

KIC 006192231

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})
006192231-01	OBS	No	553.091834	317.533200	669.6	9.294	16.9	9.1	2.72	4777	9.42	2.05
006192231-02	OBS	No	456.890402	518.915200	579.4	3.684	17.9	8.0	2.72	4777	6.27	2.65
006192231-03	OBS	No	510.469935	154.561463	813.5	3.725	11.5	10.6	2.72	4777	10.68	2.29
006192231-04	OBS	No	422.411203	467.480237	435.5	12.038	9.7	6.6	2.72	4777	6.11	2.94
006192231-05	OBS	No	325.729840	406.212046	484.2	9.610	10.0	6.9	2.72	4777	6.53	4.16
006192231-06	OBS	No	623.376540	195.923520	584.8	3.329	12.7	7.8	2.72	4777	6.98	1.75
006192231-07	OBS	No	539.408446	160.160762	468.3	4.256	11.9	6.5	2.72	4777	6.26	2.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006192231-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS
006192231-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_KIC_POS
006192231-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006192231-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

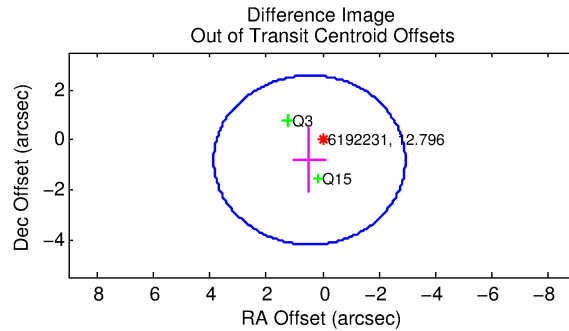
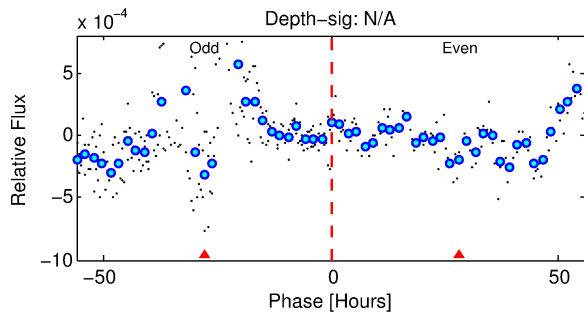
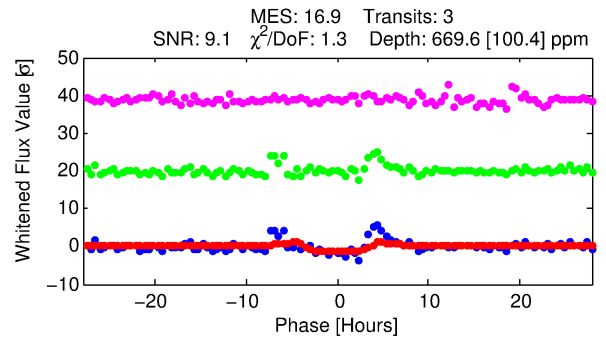
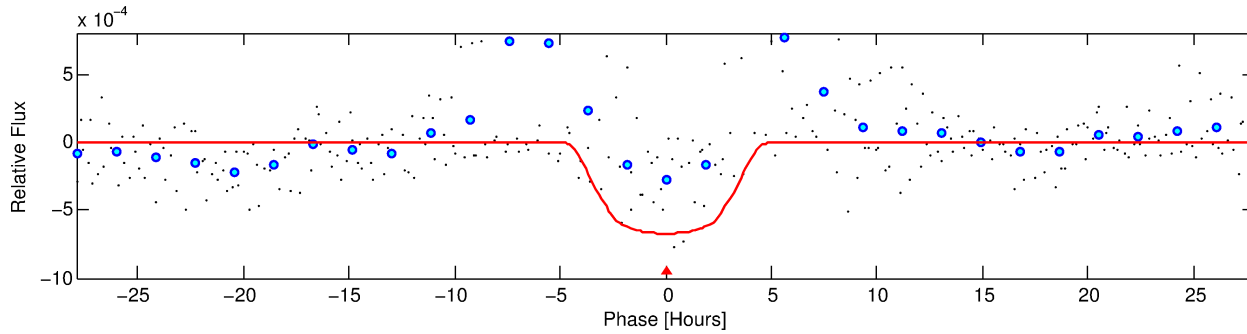
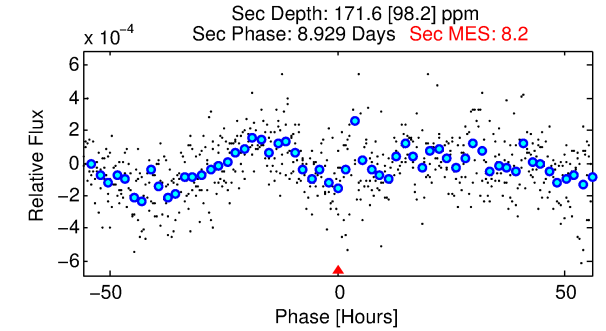
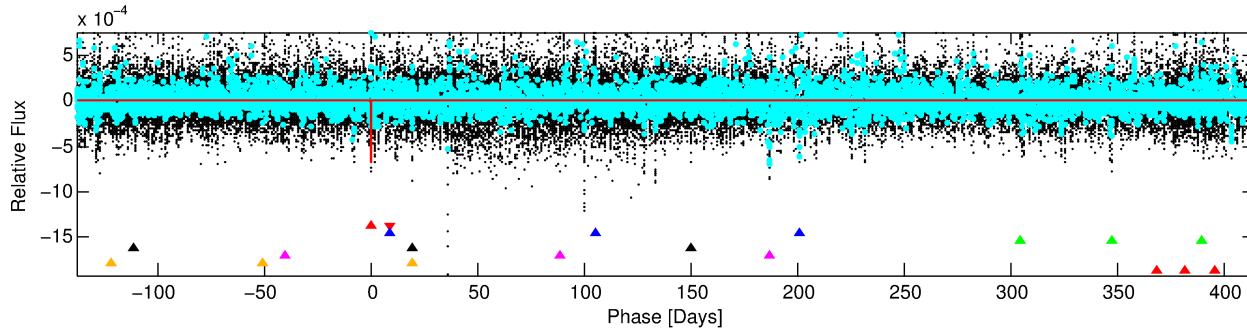
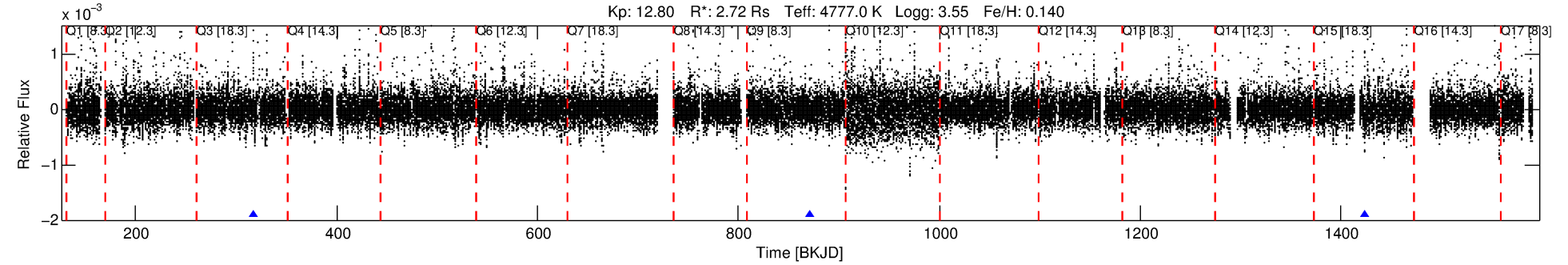
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006192231-01

No Significant Match Found

DV One-Page Summary

KIC: 6192231 Candidate: 1 of 7 Period: 553.092 d



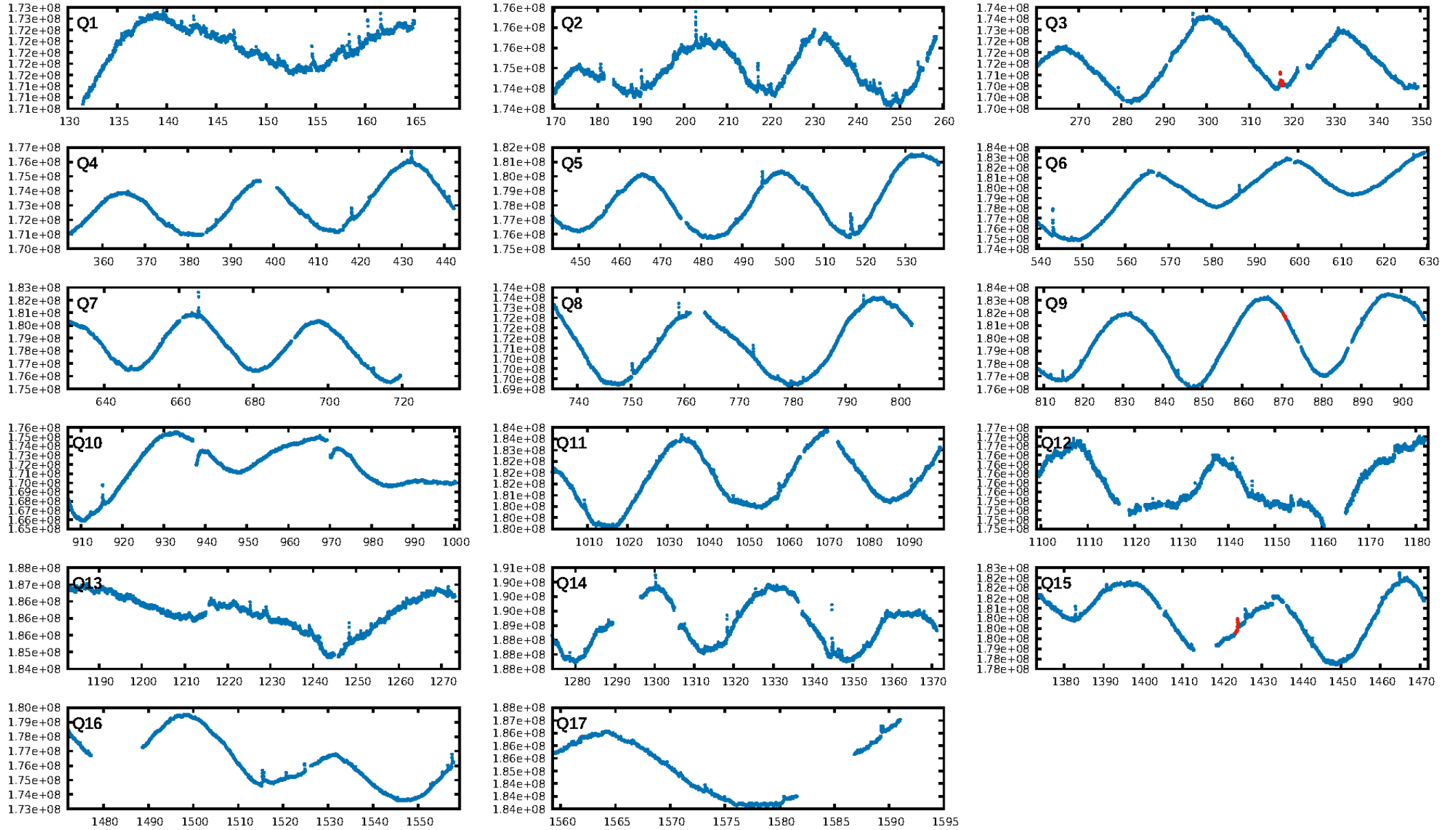
DV Fit Results:

Period = 553.09183 [0.01146] d
Epoch = 317.5332 [0.0160] BKJD
Rp/R* = 0.0318 [0.0029]
a/R* = 181.19 [28.78]
b = 0.95 [0.02]
Seff = 2.05 [0.58]
Teq = 305 [22] K
Rp = 9.42 [2.53] Re
a = 1.2947 [0.2602] AU
Ag = 1784.03 [1180.64] [1.51] σ
Teffp = 3067 [464] K [5.95] σ

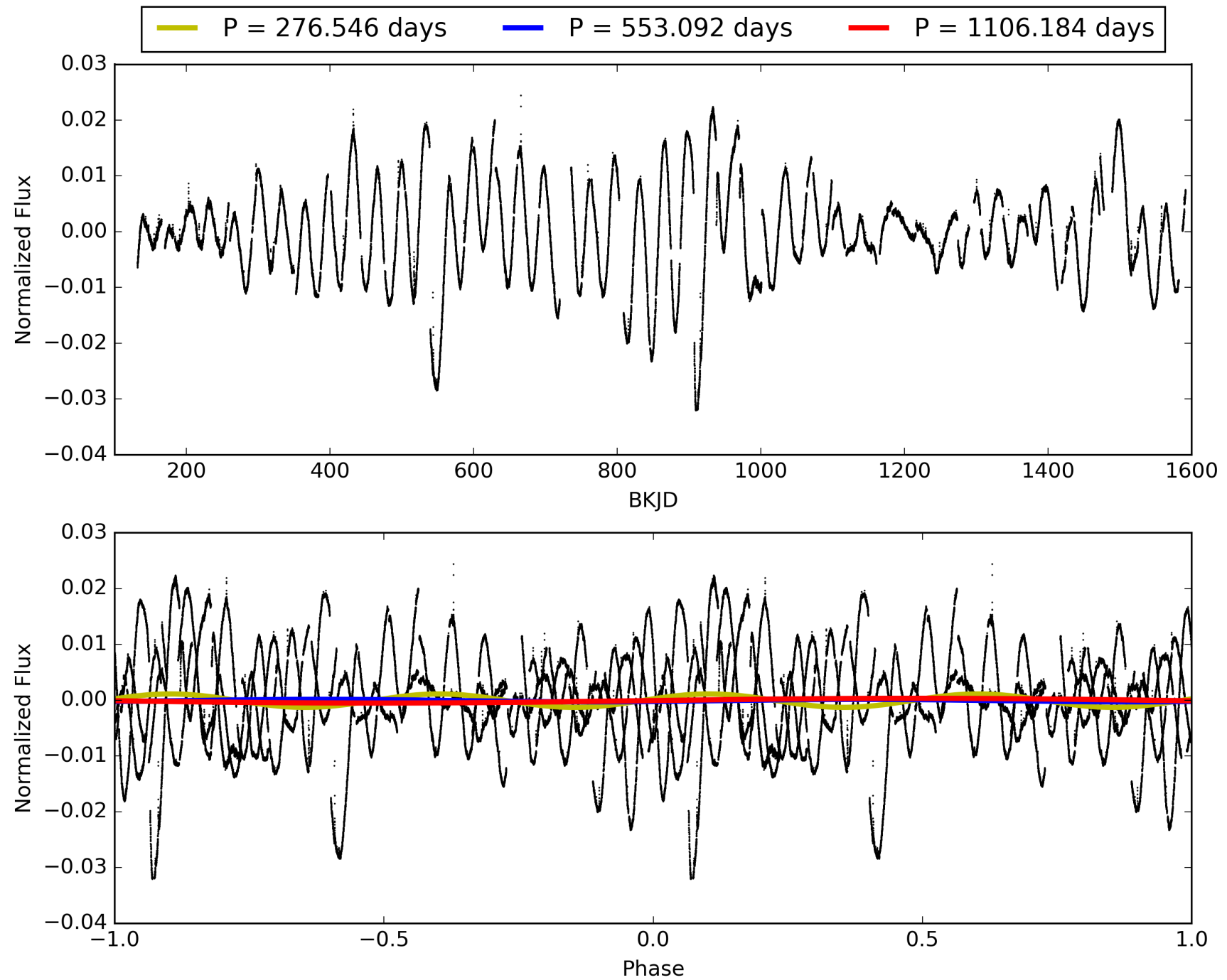
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [32.13] σ
LongPeriod-sig: 100.0% [170.86] σ
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 35.9%
Bootstrap-pfa: 2.40e-16
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.764
Centroid-sig: 3.2%
Centroid-so: 0.642 arcsec [1.63] σ
OotOffset-rm: 0.941 arcsec [0.83] σ
OotOffset-st: 0/2/0/0 [2]
KicOffset-rm: 0.733 arcsec [0.89] σ
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 006192231-01, PDC Light Curves

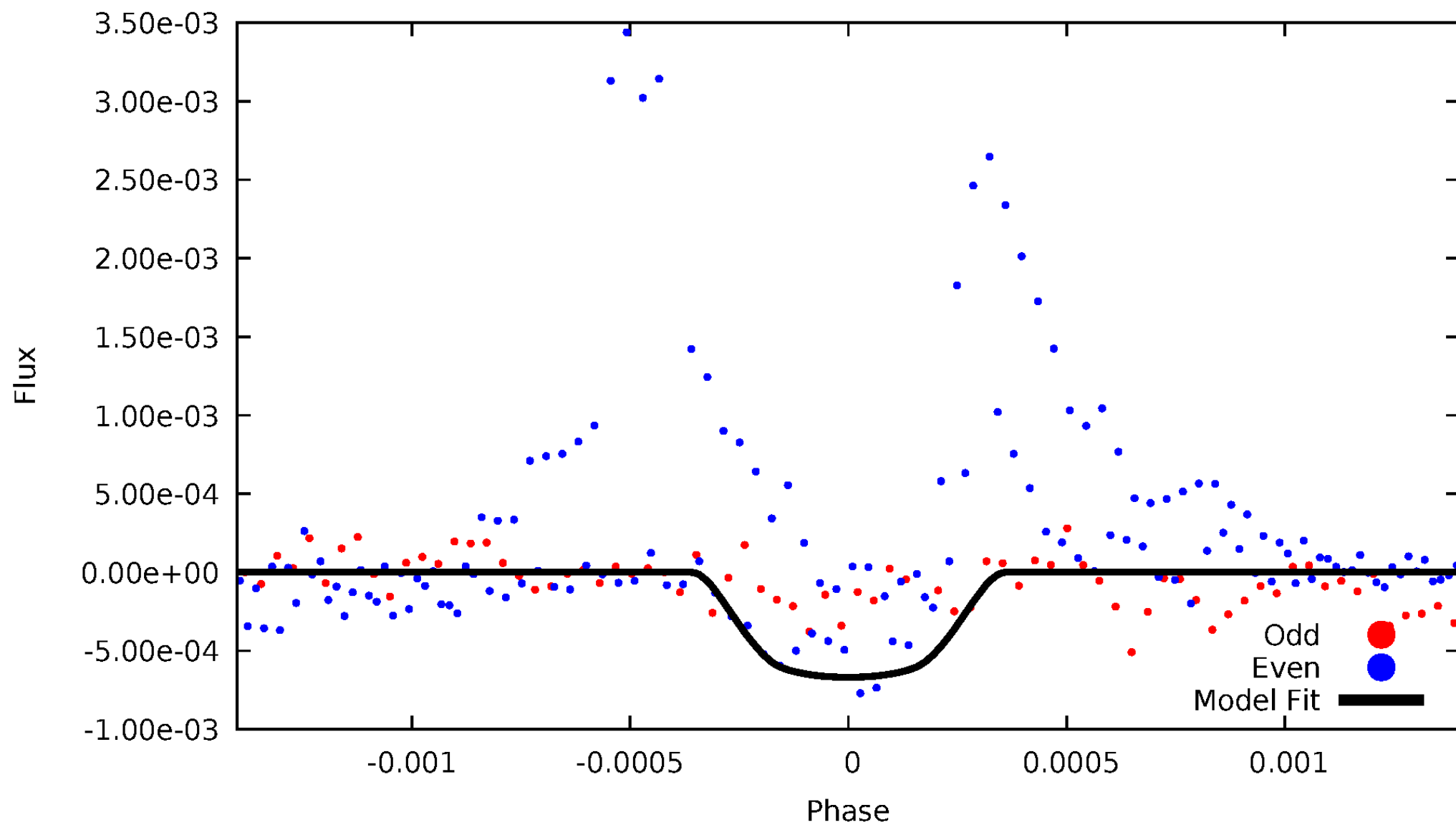


TCE 006192231-01



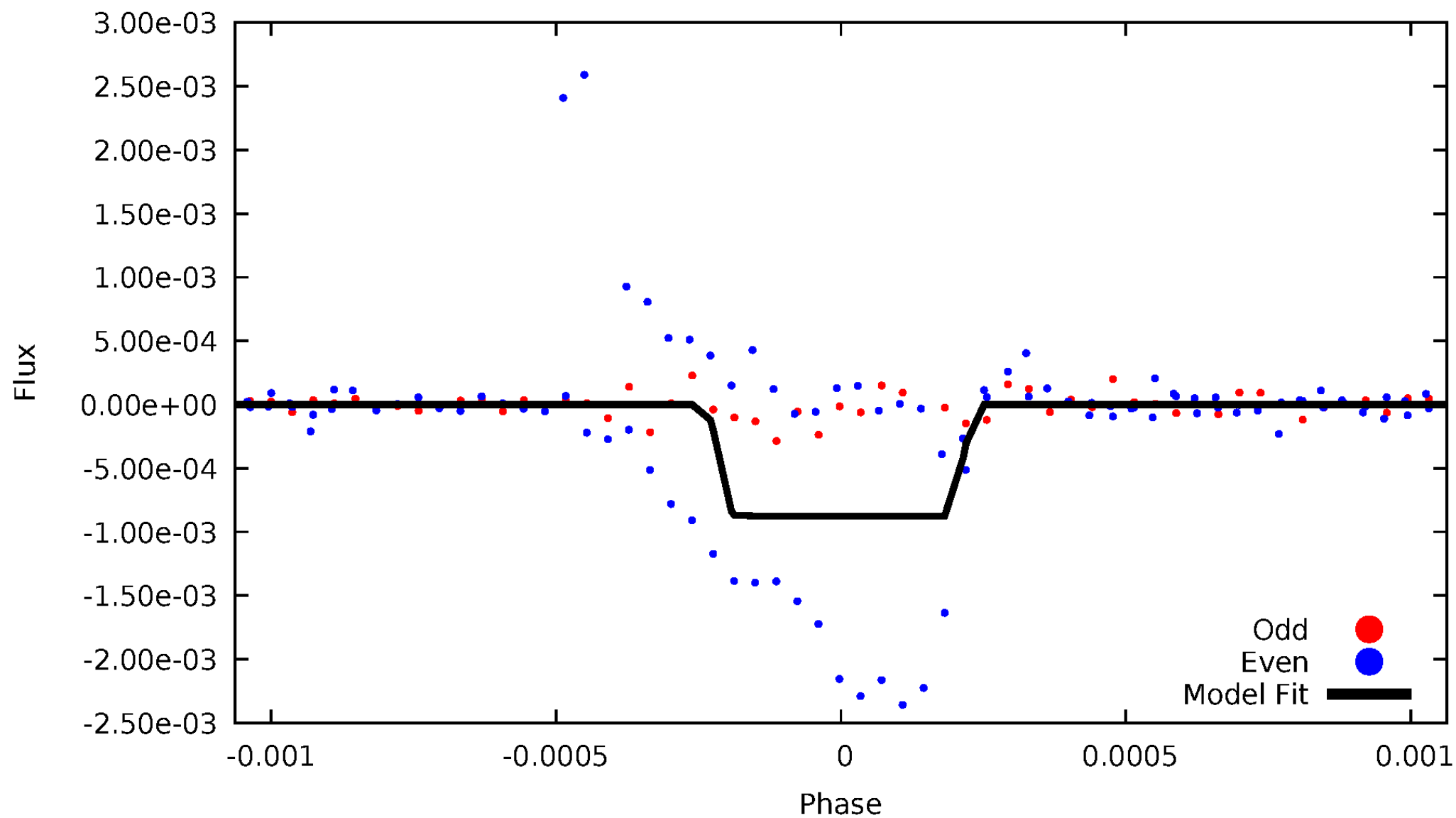
DV Odd/Even

TCE 006192231-01



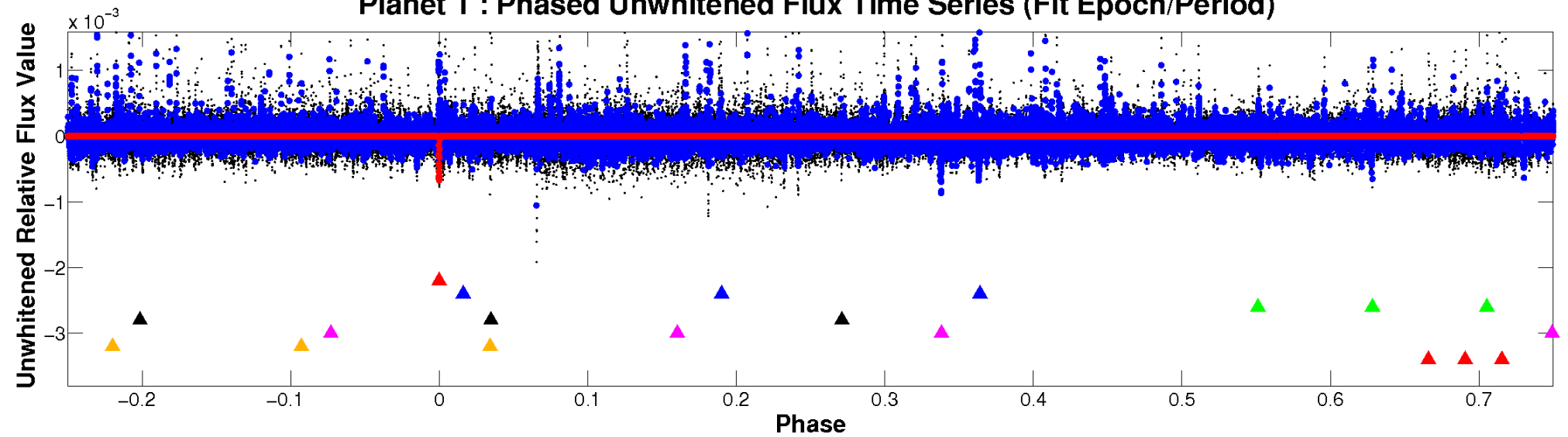
ALT Odd/Even

TCE 006192231-01

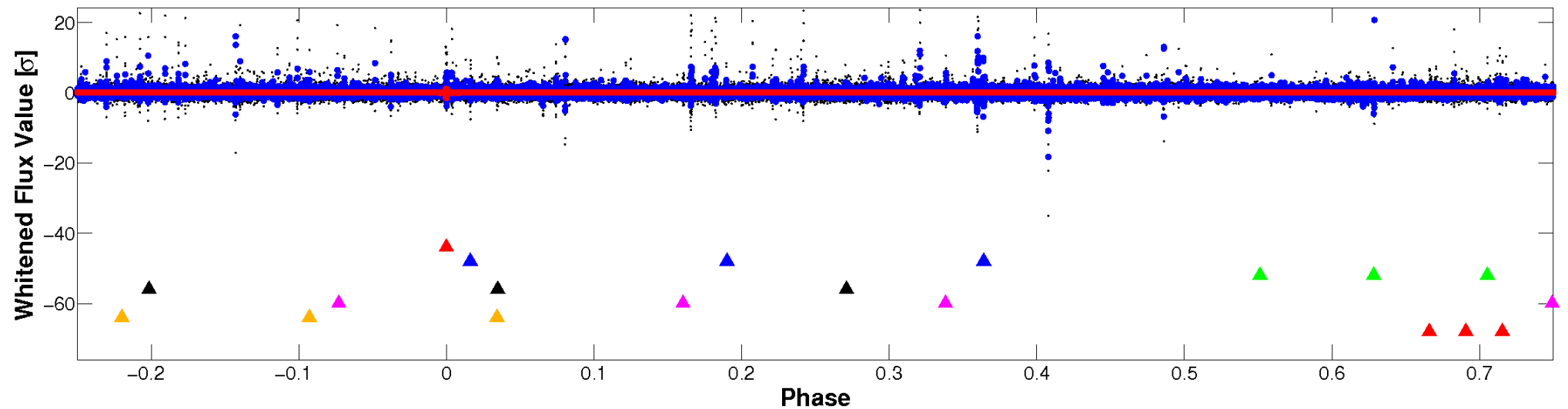


Non-Whitened Vs. Whitened Light Curve

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

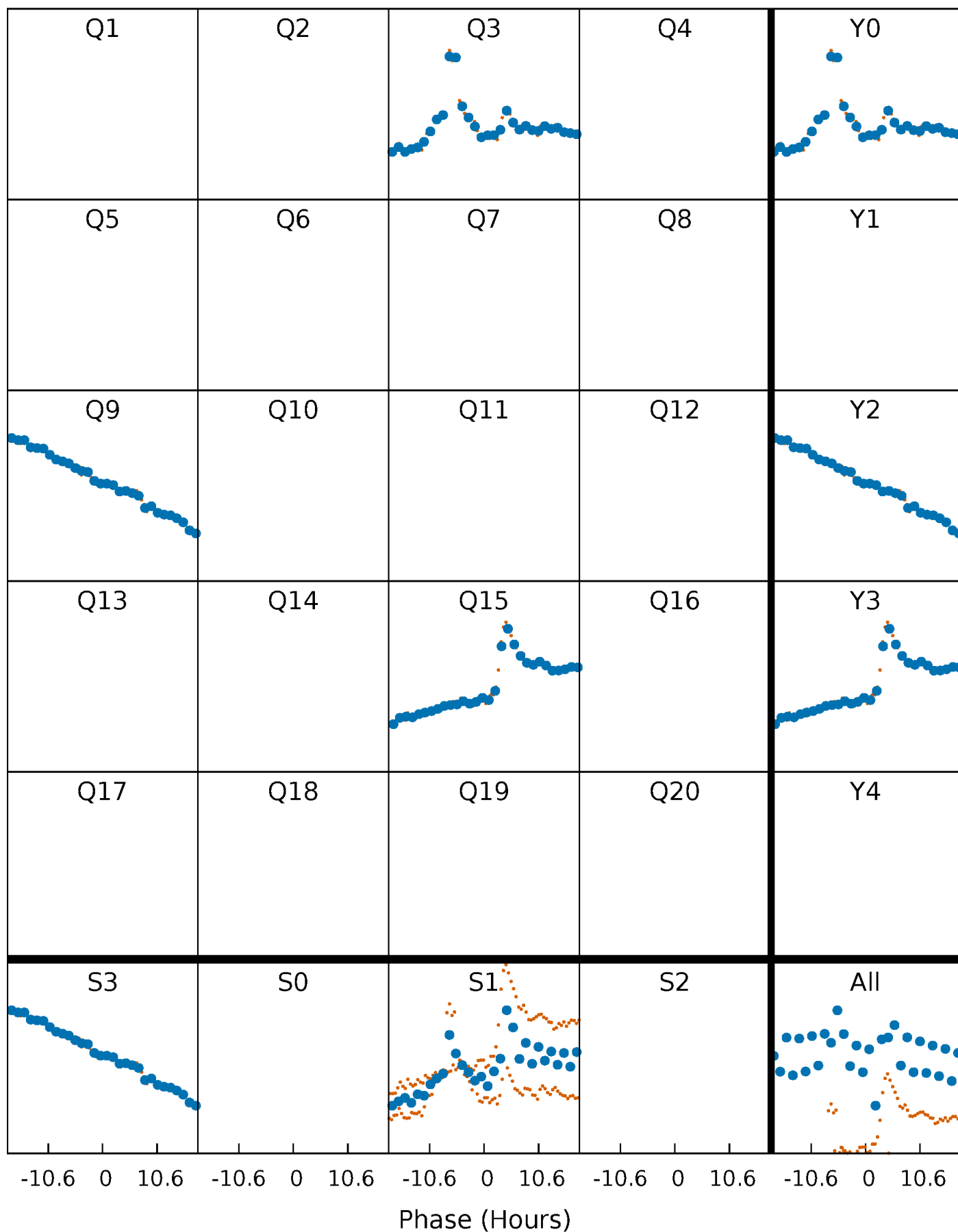


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



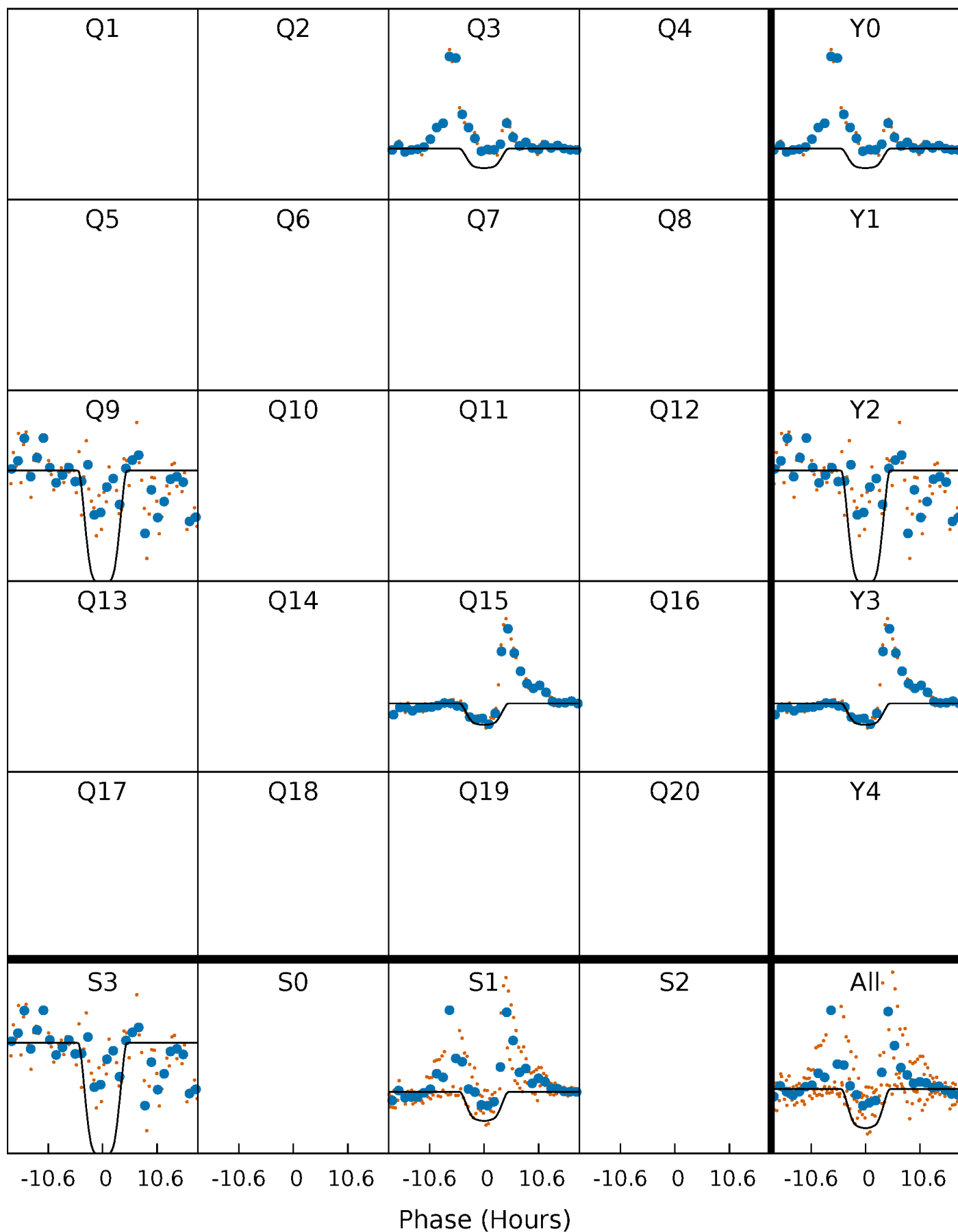
PDC Quarter-Phased Transit Curves

TCE 006192231-01 P=553.091834 Days $T_0=317.533200$ (BKJD)



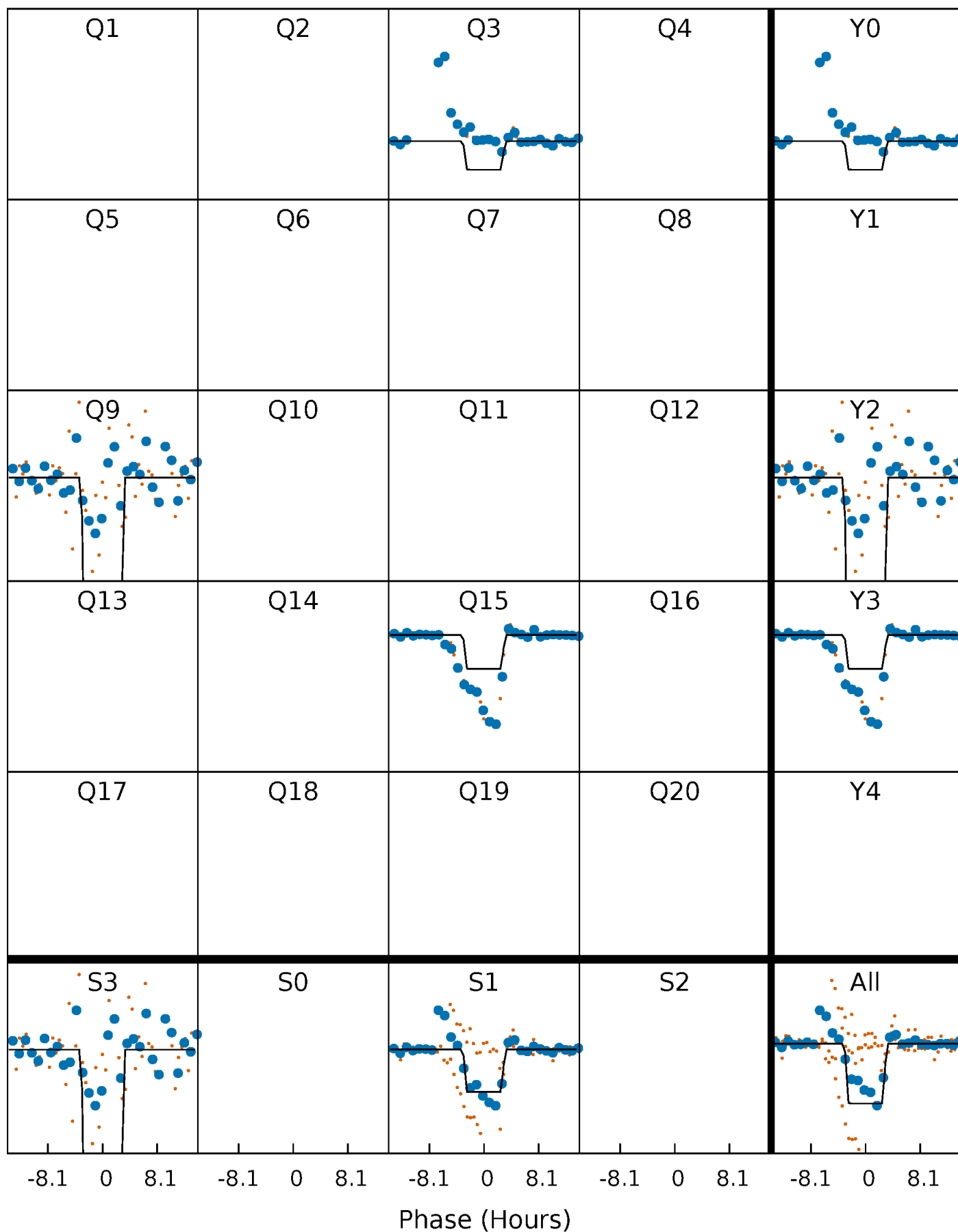
DV Quarter-Phased Transit Curves

TCE 006192231-01 P=553.091834 Days $T_0=317.533200$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

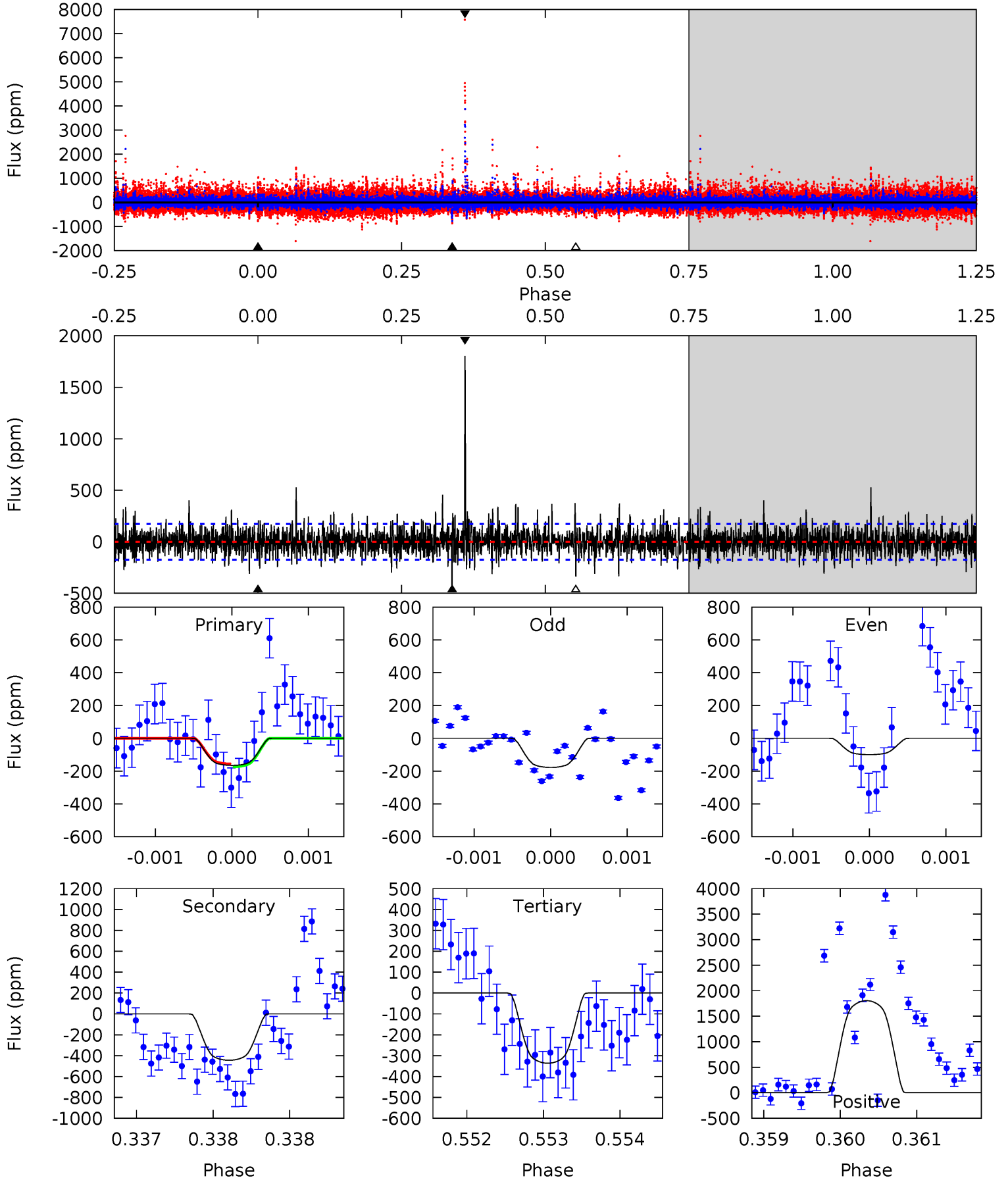
TCE 006192231-01 P=553.095602 Days $T_0=317.542419$ (BKJD)



DV Model-Shift Uniqueness Test

006192231-01, P = 553.091834 Days, E = 317.533200 Days

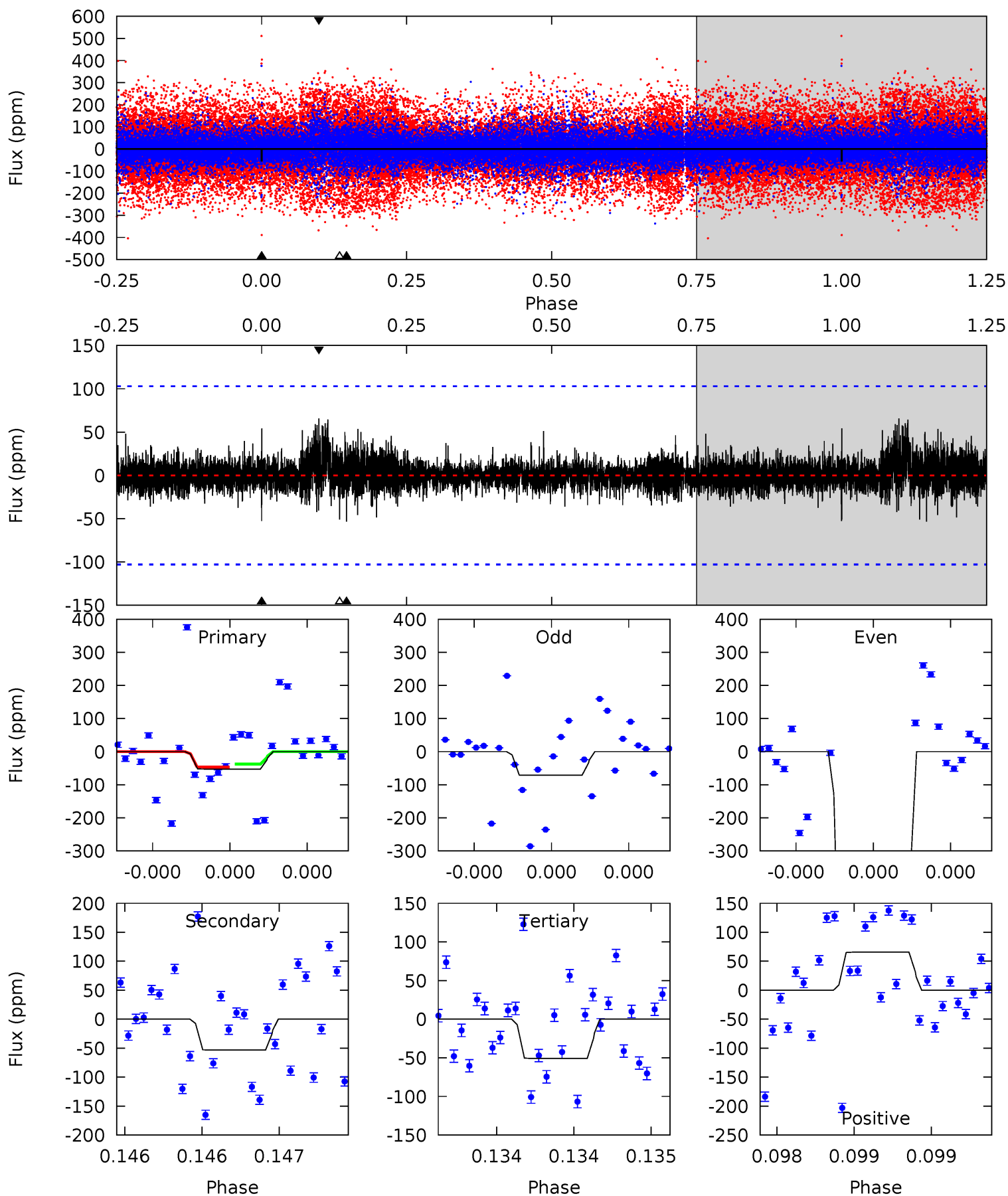
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.26	14.1	10.7	57.4	5.51	3.38	3.21	-5.44	-52.2	3.43	-43.3	0.95	0.55	0.80	0.27



Alt Model-Shift Uniqueness Test

006192231-01, P = 553.095602 Days, E = 317.542419 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.86	2.90	2.76	3.57	5.59	3.51	0.56	0.10	-0.71	0.14	-0.67	24.6	8.86	0.55	0.25



Stellar Parameters For KIC 006192231

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4777^{+76}_{-42}	$3.546^{+0.104}_{-0.143}$	$0.140^{+0.150}_{-0.100}$	$2.716^{+0.686}_{-0.294}$	$0.944^{+0.163}_{-0.017}$	$0.066^{+0.030}_{-0.029}$
	+2%/-1%	+3%/-4%	+107%/-71%	+25%/-11%	+17%/-2%	+46%/-43%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006192231-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-444 ± 31	$9.62^{+1.46}_{-1.11}$	428^{+25}_{-18}	4086^{+165}_{-138}	4576^{+1304}_{-1103}
Alt.	-53 ± 18	$8.92^{+1.33}_{-1.12}$	427^{+26}_{-15}	2992^{+164}_{-181}	609^{+326}_{-232}

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 $A_{obs} \gg 1.0$

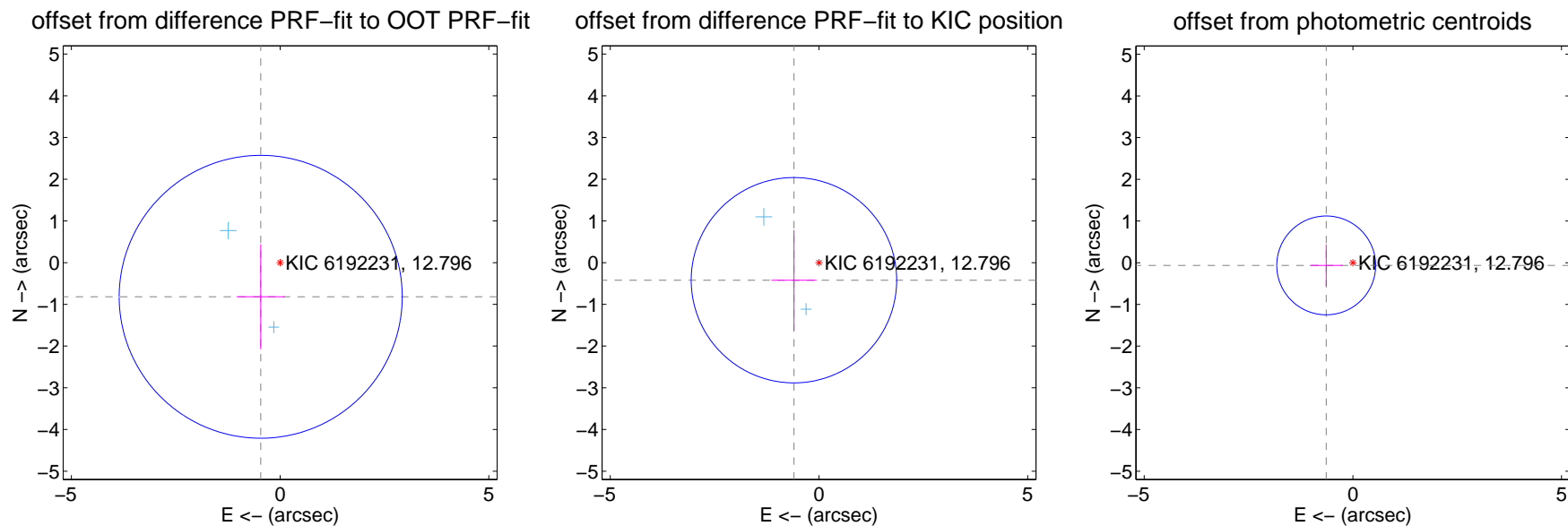
DV Centroid Data

Supplemental centroid analysis for 006192231-01. Kepler magnitude: 12.80. Transit SNR 9.08

There are 2 quarters with good PRF difference image offsets

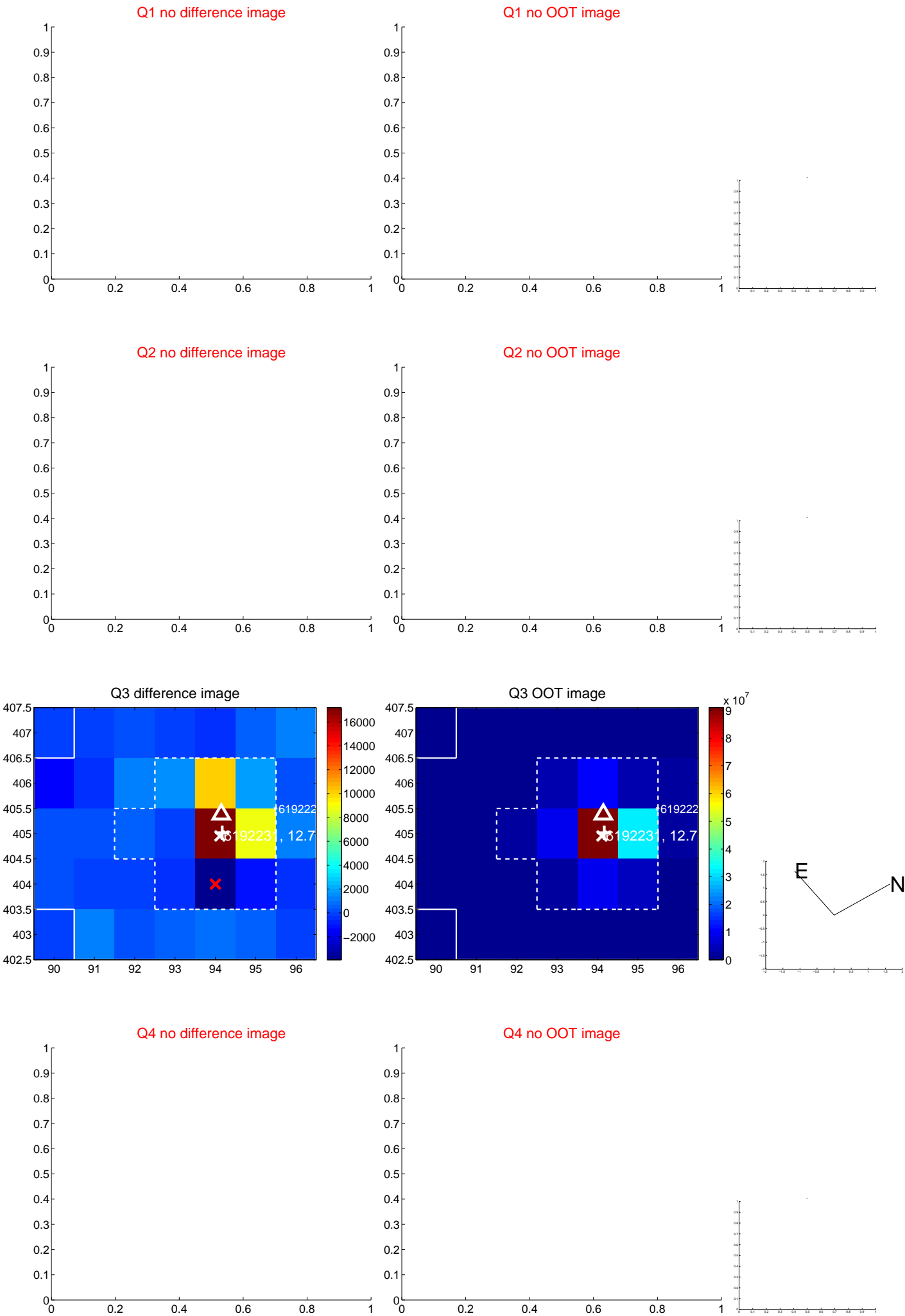
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.941 ± 1.130	0.83	0.465 ± 0.580	-0.819 ± 1.257
PRF-fit source offset from KIC position	0.733 ± 0.820	0.89	0.600 ± 0.540	-0.421 ± 1.203
photometric centroid source offset	0.64 ± 0.39	1.63	0.64 ± 0.39	-0.06 ± 0.50



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

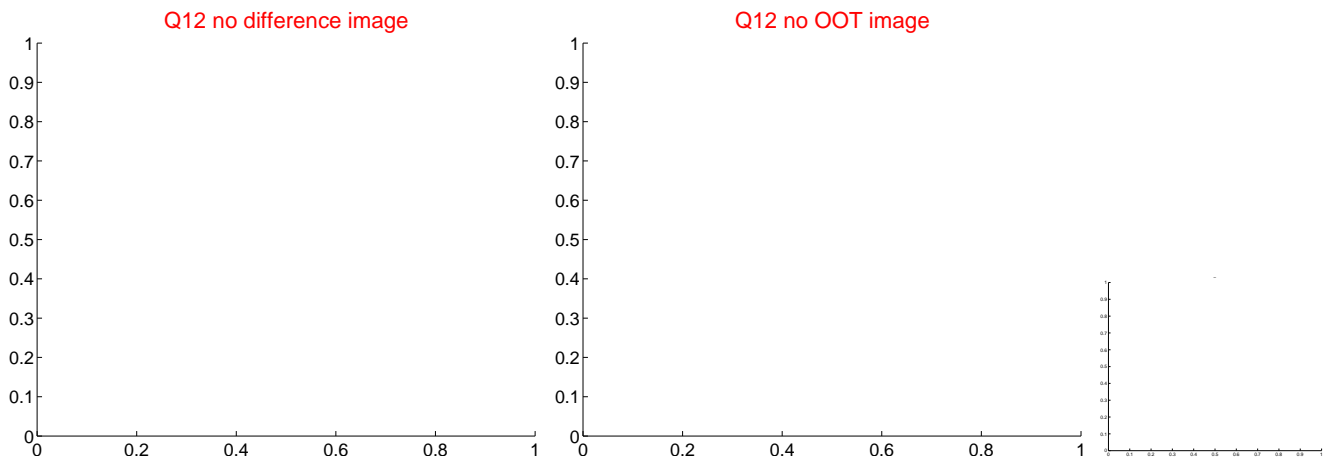
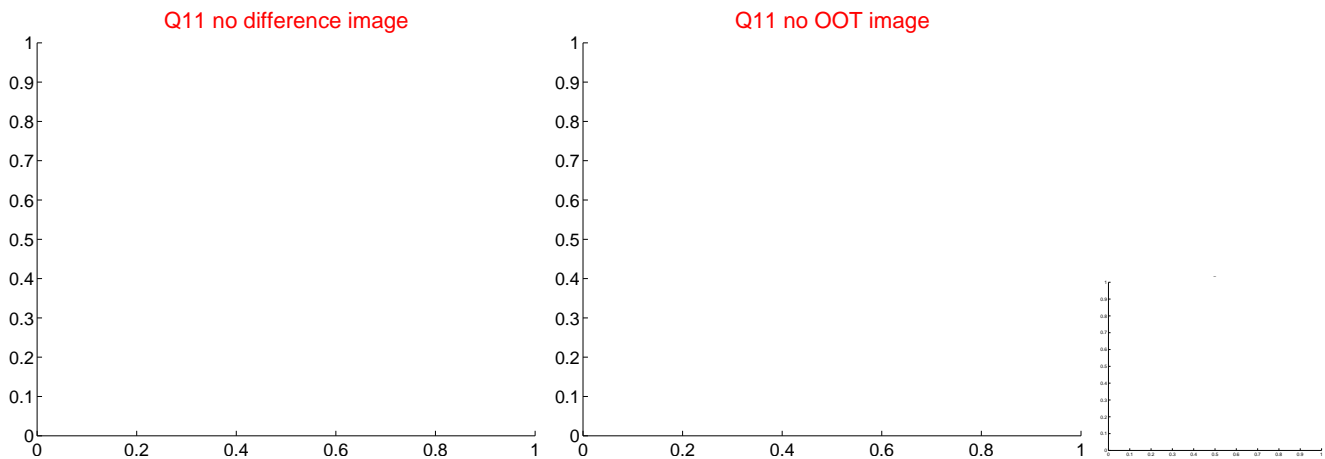
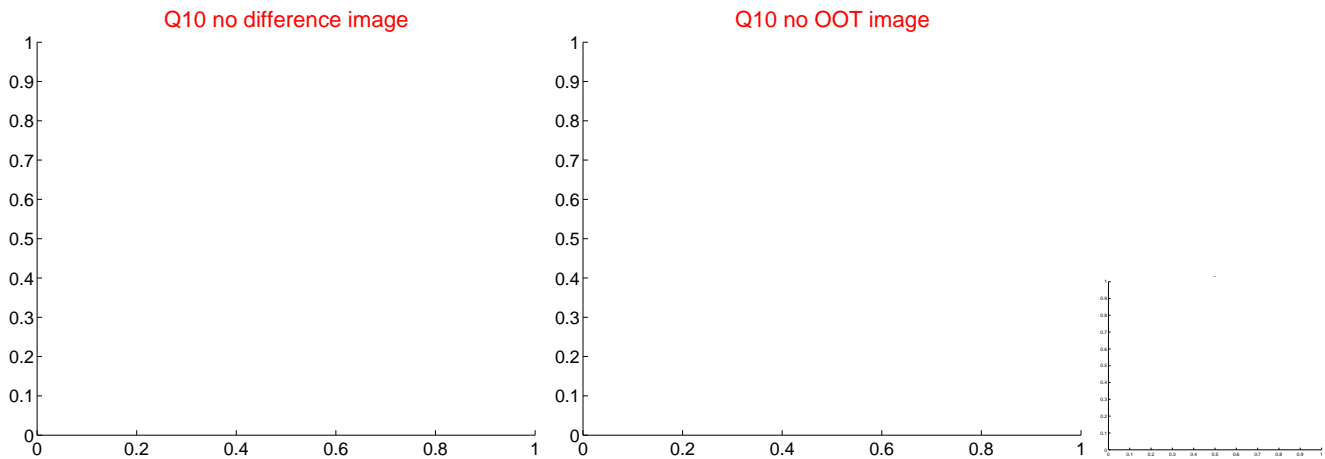
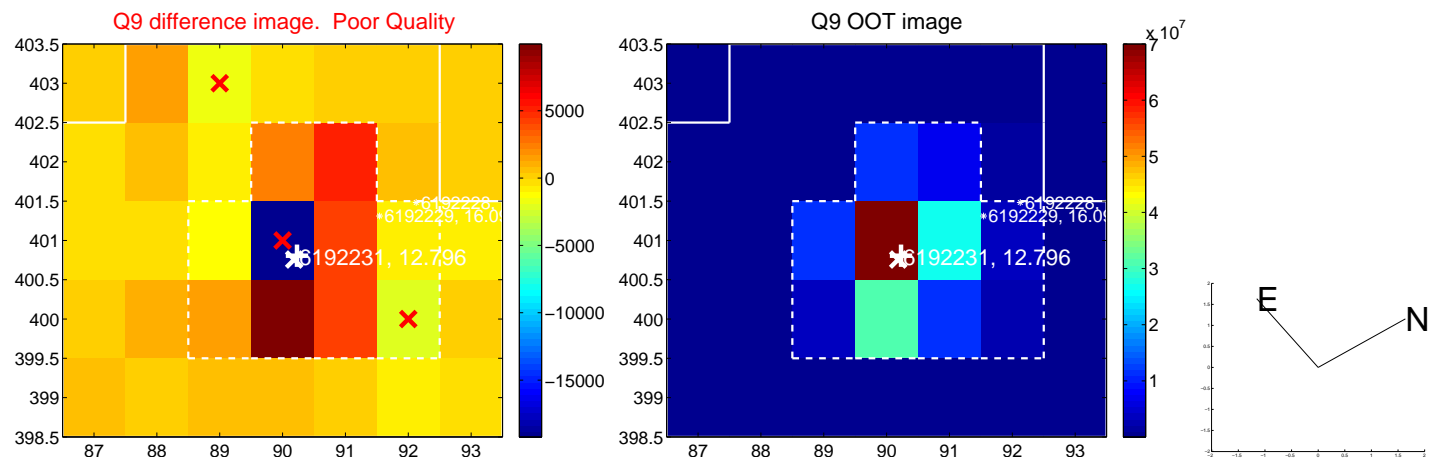
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



