

KIC 011826440

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})
011826440-01	OBS	No	0.967288	132.308634	16.0	3.629	8.7	8.3	2.74	7237	1.28	36288.25
011826440-02	OBS	No	40.703154	140.838131	161.0	2.426	7.8	9.2	2.74	7237	4.07	247.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011826440-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
011826440-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—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.

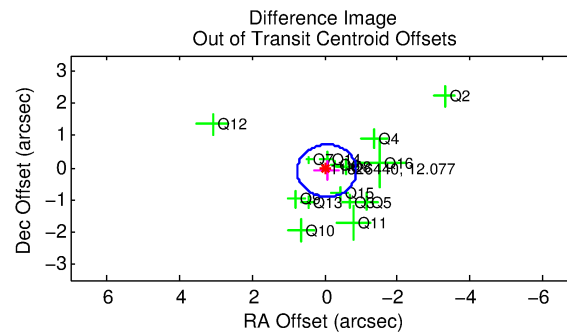
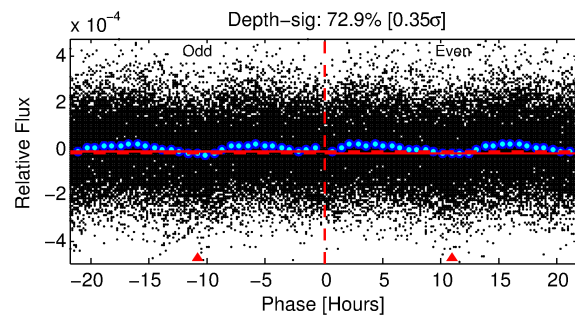
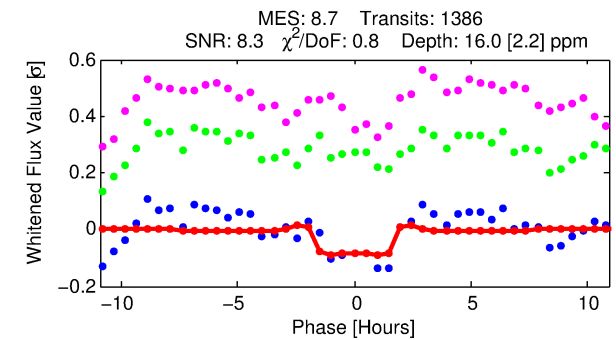
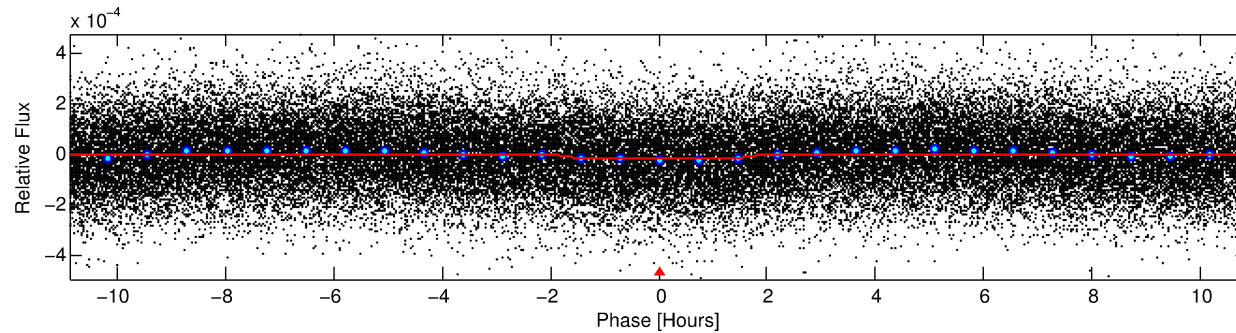
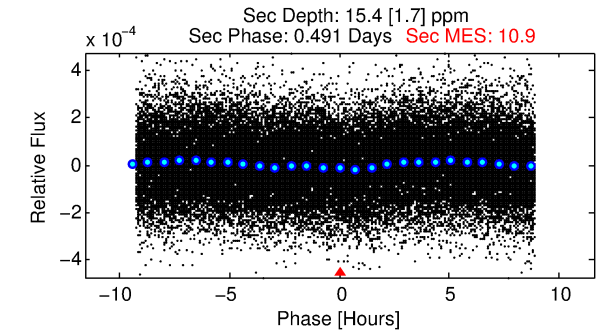
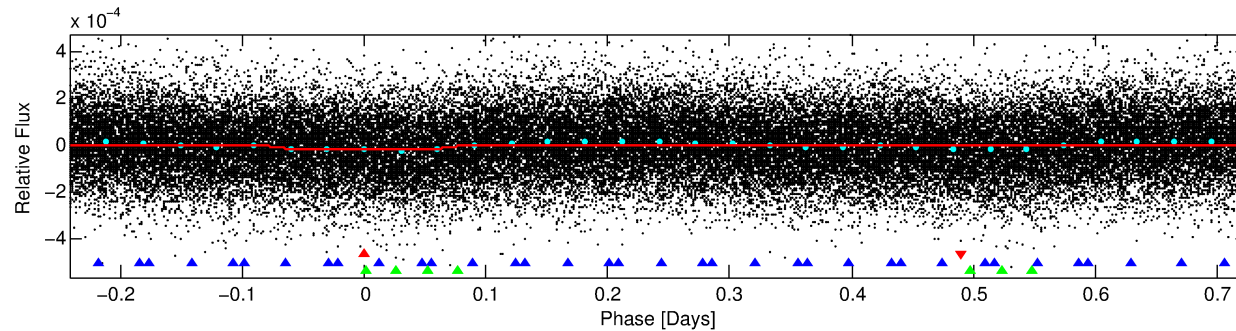
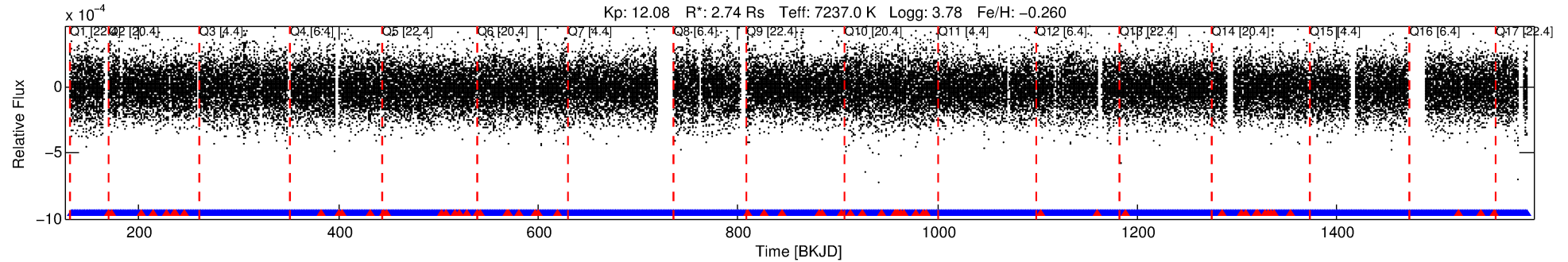
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011826440-01

No Significant Match Found

DV One-Page Summary

KIC: 11826440 Candidate: 1 of 3 Period: 0.967 d



DV Fit Results:

Period = 0.96729 [0.00001] d
Epoch = 132.3086 [0.0035] BKJD
Rp/R* = 0.0043 [0.0010]
a/R* = 1.30 [0.73]
b = 0.90 [0.29]
Seff = 36288.25 [26454.25]
Teff = 3519 [641] K
Rp = 1.28 [0.67] Re
a = 0.0226 [0.0100] AU
Ag = 2.63 [2.26] [0.72σ]
Teffp = 6929 [887] K [3.11σ]

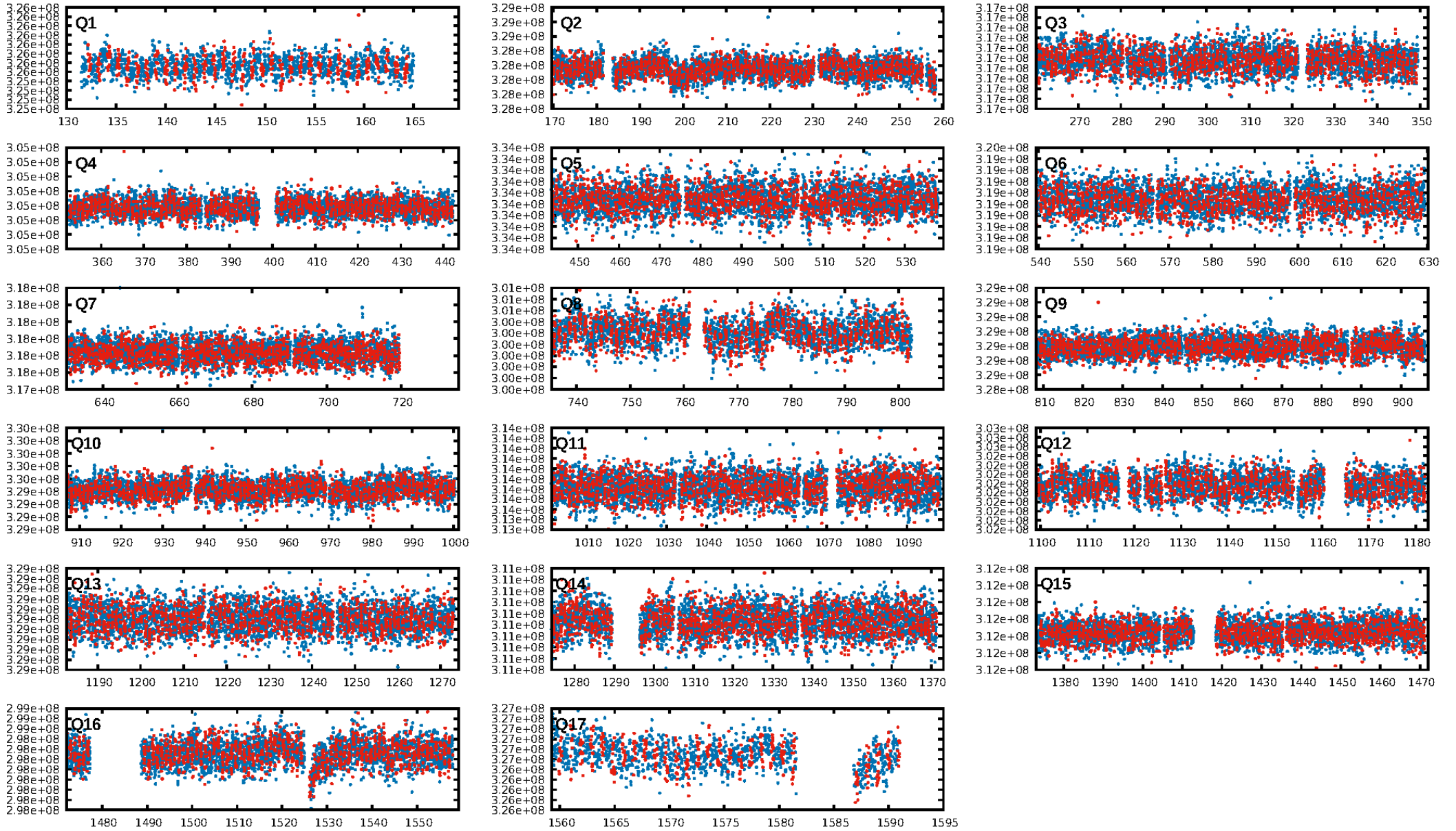
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [218.47σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.52e-14
RollingBand-fgt: 0.95 [1263/1324]
GhostDiagnostic-chr: -7.045
Centroid-sig: 53.7%
Centroid-so: 0.830 arcsec [1.13σ]
OotOffset-rm: 0.112 arcsec [0.41σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-rm: 0.320 arcsec [1.12σ]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 1.00 [17/17]

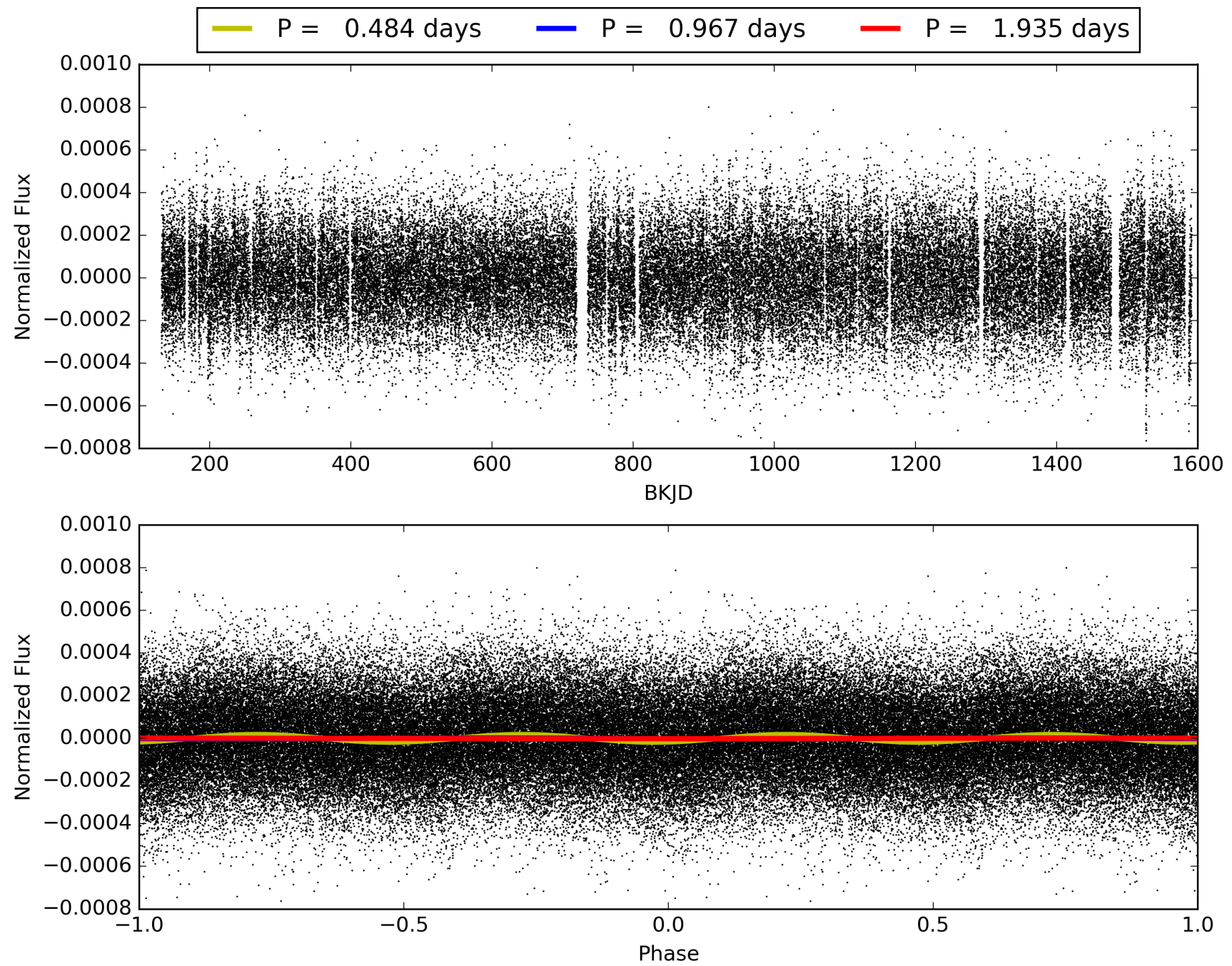
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:28:29 Z

