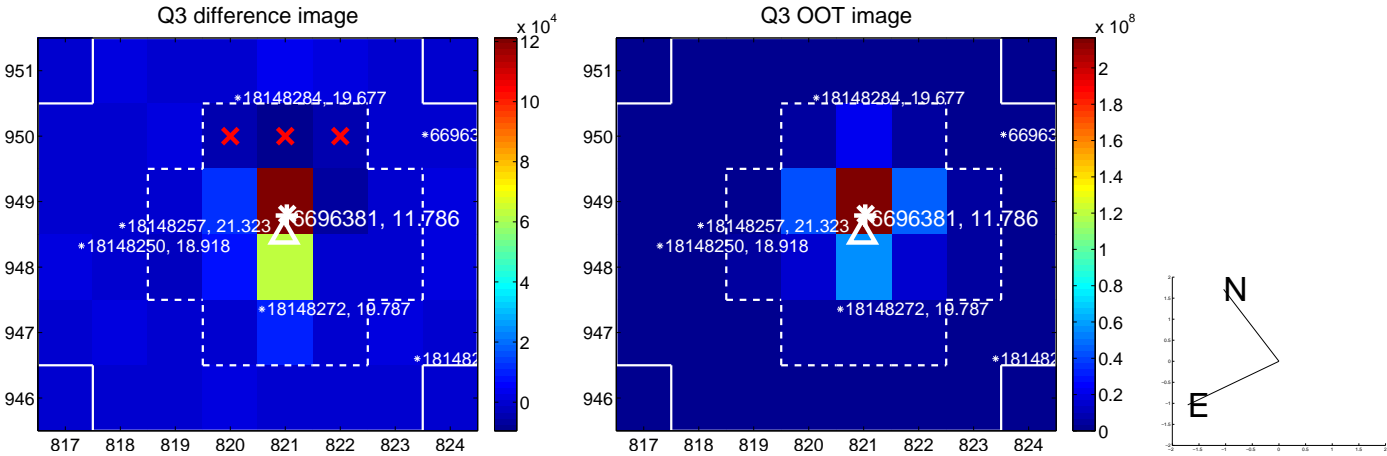
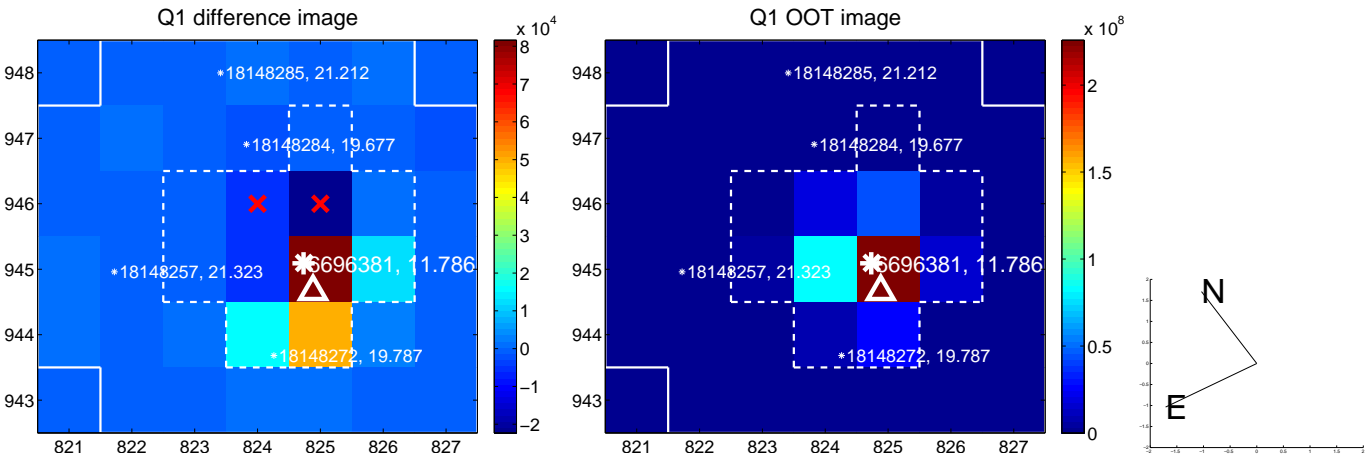


offset from photometric centroids