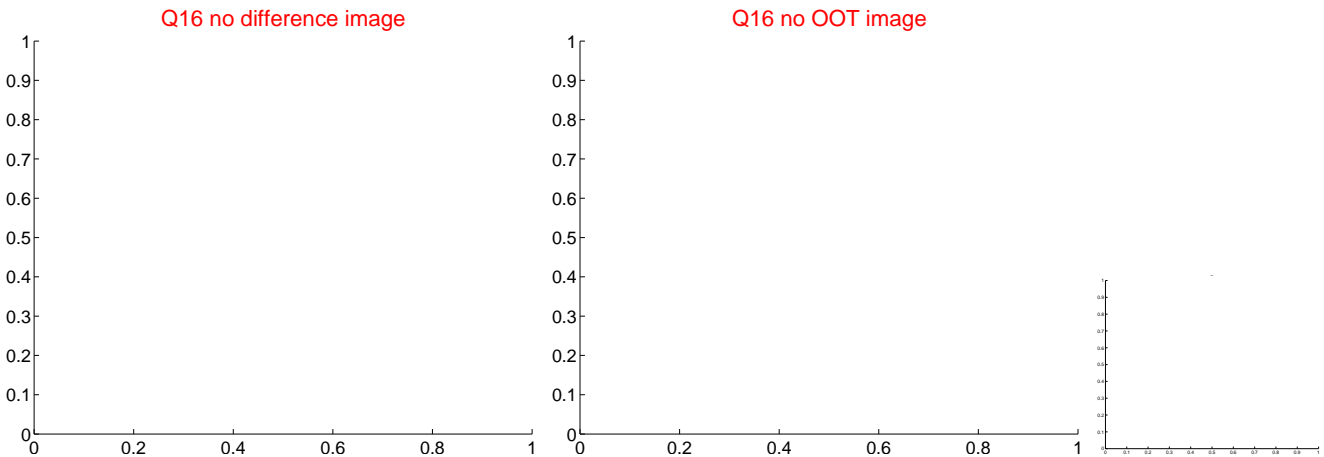
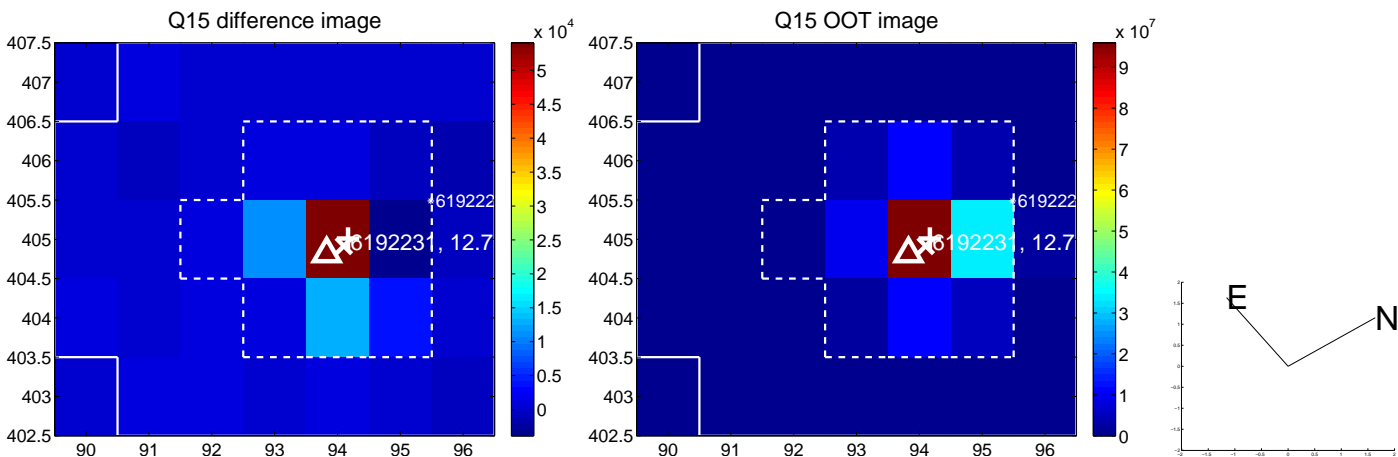
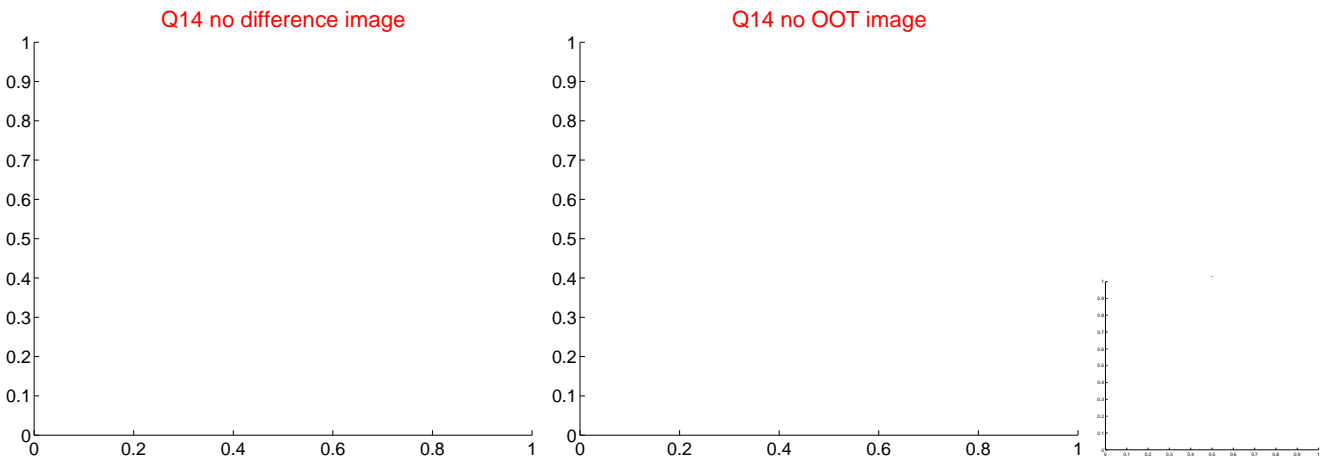
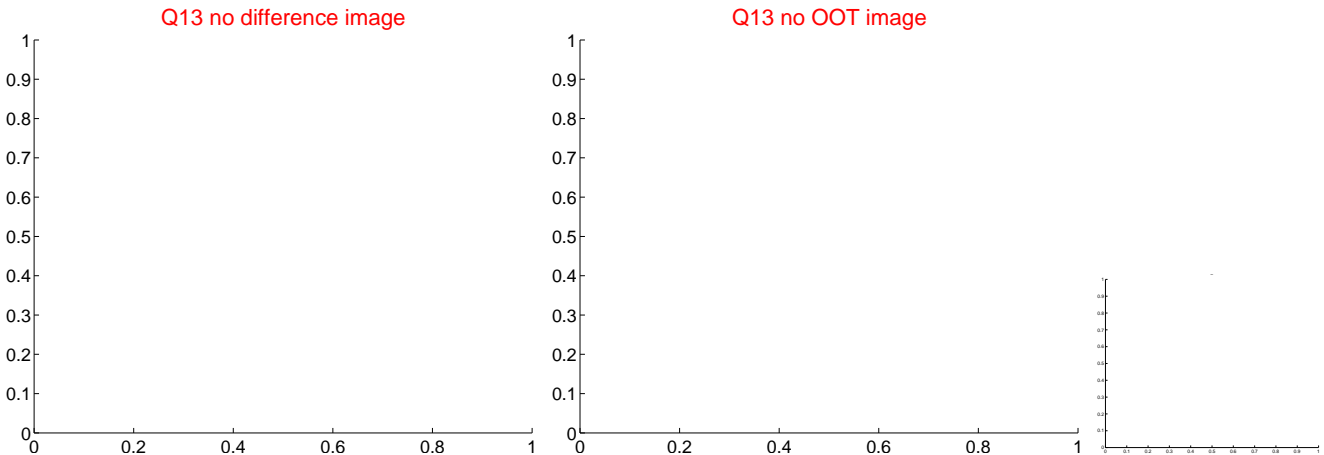
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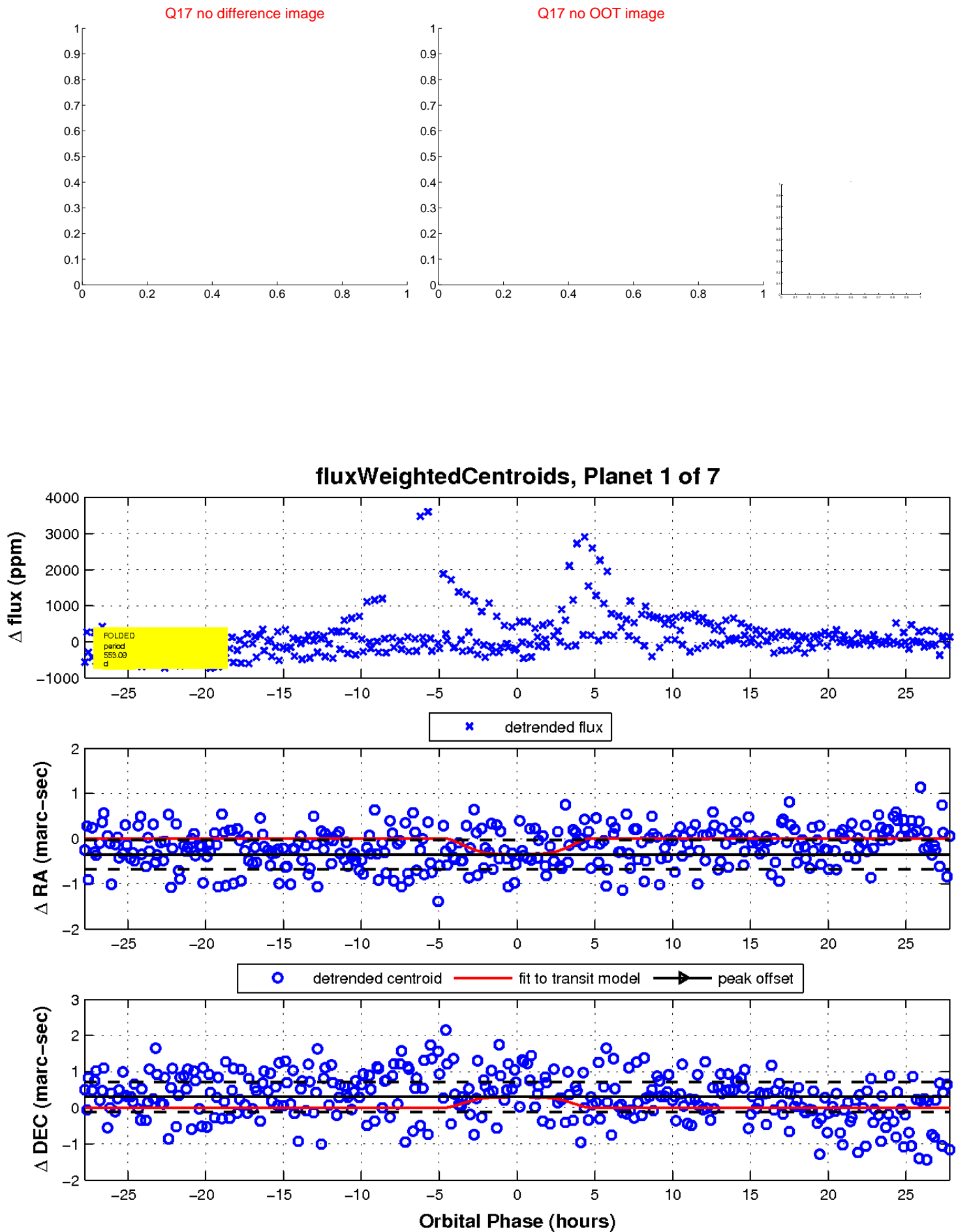
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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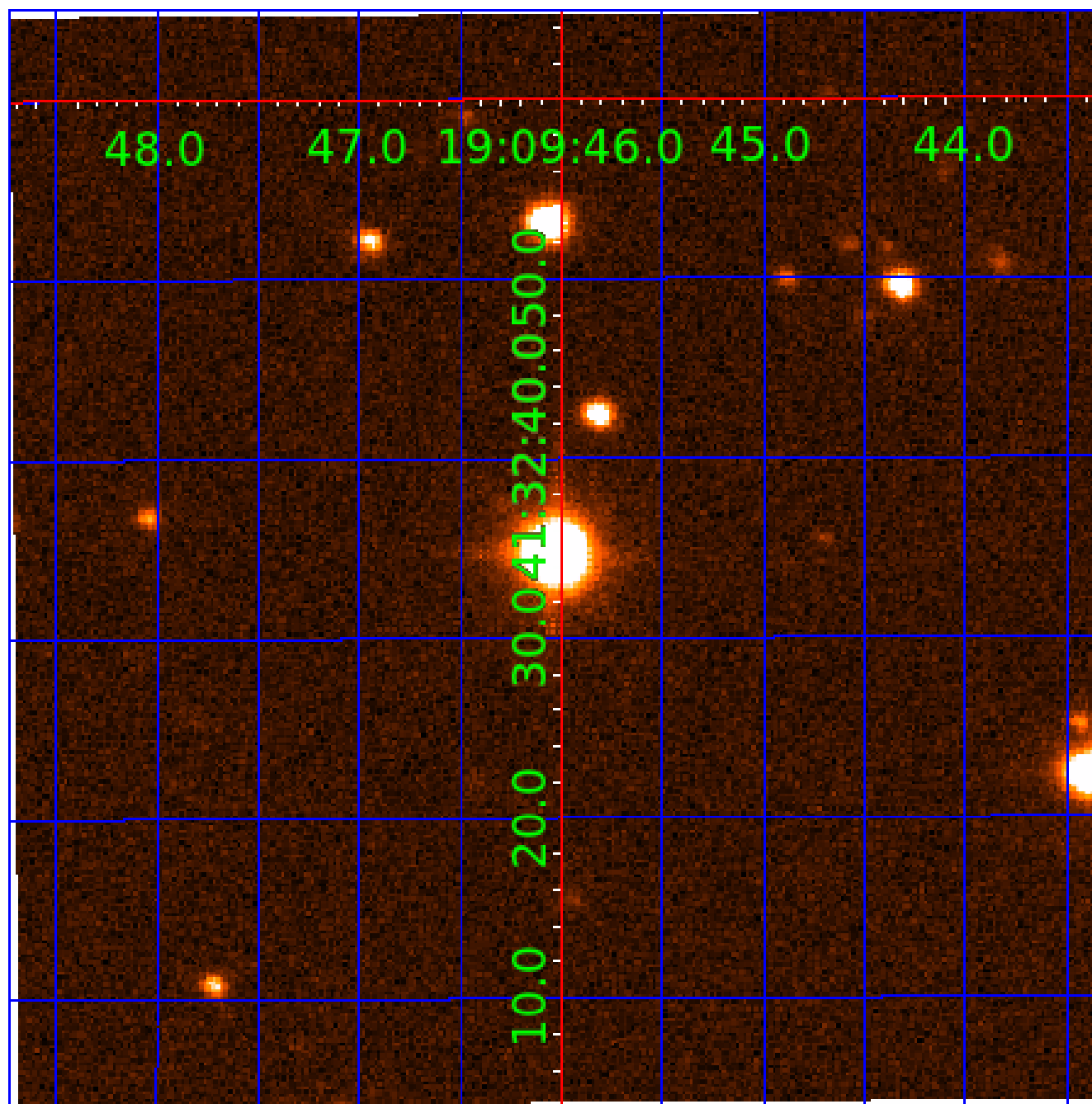


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UKIRT Image

Declination



KIC 006192231

Q1-17 DR25 TCE Parameters

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006192231-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS
006192231-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_KIC_POS
006192231-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006192231-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS

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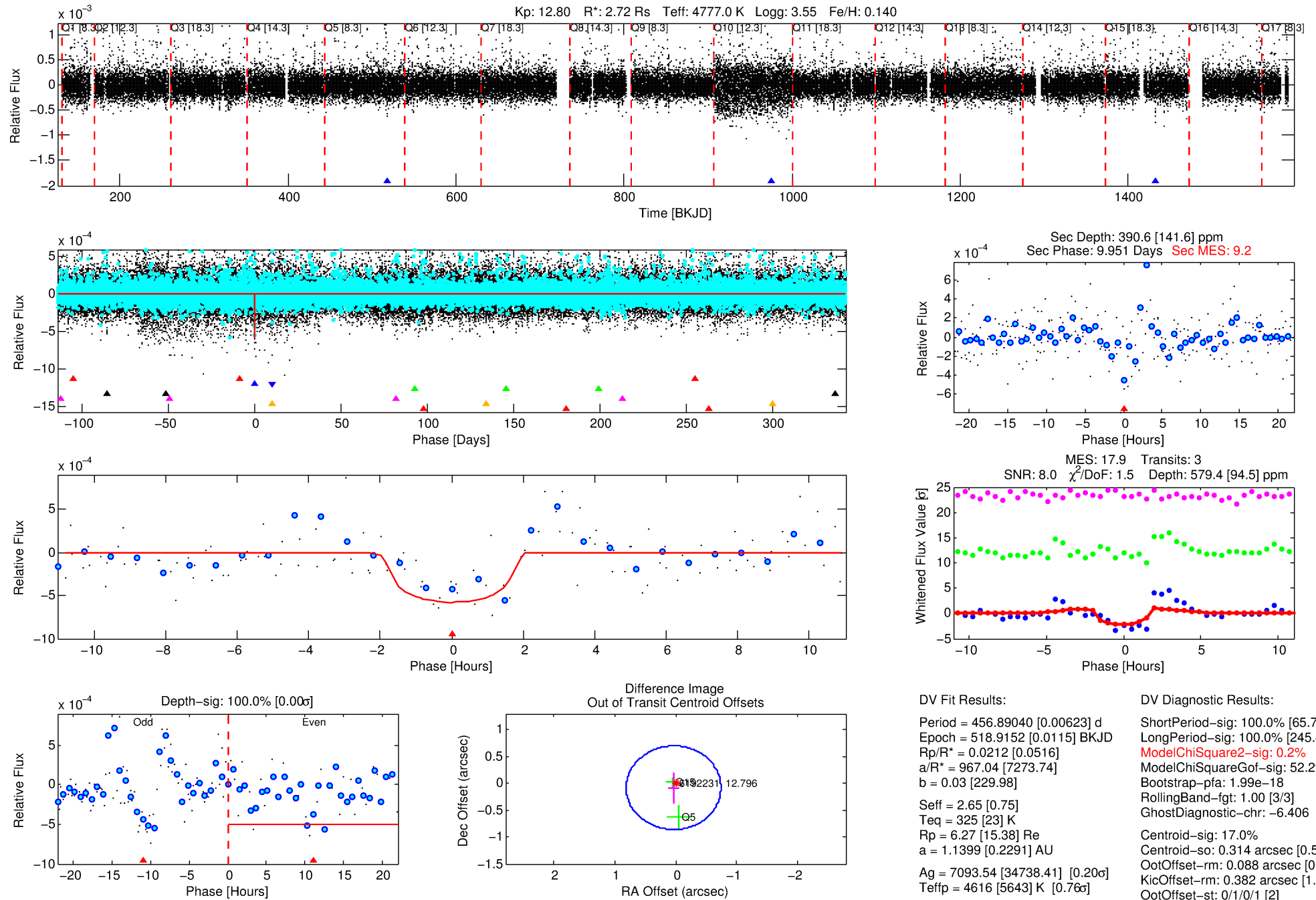
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006192231-02

No Significant Match Found

DV One-Page Summary

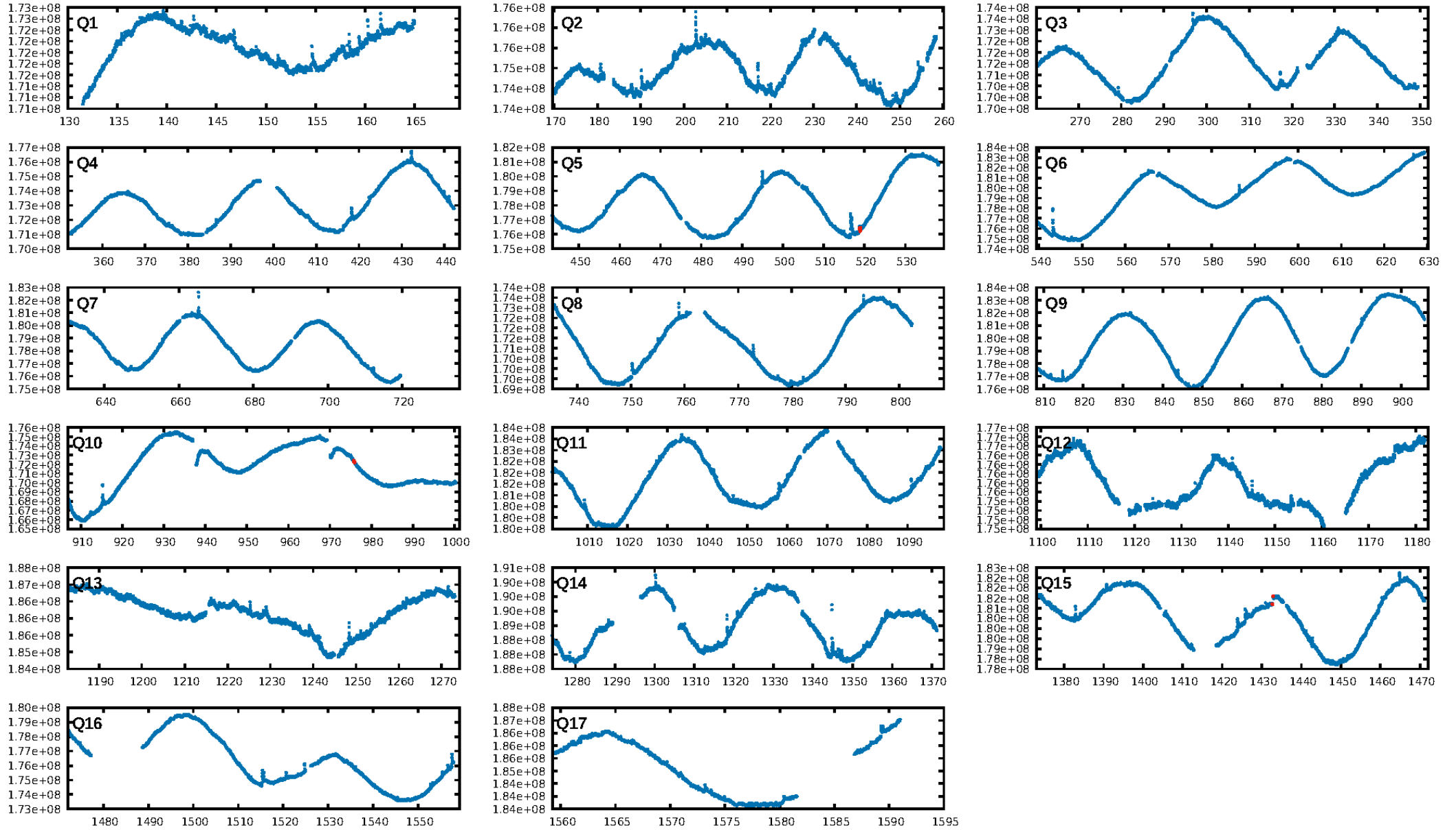
KIC: 6192231 Candidate: 2 of 7 Period: 456.890 d



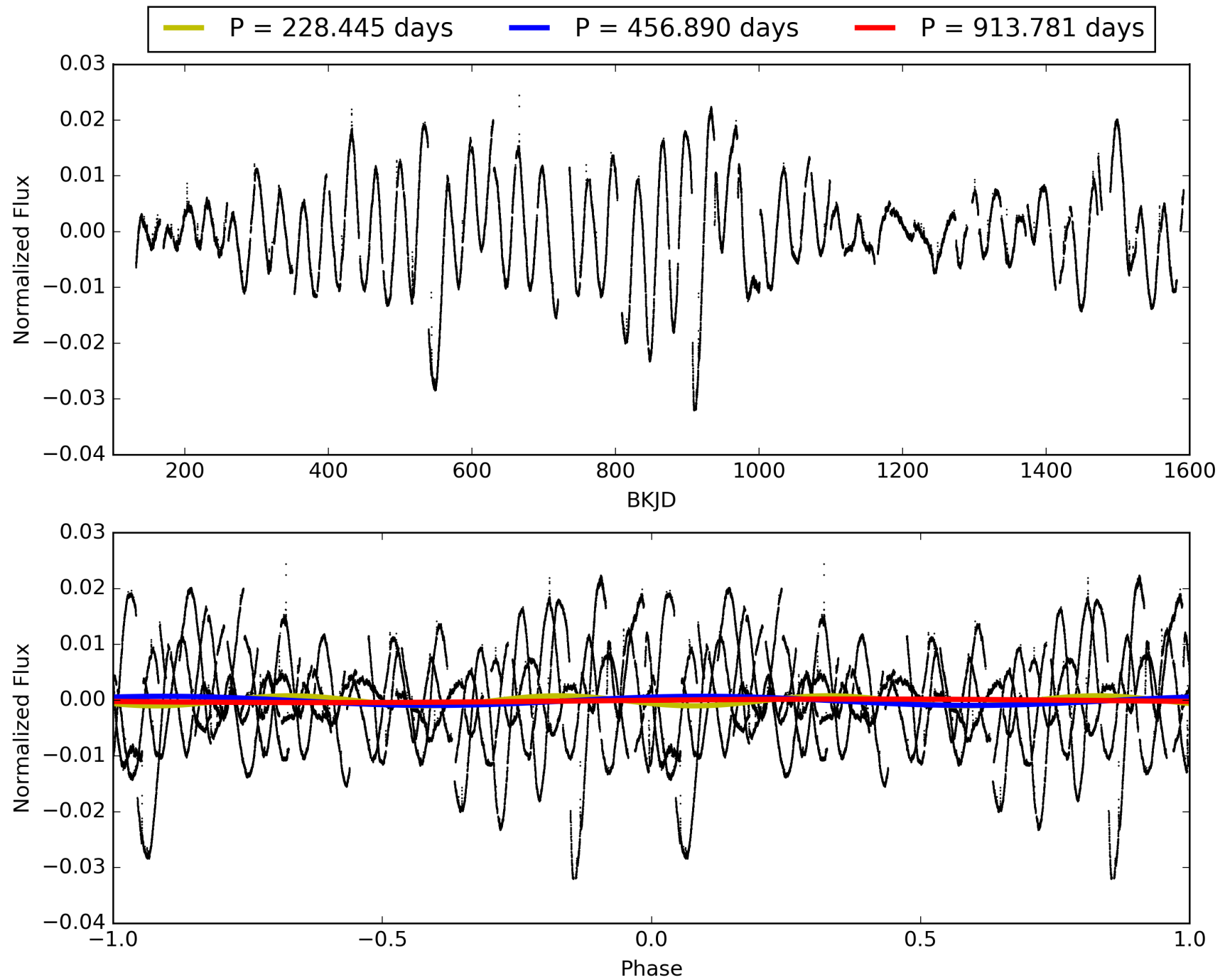
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006192231-02, PDC Light Curves

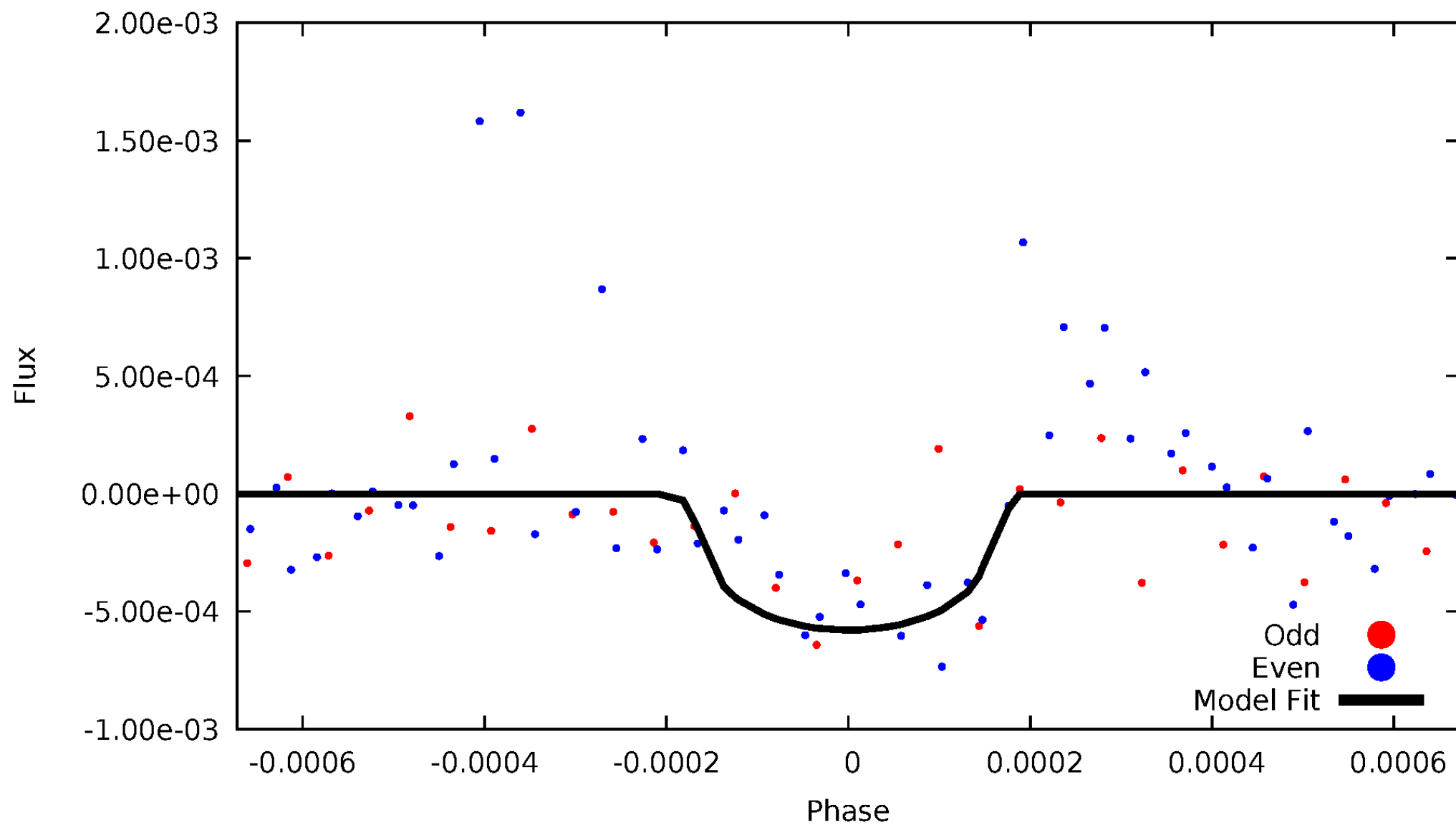


TCE 006192231-02



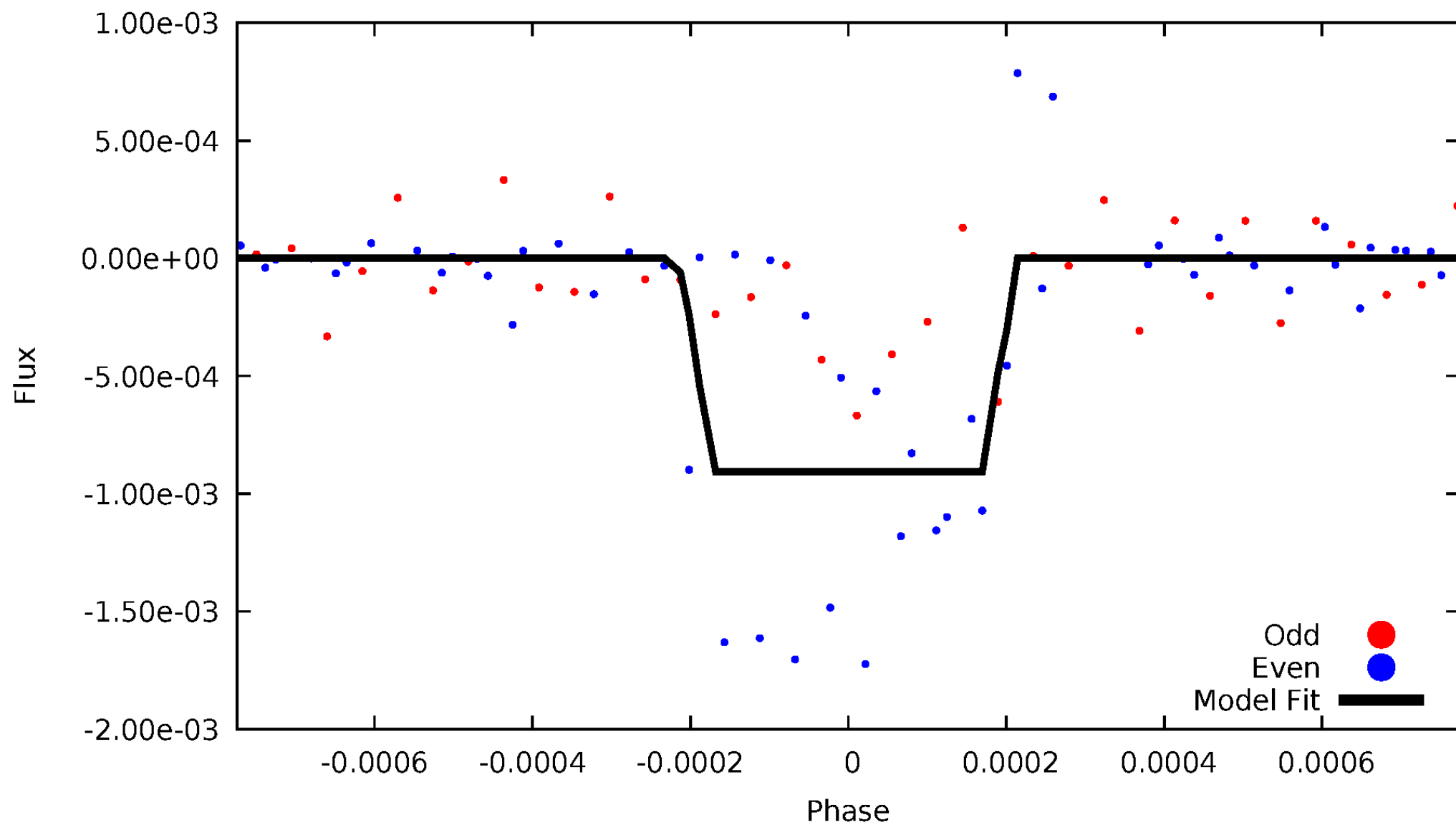
DV Odd/Even

TCE 006192231-02



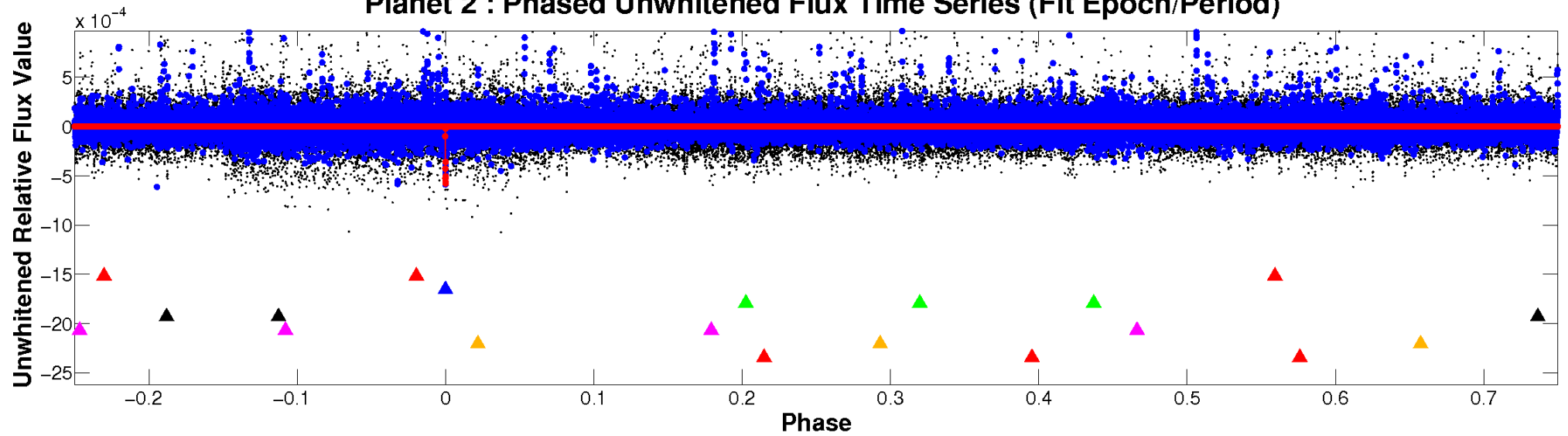
ALT Odd/Even

TCE 006192231-02

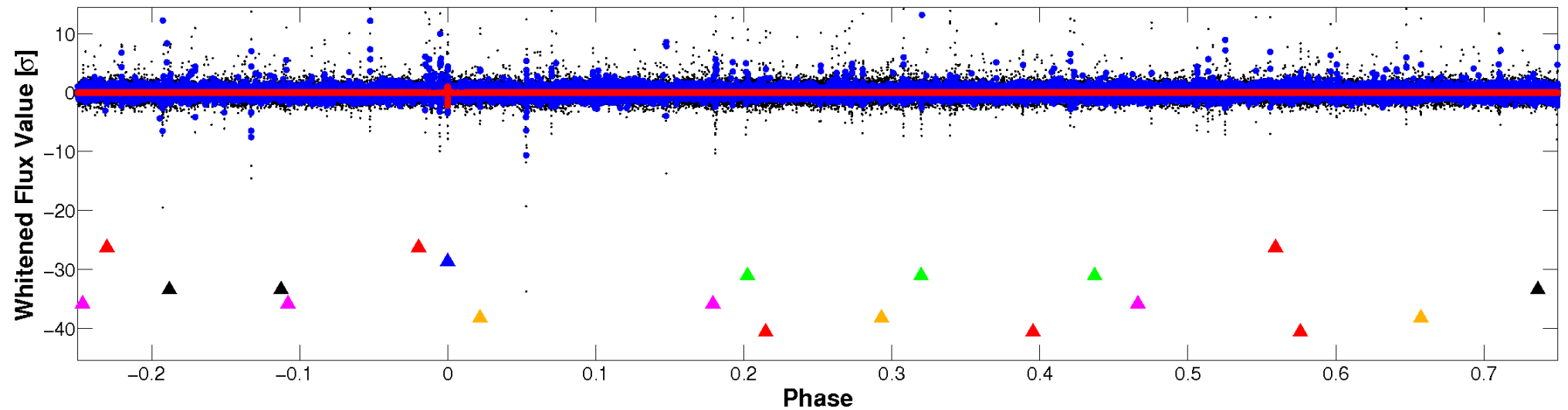


Non-Whitened Vs. Whitened Light Curve

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

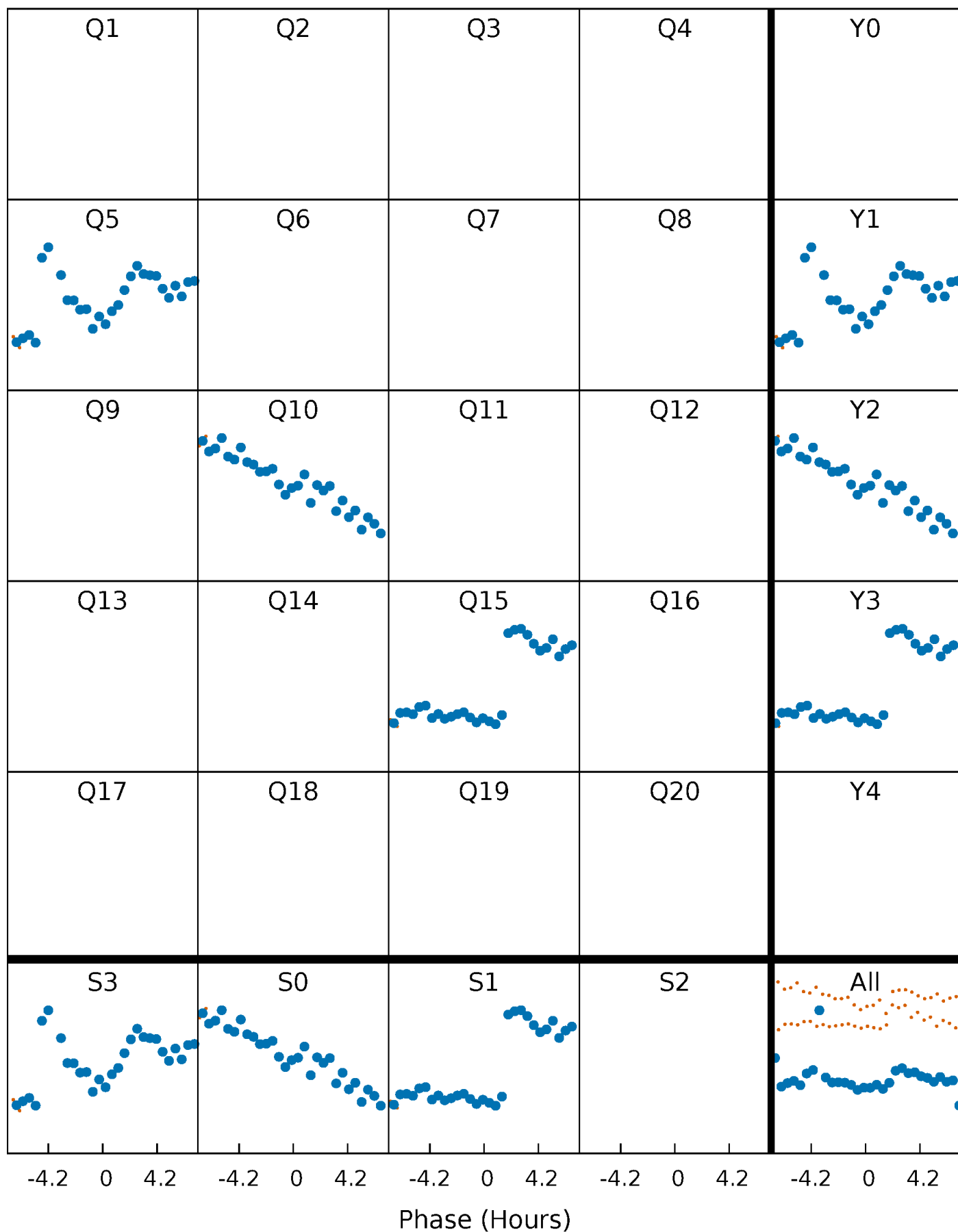


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



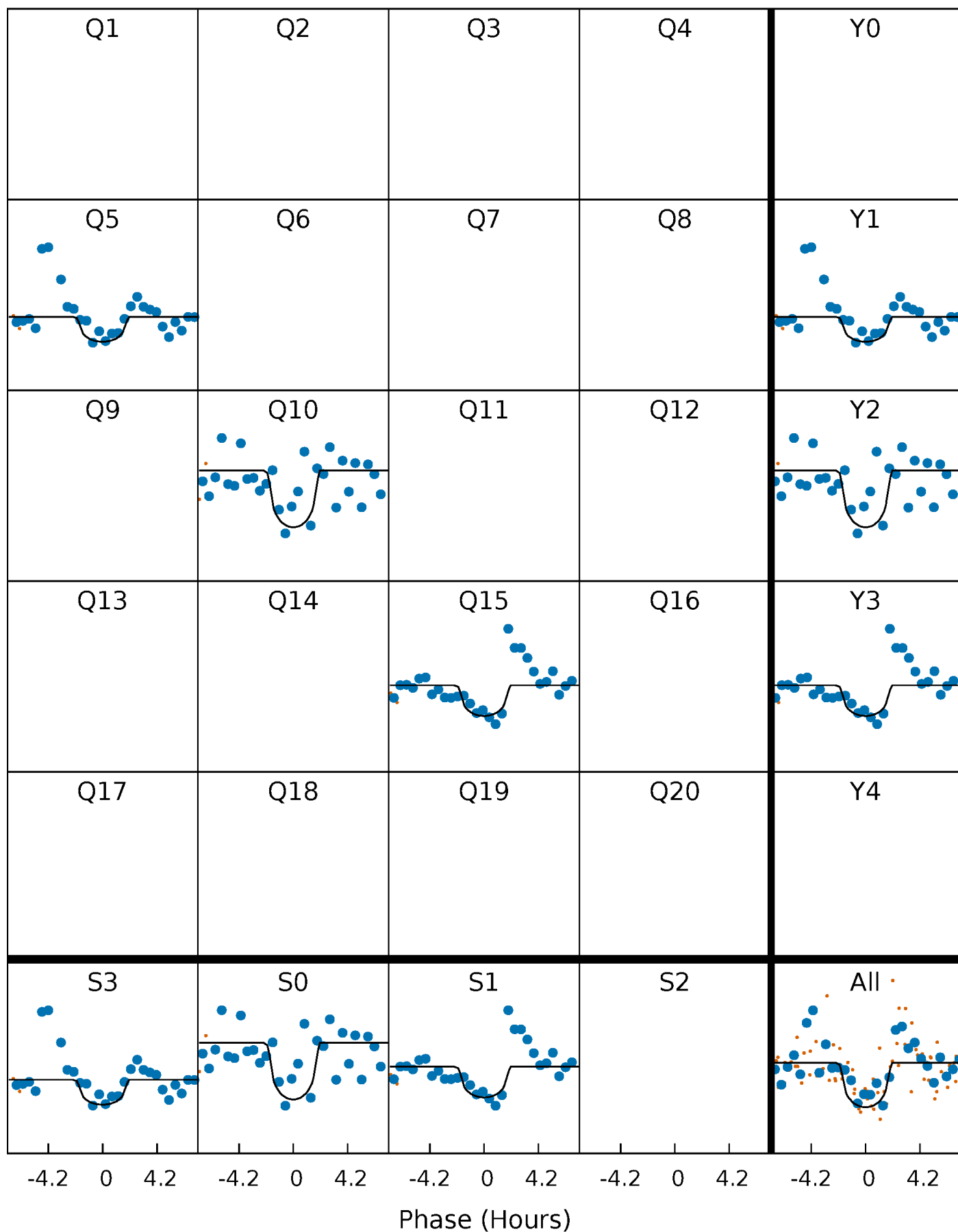
PDC Quarter-Phased Transit Curves

TCE 006192231-02 $P=456.890402$ Days $T_0=518.915200$ (BKJD)



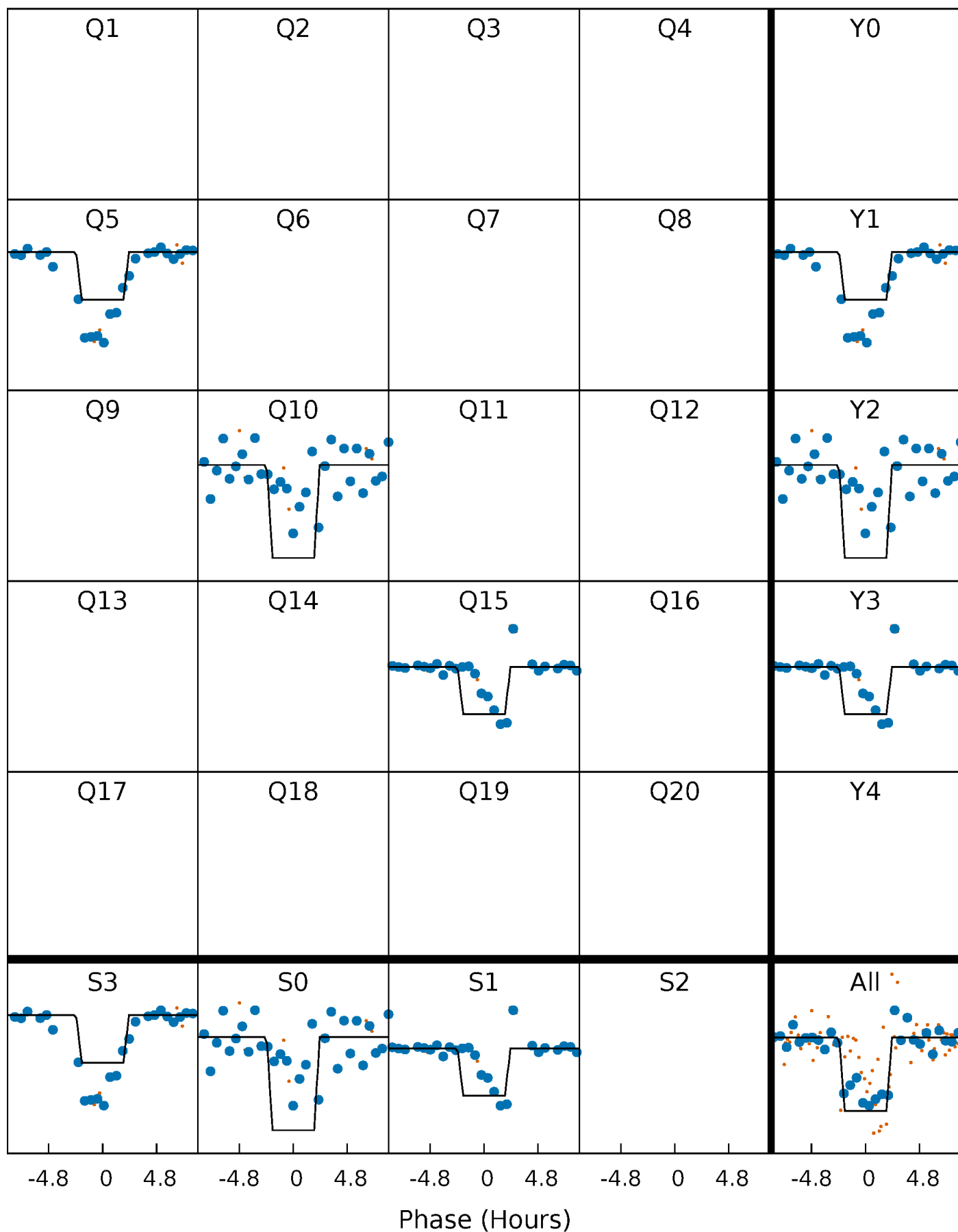
DV Quarter-Phased Transit Curves

TCE 006192231-02 P=456.890402 Days $T_0=518.915200$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

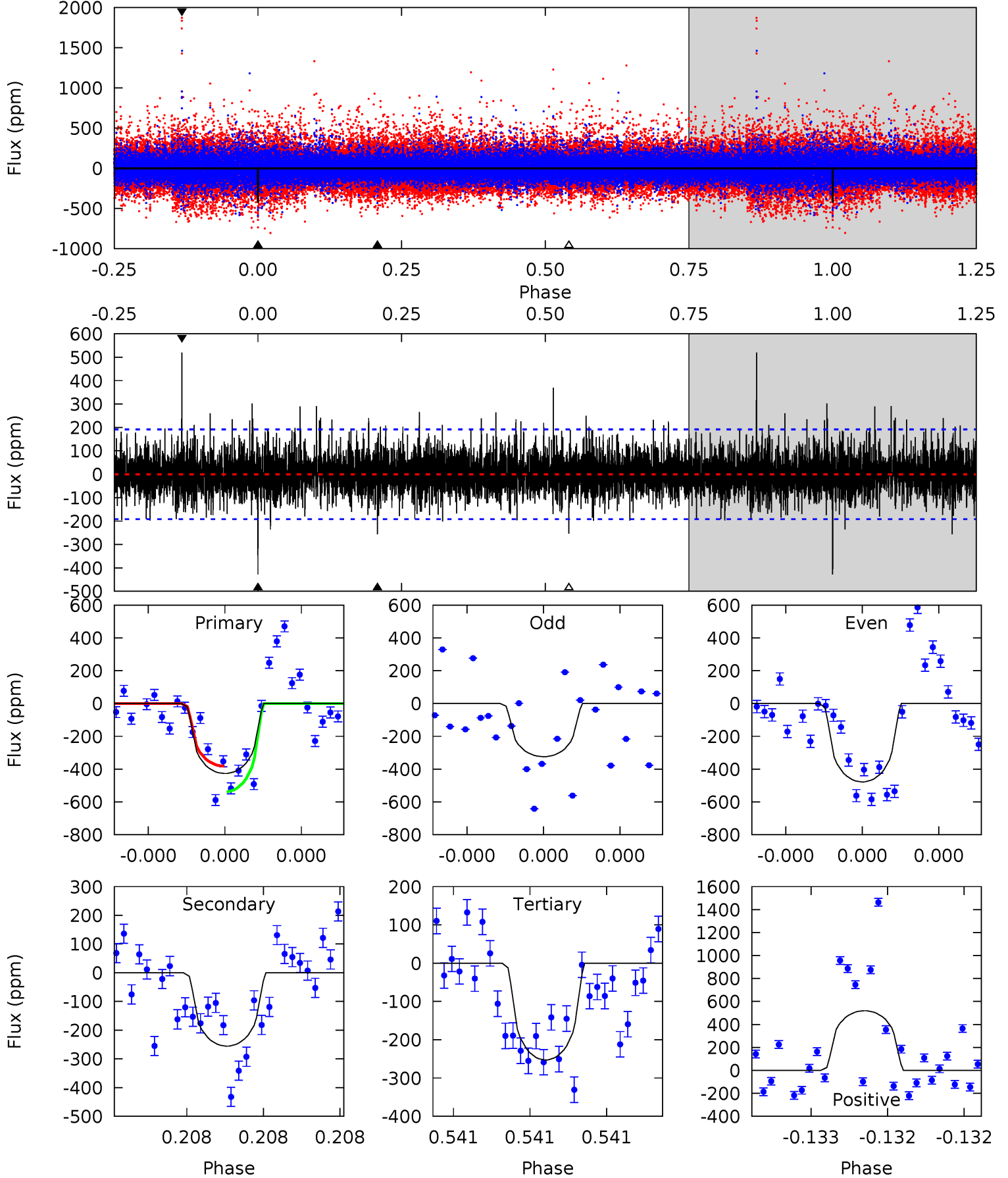
TCE 006192231-02 P=456.901213 Days $T_0=518.883486$ (BKJD)



DV Model-Shift Uniqueness Test

006192231-02, P = 456.890402 Days, E = 62.024798 Days

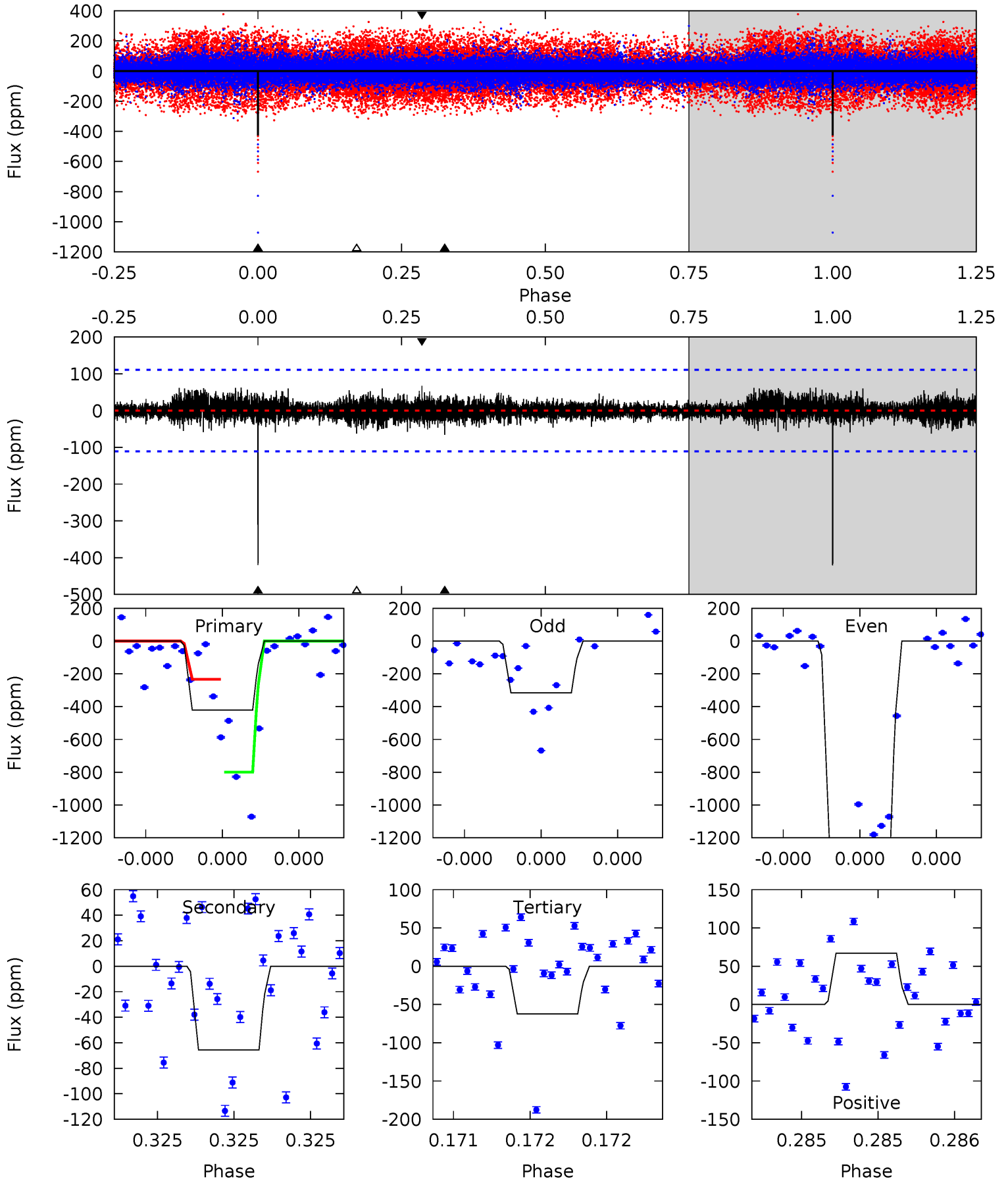
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	7.50	7.42	15.2	5.63	3.56	1.89	5.11	-2.71	0.08	-7.74	1.72	1.06	0.55	2.25



Alt Model-Shift Uniqueness Test

006192231-02, P = 456.901213 Days, E = 61.982273 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	3.31	3.14	3.39	5.60	3.52	0.66	18.1	17.8	0.17	-0.08	23.0	1.44	0.14	14.8



