

KIC 005636937

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})
005636937-01	OBS	No	2.997102	131.563656	42.2	16.018	9.3	9.7	0.85	5864	0.56	574.59
005636937-02	OBS	No	124.660983	179.858184	191.6	24.328	9.1	5.7	0.85	5864	1.26	3.99
005636937-03	OBS	No	187.542444	276.561010	311.1	12.582	8.2	7.1	0.85	5864	1.62	2.31
005636937-04	OBS	No	269.718843	186.818991	236.8	26.016	7.6	5.8	0.85	5864	1.44	1.43
005636937-05	OBS	No	168.642217	271.317635	673.6	1.820	7.5	8.5	0.85	5864	2.64	2.67
005636937-06	OBS	No	124.096159	142.407229	337.3	5.691	7.6	7.0	0.85	5864	1.66	4.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005636937-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005636937-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005636937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
005636937-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

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

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

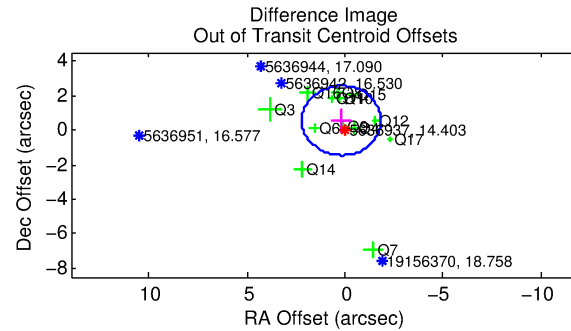
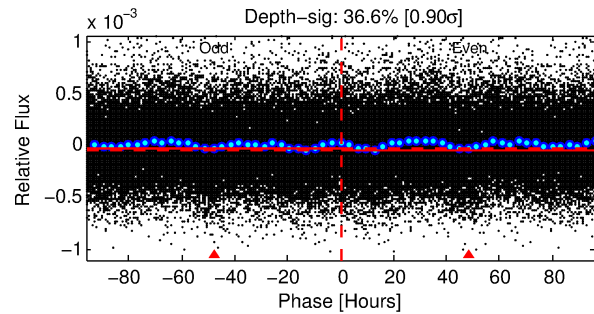
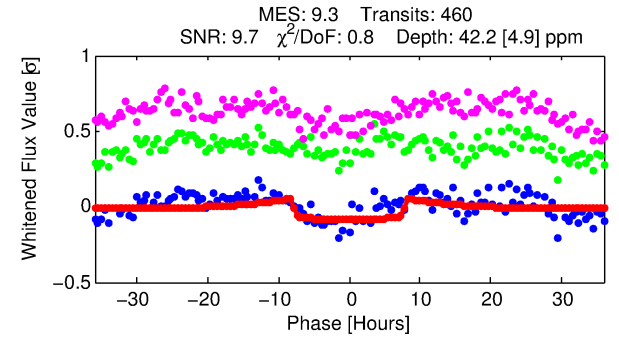
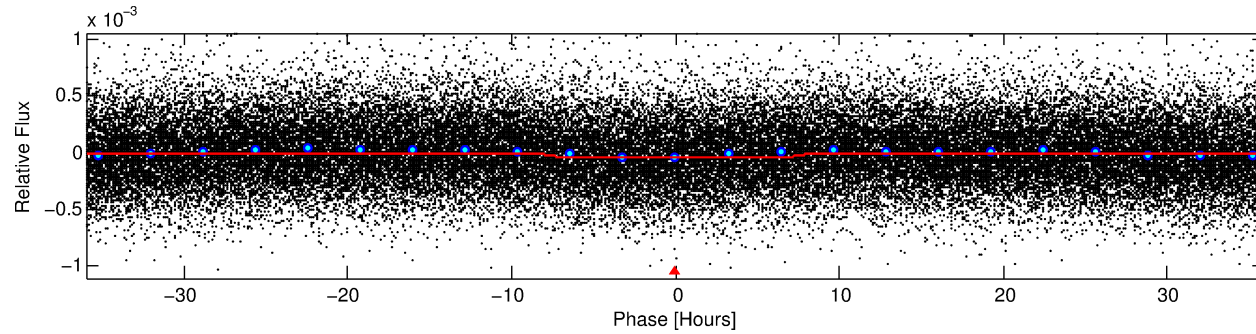
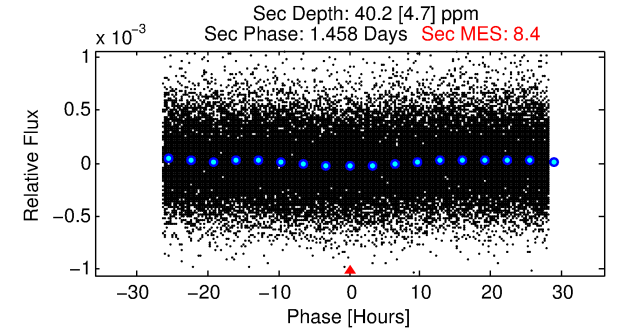
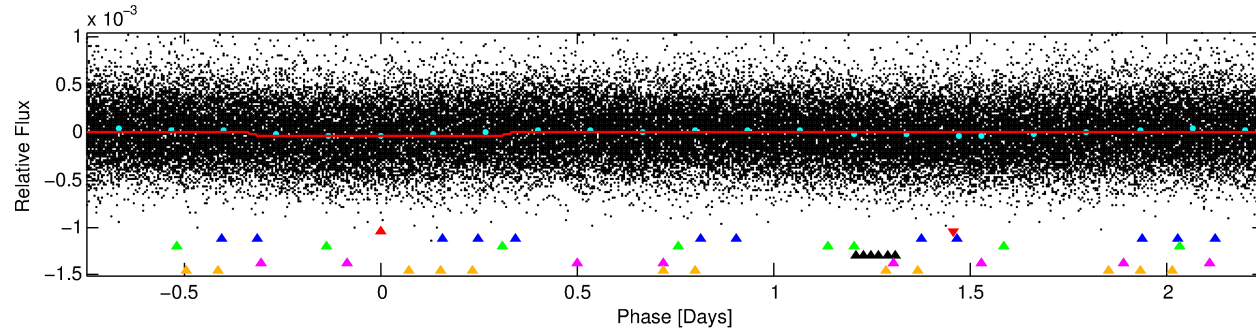
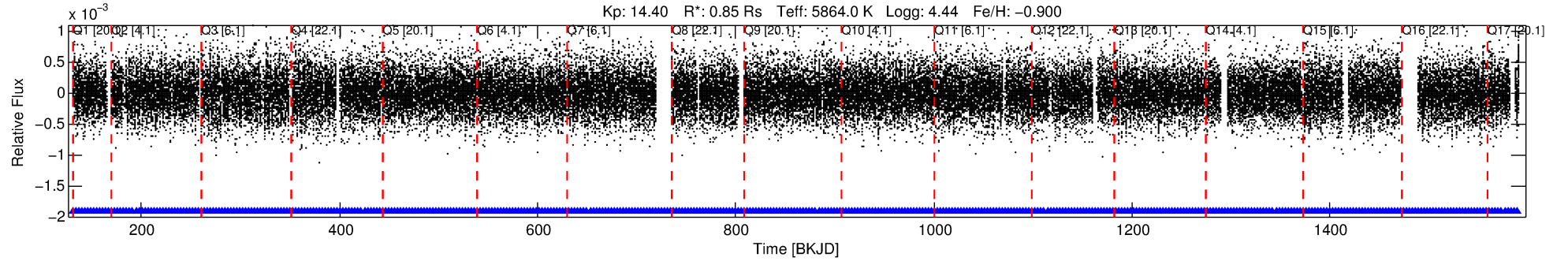
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005636937-01

No Significant Match Found

DV One-Page Summary

KIC: 5636937 Candidate: 1 of 6 Period: 2.997 d



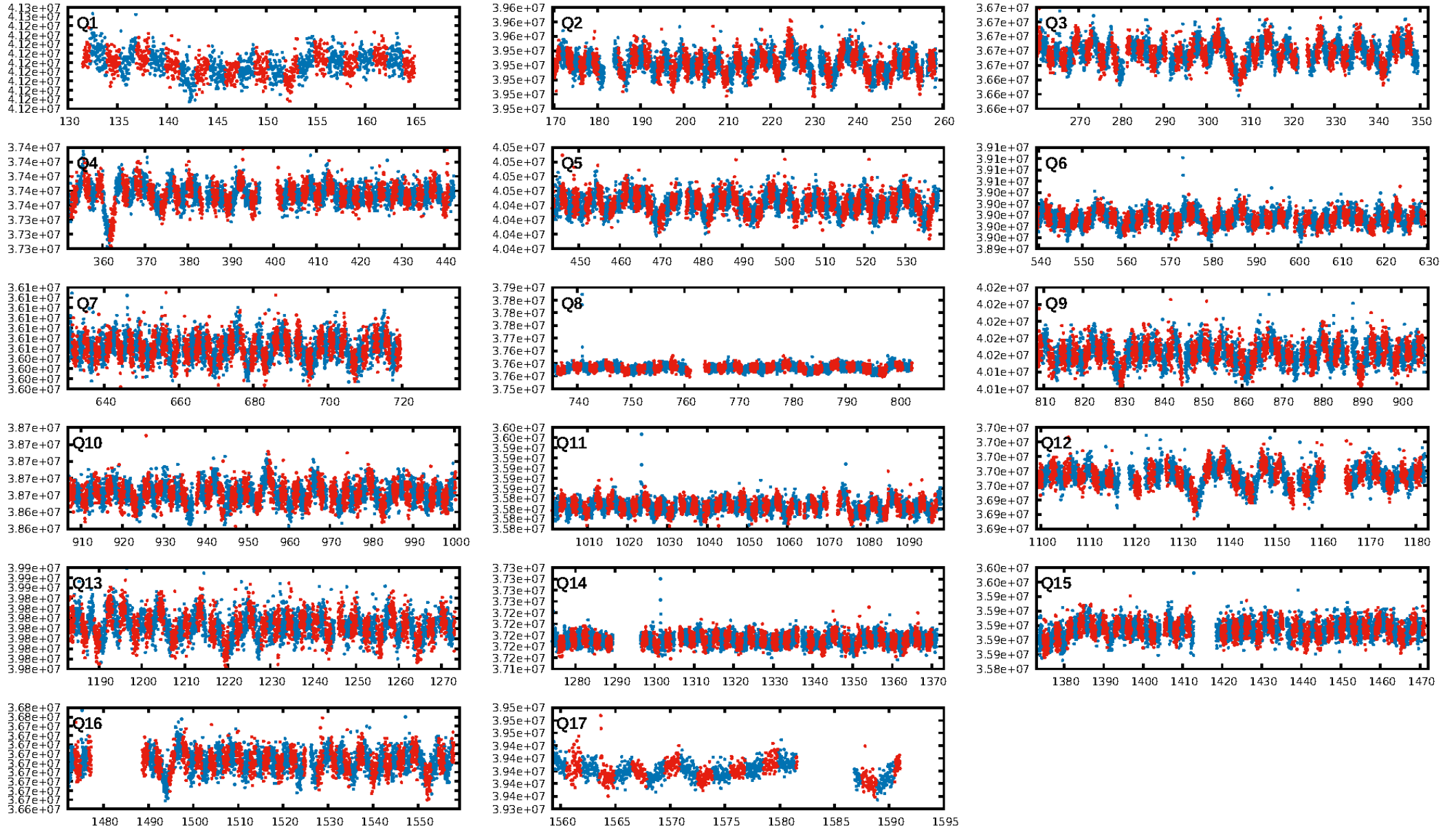
DV Fit Results:

Period = 2.99710 [0.00005] d
Epoch = 131.5637 [0.0094] BKJD
Rp/R* = 0.0060 [0.0056]
a/R* = 1.55 [4.35]
b = 0.15 [32.46]
Seff = 574.59 [175.73]
Teq = 1248 [95] K
Rp = 0.55 [0.53] Re
a = 0.0365 [0.0067] AU
Ag = 95.96 [182.21] [0.52σ]
Teffp = 6041 [2842] K [1.69σ]

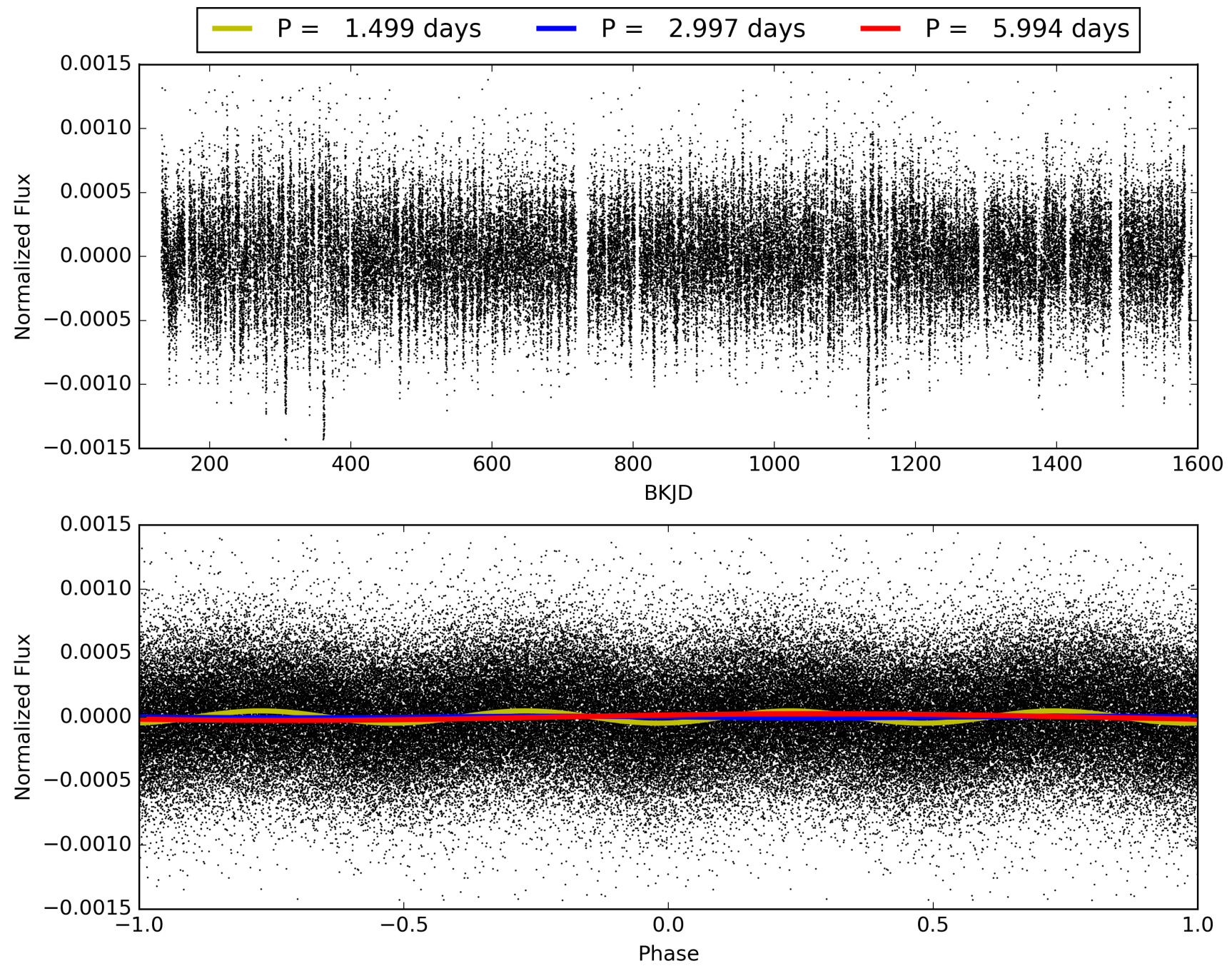
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [170.97σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.55e-12
RollingBand-fgt: 1.00 [439/439]
GhostDiagnostic-chr: 2.084
Centroid-sig: 10.7%
Centroid-so: 1.027 arcsec [1.19σ]
OotOffset-rm: 0.583 arcsec [0.87σ]
KicOffset-rm: 0.579 arcsec [0.86σ]
OotOffset-st: 3/4/4/2 [13]
KicOffset-st: 3/4/4/2 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005636937-01, PDC Light Curves

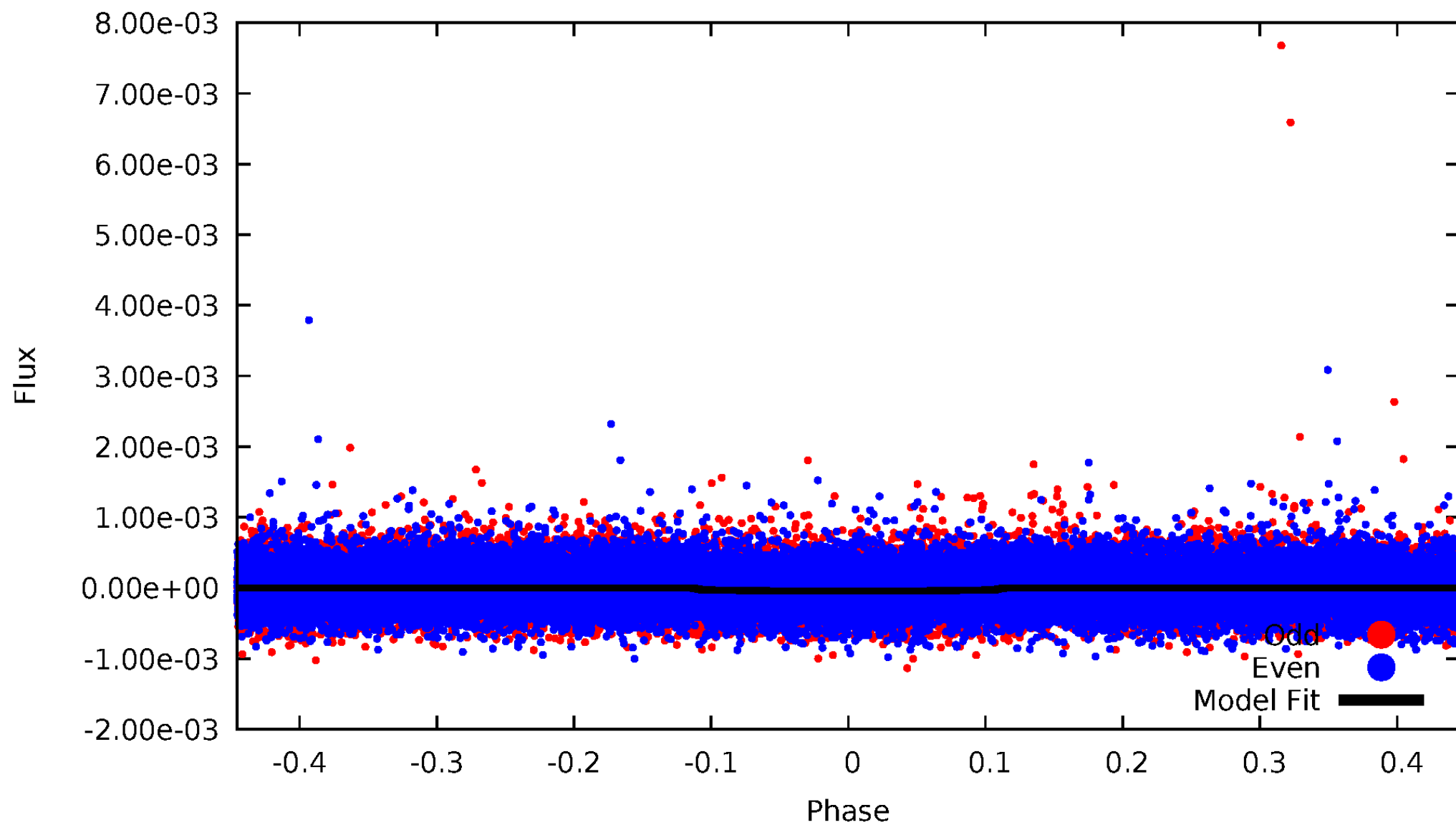


TCE 005636937-01



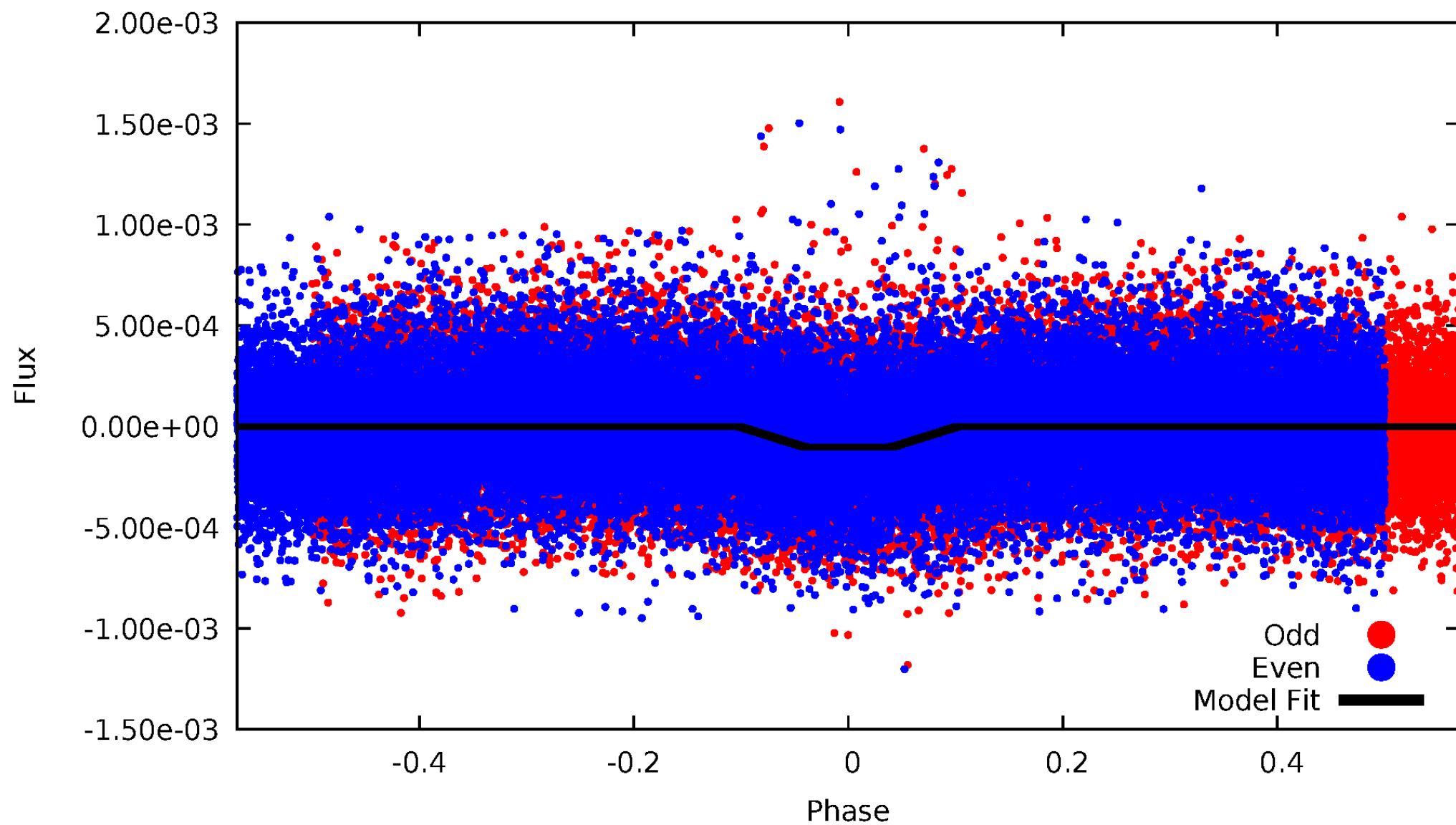
DV Odd/Even

TCE 005636937-01

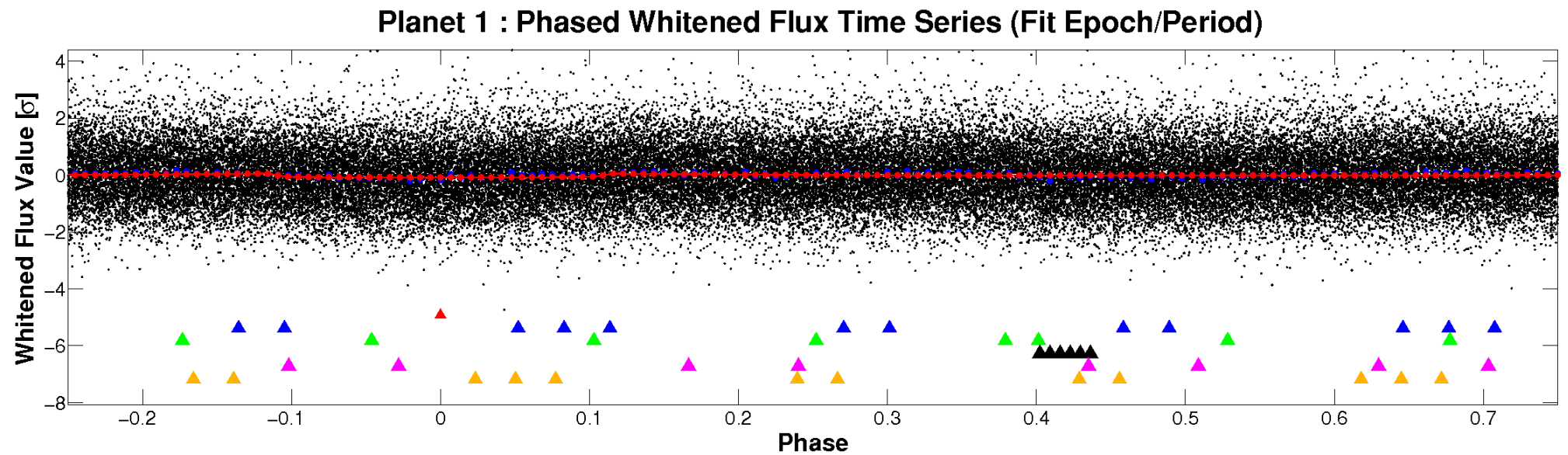
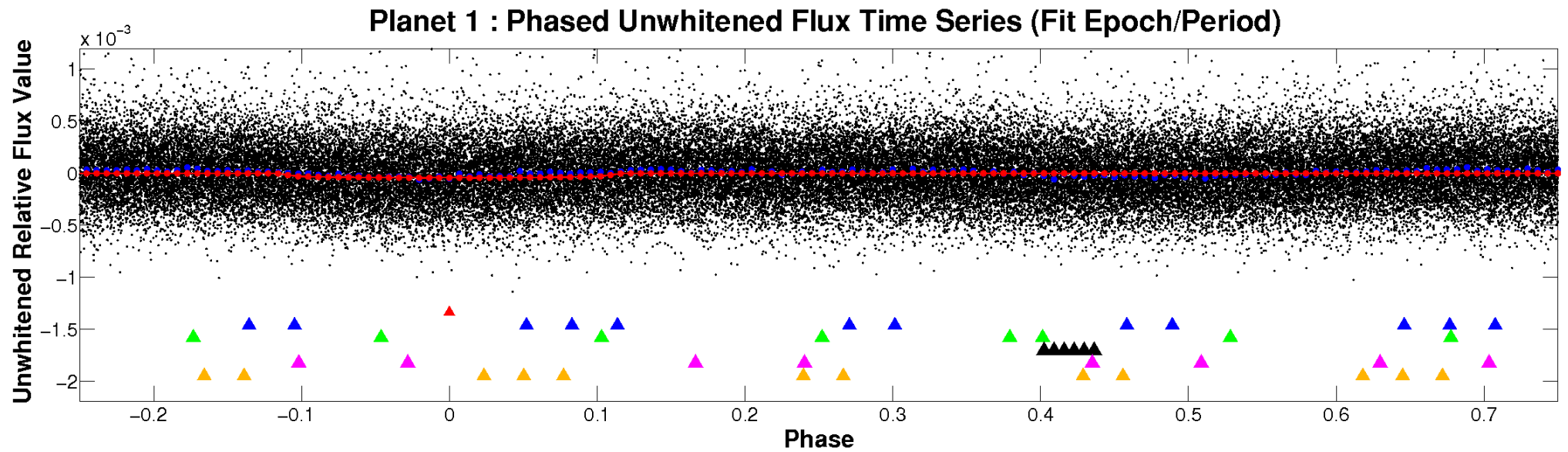


ALT Odd/Even

TCE 005636937-01

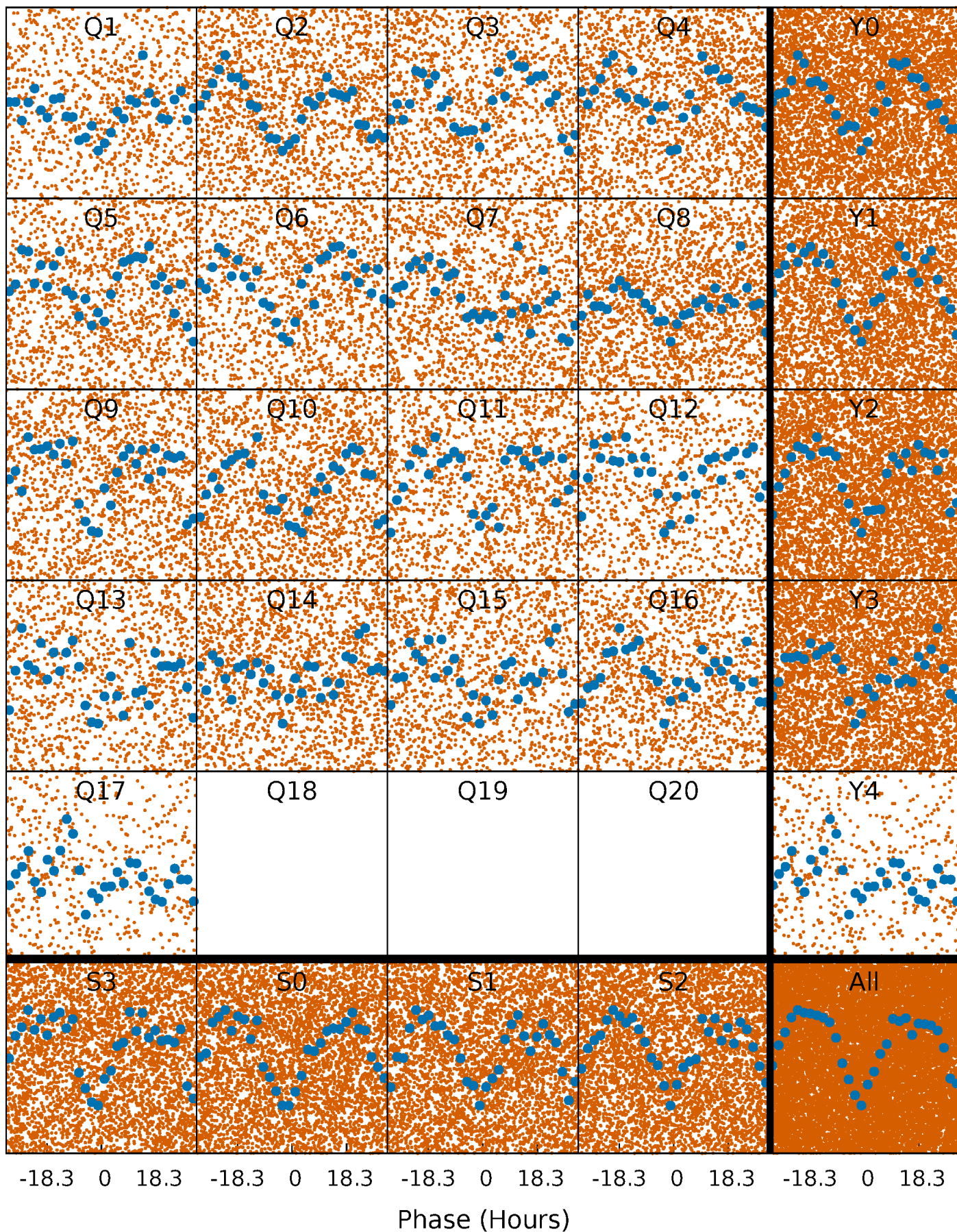


Non-Whitened Vs. Whitened Light Curve



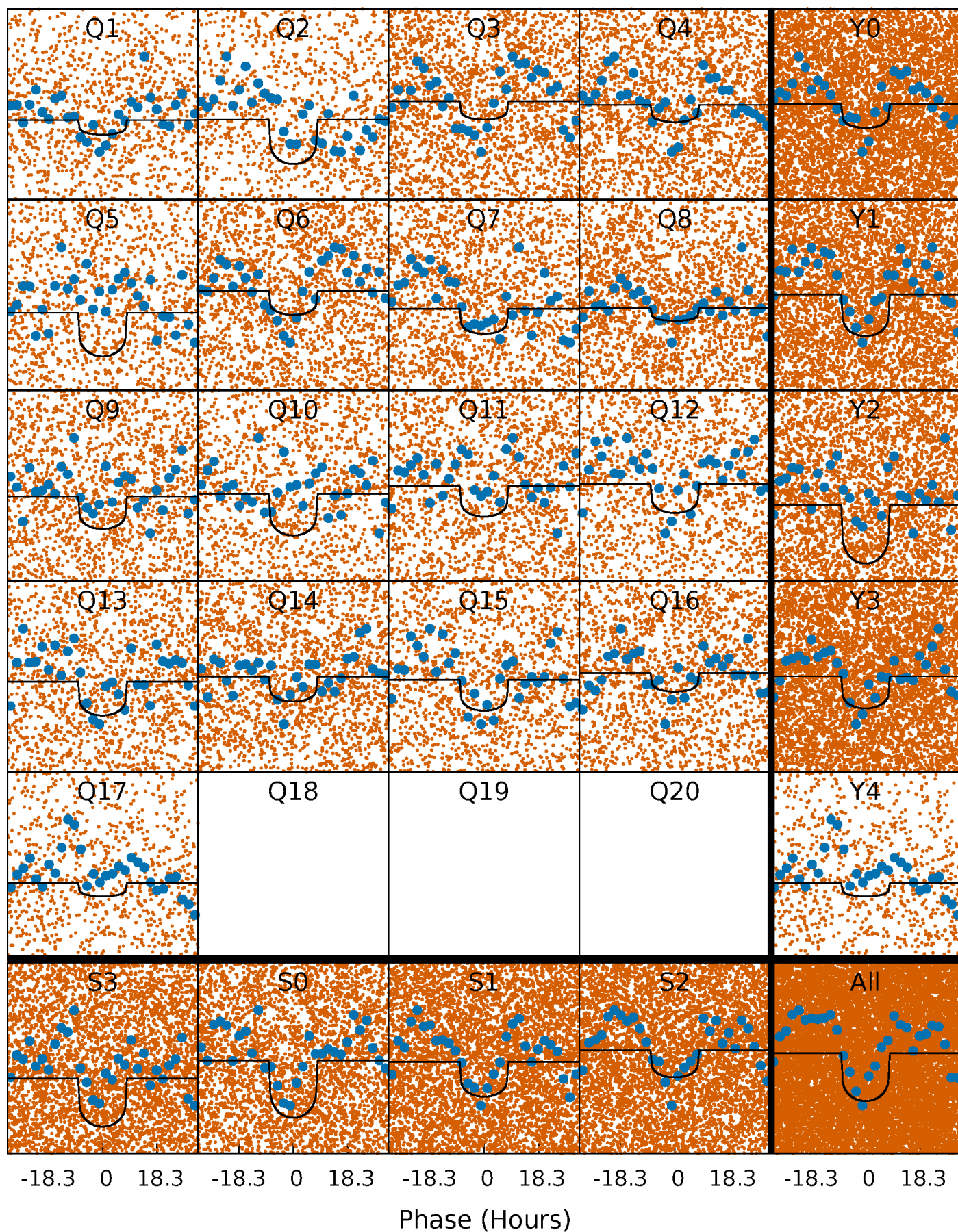
PDC Quarter-Phased Transit Curves

TCE 005636937-01 P= 2.997102 Days $T_0=131.563656$ (BKJD)



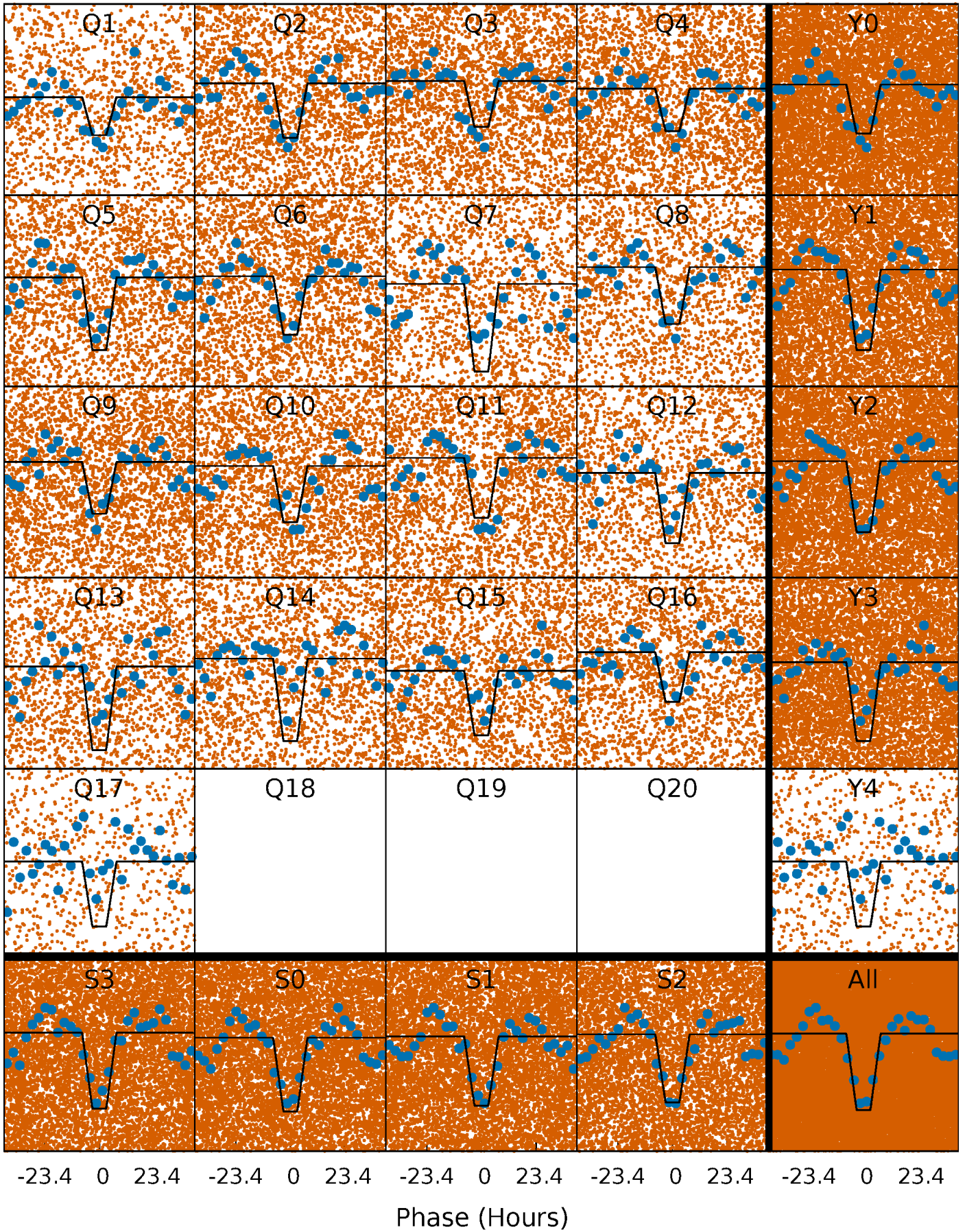
DV Quarter-Phased Transit Curves

TCE 005636937-01 P= 2.997102 Days $T_0=131.563656$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

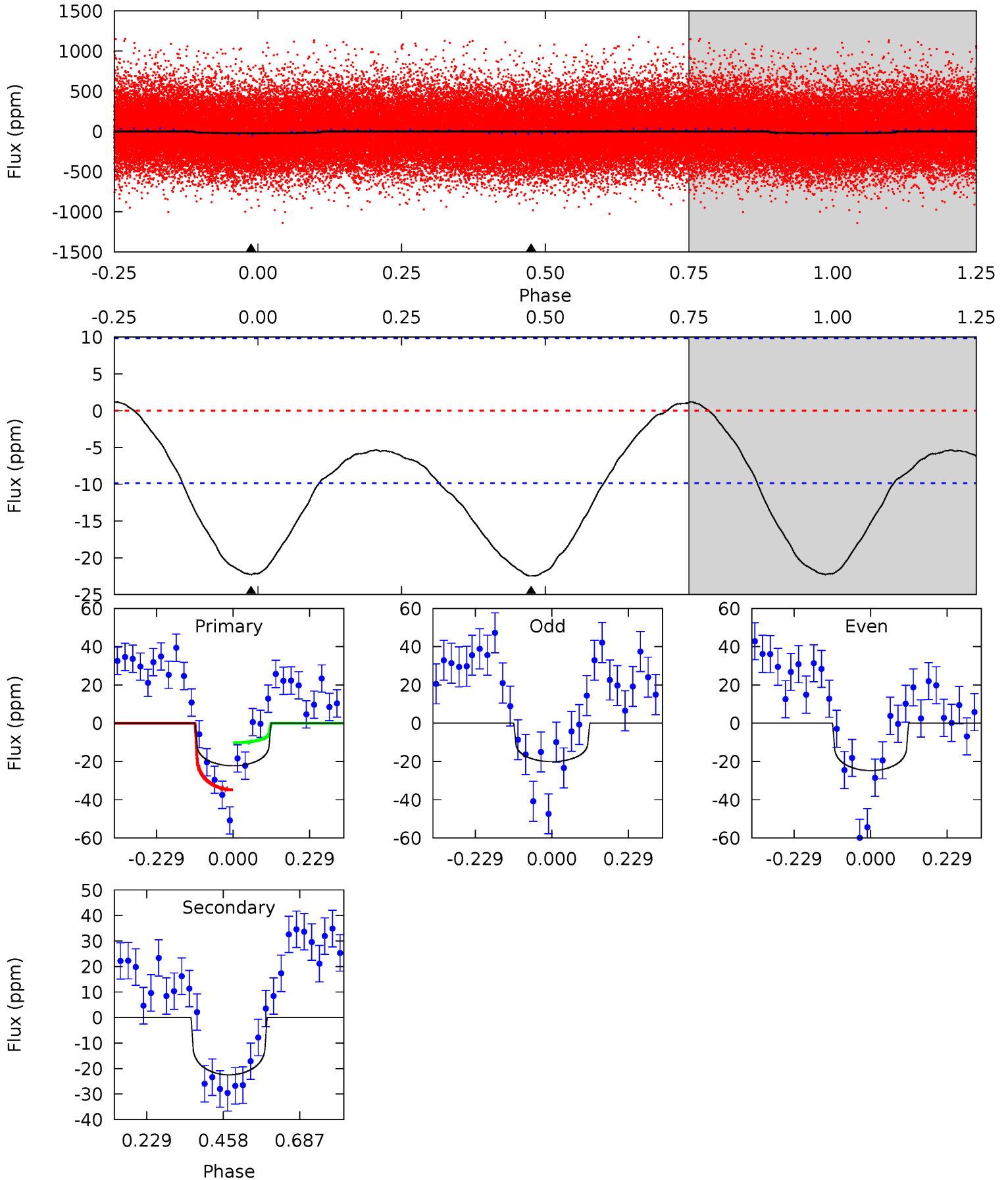
TCE 005636937-01 P= 2.996952 Days $T_0=131.538974$ (BKJD)



DV Model-Shift Uniqueness Test

005636937-01, P = 2.997102 Days, E = 128.566554 Days

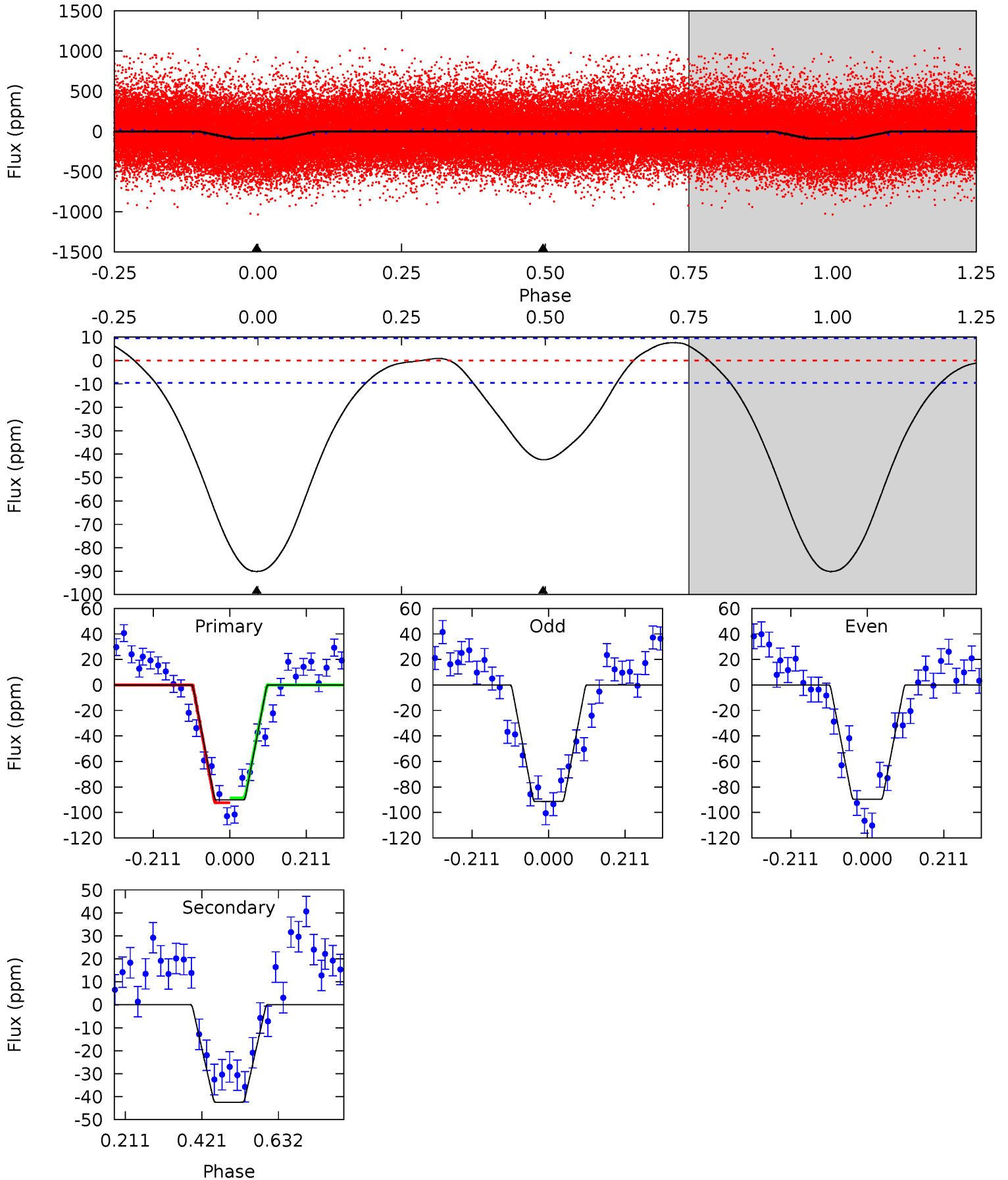
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.92	10.0	0	0	4.39	1.20	1.38	9.92	9.92	10.0	10.0	1.04	1.14	0.05	5.50



Alt Model-Shift Uniqueness Test

005636937-01, P = 2.996952 Days, E = 128.542022 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.6	19.6	0	0	4.41	1.25	1.89	41.6	41.6	19.6	19.6	0.38	1.04	0.08	0.88



Stellar Parameters For KIC 005636937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5864^{+176}_{-176}	$4.438^{+0.160}_{-0.160}$	$-0.900^{+0.300}_{-0.300}$	$0.851^{+0.175}_{-0.143}$	$0.723^{+0.094}_{-0.031}$	$1.653^{+1.188}_{-0.691}$
	+3%/-3%	+4%/-4%	+33%/-33%	+21%/-17%	+13%/-4%	+72%/-42%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005636937-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22 ± 2	$0.67^{+0.48}_{-0.42}$	1744^{+110}_{-98}	4882^{+3112}_{-948}	38^{+225}_{-26}
Alt.	-42 ± 2	$0.98^{+0.54}_{-0.51}$	1741^{+113}_{-104}	4745^{+1953}_{-684}	33^{+113}_{-19}

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

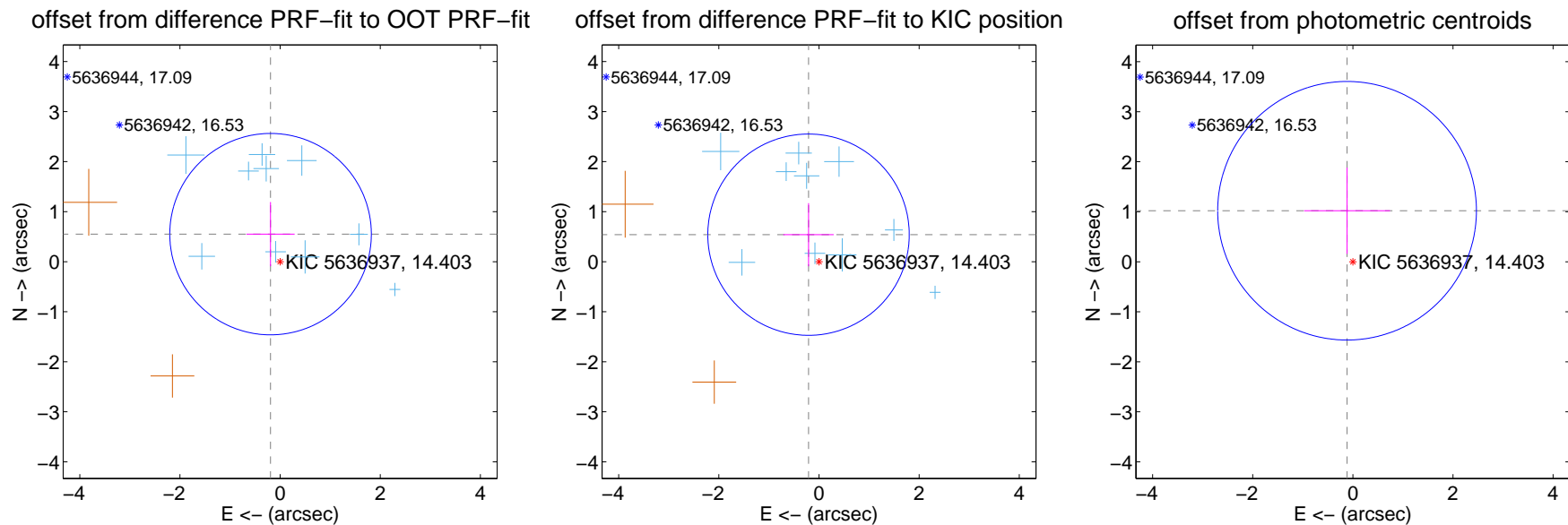
DV Centroid Data

Supplemental centroid analysis for 005636937-01. Kepler magnitude: 14.40. Transit SNR 9.65

There are 10 quarters with good PRF difference image offsets

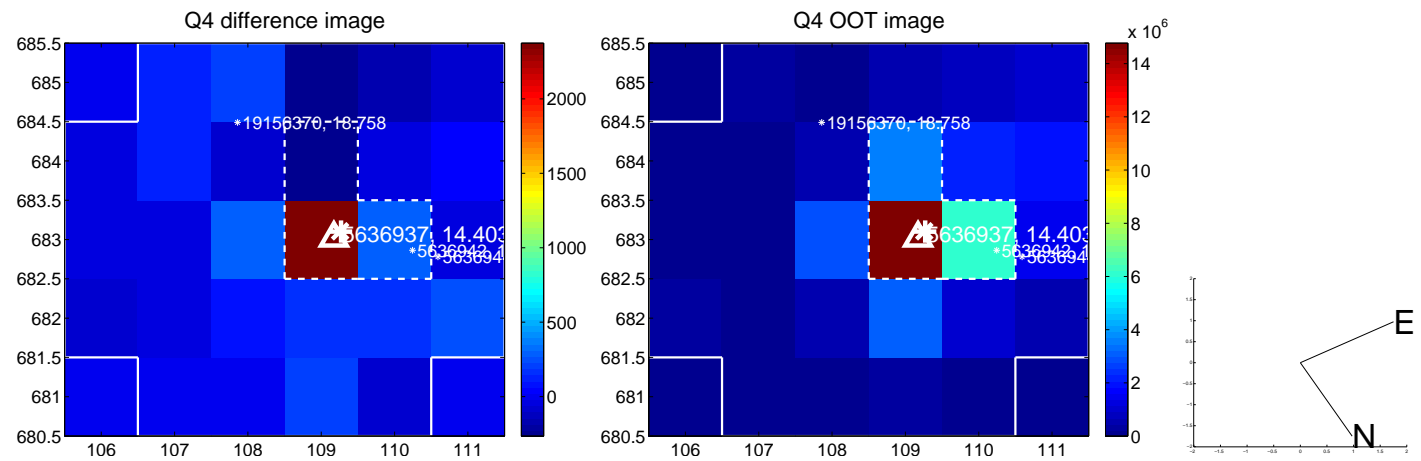
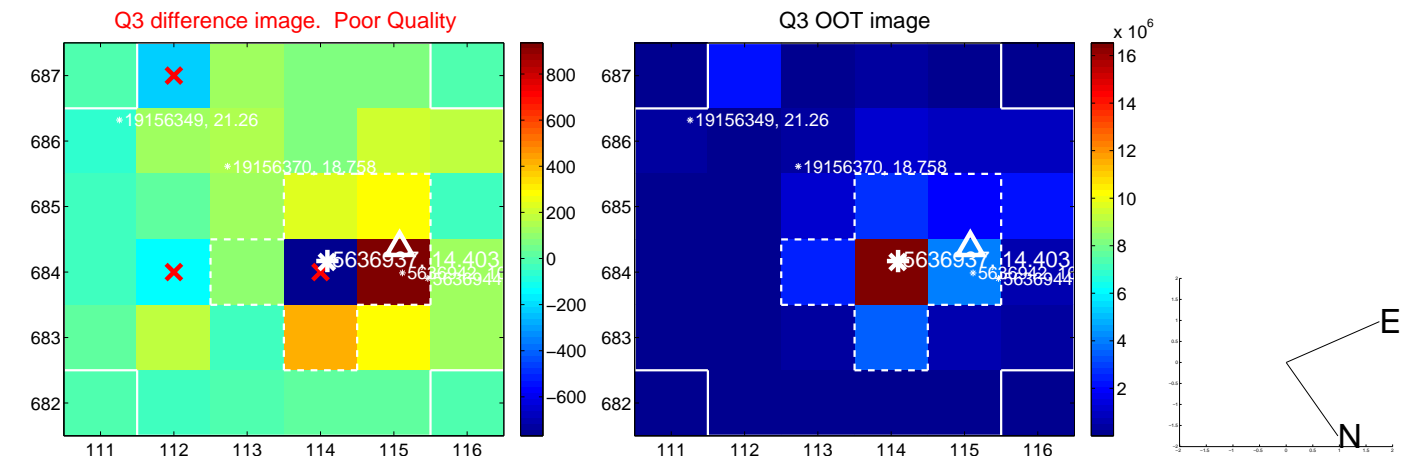
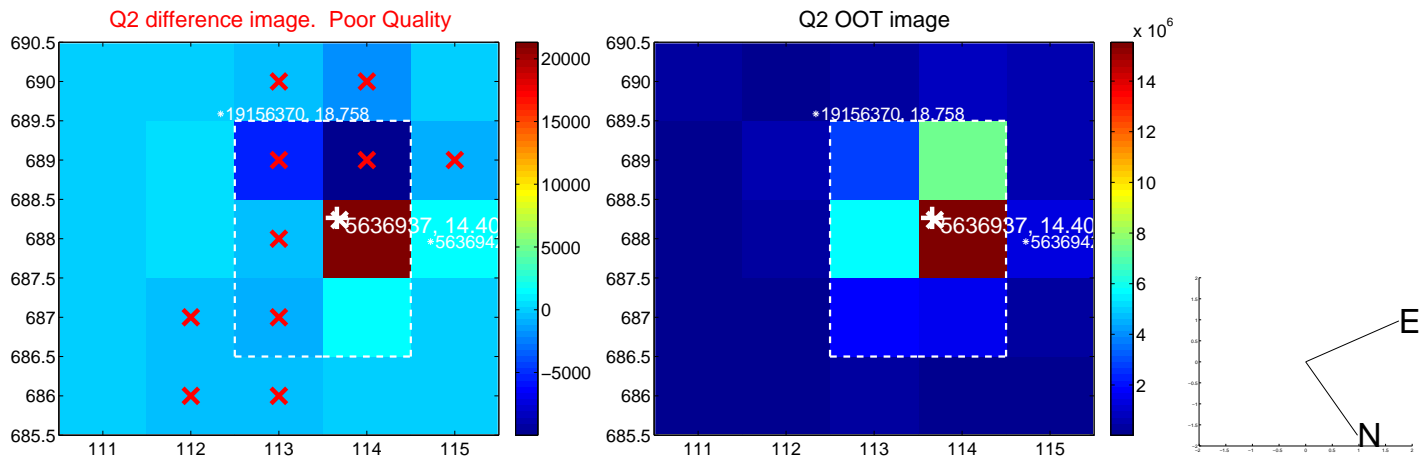
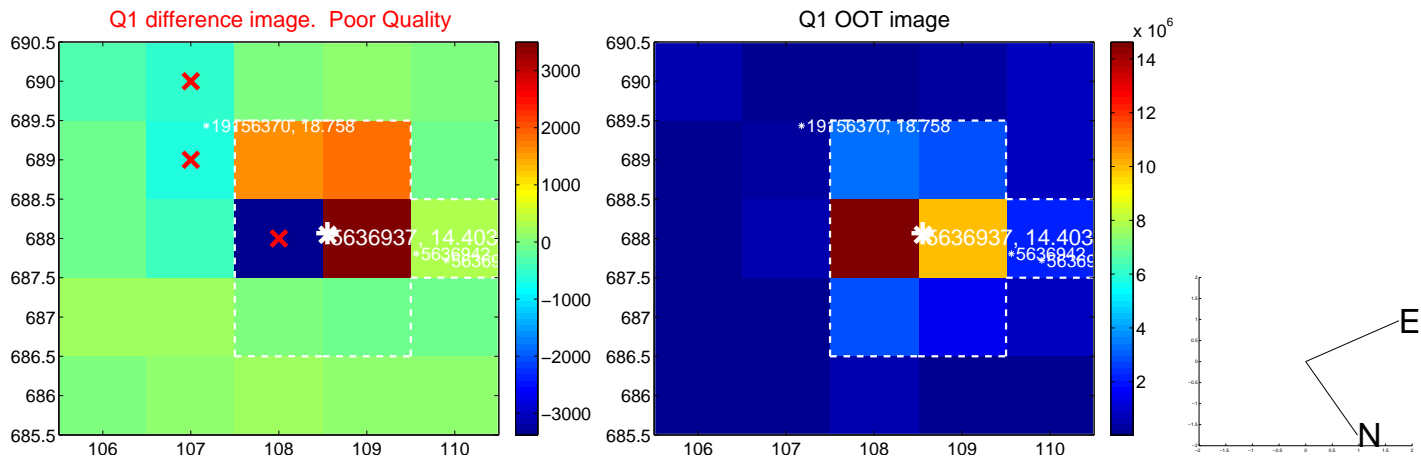
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.583 ± 0.671	0.87	0.191 ± 0.481	0.551 ± 0.642
PRF-fit source offset from KIC position	0.579 ± 0.671	0.86	0.209 ± 0.504	0.540 ± 0.630
photometric centroid source offset	1.03 ± 0.86	1.19	0.12 ± 0.86	1.02 ± 0.86

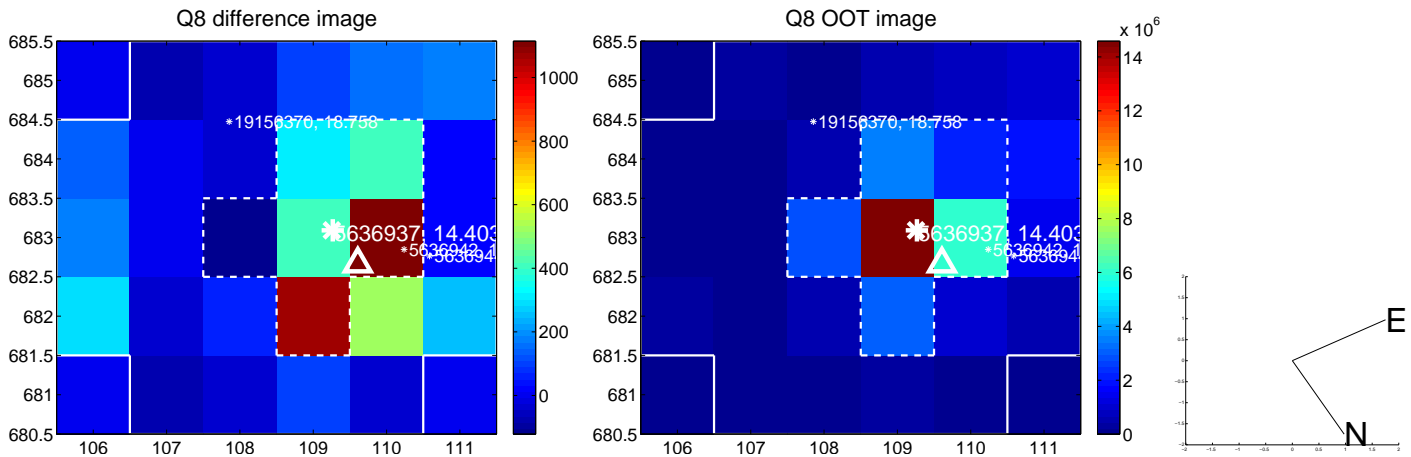
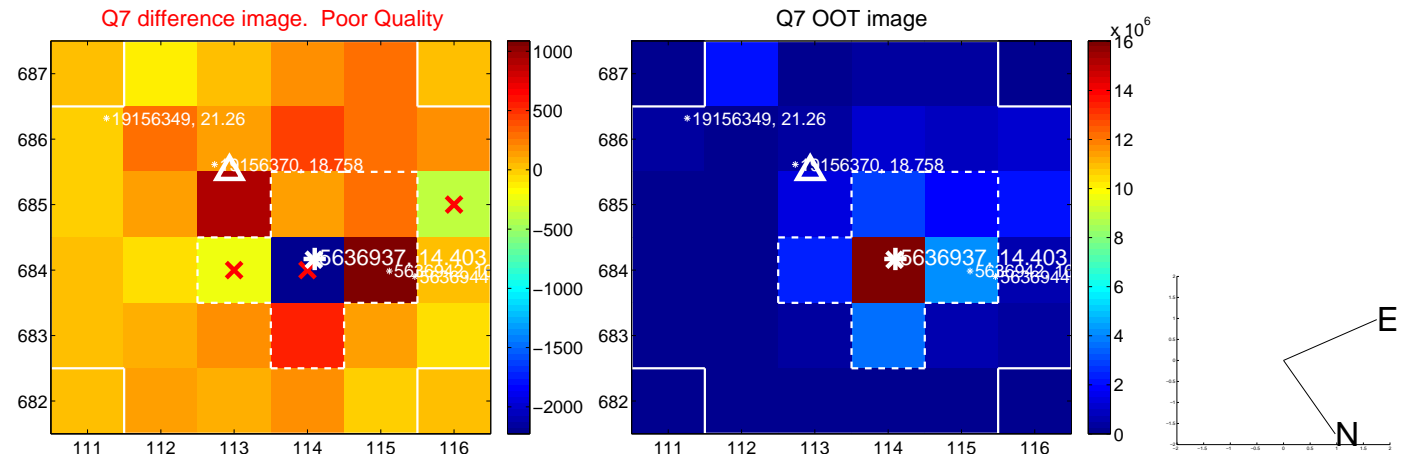
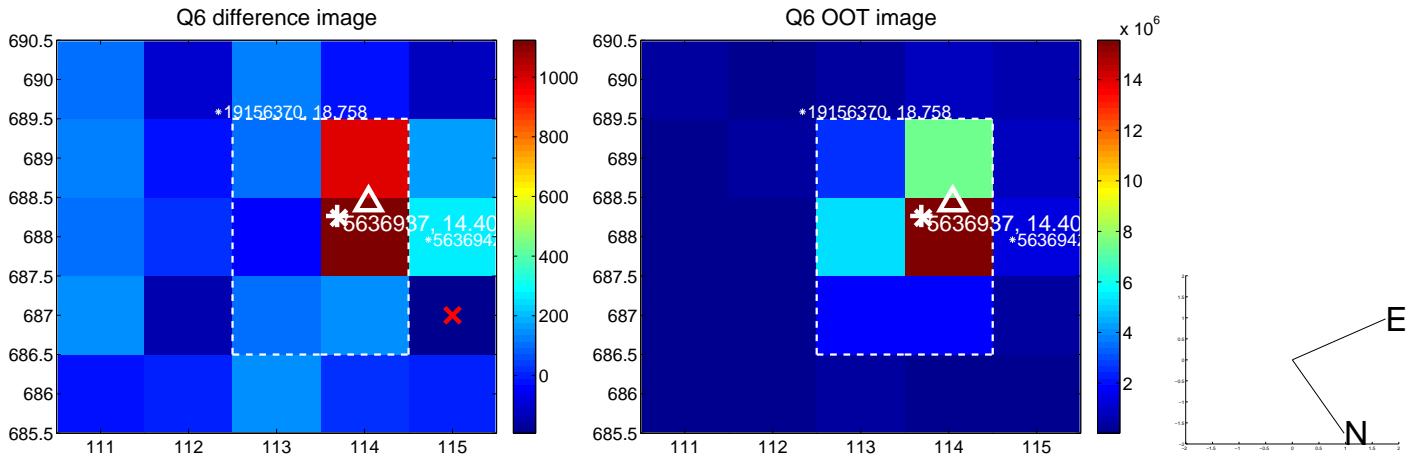
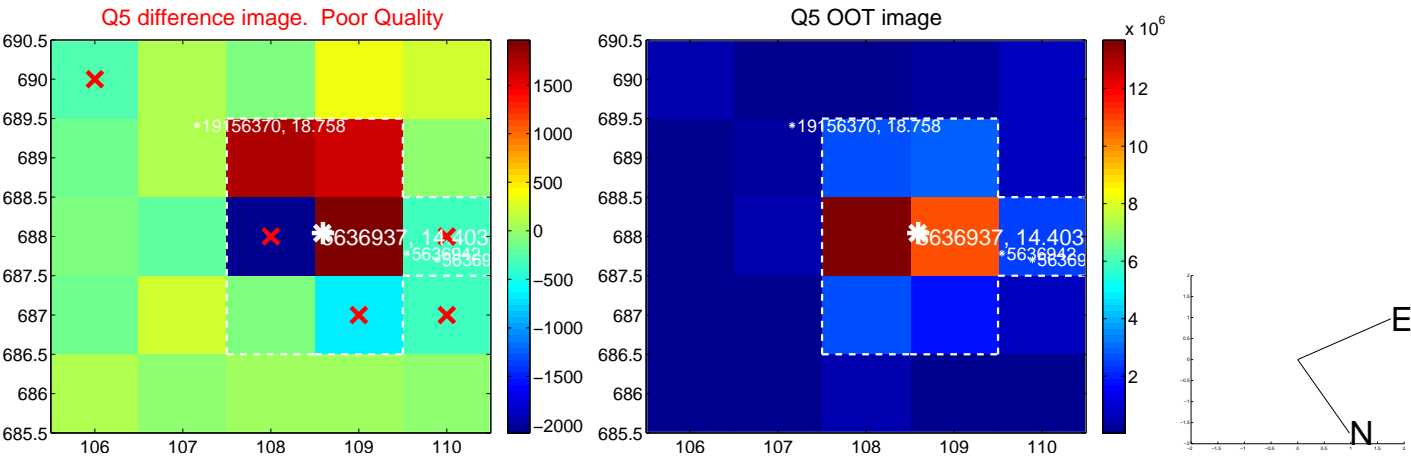


