

KIC 010481462

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})
010481462-01	OBS	No	0.688227	132.129133	2.8	1.487	10.0	0.4	2.51	6940	0.49	37963.83
010481462-02	OBS	No	0.688297	131.706413	1.4	3.976	9.7	0.2	2.51	6940	0.31	37958.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010481462-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
010481462-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

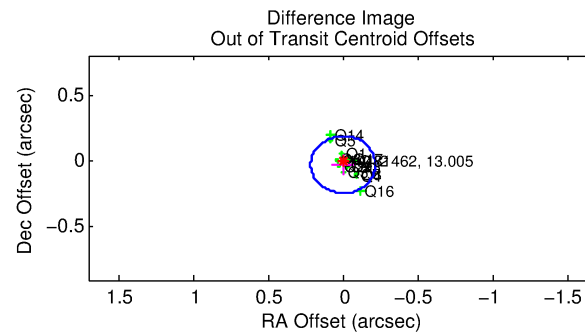
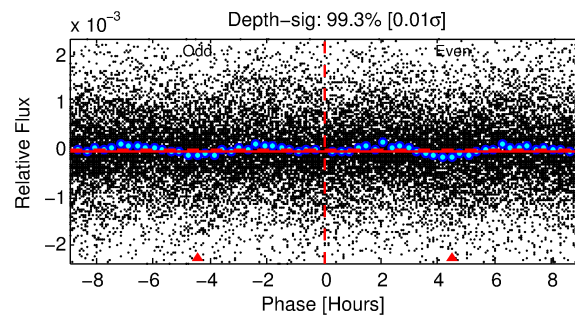
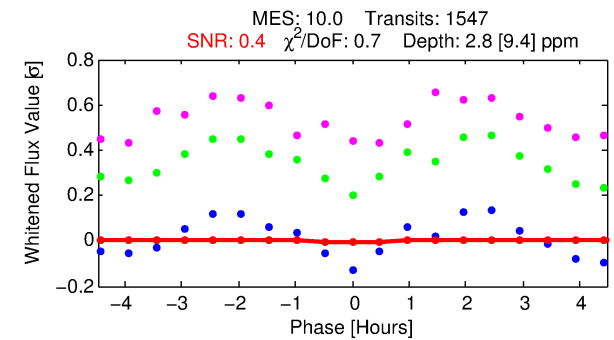
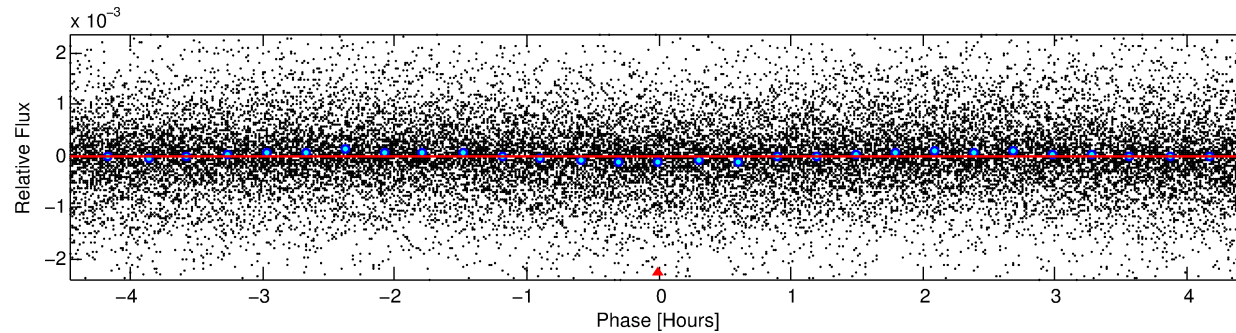
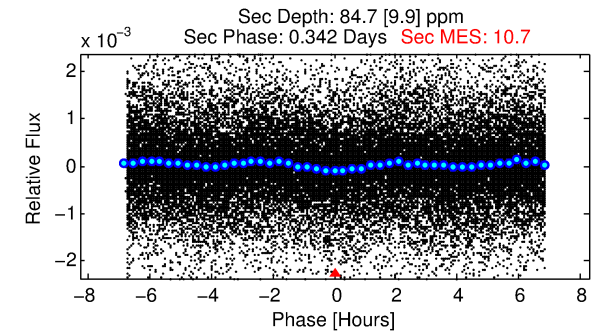
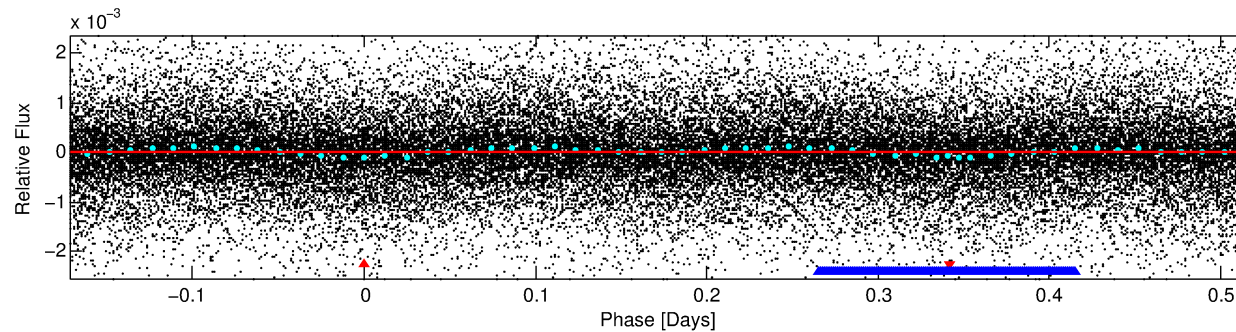
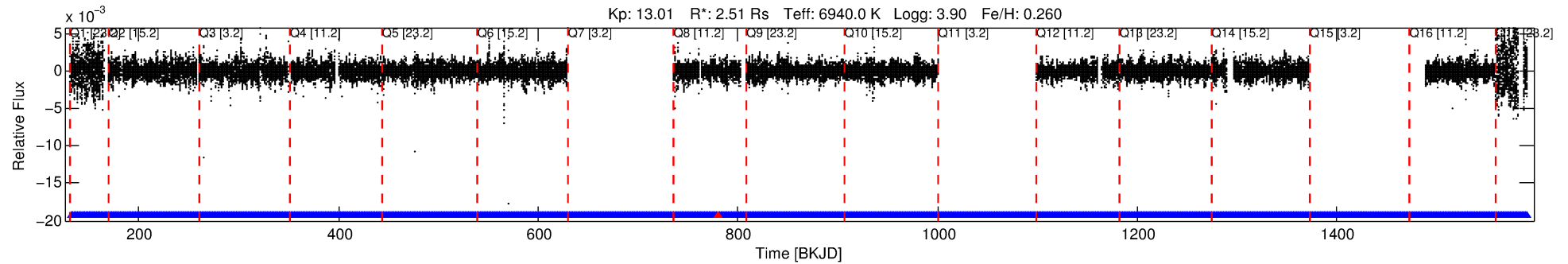
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010481462-01

No Significant Match Found

DV One-Page Summary

KIC: 10481462 Candidate: 1 of 2 Period: 0.688 d



DV Fit Results:

Period = 0.68823 [0.00024] d
Epoch = 132.1291 [0.0264] BKJD
Rp/R* = 0.0018 [0.0032]
a/R* = 1.81 [5.42]
b = 0.90 [0.91]
Seff = 37963.83 [21920.04]
Teq = 3559 [514] K
Rp = 0.49 [0.91] Re
a = 0.0186 [0.0066] AU
Ag = 66.64 [243.74] [0.27σ]
Teffp = 15723 [14233] K [0.85σ]

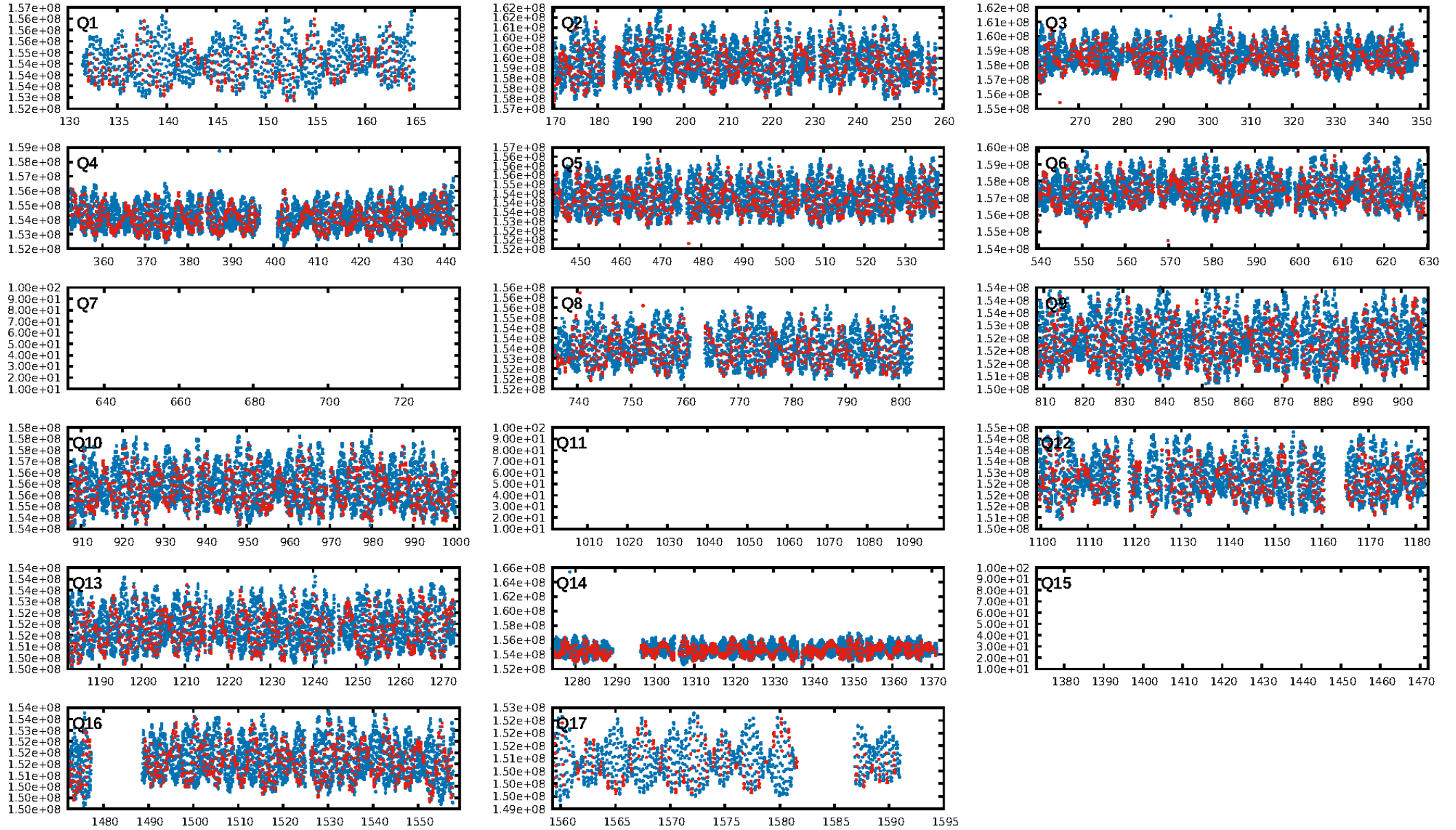
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.06e-27
RollingBand-fgt: 1.00 [1460/1461]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.027 arcsec [0.38σ]
KicOffset-rm: 0.103 arcsec [1.44σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.57 [8/14]

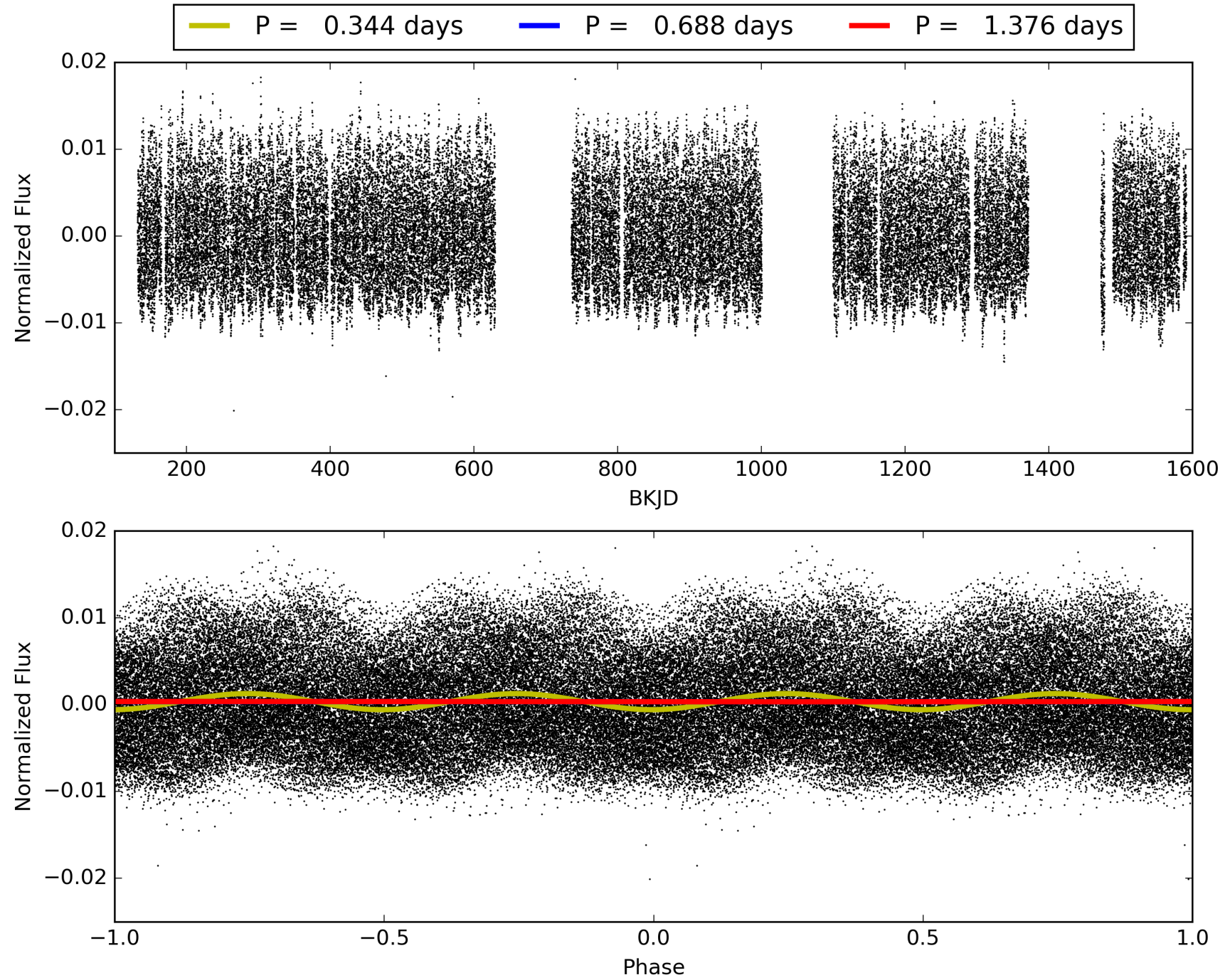
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:29:52 Z