Stellar Parameters For KIC 006192231

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4777^{+76}_{-42}	$3.546^{+0.104}_{-0.143}$	$0.140^{+0.150}_{-0.100}$	$2.716^{+0.686}_{-0.294}$	$0.944^{+0.163}_{-0.017}$	$0.066^{+0.030}_{-0.029}$
	+2%/-1%	+3%/-4%	+107%/-71%	+25%/-11%	+17%/-2%	+46%/-43%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006192231-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-256 ± 34	$13.49^{+12.29}_{-9.09}$	455^{+27}_{-17}	3319^{+1623}_{-547}	1012^{+8111}_{-740}
Alt.	-66 ± 20	$15.09^{+13.36}_{-10.34}$	457^{+27}_{-18}	2670^{+1022}_{-393}	209^{+1744}_{-152}

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 $A_{obs} \gg 1.0$

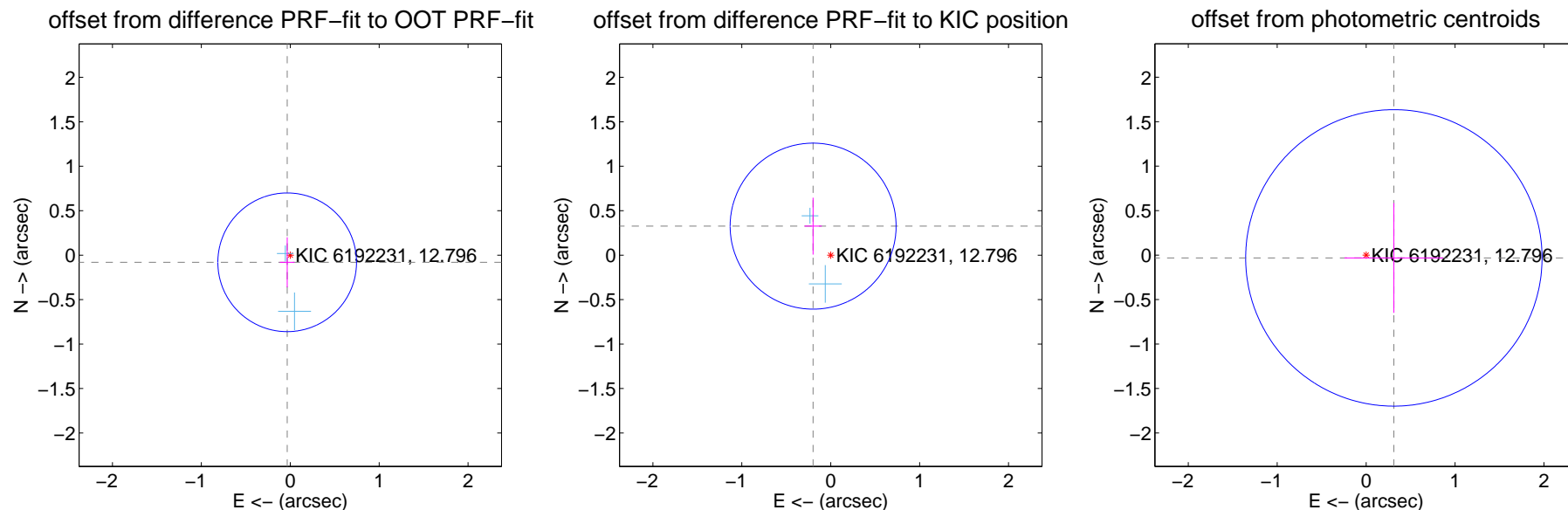
DV Centroid Data

Supplemental centroid analysis for 006192231-02. Kepler magnitude: 12.80. Transit SNR 7.96

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.088 ± 0.260	0.34	0.035 ± 0.083	-0.080 ± 0.281
PRF-fit source offset from KIC position	0.382 ± 0.311	1.23	0.198 ± 0.097	0.326 ± 0.320
photometric centroid source offset	0.31 ± 0.56	0.56	-0.31 ± 0.56	-0.03 ± 0.62

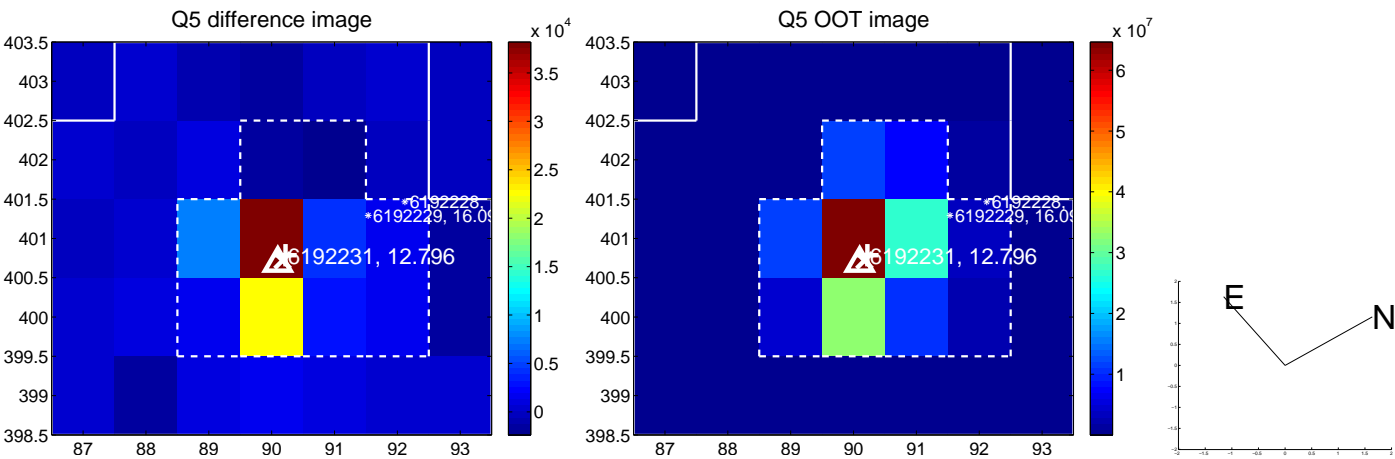


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

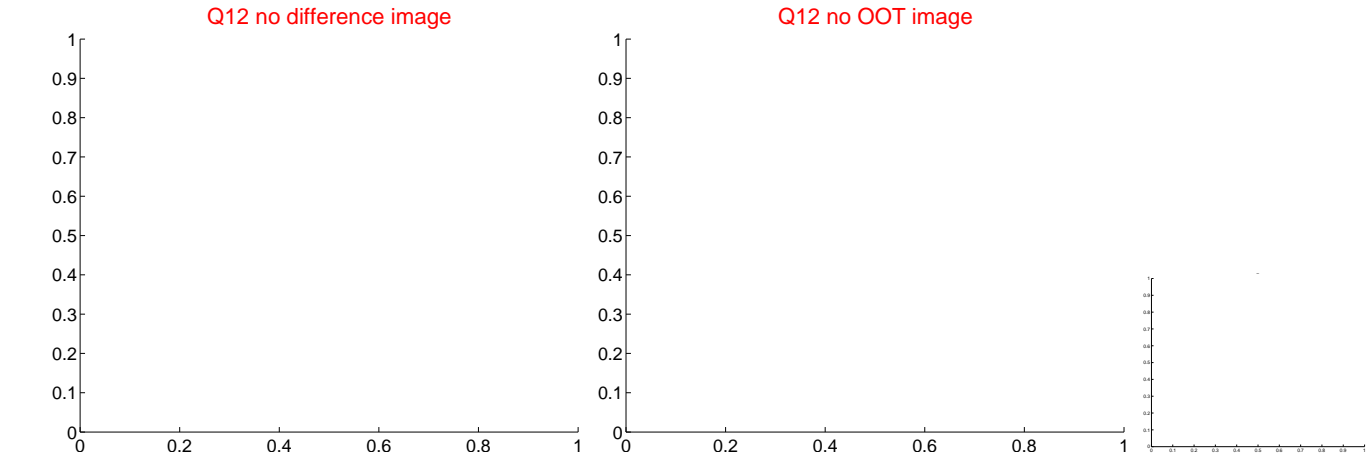
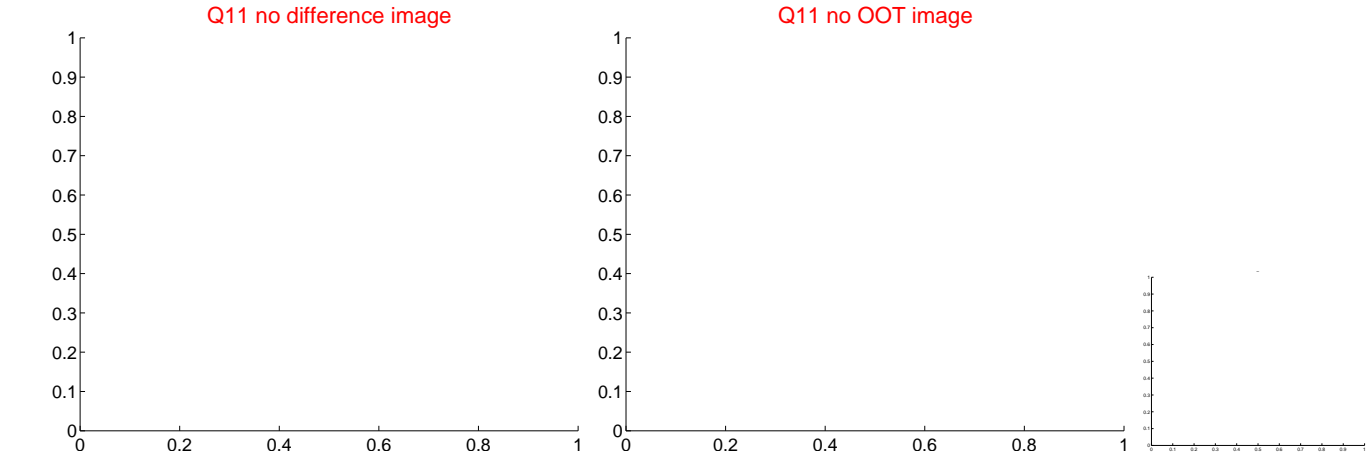
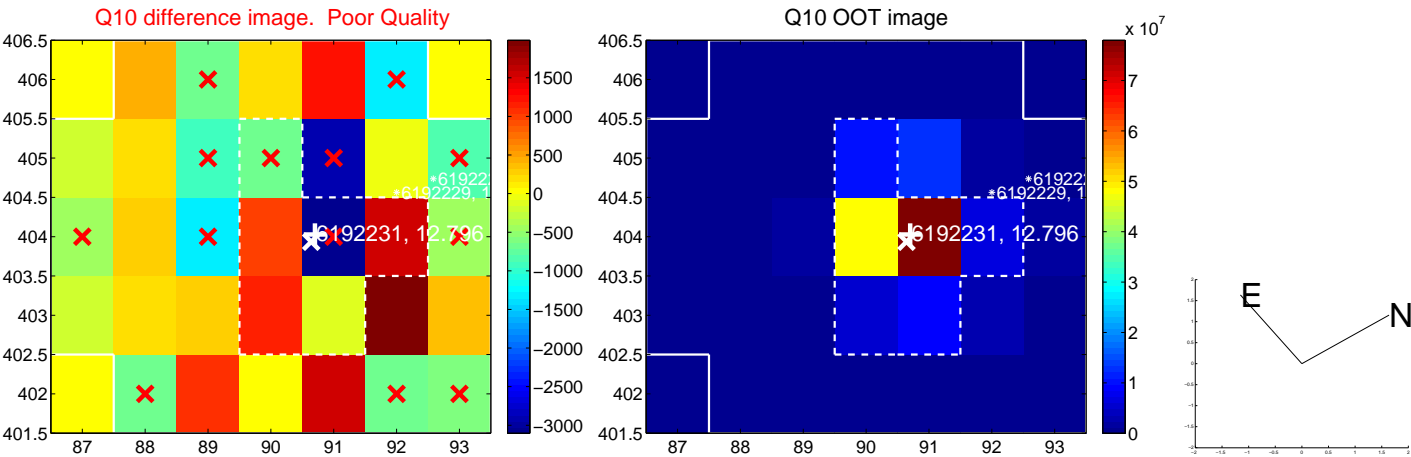
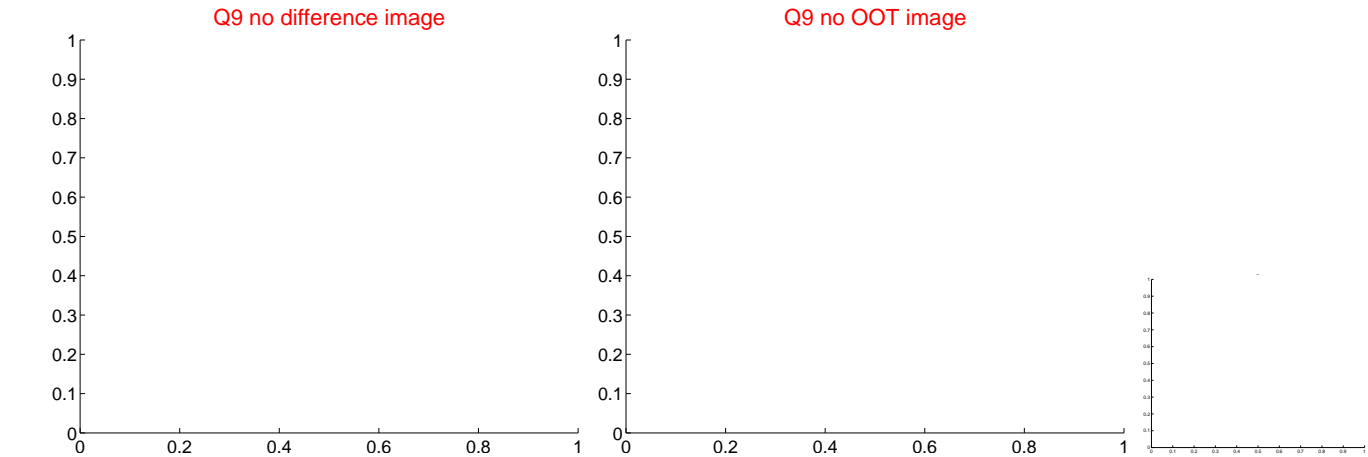
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



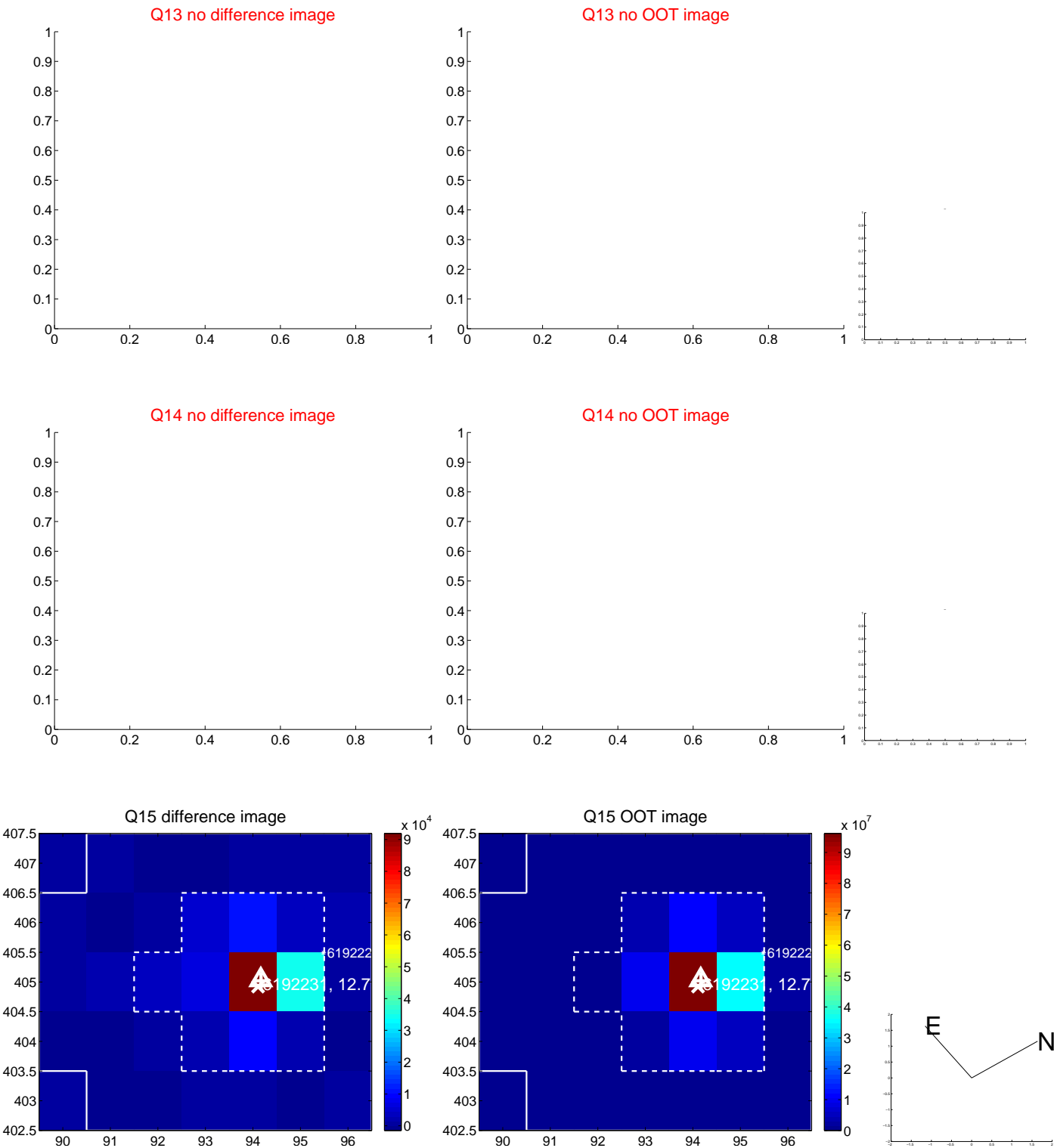
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



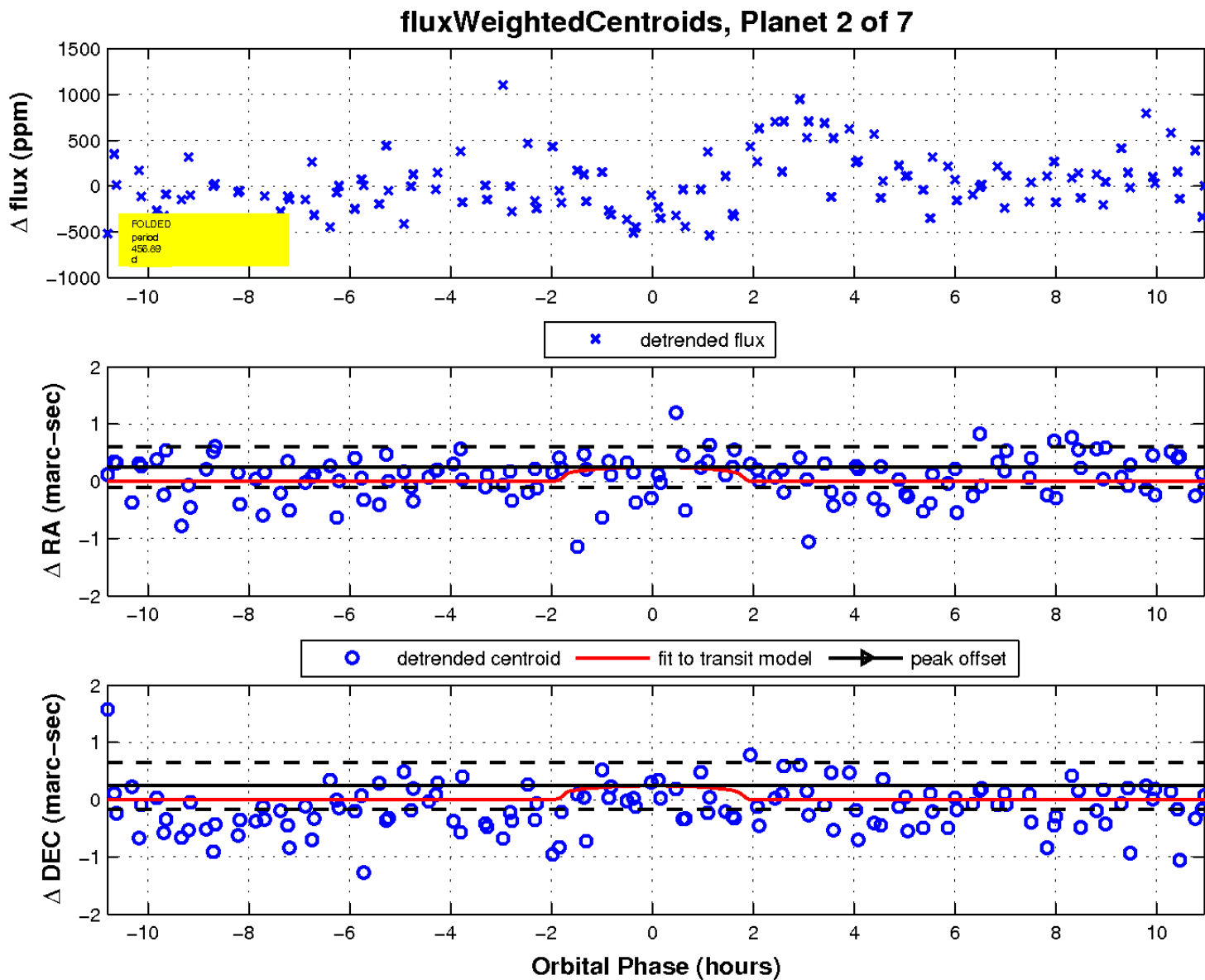
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

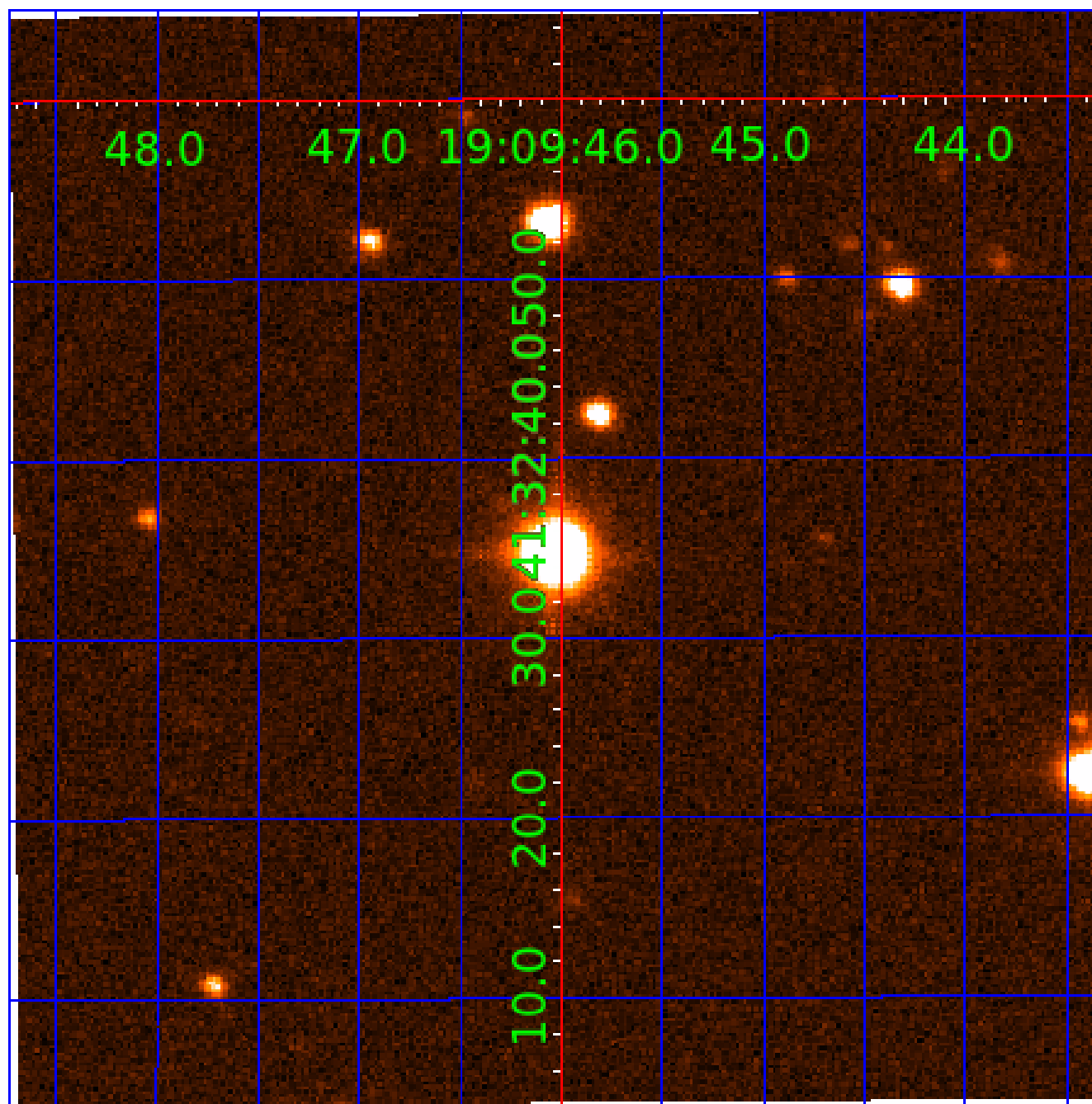


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006192231

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})
006192231-01	OBS	No	553.091834	317.533200	669.6	9.294	16.9	9.1	2.72	4777	9.42	2.05
006192231-02	OBS	No	456.890402	518.915200	579.4	3.684	17.9	8.0	2.72	4777	6.27	2.65
006192231-03	OBS	No	510.469935	154.561463	813.5	3.725	11.5	10.6	2.72	4777	10.68	2.29
006192231-04	OBS	No	422.411203	467.480237	435.5	12.038	9.7	6.6	2.72	4777	6.11	2.94
006192231-05	OBS	No	325.729840	406.212046	484.2	9.610	10.0	6.9	2.72	4777	6.53	4.16
006192231-06	OBS	No	623.376540	195.923520	584.8	3.329	12.7	7.8	2.72	4777	6.98	1.75
006192231-07	OBS	No	539.408446	160.160762	468.3	4.256	11.9	6.5	2.72	4777	6.26	2.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006192231-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS
006192231-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_KIC_POS
006192231-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006192231-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

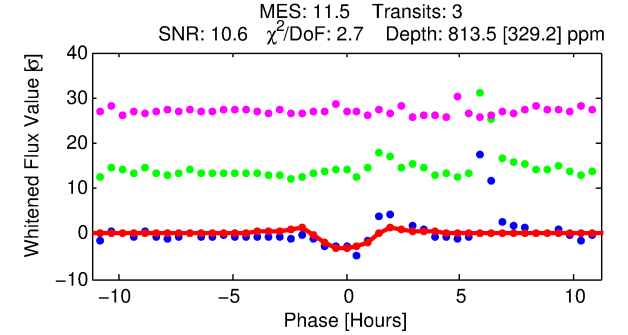
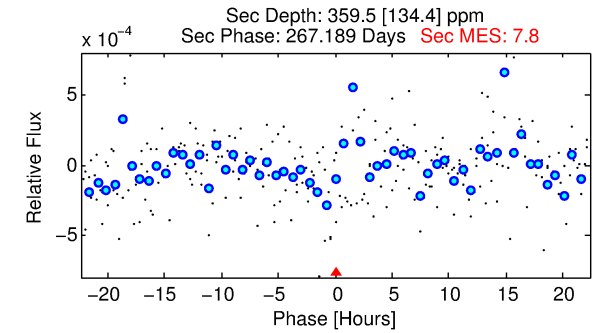
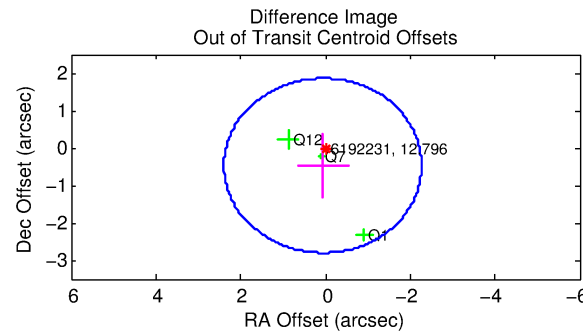
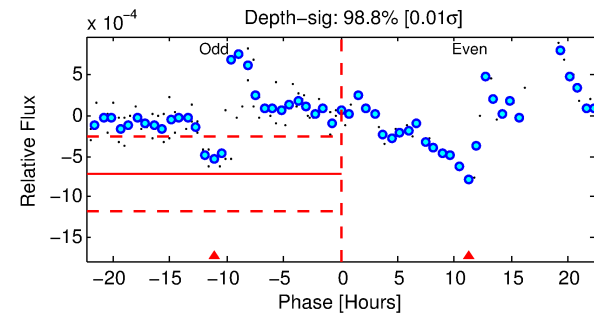
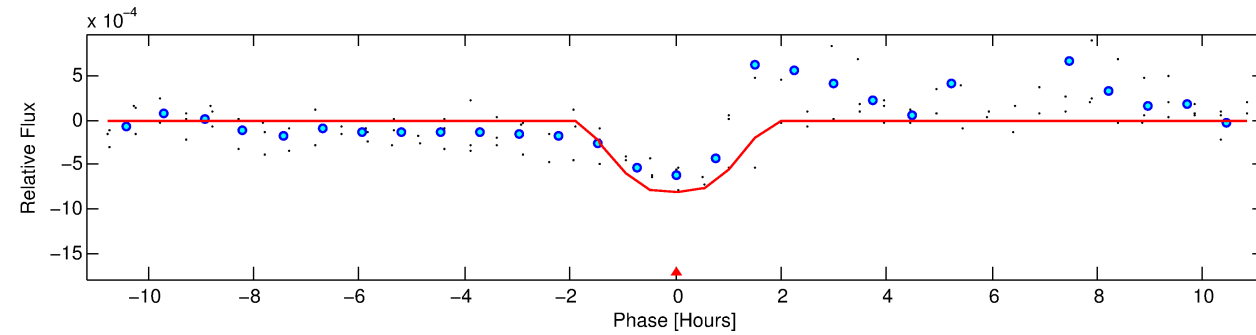
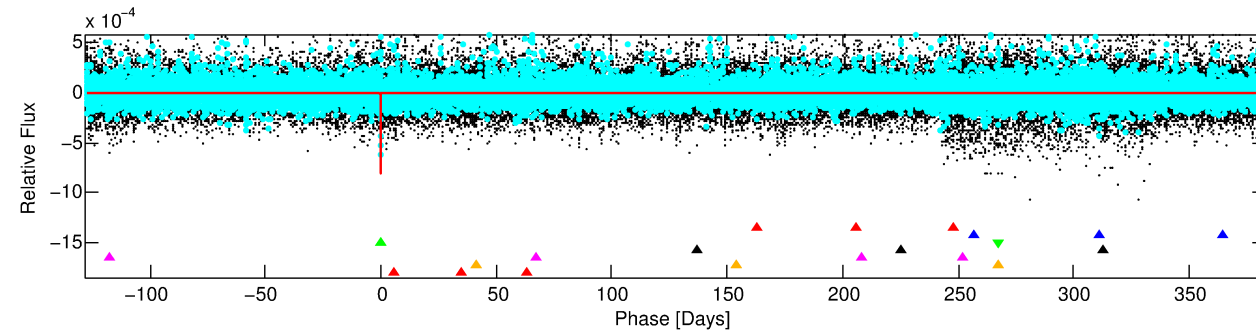
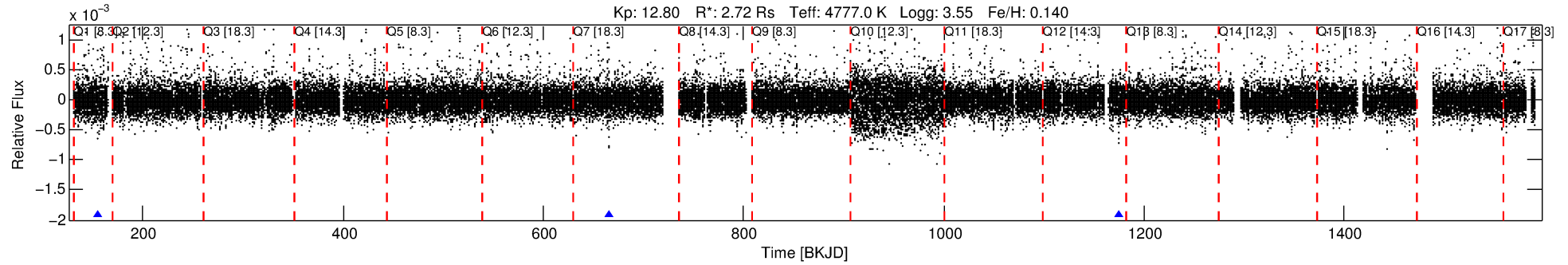
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006192231-03

No Significant Match Found

DV One-Page Summary

KIC: 6192231 Candidate: 3 of 7 Period: 510.470 d



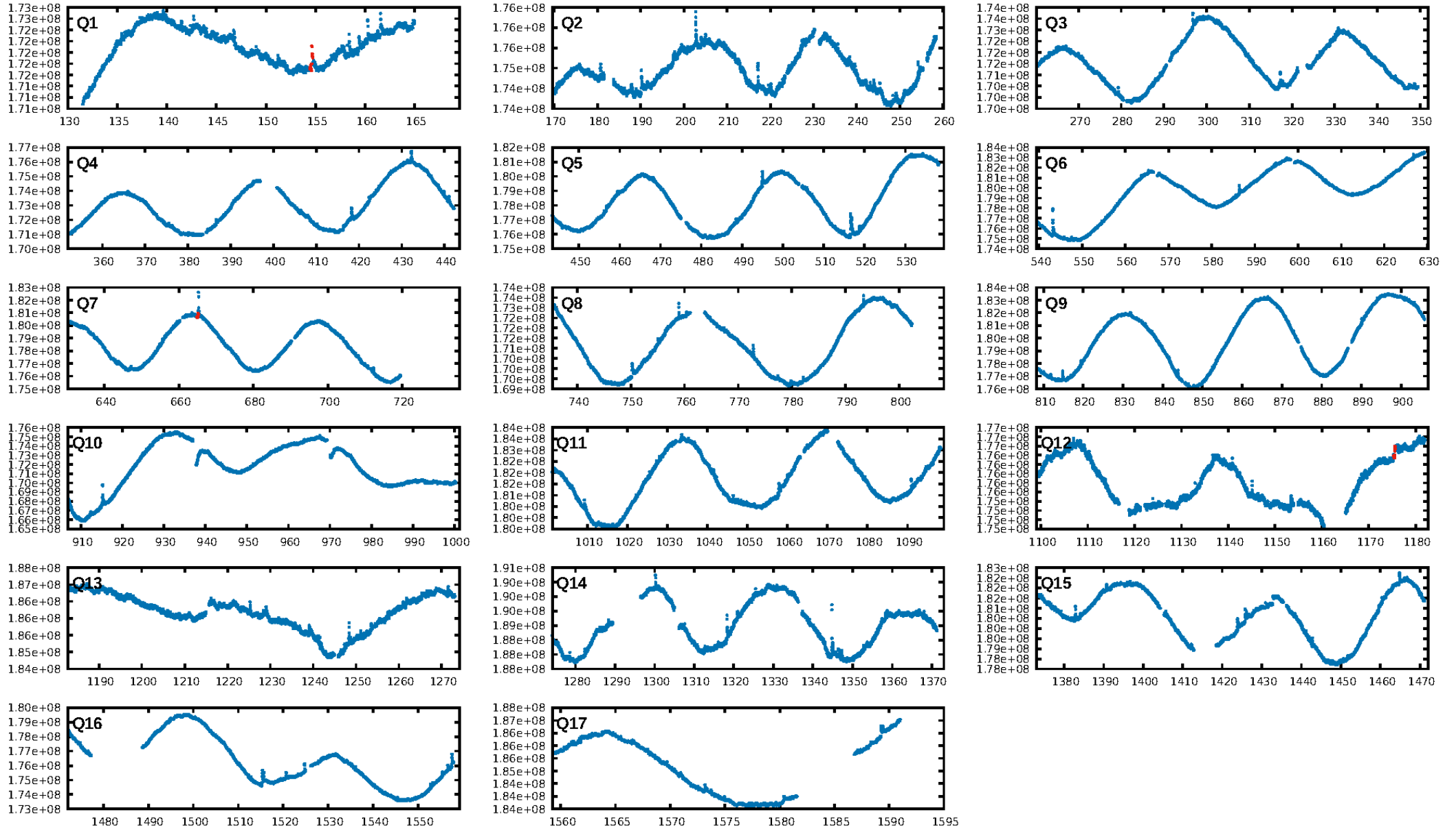
DV Fit Results:

Period = 510.46993 [0.01217] d
Epoch = 154.5615 [0.0152] BKJD
Rp/R* = 0.0360 [0.0109]
a/R* = 405.34 [177.36]
b = 0.96 [0.05]
Seff = 2.28 [0.65]
Teff = 313 [22] K
Rp = 10.68 [4.21] Re
a = 1.2273 [0.2467] AU
Ag = 2612.64 [1992.31] [1.31σ]
Teffp = 3465 [618] K [5.10σ]

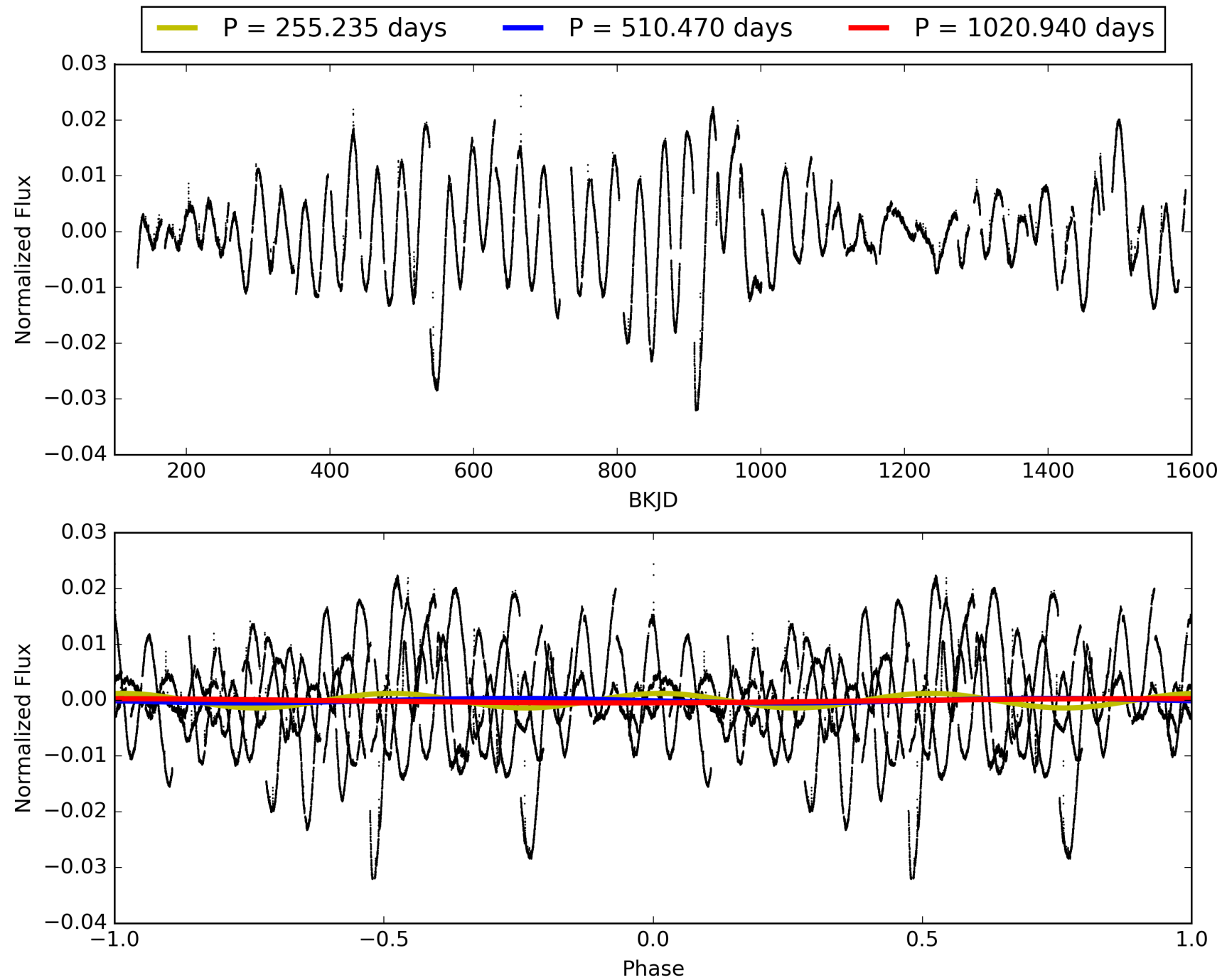
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [245.46σ]
LongPeriod-sig: 100.0% [122.79σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 3.9%
Bootstrap-pfa: 1.88e-10
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.897
Centroid-sig: 16.5%
Centroid-so: 0.376 arcsec [0.80σ]
OotOffset-rm: 0.477 arcsec [0.61σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 0.176 arcsec [0.37σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 006192231-03, PDC Light Curves

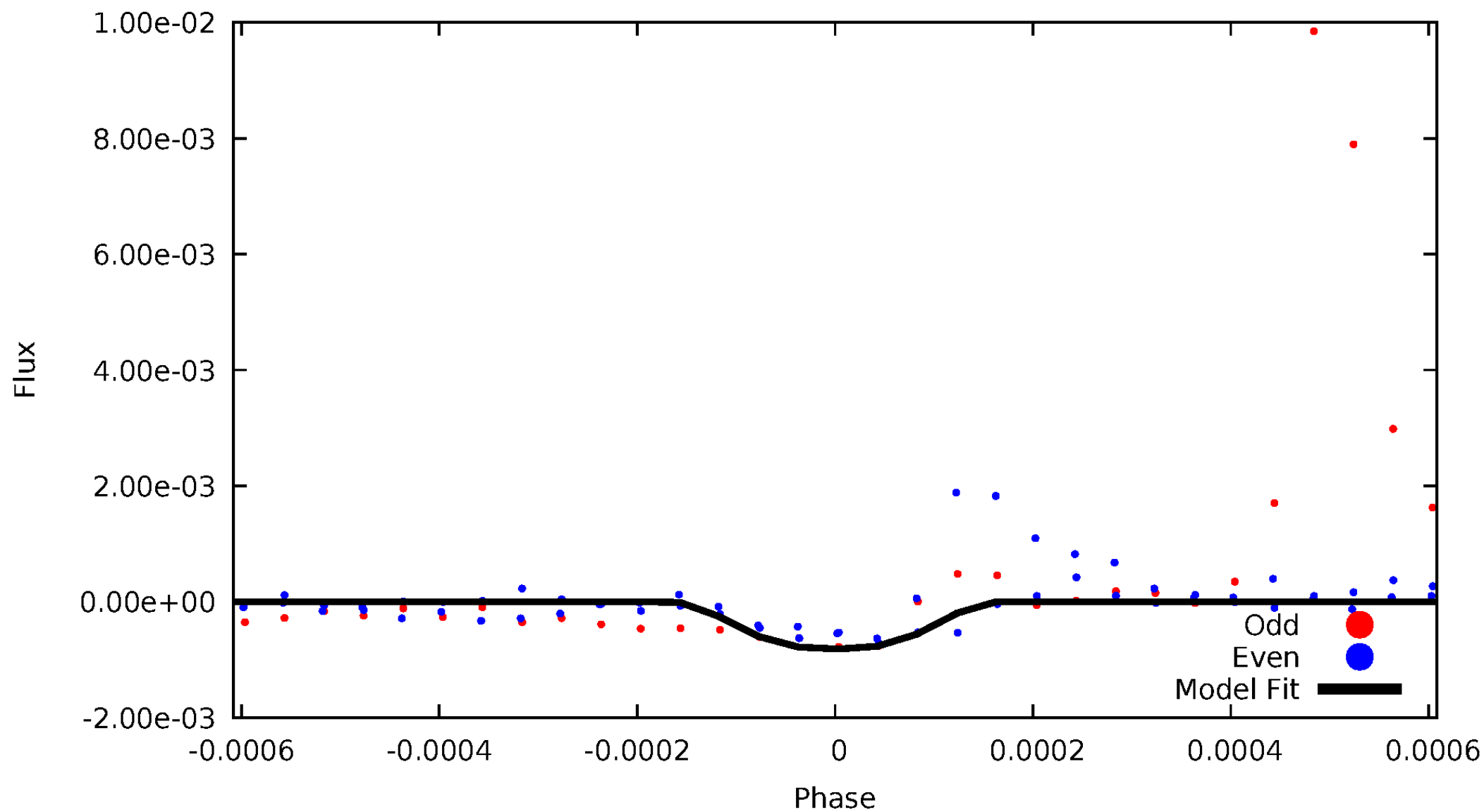


TCE 006192231-03



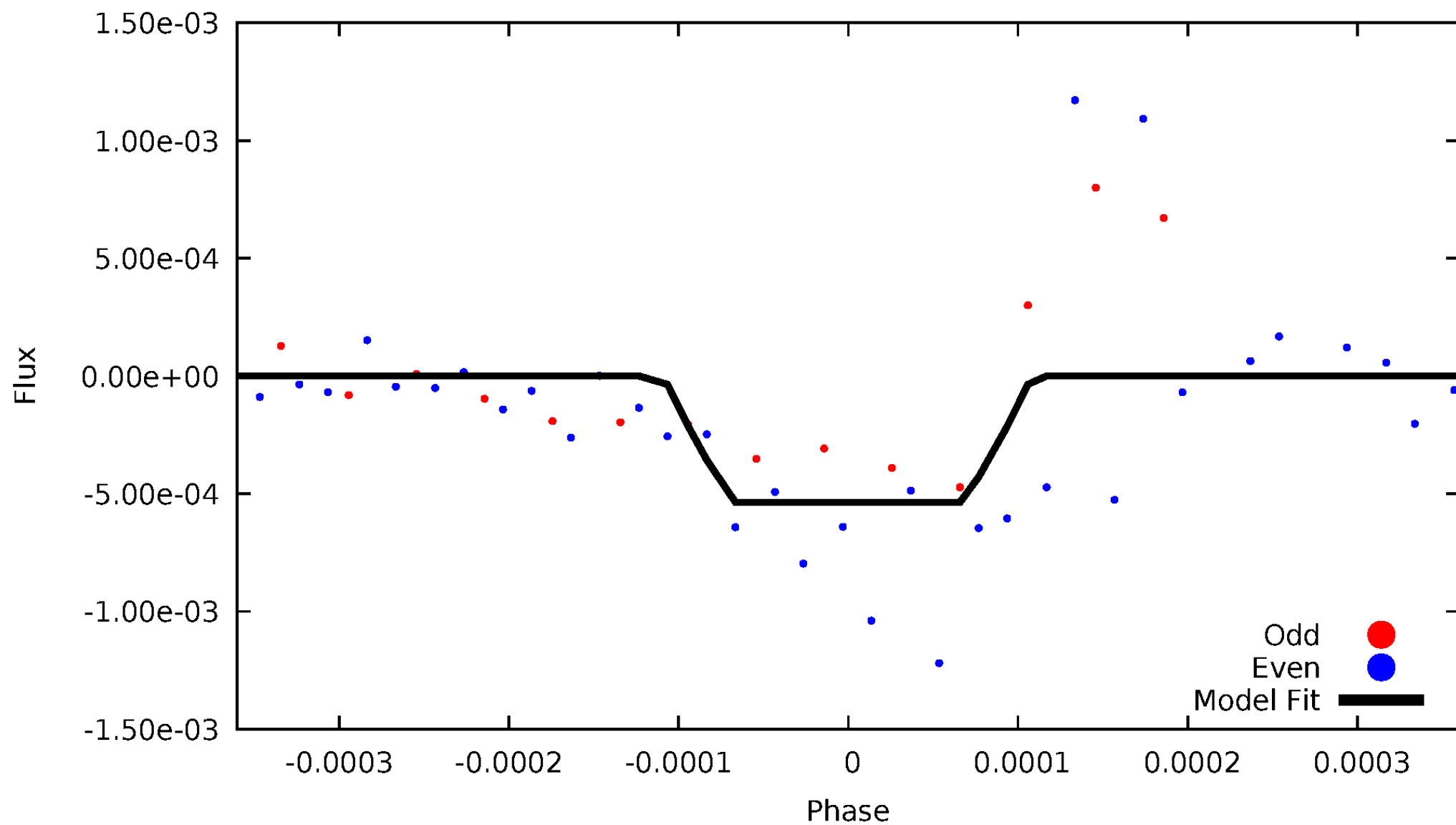
DV Odd/Even

TCE 006192231-03



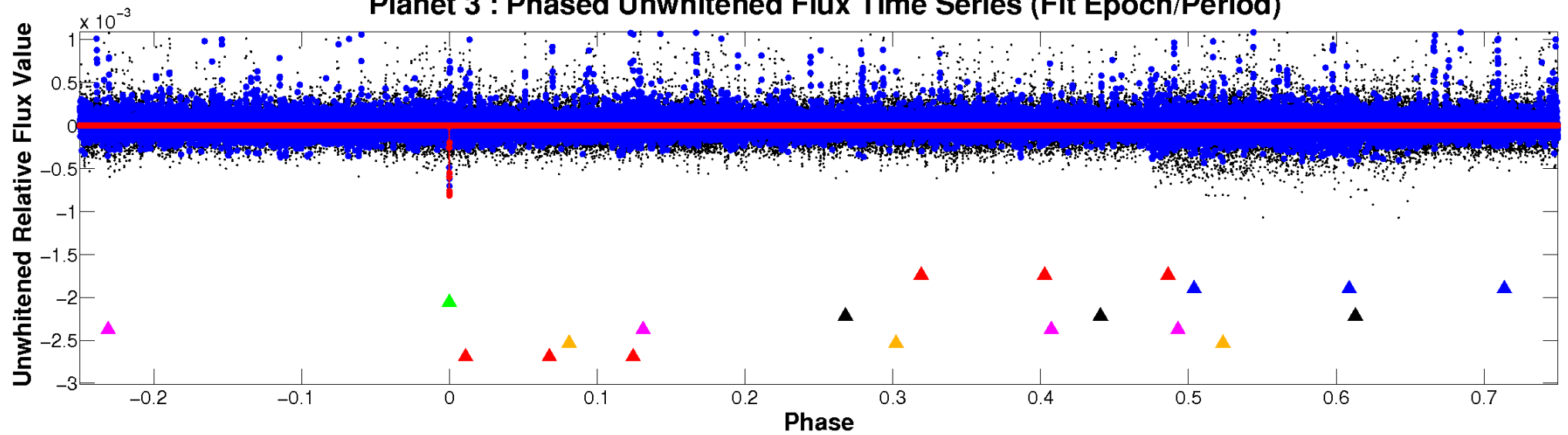
ALT Odd/Even

TCE 006192231-03

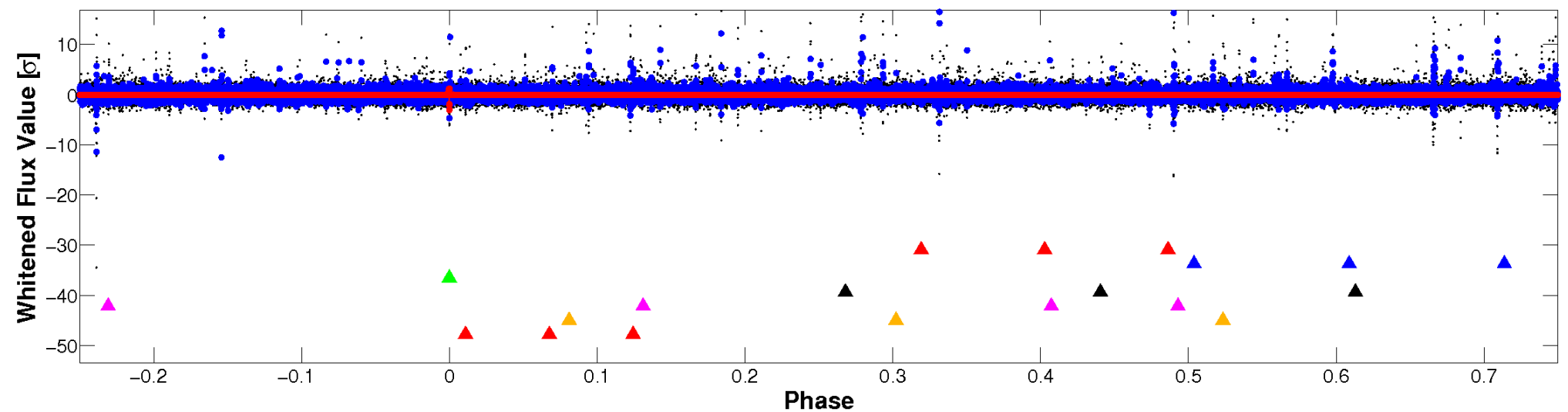


Non-Whitened Vs. Whitened Light Curve

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

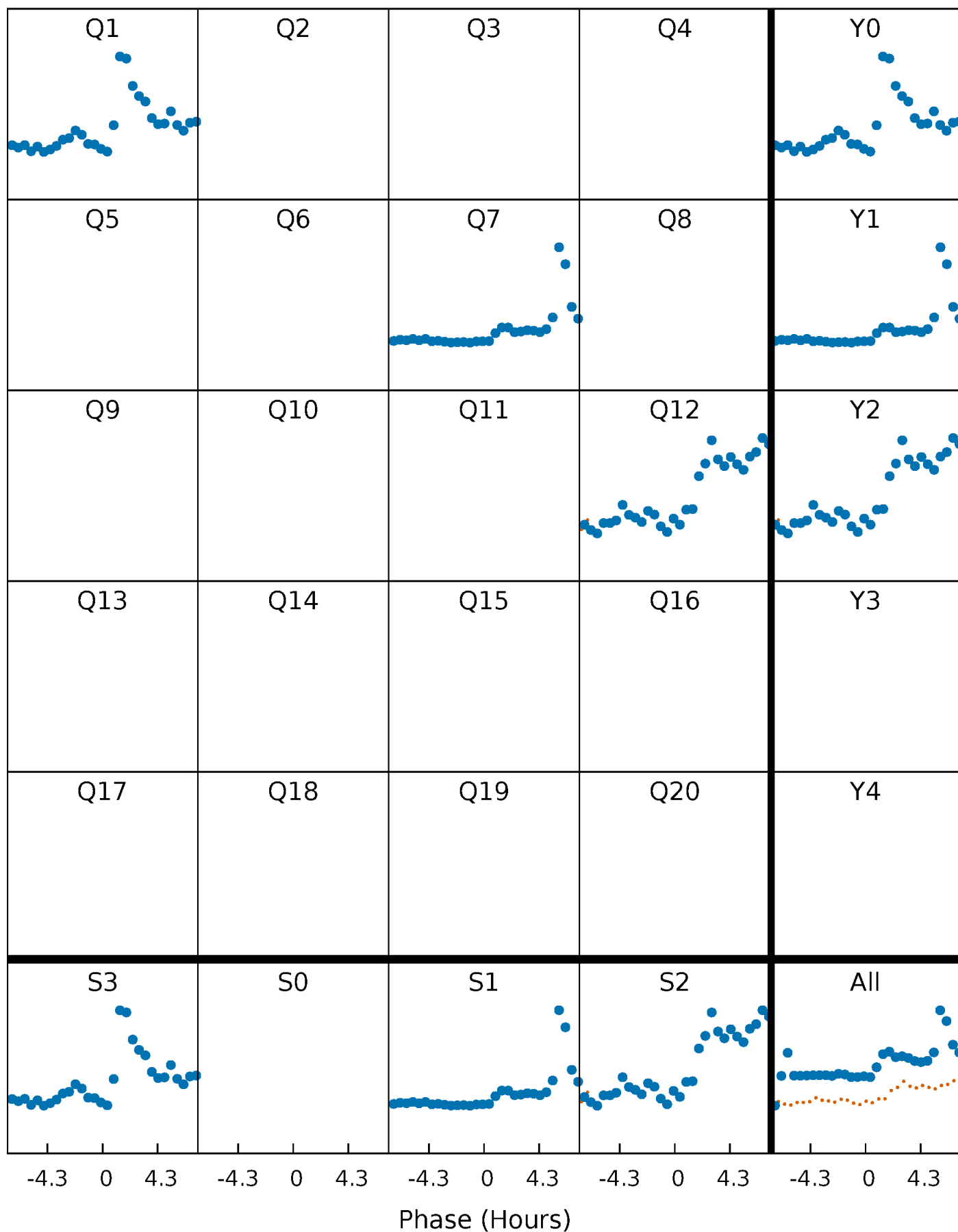


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



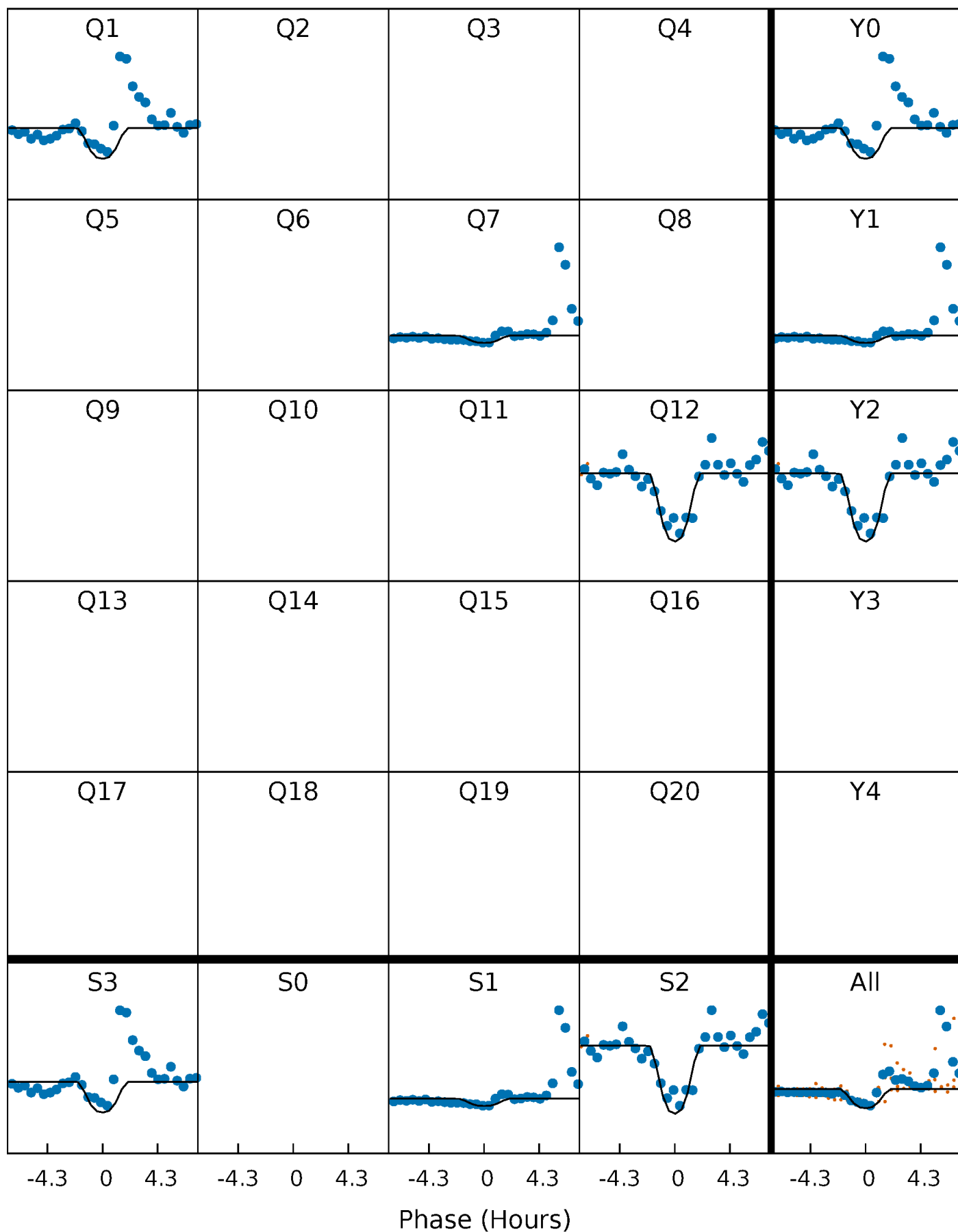
PDC Quarter-Phased Transit Curves

TCE 006192231-03 P=510.469935 Days $T_0=154.561463$ (BKJD)



