

KIC 006521526

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})
006521526-01	OBS	No	490.983019	555.466010	1594.8	6.727	11.1	6.8	0.58	3749	2.42	0.06
006521526-02	OBS	No	236.670794	194.017256	1315.0	3.648	11.0	6.2	0.58	3749	2.23	0.15
006521526-03	OBS	No	370.195000	280.590955	585.6	1.435	10.2	1.8	0.58	3749	1.75	0.08
006521526-04	OBS	No	469.978691	552.026847	508.6	15.000	10.2	-1.0	0.58	3749	1.26	0.06
006521526-05	OBS	8124.01	103.045997	164.920808	946.2	12.490	8.7	7.5	0.58	3749	1.81	0.46
006521526-06	OBS	No	265.812087	329.053353	1972.7	11.362	10.2	7.9	0.58	3749	2.62	0.13
006521526-07	OBS	No	6.370857	133.681880	359.8	4.261	8.1	10.4	0.58	3749	1.50	18.96
006521526-08	OBS	No	172.688846	284.357984	505.5	2.836	9.0	2.6	0.58	3749	1.25	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006521526-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006521526-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006521526-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006521526-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
006521526-05	OBS	FP	0.01	1	0	0	0	INCONSISTENT_TRANS
006521526-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—CENT_FEW_DIFFS
006521526-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006521526-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

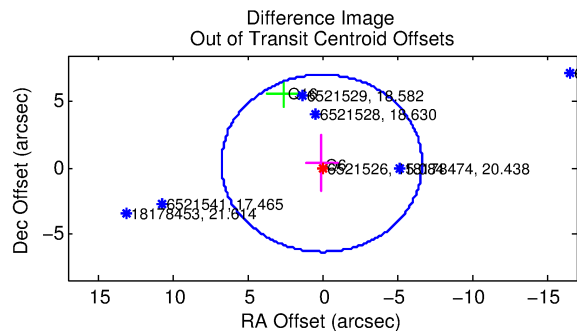
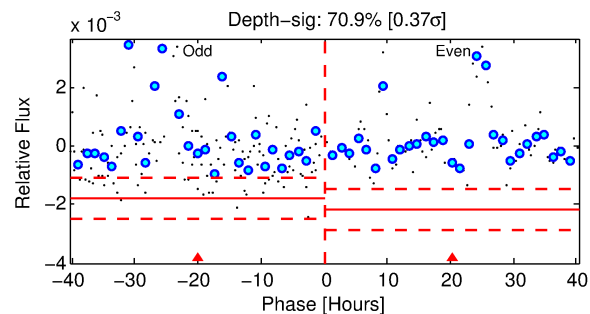
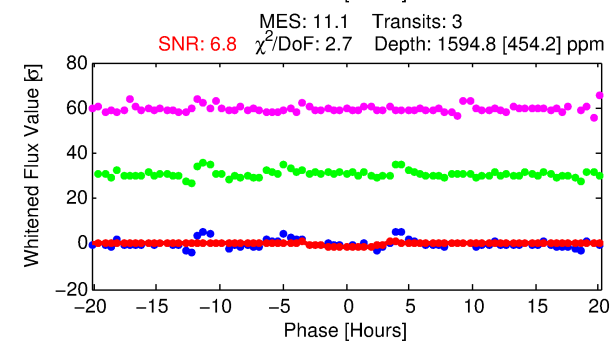
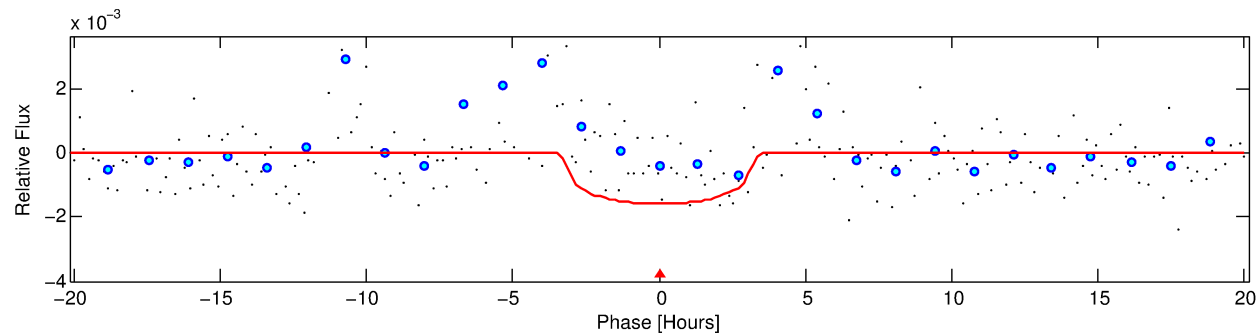
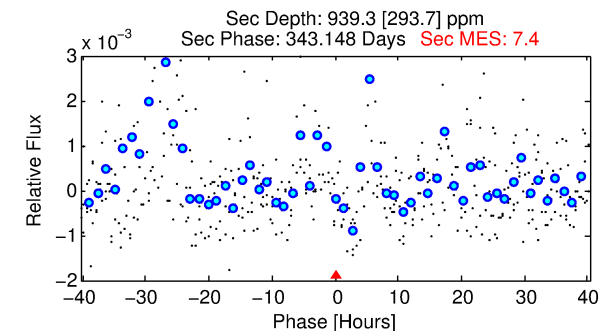
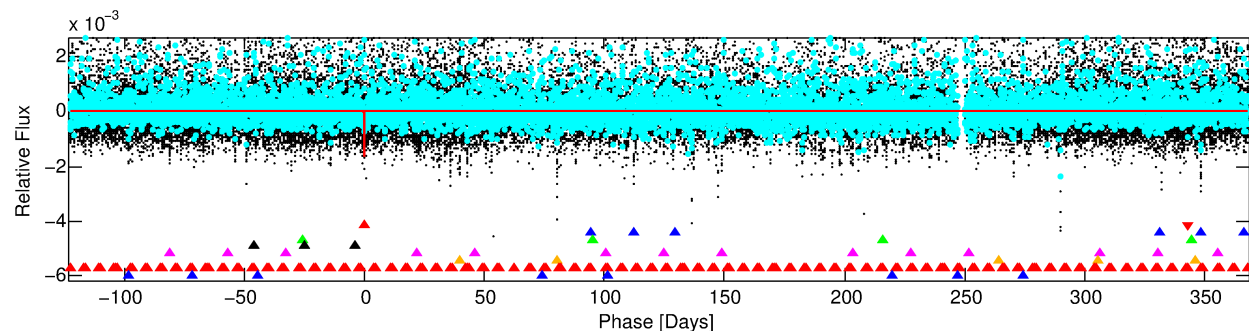
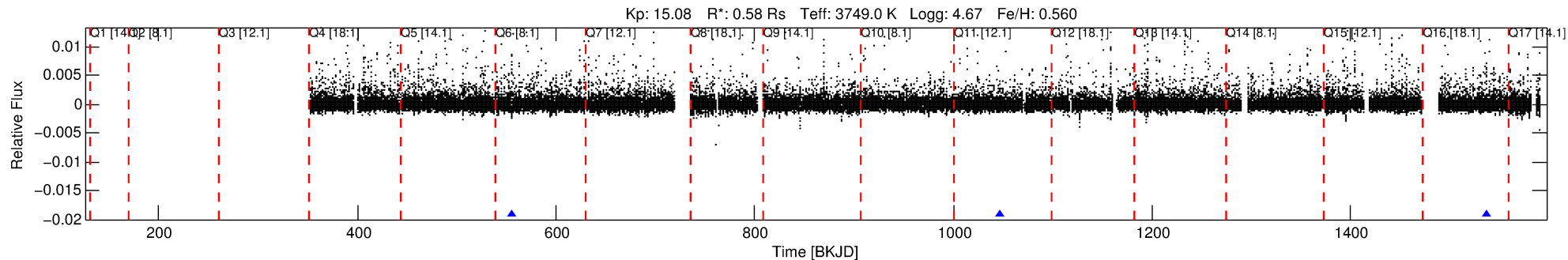
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006521526-01

No Significant Match Found

DV One-Page Summary

KIC: 6521526 Candidate: 1 of 8 Period: 490.983 d



DV Fit Results:

Period = 490.98302 [0.01377] d
Epoch = 555.4660 [0.0182] BKJD
Rp/R* = 0.0381 [0.0335]
a/R* = 458.56 [1252.65]
b = 0.63 [2.62]
Seff = 0.06 [0.01]
Teq = 125 [6] K
Rp = 2.42 [2.14] Re
a = 1.0167 [0.0991] AU
Ag = 91516.18 [163768.35] [0.56σ]
Teffp = 3362 [1505] K [2.15σ]

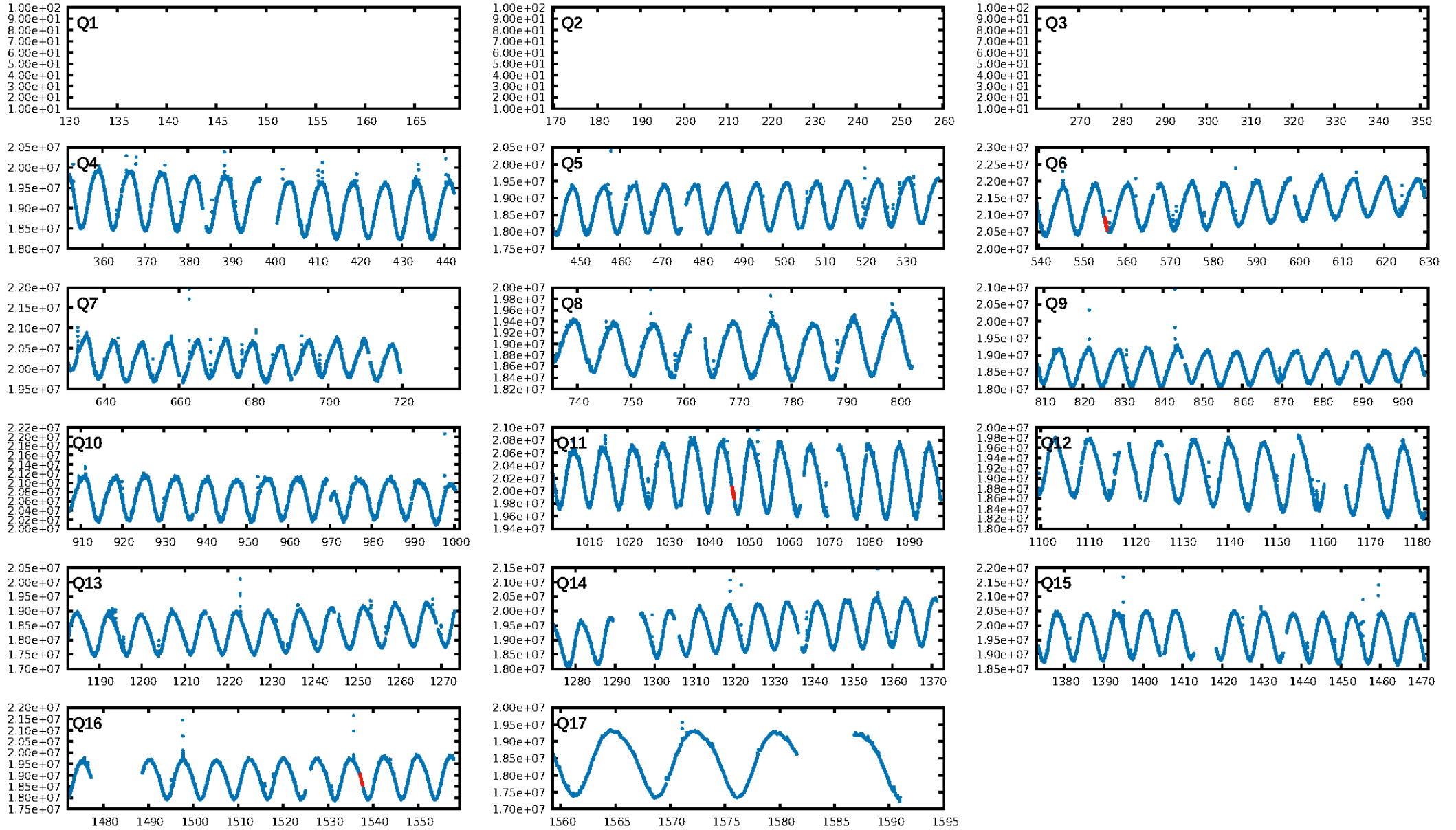
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [30.66σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.8%
ModelChiSquareGof-sig: 1.8%
Bootstrap-pfa: 2.67e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.1169
Centroid-sig: 15.4%
Centroid-so: 1.154 arcsec [1.05σ]
OotOffset-rm: 0.332 arcsec [0.15σ]
KicOffset-rm: 0.656 arcsec [0.33σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

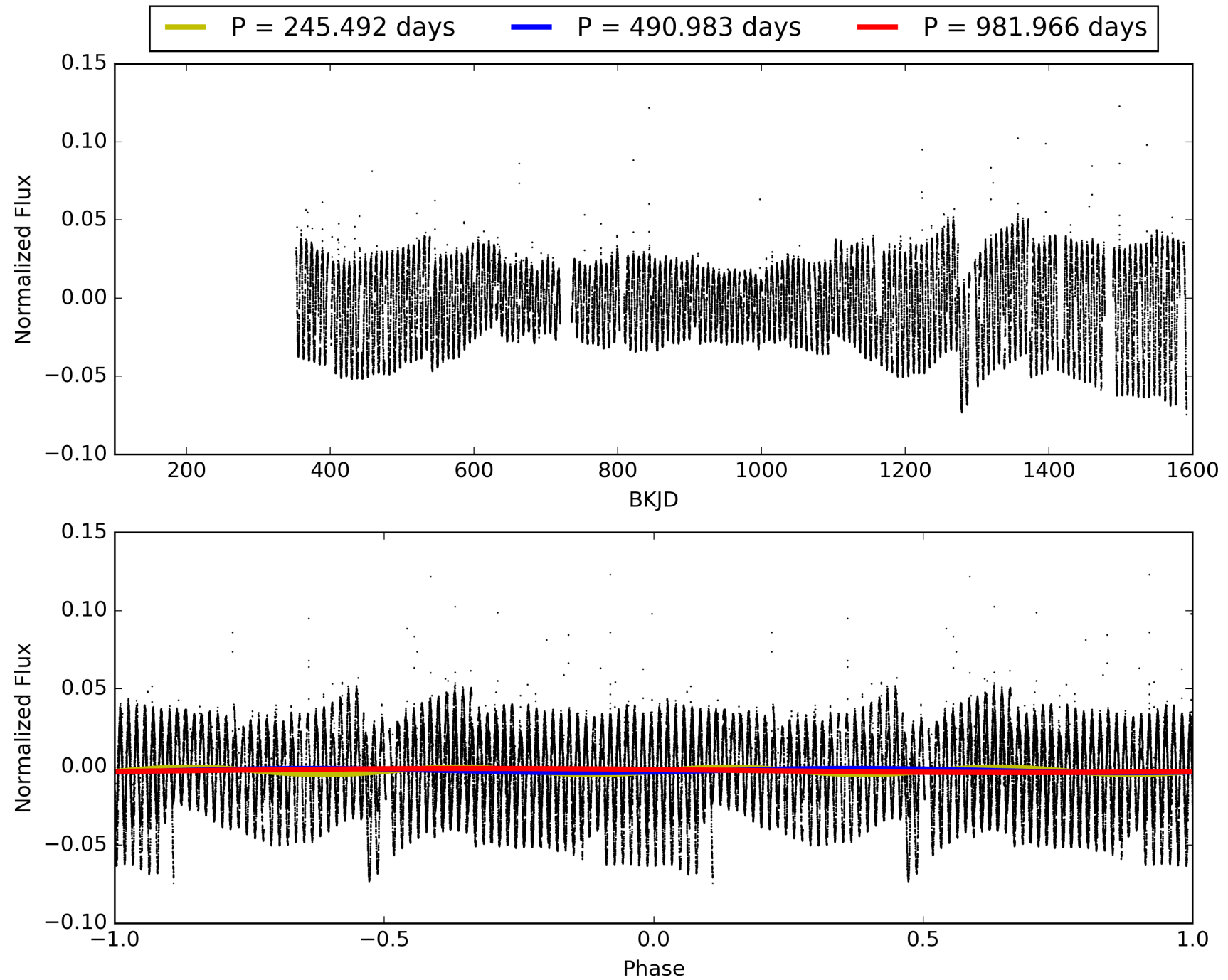
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006521526-01, PDC Light Curves

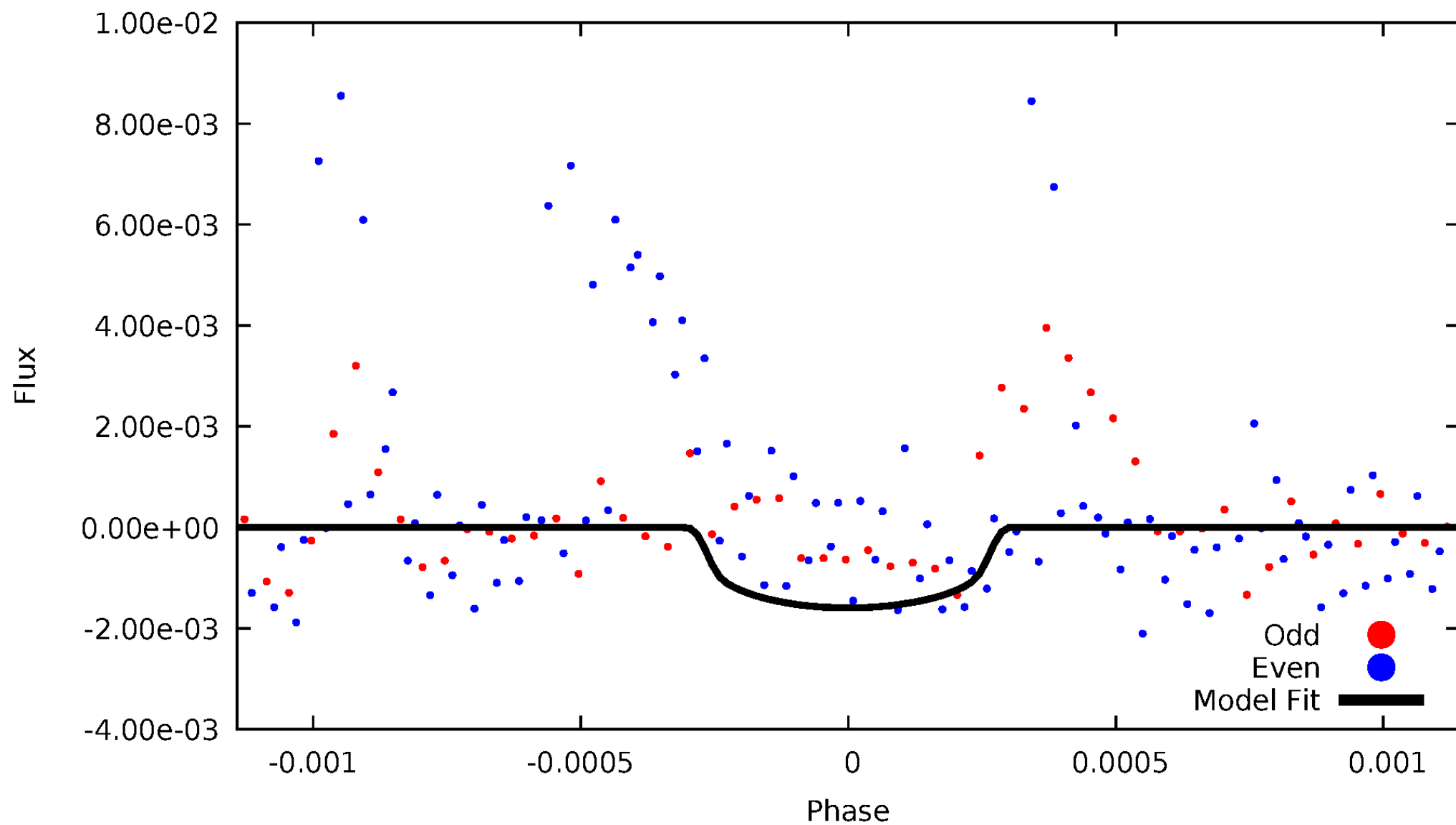


TCE 006521526-01



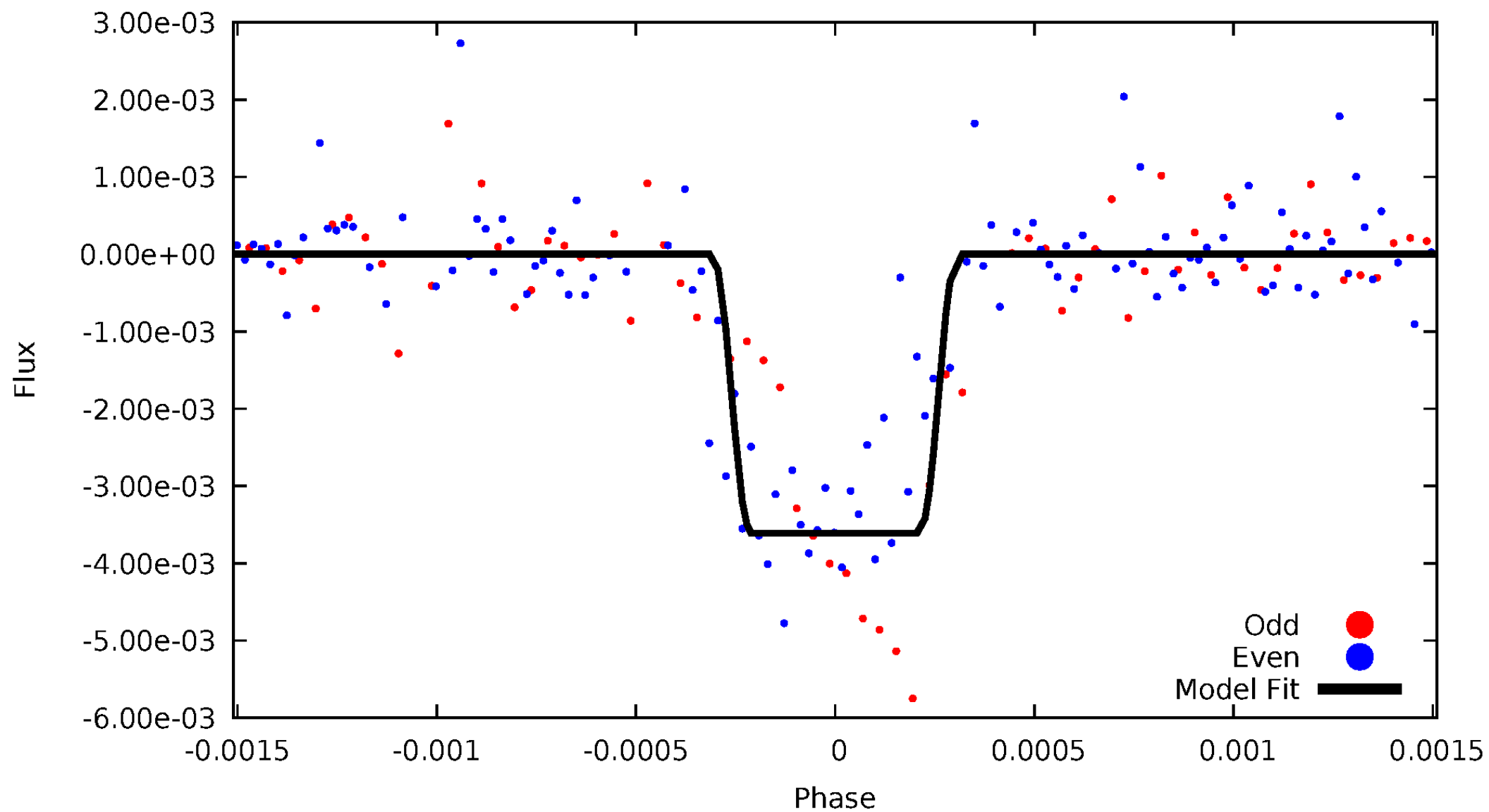
DV Odd/Even

TCE 006521526-01



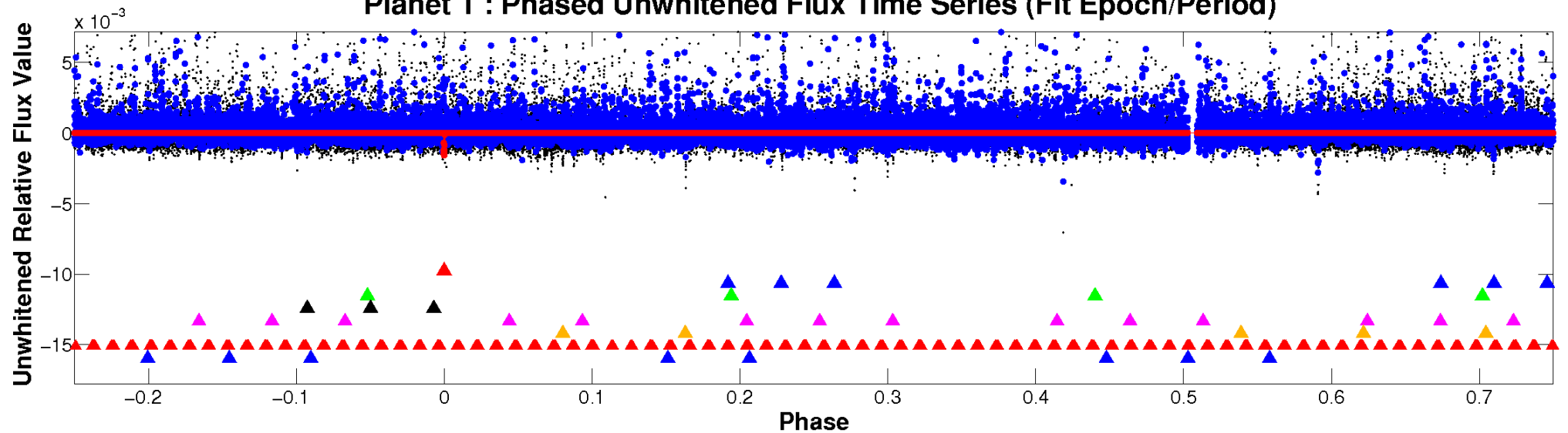
ALT Odd/Even

TCE 006521526-01

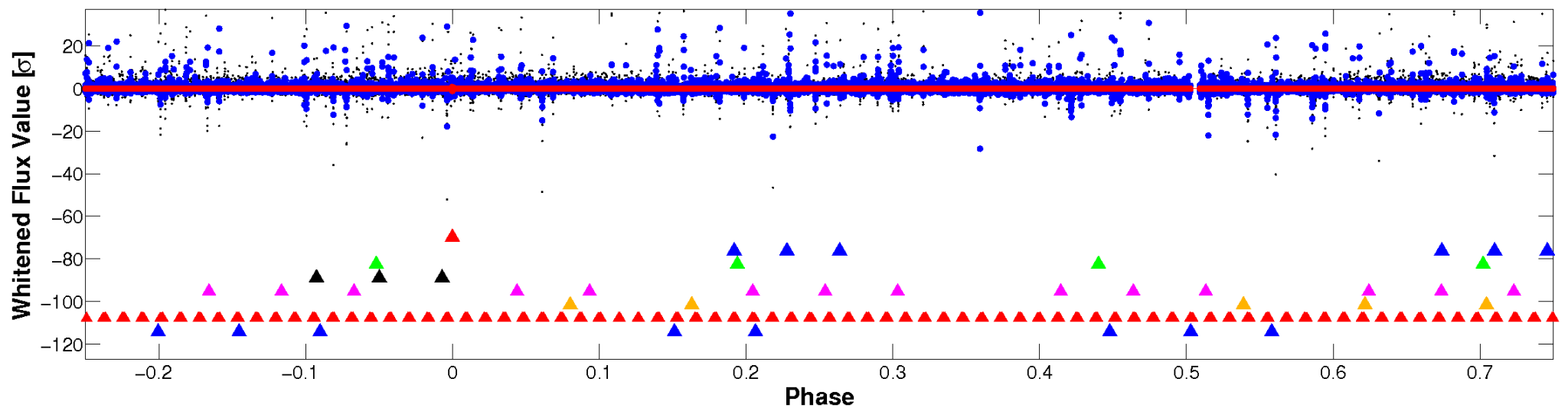


Non-Whitened Vs. Whitened Light Curve

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

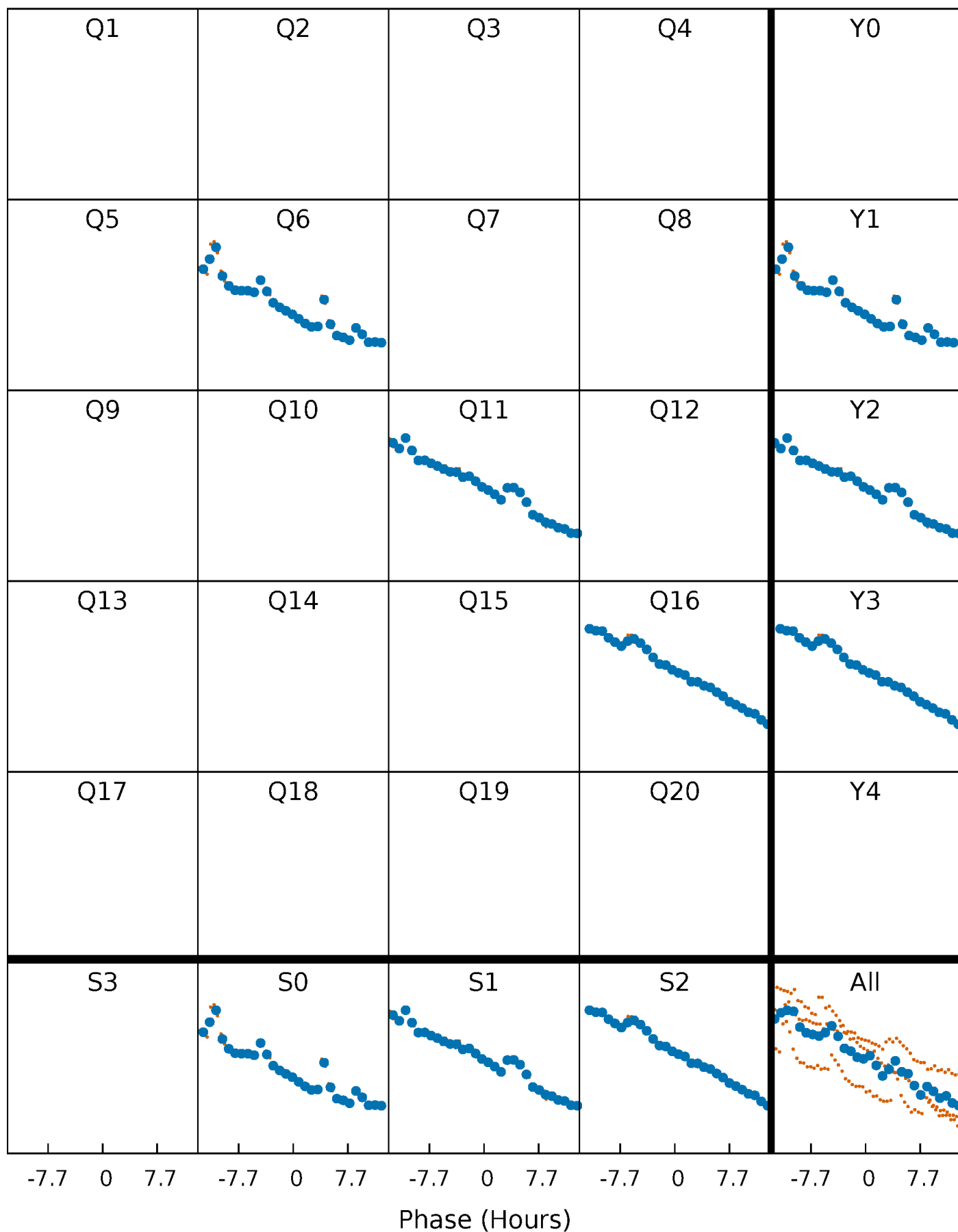


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



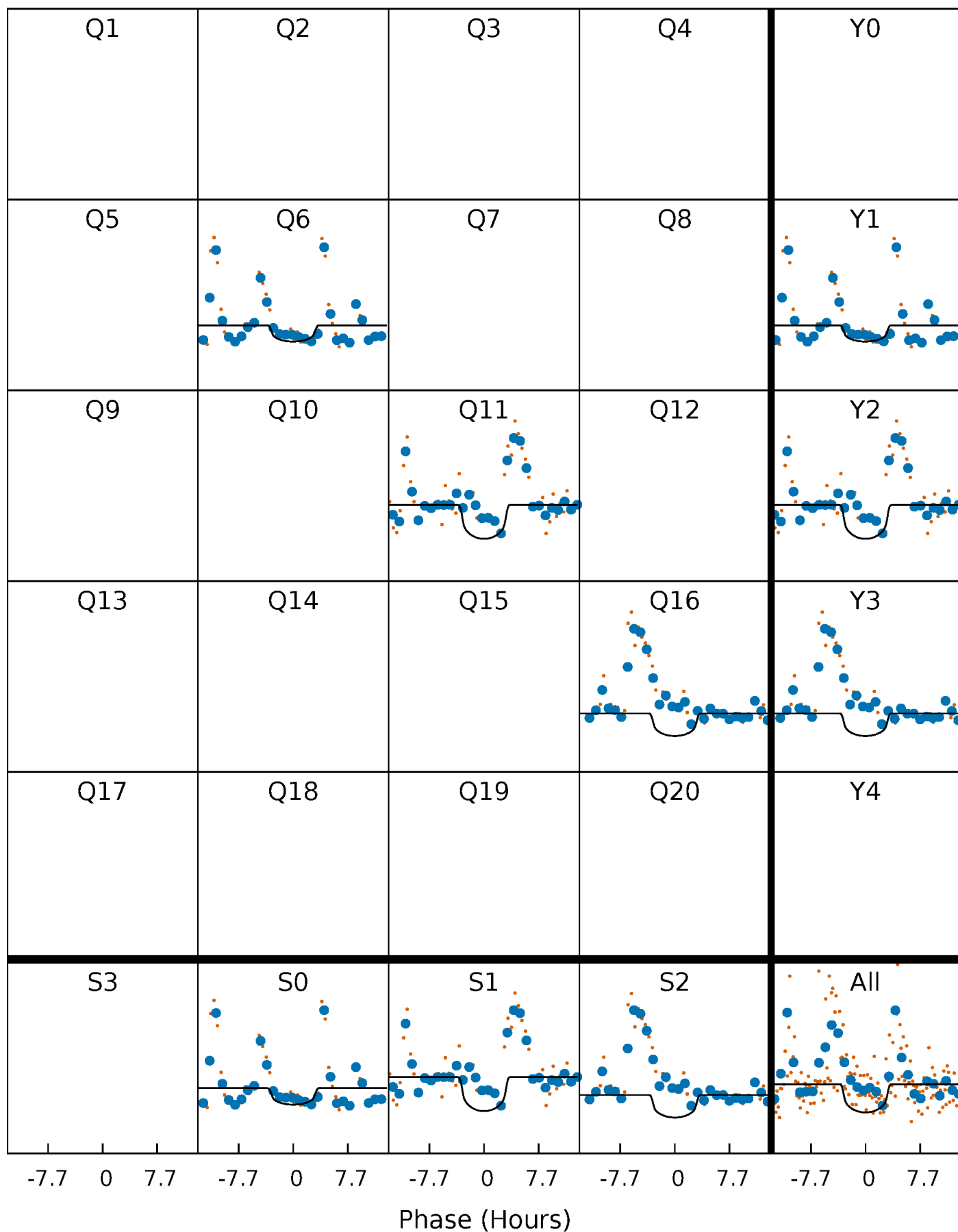
PDC Quarter-Phased Transit Curves

TCE 006521526-01 P=490.983020 Days $T_0=555.466010$ (BKJD)



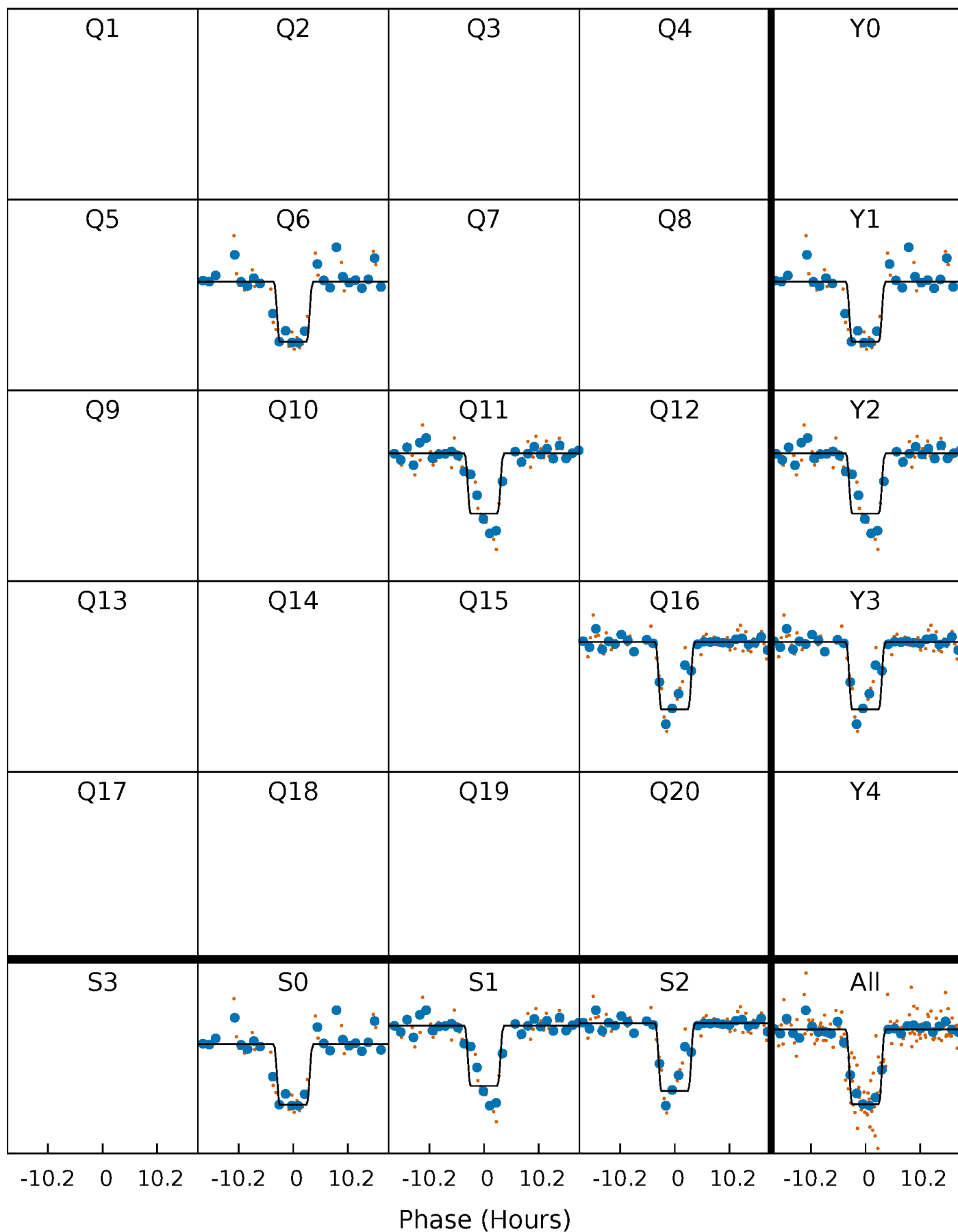
DV Quarter-Phased Transit Curves

TCE 006521526-01 P=490.983020 Days $T_0=555.466010$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

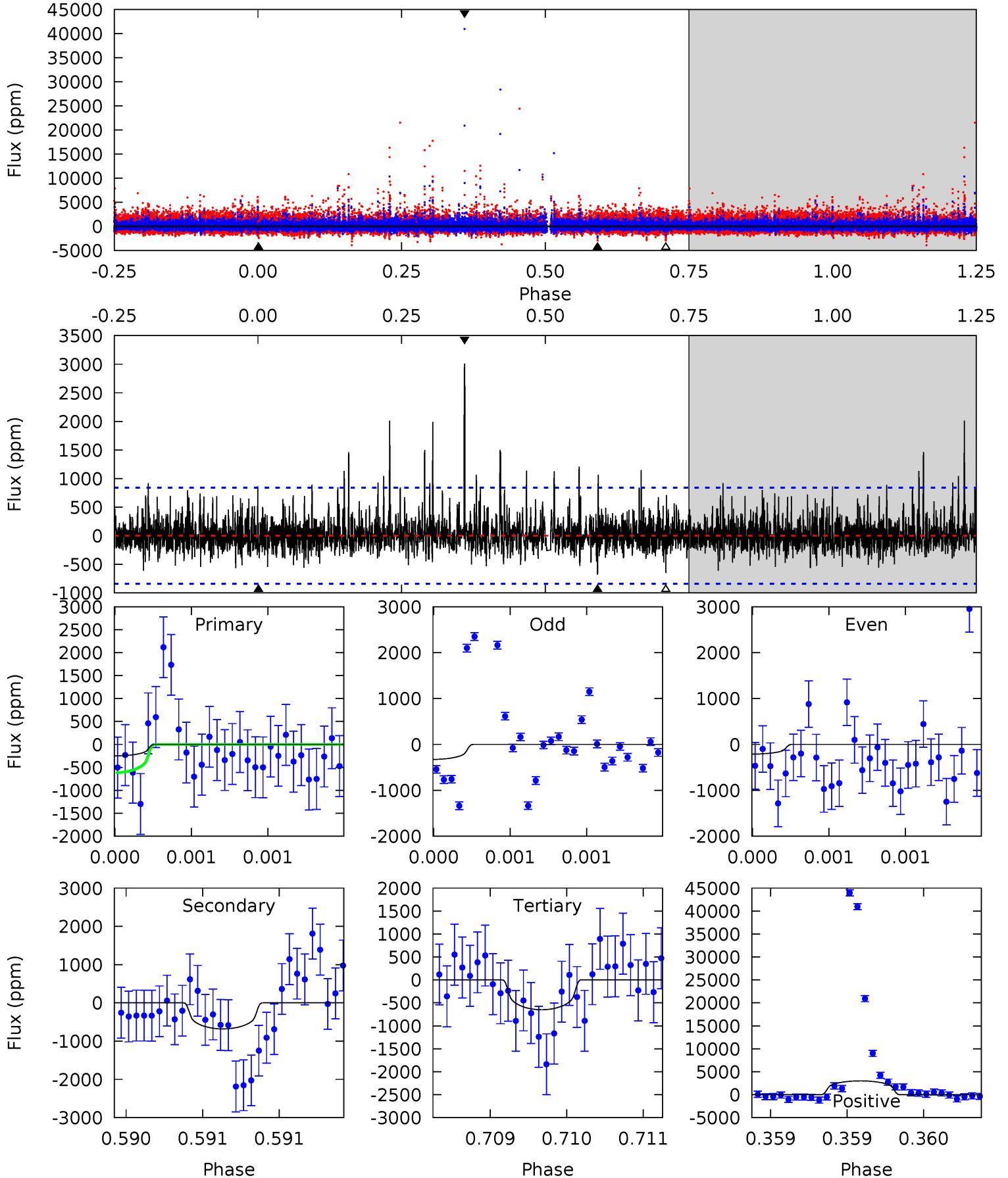
TCE 006521526-01 P=490.950335 Days $T_0=555.502964$ (BKJD)



DV Model-Shift Uniqueness Test

006521526-01, P = 490.983020 Days, E = 64.482990 Days

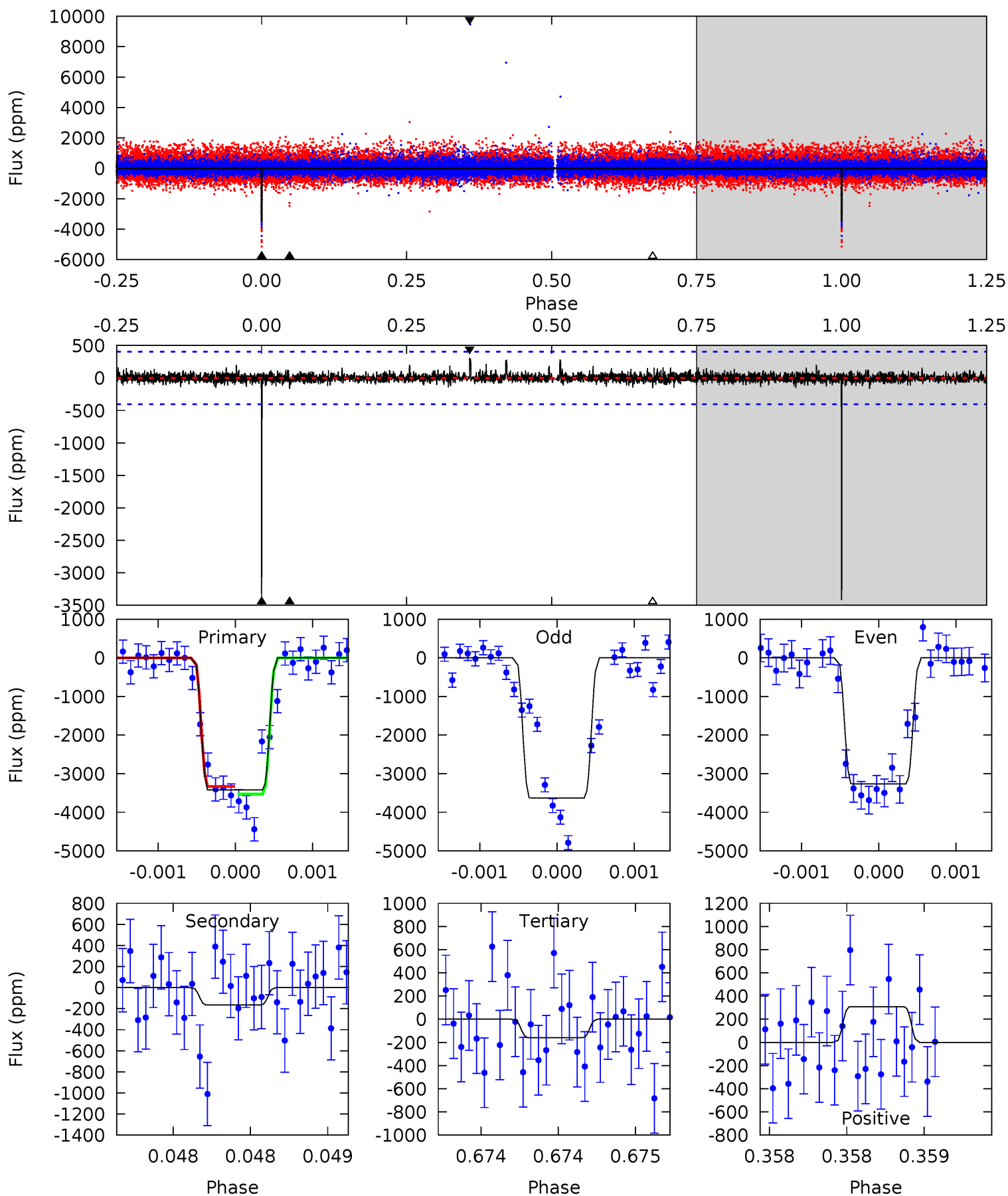
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.64	4.50	4.29	19.8	5.54	3.43	1.59	-2.65	-18.2	0.20	-15.3	0.26	0.76	0.82	1.67



Alt Model-Shift Uniqueness Test

006521526-01, P = 490.950335 Days, E = 64.552629 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.9	2.27	2.19	4.22	5.55	3.44	0.54	44.7	42.7	0.08	-1.95	2.43	0.96	0.08	1.34



Stellar Parameters For KIC 006521526

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3749^{+117}_{-143}	$4.674^{+0.072}_{-0.022}$	$0.560^{+0.050}_{-0.300}$	$0.581^{+0.030}_{-0.070}$	$0.582^{+0.037}_{-0.061}$	$4.171^{+1.432}_{-0.391}$
	+3%/-4%	+2%/-0%	+9%/-54%	+5%/-12%	+6%/-10%	+34%/-9%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006521526-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-680 ± 151	$2.67^{+1.92}_{-1.59}$	173^{+6}_{-8}	3182^{+1125}_{-453}	$53736^{+267105}_{-36086}$
Alt.	-165 ± 73	$3.85^{+1.91}_{-2.02}$	173^{+7}_{-7}	2407^{+478}_{-266}	6225^{+20720}_{-3880}

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 $A_{obs} \gg 1.0$

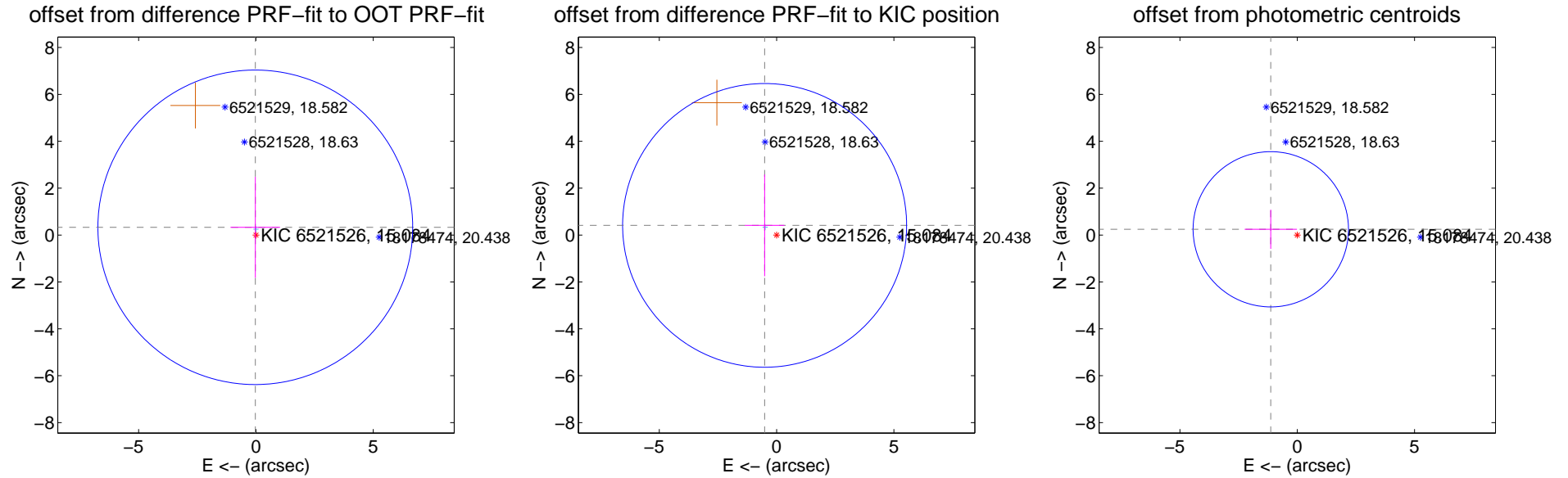
DV Centroid Data

Supplemental centroid analysis for 006521526-01. Kepler magnitude: 15.08. Transit SNR 6.76

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.332 ± 2.236	0.15	0.028 ± 1.056	0.330 ± 2.155
PRF-fit source offset from KIC position	0.656 ± 2.017	0.33	0.510 ± 0.842	0.412 ± 2.171
photometric centroid source offset	1.15 ± 1.10	1.05	1.13 ± 1.11	0.25 ± 0.84

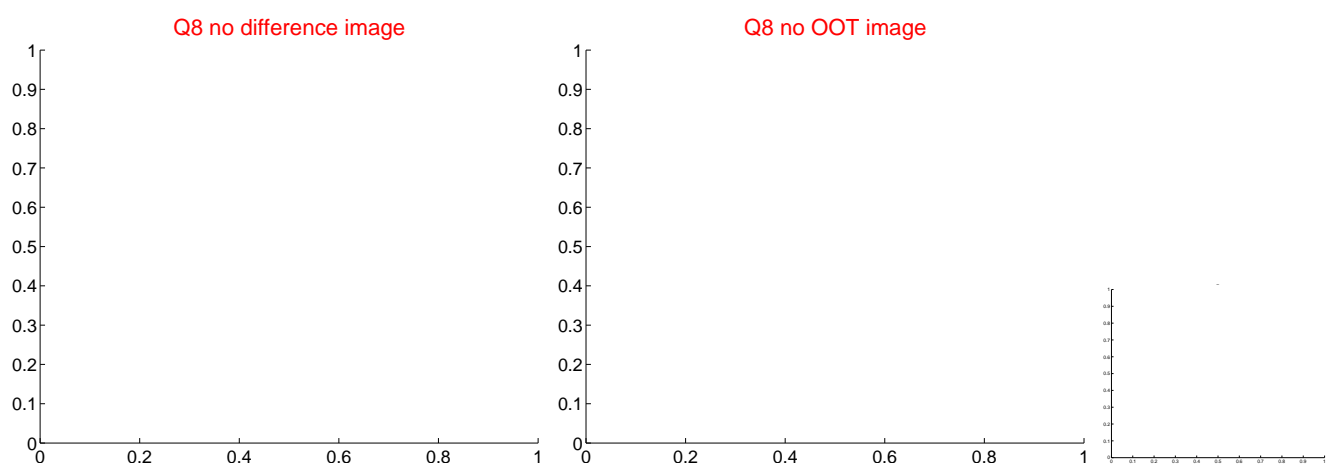
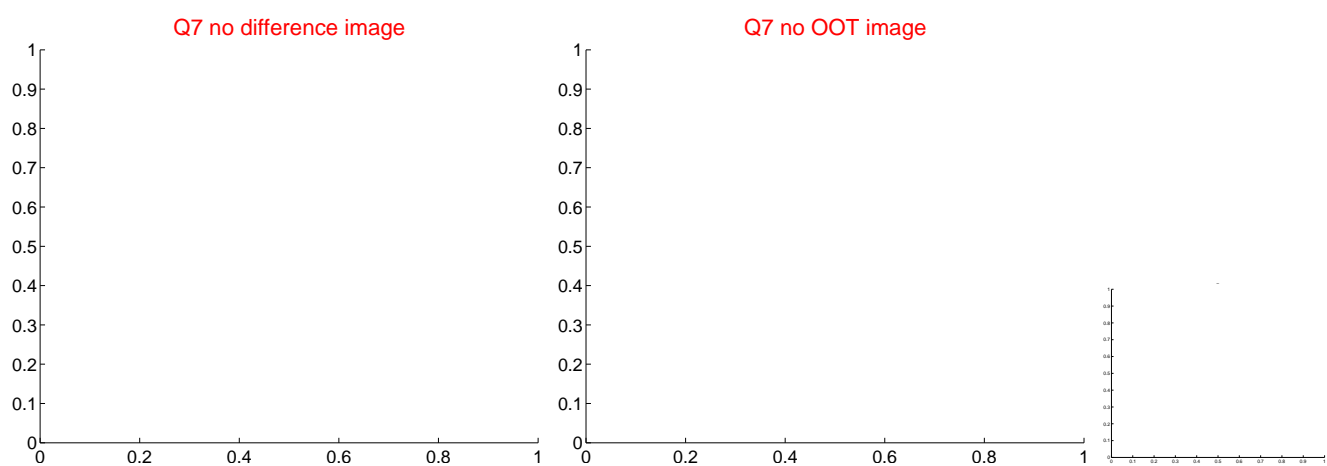
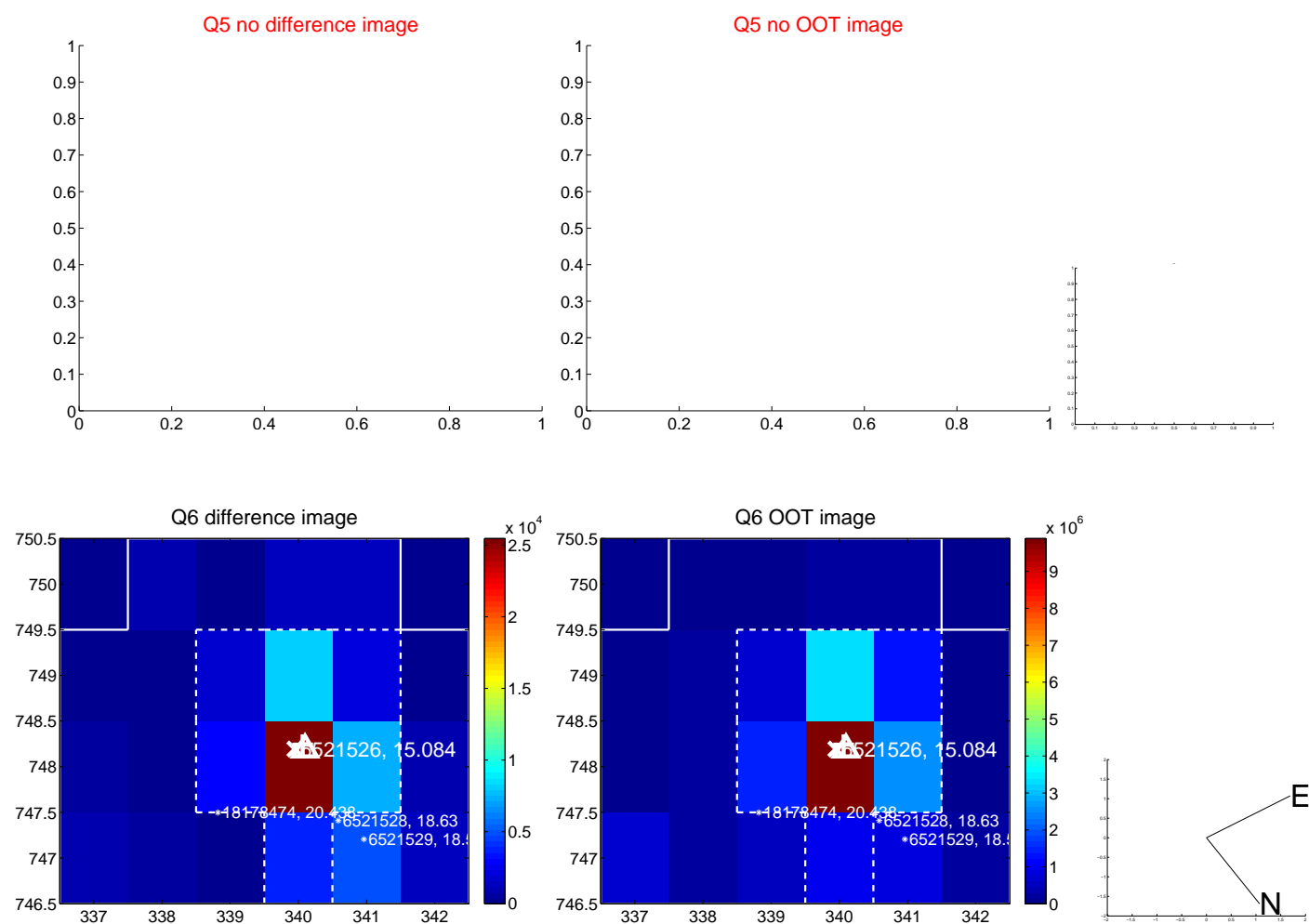


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

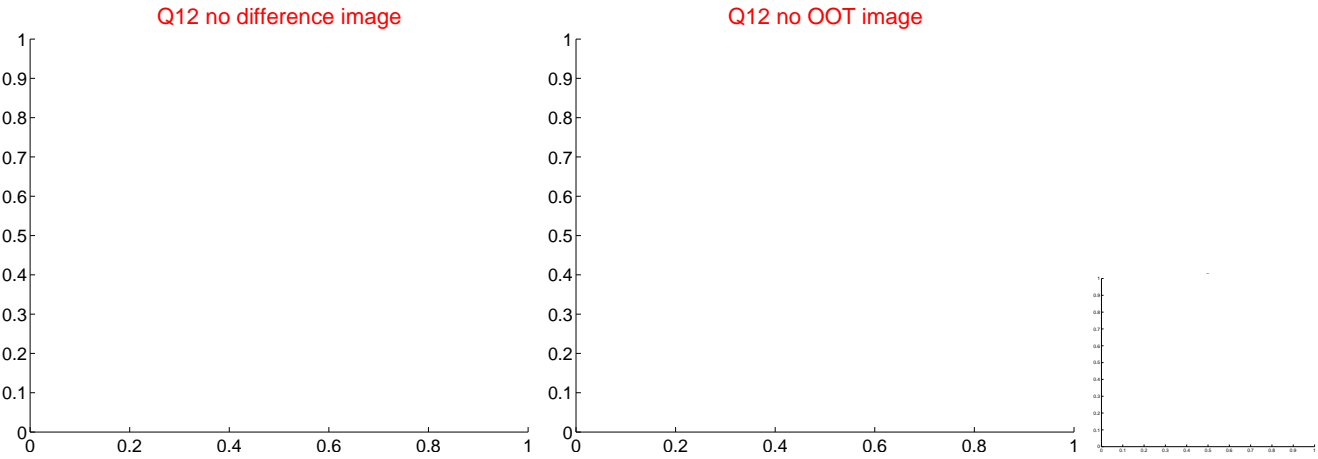
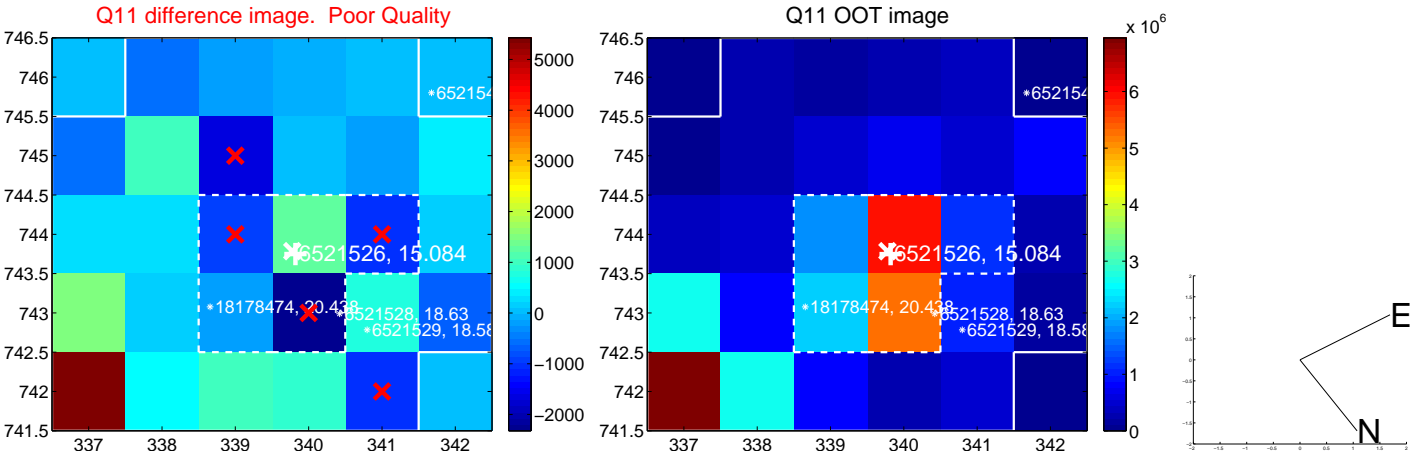
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



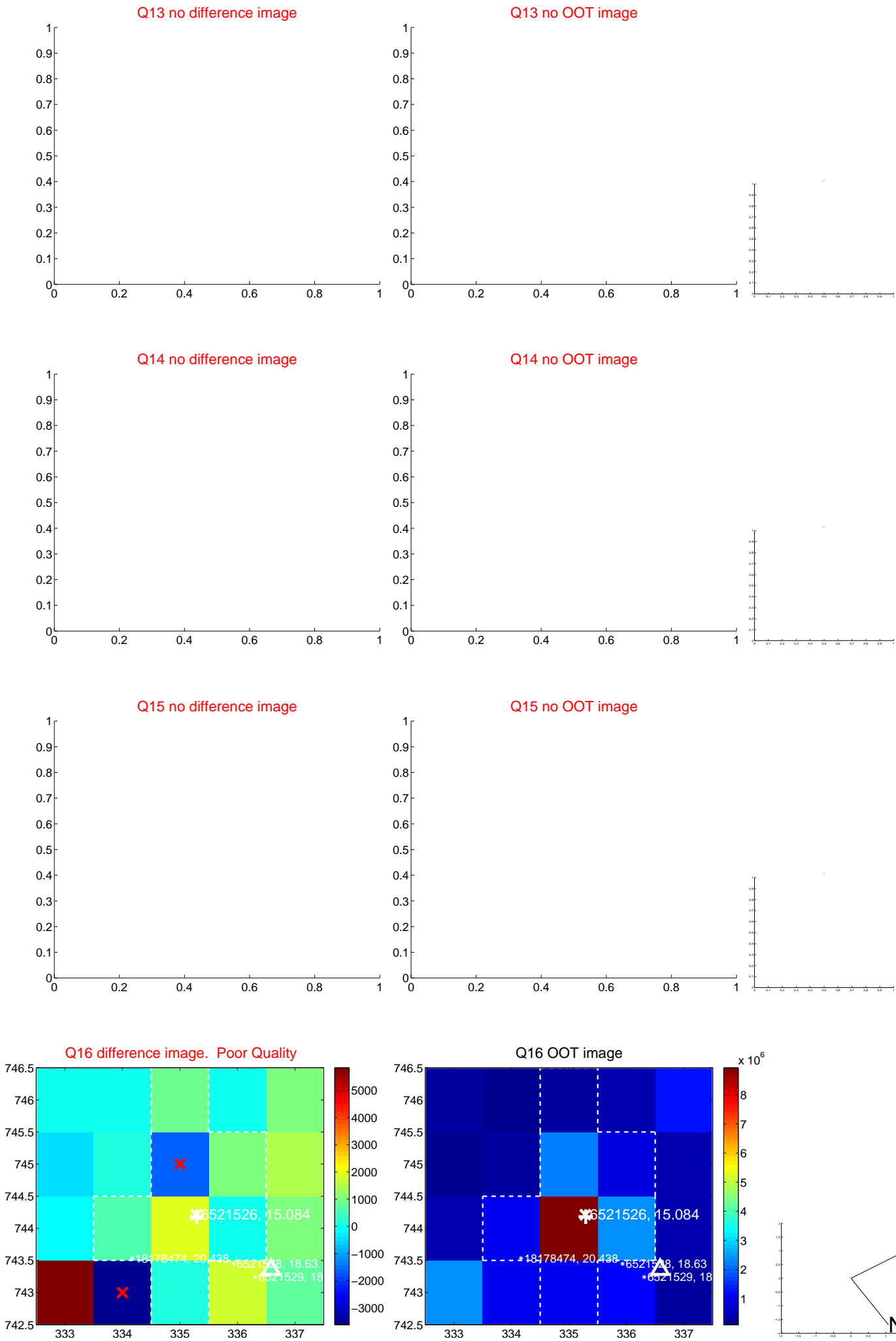
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



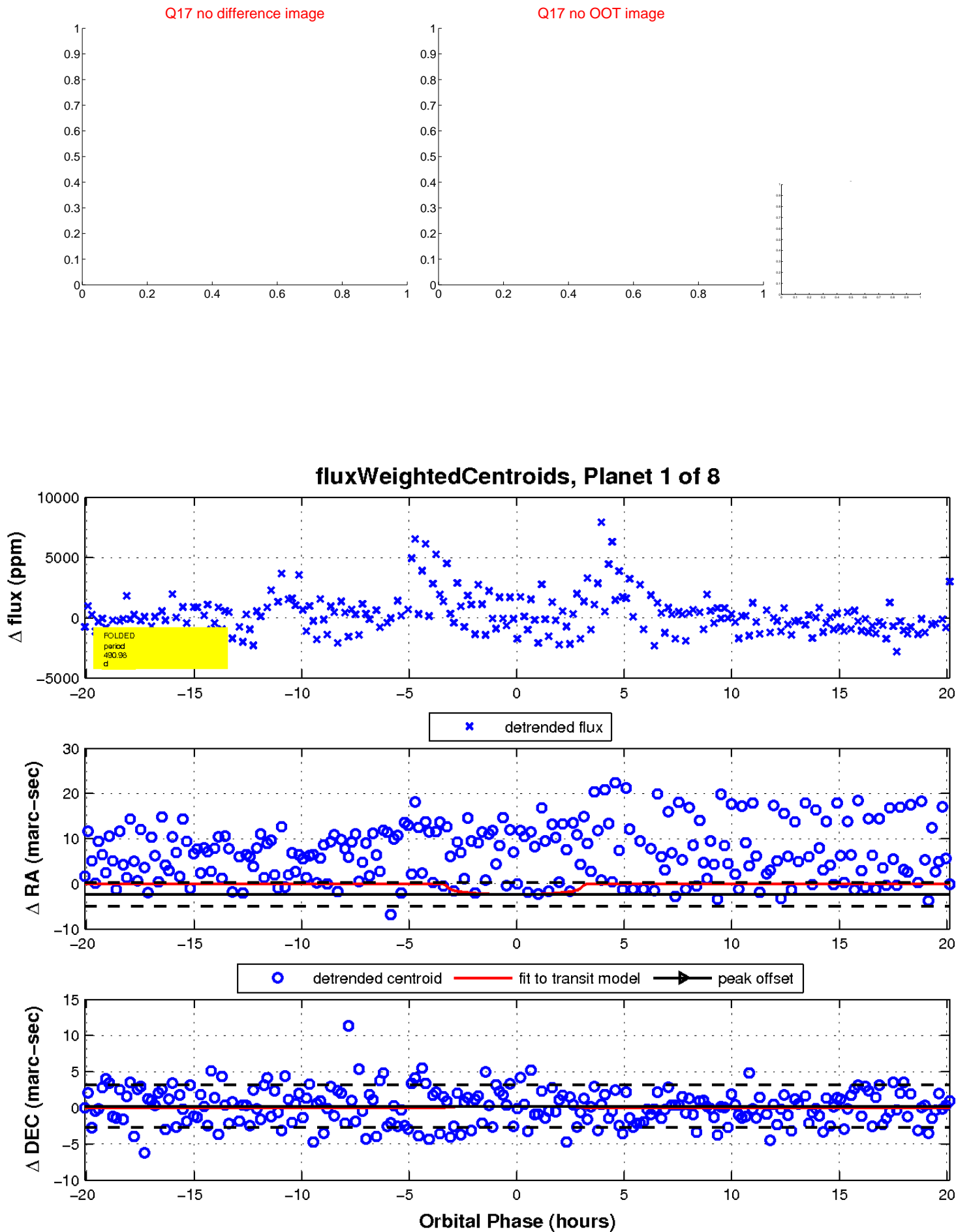
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white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

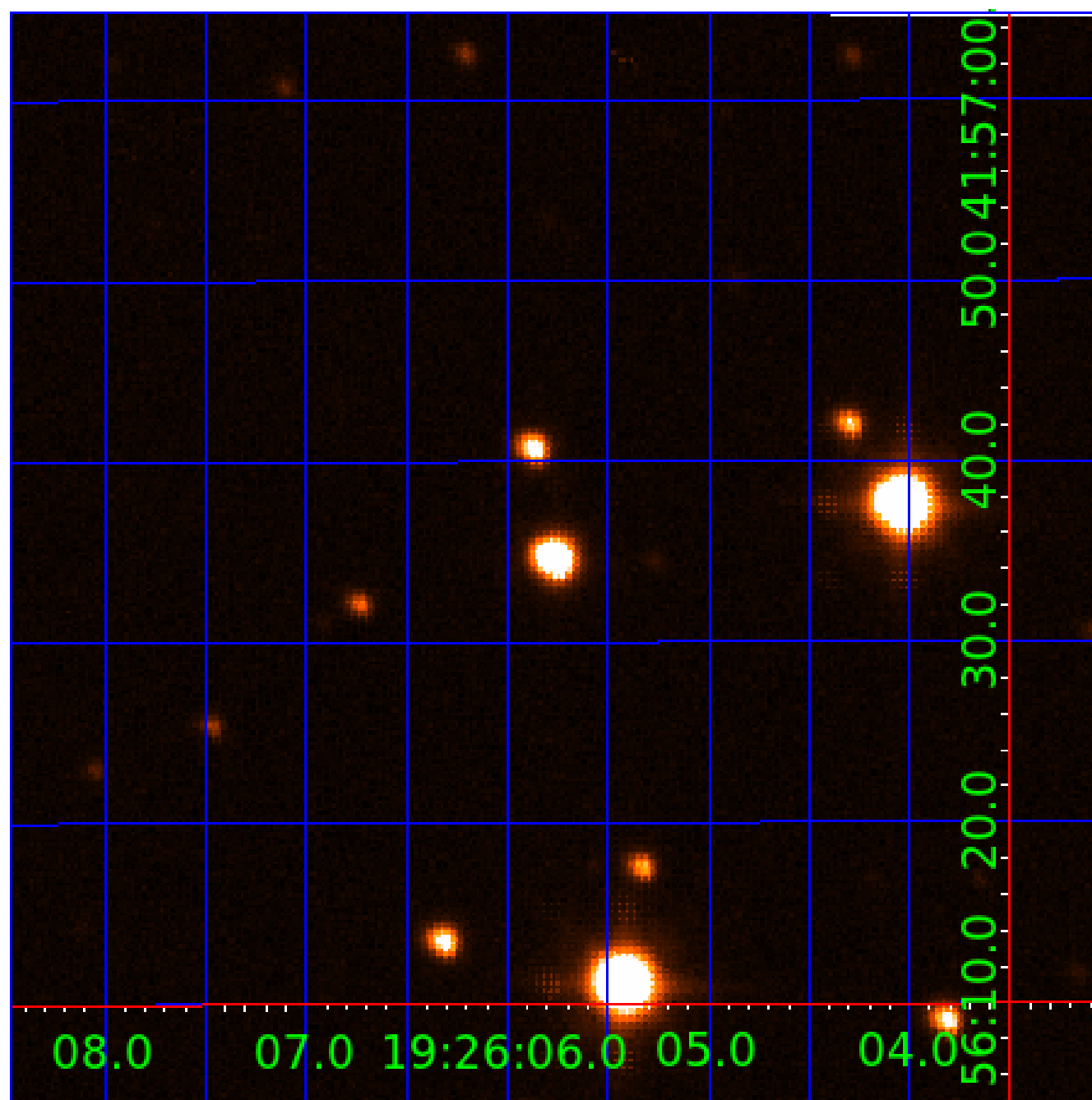


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006521526

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})
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Robovetter Results

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006521526-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006521526-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006521526-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
006521526-05	OBS	FP	0.01	1	0	0	0	INCONSISTENT_TRANS
006521526-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—CENT_FEW_DIFFS
006521526-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006521526-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