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

TCE 010481462-01, PDC Light Curves

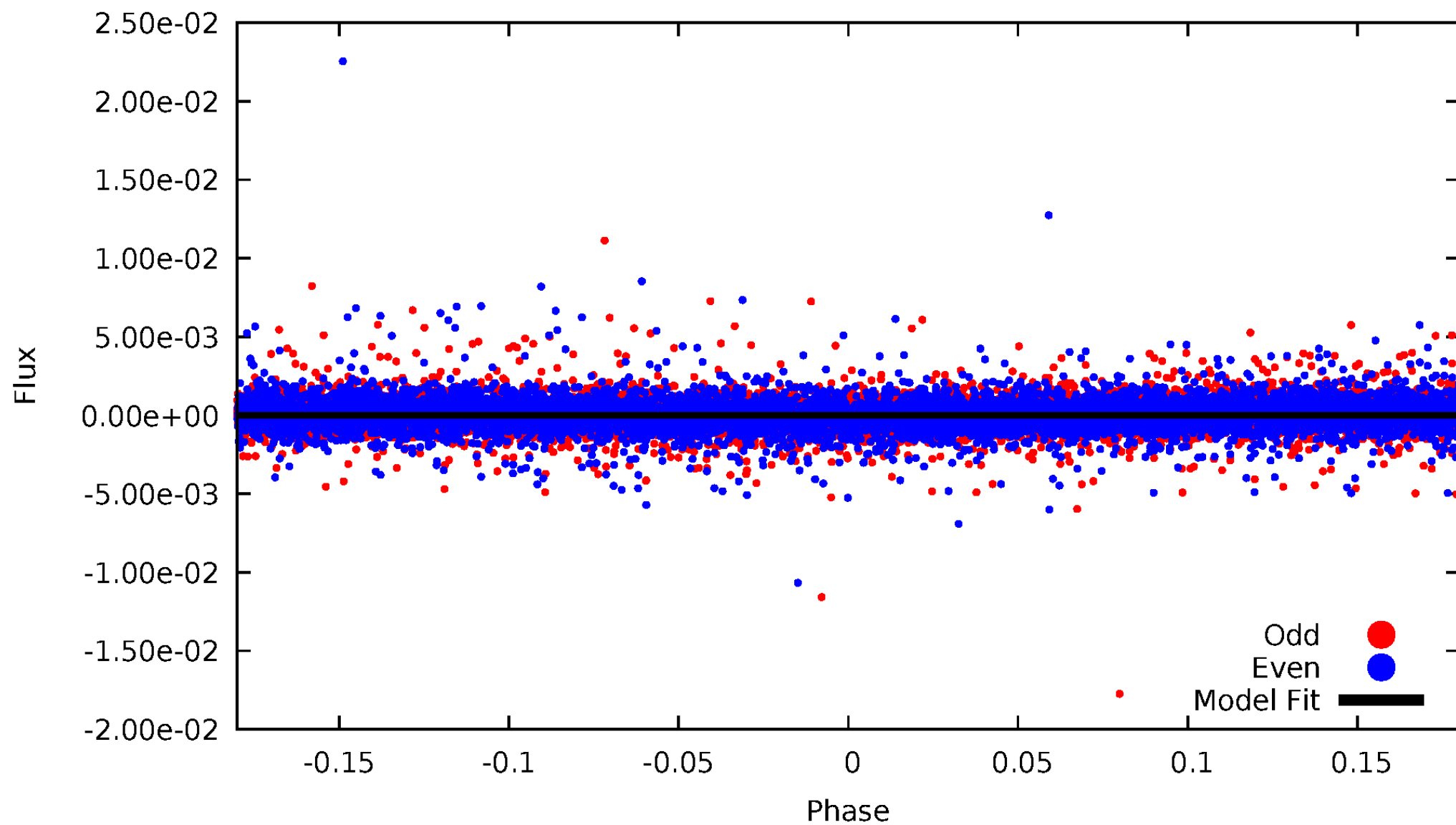


TCE 010481462-01



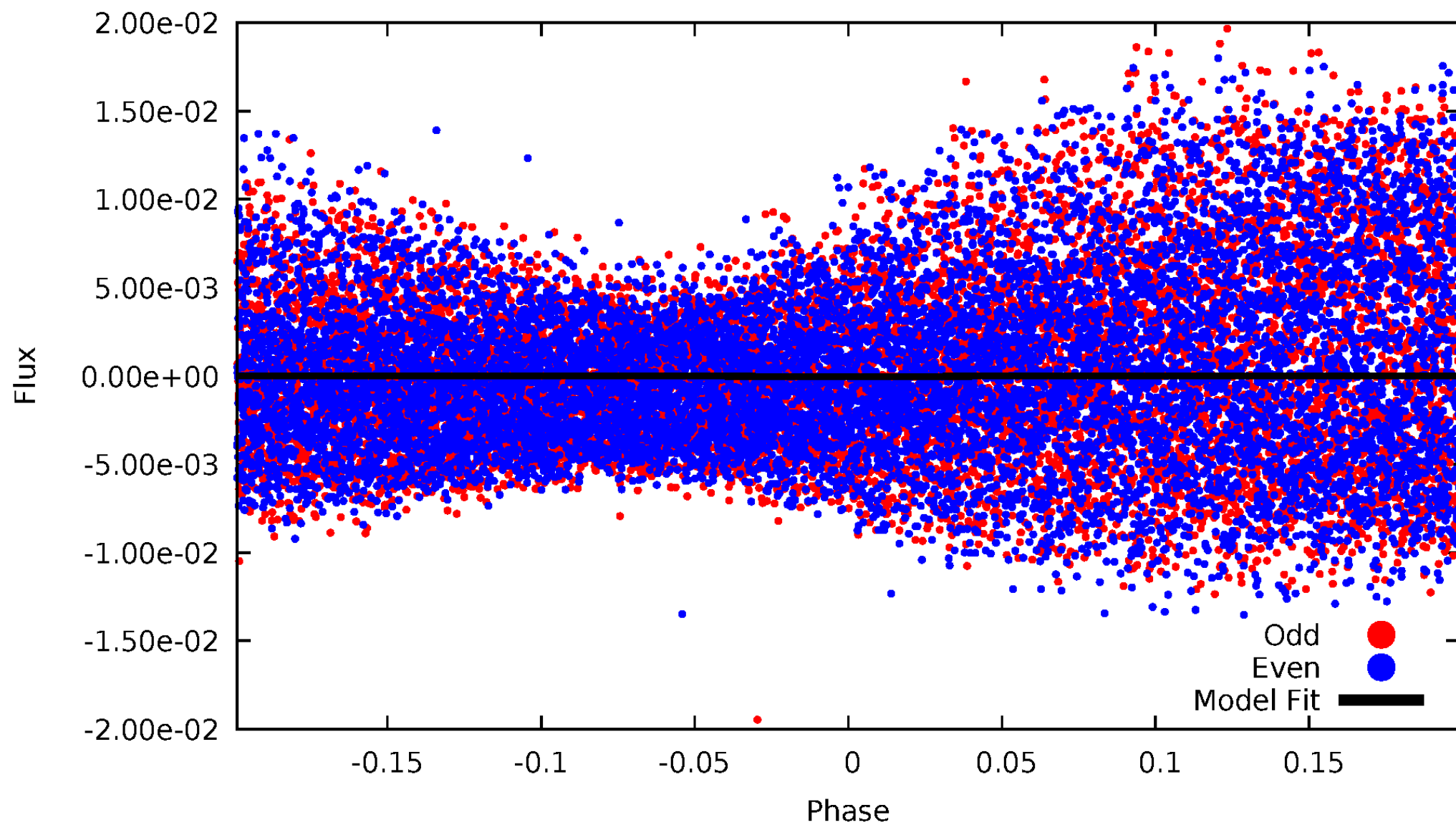
DV Odd/Even

TCE 010481462-01



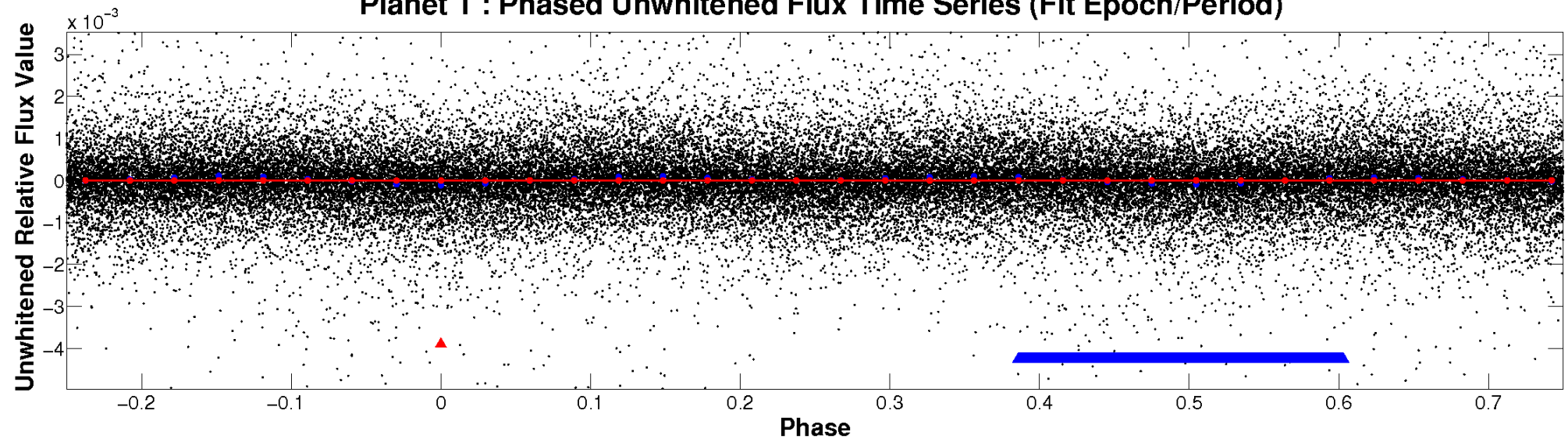
ALT Odd/Even

TCE 010481462-01

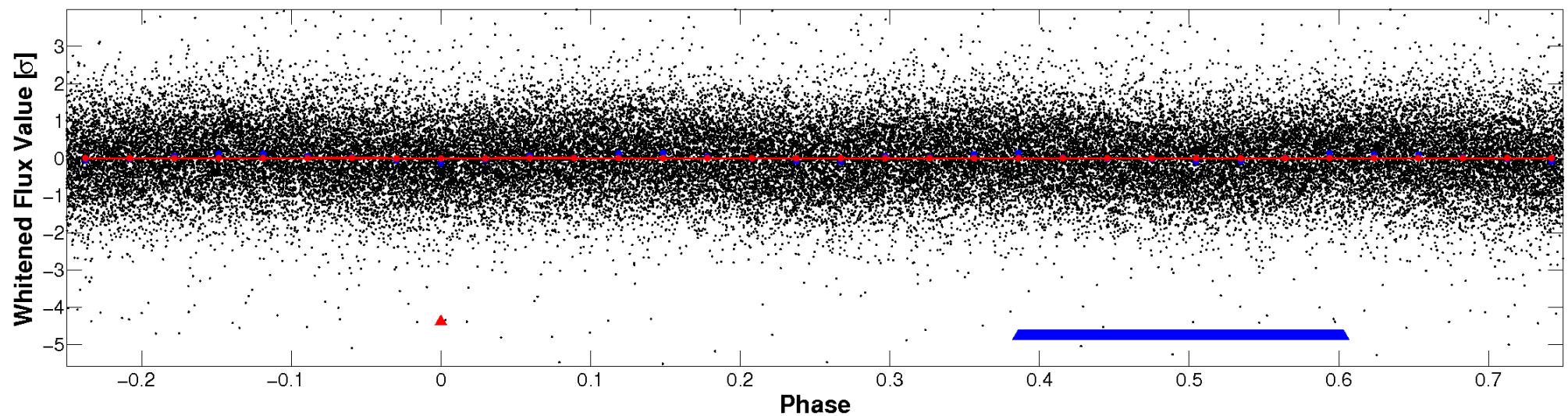


Non-Whitened Vs. Whitened Light Curve

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

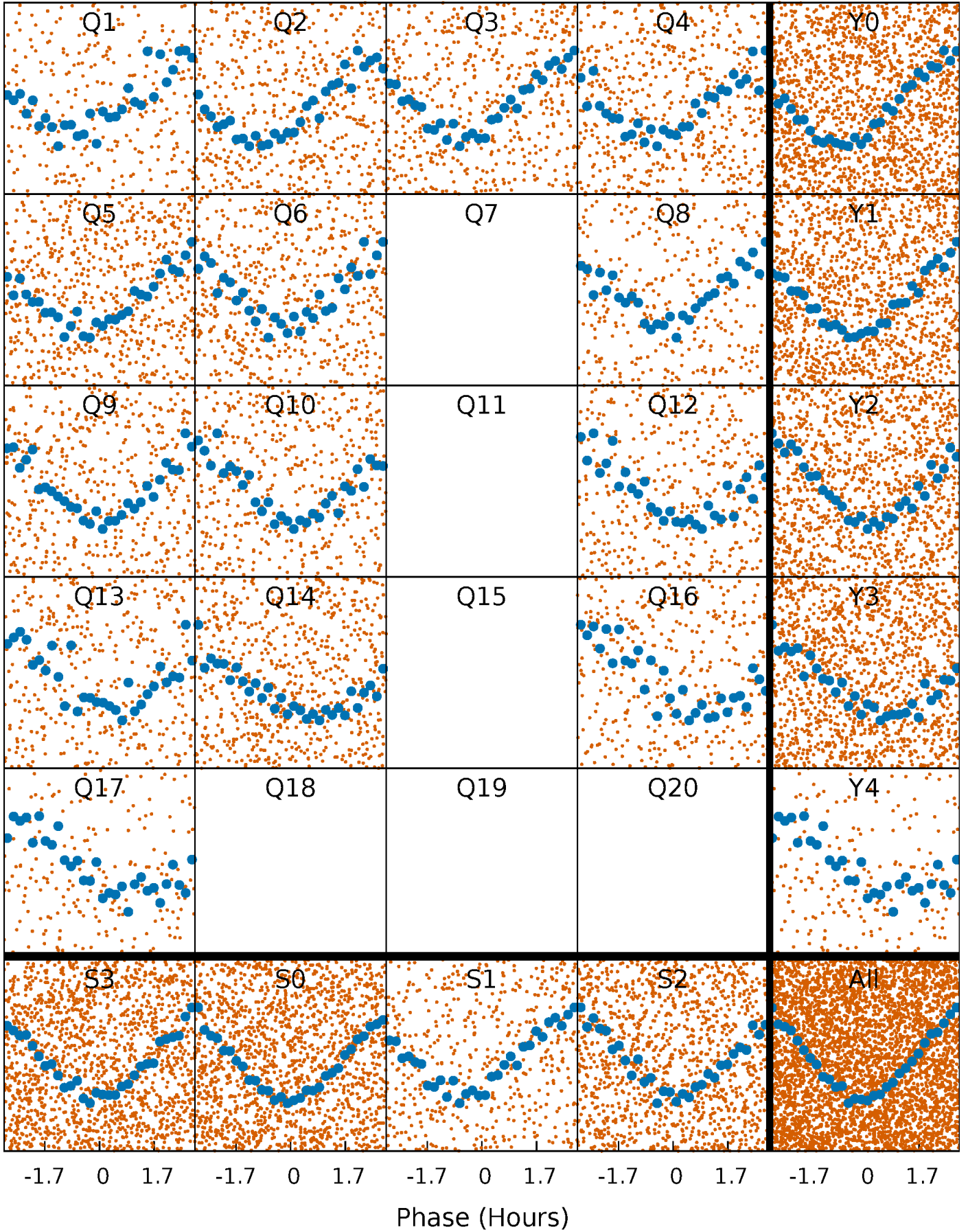


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



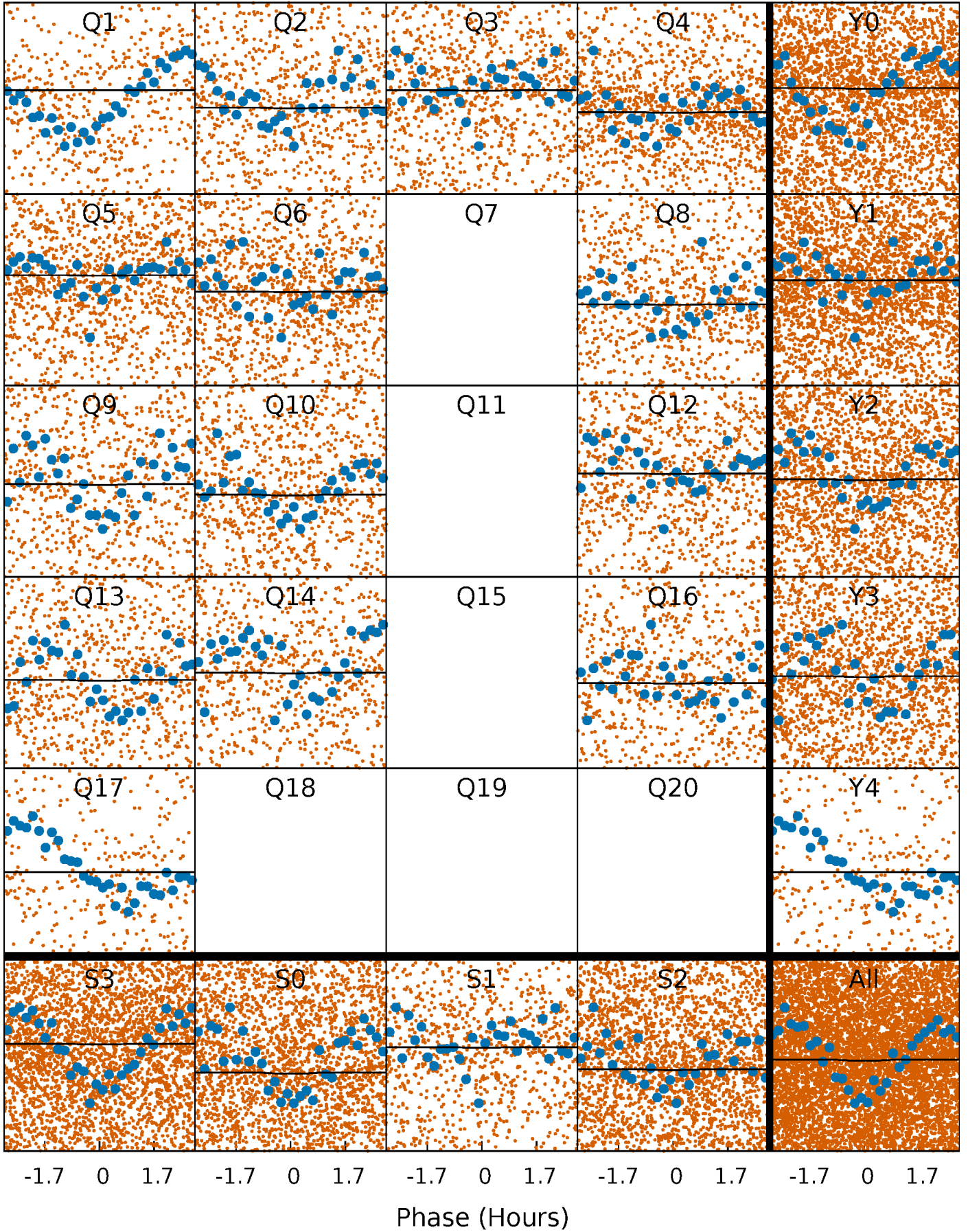
PDC Quarter-Phased Transit Curves

TCE 010481462-01 P= 0.688227 Days $T_0=132.129133$ (BKJD)



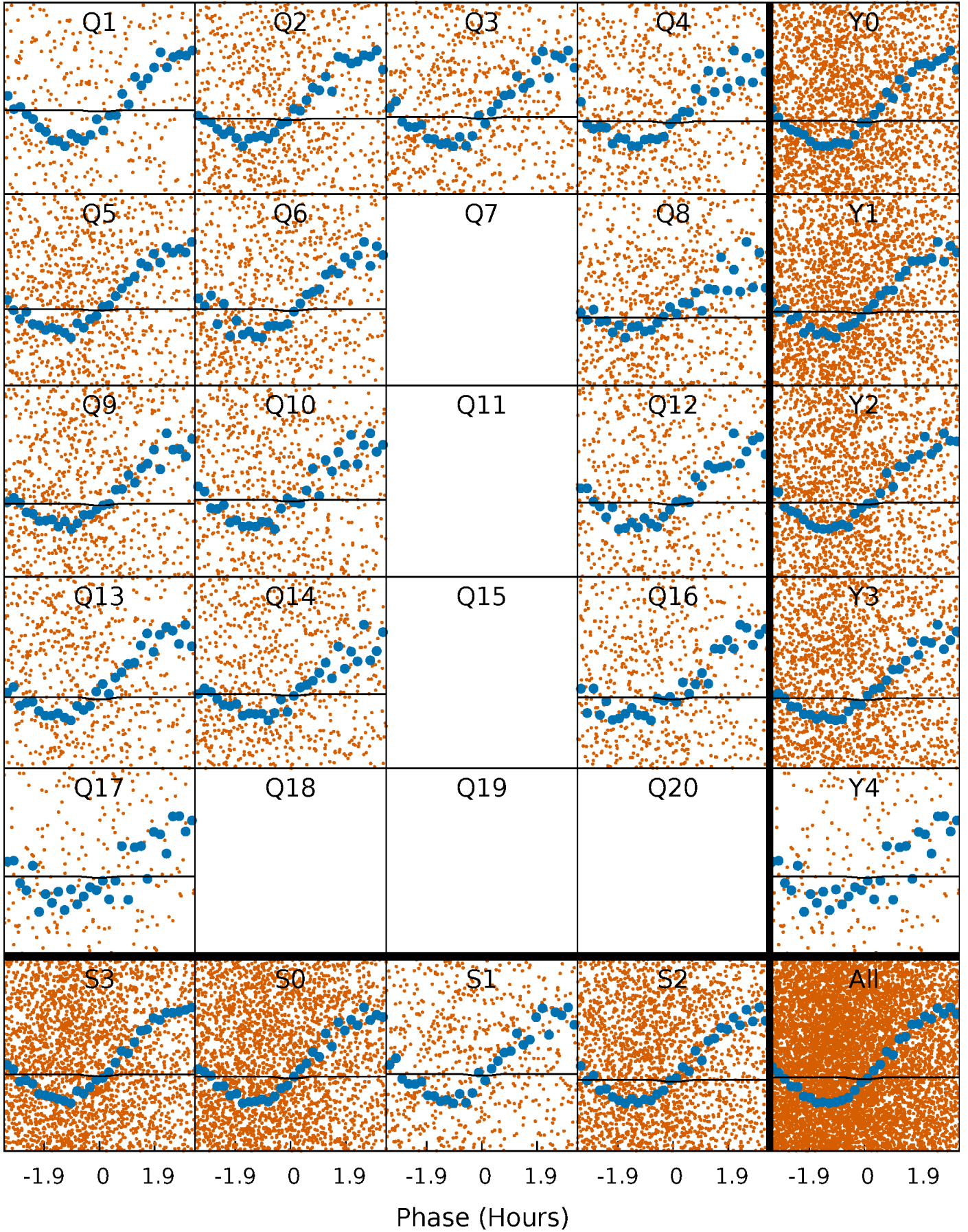
DV Quarter-Phased Transit Curves

TCE 010481462-01 P= 0.688227 Days $T_0=132.129133$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

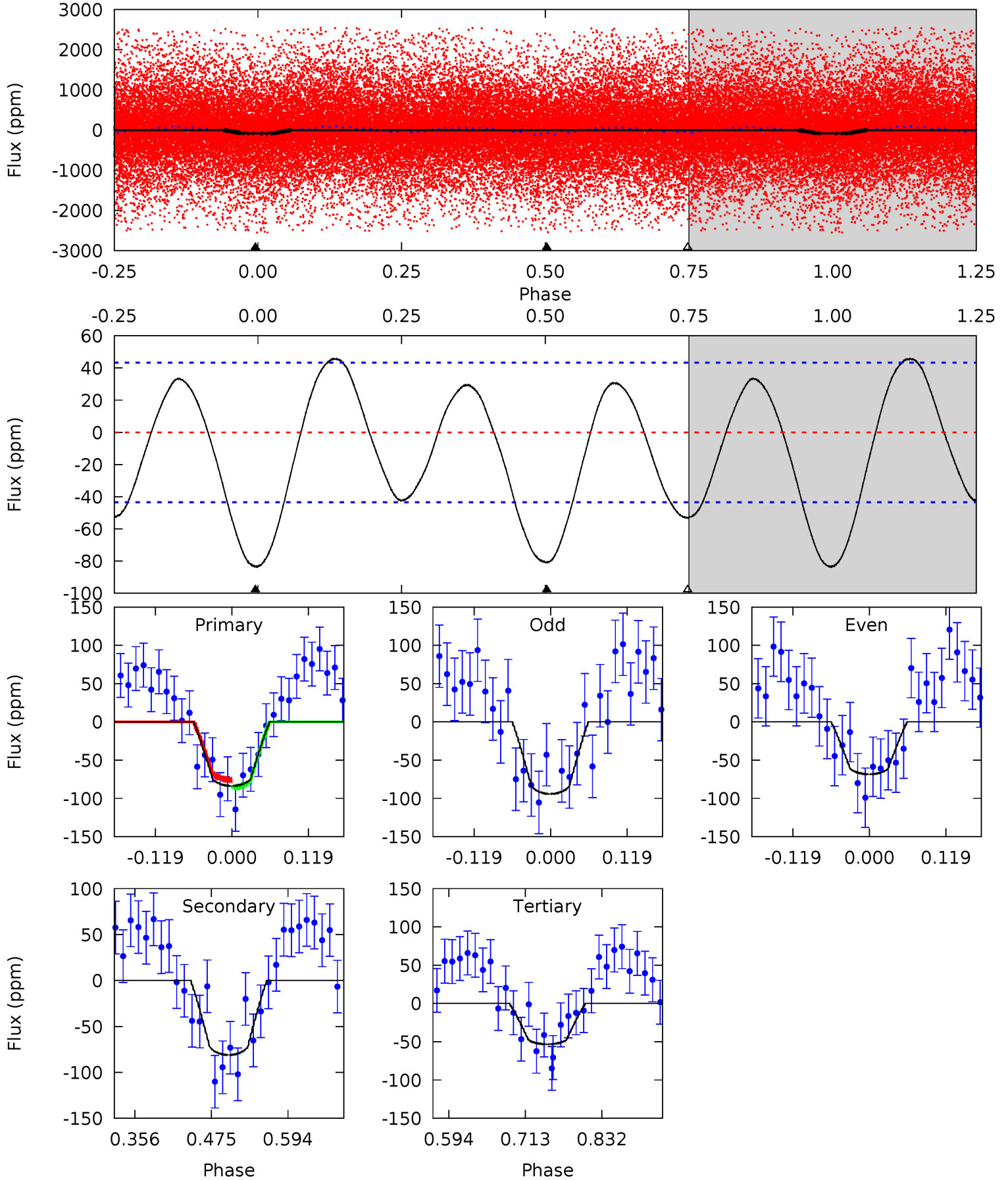
TCE 010481462-01 $P = 0.688266$ Days $T_0 = 132.136432$ (BKJD)