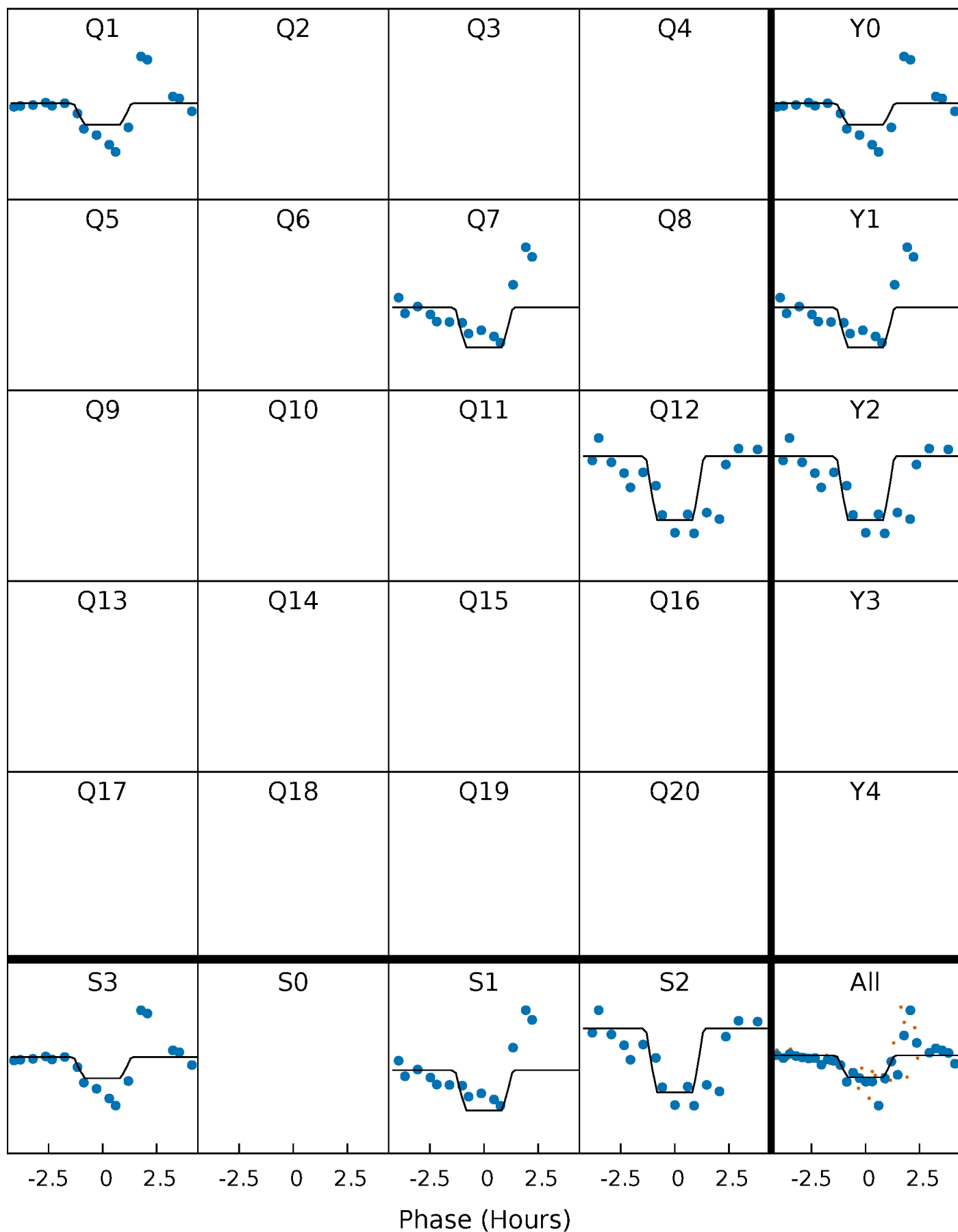
DV Quarter-Phased Transit Curves

TCE 006192231-03 $P=510.469935$ Days $T_0=154.561463$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

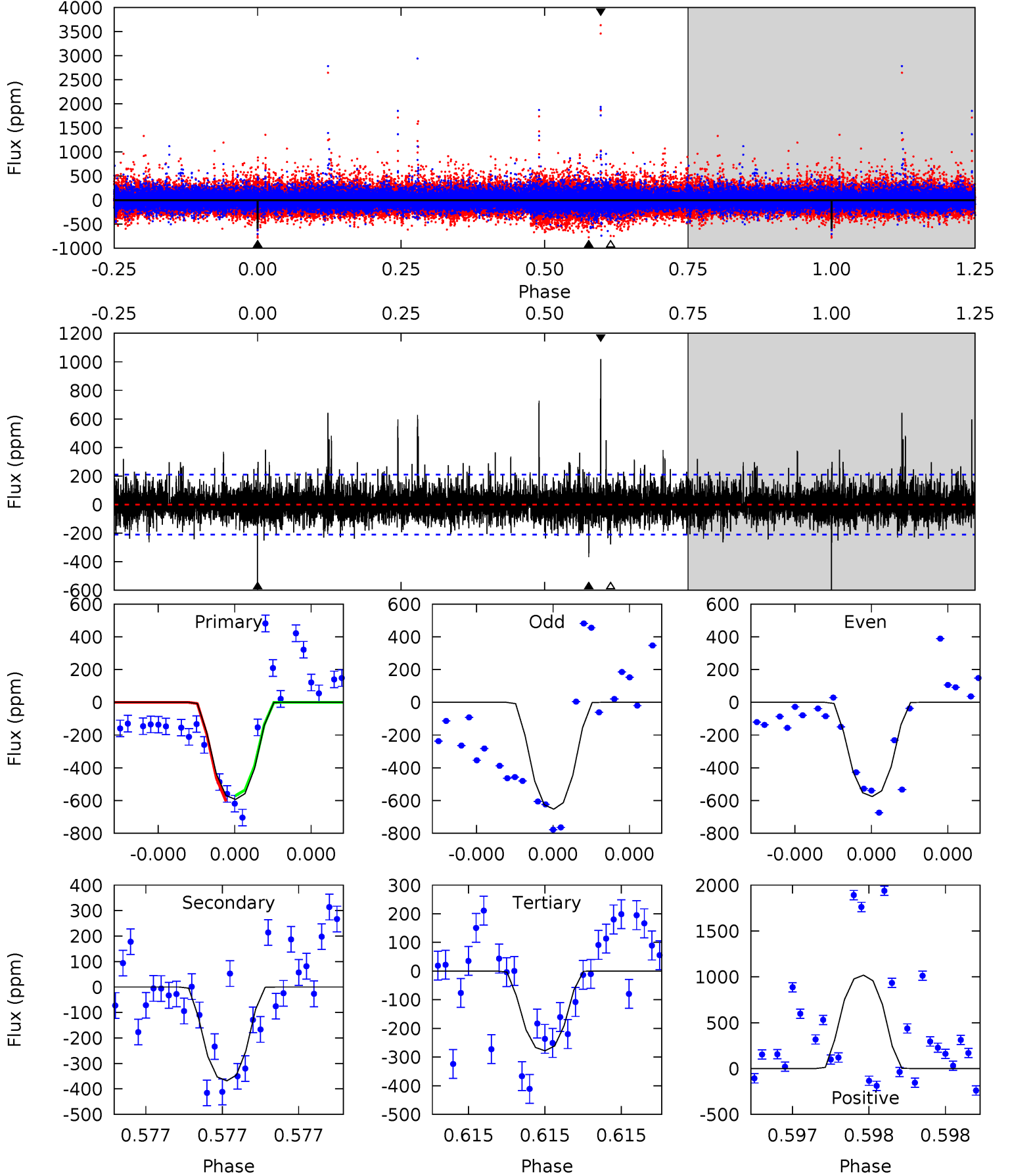
TCE 006192231-03 P=510.464385 Days $T_0=154.555755$ (BKJD)



DV Model-Shift Uniqueness Test

006192231-03, P = 510.469935 Days, E = 154.561463 Days

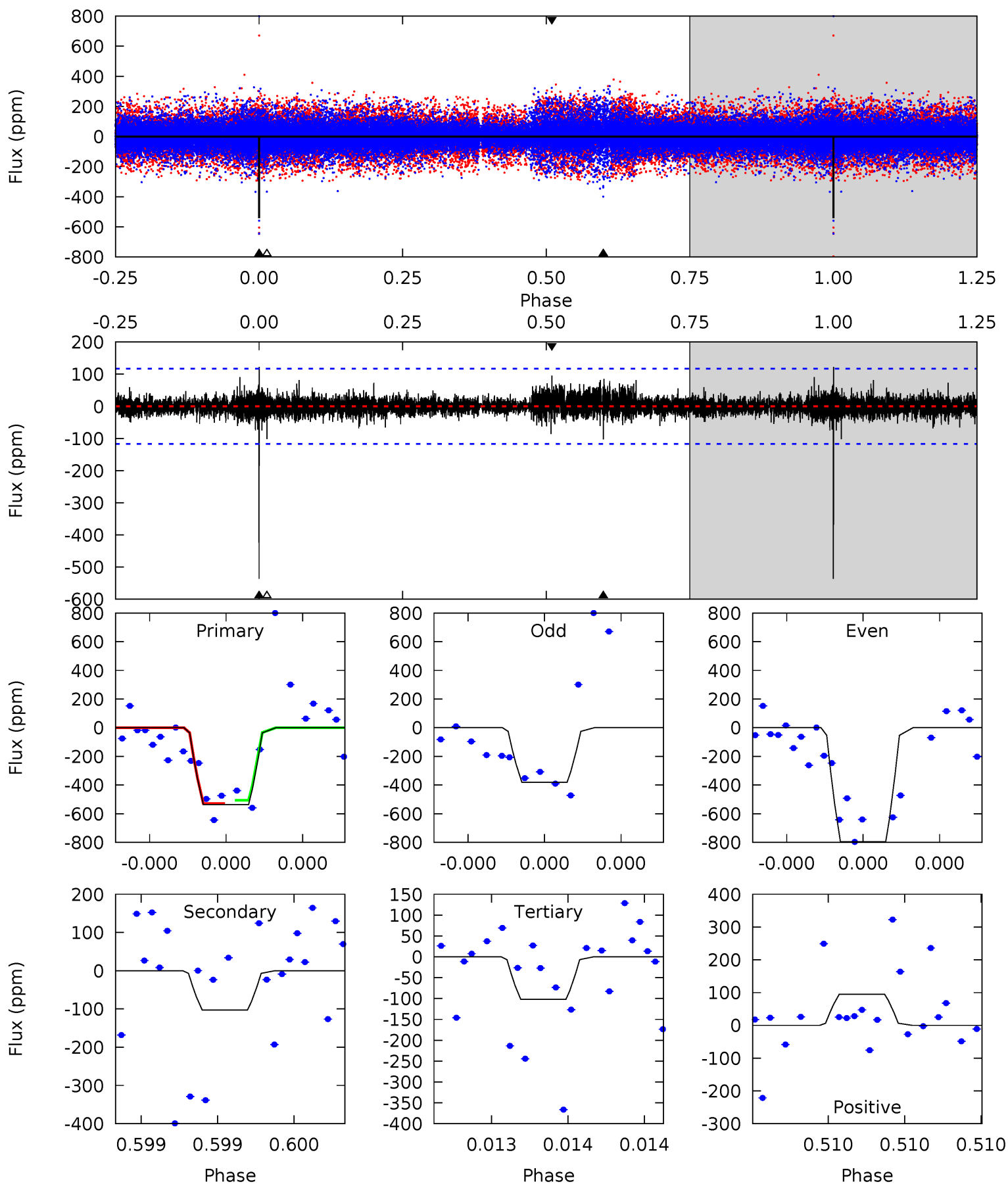
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.9	9.87	7.45	27.3	5.65	3.60	2.12	8.45	-11.4	2.42	-17.4	0.85	0.85	0.63	0.45



Alt Model-Shift Uniqueness Test

006192231-03, P = 510.464385 Days, E = 154.555755 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.2	5.01	4.96	4.64	5.71	3.69	0.78	21.2	21.5	0.05	0.37	10.5	1.12	0.19	0.53



Stellar Parameters For KIC 006192231

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4777^{+76}_{-42}	$3.546^{+0.104}_{-0.143}$	$0.140^{+0.150}_{-0.100}$	$2.716^{+0.686}_{-0.294}$	$0.944^{+0.163}_{-0.017}$	$0.066^{+0.030}_{-0.029}$
	+2%/-1%	+3%/-4%	+107%/-71%	+25%/-11%	+17%/-2%	+46%/-43%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006192231-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-368 ± 37	$10.72^{+3.83}_{-3.40}$	439^{+23}_{-16}	3791^{+589}_{-296}	2649^{+3224}_{-1171}
Alt.	-103 ± 20	$7.27^{+3.08}_{-3.42}$	440^{+24}_{-17}	3509^{+869}_{-348}	1641^{+4492}_{-835}

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 $A_{obs} \gg 1.0$

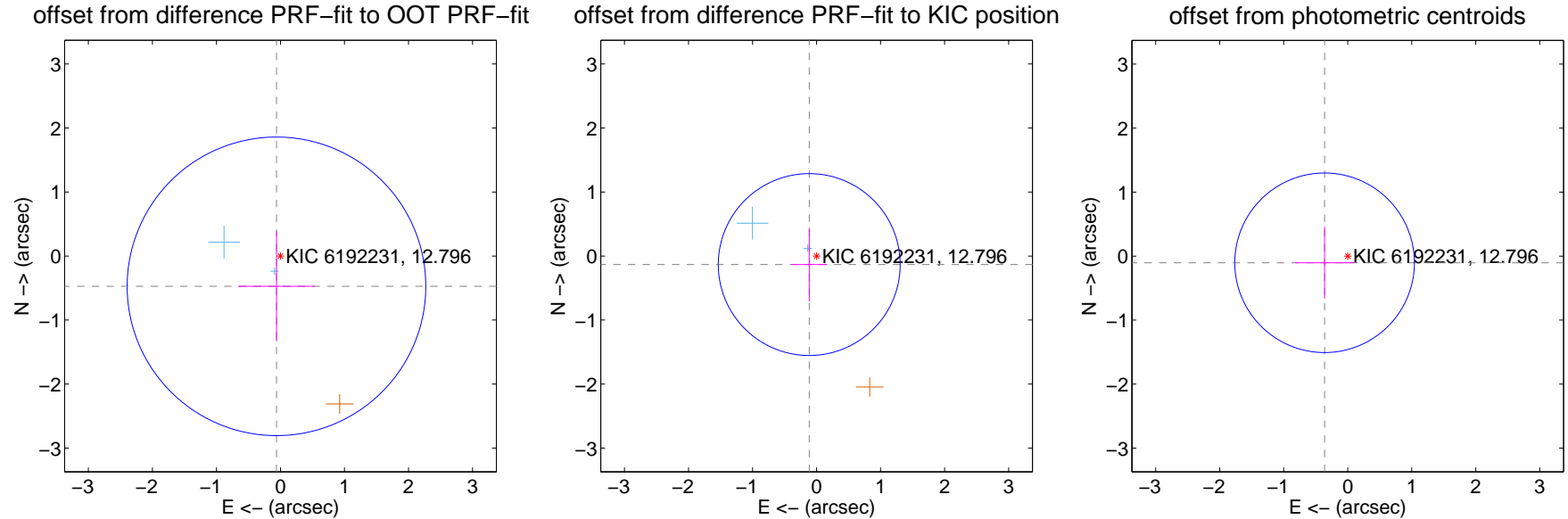
DV Centroid Data

Supplemental centroid analysis for 006192231-03. Kepler magnitude: 12.80. Transit SNR 10.64

There are 2 quarters with good PRF difference image offsets

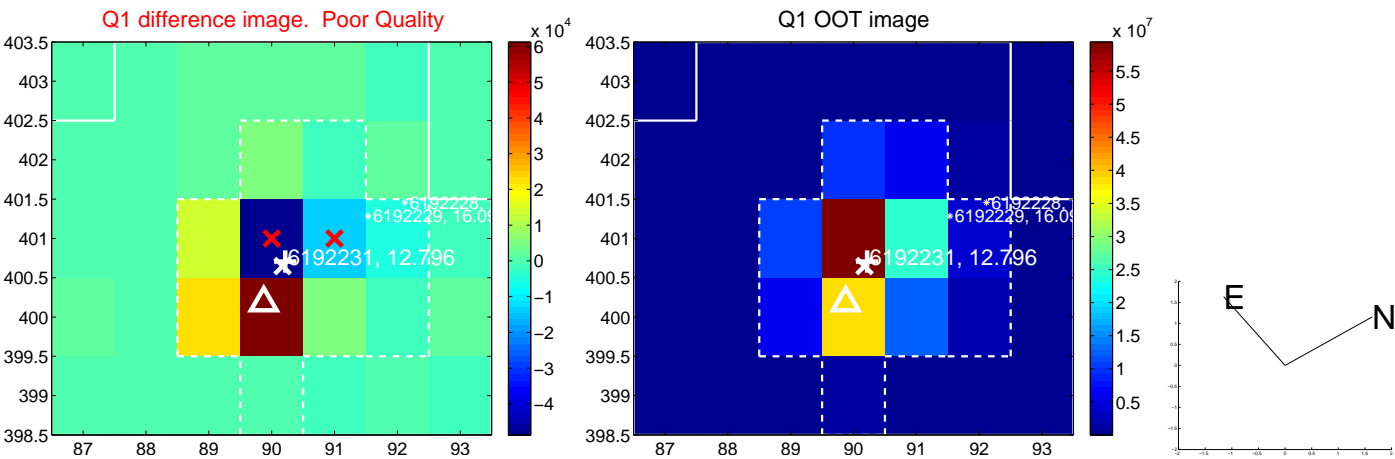
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.477 ± 0.777	0.61	0.062 ± 0.598	-0.473 ± 0.861
PRF-fit source offset from KIC position	0.176 ± 0.473	0.37	0.115 ± 0.280	-0.133 ± 0.576
photometric centroid source offset	0.38 ± 0.47	0.80	0.36 ± 0.46	-0.10 ± 0.56

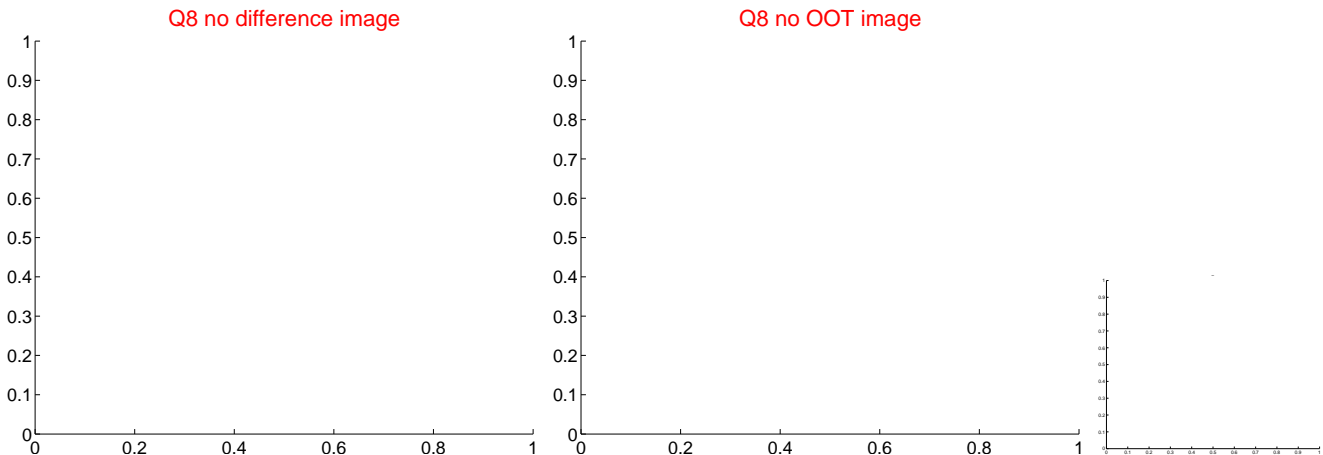
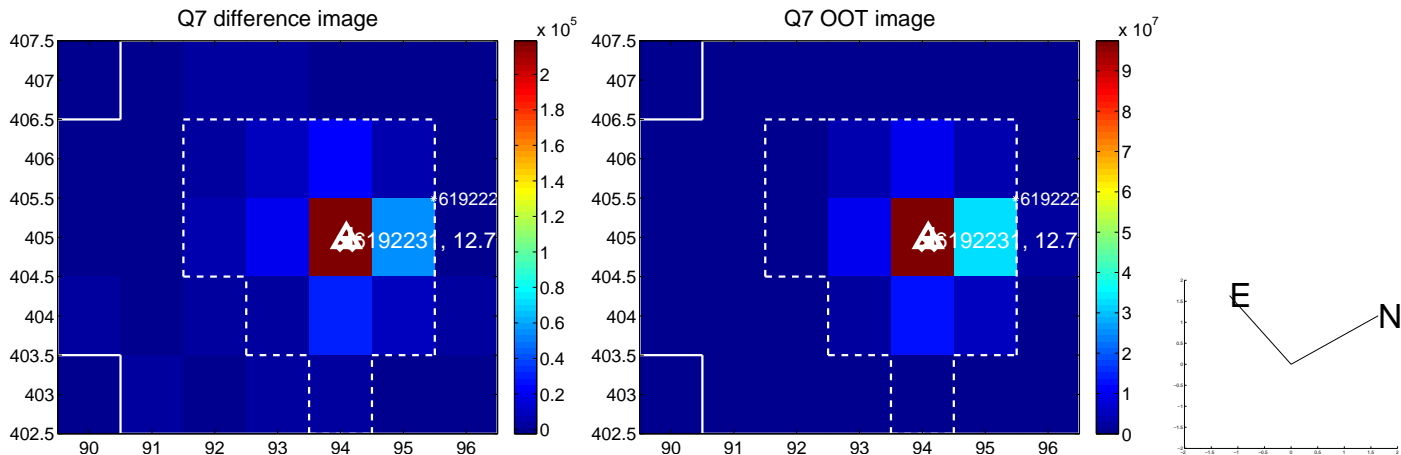


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

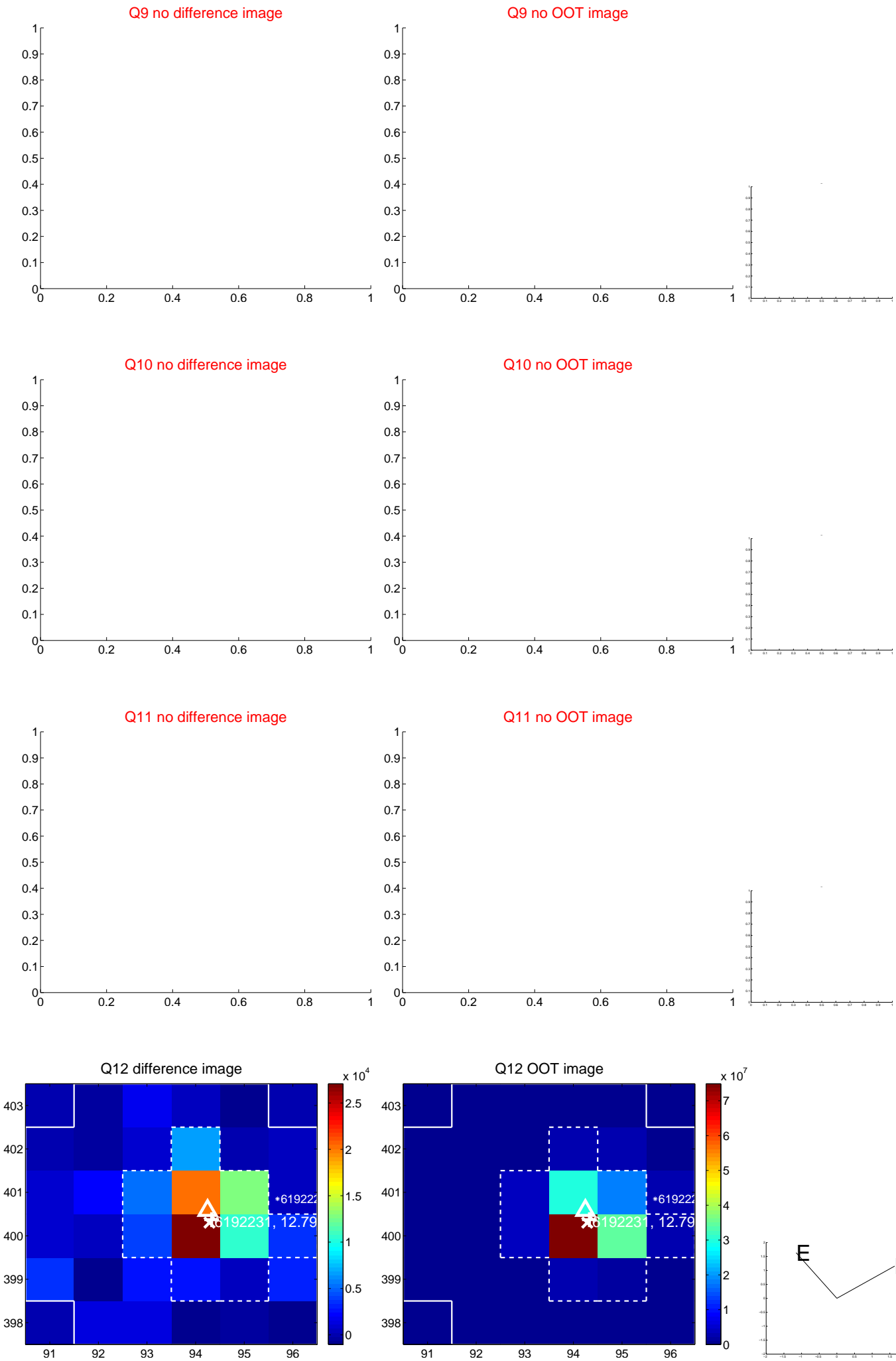
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



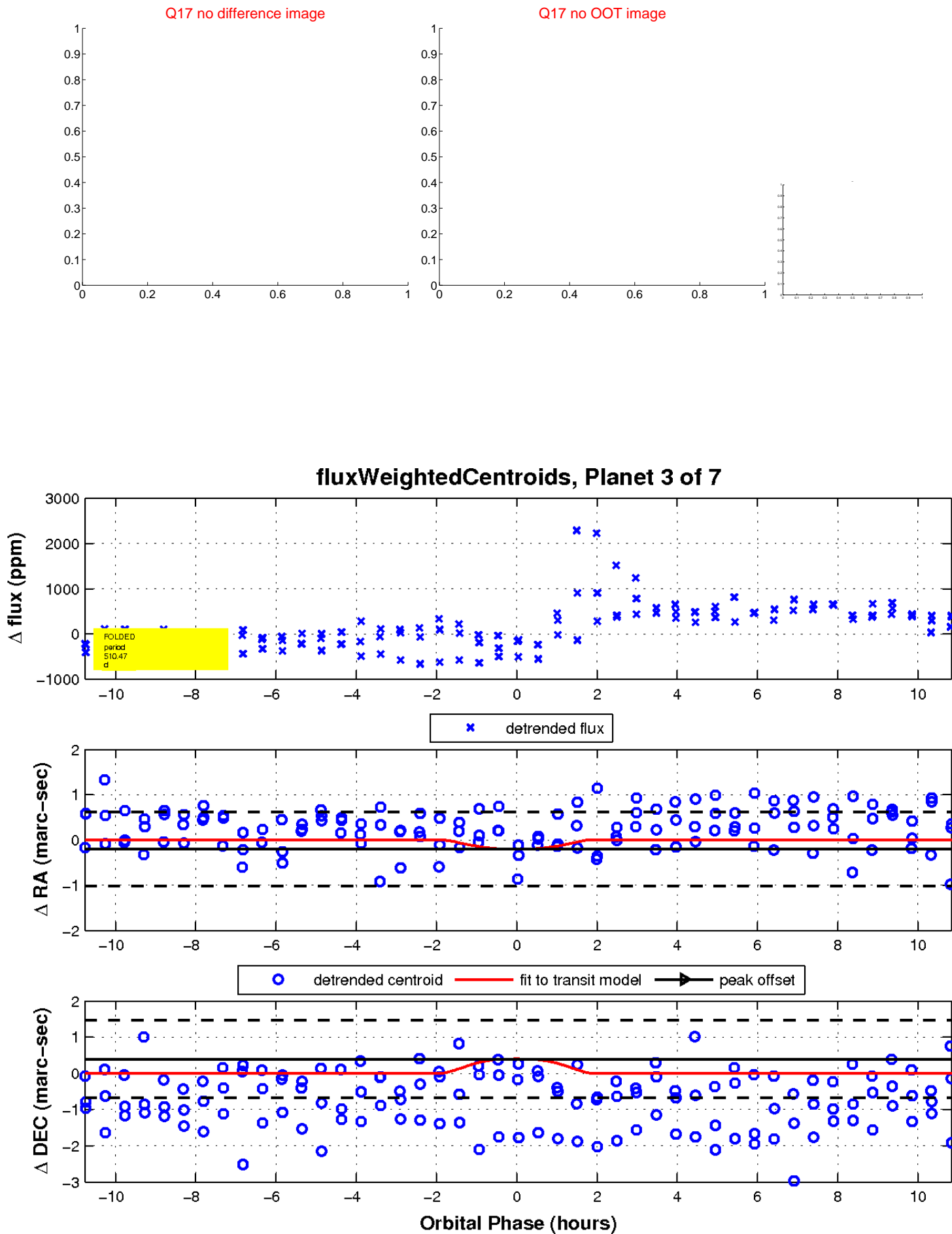
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

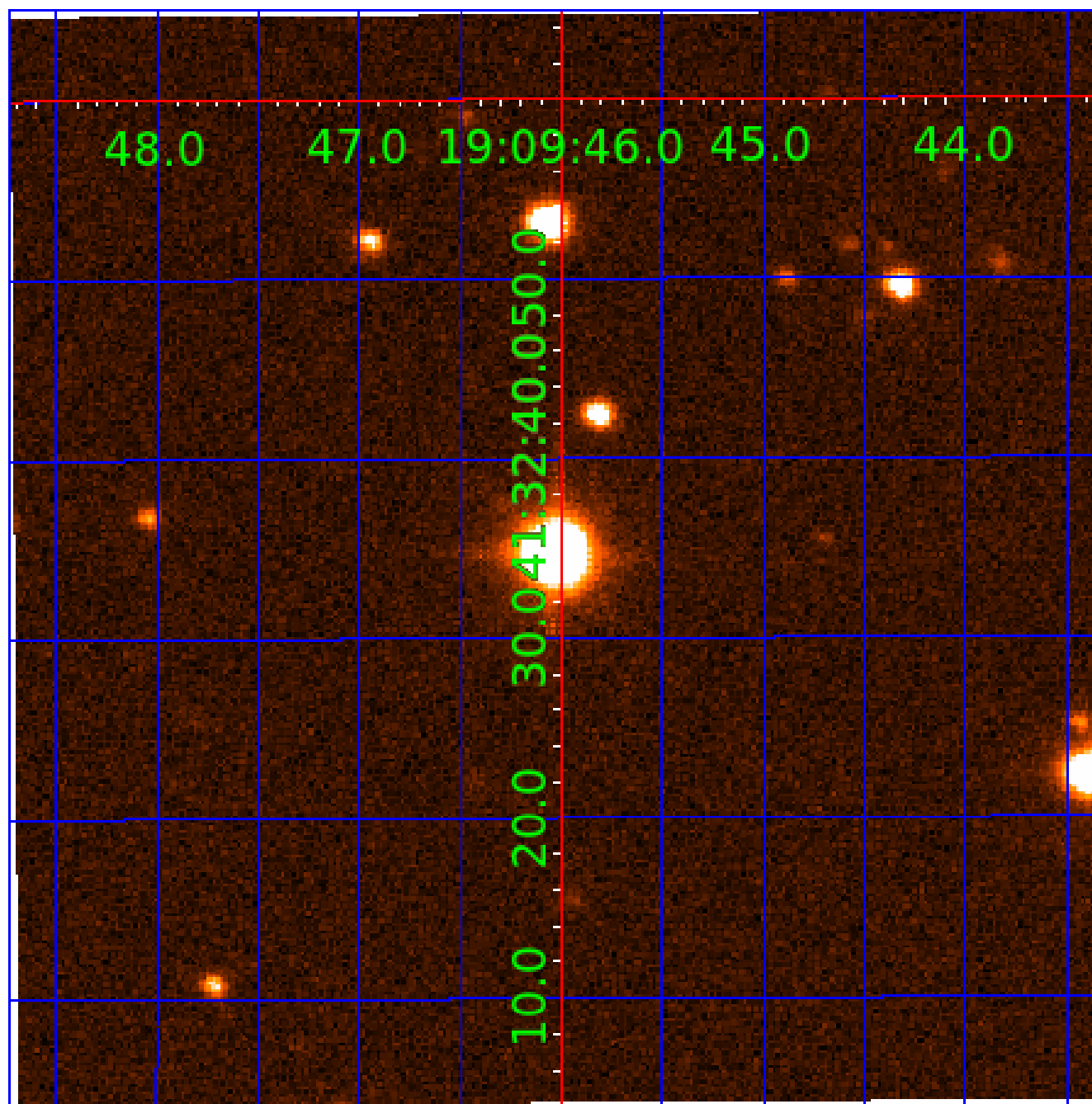


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006192231

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})
006192231-01	OBS	No	553.091834	317.533200	669.6	9.294	16.9	9.1	2.72	4777	9.42	2.05
006192231-02	OBS	No	456.890402	518.915200	579.4	3.684	17.9	8.0	2.72	4777	6.27	2.65
006192231-03	OBS	No	510.469935	154.561463	813.5	3.725	11.5	10.6	2.72	4777	10.68	2.29
006192231-04	OBS	No	422.411203	467.480237	435.5	12.038	9.7	6.6	2.72	4777	6.11	2.94
006192231-05	OBS	No	325.729840	406.212046	484.2	9.610	10.0	6.9	2.72	4777	6.53	4.16
006192231-06	OBS	No	623.376540	195.923520	584.8	3.329	12.7	7.8	2.72	4777	6.98	1.75
006192231-07	OBS	No	539.408446	160.160762	468.3	4.256	11.9	6.5	2.72	4777	6.26	2.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006192231-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS
006192231-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_KIC_POS
006192231-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006192231-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

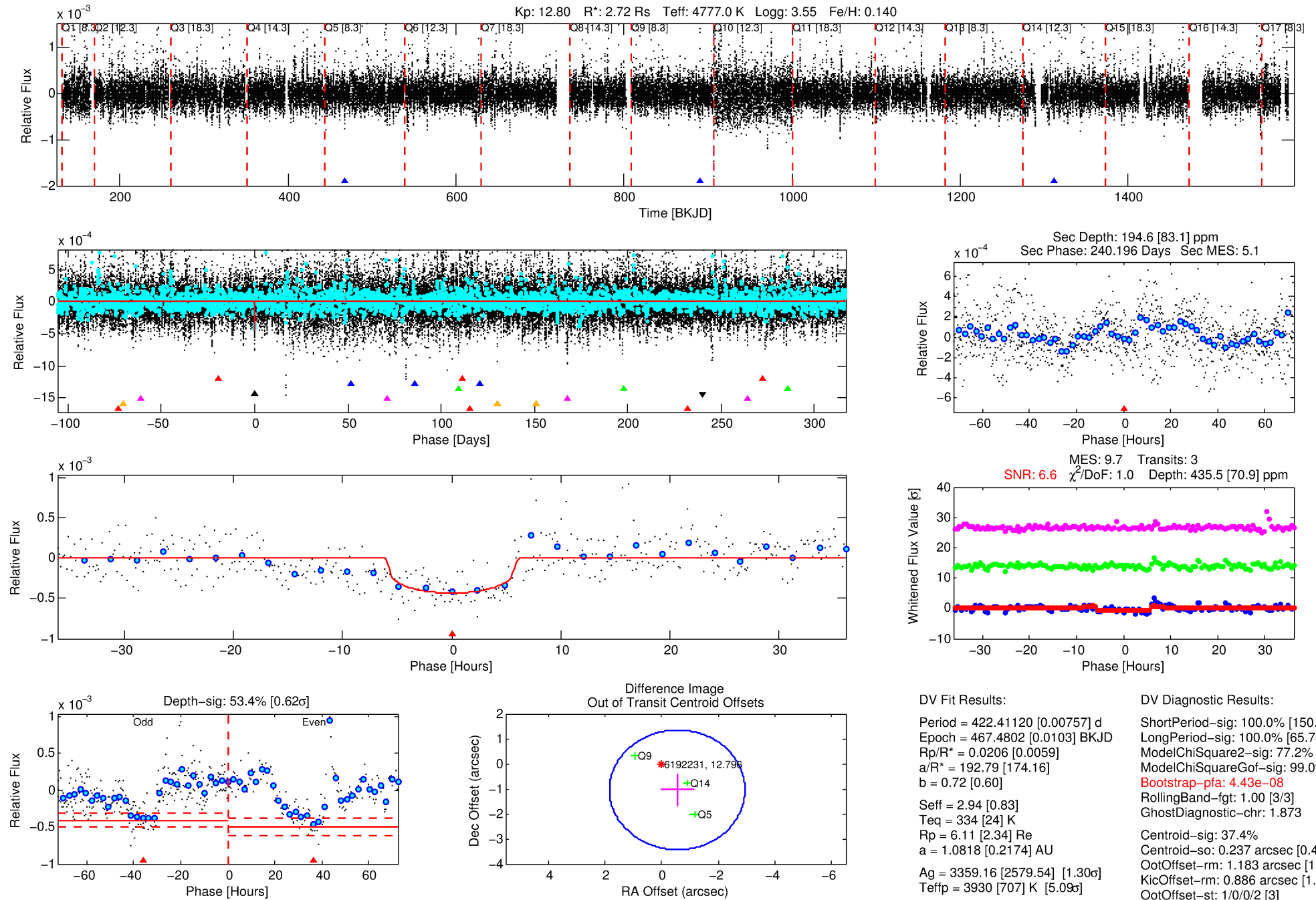
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006192231-04

No Significant Match Found

DV One-Page Summary

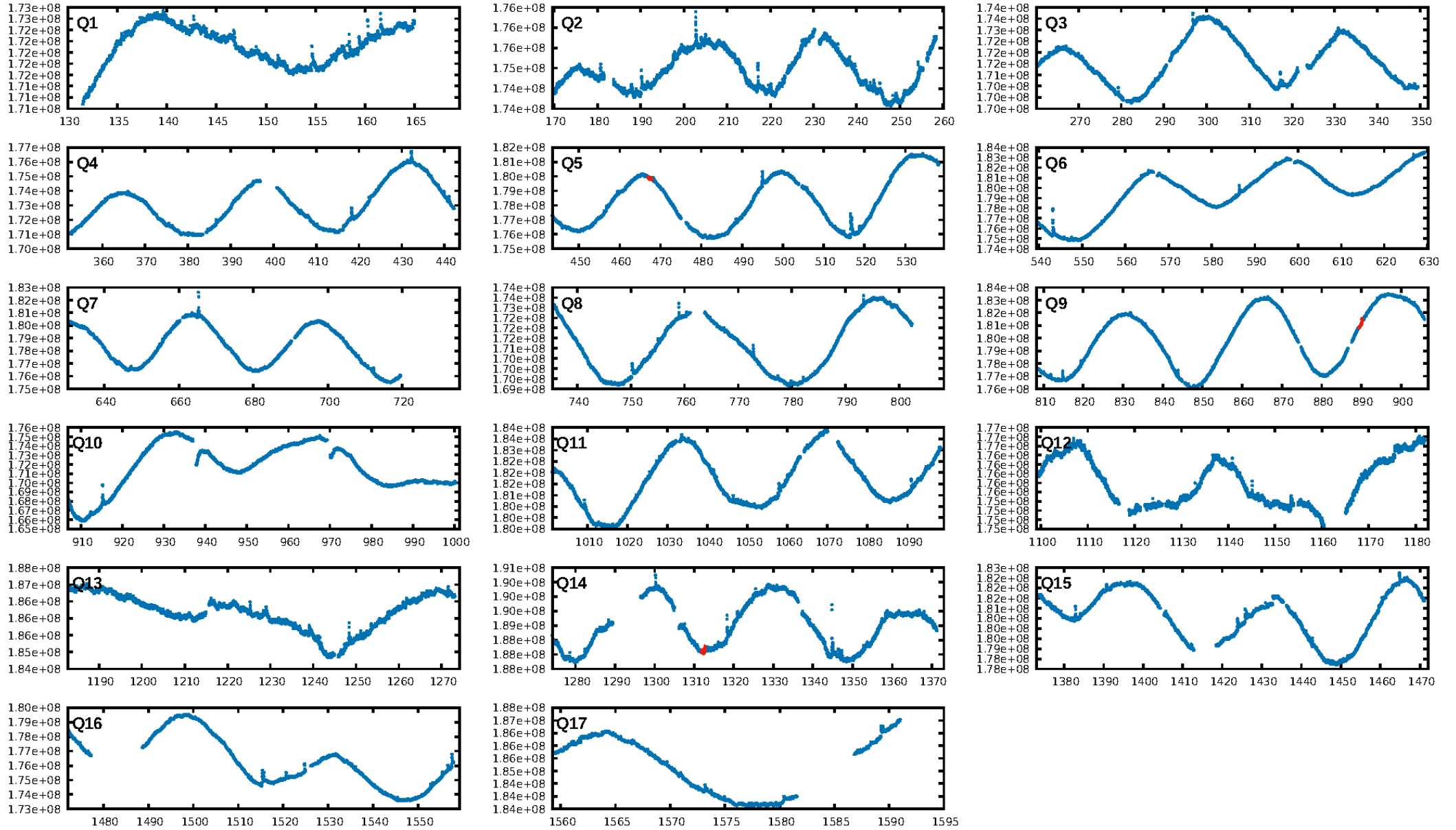
KIC: 6192231 Candidate: 4 of 7 Period: 422.411 d



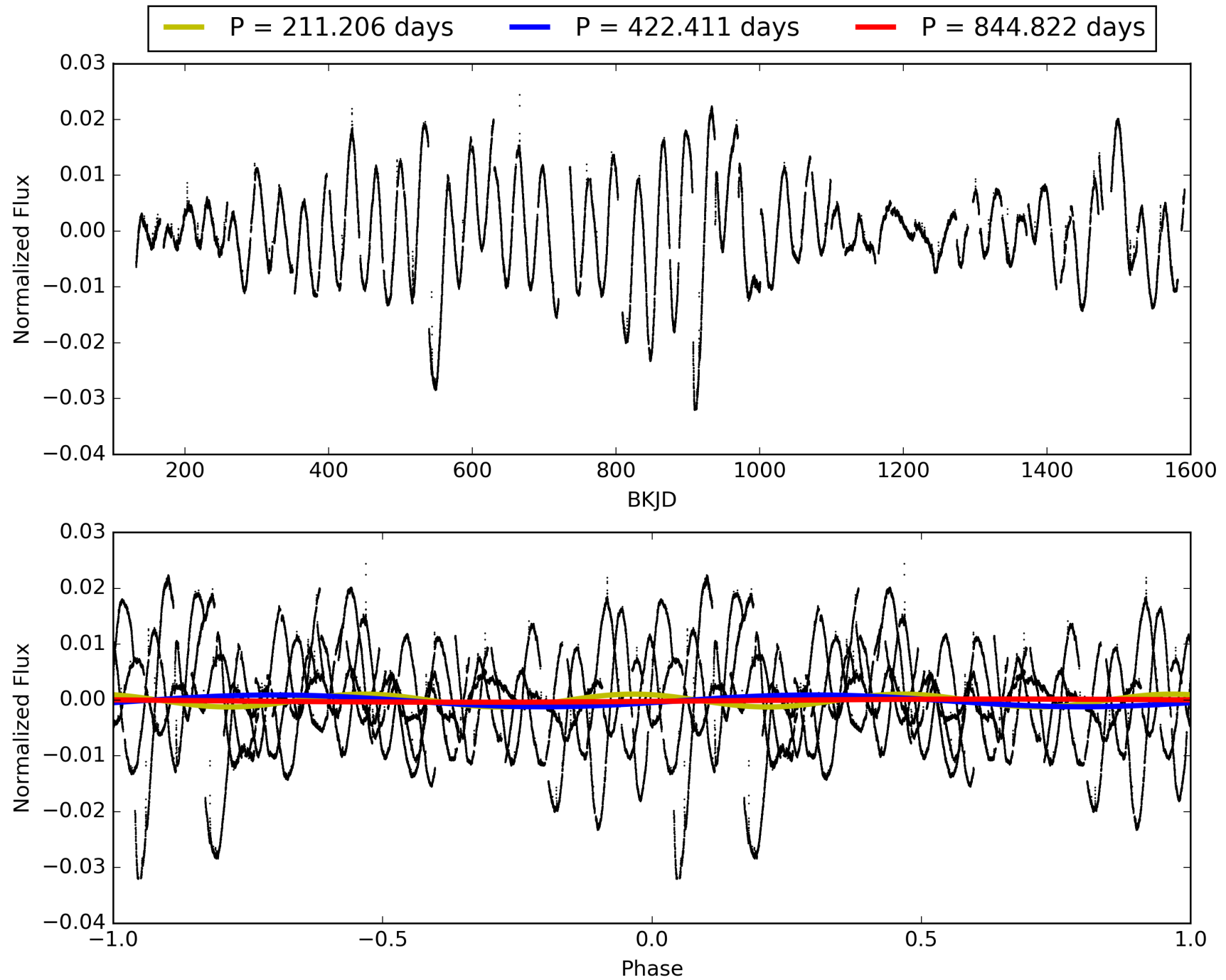
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:52:27 Z

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

TCE 006192231-04, PDC Light Curves

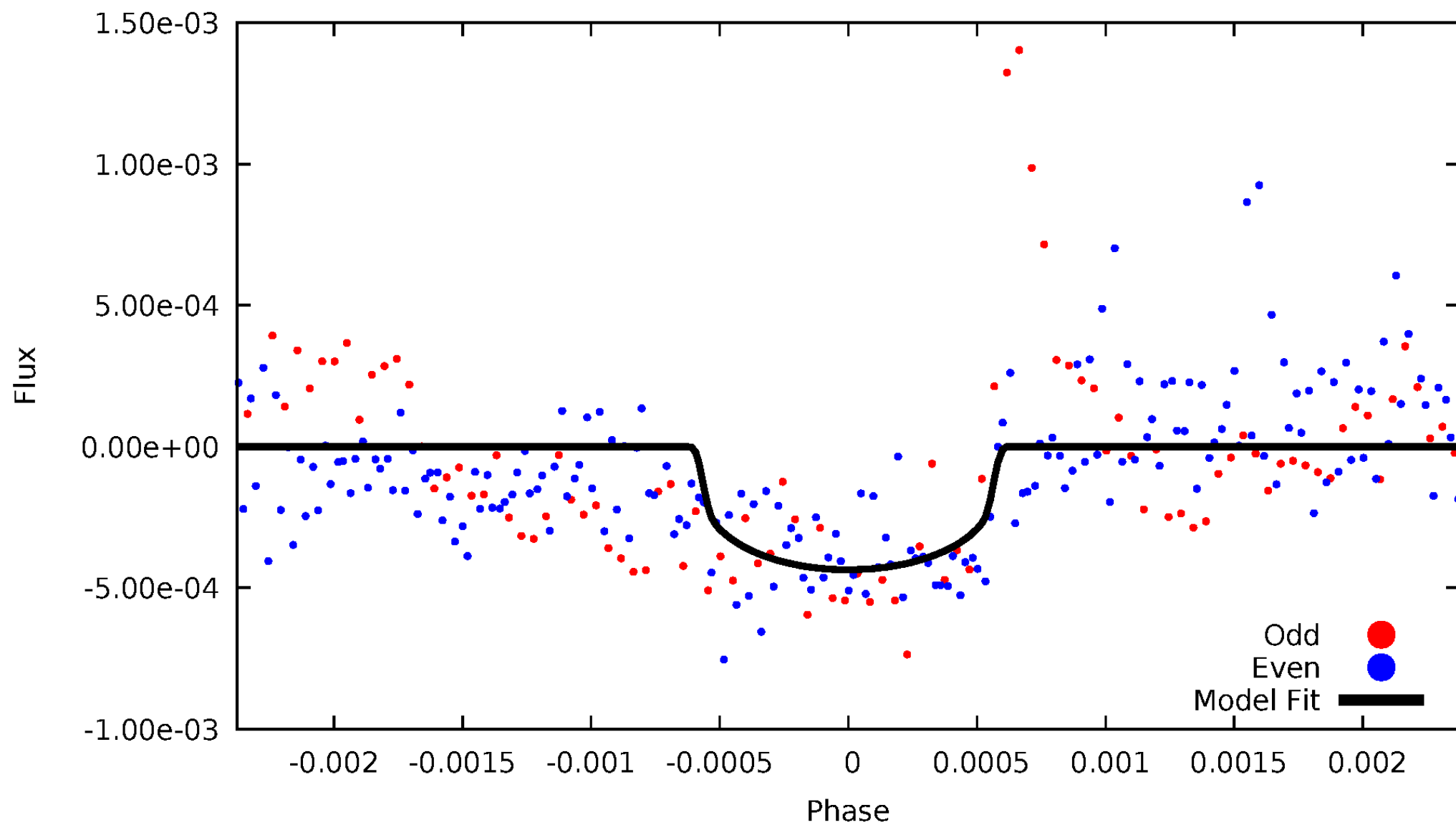


TCE 006192231-04



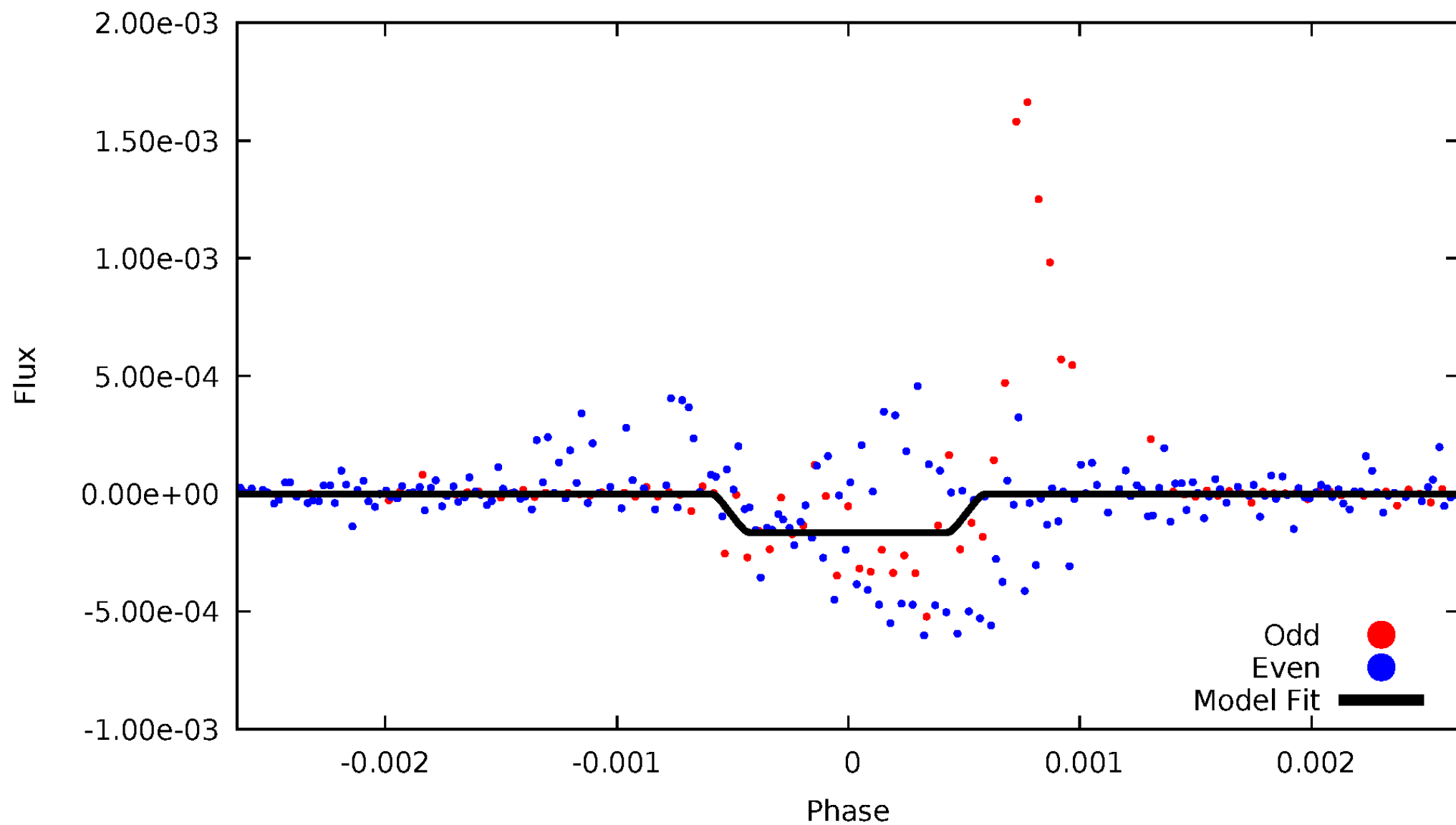
DV Odd/Even

TCE 006192231-04



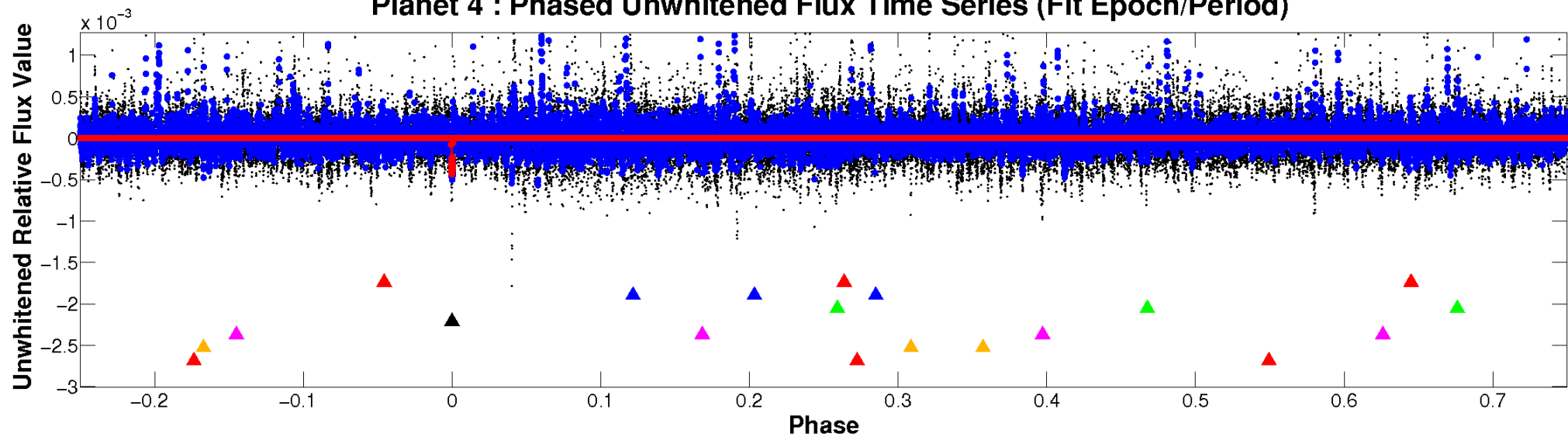
ALT Odd/Even

TCE 006192231-04

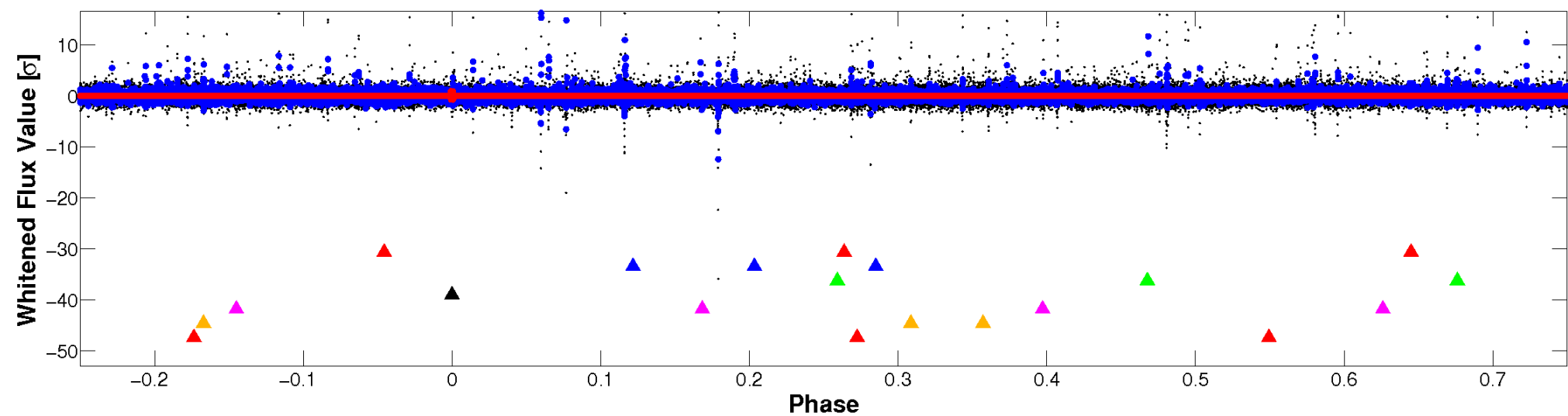


Non-Whitened Vs. Whitened Light Curve

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

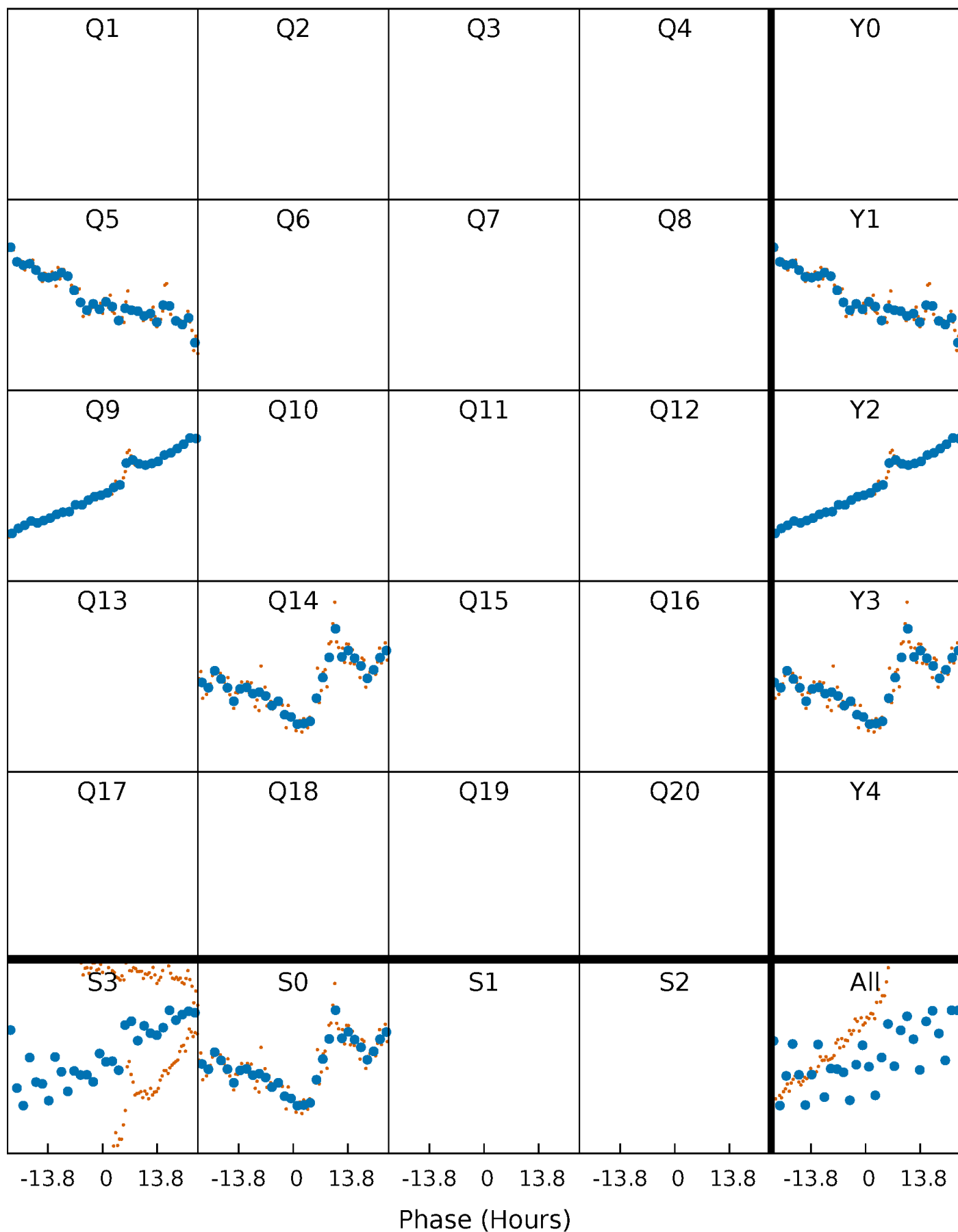


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



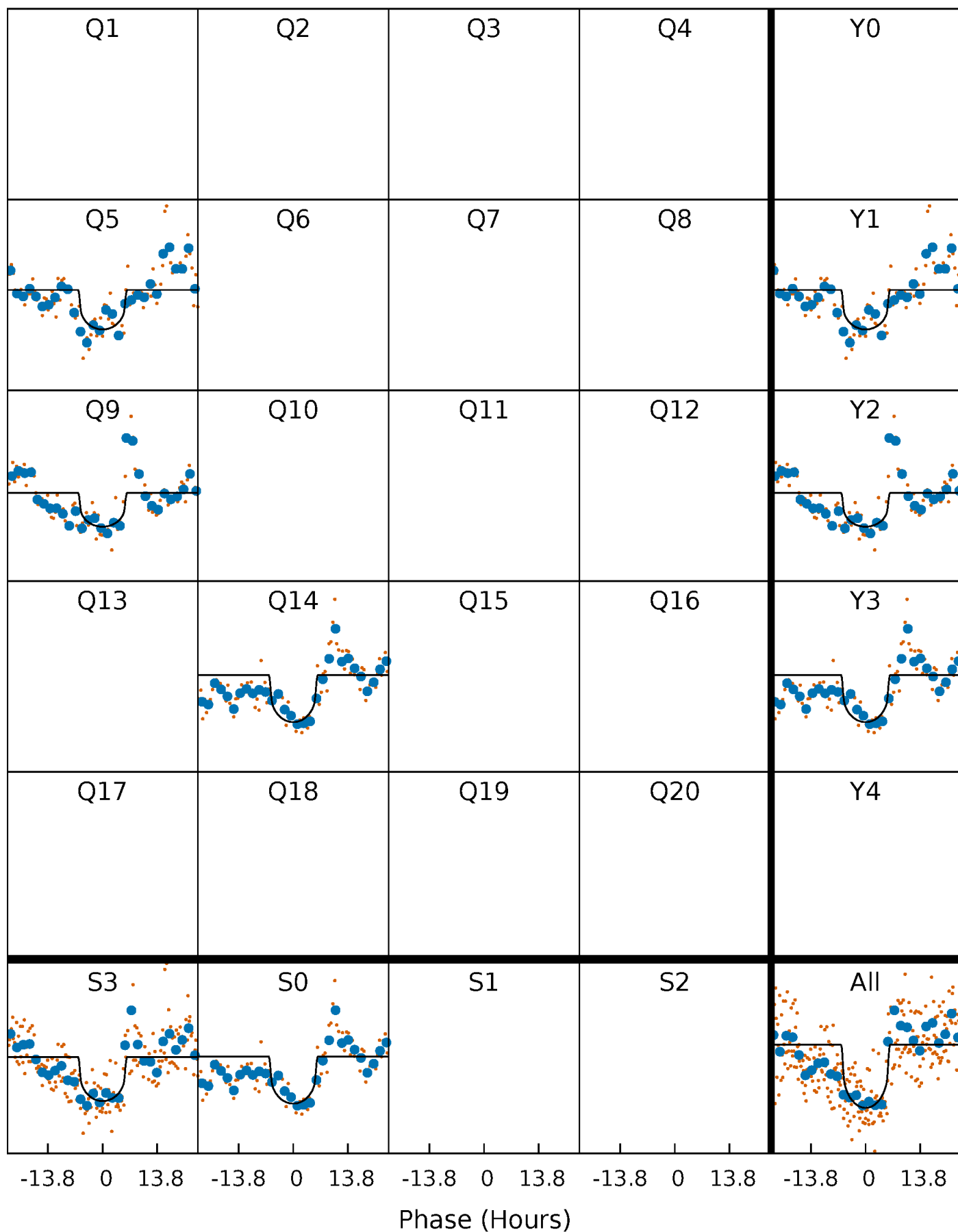
PDC Quarter-Phased Transit Curves

TCE 006192231-04 $P=422.411203$ Days $T_0=467.480237$ (BKJD)