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

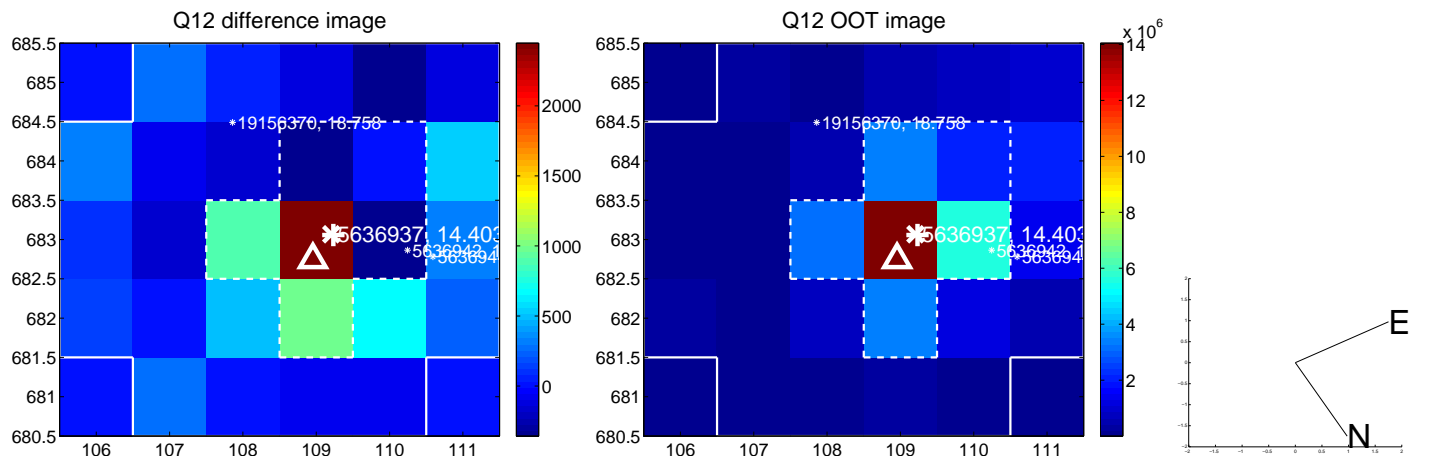
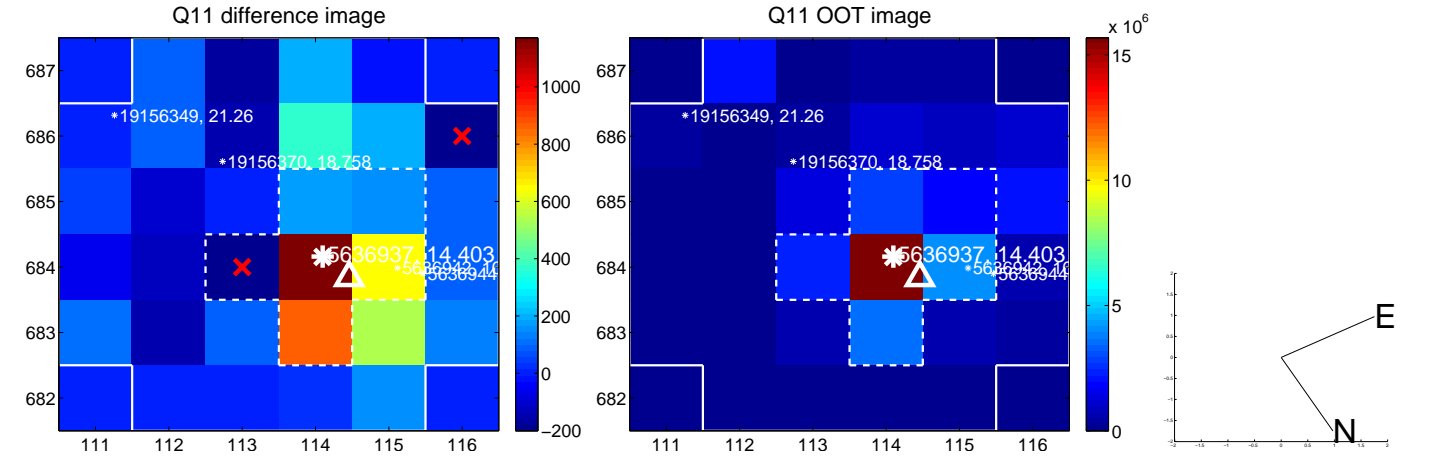
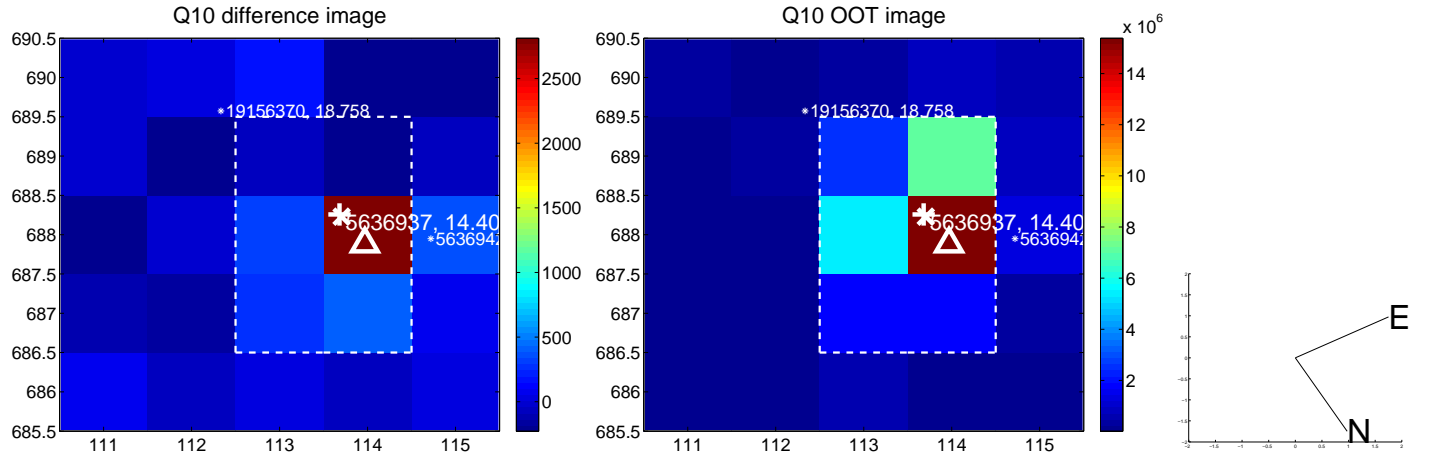
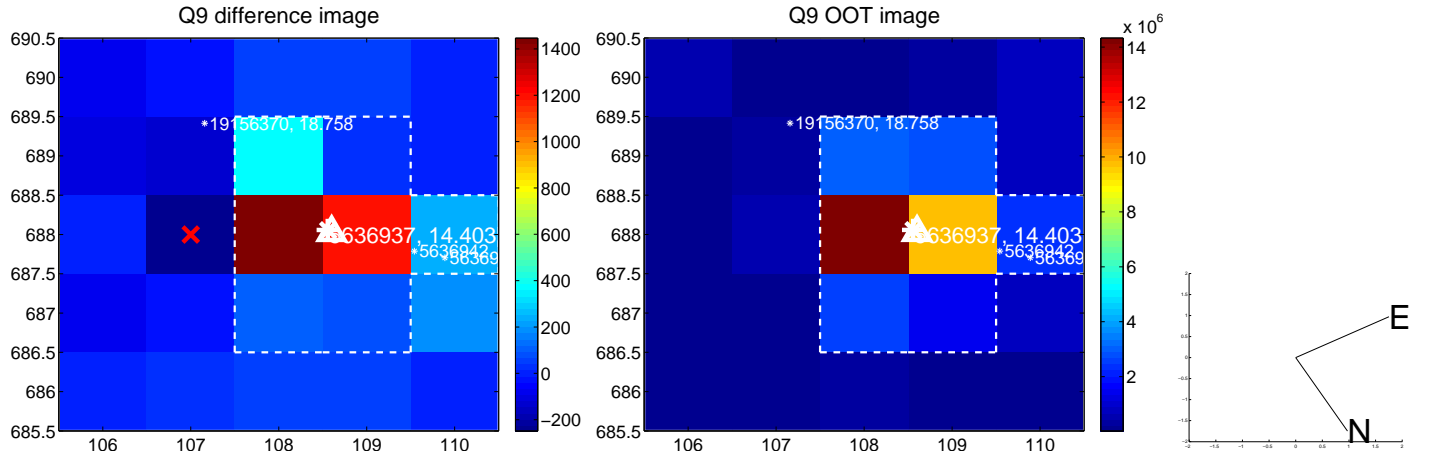
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



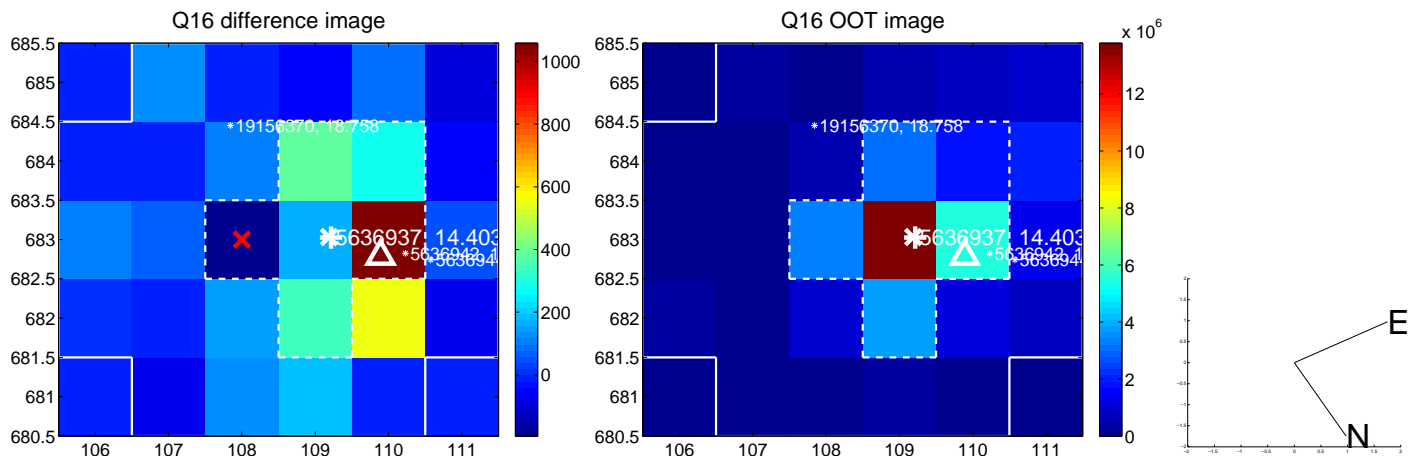
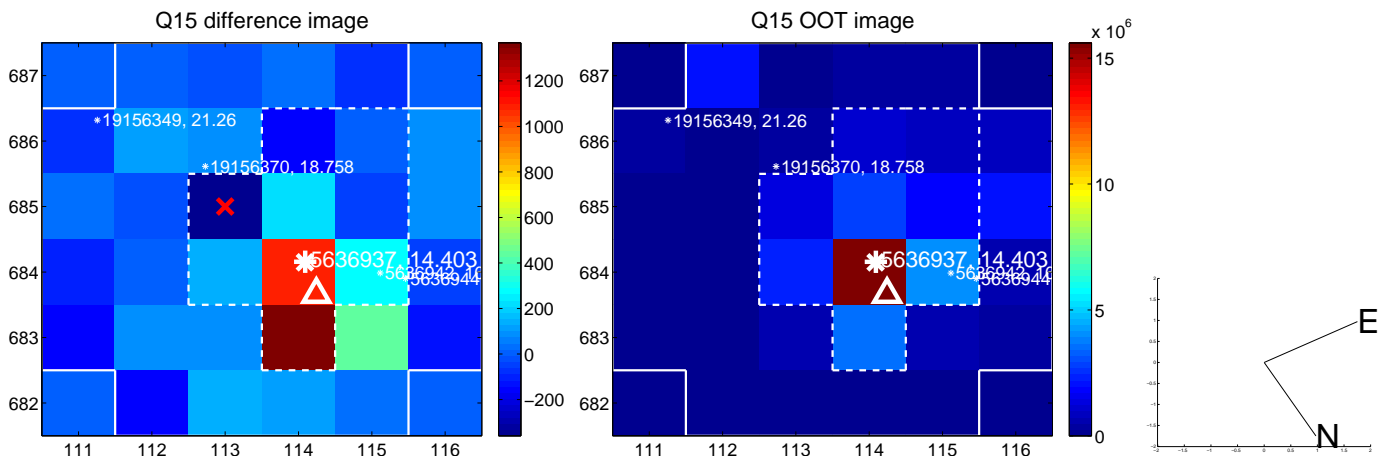
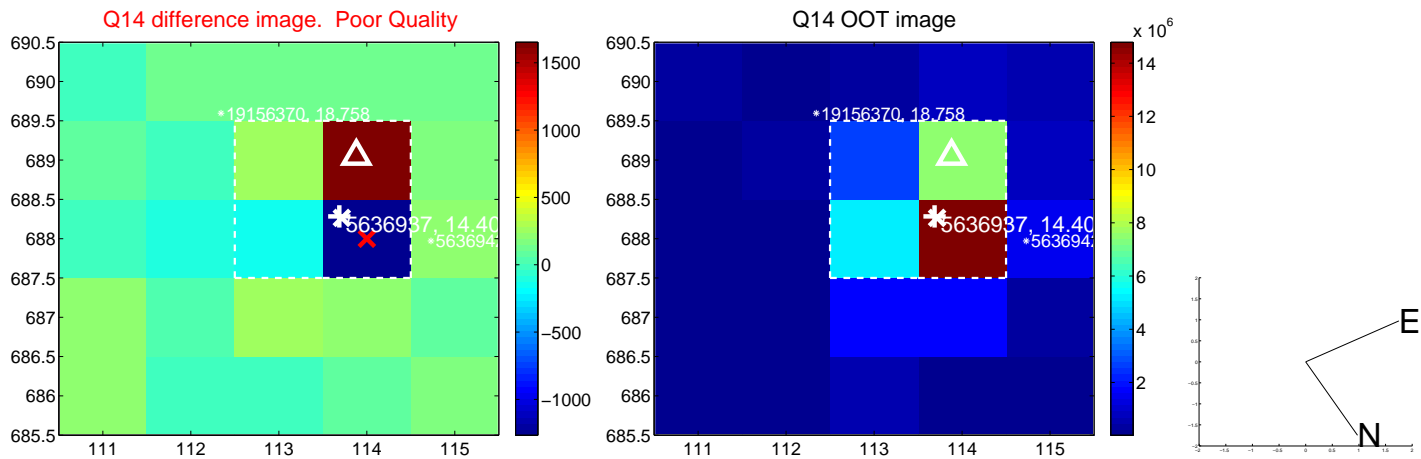
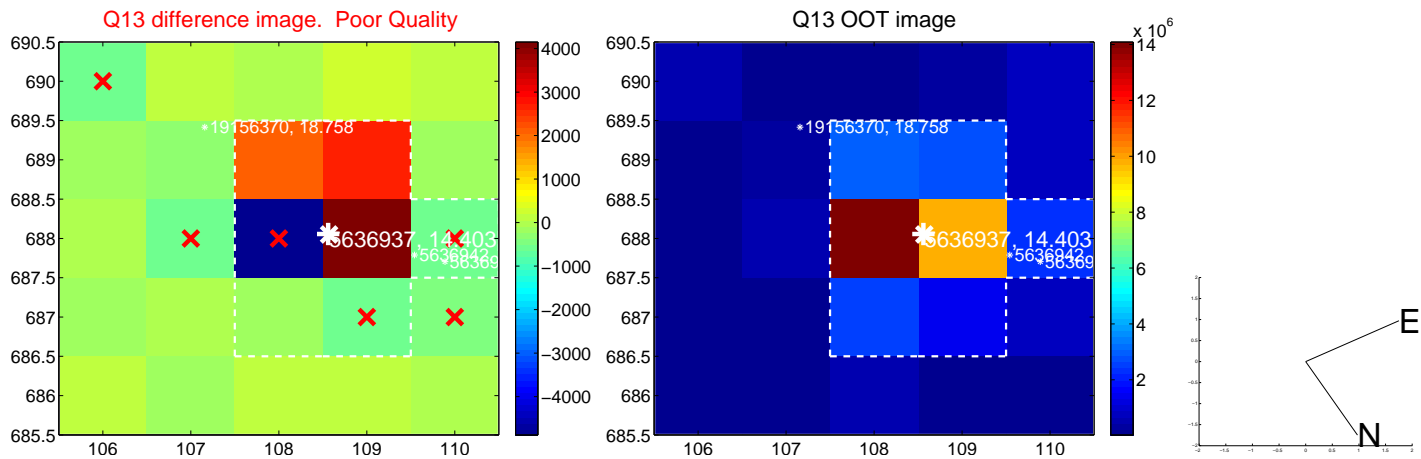
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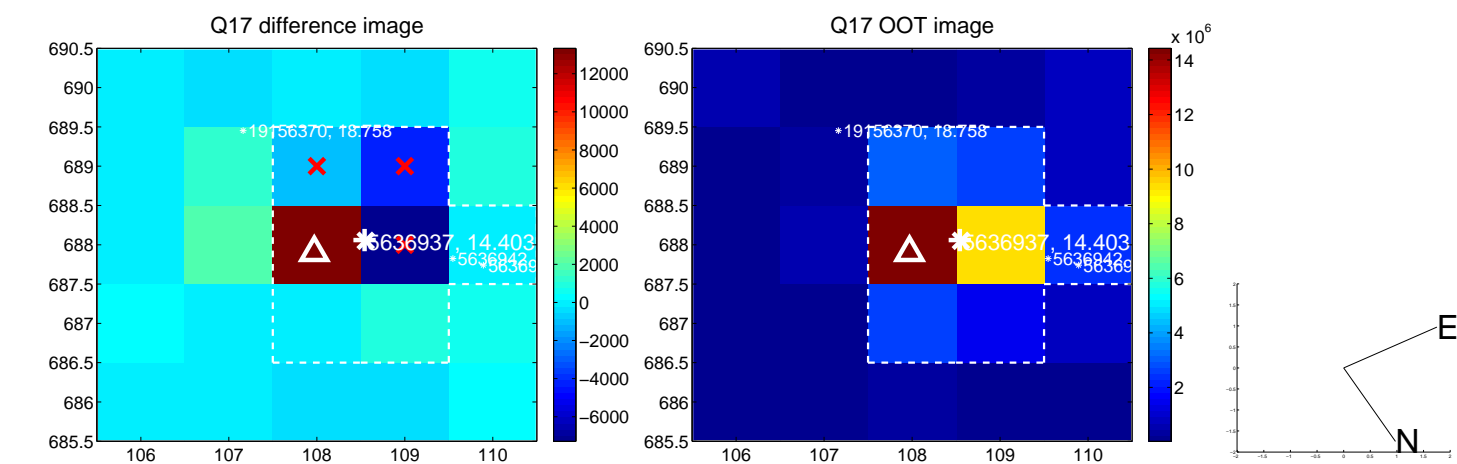
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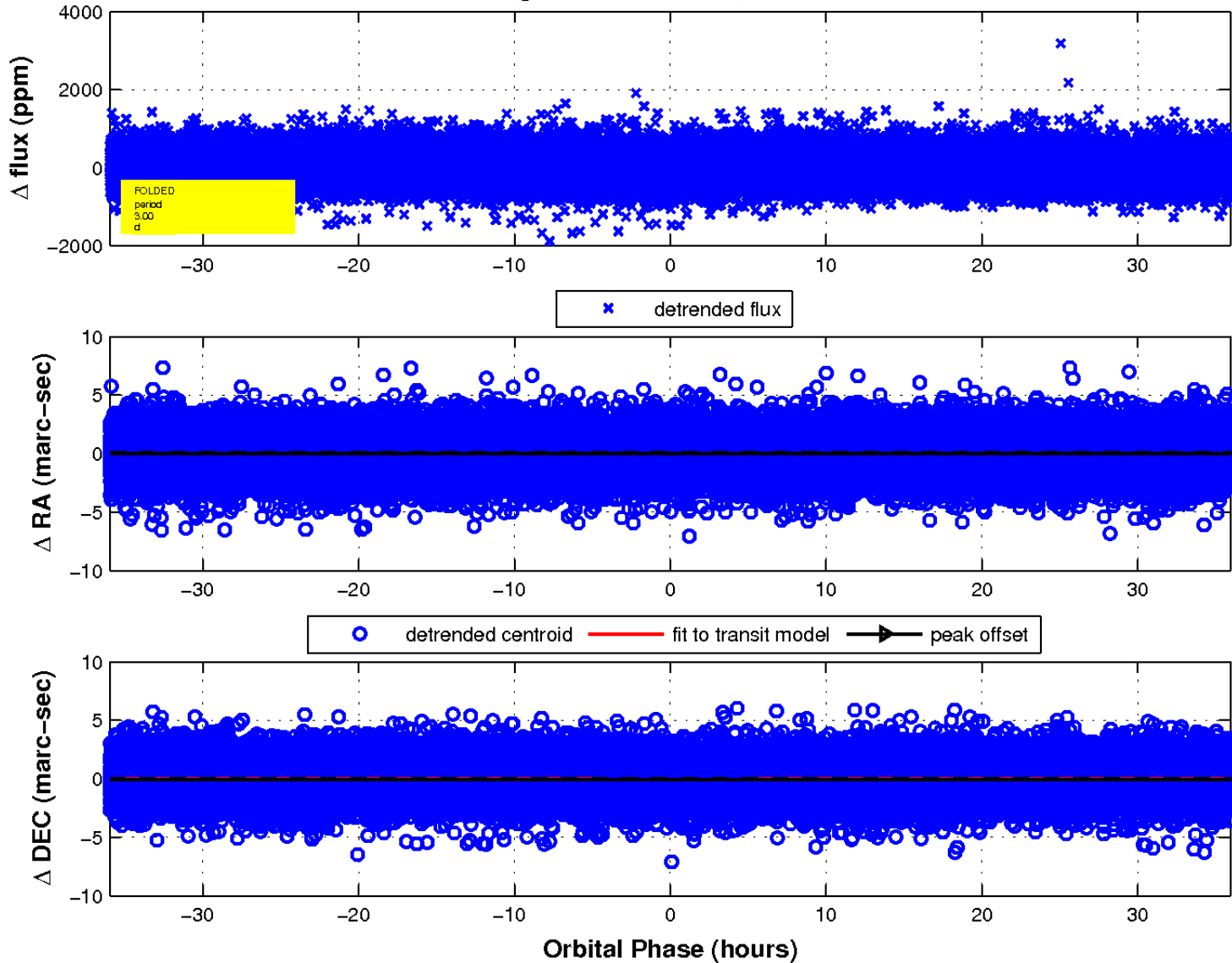
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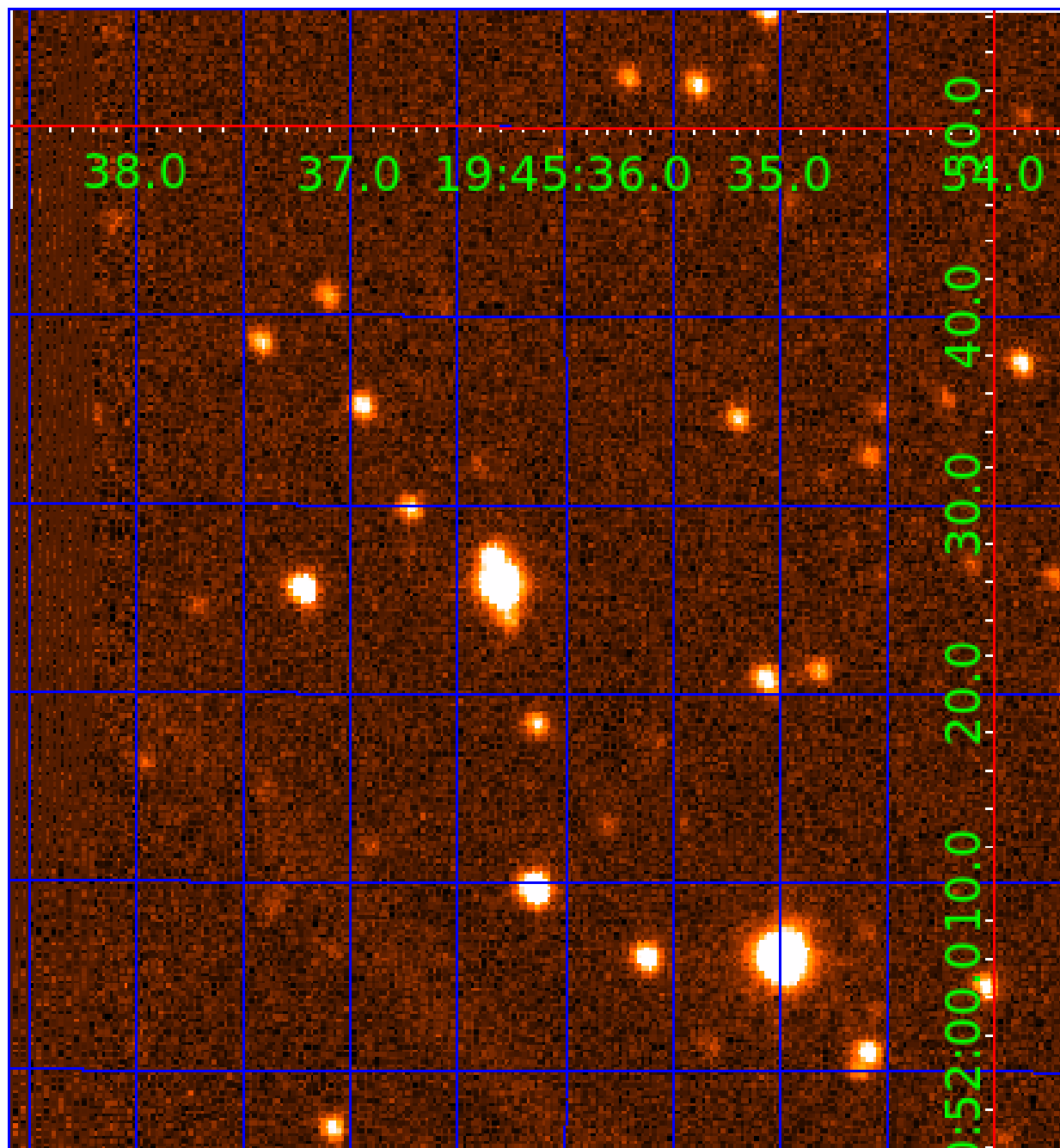


fluxWeightedCentroids, Planet 1 of 6



UKIRT Image

Declination



KIC 005636937

Q1-17 DR25 TCE Parameters

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005636937-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005636937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
005636937-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

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

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

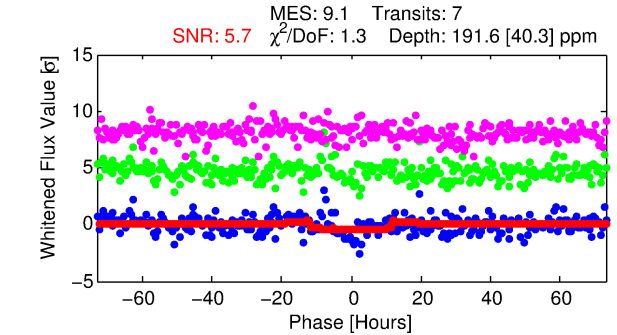
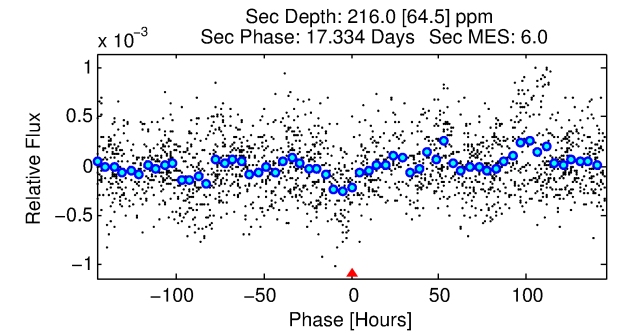
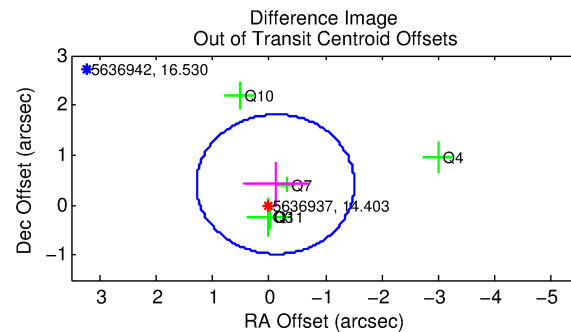
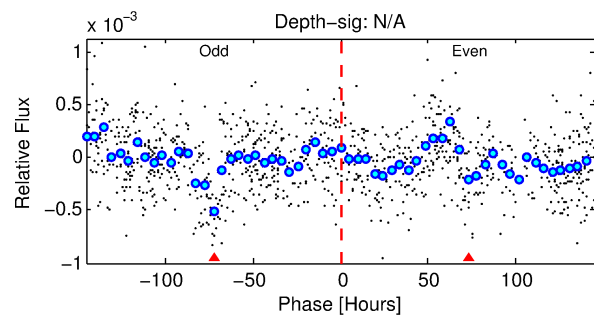
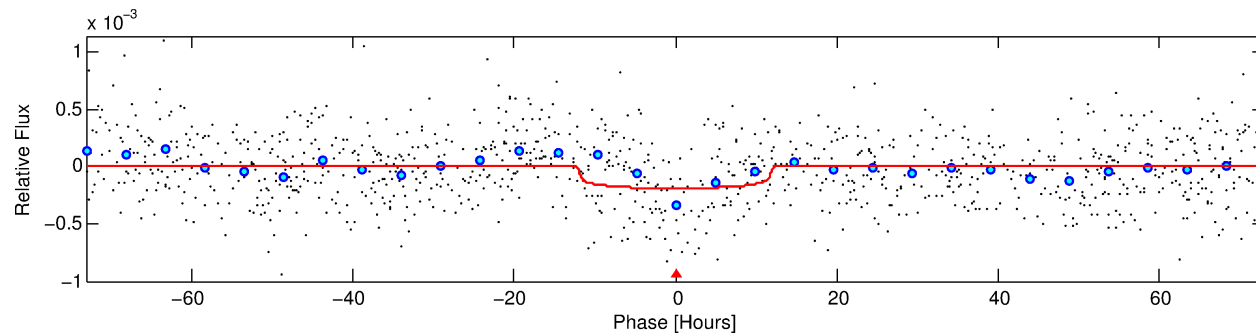
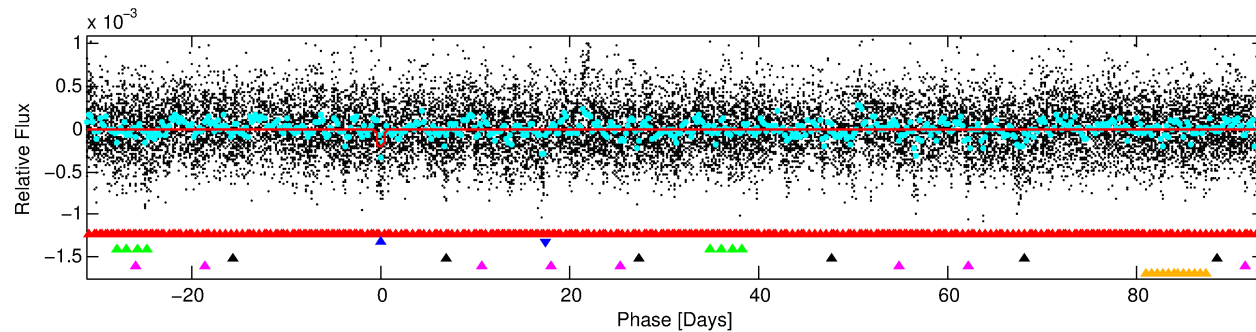
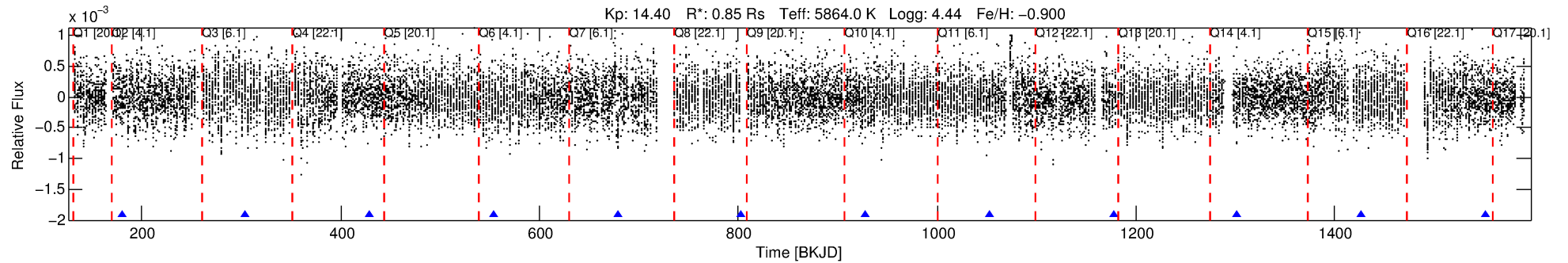
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005636937-02

No Significant Match Found

DV One-Page Summary

KIC: 5636937 Candidate: 2 of 6 Period: 124.661 d



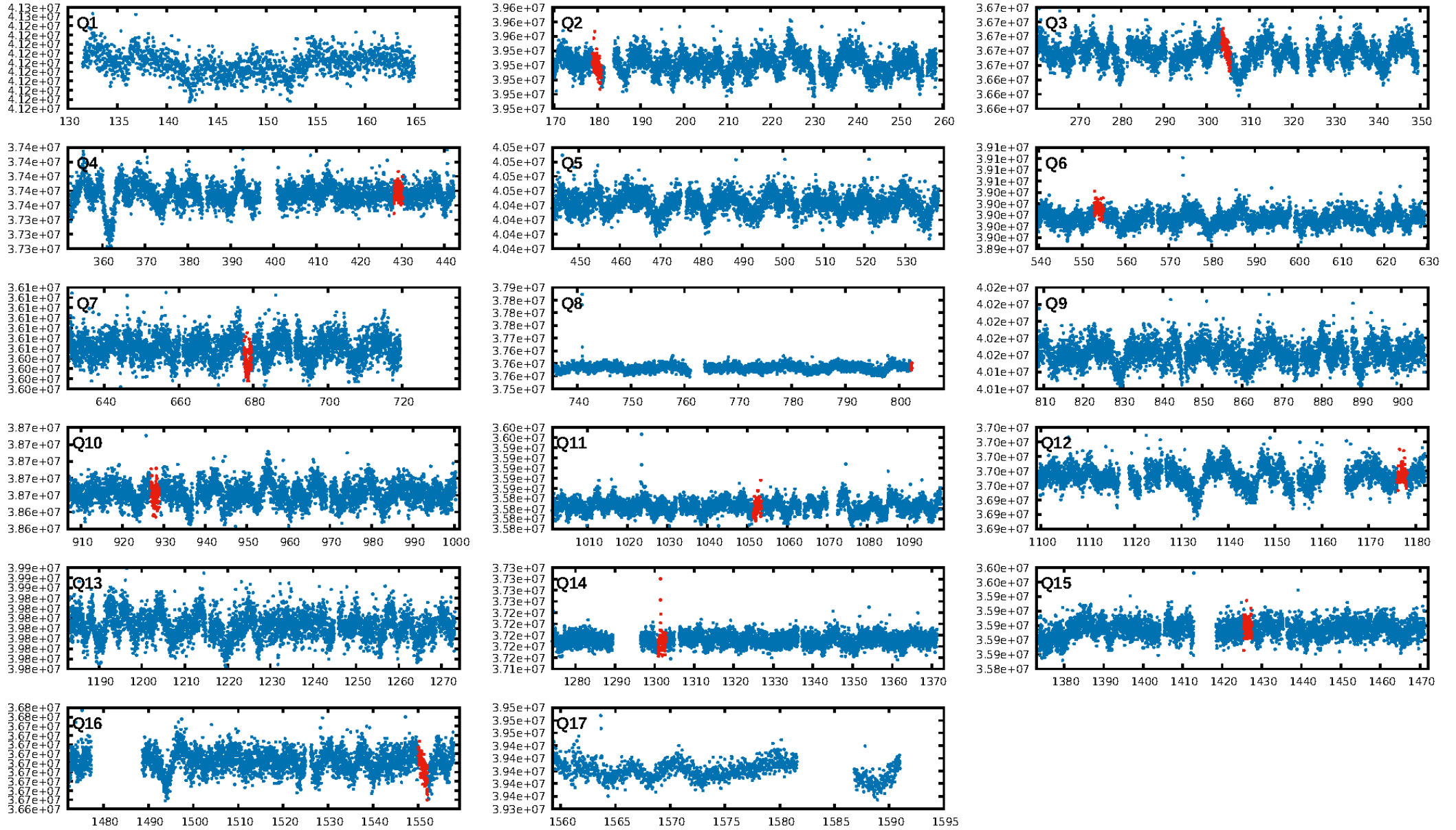
DV Fit Results:

Period = 124.66098 [0.00665] d
Epoch = 179.8582 [0.0453] BKJD
Rp/R* = 0.0135 [0.0047]
a/R* = 28.92 [49.70]
b = 0.69 [1.29]
Seff = 3.99 [1.22]
Teq = 360 [28] K
Rp = 1.26 [0.51] Re
a = 0.4387 [0.0807] AU
Ag = 14456.80 [11712.01] [1.23σ]
Teff = 6109 [1175] K [4.89σ]

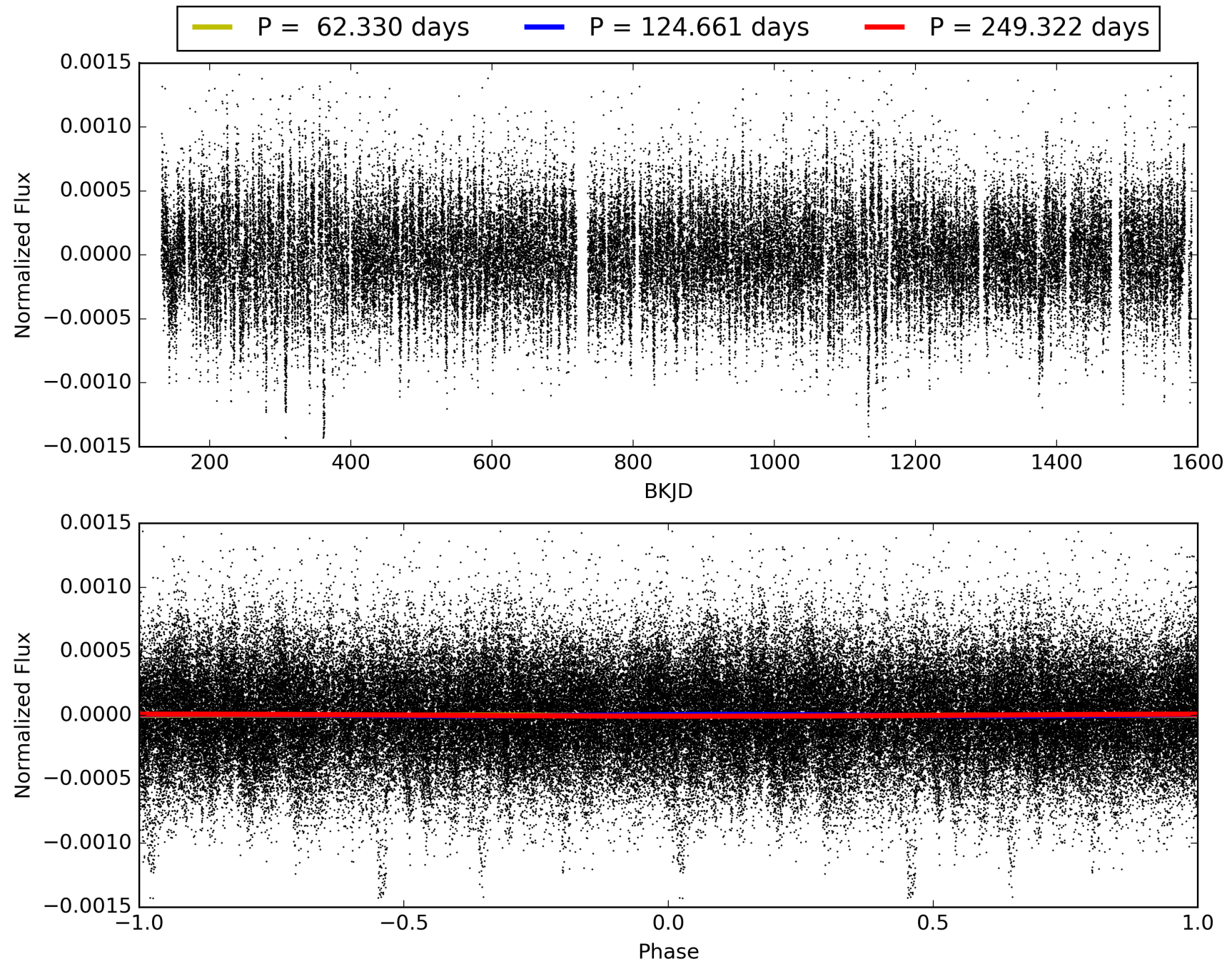
DV Diagnostic Results:

ShortPeriod-sig: 41.3% [0.54σ]
LongPeriod-sig: 100.0% [43.27σ]
ModelChiSquare2-sig: 1.1%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 1.18e-10
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -6.875
Centroid-sig: 1.6%
Centroid-so: 1.732 arcsec [1.57σ]
OotOffset-rm: 0.432 arcsec [0.93σ]
OotOffset-st: 1/3/1/0 [5]
KicOffset-rm: 0.397 arcsec [0.85σ]
KicOffset-st: 1/3/1/0 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 0.00 [0/10]

TCE 005636937-02, PDC Light Curves

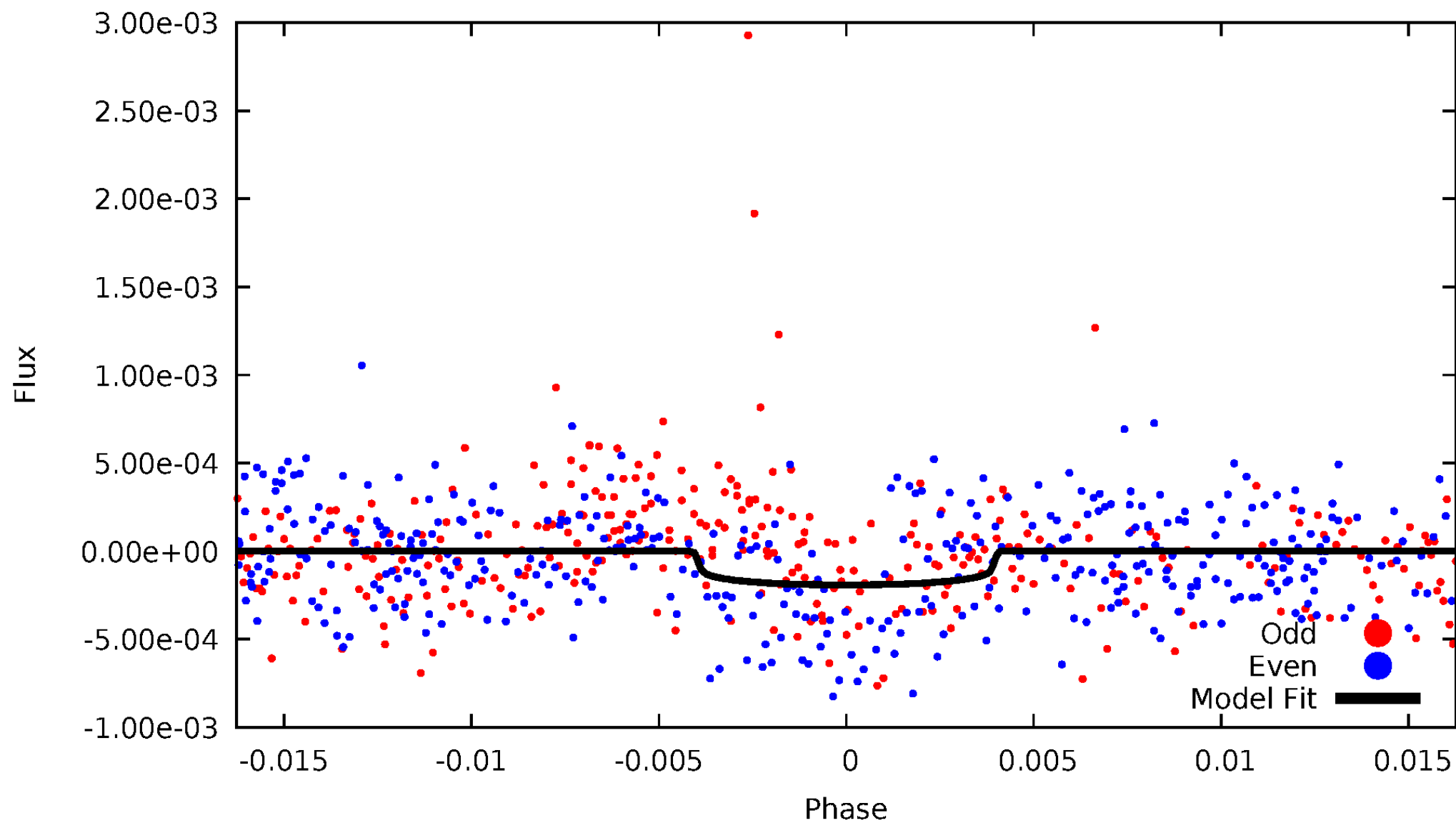


TCE 005636937-02



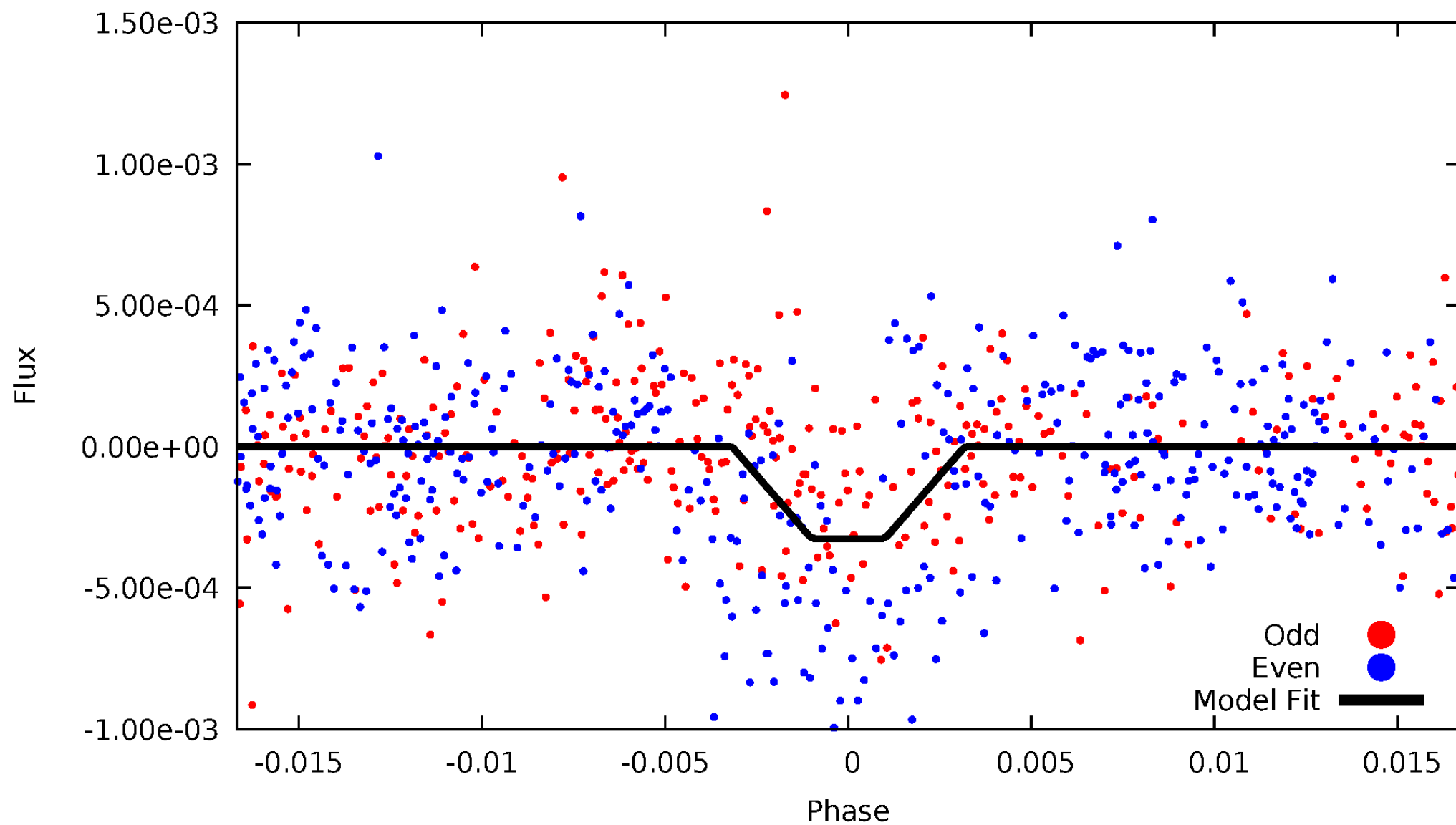
DV Odd/Even

TCE 005636937-02



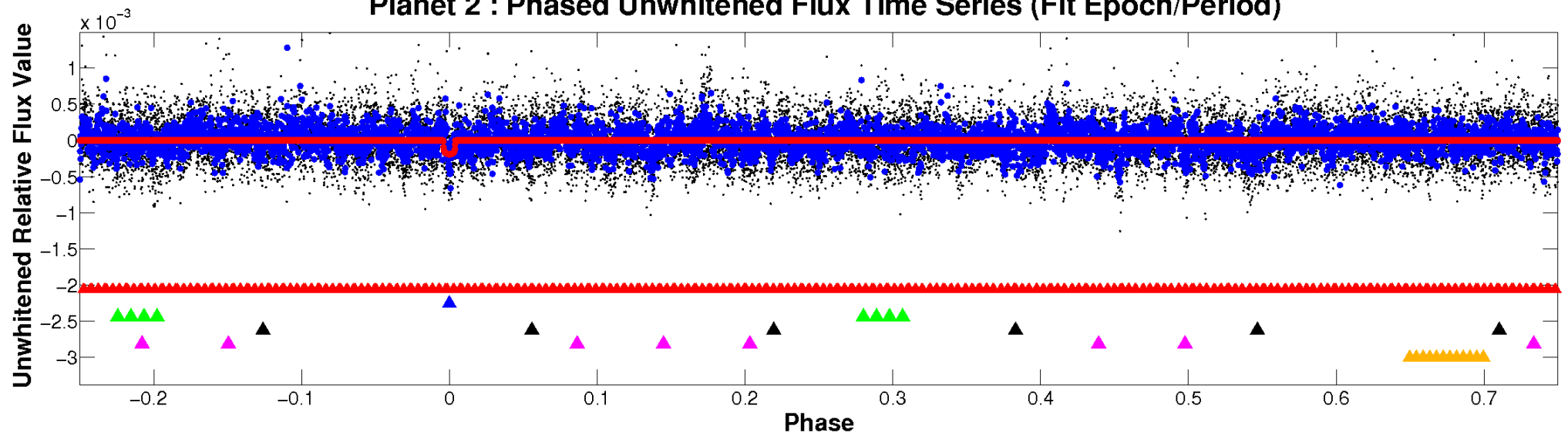
ALT Odd/Even

TCE 005636937-02

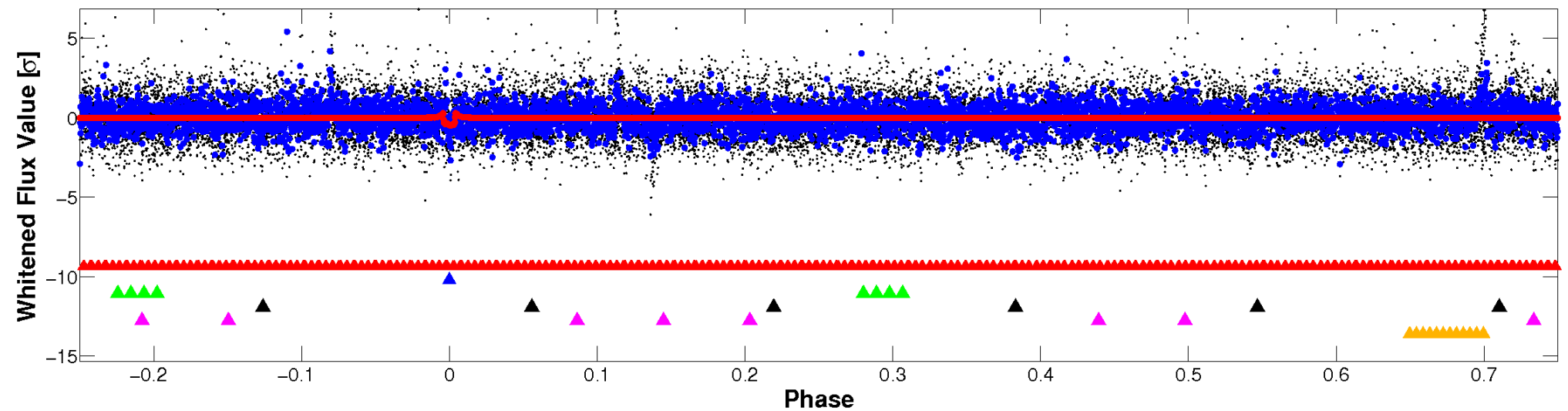


Non-Whitened Vs. Whitened Light Curve

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

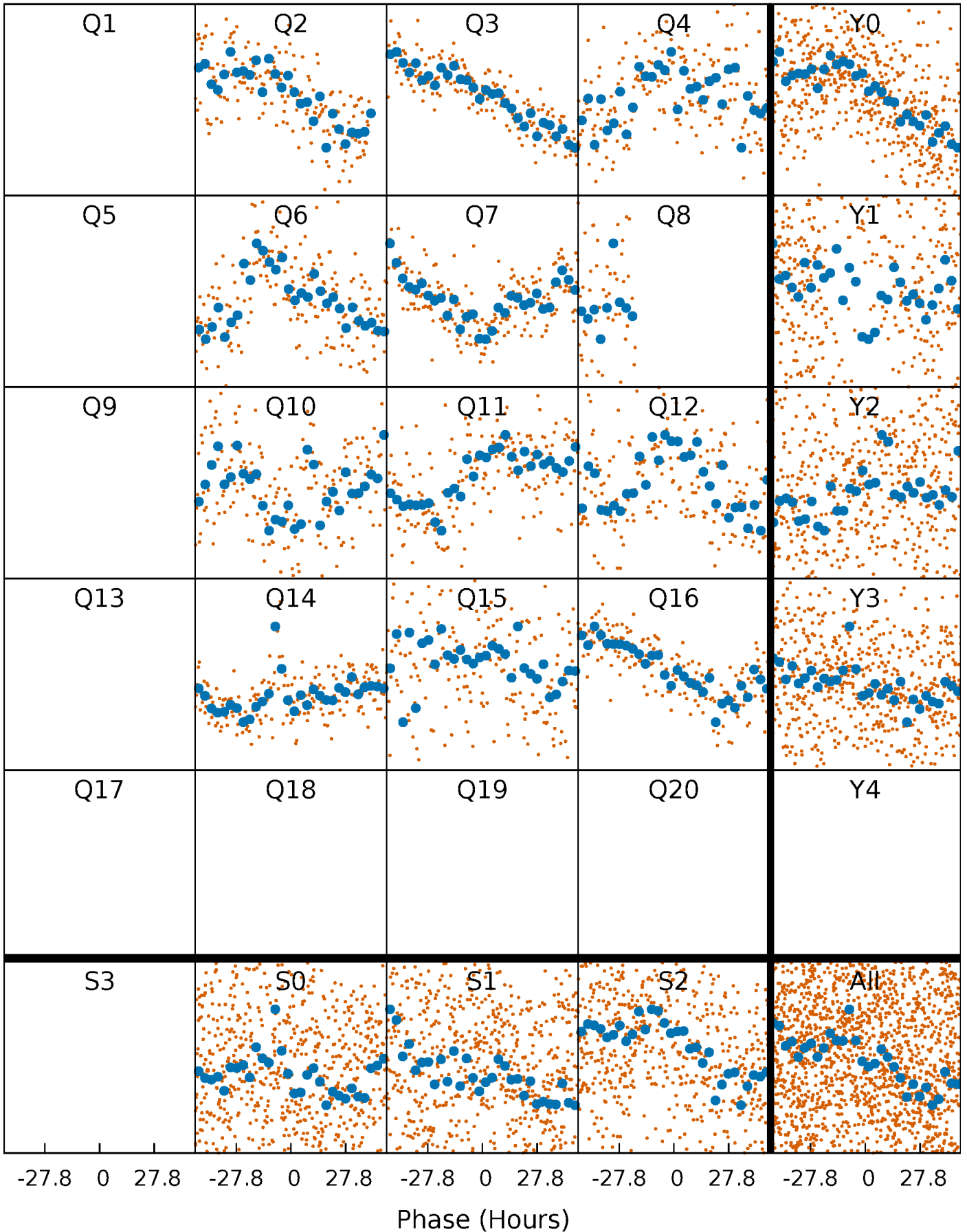


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



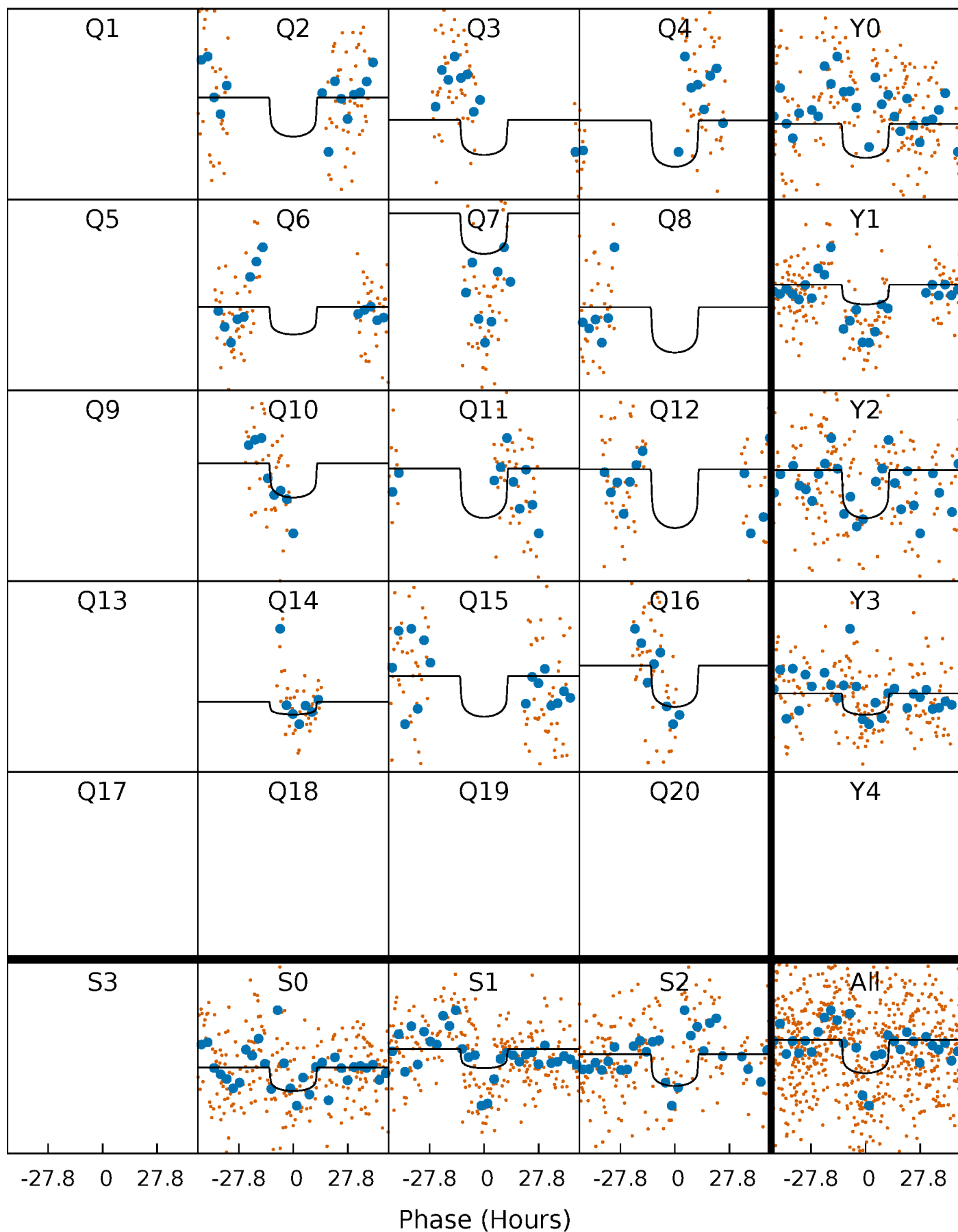
PDC Quarter-Phased Transit Curves

TCE 005636937-02 $P=124.660983$ Days $T_0=179.858184$ (BKJD)