DV Model-Shift Uniqueness Test

010481462-01, P = 0.688227 Days, E = 131.440906 Days

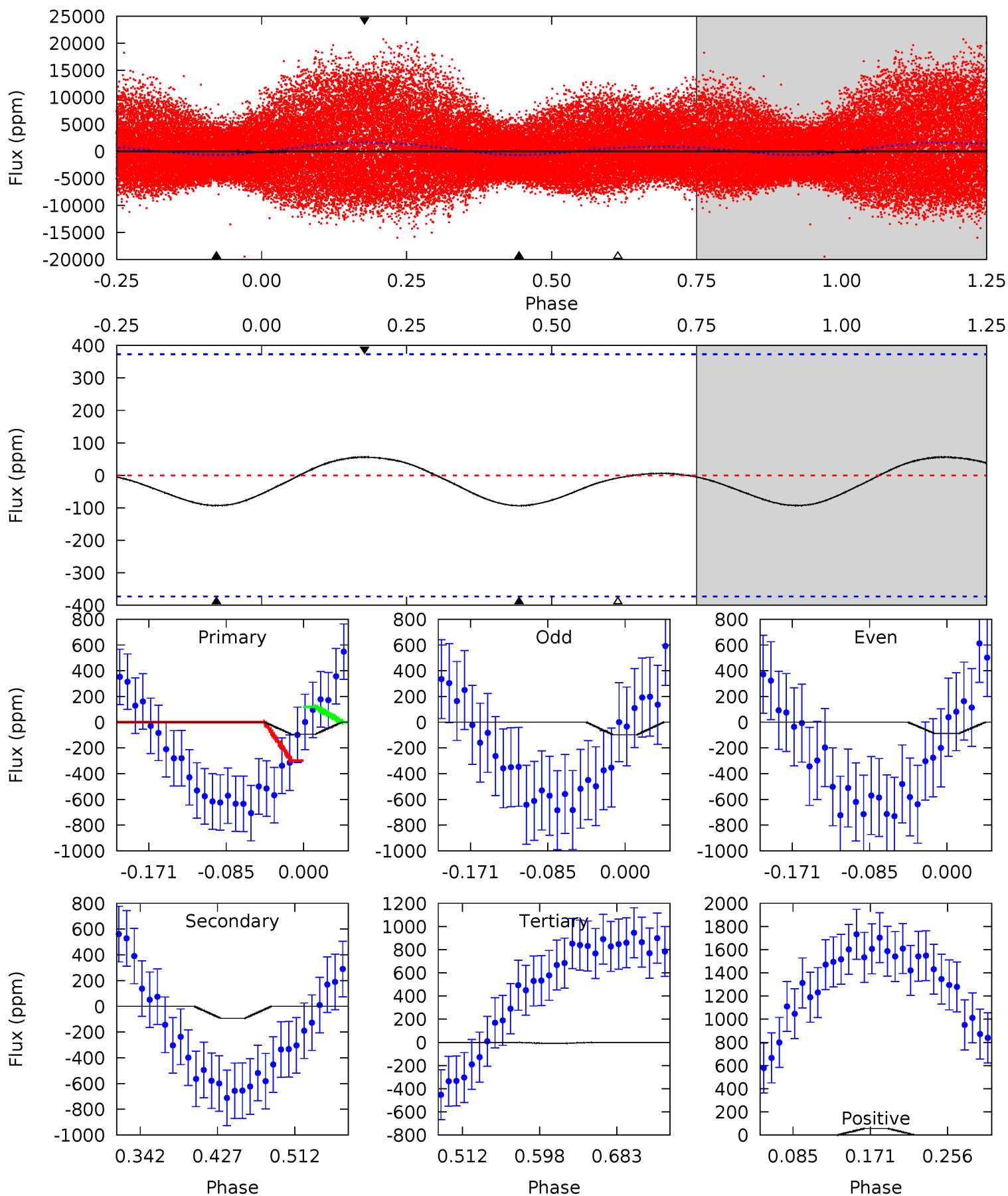
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.74	8.47	5.57	0	4.53	1.56	3.23	3.17	8.74	2.90	8.47	1.35	2.40	0.35	0.52



Alt Model-Shift Uniqueness Test

010481462-01, P = 0.688266 Days, E = 131.448166 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.15	1.15	0.10	0.69	4.60	1.72	0.40	1.05	0.45	1.05	0.46	0.06	0.32	0.38	1.37



Stellar Parameters For KIC 010481462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6940^{+192}_{-312}	$3.895^{+0.315}_{-0.157}$	$0.260^{+0.150}_{-0.350}$	$2.512^{+0.601}_{-0.977}$	$1.806^{+0.185}_{-0.431}$	$0.160^{+0.328}_{-0.074}$
	+3%/-4%	+8%/-4%	+58%/-135%	+24%/-39%	+10%/-24%	+205%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 010481462-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-81±10	$0.81^{+0.70}_{-0.52}$	4896^{+401}_{-458}	14975^{+41000}_{-6089}	22^{+164}_{-16}
Alt.	-93±81	$1.72^{+0.98}_{-0.82}$	4873^{+426}_{-438}	8078^{+6146}_{-4622}	$4.878^{+15.796}_{-4.469}$

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 $A_{obs} \gg 1.0$

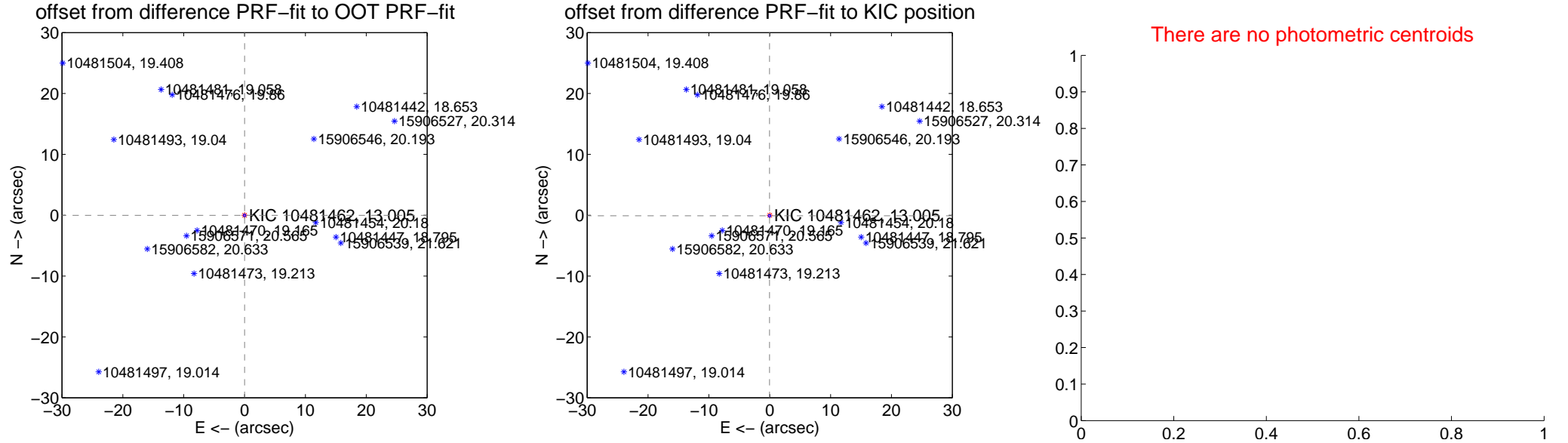
DV Centroid Data

Supplemental centroid analysis for 010481462-01. Kepler magnitude: 13.01. Transit SNR 0.38

There are 14 quarters with good PRF difference image offsets

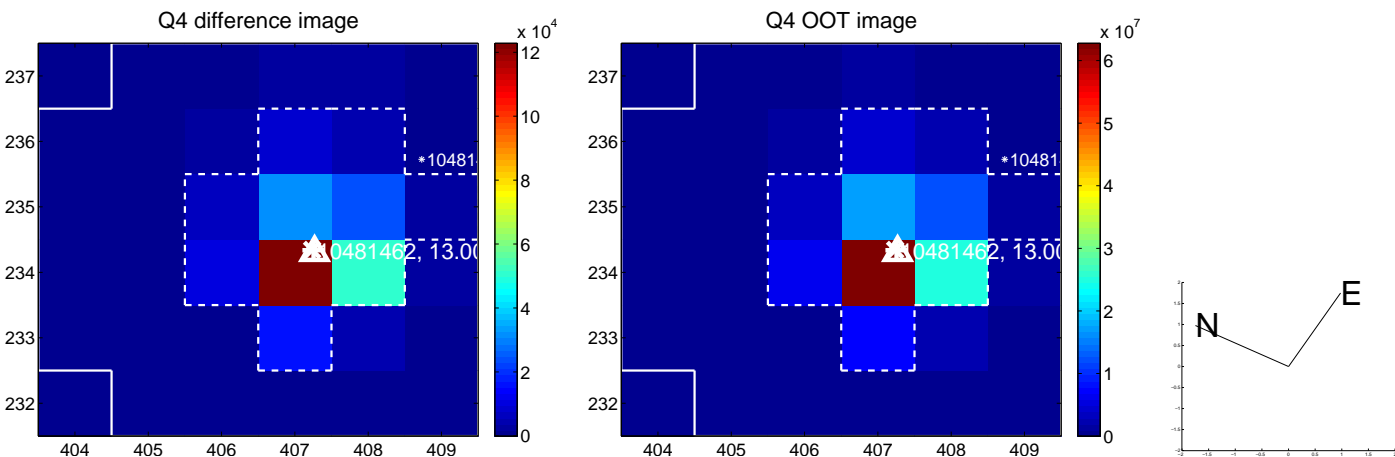
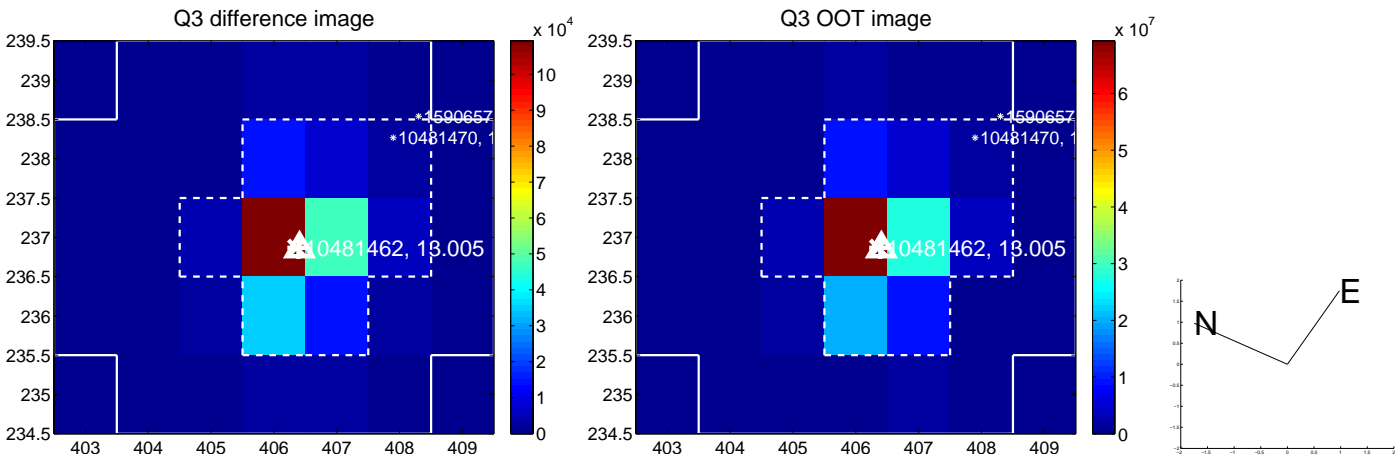
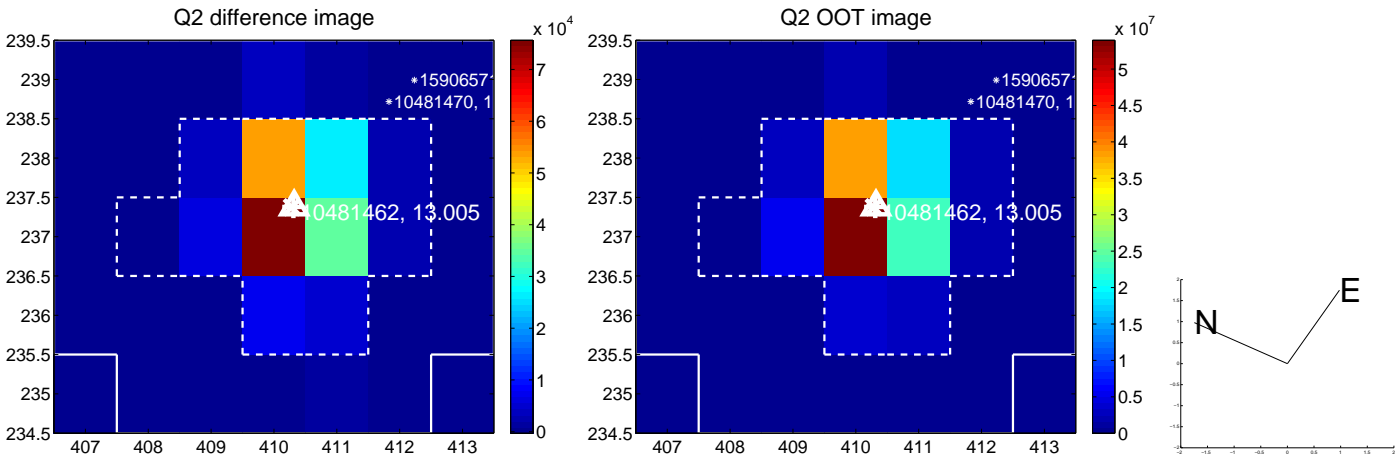
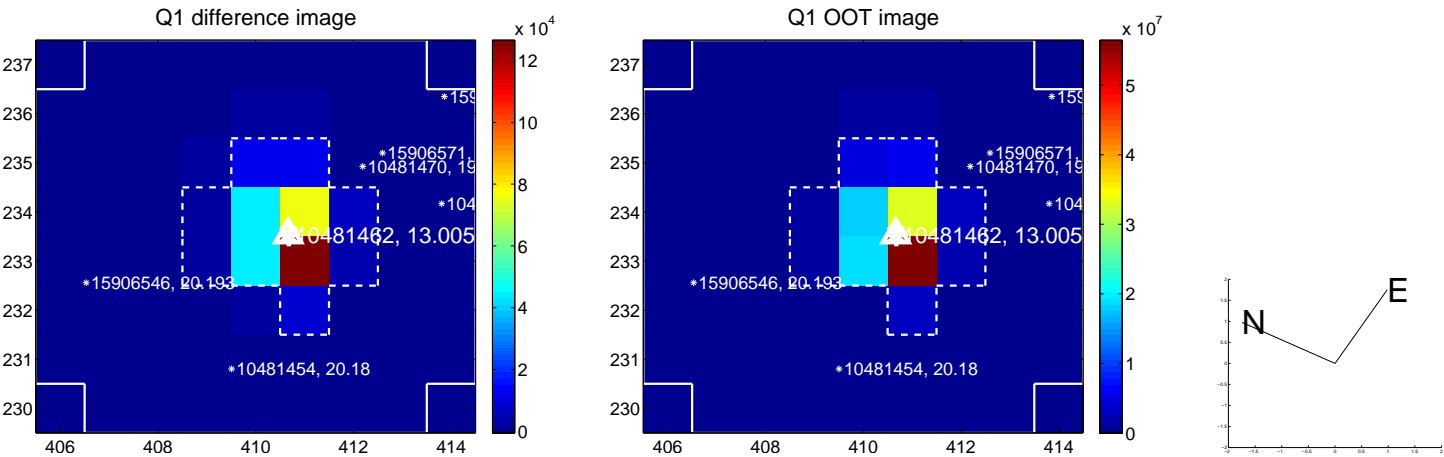
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.027 ± 0.072	0.38	-0.002 ± 0.069	-0.027 ± 0.072
PRF-fit source offset from KIC position	0.103 ± 0.072	1.44	0.040 ± 0.070	-0.095 ± 0.072
photometric centroid source offset	—	—	—	—

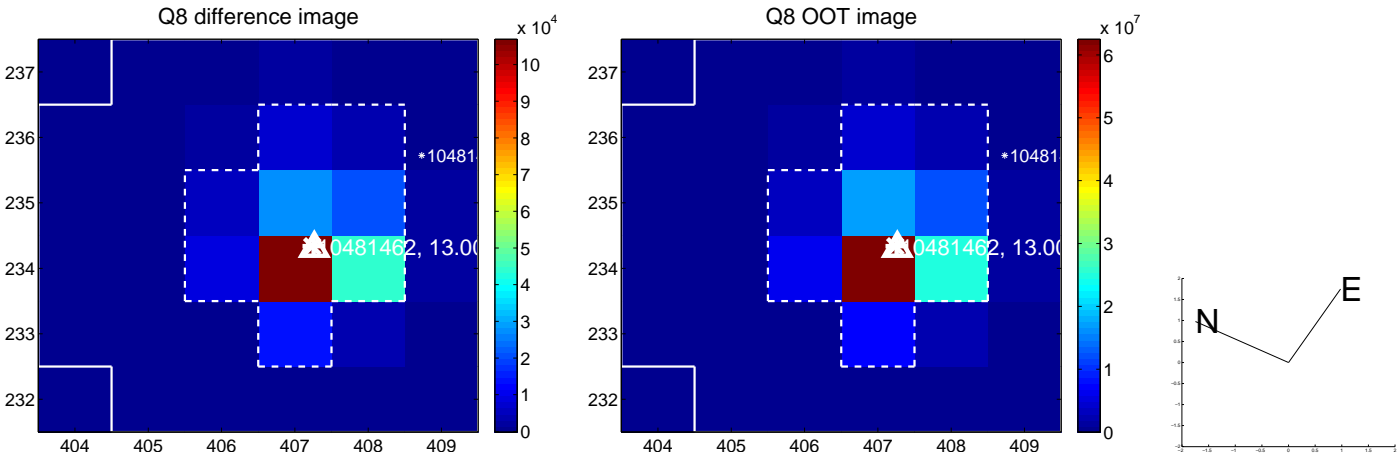
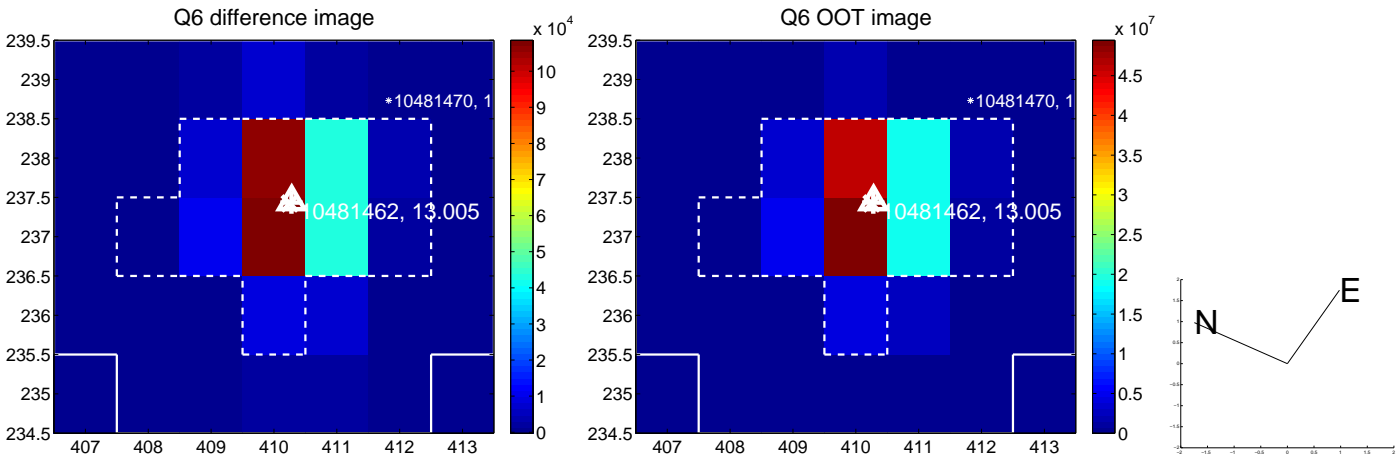
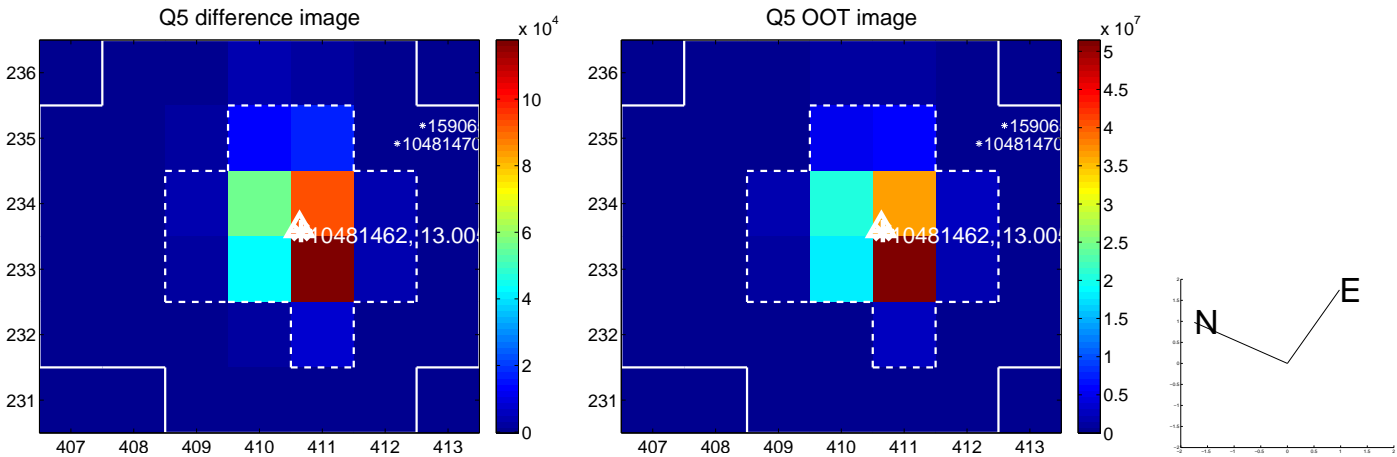