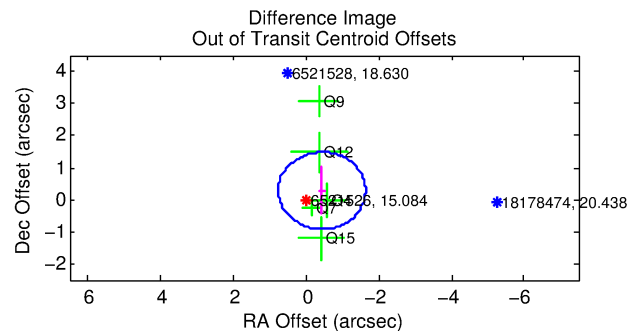
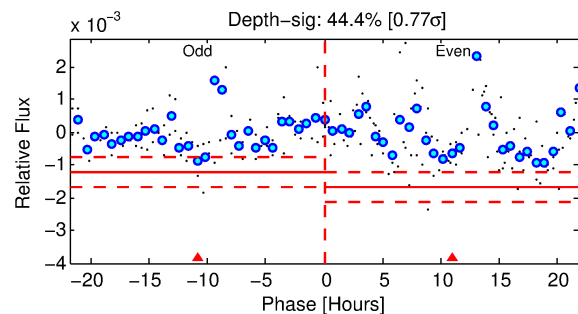
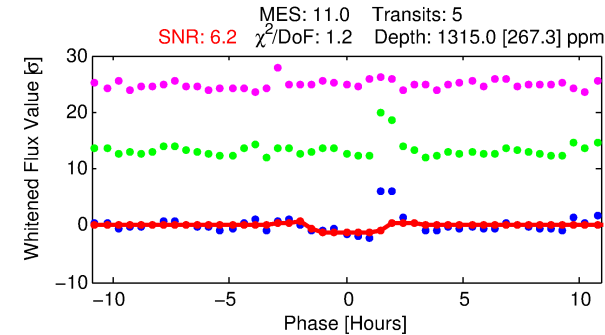
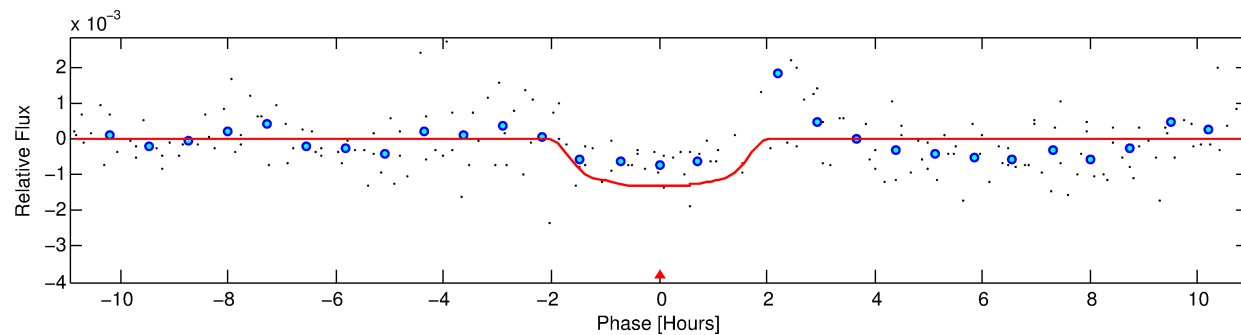
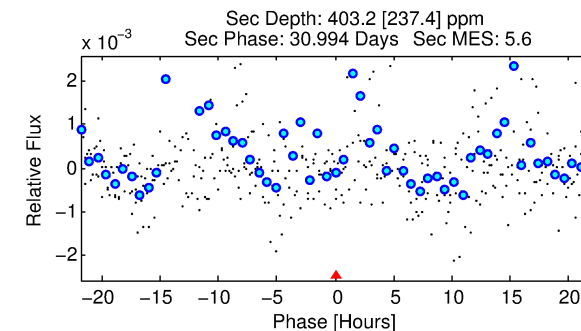
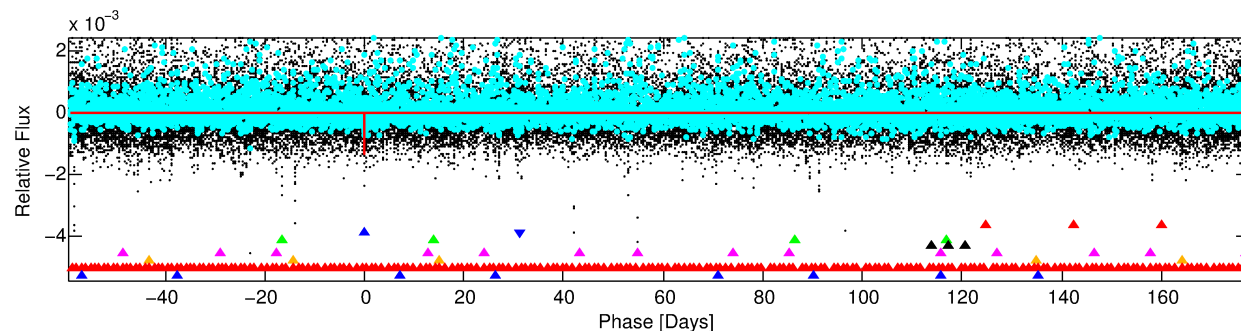
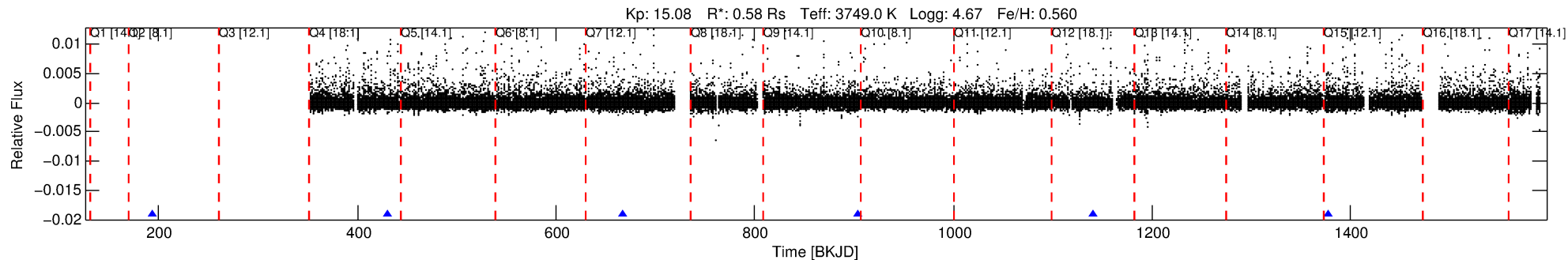
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006521526-02

No Significant Match Found

DV One-Page Summary

KIC: 6521526 Candidate: 2 of 8 Period: 236.671 d



DV Fit Results:

Period = 236.67079 [0.00364] d
Epoch = 194.0173 [0.0103] BJD
Rp/R* = 0.0352 [0.0479]
a/R* = 385.94 [1679.38]
b = 0.68 [3.51]
Seff = 0.15 [0.03]
Teq = 159 [8] K
Rp = 2.23 [3.05] Re
a = 0.6250 [0.0609] AU
Ag = 17356.67 [48337.79] [0.36σ]
Teff = 2830 [1971] K [1.35σ]

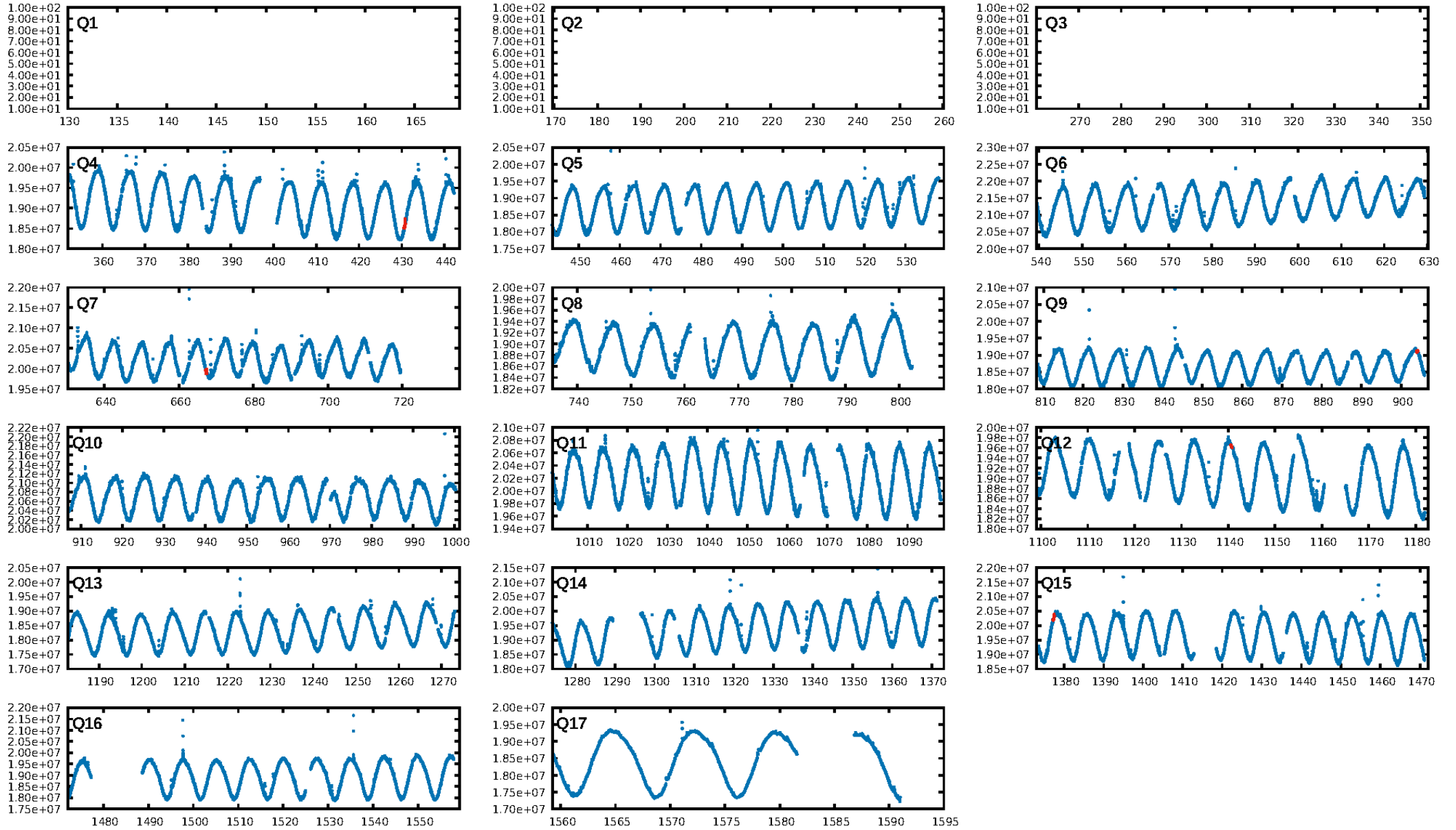
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [332.32σ]
LongPeriod-sig: 100.0% [58.61σ]
ModelChiSquare2-sig: 1.7%
ModelChiSquareGof-sig: 91.5%
Bootstrap-pfa: 7.80e-10
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.6853
Centroid-sig: 34.5%
Centroid-so: 0.981 arcsec [0.77σ]
OotOffset-rm: 0.519 arcsec [1.30σ]
OotOffset-st: 0/2/2/1 [5]
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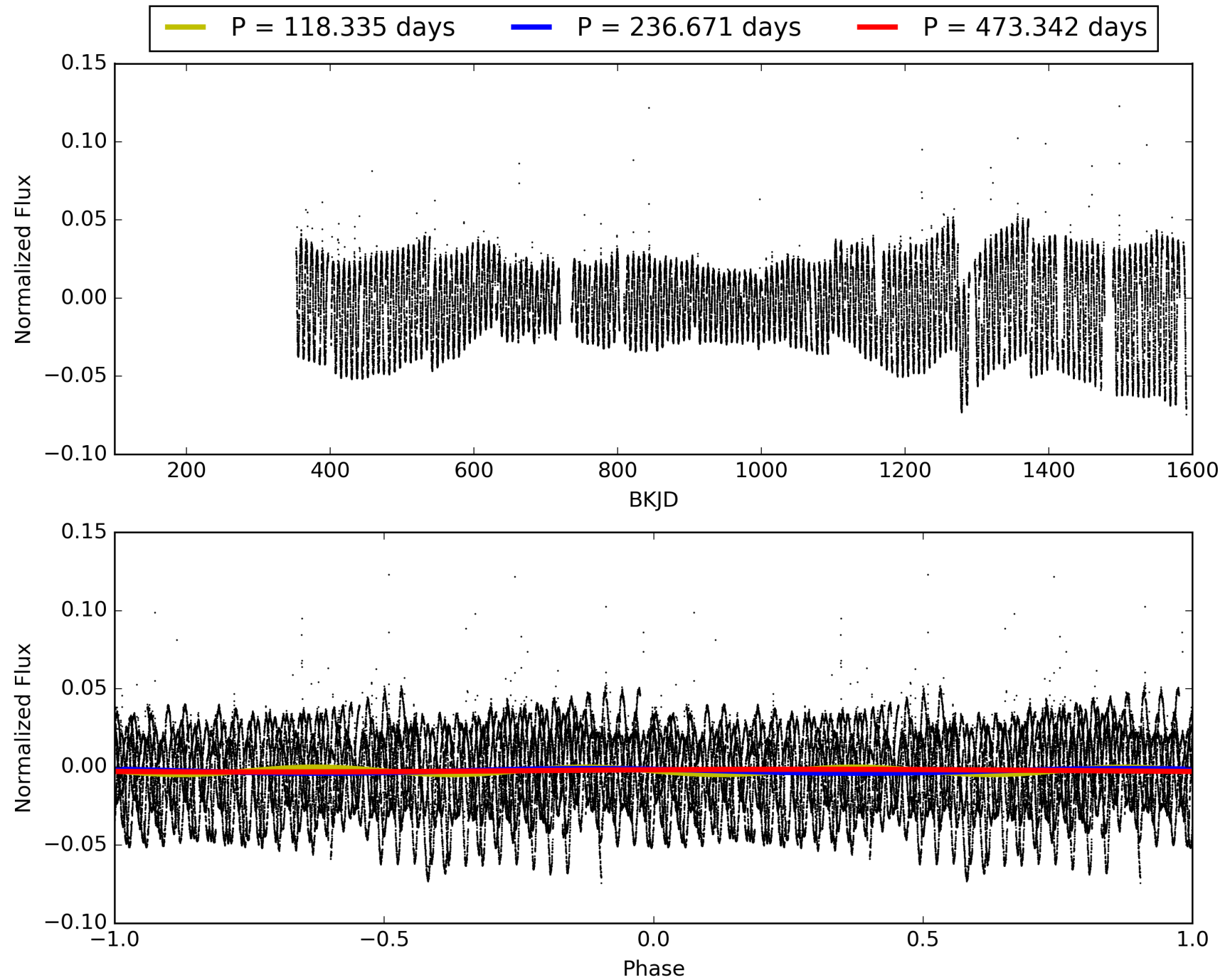
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006521526-02, PDC Light Curves

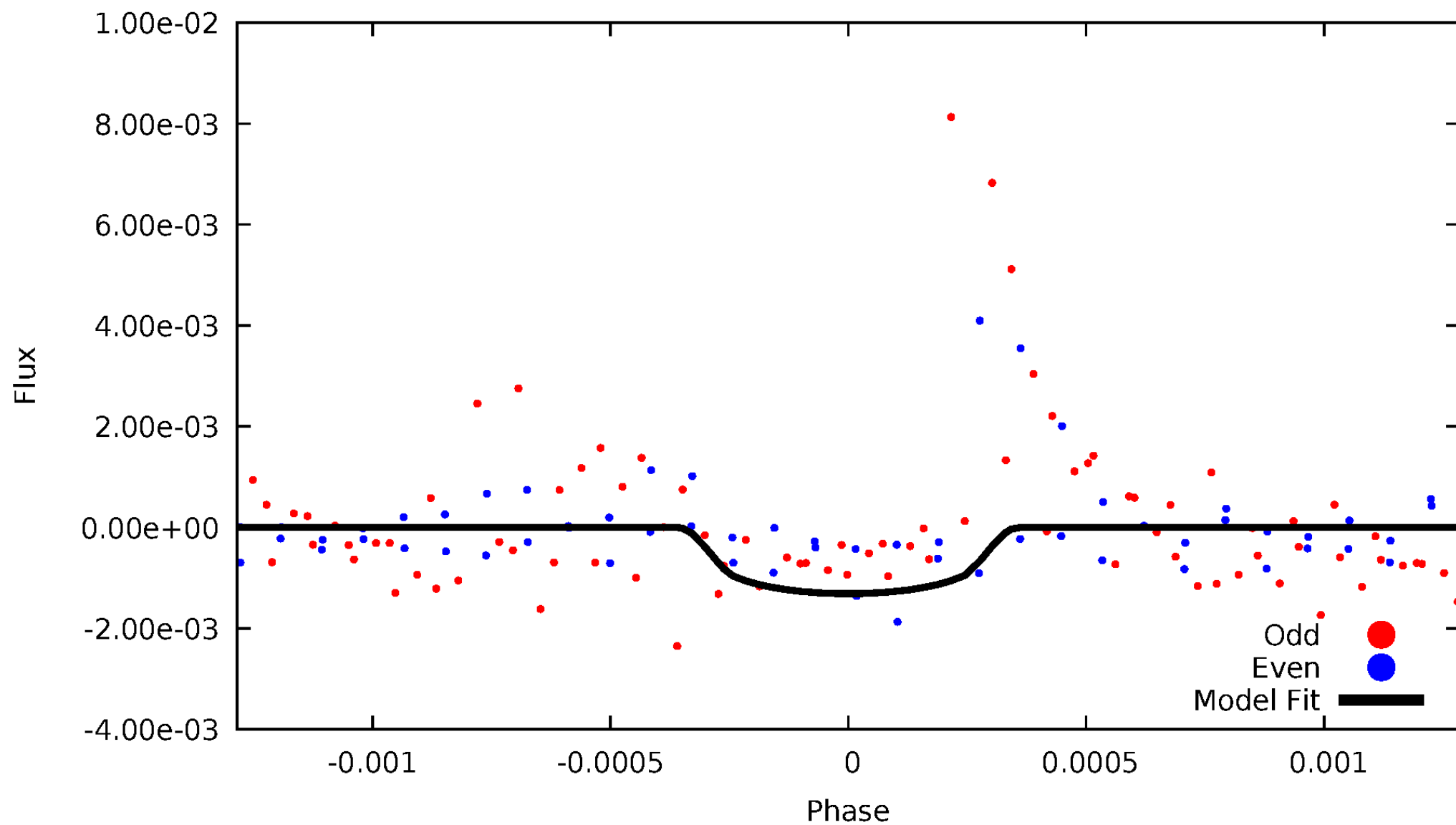


TCE 006521526-02



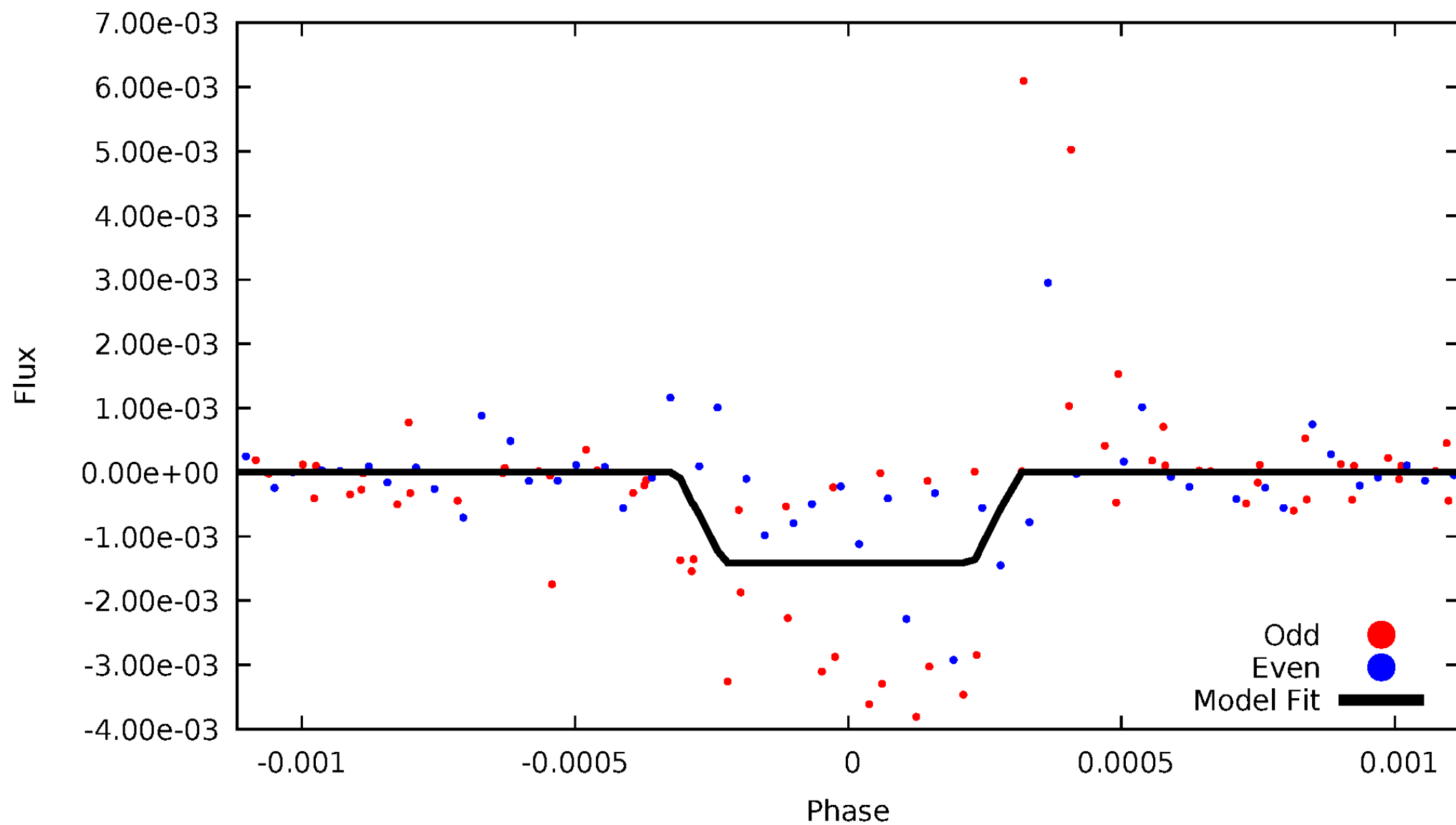
DV Odd/Even

TCE 006521526-02



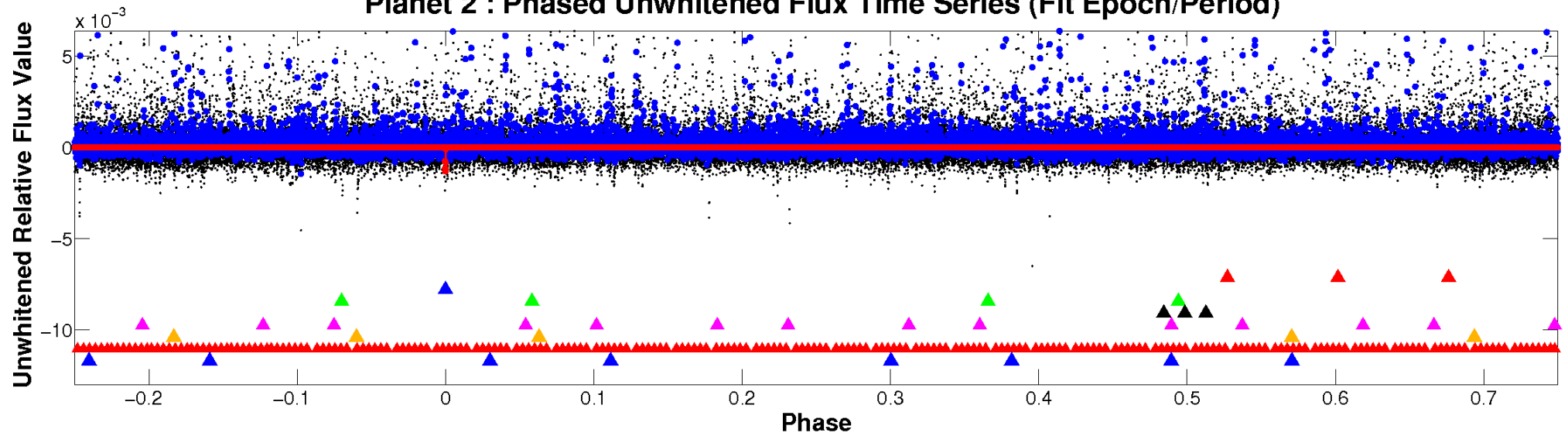
ALT Odd/Even

TCE 006521526-02

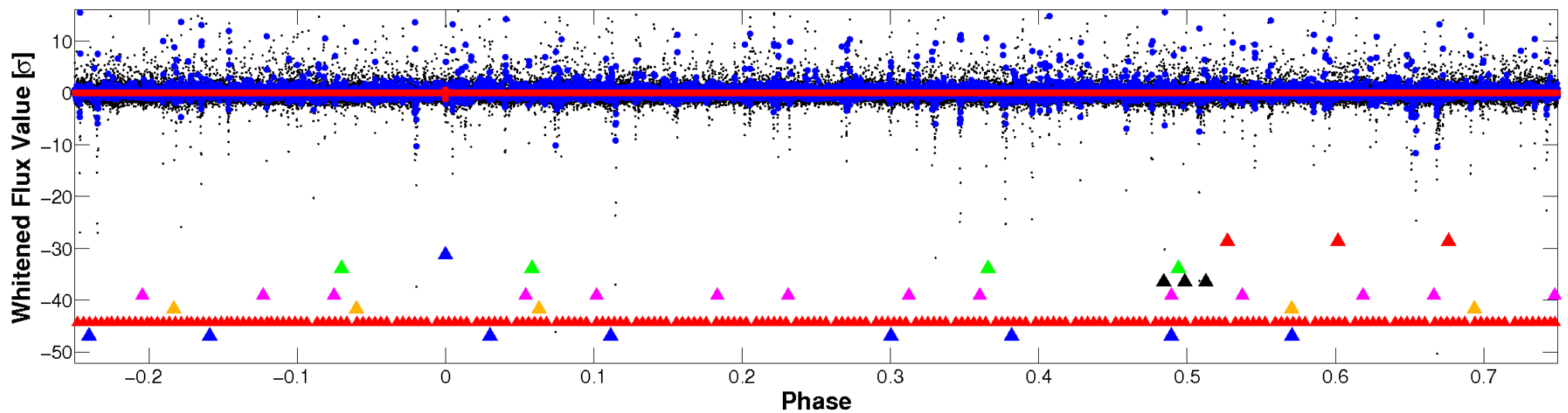


Non-Whitened Vs. Whitened Light Curve

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

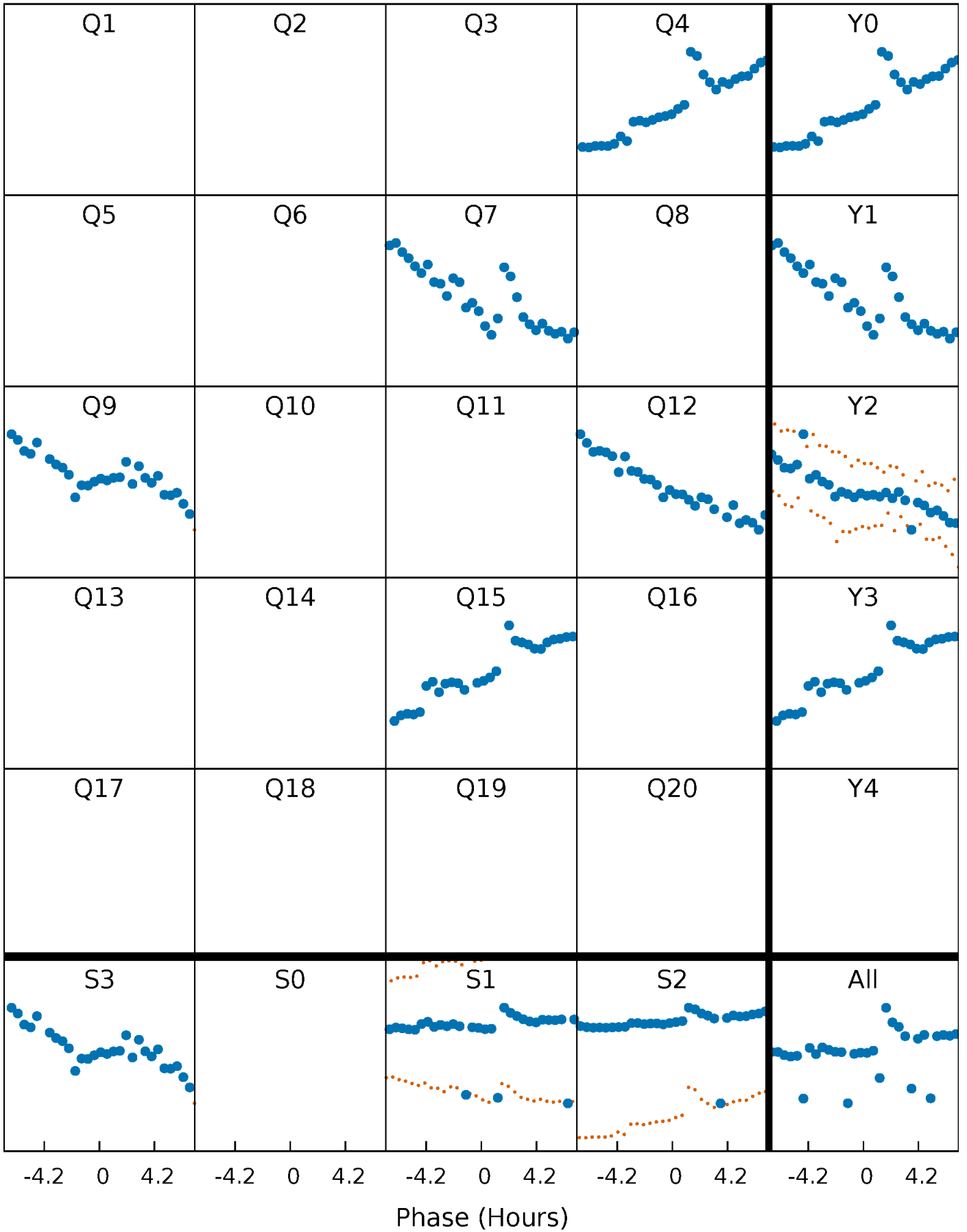


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



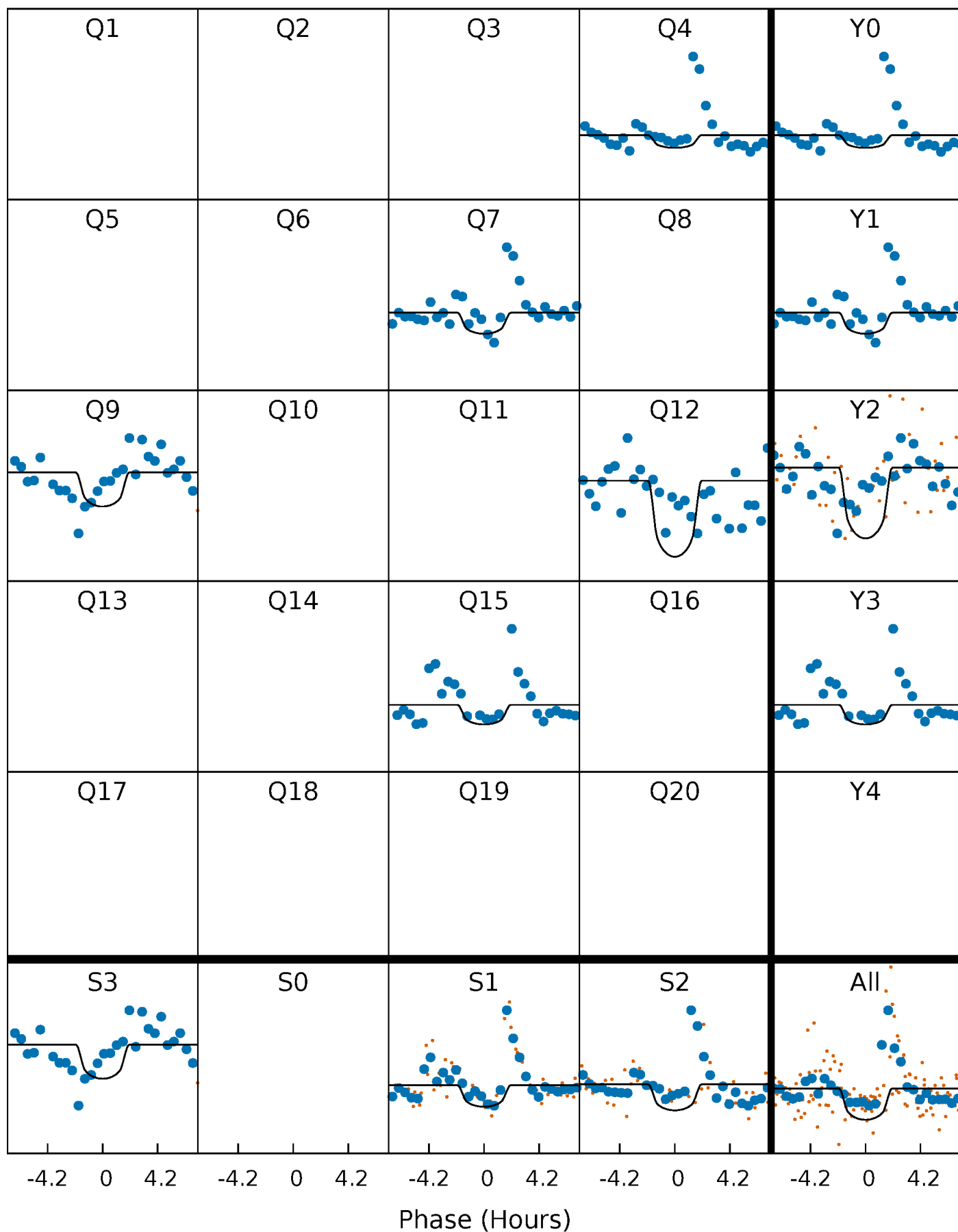
PDC Quarter-Phased Transit Curves

TCE 006521526-02 $P=236.670794$ Days $T_0=194.017256$ (BKJD)



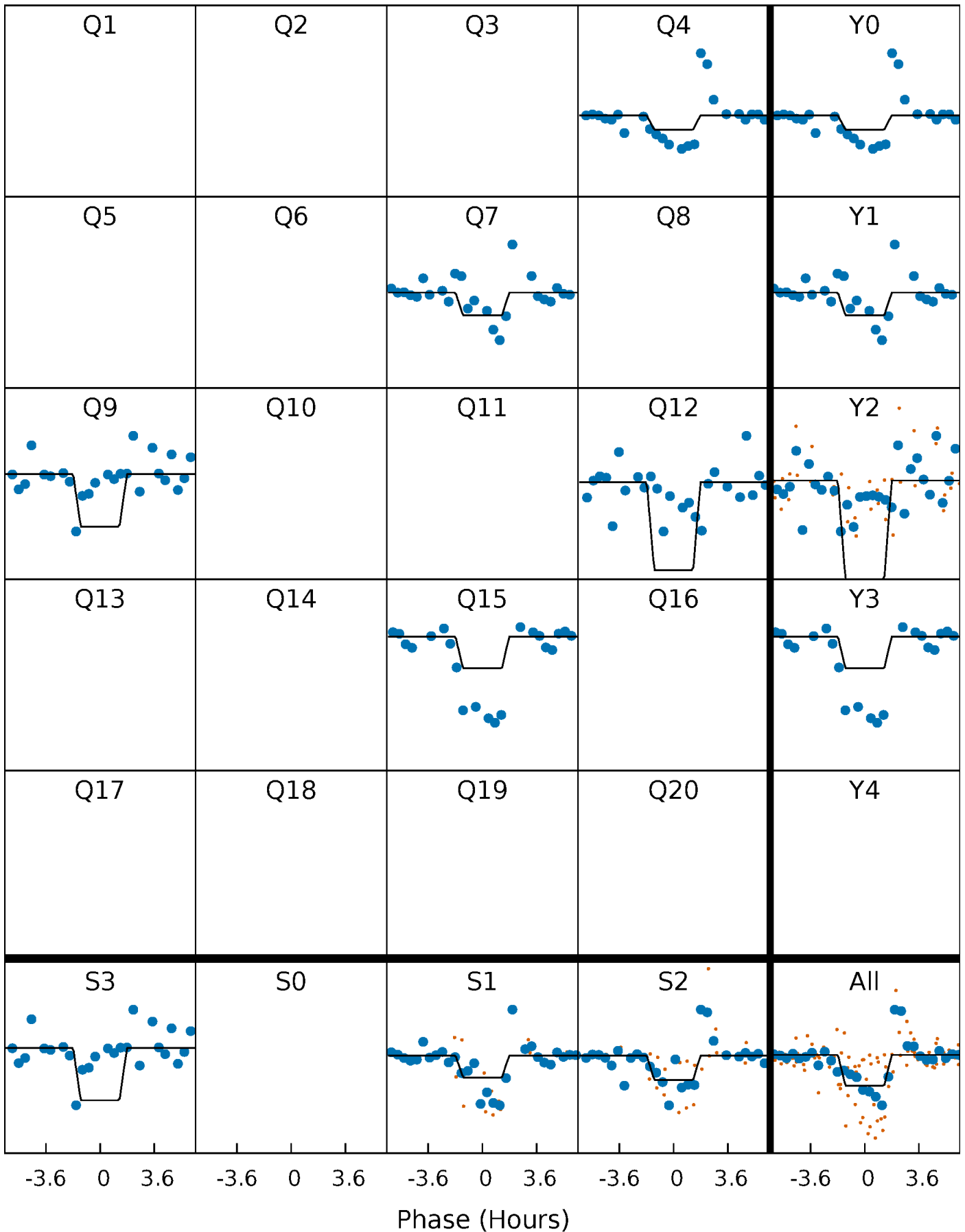
DV Quarter-Phased Transit Curves

TCE 006521526-02 $P=236.670794$ Days $T_0=194.017256$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

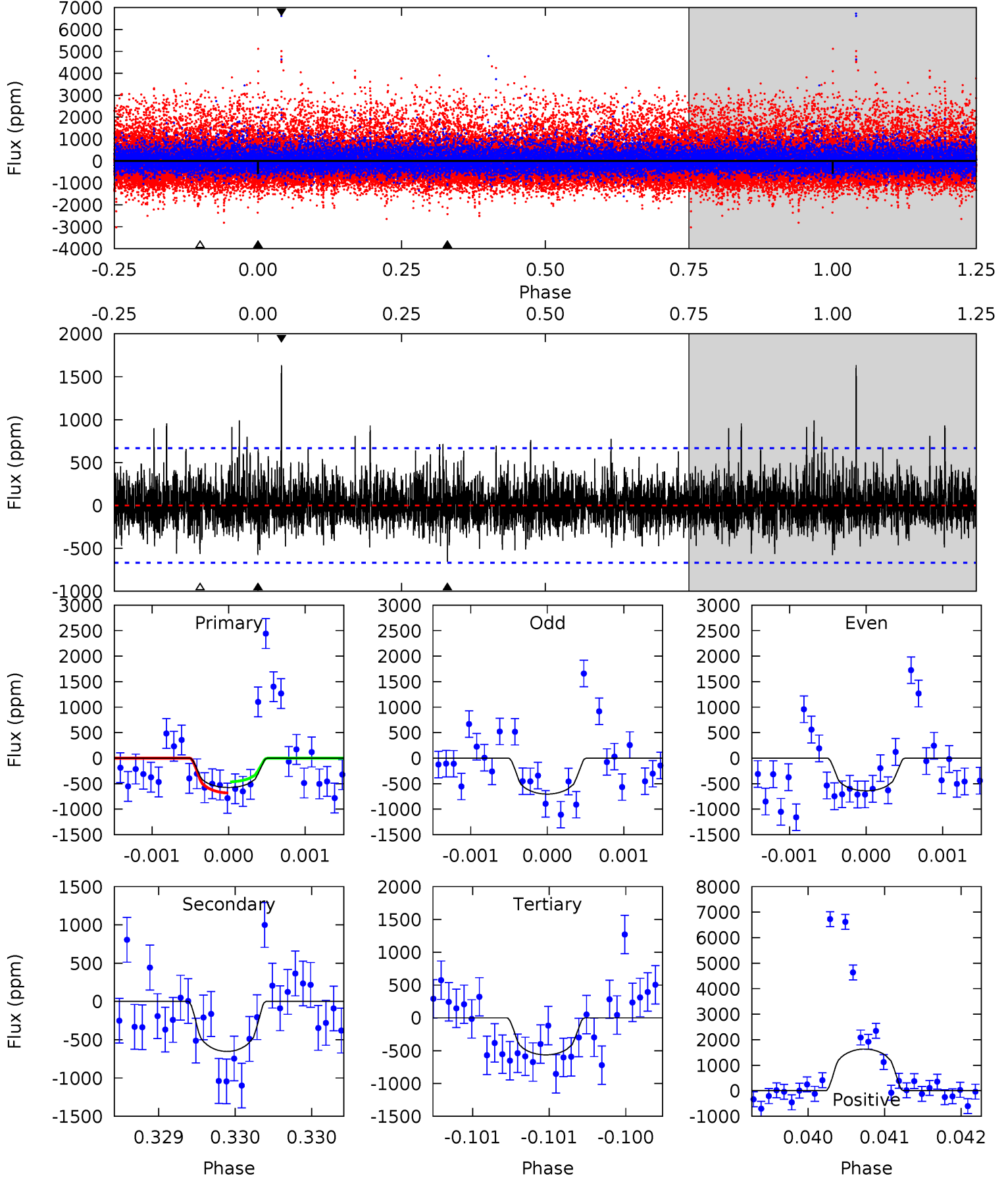
TCE 006521526-02 $P=236.674585$ Days $T_0=193.988642$ (BKJD)



DV Model-Shift Uniqueness Test

006521526-02, P = 236.670794 Days, E = 194.017256 Days

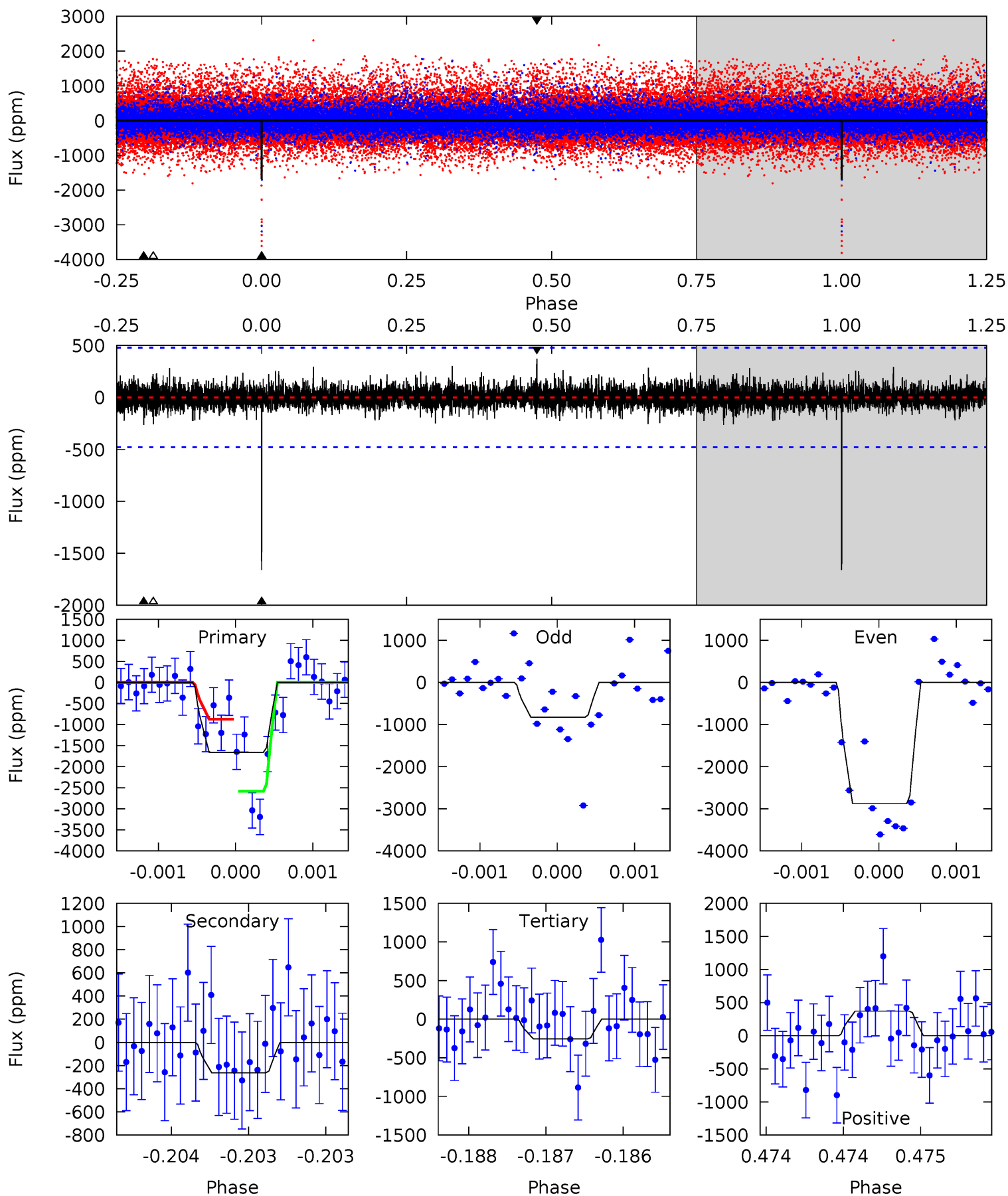
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.74	5.38	4.65	13.5	5.51	3.39	1.61	0.09	-8.72	0.73	-8.08	0.21	0.45	0.71	0.90



Alt Model-Shift Uniqueness Test

006521526-02, P = 236.674585 Days, E = 193.988642 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	3.05	2.97	4.30	5.55	3.44	0.75	16.3	14.9	0.08	-1.26	12.2	1.29	0.18	9.79



Stellar Parameters For KIC 006521526

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3749^{+117}_{-143}	$4.674^{+0.072}_{-0.022}$	$0.560^{+0.050}_{-0.300}$	$0.581^{+0.030}_{-0.070}$	$0.582^{+0.037}_{-0.061}$	$4.171^{+1.432}_{-0.391}$
	+3%/-4%	+2%/-0%	+9%/-54%	+5%/-12%	+6%/-10%	+34%/-9%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006521526-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-653 ± 121	$2.91^{+2.73}_{-1.98}$	220^{+9}_{-9}	3068^{+1495}_{-486}	$15671^{+151407}_{-11416}$
Alt.	-263 ± 86	$3.25^{+2.75}_{-2.18}$	221^{+8}_{-9}	2627^{+1090}_{-357}	5073^{+47884}_{-3653}

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 $A_{obs} \gg 1.0$

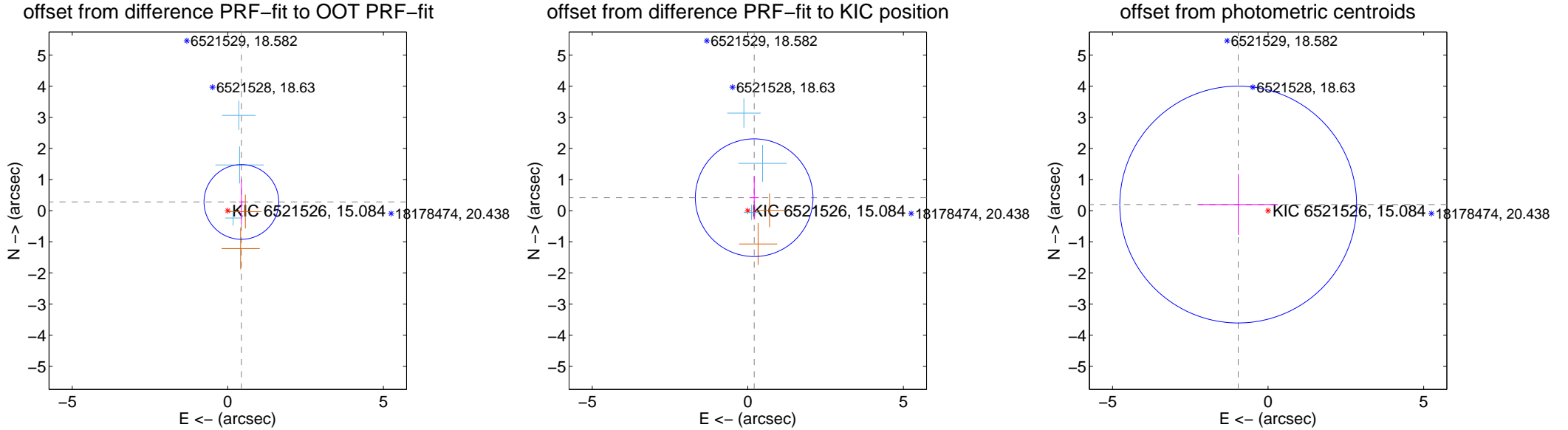
DV Centroid Data

Supplemental centroid analysis for 006521526-02. Kepler magnitude: 15.08. Transit SNR 6.25

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.519 ± 0.400	1.30	-0.436 ± 0.082	0.281 ± 0.728
PRF-fit source offset from KIC position	0.465 ± 0.630	0.74	-0.204 ± 0.150	0.417 ± 0.698
photometric centroid source offset	0.98 ± 1.27	0.77	0.96 ± 1.28	0.20 ± 0.97



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

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

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



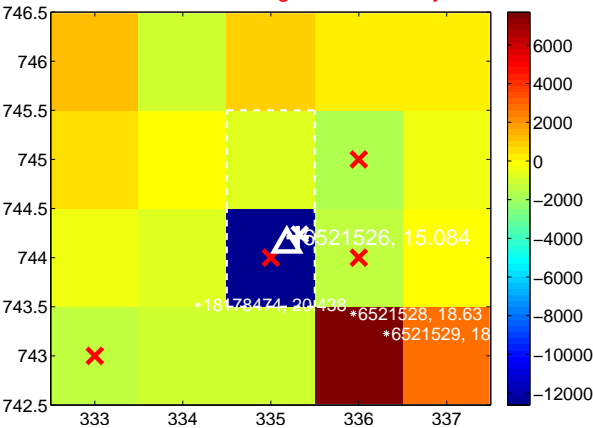
Q3 no difference image



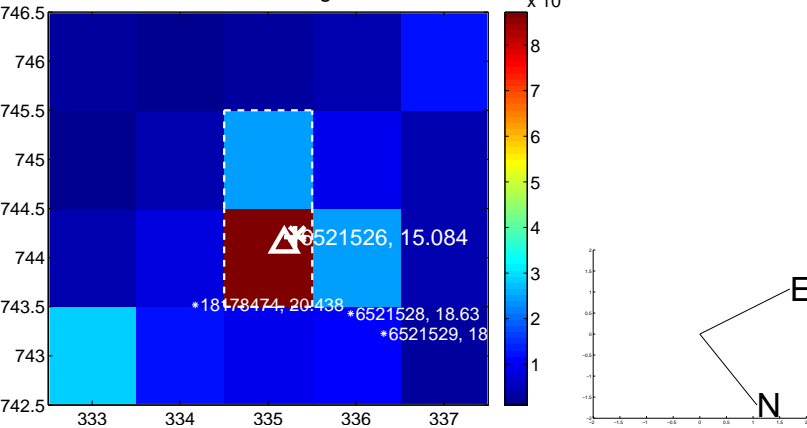
Q3 no OOT image



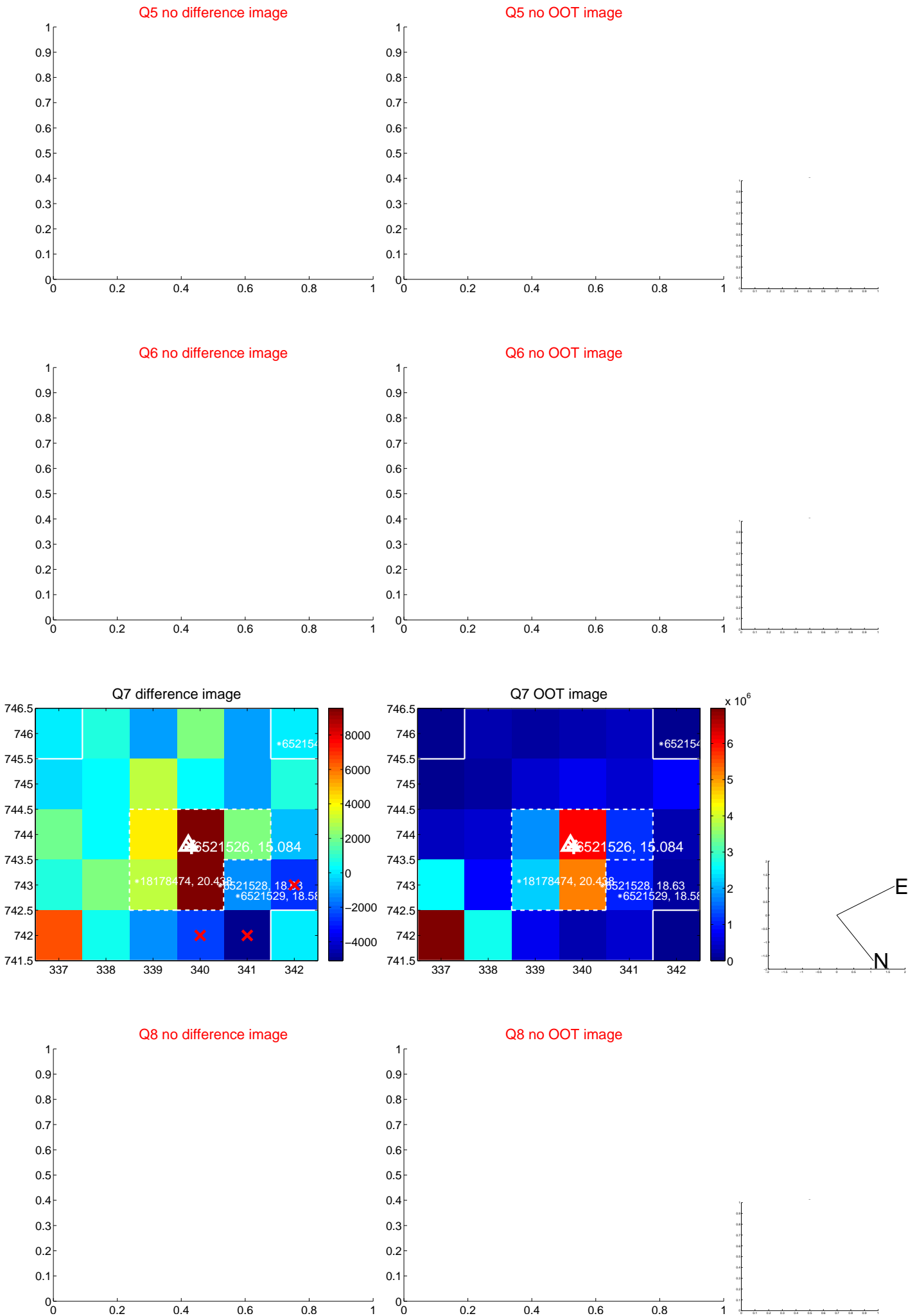
Q4 difference image. Poor Quality



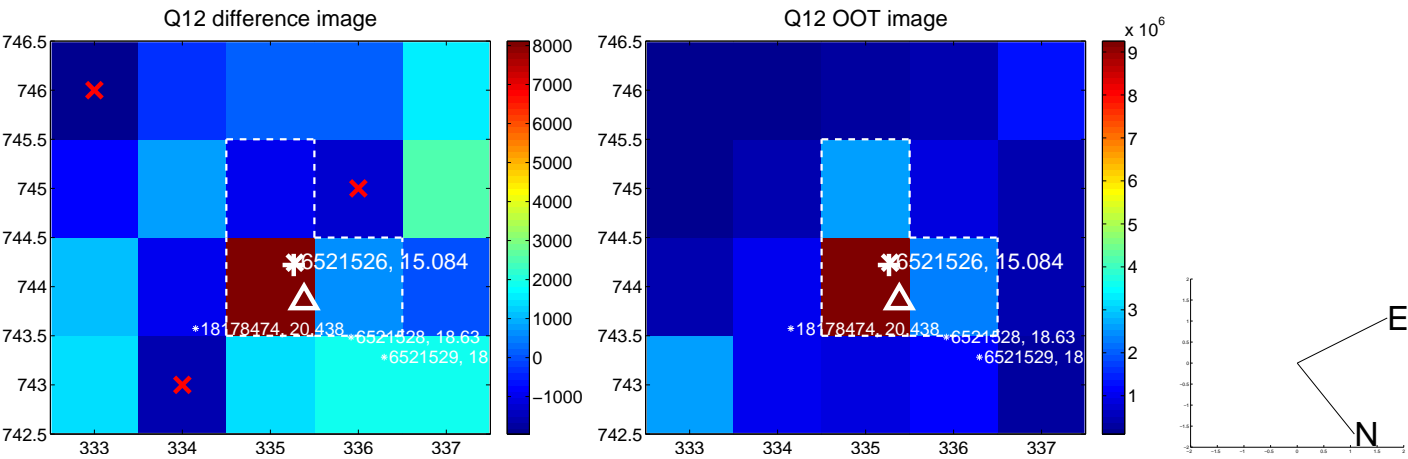
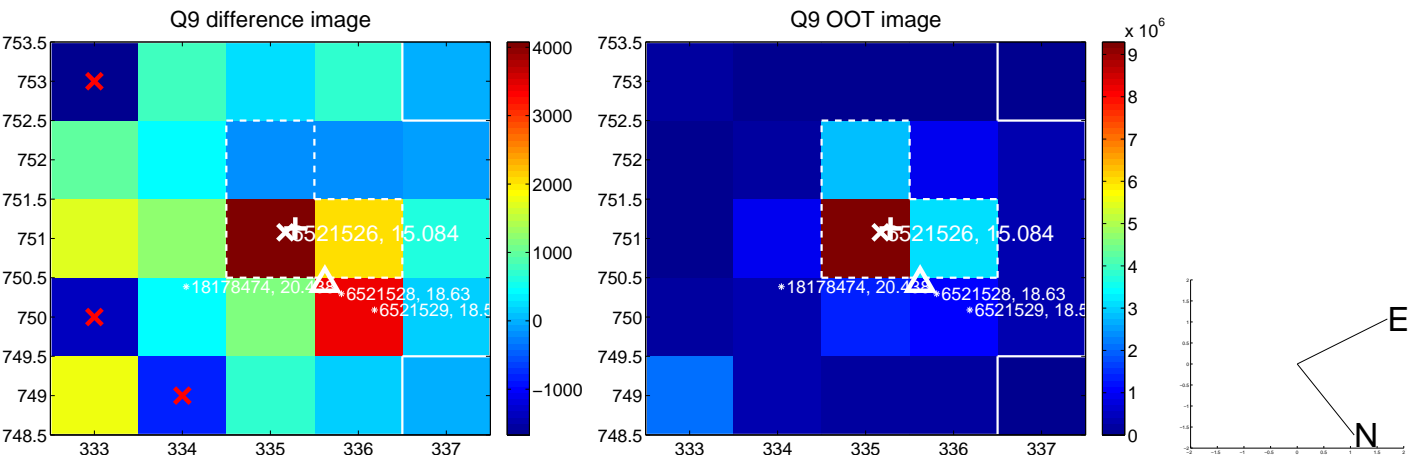
Q4 OOT image



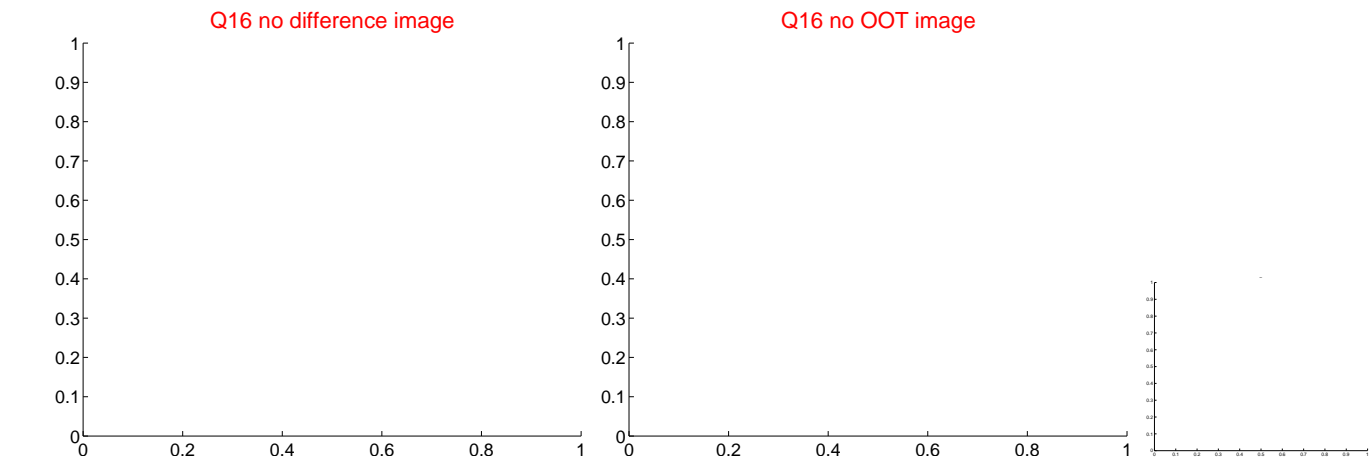
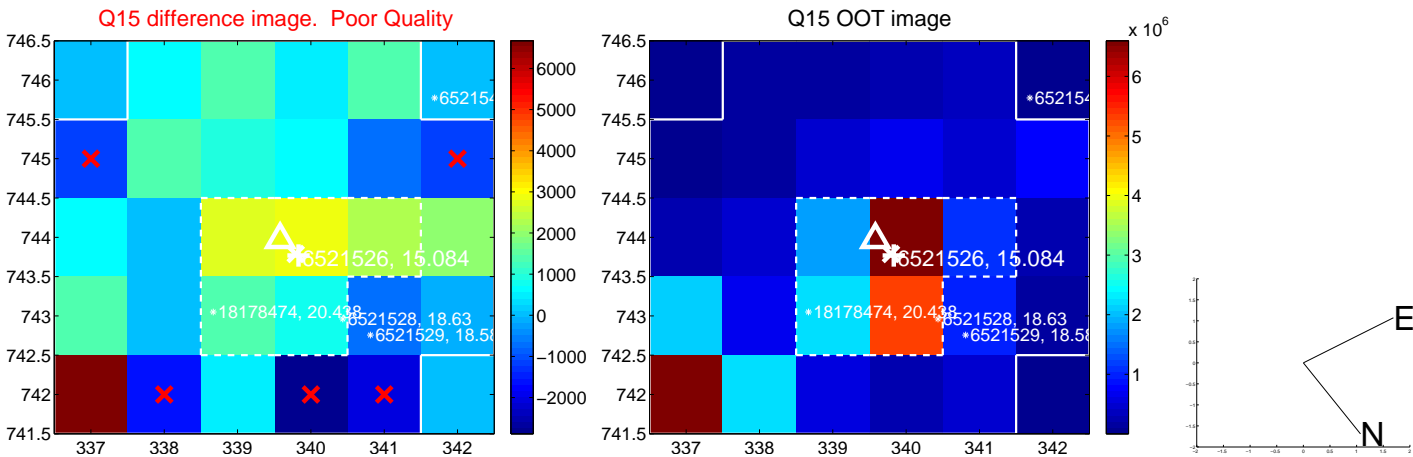
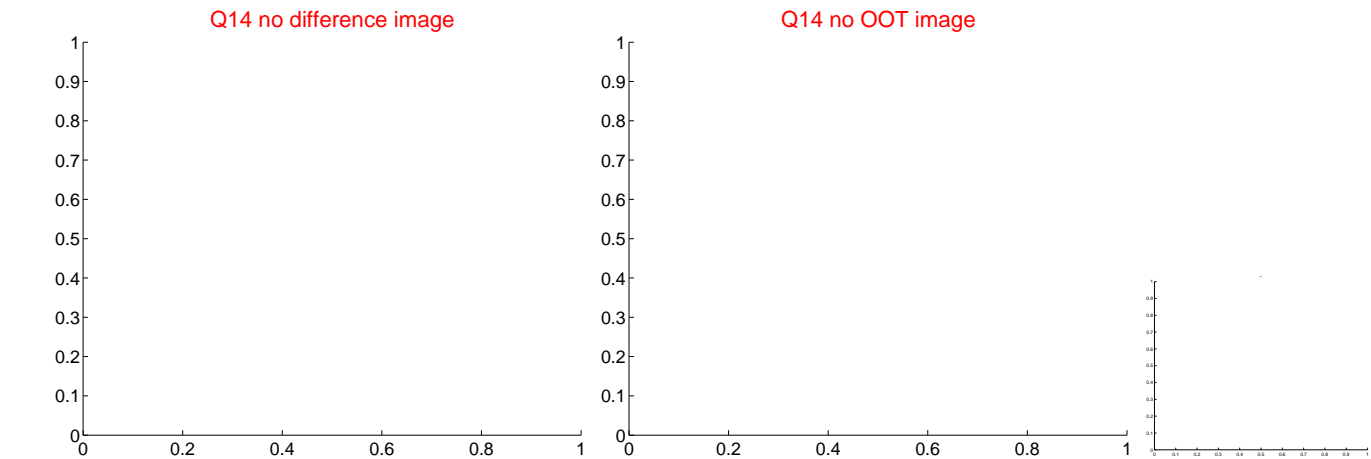
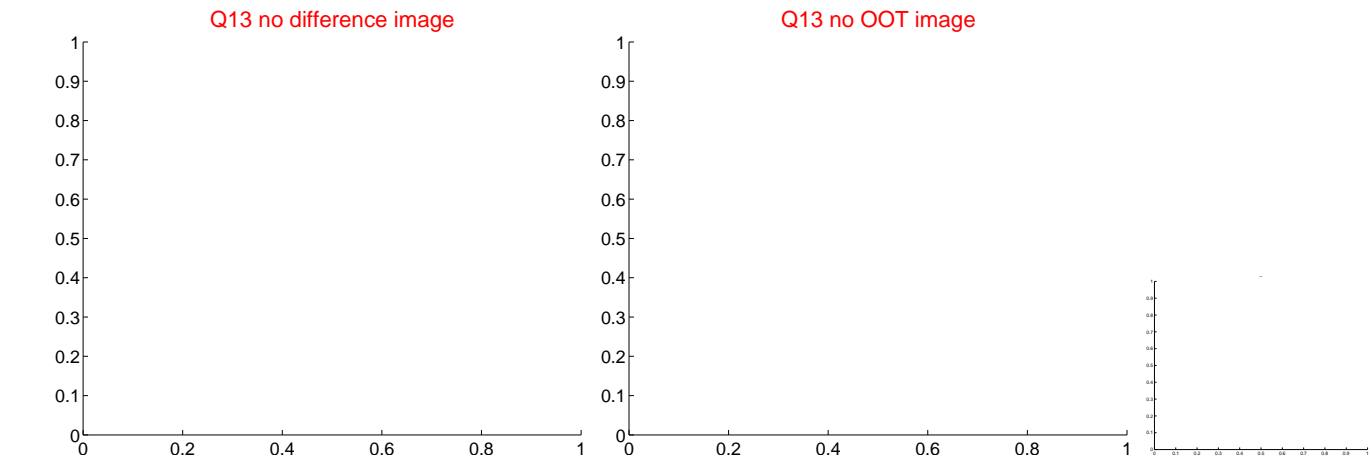
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



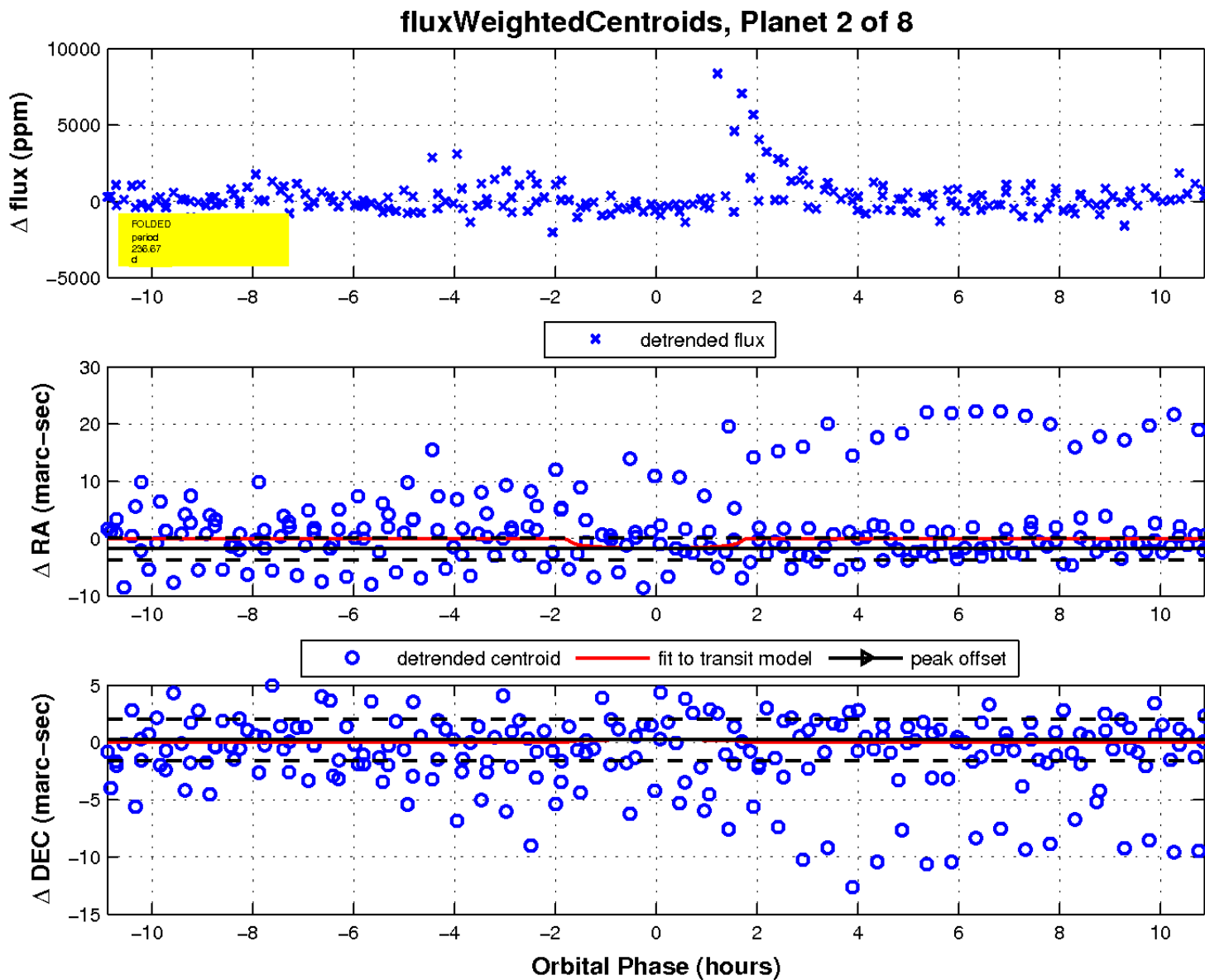
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

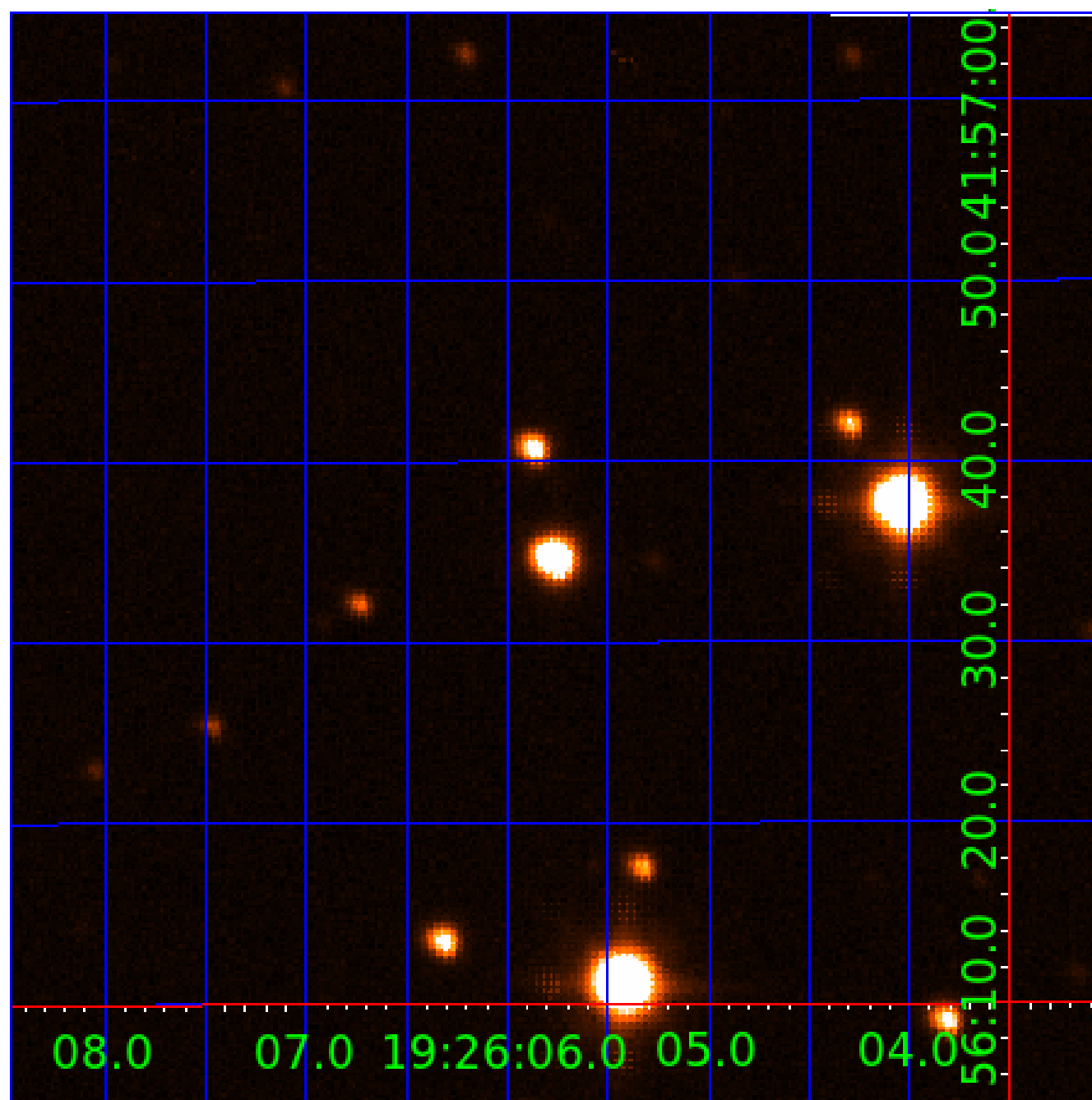


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006521526

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})
006521526-01	OBS	No	490.983019	555.466010	1594.8	6.727	11.1	6.8	0.58	3749	2.42	0.06
006521526-02	OBS	No	236.670794	194.017256	1315.0	3.648	11.0	6.2	0.58	3749	2.23	0.15
006521526-03	OBS	No	370.195000	280.590955	585.6	1.435	10.2	1.8	0.58	3749	1.75	0.08
006521526-04	OBS	No	469.978691	552.026847	508.6	15.000	10.2	-1.0	0.58	3749	1.26	0.06
006521526-05	OBS	8124.01	103.045997	164.920808	946.2	12.490	8.7	7.5	0.58	3749	1.81	0.46
006521526-06	OBS	No	265.812087	329.053353	1972.7	11.362	10.2	7.9	0.58	3749	2.62	0.13
006521526-07	OBS	No	6.370857	133.681880	359.8	4.261	8.1	10.4	0.58	3749	1.50	18.96
006521526-08	OBS	No	172.688846	284.357984	505.5	2.836	9.0	2.6	0.58	3749	1.25	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006521526-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006521526-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006521526-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006521526-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
006521526-05	OBS	FP	0.01	1	0	0	0	INCONSISTENT_TRANS
006521526-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—CENT_FEW_DIFFS
006521526-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006521526-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

