

KIC 006197810

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})
006197810-01	OBS	No	7.053201	132.293609	39.2	19.844	13.7	13.9	1.91	5053	1.46	444.78
006197810-02	OBS	No	7.053620	133.641053	44.7	18.562	11.7	14.0	1.91	5053	1.28	444.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006197810-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006197810-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_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.

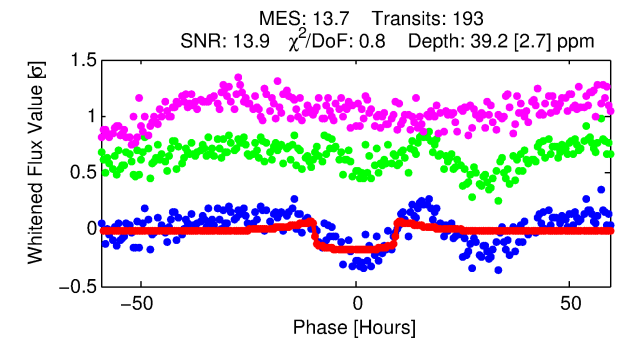
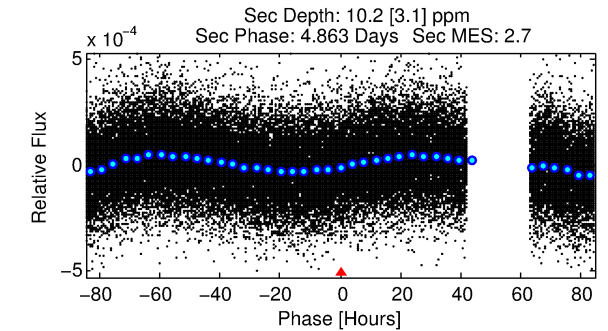
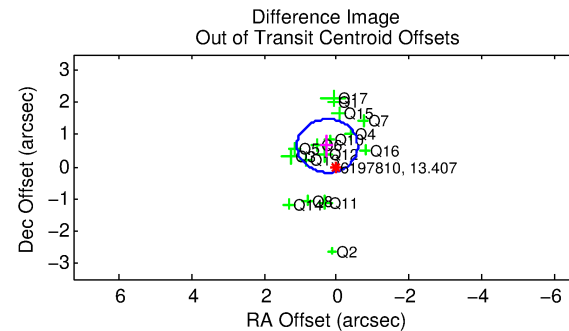
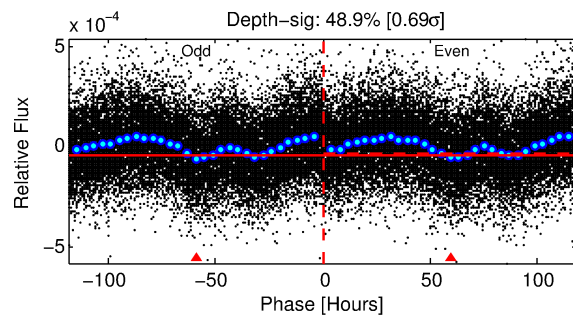
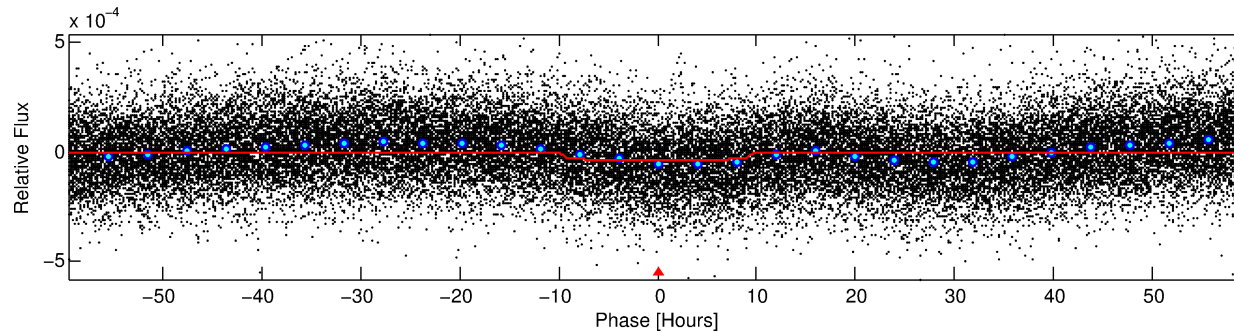
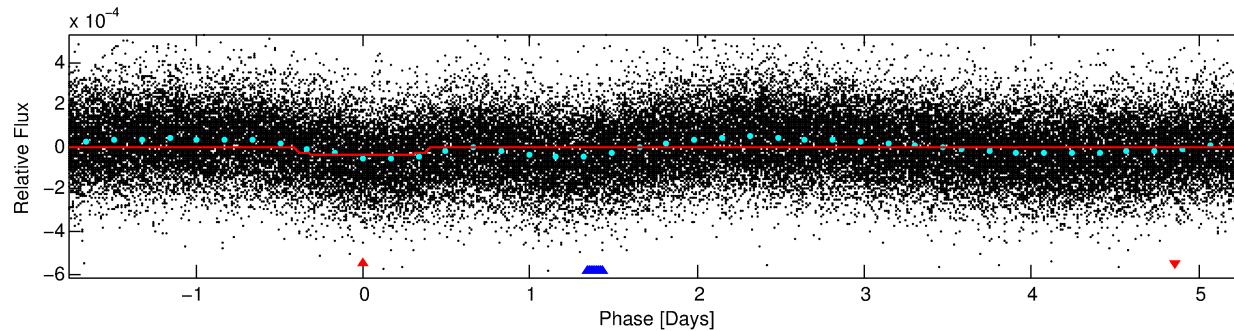
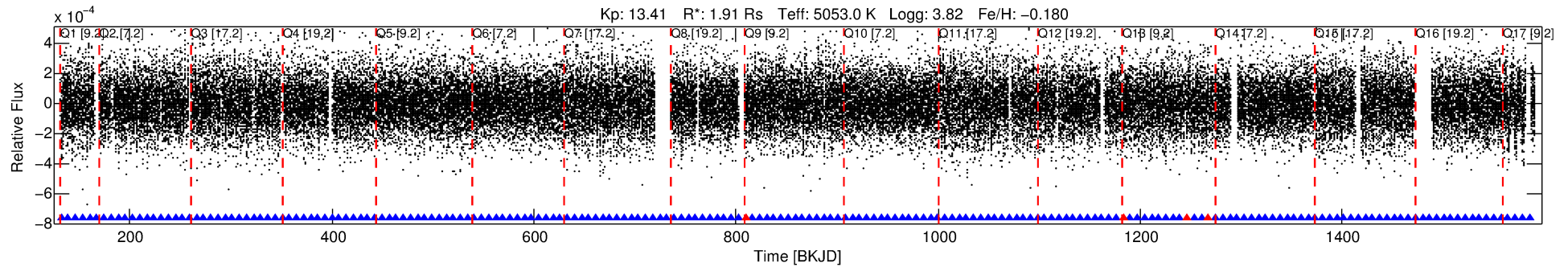
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006197810-01

No Significant Match Found

DV One-Page Summary

KIC: 6197810 Candidate: 1 of 2 Period: 7.053 d



DV Fit Results:

Period = 7.05320 [0.00013] d
Epoch = 132.2936 [0.0144] BKJD
Rp/R* = 0.0070 [0.0007]
a/R* = 1.51 [0.37]
b = 0.91 [0.09]
Seff = 444.78 [602.69]
Teq = 1171 [397] K
Rp = 1.46 [0.97] Re
a = 0.0691 [0.0535] AU
Ag = 12.53 [17.54] [0.66 σ]
Teffp = 3406 [333] K [4.31 σ]

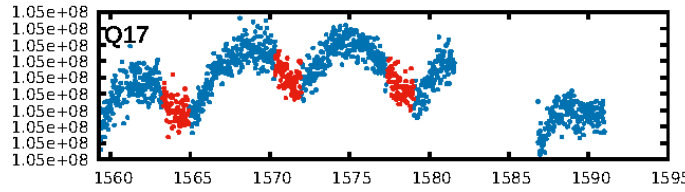
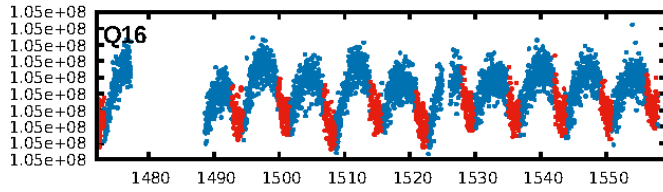
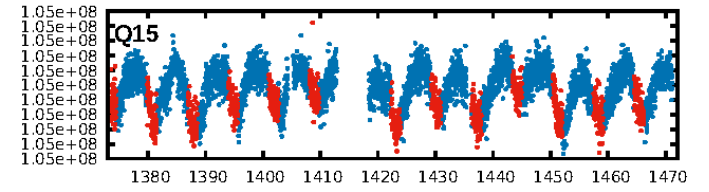
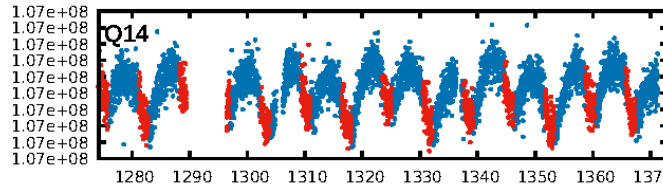
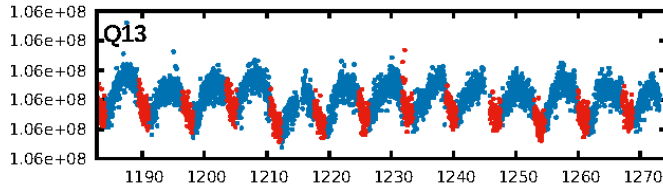
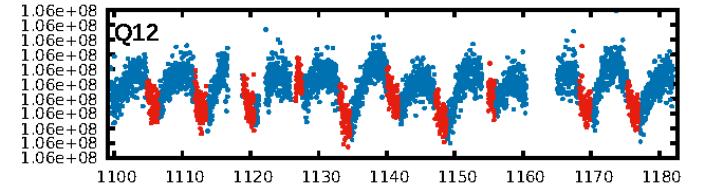
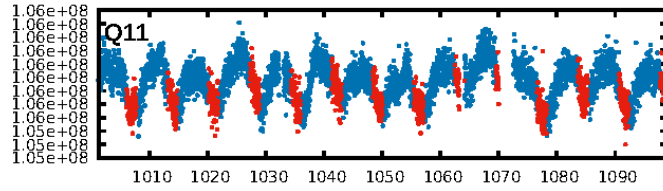
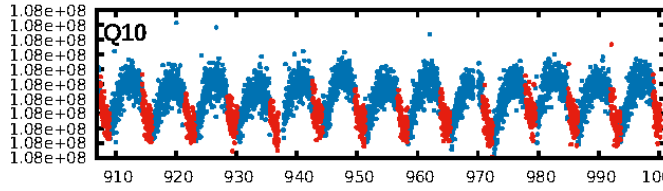
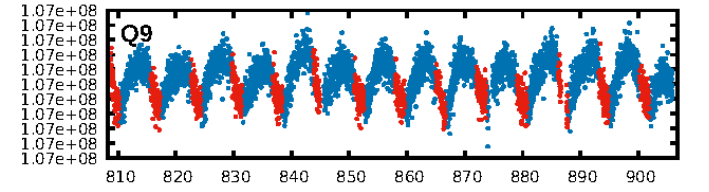
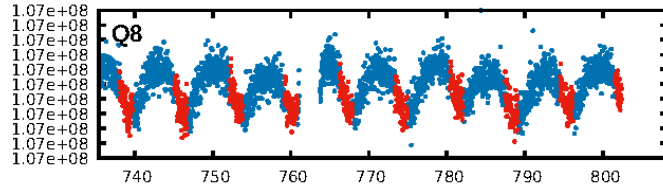
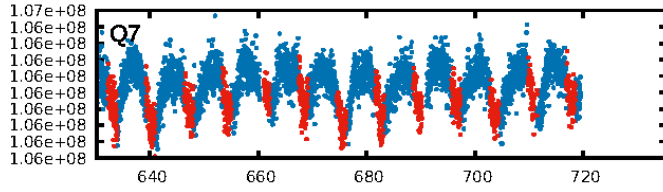
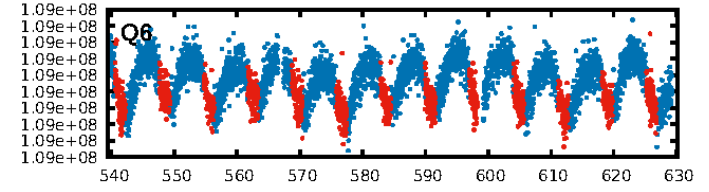
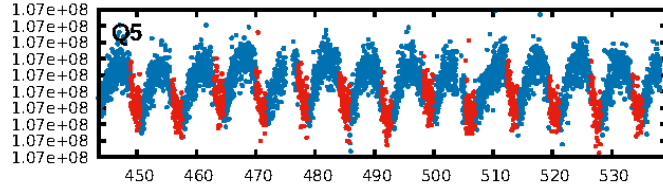
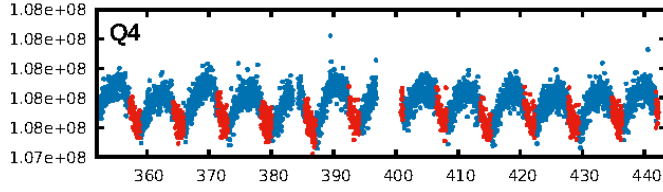
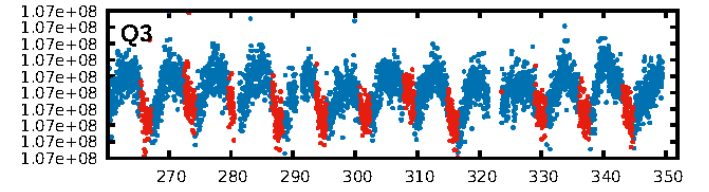
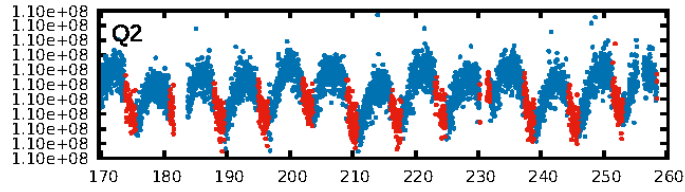
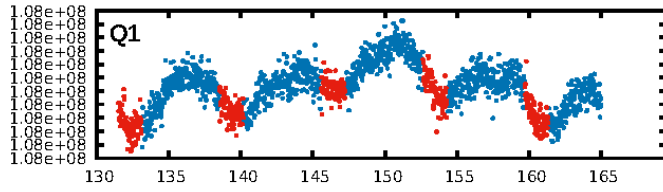
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.17e-34
RollingBand-fgm: 0.98 [181/185]
GhostDiagnostic-chr: 2.059
Centroid-sig: 16.9%
Centroid-so: 0.569 arcsec [0.75 σ]
OotOffset-rm: 0.696 arcsec [2.50 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.879 arcsec [3.16 σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 0.00 [0/17]

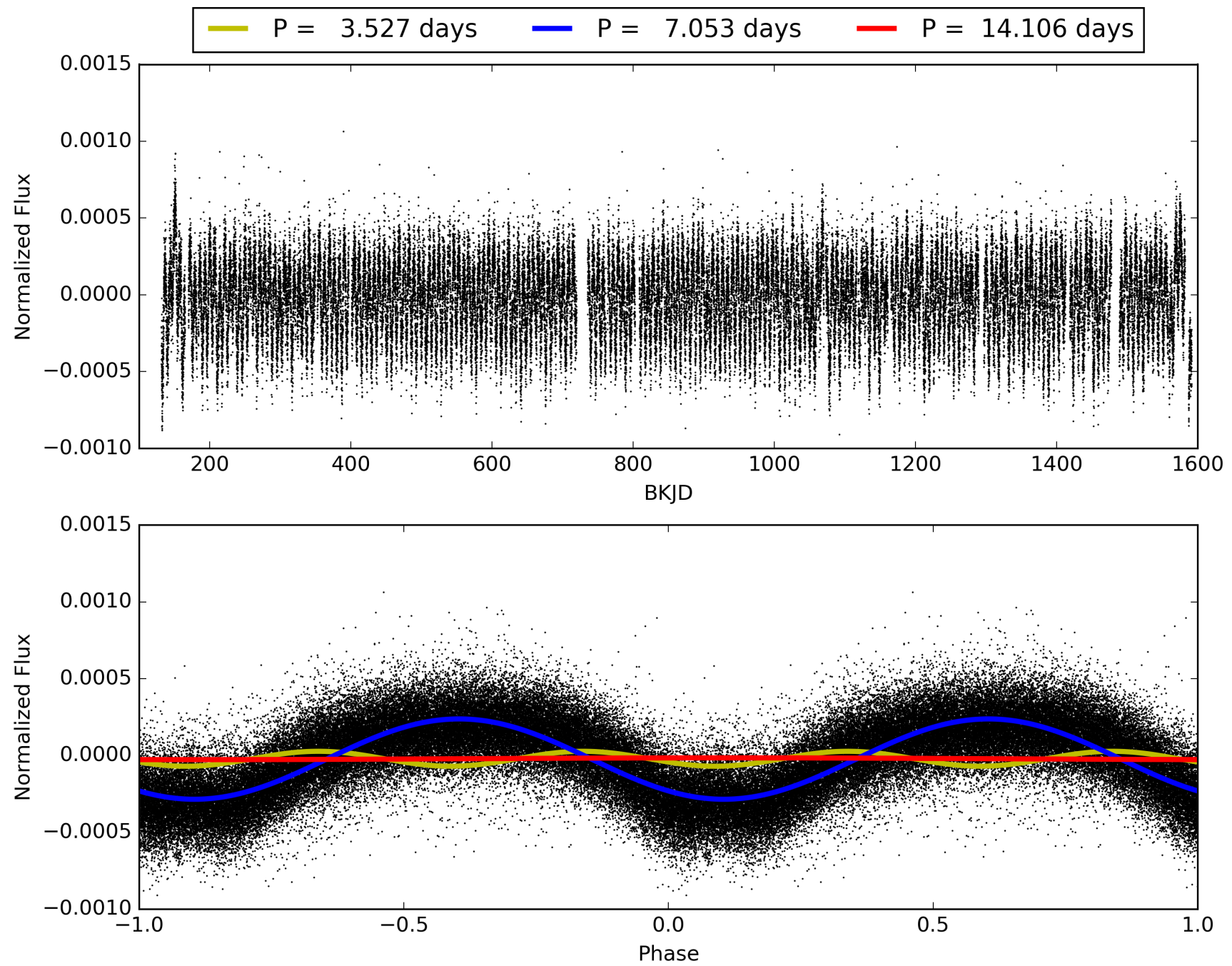
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:41:37 Z