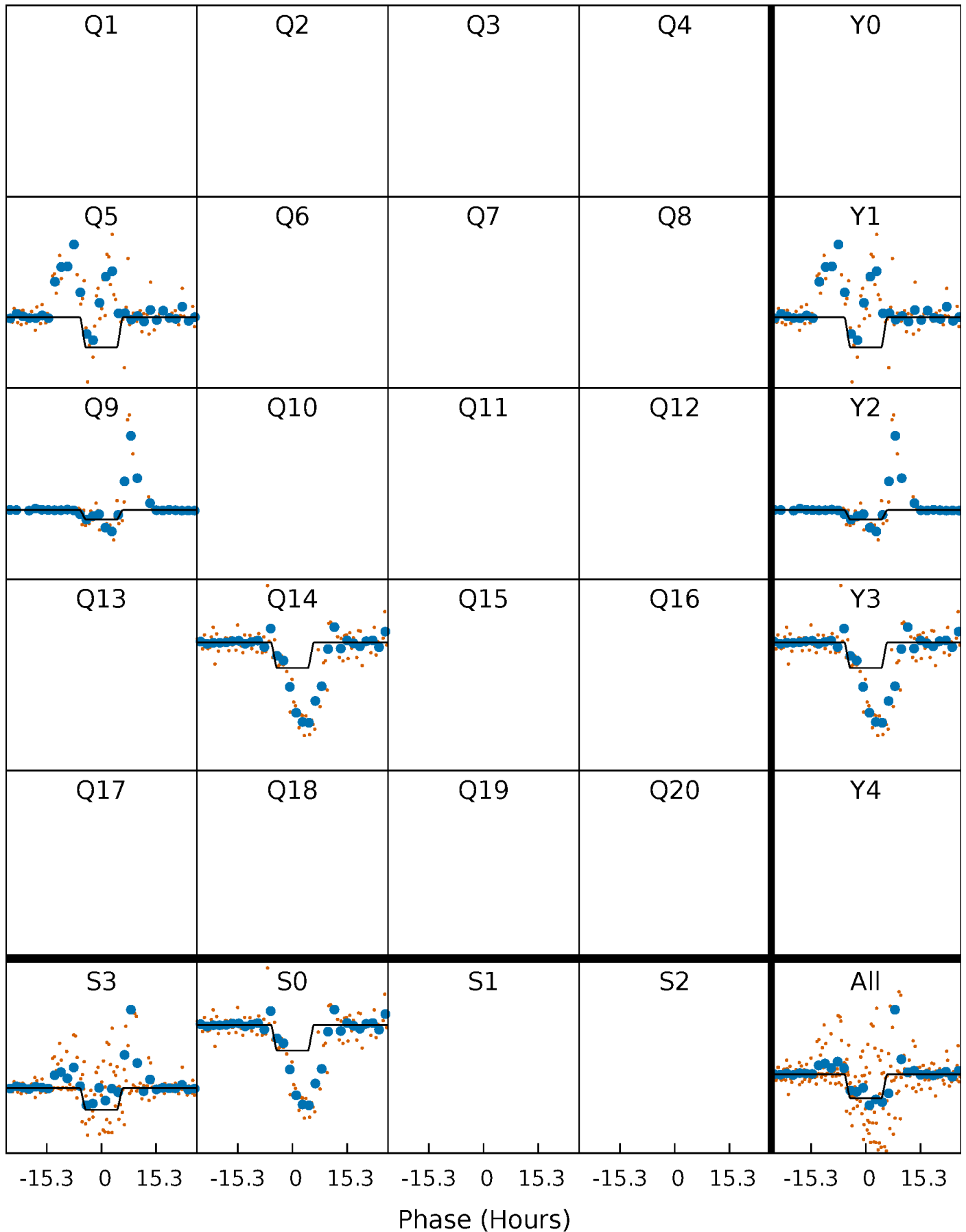
DV Quarter-Phased Transit Curves

TCE 006192231-04 $P=422.411203$ Days $T_0=467.480237$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

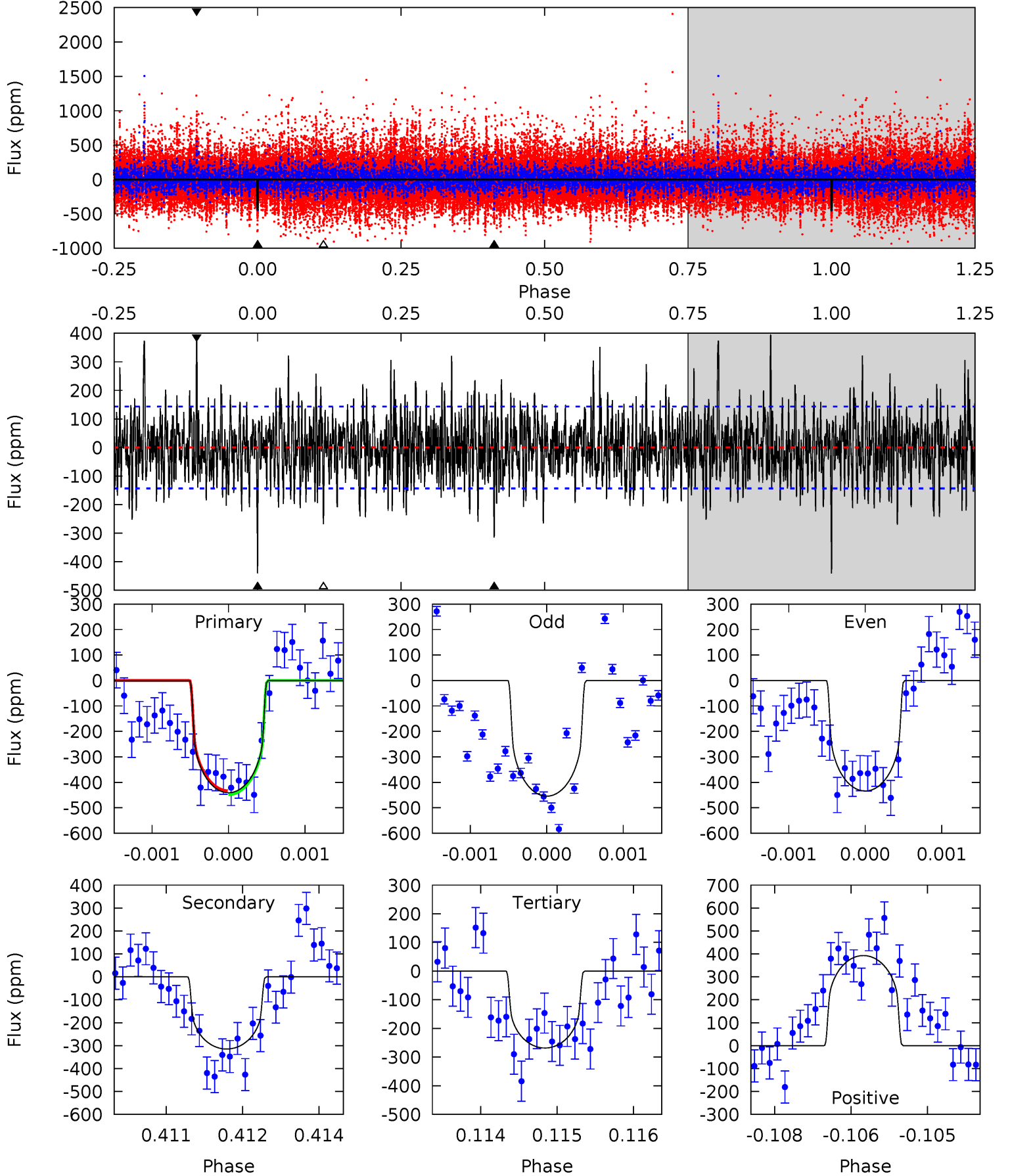
TCE 006192231-04 $P=422.409363$ Days $T_0=467.435889$ (BKJD)



DV Model-Shift Uniqueness Test

006192231-04, P = 422.411203 Days, E = 45.069034 Days

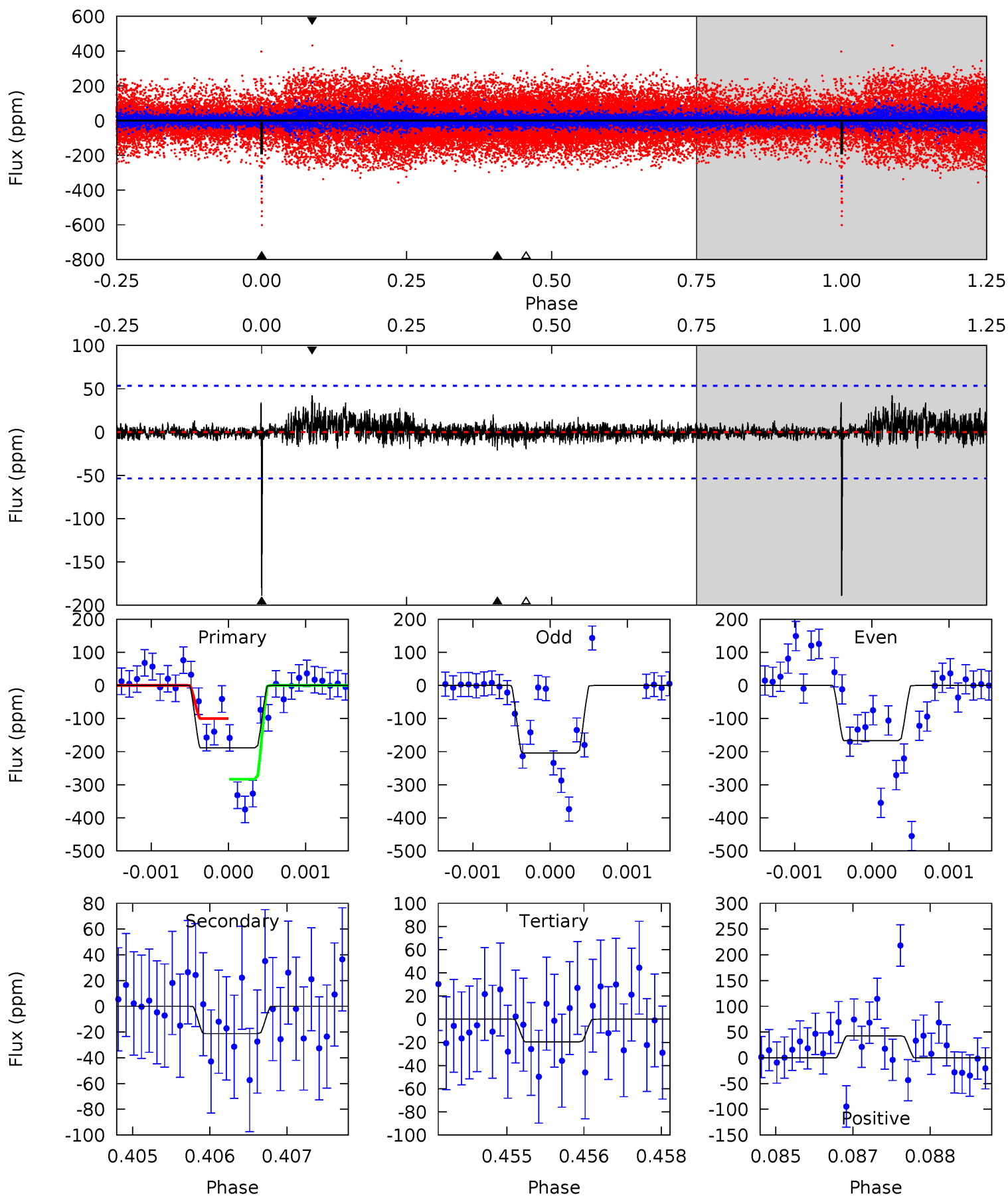
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	11.9	10.1	14.9	5.42	3.24	3.44	6.52	1.81	1.76	-2.95	0.28	0.97	0.47	0.29



Alt Model-Shift Uniqueness Test

006192231-04, P = 422.409363 Days, E = 45.026526 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	2.14	1.98	4.30	5.42	3.25	0.63	17.1	14.8	0.17	-2.16	1.65	0.81	0.18	9.06



Stellar Parameters For KIC 006192231

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4777^{+76}_{-42}	$3.546^{+0.104}_{-0.143}$	$0.140^{+0.150}_{-0.100}$	$2.716^{+0.686}_{-0.294}$	$0.944^{+0.163}_{-0.017}$	$0.066^{+0.030}_{-0.029}$
	+2%/-1%	+3%/-4%	+107%/-71%	+25%/-11%	+17%/-2%	+46%/-43%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006192231-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-315 ± 26	$6.25^{+1.93}_{-1.78}$	468^{+27}_{-18}	4530^{+674}_{-414}	5359^{+5264}_{-2250}
Alt.	-21 ± 10	$3.91^{+1.88}_{-1.73}$	468^{+27}_{-18}	3301^{+764}_{-427}	864^{+2354}_{-538}

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

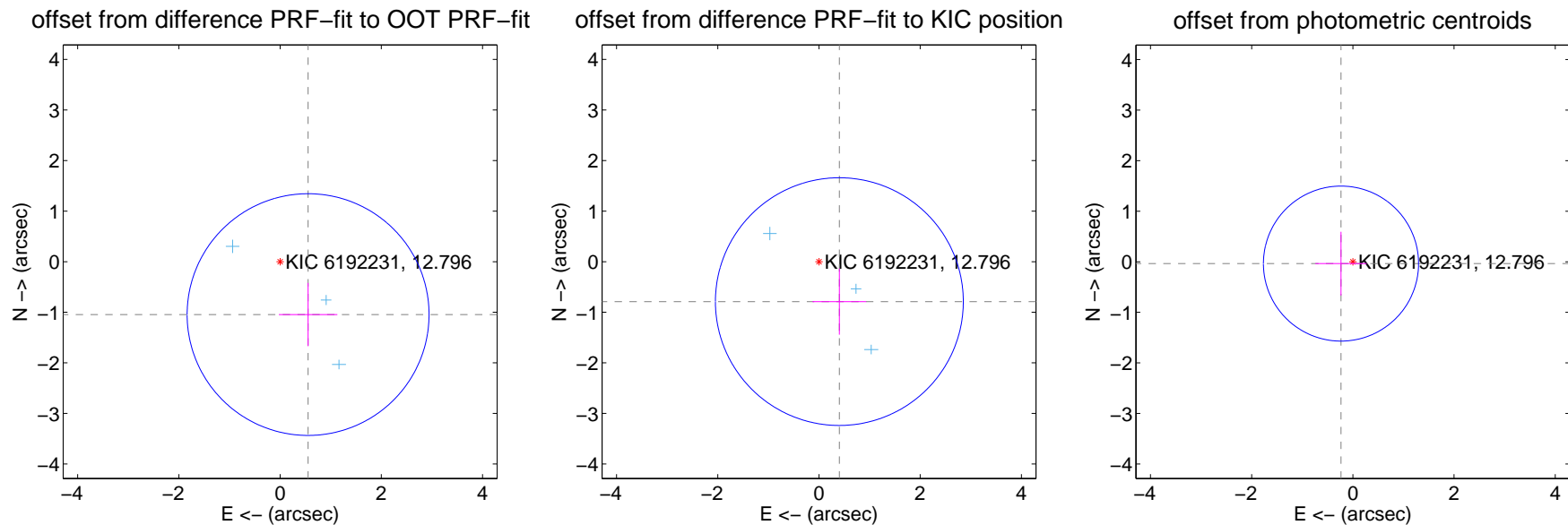
DV Centroid Data

Supplemental centroid analysis for 006192231-04. Kepler magnitude: 12.80. Transit SNR 6.57

There are 3 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.183 ± 0.797	1.48	-0.553 ± 0.579	-1.046 ± 0.626
PRF-fit source offset from KIC position	0.886 ± 0.816	1.09	-0.403 ± 0.531	-0.789 ± 0.655
photometric centroid source offset	0.24 ± 0.51	0.46	0.23 ± 0.51	-0.04 ± 0.63

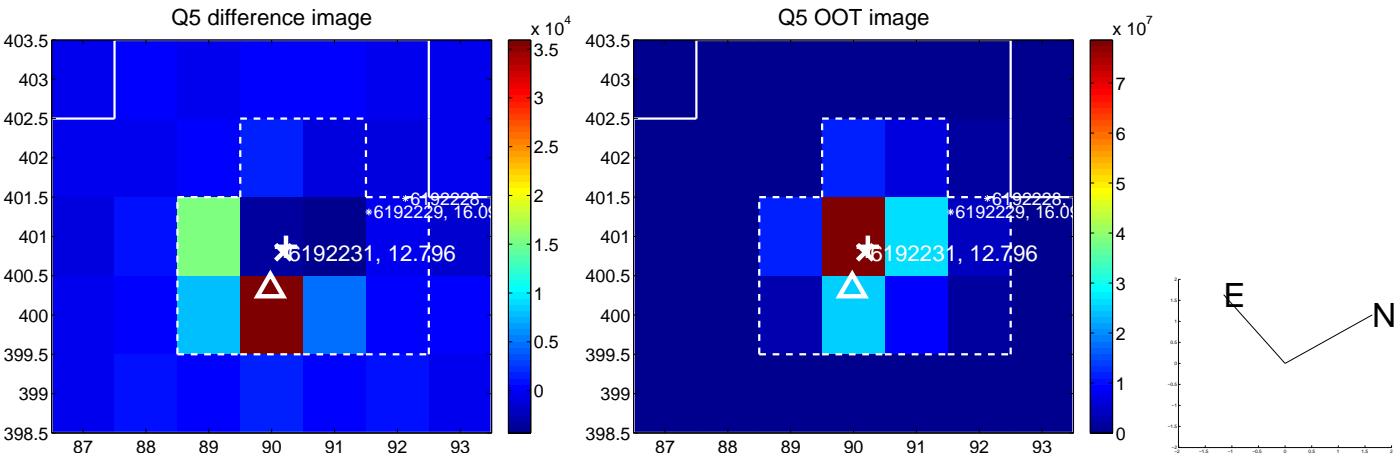


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

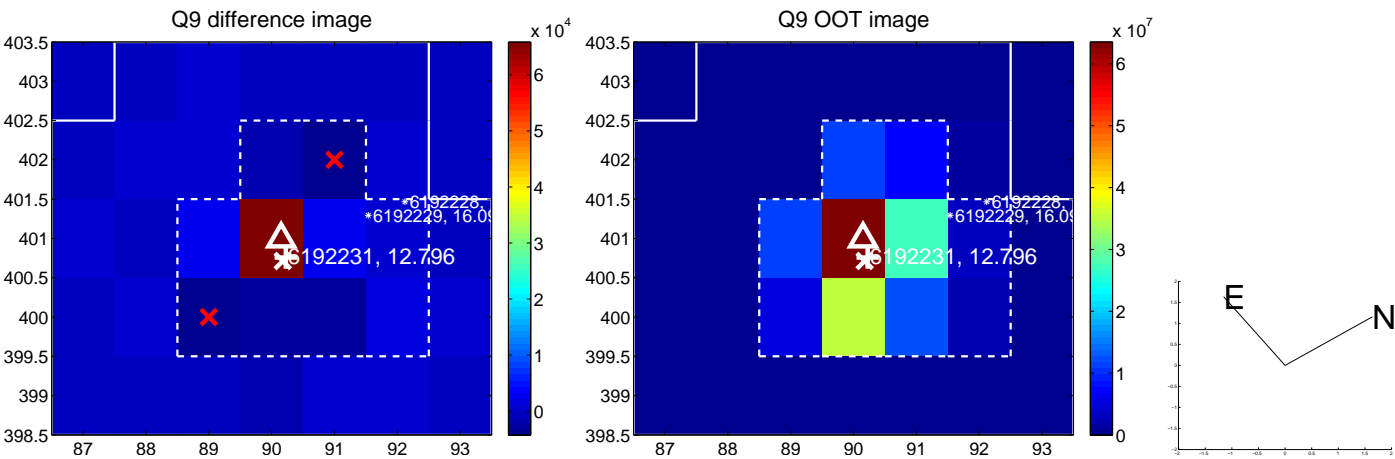
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



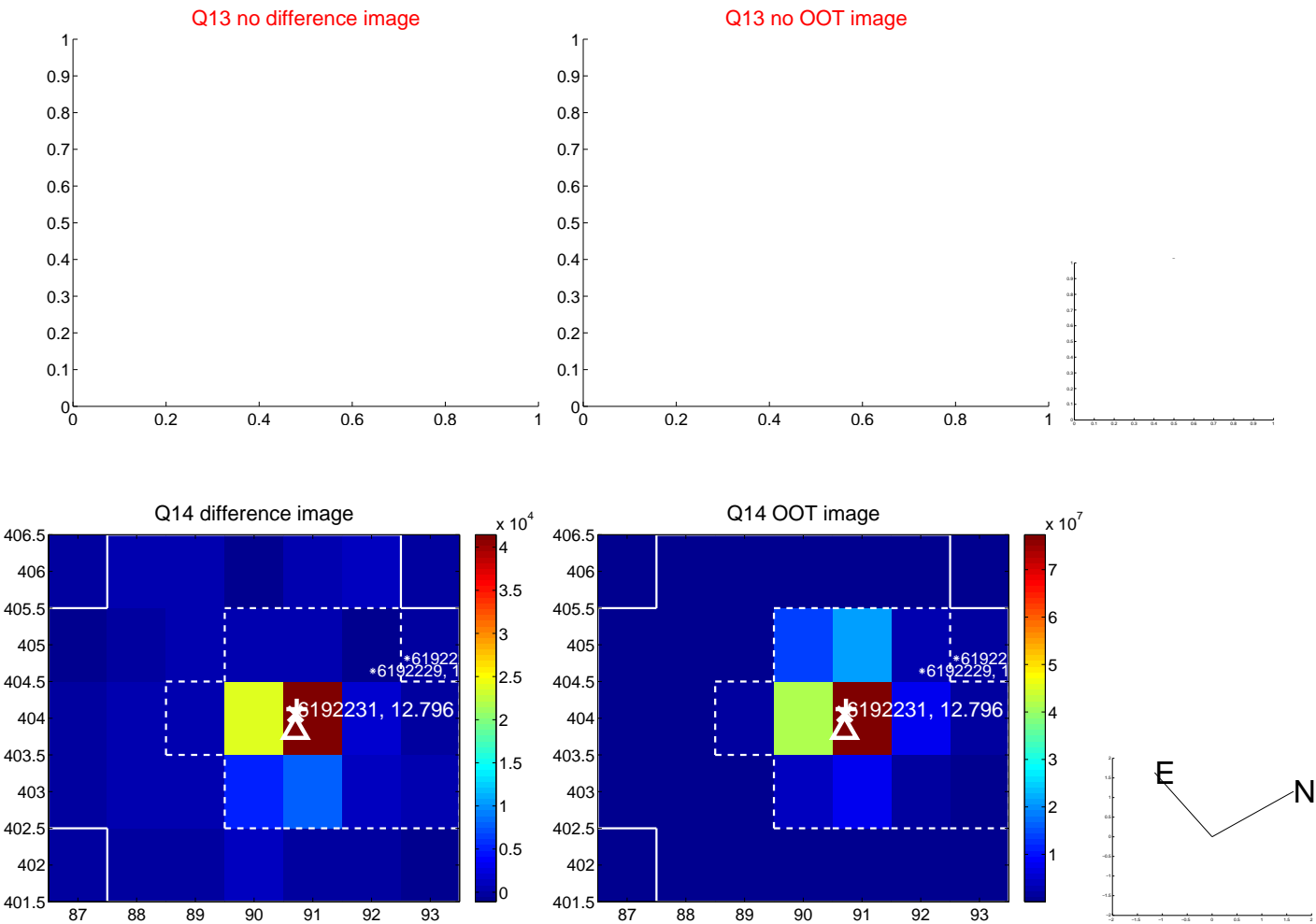
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



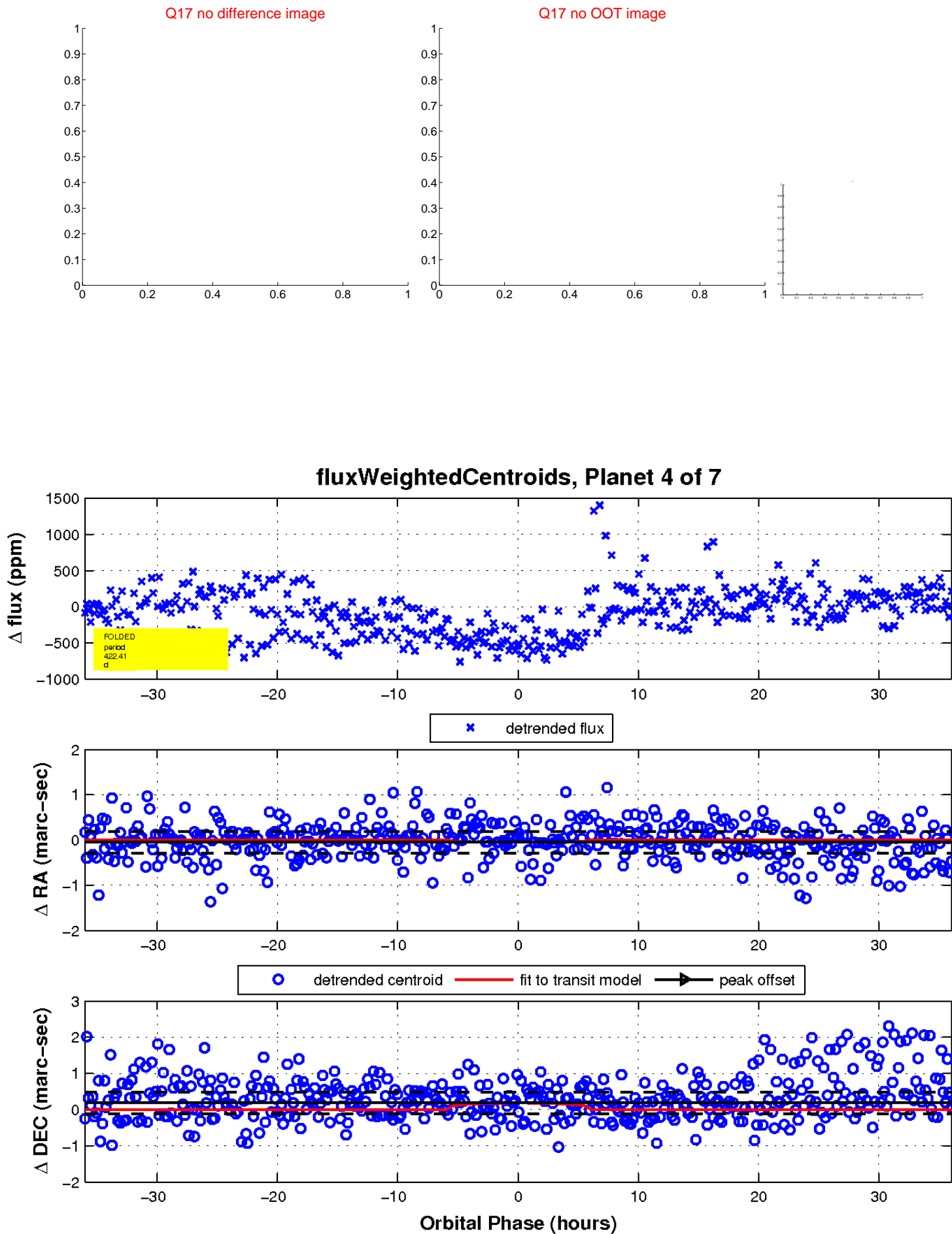
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

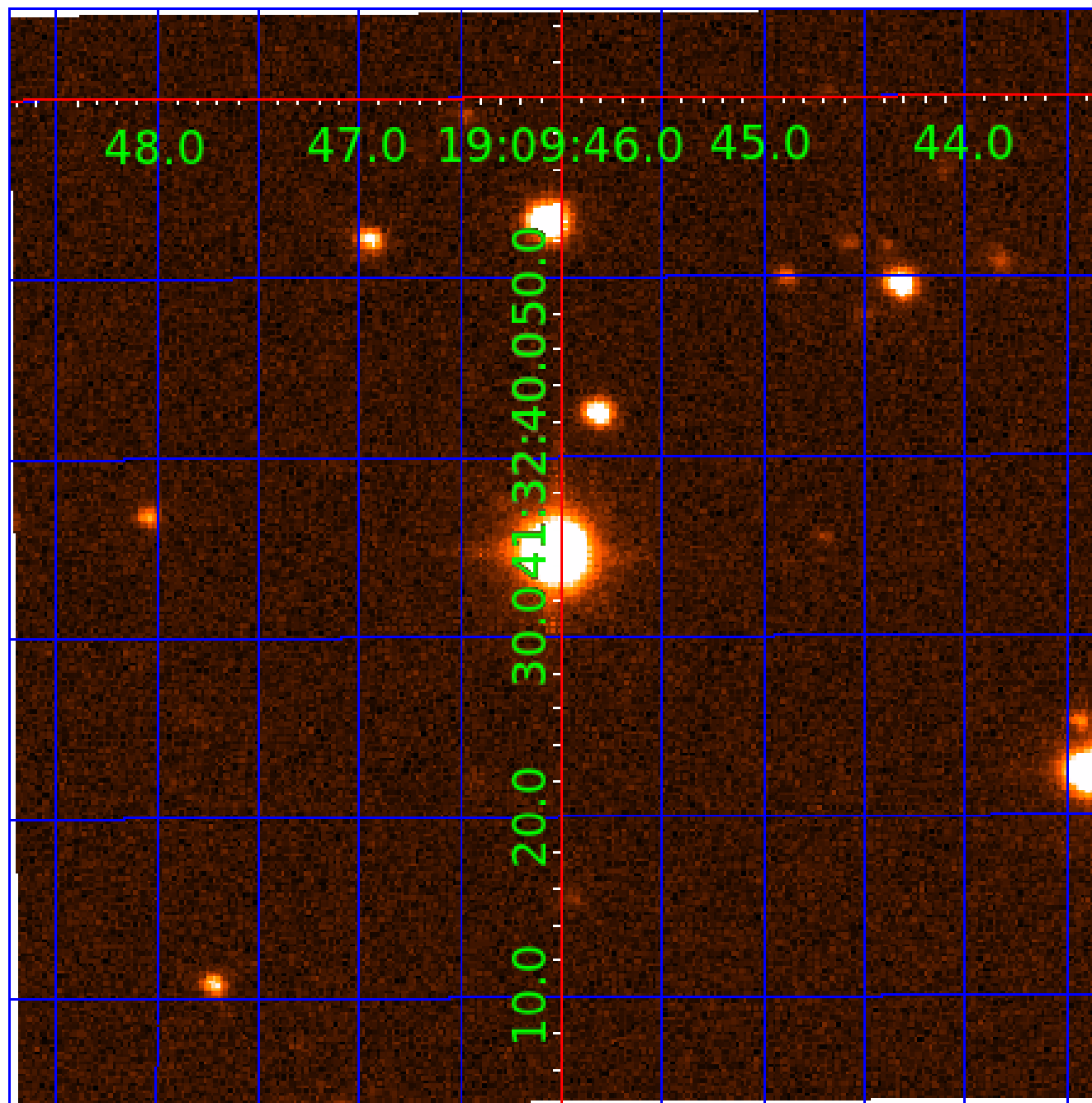


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006192231

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})
006192231-01	OBS	No	553.091834	317.533200	669.6	9.294	16.9	9.1	2.72	4777	9.42	2.05
006192231-02	OBS	No	456.890402	518.915200	579.4	3.684	17.9	8.0	2.72	4777	6.27	2.65
006192231-03	OBS	No	510.469935	154.561463	813.5	3.725	11.5	10.6	2.72	4777	10.68	2.29
006192231-04	OBS	No	422.411203	467.480237	435.5	12.038	9.7	6.6	2.72	4777	6.11	2.94
006192231-05	OBS	No	325.729840	406.212046	484.2	9.610	10.0	6.9	2.72	4777	6.53	4.16
006192231-06	OBS	No	623.376540	195.923520	584.8	3.329	12.7	7.8	2.72	4777	6.98	1.75
006192231-07	OBS	No	539.408446	160.160762	468.3	4.256	11.9	6.5	2.72	4777	6.26	2.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006192231-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS
006192231-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_KIC_POS
006192231-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006192231-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

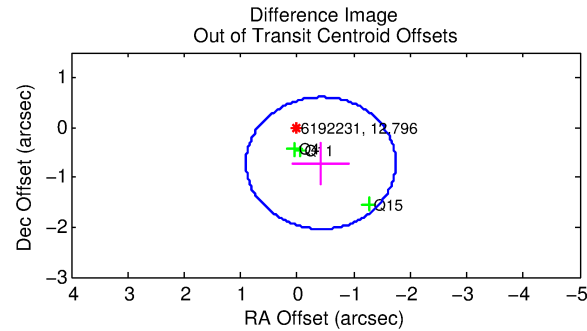
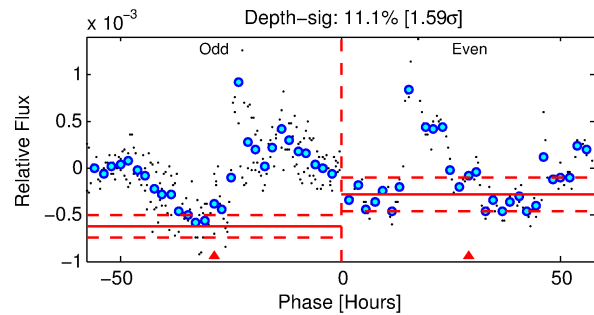
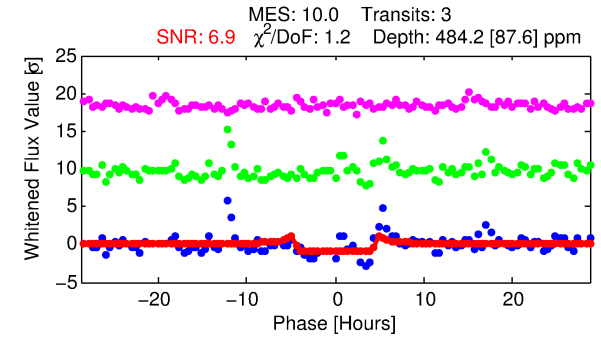
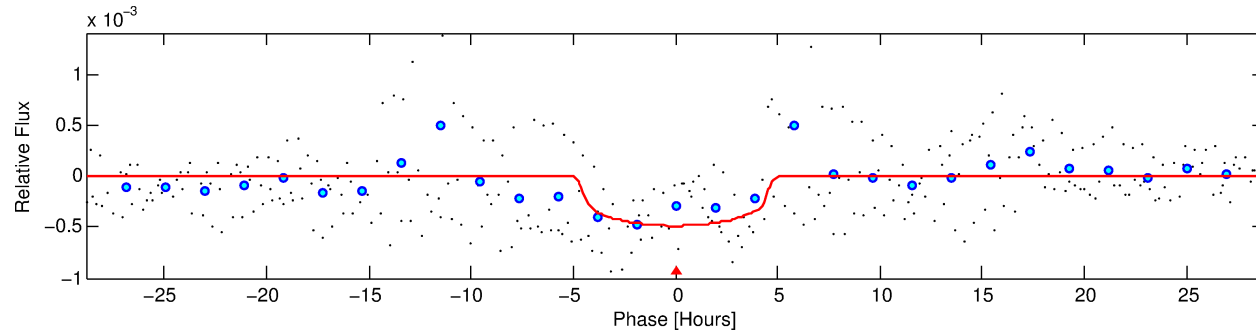
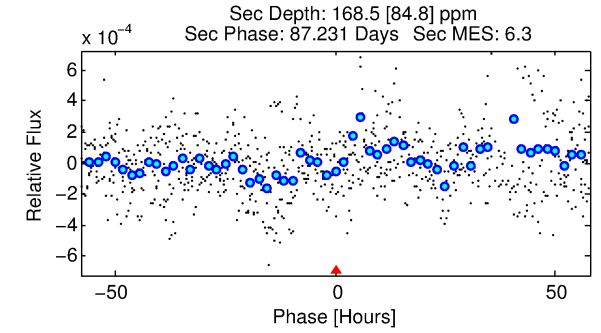
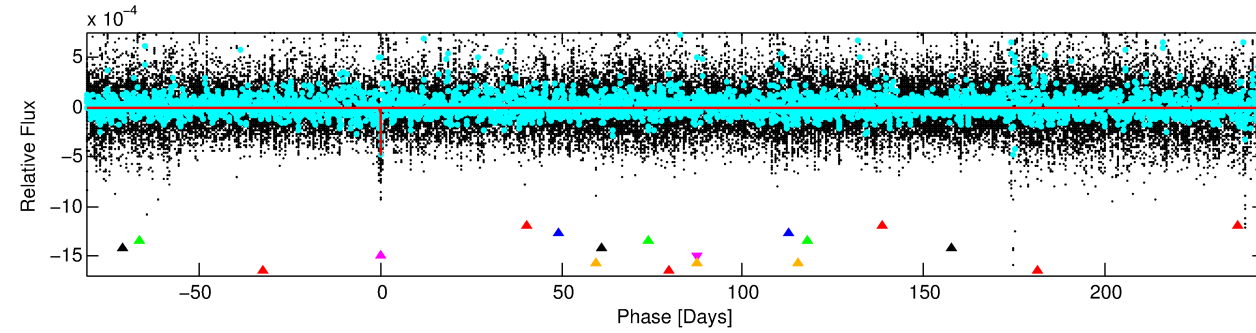
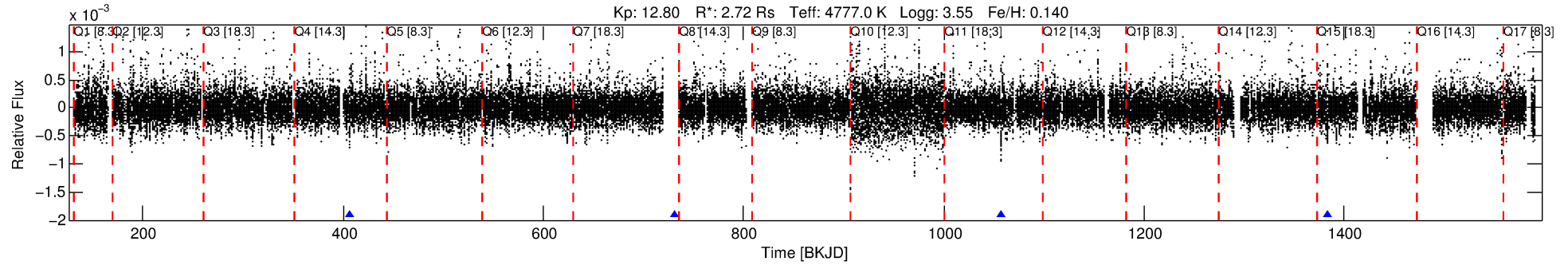
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006192231-05

No Significant Match Found

DV One-Page Summary

KIC: 6192231 Candidate: 5 of 7 Period: 325.730 d



DV Fit Results:

Period = 325.72984 [0.00485] d
Epoch = 406.2120 [0.0100] BKJD
Rp/R* = 0.0220 [0.0074]
a/R* = 179.26 [192.15]
b = 0.75 [0.63]
Seff = 4.16 [1.18]
Teq = 364 [26] K
Rp = 6.53 [2.76] Re
a = 0.9097 [0.1828] AU
Ag = 1800.44 [1597.07] [1.13 σ]
Teffp = 3667 [775] K [4.26 σ]

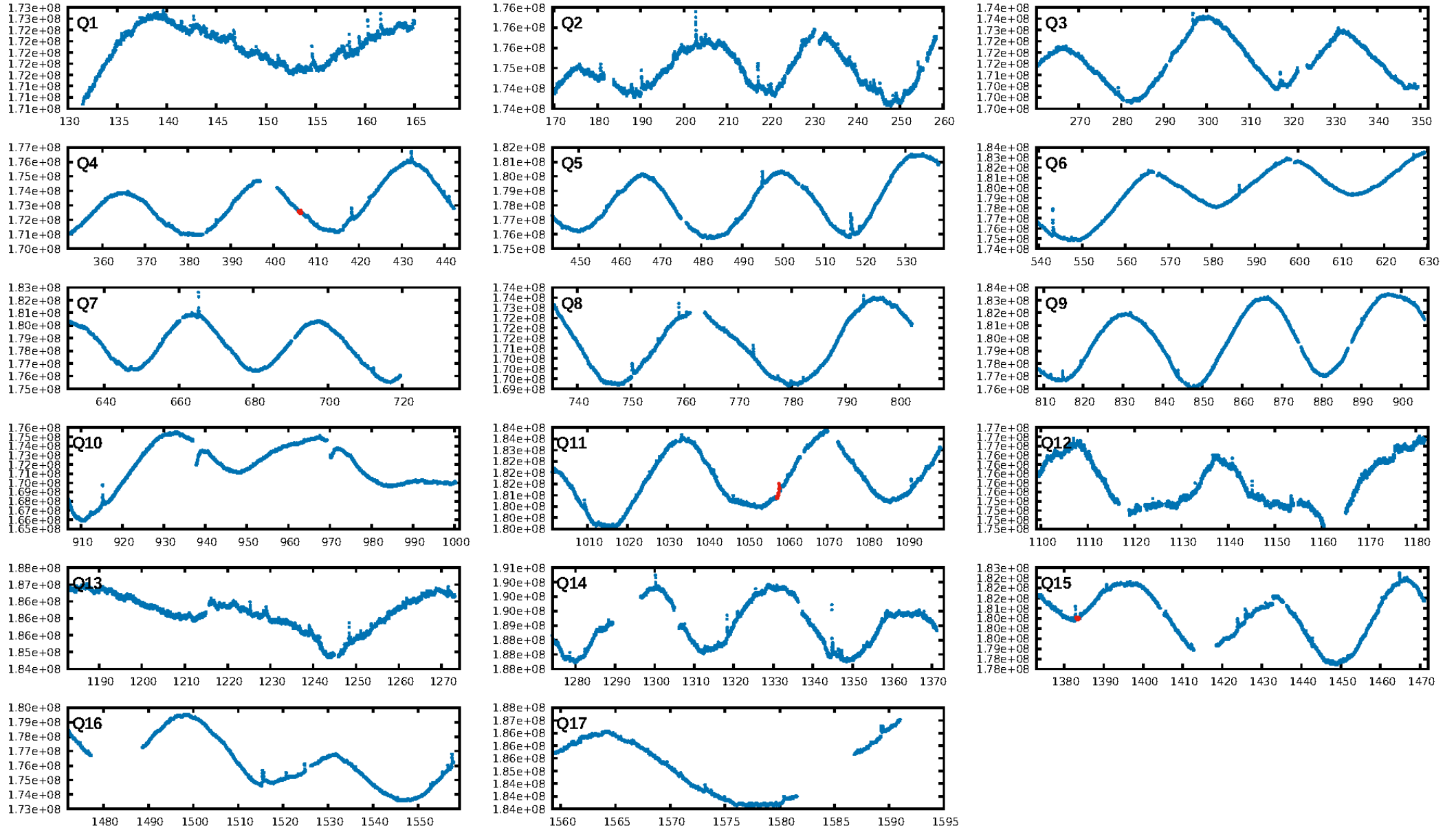
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [150.64 σ]
ModelChiSquare2-sig: 25.0%
ModelChiSquareGof-sig: 84.4%
Bootstrap-pfa: 3.20e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 18.65
Centroid-sig: 4.8%
Centroid-so: 0.817 arcsec [1.56 σ]
OotOffset-rm: 0.832 arcsec [1.89 σ]
KicOffset-rm: 0.497 arcsec [0.83 σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

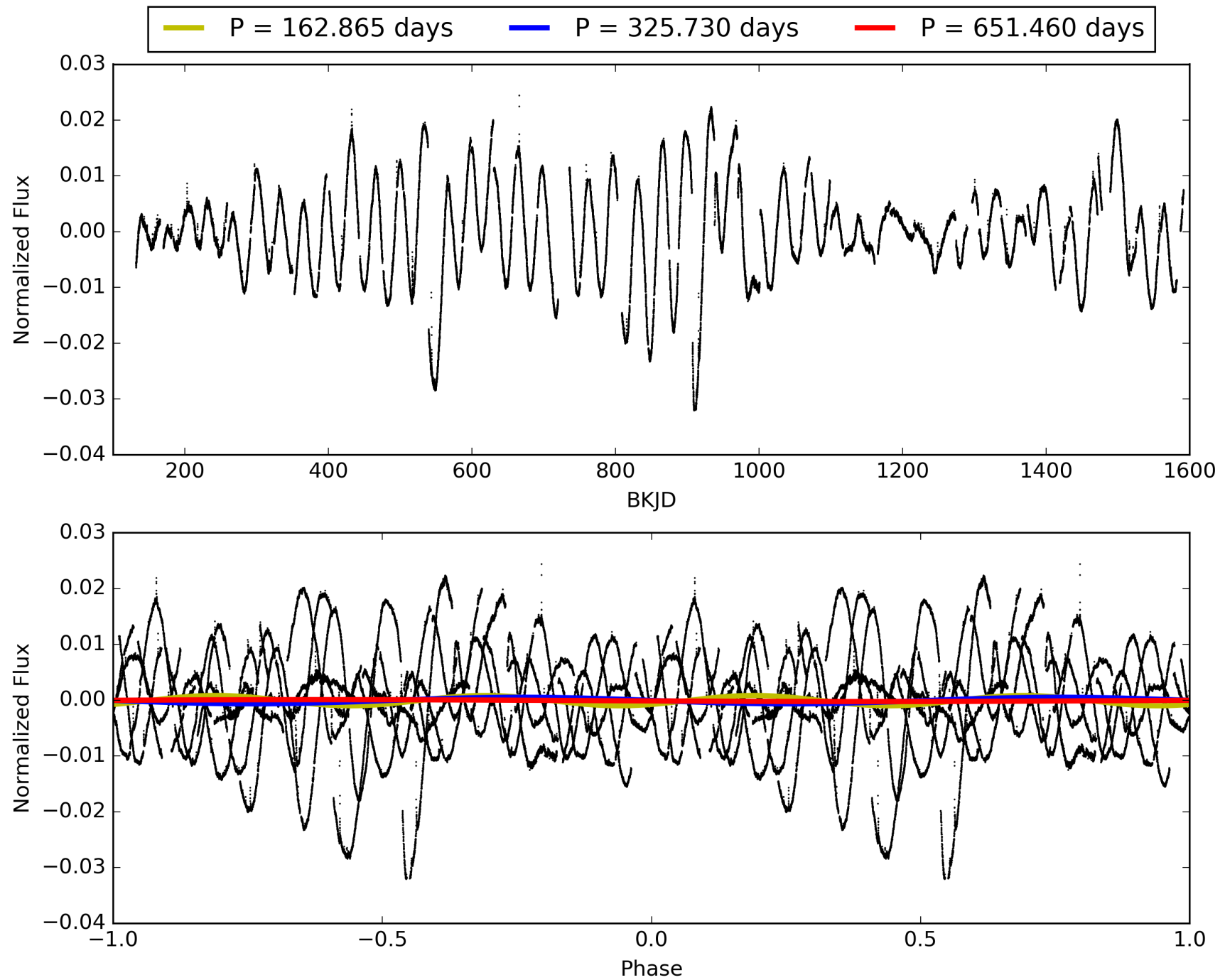
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:52:36 Z

