

KIC 006041803

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})
006041803-01	OBS	No	0.729197	131.850744	44.1	1.702	10.2	11.8	2.08	7224	1.60	30629.80
006041803-02	OBS	No	2.158591	132.381400	52.2	6.930	8.8	8.3	2.08	7224	1.75	7206.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006041803-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006041803-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

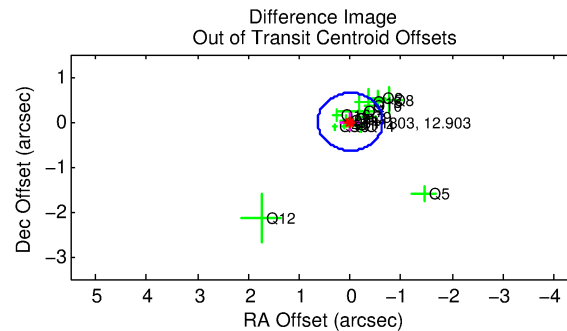
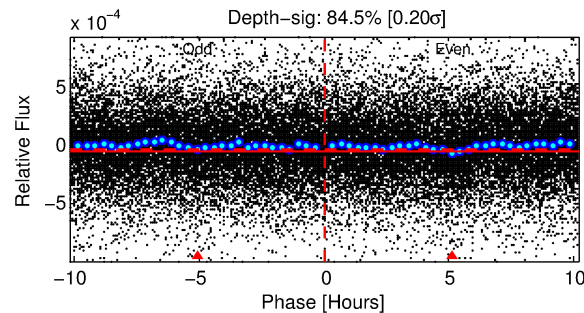
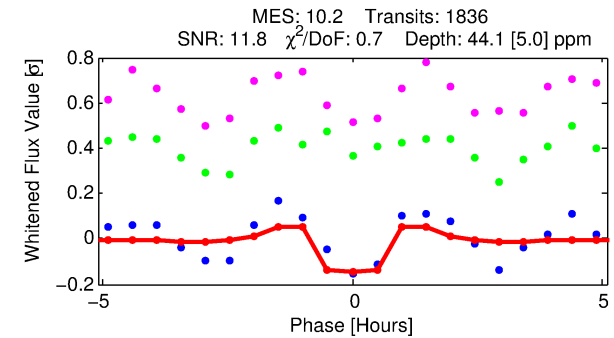
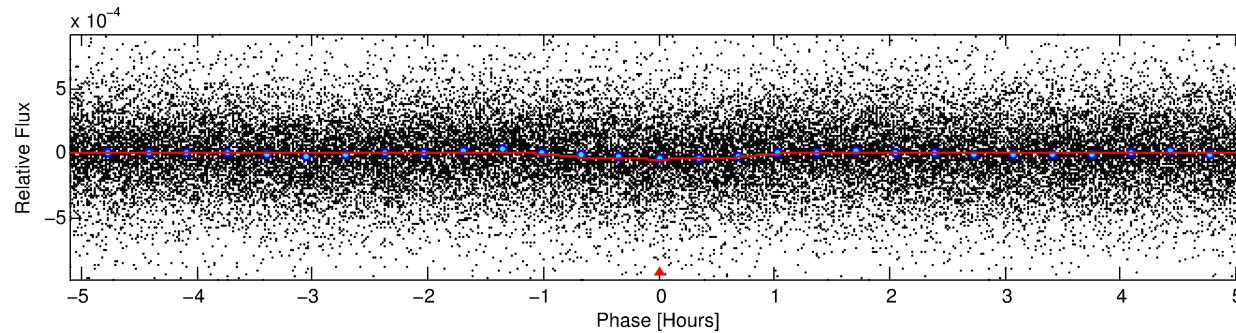
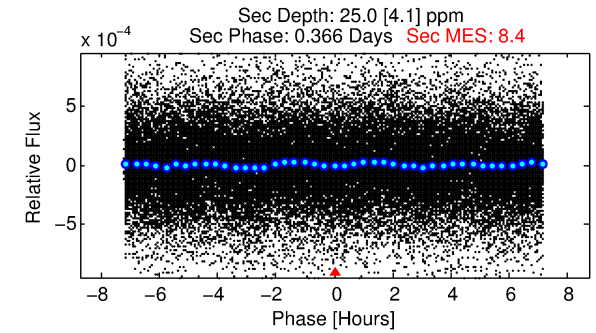
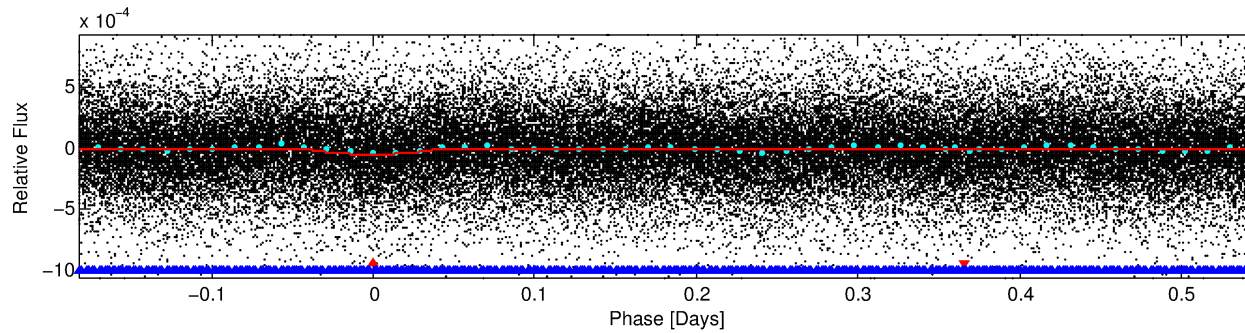
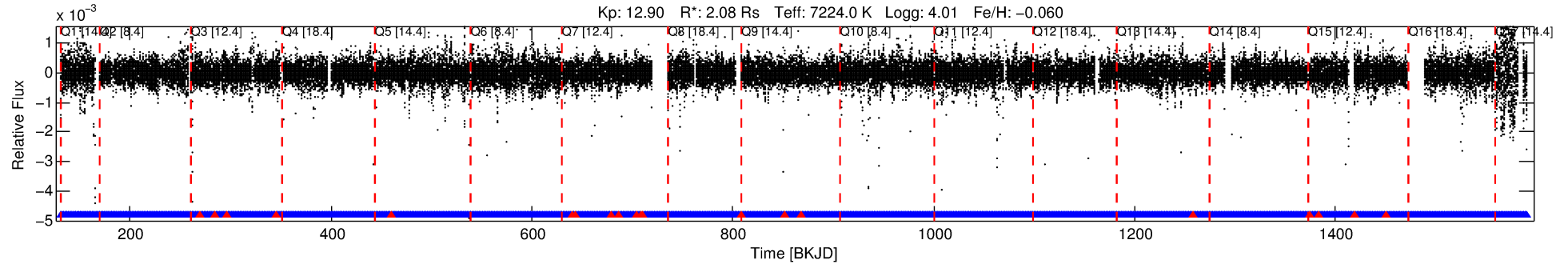
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006041803-01

No Significant Match Found

DV One-Page Summary

KIC: 6041803 Candidate: 1 of 2 Period: 0.729 d



DV Fit Results:

Period = 0.72920 [0.00001] d
Epoch = 131.8507 [0.0012] BKJD
Rp/R* = 0.0071 [0.0015]
a/R* = 1.76 [1.51]
b = 0.90 [0.28]
Seff = 30629.80 [8521.90]
Teq = 3373 [235] K
Rp = 1.61 [0.46] Re
a = 0.0186 [0.0033] AU
Ag = 1.85 [0.97] [0.88σ]
Teffp = 6083 [684] K [3.75σ]

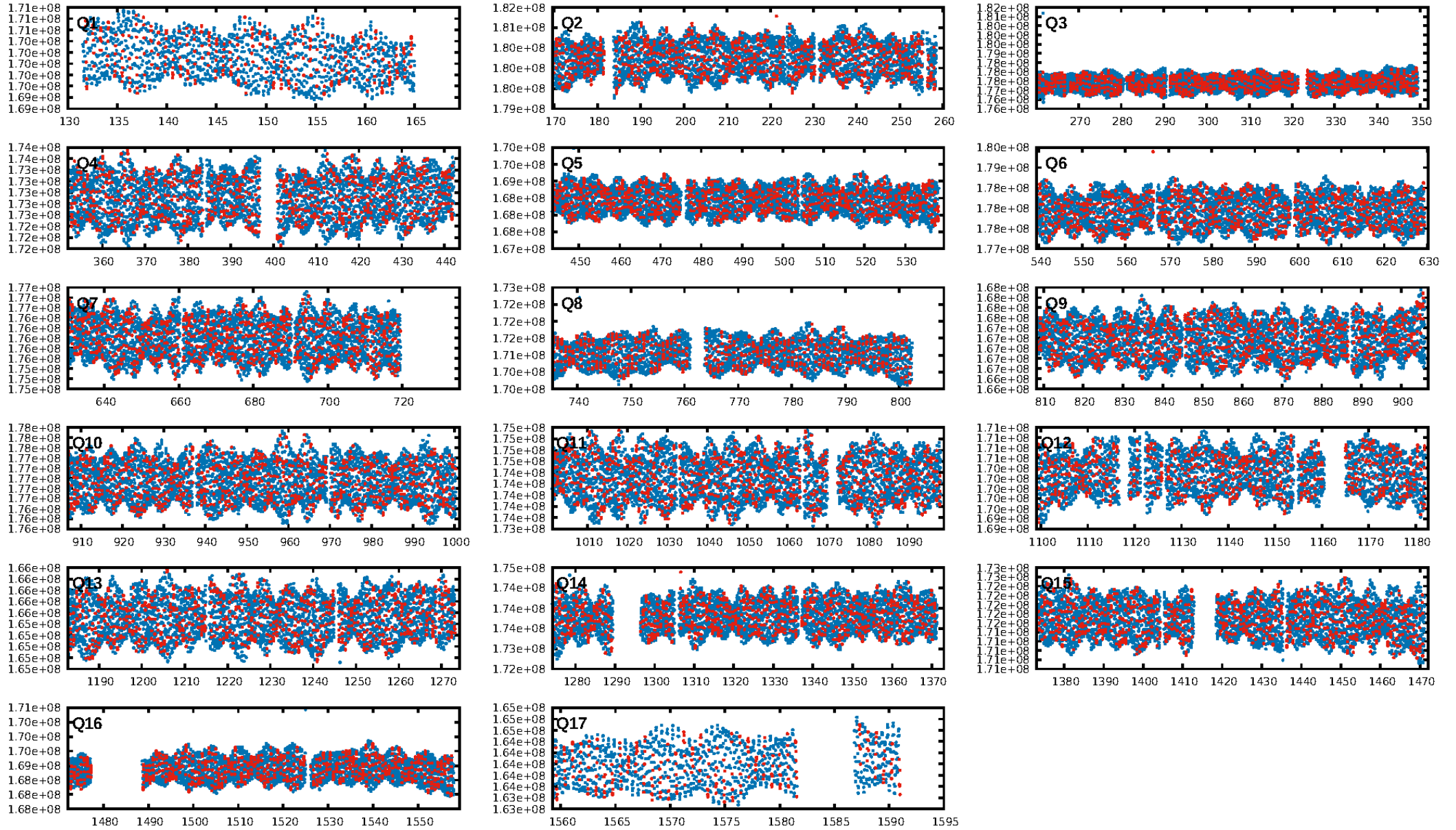
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [4.81σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.98e-26
RollingBand-fgt: 0.99 [1733/1753]
GhostDiagnostic-chr: -5.695
Centroid-sig: 61.7%
Centroid-so: 0.328 arcsec [0.78σ]
OotOffset-rm: 0.001 arcsec [0.01σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-rm: 0.115 arcsec [0.69σ]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 1.00 [17/17]

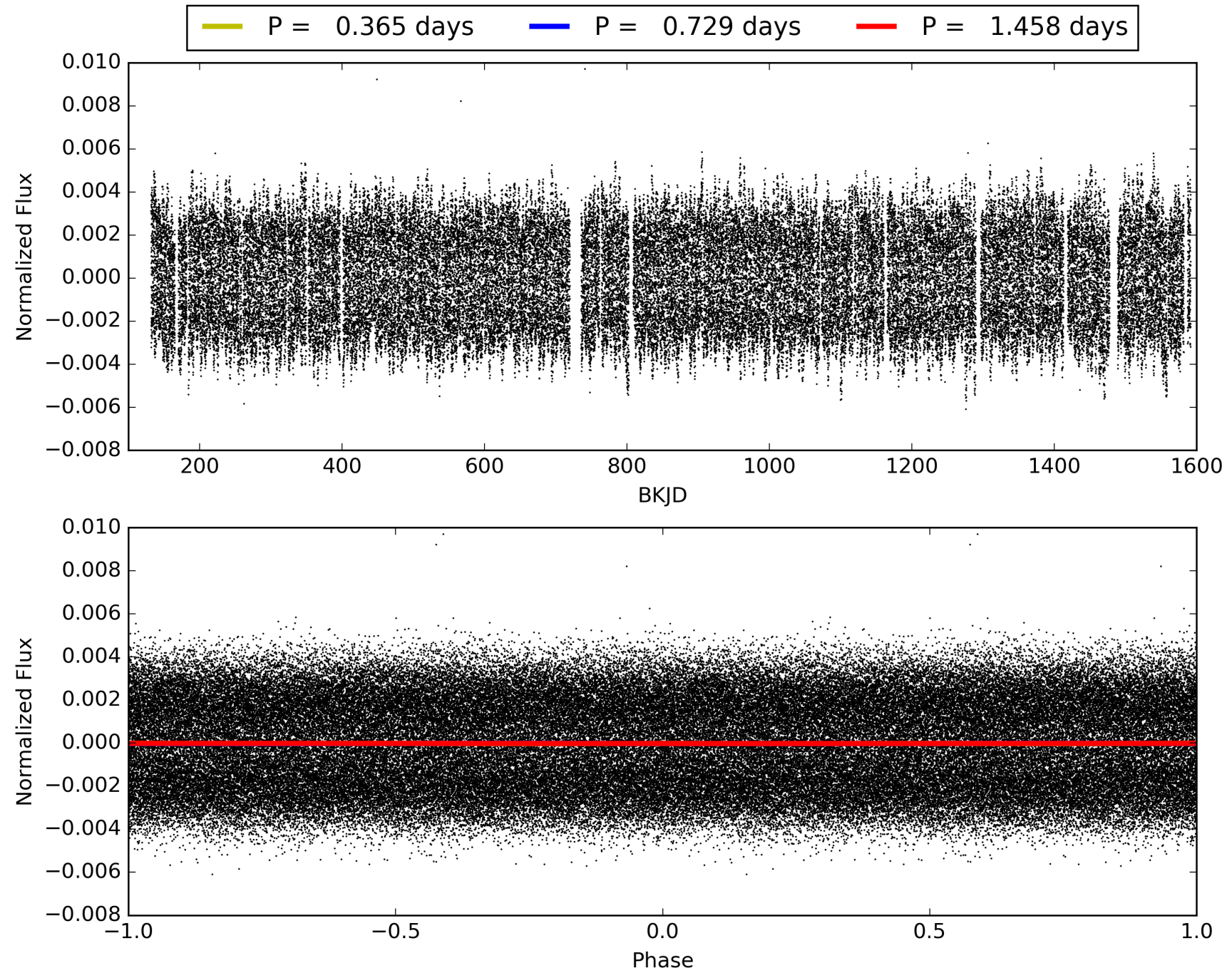
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:44:33 Z