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

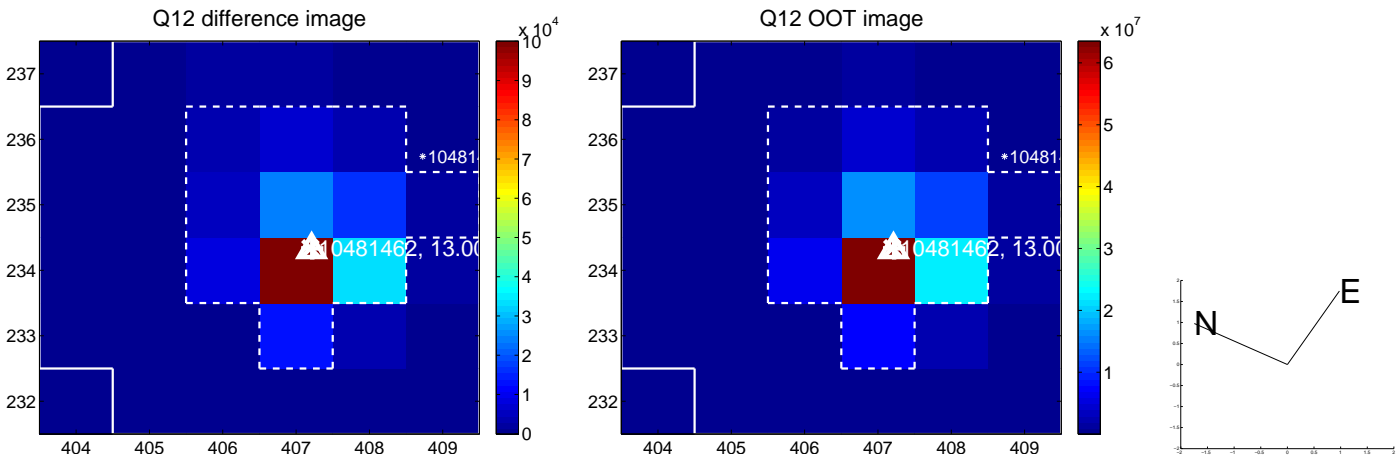
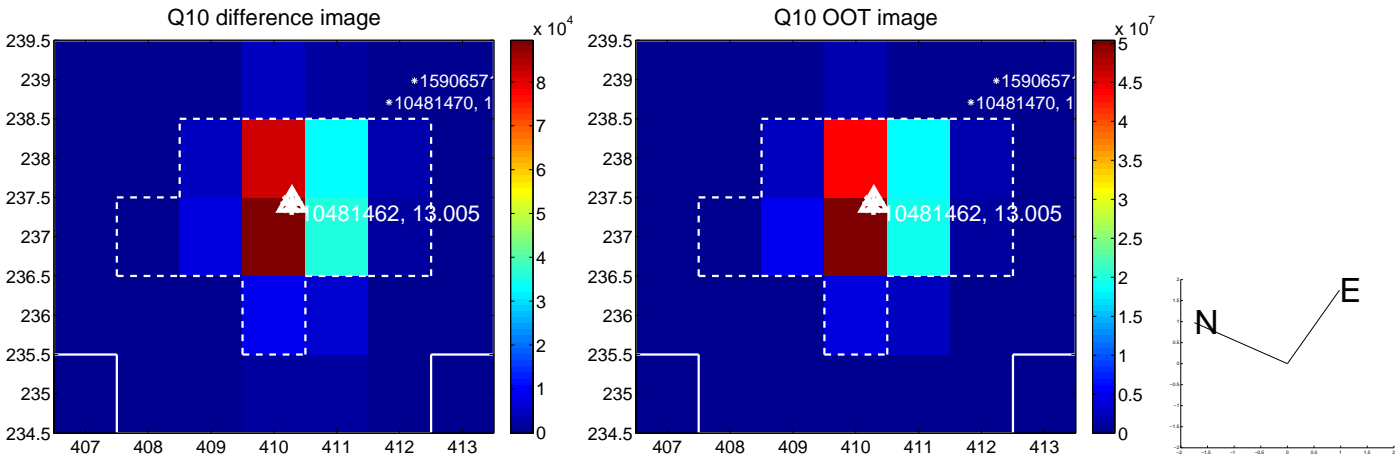
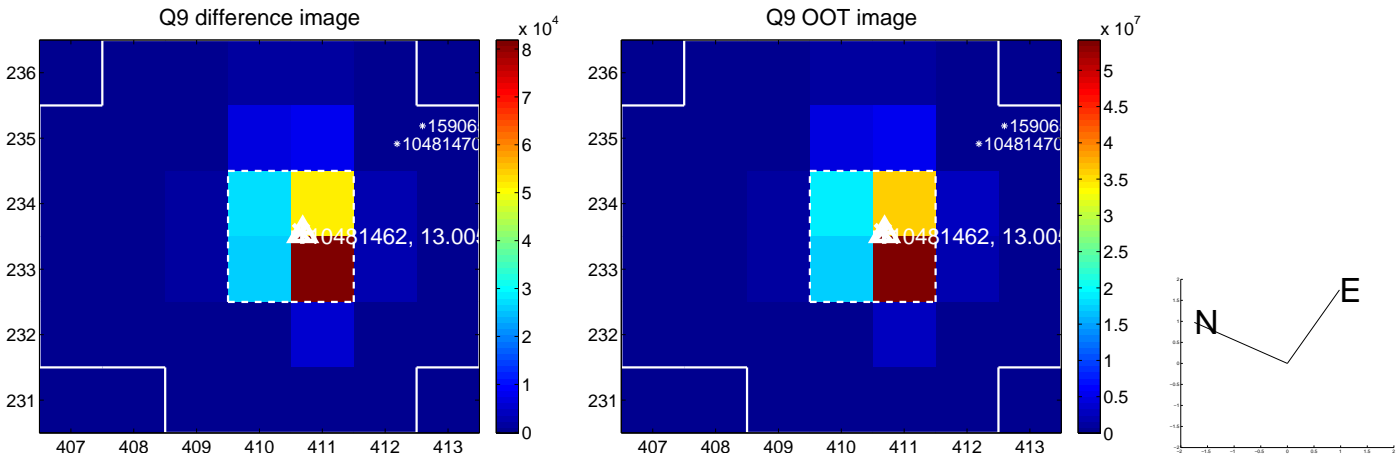
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



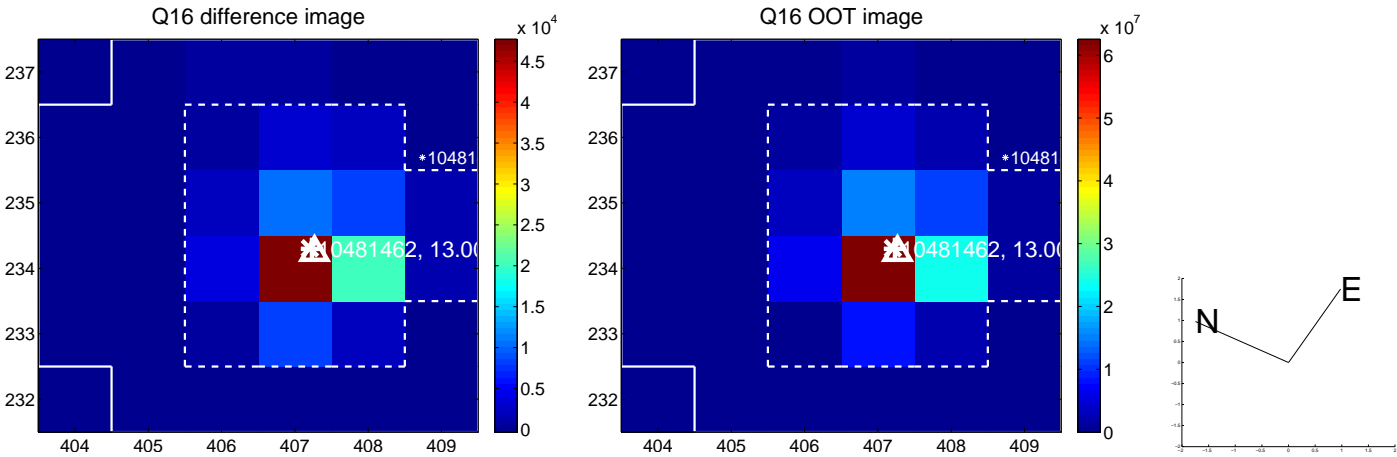
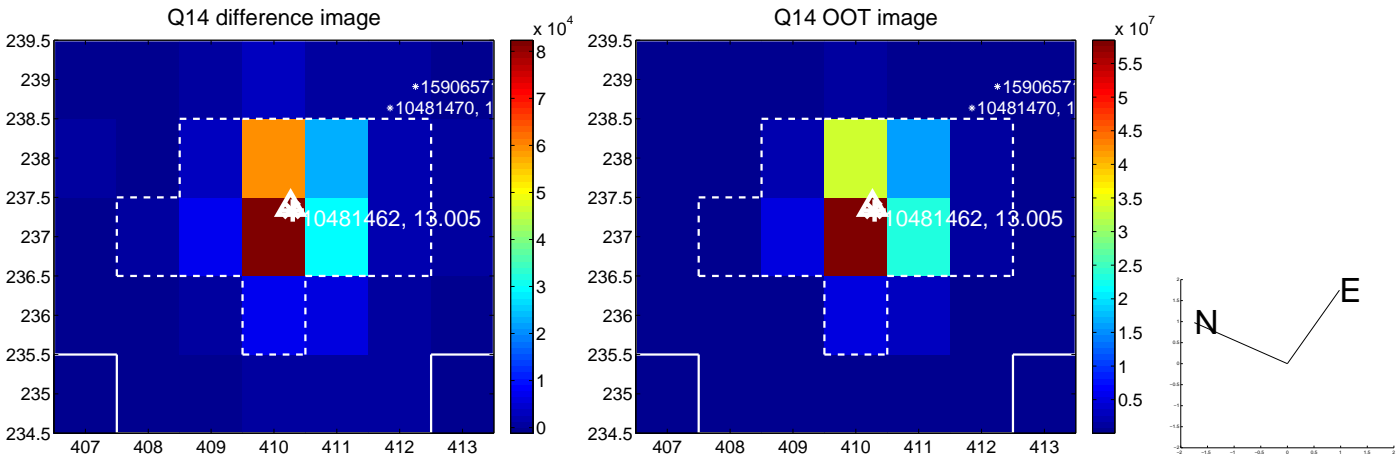
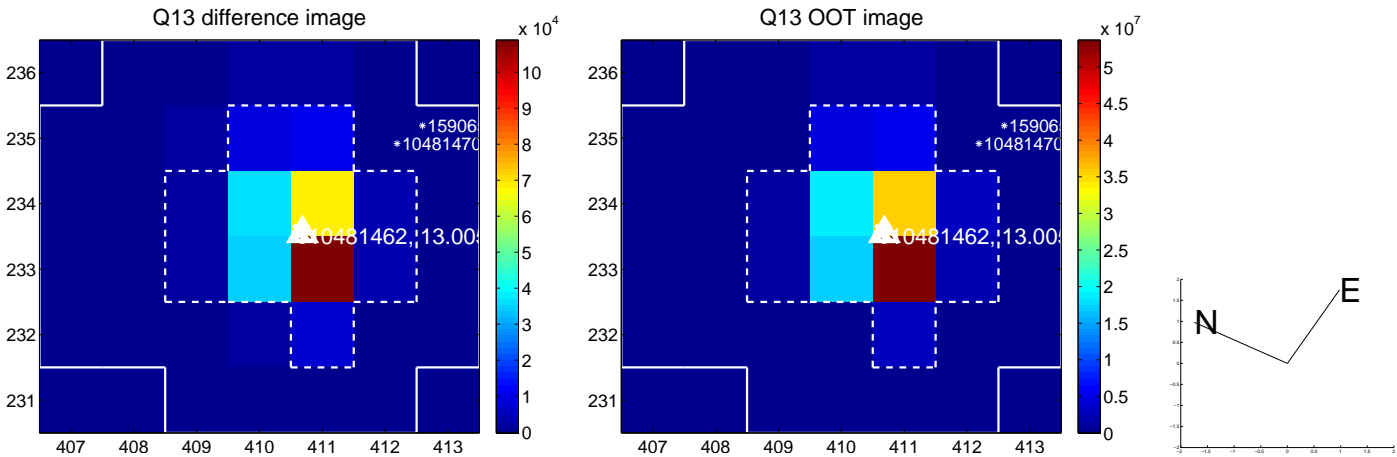
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



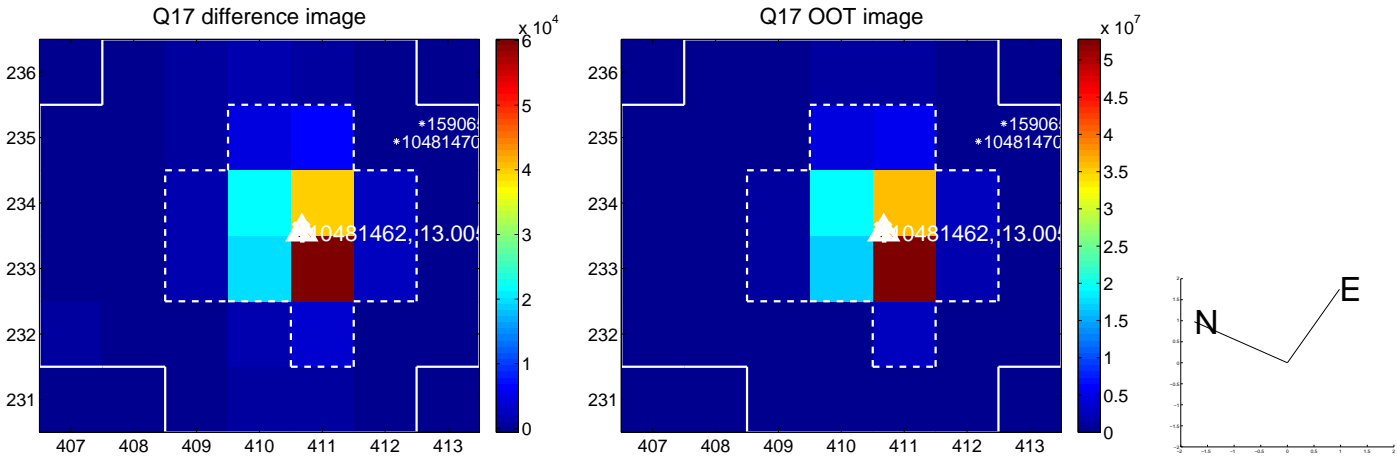
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



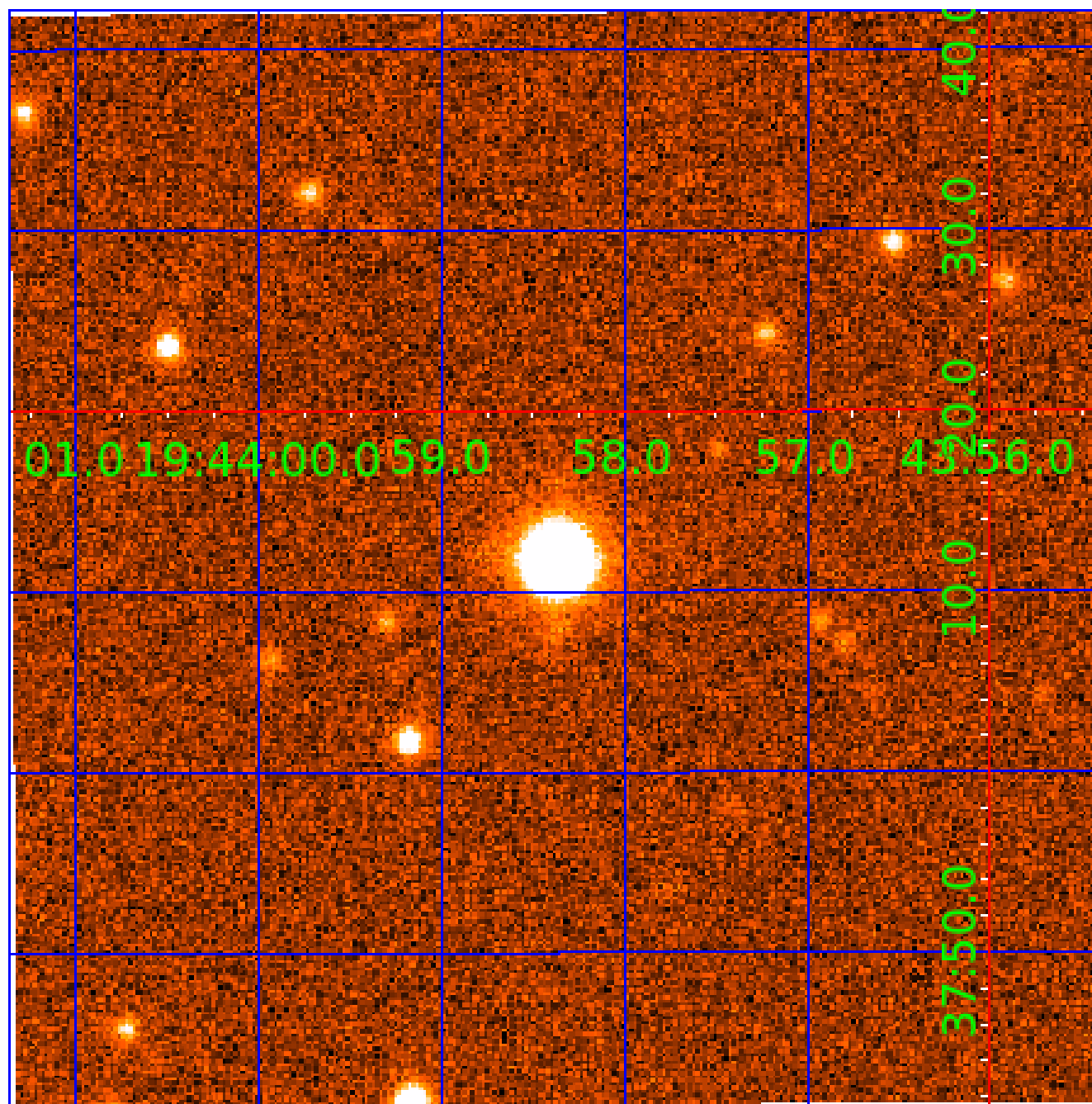
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 010481462

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})
010481462-01	OBS	No	0.688227	132.129133	2.8	1.487	10.0	0.4	2.51	6940	0.49	37963.83
010481462-02	OBS	No	0.688297	131.706413	1.4	3.976	9.7	0.2	2.51	6940	0.31	37958.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010481462-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
010481462-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

