

KIC 006312643

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})
006312643-01	OBS	No	0.710147	131.902038	0.1	3.164	8.8	0.0	4.09	6502	0.10	66371.14
006312643-02	OBS	No	94.392456	185.254525	49.7	28.132	9.5	4.6	4.09	6502	3.19	97.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006312643-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
006312643-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

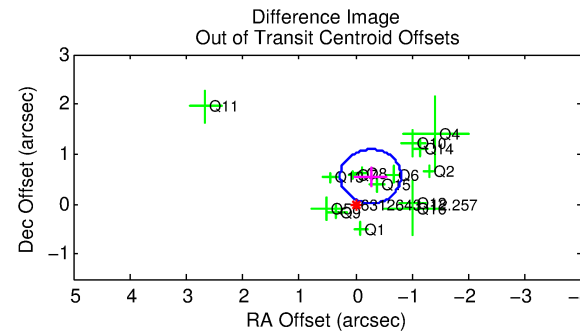
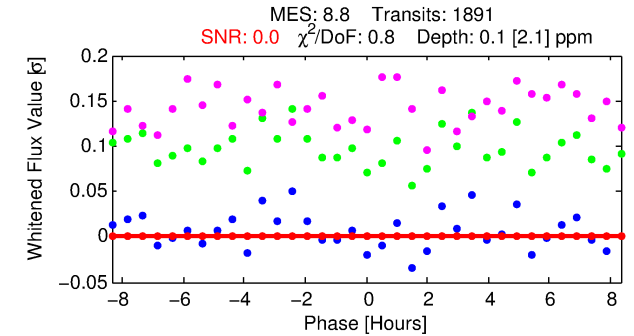
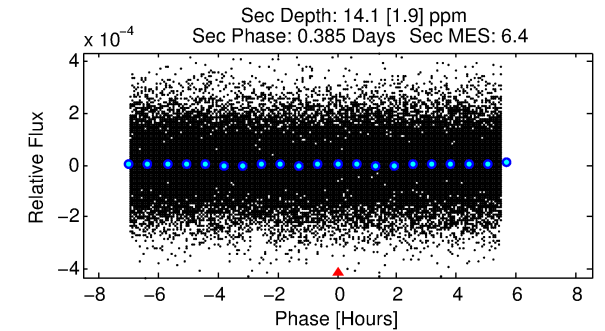
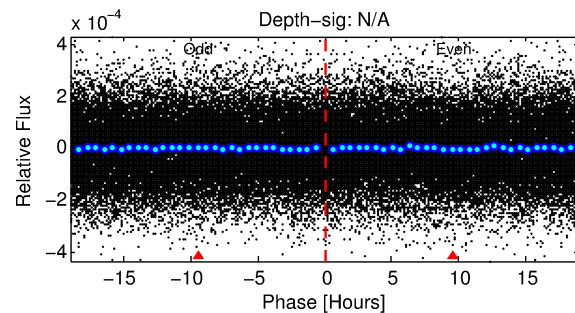
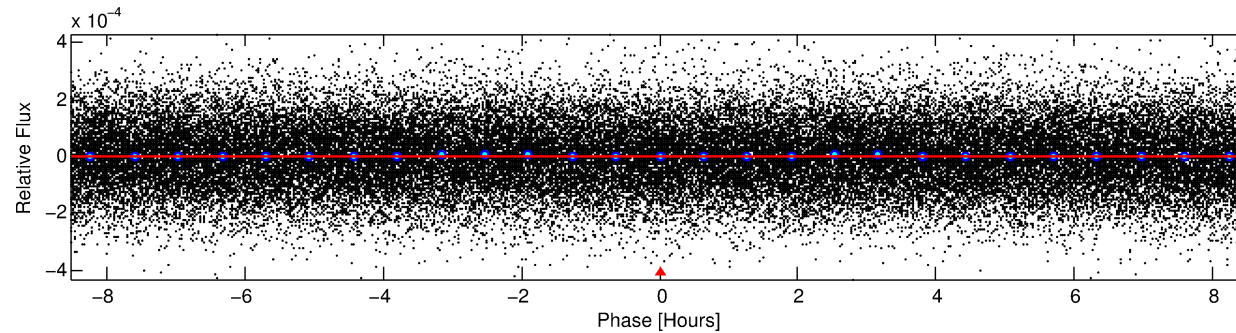
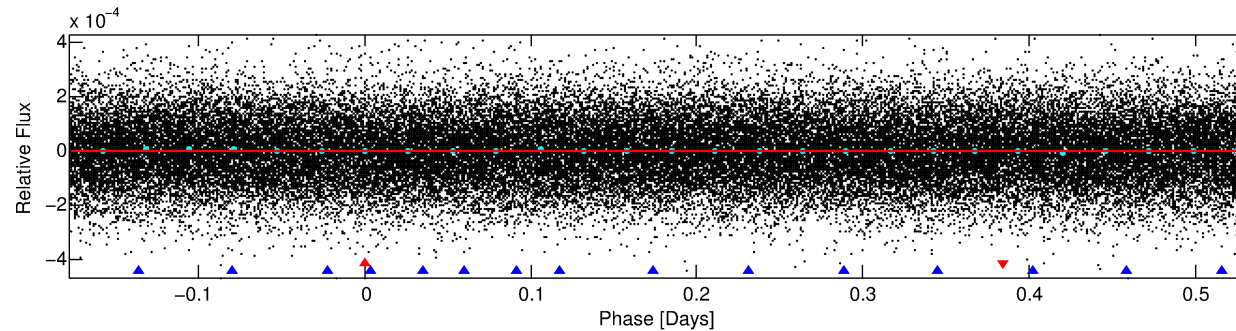
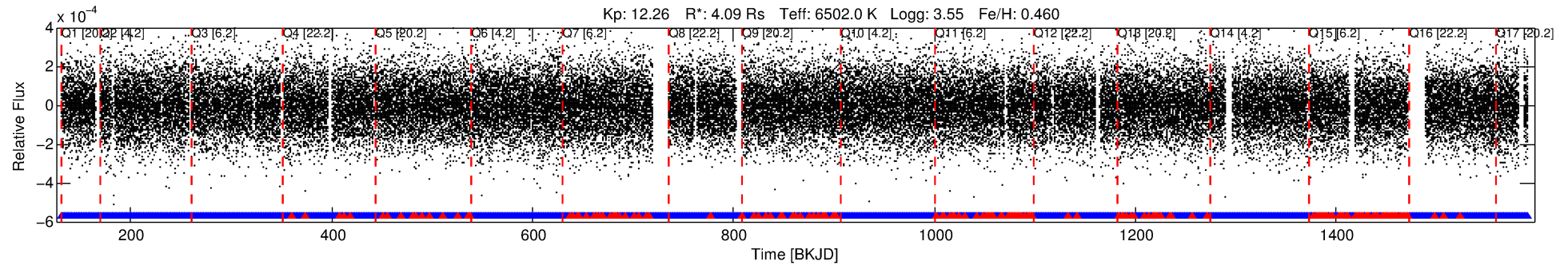
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006312643-01

No Significant Match Found

DV One-Page Summary

KIC: 6312643 Candidate: 1 of 2 Period: 0.710 d



DV Fit Results:

Period = 0.71015 [0.00347] d
Epoch = 131.9020 [0.8690] BKJD
Rp/R* = 0.0002 [0.0043]
a/R* = 1.55 [8.94]
b = 0.62 [10.39]
Seff = 66371.14 [37400.51]
Teq = 4093 [577] K
Rp = 0.11 [1.91] Re
a = 0.0201 [0.0071] AU
Ag = 282.95 [10243.84] [0.03σ]
Teffp = 25953 [234905] K [0.09σ]

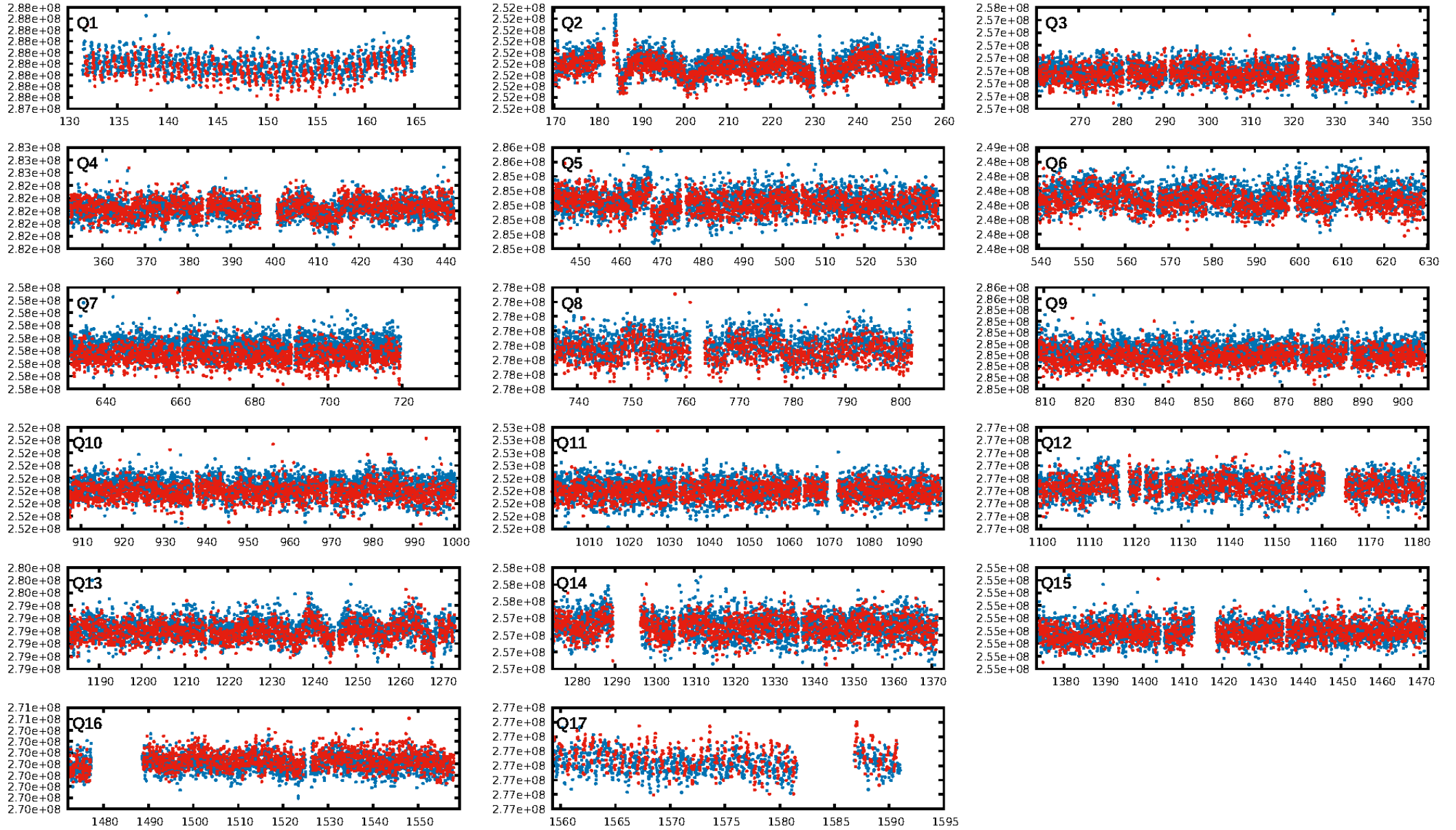
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [79.42σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.46e-12
RollingBand-fgt: 0.90 [1621/1806]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OOTOffset-rm: 0.615 arcsec [3.42σ]
KicOffset-rm: 0.628 arcsec [2.68σ]
OOTOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.87 [13/15]
DiffImageOverlap-fno: 1.00 [17/17]

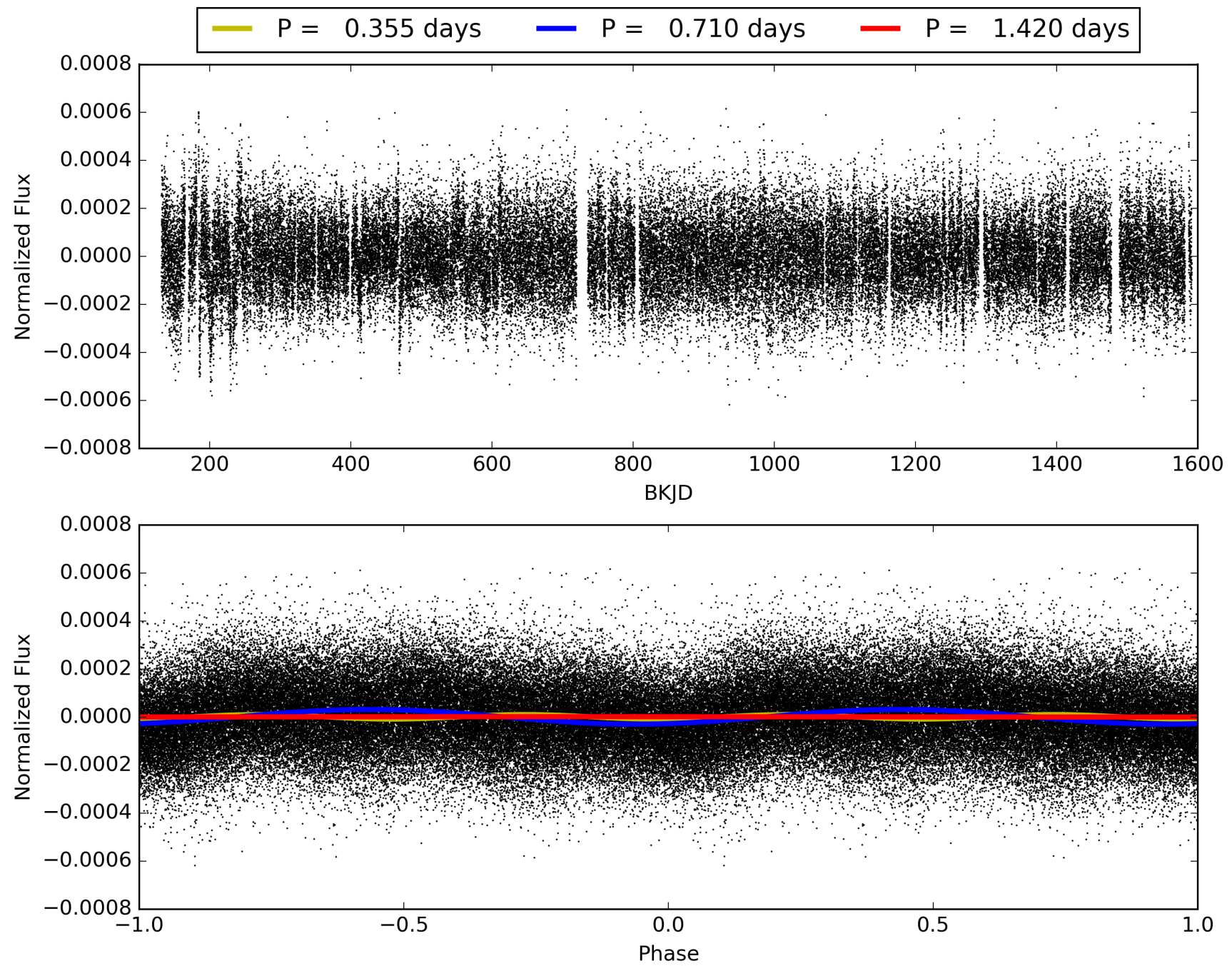
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:54:43 Z

