

KIC 004761060

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})
004761060-01	OBS	2249.01	13.379272	140.929919	297.2	8.303	30.7	29.5	2.70	6739	5.93	897.75
004761060-02	OBS	No	3.361901	131.924061	1.7	25.984	7.9	0.6	2.70	6739	0.36	5661.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004761060-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST
004761060-02	OBS	FP	0.00	1	0	0	0	LPP_DV

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.

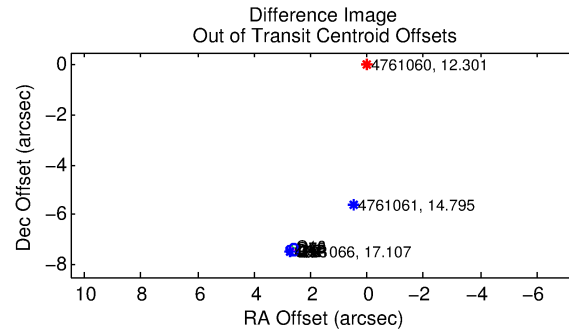
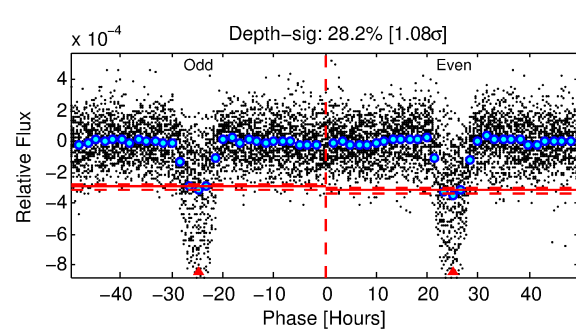
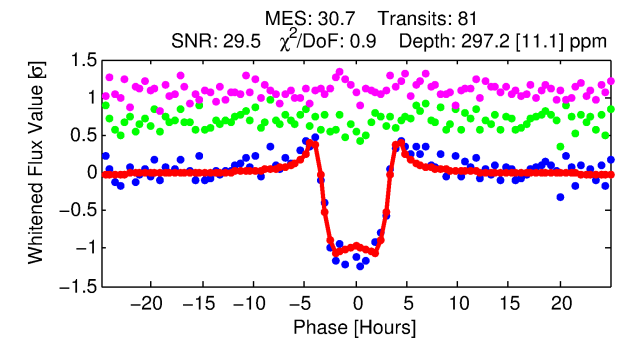
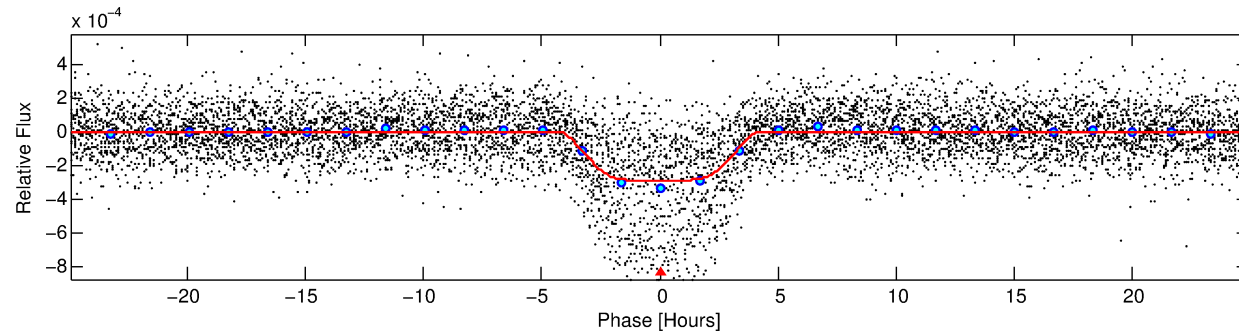
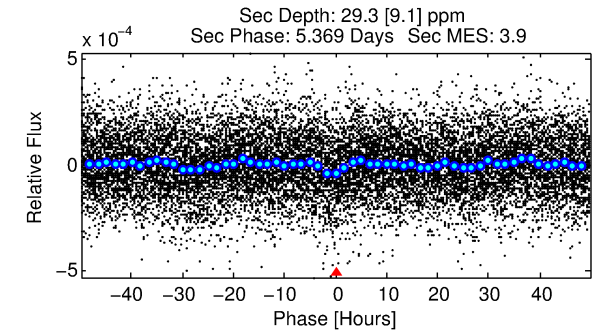
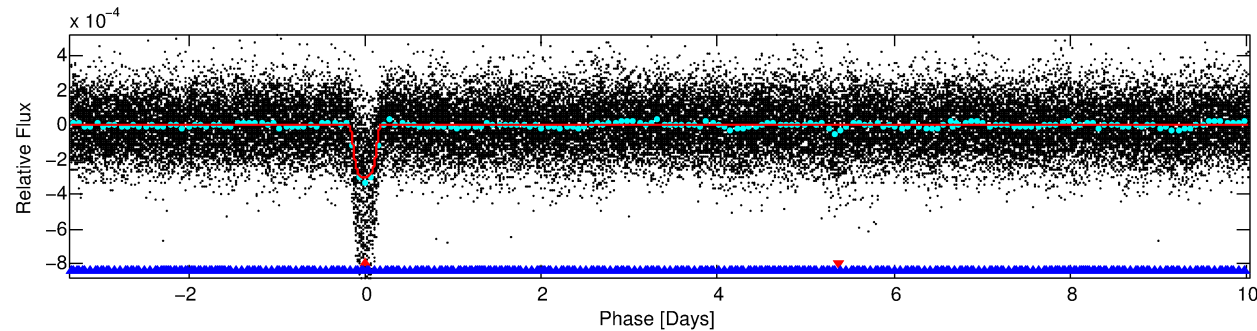
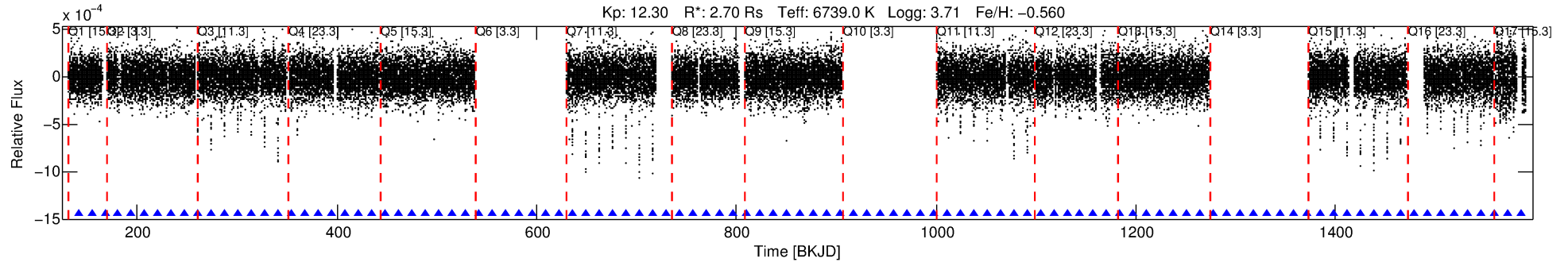
Ephemeris Match Information For 004761060-01

No Significant Match Found

DV One-Page Summary

KIC: 4761060 Candidate: 1 of 2 Period: 13.379 d
KOI: K02249.01 Corr: 0.966

Kp: 12.30 R*: 2.70 Rs Teff: 6739.0 K Logg: 3.71 Fe/H: -0.560



DV Fit Results:

Period = 13.37927 [0.00007] d
Epoch = 140.9299 [0.0039] BKJD
Rp/R* = 0.0201 [0.0004]
a/R* = 4.05 [0.16]
b = 0.97 [0.00]
Seff = 897.75 [525.89]
Teq = 1396 [204] K
Rp = 5.93 [2.23] Re
a = 0.1226 [0.0440] AU
Ag = 6.88 [4.49] [1.31σ]
Teff = 3495 [293] K [5.88σ]

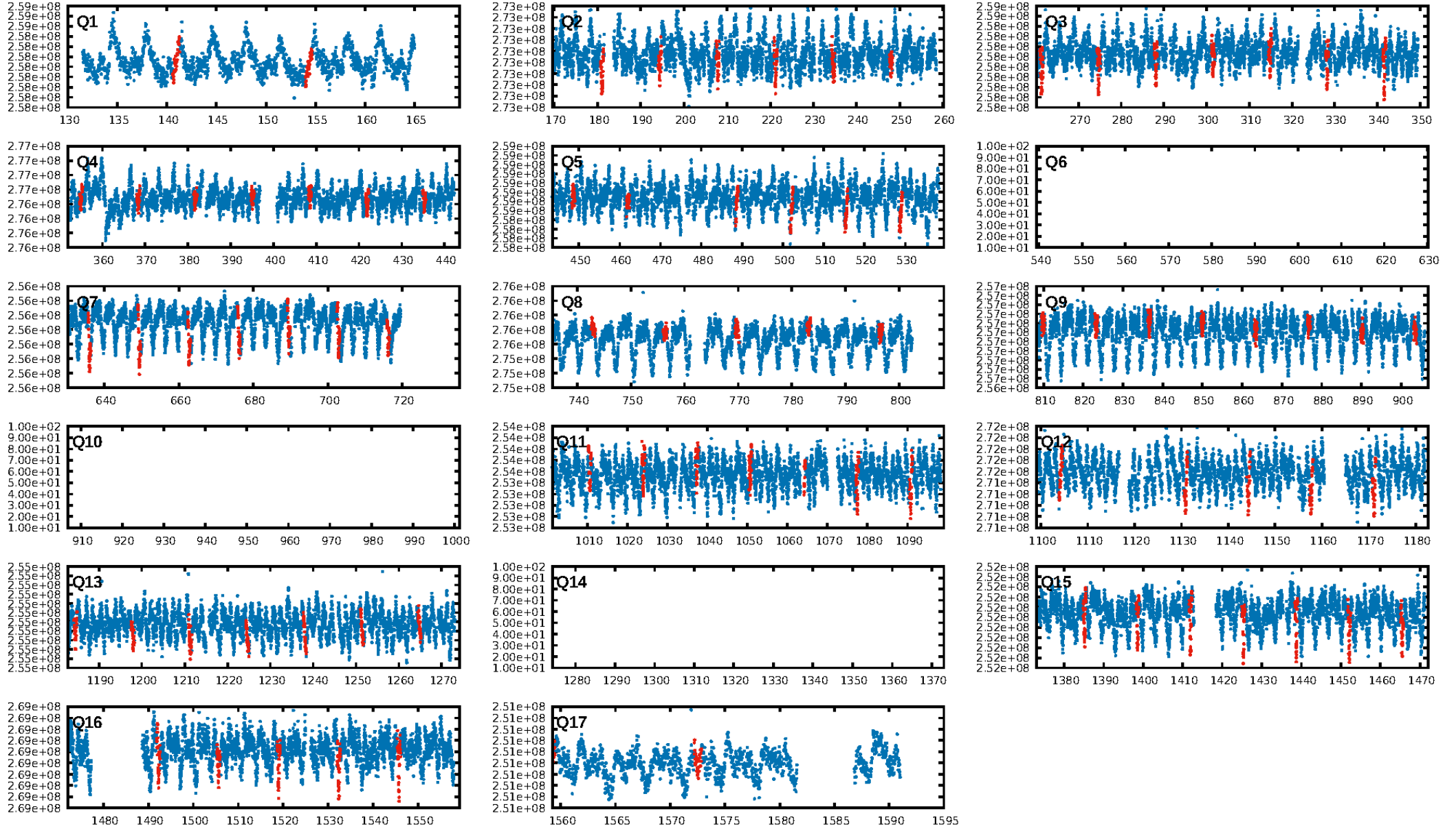
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.81σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [77/77]
GhostDiagnostic-chr: 0.05582
Centroid-sig: 0.0%
Centroid-so: 18.450 arcsec [96.57σ]
OotOffset-rm: 7.877 arcsec [110.18σ]
KicOffset-rm: 7.979 arcsec [104.45σ]
OotOffset-st: 0/4/3/5 [12]
KicOffset-st: 0/4/3/5 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 0.43 [6/14]

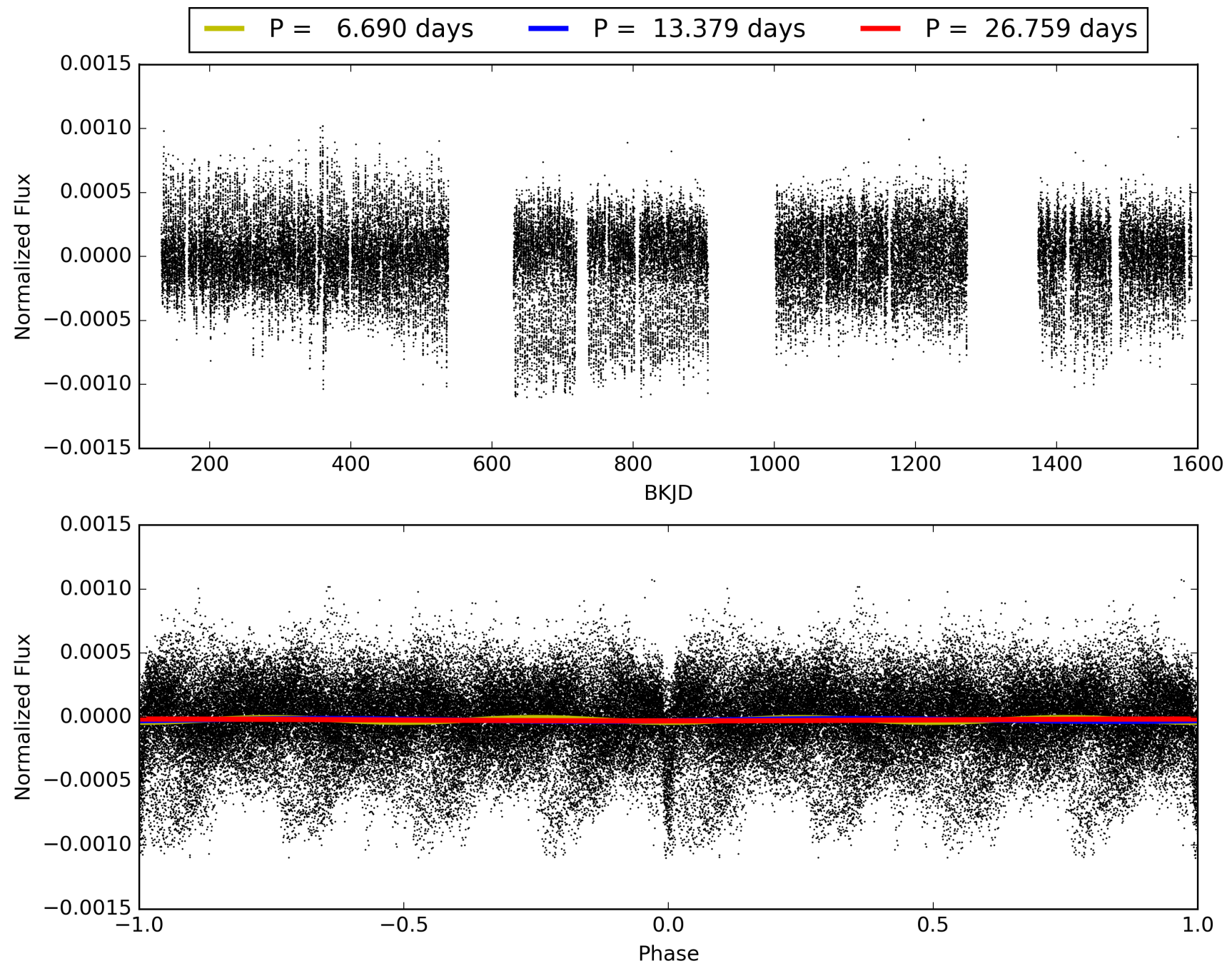
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:01:16 Z