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

TCE 006192231-05, PDC Light Curves

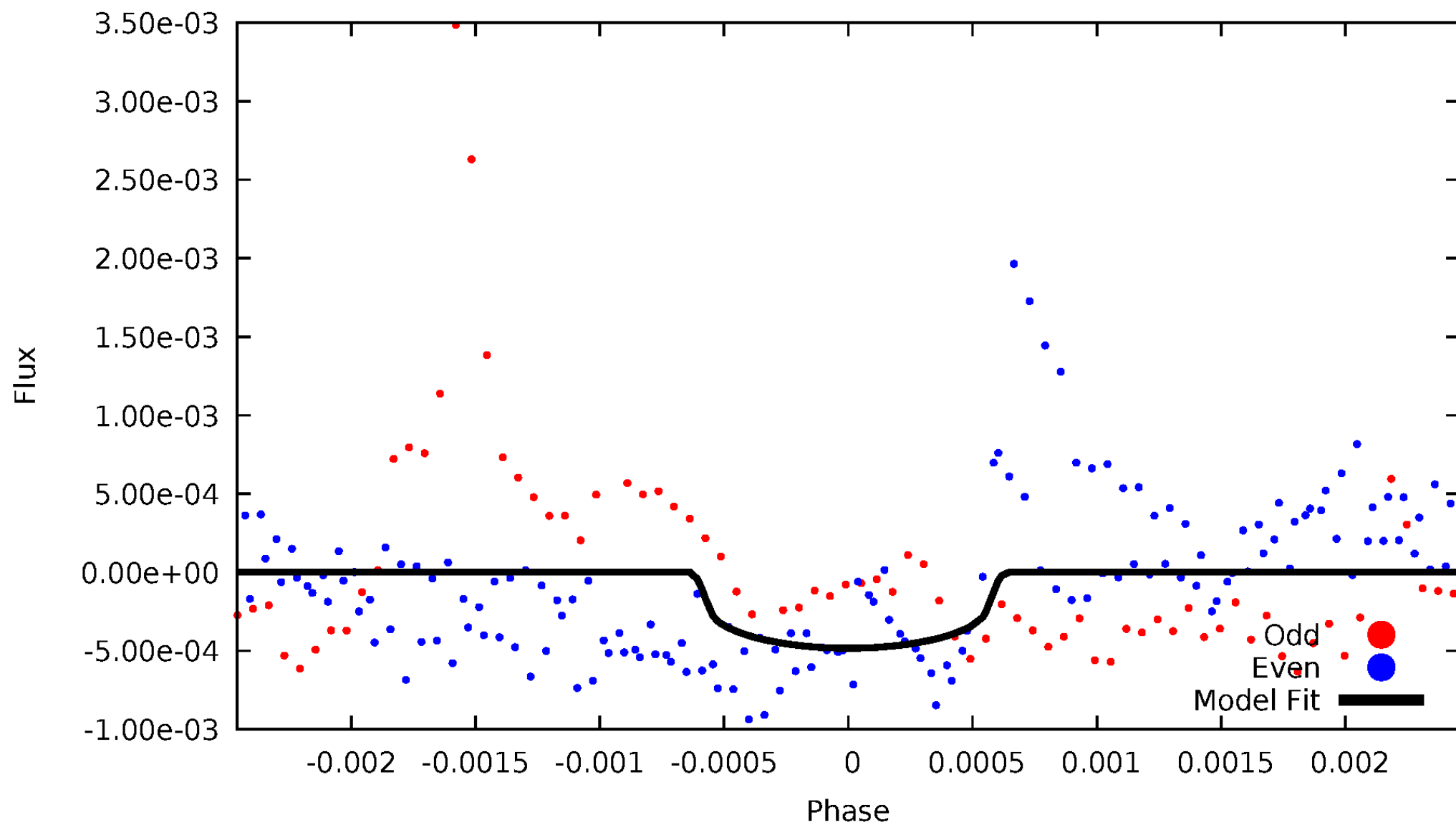


TCE 006192231-05



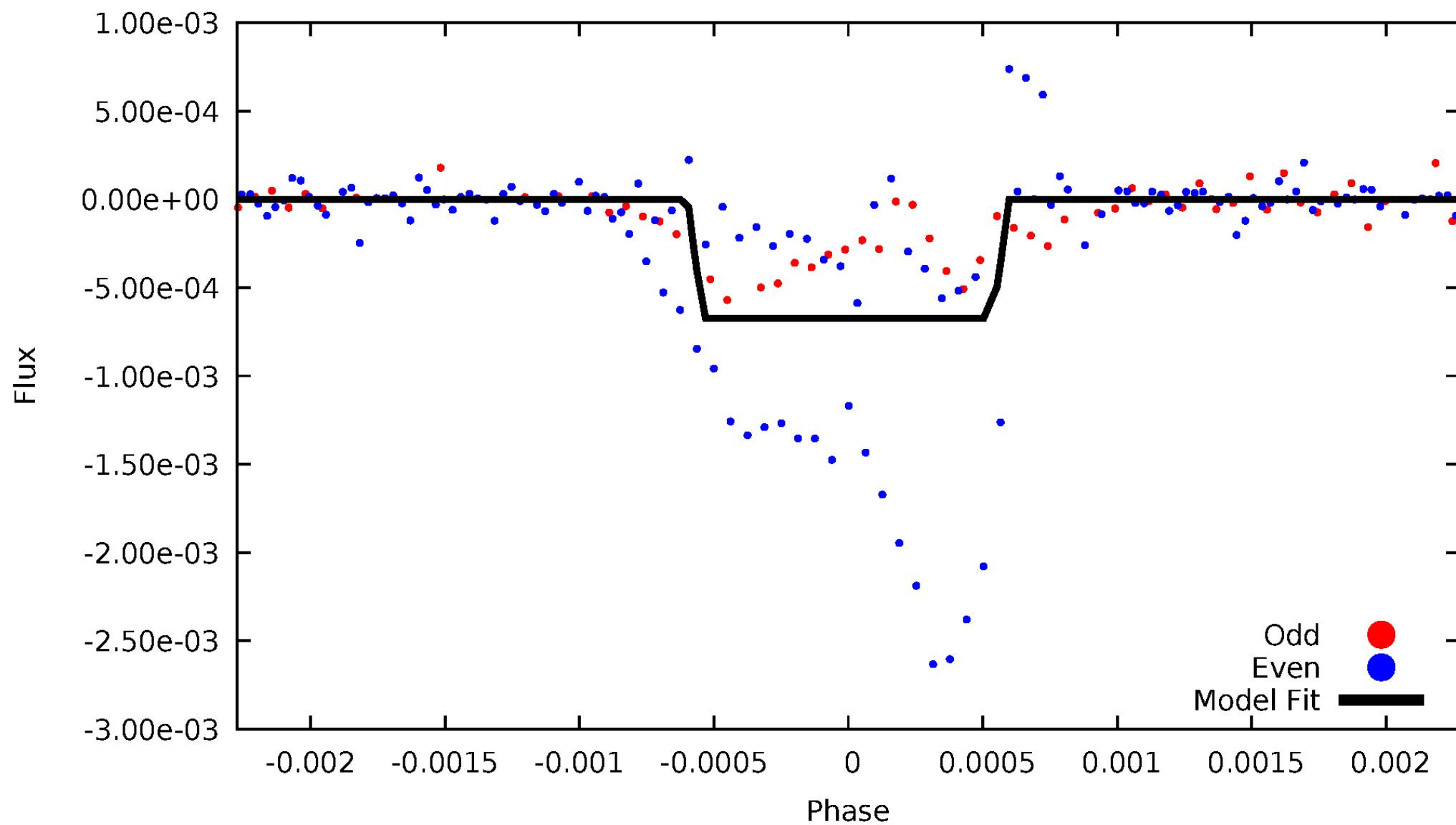
DV Odd/Even

TCE 006192231-05



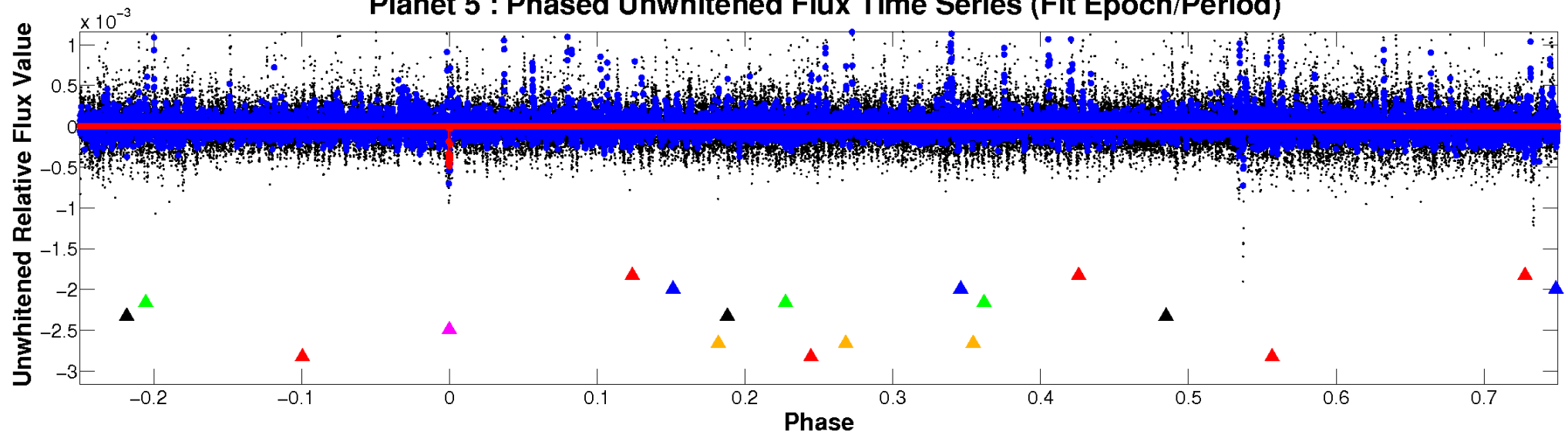
ALT Odd/Even

TCE 006192231-05

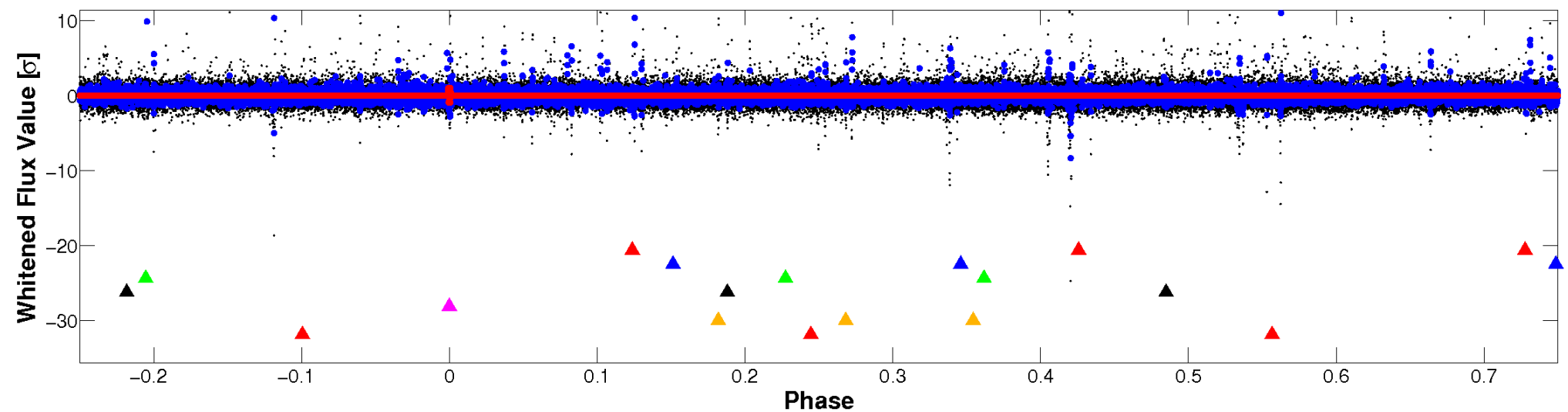


Non-Whitened Vs. Whitened Light Curve

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

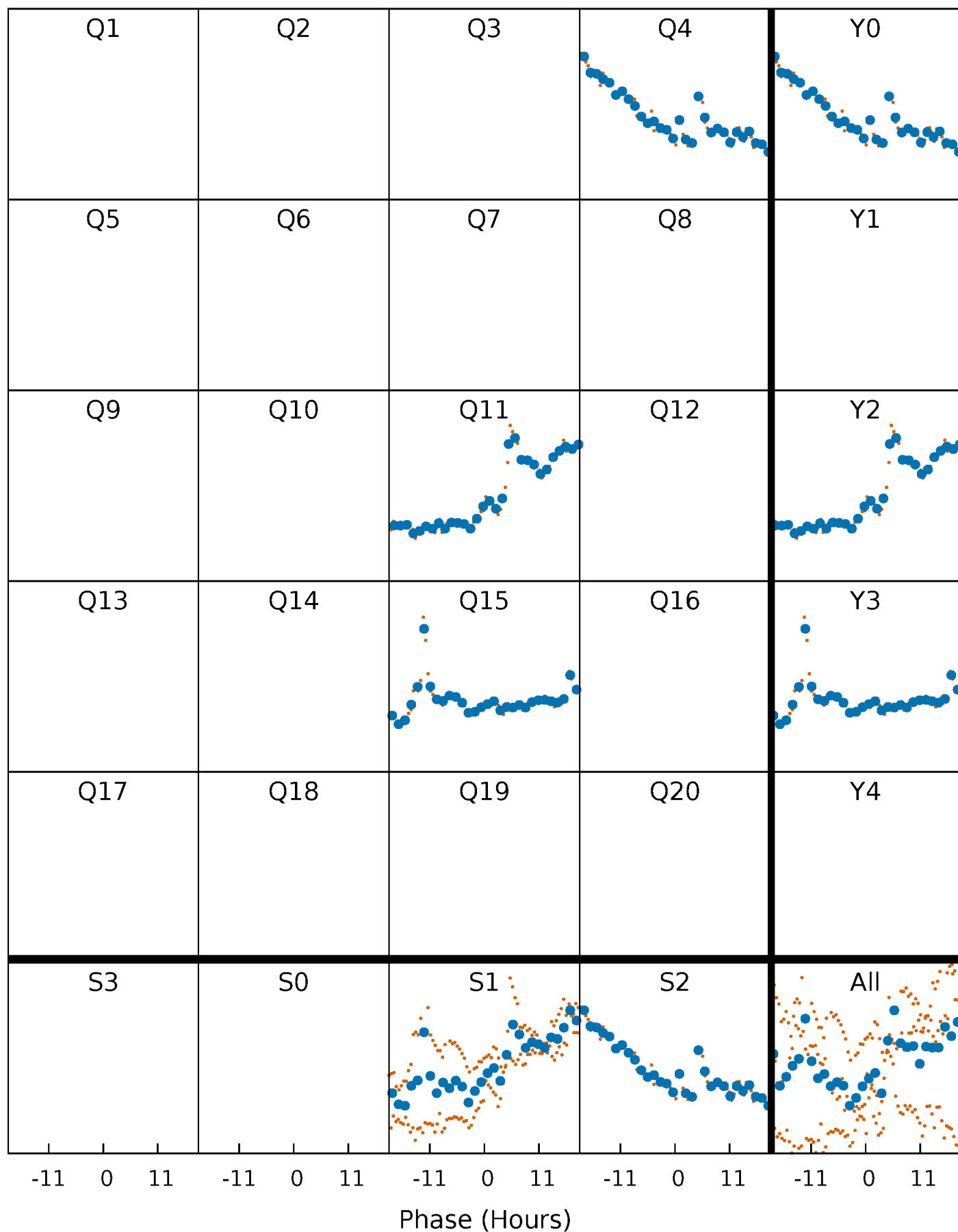


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



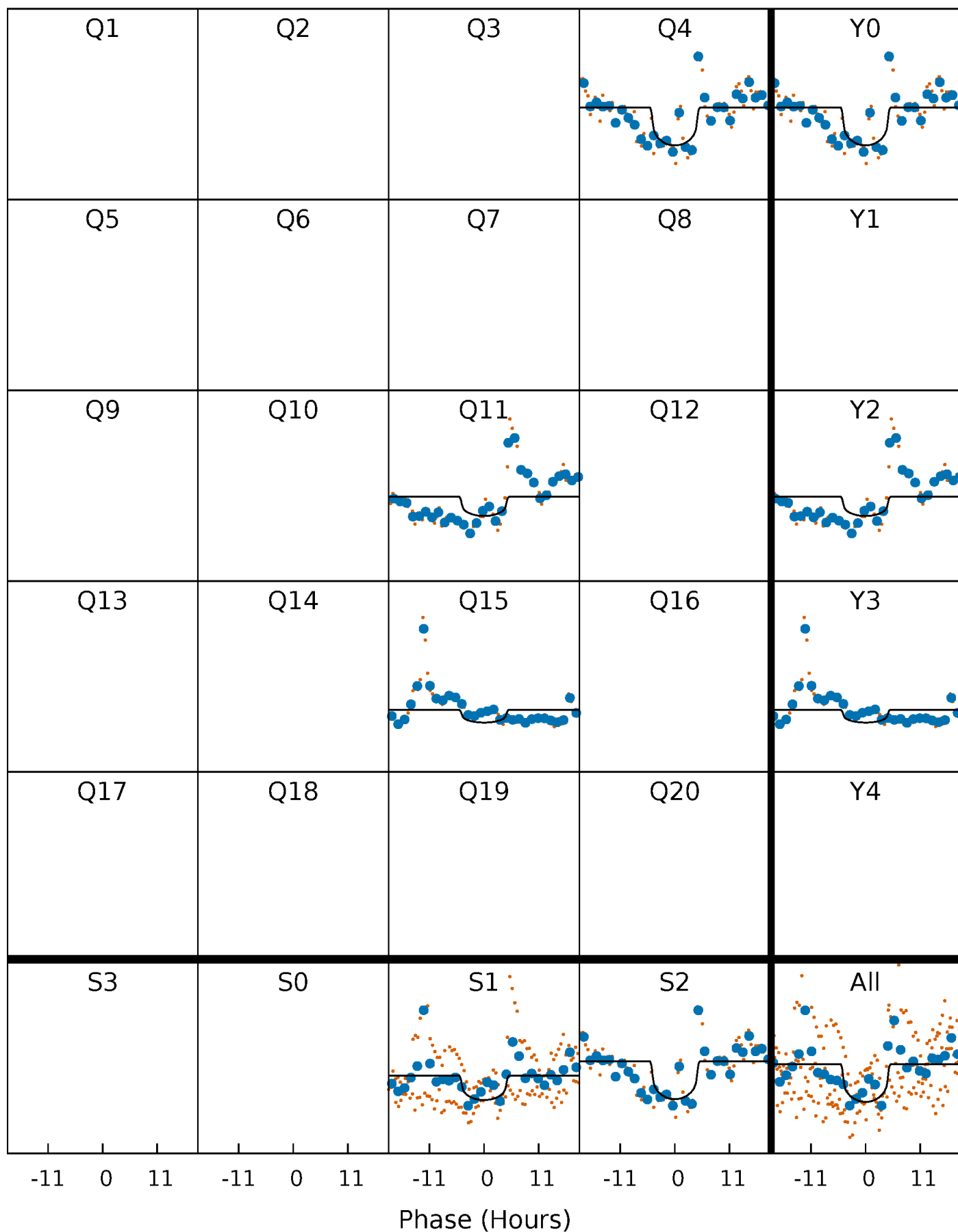
PDC Quarter-Phased Transit Curves

TCE 006192231-05 $P=325.729840$ Days $T_0=406.212046$ (BKJD)



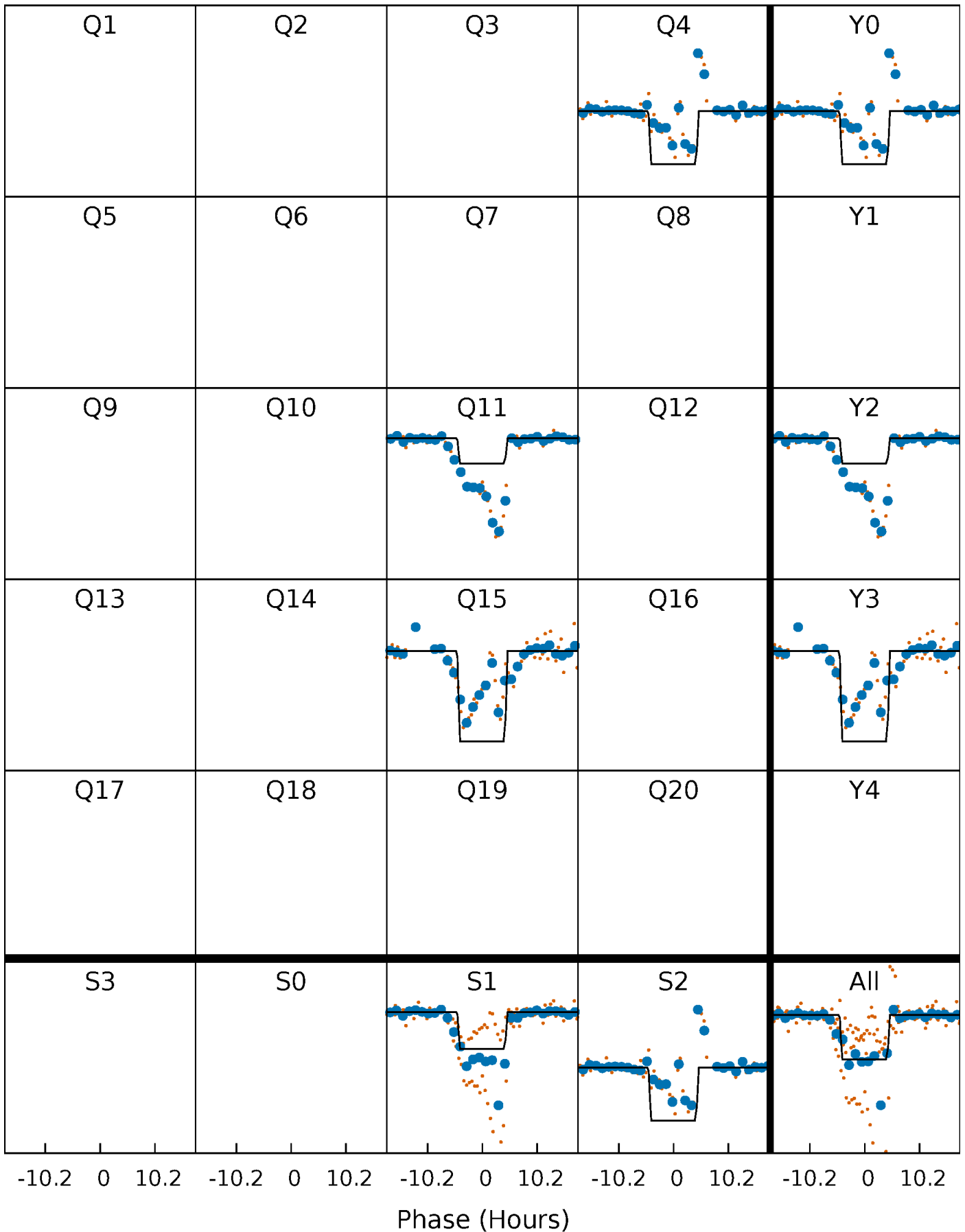
DV Quarter-Phased Transit Curves

TCE 006192231-05 $P=325.729840$ Days $T_0=406.212046$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

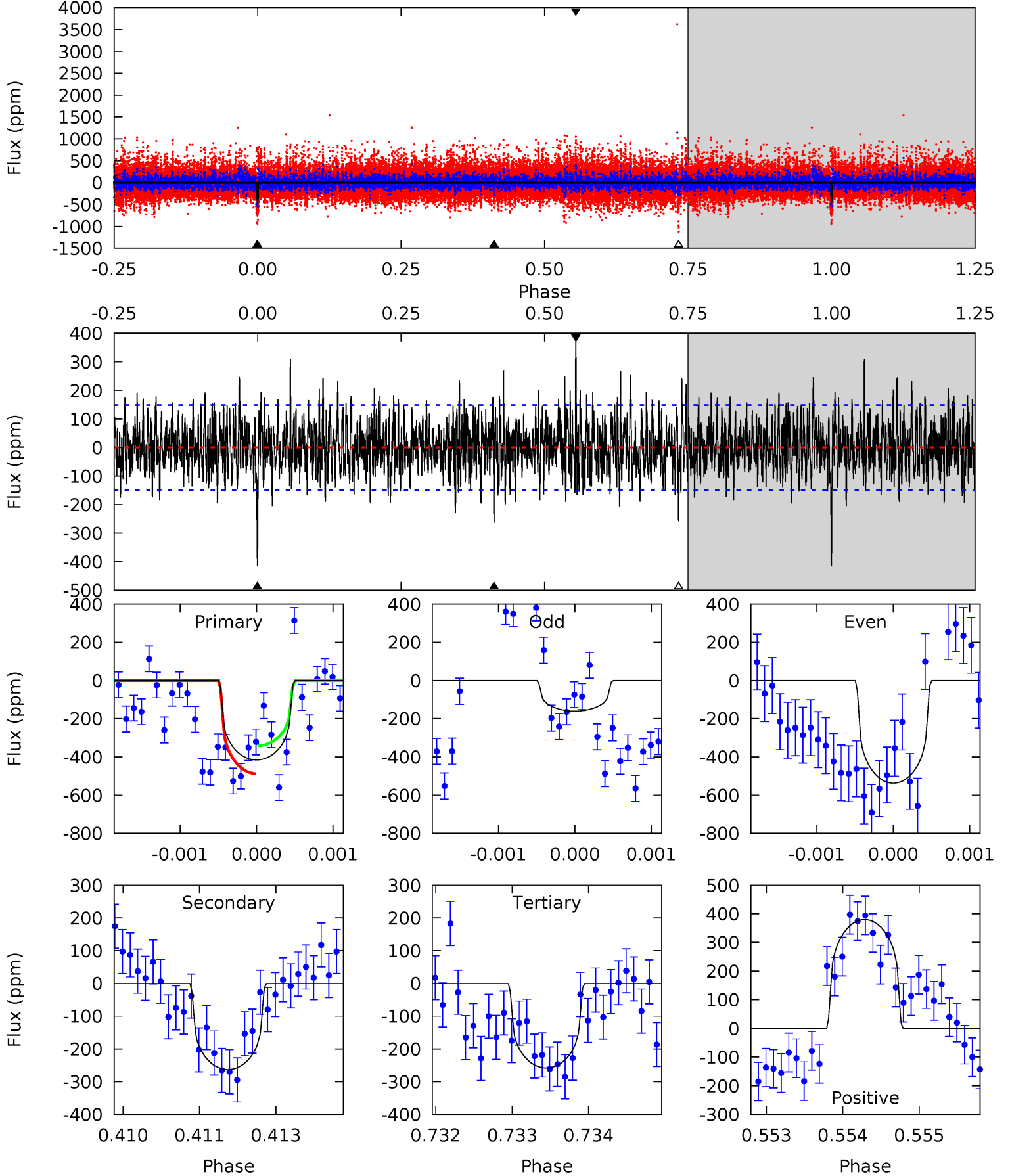
TCE 006192231-05 $P=325.738191$ Days $T_0=406.207564$ (BKJD)



DV Model-Shift Uniqueness Test

006192231-05, $P = 325.729840$ Days, $E = 80.482206$ Days

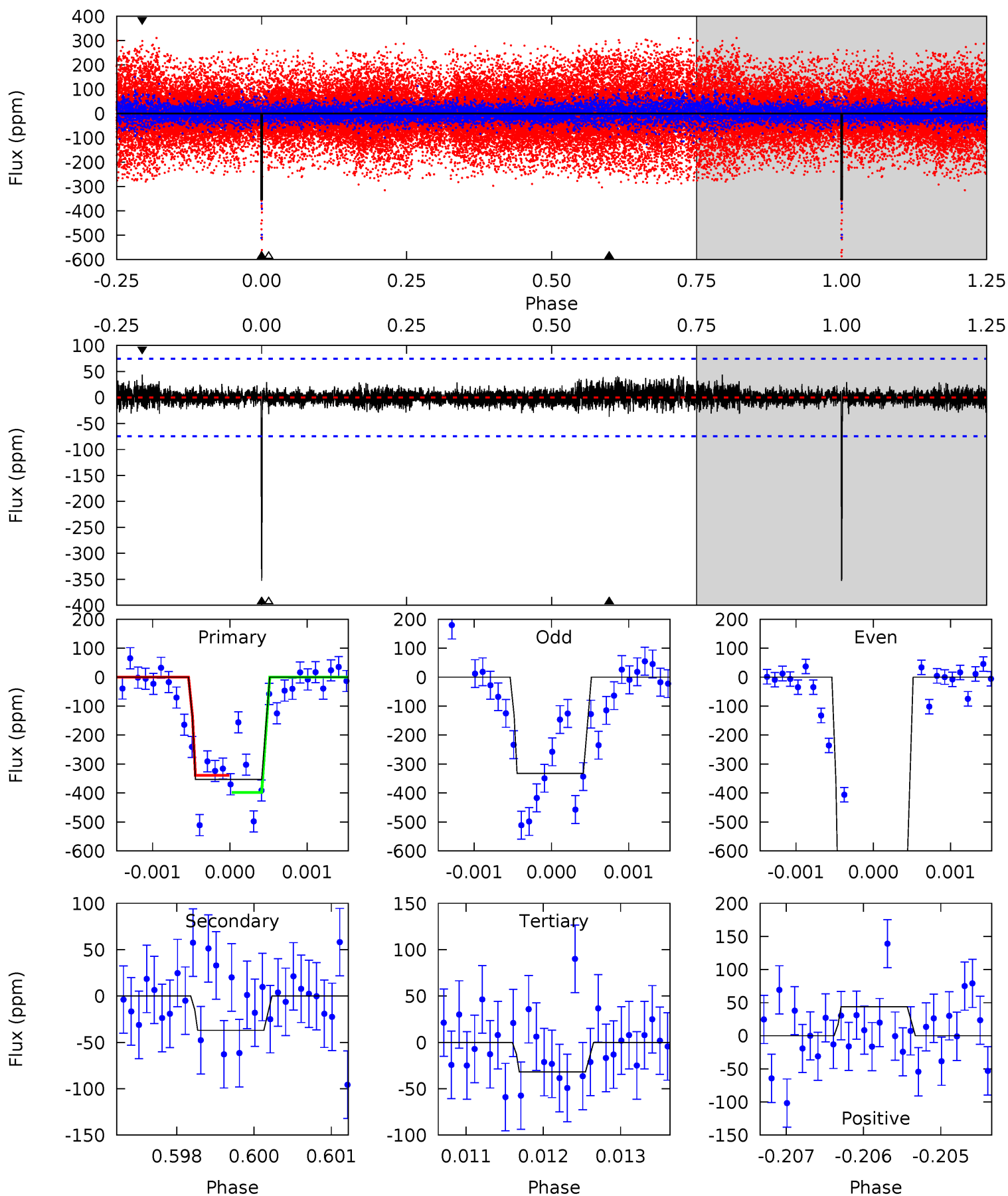
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	9.58	9.40	13.8	5.41	3.22	2.81	5.73	1.31	0.18	-4.25	6.04	0.88	0.48	2.63



Alt Model-Shift Uniqueness Test

006192231-05, $P = 325.738191$ Days, $E = 80.469373$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.7	2.70	2.32	3.19	5.42	3.24	0.63	23.4	22.5	0.38	-0.50	24.1	2.30	0.11	2.13



Stellar Parameters For KIC 006192231

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4777^{+76}_{-42}	$3.546^{+0.104}_{-0.143}$	$0.140^{+0.150}_{-0.100}$	$2.716^{+0.686}_{-0.294}$	$0.944^{+0.163}_{-0.017}$	$0.066^{+0.030}_{-0.029}$
	+2%/-1%	+3%/-4%	+107%/-71%	+25%/-11%	+17%/-2%	+46%/-43%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006192231-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-263 ± 27	$6.71^{+2.42}_{-2.16}$	510^{+27}_{-18}	4234^{+687}_{-426}	2669^{+3162}_{-1192}
Alt.	-37 ± 14	$7.91^{+2.47}_{-2.40}$	512^{+32}_{-19}	2947^{+348}_{-262}	277^{+322}_{-146}

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

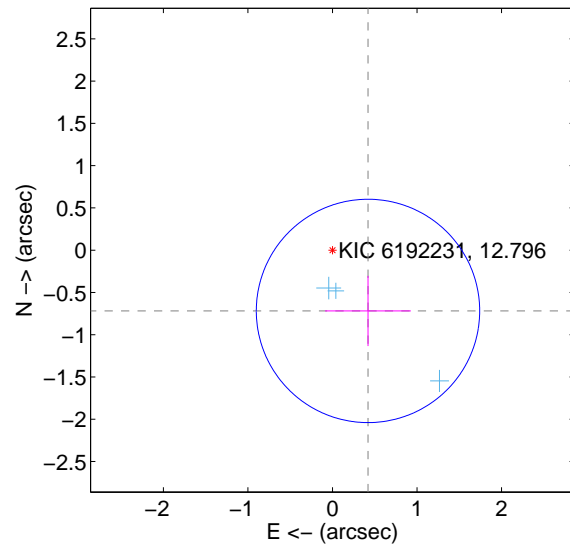
Supplemental centroid analysis for 006192231-05. Kepler magnitude: 12.80. Transit SNR 6.89

There are 3 quarters with good PRF difference image offsets

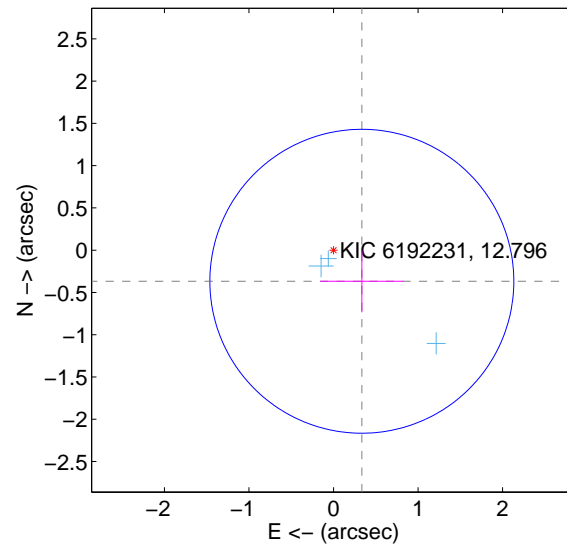
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.832 ± 0.440	1.89	-0.420 ± 0.507	-0.719 ± 0.415
PRF-fit source offset from KIC position	0.497 ± 0.599	0.83	-0.335 ± 0.493	-0.368 ± 0.367
photometric centroid source offset	0.82 ± 0.52	1.56	0.81 ± 0.52	-0.12 ± 0.63

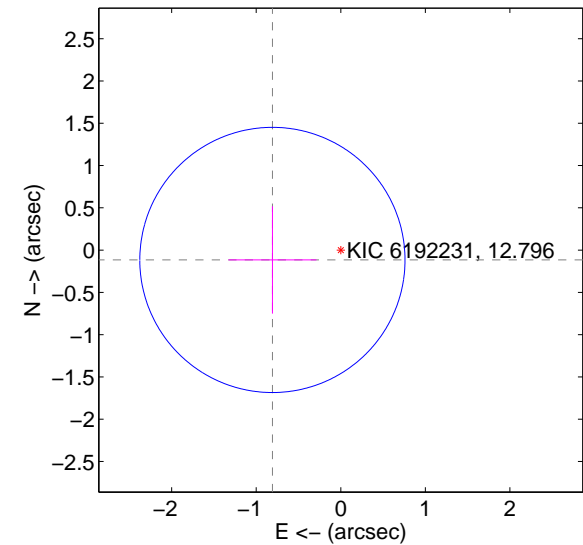
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

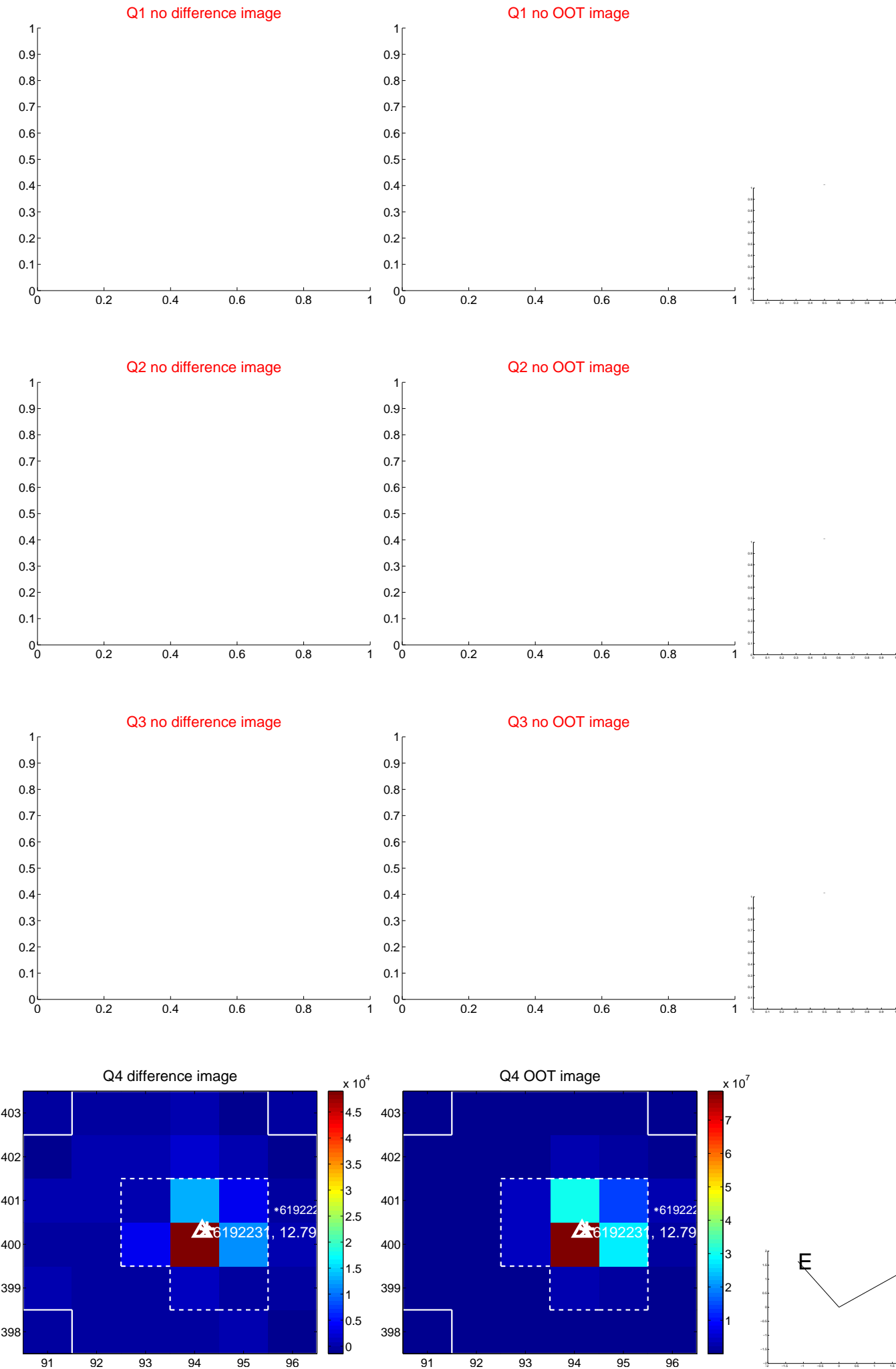


offset from photometric centroids



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.

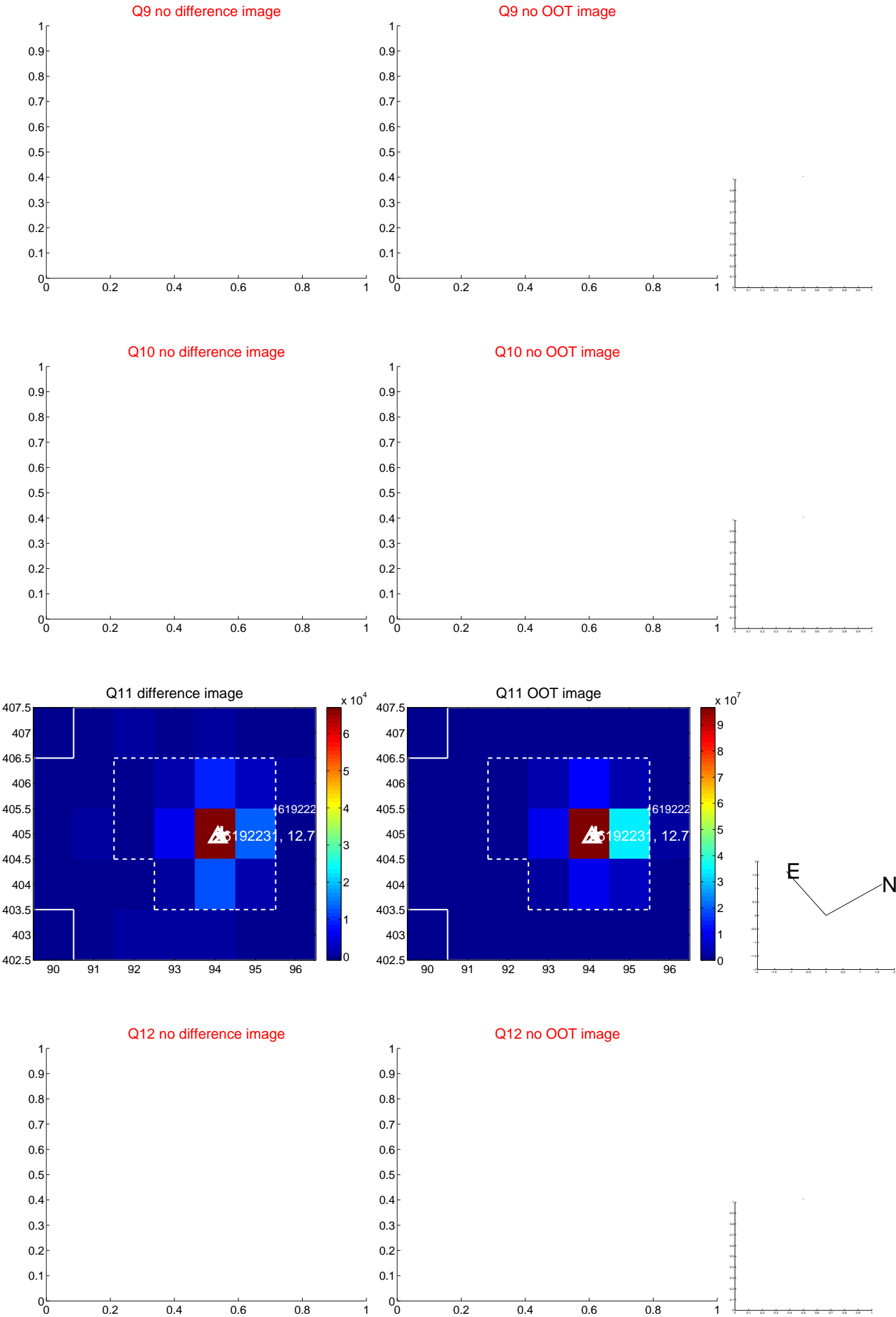
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



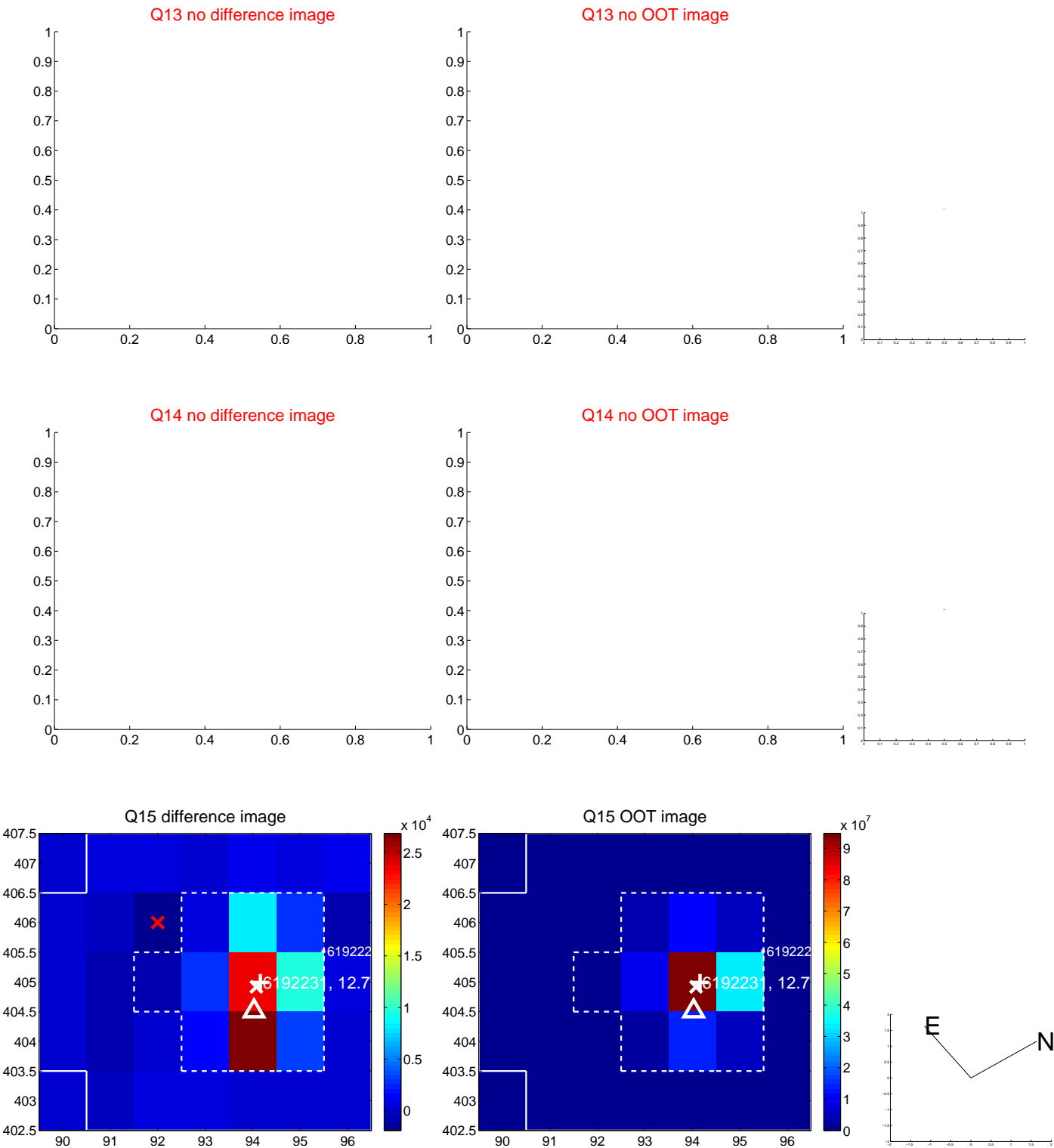
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



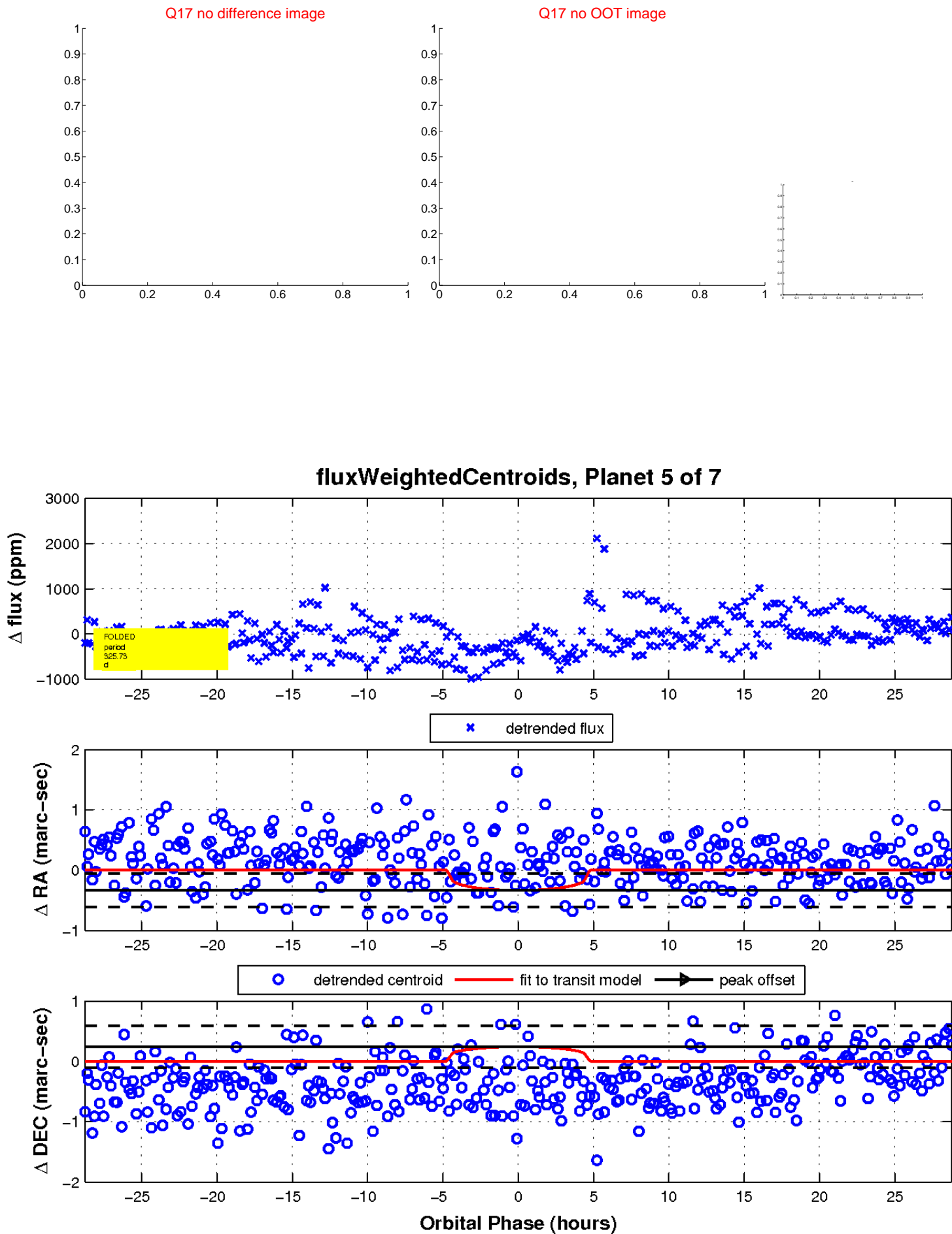
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

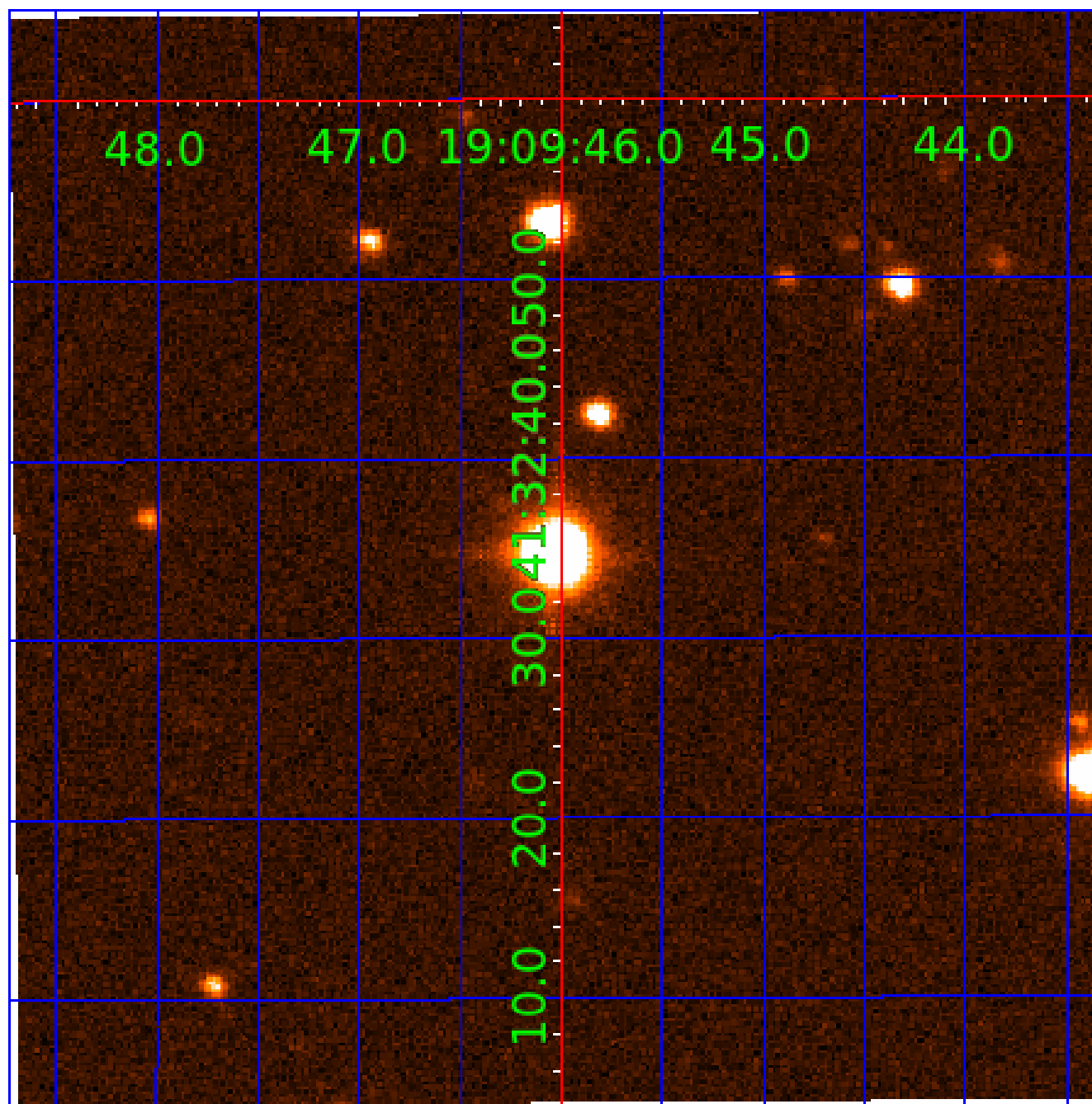


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006192231

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})
006192231-01	OBS	No	553.091834	317.533200	669.6	9.294	16.9	9.1	2.72	4777	9.42	2.05
006192231-02	OBS	No	456.890402	518.915200	579.4	3.684	17.9	8.0	2.72	4777	6.27	2.65
006192231-03	OBS	No	510.469935	154.561463	813.5	3.725	11.5	10.6	2.72	4777	10.68	2.29
006192231-04	OBS	No	422.411203	467.480237	435.5	12.038	9.7	6.6	2.72	4777	6.11	2.94
006192231-05	OBS	No	325.729840	406.212046	484.2	9.610	10.0	6.9	2.72	4777	6.53	4.16
006192231-06	OBS	No	623.376540	195.923520	584.8	3.329	12.7	7.8	2.72	4777	6.98	1.75
006192231-07	OBS	No	539.408446	160.160762	468.3	4.256	11.9	6.5	2.72	4777	6.26	2.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006192231-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS
006192231-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_KIC_POS
006192231-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006192231-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

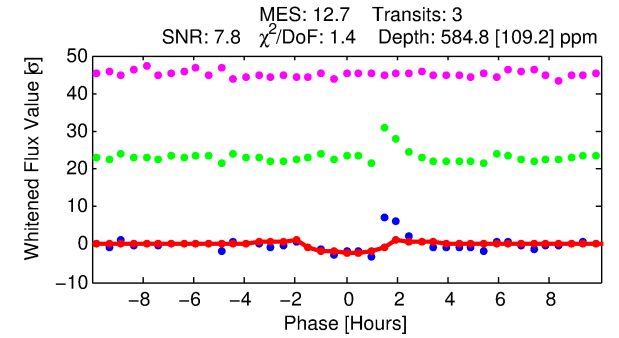
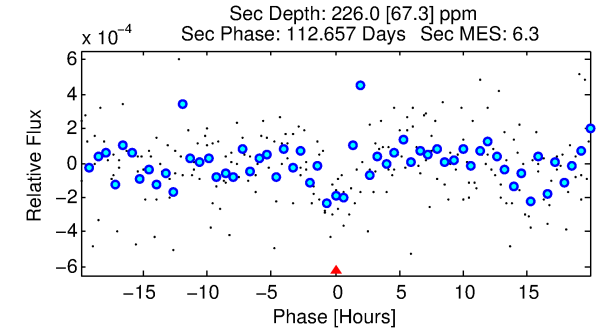
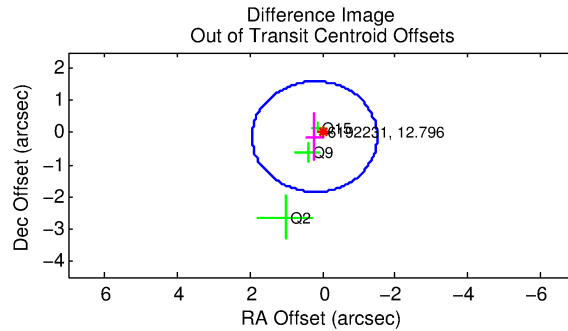
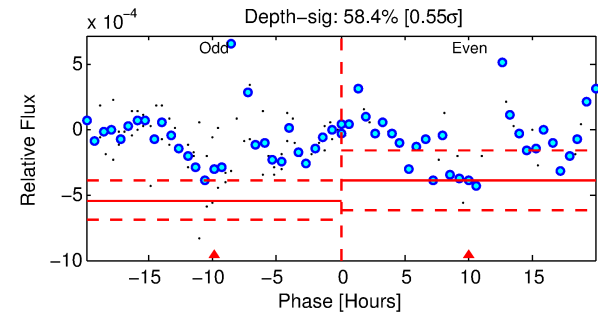
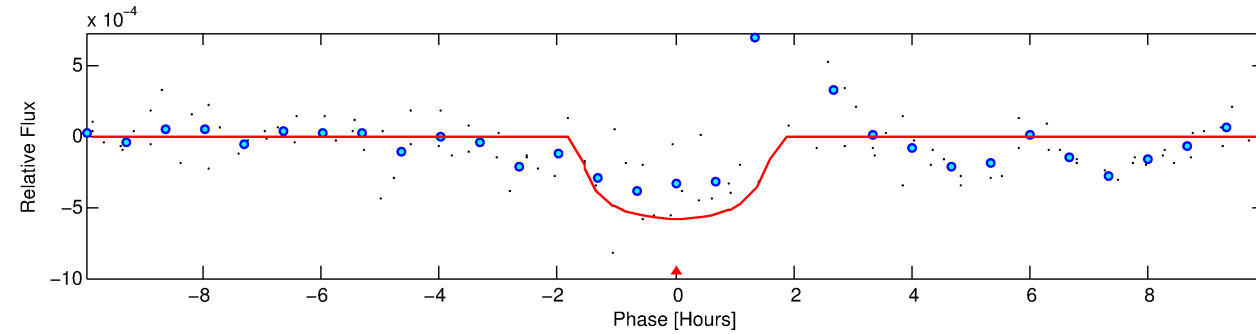
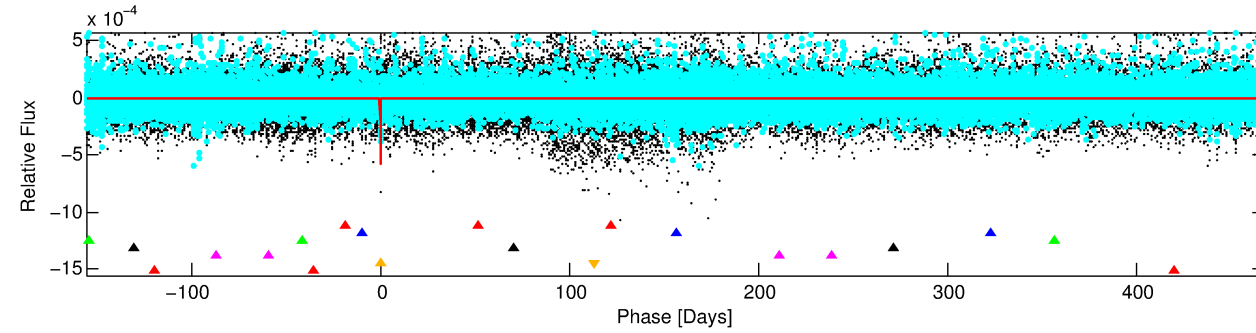
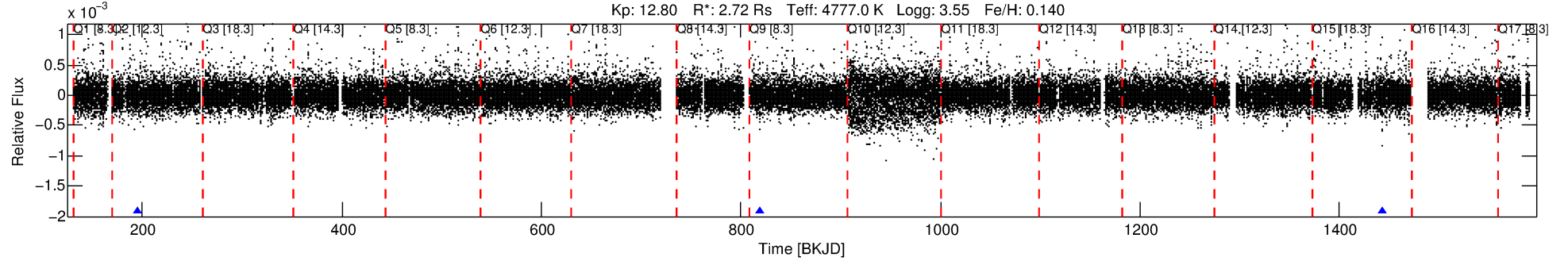
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006192231-06

No Significant Match Found

DV One-Page Summary

KIC: 6192231 Candidate: 6 of 7 Period: 623.377 d



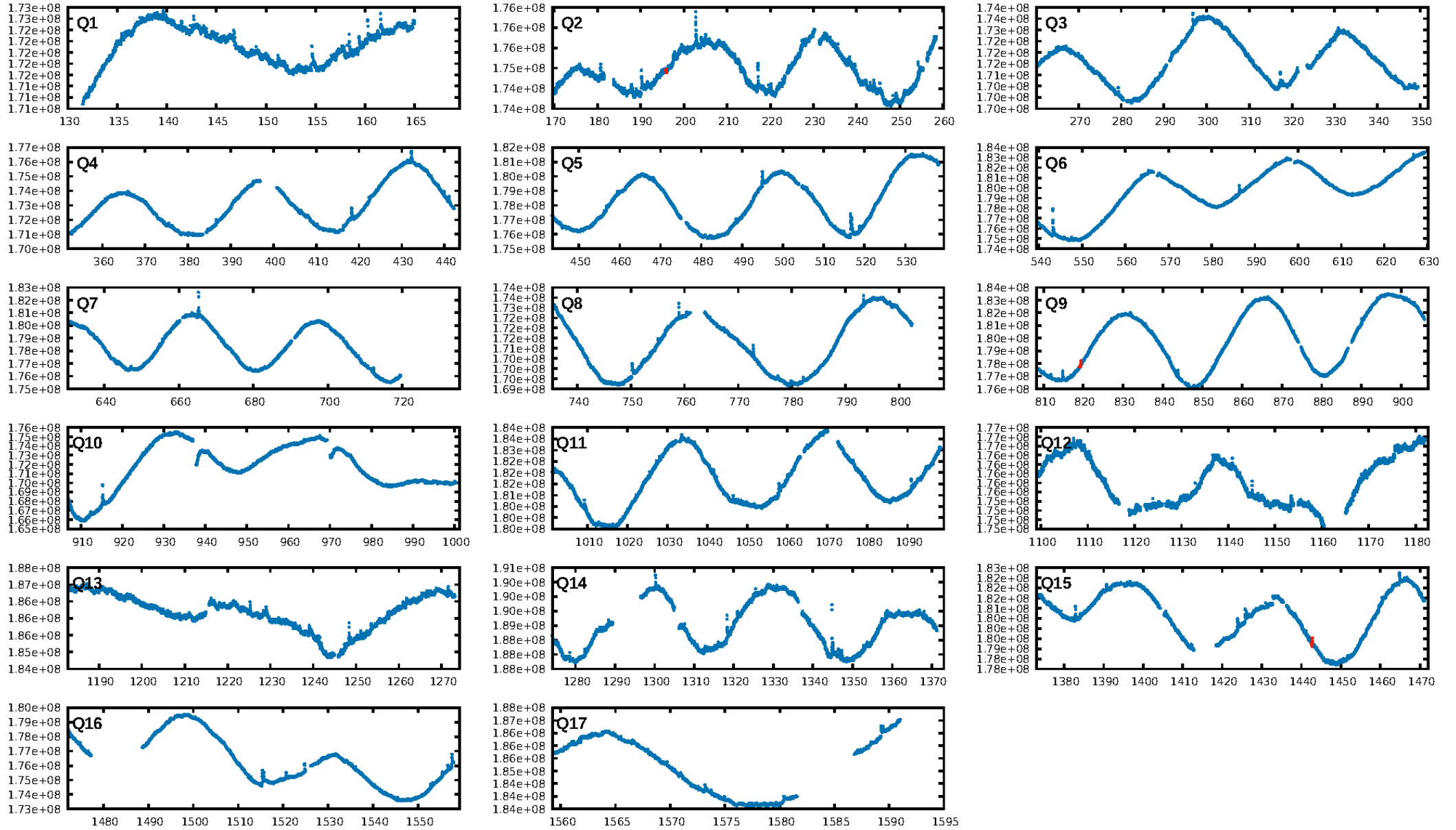
DV Fit Results:

Period = 623.37654 [0.00546] d
Epoch = 195.9235 [0.0073] BKJD
Rp/R* = 0.0235 [0.0343]
a/R* = 1084.44 [5062.64]
b = 0.69 [3.68]
Seff = 1.75 [0.50]
Teff = 293 [21] K
Rp = 6.98 [10.32] Re
a = 1.4022 [0.2818] AU
Ag = 5024.06 [14791.81] [0.34 σ]
Teffp = 3818 [2798] K [1.26 σ]

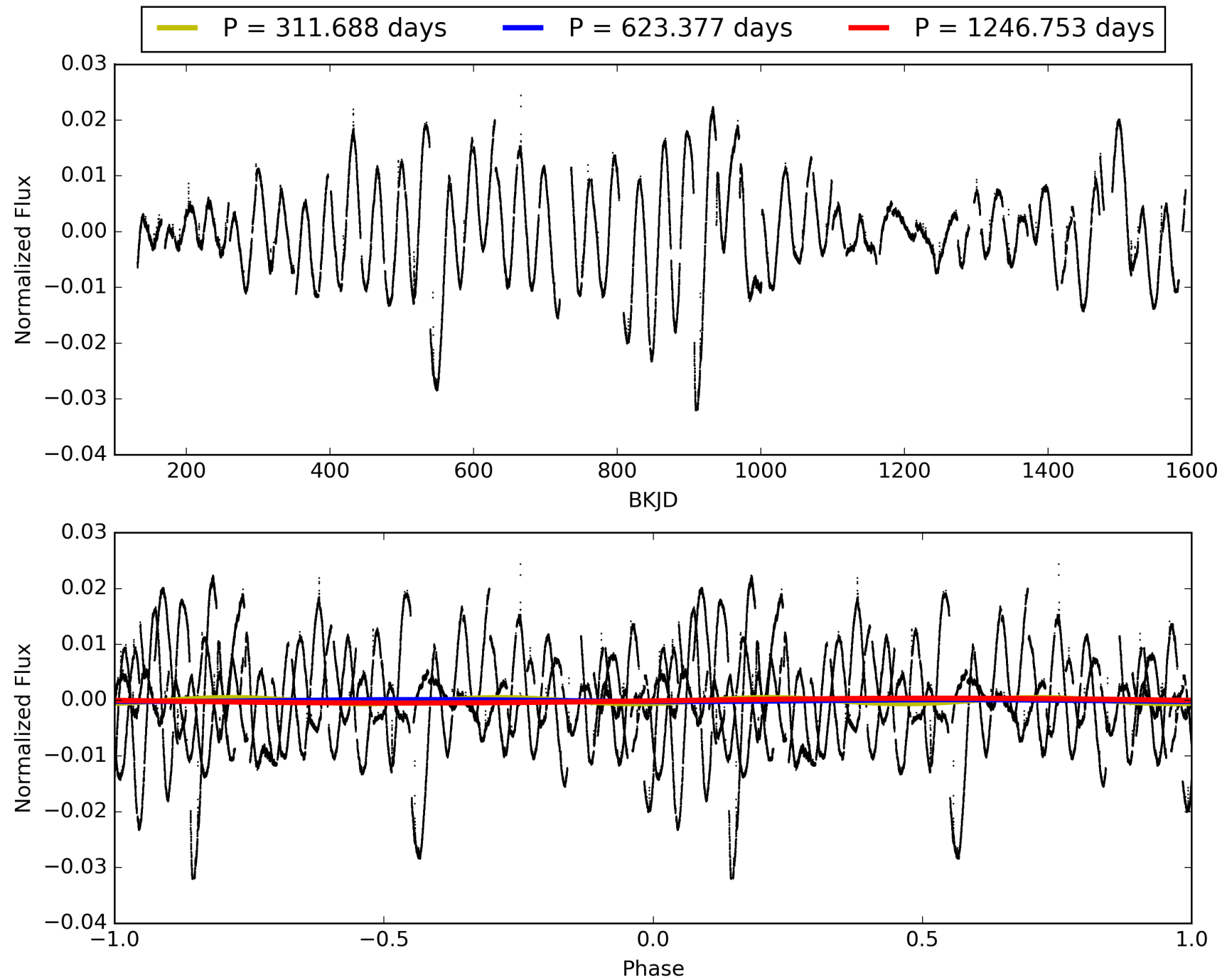
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [170.86 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 55.7%
Bootstrap-pfa: 1.16e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.364
Centroid-sig: 24.9%
Centroid-so: 0.399 arcsec [0.66 σ]
OotOffset-rm: 0.247 arcsec [0.43 σ]
KicOffset-rm: 0.440 arcsec [1.37 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 006192231-06, PDC Light Curves