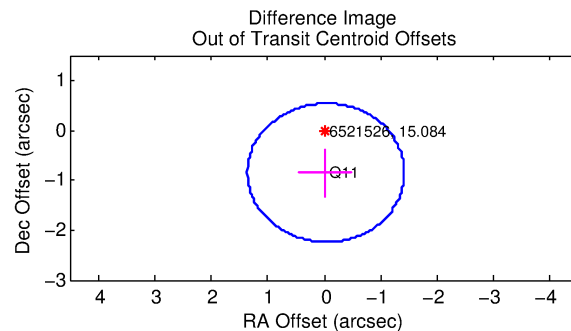
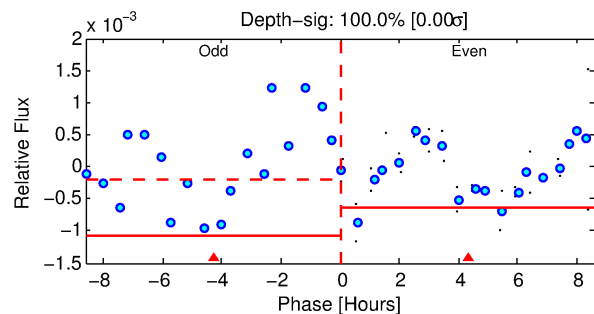
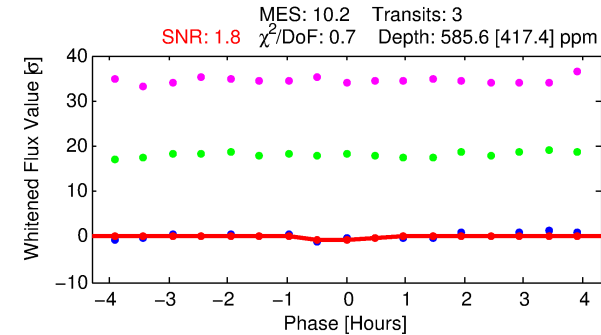
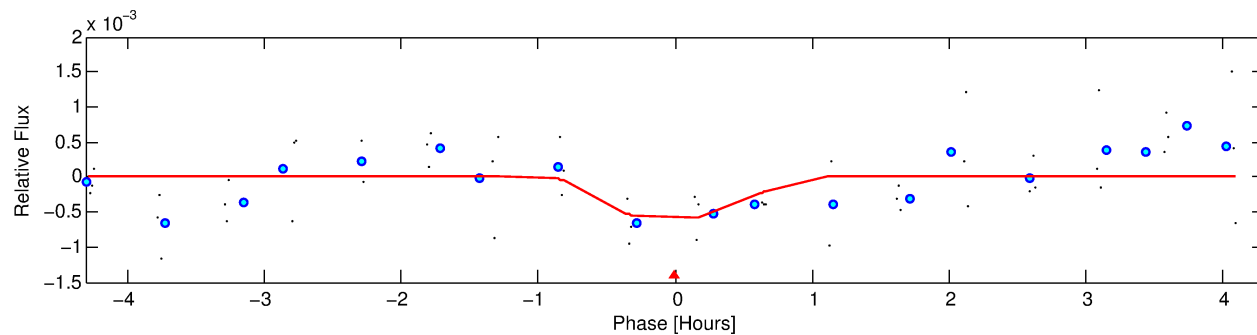
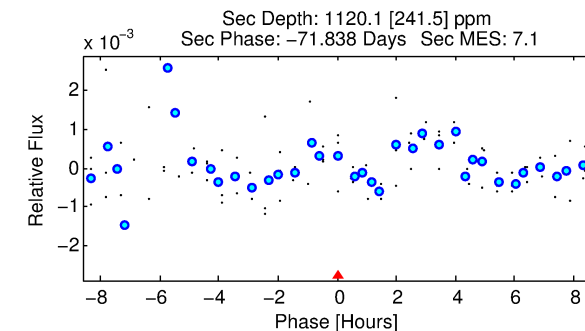
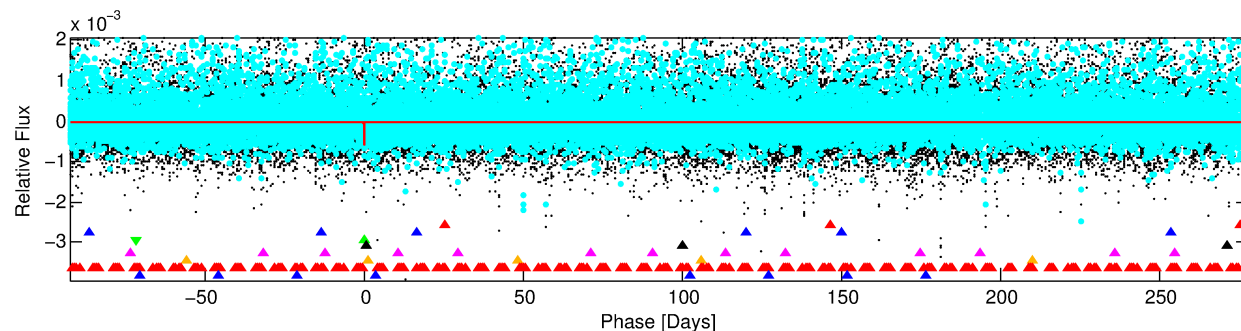
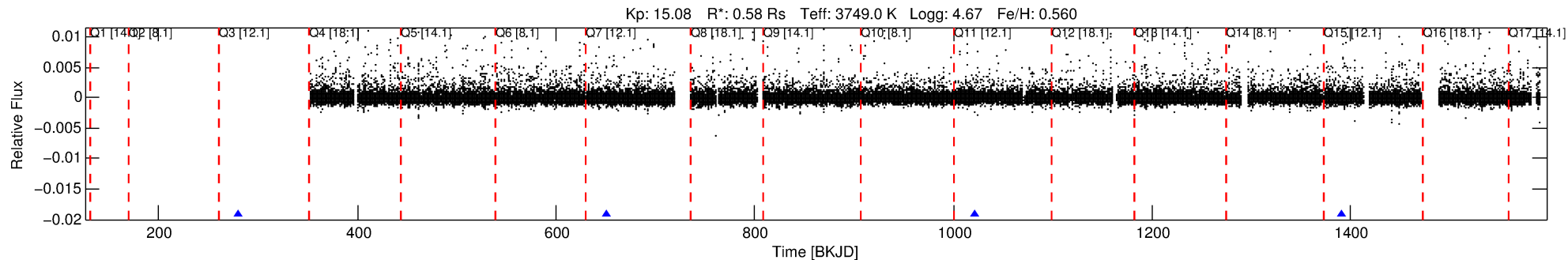
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006521526-03

No Significant Match Found

DV One-Page Summary

KIC: 6521526 Candidate: 3 of 8 Period: 370.195 d



DV Fit Results:

Period = 370.19500 [0.01036] d
Epoch = 280.5910 [0.0221] BKJD
Rp/R* = 0.0276 [0.0907]
a/R* = 977.03 [11512.53]
b = 0.90 [2.60]
Seff = 0.08 [0.02]
Teq = 137 [7] K
Rp = 1.75 [5.76] Re
a = 0.8422 [0.0821] AU
Ag = 143230.67 [943789.77] [0.15σ]
Teff = 4132 [6807] K [0.59σ]

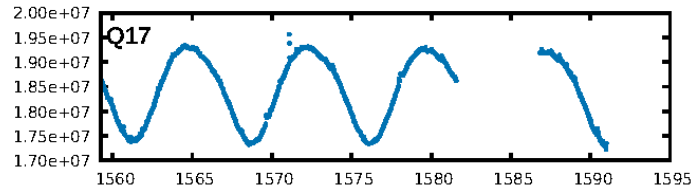
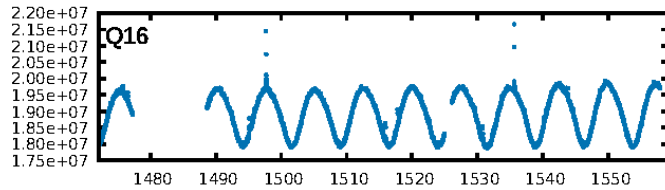
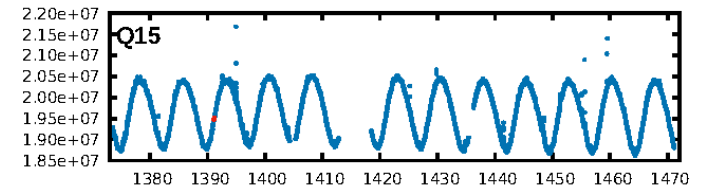
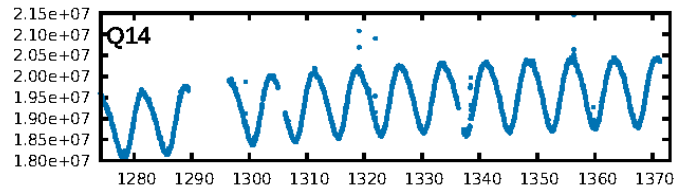
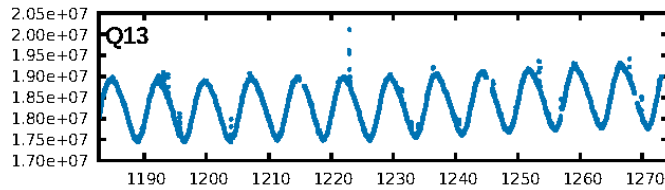
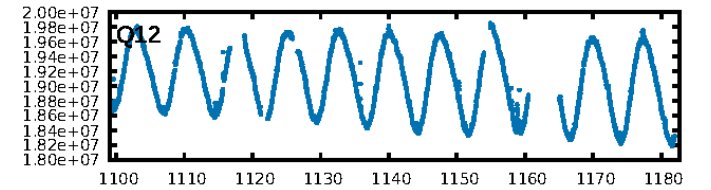
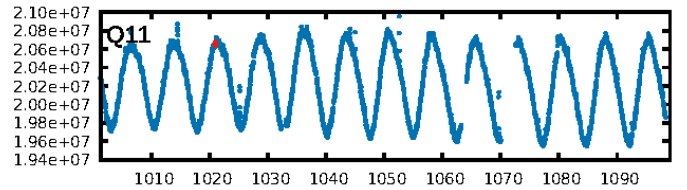
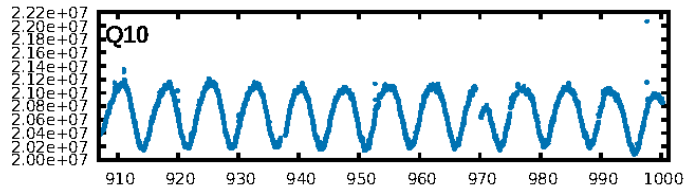
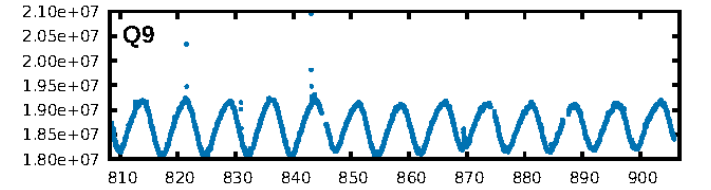
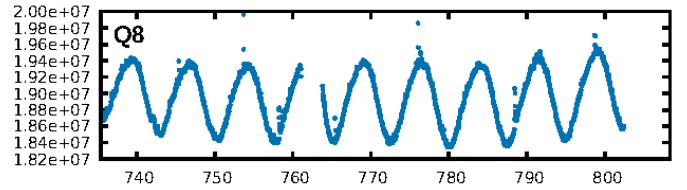
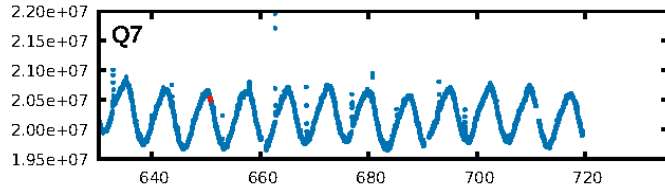
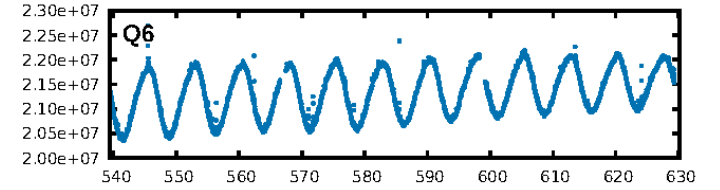
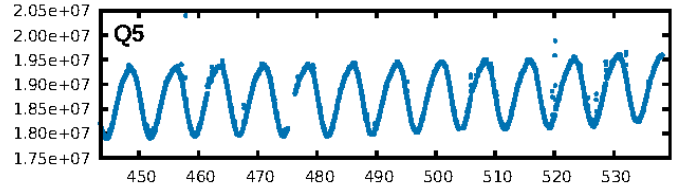
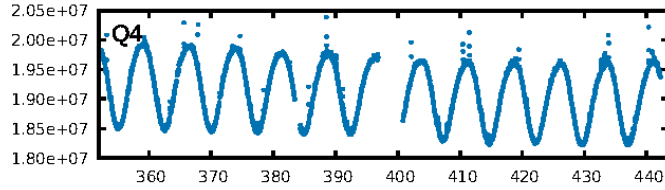
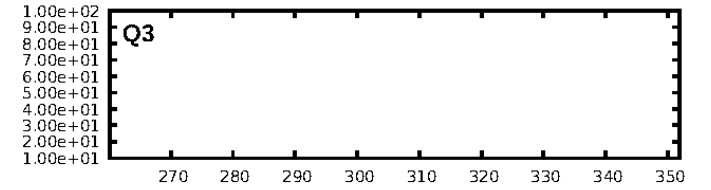
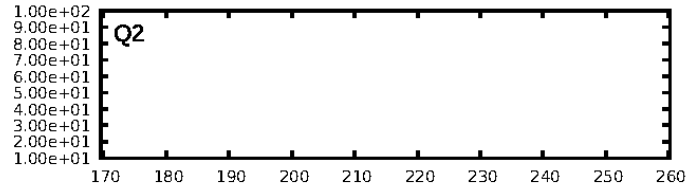
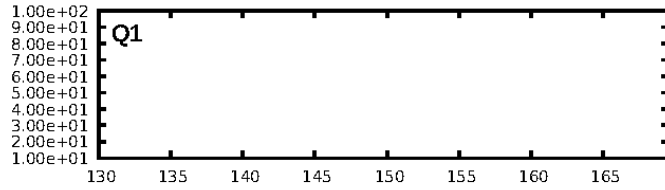
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [218.74σ]
LongPeriod-sig: 100.0% [158.93σ]
ModelChiSquare2-sig: 52.8%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 7.13e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7606
Centroid-sig: 32.6%
Centroid-so: 5.032 arcsec [0.87σ]
OotOffset-rm: 0.853 arcsec [1.84σ]
KicOffset-rm: 0.658 arcsec [1.42σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

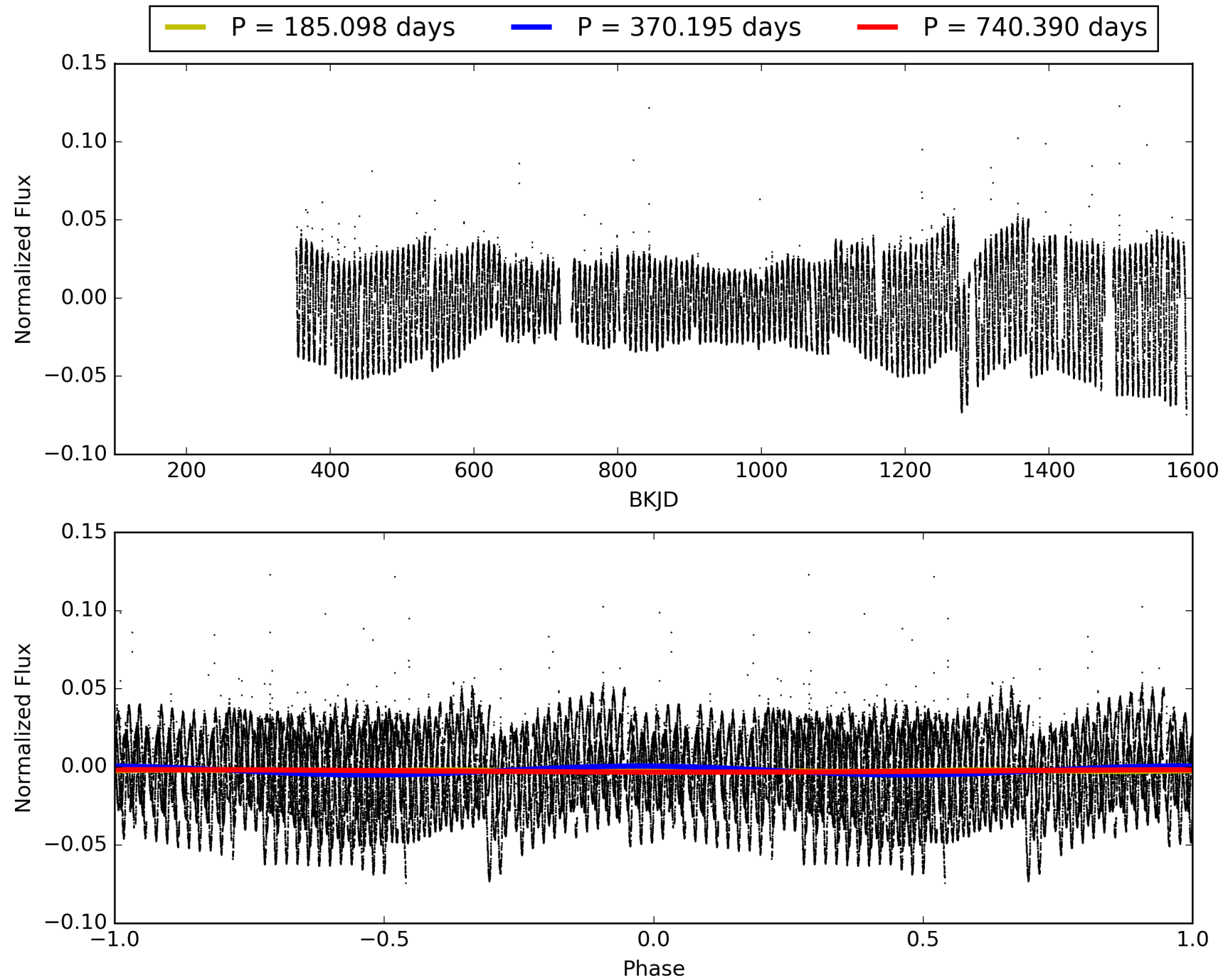
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:28:54 Z

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

TCE 006521526-03, PDC Light Curves

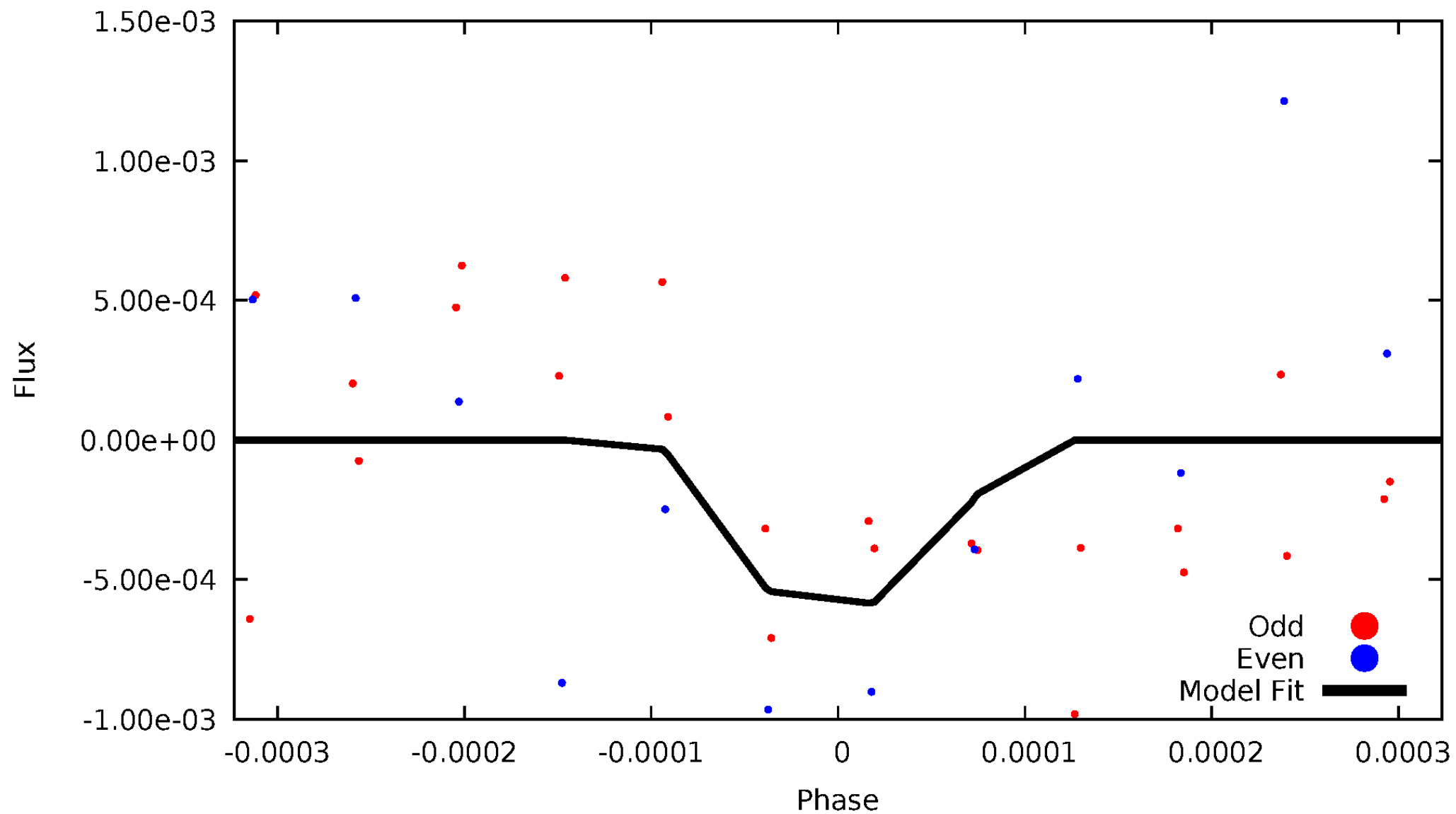


TCE 006521526-03



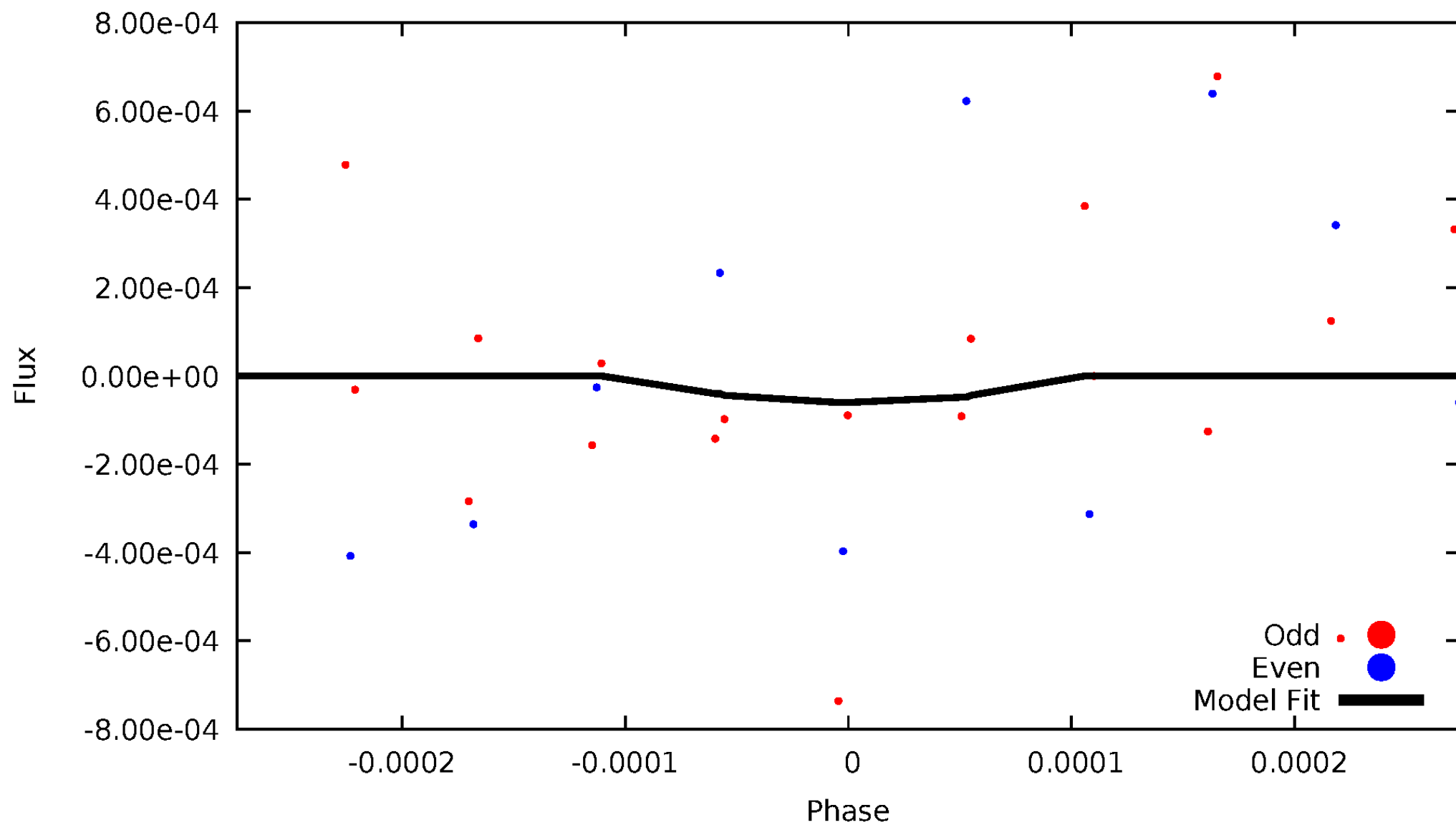
DV Odd/Even

TCE 006521526-03

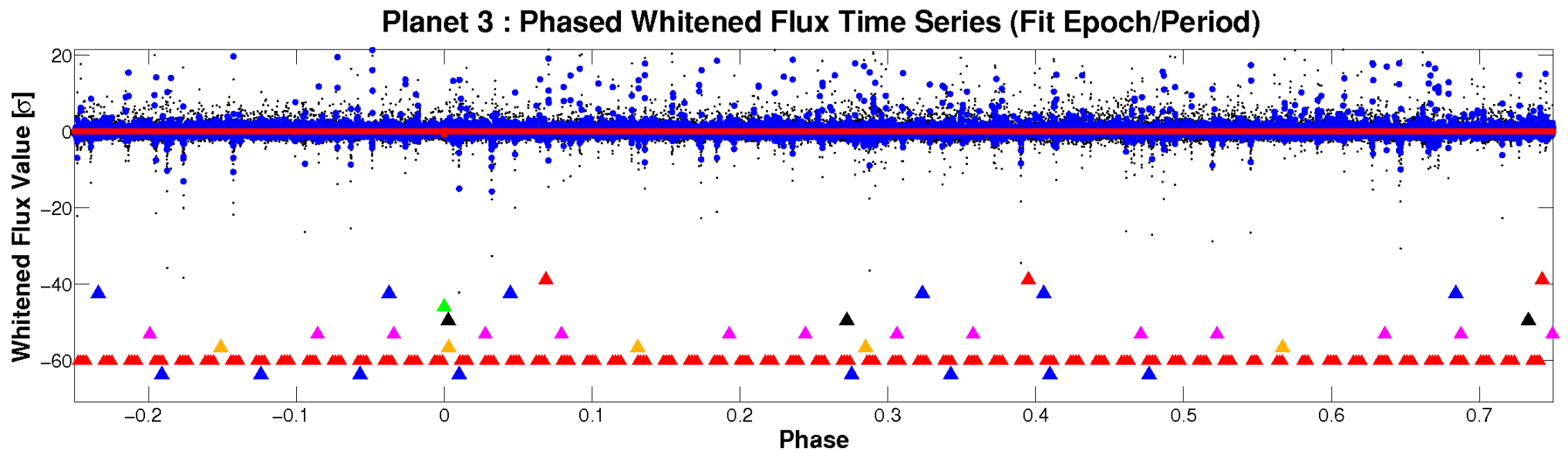
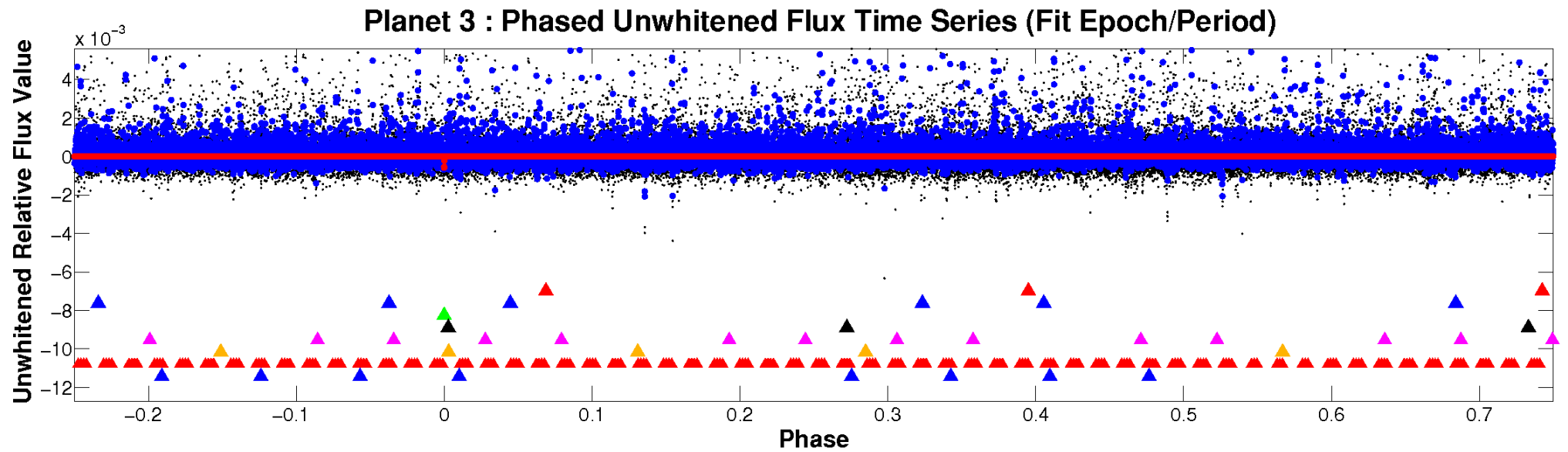


ALT Odd/Even

TCE 006521526-03

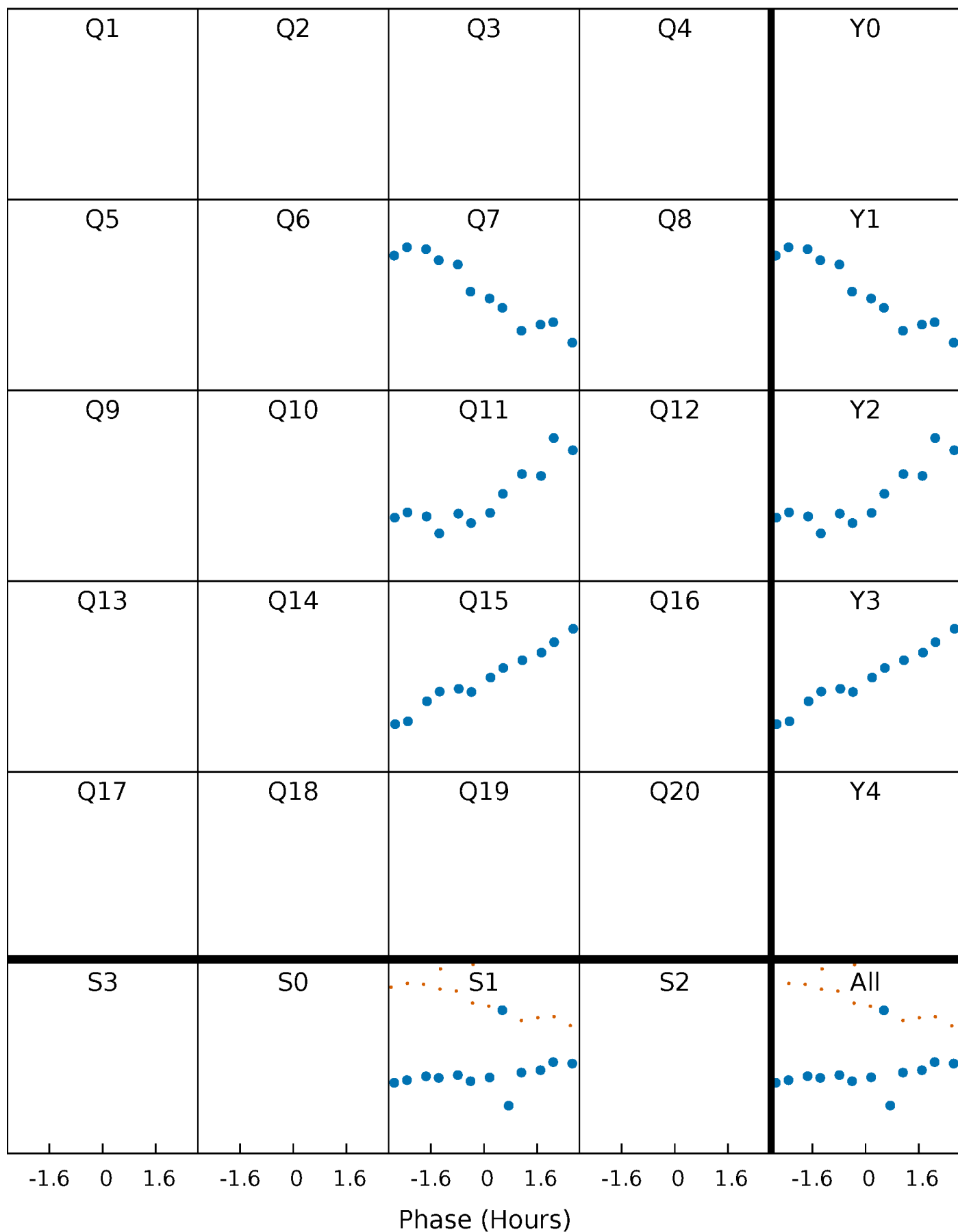


Non-Whitened Vs. Whitened Light Curve



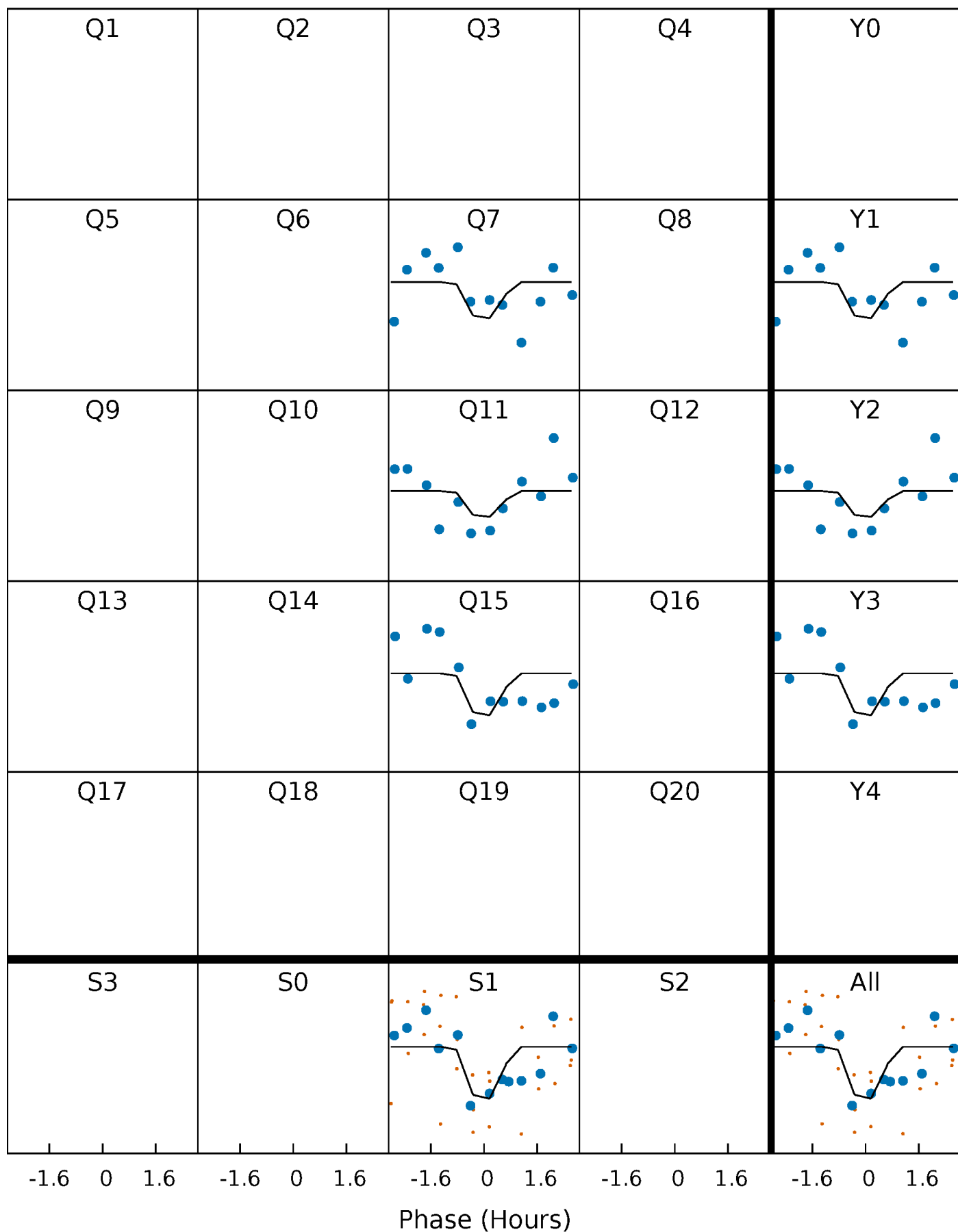
PDC Quarter-Phased Transit Curves

TCE 006521526-03 P=370.195000 Days $T_0=280.590955$ (BKJD)



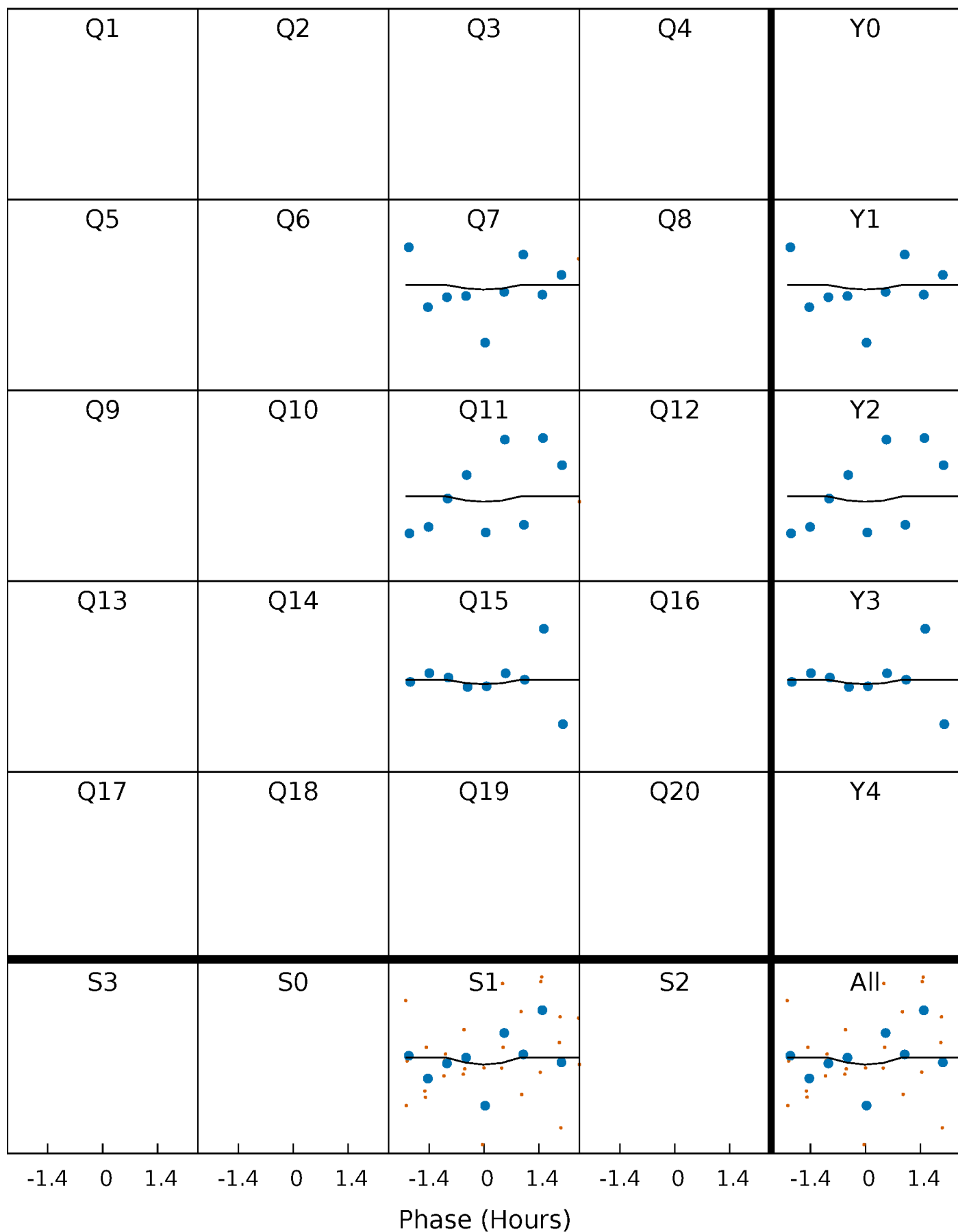
DV Quarter-Phased Transit Curves

TCE 006521526-03 $P=370.195000$ Days $T_0=280.590955$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

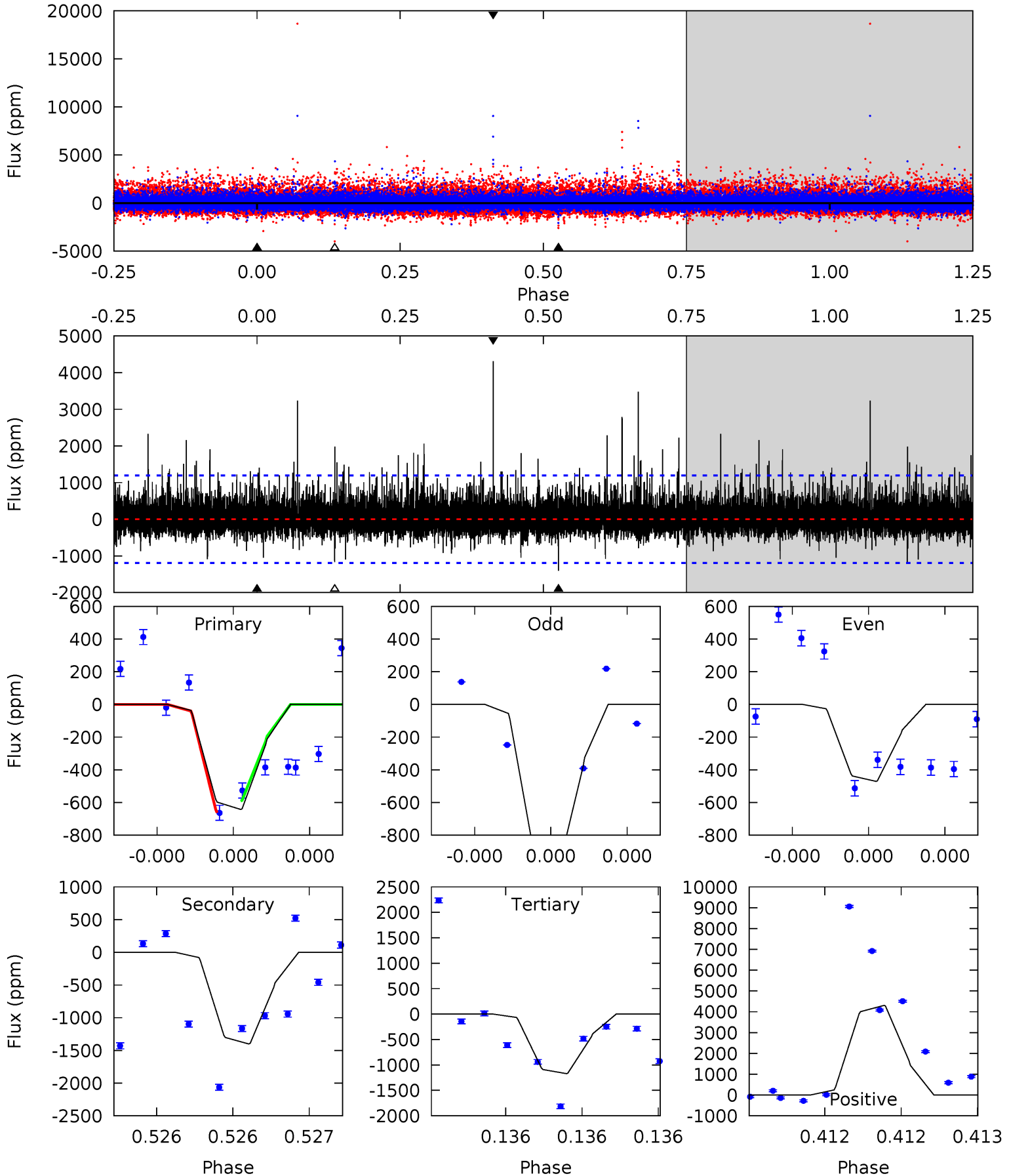
TCE 006521526-03 P=370.215240 Days $T_0=280.619266$ (BKJD)



DV Model-Shift Uniqueness Test

006521526-03, P = 370.195000 Days, E = 280.590955 Days

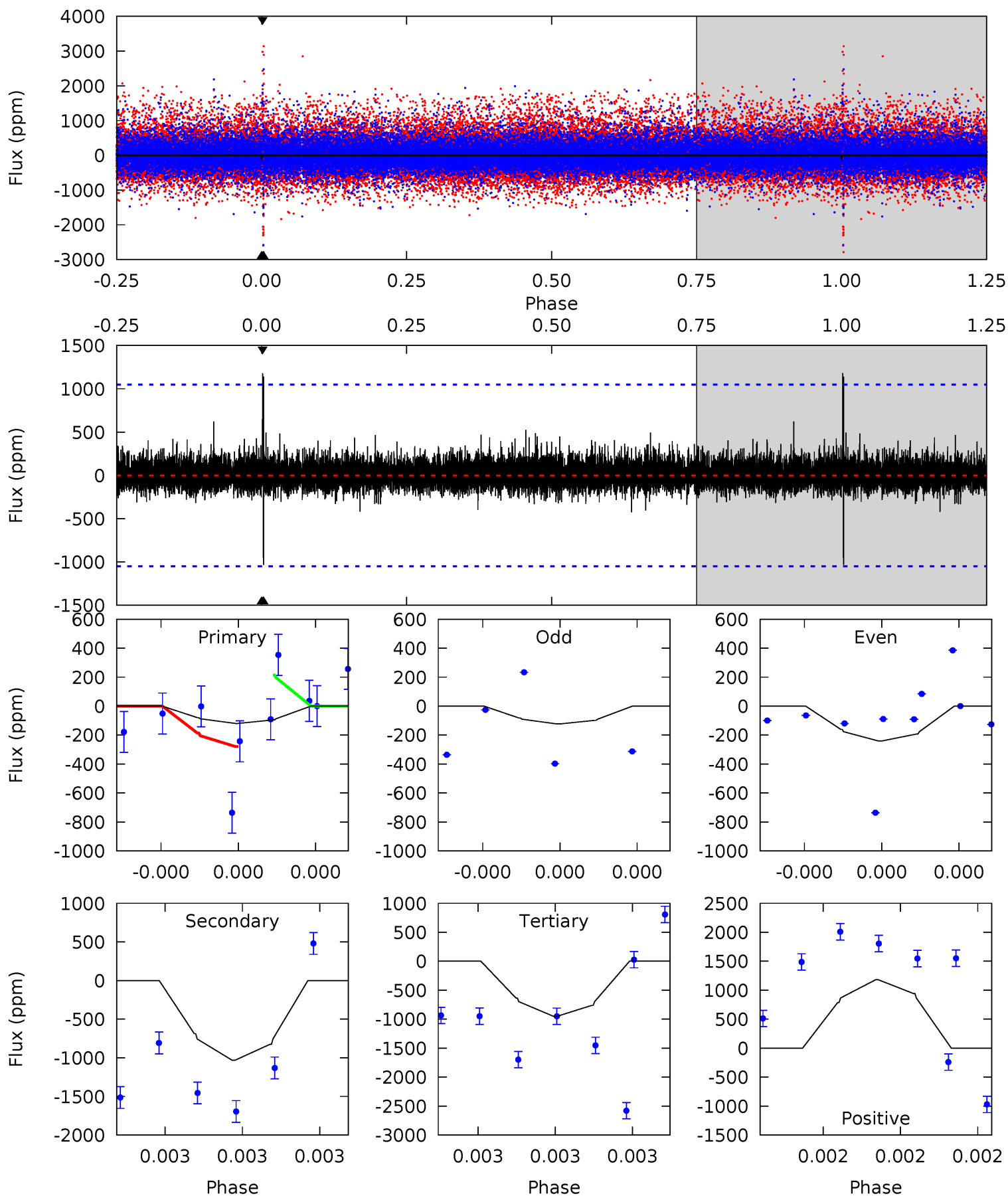
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.10	6.76	5.65	20.8	5.76	3.76	1.46	-2.55	-17.7	1.11	-14.0	0.95	1.08	0.75	0.17



Alt Model-Shift Uniqueness Test

006521526-03, P = 370.215240 Days, E = 280.619266 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.66	5.72	5.29	6.55	5.83	3.86	0.57	-4.62	-5.89	0.44	-0.83	0.31	2.51	0.53	0.17



Stellar Parameters For KIC 006521526

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3749^{+117}_{-143}	$4.674^{+0.072}_{-0.022}$	$0.560^{+0.050}_{-0.300}$	$0.581^{+0.030}_{-0.070}$	$0.582^{+0.037}_{-0.061}$	$4.171^{+1.432}_{-0.391}$
	+3%/-4%	+2%/-0%	+9%/-54%	+5%/-12%	+6%/-10%	+34%/-9%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006521526-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1401 ± 207	$4.57^{+4.50}_{-3.06}$	190^{+7}_{-9}	3037^{+1219}_{-513}	$26273^{+214199}_{-19490}$
Alt.	-1031 ± 180	$3.83^{+4.20}_{-2.67}$	190^{+7}_{-8}	3054^{+1446}_{-554}	$27744^{+276607}_{-21617}$

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 $A_{obs} \gg 1.0$

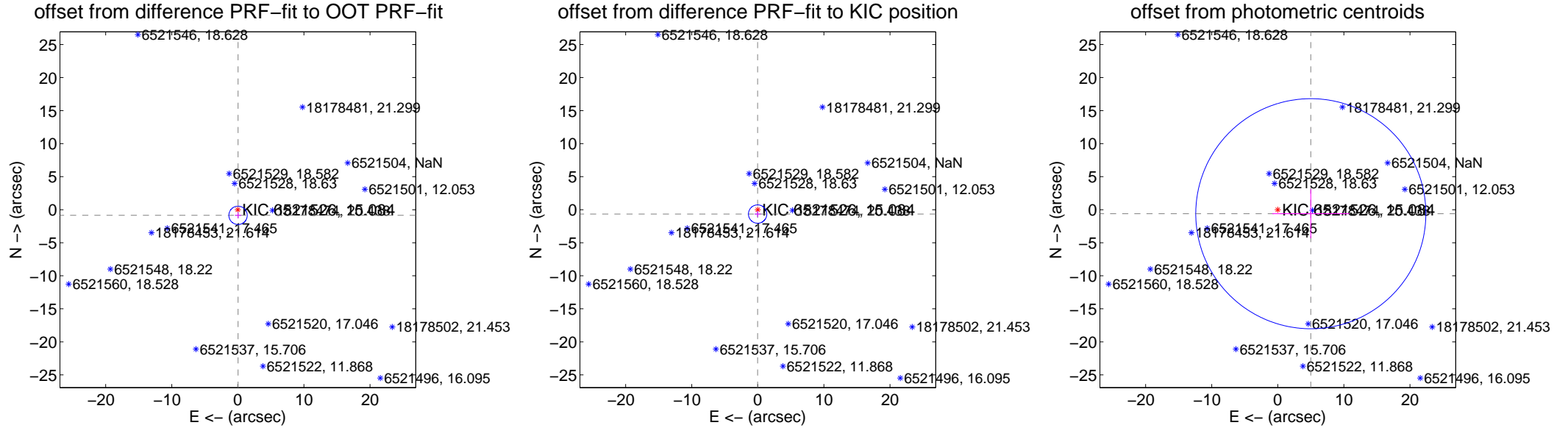
DV Centroid Data

Supplemental centroid analysis for 006521526-03. Kepler magnitude: 15.08. Transit SNR 1.85

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.853 ± 0.463	1.84	-0.031 ± 0.466	-0.852 ± 0.463
PRF-fit source offset from KIC position	0.658 ± 0.463	1.42	0.031 ± 0.466	-0.657 ± 0.463
photometric centroid source offset	5.03 ± 5.80	0.87	-5.00 ± 5.83	-0.61 ± 3.72

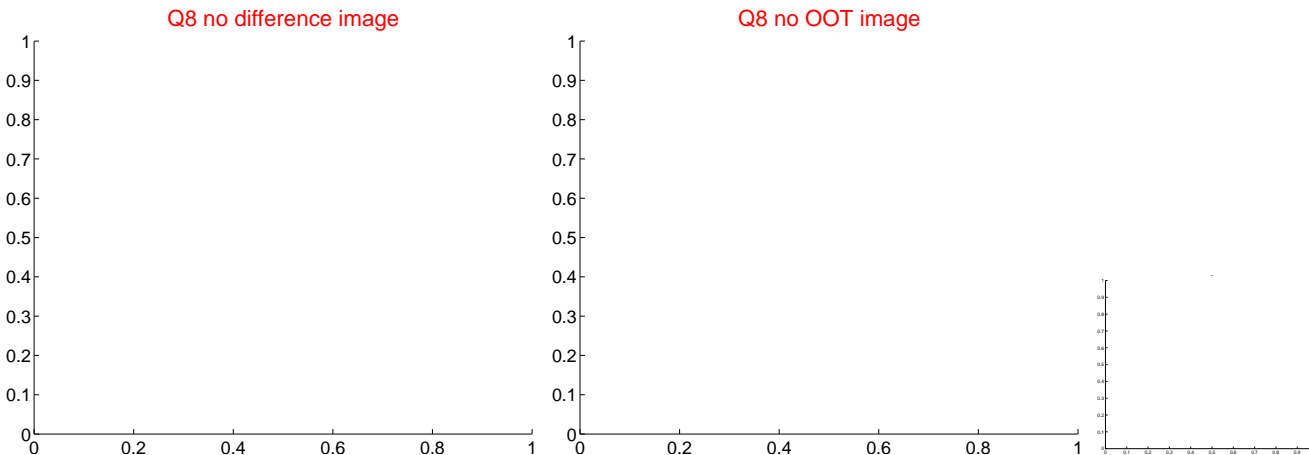
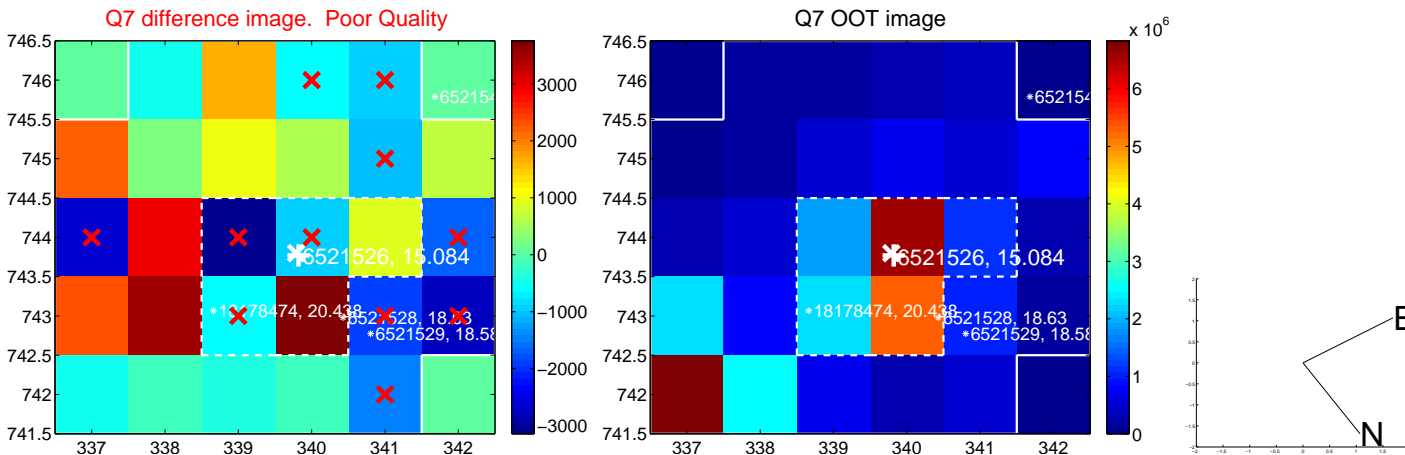
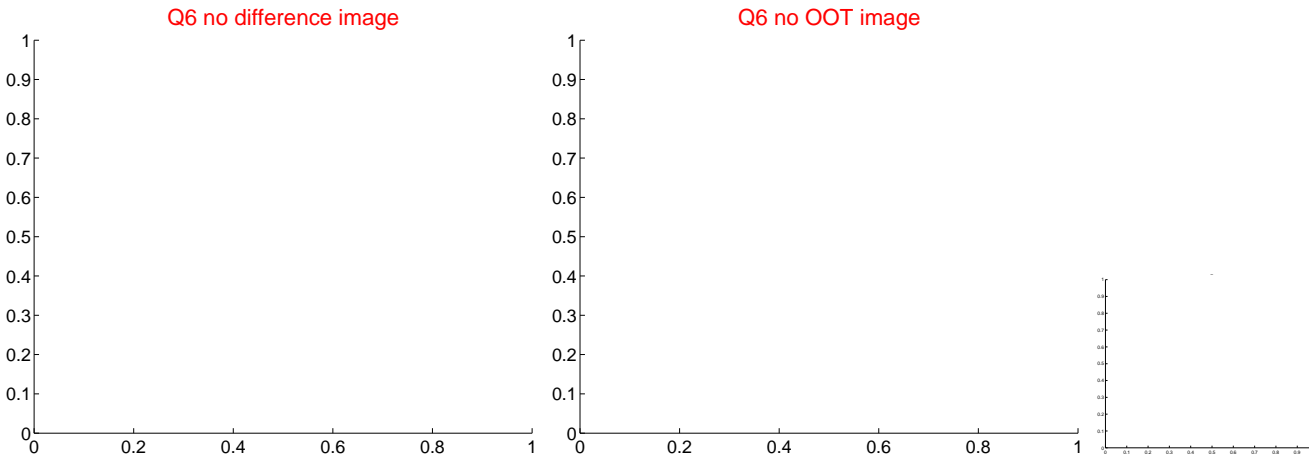
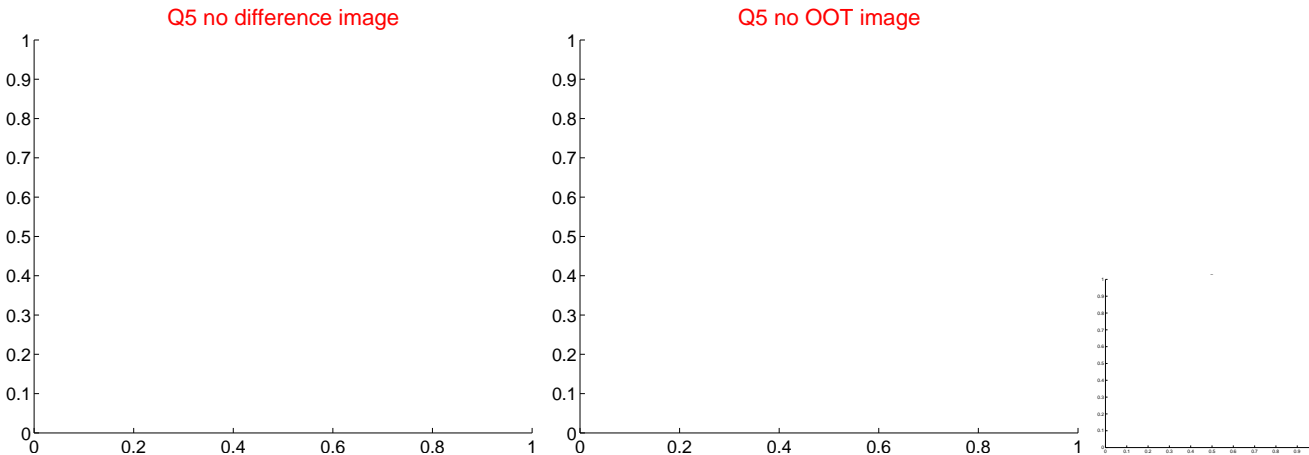


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

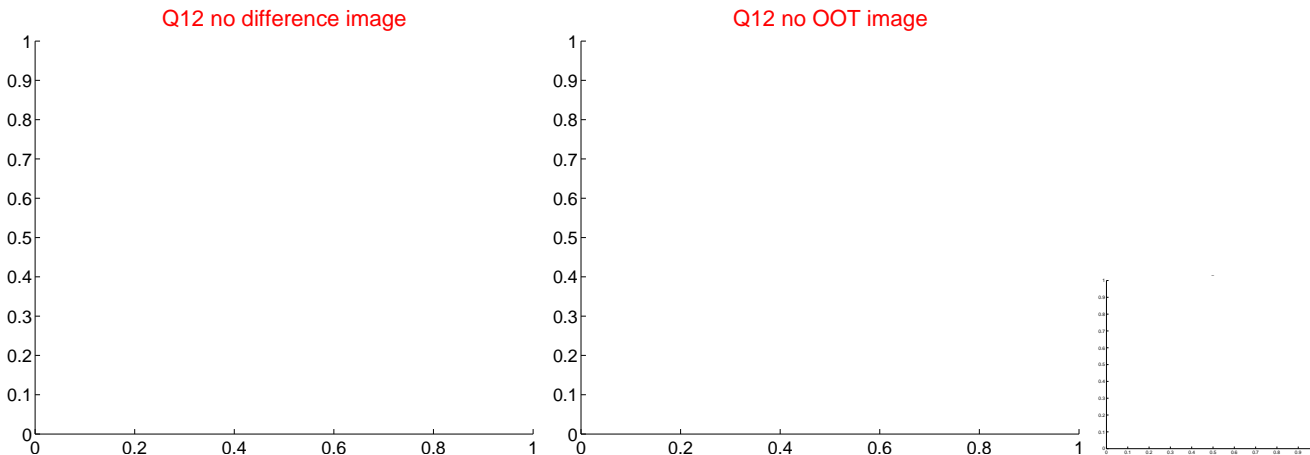
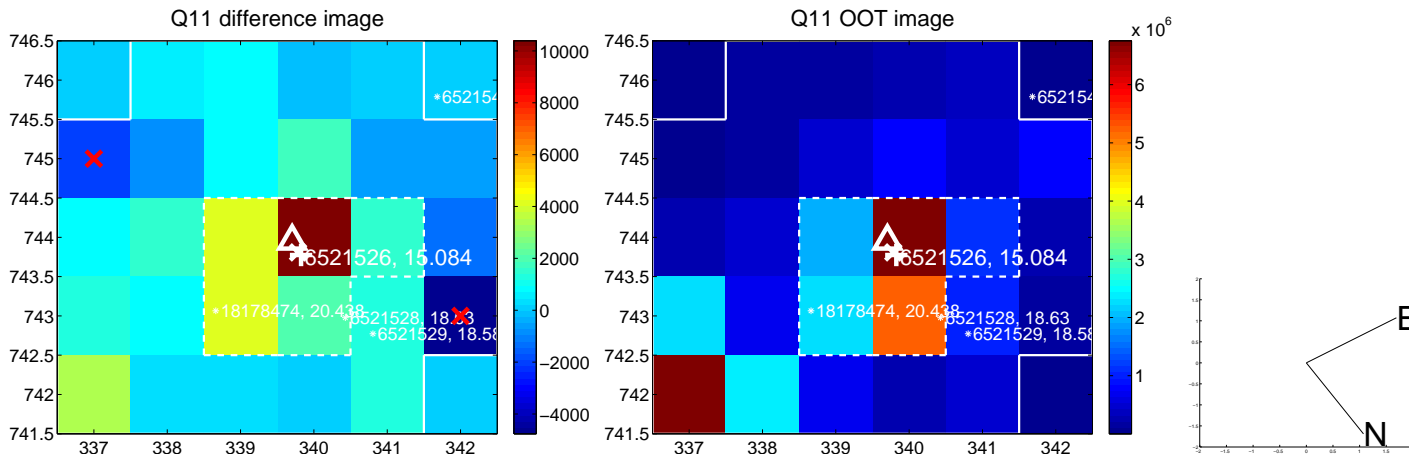
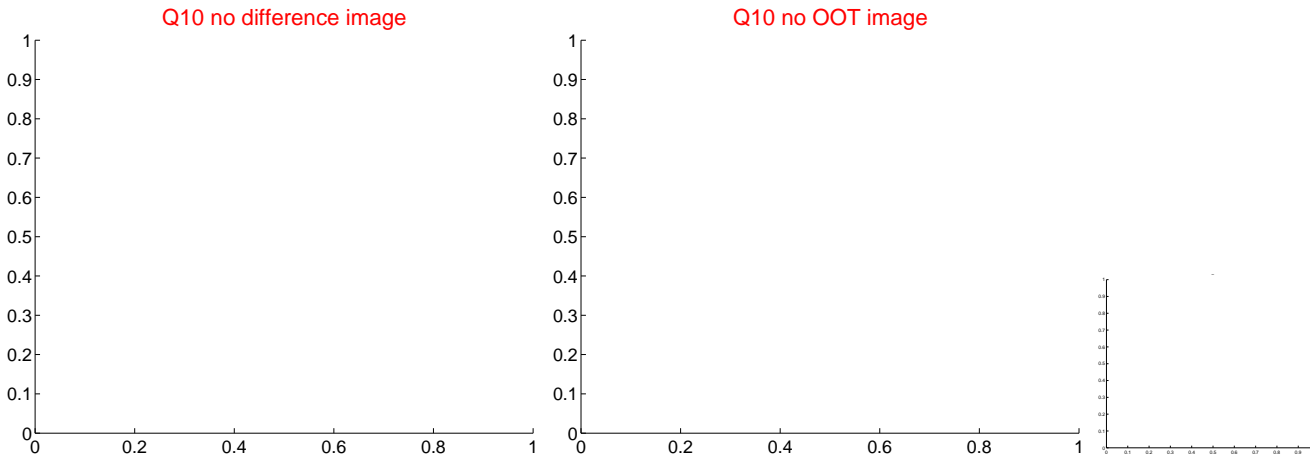
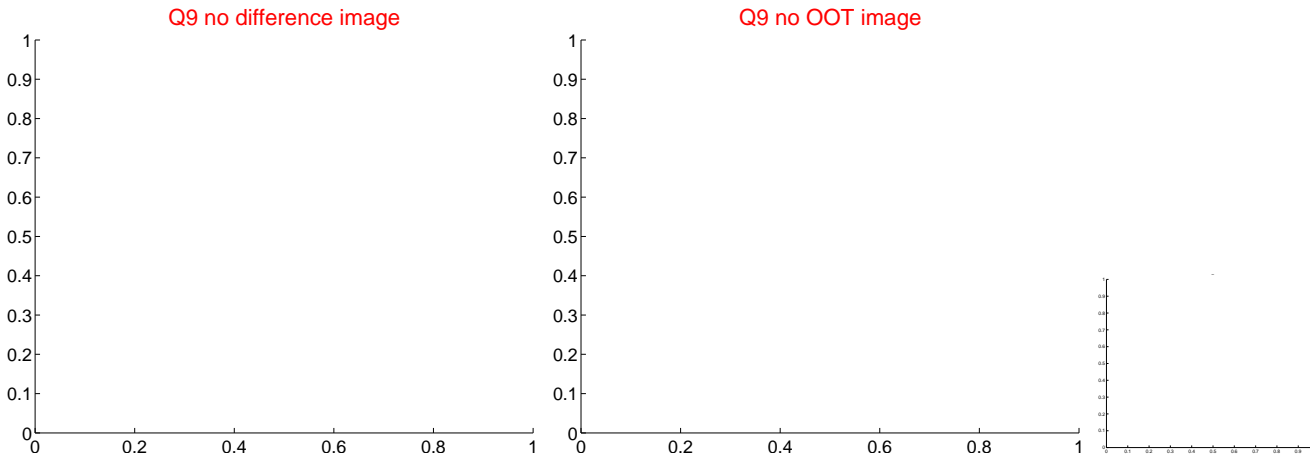
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



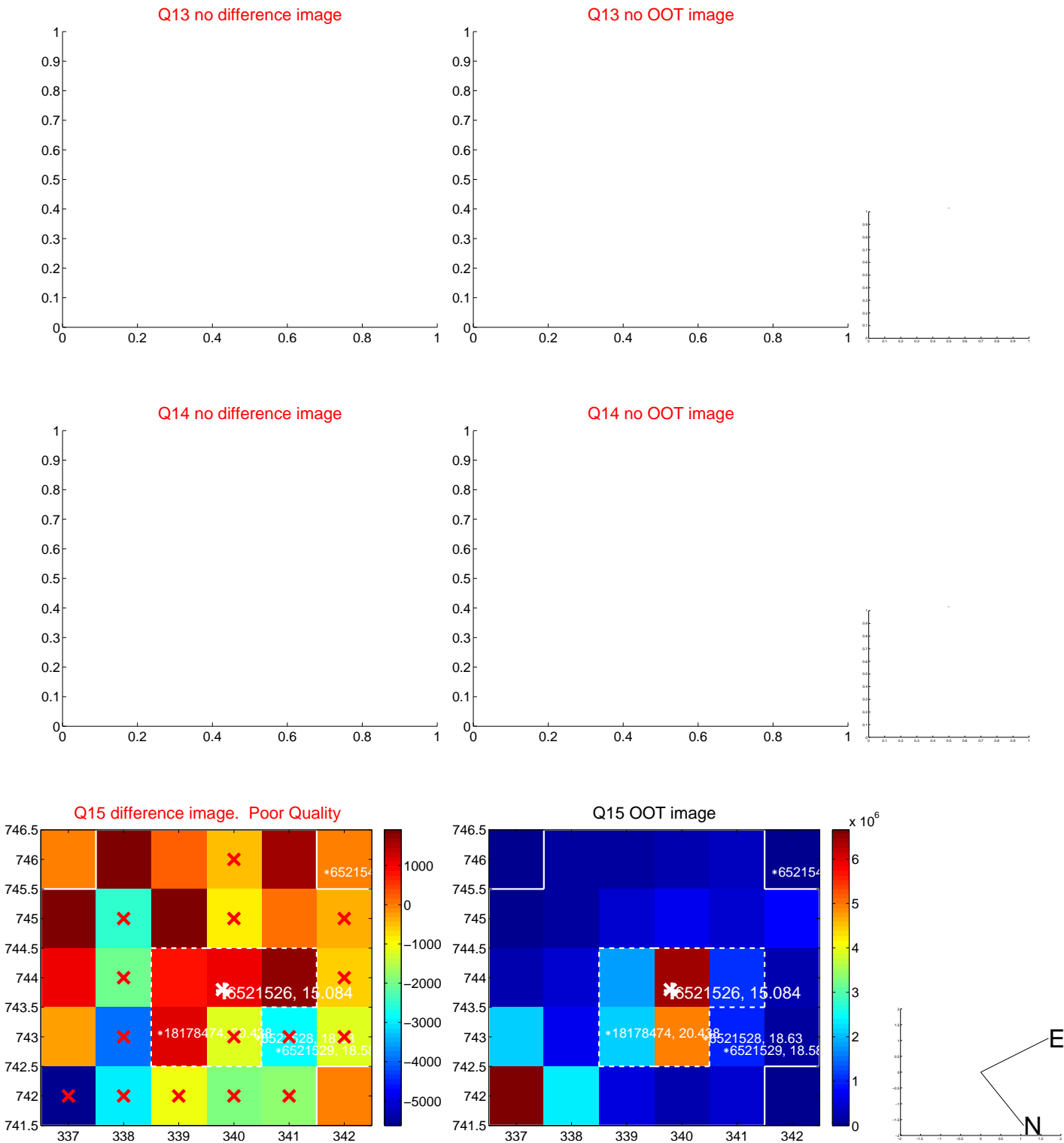
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



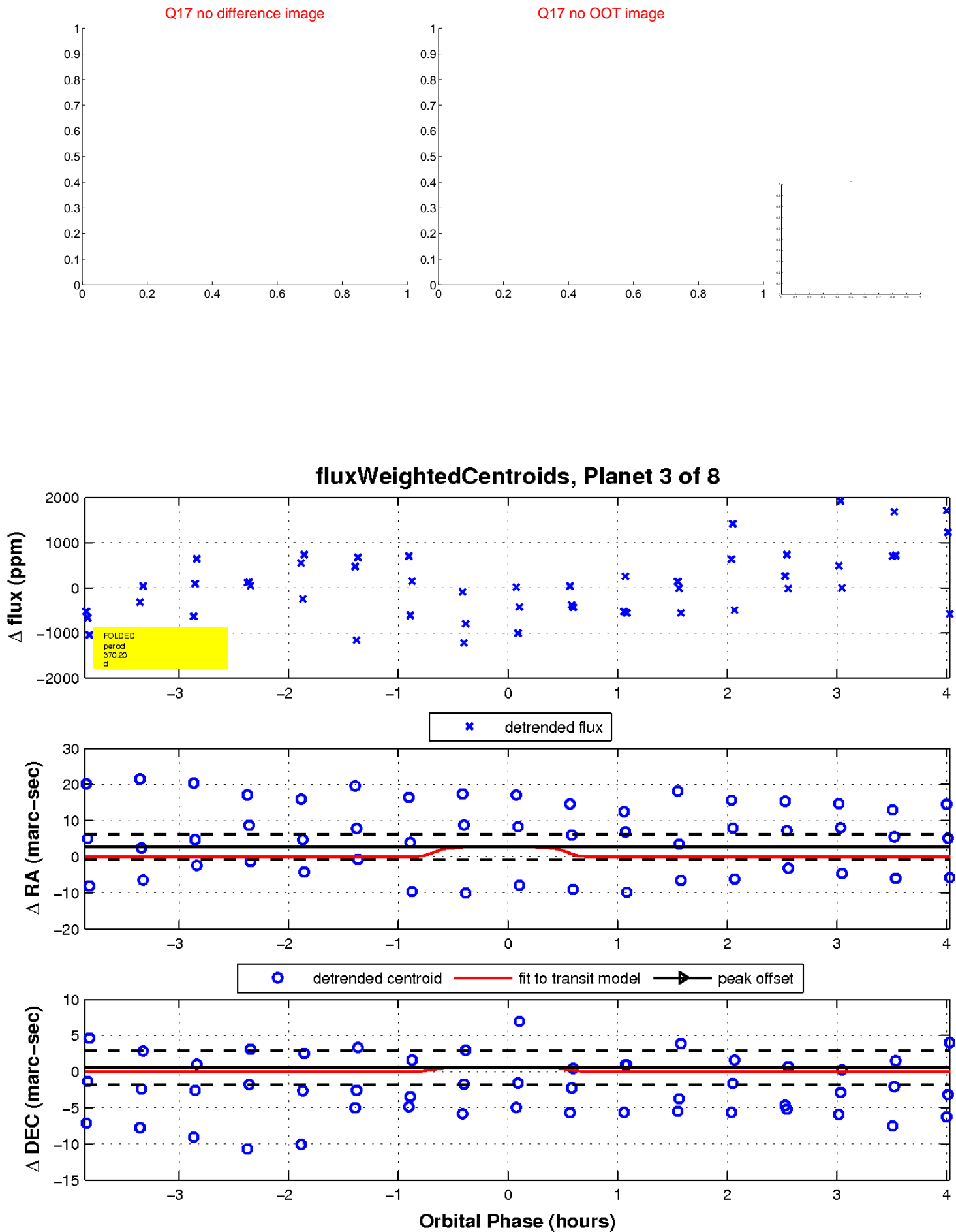
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

