

KIC 011196937

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})
011196937-01	OBS	No	1.218783	132.644423	35.4	5.028	13.8	13.9	1.08	6739	0.76	4152.67
011196937-02	OBS	No	1.218740	132.067093	24.1	4.614	12.4	10.9	1.08	6739	0.61	4152.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011196937-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
011196937-02	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

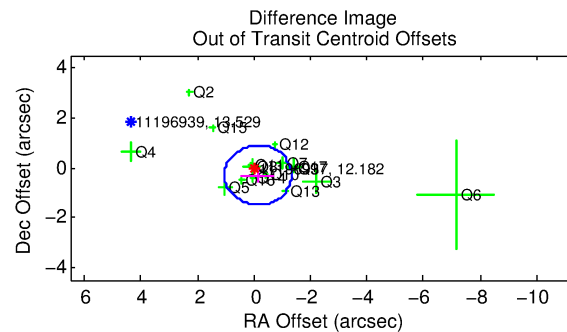
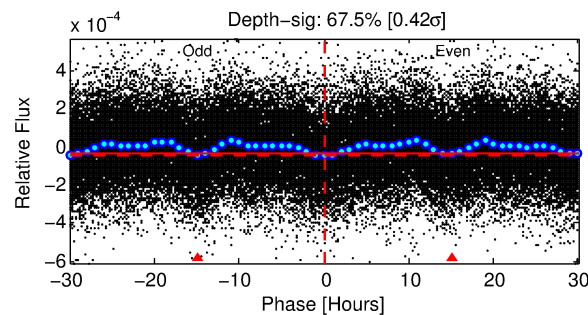
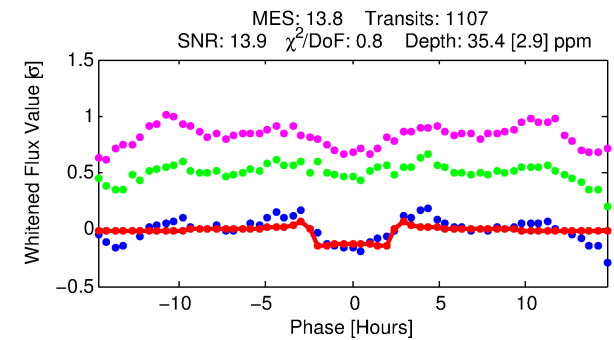
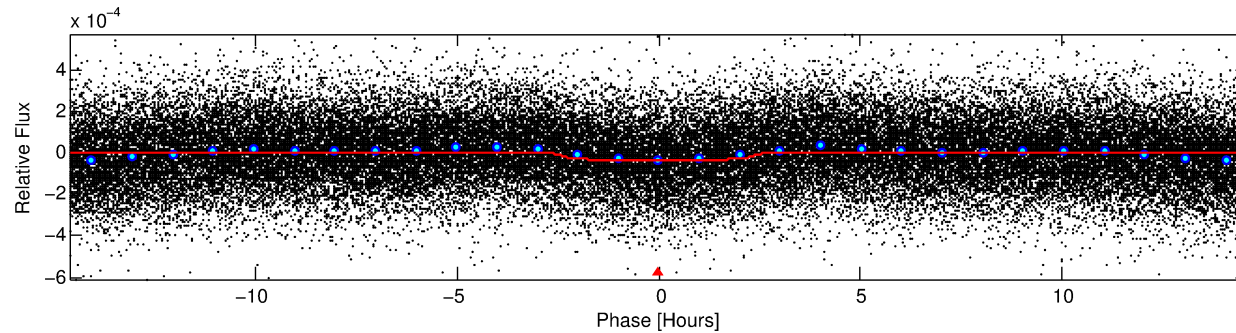
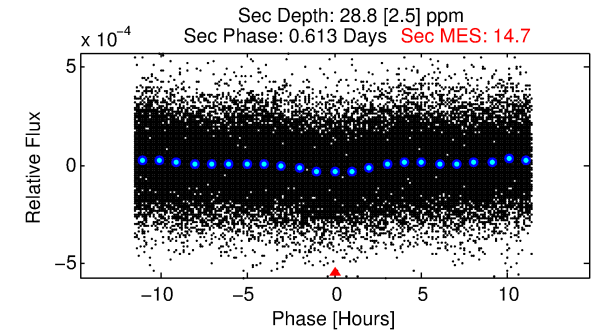
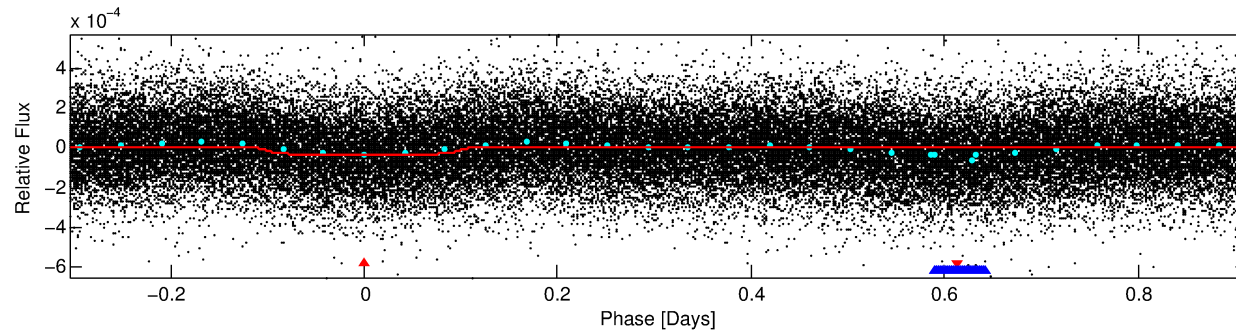
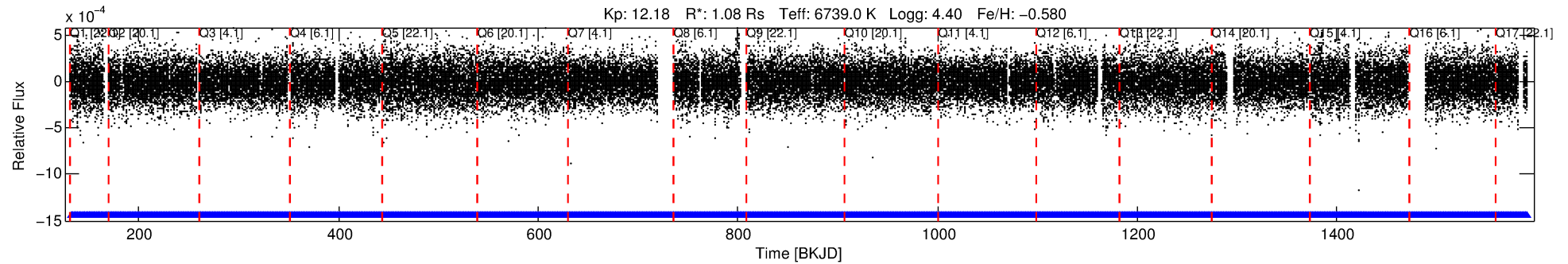
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011196937-01

No Significant Match Found

DV One-Page Summary

KIC: 11196937 Candidate: 1 of 2 Period: 1.219 d



DV Fit Results:

Period = 1.21878 [0.00001] d
Epoch = 132.6444 [0.0023] BKJD
Rp/R* = 0.0064 [0.0011]
a/R* = 1.23 [0.41]
b = 0.91 [0.18]
Seff = 4152.67 [1623.11]
Teq = 2047 [200] K
Rp = 0.76 [0.26] Re
a = 0.0229 [0.0058] AU
Ag = 14.36 [7.23] [1.85σ]
Teffp = 6161 [565] K [6.87σ]

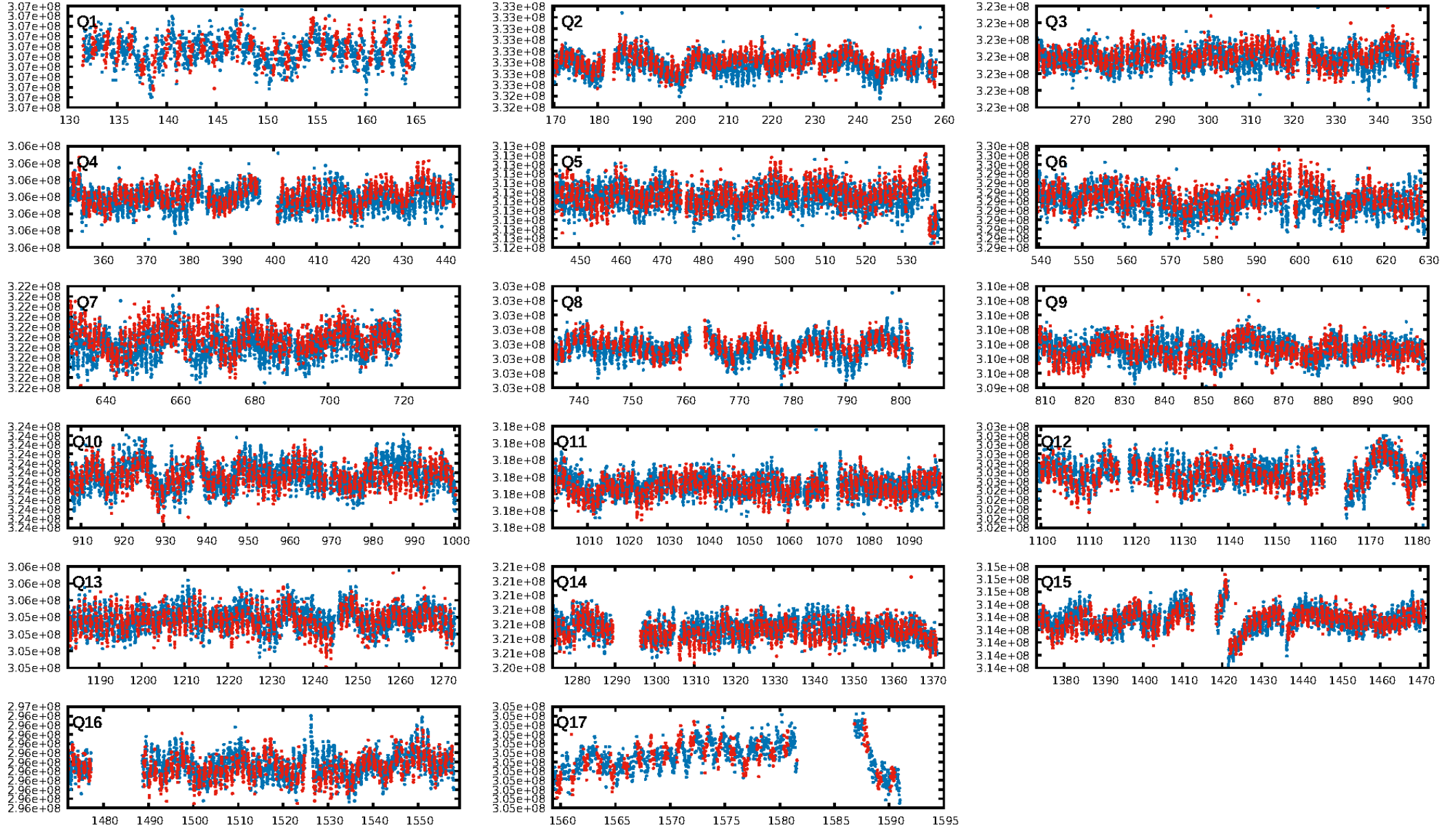
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.91e-77
RollingBand-fgt: 1.00 [1058/1058]
GhostDiagnostic-chr: 1.527
Centroid-sig: 0.0%
Centroid-so: 0.988 arcsec [1.97σ]
OotOffset-rm: 0.333 arcsec [0.84σ]
KicOffset-rm: 0.348 arcsec [0.86σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.62 [10/16]
DiffImageOverlap-fno: 1.00 [17/17]

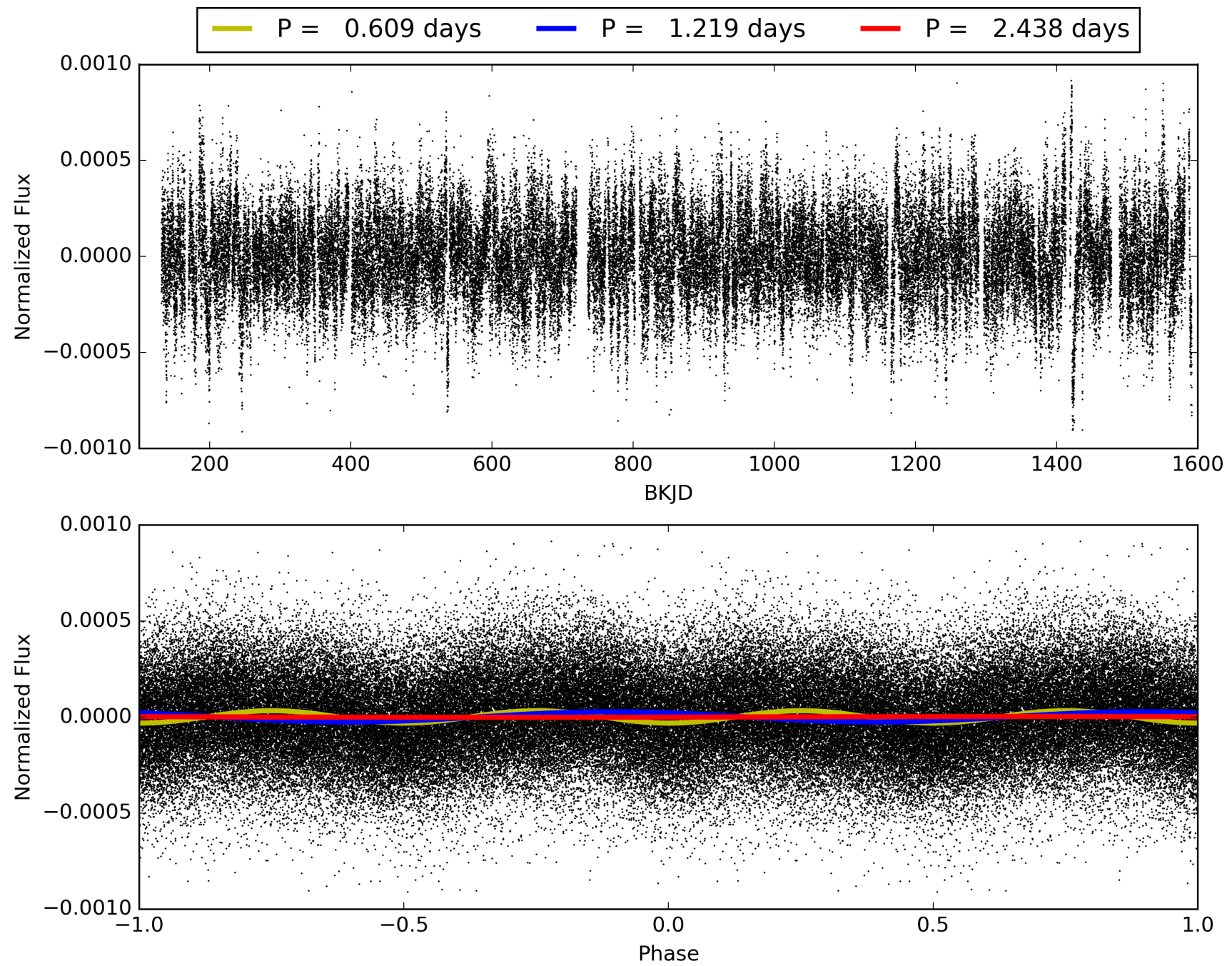
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:58:54 Z

