

KIC 006370174

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})
006370174-01	OBS	No	452.506777	542.866625	1692.9	10.366	11.5	5.8	0.31	3396	1.33	0.02
006370174-02	OBS	No	282.354856	235.150599	1138.0	9.180	11.2	5.2	0.31	3396	1.05	0.04
006370174-03	OBS	No	519.436410	422.308527	2030.3	19.247	12.0	7.1	0.31	3396	1.39	0.02
006370174-04	OBS	No	1.721220	131.565438	269.3	6.297	10.1	14.6	0.31	3396	0.53	32.58
006370174-05	OBS	No	232.409796	261.713036	1703.1	11.749	14.6	8.8	0.31	3396	1.28	0.05
006370174-06	OBS	No	224.987118	134.923398	1777.0	10.500	13.9	-1.0	0.31	3396	1.31	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006370174-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-03	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
006370174-04	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006370174-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006370174-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

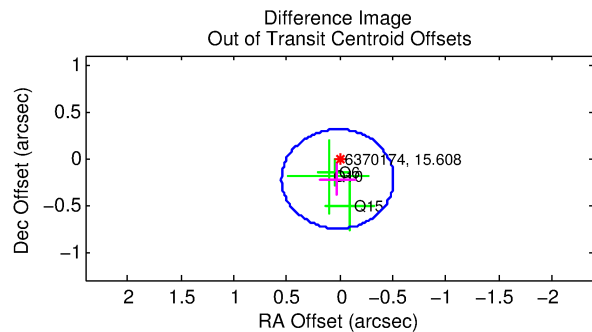
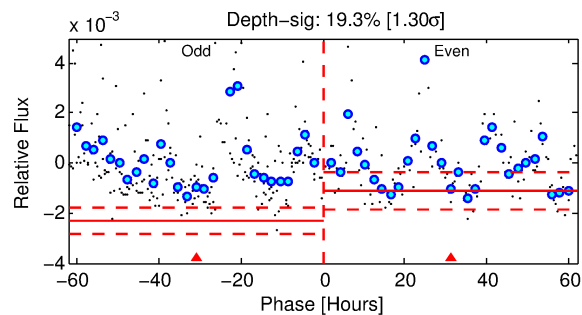
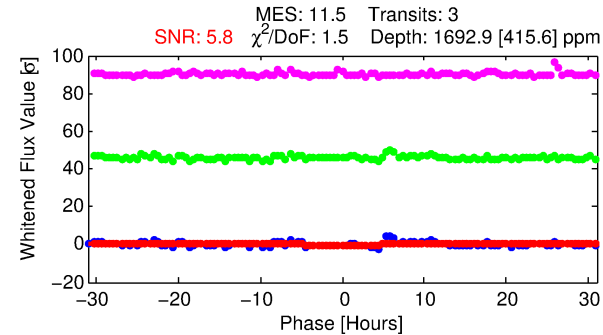
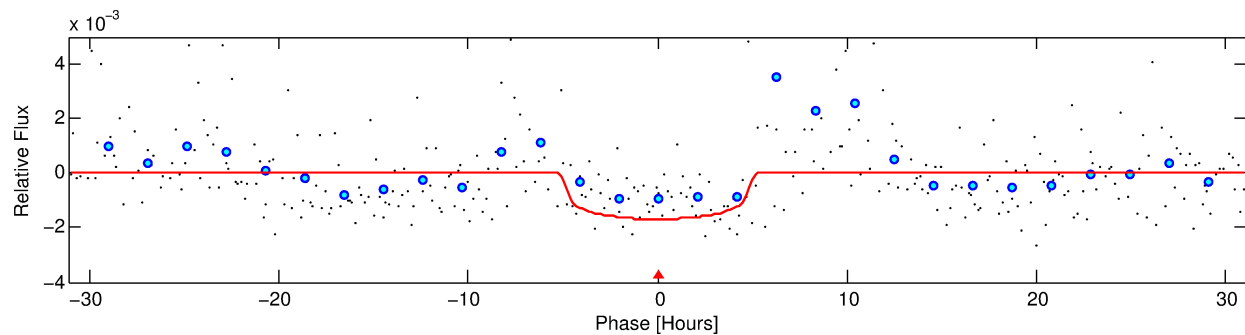
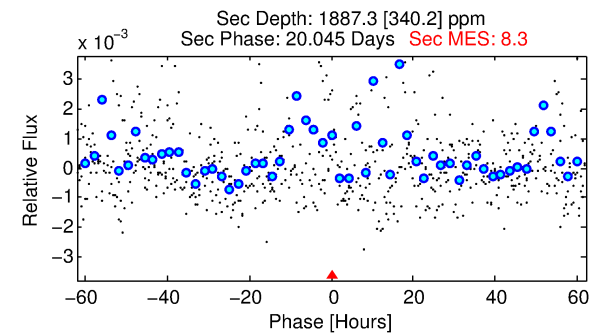
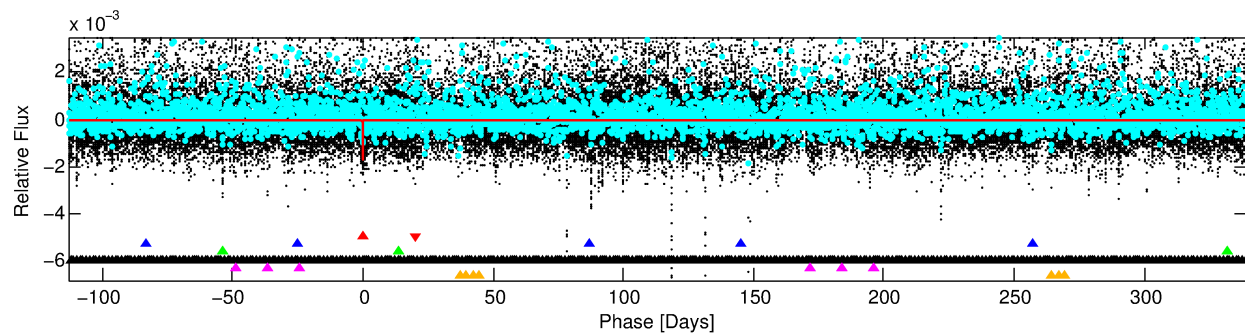
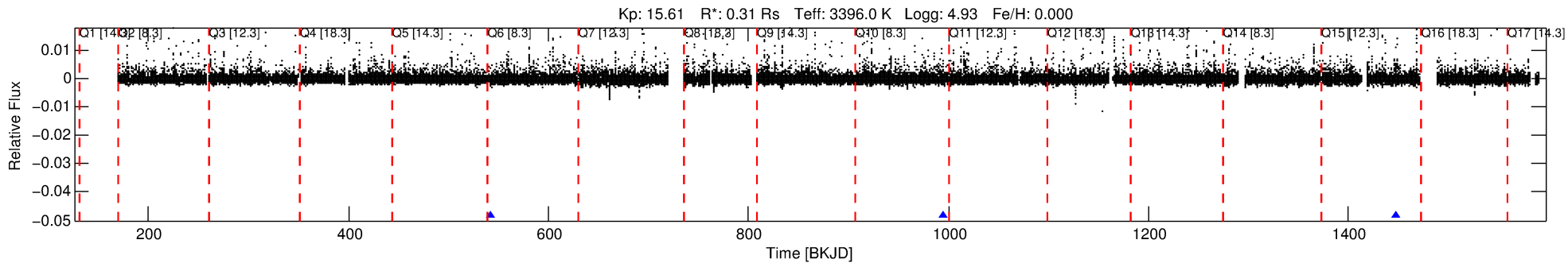
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006370174-01

No Significant Match Found

DV One-Page Summary

KIC: 6370174 Candidate: 1 of 6 Period: 452.507 d



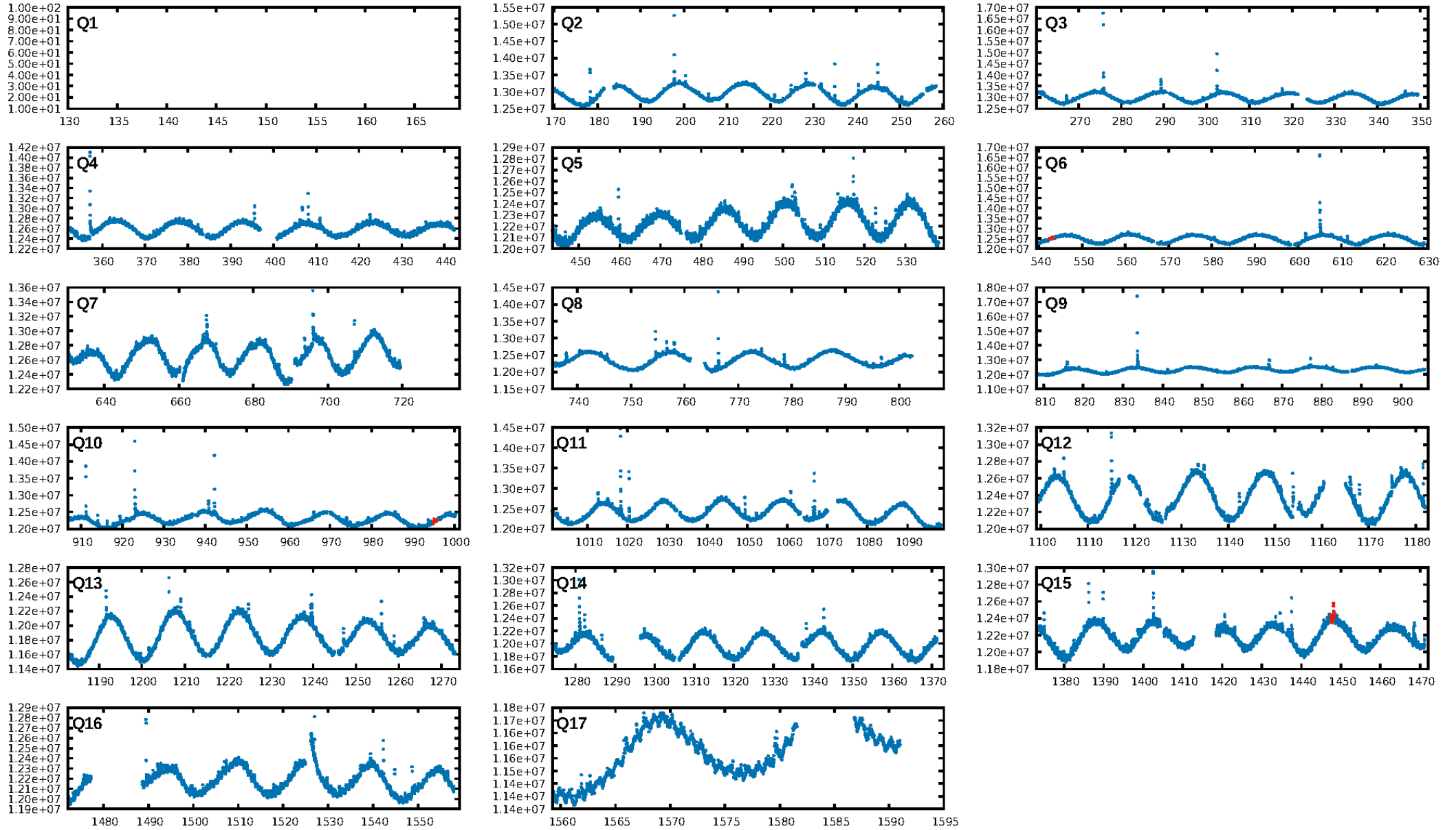
DV Fit Results:

Period = 452.50678 [0.01307] d
Epoch = 542.8666 [0.0156] BKJD
Rp/R* = 0.0388 [0.0153]
a/R* = 290.85 [431.48]
b = 0.56 [1.80]
Seff = 0.02 [0.00]
Teq = 95 [3] K
Rp = 1.33 [0.55] Re
a = 0.7794 [0.0799] AU
Ag = 356348.29 [290745.02] [1.23σ]
Teffp = 3592 [726] K [4.82σ]

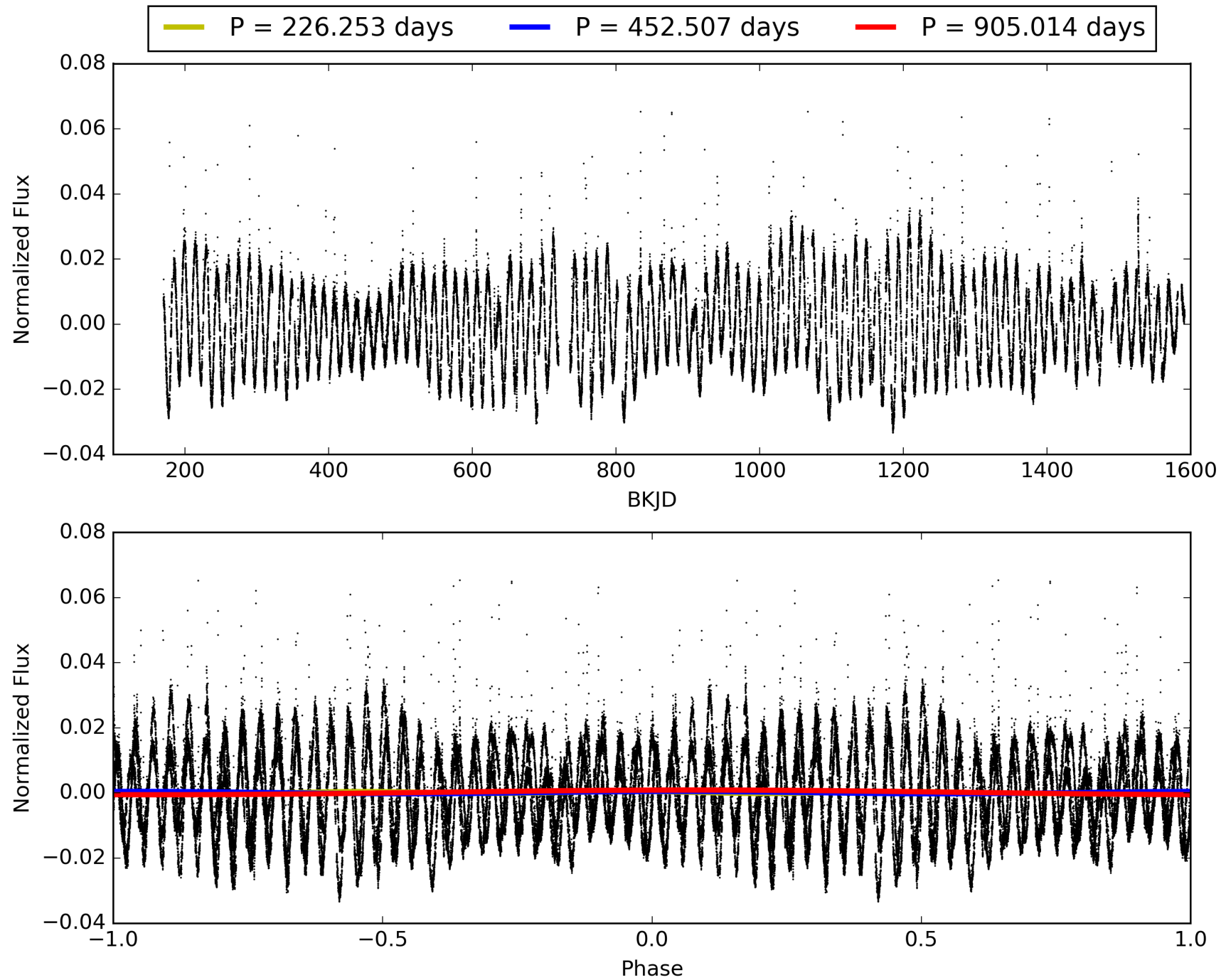
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [294.93σ]
LongPeriod-sig: 100.0% [73.48σ]
ModelChiSquare2-sig: 10.4%
ModelChiSquareGof-sig: 93.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.746
Centroid-sig: 23.2%
Centroid-so: 0.803 arcsec [1.04σ]
OotOffset-rm: 0.222 arcsec [1.26σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-rm: 0.078 arcsec [0.46σ]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

TCE 006370174-01, PDC Light Curves

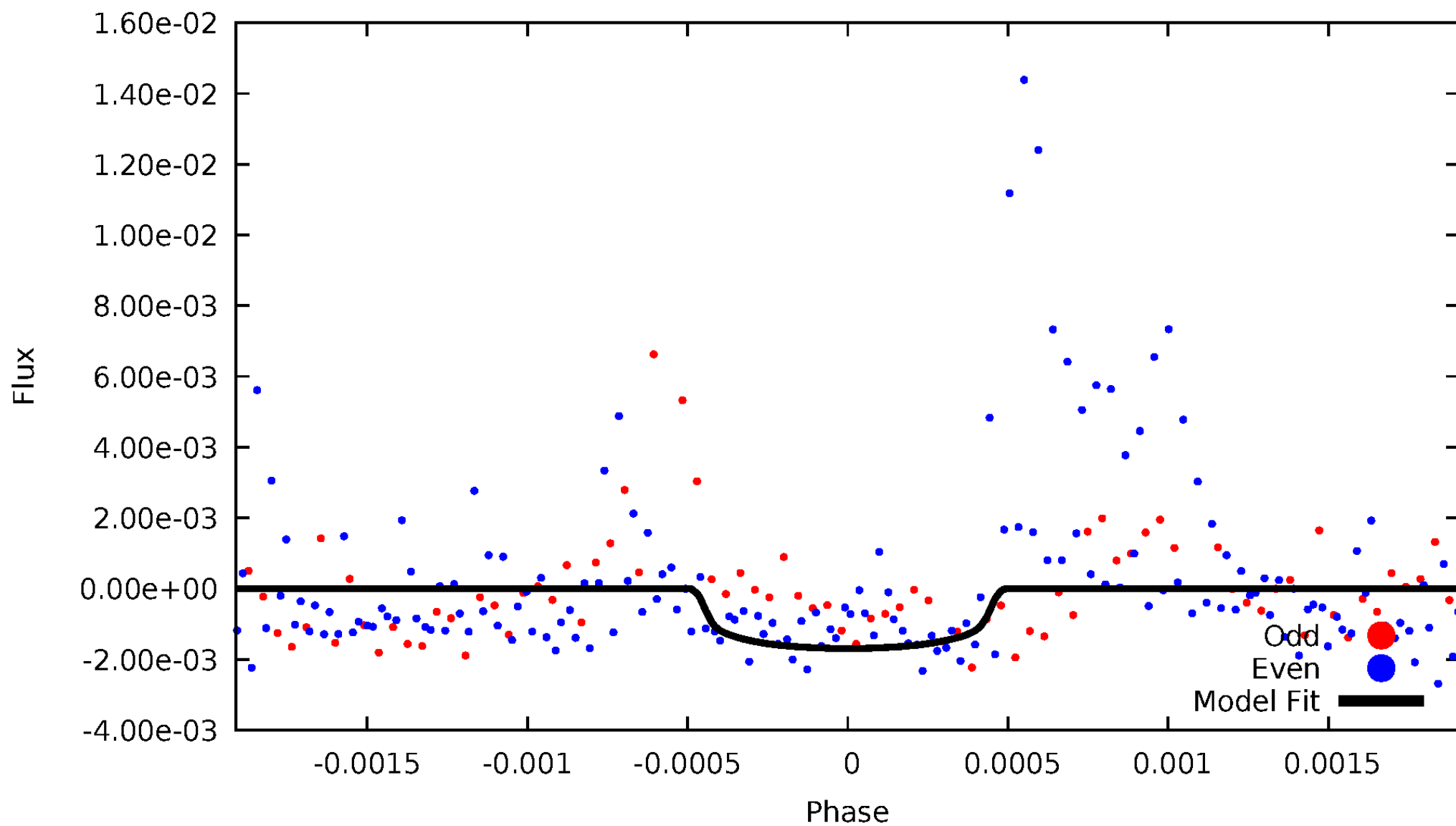


TCE 006370174-01



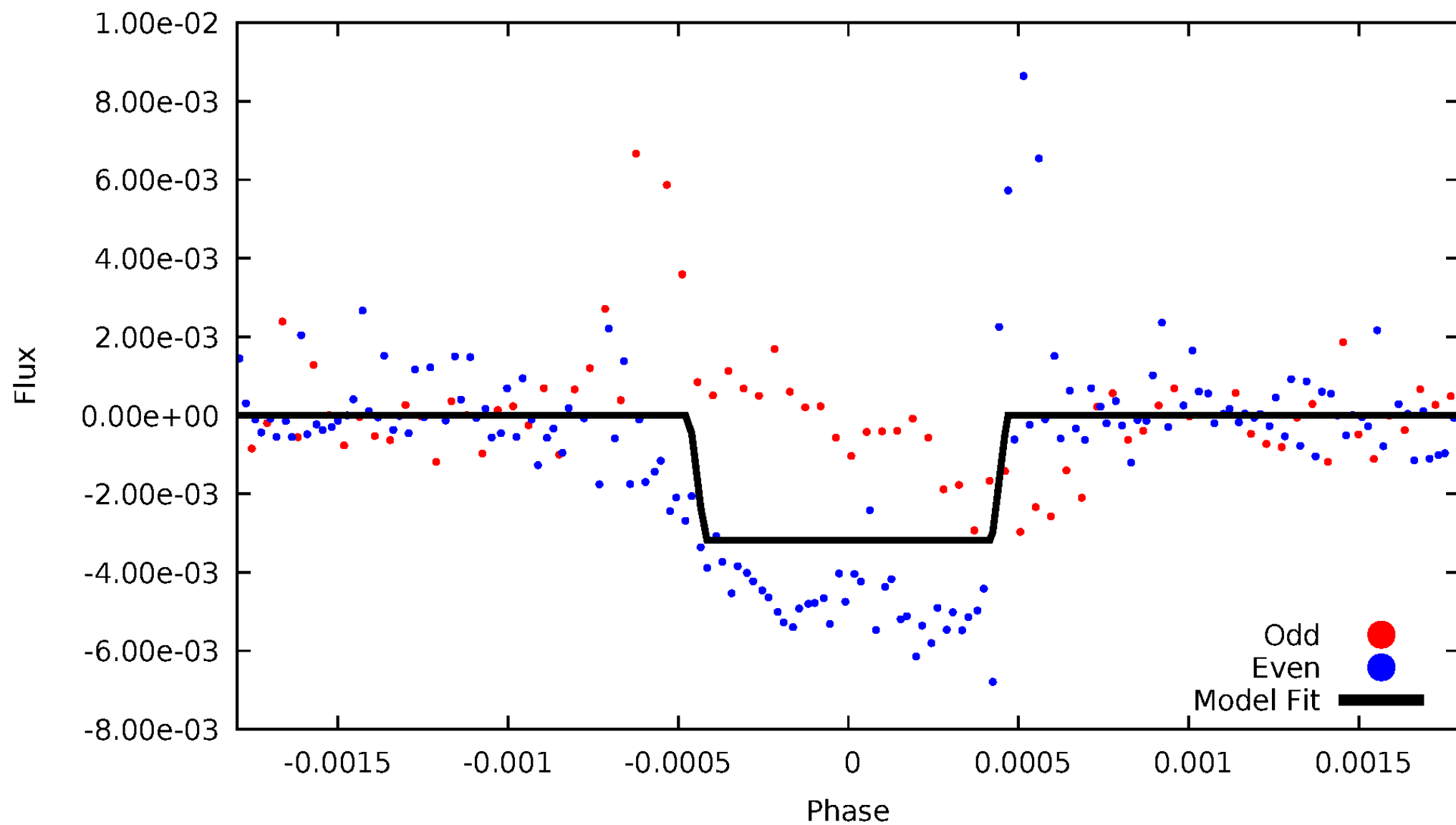
DV Odd/Even

TCE 006370174-01

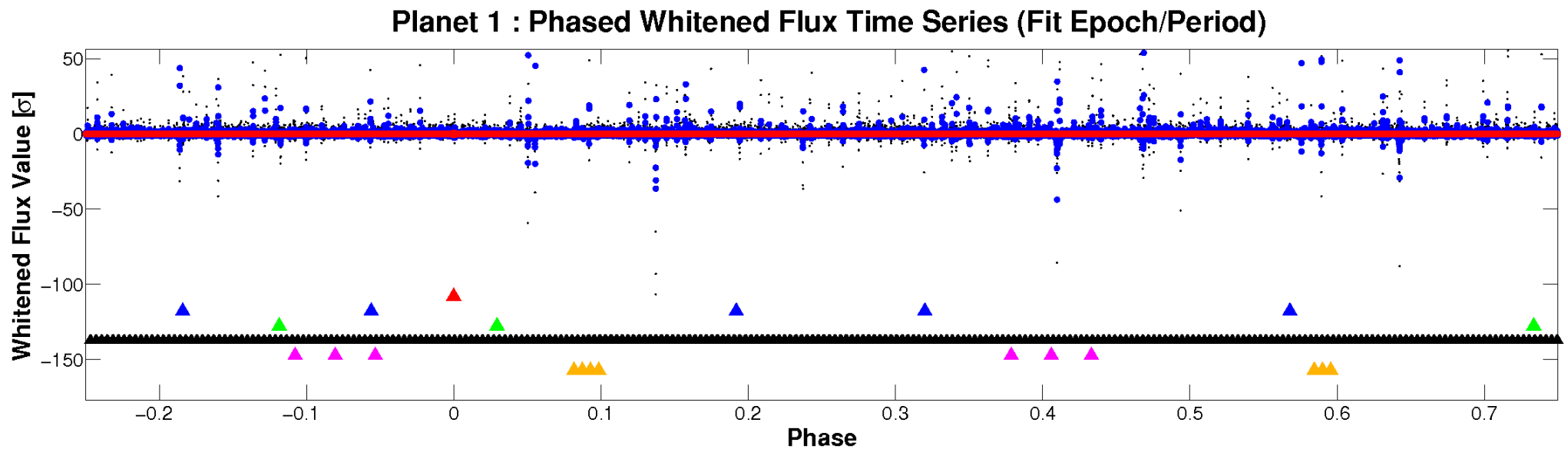
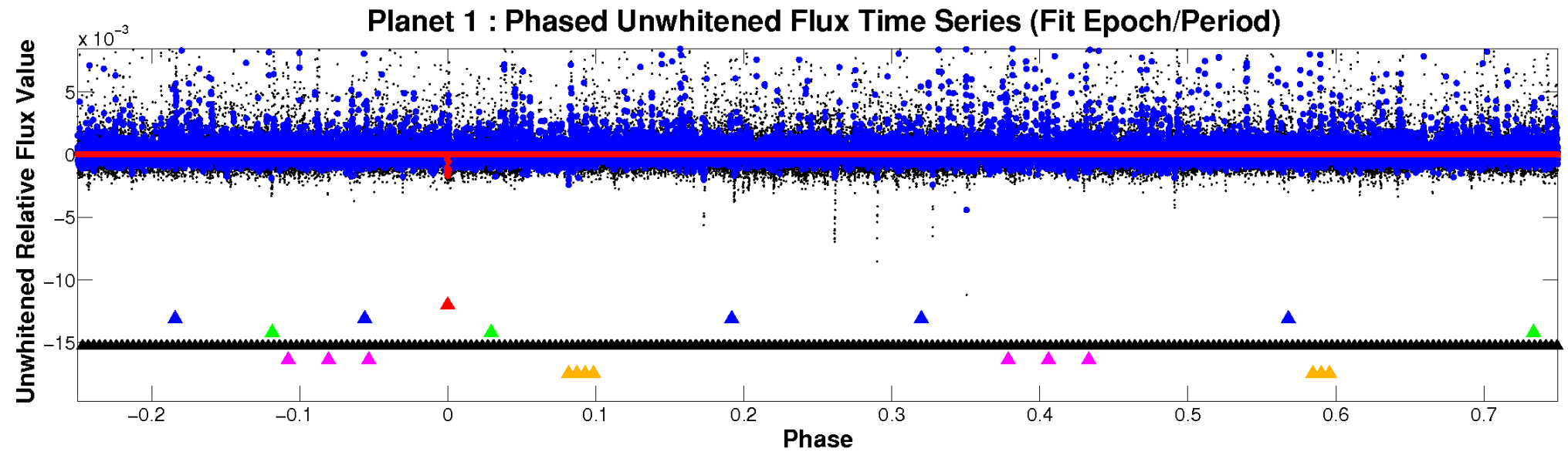


ALT Odd/Even

TCE 006370174-01

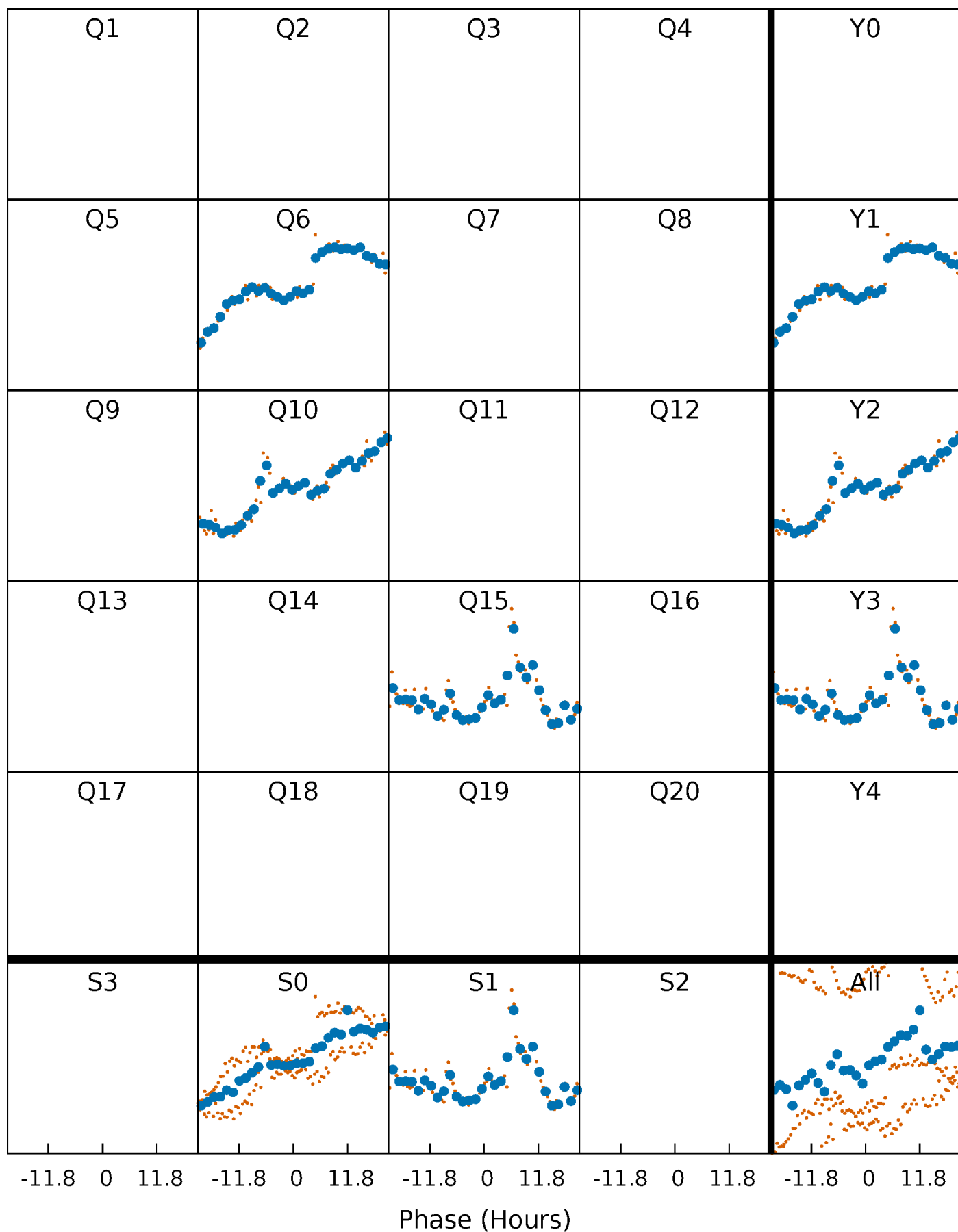


Non-Whitened Vs. Whitened Light Curve



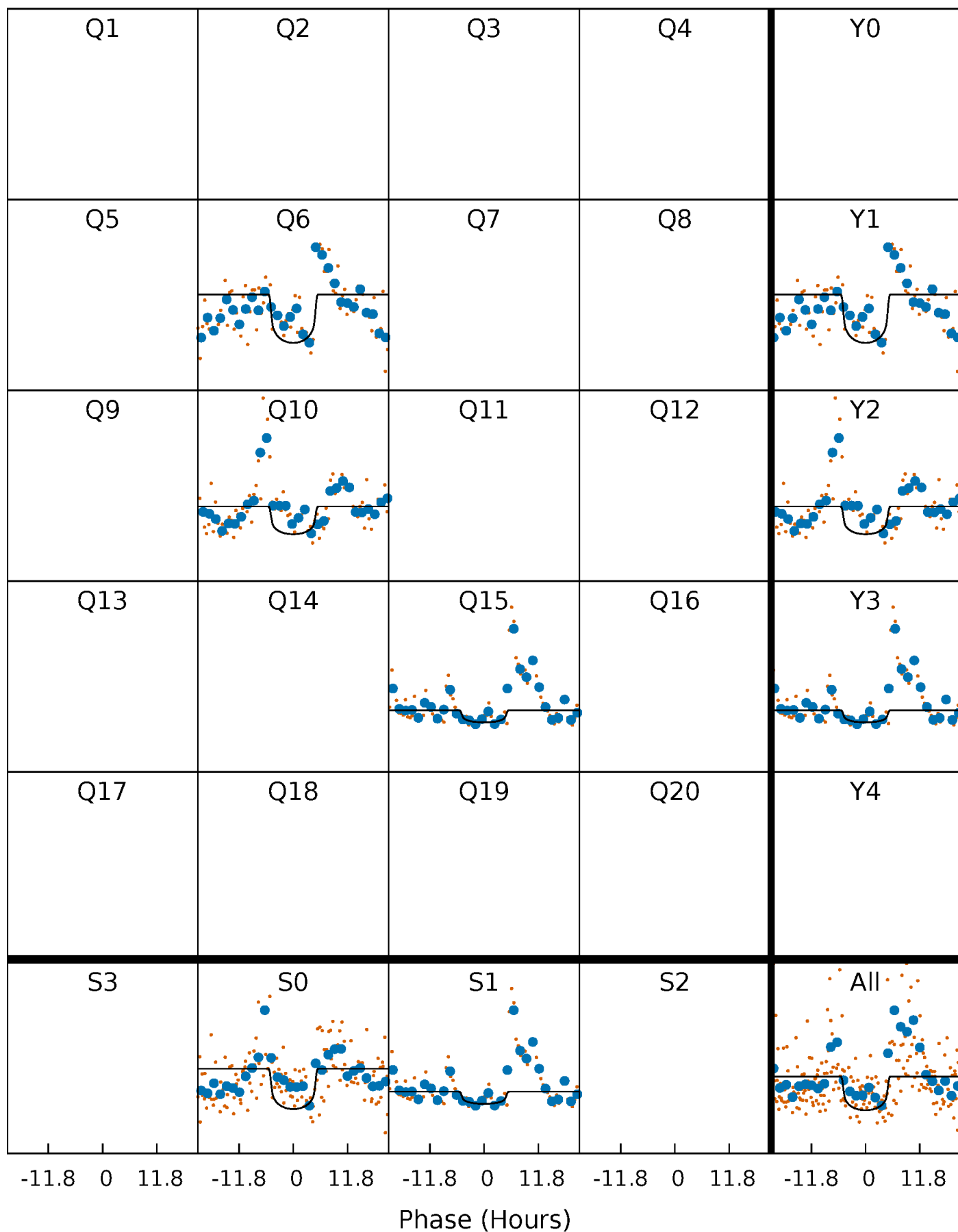
PDC Quarter-Phased Transit Curves

TCE 006370174-01 P=452.506777 Days $T_0=542.866625$ (BKJD)



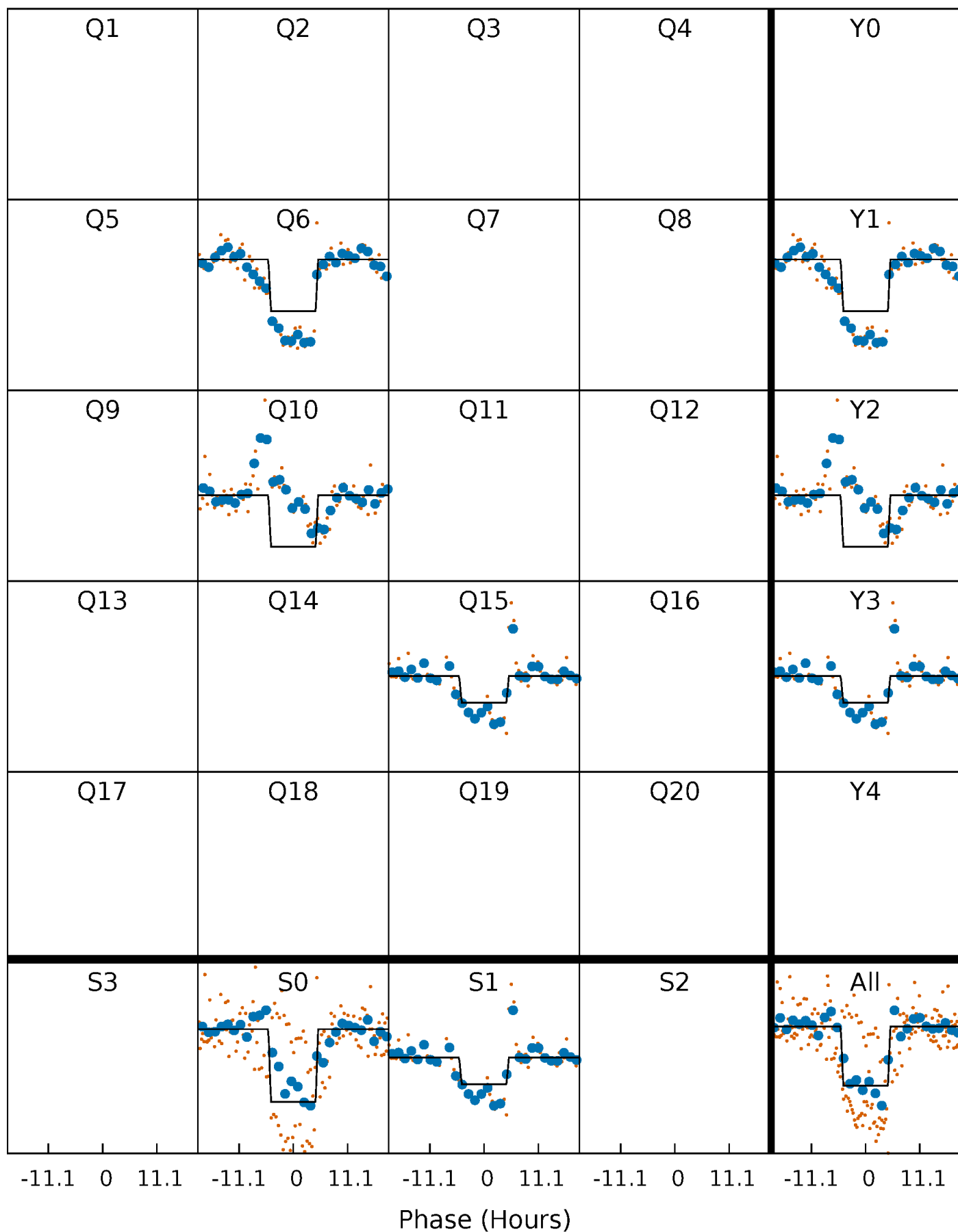
DV Quarter-Phased Transit Curves

TCE 006370174-01 P=452.506777 Days $T_0=542.866625$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

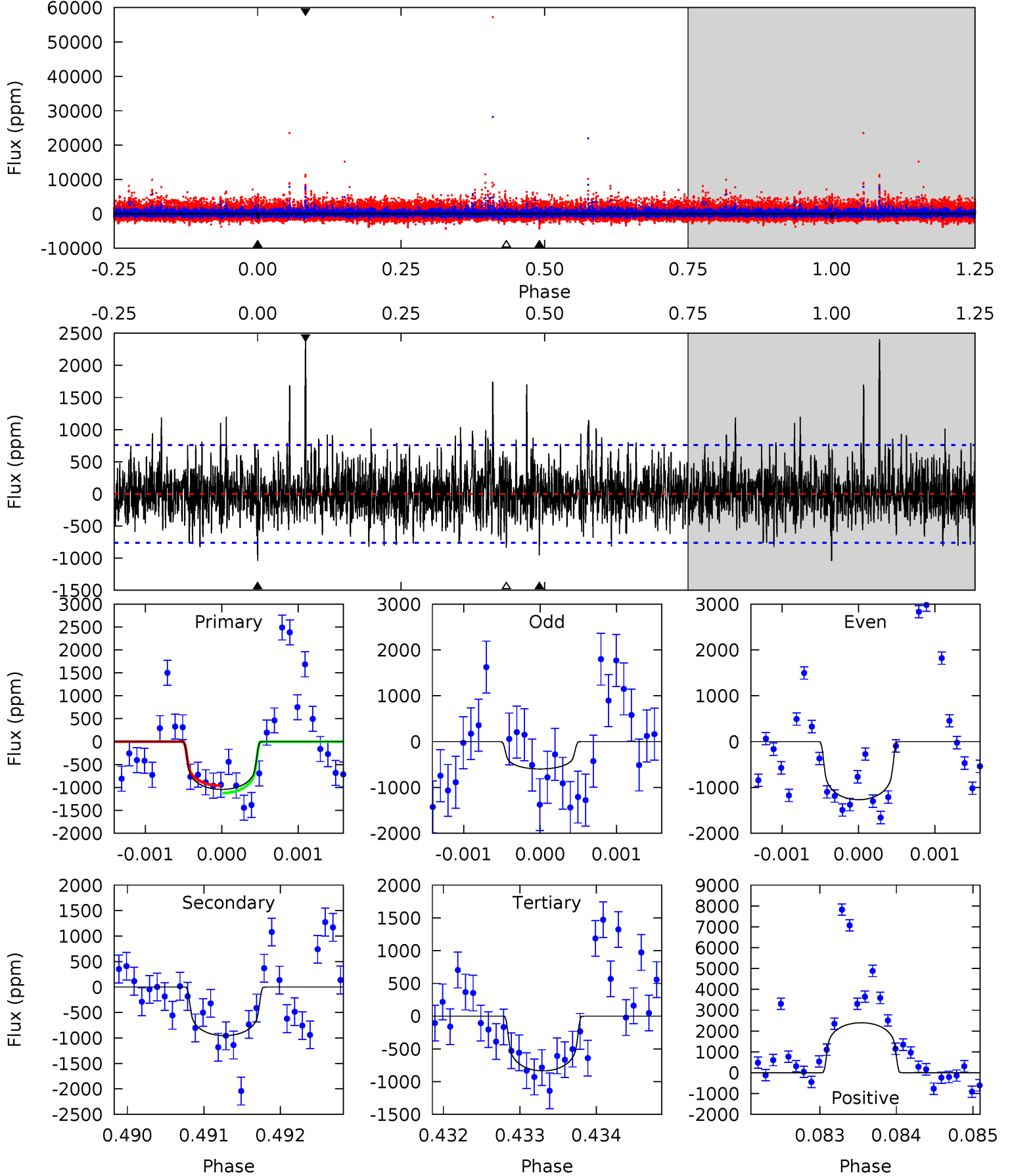
TCE 006370174-01 P=452.514809 Days $T_0=542.866603$ (BKJD)



DV Model-Shift Uniqueness Test

006370174-01, P = 452.506777 Days, E = 90.359848 Days

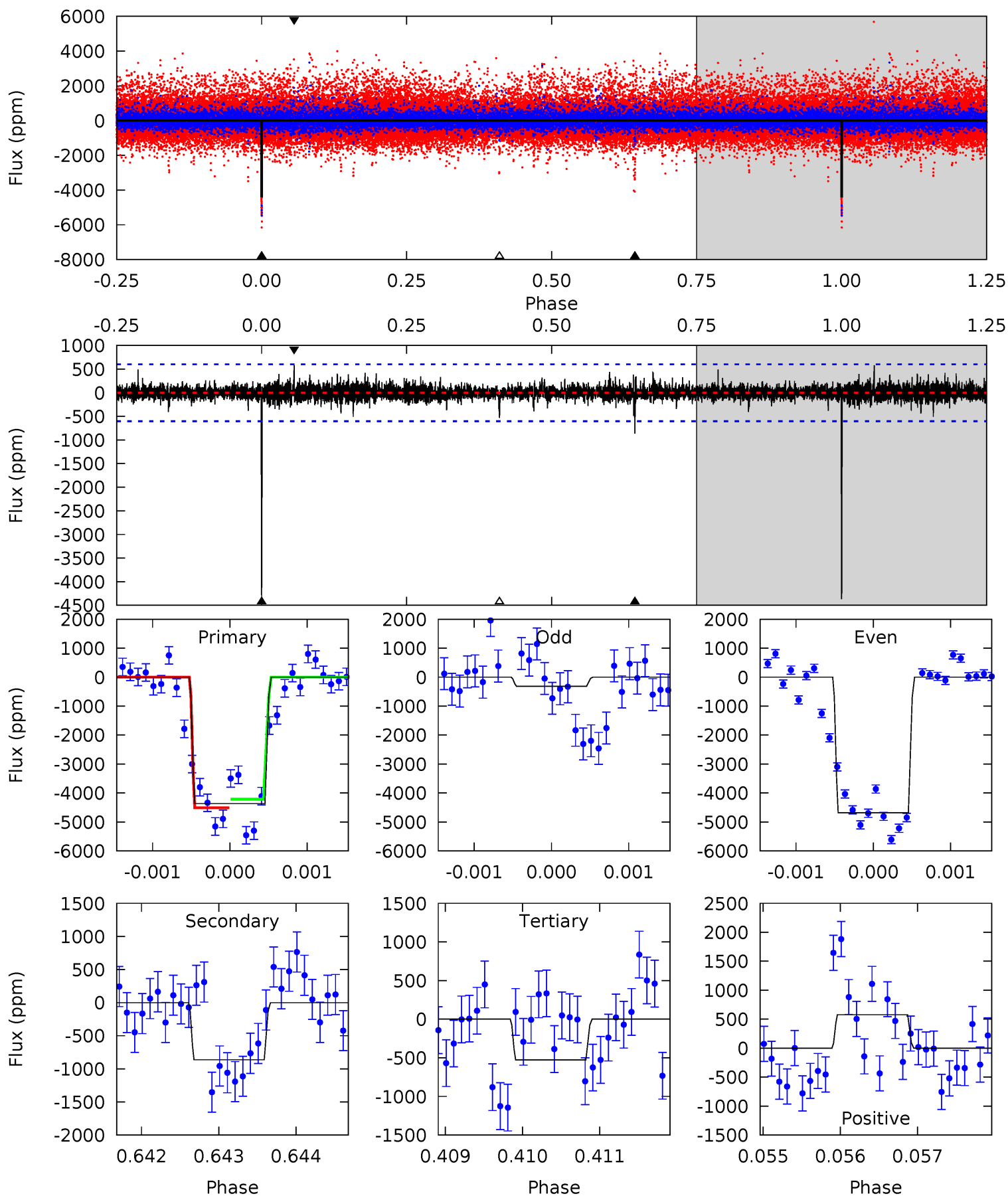
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.49	6.85	5.99	17.2	5.46	3.30	2.15	1.49	-9.70	0.85	-10.3	0.95	1.01	0.70	0.59



Alt Model-Shift Uniqueness Test

006370174-01, P = 452.514809 Days, E = 90.351794 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.7	7.84	4.80	5.26	5.47	3.32	0.88	34.9	34.4	3.04	2.59	19.2	0.70	0.12	1.34



Stellar Parameters For KIC 006370174

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3396^{+54}_{-54}	$4.933^{+0.055}_{-0.040}$	$0.000^{+0.100}_{-0.100}$	$0.314^{+0.040}_{-0.044}$	$0.308^{+0.053}_{-0.048}$	$14.020^{+4.687}_{-2.449}$
	+2%/-2%	+1%/-1%	+inf%/-inf%	+13%/-14%	+17%/-16%	+33%/-17%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 006370174-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-954 ± 139	$1.34^{+0.52}_{-0.52}$	132^{+3}_{-4}	3180^{+508}_{-304}	$185810^{+290643}_{-93654}$
Alt.	-863 ± 110	$1.94^{+0.57}_{-0.56}$	133^{+4}_{-4}	2816^{+261}_{-185}	78057^{+73584}_{-33066}

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

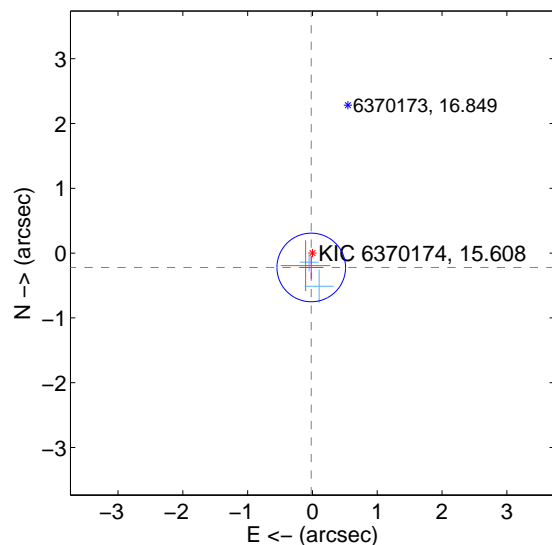
Supplemental centroid analysis for 006370174-01. Kepler magnitude: 15.61. Transit SNR 5.76

There are 2 quarters with good PRF difference image offsets

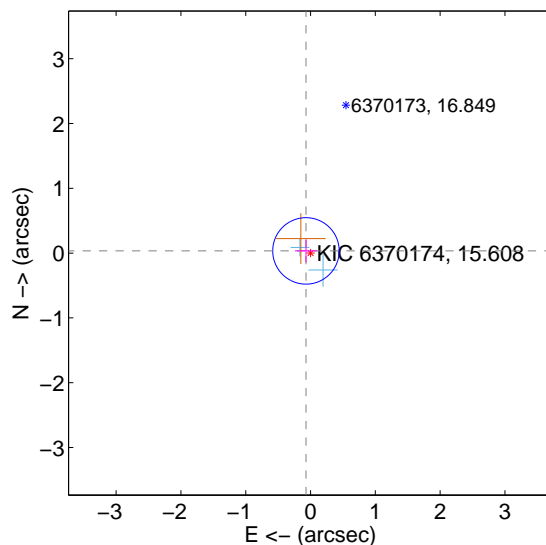
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.222 ± 0.176	1.26	0.018 ± 0.170	-0.222 ± 0.176
PRF-fit source offset from KIC position	0.078 ± 0.171	0.46	0.070 ± 0.170	0.034 ± 0.176
photometric centroid source offset	0.80 ± 0.77	1.04	-0.80 ± 0.77	-0.11 ± 0.82

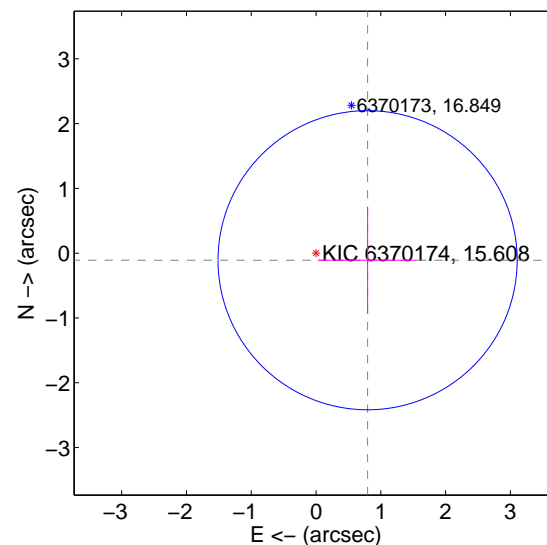
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

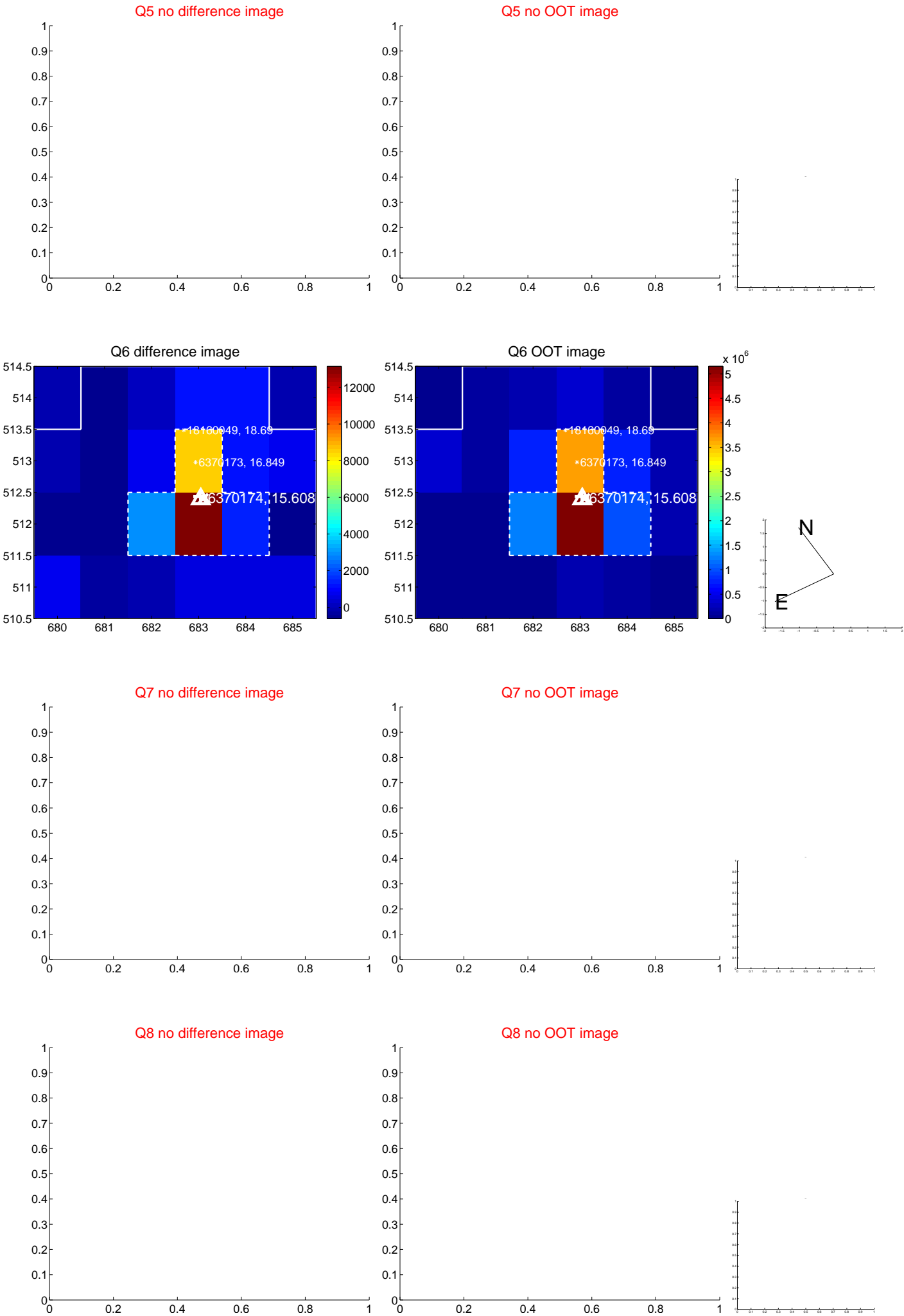


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

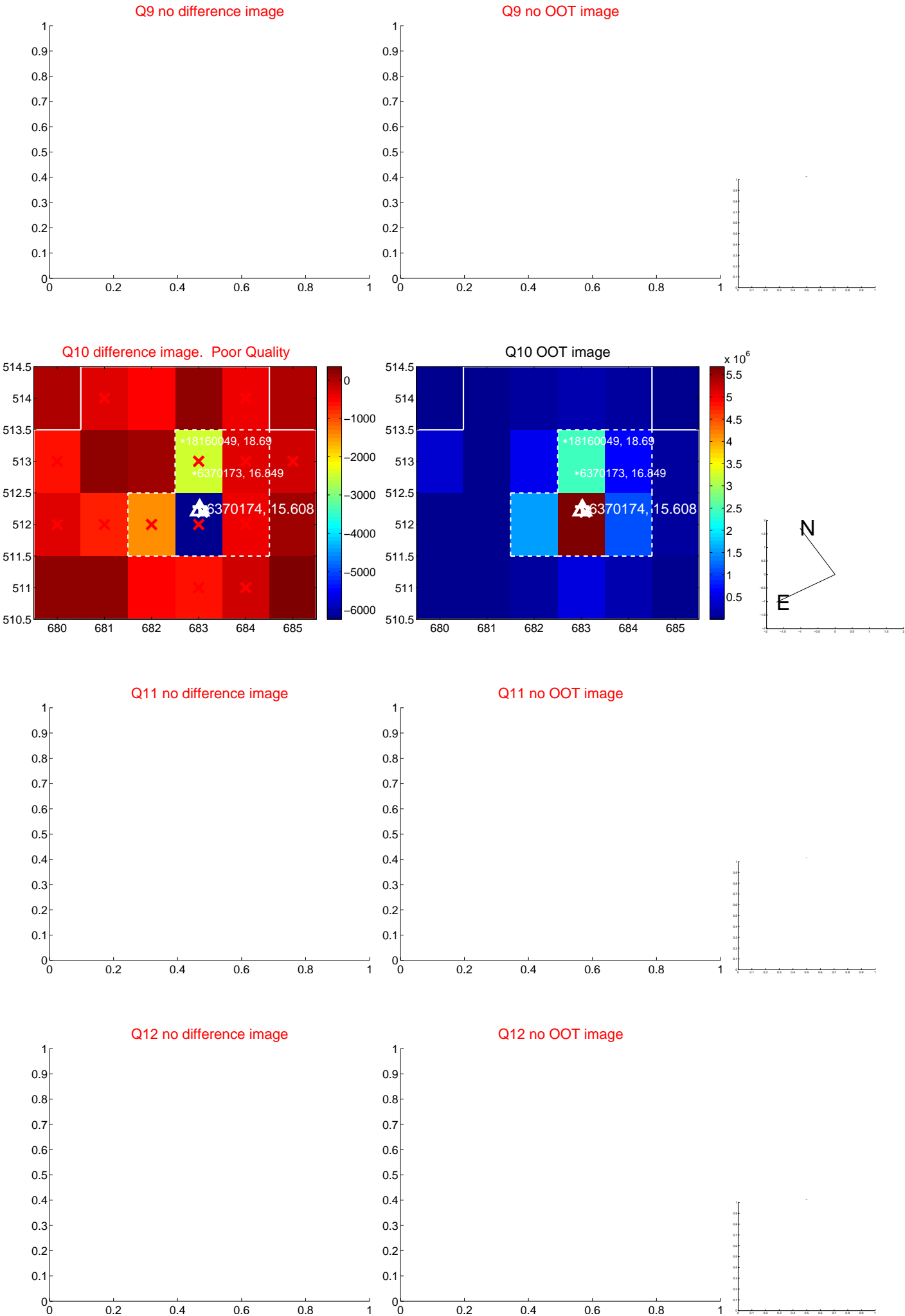
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