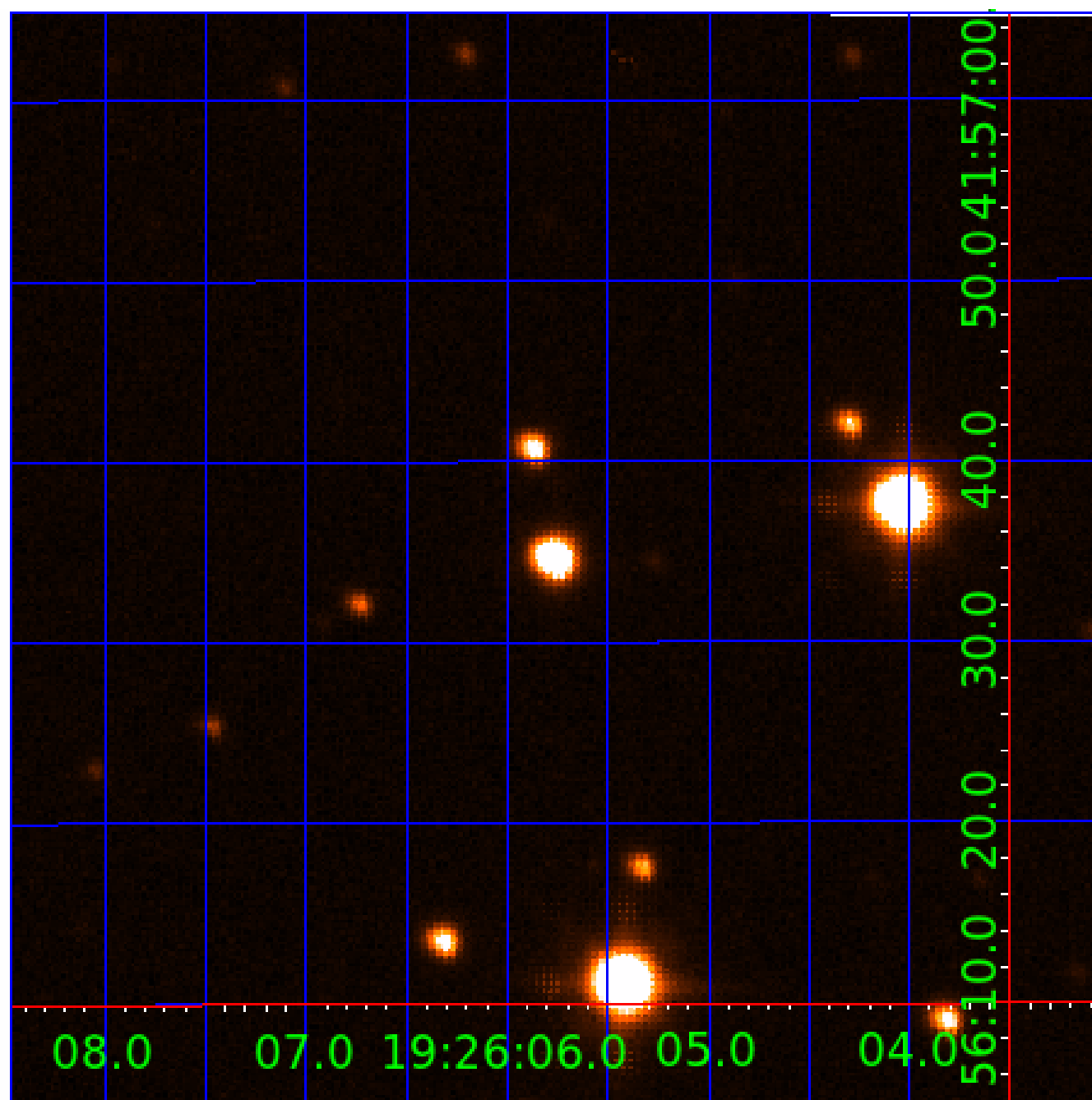


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006521526

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})
006521526-01	OBS	No	490.983019	555.466010	1594.8	6.727	11.1	6.8	0.58	3749	2.42	0.06
006521526-02	OBS	No	236.670794	194.017256	1315.0	3.648	11.0	6.2	0.58	3749	2.23	0.15
006521526-03	OBS	No	370.195000	280.590955	585.6	1.435	10.2	1.8	0.58	3749	1.75	0.08
006521526-04	OBS	No	469.978691	552.026847	508.6	15.000	10.2	-1.0	0.58	3749	1.26	0.06
006521526-05	OBS	8124.01	103.045997	164.920808	946.2	12.490	8.7	7.5	0.58	3749	1.81	0.46
006521526-06	OBS	No	265.812087	329.053353	1972.7	11.362	10.2	7.9	0.58	3749	2.62	0.13
006521526-07	OBS	No	6.370857	133.681880	359.8	4.261	8.1	10.4	0.58	3749	1.50	18.96
006521526-08	OBS	No	172.688846	284.357984	505.5	2.836	9.0	2.6	0.58	3749	1.25	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006521526-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006521526-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006521526-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006521526-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
006521526-05	OBS	FP	0.01	1	0	0	0	INCONSISTENT_TRANS
006521526-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—CENT_FEW_DIFFS
006521526-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006521526-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

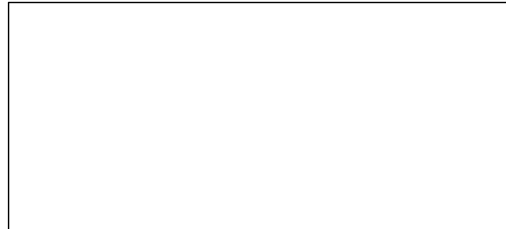
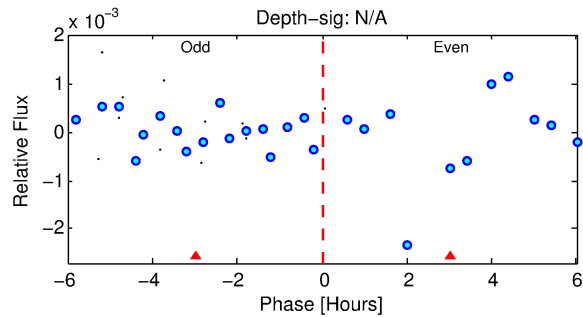
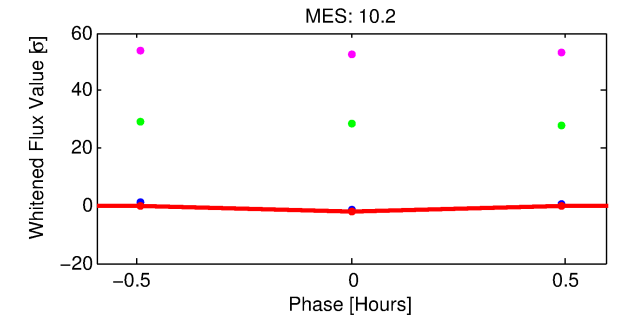
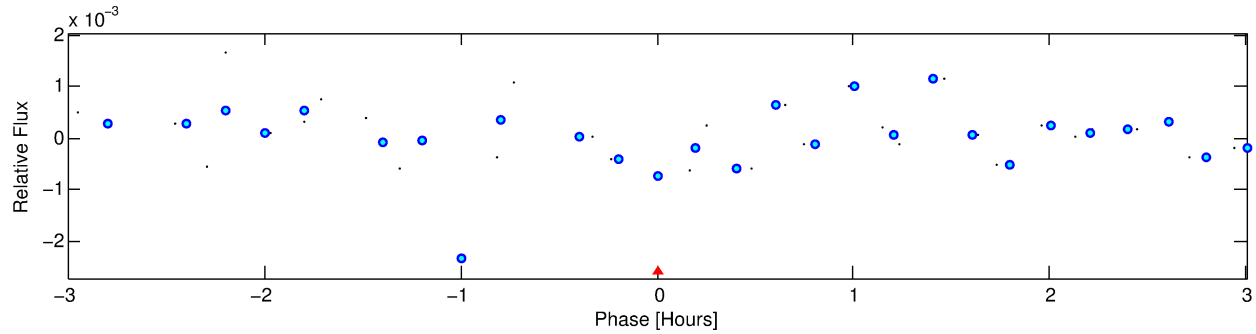
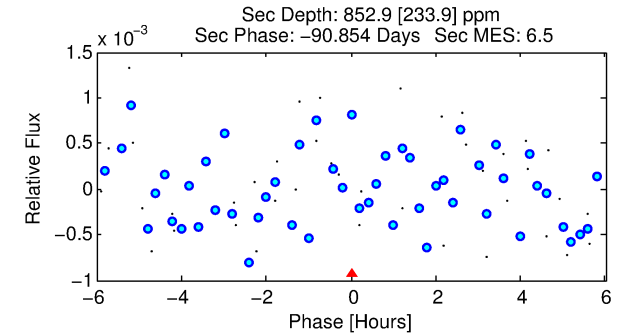
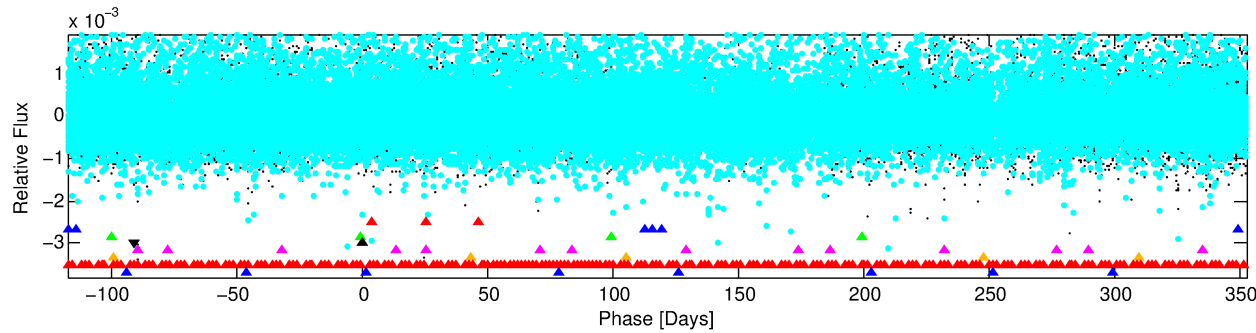
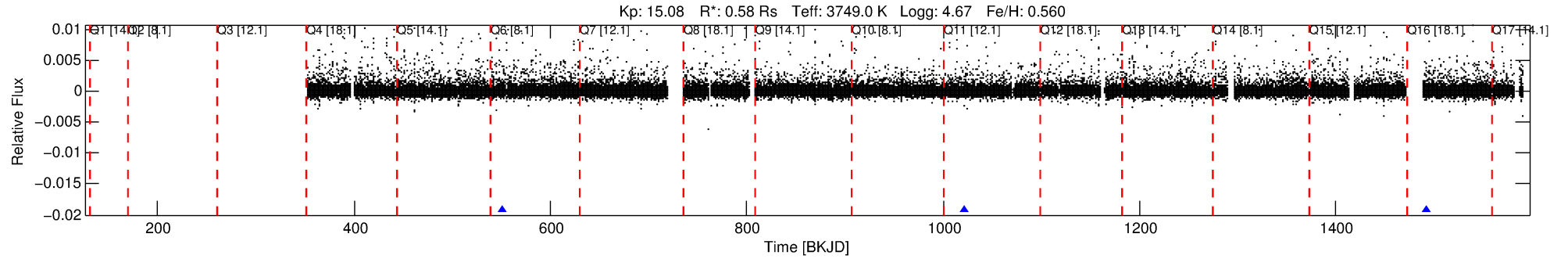
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006521526-04

No Significant Match Found

DV One-Page Summary

KIC: 6521526 Candidate: 4 of 8 Period: 469.979 d



TPS TCE Results:

Period = 469.97869 d
Epoch = 552.0268 BKJD

DV fit results are unavailable

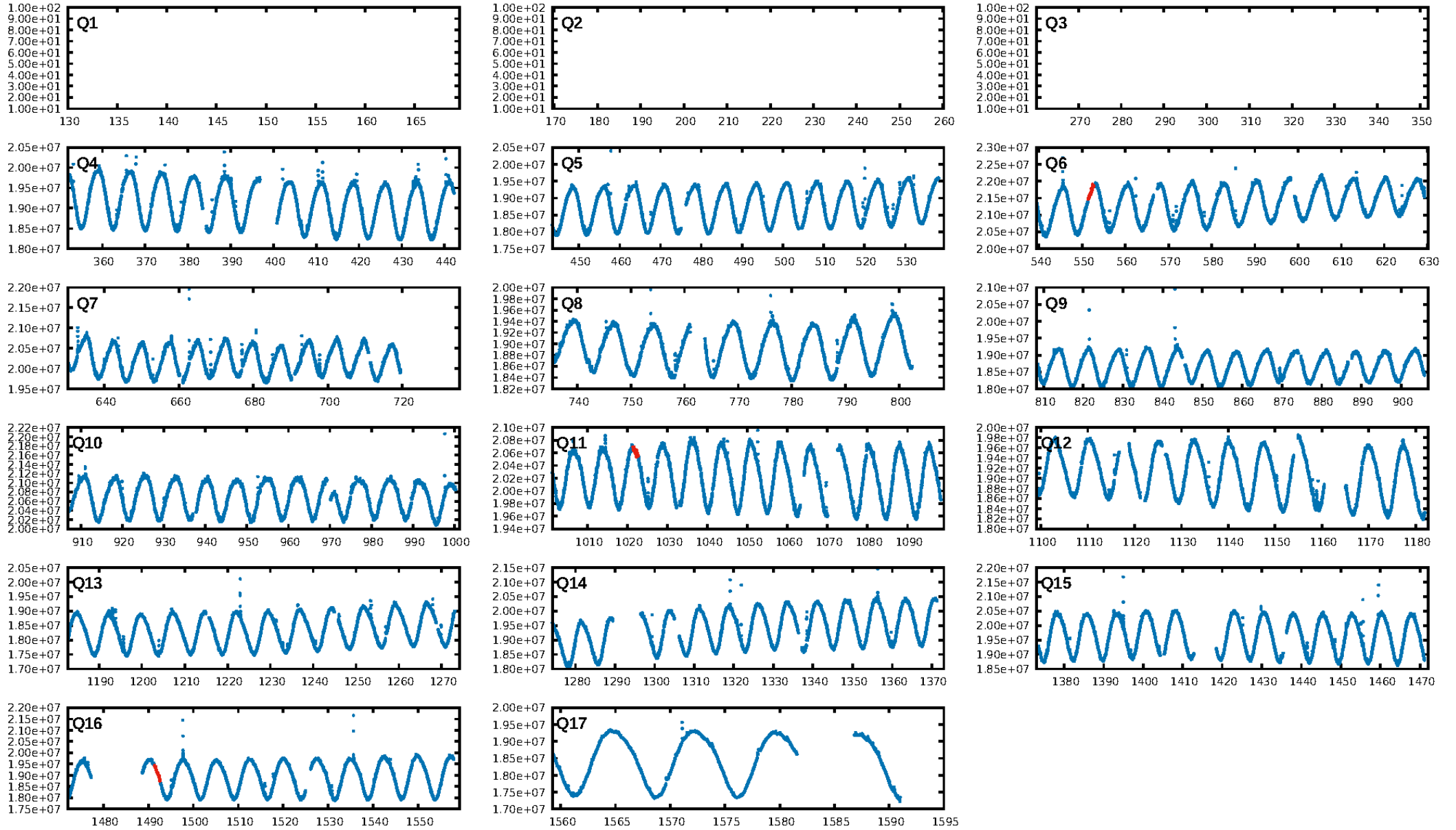
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [158.93σ]
LongPeriod-sig: 100.0% [30.66σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.45e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -3.952
Centroid-sig: 65.5%
Centroid-so: 2.302 arcsec [0.46σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

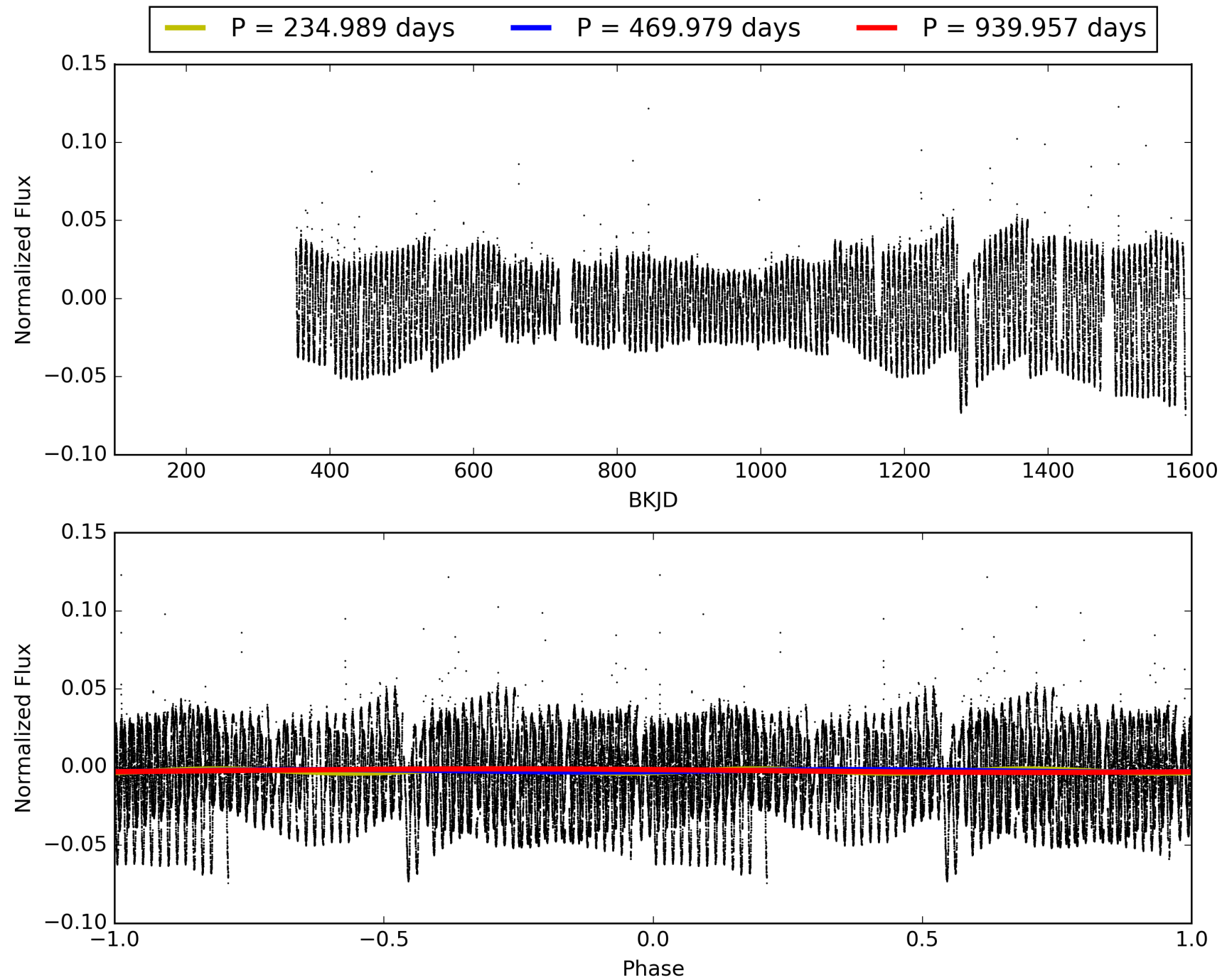
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:29:39 Z

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

TCE 006521526-04, PDC Light Curves

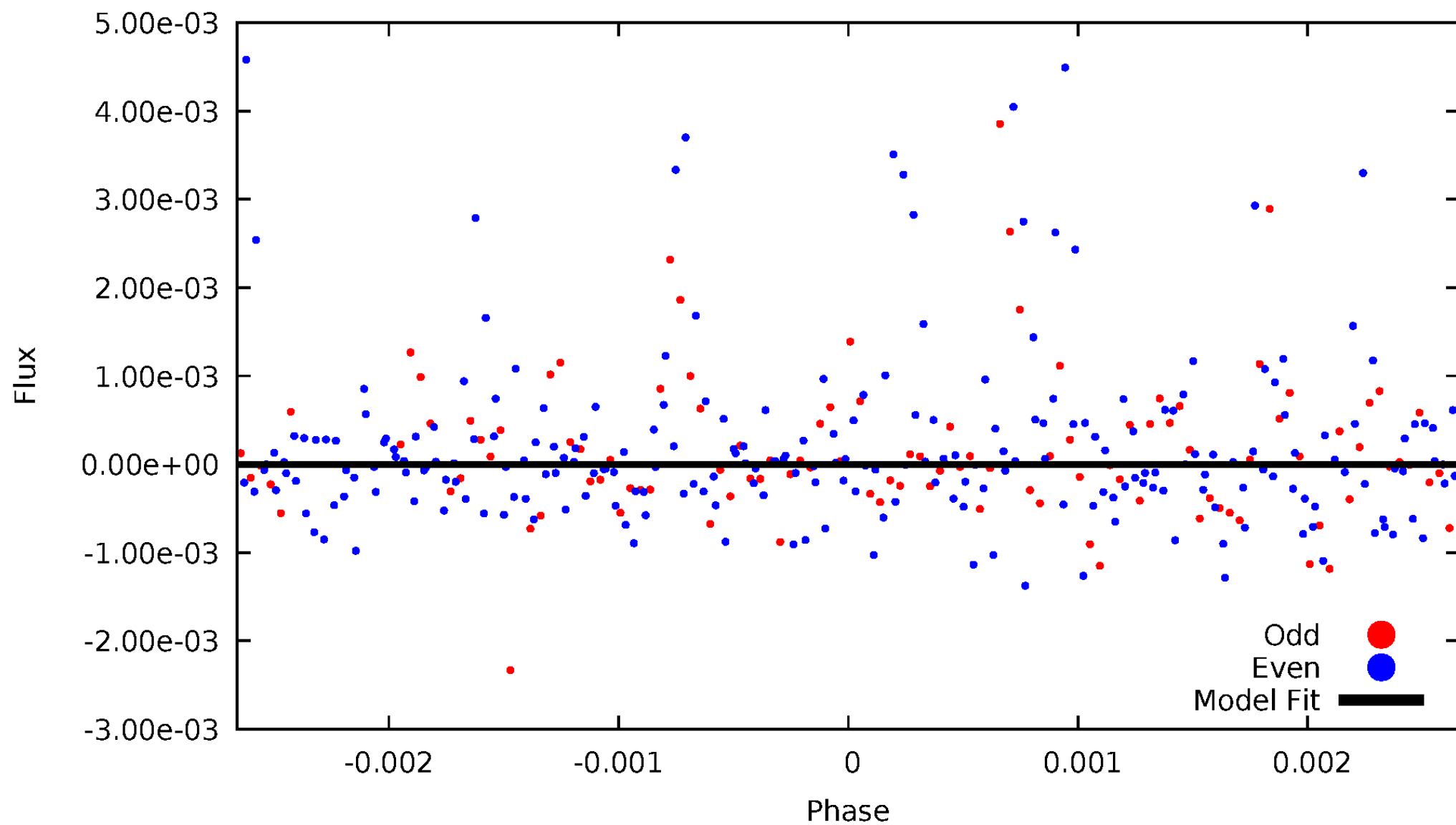


TCE 006521526-04



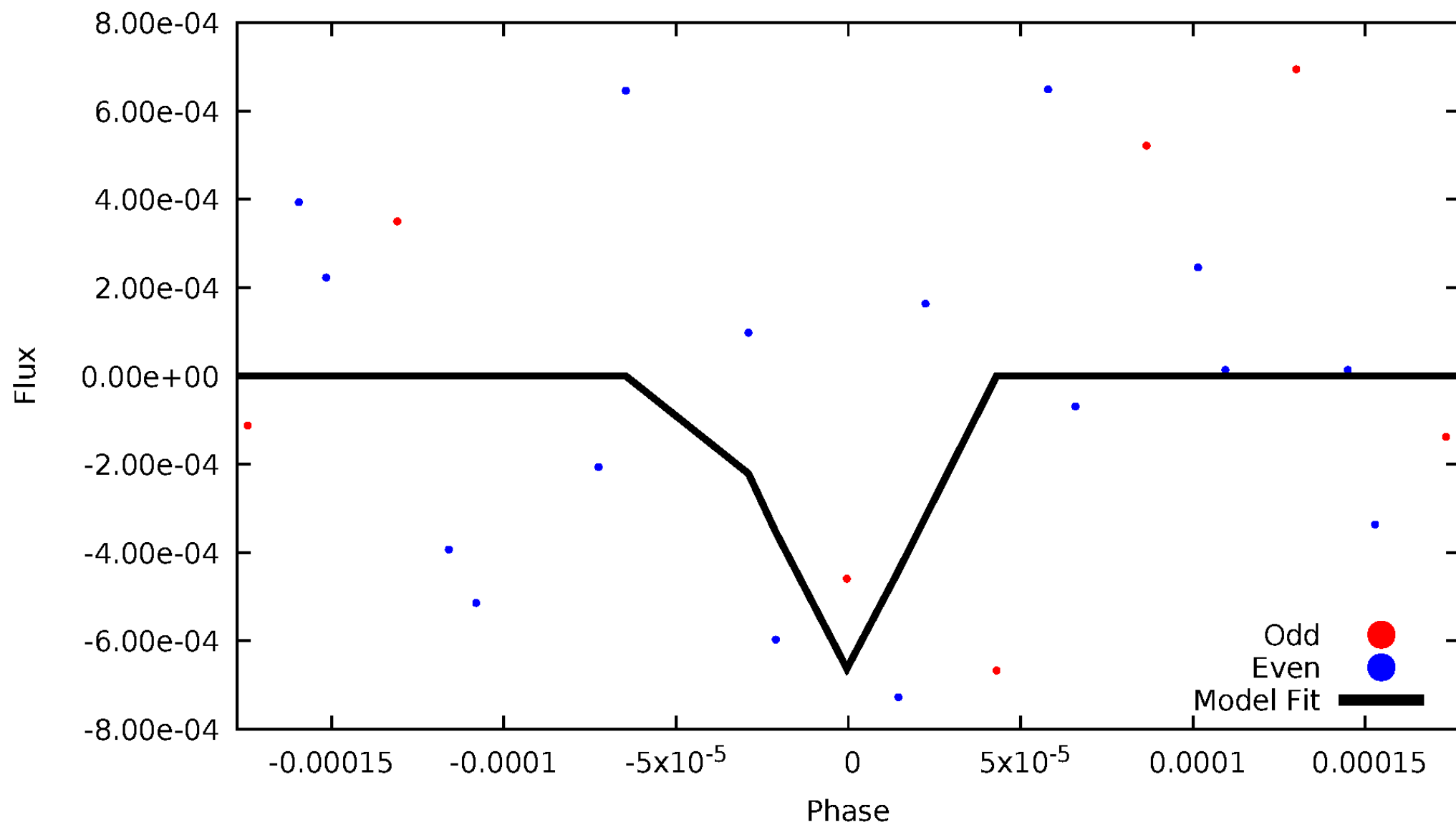
DV Odd/Even

TCE 006521526-04



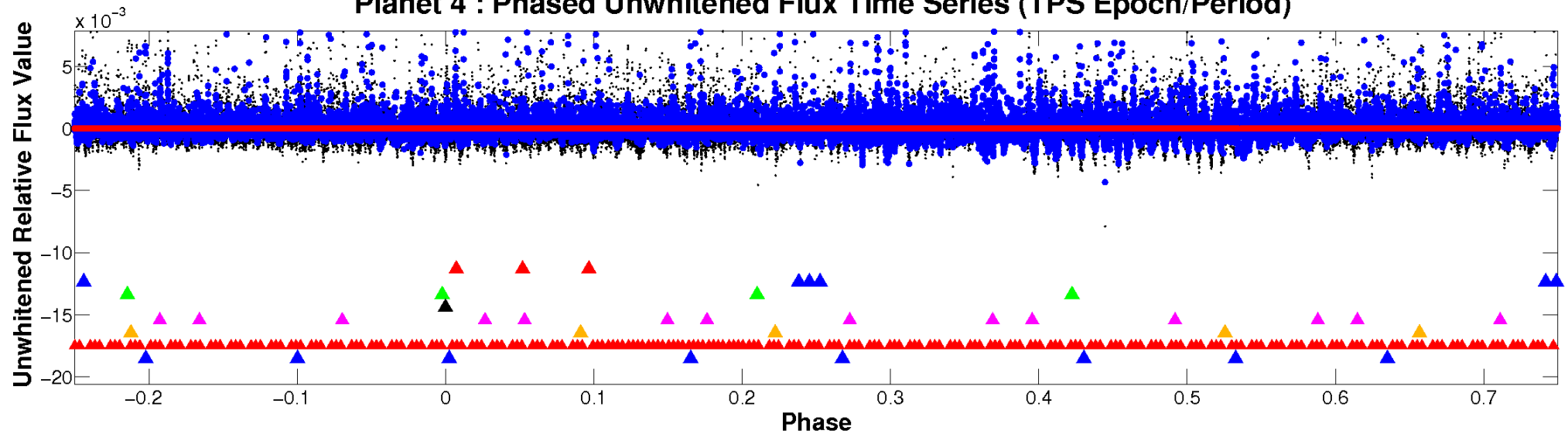
ALT Odd/Even

TCE 006521526-04

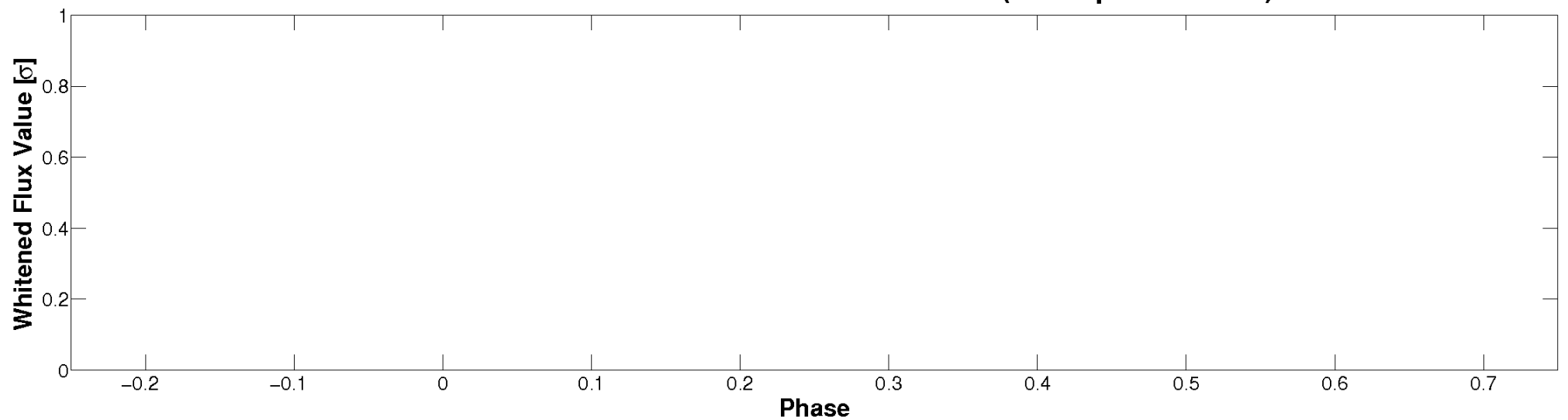


Non-Whitened Vs. Whitened Light Curve

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

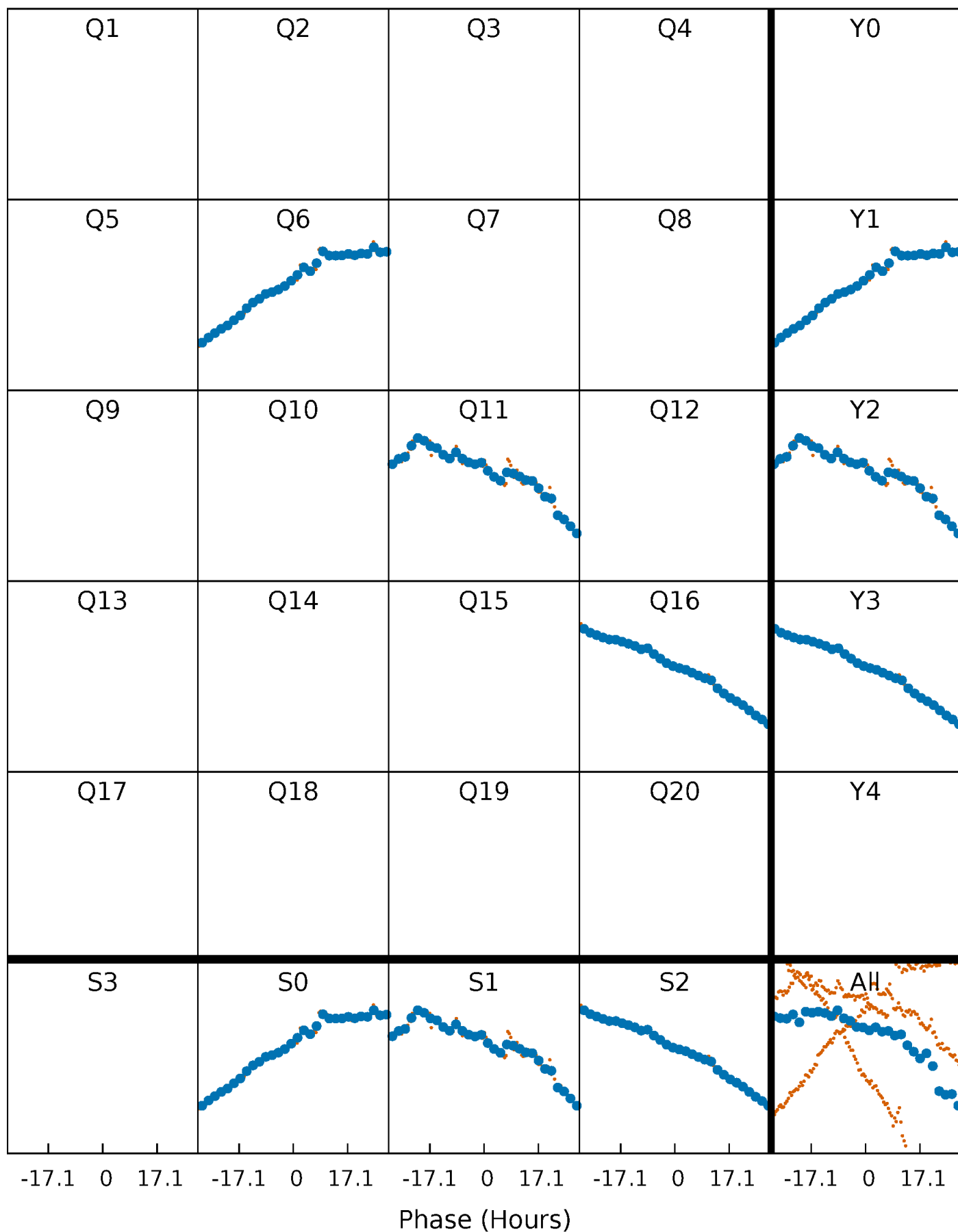


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



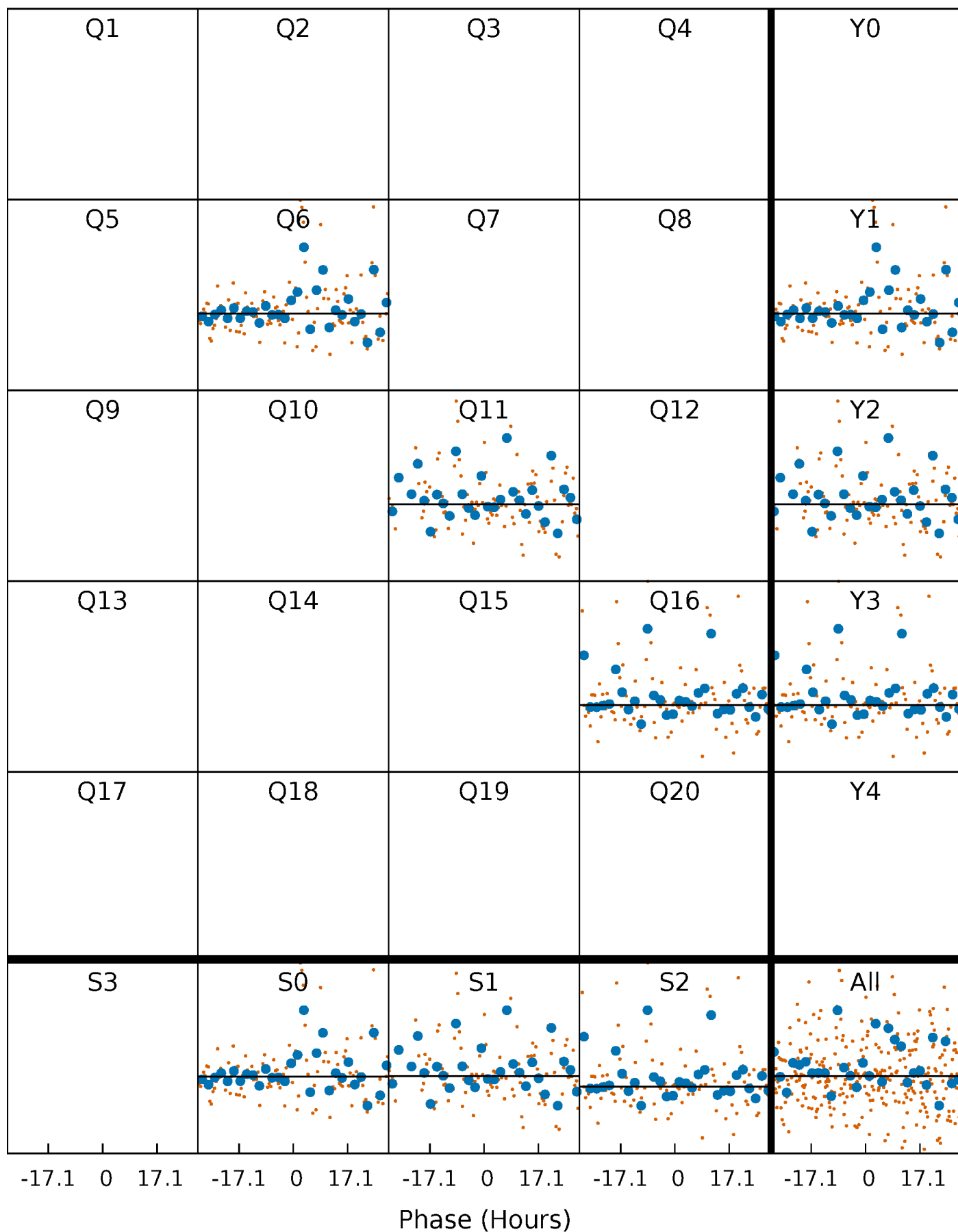
PDC Quarter-Phased Transit Curves

TCE 006521526-04 P=469.978691 Days $T_0=552.026847$ (BKJD)



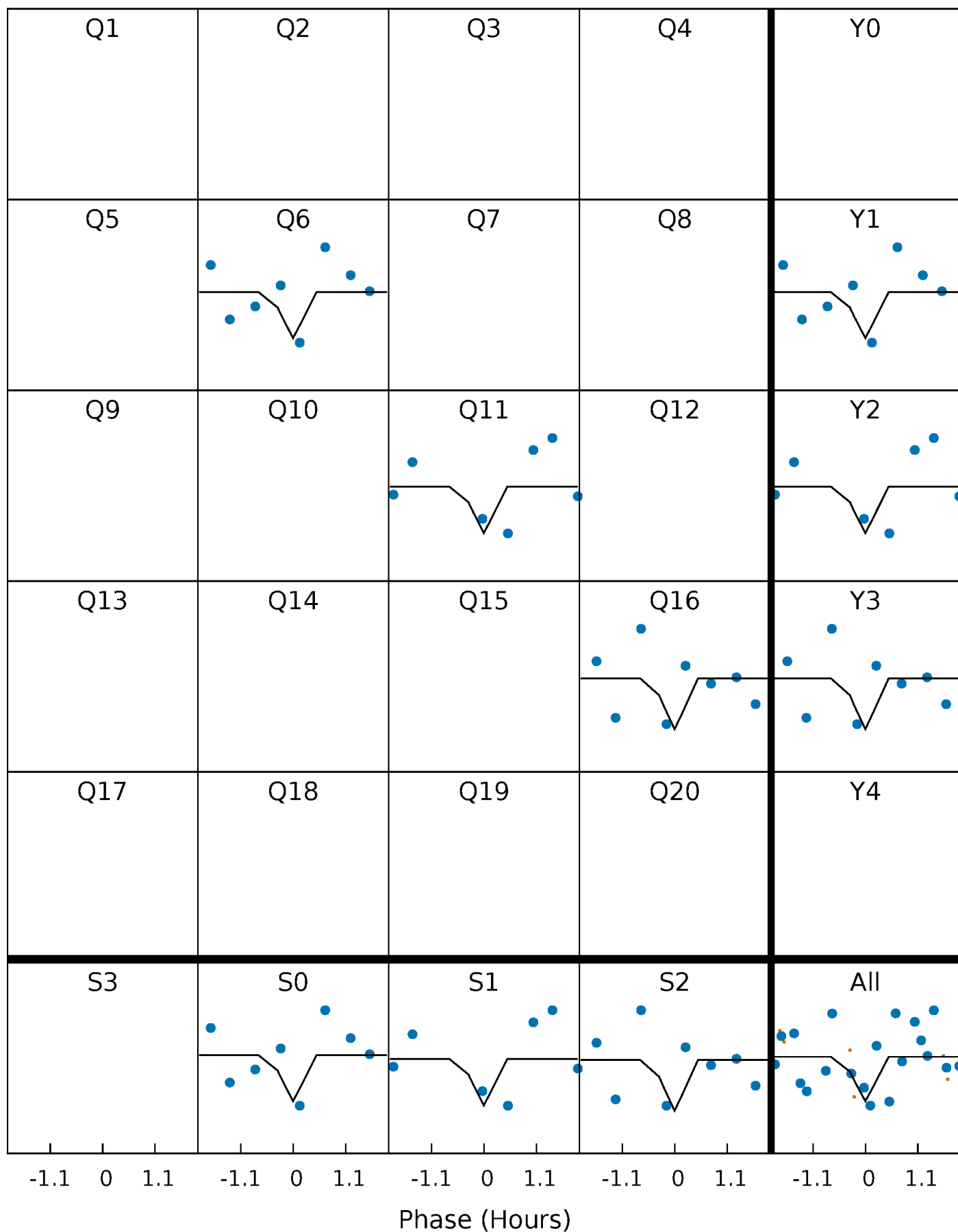
DV Quarter-Phased Transit Curves

TCE 006521526-04 $P=469.978691$ Days $T_0=552.026847$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

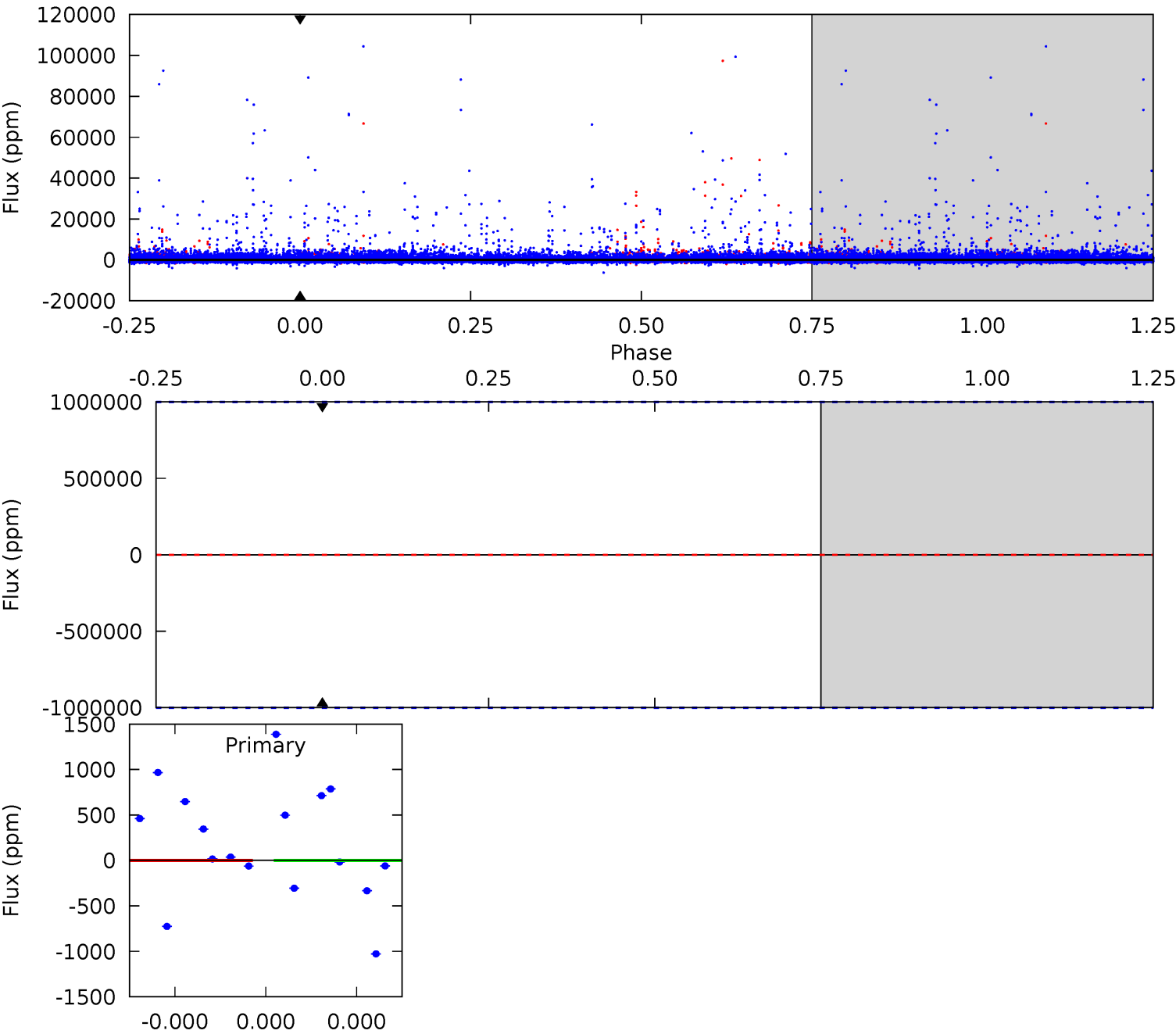
TCE 006521526-04 P=469.978691 Days $T_0=551.376882$ (BKJD)



DV Model-Shift Uniqueness Test

006521526-04, P = 469.978691 Days, E = 82.048156 Days

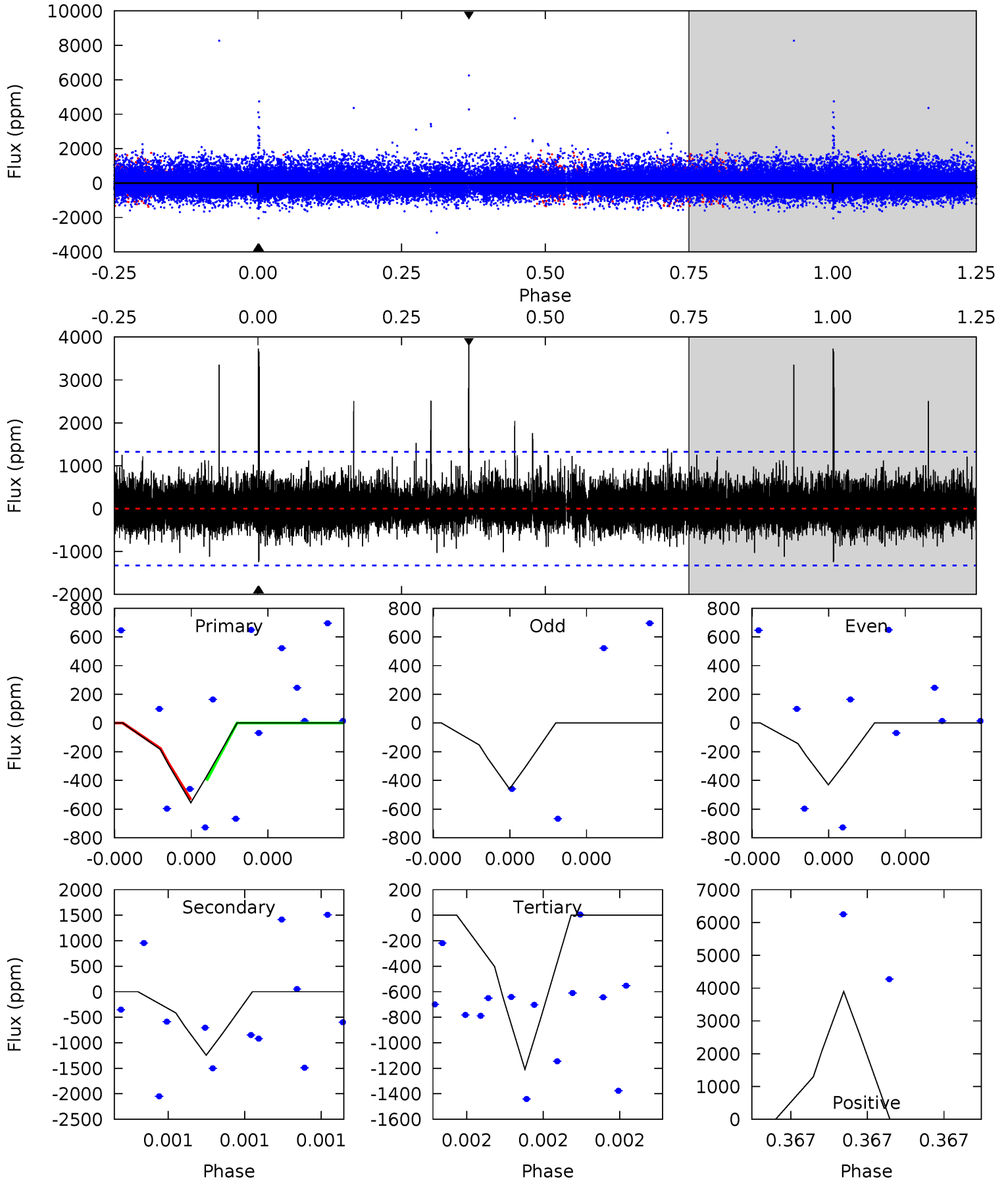
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006521526-04, P = 469.978691 Days, E = 81.398191 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.48	5.55	5.39	17.4	5.90	3.97	1.15	-2.91	-14.9	0.16	-11.8	0.05	1.00	0.76	0.30



Stellar Parameters For KIC 006521526

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3749^{+117}_{-143}	$4.674^{+0.072}_{-0.022}$	$0.560^{+0.050}_{-0.300}$	$0.581^{+0.030}_{-0.070}$	$0.582^{+0.037}_{-0.061}$	$4.171^{+1.432}_{-0.391}$
	+3%/-4%	+2%/-0%	+9%/-54%	+5%/-12%	+6%/-10%	+34%/-9%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006521526-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$5.02^{+4.96}_{-3.33}$	175^{+7}_{-8}	3170^{+5238}_{-10247}	$47699^{+4925518}_{-2985363}$
Alt.	-1245 ± 224	$4.98^{+4.71}_{-3.53}$	175^{+7}_{-7}	2911^{+1411}_{-473}	$26529^{+281700}_{-19439}$

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

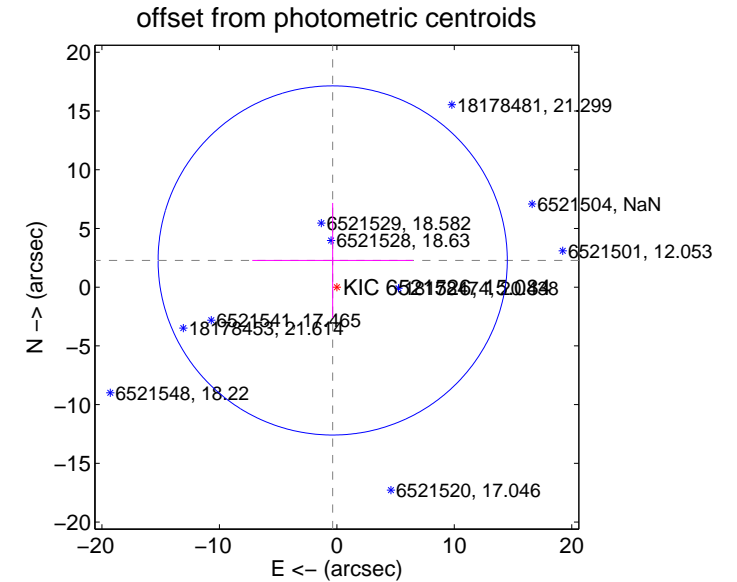
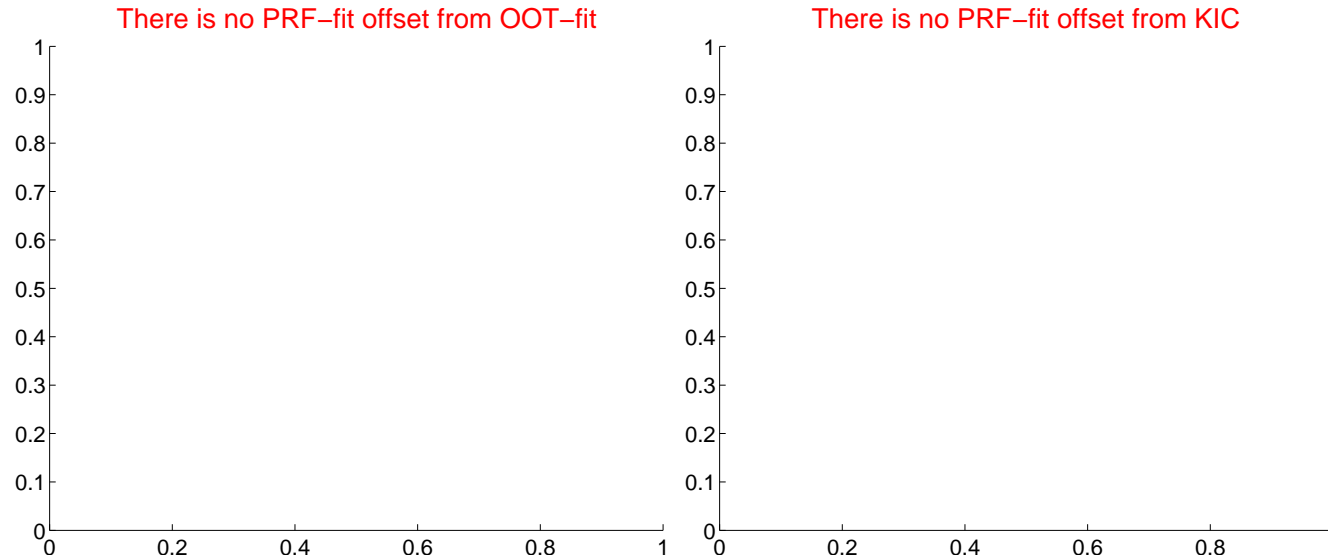
DV Centroid Data

Supplemental centroid analysis for 006521526-04. Kepler magnitude: 15.08. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	2.30 ± 4.95	0.46	0.35 ± 6.84	2.27 ± 4.90



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.



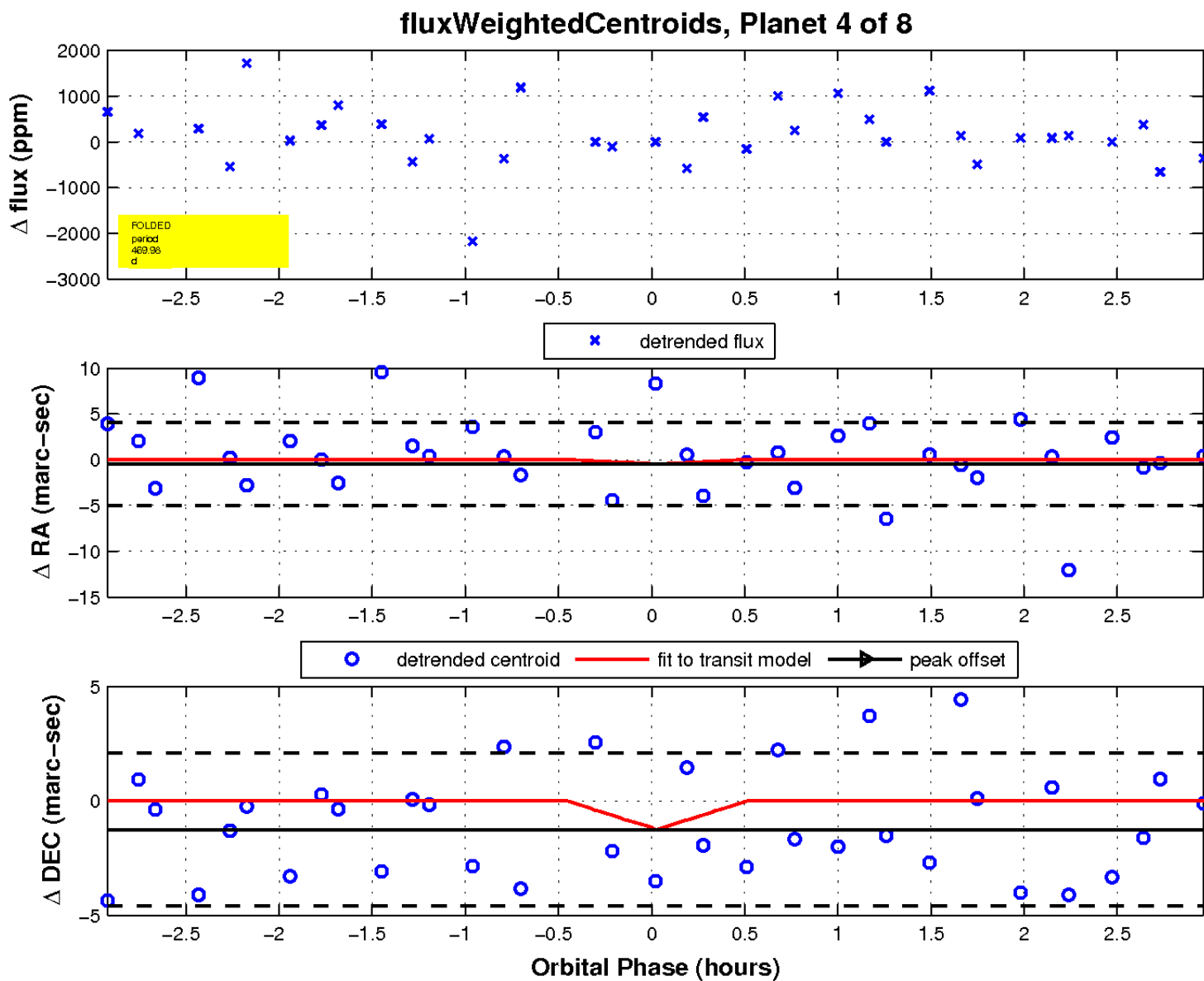
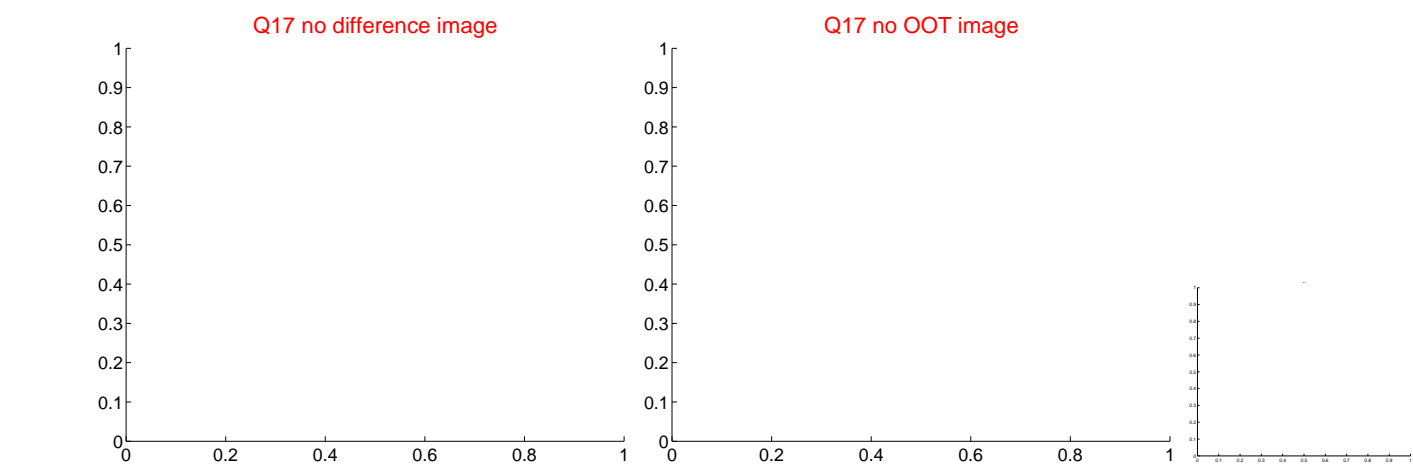
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

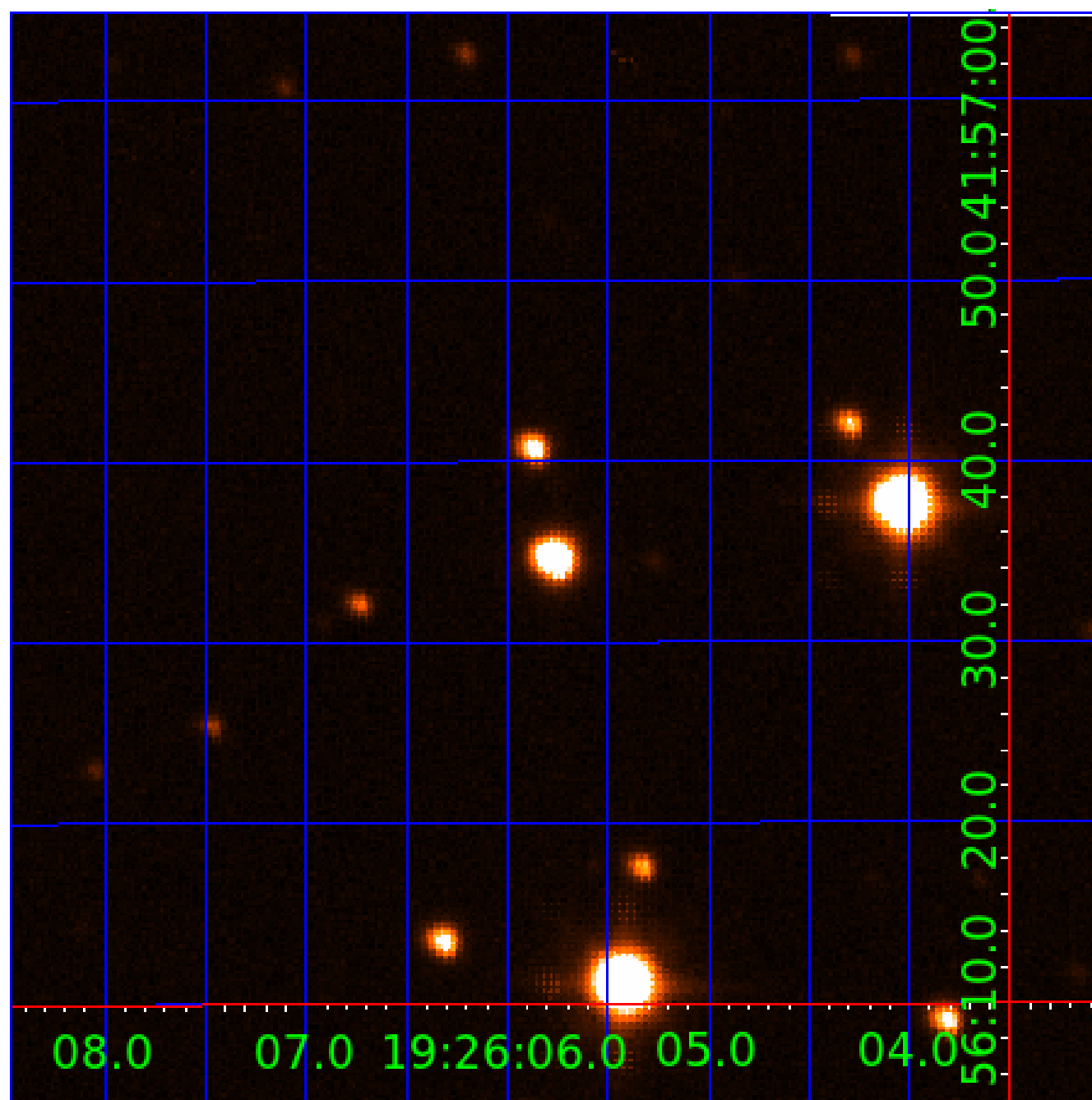


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006521526

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})
006521526-01	OBS	No	490.983019	555.466010	1594.8	6.727	11.1	6.8	0.58	3749	2.42	0.06
006521526-02	OBS	No	236.670794	194.017256	1315.0	3.648	11.0	6.2	0.58	3749	2.23	0.15
006521526-03	OBS	No	370.195000	280.590955	585.6	1.435	10.2	1.8	0.58	3749	1.75	0.08
006521526-04	OBS	No	469.978691	552.026847	508.6	15.000	10.2	-1.0	0.58	3749	1.26	0.06
006521526-05	OBS	8124.01	103.045997	164.920808	946.2	12.490	8.7	7.5	0.58	3749	1.81	0.46
006521526-06	OBS	No	265.812087	329.053353	1972.7	11.362	10.2	7.9	0.58	3749	2.62	0.13
006521526-07	OBS	No	6.370857	133.681880	359.8	4.261	8.1	10.4	0.58	3749	1.50	18.96
006521526-08	OBS	No	172.688846	284.357984	505.5	2.836	9.0	2.6	0.58	3749	1.25	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006521526-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006521526-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006521526-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006521526-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
006521526-05	OBS	FP	0.01	1	0	0	0	INCONSISTENT_TRANS
006521526-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—CENT_FEW_DIFFS
006521526-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006521526-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

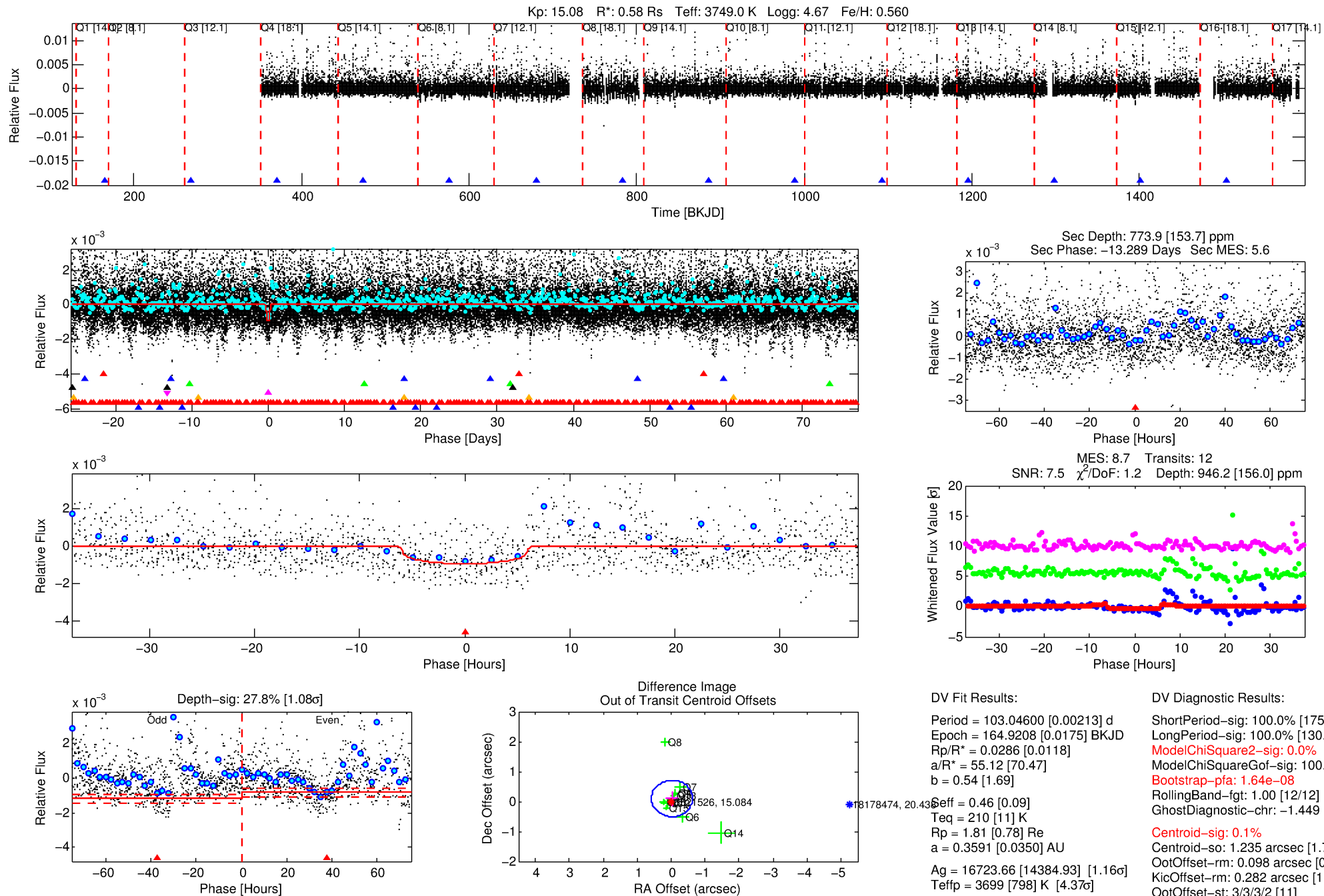
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006521526-05

No Significant Match Found

DV One-Page Summary

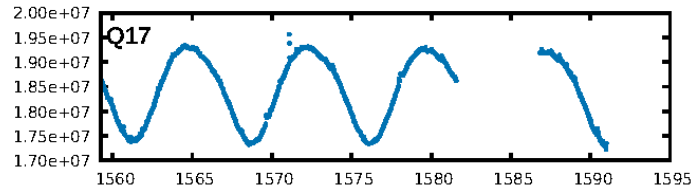
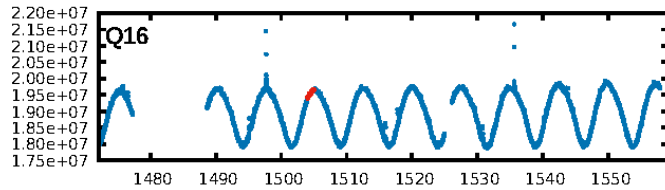
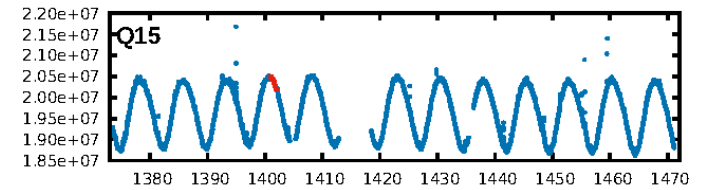
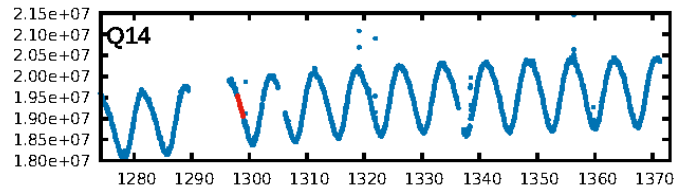
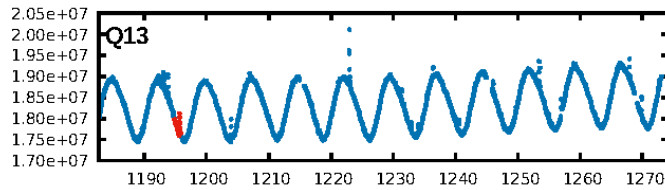
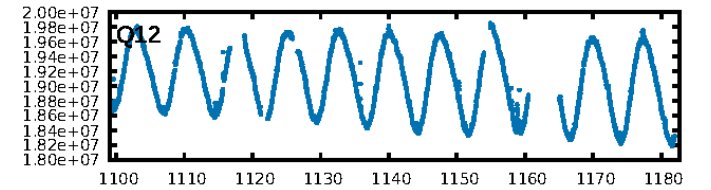
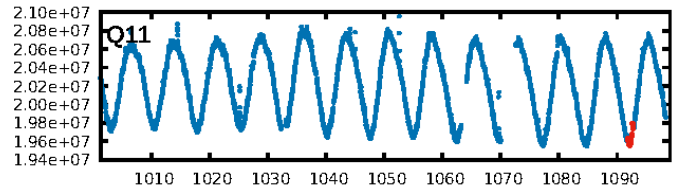
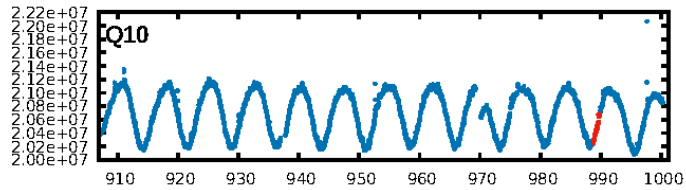
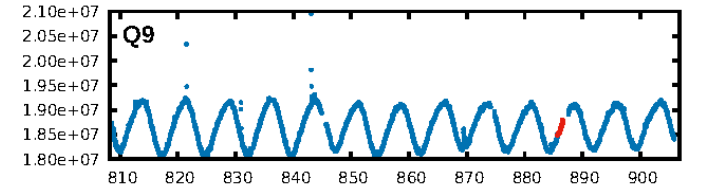
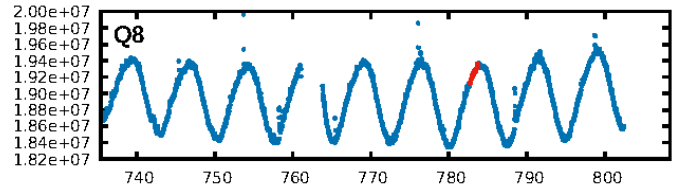
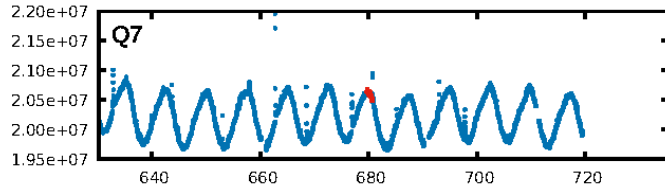
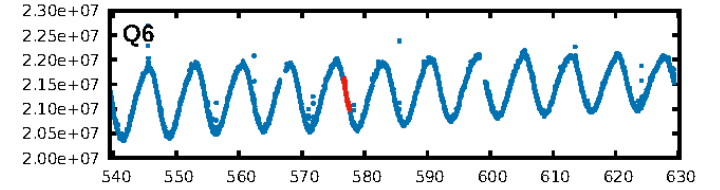
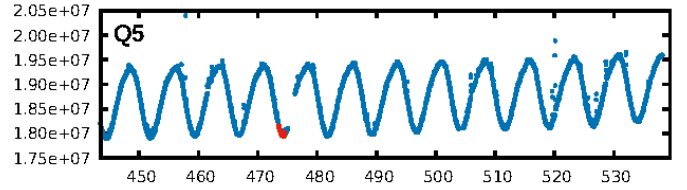
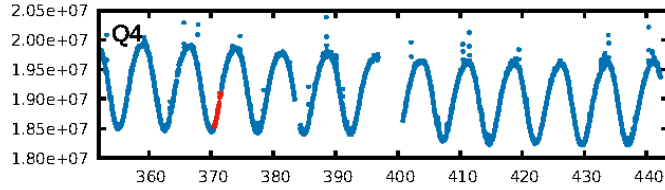
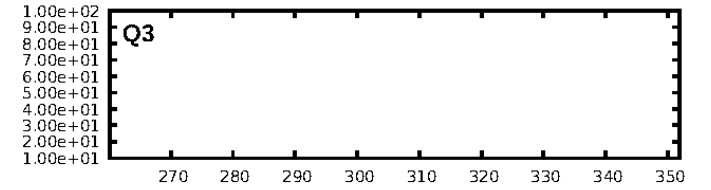
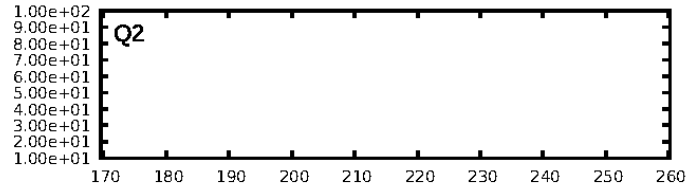
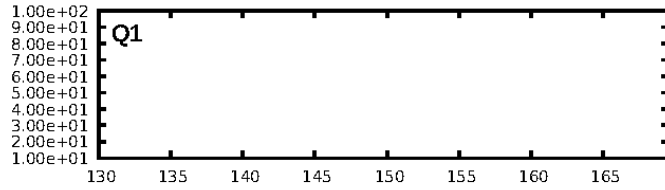
KIC: 6521526 Candidate: 5 of 8 Period: 103.046 d