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

TCE 011826440-01, PDC Light Curves

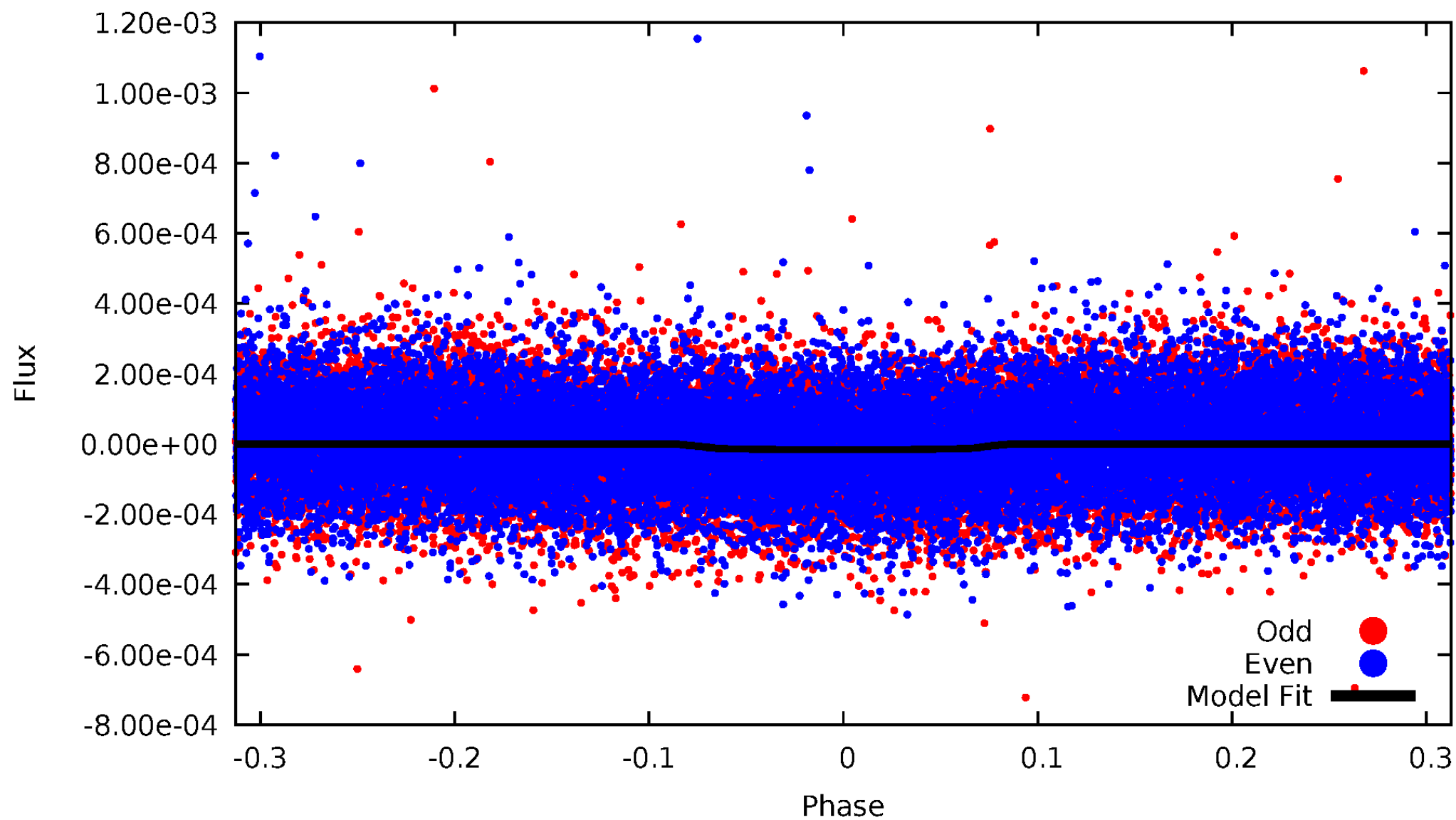


TCE 011826440-01



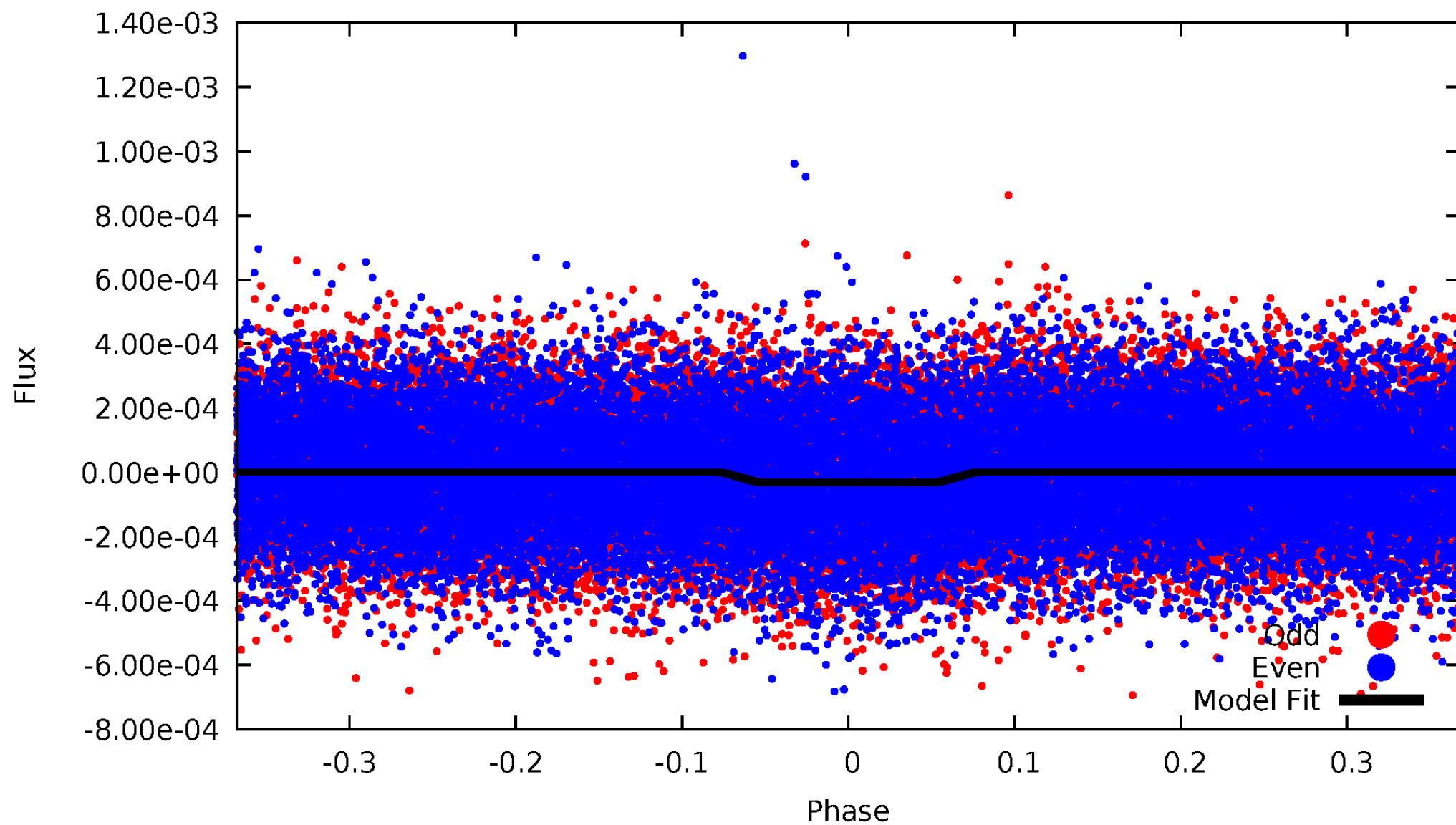
DV Odd/Even

TCE 011826440-01

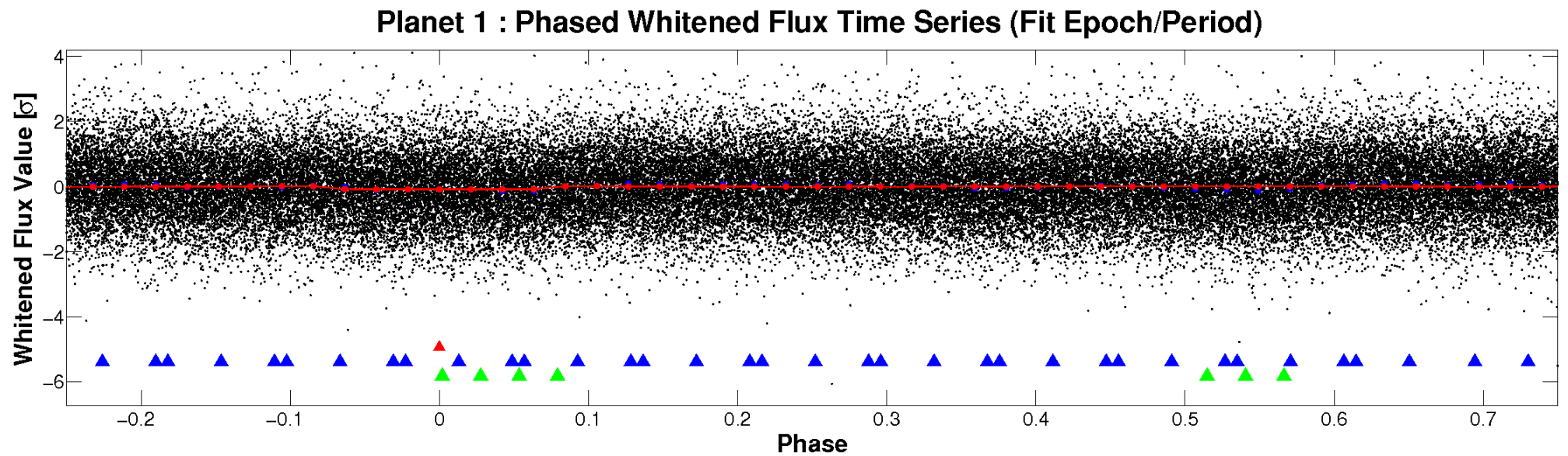
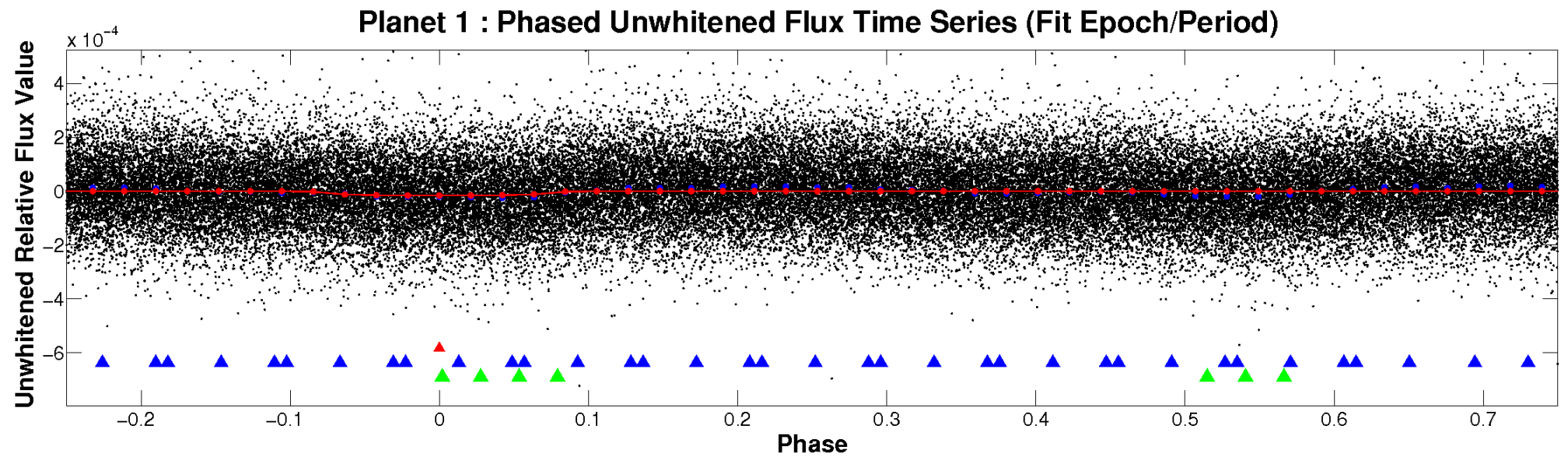


ALT Odd/Even

TCE 011826440-01

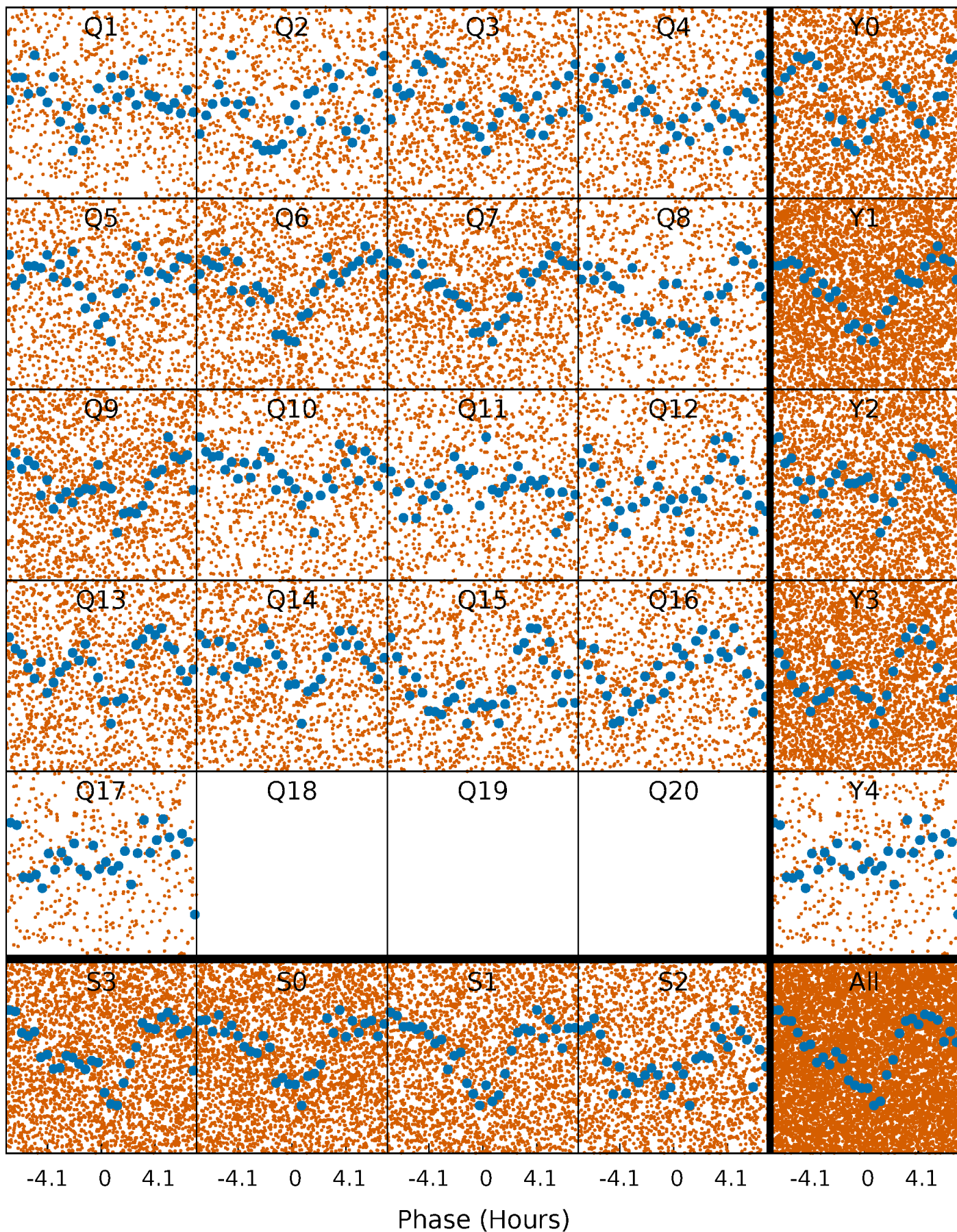


Non-Whitened Vs. Whitened Light Curve



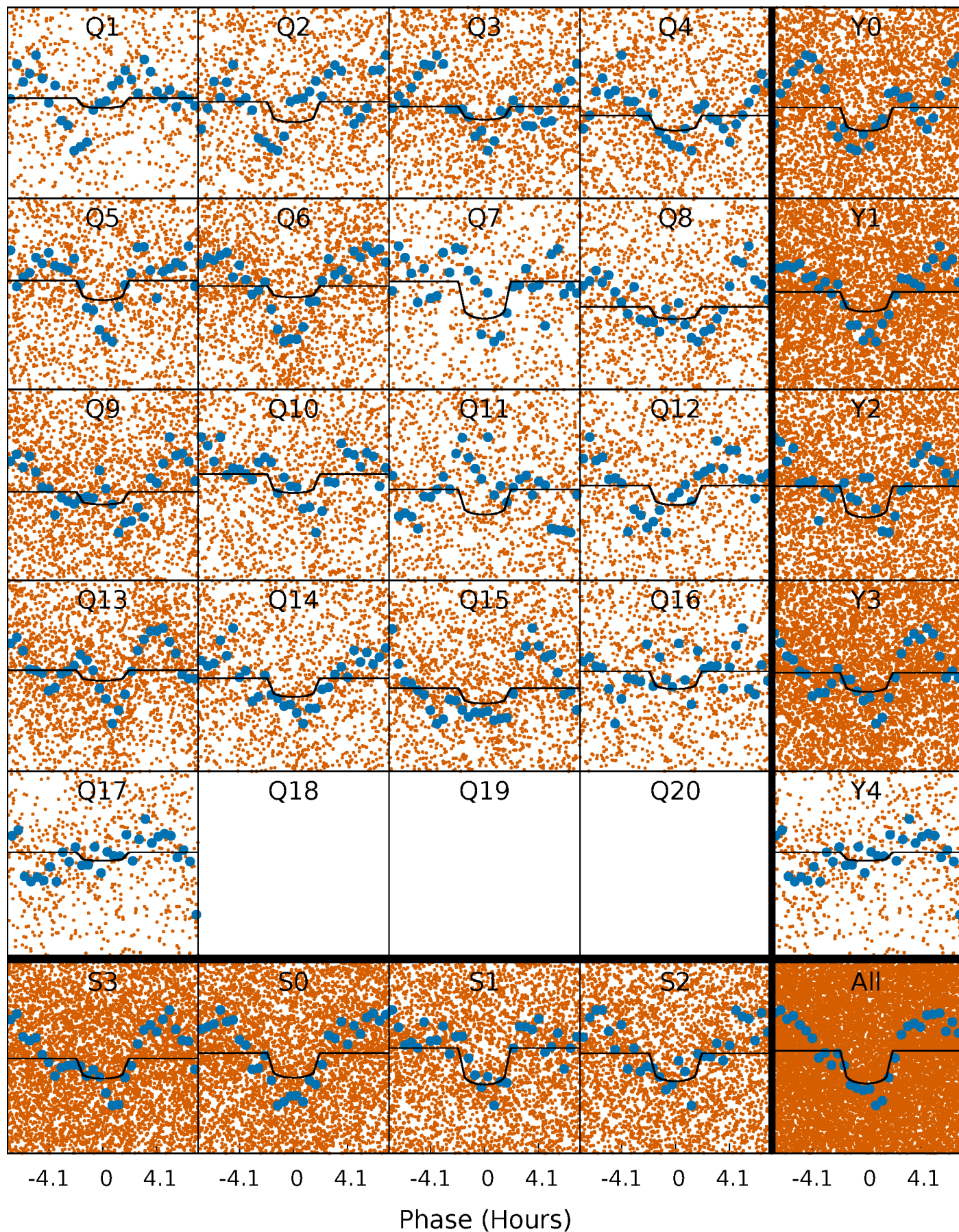
PDC Quarter-Phased Transit Curves

TCE 011826440-01 P= 0.967288 Days $T_0=132.308634$ (BKJD)



