

KIC 011807274

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})
011807274-01	OBS	0262.02	9.376642	136.951141	120.3	2.269	36.9	42.2	1.54	6237	2.00	379.88
011807274-02	OBS	0262.01	7.812808	133.553836	94.9	5.080	34.5	38.4	1.54	6237	2.06	484.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011807274-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
011807274-02	OBS	PC	1.00	0	0	0	0	CENT_SATURATED

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

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

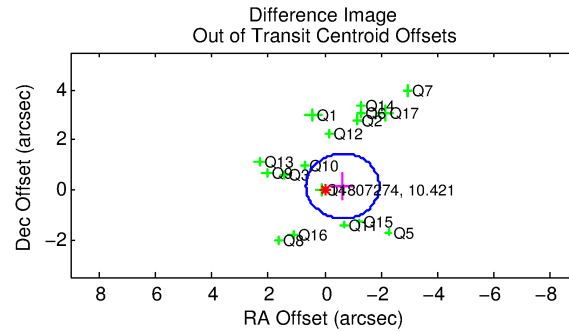
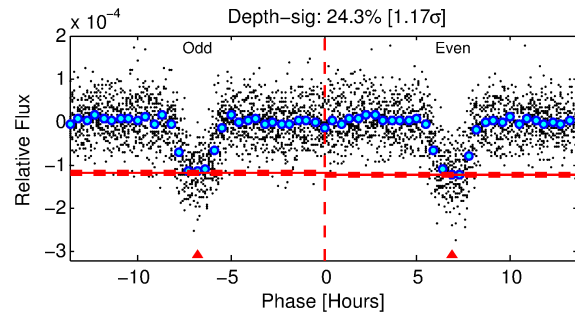
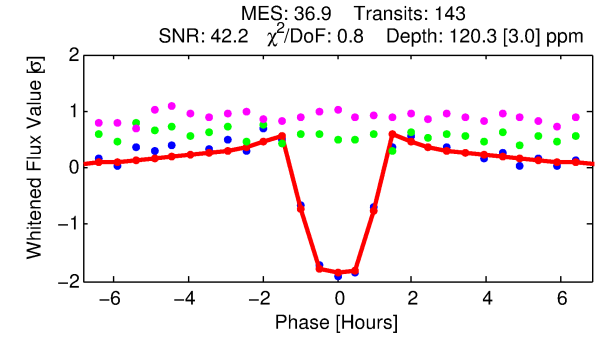
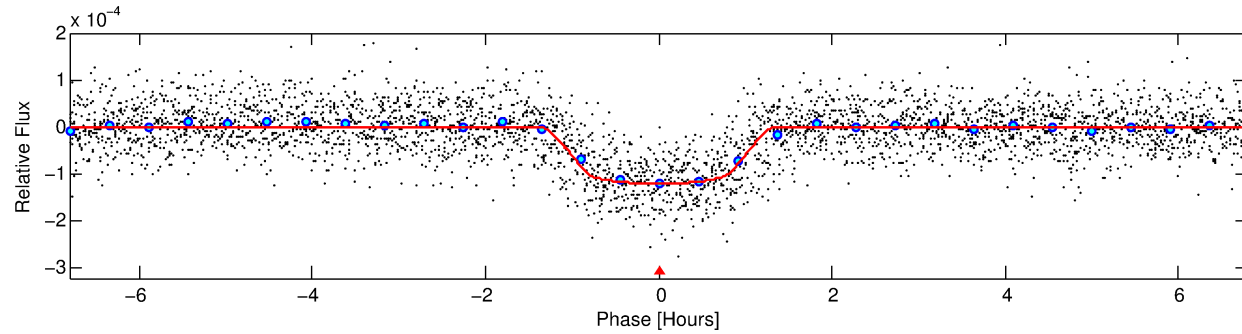
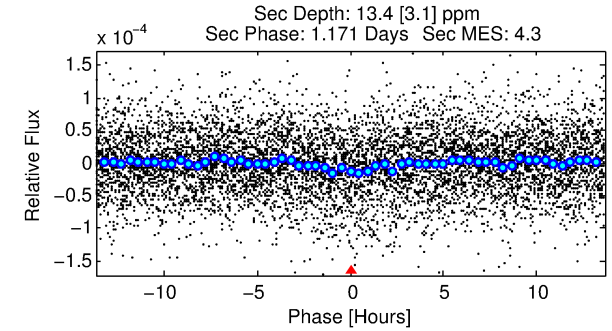
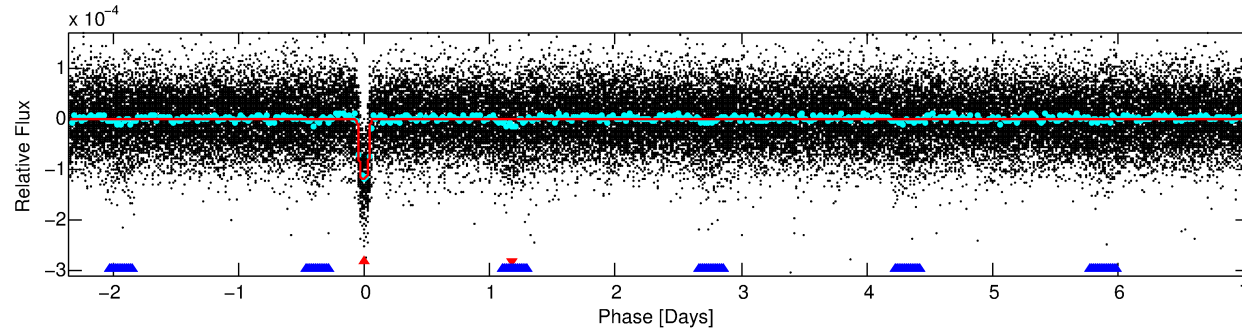
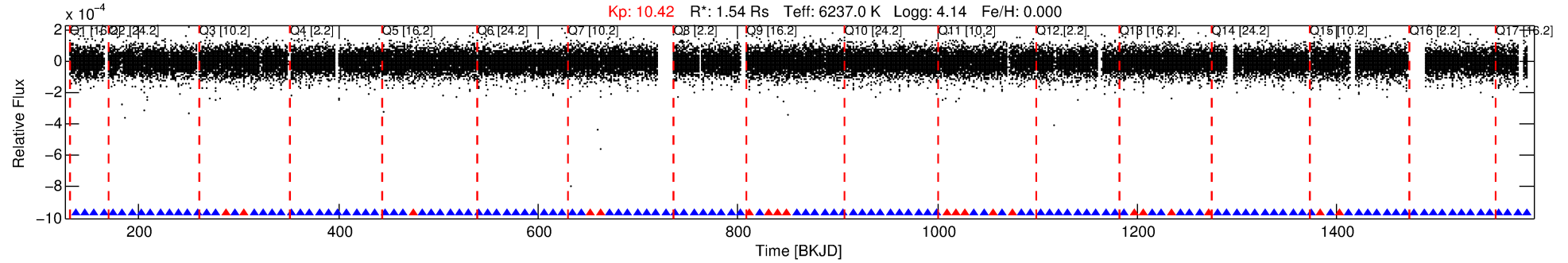
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011807274-01

No Significant Match Found

DV One-Page Summary

KIC: 11807274 Candidate: 1 of 2 Period: 9.377 d
KOI: K00262.02 Name: Kepler-50c Corr: 0.985



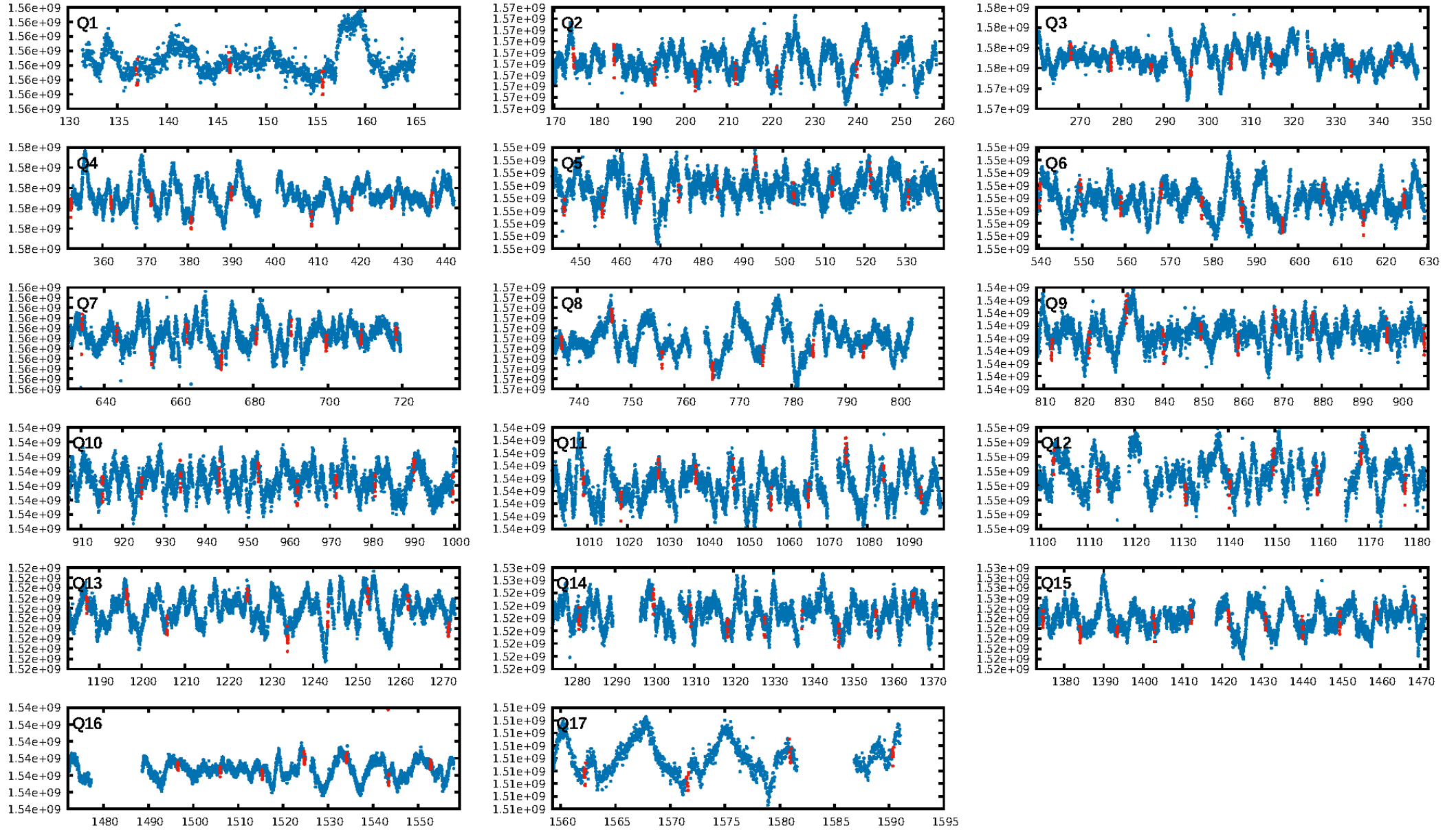
DV Fit Results:

Period = 9.37664 [0.00001] d
Epoch = 136.9511 [0.0009] BKJD
Rp/R* = 0.0119 [0.0013]
a/R* = 14.26 [8.32]
b = 0.91 [0.12]
Seff = 379.88 [29.76]
Teq = 1126 [22] K
Rp = 2.00 [0.24] Re
a = 0.0922 [0.0041] AU
Ag = 15.67 [5.10] [2.88σ]
Teffp = 3463 [279] K [8.34σ]

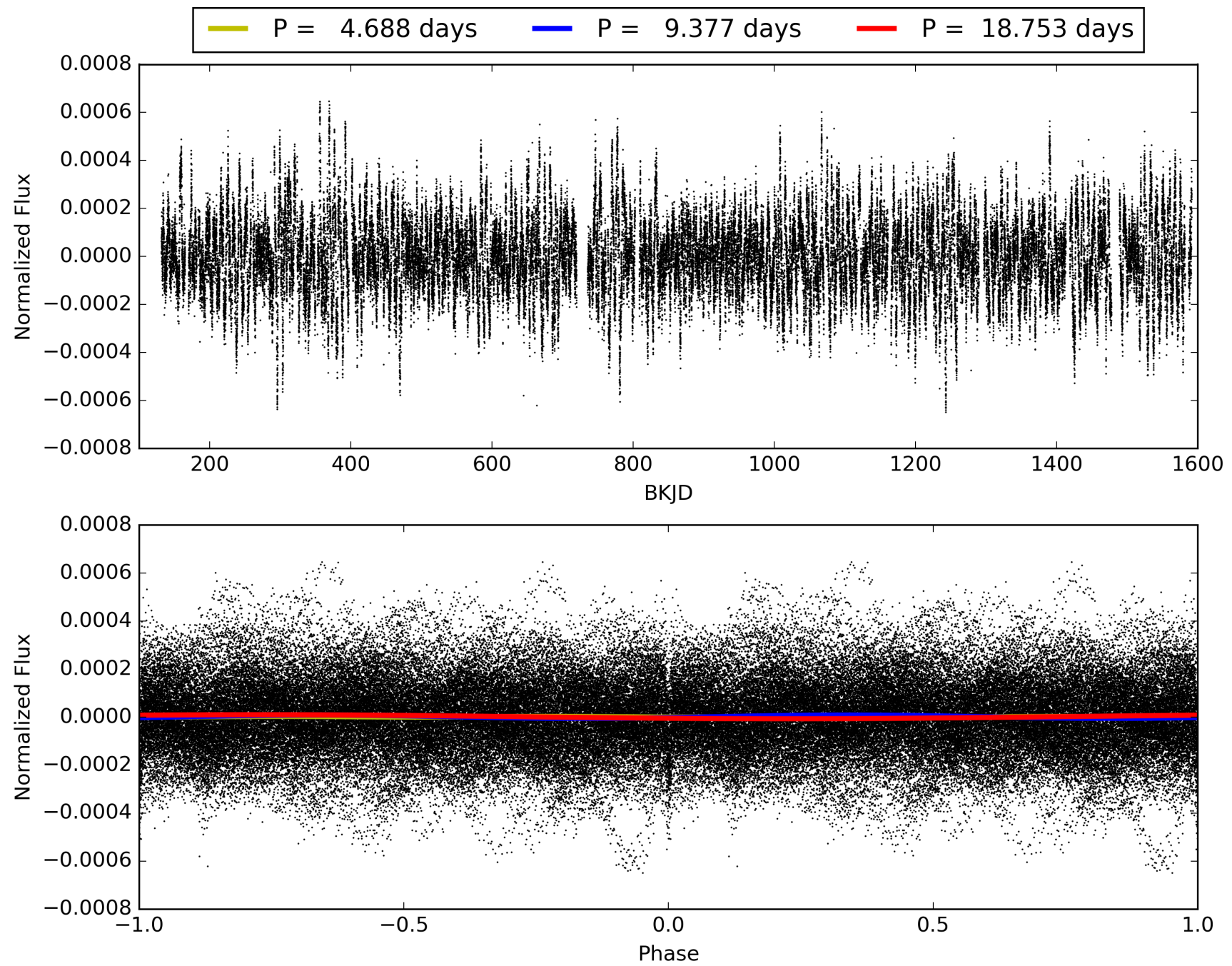
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.75σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.42e-283
RollingBand-fgt: 0.85 [116/136]
GhostDiagnostic-chr: 4.041
Centroid-sig: 0.0%
Centroid-so: 0.799 arcsec [2.61σ]
OotOffset-rm: 0.648 arcsec [1.50σ]
KicOffset-rm: 0.318 arcsec [0.59σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.29 [5/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011807274-01, PDC Light Curves