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

TCE 006041803-01, PDC Light Curves

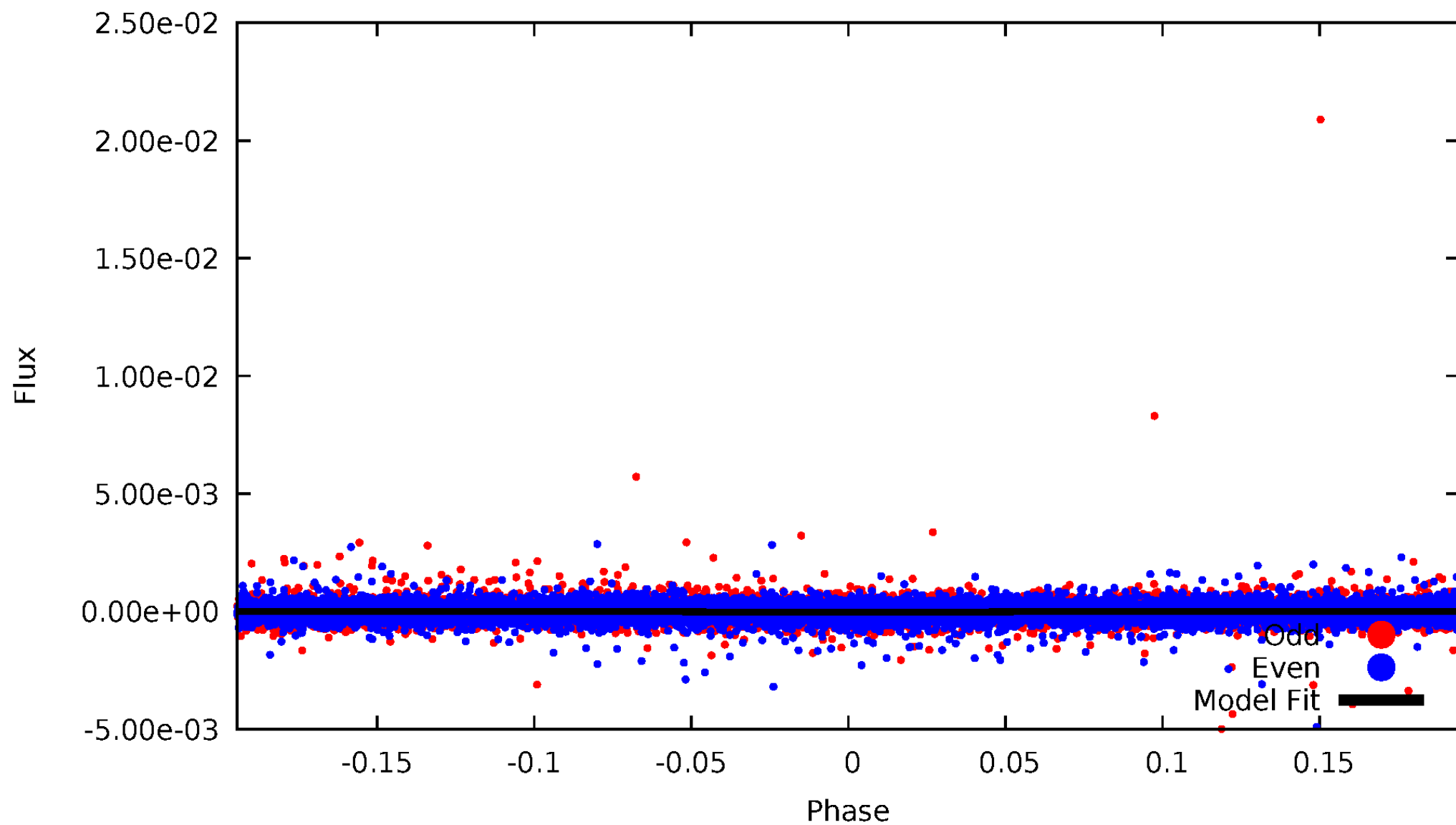


TCE 006041803-01



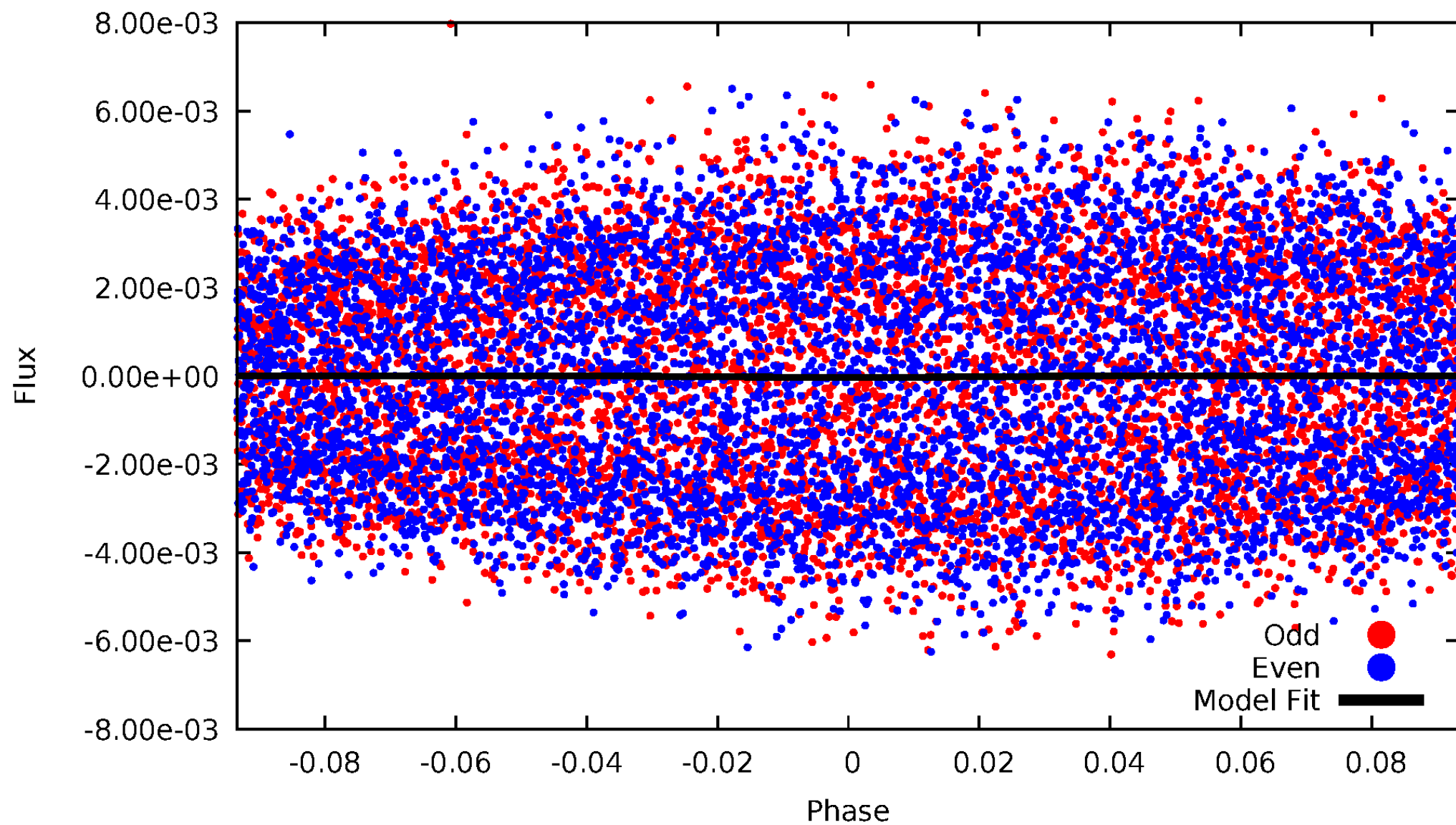
DV Odd/Even

TCE 006041803-01



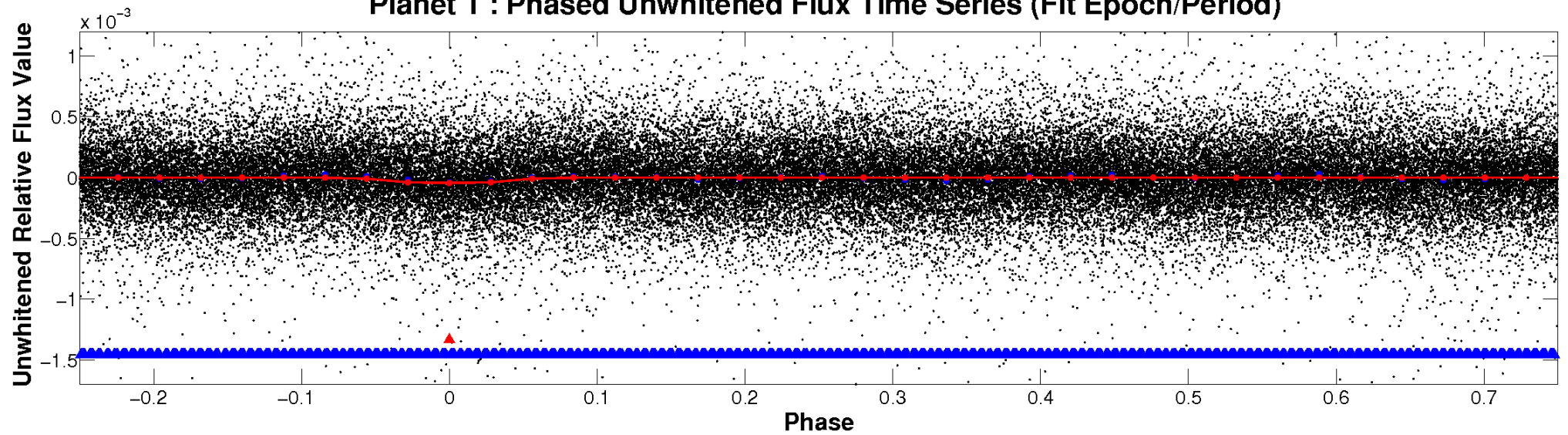
ALT Odd/Even

TCE 006041803-01

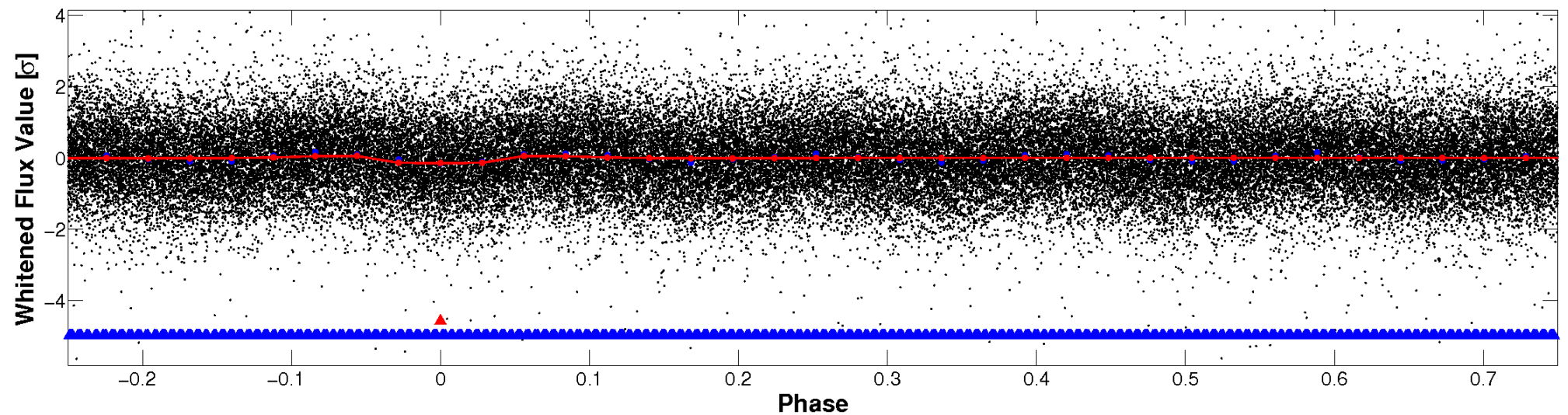


Non-Whitened Vs. Whitened Light Curve

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

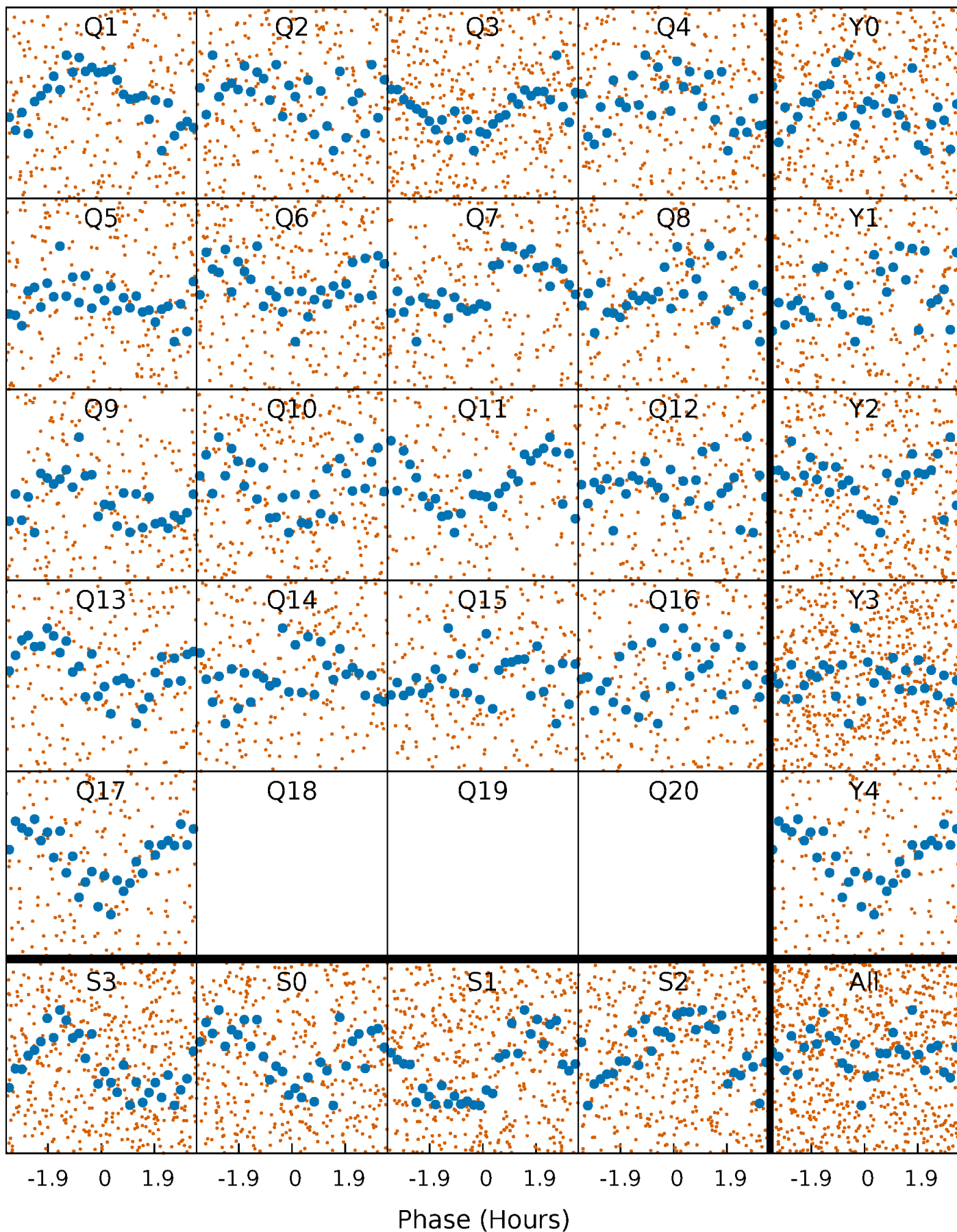


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



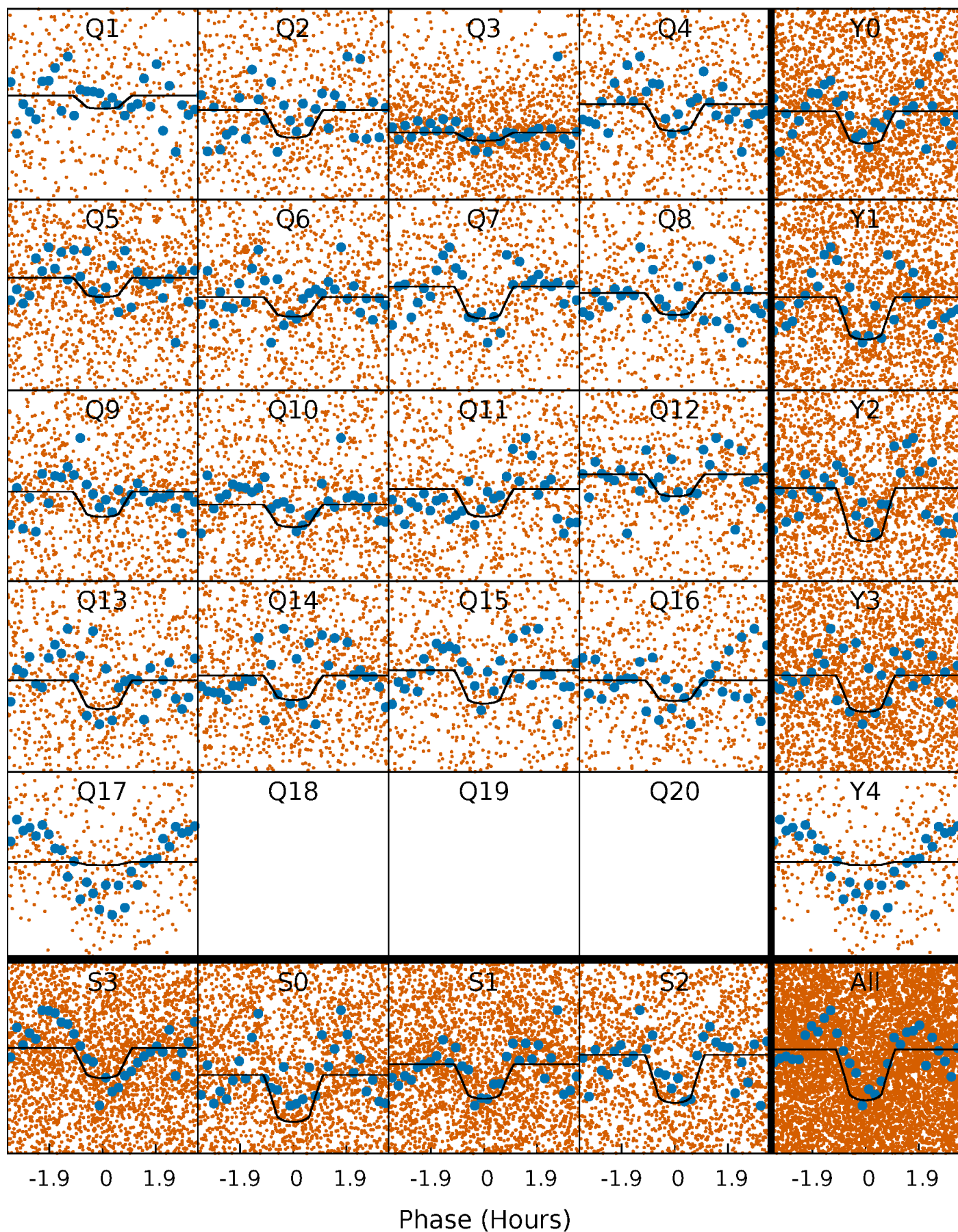
PDC Quarter-Phased Transit Curves

TCE 006041803-01 P= 0.729197 Days $T_0=131.850744$ (BKJD)



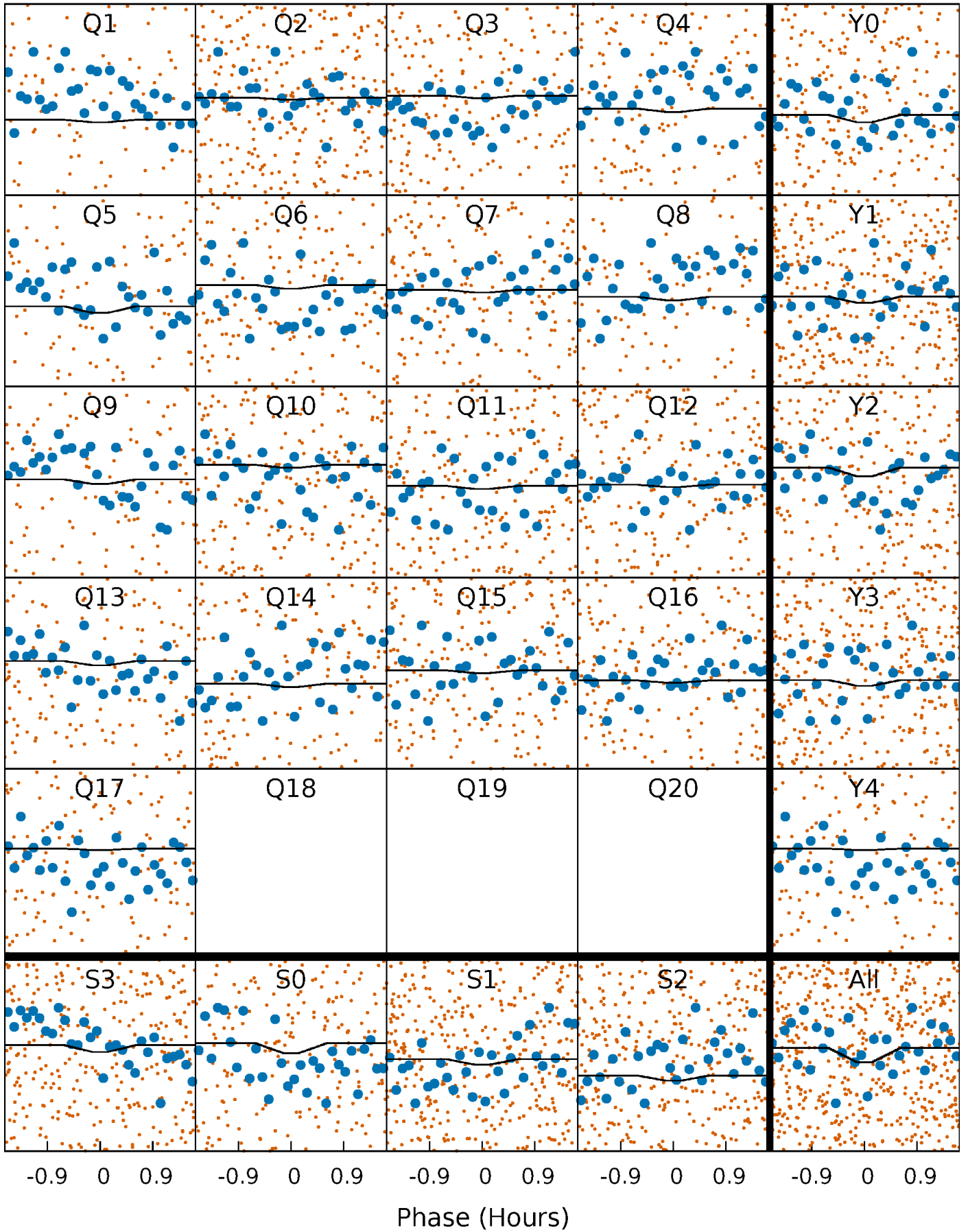
DV Quarter-Phased Transit Curves

TCE 006041803-01 P= 0.729197 Days $T_0=131.850744$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

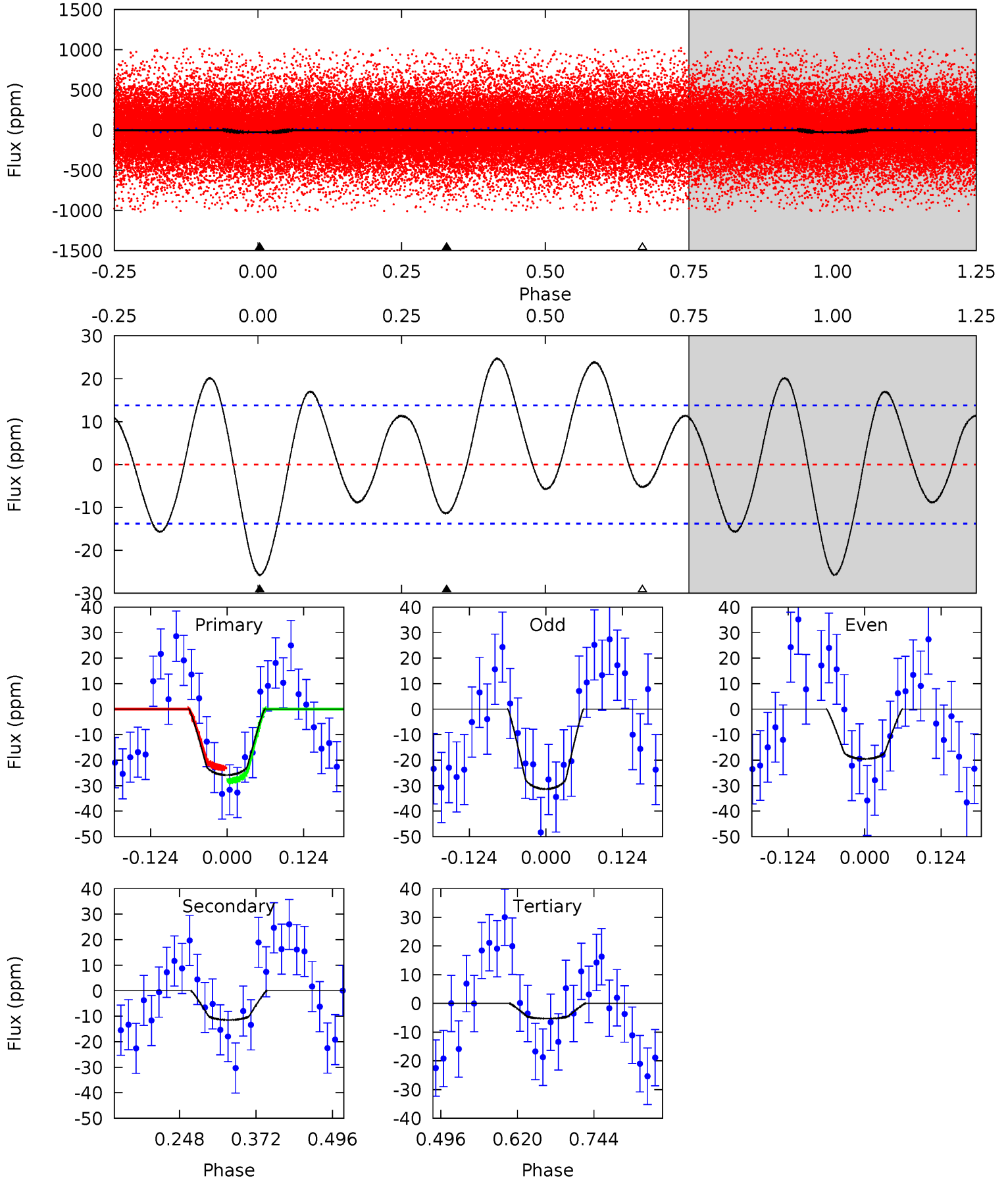
TCE 006041803-01 P= 0.729195 Days $T_0=131.846768$ (BKJD)



DV Model-Shift Uniqueness Test

006041803-01, P = 0.729197 Days, E = 131.121547 Days

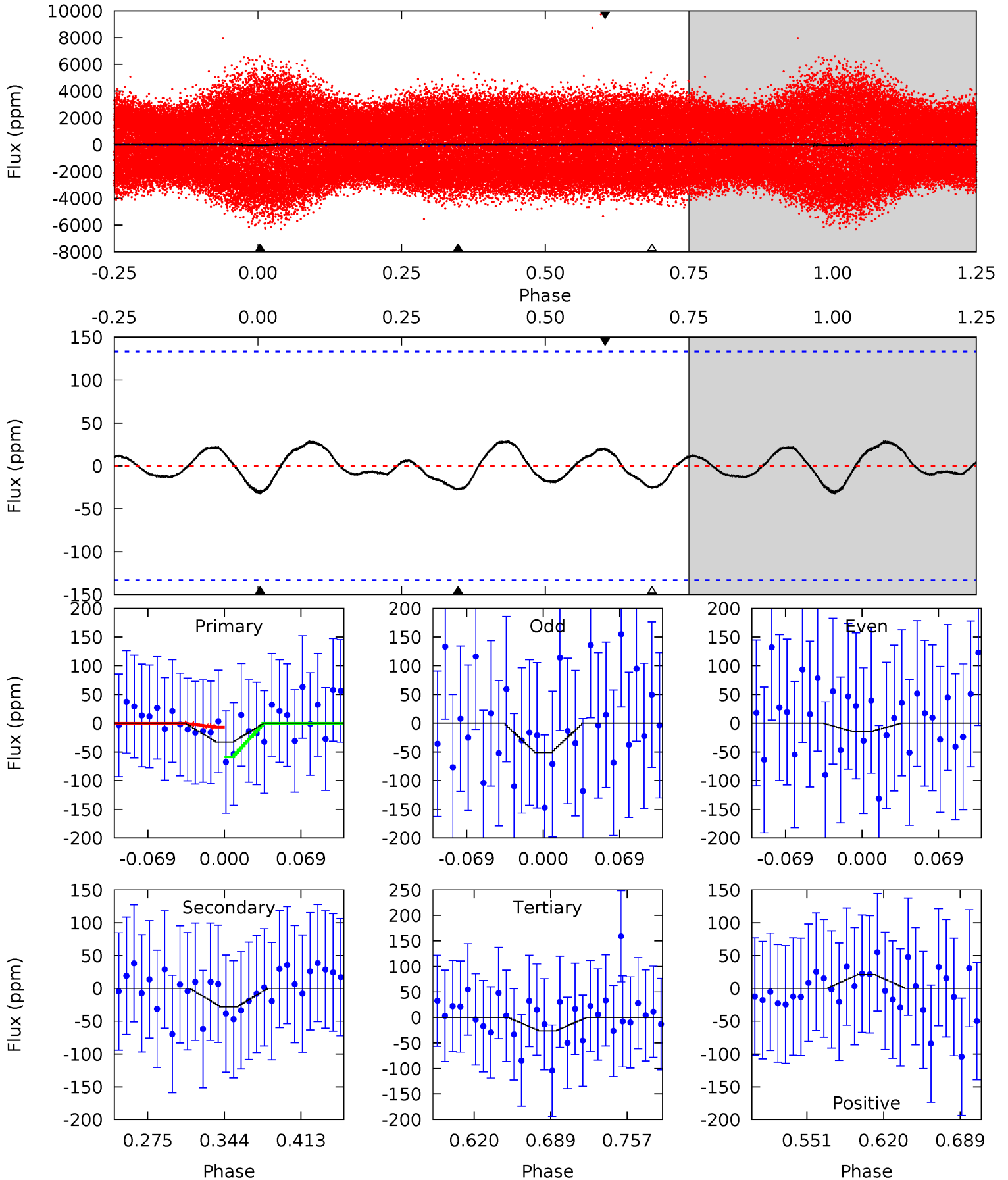
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.46	3.75	1.72	0	4.52	1.54	3.29	6.74	8.46	2.03	3.75	1.94	1.12	0.49	0.84