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

TCE 011196937-01, PDC Light Curves

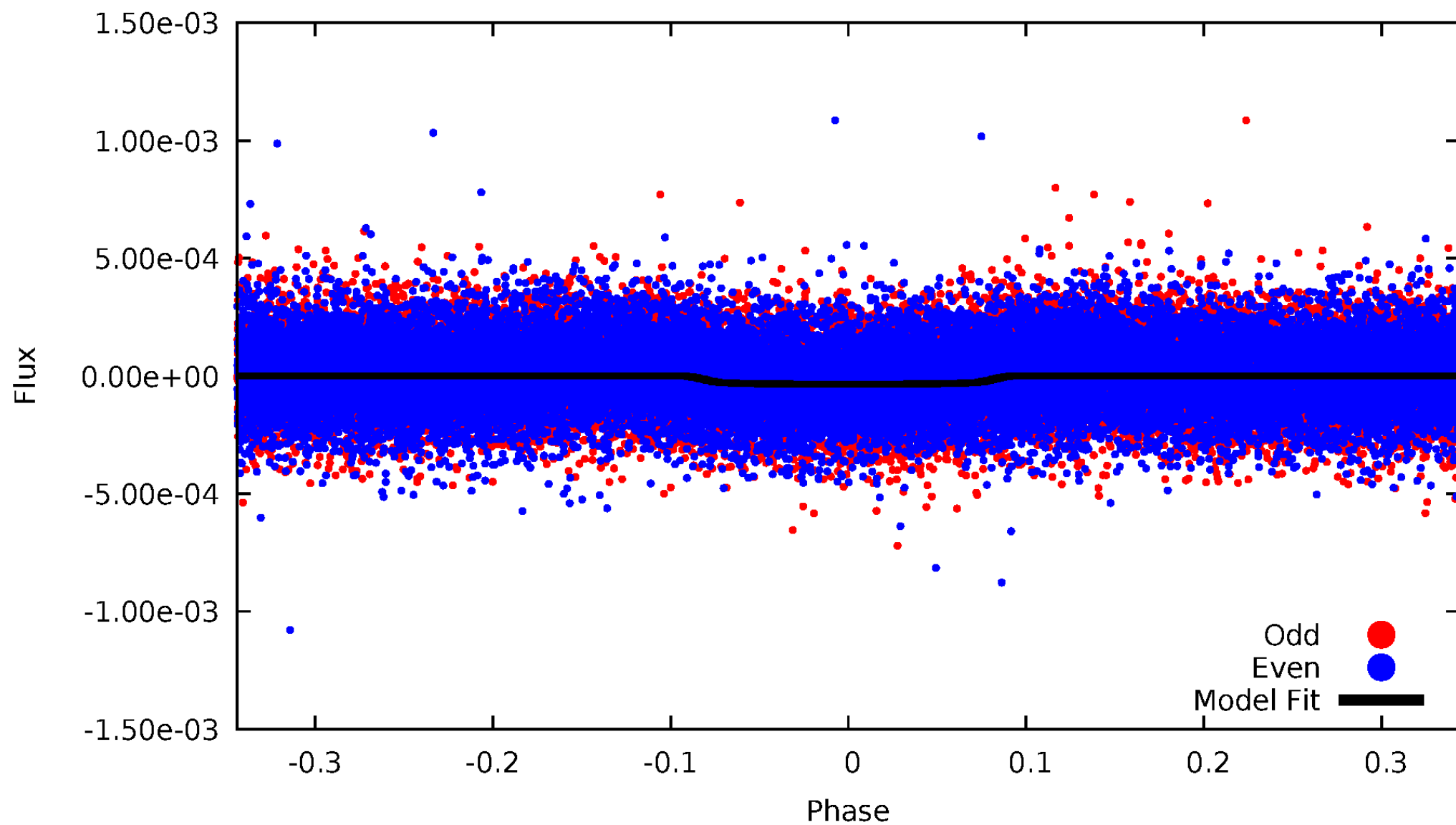


TCE 011196937-01



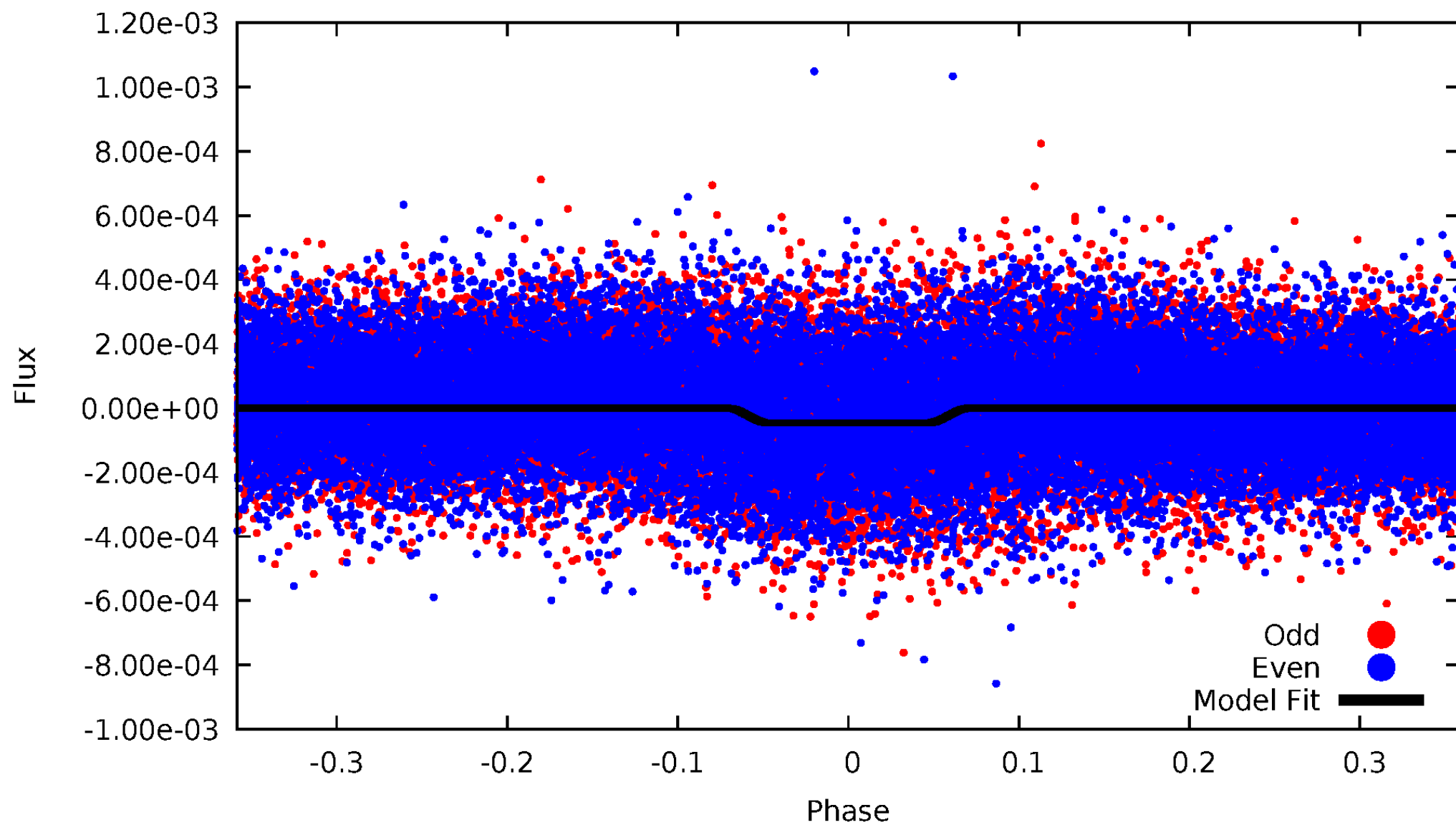
DV Odd/Even

TCE 011196937-01



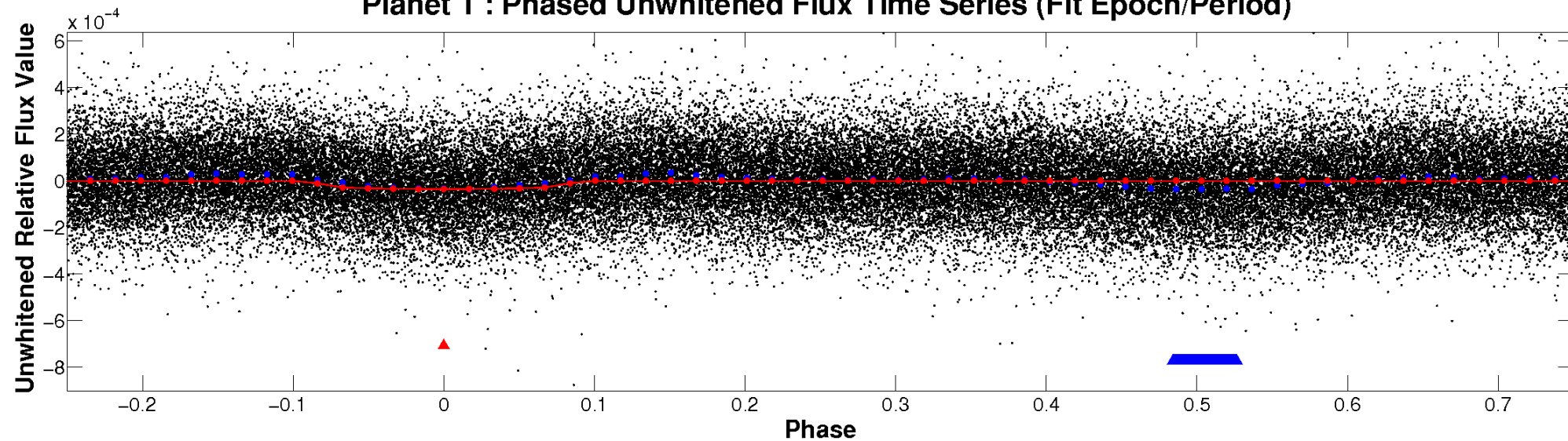
ALT Odd/Even

TCE 011196937-01

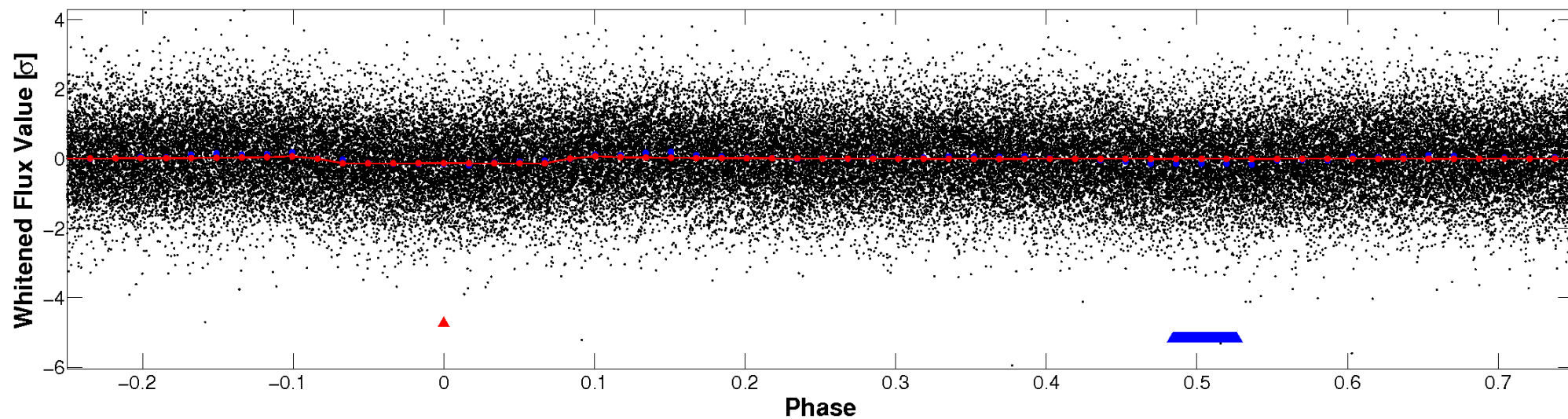


Non-Whitened Vs. Whitened Light Curve

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

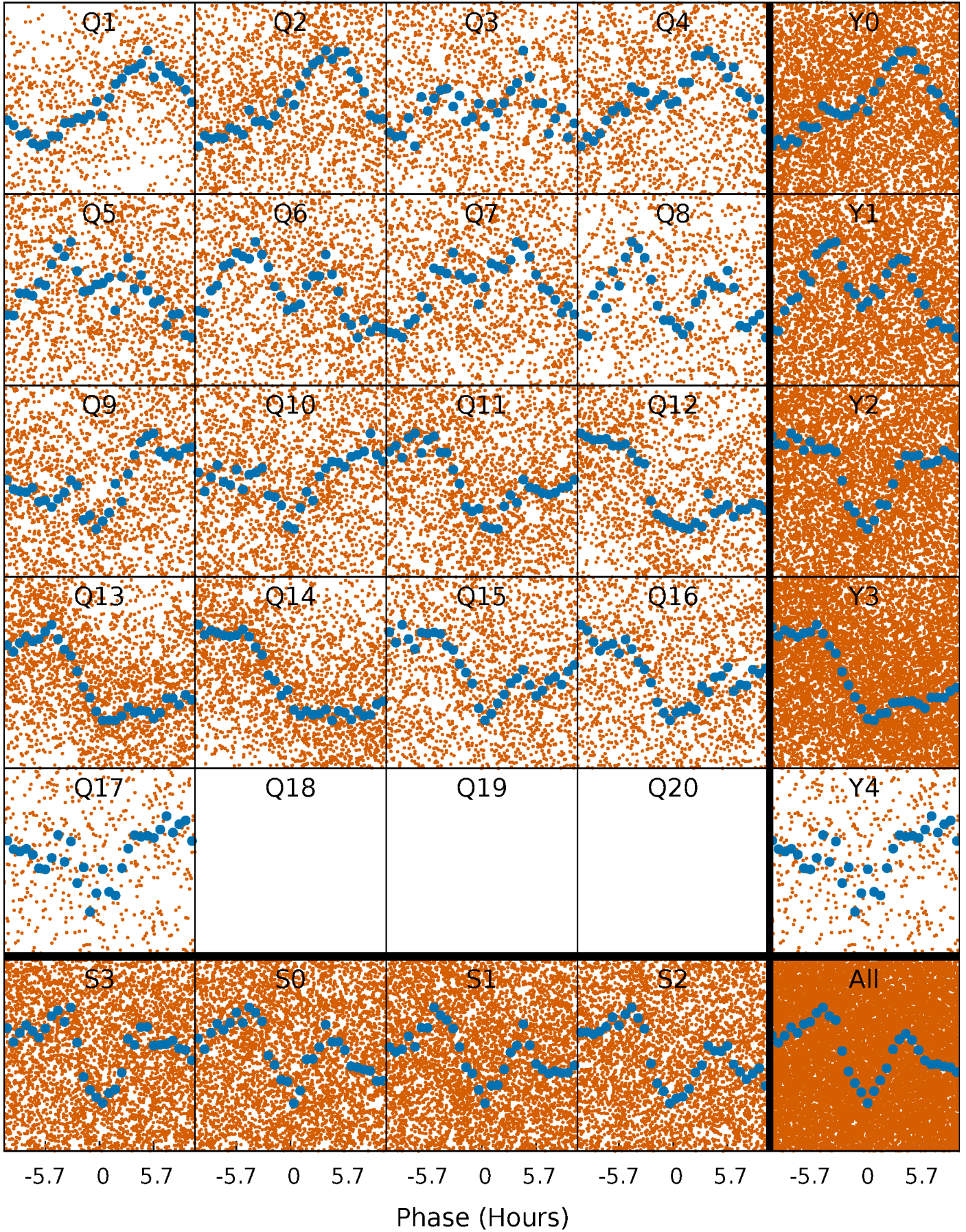


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



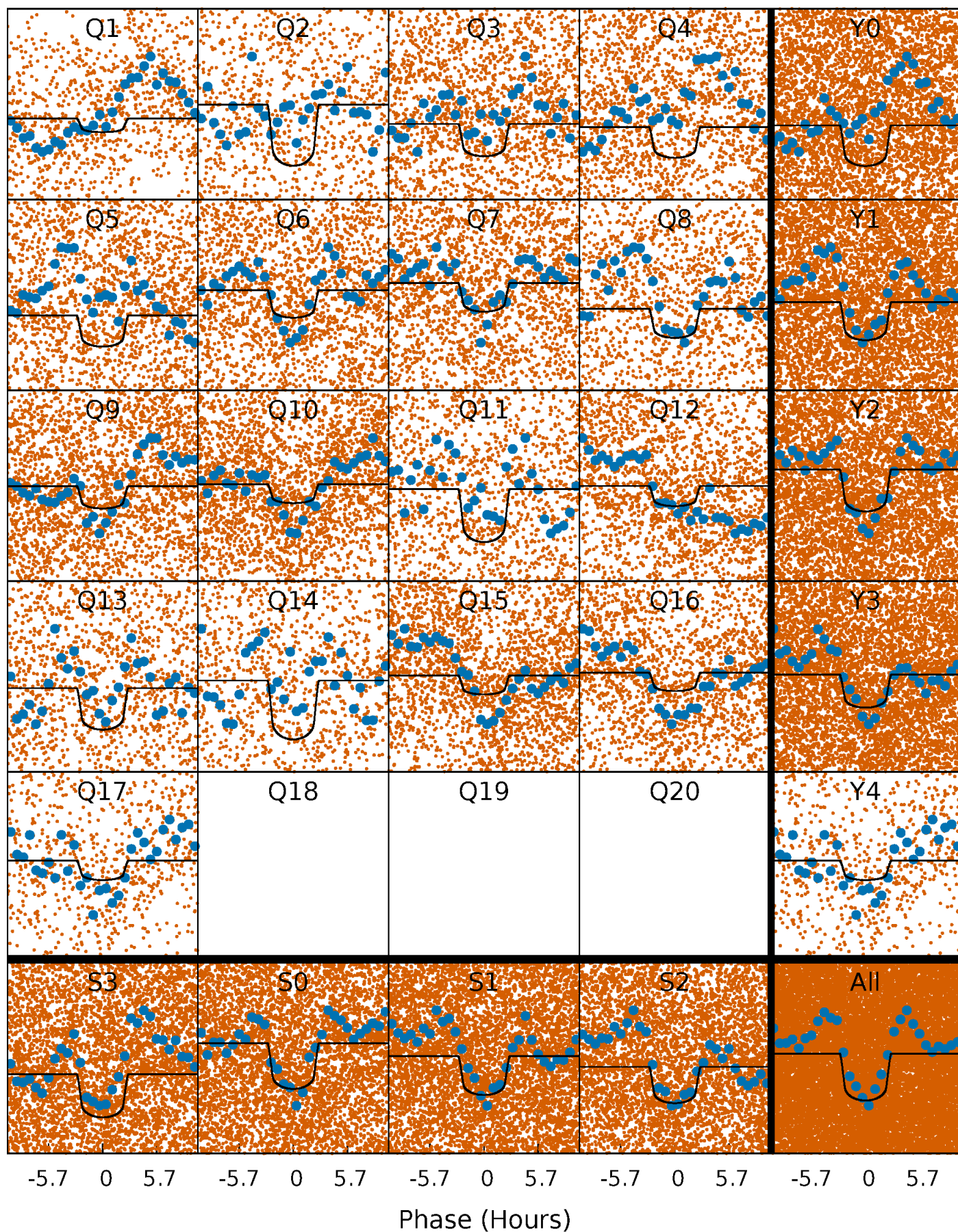
PDC Quarter-Phased Transit Curves

TCE 011196937-01 P= 1.218783 Days $T_0=132.644423$ (BKJD)



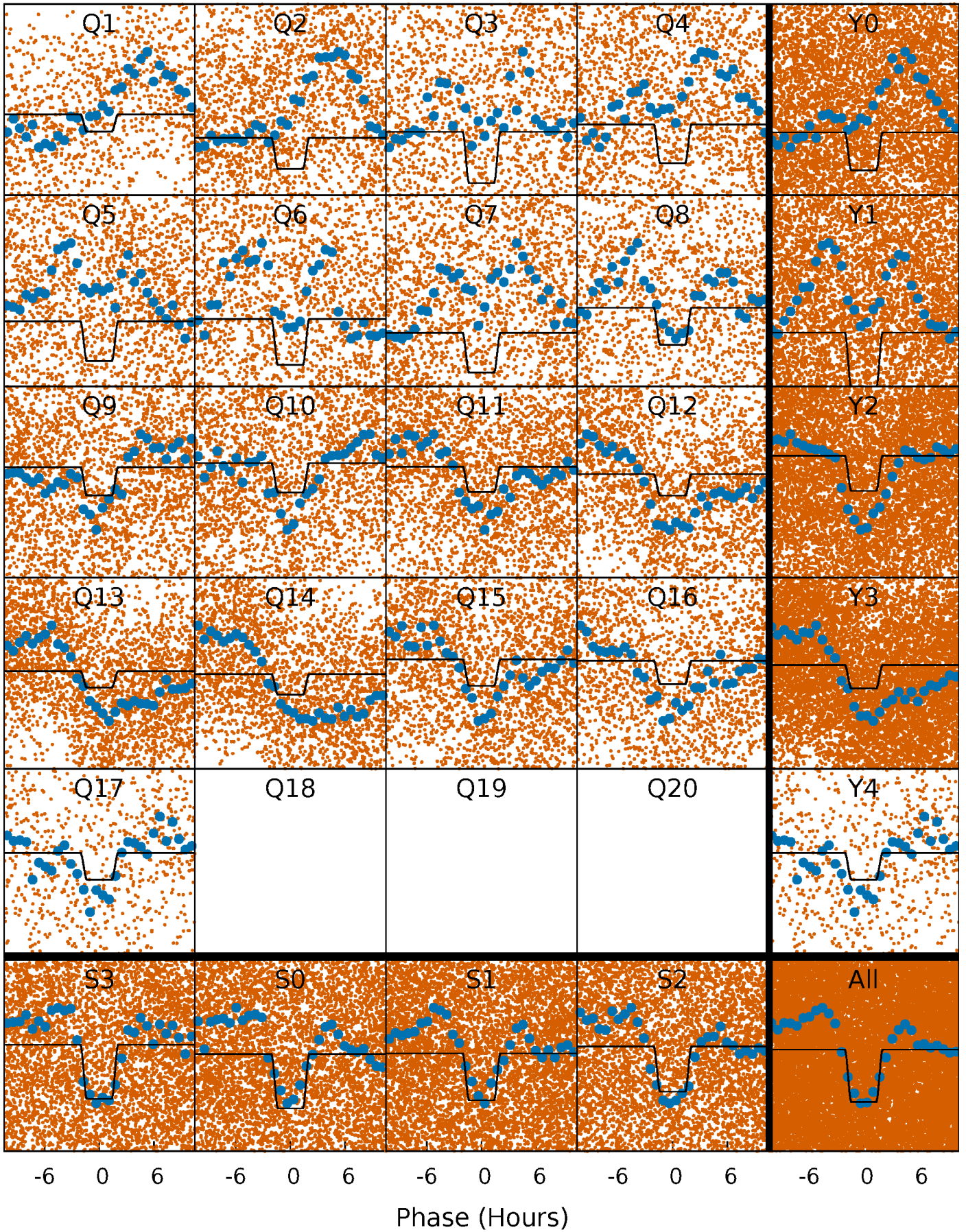
DV Quarter-Phased Transit Curves

TCE 011196937-01 P= 1.218783 Days $T_0=132.644423$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