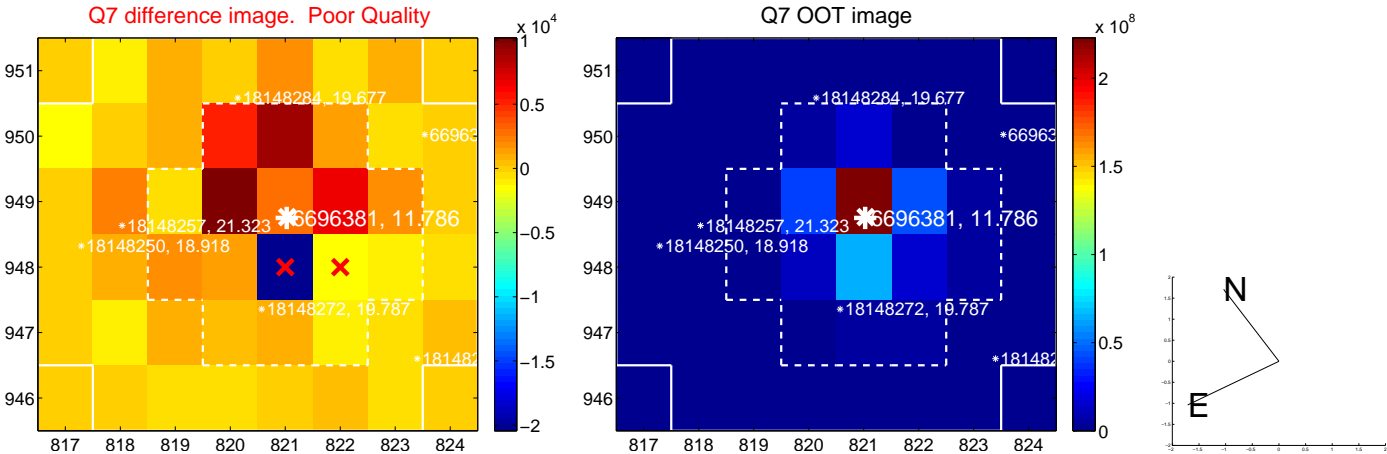
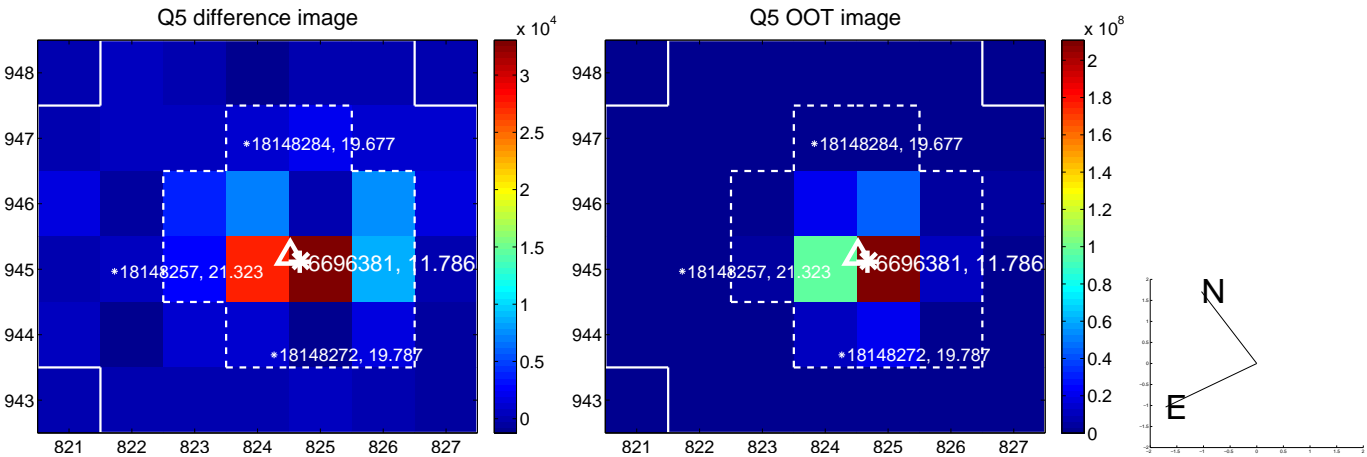


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