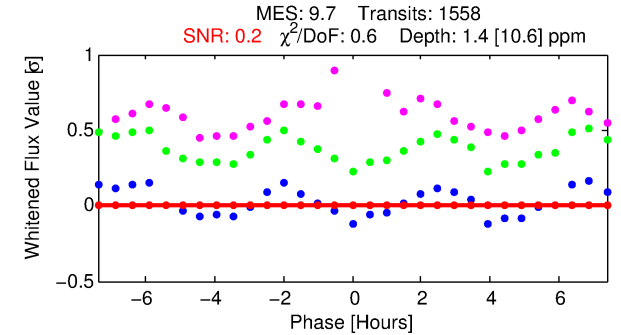
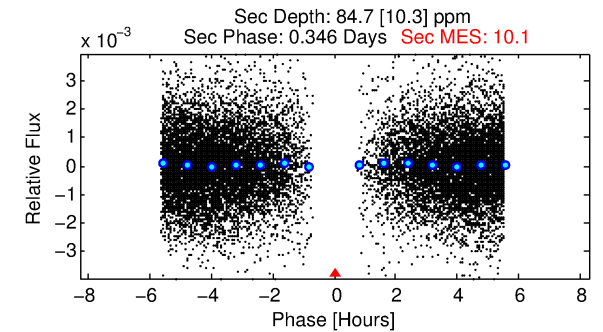
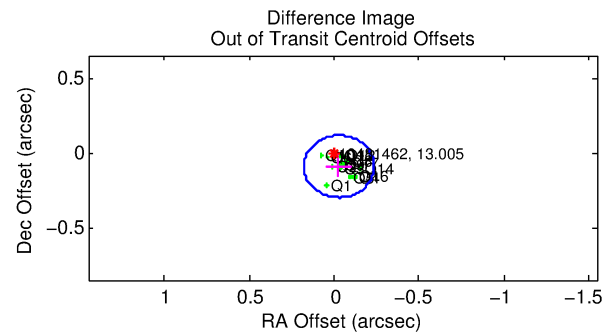
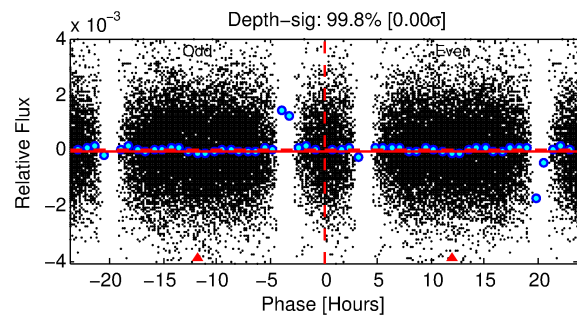
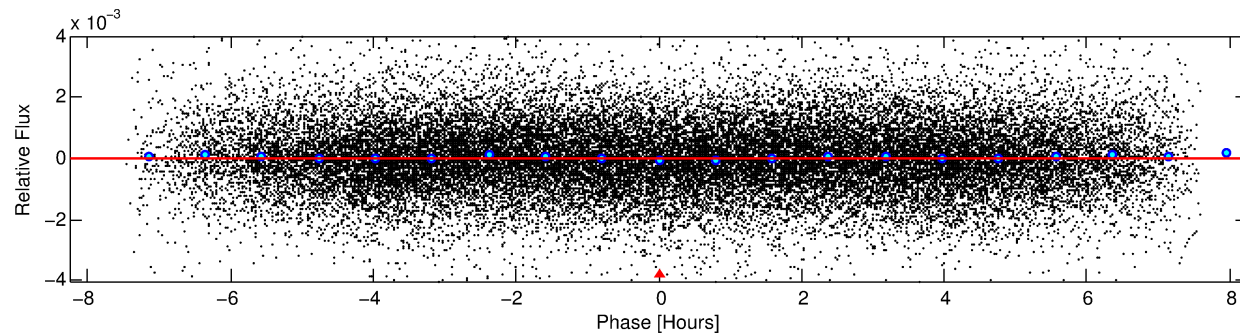
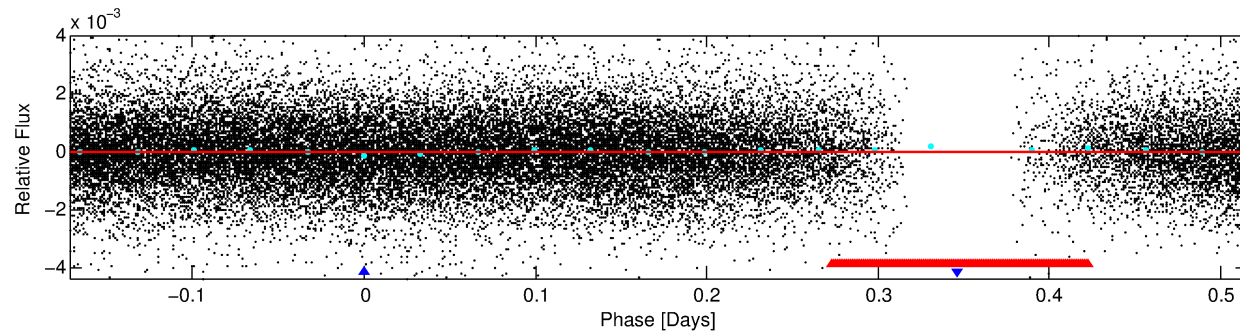
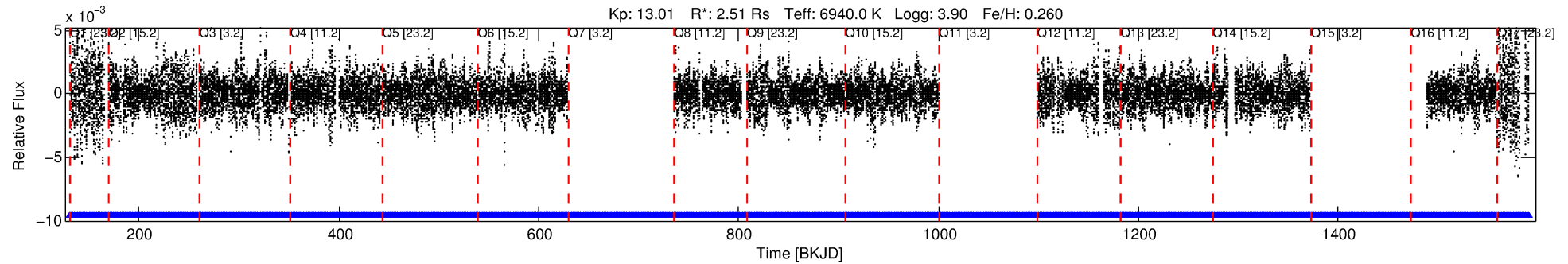
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010481462-02

No Significant Match Found

DV One-Page Summary

KIC: 10481462 Candidate: 2 of 2 Period: 0.688 d



DV Fit Results:

Period = 0.68830 [0.00058] d
Epoch = 131.7064 [0.0684] BKJD
Rp/R* = 0.0011 [0.0056]
a/R* = 1.42 [14.79]
b = 0.30 [61.78]
Seff = 37958.64 [21917.08]
Teff = 3559 [514] K
Rp = 0.31 [1.54] Re
a = 0.0186 [0.0066] AU
Ag = 170.22 [1701.91] [0.10 σ]
Teffp = 19877 [49620] K [0.33 σ]

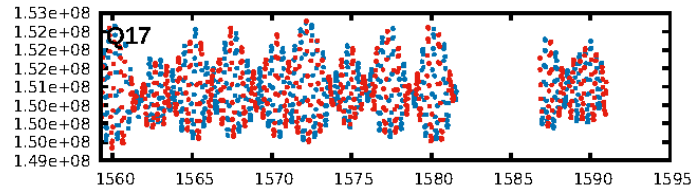
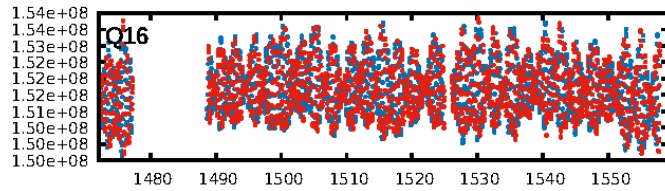
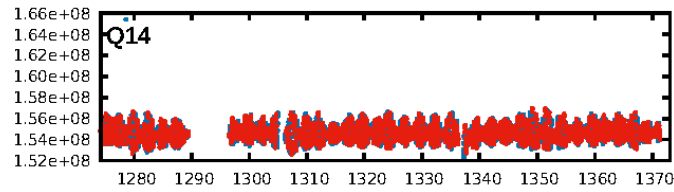
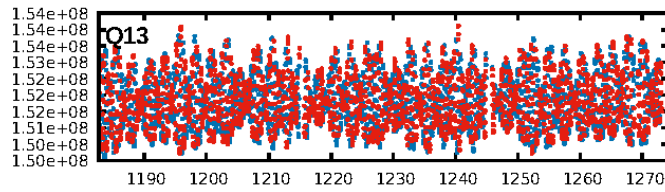
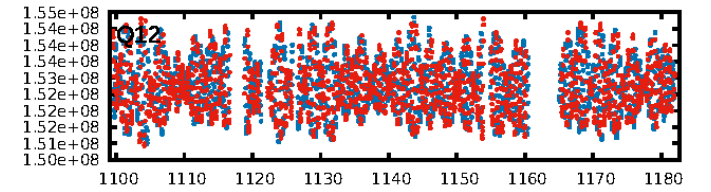
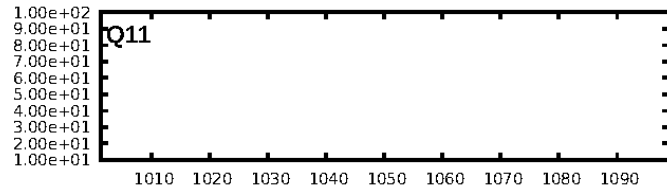
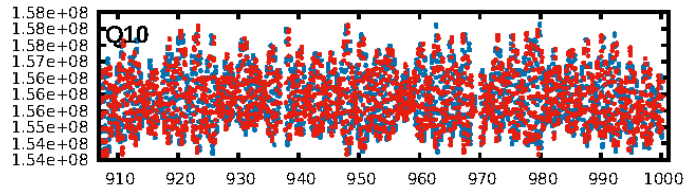
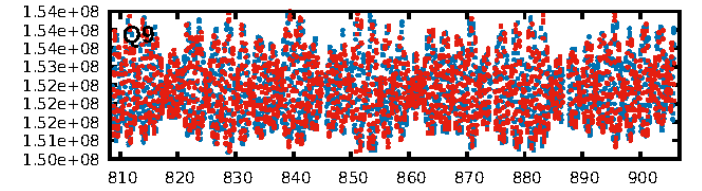
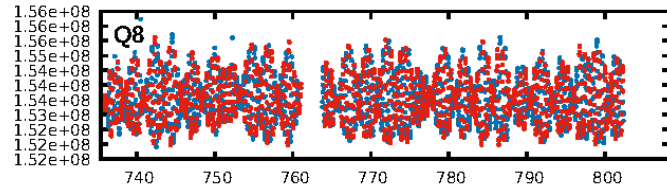
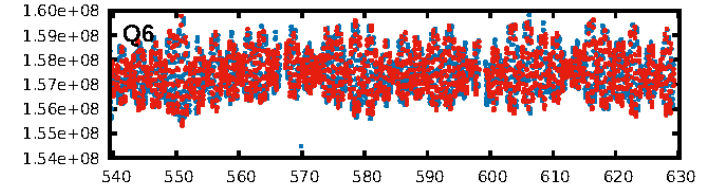
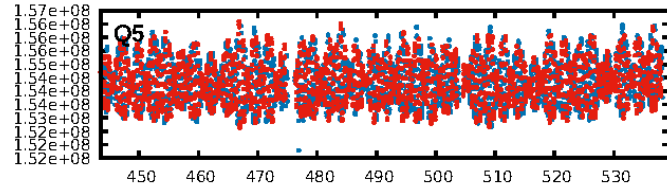
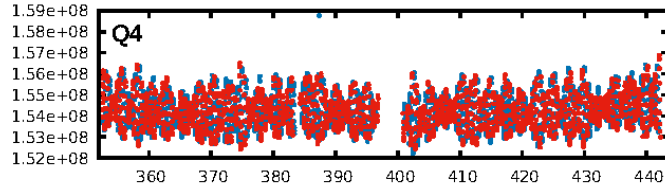
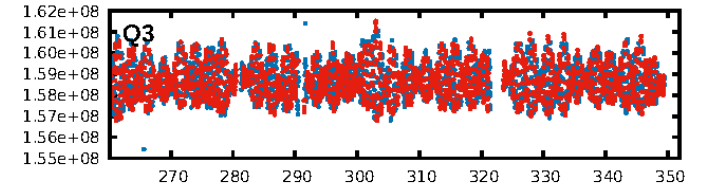
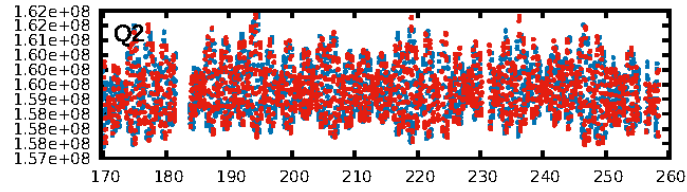
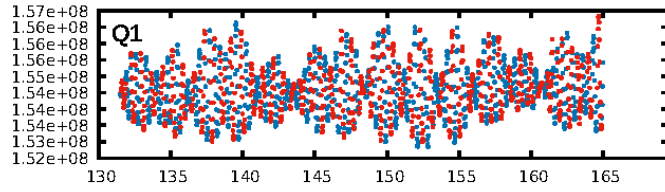
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.04e-27
RollingBand-fgt: 1.00 [1469/1469]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.096 arcsec [1.39 σ]
KicOffset-rm: 0.160 arcsec [2.29 σ]
OotOffset-st: 4/1/4/5 [14]
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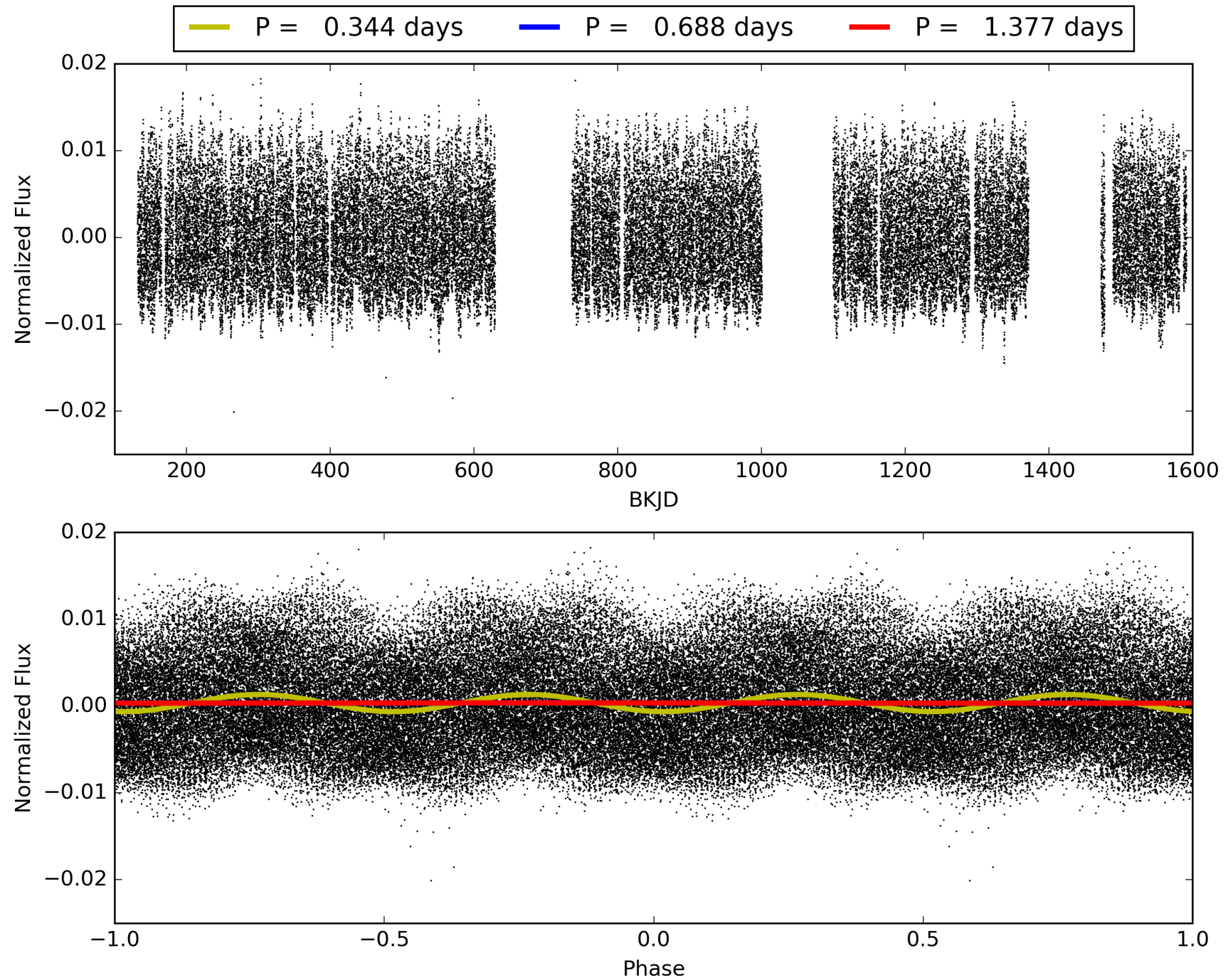
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010481462-02, PDC Light Curves