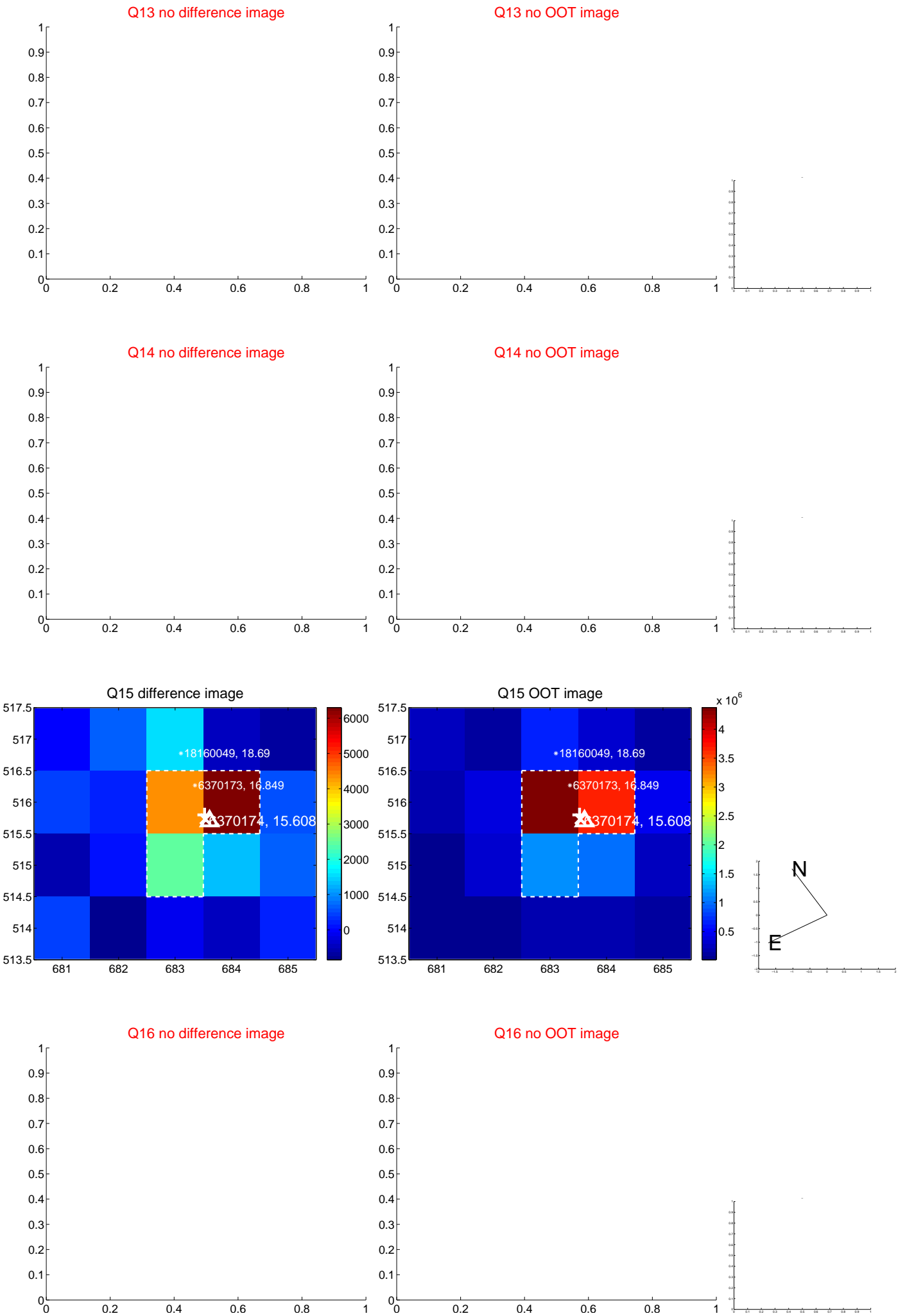
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



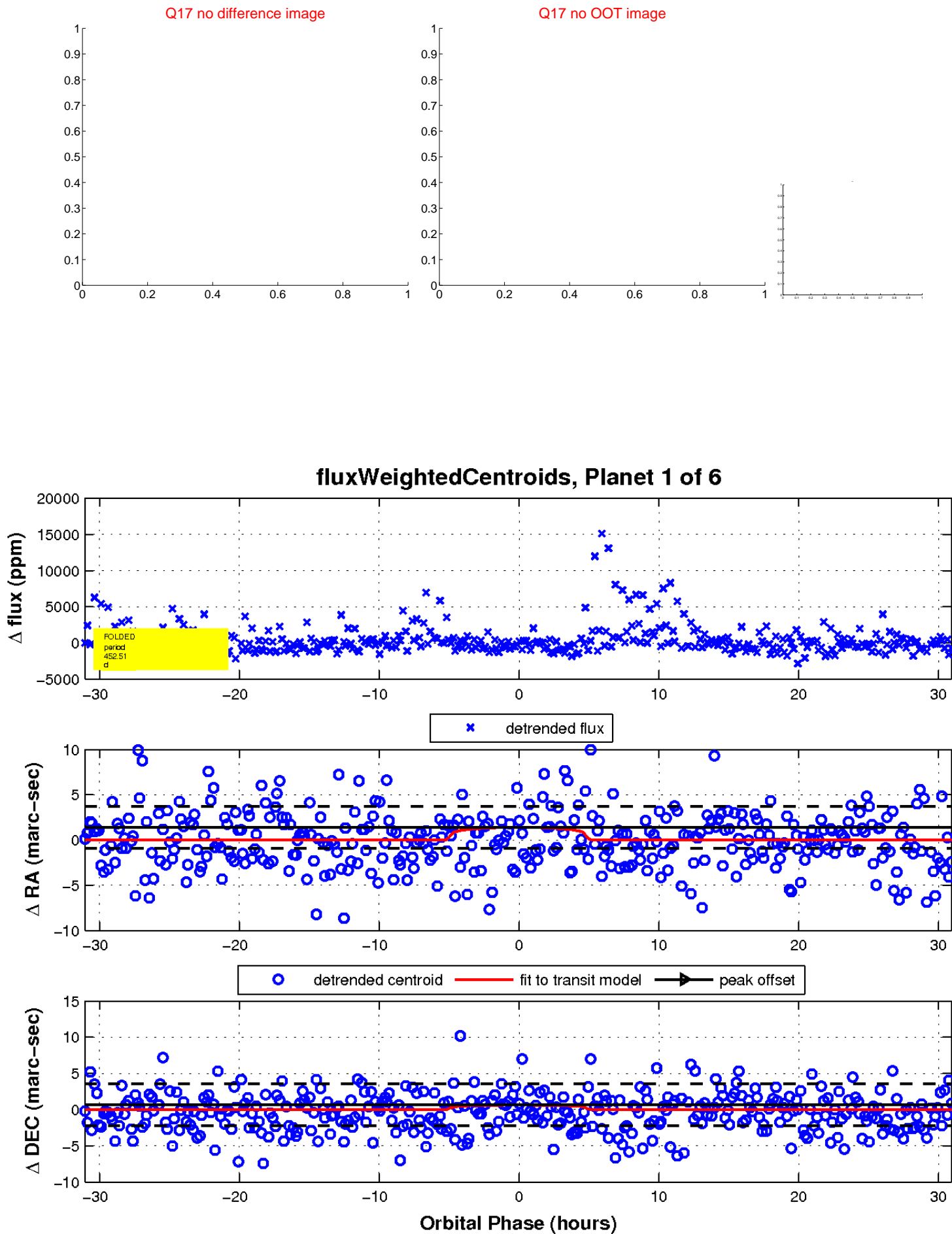
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

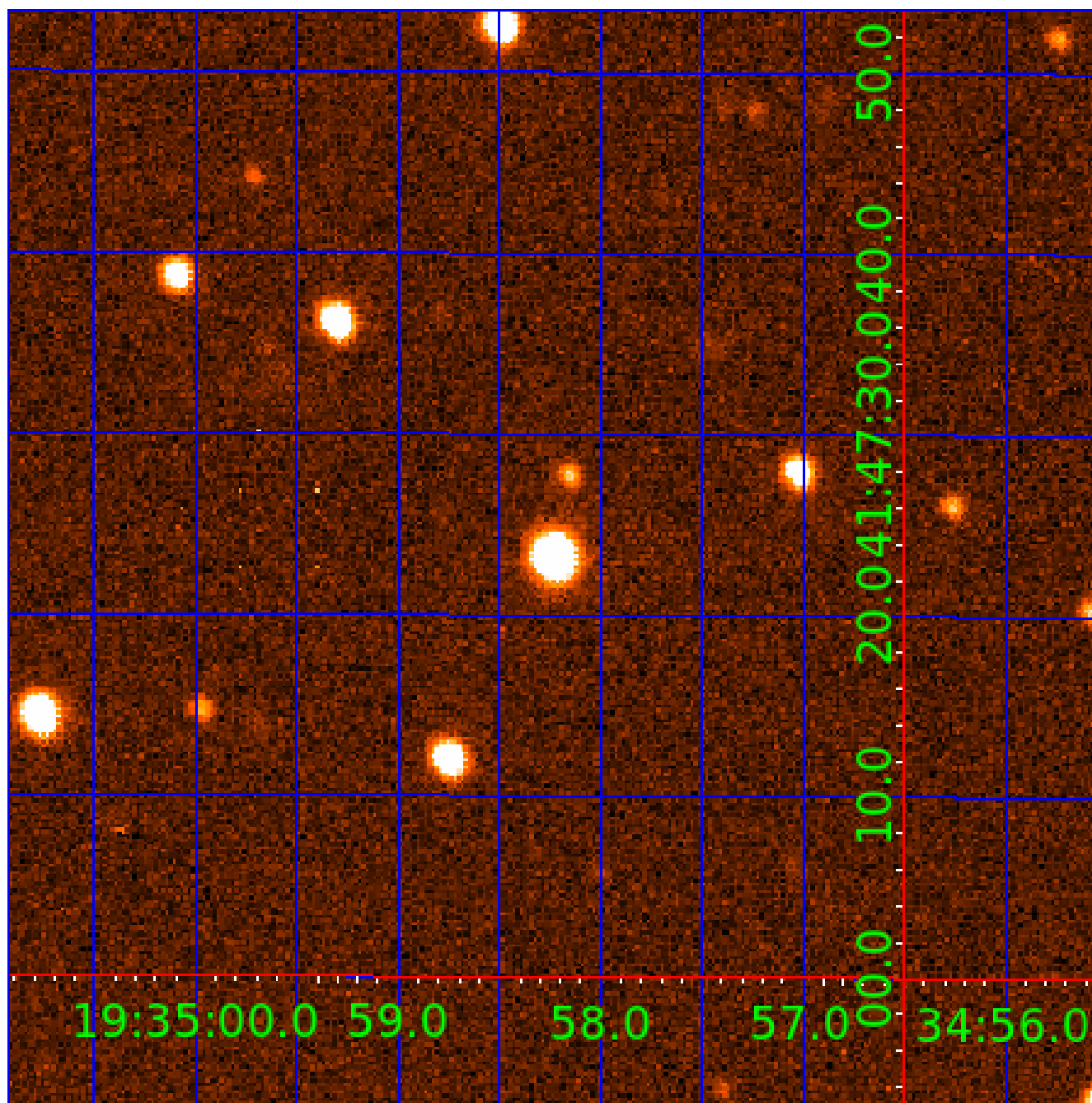


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006370174

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})
006370174-01	OBS	No	452.506777	542.866625	1692.9	10.366	11.5	5.8	0.31	3396	1.33	0.02
006370174-02	OBS	No	282.354856	235.150599	1138.0	9.180	11.2	5.2	0.31	3396	1.05	0.04
006370174-03	OBS	No	519.436410	422.308527	2030.3	19.247	12.0	7.1	0.31	3396	1.39	0.02
006370174-04	OBS	No	1.721220	131.565438	269.3	6.297	10.1	14.6	0.31	3396	0.53	32.58
006370174-05	OBS	No	232.409796	261.713036	1703.1	11.749	14.6	8.8	0.31	3396	1.28	0.05
006370174-06	OBS	No	224.987118	134.923398	1777.0	10.500	13.9	-1.0	0.31	3396	1.31	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006370174-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-03	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
006370174-04	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006370174-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006370174-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

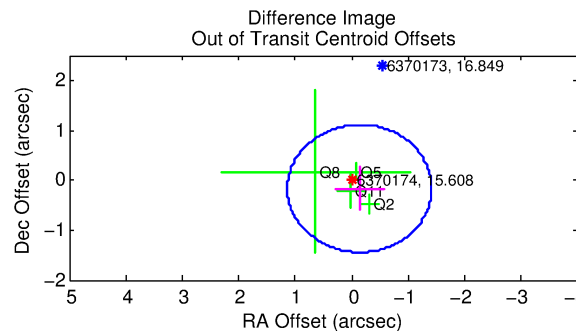
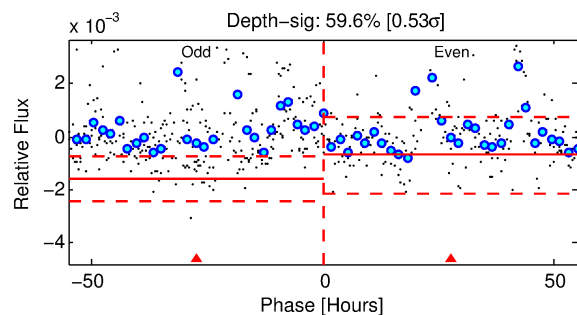
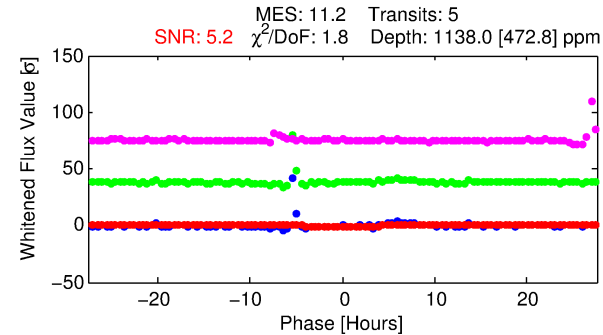
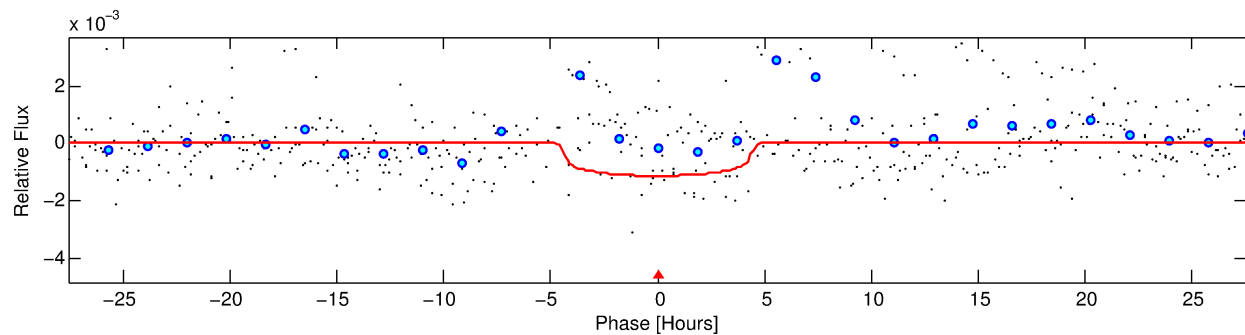
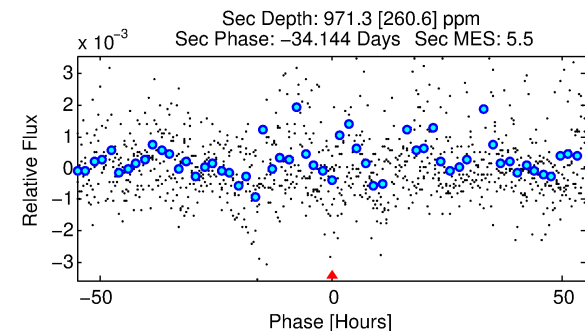
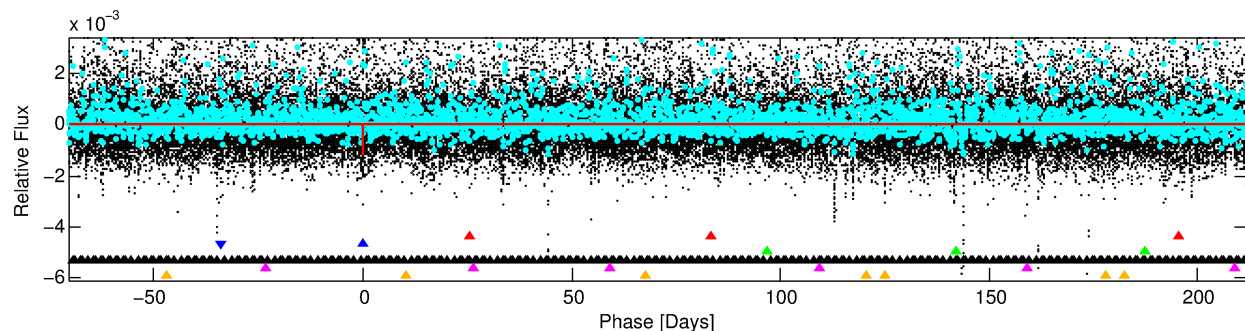
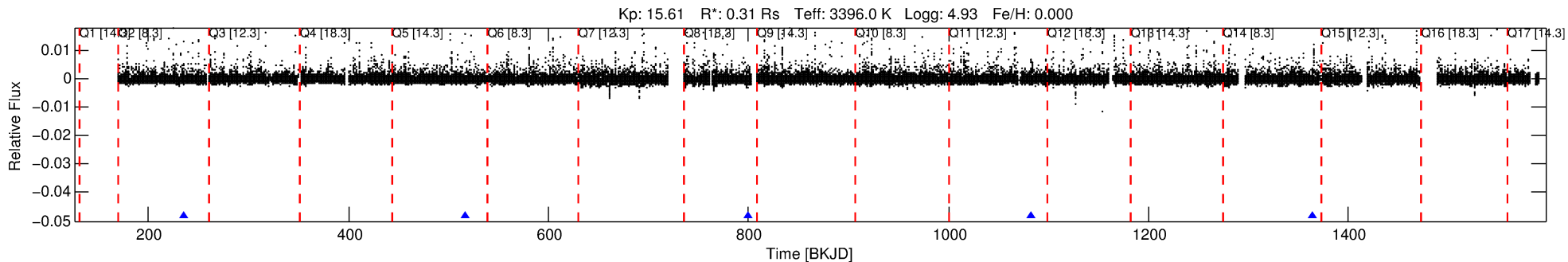
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006370174-02

No Significant Match Found

DV One-Page Summary

KIC: 6370174 Candidate: 2 of 6 Period: 282.355 d



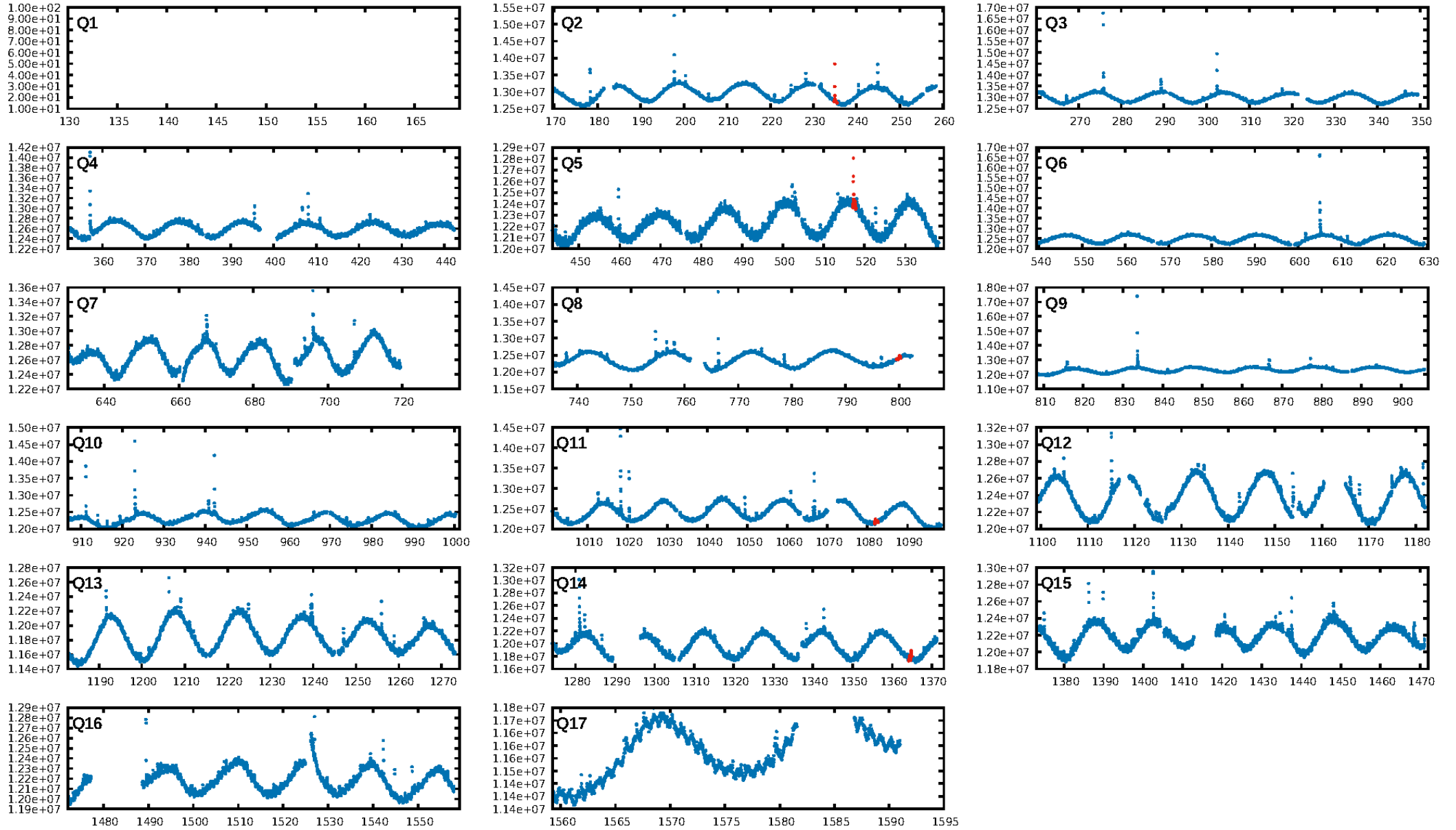
DV Fit Results:

Period = 282.35486 [0.01229] d
Epoch = 235.1506 [0.0225] BKJD
Rp/R* = 0.0306 [0.0508]
a/R* = 238.87 [1663.38]
b = 0.17 [40.09]
Seff = 0.04 [0.01]
Teq = 111 [4] K
Rp = 1.05 [1.75] Re
a = 0.5691 [0.0583] AU
Ag = 157841.95 [527061.52] [0.30σ]
Teffp = 3430 [2861] K [1.16σ]

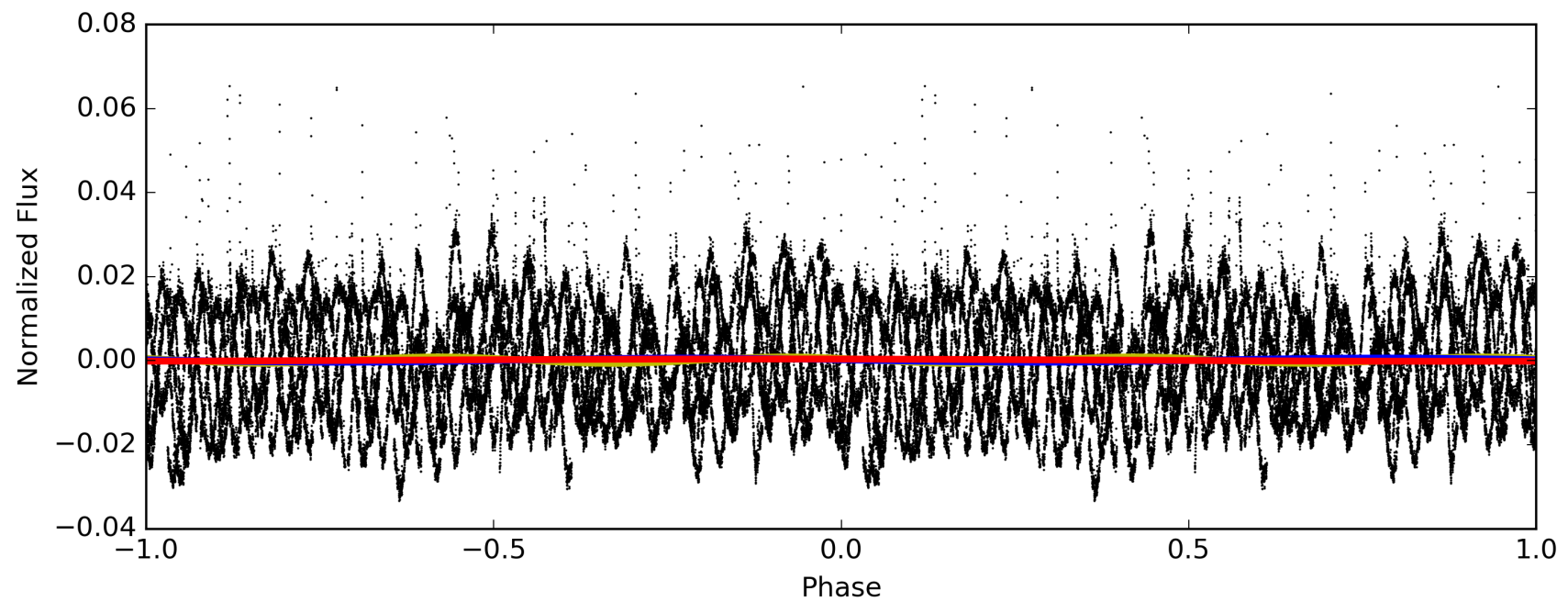
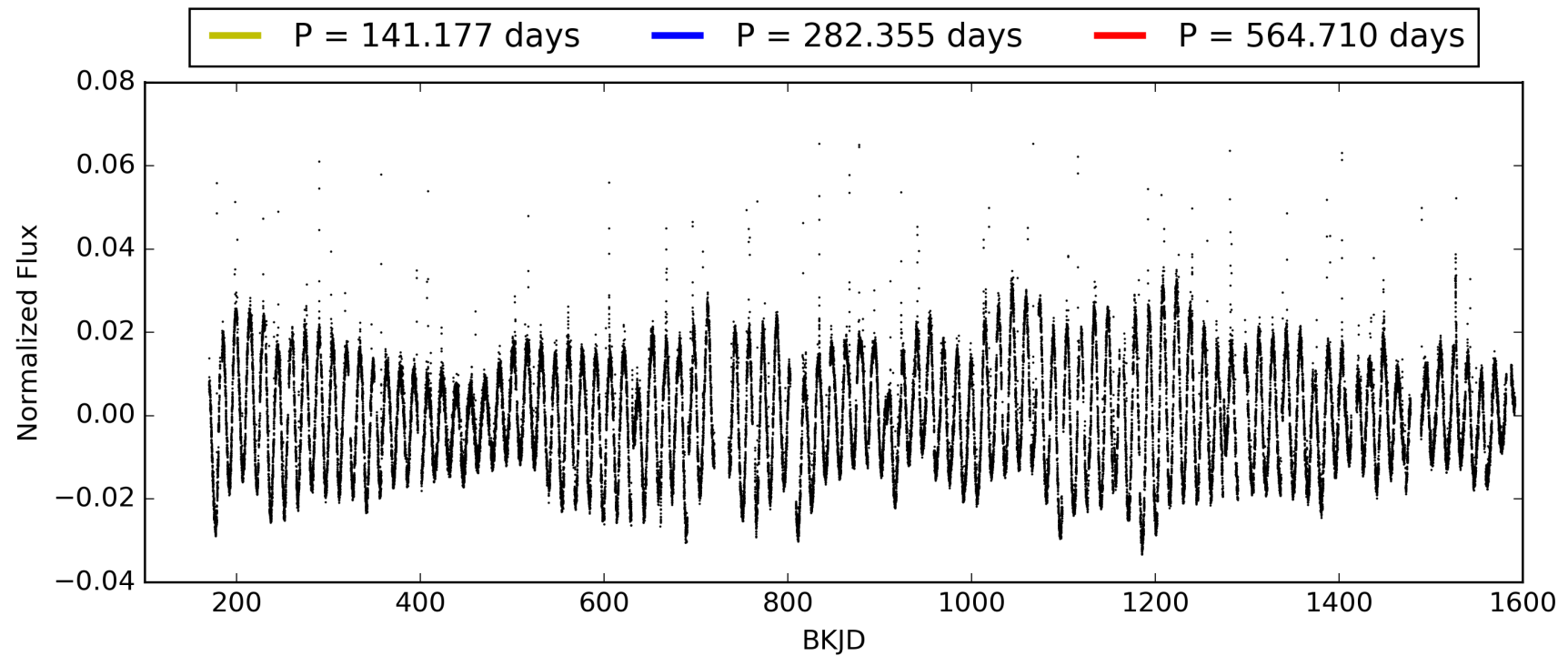
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [80.40σ]
LongPeriod-sig: 100.0% [294.93σ]
ModelChiSquare2-sig: 5.2%
ModelChiSquareGof-sig: 15.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 4.317
Centroid-sig: 62.8%
Centroid-so: 0.470 arcsec [0.55σ]
OotOffset-rm: 0.216 arcsec [0.51σ]
KicOffset-rm: 0.164 arcsec [0.38σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 0.00 [0/5]

TCE 006370174-02, PDC Light Curves

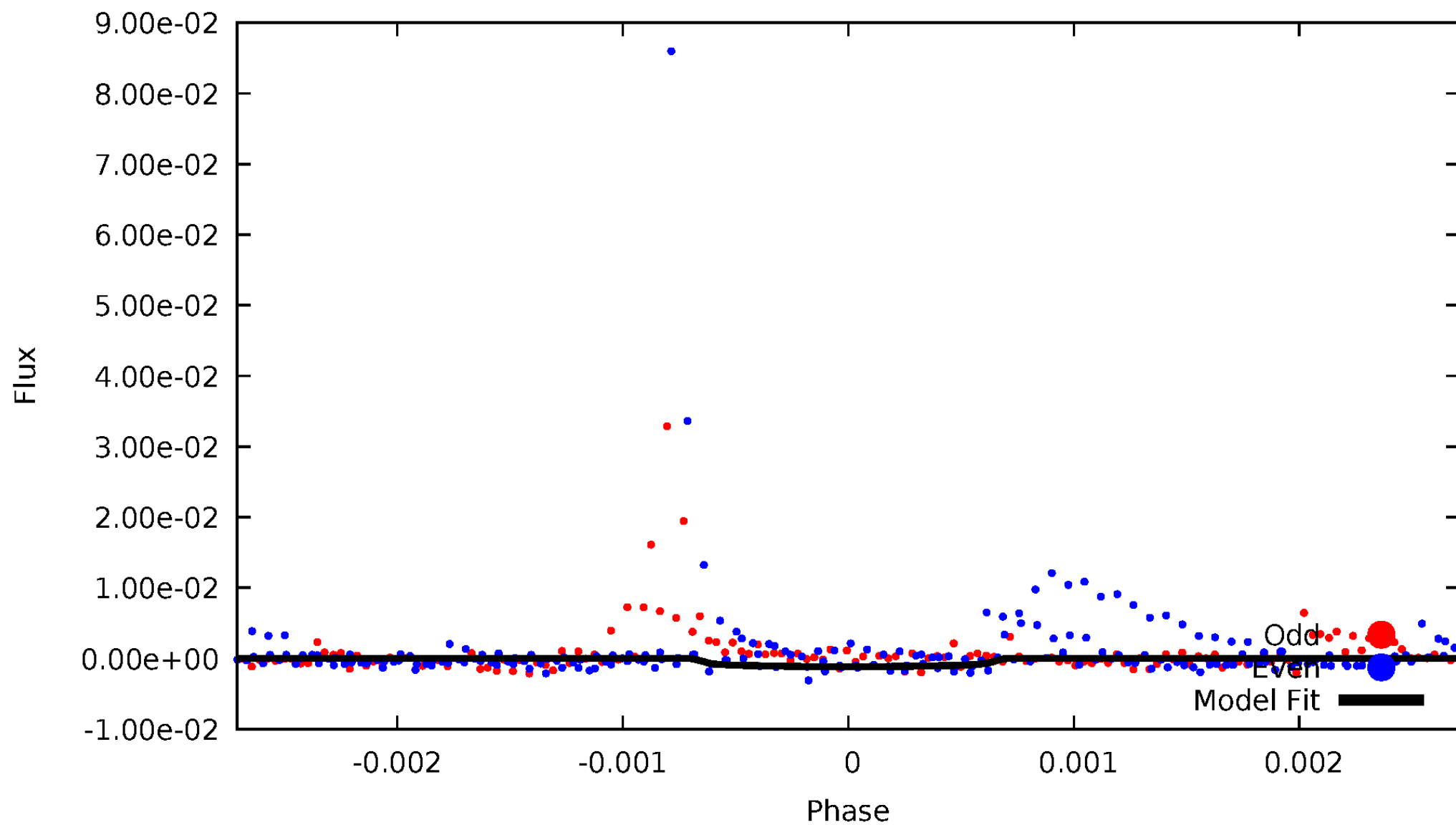


TCE 006370174-02



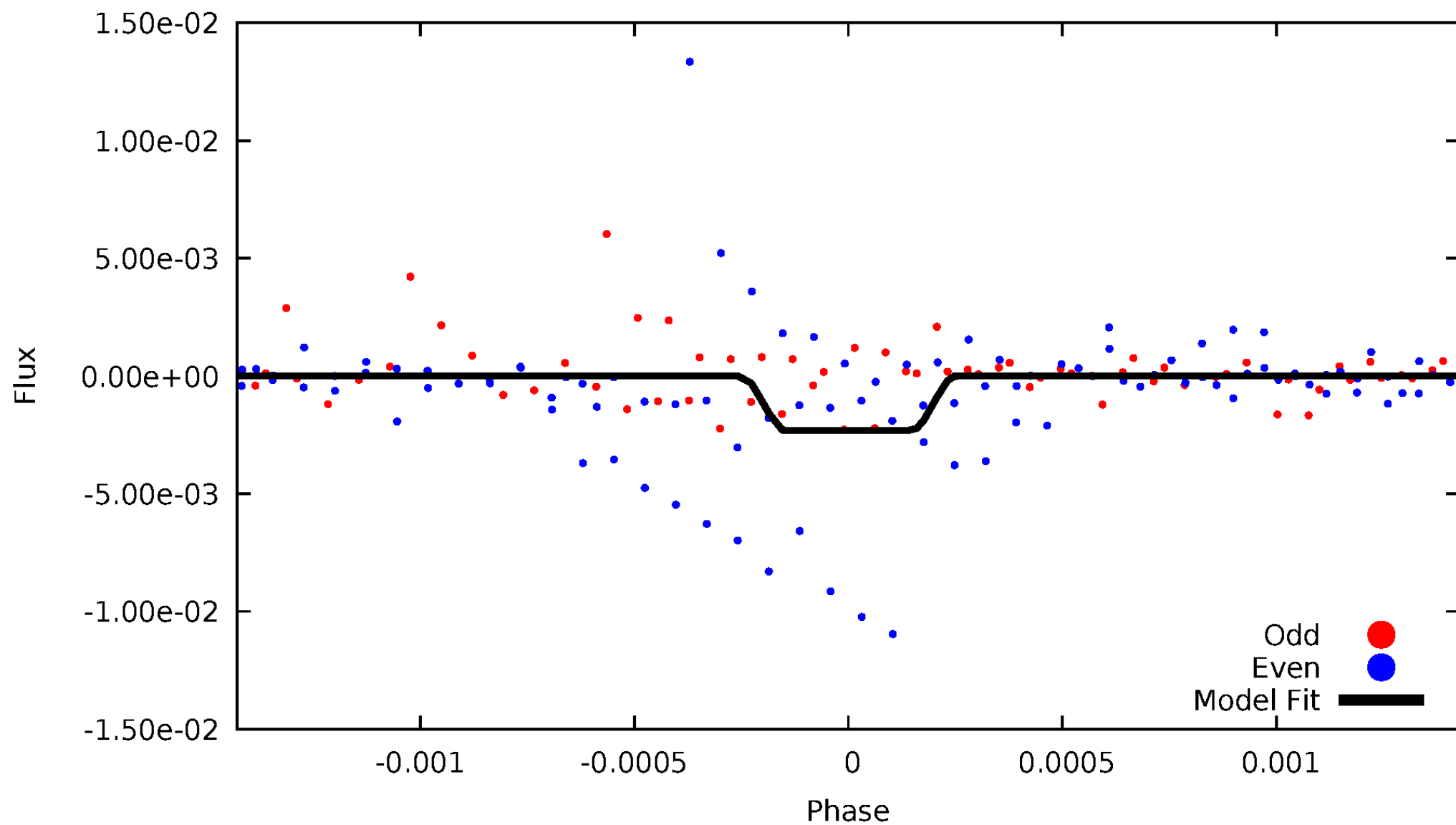
DV Odd/Even

TCE 006370174-02



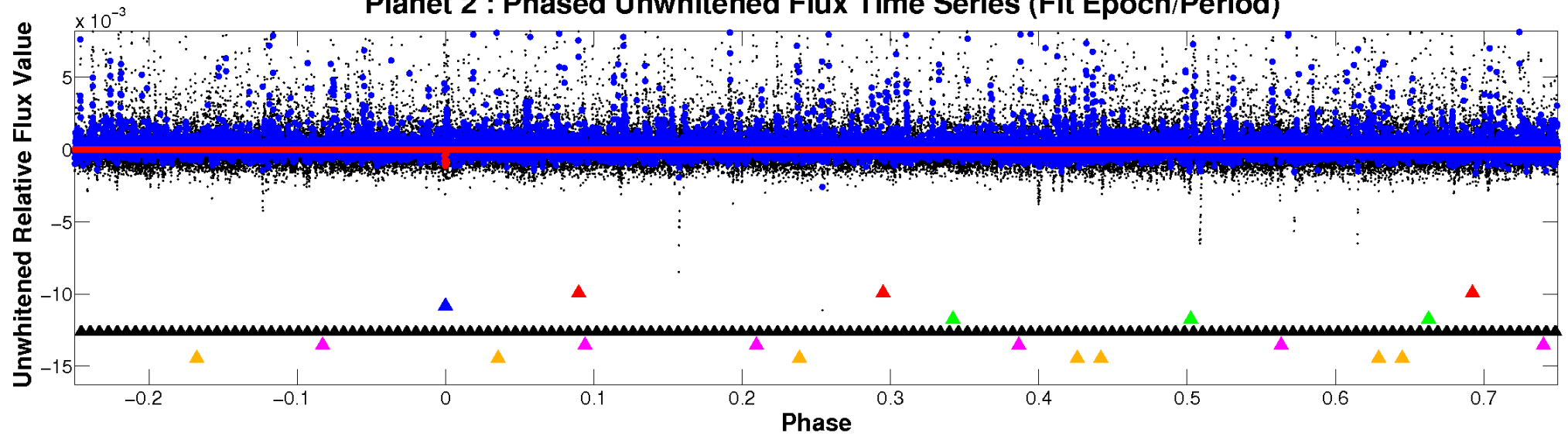
ALT Odd/Even

TCE 006370174-02

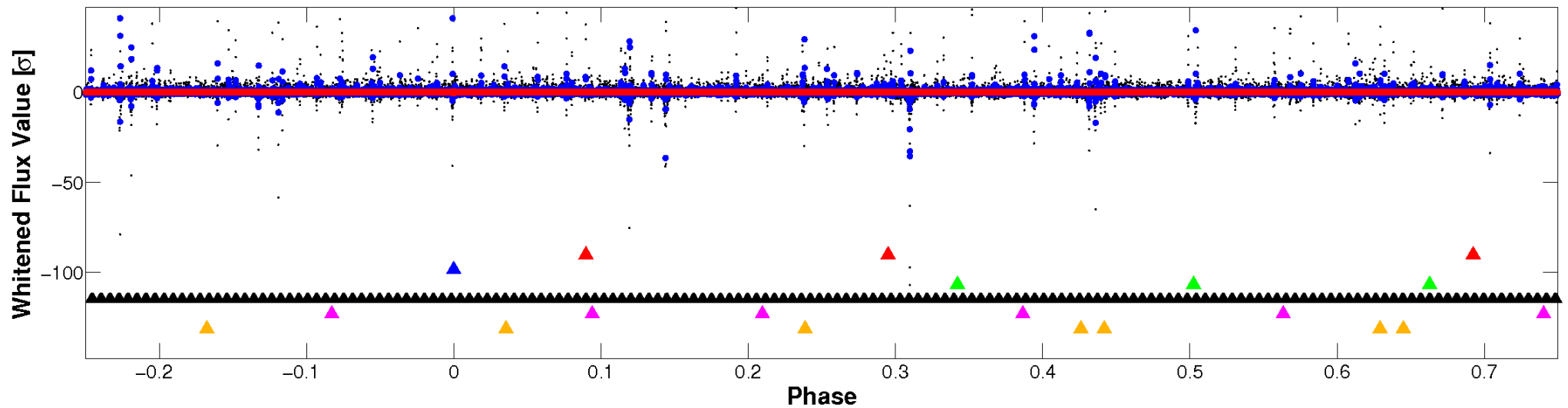


Non-Whitened Vs. Whitened Light Curve

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

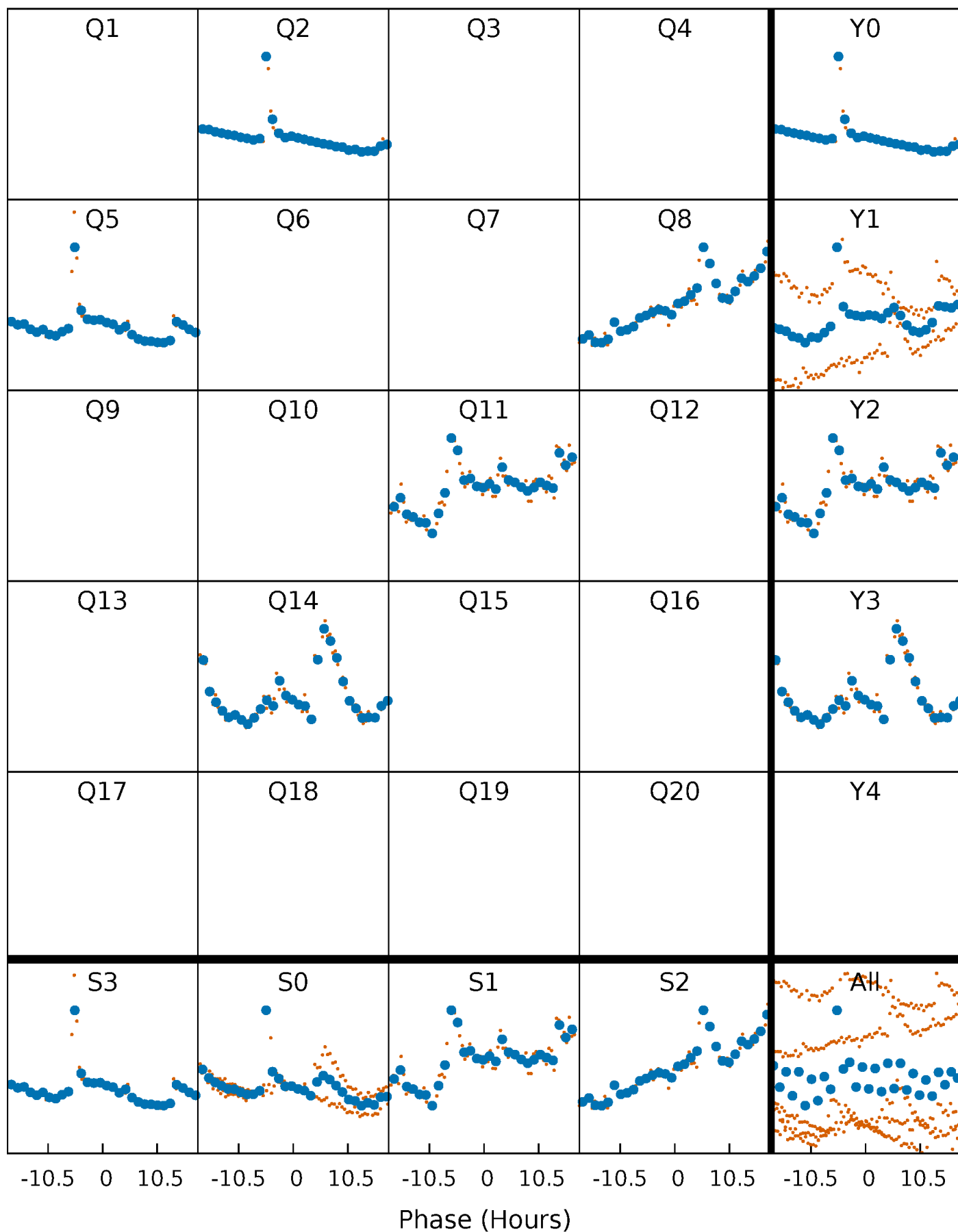


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



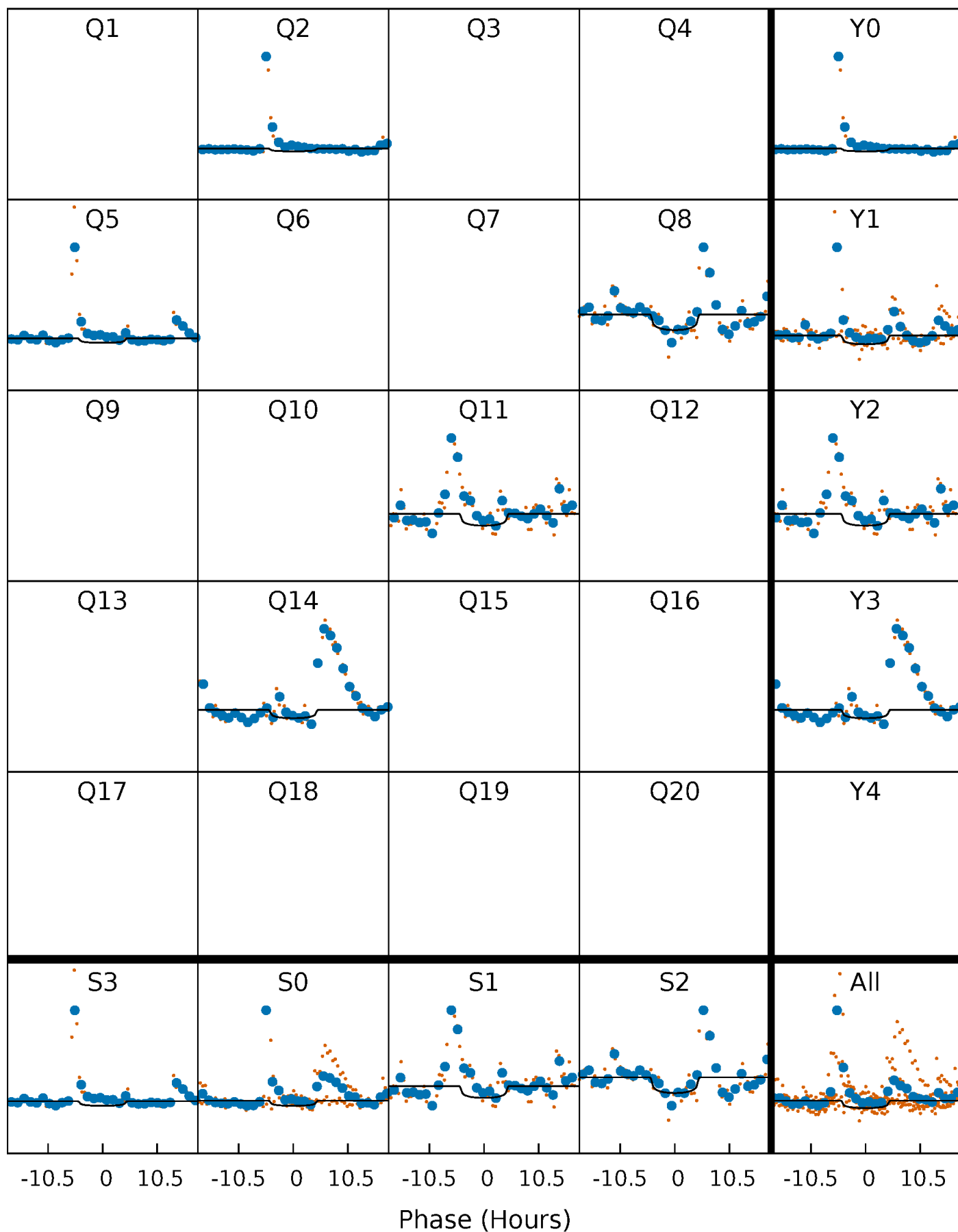
PDC Quarter-Phased Transit Curves

TCE 006370174-02 $P=282.354856$ Days $T_0=235.150599$ (BKJD)



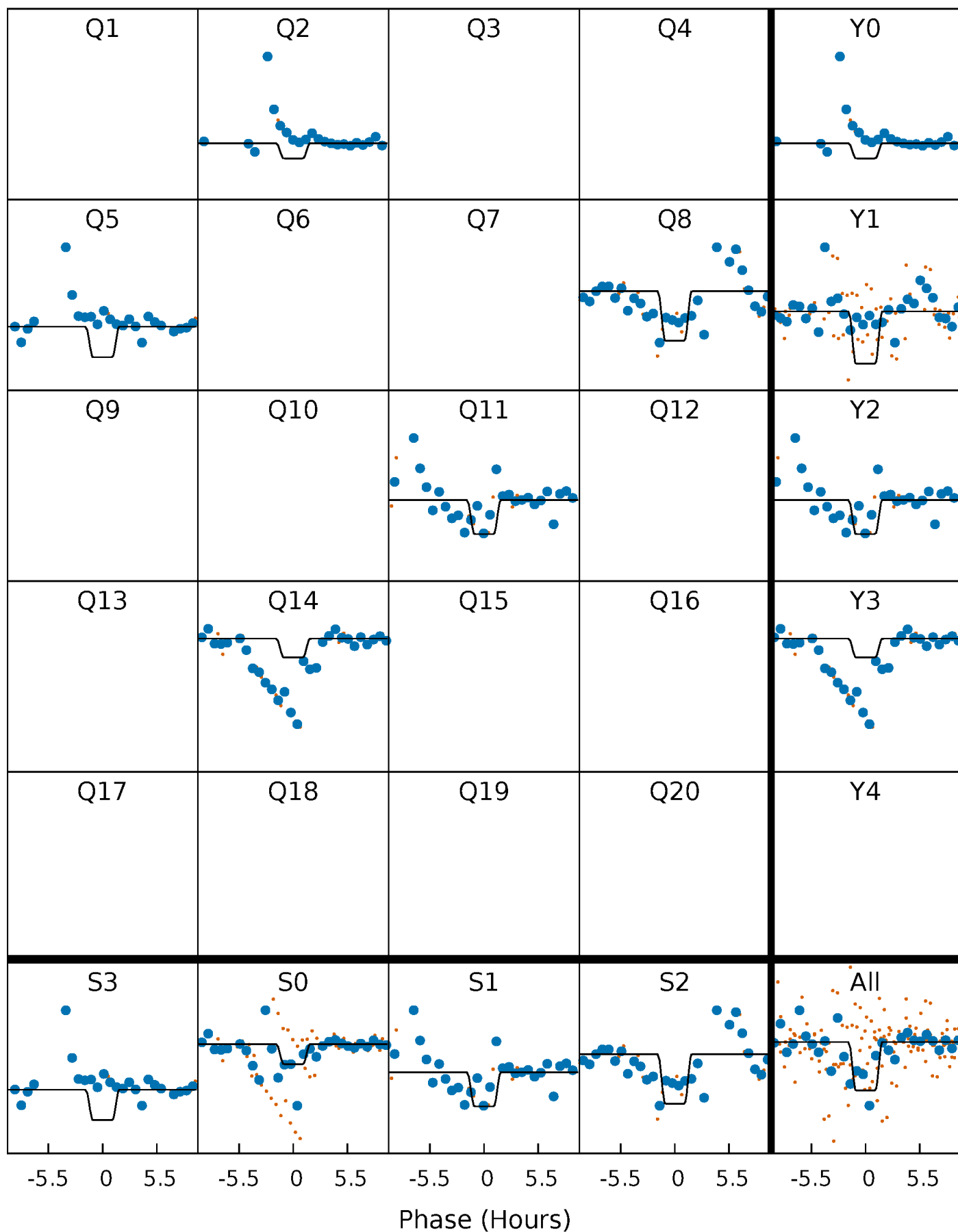
DV Quarter-Phased Transit Curves

TCE 006370174-02 $P=282.354856$ Days $T_0=235.150599$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