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

TCE 004761060-01, PDC Light Curves

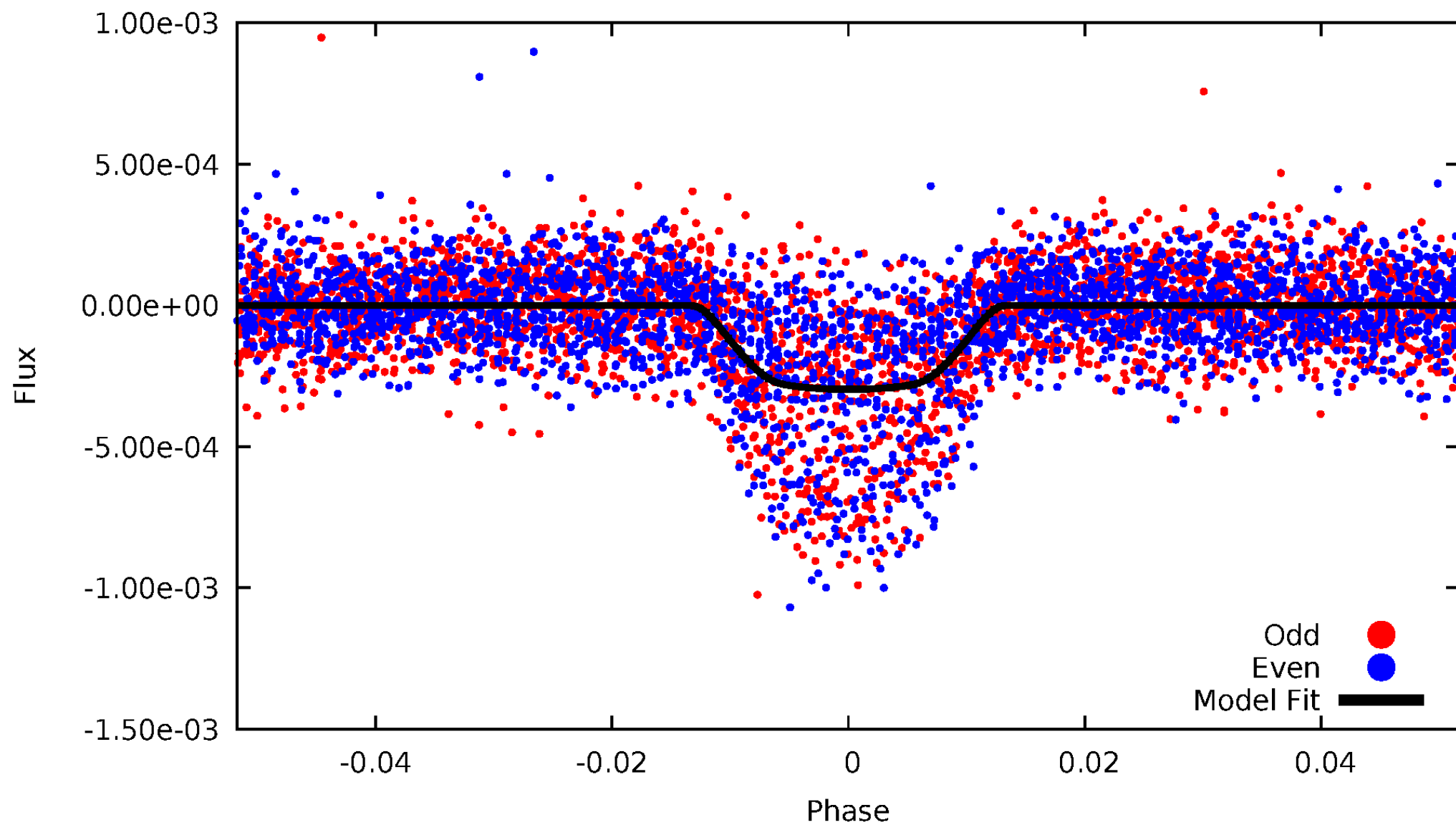


TCE 004761060-01



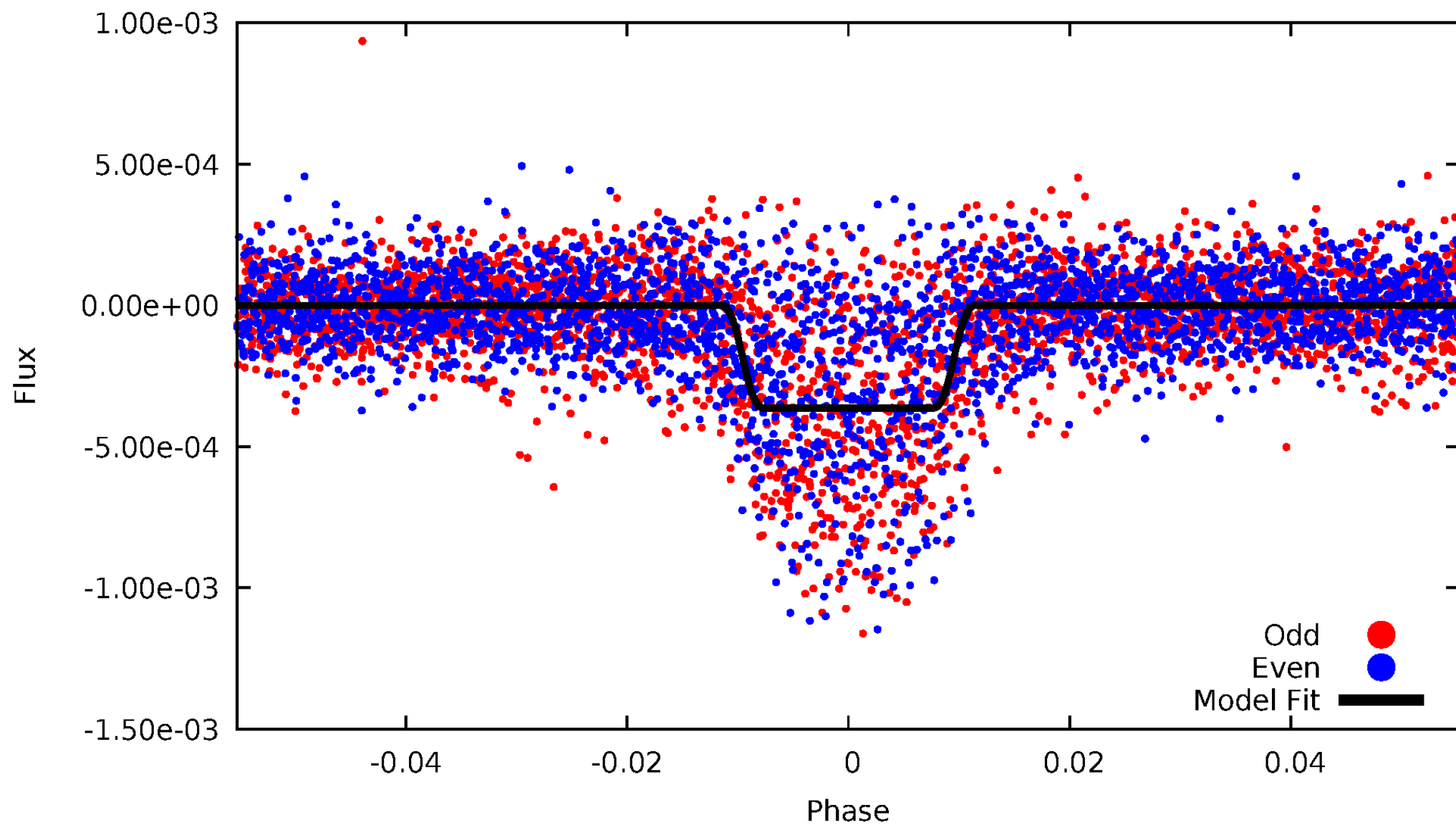
DV Odd/Even

TCE 004761060-01



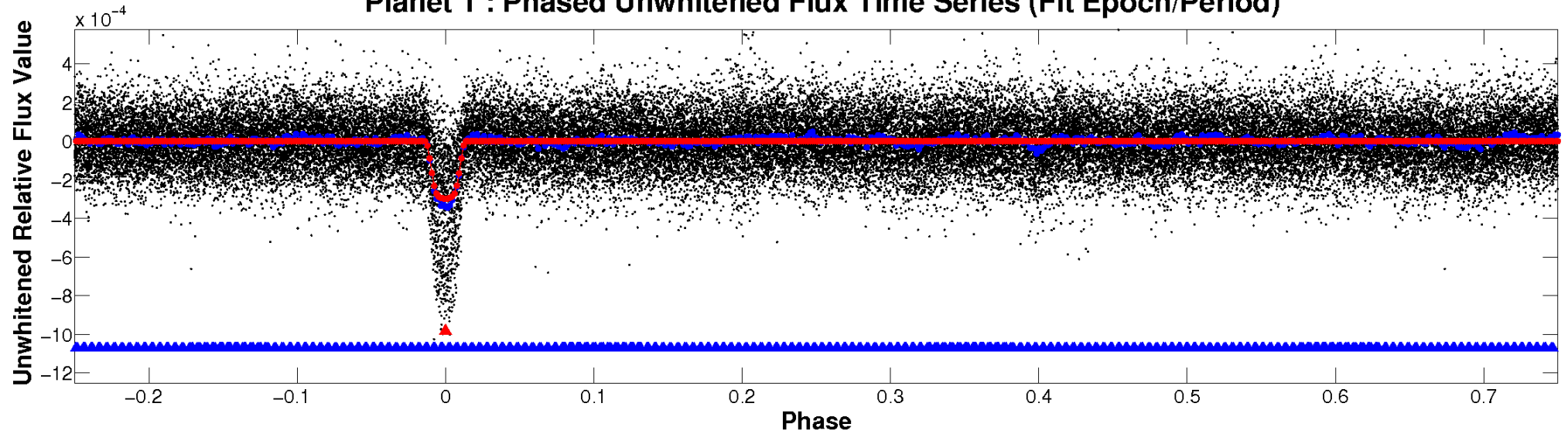
ALT Odd/Even

TCE 004761060-01

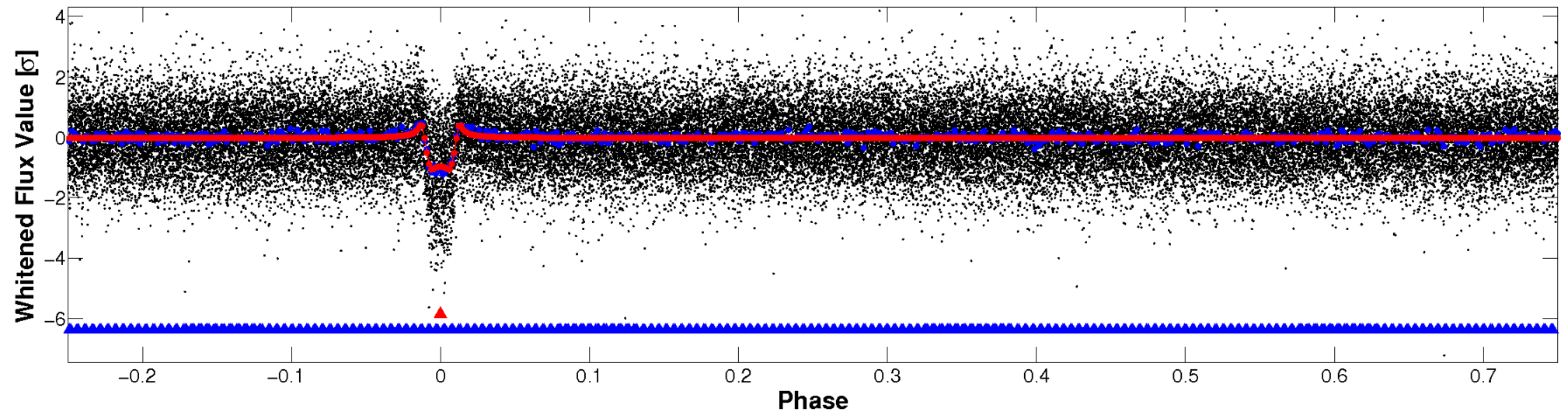


Non-Whitened Vs. Whitened Light Curve

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

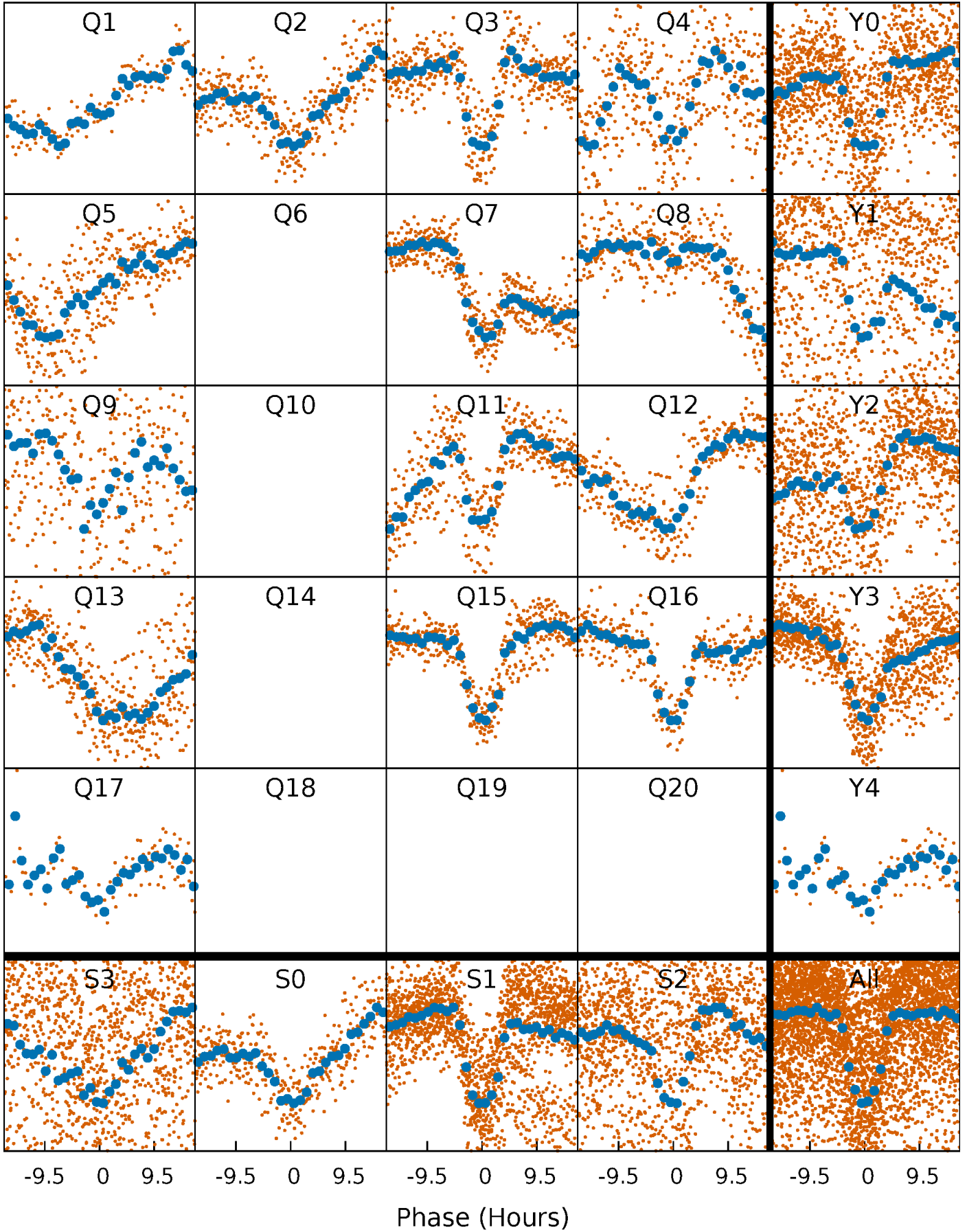


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



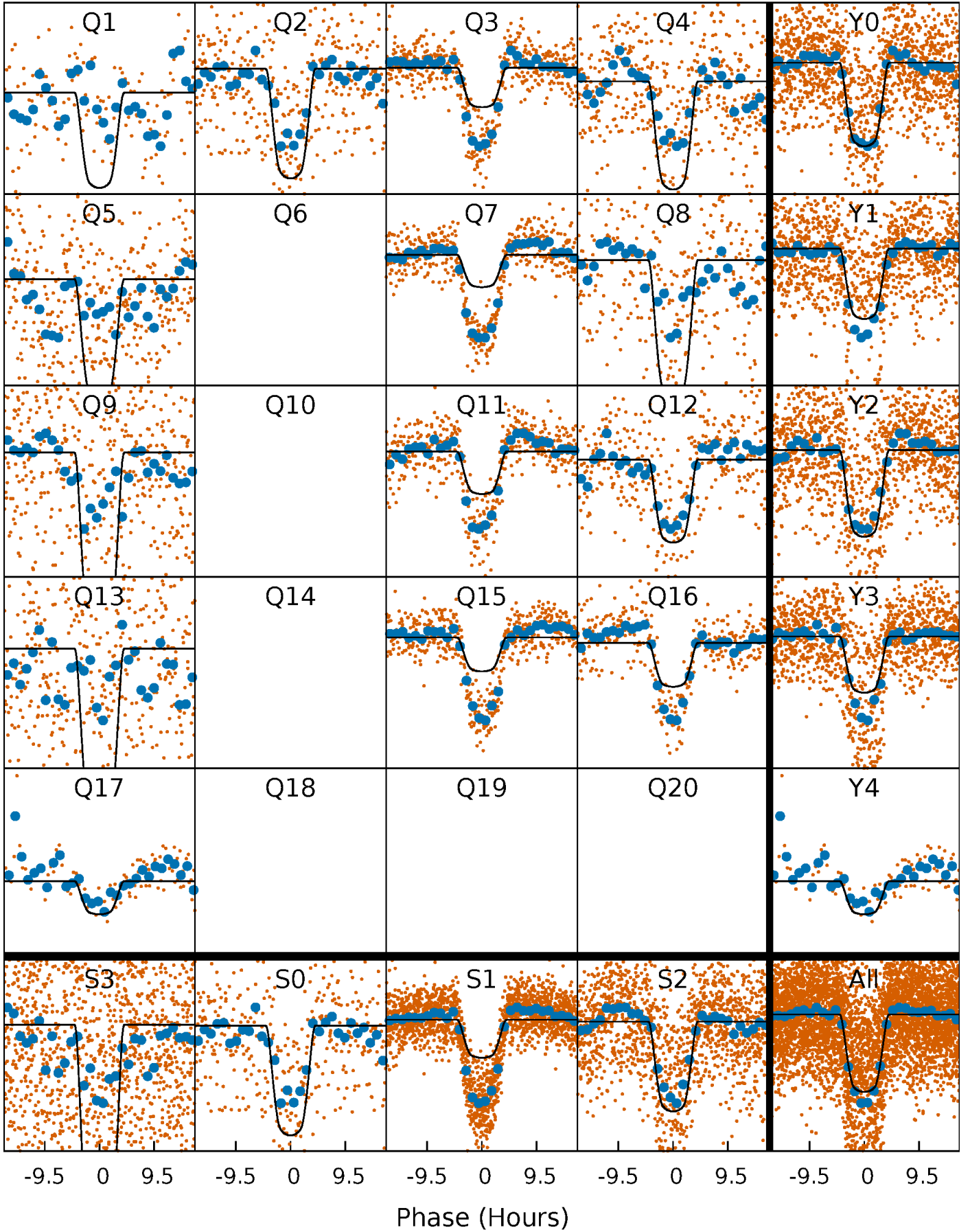
PDC Quarter-Phased Transit Curves

TCE 004761060-01 P= 13.379272 Days $T_0=140.929919$ (BKJD)



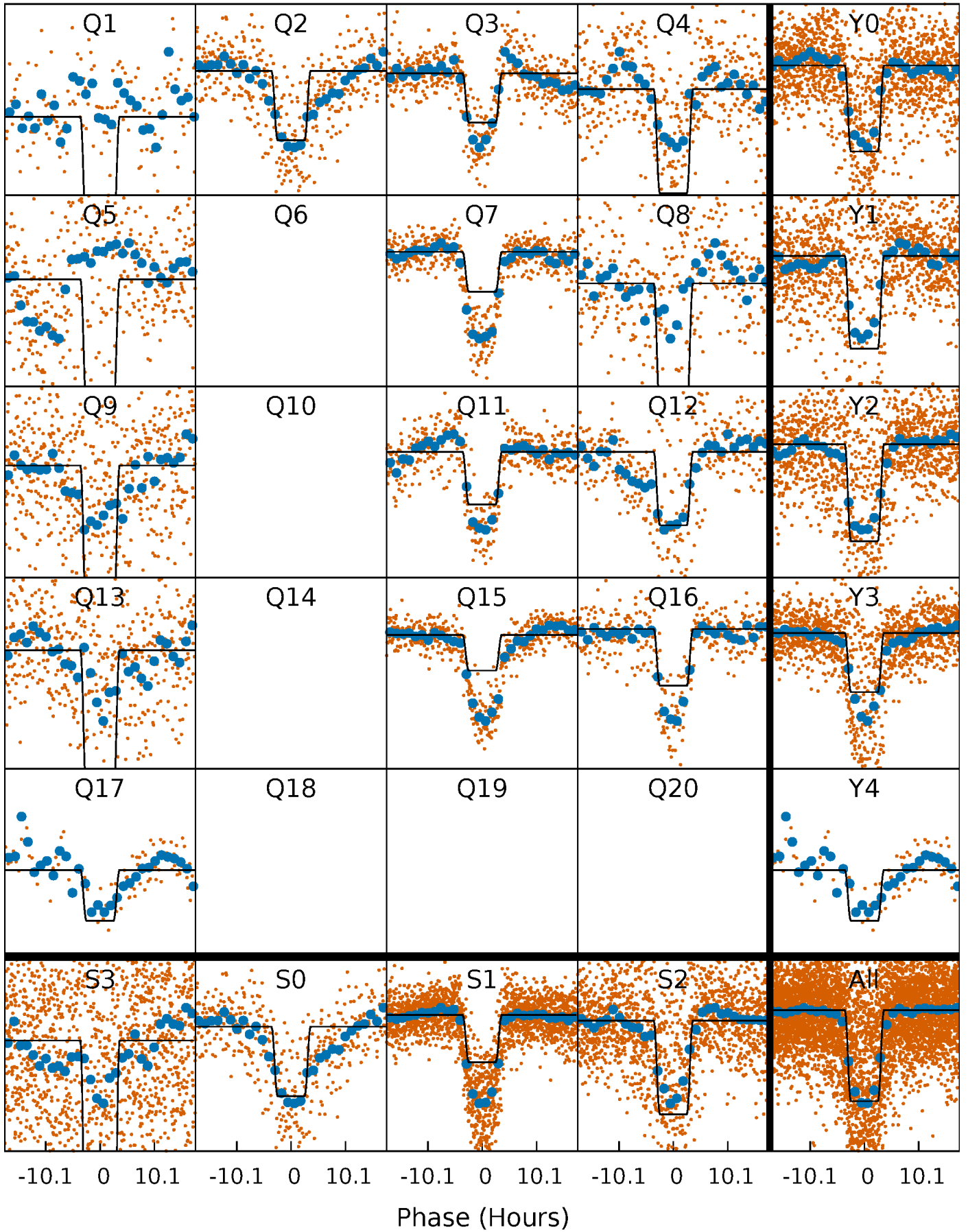
DV Quarter-Phased Transit Curves

TCE 004761060-01 P= 13.379272 Days $T_0=140.929919$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

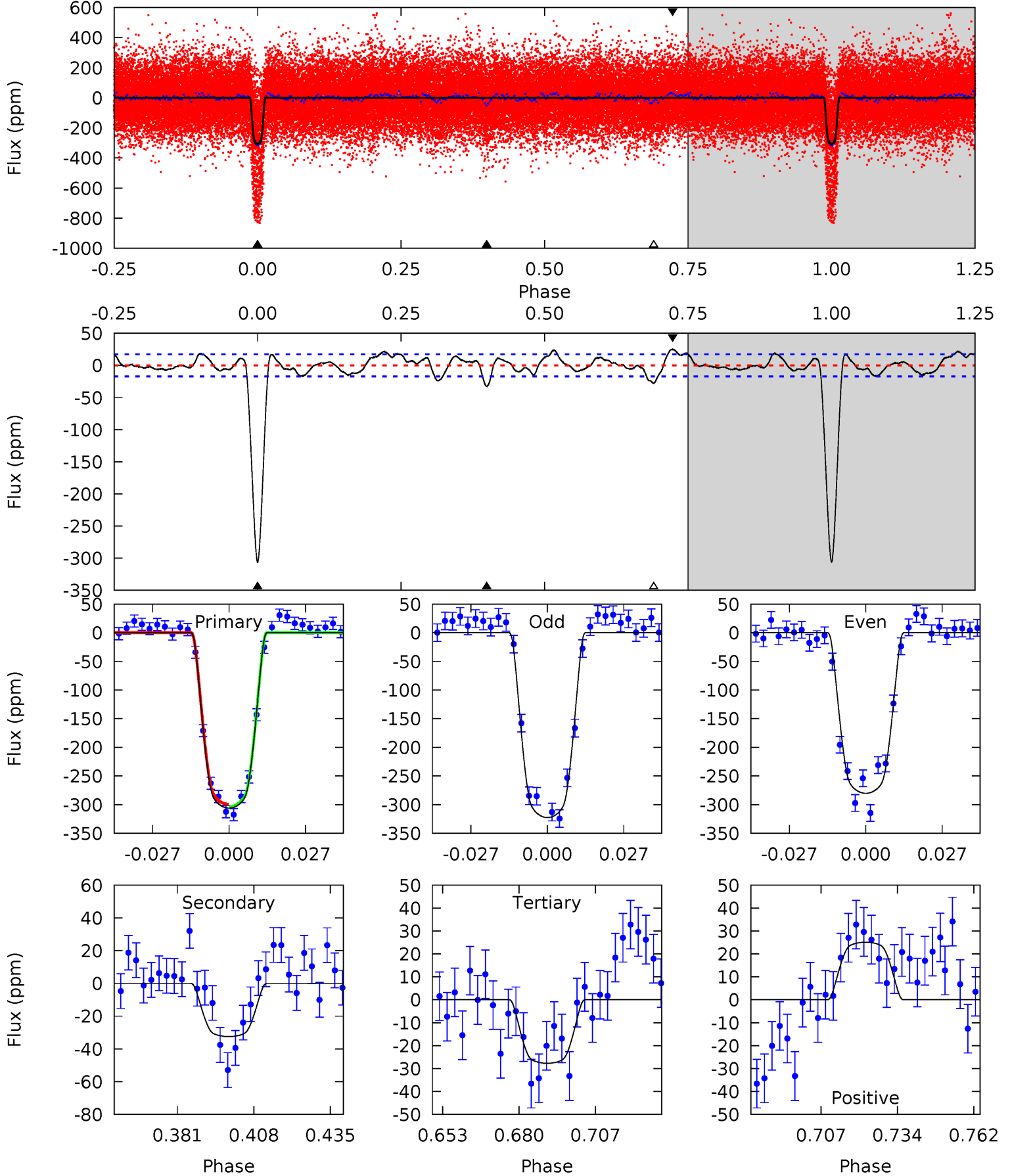
TCE 004761060-01 P= 13.379072 Days $T_0=140.942480$ (BKJD)