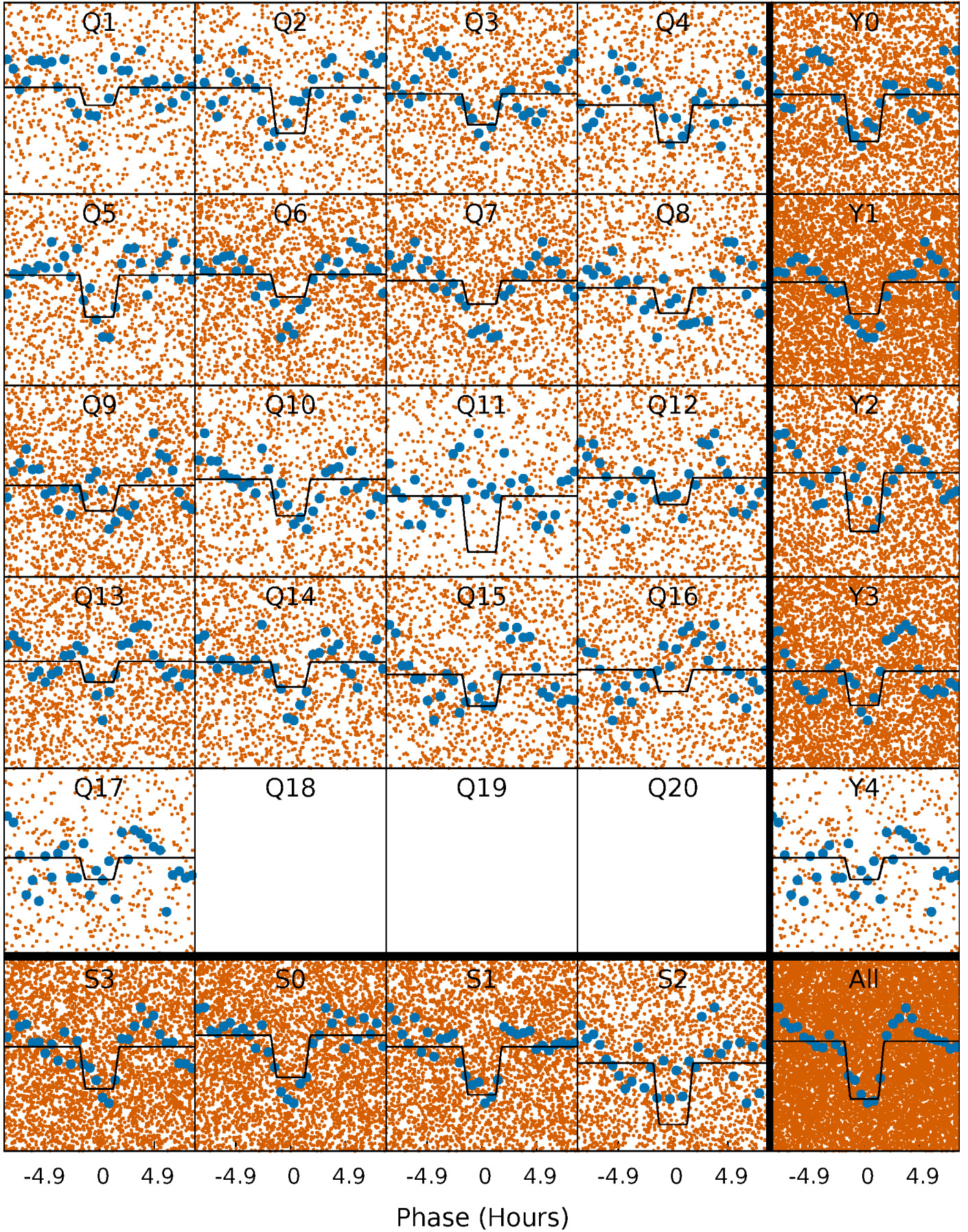
DV Quarter-Phased Transit Curves

TCE 011826440-01 P= 0.967288 Days $T_0=132.308634$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

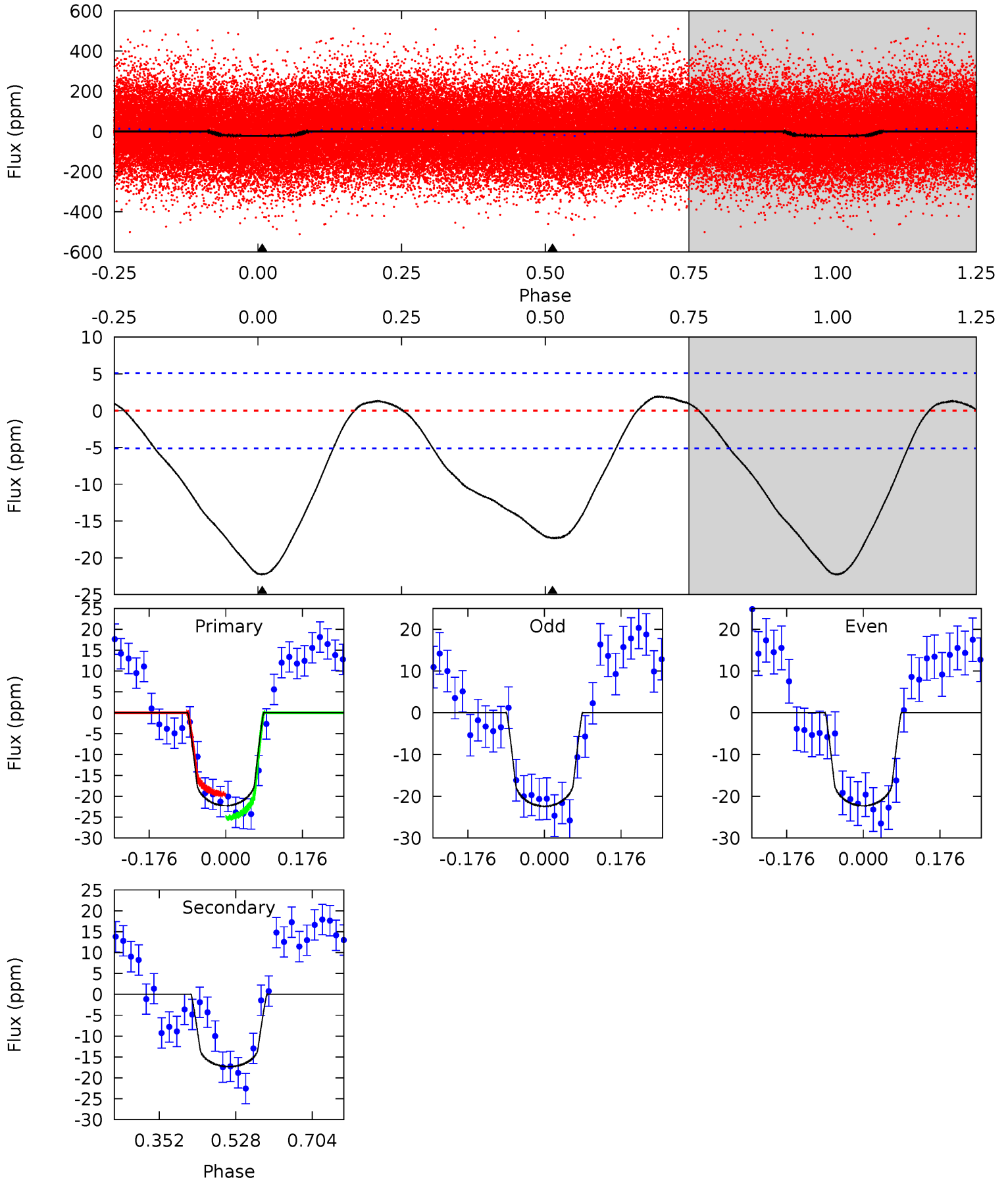
TCE 011826440-01 P= 0.967329 Days $T_0=132.287483$ (BKJD)



DV Model-Shift Uniqueness Test

011826440-01, P = 0.967288 Days, E = 131.341346 Days

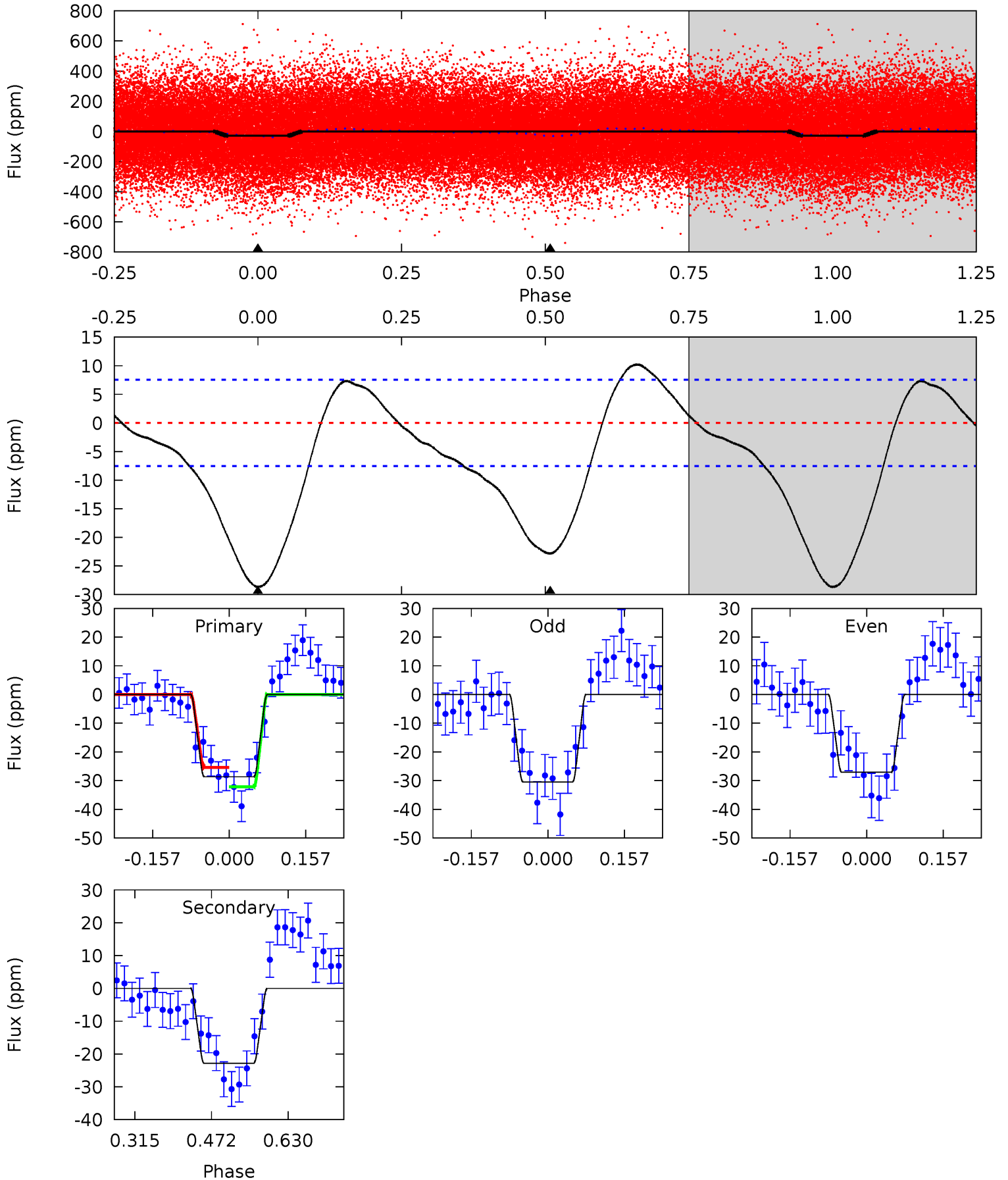
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	15.0	0	0	4.44	1.35	2.54	19.3	19.3	15.0	15.0	0.05	1.12	0.08	2.45



Alt Model-Shift Uniqueness Test

011826440-01, P = 0.967329 Days, E = 131.320154 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.0	13.5	0	0	4.47	1.41	2.77	17.0	17.0	13.5	13.5	0.99	0.88	0.26	1.98



Stellar Parameters For KIC 011826440

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7237^{+226}_{-302}	$3.776^{+0.416}_{-0.104}$	$-0.260^{+0.250}_{-0.300}$	$2.742^{+0.424}_{-1.273}$	$1.639^{+0.171}_{-0.400}$	$0.112^{+0.412}_{-0.035}$
	+3%/-4%	+11%/-3%	+96%/-115%	+15%/-46%	+10%/-24%	+368%/-31%
Source	KIC0	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 011826440-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-17 ± 1	$1.17^{+0.40}_{-0.35}$	4782^{+365}_{-509}	6856^{+1516}_{-789}	$3.460^{+3.571}_{-1.450}$
Alt.	-23 ± 2	$1.57^{+0.41}_{-0.45}$	4797^{+343}_{-603}	6375^{+899}_{-626}	$2.561^{+2.448}_{-0.889}$

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 $A_{obs} \gg 1.0$

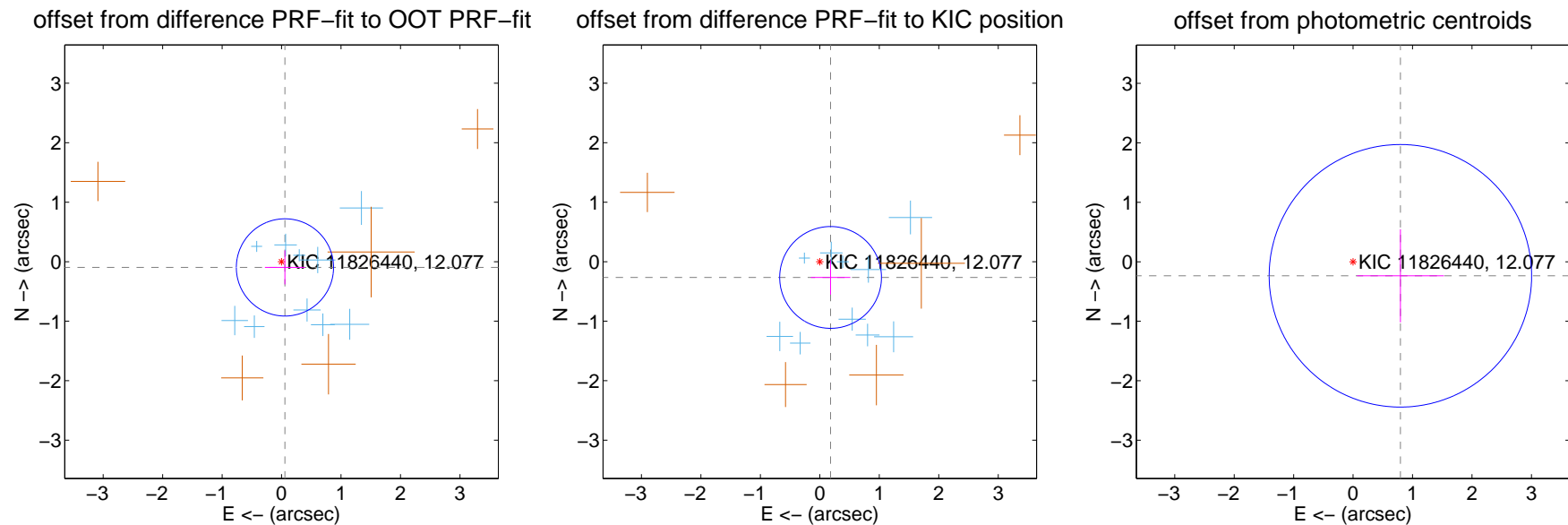
DV Centroid Data

Supplemental centroid analysis for 011826440-01. Kepler magnitude: 12.08. Transit SNR 8.32