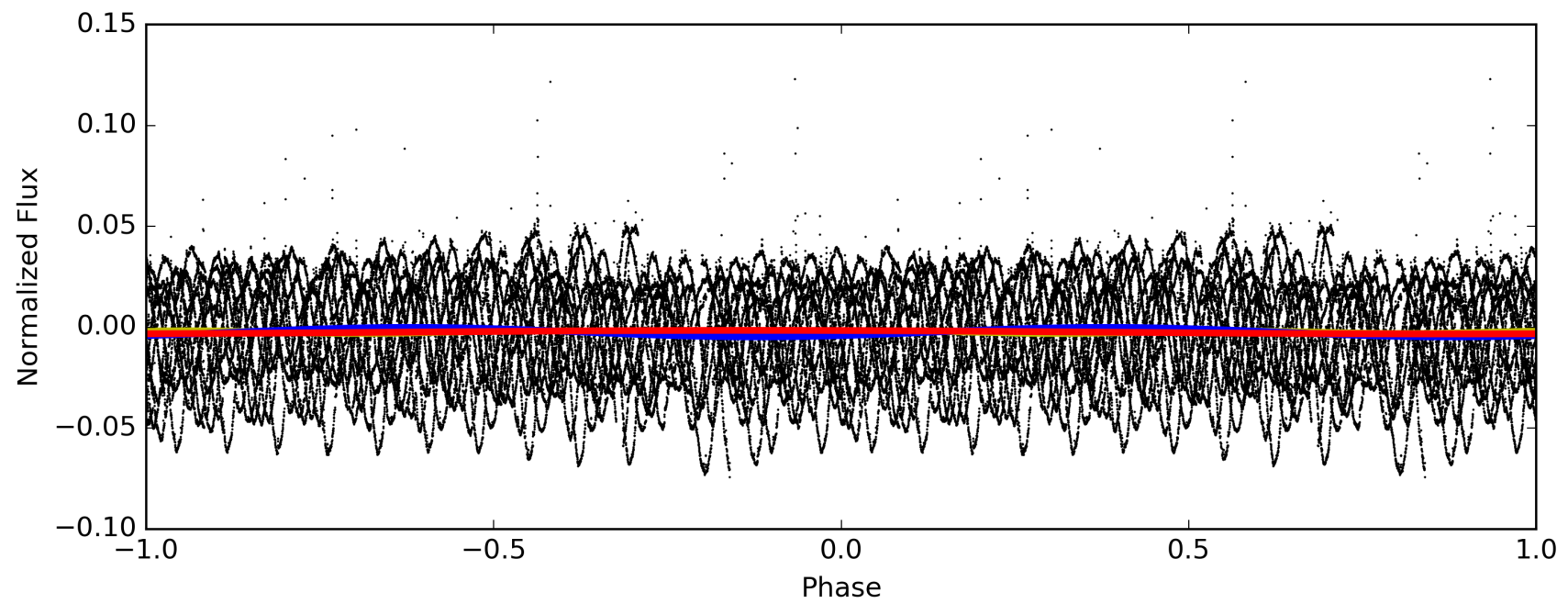
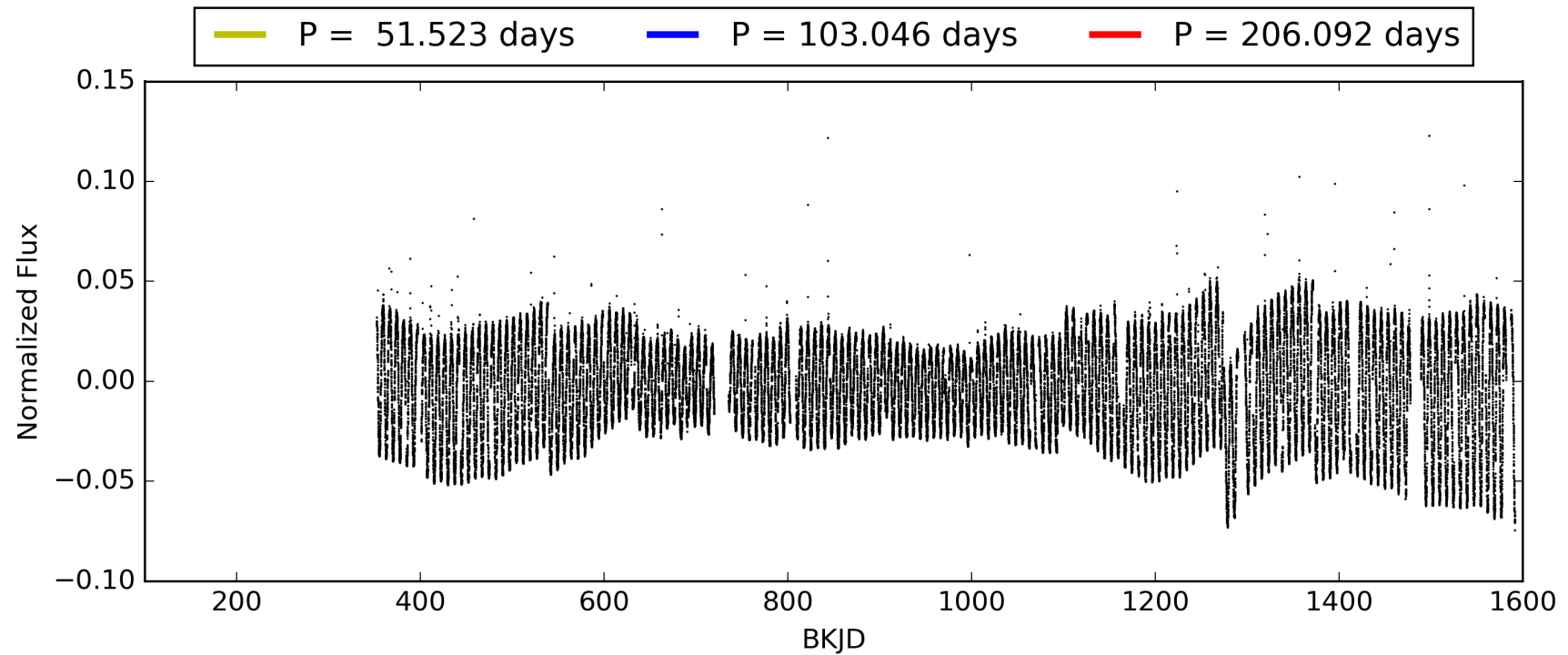
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:29:47 Z

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

TCE 006521526-05, PDC Light Curves

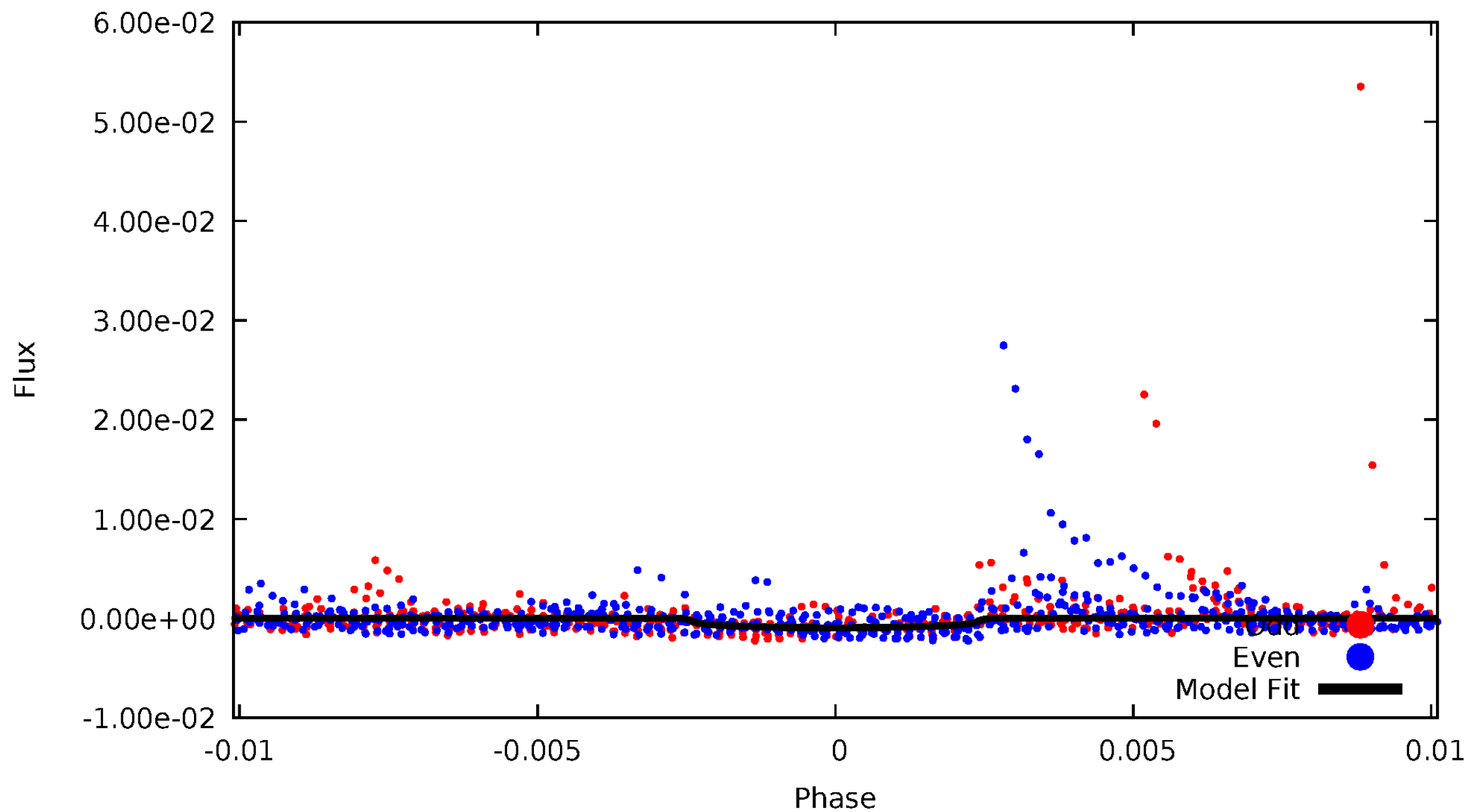


TCE 006521526-05



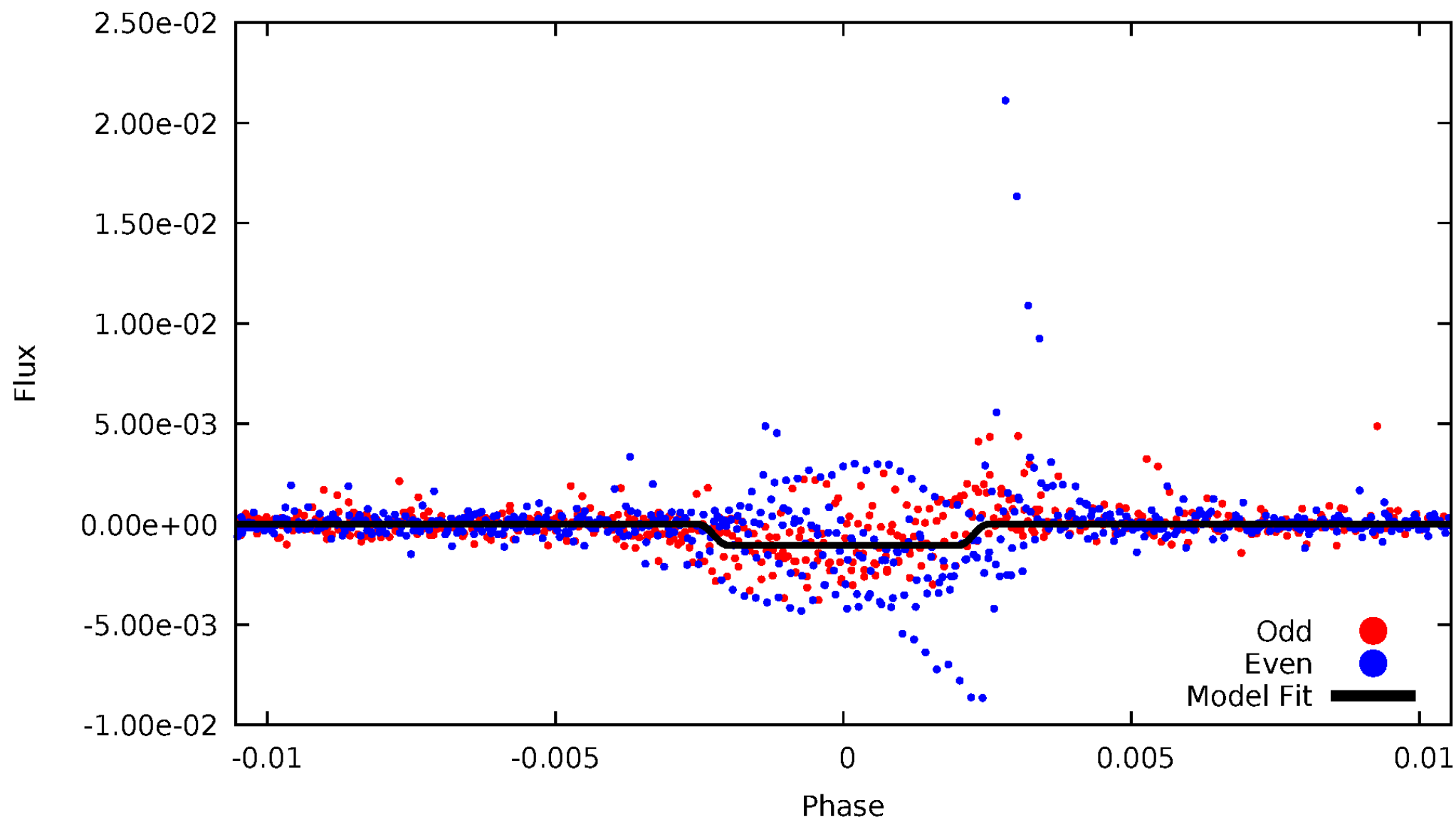
DV Odd/Even

TCE 006521526-05



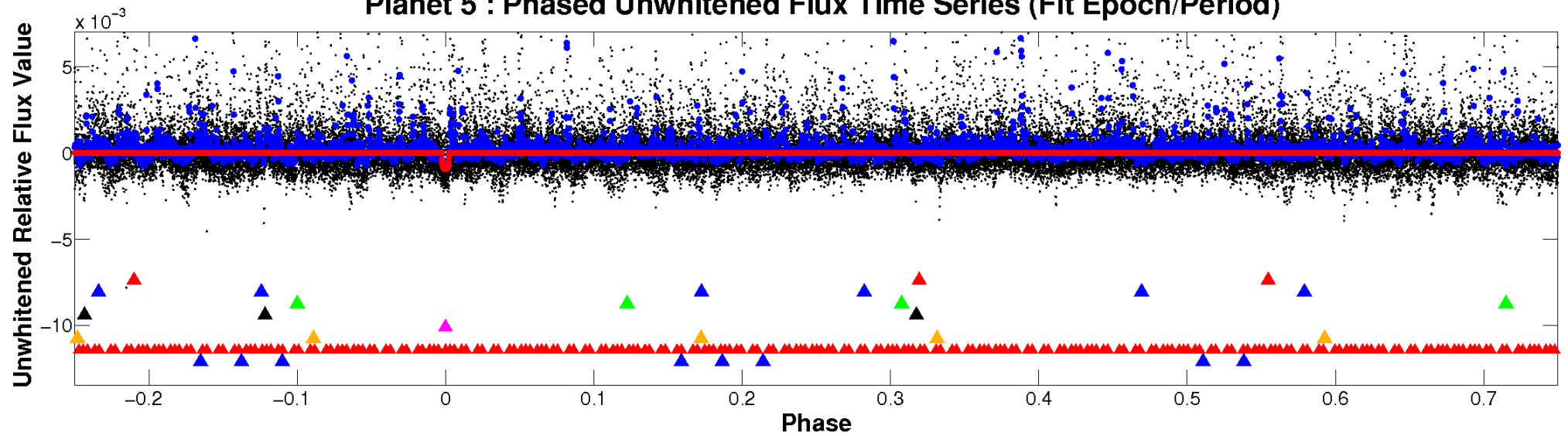
ALT Odd/Even

TCE 006521526-05

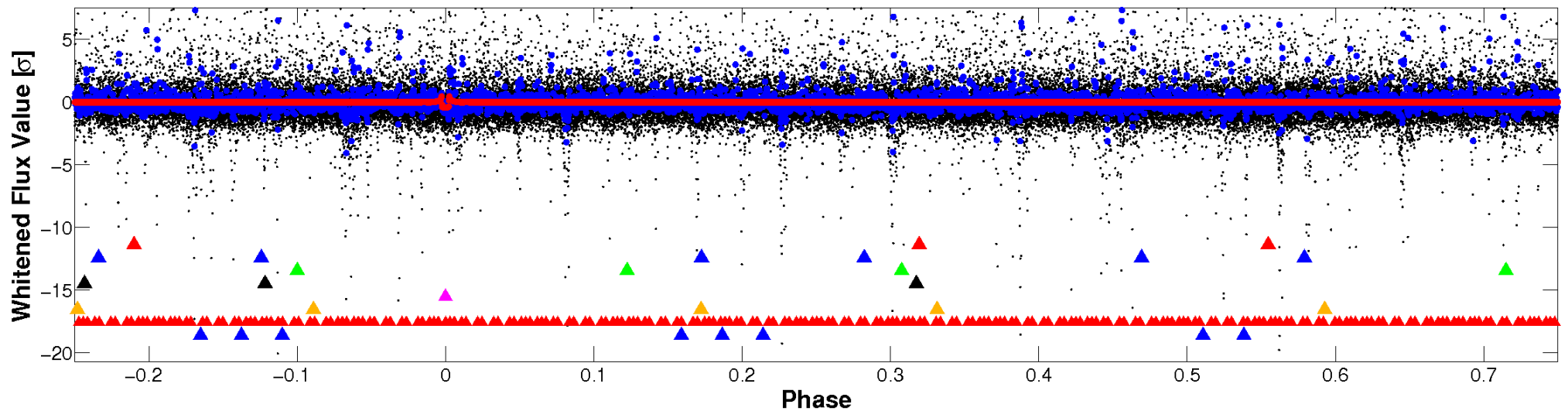


Non-Whitened Vs. Whitened Light Curve

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

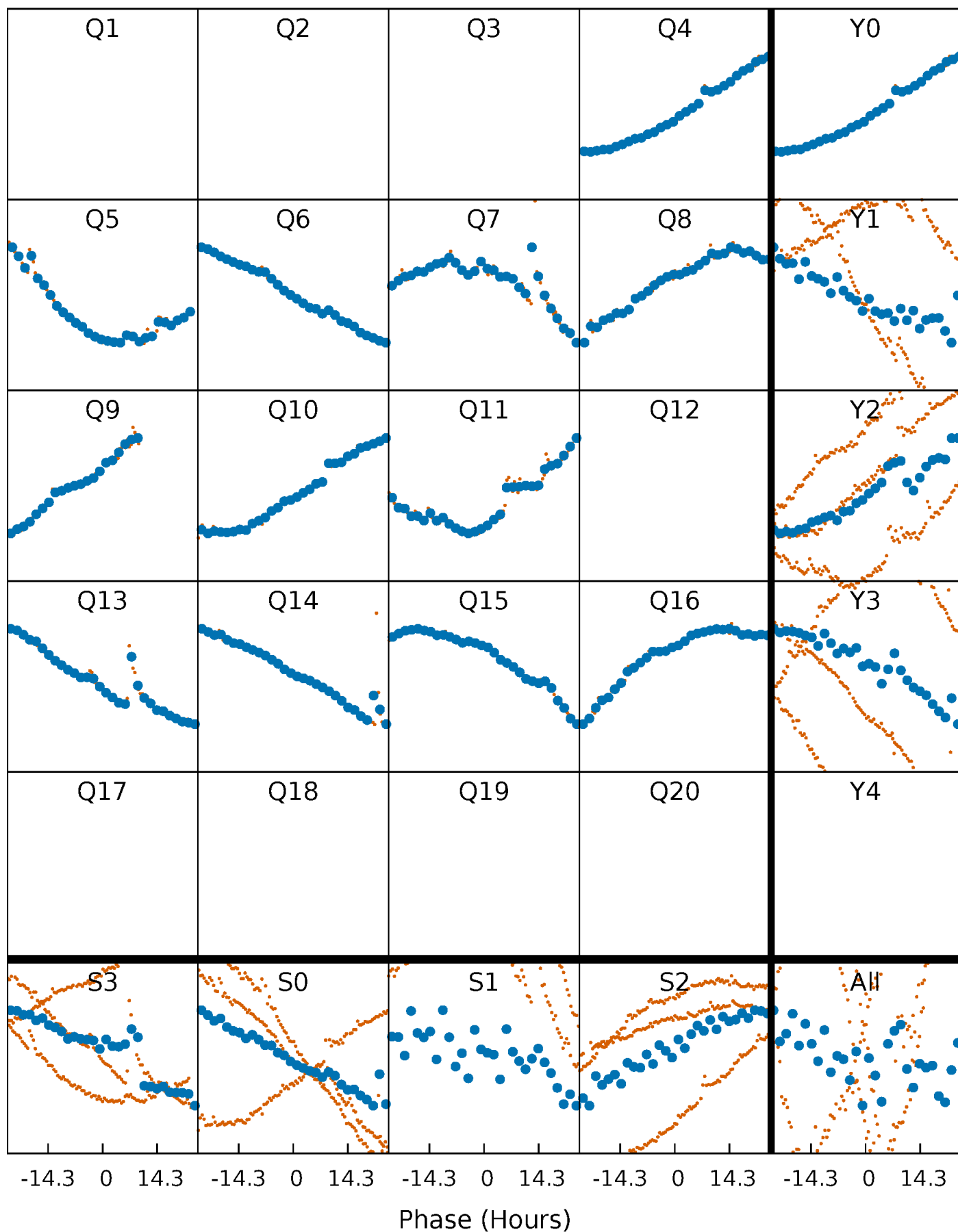


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



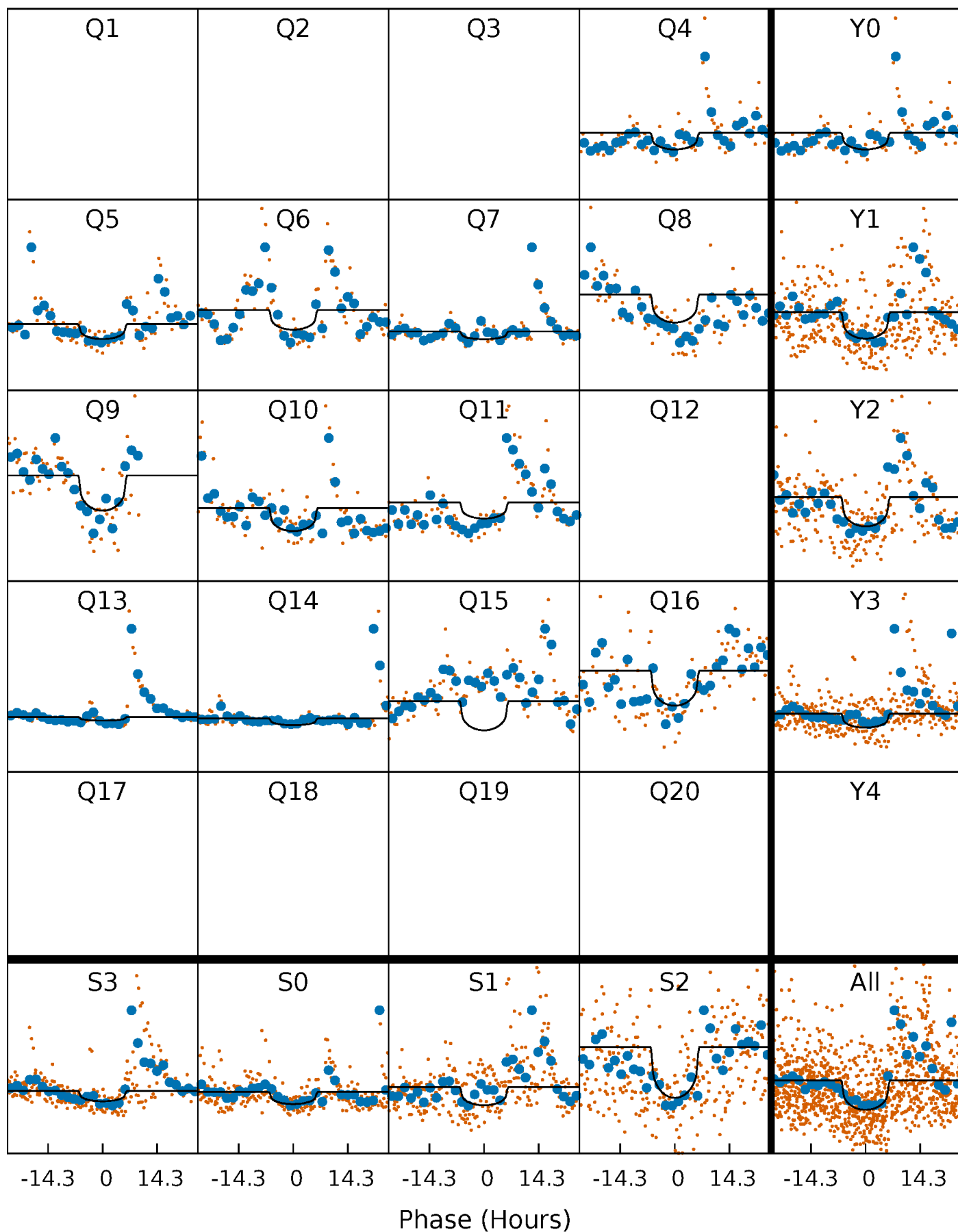
PDC Quarter-Phased Transit Curves

TCE 006521526-05 $P=103.045997$ Days $T_0=164.920808$ (BKJD)



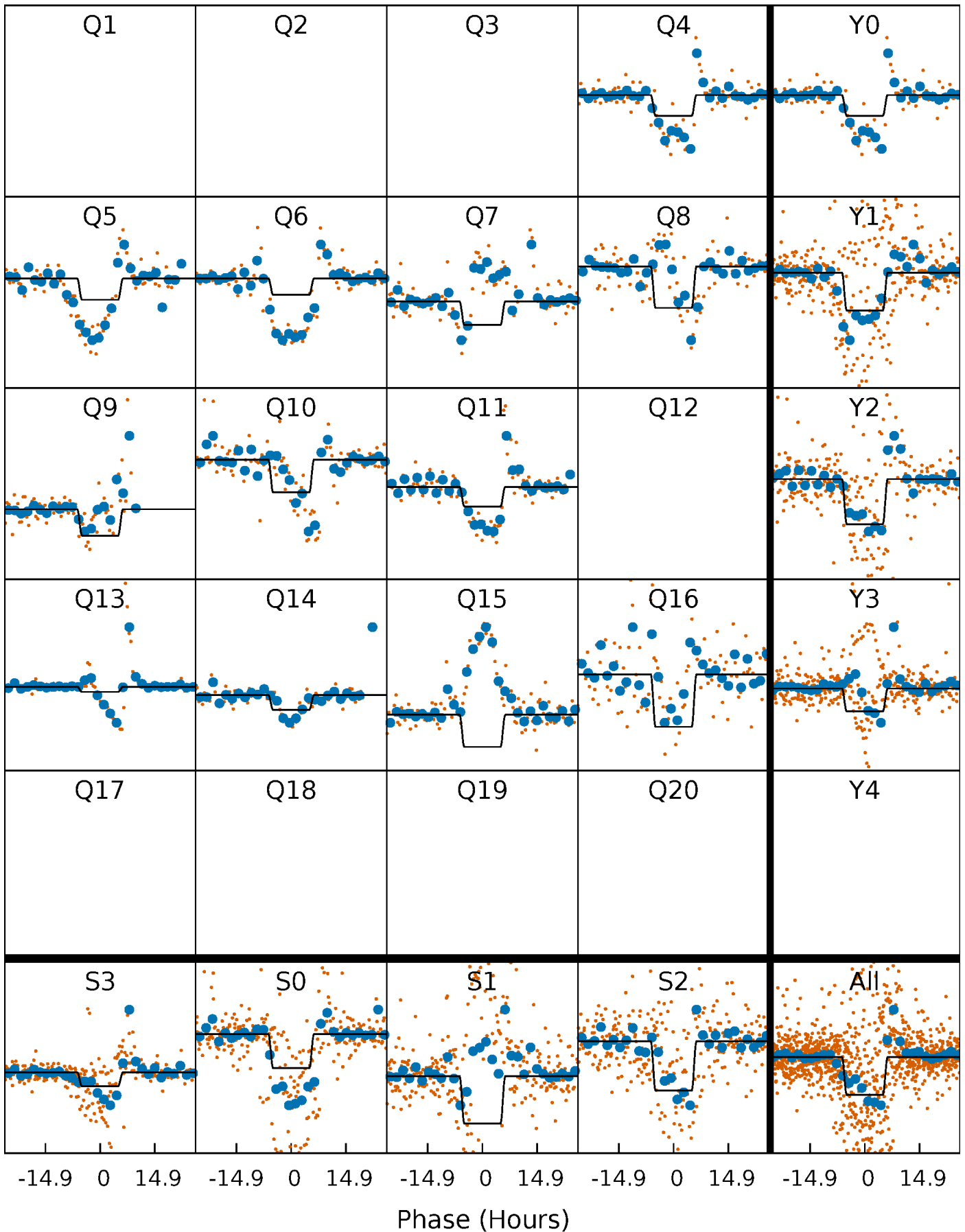
DV Quarter-Phased Transit Curves

TCE 006521526-05 $P=103.045997$ Days $T_0=164.920808$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

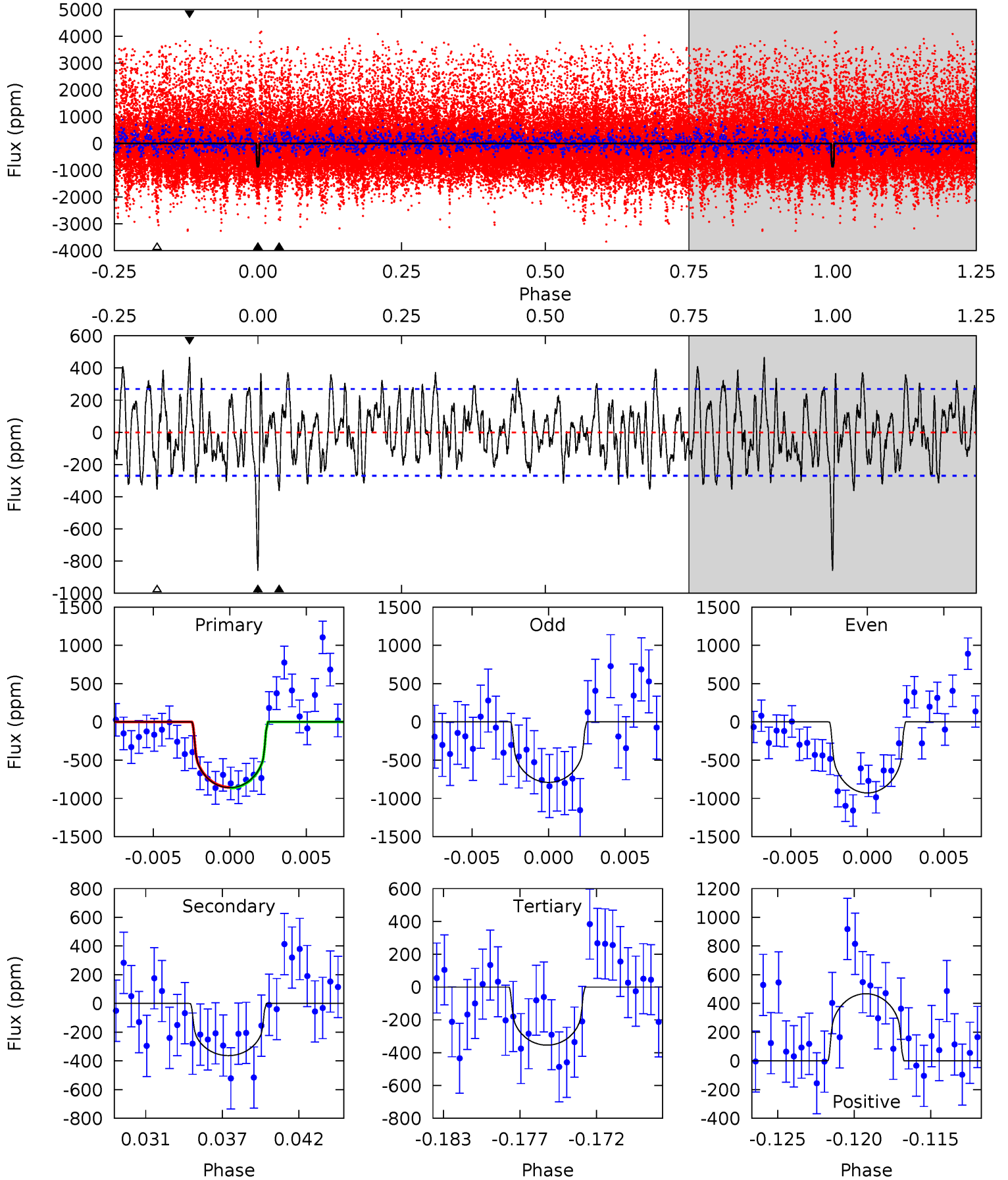
TCE 006521526-05 P=103.039632 Days $T_0=164.985549$ (BKJD)



DV Model-Shift Uniqueness Test

006521526-05, P = 103.045997 Days, E = 164.920808 Days

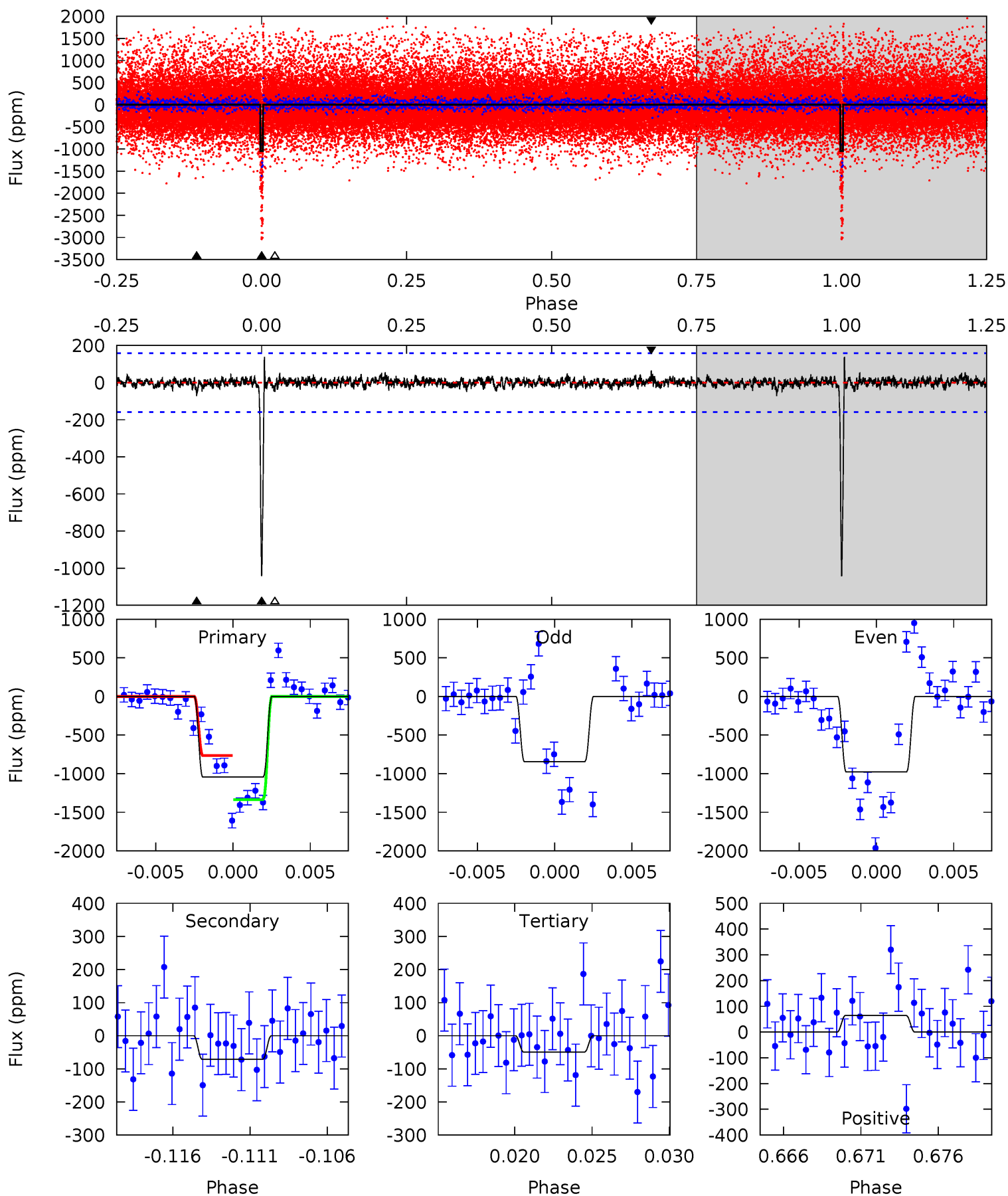
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	6.94	6.77	8.94	5.15	2.79	2.93	9.65	7.48	0.17	-2.00	1.30	0.79	0.35	0.09



Alt Model-Shift Uniqueness Test

006521526-05, P = 103.039632 Days, E = 164.985549 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.9	2.32	1.61	2.10	5.16	2.80	0.49	32.3	31.8	0.71	0.22	2.21	1.01	0.12	0



Stellar Parameters For KIC 006521526

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3749^{+117}_{-143}	$4.674^{+0.072}_{-0.022}$	$0.560^{+0.050}_{-0.300}$	$0.581^{+0.030}_{-0.070}$	$0.582^{+0.037}_{-0.061}$	$4.171^{+1.432}_{-0.391}$
	+3%/-4%	+2%/-0%	+9%/-54%	+5%/-12%	+6%/-10%	+34%/-9%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006521526-05 / KOI 8124.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-363 ± 52	$1.81^{+0.70}_{-0.68}$	290^{+11}_{-12}	3248^{+557}_{-296}	7687^{+12967}_{-3694}
Alt.	-71 ± 31	$2.04^{+0.73}_{-0.77}$	291^{+11}_{-12}	2537^{+318}_{-254}	1192^{+1938}_{-684}

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 $A_{obs} \gg 1.0$

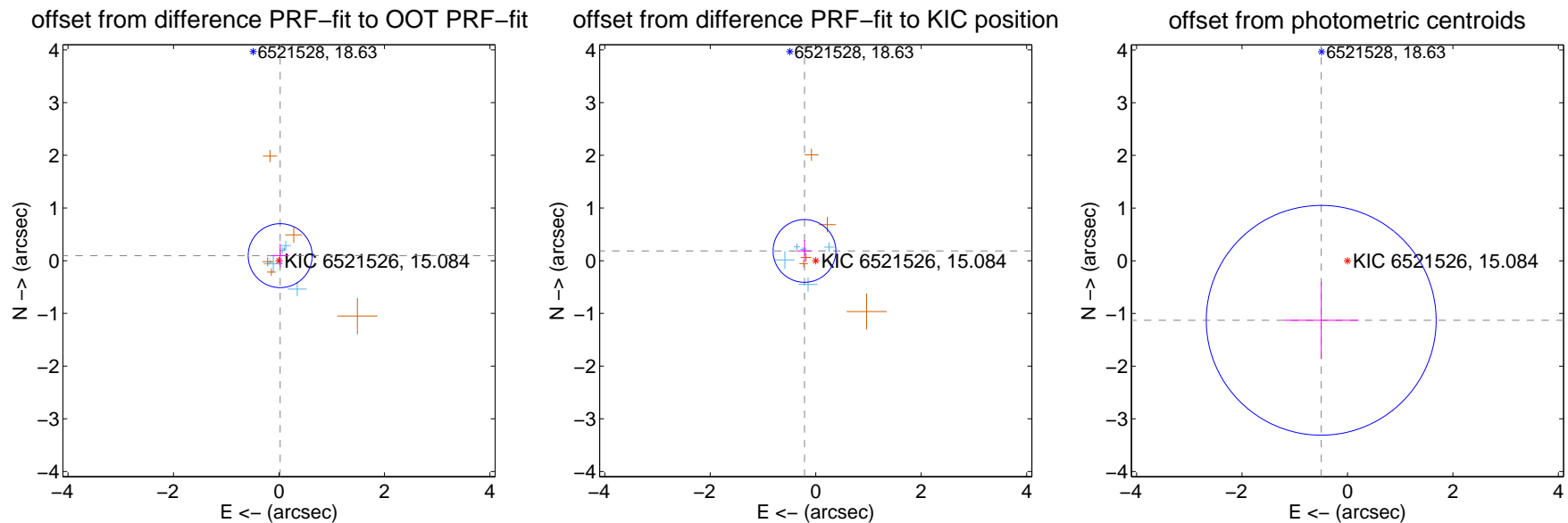
DV Centroid Data

Supplemental centroid analysis for 006521526-05. Kepler magnitude: 15.08. Transit SNR 7.53

There are 6 quarters with good PRF difference image offsets

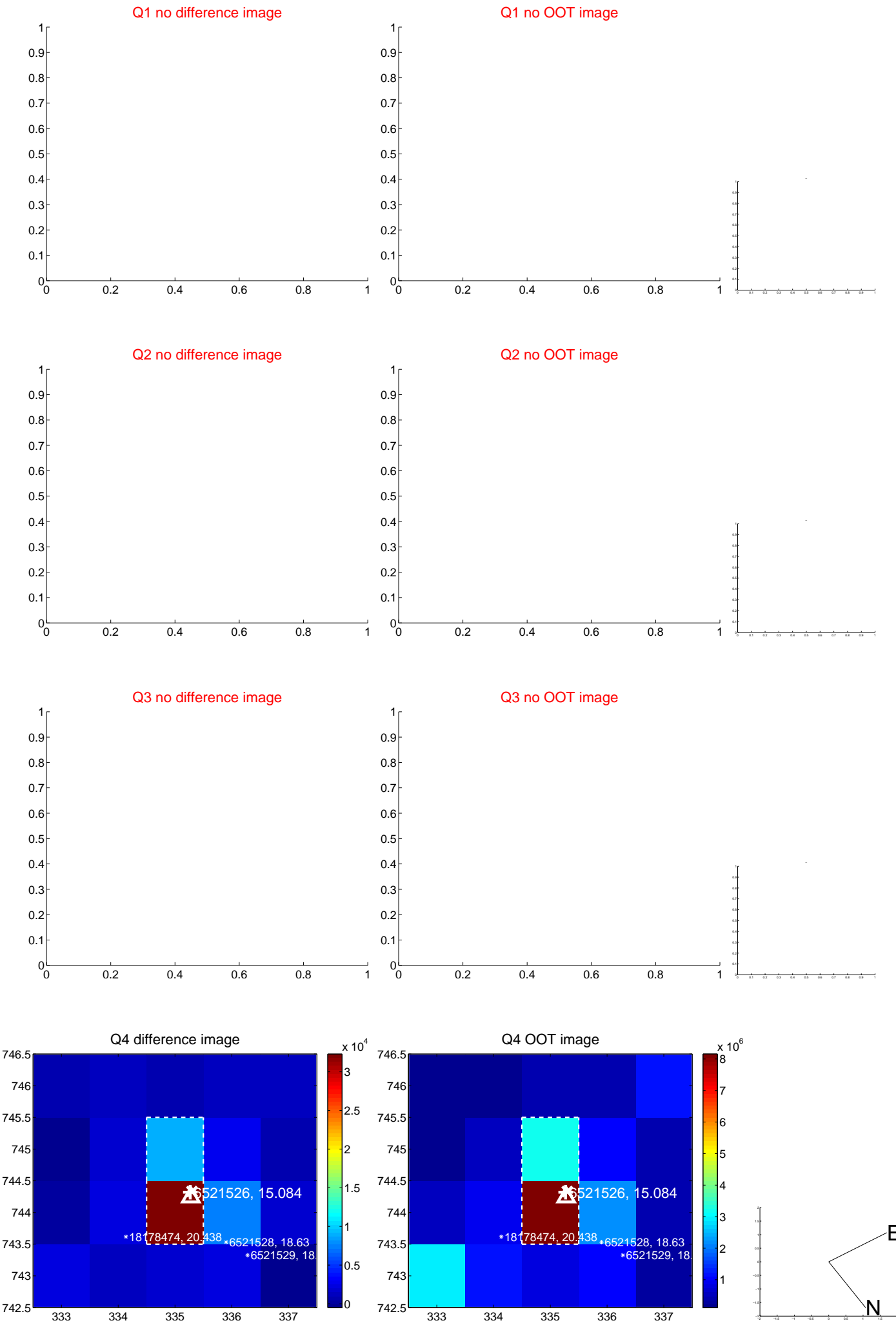
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.098 ± 0.202	0.49	-0.023 ± 0.161	0.096 ± 0.226
PRF-fit source offset from KIC position	0.282 ± 0.198	1.42	0.213 ± 0.145	0.185 ± 0.206
photometric centroid source offset	1.23 ± 0.73	1.70	0.50 ± 0.71	-1.13 ± 0.73

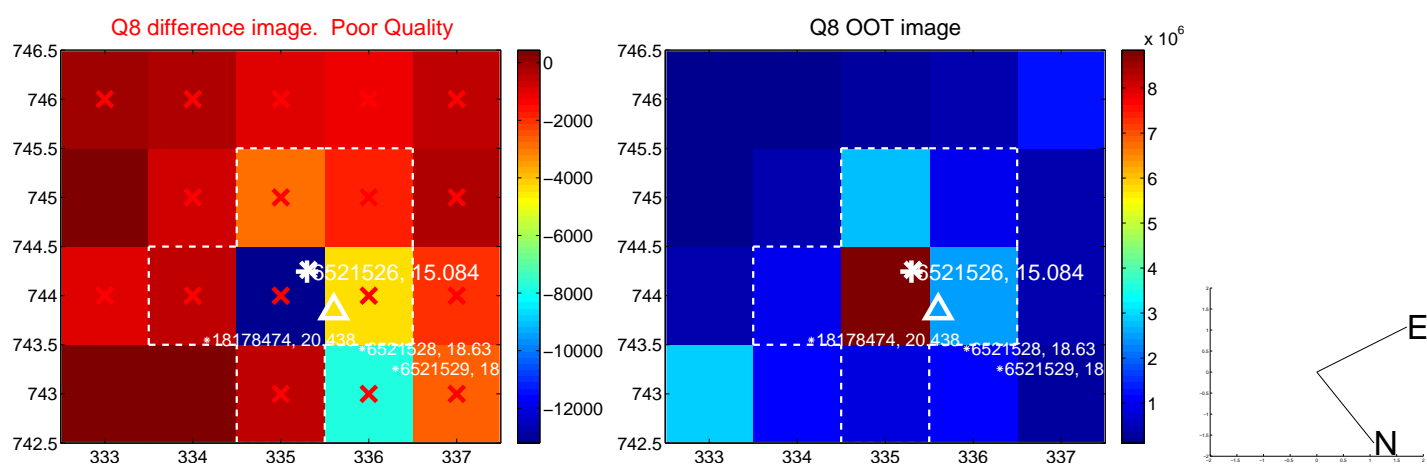
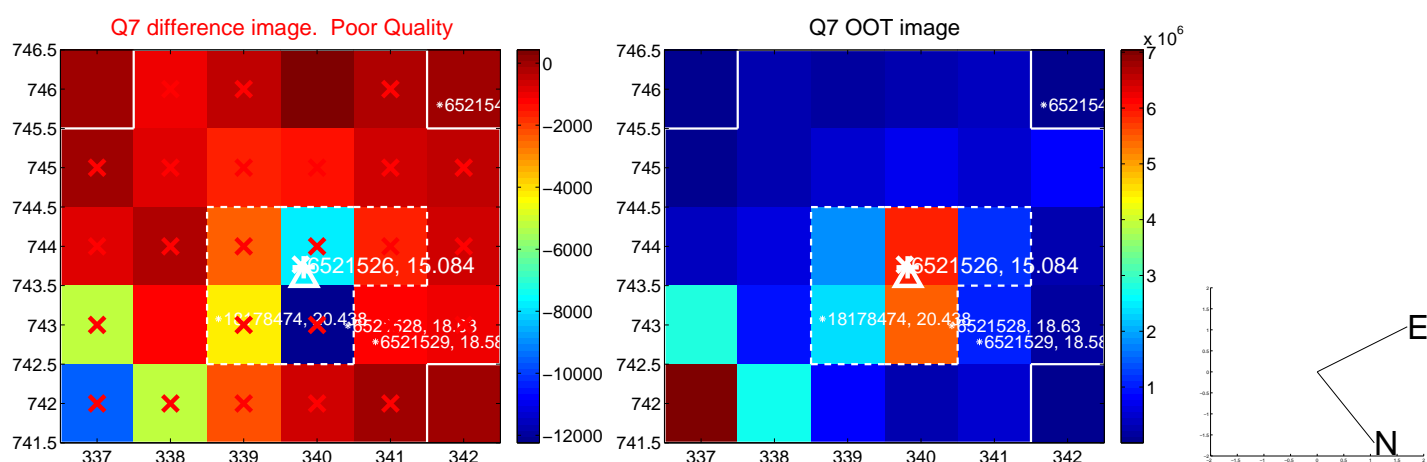
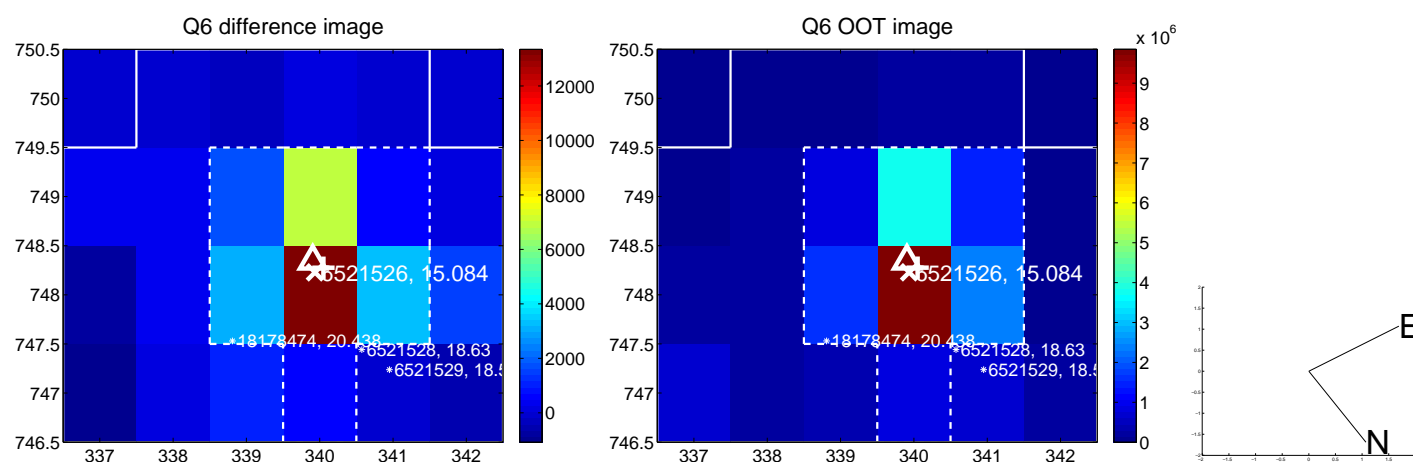
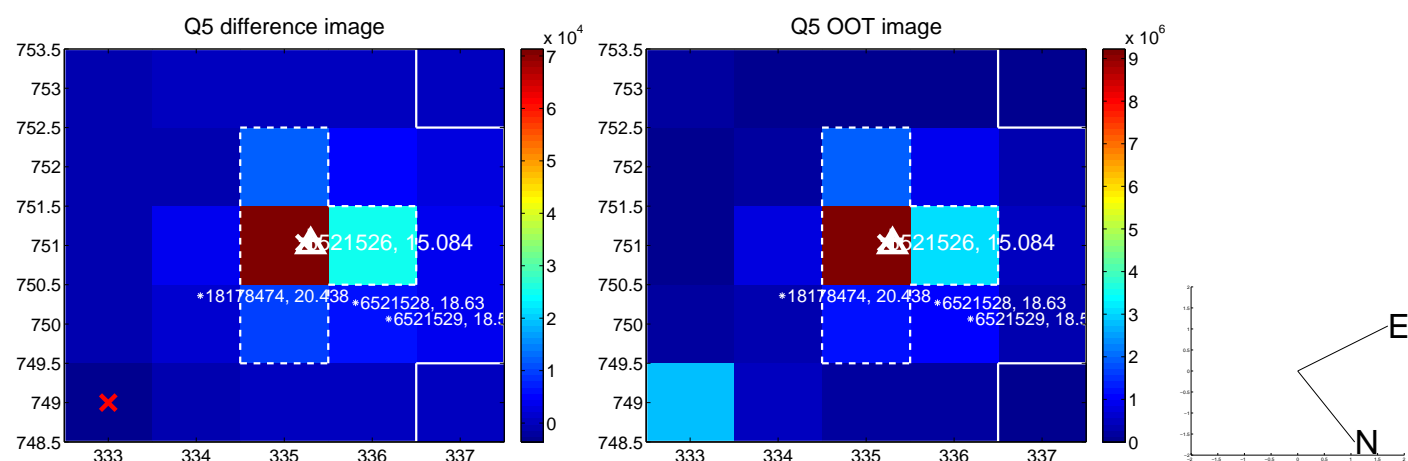


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

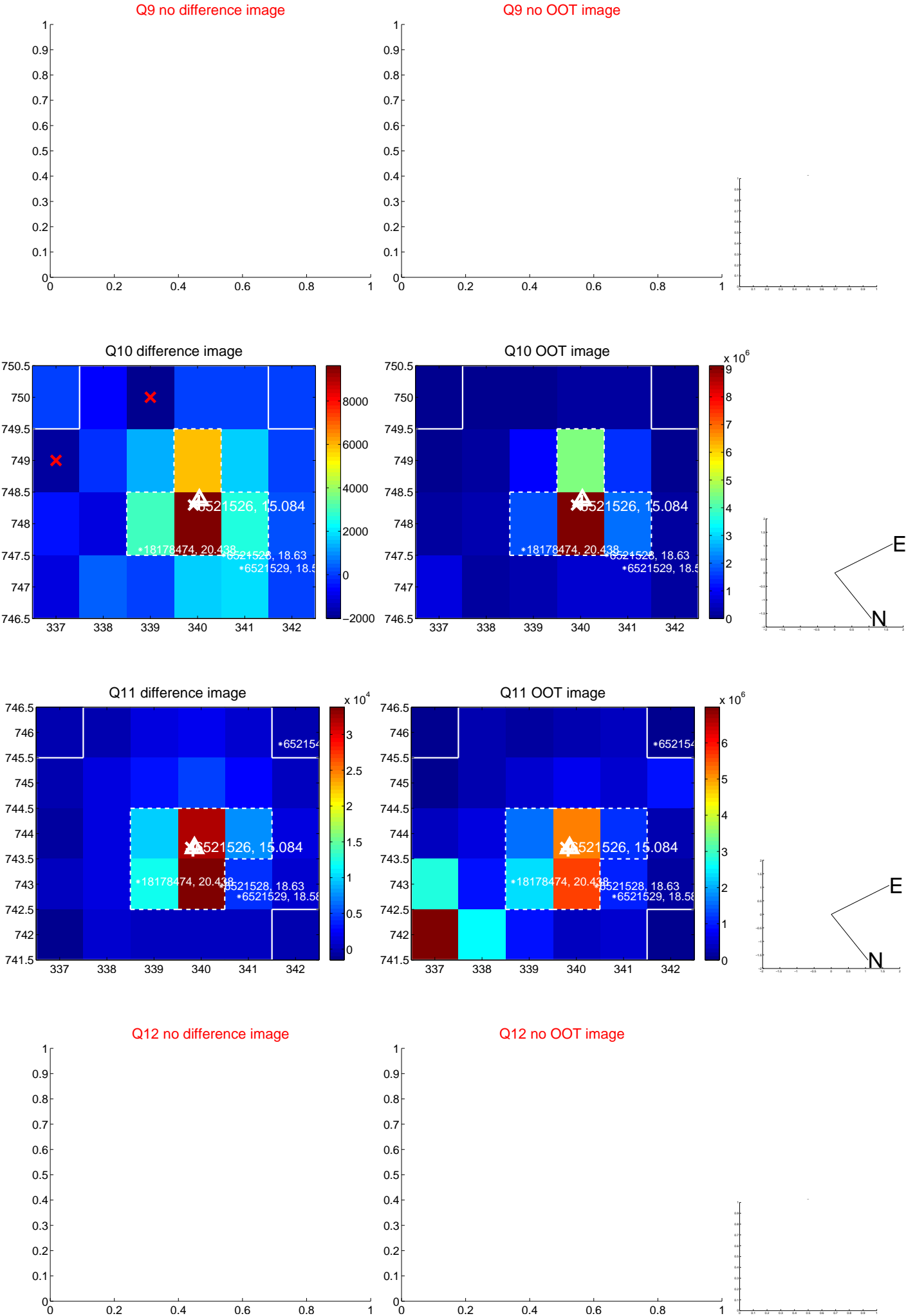
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



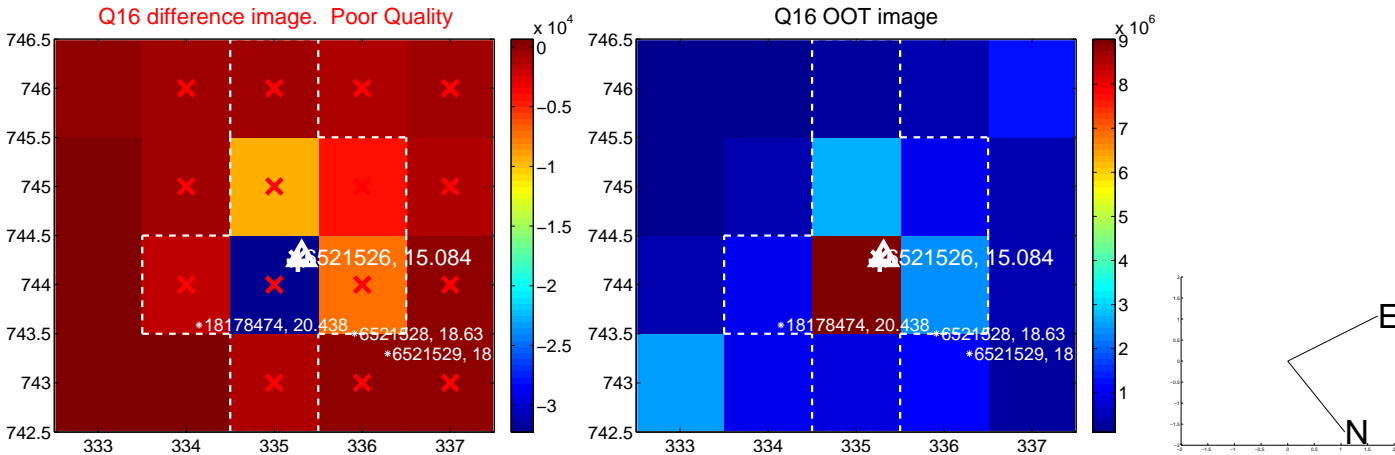
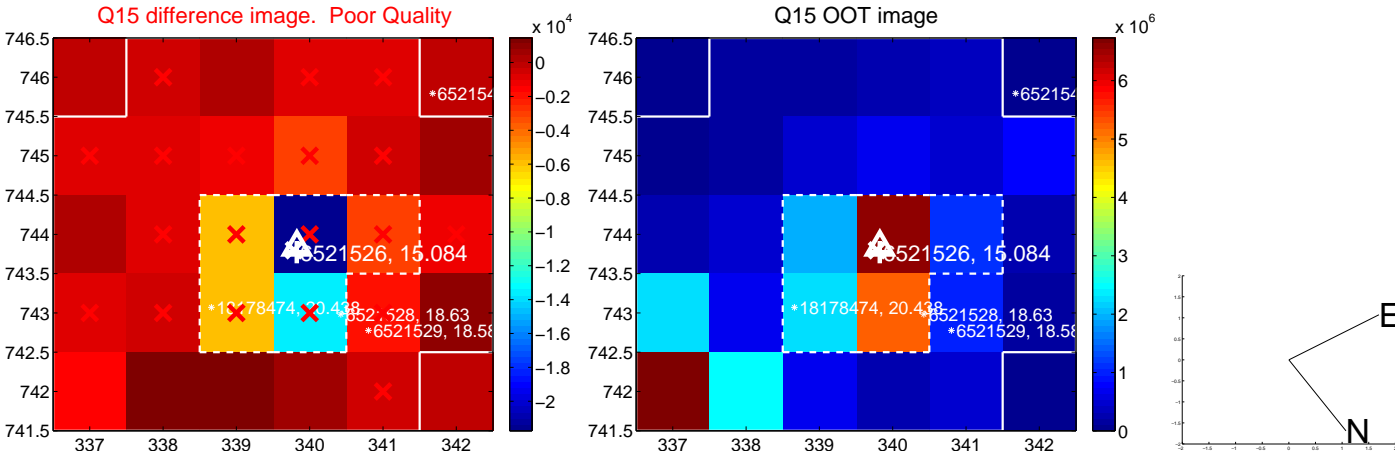
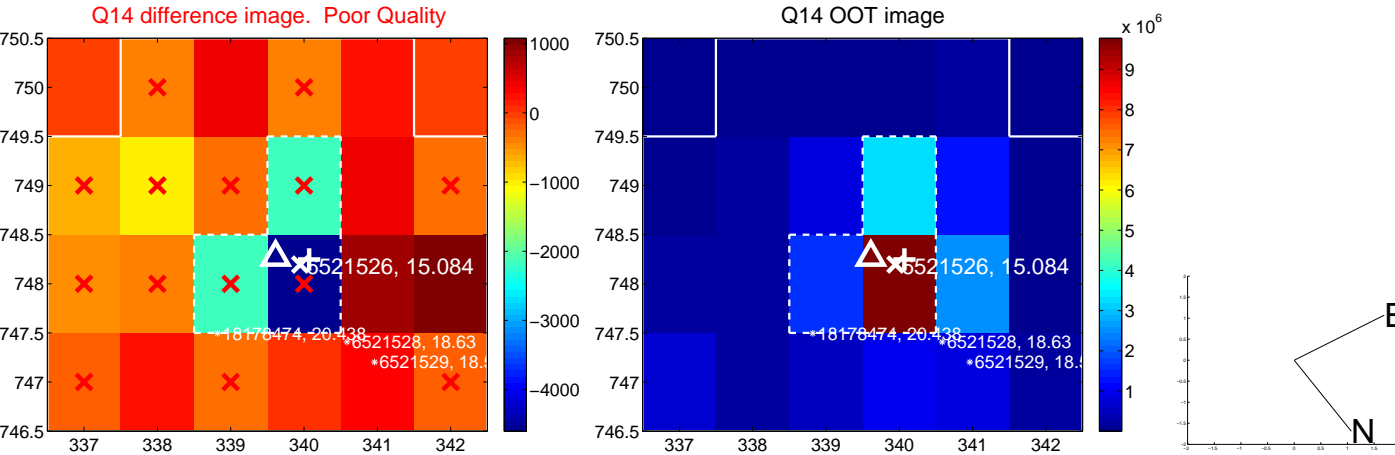
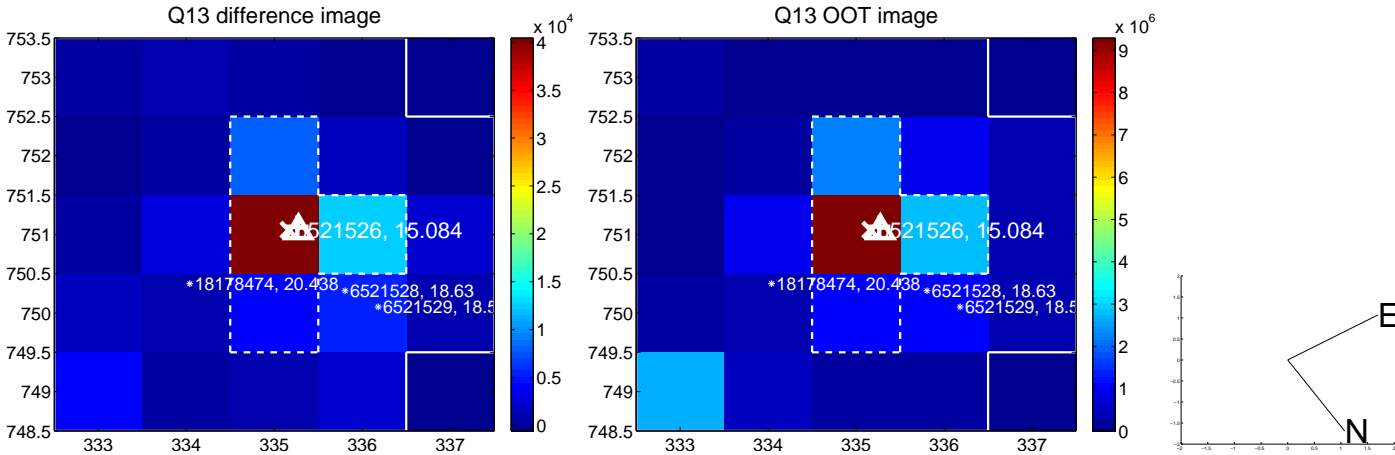
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



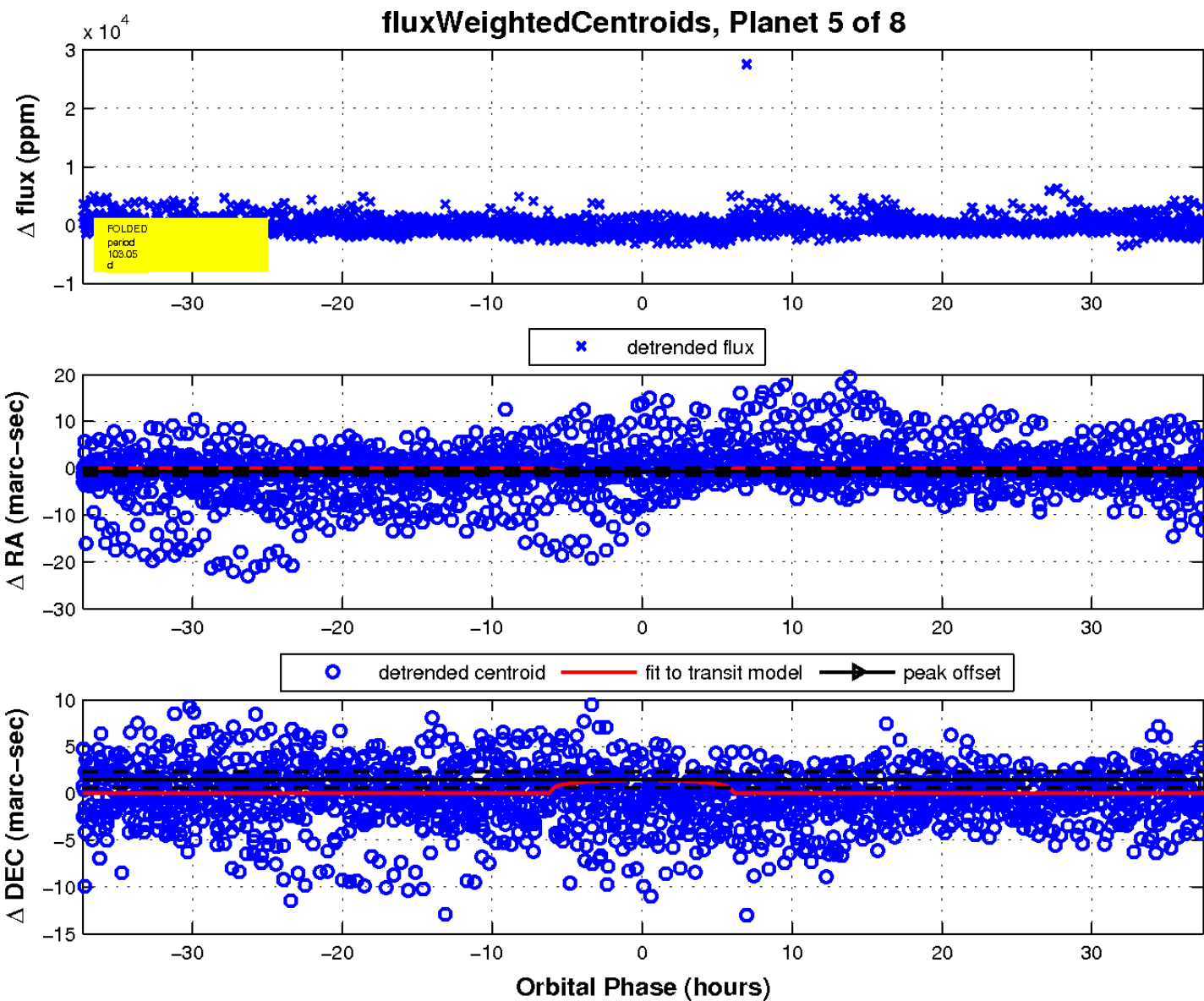
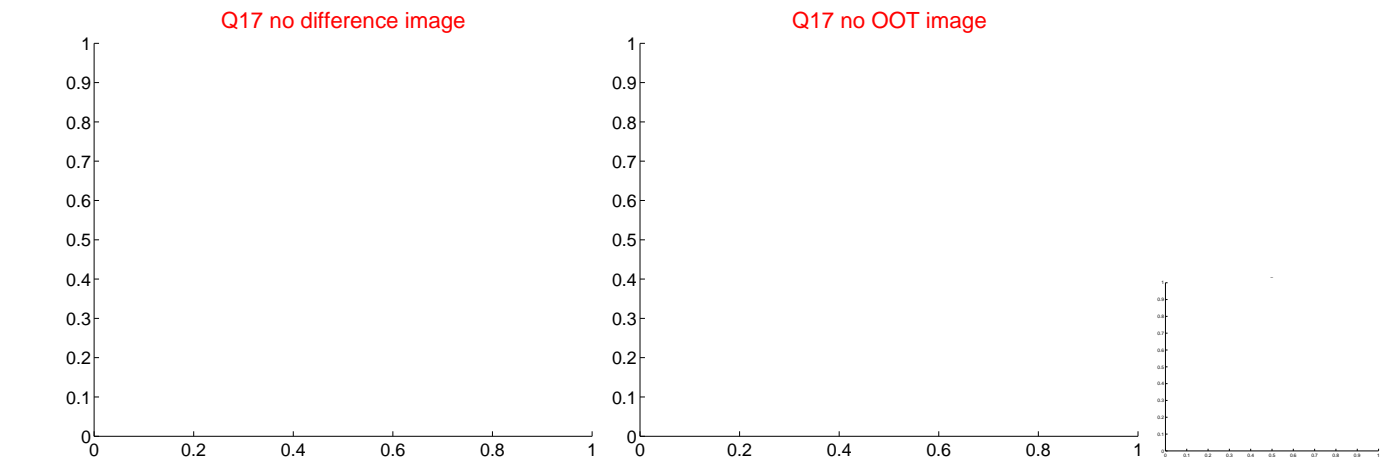
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

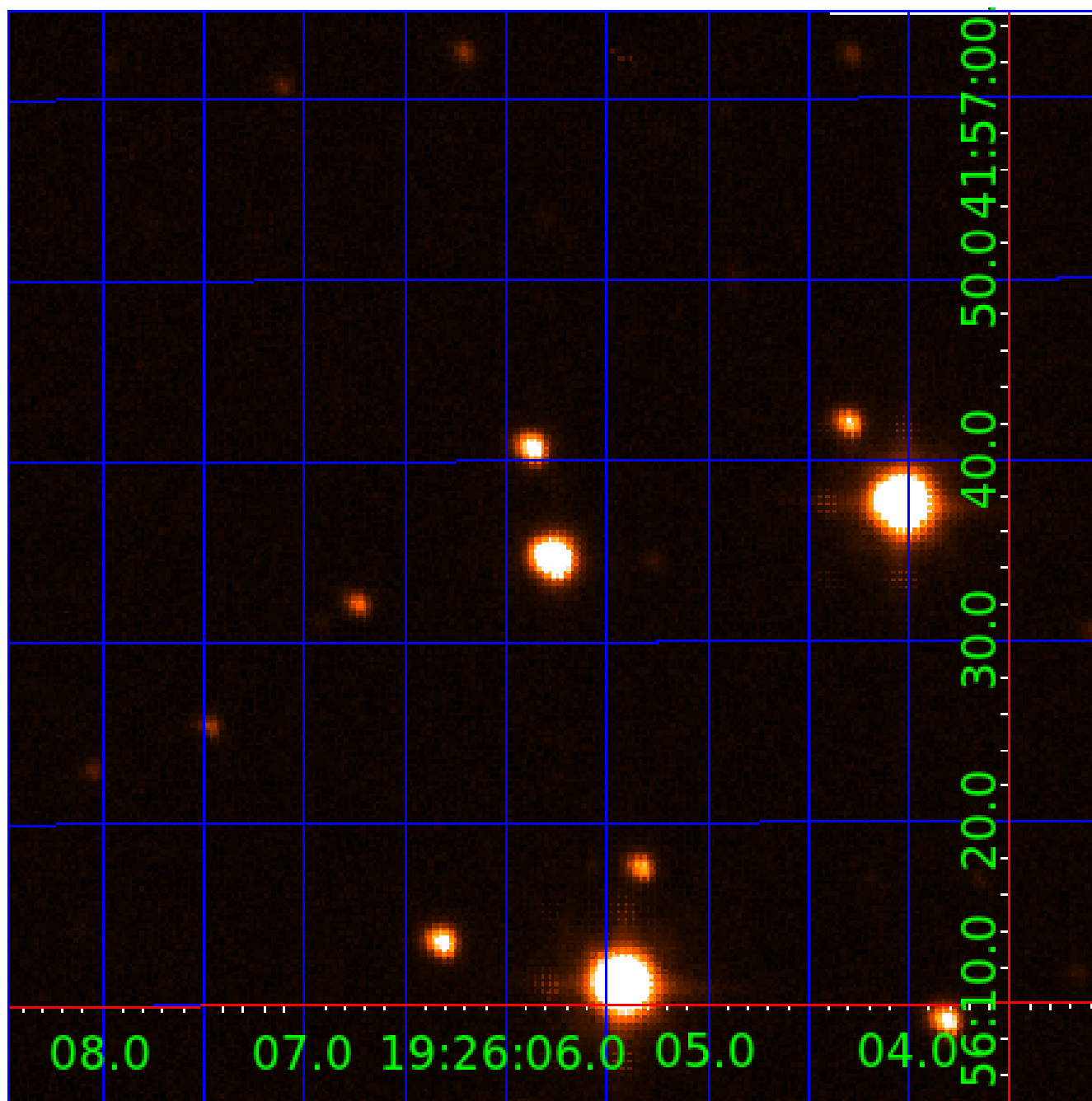


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006521526

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})
006521526-01	OBS	No	490.983019	555.466010	1594.8	6.727	11.1	6.8	0.58	3749	2.42	0.06
006521526-02	OBS	No	236.670794	194.017256	1315.0	3.648	11.0	6.2	0.58	3749	2.23	0.15
006521526-03	OBS	No	370.195000	280.590955	585.6	1.435	10.2	1.8	0.58	3749	1.75	0.08
006521526-04	OBS	No	469.978691	552.026847	508.6	15.000	10.2	-1.0	0.58	3749	1.26	0.06
006521526-05	OBS	8124.01	103.045997	164.920808	946.2	12.490	8.7	7.5	0.58	3749	1.81	0.46
006521526-06	OBS	No	265.812087	329.053353	1972.7	11.362	10.2	7.9	0.58	3749	2.62	0.13
006521526-07	OBS	No	6.370857	133.681880	359.8	4.261	8.1	10.4	0.58	3749	1.50	18.96
006521526-08	OBS	No	172.688846	284.357984	505.5	2.836	9.0	2.6	0.58	3749	1.25	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006521526-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006521526-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006521526-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006521526-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
006521526-05	OBS	FP	0.01	1	0	0	0	INCONSISTENT_TRANS
006521526-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—CENT_FEW_DIFFS
006521526-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006521526-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