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

TCE 006197810-01, PDC Light Curves

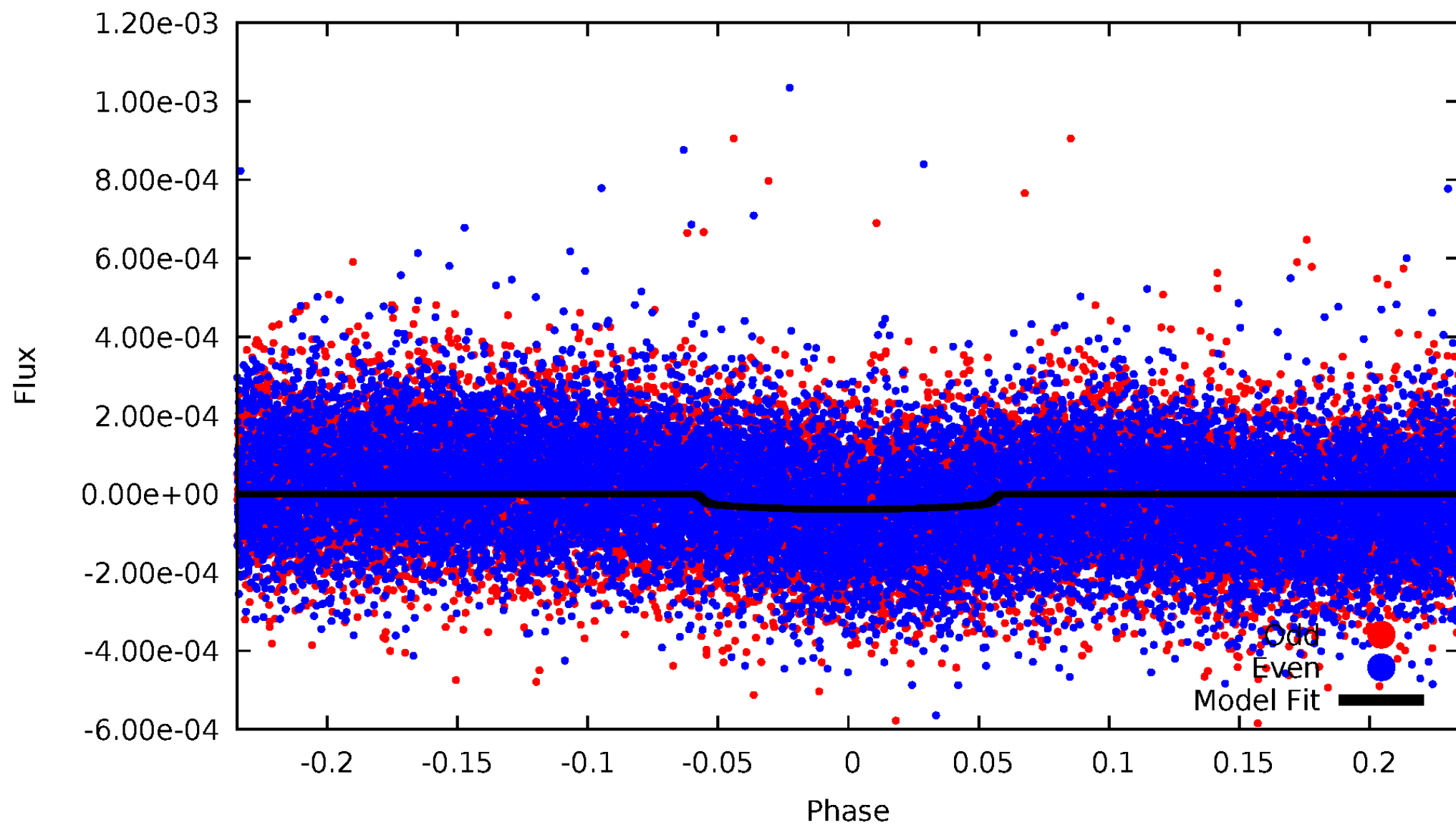


TCE 006197810-01



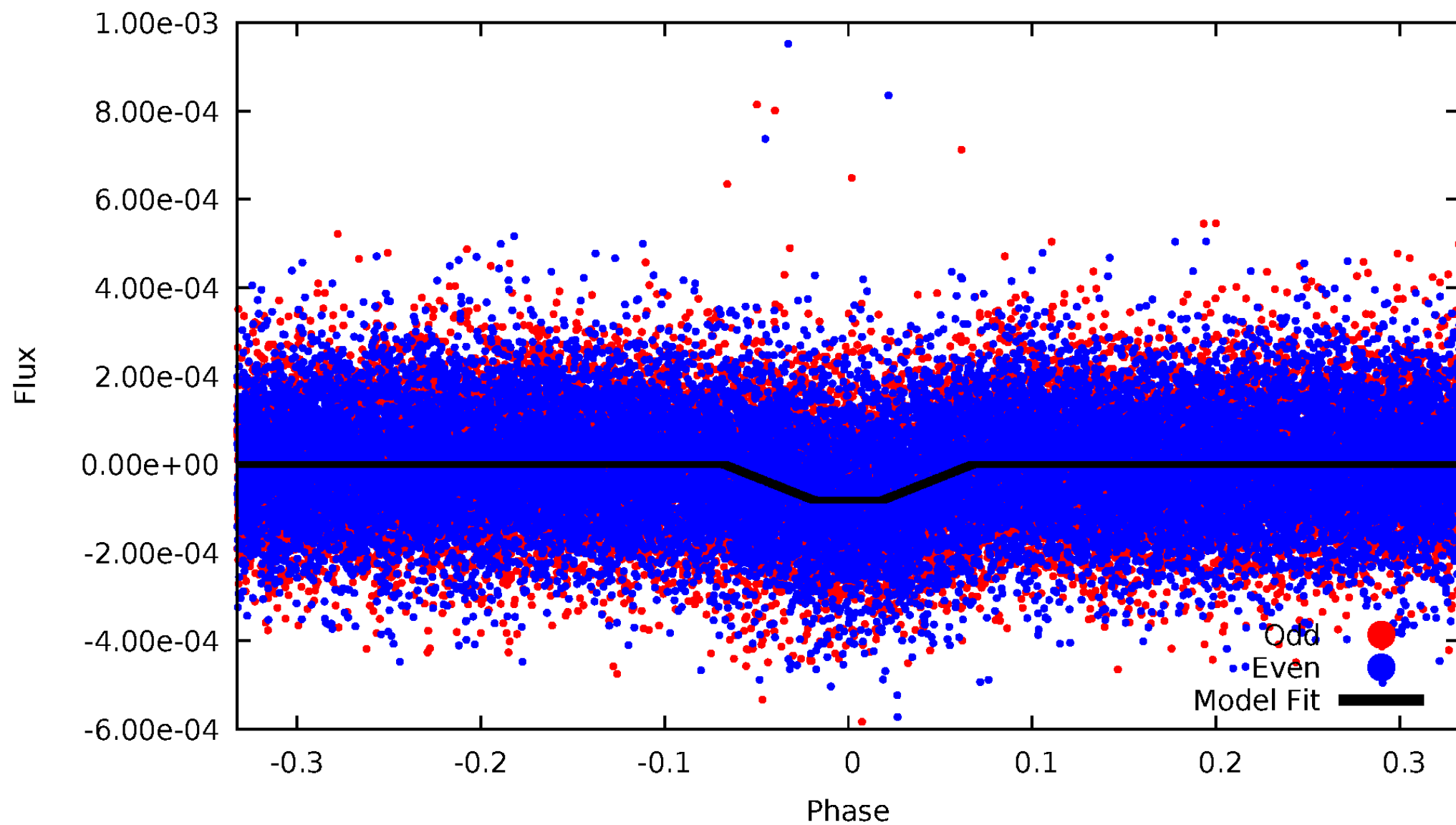
DV Odd/Even

TCE 006197810-01



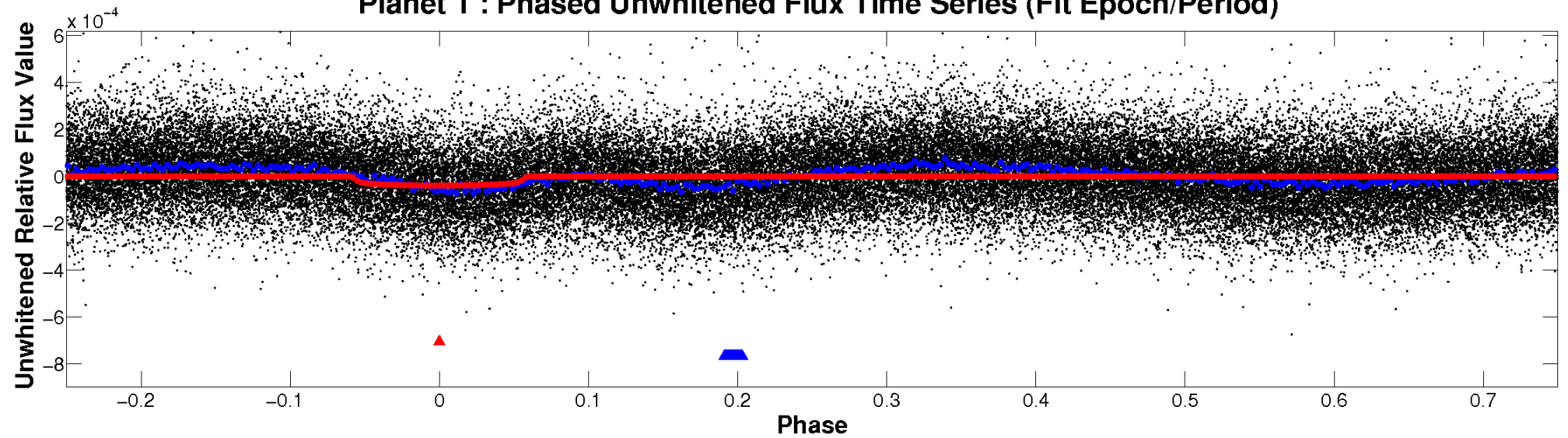
ALT Odd/Even

TCE 006197810-01

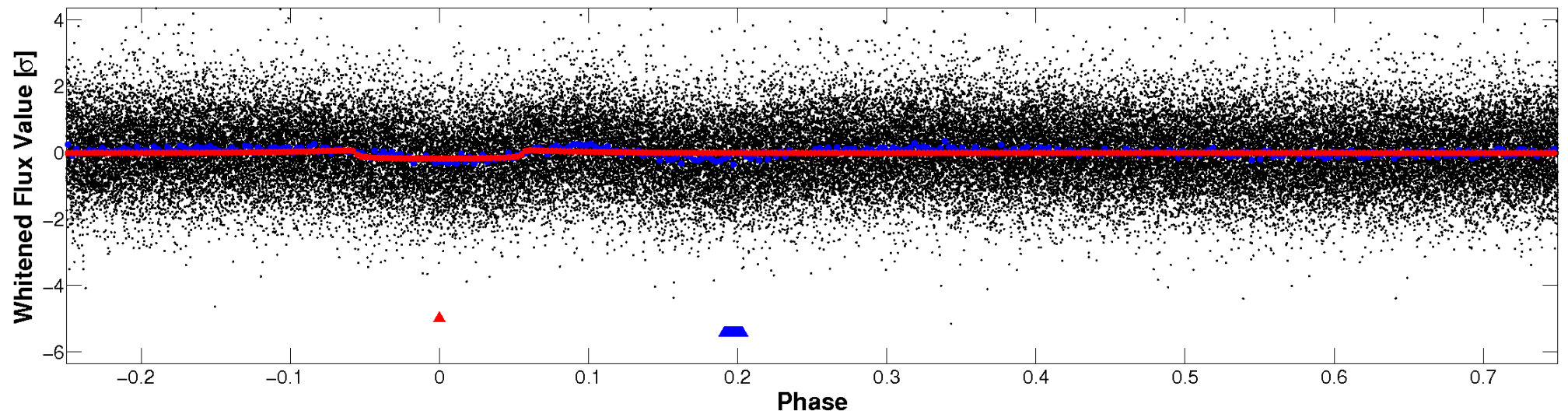


Non-Whitened Vs. Whitened Light Curve

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

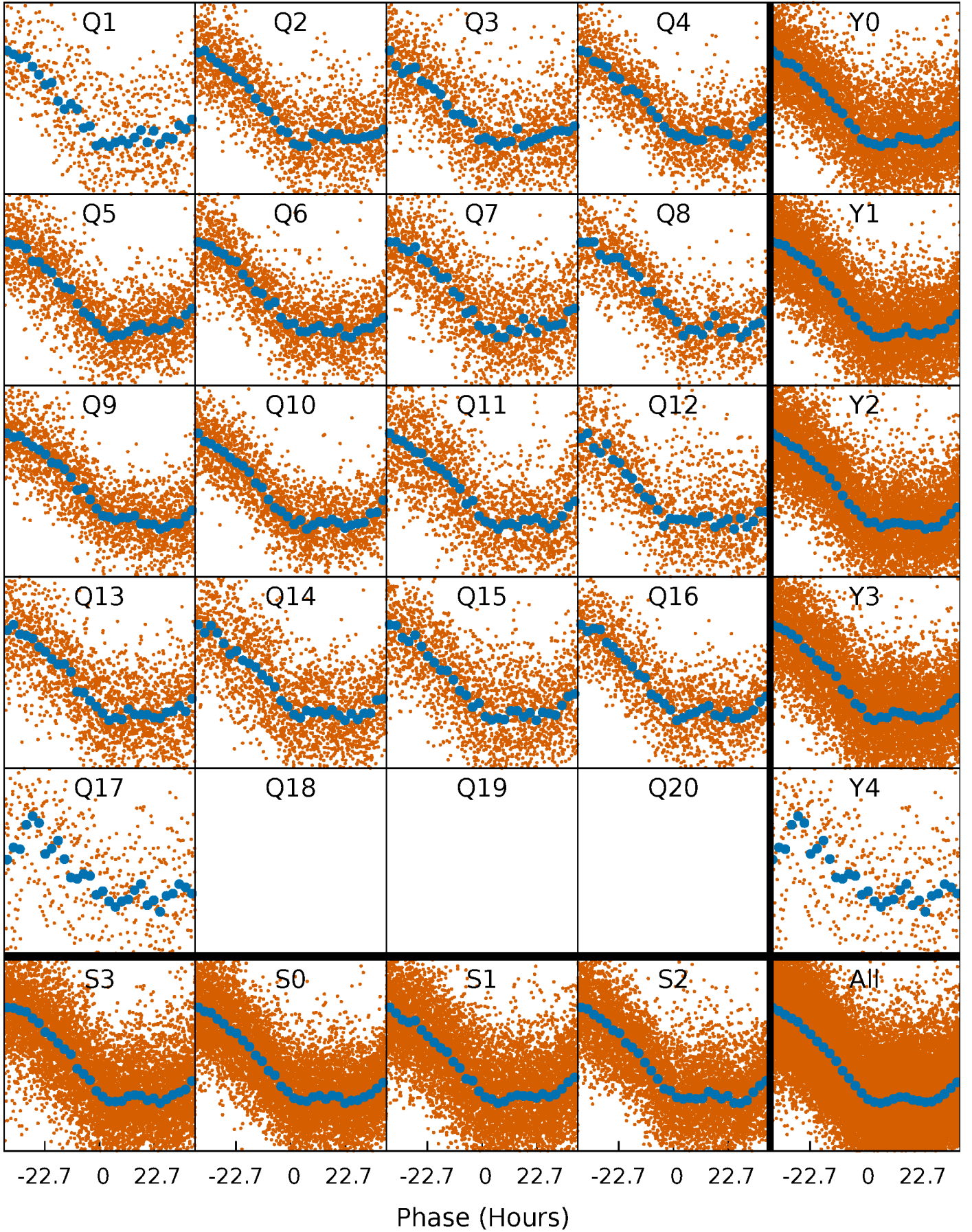


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



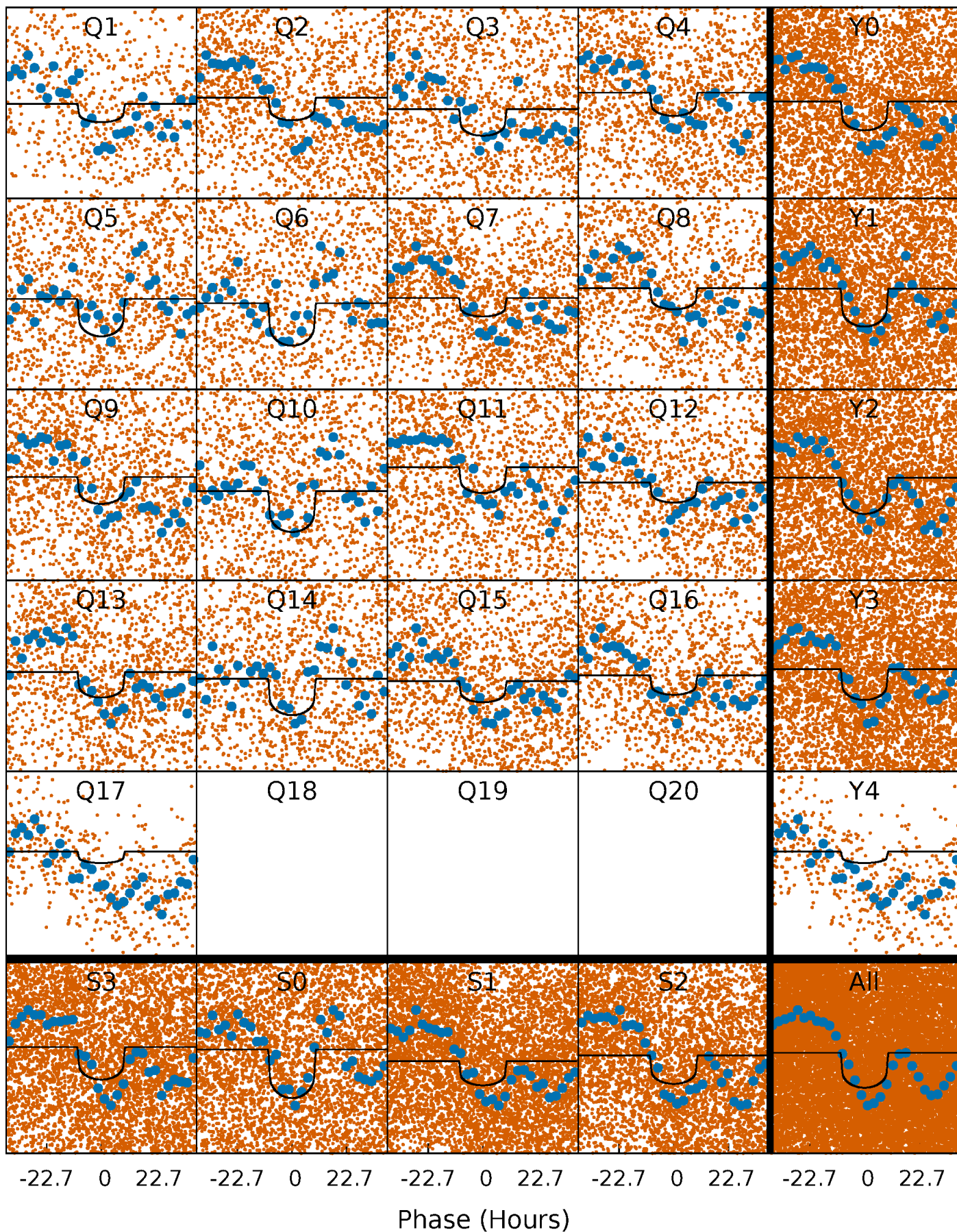
PDC Quarter-Phased Transit Curves

TCE 006197810-01 P= 7.053201 Days $T_0=132.293609$ (BKJD)



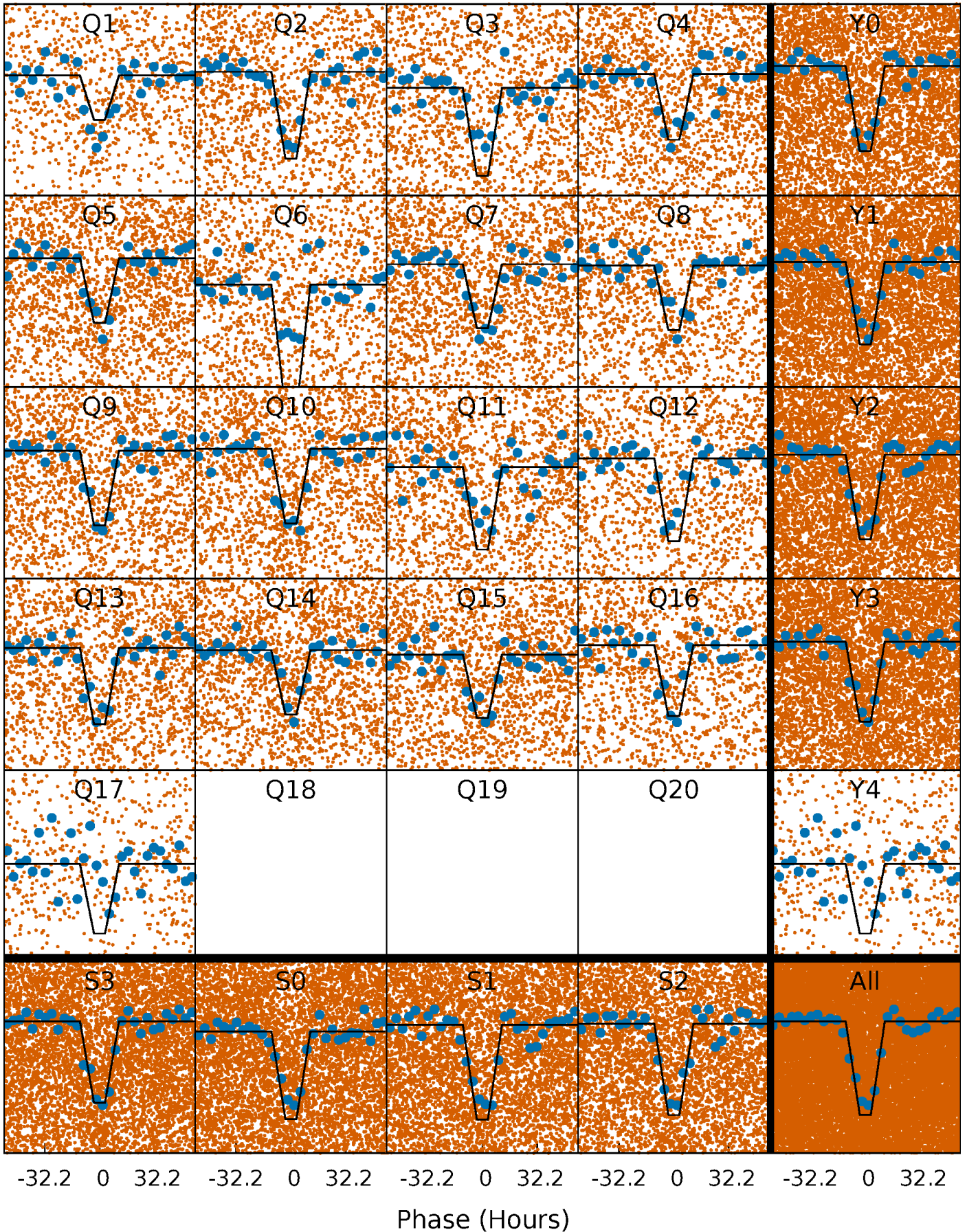
DV Quarter-Phased Transit Curves

TCE 006197810-01 P= 7.053201 Days $T_0=132.293609$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

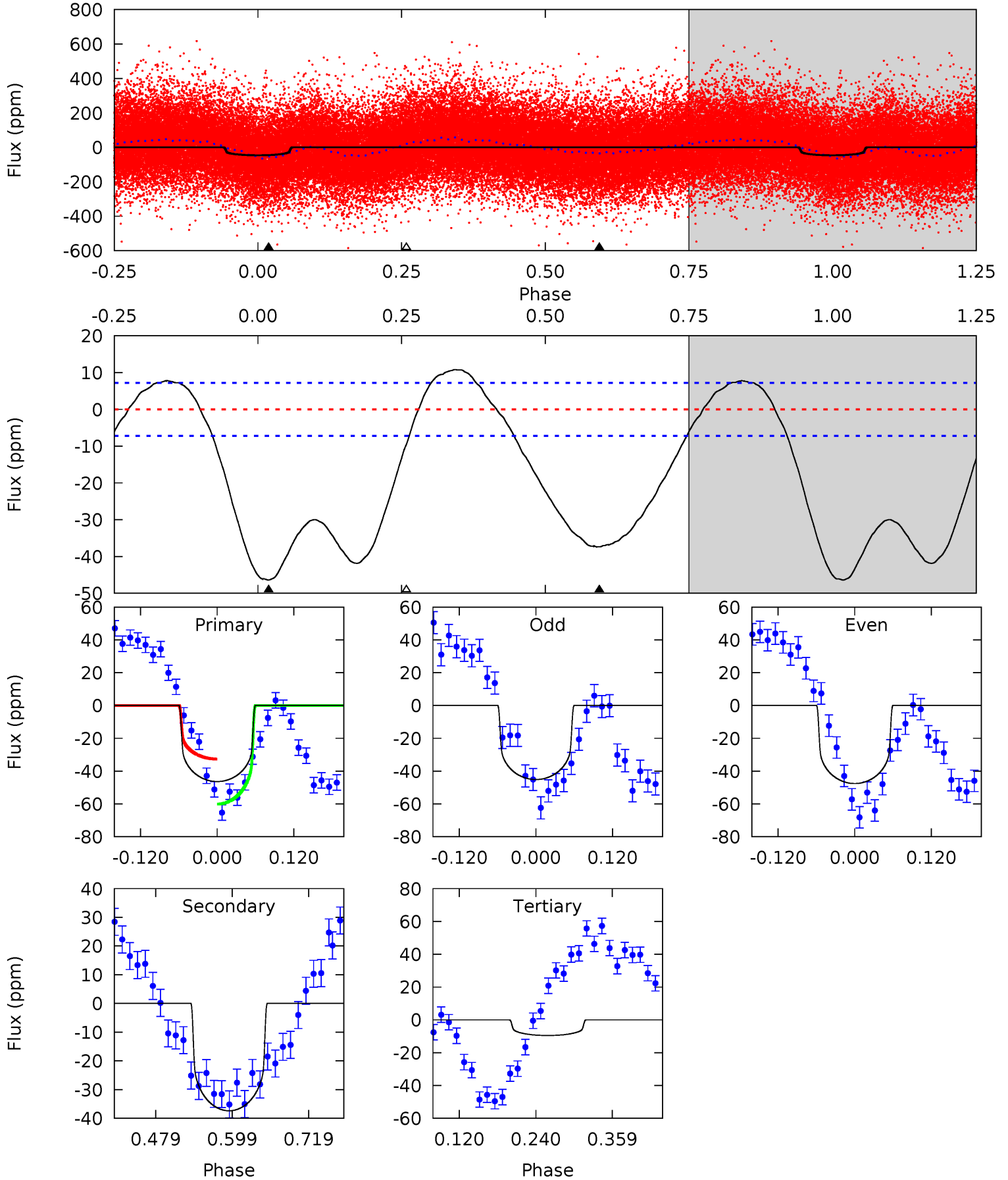
TCE 006197810-01 P= 7.053003 Days $T_0=132.369966$ (BKJD)