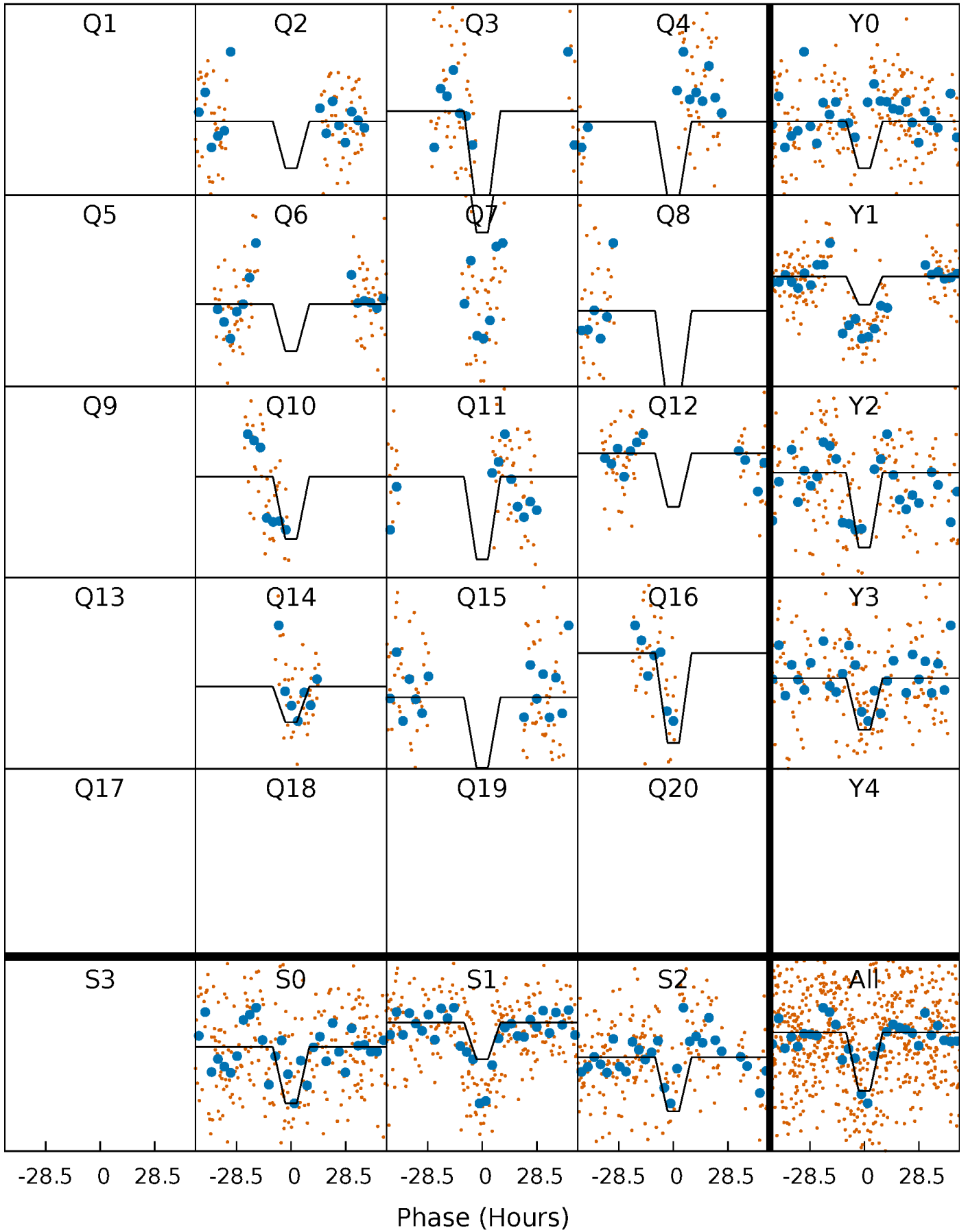
DV Quarter-Phased Transit Curves

TCE 005636937-02 P=124.660983 Days $T_0=179.858184$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

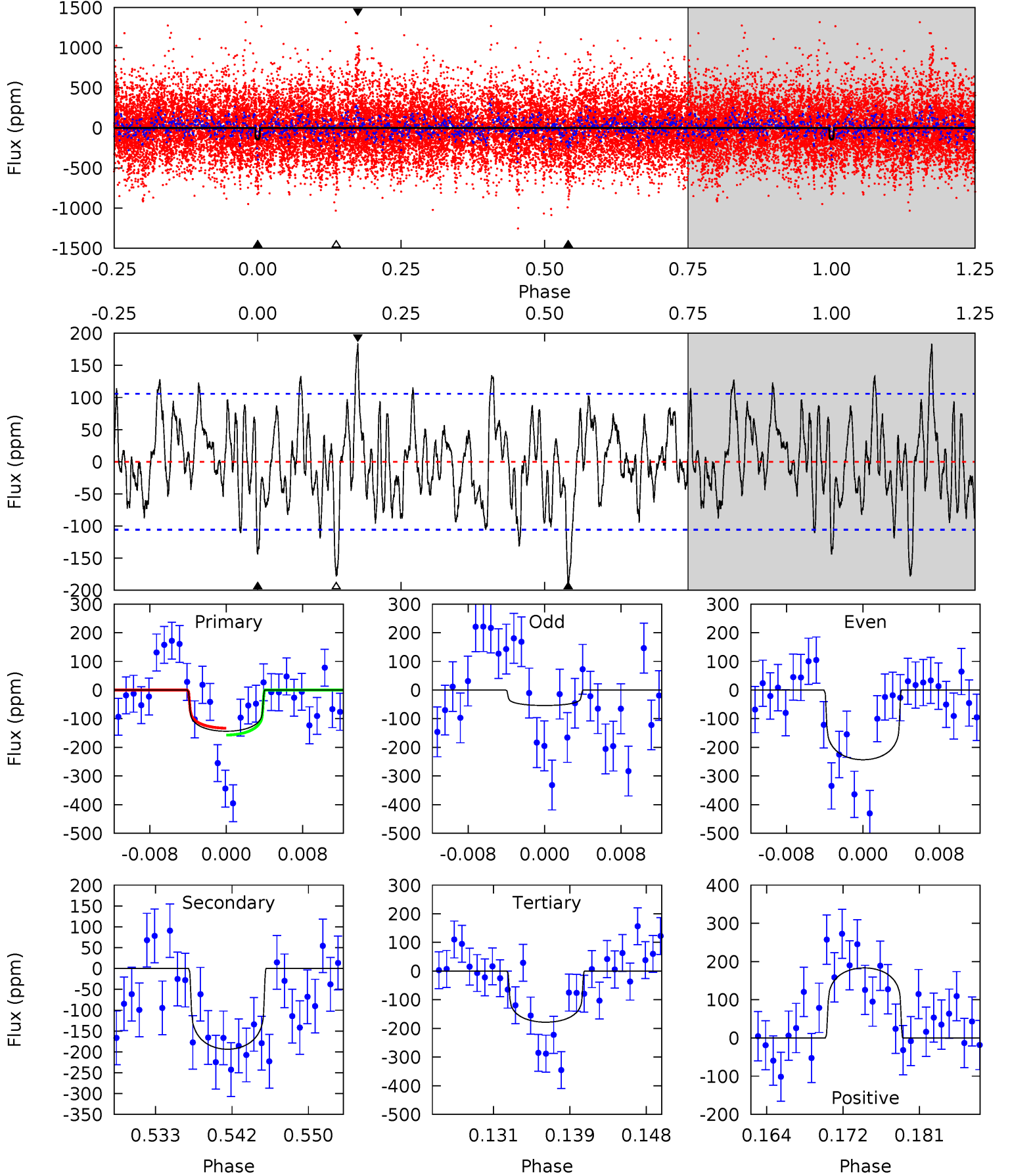
TCE 005636937-02 P=124.658338 Days $T_0=179.873510$ (BKJD)



DV Model-Shift Uniqueness Test

005636937-02, P = 124.660983 Days, E = 55.197201 Days

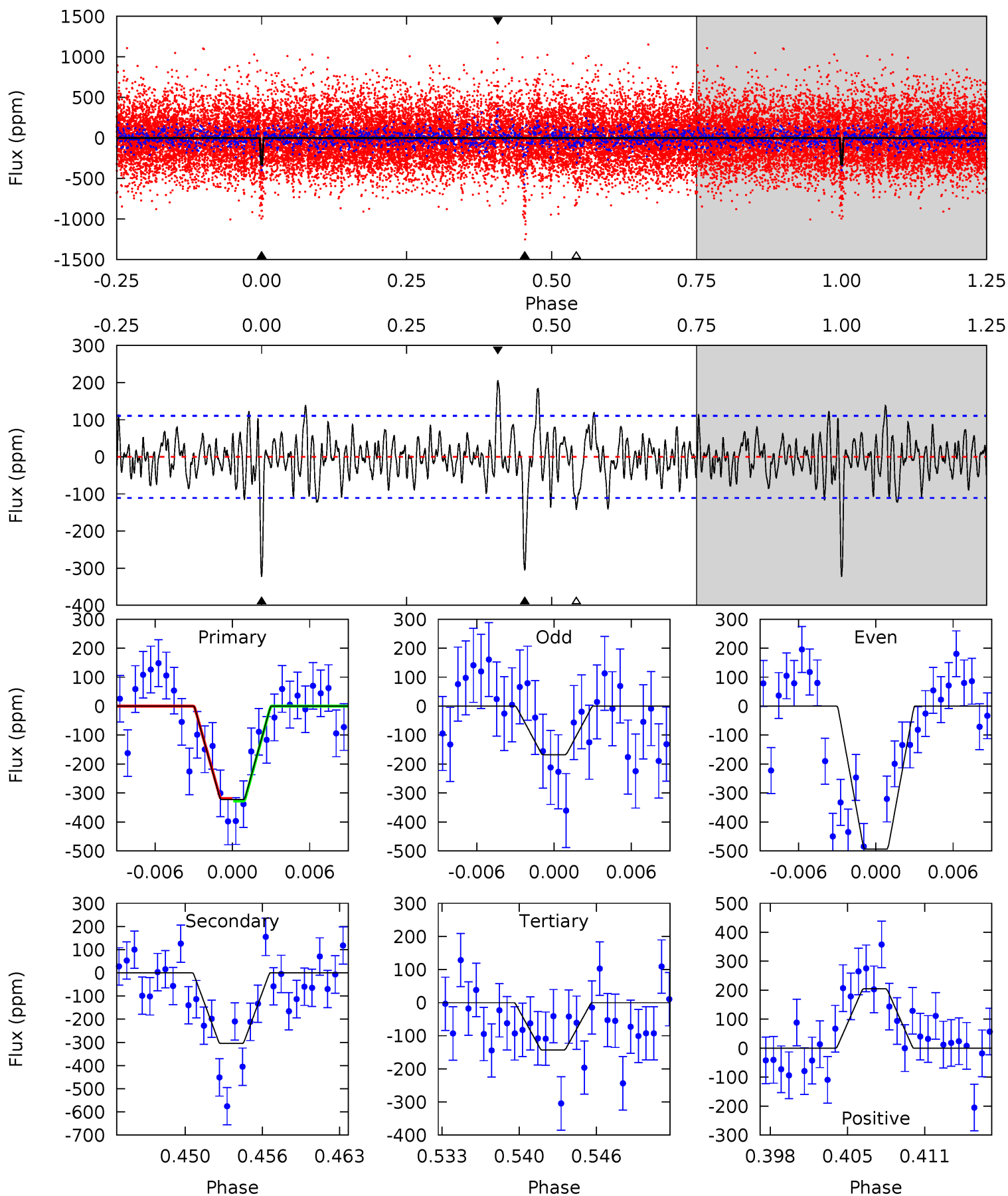
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.89	9.28	8.54	8.78	5.06	2.64	2.57	-1.65	-1.89	0.74	0.50	4.53	-83.7	0.49	0.57



Alt Model-Shift Uniqueness Test

005636937-02, P = 124.658338 Days, E = 55.215172 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	14.1	6.61	9.46	5.11	2.73	2.21	8.30	5.45	7.46	4.61	7.52	0.93	0.39	0.19



Stellar Parameters For KIC 005636937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5864^{+176}_{-176}	$4.438^{+0.160}_{-0.160}$	$-0.900^{+0.300}_{-0.300}$	$0.851^{+0.175}_{-0.143}$	$0.723^{+0.094}_{-0.031}$	$1.653^{+1.188}_{-0.691}$
	+3%/-3%	+4%/-4%	+33%/-33%	+21%/-17%	+13%/-4%	+72%/-42%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005636937-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-194 ± 21	$1.27^{+0.48}_{-0.45}$	505^{+30}_{-30}	5935^{+1507}_{-772}	12764^{+17828}_{-6065}
Alt.	-305 ± 22	$1.70^{+0.53}_{-0.45}$	504^{+35}_{-29}	5751^{+934}_{-589}	11361^{+9944}_{-4683}

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

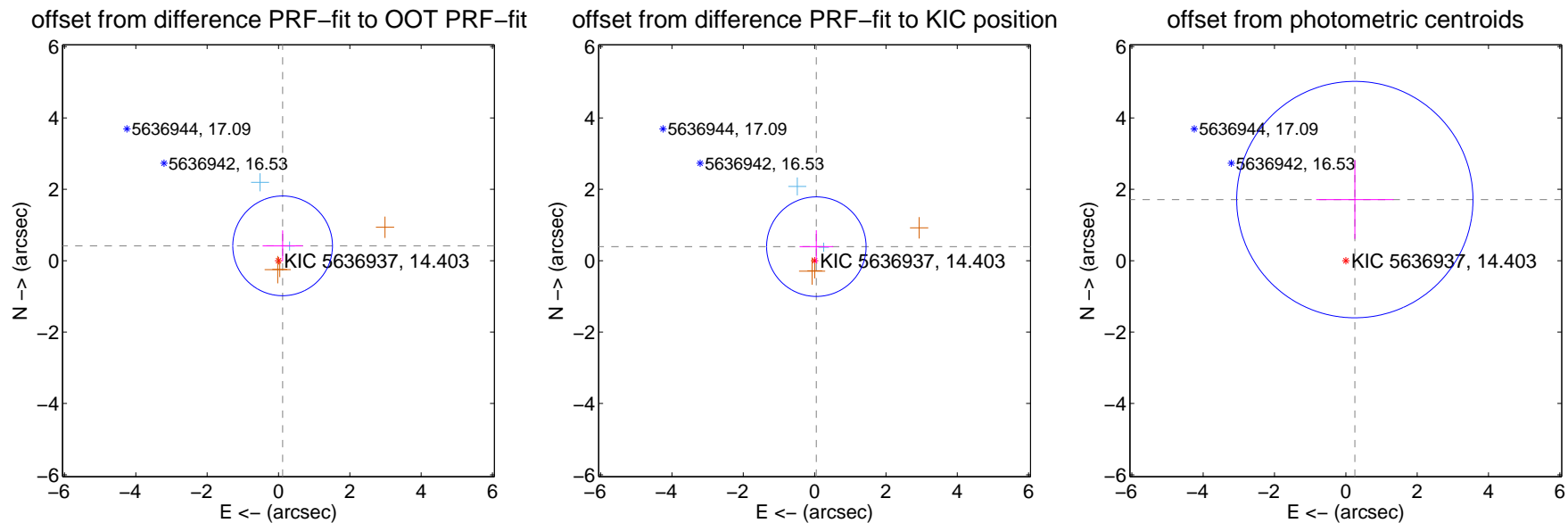
DV Centroid Data

Supplemental centroid analysis for 005636937-02. Kepler magnitude: 14.40. Transit SNR 5.65

There are 2 quarters with good PRF difference image offsets

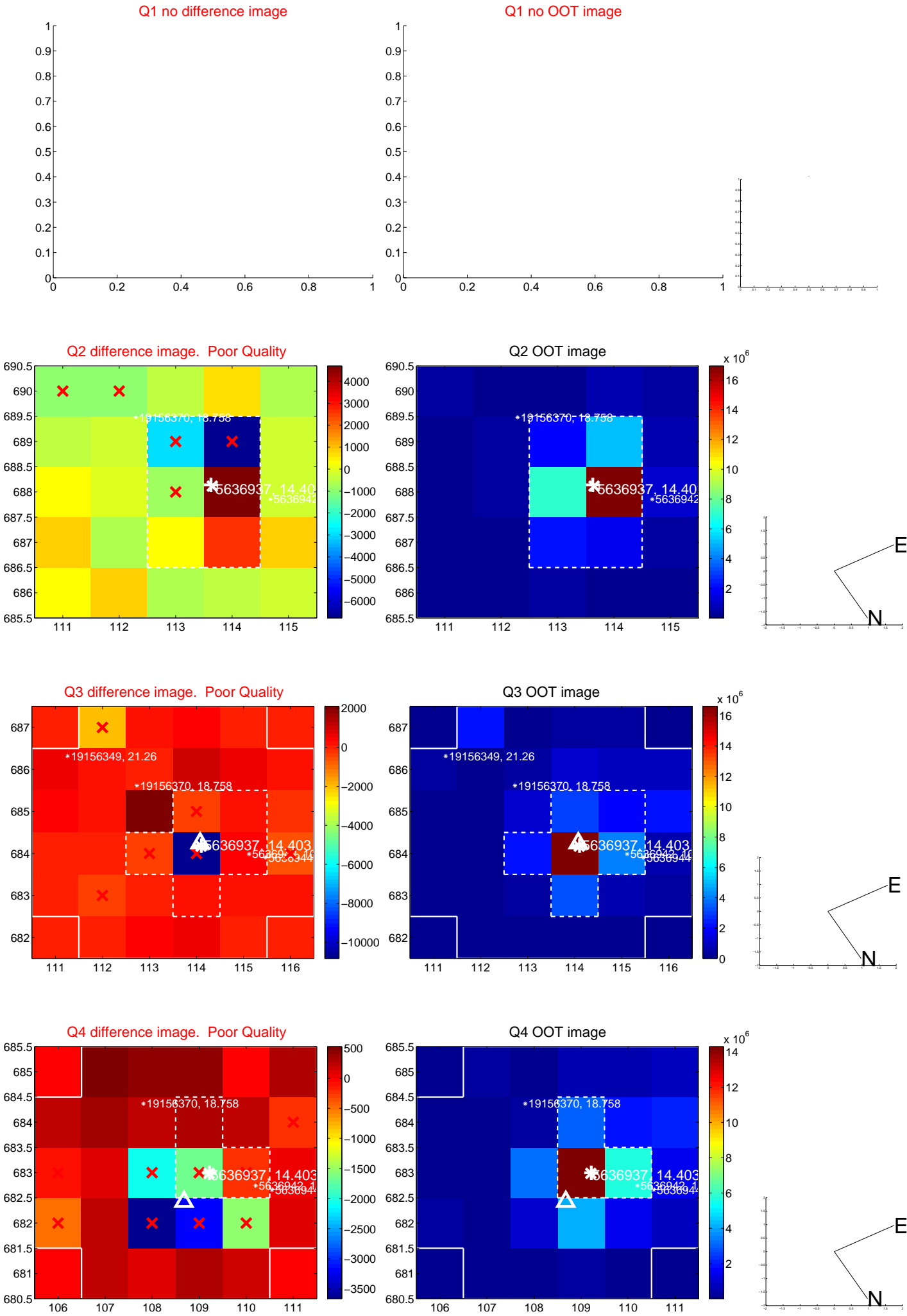
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.432 ± 0.466	0.93	-0.116 ± 0.563	0.416 ± 0.433
PRF-fit source offset from KIC position	0.397 ± 0.465	0.85	-0.049 ± 0.471	0.394 ± 0.462
photometric centroid source offset	1.73 ± 1.10	1.57	-0.25 ± 1.09	1.71 ± 1.10

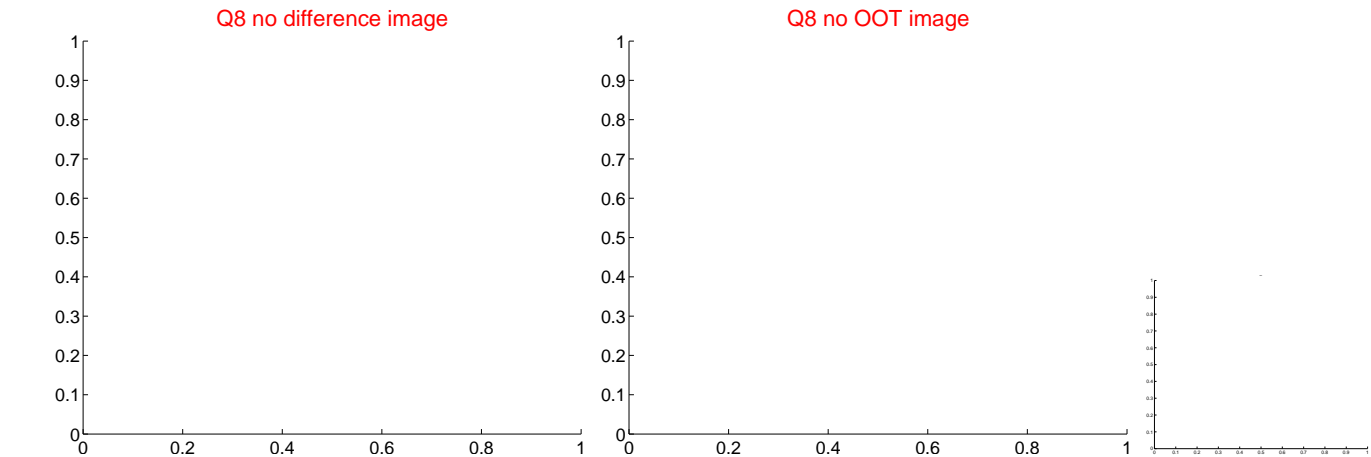
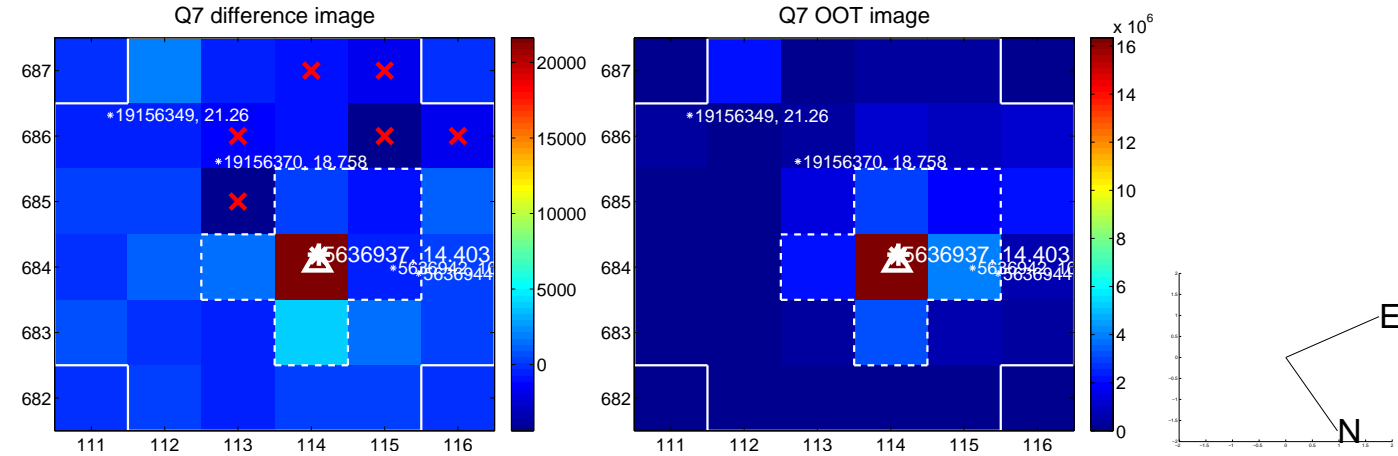
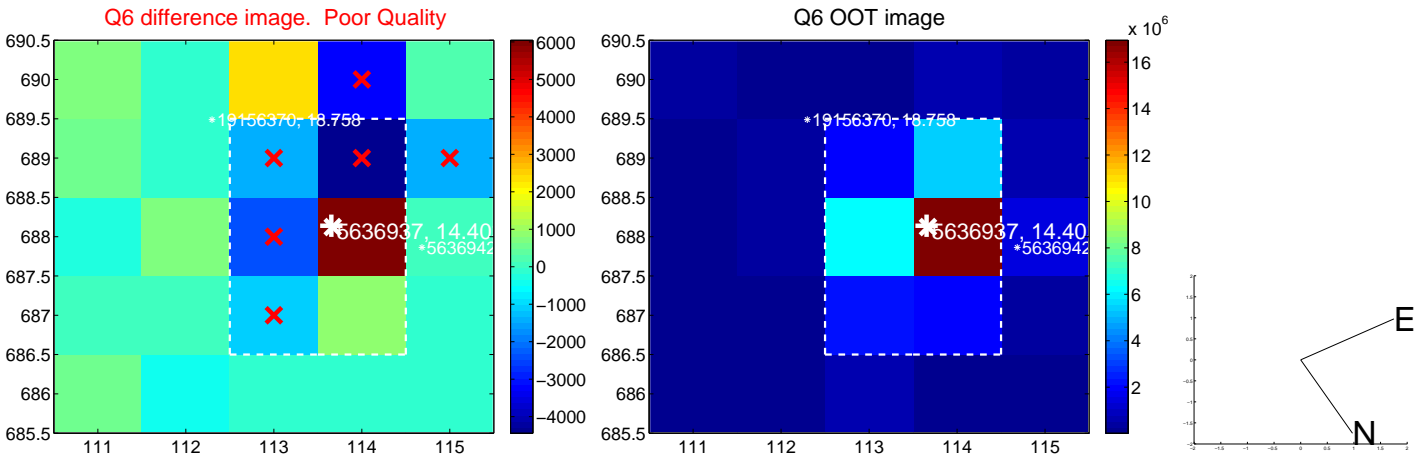
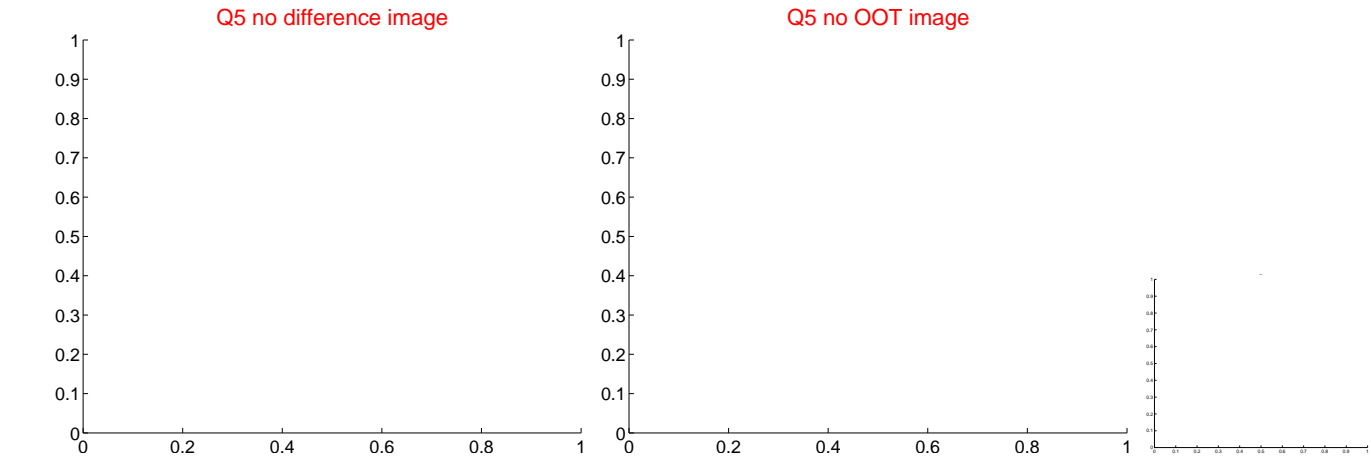


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

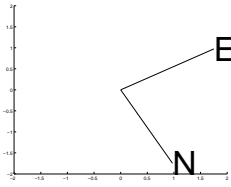
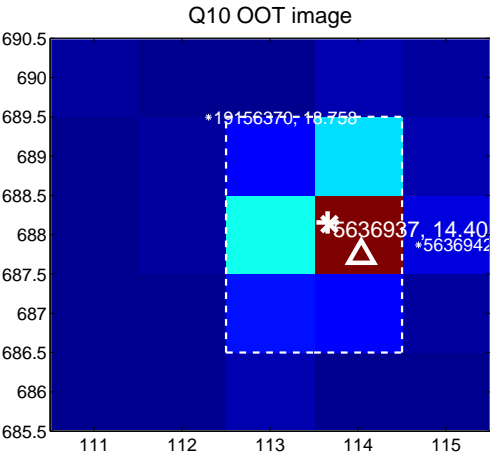
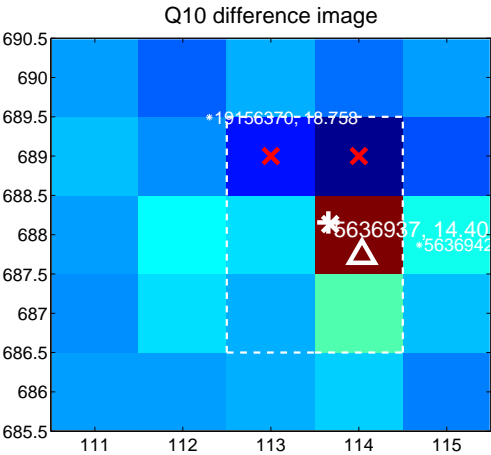


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

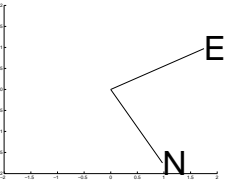
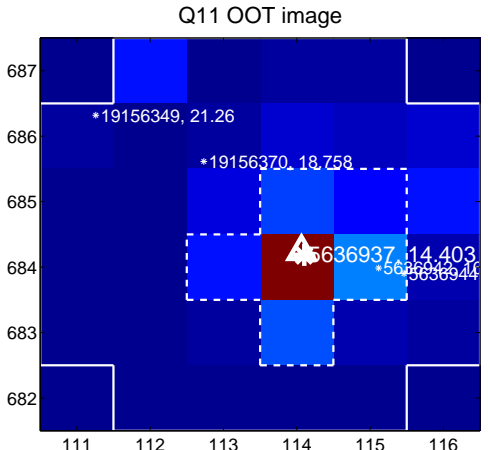
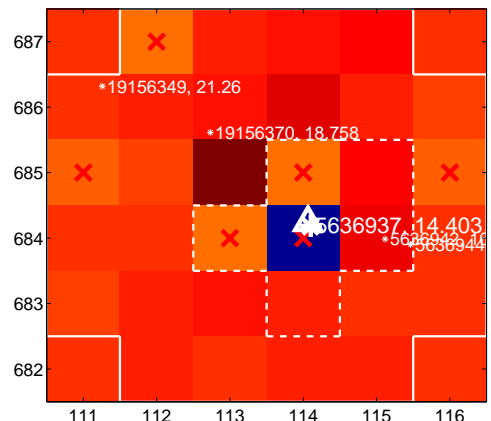
Q9 no difference image



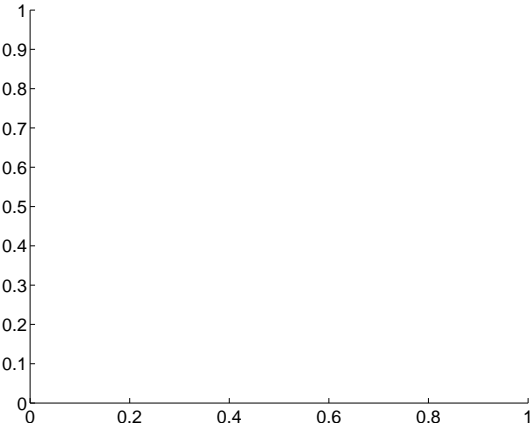
Q9 no OOT image



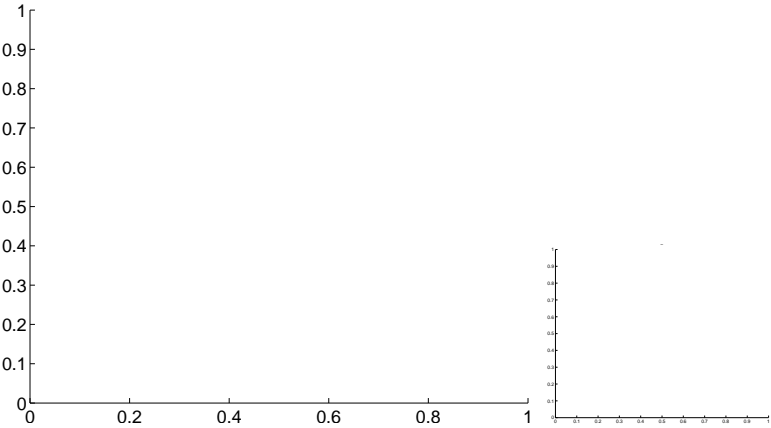
Q11 difference image. Poor Quality



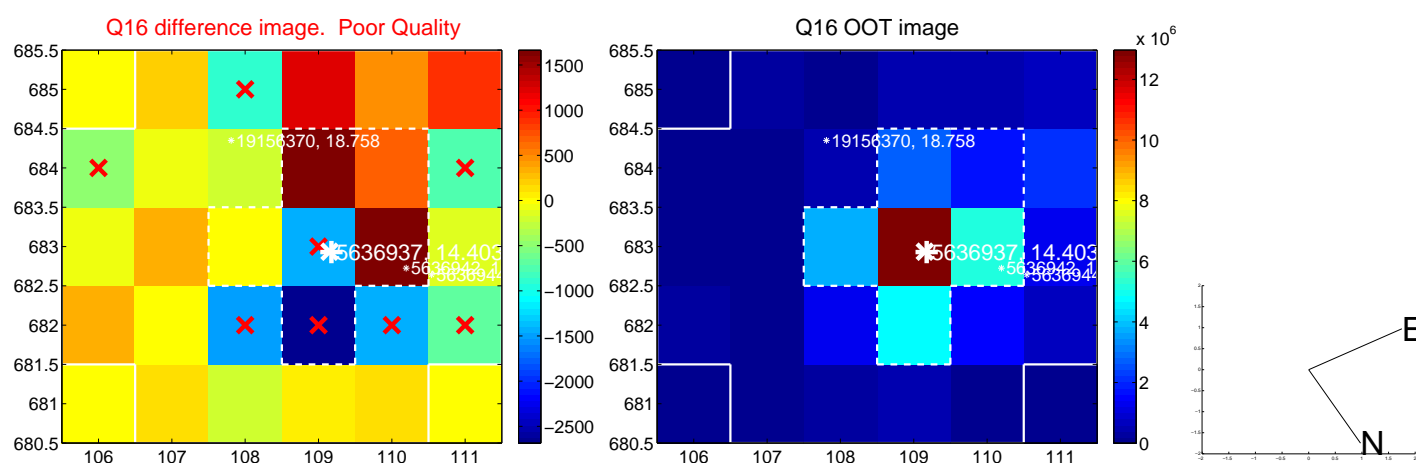
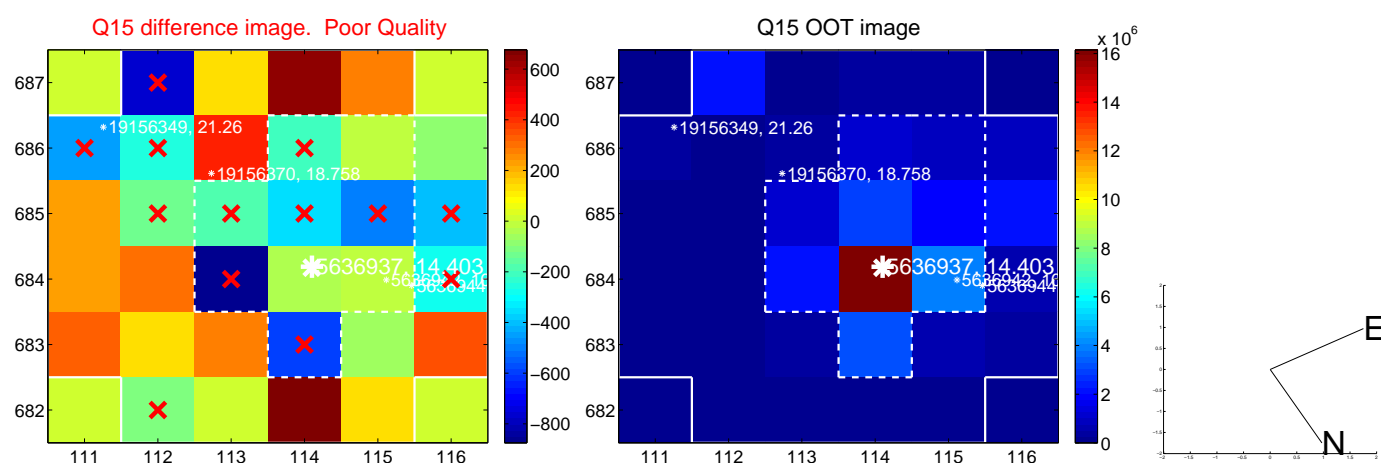
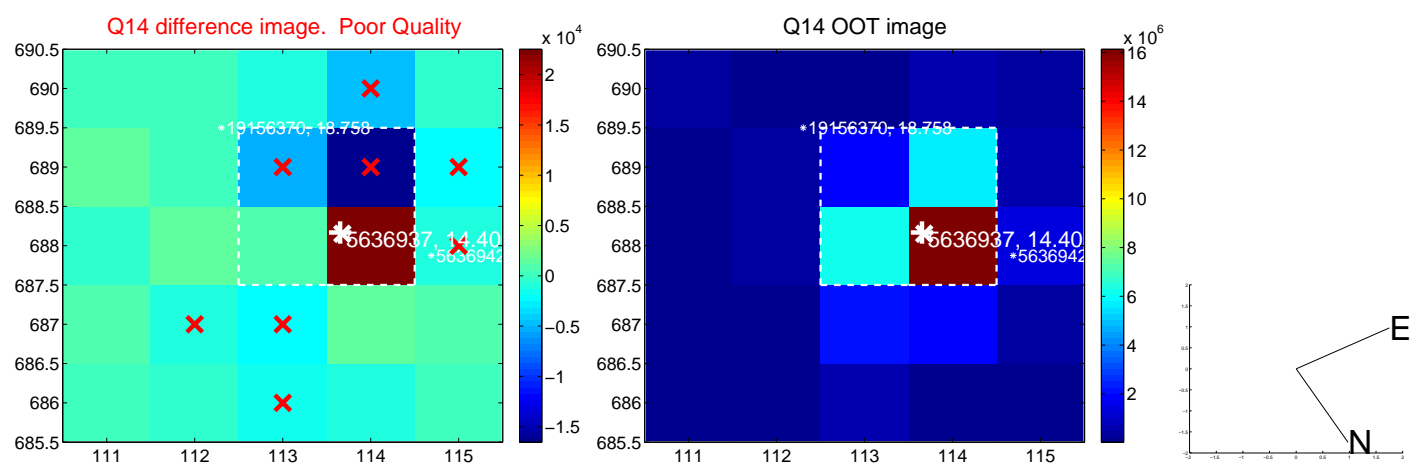
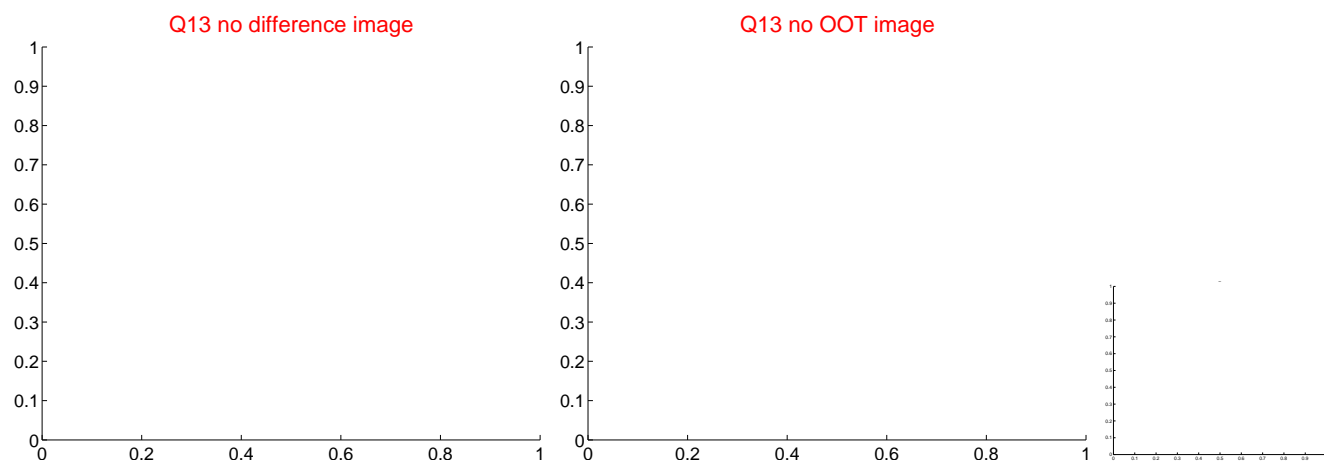
Q12 no difference image



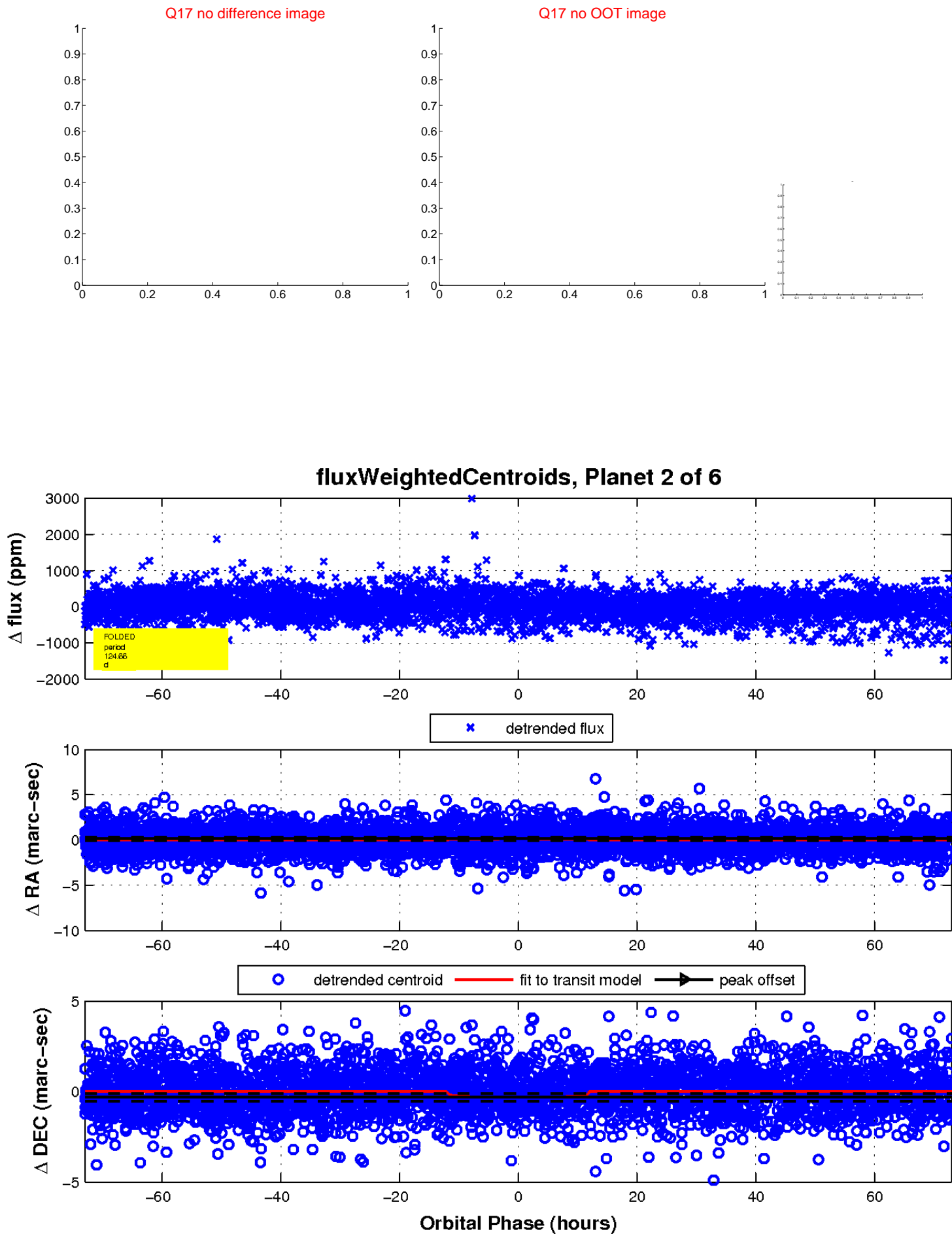
Q12 no OOT image



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

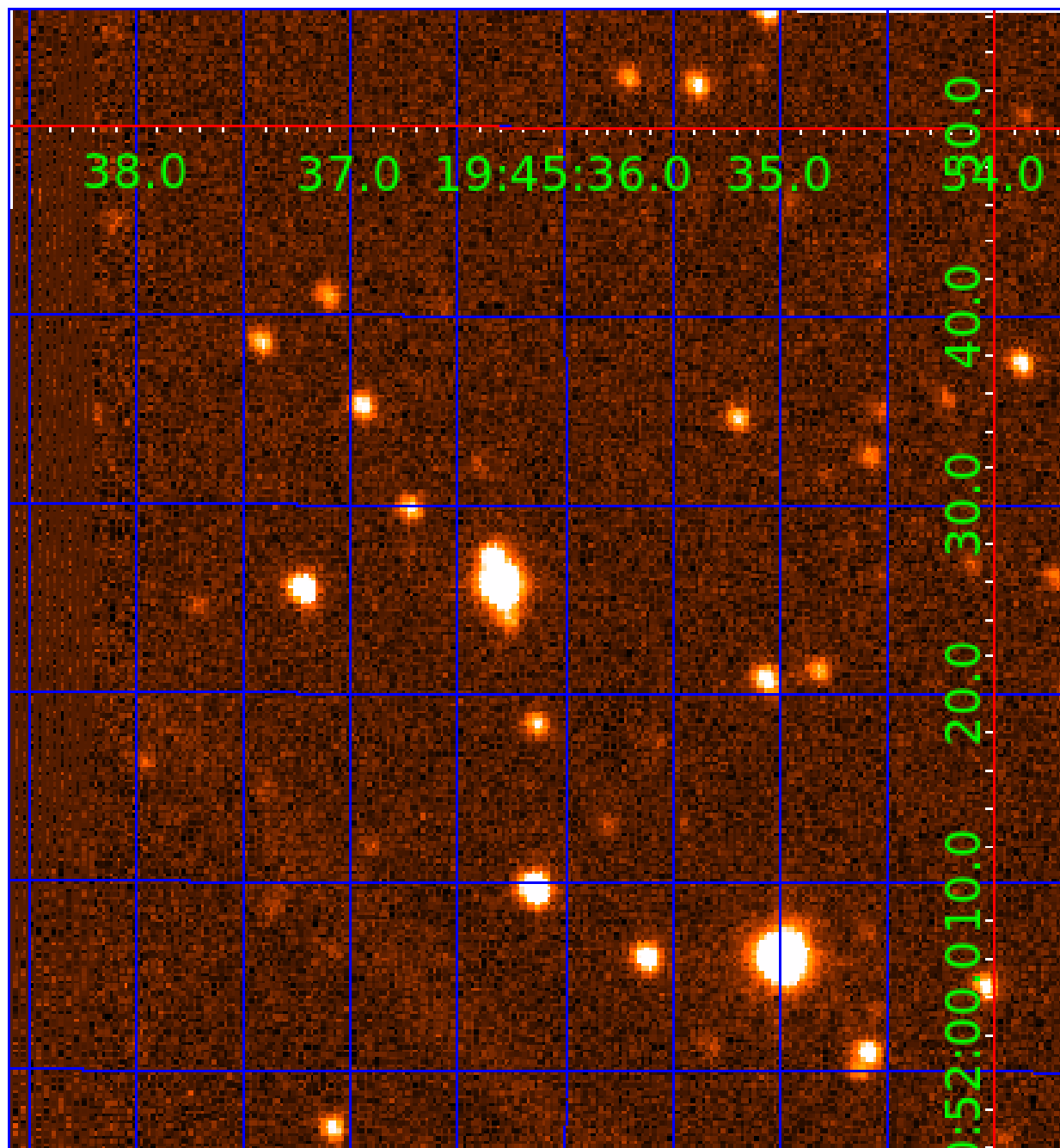


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005636937

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})
005636937-01	OBS	No	2.997102	131.563656	42.2	16.018	9.3	9.7	0.85	5864	0.56	574.59
005636937-02	OBS	No	124.660983	179.858184	191.6	24.328	9.1	5.7	0.85	5864	1.26	3.99
005636937-03	OBS	No	187.542444	276.561010	311.1	12.582	8.2	7.1	0.85	5864	1.62	2.31
005636937-04	OBS	No	269.718843	186.818991	236.8	26.016	7.6	5.8	0.85	5864	1.44	1.43
005636937-05	OBS	No	168.642217	271.317635	673.6	1.820	7.5	8.5	0.85	5864	2.64	2.67
005636937-06	OBS	No	124.096159	142.407229	337.3	5.691	7.6	7.0	0.85	5864	1.66	4.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005636937-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005636937-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005636937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
005636937-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

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

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

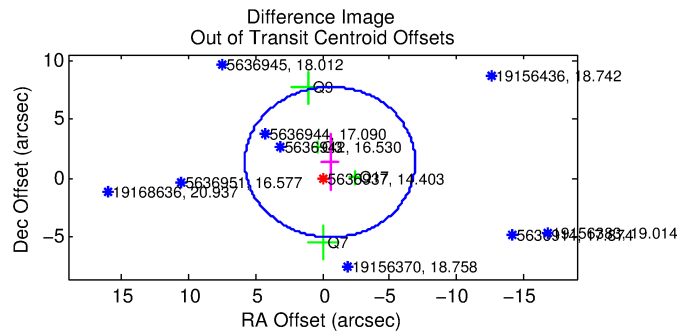
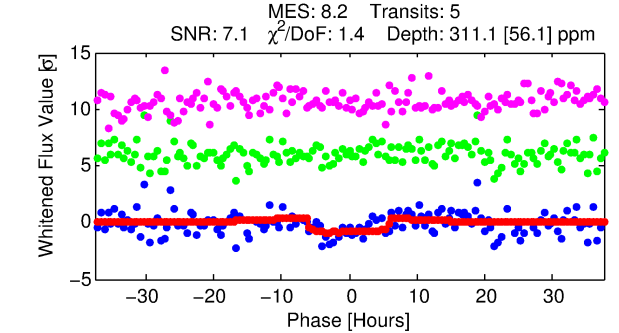
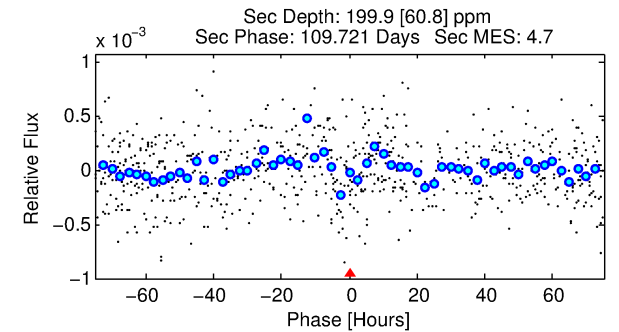
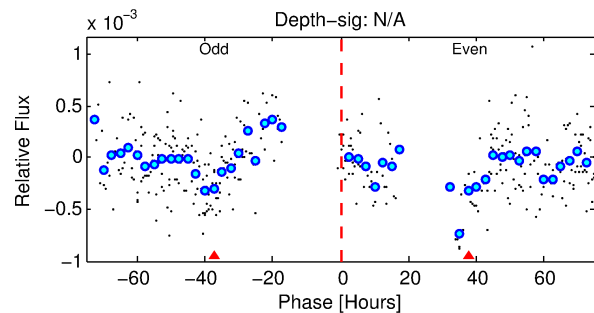
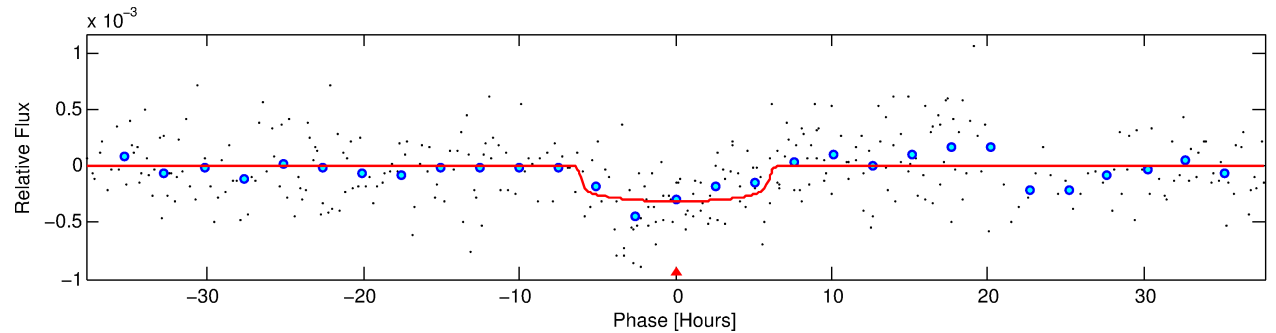
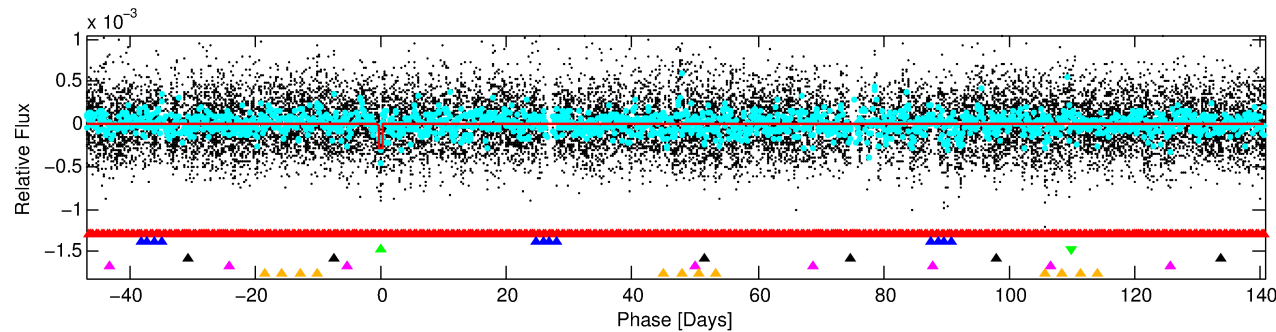
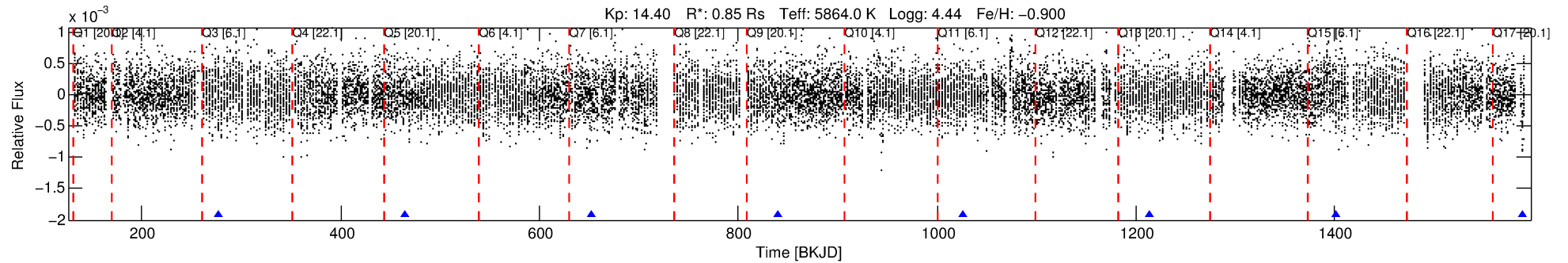
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005636937-03

No Significant Match Found

DV One-Page Summary

KIC: 5636937 Candidate: 3 of 6 Period: 187.542 d



DV Fit Results:

Period = 187.54244 [0.00577] d
Epoch = 276.5610 [0.0243] BKJD
Rp/R* = 0.0175 [0.0094]
a/R* = 79.53 [220.03]
b = 0.74 [1.70]
Seff = 2.31 [0.71]
Teff = 314 [24] K
Rp = 1.62 [0.93] Re
a = 0.5759 [0.1060] AU
Ag = 13845.54 [15914.70] [0.87] σ
Teffp = 5274 [1478] K [3.36] σ

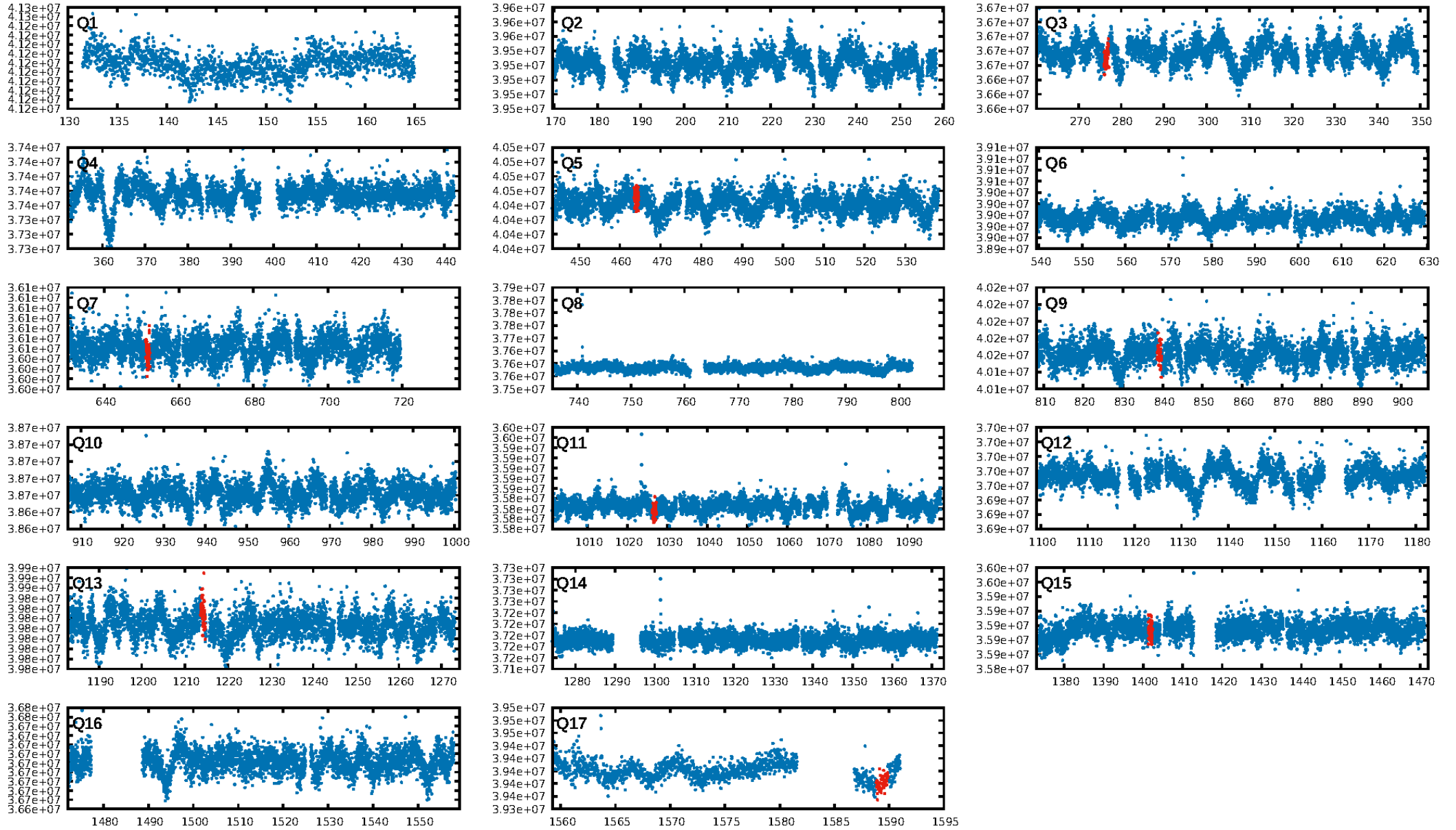
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [35.68] σ
LongPeriod-sig: 100.0% [68.25] σ
ModelChiSquare2-sig: 12.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.42e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.195
Centroid-sig: 20.4%
Centroid-so: 0.924 arcsec [0.92] σ
OotOffset-rm: 1.500 arcsec [0.71] σ
OotOffset-st: 0/2/0/2 [4]
KicOffset-rm: 1.464 arcsec [0.71] σ
KicOffset-st: 0/2/0/2 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 0.17 [1/6]

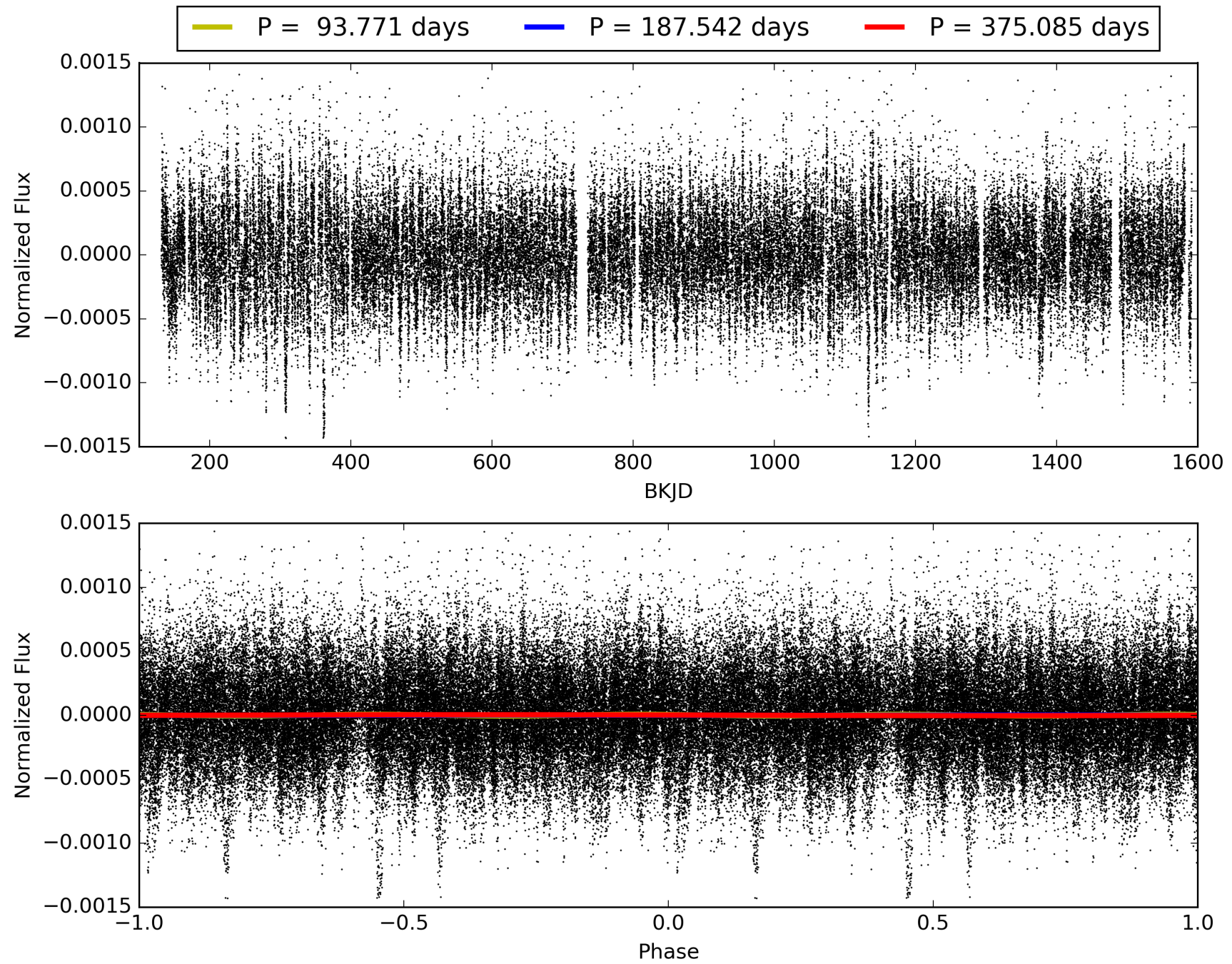
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:38:35 Z