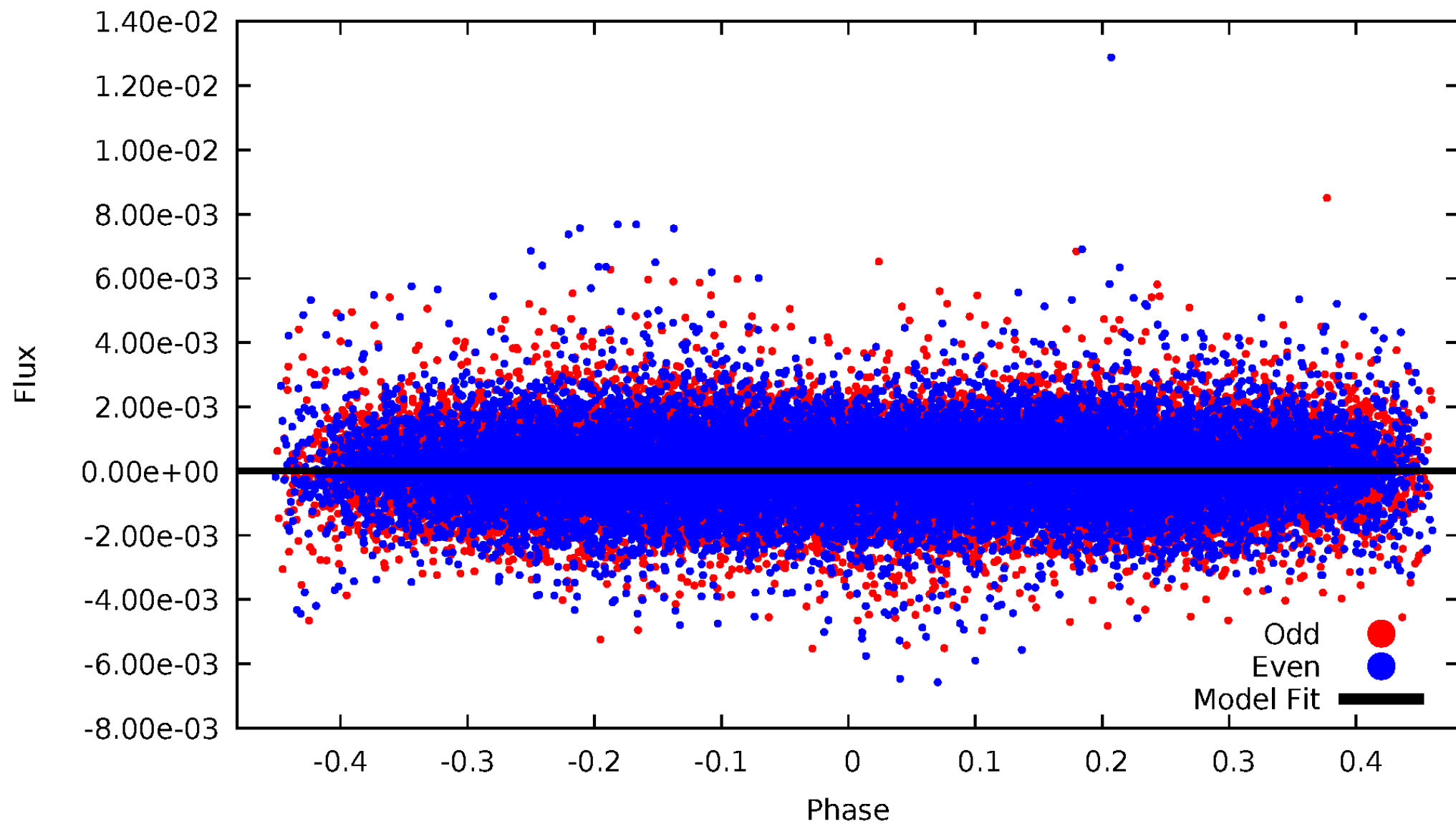


TCE 010481462-02



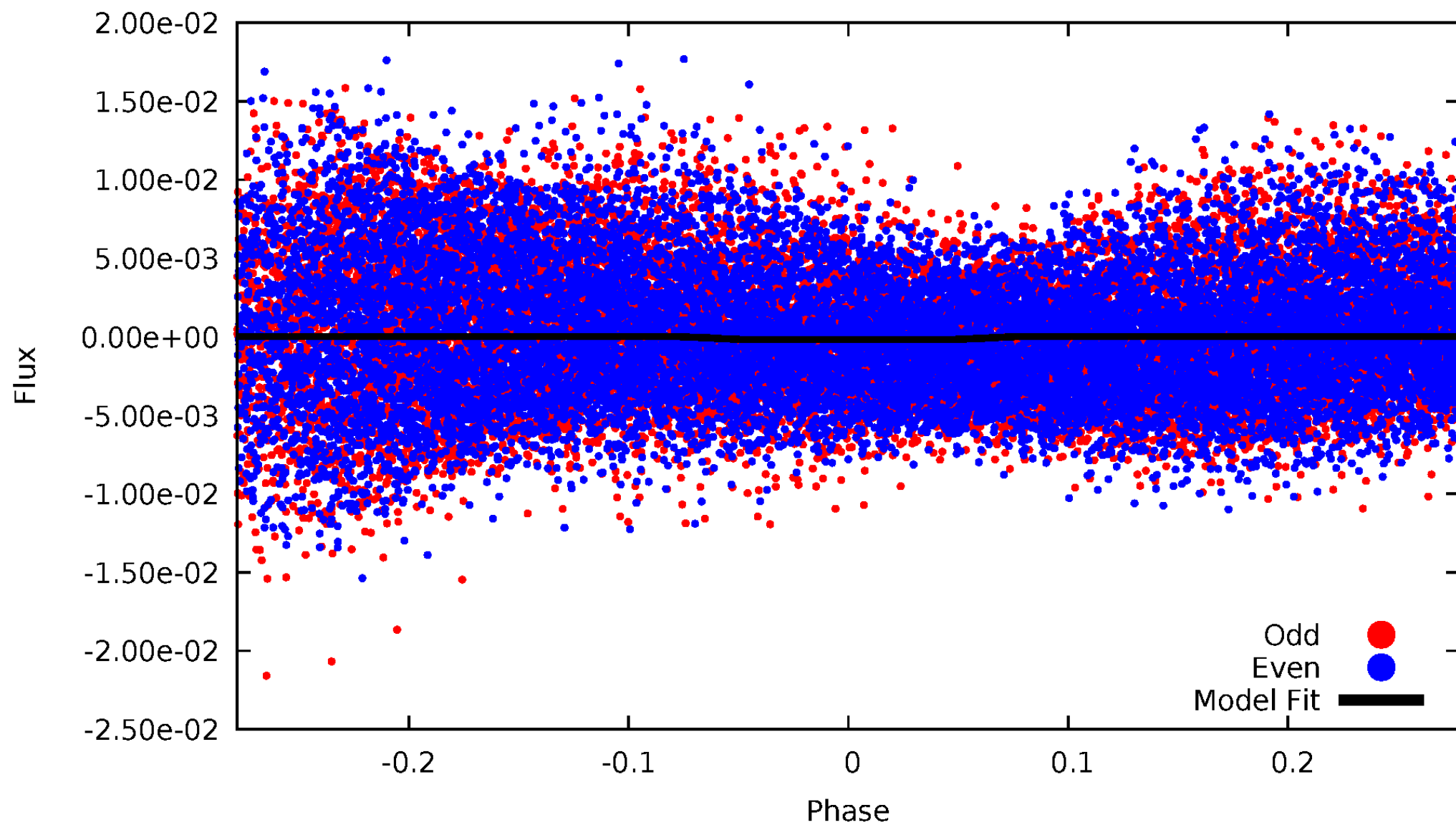
DV Odd/Even

TCE 010481462-02



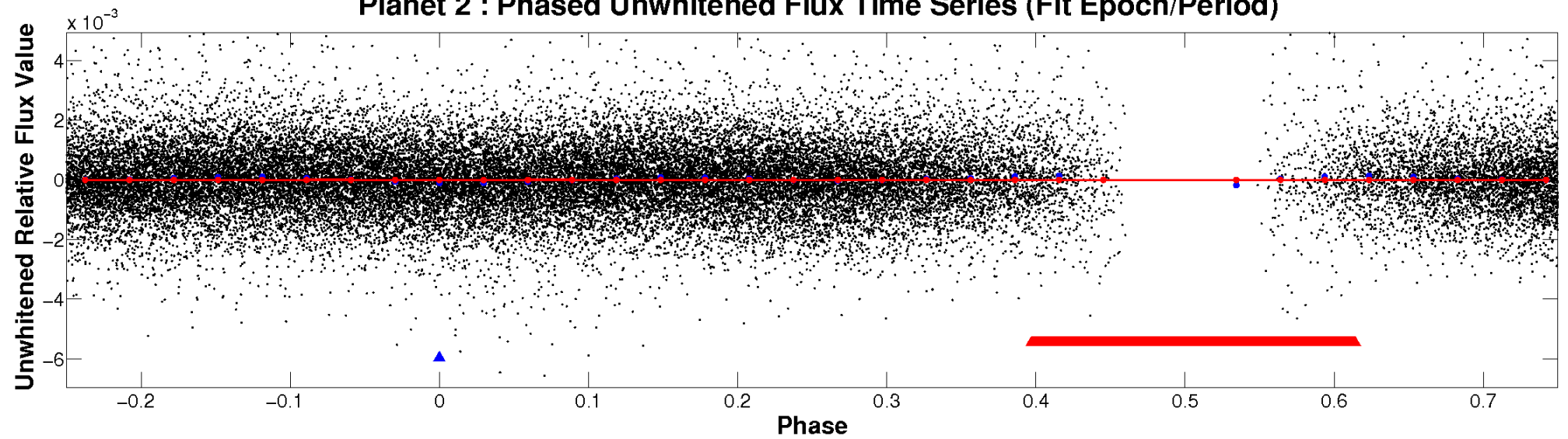
ALT Odd/Even

TCE 010481462-02

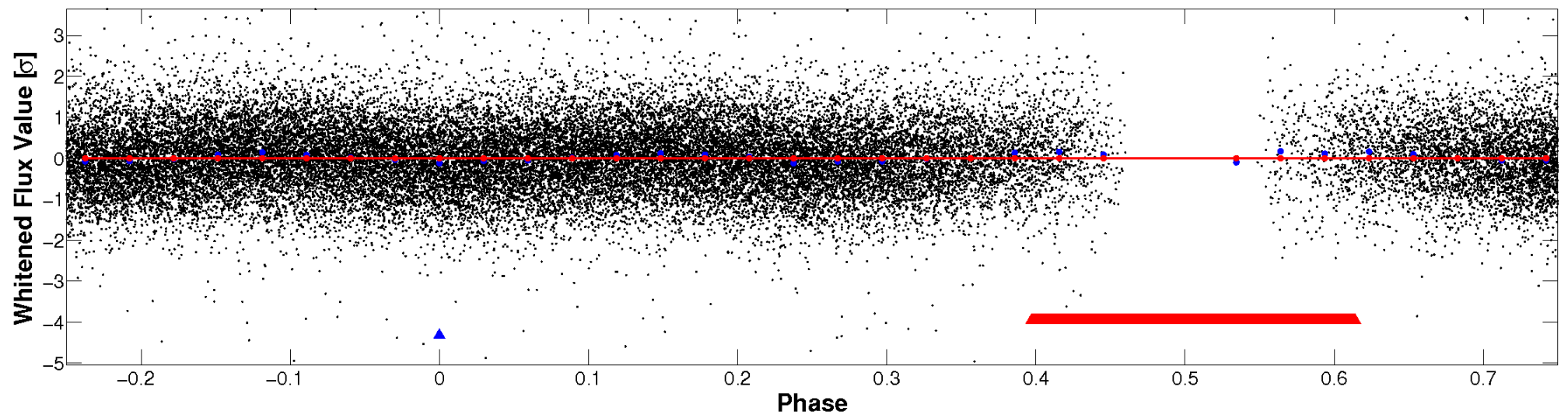


Non-Whitened Vs. Whitened Light Curve

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

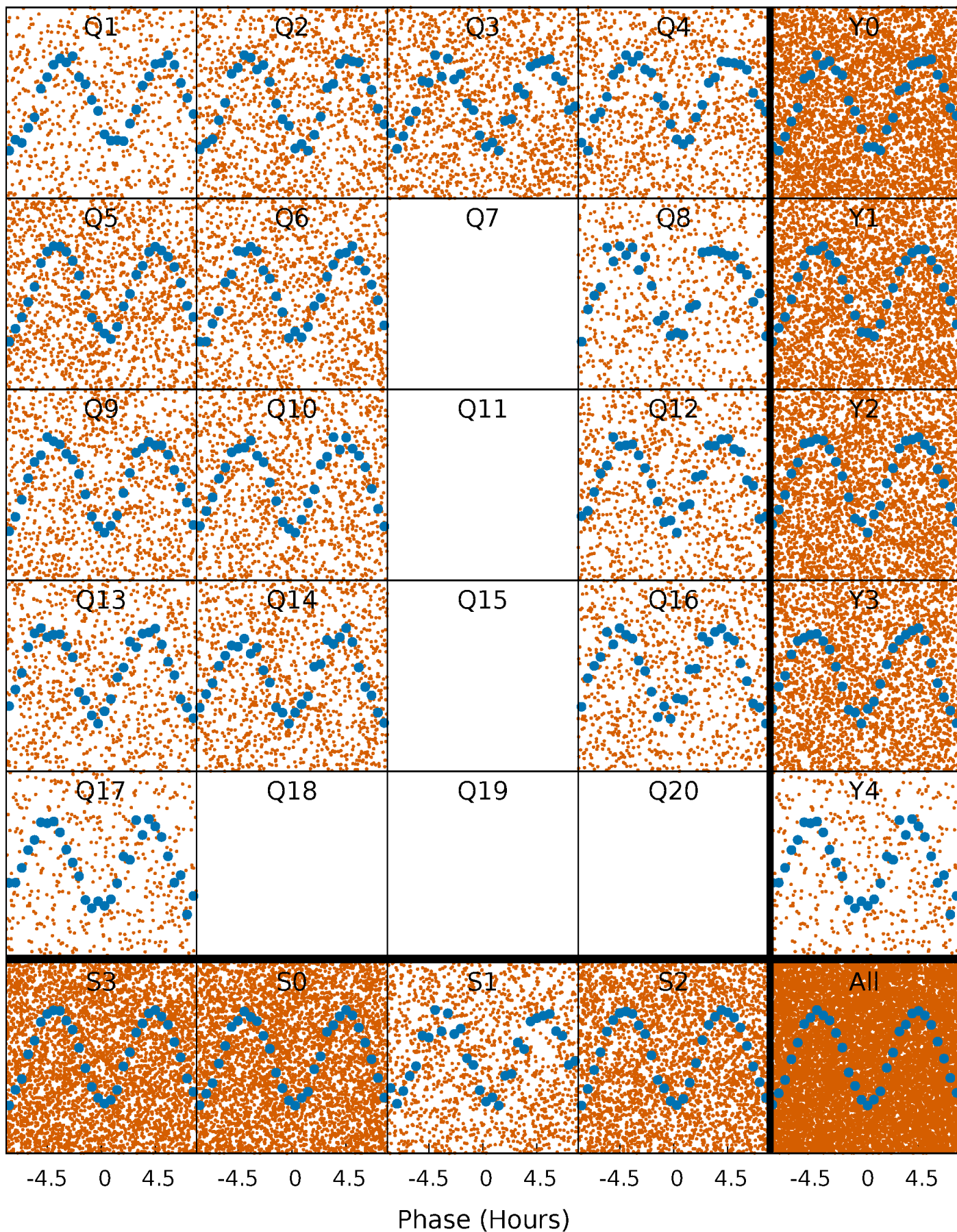


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



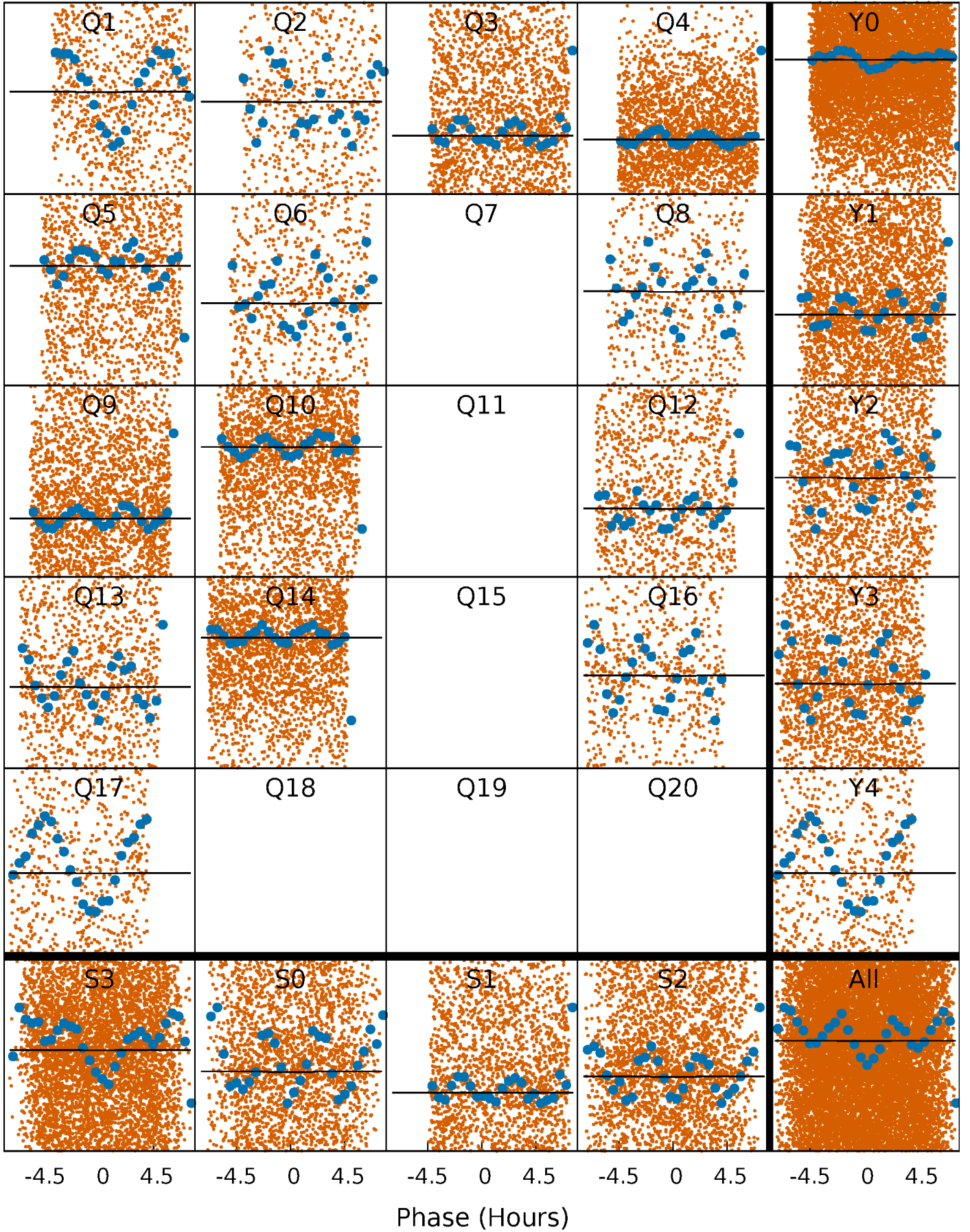
PDC Quarter-Phased Transit Curves

TCE 010481462-02 P= 0.688297 Days $T_0=131.706413$ (BKJD)



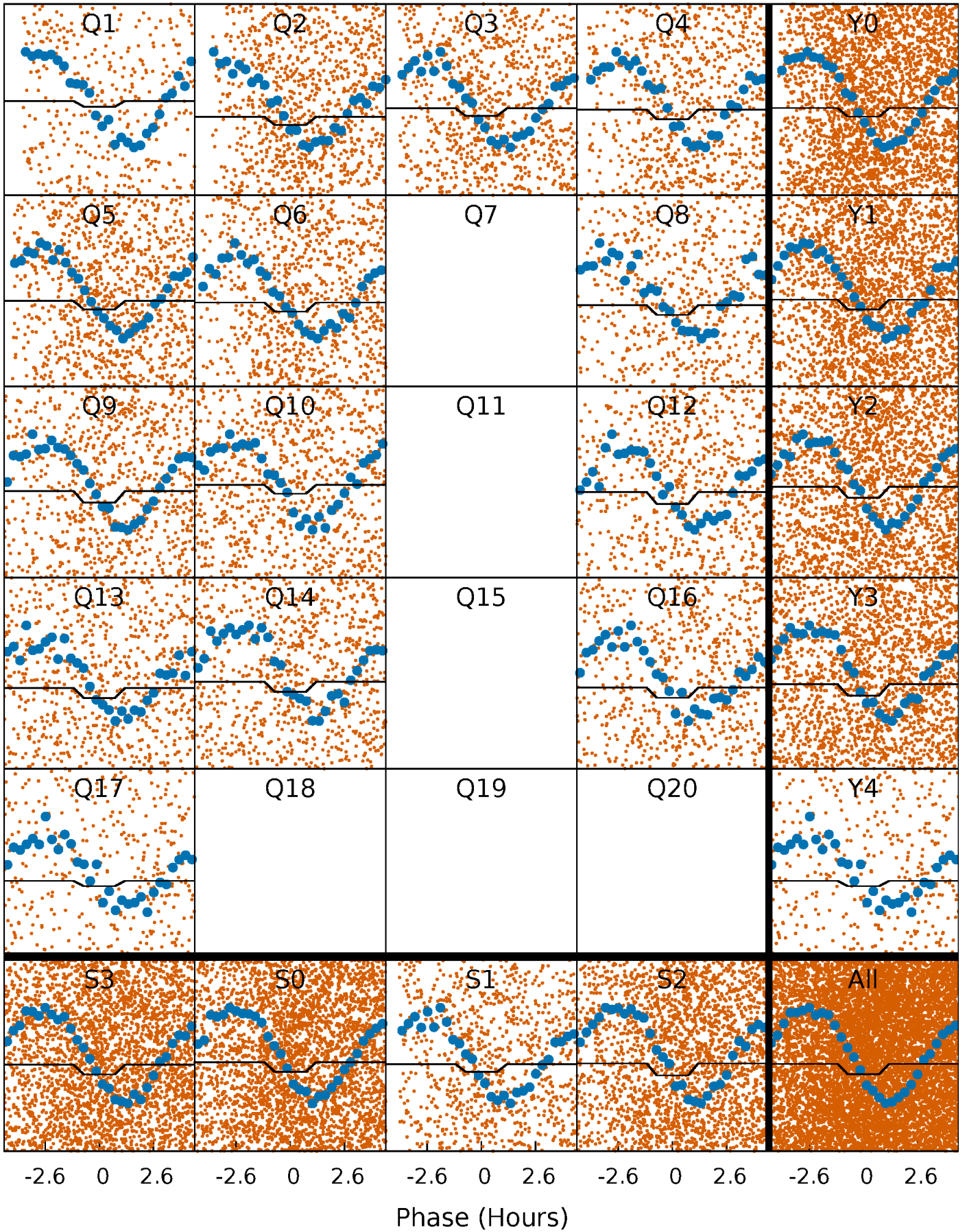
DV Quarter-Phased Transit Curves

TCE 010481462-02 $P = 0.688297$ Days $T_0 = 131.706413$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