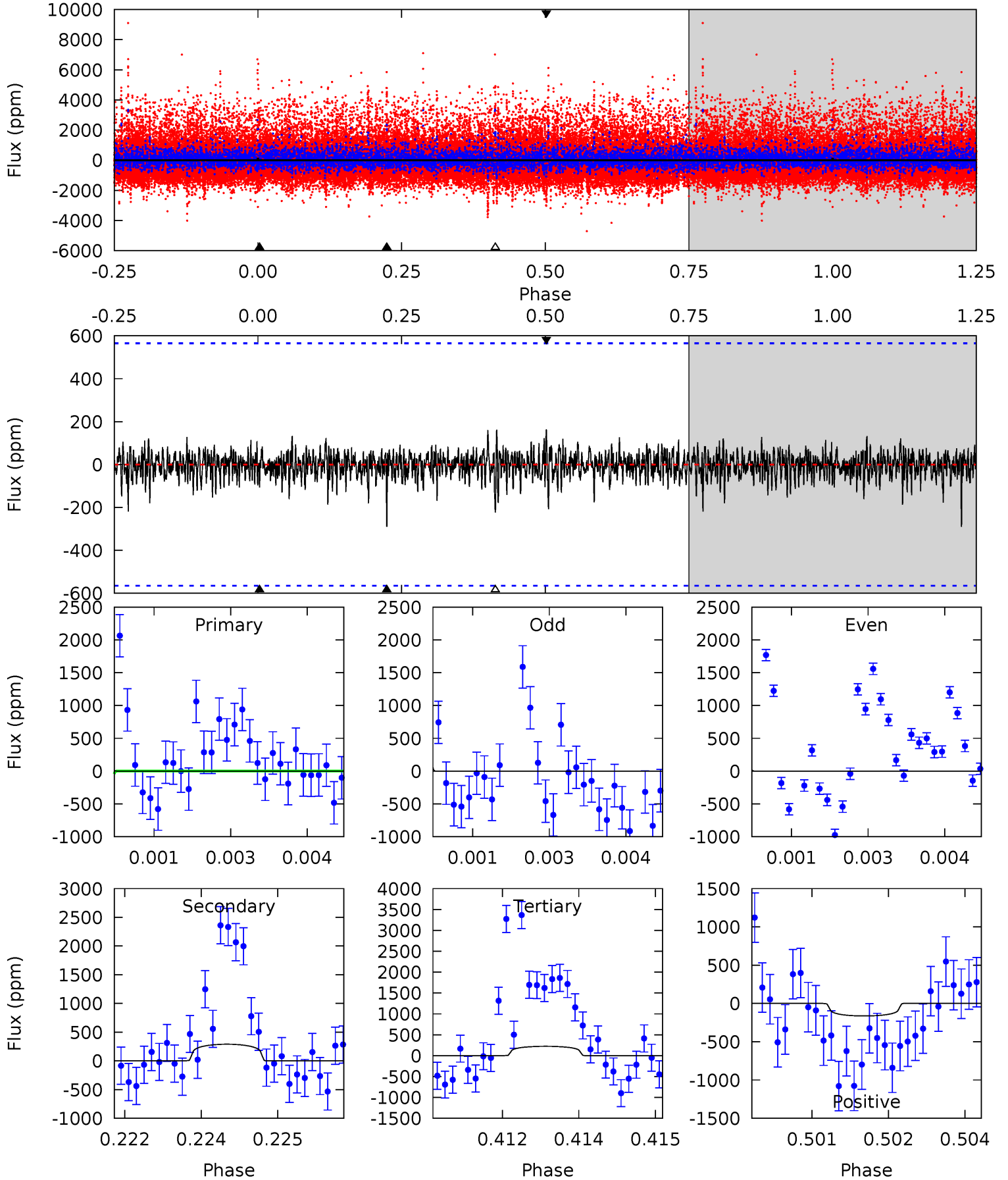
TCE 006370174-02 P=282.404803 Days $T_0=235.074236$ (BKJD)



DV Model-Shift Uniqueness Test

006370174-02, P = 282.354856 Days, E = 235.150599 Days

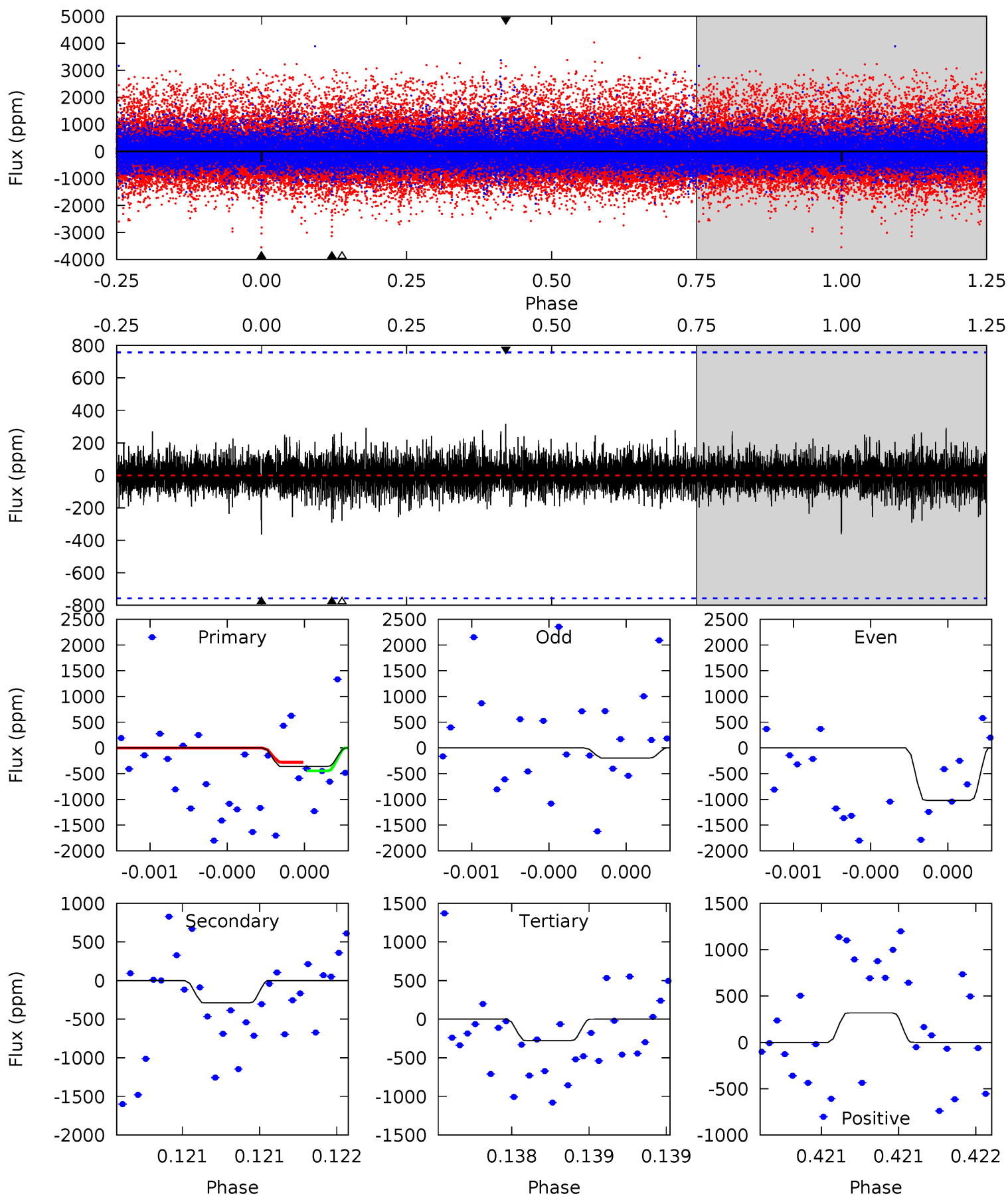
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.02	2.76	2.13	1.56	5.39	3.19	0.47	-1.11	-0.54	0.63	1.21	0.94	2.66	0.36	0.82



Alt Model-Shift Uniqueness Test

006370174-02, P = 282.404803 Days, E = 235.074236 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.67	2.14	2.05	2.34	5.58	3.50	0.52	0.62	0.34	0.09	-0.20	2.85	1.78	0.47	0.61



Stellar Parameters For KIC 006370174

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3396^{+54}_{-54}	$4.933^{+0.055}_{-0.040}$	$0.000^{+0.100}_{-0.100}$	$0.314^{+0.040}_{-0.044}$	$0.308^{+0.053}_{-0.048}$	$14.020^{+4.687}_{-2.449}$
	+2%/-2%	+1%/-1%	+inf%/-inf%	+13%/-14%	+17%/-16%	+33%/-17%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 006370174-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-290 ± 105	$1.78^{+1.40}_{-1.21}$	155^{+4}_{-4}	2488^{+930}_{-327}	$15758^{+146753}_{-11113}$
Alt.	-290 ± 136	$1.99^{+1.48}_{-1.25}$	155^{+4}_{-4}	2419^{+761}_{-315}	12834^{+89770}_{-9174}

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

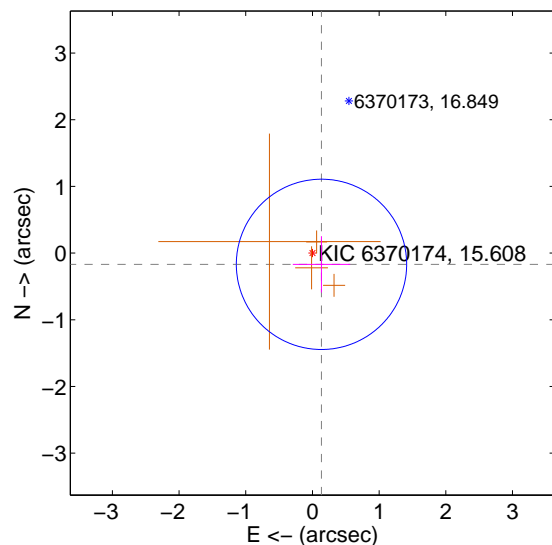
Supplemental centroid analysis for 006370174-02. Kepler magnitude: 15.61. Transit SNR 5.20

There are 0 quarters with good PRF difference image offsets

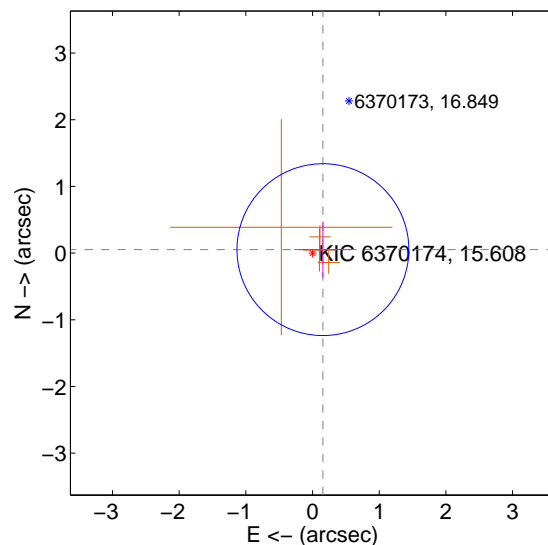
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.216 ± 0.426	0.51	-0.136 ± 0.430	-0.169 ± 0.423
PRF-fit source offset from KIC position	0.164 ± 0.430	0.38	-0.156 ± 0.430	0.052 ± 0.423
photometric centroid source offset	0.47 ± 0.85	0.55	-0.47 ± 0.85	0.01 ± 0.97

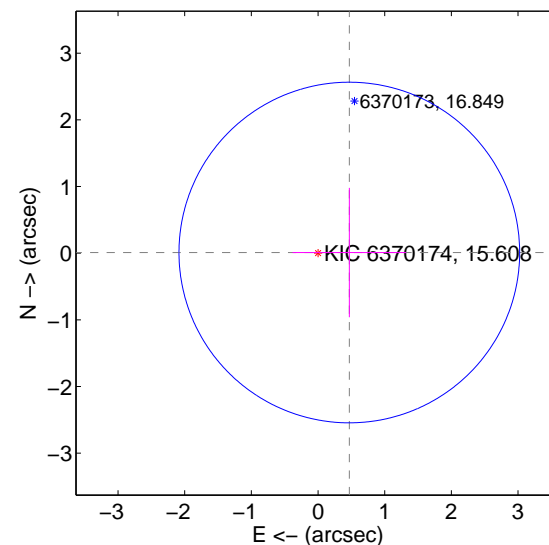
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

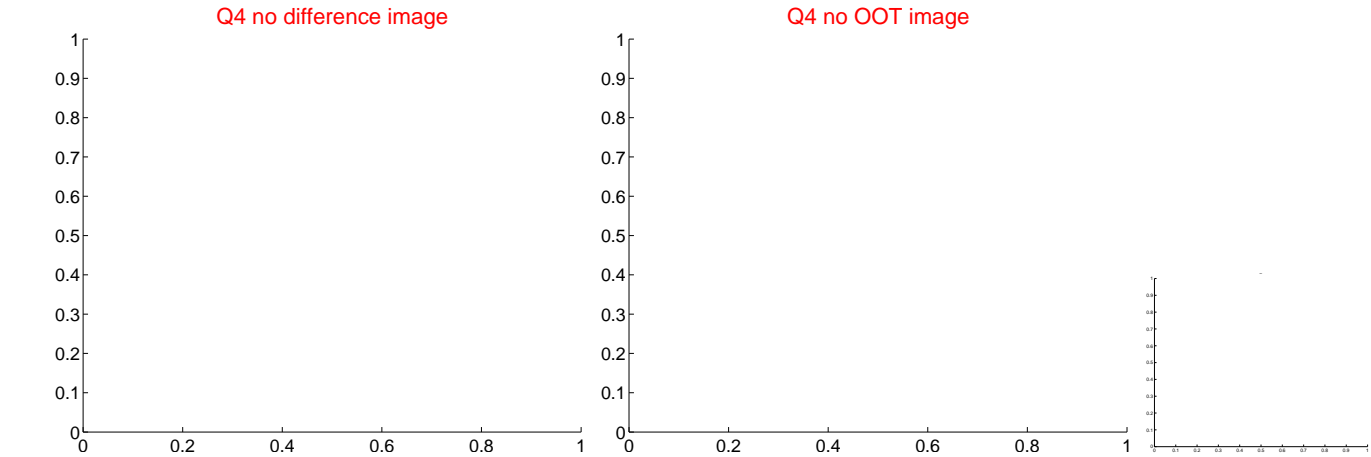
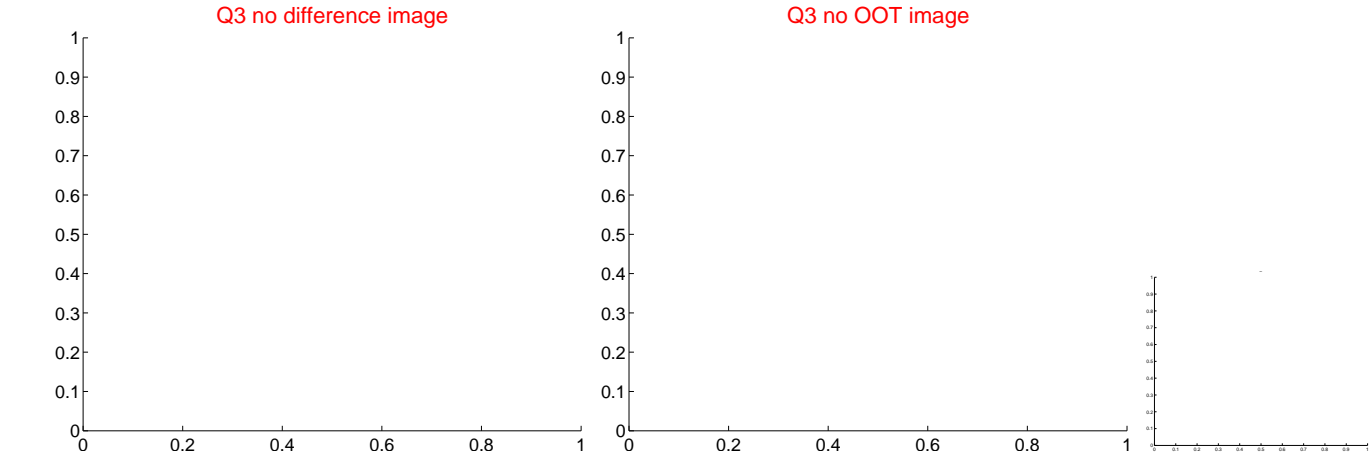
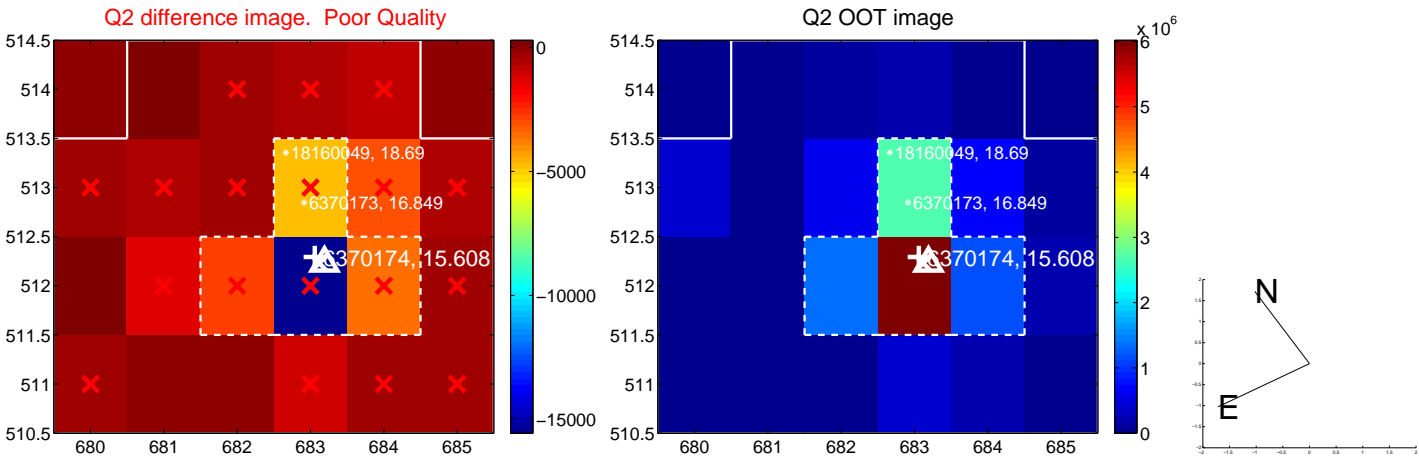
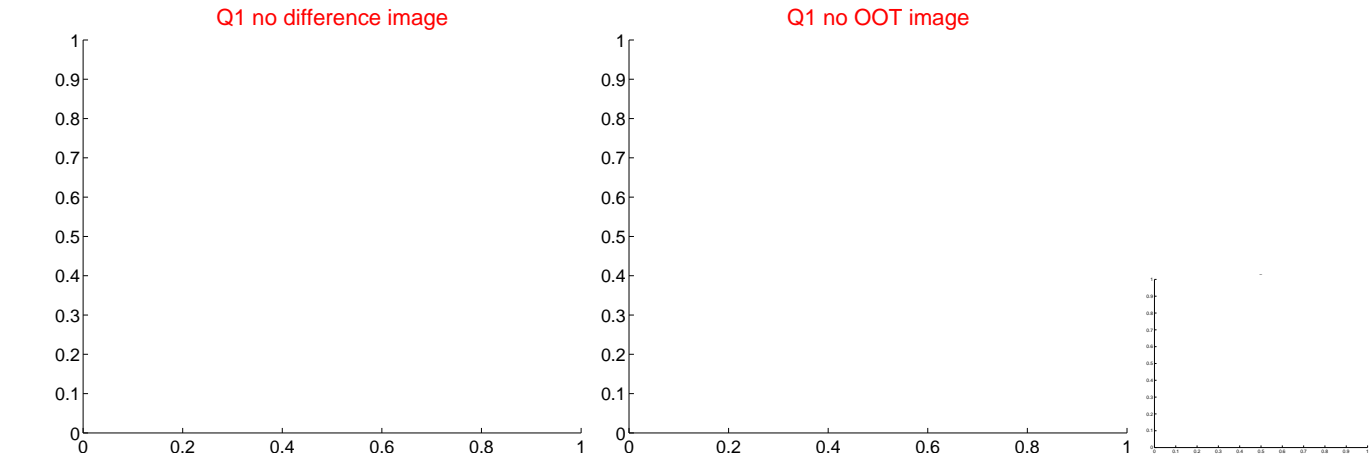


offset from photometric centroids

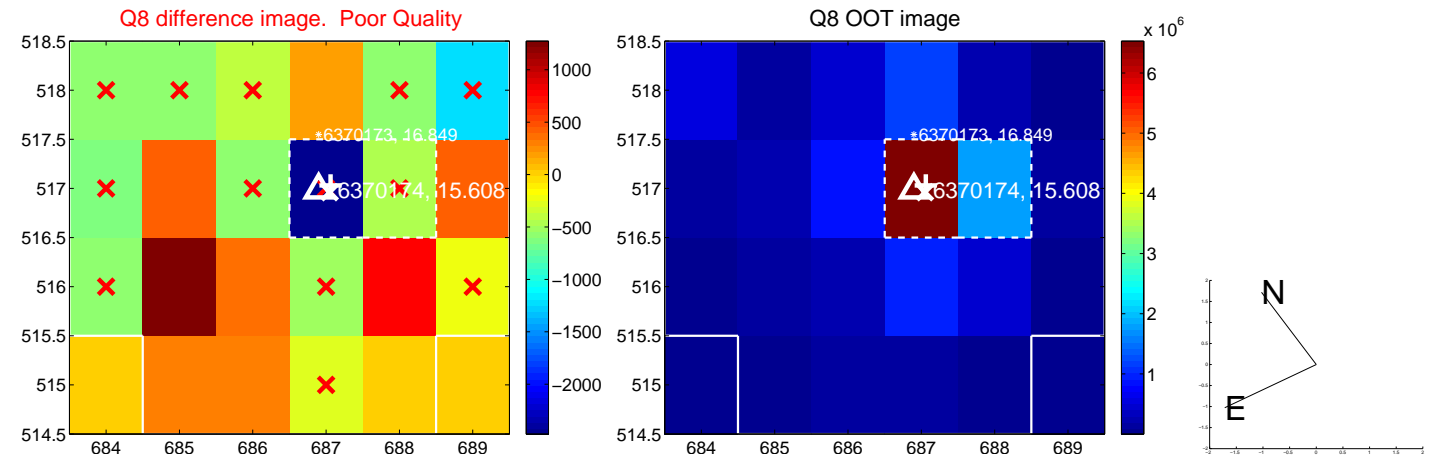
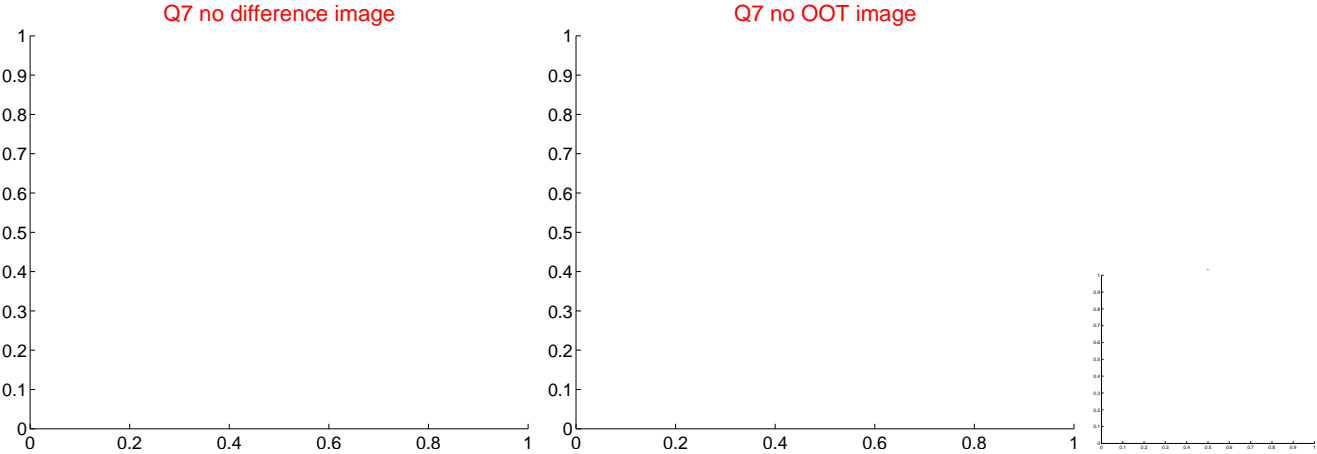
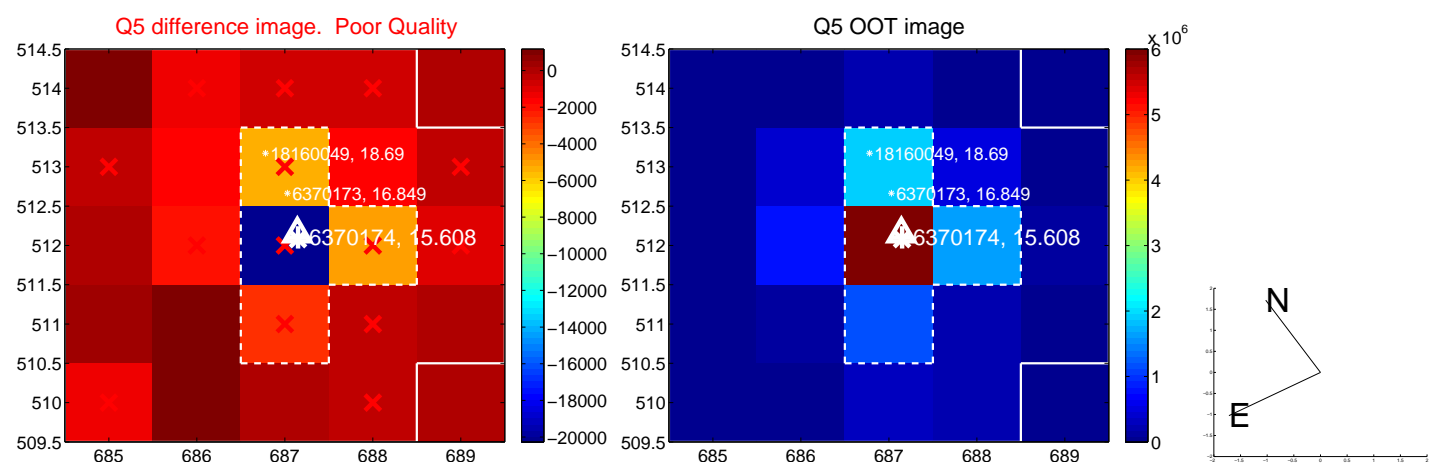


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

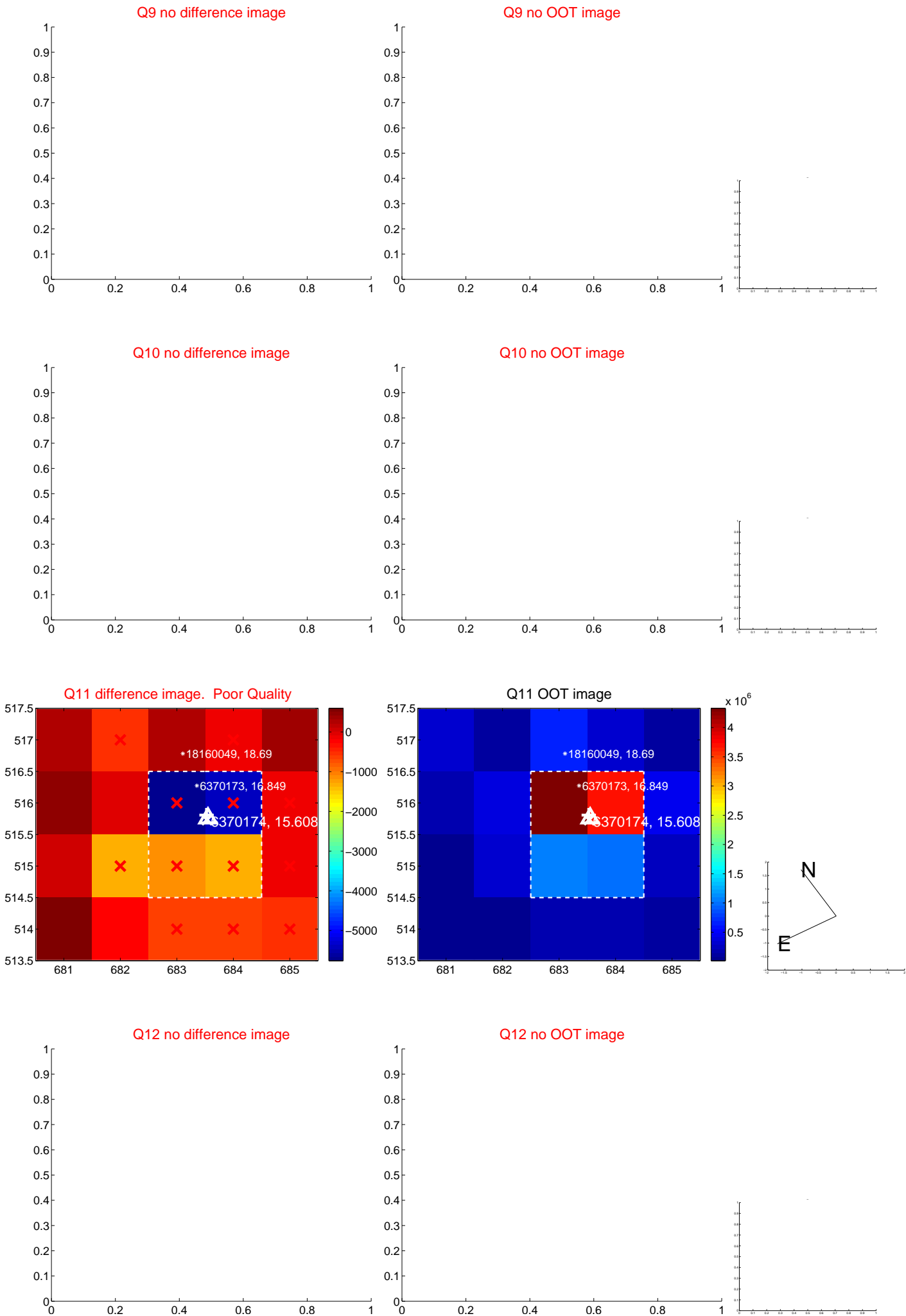
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



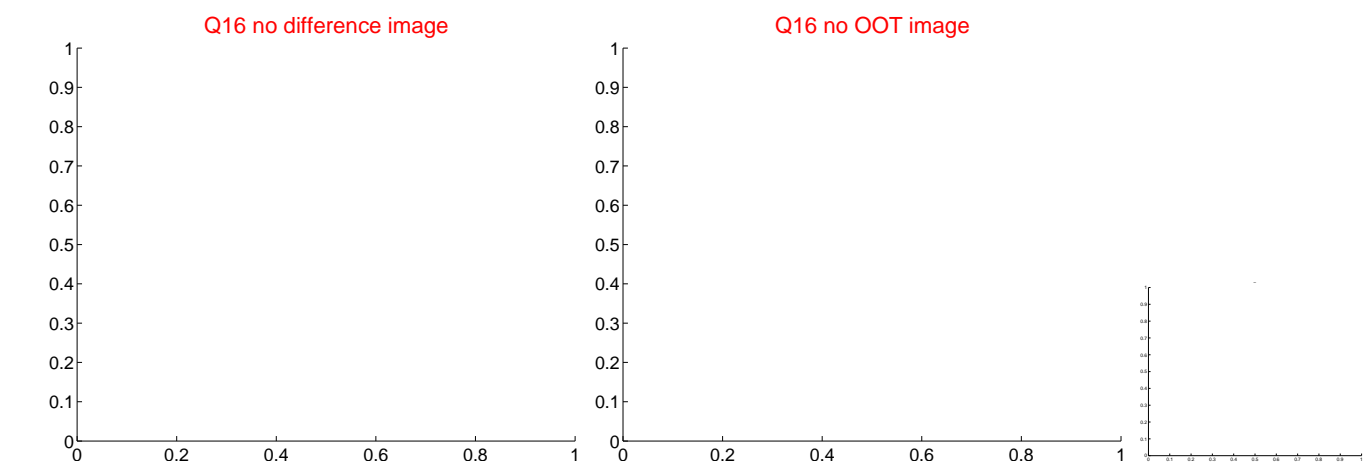
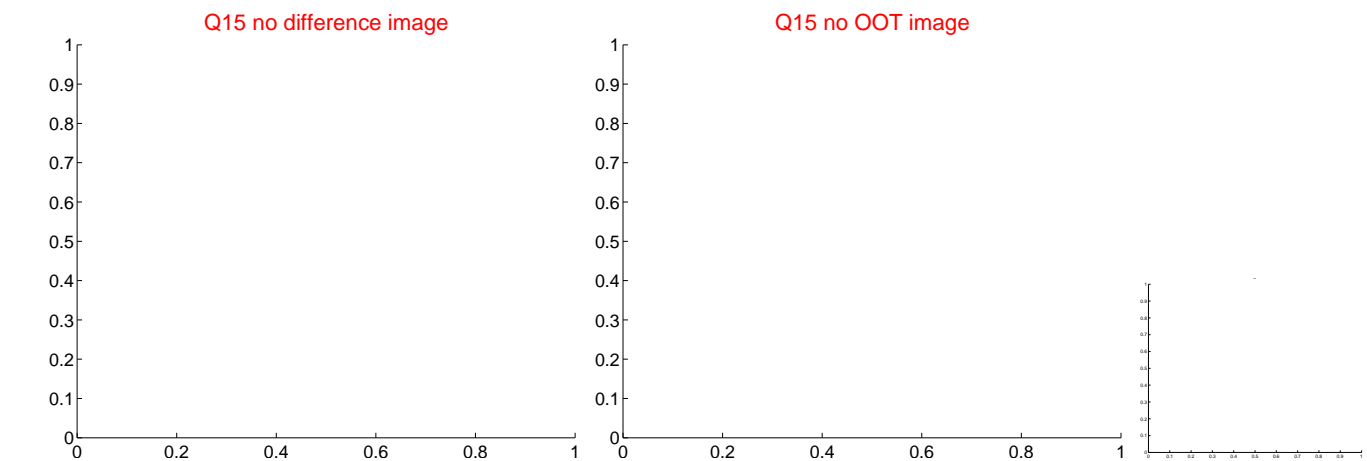
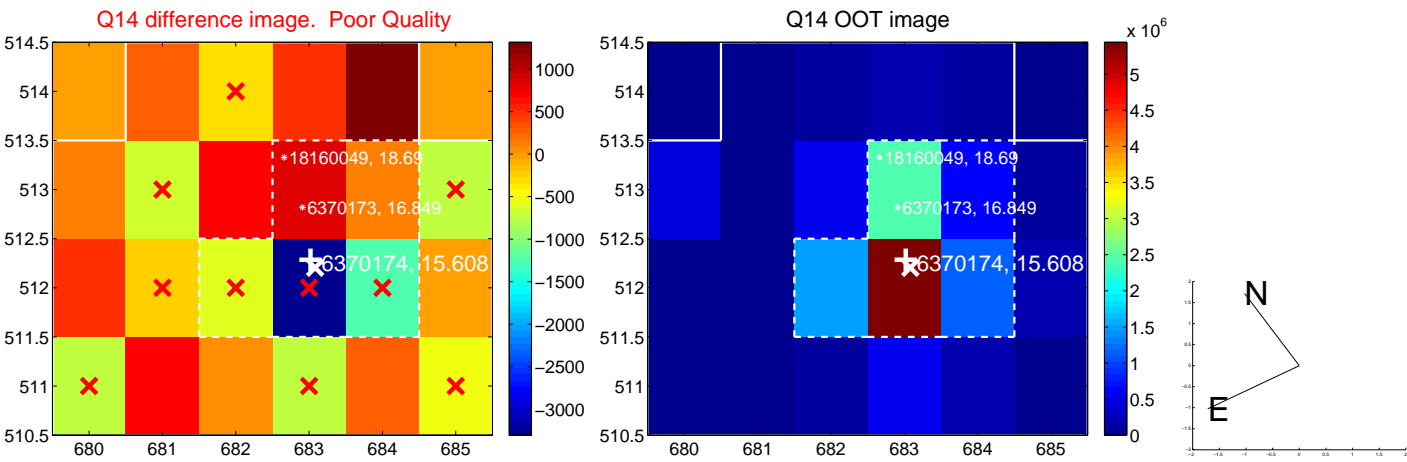
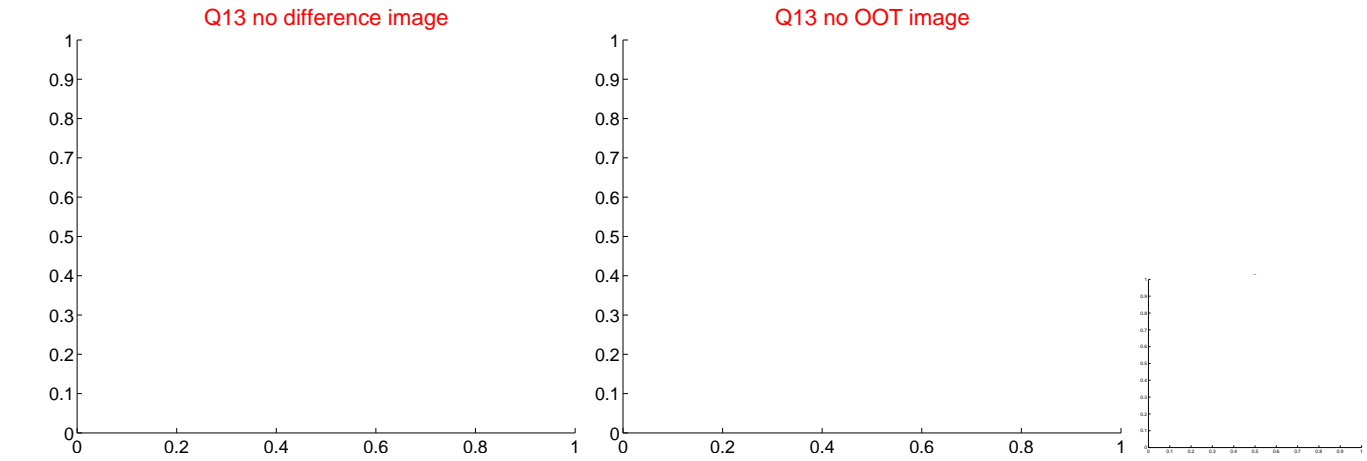
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



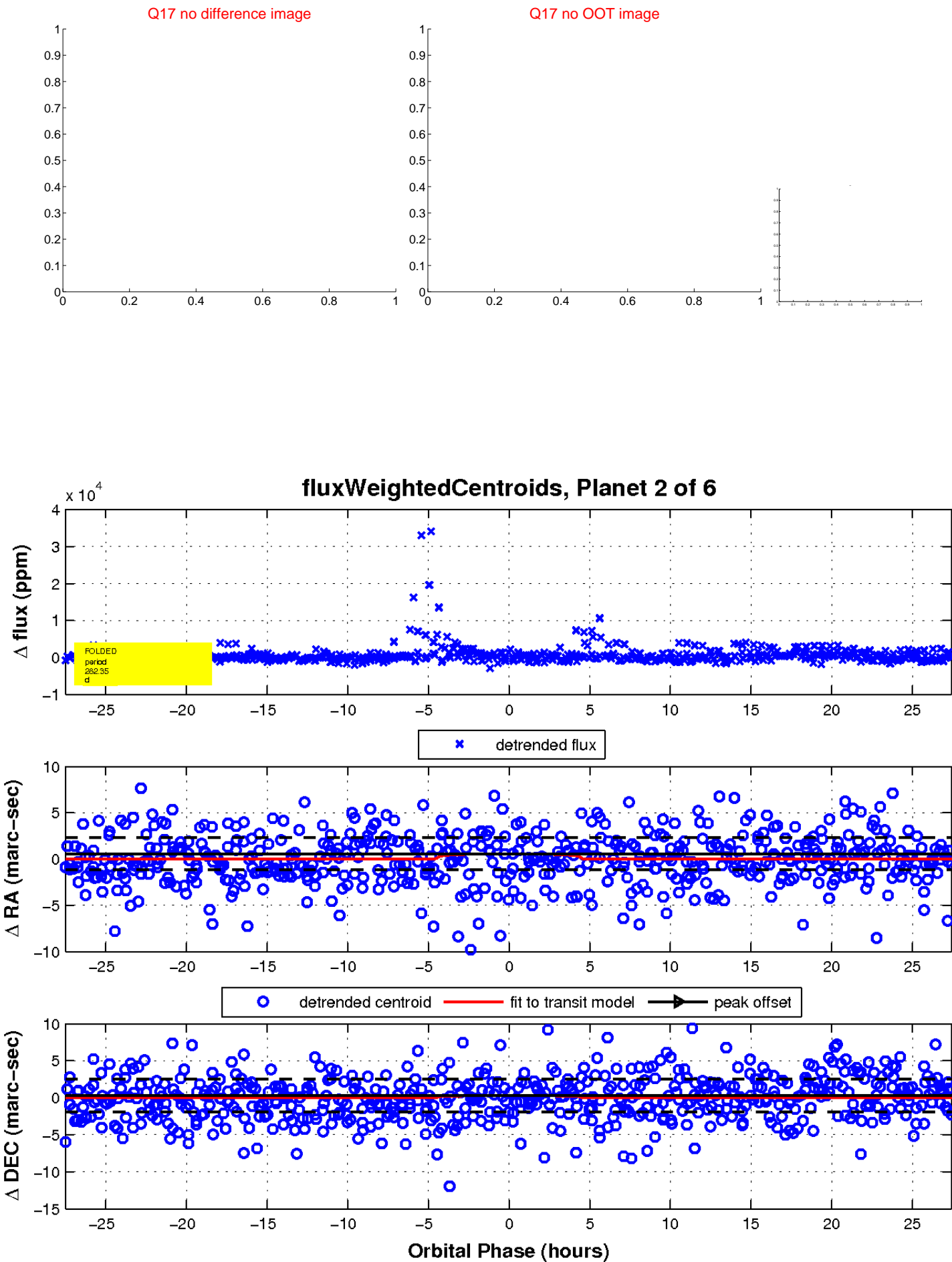
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

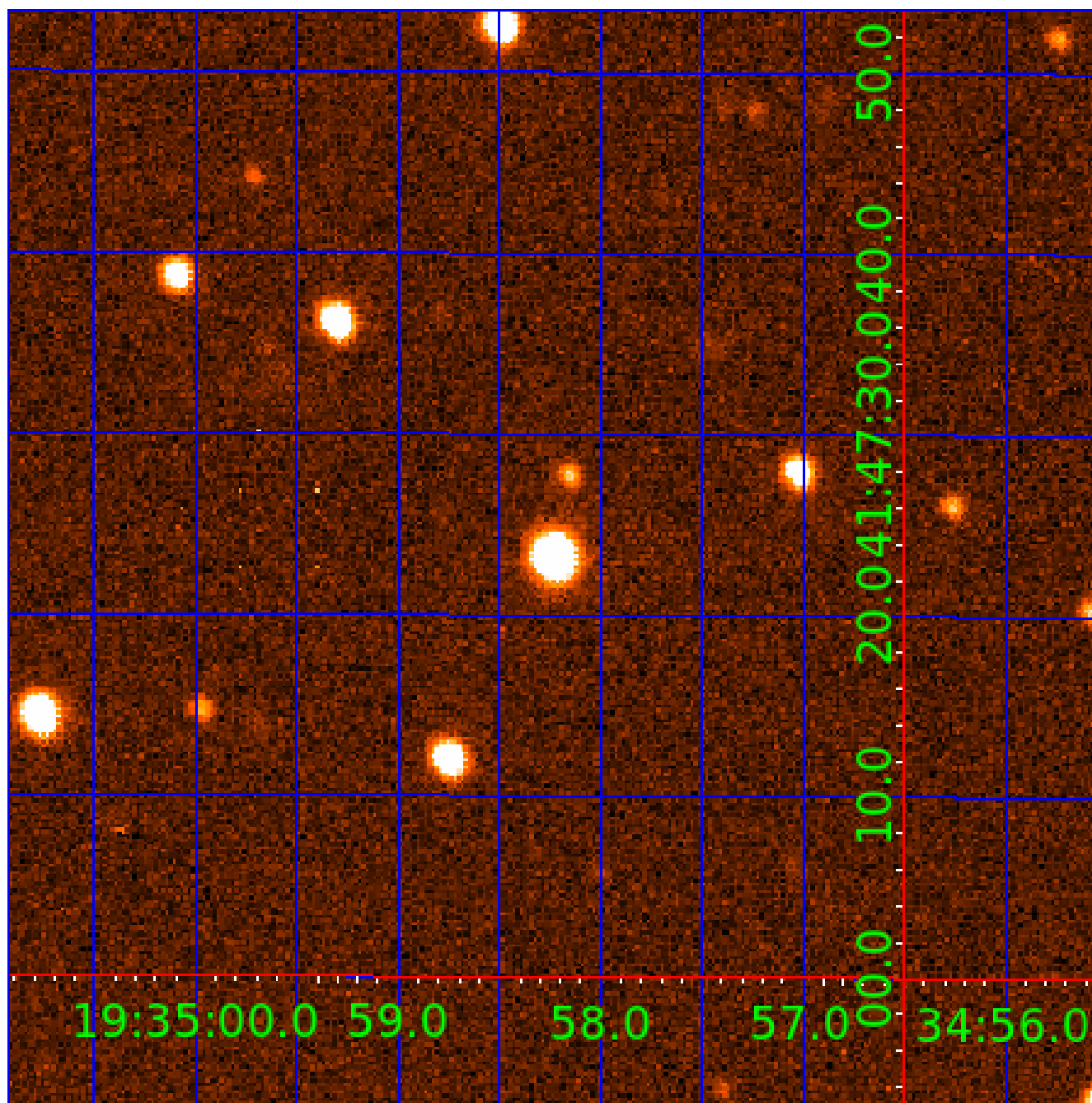


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006370174

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})
006370174-01	OBS	No	452.506777	542.866625	1692.9	10.366	11.5	5.8	0.31	3396	1.33	0.02
006370174-02	OBS	No	282.354856	235.150599	1138.0	9.180	11.2	5.2	0.31	3396	1.05	0.04
006370174-03	OBS	No	519.436410	422.308527	2030.3	19.247	12.0	7.1	0.31	3396	1.39	0.02
006370174-04	OBS	No	1.721220	131.565438	269.3	6.297	10.1	14.6	0.31	3396	0.53	32.58
006370174-05	OBS	No	232.409796	261.713036	1703.1	11.749	14.6	8.8	0.31	3396	1.28	0.05
006370174-06	OBS	No	224.987118	134.923398	1777.0	10.500	13.9	-1.0	0.31	3396	1.31	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006370174-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-03	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
006370174-04	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006370174-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006370174-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

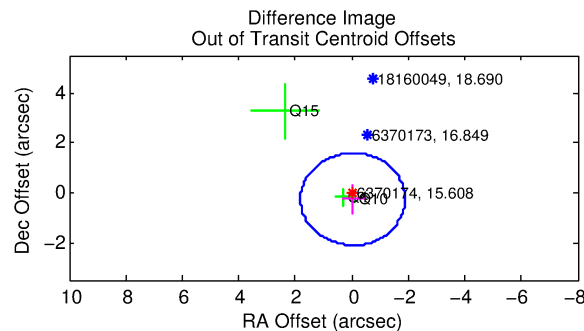
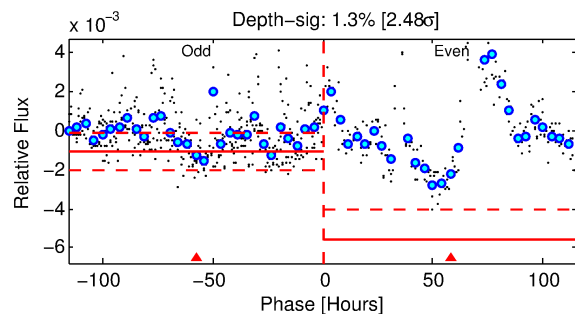
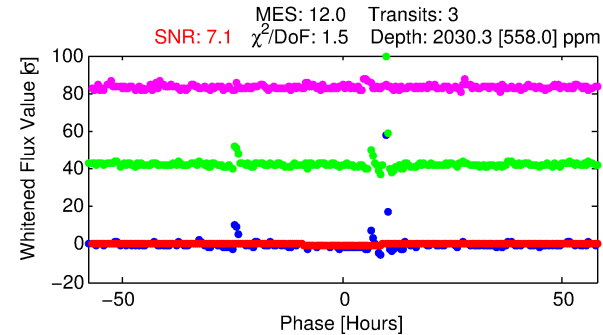
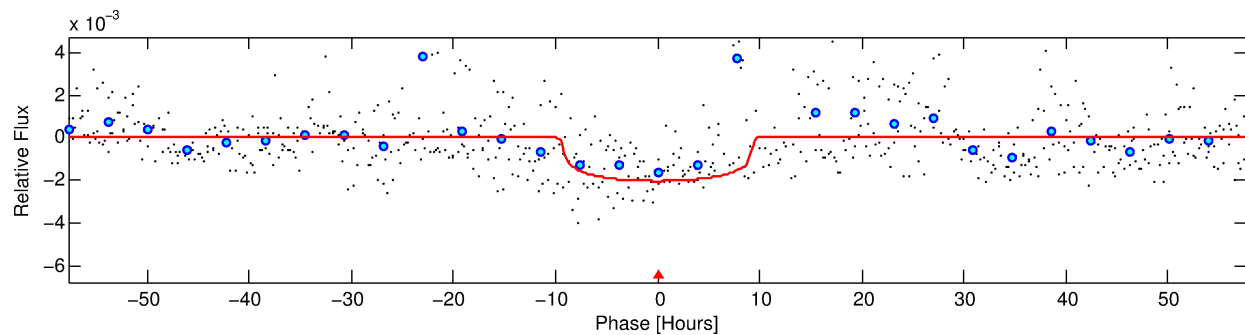
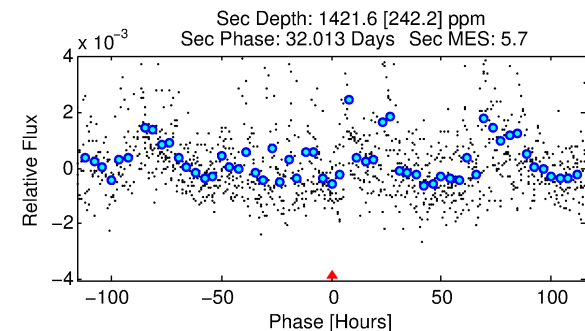
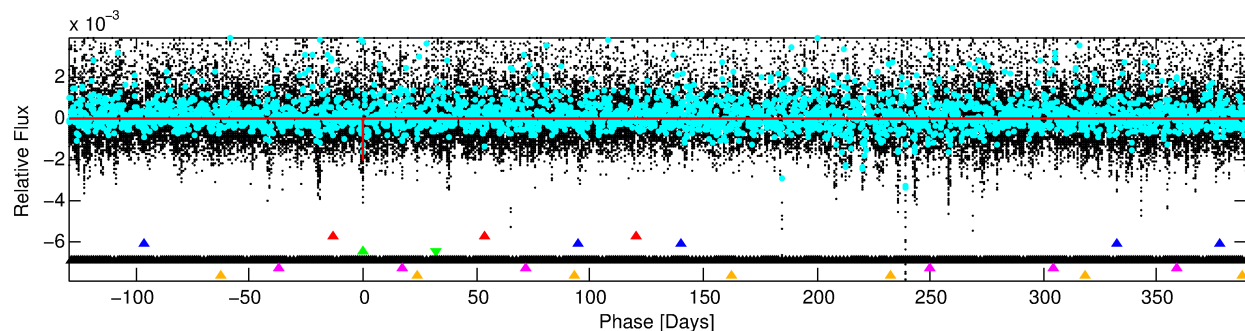
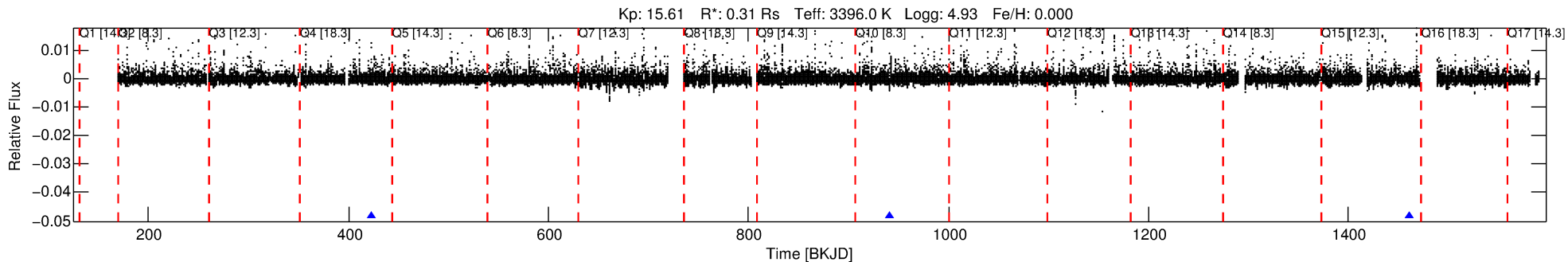
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006370174-03

No Significant Match Found

DV One-Page Summary

KIC: 6370174 Candidate: 3 of 6 Period: 519.436 d



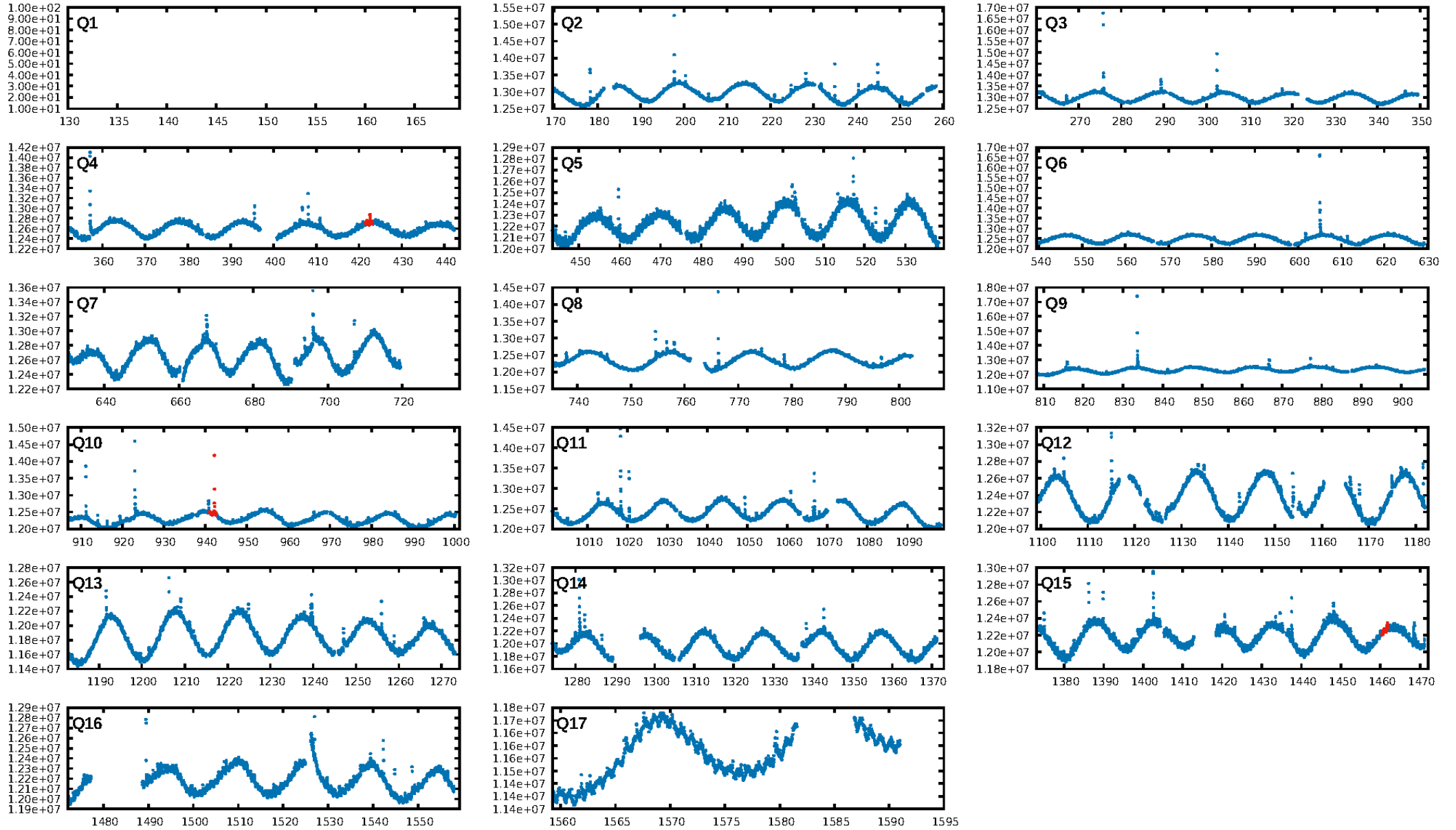
DV Fit Results:

Period = 519.43641 [0.02091] d
Epoch = 422.3085 [0.0274] BKJD
Rp/R* = 0.0407 [0.0166]
a/R* = 214.56 [339.01]
b = 0.00 [382.80]
Seff = 0.02 [0.00]
Teq = 91 [3] K
Rp = 1.39 [0.60] Re
a = 0.8544 [0.0876] AU
Ag = 293863.45 [248194.61] [1.18σ]
Teffp = 3269 [685] K [4.64σ]