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

TCE 005636937-03, PDC Light Curves

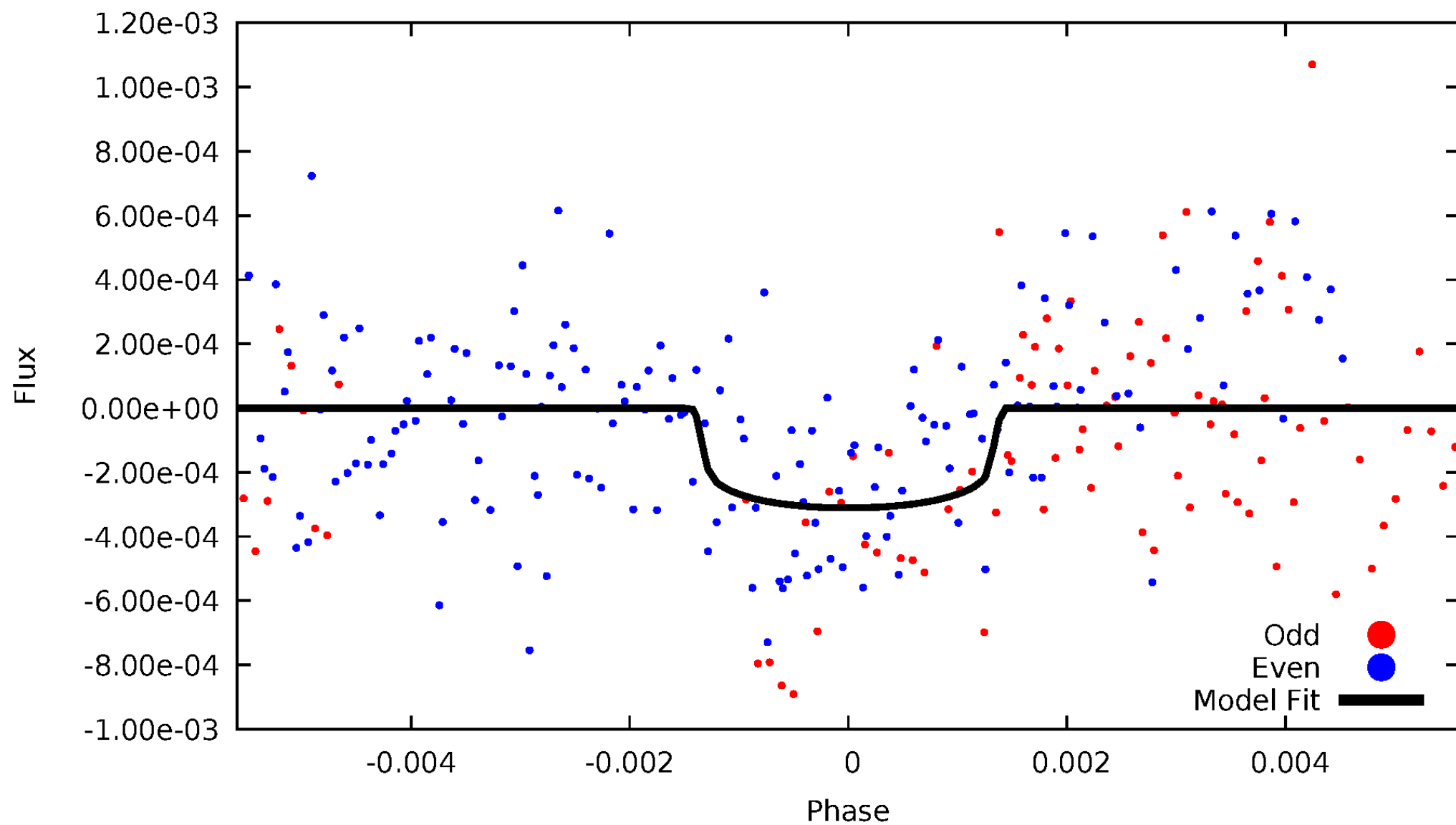


TCE 005636937-03



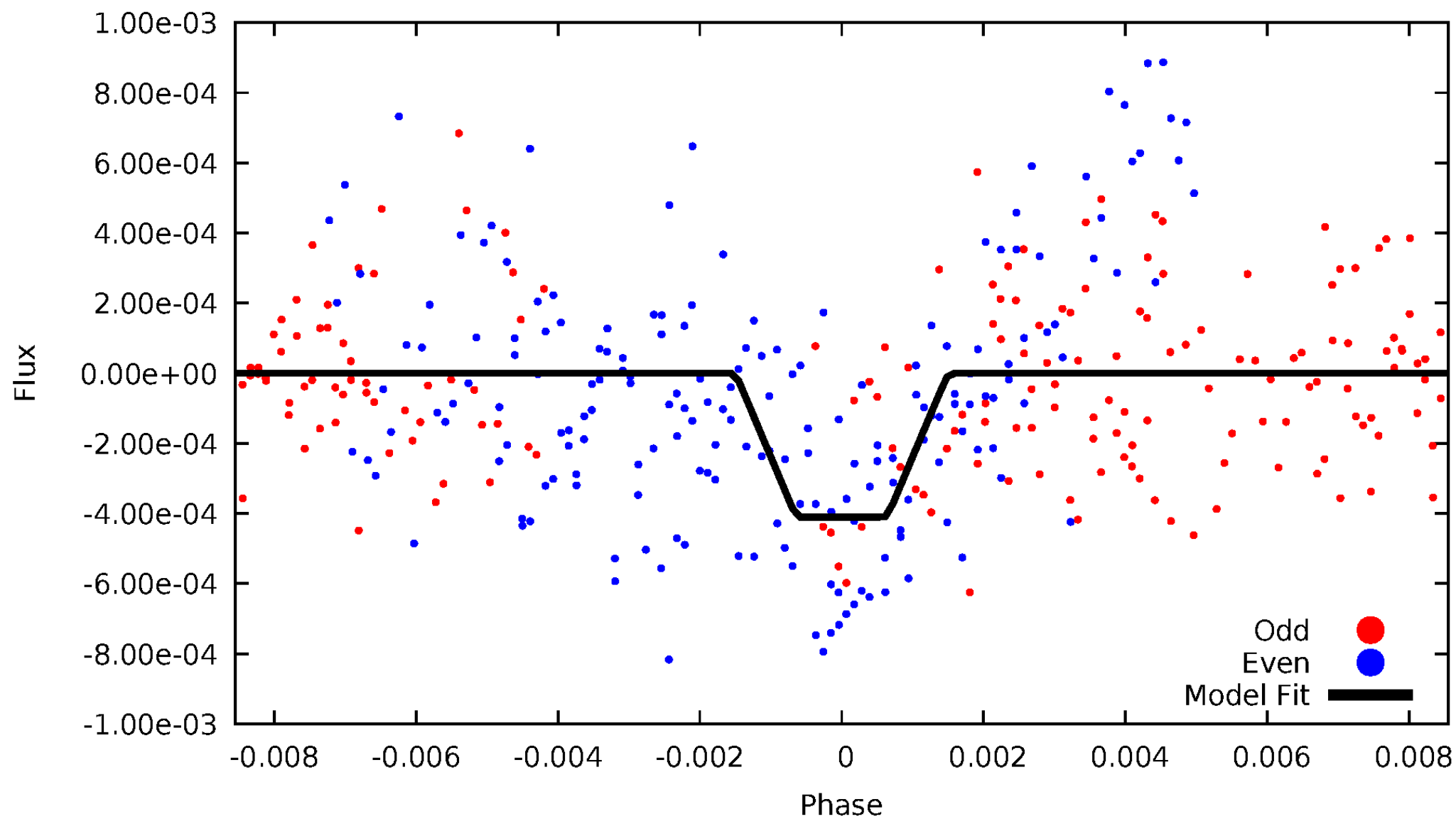
DV Odd/Even

TCE 005636937-03



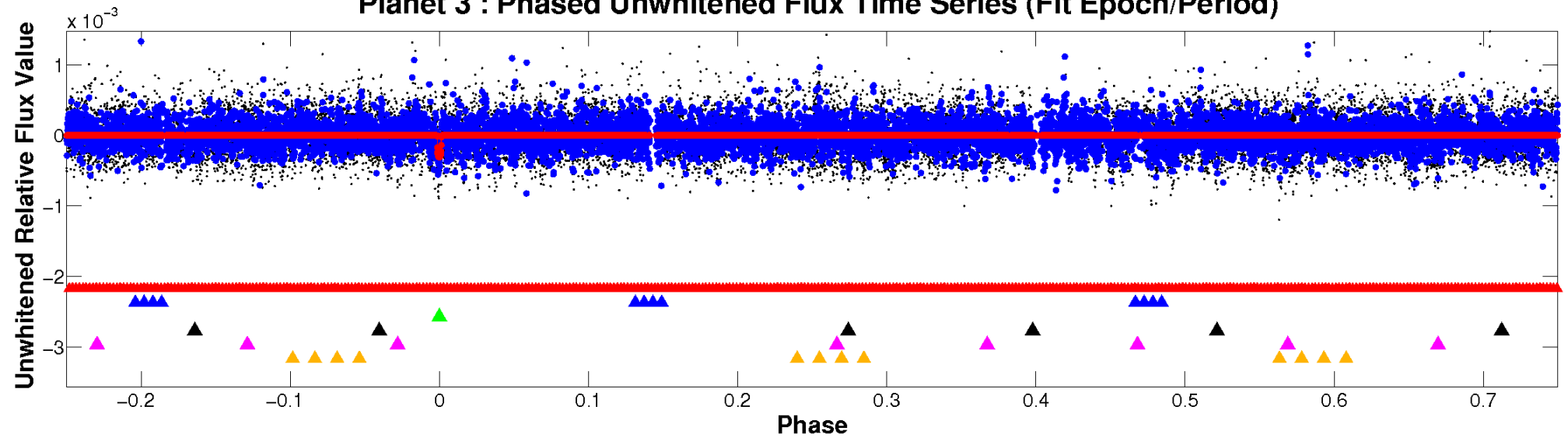
ALT Odd/Even

TCE 005636937-03

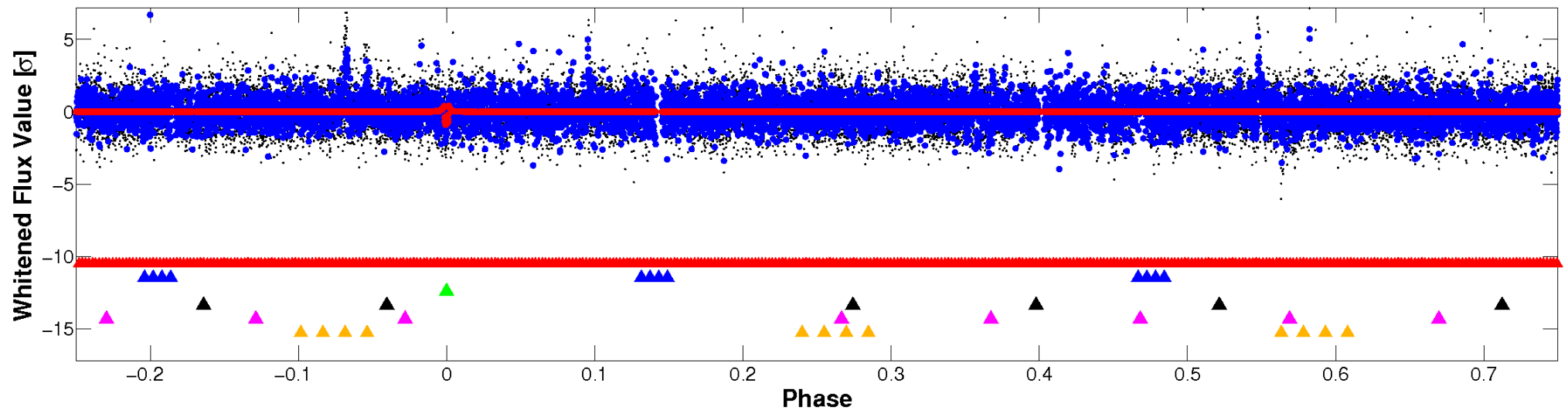


Non-Whitened Vs. Whitened Light Curve

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

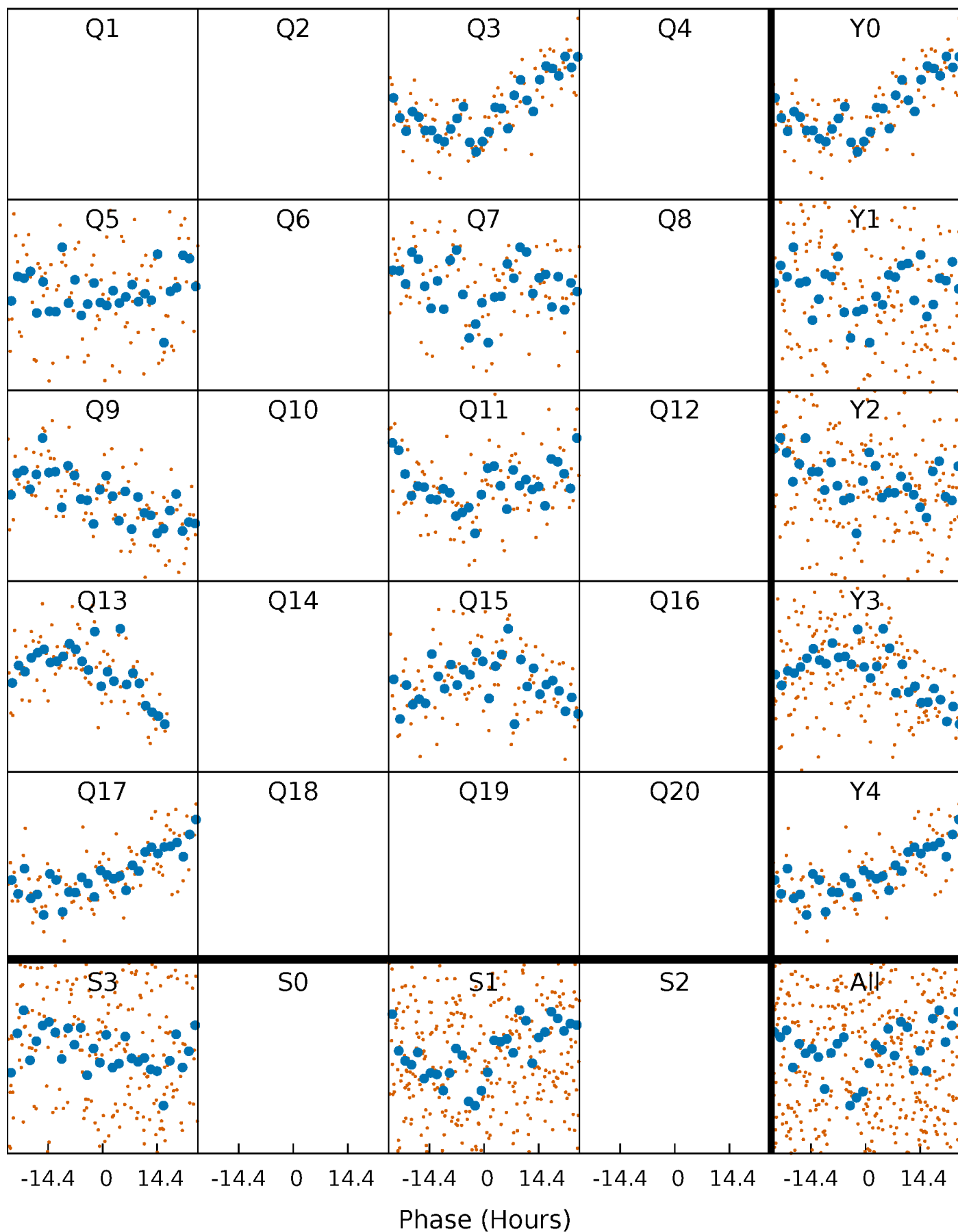


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



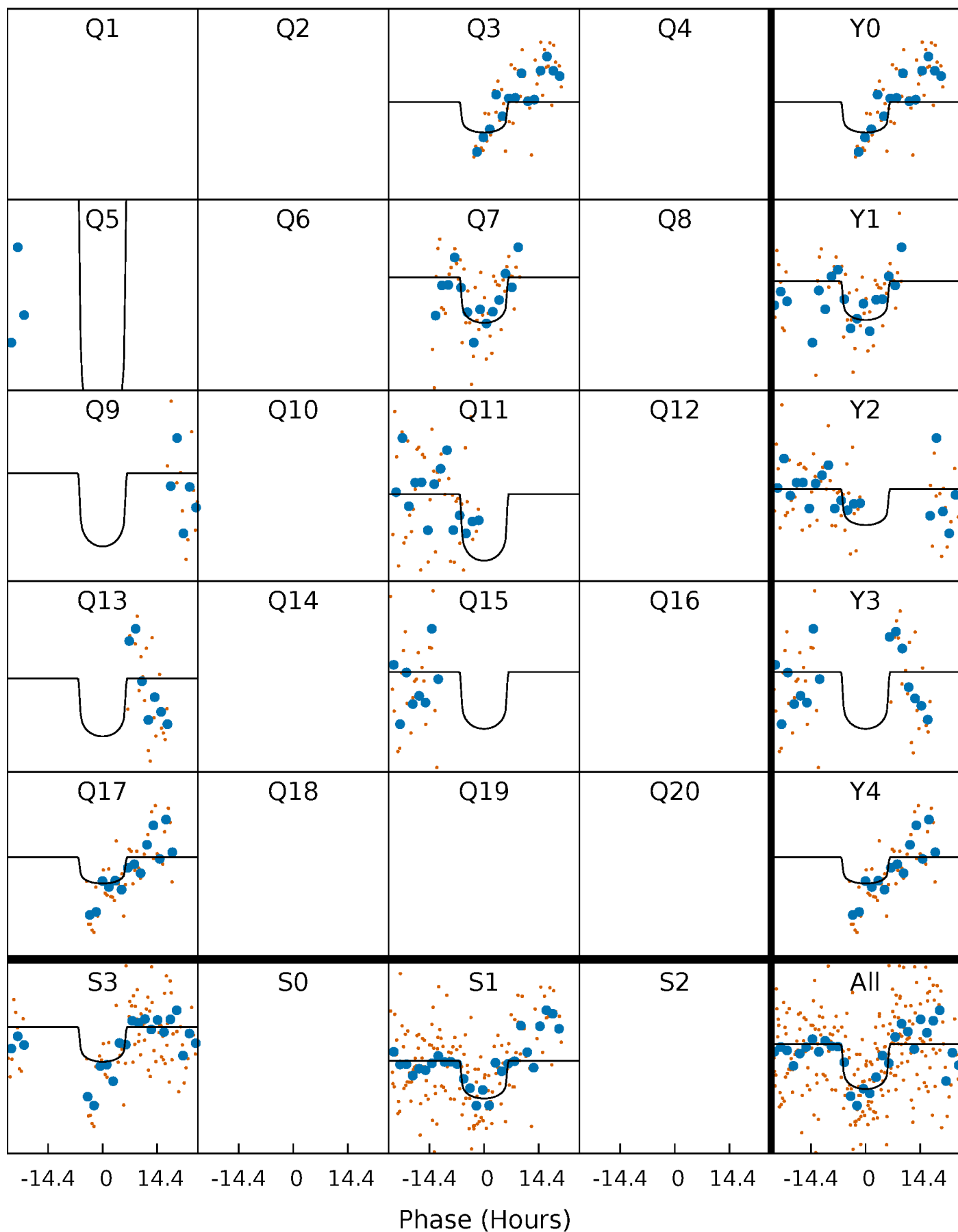
PDC Quarter-Phased Transit Curves

TCE 005636937-03 $P=187.542444$ Days $T_0=276.561010$ (BKJD)



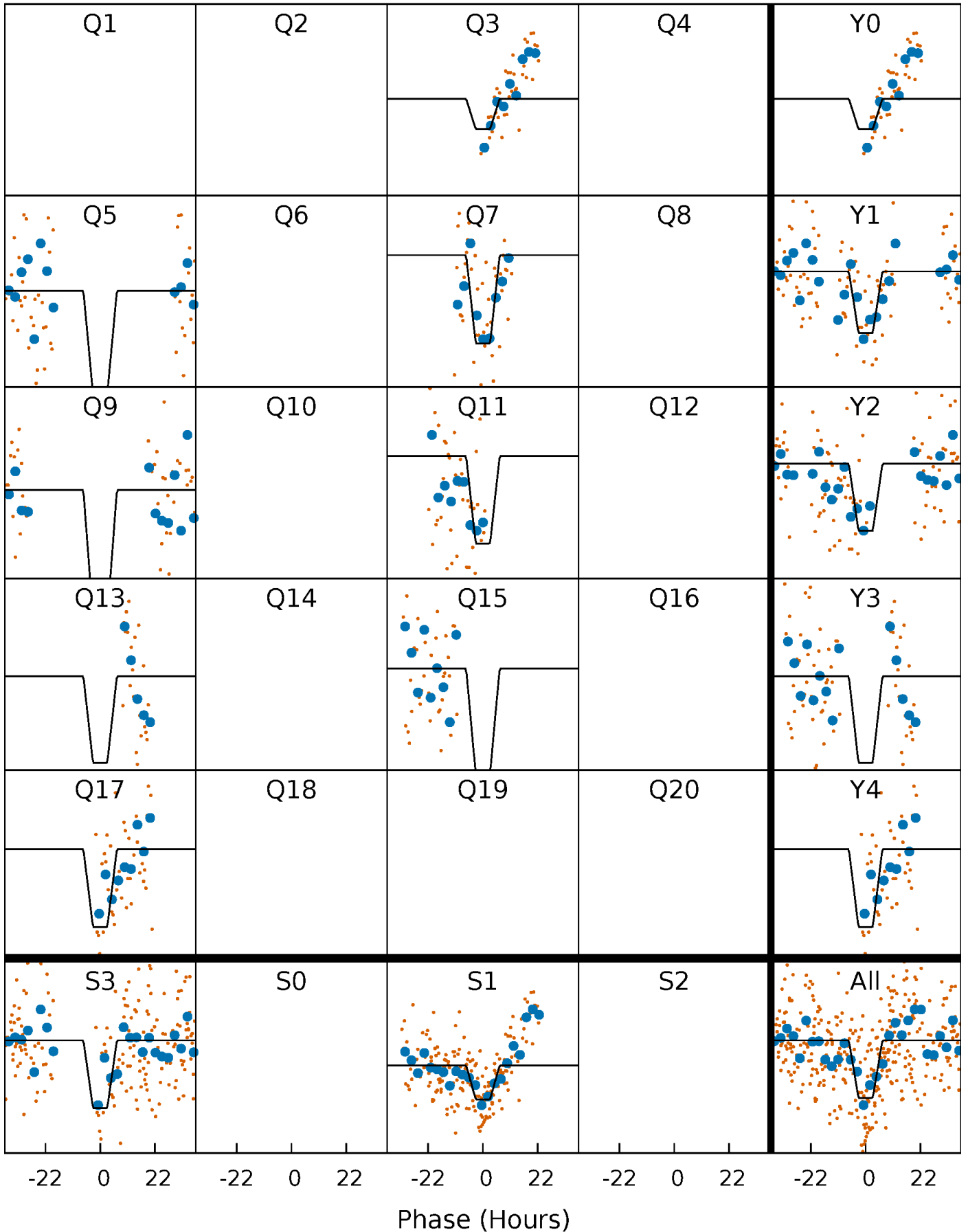
DV Quarter-Phased Transit Curves

TCE 005636937-03 $P=187.542444$ Days $T_0=276.561010$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

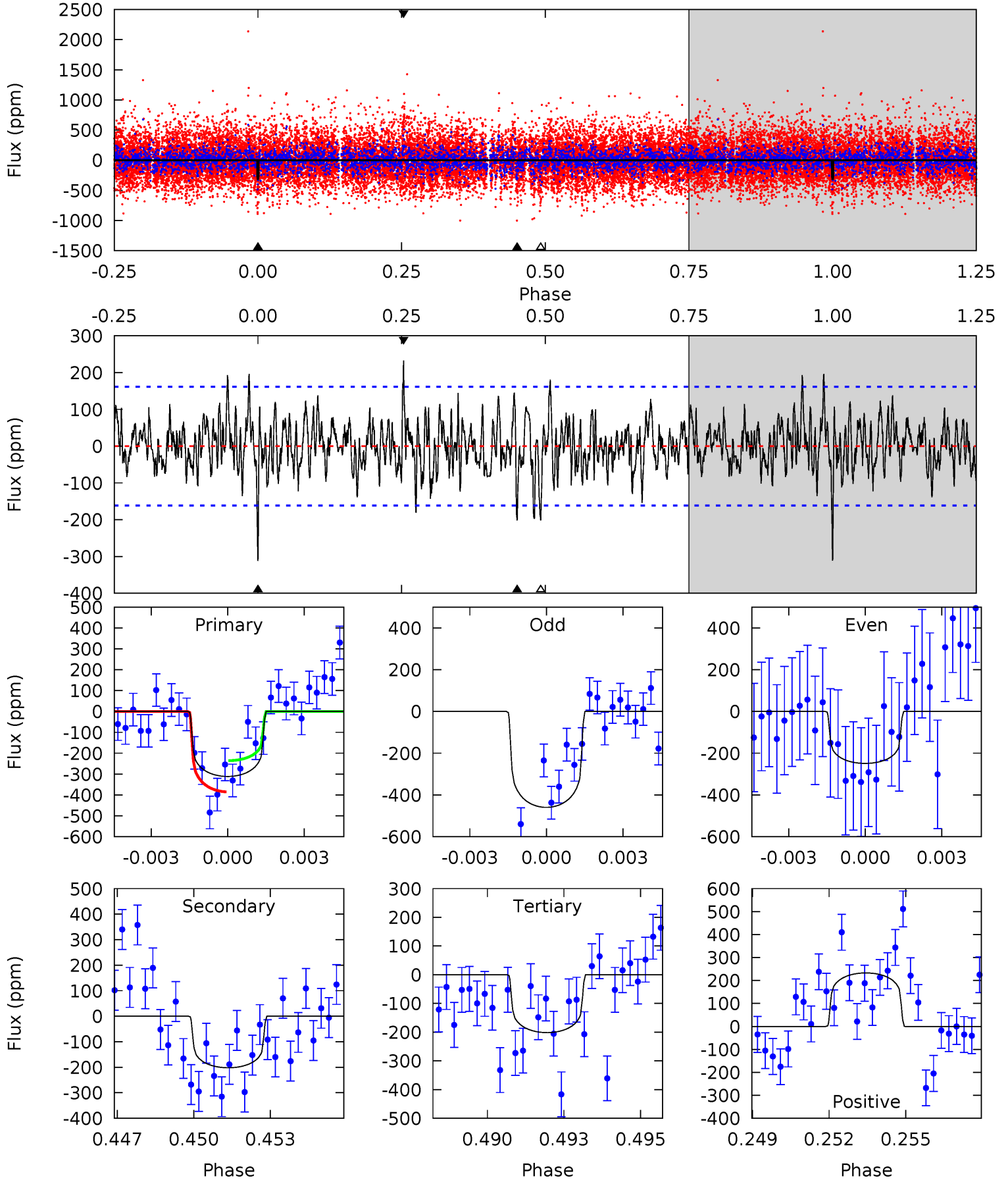
TCE 005636937-03 $P=187.539214$ Days $T_0=276.477481$ (BKJD)



DV Model-Shift Uniqueness Test

005636937-03, P = 187.542444 Days, E = 89.018566 Days

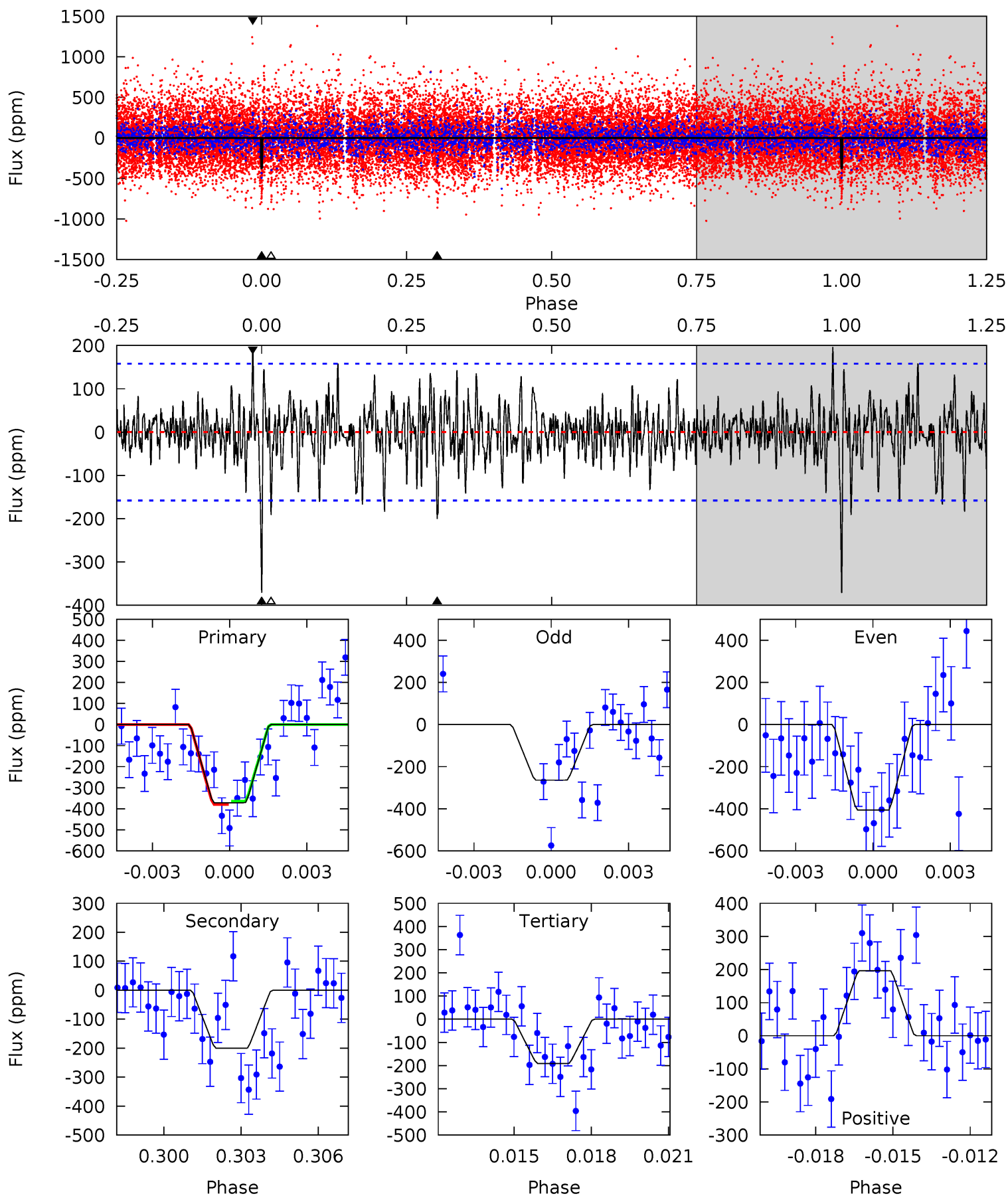
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	6.58	6.57	7.59	5.26	2.98	1.87	3.58	2.56	0.01	-1.01	3.19	1.09	0.43	2.43



Alt Model-Shift Uniqueness Test

005636937-03, P = 187.539214 Days, E = 88.938267 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	6.67	6.36	6.54	5.26	2.97	1.61	6.00	5.82	0.31	0.12	2.07	1.06	0.35	0.25



Stellar Parameters For KIC 005636937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5864^{+176}_{-176}	$4.438^{+0.160}_{-0.160}$	$-0.900^{+0.300}_{-0.300}$	$0.851^{+0.175}_{-0.143}$	$0.723^{+0.094}_{-0.031}$	$1.653^{+1.188}_{-0.691}$
	+3%/-3%	+4%/-4%	+33%/-33%	+21%/-17%	+13%/-4%	+72%/-42%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005636937-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-202 ± 31	$1.64^{+0.95}_{-0.75}$	439^{+29}_{-27}	5294^{+1789}_{-865}	13943^{+31773}_{-8403}
Alt.	-200 ± 30	$1.94^{+0.91}_{-0.87}$	441^{+29}_{-26}	4924^{+1592}_{-651}	9701^{+23564}_{-5203}

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

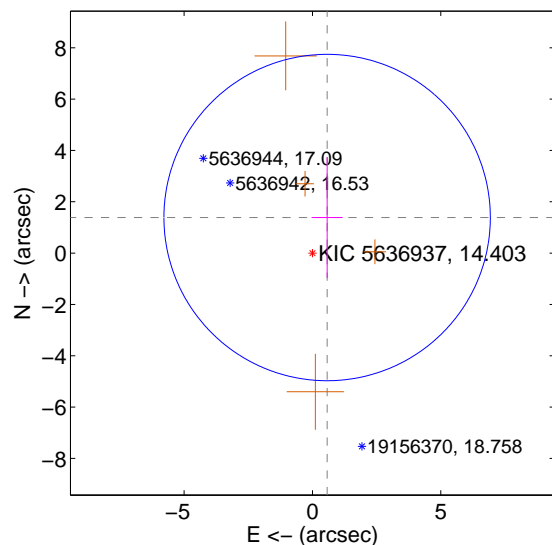
Supplemental centroid analysis for 005636937-03. Kepler magnitude: 14.40. Transit SNR 7.11

There are 0 quarters with good PRF difference image offsets

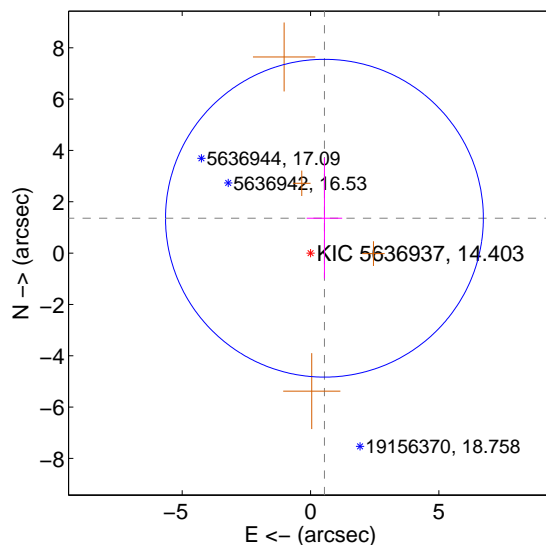
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.500 ± 2.120	0.71	-0.572 ± 0.605	1.386 ± 2.352
PRF-fit source offset from KIC position	1.464 ± 2.064	0.71	-0.542 ± 0.690	1.360 ± 2.352
photometric centroid source offset	0.92 ± 1.00	0.92	-0.84 ± 1.00	0.38 ± 0.98

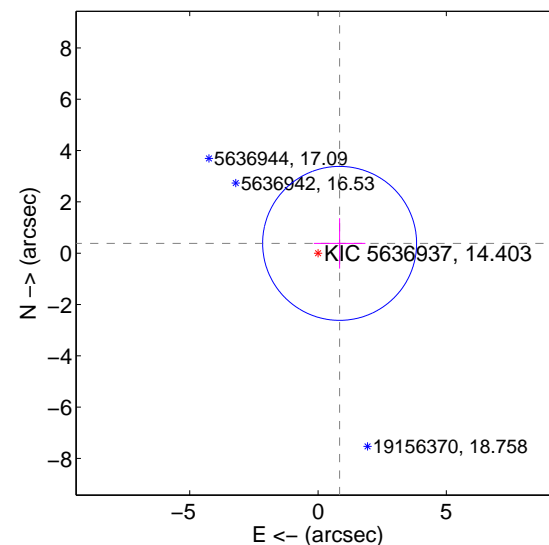
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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

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

Q1 no difference image



Q1 no OOT image



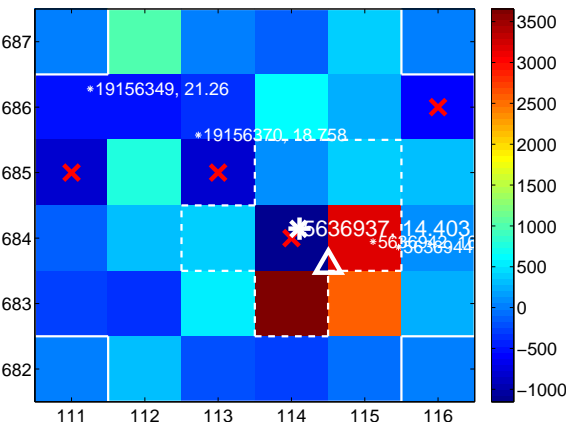
Q2 no difference image



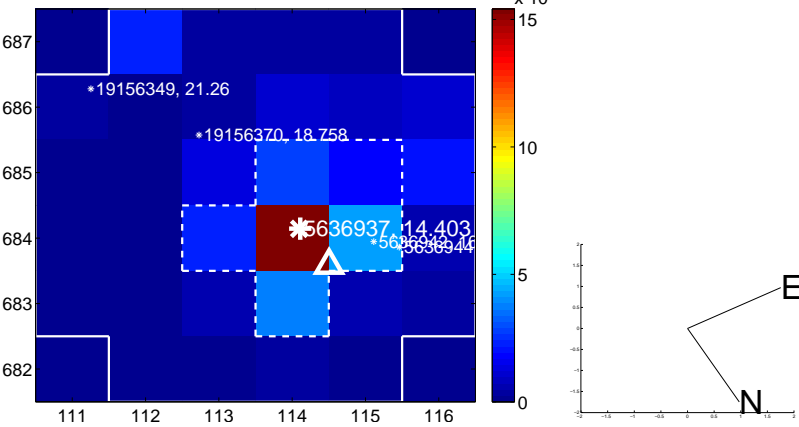
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



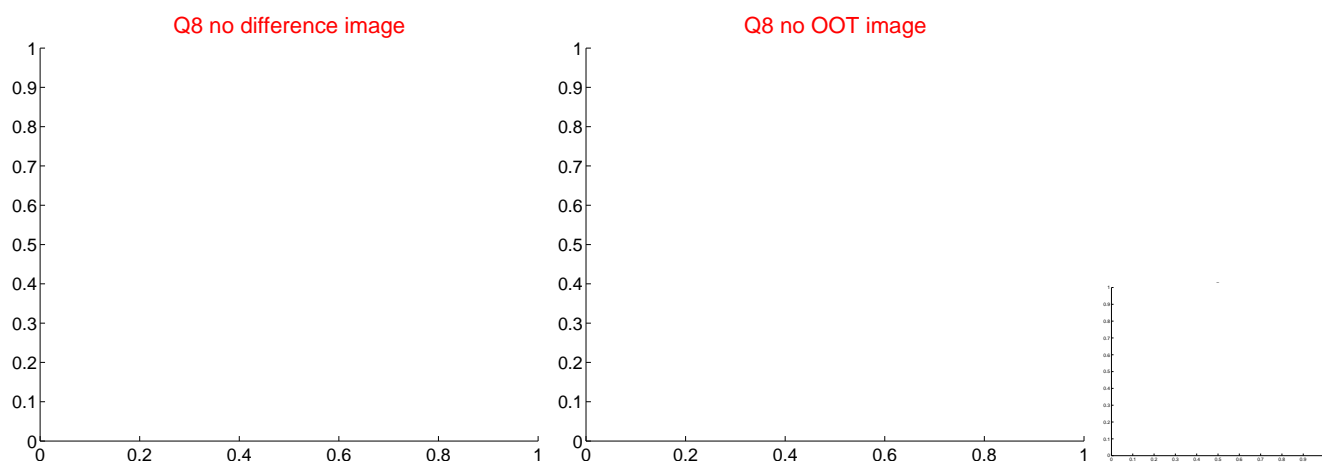
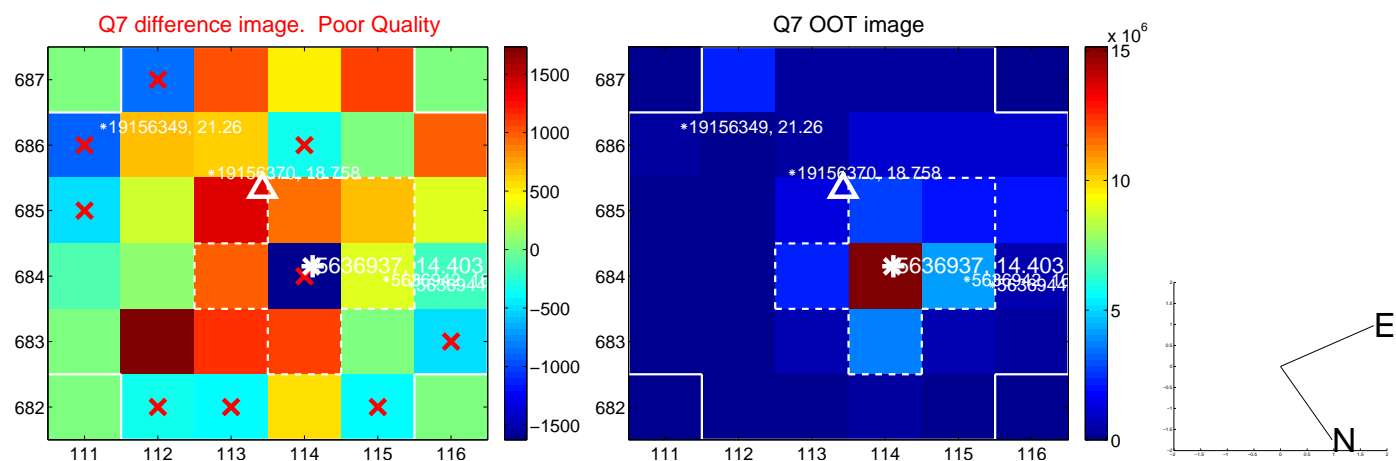
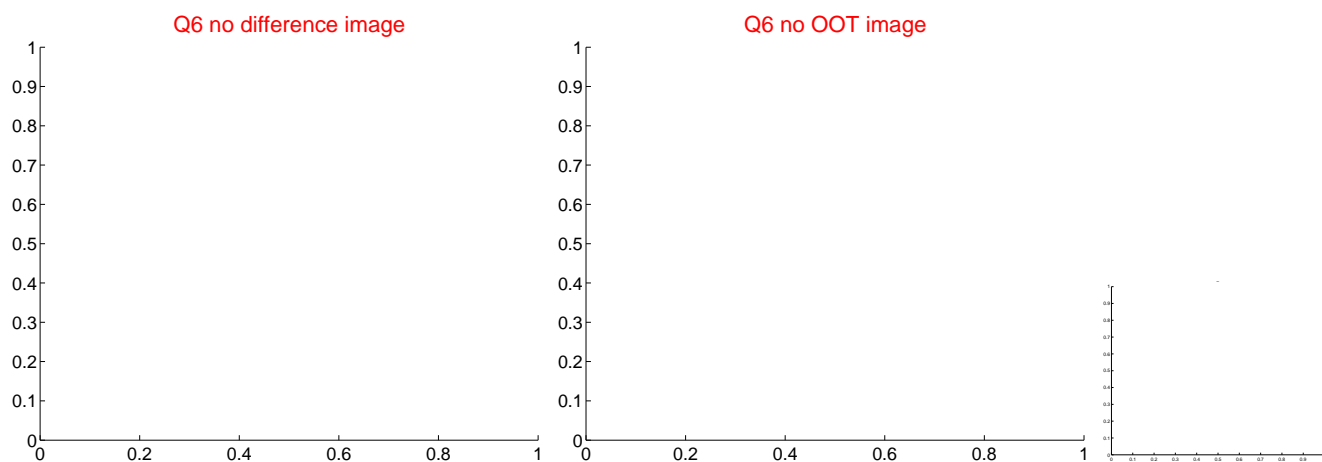
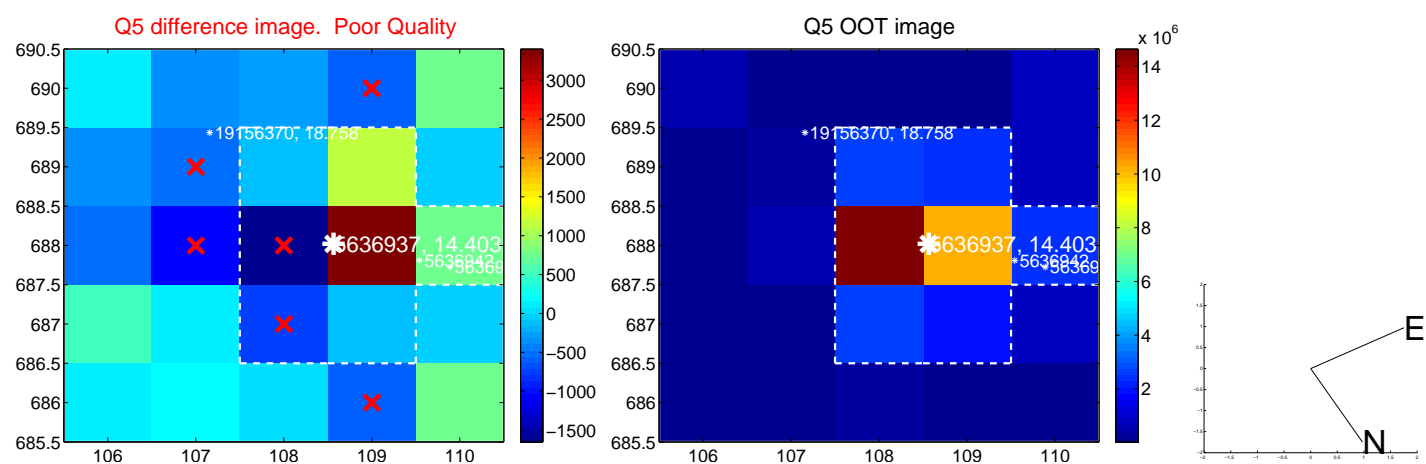
Q4 no difference image



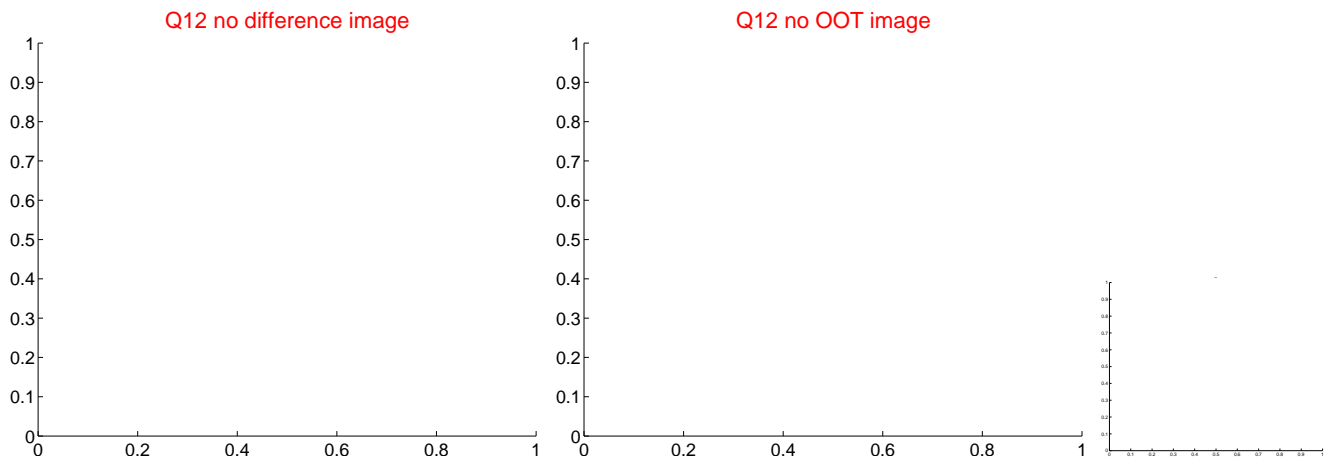
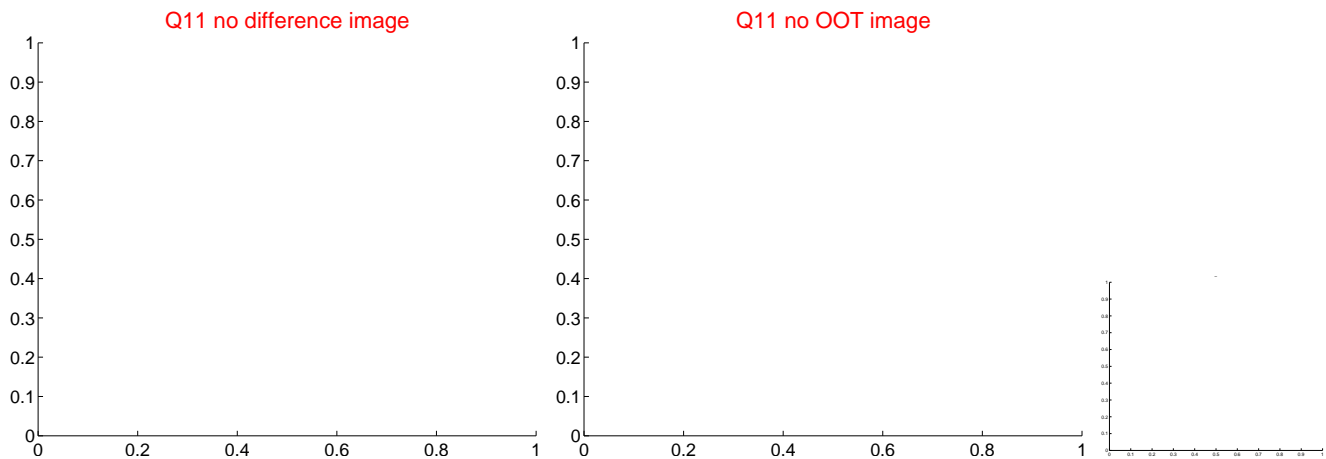
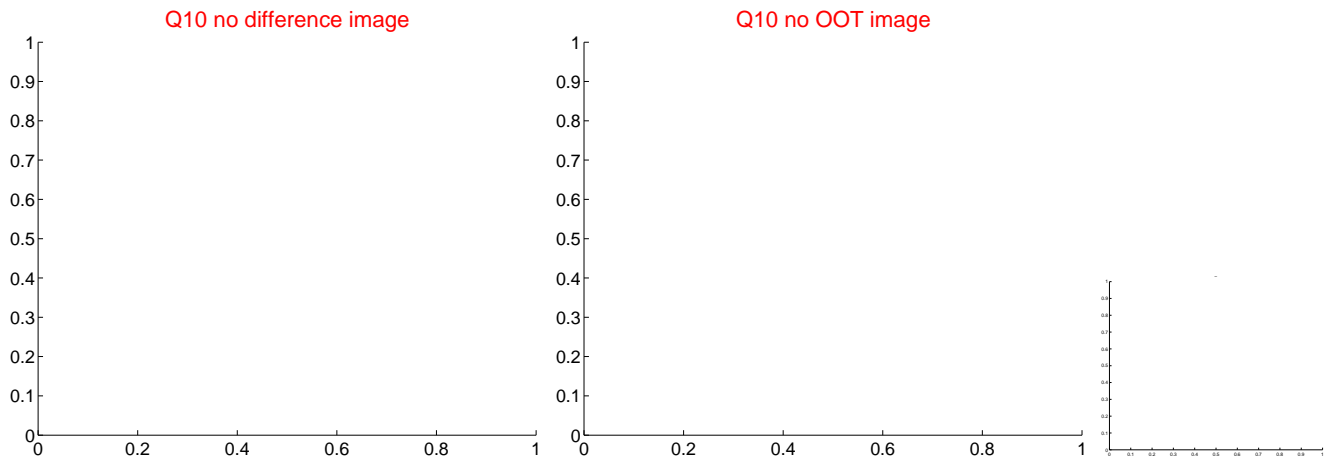
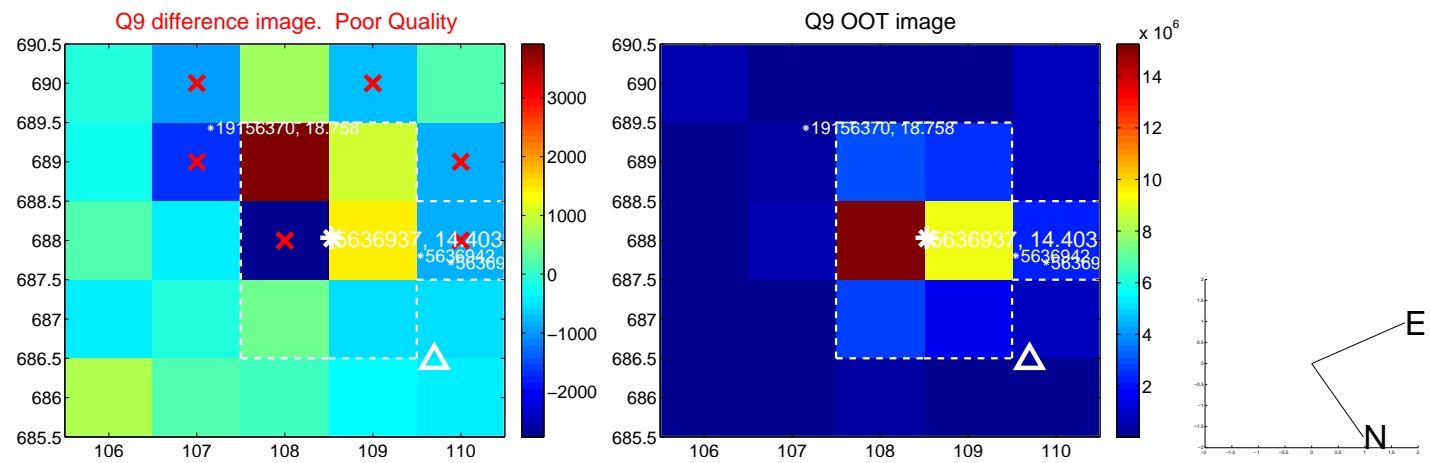
Q4 no OOT image



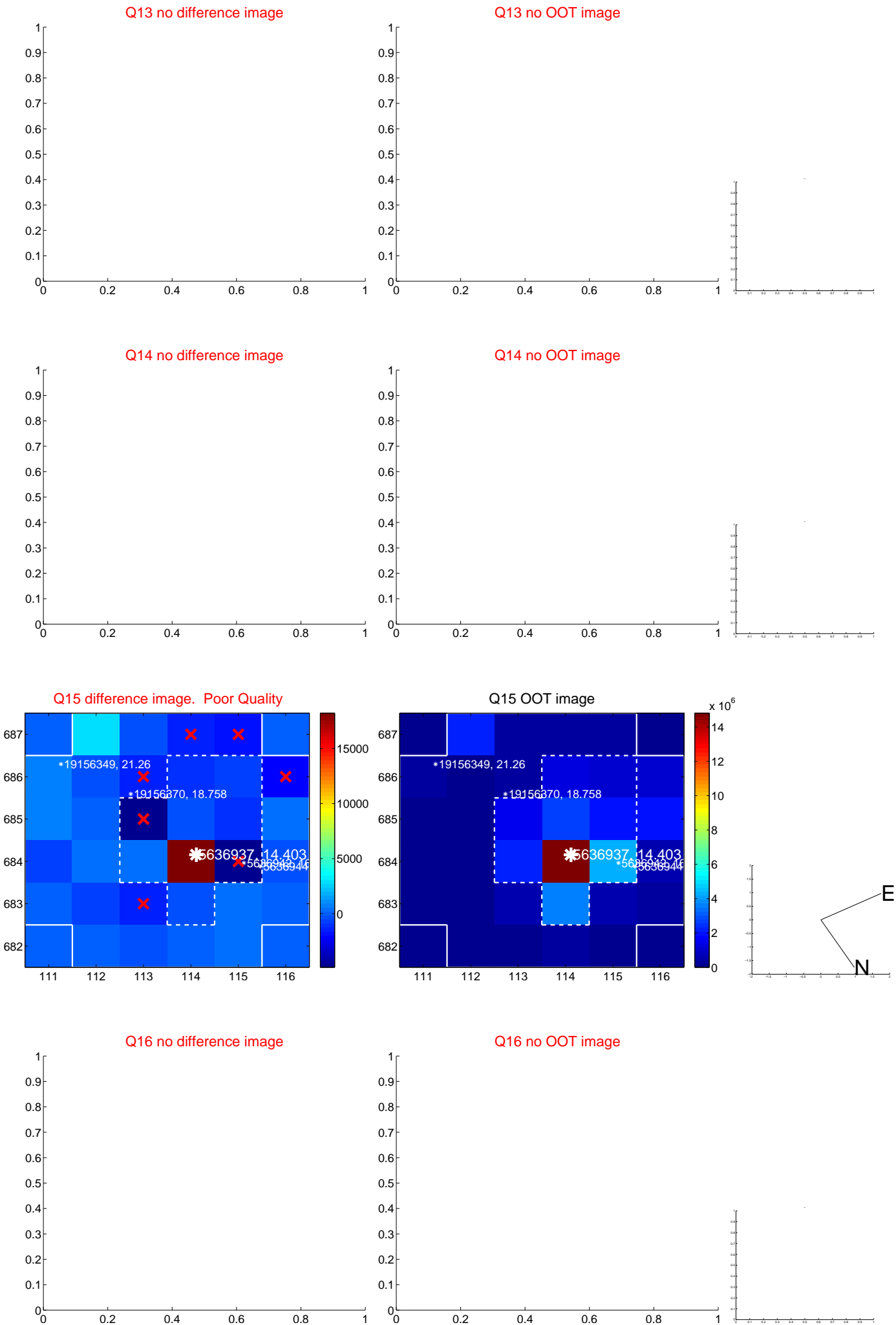
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



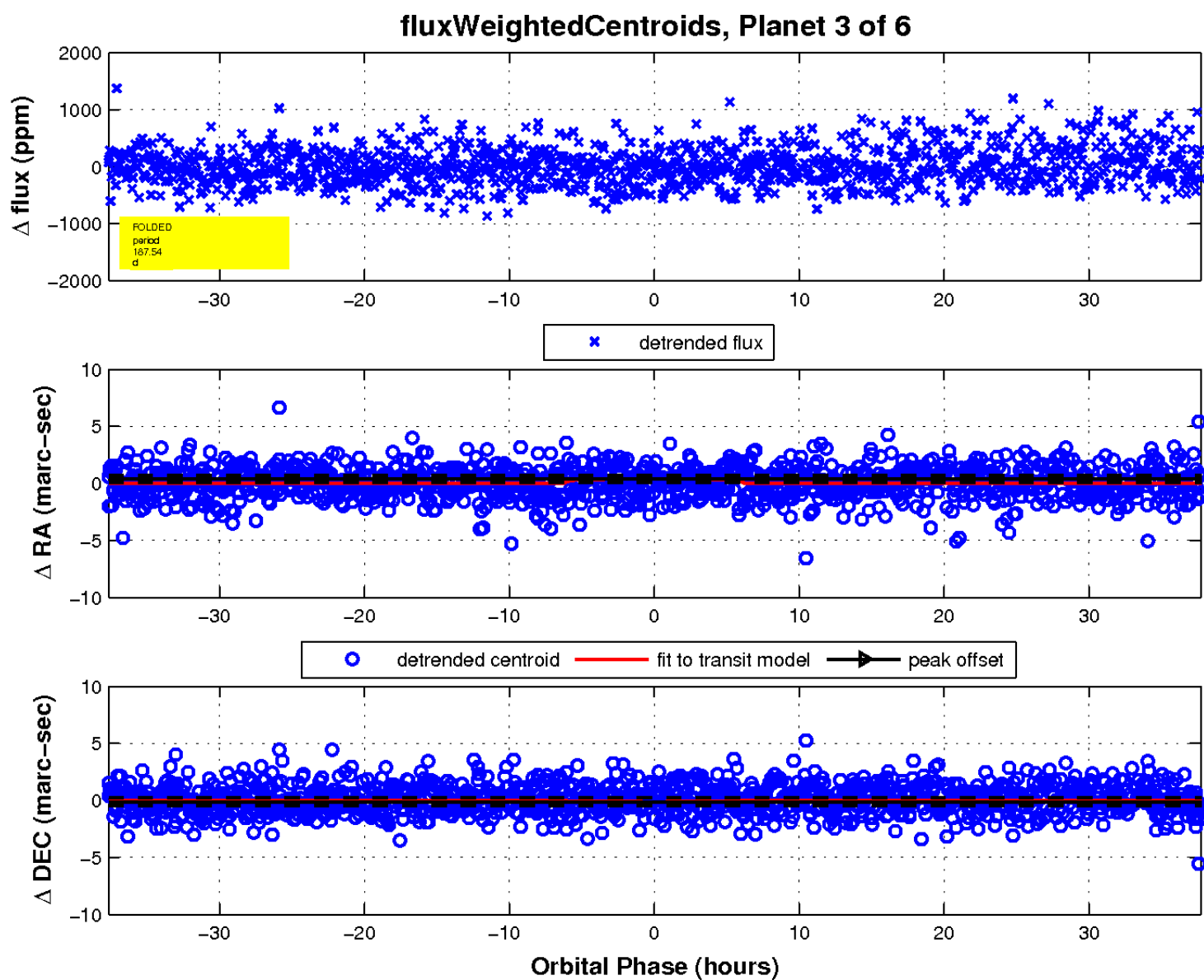
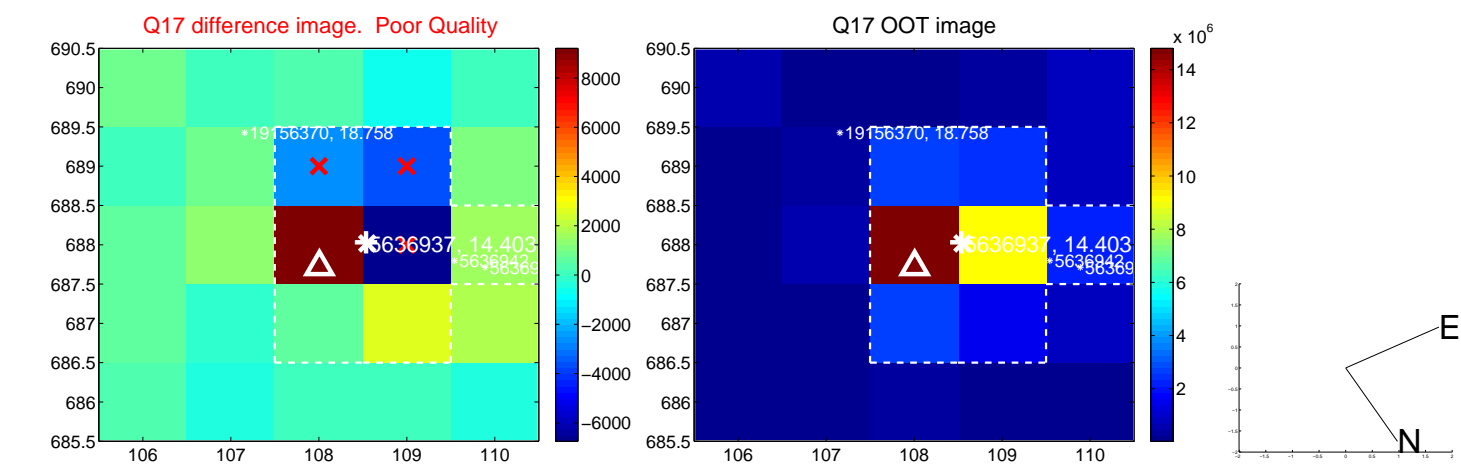
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