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

TCE 006312643-01, PDC Light Curves

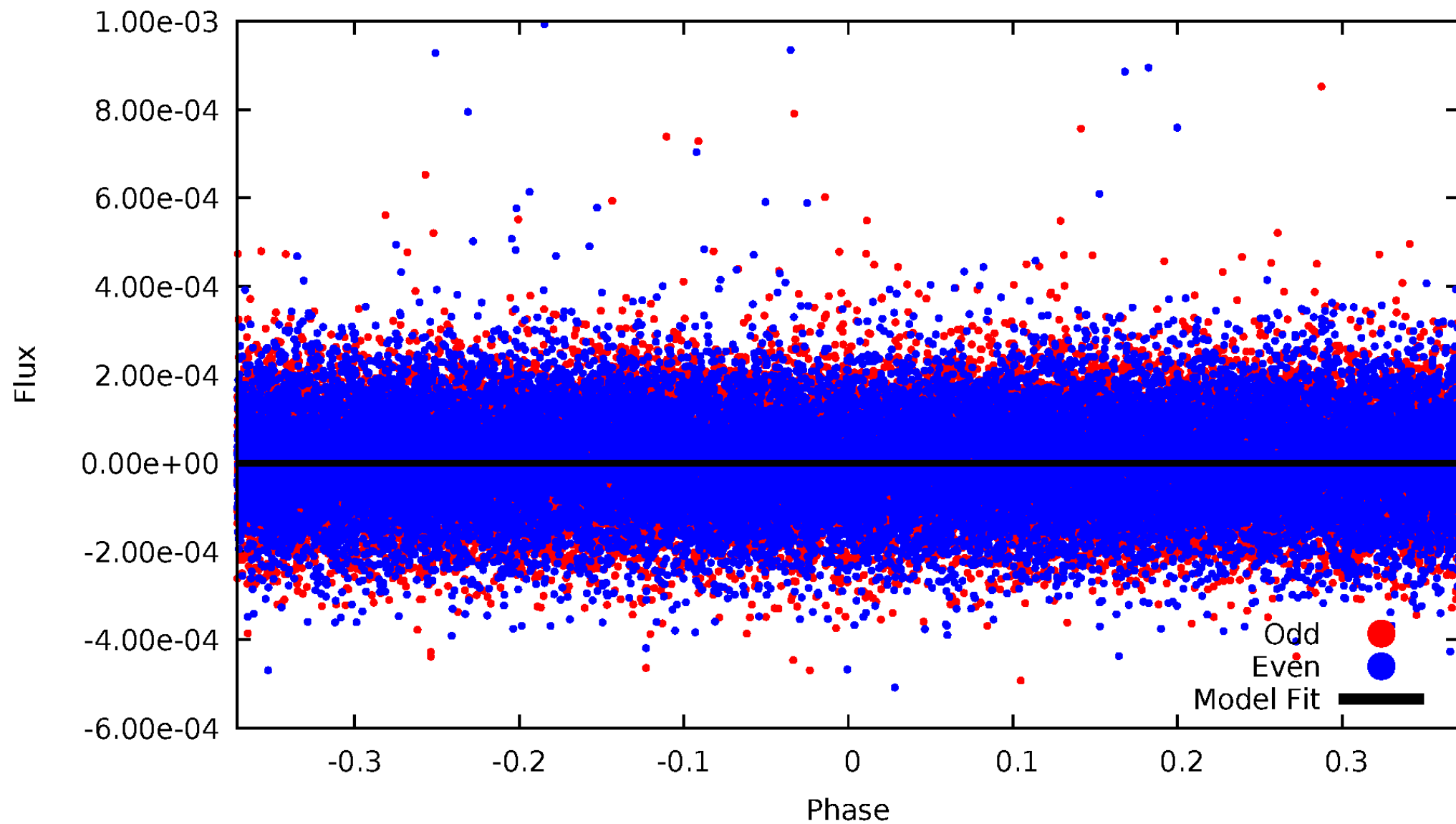


TCE 006312643-01



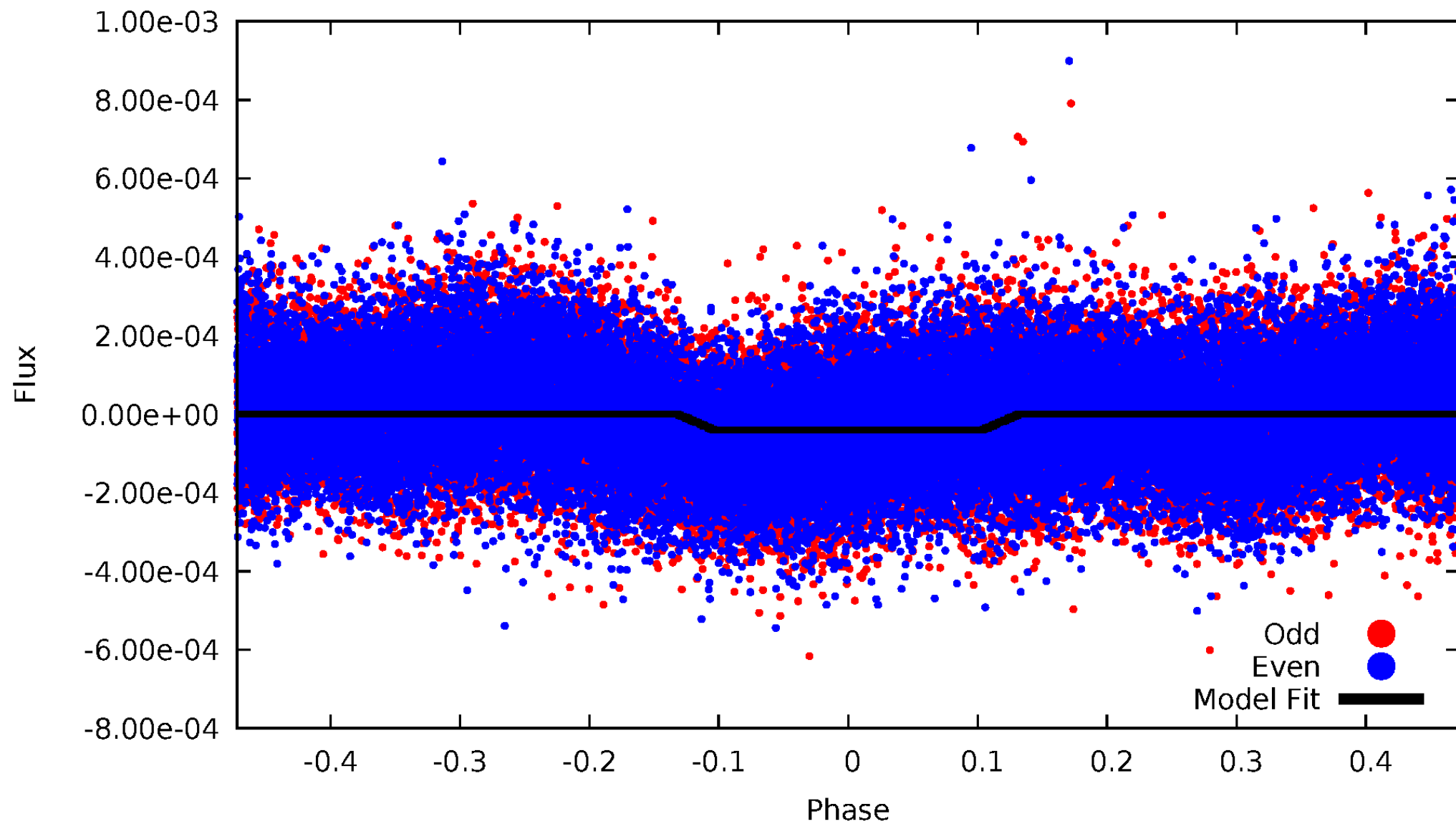
DV Odd/Even

TCE 006312643-01



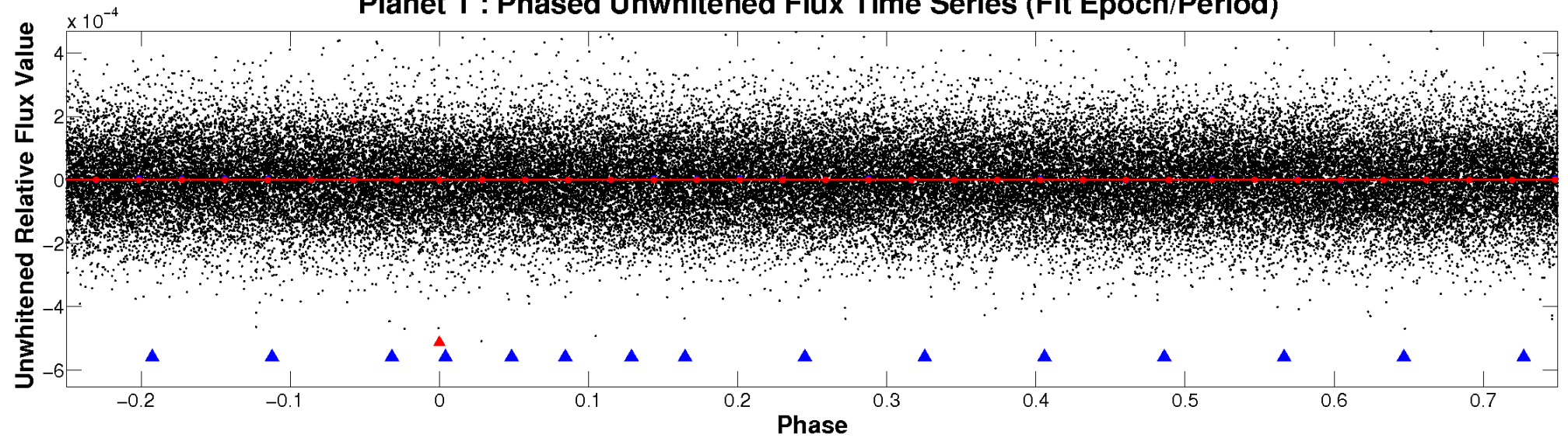
ALT Odd/Even

TCE 006312643-01

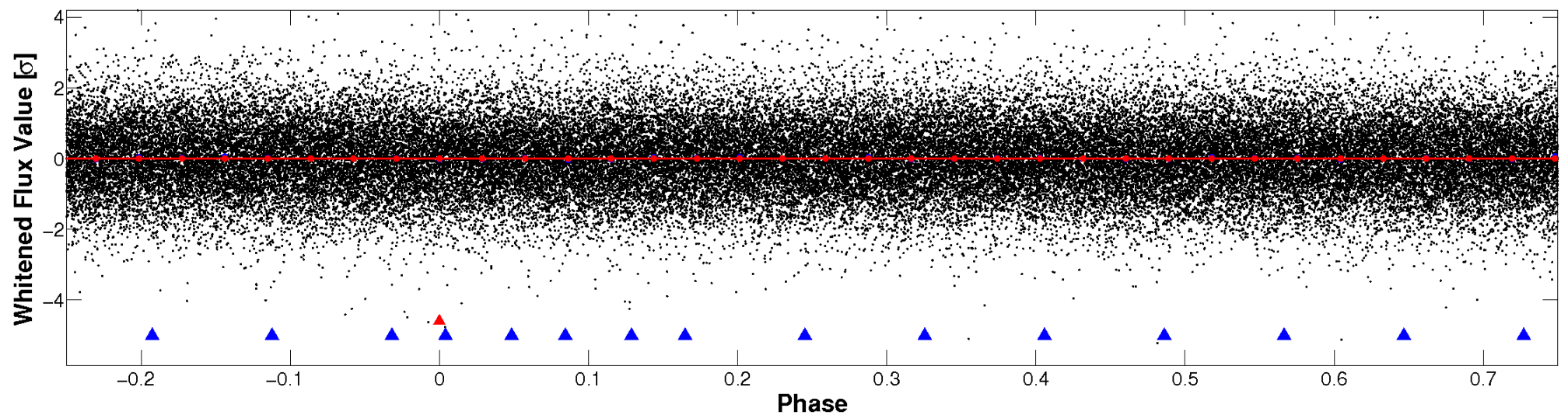


Non-Whitened Vs. Whitened Light Curve

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

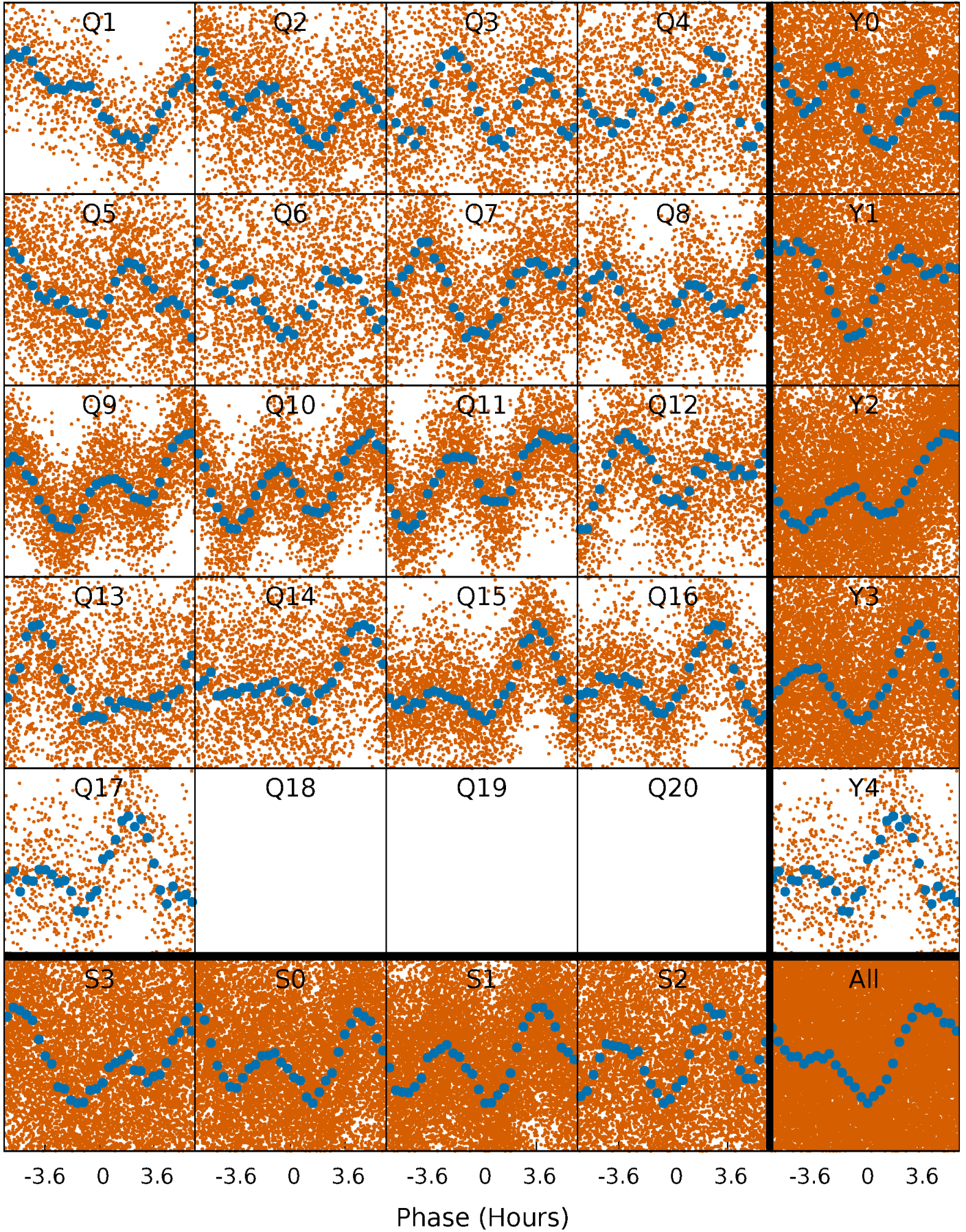


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



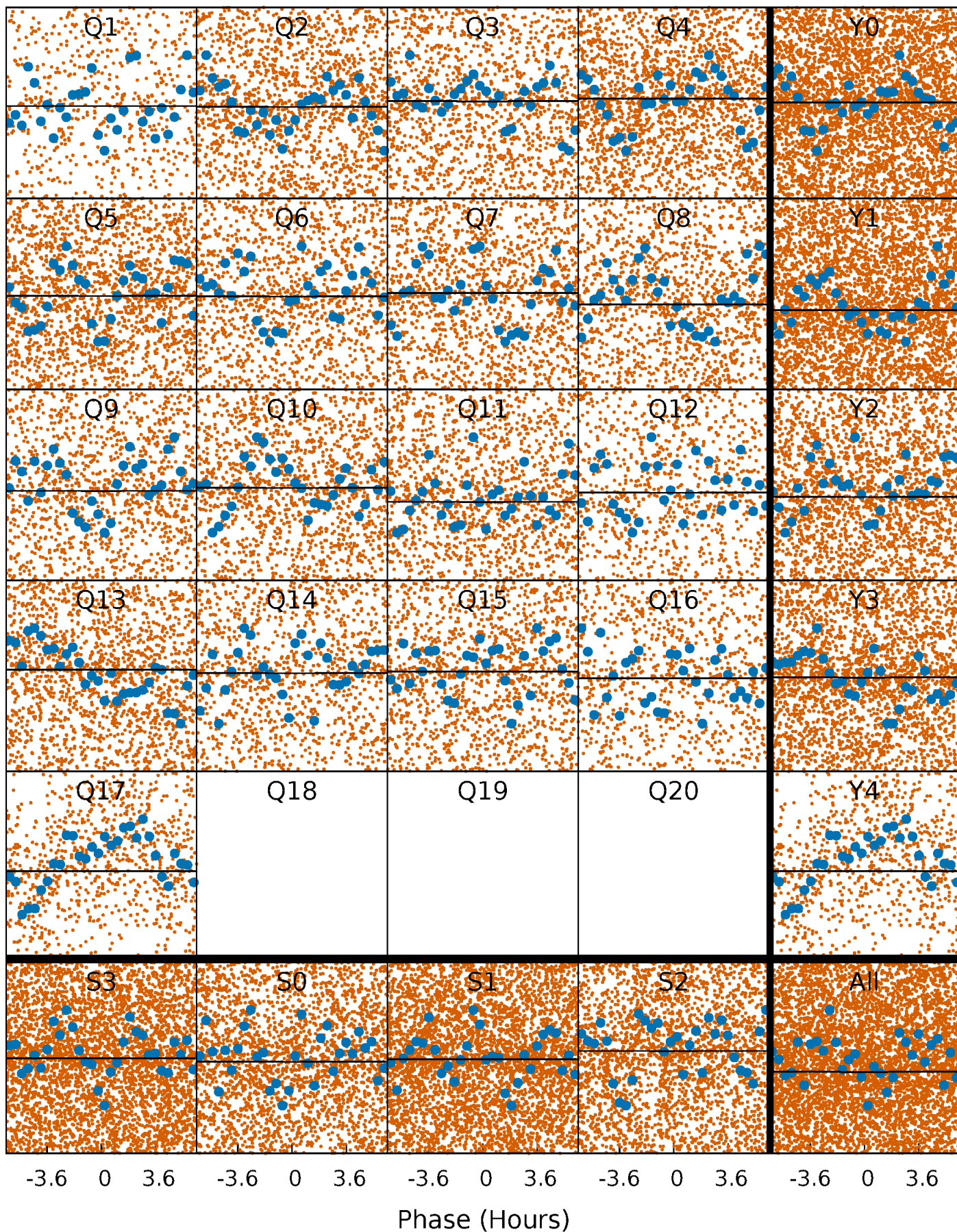
PDC Quarter-Phased Transit Curves

TCE 006312643-01 P= 0.710147 Days $T_0=131.902038$ (BKJD)