There are 10 quarters with good PRF difference image offsets

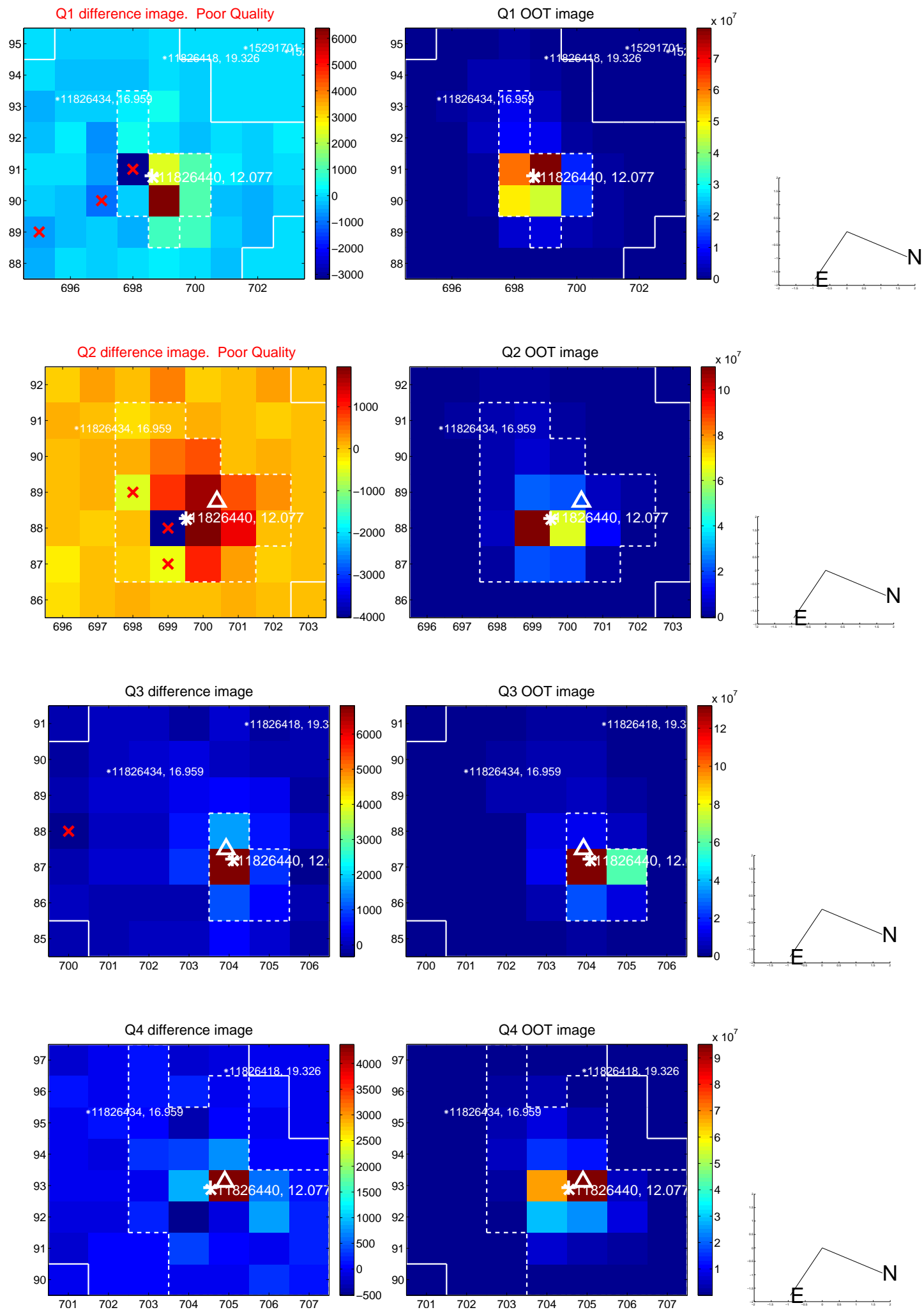
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.112 ± 0.272	0.41	-0.057 ± 0.336	-0.096 ± 0.286
PRF-fit source offset from KIC position	0.320 ± 0.285	1.12	-0.181 ± 0.332	-0.264 ± 0.289
photometric centroid source offset	0.83 ± 0.74	1.13	-0.80 ± 0.73	-0.24 ± 0.78

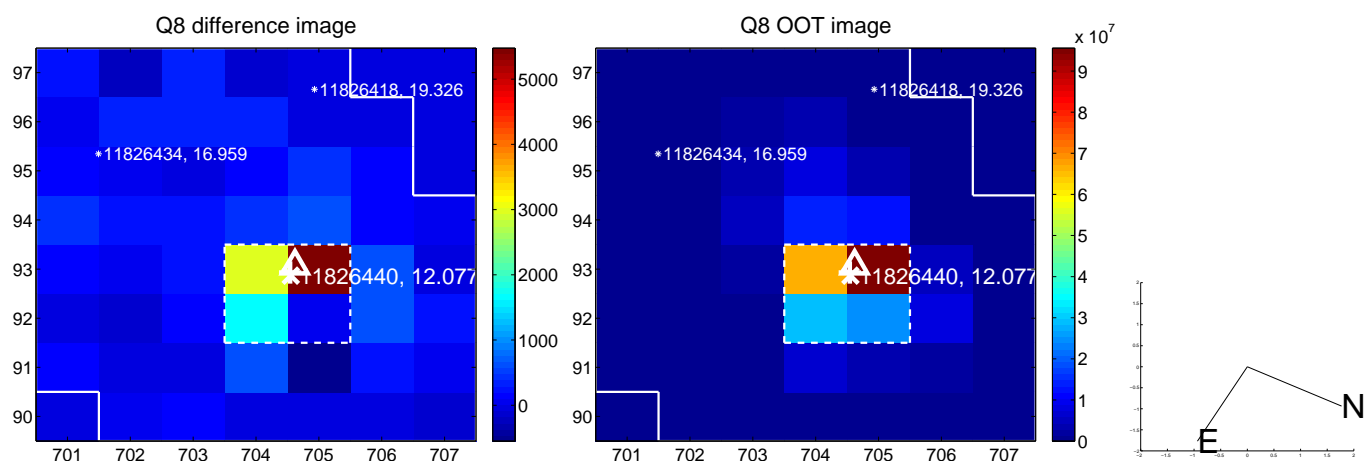
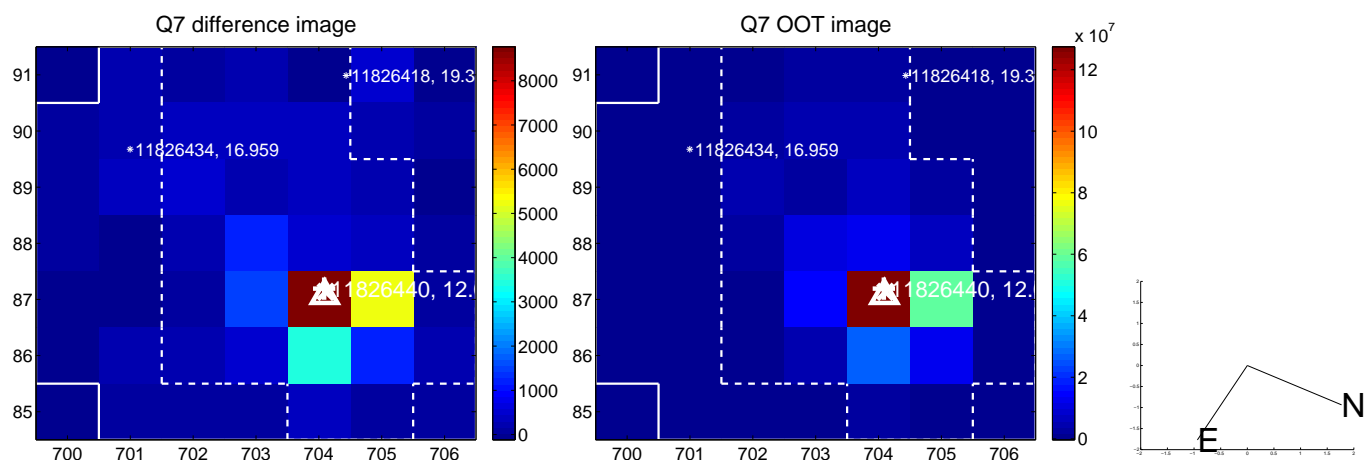
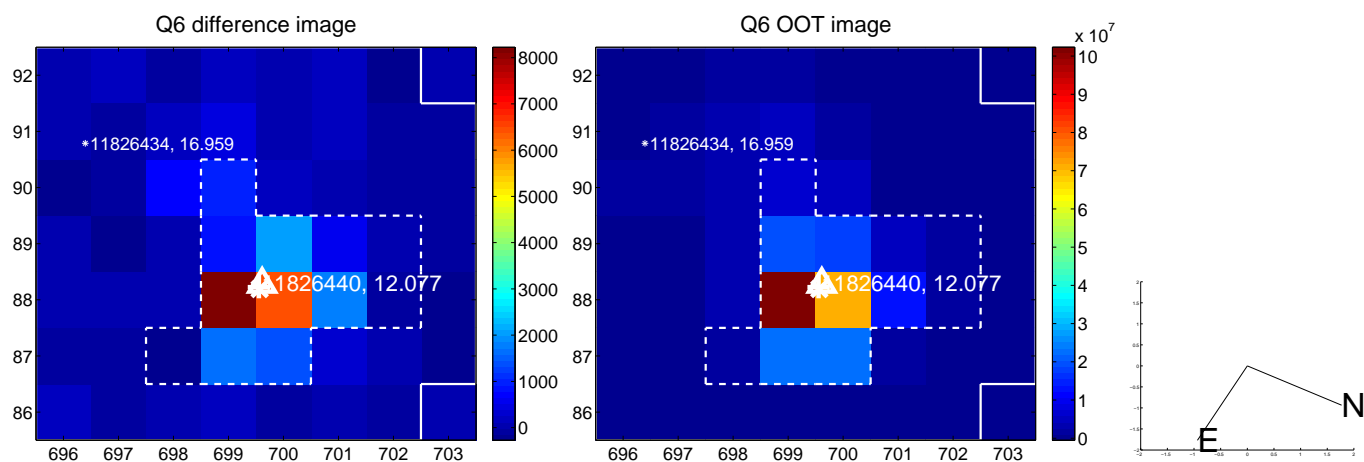
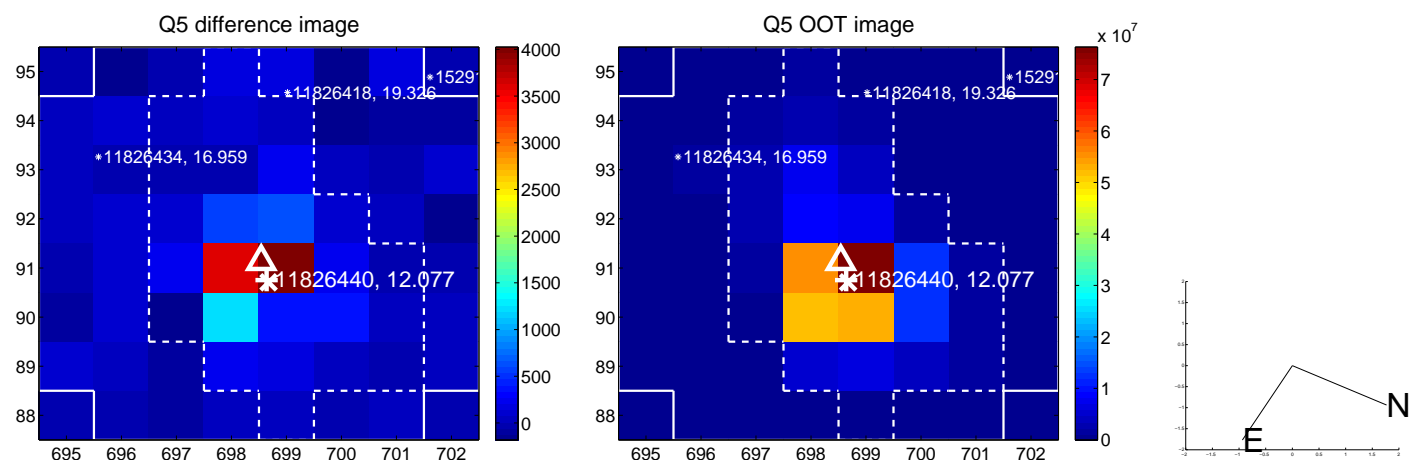


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

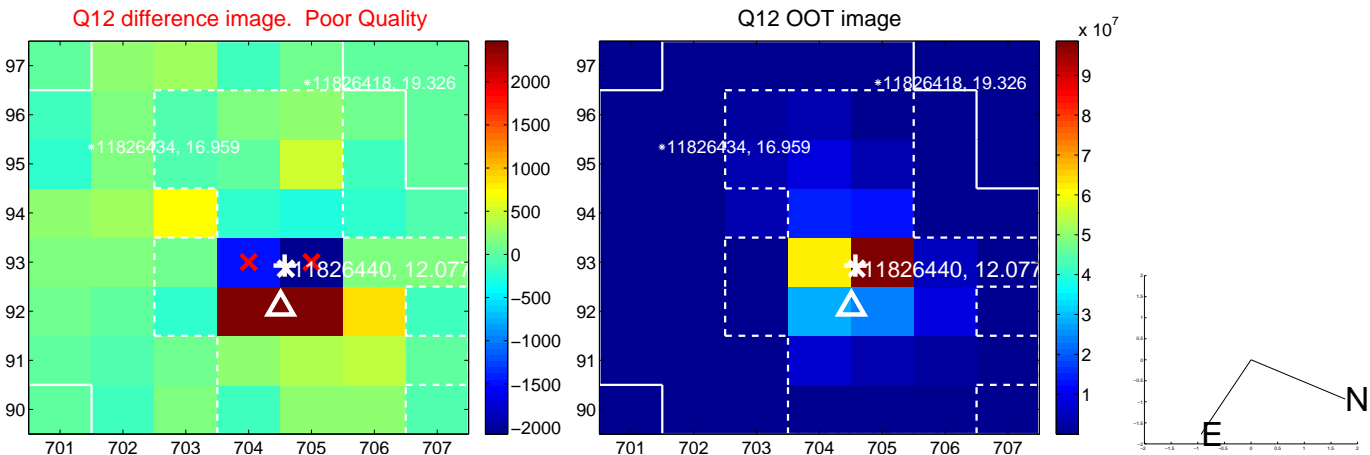
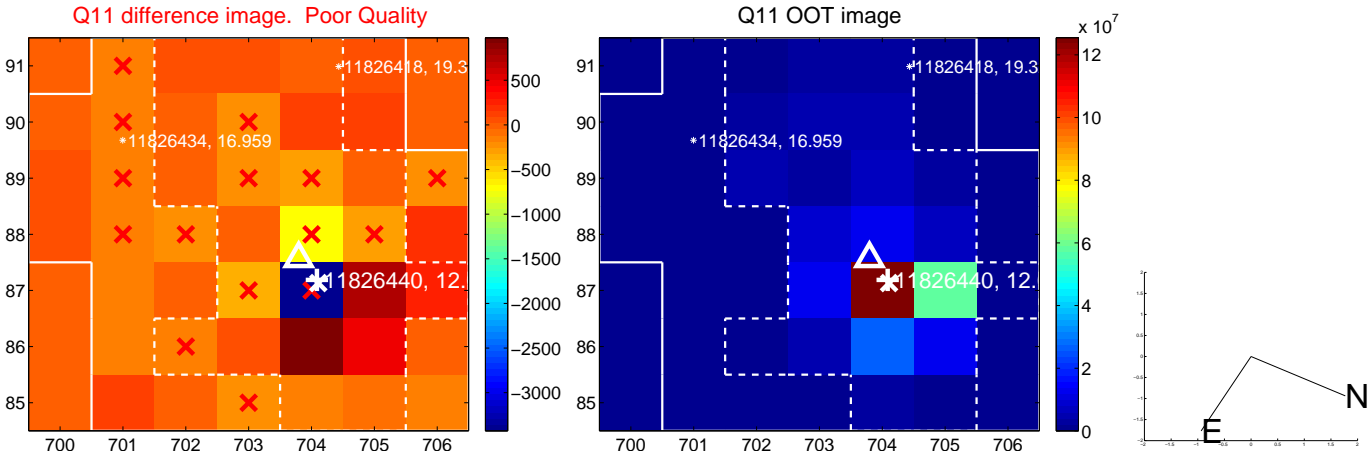
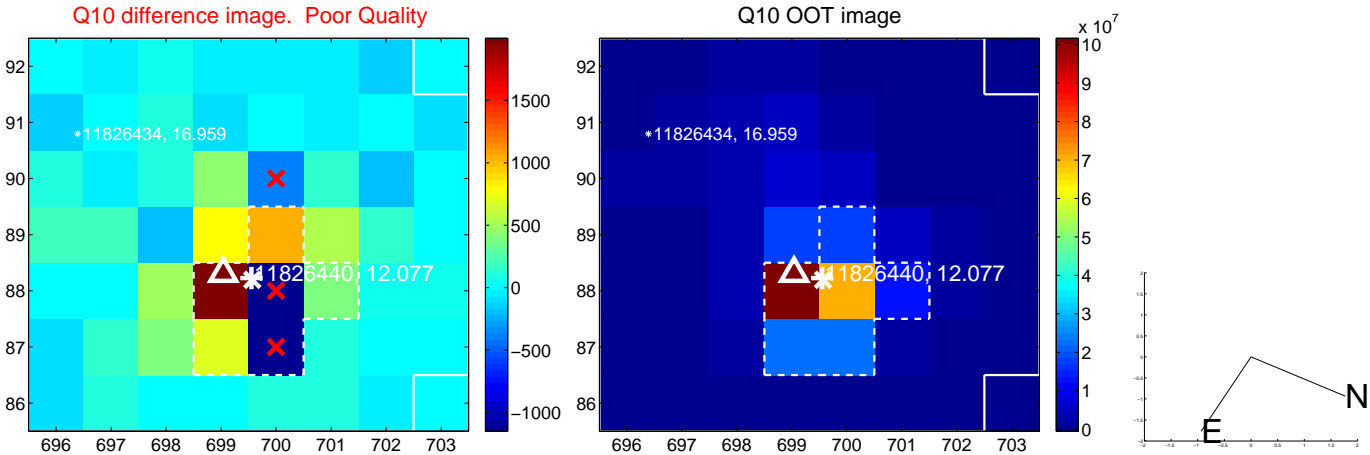
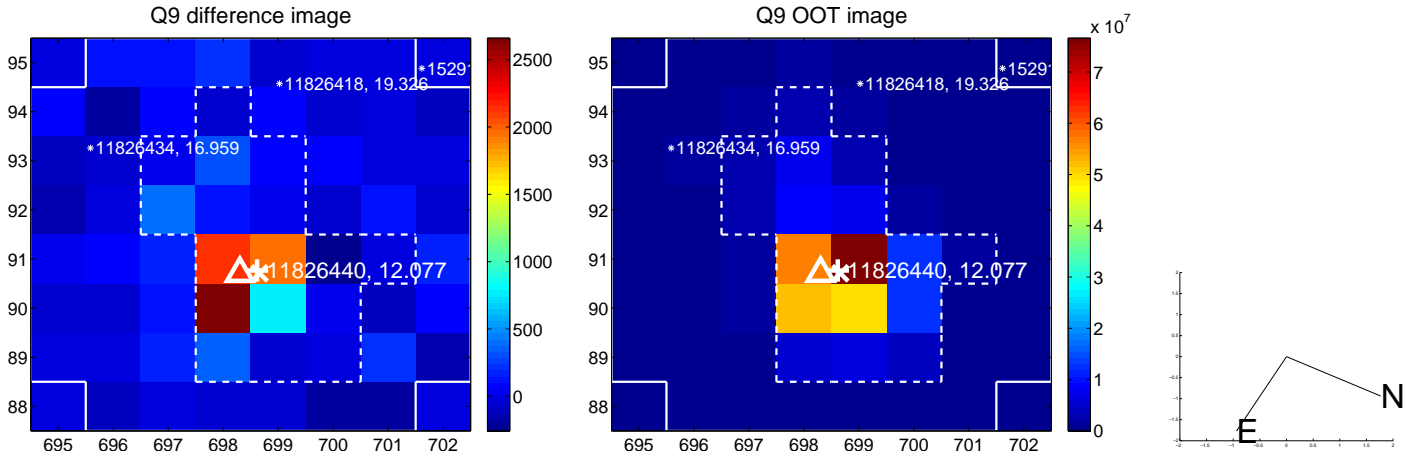
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