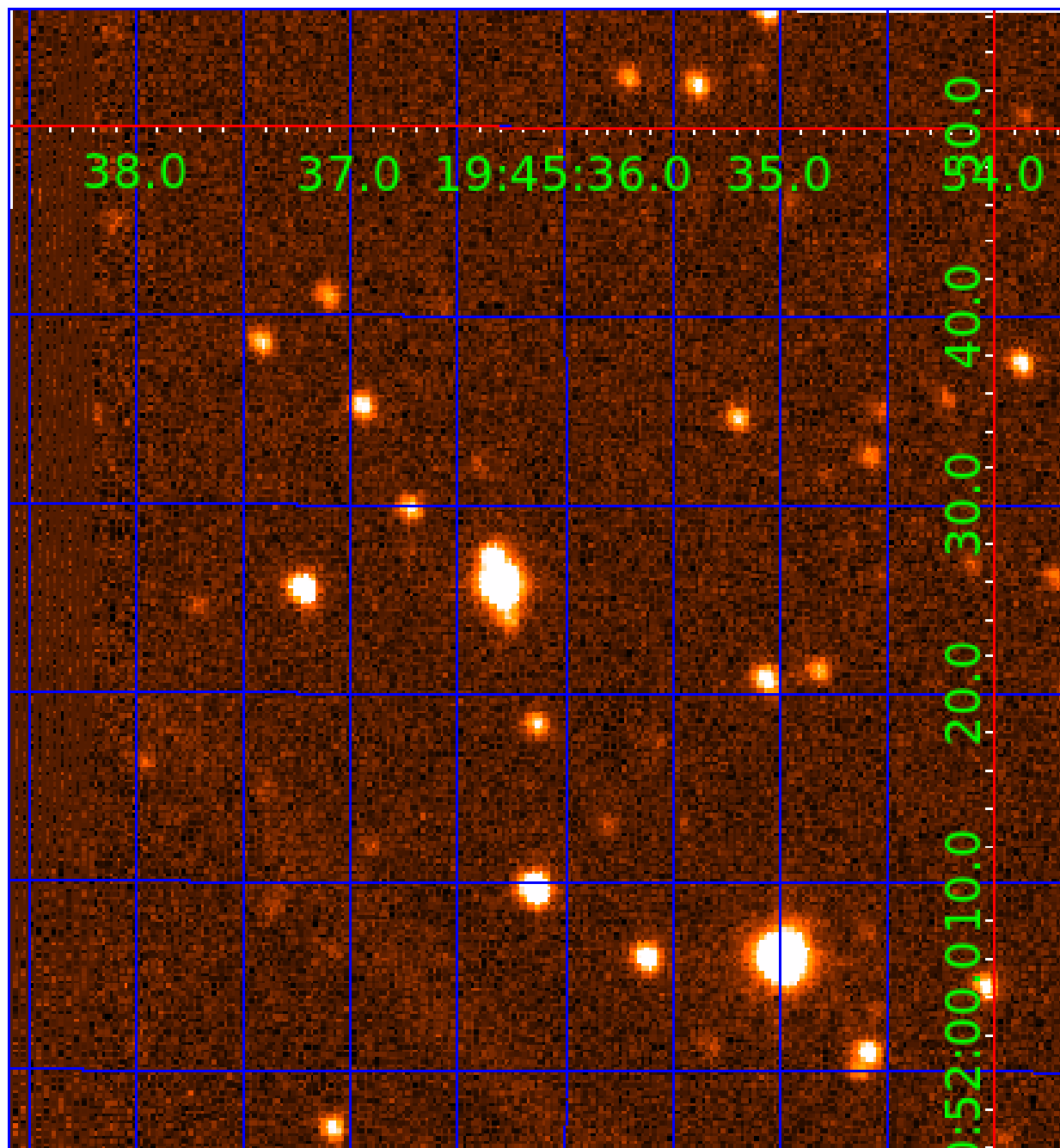


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005636937

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})
005636937-01	OBS	No	2.997102	131.563656	42.2	16.018	9.3	9.7	0.85	5864	0.56	574.59
005636937-02	OBS	No	124.660983	179.858184	191.6	24.328	9.1	5.7	0.85	5864	1.26	3.99
005636937-03	OBS	No	187.542444	276.561010	311.1	12.582	8.2	7.1	0.85	5864	1.62	2.31
005636937-04	OBS	No	269.718843	186.818991	236.8	26.016	7.6	5.8	0.85	5864	1.44	1.43
005636937-05	OBS	No	168.642217	271.317635	673.6	1.820	7.5	8.5	0.85	5864	2.64	2.67
005636937-06	OBS	No	124.096159	142.407229	337.3	5.691	7.6	7.0	0.85	5864	1.66	4.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005636937-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005636937-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005636937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
005636937-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

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

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

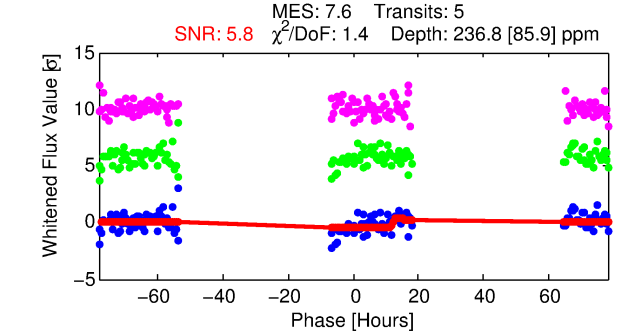
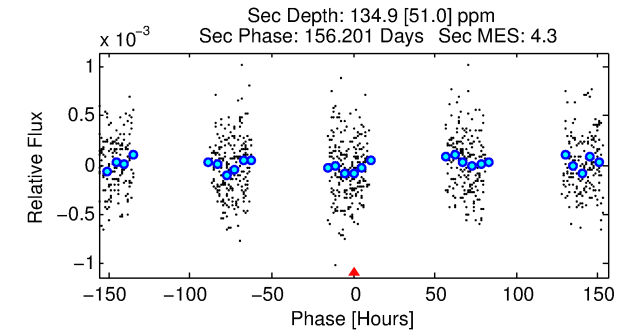
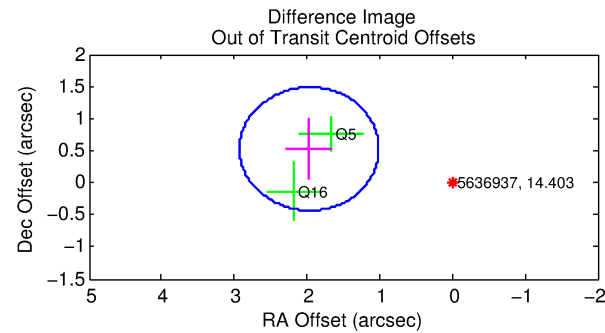
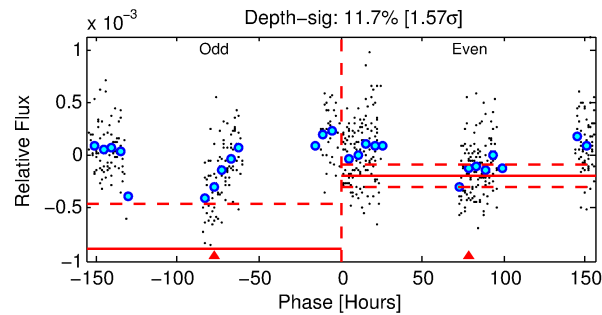
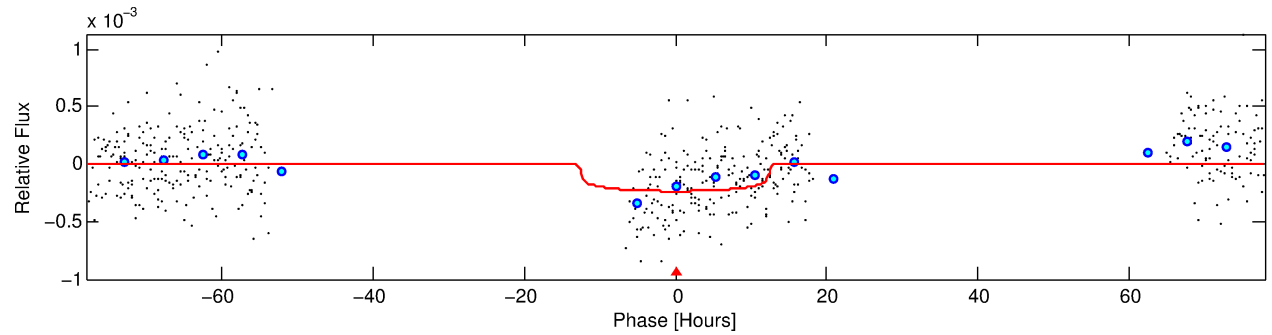
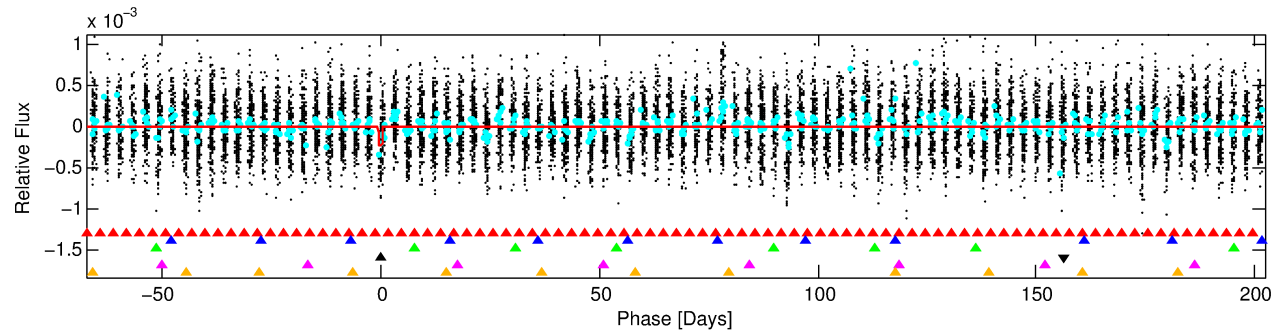
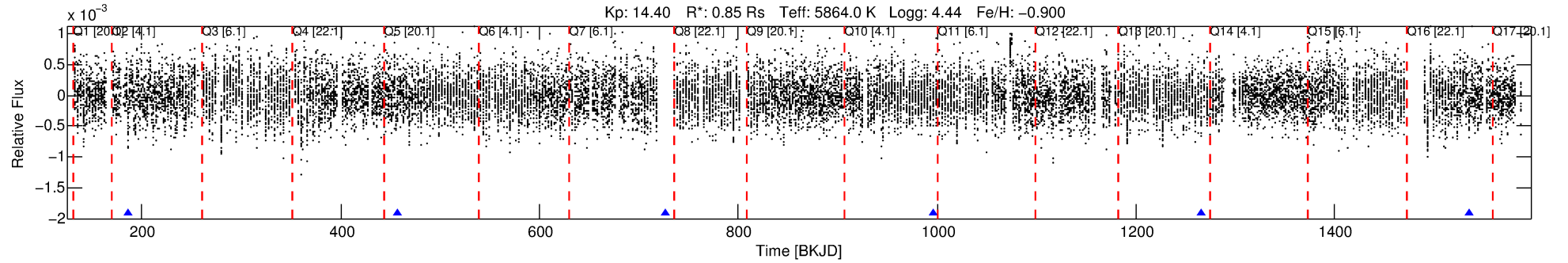
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005636937-04

No Significant Match Found

DV One-Page Summary

KIC: 5636937 Candidate: 4 of 6 Period: 269.719 d



DV Fit Results:

Period = 269.71884 [0.01251] d
Epoch = 186.8190 [0.2686] BKJD
Rp/R* = 0.0155 [0.0072]
a/R* = 51.07 [109.68]
b = 0.78 [0.86]
Seff = 1.42 [0.44]
Teff = 279 [21] K
Rp = 1.44 [0.73] Re
a = 0.7338 [0.1351] AU
Ag = 19319.98 [20072.85] [0.96 σ]
Teffp = 5078 [1279] K [3.75 σ]

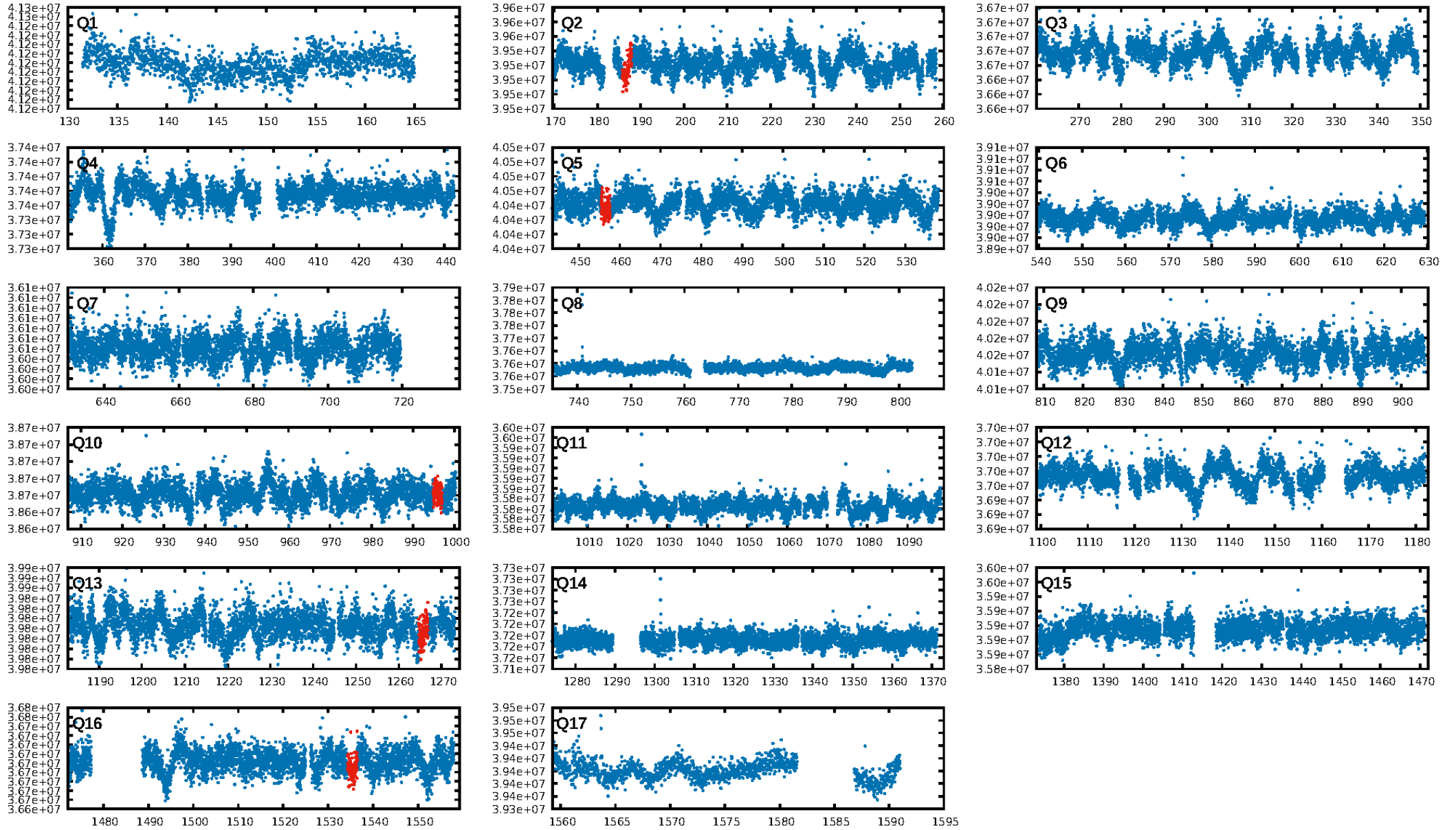
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [68.25 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 26.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.43e-08
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -2.432
Centroid-sig: 83.3%
Centroid-so: 0.328 arcsec [0.24 σ]
OotOffset-rm: 2.042 arcsec [6.38 σ]
KicOffset-rm: 2.095 arcsec [5.87 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/4]

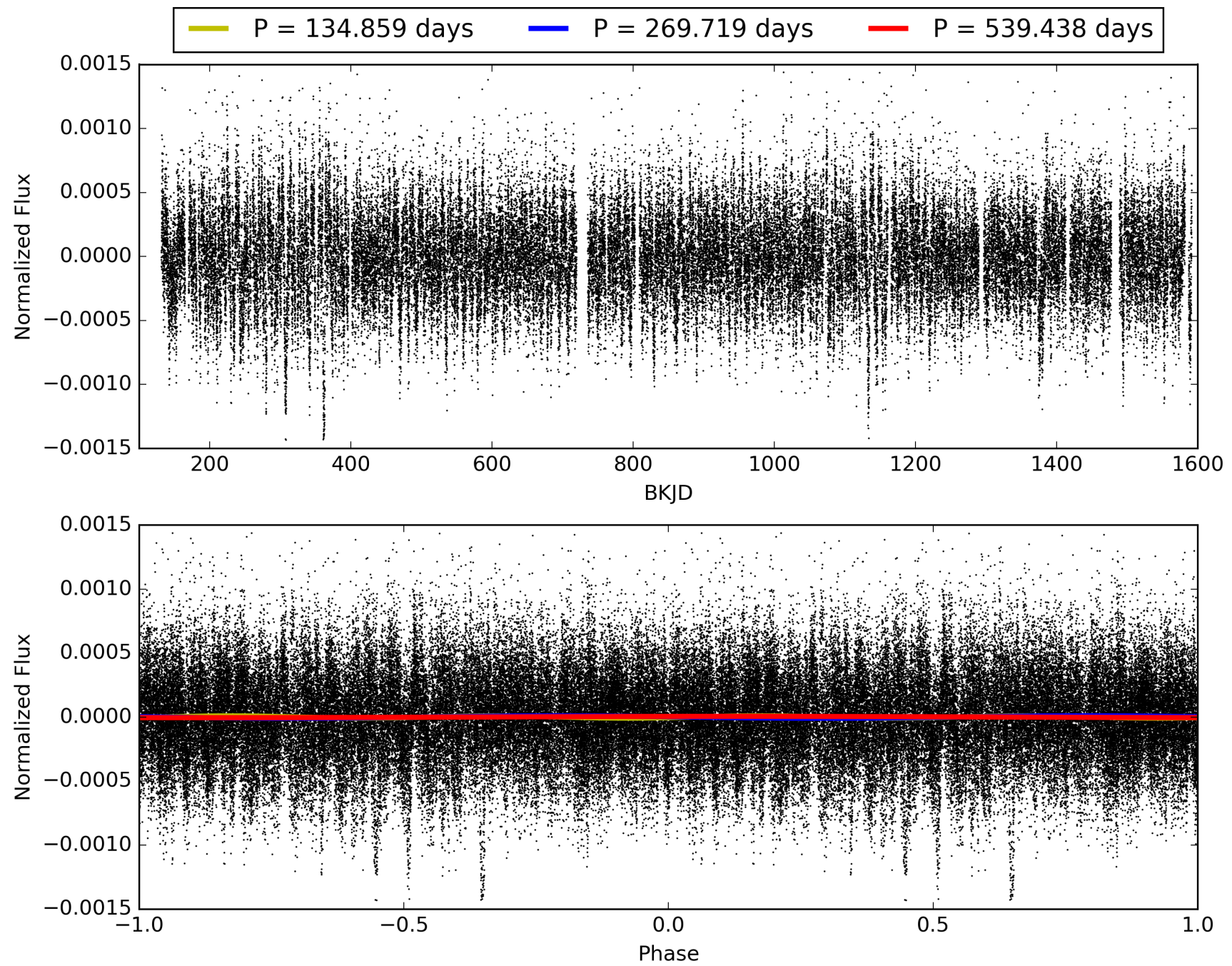
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:38:40 Z

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

TCE 005636937-04, PDC Light Curves

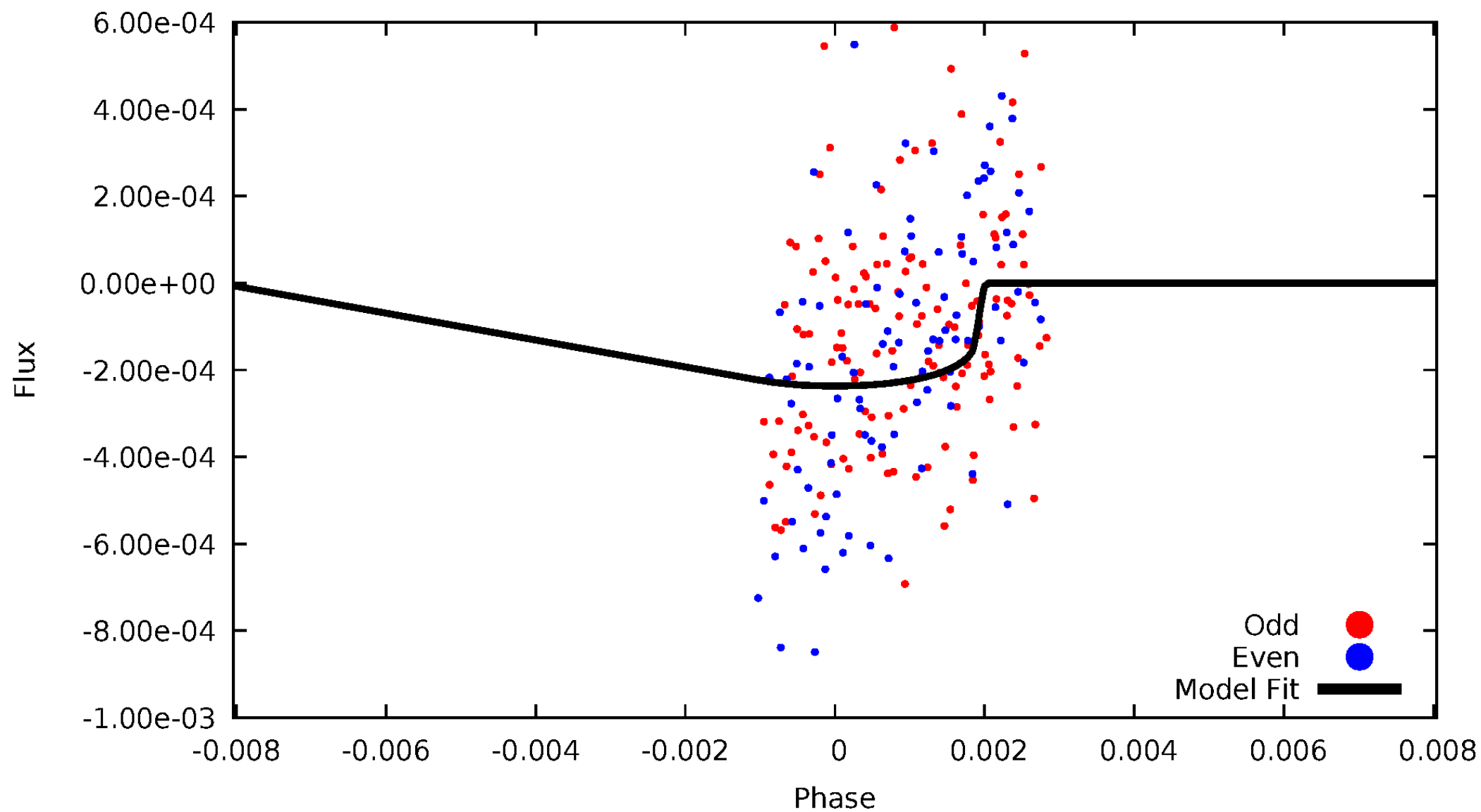


TCE 005636937-04



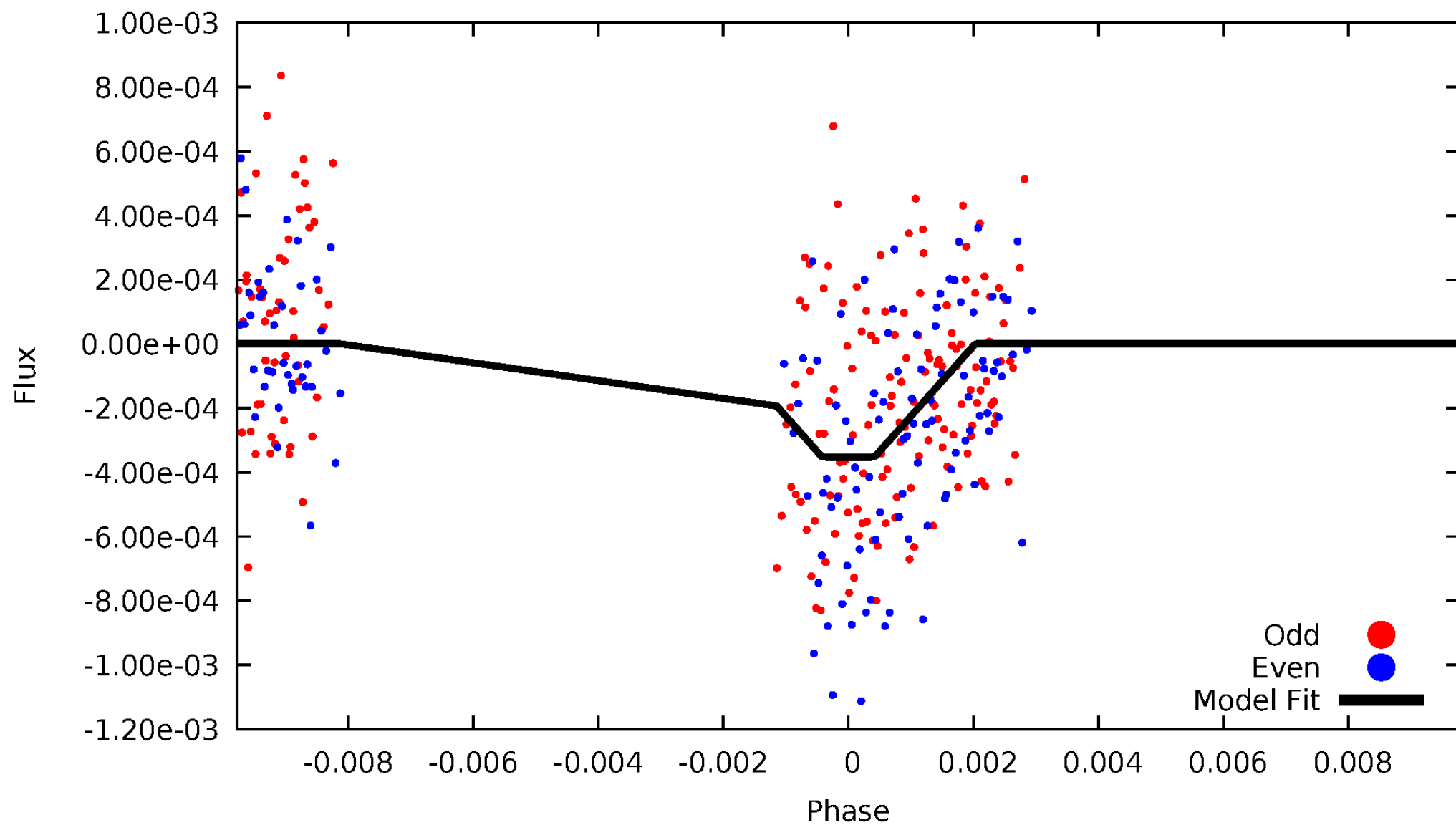
DV Odd/Even

TCE 005636937-04



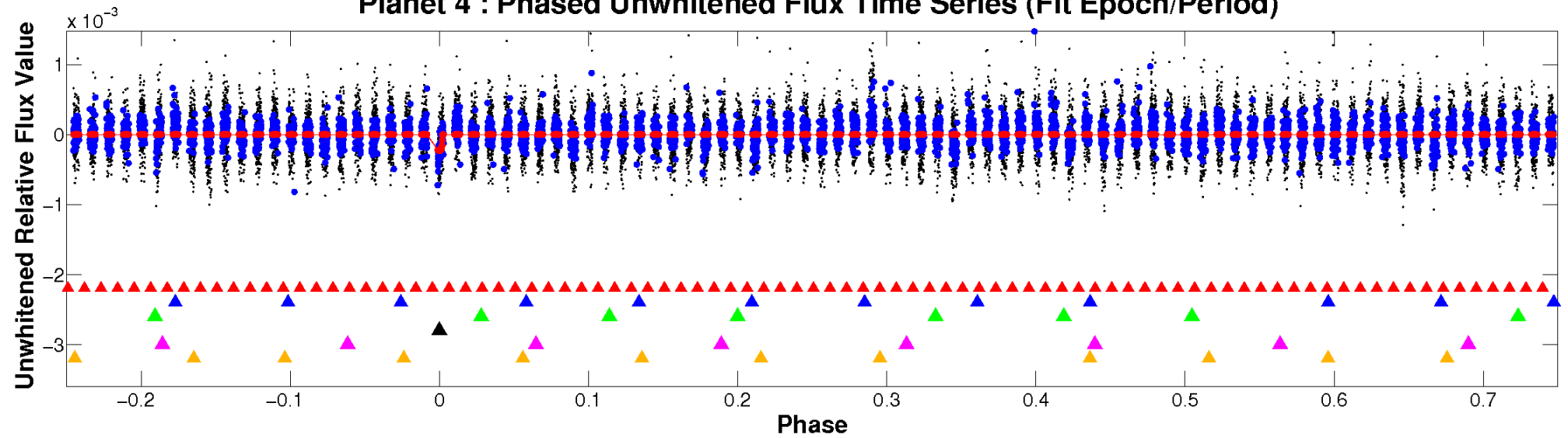
ALT Odd/Even

TCE 005636937-04

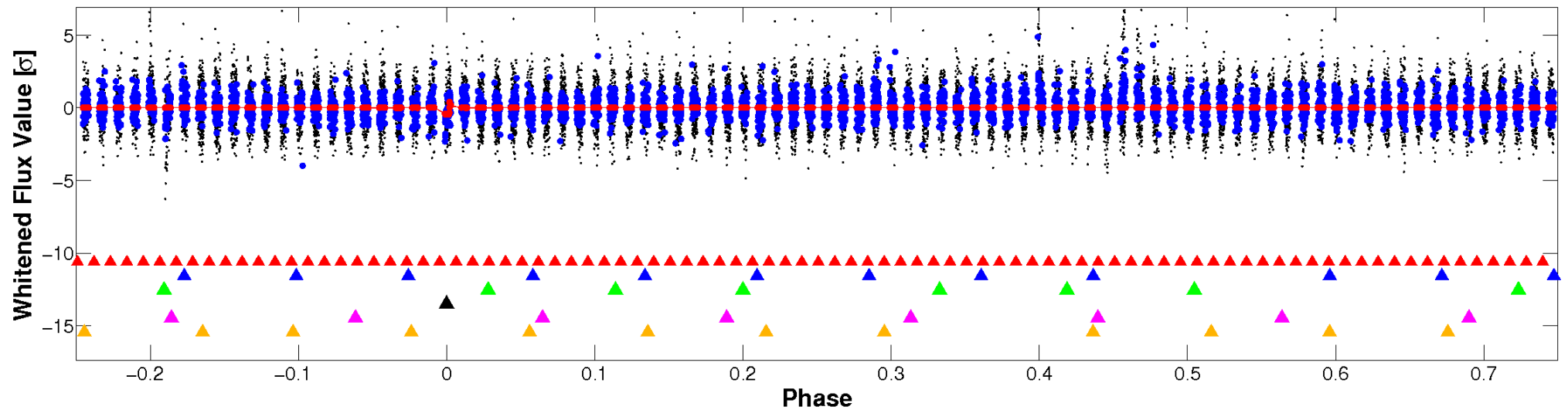


Non-Whitened Vs. Whitened Light Curve

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

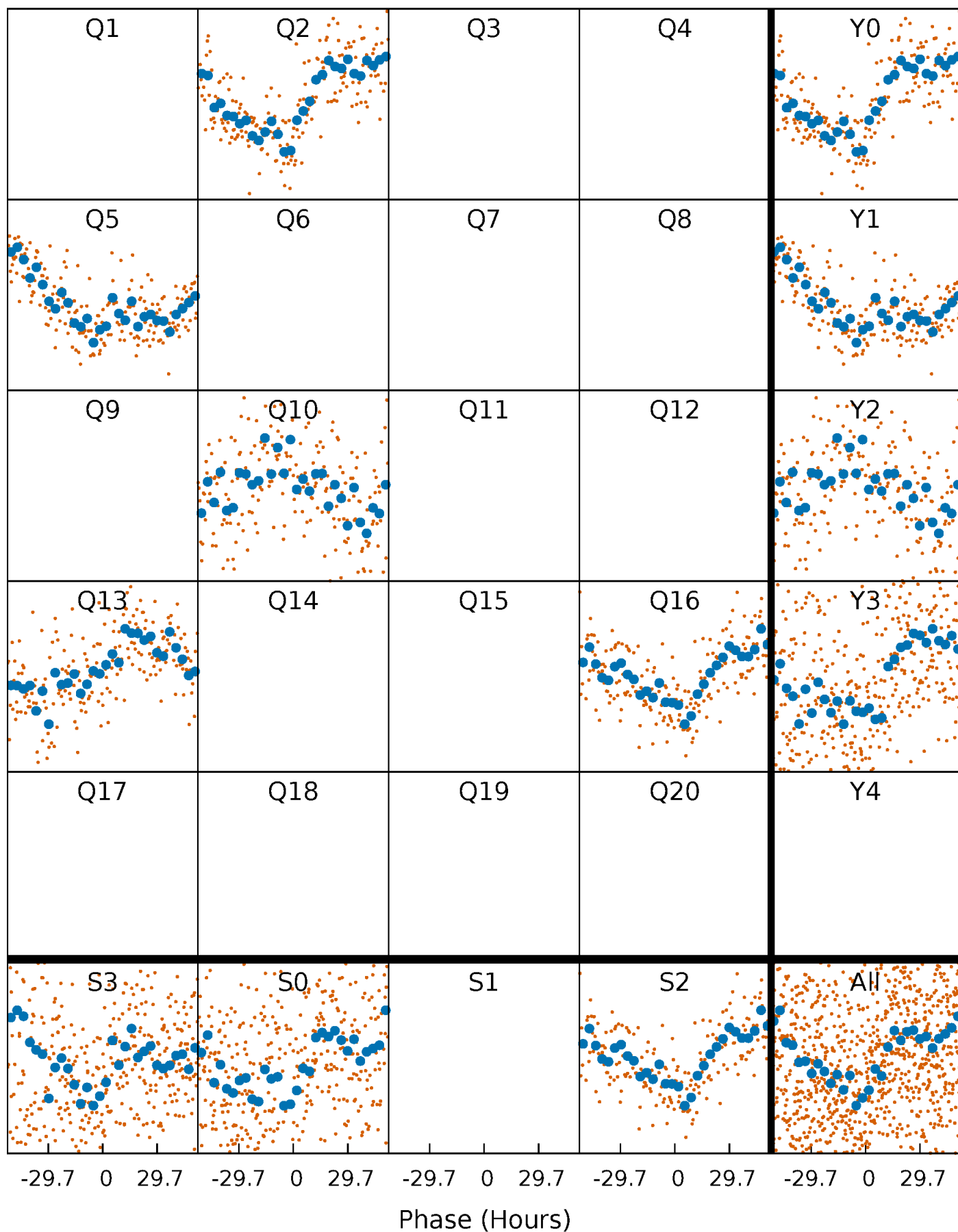


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



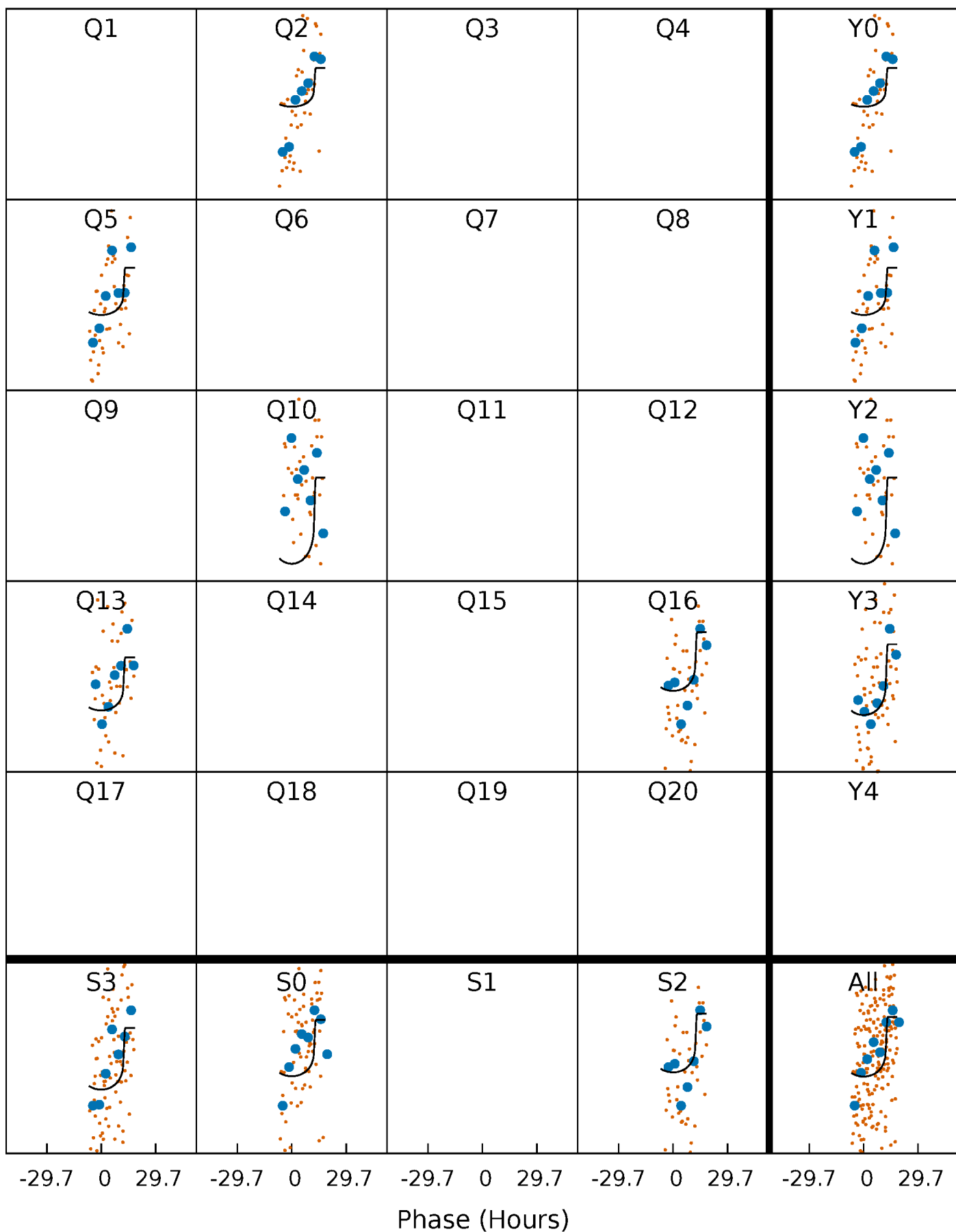
PDC Quarter-Phased Transit Curves

TCE 005636937-04 $P=269.718843$ Days $T_0=186.818991$ (BKJD)



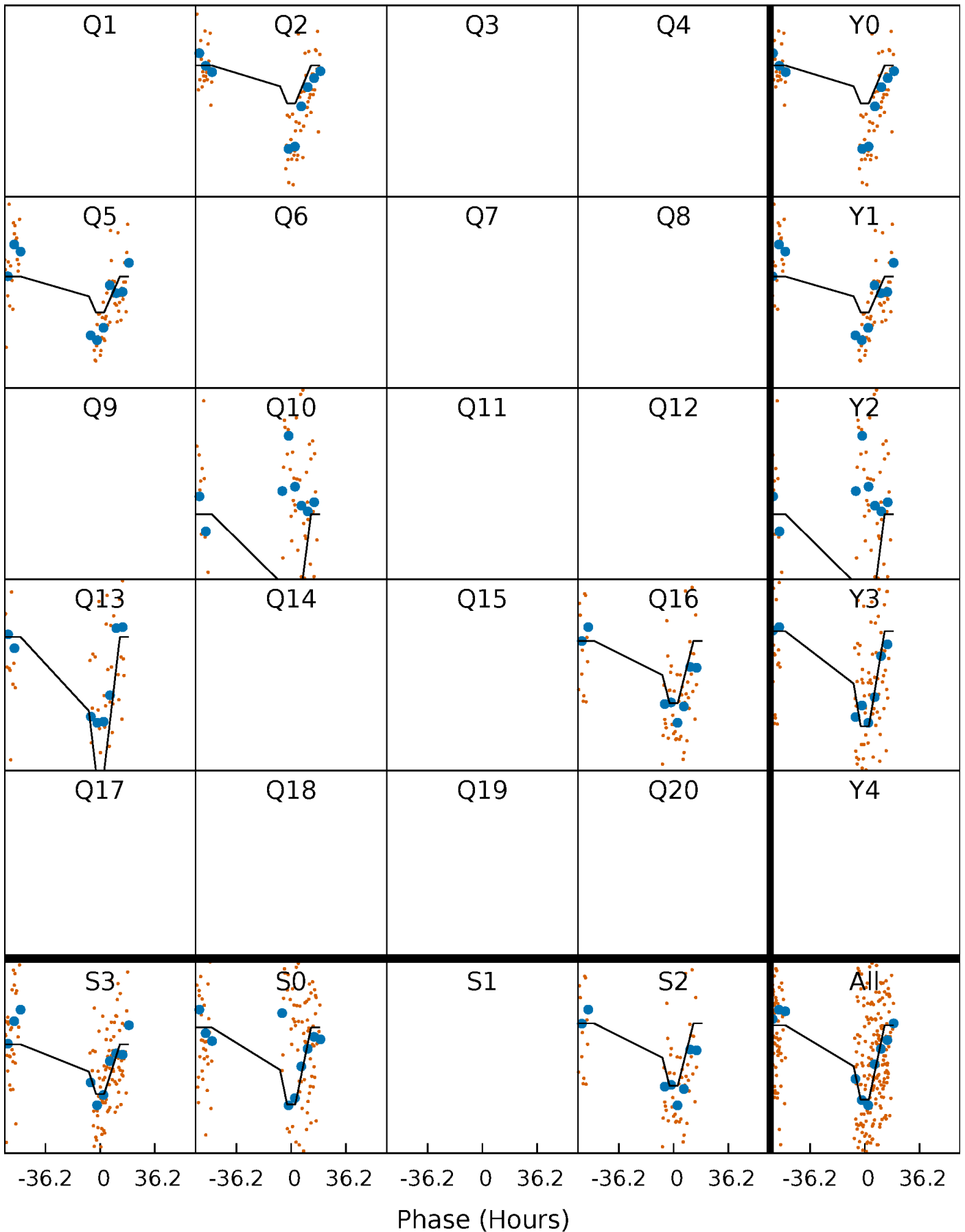
DV Quarter-Phased Transit Curves

TCE 005636937-04 P=269.718843 Days $T_0=186.818991$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

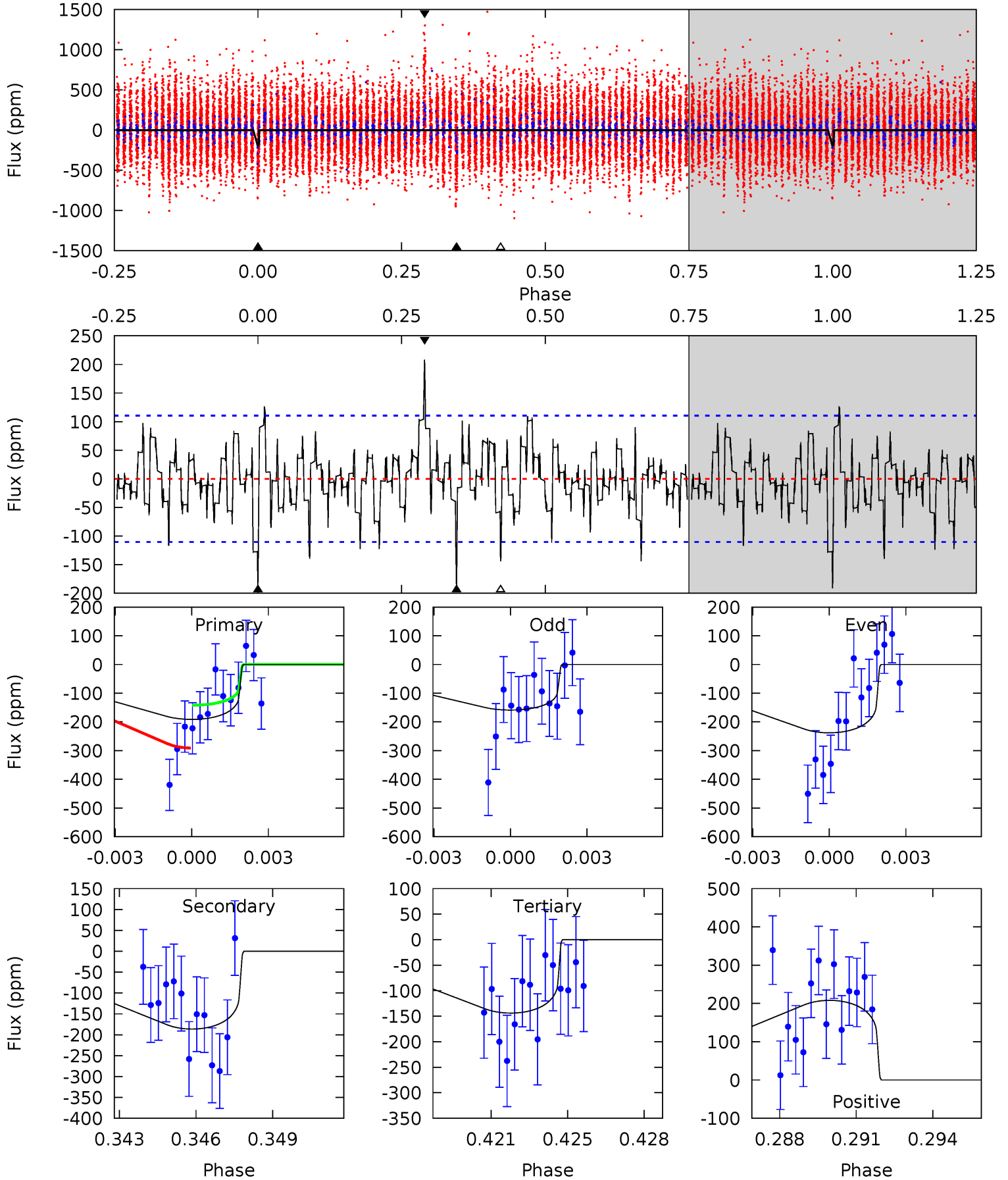
TCE 005636937-04 P=269.770670 Days $T_0=186.690849$ (BKJD)



DV Model-Shift Uniqueness Test

005636937-04, P = 269.718843 Days, E = 186.818991 Days

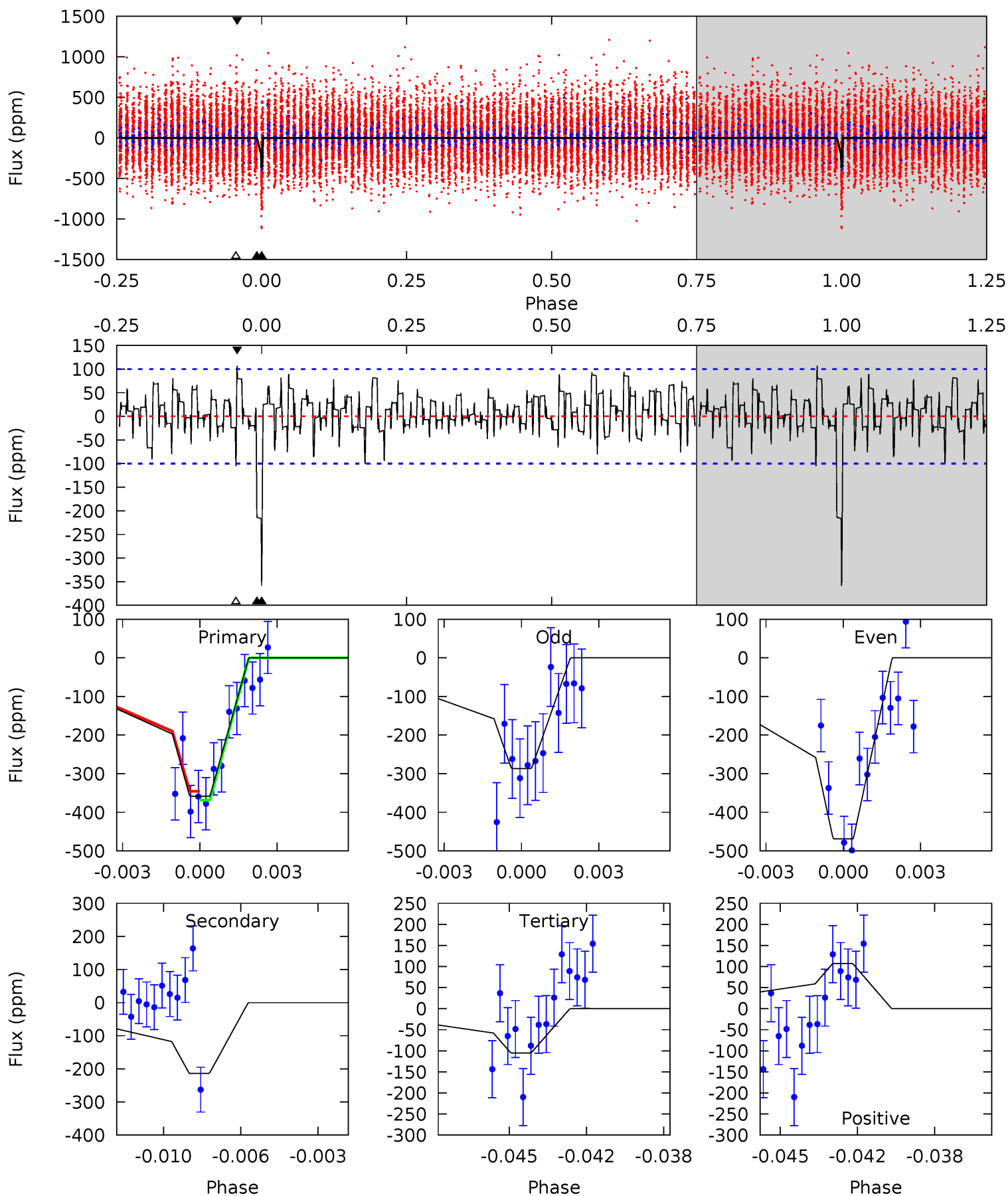
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.10	8.86	6.84	9.89	5.25	2.96	2.21	2.26	-0.80	2.02	-1.03	1.86	0.96	0.52	3.20



Alt Model-Shift Uniqueness Test

005636937-04, P = 269.770670 Days, E = 186.690849 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	11.2	5.51	5.60	5.24	2.95	1.77	13.3	13.2	5.69	5.60	4.69	0.80	0.23	0.54



Stellar Parameters For KIC 005636937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5864^{+176}_{-176}	$4.438^{+0.160}_{-0.160}$	$-0.900^{+0.300}_{-0.300}$	$0.851^{+0.175}_{-0.143}$	$0.723^{+0.094}_{-0.031}$	$1.653^{+1.188}_{-0.691}$
	+3%/-3%	+4%/-4%	+33%/-33%	+21%/-17%	+13%/-4%	+72%/-42%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005636937-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-186 ± 21	$1.42^{+0.69}_{-0.62}$	389^{+25}_{-22}	5536^{+2057}_{-826}	27544^{+61875}_{-15141}
Alt.	-214 ± 19	$1.75^{+0.77}_{-0.64}$	390^{+24}_{-24}	5210^{+1350}_{-678}	21245^{+30636}_{-11071}

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

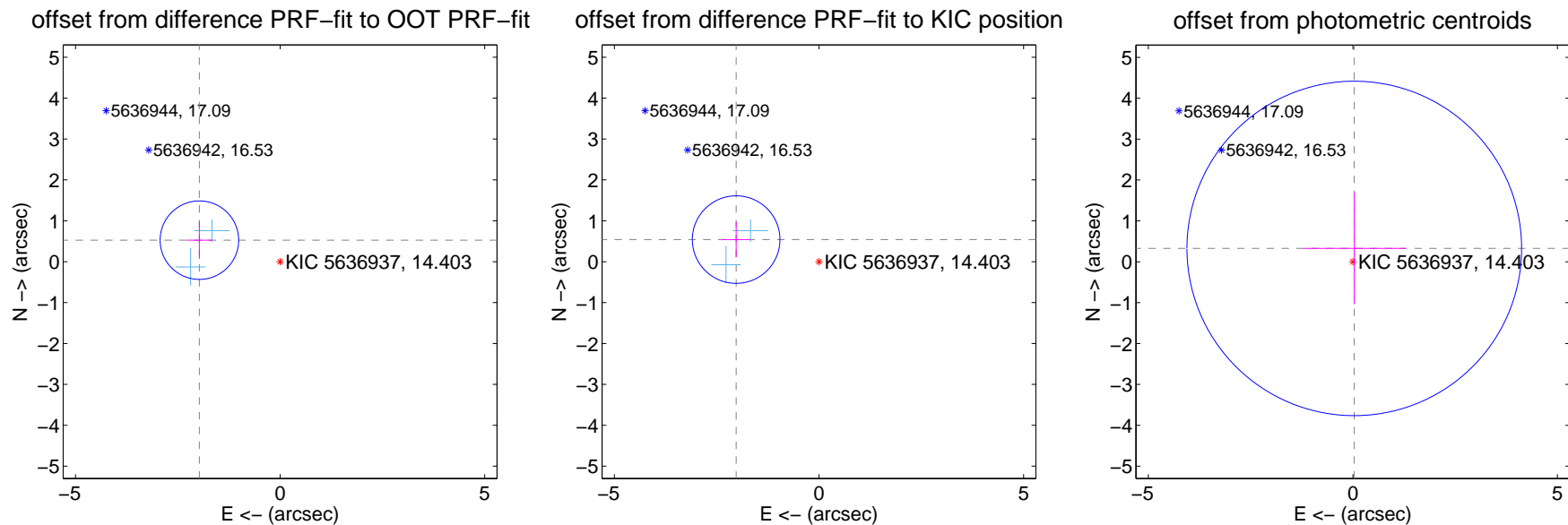
DV Centroid Data

Supplemental centroid analysis for 005636937-04. Kepler magnitude: 14.40. Transit SNR 5.84

There are 2 quarters with good PRF difference image offsets

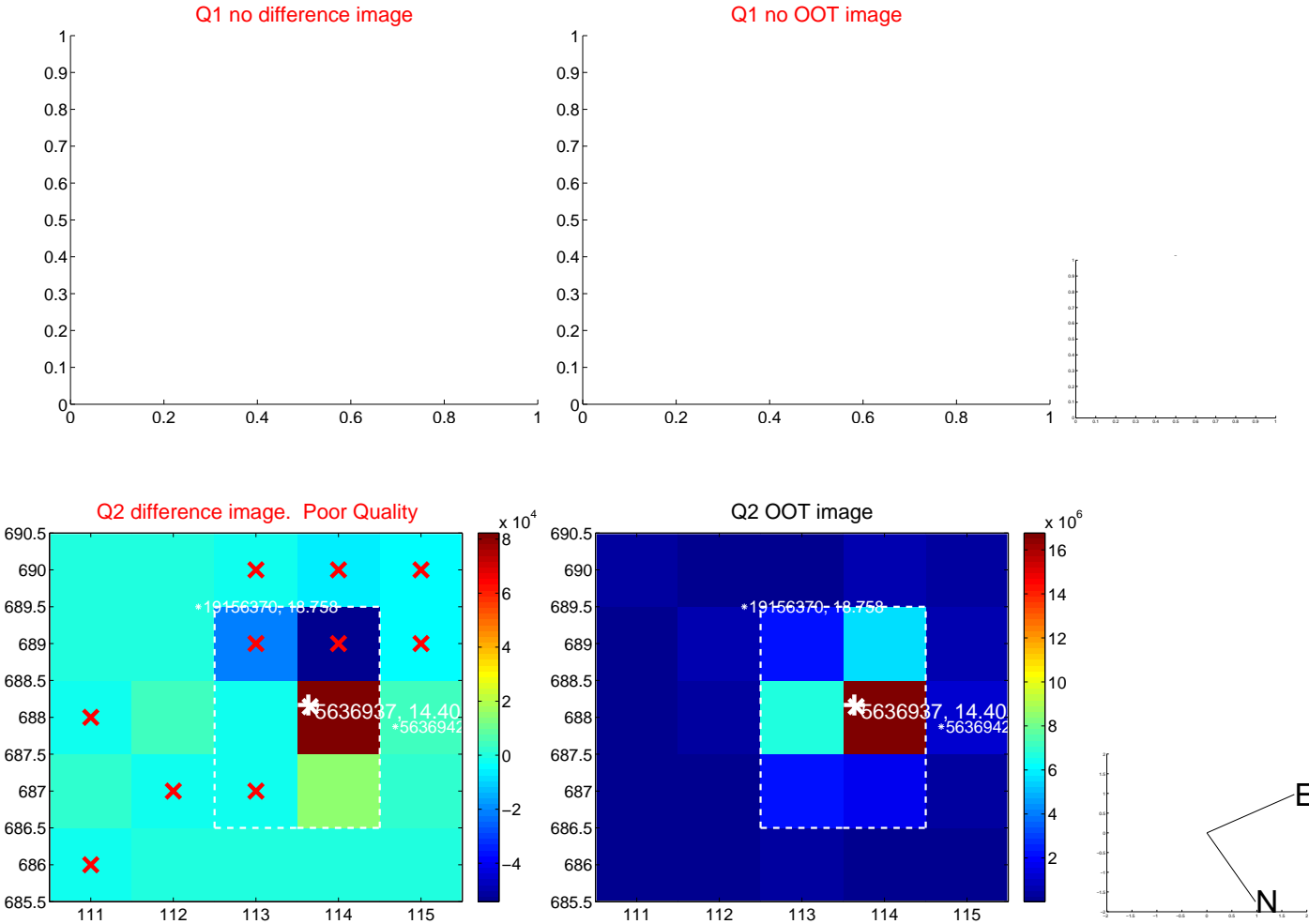
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.042 ± 0.320	6.38	1.972 ± 0.307	0.526 ± 0.461
PRF-fit source offset from KIC position	2.095 ± 0.357	5.87	2.024 ± 0.351	0.541 ± 0.433
photometric centroid source offset	0.33 ± 1.36	0.24	-0.03 ± 1.25	0.33 ± 1.36



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

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



Q2 difference image. Poor Quality

$\times 10^4$

8

6

4

2

0

-2

-4

Q2 OOT image

$\times 10^6$

16

14

12

10

8

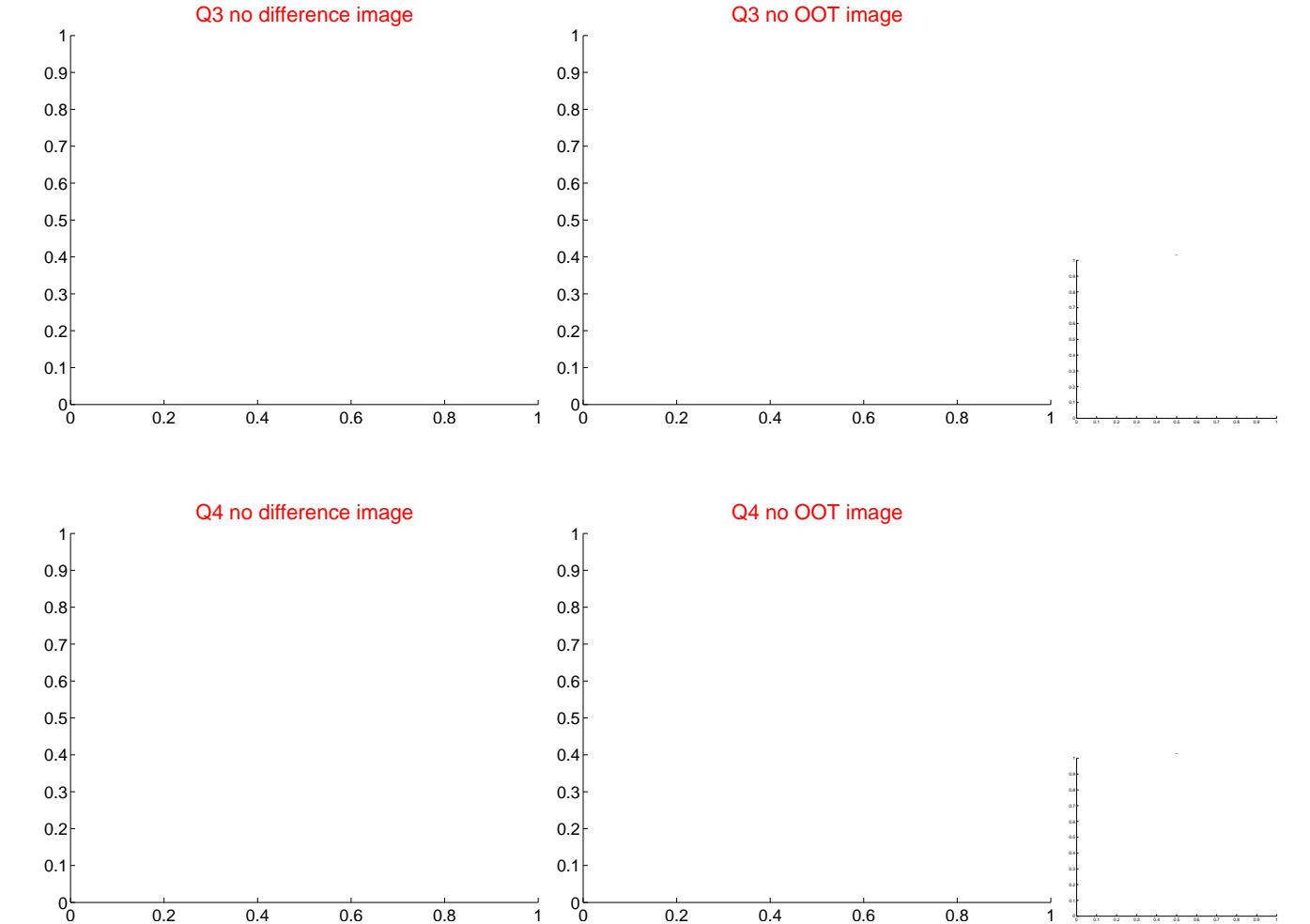
6

4

2

E

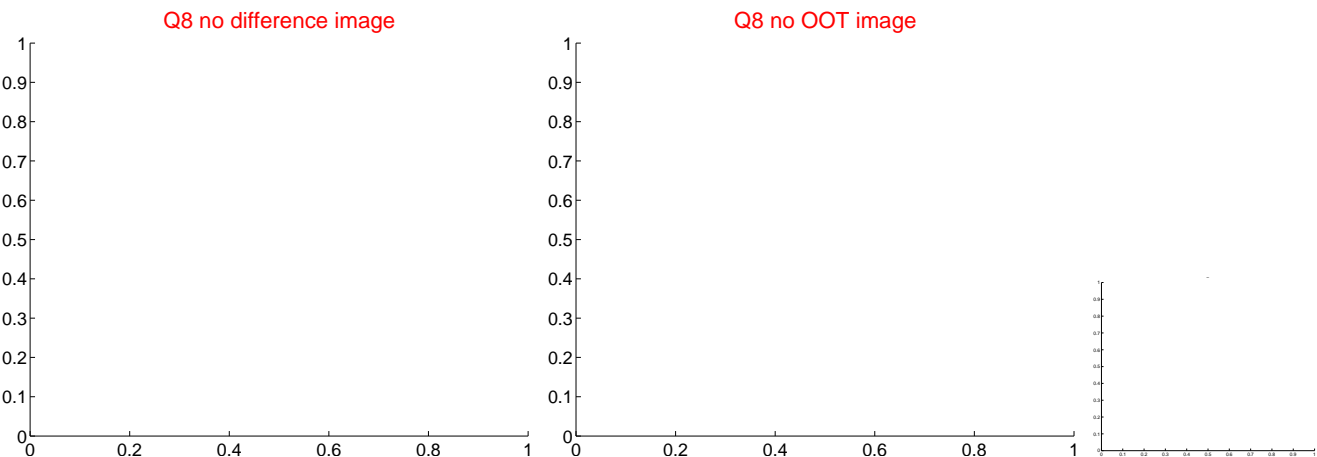
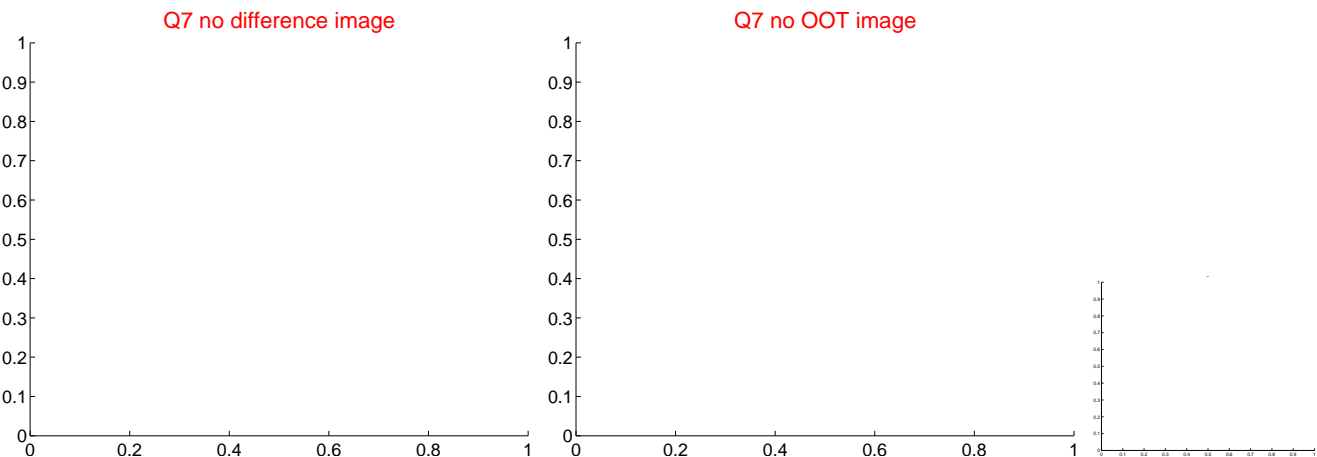
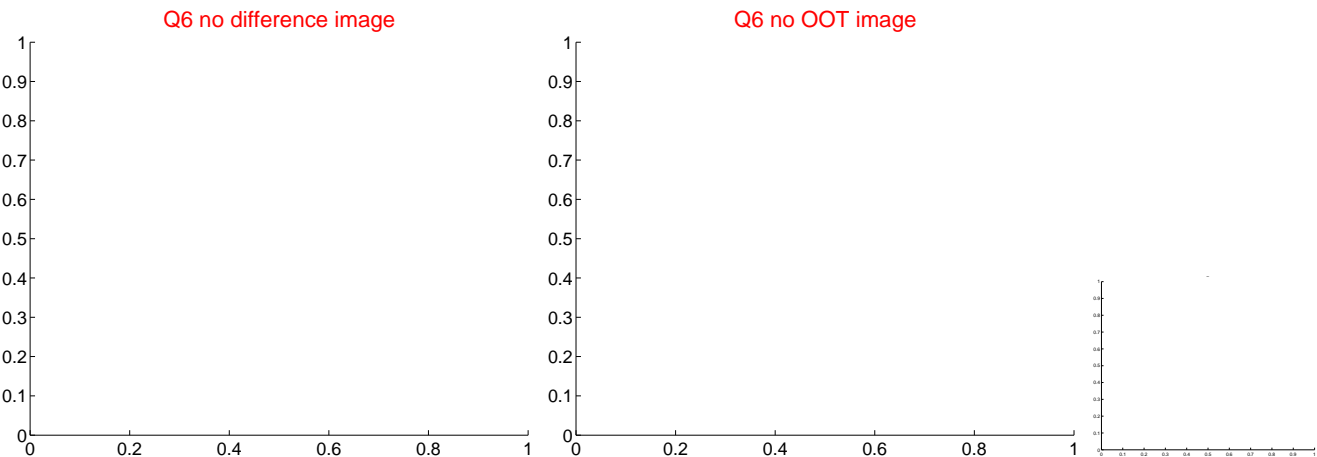
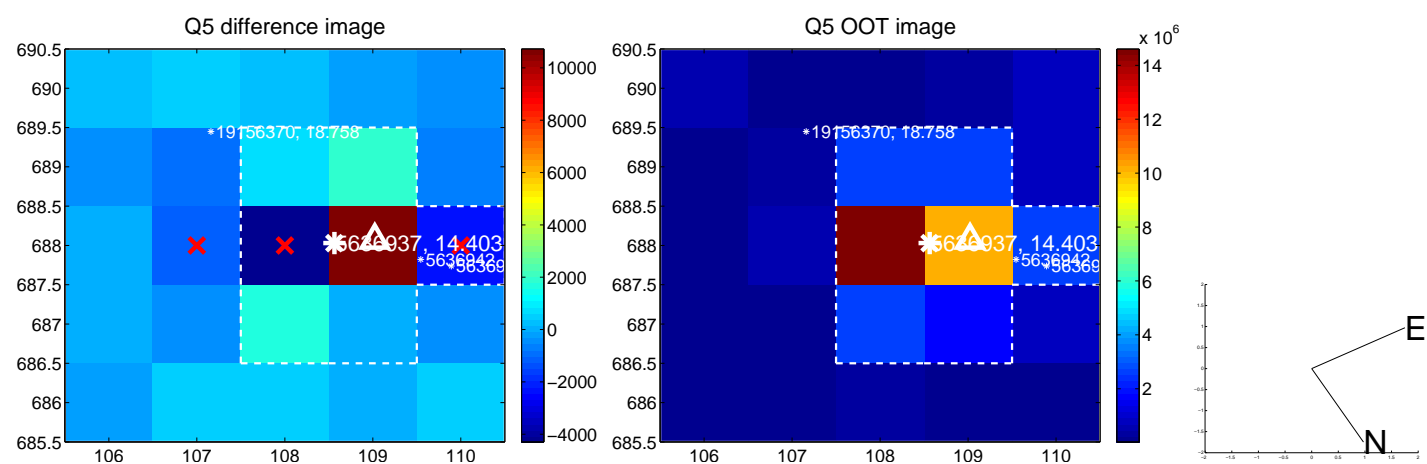
N