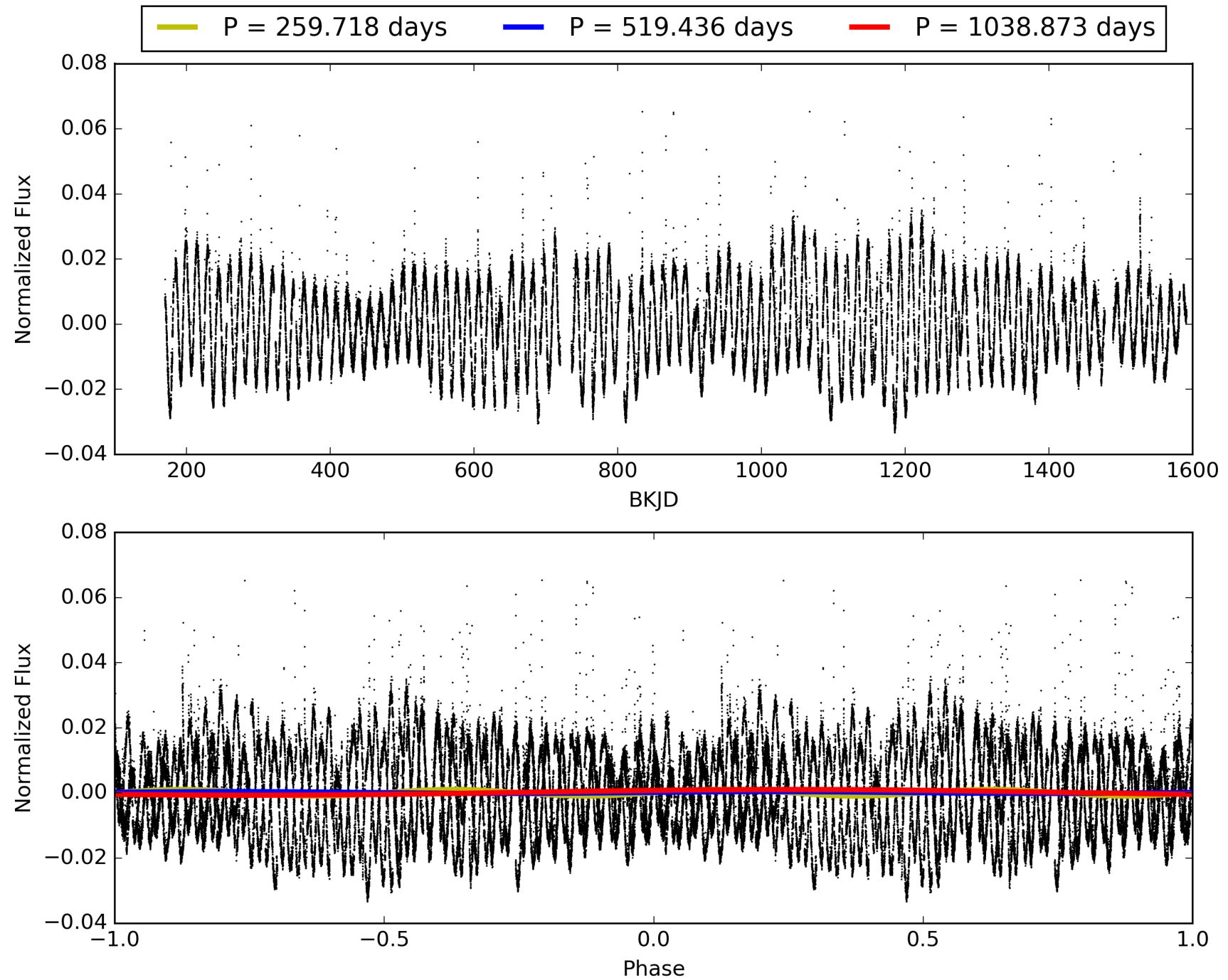
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [73.48σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 38.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8869
Centroid-sig: 0.3%
Centroid-so: 0.872 arcsec [1.54σ]
OotOffset-rm: 0.265 arcsec [0.43σ]
KicOffset-rm: 0.054 arcsec [0.08σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/3]

TCE 006370174-03, PDC Light Curves

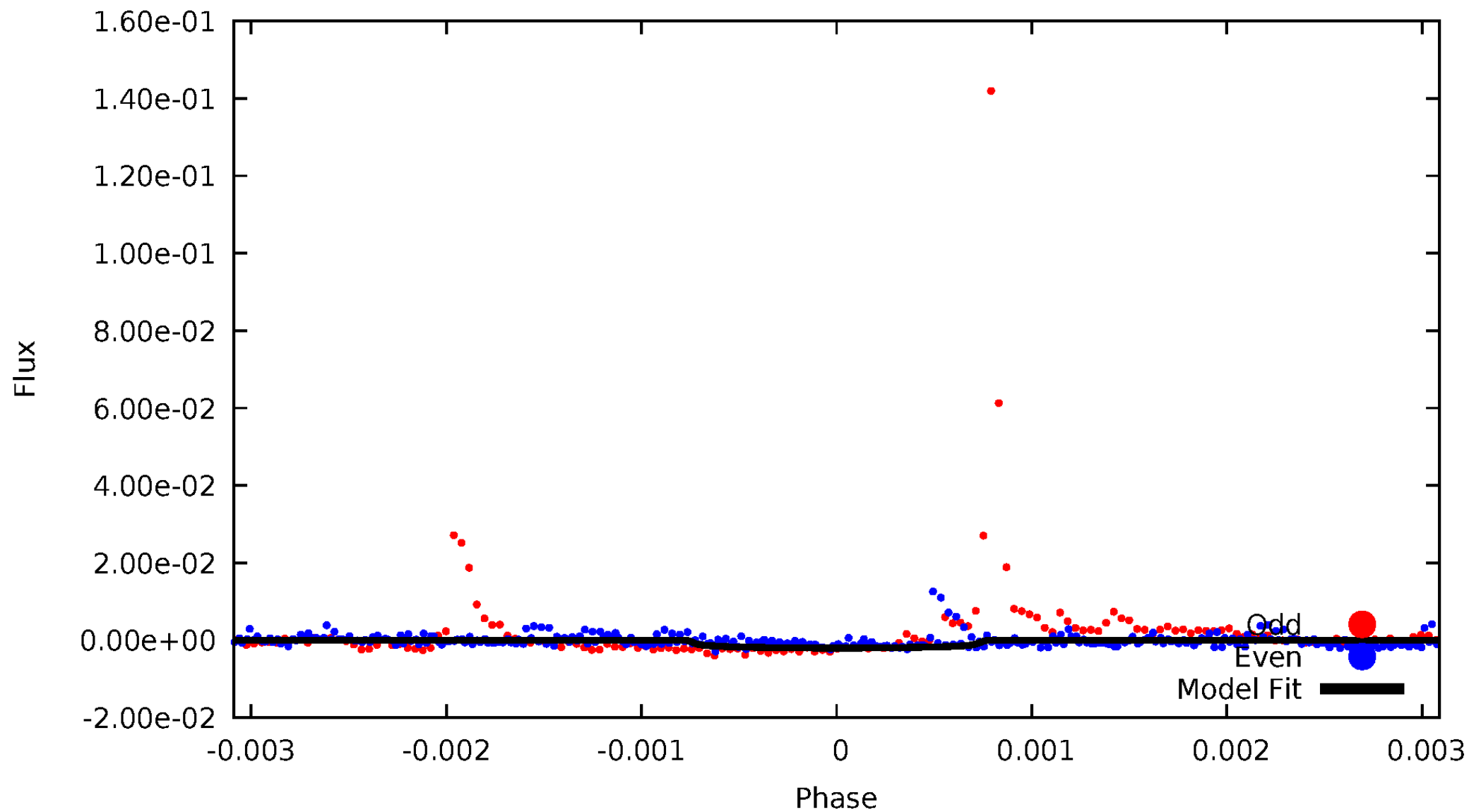


TCE 006370174-03



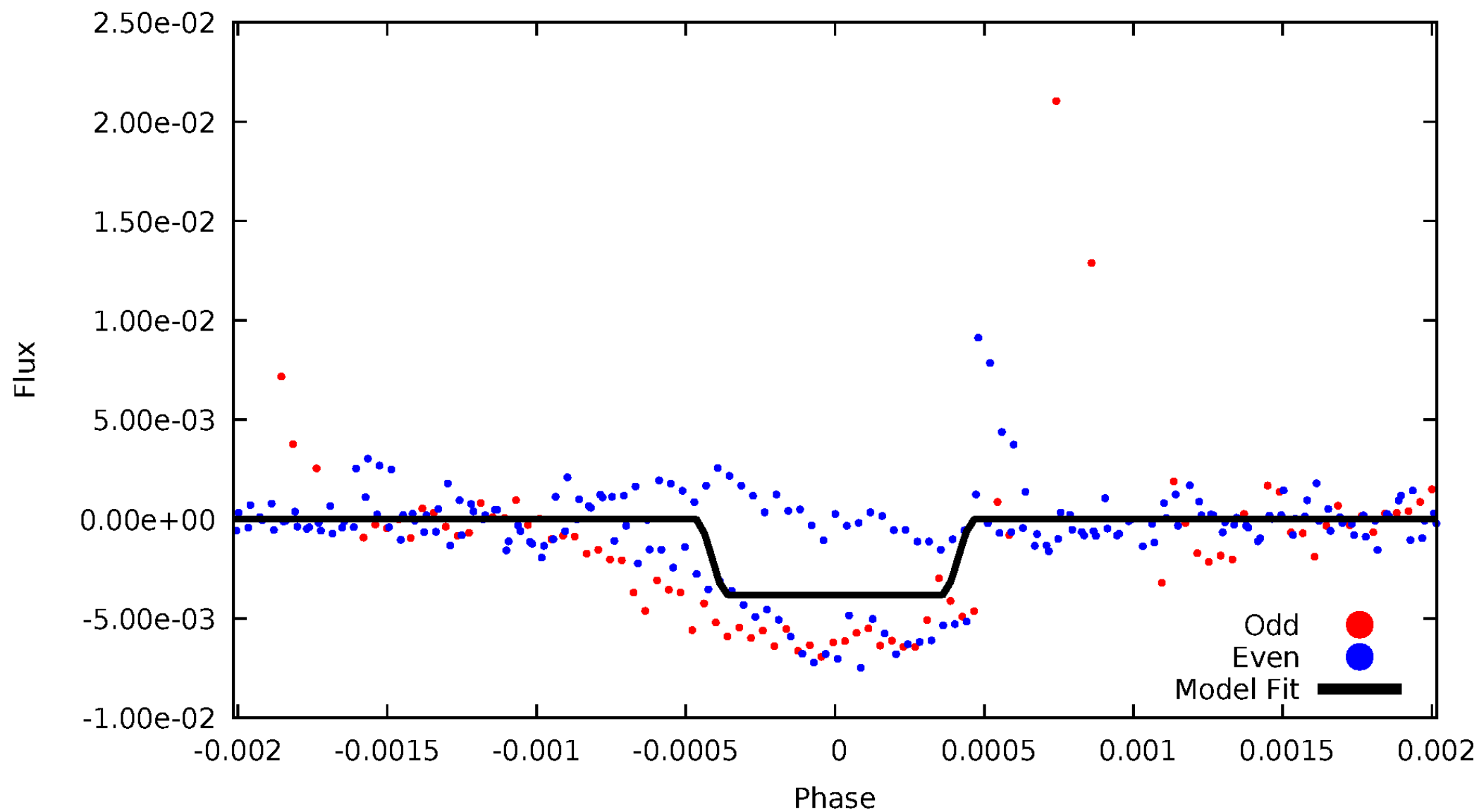
DV Odd/Even

TCE 006370174-03



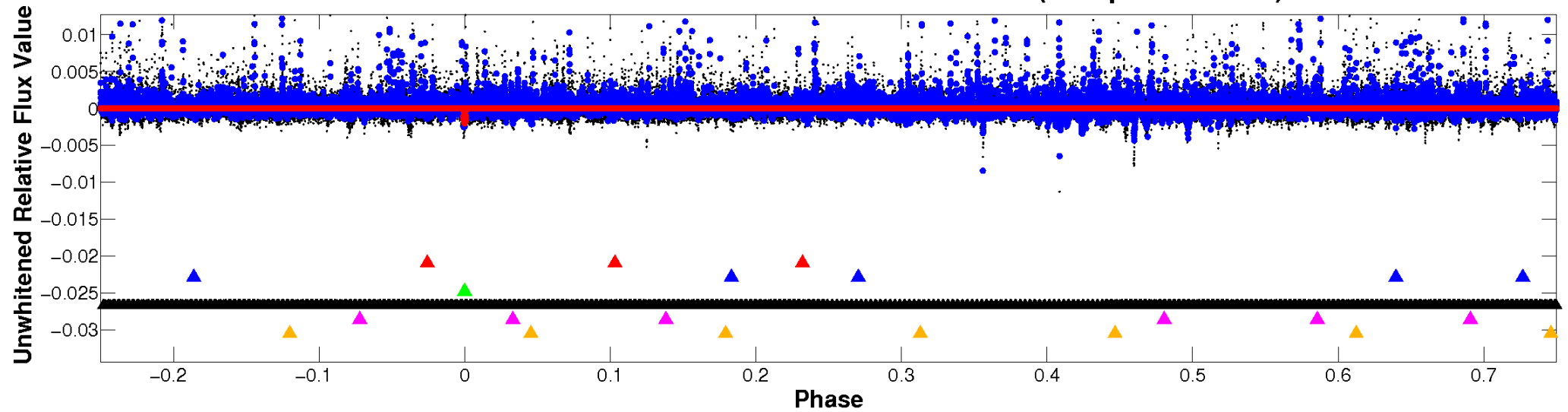
ALT Odd/Even

TCE 006370174-03

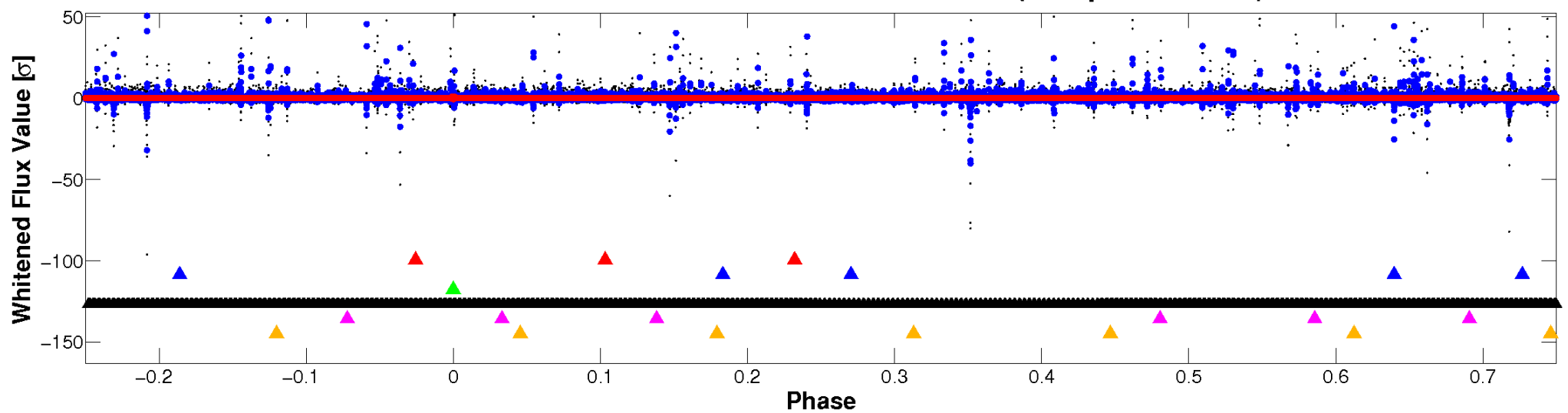


Non-Whitened Vs. Whitened Light Curve

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

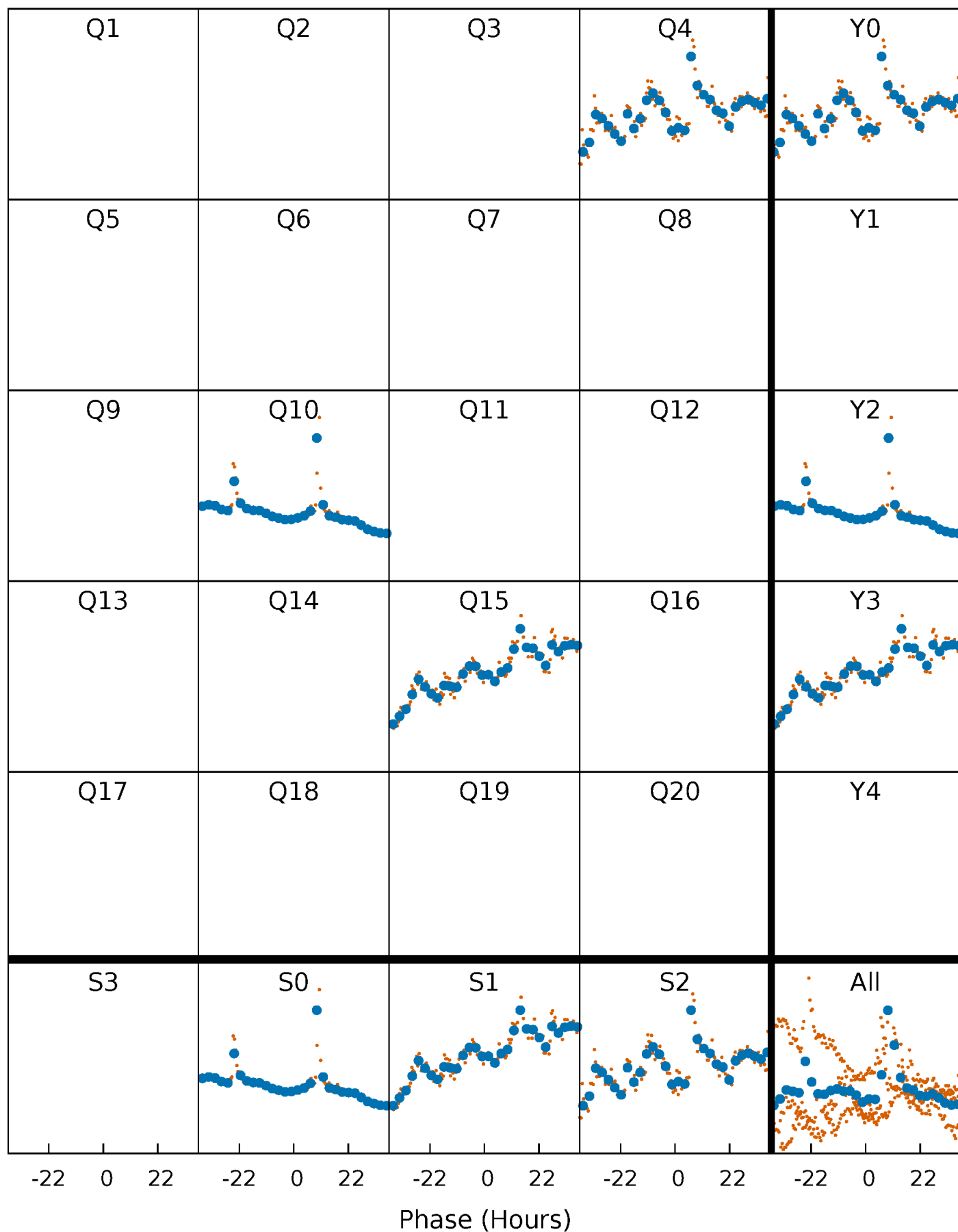


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



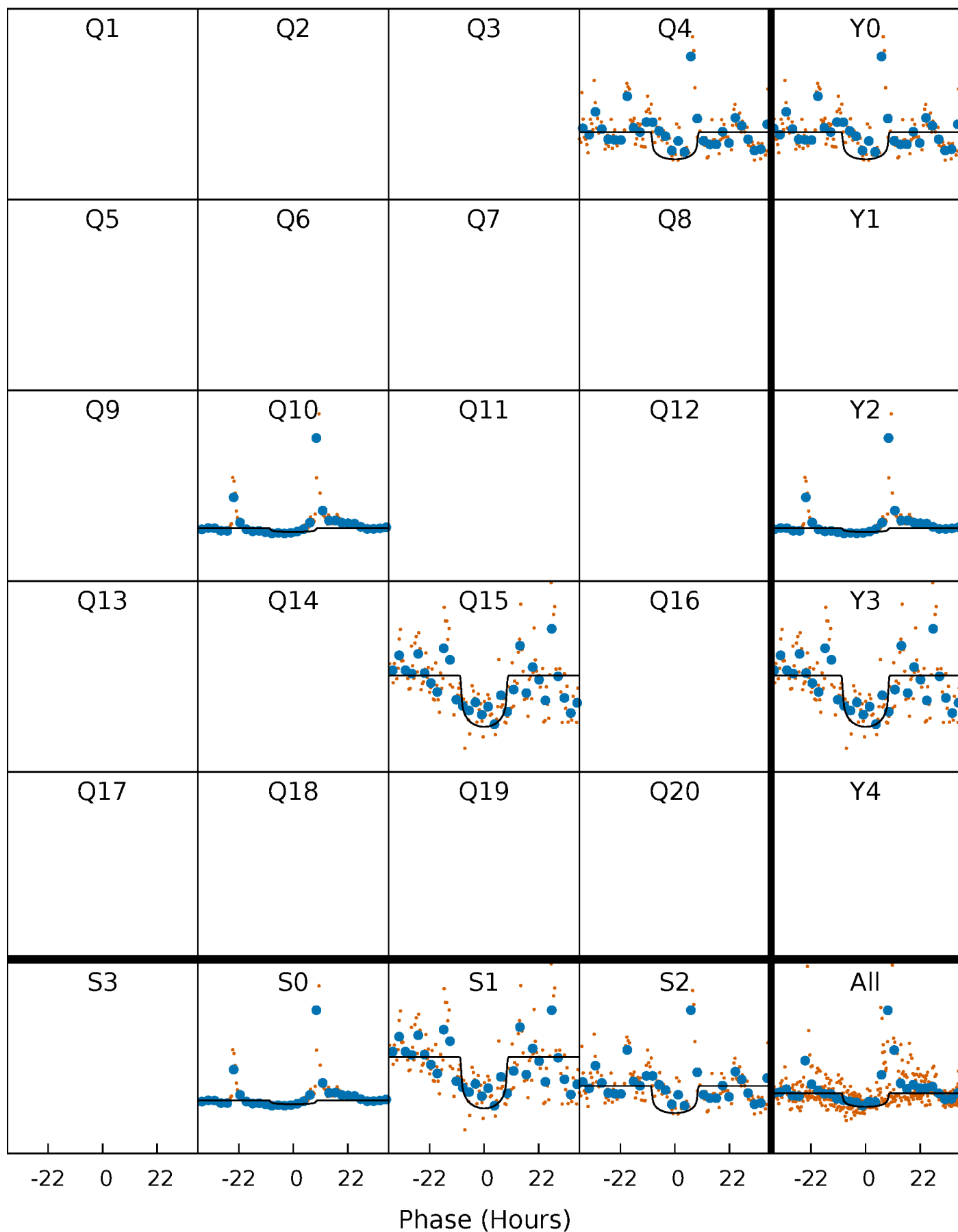
PDC Quarter-Phased Transit Curves

TCE 006370174-03 P=519.436410 Days $T_0=422.308527$ (BKJD)



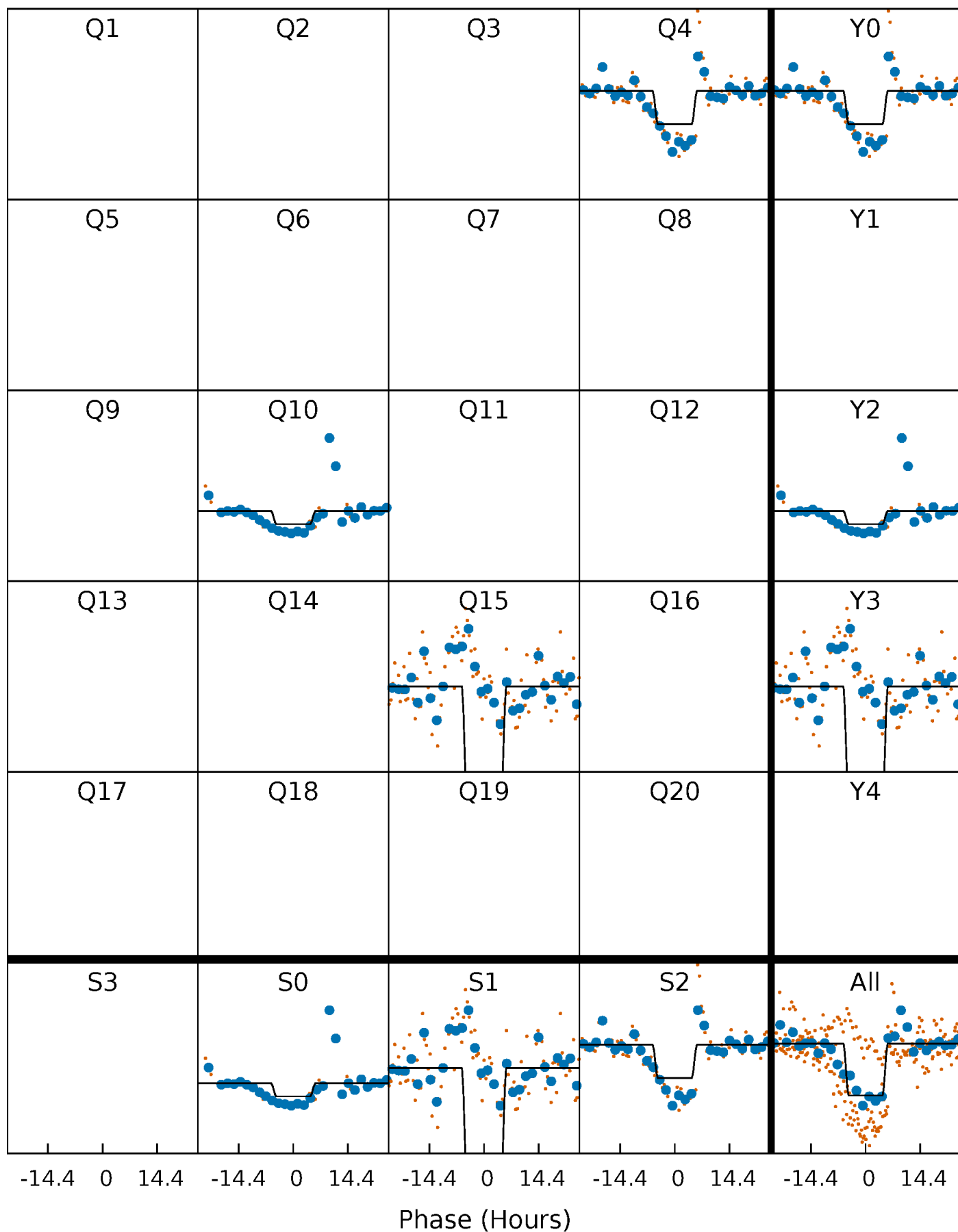
DV Quarter-Phased Transit Curves

TCE 006370174-03 $P=519.436410$ Days $T_0=422.308527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

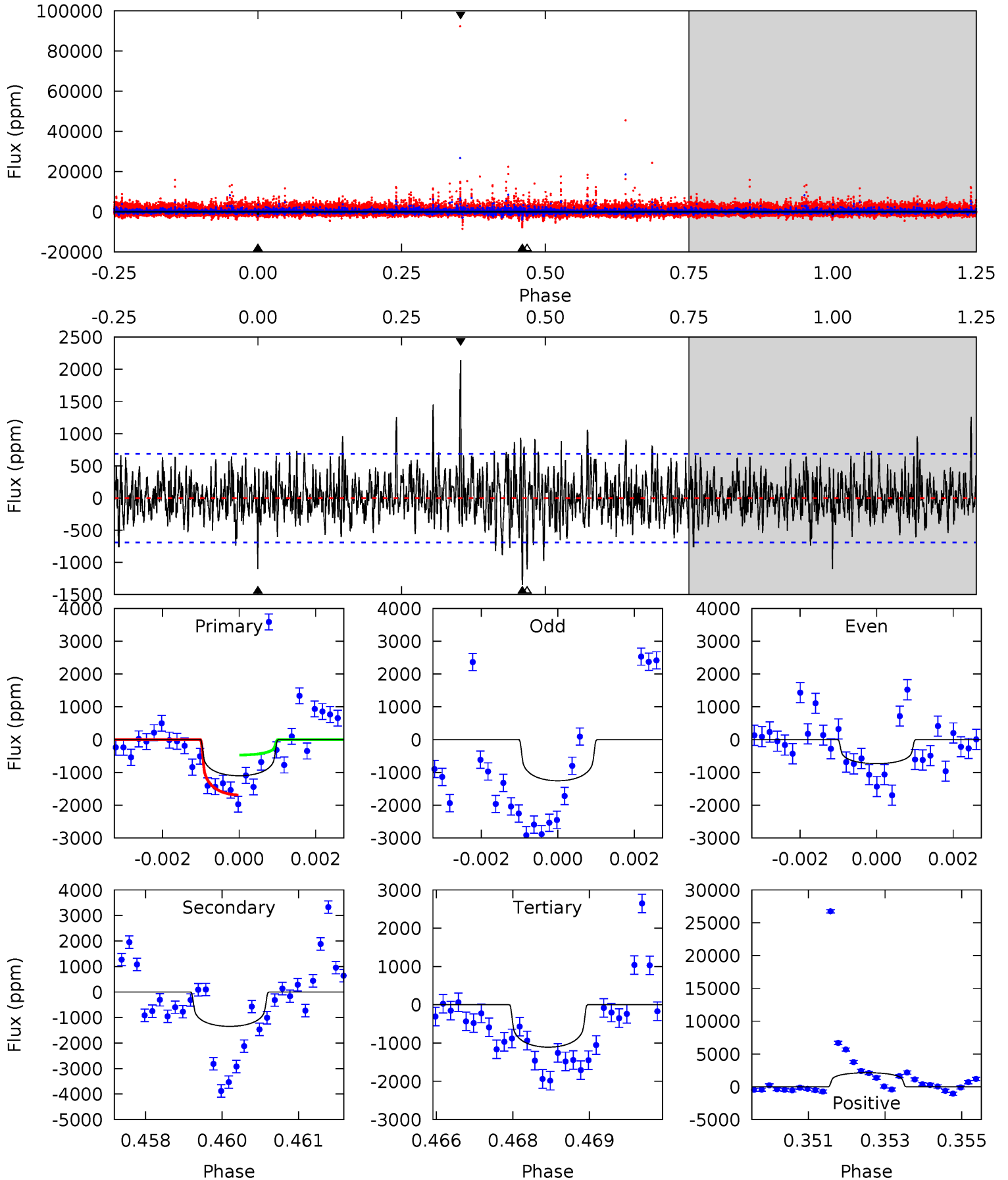
TCE 006370174-03 P=519.434718 Days $T_0=422.316009$ (BKJD)



DV Model-Shift Uniqueness Test

006370174-03, P = 519.436410 Days, E = 422.308527 Days

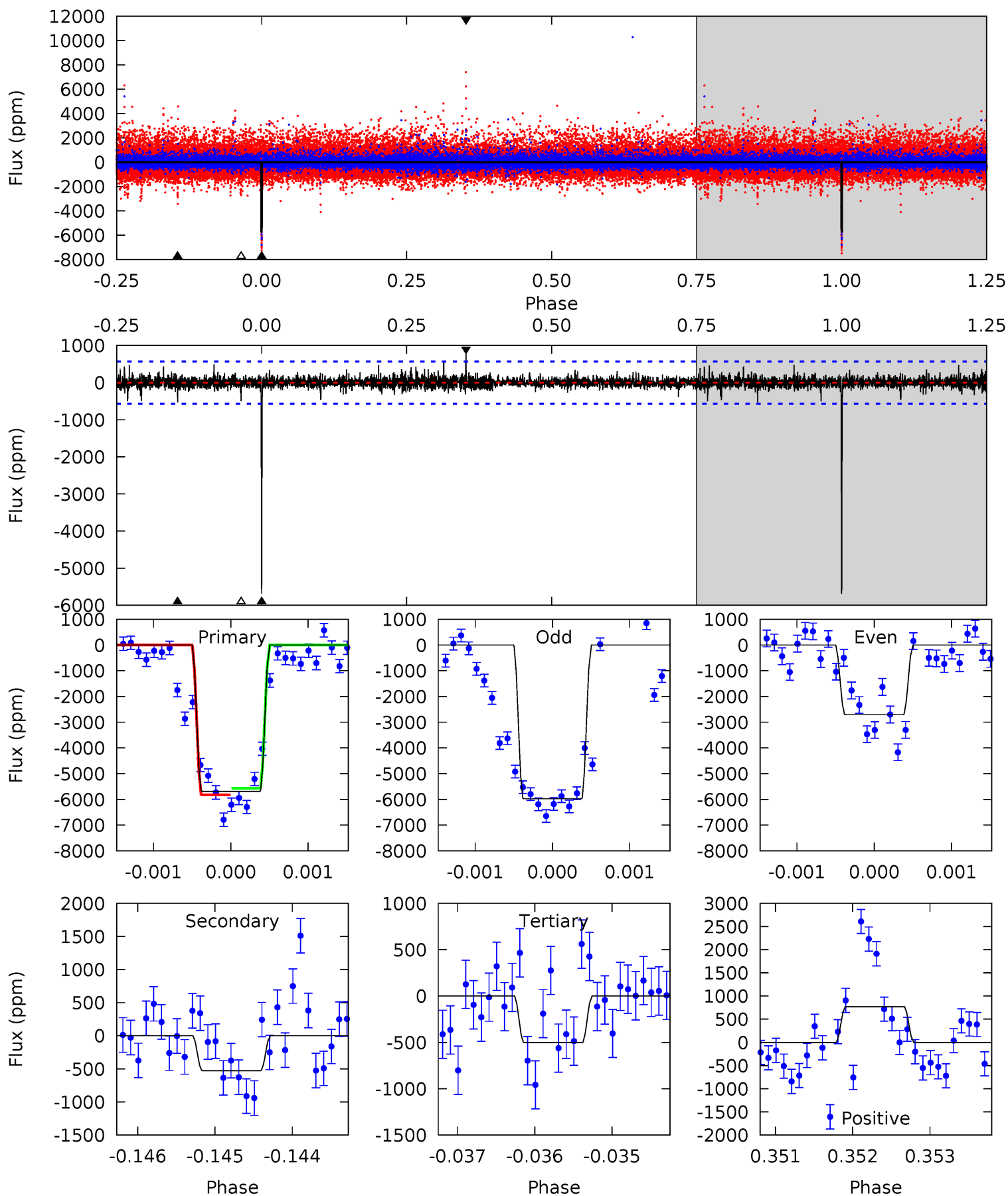
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.59	10.5	8.64	16.7	5.37	3.17	2.31	-0.05	-8.09	1.86	-6.18	0.82	0.62	0.61	4.71



Alt Model-Shift Uniqueness Test

006370174-03, P = 519.434718 Days, E = 422.316009 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.6	5.07	4.82	7.39	5.46	3.31	0.88	49.7	47.2	0.25	-2.32	14.6	0.67	0.12	1.26



Stellar Parameters For KIC 006370174

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3396^{+54}_{-54}	$4.933^{+0.055}_{-0.040}$	$0.000^{+0.100}_{-0.100}$	$0.314^{+0.040}_{-0.044}$	$0.308^{+0.053}_{-0.048}$	$14.020^{+4.687}_{-2.449}$
	+2%/-2%	+1%/-1%	+inf%/-inf%	+13%/-14%	+17%/-16%	+33%/-17%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 006370174-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1346 ± 128	$1.44^{+0.56}_{-0.59}$	127^{+4}_{-3}	3265^{+590}_{-292}	$265934^{+476031}_{-130437}$
Alt.	-528 ± 104	$2.11^{+0.57}_{-0.60}$	127^{+3}_{-3}	2589^{+216}_{-164}	48983^{+43165}_{-20219}

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

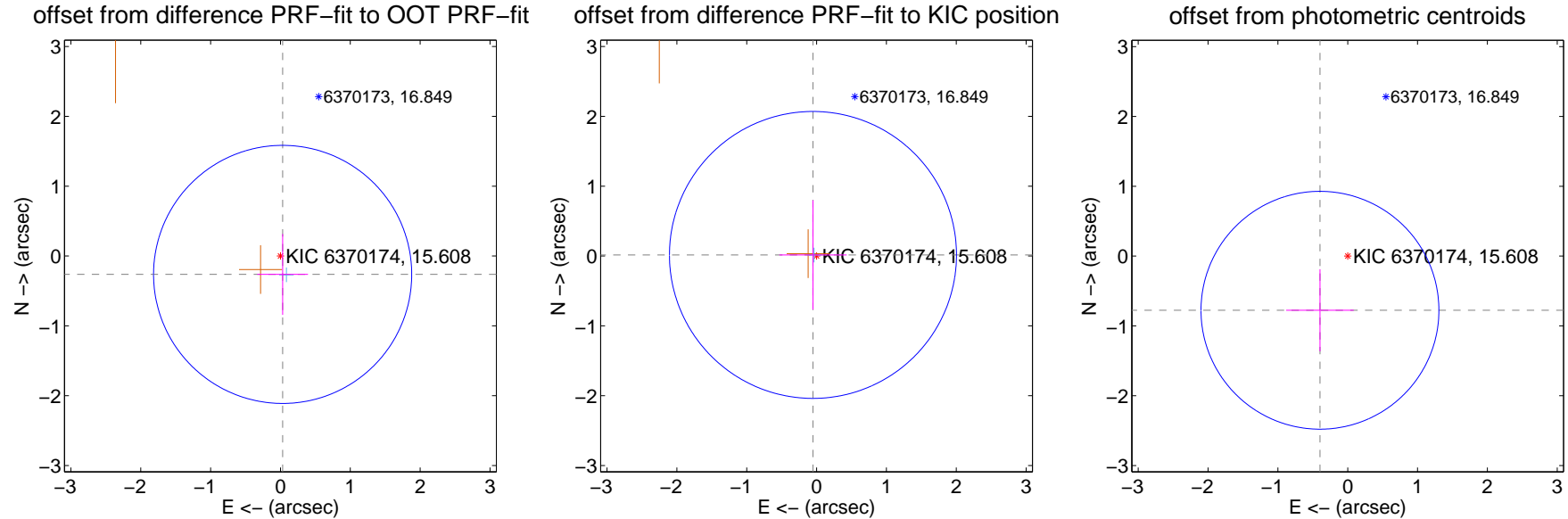
DV Centroid Data

Supplemental centroid analysis for 006370174-03. Kepler magnitude: 15.61. Transit SNR 7.06

There are 1 quarters with good PRF difference image offsets

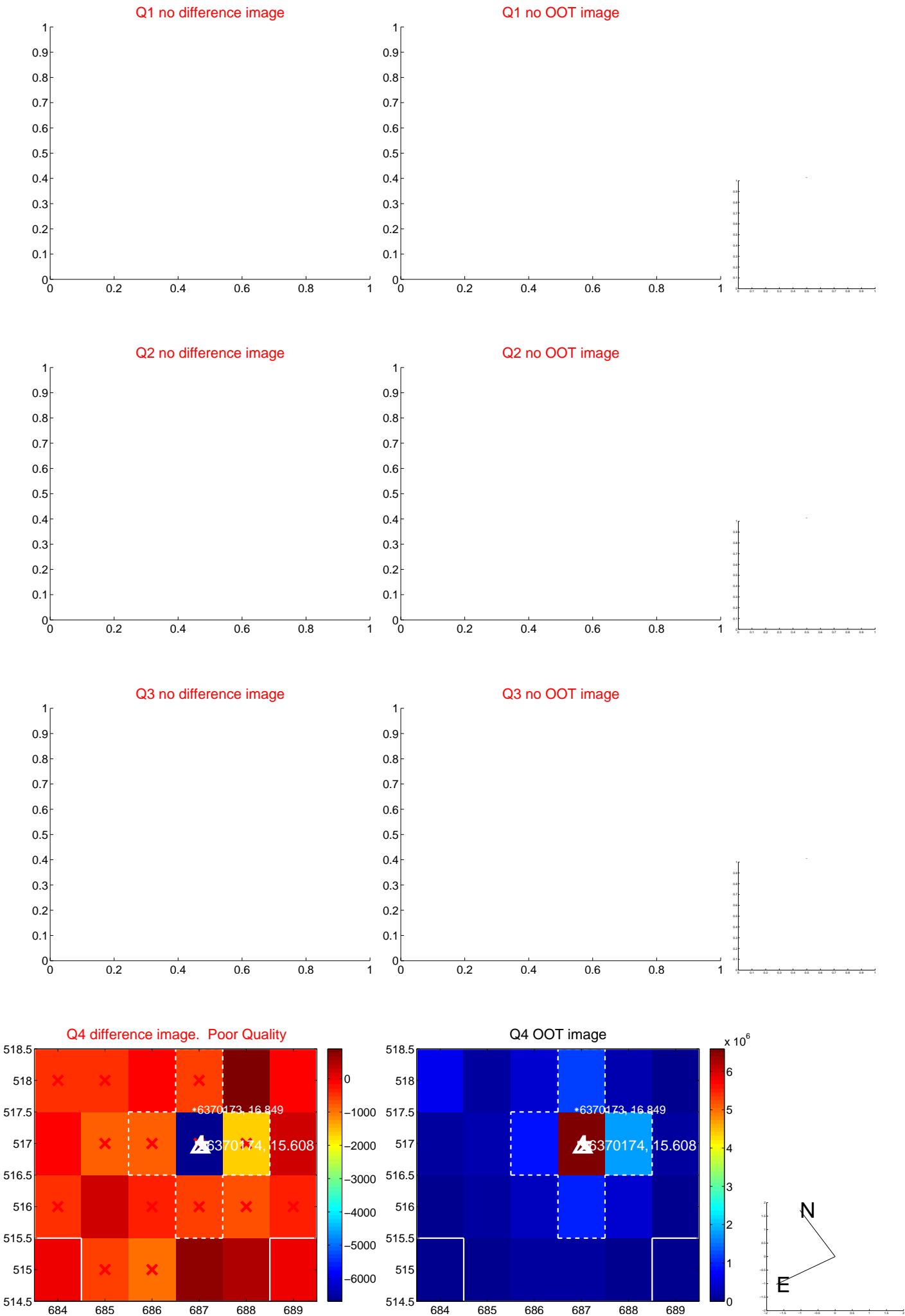
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.265 ± 0.616	0.43	-0.031 ± 0.363	-0.263 ± 0.579
PRF-fit source offset from KIC position	0.054 ± 0.685	0.08	0.052 ± 0.482	0.016 ± 0.782
photometric centroid source offset	0.87 ± 0.57	1.54	0.40 ± 0.48	-0.78 ± 0.59



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.

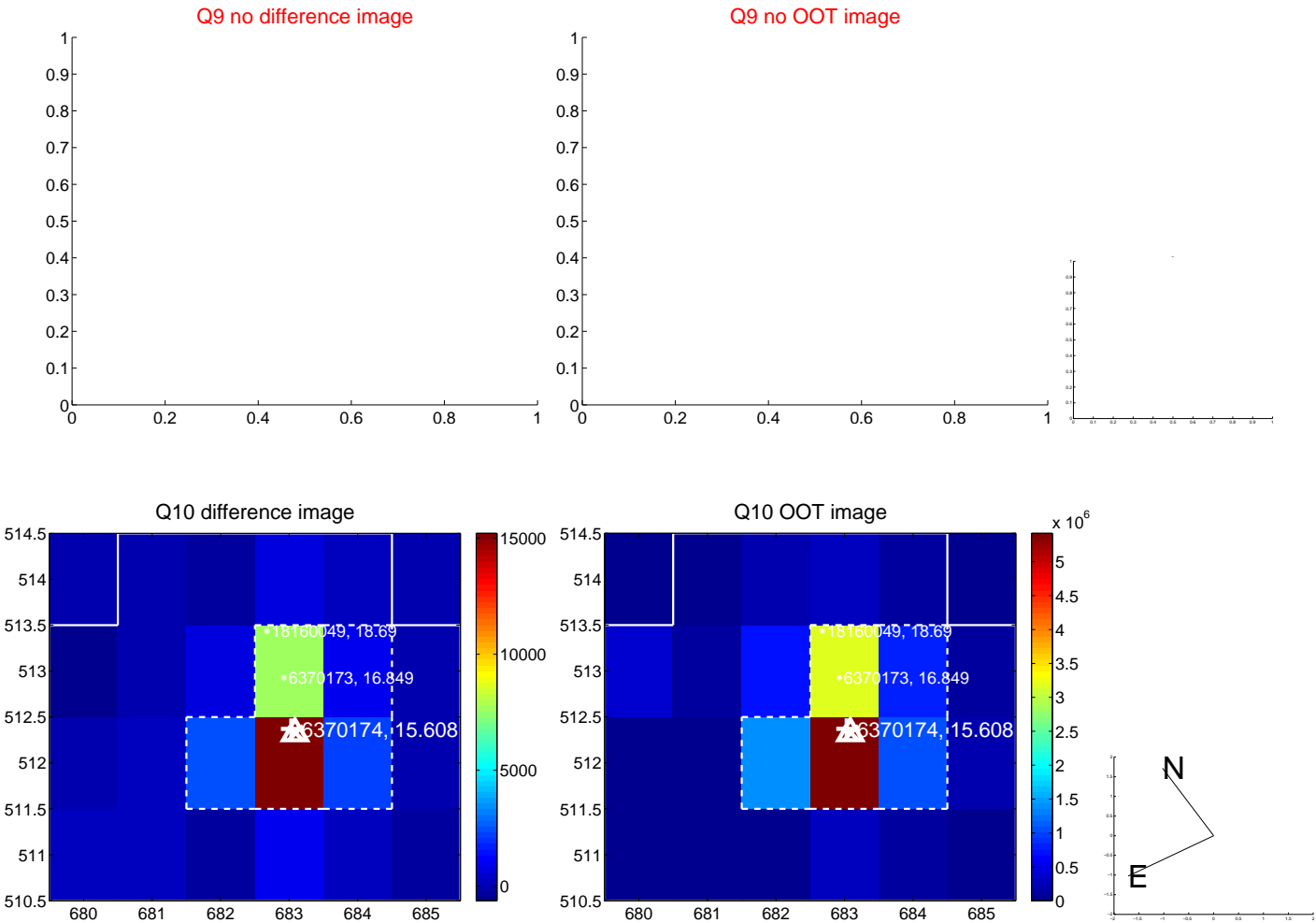
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



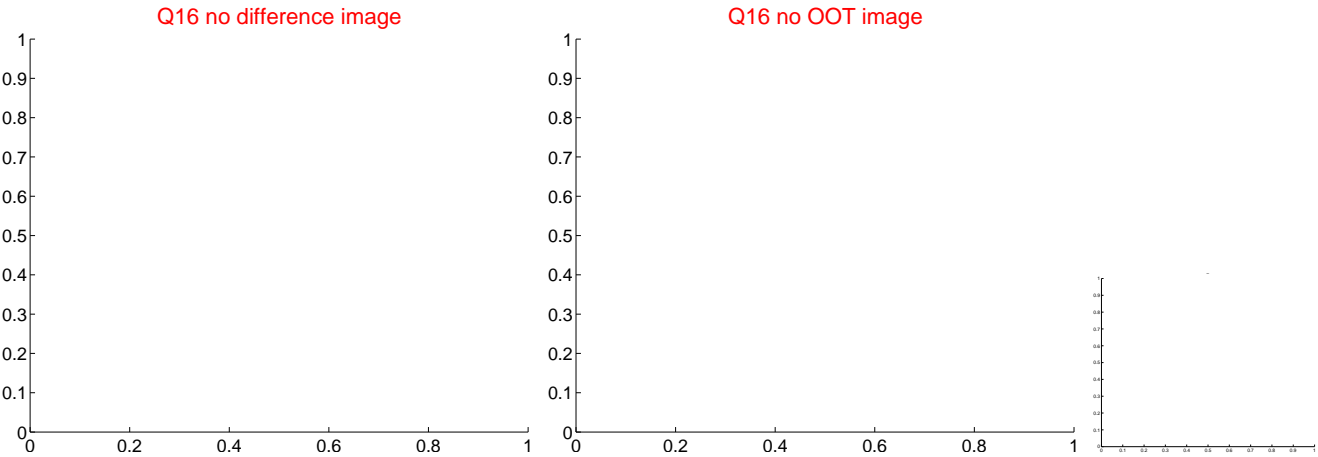
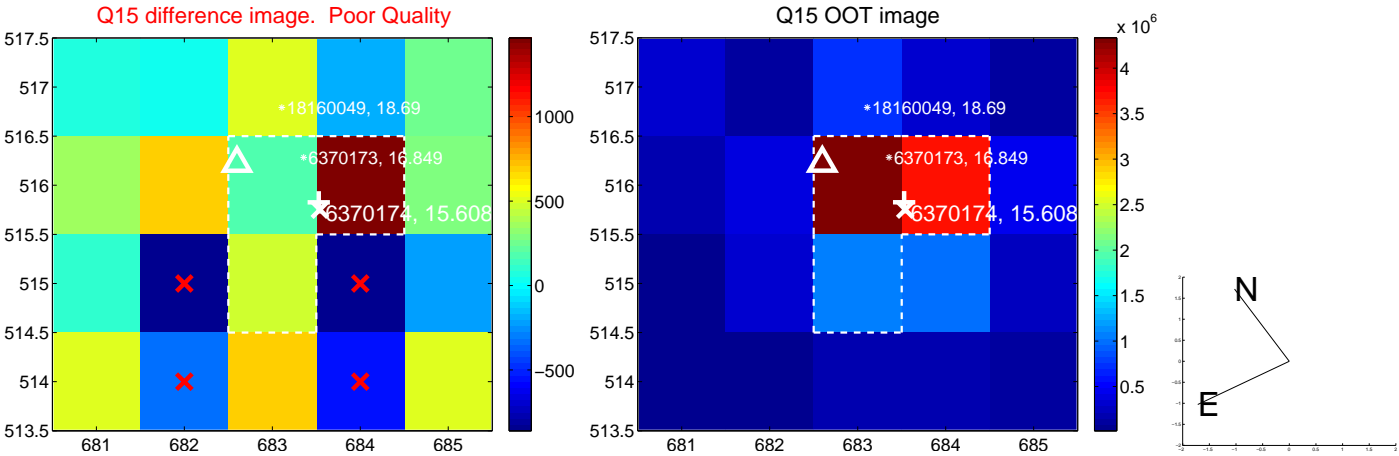
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



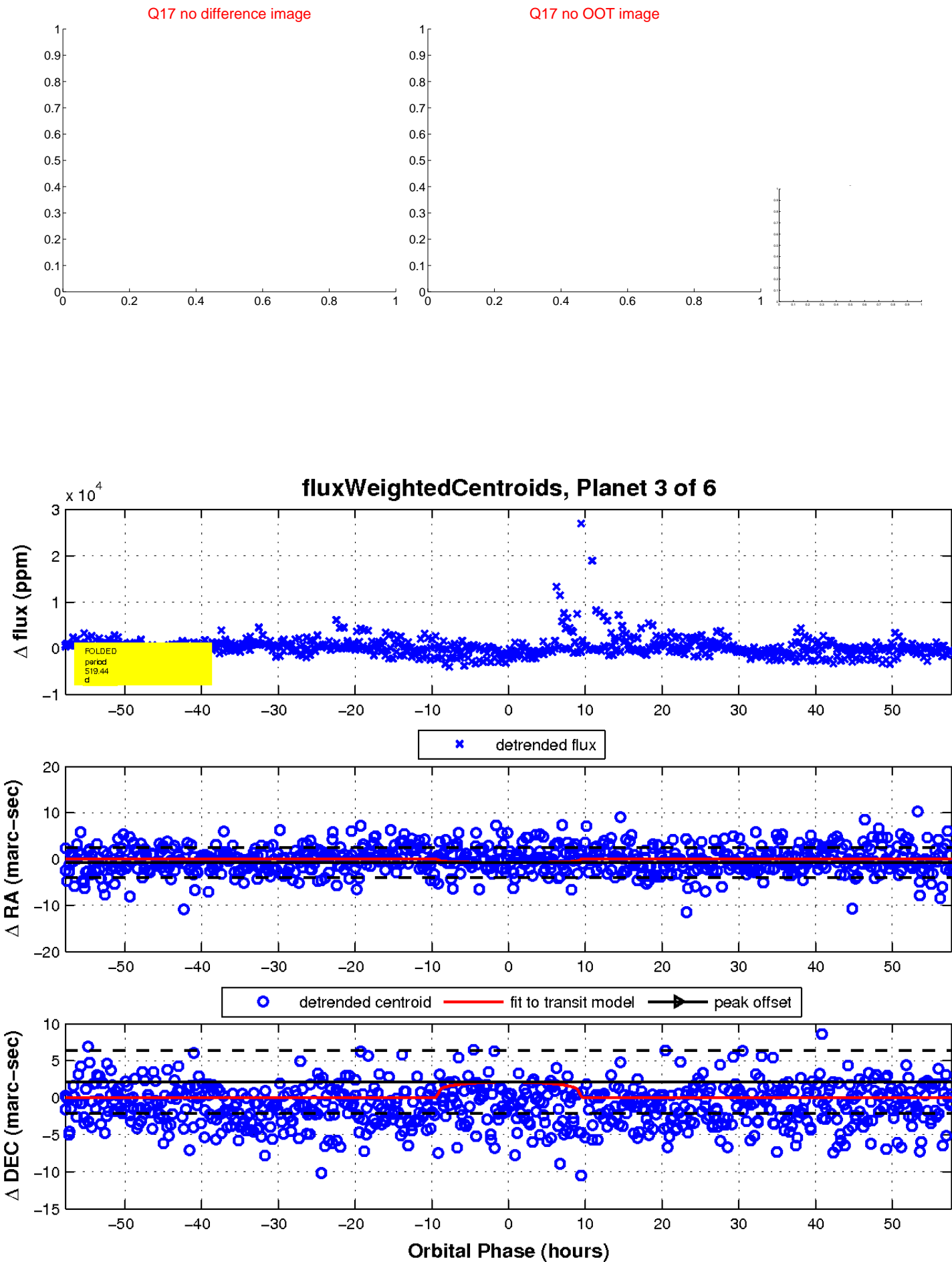
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

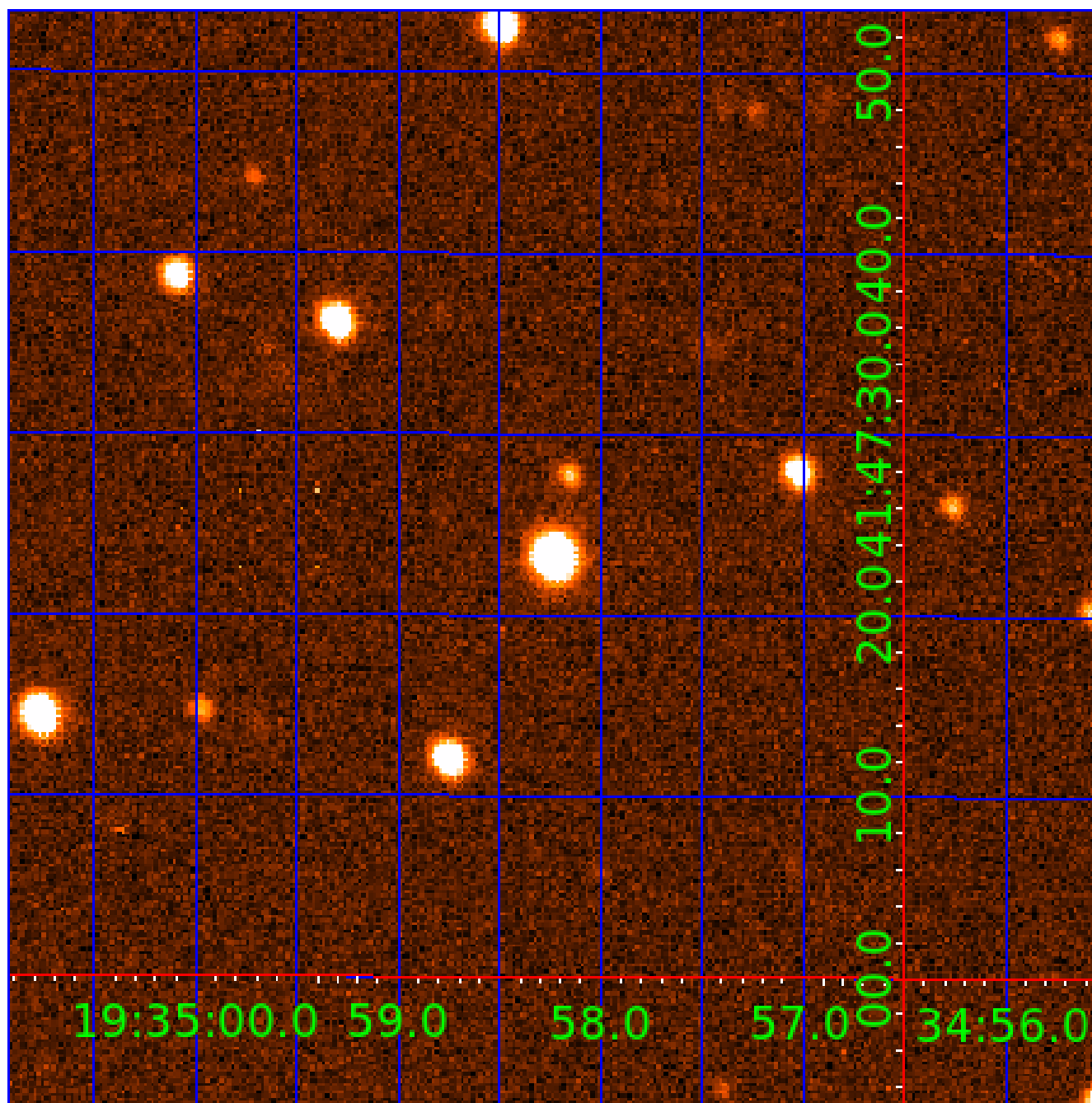


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006370174

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})
006370174-01	OBS	No	452.506777	542.866625	1692.9	10.366	11.5	5.8	0.31	3396	1.33	0.02
006370174-02	OBS	No	282.354856	235.150599	1138.0	9.180	11.2	5.2	0.31	3396	1.05	0.04
006370174-03	OBS	No	519.436410	422.308527	2030.3	19.247	12.0	7.1	0.31	3396	1.39	0.02
006370174-04	OBS	No	1.721220	131.565438	269.3	6.297	10.1	14.6	0.31	3396	0.53	32.58
006370174-05	OBS	No	232.409796	261.713036	1703.1	11.749	14.6	8.8	0.31	3396	1.28	0.05
006370174-06	OBS	No	224.987118	134.923398	1777.0	10.500	13.9	-1.0	0.31	3396	1.31	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006370174-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-03	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
006370174-04	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006370174-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006370174-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