DV Model-Shift Uniqueness Test

004761060-01, $P = 13.379272$ Days, $E = 127.550647$ Days

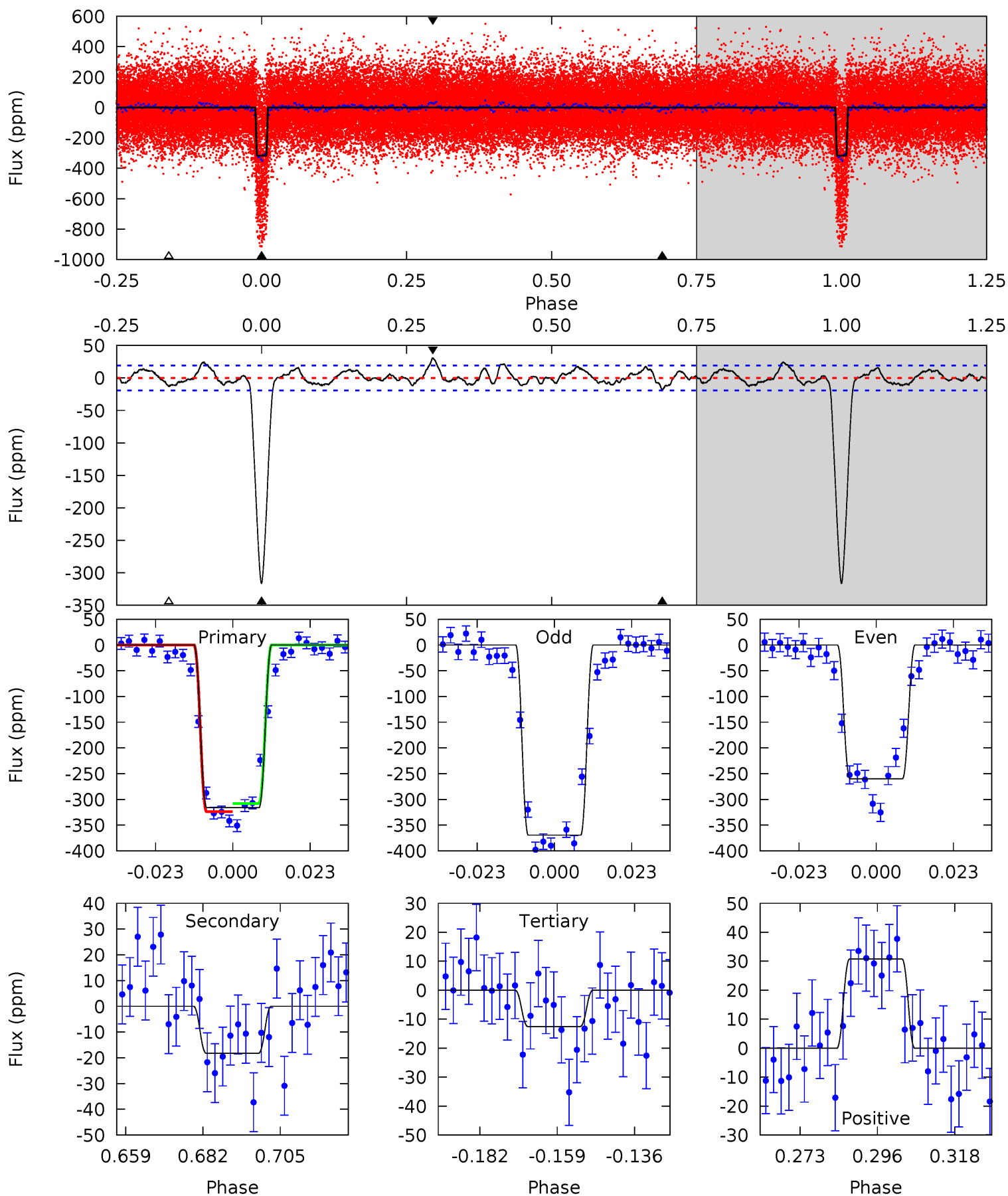
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
85.9	9.12	7.78	7.05	4.83	2.21	2.97	78.2	78.9	1.34	2.07	5.92	1.47	0.08	0



Alt Model-Shift Uniqueness Test

004761060-01, $P = 13.379072$ Days, $E = 127.563408$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
80.3	4.62	3.18	7.82	4.87	2.28	2.20	77.1	72.4	1.44	-3.19	13.8	1.17	0.09	1.99



Stellar Parameters For KIC 004761060

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6739^{+183}_{-203}	$3.712^{+0.336}_{-0.084}$	$-0.560^{+0.350}_{-0.300}$	$2.702^{+0.434}_{-1.014}$	$1.371^{+0.232}_{-0.284}$	$0.098^{+0.217}_{-0.032}$
	+3%/-3%	+9%/-2%	+62%/-54%	+16%/-38%	+17%/-21%	+222%/-33%
Source	PHO1	FLK73	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 004761060-01 / KOI 2249.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-32 ± 4	$5.84^{+0.62}_{-1.16}$	1910^{+117}_{-167}	3901^{+106}_{-118}	$8.327^{+3.818}_{-1.786}$
Alt.	-18 ± 4	$5.44^{+0.72}_{-1.10}$	1902^{+113}_{-189}	3588^{+140}_{-160}	$5.361^{+2.552}_{-1.516}$

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 $A_{obs} \gg 1.0$

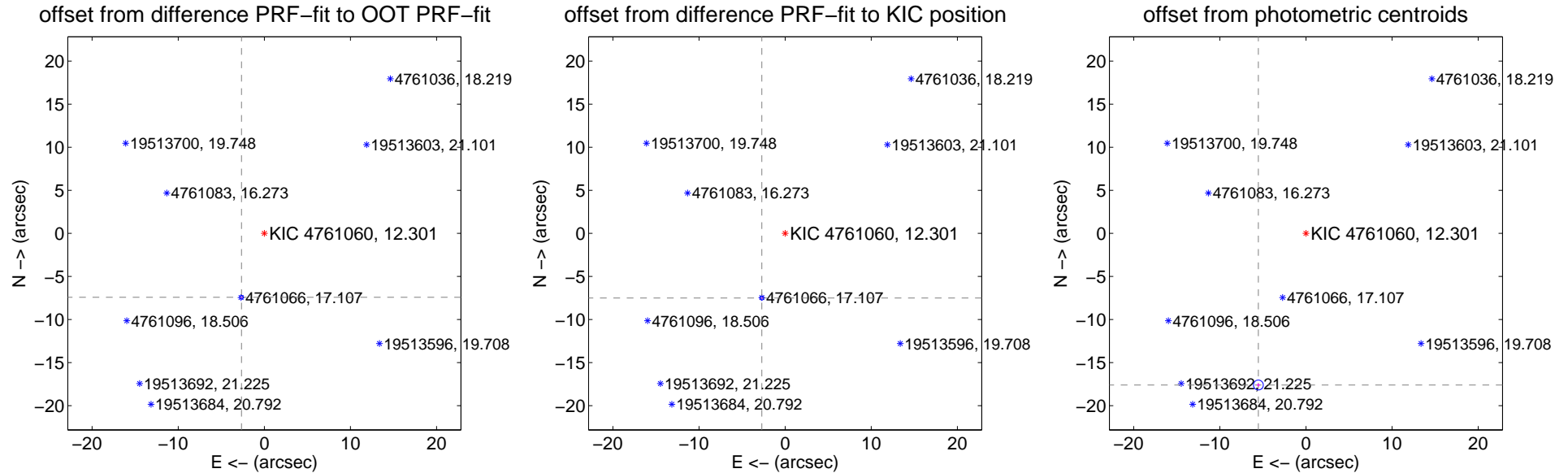
DV Centroid Data

Supplemental centroid analysis for 004761060-01. Kepler magnitude: 12.30. Transit SNR 29.49

There are 12 quarters with good PRF difference image offsets

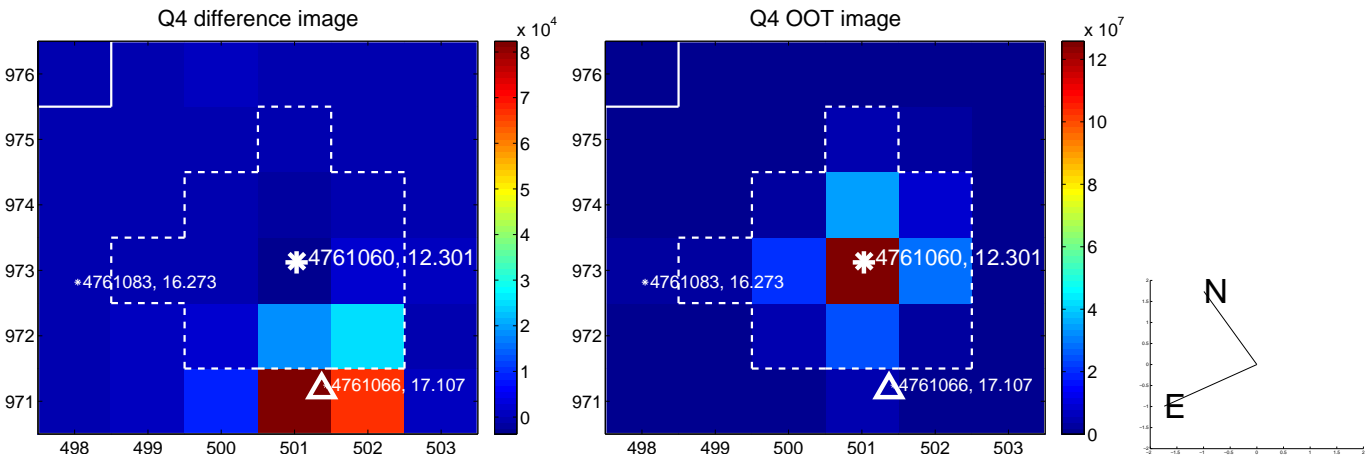
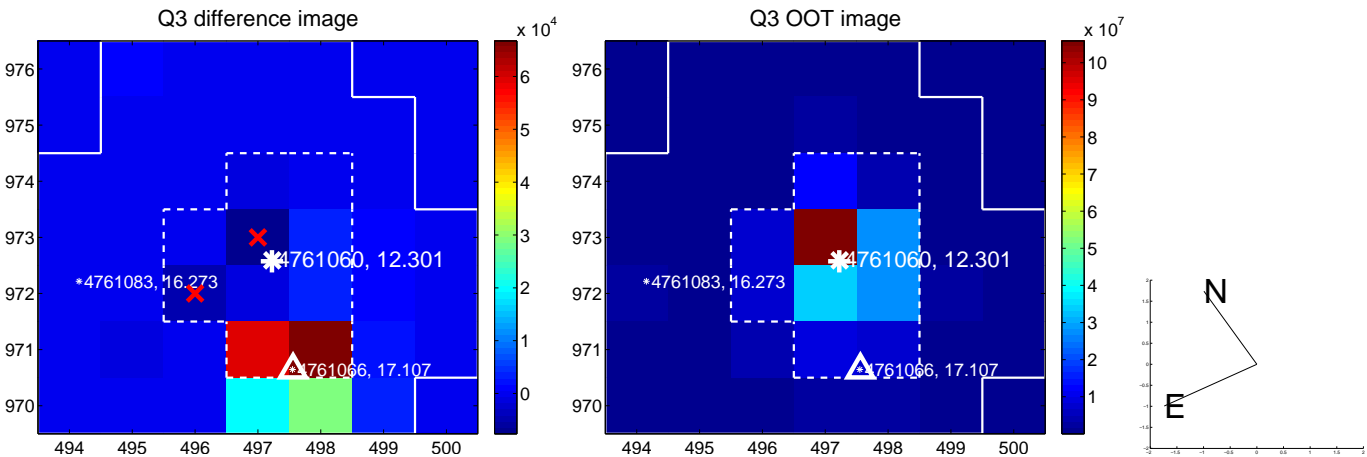
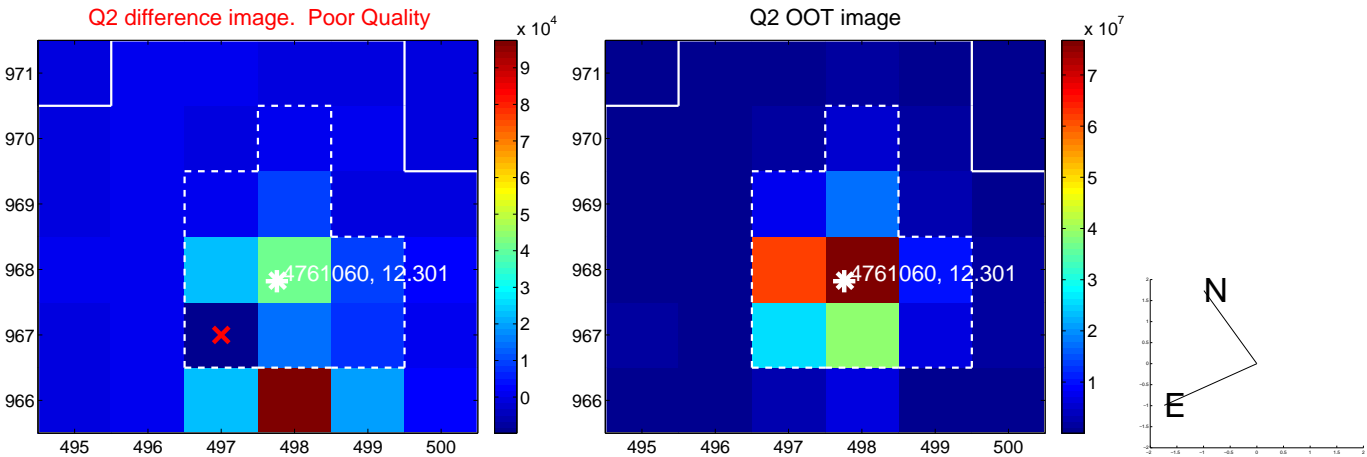
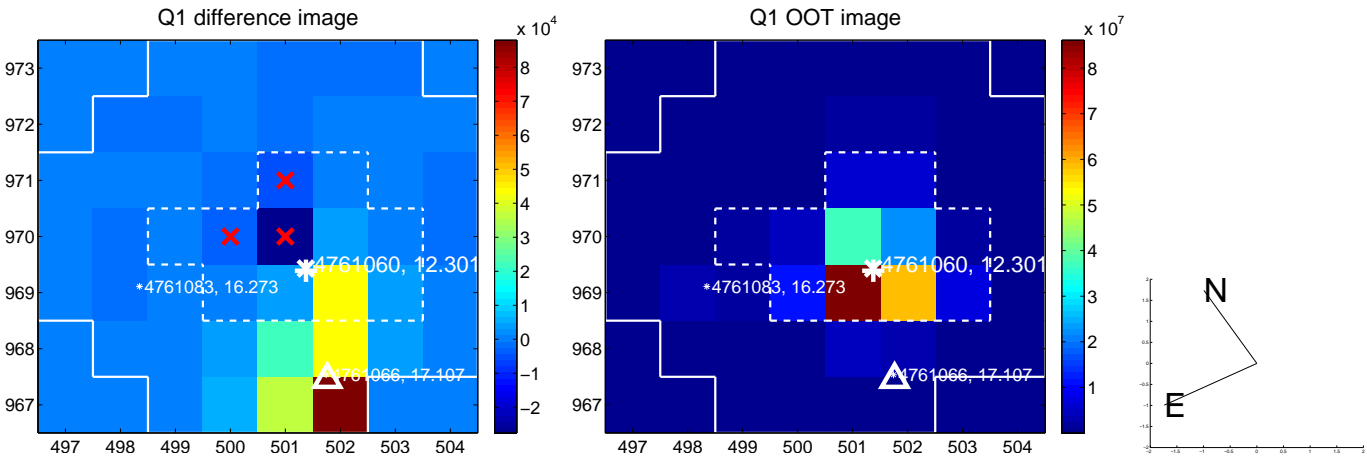
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.877 ± 0.071	110.18	2.649 ± 0.068	-7.419 ± 0.072
PRF-fit source offset from KIC position	7.979 ± 0.076	104.45	2.707 ± 0.068	-7.506 ± 0.077
photometric centroid source offset	18.45 ± 0.19	96.57	5.52 ± 0.18	-17.60 ± 0.19

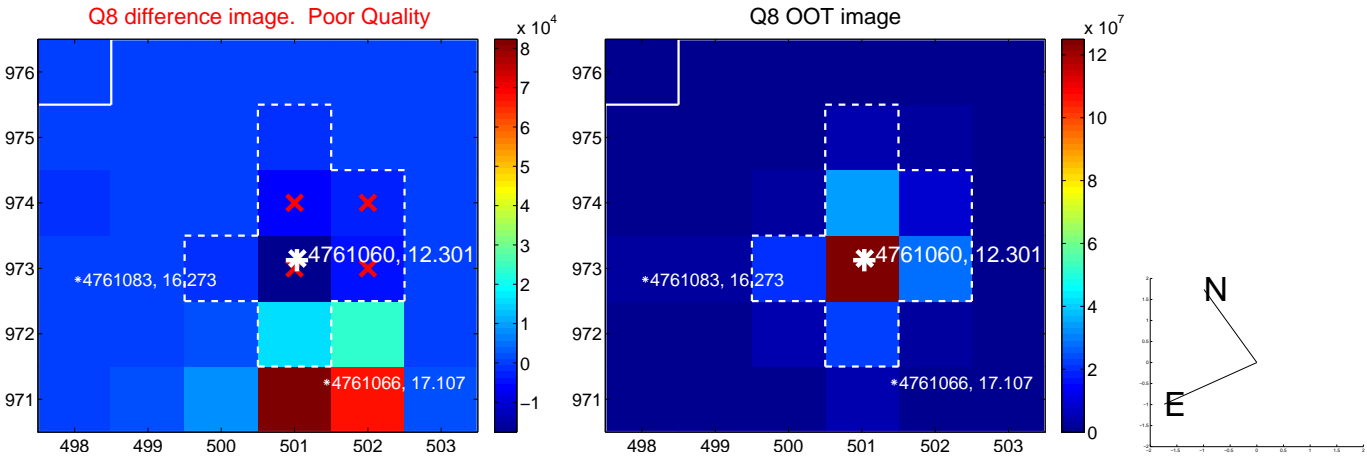
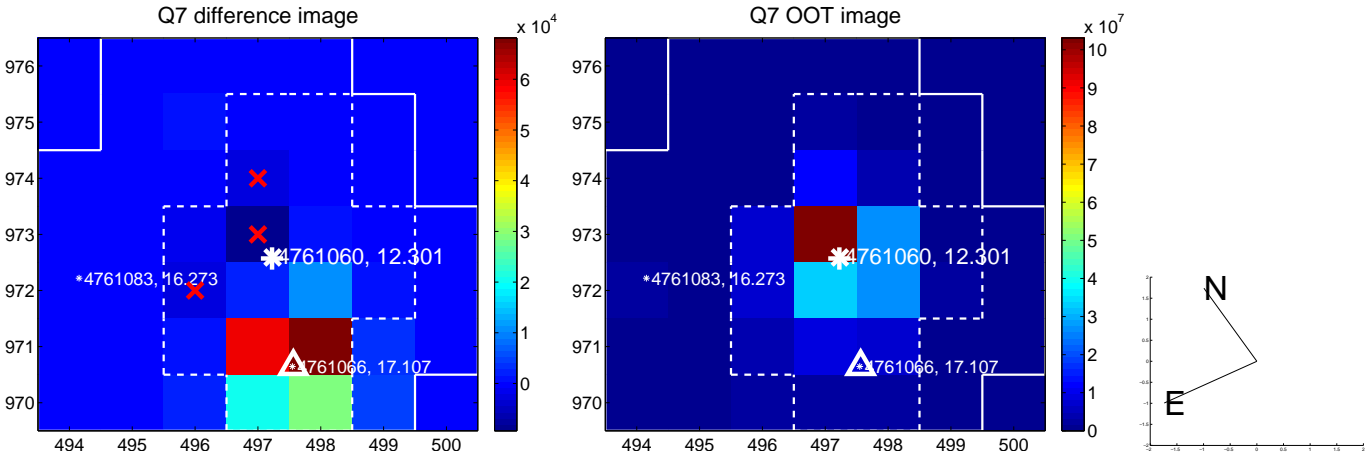
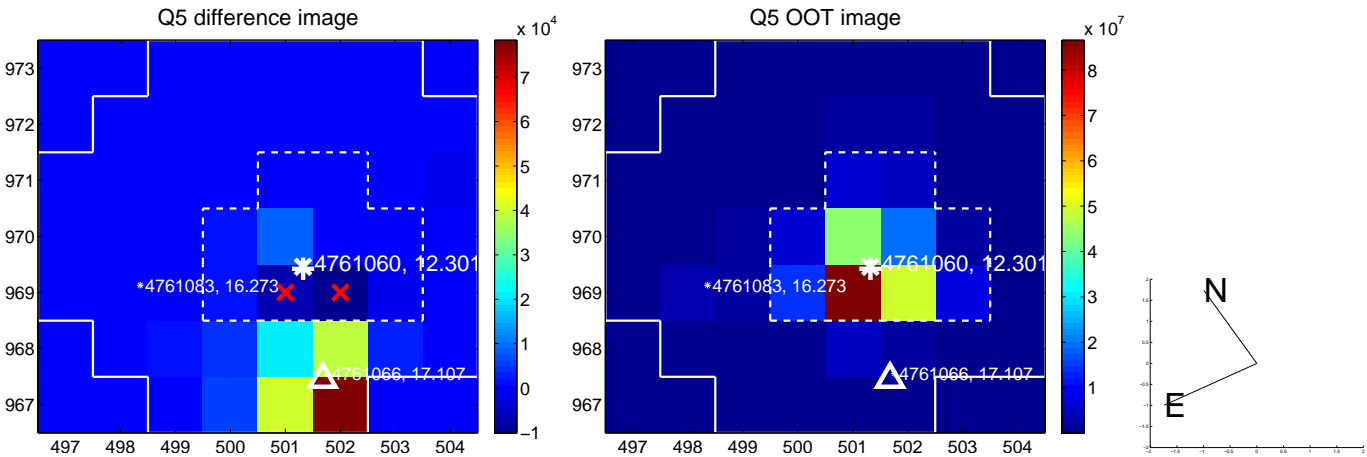