Alt Model-Shift Uniqueness Test

006041803-01, P = 0.729195 Days, E = 131.117573 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	0.98	0.91	0.74	4.64	1.82	0.50	0.24	0.41	0.07	0.24	0.63	1.36	0.47	0.91



Stellar Parameters For KIC 006041803

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7224^{+75}_{-86}	$4.008^{+0.156}_{-0.104}$	$-0.060^{+0.100}_{-0.200}$	$2.084^{+0.341}_{-0.417}$	$1.609^{+0.130}_{-0.162}$	$0.251^{+0.201}_{-0.081}$
	+1%/-1%	+4%/-3%	+167%/-333%	+16%/-20%	+8%/-10%	+80%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 006041803-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-11 ± 3	$1.59^{+0.36}_{-0.36}$	4698^{+220}_{-239}	4557^{+761}_{-676}	$0.835^{+0.678}_{-0.325}$
Alt.	-28 ± 29	$1.26^{+0.35}_{-0.34}$	4692^{+225}_{-237}	6798^{+2255}_{-10983}	$3.312^{+5.084}_{-3.343}$

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 $A_{obs} \gg 1.0$

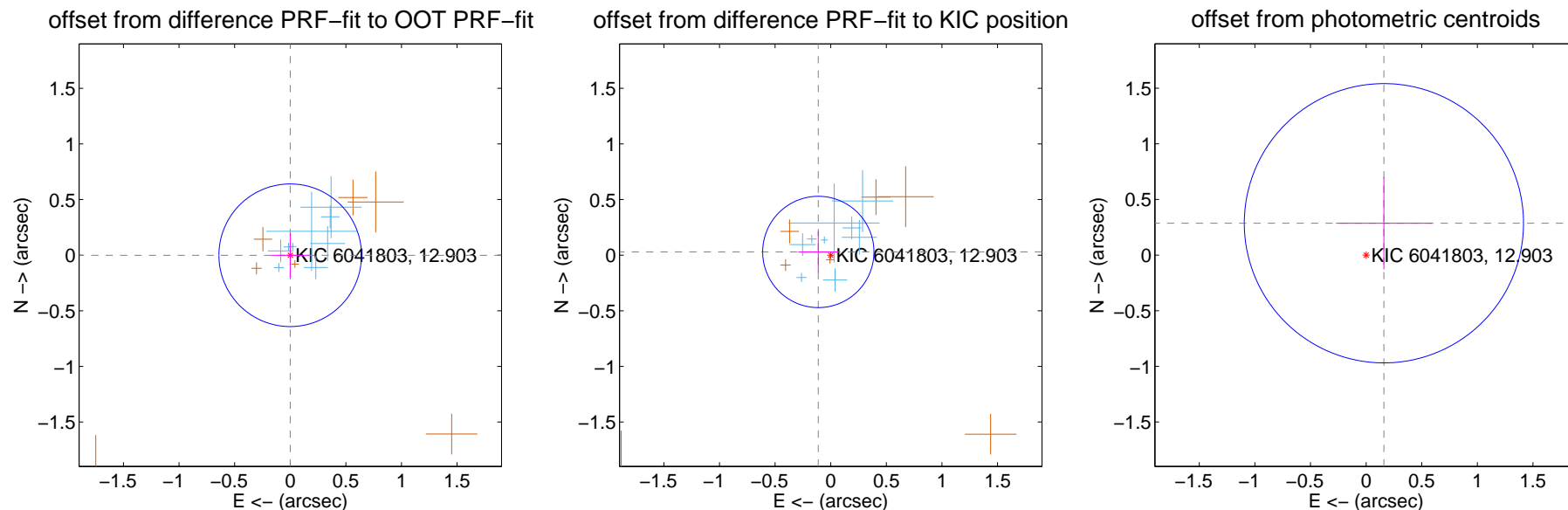
DV Centroid Data

Supplemental centroid analysis for 006041803-01. Kepler magnitude: 12.90. Transit SNR 11.76

There are 9 quarters with good PRF difference image offsets

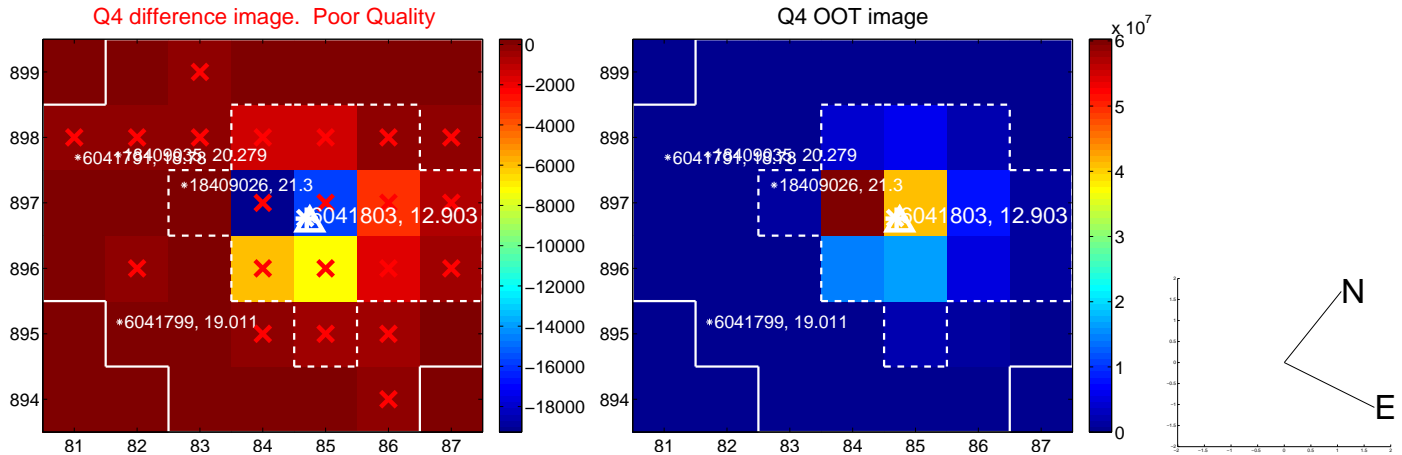
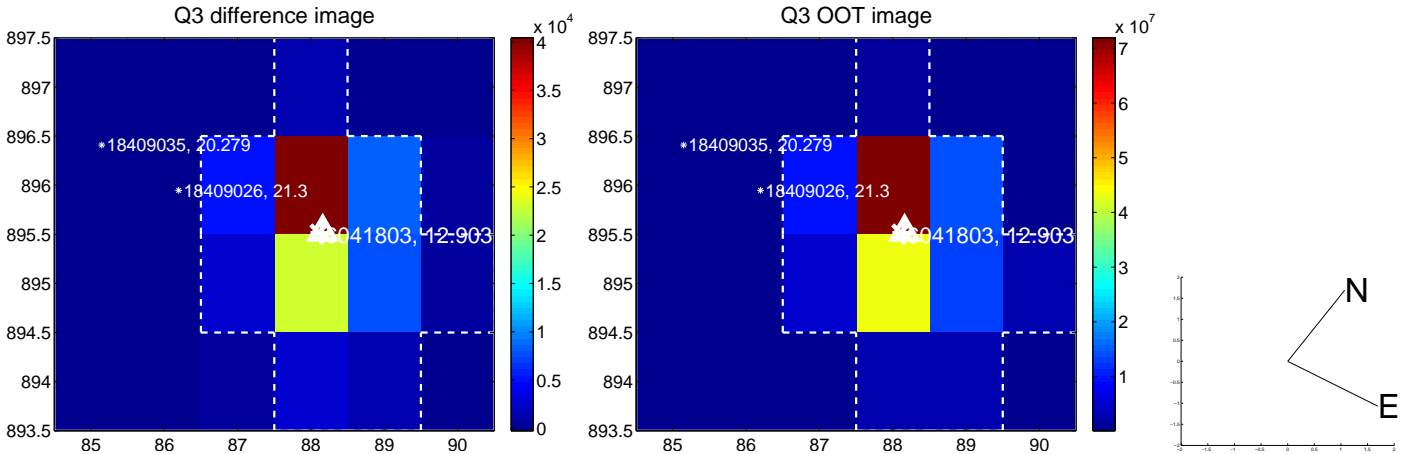
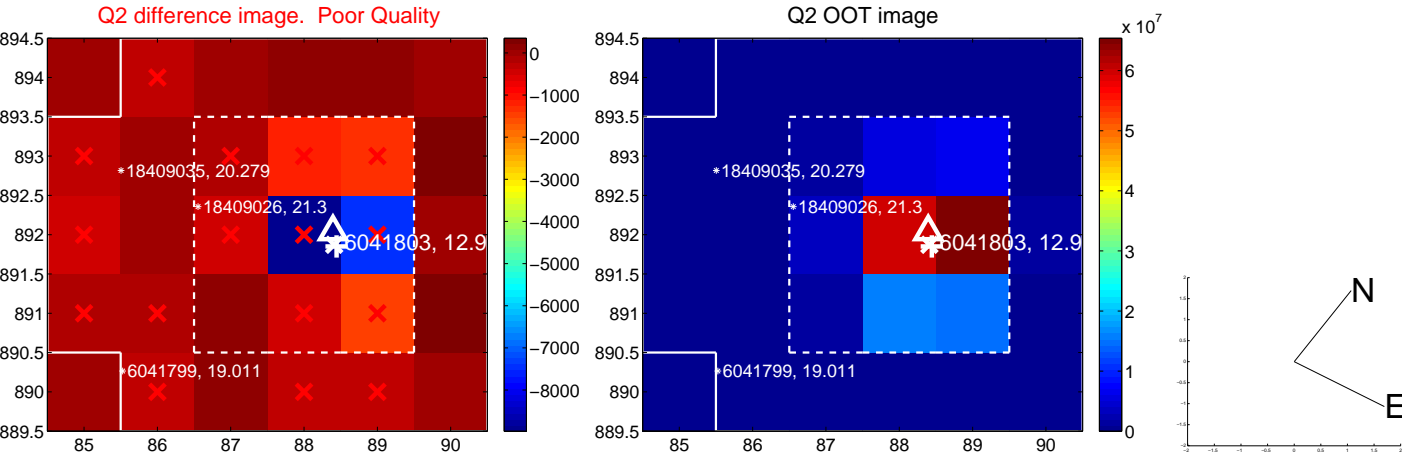
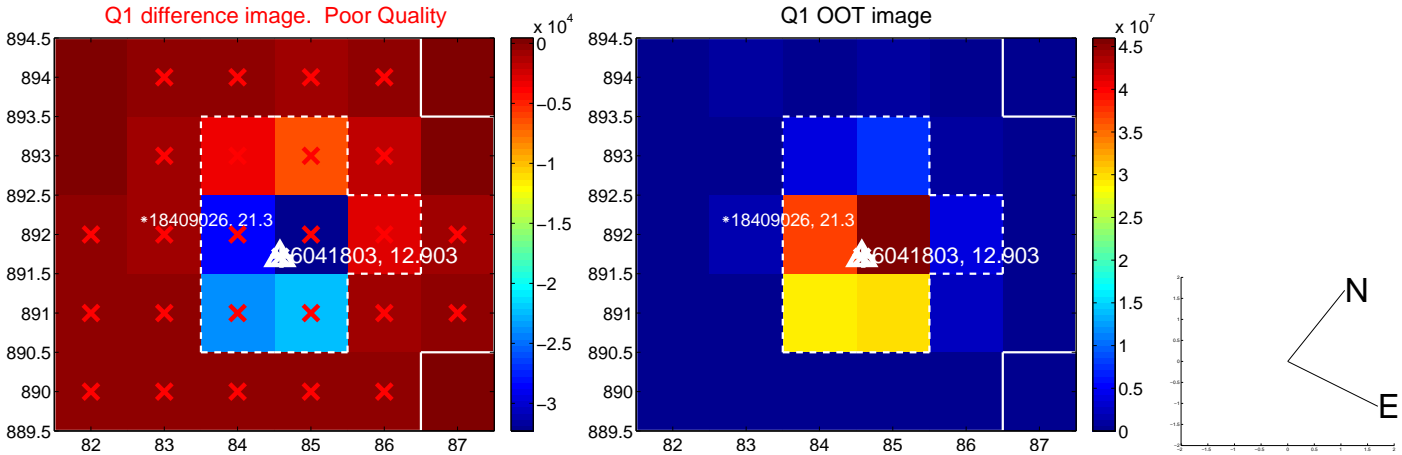
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.001 ± 0.214	0.01	0.001 ± 0.172	-0.001 ± 0.198
PRF-fit source offset from KIC position	0.115 ± 0.167	0.69	0.111 ± 0.181	0.029 ± 0.185
photometric centroid source offset	0.33 ± 0.42	0.78	-0.16 ± 0.43	0.29 ± 0.41

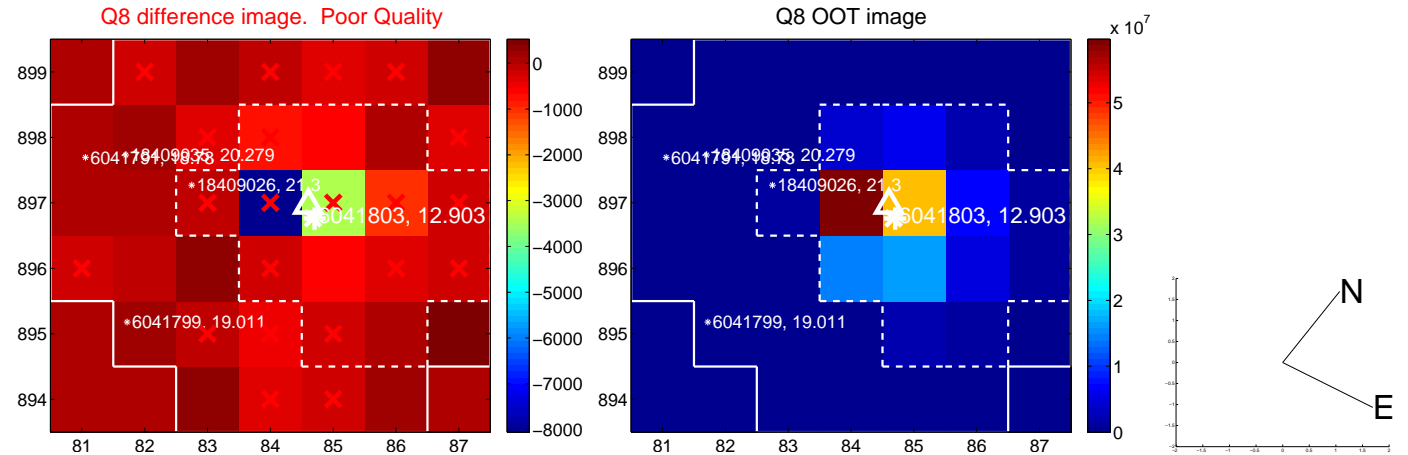
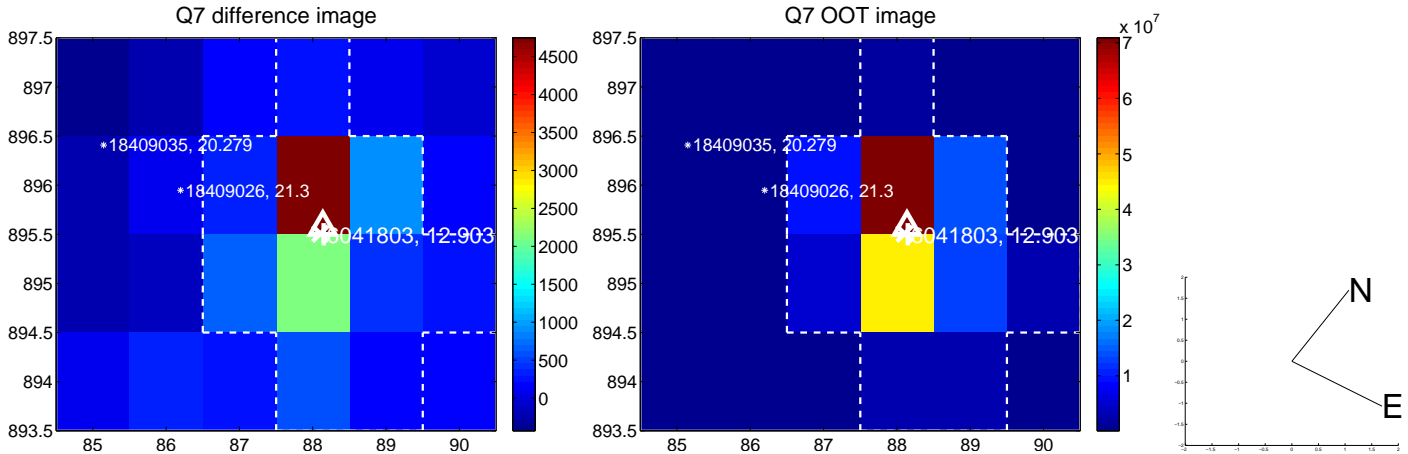
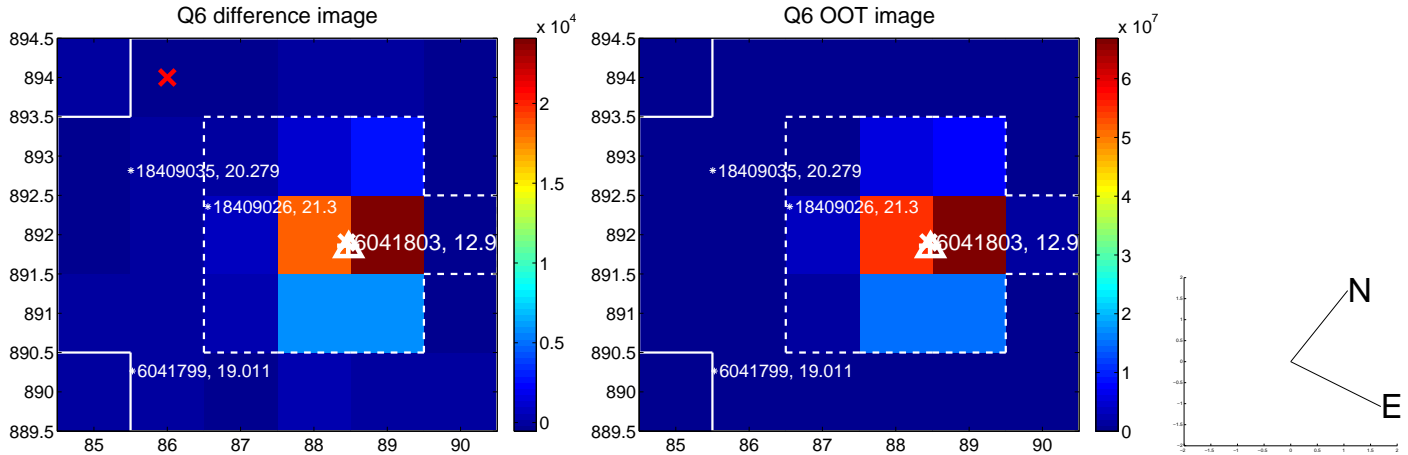
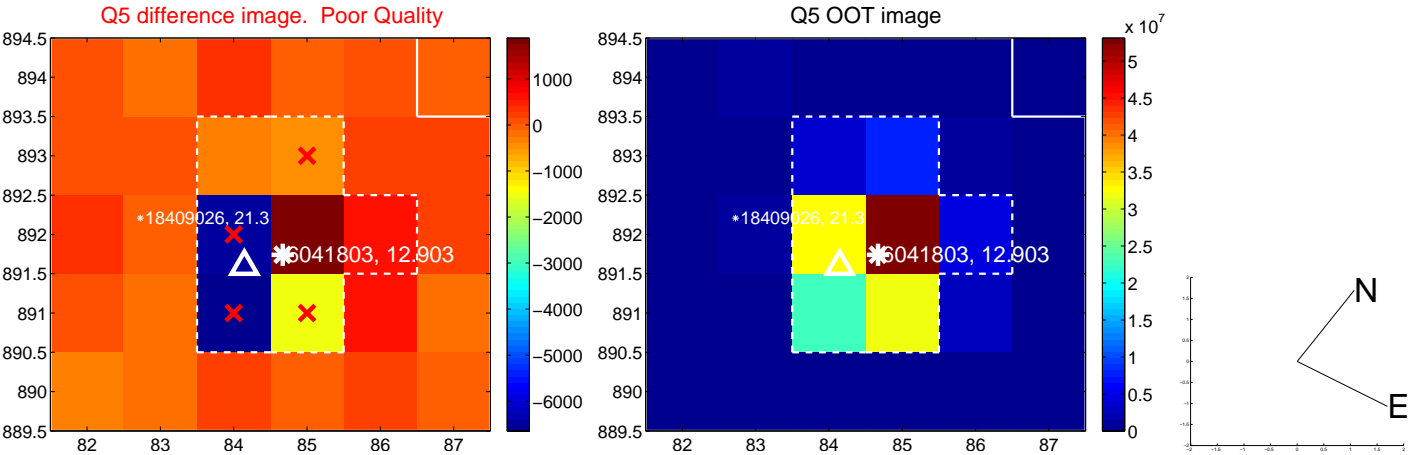