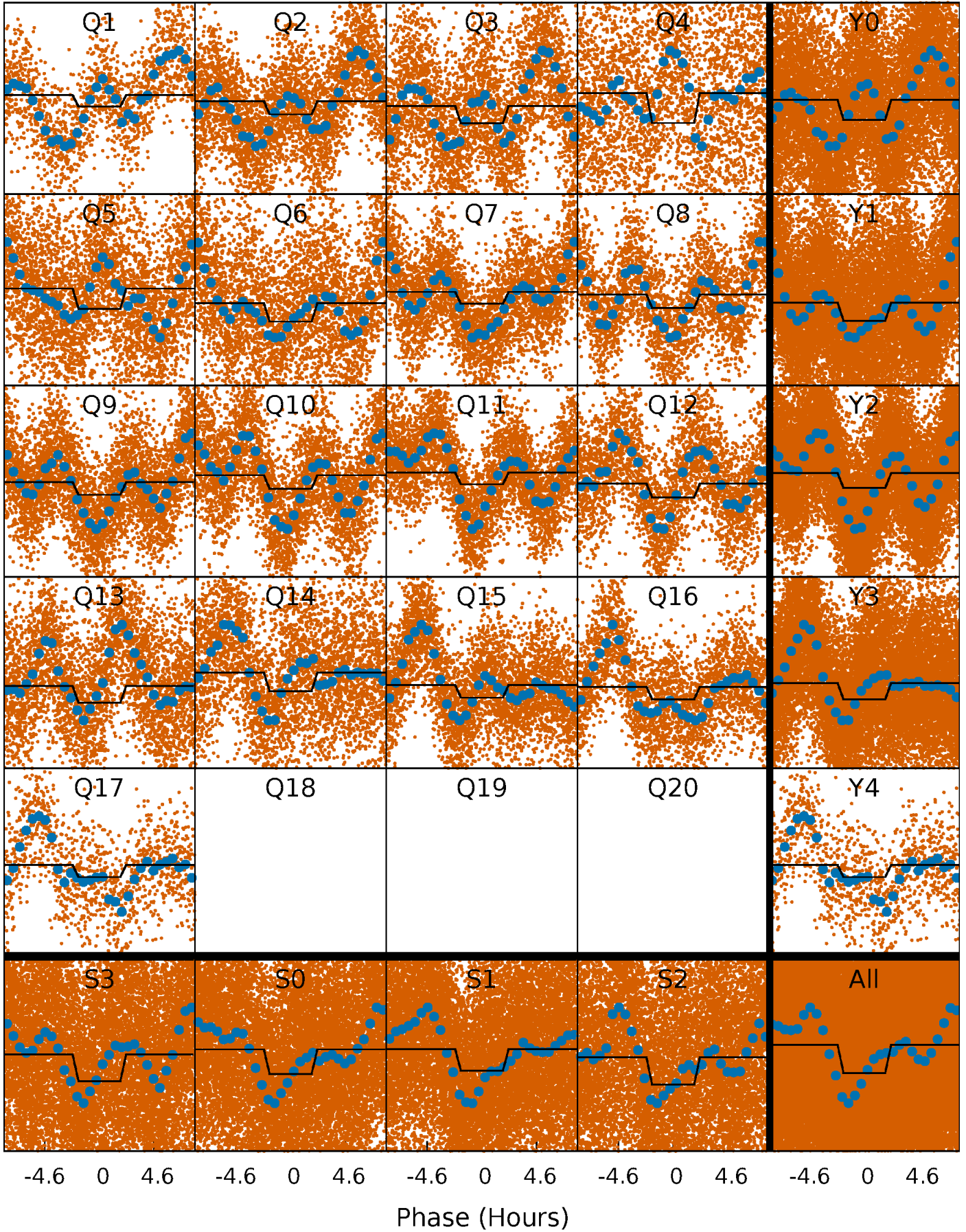
DV Quarter-Phased Transit Curves

TCE 006312643-01 P= 0.710147 Days $T_0=131.902038$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

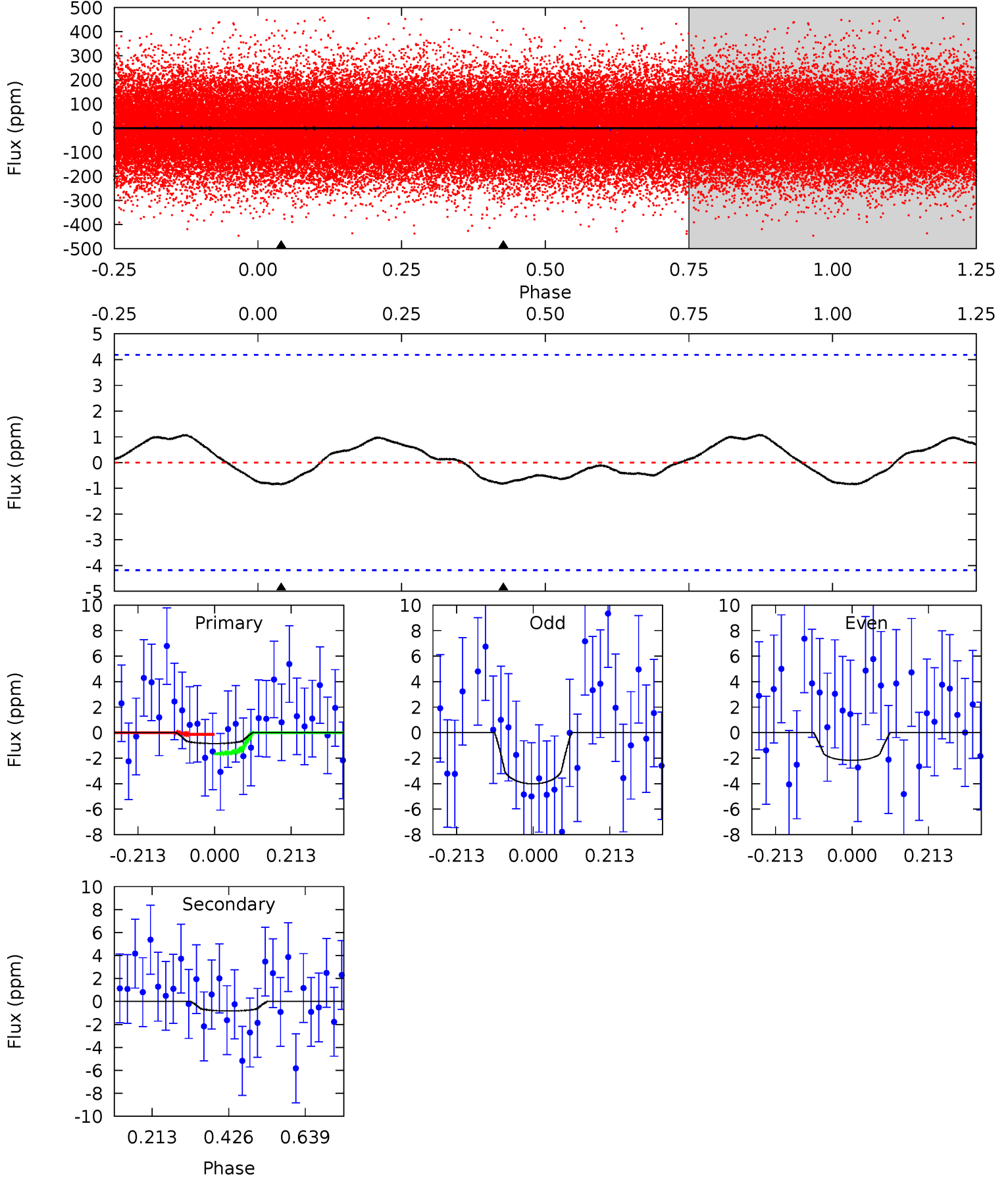
TCE 006312643-01 P= 0.709833 Days $T_0=132.133415$ (BKJD)



DV Model-Shift Uniqueness Test

006312643-01, P = 0.710147 Days, E = 131.191891 Days

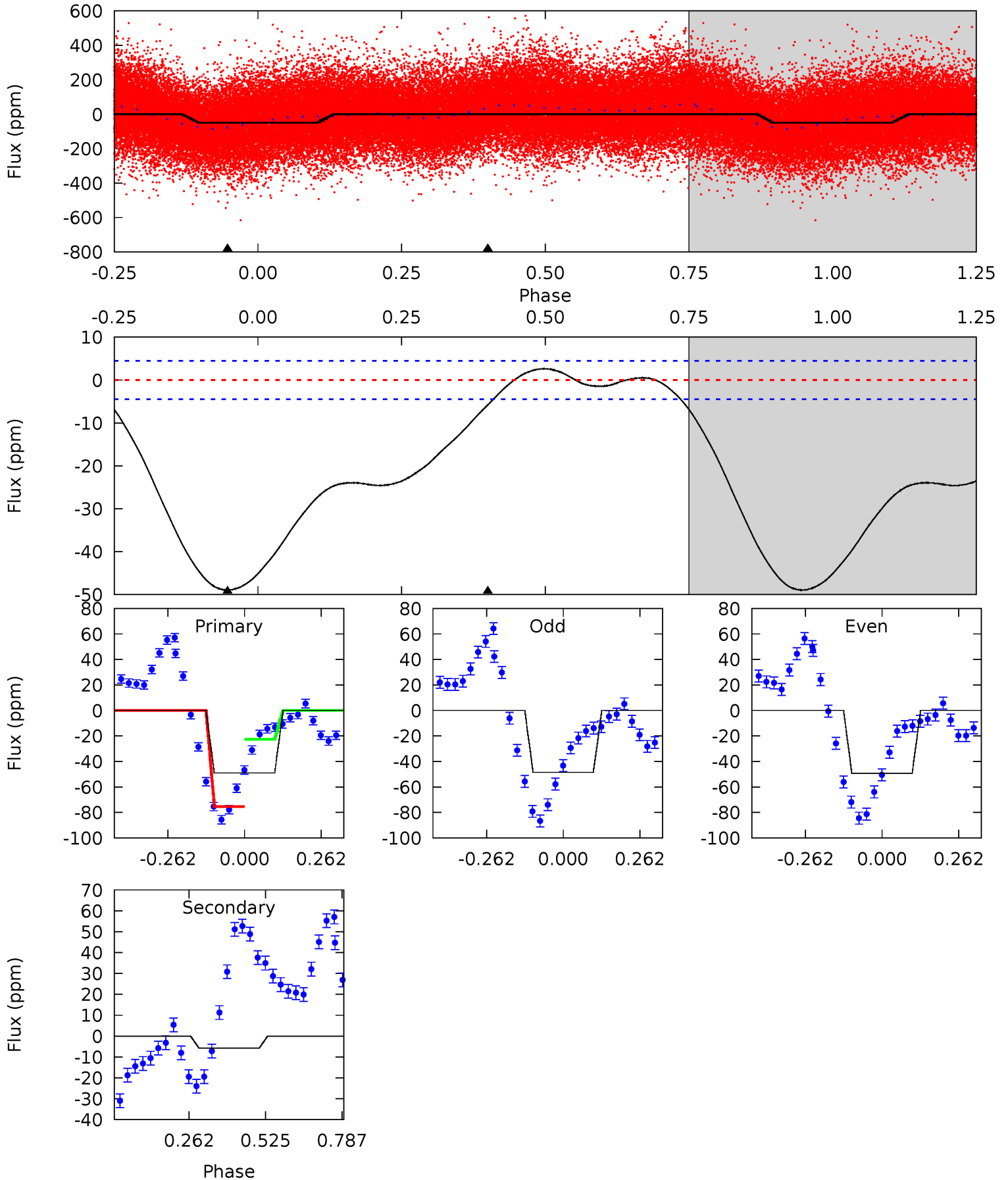
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.90	0.87	0	0	4.40	1.25	0.52	0.90	0.90	0.87	0.87	0.97	-7.02	0.56	0.80



Alt Model-Shift Uniqueness Test

006312643-01, P = 0.709833 Days, E = 131.423582 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.7	5.64	0	0	4.36	1.12	4.57	47.7	47.7	5.64	5.64	0.40	1.03	0.05	25.9



Stellar Parameters For KIC 006312643

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6502^{+172}_{-230}	$3.546^{+0.314}_{-0.050}$	$0.460^{+0.050}_{-0.250}$	$4.093^{+0.174}_{-1.567}$	$2.146^{+0.029}_{-0.467}$	$0.044^{+0.101}_{-0.005}$
	+3%/-4%	+9%/-1%	+11%/-54%	+4%/-38%	+1%/-22%	+228%/-12%
Source	KIC0	FLK73	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 006312643-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1 ± 1	$1.27^{+1.26}_{-0.89}$	5595^{+281}_{-479}	-4379^{+9514}_{-489}	$0.070^{+0.777}_{-0.085}$
Alt.	-6 ± 1	$2.62^{+1.84}_{-1.46}$	5592^{+275}_{-529}	-3841^{+9225}_{-703}	$0.183^{+0.777}_{-0.123}$

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

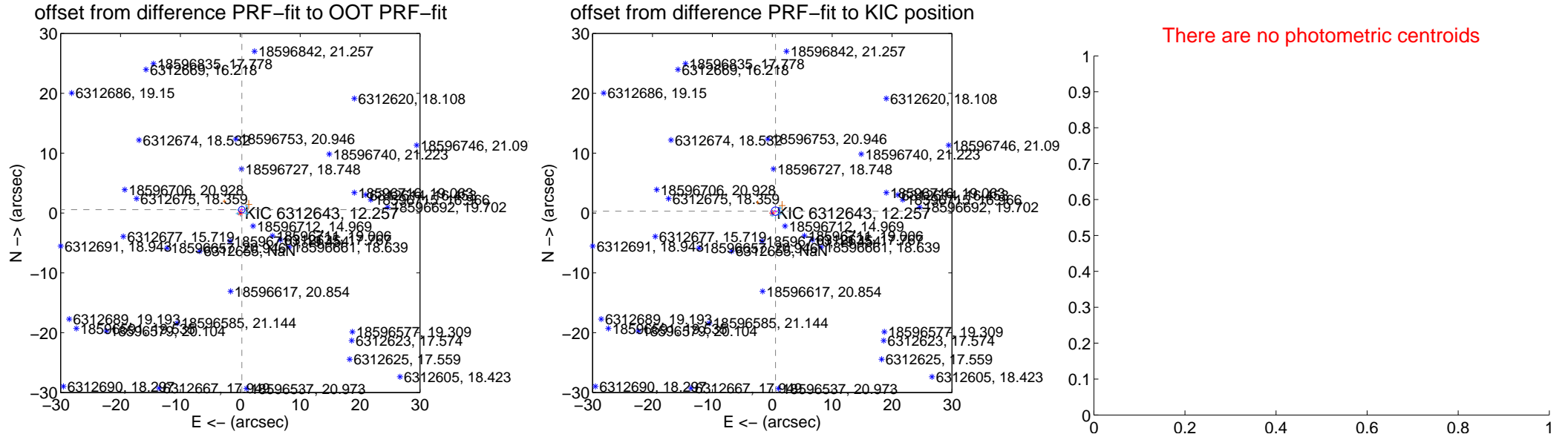
DV Centroid Data

Supplemental centroid analysis for 006312643-01. Kepler magnitude: 12.26. Transit SNR 0.04