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

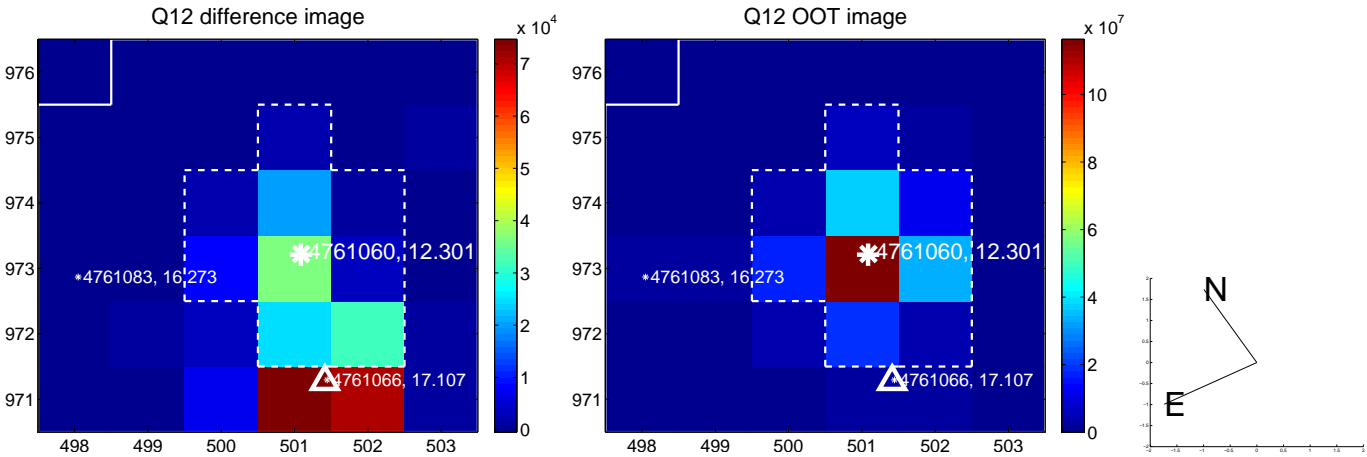
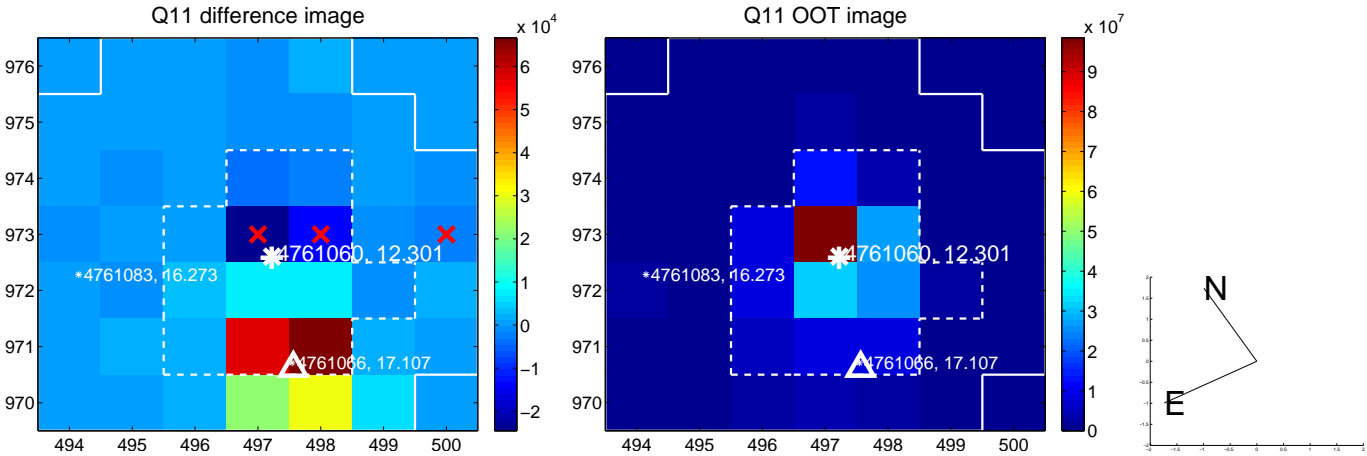
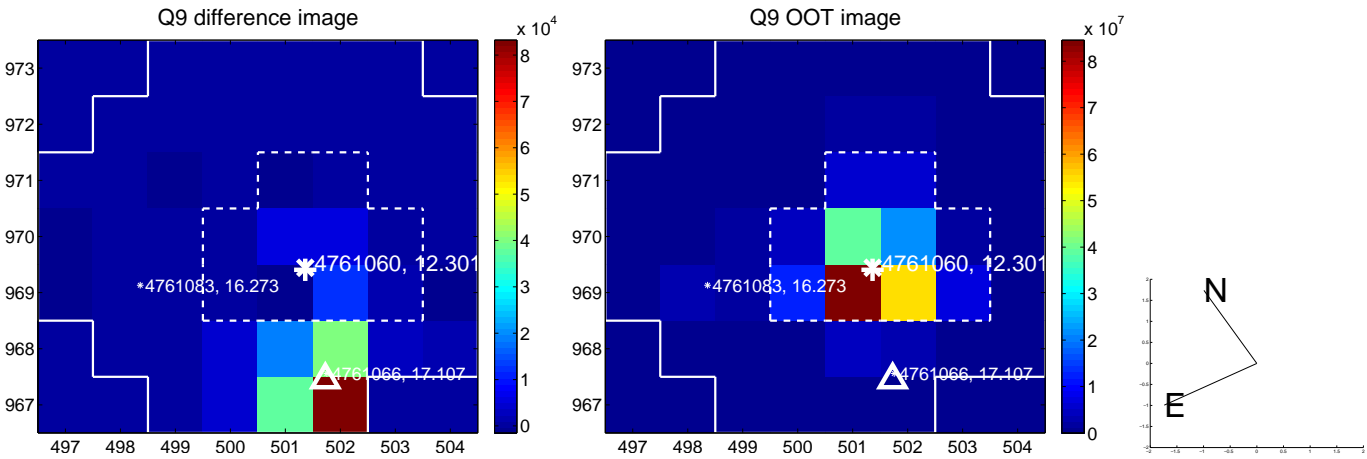
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



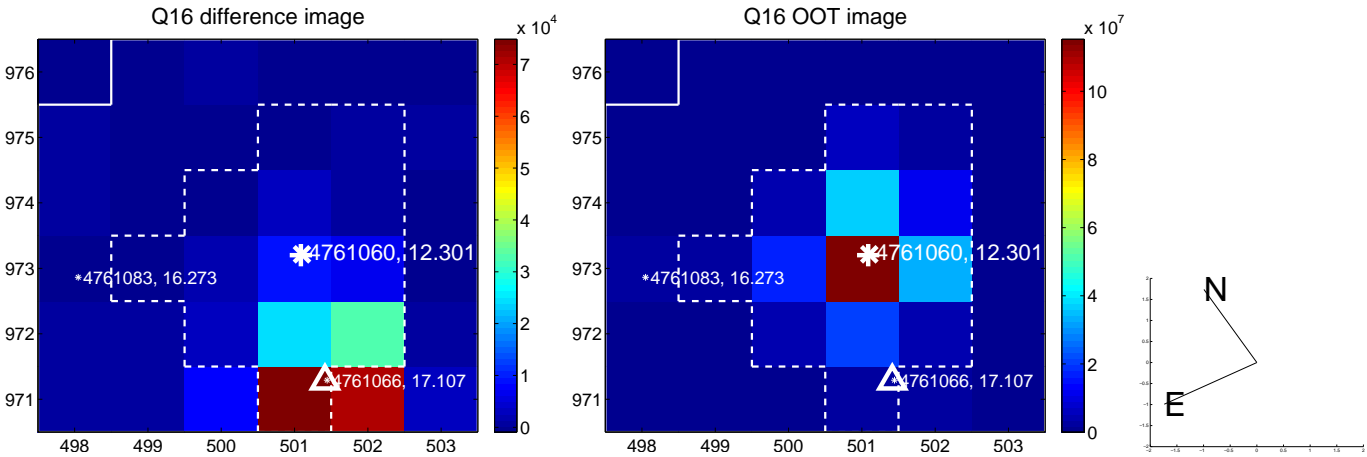
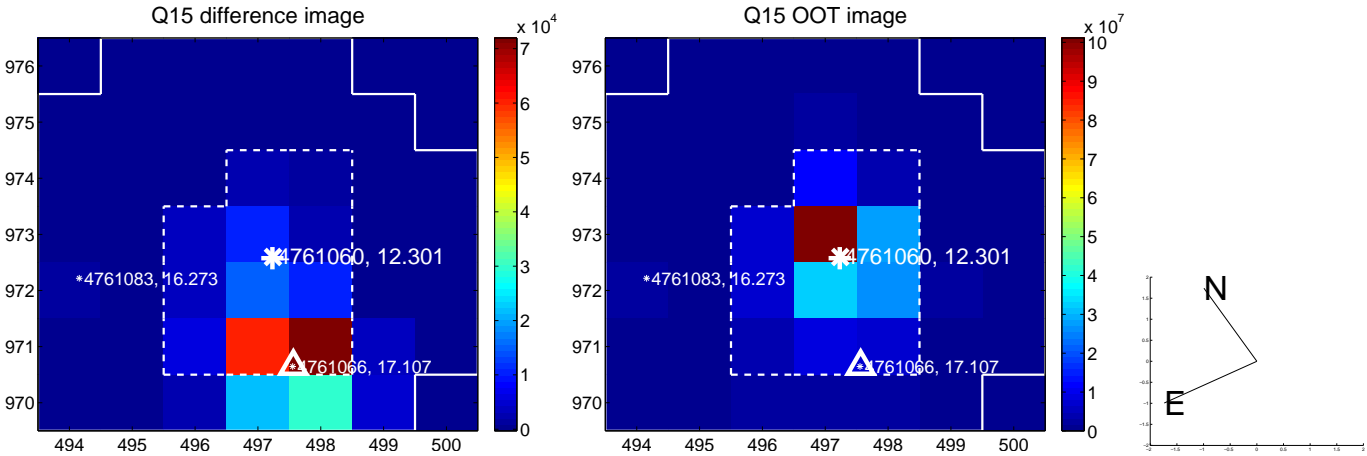
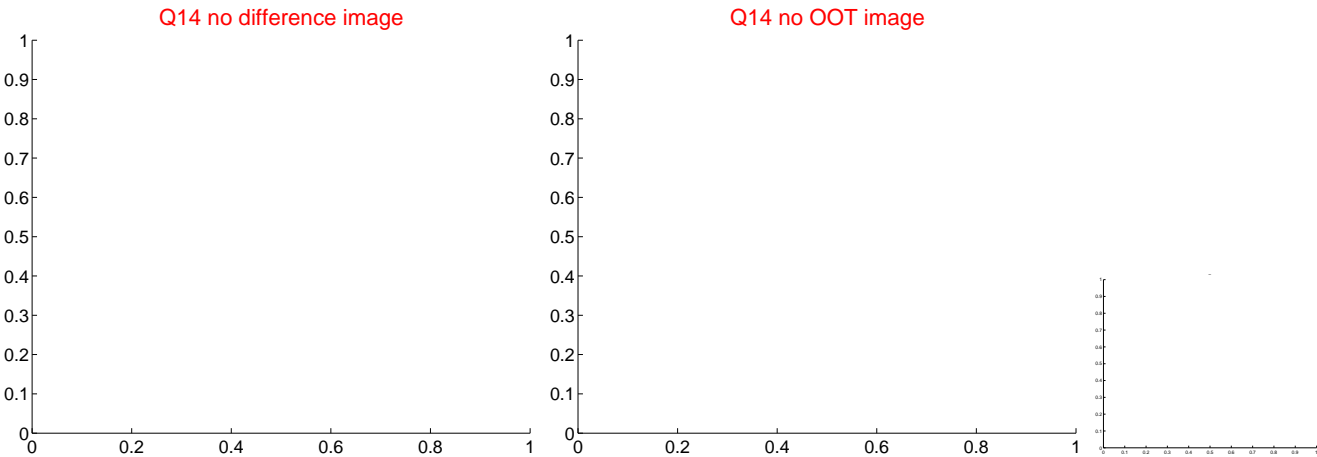
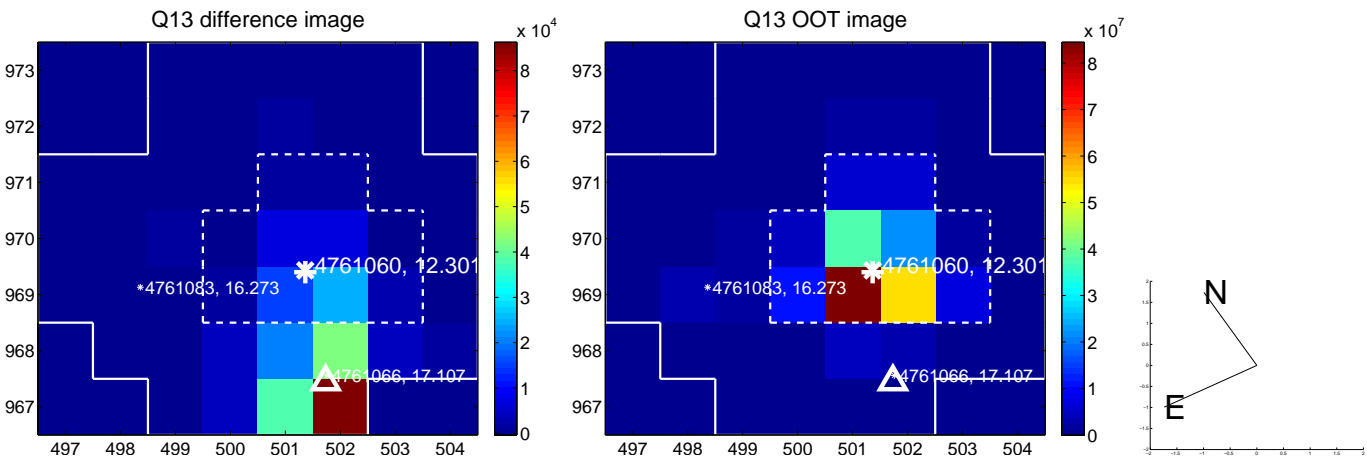
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



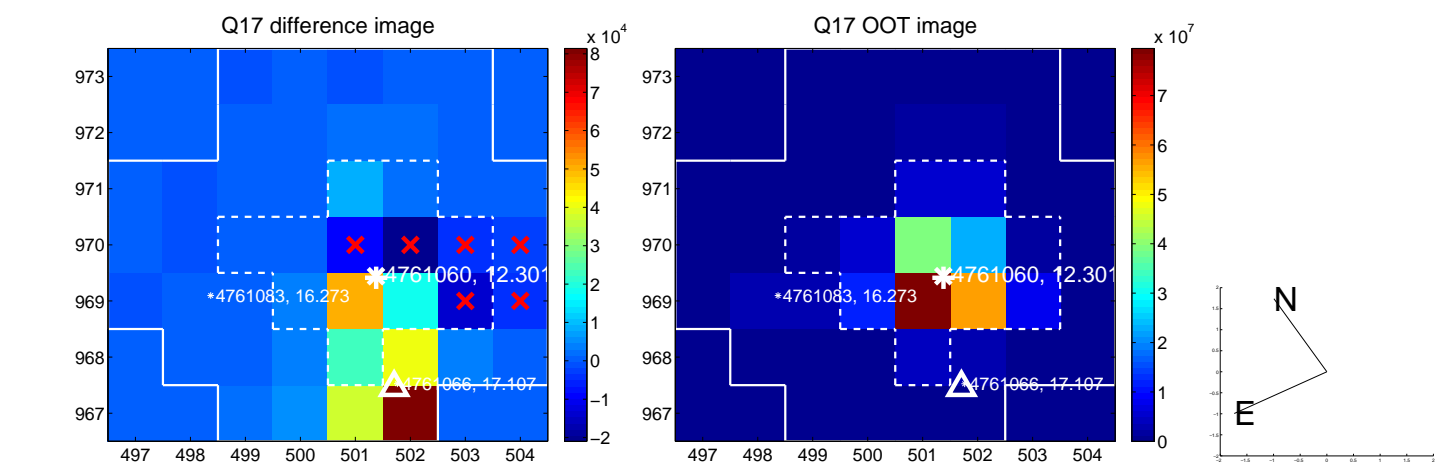
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



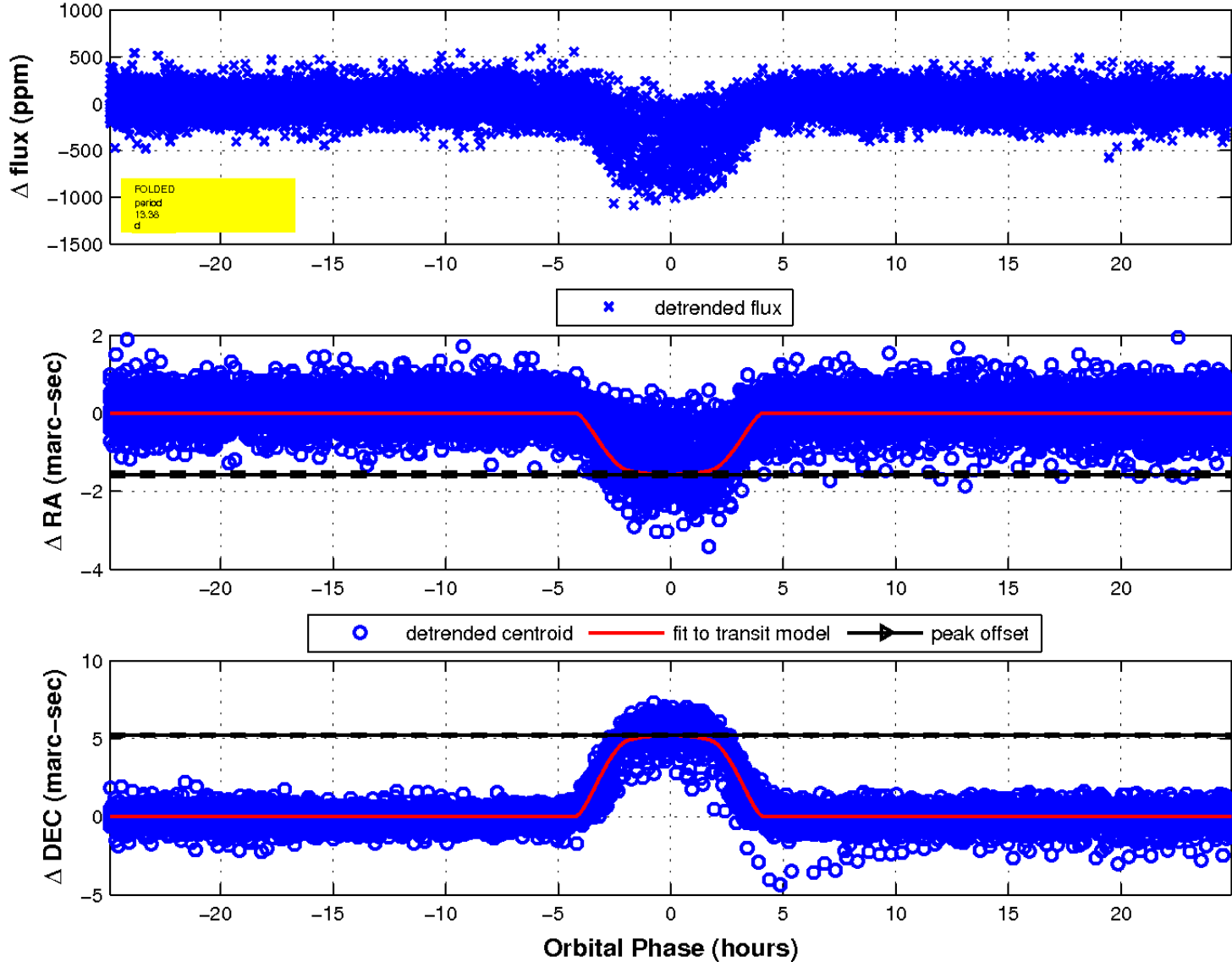
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