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

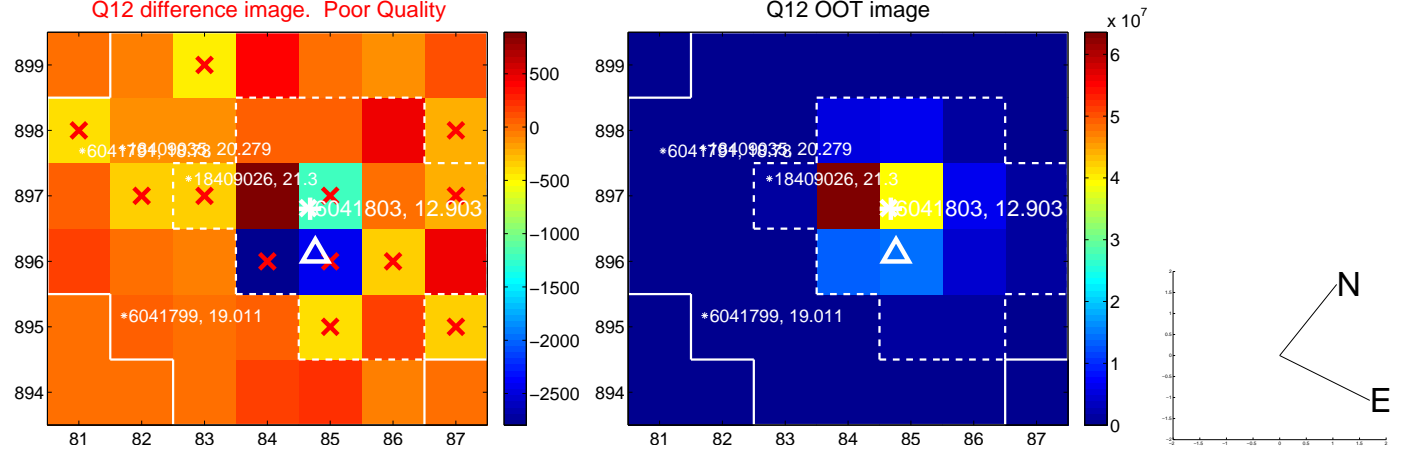
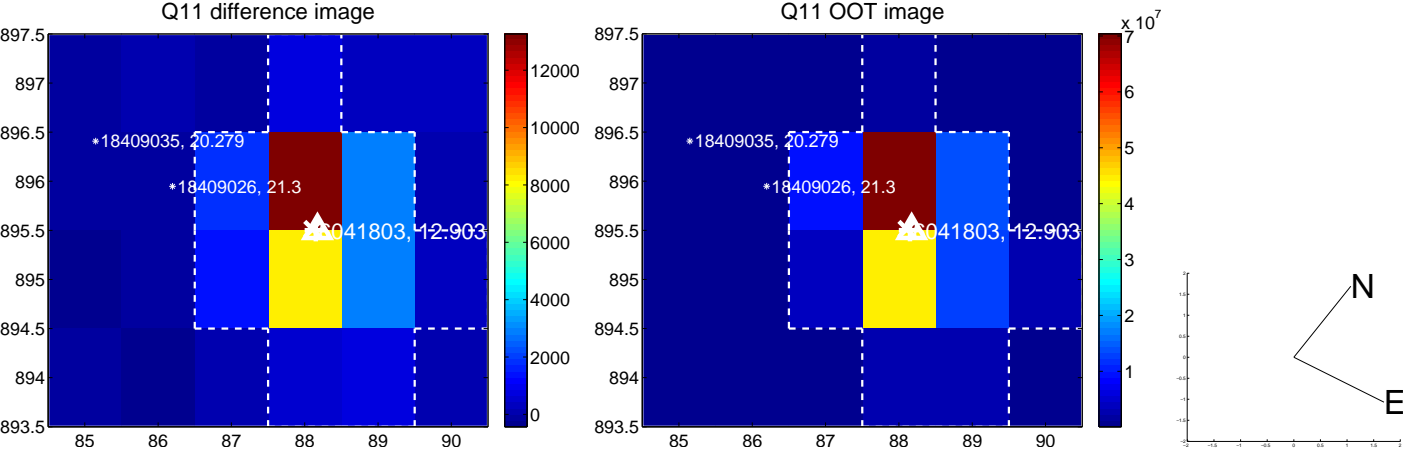
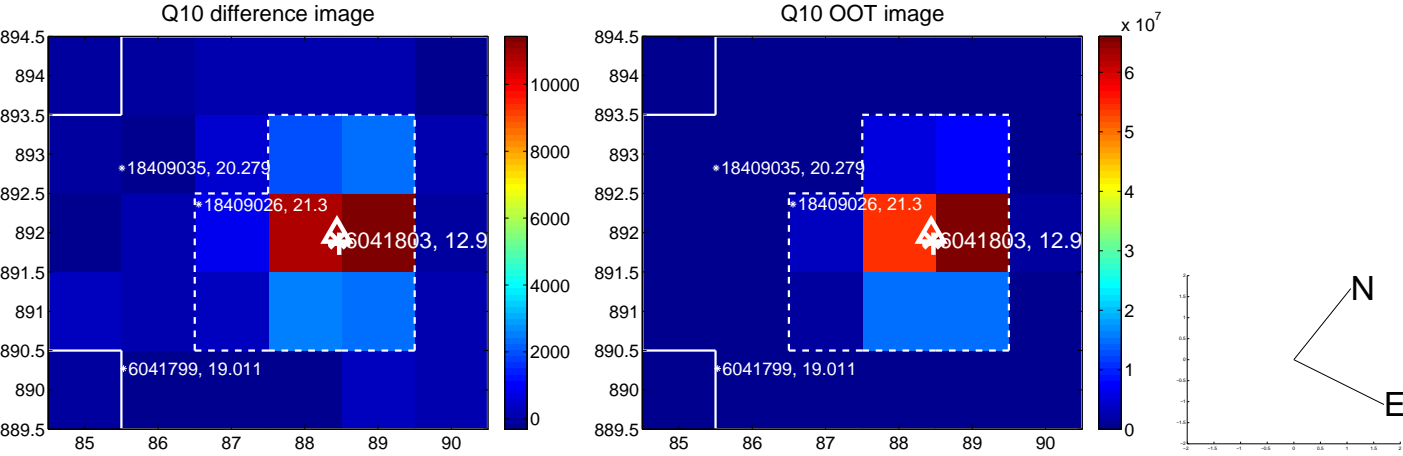
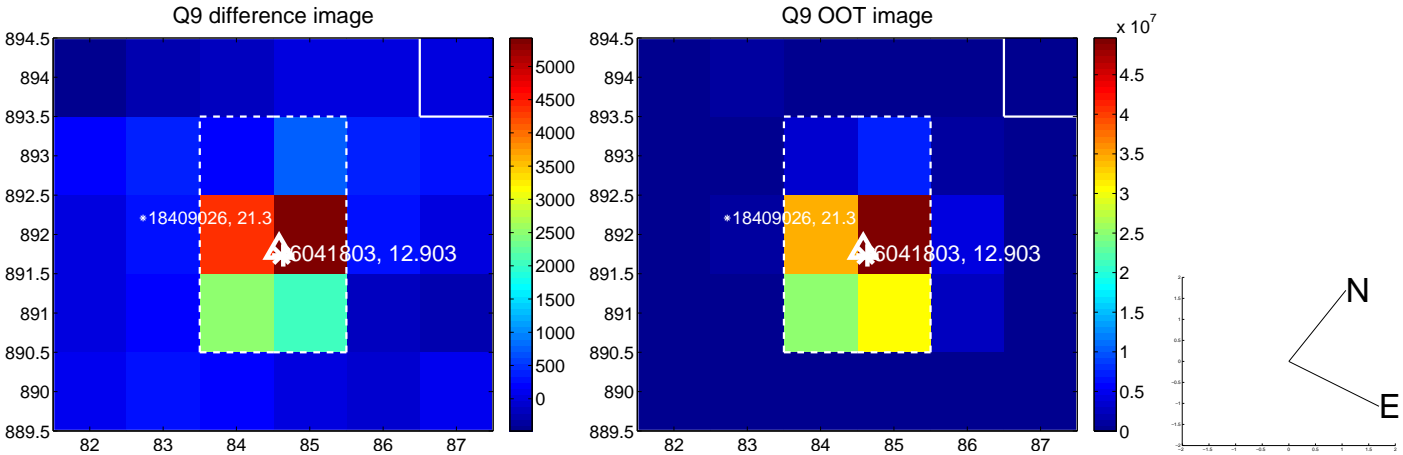
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



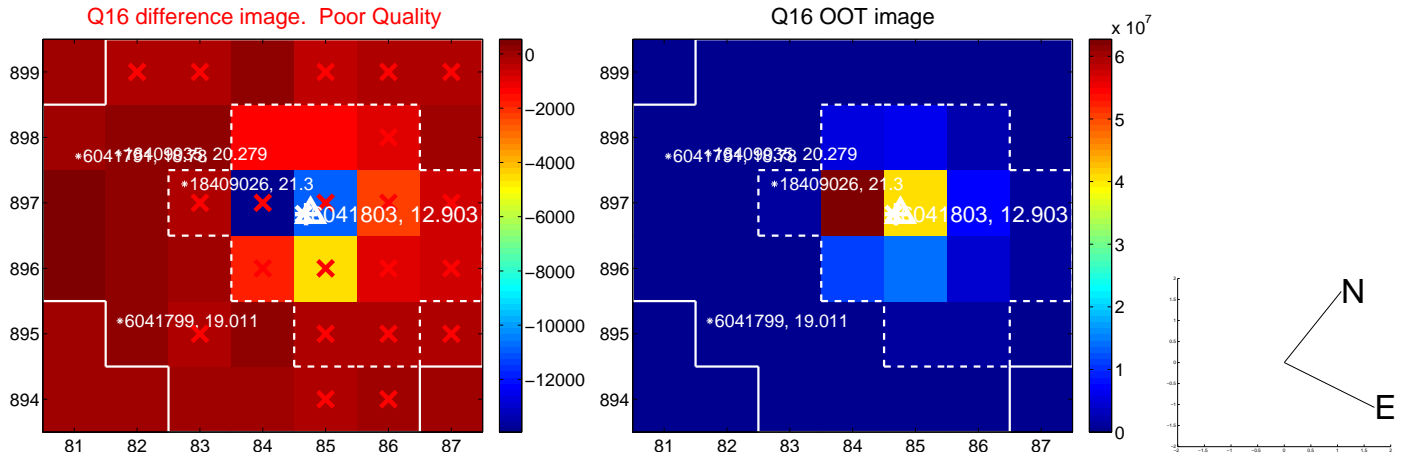
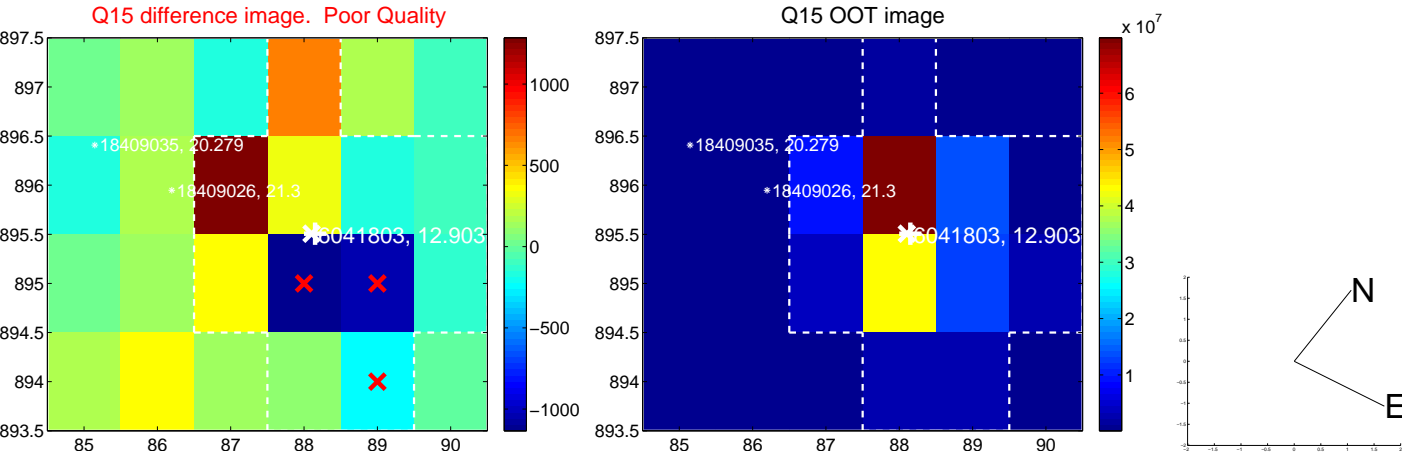
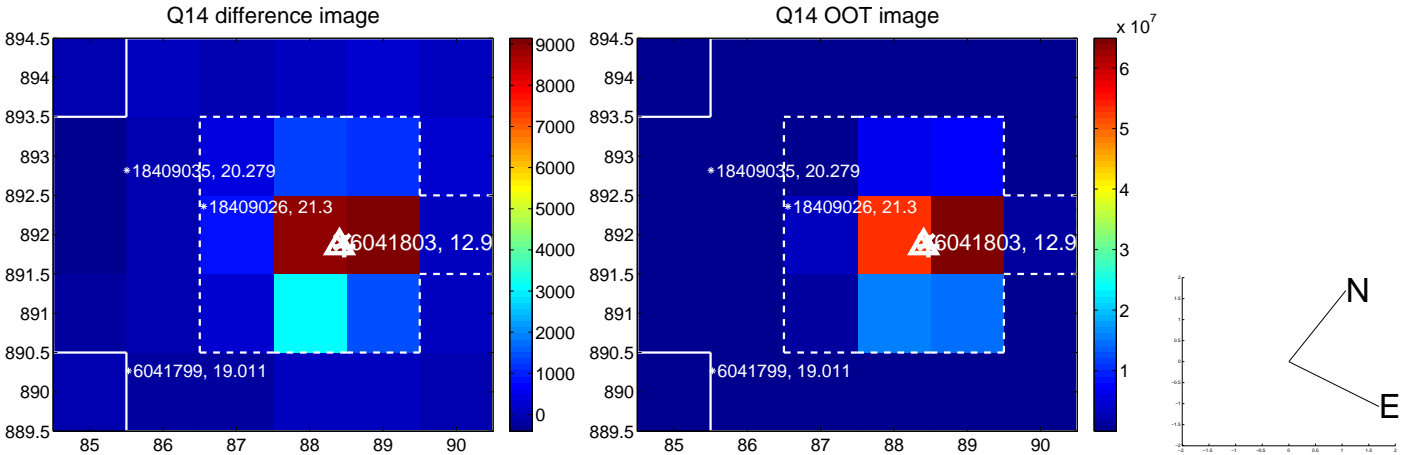
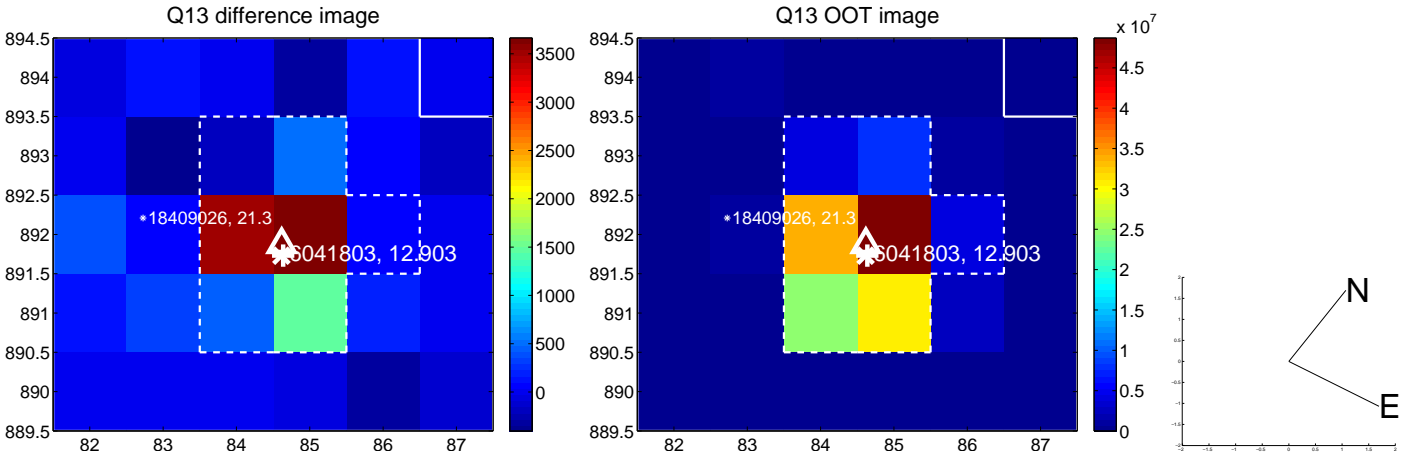
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



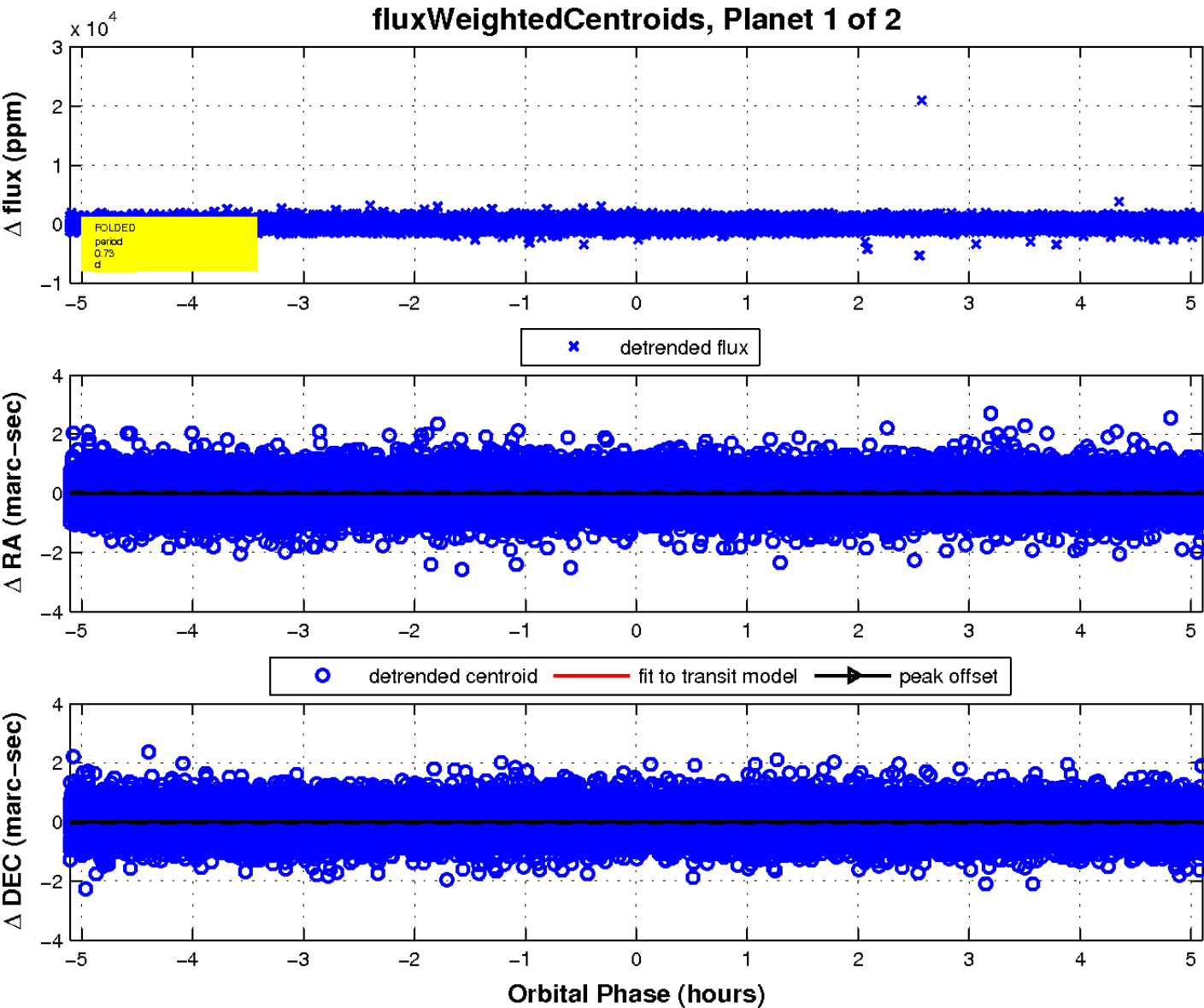
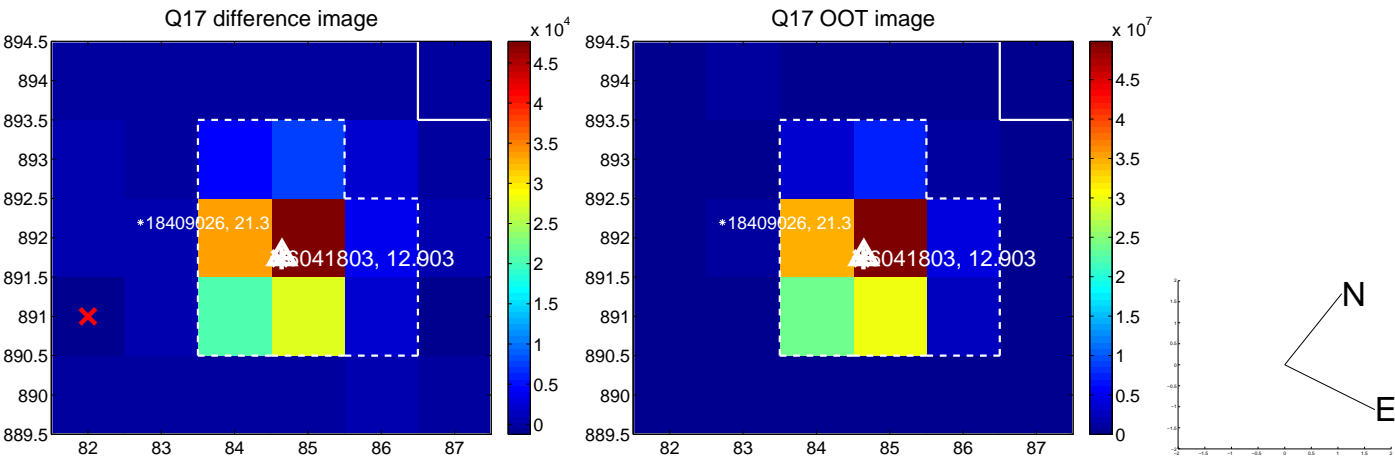
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