DV Model-Shift Uniqueness Test

006197810-01, P = 7.053201 Days, E = 125.240408 Days

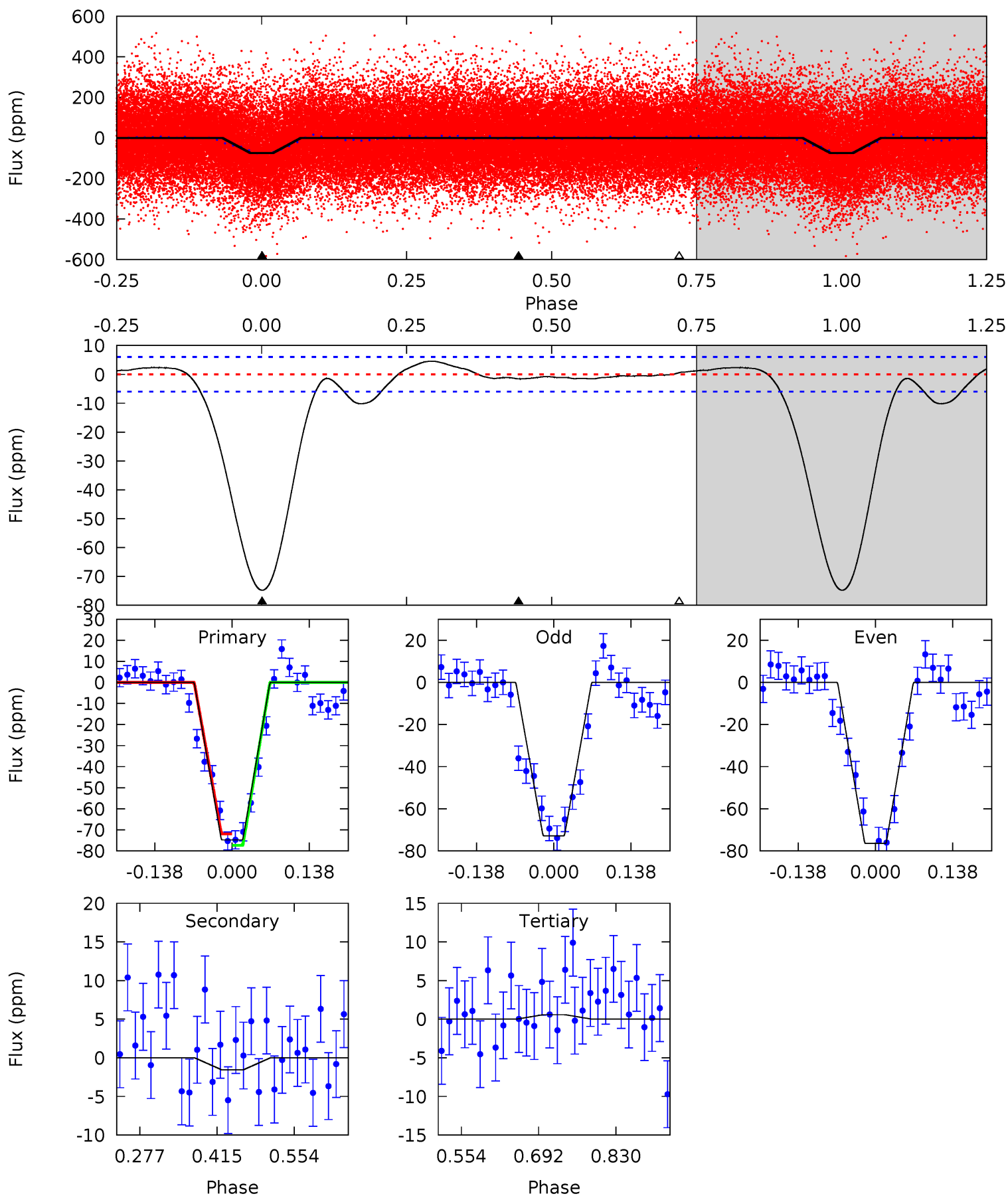
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.2	23.5	6.01	0	4.53	1.56	10.2	23.2	29.2	17.5	23.5	0.77	1.09	0.19	8.58



Alt Model-Shift Uniqueness Test

006197810-01, P = 7.053003 Days, E = 125.316963 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.8	1.16	-0.44	0	4.50	1.48	2.87	56.3	55.8	1.60	1.16	1.37	1.41	0.06	2.02



Stellar Parameters For KIC 006197810

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5053^{+136}_{-151}	$3.824^{+0.832}_{-0.277}$	$-0.180^{+0.250}_{-0.300}$	$1.907^{+1.022}_{-1.249}$	$0.885^{+0.190}_{-0.190}$	$0.180^{+2.835}_{-0.130}$
	+3%/-3%	+22%/-7%	+139%/-167%	+54%/-65%	+21%/-21%	+1578%/-72%
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 006197810-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-37 ± 2	$1.37^{+0.46}_{-0.47}$	1600^{+209}_{-293}	4751^{+286}_{-221}	51^{+65}_{-22}
Alt.	-2 ± 1	$1.73^{+0.61}_{-0.60}$	1586^{+219}_{-298}	2559^{+277}_{-4660}	$1.319^{+2.418}_{-1.165}$

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

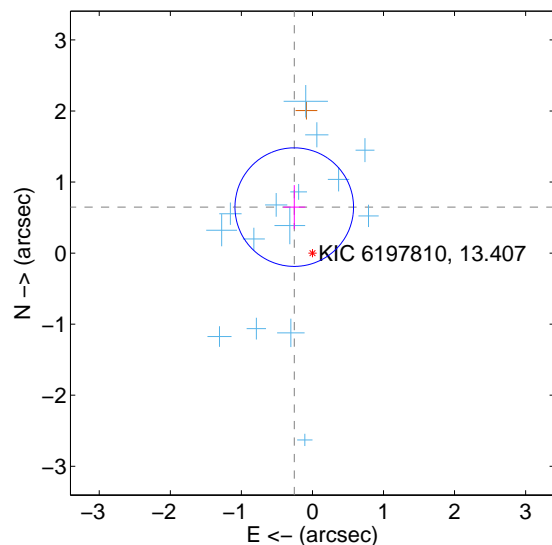
Supplemental centroid analysis for 006197810-01. Kepler magnitude: 13.41. Transit SNR 13.90

There are 15 quarters with good PRF difference image offsets

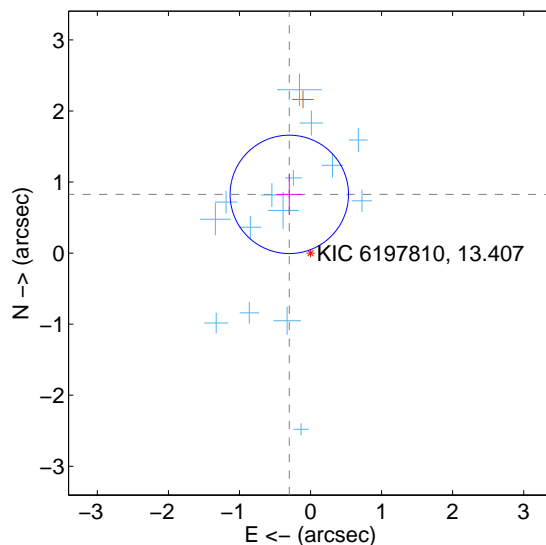
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.696 ± 0.278	2.50	0.256 ± 0.156	0.647 ± 0.309
PRF-fit source offset from KIC position	0.879 ± 0.278	3.16	0.299 ± 0.185	0.826 ± 0.288
photometric centroid source offset	0.57 ± 0.76	0.75	-0.12 ± 0.82	-0.56 ± 0.75

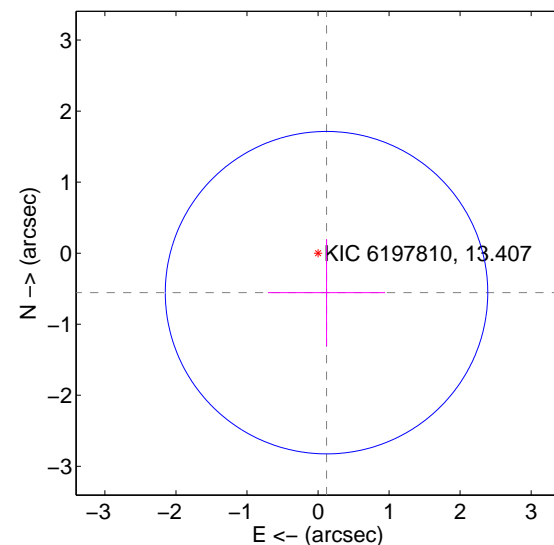
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

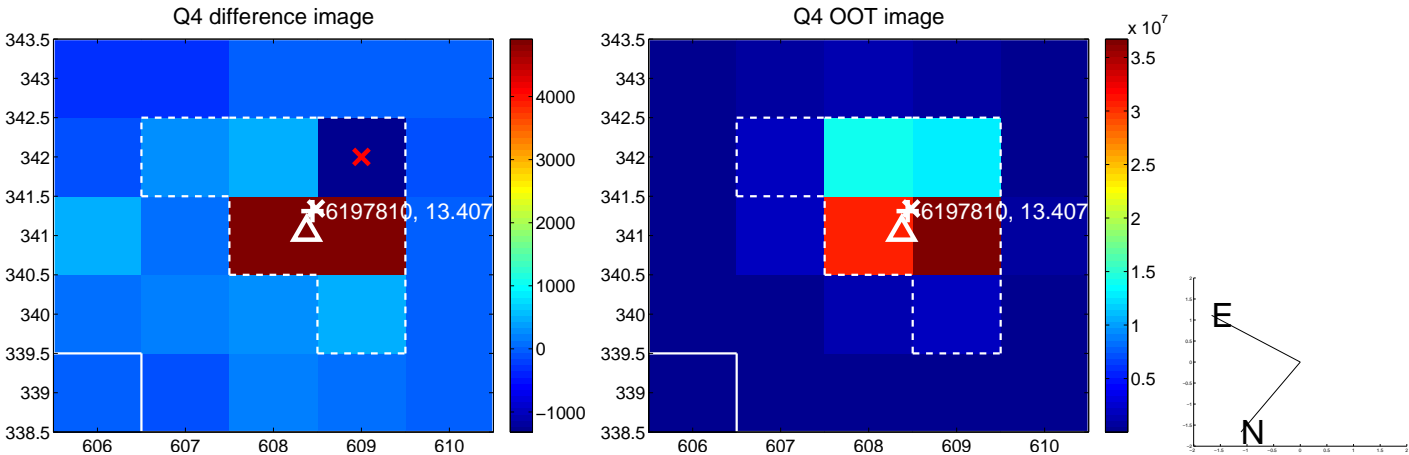
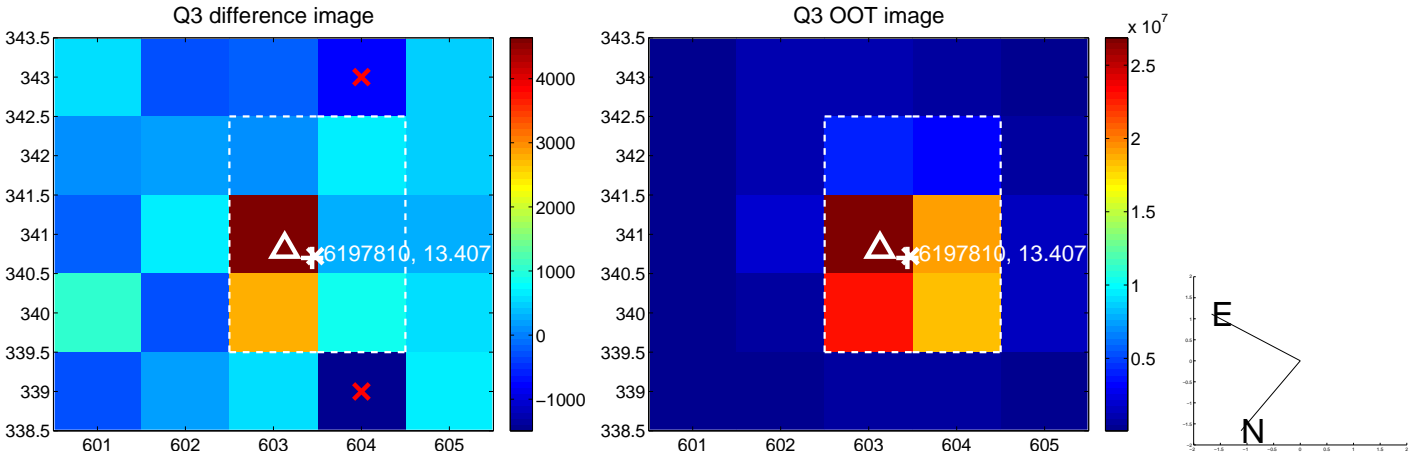
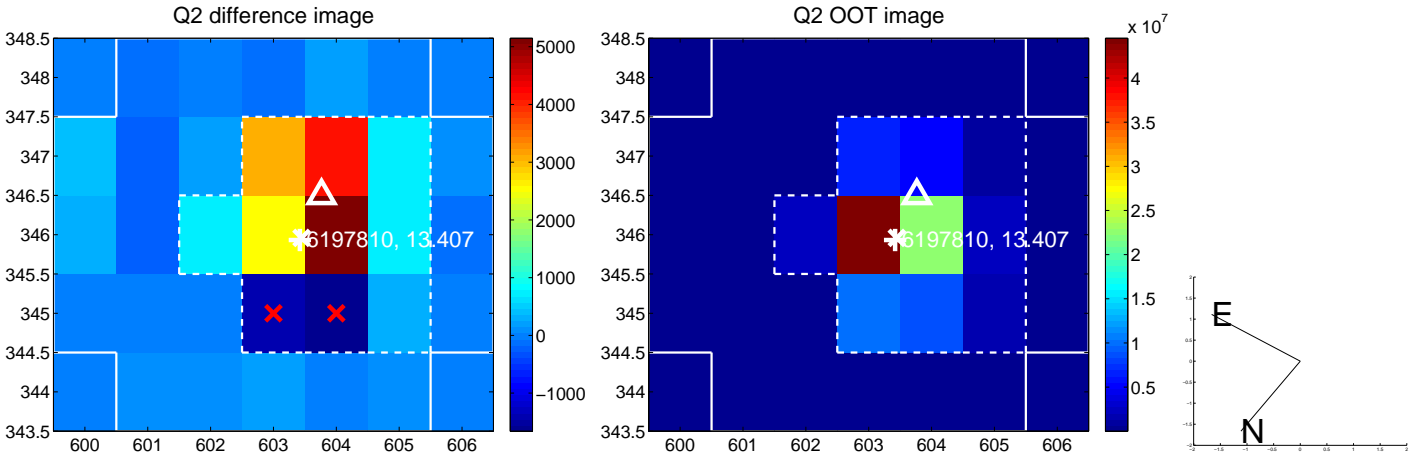
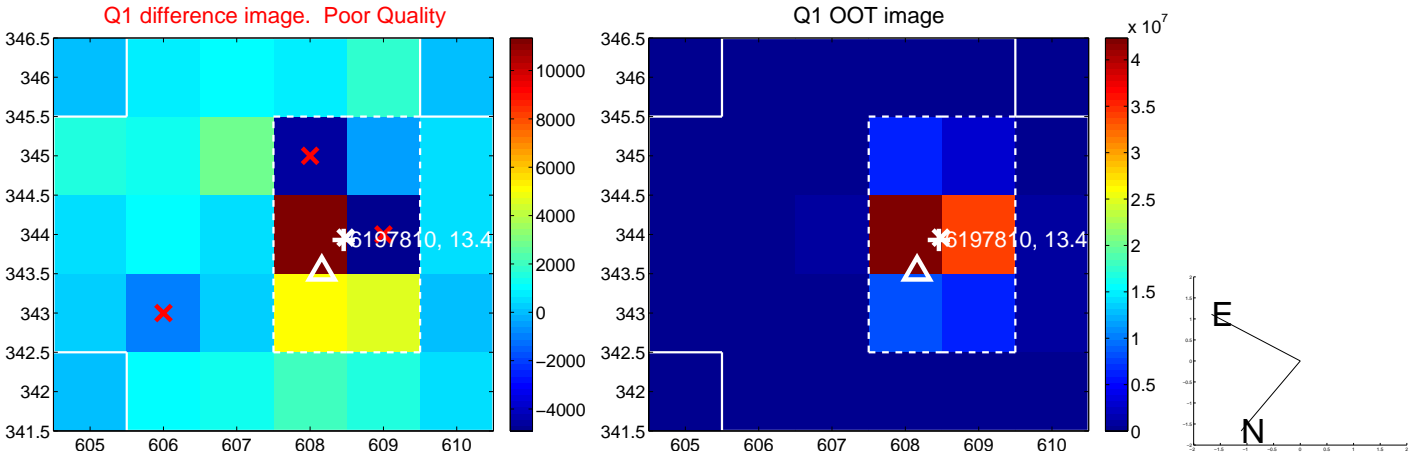