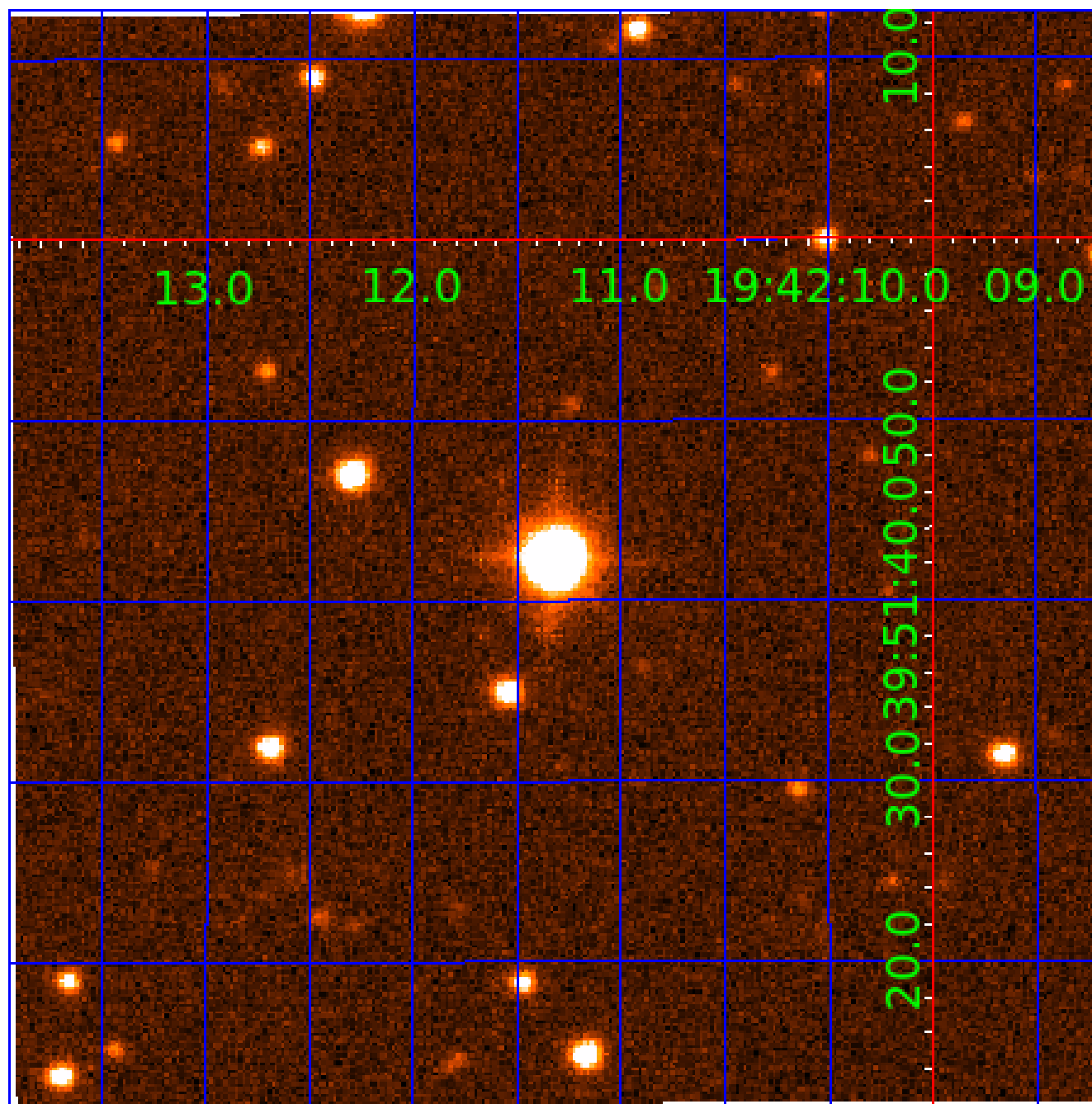


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 004761060

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})
004761060-01	OBS	2249.01	13.379272	140.929919	297.2	8.303	30.7	29.5	2.70	6739	5.93	897.75
004761060-02	OBS	No	3.361901	131.924061	1.7	25.984	7.9	0.6	2.70	6739	0.36	5661.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004761060-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST
004761060-02	OBS	FP	0.00	1	0	0	0	LPP_DV

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.

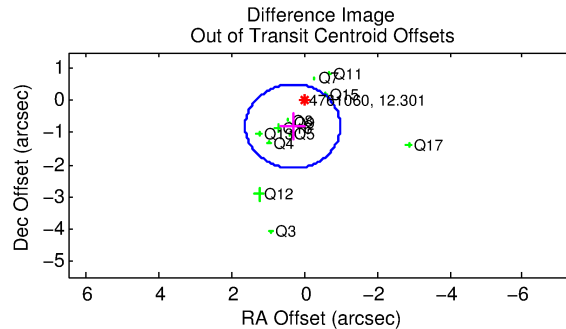
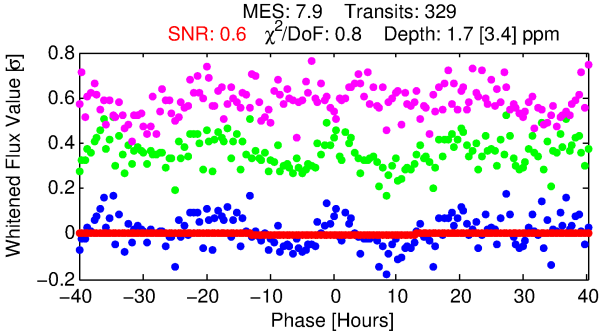
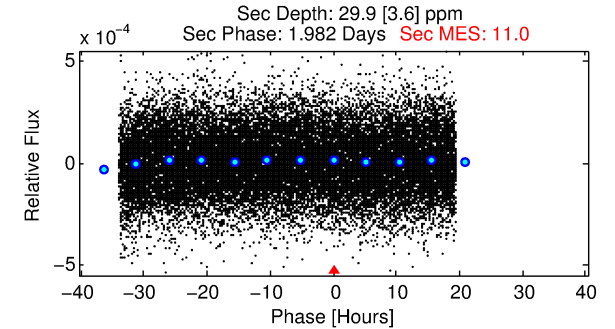
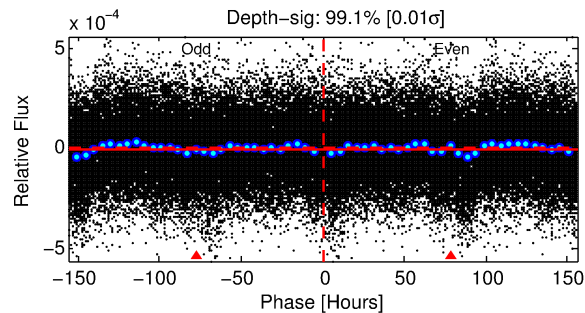
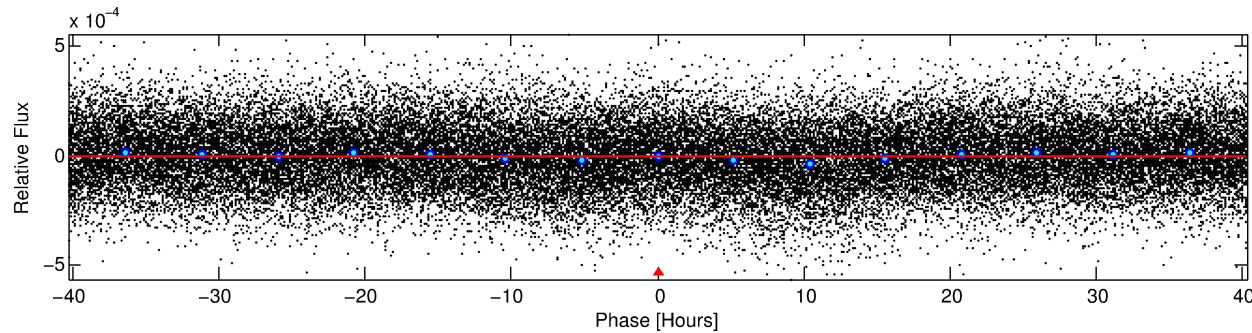
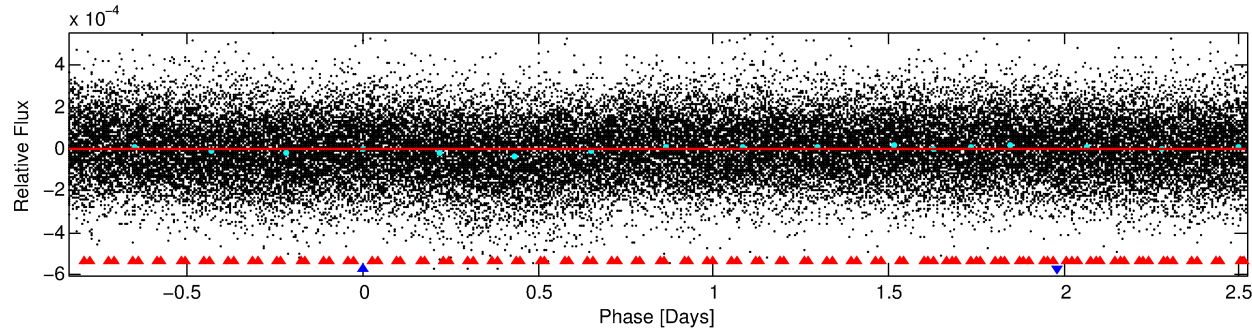
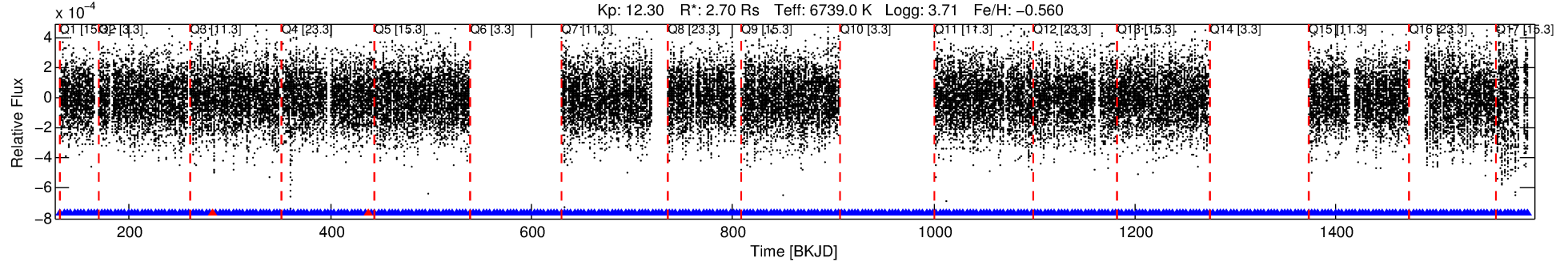
Ephemeris Match Information For 004761060-02

No Significant Match Found

DV One-Page Summary

KIC: 4761060 Candidate: 2 of 2 Period: 3.362 d
KOI: K02249 Corr: No Ephemeris Match

Kp: 12.30 R*: 2.70 Rs Teff: 6739.0 K Logg: 3.71 Fe/H: -0.560



DV Fit Results:

Period = 3.36190 [0.00076] d
Epoch = 131.9241 [0.1233] BKJD
Rp/R* = 0.0012 [0.0105]
a/R* = 1.17 [15.61]
b = 0.25 [188.44]
Seff = 5661.78 [3316.56]
Teff = 2212 [324] K
Rp = 0.36 [3.11] Re
a = 0.0488 [0.0175] AU
Ag = 309.96 [5410.13] [0.06σ]
Teffp = 14349 [62582] K [0.19σ]

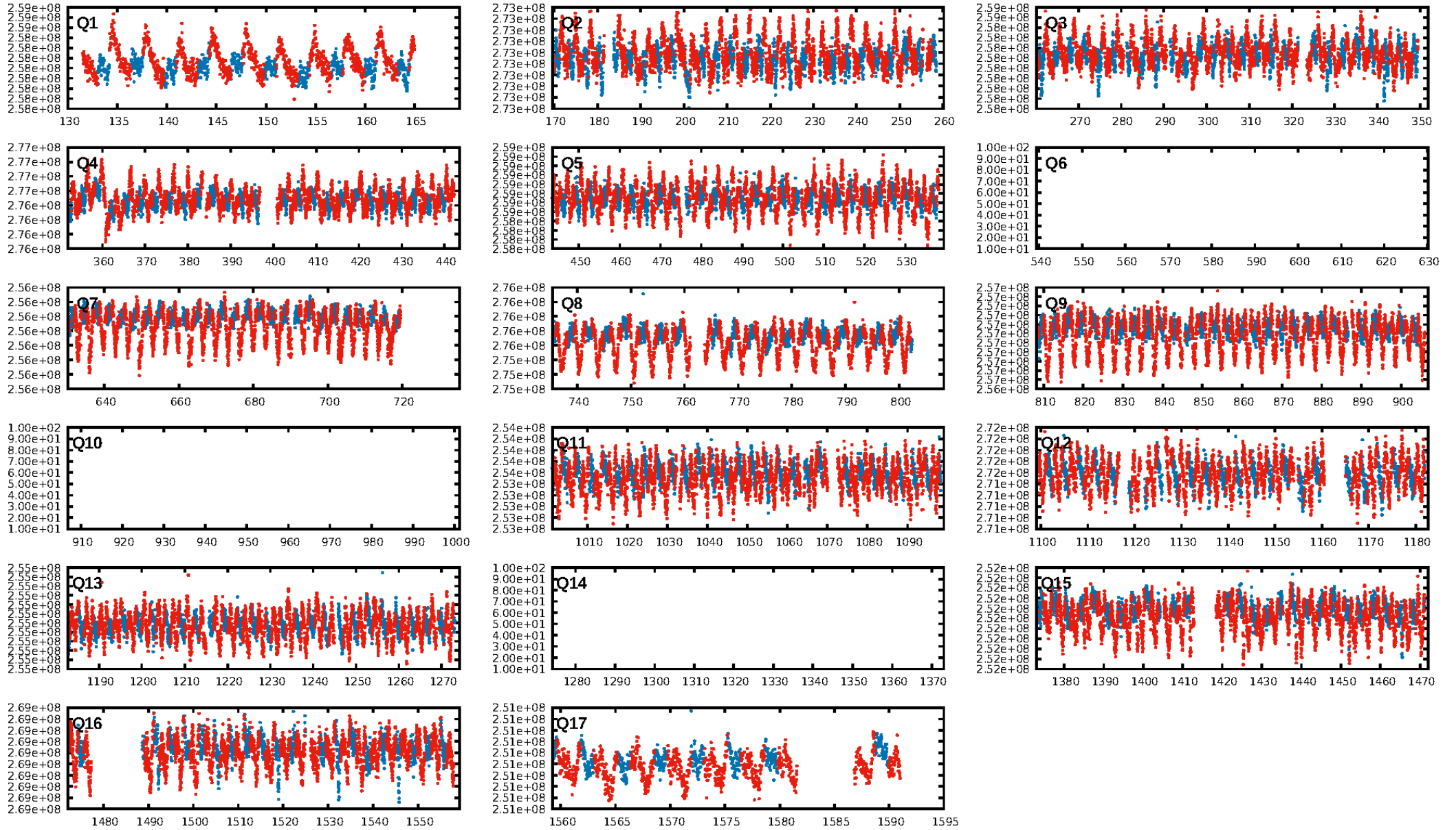
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [8.81σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [308/310]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.864 arcsec [1.98σ]
KicOffset-rm: 0.983 arcsec [2.11σ]
OotOffset-st: 0/4/4 [12]
KicOffset-st: 0/4/4 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [14/14]

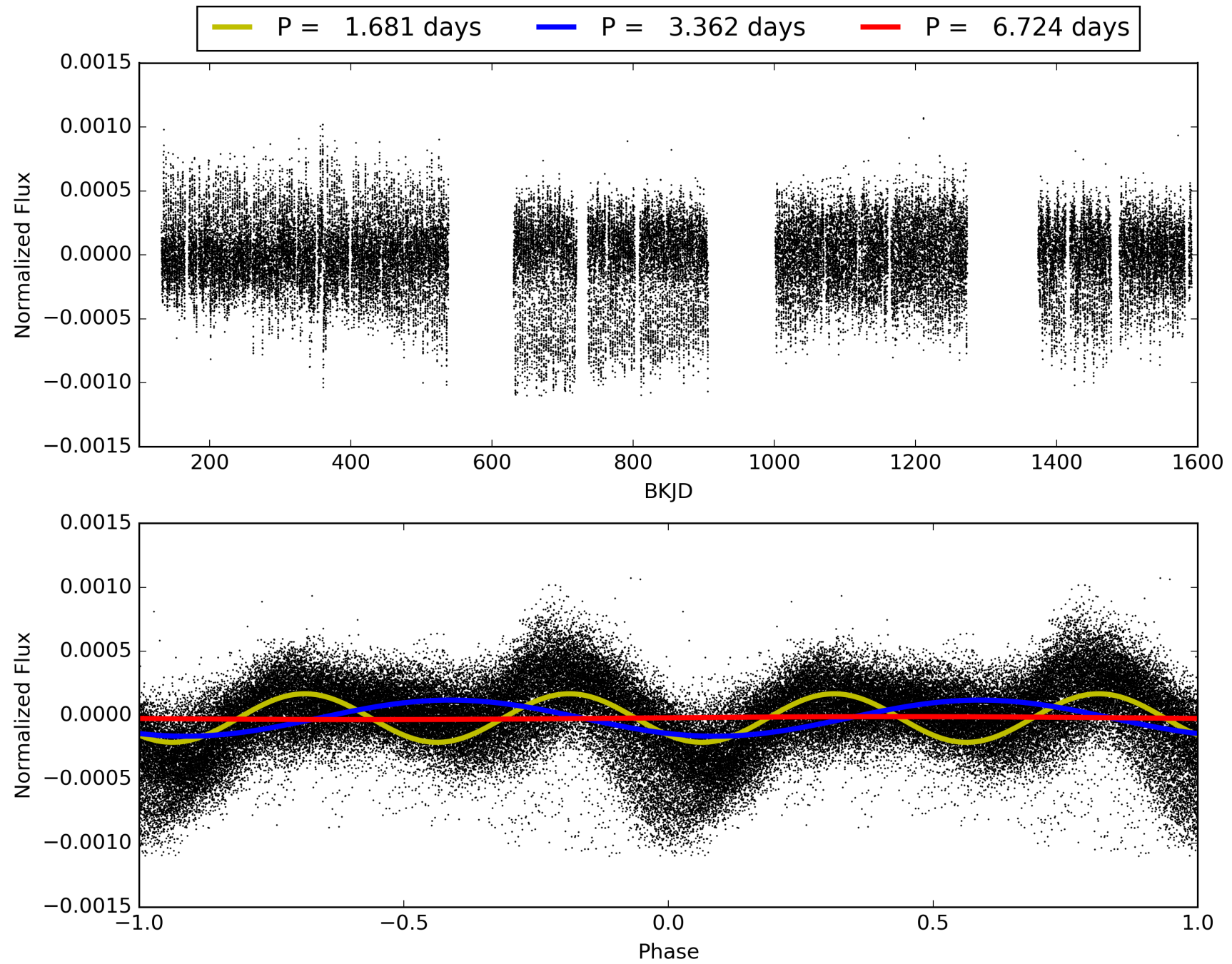
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004761060-02, PDC Light Curves