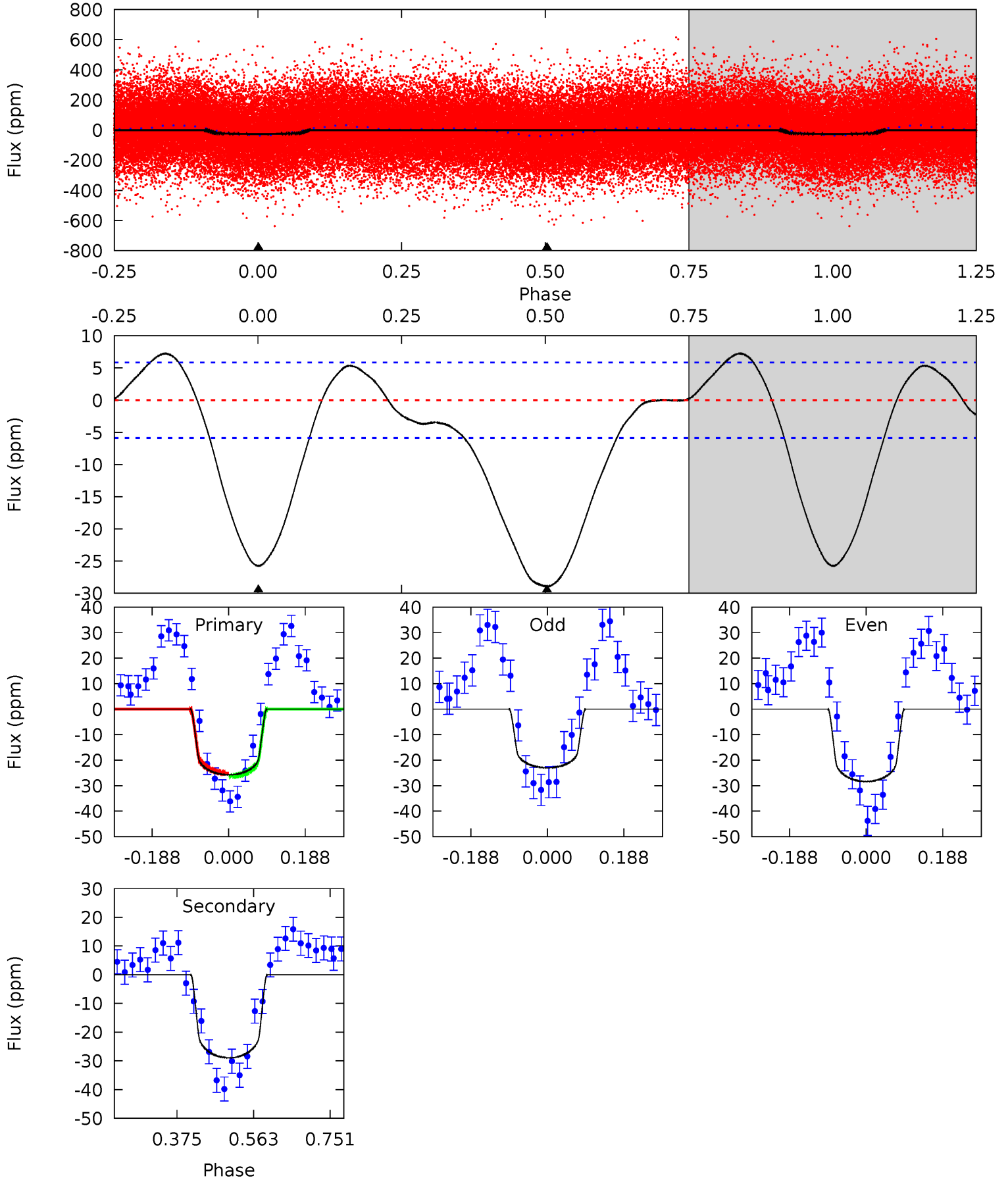
TCE 011196937-01 P= 1.218809 Days $T_0=132.633071$ (BKJD)



DV Model-Shift Uniqueness Test

011196937-01, P = 1.218783 Days, E = 131.425640 Days

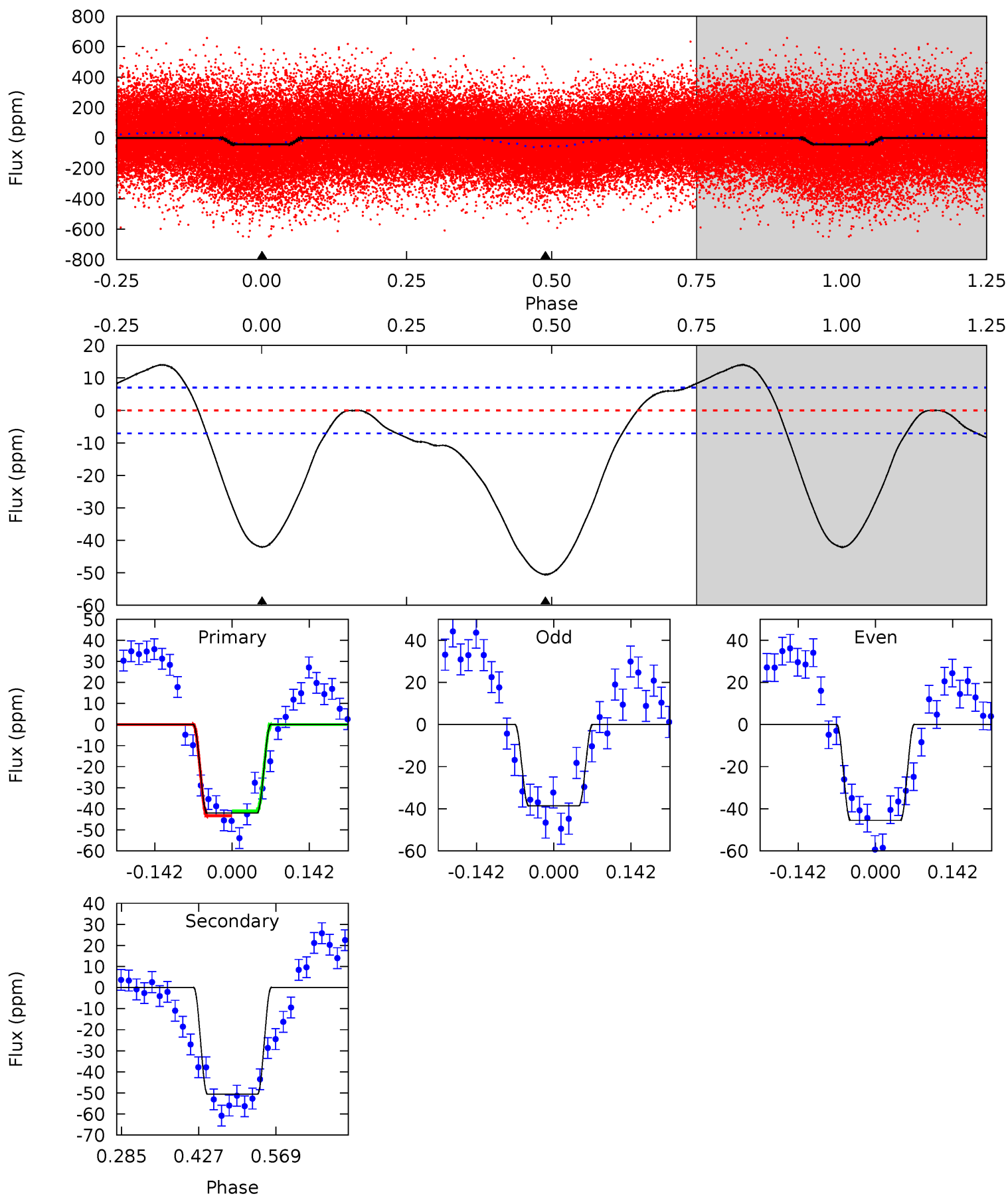
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.5	21.9	0	0	4.43	1.32	2.01	19.5	19.5	21.9	21.9	2.03	0.99	0.20	0.45



Alt Model-Shift Uniqueness Test

011196937-01, P = 1.218809 Days, E = 131.414262 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.8	32.2	0	0	4.49	1.47	5.48	26.8	26.8	32.2	32.2	2.18	1.03	0.22	0.72



Stellar Parameters For KIC 011196937

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6739^{+168}_{-218}	$4.399^{+0.067}_{-0.202}$	$-0.580^{+0.250}_{-0.350}$	$1.085^{+0.325}_{-0.108}$	$1.074^{+0.145}_{-0.118}$	$1.184^{+0.409}_{-0.591}$
	+2%/-3%	+2%/-5%	+43%/-60%	+30%/-10%	+14%/-11%	+35%/-50%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011196937-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-29 ± 1	$0.80^{+0.17}_{-0.16}$	2906^{+212}_{-141}	6089^{+619}_{-461}	13^{+7}_{-4}
Alt.	-51 ± 2	$0.84^{+0.17}_{-0.15}$	2902^{+191}_{-144}	6838^{+716}_{-546}	20^{+10}_{-6}

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

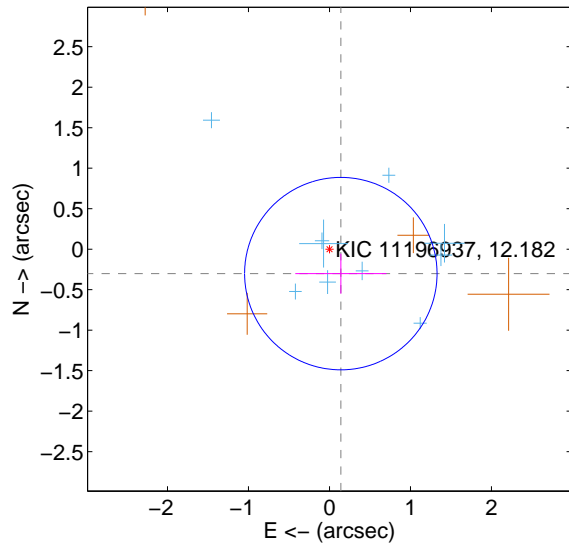
Supplemental centroid analysis for 011196937-01. Kepler magnitude: 12.18. Transit SNR 13.89

There are 10 quarters with good PRF difference image offsets

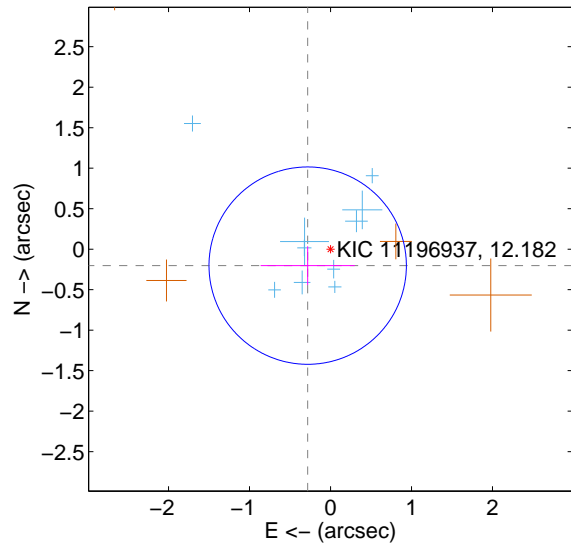
The direct PRF centroid is offset from the target star catalog position by about 1.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.333 ± 0.396	0.84	-0.140 ± 0.563	-0.302 ± 0.247
PRF-fit source offset from KIC position	0.348 ± 0.406	0.86	0.282 ± 0.581	-0.203 ± 0.240
photometric centroid source offset	0.99 ± 0.50	1.97	-0.93 ± 0.52	0.32 ± 0.32

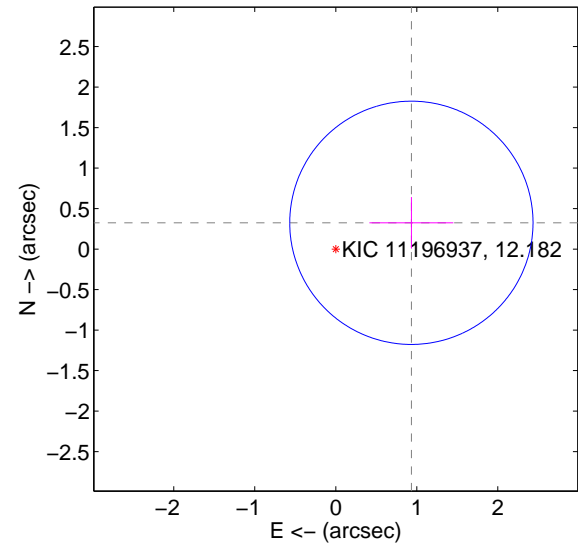
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