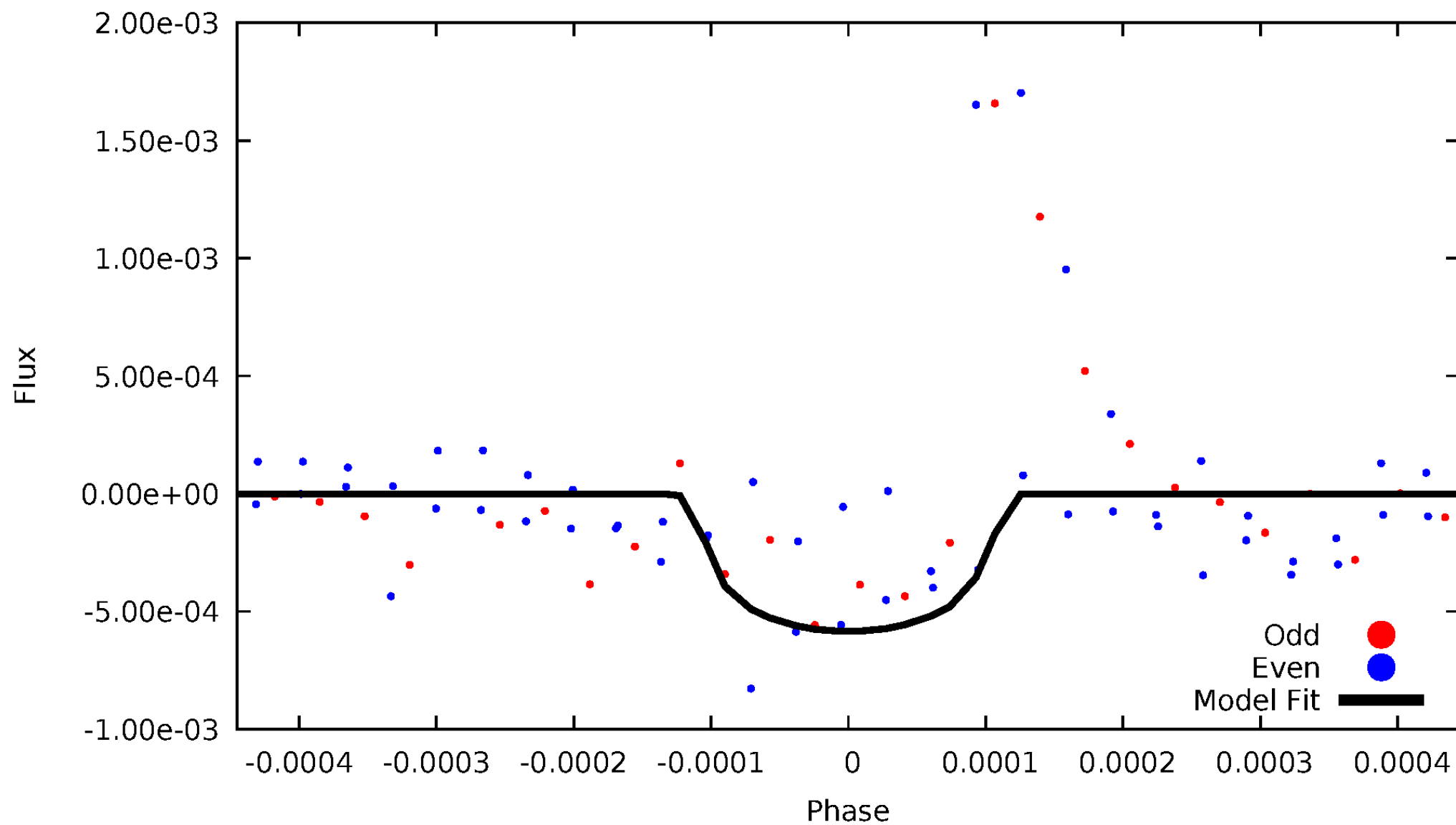


TCE 006192231-06



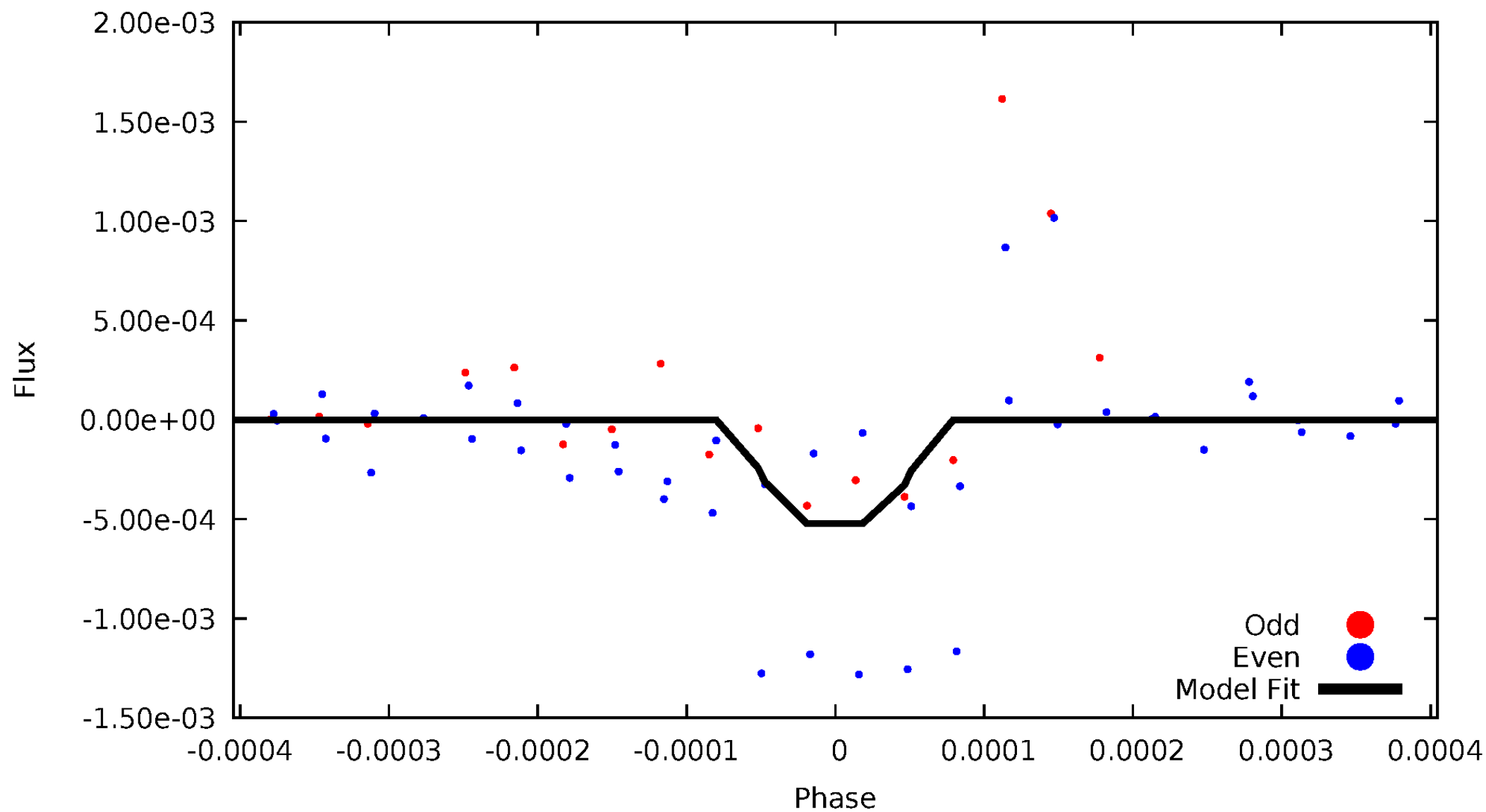
DV Odd/Even

TCE 006192231-06



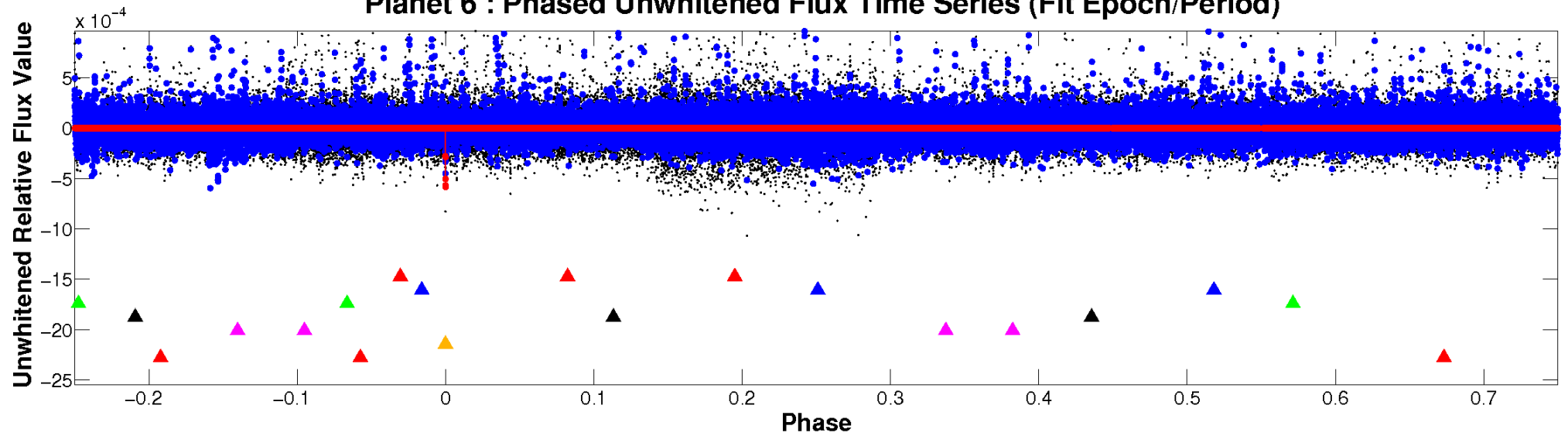
ALT Odd/Even

TCE 006192231-06

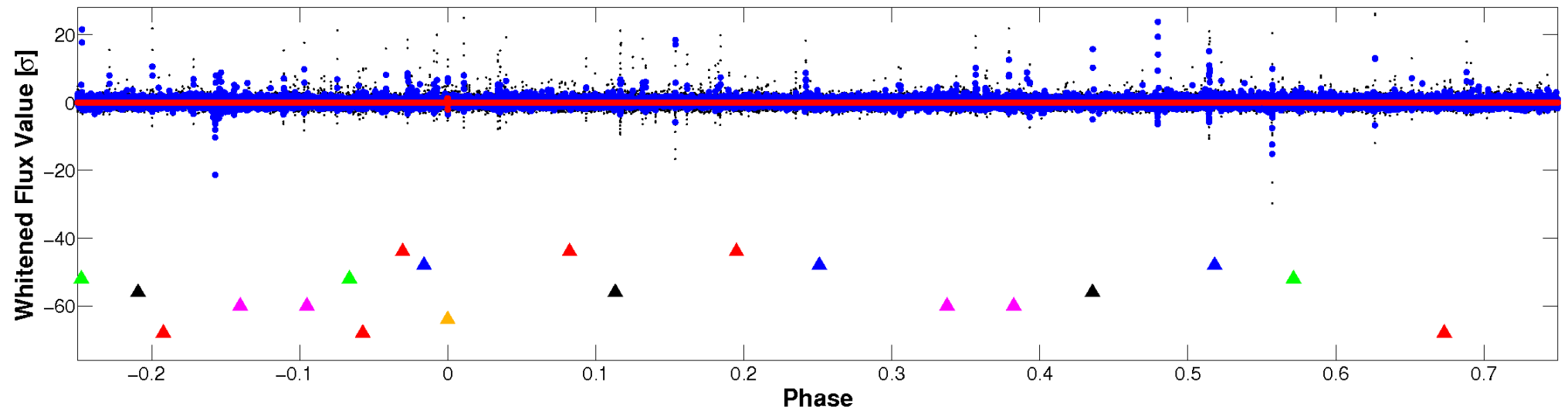


Non-Whitened Vs. Whitened Light Curve

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

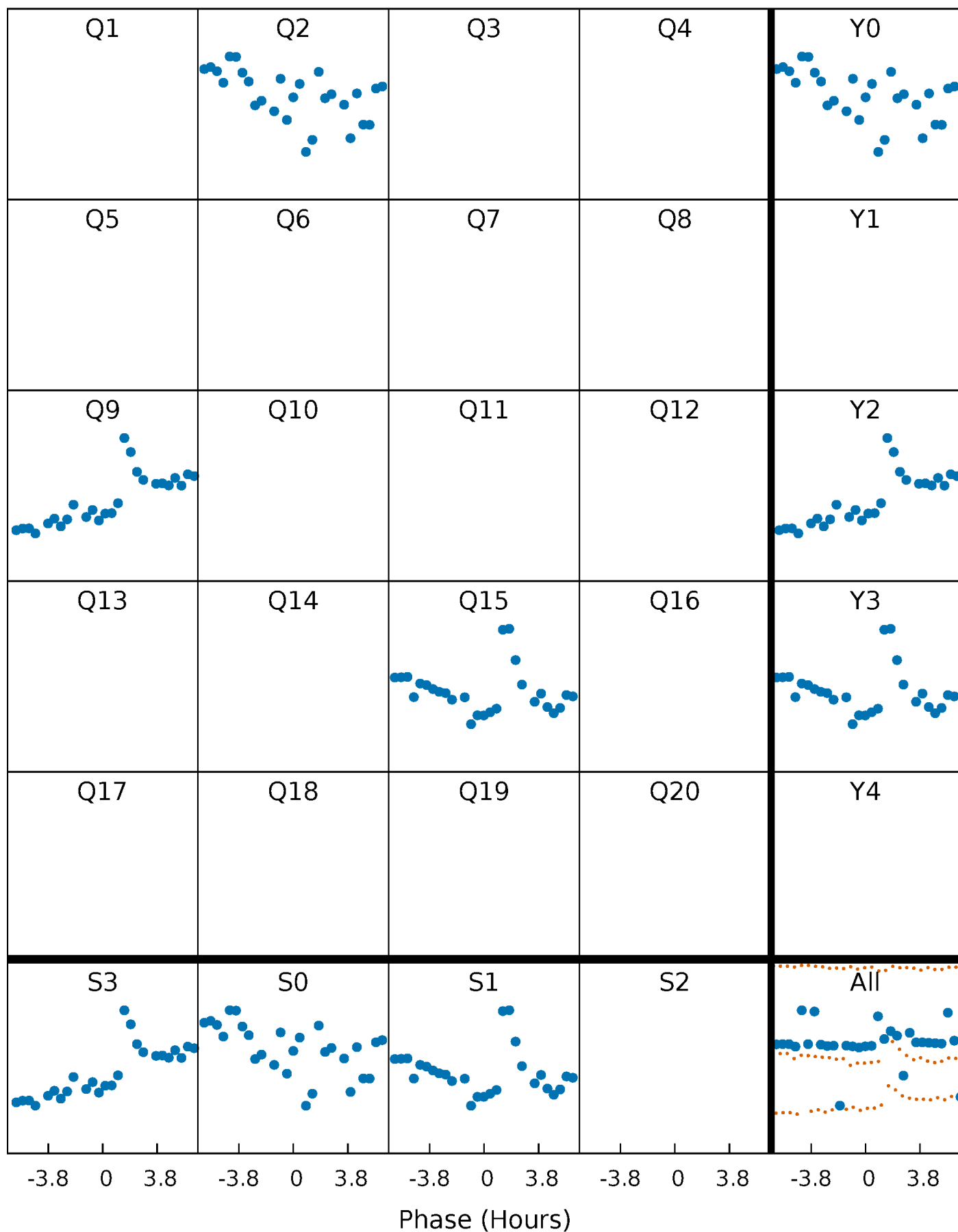


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



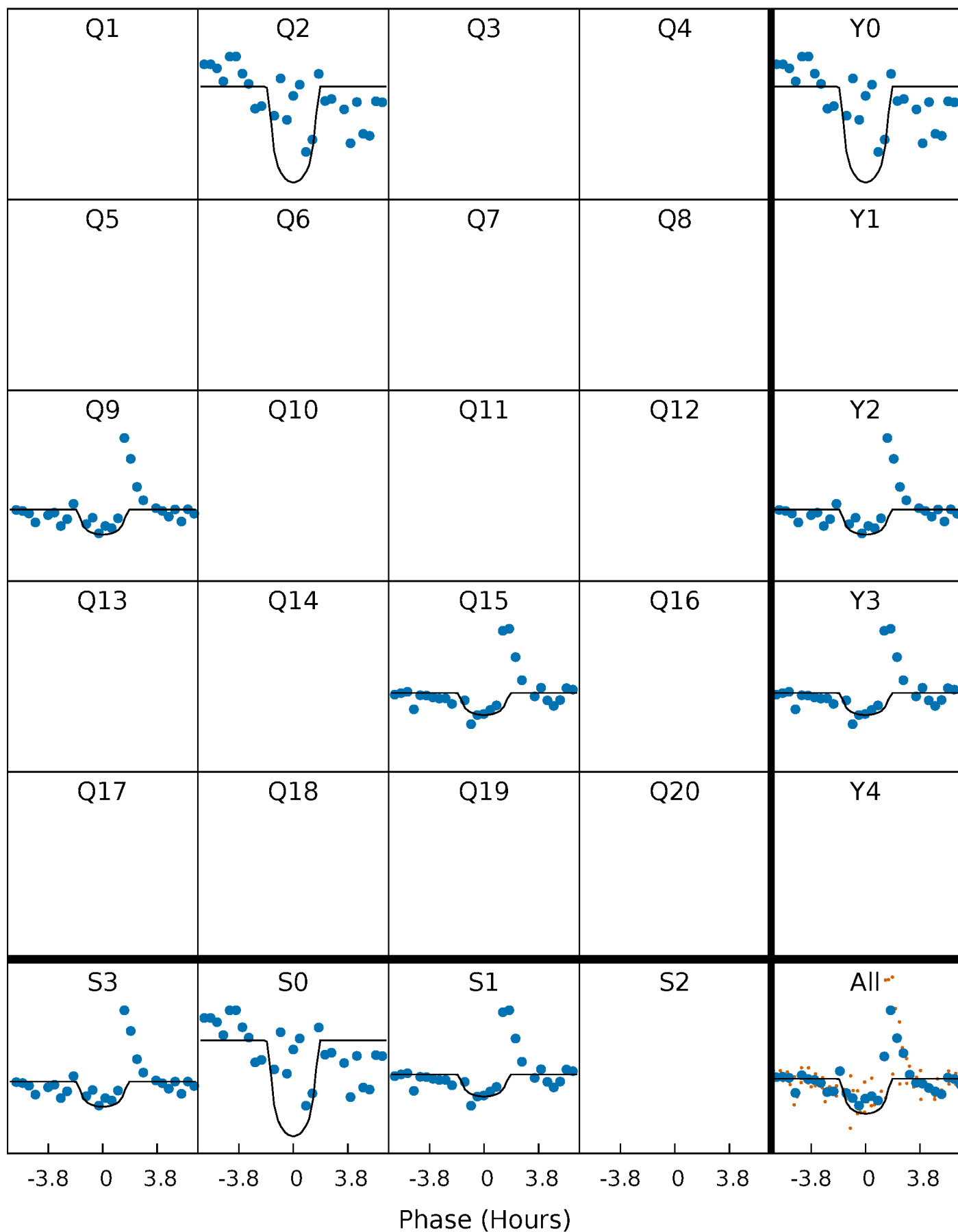
PDC Quarter-Phased Transit Curves

TCE 006192231-06 P=623.376540 Days $T_0=195.923520$ (BKJD)



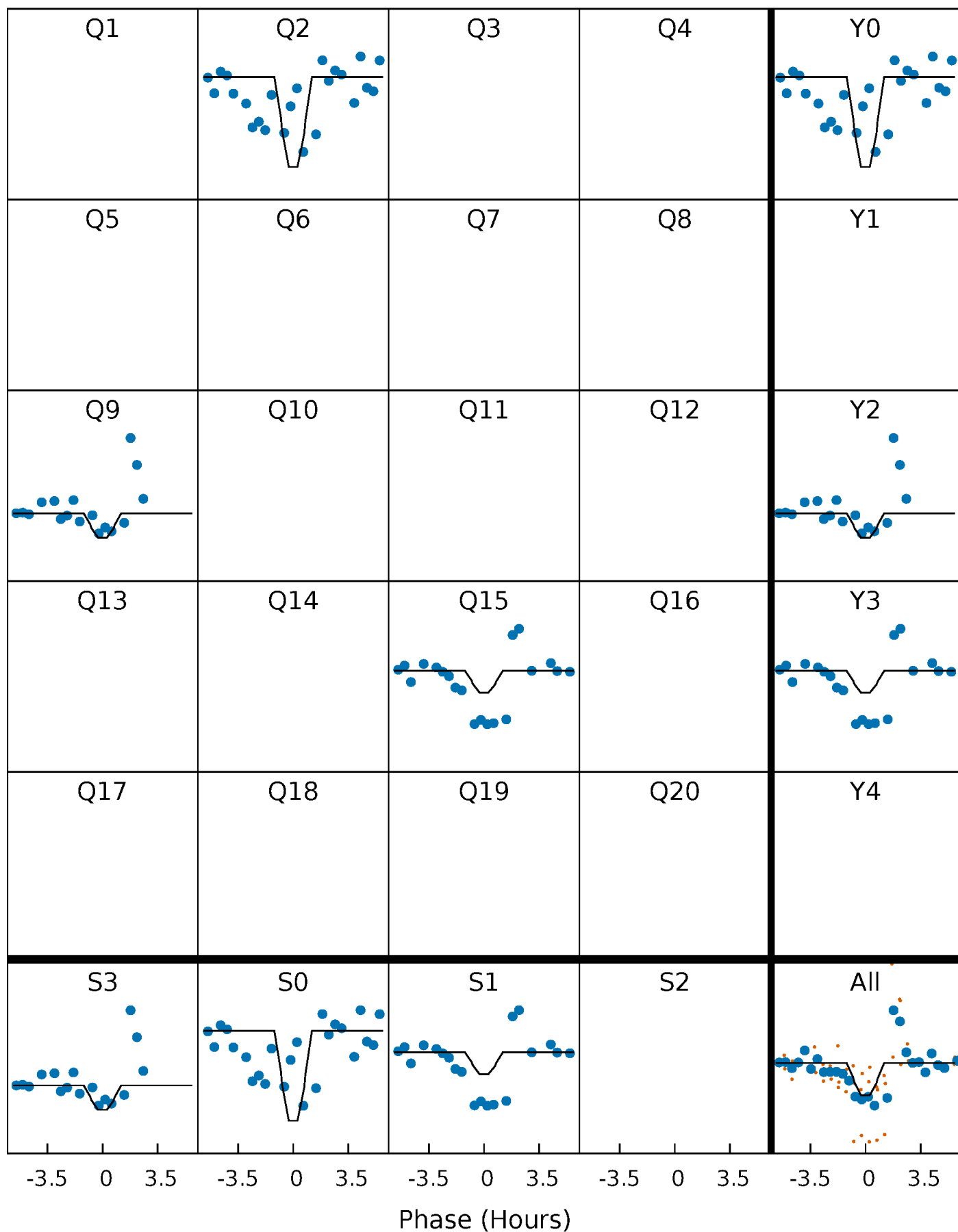
DV Quarter-Phased Transit Curves

TCE 006192231-06 P=623.376540 Days $T_0=195.923520$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

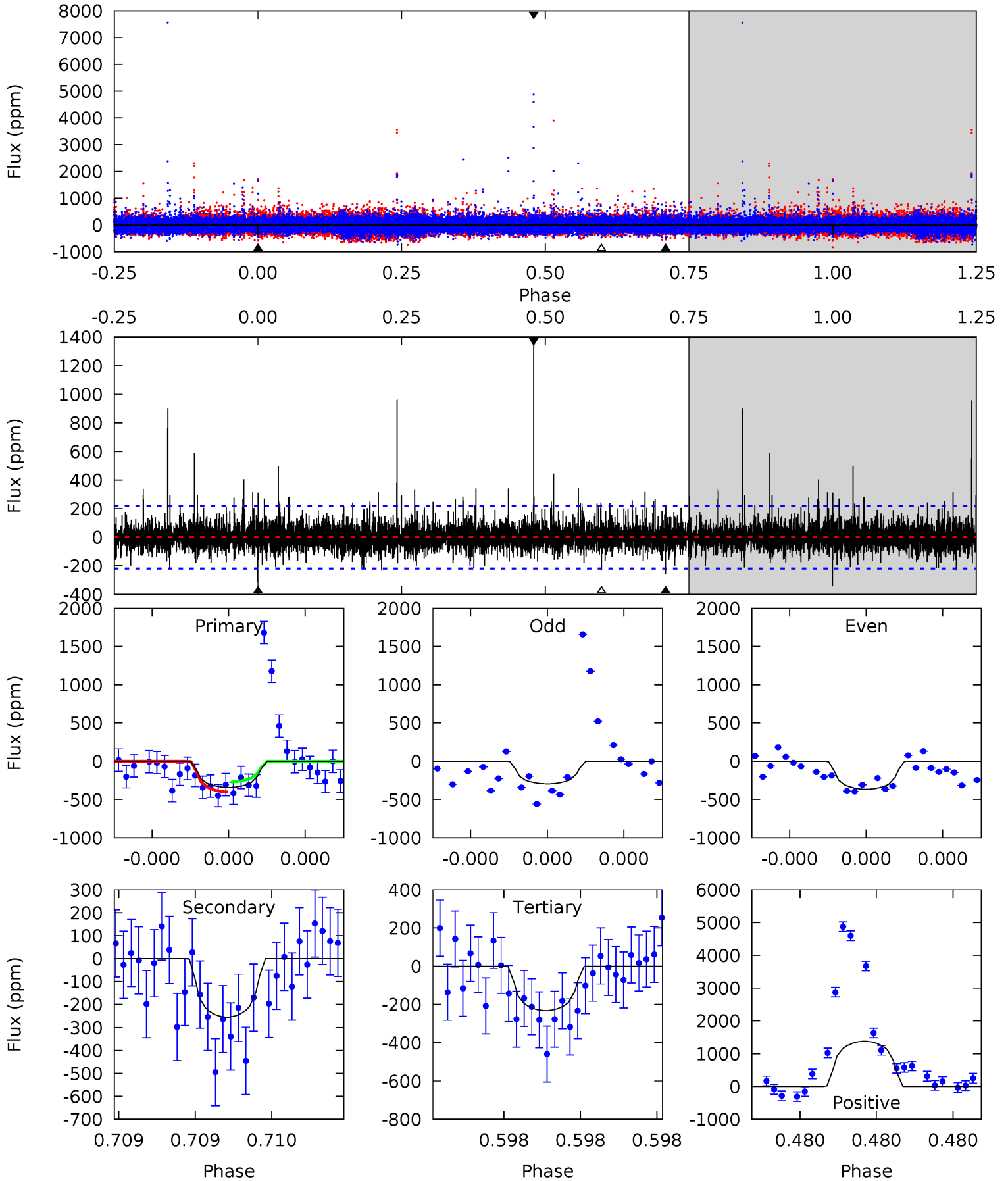
TCE 006192231-06 P=623.366615 Days $T_0=195.930179$ (BKJD)



DV Model-Shift Uniqueness Test

006192231-06, P = 623.376540 Days, E = 195.923520 Days

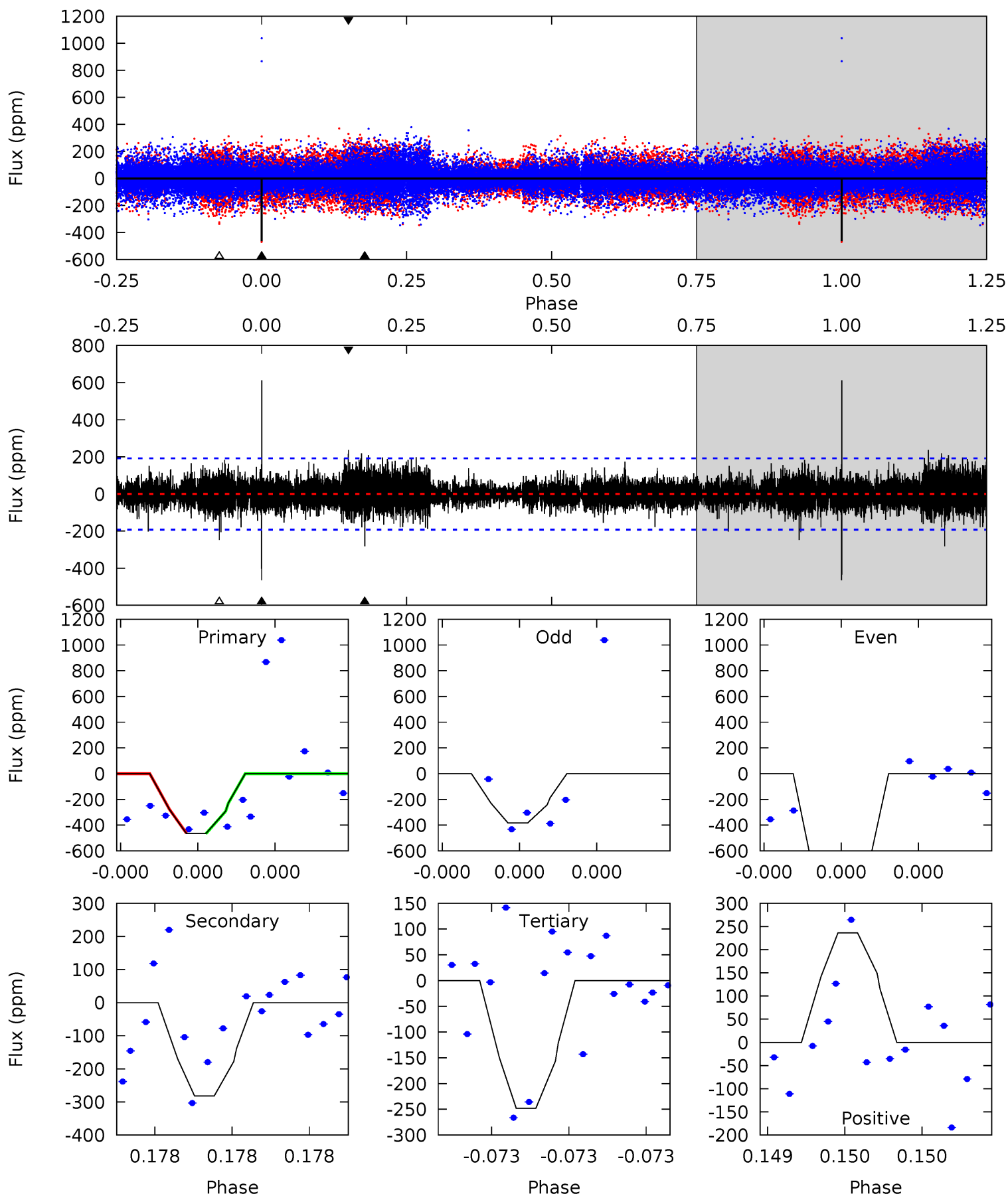
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.85	6.61	6.00	35.7	5.69	3.66	1.82	2.84	-26.9	0.60	-29.1	0.65	0.89	0.80	1.70



Alt Model-Shift Uniqueness Test

006192231-06, P = 623.366615 Days, E = 195.930179 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	8.52	7.49	7.12	5.80	3.83	1.15	6.50	6.87	1.03	1.39	12.1	1.84	0.57	0



Stellar Parameters For KIC 006192231

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4777^{+76}_{-42}	$3.546^{+0.104}_{-0.143}$	$0.140^{+0.150}_{-0.100}$	$2.716^{+0.686}_{-0.294}$	$0.944^{+0.163}_{-0.017}$	$0.066^{+0.030}_{-0.029}$
	+2%/-1%	+3%/-4%	+107%/-71%	+25%/-11%	+17%/-2%	+46%/-43%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006192231-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-255 ± 39	$10.05^{+8.83}_{-6.59}$	410^{+23}_{-15}	3698^{+1827}_{-652}	2932^{+21075}_{-2121}
Alt.	-282 ± 33	$10.01^{+8.37}_{-6.86}$	411^{+25}_{-15}	3710^{+2273}_{-594}	3042^{+29745}_{-2122}

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

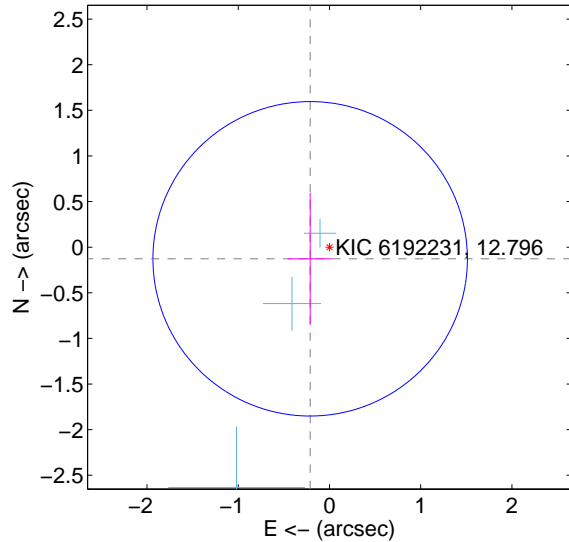
Supplemental centroid analysis for 006192231-06. Kepler magnitude: 12.80. Transit SNR 7.84

There are 3 quarters with good PRF difference image offsets

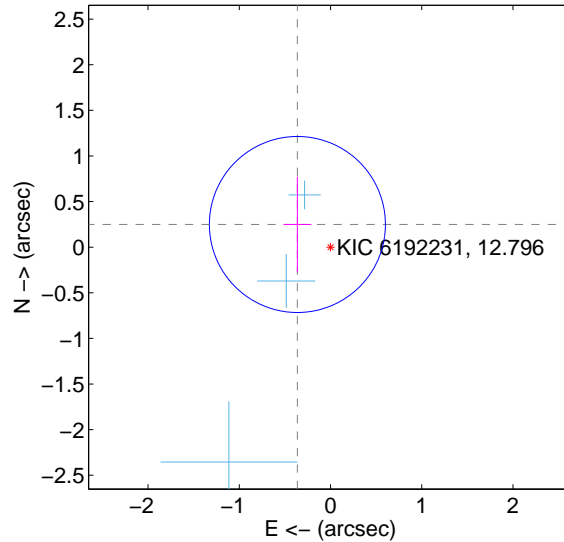
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.247 ± 0.574	0.43	0.212 ± 0.243	-0.128 ± 0.722
PRF-fit source offset from KIC position	0.440 ± 0.322	1.37	0.363 ± 0.153	0.249 ± 0.524
photometric centroid source offset	0.40 ± 0.60	0.66	0.39 ± 0.60	-0.08 ± 0.67

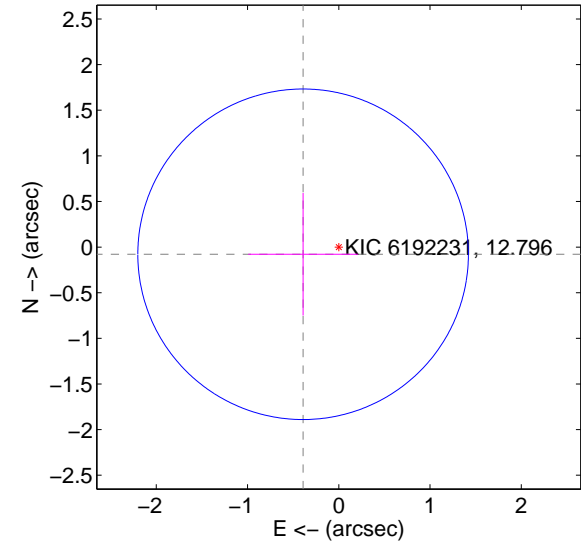
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



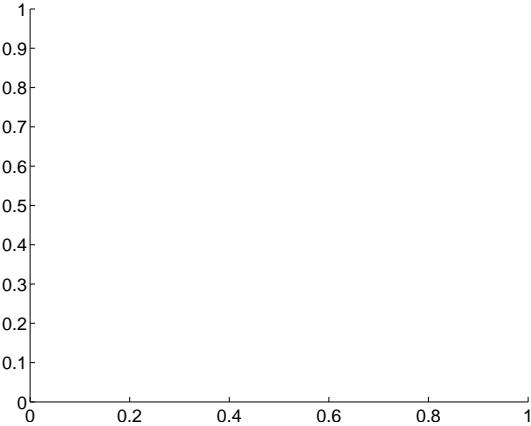
offset from photometric centroids



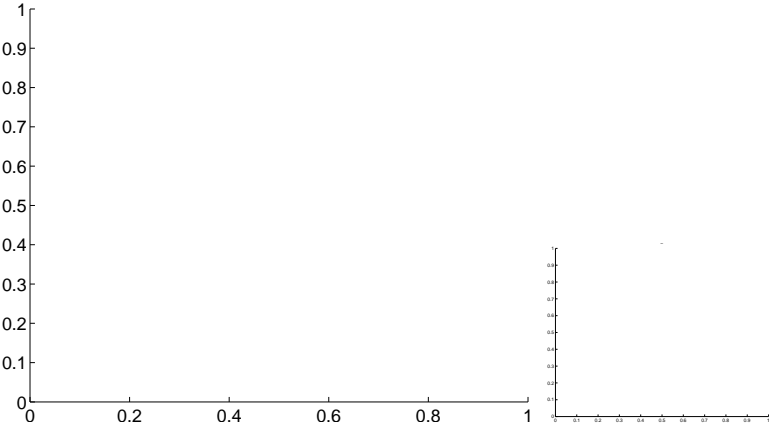
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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

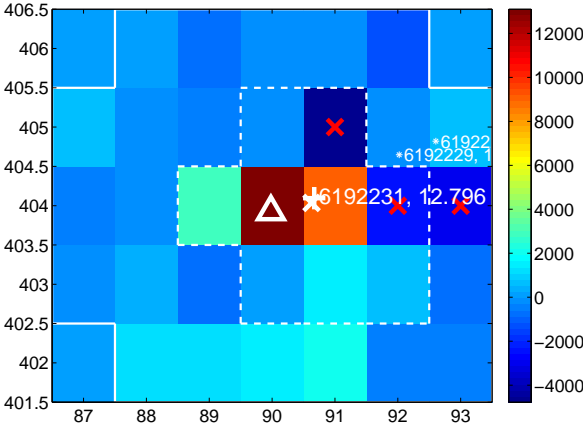
Q1 no difference image



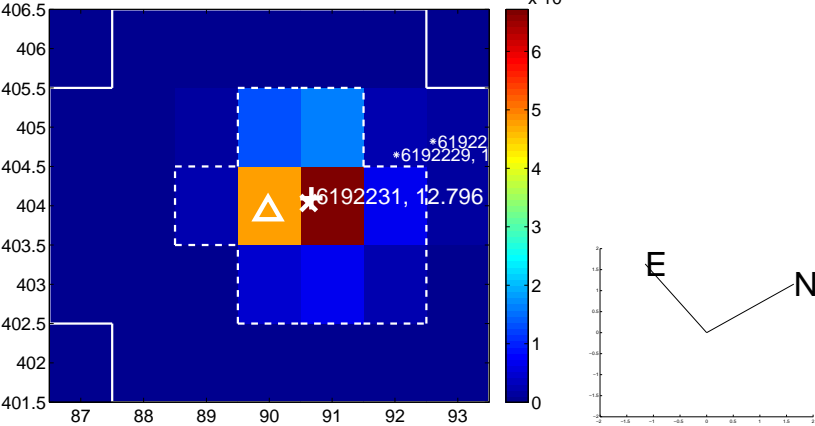
Q1 no OOT image



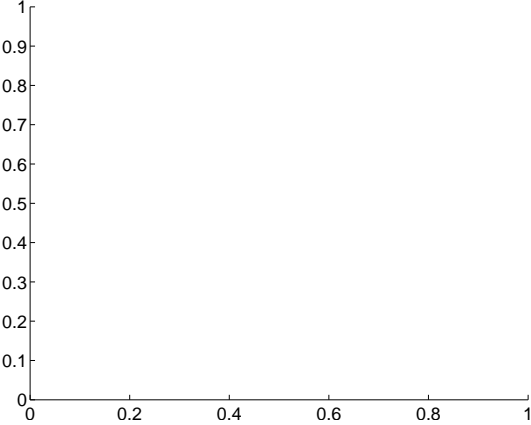
Q2 difference image



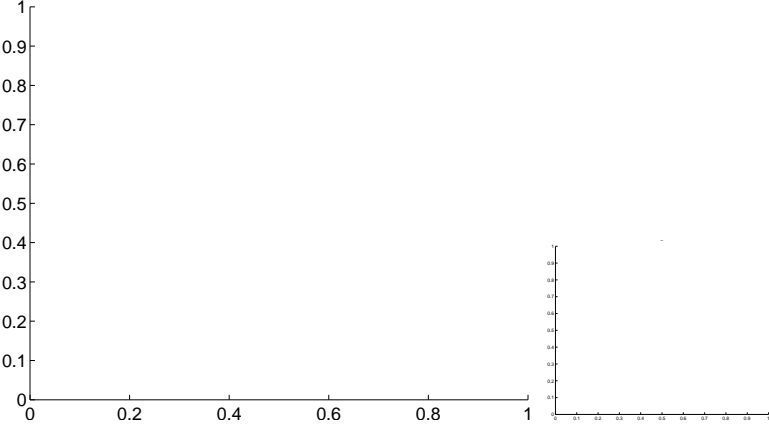
Q2 OOT image



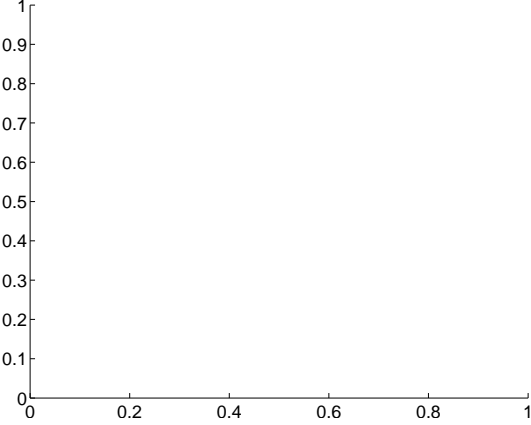
Q3 no difference image



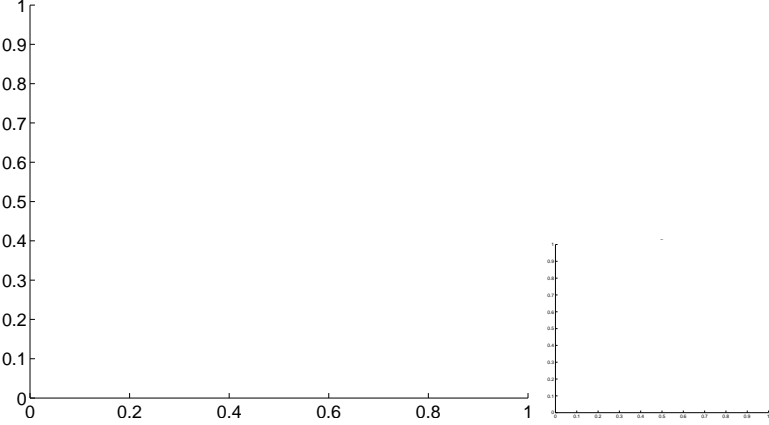
Q3 no OOT image



Q4 no difference image



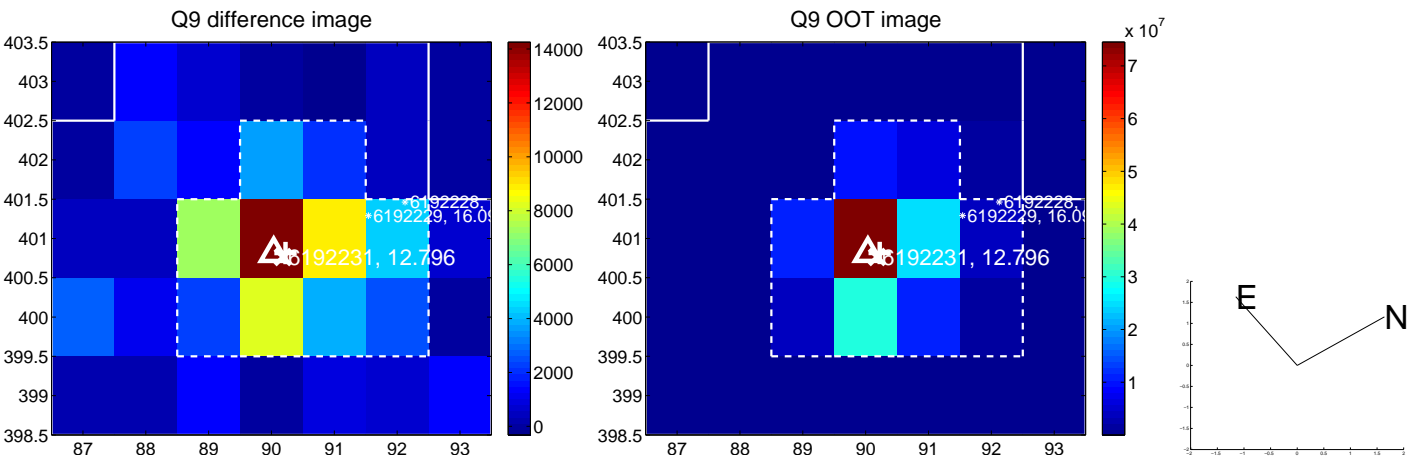
Q4 no OOT image



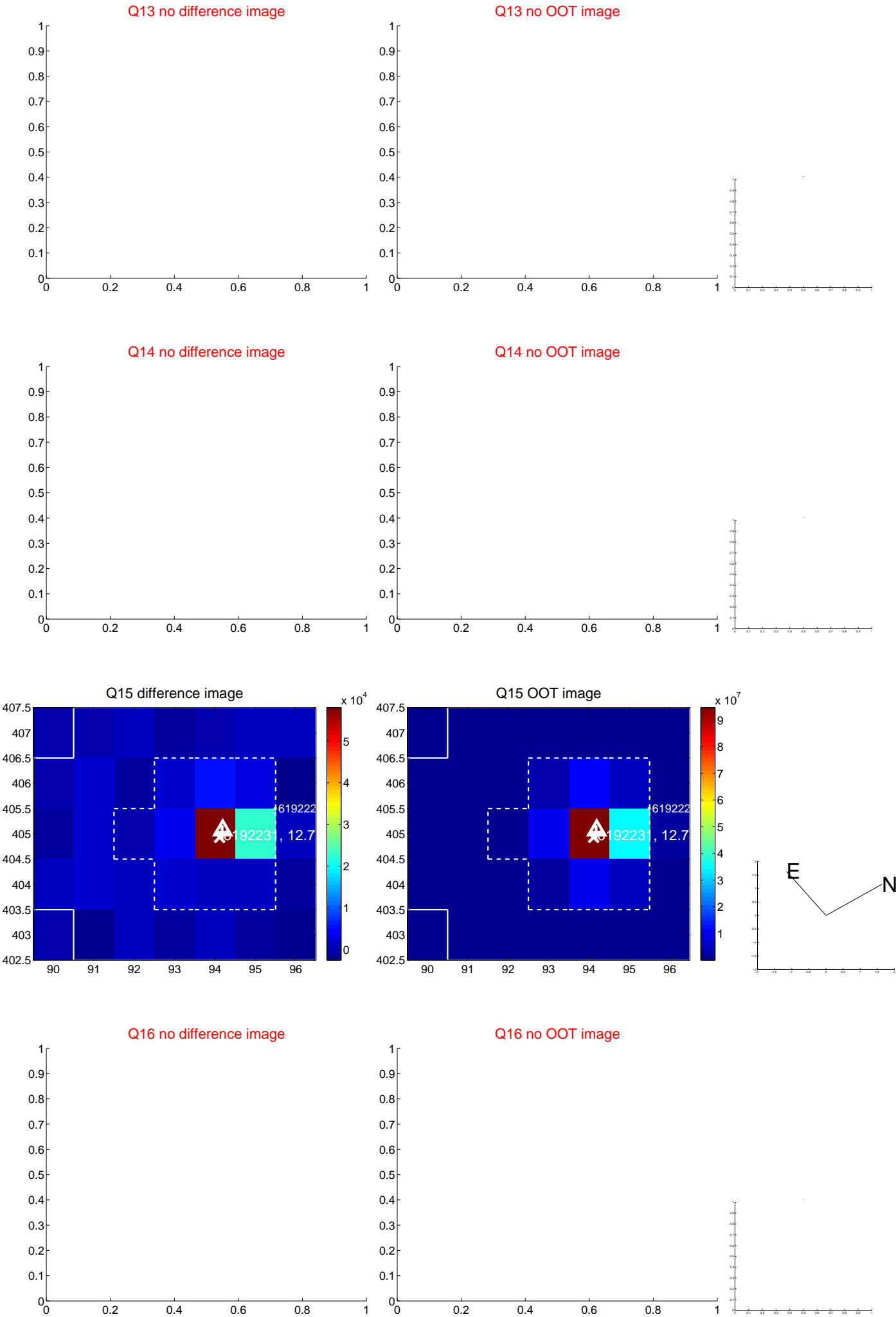
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



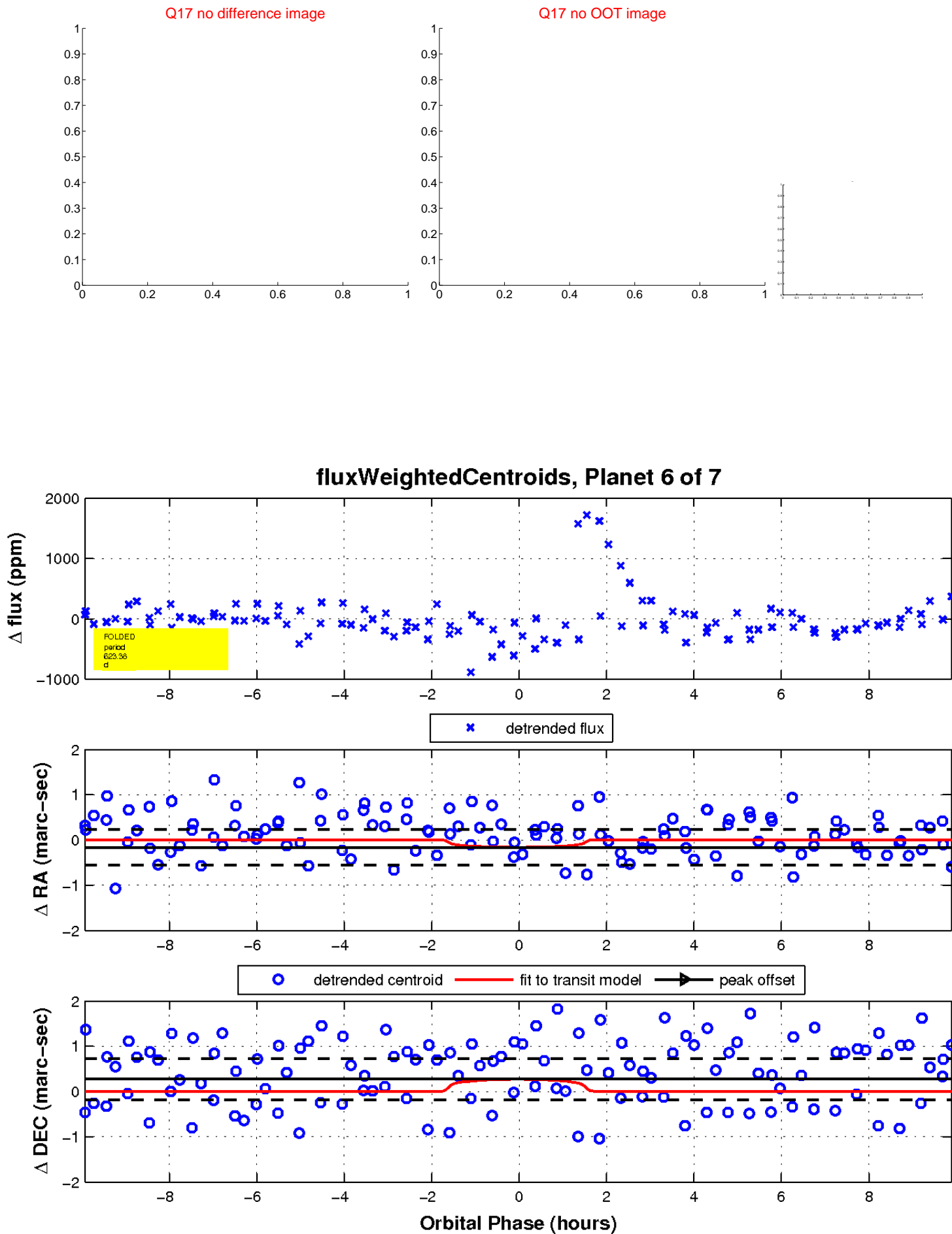
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

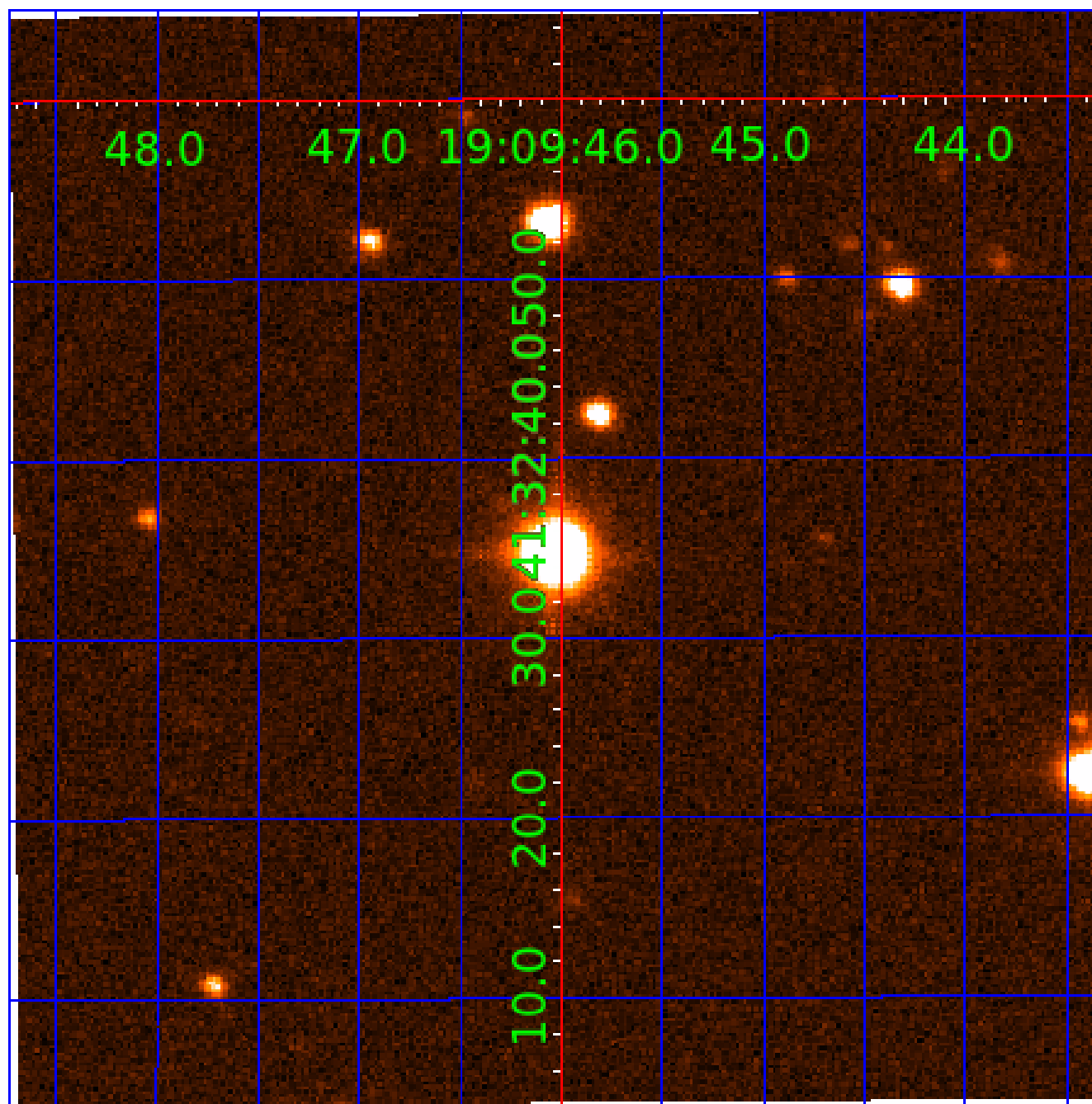


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006192231

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})
006192231-01	OBS	No	553.091834	317.533200	669.6	9.294	16.9	9.1	2.72	4777	9.42	2.05
006192231-02	OBS	No	456.890402	518.915200	579.4	3.684	17.9	8.0	2.72	4777	6.27	2.65
006192231-03	OBS	No	510.469935	154.561463	813.5	3.725	11.5	10.6	2.72	4777	10.68	2.29
006192231-04	OBS	No	422.411203	467.480237	435.5	12.038	9.7	6.6	2.72	4777	6.11	2.94
006192231-05	OBS	No	325.729840	406.212046	484.2	9.610	10.0	6.9	2.72	4777	6.53	4.16
006192231-06	OBS	No	623.376540	195.923520	584.8	3.329	12.7	7.8	2.72	4777	6.98	1.75
006192231-07	OBS	No	539.408446	160.160762	468.3	4.256	11.9	6.5	2.72	4777	6.26	2.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006192231-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006192231-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS
006192231-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_KIC_POS
006192231-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006192231-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

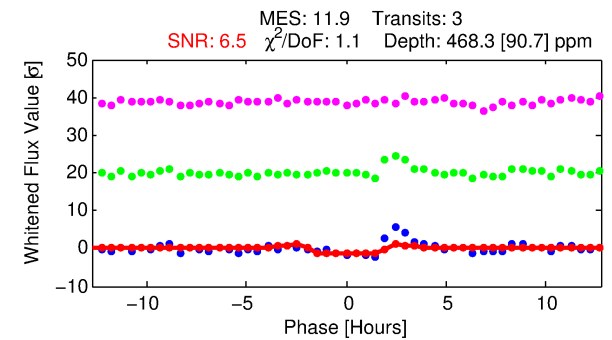
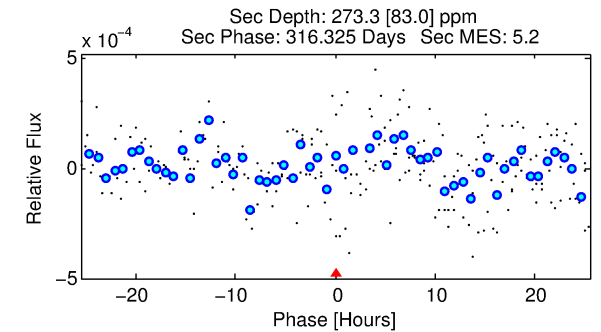
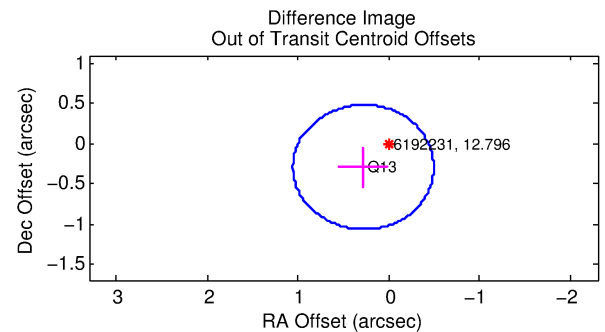
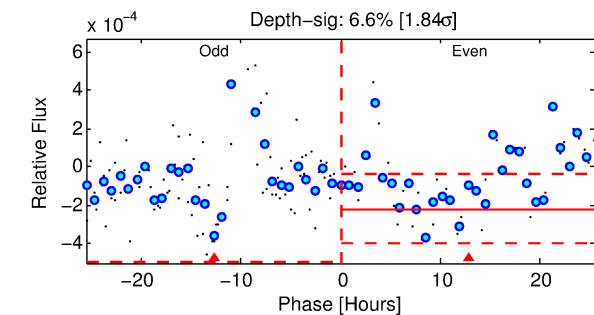
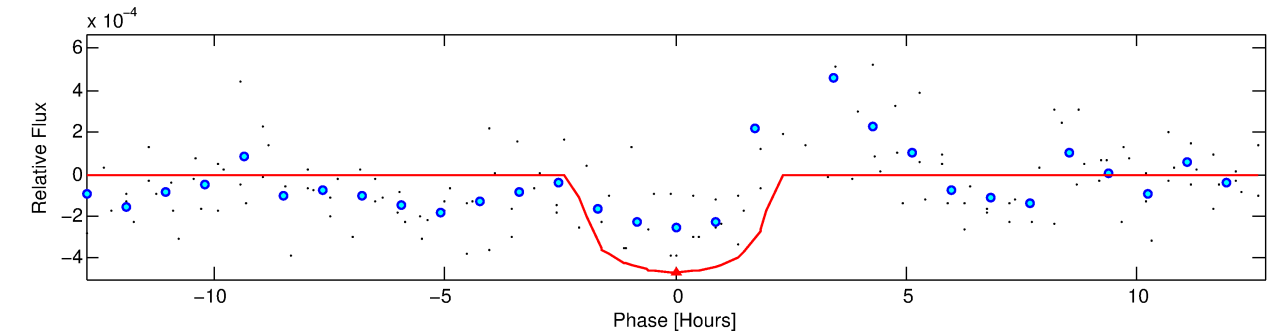
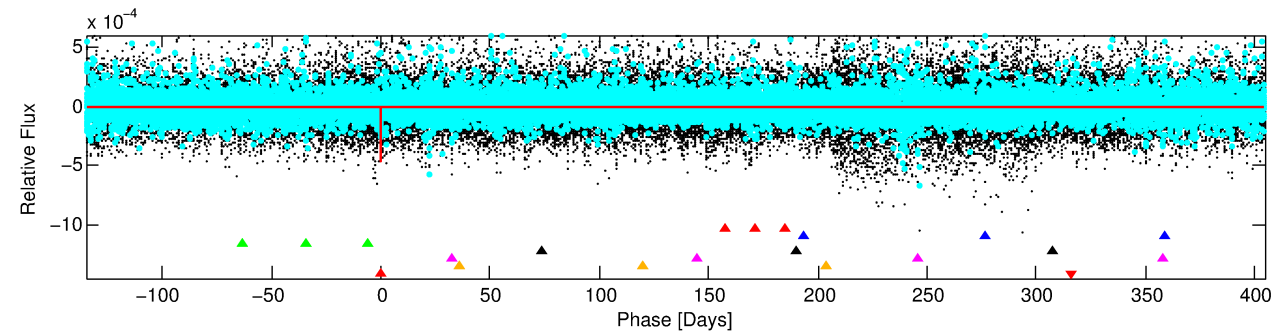
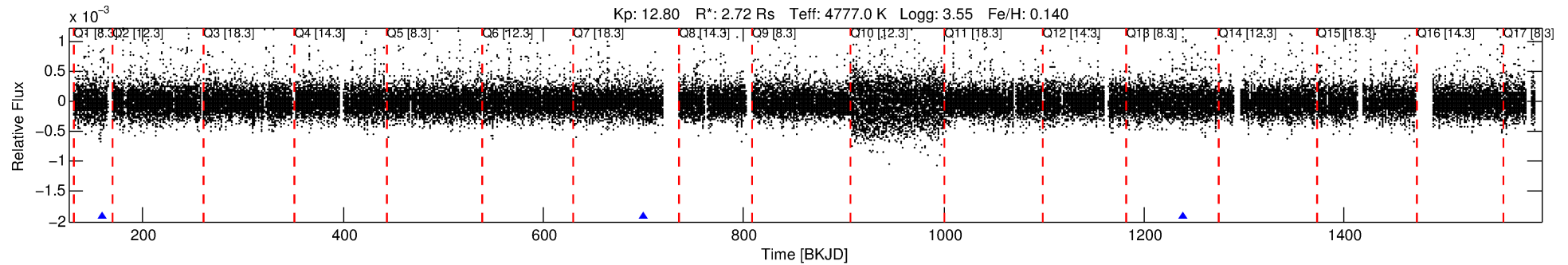
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006192231-07