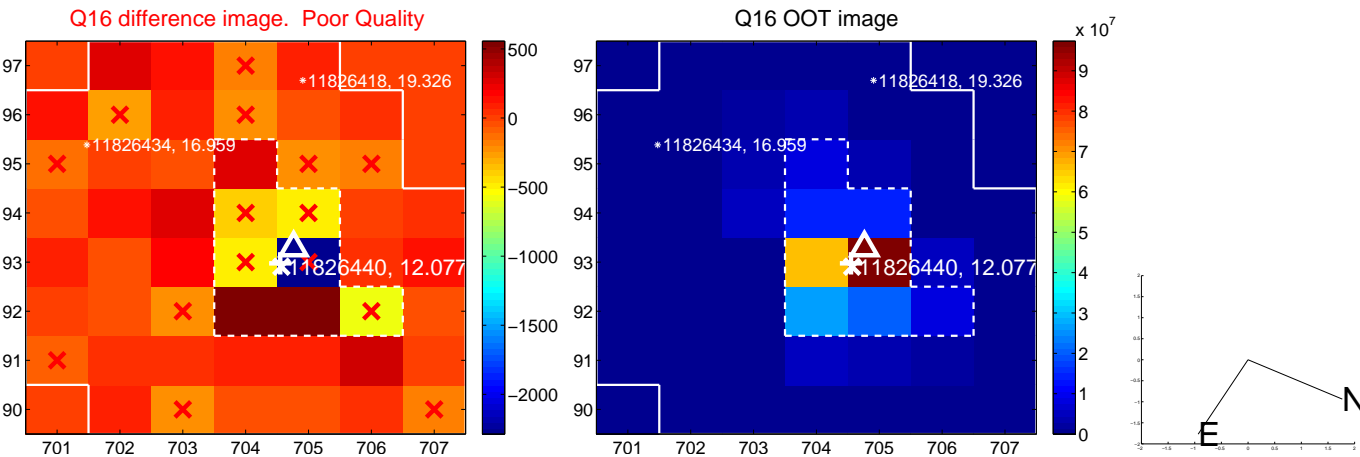
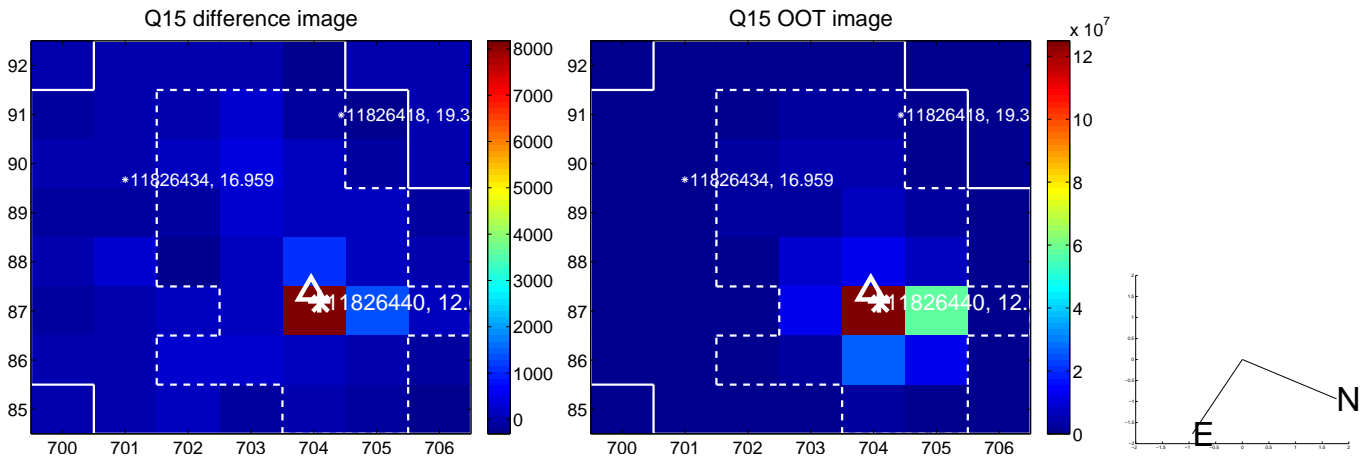
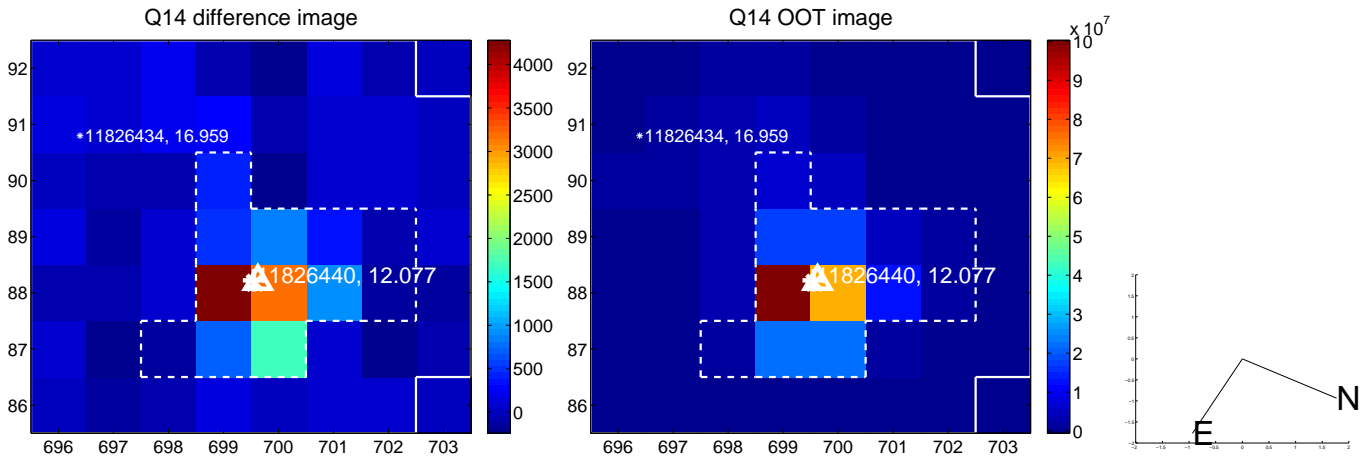
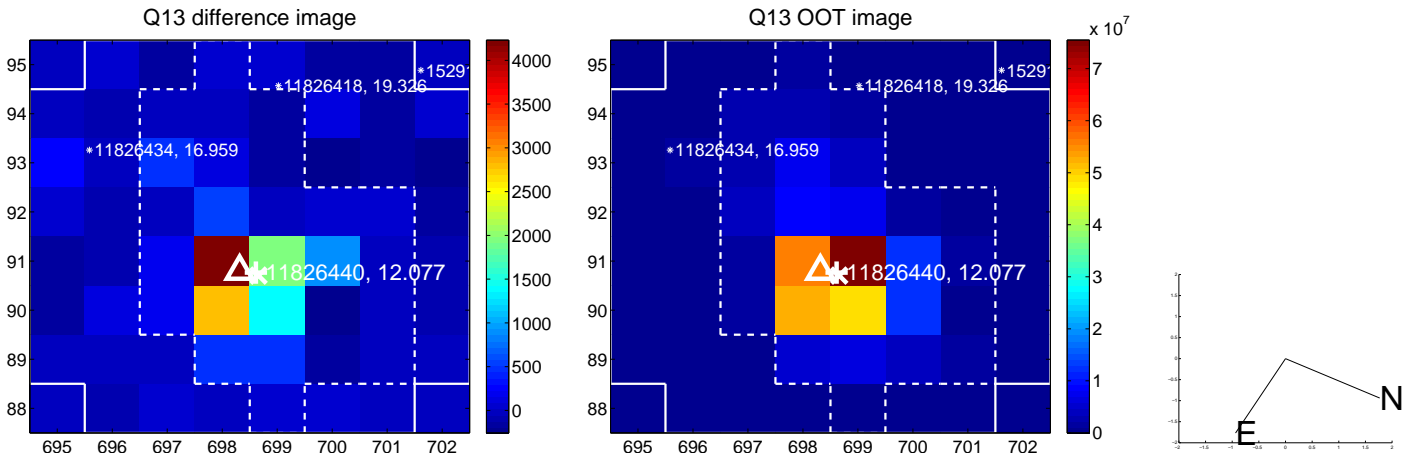
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



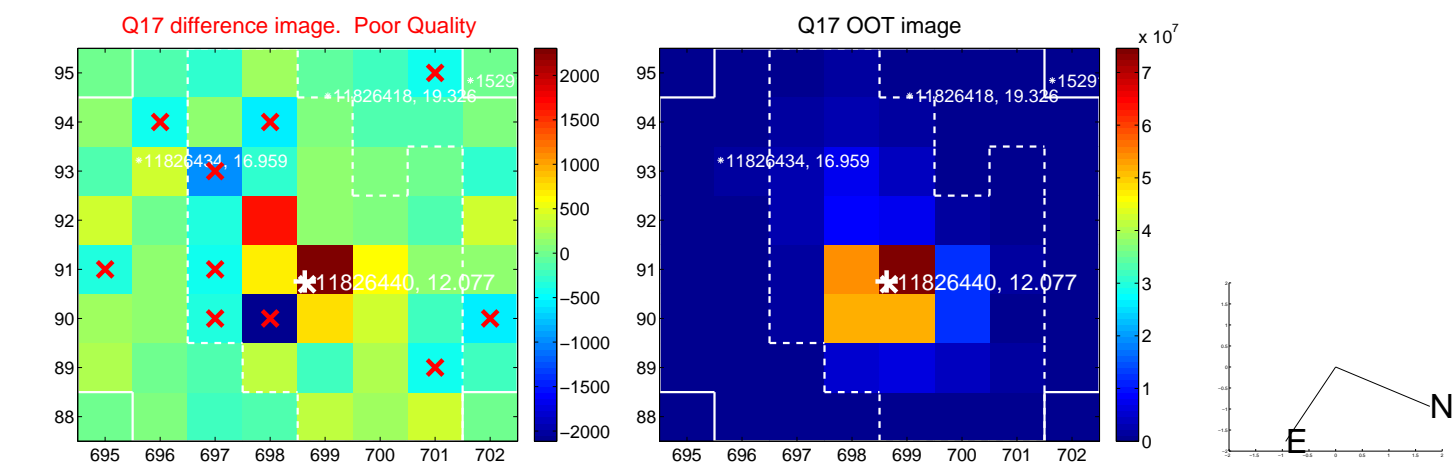
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



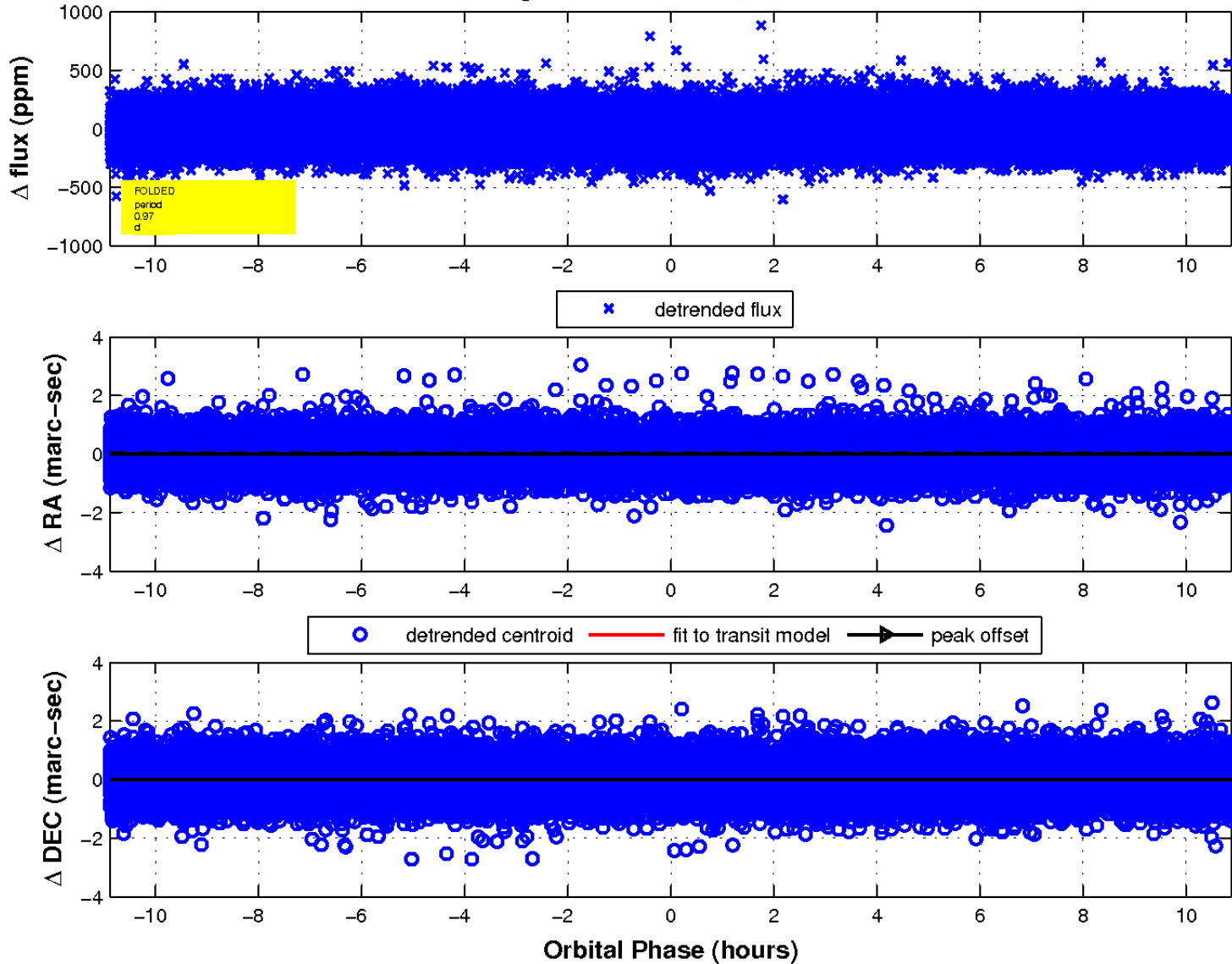
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