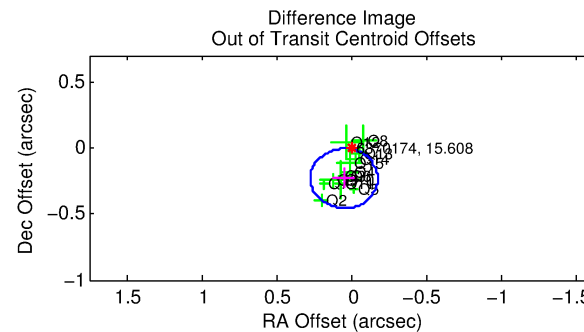
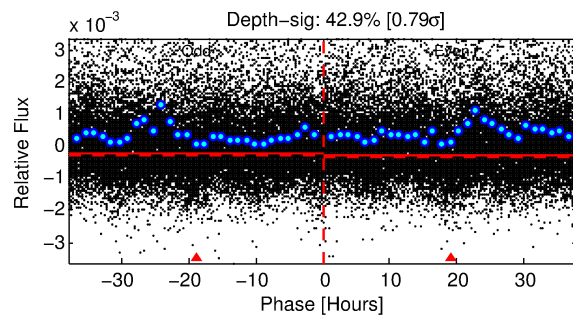
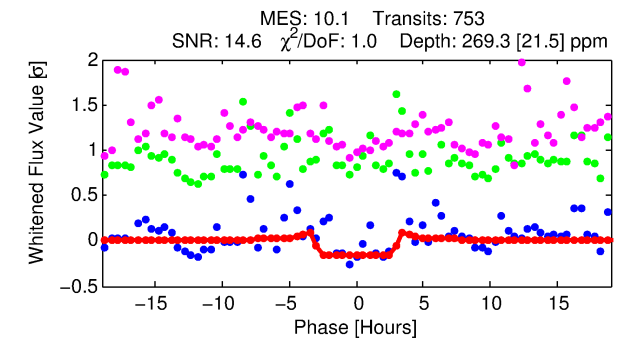
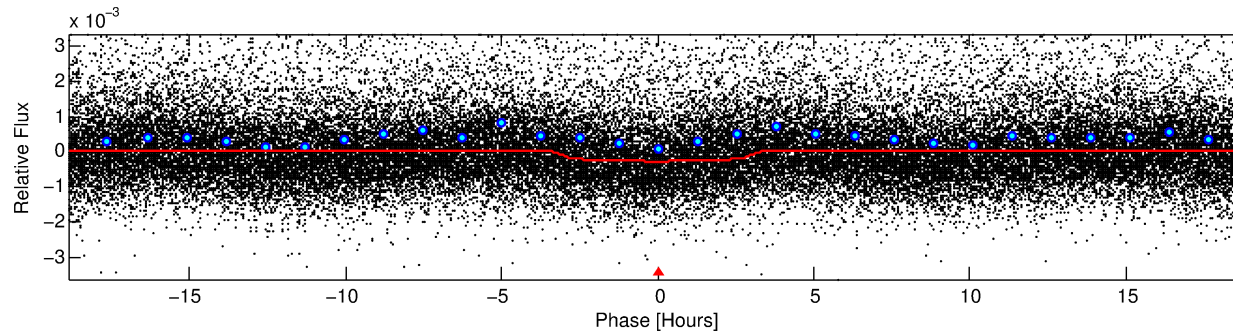
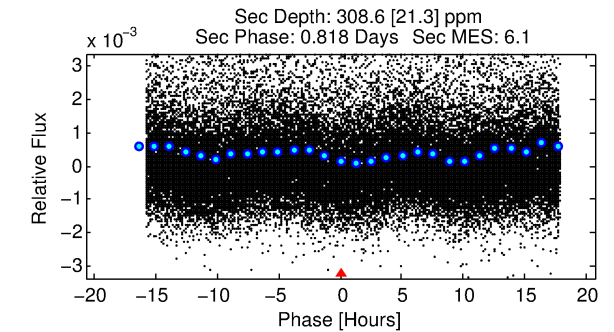
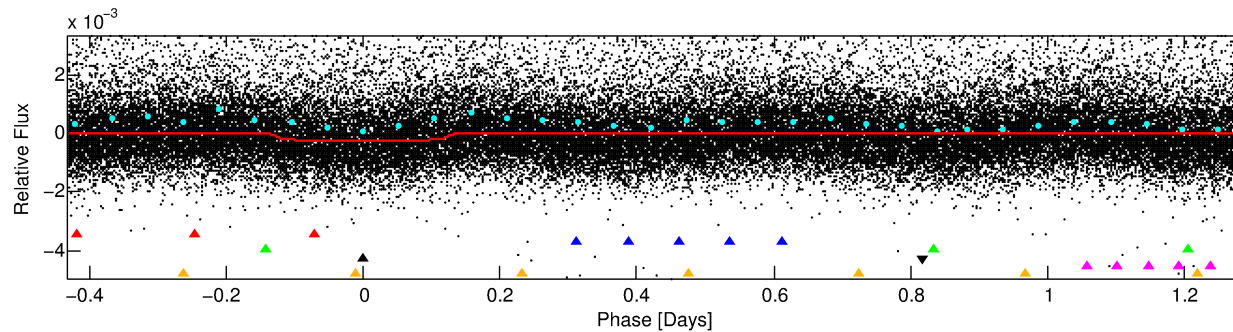
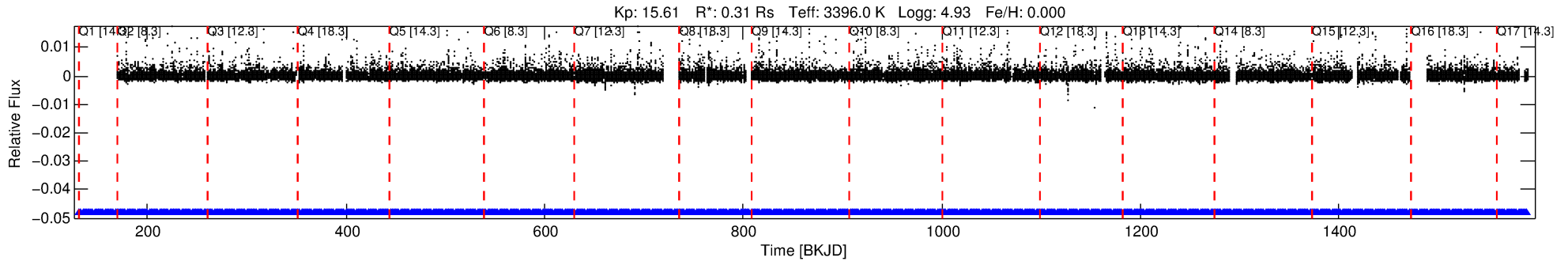
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006370174-04

No Significant Match Found

DV One-Page Summary

KIC: 6370174 Candidate: 4 of 6 Period: 1.721 d



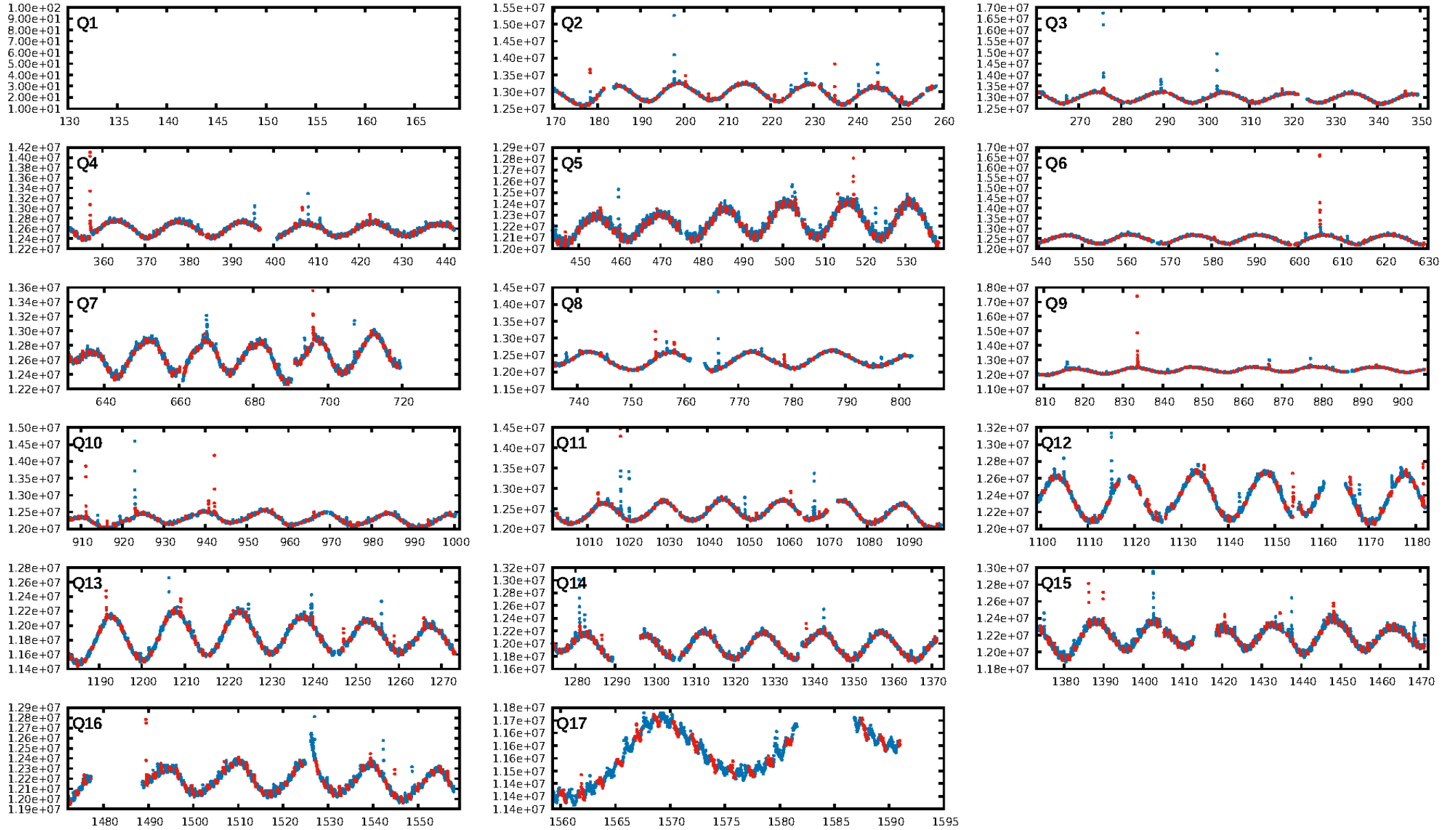
DV Fit Results:

Period = 1.72122 [0.00001] d
Epoch = 131.5654 [0.0028] BKJD
Rp/R* = 0.0154 [0.0102]
a/R* = 1.93 [4.00]
b = 0.55 [3.61]
Seff = 32.58 [4.60]
Teff = 609 [21] K
Rp = 0.53 [0.36] Re
a = 0.0190 [0.0019] AU
Ag = 218.71 [291.54] [0.75σ]
Teffp = 3622 [1203] K [2.50σ]

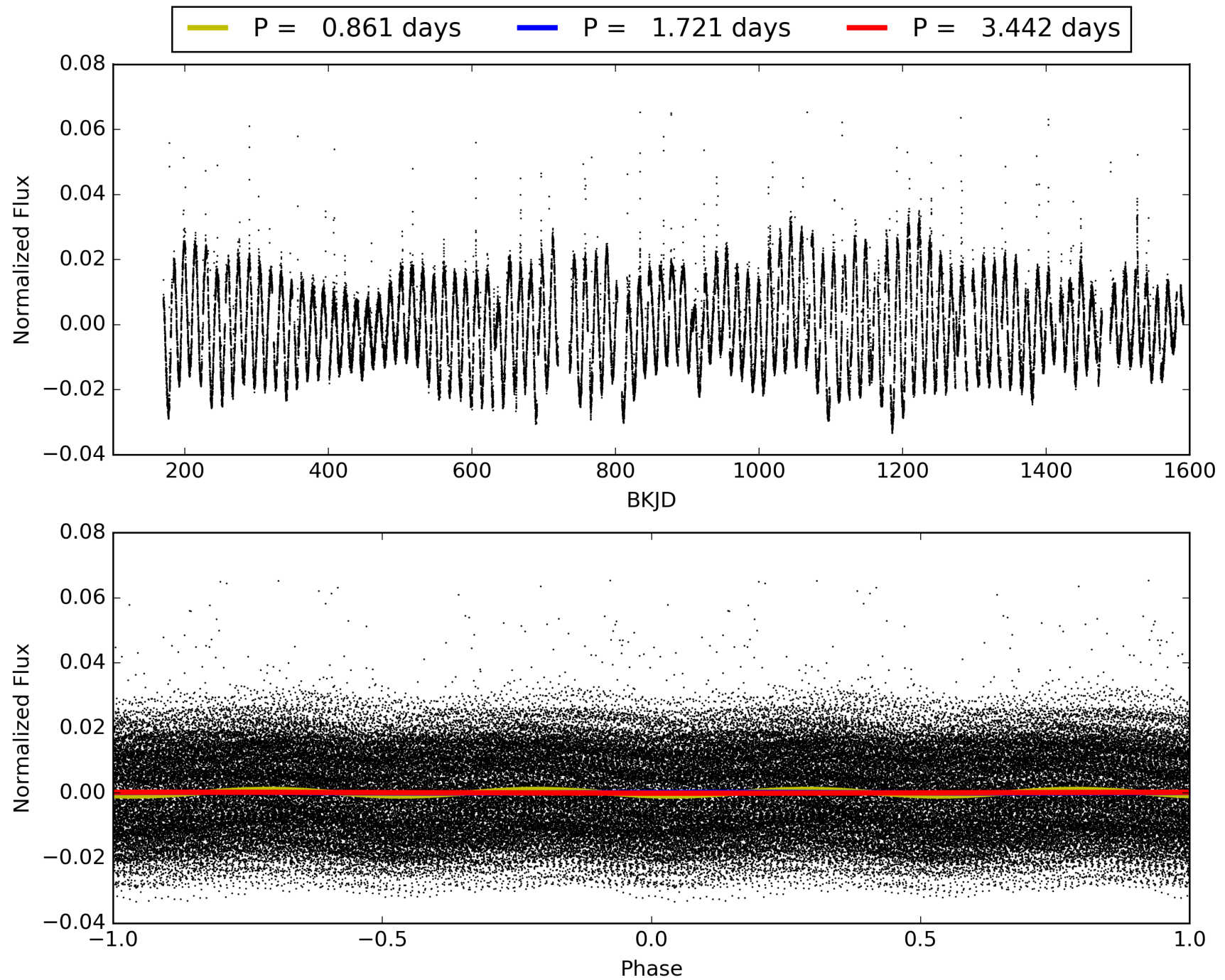
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [437.65σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [738/738]
GhostDiagnostic-chr: 1.256
Centroid-sig: 0.0%
Centroid-so: 0.760 arcsec [2.10σ]
OotOffset-rm: 0.236 arcsec [3.14σ]
KicOffset-rm: 0.034 arcsec [0.44σ]
OotOffset-st: 4/4/3/3 [14]
KicOffset-st: 4/4/3/3 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 006370174-04, PDC Light Curves

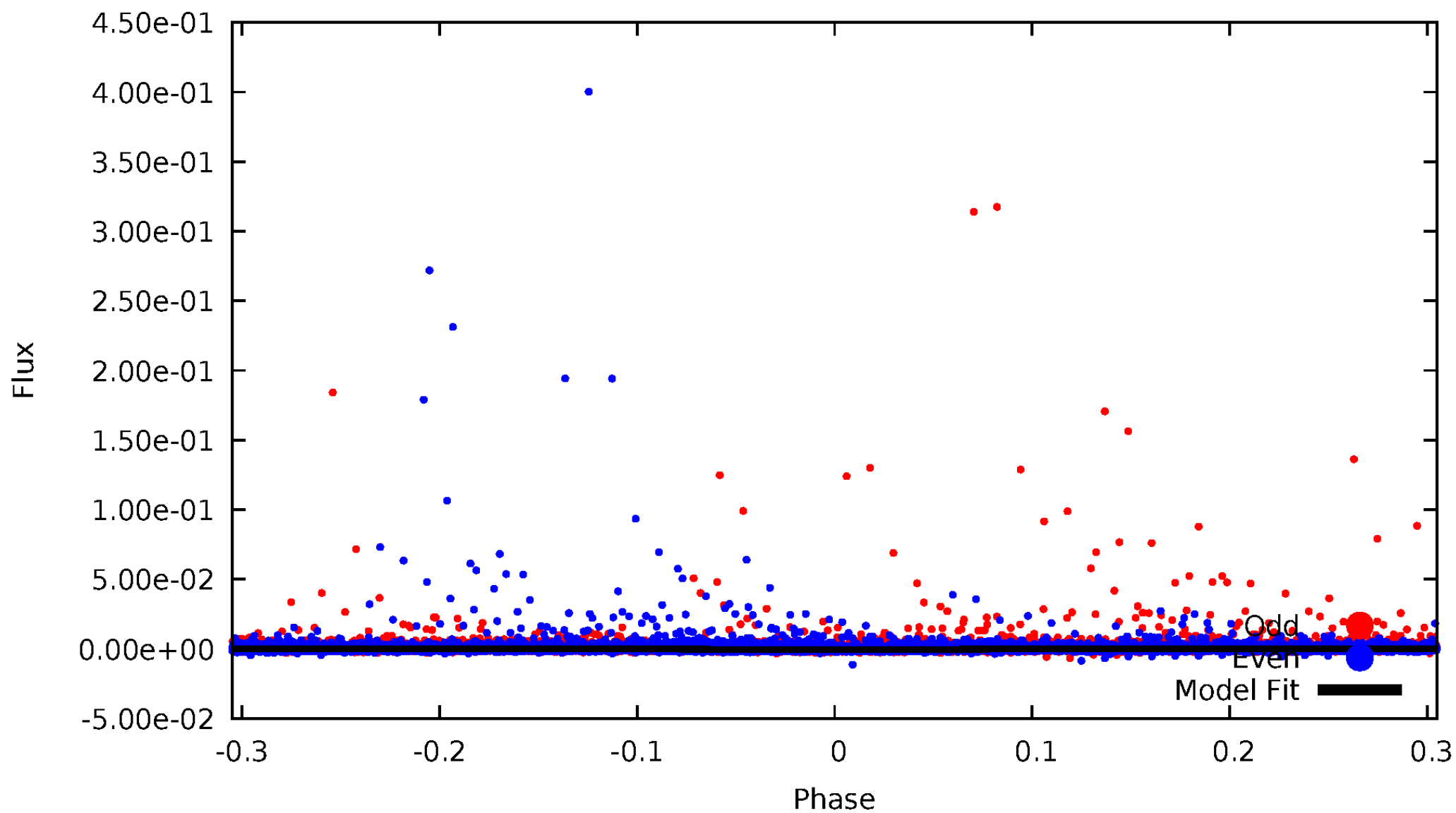


TCE 006370174-04



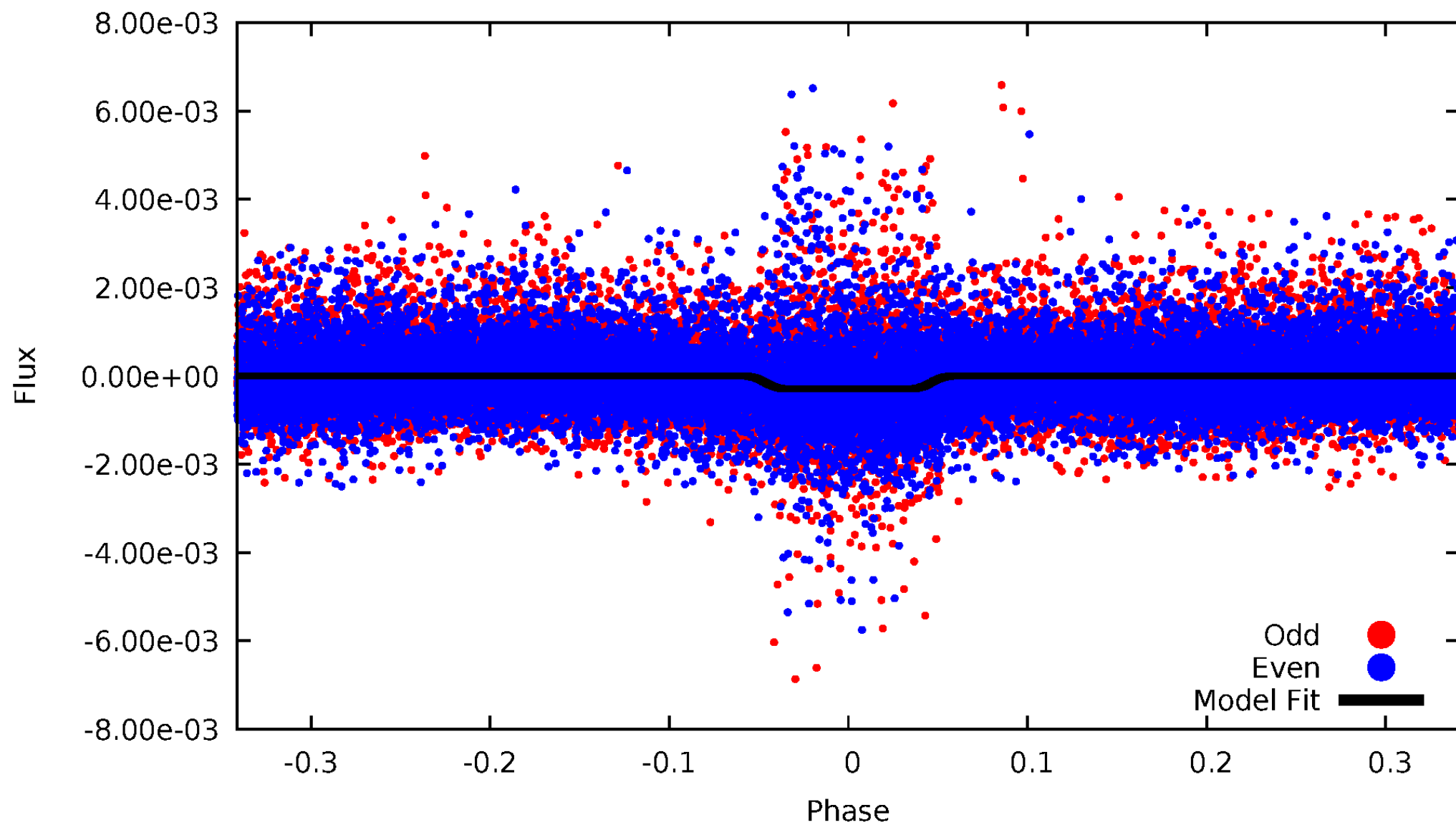
DV Odd/Even

TCE 006370174-04



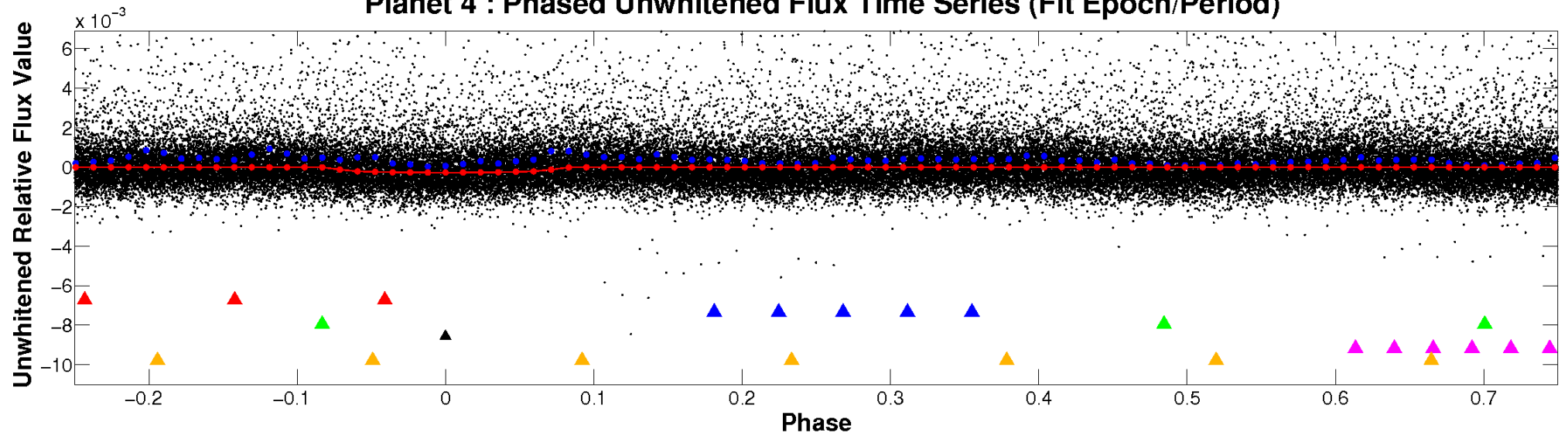
ALT Odd/Even

TCE 006370174-04

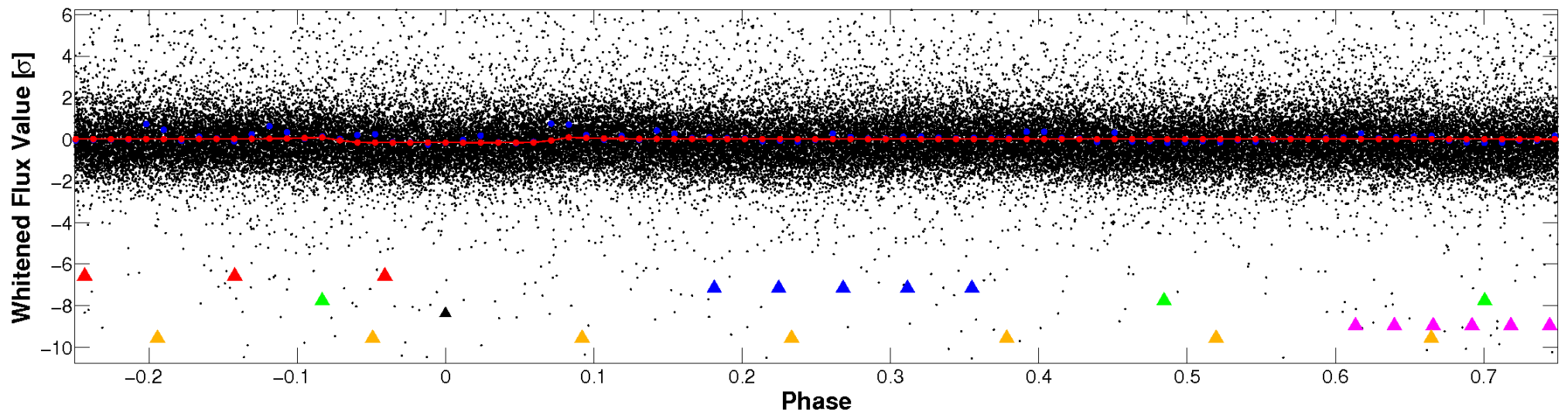


Non-Whitened Vs. Whitened Light Curve

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

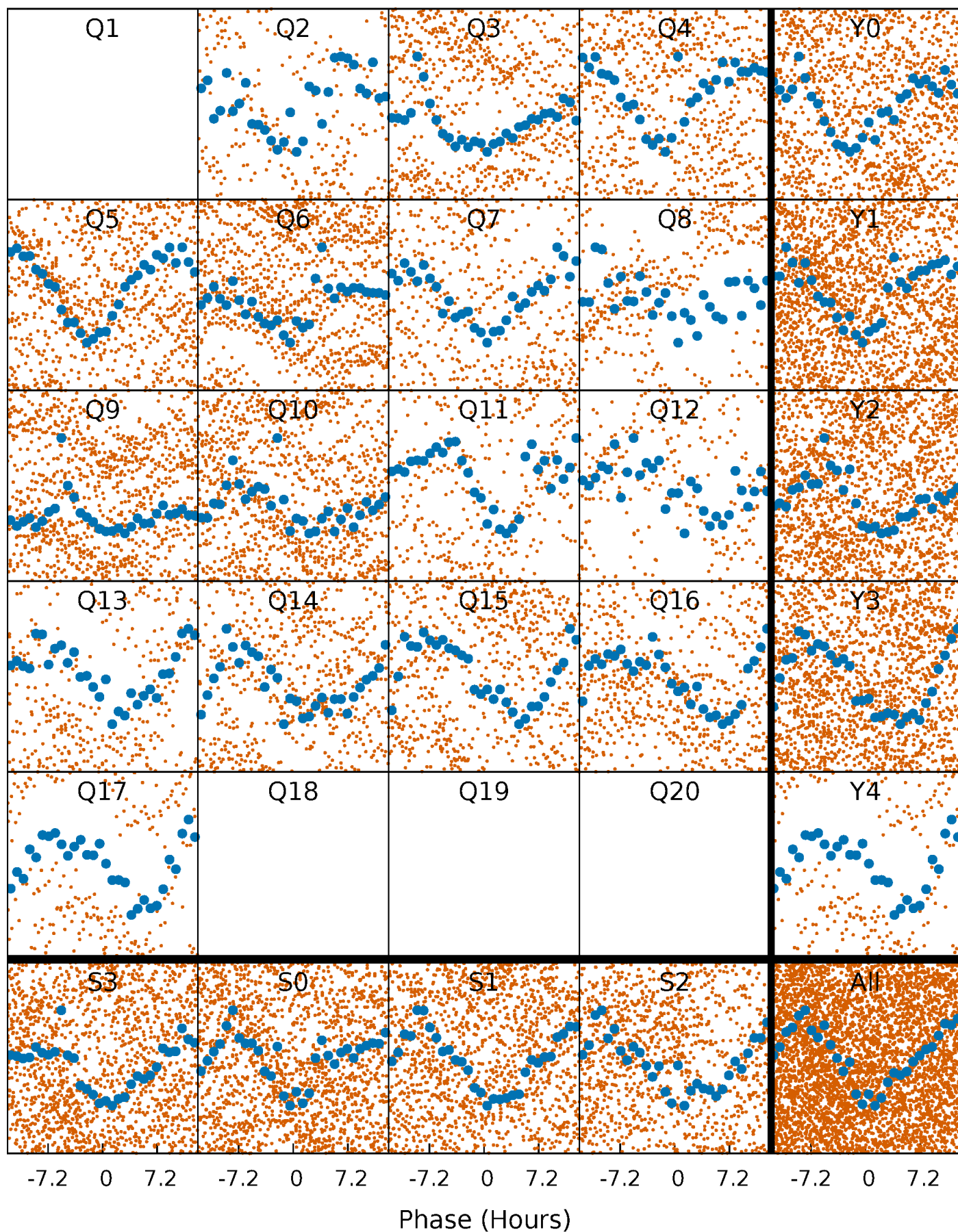


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



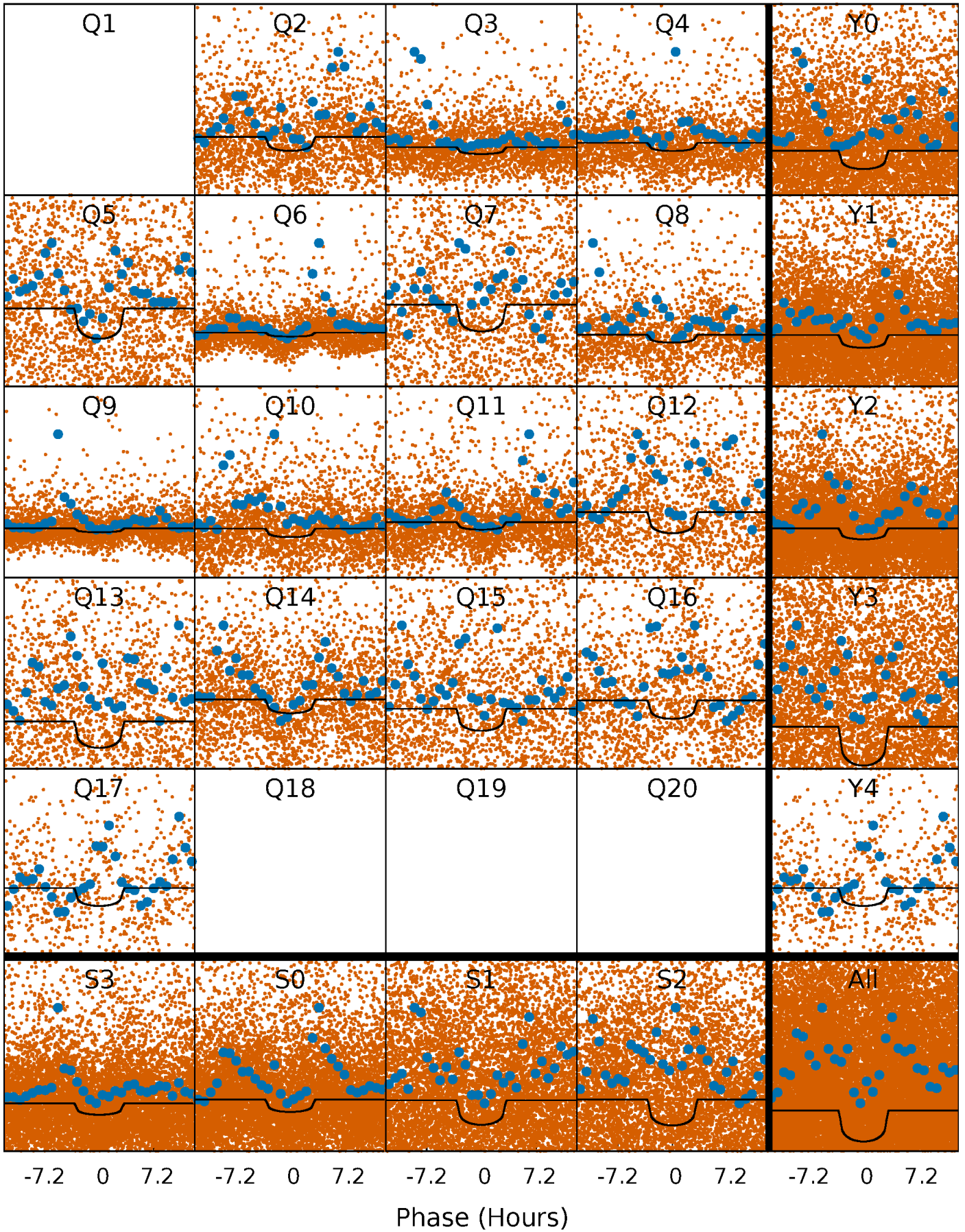
PDC Quarter-Phased Transit Curves

TCE 006370174-04 P= 1.721220 Days $T_0=131.565438$ (BKJD)



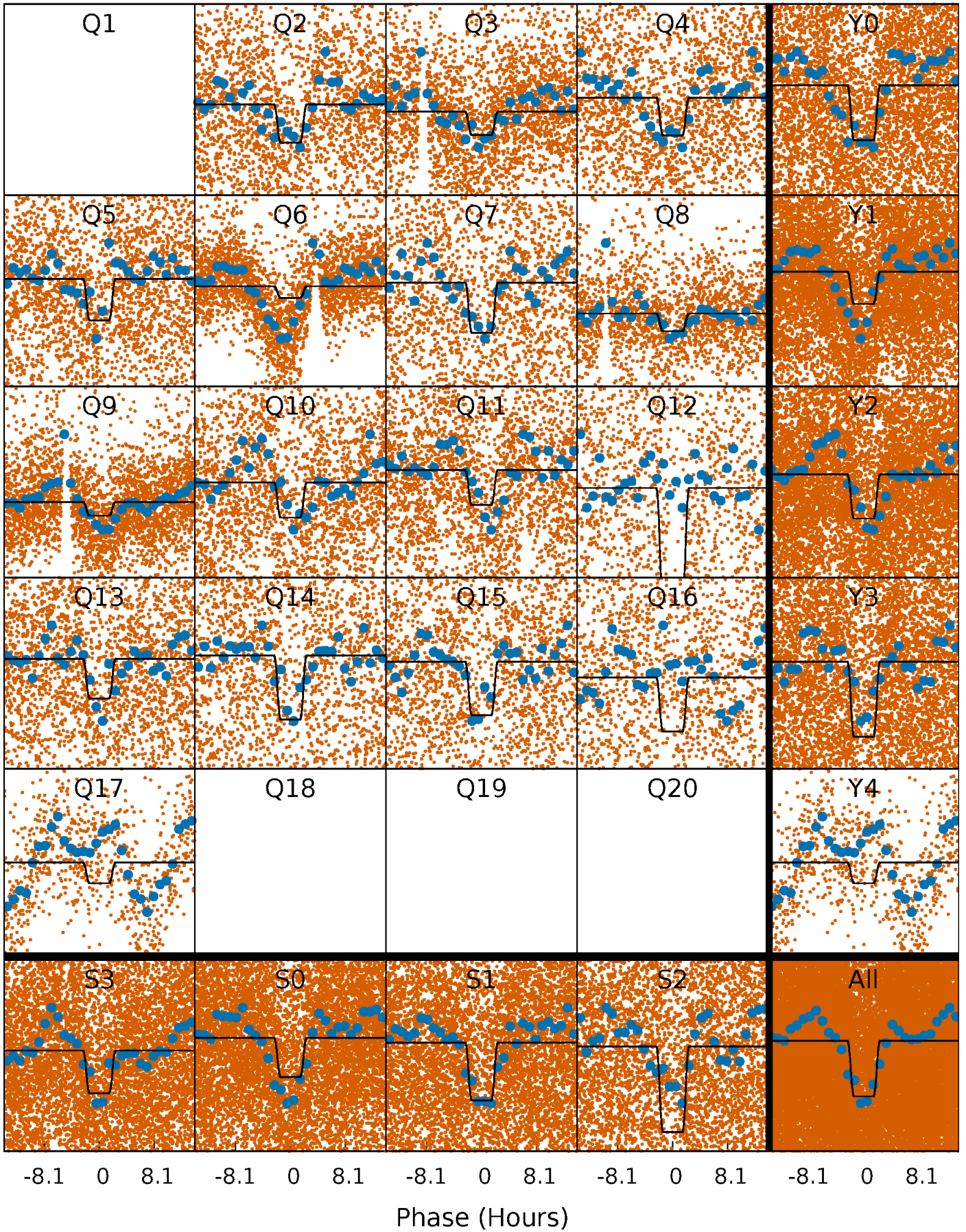
DV Quarter-Phased Transit Curves

TCE 006370174-04 $P = 1.721220$ Days $T_0 = 131.565438$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

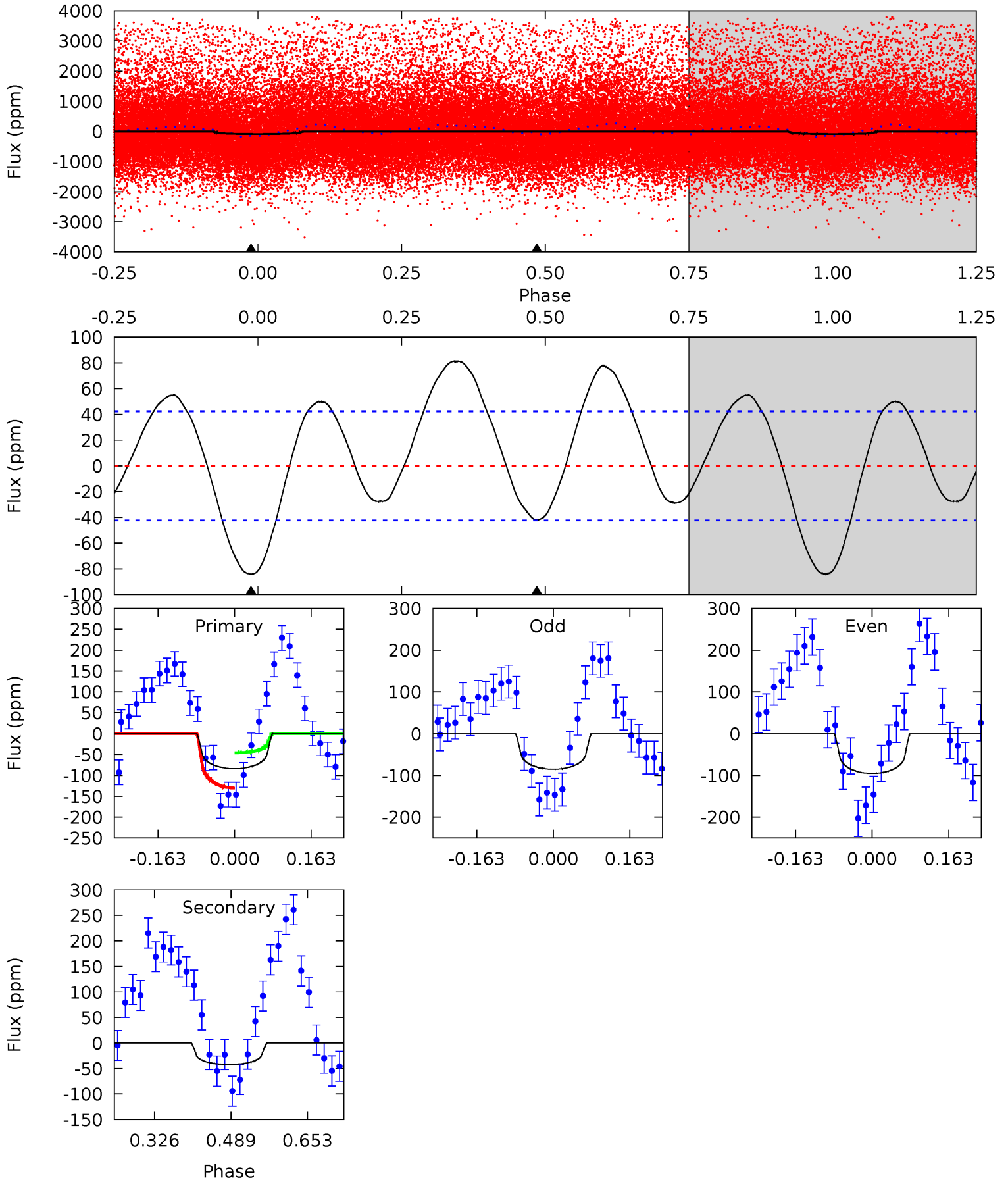
TCE 006370174-04 P= 1.721097 Days $T_0=131.607955$ (BKJD)



DV Model-Shift Uniqueness Test

006370174-04, P = 1.721220 Days, E = 131.565438 Days

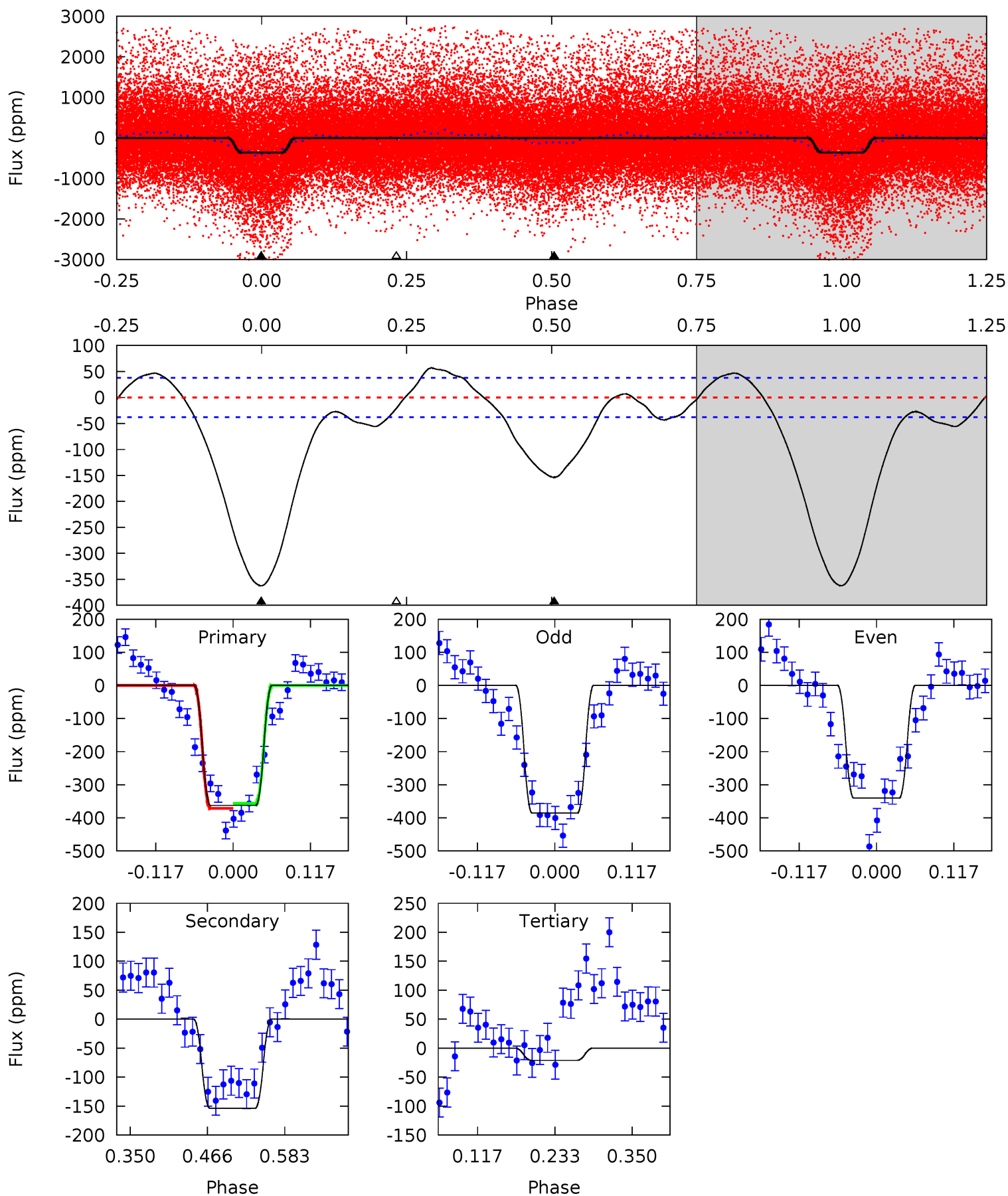
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.85	4.43	0	0	4.46	1.39	3.01	8.85	8.85	4.43	4.43	0.54	-4.09	0.49	4.49



Alt Model-Shift Uniqueness Test

006370174-04, P = 1.721097 Days, E = 131.607955 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.4	18.4	2.52	0	4.53	1.57	4.15	40.8	43.4	15.9	18.4	2.72	0.97	0.14	0.91



Stellar Parameters For KIC 006370174

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3396^{+54}_{-54}	$4.933^{+0.055}_{-0.040}$	$0.000^{+0.100}_{-0.100}$	$0.314^{+0.040}_{-0.044}$	$0.308^{+0.053}_{-0.048}$	$14.020^{+4.687}_{-2.449}$
	+2%/-2%	+1%/-1%	+inf%/-inf%	+13%/-14%	+17%/-16%	+33%/-17%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 006370174-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-42 ± 10	$0.57^{+0.33}_{-0.28}$	848^{+22}_{-24}	2612^{+518}_{-303}	27^{+80}_{-17}
Alt.	-154 ± 8	$0.60^{+0.34}_{-0.31}$	849^{+22}_{-23}	3064^{+809}_{-346}	89^{+287}_{-52}

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

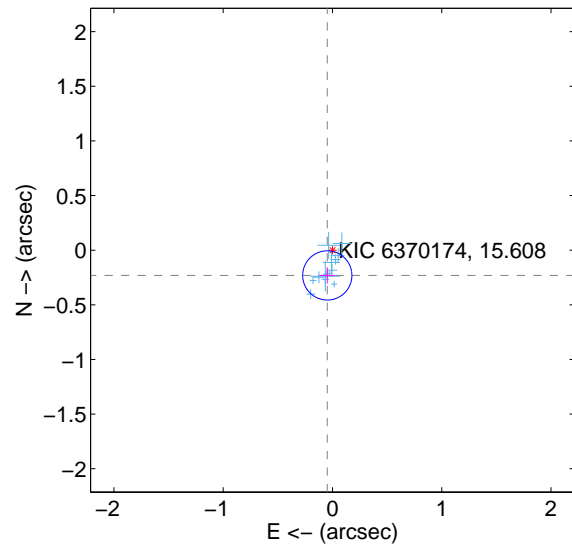
Supplemental centroid analysis for 006370174-04. Kepler magnitude: 15.61. Transit SNR 14.64

There are 14 quarters with good PRF difference image offsets

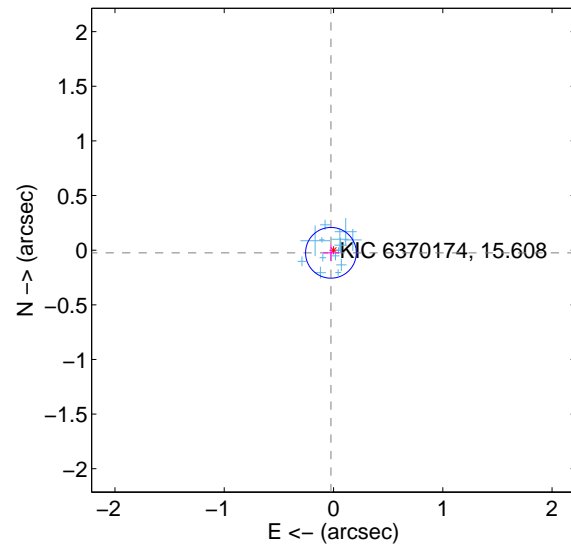
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.236 ± 0.075	3.14	0.047 ± 0.070	-0.231 ± 0.074
PRF-fit source offset from KIC position	0.034 ± 0.077	0.44	0.024 ± 0.074	-0.024 ± 0.075
photometric centroid source offset	0.76 ± 0.36	2.10	-0.38 ± 0.36	-0.66 ± 0.36

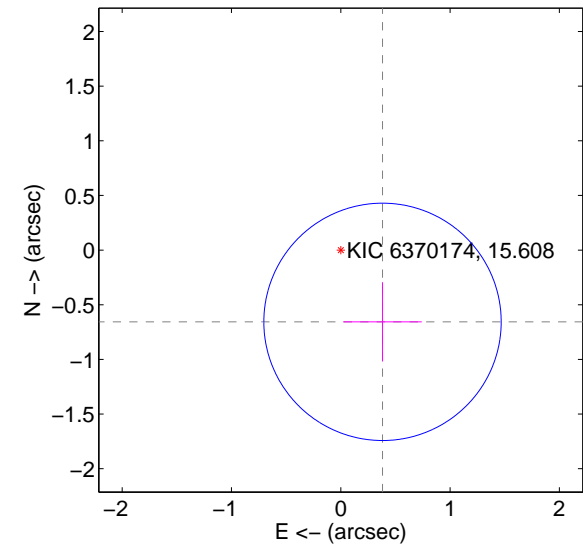
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