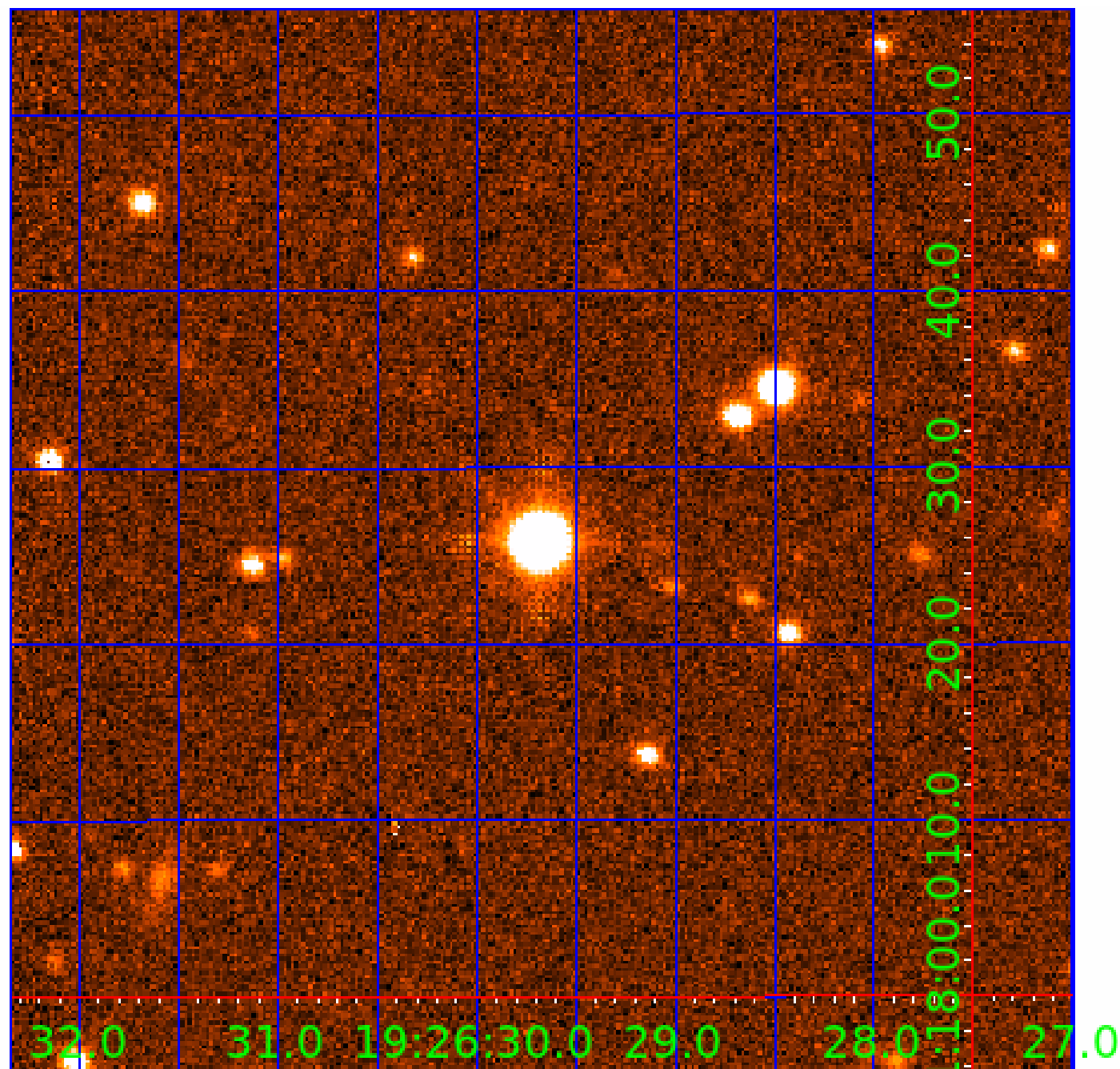


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006041803

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})
006041803-01	OBS	No	0.729197	131.850744	44.1	1.702	10.2	11.8	2.08	7224	1.60	30629.80
006041803-02	OBS	No	2.158591	132.381400	52.2	6.930	8.8	8.3	2.08	7224	1.75	7206.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006041803-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006041803-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

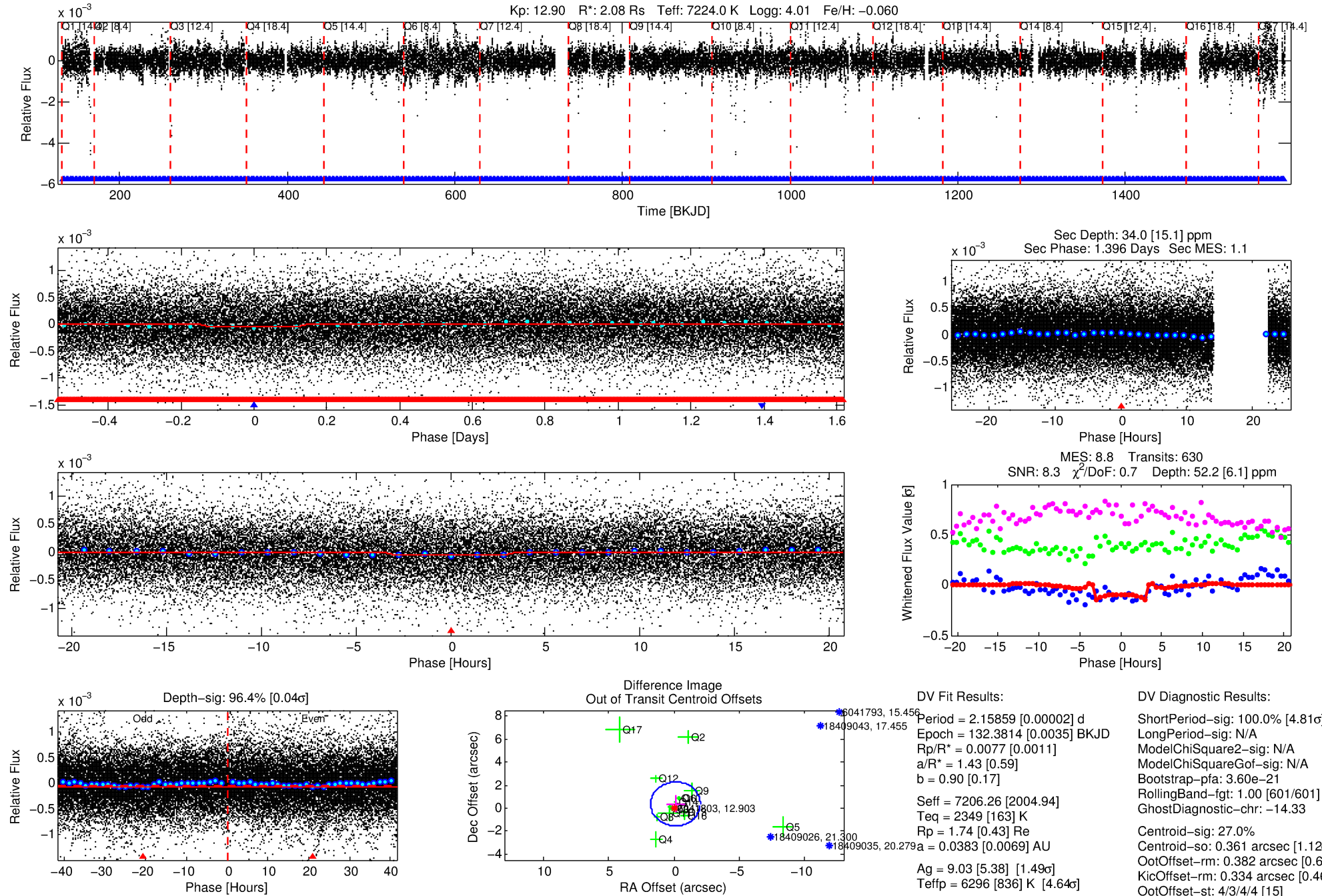
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006041803-02

No Significant Match Found

DV One-Page Summary

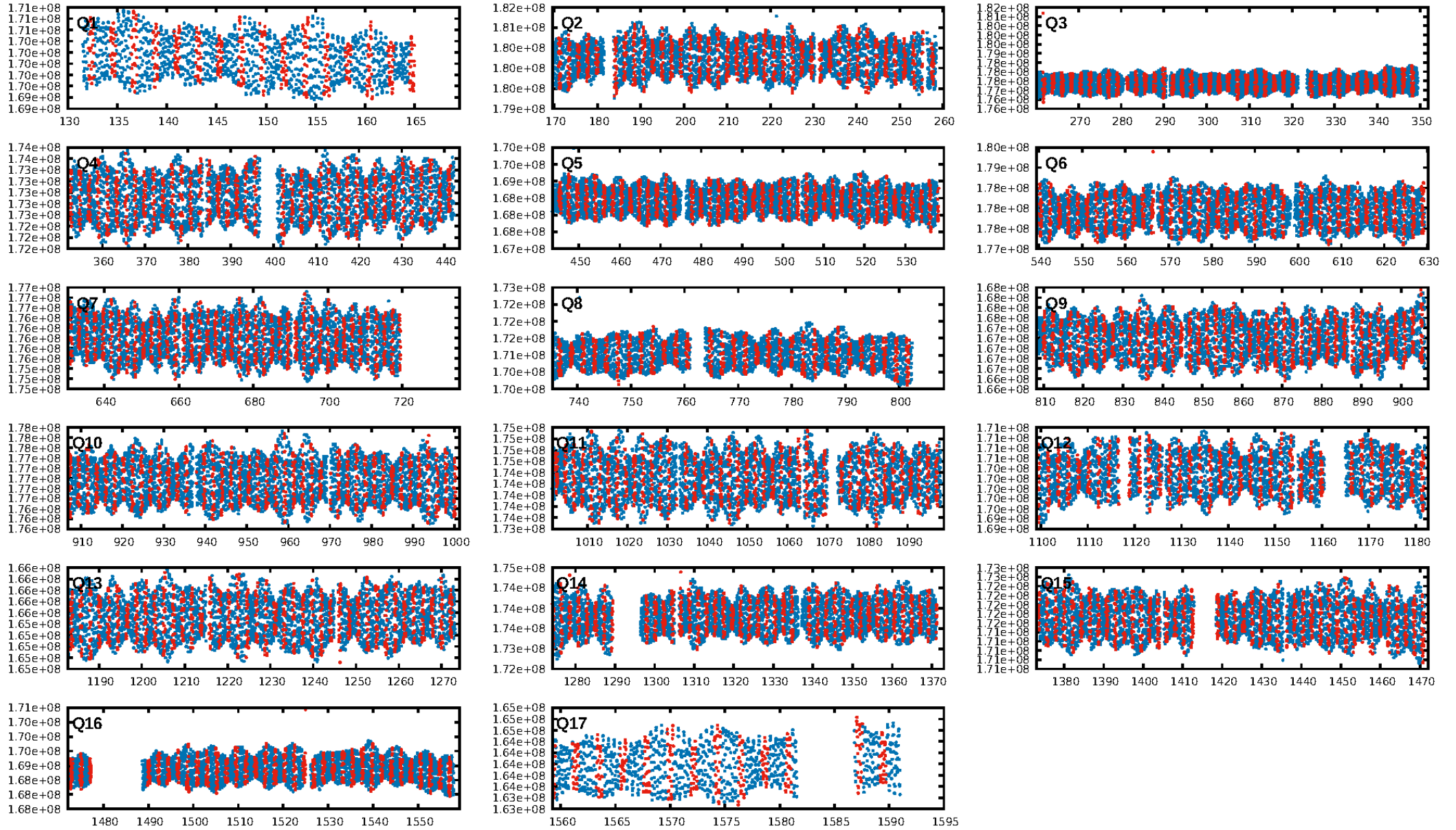
KIC: 6041803 Candidate: 2 of 2 Period: 2.159 d



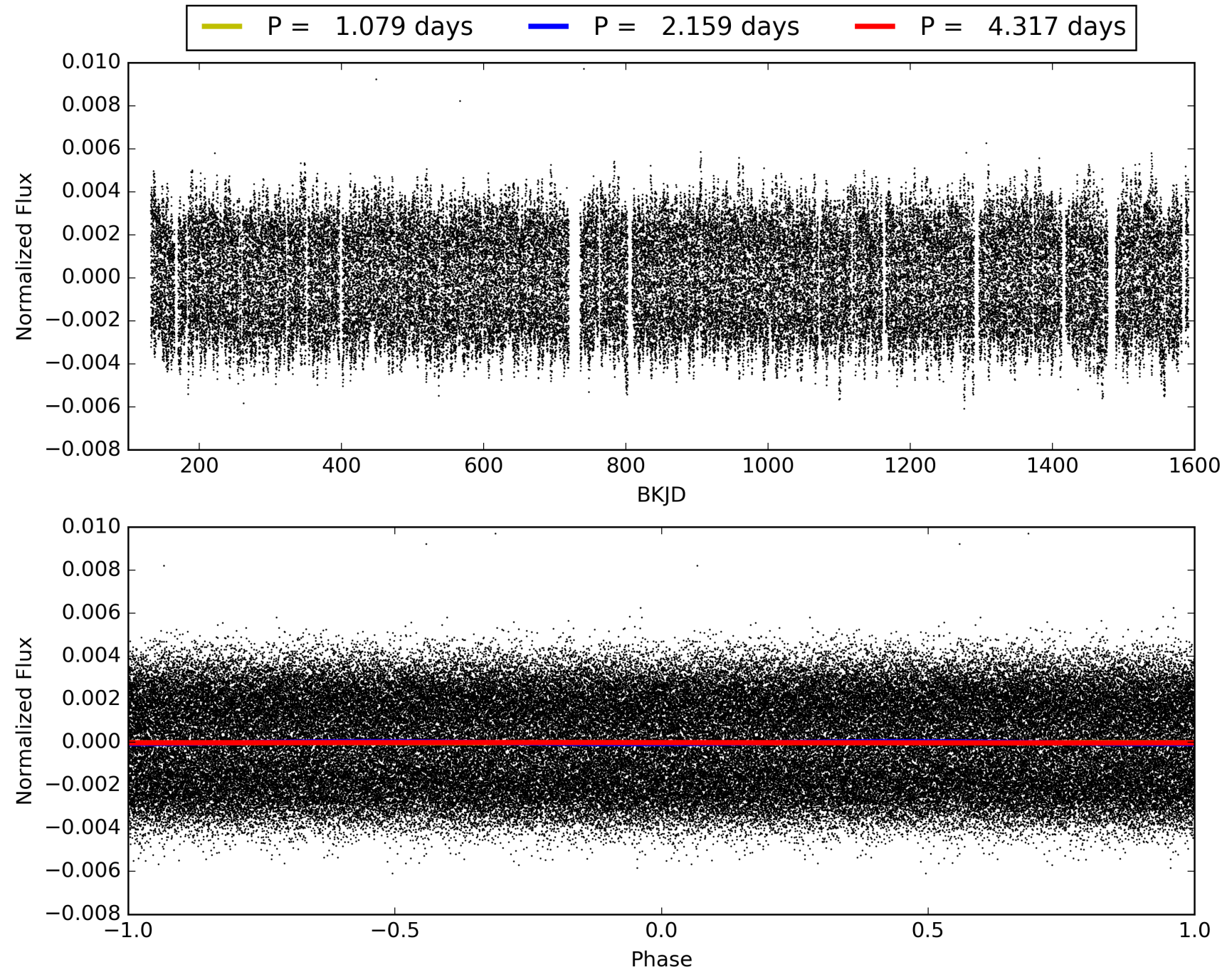
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:44:42 Z