offset from photometric centroids

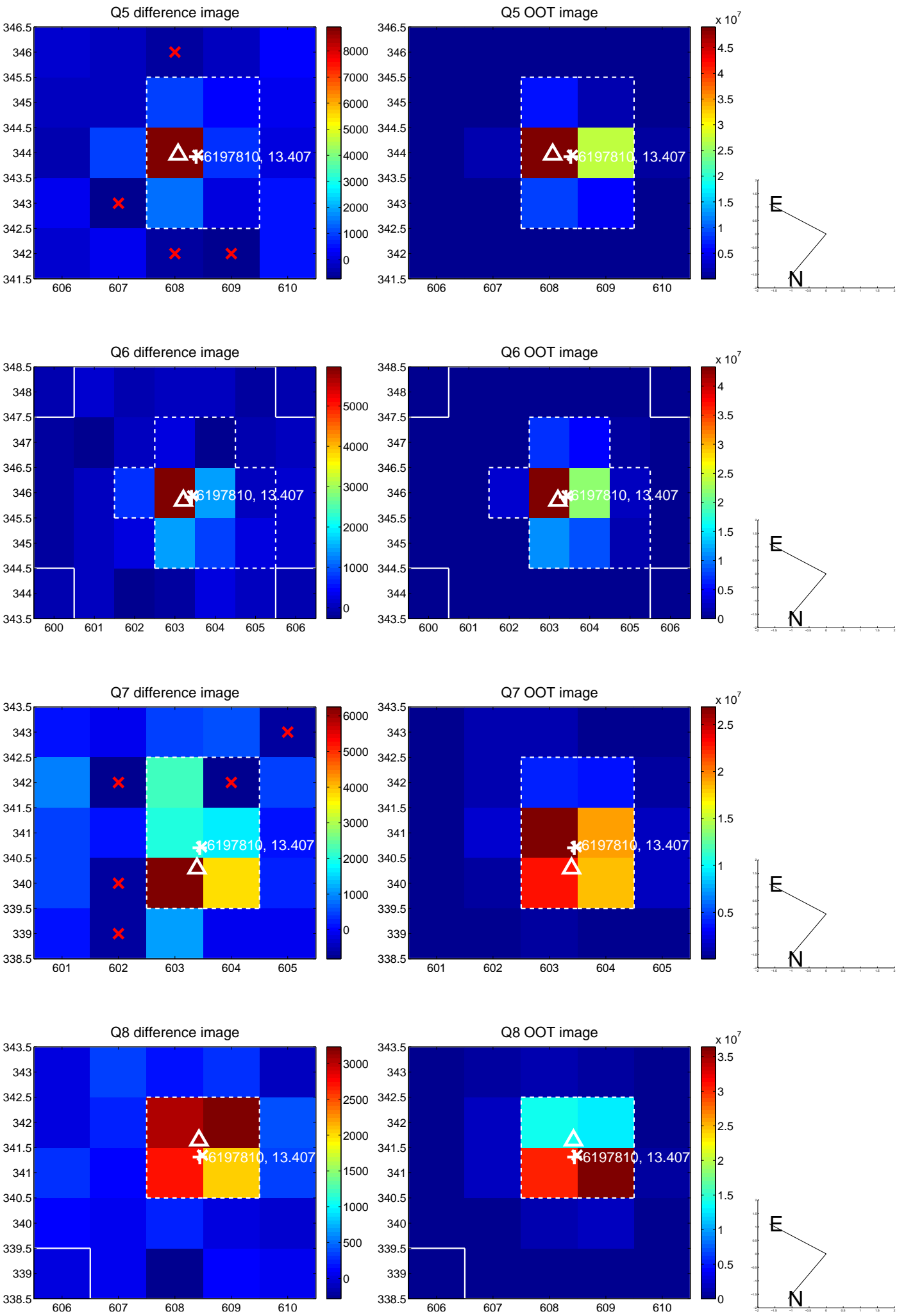


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

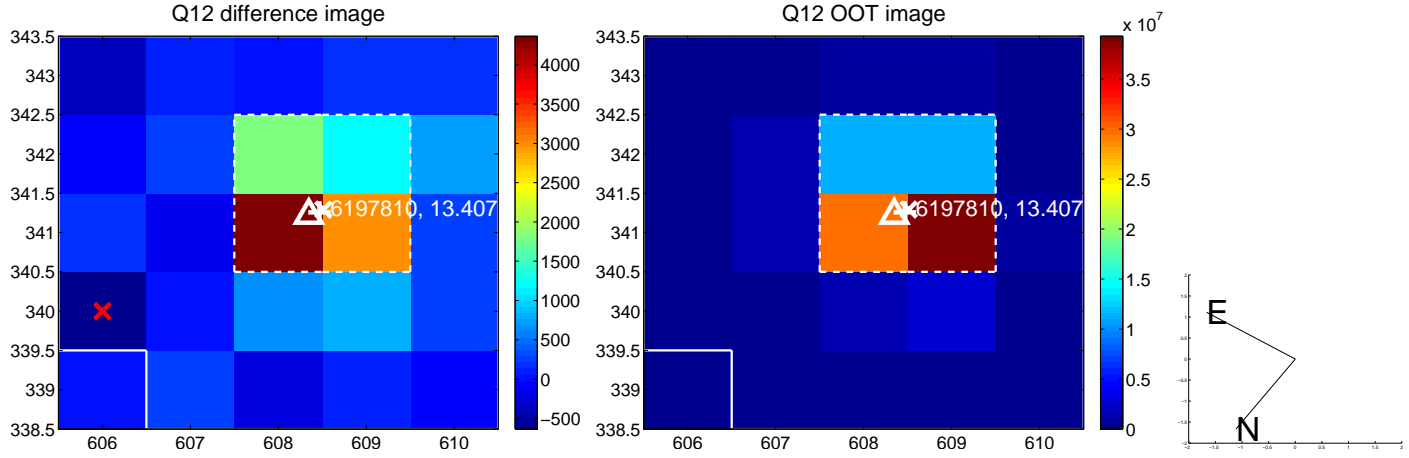
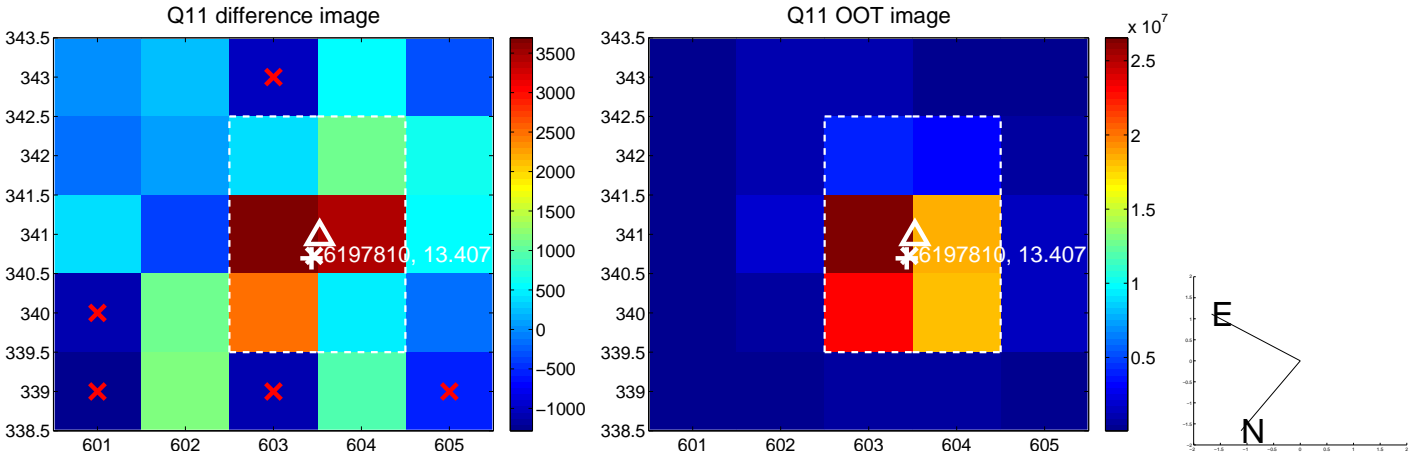
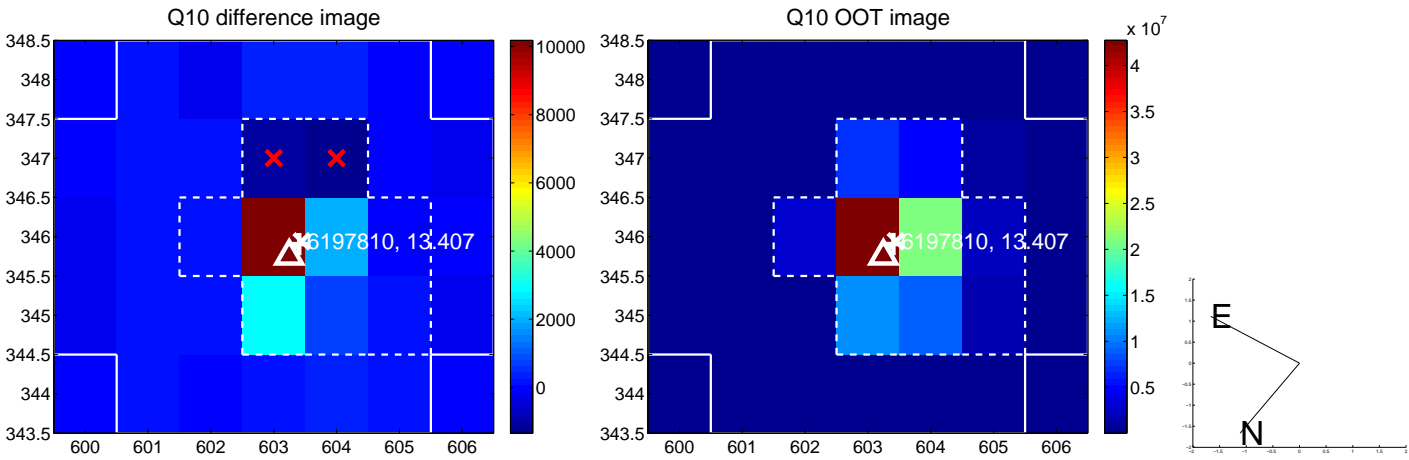
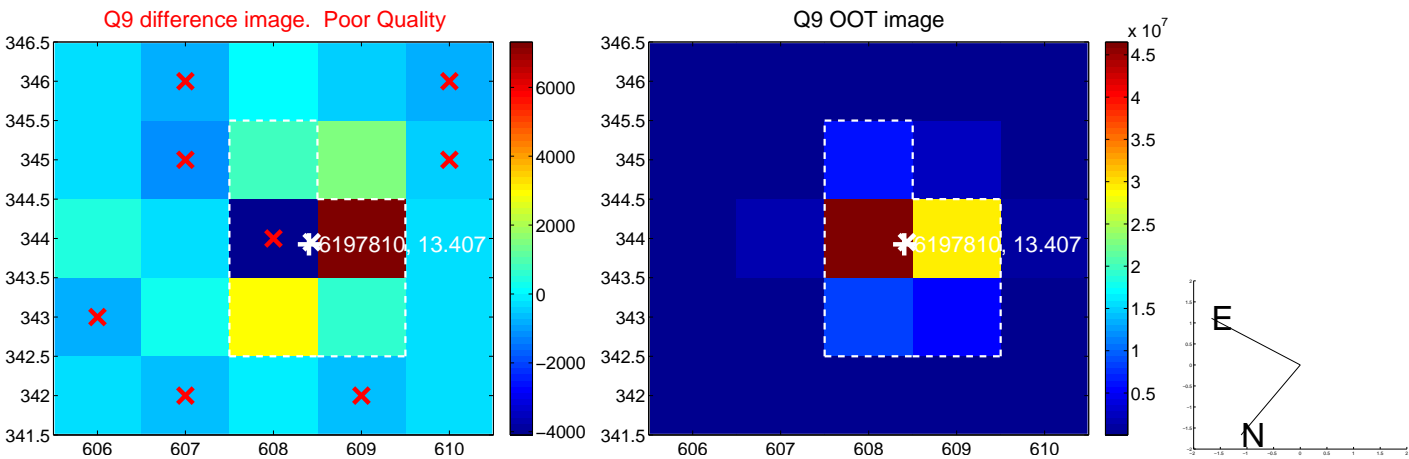
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



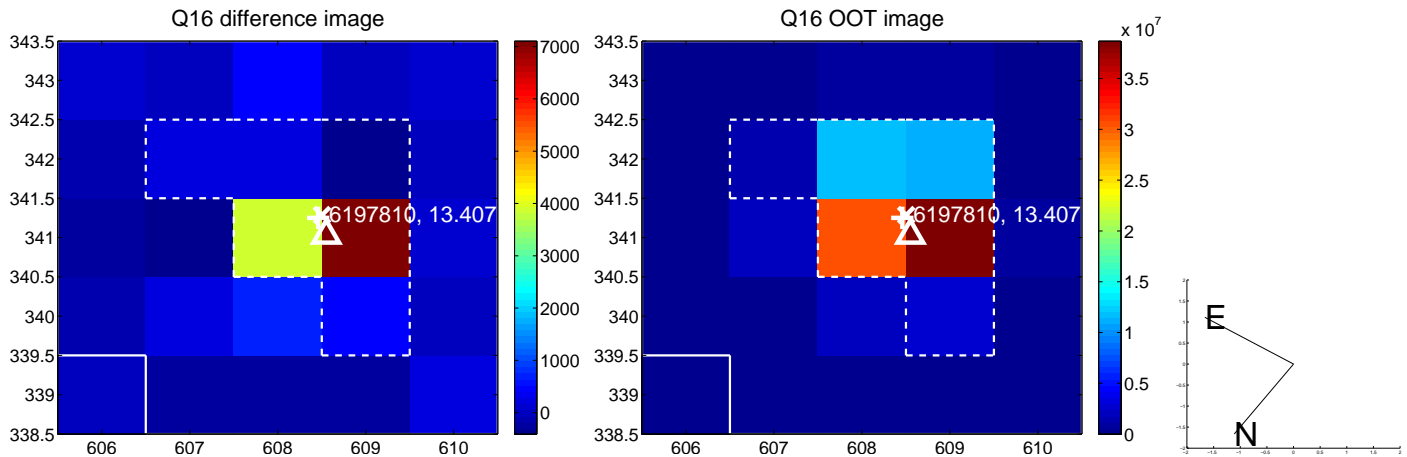
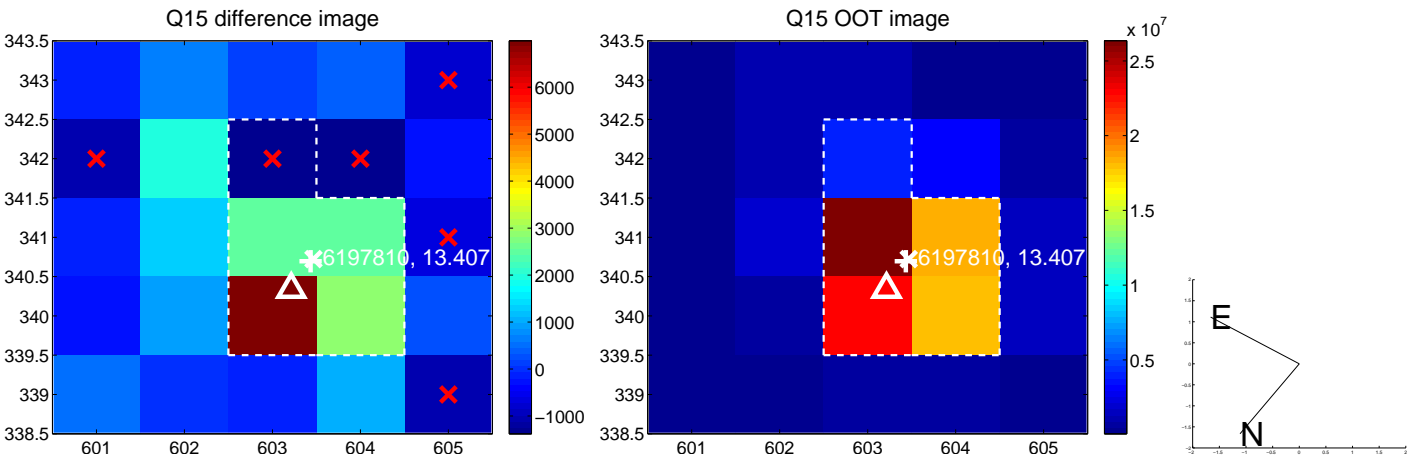
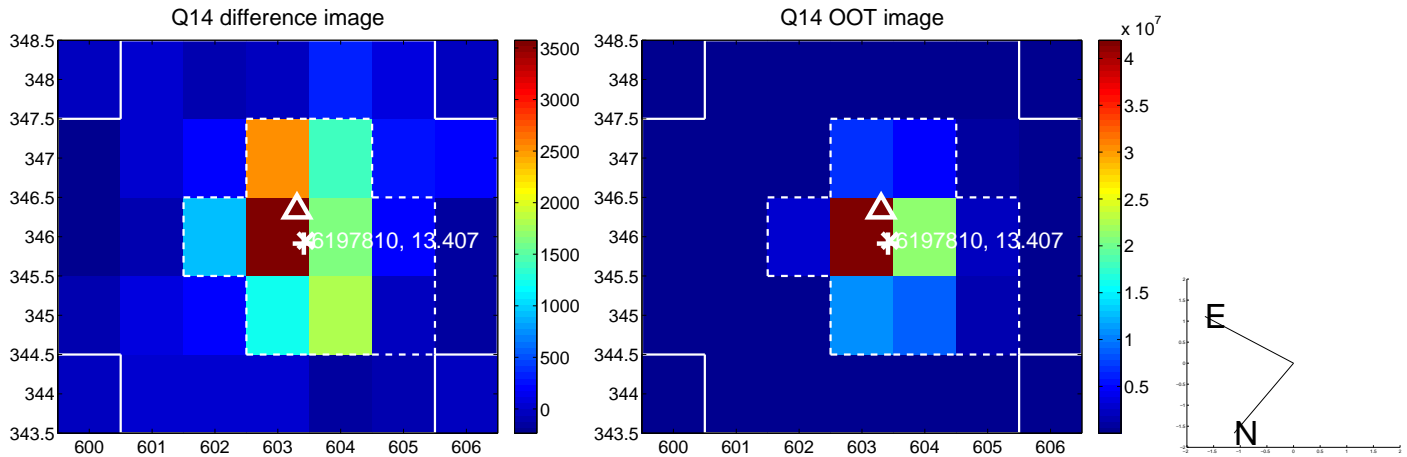
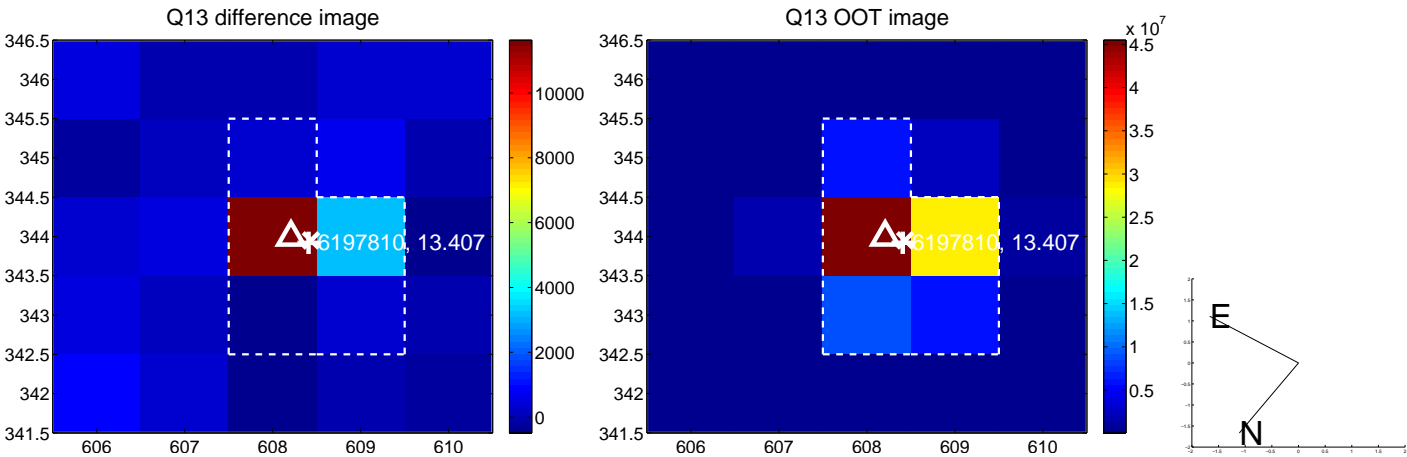
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



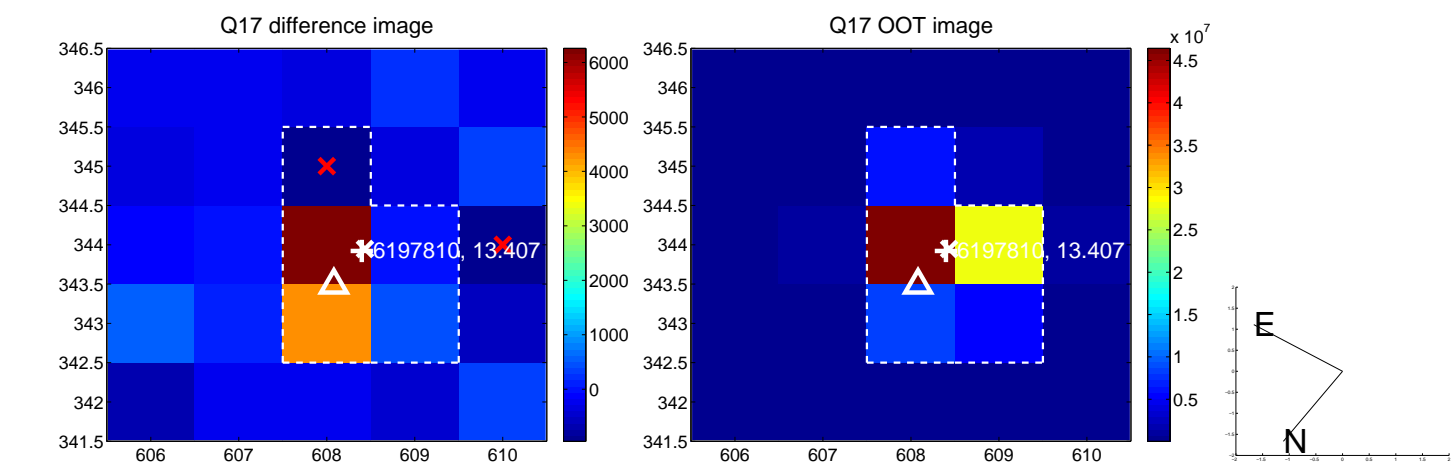
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



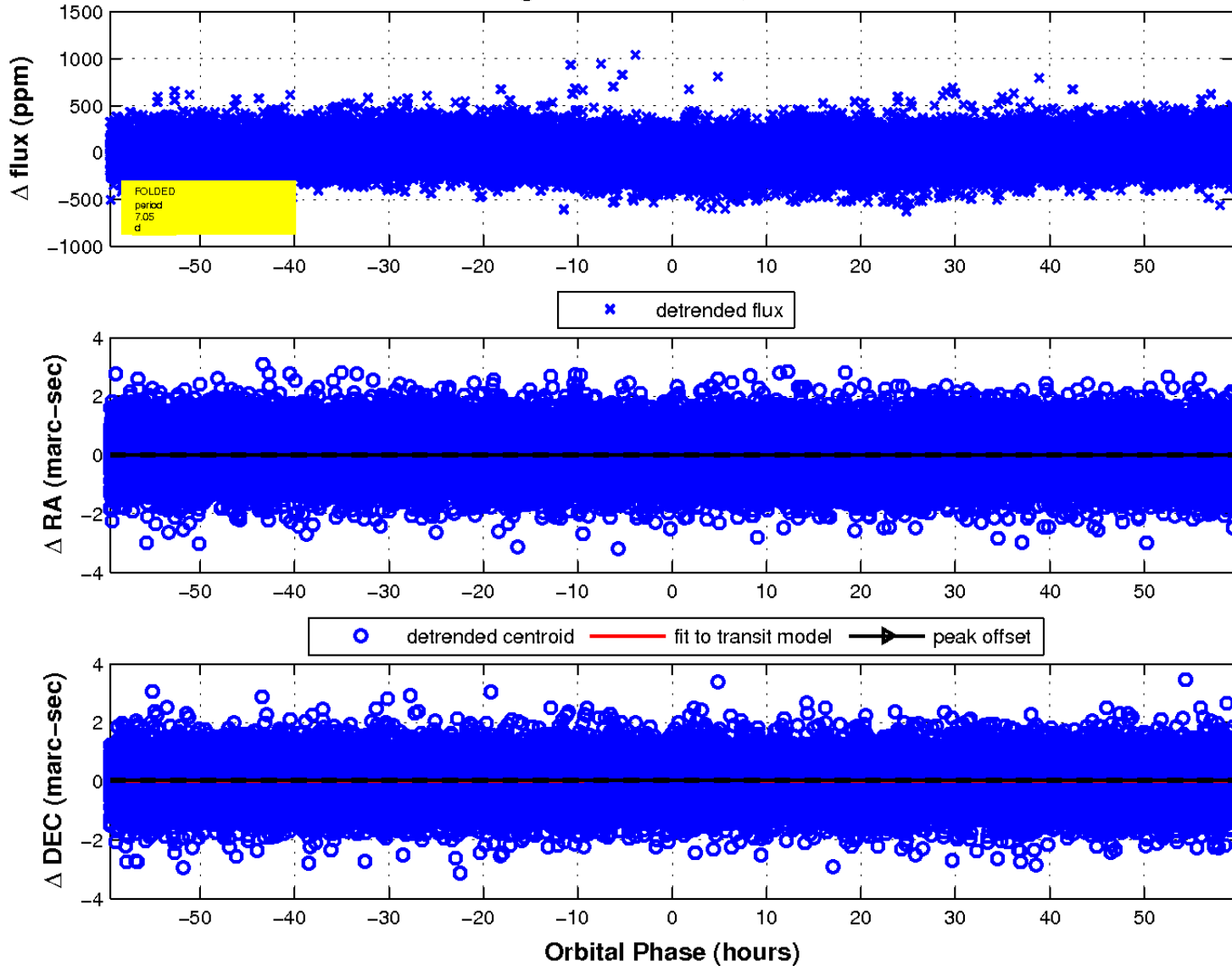
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

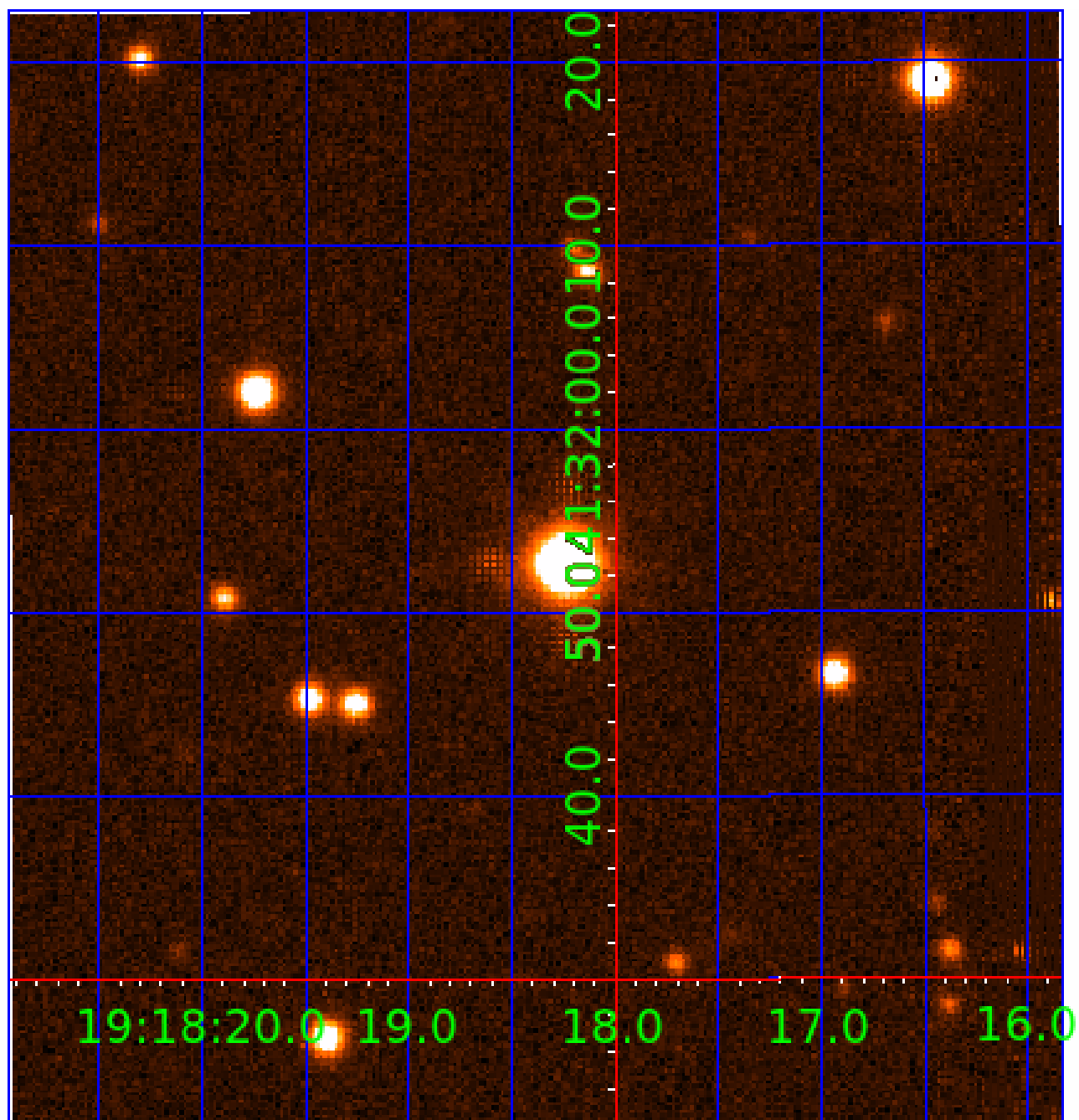


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 006197810

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})
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006197810-02	OBS	No	7.053620	133.641053	44.7	18.562	11.7	14.0	1.91	5053	1.28	444.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006197810-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006197810-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_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.