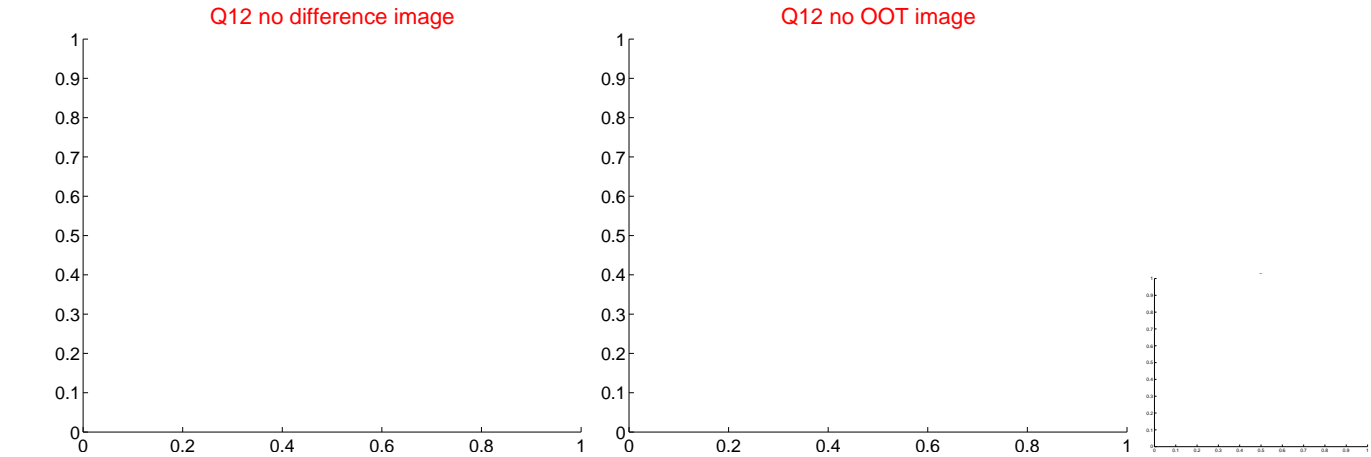
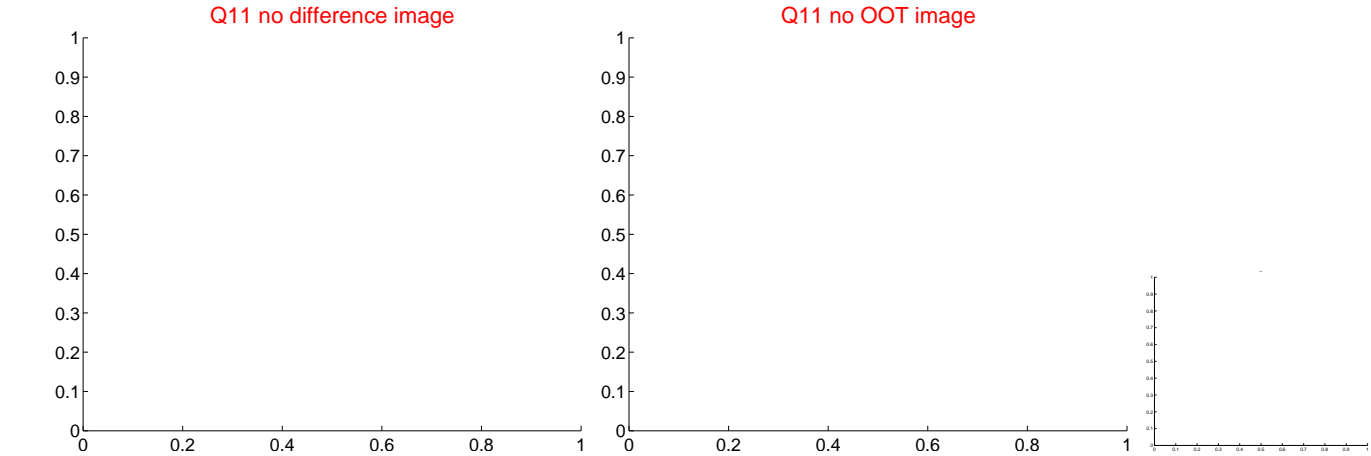
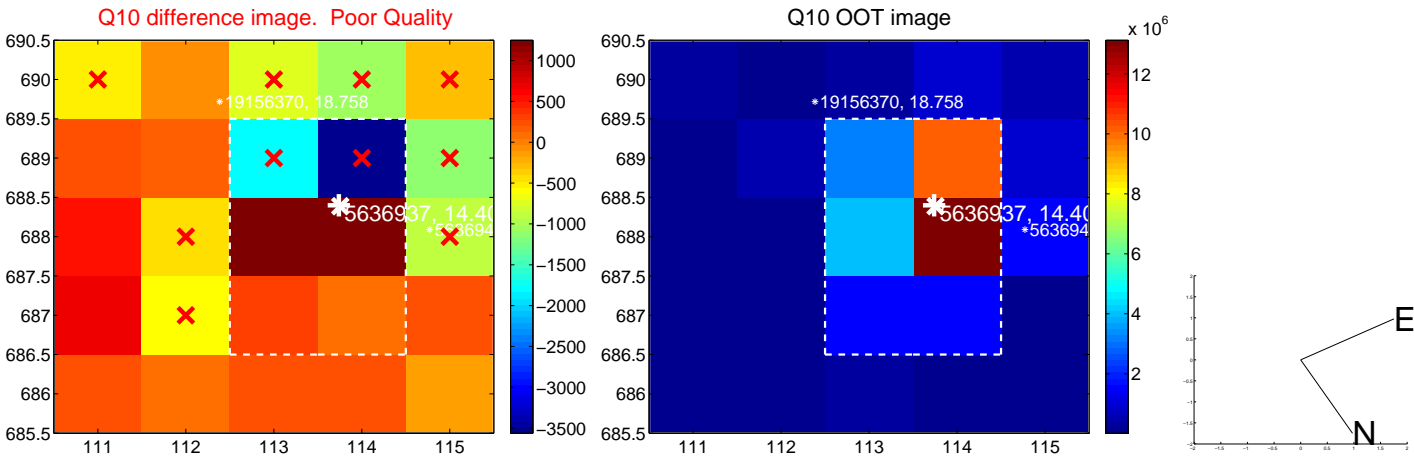
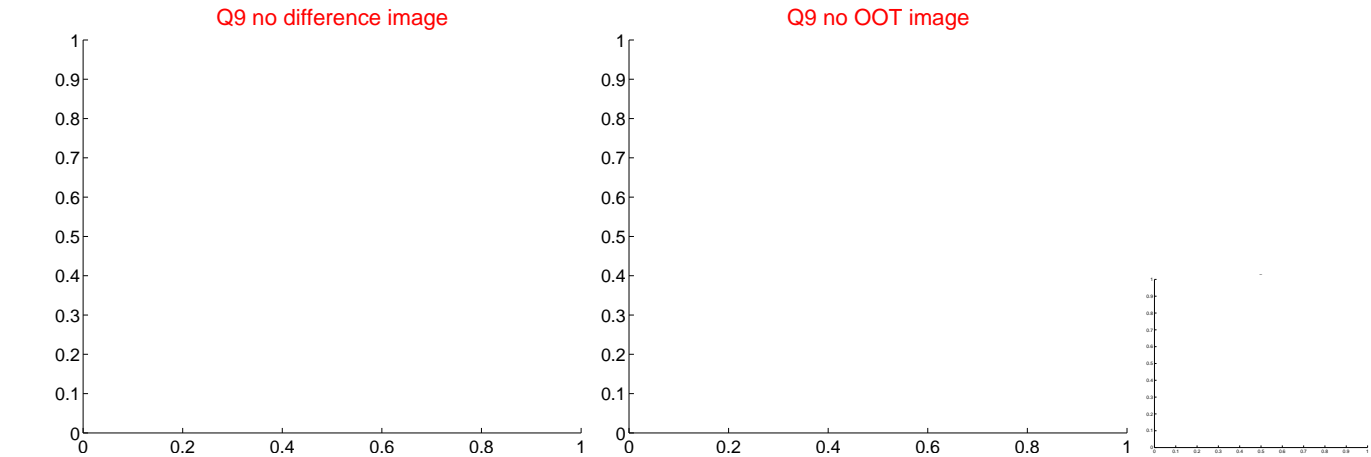
Q4 no difference image

Q4 no OOT image

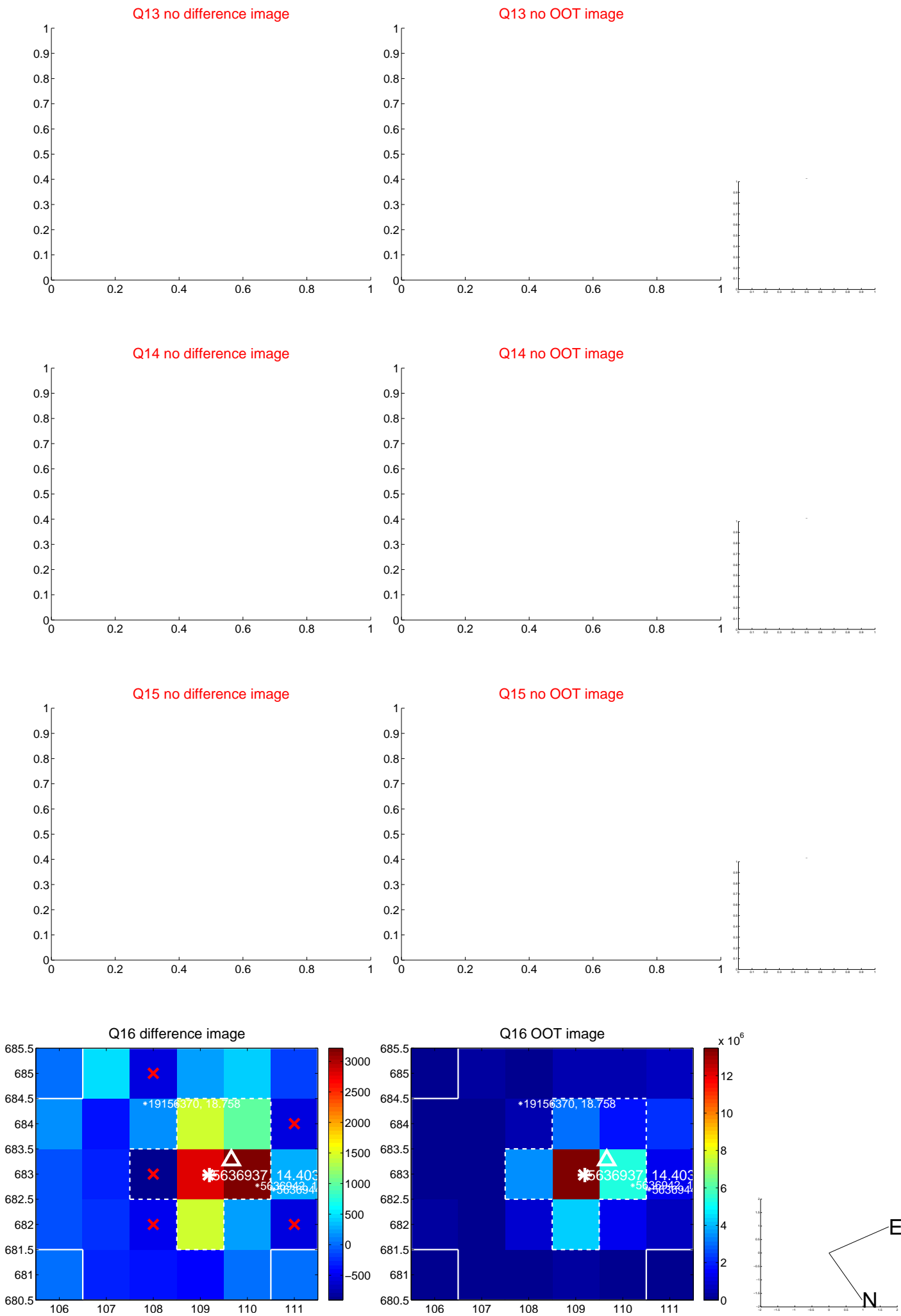
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



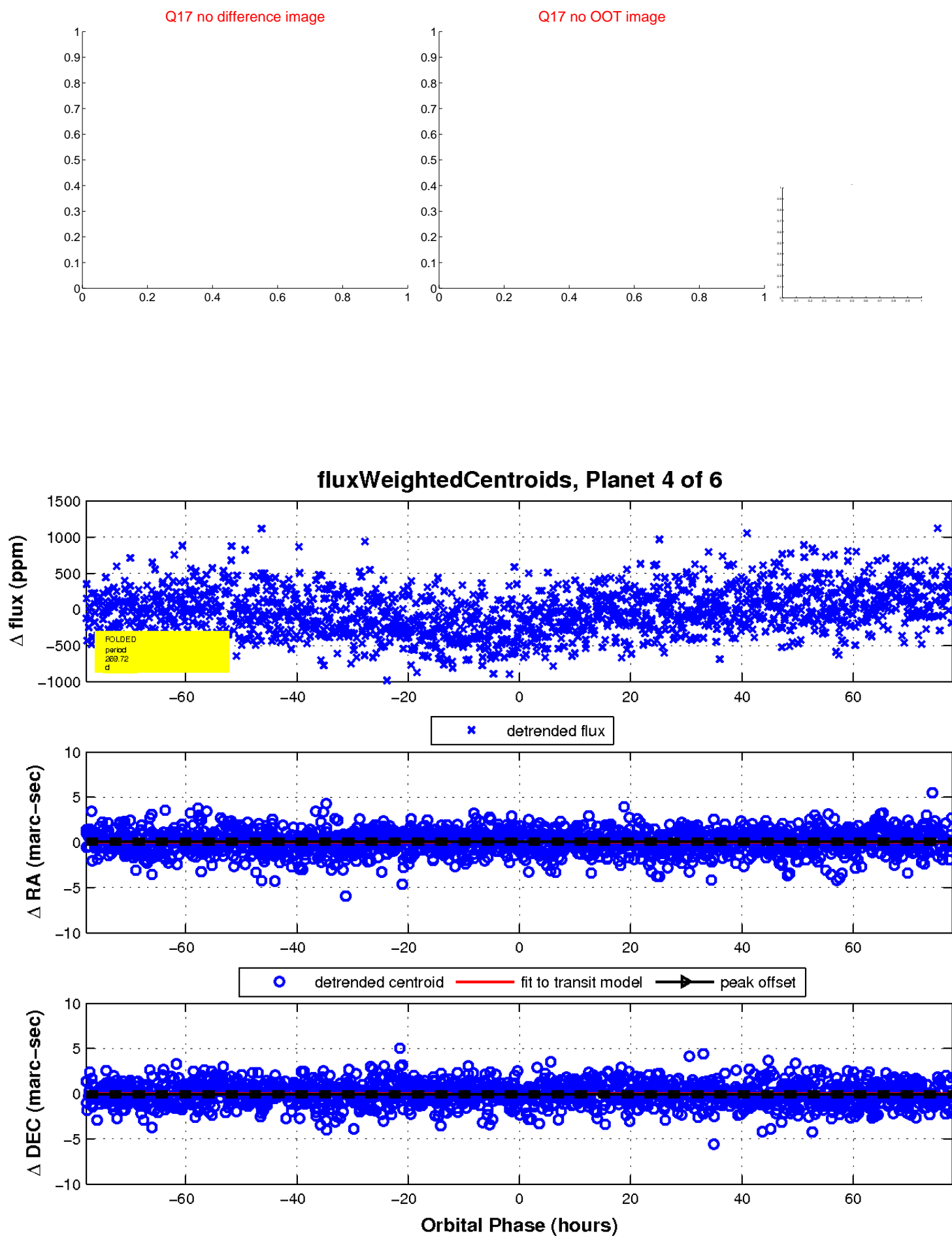
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

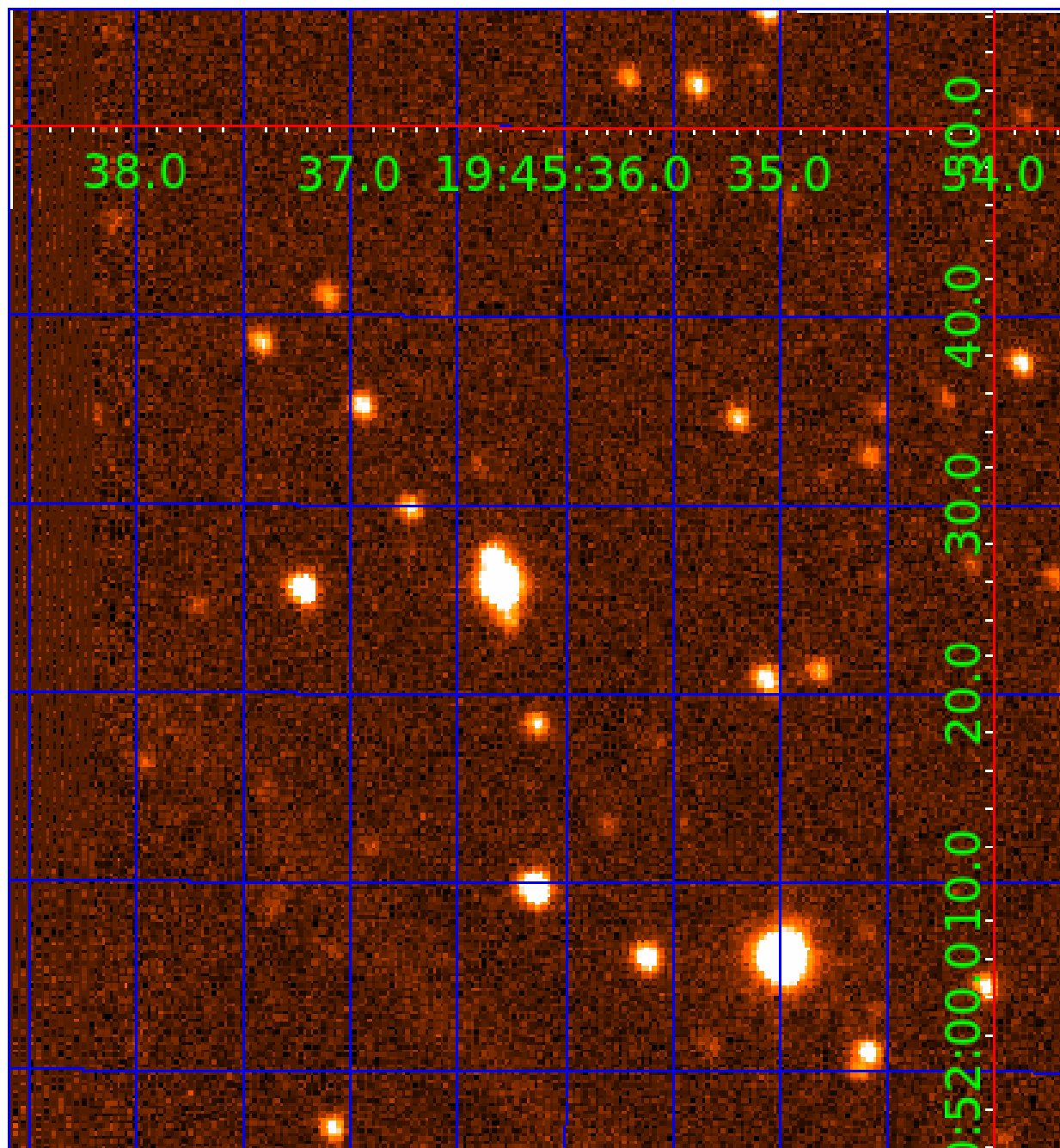


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005636937

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})
005636937-01	OBS	No	2.997102	131.563656	42.2	16.018	9.3	9.7	0.85	5864	0.56	574.59
005636937-02	OBS	No	124.660983	179.858184	191.6	24.328	9.1	5.7	0.85	5864	1.26	3.99
005636937-03	OBS	No	187.542444	276.561010	311.1	12.582	8.2	7.1	0.85	5864	1.62	2.31
005636937-04	OBS	No	269.718843	186.818991	236.8	26.016	7.6	5.8	0.85	5864	1.44	1.43
005636937-05	OBS	No	168.642217	271.317635	673.6	1.820	7.5	8.5	0.85	5864	2.64	2.67
005636937-06	OBS	No	124.096159	142.407229	337.3	5.691	7.6	7.0	0.85	5864	1.66	4.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005636937-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005636937-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005636937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
005636937-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

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

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

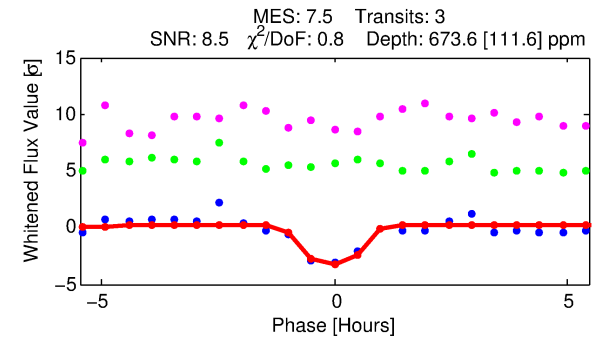
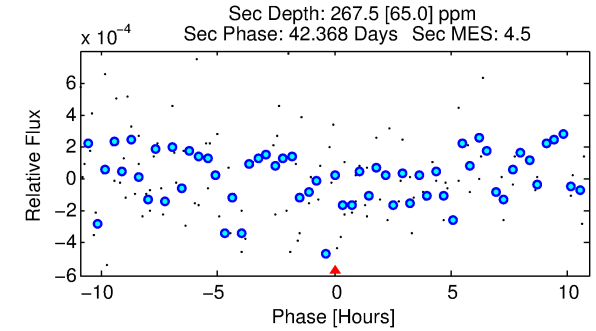
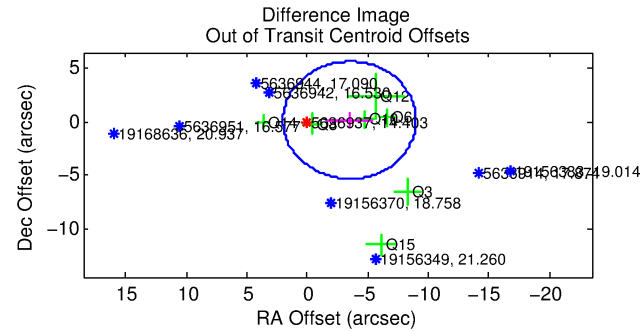
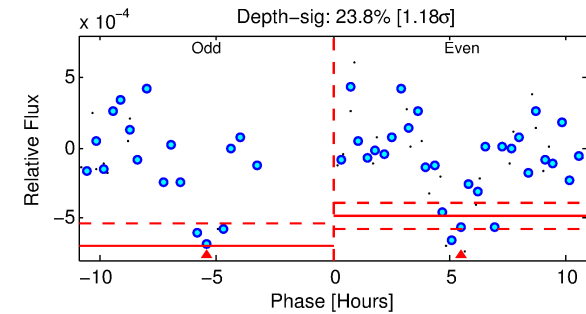
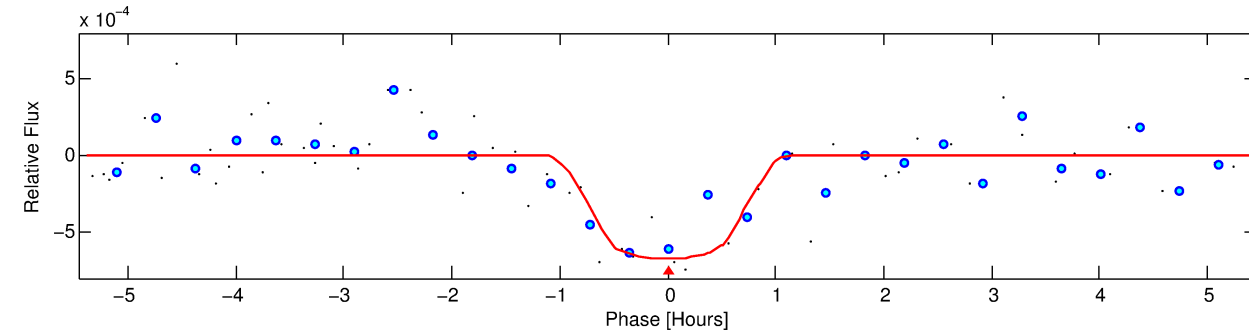
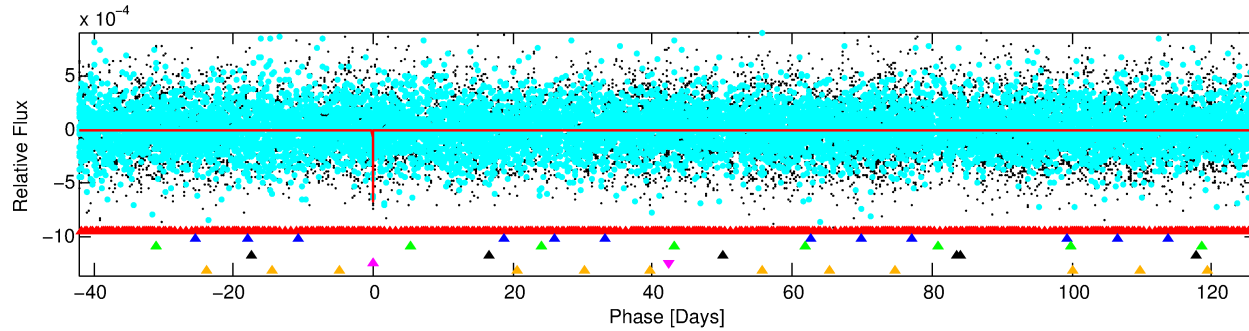
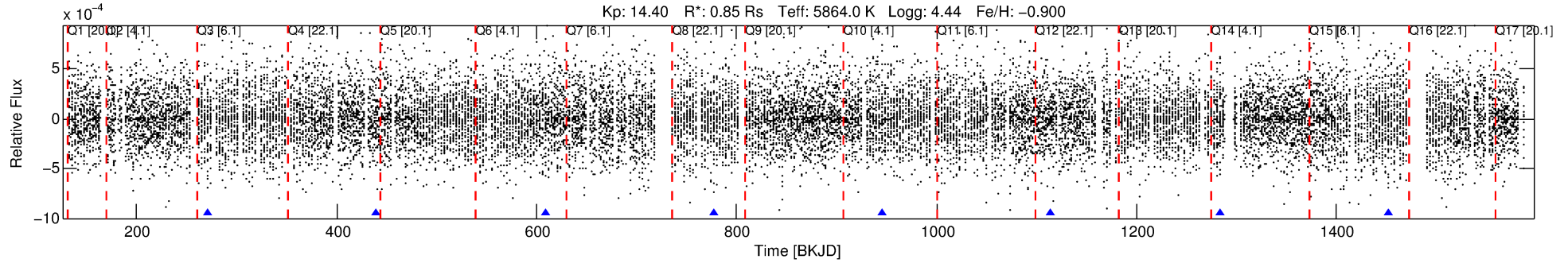
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005636937-05

No Significant Match Found

DV One-Page Summary

KIC: 5636937 Candidate: 5 of 6 Period: 168.642 d



DV Fit Results:

Period = 168.64222 [0.00129] d
Epoch = 271.3176 [0.0049] BKJD
Rp/R* = 0.0284 [0.0136]
a/R* = 330.57 [797.98]
b = 0.92 [0.43]
Seff = 2.66 [0.81]
Teq = 326 [25] K
Rp = 2.64 [1.38] Re
a = 0.5366 [0.0988] AU
Ag = 6096.05 [6279.78] [0.97 σ]
Teffp = 4451 [1111] K [3.71 σ]

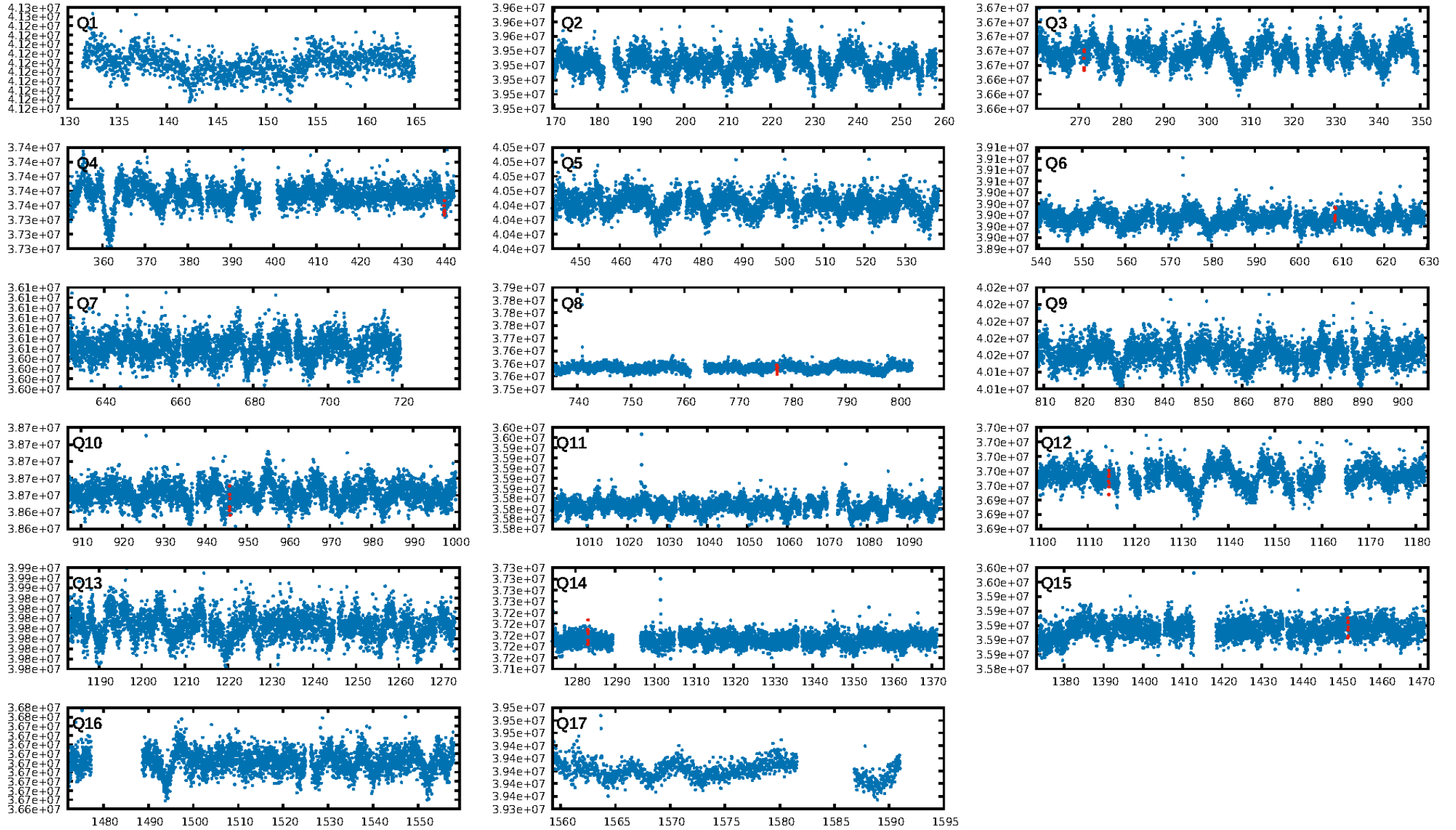
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [43.27 σ]
LongPeriod-sig: 100.0% [35.68 σ]
ModelChiSquare2-sig: 22.6%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 1.68e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 9.059
Centroid-sig: 64.4%
Centroid-so: 0.422 arcsec [0.38 σ]
OotOffset-rm: 3.487 arcsec [1.91 σ]
OotOffset-st: 3/2/2/0 [7]
KicOffset-rm: 3.459 arcsec [1.88 σ]
KicOffset-st: 3/2/2/0 [7]
DiffImageQuality-fgm: 0.14 [1/7]
DiffImageOverlap-fno: 0.62 [5/8]

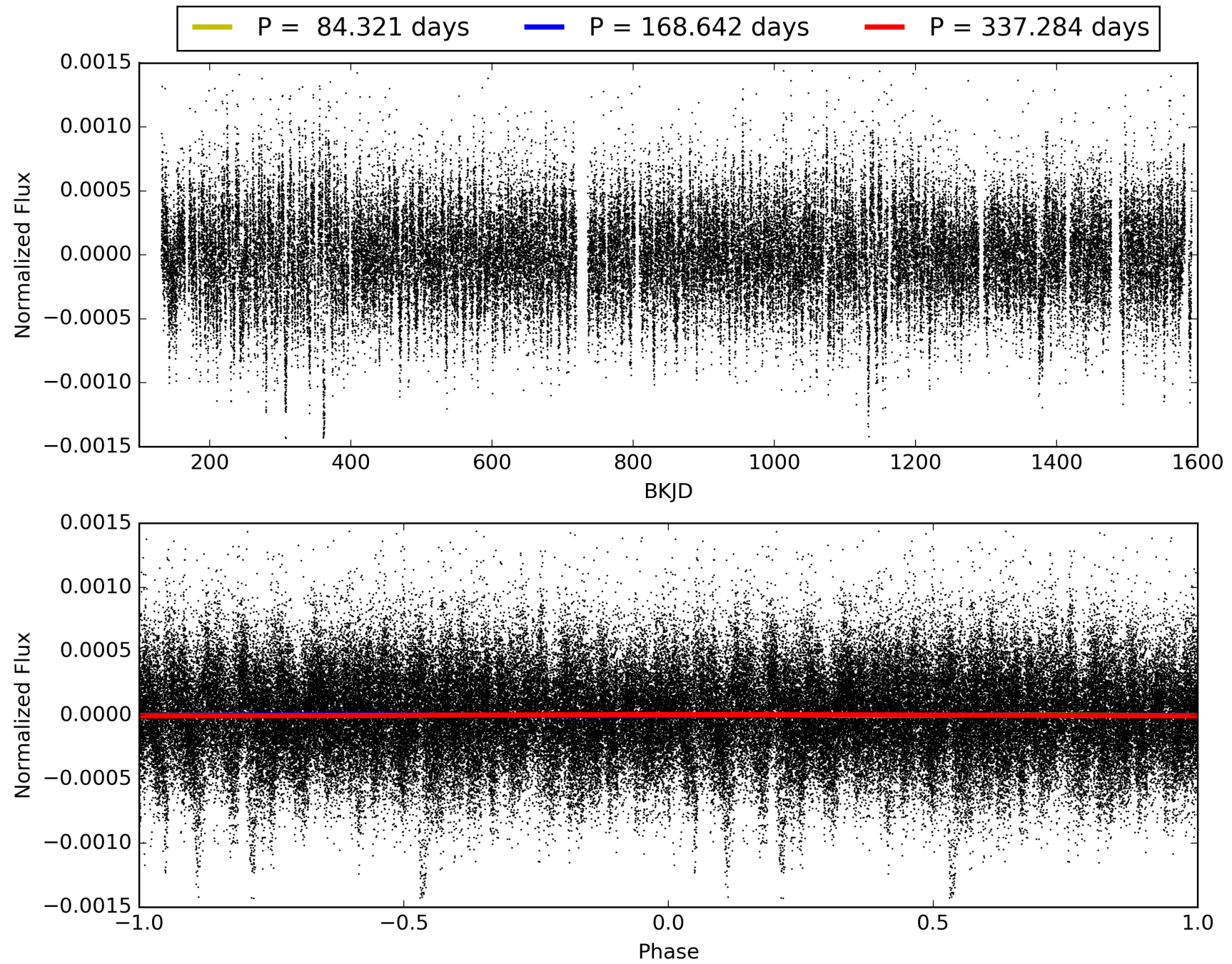
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:38:47 Z

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

TCE 005636937-05, PDC Light Curves

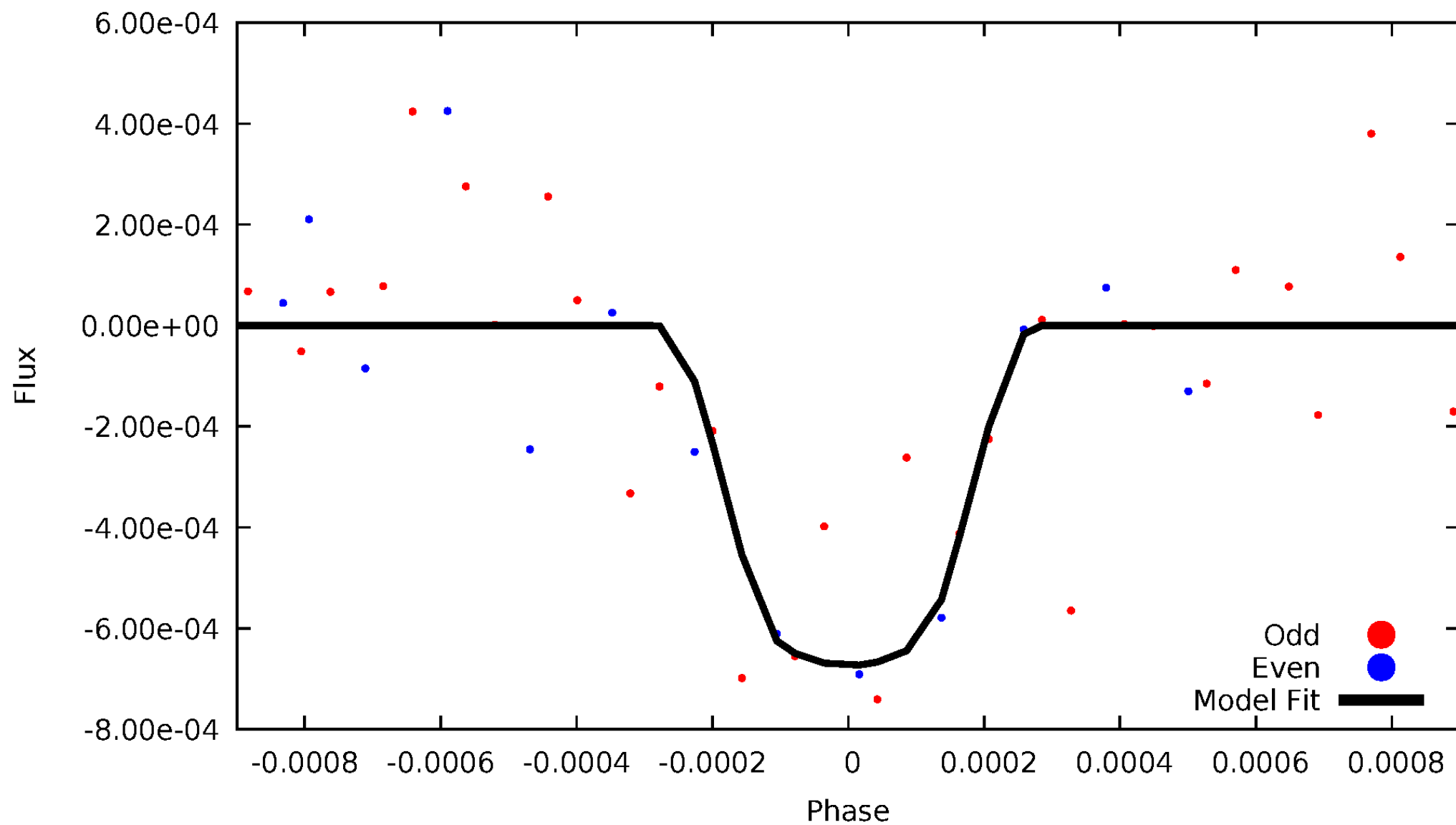


TCE 005636937-05



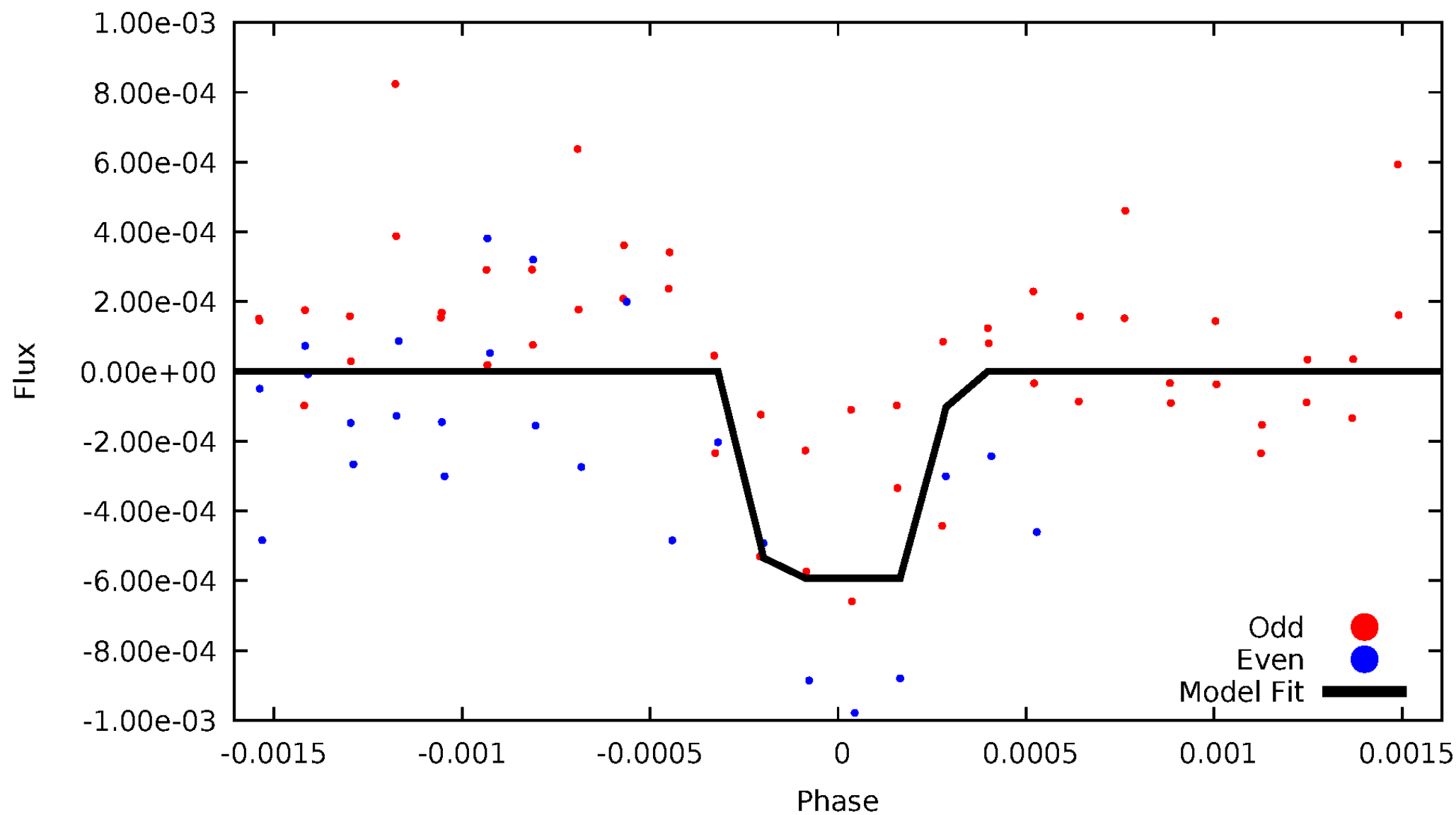
DV Odd/Even

TCE 005636937-05



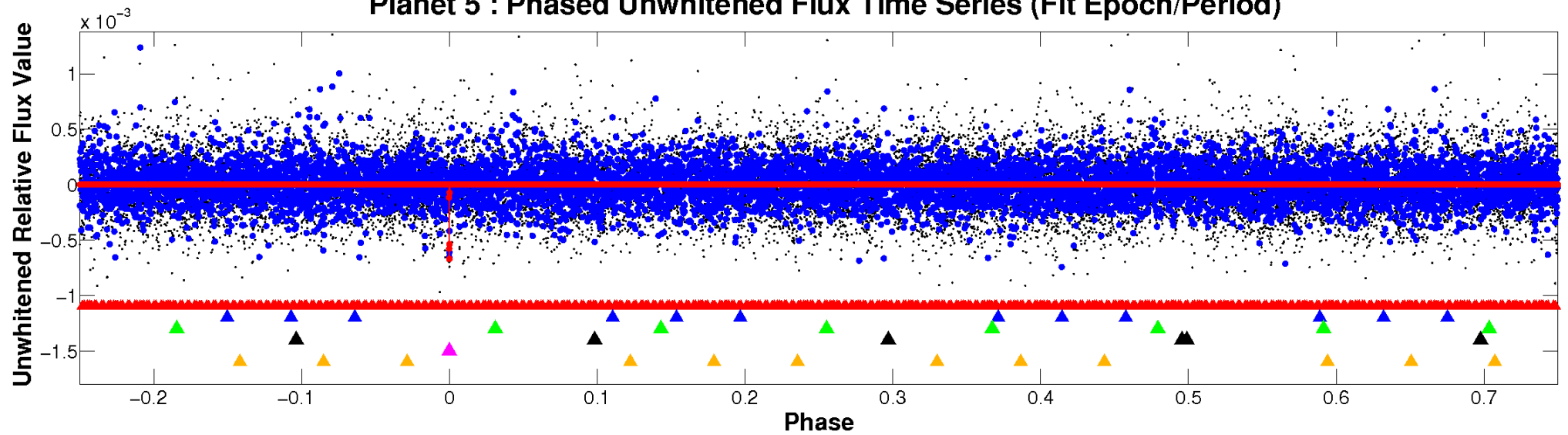
ALT Odd/Even

TCE 005636937-05

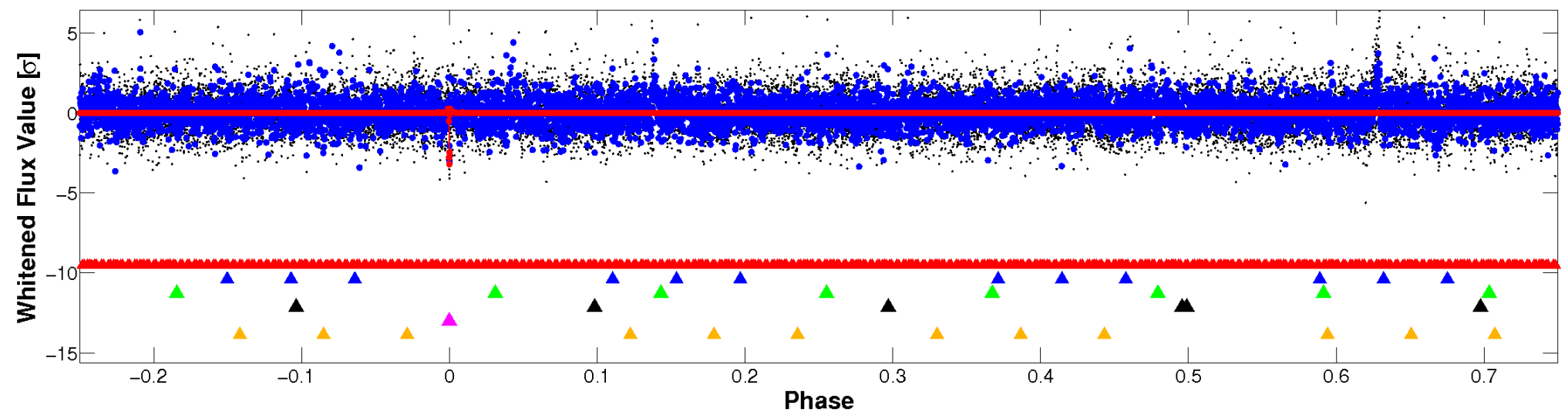


Non-Whitened Vs. Whitened Light Curve

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

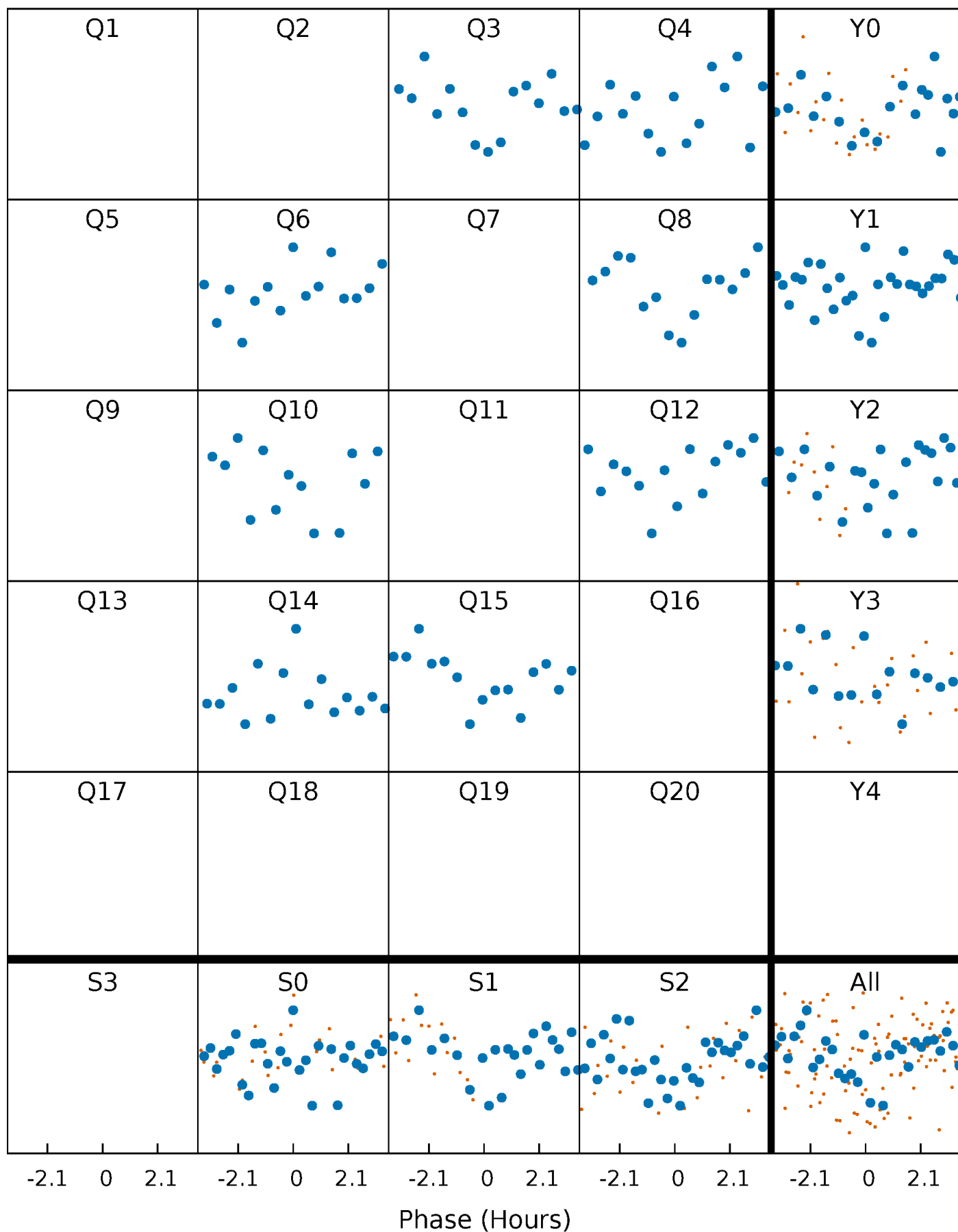


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



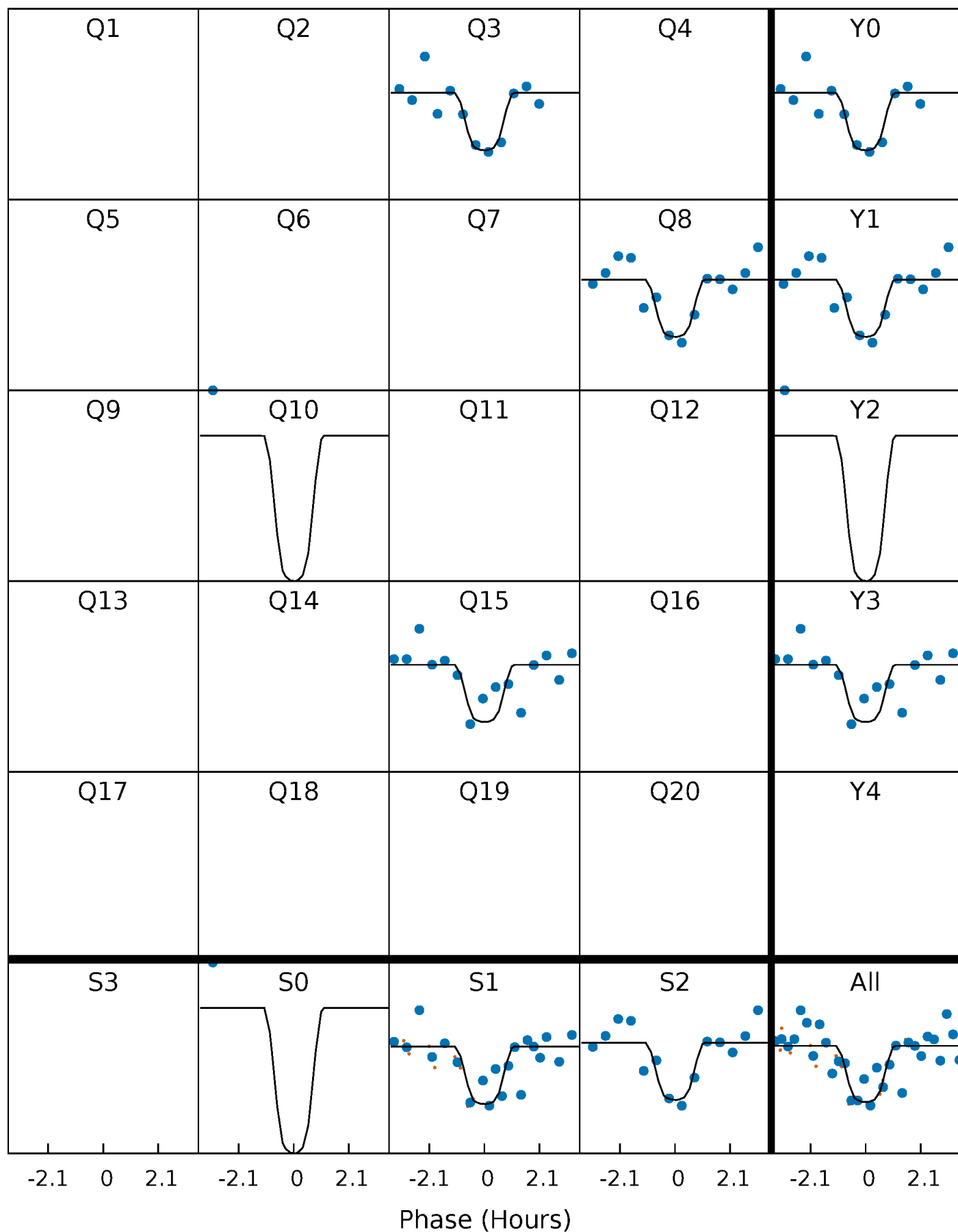
PDC Quarter-Phased Transit Curves

TCE 005636937-05 $P=168.642217$ Days $T_0=271.317635$ (BKJD)



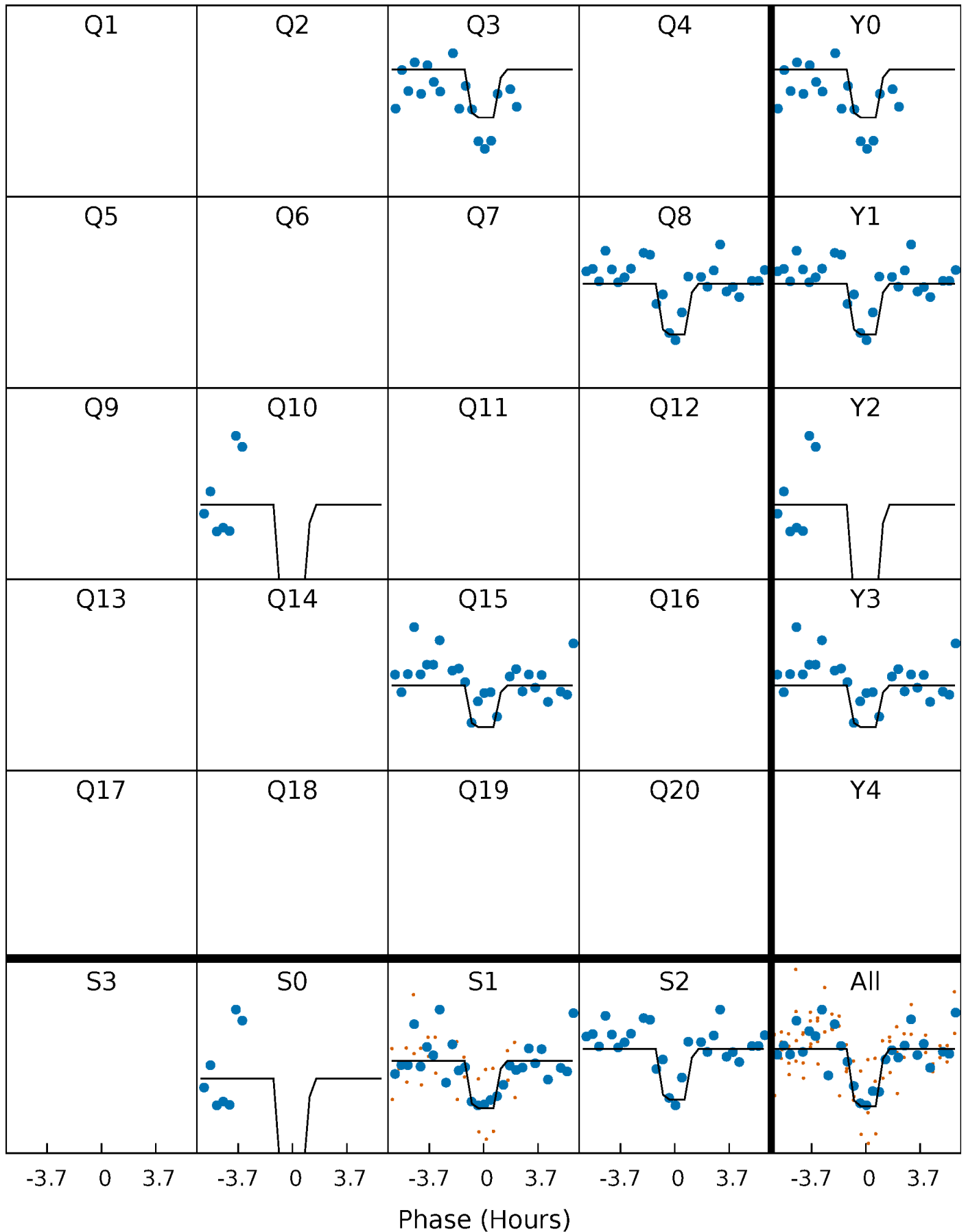
DV Quarter-Phased Transit Curves

TCE 005636937-05 $P=168.642217$ Days $T_0=271.317635$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