There are 13 quarters with good PRF difference image offsets

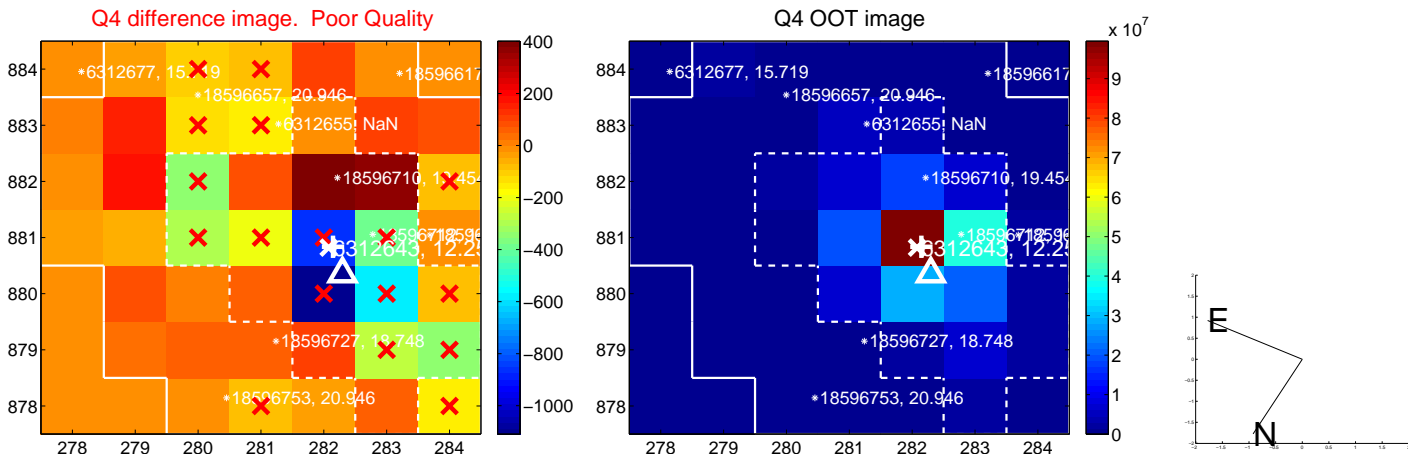
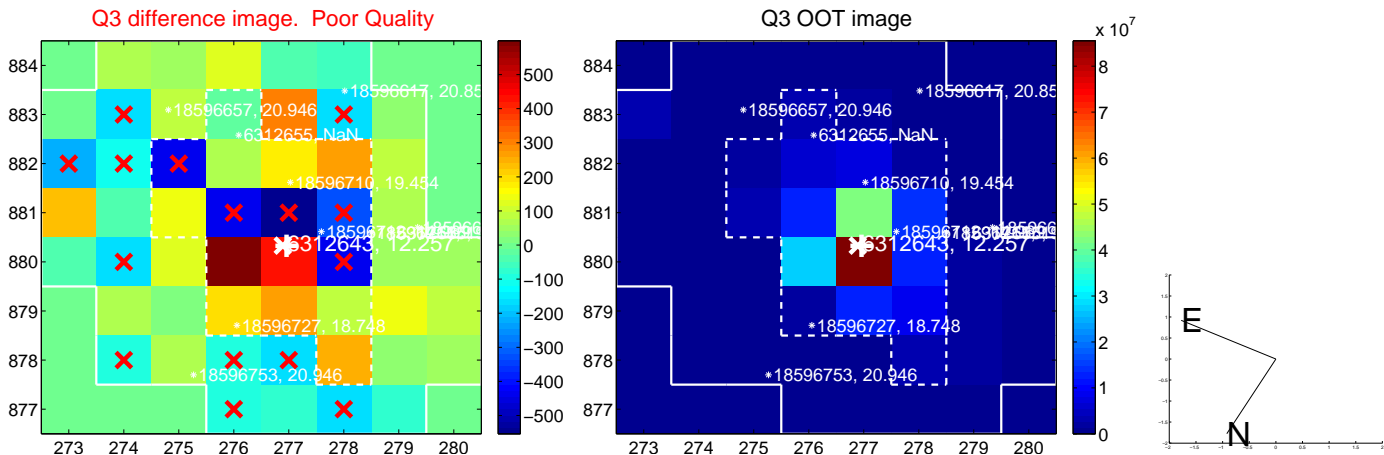
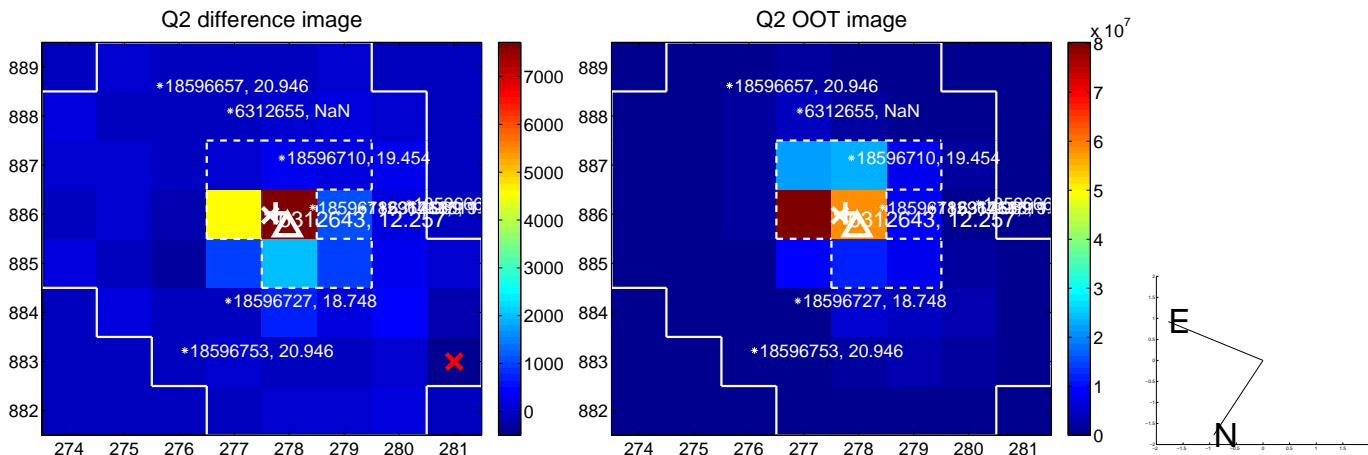
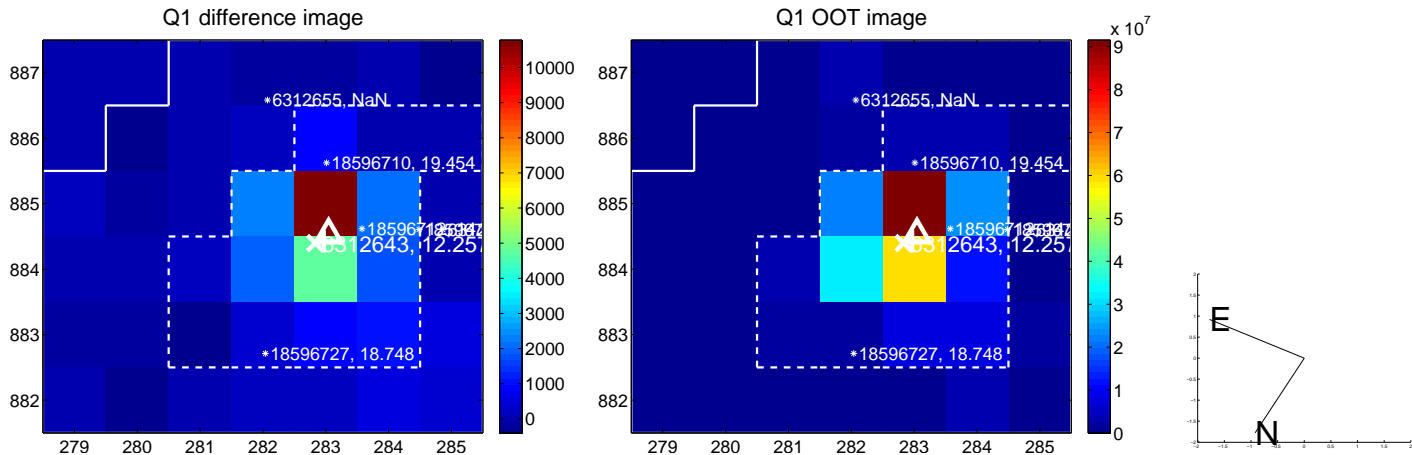
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.615 \pm 0.180	3.42	-0.262 \pm 0.274	0.556 \pm 0.187
PRF-fit source offset from KIC position	0.628 \pm 0.234	2.68	-0.546 \pm 0.266	0.311 \pm 0.170
photometric centroid source offset	—	—	—	—

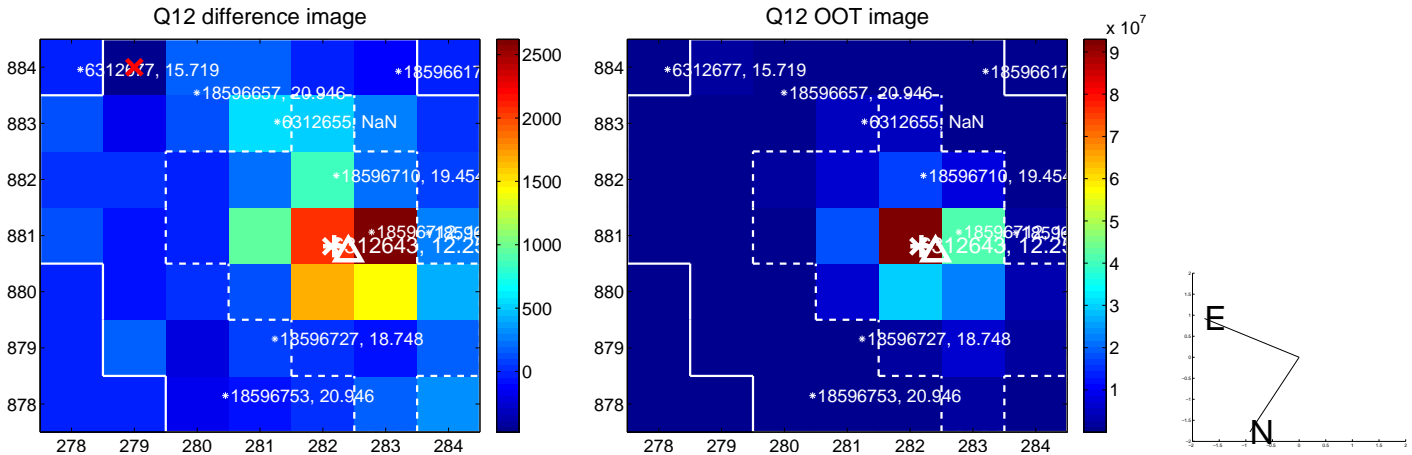
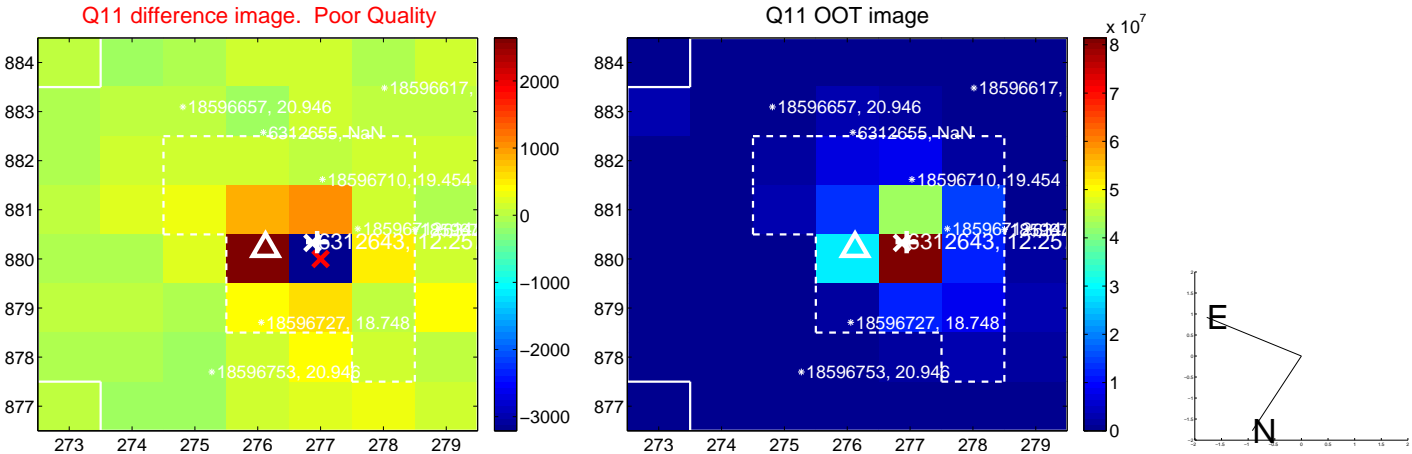
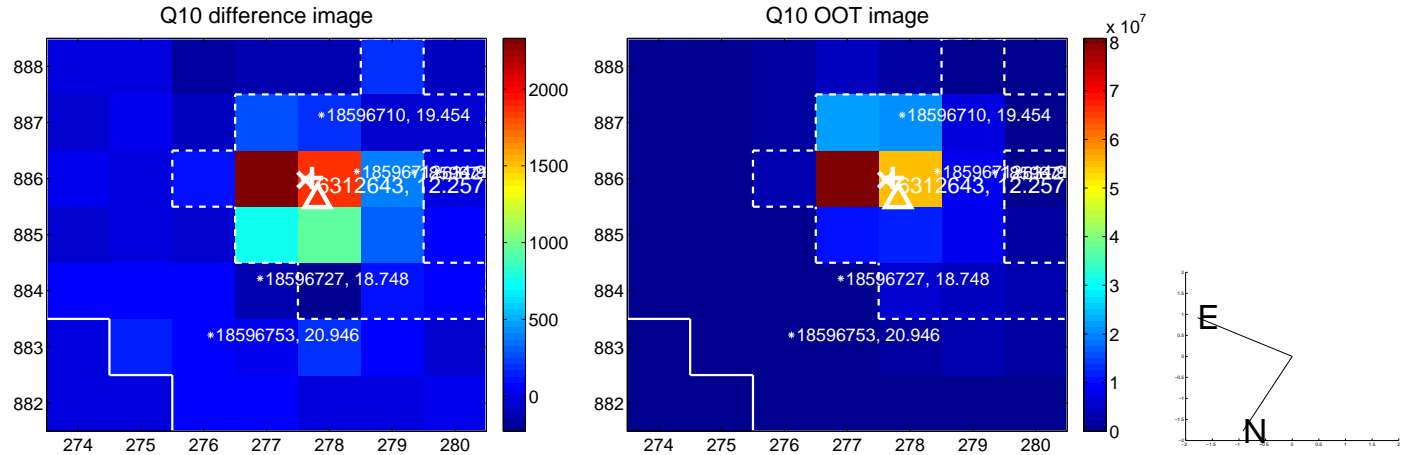
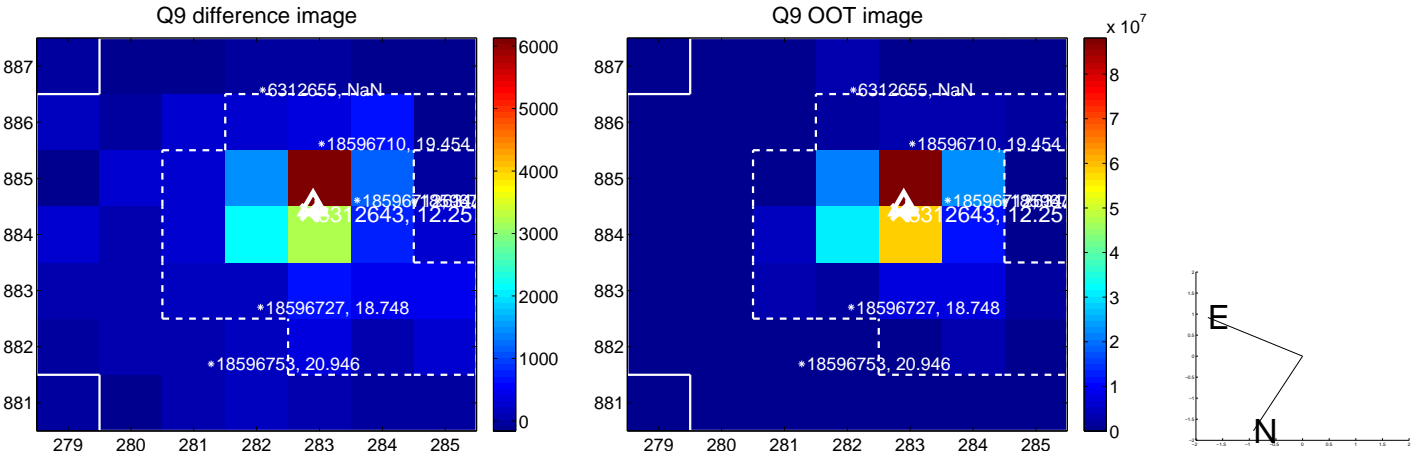