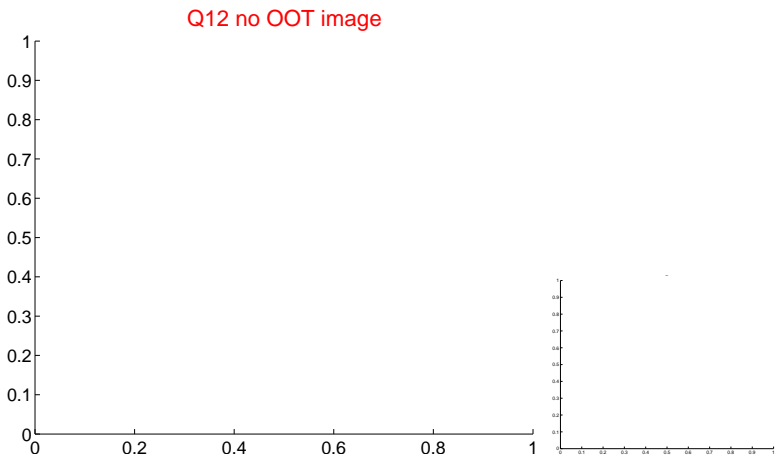
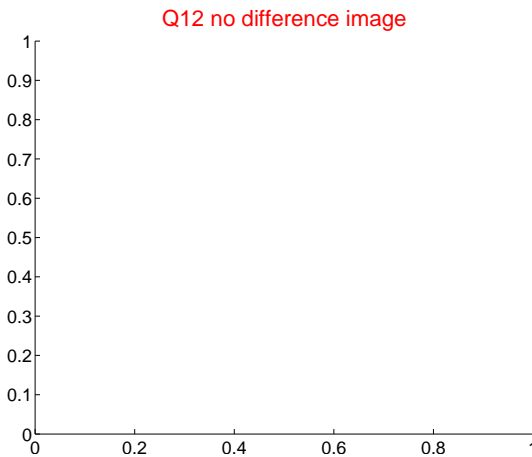
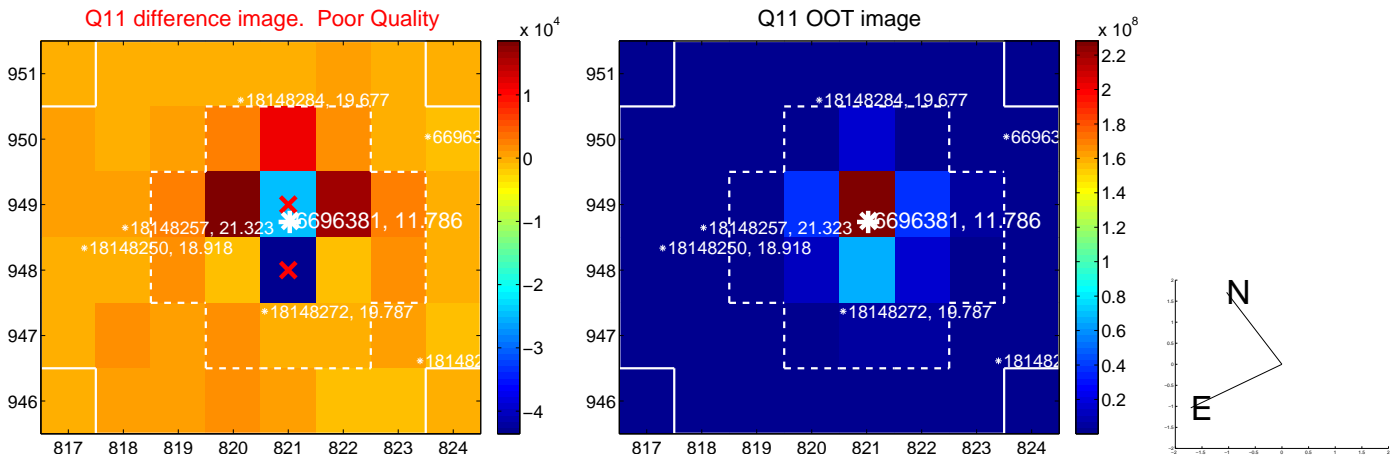