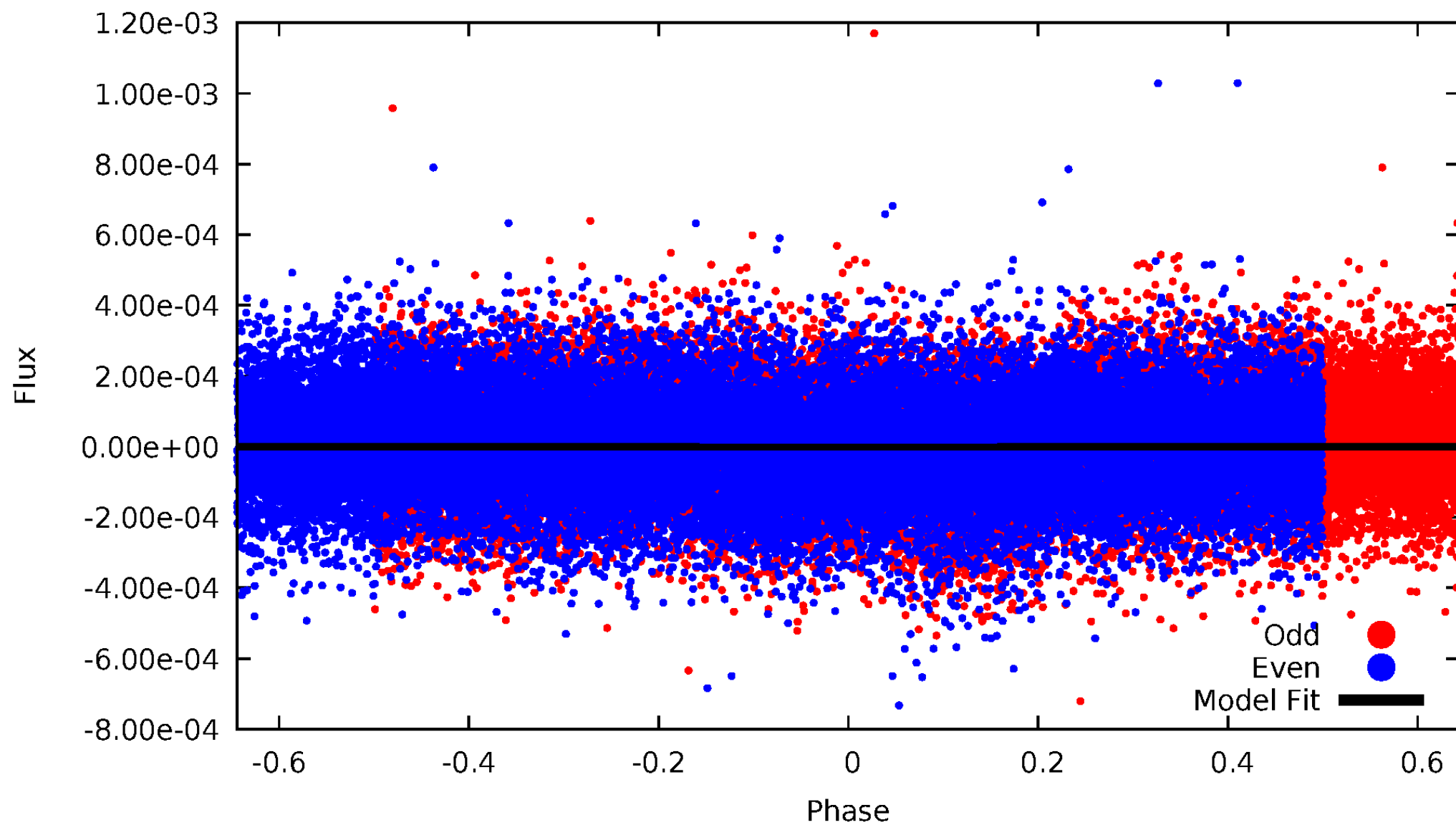


TCE 004761060-02



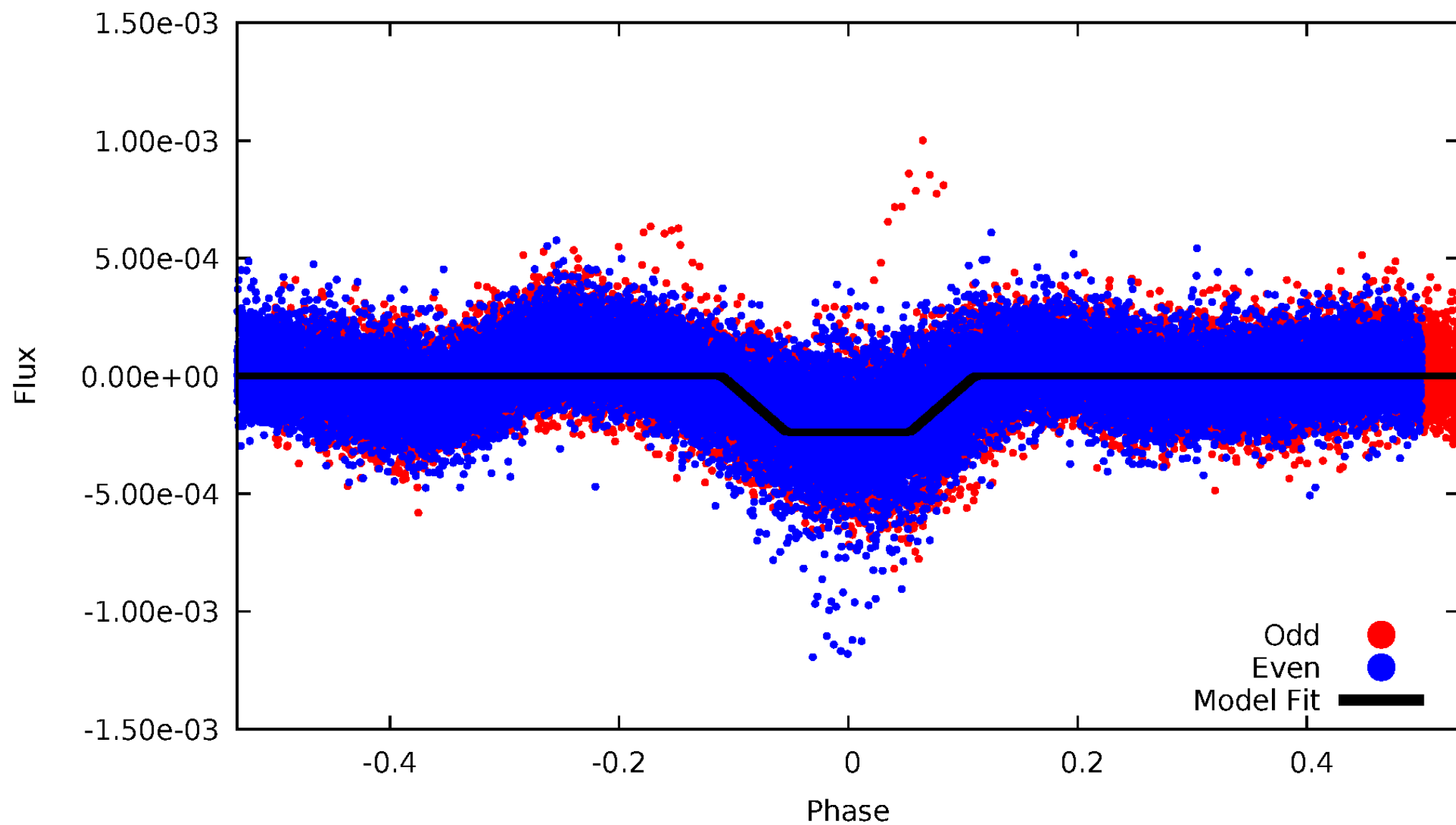
DV Odd/Even

TCE 004761060-02



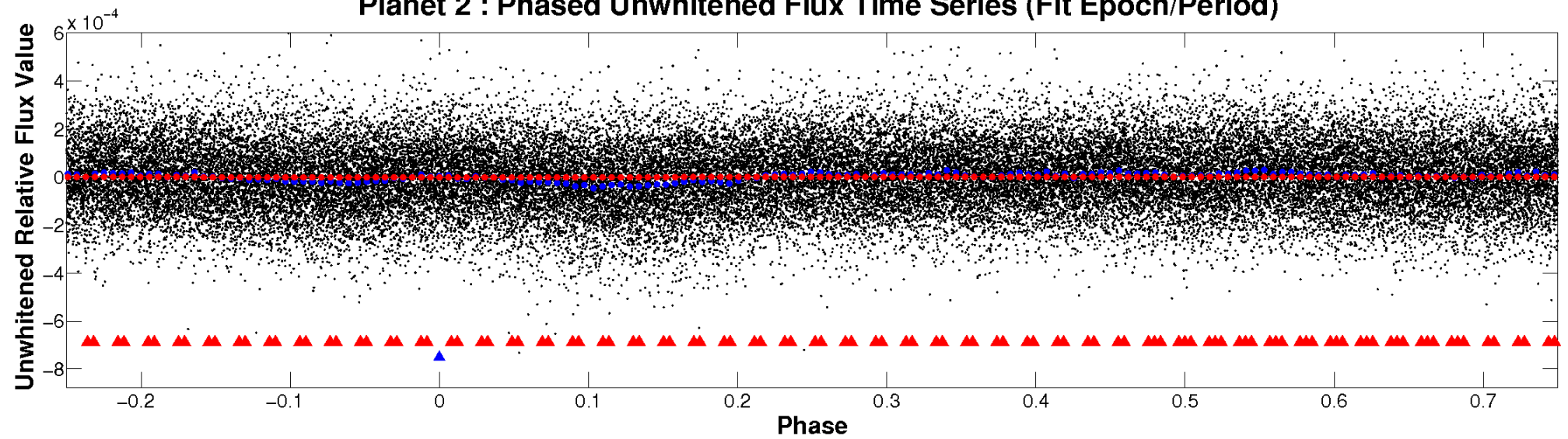
ALT Odd/Even

TCE 004761060-02

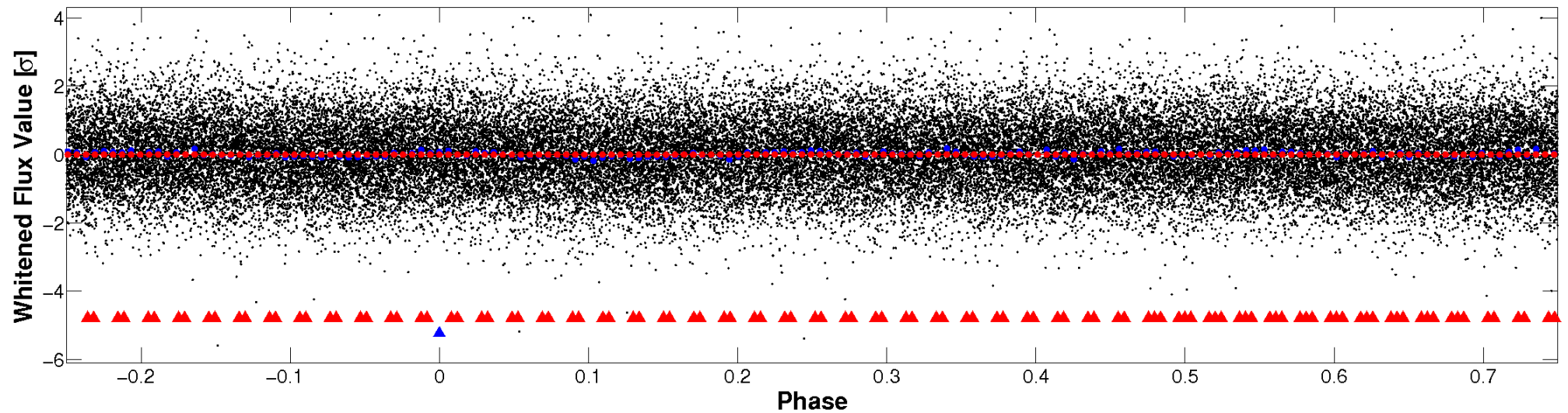


Non-Whitened Vs. Whitened Light Curve

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

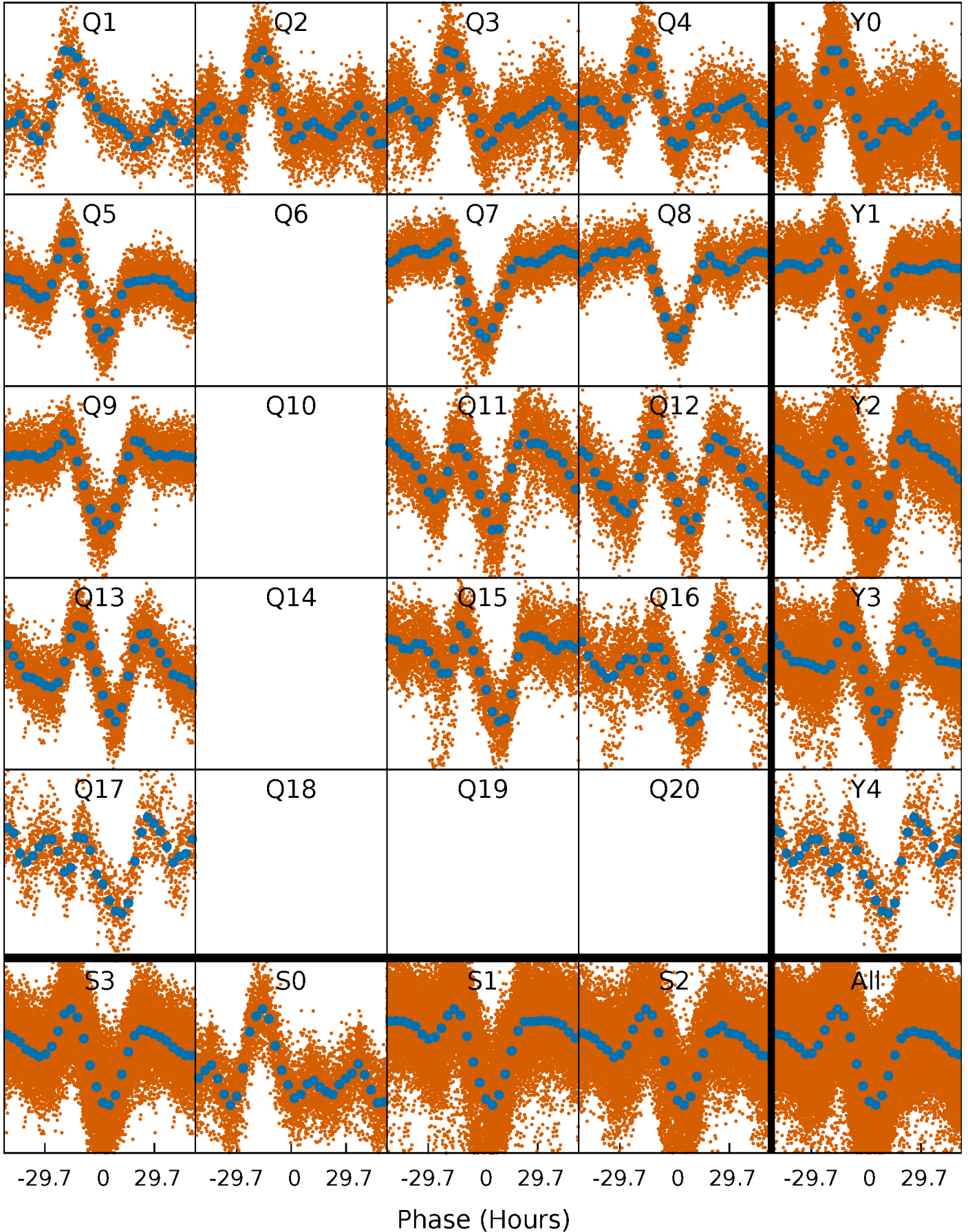


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



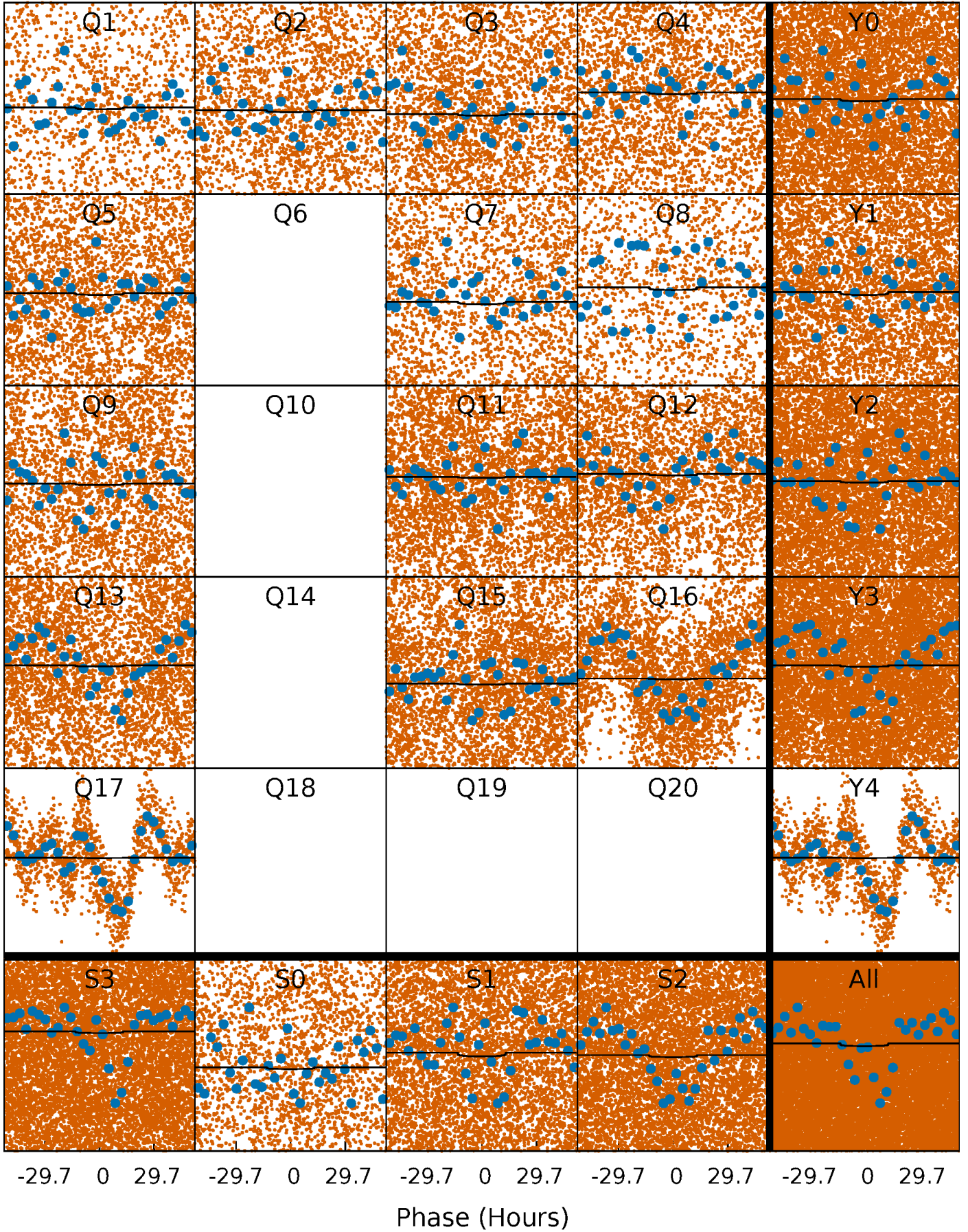
PDC Quarter-Phased Transit Curves

TCE 004761060-02 P= 3.361901 Days $T_0=131.924061$ (BKJD)



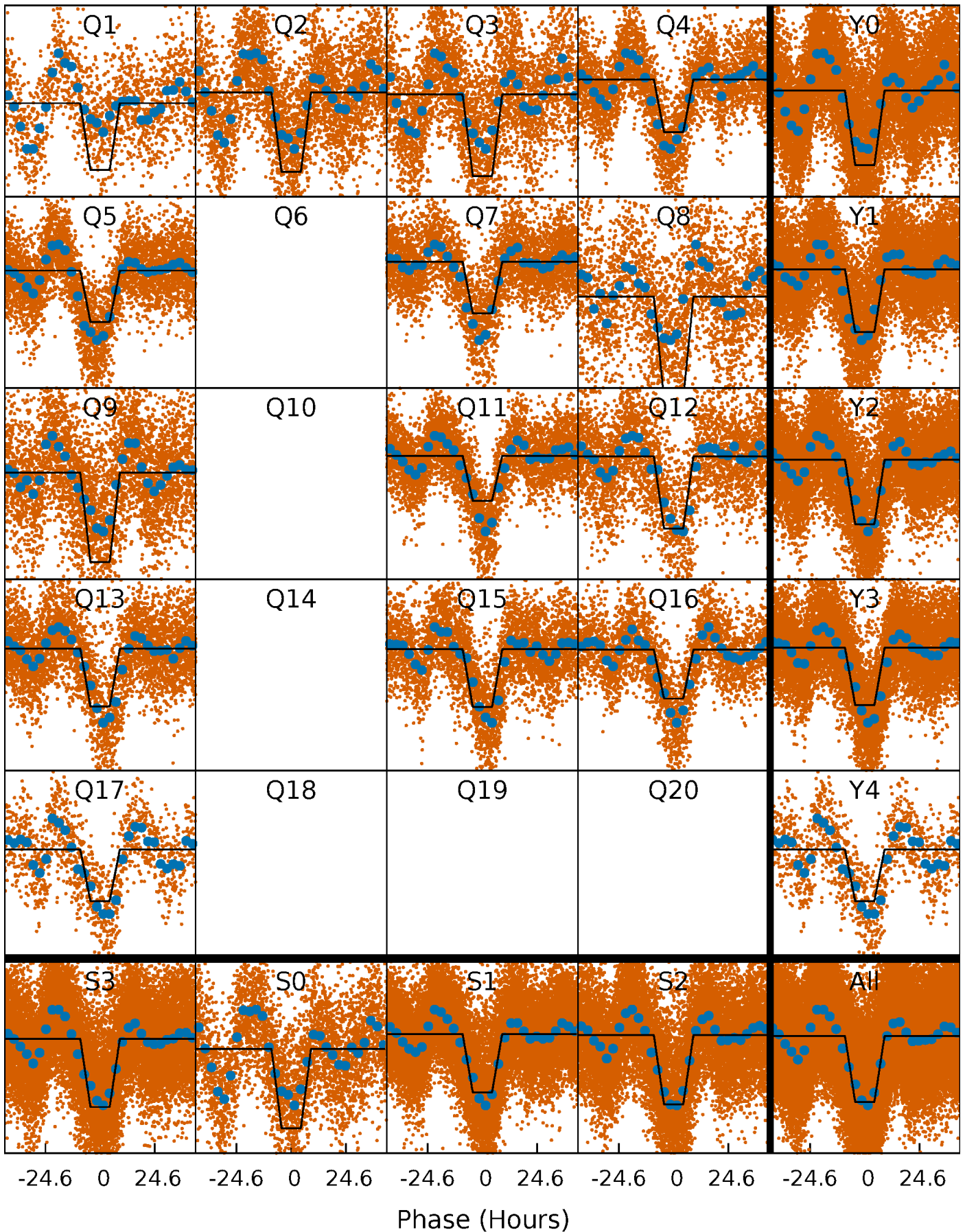
DV Quarter-Phased Transit Curves

TCE 004761060-02 P= 3.361901 Days $T_0=131.924061$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