No Significant Match Found

DV One-Page Summary

KIC: 6192231 Candidate: 7 of 7 Period: 539.408 d



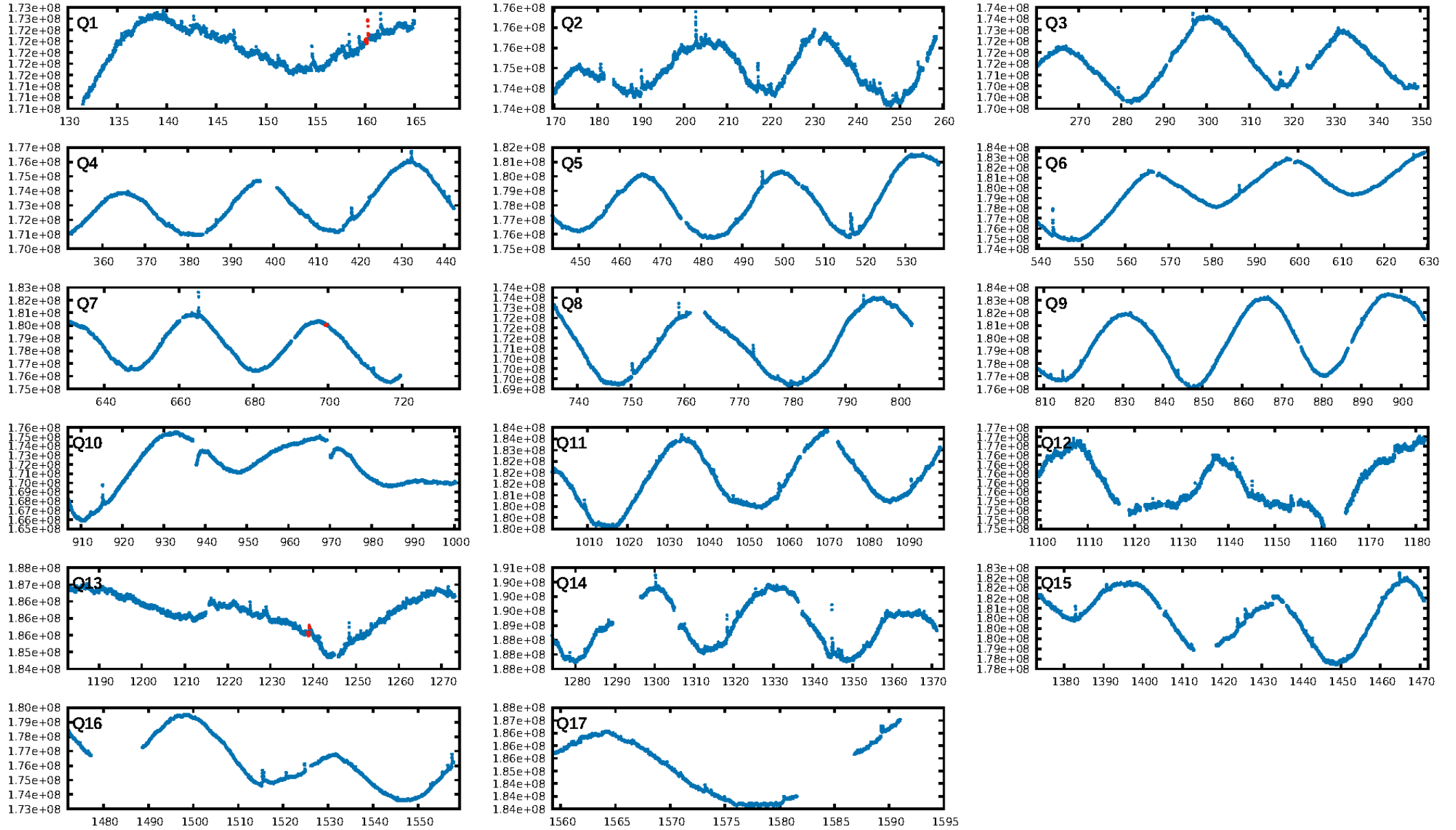
DV Fit Results:

Period = 539.40845 [0.00570] d
Epoch = 160.1608 [0.0081] BKJD
Rp/R* = 0.0211 [0.0272]
a/R* = 721.33 [3012.51]
b = 0.70 [3.14]
Seff = 2.12 [0.60]
Teq = 308 [22] K
Rp = 6.27 [8.22] Re
a = 1.2733 [0.2559] AU
Ag = 6210.37 [16199.31] [0.38 σ]
Teffp = 4224 [2740] K [1.43 σ]

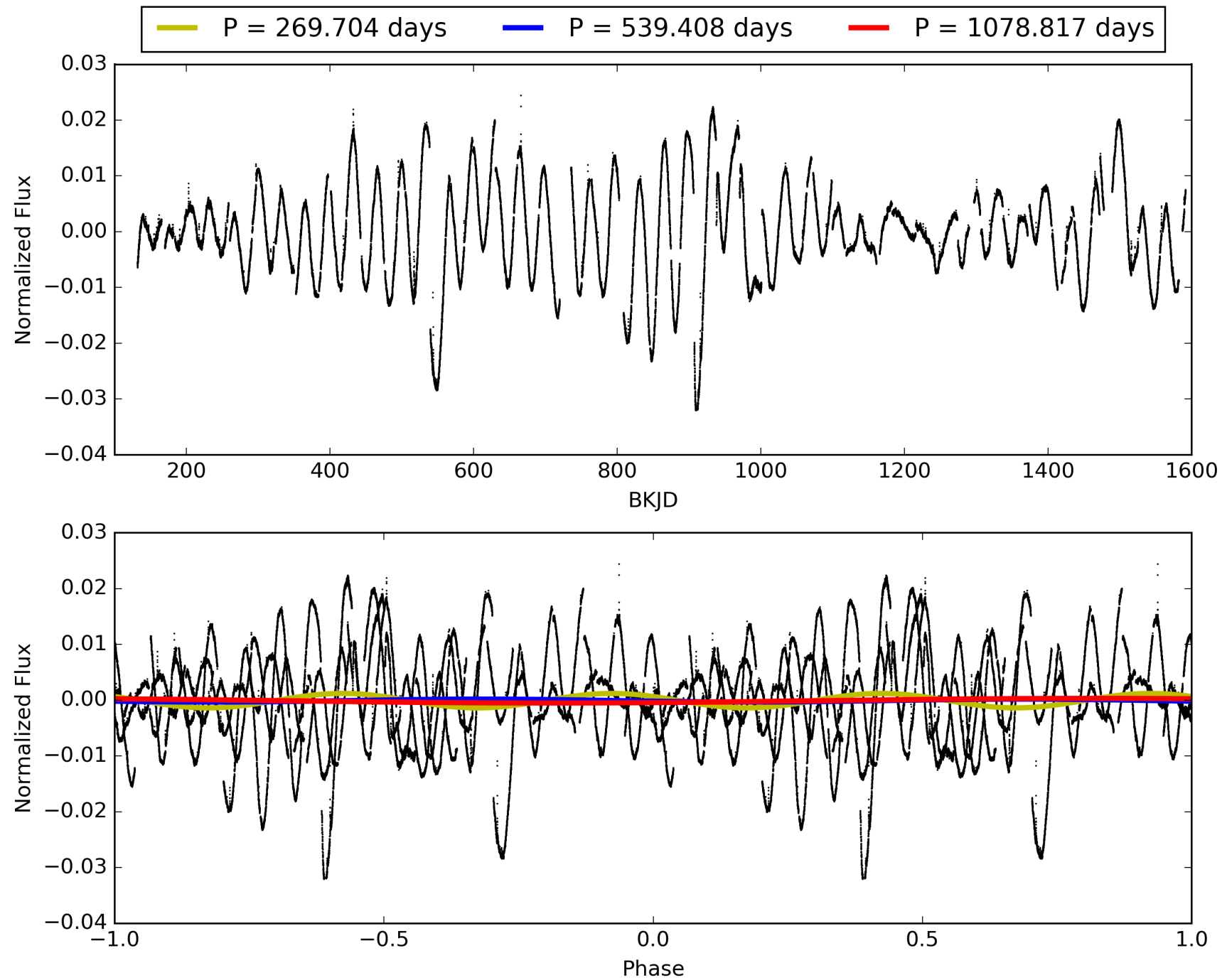
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [122.79 σ]
LongPeriod-sig: 100.0% [32.13 σ]
ModelChiSquare2-sig: 16.5%
ModelChiSquareGof-sig: 94.2%
Bootstrap-pfa: 8.00e-11
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 7.859
Centroid-sig: 8.8%
Centroid-so: 0.971 arcsec [1.48 σ]
OotOffset-rm: 0.406 arcsec [1.57 σ]
KicOffset-rm: 0.332 arcsec [1.23 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 006192231-07, PDC Light Curves

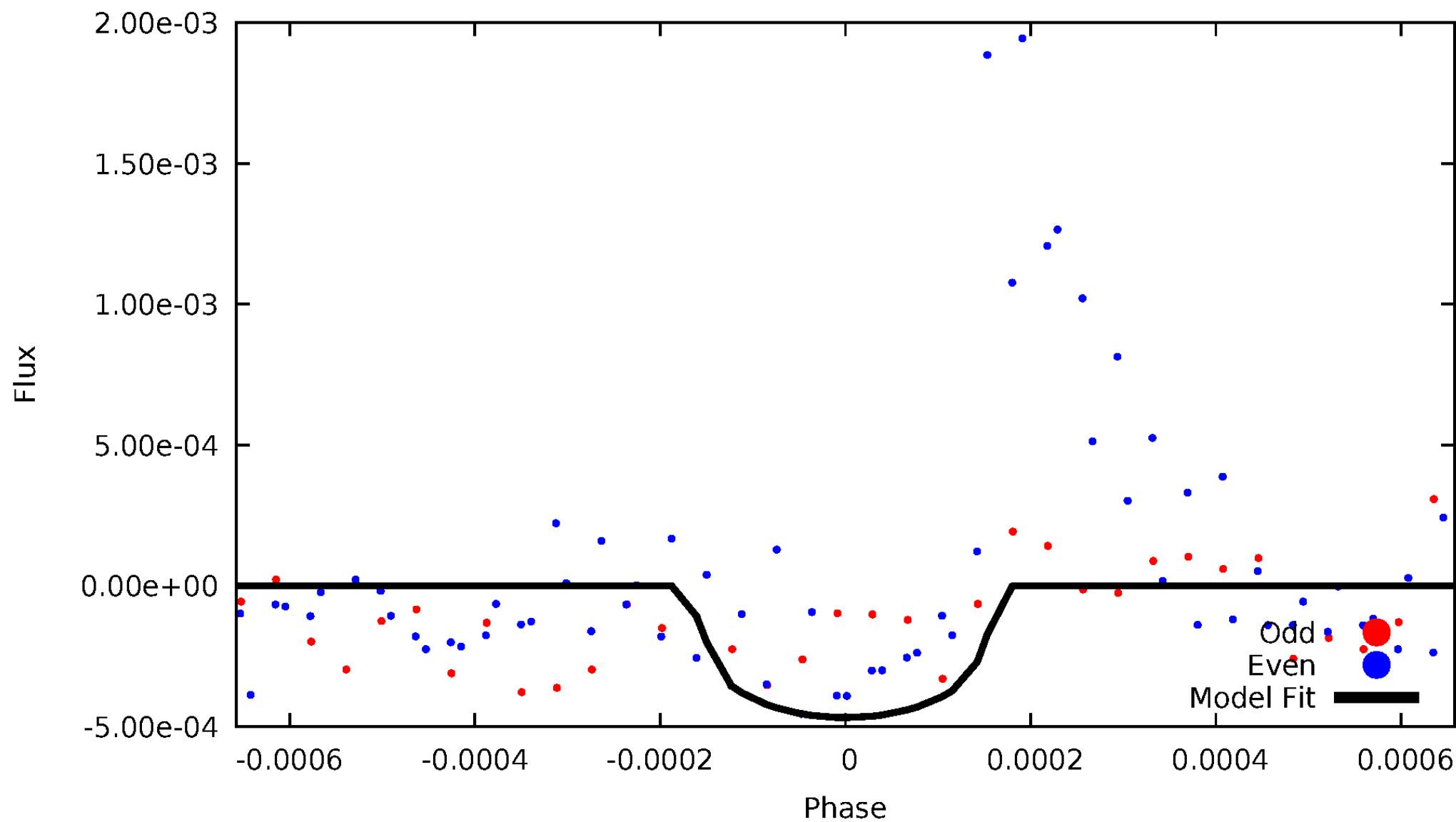


TCE 006192231-07



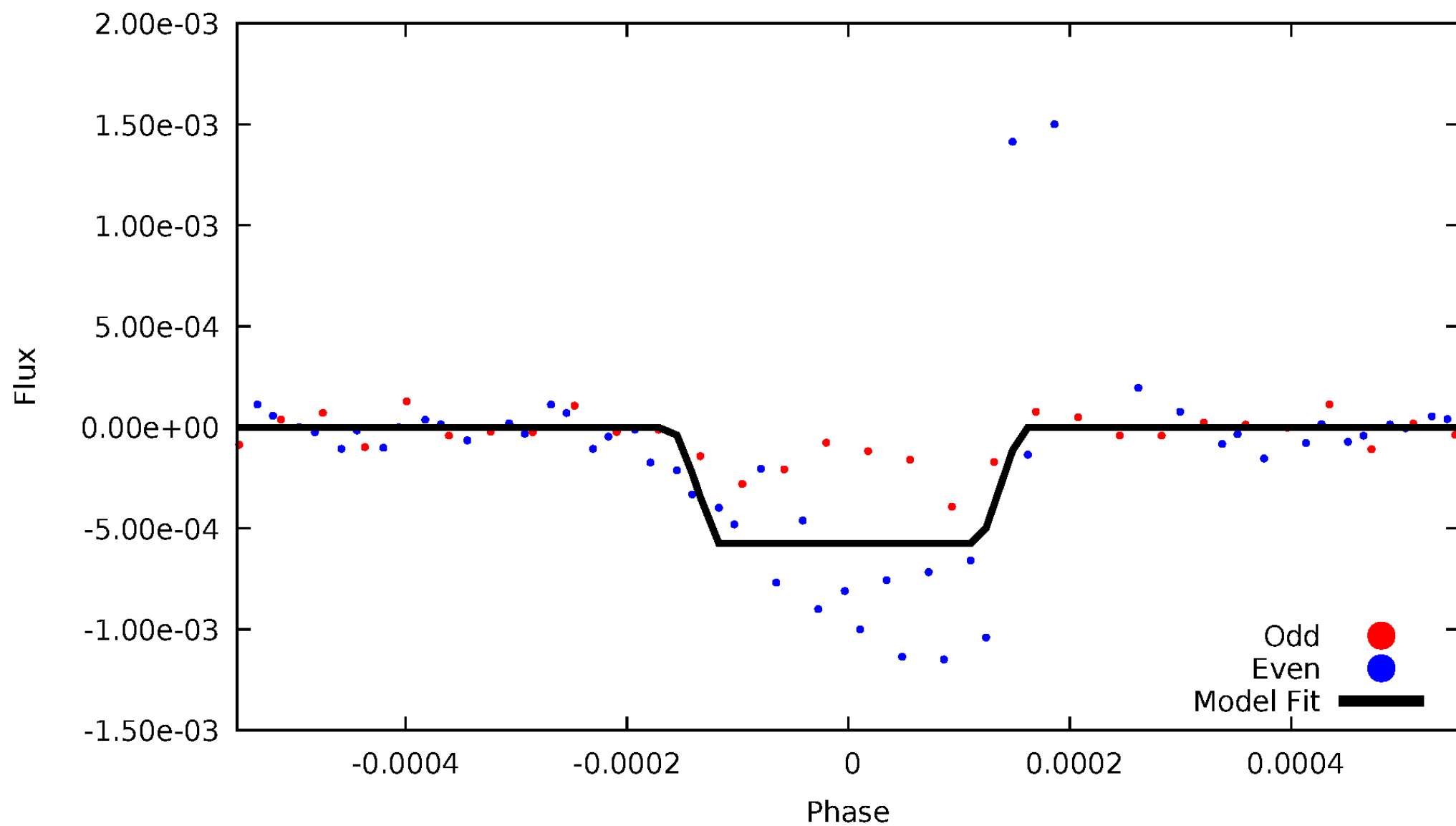
DV Odd/Even

TCE 006192231-07



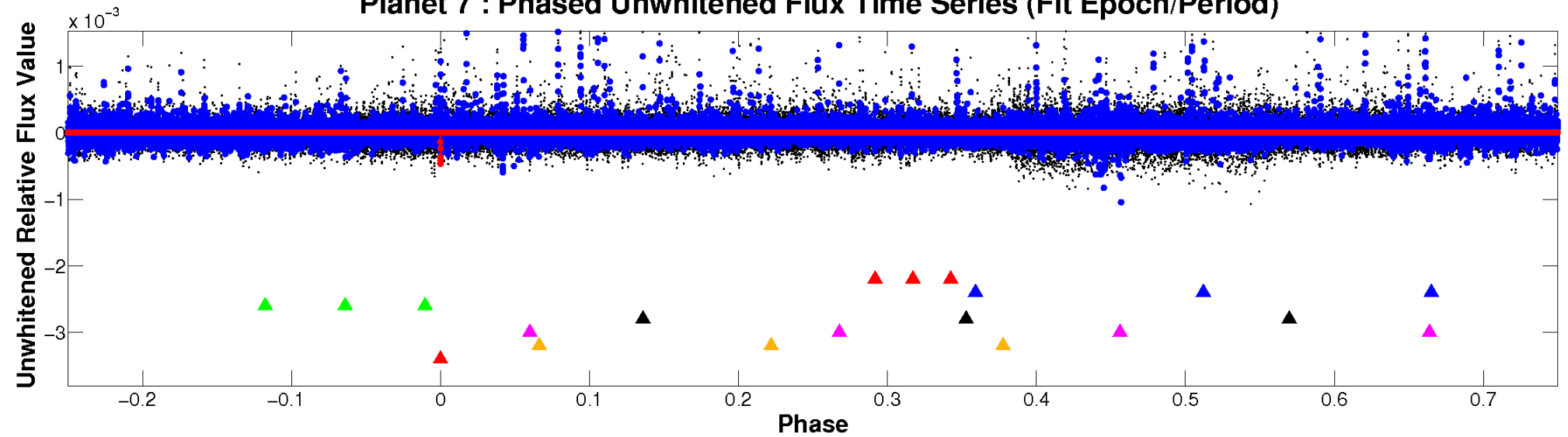
ALT Odd/Even

TCE 006192231-07

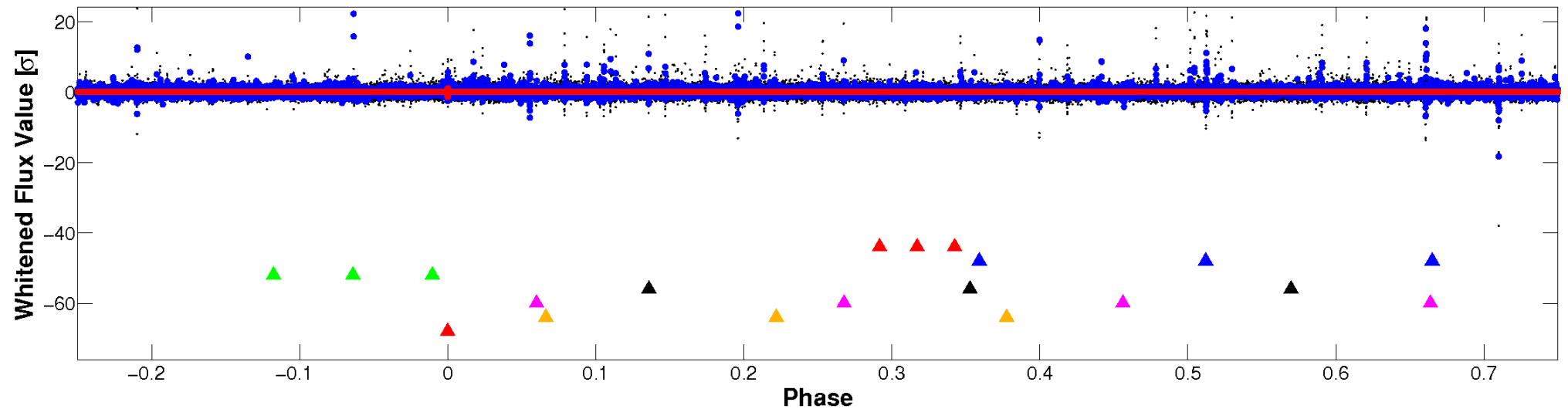


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

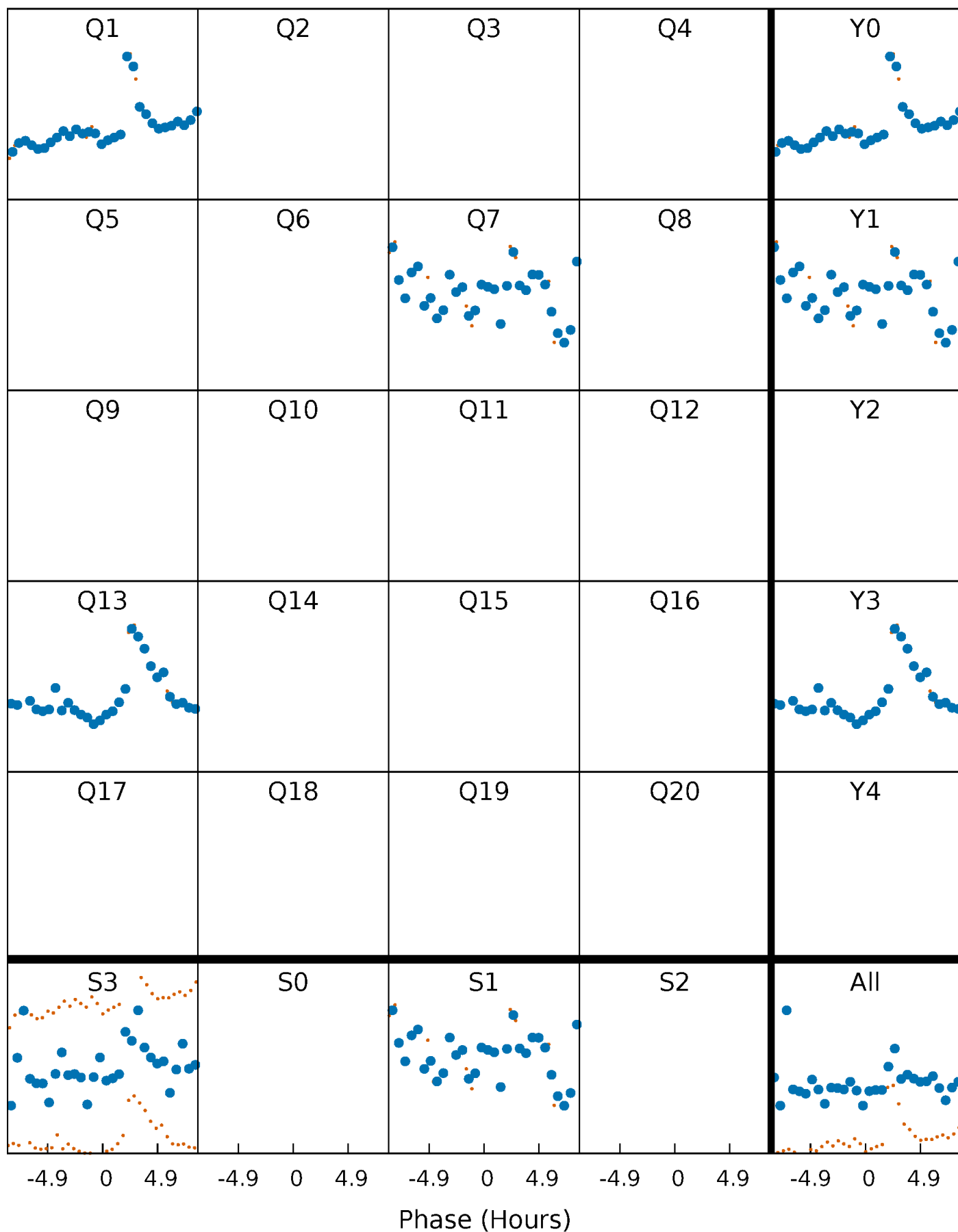


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



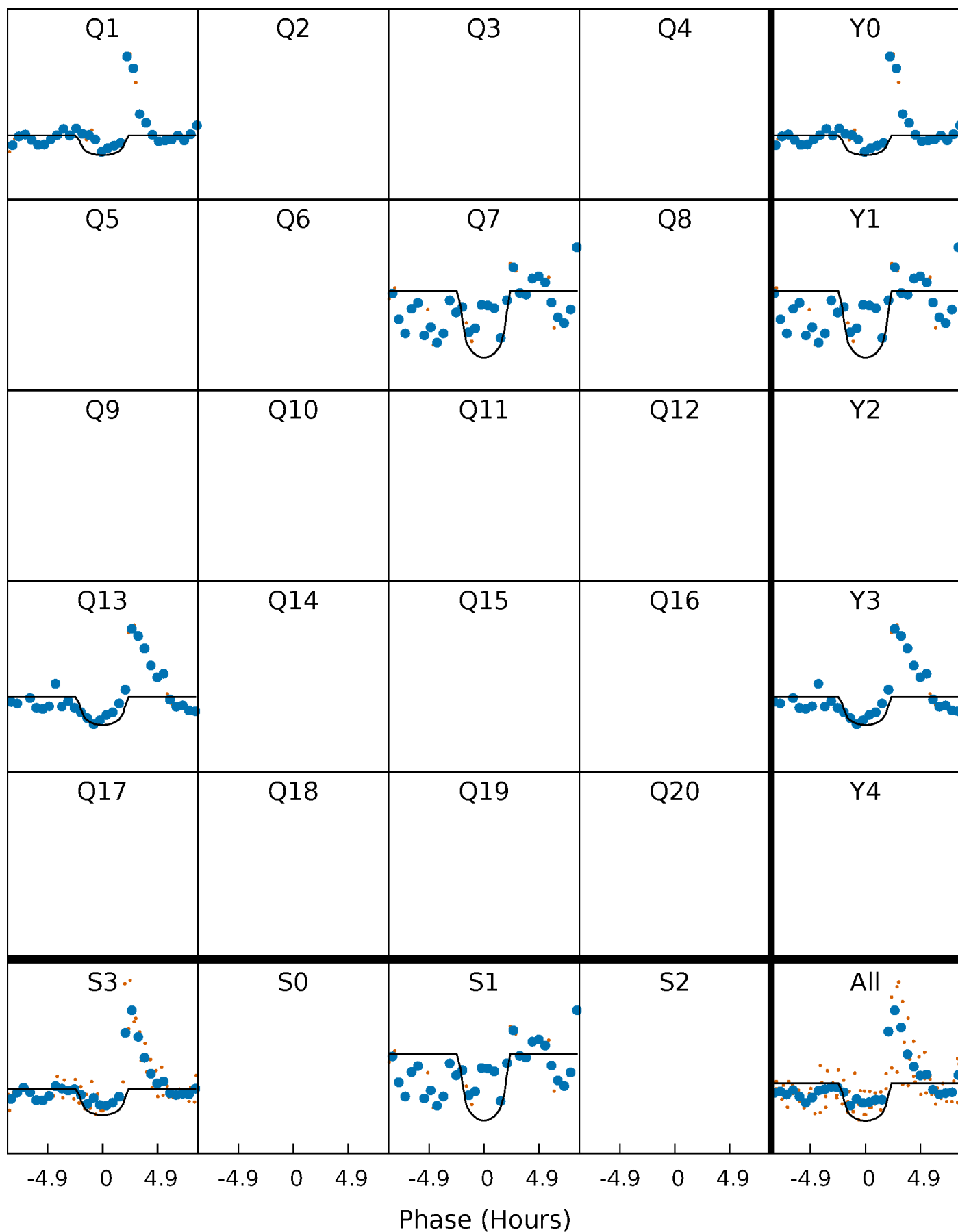
PDC Quarter-Phased Transit Curves

TCE 006192231-07 $P=539.408446$ Days $T_0=160.160762$ (BKJD)



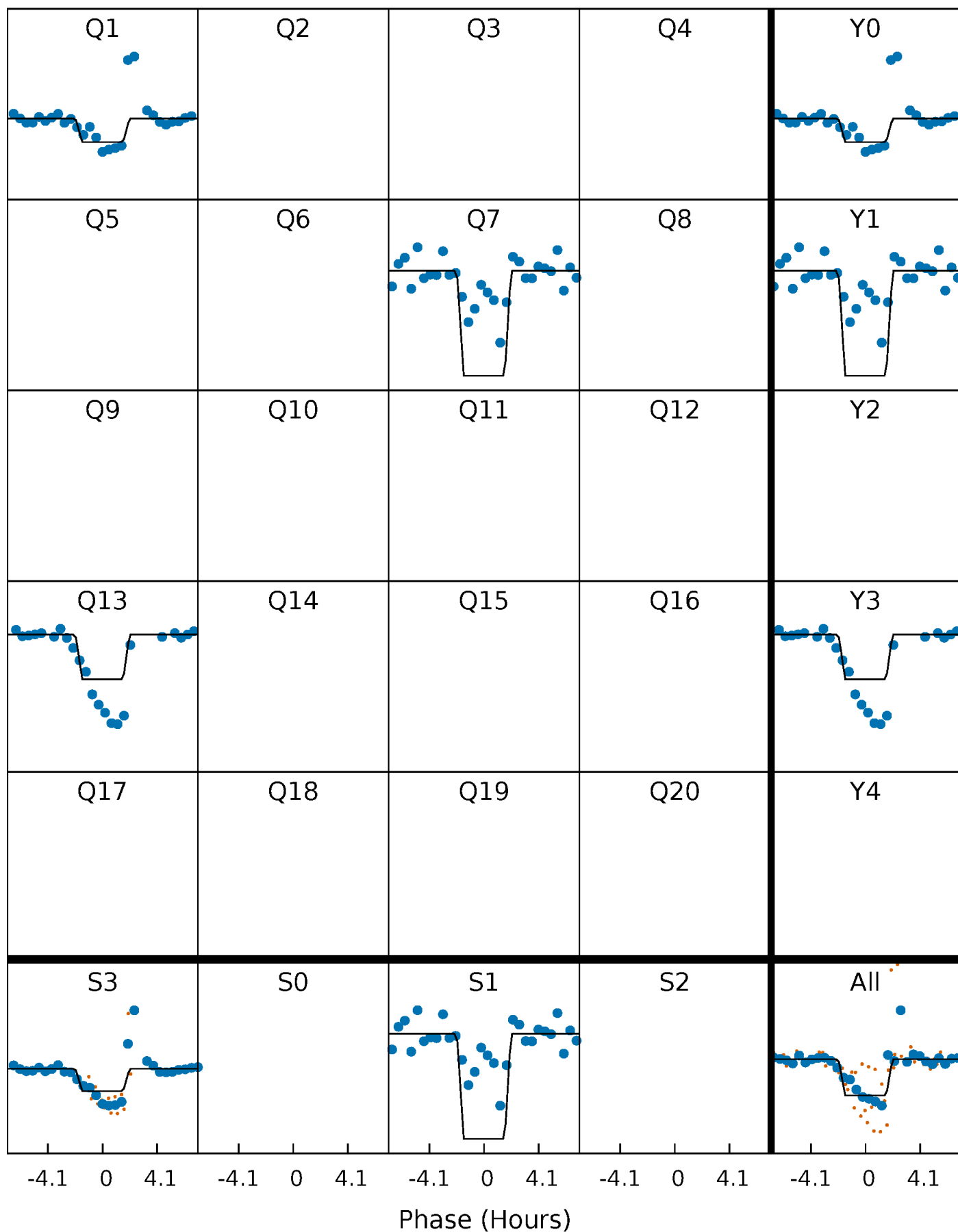
DV Quarter-Phased Transit Curves

TCE 006192231-07 $P=539.408446$ Days $T_0=160.160762$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

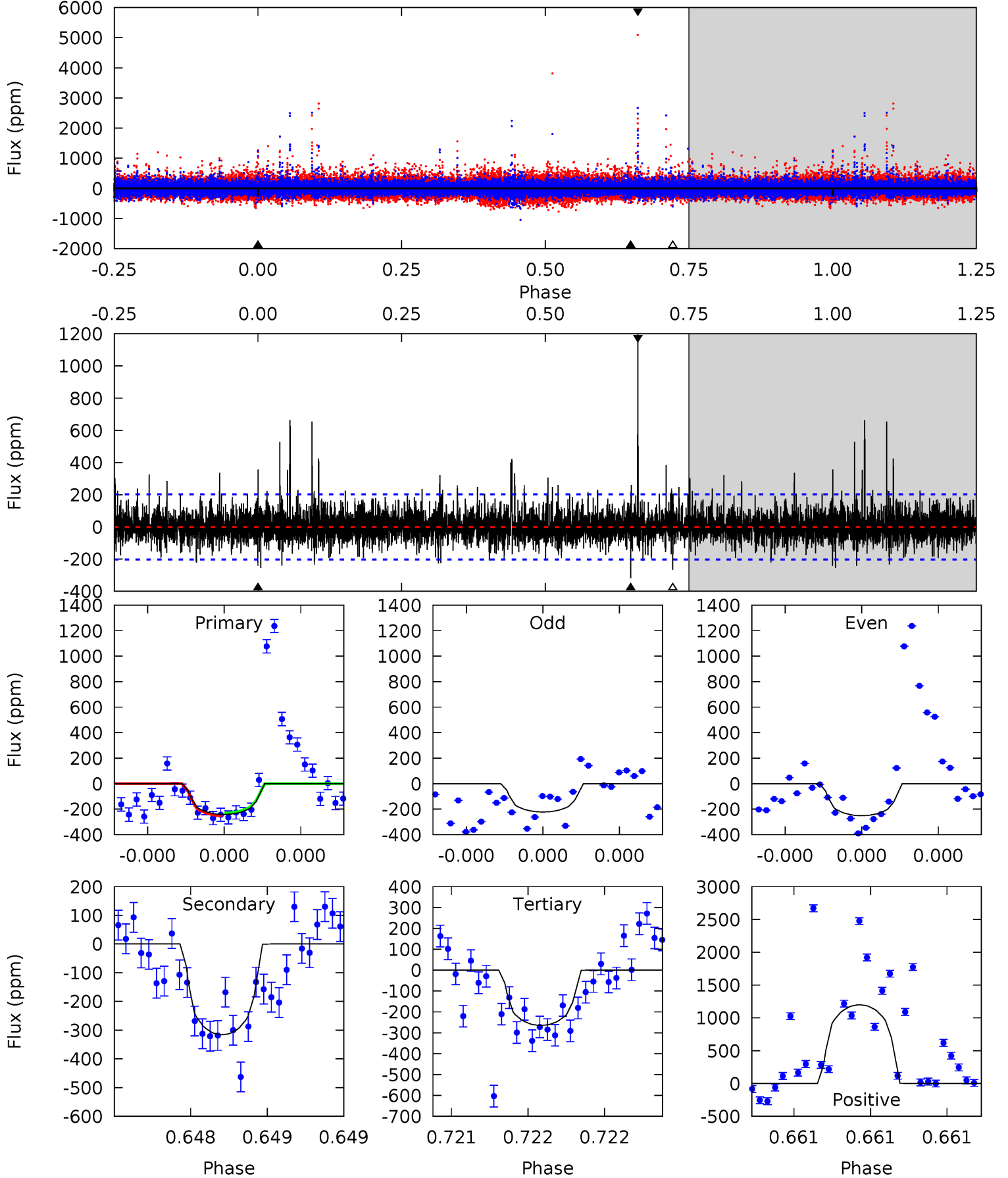
TCE 006192231-07 P=539.411928 Days $T_0=160.163410$ (BKJD)



DV Model-Shift Uniqueness Test

006192231-07, P = 539.408446 Days, E = 160.160762 Days

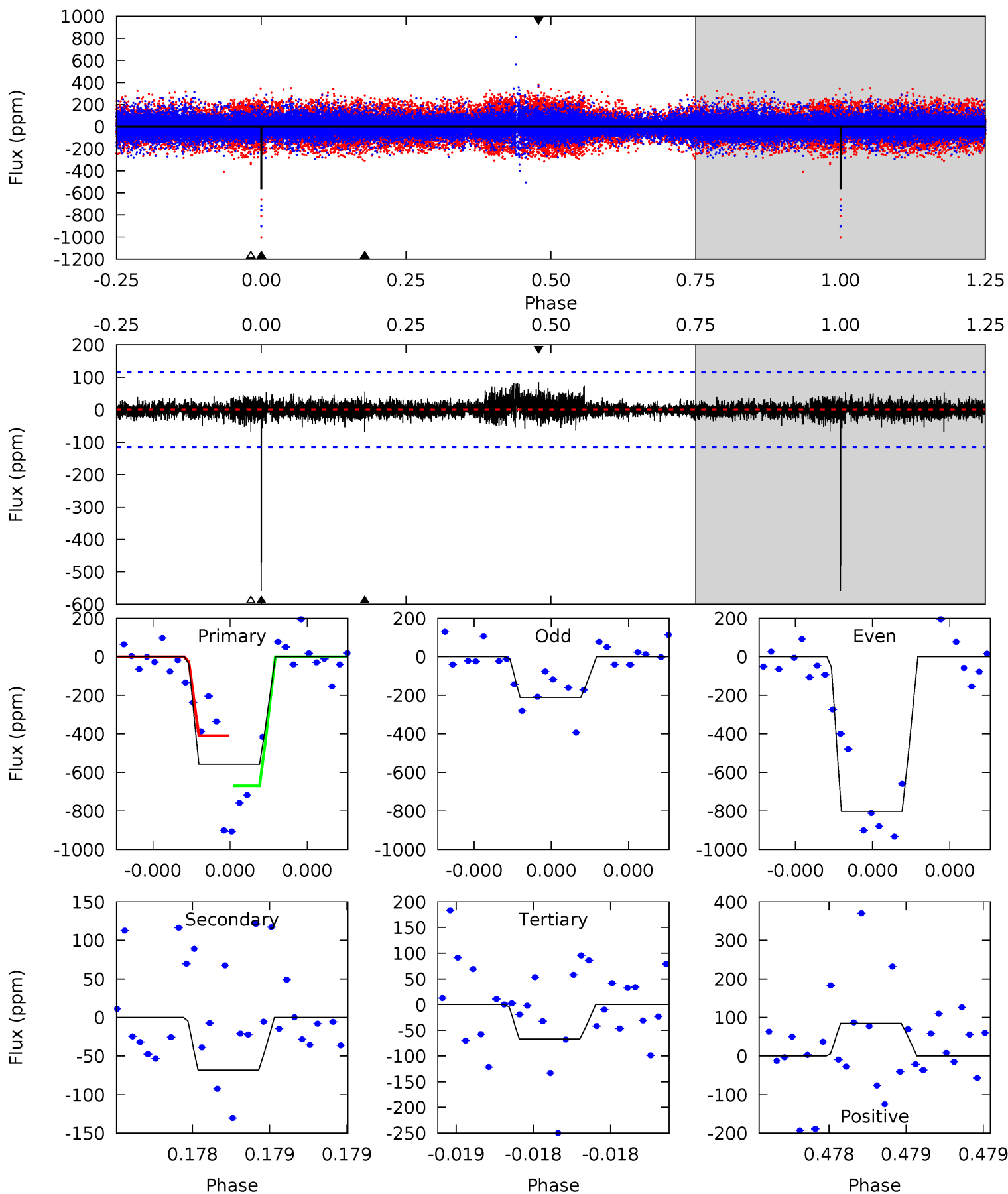
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.71	8.79	7.36	33.4	5.64	3.58	2.01	-0.65	-26.6	1.43	-24.6	0.27	0.91	0.79	0.31



Alt Model-Shift Uniqueness Test

006192231-07, P = 539.411928 Days, E = 160.163410 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.4	3.36	3.27	4.17	5.67	3.62	0.67	24.1	23.2	0.08	-0.82	15.8	1.05	0.13	6.33



Stellar Parameters For KIC 006192231

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4777^{+76}_{-42}	$3.546^{+0.104}_{-0.143}$	$0.140^{+0.150}_{-0.100}$	$2.716^{+0.686}_{-0.294}$	$0.944^{+0.163}_{-0.017}$	$0.066^{+0.030}_{-0.029}$
	+2%/-1%	+3%/-4%	+107%/-71%	+25%/-11%	+17%/-2%	+46%/-43%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006192231-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-316 ± 36	$8.61^{+7.81}_{-5.57}$	431^{+25}_{-16}	4031^{+2073}_{-763}	3873^{+26974}_{-2812}
Alt.	-68 ± 20	$9.00^{+7.60}_{-6.06}$	433^{+26}_{-16}	3096^{+1299}_{-508}	777^{+5692}_{-577}

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 $A_{obs} \gg 1.0$

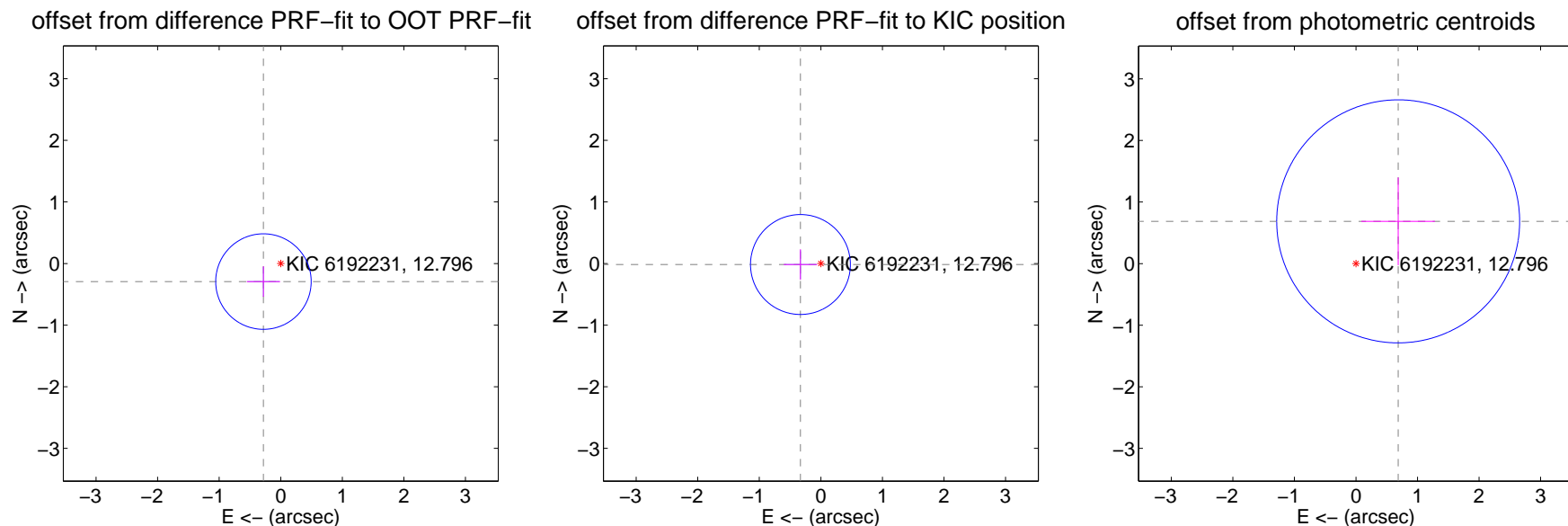
DV Centroid Data

Supplemental centroid analysis for 006192231-07. Kepler magnitude: 12.80. Transit SNR 6.52

There are 1 quarters with good PRF difference image offsets

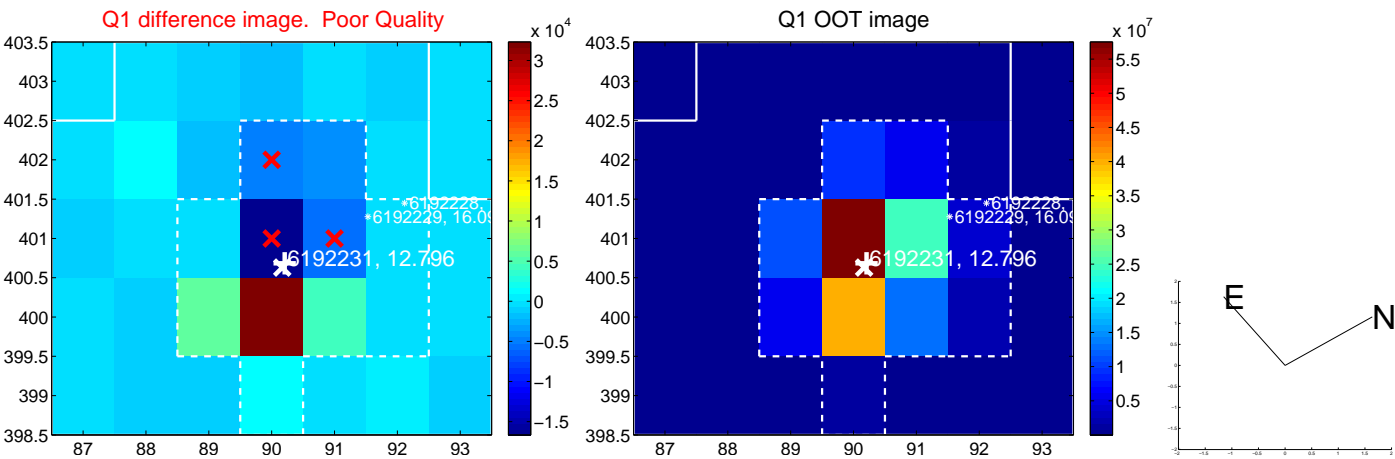
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.406 ± 0.259	1.57	0.281 ± 0.270	-0.293 ± 0.247
PRF-fit source offset from KIC position	0.332 ± 0.270	1.23	0.332 ± 0.270	-0.016 ± 0.247
photometric centroid source offset	0.97 ± 0.66	1.48	-0.69 ± 0.60	0.69 ± 0.71



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.

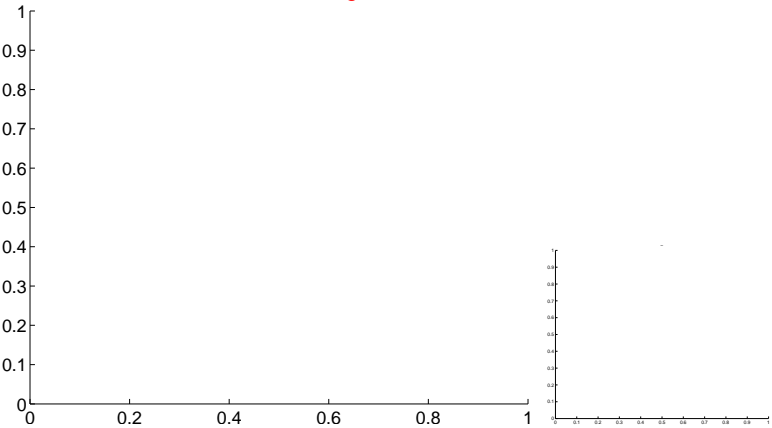


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q5 no difference image



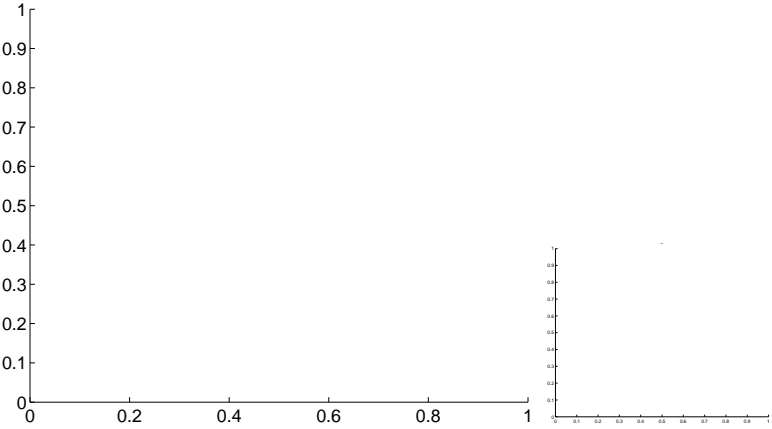
Q5 no OOT image



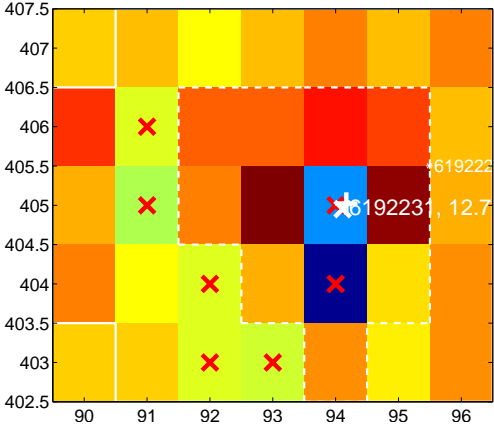
Q6 no difference image



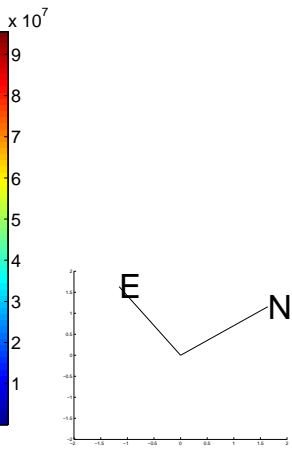
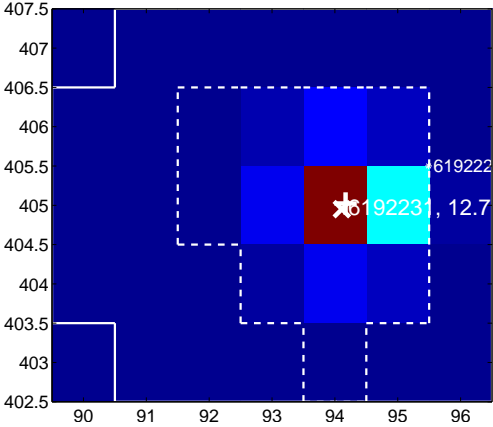
Q6 no OOT image



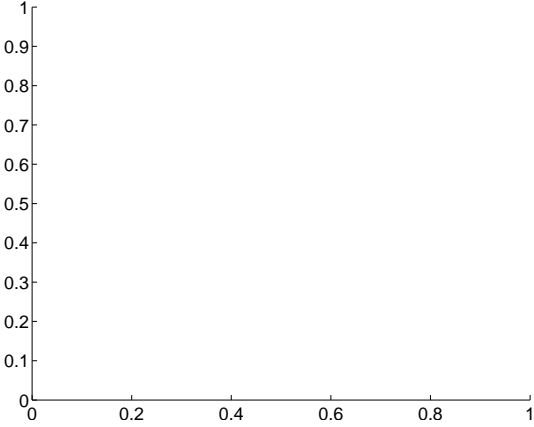
Q7 difference image. Poor Quality



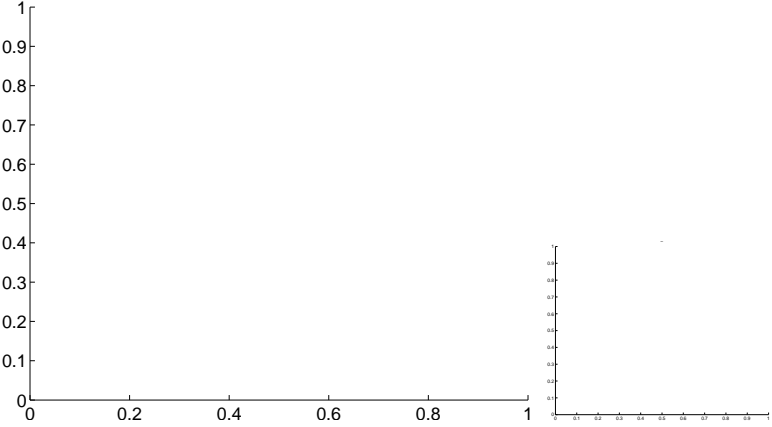
Q7 OOT image



Q8 no difference image



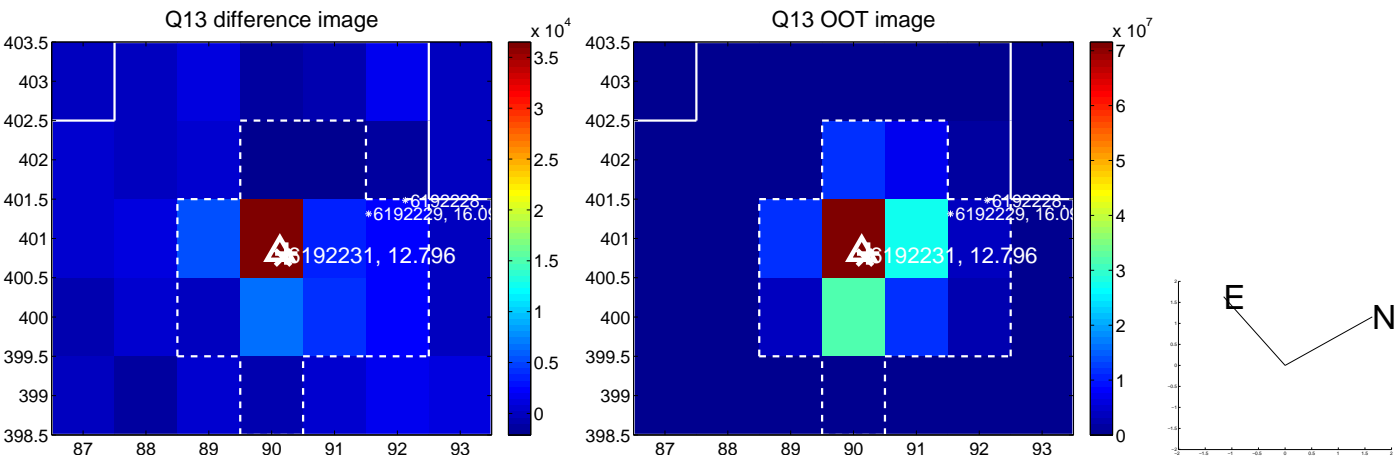
Q8 no OOT image



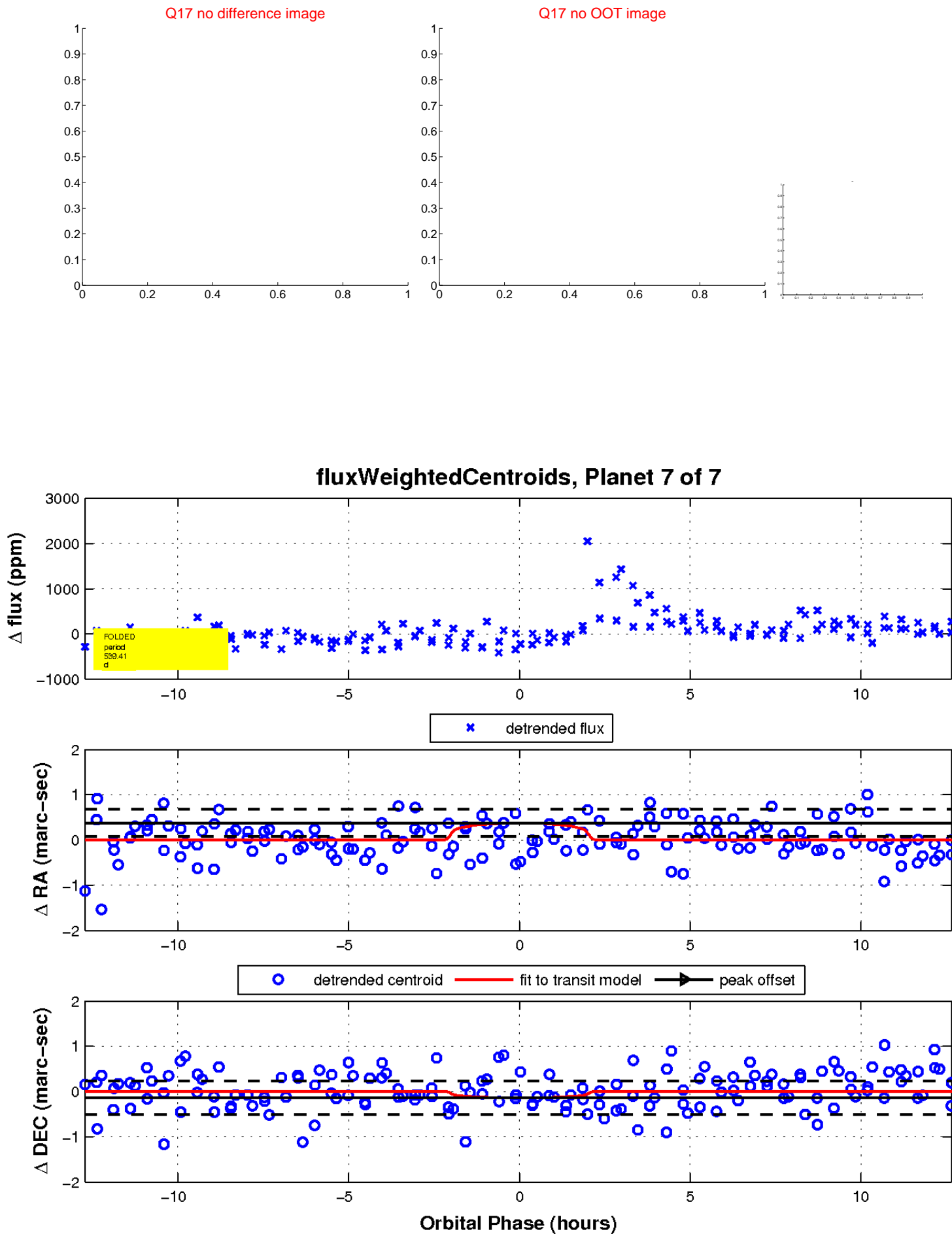
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