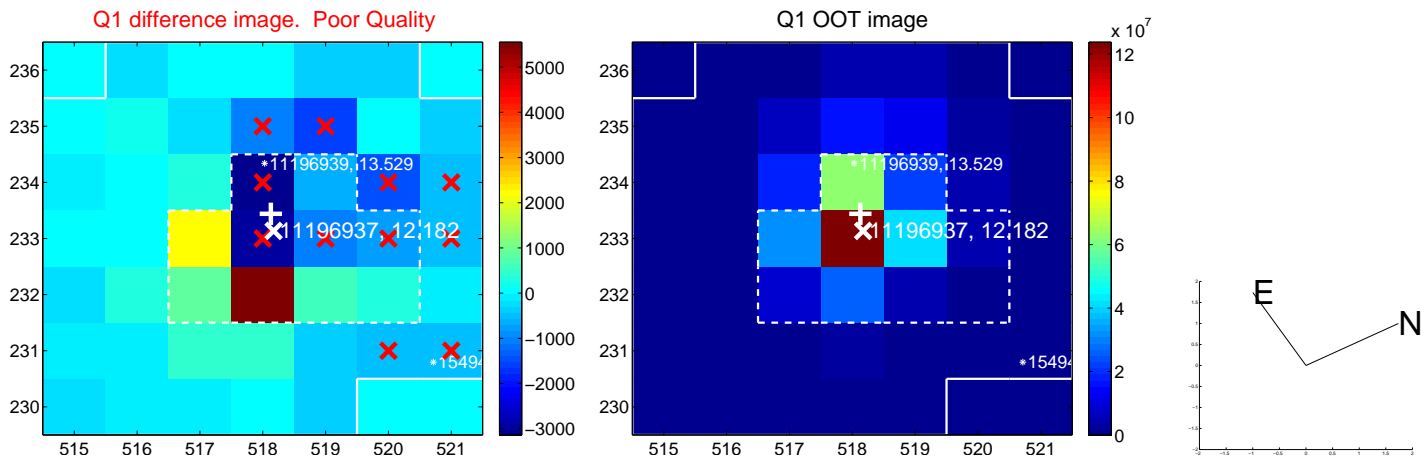


offset from photometric centroids

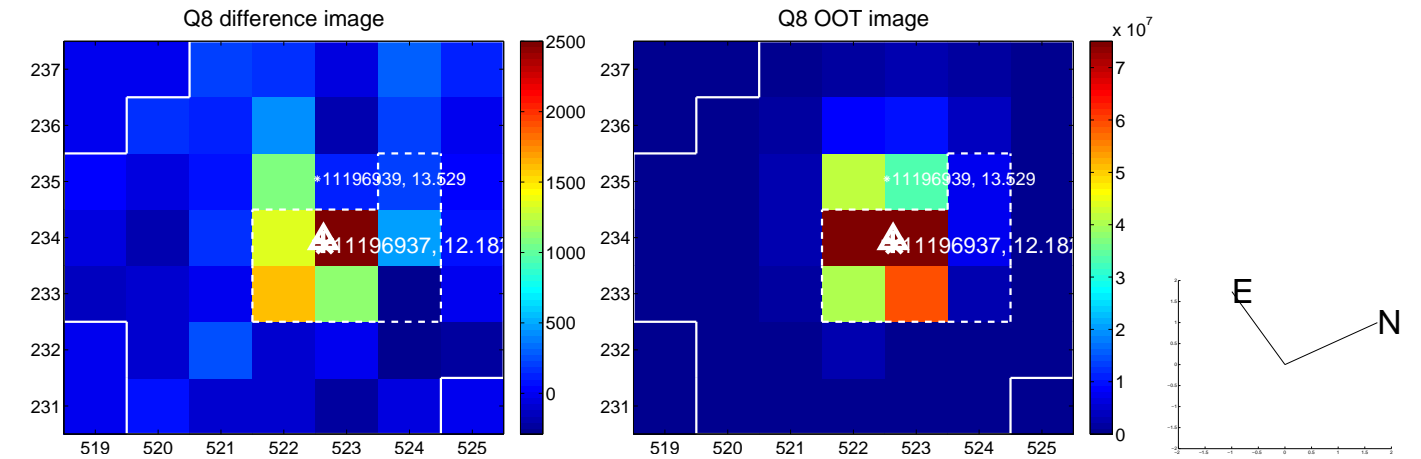
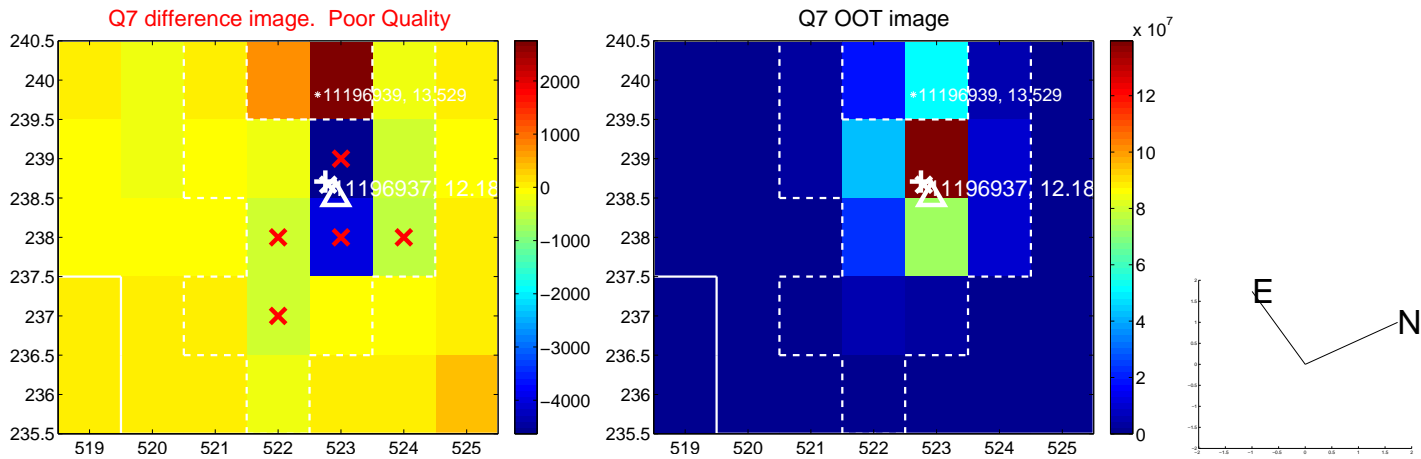
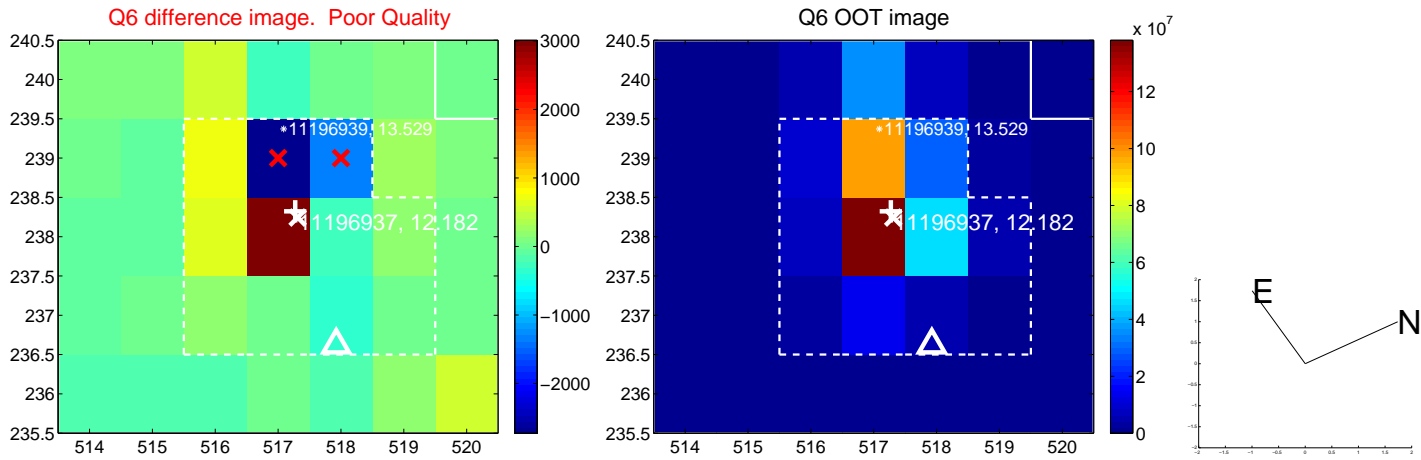
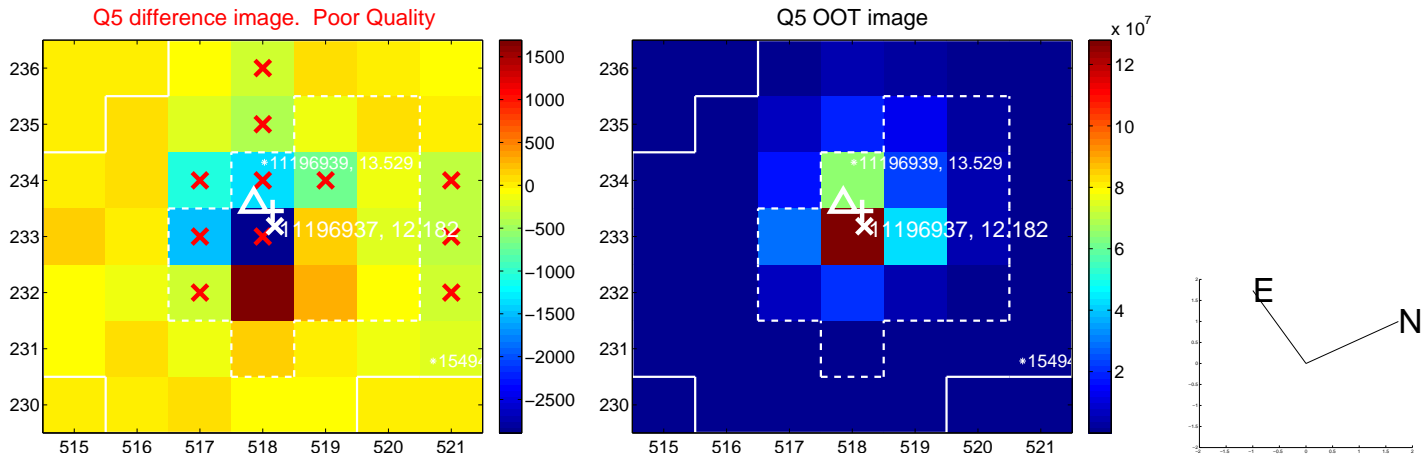


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

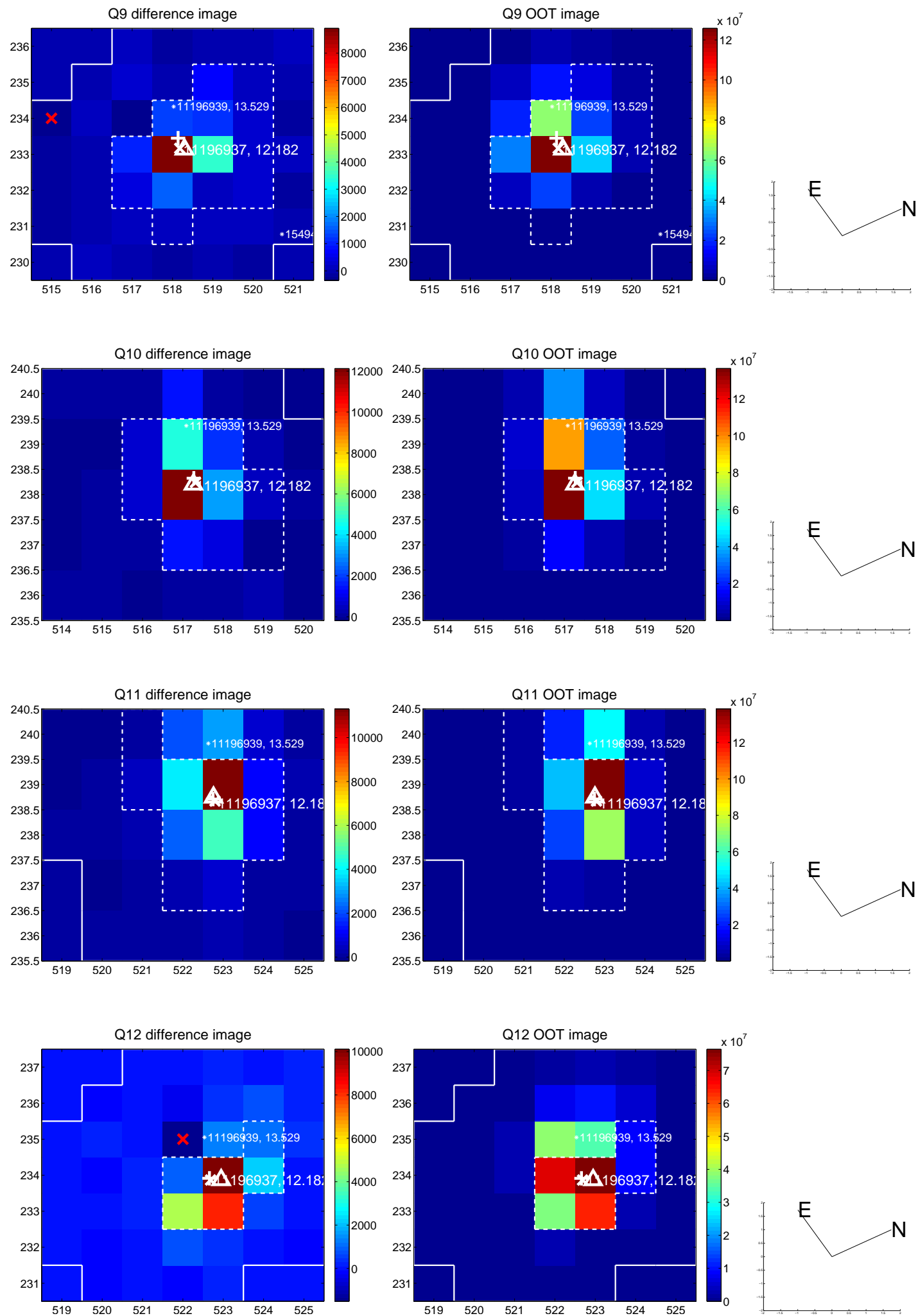
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



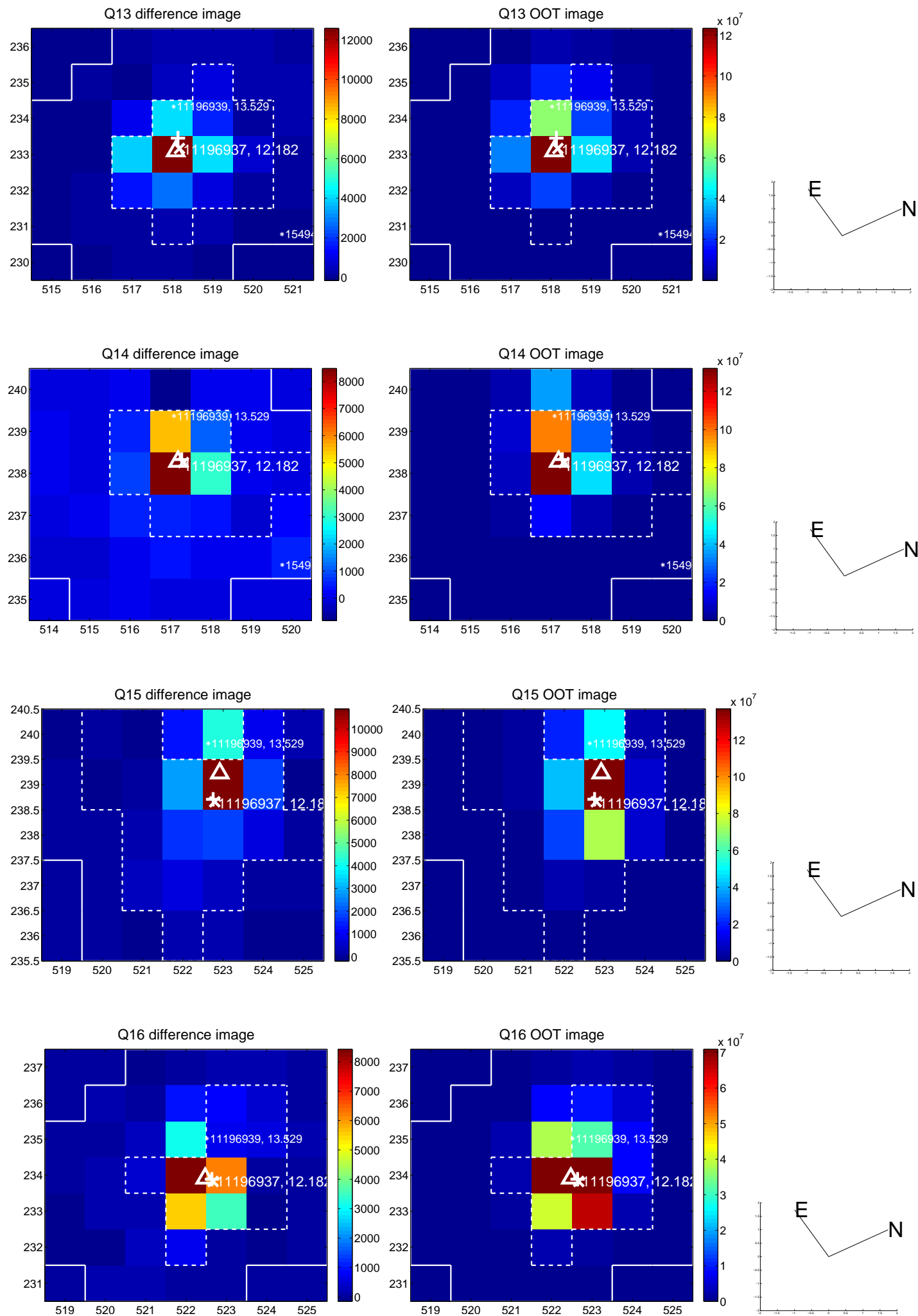
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



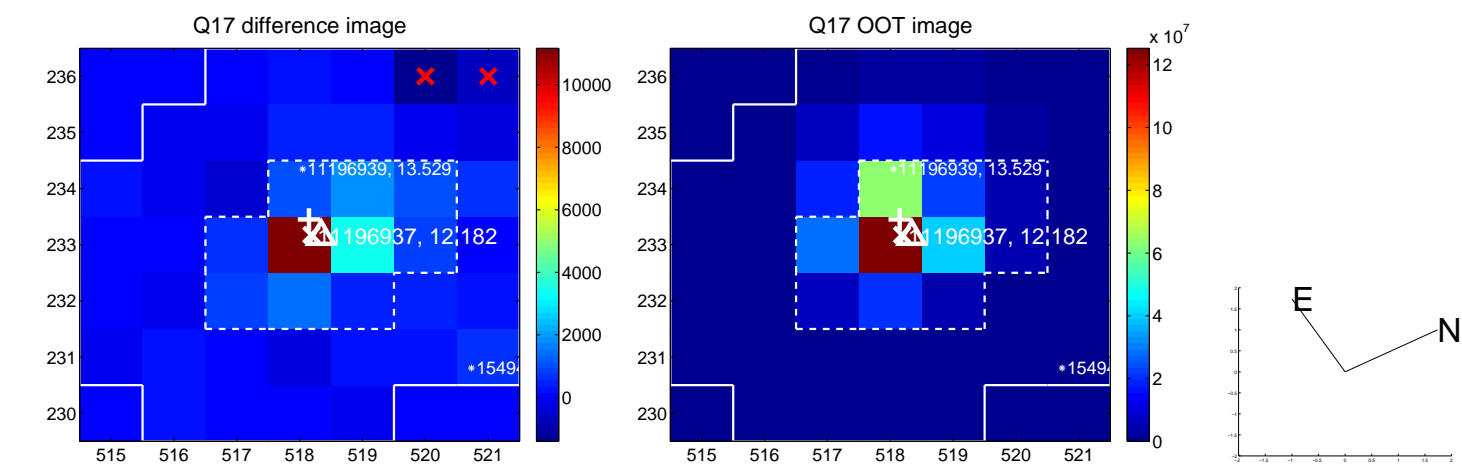
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



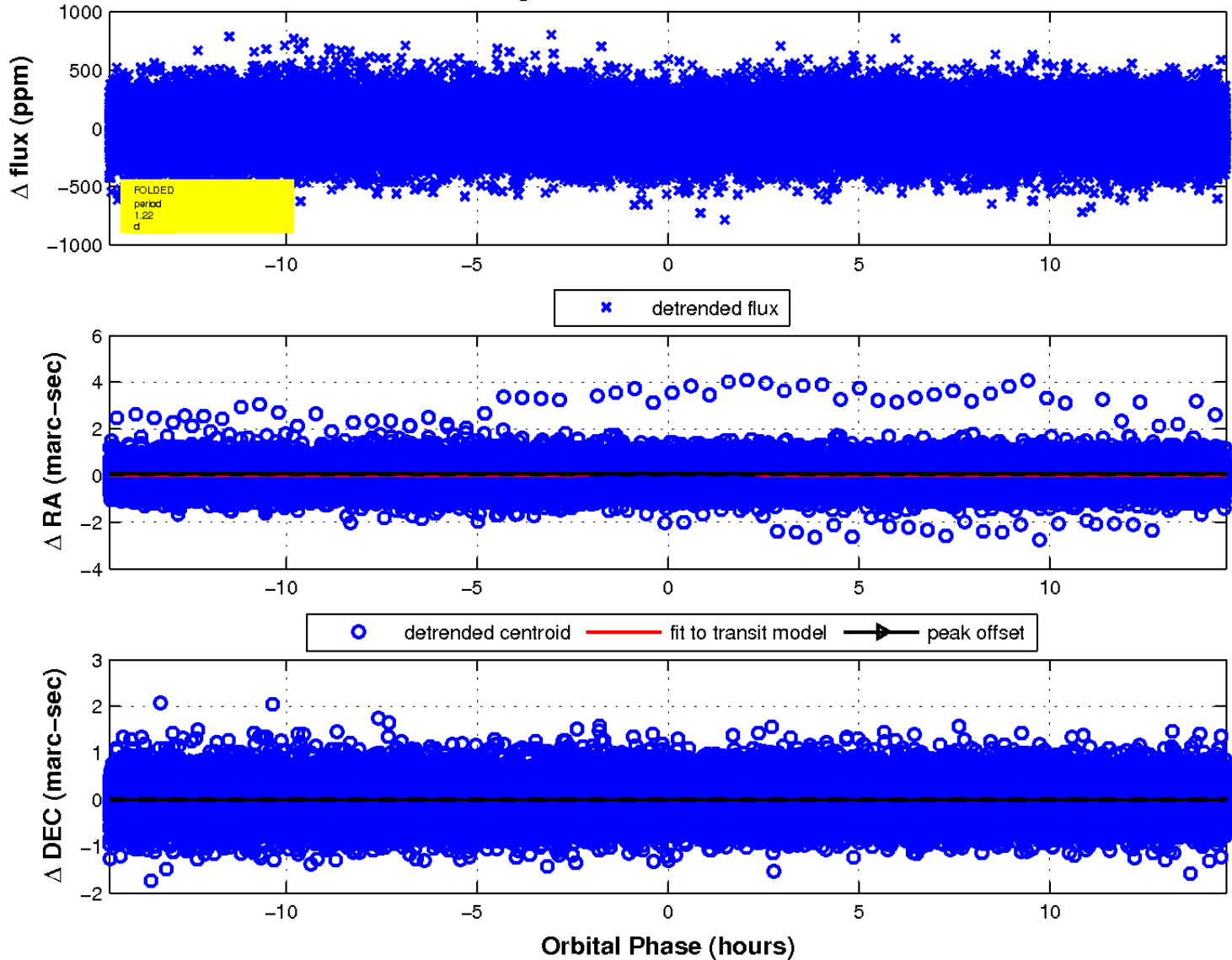
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