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

TCE 006041803-02, PDC Light Curves

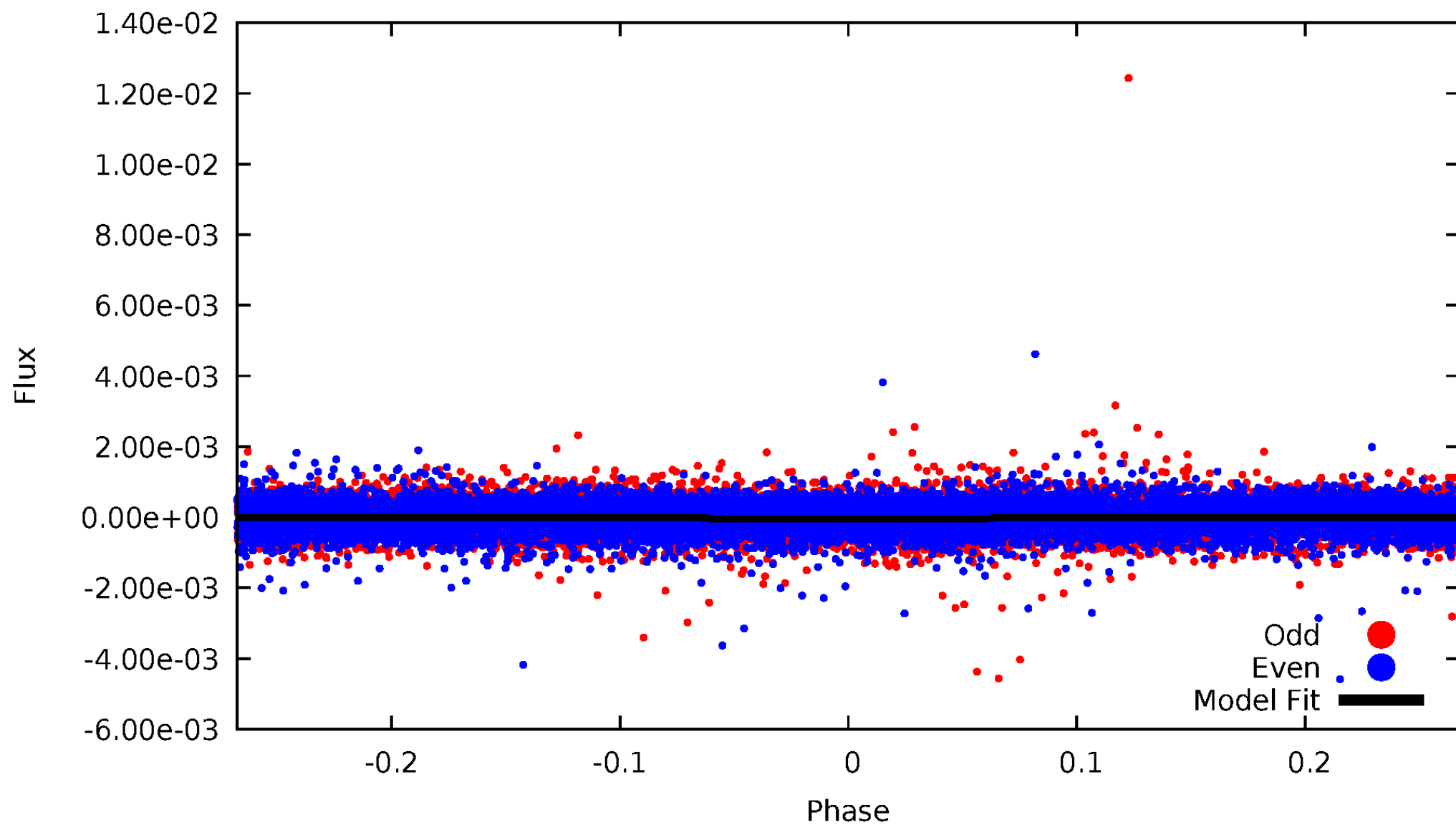


TCE 006041803-02



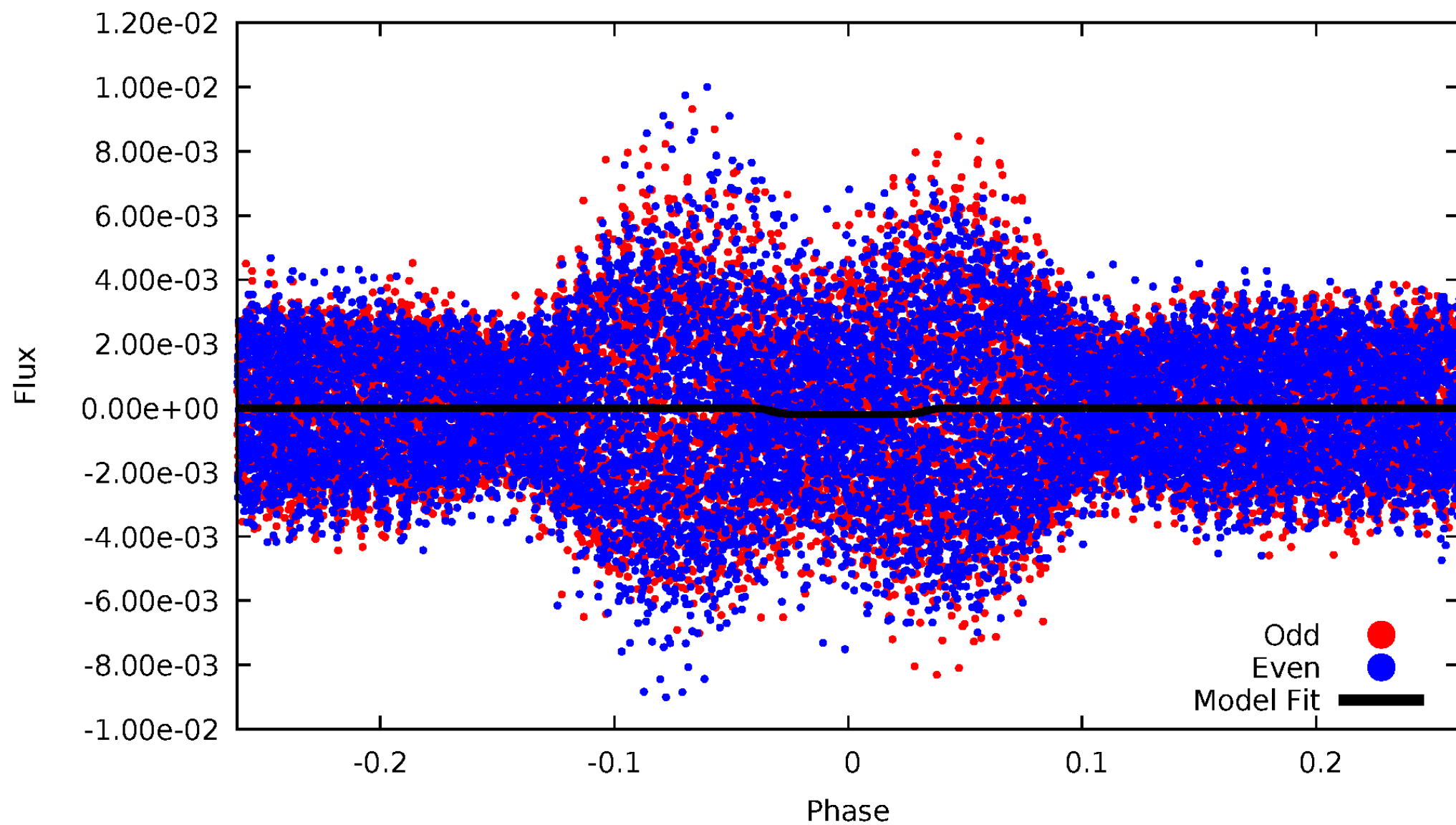
DV Odd/Even

TCE 006041803-02



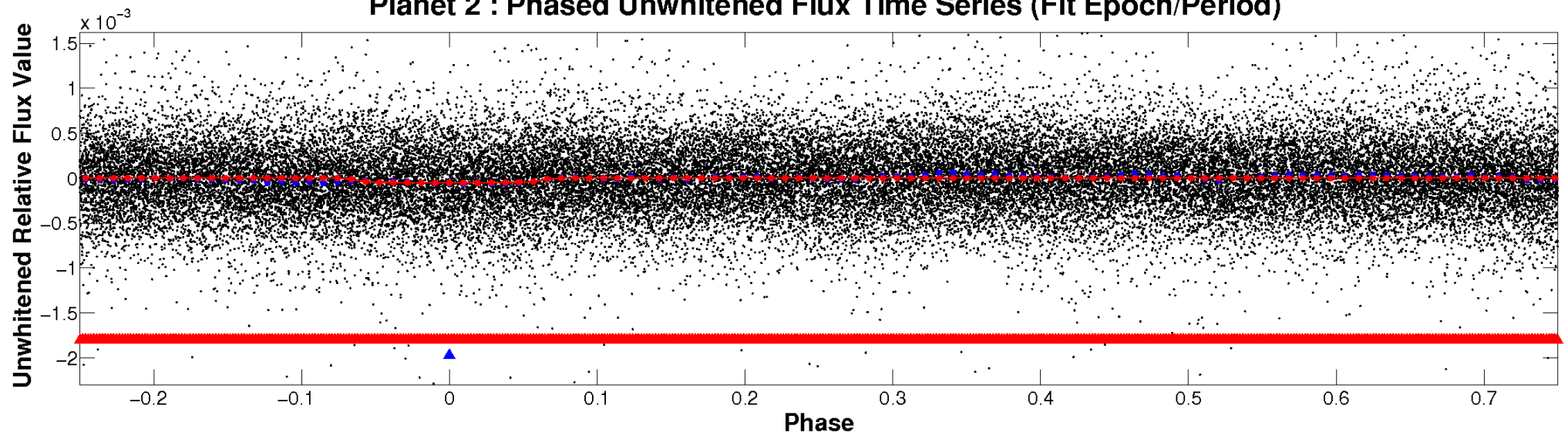
ALT Odd/Even

TCE 006041803-02

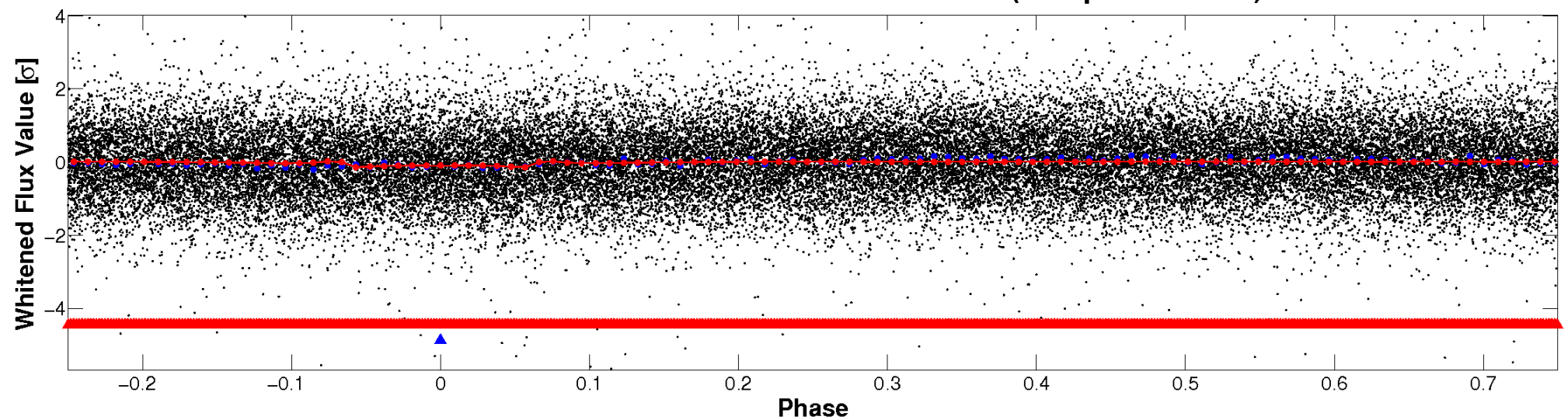


Non-Whitened Vs. Whitened Light Curve

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

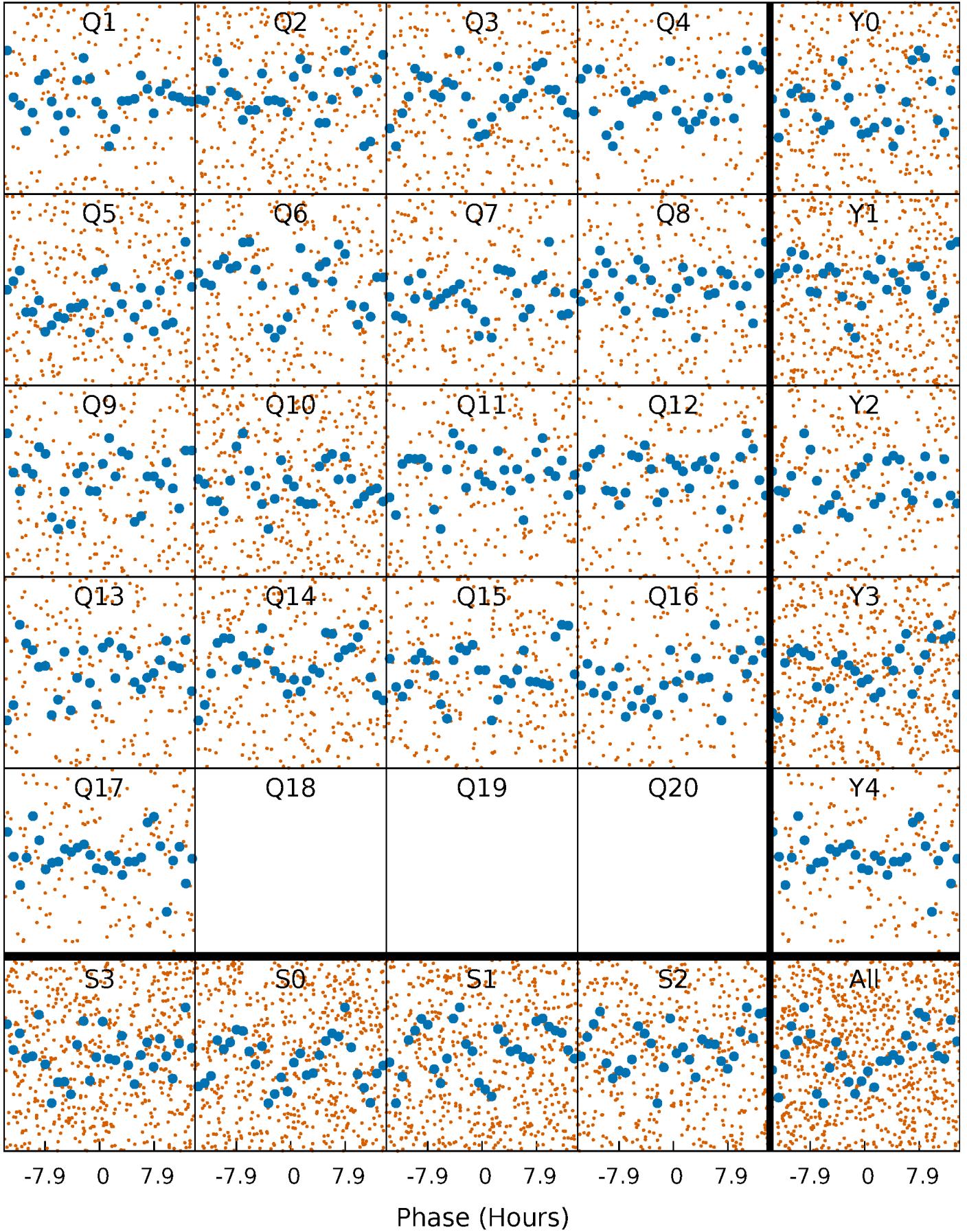


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



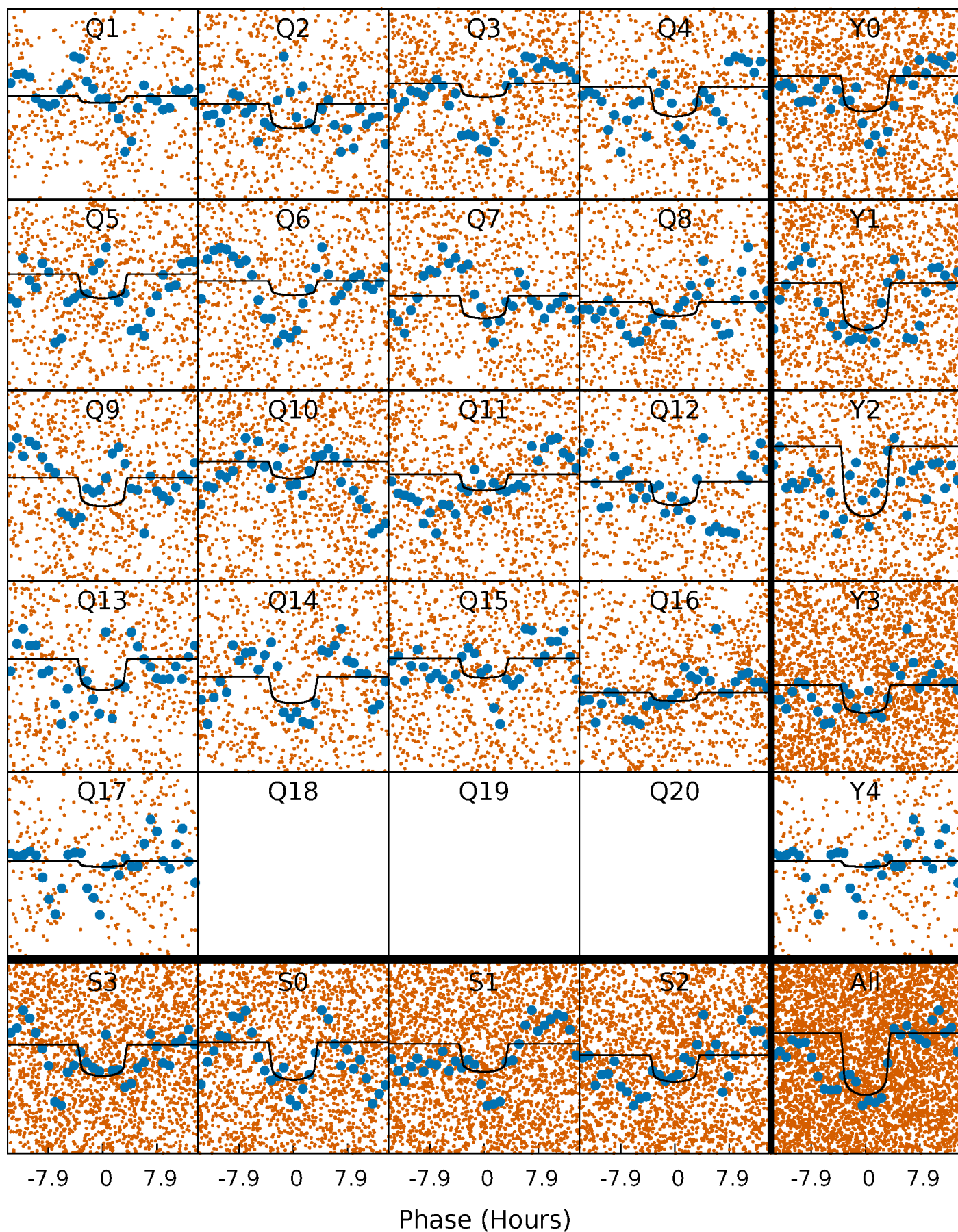
PDC Quarter-Phased Transit Curves

TCE 006041803-02 P= 2.158591 Days $T_0=132.381400$ (BKJD)



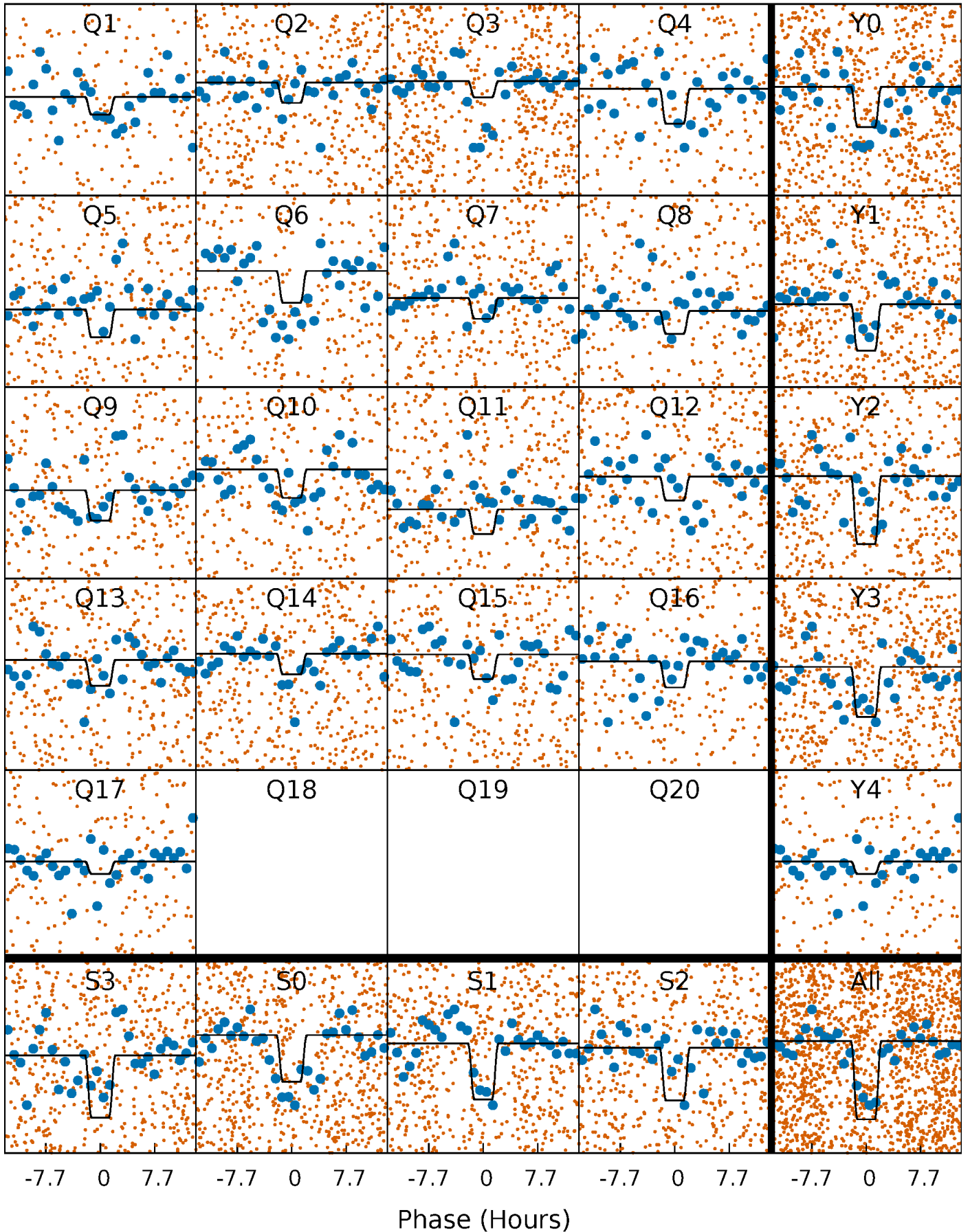
DV Quarter-Phased Transit Curves

TCE 006041803-02 P= 2.158591 Days $T_0=132.381400$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

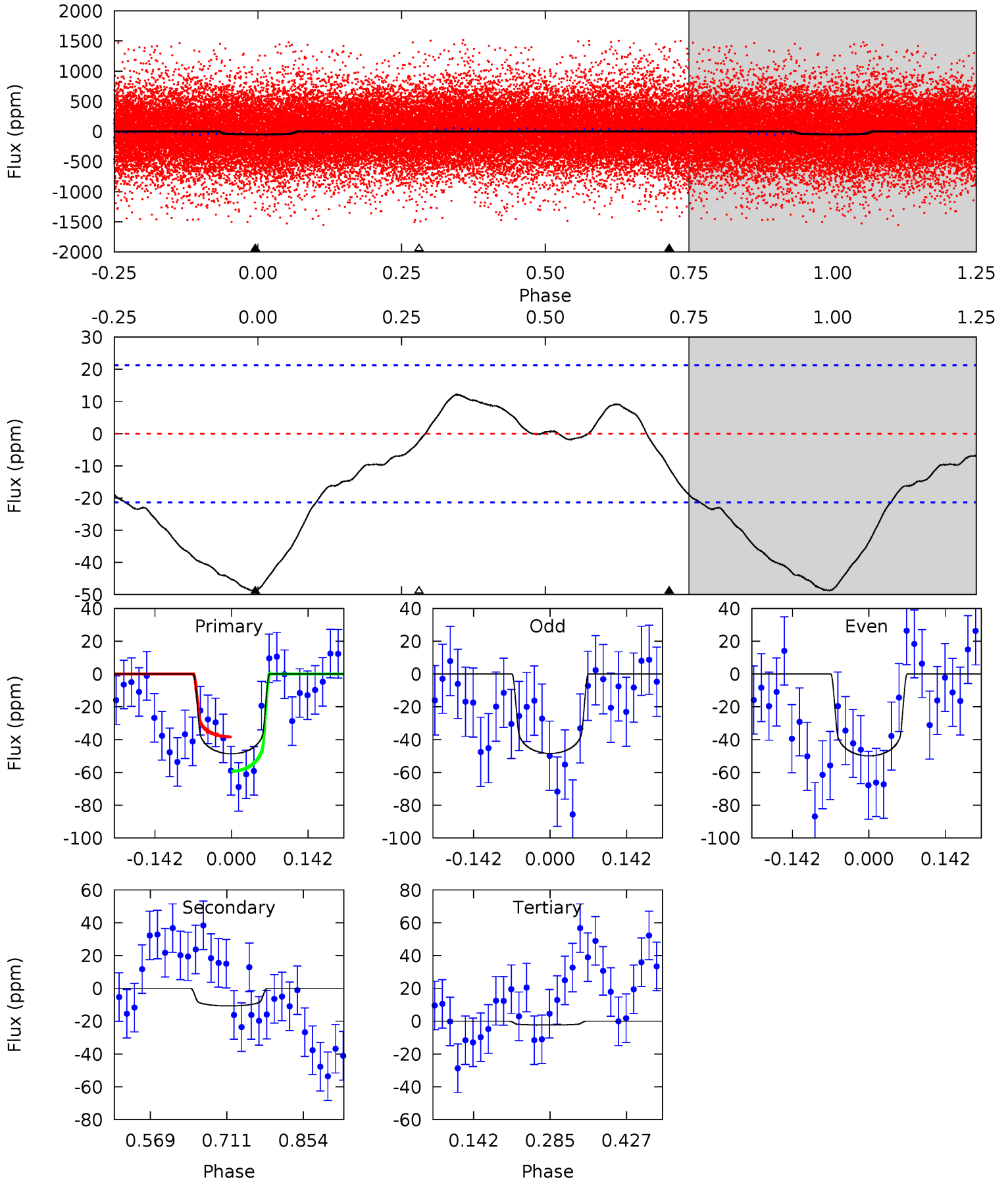
TCE 006041803-02 P= 2.158453 Days $T_0=132.386381$ (BKJD)



DV Model-Shift Uniqueness Test

006041803-02, P = 2.158591 Days, E = 130.222809 Days

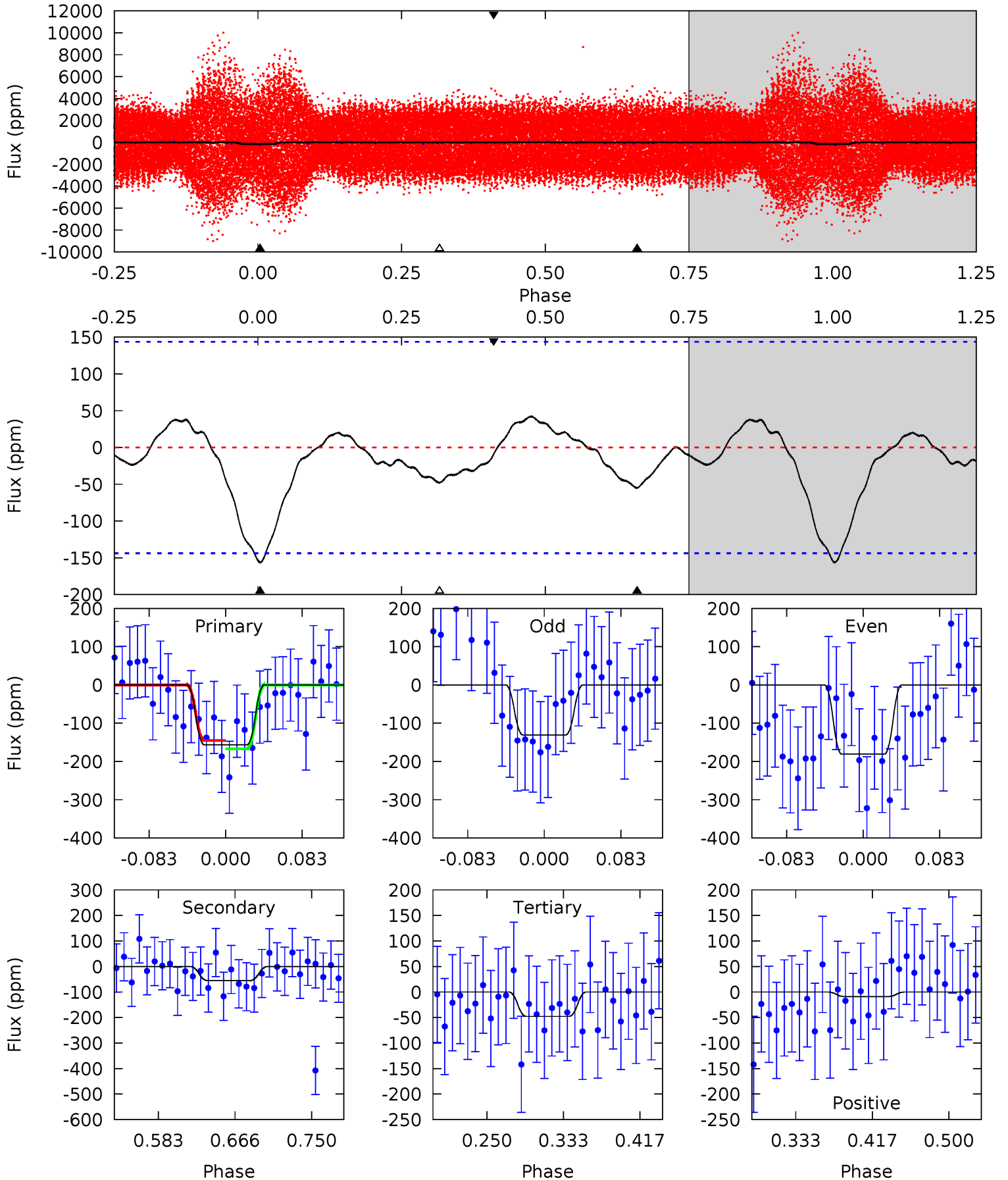
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	2.25	0.49	0	4.49	1.47	1.67	9.76	10.2	1.76	2.25	0.16	1.75	0.20	2.18