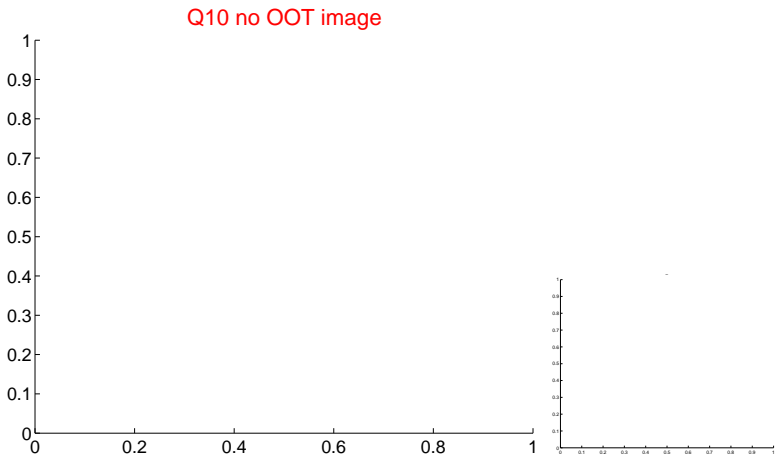
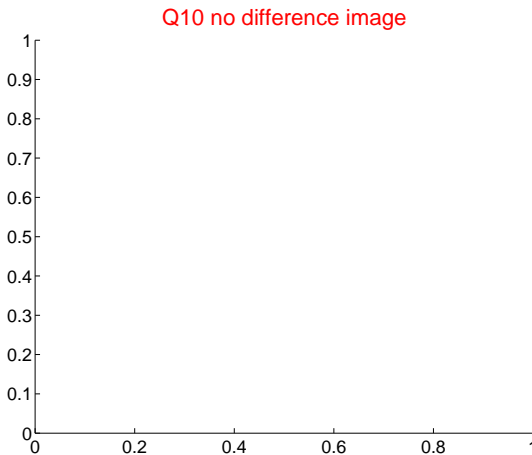
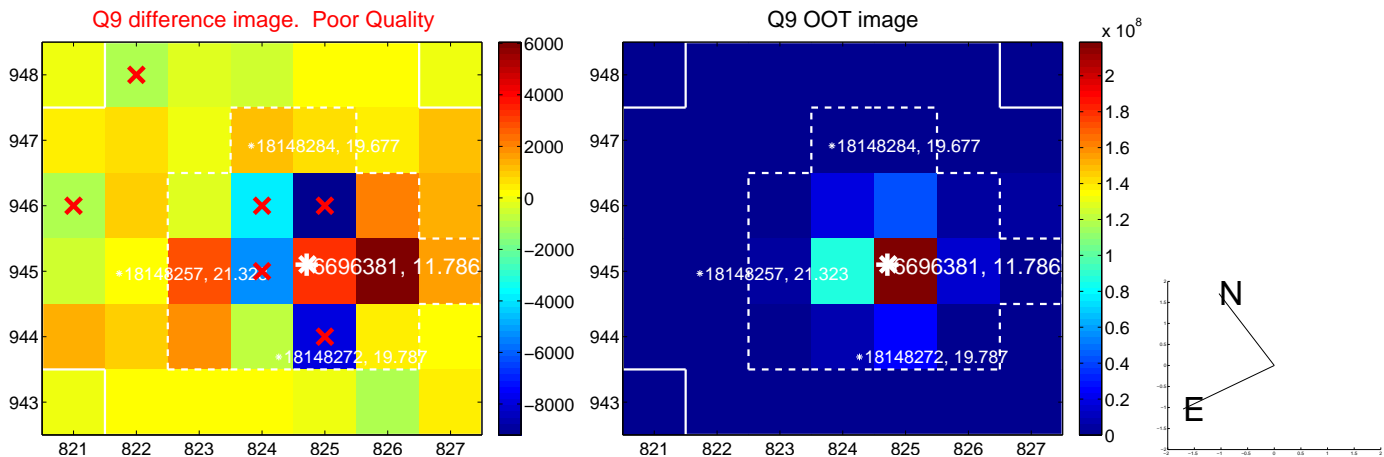