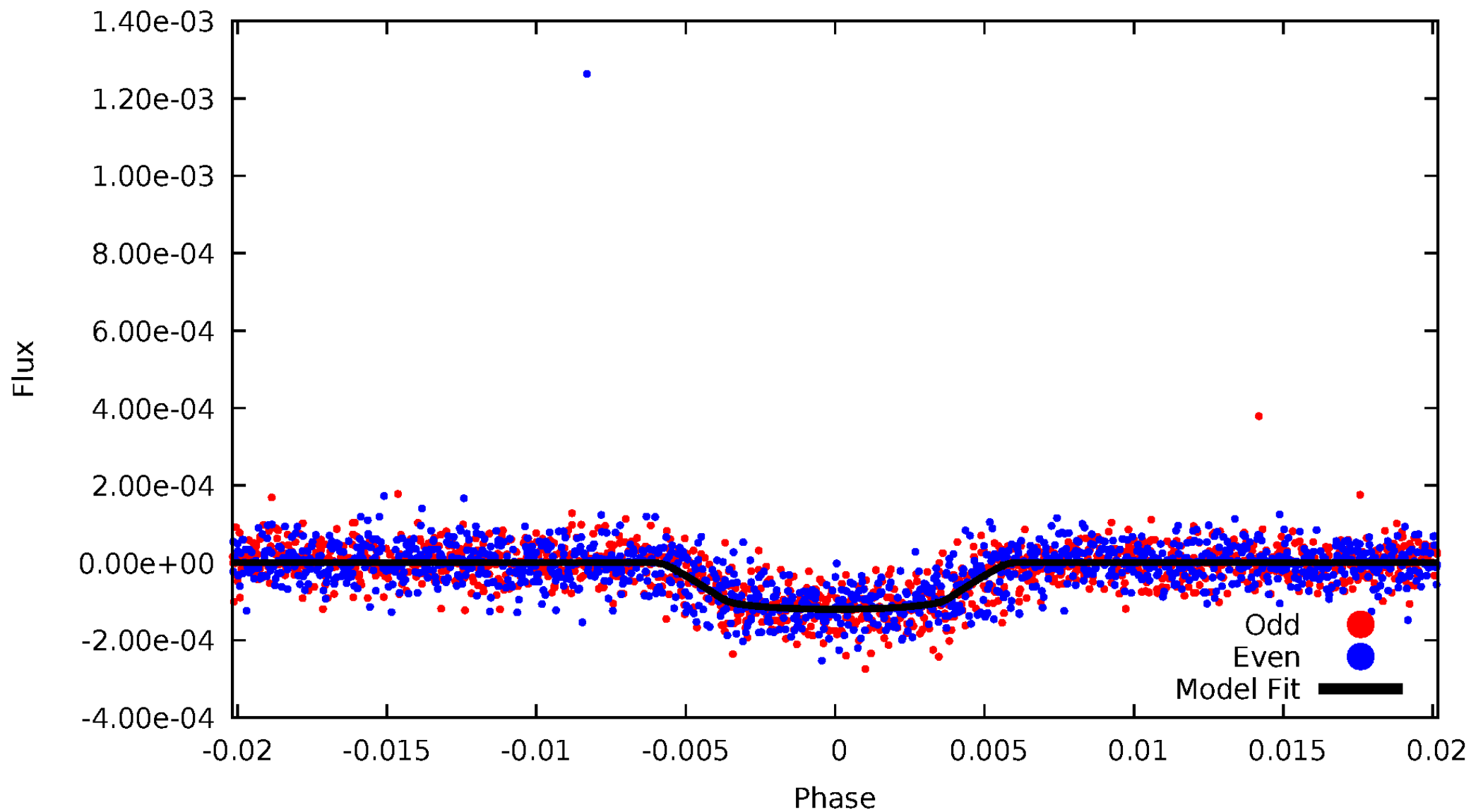


TCE 011807274-01



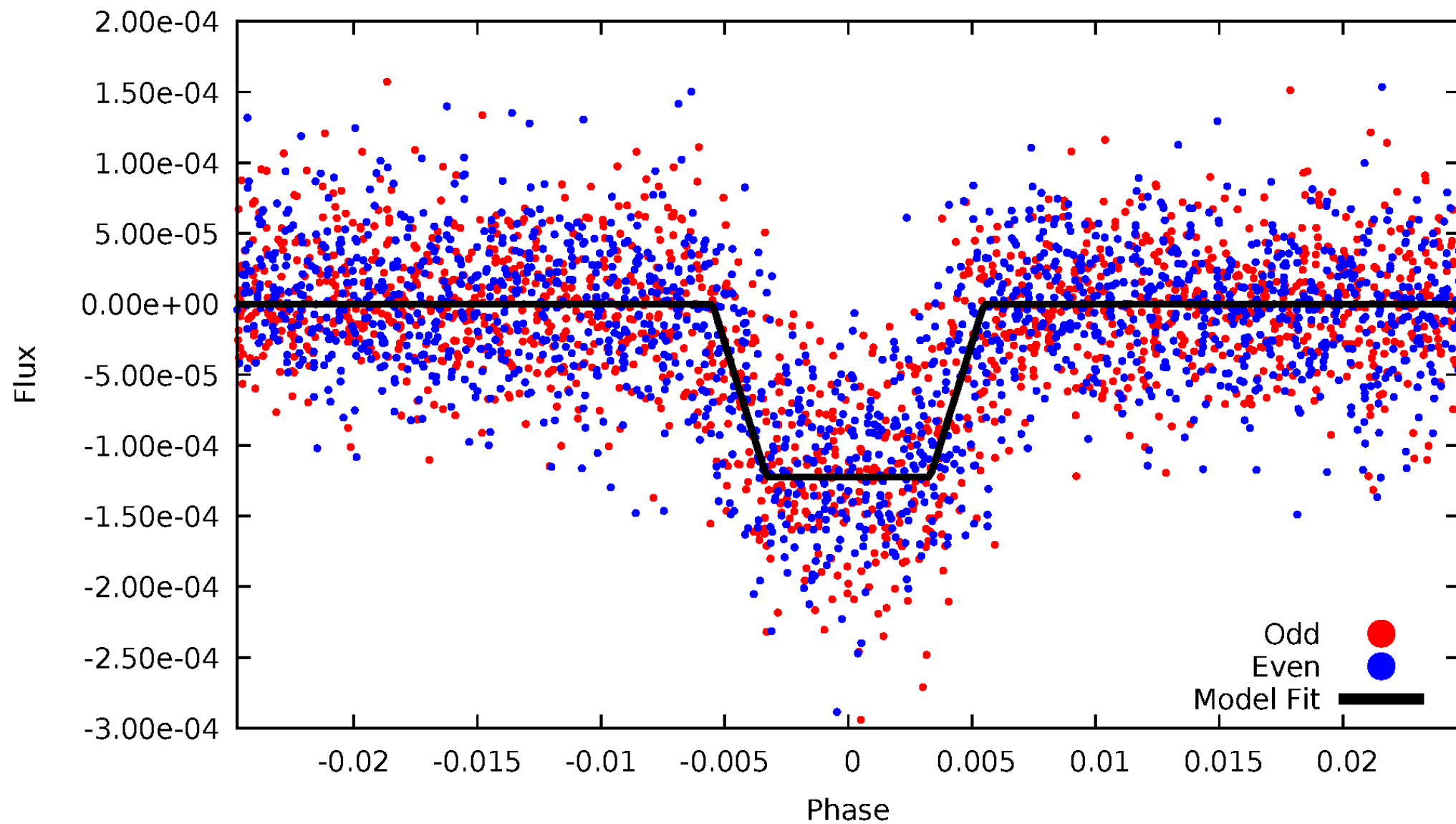
DV Odd/Even

TCE 011807274-01



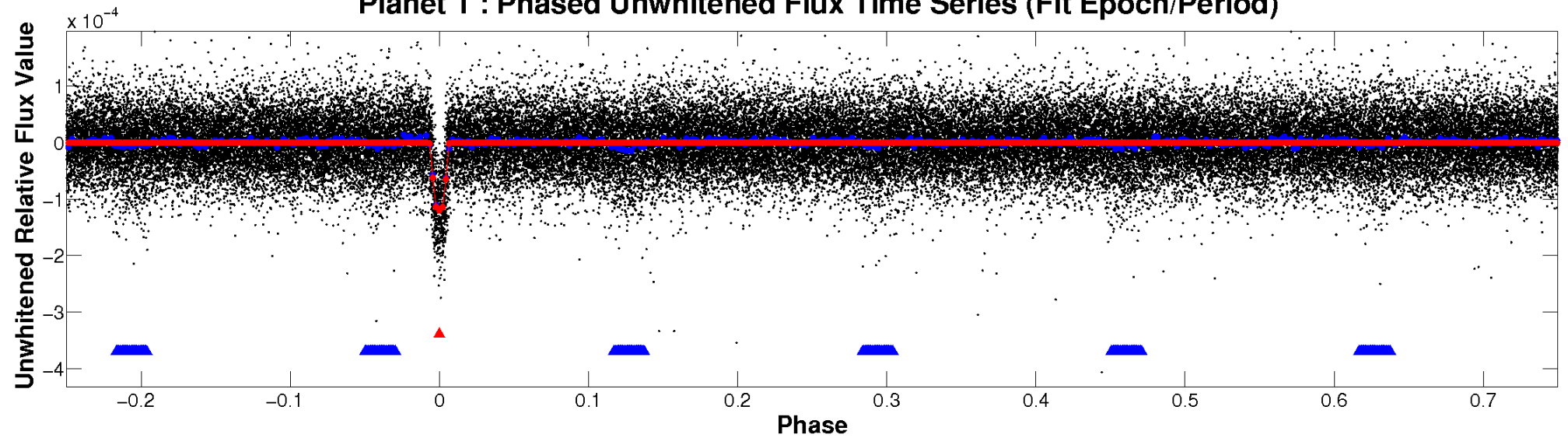
ALT Odd/Even

TCE 011807274-01

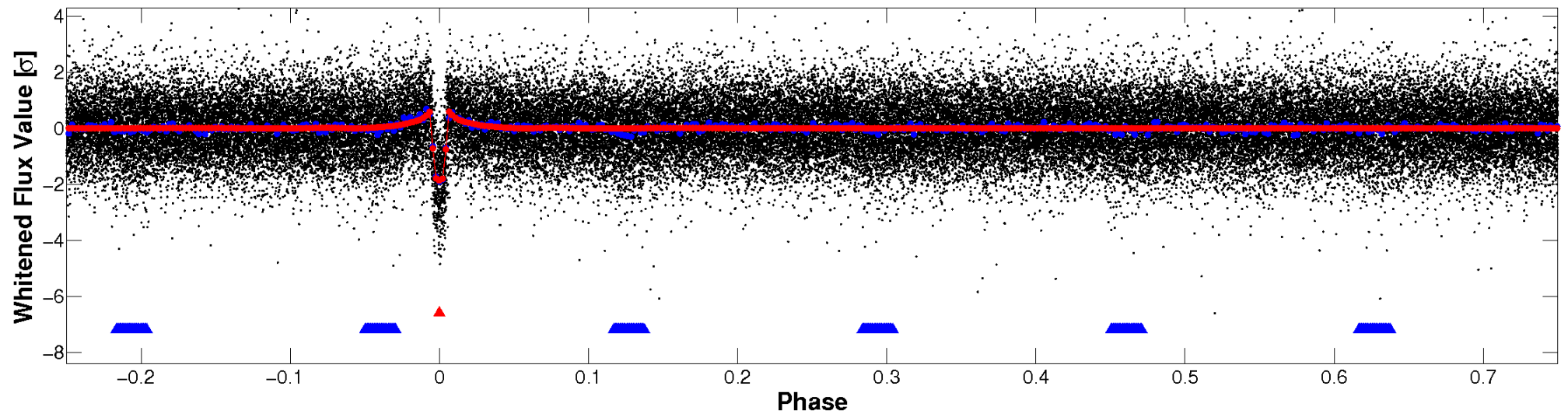


Non-Whitened Vs. Whitened Light Curve

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

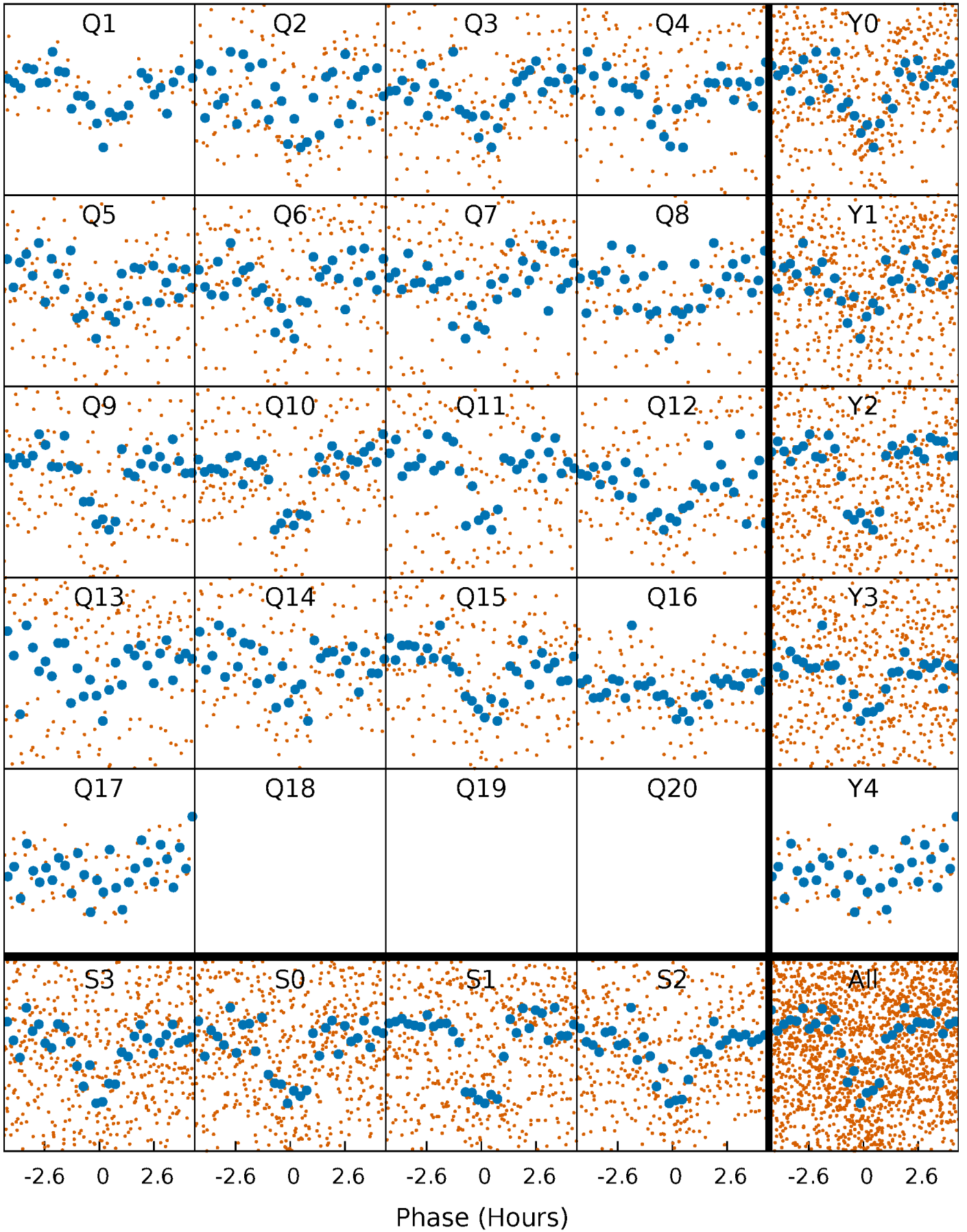


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



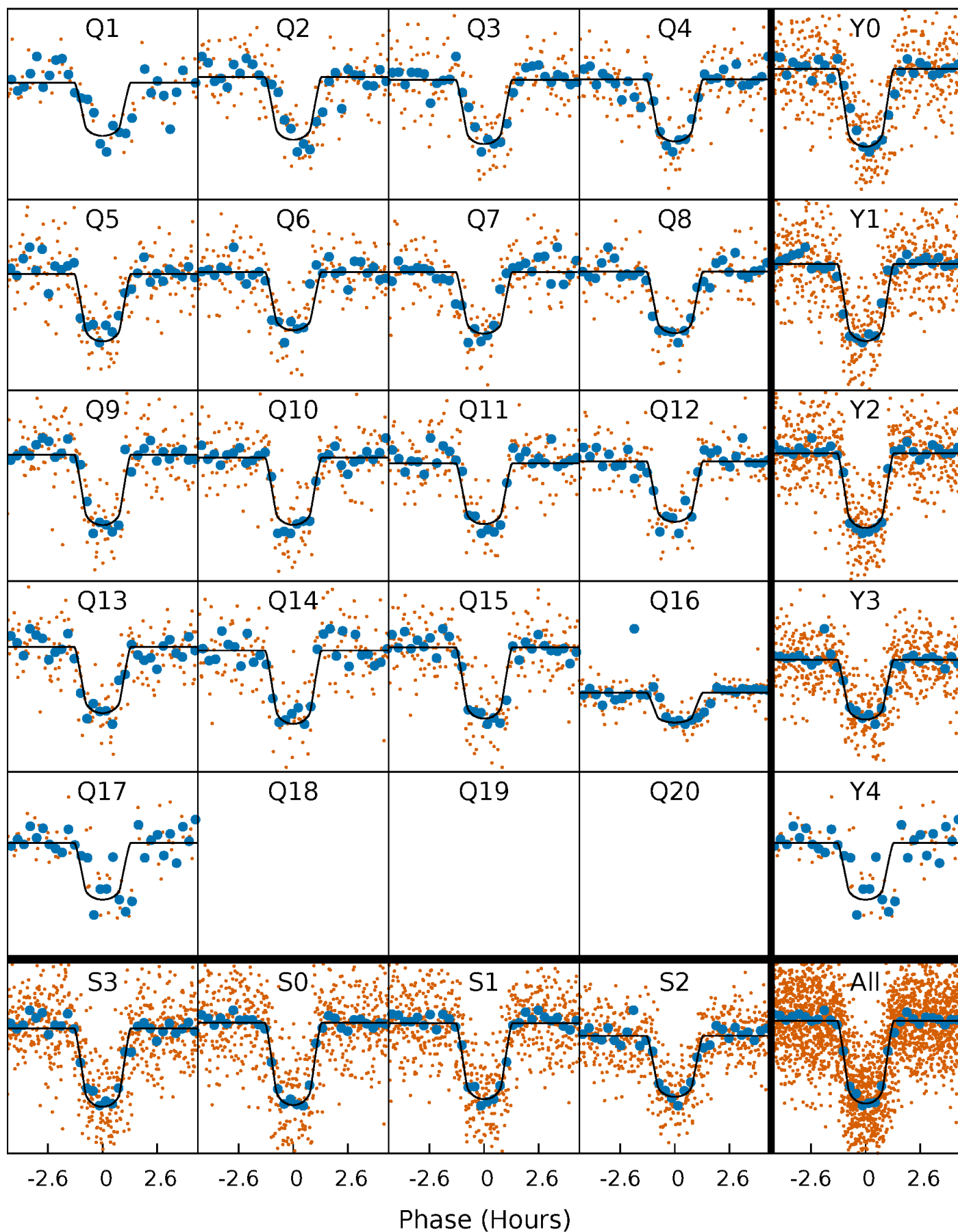
PDC Quarter-Phased Transit Curves

TCE 011807274-01 P= 9.376642 Days $T_0=136.951141$ (BKJD)



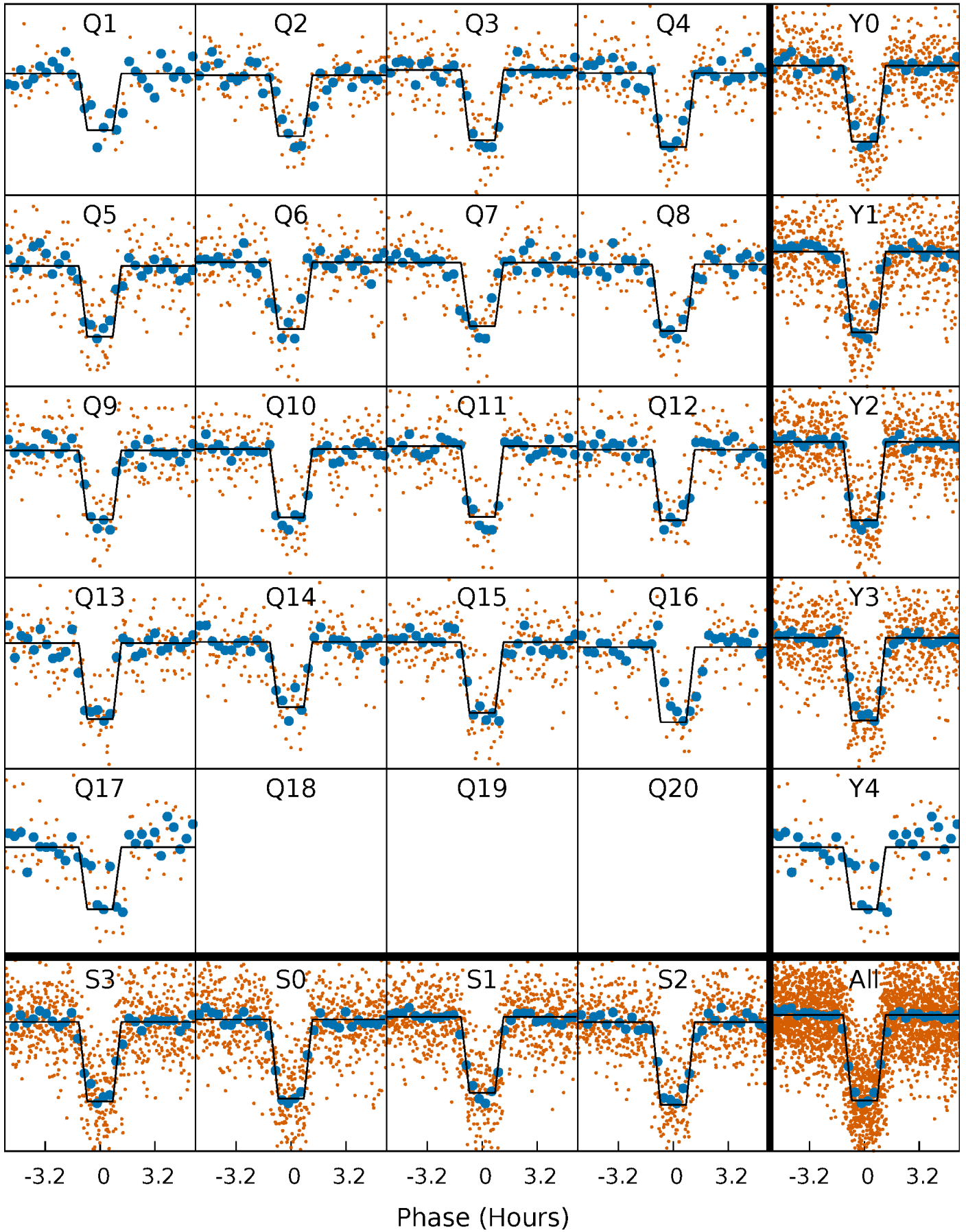
DV Quarter-Phased Transit Curves

TCE 011807274-01 P= 9.376642 Days $T_0=136.951141$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

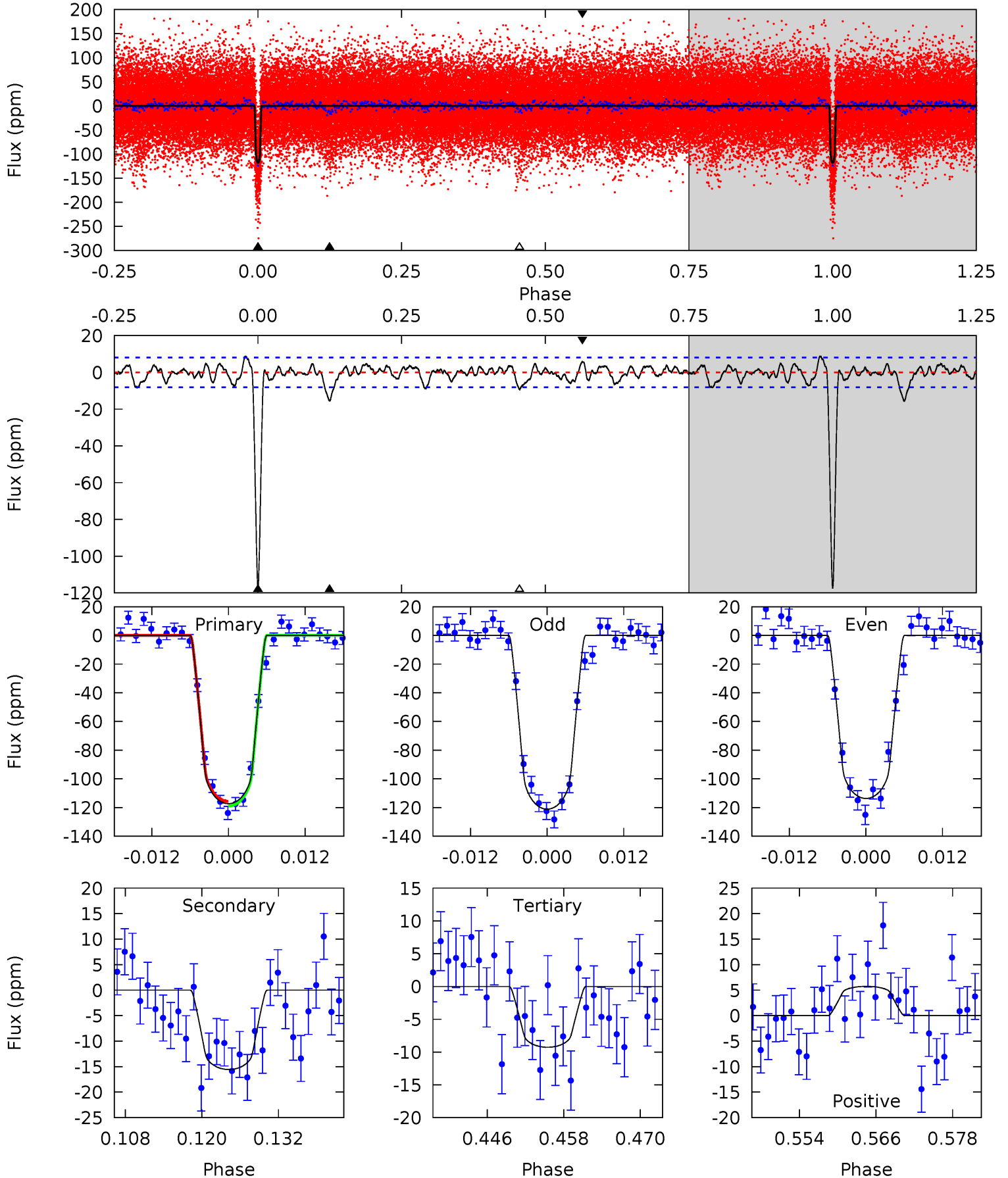
TCE 011807274-01 P= 9.376589 Days $T_0=136.956241$ (BKJD)