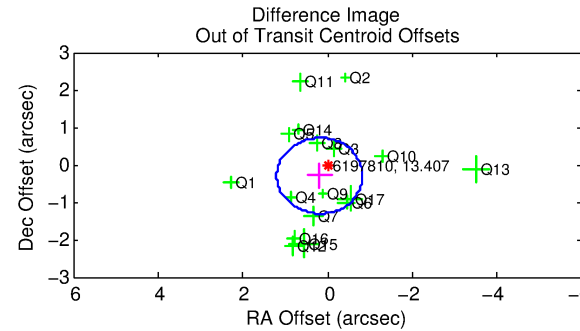
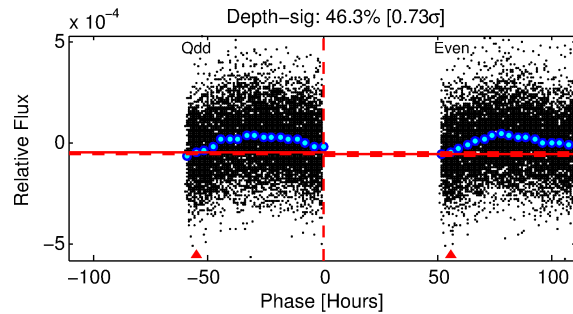
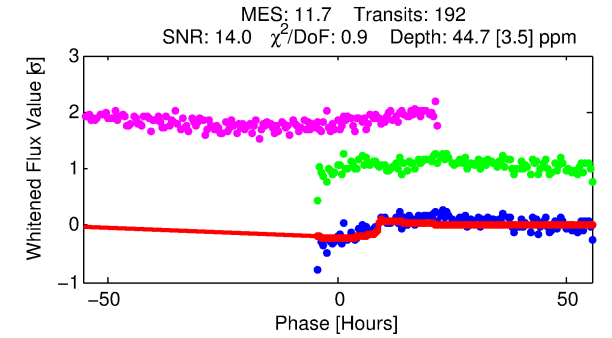
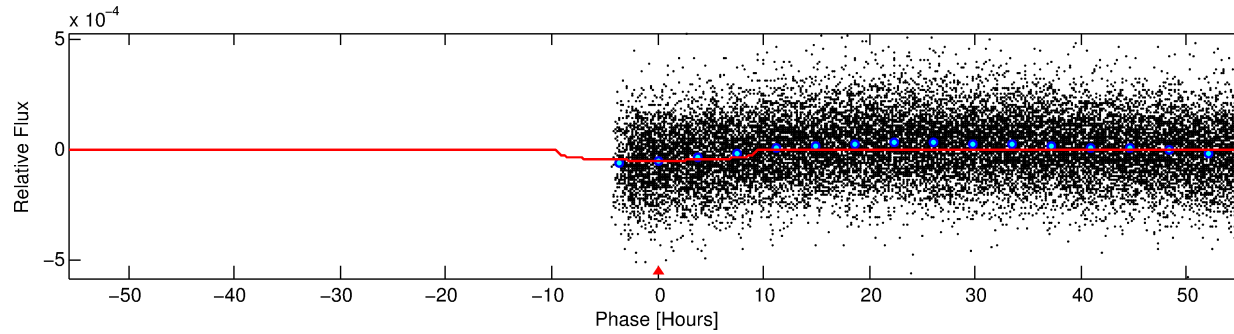
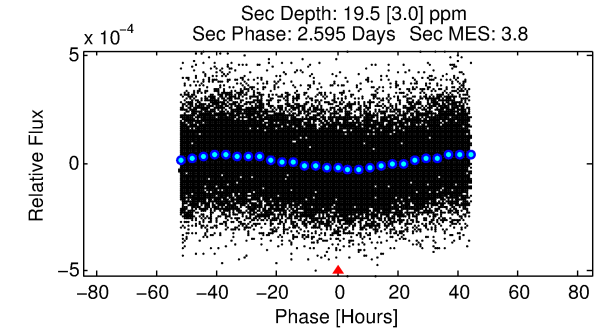
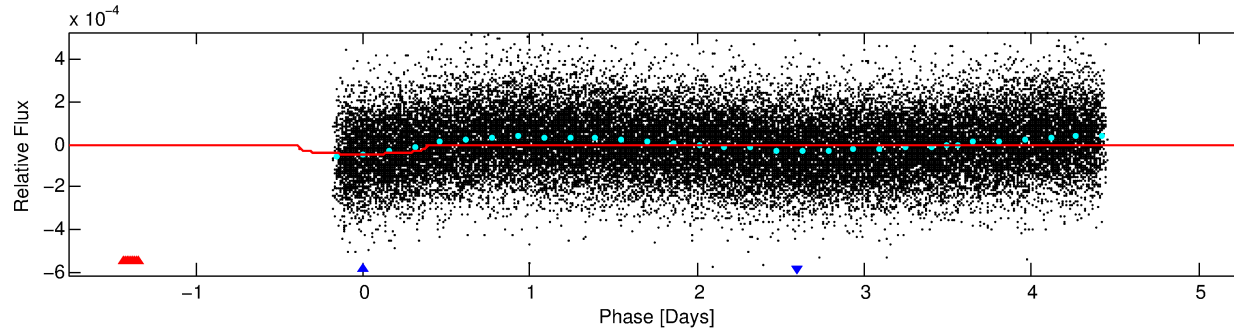
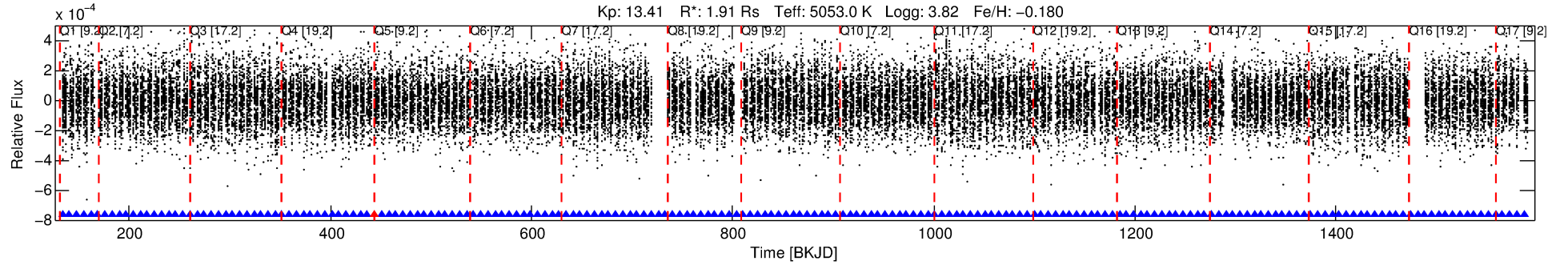
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006197810-02

No Significant Match Found

DV One-Page Summary

KIC: 6197810 Candidate: 2 of 2 Period: 7.054 d



DV Fit Results:

Period = 7.05362 [0.00014] d
Epoch = 133.6411 [0.0429] BKJD
Rp/R* = 0.0061 [0.0035]
a/R* = 2.70 [4.79]
b = 0.45 [3.61]
Seff = 444.74 [602.64]
Teff = 1171 [397] K
Rp = 1.28 [1.11] Re
a = 0.0691 [0.0535] AU
Ag = 31.30 [55.63] [0.54σ]
Teffp = 4282 [1245] K [2.38σ]

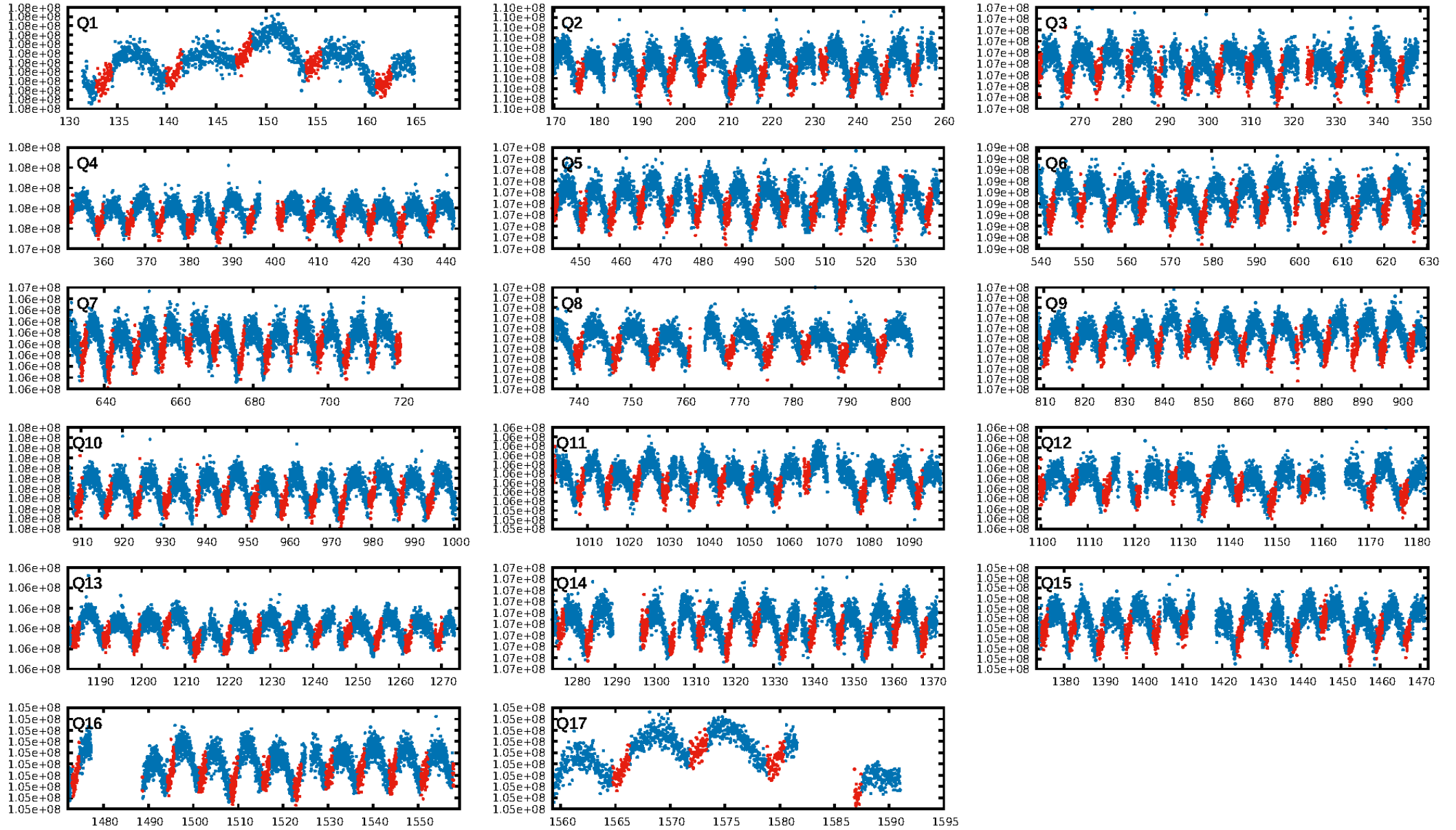
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 67.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.91e-27
RollingBand-fgt: 0.99 [182/183]
GhostDiagnostic-chr: 1.888
Centroid-sig: 9.1%
Centroid-so: 1.228 arcsec [1.66σ]
OotOffset-rm: 0.352 arcsec [1.04σ]
KicOffset-rm: 0.261 arcsec [0.79σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 0.00 [0/17]

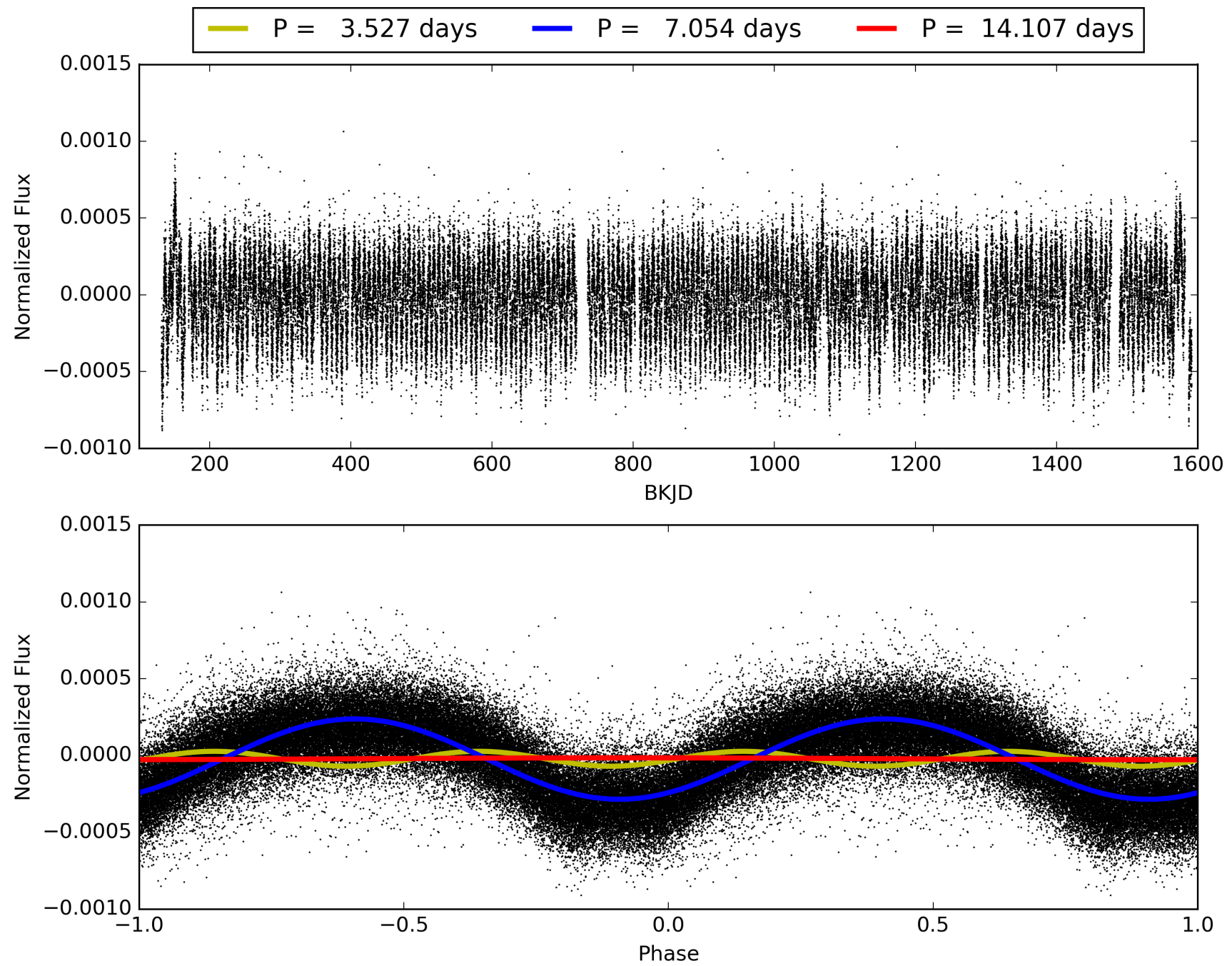
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:41:48 Z