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

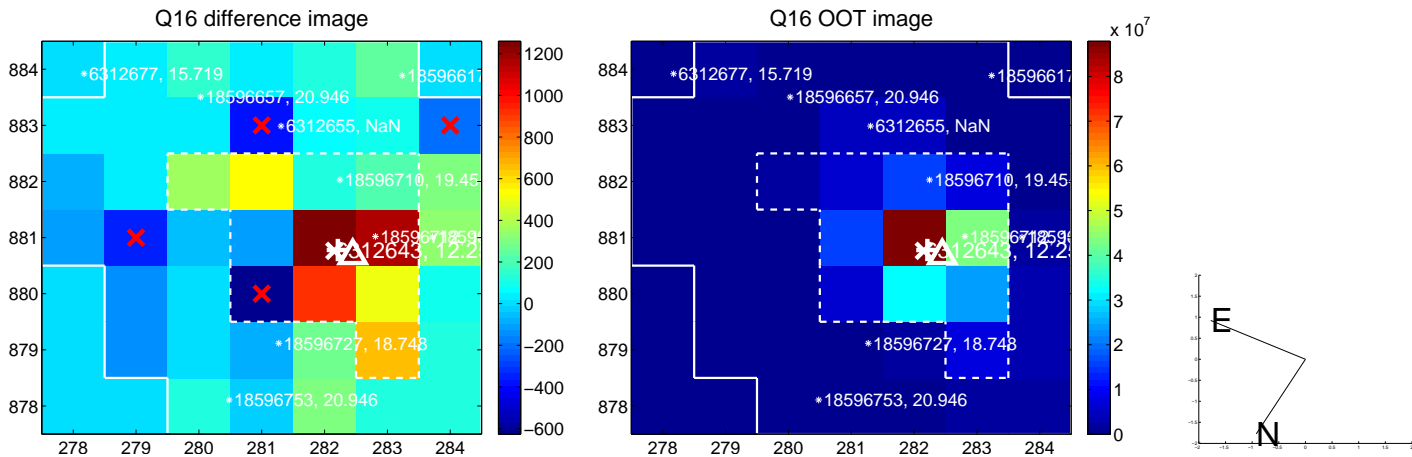
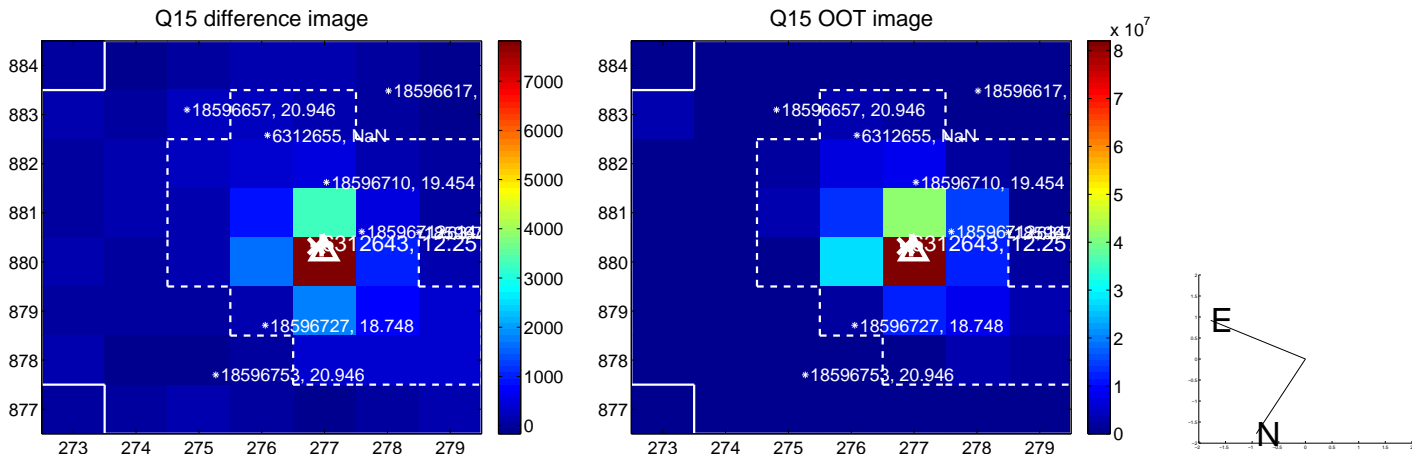
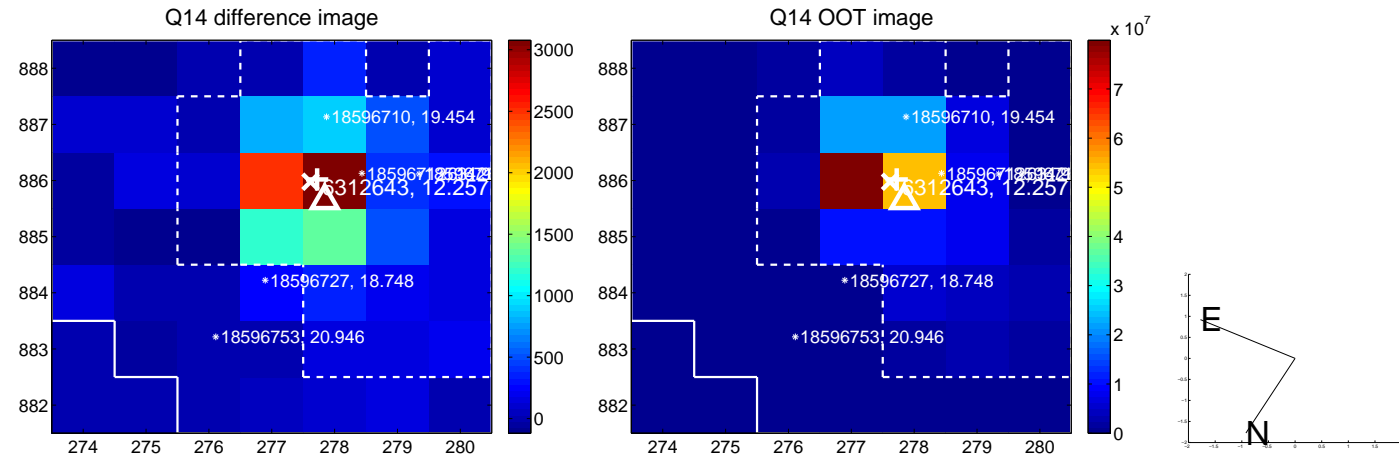
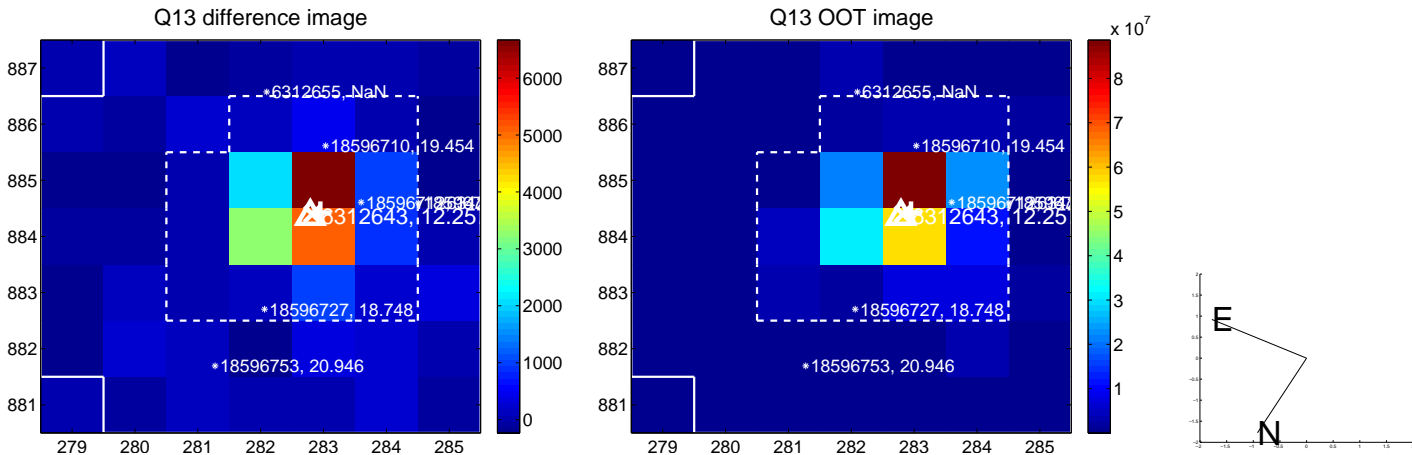
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



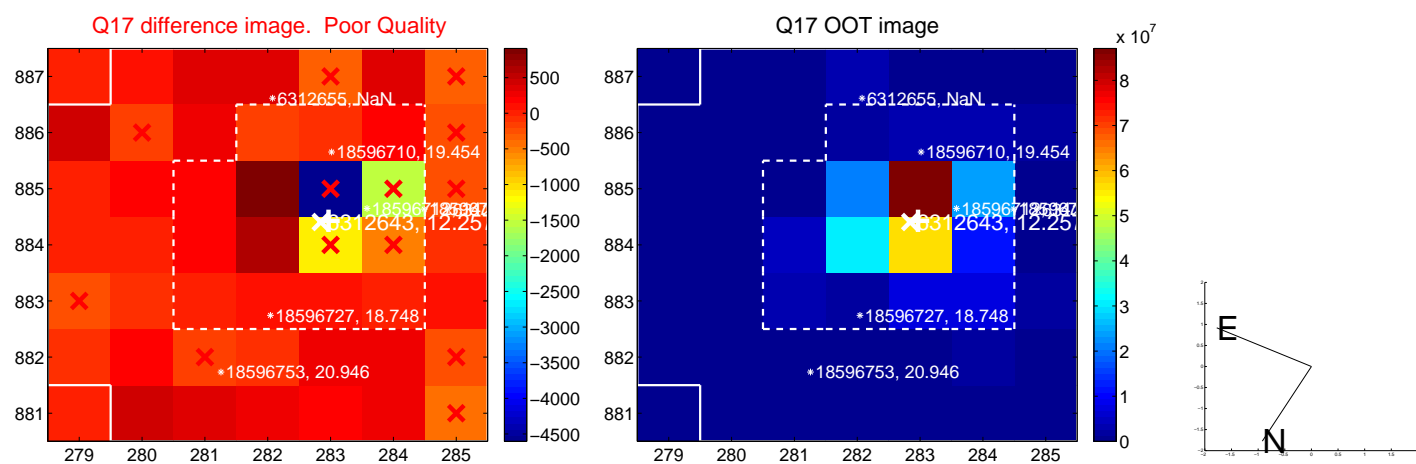
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

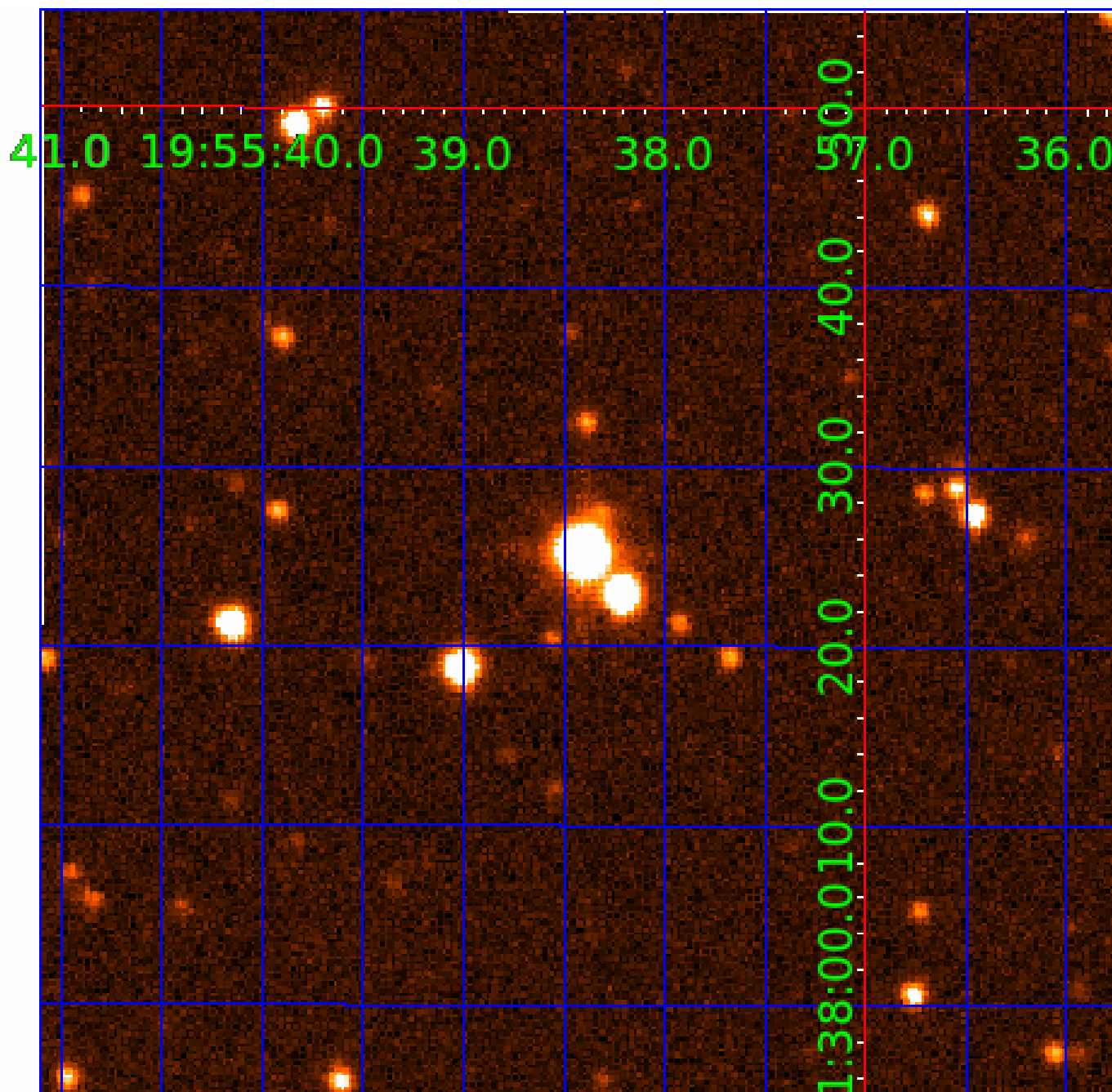


folded centroid time series figure for this object.



UKIRT Image

Declination



KIC 006312643

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})
006312643-01	OBS	No	0.710147	131.902038	0.1	3.164	8.8	0.0	4.09	6502	0.10	66371.14
006312643-02	OBS	No	94.392456	185.254525	49.7	28.132	9.5	4.6	4.09	6502	3.19	97.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006312643-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
006312643-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

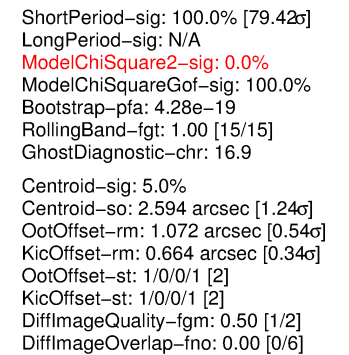
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 006312643-02

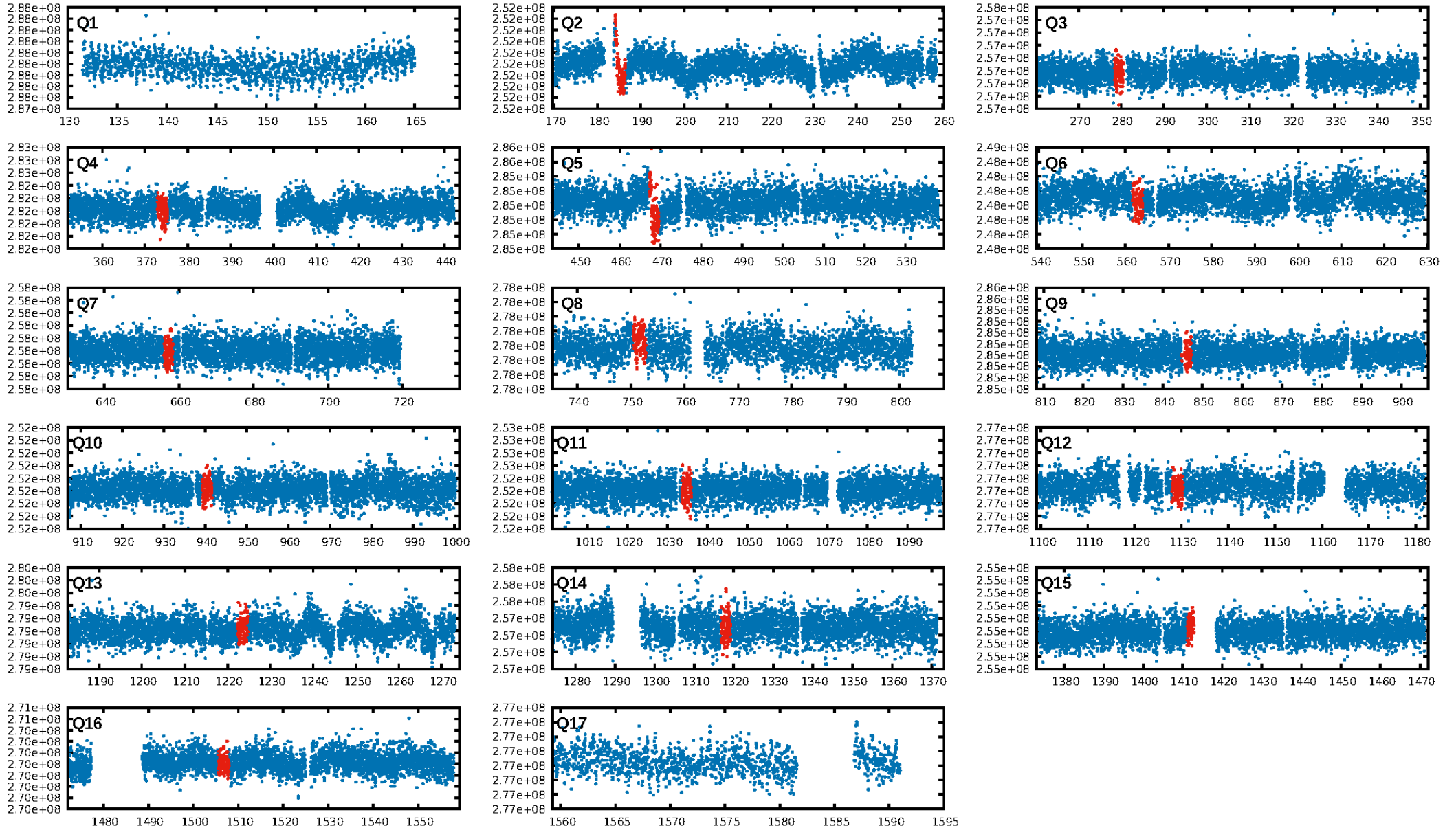
No Significant Match Found

KIC: 6312643 Candidate: 2 of 2 Period: 94.392 d

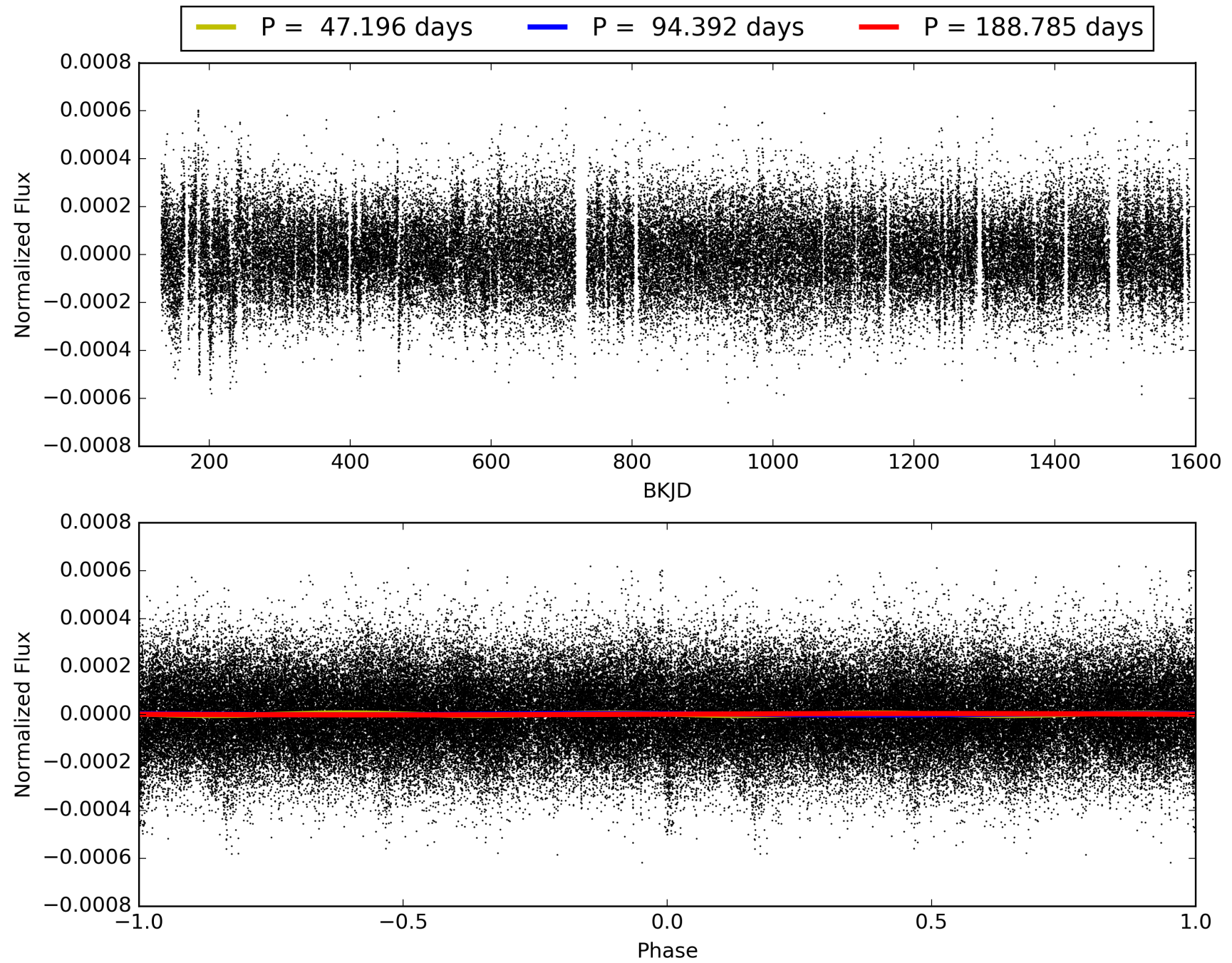


This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006312643-02, PDC Light Curves