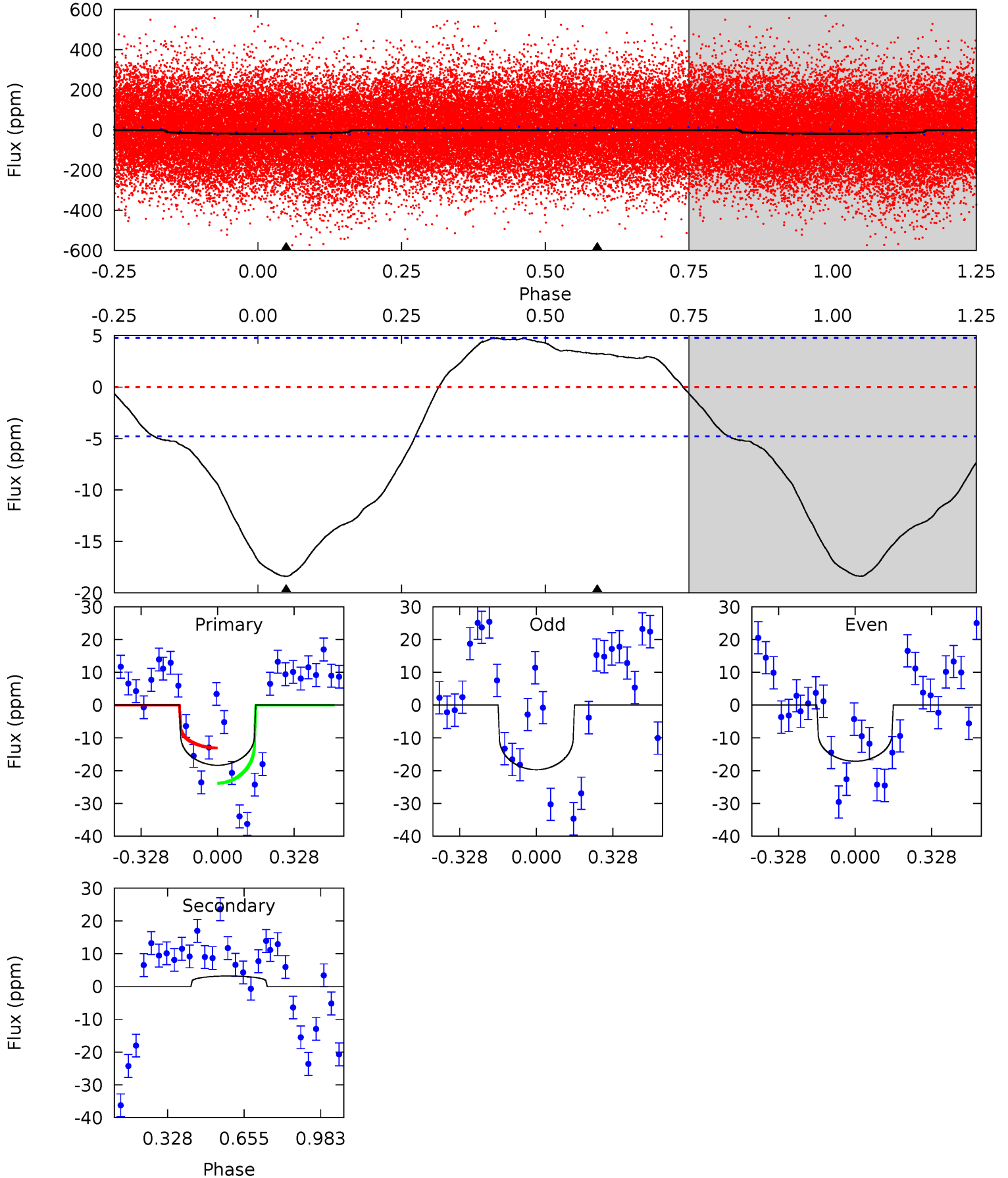
TCE 004761060-02 P= 3.362885 Days $T_0=131.908521$ (BKJD)



DV Model-Shift Uniqueness Test

004761060-02, P = 3.361901 Days, E = 128.562160 Days

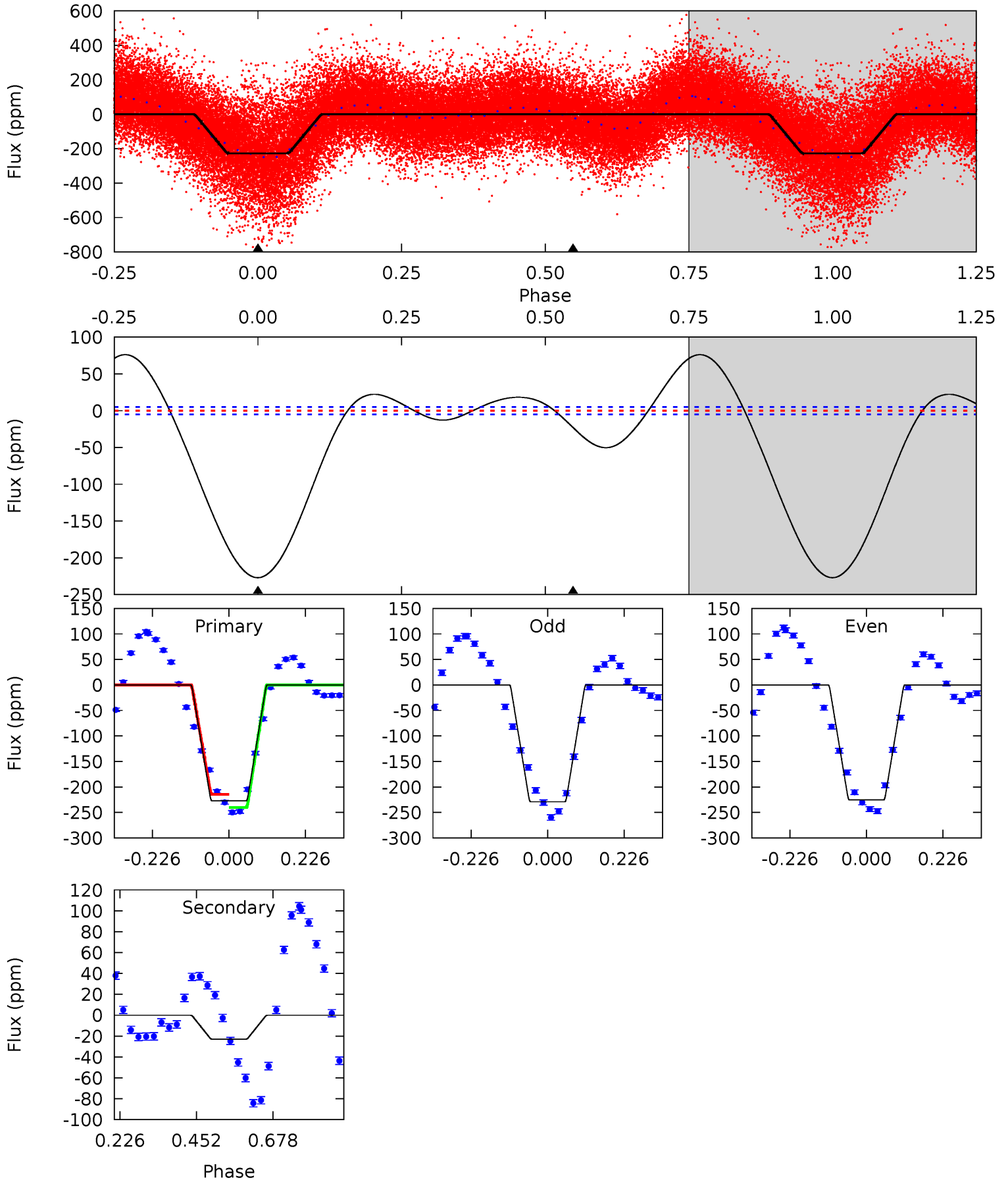
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	-2.89	0	0	4.31	0.98	2.37	16.5	16.5	-2.89	-2.89	1.15	1.32	0.21	4.84



Alt Model-Shift Uniqueness Test

004761060-02, P = 3.362885 Days, E = 128.545636 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
196.3	19.8	0	0	4.39	1.21	15.8	196.3	196.3	19.8	19.8	1.64	1.12	0.25	9.51



Stellar Parameters For KIC 004761060

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6739^{+183}_{-203}	$3.712^{+0.336}_{-0.084}$	$-0.560^{+0.350}_{-0.300}$	$2.702^{+0.434}_{-1.014}$	$1.371^{+0.232}_{-0.284}$	$0.098^{+0.217}_{-0.032}$
	+3%/-3%	+9%/-2%	+62%/-54%	+16%/-38%	+17%/-21%	+222%/-33%
Source	PHO1	FLK73	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 004761060-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	3 ± 1	$2.04^{+2.14}_{-1.43}$	3013^{+190}_{-326}	-3865^{+529}_{-2066}	$-0.999^{+0.785}_{-10.572}$
Alt.	-23 ± 1	$4.58^{+2.92}_{-2.59}$	3005^{+178}_{-287}	3764^{+1538}_{-781}	$1.479^{+5.975}_{-0.949}$

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

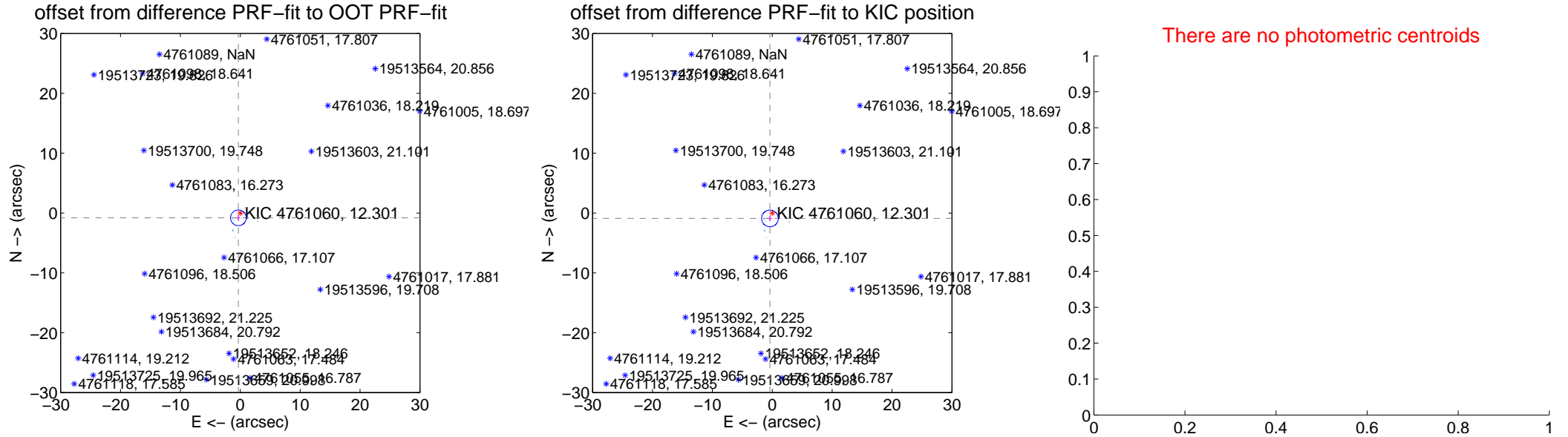
DV Centroid Data

Supplemental centroid analysis for 004761060-02. Kepler magnitude: 12.30. Transit SNR 0.62

There are 12 quarters with good PRF difference image offsets

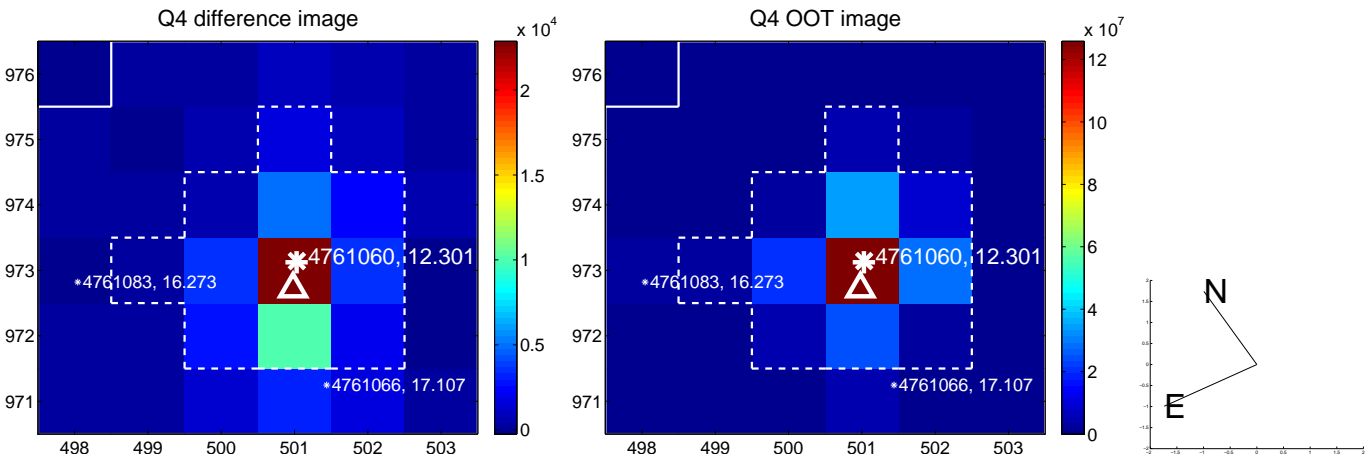
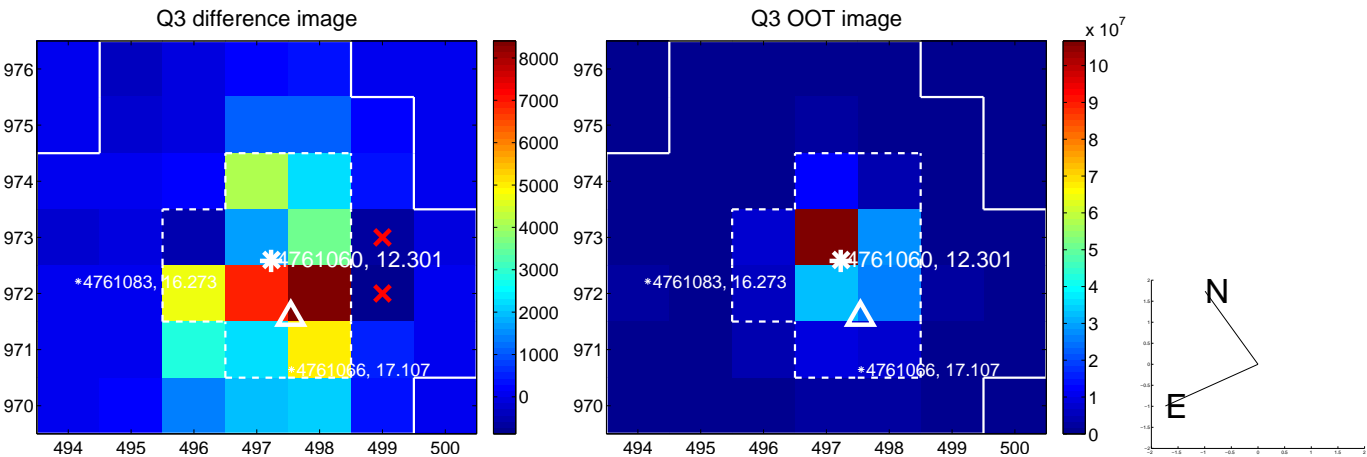
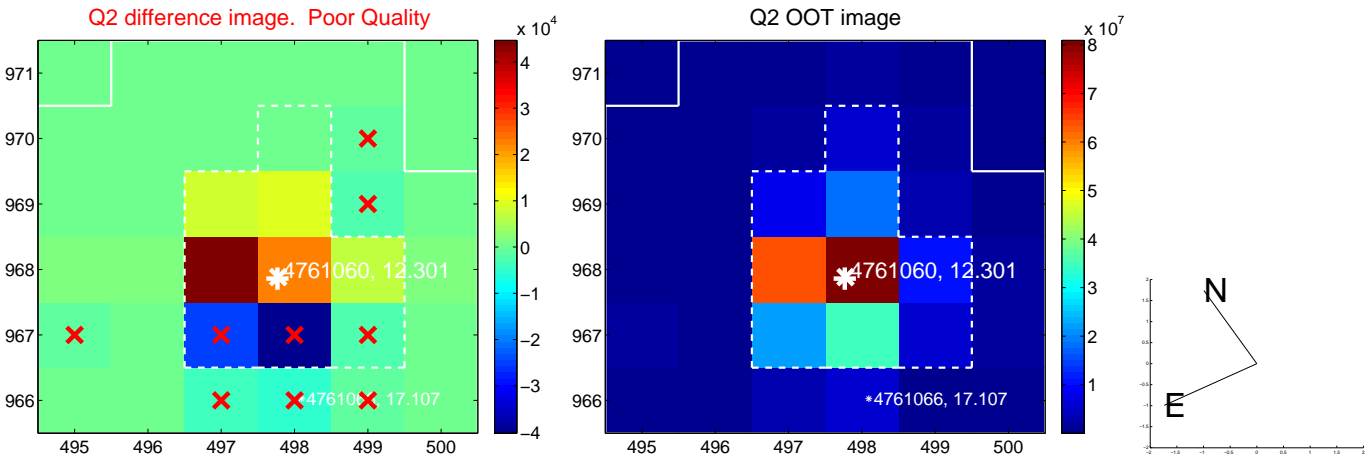
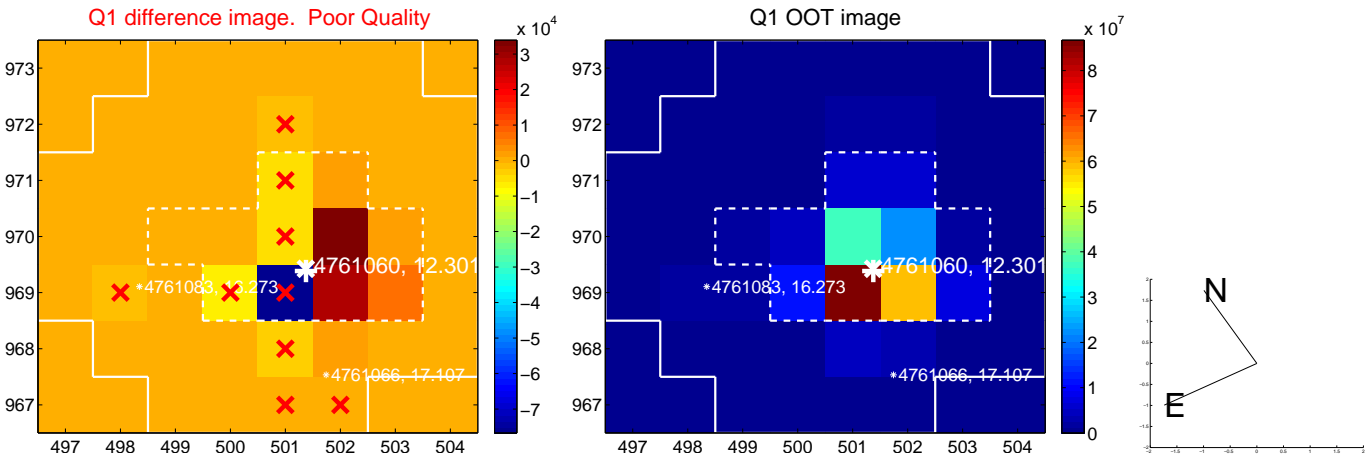
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.864 ± 0.436	1.98	0.317 ± 0.315	-0.804 ± 0.415
PRF-fit source offset from KIC position	0.983 ± 0.466	2.11	0.386 ± 0.363	-0.904 ± 0.434
photometric centroid source offset	—	—	—	—