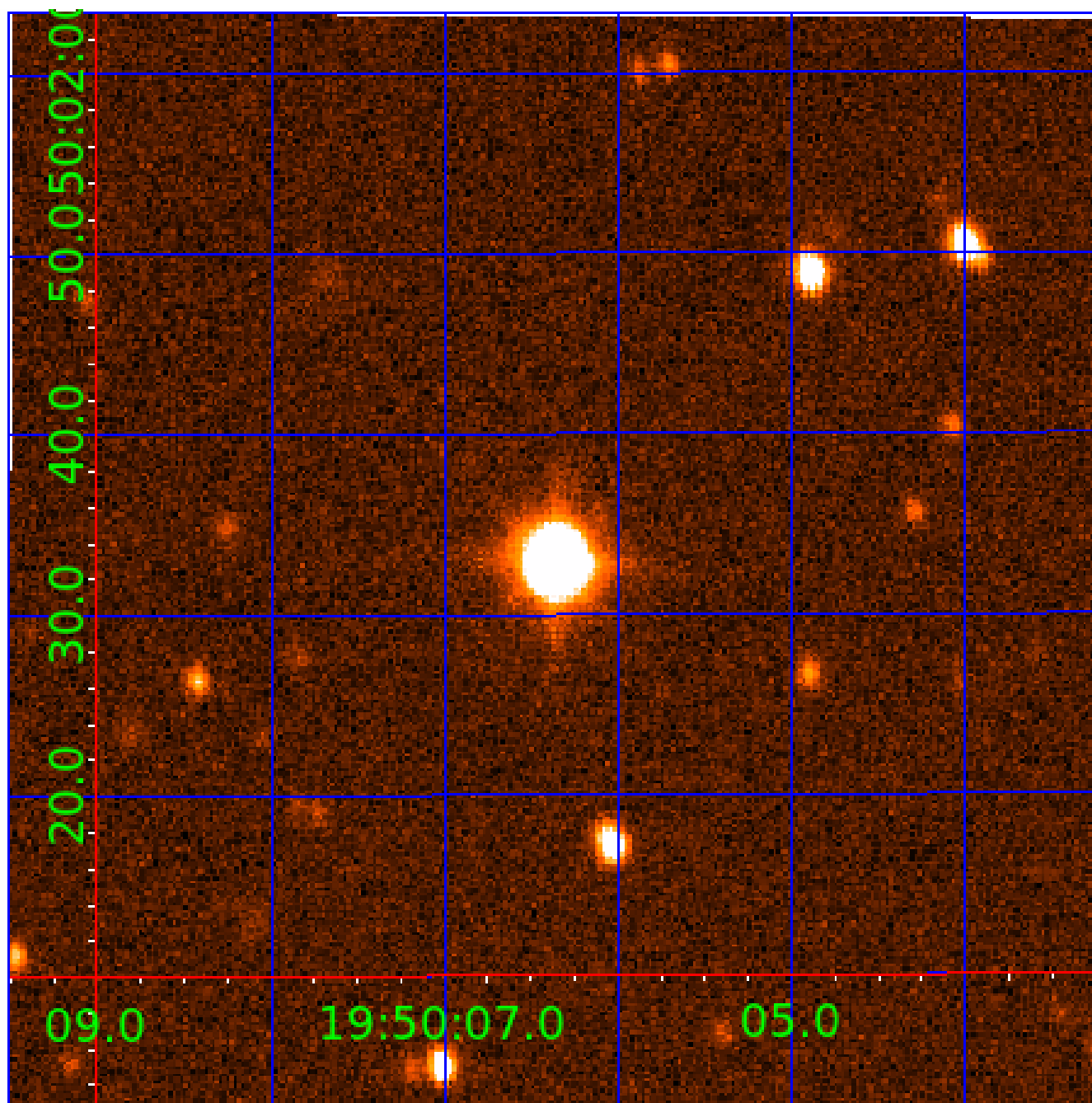


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 011826440

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})
011826440-01	OBS	No	0.967288	132.308634	16.0	3.629	8.7	8.3	2.74	7237	1.28	36288.25
011826440-02	OBS	No	40.703154	140.838131	161.0	2.426	7.8	9.2	2.74	7237	4.07	247.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011826440-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
011826440-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—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.

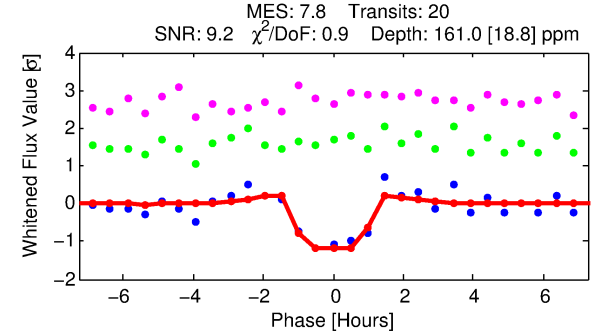
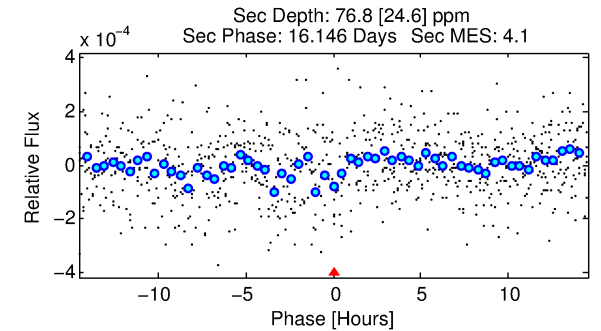
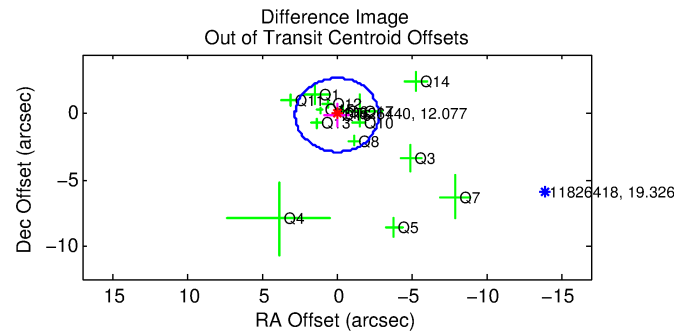
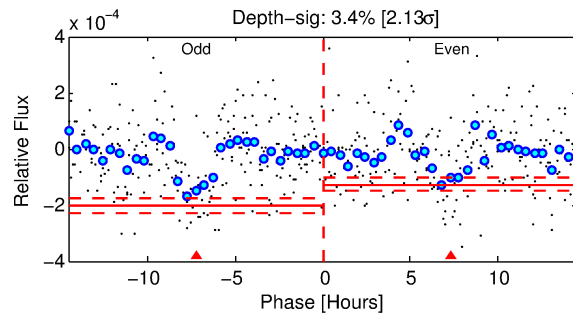
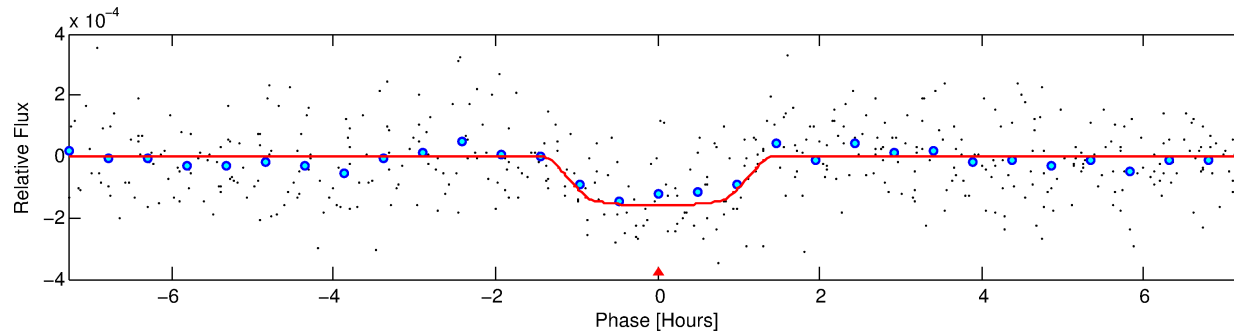
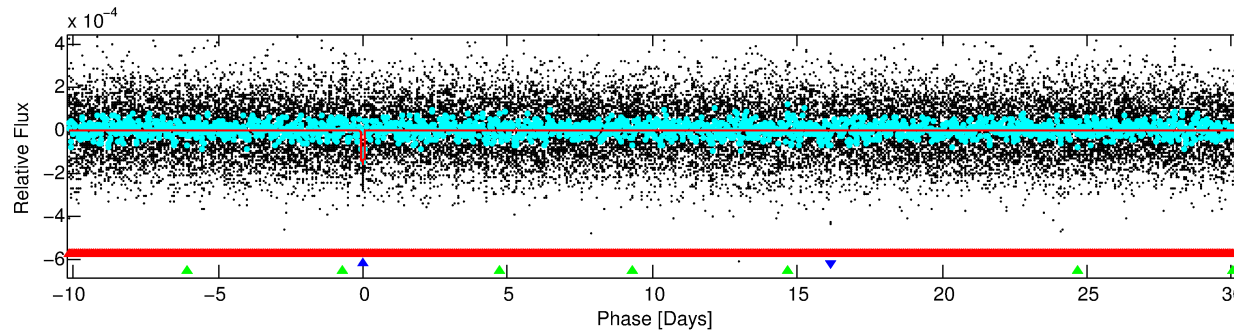
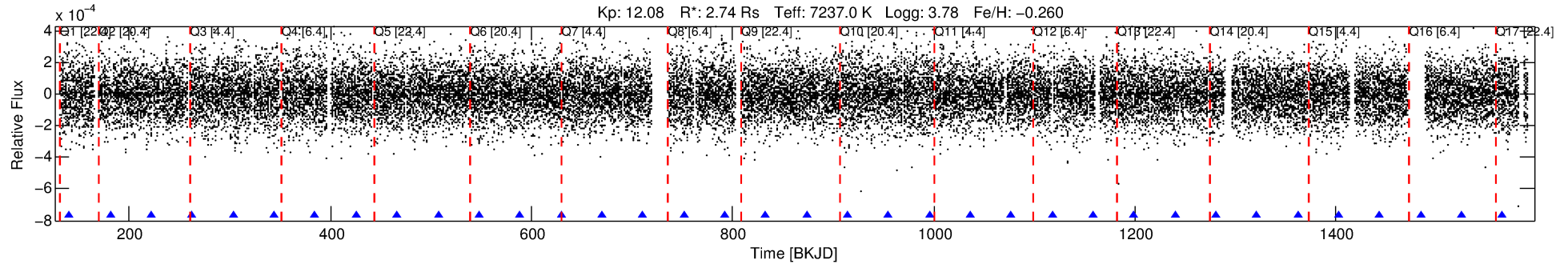
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011826440-02

No Significant Match Found

DV One-Page Summary

KIC: 11826440 Candidate: 2 of 3 Period: 40.703 d



DV Fit Results:

Period = 40.70315 [0.00031] d
Epoch = 140.8381 [0.0064] BKJD
Rp/R* = 0.0136 [0.0057]
a/R* = 59.54 [143.39]
b = 0.90 [0.51]
Seff = 247.93 [180.74]
Teq = 1012 [184] K
Rp = 4.07 [2.54] Re
a = 0.2730 [0.1214] AU
Ag = 190.33 [216.97] [0.87 σ]
Teffp = 5811 [1318] K [3.60 σ]

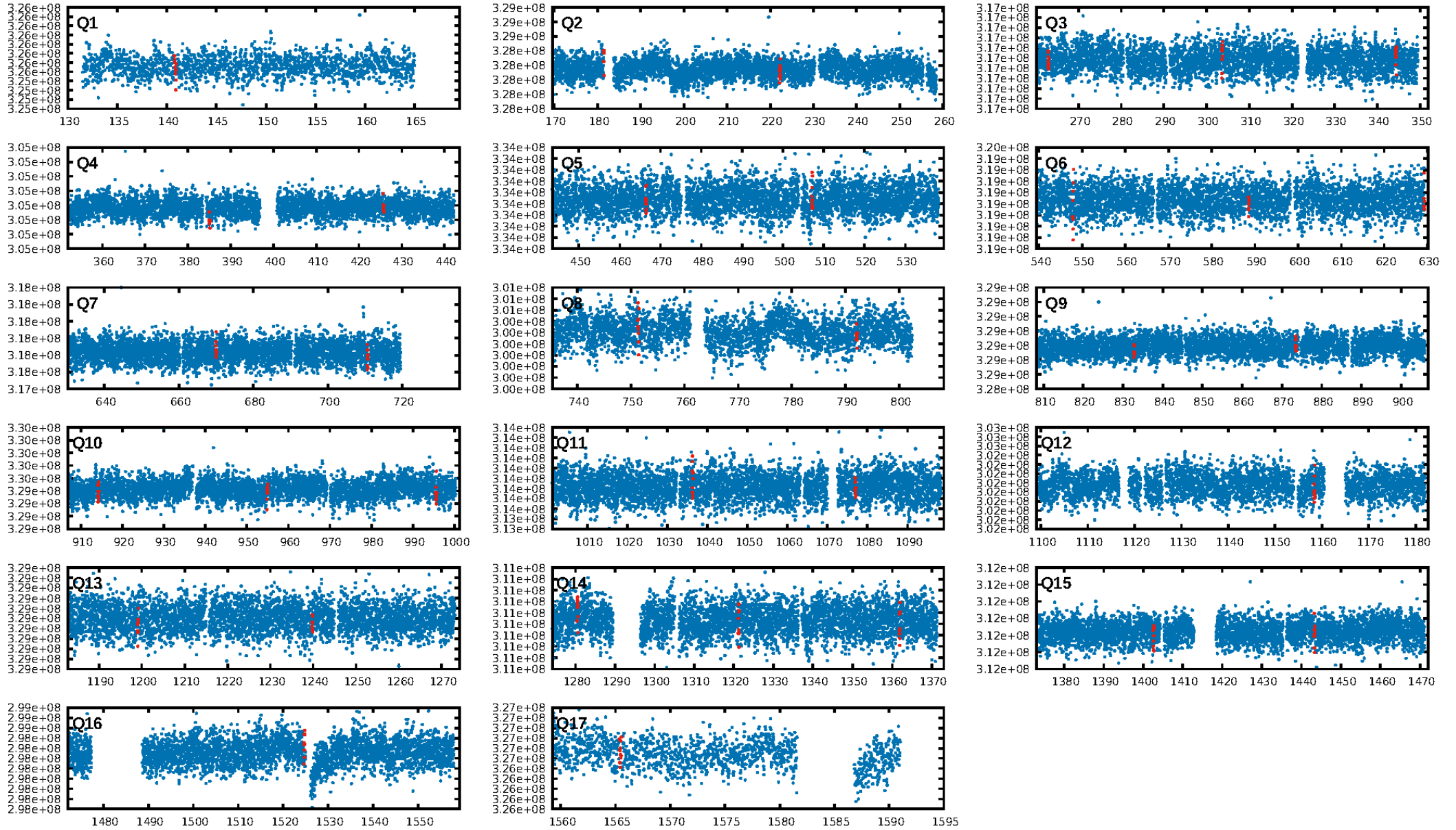
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [218.47 σ]
LongPeriod-sig: 100.0% [993.33 σ]
ModelChiSquare2-sig: 66.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.41e-11
RollingBand-fgt: 1.00 [19/19]
GhostDiagnostic-chr: 12.09
Centroid-sig: 59.3%
Centroid-so: 0.140 arcsec [0.24 σ]
OotOffset-rm: 0.097 arcsec [0.10 σ]
KicOffset-rm: 0.323 arcsec [0.35 σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 0.41 [7/17]