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

TCE 006197810-02, PDC Light Curves

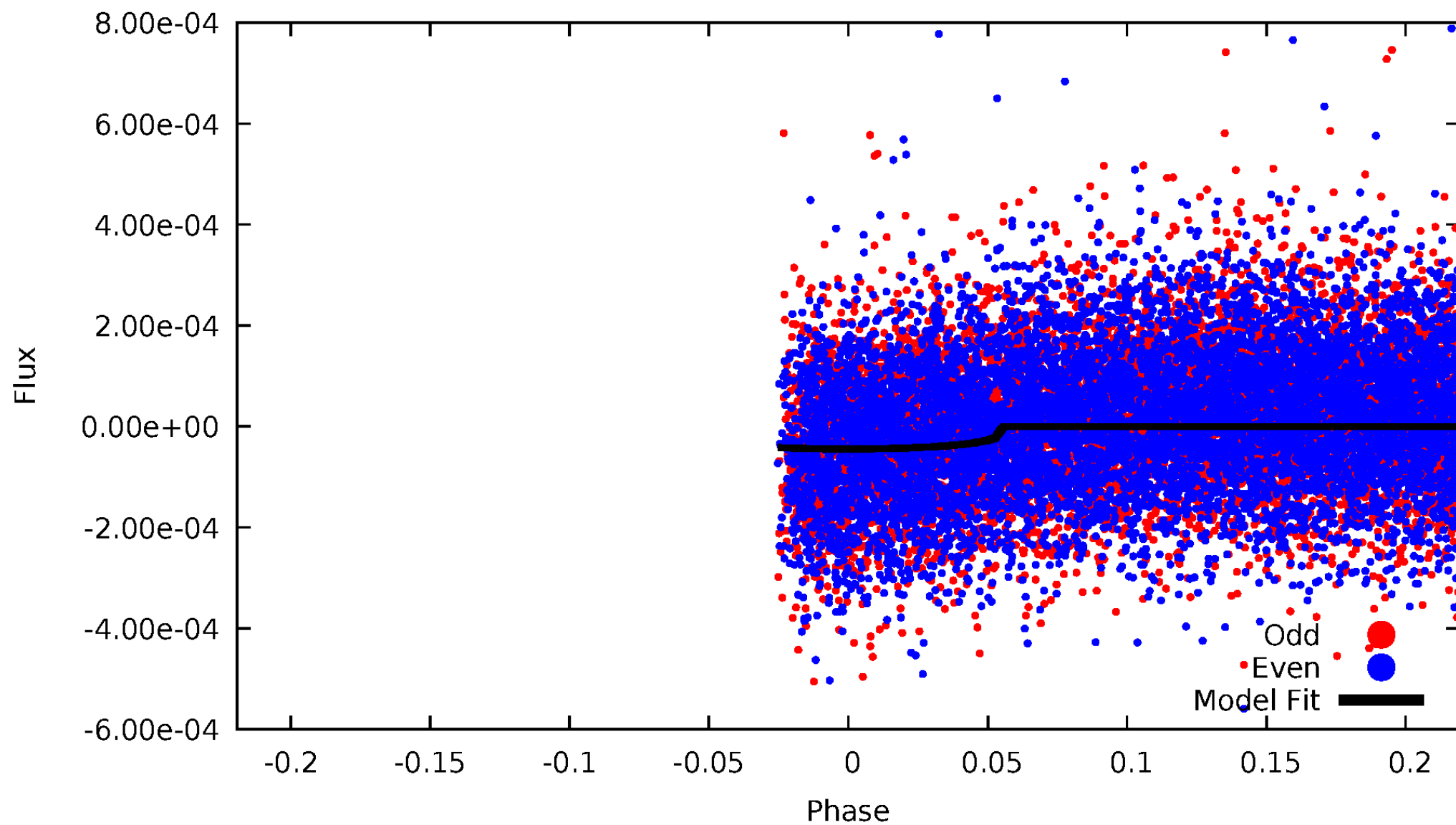


TCE 006197810-02



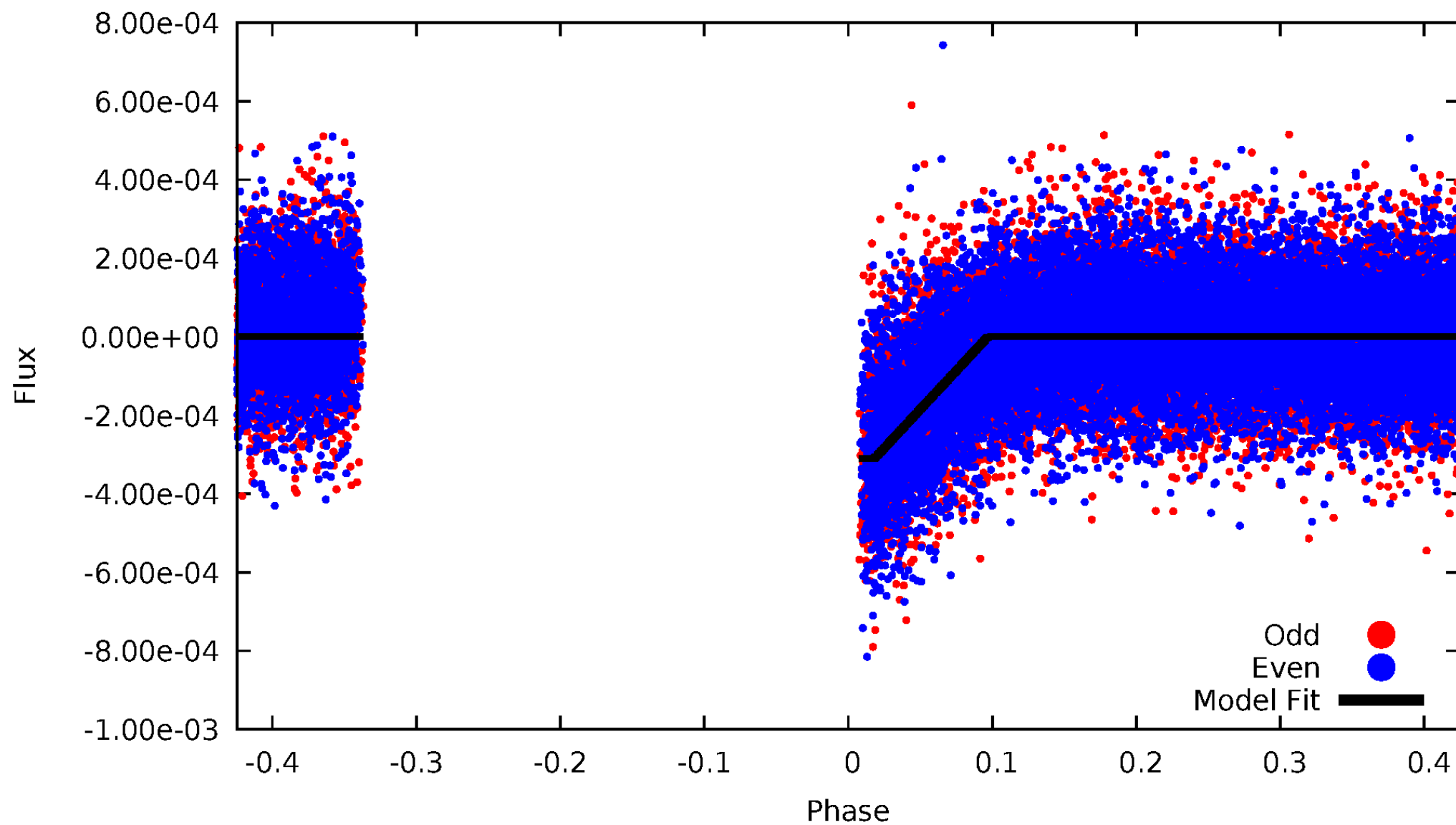
DV Odd/Even

TCE 006197810-02



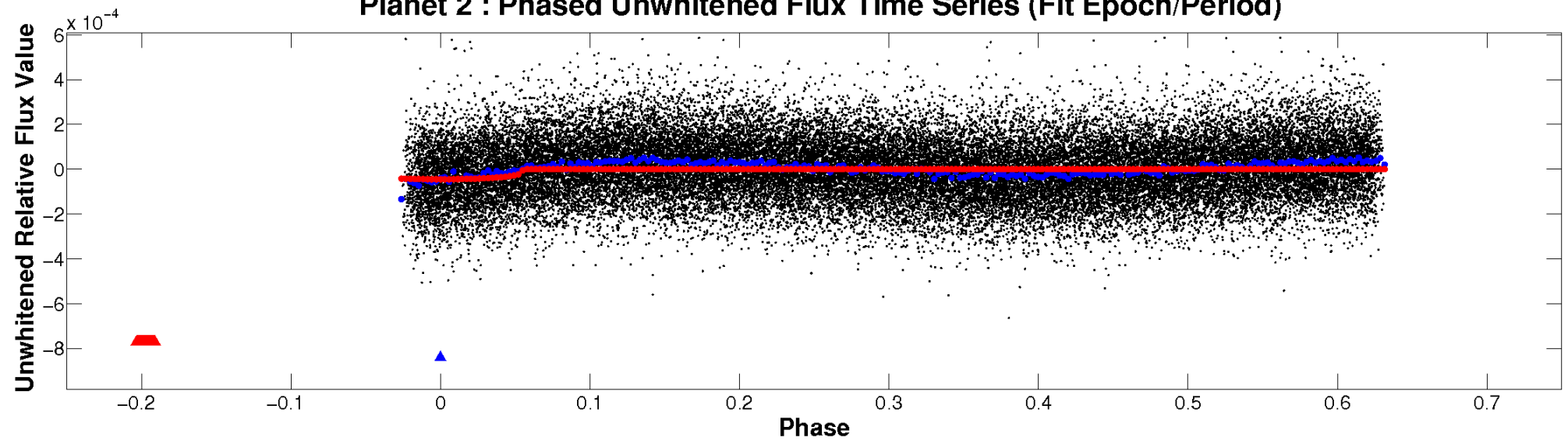
ALT Odd/Even

TCE 006197810-02

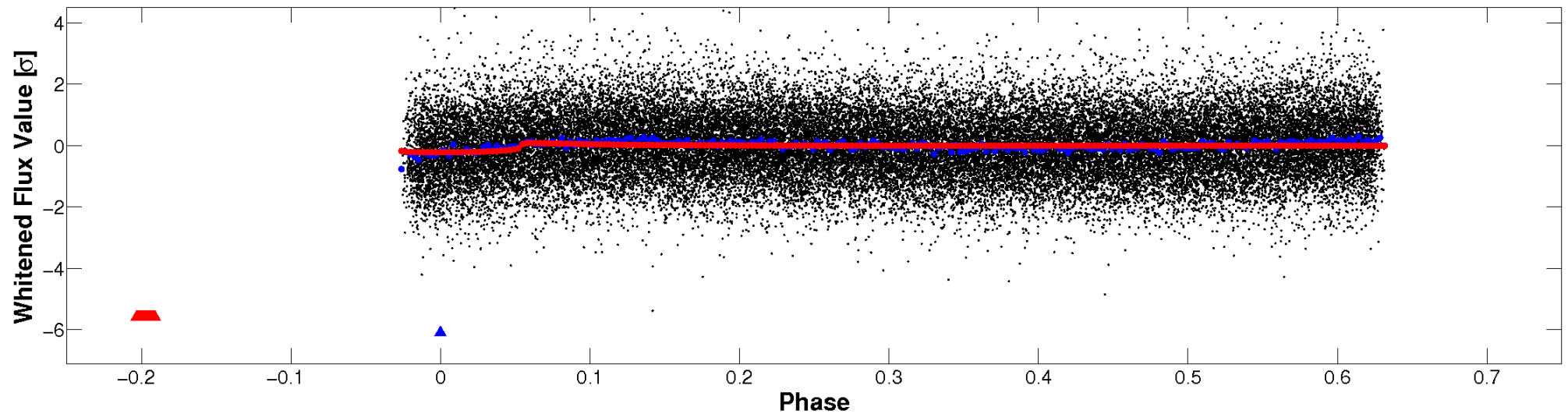


Non-Whitened Vs. Whitened Light Curve

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

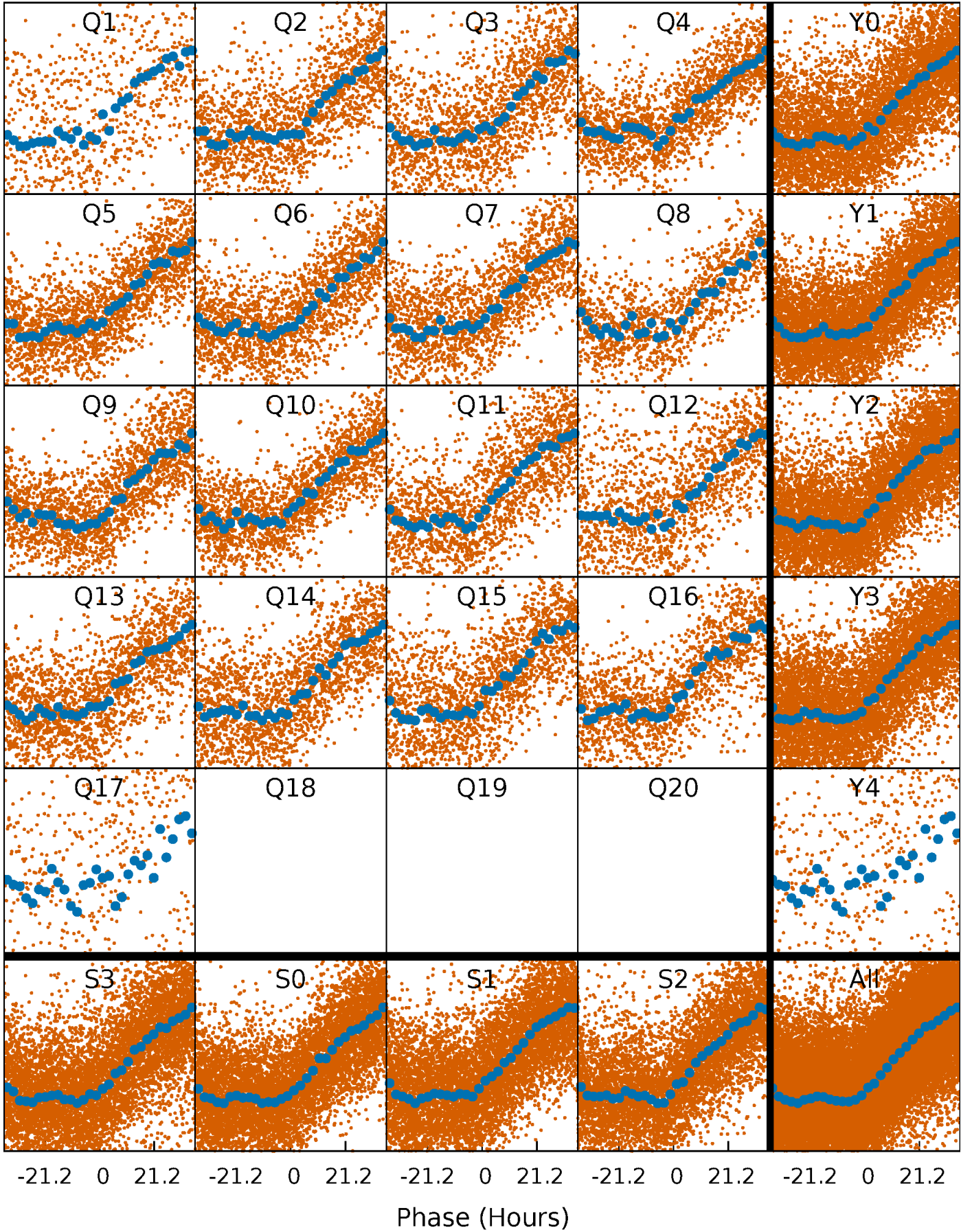


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



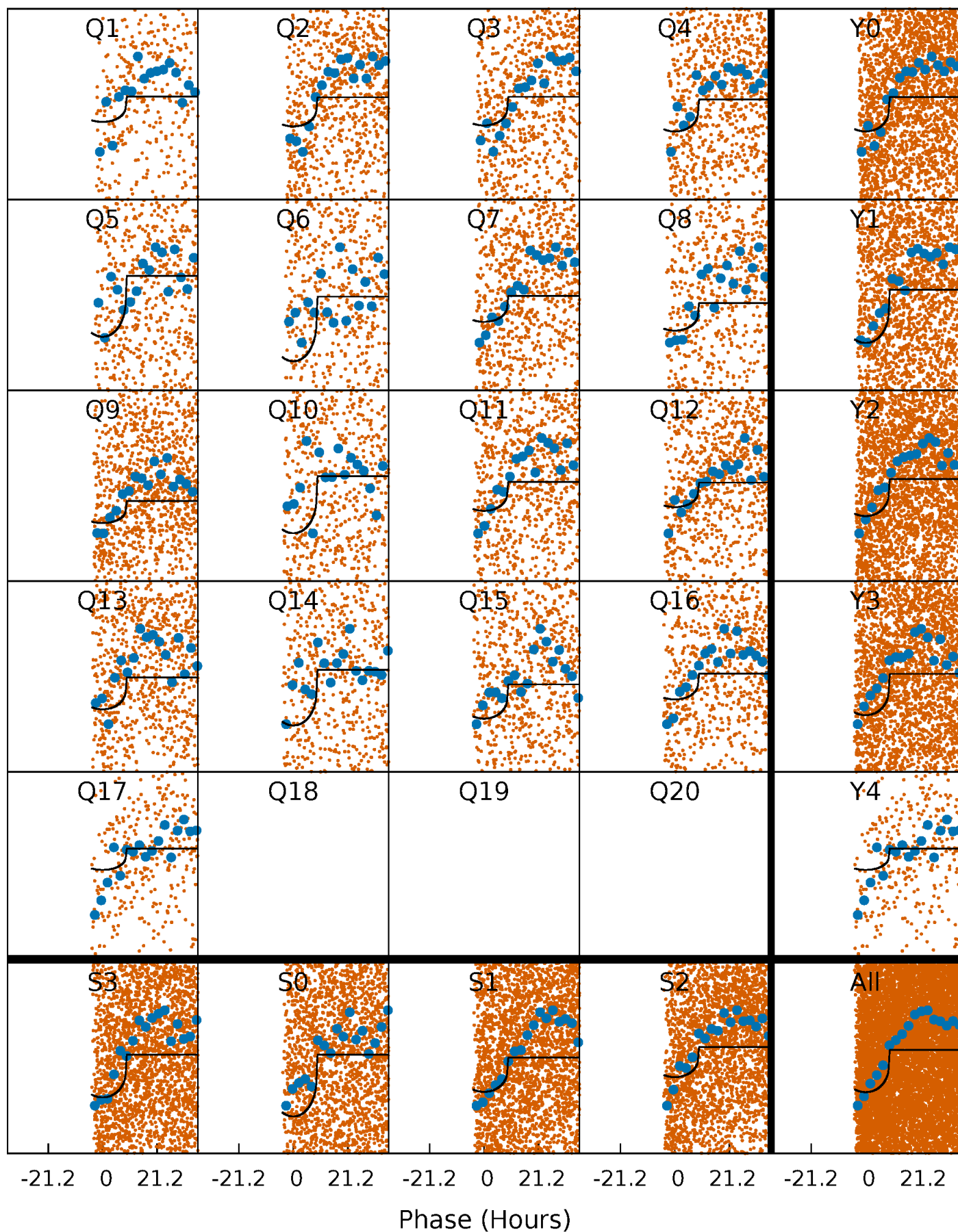
PDC Quarter-Phased Transit Curves

TCE 006197810-02 P= 7.053620 Days $T_0=133.641053$ (BKJD)



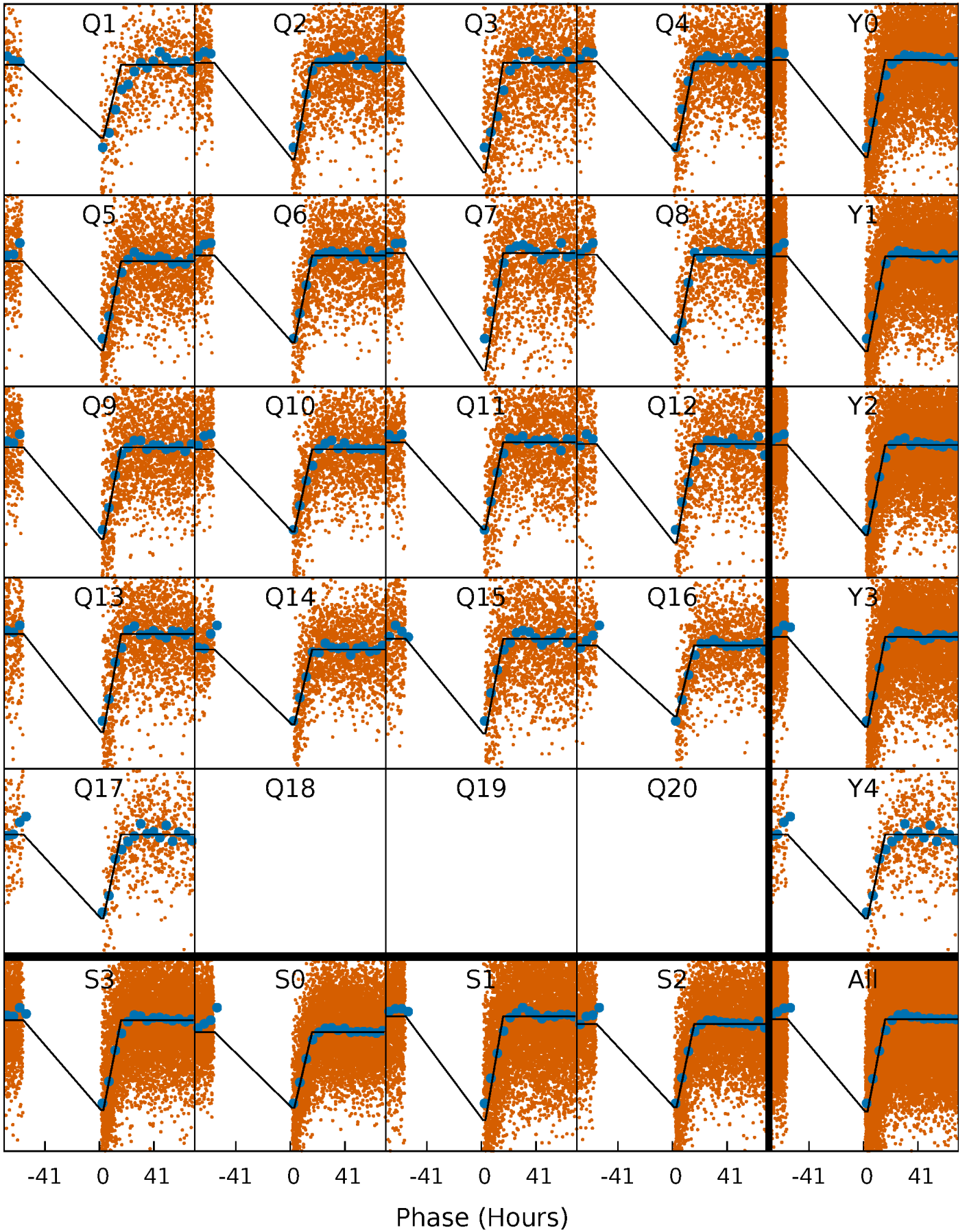
DV Quarter-Phased Transit Curves

TCE 006197810-02 P= 7.053620 Days $T_0=133.641053$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

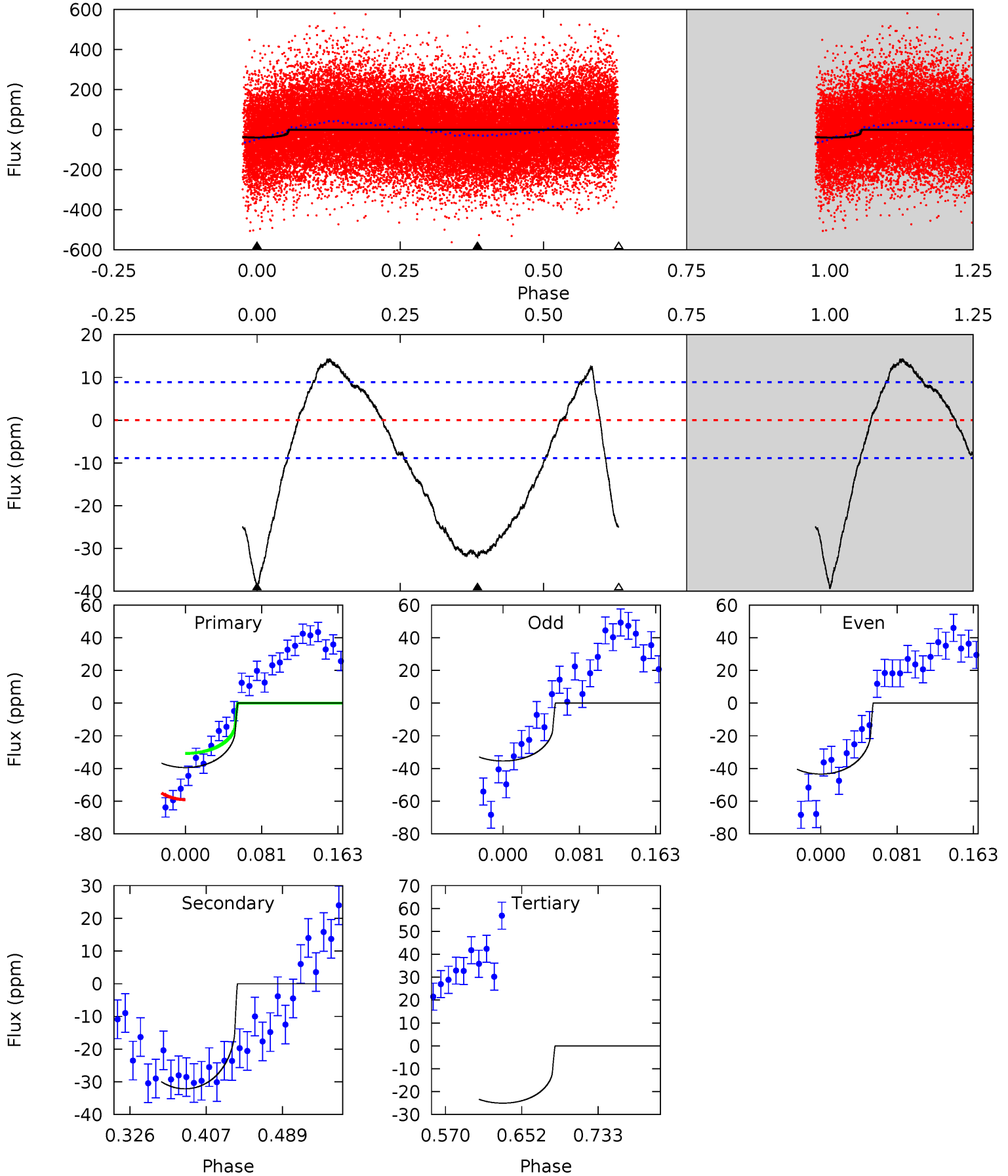
TCE 006197810-02 P= 7.052831 Days $T_0=133.493590$ (BKJD)



DV Model-Shift Uniqueness Test

006197810-02, P = 7.053620 Days, E = 126.587433 Days

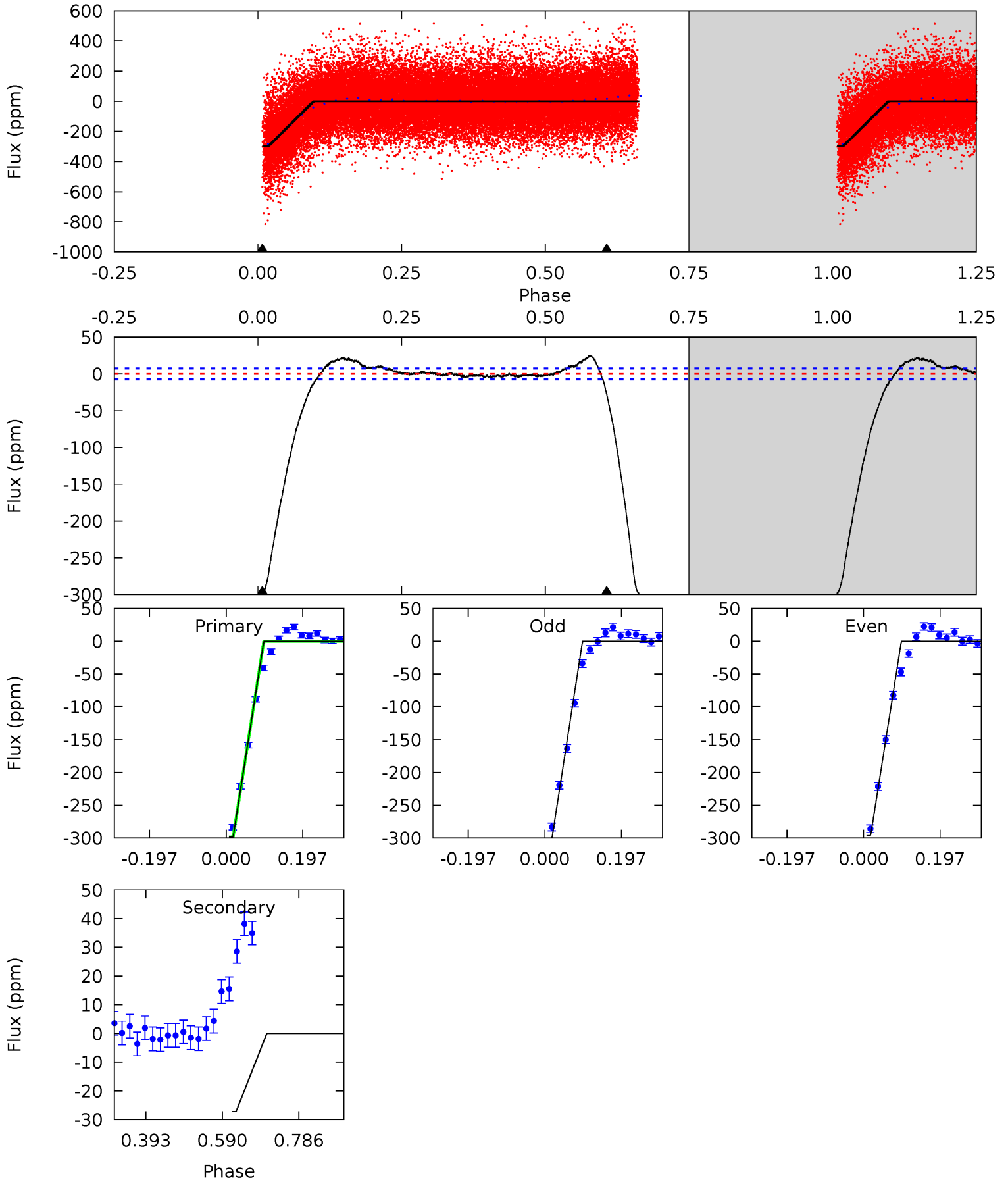
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	16.7	13.0	0	4.61	1.74	6.03	7.47	20.5	3.67	16.7	2.08	0.93	0.27	6.29