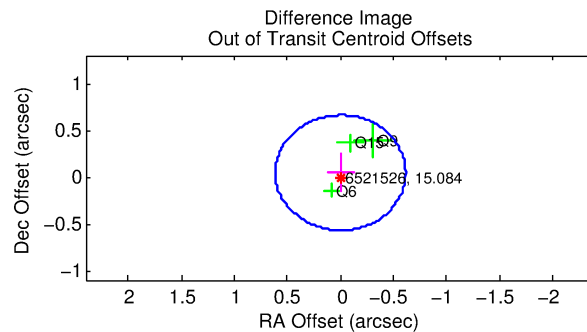
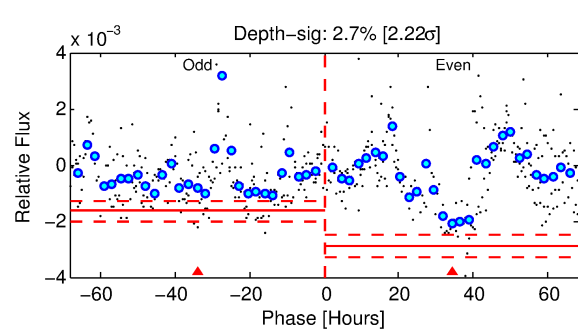
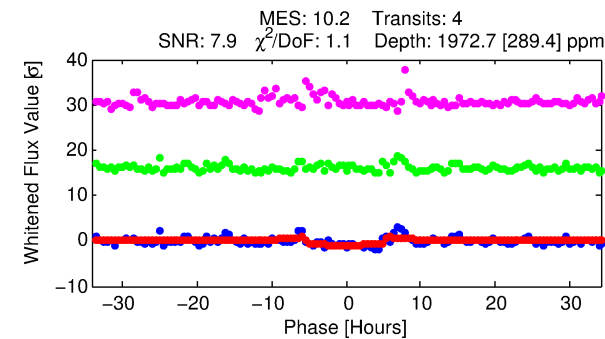
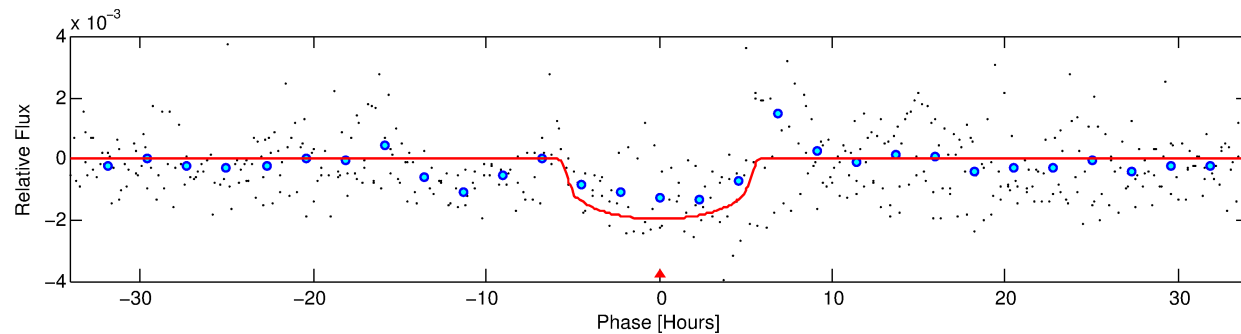
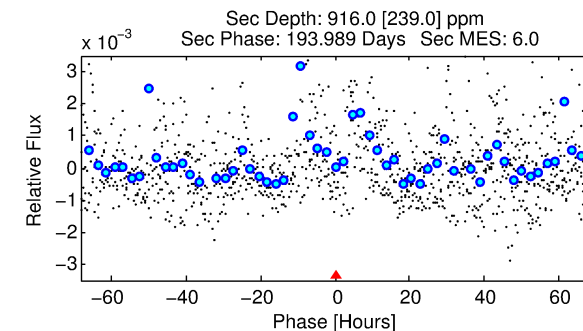
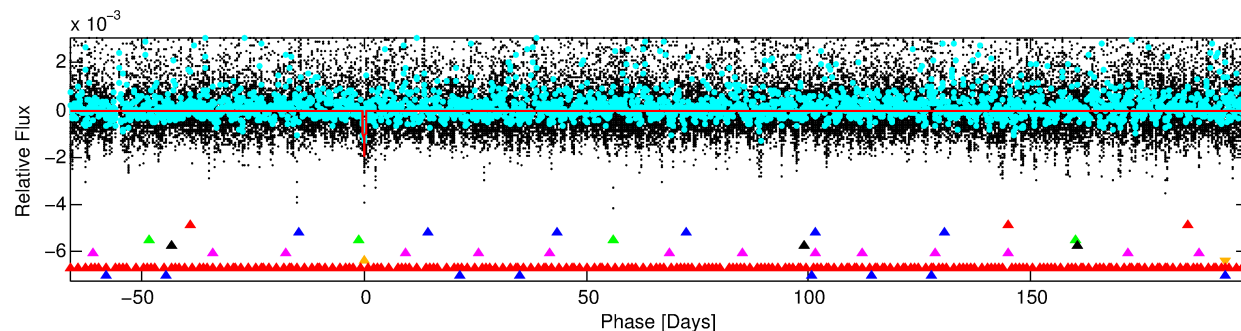
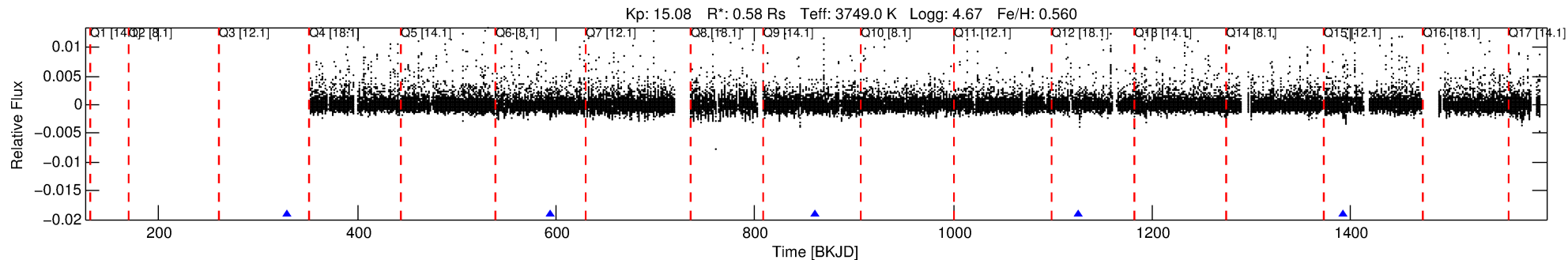
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006521526-06

No Significant Match Found

DV One-Page Summary

KIC: 6521526 Candidate: 6 of 8 Period: 265.812 d



DV Fit Results:

Period = 265.81209 [0.00558] d
Epoch = 329.0534 [0.0148] BKJD
Rp/R* = 0.0413 [0.0116]
a/R* = 158.56 [133.26]
b = 0.55 [1.10]
Seff = 0.13 [0.03]
Teq = 153 [8] K
Rp = 2.62 [0.80] Re
a = 0.6754 [0.0658] AU
Ag = 33521.39 [21319.18] [1.57σ]
Teff = 3209 [513] K [5.95σ]

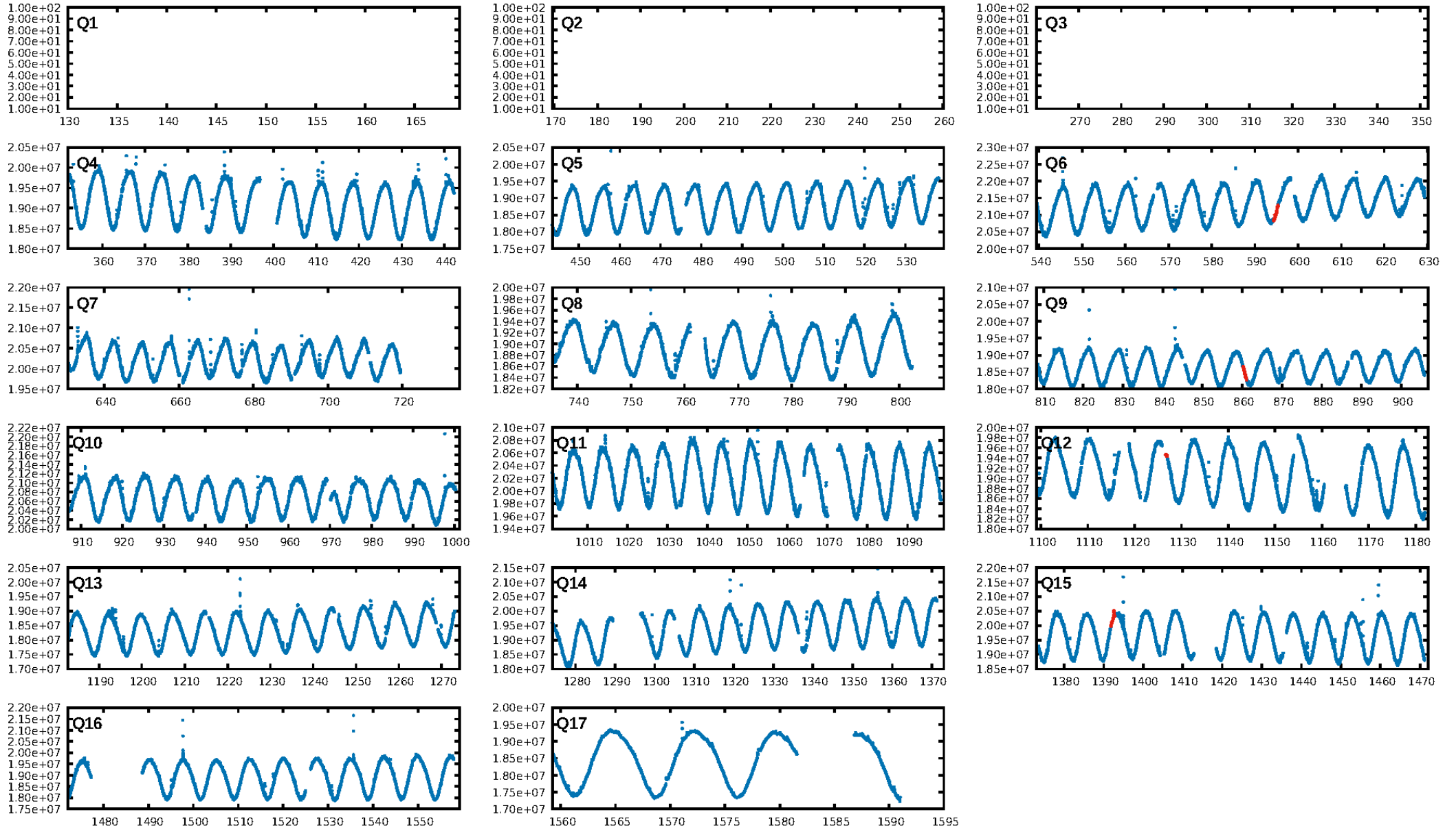
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [58.61σ]
LongPeriod-sig: 100.0% [218.74σ]
ModelChiSquare2-sig: 6.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.57e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.5158
Centroid-sig: 30.4%
Centroid-so: 0.299 arcsec [0.47σ]
OotOffset-rm: 0.046 arcsec [0.22σ]
KicOffset-rm: 0.402 arcsec [1.83σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.67 [2/3]

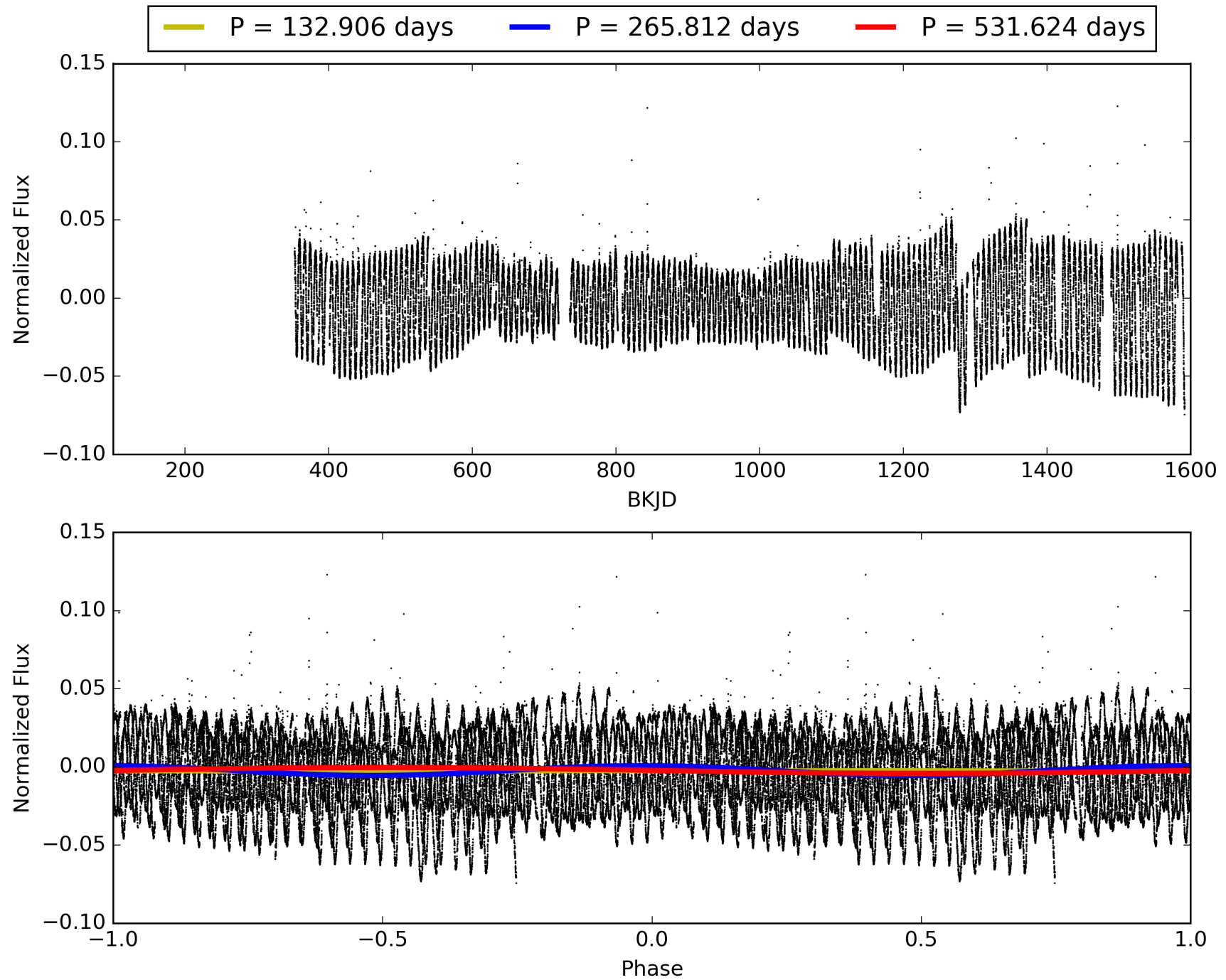
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:29:54 Z

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

TCE 006521526-06, PDC Light Curves

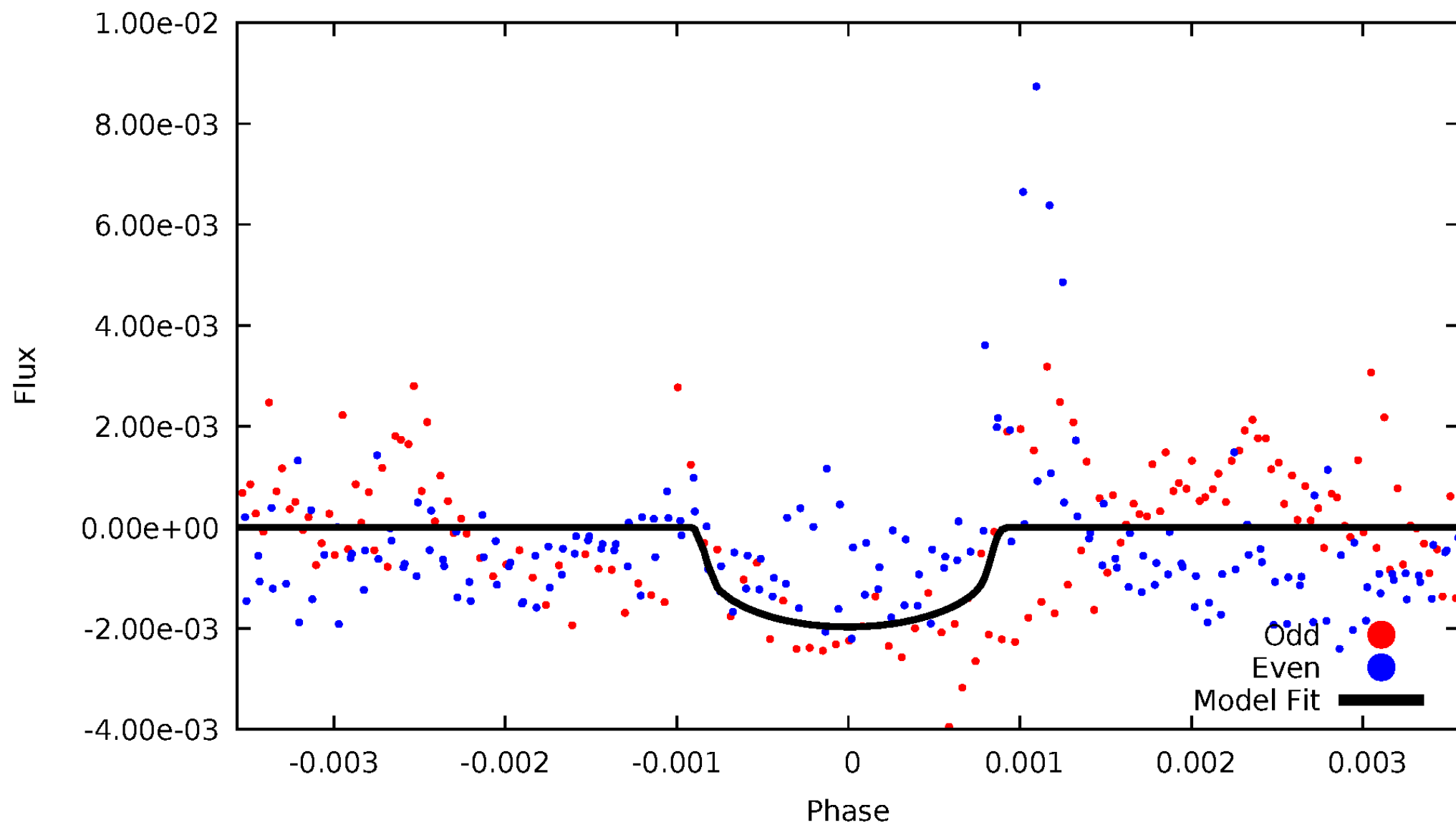


TCE 006521526-06



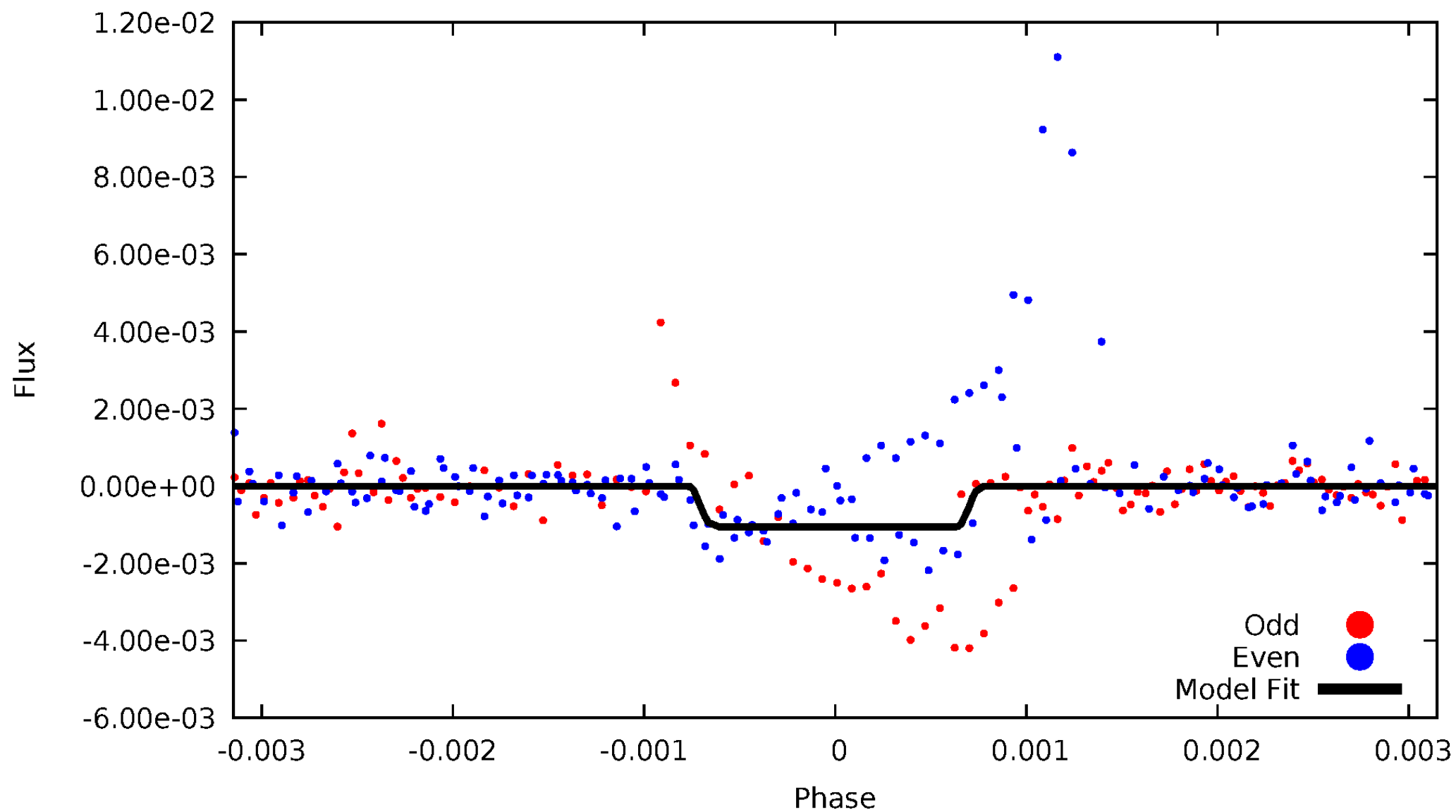
DV Odd/Even

TCE 006521526-06



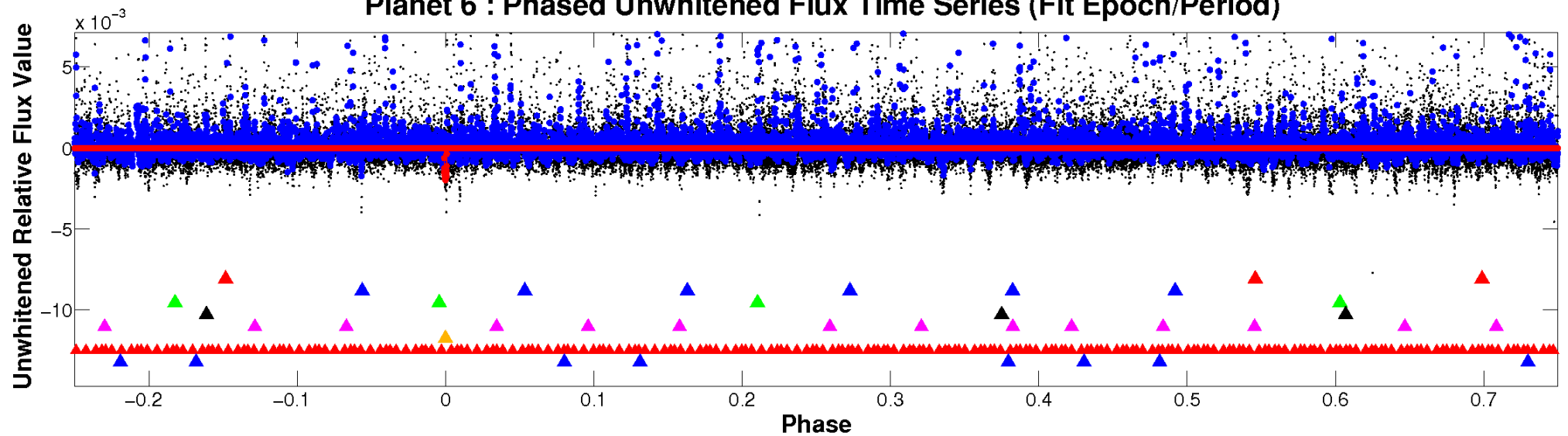
ALT Odd/Even

TCE 006521526-06

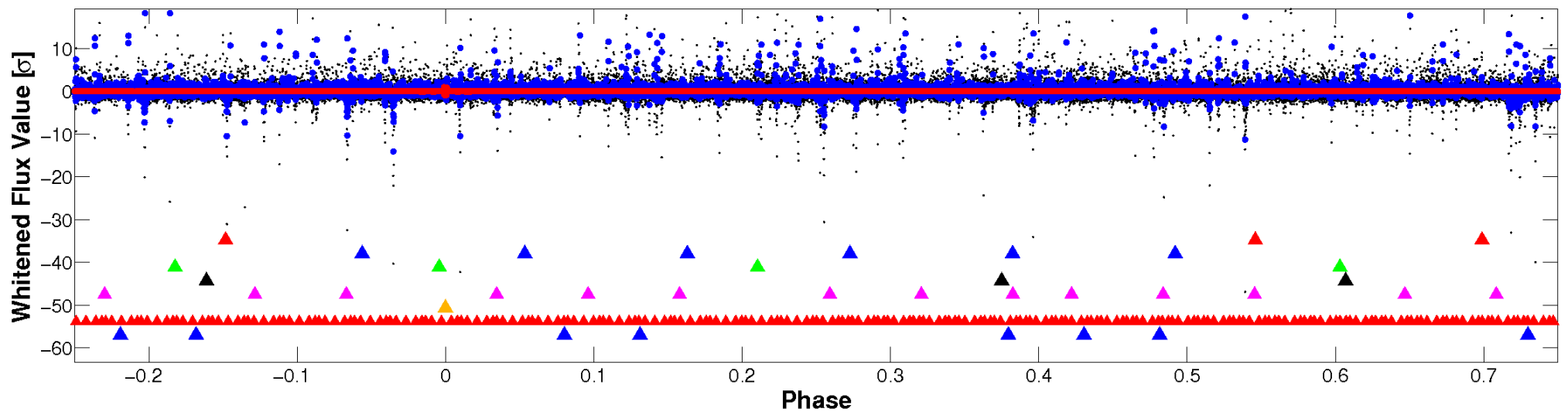


Non-Whitened Vs. Whitened Light Curve

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

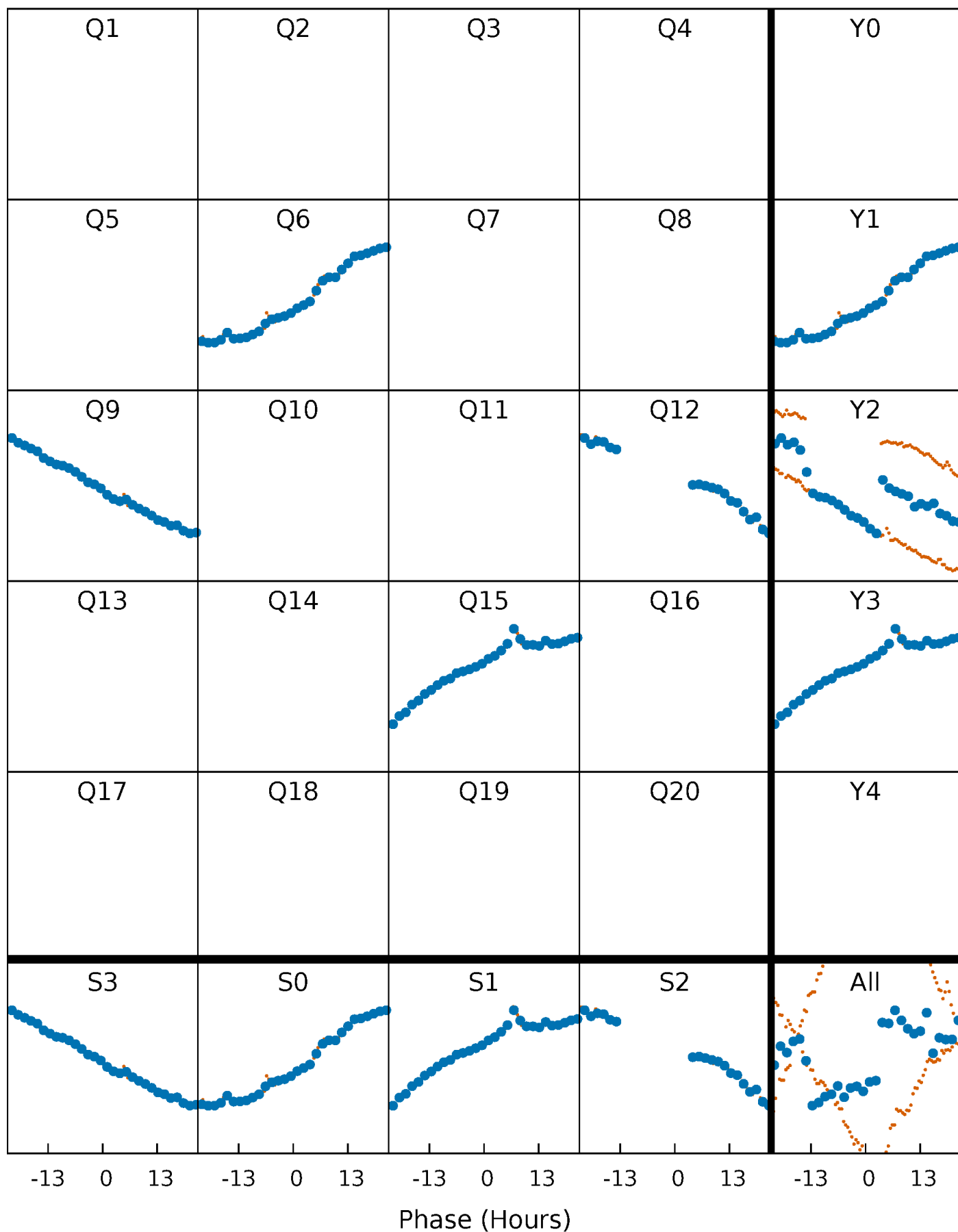


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



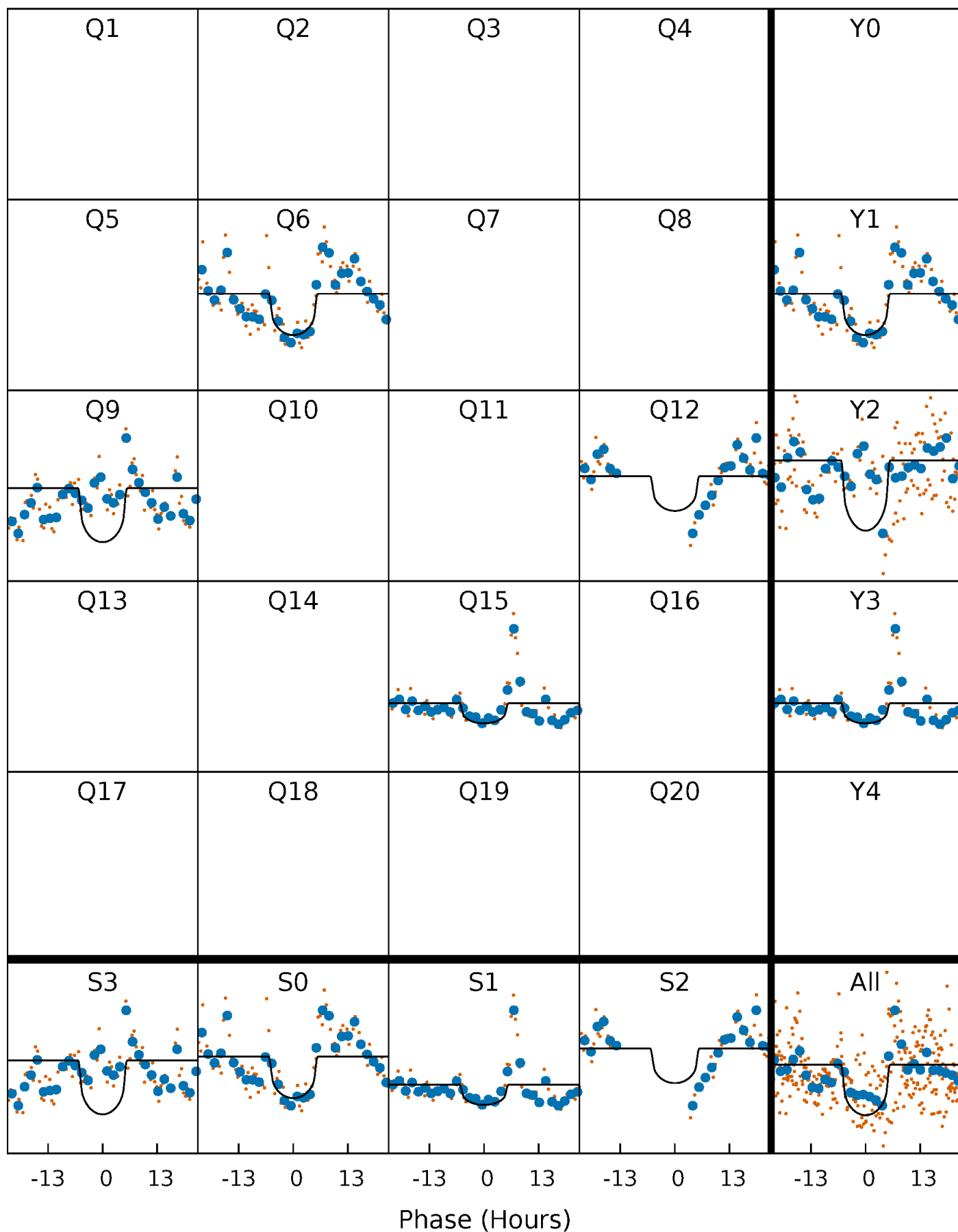
PDC Quarter-Phased Transit Curves

TCE 006521526-06 P=265.812087 Days $T_0=329.053353$ (BKJD)



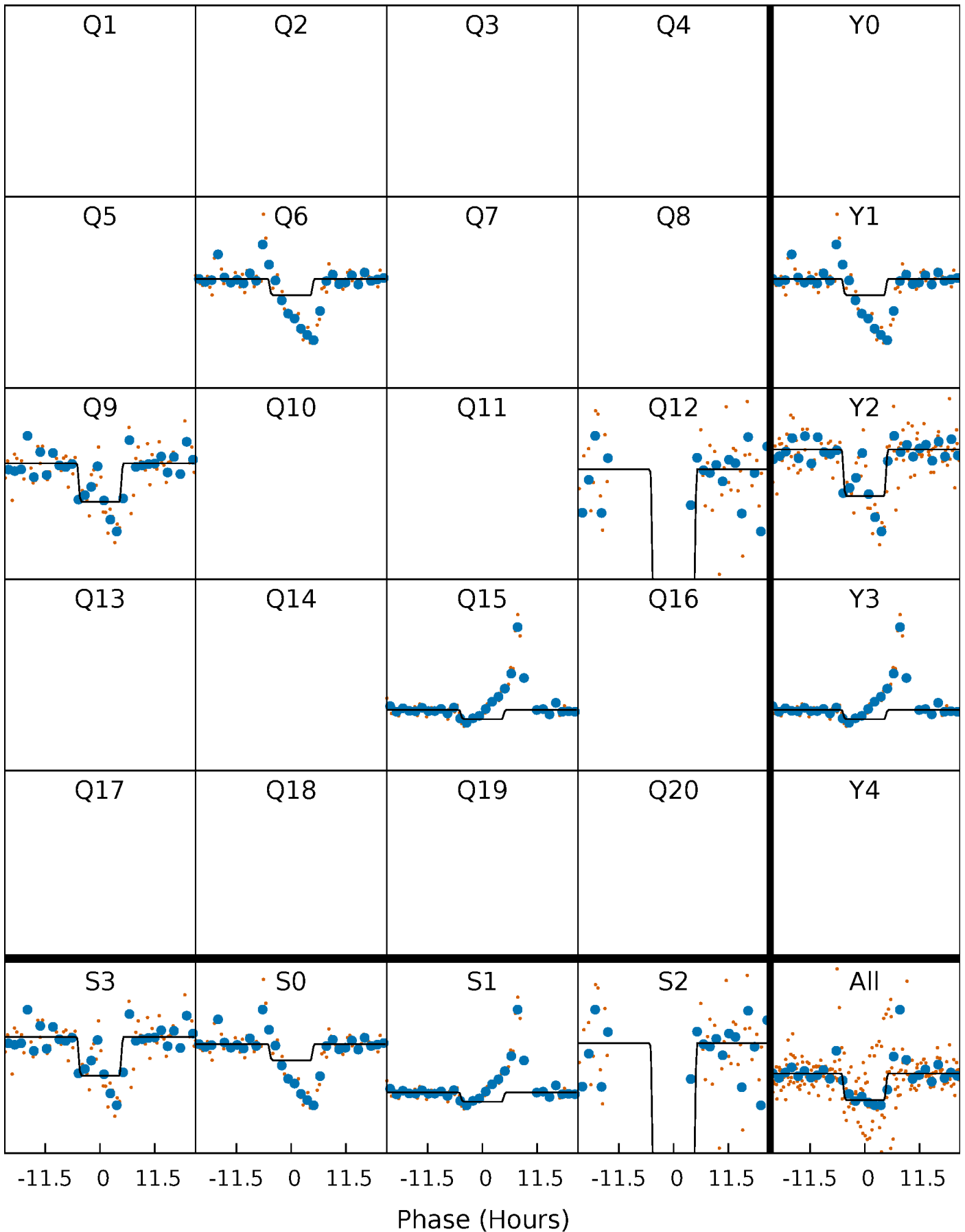
DV Quarter-Phased Transit Curves

TCE 006521526-06 P=265.812087 Days $T_0=329.053353$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

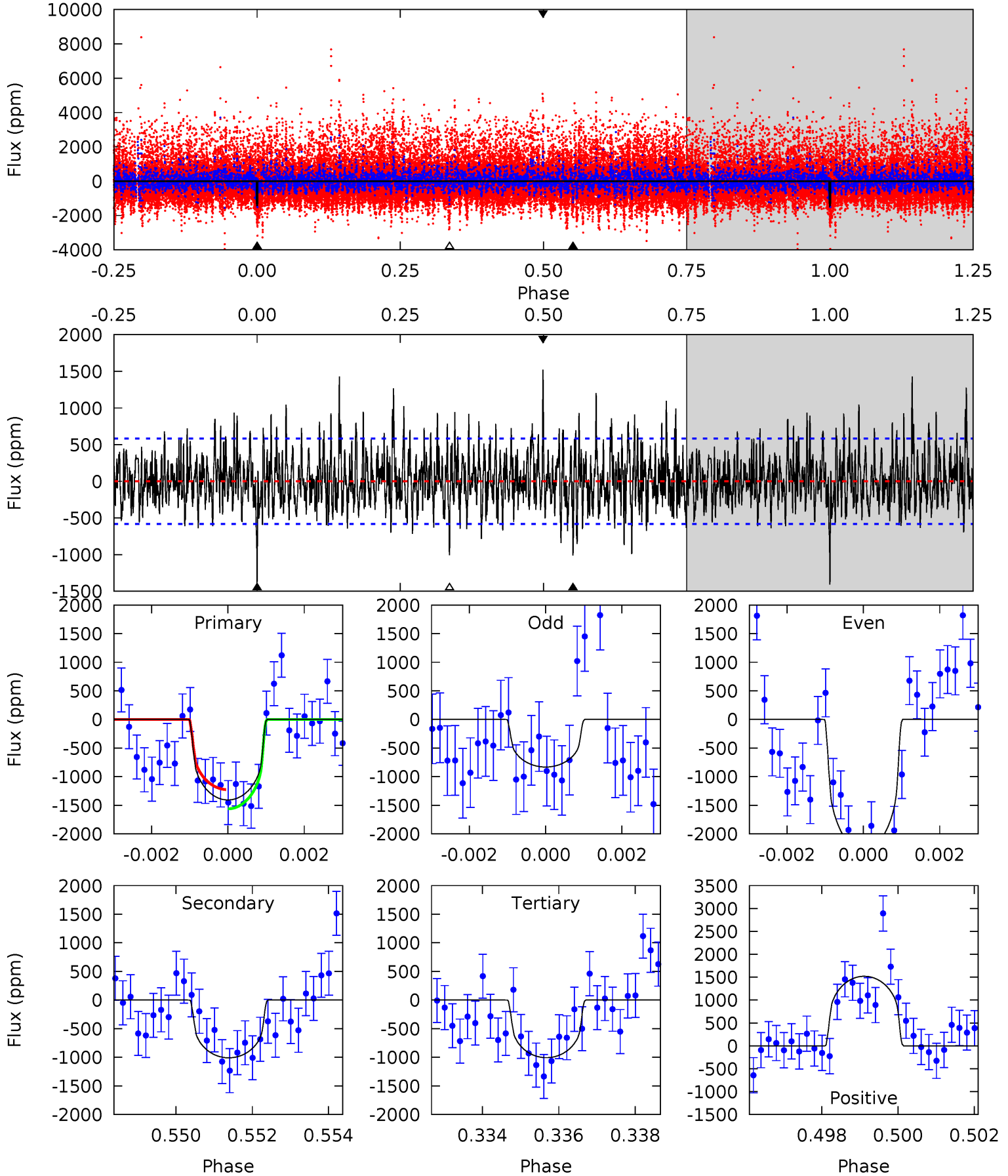
TCE 006521526-06 P=265.813371 Days $T_0=329.030356$ (BKJD)



DV Model-Shift Uniqueness Test

006521526-06, P = 265.812087 Days, E = 329.053353 Days

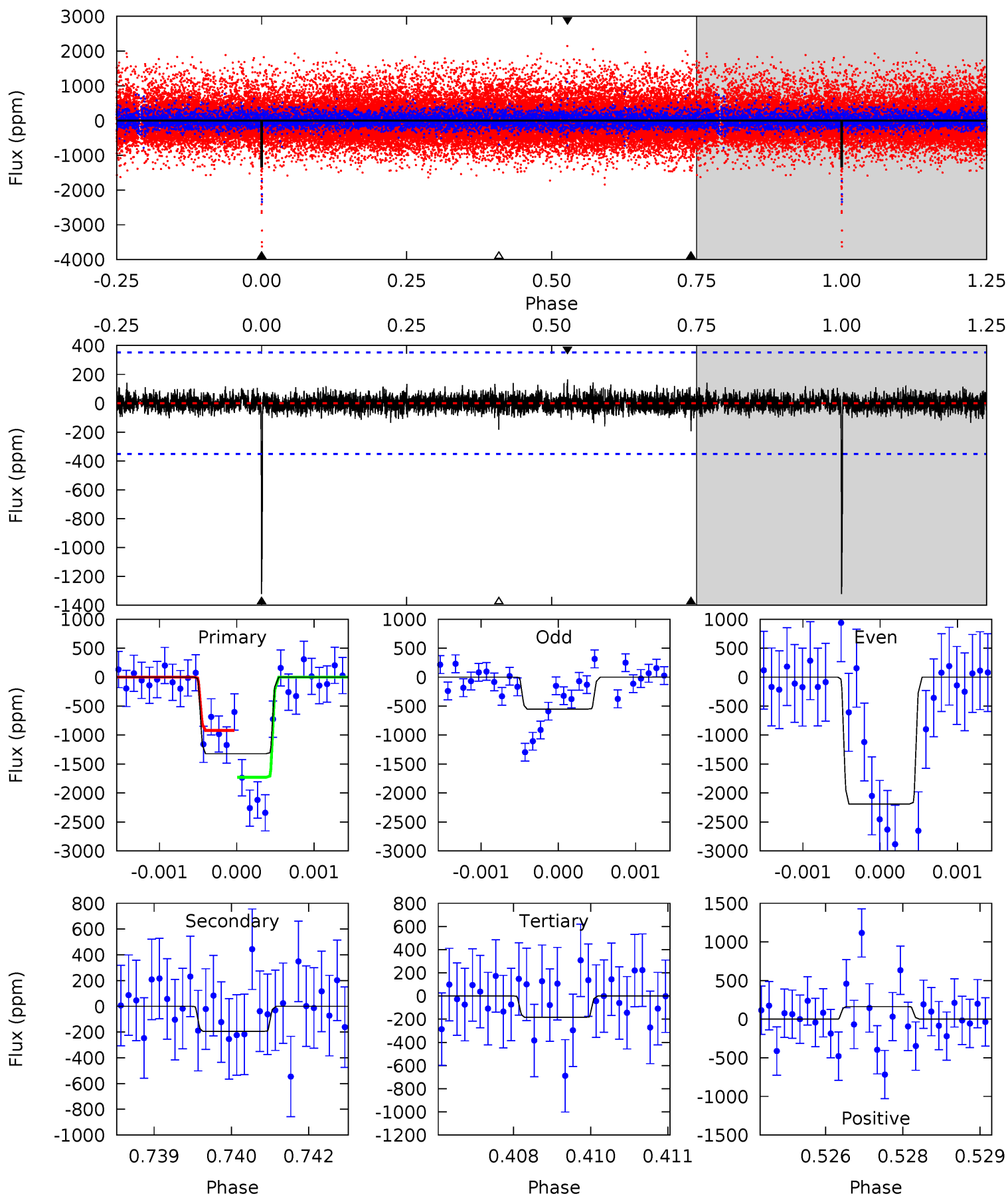
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	9.27	9.24	14.0	5.35	3.12	2.91	3.68	-1.03	0.02	-4.68	4.84	1.16	0.52	1.56



Alt Model-Shift Uniqueness Test

006521526-06, P = 265.813371 Days, E = 329.030356 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	2.97	2.80	2.50	5.38	3.18	0.54	17.4	17.7	0.17	0.47	13.1	1.34	0.11	6.11



Stellar Parameters For KIC 006521526

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3749^{+117}_{-143}	$4.674^{+0.072}_{-0.022}$	$0.560^{+0.050}_{-0.300}$	$0.581^{+0.030}_{-0.070}$	$0.582^{+0.037}_{-0.061}$	$4.171^{+1.432}_{-0.391}$
	+3%/-4%	+2%/-0%	+9%/-54%	+5%/-12%	+6%/-10%	+34%/-9%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006521526-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1010±109	$2.61^{+0.72}_{-0.73}$	212^{+7}_{-10}	3428^{+402}_{-287}	37437^{+34155}_{-14875}
Alt.	-194±65	$2.04^{+0.76}_{-0.73}$	212^{+8}_{-9}	2878^{+412}_{-262}	11337^{+16868}_{-5761}

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 $A_{obs} \gg 1.0$

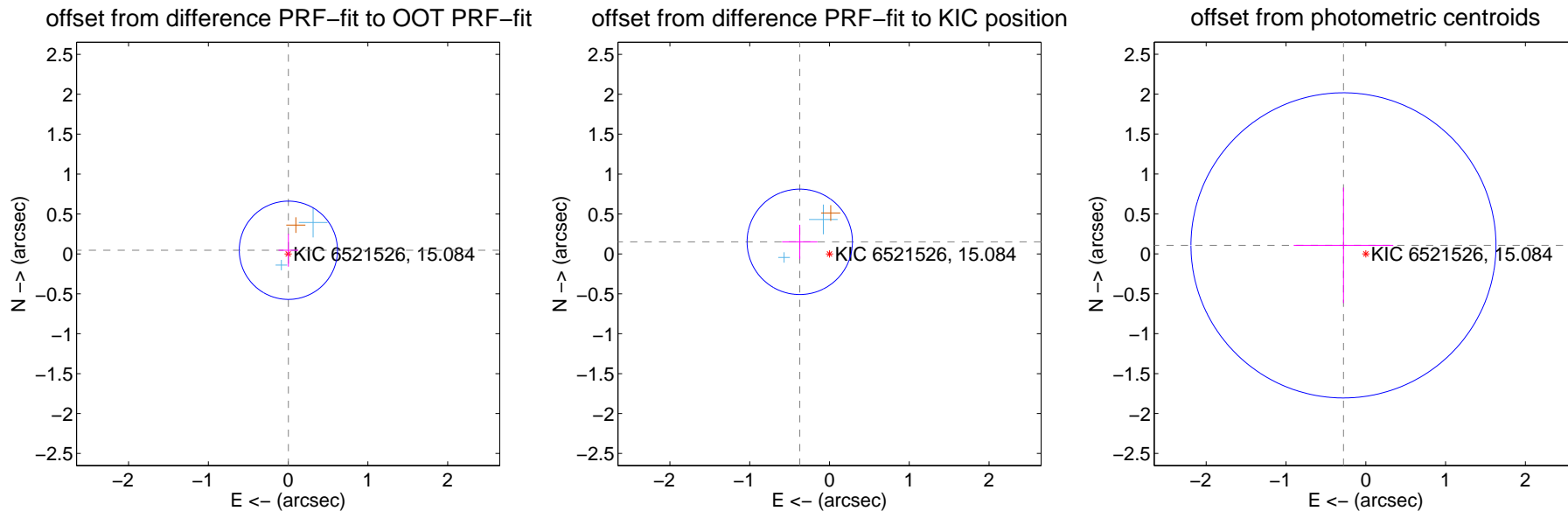
DV Centroid Data

Supplemental centroid analysis for 006521526-06. Kepler magnitude: 15.08. Transit SNR 7.87

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.046 ± 0.205	0.22	-0.003 ± 0.123	0.046 ± 0.205
PRF-fit source offset from KIC position	0.402 ± 0.220	1.83	0.373 ± 0.221	0.151 ± 0.213
photometric centroid source offset	0.30 ± 0.64	0.47	0.28 ± 0.62	0.11 ± 0.72

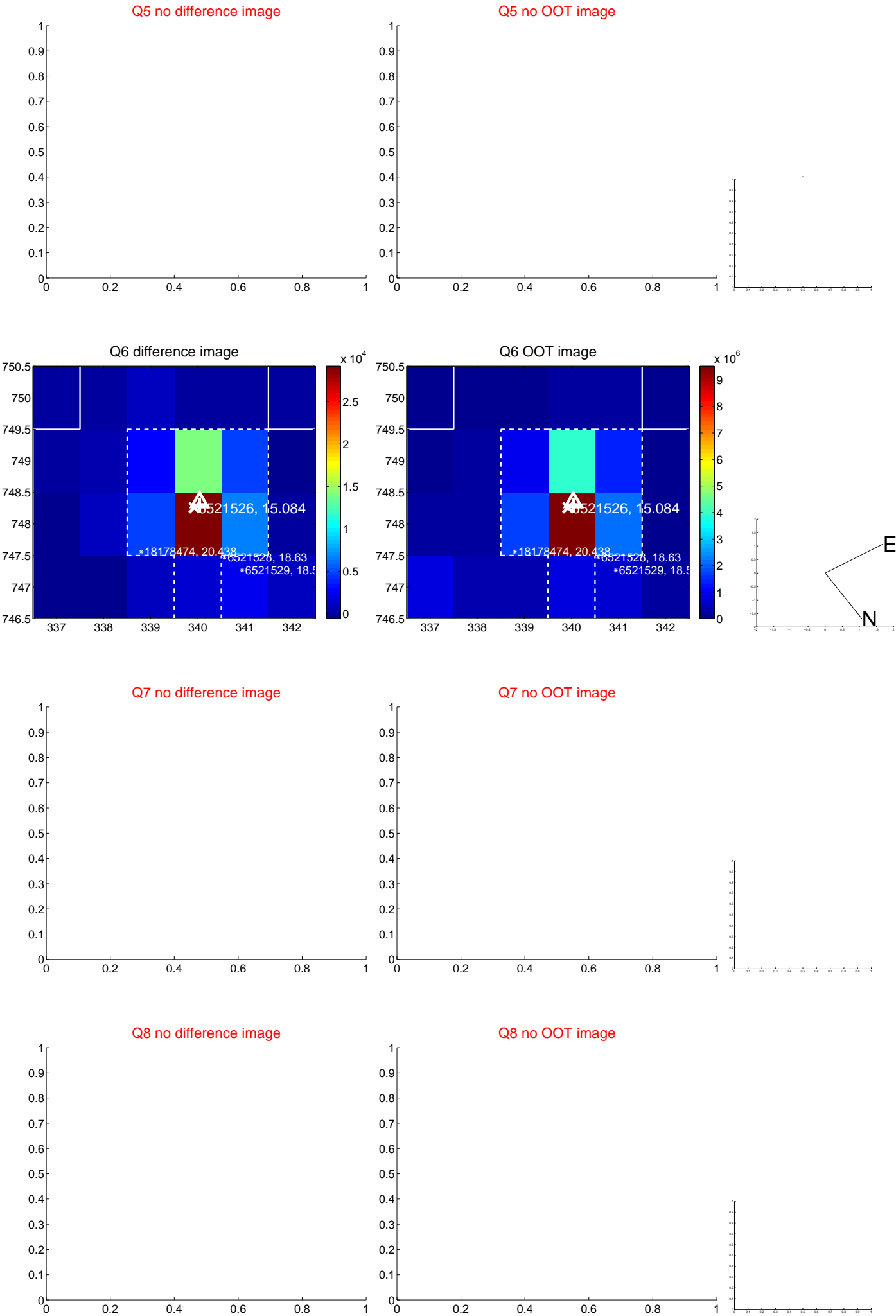


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

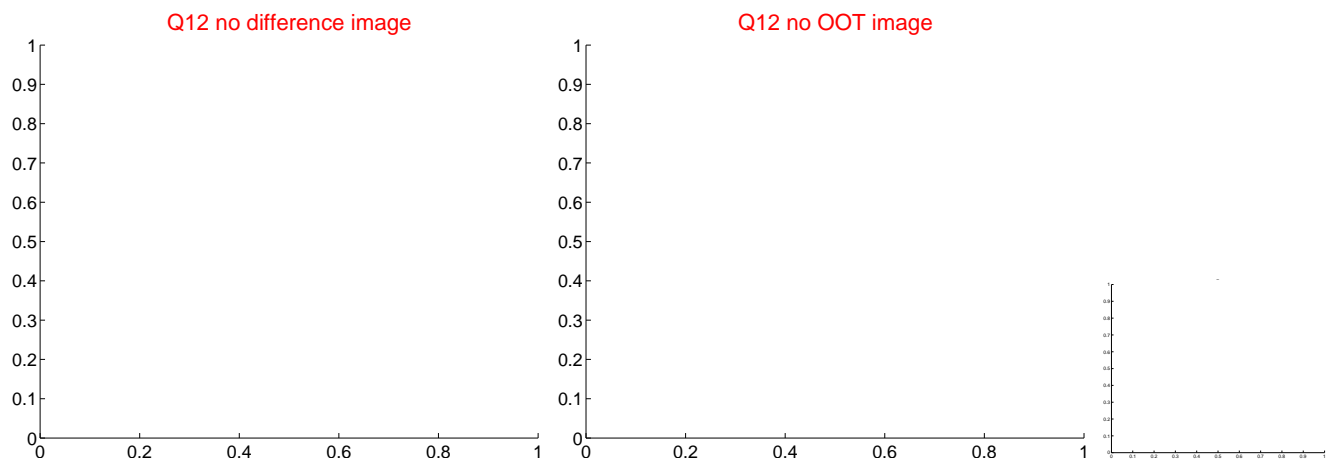
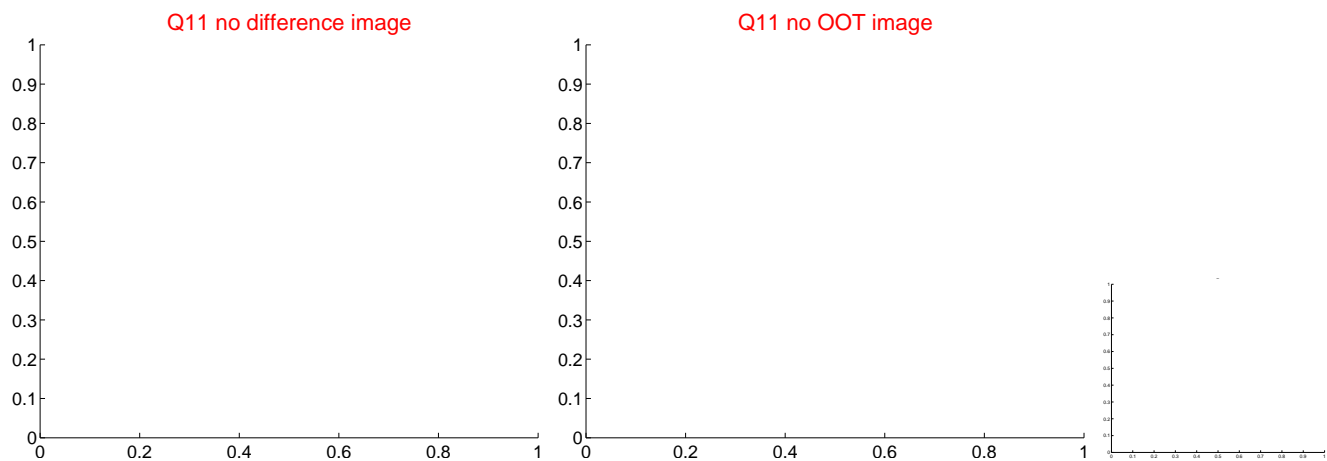
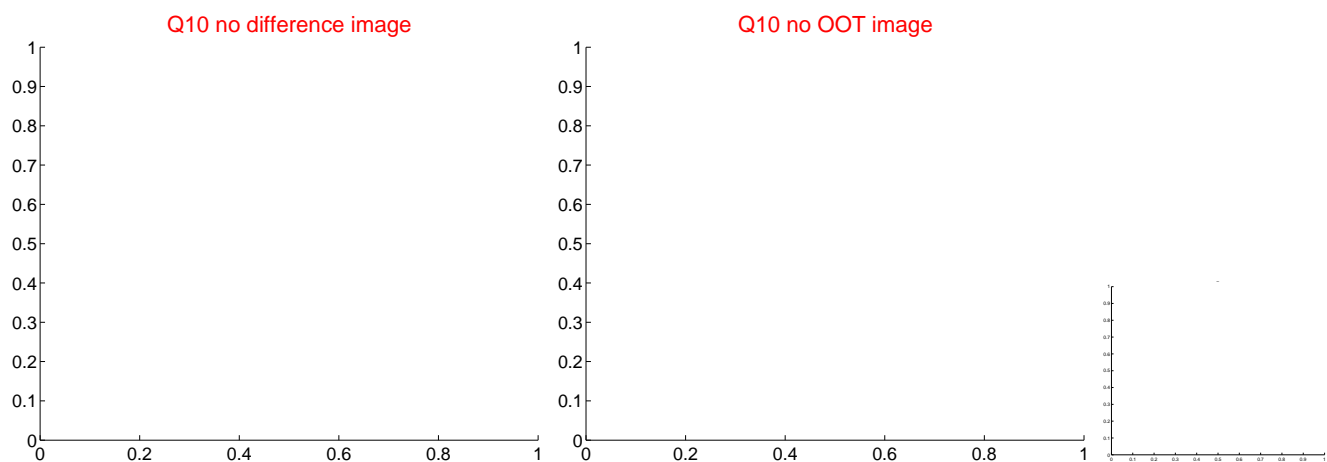
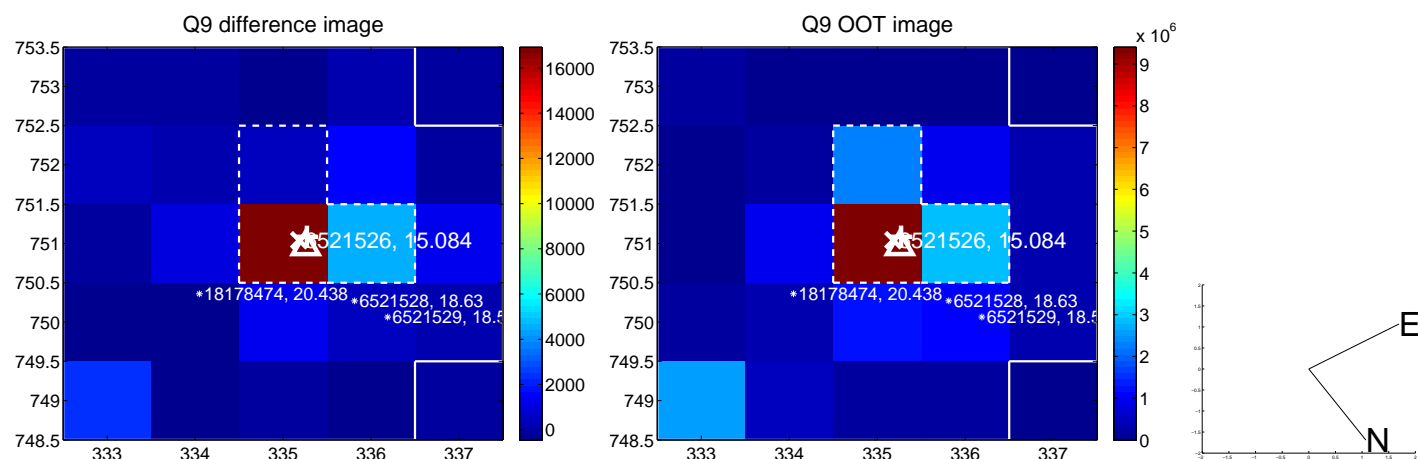
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



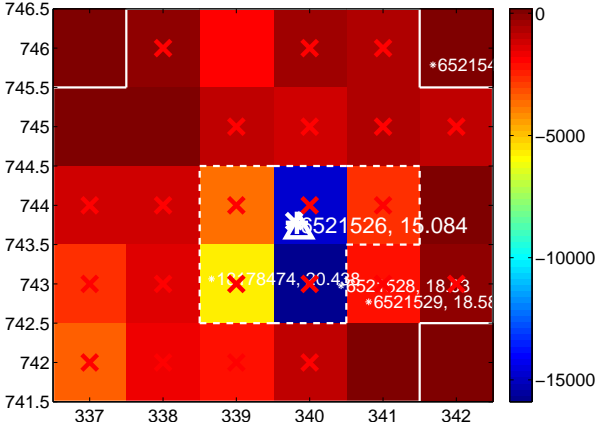
Q14 no difference image



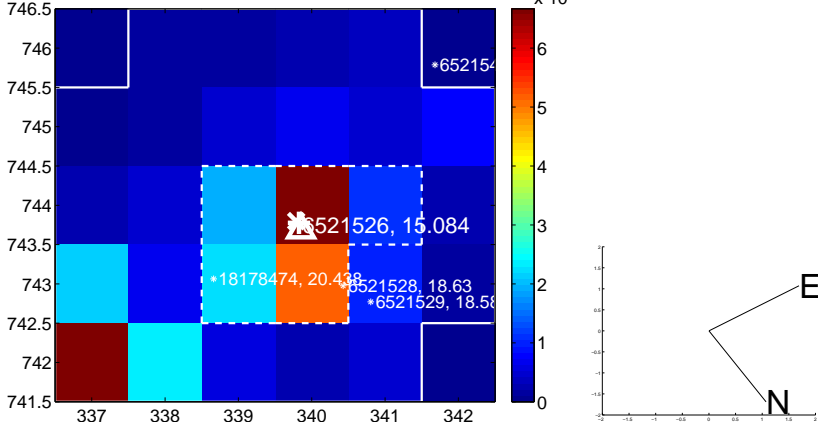
Q14 no OOT image



Q15 difference image. Poor Quality



Q15 OOT image



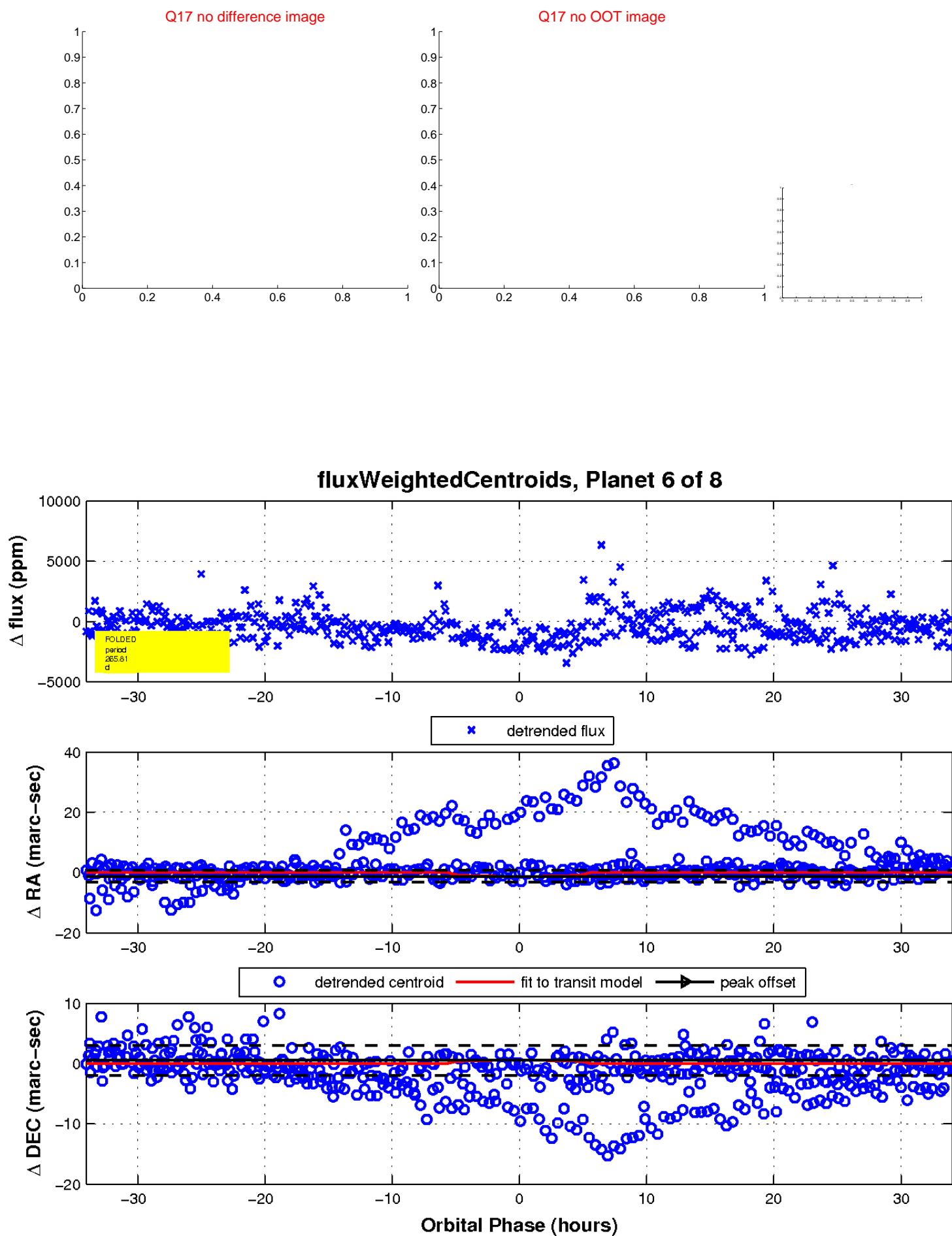
Q16 no difference image



Q16 no OOT image

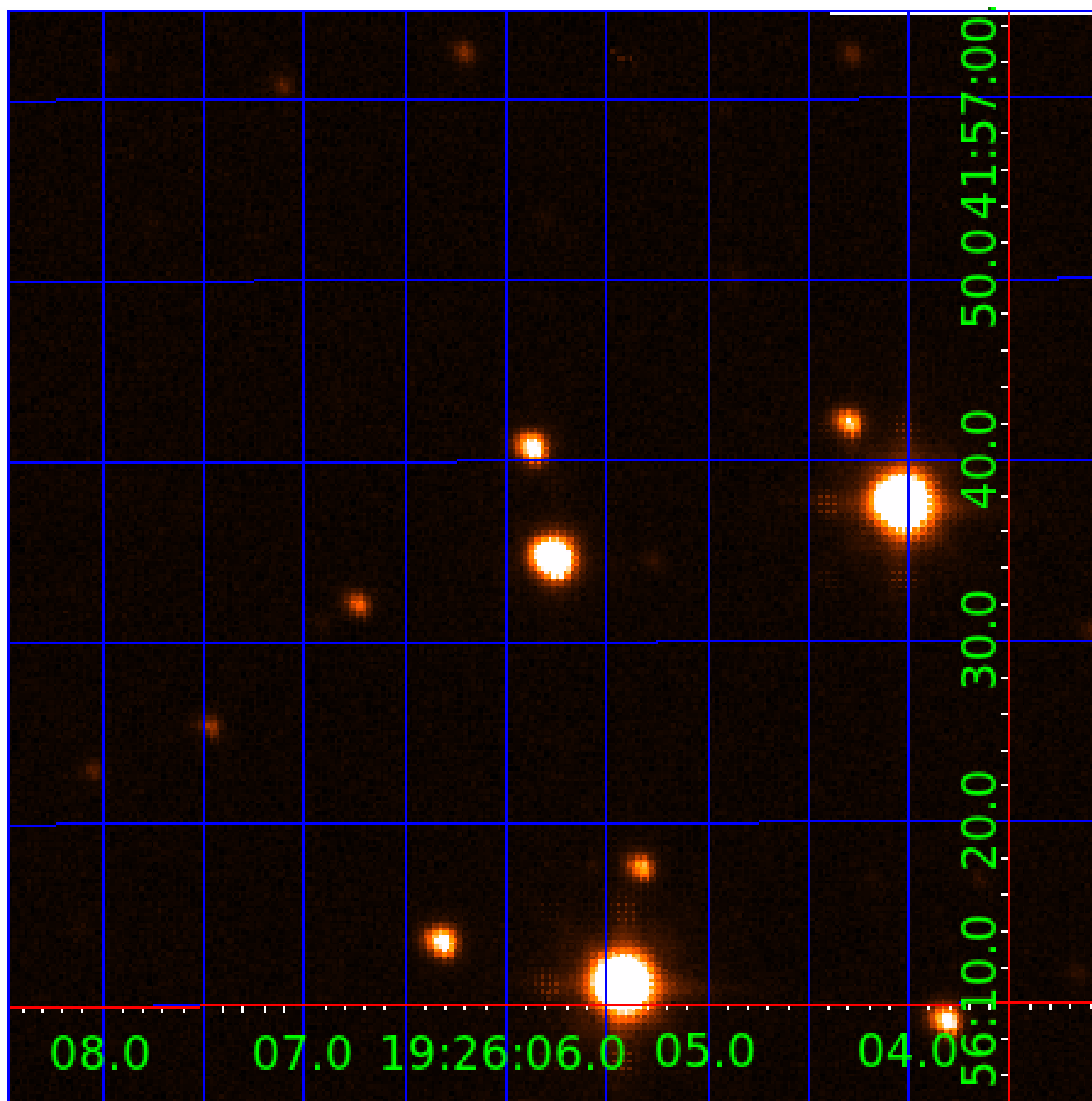


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006521526

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})
006521526-01	OBS	No	490.983019	555.466010	1594.8	6.727	11.1	6.8	0.58	3749	2.42	0.06
006521526-02	OBS	No	236.670794	194.017256	1315.0	3.648	11.0	6.2	0.58	3749	2.23	0.15
006521526-03	OBS	No	370.195000	280.590955	585.6	1.435	10.2	1.8	0.58	3749	1.75	0.08
006521526-04	OBS	No	469.978691	552.026847	508.6	15.000	10.2	-1.0	0.58	3749	1.26	0.06
006521526-05	OBS	8124.01	103.045997	164.920808	946.2	12.490	8.7	7.5	0.58	3749	1.81	0.46
006521526-06	OBS	No	265.812087	329.053353	1972.7	11.362	10.2	7.9	0.58	3749	2.62	0.13
006521526-07	OBS	No	6.370857	133.681880	359.8	4.261	8.1	10.4	0.58	3749	1.50	18.96
006521526-08	OBS	No	172.688846	284.357984	505.5	2.836	9.0	2.6	0.58	3749	1.25	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006521526-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006521526-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006521526-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006521526-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
006521526-05	OBS	FP	0.01	1	0	0	0	INCONSISTENT_TRANS
006521526-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—CENT_FEW_DIFFS
006521526-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006521526-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

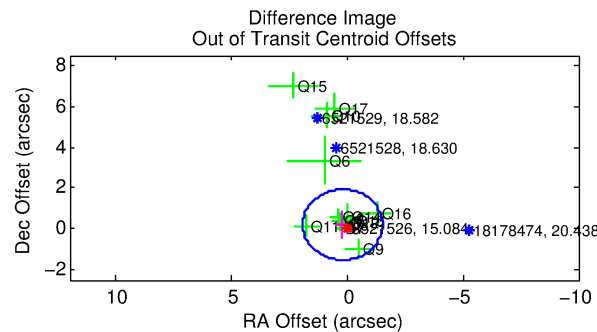
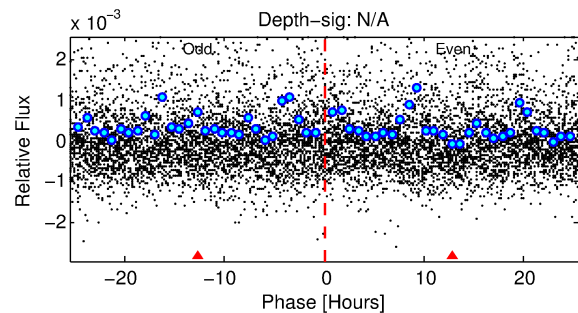
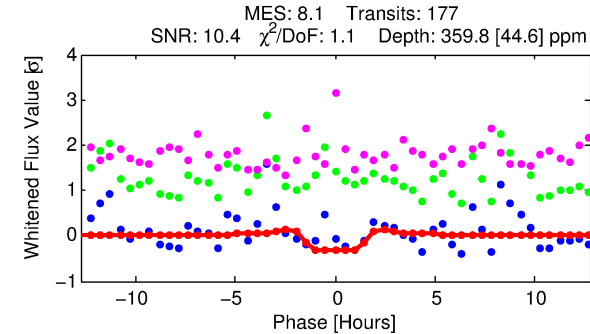
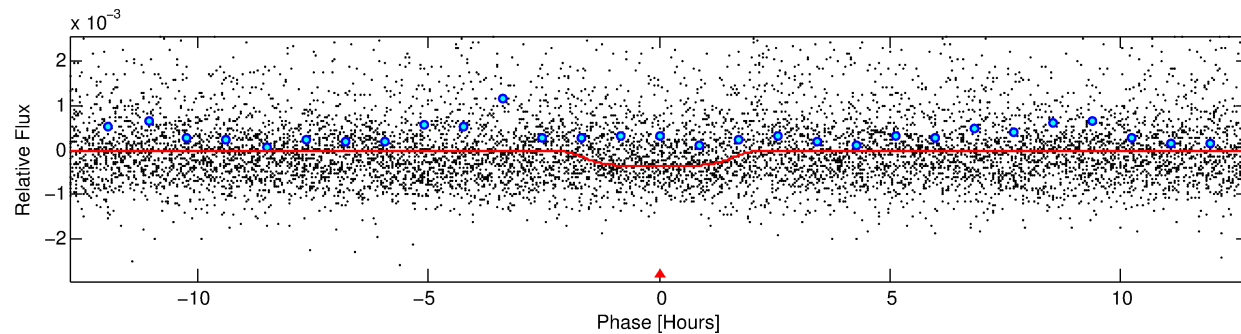
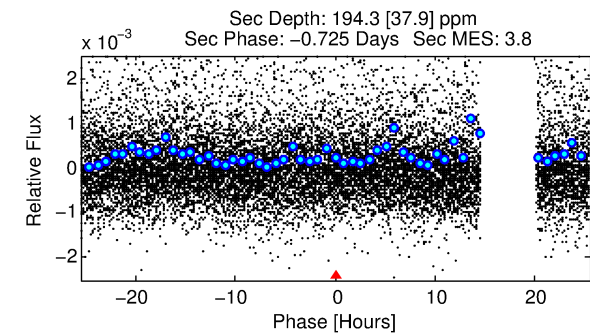
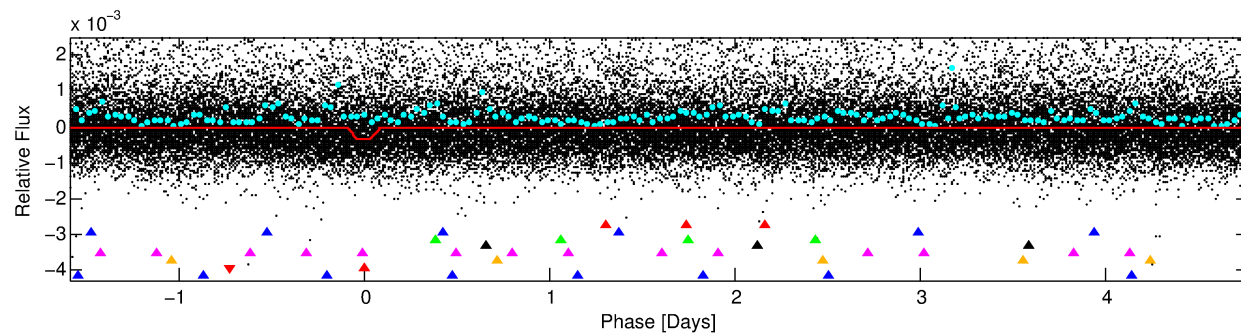
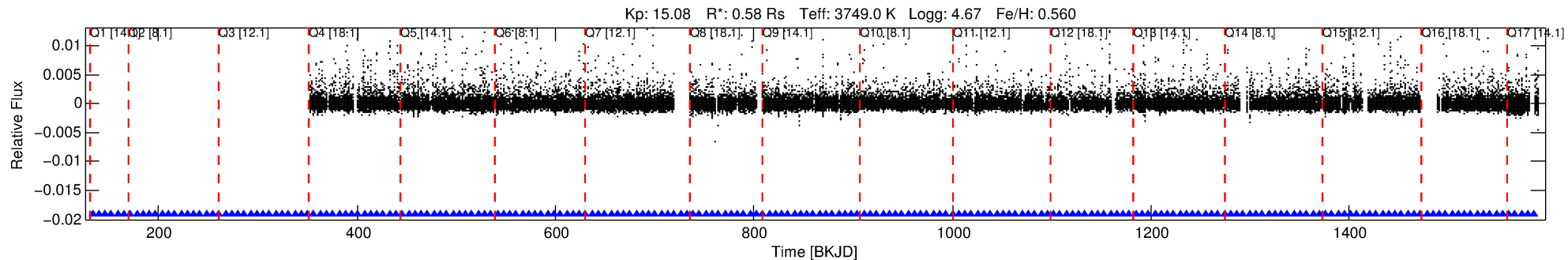
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006521526-07