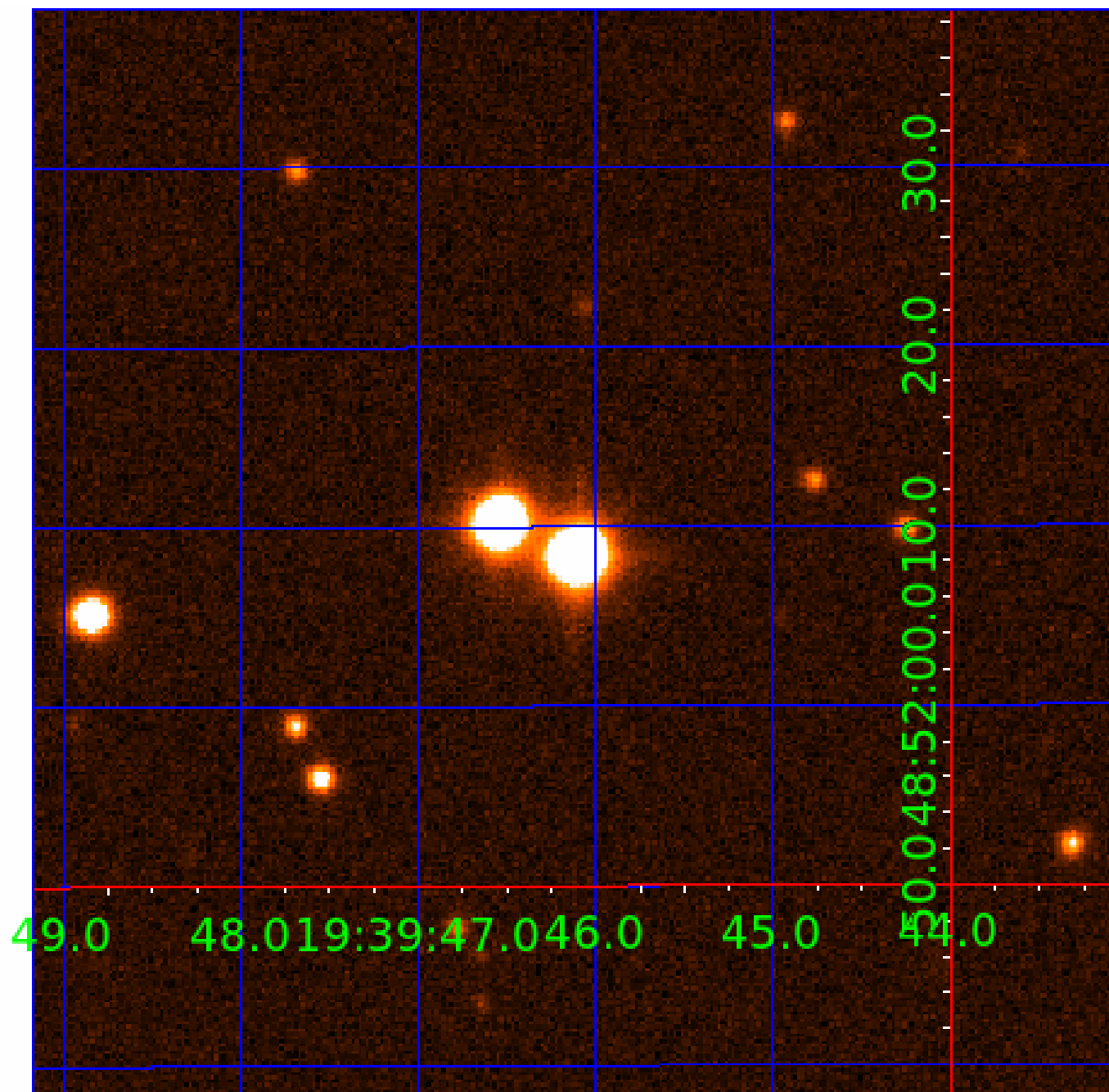


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 011196937

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})
011196937-01	OBS	No	1.218783	132.644423	35.4	5.028	13.8	13.9	1.08	6739	0.76	4152.67
011196937-02	OBS	No	1.218740	132.067093	24.1	4.614	12.4	10.9	1.08	6739	0.61	4152.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011196937-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
011196937-02	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

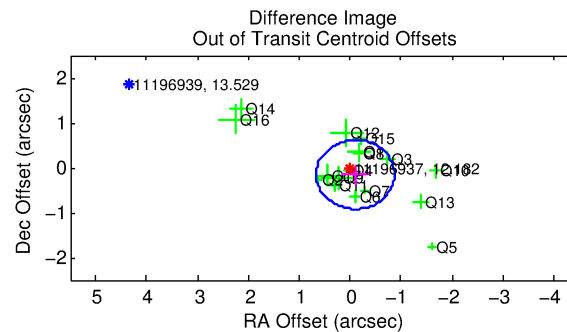
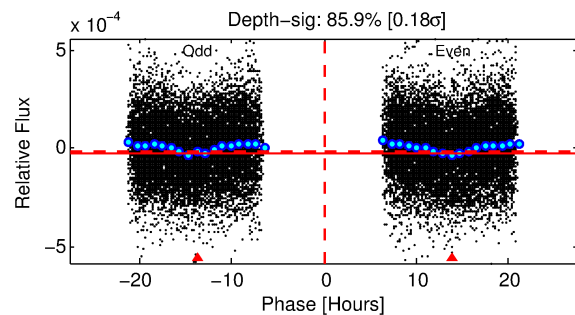
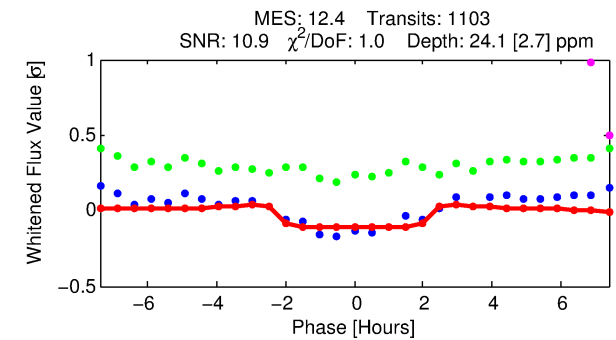
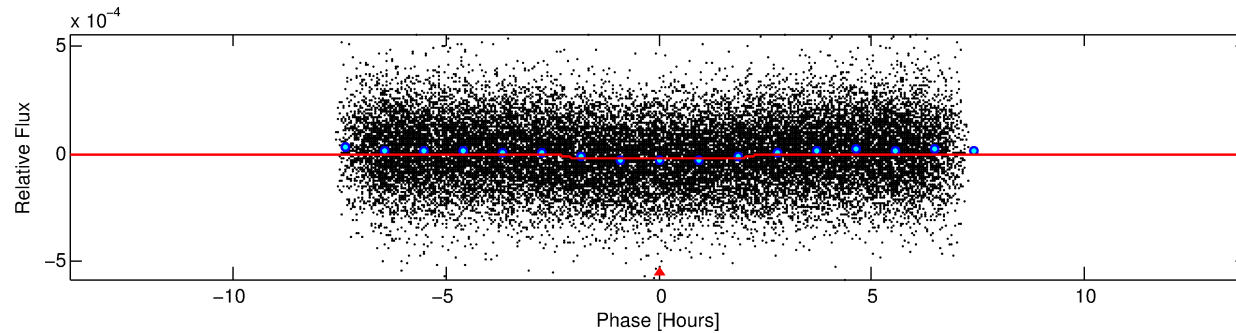
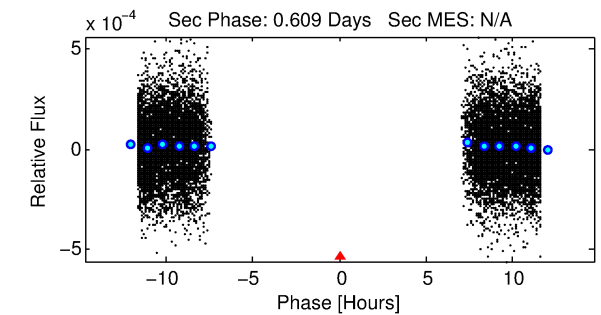
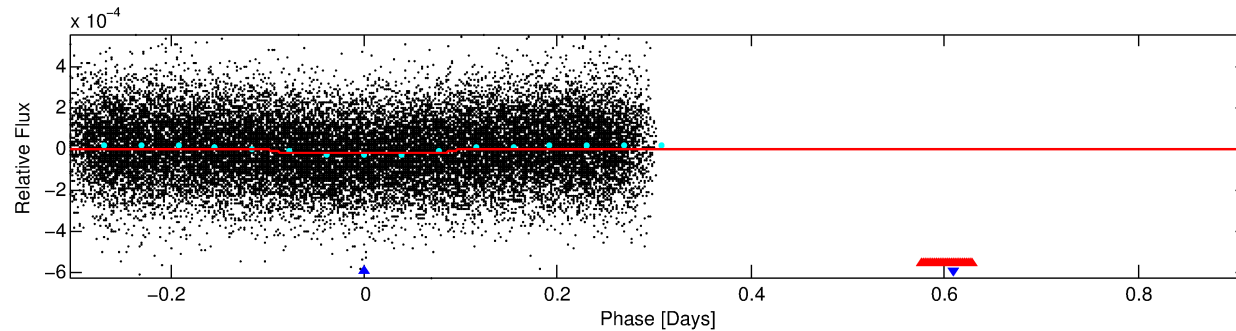
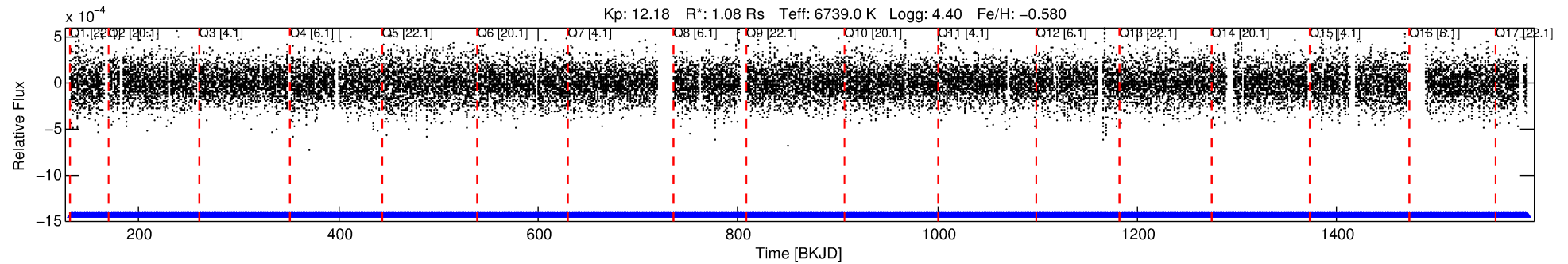
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011196937-02

No Significant Match Found

DV One-Page Summary

KIC: 11196937 Candidate: 2 of 2 Period: 1.219 d



DV Fit Results:

Period = 1.21874 [0.00001] d
Epoch = 132.0671 [0.0033] BKJD
Rp/R* = 0.0051 [0.0014]
a/R* = 1.36 [1.03]
b = 0.87 [0.45]
Seff = 4152.87 [1623.19]
Teq = 2047 [200] K
Rp = 0.61 [0.25] Re
a = 0.0229 [0.0058] AU

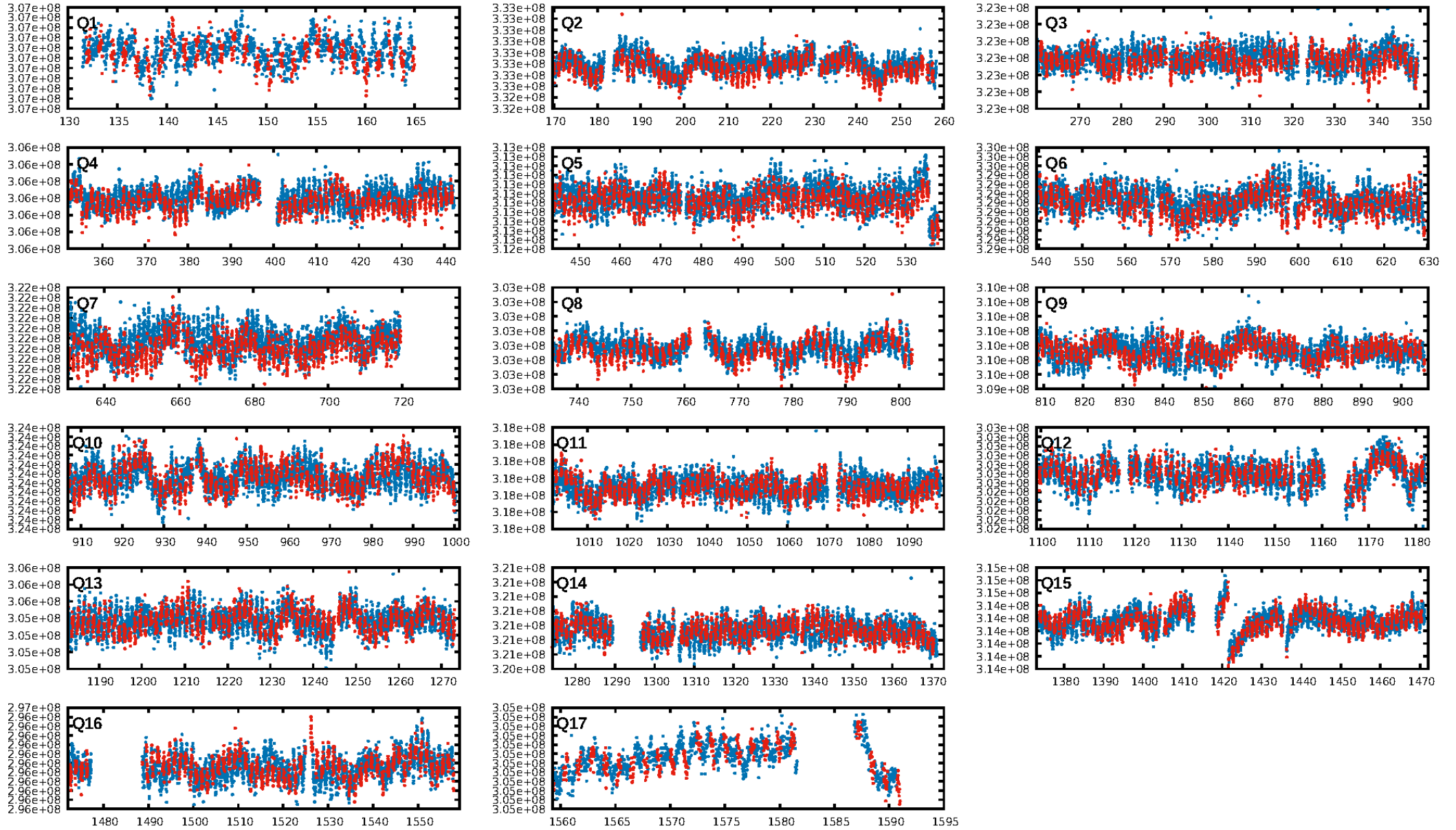
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.80e-70
RollingBand-fgt: 1.00 [1052/1052]
GhostDiagnostic-chr: -11.55
Centroid-sig: 0.0%
Centroid-so: 1.906 arcsec [2.53σ]
OotOffset-rm: 0.184 arcsec [0.72σ]
KicOffset-rm: 0.148 arcsec [0.83σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

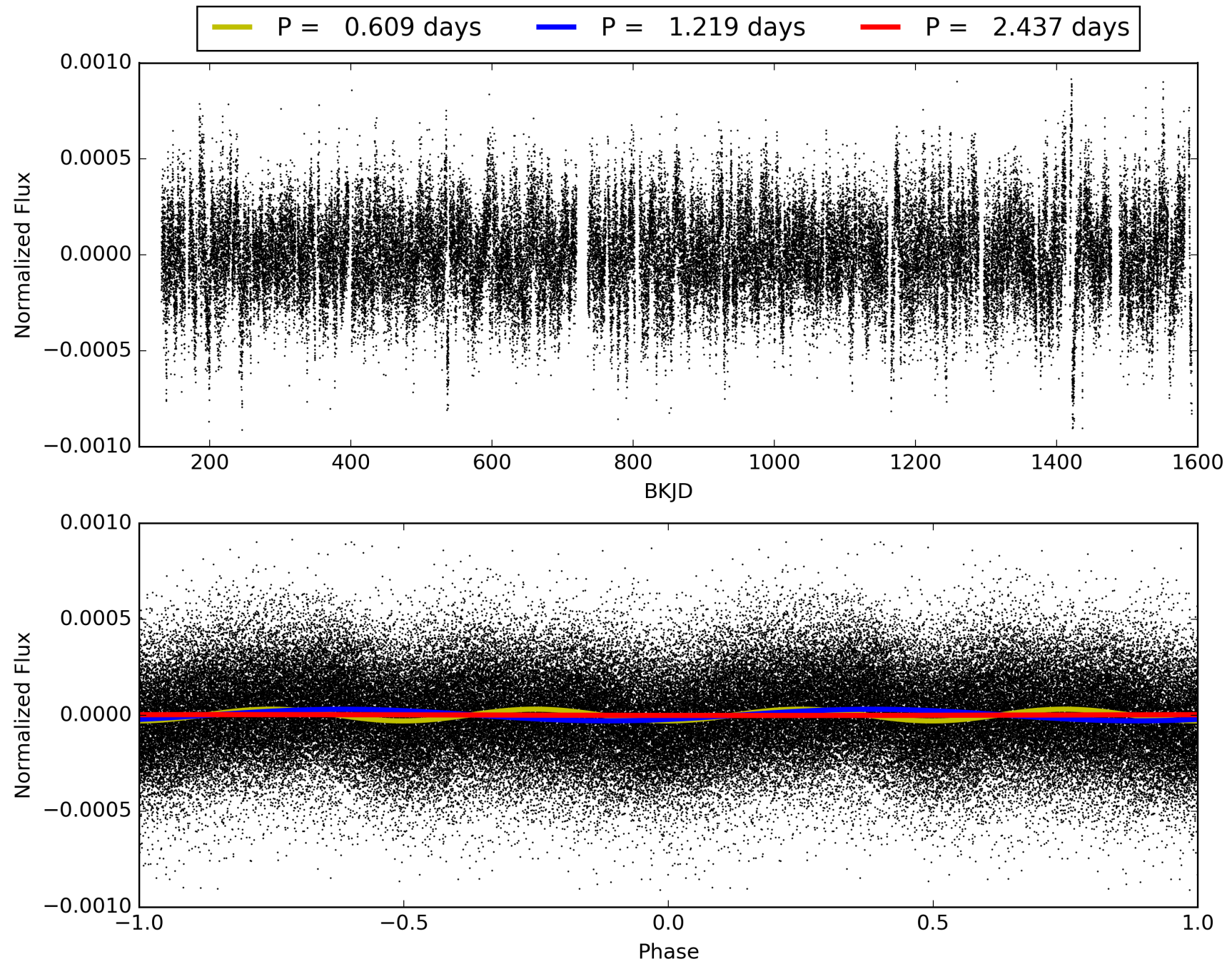
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:59:07 Z