DV Model-Shift Uniqueness Test

011807274-01, P = 9.376642 Days, E = 127.574499 Days

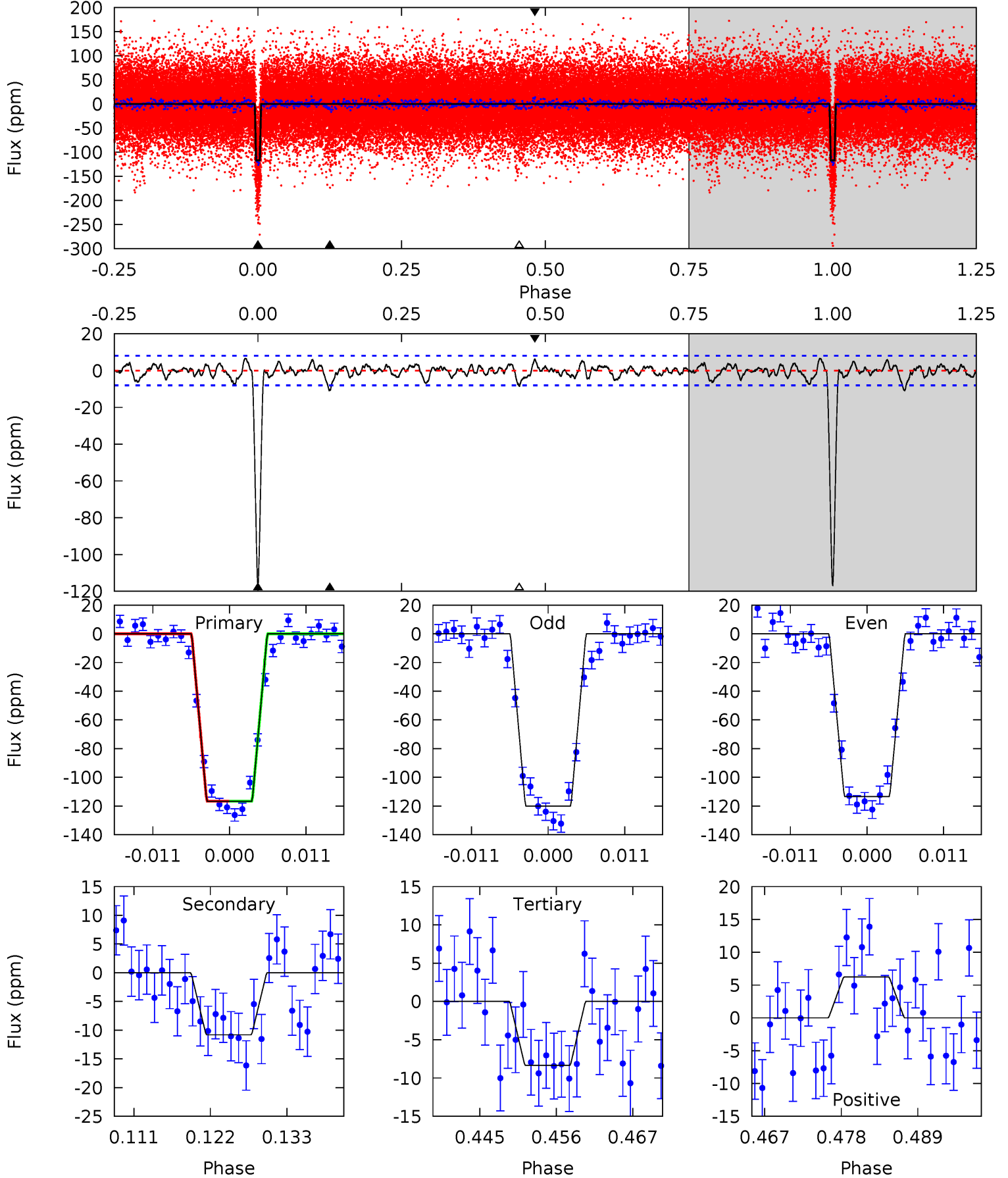
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
72.3	9.59	5.71	3.53	4.99	2.51	1.85	66.6	68.8	3.88	6.06	2.30	1.00	0.07	0.97



Alt Model-Shift Uniqueness Test

011807274-01, P = 9.376589 Days, E = 127.579652 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
72.7	6.74	5.21	3.89	5.01	2.54	1.56	67.5	68.8	1.54	2.85	2.10	1.01	0.05	0.01



Stellar Parameters For KIC 011807274

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6237^{+62}_{-74}	$4.136^{+0.033}_{-0.030}$	$0.000^{+0.100}_{-0.050}$	$1.543^{+0.084}_{-0.075}$	$1.187^{+0.080}_{-0.062}$	$0.455^{+0.056}_{-0.050}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+5%/-5%	+7%/-5%	+12%/-11%
Source	SPE8	AST69	SPE8	DSEP		

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

Secondary Eclipse Parameters for KIC 011807274-01 / KOI 0262.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-16 ± 2	$2.00^{+0.23}_{-0.23}$	1571^{+26}_{-25}	3923^{+194}_{-155}	18^{+5}_{-4}
Alt.	-11 ± 2	$1.86^{+0.25}_{-0.22}$	1573^{+25}_{-24}	3767^{+210}_{-172}	15^{+5}_{-4}

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

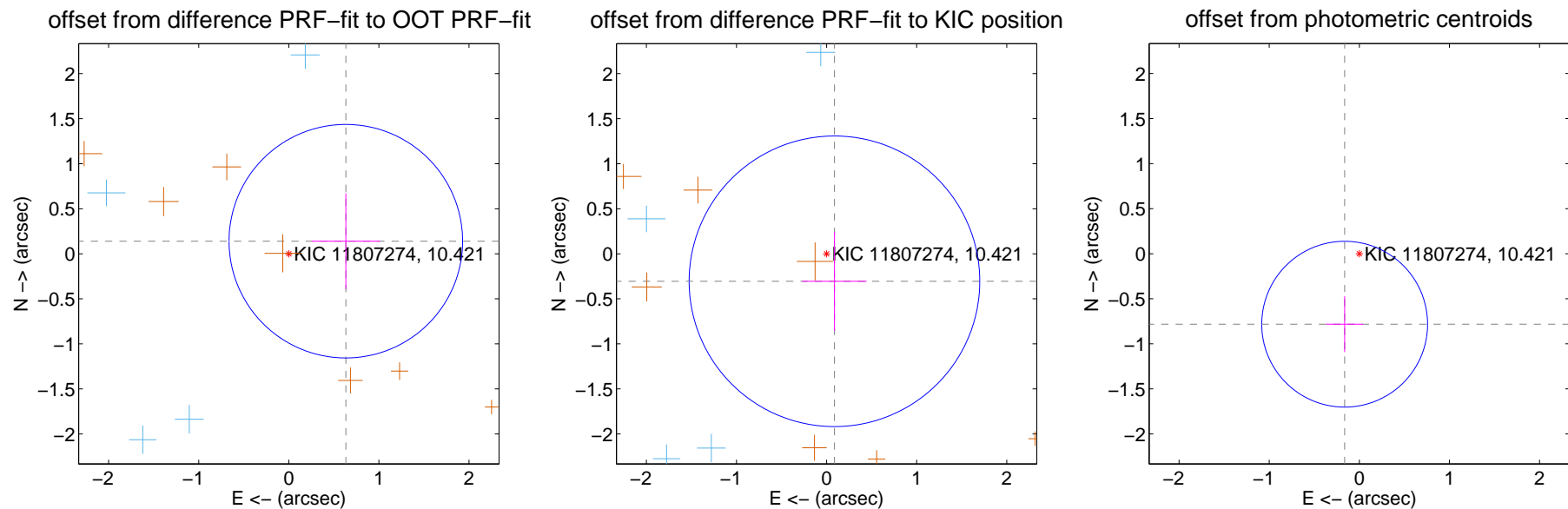
DV Centroid Data

Supplemental centroid analysis for 011807274-01. **Kepler magnitude: 10.42.** Transit SNR 42.15

There are 5 quarters with good PRF difference image offsets

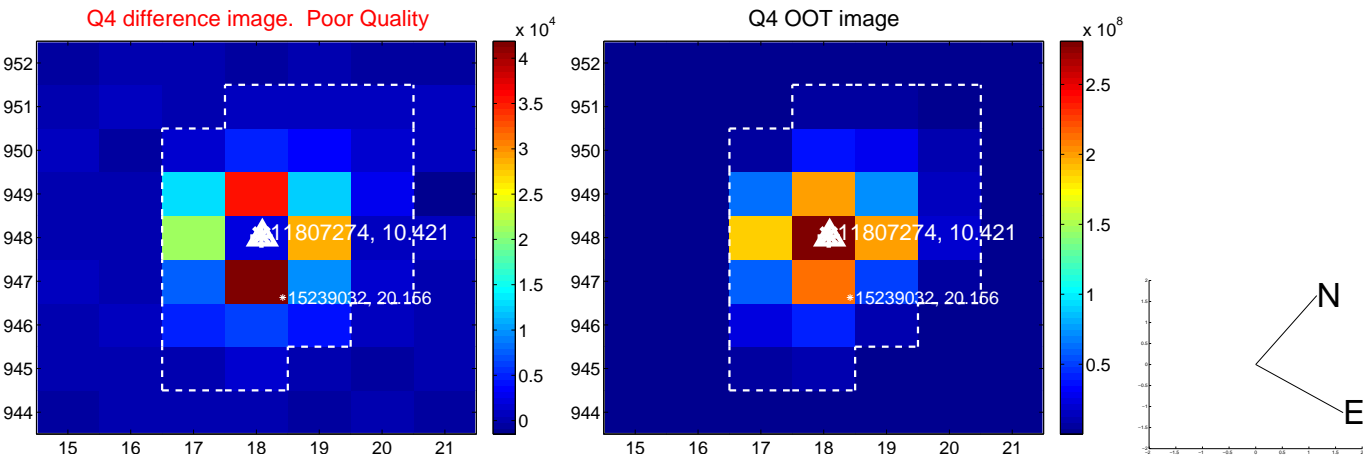
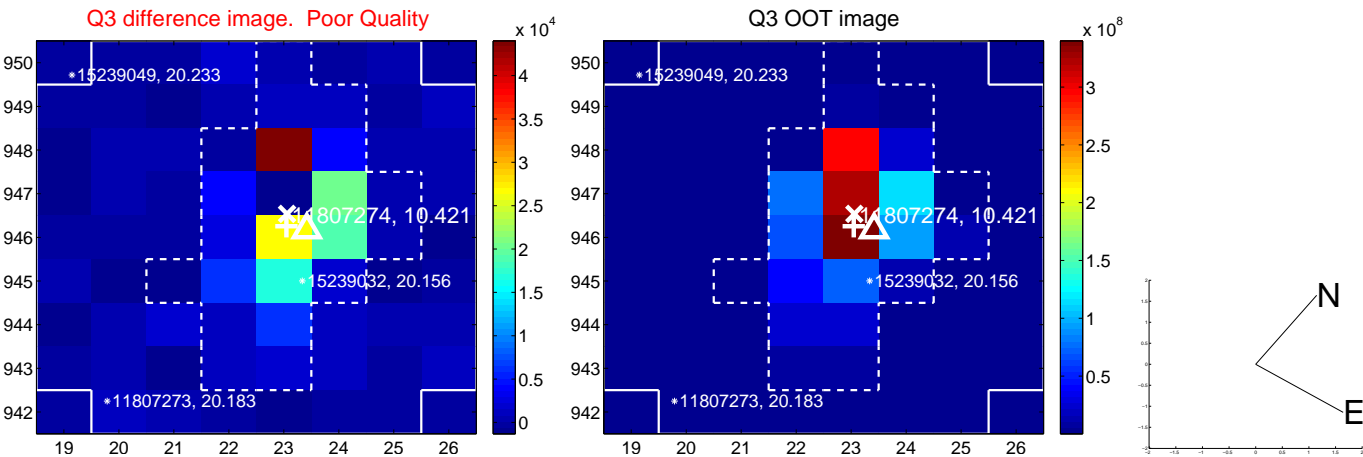
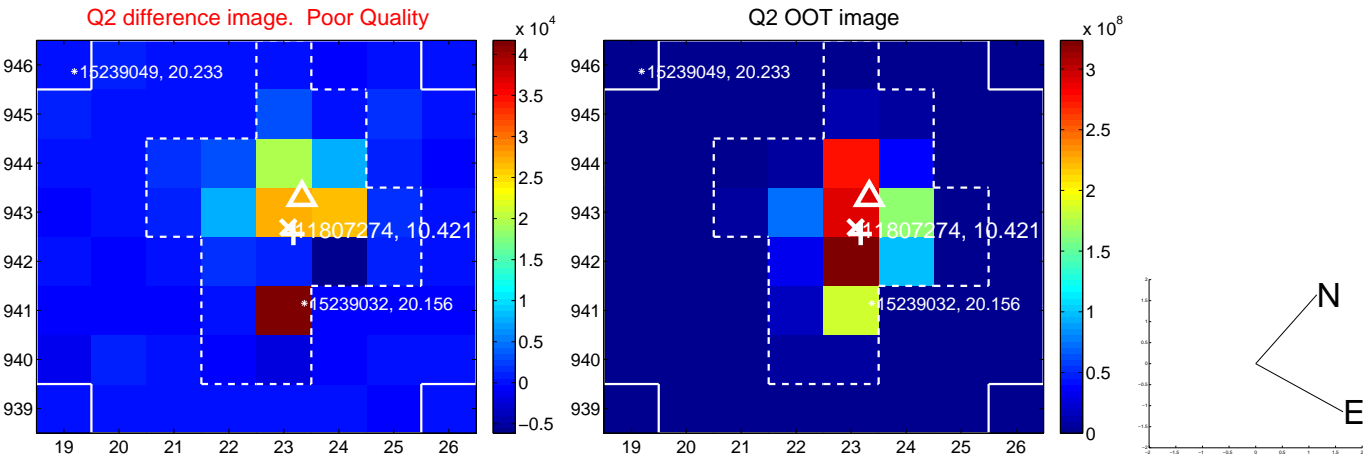
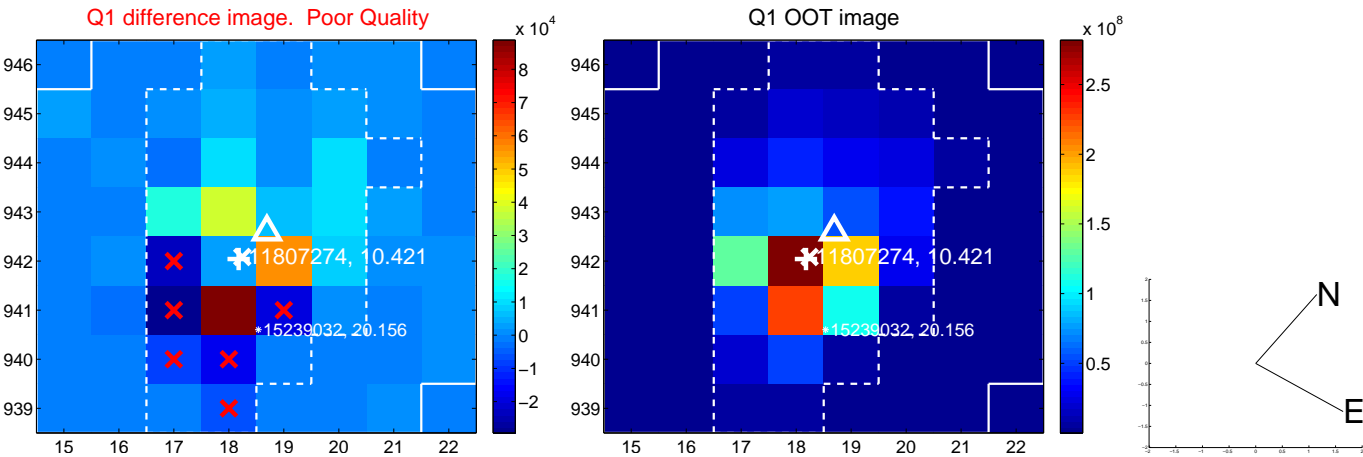
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.648 ± 0.432	1.50	-0.633 ± 0.380	0.140 ± 0.532
PRF-fit source offset from KIC position	0.318 ± 0.538	0.59	-0.087 ± 0.358	-0.305 ± 0.550
photometric centroid source offset	0.80 ± 0.31	2.61	0.16 ± 0.21	-0.78 ± 0.31

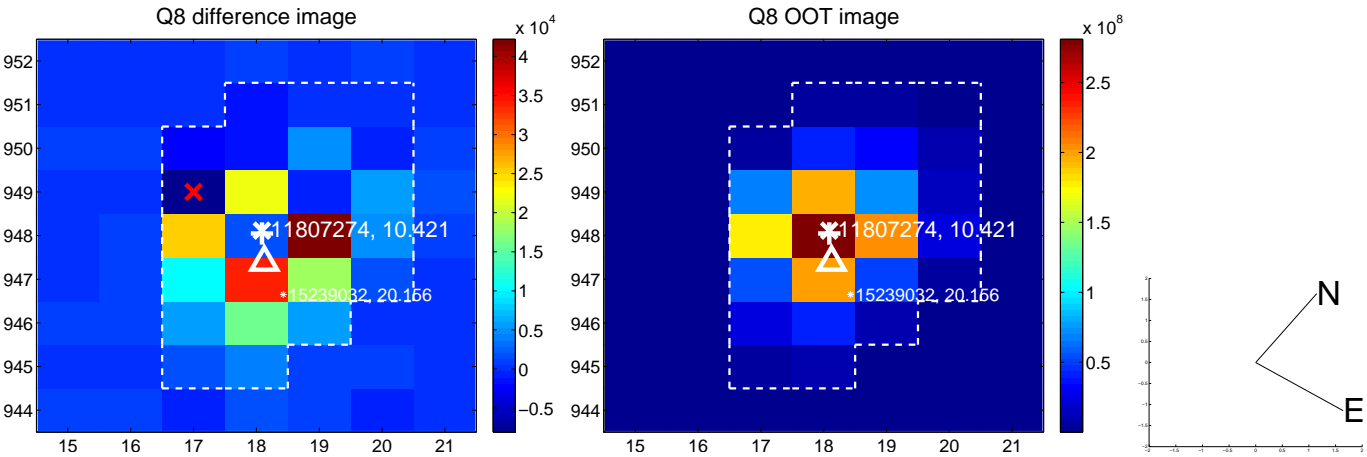
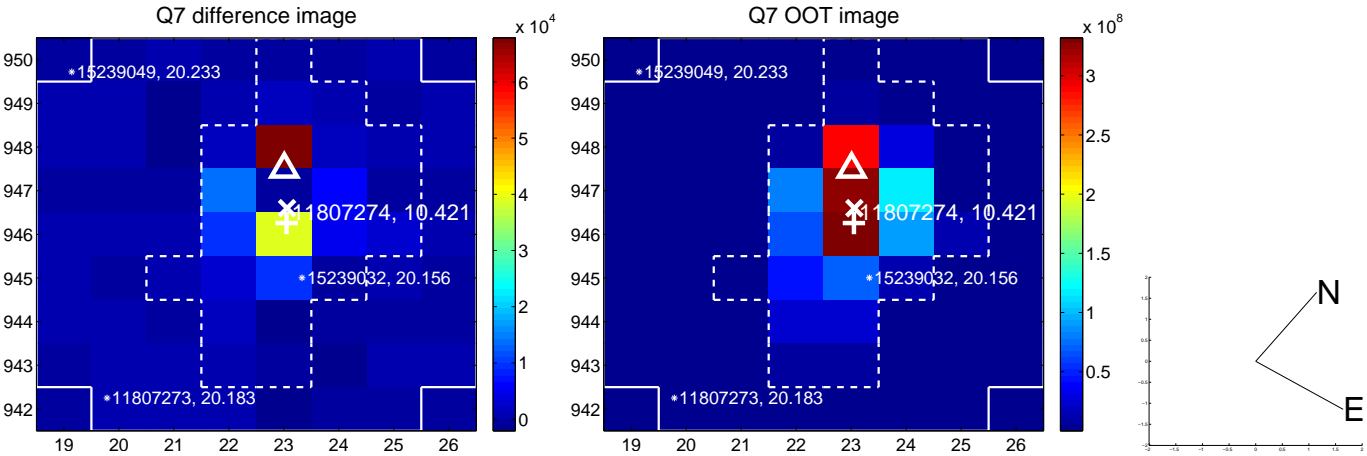
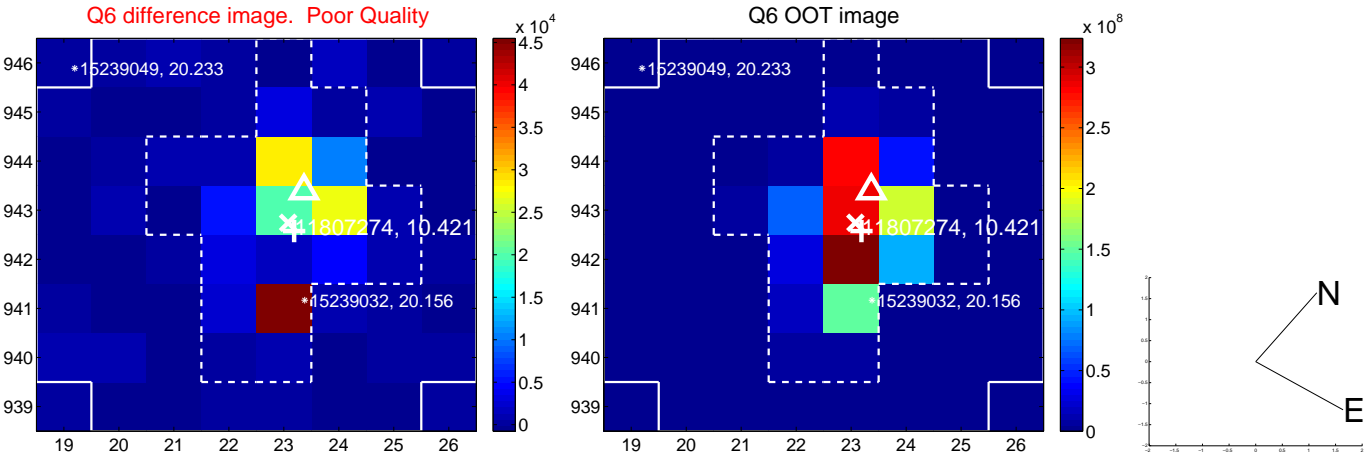
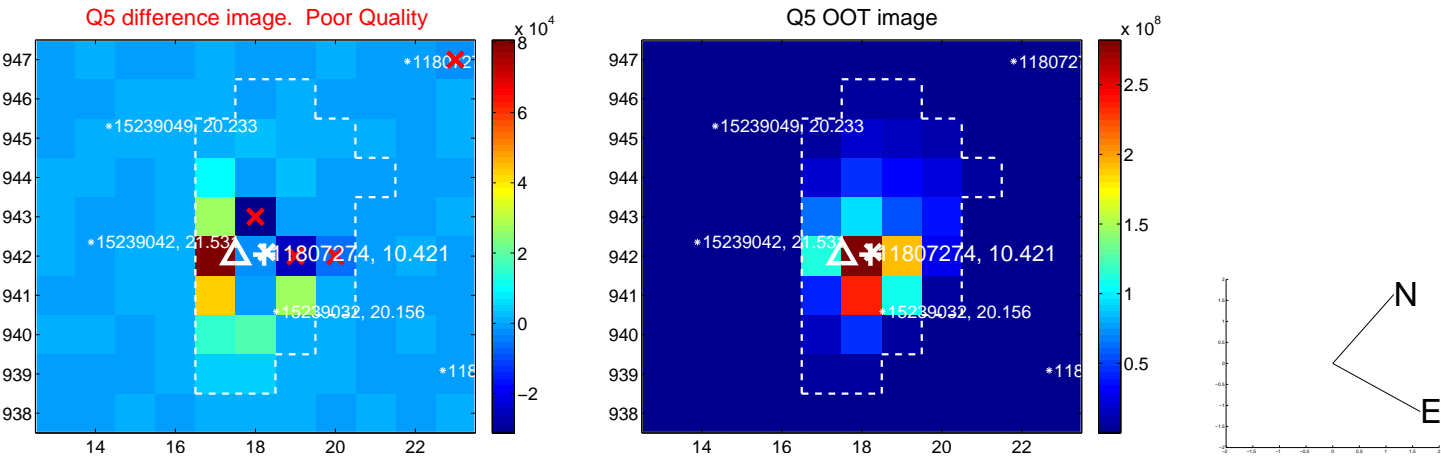