Alt Model-Shift Uniqueness Test

006197810-02, P = 7.052831 Days, E = 133.493590 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
177.4	16.2	0	0	4.42	1.29	2.18	177.4	177.4	16.2	16.2	1.42	0.96	0.08	0



Stellar Parameters For KIC 006197810

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5053^{+136}_{-151}	$3.824^{+0.832}_{-0.277}$	$-0.180^{+0.250}_{-0.300}$	$1.907^{+1.022}_{-1.249}$	$0.885^{+0.190}_{-0.190}$	$0.180^{+2.835}_{-0.130}$
	+3%/-3%	+22%/-7%	+139%/-167%	+54%/-65%	+21%/-21%	+1578%/-72%
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 006197810-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-32 ± 2	$1.14^{+0.94}_{-0.64}$	1578^{+224}_{-304}	4828^{+1863}_{-753}	65^{+282}_{-45}
Alt.	-27 ± 2	$3.33^{+1.45}_{-1.35}$	1575^{+249}_{-299}	3243^{+263}_{-187}	$6.538^{+11.410}_{-3.468}$

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

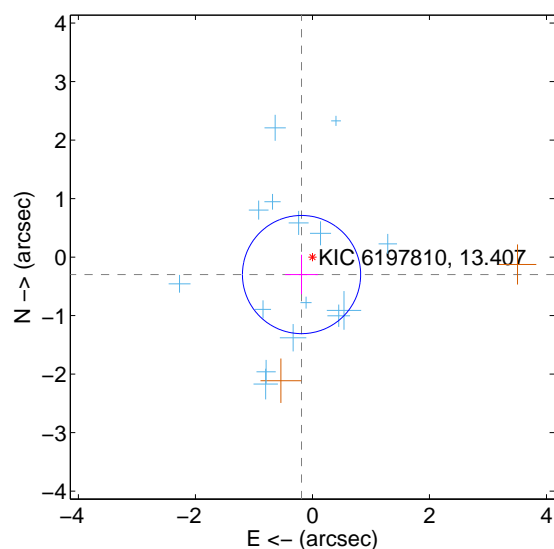
Supplemental centroid analysis for 006197810-02. Kepler magnitude: 13.41. Transit SNR 14.05

There are 15 quarters with good PRF difference image offsets

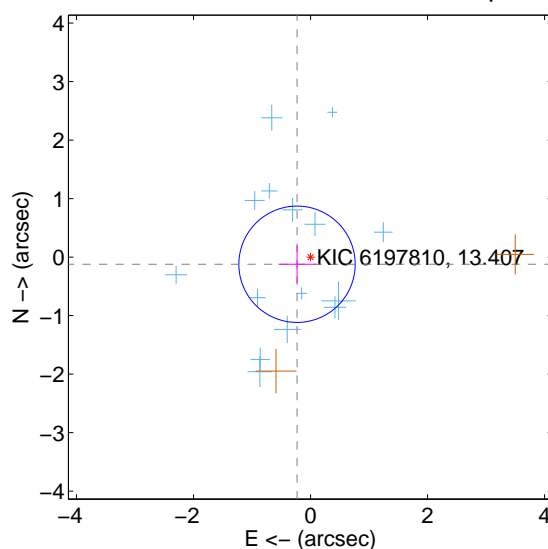
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.352 ± 0.337	1.04	0.186 ± 0.281	-0.298 ± 0.338
PRF-fit source offset from KIC position	0.261 ± 0.331	0.79	0.231 ± 0.319	-0.122 ± 0.321
photometric centroid source offset	1.23 ± 0.74	1.66	1.12 ± 0.75	0.51 ± 0.69

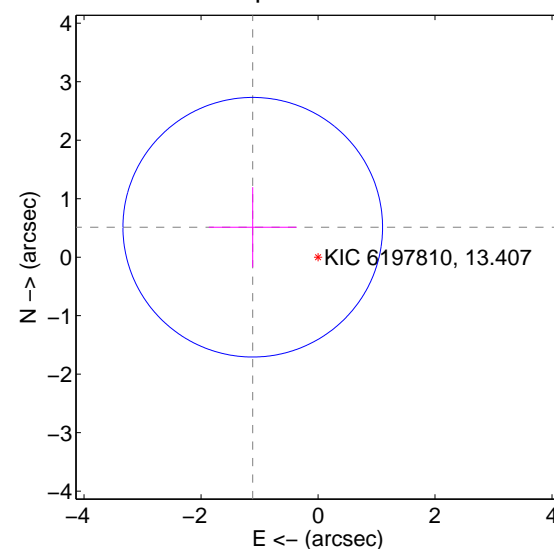
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

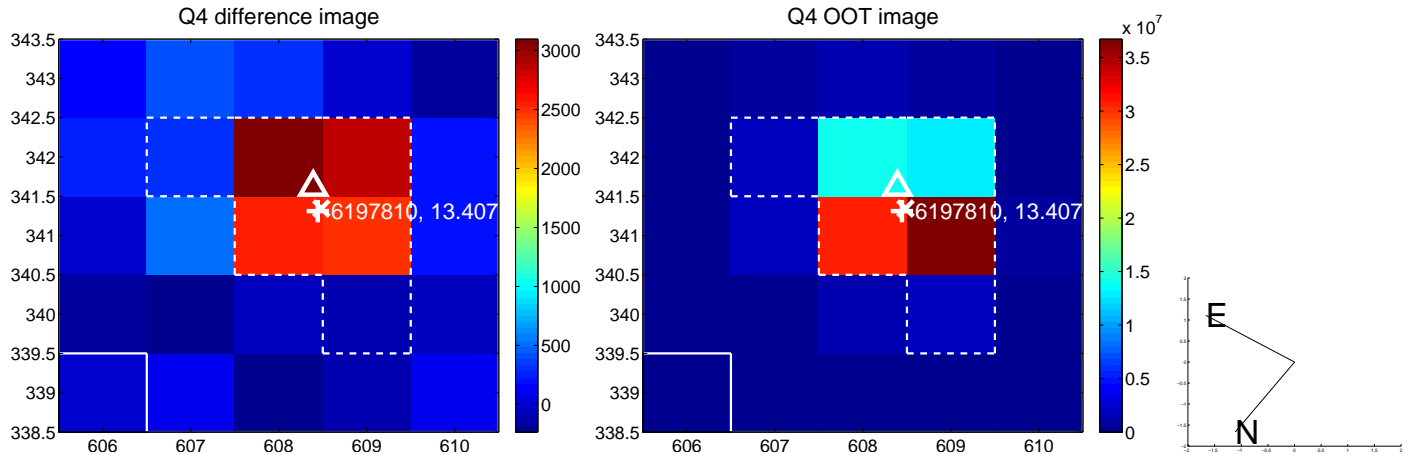
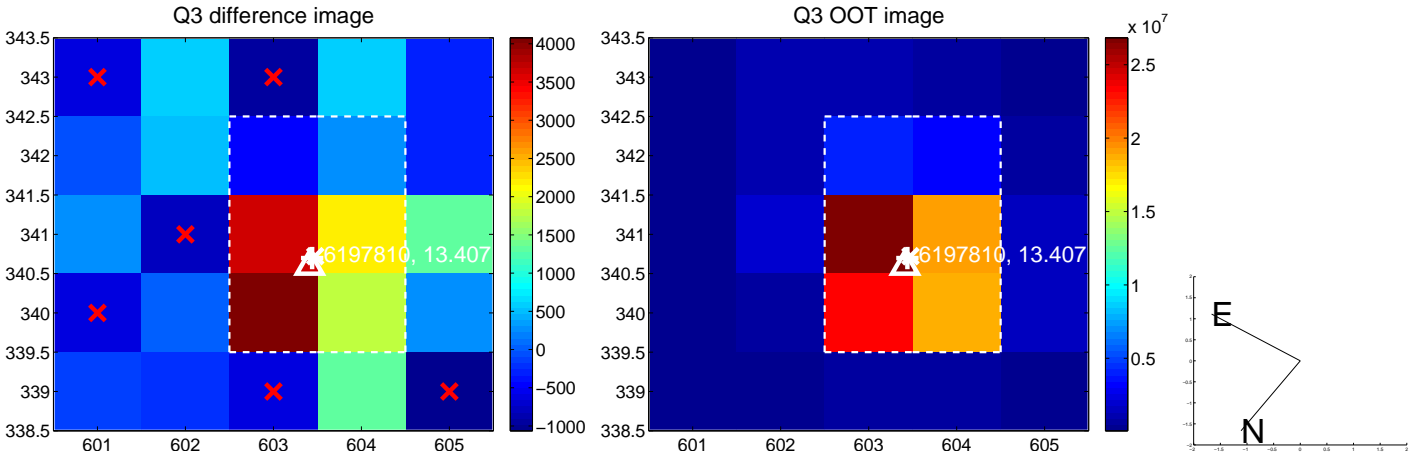
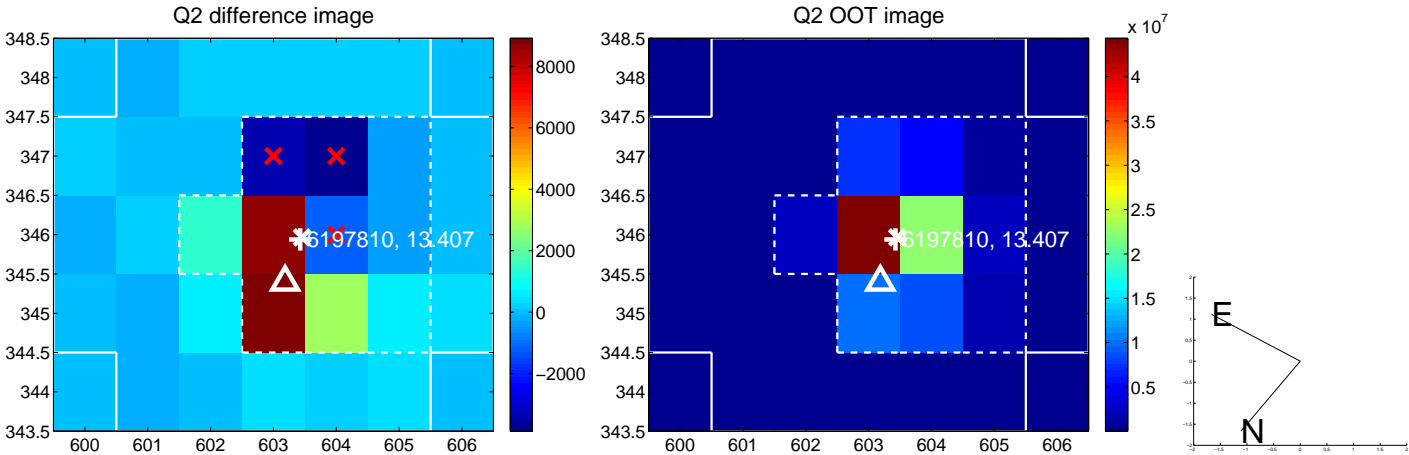
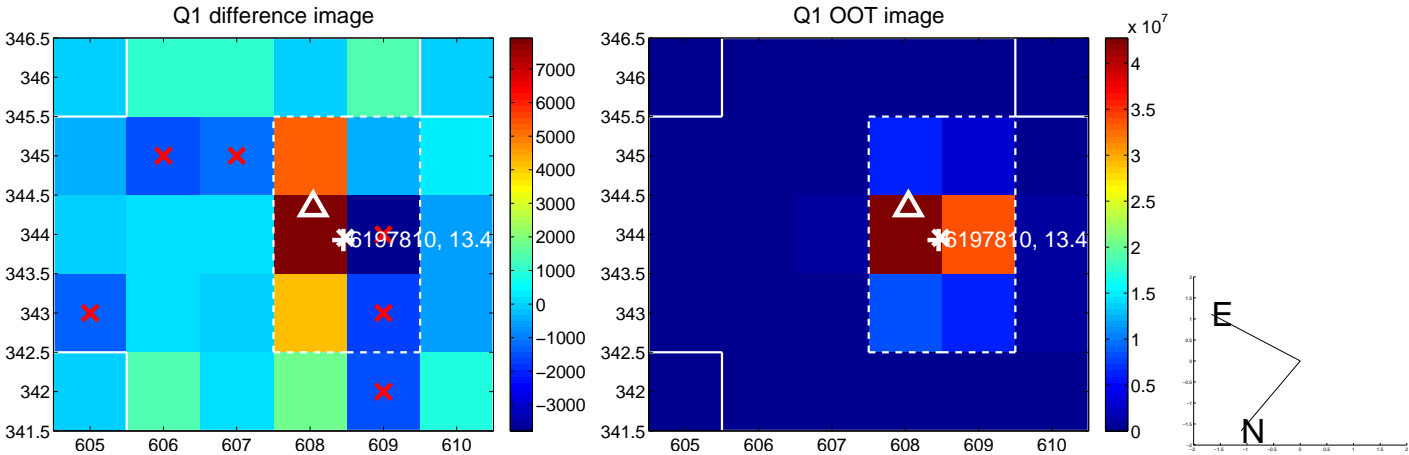


offset from photometric centroids

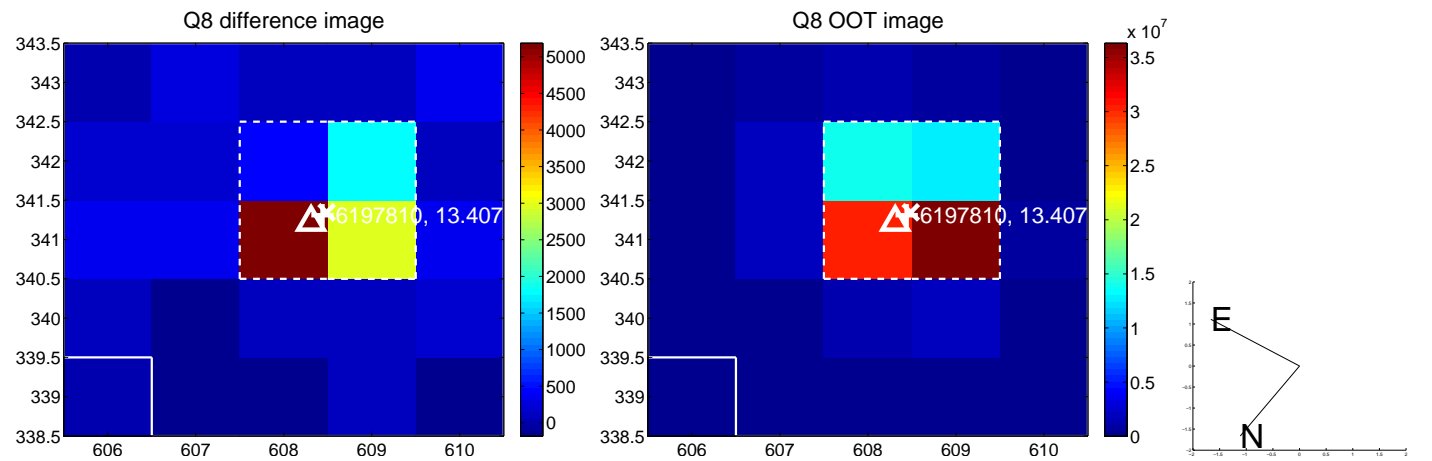
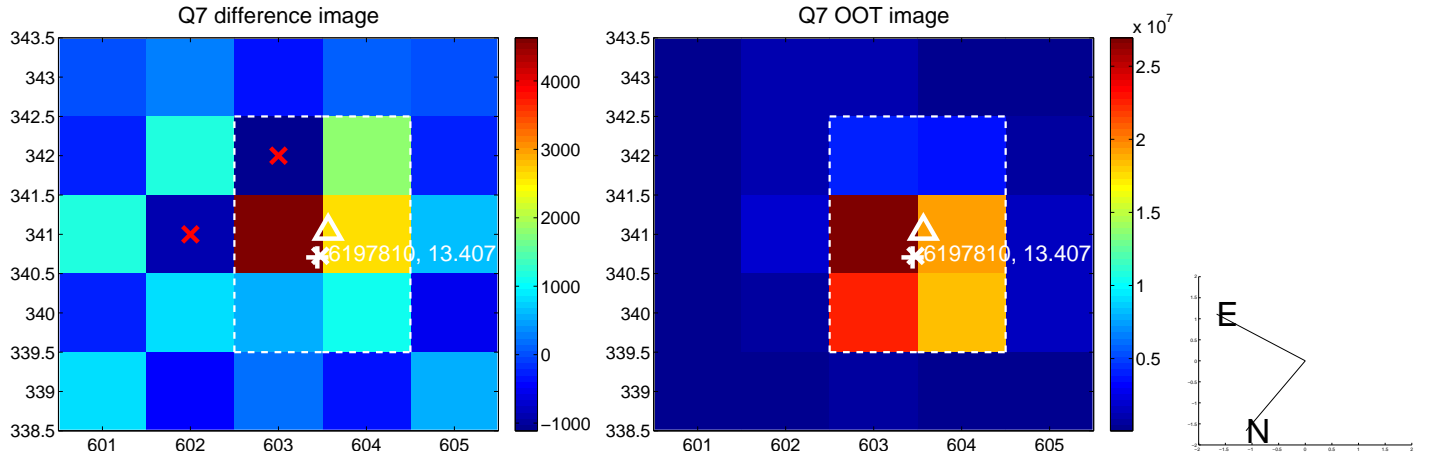
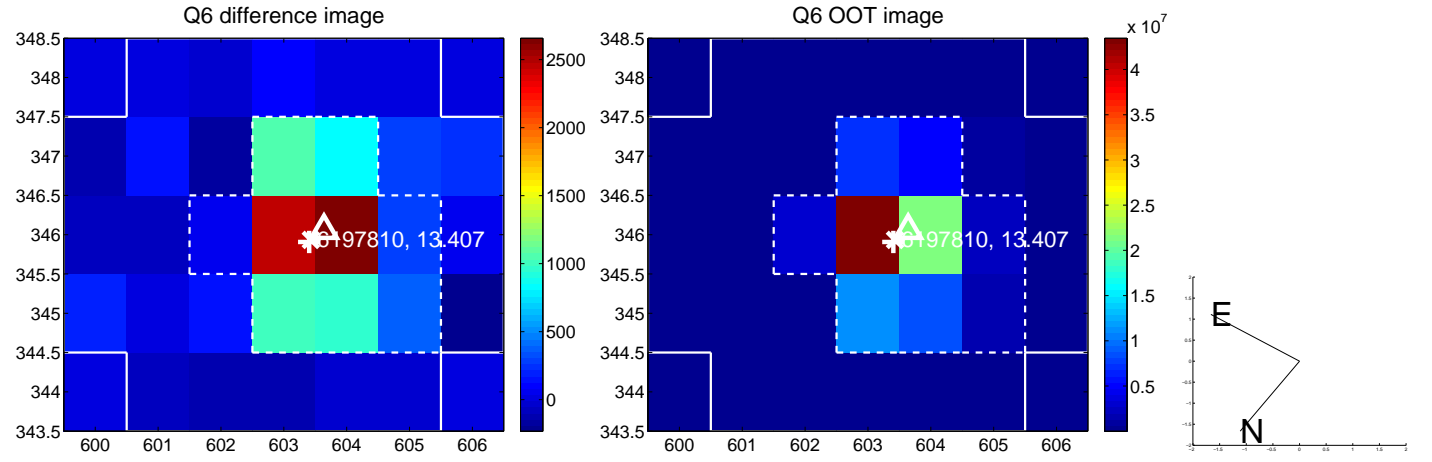
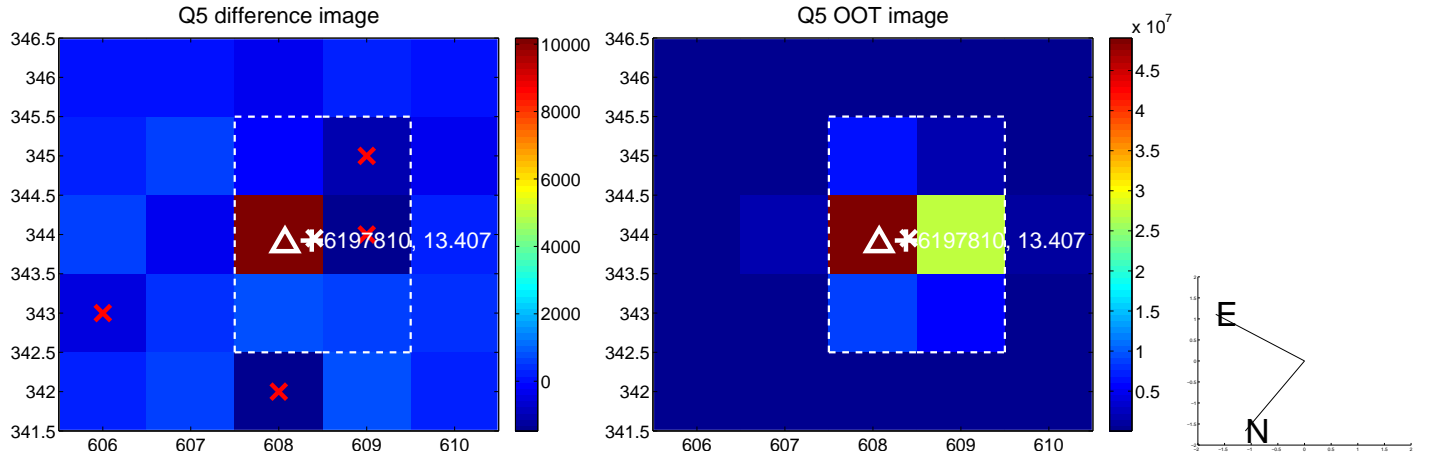