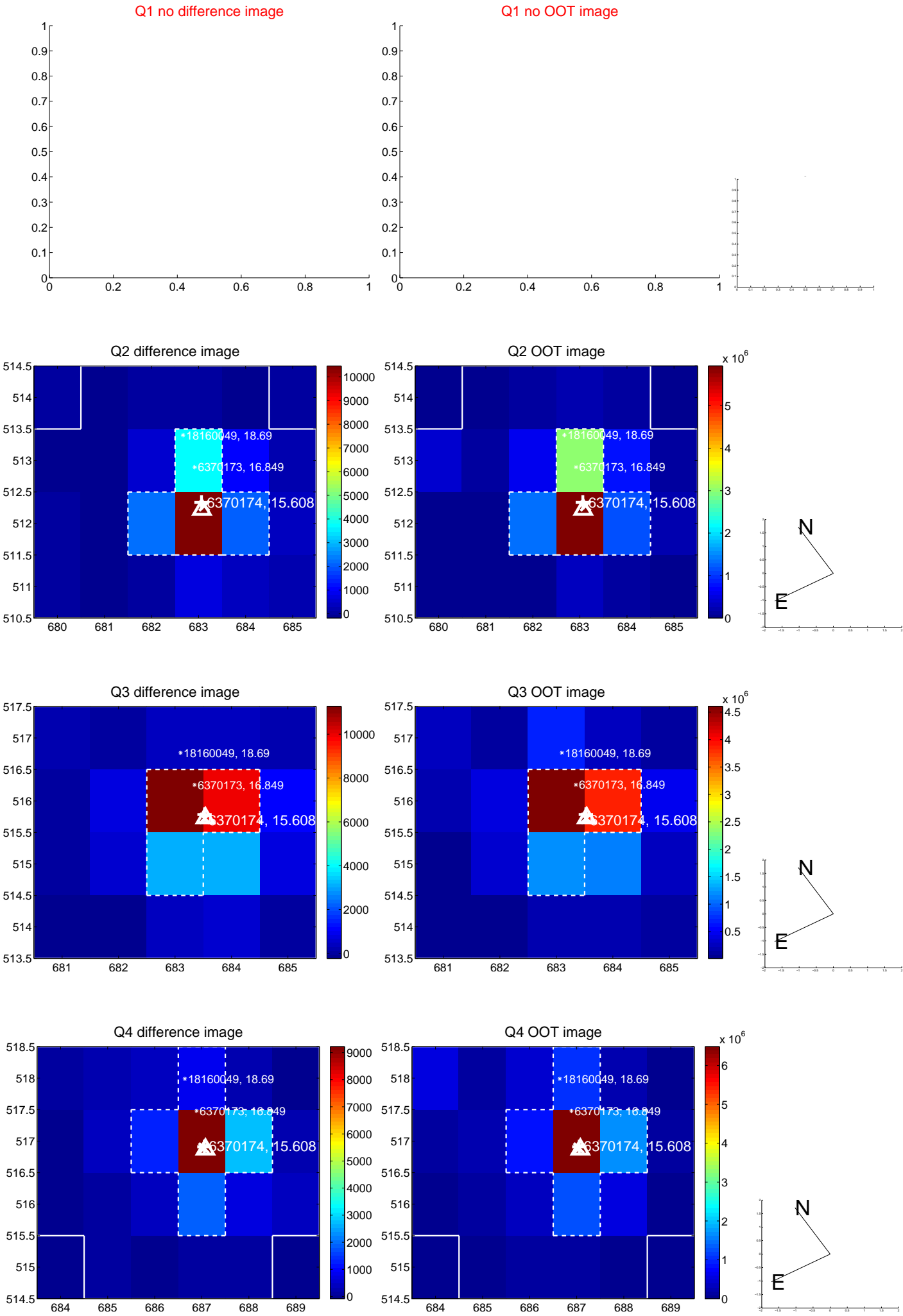


offset from photometric centroids

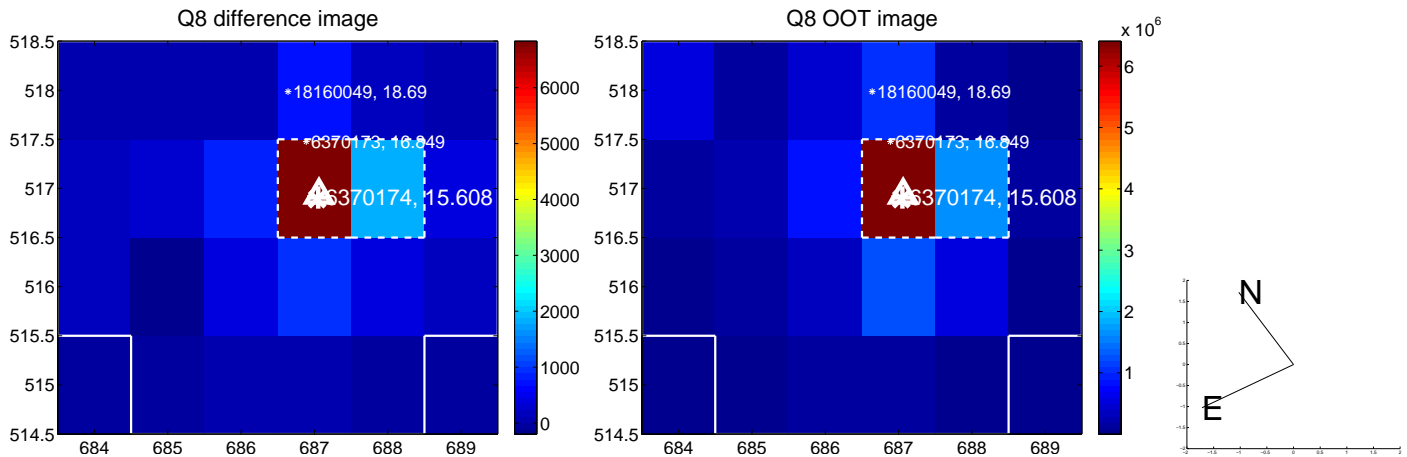
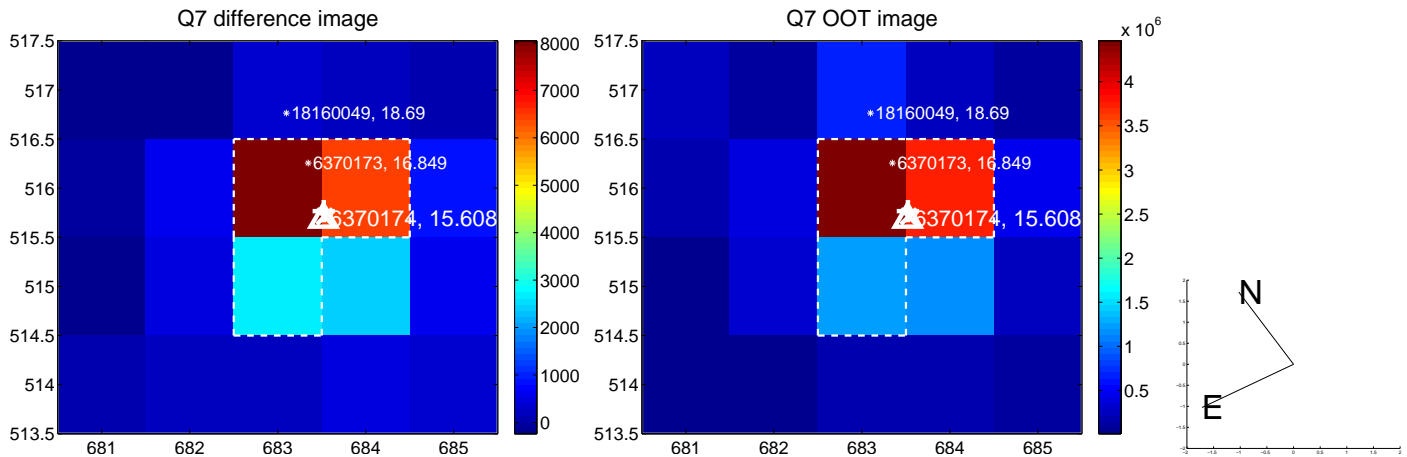
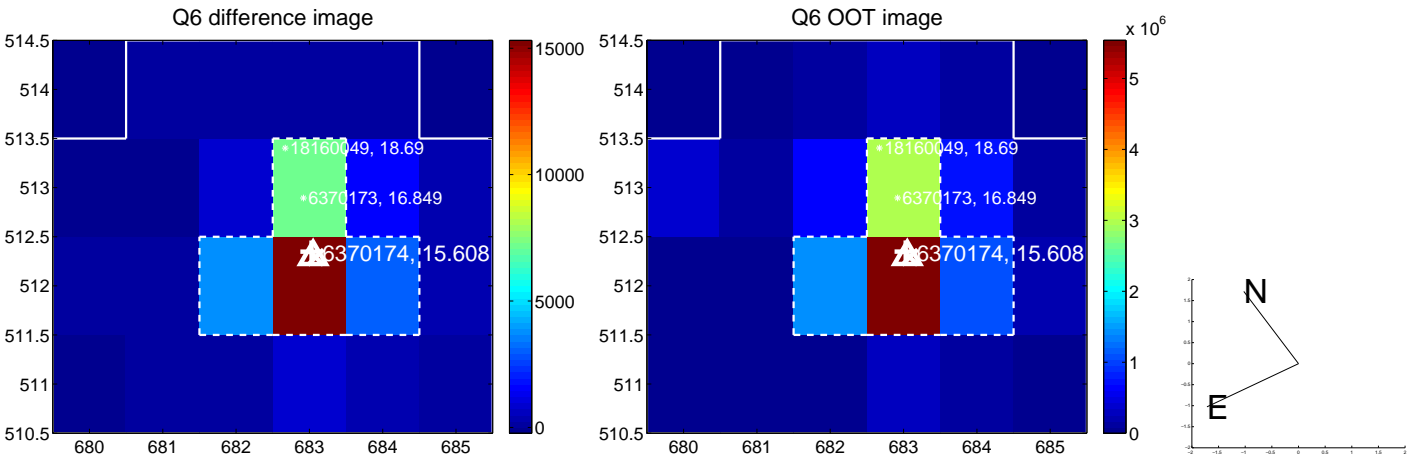
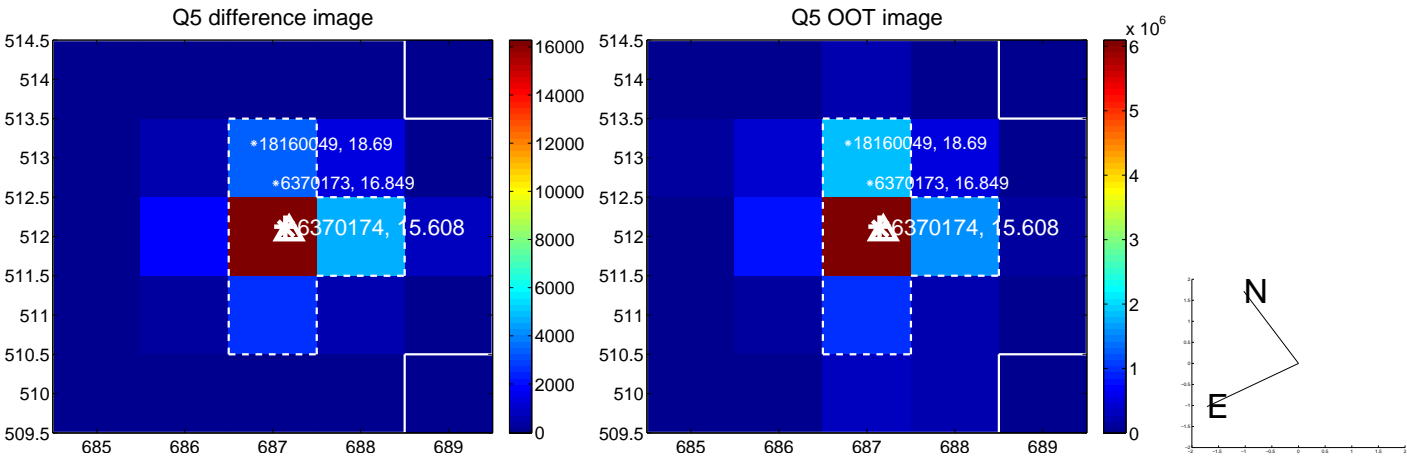


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

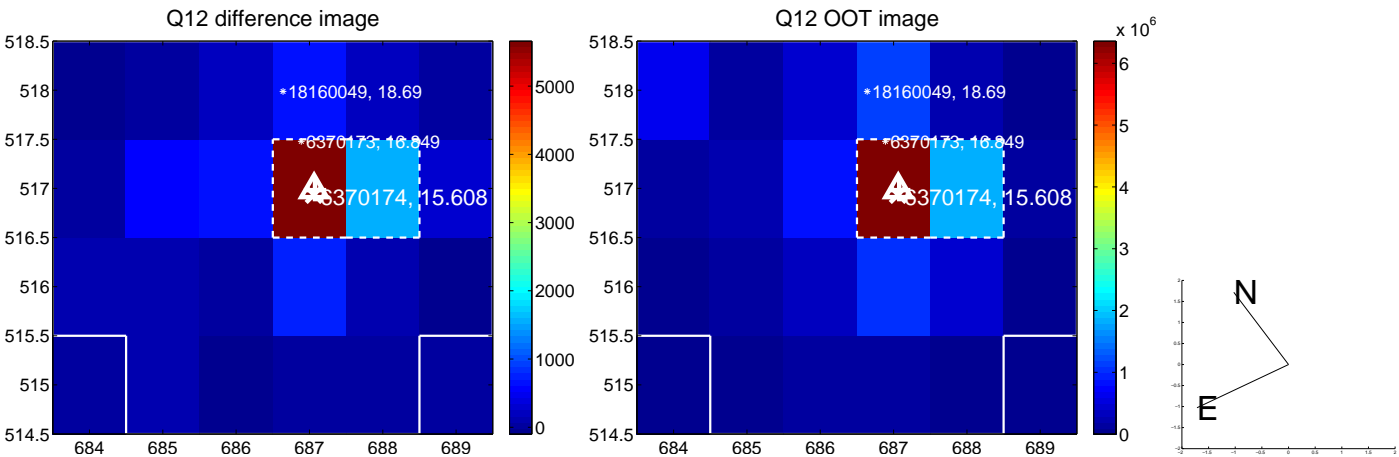
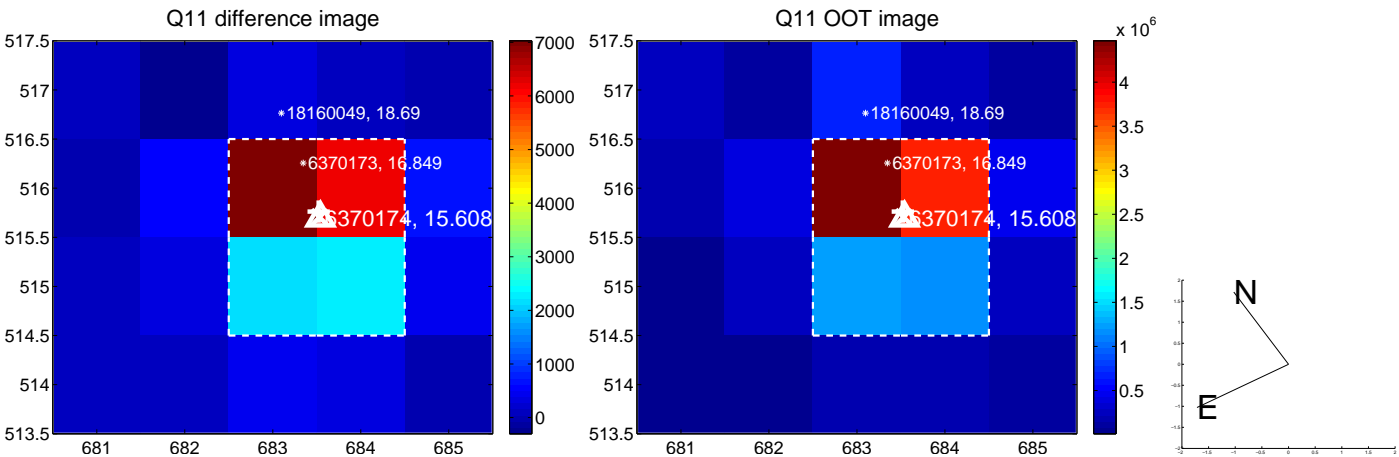
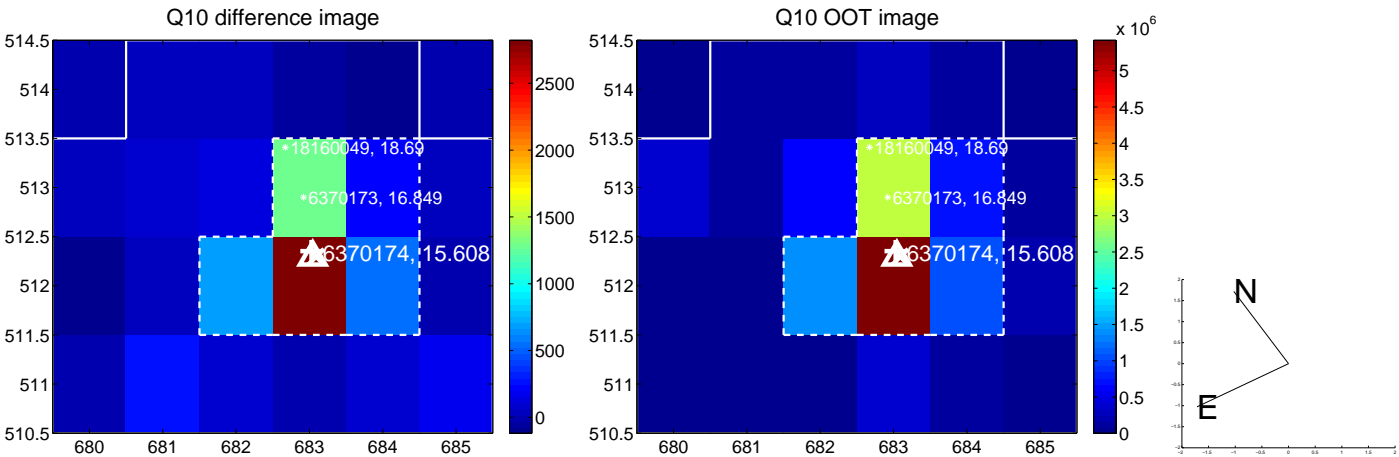
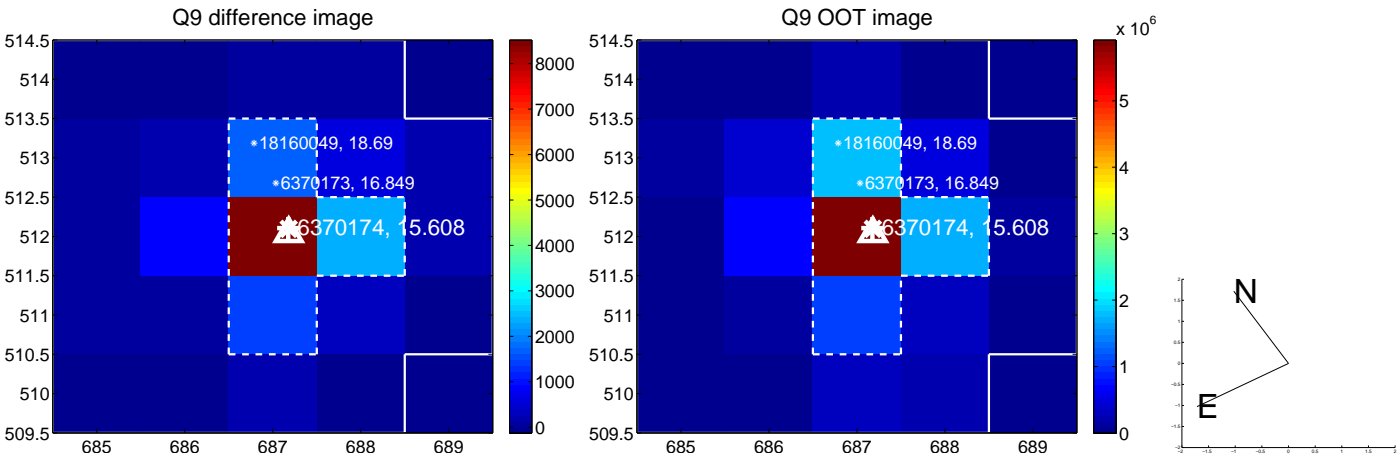
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



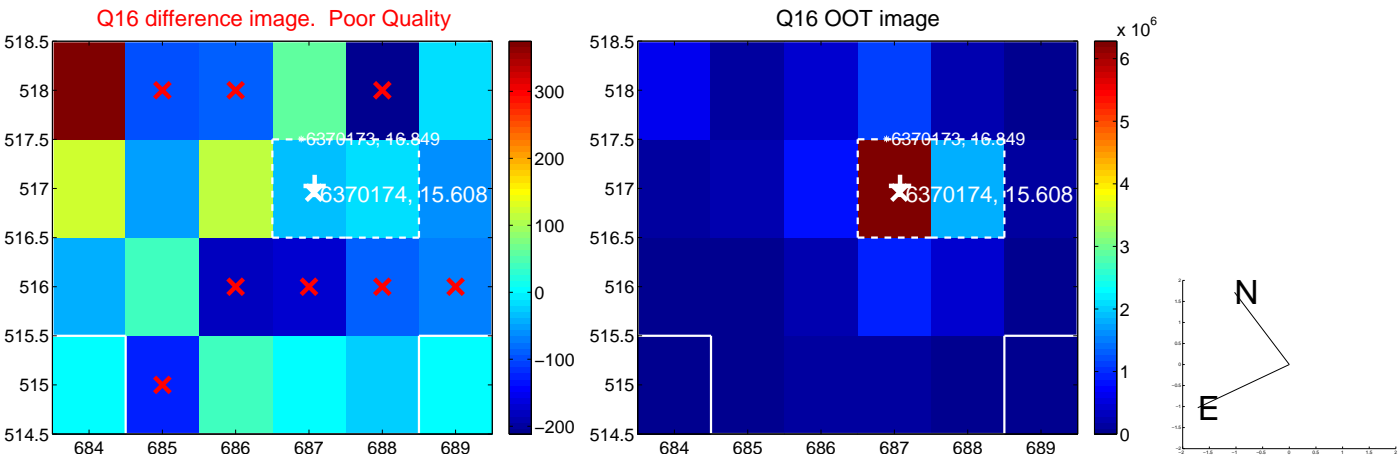
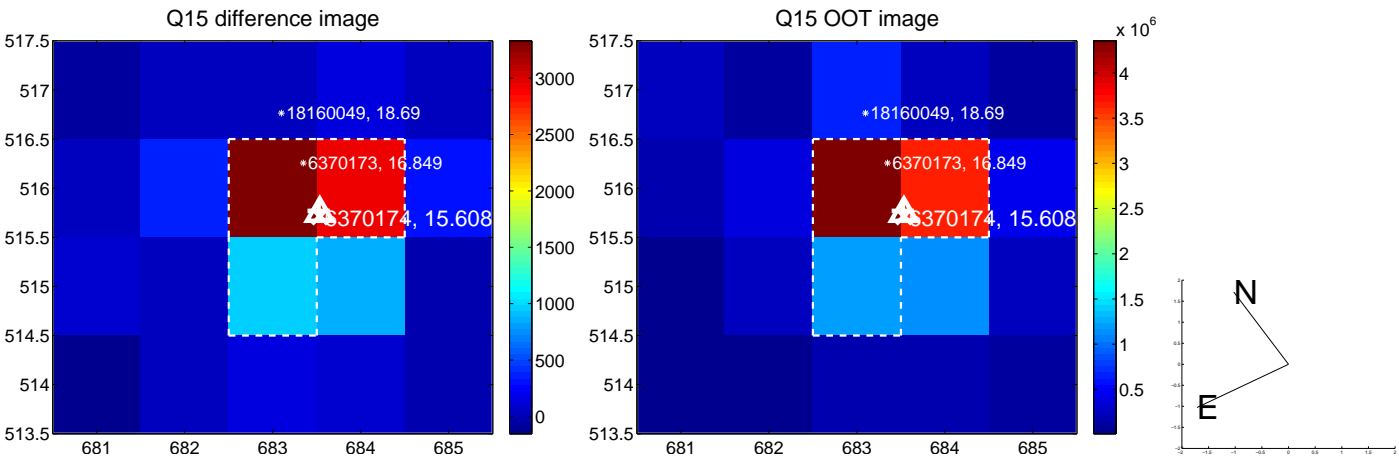
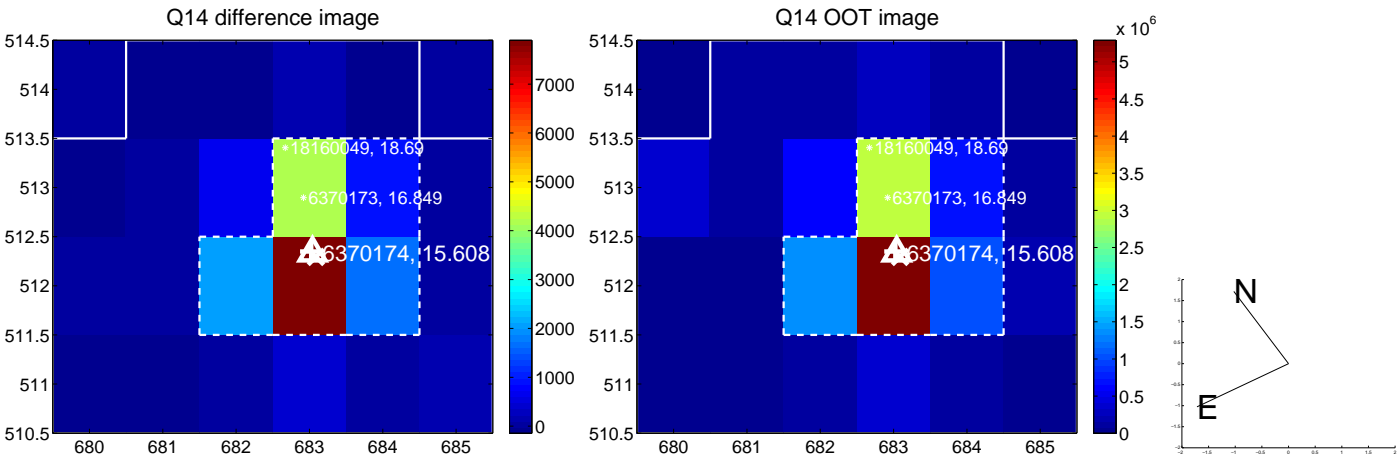
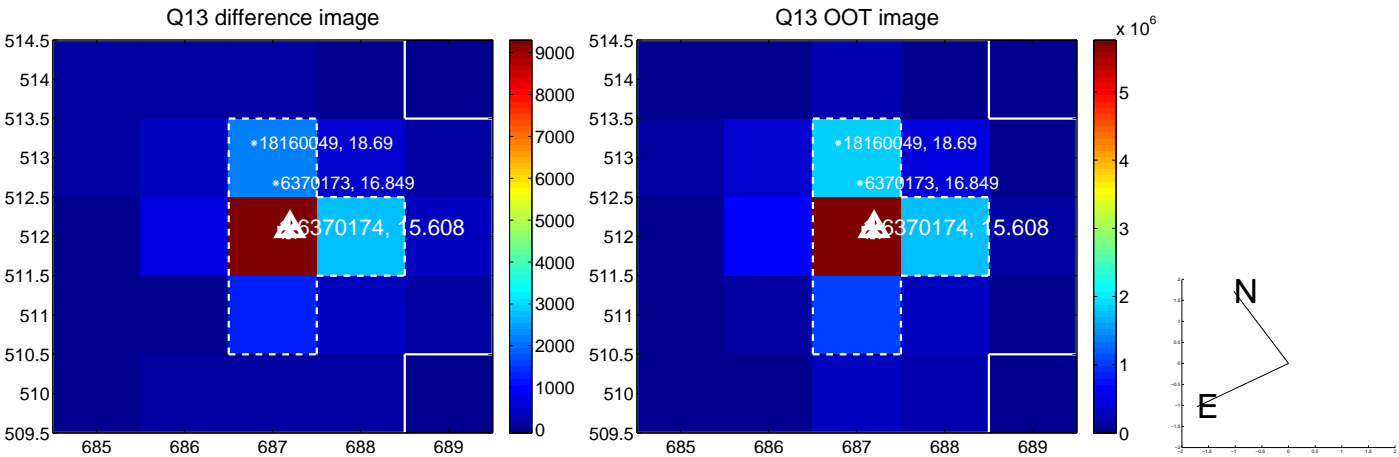
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



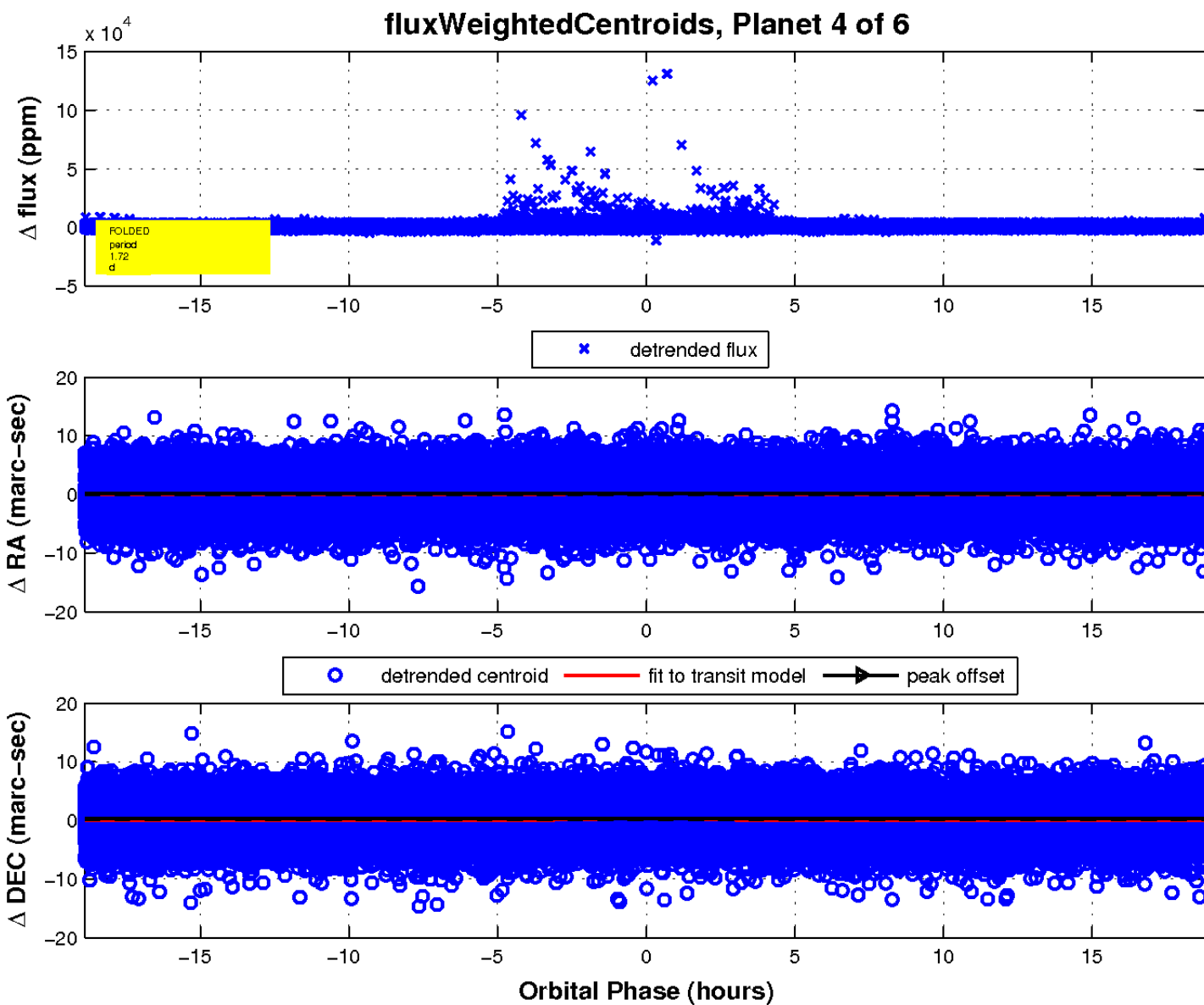
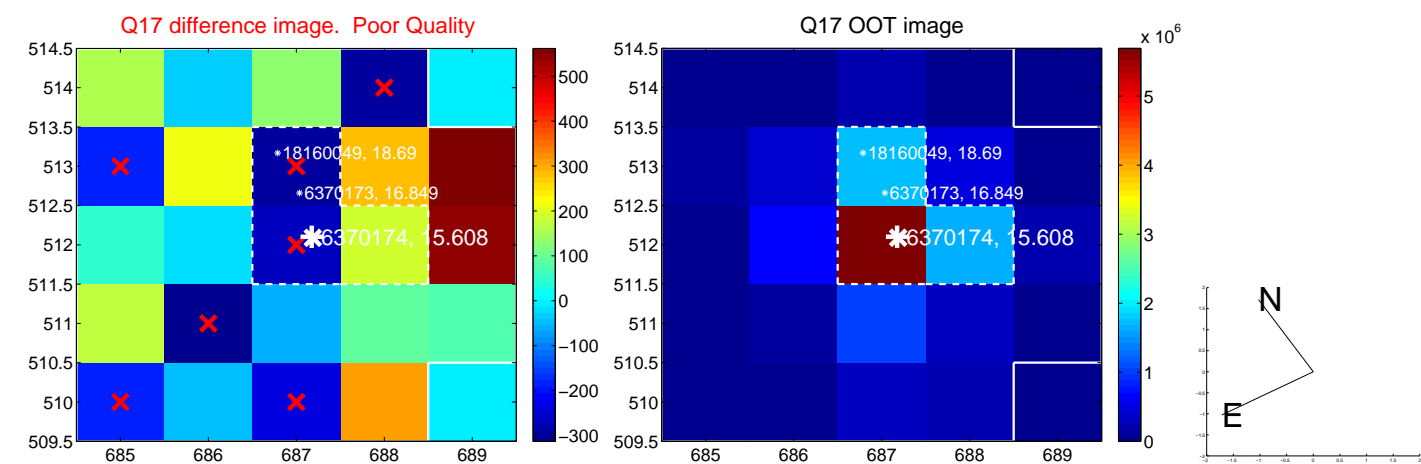
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

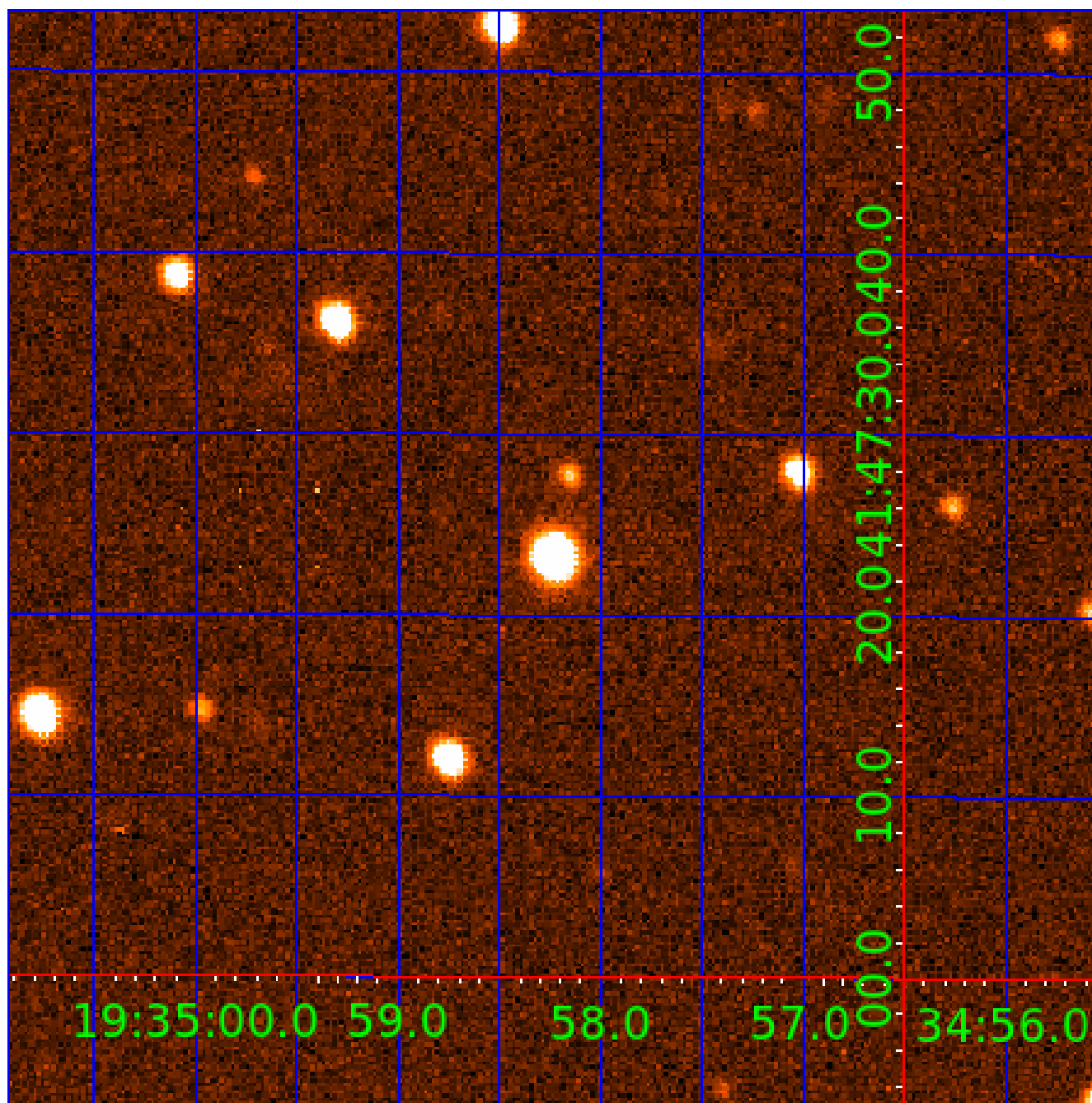


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006370174

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})
006370174-01	OBS	No	452.506777	542.866625	1692.9	10.366	11.5	5.8	0.31	3396	1.33	0.02
006370174-02	OBS	No	282.354856	235.150599	1138.0	9.180	11.2	5.2	0.31	3396	1.05	0.04
006370174-03	OBS	No	519.436410	422.308527	2030.3	19.247	12.0	7.1	0.31	3396	1.39	0.02
006370174-04	OBS	No	1.721220	131.565438	269.3	6.297	10.1	14.6	0.31	3396	0.53	32.58
006370174-05	OBS	No	232.409796	261.713036	1703.1	11.749	14.6	8.8	0.31	3396	1.28	0.05
006370174-06	OBS	No	224.987118	134.923398	1777.0	10.500	13.9	-1.0	0.31	3396	1.31	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006370174-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-03	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
006370174-04	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006370174-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006370174-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

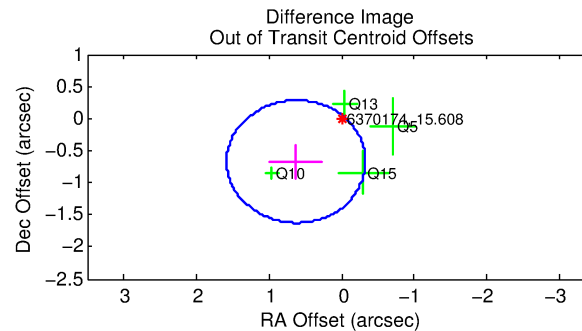
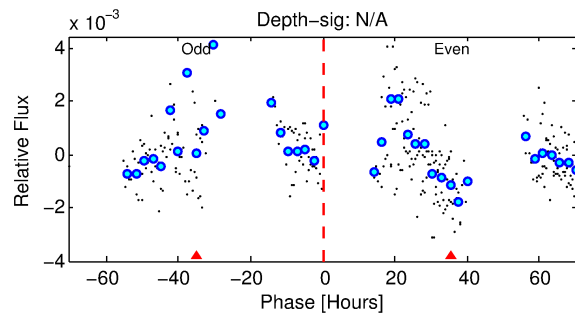
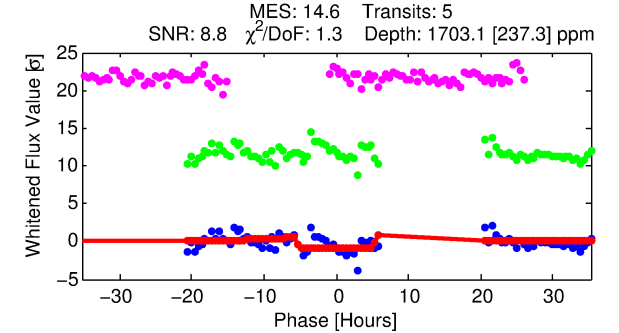
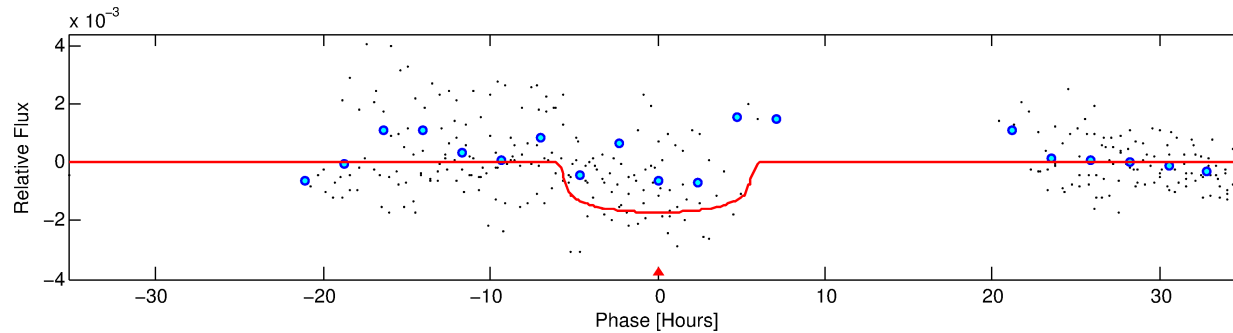
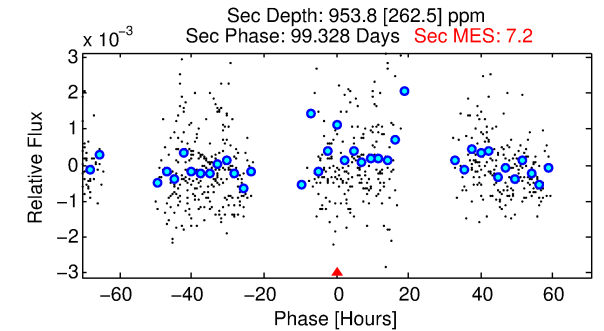
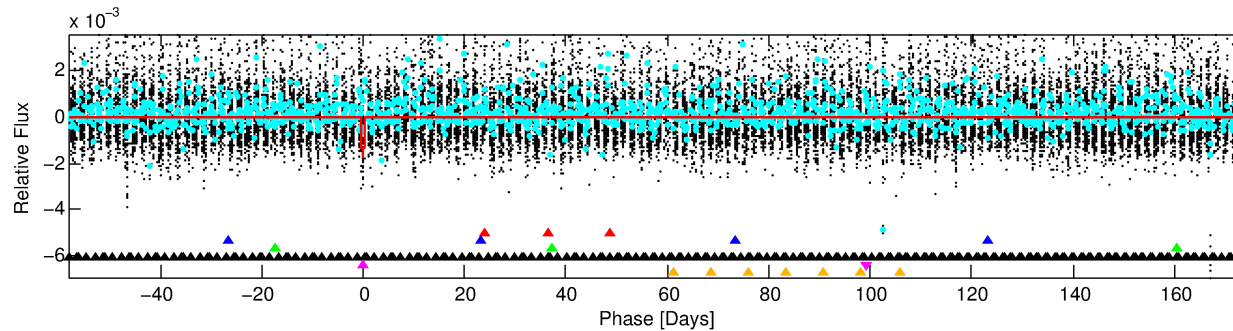
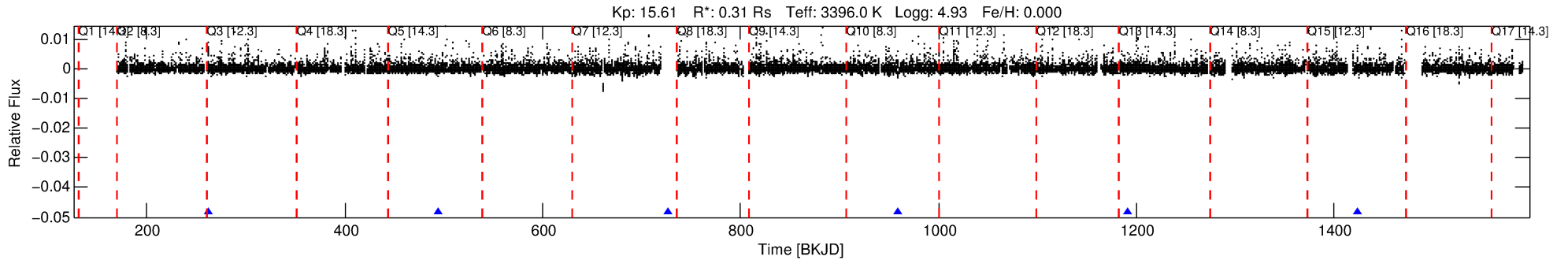
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006370174-05

No Significant Match Found

DV One-Page Summary

KIC: 6370174 Candidate: 5 of 6 Period: 232.410 d



DV Fit Results:

Period = 232.40980 [0.00620] d
Epoch = 261.7130 [0.0148] BKJD
Rp/R* = 0.0374 [0.0230]
a/R* = 153.87 [401.73]
b = 0.20 [12.56]
Seff = 0.05 [0.01]
Teq = 119 [4] K
Rp = 1.28 [0.81] Re
a = 0.4998 [0.0512] AU
Ag = 79690.38 [100930.64] [0.79σ]
Teffp = 3085 [973] K [3.05σ]

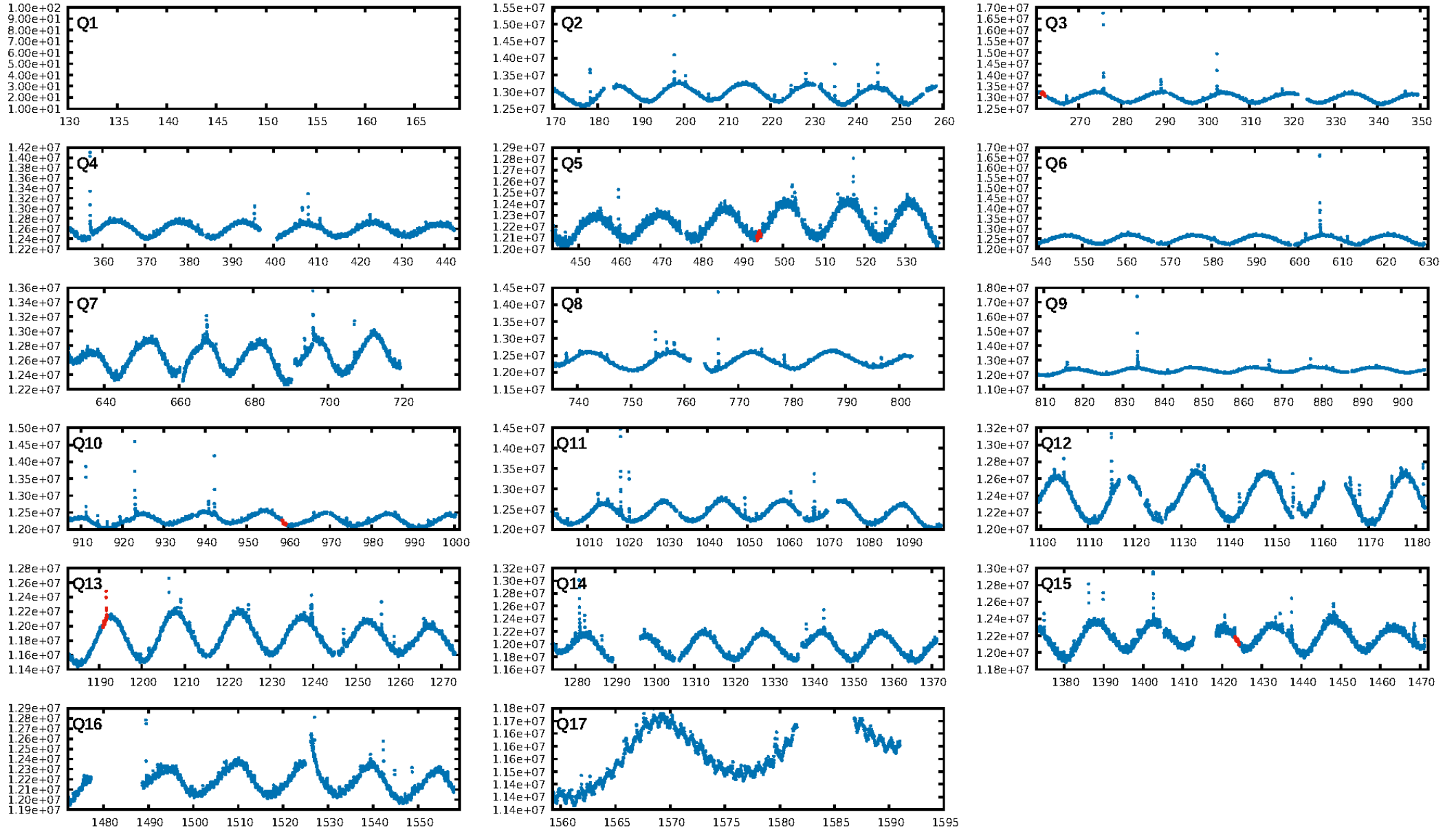
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.31σ]
LongPeriod-sig: 100.0% [80.40σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.3206
Centroid-sig: 76.7%
Centroid-so: 0.257 arcsec [0.45σ]
OotOffset-rm: 0.917 arcsec [2.88σ]
OotOffset-st: 1/1/0/2 [4]
KicOffset-rm: 0.804 arcsec [2.19σ]
KicOffset-st: 1/1/0/2 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.00 [0/4]

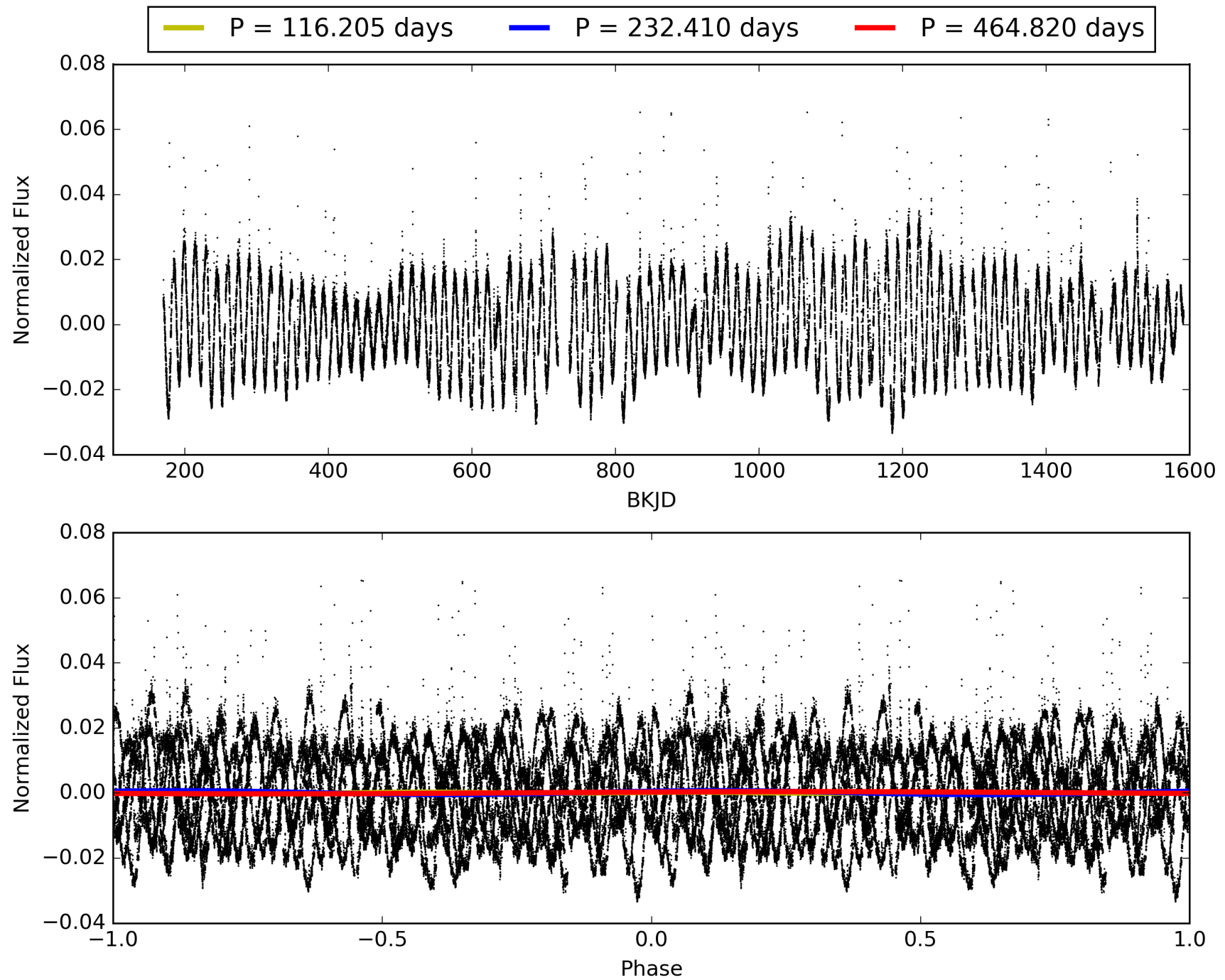
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:33:59 Z