No Significant Match Found

DV One-Page Summary

KIC: 6521526 Candidate: 7 of 8 Period: 6.371 d



DV Fit Results:

Period = 6.37086 [0.00007] d
Epoch = 133.6819 [0.0087] BKJD
Rp/R* = 0.0236 [0.0022]
a/R* = 4.21 [0.97]
b = 0.96 [0.02]
Seff = 18.96 [3.88]
Teq = 532 [27] K
Rp = 1.50 [0.23] Re
a = 0.0561 [0.0055] AU
Ag = 150.00 [45.21] [3.30σ]
Teff = 2879 [222] K [10.47σ]

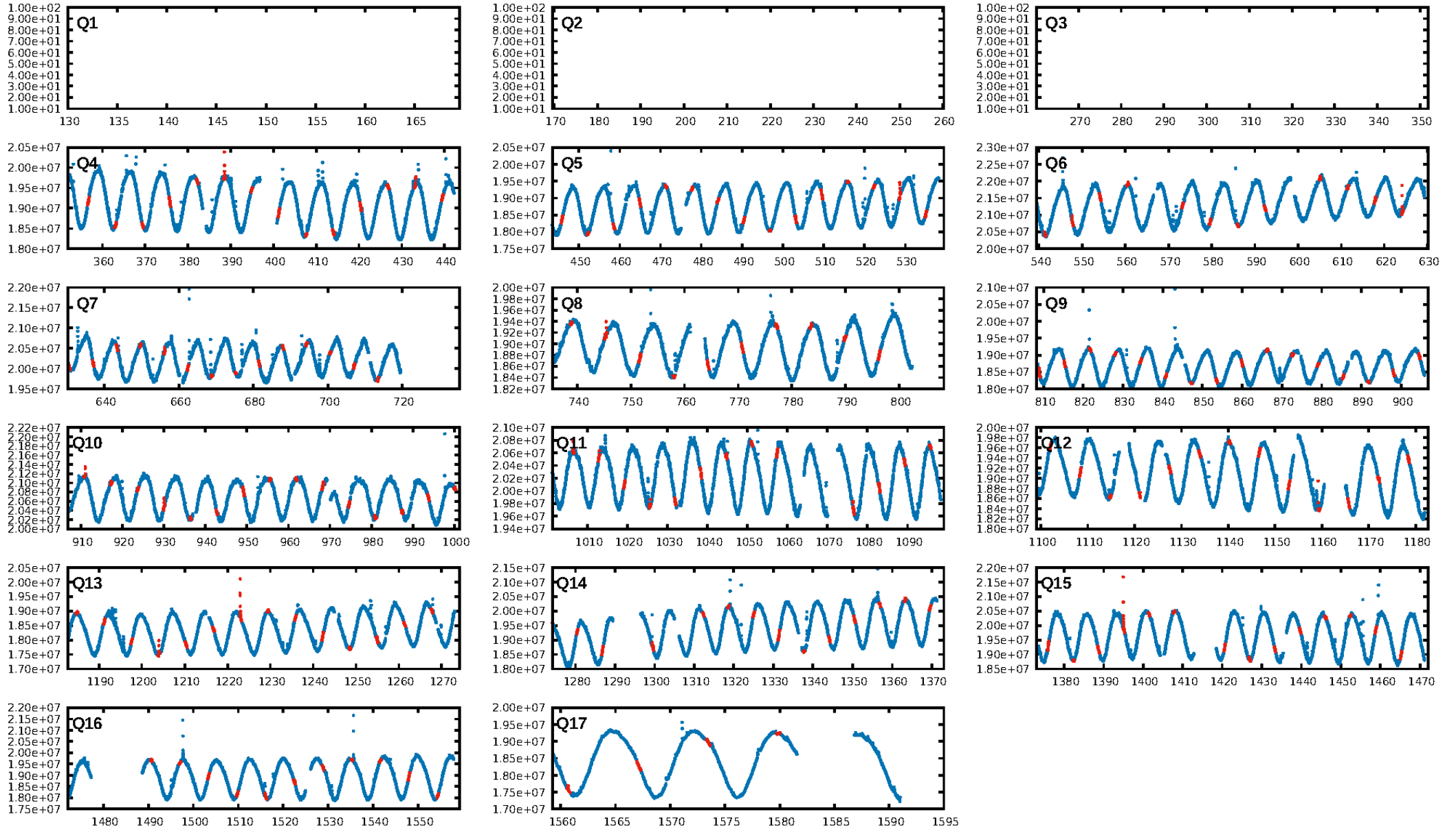
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [175.81σ]
ModelChiSquare2-sig: 16.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.49e-08
RollingBand-fgt: 1.00 [173/173]
GhostDiagnostic-chr: 0.7285
Centroid-sig: 81.9%
Centroid-so: 0.599 arcsec [0.98σ]
OotOffset-rm: 0.289 arcsec [0.50σ]
KicOffset-rm: 0.454 arcsec [0.71σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.29 [4/14]
DiffImageOverlap-fno: 1.00 [14/14]

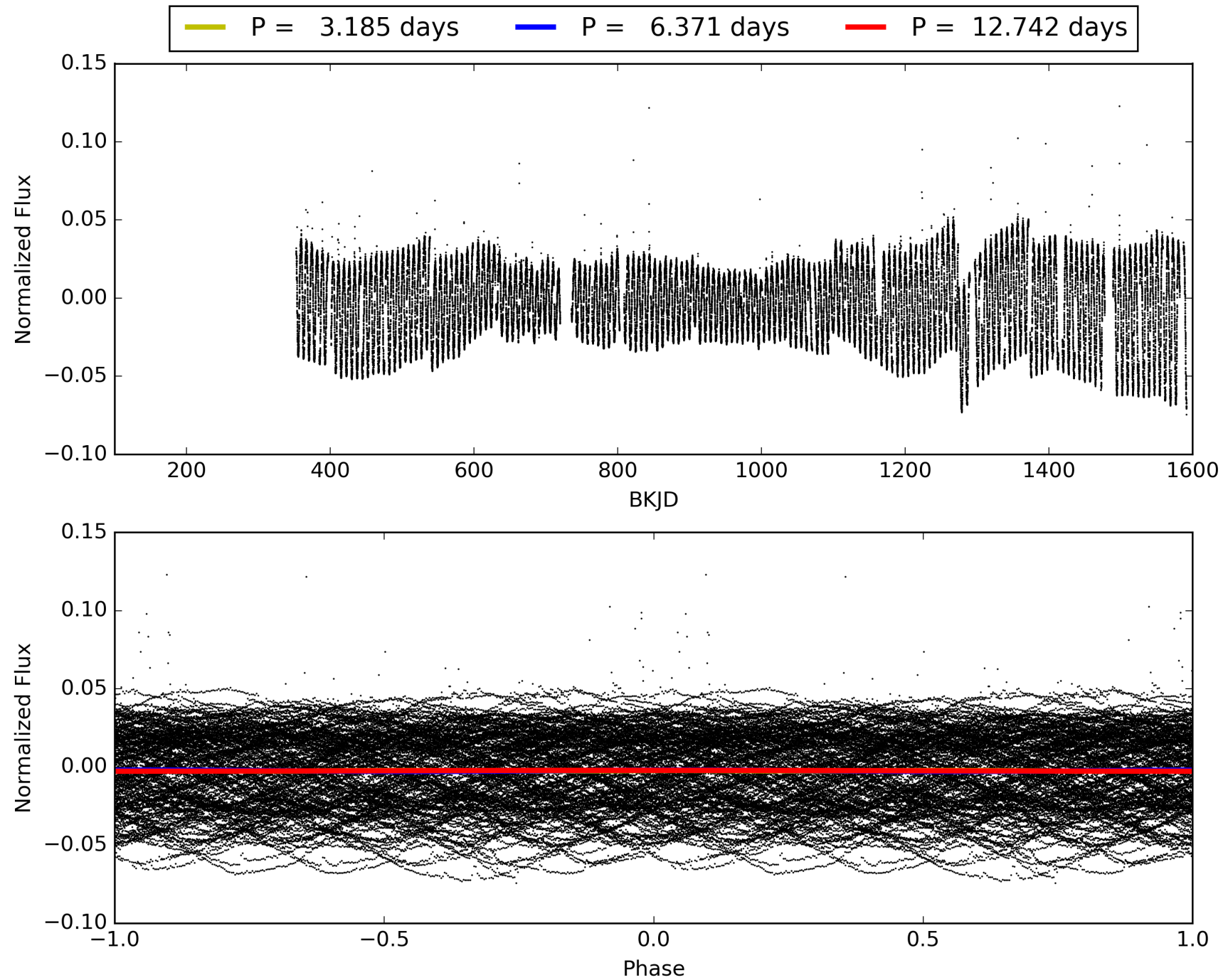
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:30:00 Z

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

TCE 006521526-07, PDC Light Curves

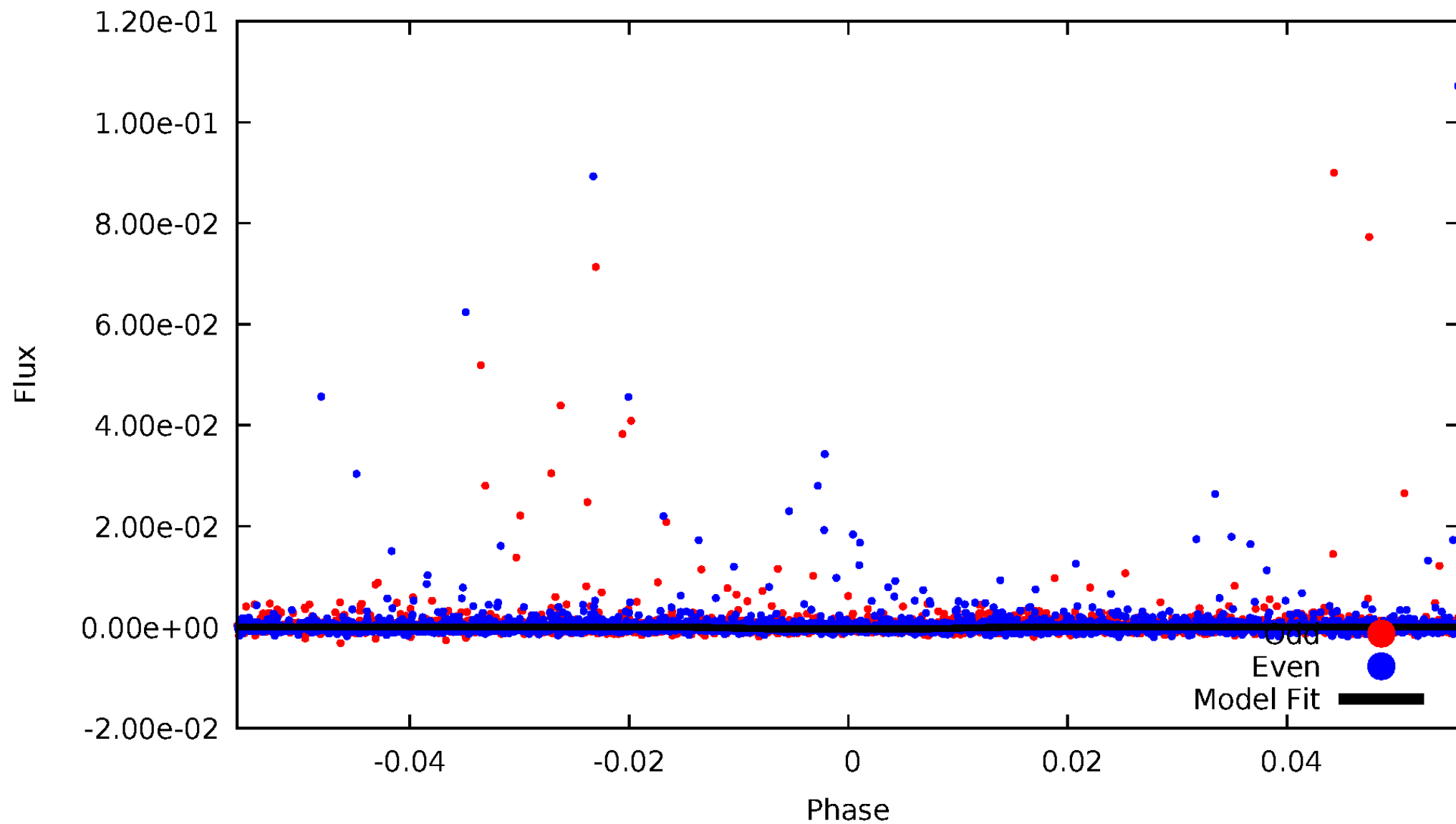


TCE 006521526-07



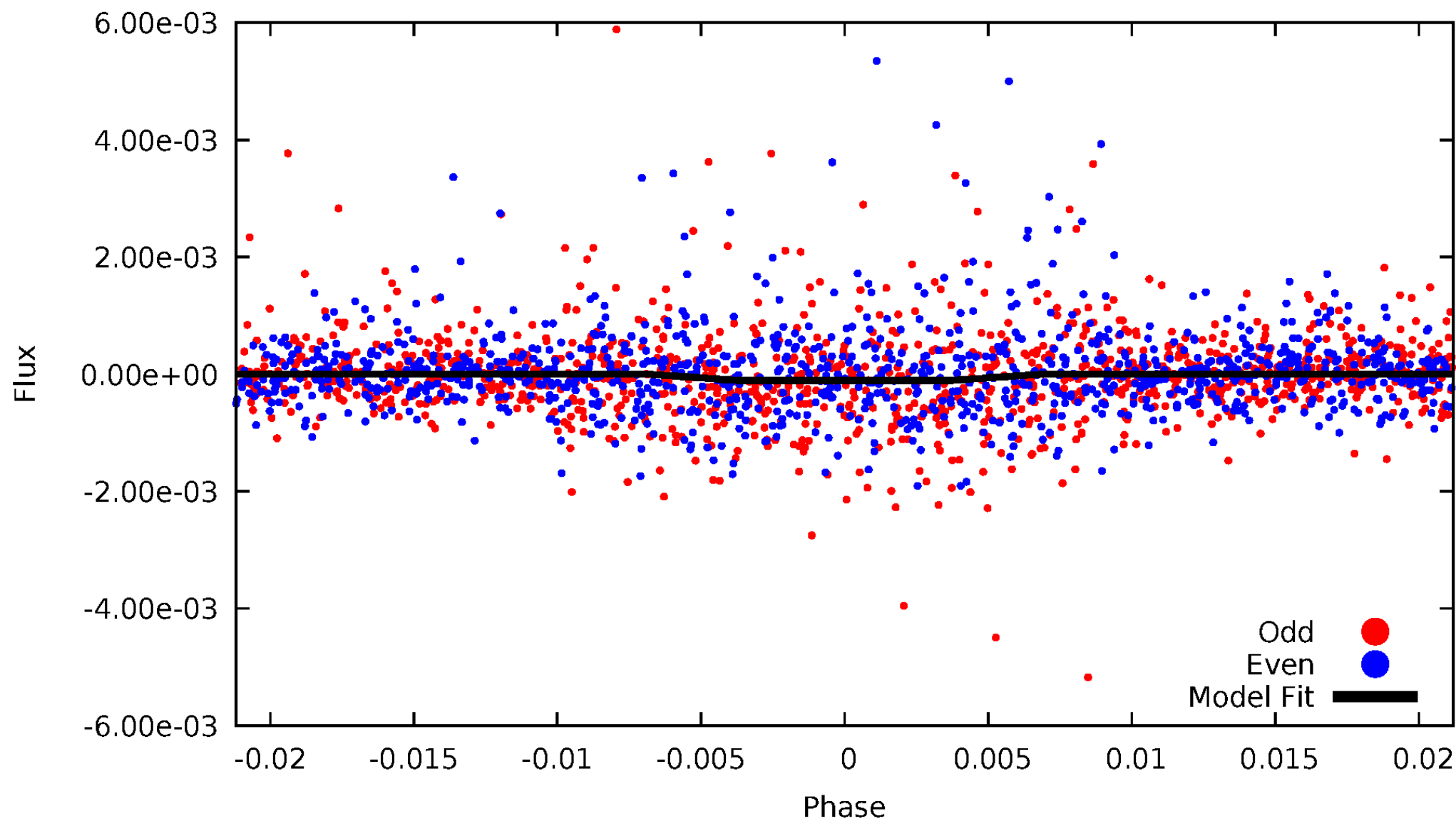
DV Odd/Even

TCE 006521526-07



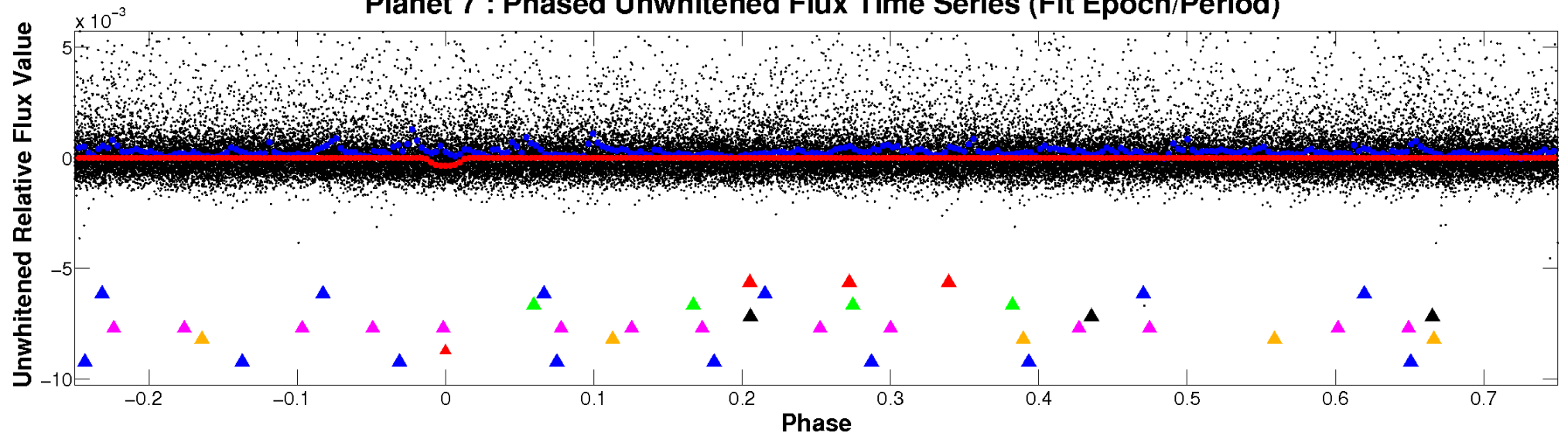
ALT Odd/Even

TCE 006521526-07

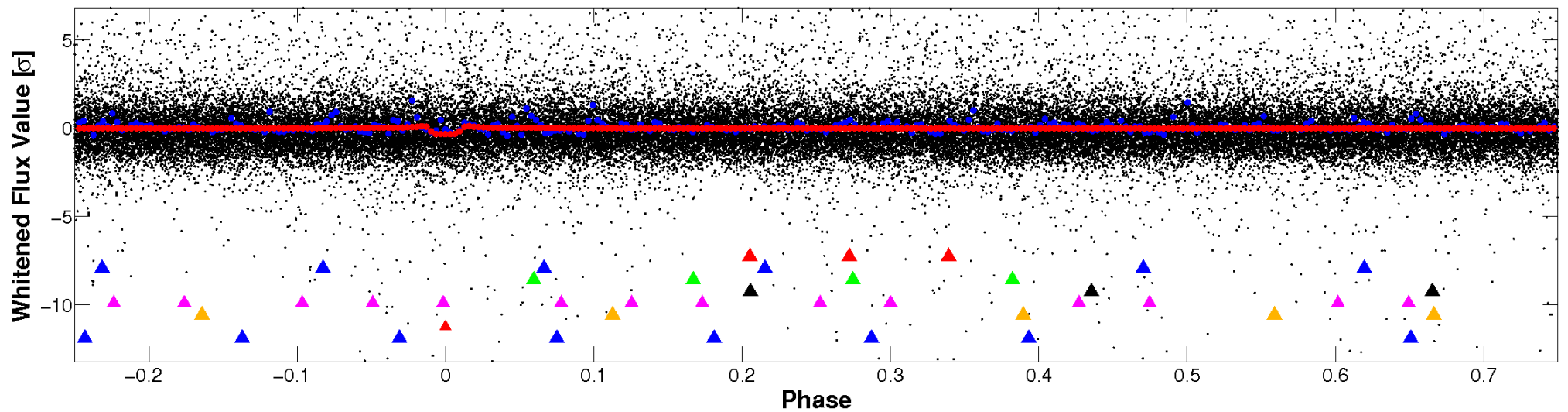


Non-Whitened Vs. Whitened Light Curve

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

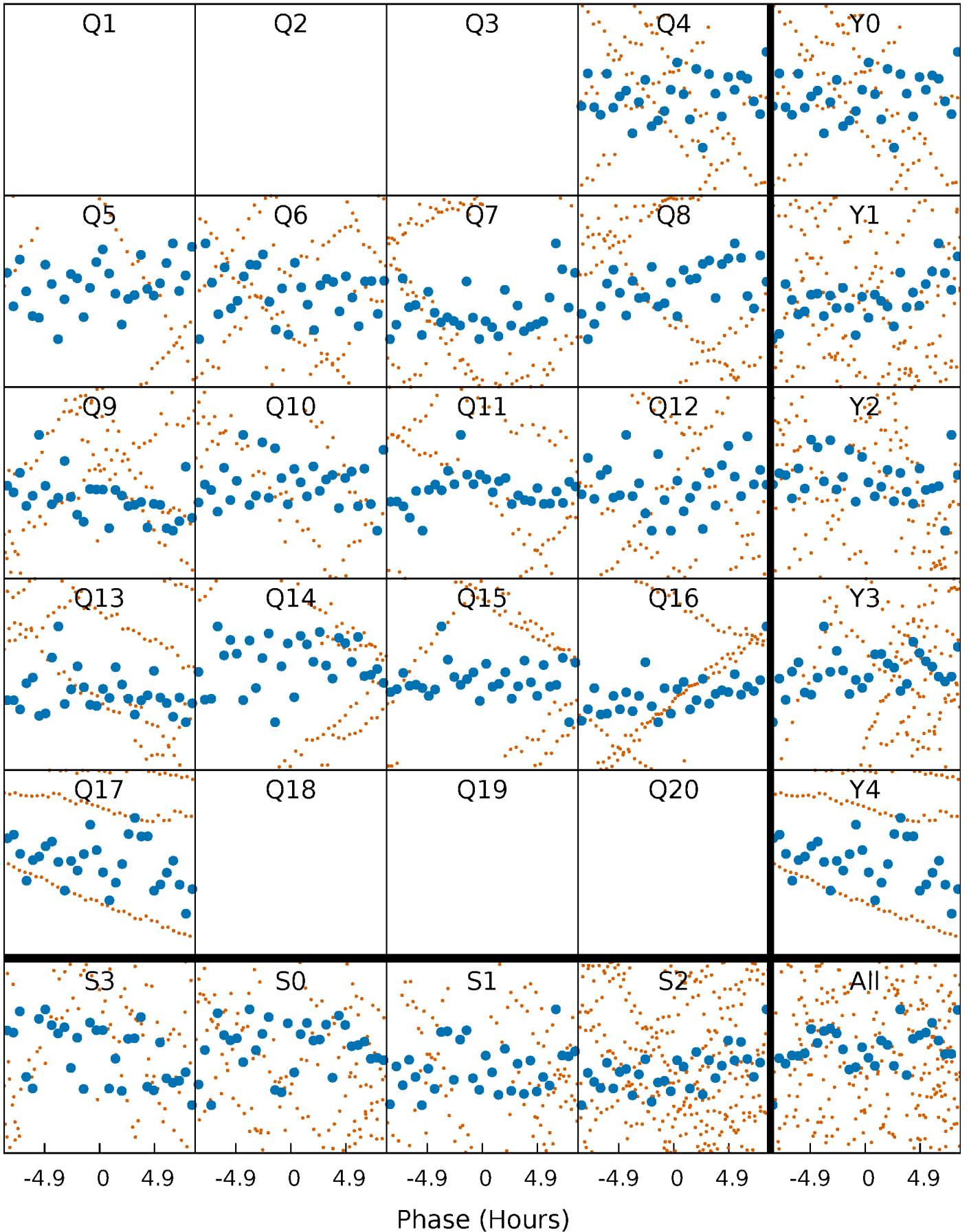


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



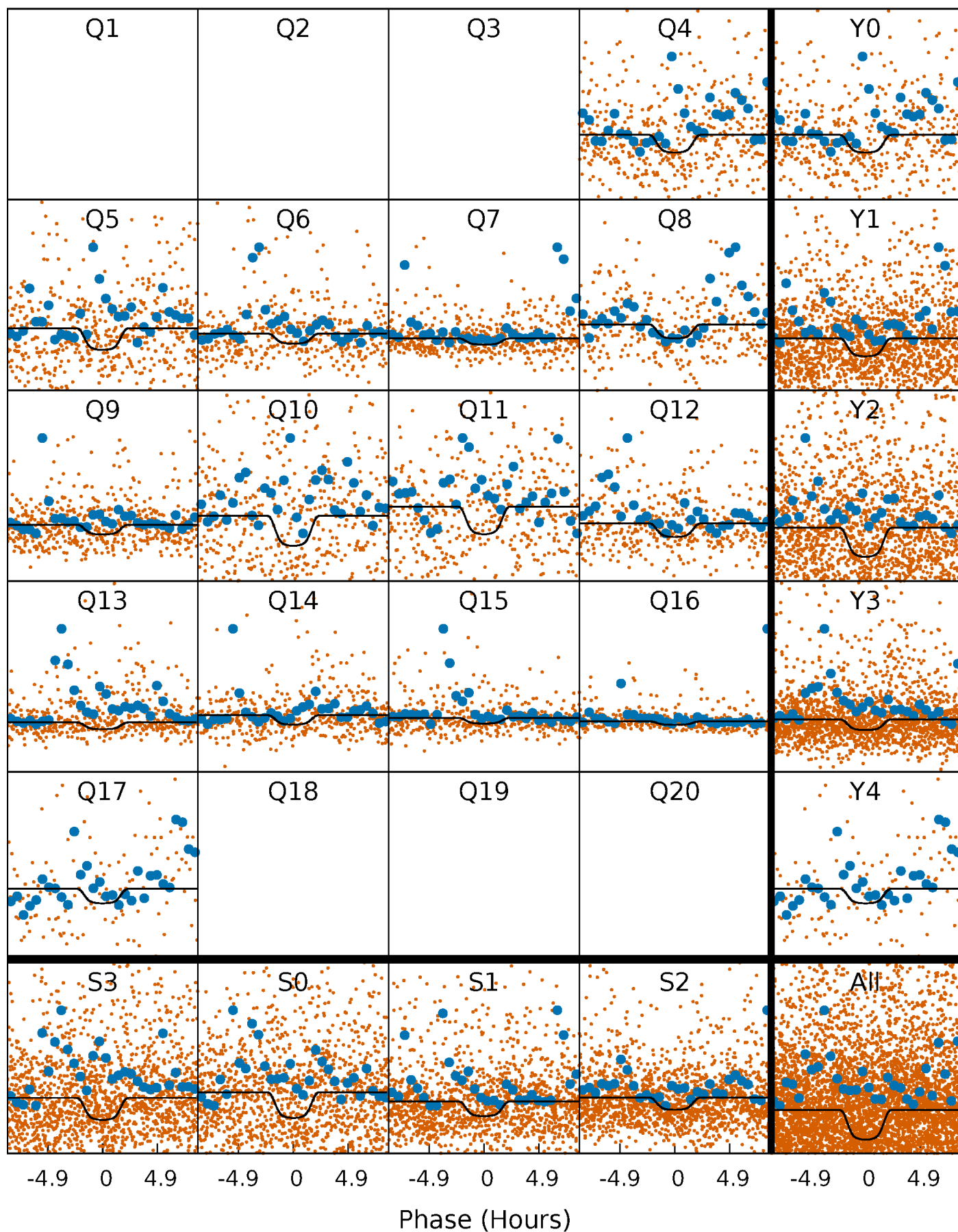
PDC Quarter-Phased Transit Curves

TCE 006521526-07 P= 6.370857 Days $T_0=133.681880$ (BKJD)



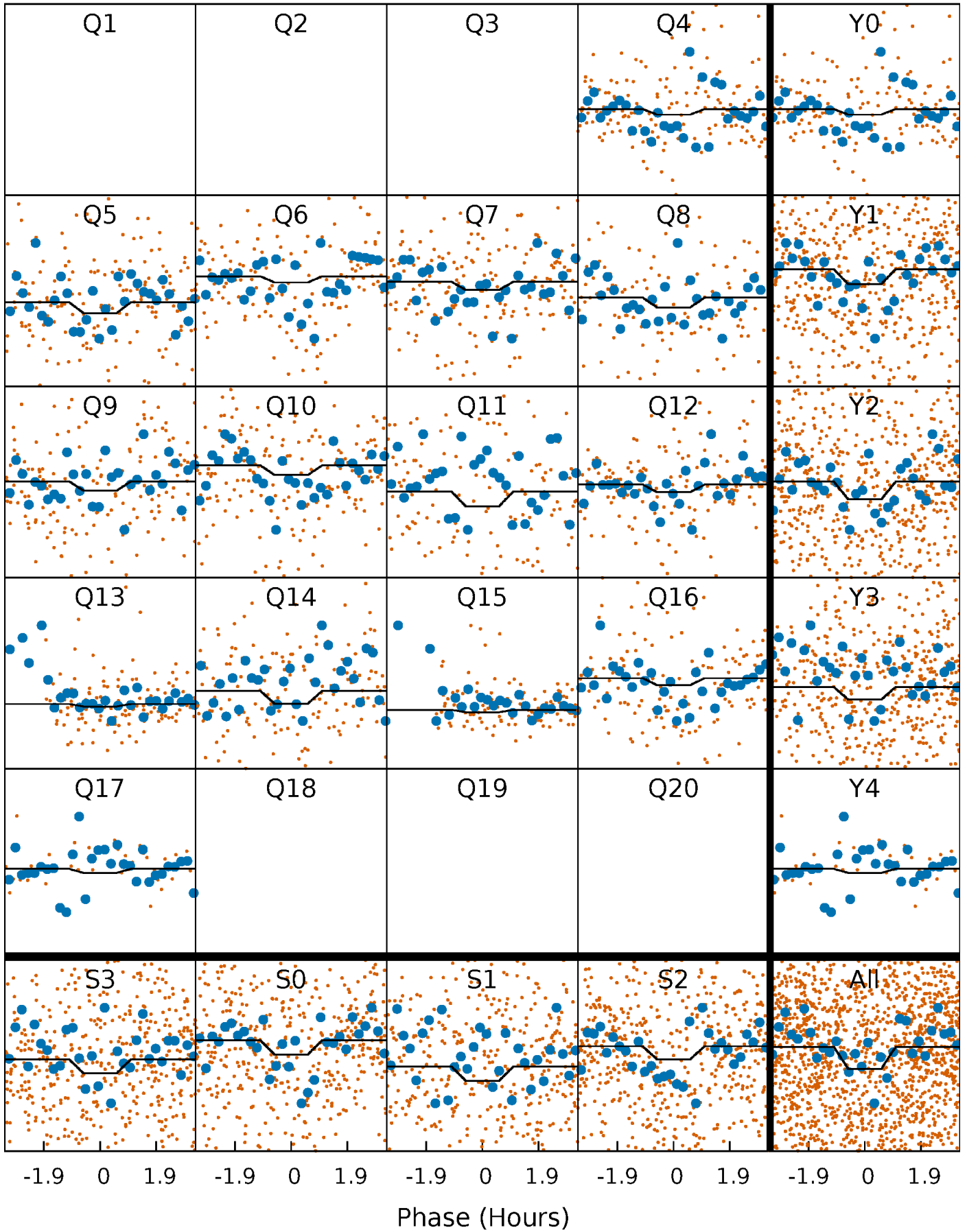
DV Quarter-Phased Transit Curves

TCE 006521526-07 P= 6.370857 Days $T_0=133.681880$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

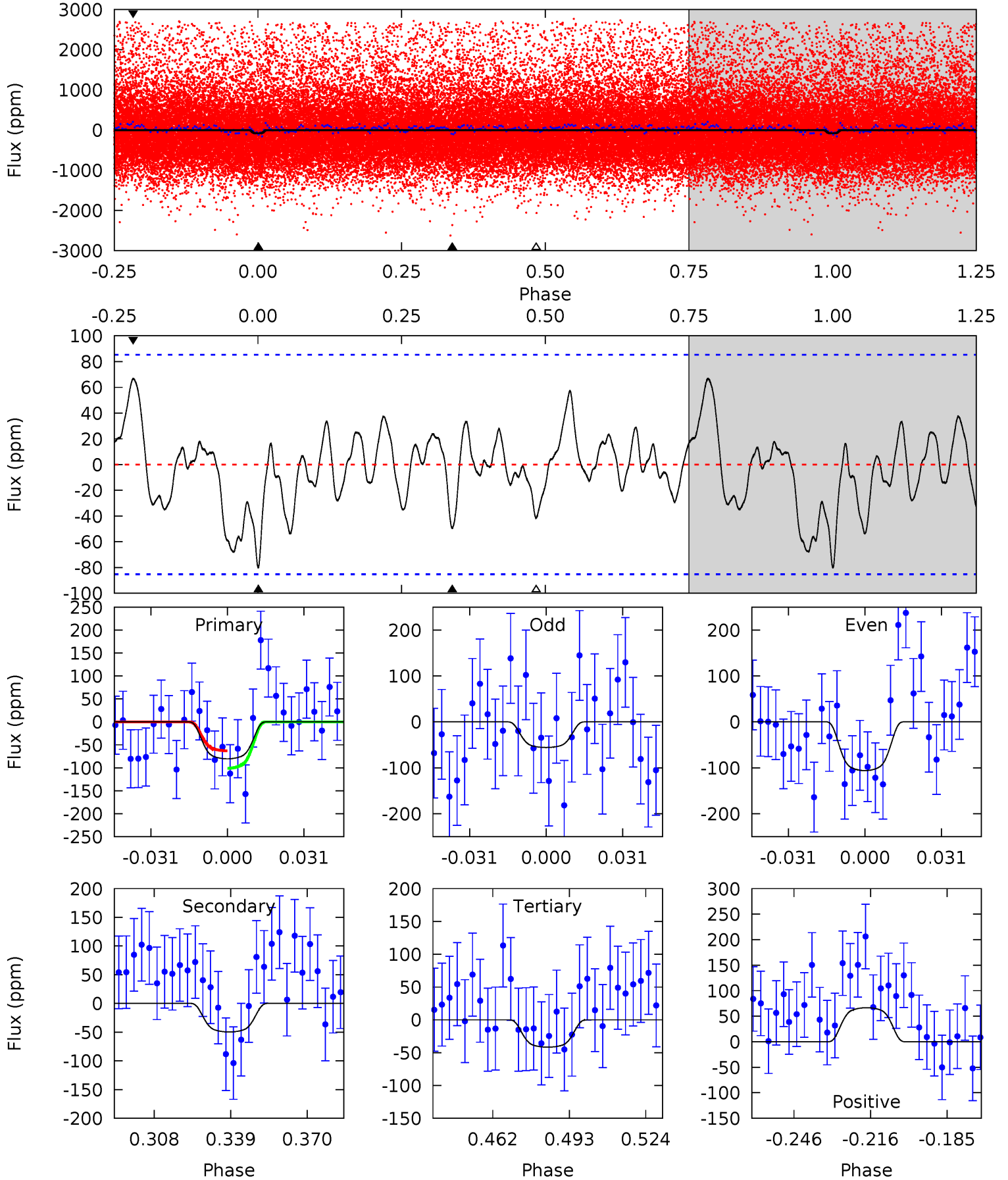
TCE 006521526-07 P= 6.370538 Days $T_0=133.721968$ (BKJD)



DV Model-Shift Uniqueness Test

006521526-07, P = 6.370857 Days, E = 133.681880 Days

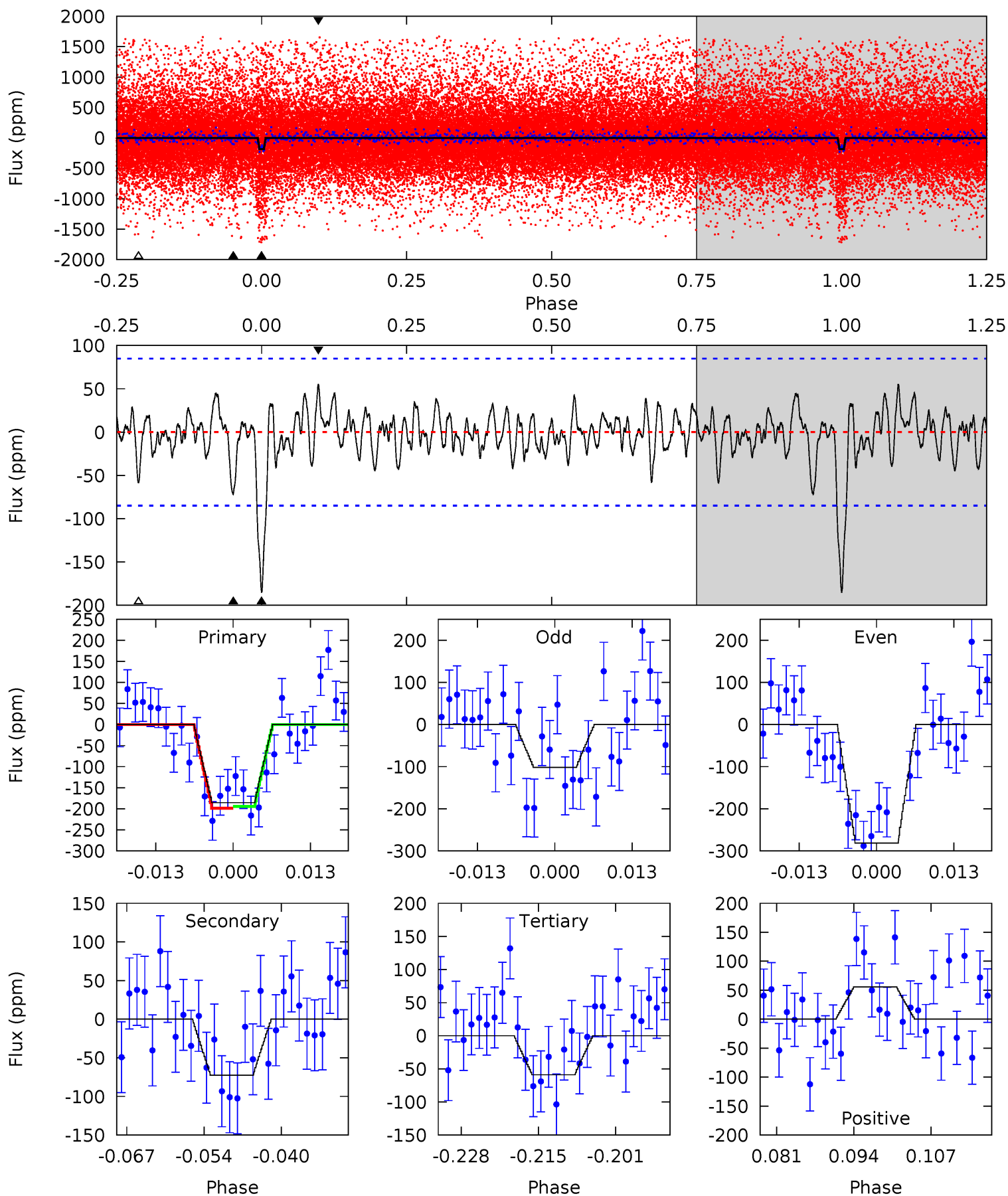
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.53	2.80	2.35	3.76	4.81	2.16	1.37	2.19	0.77	0.45	-0.96	1.43	-3.33	0.45	1.08



Alt Model-Shift Uniqueness Test

006521526-07, P = 6.370538 Days, E = 133.721968 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	4.25	3.45	3.26	4.97	2.47	1.12	7.41	7.60	0.80	0.99	5.29	0.49	0.23	0.13



Stellar Parameters For KIC 006521526

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3749^{+117}_{-143}	$4.674^{+0.072}_{-0.022}$	$0.560^{+0.050}_{-0.300}$	$0.581^{+0.030}_{-0.070}$	$0.582^{+0.037}_{-0.061}$	$4.171^{+1.432}_{-0.391}$
	+3%/-4%	+2%/-0%	+9%/-54%	+5%/-12%	+6%/-10%	+34%/-9%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006521526-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-50 ± 18	$1.48^{+0.15}_{-0.16}$	736^{+27}_{-30}	2615^{+159}_{-157}	39^{+19}_{-14}
Alt.	-73 ± 17	$0.65^{+0.14}_{-0.14}$	738^{+28}_{-31}	3498^{+343}_{-270}	294^{+195}_{-110}

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 $A_{obs} \gg 1.0$

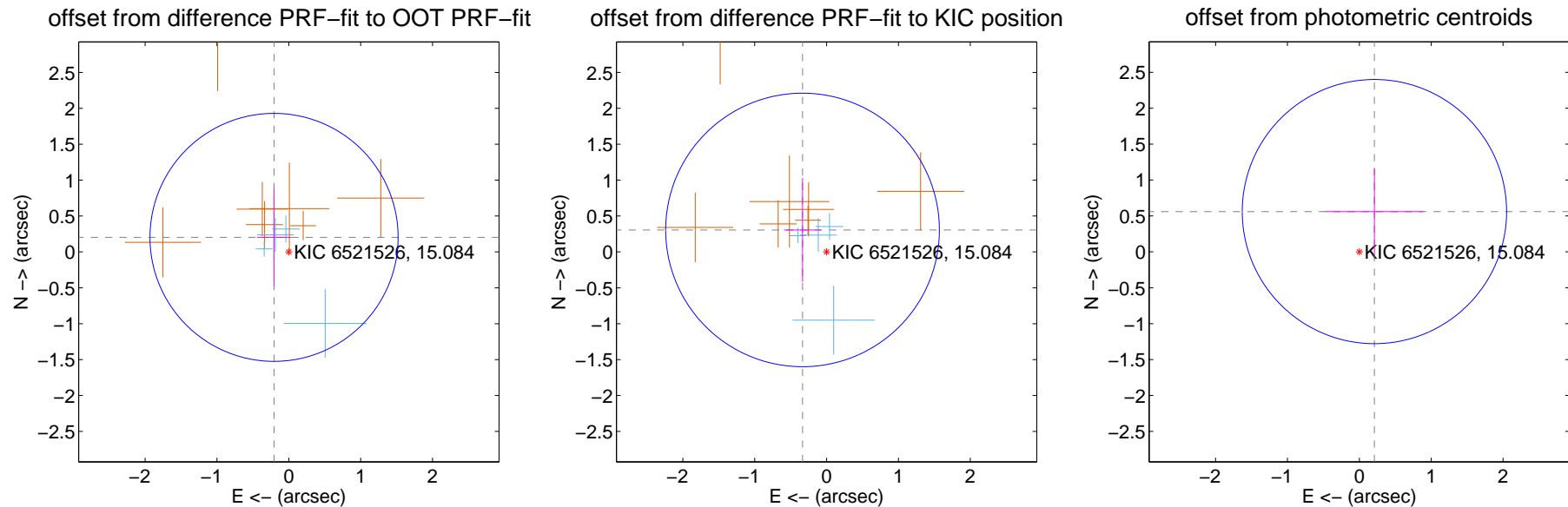
DV Centroid Data

Supplemental centroid analysis for 006521526-07. Kepler magnitude: 15.08. Transit SNR 10.42

There are 4 quarters with good PRF difference image offsets

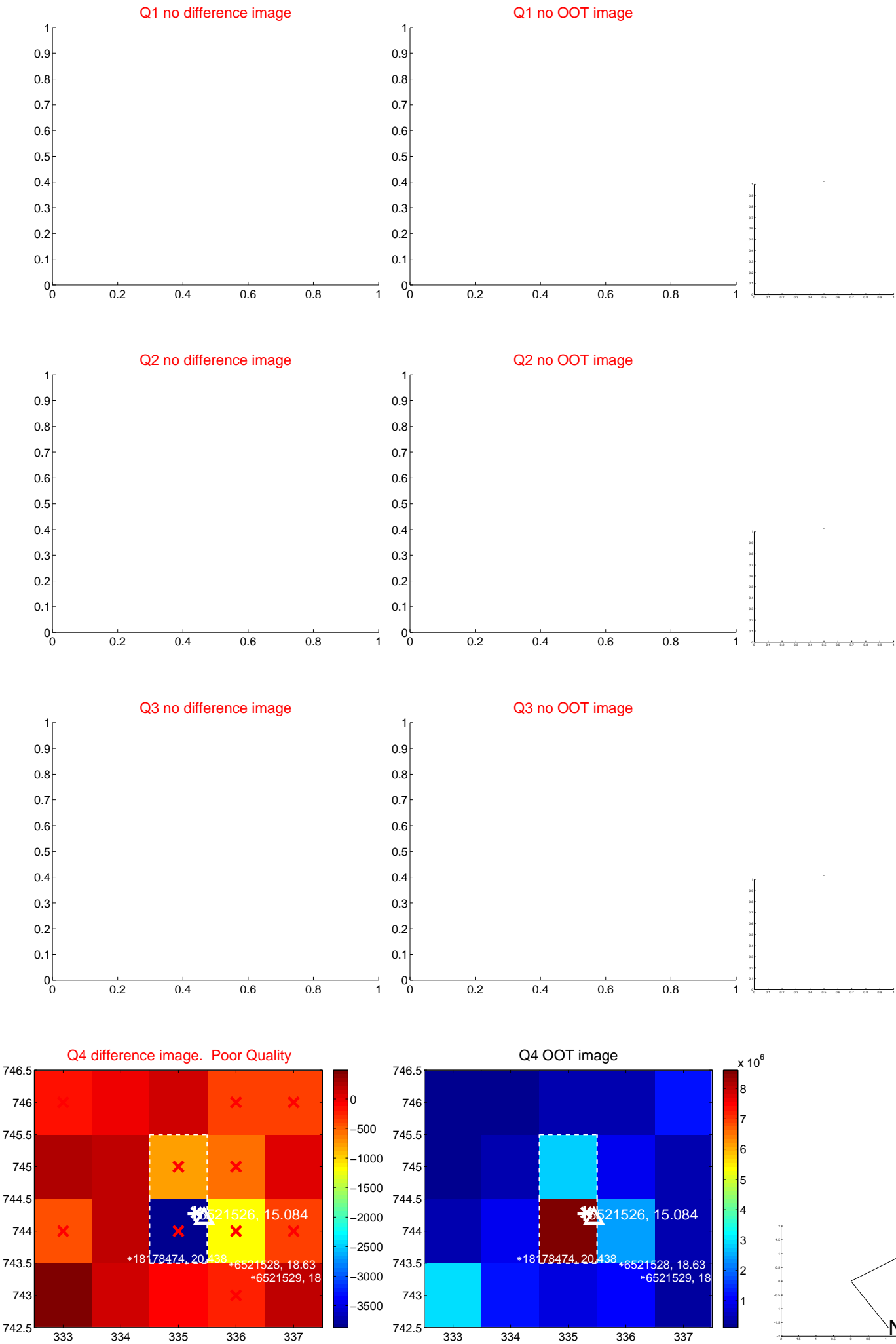
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.289 ± 0.576	0.50	0.206 ± 0.239	0.203 ± 0.673
PRF-fit source offset from KIC position	0.454 ± 0.635	0.71	0.335 ± 0.256	0.306 ± 0.723
photometric centroid source offset	0.60 ± 0.61	0.98	-0.21 ± 0.68	0.56 ± 0.60

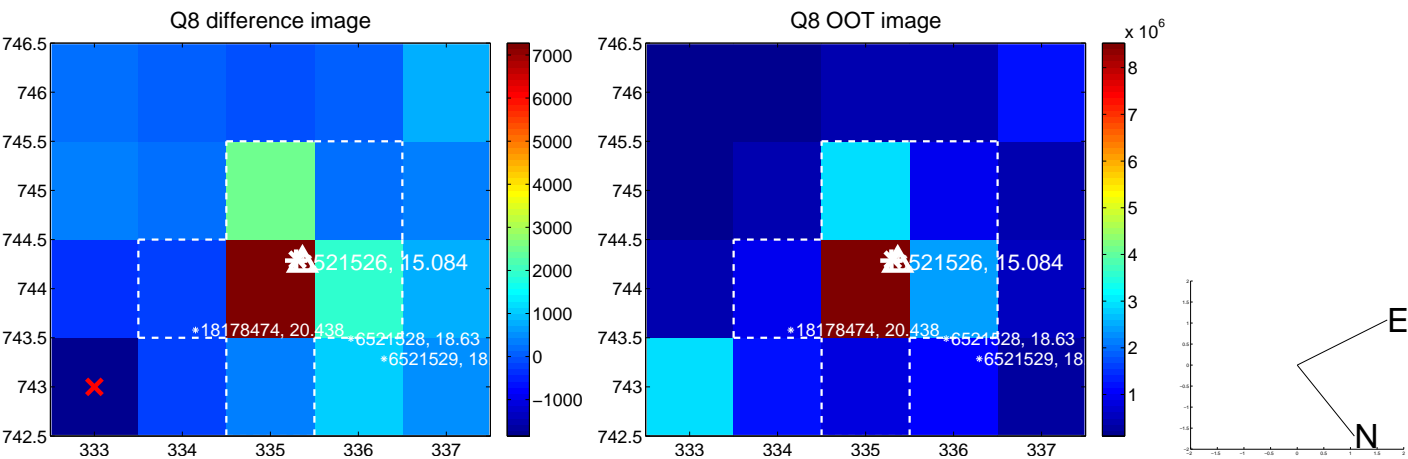
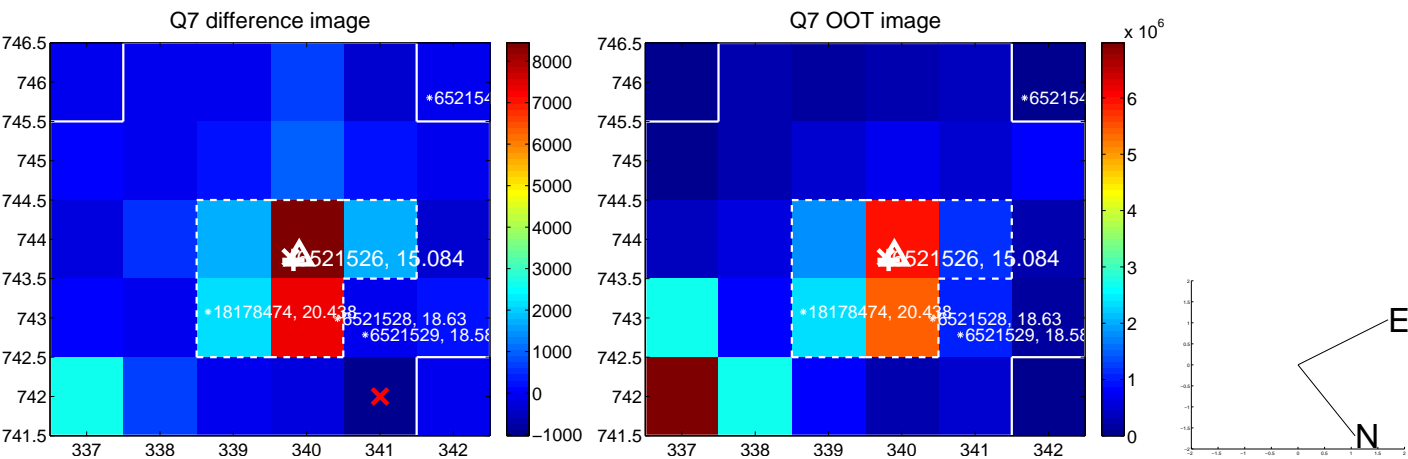
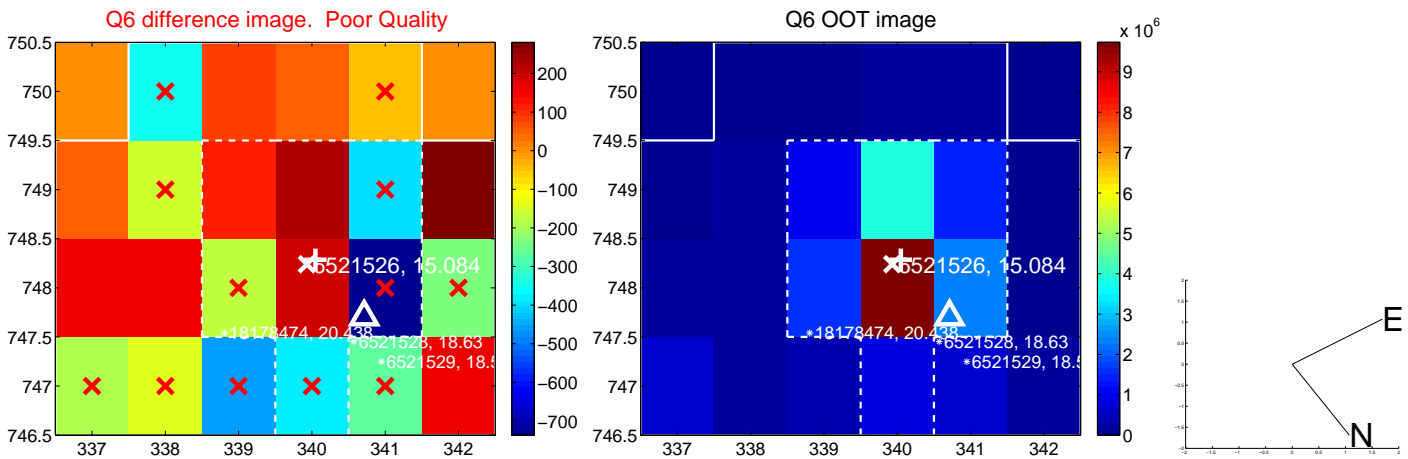
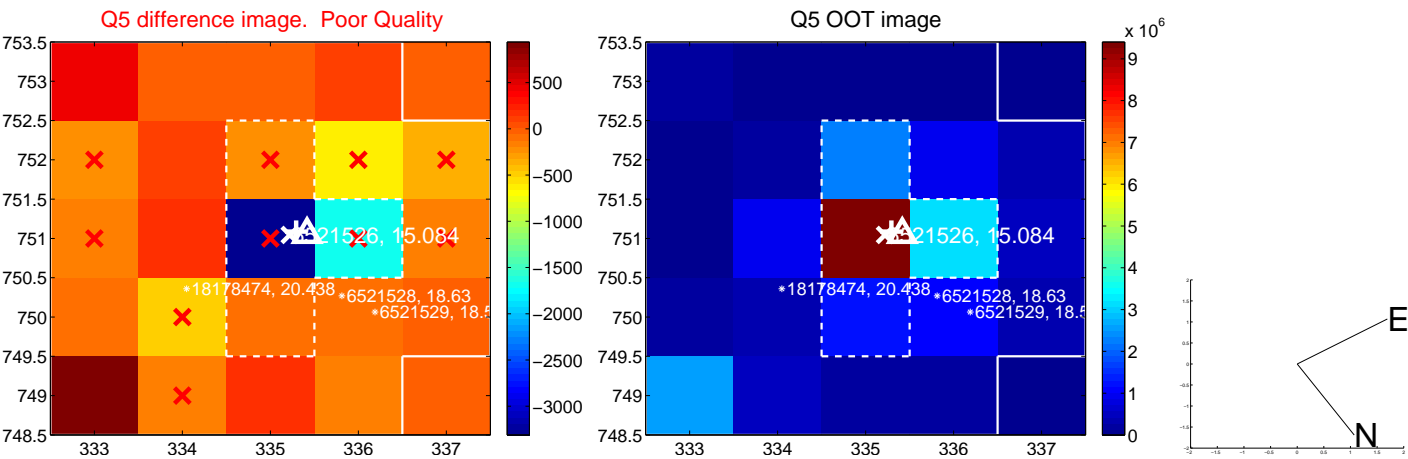


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

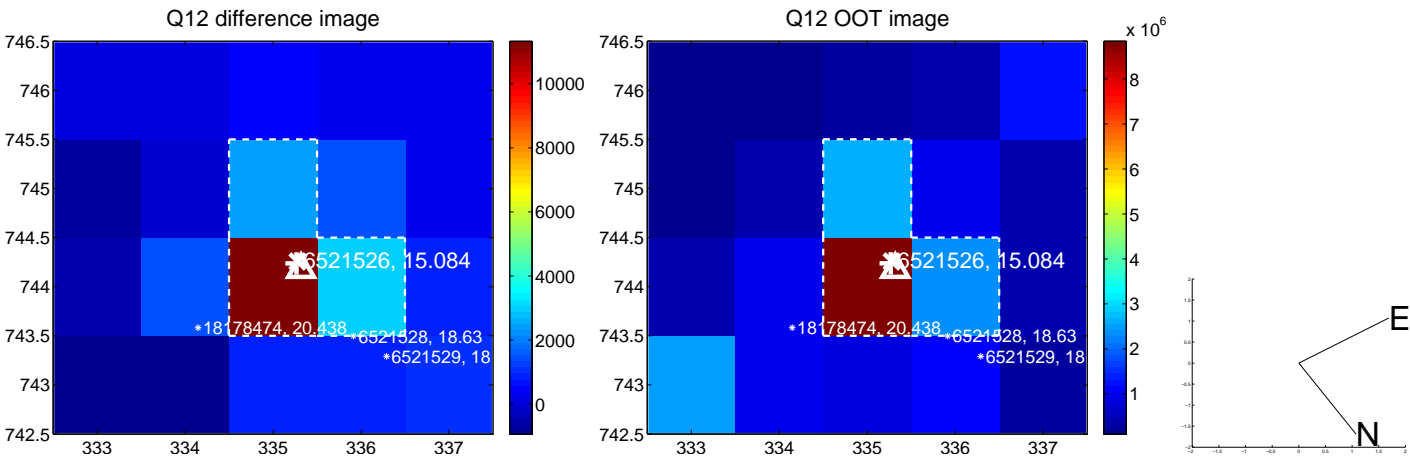
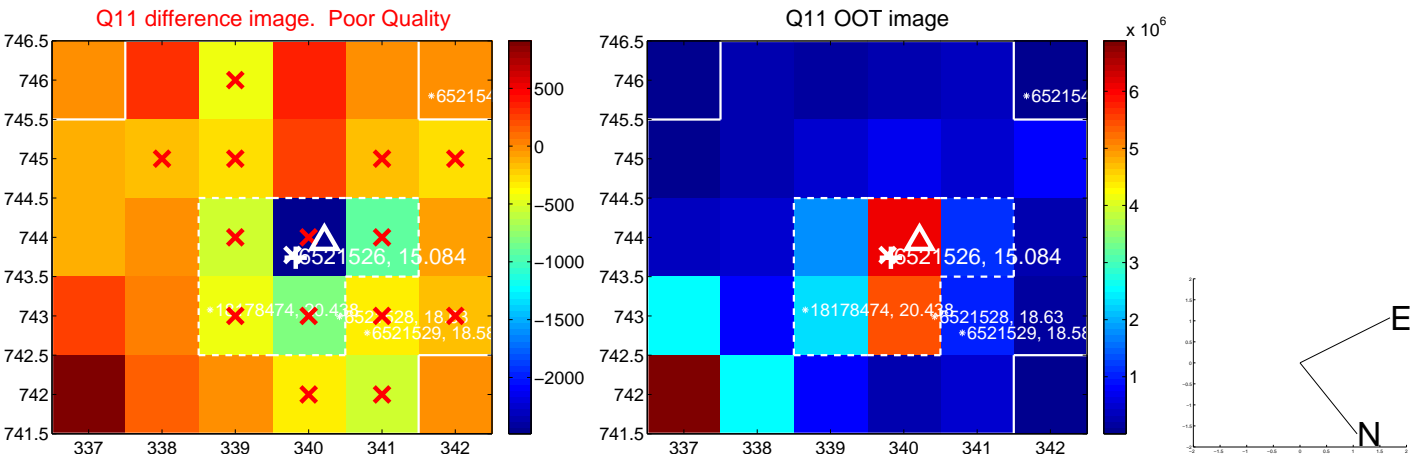
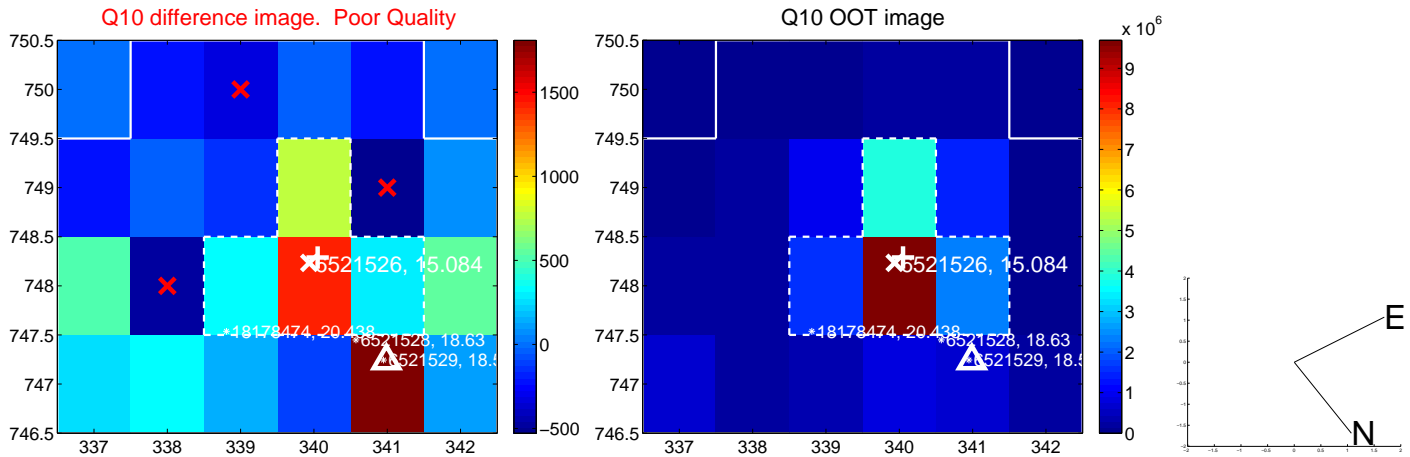
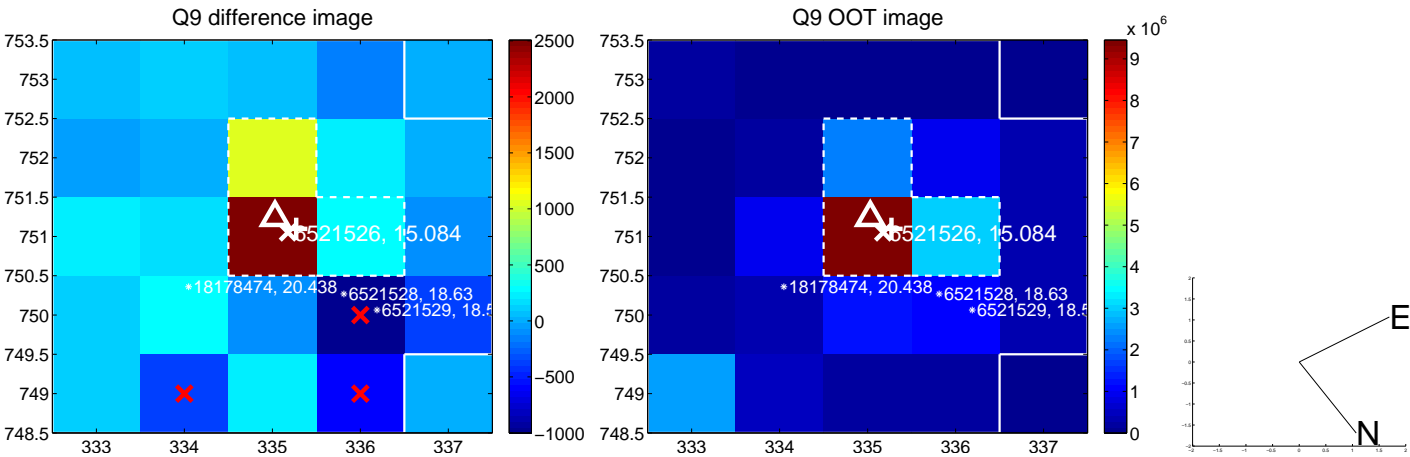
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



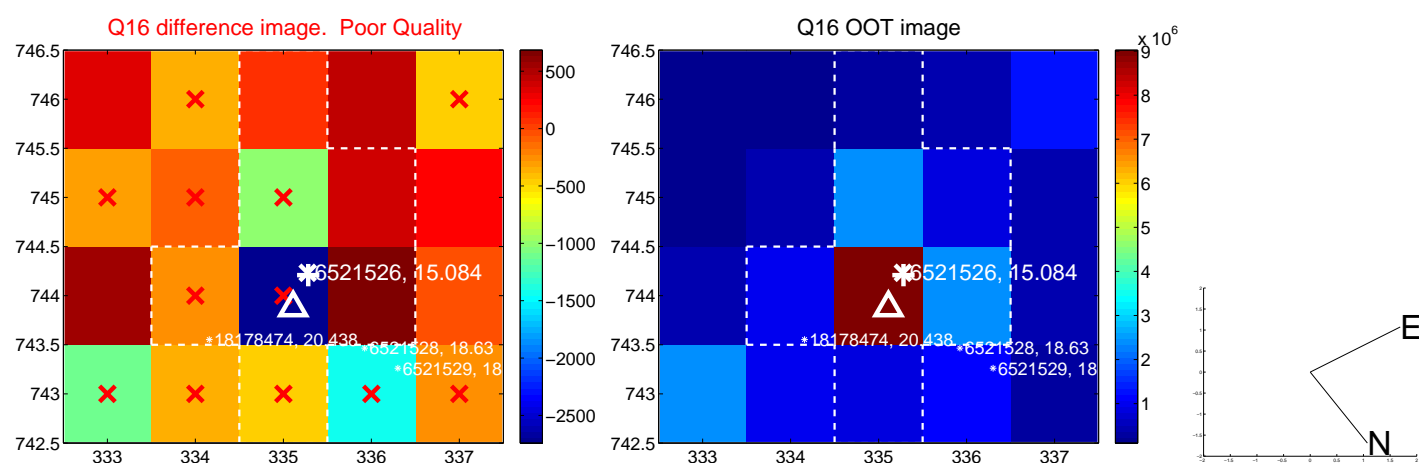
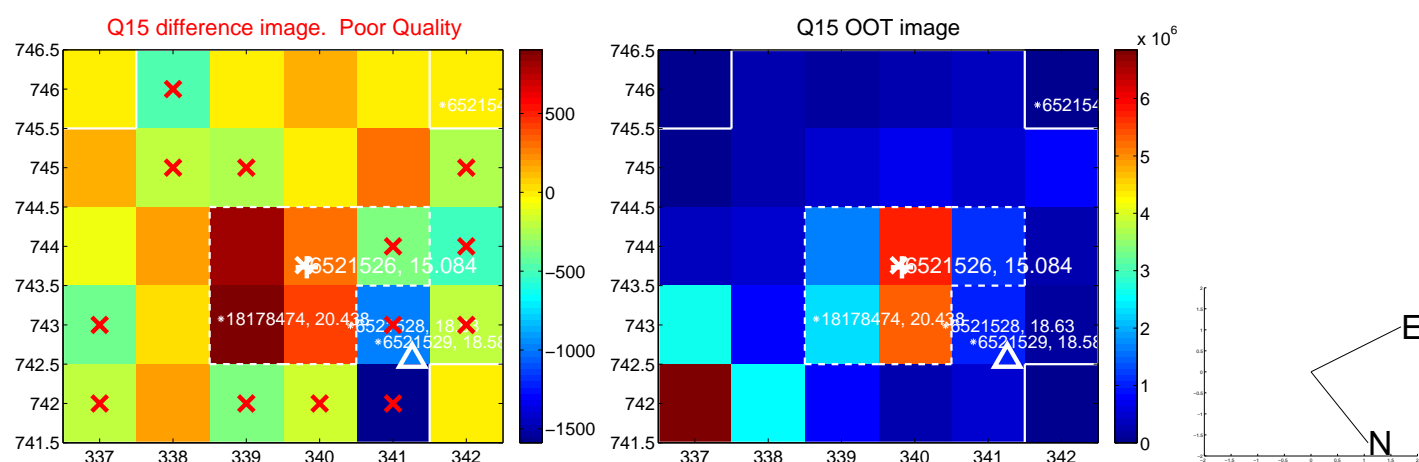
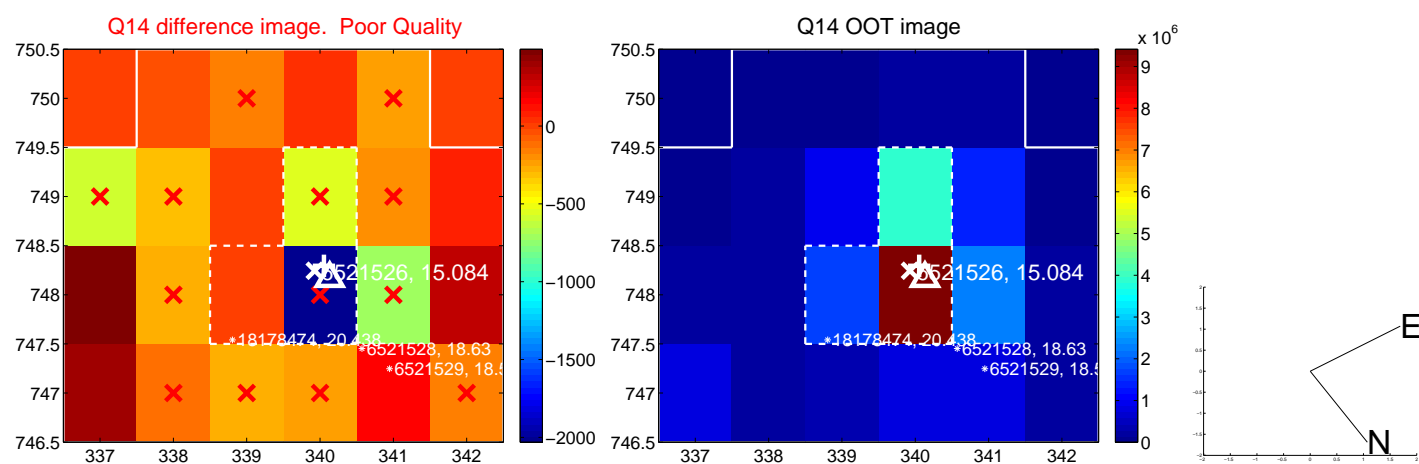
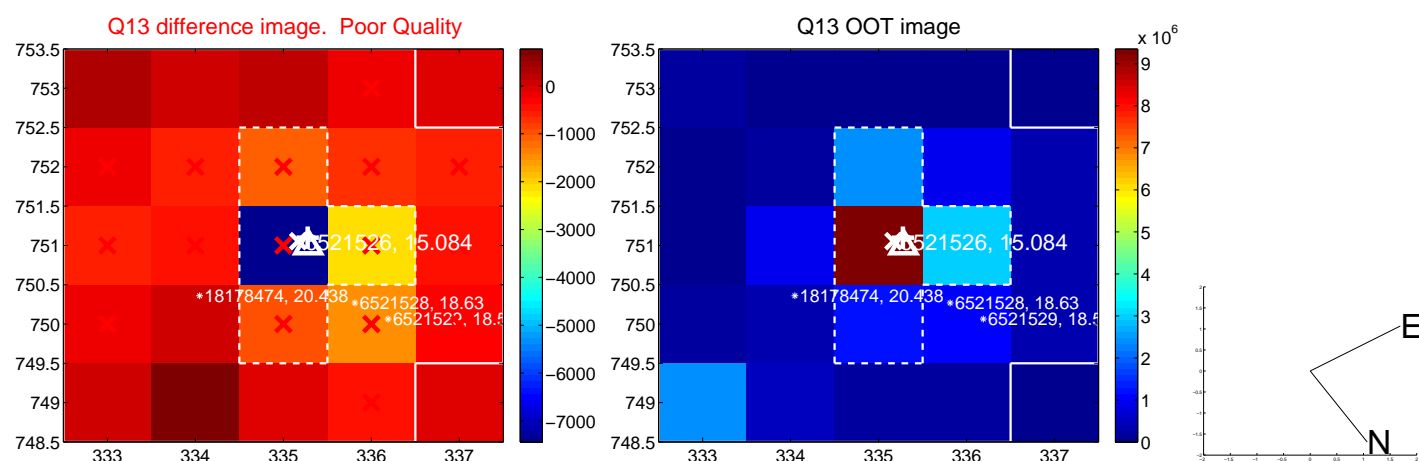
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