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

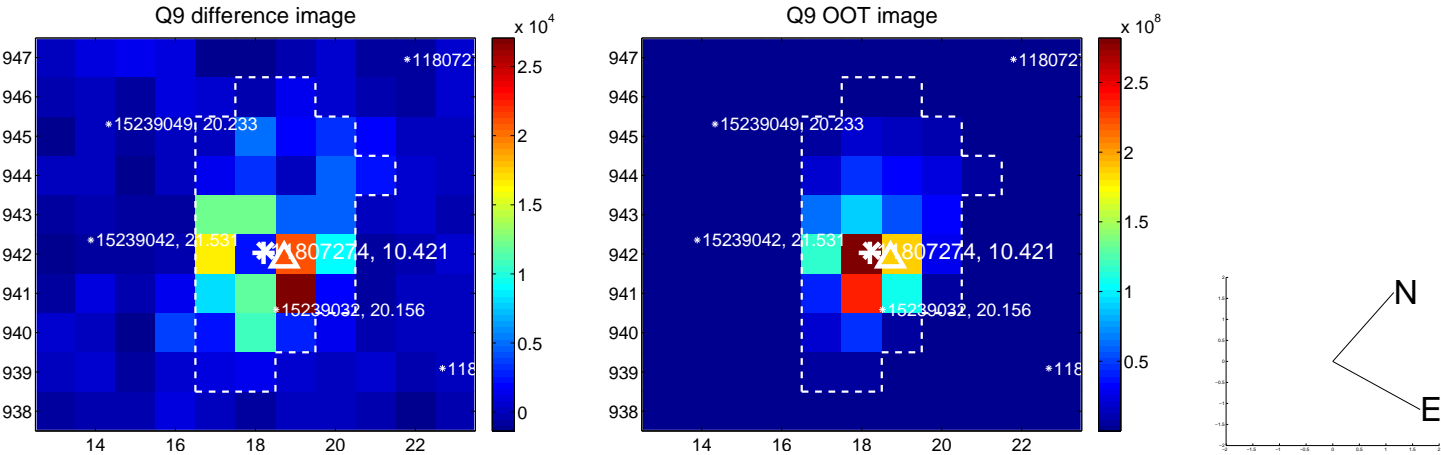
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



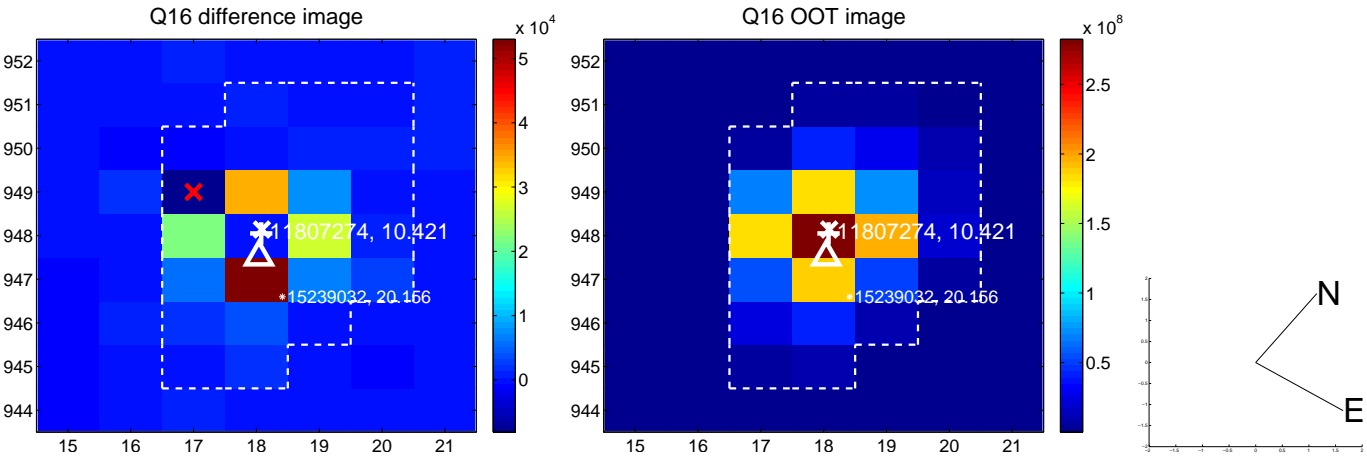
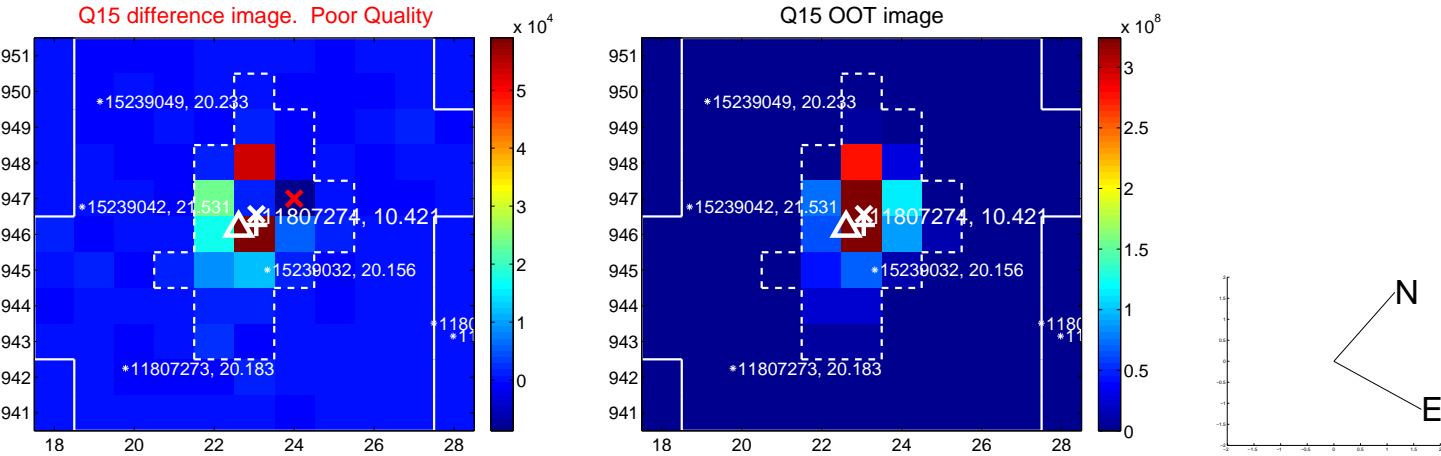
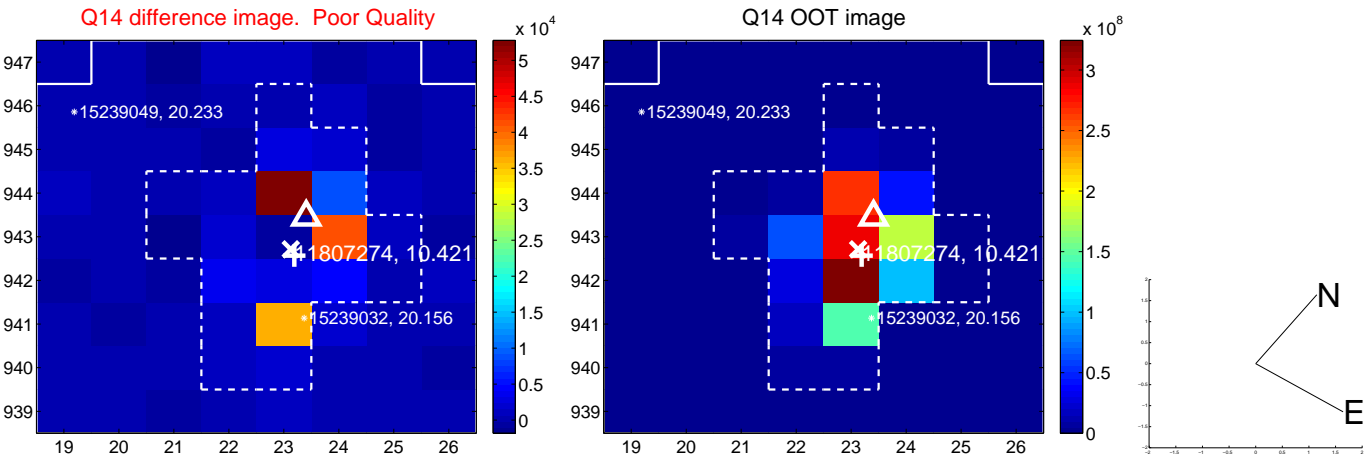
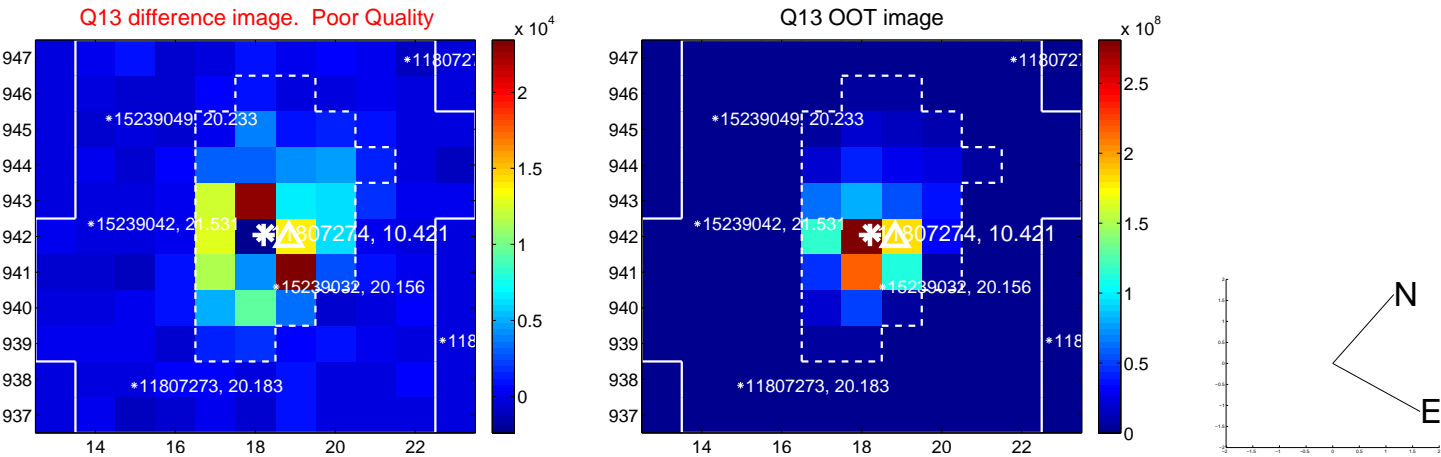
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



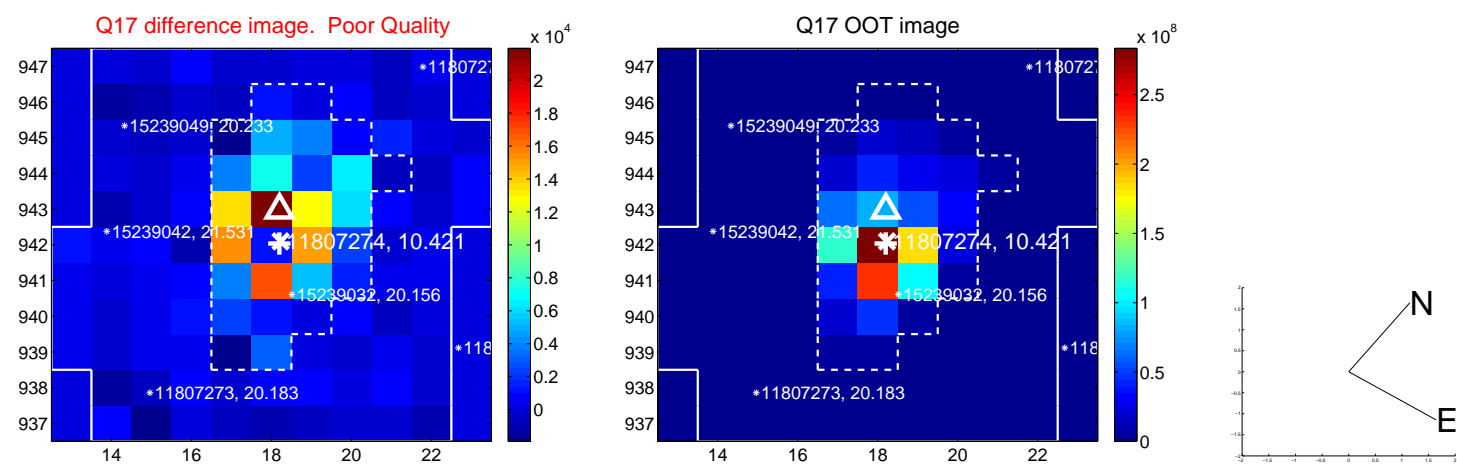
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



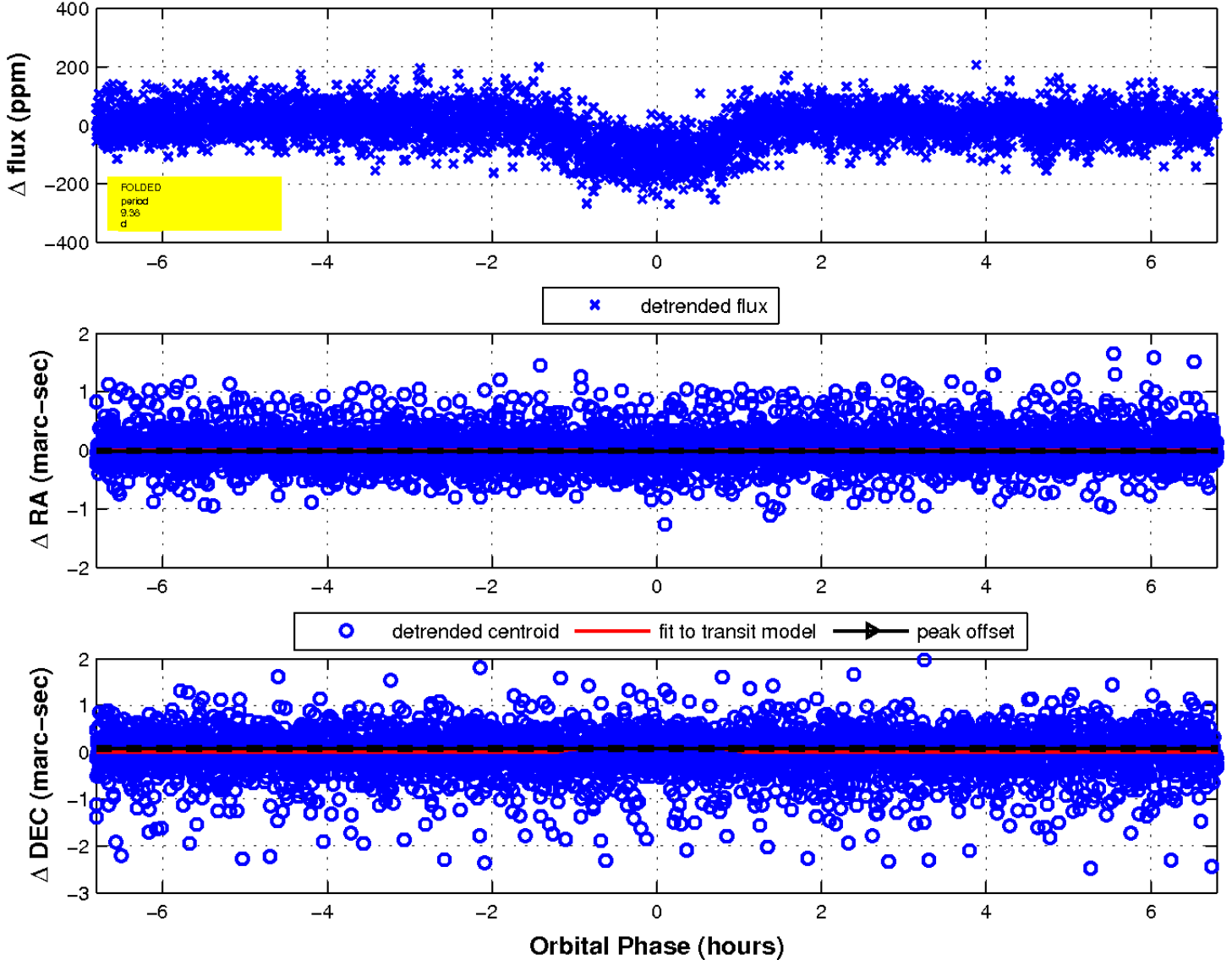
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



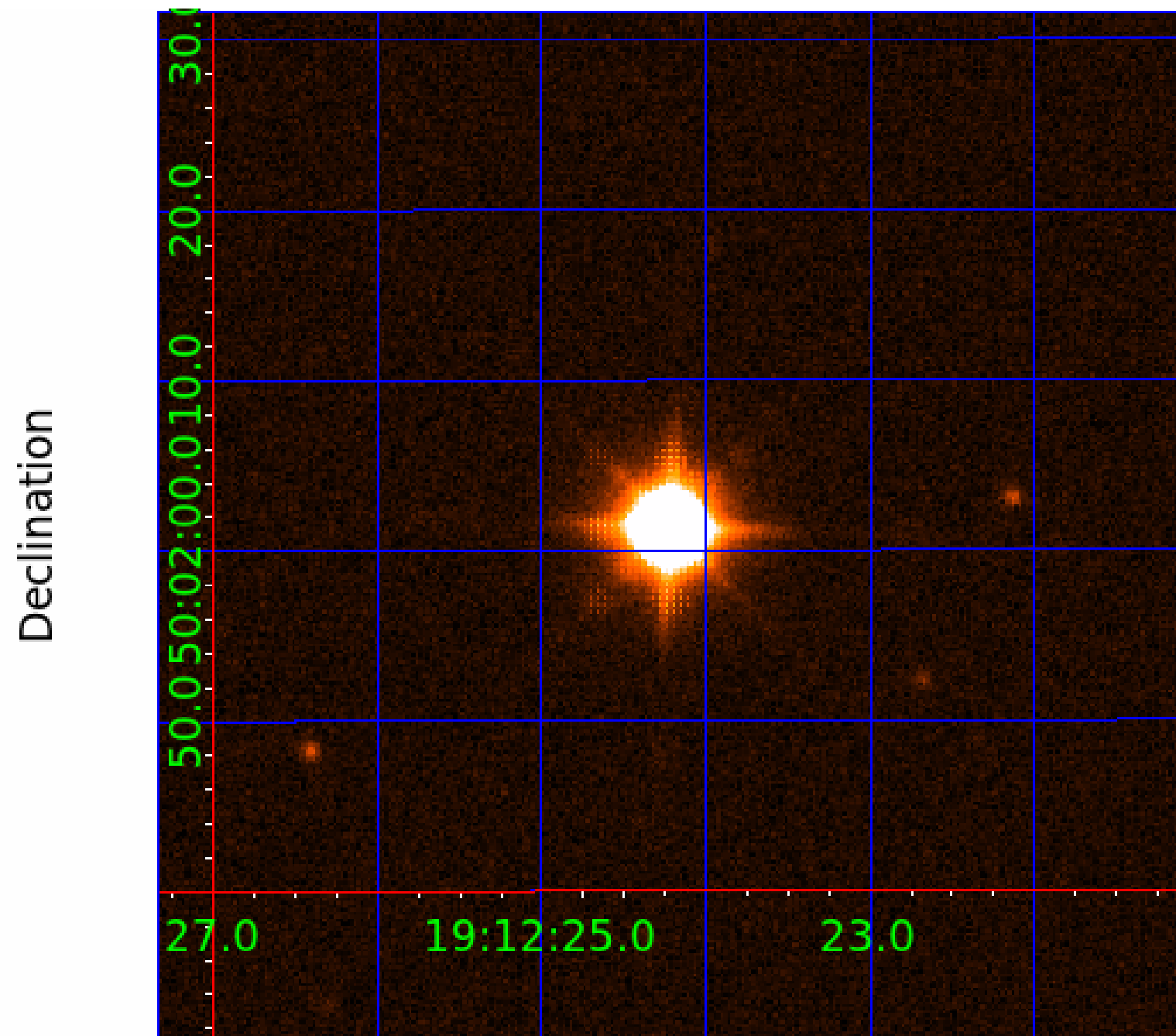
white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 011807274

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})
011807274-01	OBS	0262.02	9.376642	136.951141	120.3	2.269	36.9	42.2	1.54	6237	2.00	379.88
011807274-02	OBS	0262.01	7.812808	133.553836	94.9	5.080	34.5	38.4	1.54	6237	2.06	484.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011807274-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
011807274-02	OBS	PC	1.00	0	0	0	0	CENT_SATURATED

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.