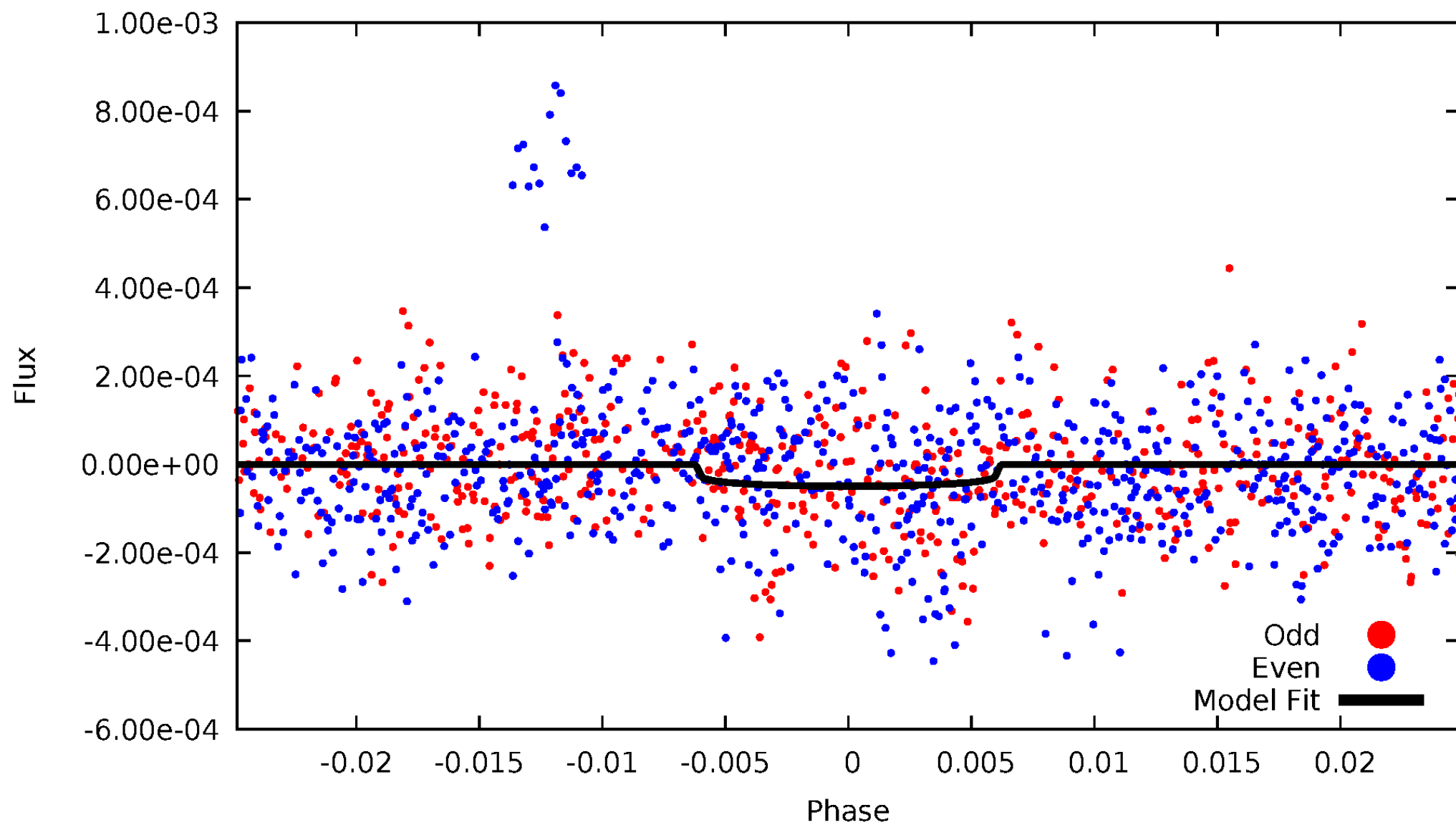


TCE 006312643-02



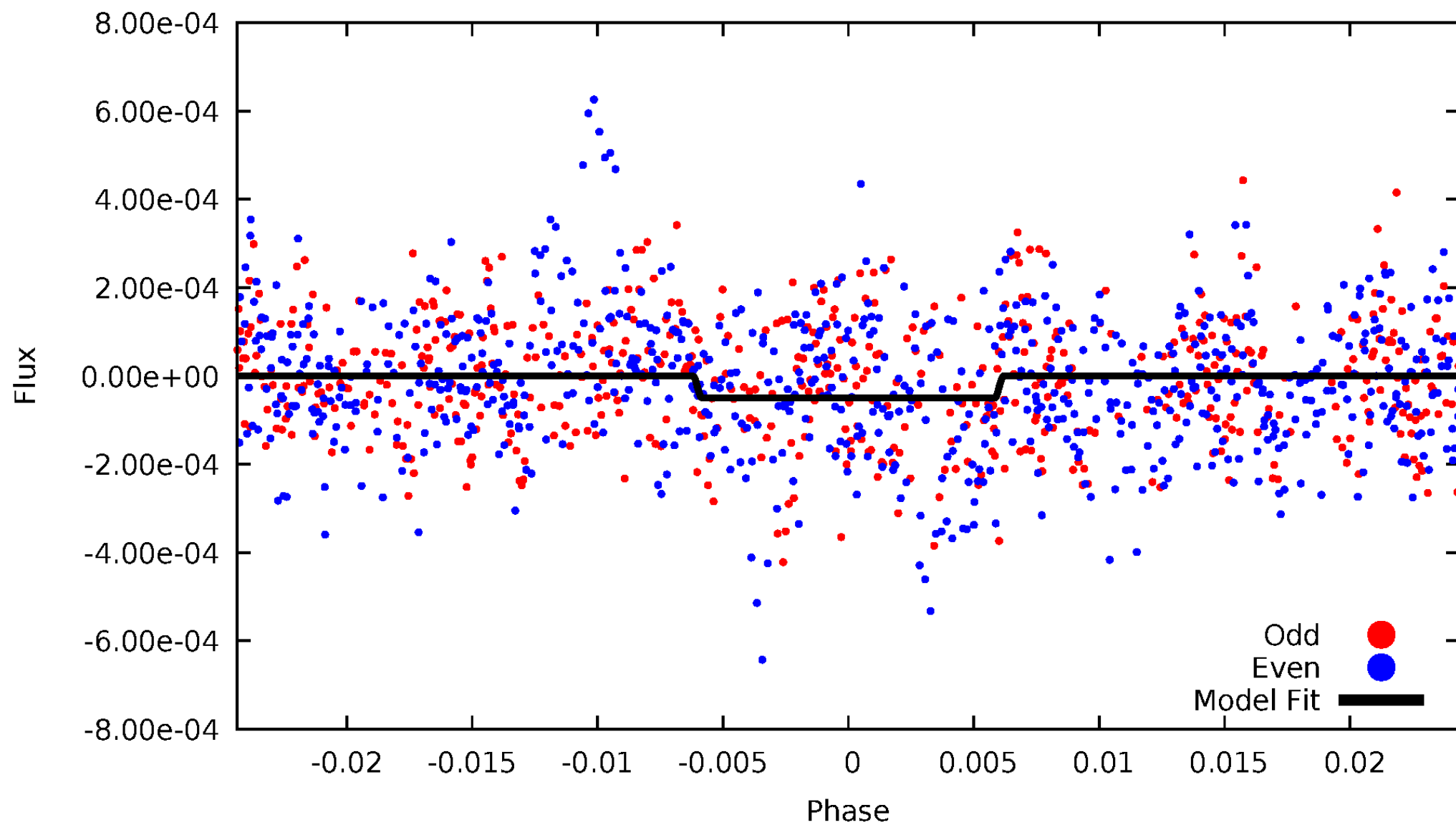
DV Odd/Even

TCE 006312643-02



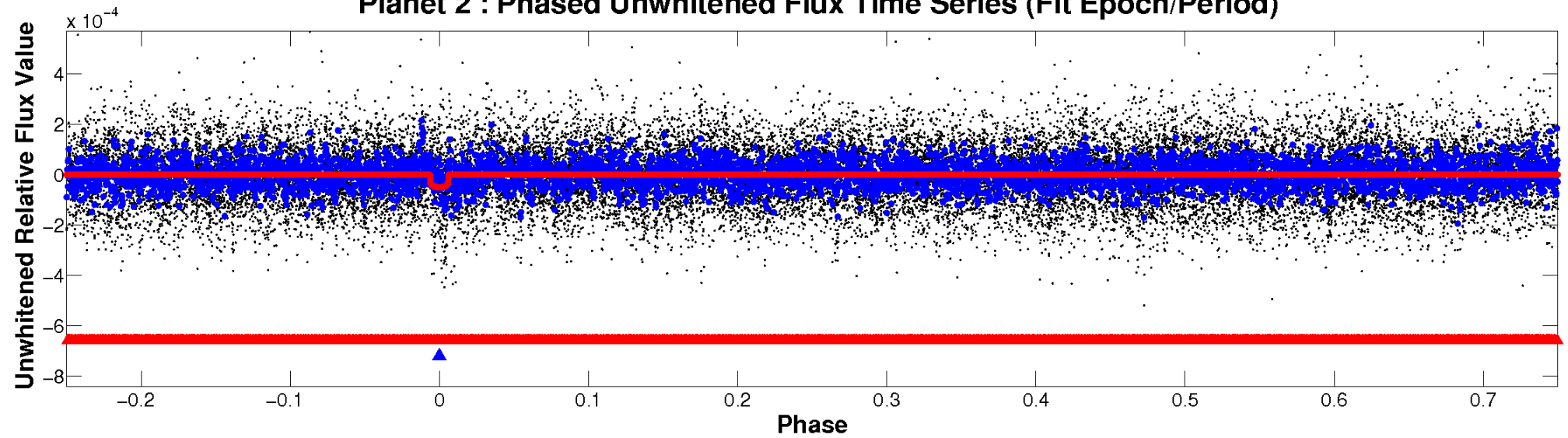
ALT Odd/Even

TCE 006312643-02

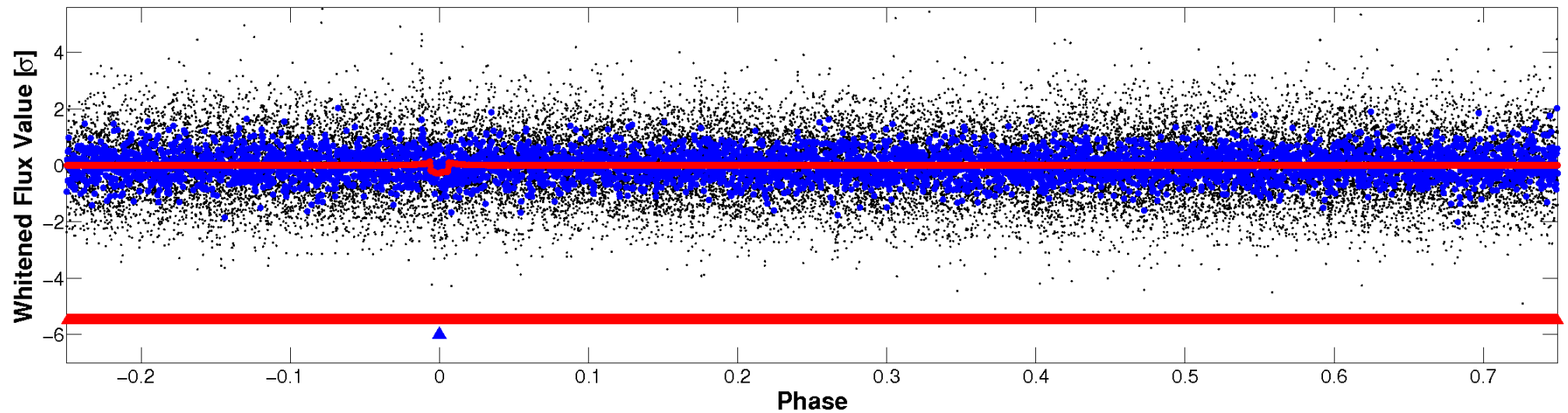


Non-Whitened Vs. Whitened Light Curve

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

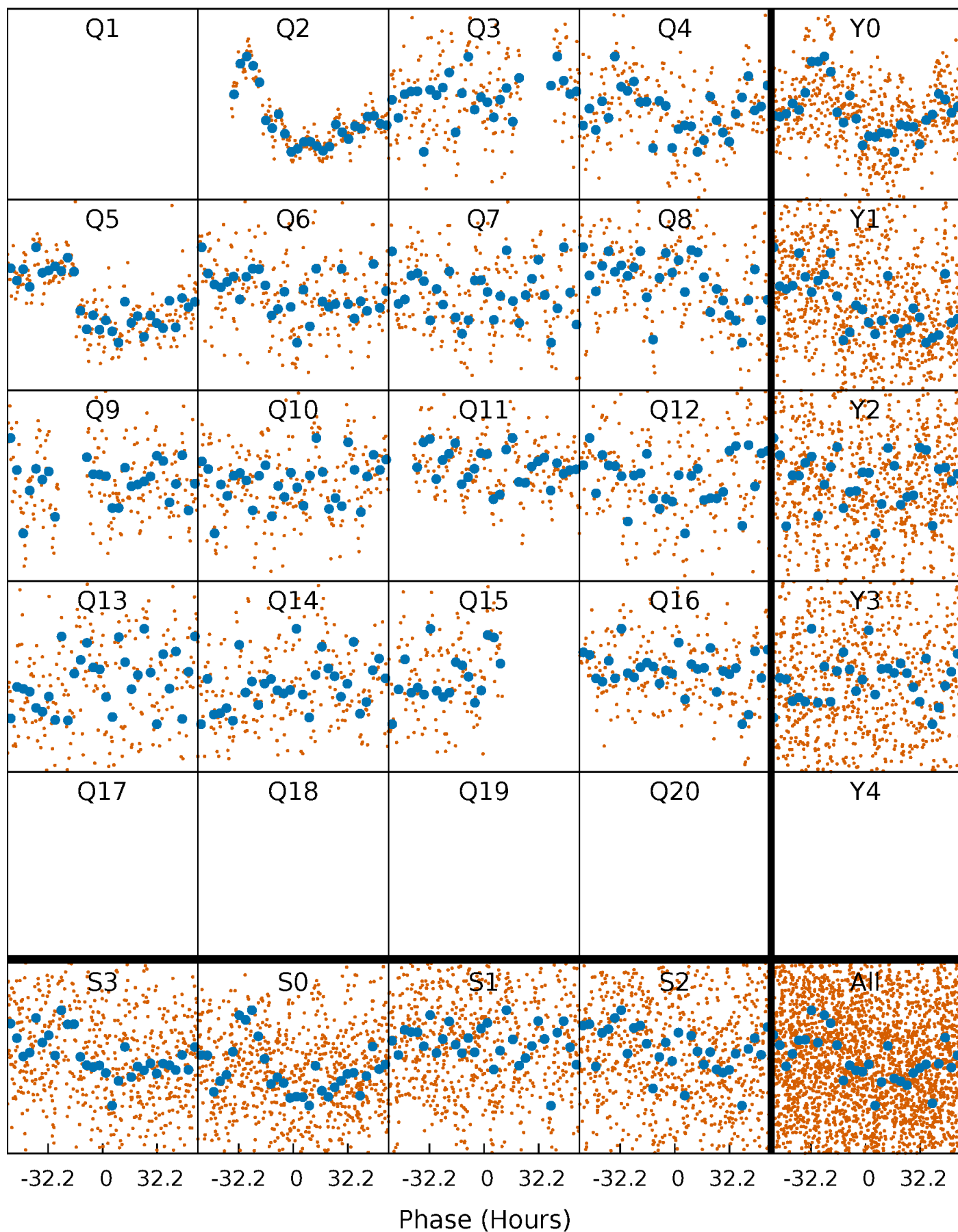


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



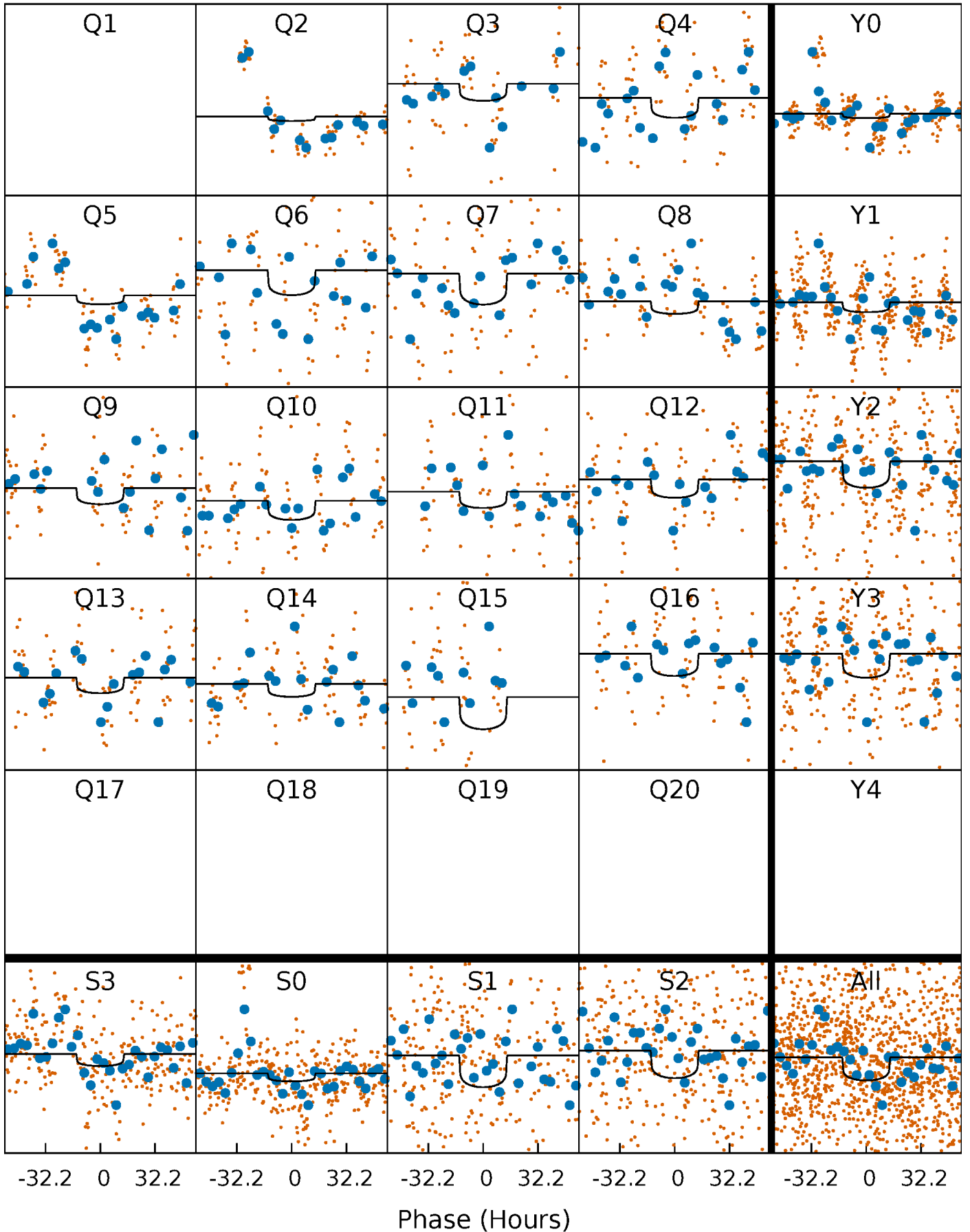
PDC Quarter-Phased Transit Curves

TCE 006312643-02 P= 94.392456 Days $T_0=185.254525$ (BKJD)



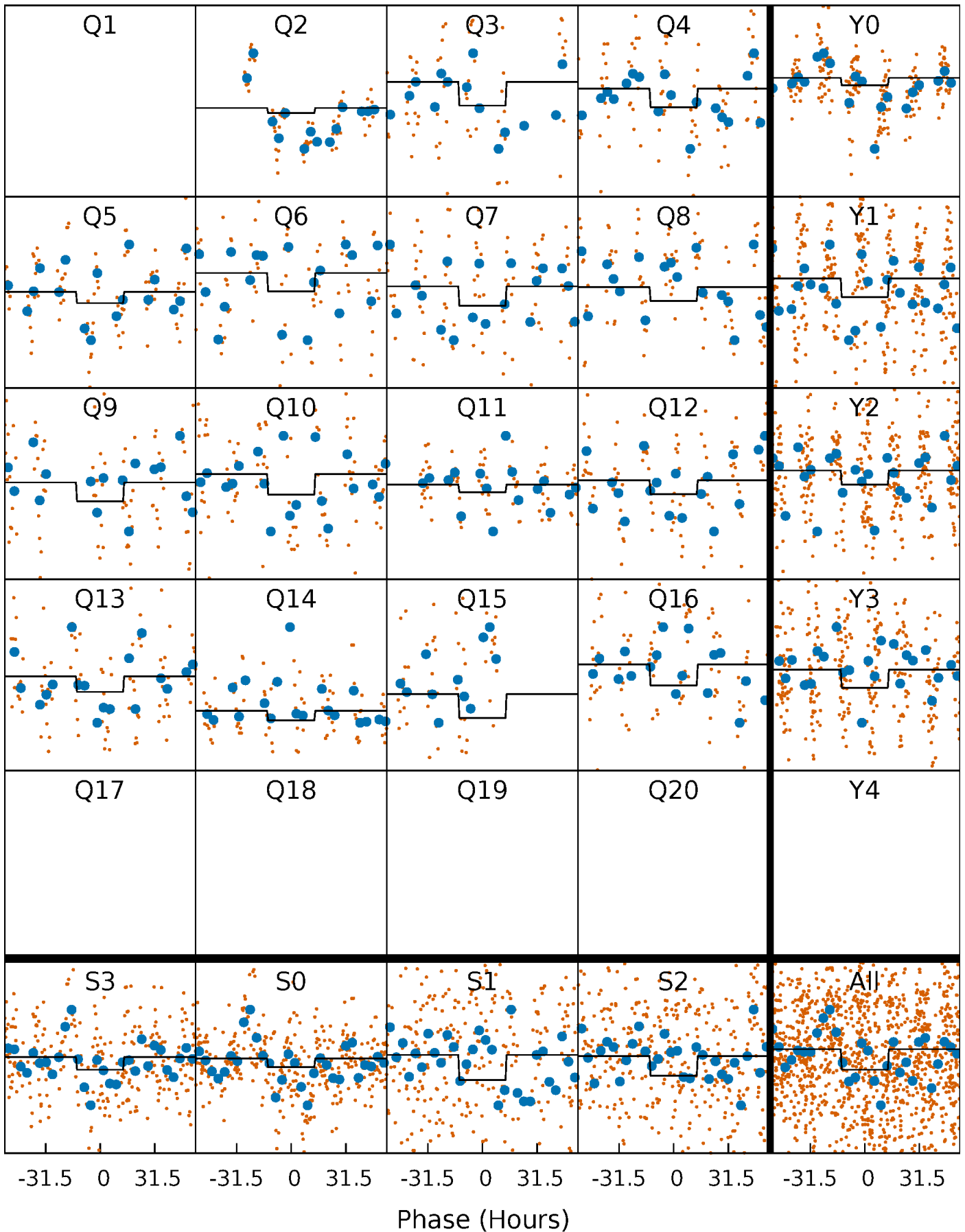
DV Quarter-Phased Transit Curves

TCE 006312643-02 P= 94.392456 Days $T_0=185.254525$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

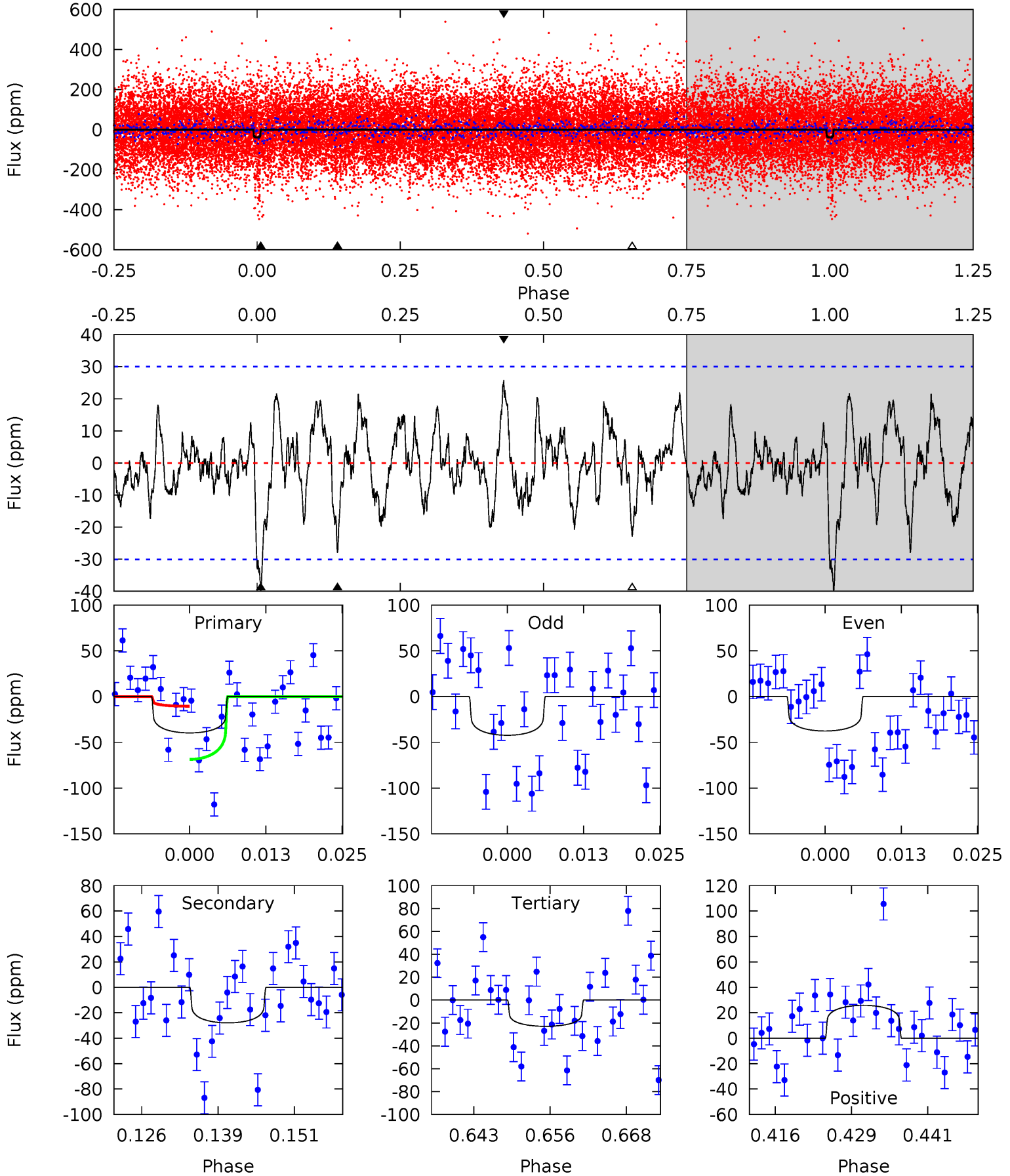
TCE 006312643-02 P= 94.409858 Days $T_0=185.108545$ (BKJD)



DV Model-Shift Uniqueness Test

006312643-02, P = 94.392456 Days, E = 90.862069 Days

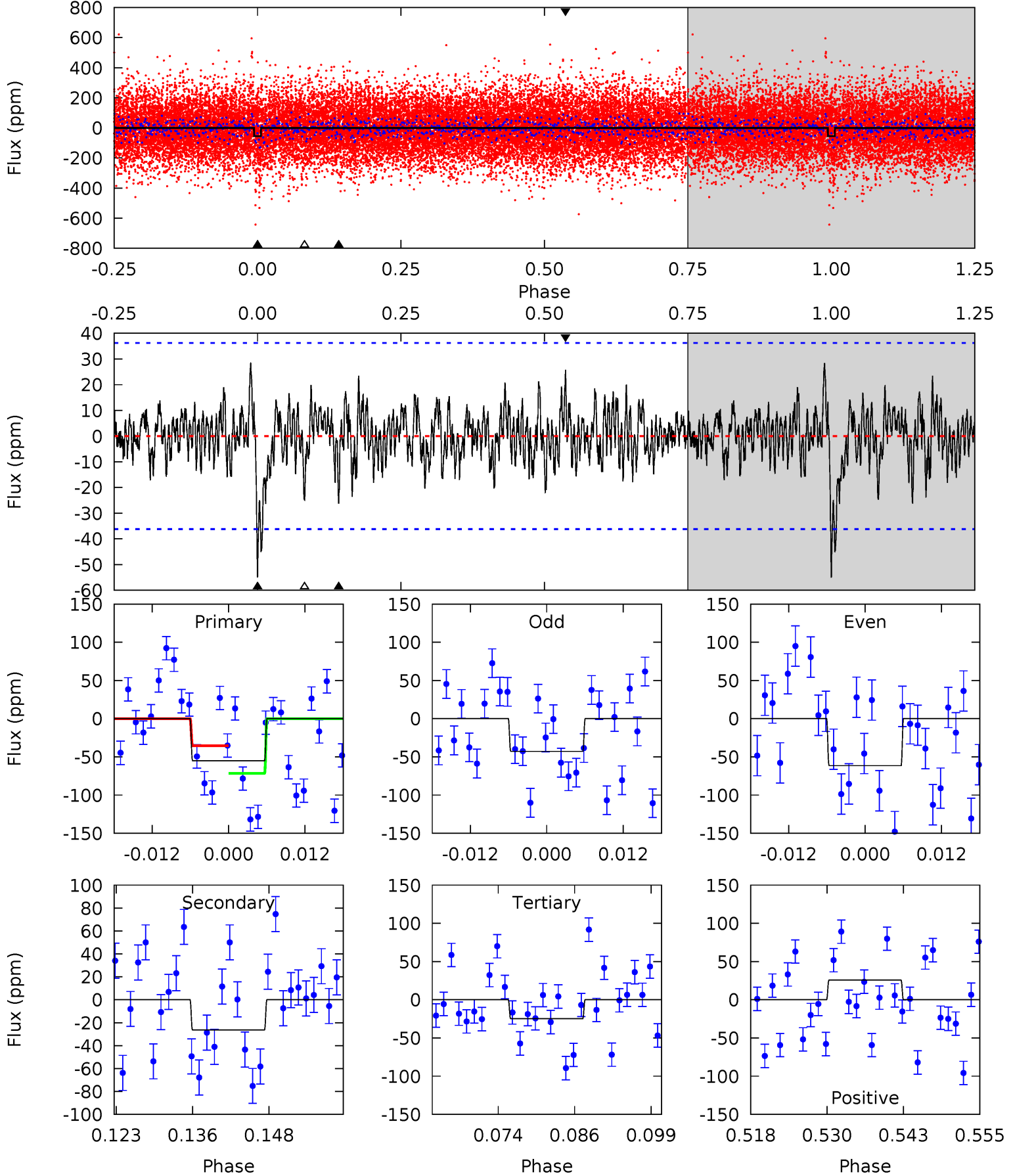
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.59	4.63	3.80	4.28	4.98	2.49	1.48	2.78	2.31	0.83	0.35	0.39	1.07	0.39	4.81