Alt Model-Shift Uniqueness Test

006041803-02, P = 2.158453 Days, E = 130.227928 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.00	1.76	1.53	-0.29	4.60	1.73	0.80	3.47	5.29	0.23	2.05	0.79	1.03	0.21	0.35



Stellar Parameters For KIC 006041803

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7224^{+75}_{-86}	$4.008^{+0.156}_{-0.104}$	$-0.060^{+0.100}_{-0.200}$	$2.084^{+0.341}_{-0.417}$	$1.609^{+0.130}_{-0.162}$	$0.251^{+0.201}_{-0.081}$
	+1%/-1%	+4%/-3%	+167%/-333%	+16%/-20%	+8%/-10%	+80%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 006041803-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-11 ± 5	$1.74^{+0.32}_{-0.33}$	3278^{+143}_{-173}	4671^{+538}_{-619}	$2.796^{+2.010}_{-1.310}$
Alt.	-55 ± 31	$3.16^{+0.42}_{-0.41}$	3279^{+138}_{-159}	5141^{+673}_{-966}	$4.263^{+3.127}_{-2.645}$

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

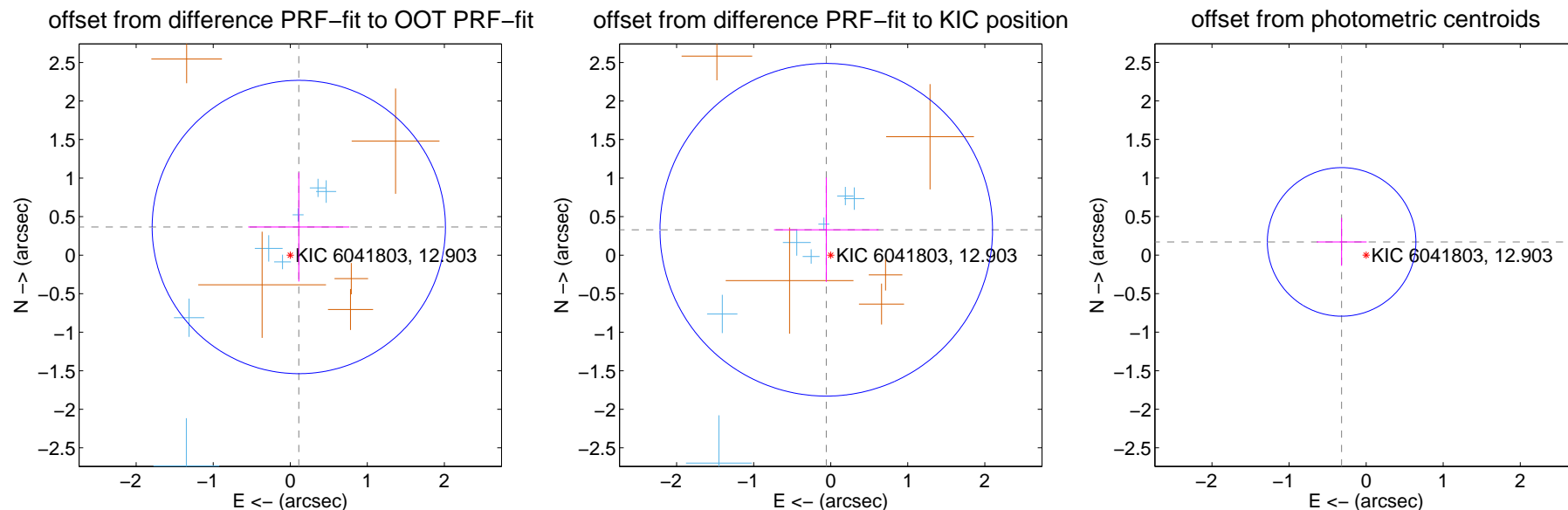
DV Centroid Data

Supplemental centroid analysis for 006041803-02. Kepler magnitude: 12.90. Transit SNR 8.26

There are 7 quarters with good PRF difference image offsets

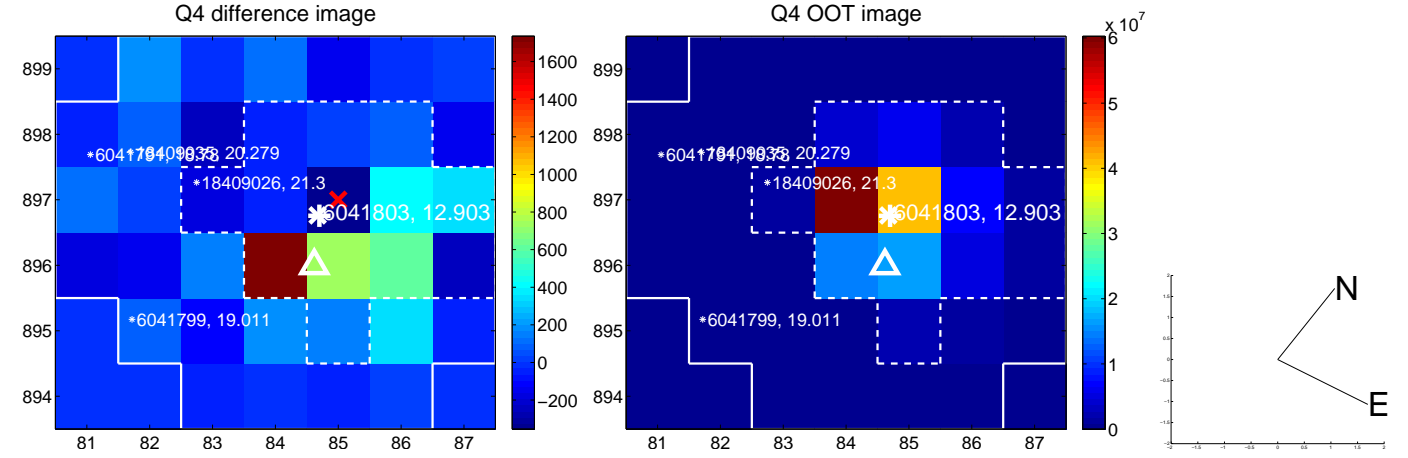
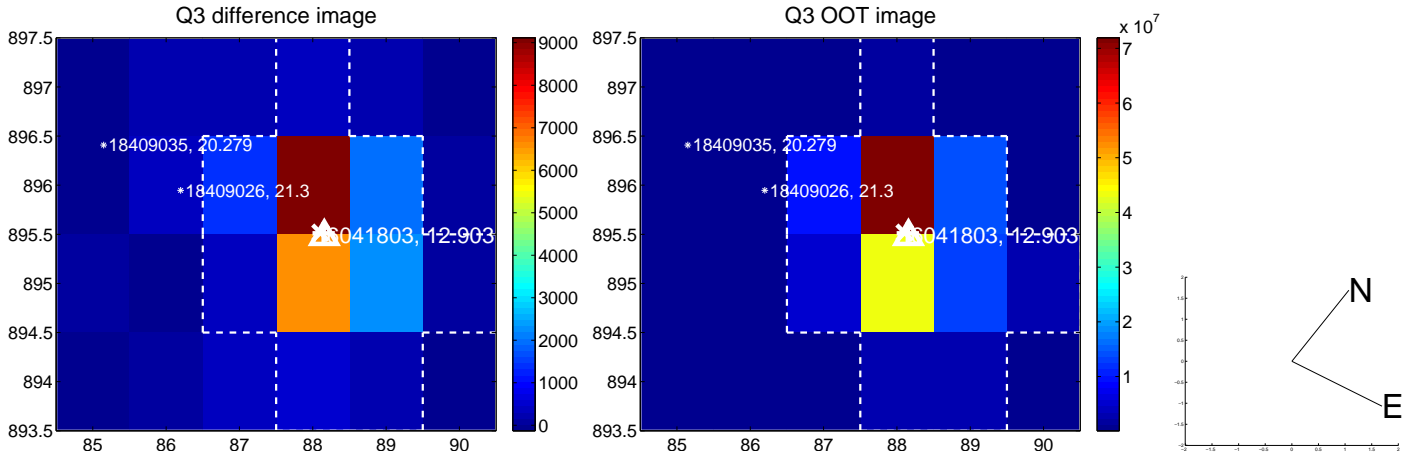
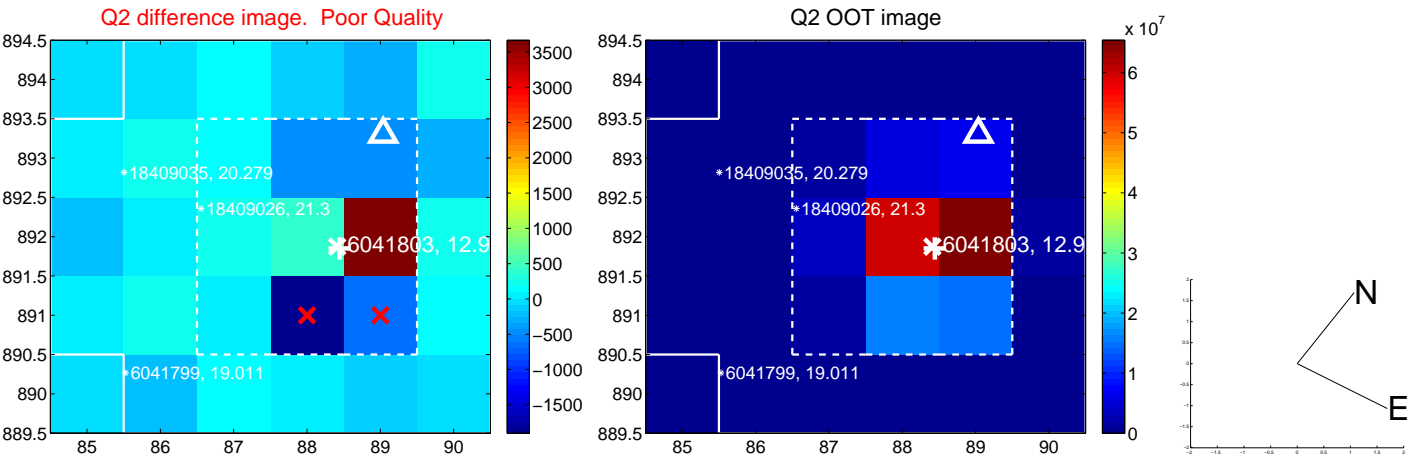
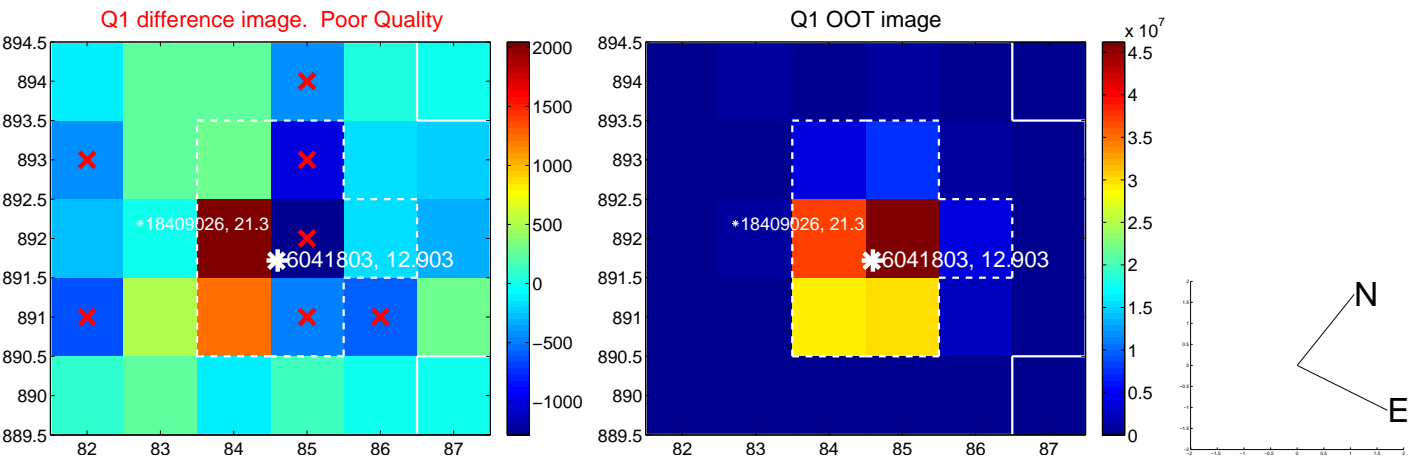
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.382 ± 0.634	0.60	-0.111 ± 0.656	0.365 ± 0.707
PRF-fit source offset from KIC position	0.334 ± 0.719	0.46	0.058 ± 0.678	0.329 ± 0.677
photometric centroid source offset	0.36 ± 0.32	1.12	0.32 ± 0.32	0.17 ± 0.31

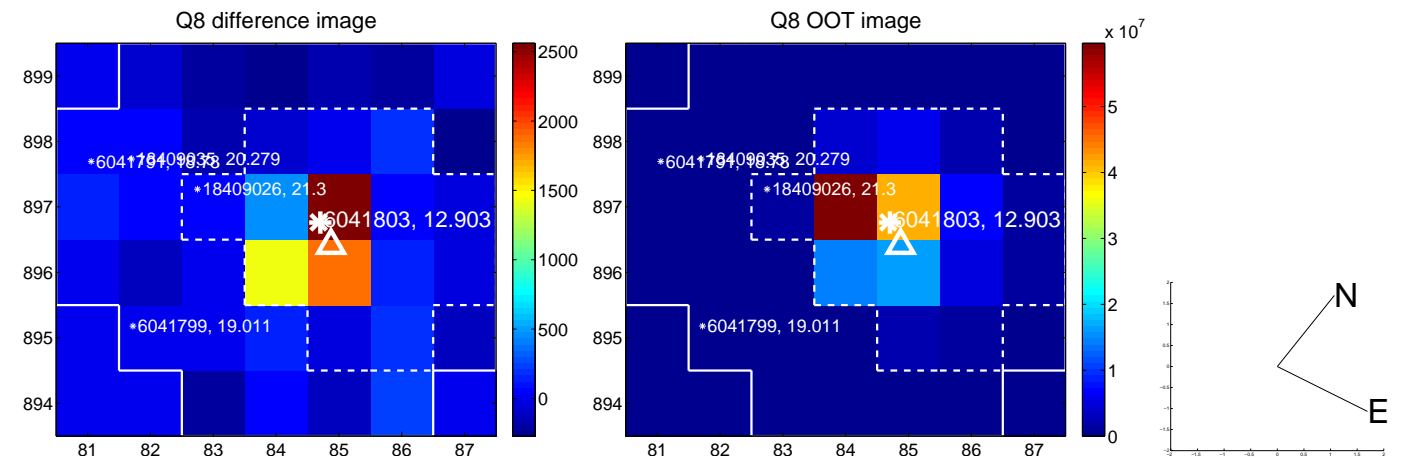
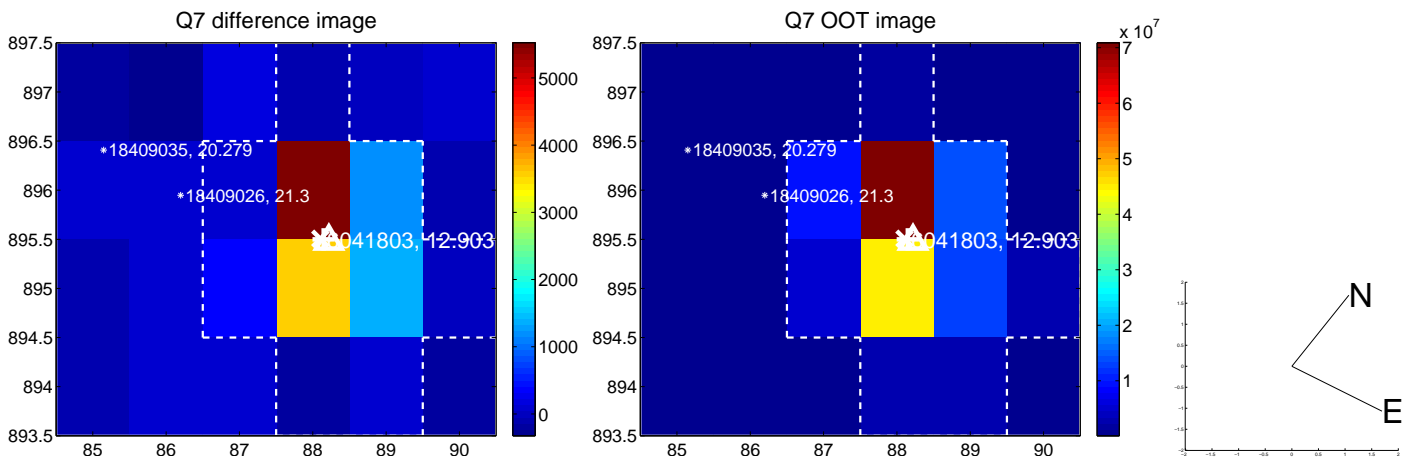
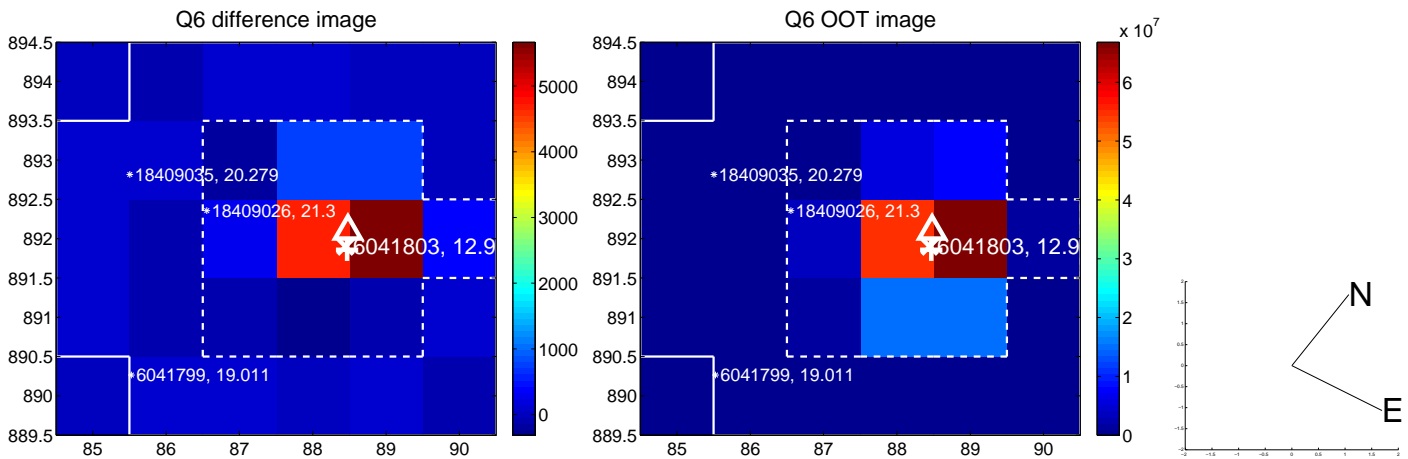
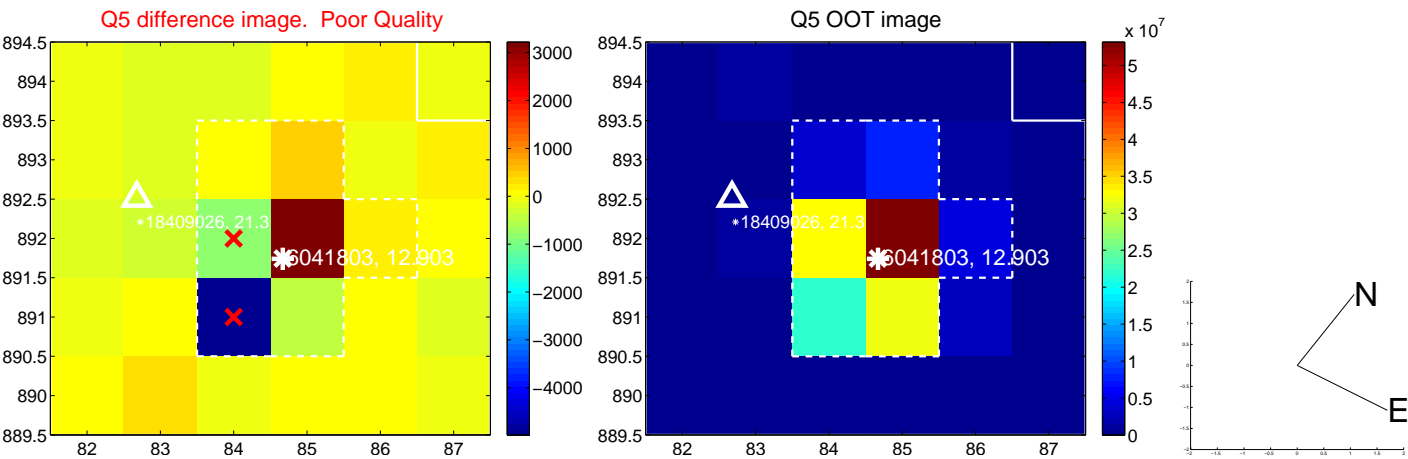