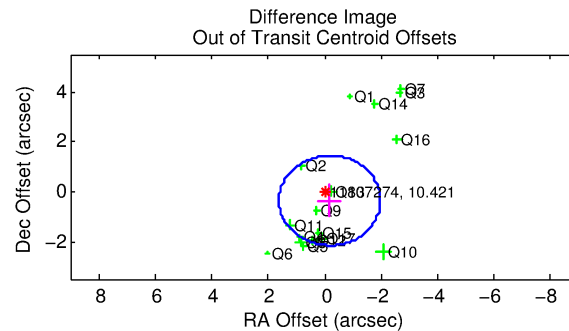
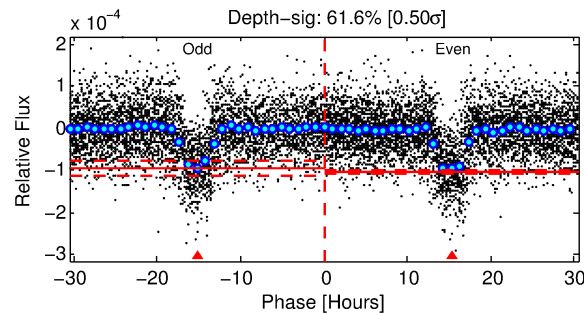
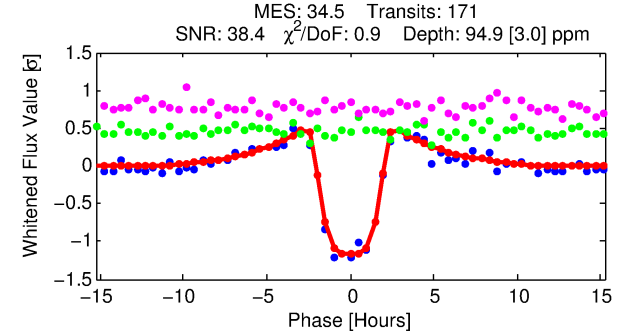
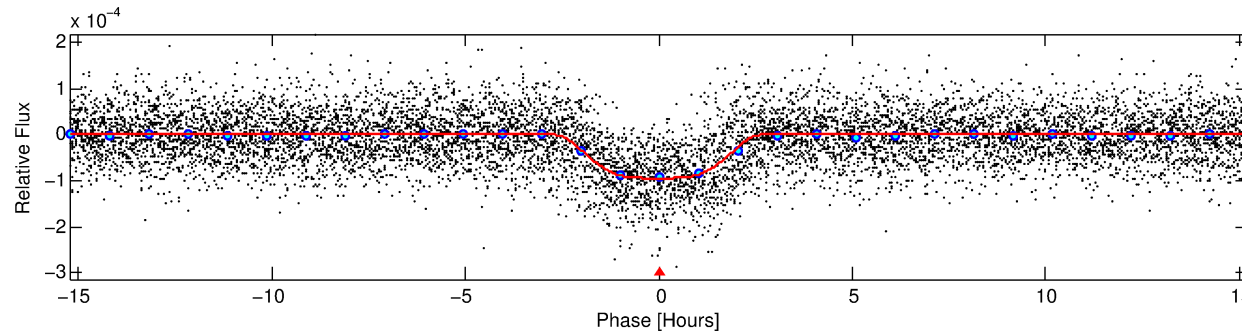
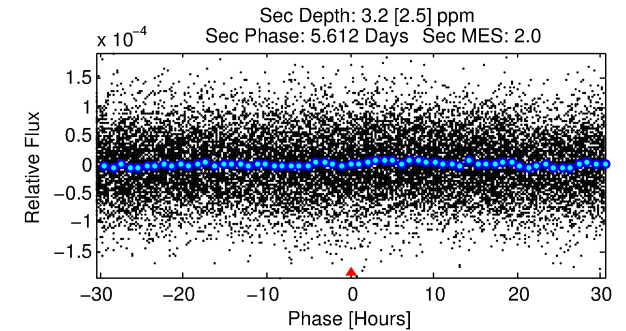
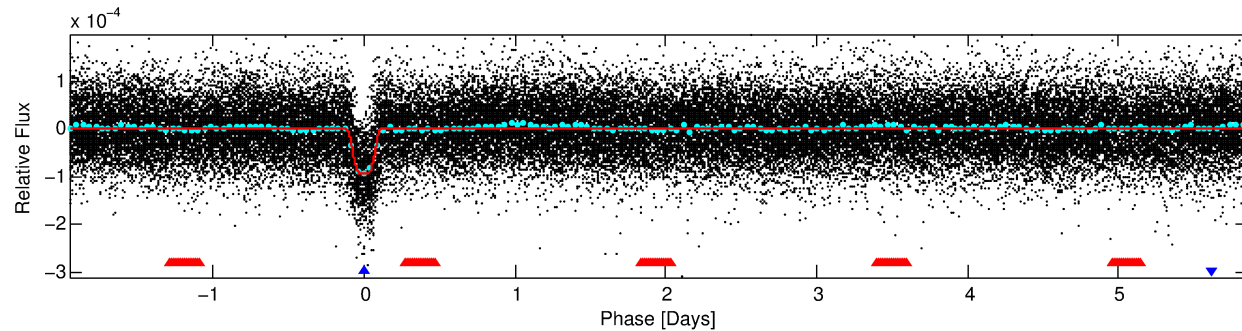
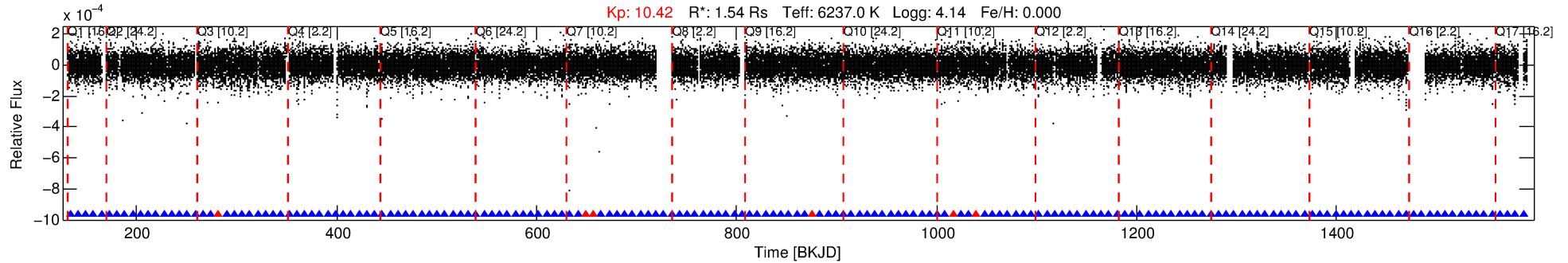
Ephemeris Match Information For 011807274-02

No Significant Match Found

DV One-Page Summary

KIC: 11807274 Candidate: 2 of 2 Period: 7.813 d
KOI: K00262.01 Name: Kepler-50b Corr: 0.871

Kp: 10.42 R*: 1.54 Rs Teff: 6237.0 K Logg: 4.14 Fe/H: 0.000



DV Fit Results:

Period = 7.81281 [0.00002] d
Epoch = 133.5538 [0.0022] BKJD
Rp/R* = 0.0122 [0.0002]
a/R* = 2.94 [0.11]
b = 0.98 [0.00]
Seff = 484.51 [37.95]
Teff = 1196 [23] K
Rp = 2.06 [0.12] Re
a = 0.0816 [0.0036] AU
Ag = 2.80 [2.16] [0.83σ]
Teffp = 2392 [461] K [2.59σ]

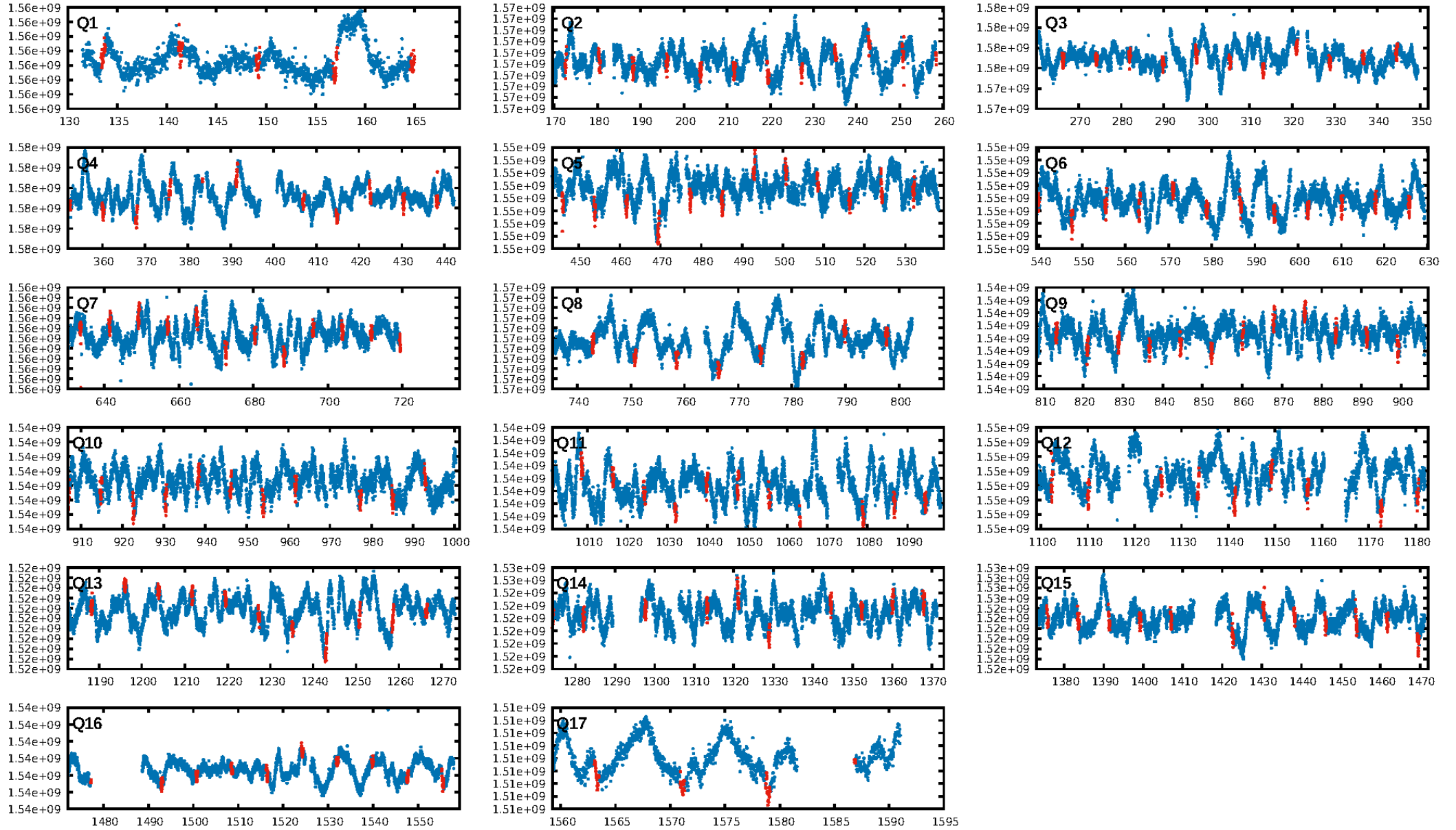
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [6.75σ]
ModelChiSquare2-sig: 96.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.50e-248
RollingBand-fgt: 0.96 [156/162]
GhostDiagnostic-chr: 6.198
Centroid-sig: 80.8%
Centroid-so: 0.203 arcsec [0.71σ]
OotOffset-rm: 0.402 arcsec [0.67σ]
KicOffset-rm: 1.152 arcsec [1.93σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 1.00 [17/17]

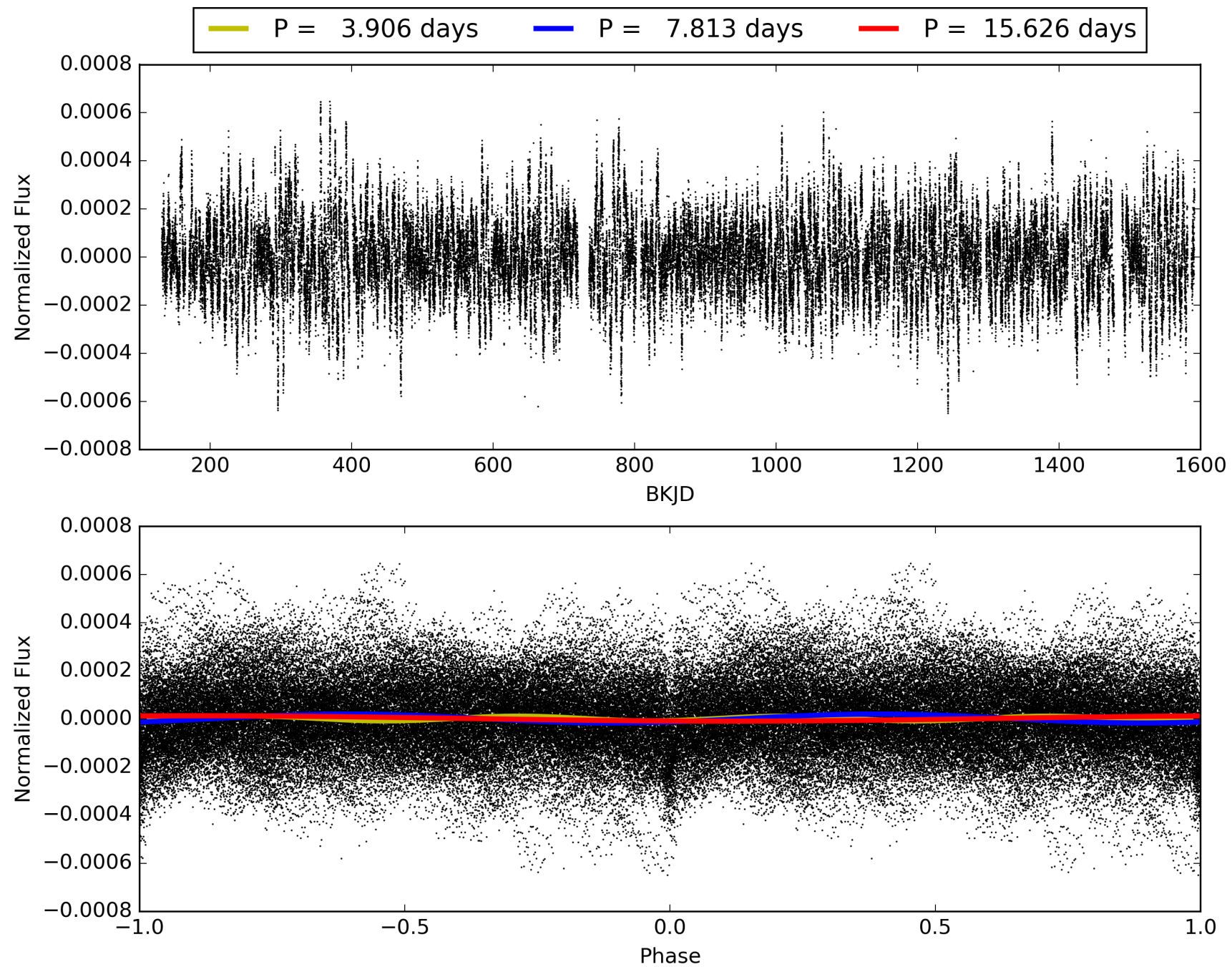
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:30:57 Z