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



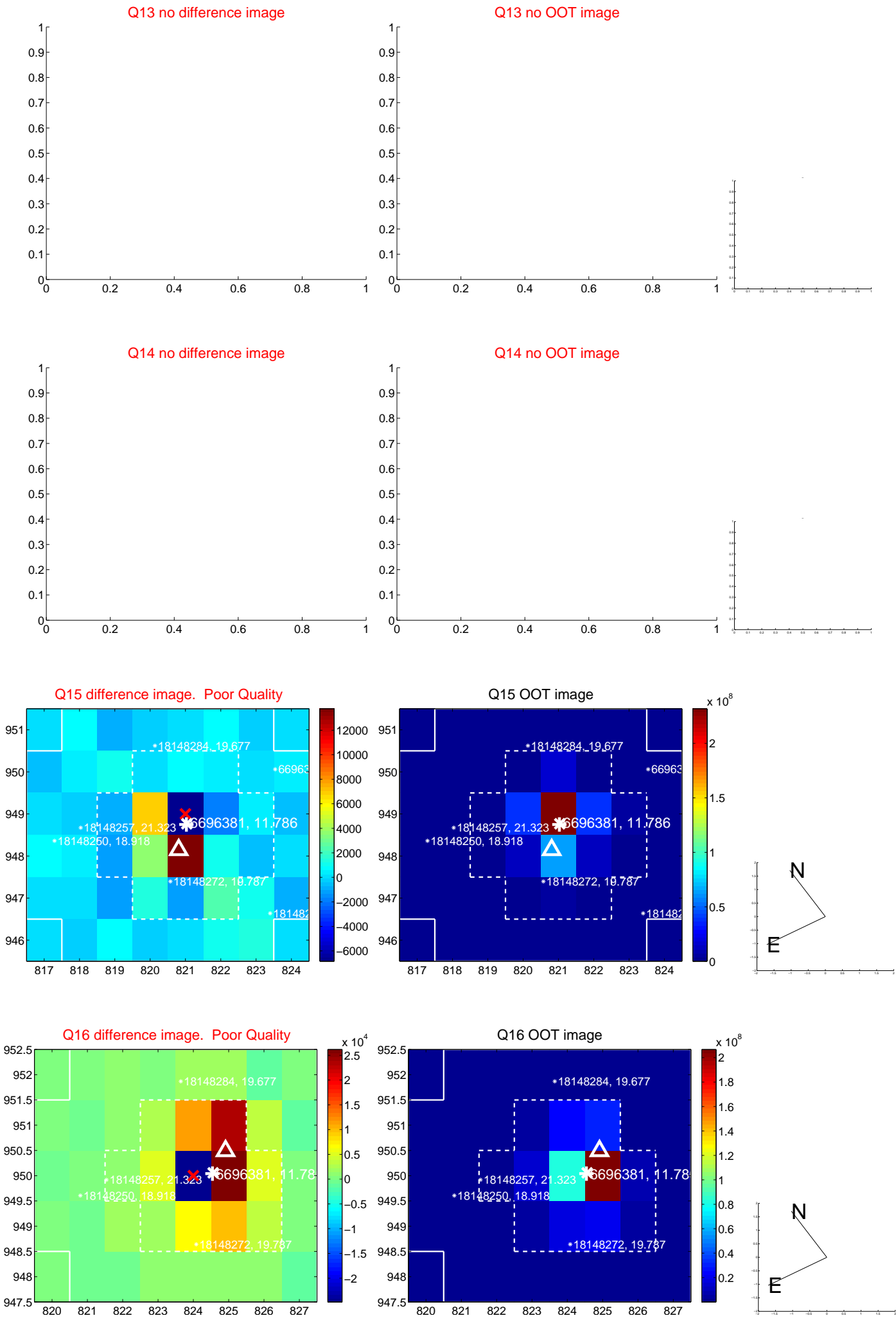
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