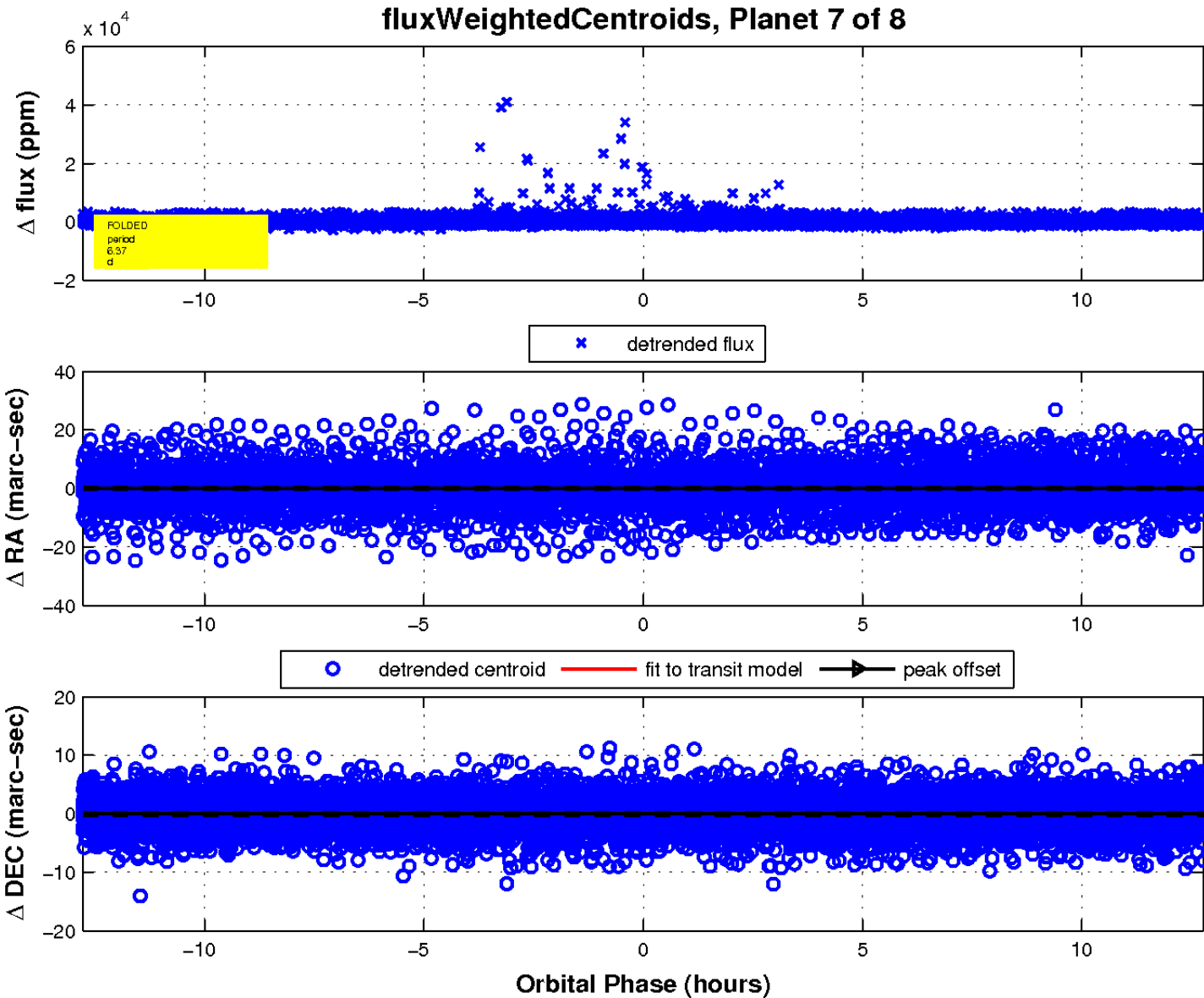
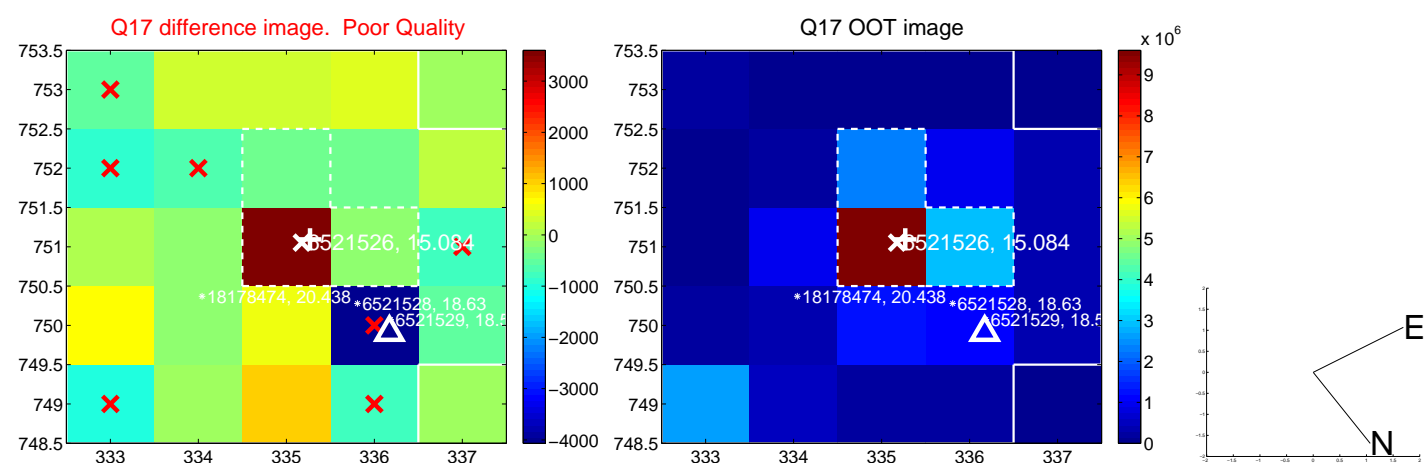
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

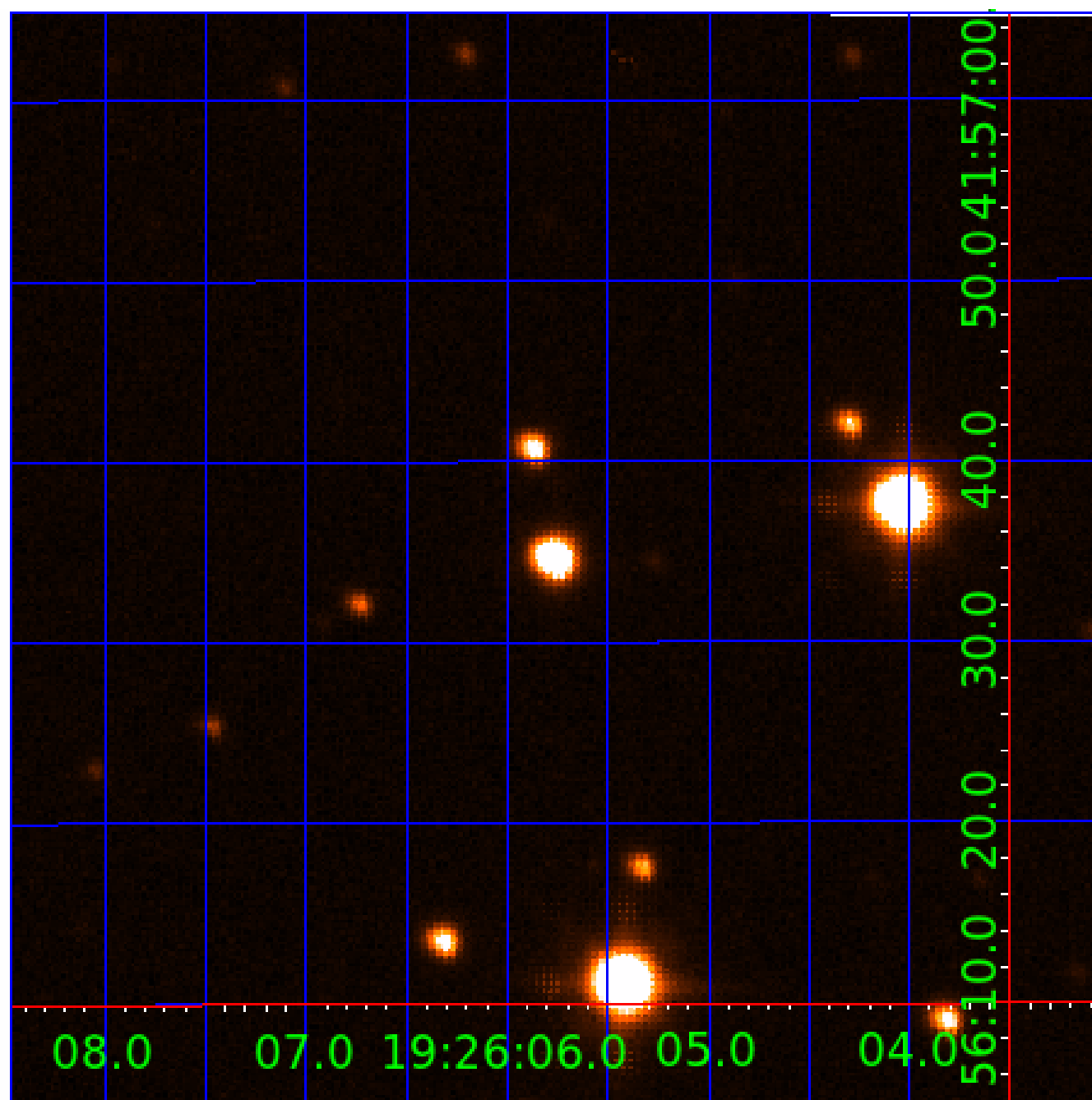


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006521526

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})
006521526-01	OBS	No	490.983019	555.466010	1594.8	6.727	11.1	6.8	0.58	3749	2.42	0.06
006521526-02	OBS	No	236.670794	194.017256	1315.0	3.648	11.0	6.2	0.58	3749	2.23	0.15
006521526-03	OBS	No	370.195000	280.590955	585.6	1.435	10.2	1.8	0.58	3749	1.75	0.08
006521526-04	OBS	No	469.978691	552.026847	508.6	15.000	10.2	-1.0	0.58	3749	1.26	0.06
006521526-05	OBS	8124.01	103.045997	164.920808	946.2	12.490	8.7	7.5	0.58	3749	1.81	0.46
006521526-06	OBS	No	265.812087	329.053353	1972.7	11.362	10.2	7.9	0.58	3749	2.62	0.13
006521526-07	OBS	No	6.370857	133.681880	359.8	4.261	8.1	10.4	0.58	3749	1.50	18.96
006521526-08	OBS	No	172.688846	284.357984	505.5	2.836	9.0	2.6	0.58	3749	1.25	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006521526-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006521526-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006521526-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006521526-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
006521526-05	OBS	FP	0.01	1	0	0	0	INCONSISTENT_TRANS
006521526-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—CENT_FEW_DIFFS
006521526-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006521526-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

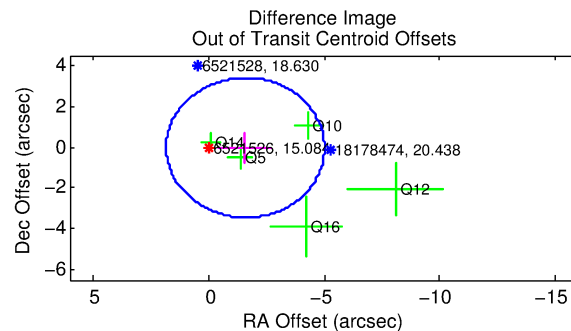
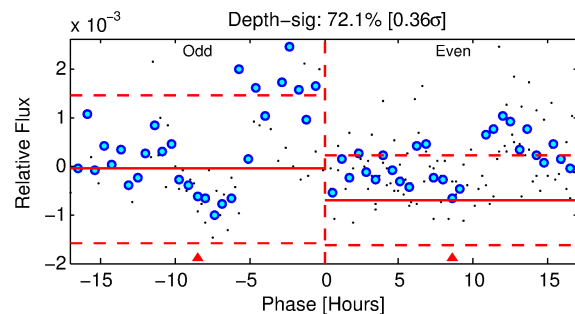
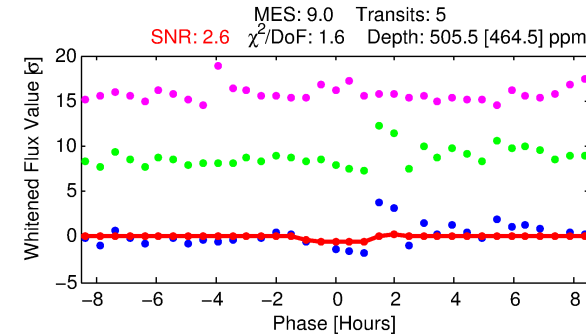
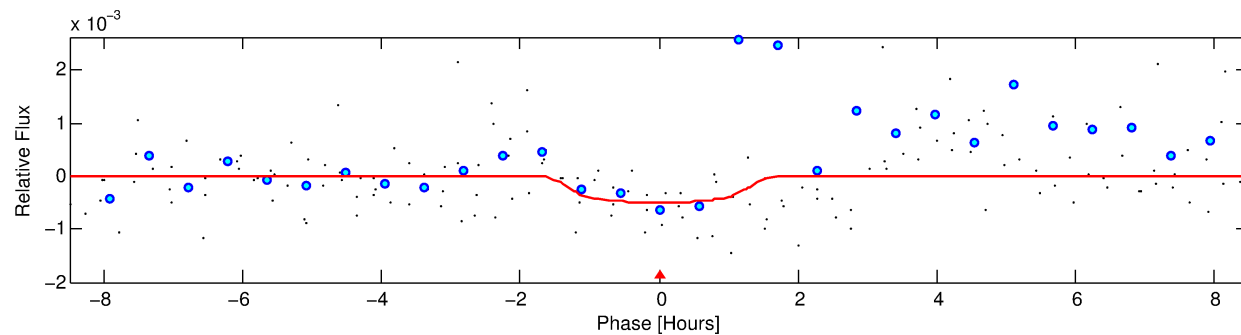
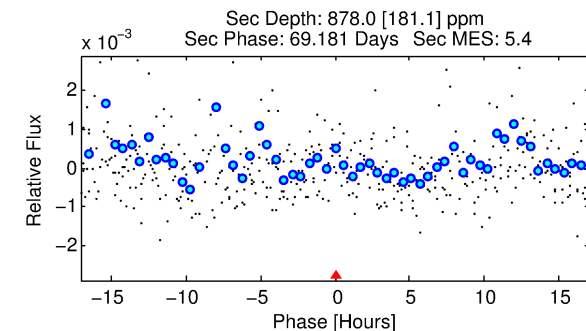
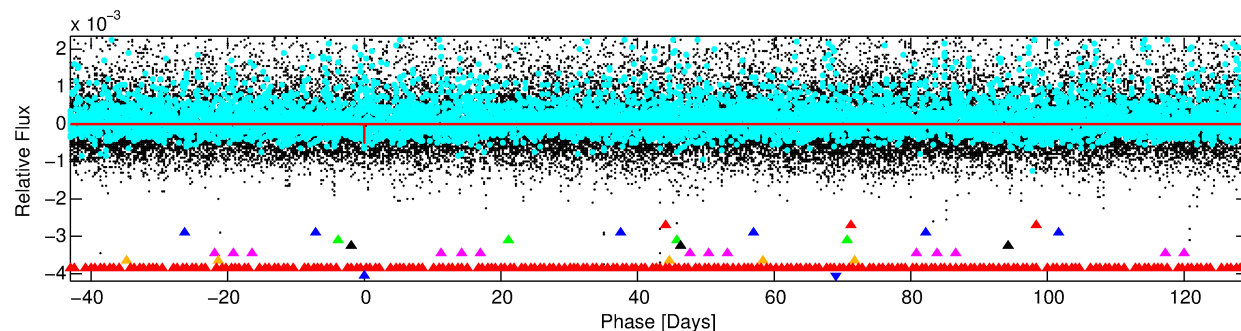
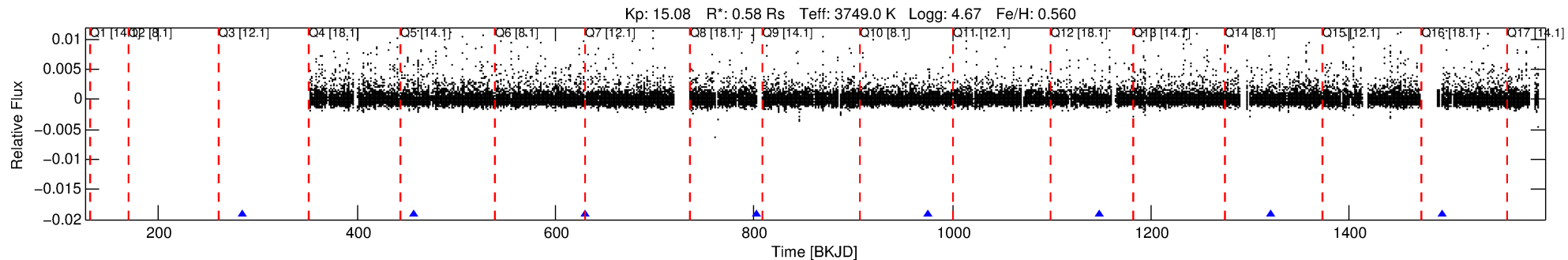
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006521526-08

No Significant Match Found

DV One-Page Summary

KIC: 6521526 Candidate: 8 of 8 Period: 172.689 d



DV Fit Results:

Period = 172.68885 [0.01076] d
Epoch = 284.3580 [0.0527] BKJD
Rp/R* = 0.0198 [0.1370]
a/R* = 474.19 [9770.23]
b = 0.02 [951.33]
Seff = 0.23 [0.05]
Teq = 177 [9] K
Rp = 1.25 [8.68] Re
a = 0.5066 [0.0494] AU
Ag = 79003.77 [1095451.49] [0.07σ]
Teff = 4591 [15915] K [0.28σ]

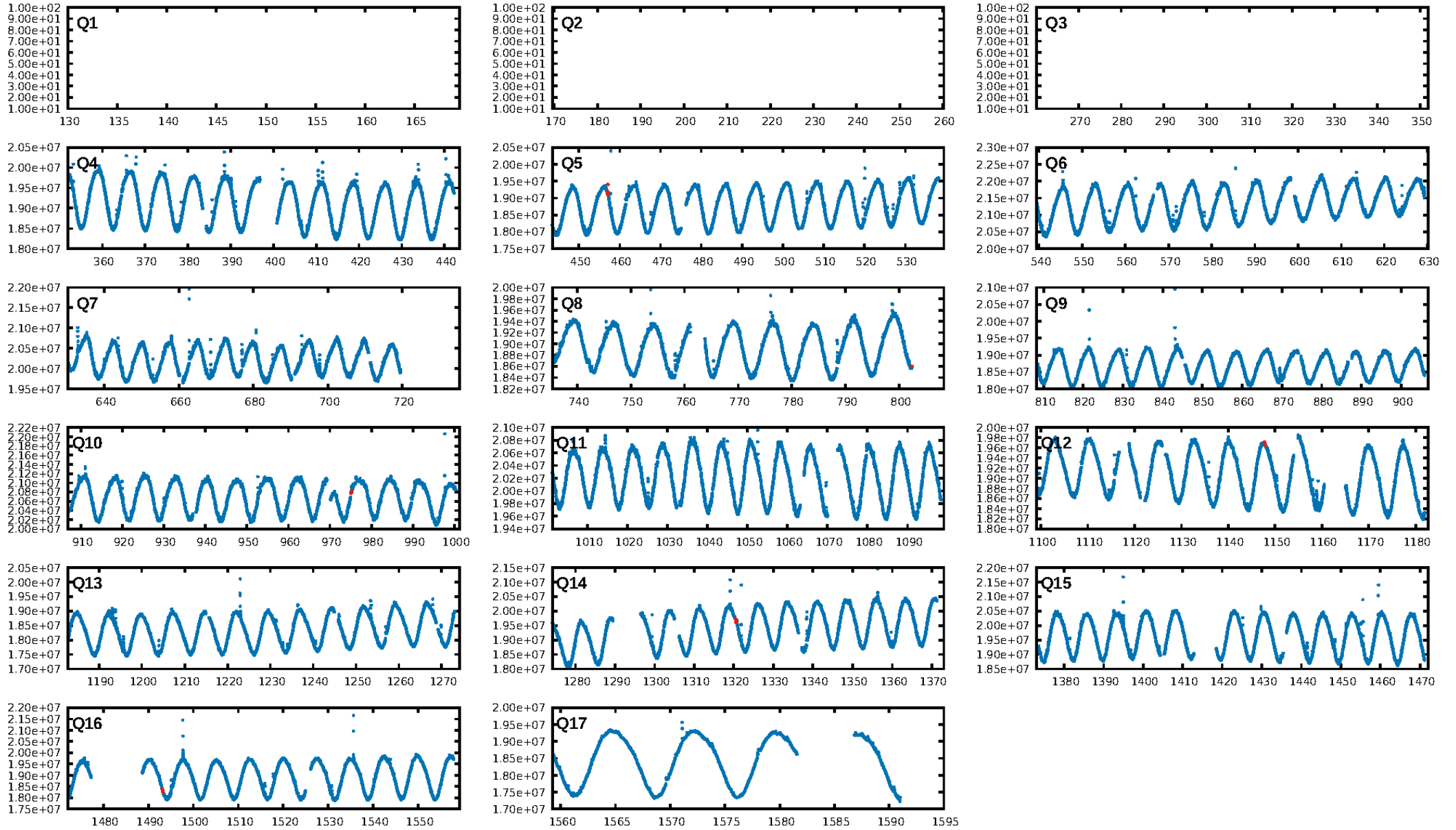
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [130.50σ]
LongPeriod-sig: 100.0% [332.32σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 77.7%
Bootstrap-pfa: 1.95e-08
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.945
Centroid-sig: 12.1%
Centroid-so: 3.938 arcsec [1.37σ]
OotOffset-rm: 1.595 arcsec [1.40σ]
KicOffset-rm: 1.186 arcsec [0.73σ]
OotOffset-st: 2/0/2/1 [5]
KicOffset-st: 2/0/2/1 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 1.00 [5/5]

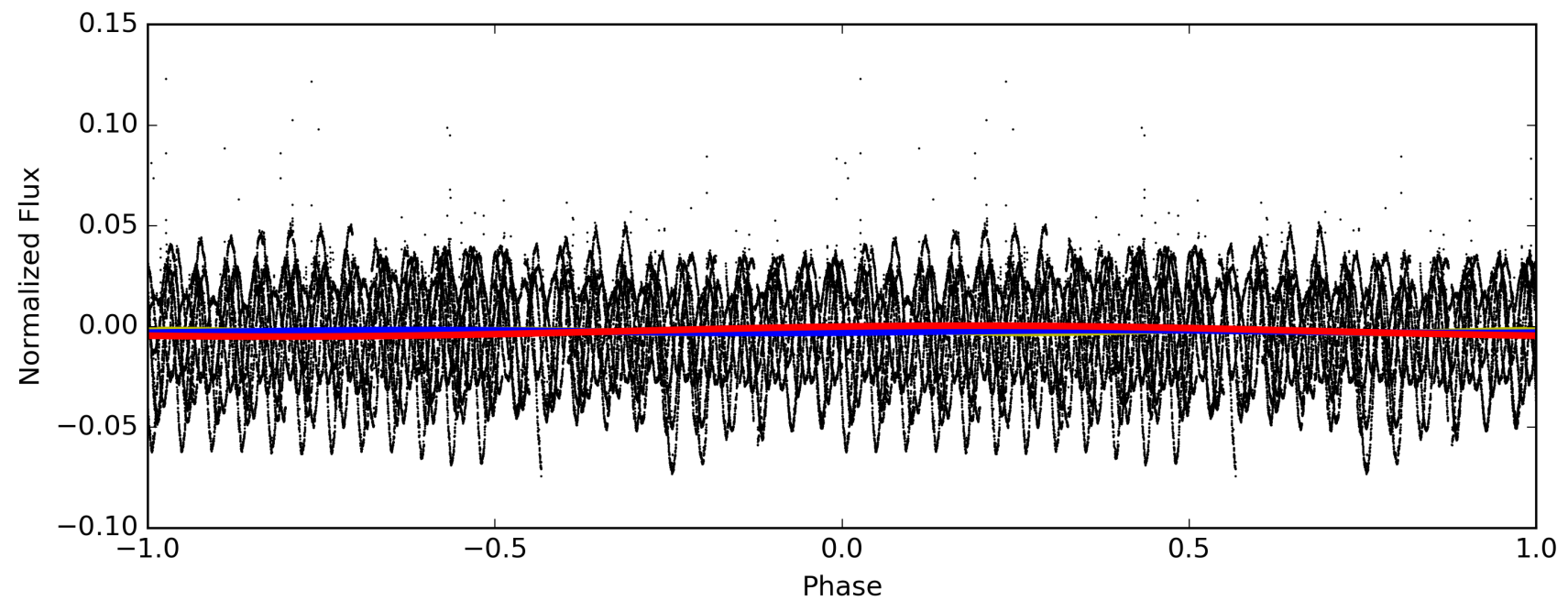
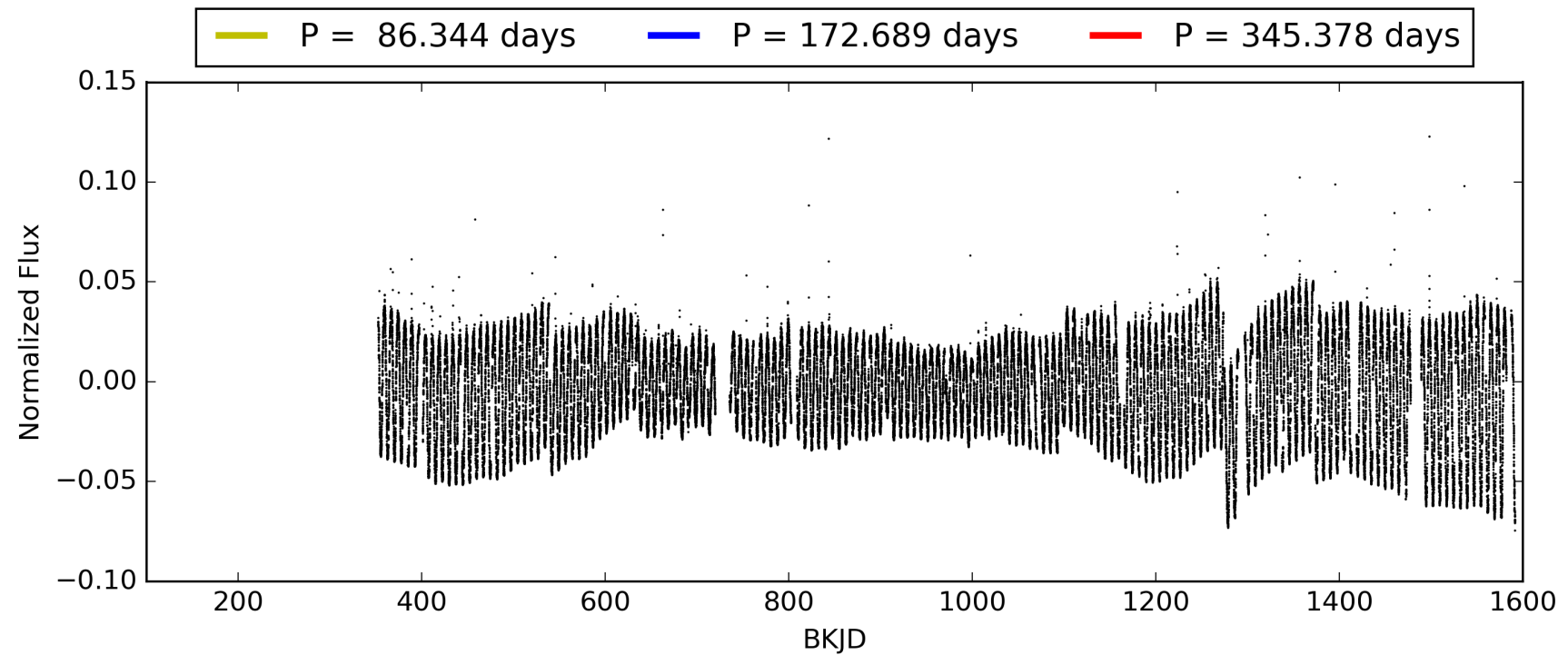
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:30:11 Z

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

TCE 006521526-08, PDC Light Curves

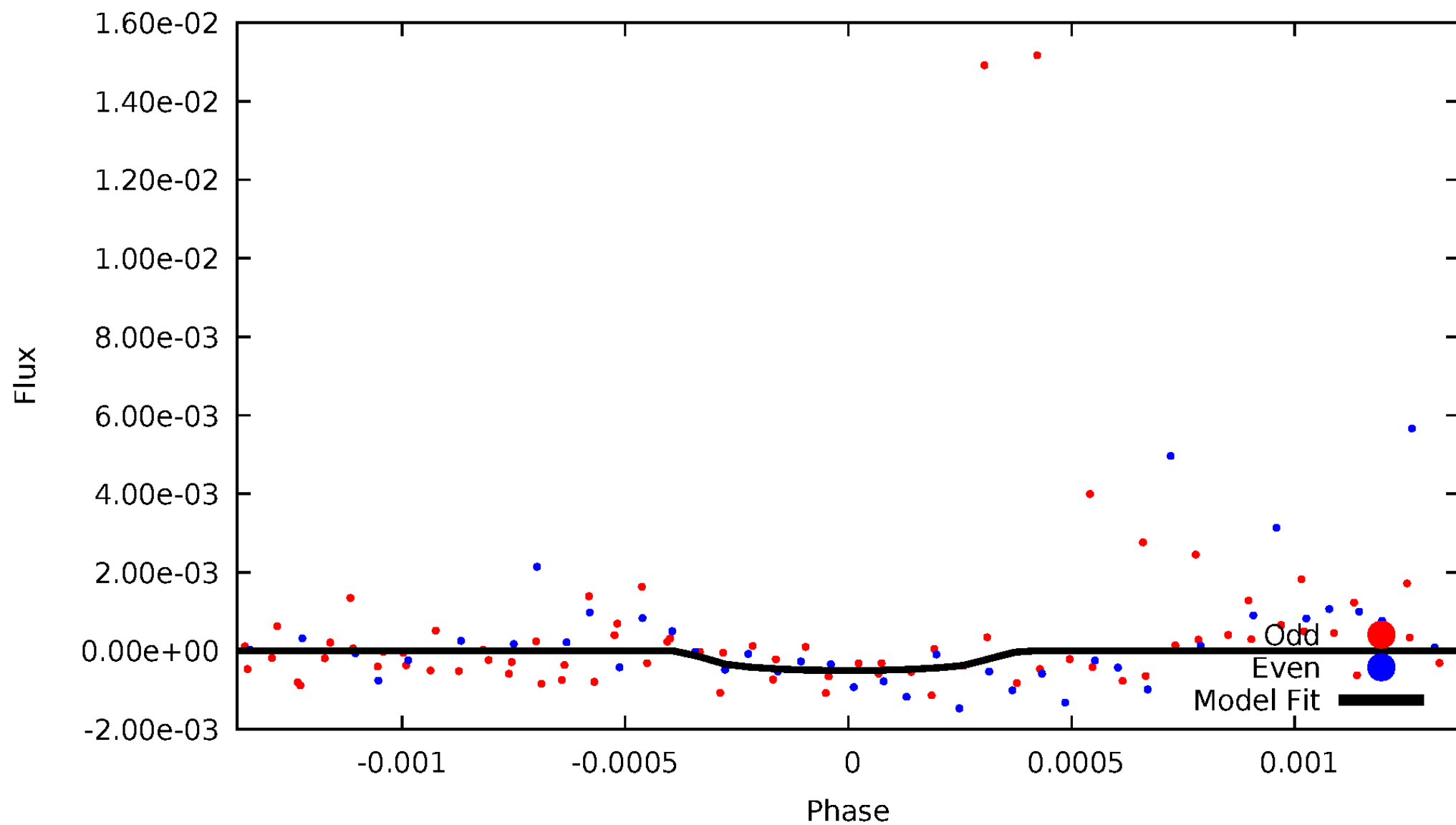


TCE 006521526-08



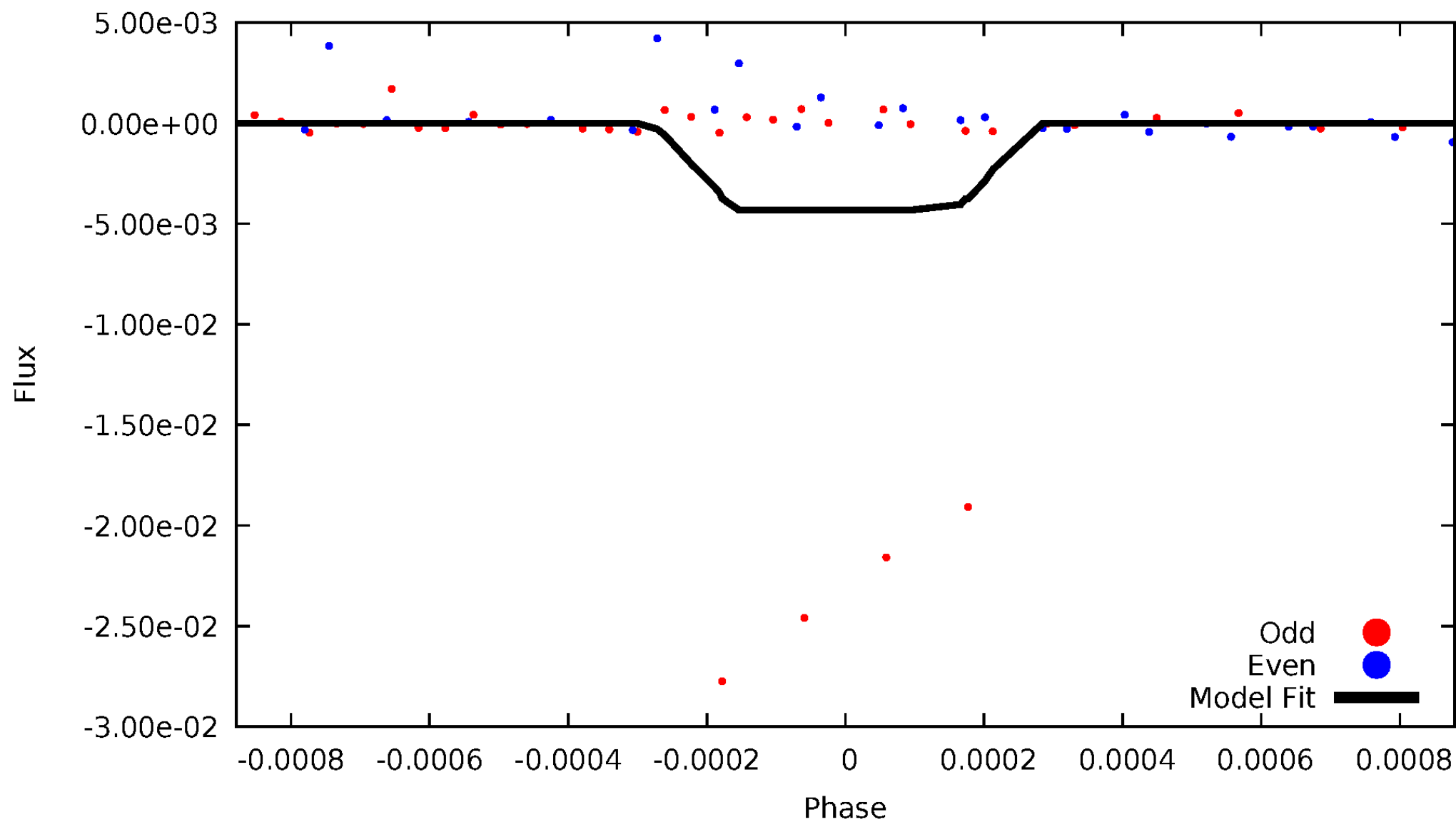
DV Odd/Even

TCE 006521526-08



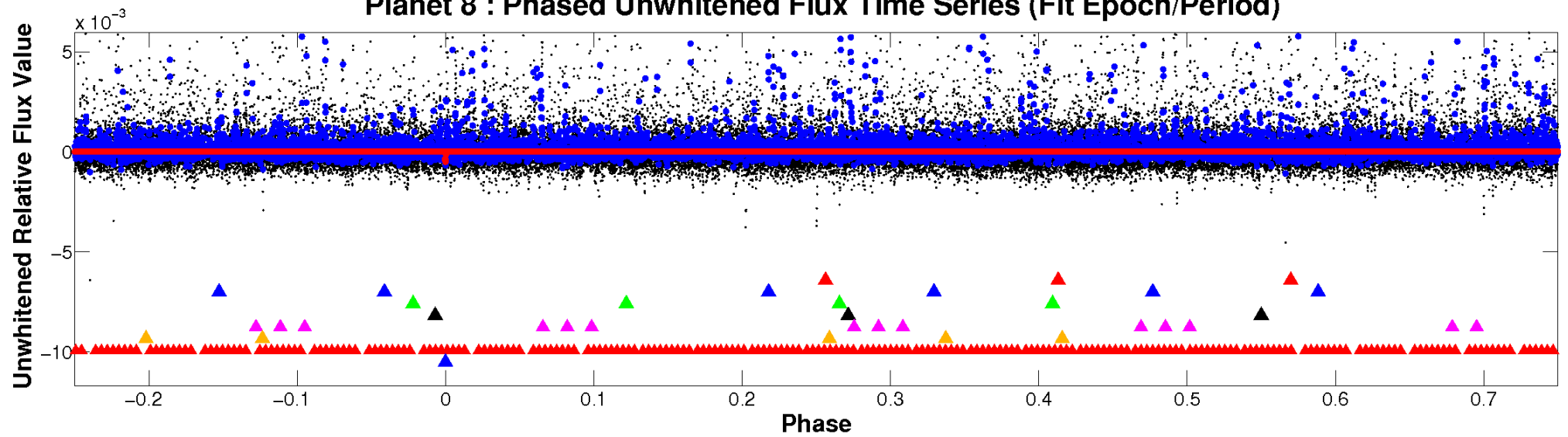
ALT Odd/Even

TCE 006521526-08

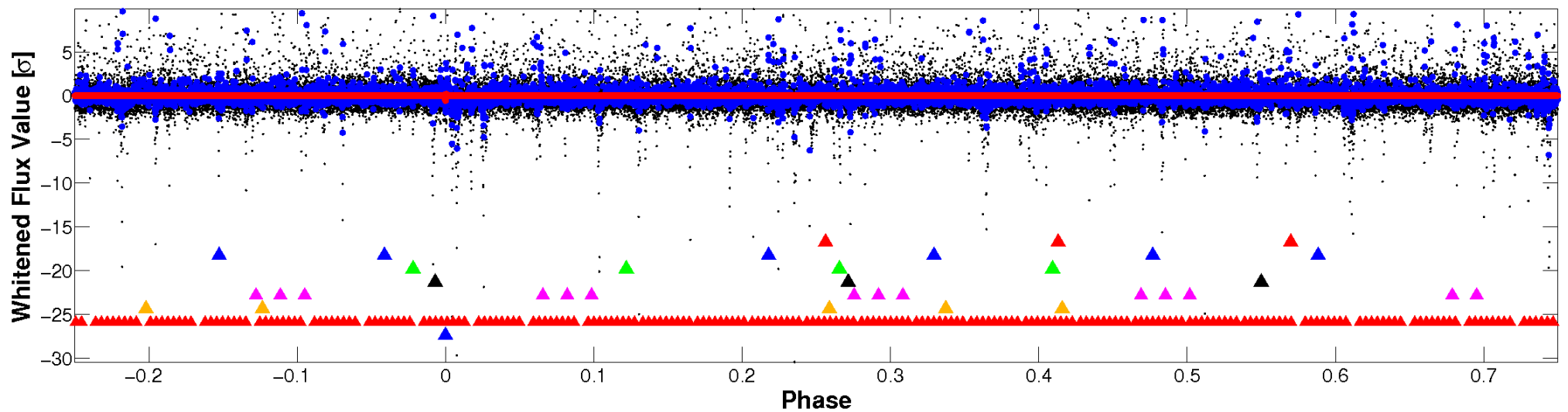


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

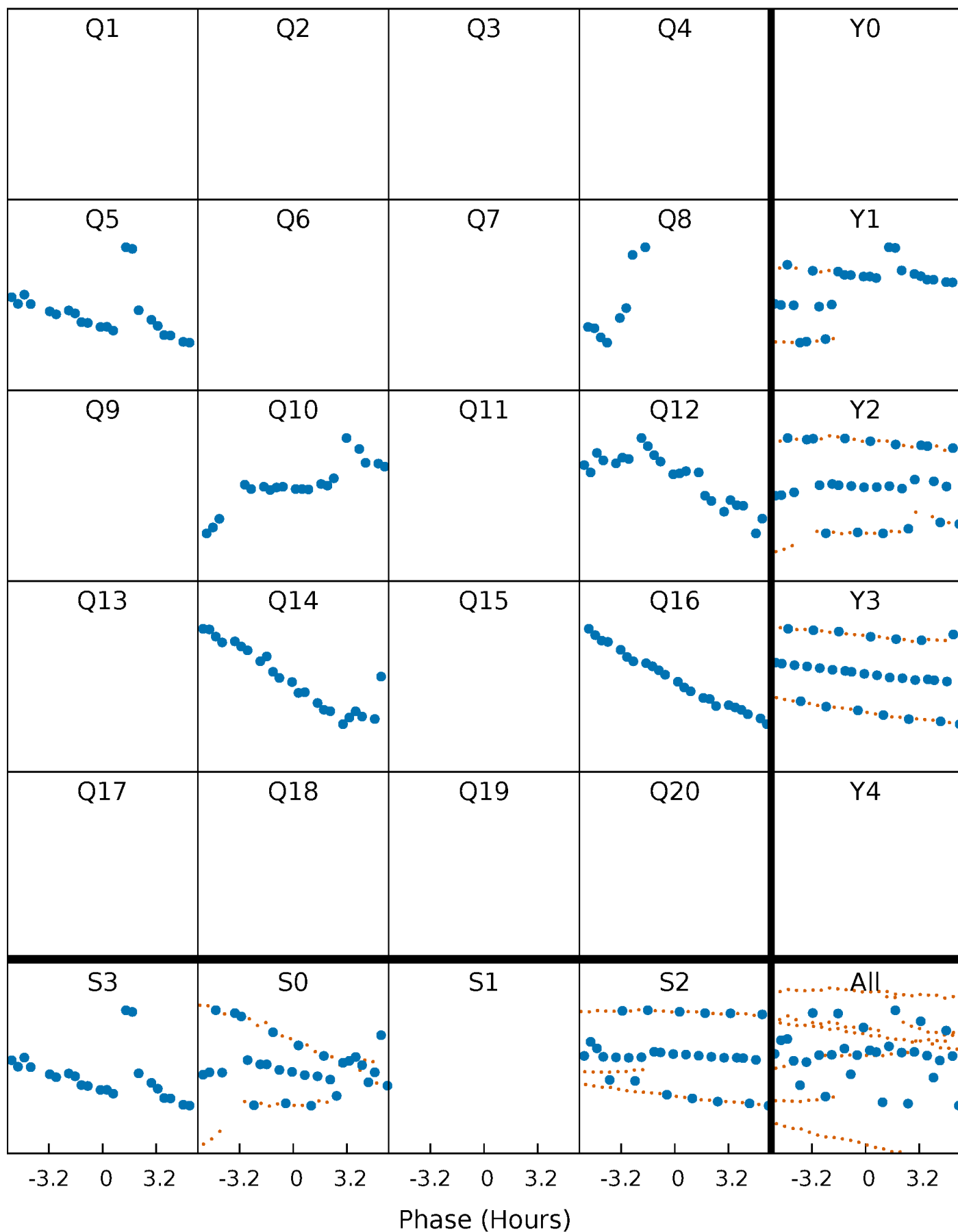


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



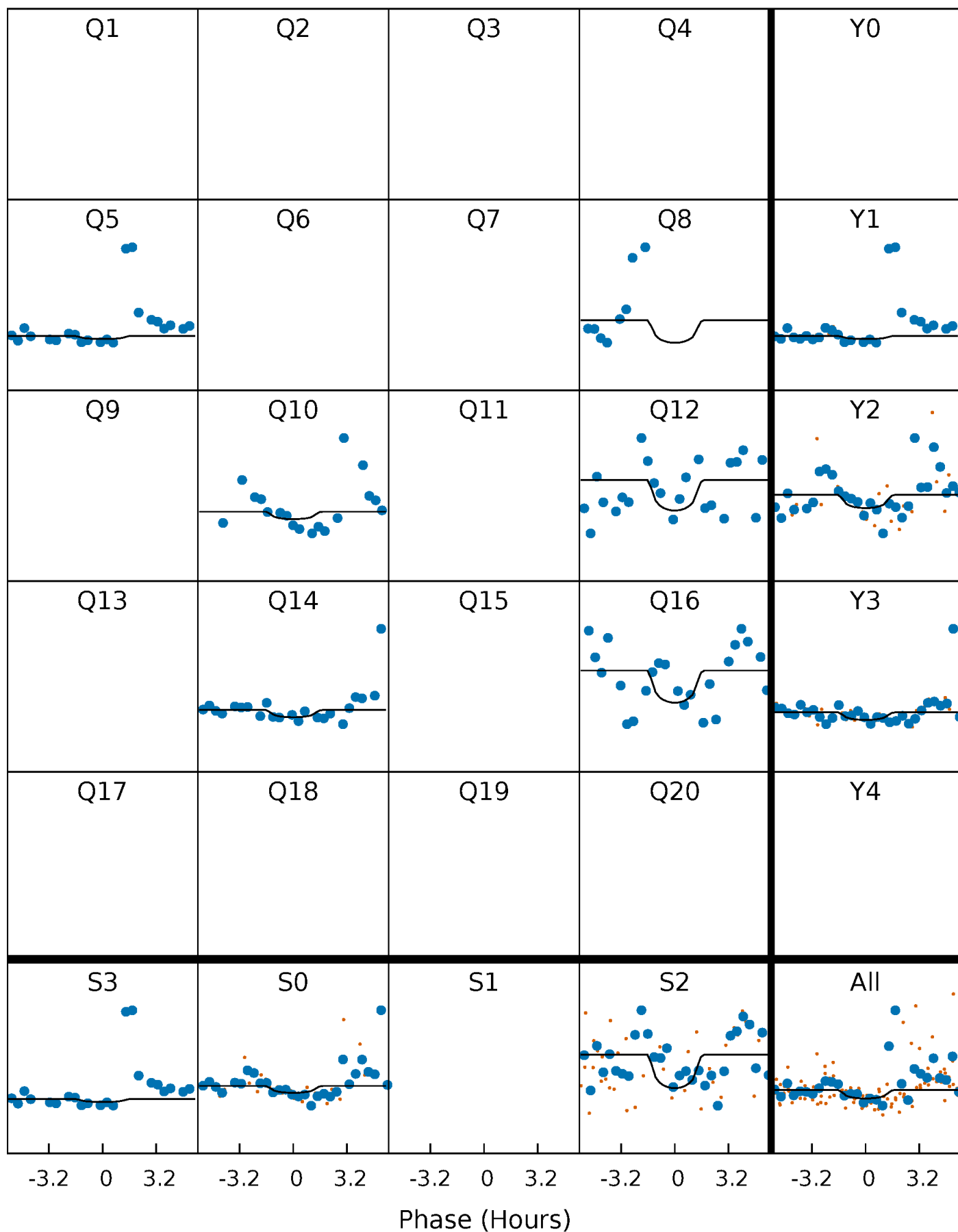
PDC Quarter-Phased Transit Curves

TCE 006521526-08 P=172.688846 Days $T_0=284.357984$ (BKJD)



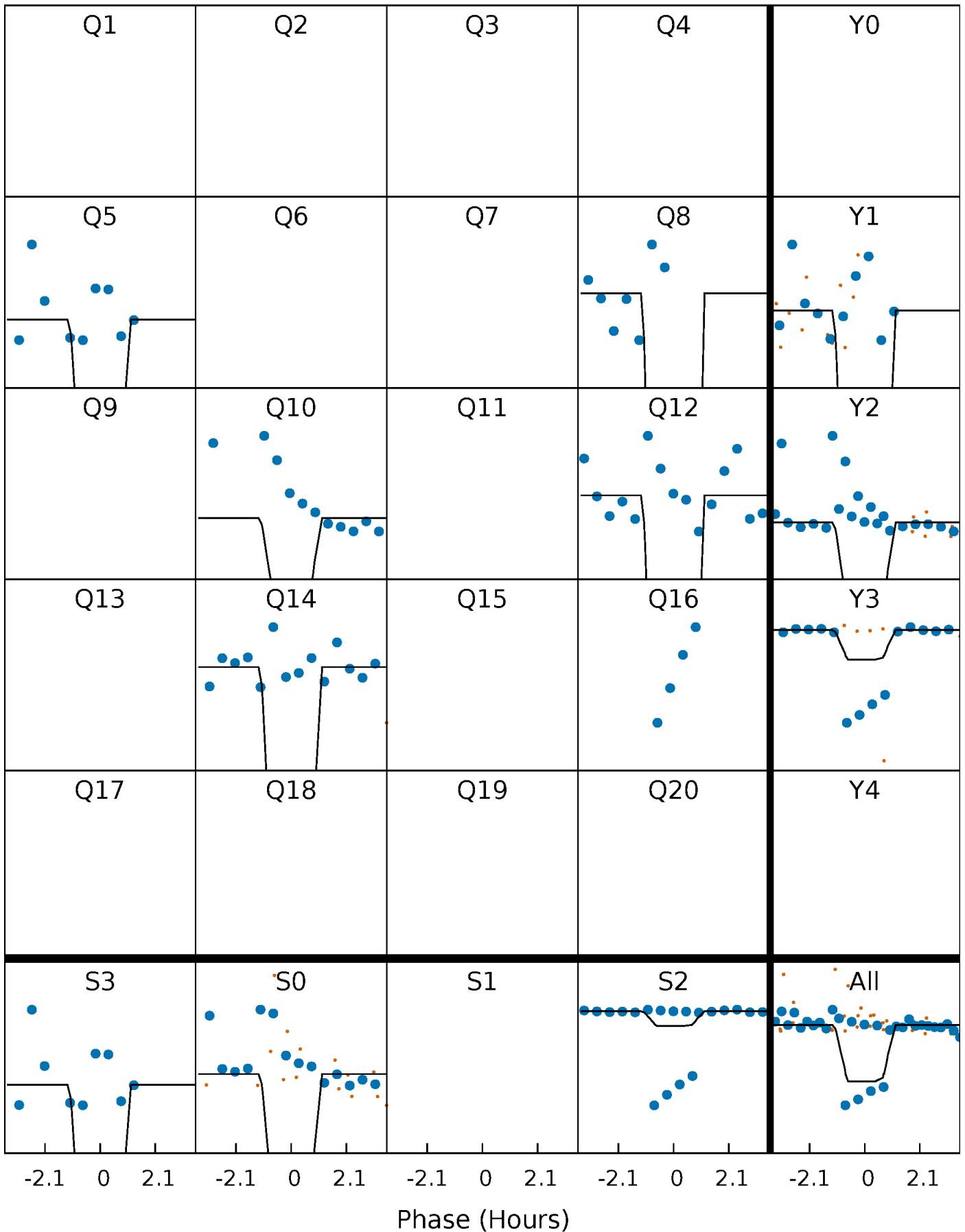
DV Quarter-Phased Transit Curves

TCE 006521526-08 $P=172.688846$ Days $T_0=284.357984$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

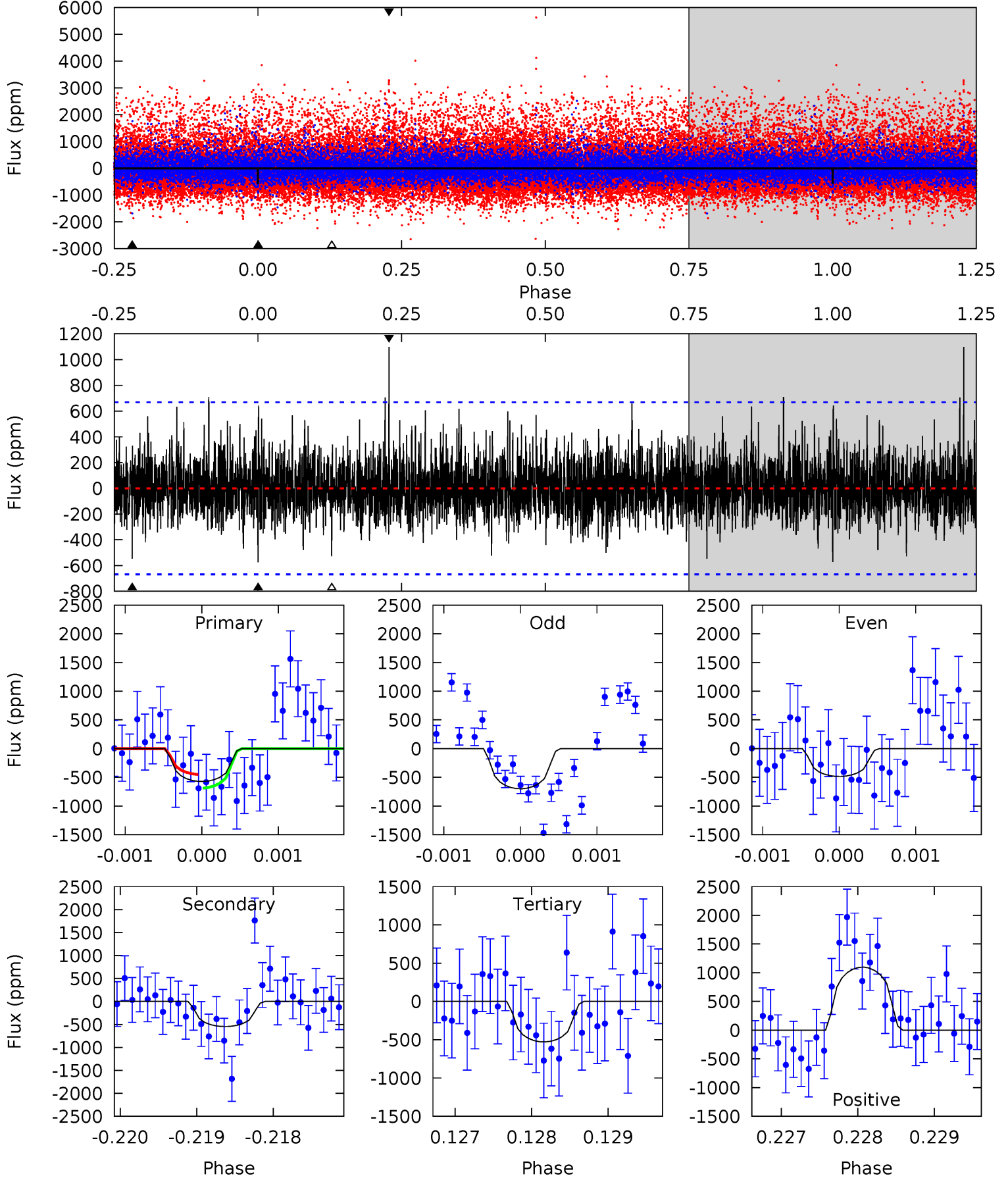
TCE 006521526-08 P=172.697638 Days $T_0=284.269722$ (BKJD)



DV Model-Shift Uniqueness Test

006521526-08, P = 172.688846 Days, E = 284.357984 Days

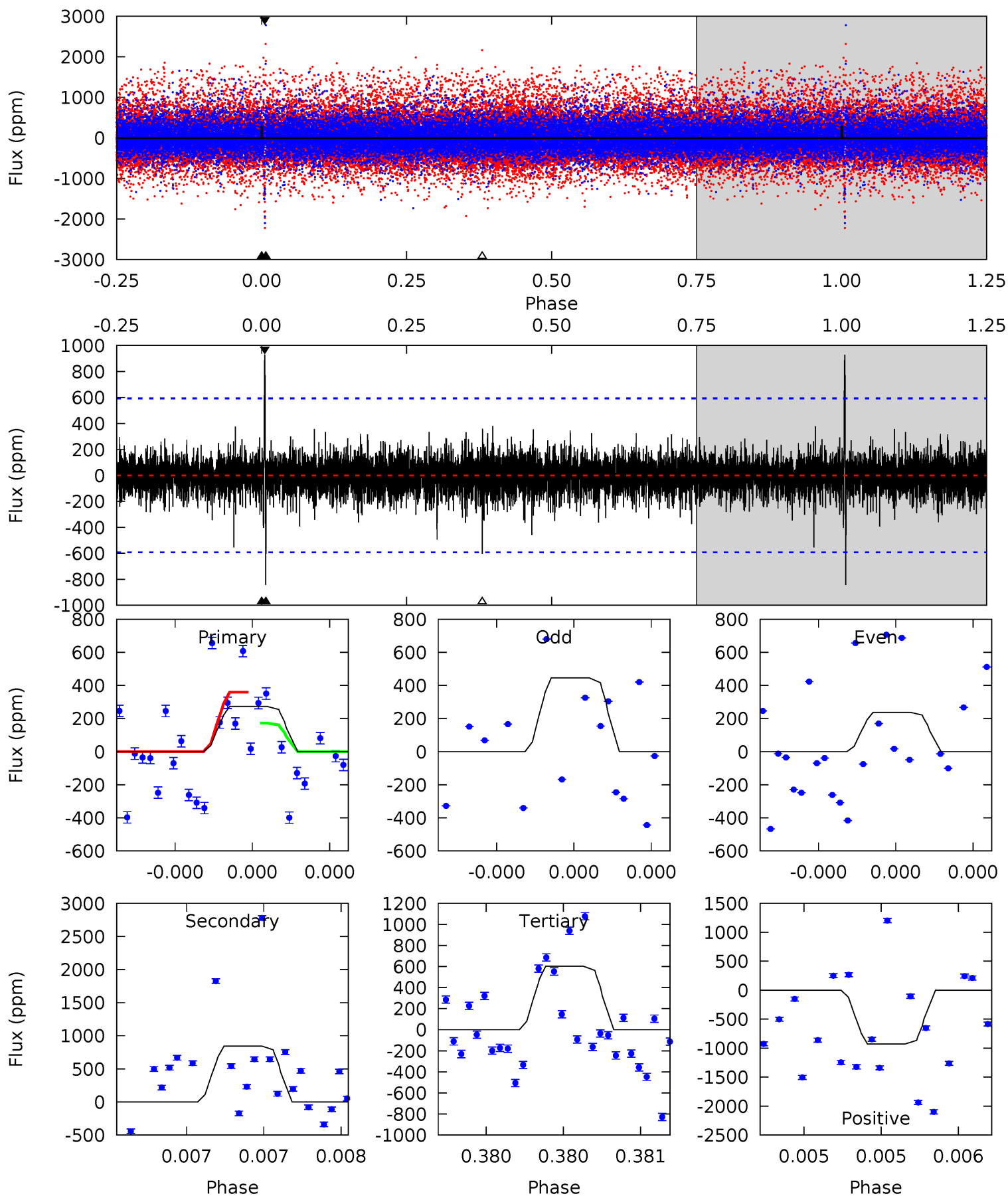
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.70	4.48	4.34	9.01	5.49	3.35	1.37	0.36	-4.30	0.15	-4.52	0.79	0.91	0.66	0.99



Alt Model-Shift Uniqueness Test

006521526-08, P = 172.697638 Days, E = 284.269722 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.57	7.96	5.68	8.74	5.58	3.49	0.95	-3.11	-6.17	2.28	-0.78	0.85	-24.0	0.52	0.87



Stellar Parameters For KIC 006521526

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3749^{+117}_{-143}	$4.674^{+0.072}_{-0.022}$	$0.560^{+0.050}_{-0.300}$	$0.581^{+0.030}_{-0.070}$	$0.582^{+0.037}_{-0.061}$	$4.171^{+1.432}_{-0.391}$
	+3%/-4%	+2%/-0%	+9%/-54%	+5%/-12%	+6%/-10%	+34%/-9%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006521526-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-546 ± 122	$6.50^{+6.32}_{-4.36}$	244^{+10}_{-10}	2443^{+855}_{-356}	1839^{+14822}_{-1395}
Alt.	-844 ± 106	$7.70^{+6.73}_{-5.25}$	245^{+10}_{-11}	2476^{+853}_{-341}	2045^{+17747}_{-1473}

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 $A_{obs} \gg 1.0$

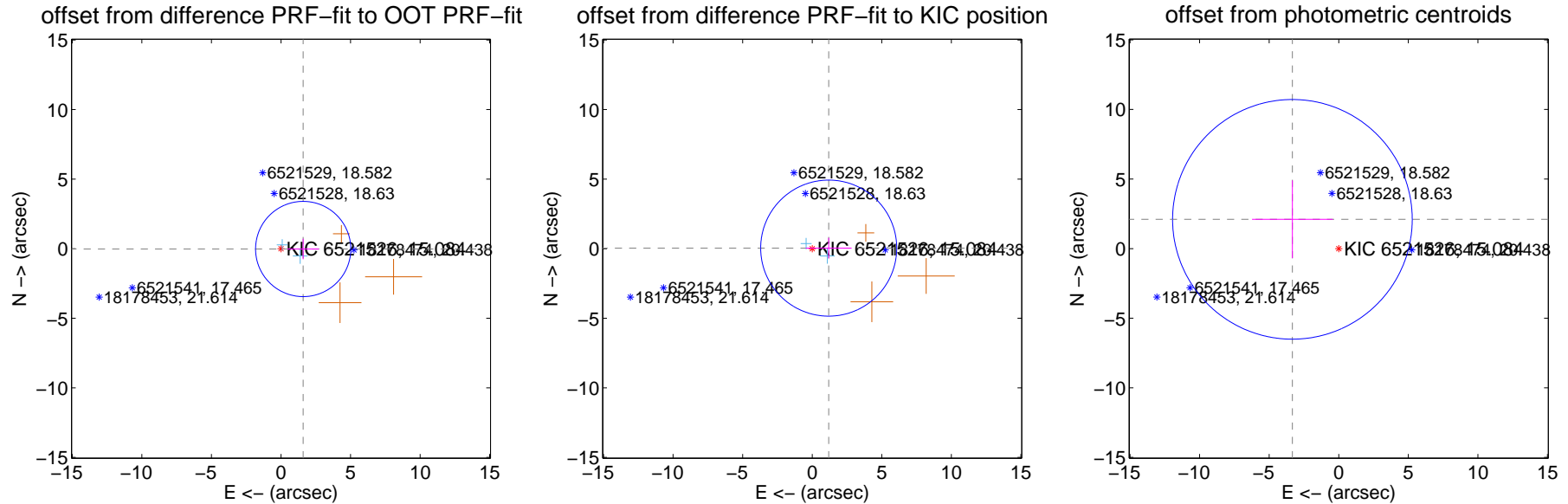
DV Centroid Data

Supplemental centroid analysis for 006521526-08. Kepler magnitude: 15.08. Transit SNR 2.61

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.595 ± 1.141	1.40	-1.595 ± 1.135	-0.022 ± 0.738
PRF-fit source offset from KIC position	1.186 ± 1.630	0.73	-1.185 ± 1.648	0.041 ± 0.742
photometric centroid source offset	3.94 ± 2.87	1.37	3.33 ± 2.90	2.10 ± 2.79

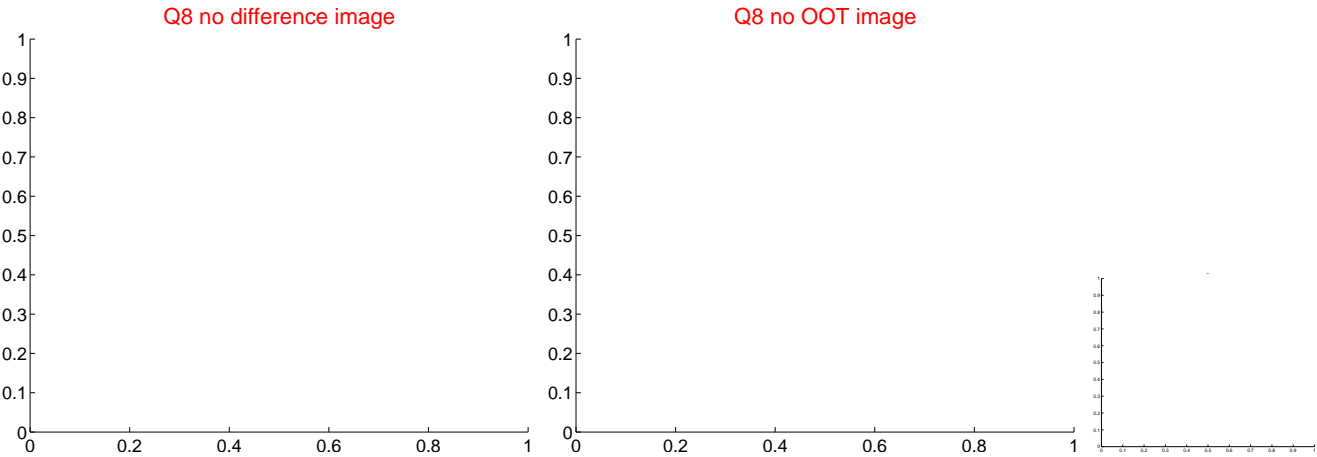
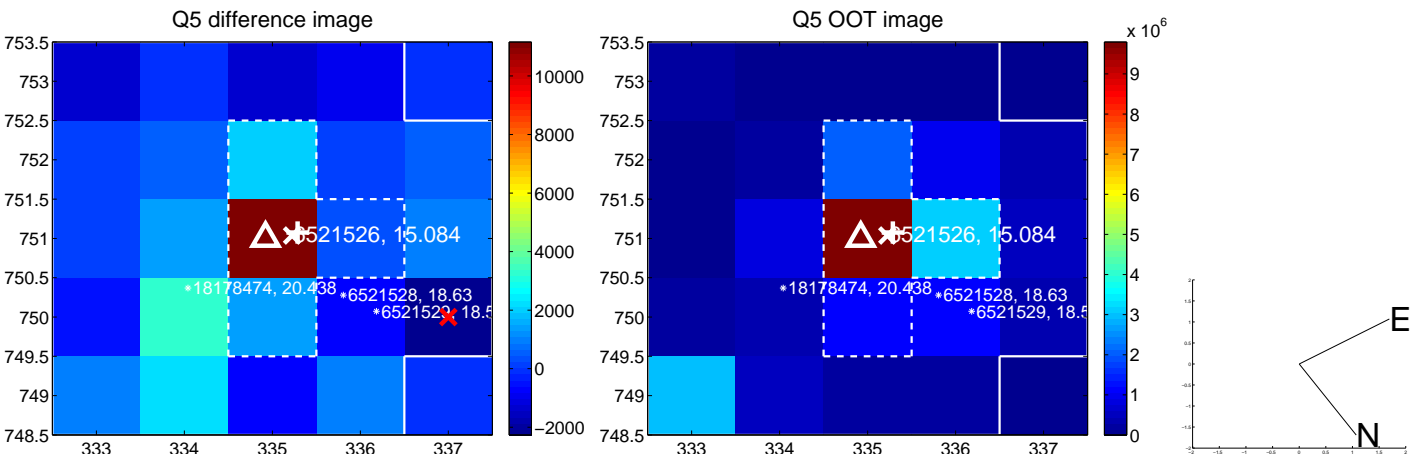


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

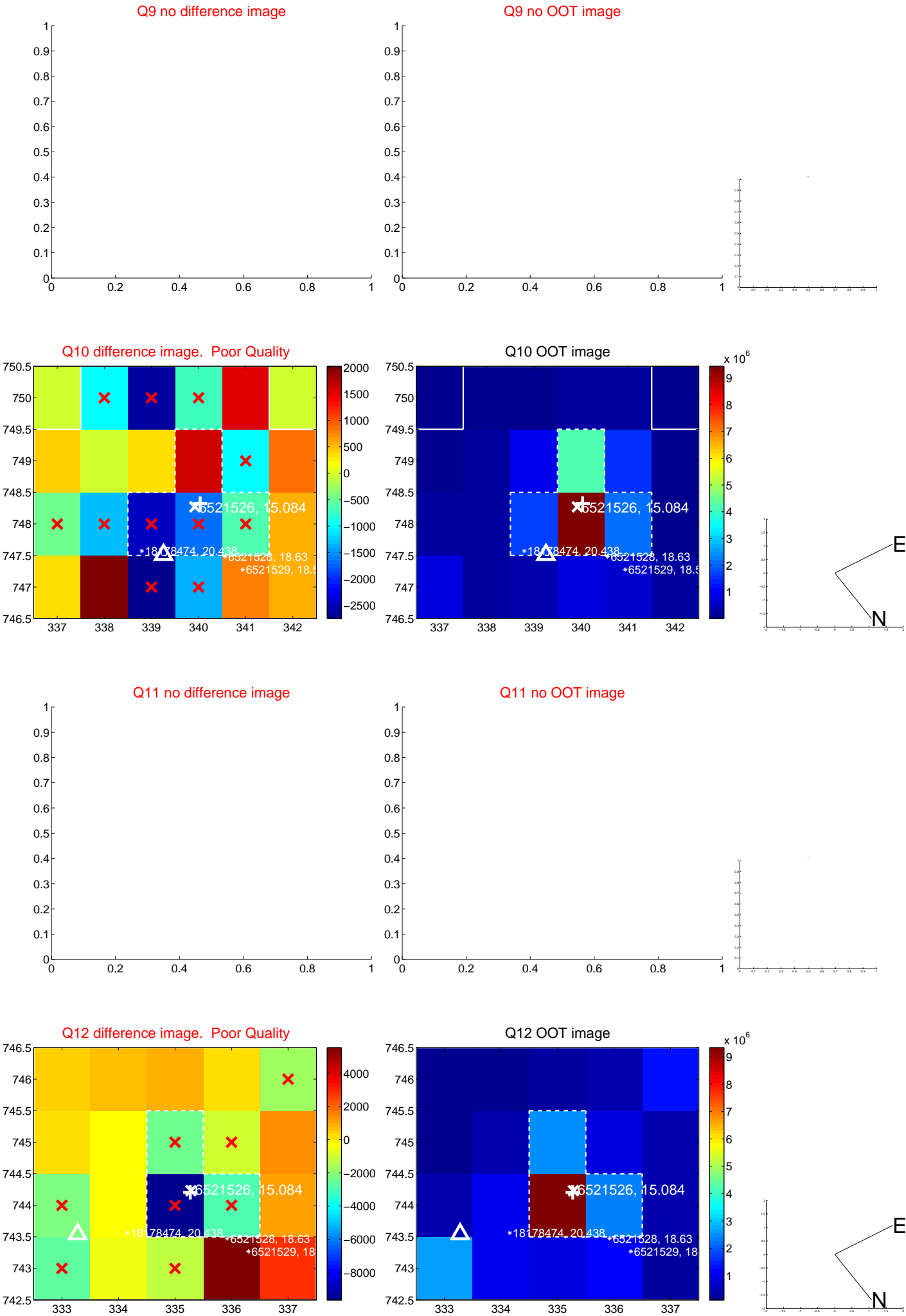
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



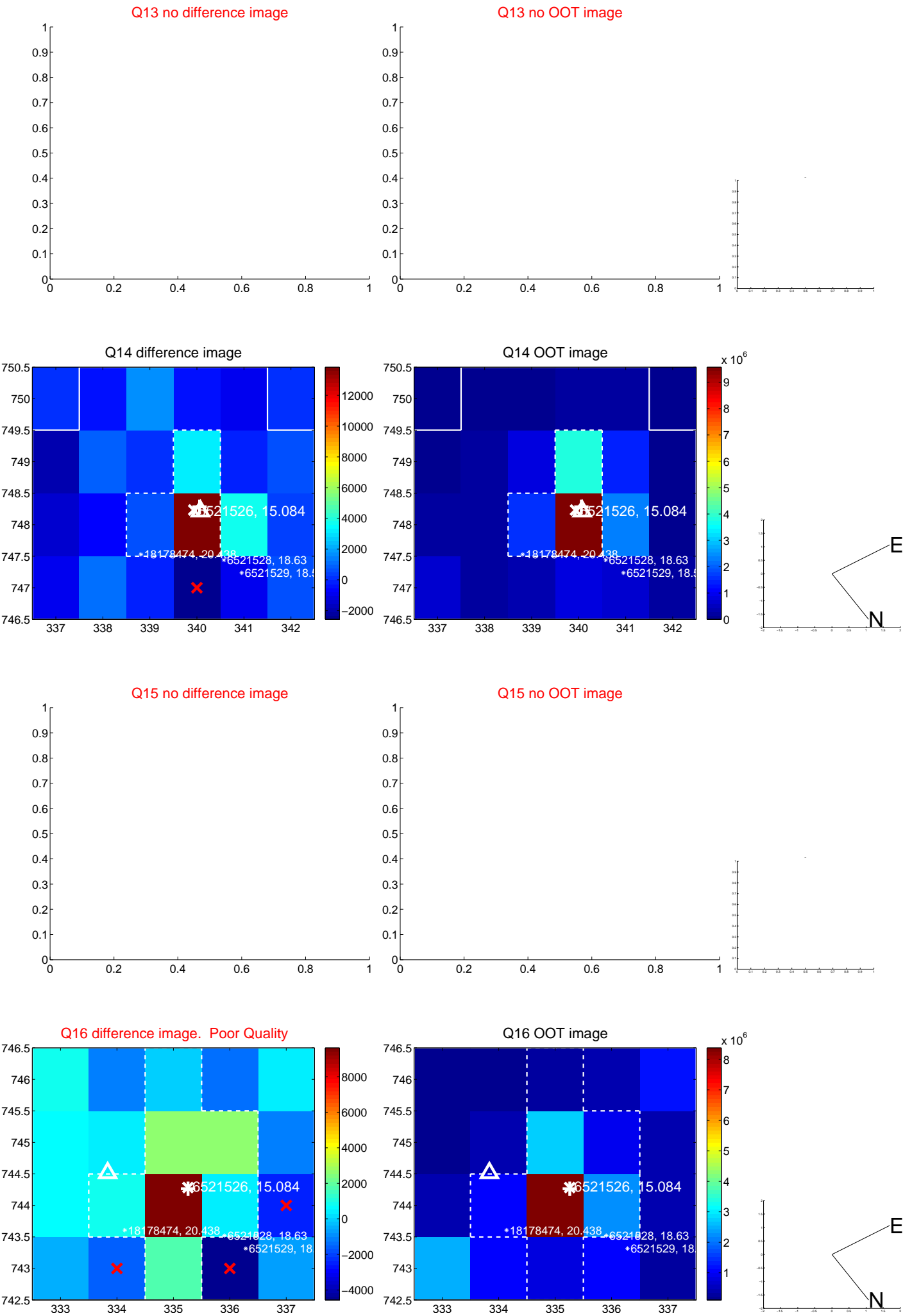
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



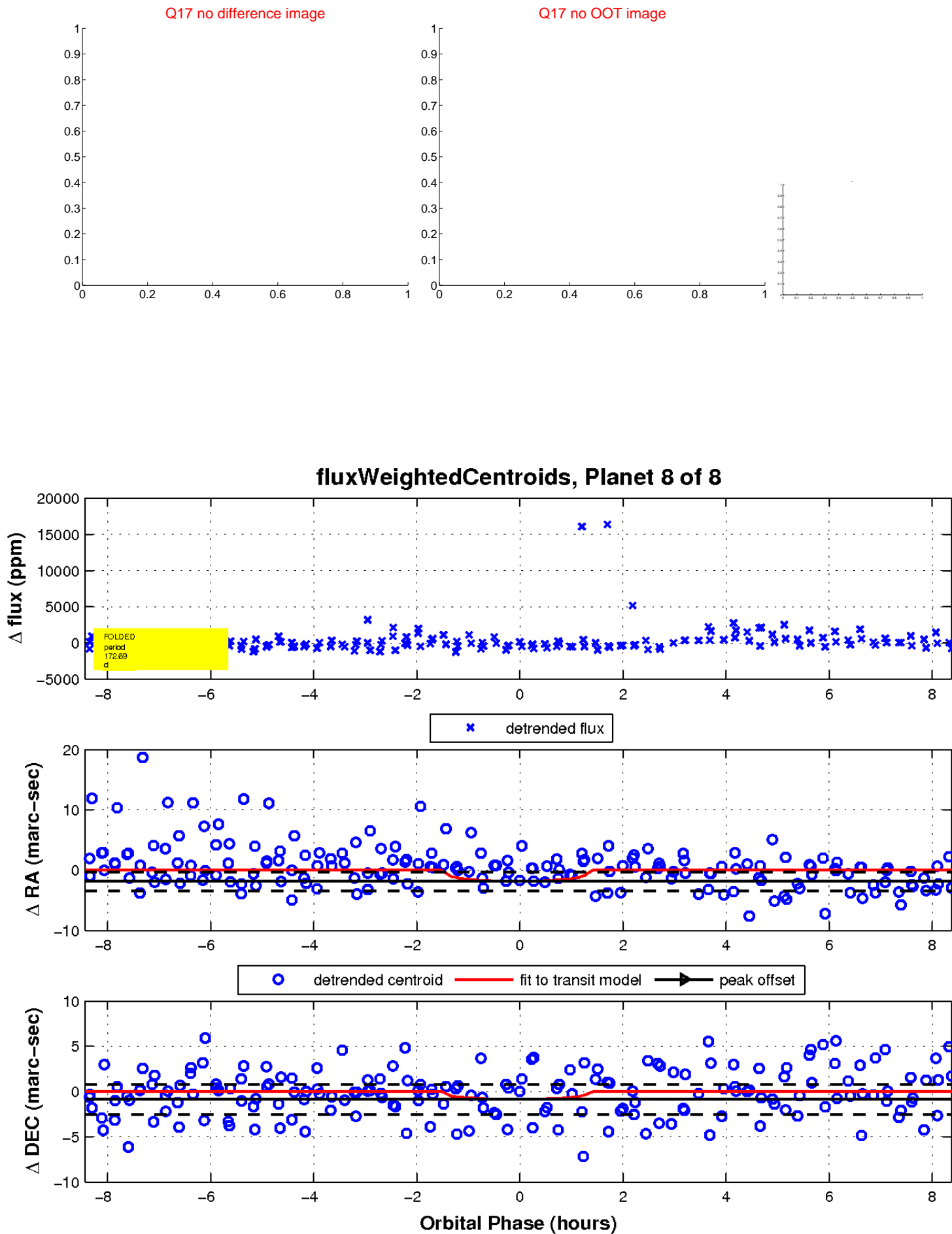
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