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

TCE 011807274-02, PDC Light Curves

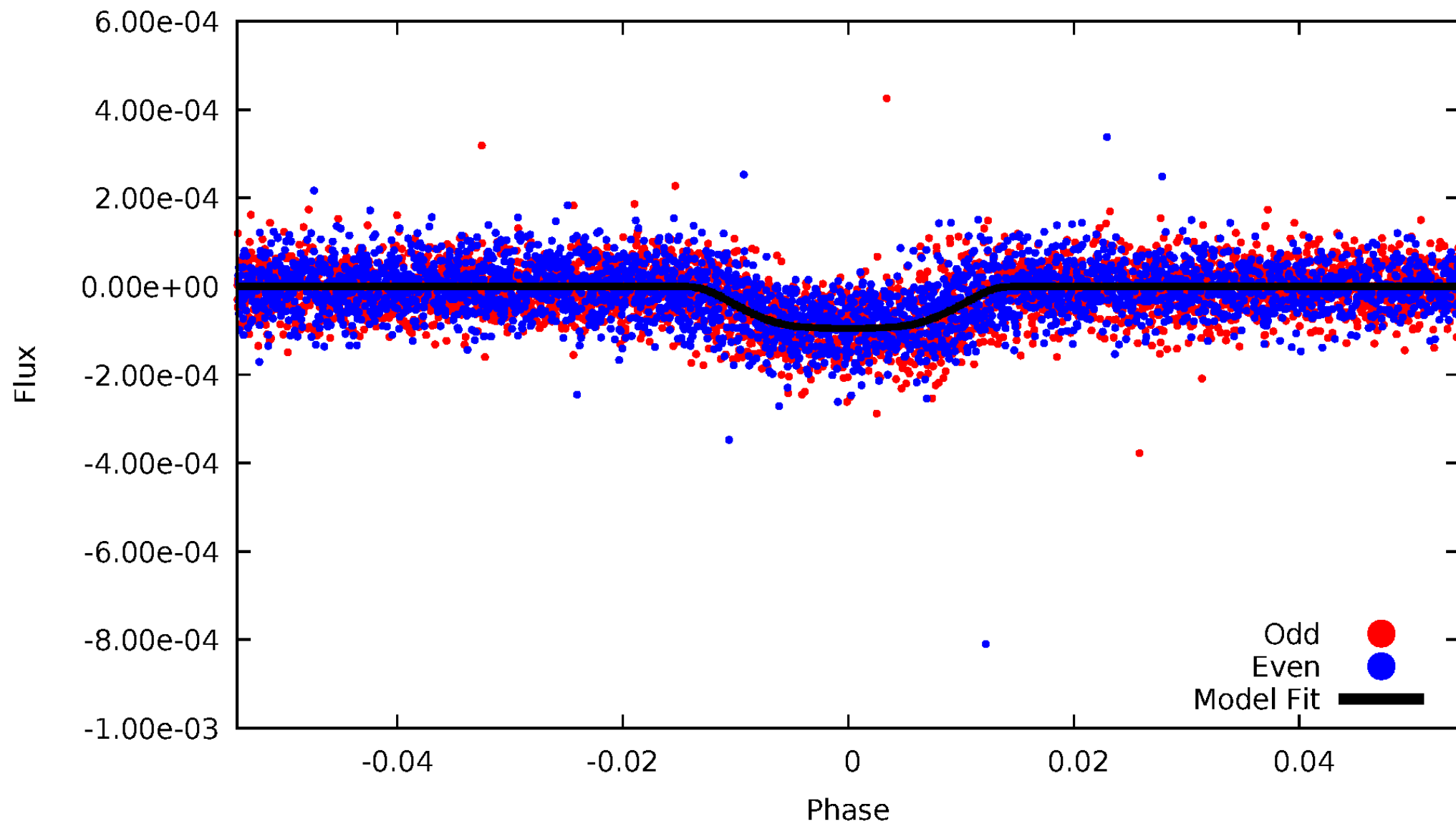


TCE 011807274-02



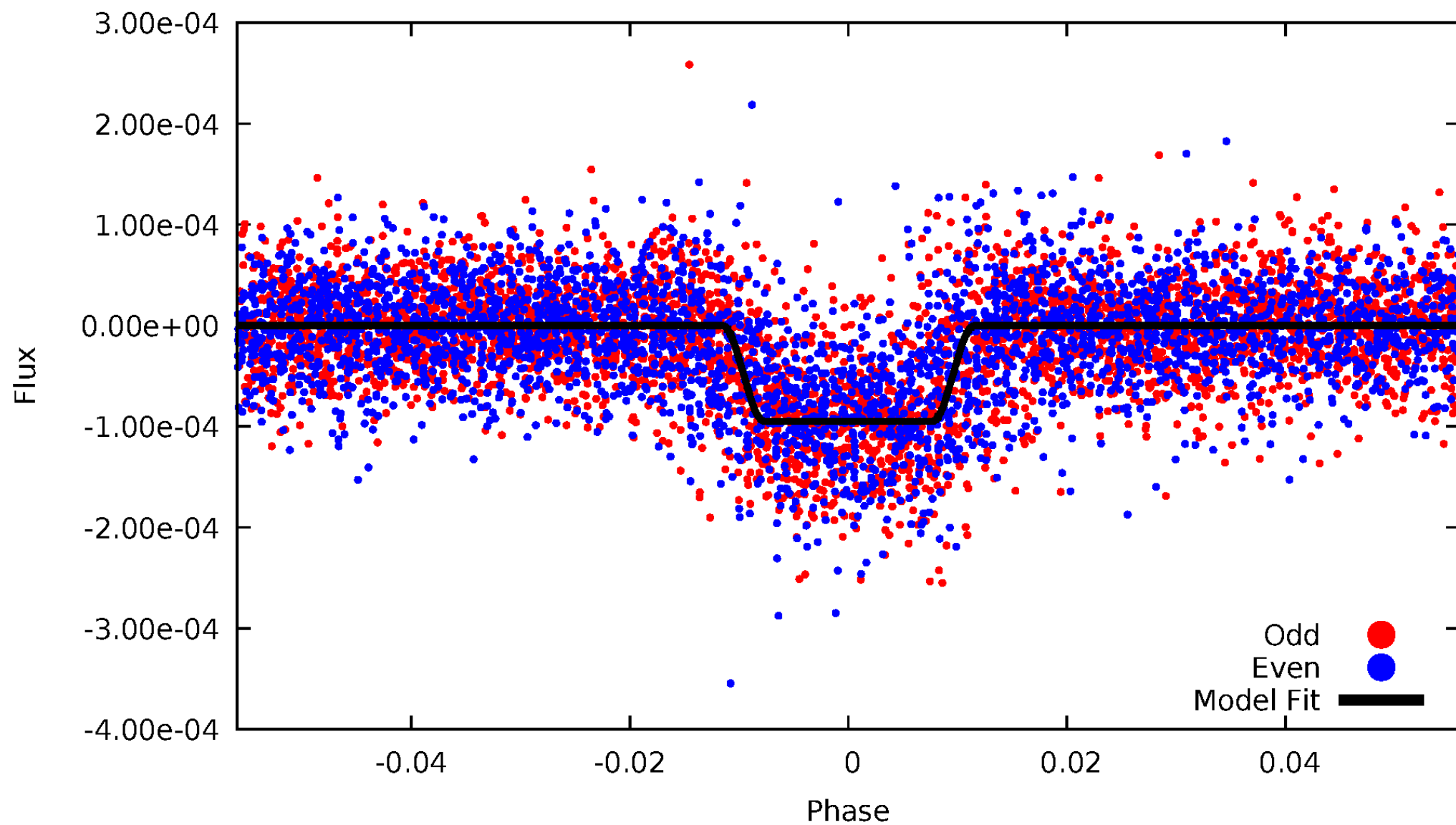
DV Odd/Even

TCE 011807274-02



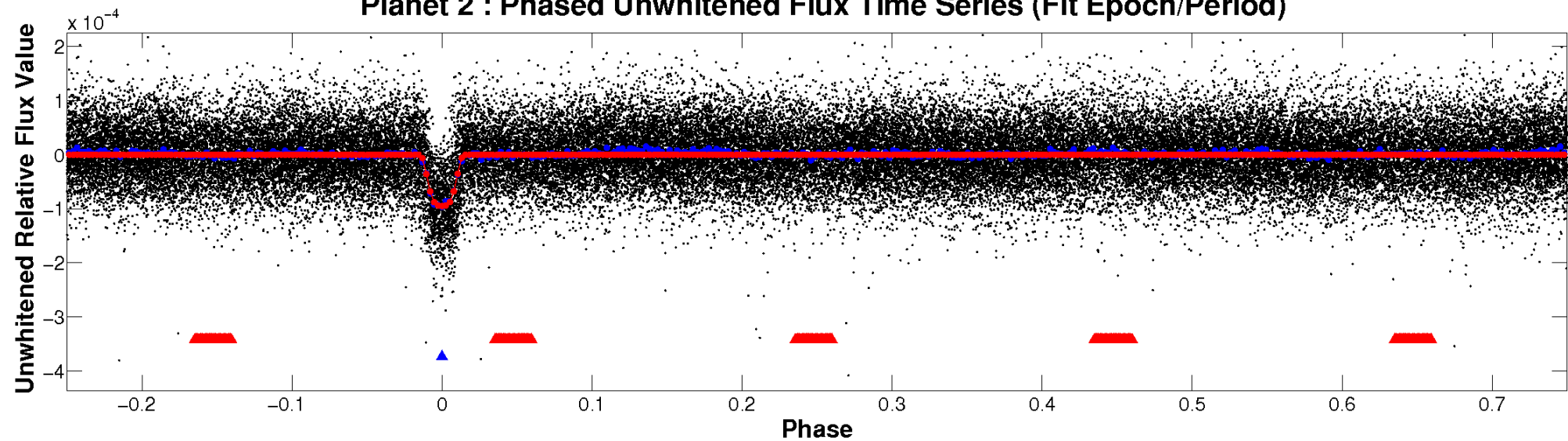
ALT Odd/Even

TCE 011807274-02

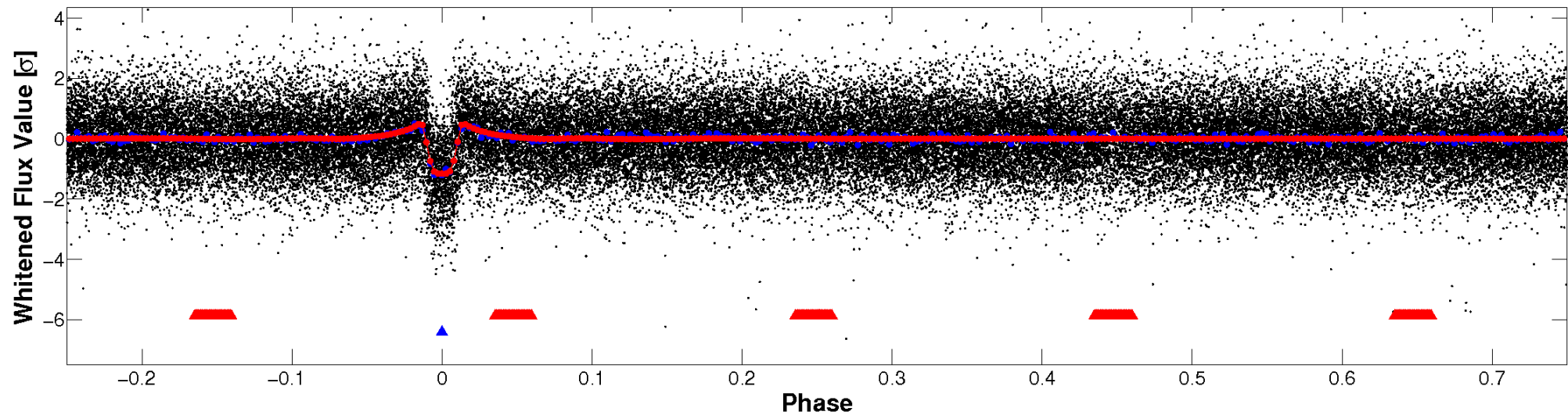


Non-Whitened Vs. Whitened Light Curve

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

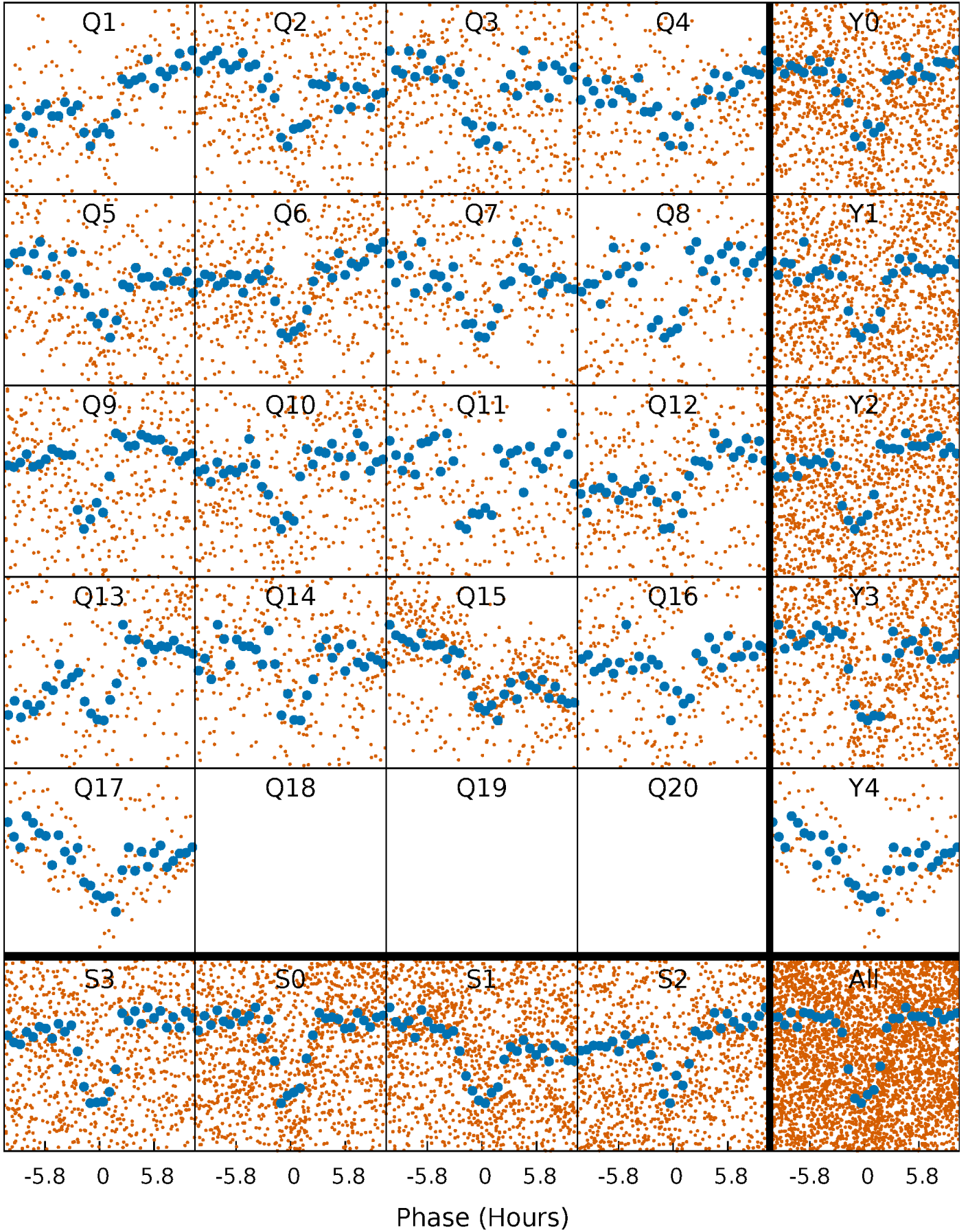


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



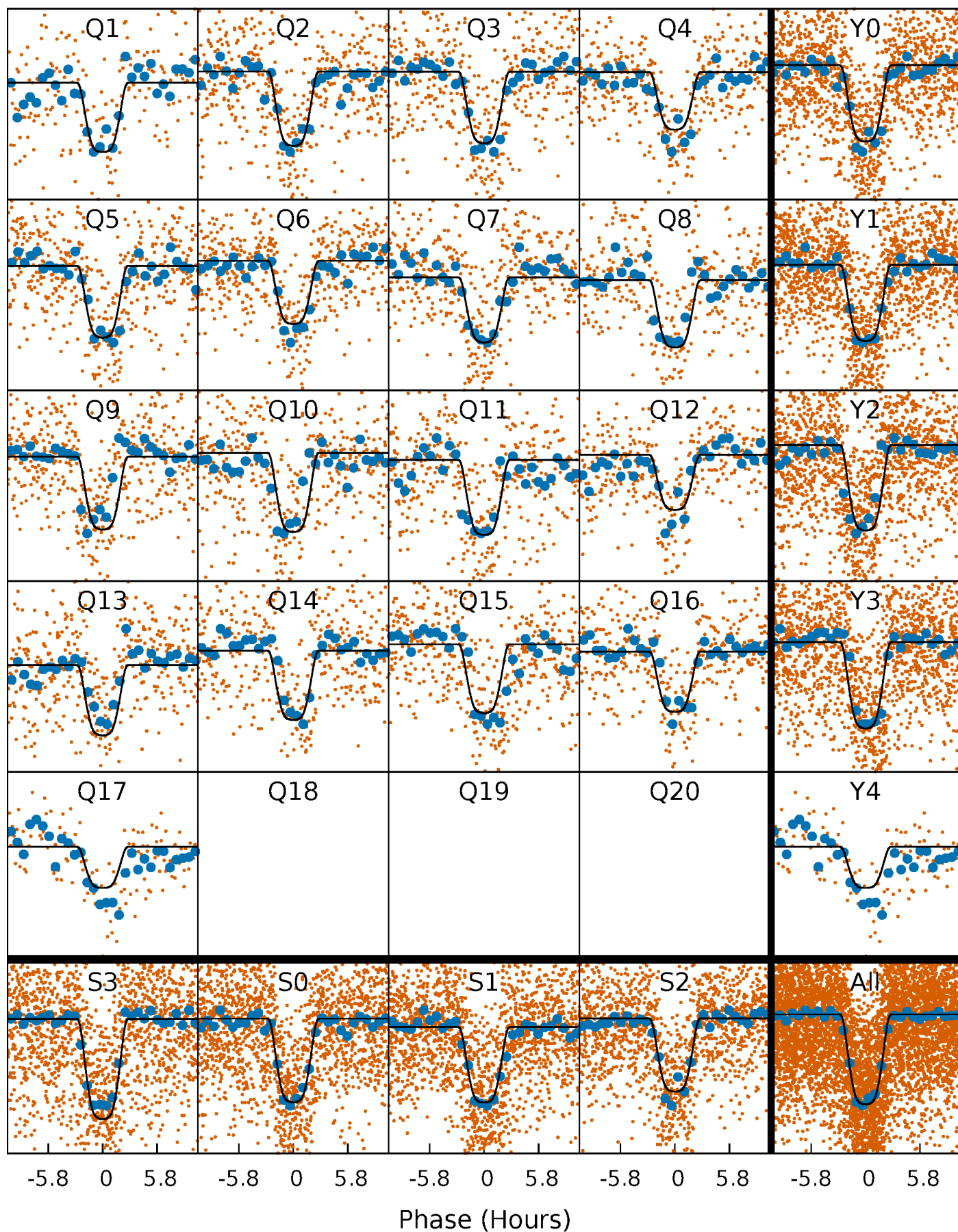
PDC Quarter-Phased Transit Curves

TCE 011807274-02 P= 7.812808 Days $T_0=133.553835$ (BKJD)



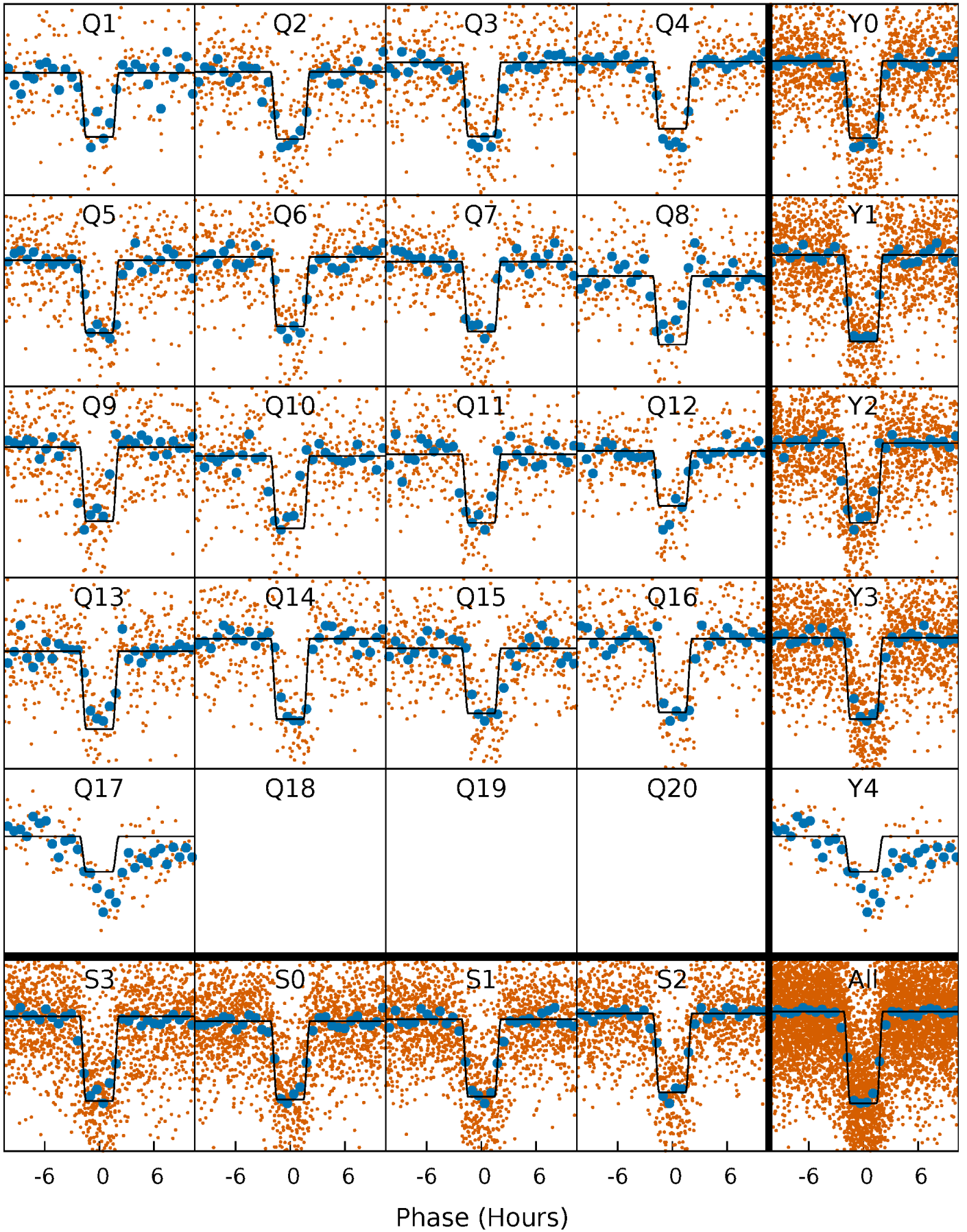
DV Quarter-Phased Transit Curves

TCE 011807274-02 P= 7.812808 Days $T_0=133.553835$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

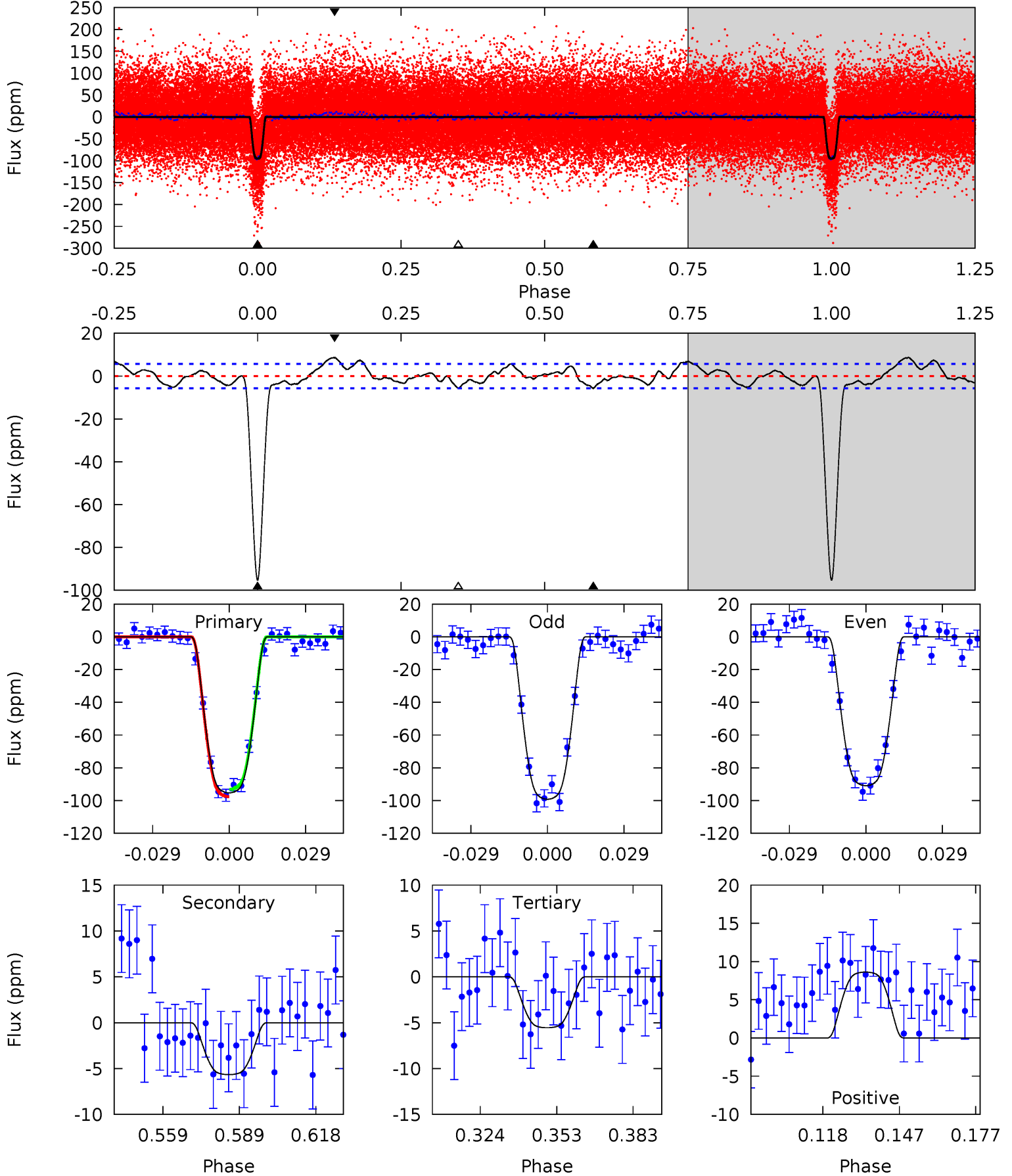
TCE 011807274-02 P= 7.812746 Days $T_0=133.557985$ (BKJD)



DV Model-Shift Uniqueness Test

011807274-02, P = 7.812808 Days, E = 125.741027 Days

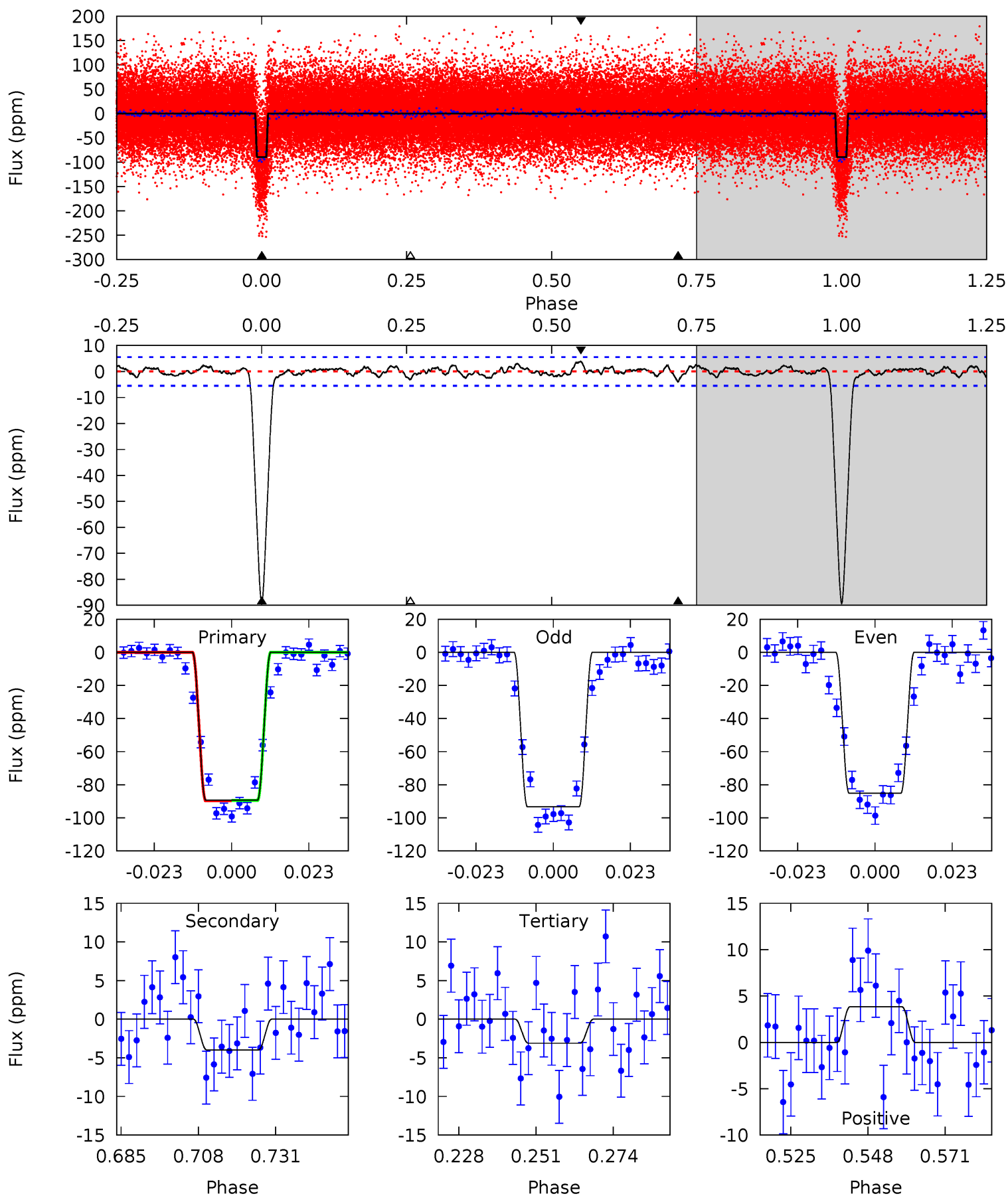
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
80.3	4.77	4.68	7.27	4.81	2.18	2.68	75.7	73.1	0.09	-2.50	3.49	0.99	0.08	1.89