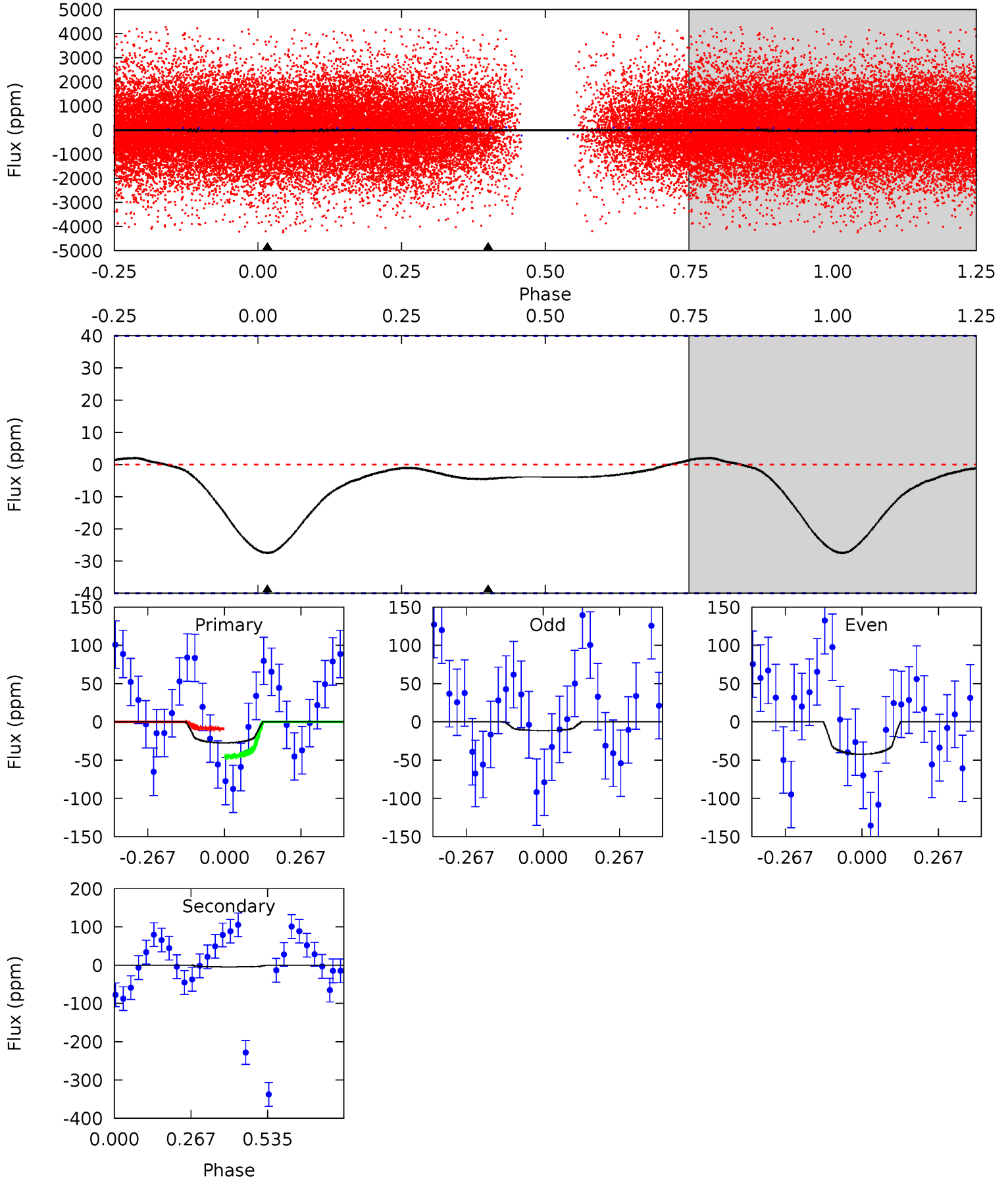
TCE 010481462-02 $P = 0.688266$ Days $T_0 = 131.698143$ (BKJD)



DV Model-Shift Uniqueness Test

010481462-02, P = 0.688297 Days, E = 131.018116 Days

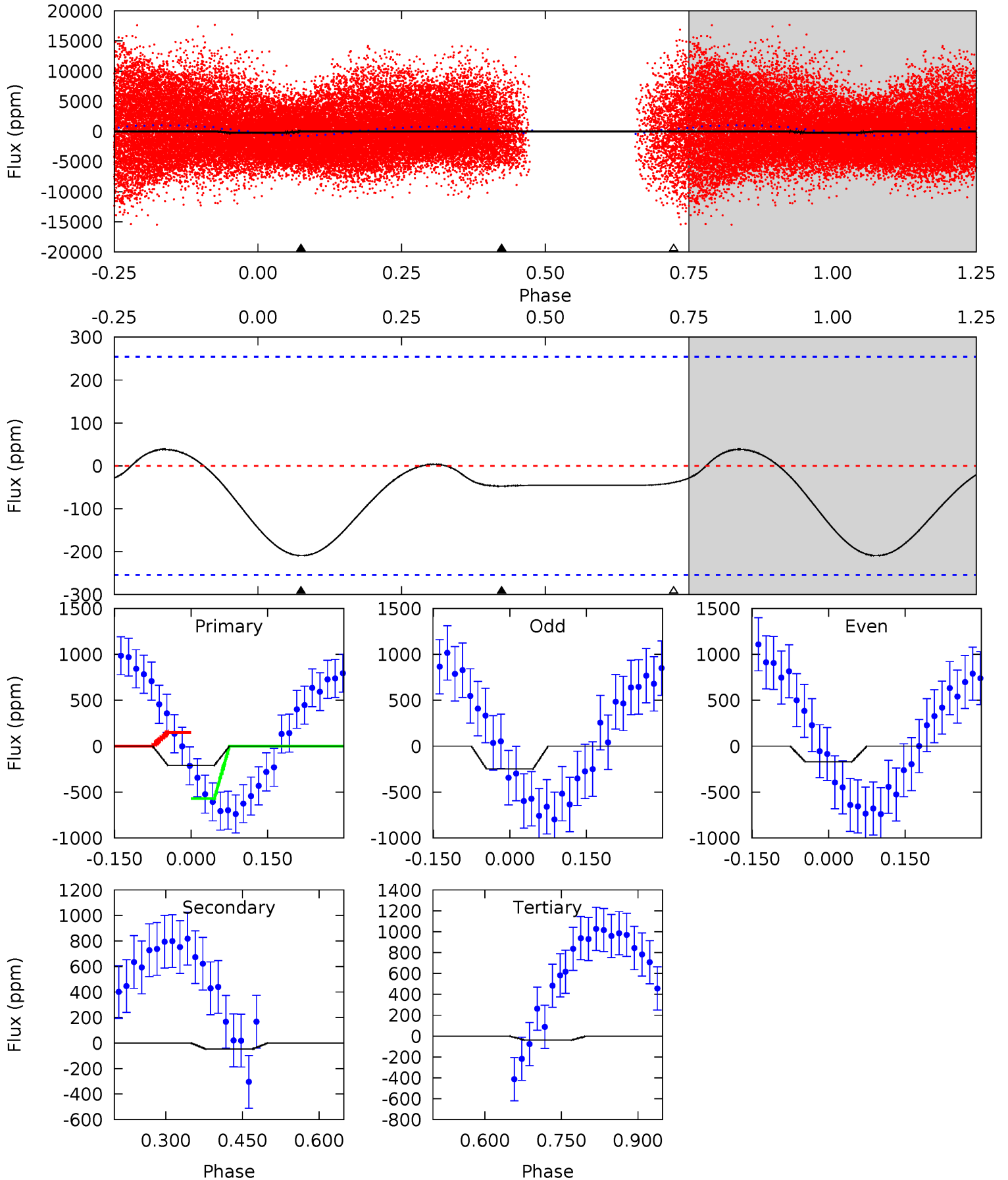
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.00	0.49	0	0	4.35	1.11	0.13	3.00	3.00	0.49	0.49	1.70	3.64	0.07	1.95



Alt Model-Shift Uniqueness Test

010481462-02, $P = 0.688266$ Days, $E = 131.009877$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.69	0.84	0.68	0	4.48	1.44	0.49	3.01	3.69	0.15	0.84	0.68	0.58	0.16	4.19



Stellar Parameters For KIC 010481462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6940^{+192}_{-312}	$3.895^{+0.315}_{-0.157}$	$0.260^{+0.150}_{-0.350}$	$2.512^{+0.601}_{-0.977}$	$1.806^{+0.185}_{-0.431}$	$0.160^{+0.328}_{-0.074}$
	+3%/-4%	+8%/-4%	+58%/-135%	+24%/-39%	+10%/-24%	+205%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 010481462-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 9	$1.12^{+1.12}_{-0.78}$	4896^{+372}_{-500}	3196^{+4853}_{-8595}	$0.367^{+4.952}_{-1.064}$
Alt.	-47 ± 57	$3.56^{+1.69}_{-1.45}$	4891^{+364}_{-458}	4246^{+2085}_{-8672}	$0.608^{+1.914}_{-0.650}$

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 $A_{obs} \gg 1.0$

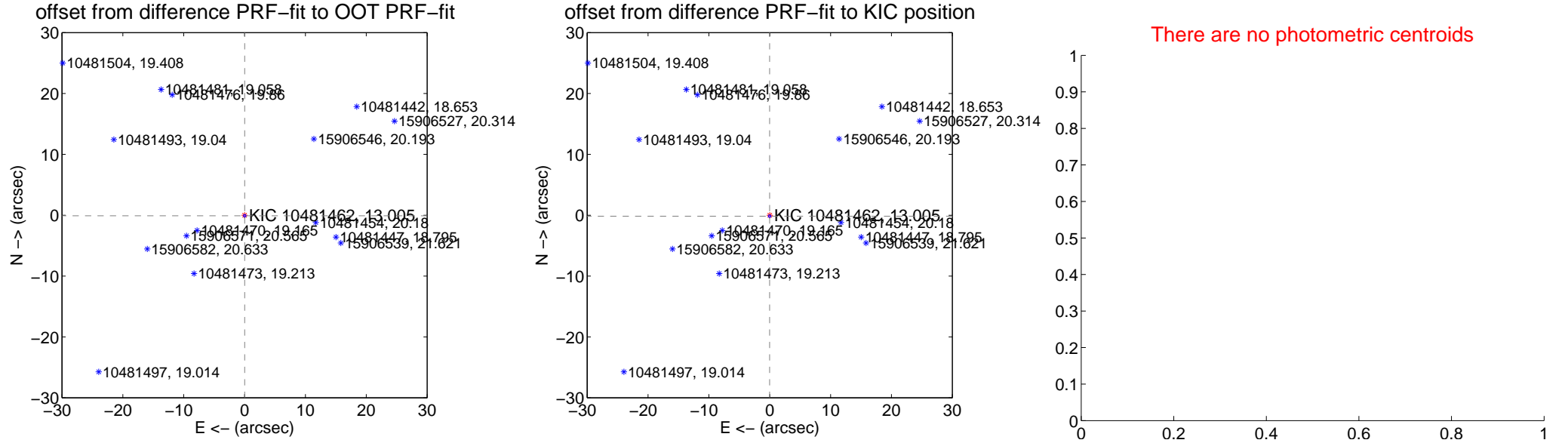
DV Centroid Data

Supplemental centroid analysis for 010481462-02. Kepler magnitude: 13.01. Transit SNR 0.15

There are 14 quarters with good PRF difference image offsets

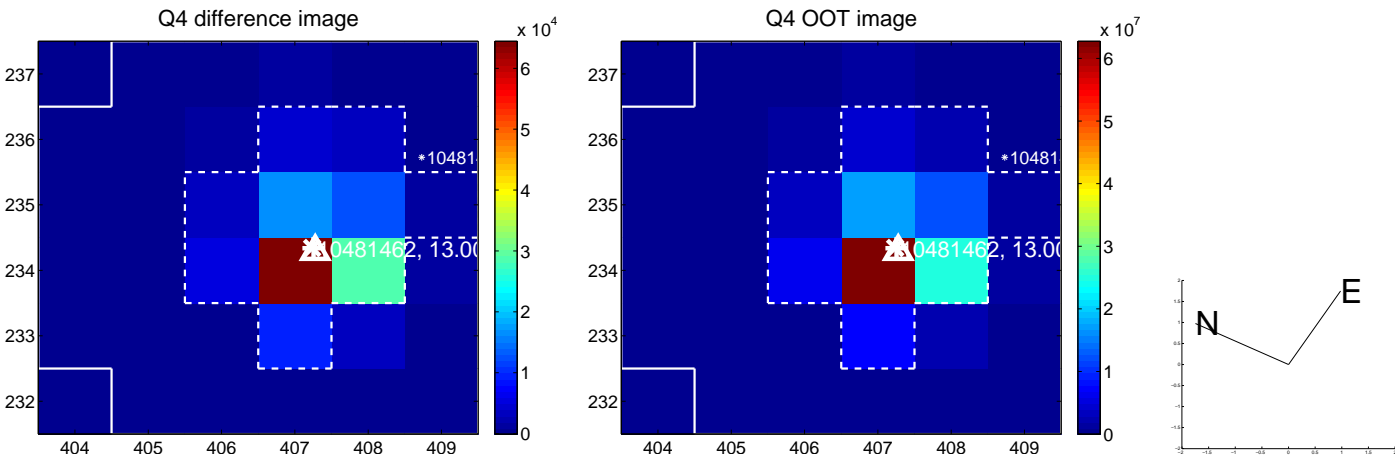
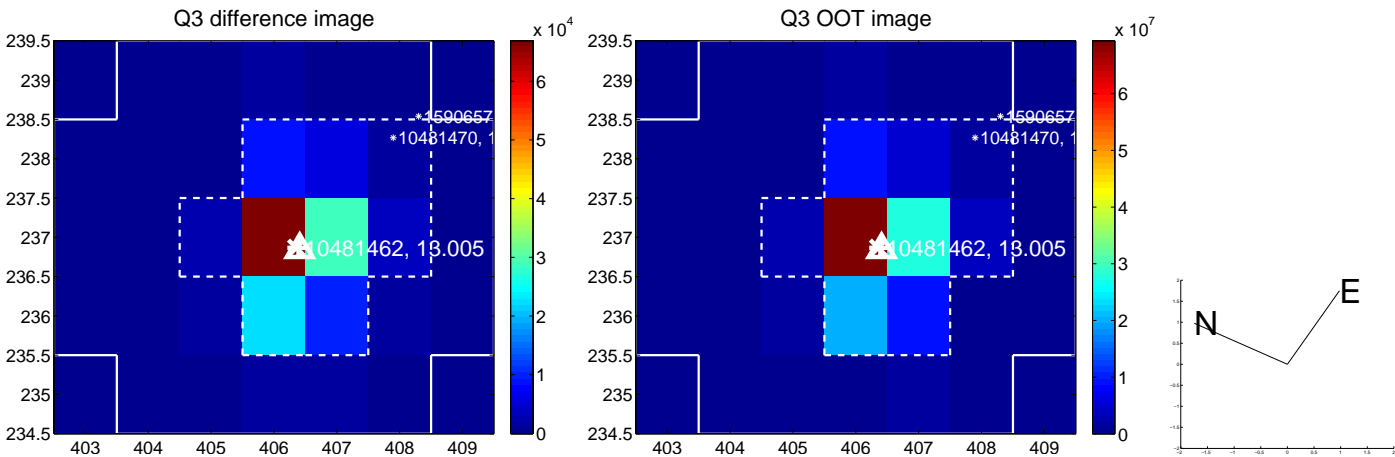
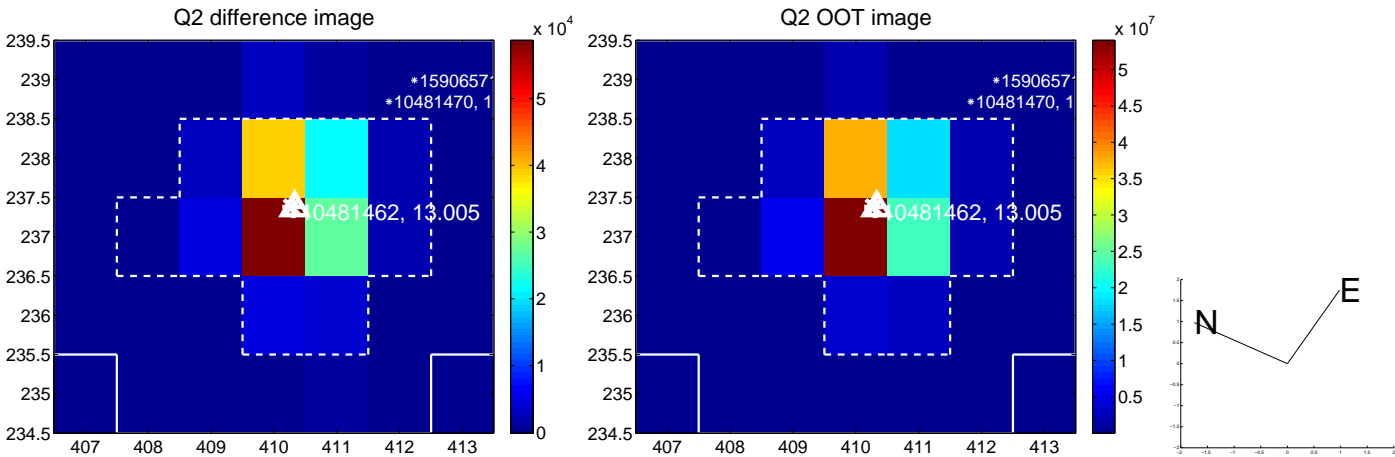
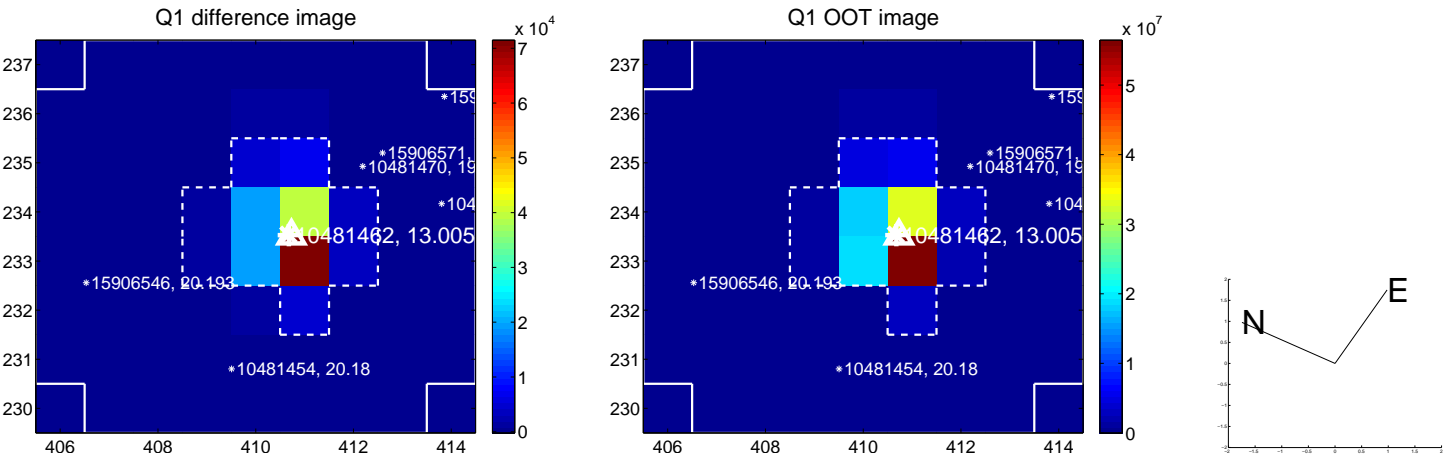
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.096 ± 0.069	1.39	-0.027 ± 0.070	-0.092 ± 0.069
PRF-fit source offset from KIC position	0.160 ± 0.070	2.29	0.018 ± 0.071	-0.159 ± 0.070
photometric centroid source offset	—	—	—	—