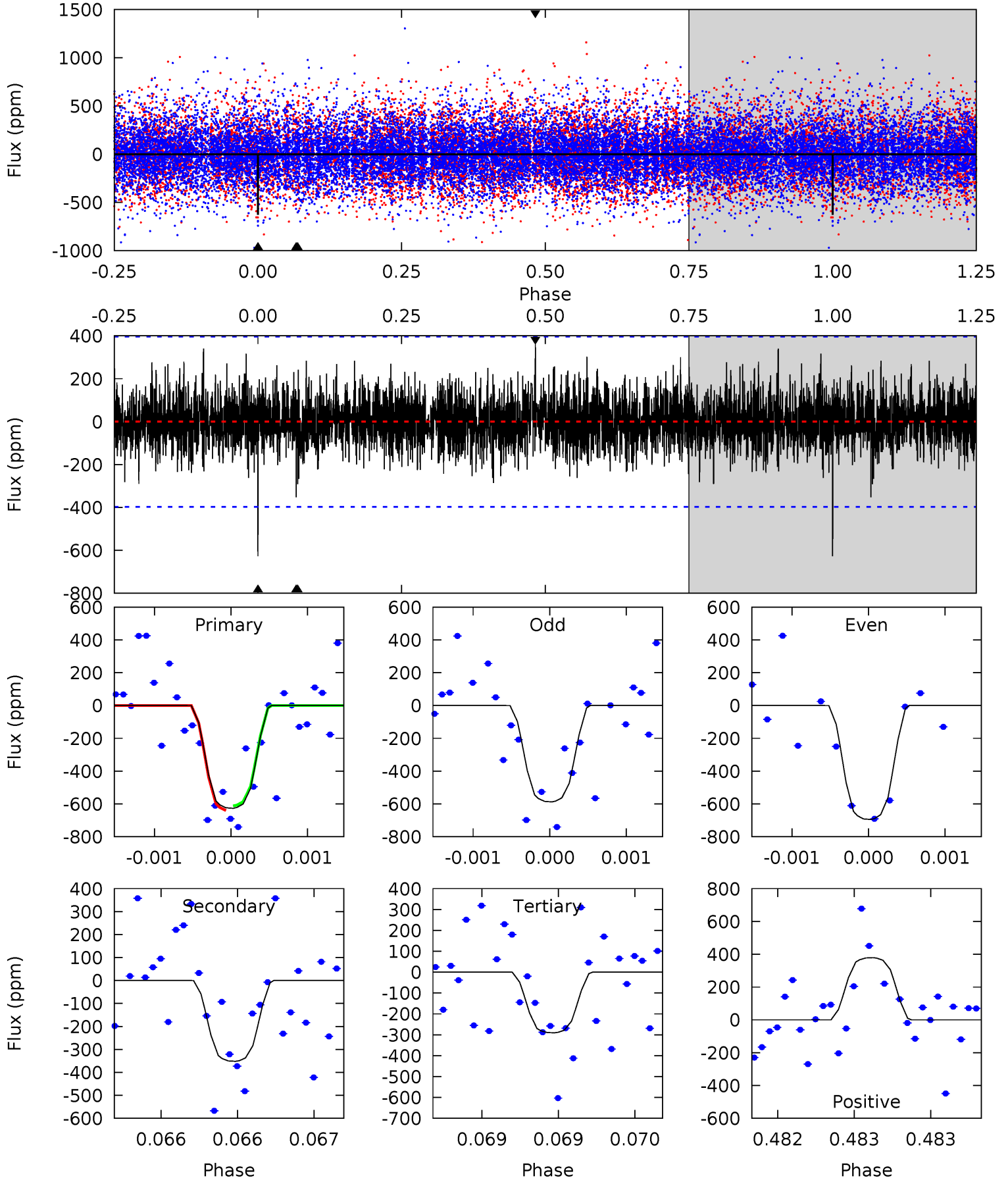
TCE 005636937-05 $P=168.644125$ Days $T_0=271.312888$ (BKJD)



DV Model-Shift Uniqueness Test

005636937-05, P = 168.642217 Days, E = 102.675418 Days

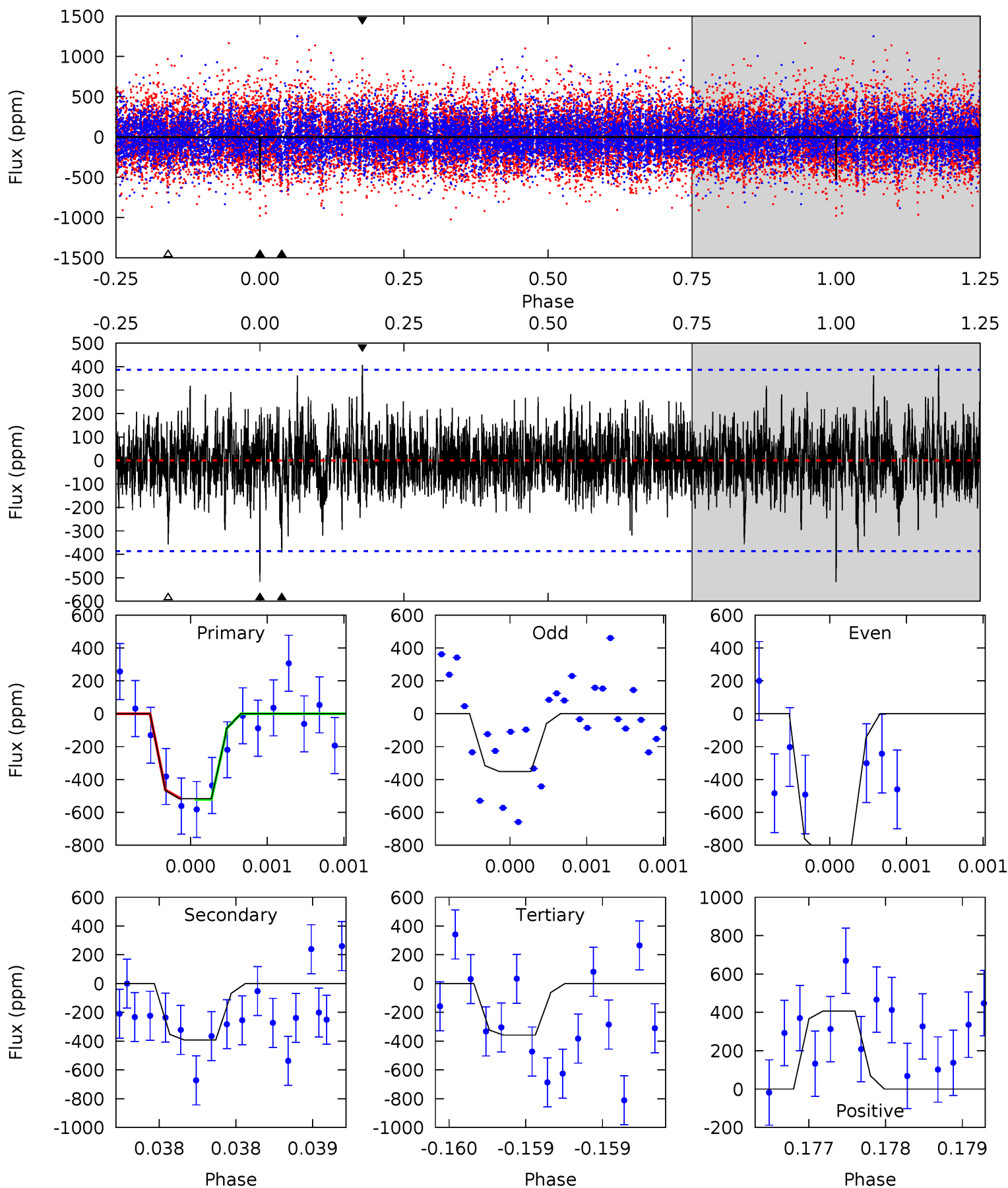
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.78	4.93	4.07	5.31	5.56	3.46	1.22	4.71	3.47	0.86	-0.38	0.71	0.90	0.38	0.19



Alt Model-Shift Uniqueness Test

005636937-05, P = 168.644125 Days, E = 102.668763 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.41	5.61	5.13	5.83	5.54	3.43	1.27	2.29	1.58	0.48	-0.22	3.41	1.17	0.44	0.05



Stellar Parameters For KIC 005636937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5864^{+176}_{-176}	$4.438^{+0.160}_{-0.160}$	$-0.900^{+0.300}_{-0.300}$	$0.851^{+0.175}_{-0.143}$	$0.723^{+0.094}_{-0.031}$	$1.653^{+1.188}_{-0.691}$
	+3%/-3%	+4%/-4%	+33%/-33%	+21%/-17%	+13%/-4%	+72%/-42%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005636937-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-352 ± 71	$2.63^{+1.50}_{-1.24}$	456^{+29}_{-26}	4848^{+1715}_{-742}	8078^{+21166}_{-4908}
Alt.	-391 ± 70	$2.29^{+1.33}_{-1.16}$	456^{+29}_{-27}	5285^{+2357}_{-919}	11603^{+37257}_{-7031}

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

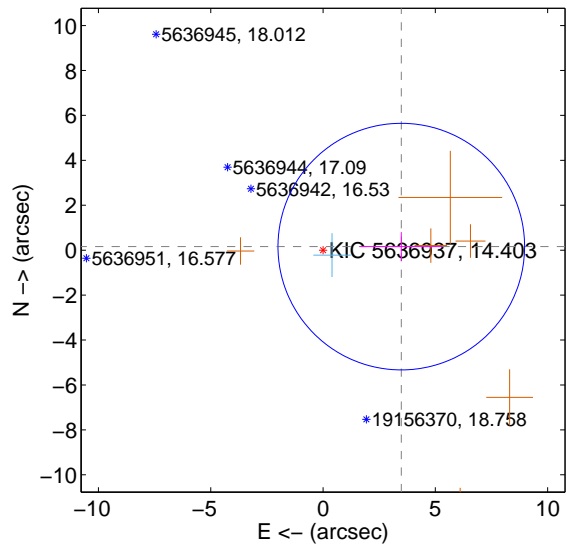
Supplemental centroid analysis for 005636937-05. Kepler magnitude: 14.40. Transit SNR 8.52

There are 1 quarters with good PRF difference image offsets

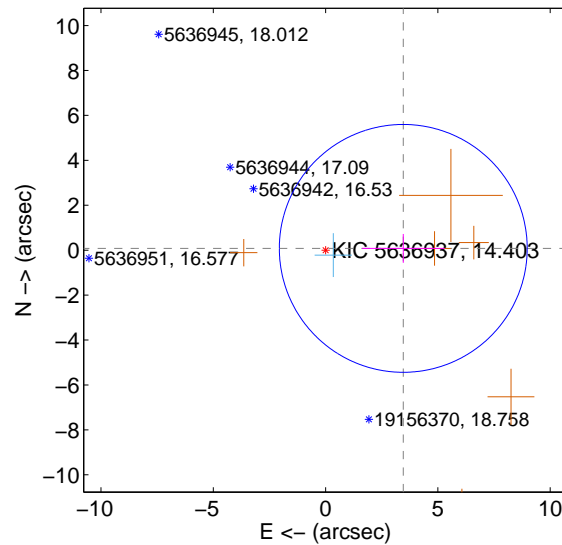
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.487 ± 1.830	1.91	-3.484 ± 1.831	0.159 ± 0.642
PRF-fit source offset from KIC position	3.459 ± 1.839	1.88	-3.458 ± 1.840	0.080 ± 0.641
photometric centroid source offset	0.42 ± 1.11	0.38	-0.11 ± 1.24	0.41 ± 1.10

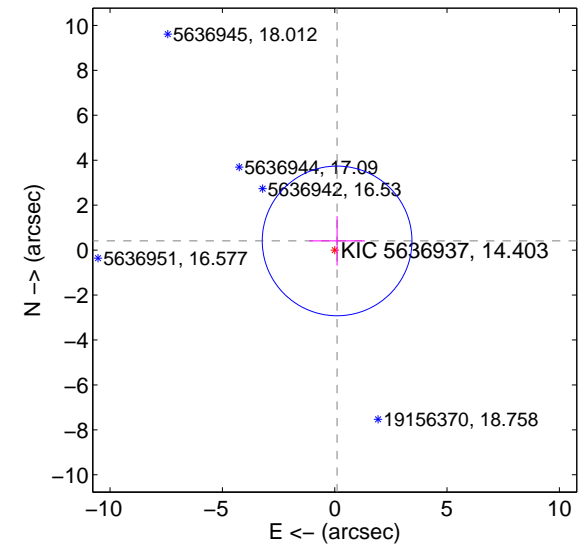
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

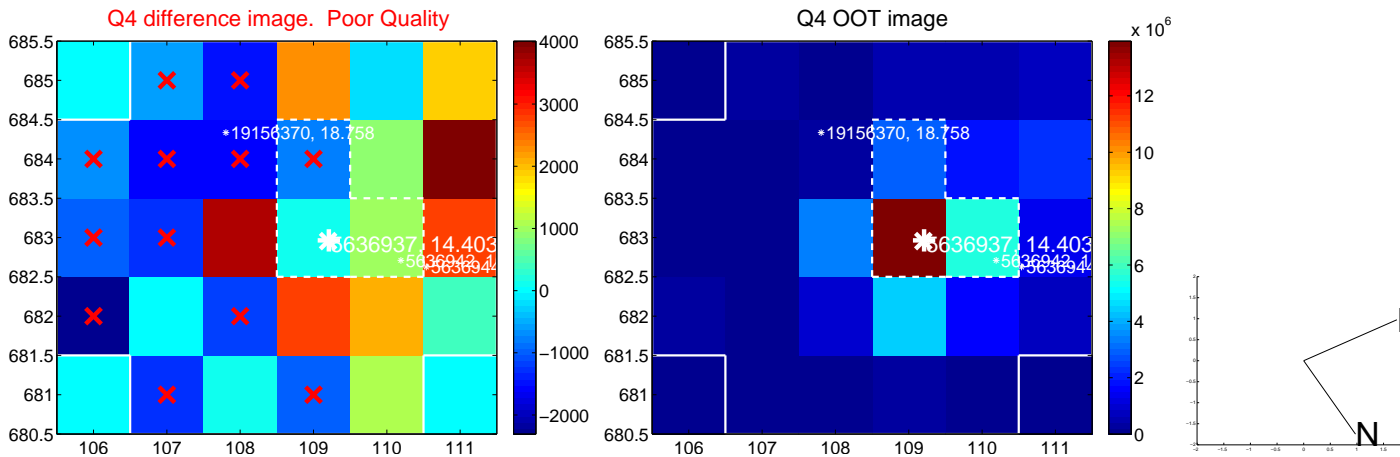
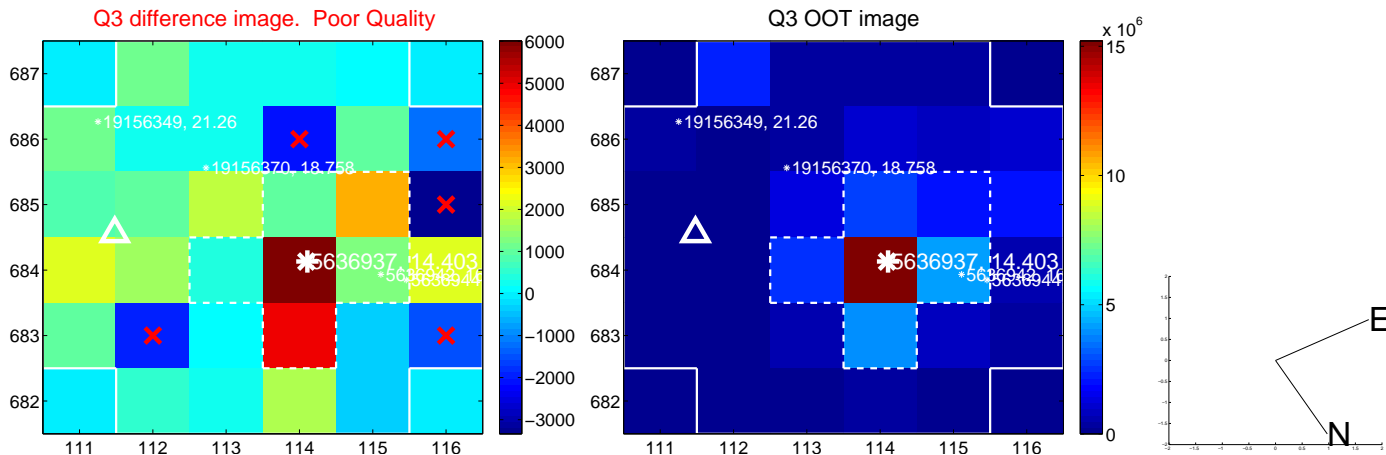
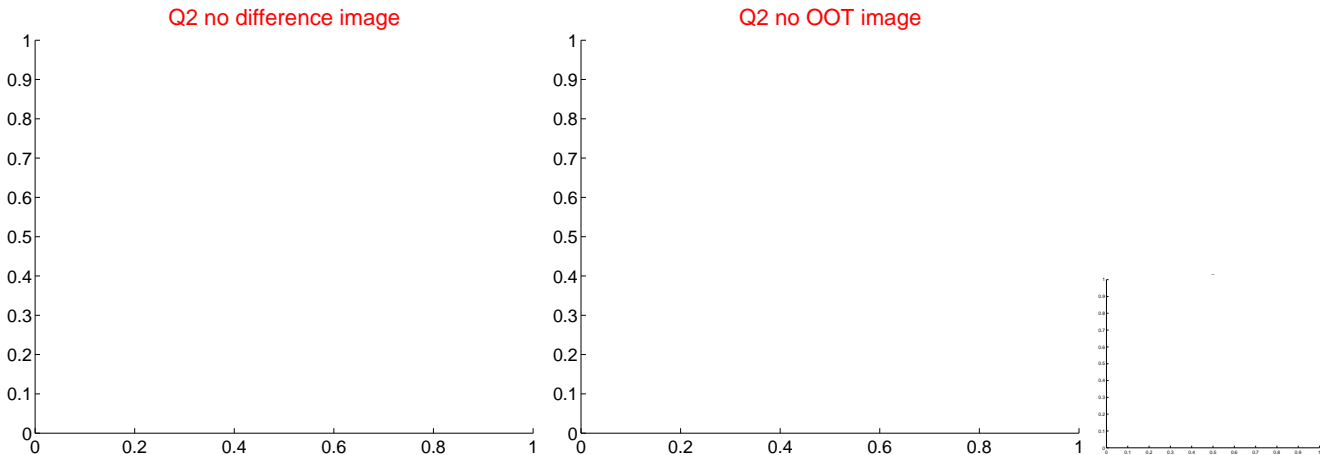
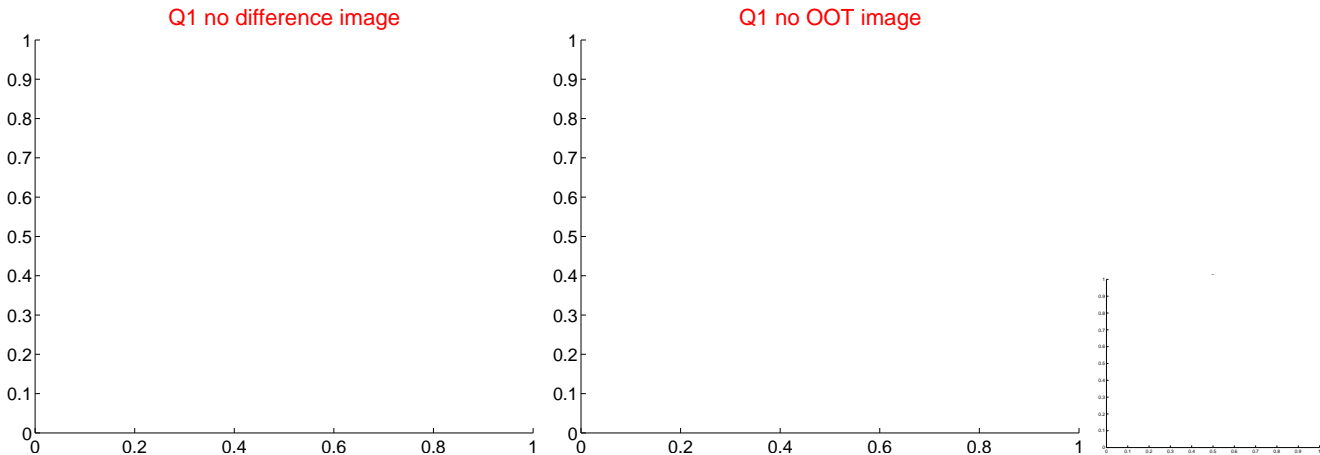


offset from photometric centroids

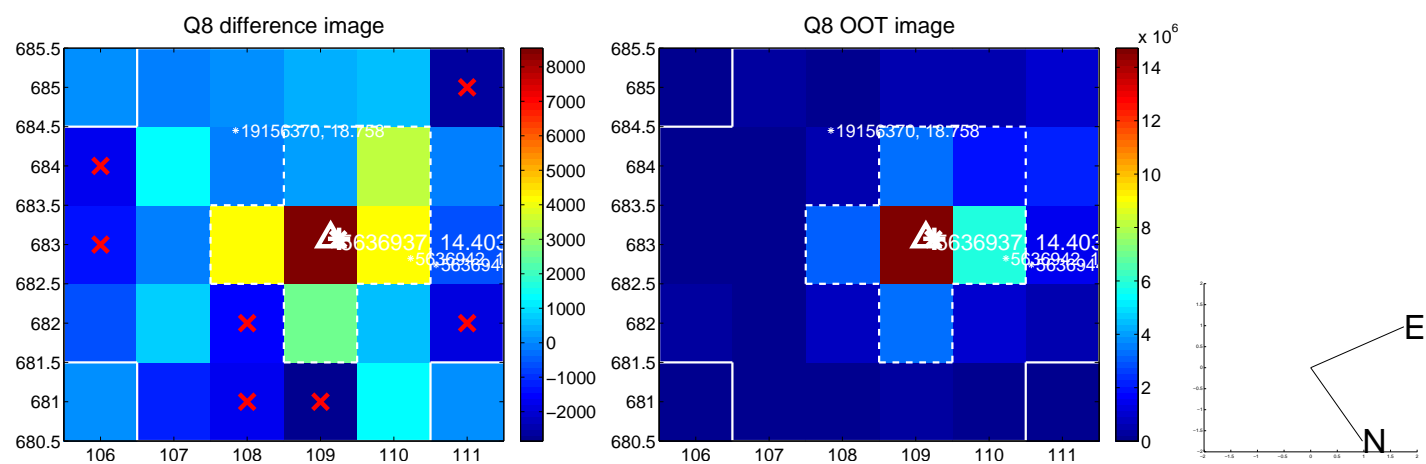
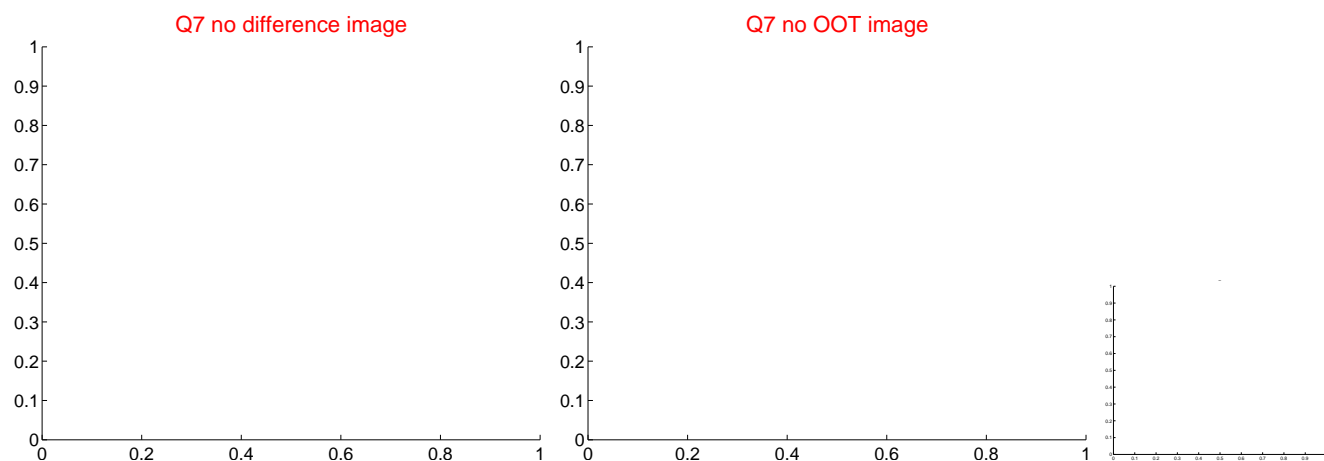
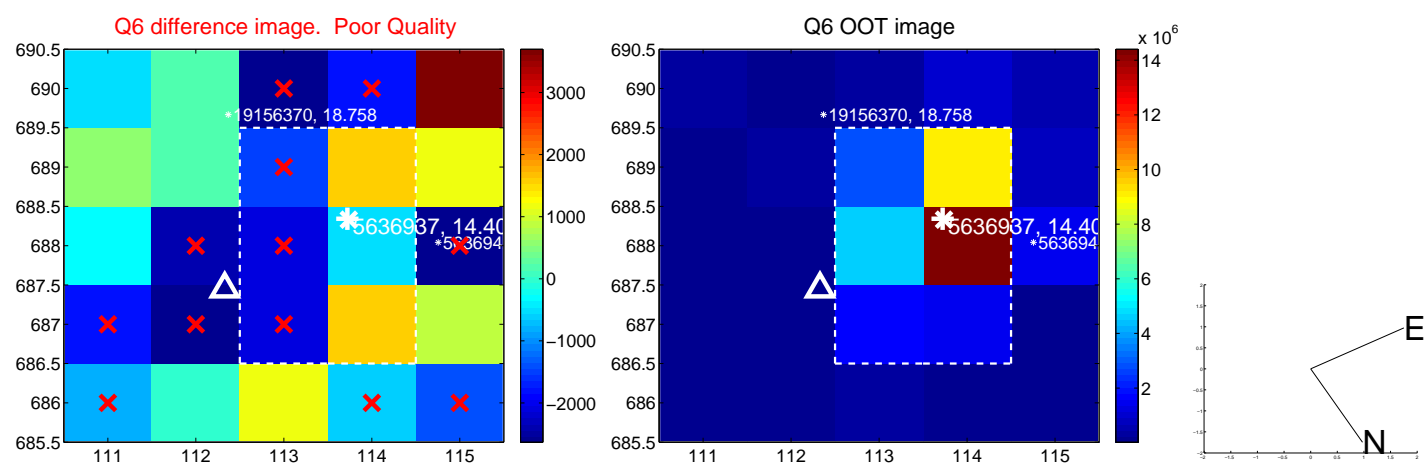
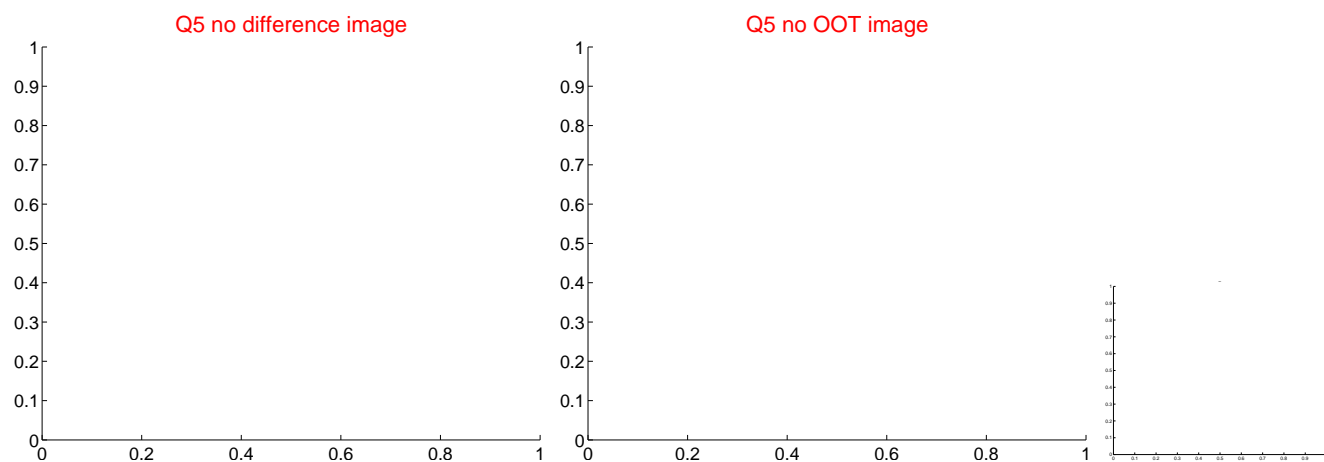


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

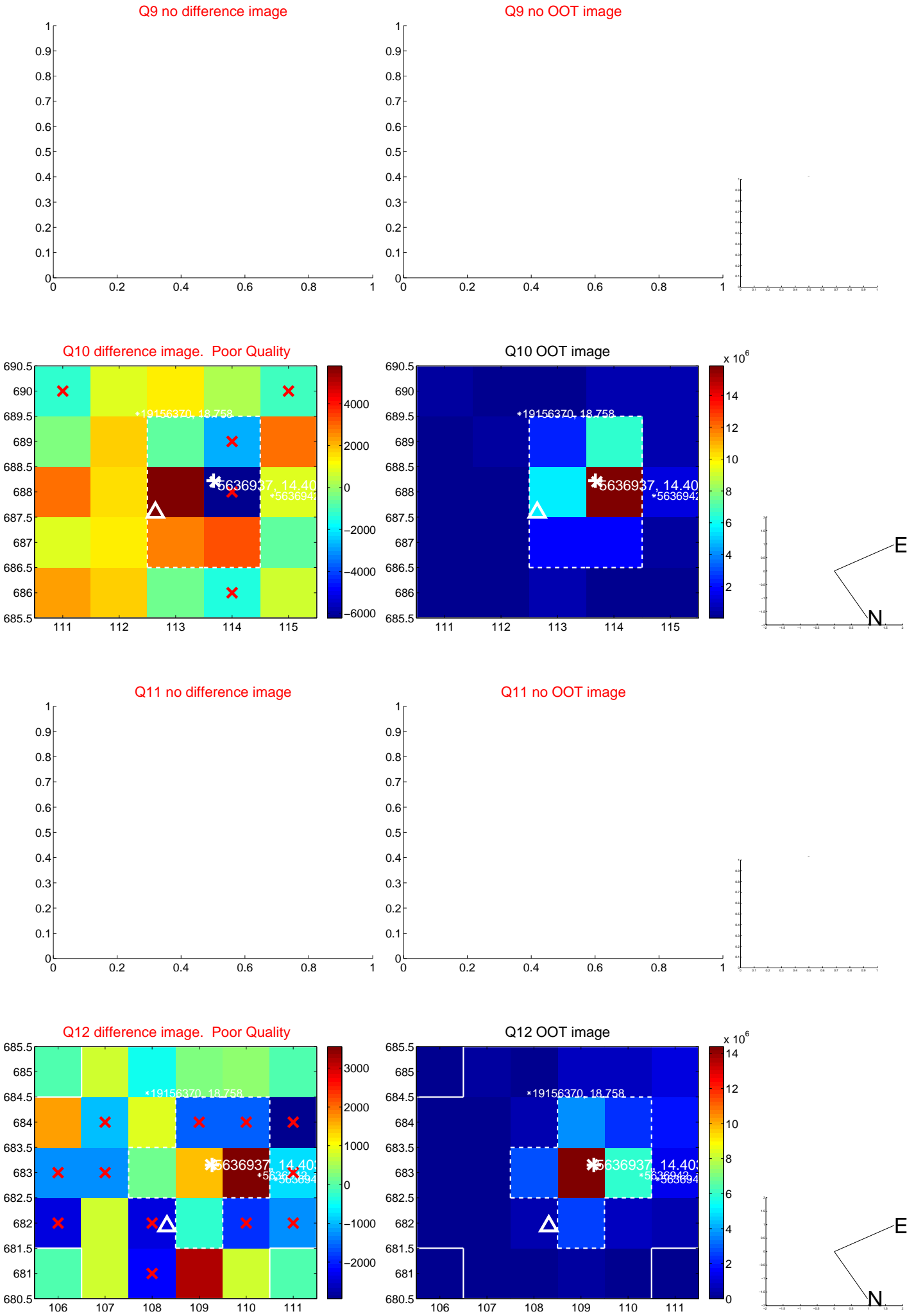
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



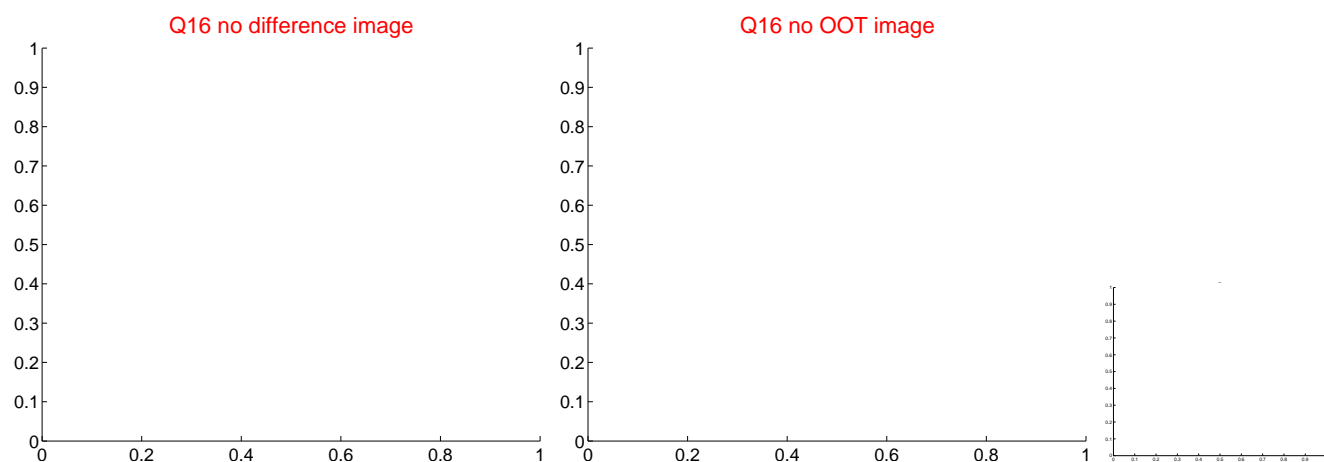
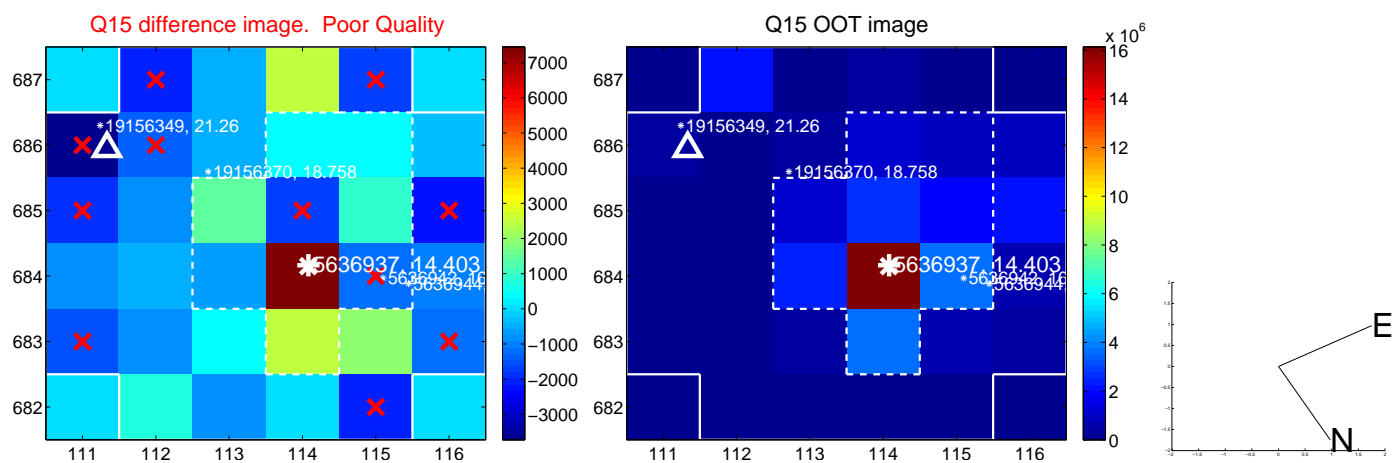
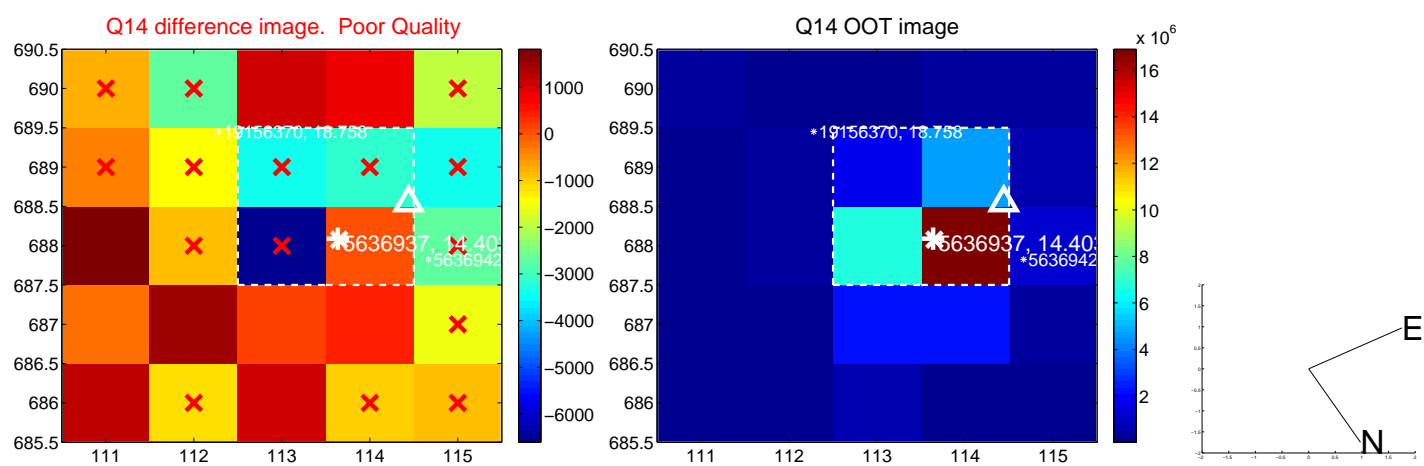
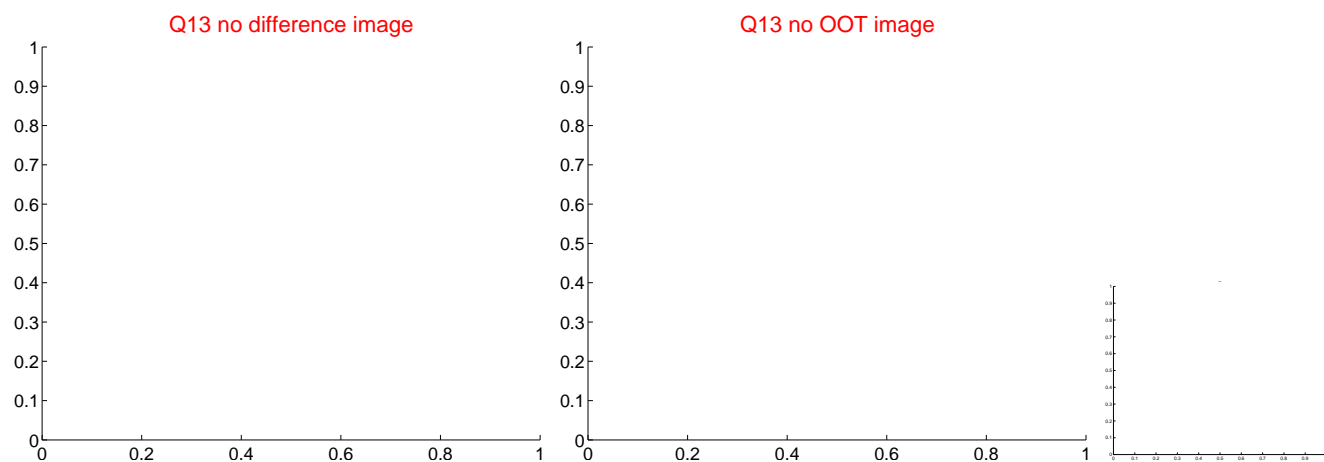
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



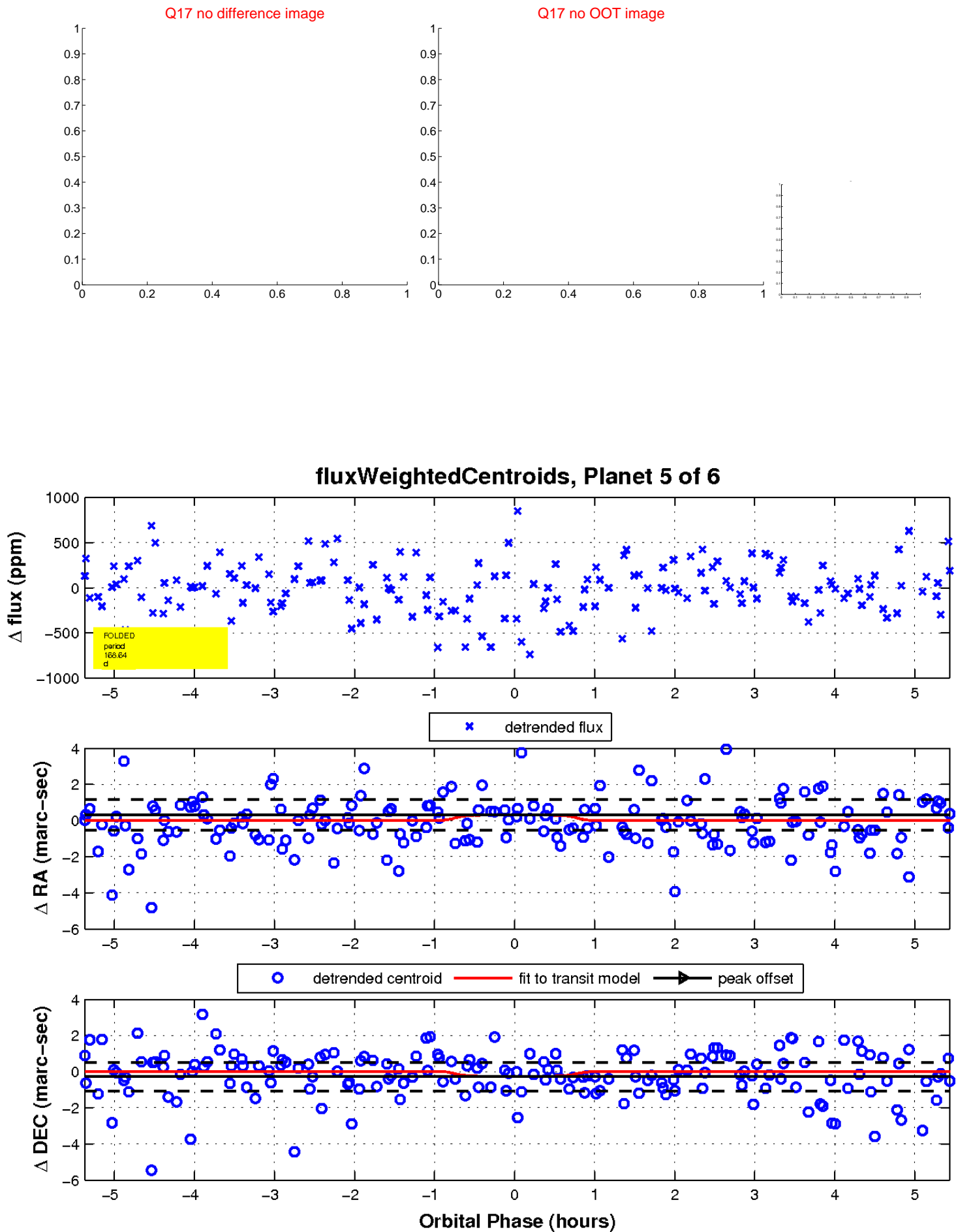
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

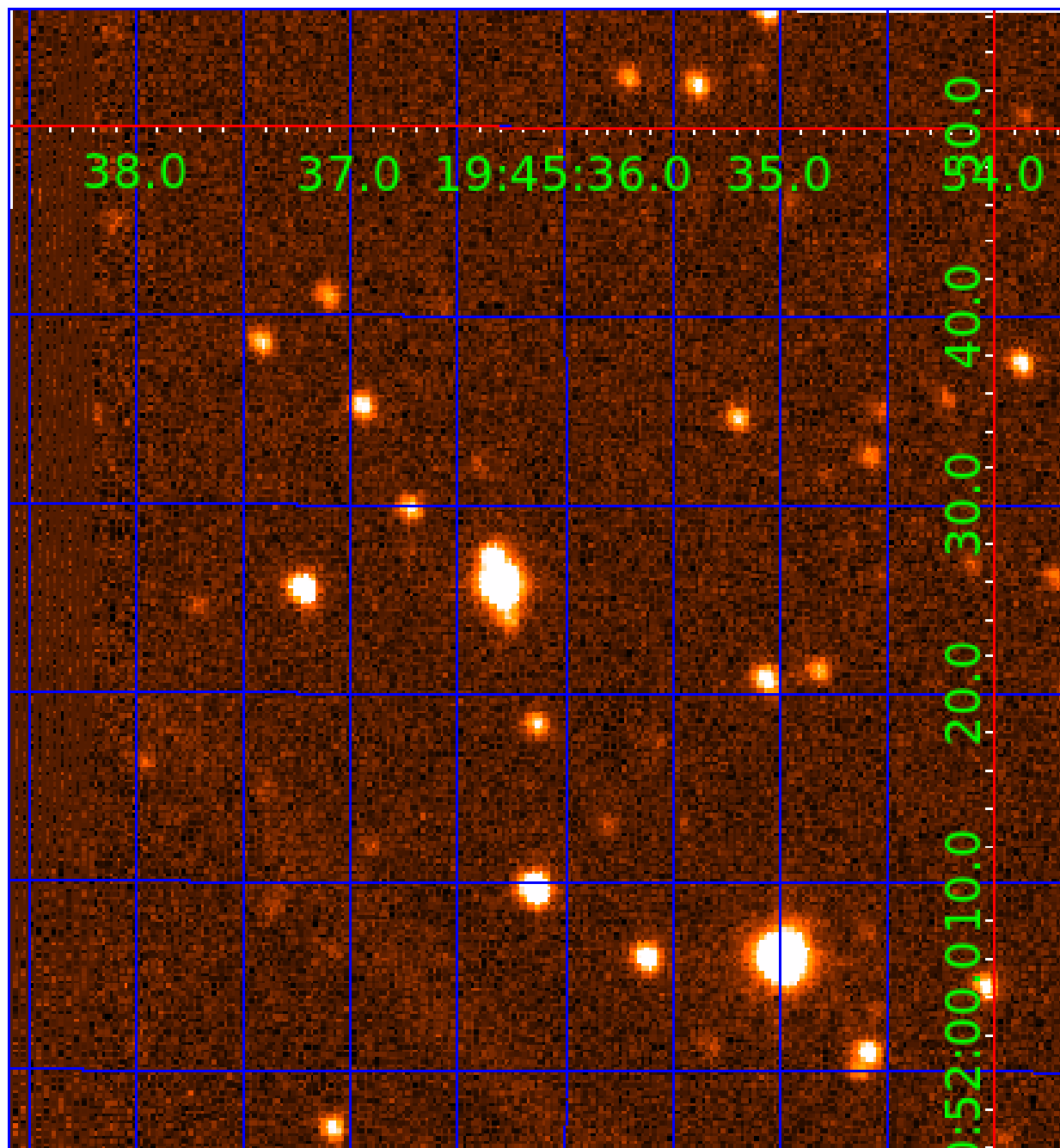


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005636937

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})
005636937-01	OBS	No	2.997102	131.563656	42.2	16.018	9.3	9.7	0.85	5864	0.56	574.59
005636937-02	OBS	No	124.660983	179.858184	191.6	24.328	9.1	5.7	0.85	5864	1.26	3.99
005636937-03	OBS	No	187.542444	276.561010	311.1	12.582	8.2	7.1	0.85	5864	1.62	2.31
005636937-04	OBS	No	269.718843	186.818991	236.8	26.016	7.6	5.8	0.85	5864	1.44	1.43
005636937-05	OBS	No	168.642217	271.317635	673.6	1.820	7.5	8.5	0.85	5864	2.64	2.67
005636937-06	OBS	No	124.096159	142.407229	337.3	5.691	7.6	7.0	0.85	5864	1.66	4.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005636937-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005636937-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005636937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005636937-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
005636937-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

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

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

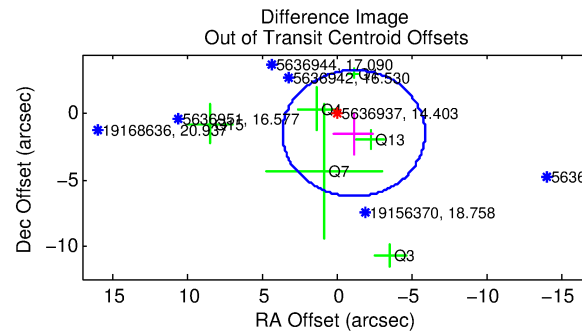
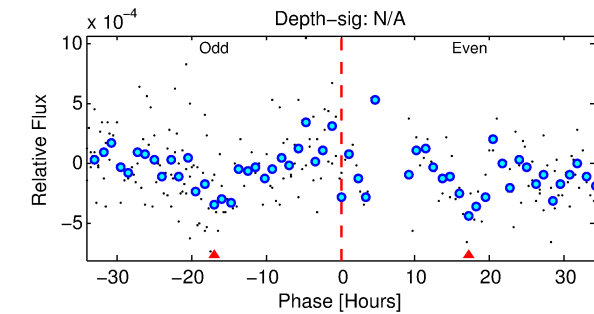
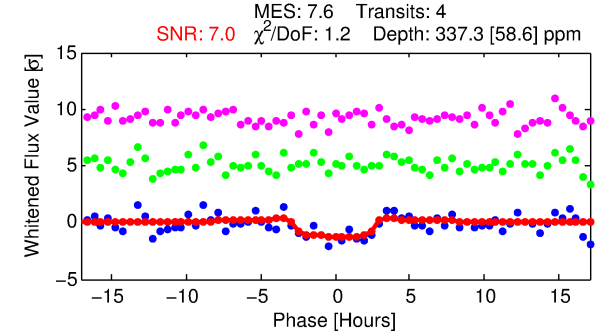
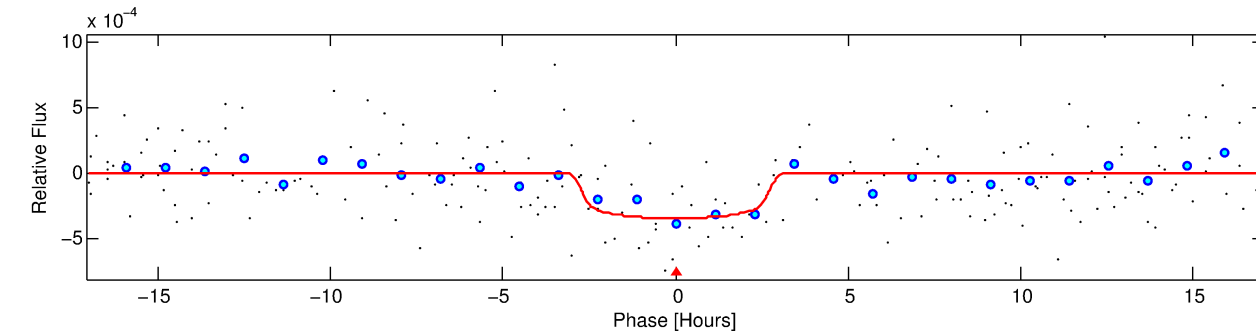
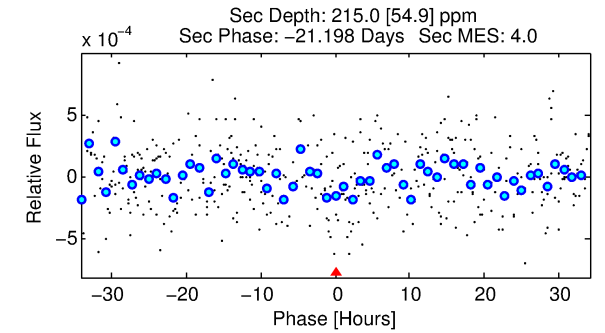
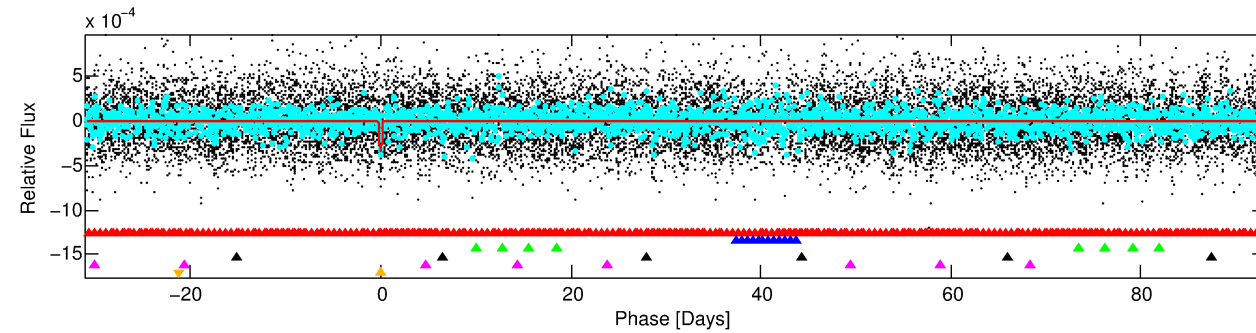
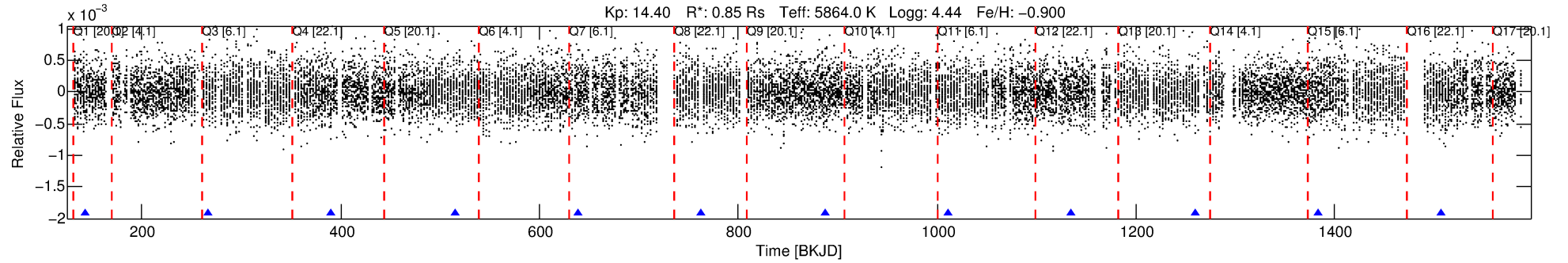
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005636937-06

No Significant Match Found

DV One-Page Summary

KIC: 5636937 Candidate: 6 of 6 Period: 124.096 d



DV Fit Results:

Period = 124.09616 [0.00233] d
Epoch = 142.4072 [0.0124] BKJD
Rp/R* = 0.0178 [0.0238]
a/R* = 128.78 [901.63]
b = 0.66 [5.95]
Seff = 4.01 [1.23]
Teq = 361 [28] K
Rp = 1.66 [2.24] Re
a = 0.4373 [0.0805] AU
Ag = 8246.04 [22229.88] [0.37] σ
Teffp = 5317 [3567] K [1.39] σ

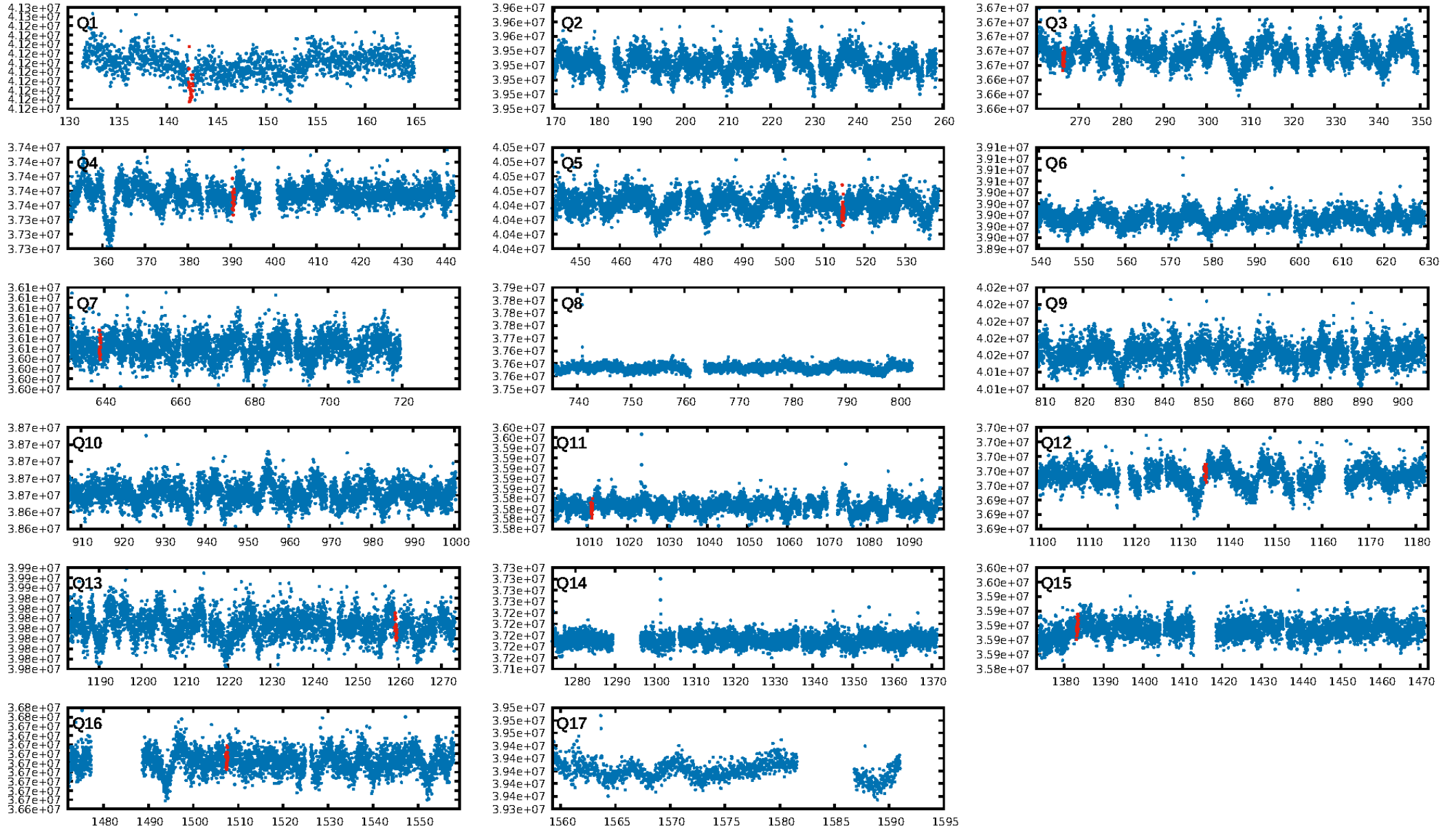
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [170.97] σ
LongPeriod-sig: 41.3% [0.54] σ
ModelChiSquare2-sig: 3.1%
ModelChiSquareGof-sig: 98.5%
Bootstrap-pfa: 1.98e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8
Centroid-sig: 11.7%
Centroid-so: 1.517 arcsec [1.34] σ
OotOffset-rm: 1.871 arcsec [1.18] σ
OotOffset-st: 0/3/1/2 [6]
KicOffset-rm: 1.858 arcsec [0.81] σ
KicOffset-st: 0/3/1/2 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 0.40 [4/10]

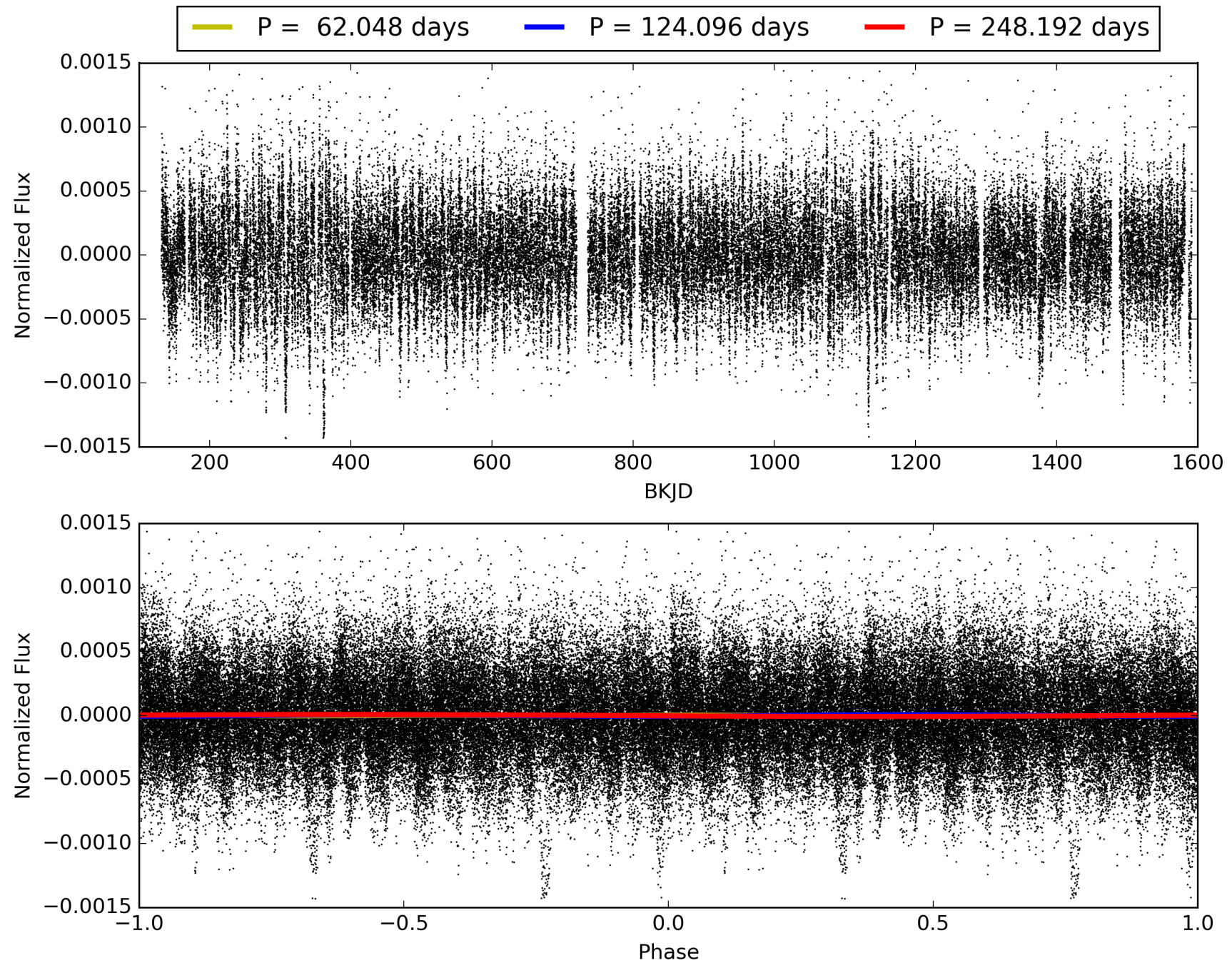
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:38:52 Z