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

TCE 006370174-05, PDC Light Curves

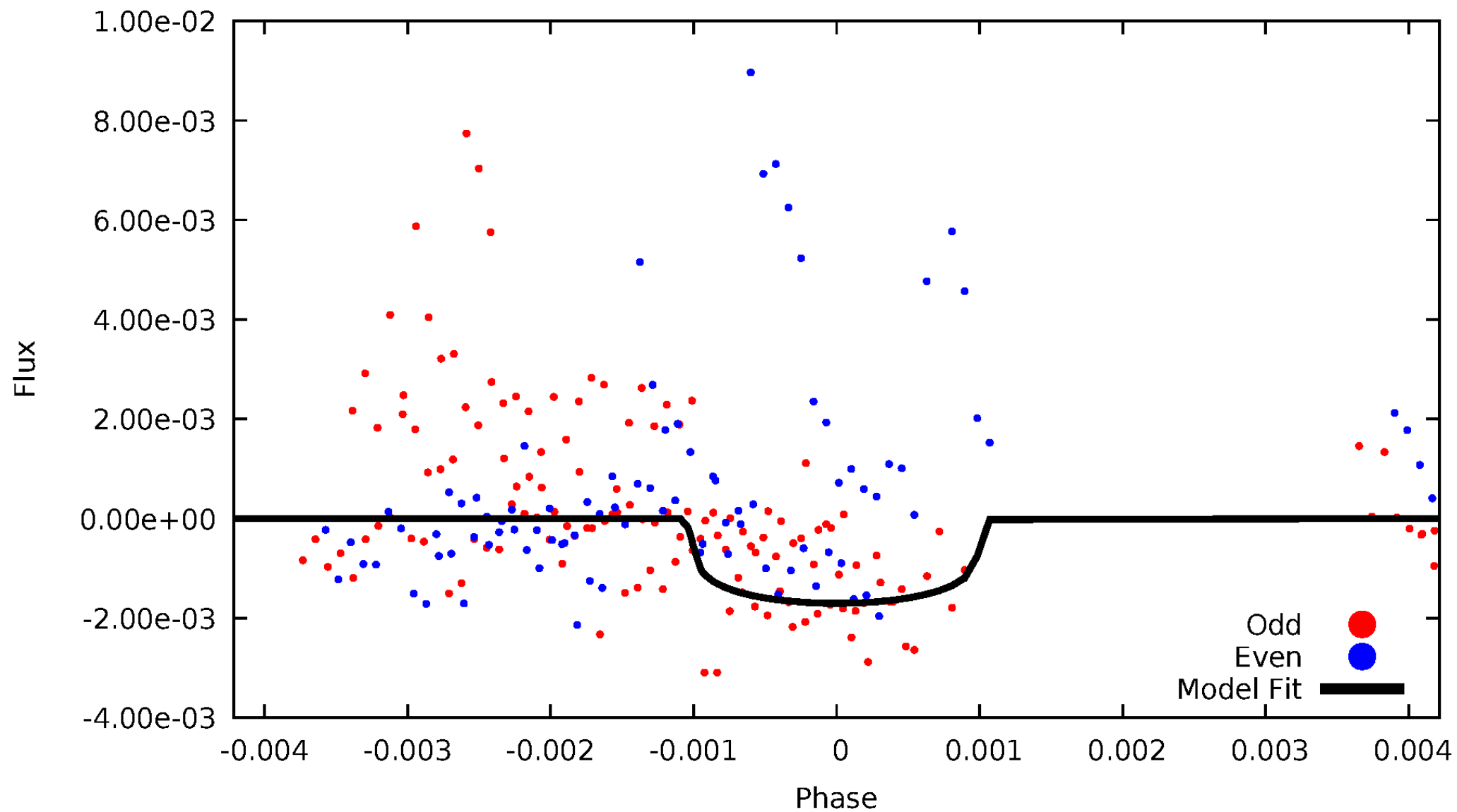


TCE 006370174-05



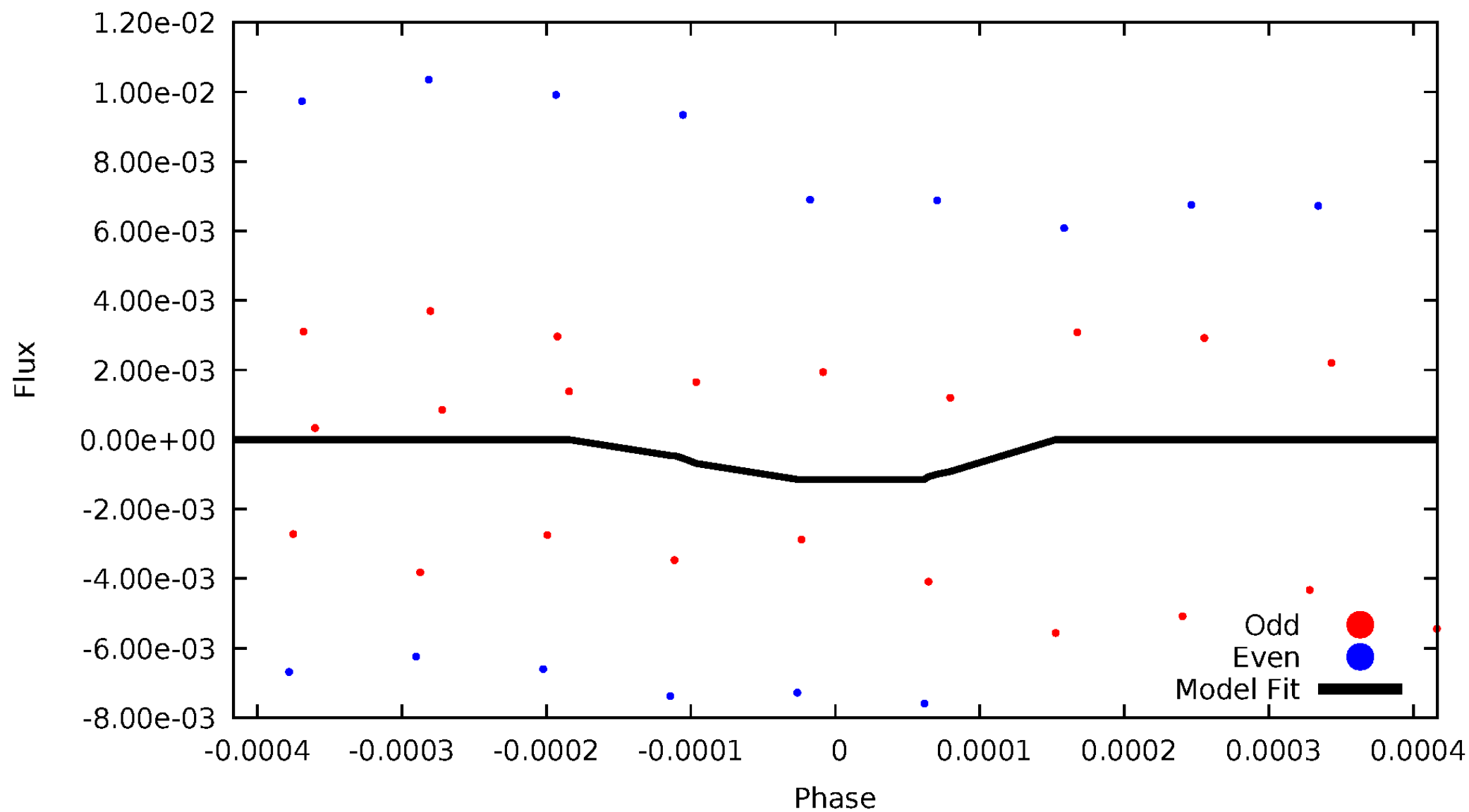
DV Odd/Even

TCE 006370174-05



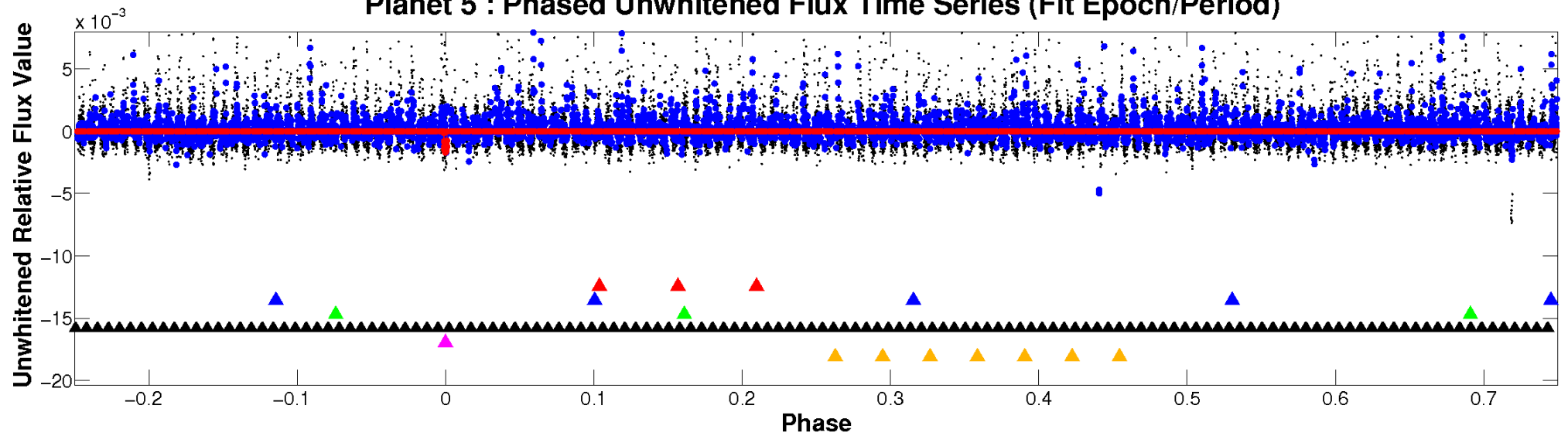
ALT Odd/Even

TCE 006370174-05

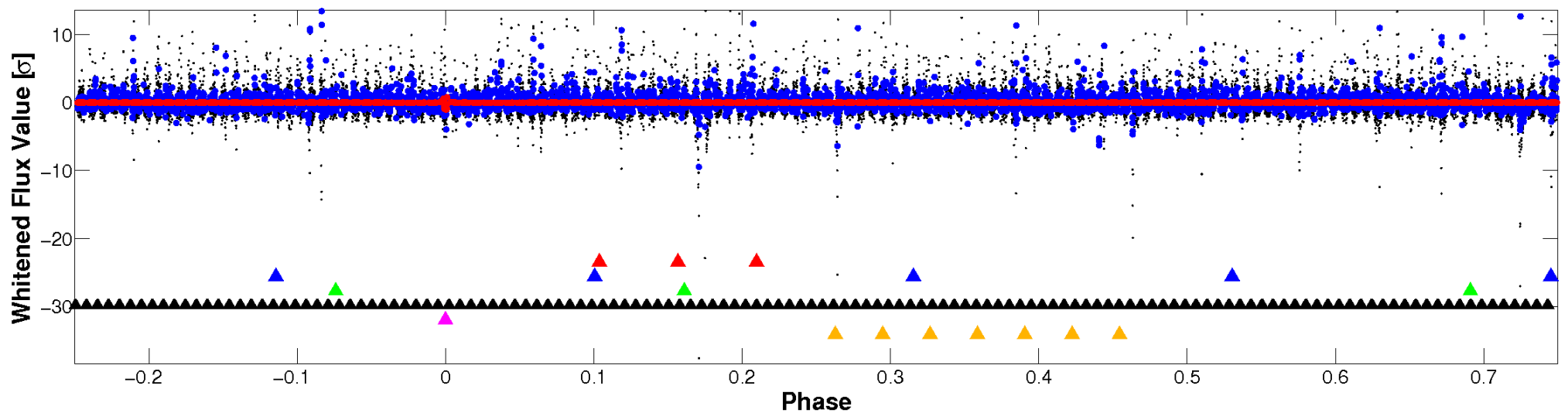


Non-Whitened Vs. Whitened Light Curve

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

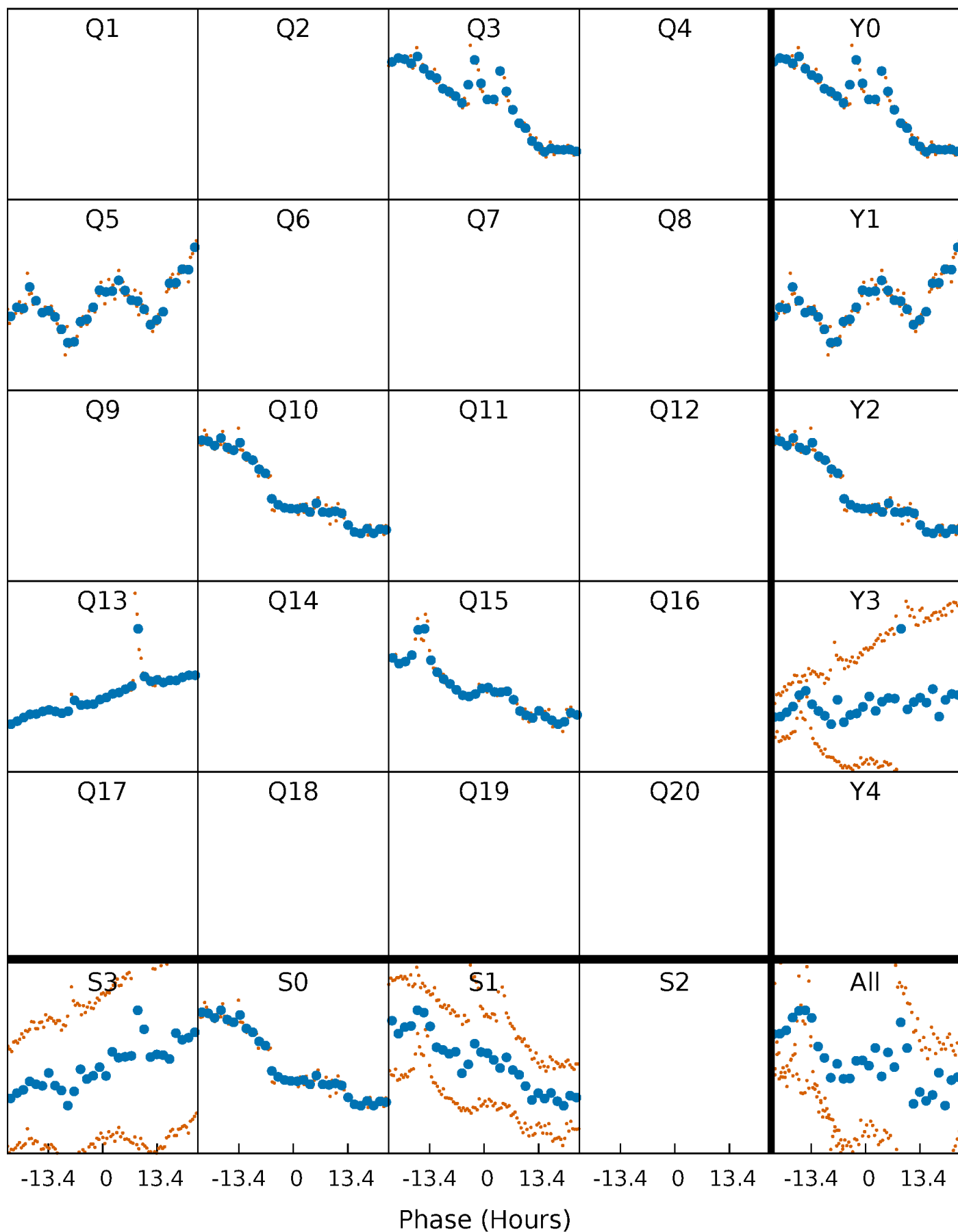


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



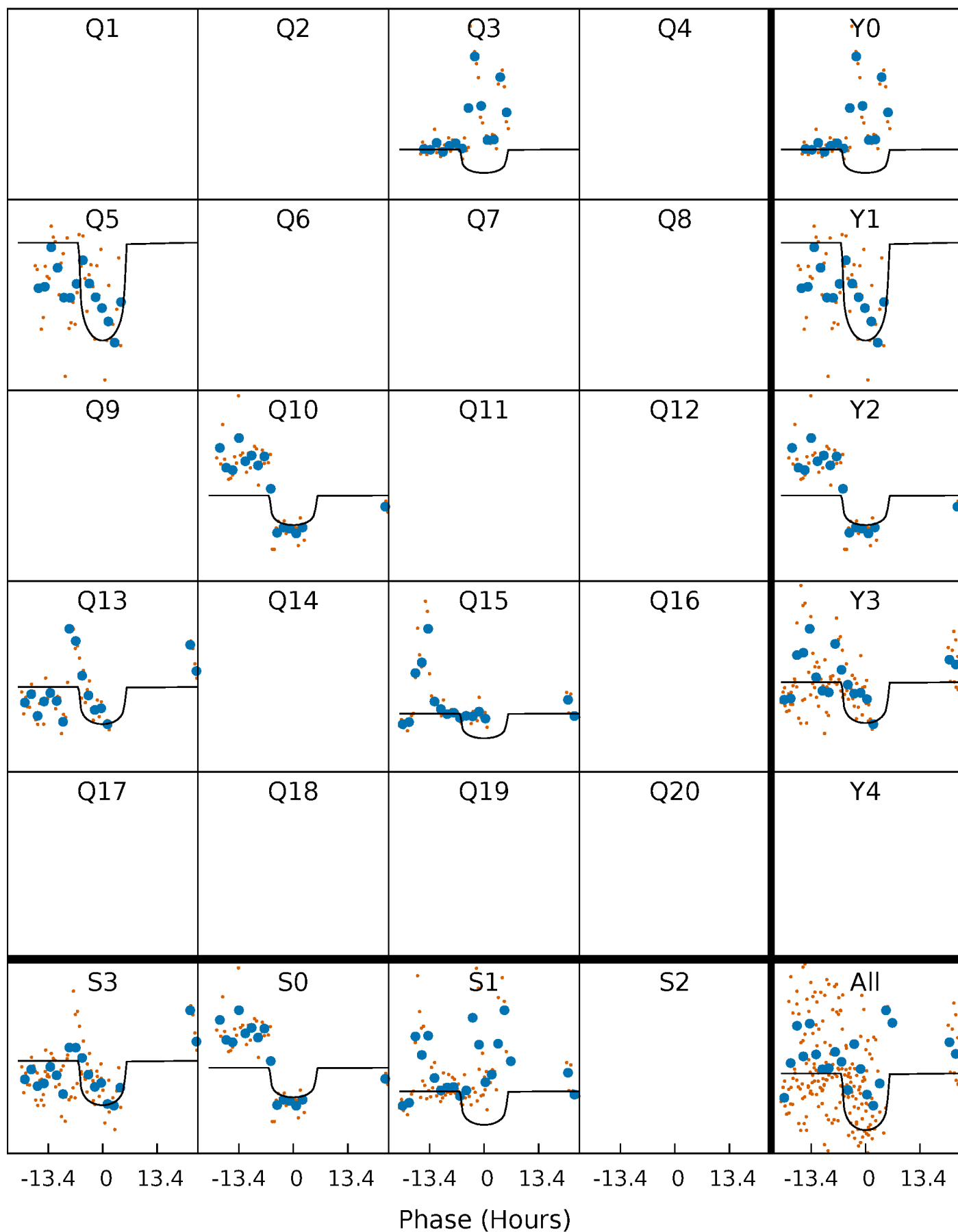
PDC Quarter-Phased Transit Curves

TCE 006370174-05 $P=232.409796$ Days $T_0=261.713036$ (BKJD)



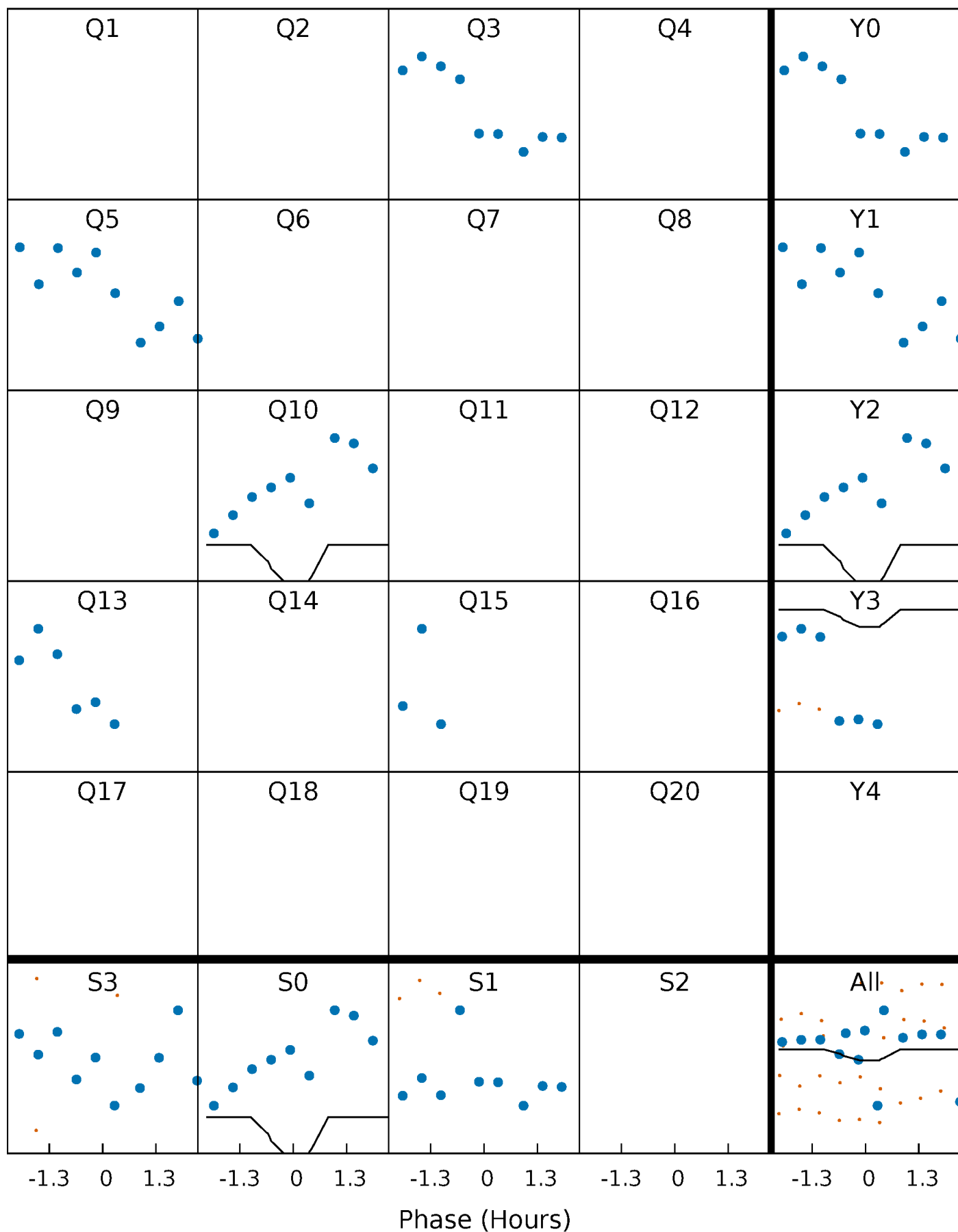
DV Quarter-Phased Transit Curves

TCE 006370174-05 $P=232.409796$ Days $T_0=261.713036$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

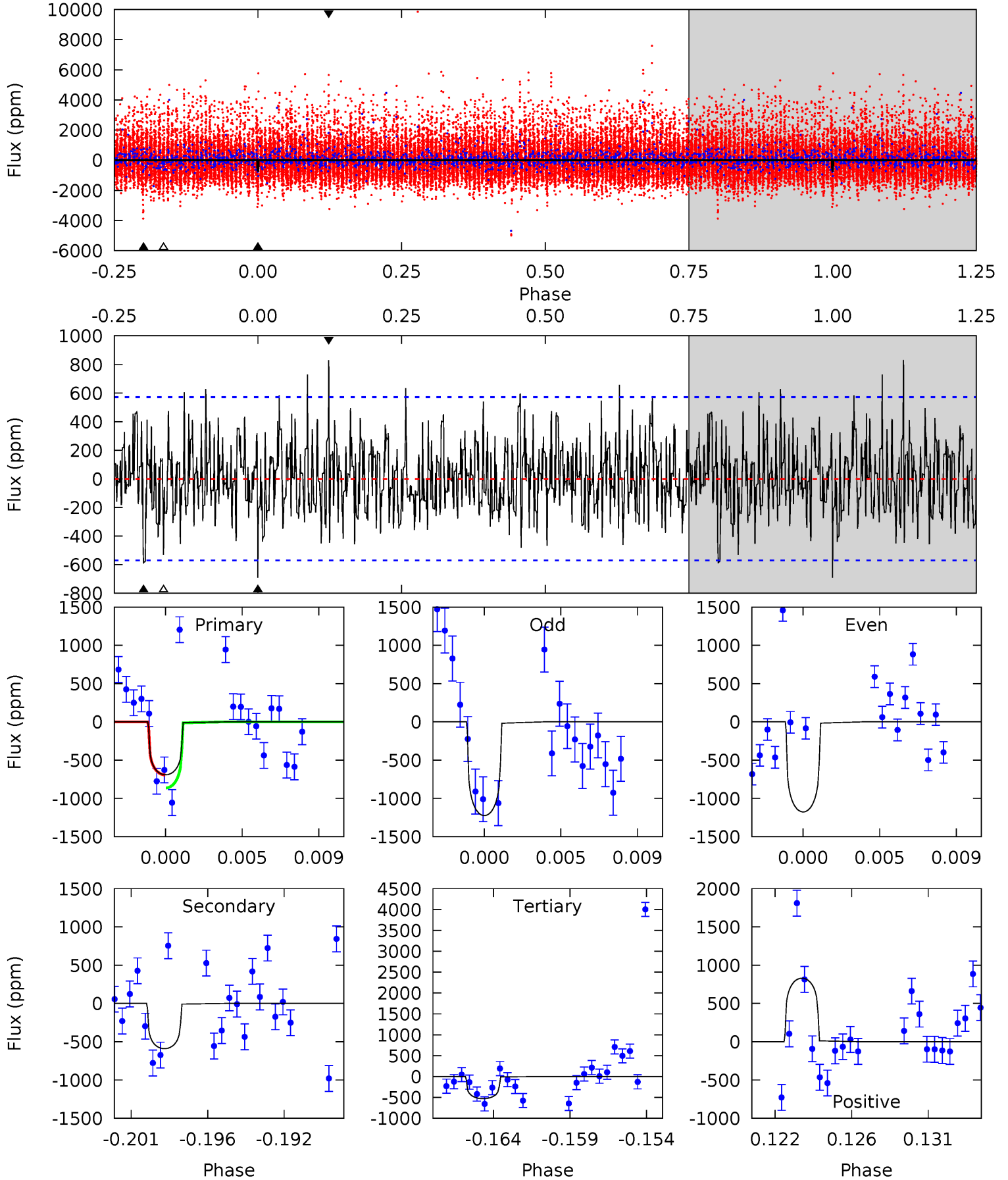
TCE 006370174-05 P=232.431745 Days $T_0=261.679847$ (BKJD)



DV Model-Shift Uniqueness Test

006370174-05, P = 232.409796 Days, E = 29.303240 Days

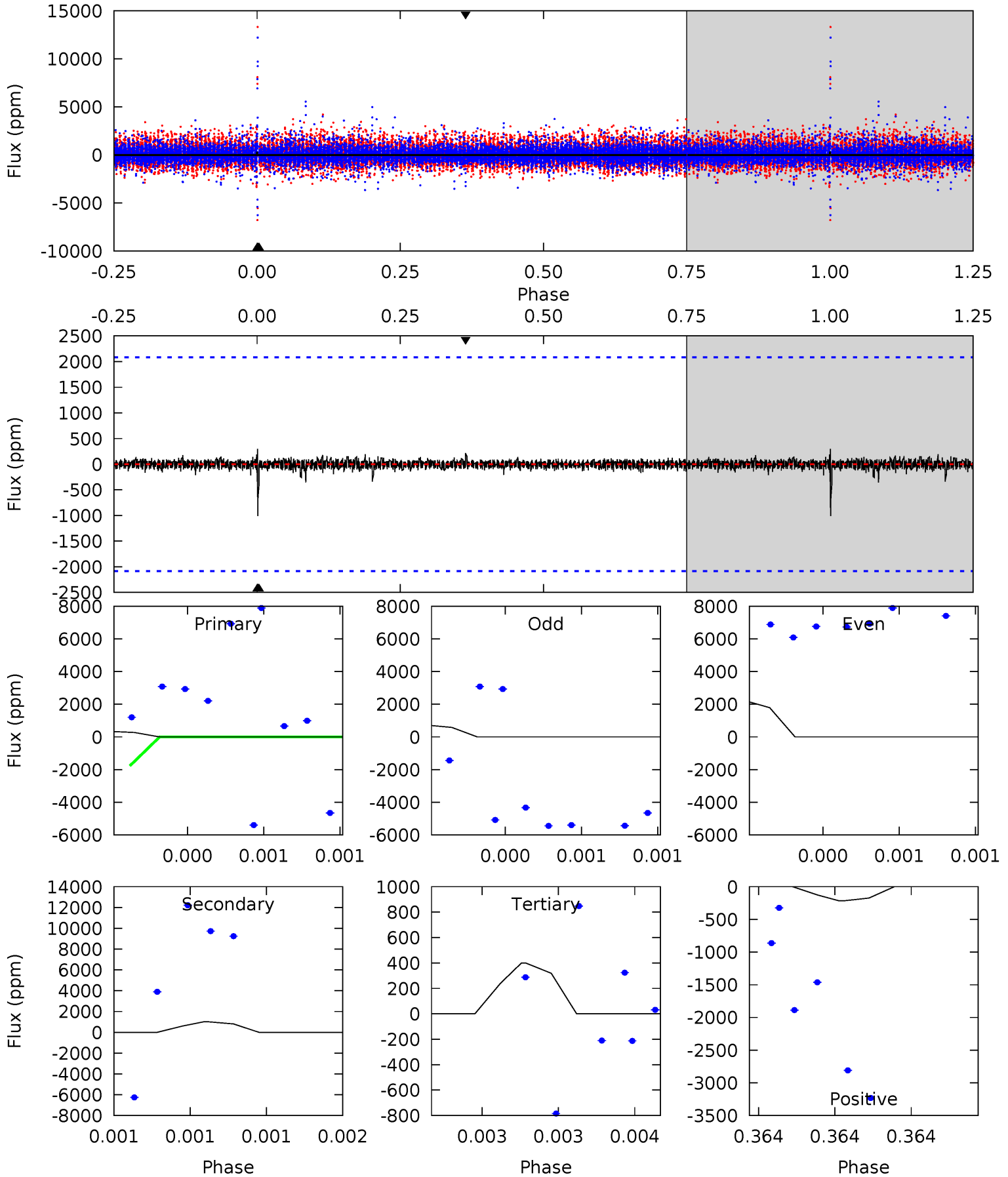
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.26	5.35	4.80	7.52	5.17	2.83	1.83	1.46	-1.26	0.55	-2.17	0.20	0.26	0.55	0.75



Alt Model-Shift Uniqueness Test

006370174-05, P = 232.431745 Days, E = 29.248102 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.93	2.76	1.09	0.59	5.68	3.65	0.10	-0.16	0.33	1.67	2.17	2.89	0.38	0.23	0.53



Stellar Parameters For KIC 006370174

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3396^{+54}_{-54}	$4.933^{+0.055}_{-0.040}$	$0.000^{+0.100}_{-0.100}$	$0.314^{+0.040}_{-0.044}$	$0.308^{+0.053}_{-0.048}$	$14.020^{+4.687}_{-2.449}$
	+2%/-2%	+1%/-1%	+inf%/-inf%	+13%/-14%	+17%/-16%	+33%/-17%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 006370174-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-590 ± 110	$1.32^{+0.78}_{-0.76}$	165^{+5}_{-5}	2968^{+842}_{-364}	$48345^{+204578}_{-30764}$
Alt.	-1012 ± 367	$1.16^{+0.81}_{-0.63}$	165^{+4}_{-4}	3287^{+1024}_{-481}	$97504^{+377137}_{-66128}$

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

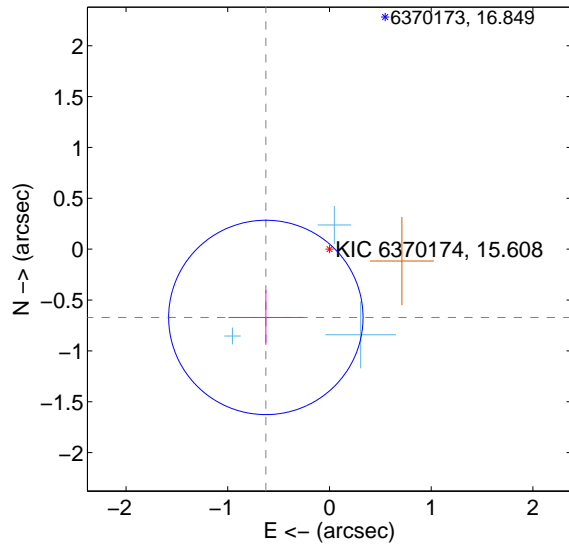
Supplemental centroid analysis for 006370174-05. Kepler magnitude: 15.61. Transit SNR 8.82

There are 3 quarters with good PRF difference image offsets

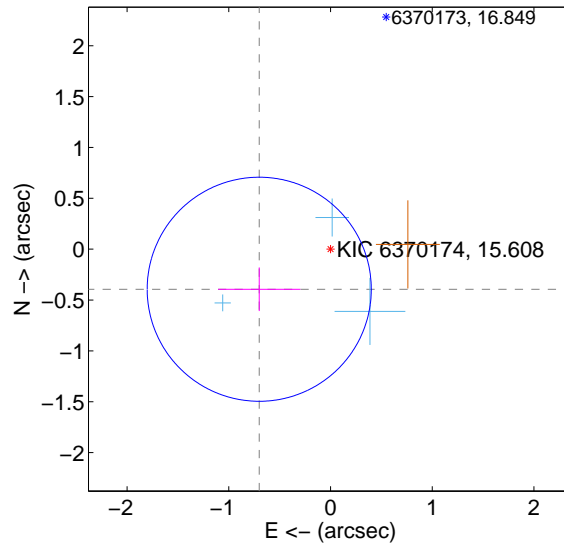
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.917 ± 0.318	2.88	0.626 ± 0.367	-0.671 ± 0.269
PRF-fit source offset from KIC position	0.804 ± 0.367	2.19	0.701 ± 0.404	-0.394 ± 0.214
photometric centroid source offset	0.26 ± 0.58	0.45	-0.23 ± 0.56	0.11 ± 0.65

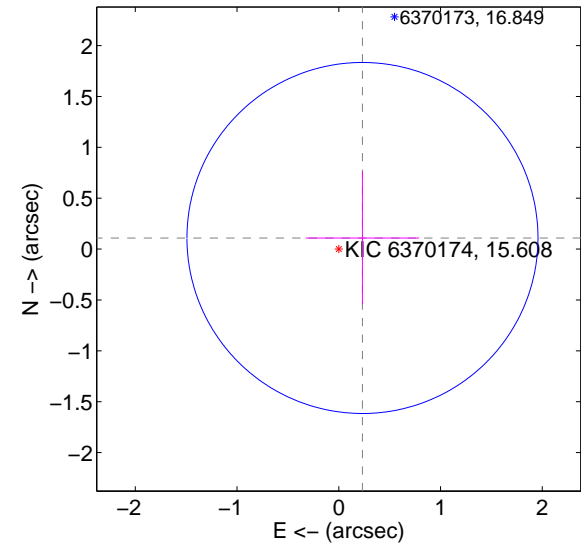
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

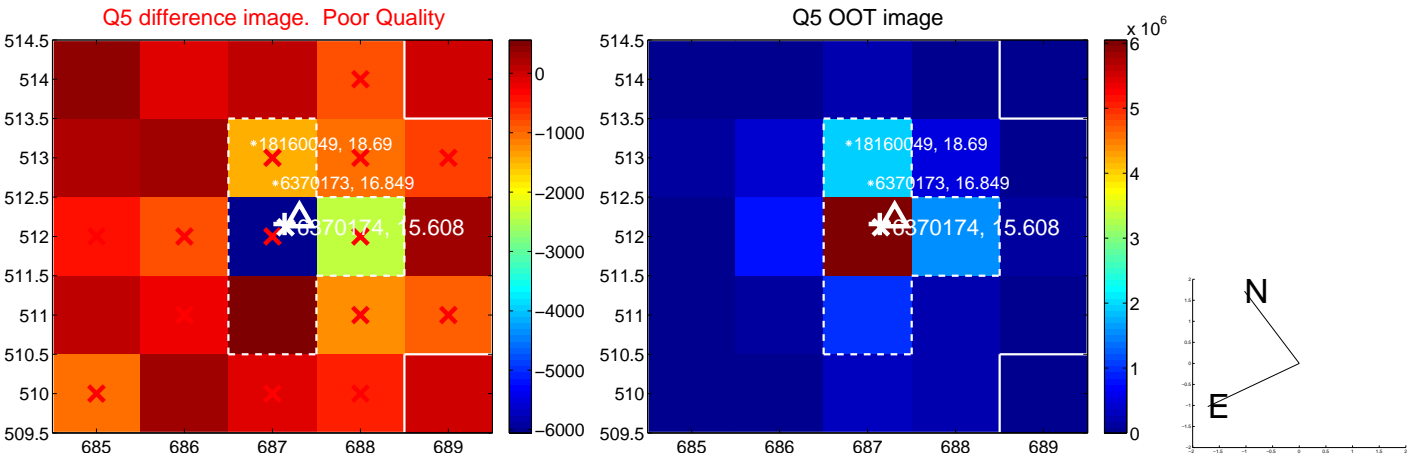


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

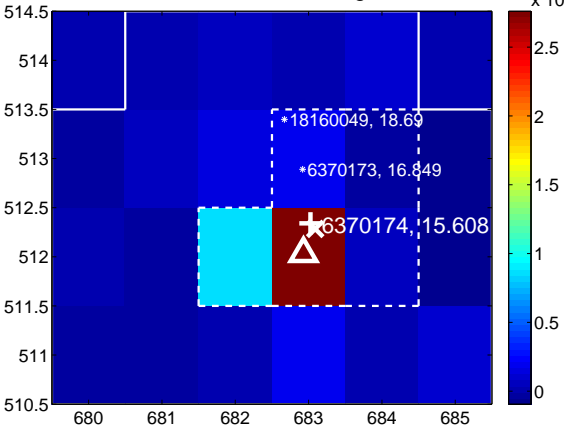
Q9 no difference image



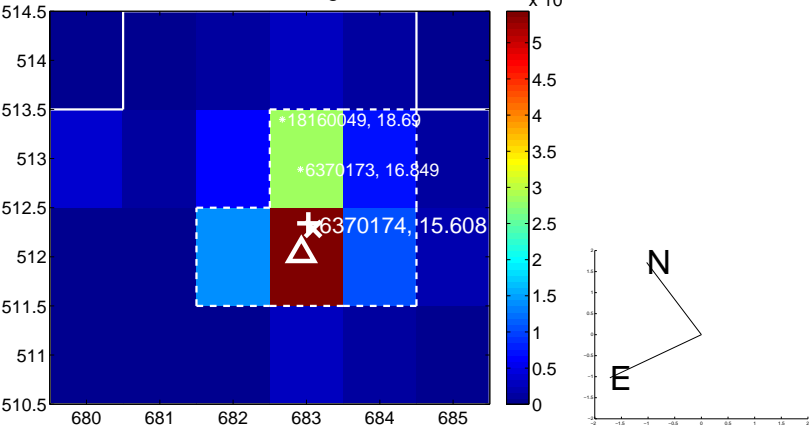
Q9 no OOT image



Q10 difference image



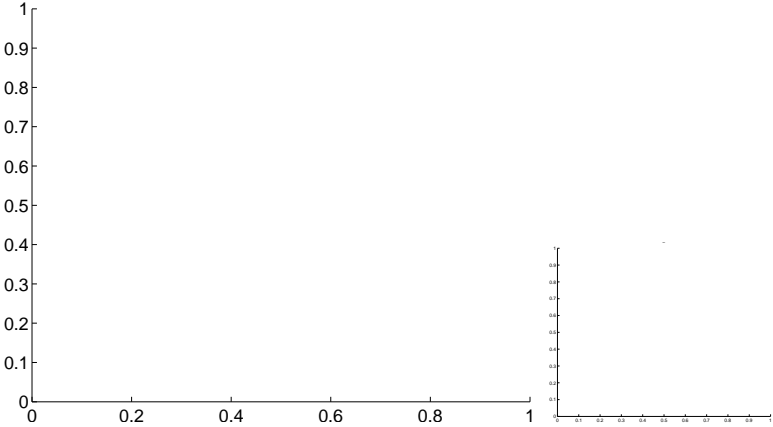
Q10 OOT image



Q11 no difference image



Q11 no OOT image



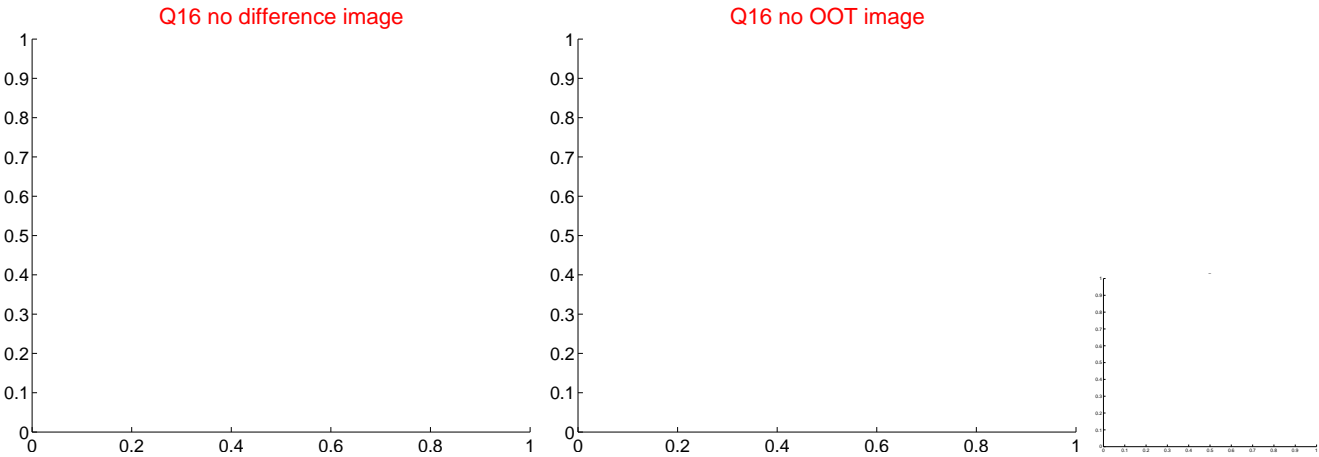
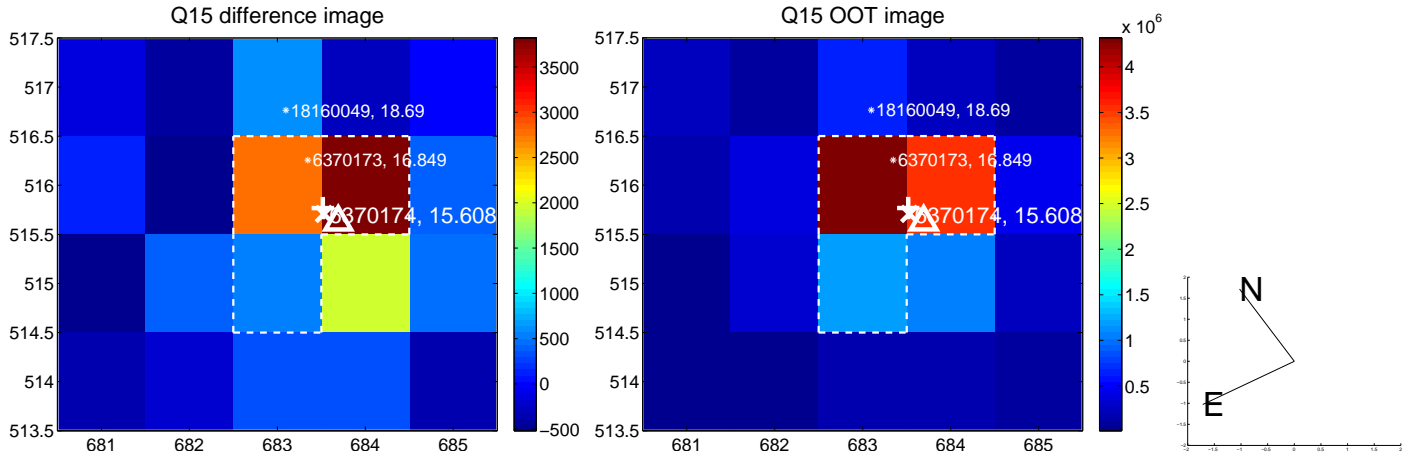
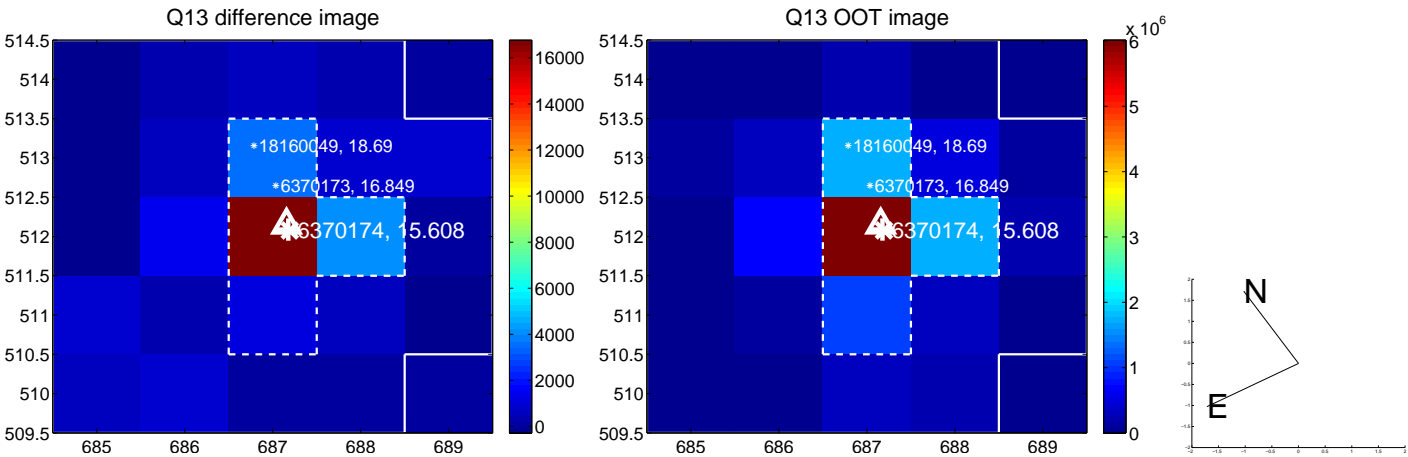
Q12 no difference image



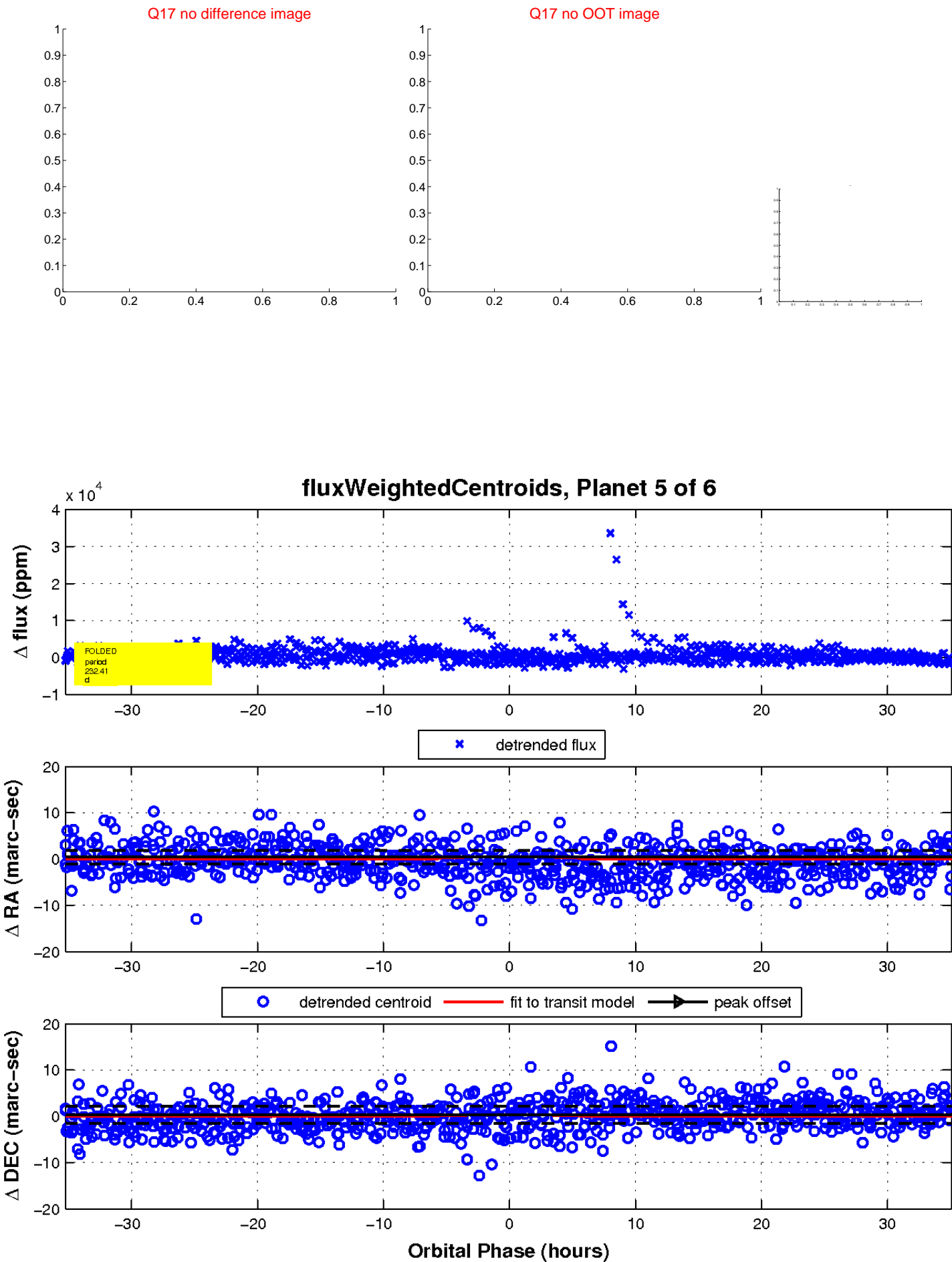
Q12 no OOT image



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

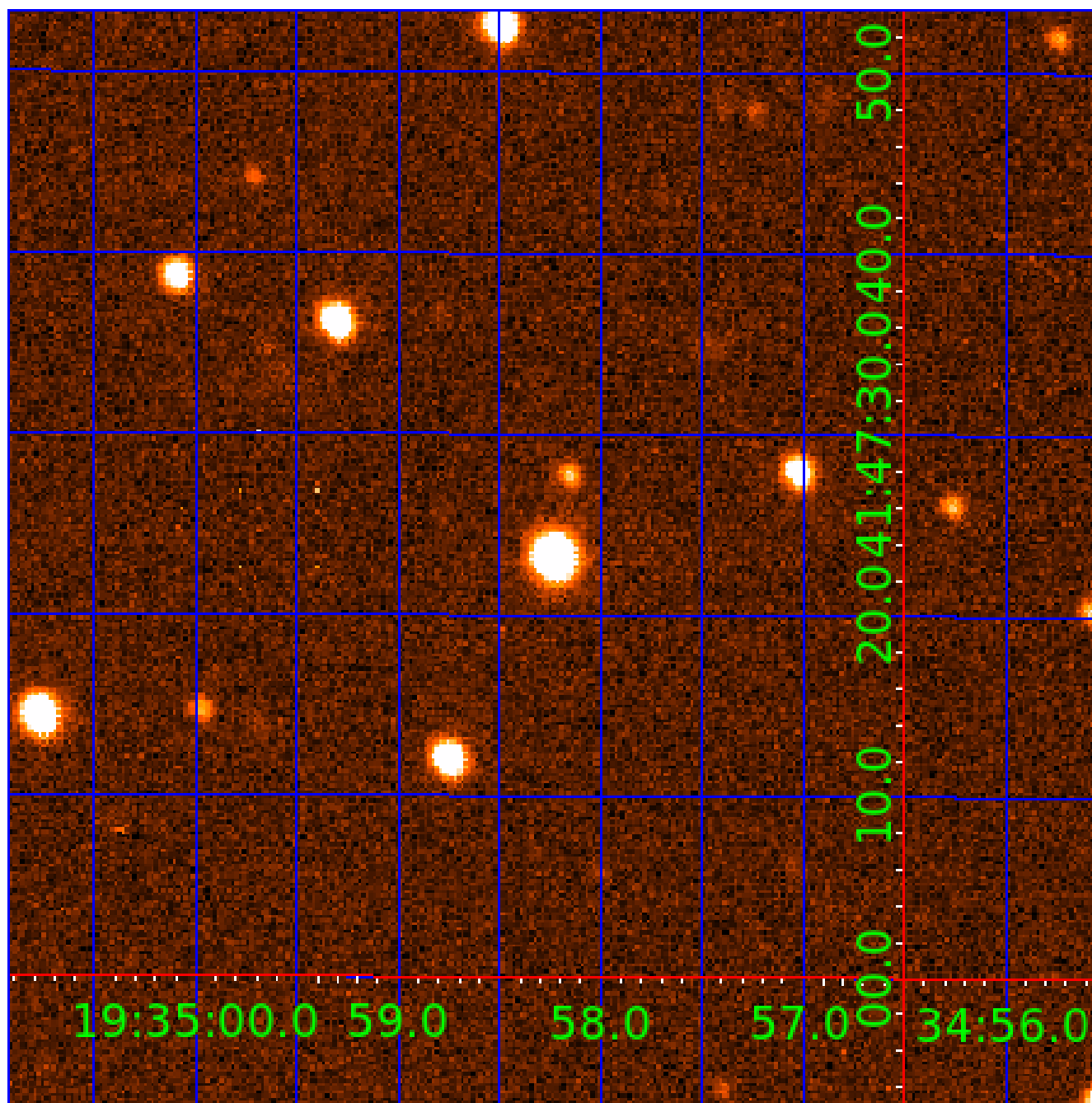


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006370174

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})
006370174-01	OBS	No	452.506777	542.866625	1692.9	10.366	11.5	5.8	0.31	3396	1.33	0.02
006370174-02	OBS	No	282.354856	235.150599	1138.0	9.180	11.2	5.2	0.31	3396	1.05	0.04
006370174-03	OBS	No	519.436410	422.308527	2030.3	19.247	12.0	7.1	0.31	3396	1.39	0.02
006370174-04	OBS	No	1.721220	131.565438	269.3	6.297	10.1	14.6	0.31	3396	0.53	32.58
006370174-05	OBS	No	232.409796	261.713036	1703.1	11.749	14.6	8.8	0.31	3396	1.28	0.05
006370174-06	OBS	No	224.987118	134.923398	1777.0	10.500	13.9	-1.0	0.31	3396	1.31	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006370174-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006370174-03	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
006370174-04	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006370174-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006370174-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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.