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

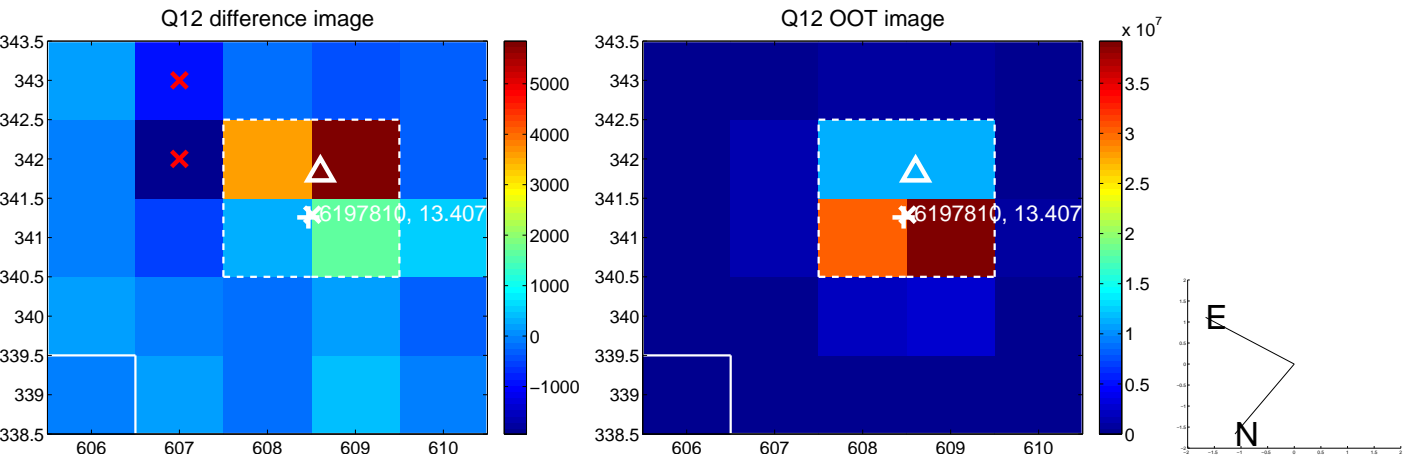
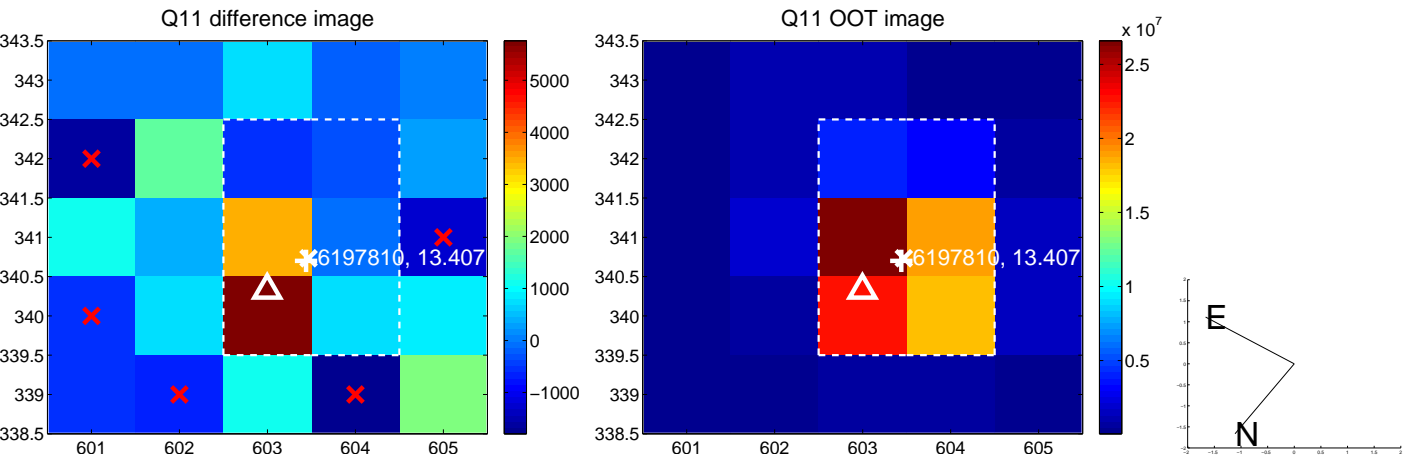
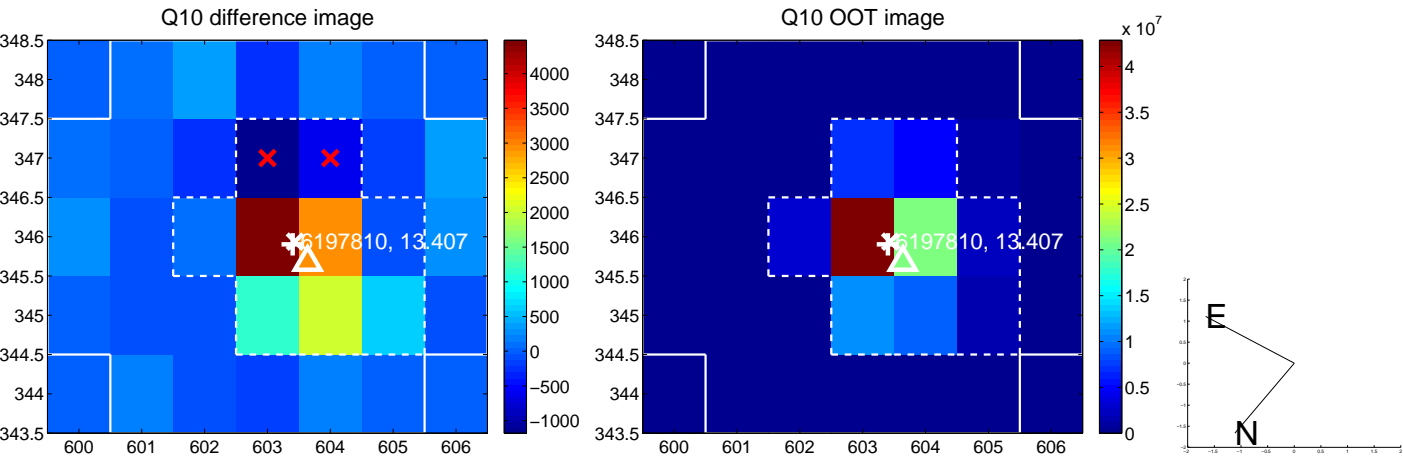
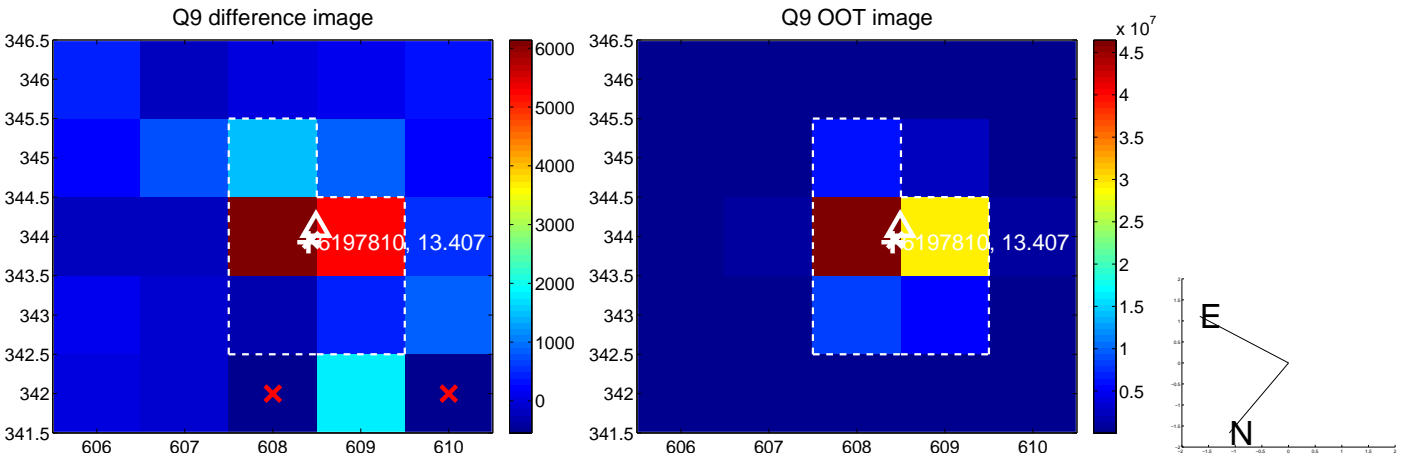
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



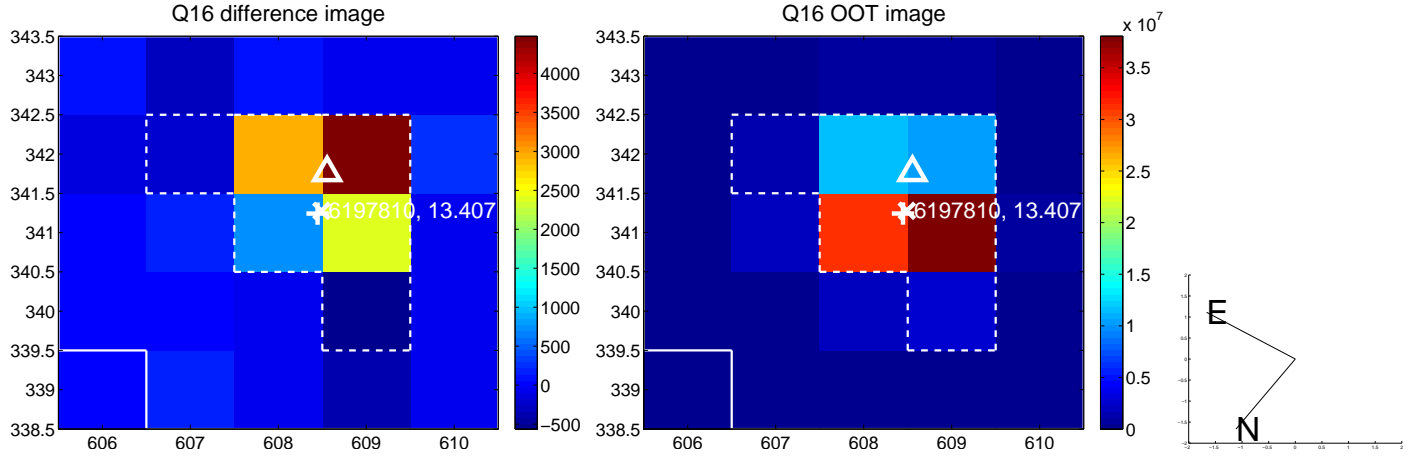
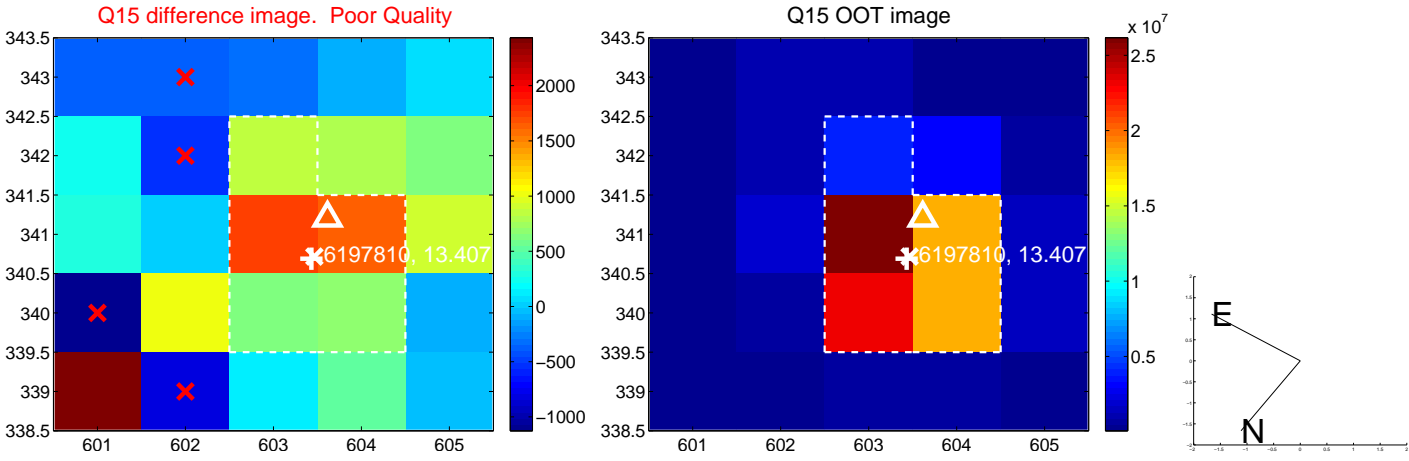
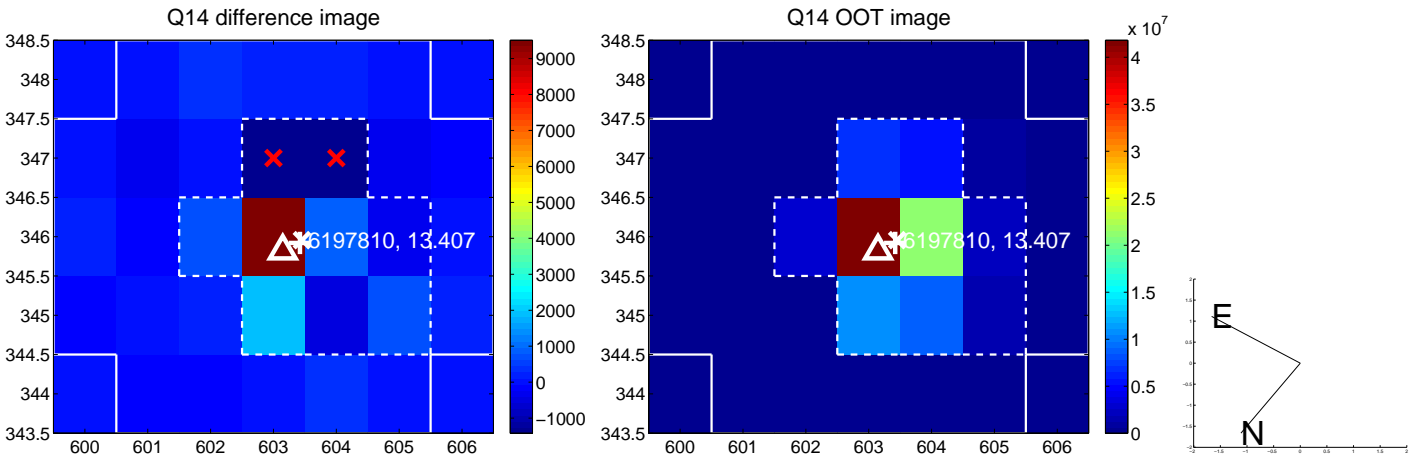
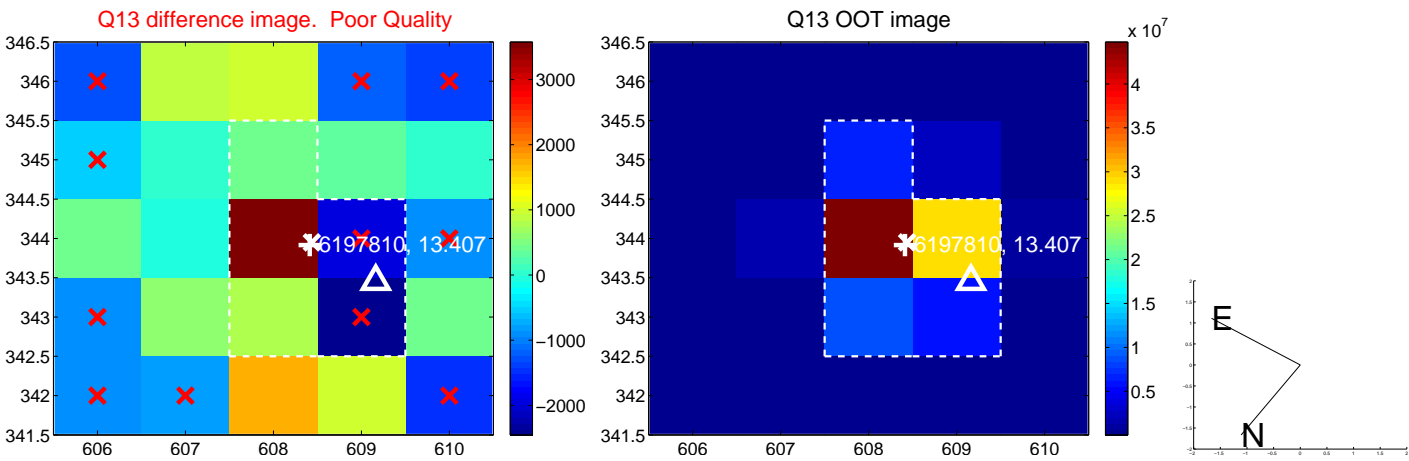
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



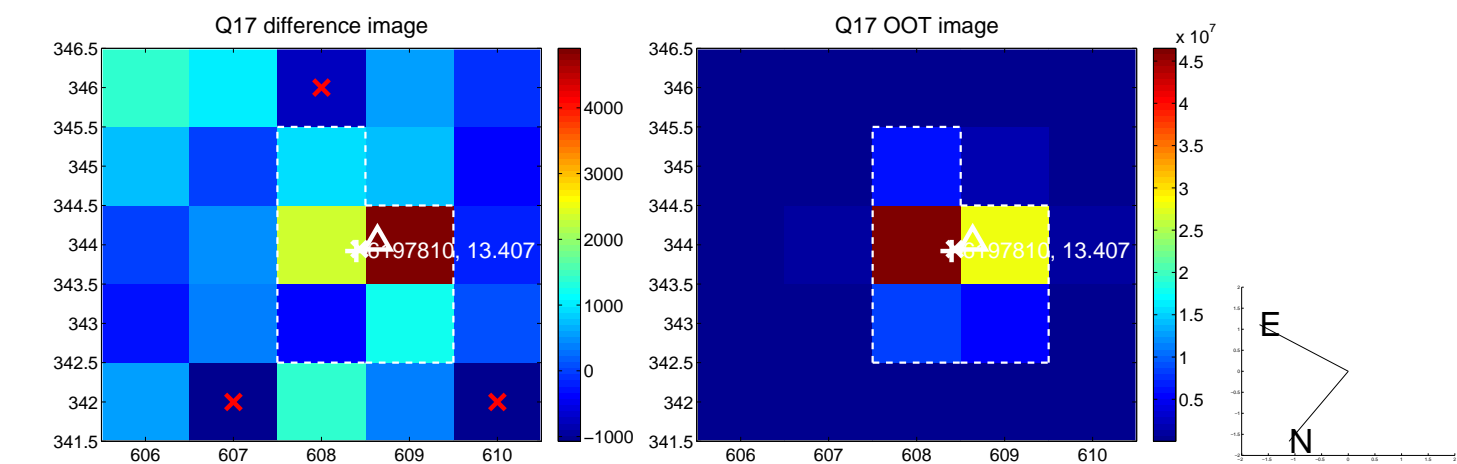
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



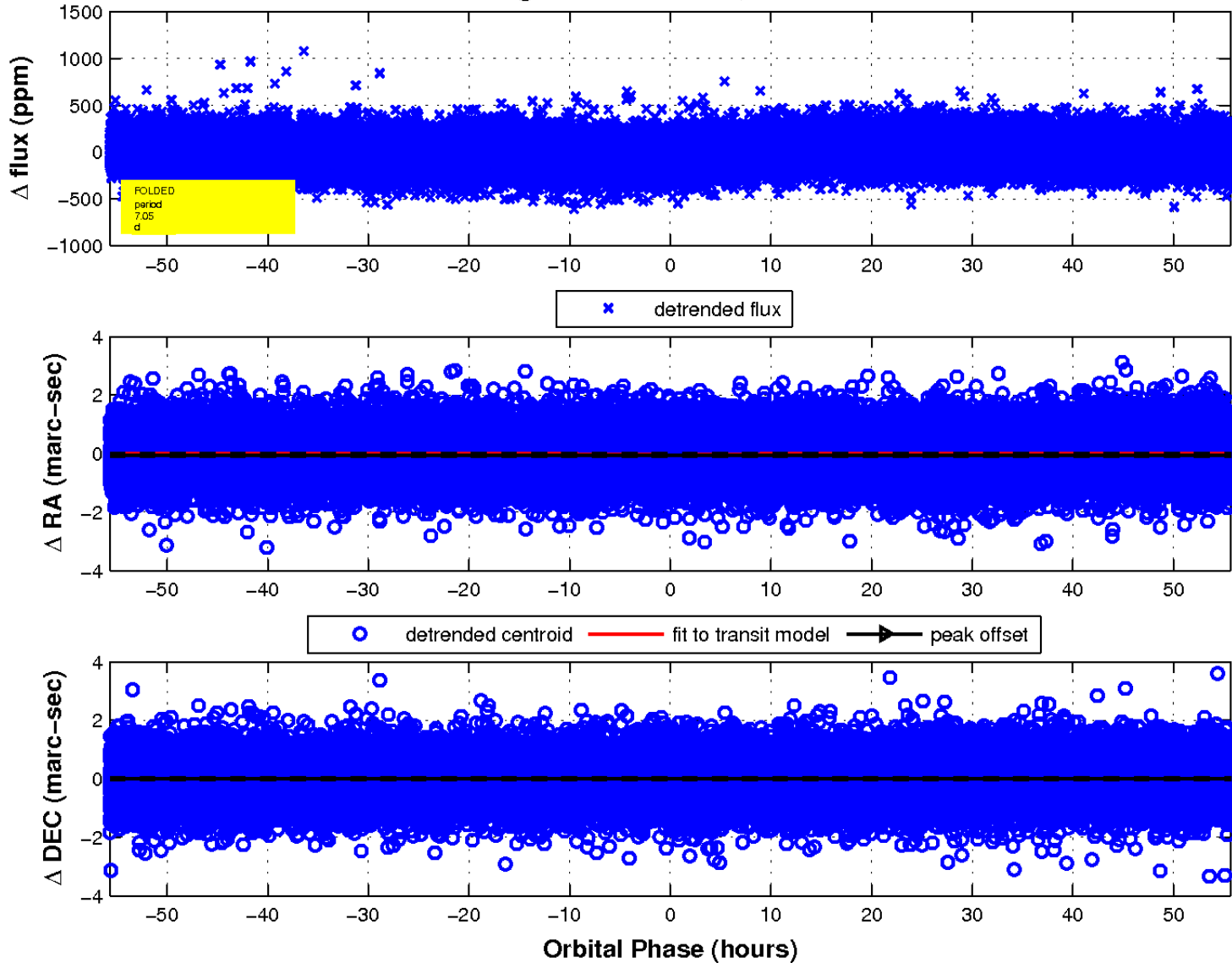
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