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

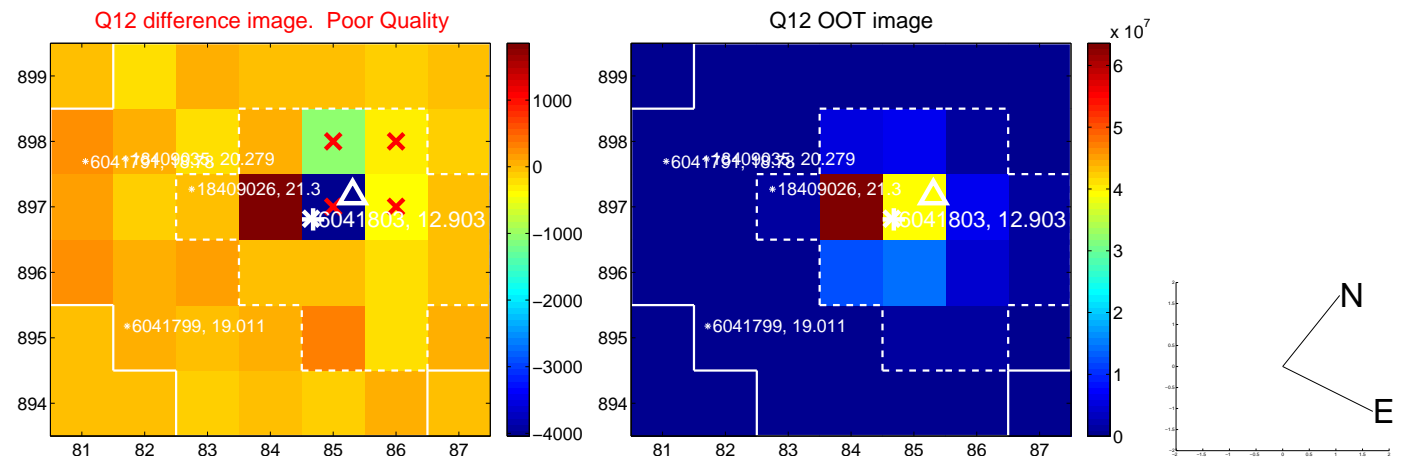
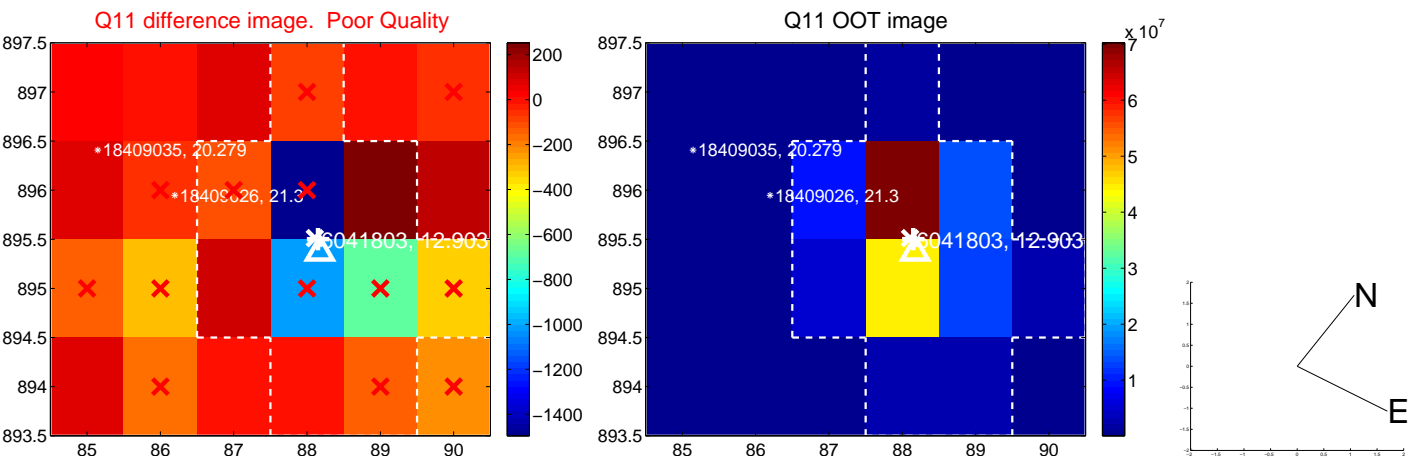
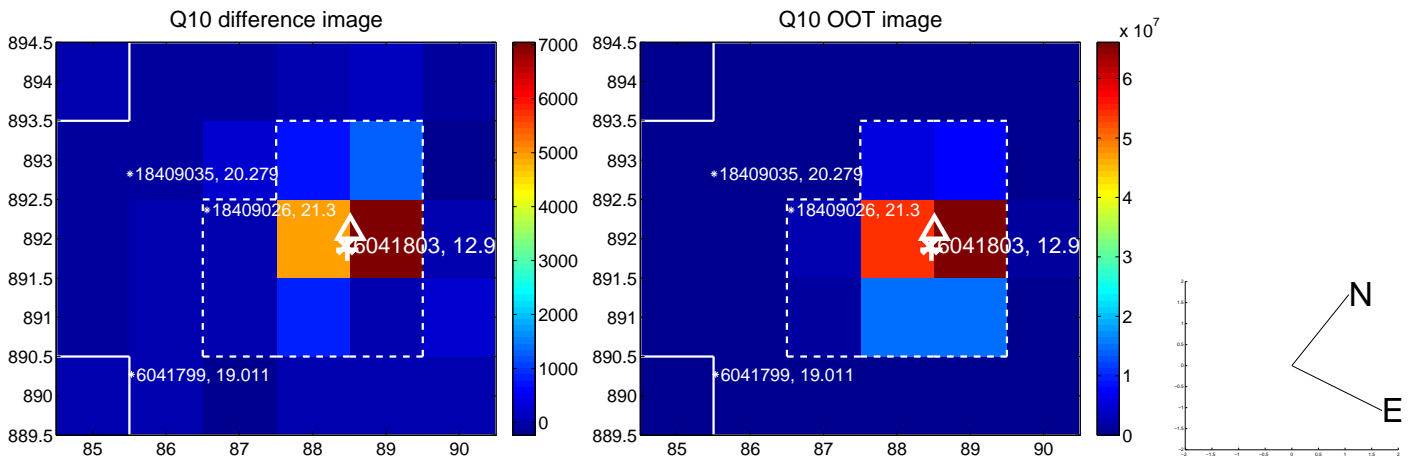
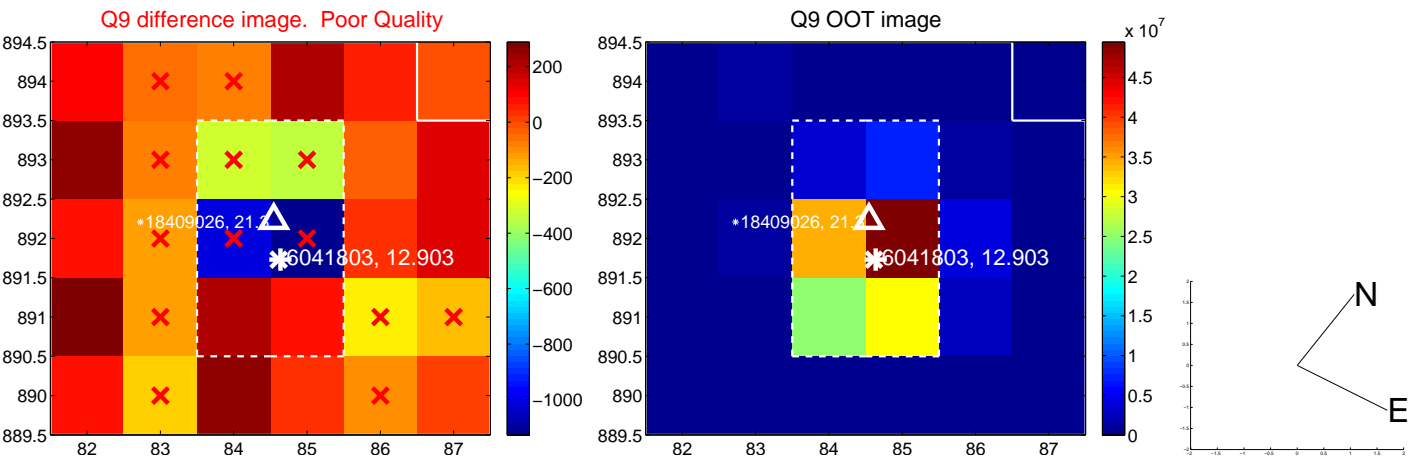
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



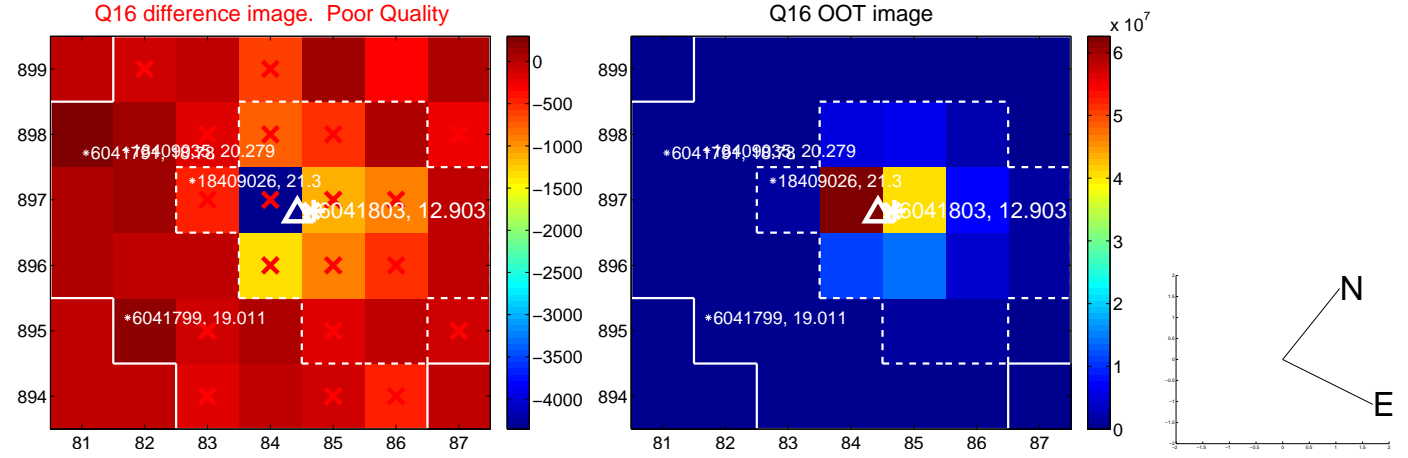
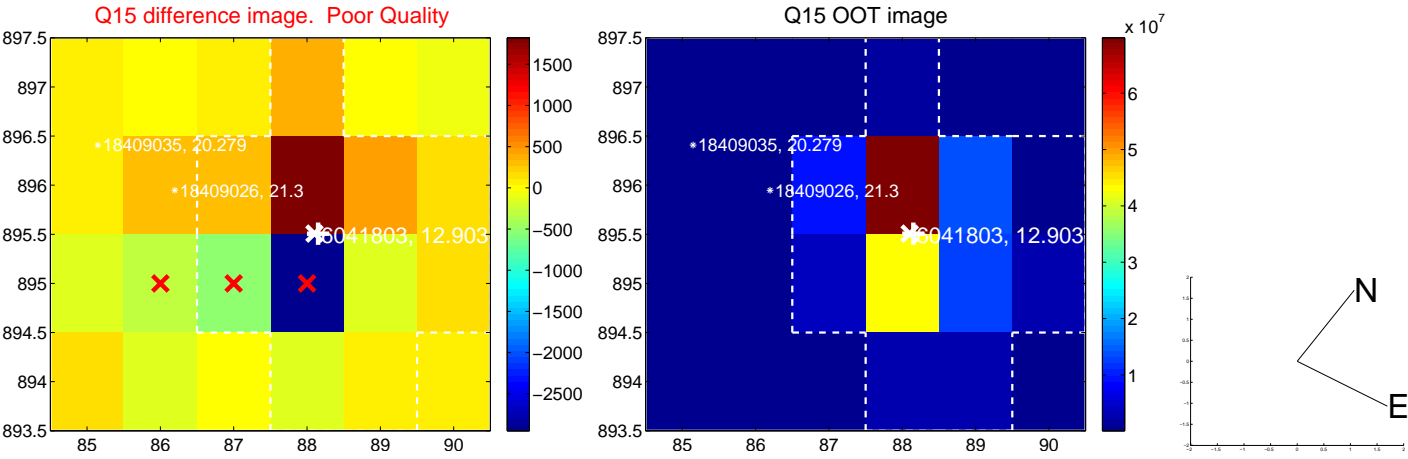
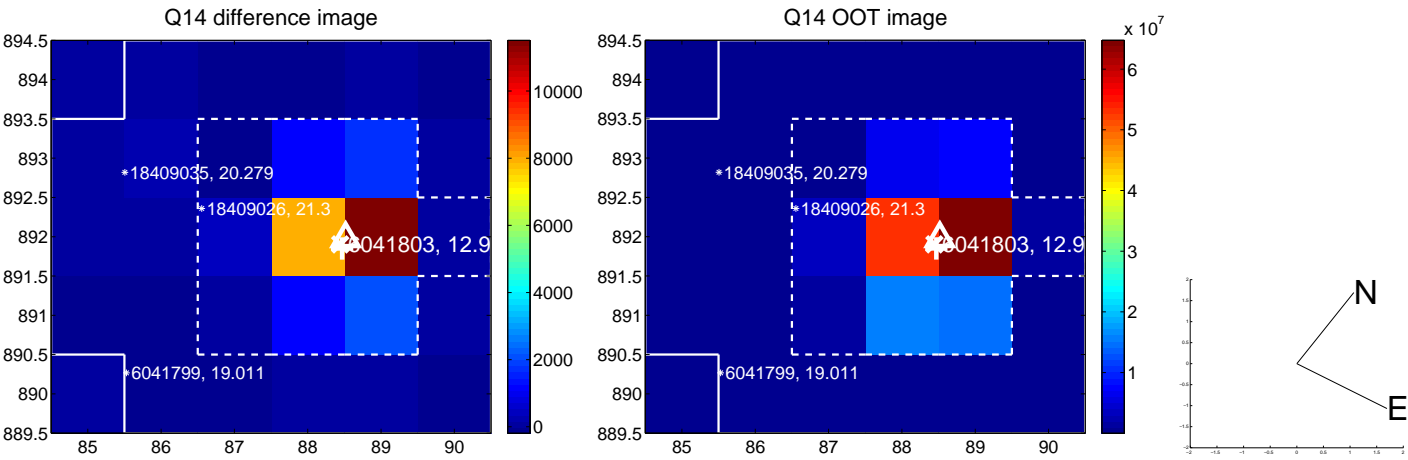
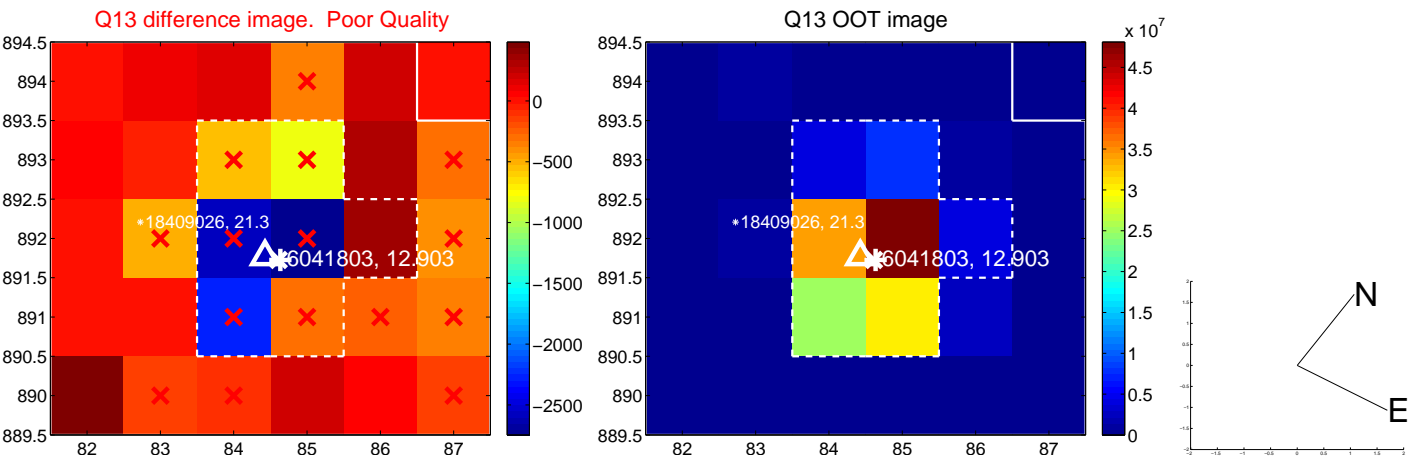
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



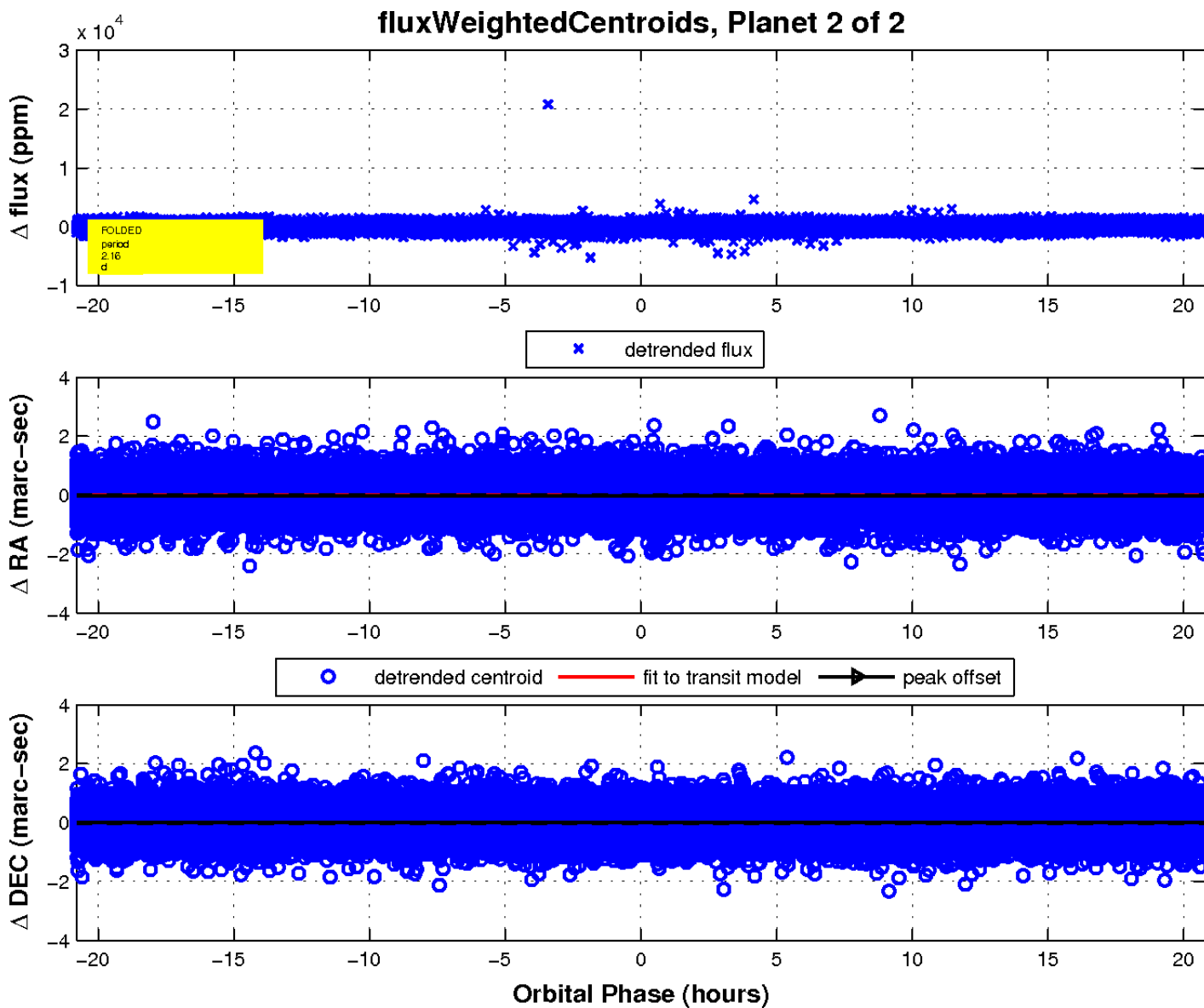
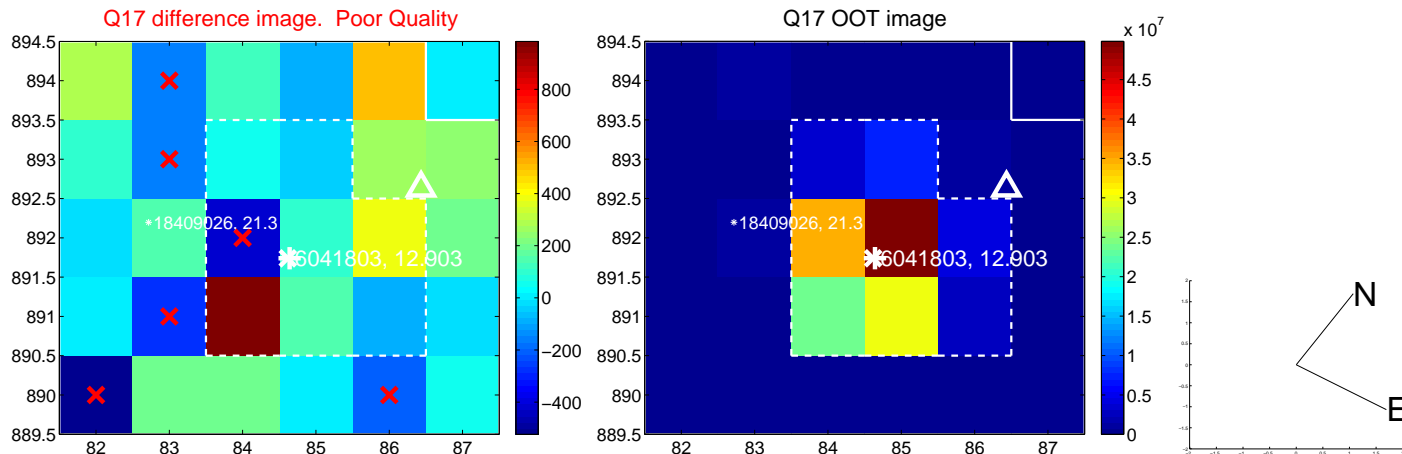
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