Alt Model-Shift Uniqueness Test

011807274-02, P = 7.812746 Days, E = 125.745239 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
78.9	3.51	2.75	3.40	4.87	2.28	1.09	76.2	75.5	0.76	0.12	3.59	1.00	0.04	0.07



Stellar Parameters For KIC 011807274

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6237^{+62}_{-74}	$4.136^{+0.033}_{-0.030}$	$0.000^{+0.100}_{-0.050}$	$1.543^{+0.084}_{-0.075}$	$1.187^{+0.080}_{-0.062}$	$0.455^{+0.056}_{-0.050}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+5%/-5%	+7%/-5%	+12%/-11%
Source	SPE8	AST69	SPE8	DSEP		

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

Secondary Eclipse Parameters for KIC 011807274-02 / KOI 0262.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 1	$2.06^{+0.09}_{-0.07}$	1670^{+28}_{-29}	3276^{+98}_{-126}	$4.888^{+1.057}_{-1.067}$
Alt.	-4 ± 1	$1.64^{+0.07}_{-0.07}$	1670^{+25}_{-29}	3324^{+148}_{-176}	$5.373^{+1.697}_{-1.571}$

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

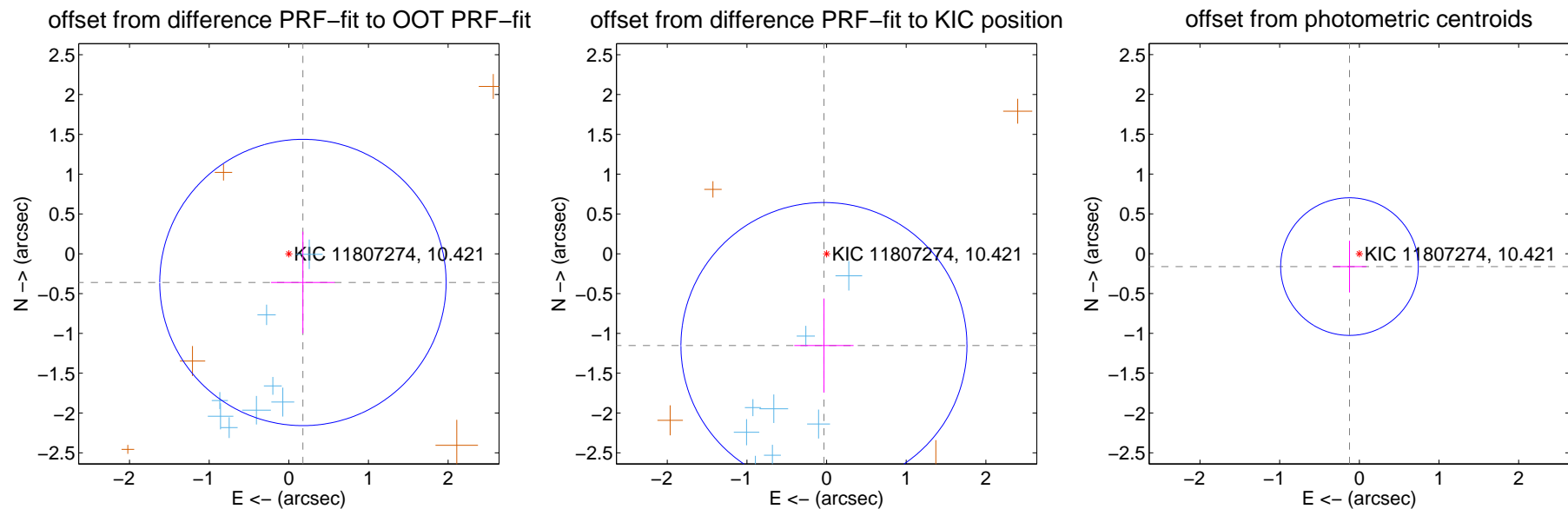
DV Centroid Data

Supplemental centroid analysis for 011807274-02. **Kepler magnitude: 10.42.** Transit SNR 38.39

There are 10 quarters with good PRF difference image offsets

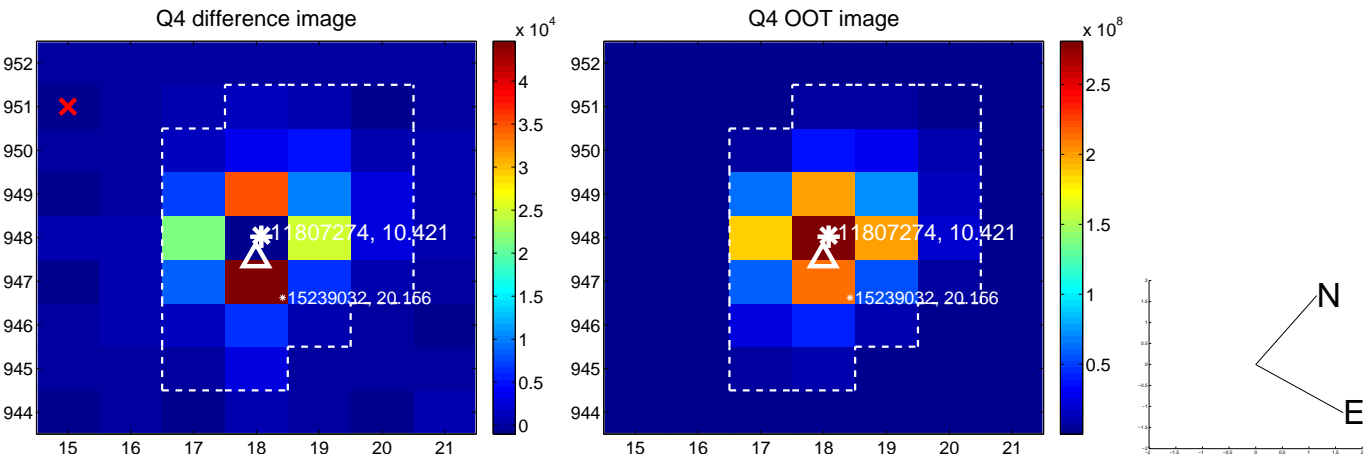
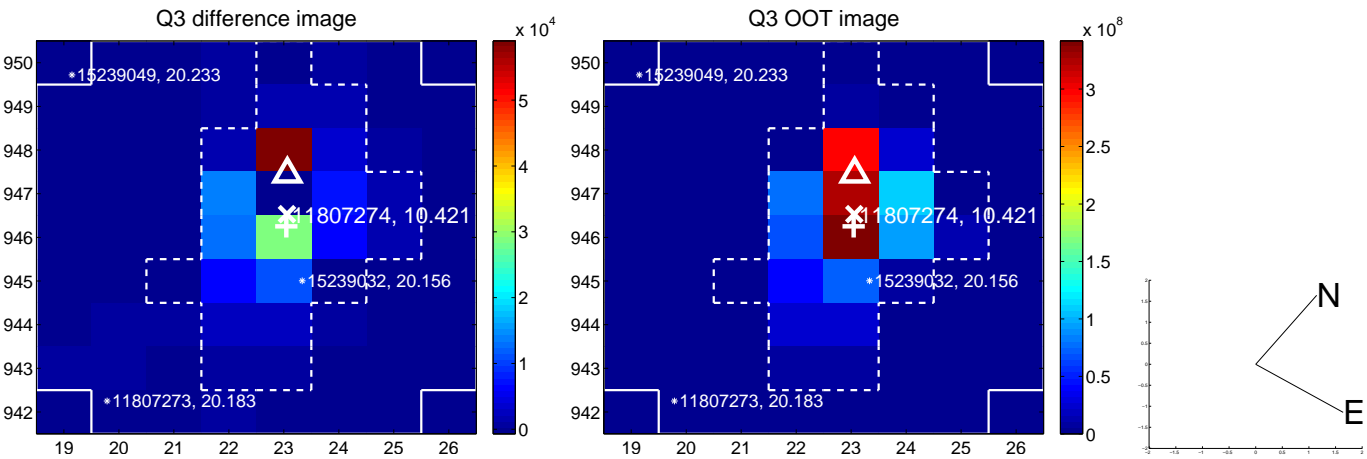
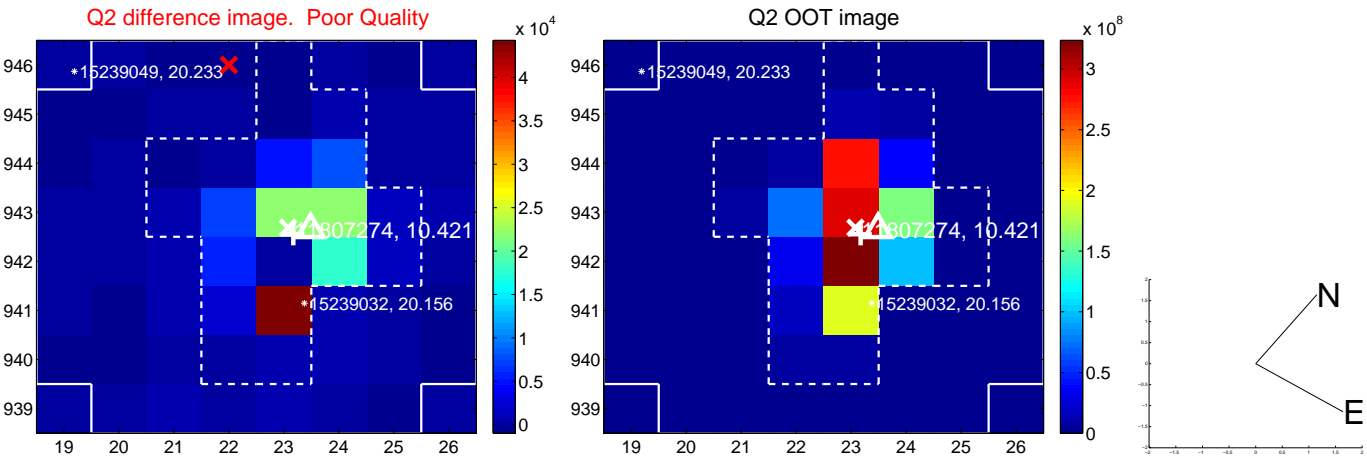
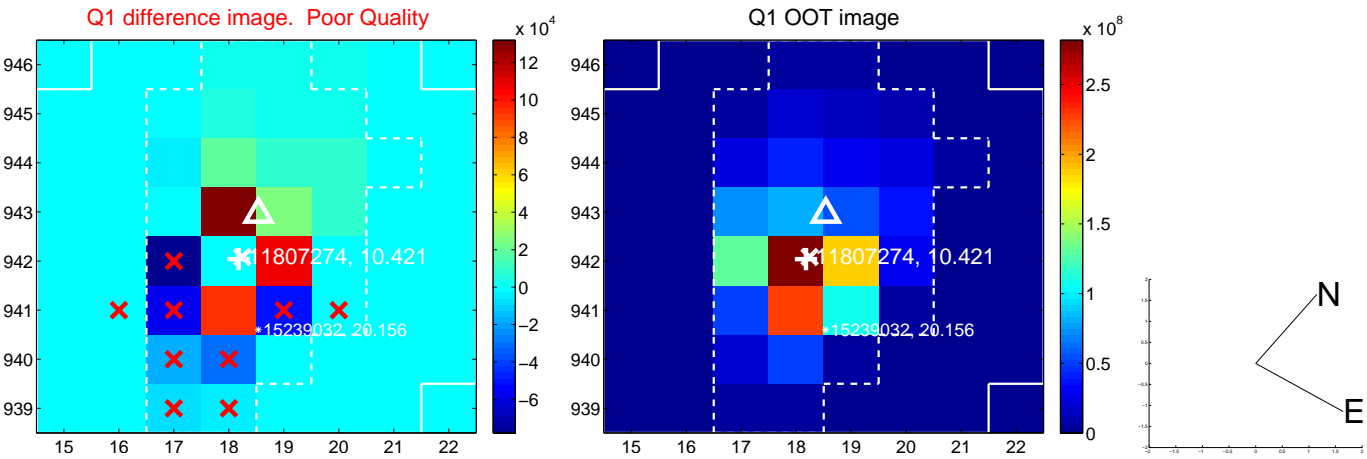
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.402 ± 0.599	0.67	-0.177 ± 0.400	-0.360 ± 0.638
PRF-fit source offset from KIC position	1.152 ± 0.599	1.93	0.033 ± 0.372	-1.152 ± 0.591
photometric centroid source offset	0.20 ± 0.29	0.71	0.12 ± 0.21	-0.16 ± 0.32

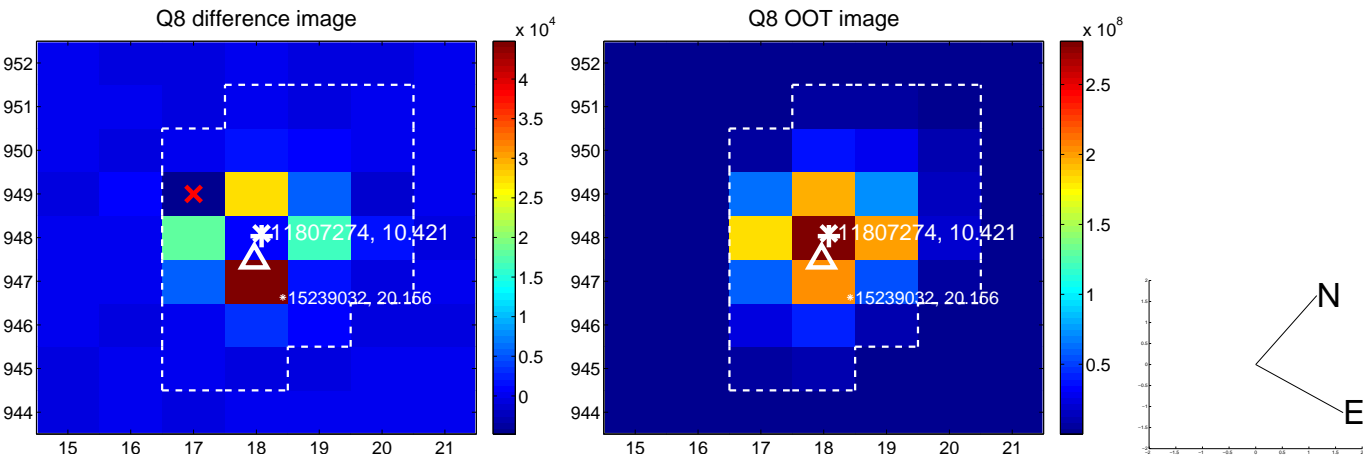
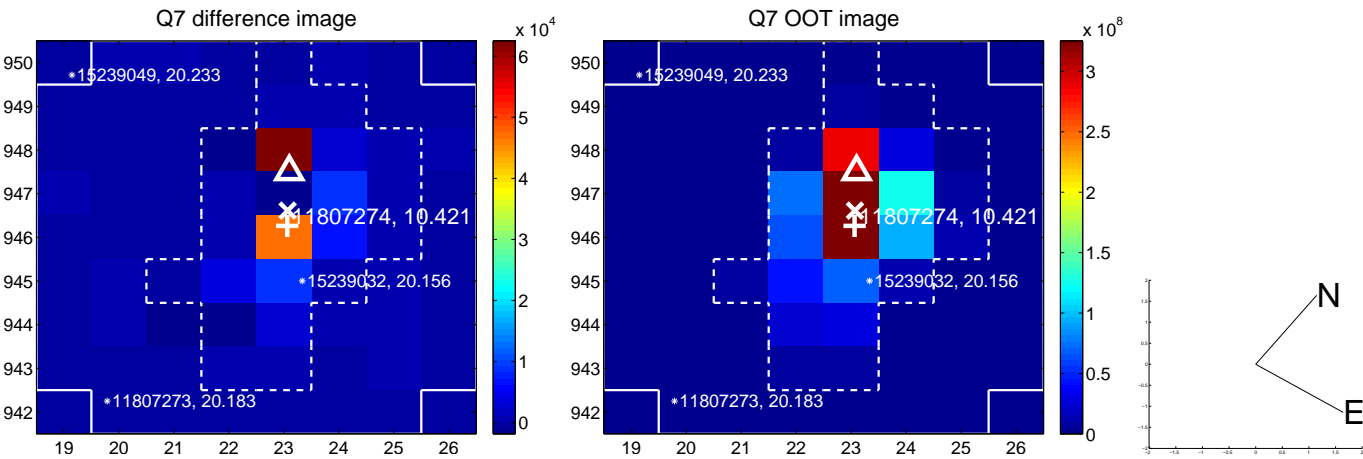
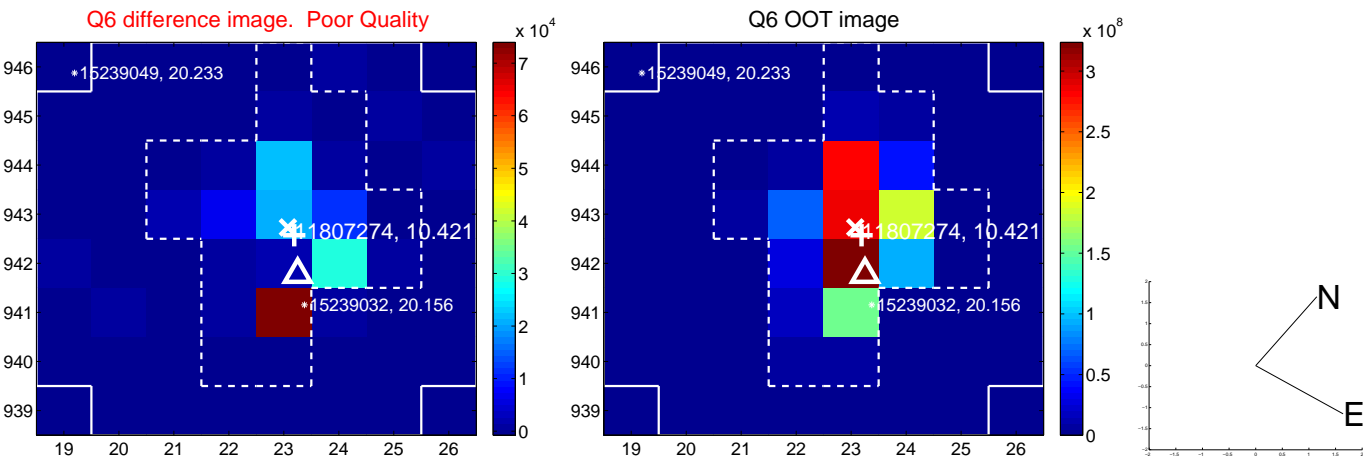
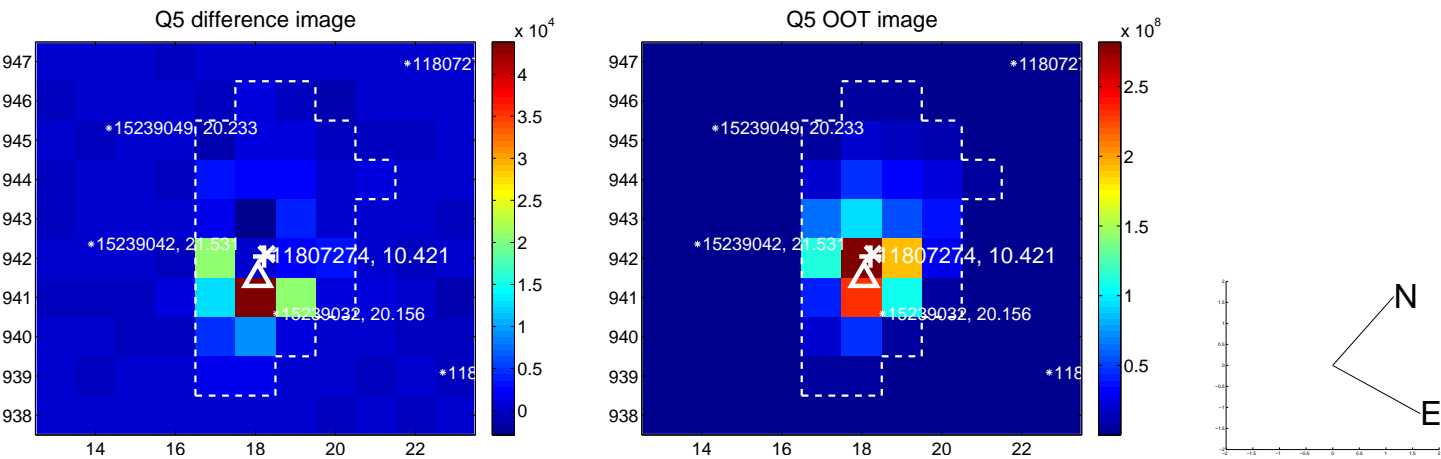