Alt Model-Shift Uniqueness Test

006312643-02, P = 94.409858 Days, E = 90.698687 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.58	3.61	3.42	3.54	4.99	2.50	1.12	4.16	4.04	0.20	0.07	1.28	1.14	0.34	2.47



Stellar Parameters For KIC 006312643

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6502^{+172}_{-230}	$3.546^{+0.314}_{-0.050}$	$0.460^{+0.050}_{-0.250}$	$4.093^{+0.174}_{-1.567}$	$2.146^{+0.029}_{-0.467}$	$0.044^{+0.101}_{-0.005}$
	+3%/-4%	+9%/-1%	+11%/-54%	+4%/-38%	+1%/-22%	+228%/-12%
Source	KIC0	FLK73	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 006312643-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-28 ± 6	$2.92^{+1.00}_{-0.91}$	1096^{+55}_{-93}	5549^{+1127}_{-621}	474^{+534}_{-219}
Alt.	-26 ± 7	$2.89^{+1.09}_{-0.94}$	1100^{+52}_{-96}	5511^{+1112}_{-756}	432^{+583}_{-208}

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 $A_{obs} \gg 1.0$

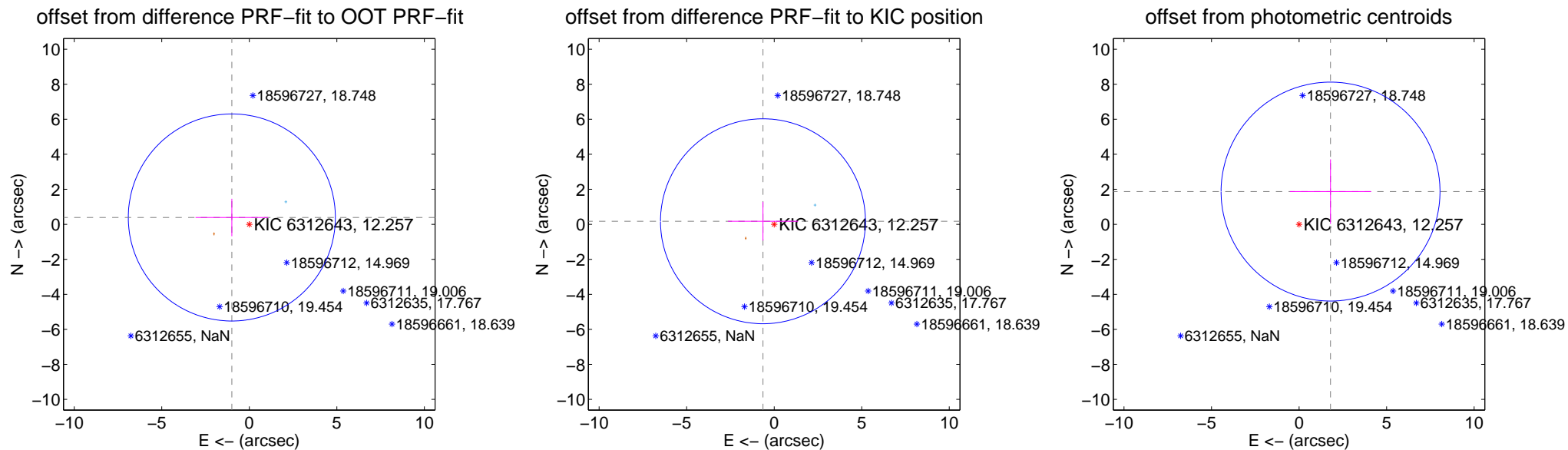
DV Centroid Data

Supplemental centroid analysis for 006312643-02. Kepler magnitude: 12.26. Transit SNR 4.58