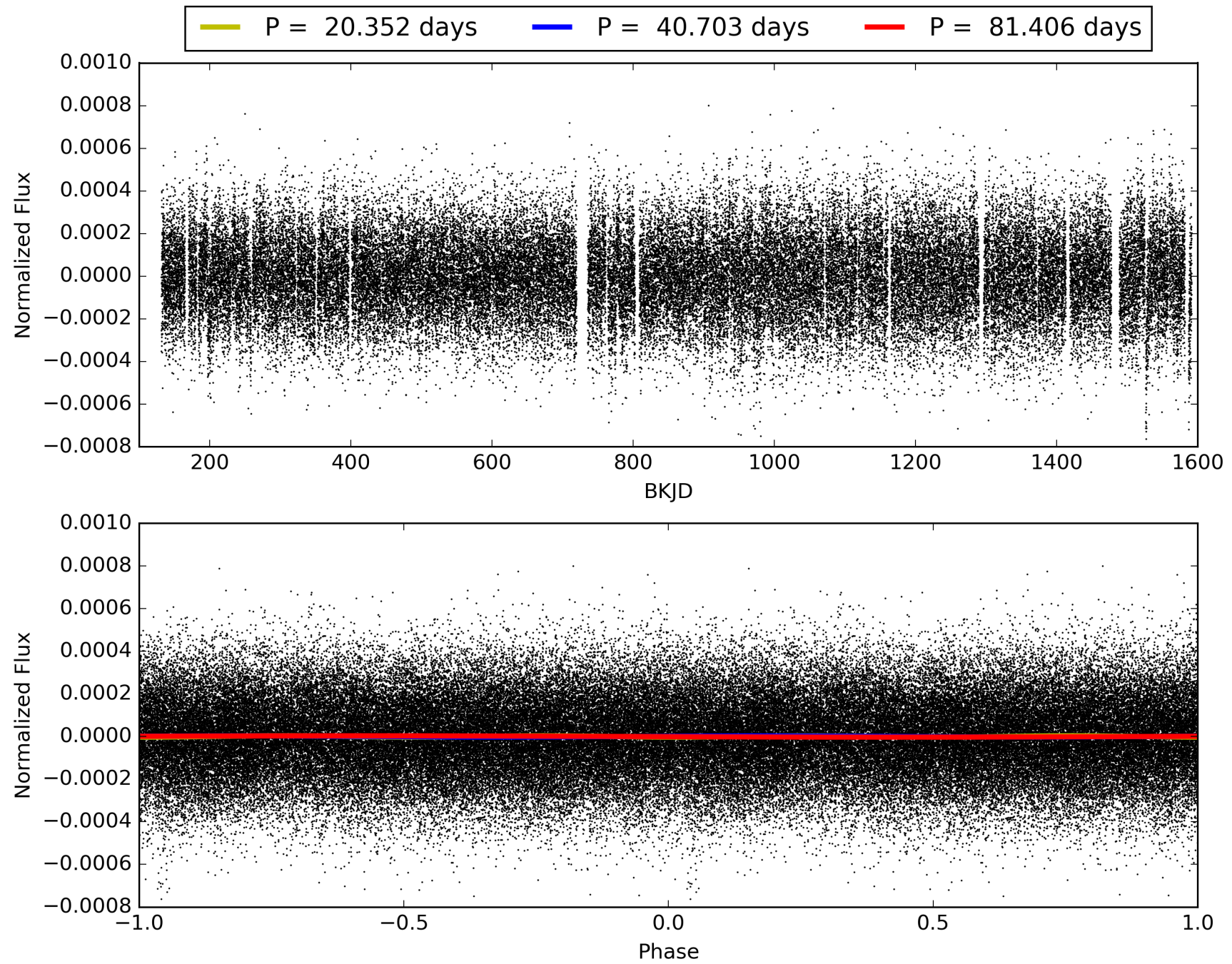
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:28:40 Z