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

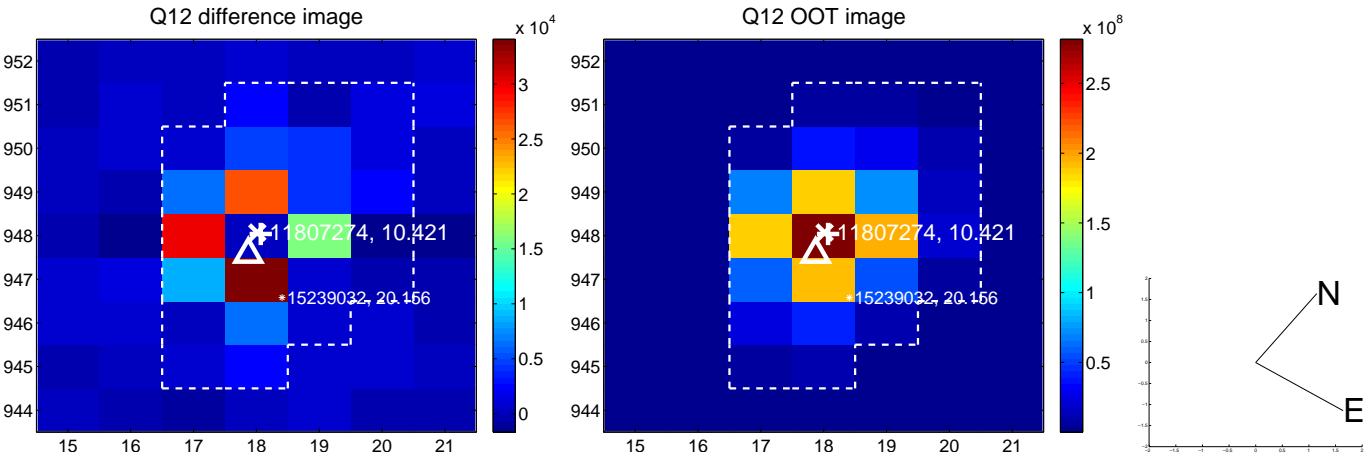
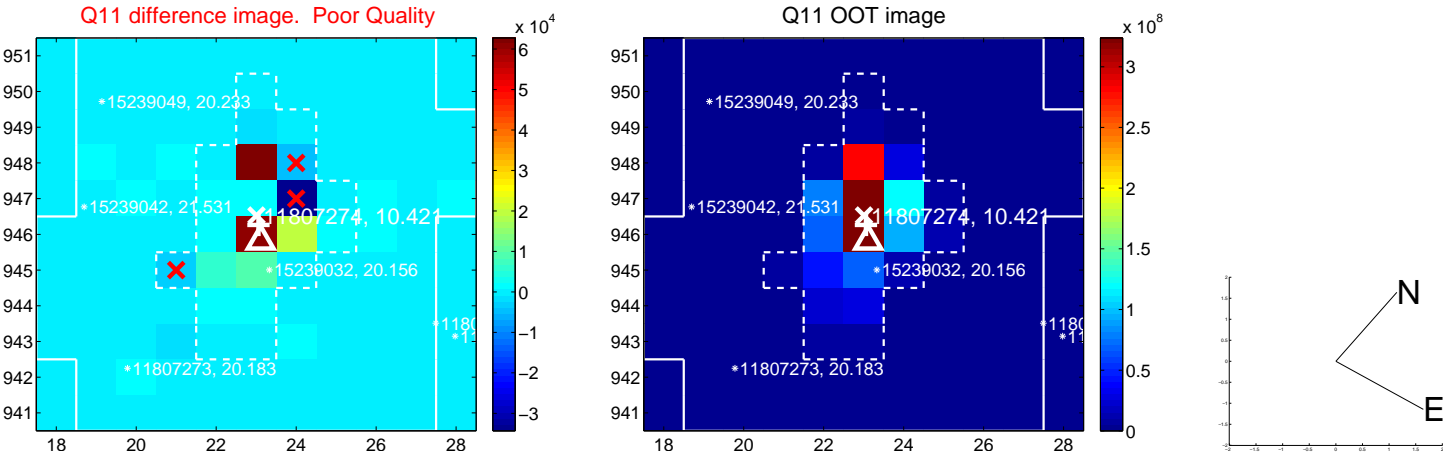
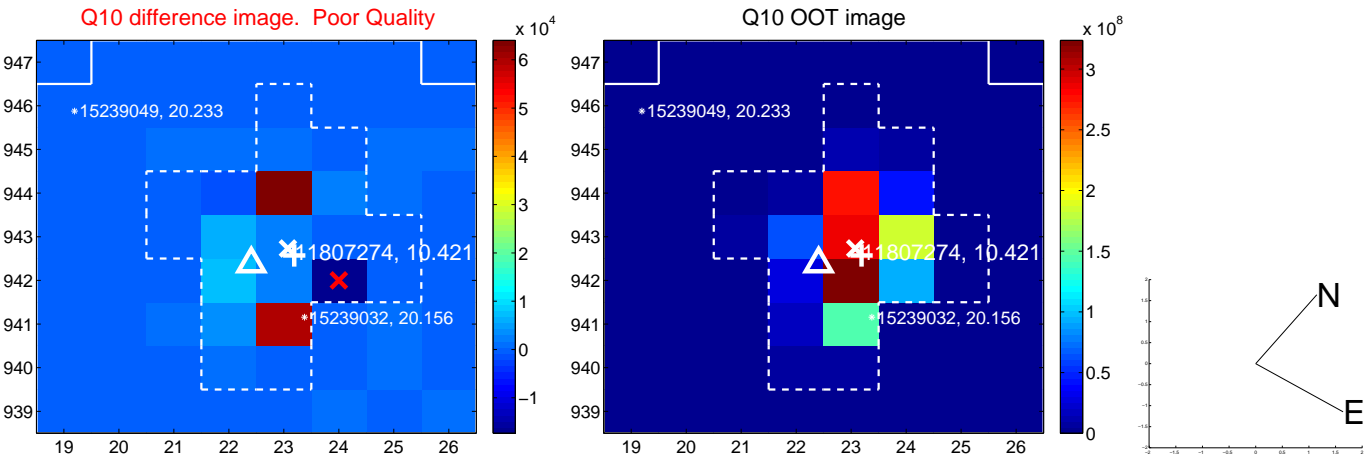
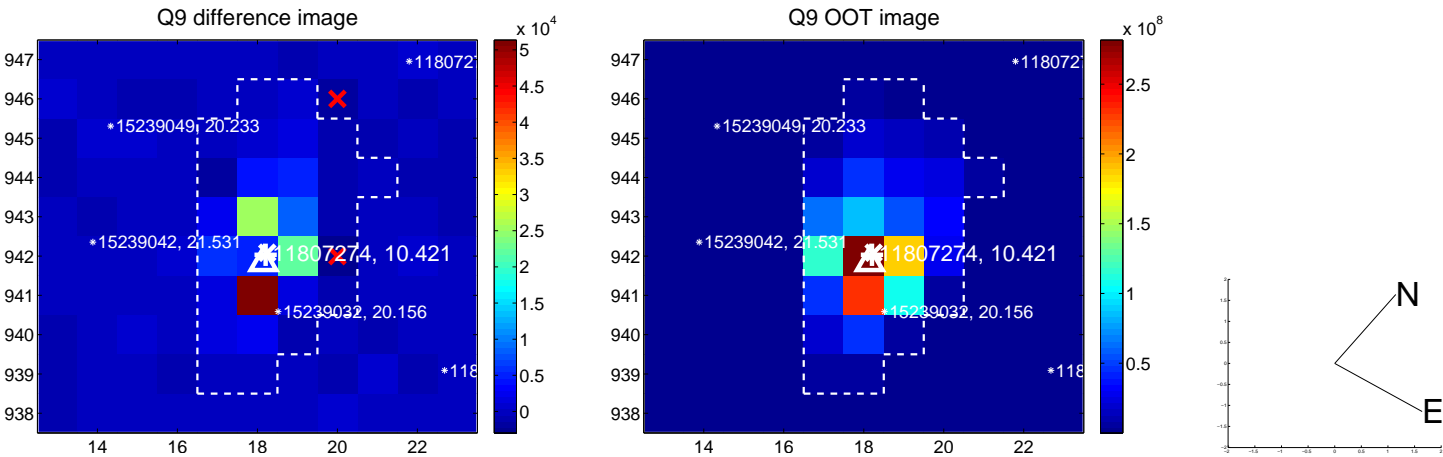
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



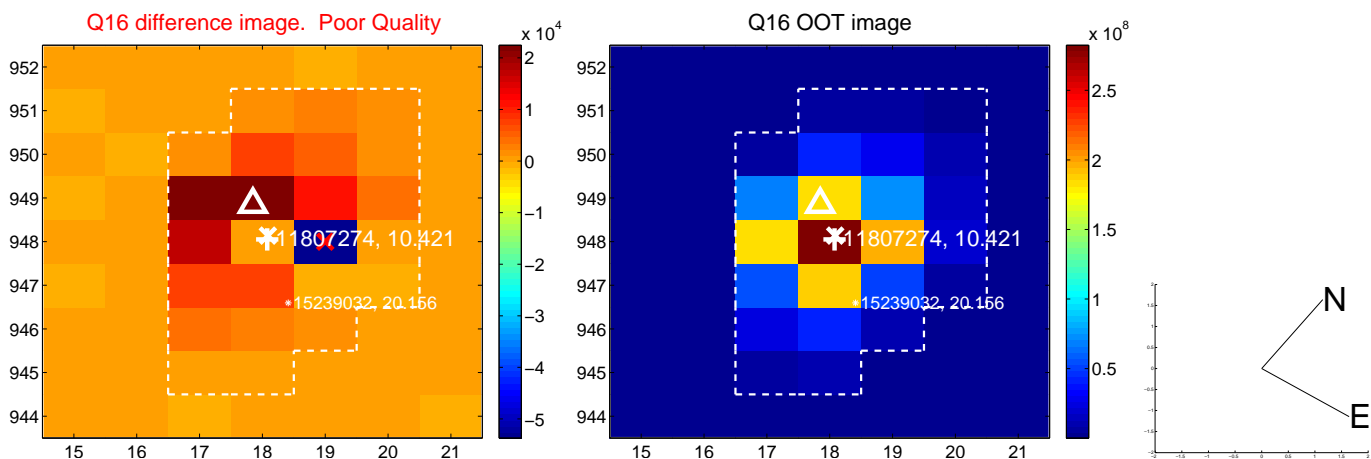
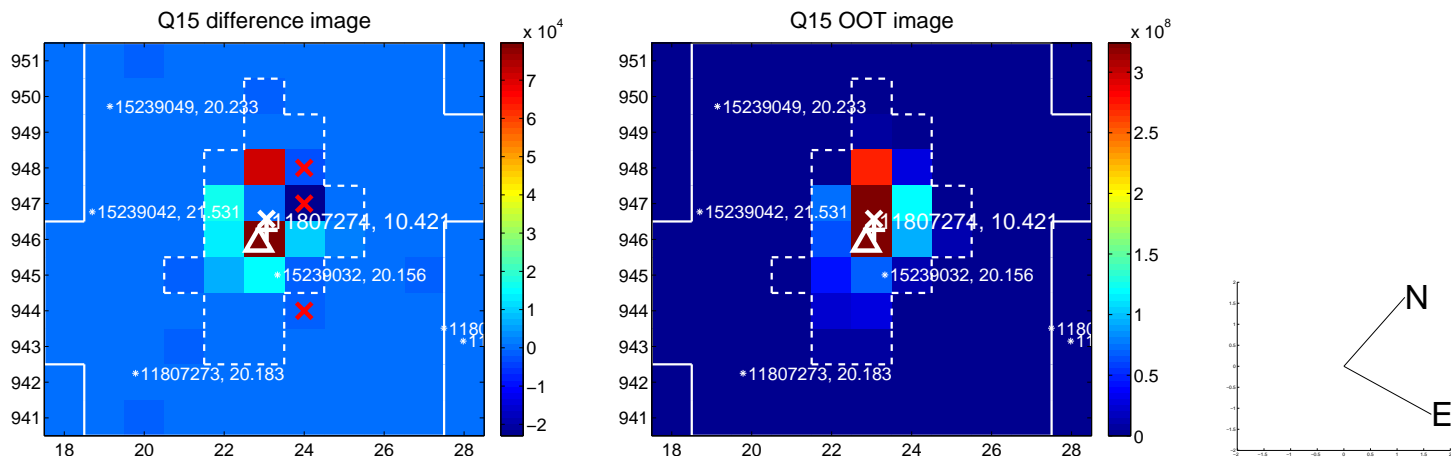
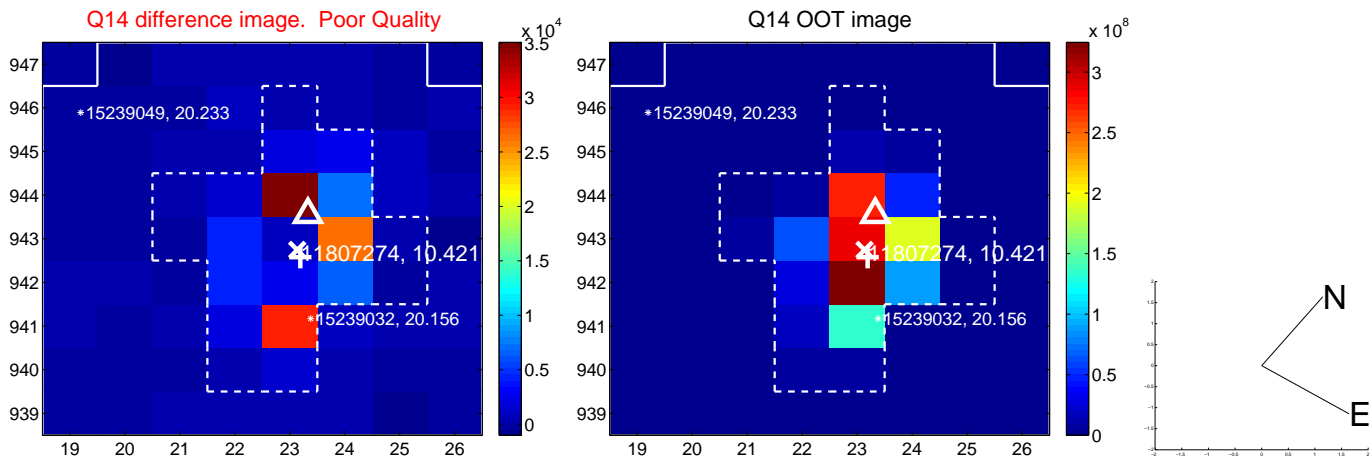
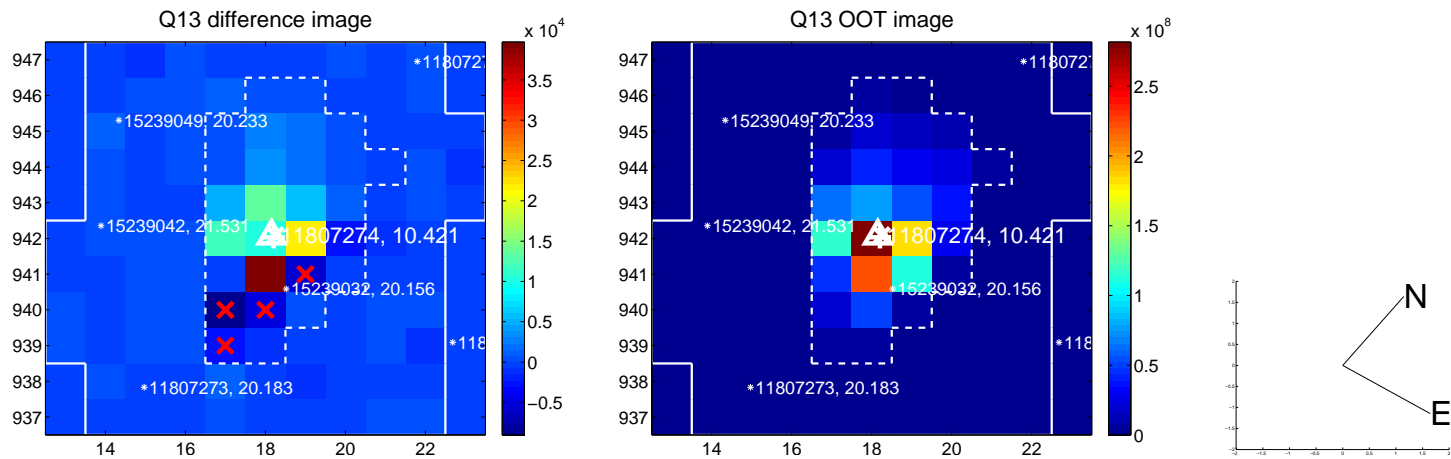
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



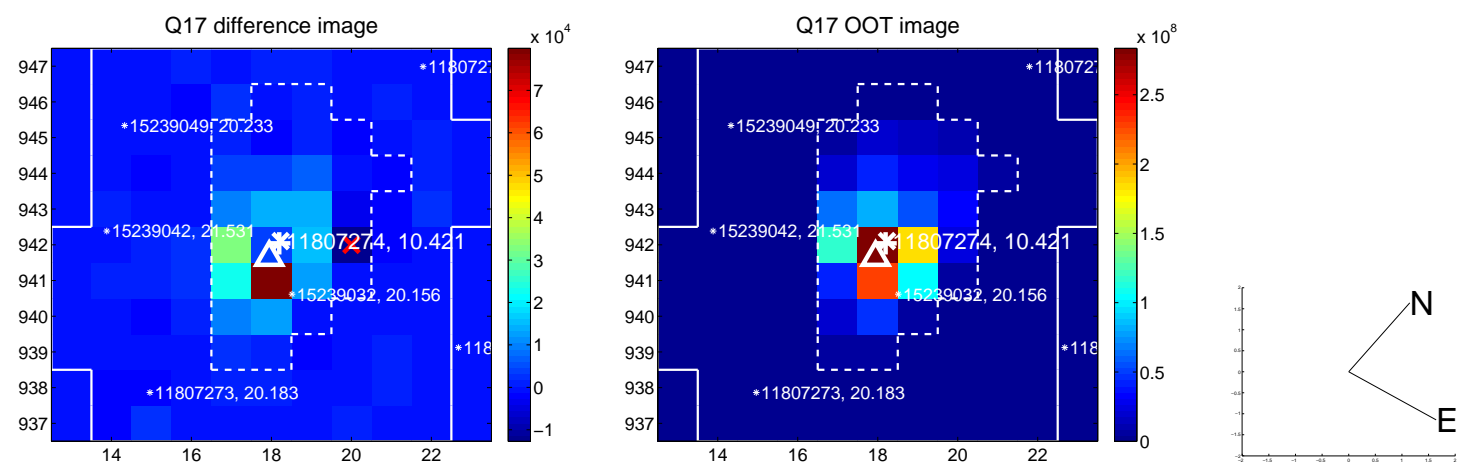
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



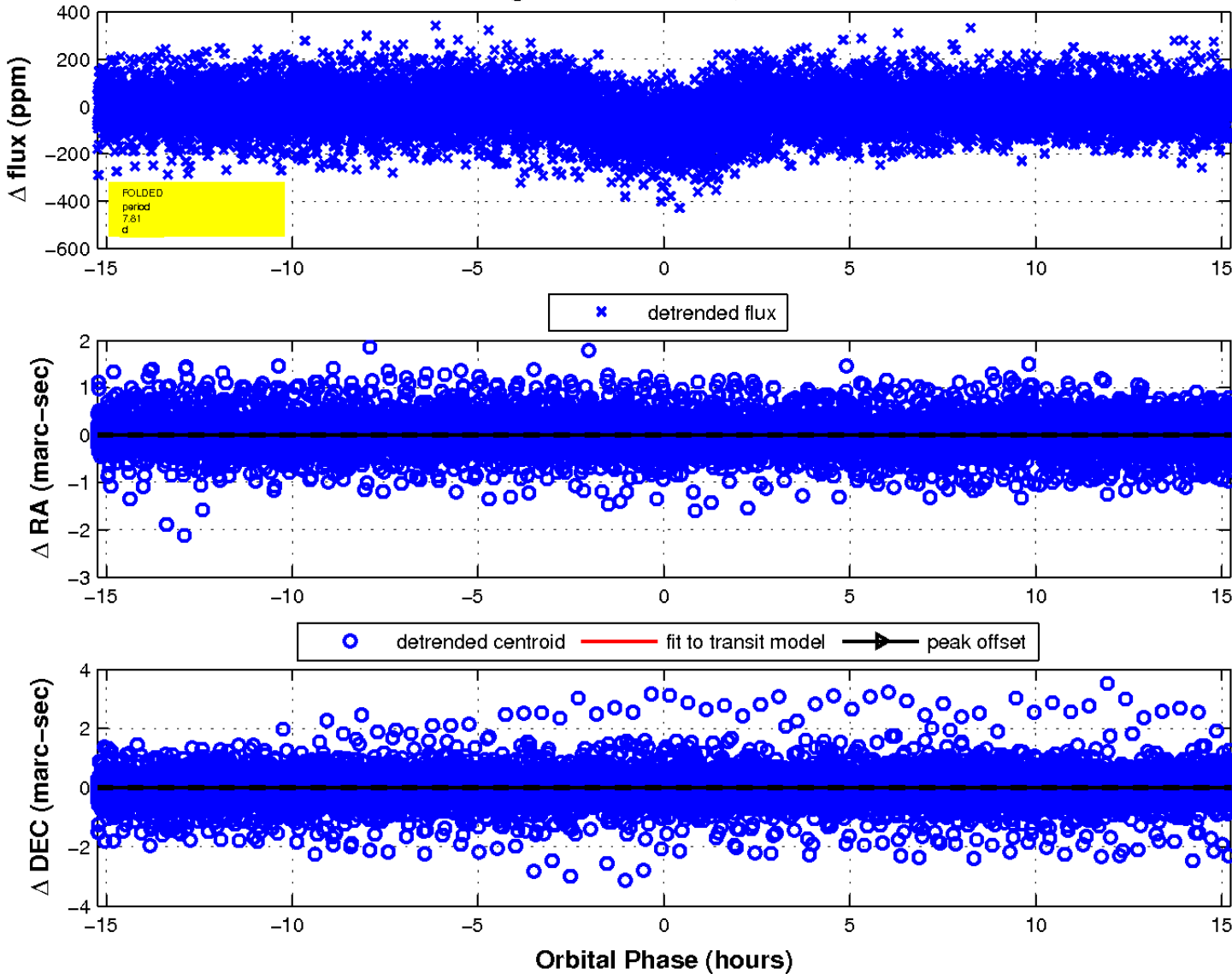
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