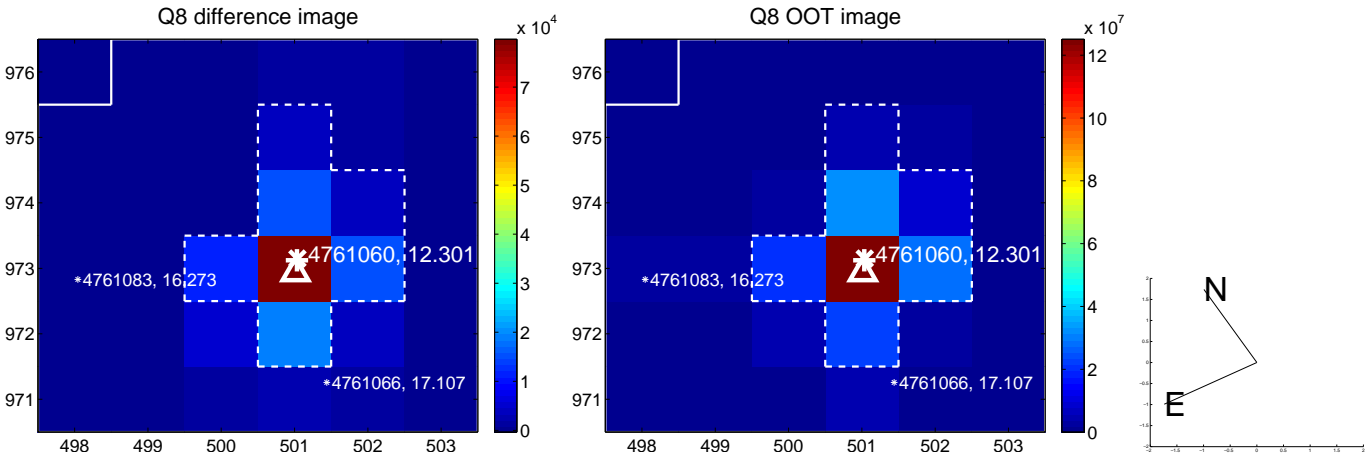
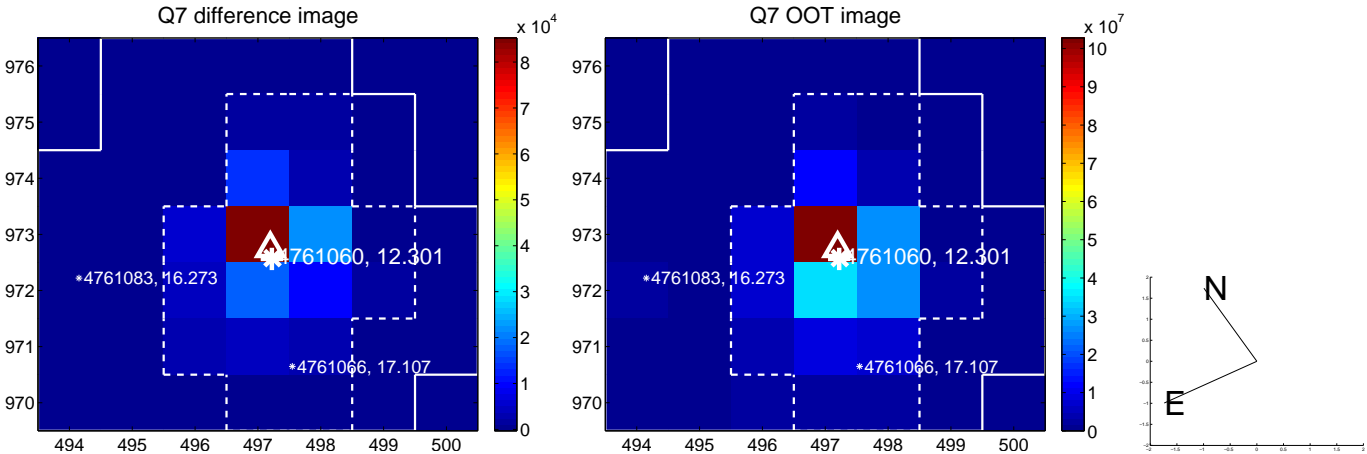
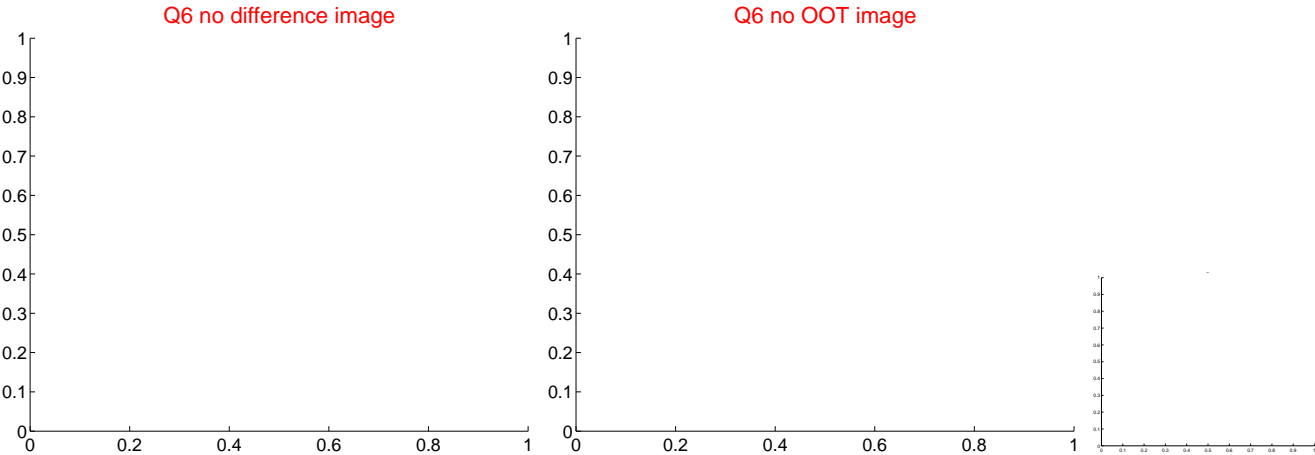
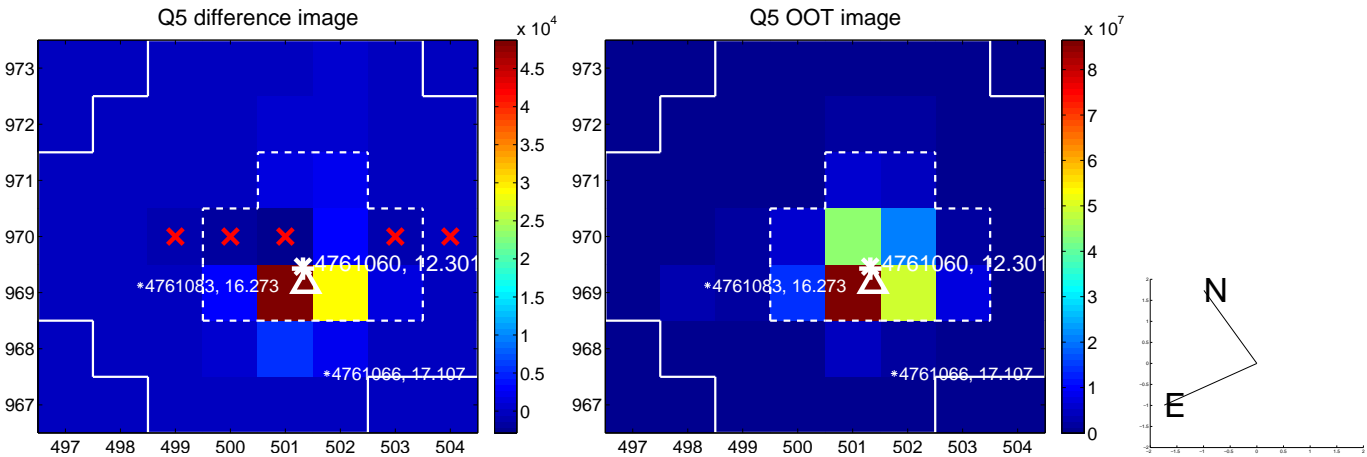


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

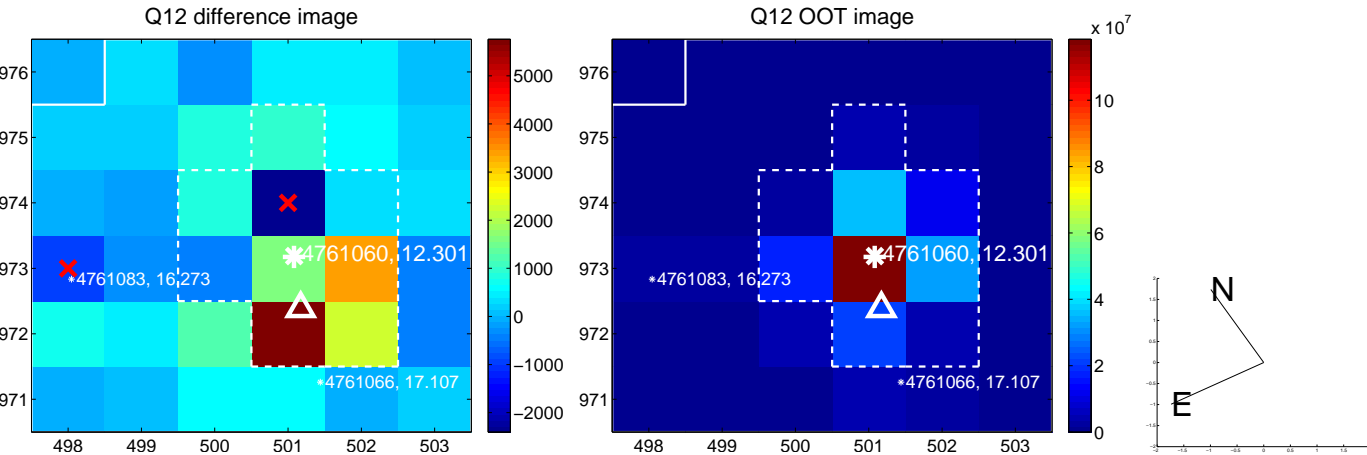
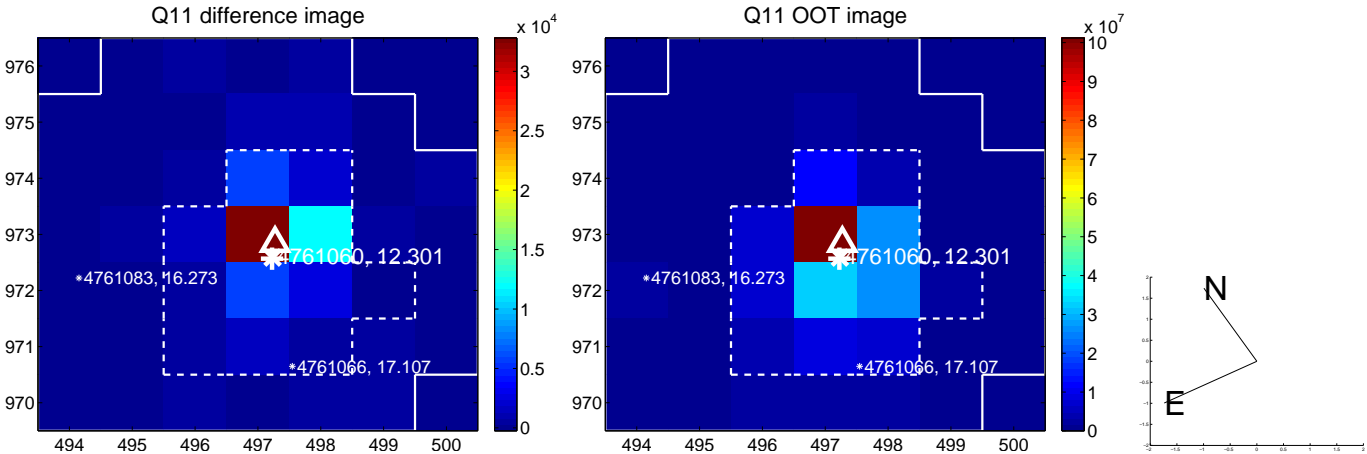
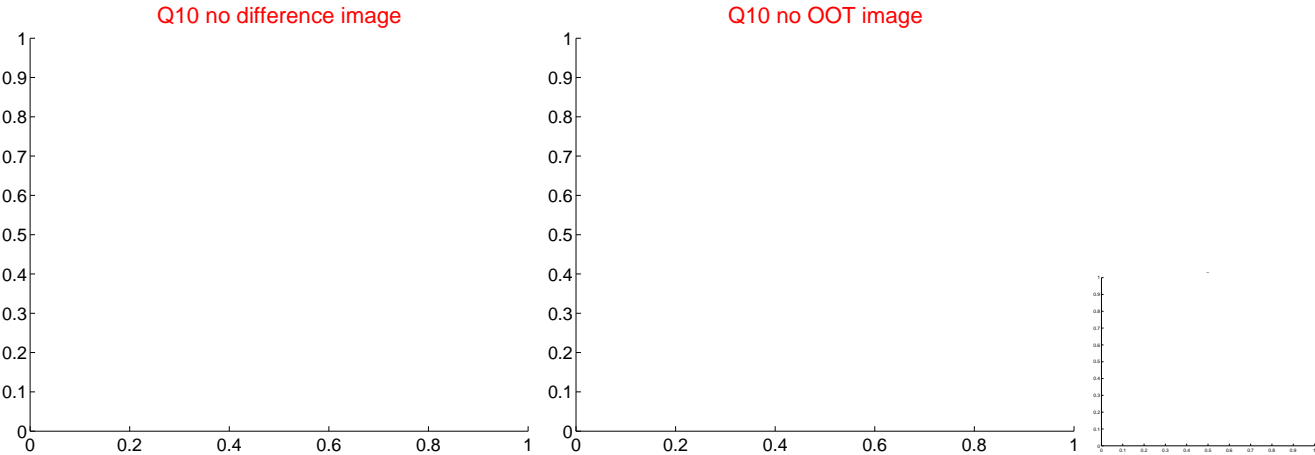
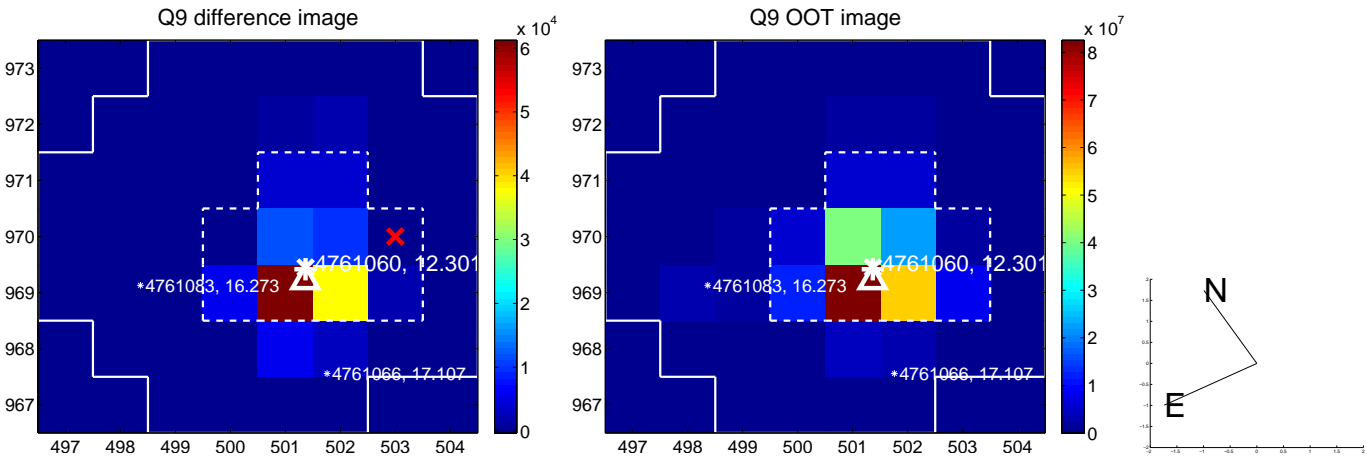
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



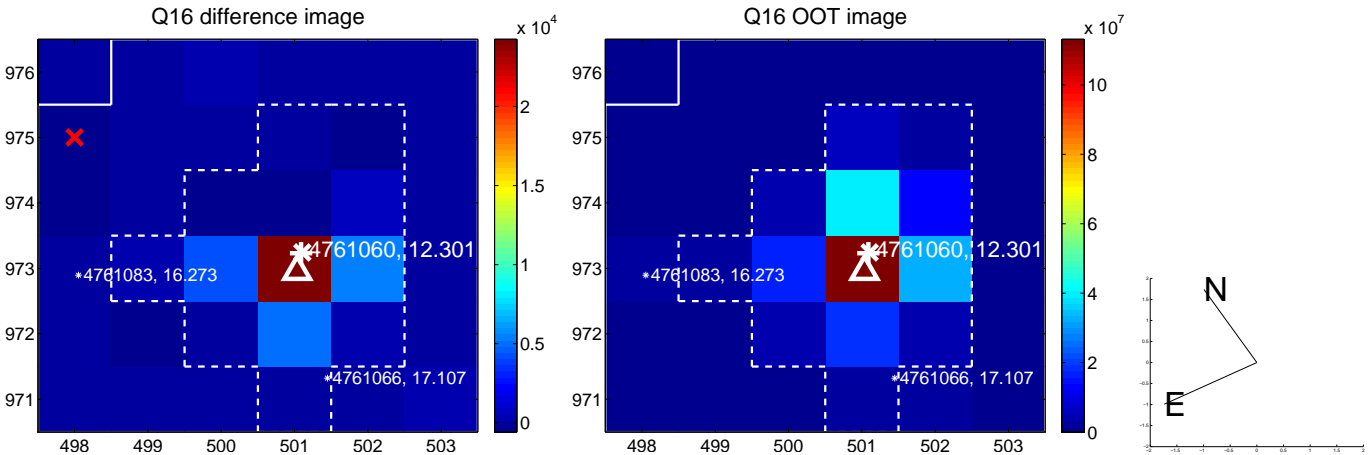
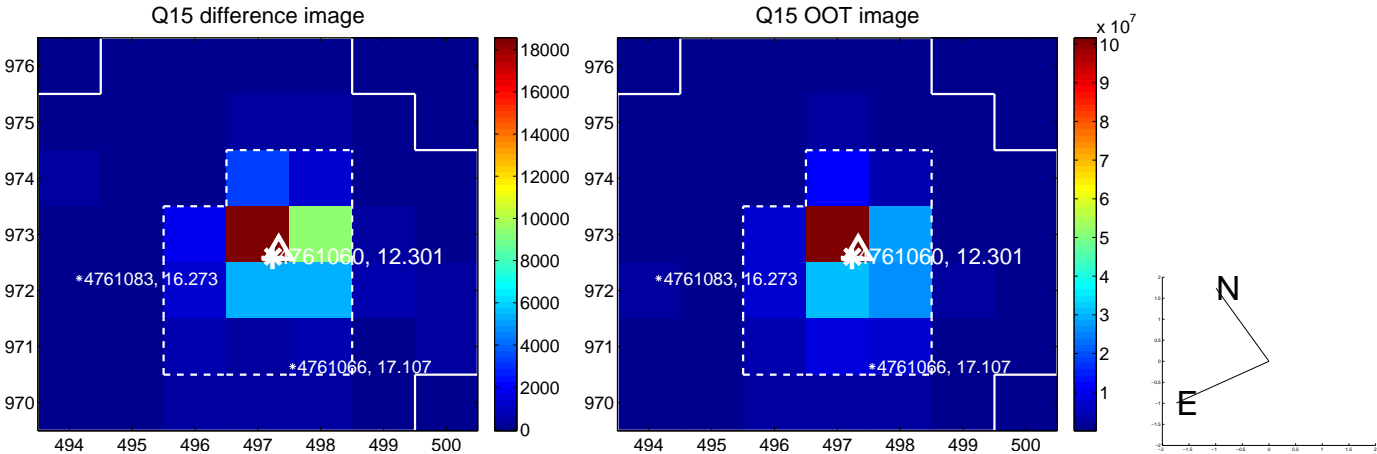
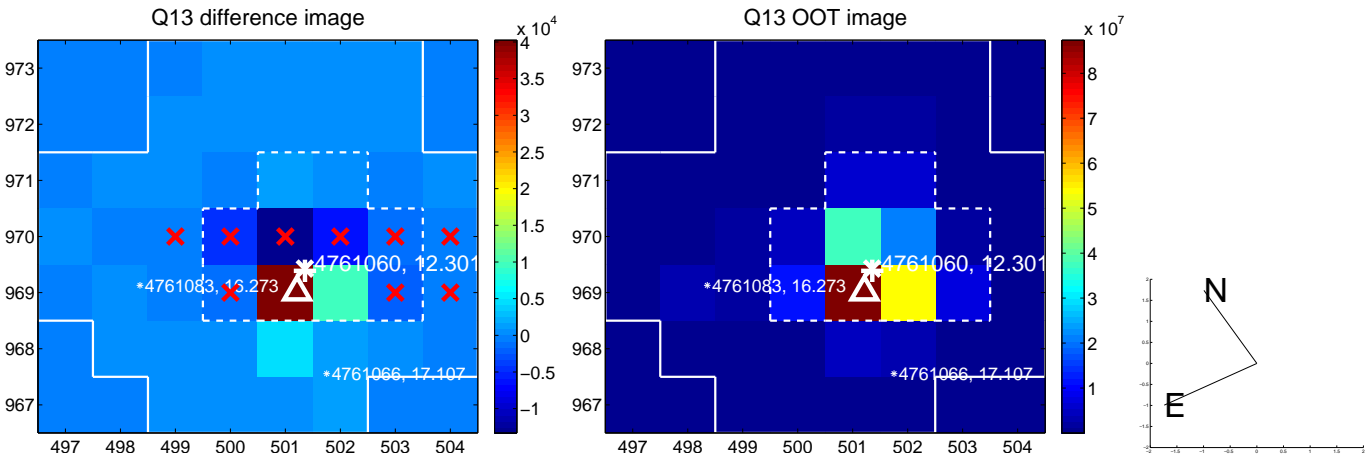
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



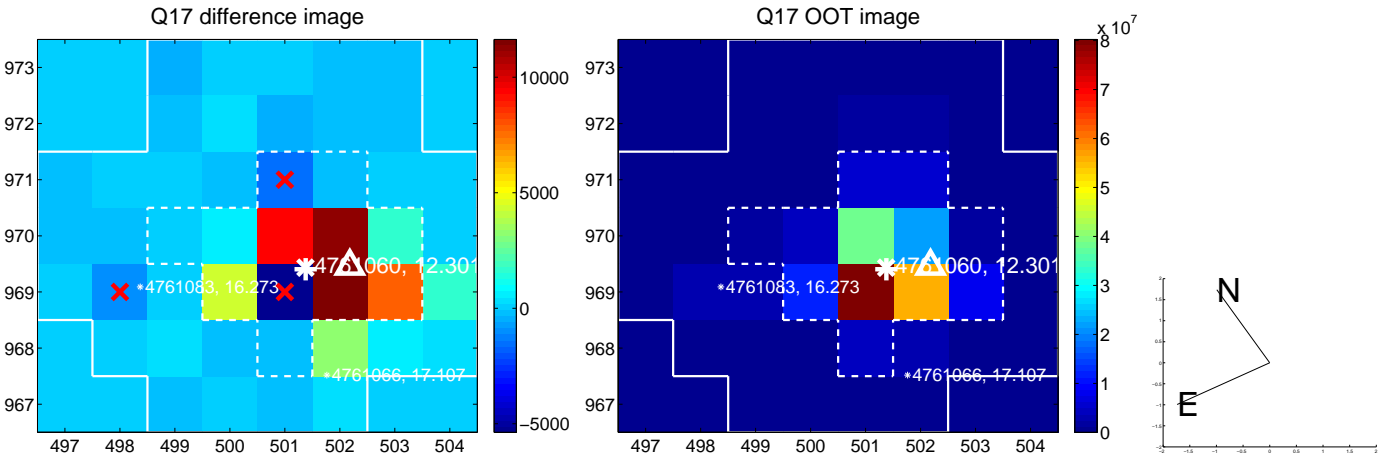
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