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

TCE 005636937-06, PDC Light Curves

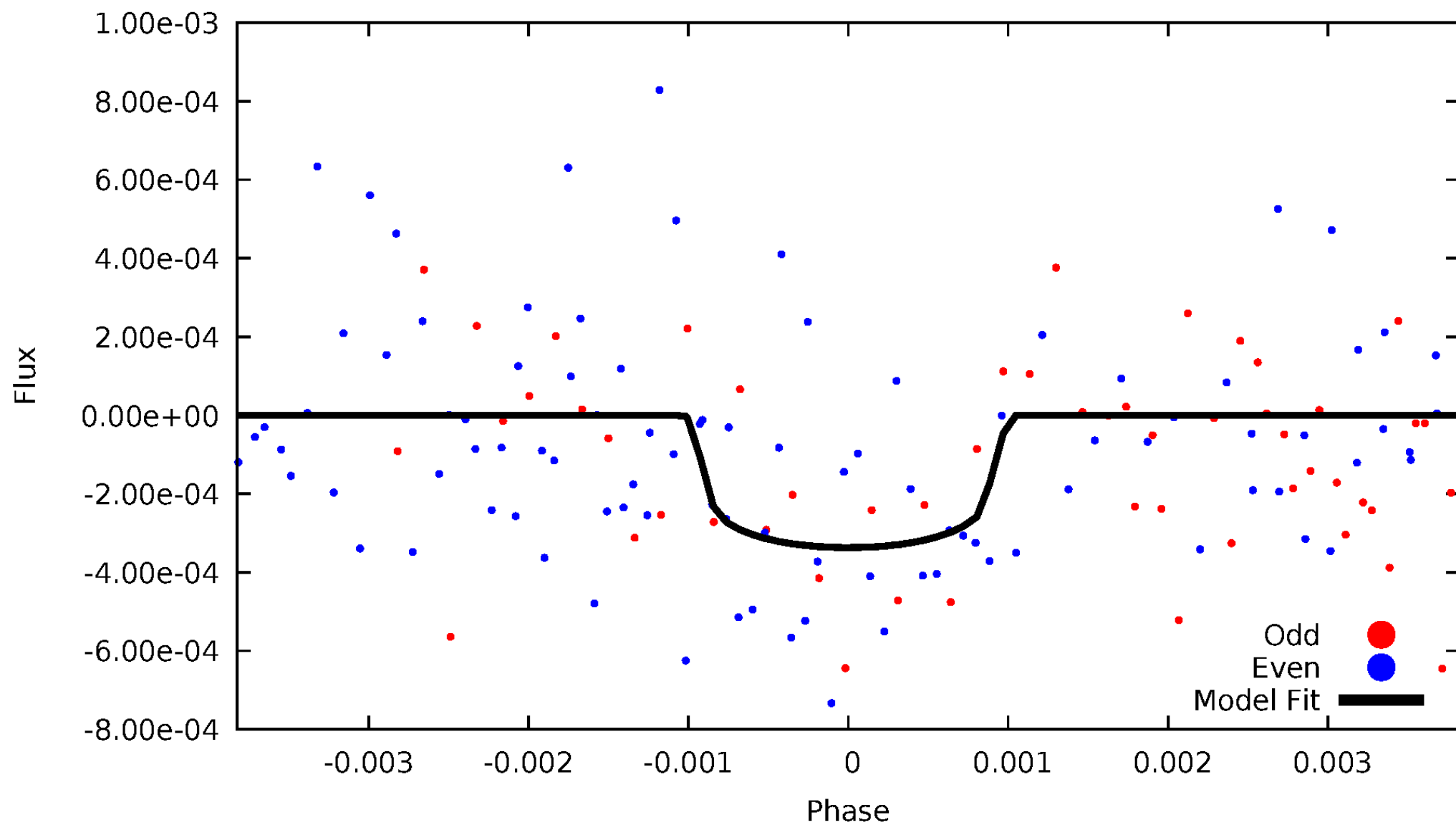


TCE 005636937-06



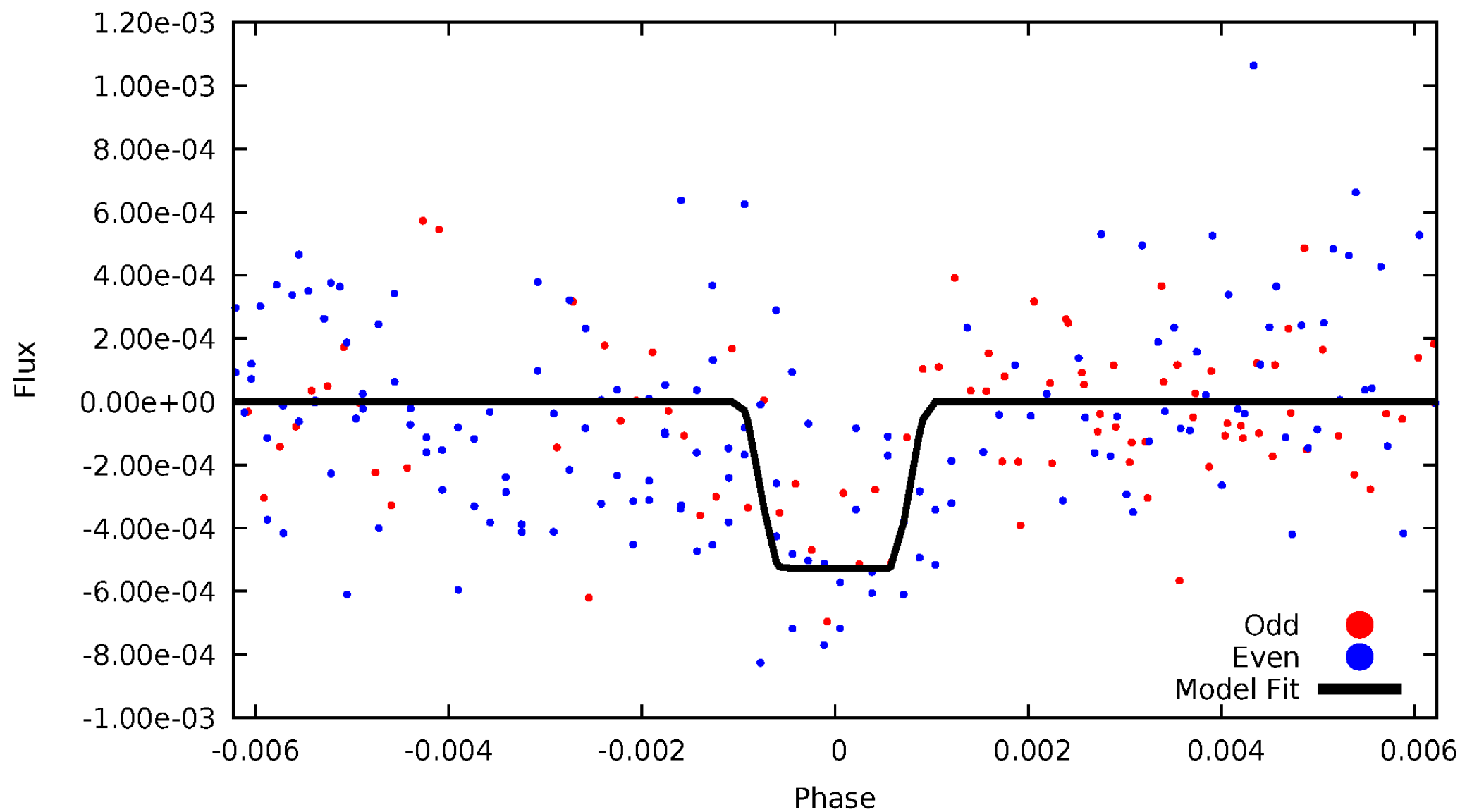
DV Odd/Even

TCE 005636937-06



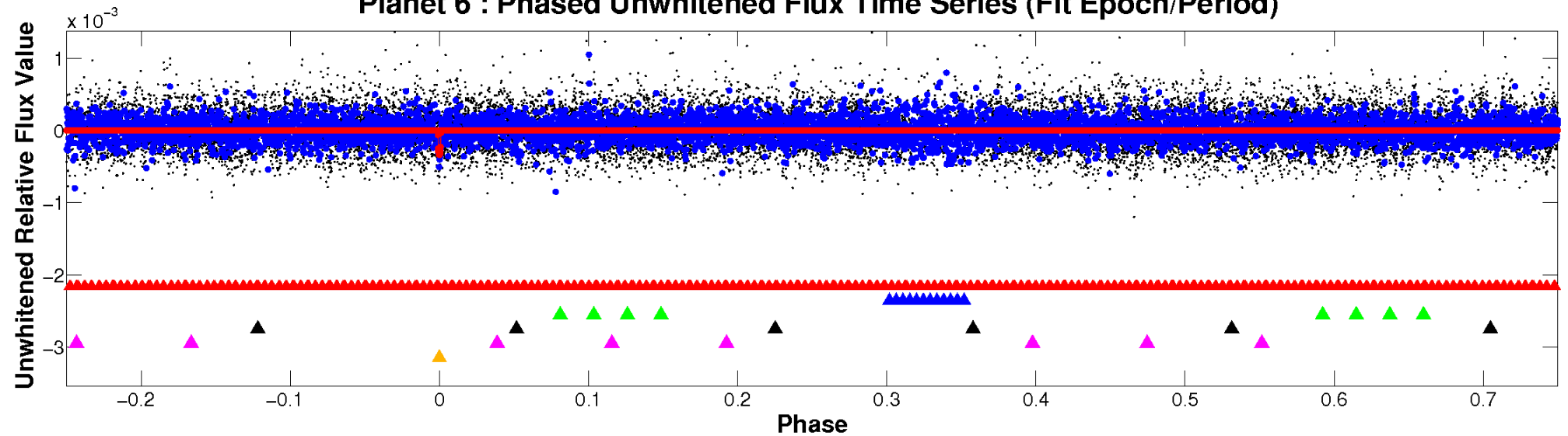
ALT Odd/Even

TCE 005636937-06

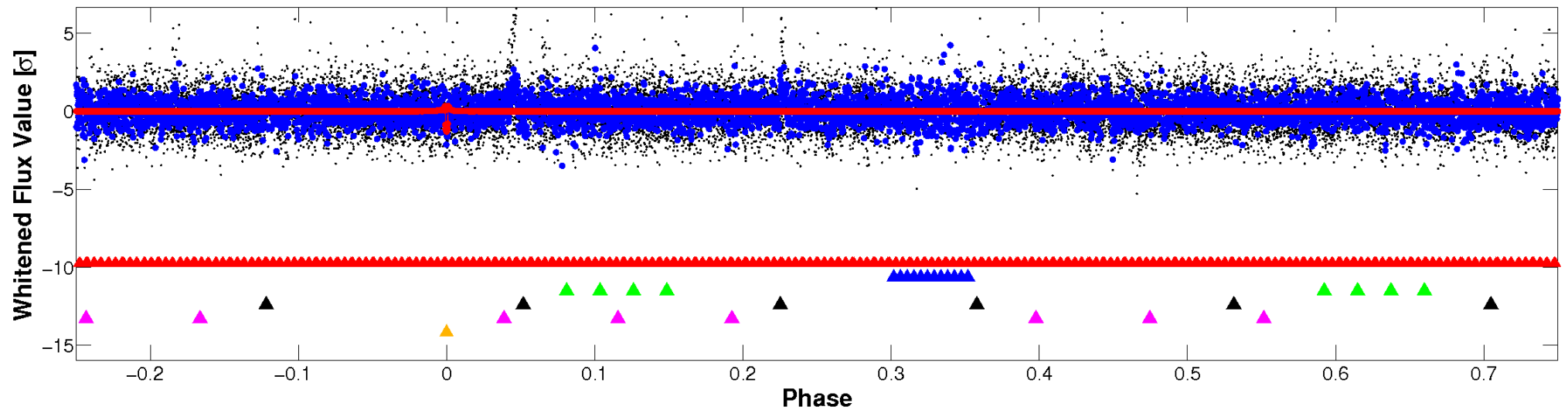


Non-Whitened Vs. Whitened Light Curve

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

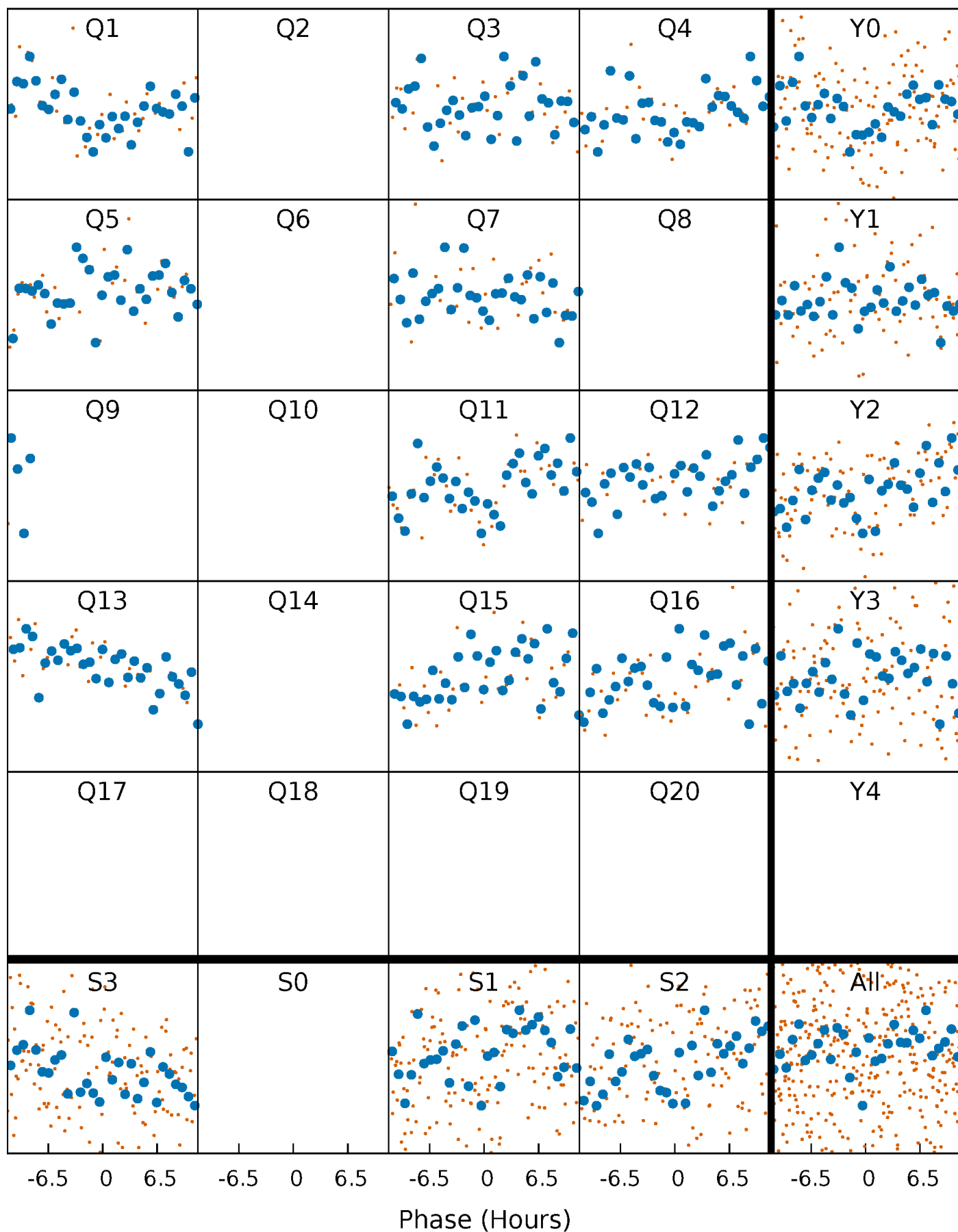


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



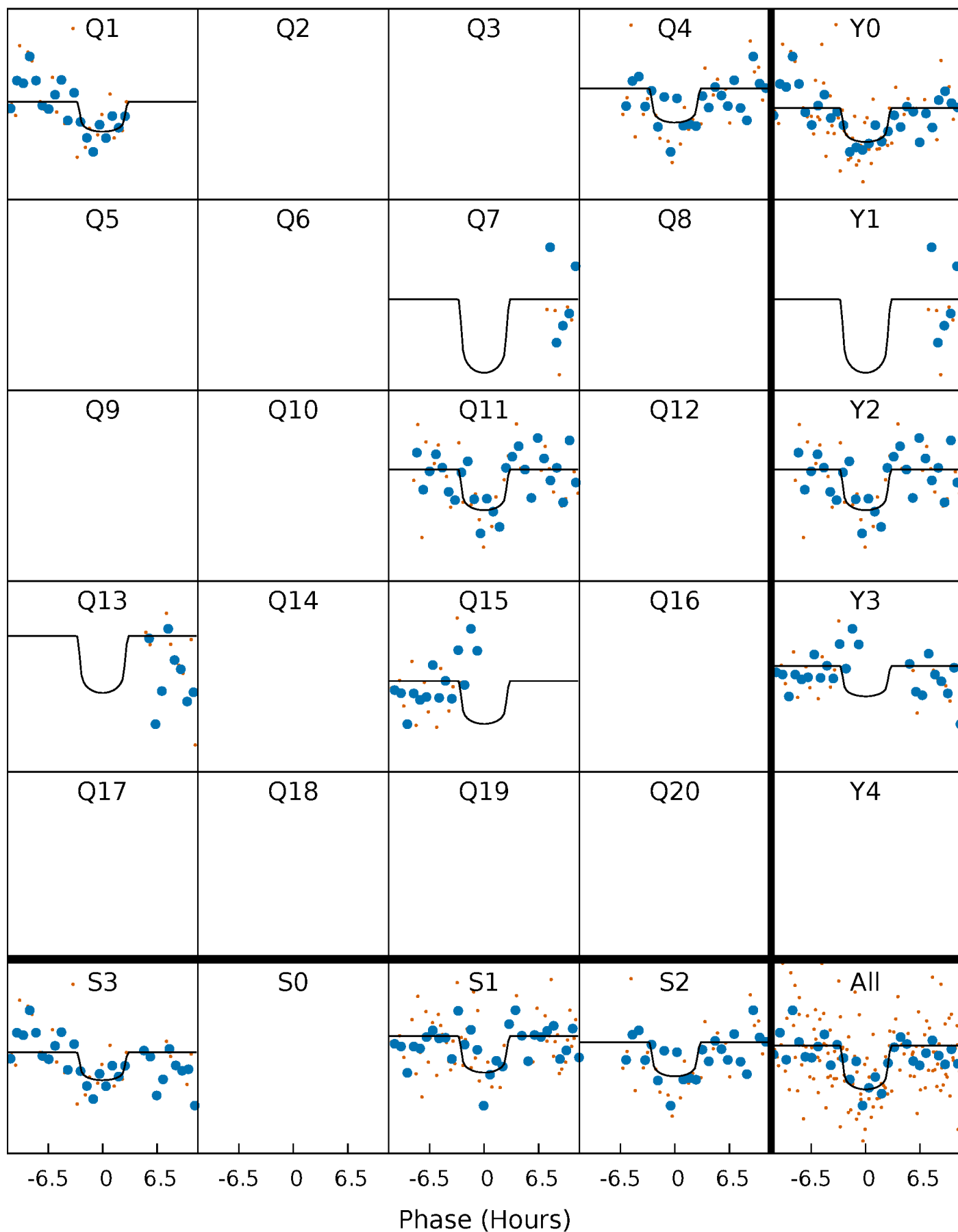
PDC Quarter-Phased Transit Curves

TCE 005636937-06 P=124.096159 Days $T_0=142.407229$ (BKJD)



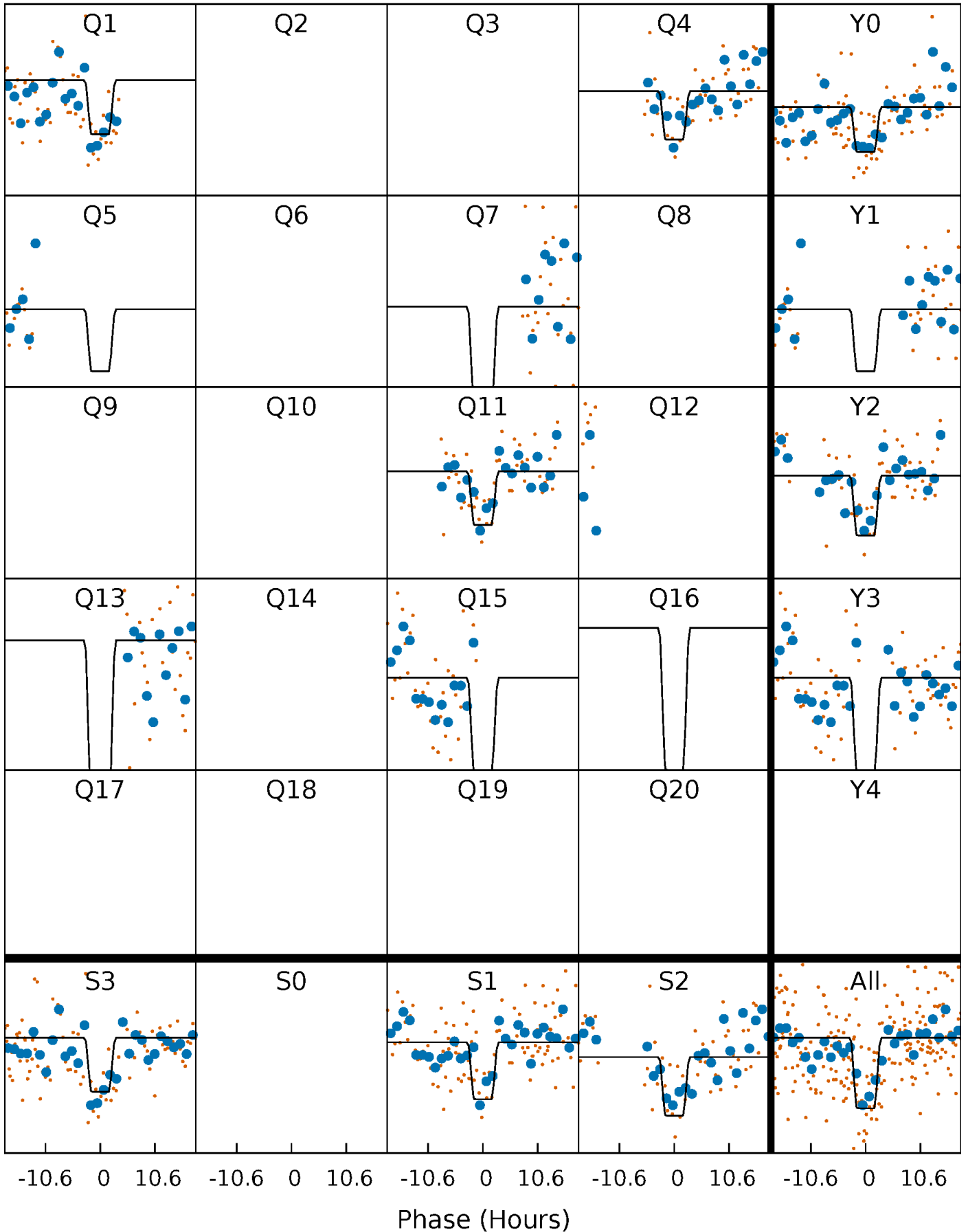
DV Quarter-Phased Transit Curves

TCE 005636937-06 P=124.096159 Days $T_0=142.407229$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

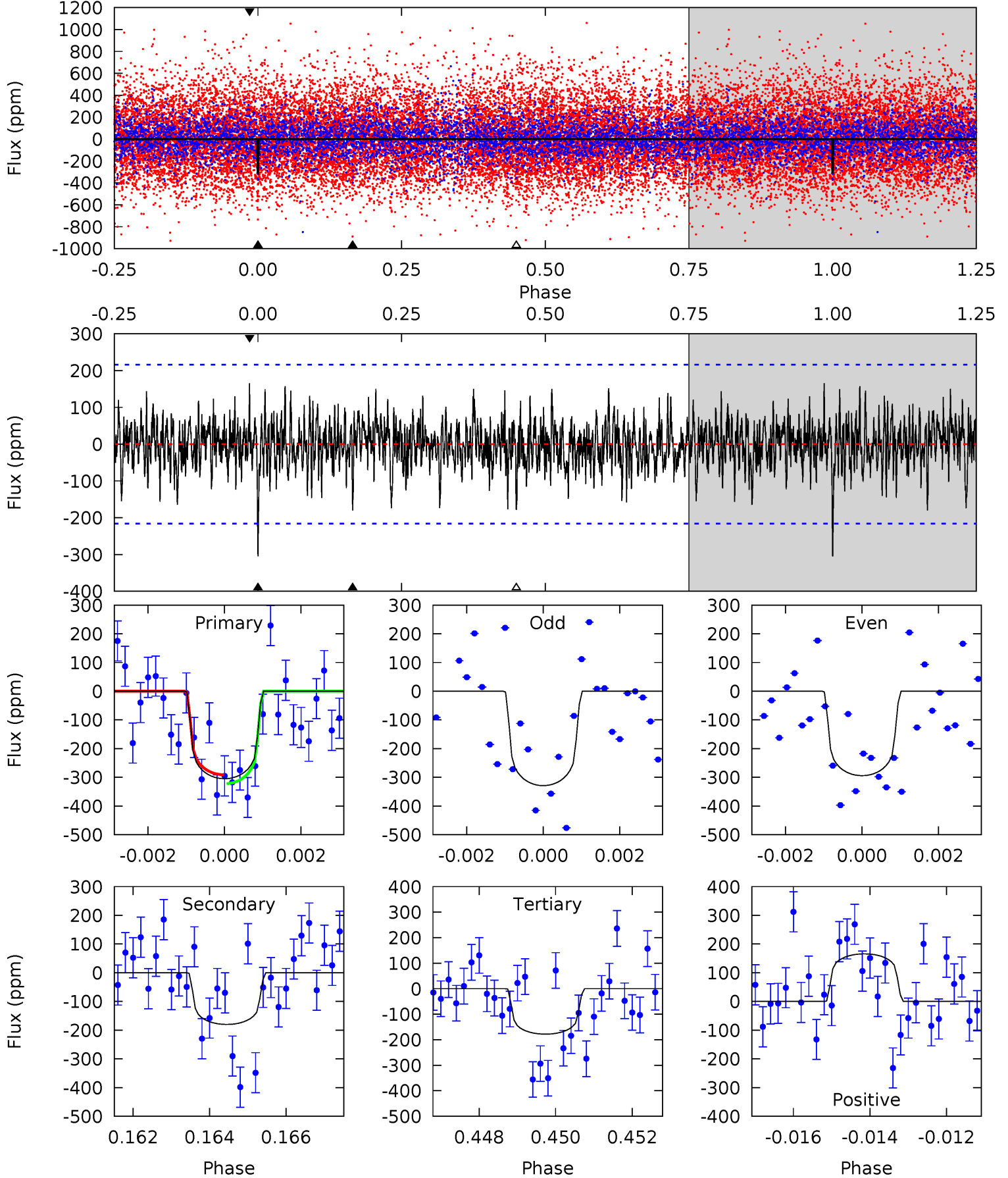
TCE 005636937-06 $P=124.101566$ Days $T_0=142.376916$ (BKJD)



DV Model-Shift Uniqueness Test

005636937-06, $P = 124.096159$ Days, $E = 18.311070$ Days

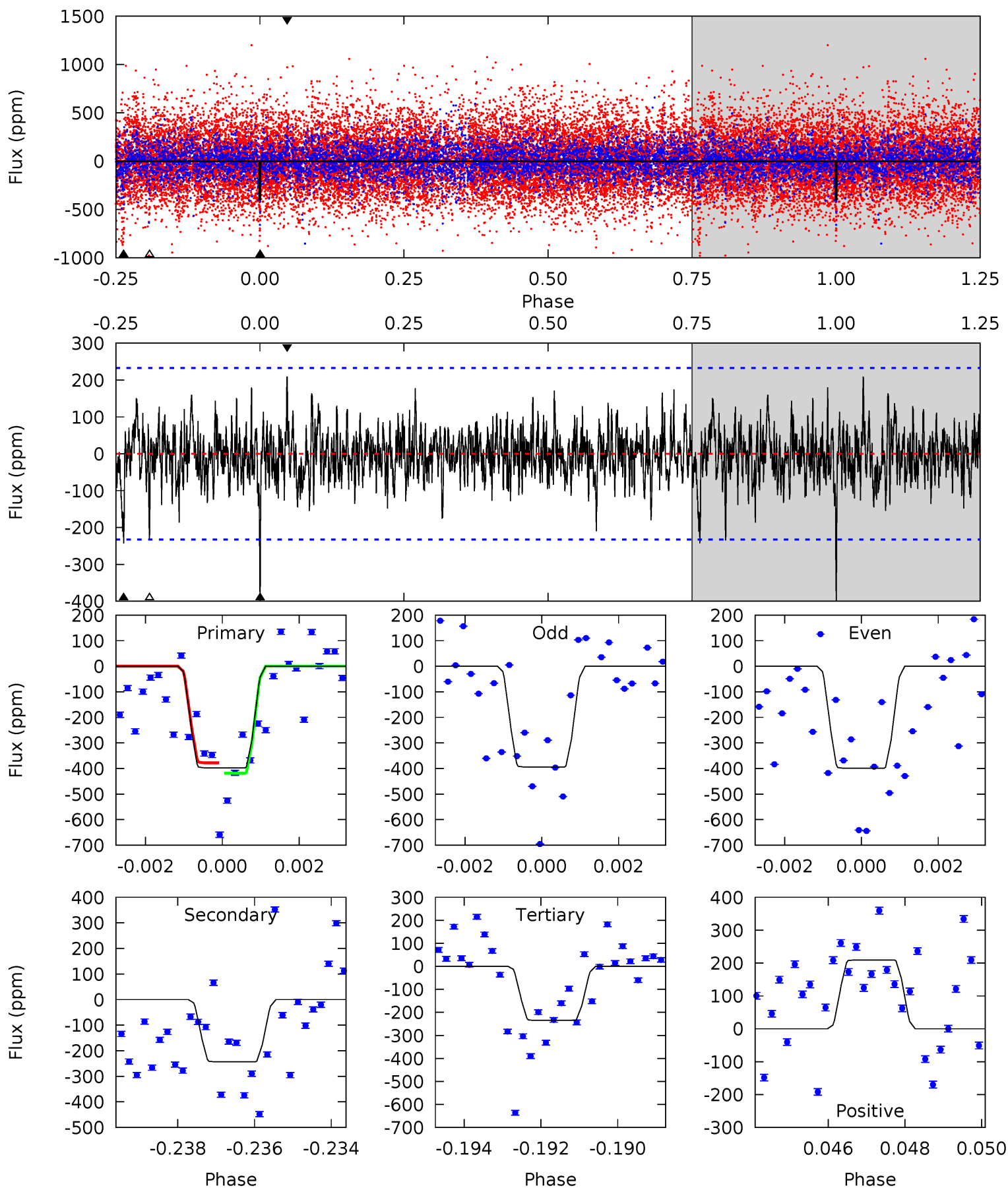
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.50	4.43	4.38	4.08	5.32	3.08	1.28	3.12	3.42	0.05	0.35	0.40	0.63	0.35	0.38



Alt Model-Shift Uniqueness Test

005636937-06, P = 124.101566 Days, E = 18.275350 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.12	5.58	5.38	4.80	5.34	3.11	1.28	3.73	4.32	0.20	0.78	0.05	0.75	0.34	0.47



Stellar Parameters For KIC 005636937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5864^{+176}_{-176}	$4.438^{+0.160}_{-0.160}$	$-0.900^{+0.300}_{-0.300}$	$0.851^{+0.175}_{-0.143}$	$0.723^{+0.094}_{-0.031}$	$1.653^{+1.188}_{-0.691}$
	+3%/-3%	+4%/-4%	+33%/-33%	+21%/-17%	+13%/-4%	+72%/-42%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005636937-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-180 ± 41	$2.26^{+1.97}_{-1.51}$	504^{+32}_{-28}	4496^{+3289}_{-892}	3582^{+31270}_{-2542}
Alt.	-243 ± 44	$2.68^{+2.16}_{-1.70}$	506^{+31}_{-30}	4488^{+2695}_{-804}	3657^{+21472}_{-2511}

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 $A_{obs} \gg 1.0$

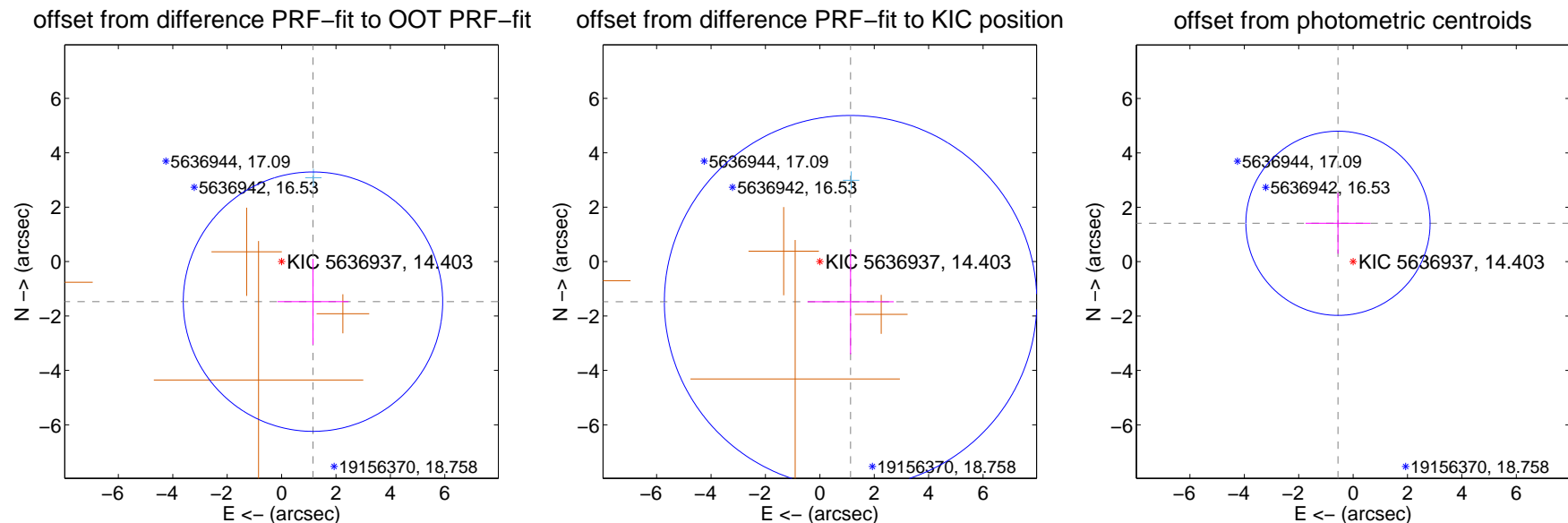
DV Centroid Data

Supplemental centroid analysis for 005636937-06. Kepler magnitude: 14.40. Transit SNR 6.96

There are 1 quarters with good PRF difference image offsets

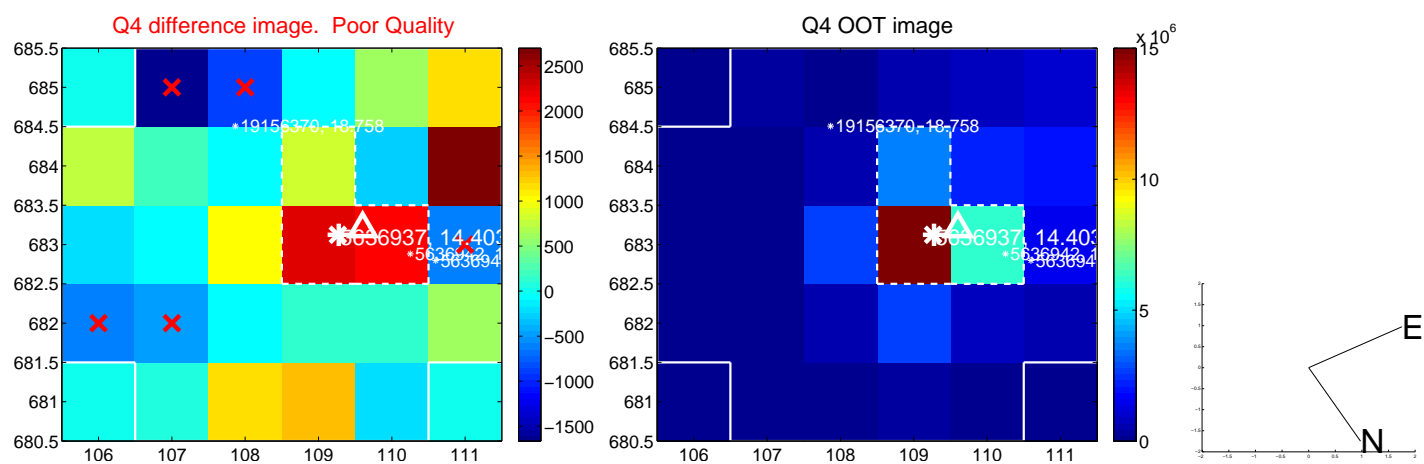
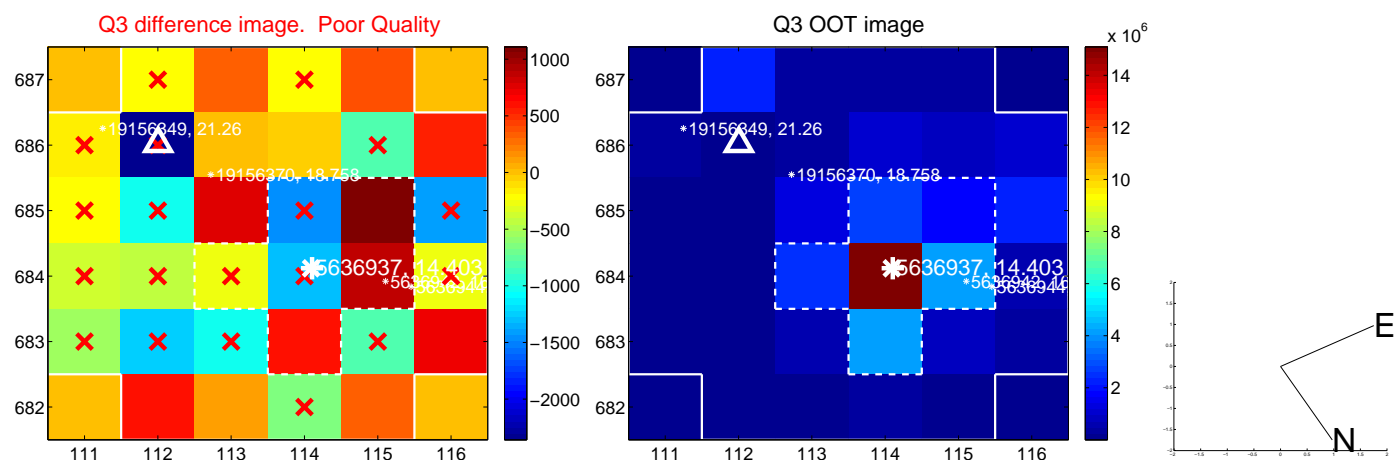
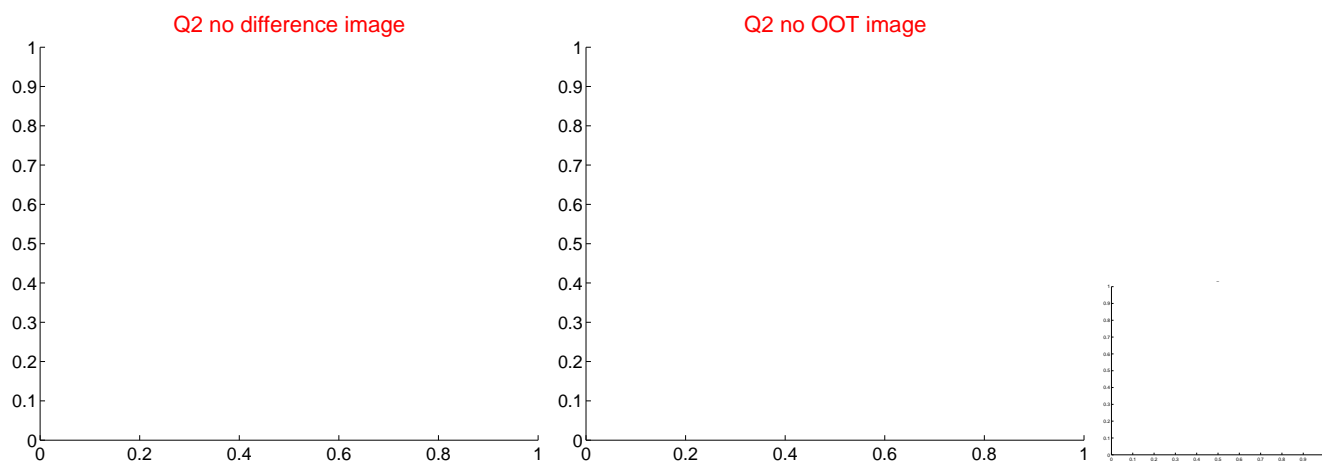
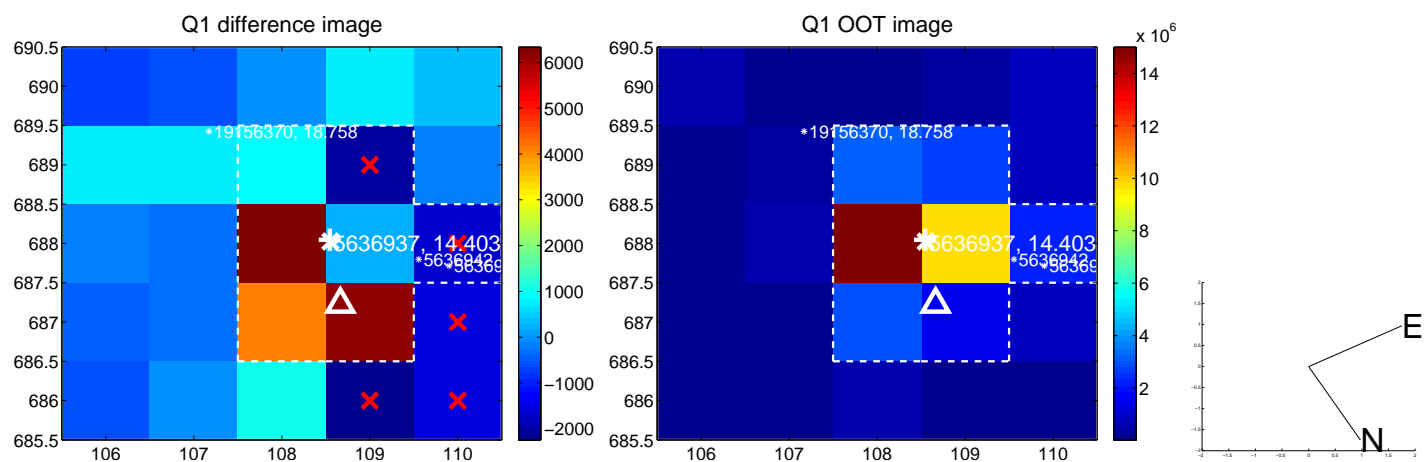
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.871 ± 1.589	1.18	-1.154 ± 1.308	-1.473 ± 1.577
PRF-fit source offset from KIC position	1.858 ± 2.282	0.81	-1.131 ± 1.585	-1.474 ± 1.931
photometric centroid source offset	1.52 ± 1.13	1.34	0.56 ± 1.19	1.41 ± 1.12

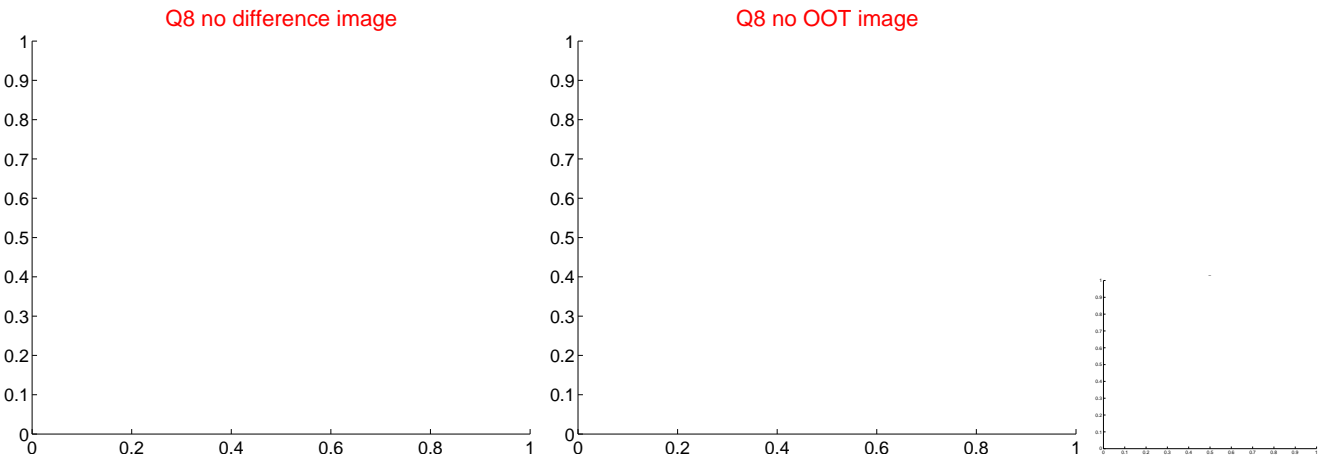
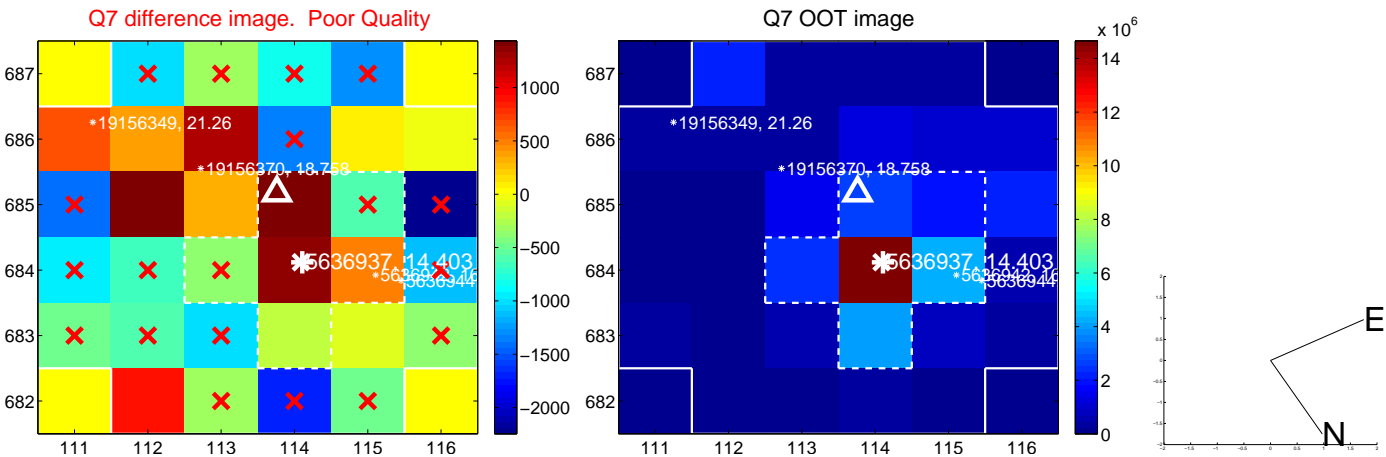
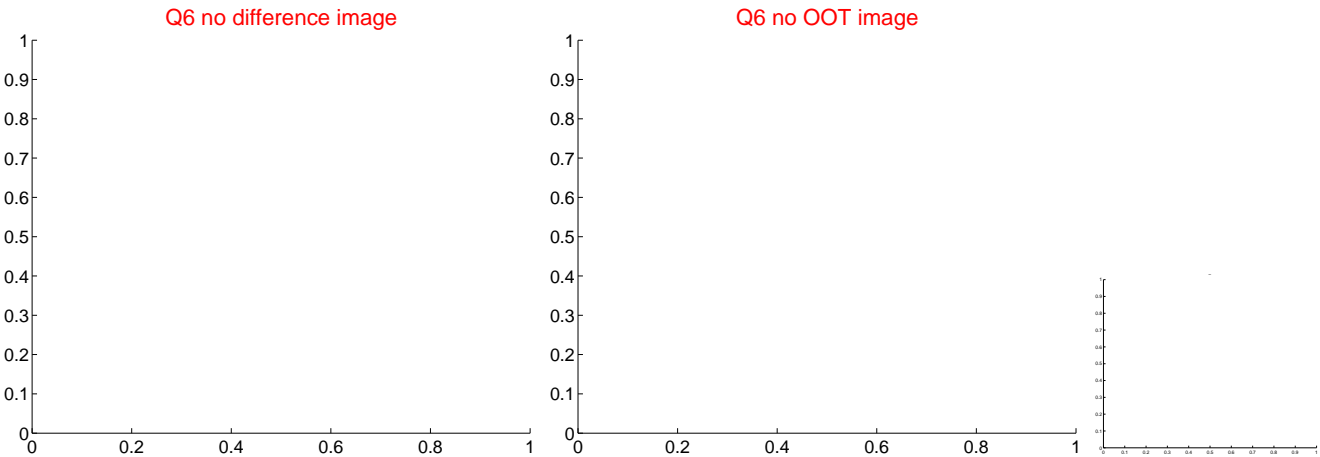
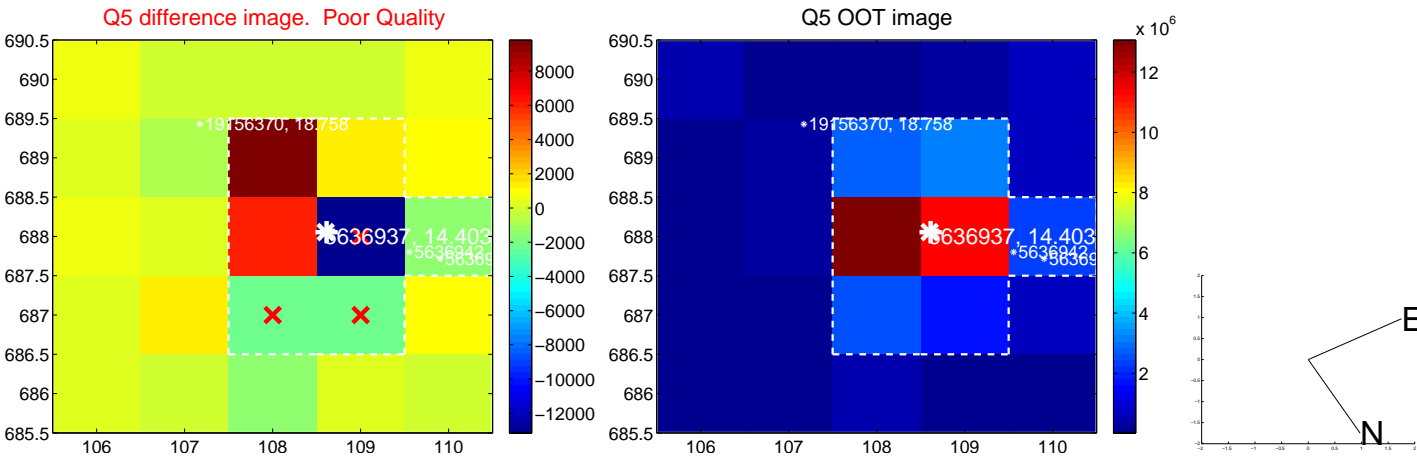


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

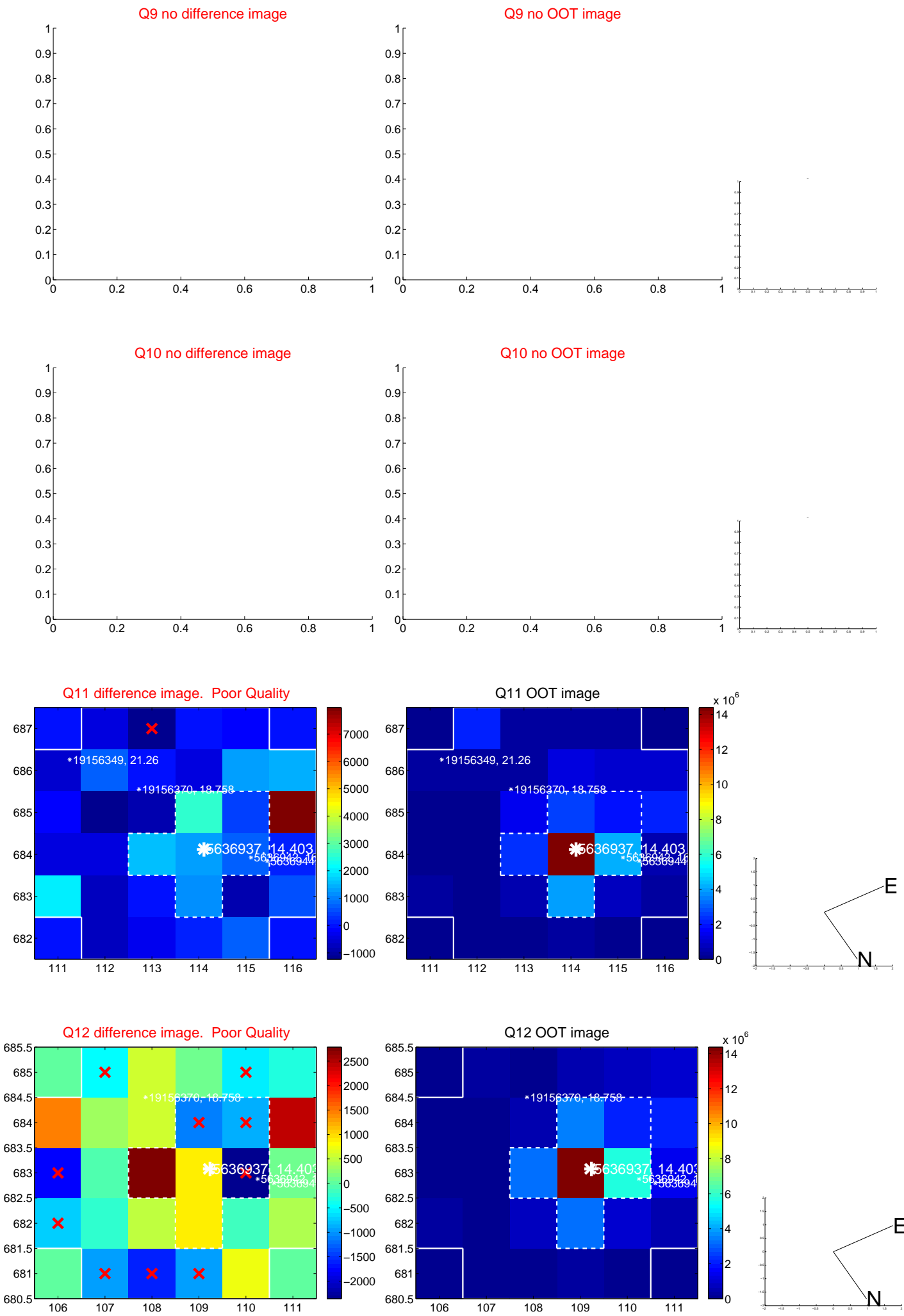
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



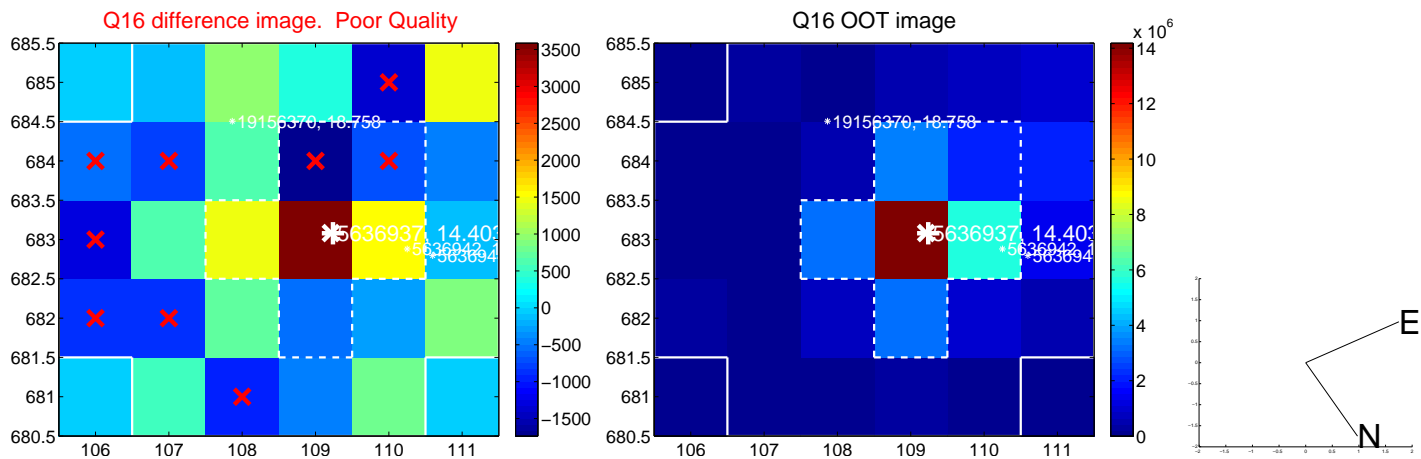
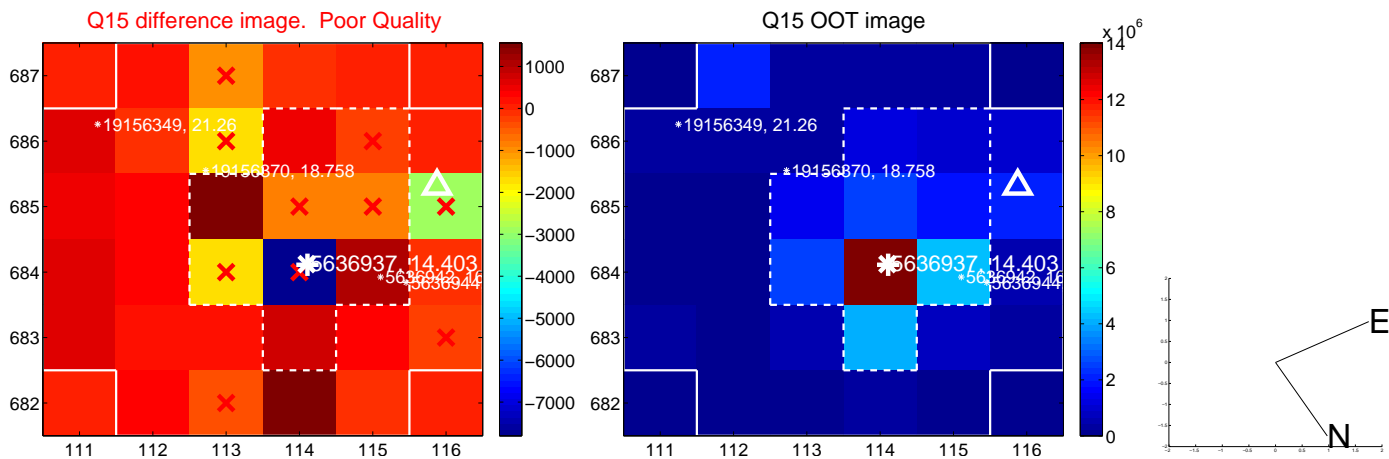
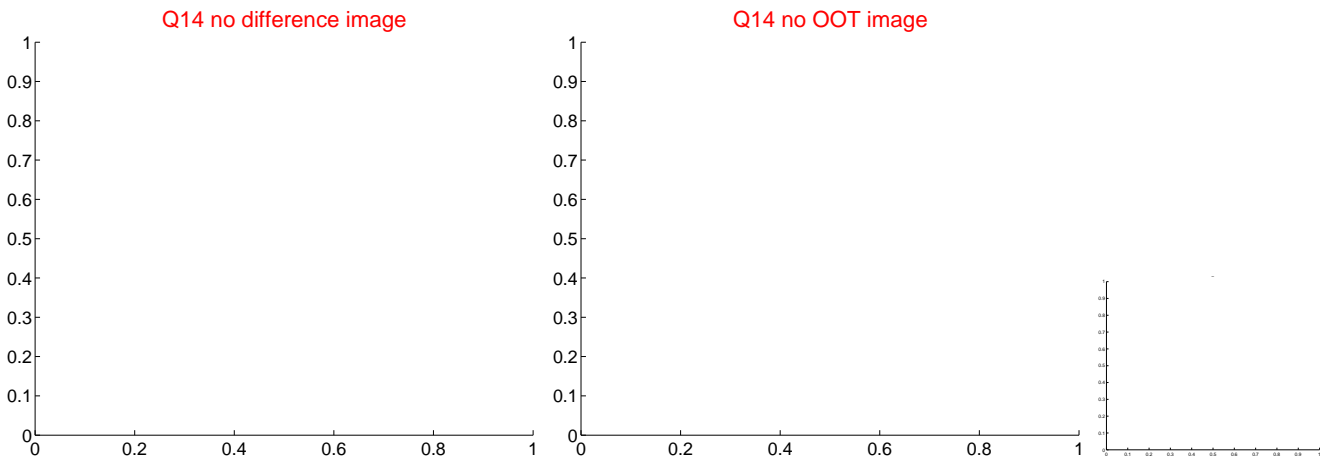
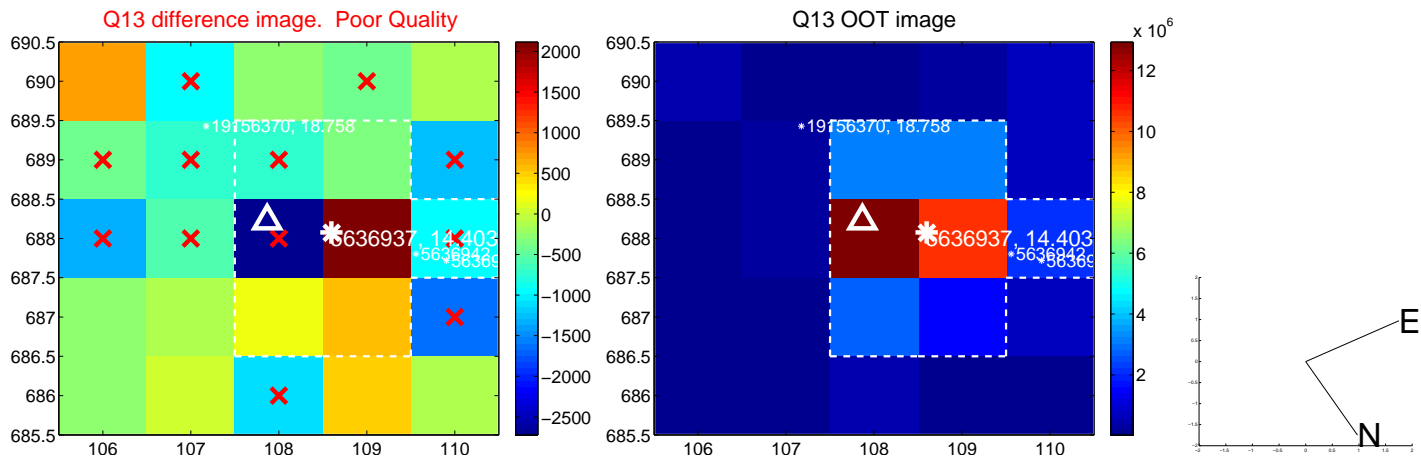
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



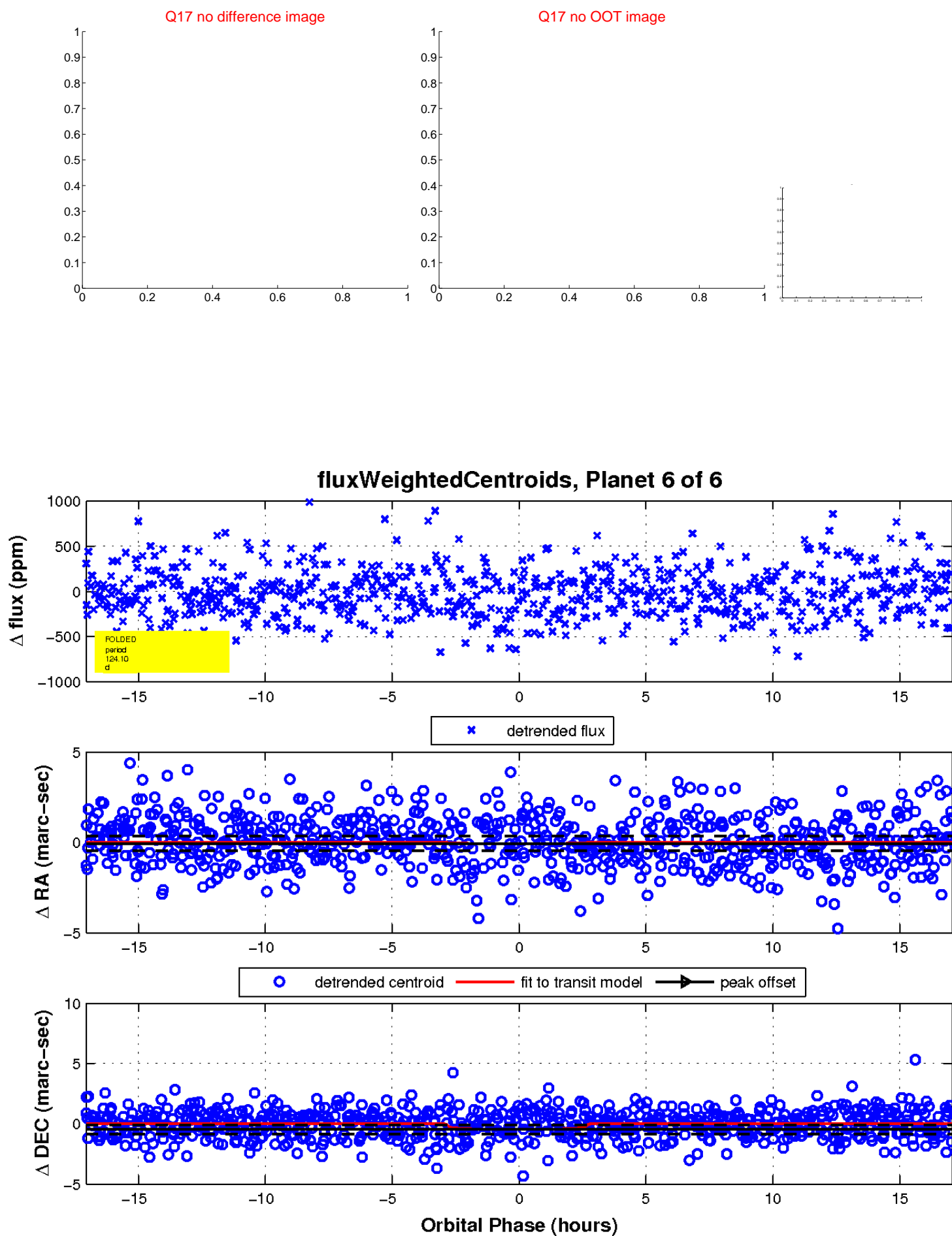
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