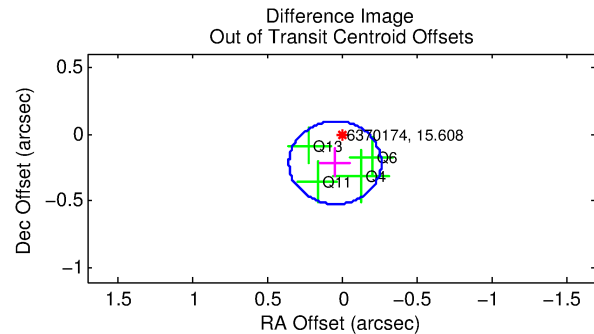
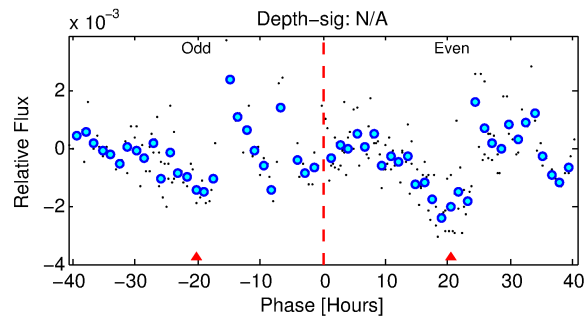
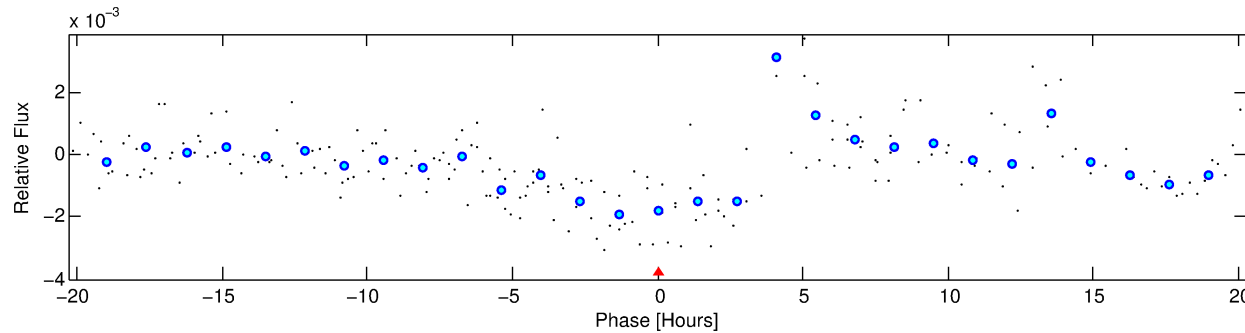
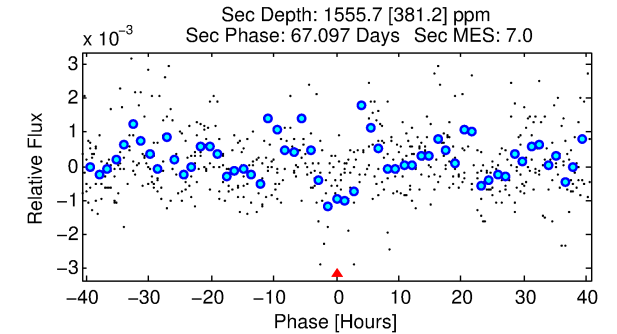
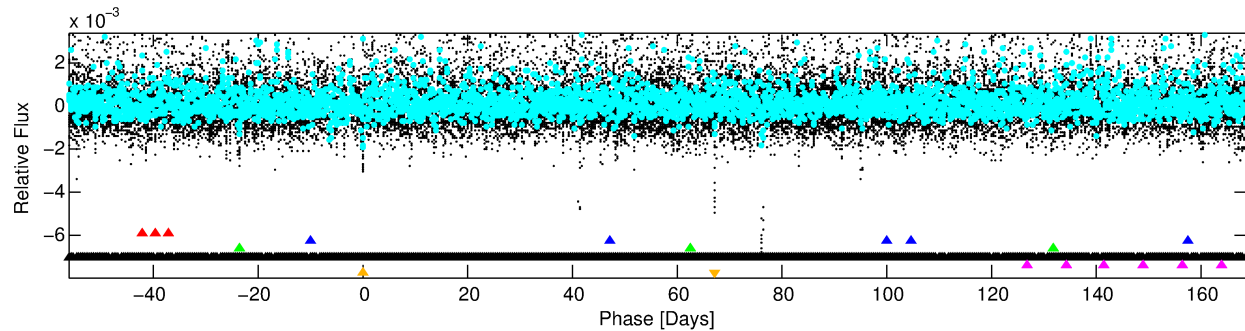
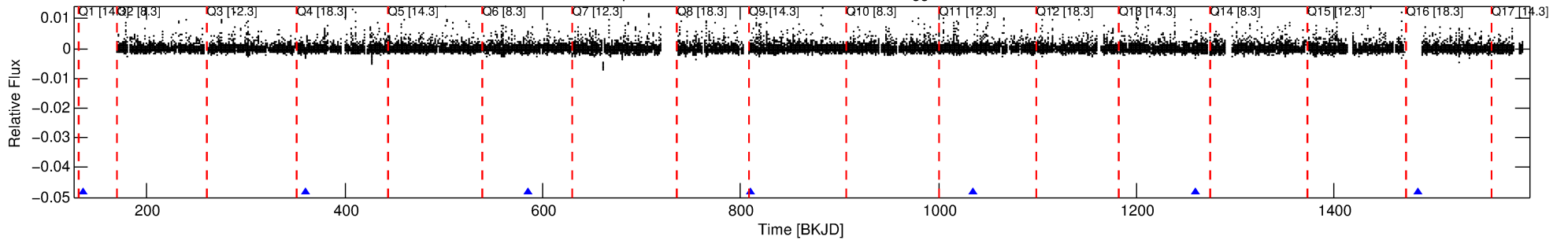
Ephemeris Match Information For 006370174-06

No Significant Match Found

DV One-Page Summary

KIC: 6370174 Candidate: 6 of 6 Period: 224.987 d

Kp: 15.61 R*: 0.31 Rs Teff: 3396.0 K Logg: 4.93 Fe/H: 0.000



TPS TCE Results:

Period = 224.98712 d
Epoch = 134.9234 BKJD

DV fit results are unavailable

DV Diagnostic Results:

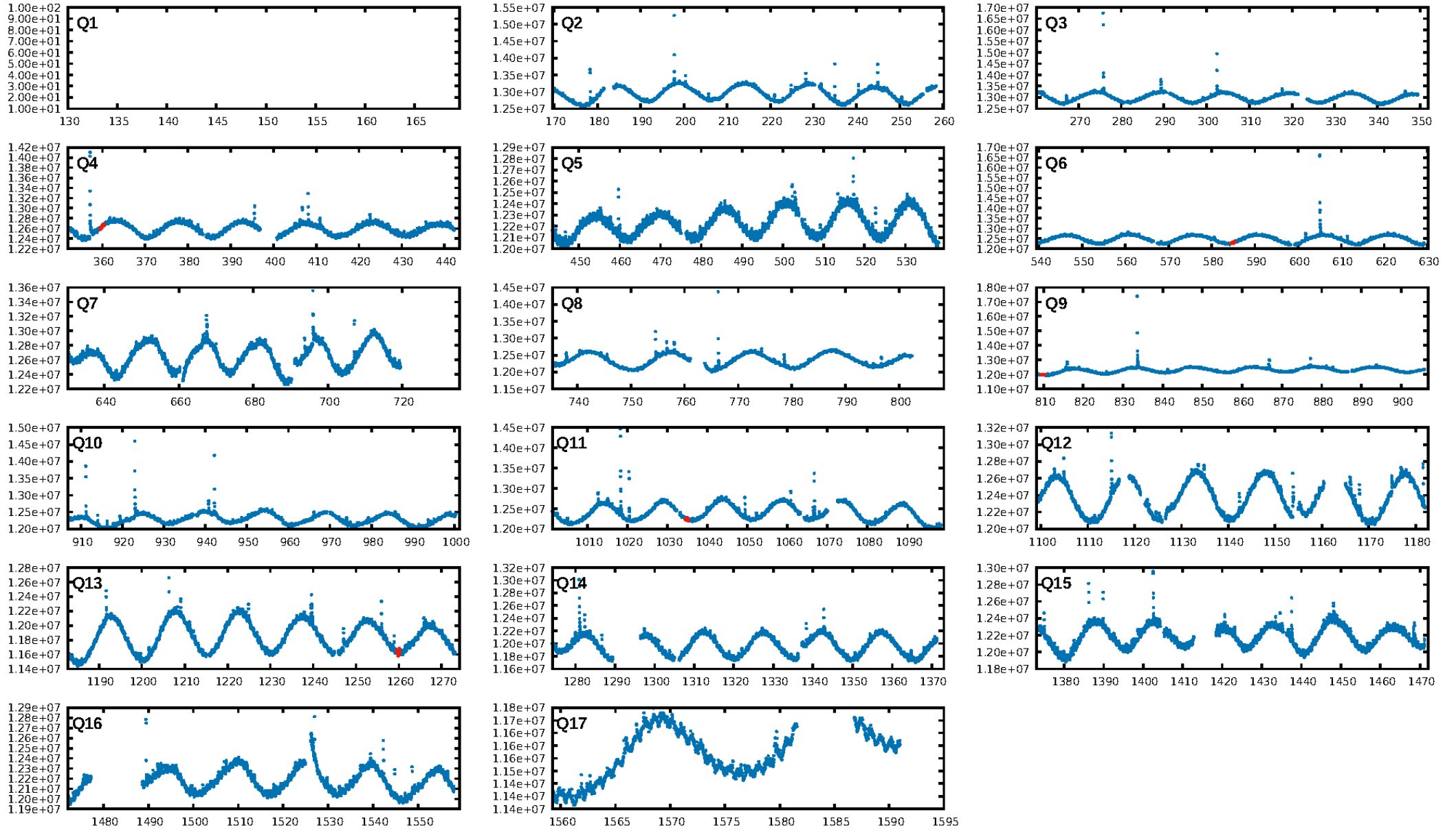
ShortPeriod-sig: 100.0% [437.65 σ]
LongPeriod-sig: 100.0% [11.31 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.2718

Centroid-sig: 95.8%
Centroid-so: 0.314 arcsec [0.77 σ]
OotOffset-rm: 0.217 arcsec [2.11 σ]
KicOffset-rm: 0.066 arcsec [0.56 σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.50 [2/4]

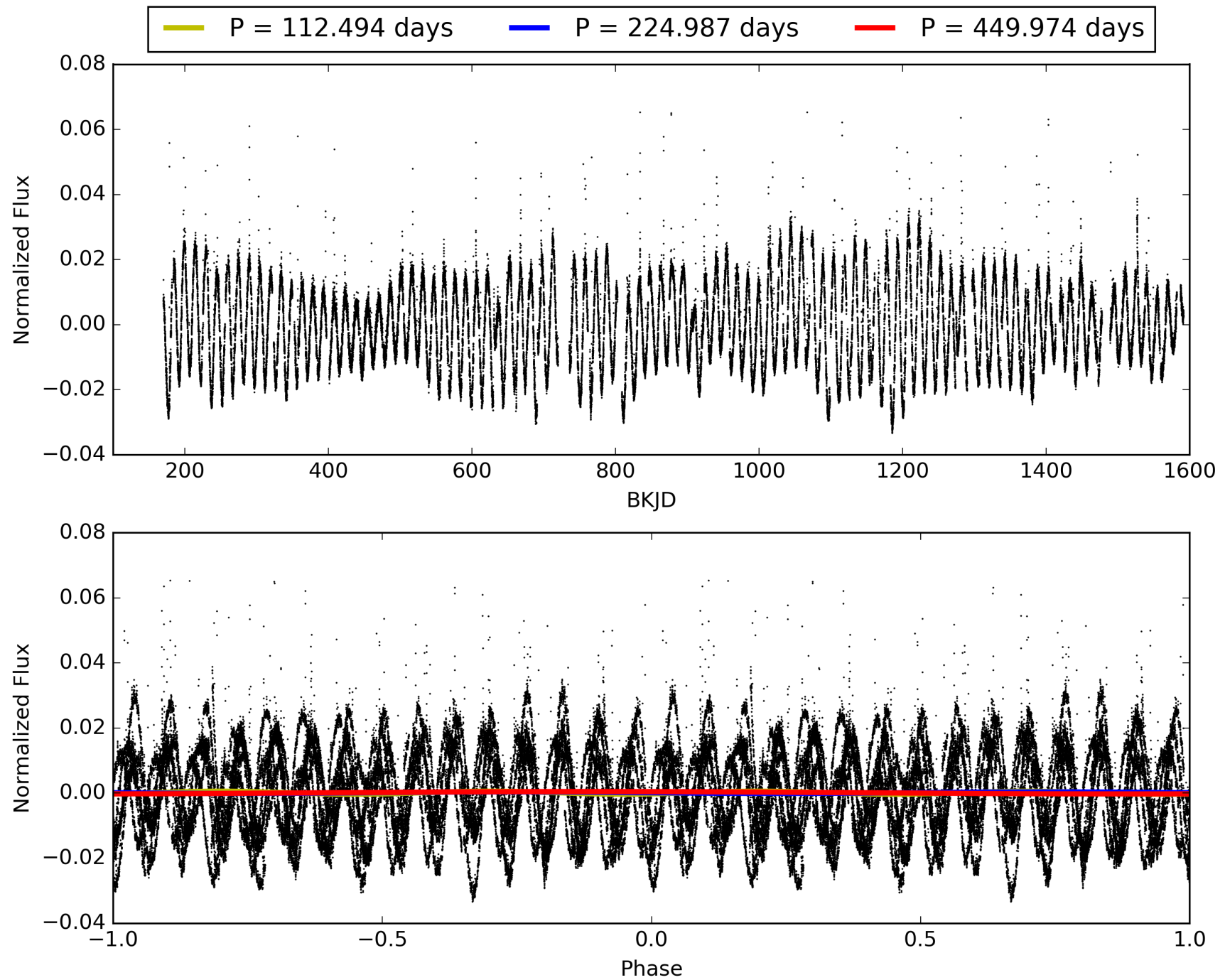
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:34:04 Z

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

TCE 006370174-06, PDC Light Curves

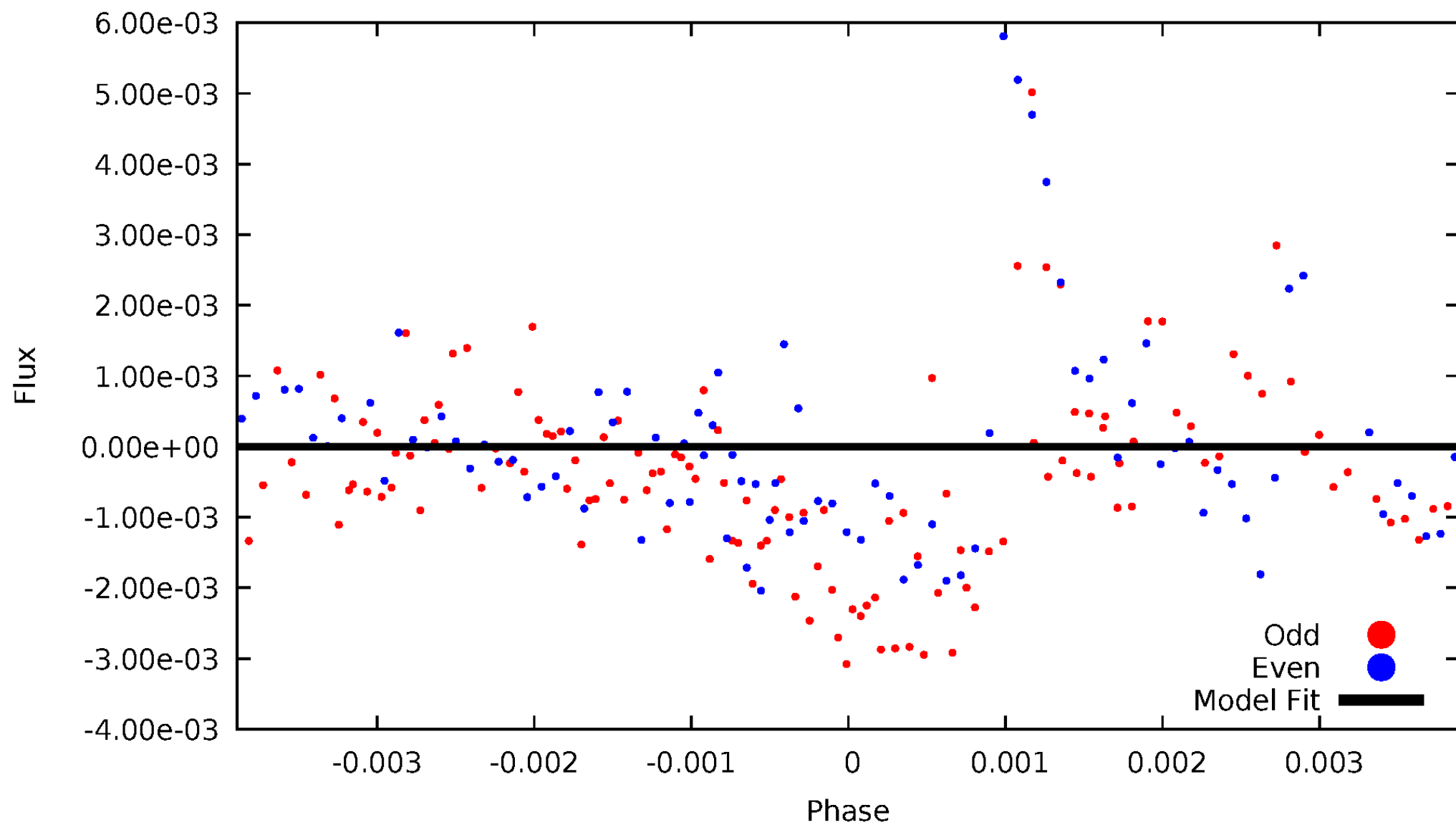


TCE 006370174-06



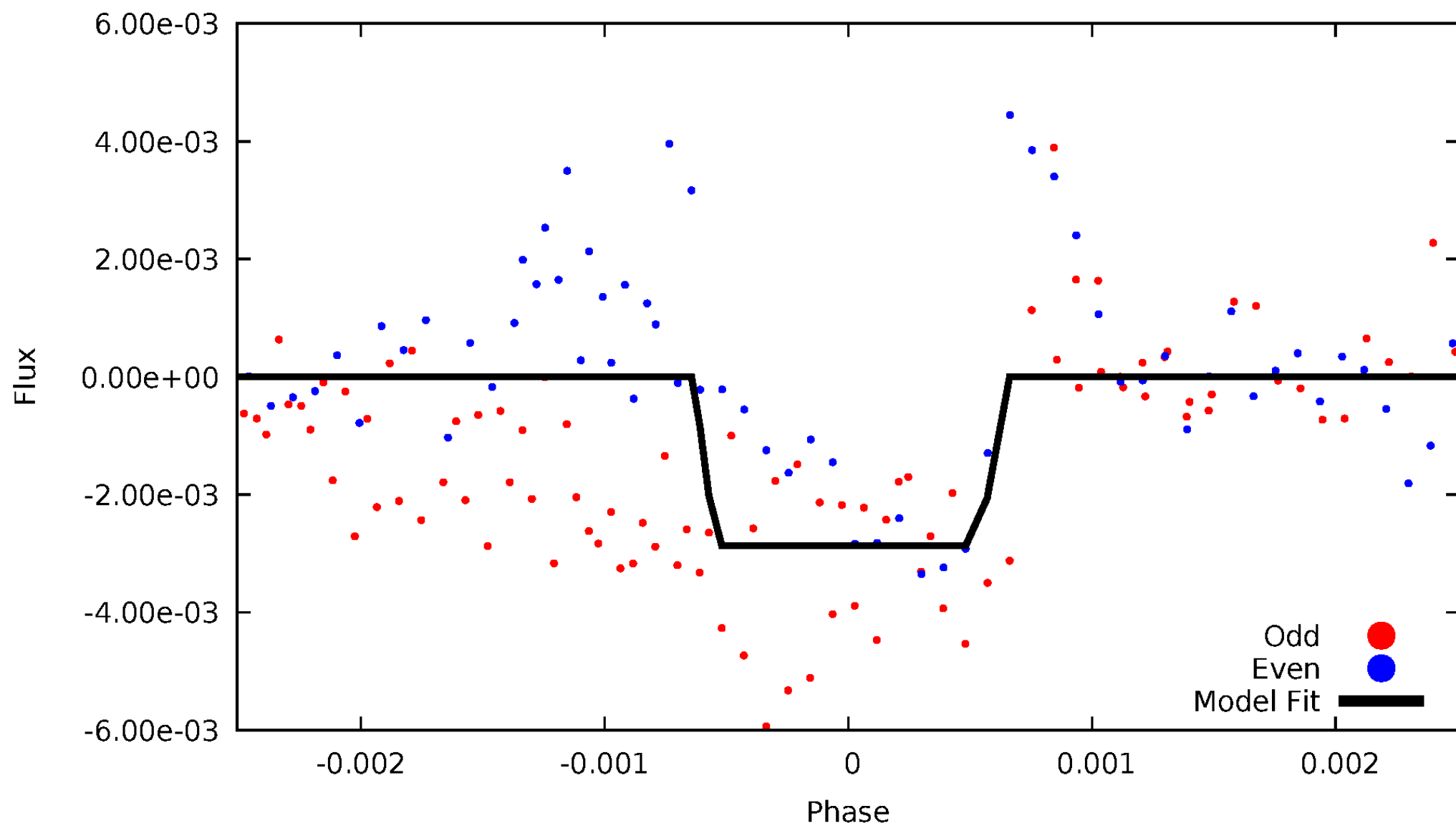
DV Odd/Even

TCE 006370174-06

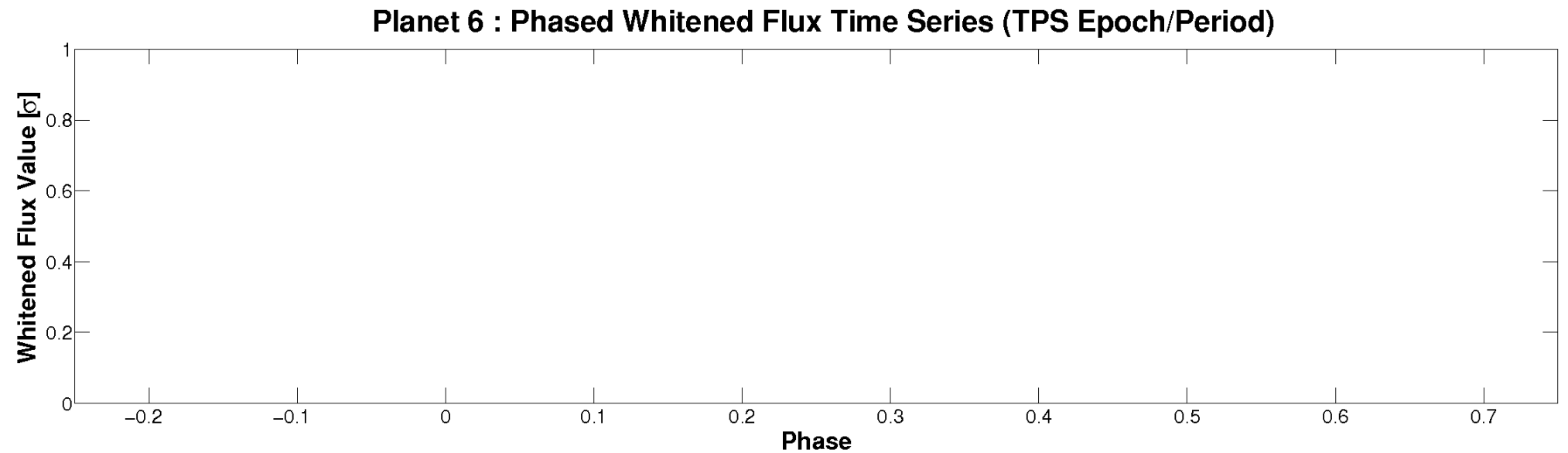
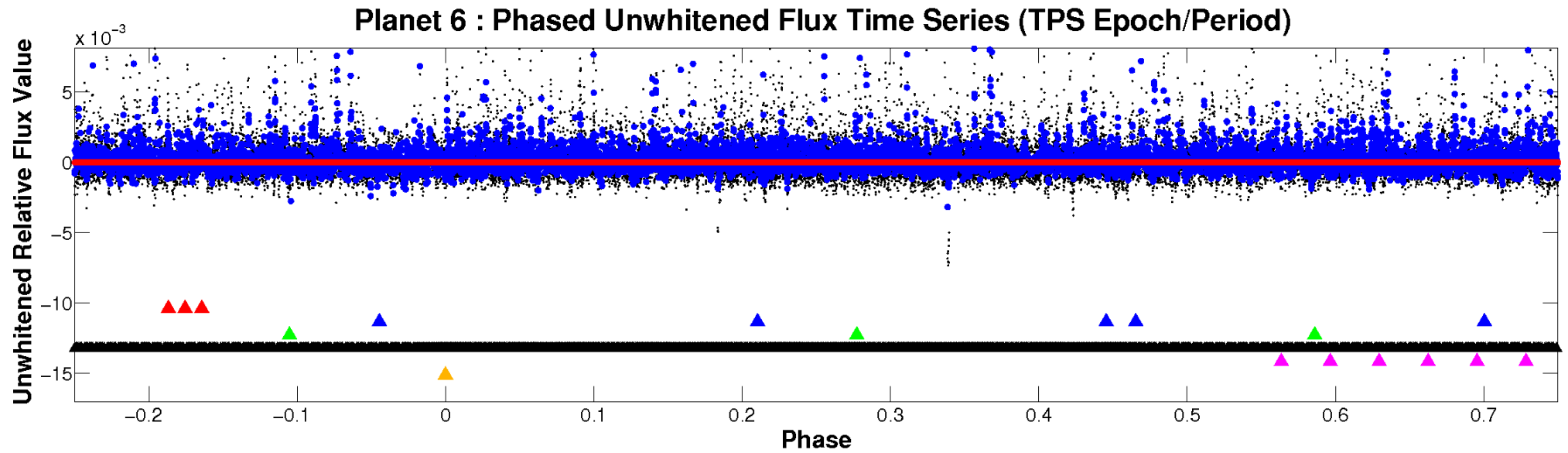


ALT Odd/Even

TCE 006370174-06

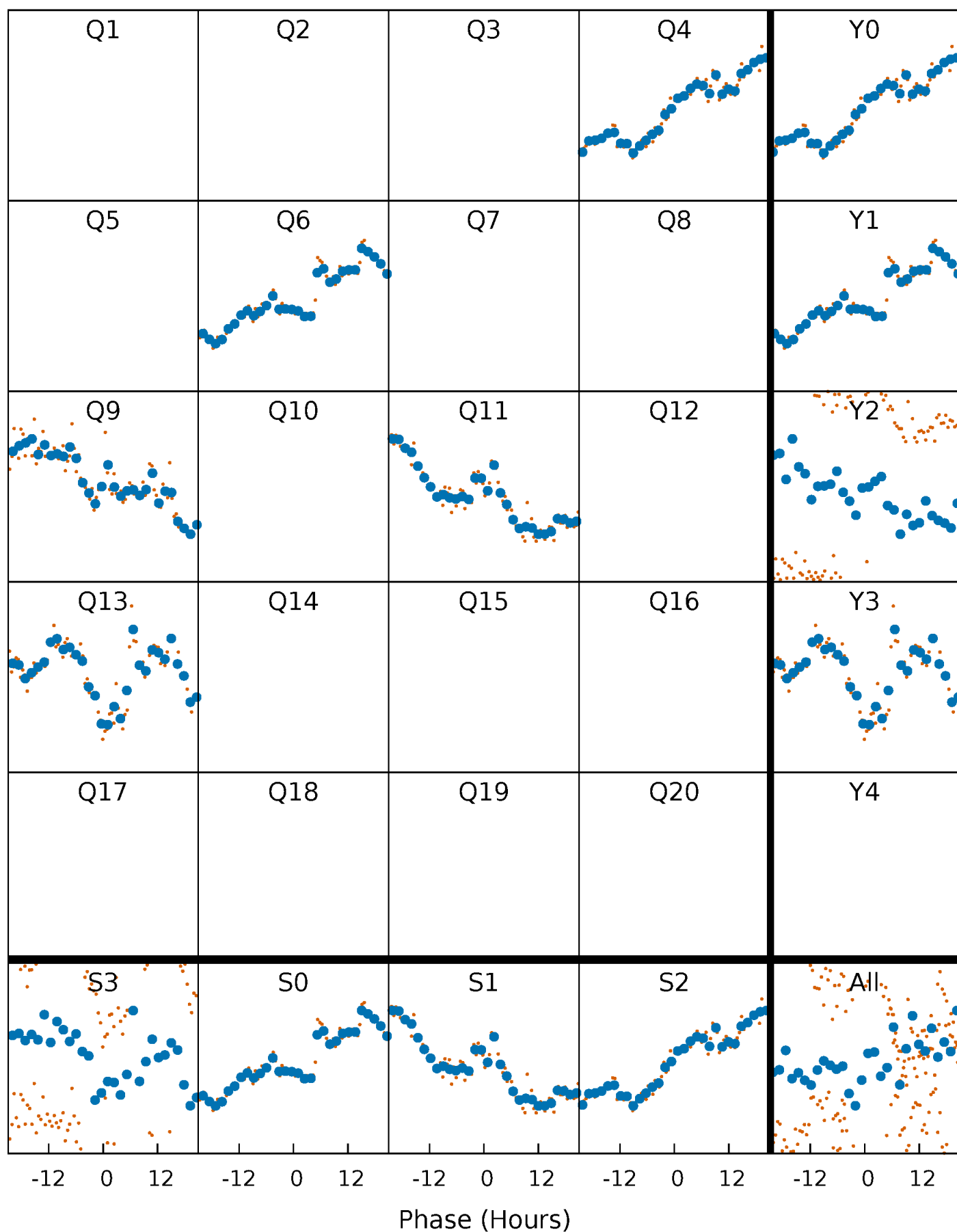


Non-Whitened Vs. Whitened Light Curve



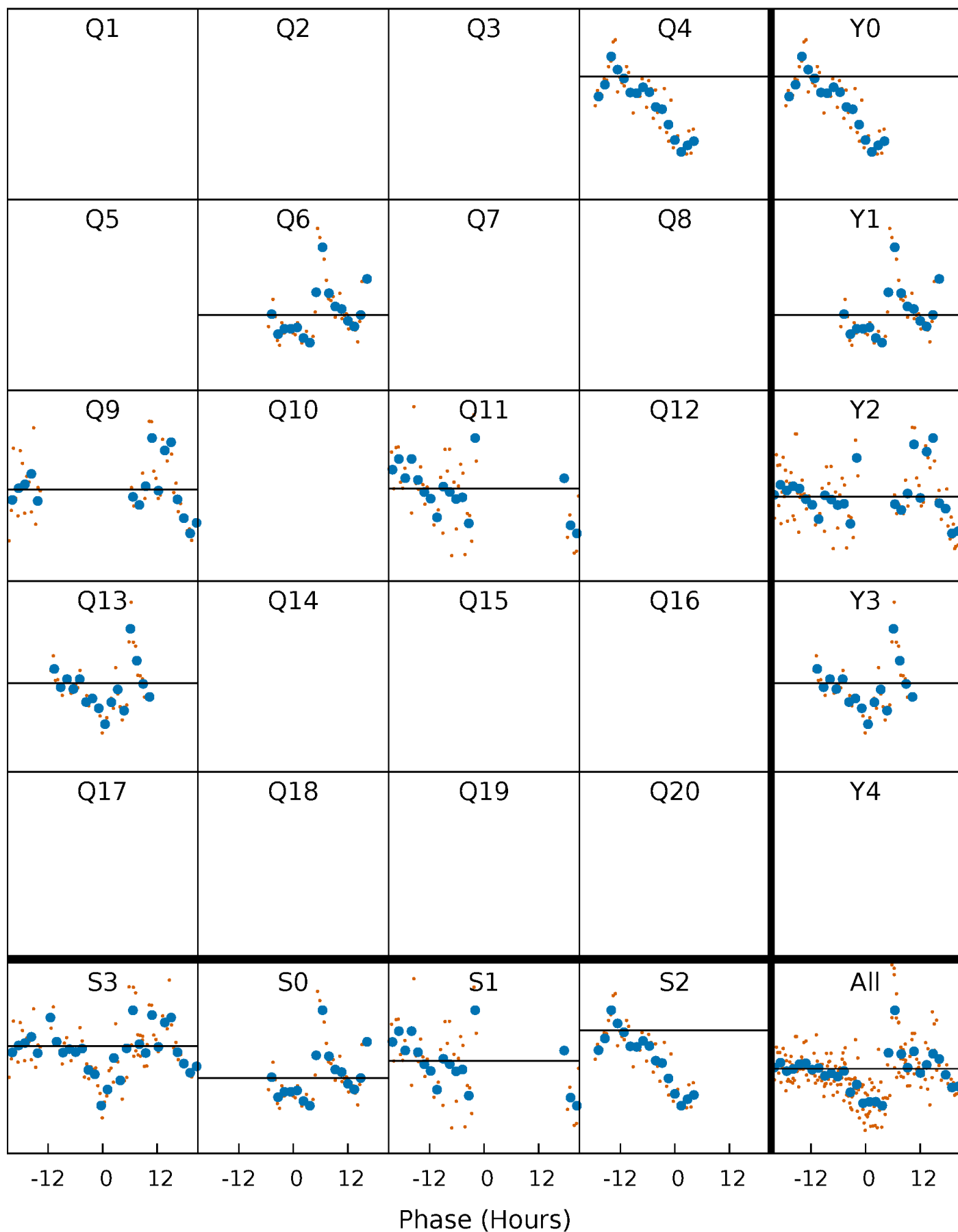
PDC Quarter-Phased Transit Curves

TCE 006370174-06 P=224.987118 Days $T_0=134.923398$ (BKJD)



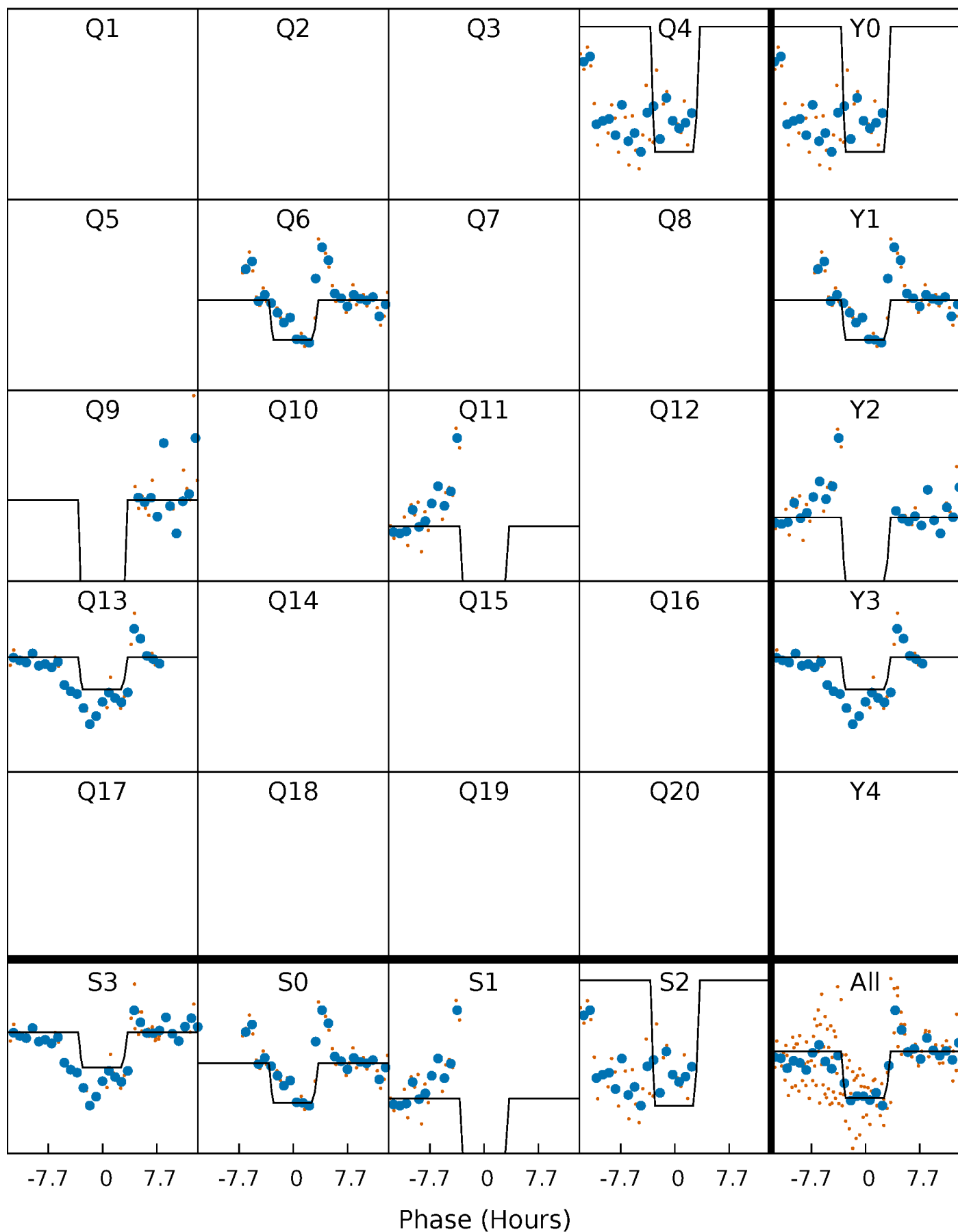
DV Quarter-Phased Transit Curves

TCE 006370174-06 P=224.987118 Days $T_0=134.923398$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

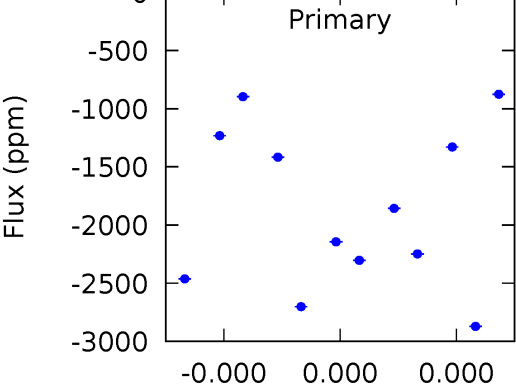
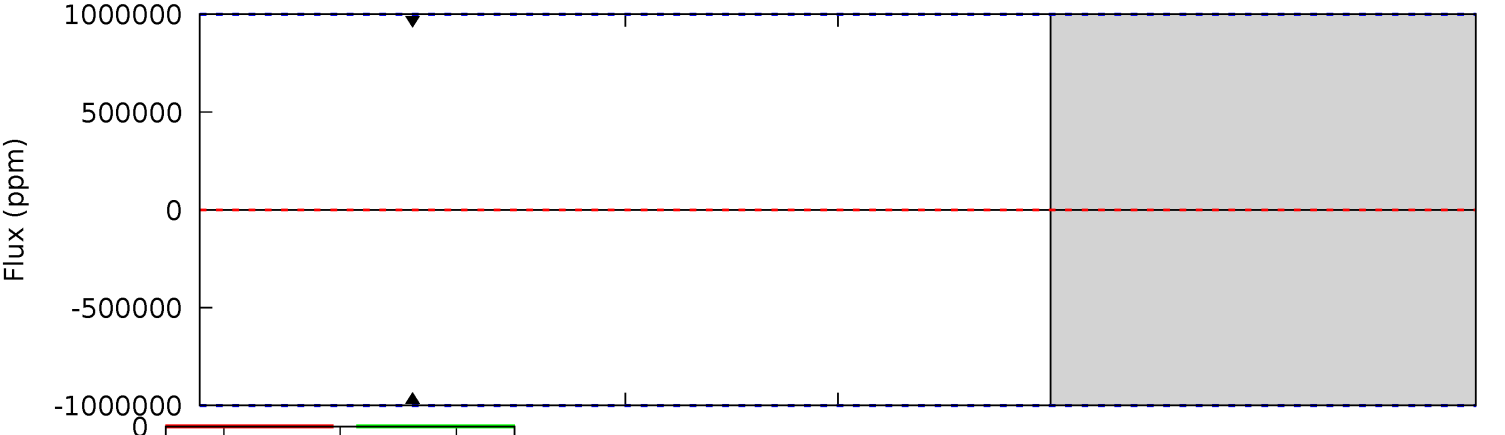
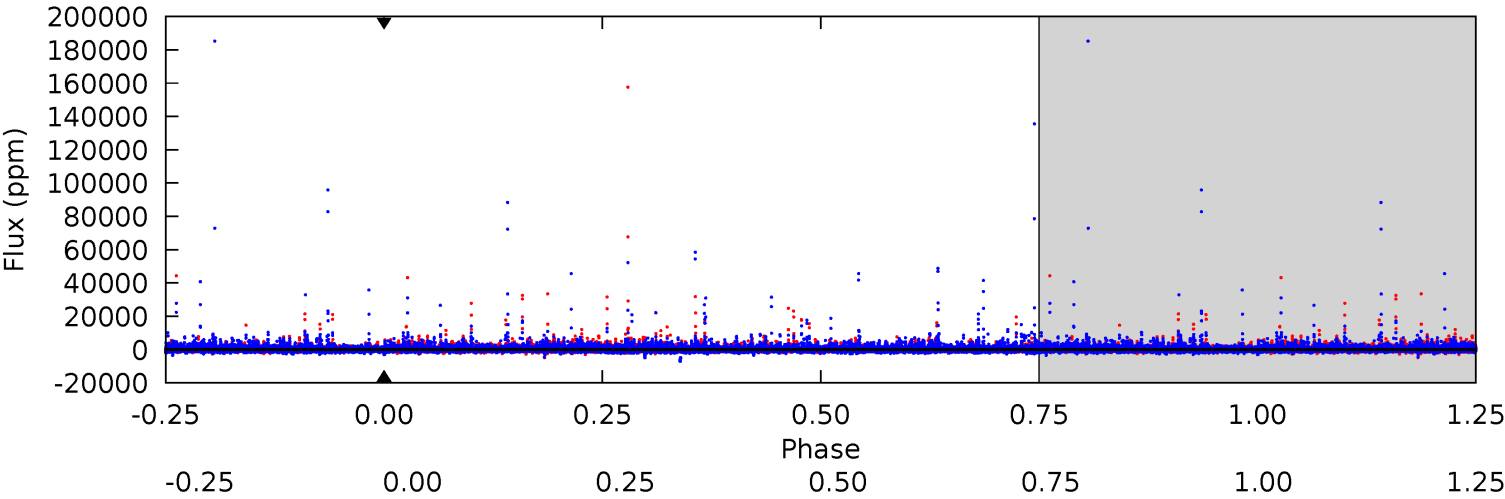
TCE 006370174-06 P=224.987118 Days $T_0=134.996588$ (BKJD)



DV Model-Shift Uniqueness Test

006370174-06, P = 224.987118 Days, E = 134.923398 Days

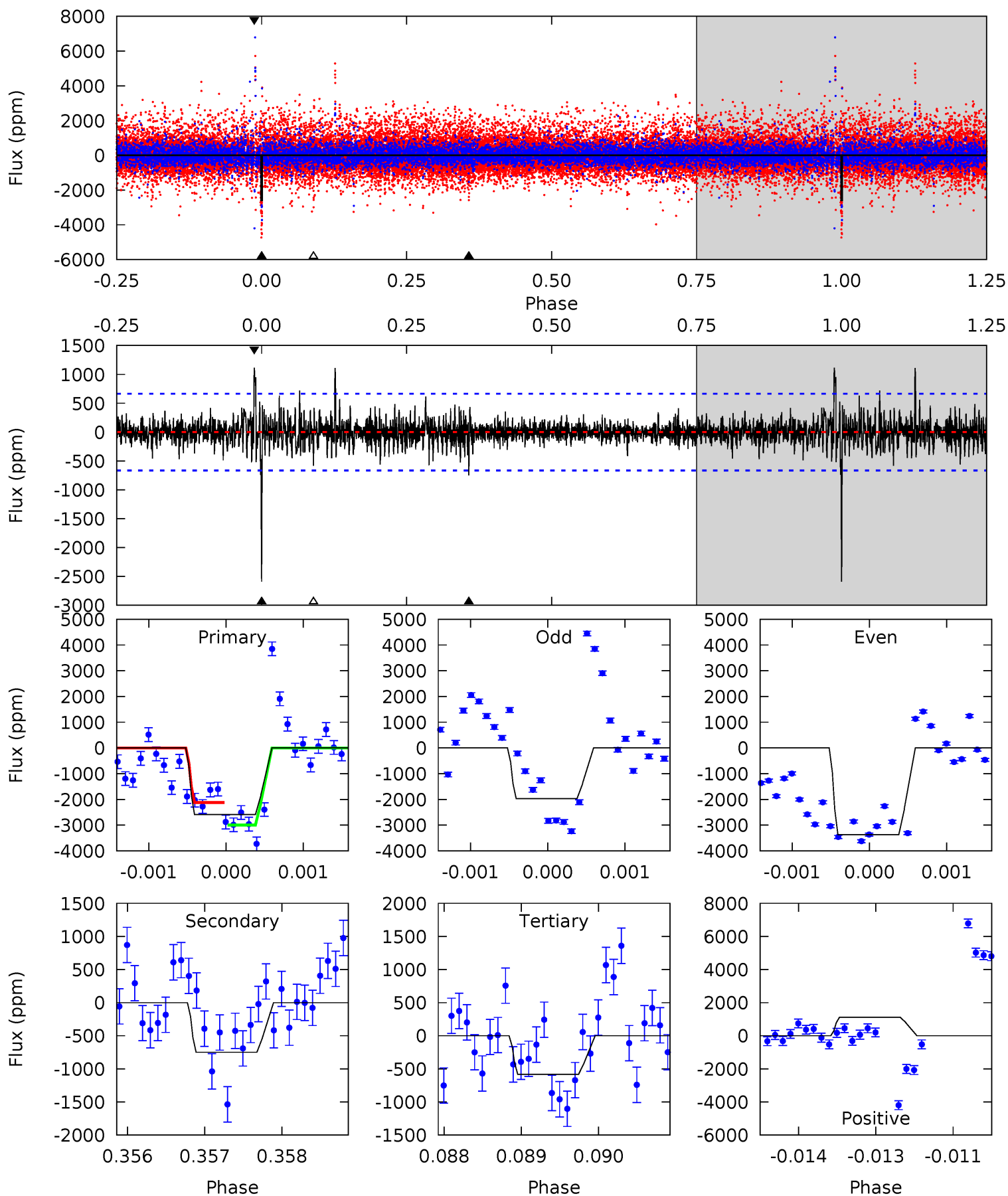
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006370174-06, P = 224.987118 Days, E = 134.996588 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.0	6.10	4.74	9.06	5.41	3.22	1.20	16.3	12.0	1.36	-2.97	5.33	1.34	0.30	3.58



Stellar Parameters For KIC 006370174

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3396^{+54}_{-54}	$4.933^{+0.055}_{-0.040}$	$0.000^{+0.100}_{-0.100}$	$0.314^{+0.040}_{-0.044}$	$0.308^{+0.053}_{-0.048}$	$14.020^{+4.687}_{-2.449}$
	+2%/-2%	+1%/-1%	+inf%/-inf%	+13%/-14%	+17%/-16%	+33%/-17%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 006370174-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$2.68^{+2.77}_{-1.79}$	167^{+4}_{-5}	2741^{+3750}_{-9062}	$25688^{+2876447}_{-2857047}$
Alt.	-750 ± 123	$3.30^{+2.99}_{-2.20}$	168^{+4}_{-5}	2419^{+812}_{-345}	8852^{+75438}_{-6474}

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 $A_{obs} \gg 1.0$

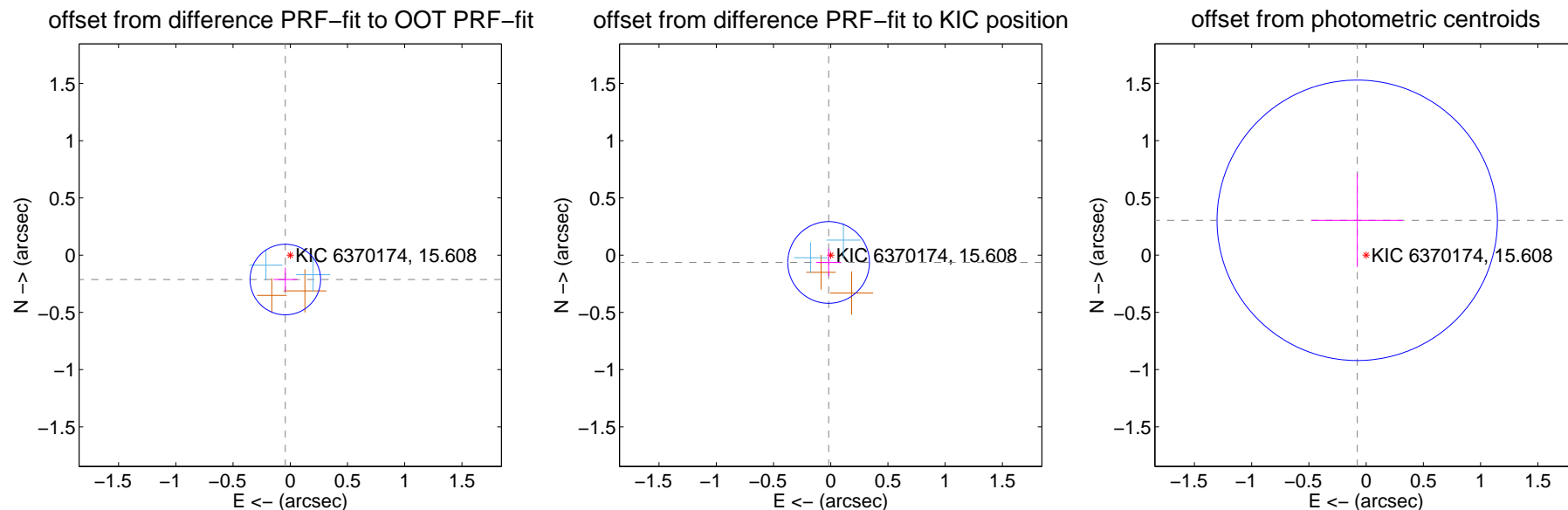
DV Centroid Data

Supplemental centroid analysis for 006370174-06. Kepler magnitude: 15.61. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

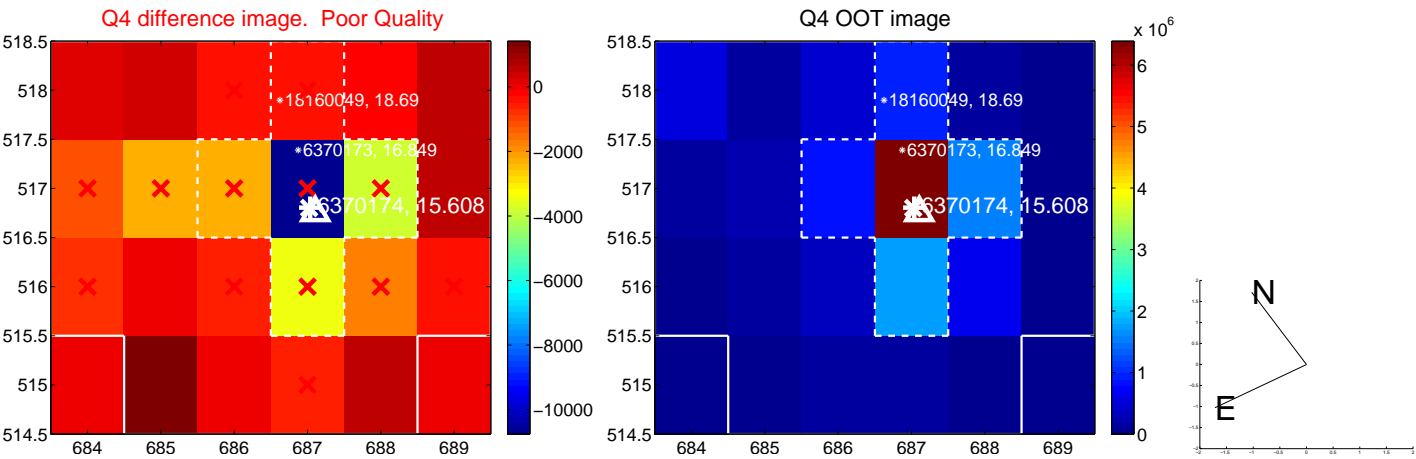
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.217 ± 0.103	2.11	0.043 ± 0.102	-0.213 ± 0.103
PRF-fit source offset from KIC position	0.066 ± 0.119	0.56	0.018 ± 0.110	-0.064 ± 0.120
photometric centroid source offset	0.31 ± 0.41	0.77	0.08 ± 0.40	0.30 ± 0.41

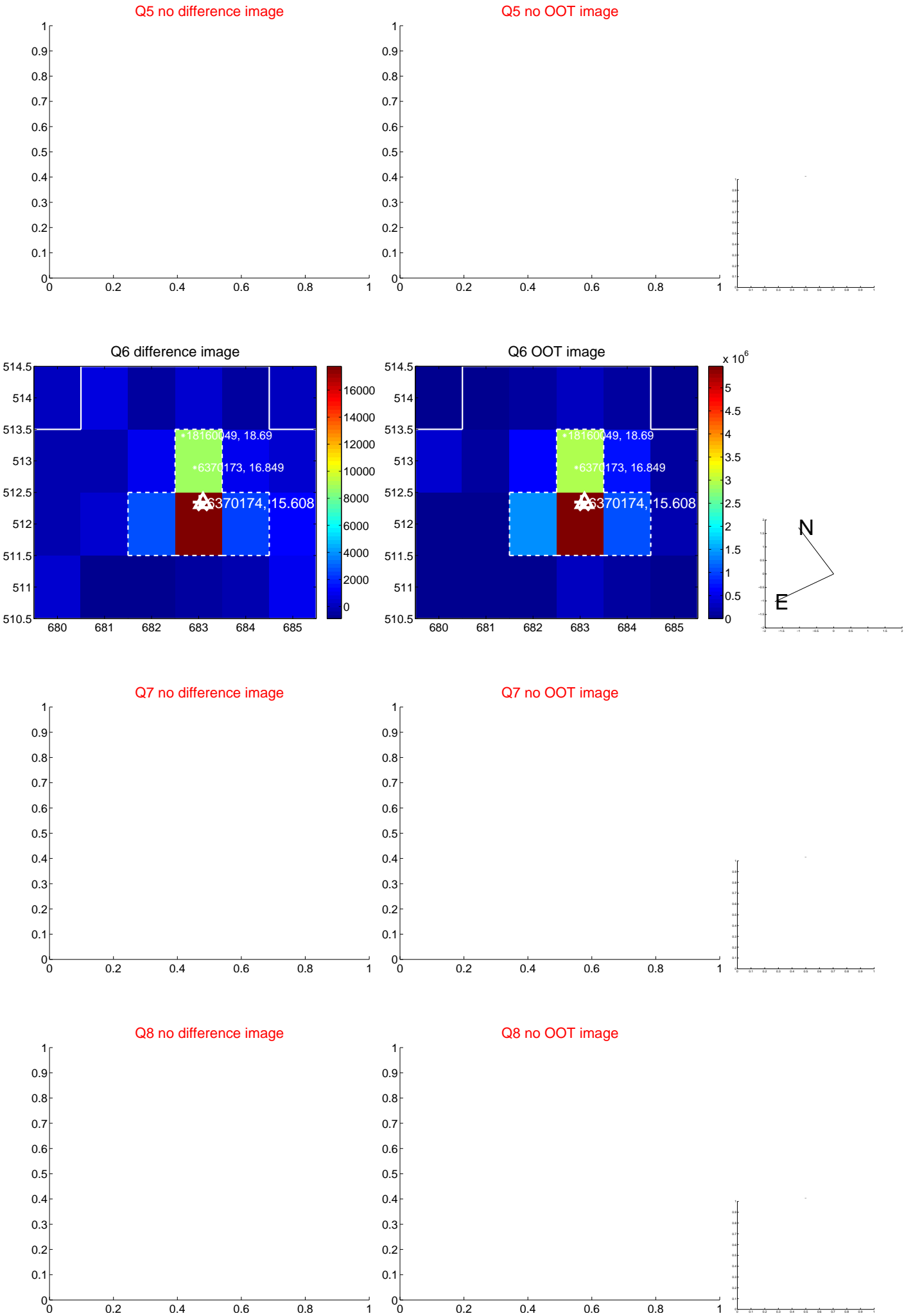


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

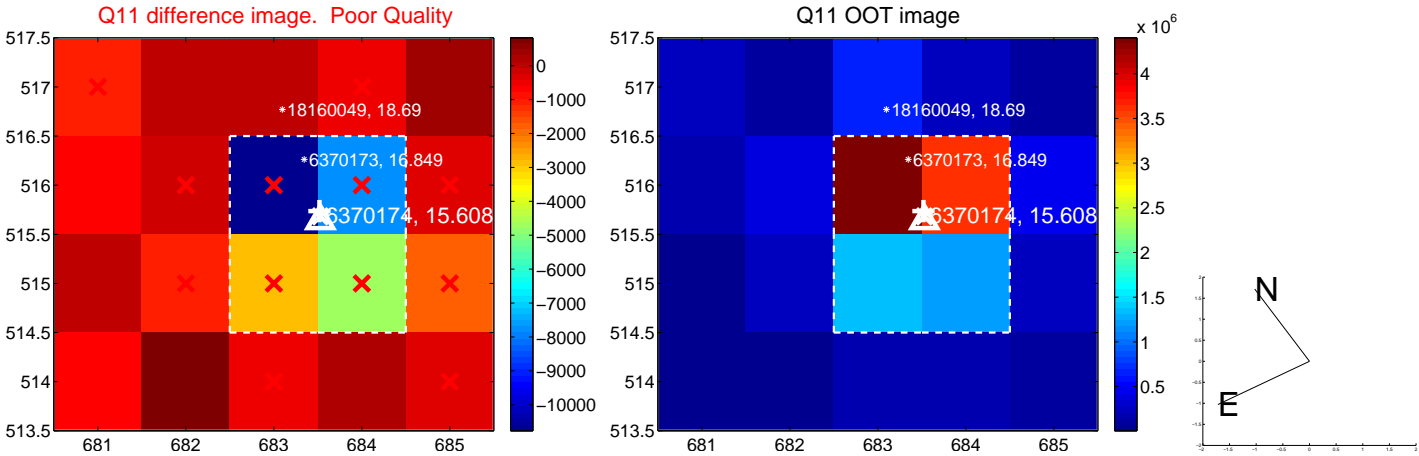
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



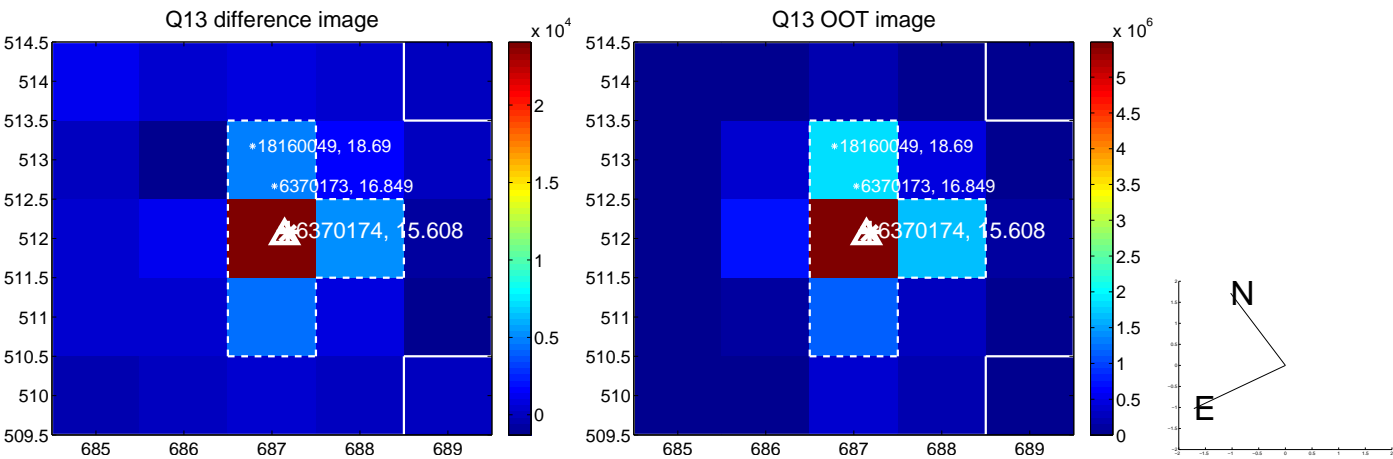
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



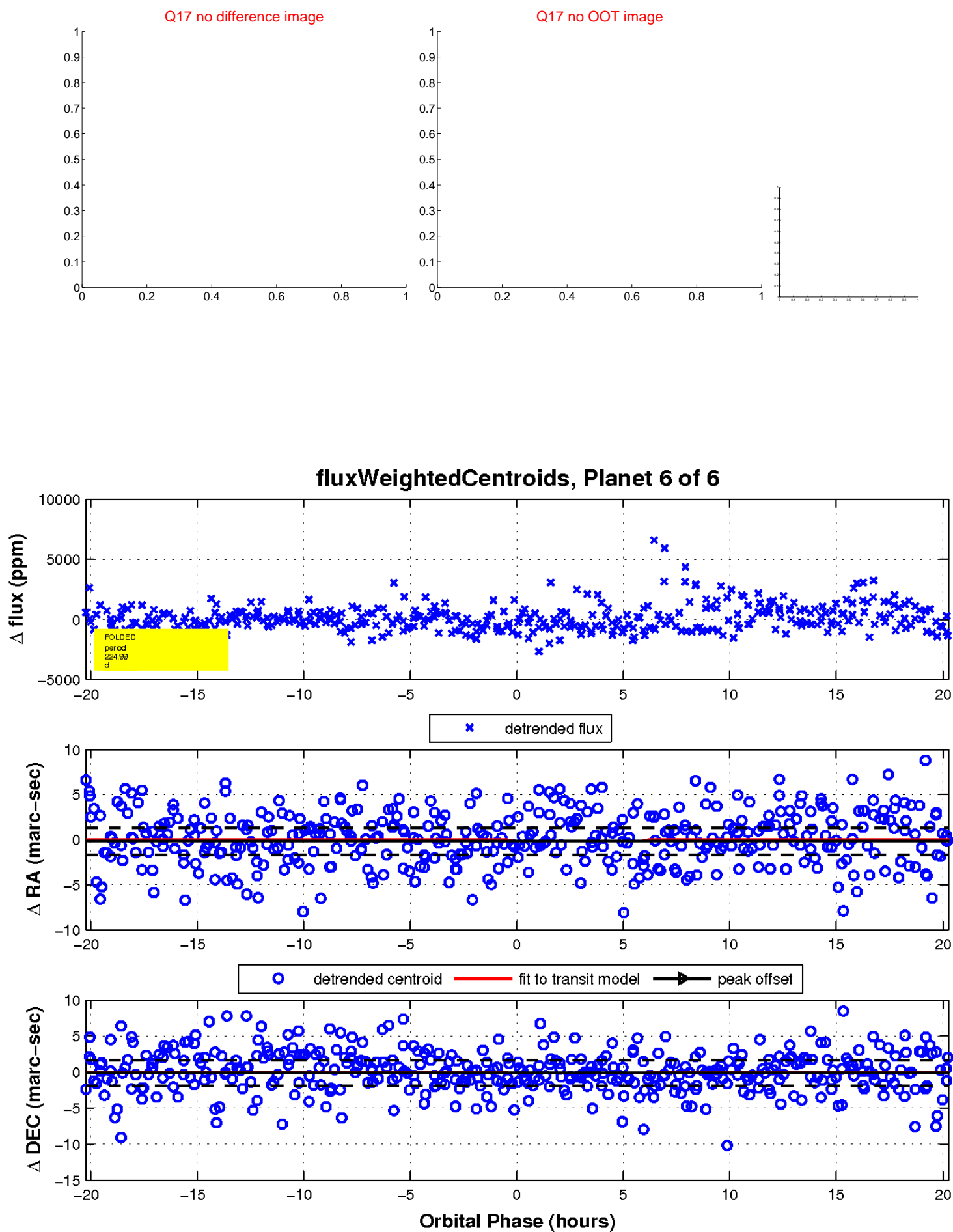
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