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

TCE 011196937-02, PDC Light Curves

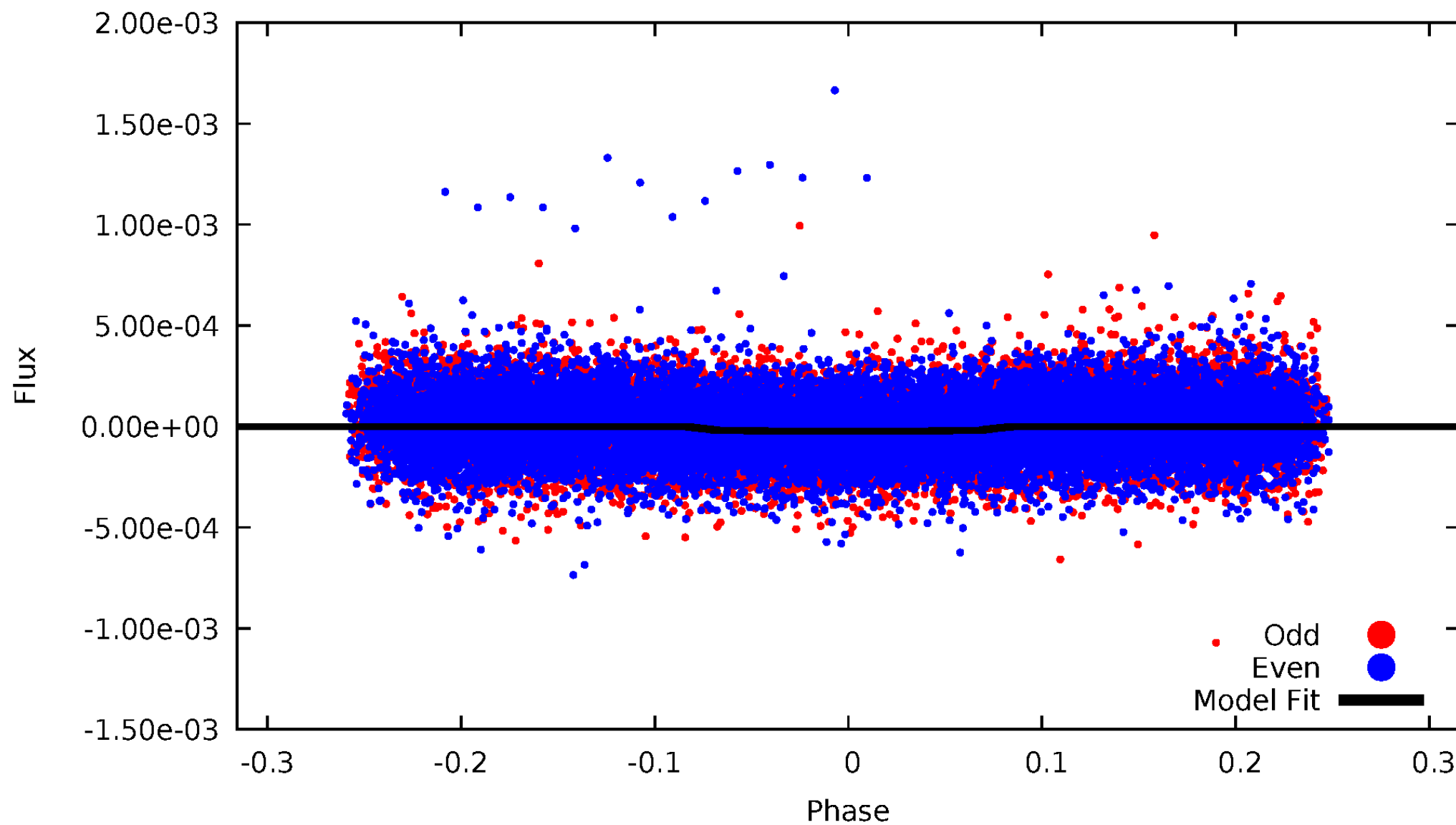


TCE 011196937-02



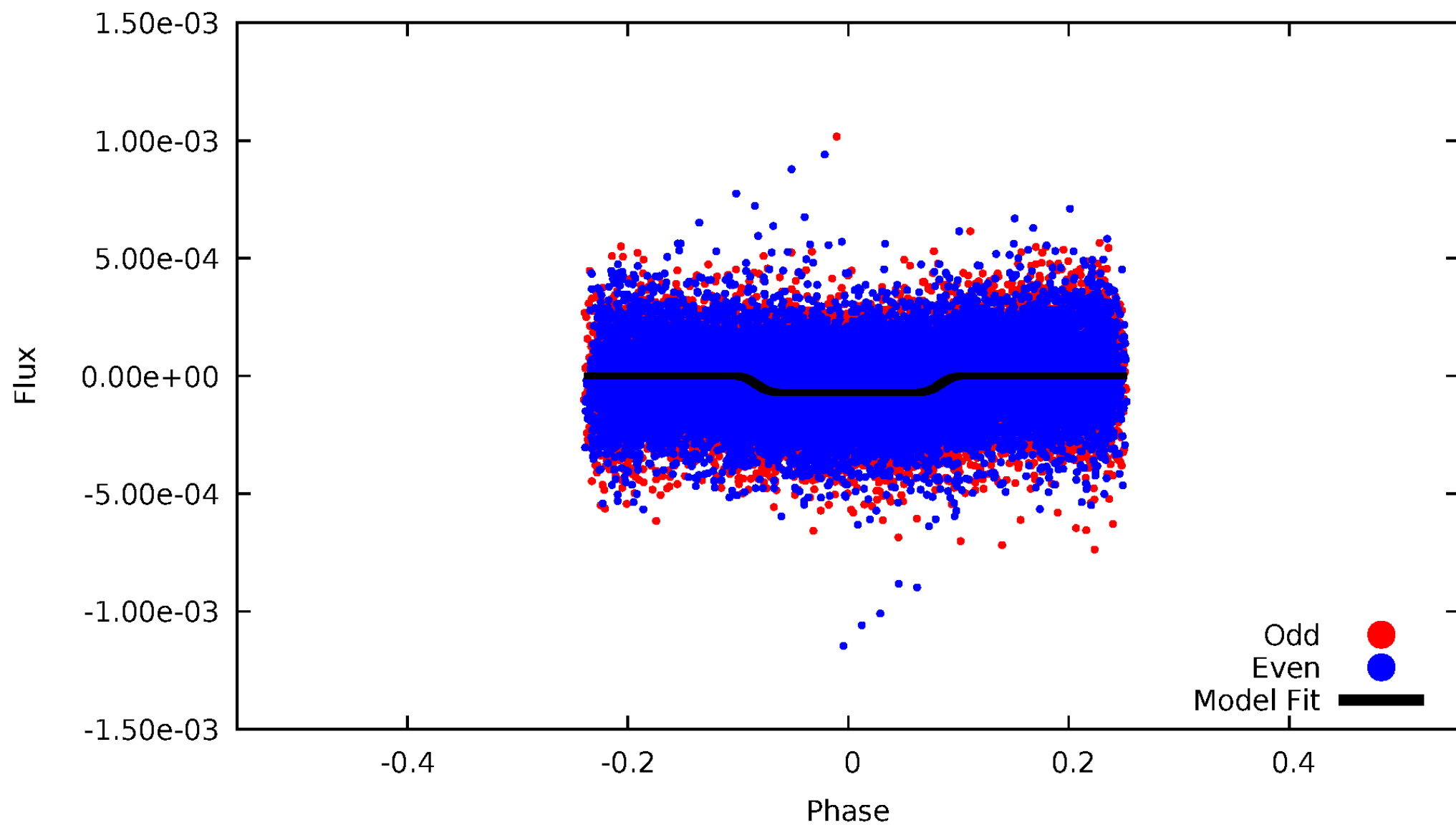
DV Odd/Even

TCE 011196937-02



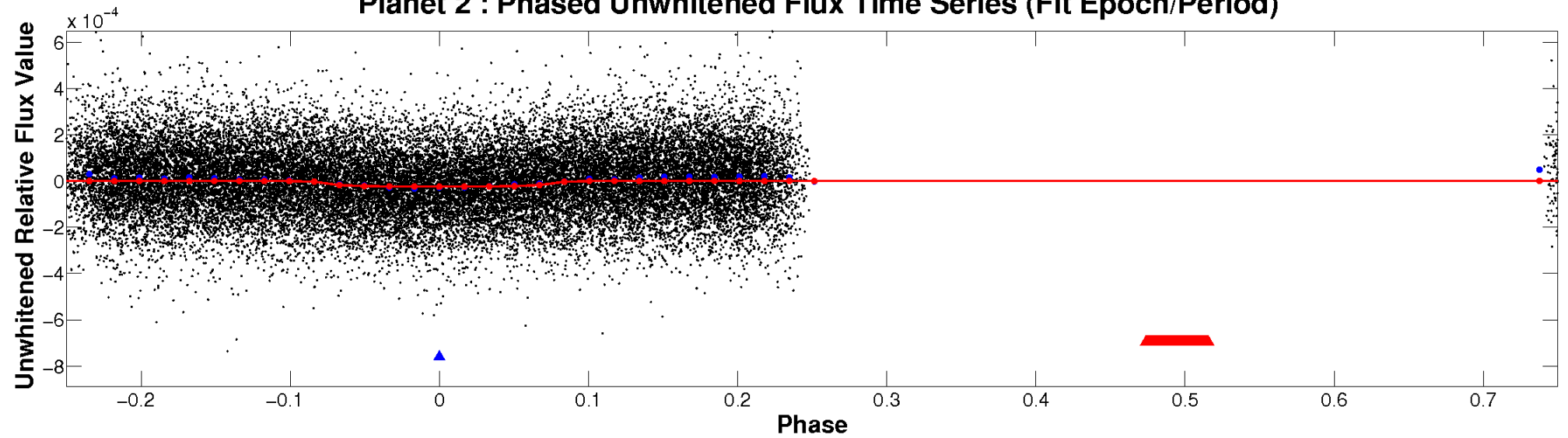
ALT Odd/Even

TCE 011196937-02

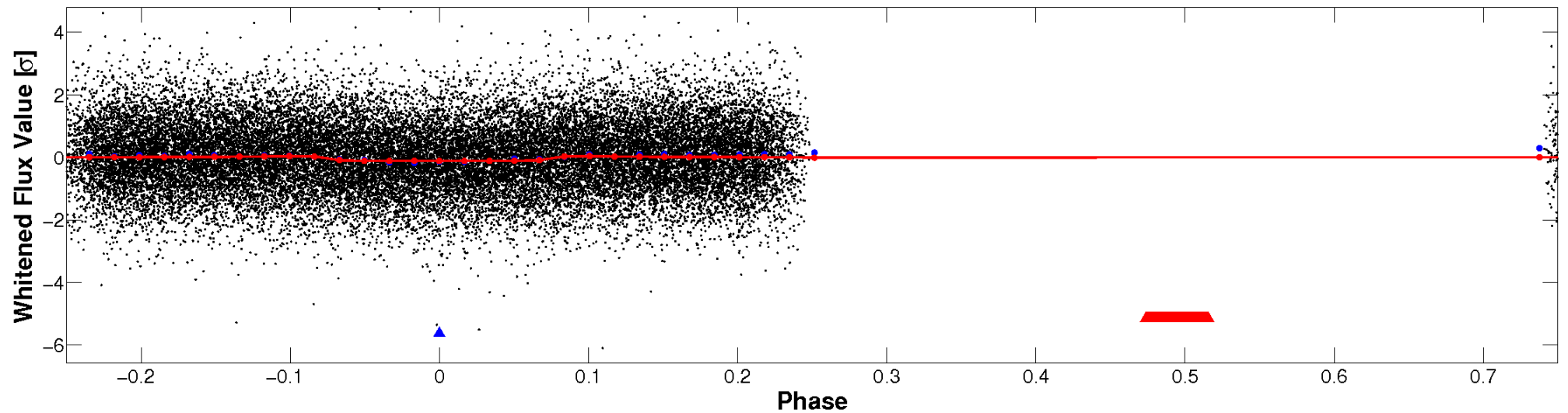


Non-Whitened Vs. Whitened Light Curve

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

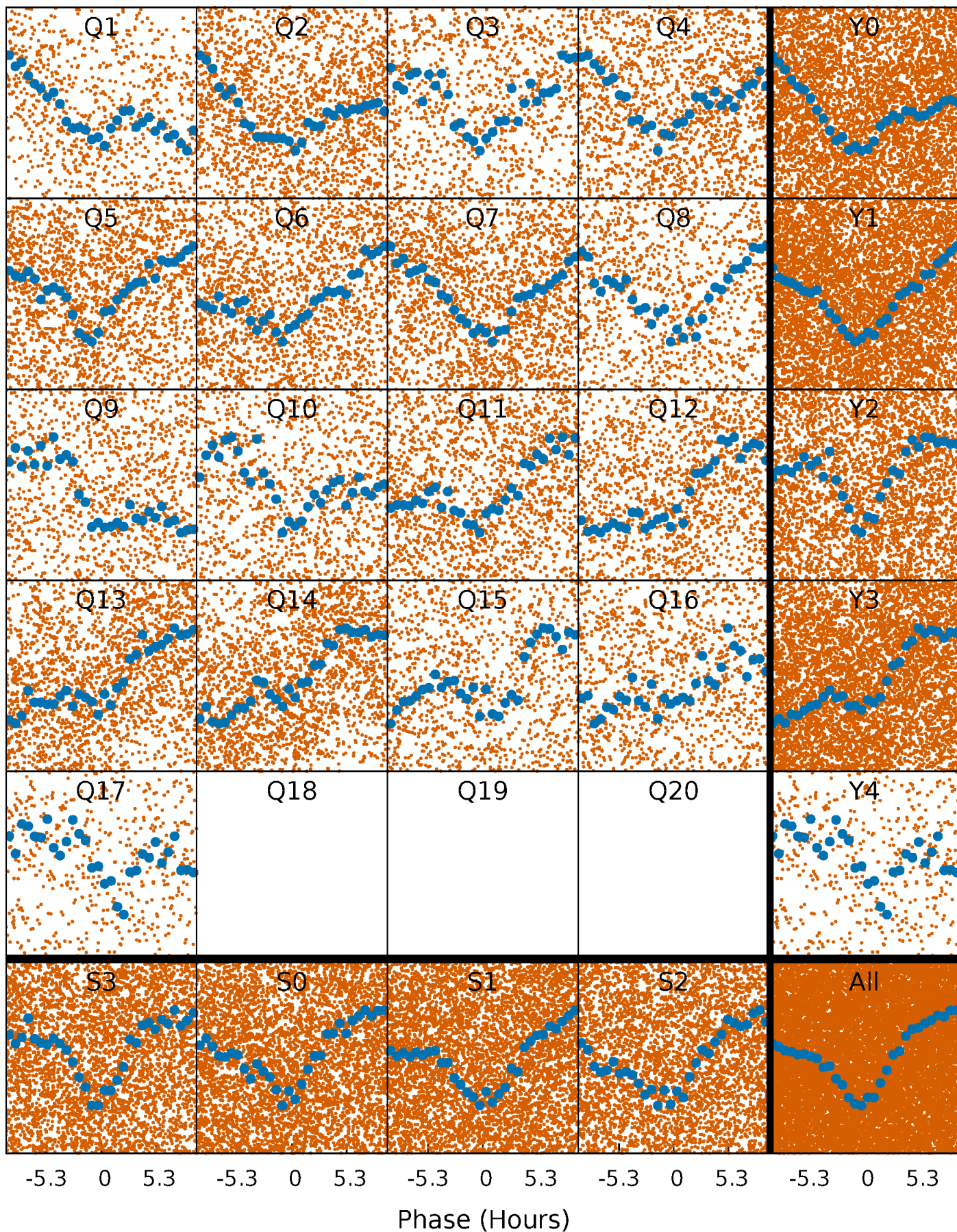


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



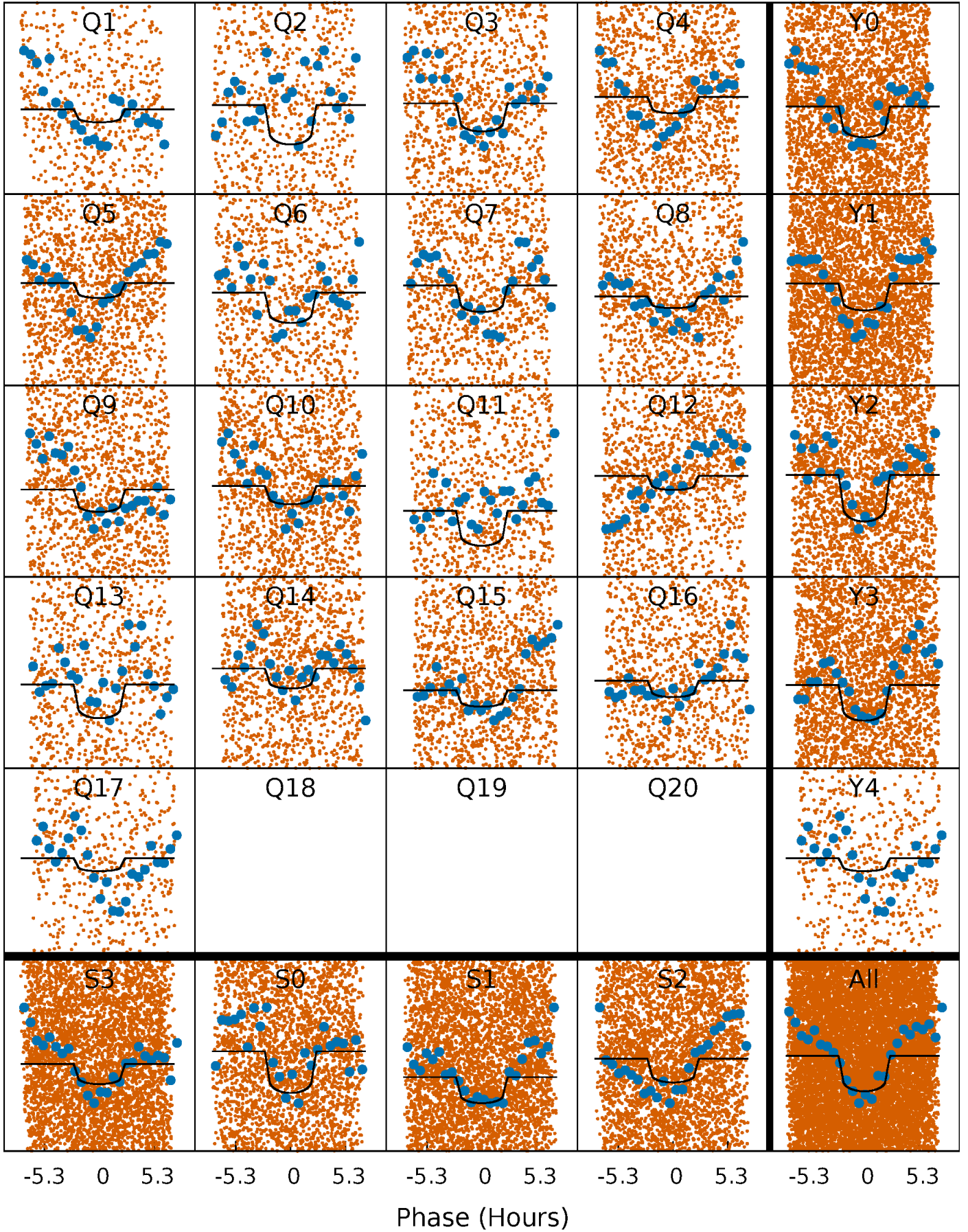
PDC Quarter-Phased Transit Curves

TCE 011196937-02 P= 1.218740 Days $T_0=132.067093$ (BKJD)