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.072 ± 1.971	0.54	0.998 ± 2.074	0.390 ± 1.071
PRF-fit source offset from KIC position	0.664 ± 1.951	0.34	0.641 ± 1.999	0.174 ± 1.107
photometric centroid source offset	2.59 ± 2.08	1.24	-1.80 ± 2.32	1.87 ± 1.84

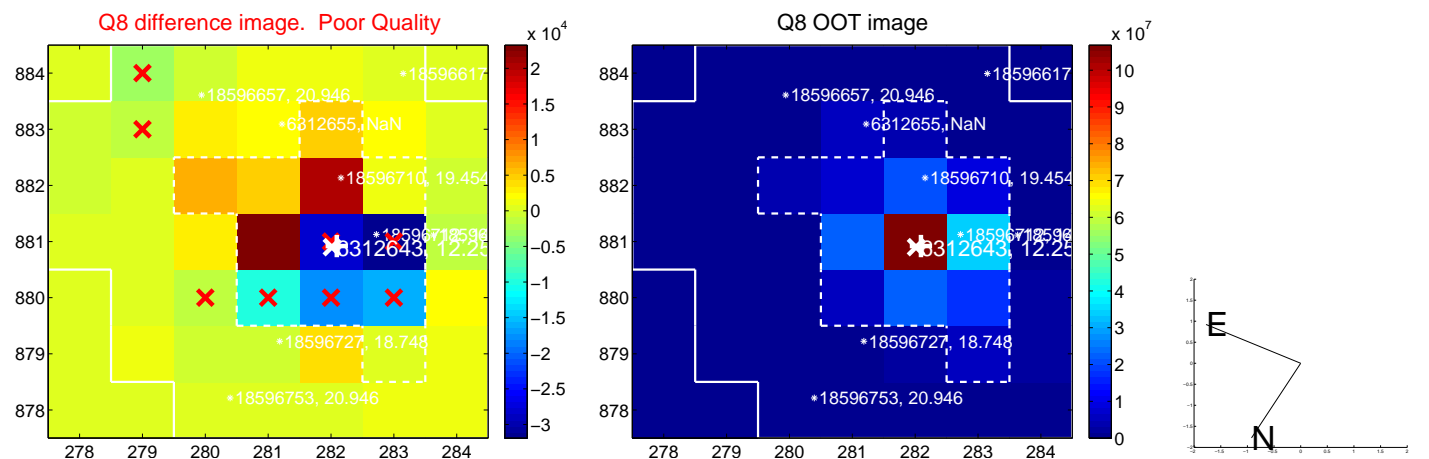
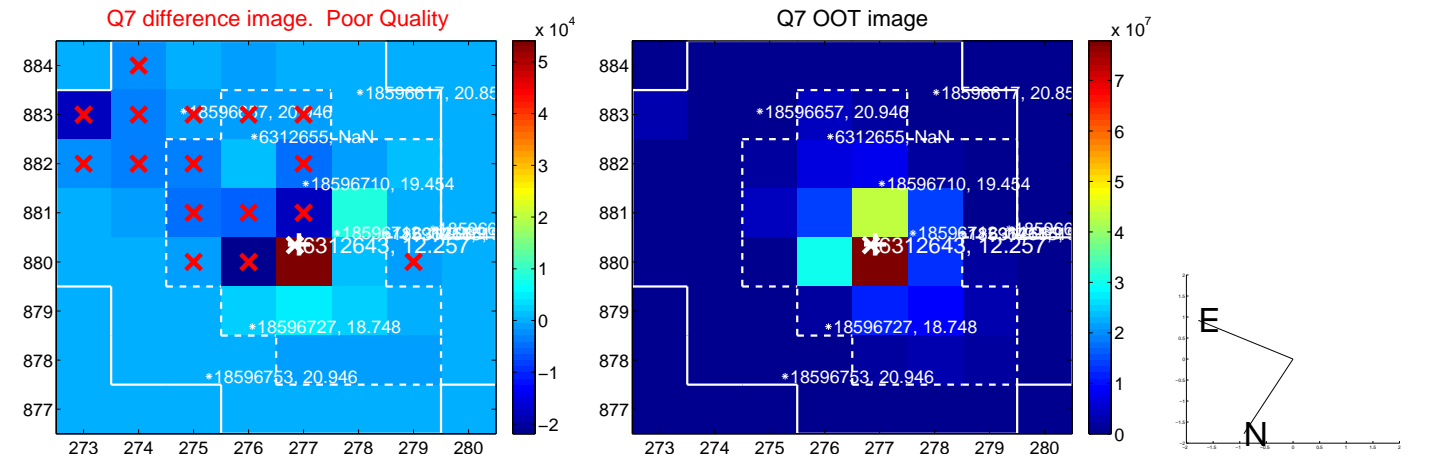
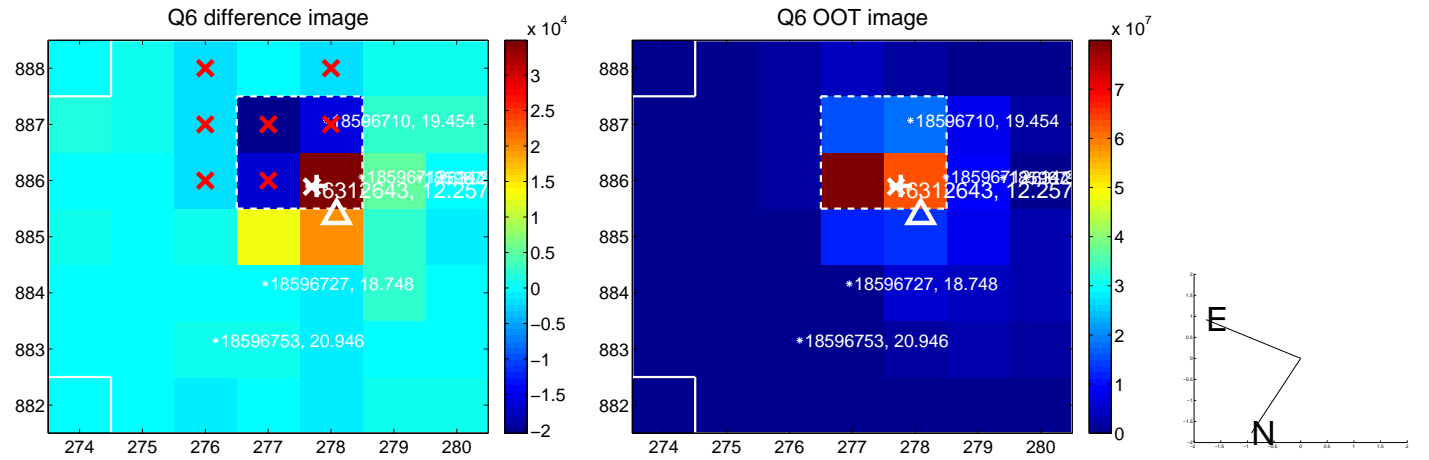
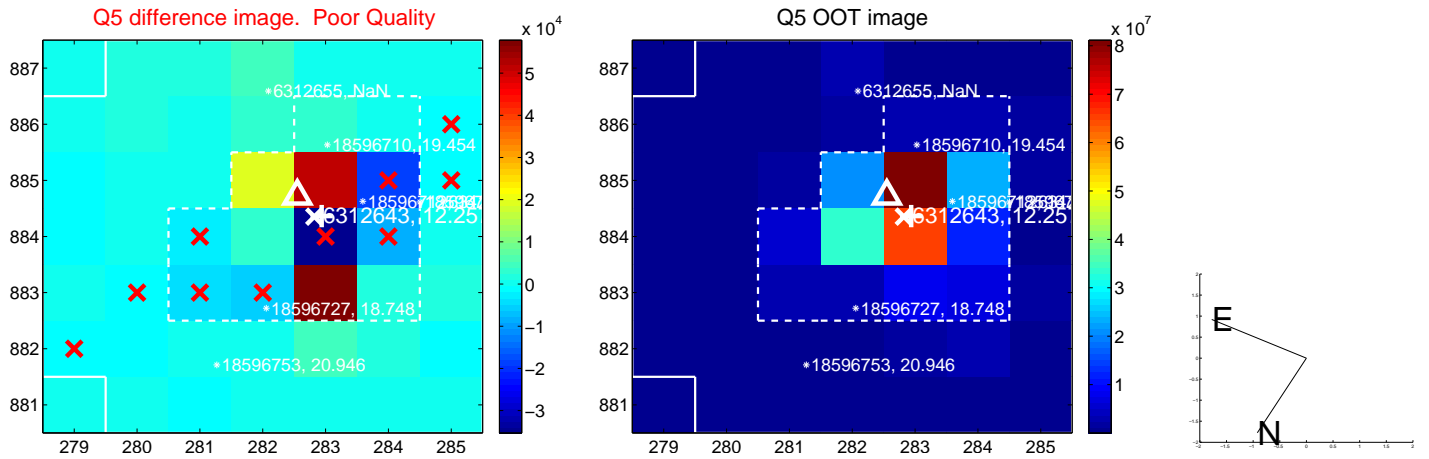


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



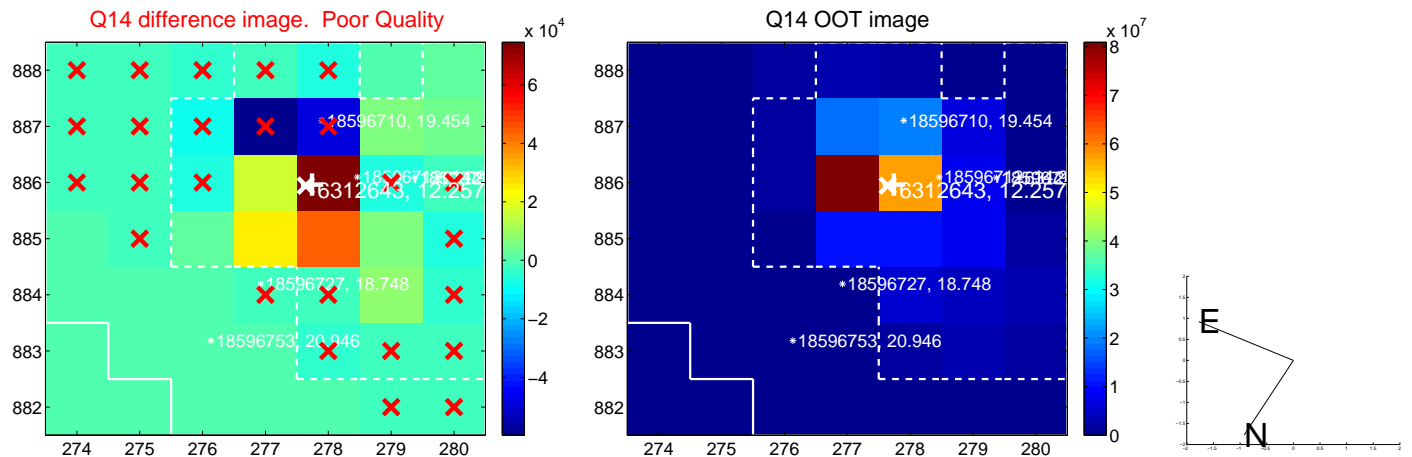
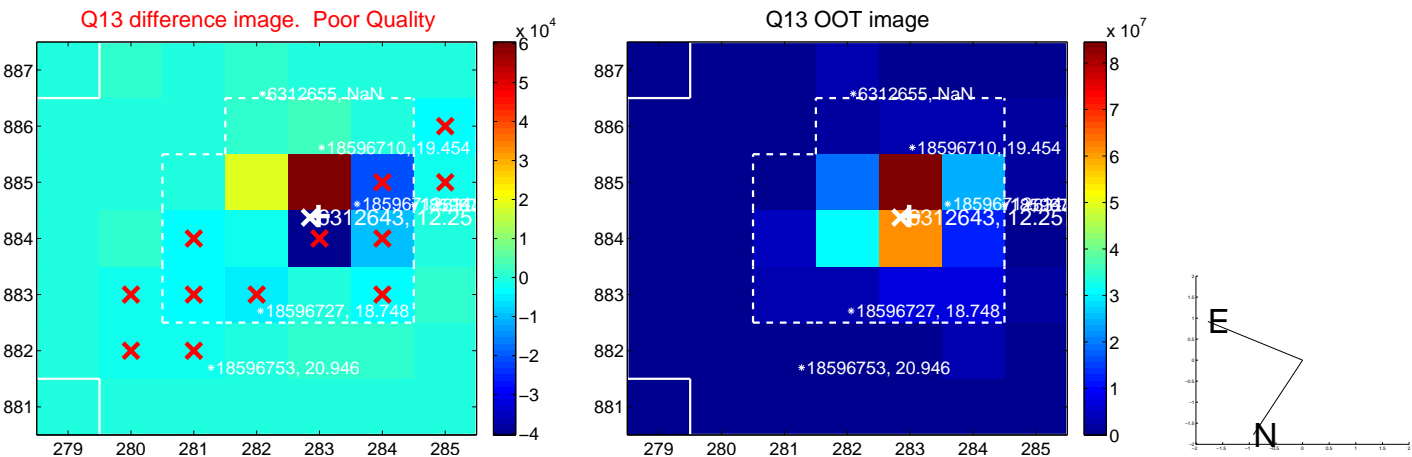
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



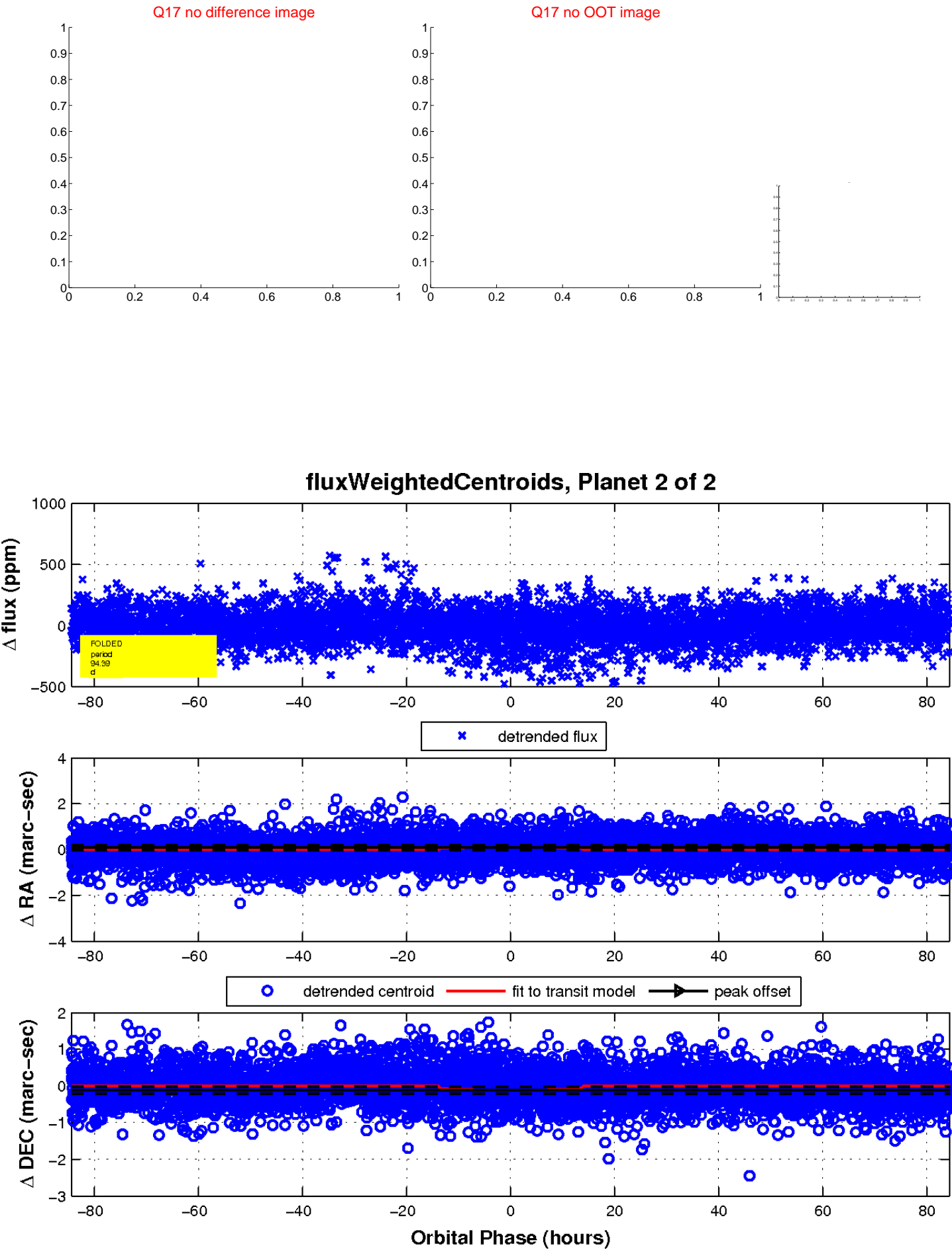
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