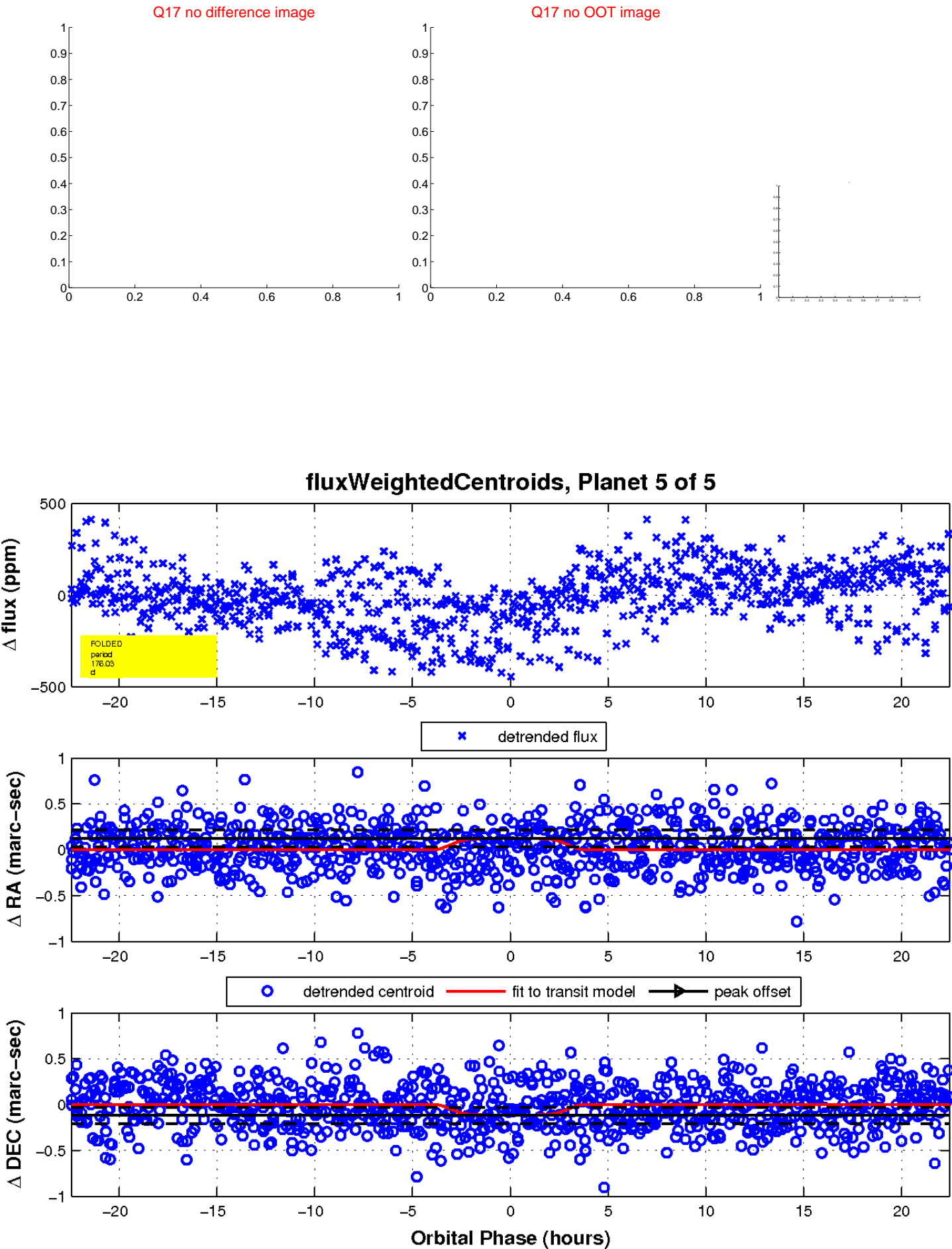
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