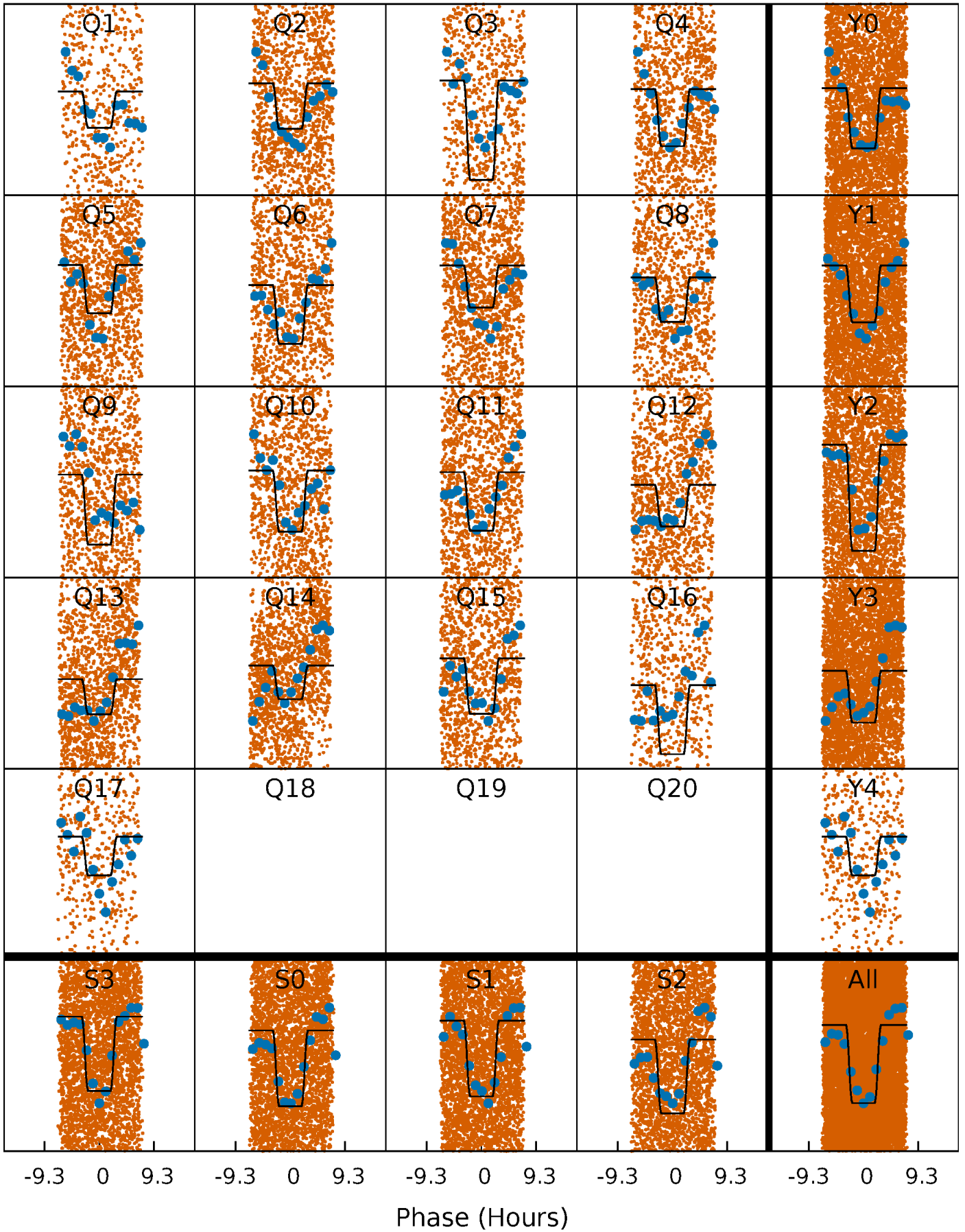
DV Quarter-Phased Transit Curves

TCE 011196937-02 $P = 1.218740$ Days $T_0 = 132.067093$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

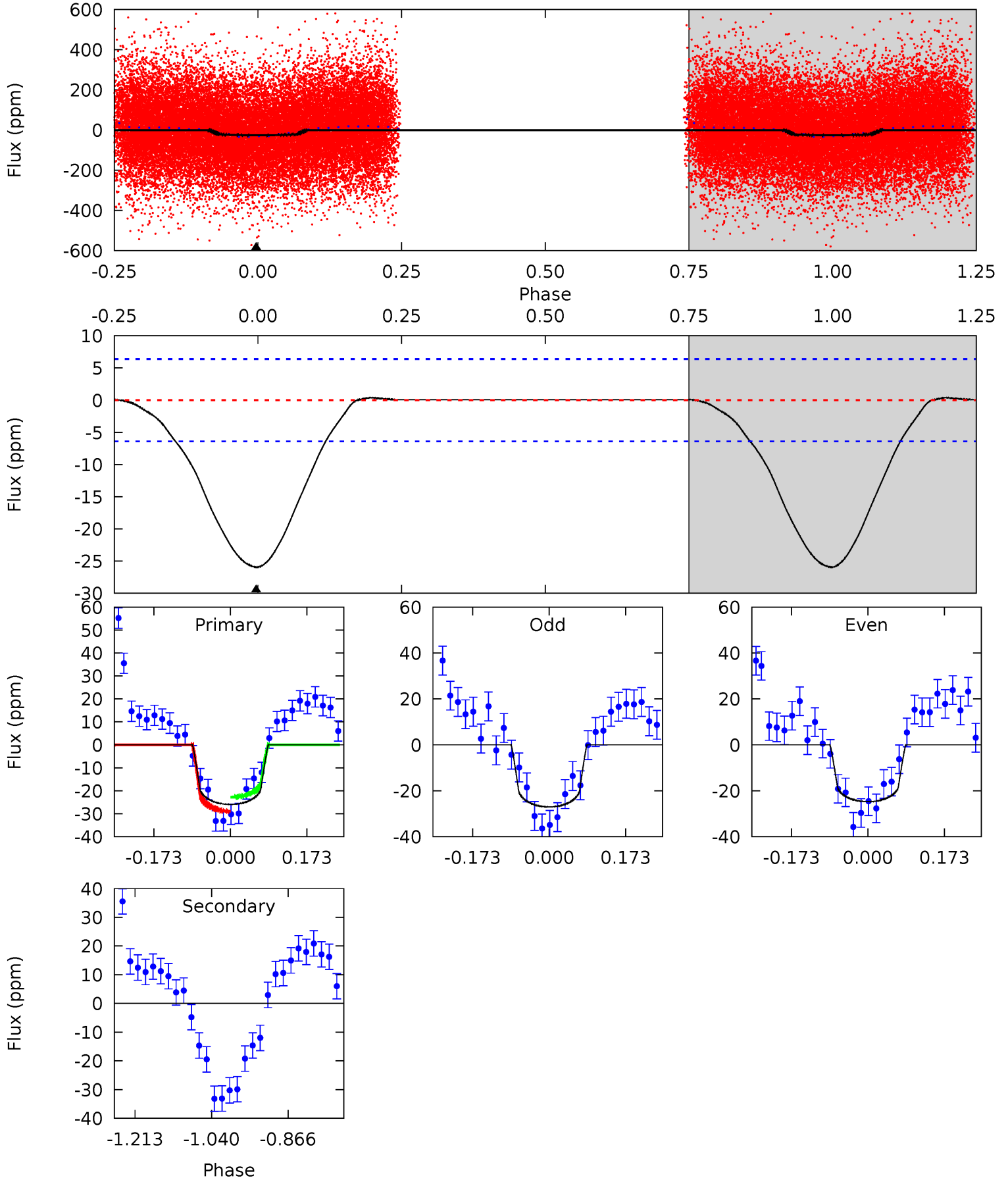
TCE 011196937-02 P= 1.218809 Days $T_0=132.011505$ (BKJD)



DV Model-Shift Uniqueness Test

011196937-02, P = 1.218740 Days, E = 130.848353 Days

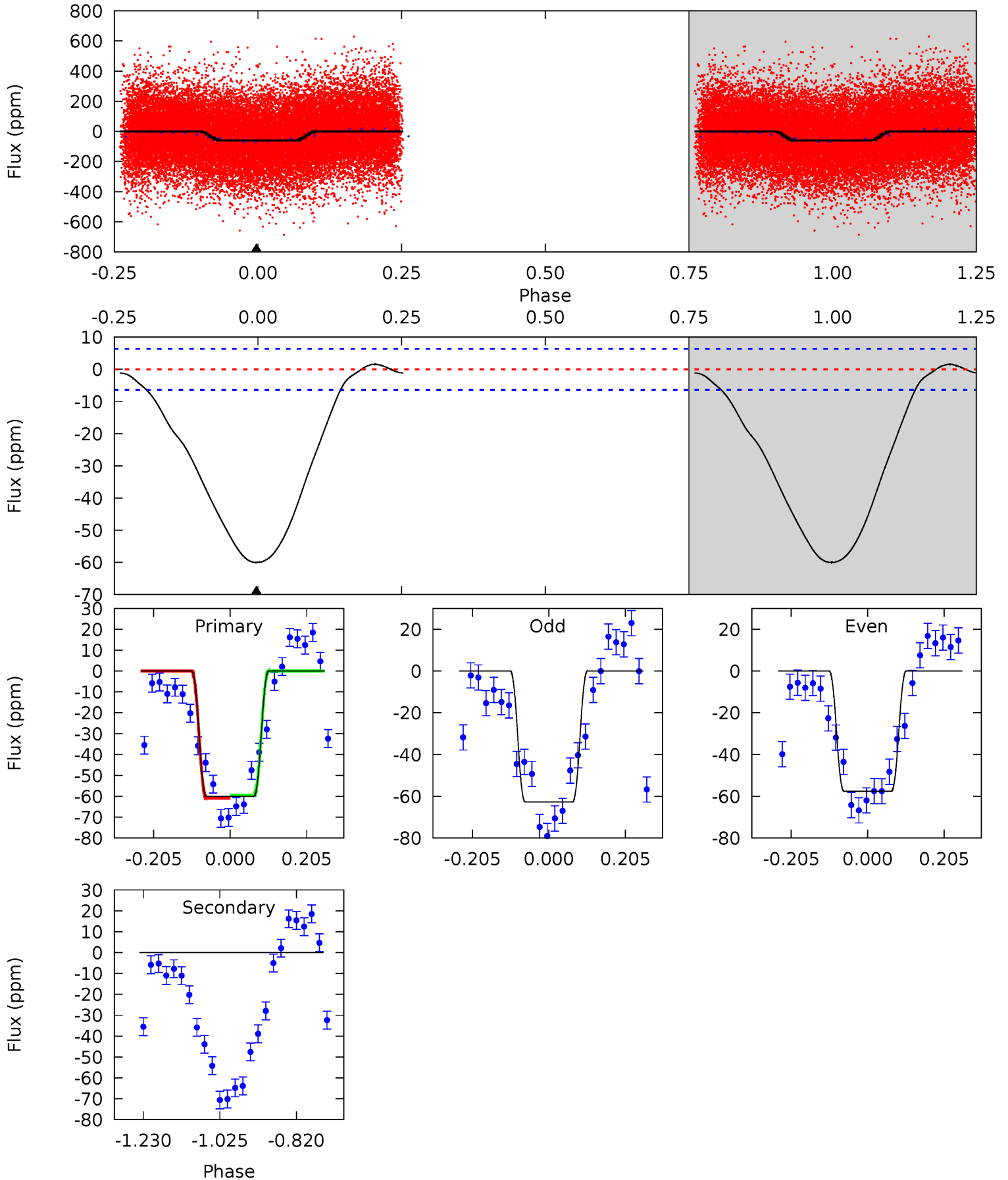
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	0	0	0	4.45	1.36	0.63	18.1	18.1	0	0	0.80	1.00	0.01	2.15



Alt Model-Shift Uniqueness Test

011196937-02, P = 1.218809 Days, E = 130.792696 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.7	0	0	0	4.41	1.27	1.23	41.7	41.7	0	0	1.76	1.03	0.03	0.54



Stellar Parameters For KIC 011196937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6739^{+168}_{-218}	$4.399^{+0.067}_{-0.202}$	$-0.580^{+0.250}_{-0.350}$	$1.085^{+0.325}_{-0.108}$	$1.074^{+0.145}_{-0.118}$	$1.184^{+0.409}_{-0.591}$
	+2%/-3%	+2%/-5%	+43%/-60%	+30%/-10%	+14%/-11%	+35%/-50%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011196937-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1	$0.65^{+0.19}_{-0.20}$	2884^{+215}_{-126}	-3031^{+6499}_{-833}	$0.004^{+1.014}_{-1.081}$
Alt.	0 ± 1	$1.02^{+0.23}_{-0.18}$	2897^{+214}_{-133}	-3028^{+5557}_{-457}	$0.003^{+0.376}_{-0.421}$

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 $A_{obs} \gg 1.0$

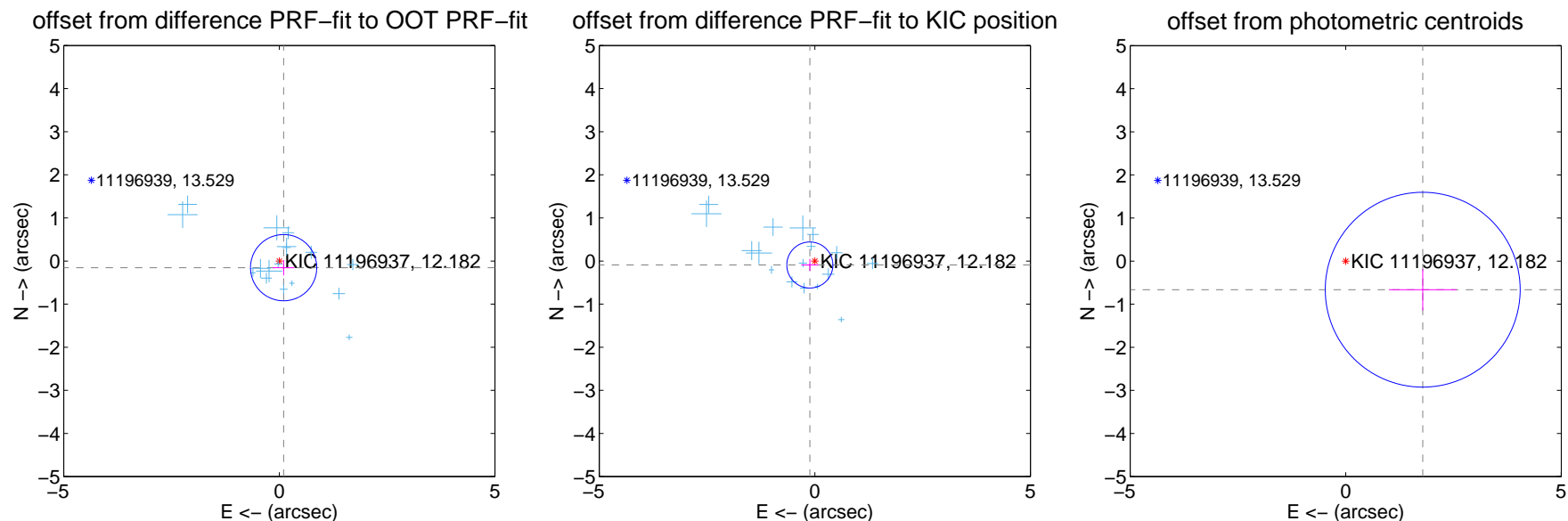
DV Centroid Data

Supplemental centroid analysis for 011196937-02. Kepler magnitude: 12.18. Transit SNR 10.91