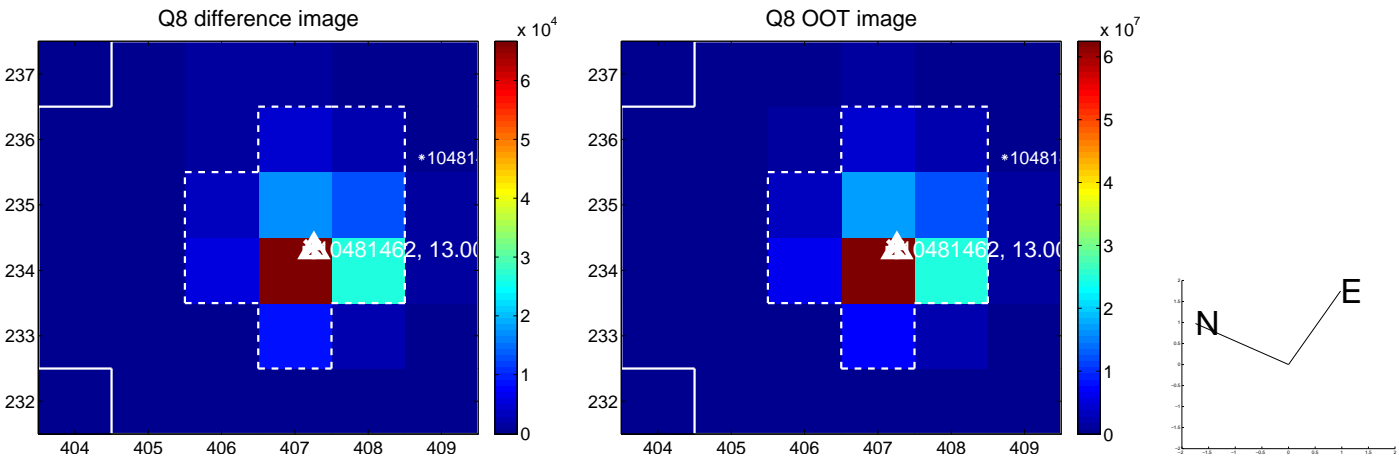
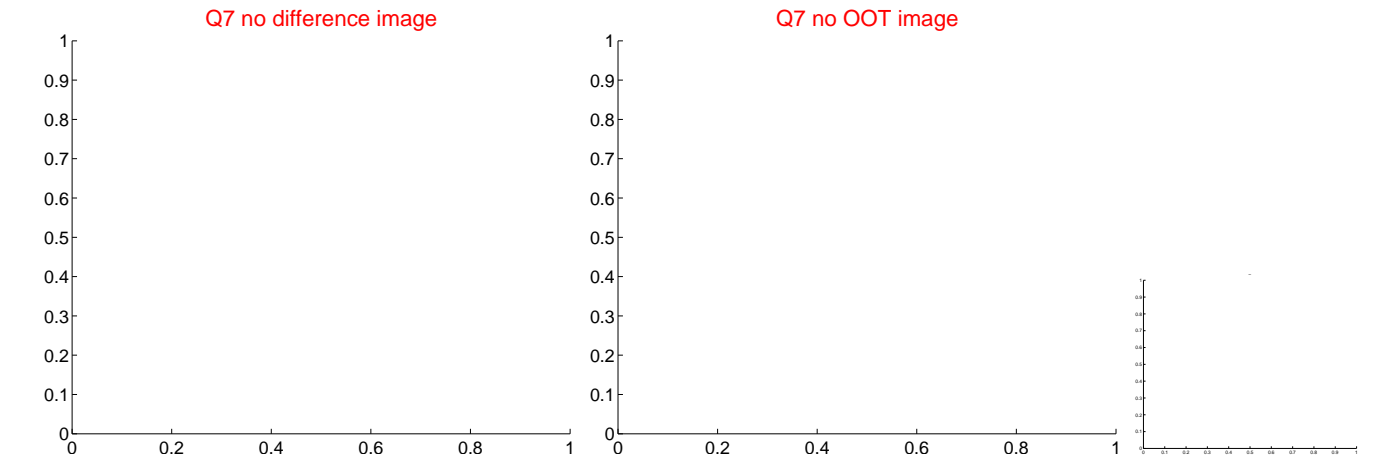
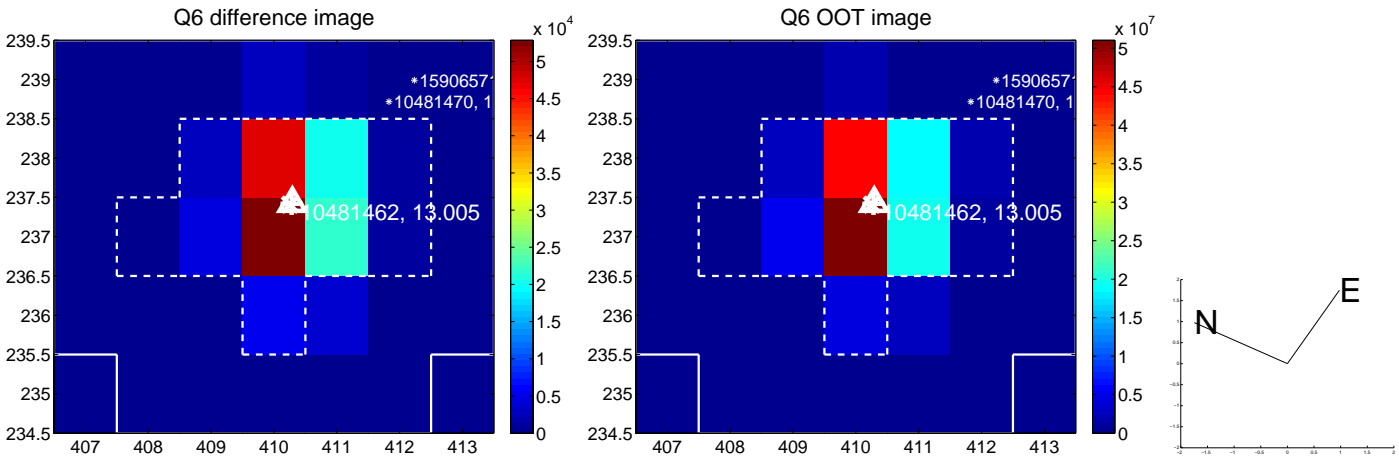
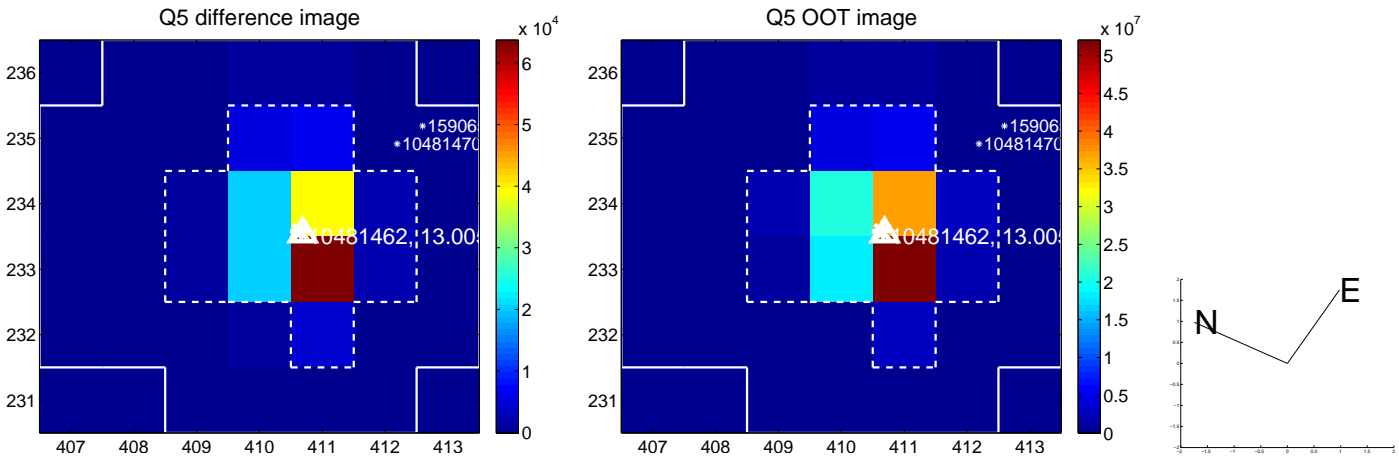


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

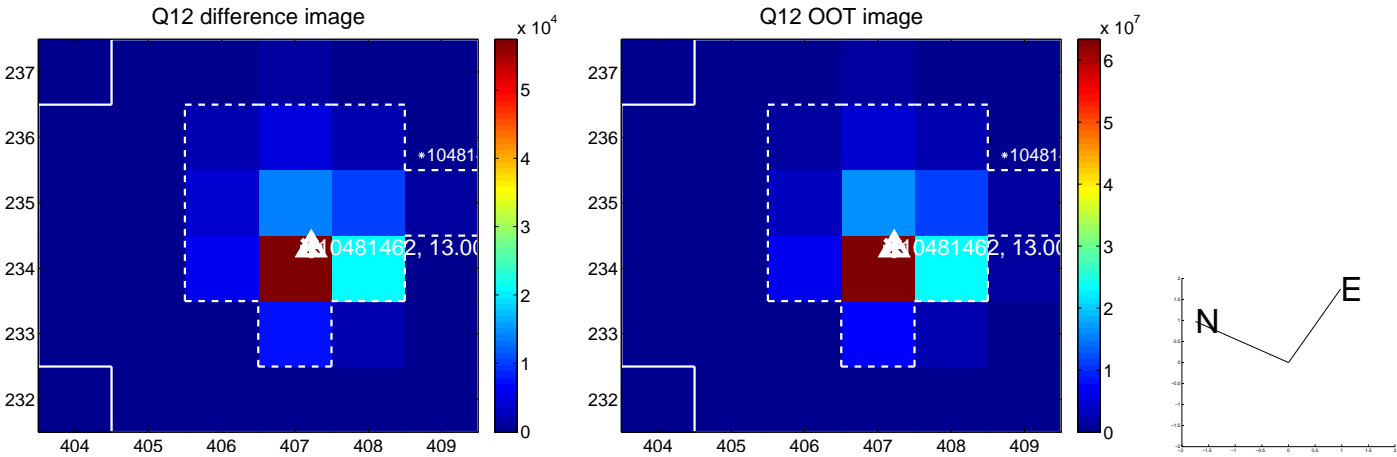
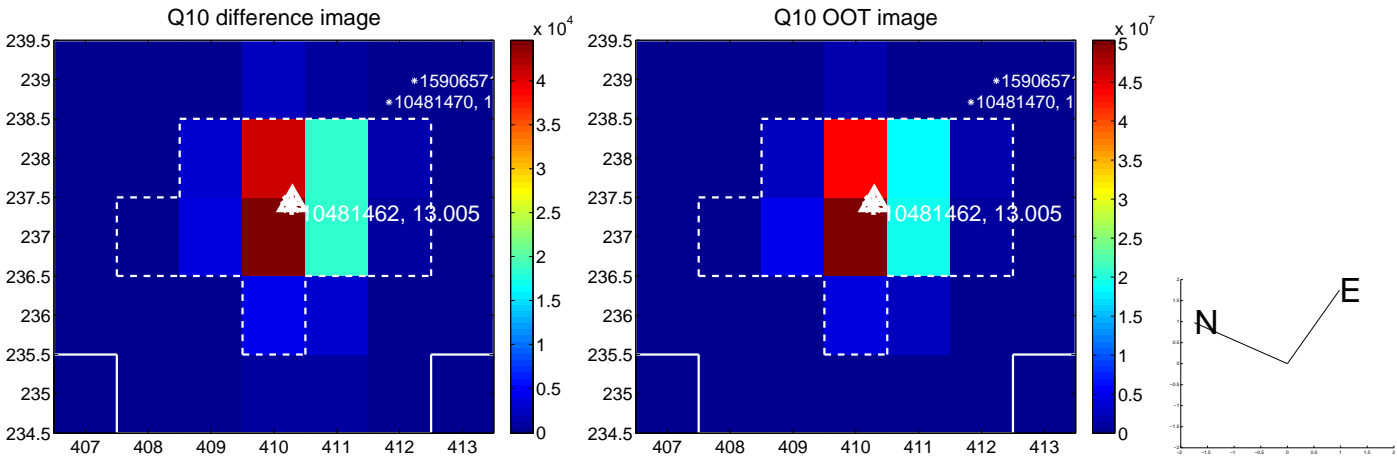
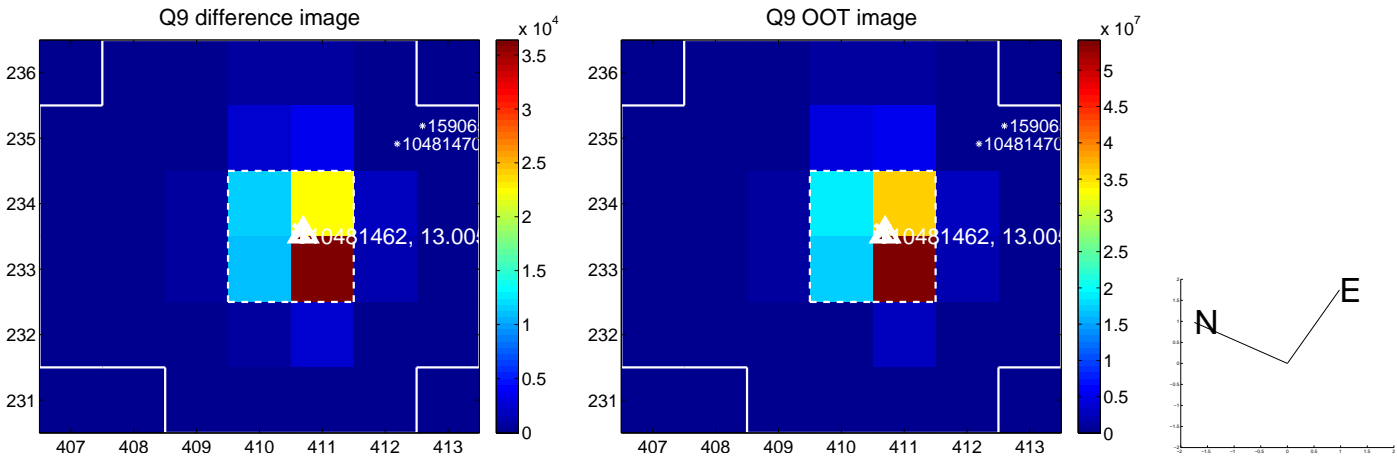
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



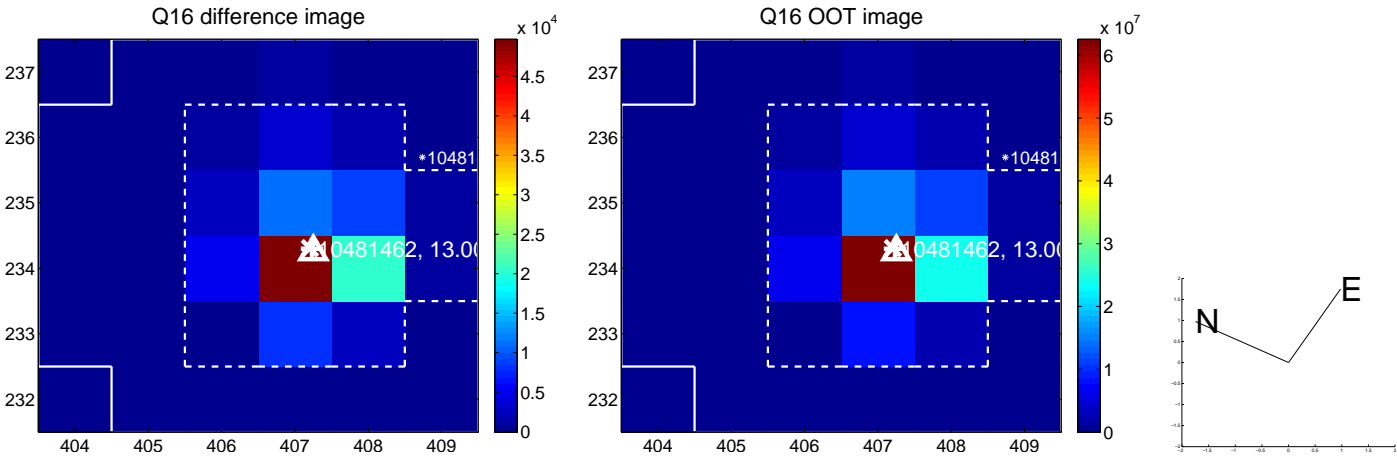
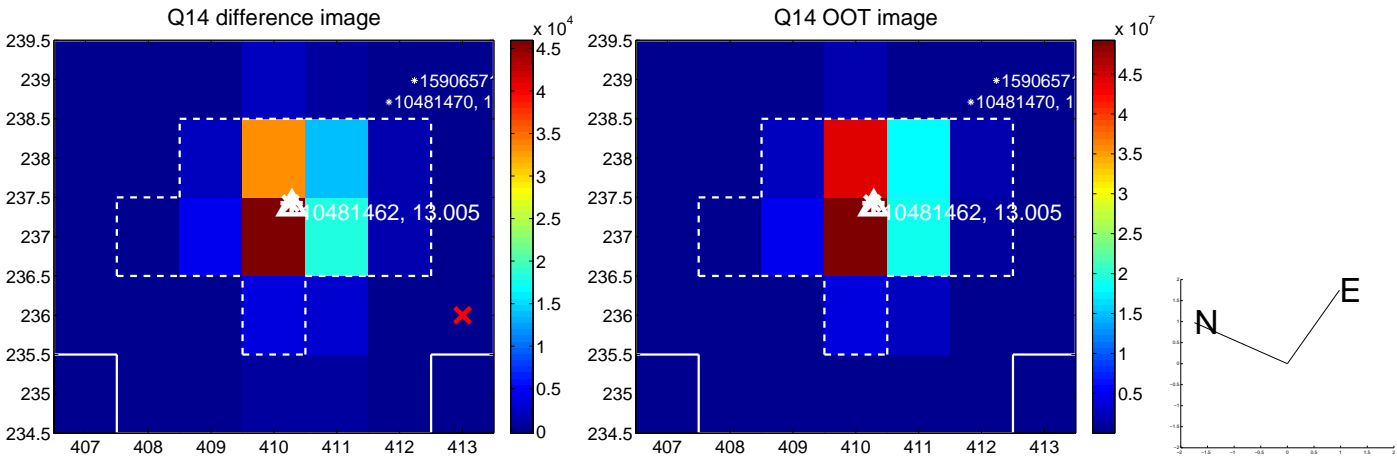
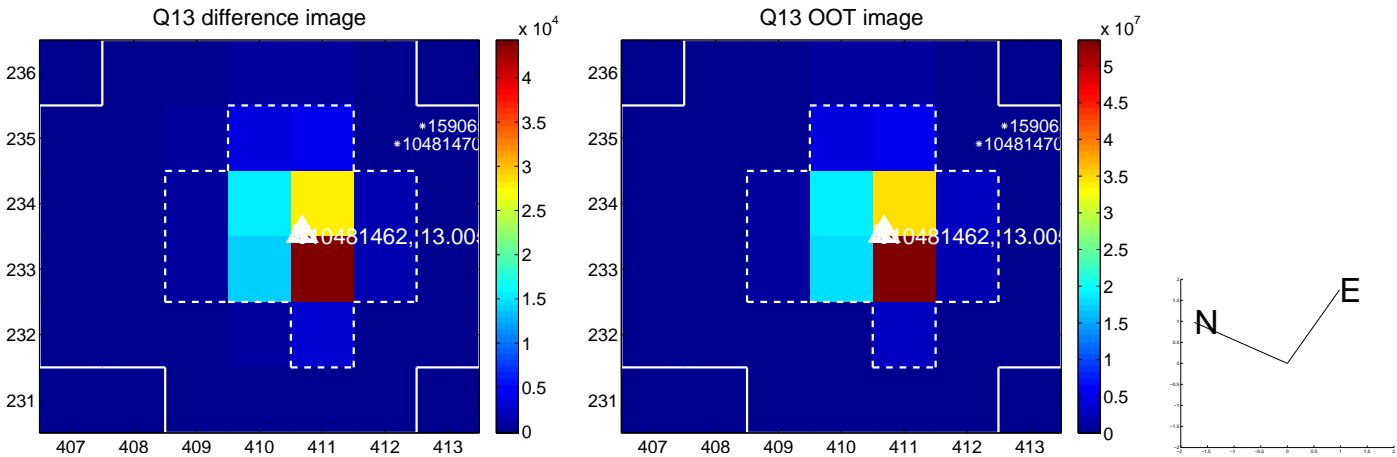
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



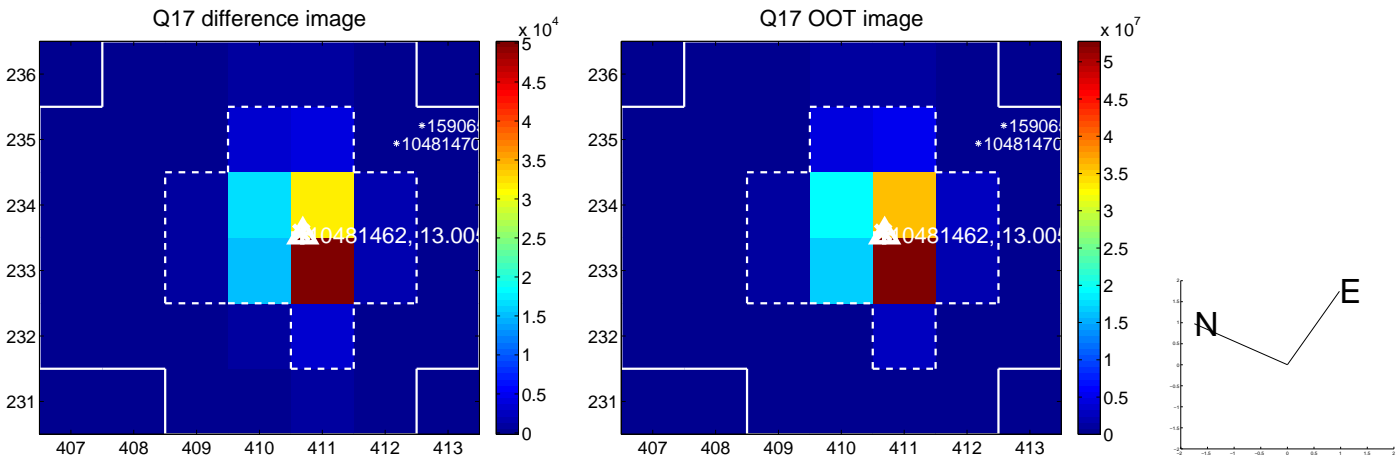
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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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