There are 17 quarters with good PRF difference image offsets

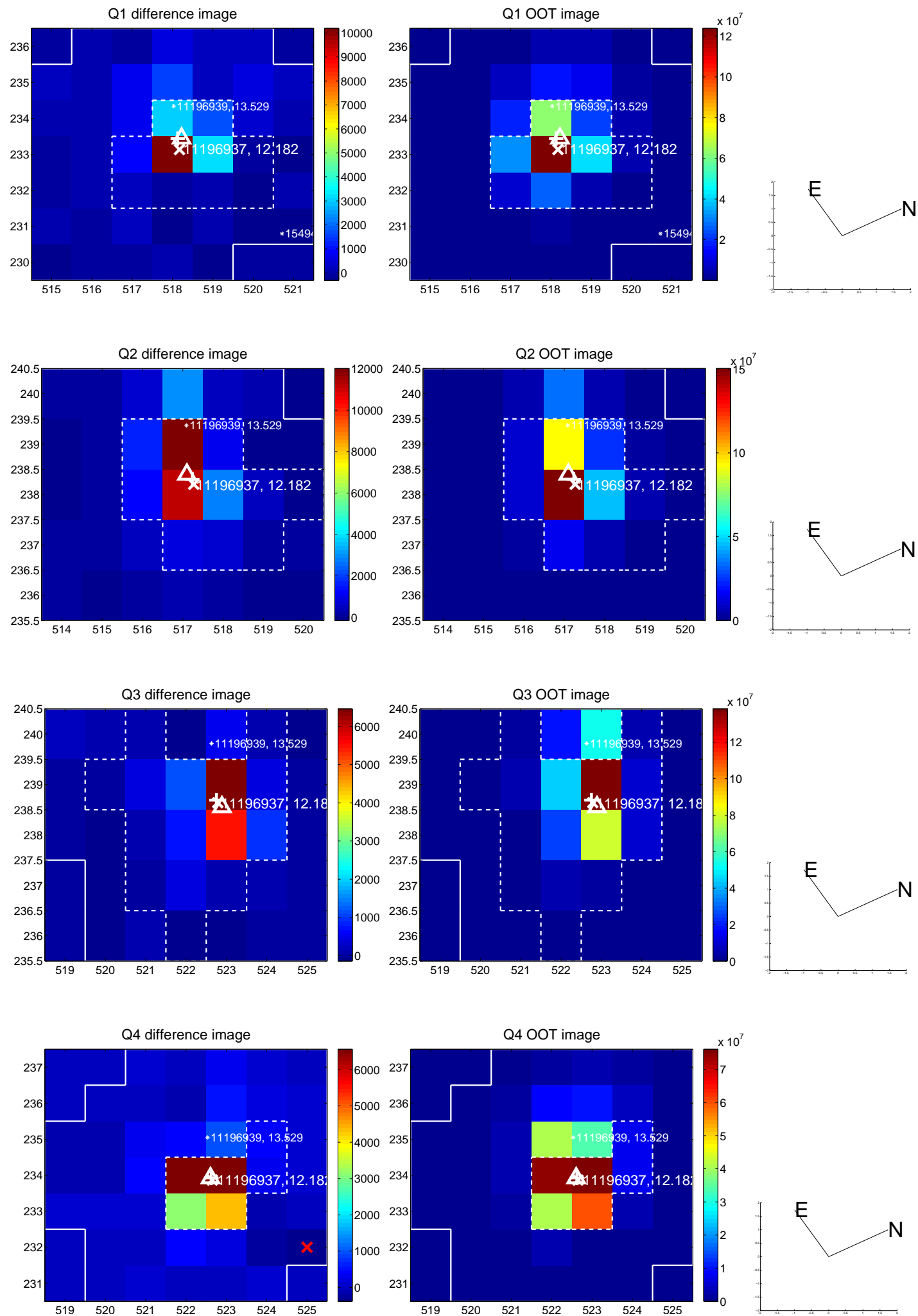
The direct PRF centroid is offset from the target star catalog position by about 1.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.184 ± 0.256	0.72	-0.100 ± 0.252	-0.154 ± 0.180
PRF-fit source offset from KIC position	0.148 ± 0.178	0.83	0.116 ± 0.198	-0.092 ± 0.140
photometric centroid source offset	1.91 ± 0.75	2.53	-1.79 ± 0.78	-0.66 ± 0.48

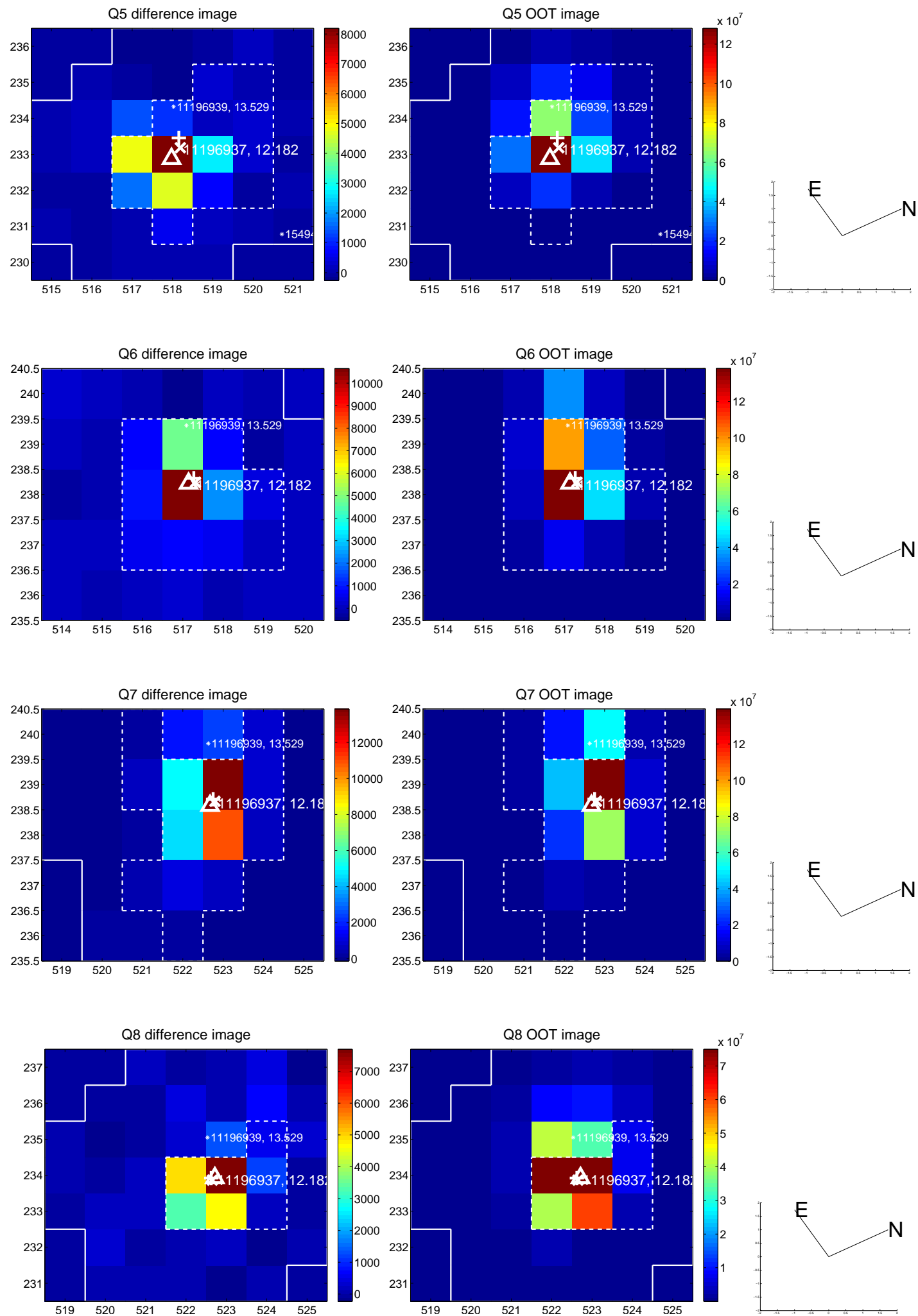


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

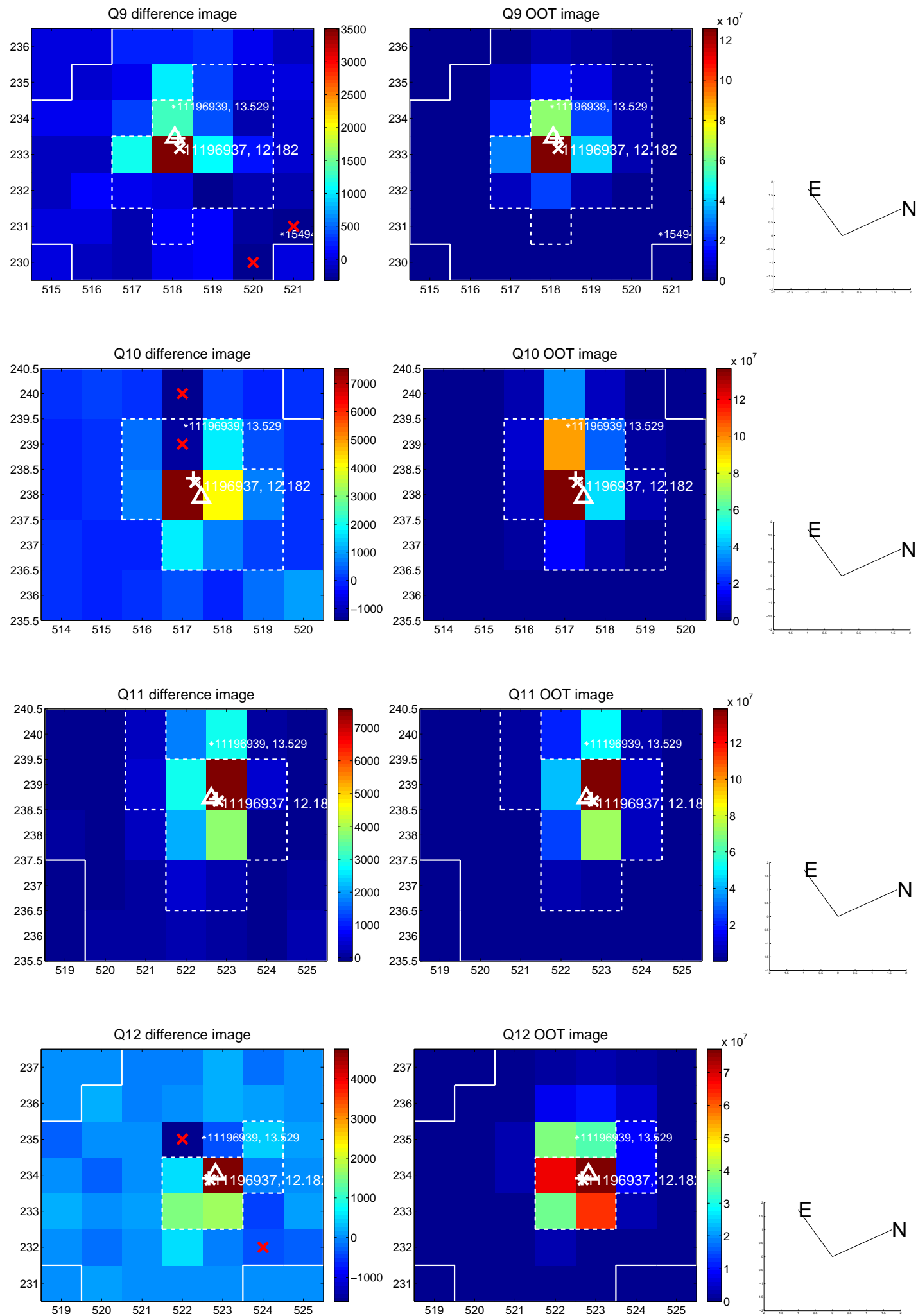
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



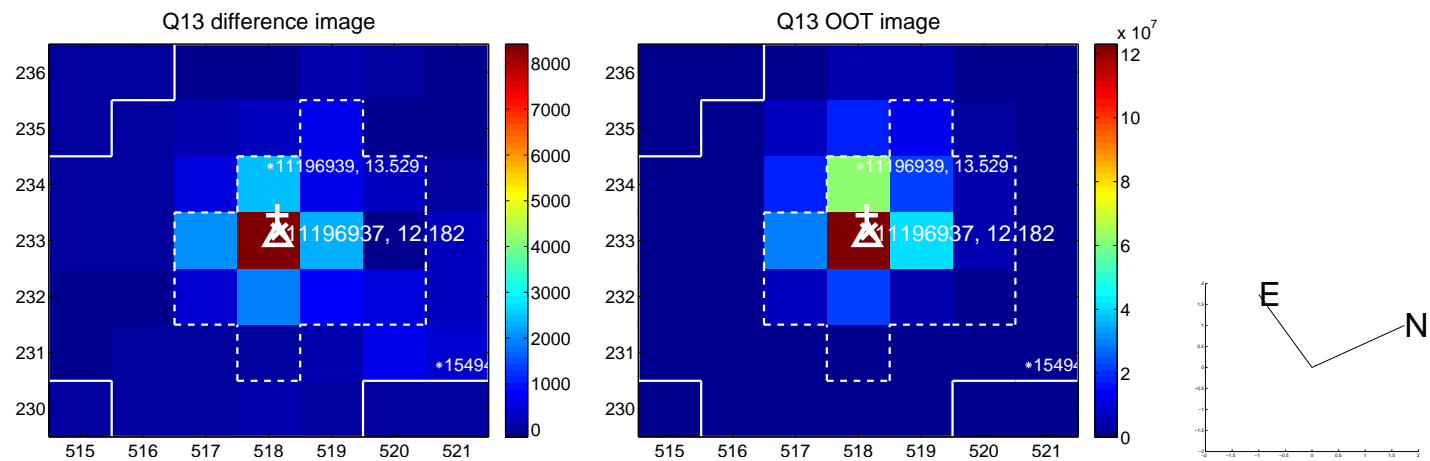
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



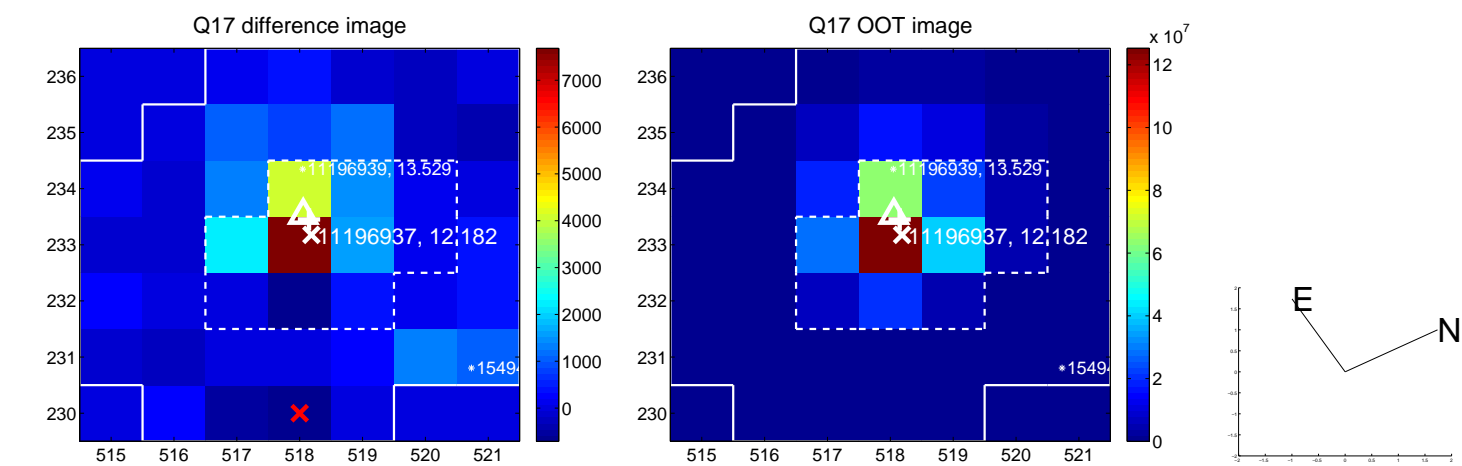
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



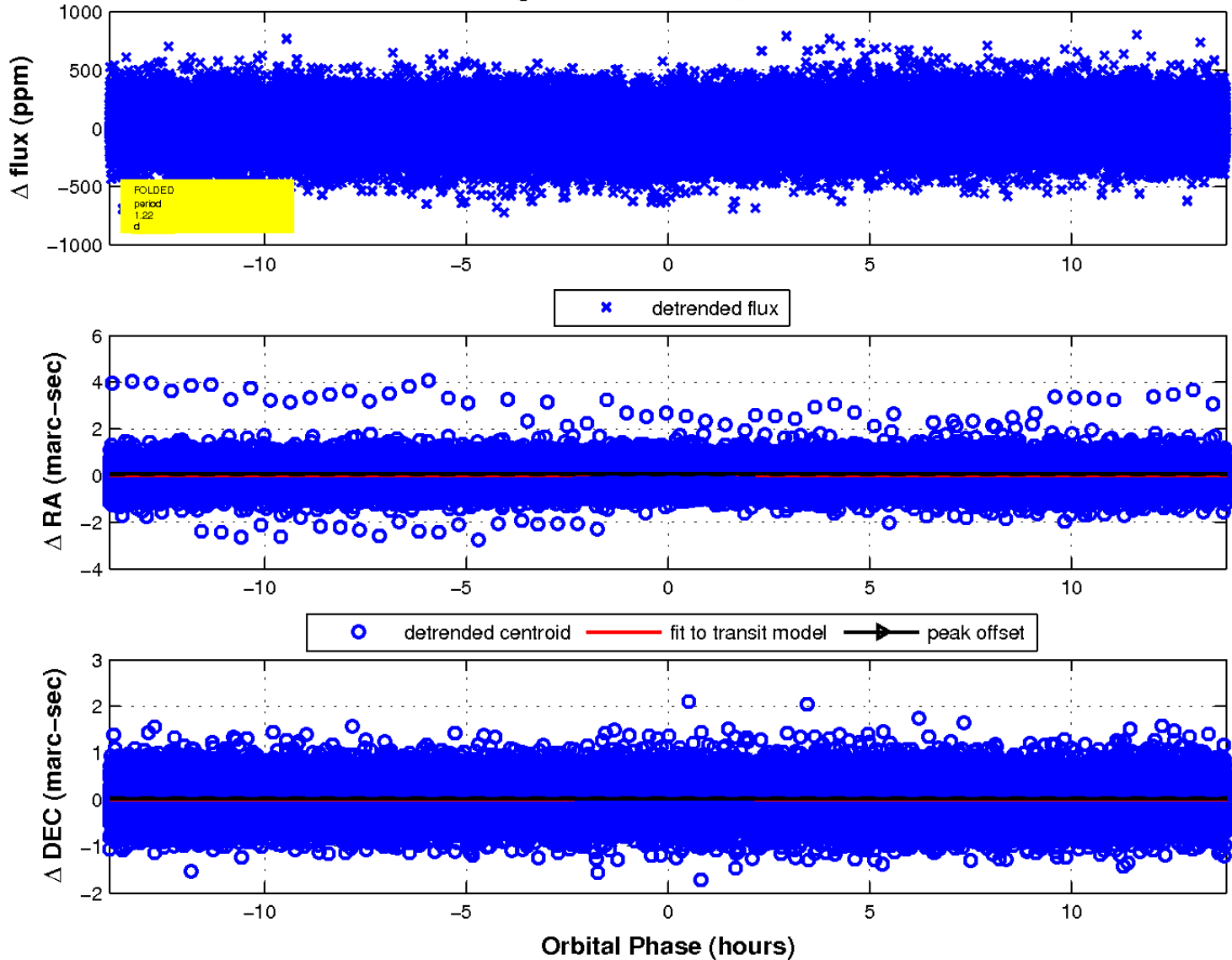
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