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

TCE 011826440-02, PDC Light Curves

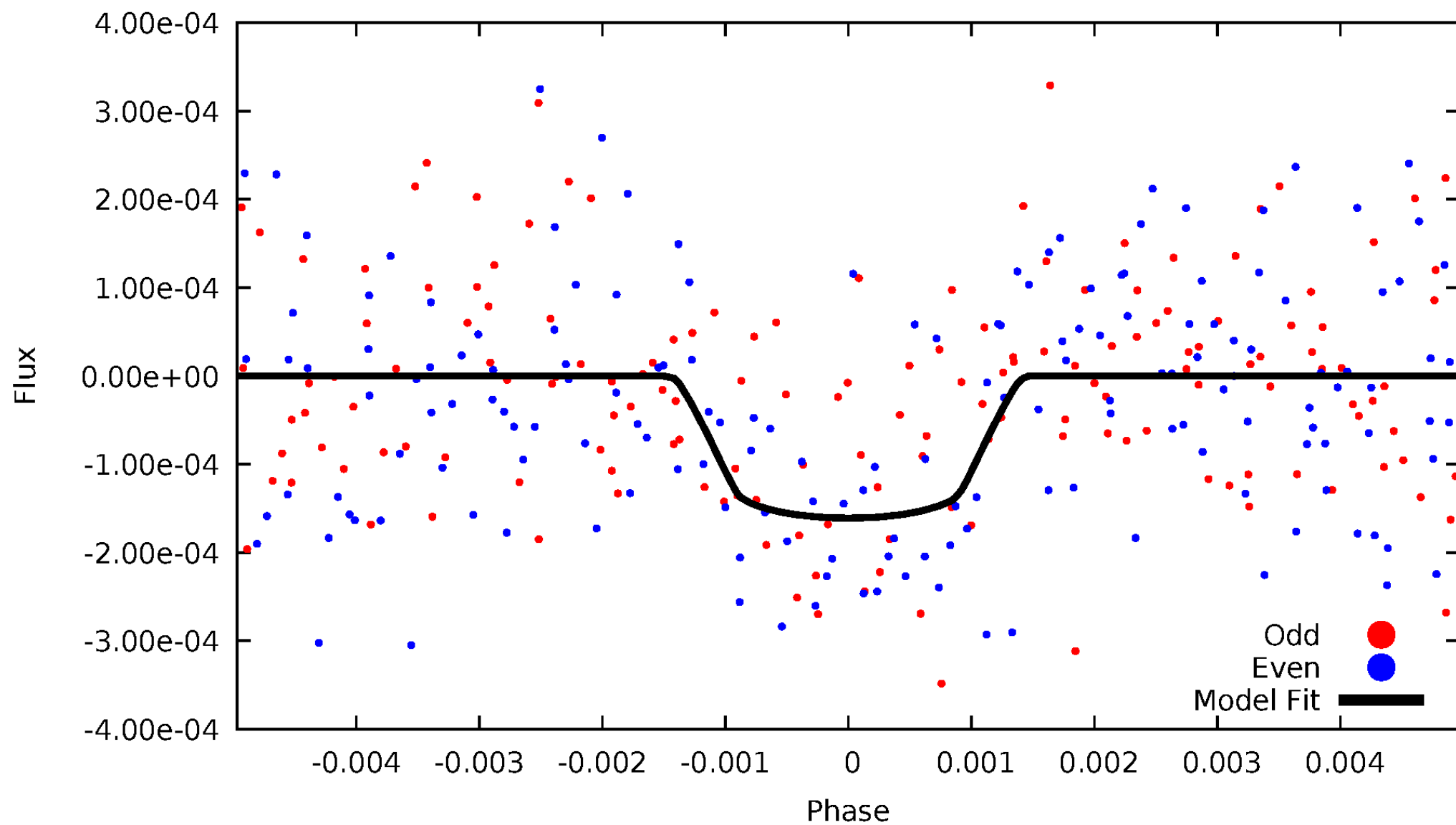


TCE 011826440-02



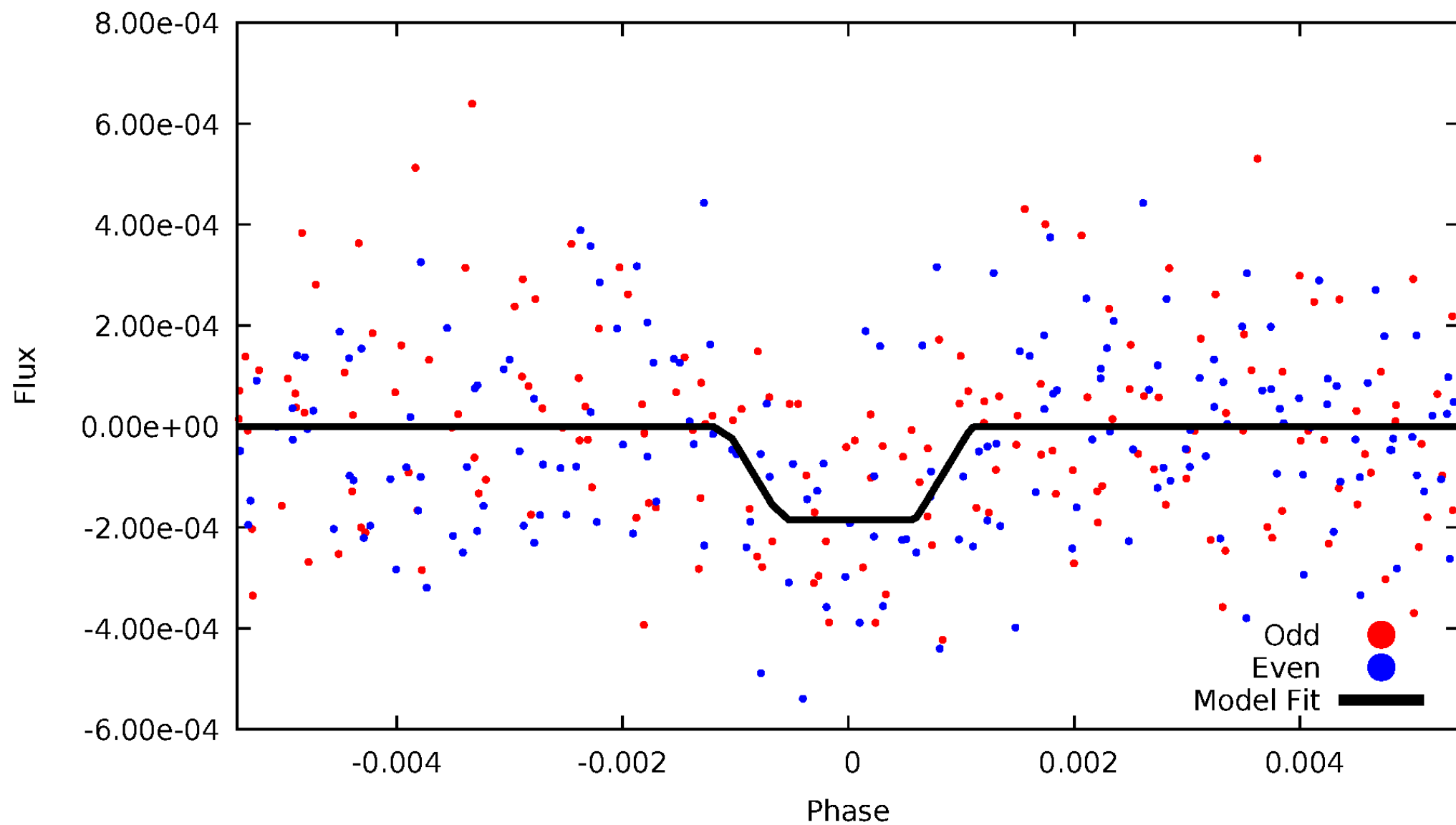
DV Odd/Even

TCE 011826440-02



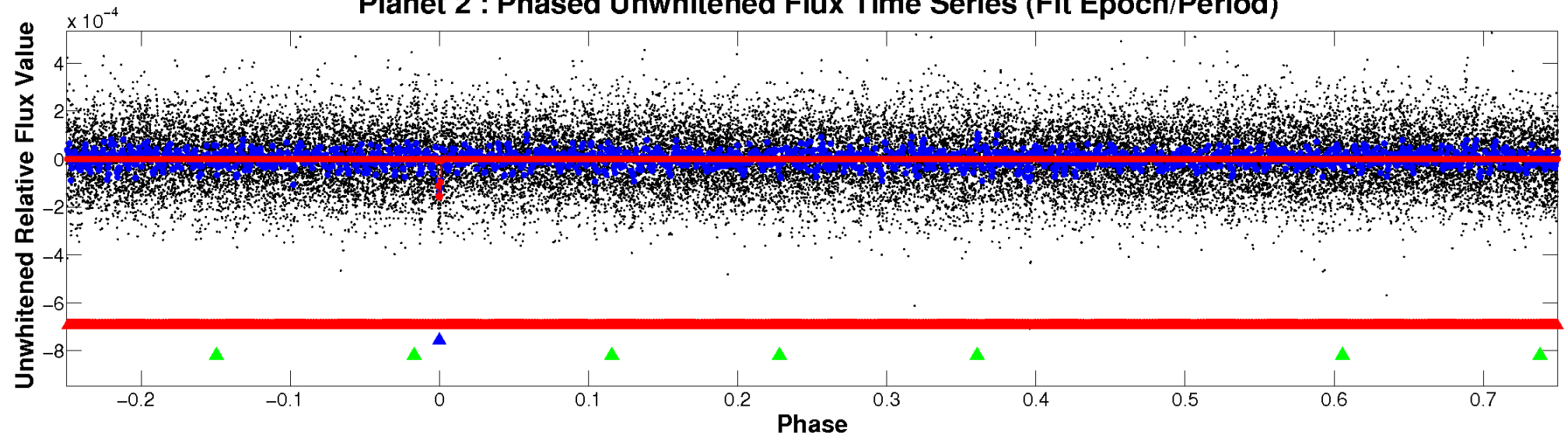
ALT Odd/Even

TCE 011826440-02

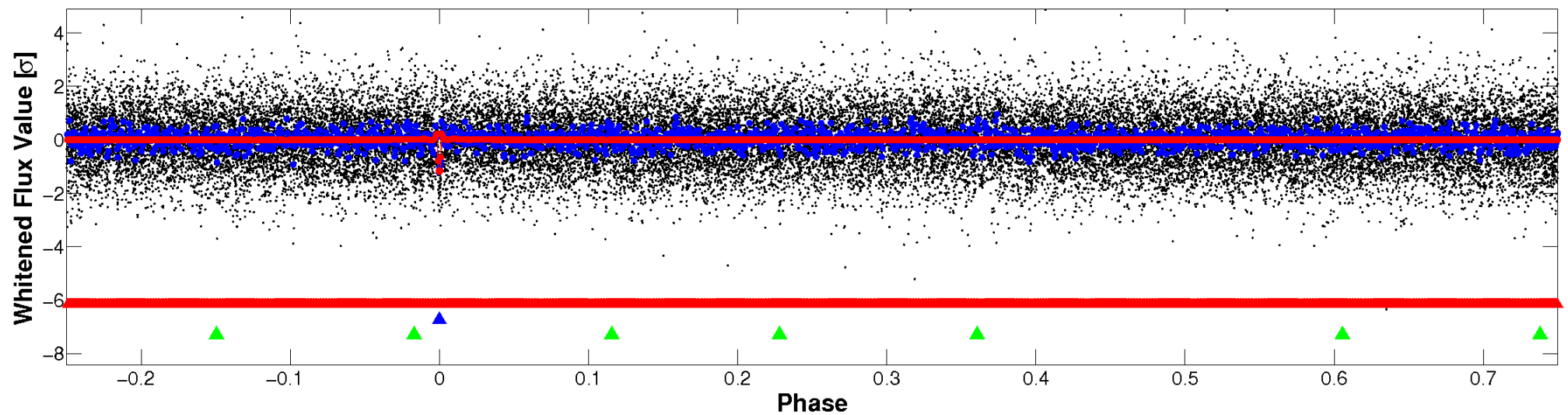


Non-Whitened Vs. Whitened Light Curve

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

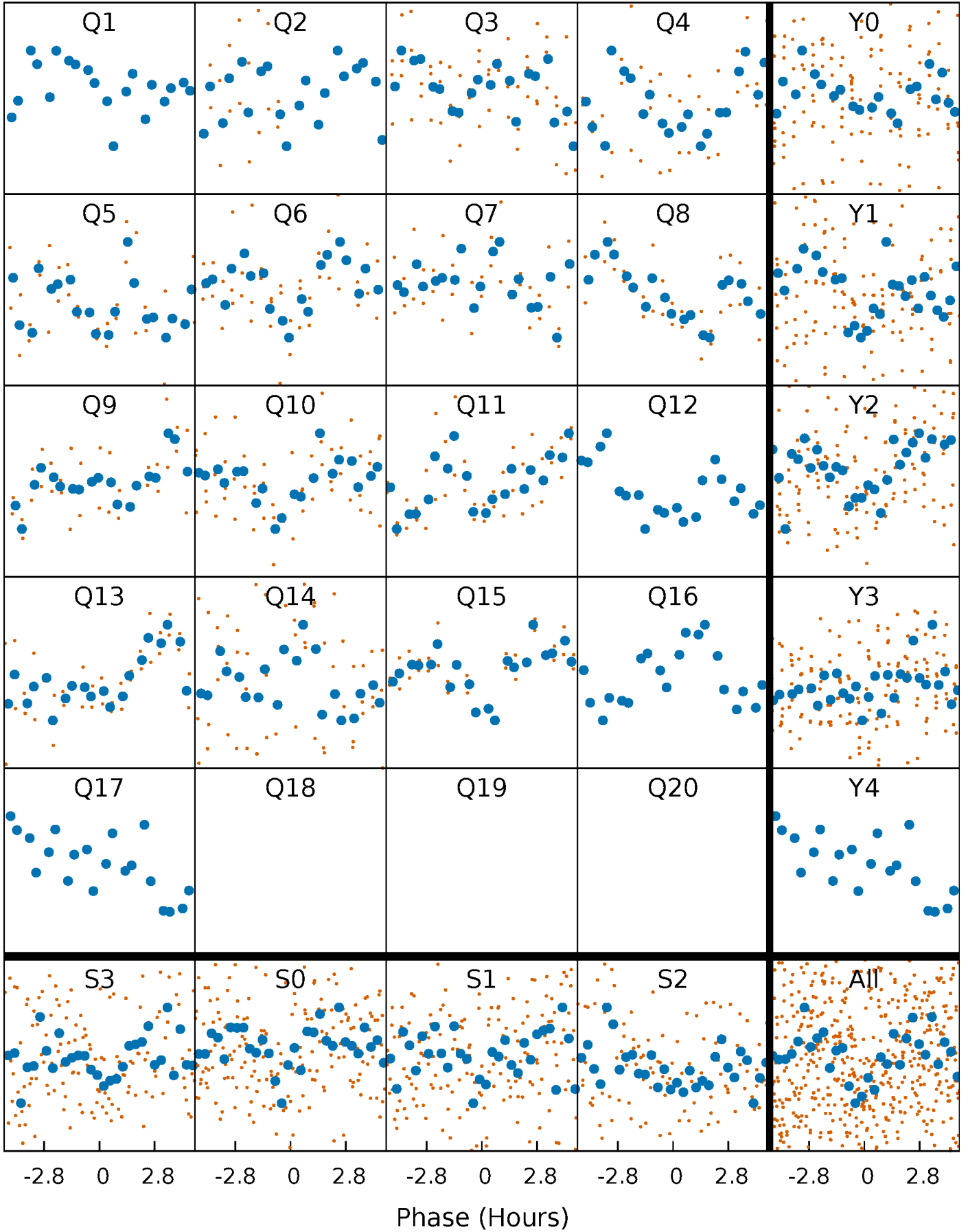


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



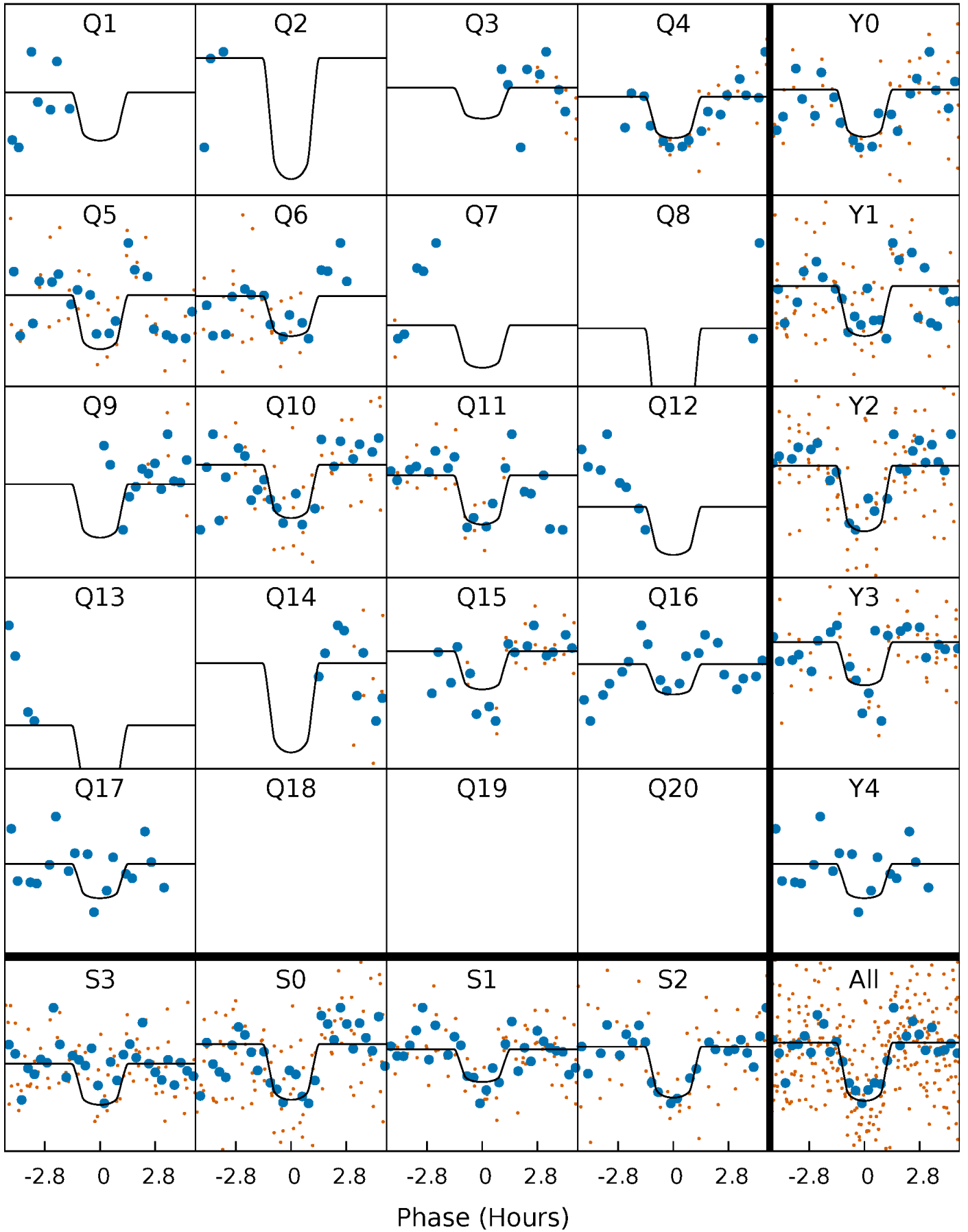
PDC Quarter-Phased Transit Curves

TCE 011826440-02 P= 40.703154 Days $T_0=140.838131$ (BKJD)



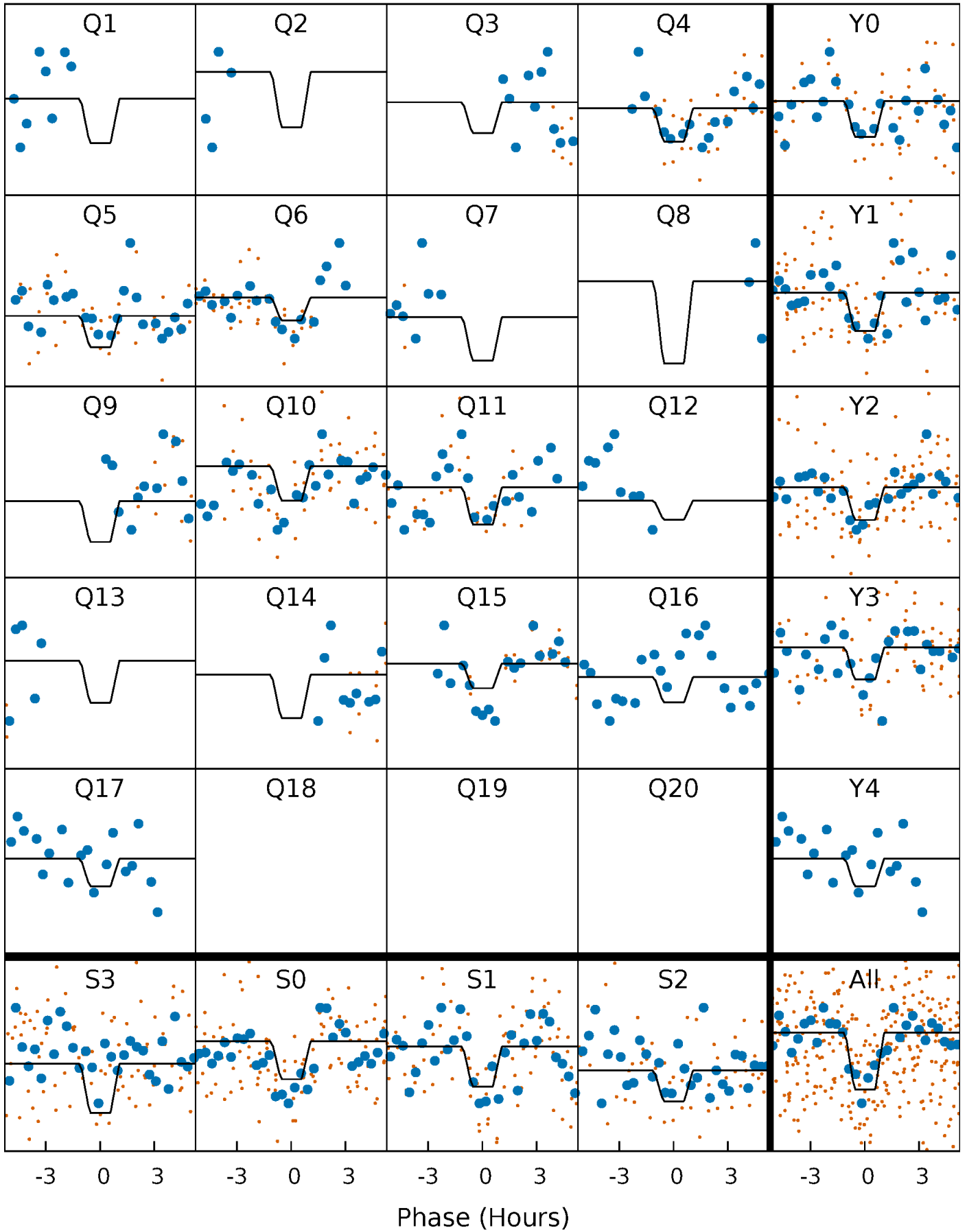
DV Quarter-Phased Transit Curves

TCE 011826440-02 P= 40.703154 Days $T_0=140.838131$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

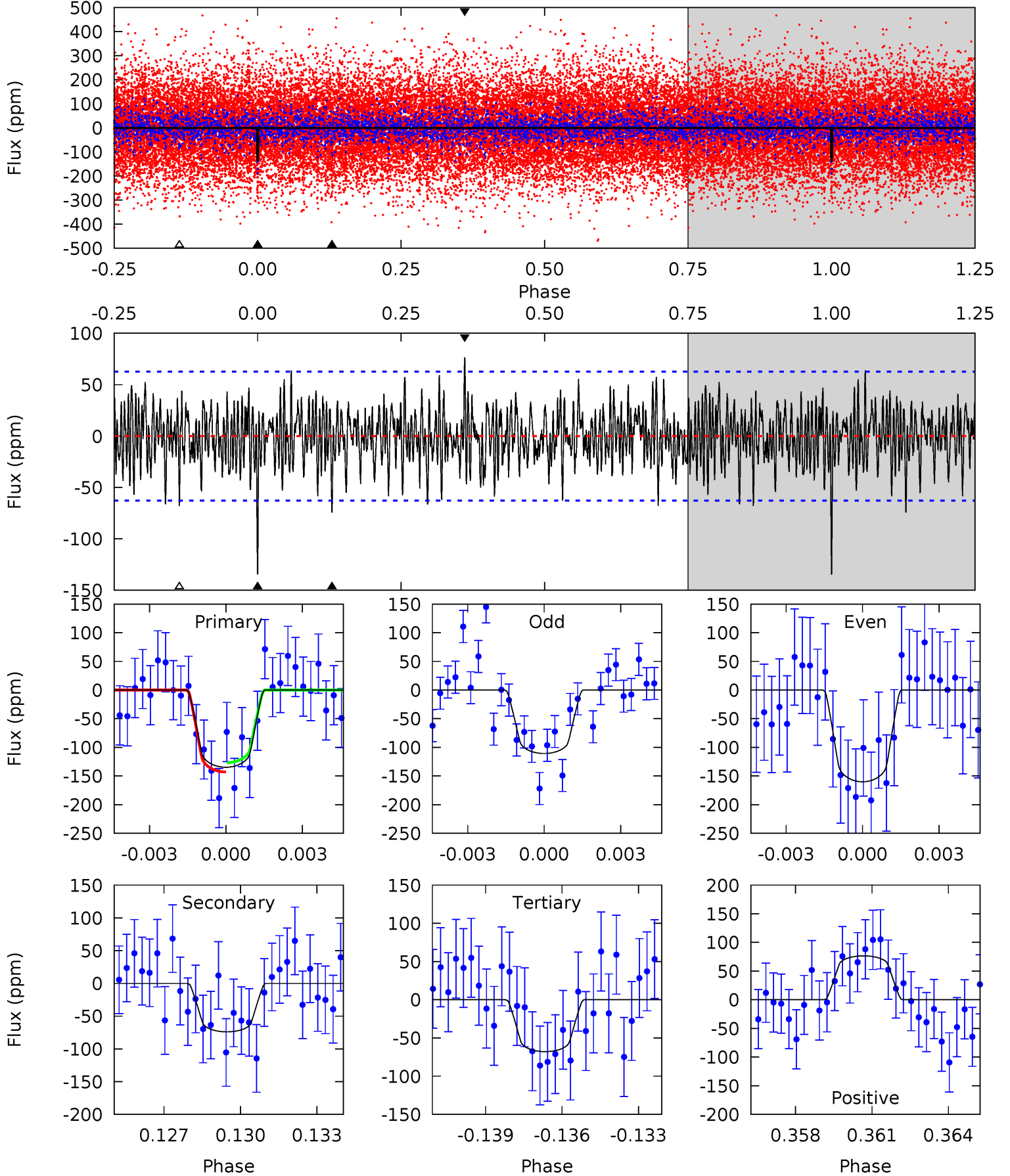
TCE 011826440-02 P= 40.703273 Days $T_0=140.831310$ (BKJD)



DV Model-Shift Uniqueness Test

011826440-02, $P = 40.703154$ Days, $E = 100.134977$ Days

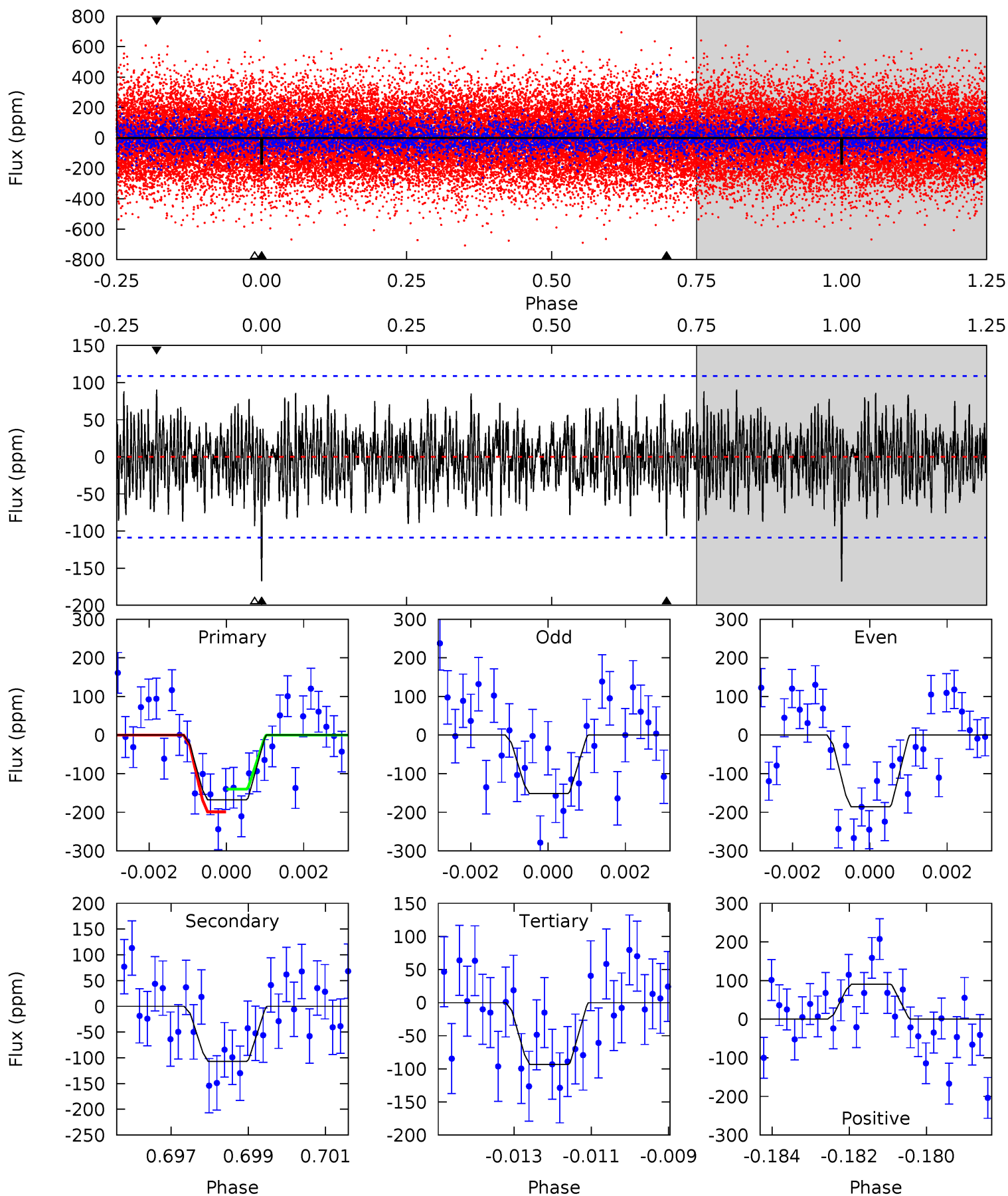
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	6.21	5.69	6.43	5.26	2.98	1.87	5.61	4.88	0.51	-0.22	2.07	0.87	0.36	0.67



Alt Model-Shift Uniqueness Test

011826440-02, P = 40.703273 Days, E = 100.128037 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.19	5.21	4.55	4.42	5.31	3.07	1.56	3.64	3.77	0.66	0.78	0.84	0.90	0.35	1.43



Stellar Parameters For KIC 011826440

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7237^{+226}_{-302}	$3.776^{+0.416}_{-0.104}$	$-0.260^{+0.250}_{-0.300}$	$2.742^{+0.424}_{-1.273}$	$1.639^{+0.171}_{-0.400}$	$0.112^{+0.412}_{-0.035}$
	+3%/-4%	+11%/-3%	+96%/-115%	+15%/-46%	+10%/-24%	+368%/-31%
Source	KIC0	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 011826440-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-74 ± 12	$3.63^{+2.07}_{-1.64}$	1381^{+96}_{-147}	5707^{+1887}_{-901}	223^{+504}_{-131}
Alt.	-107 ± 20	$3.61^{+1.94}_{-1.66}$	1377^{+103}_{-172}	6297^{+2344}_{-1058}	330^{+777}_{-186}

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 $A_{obs} \gg 1.0$

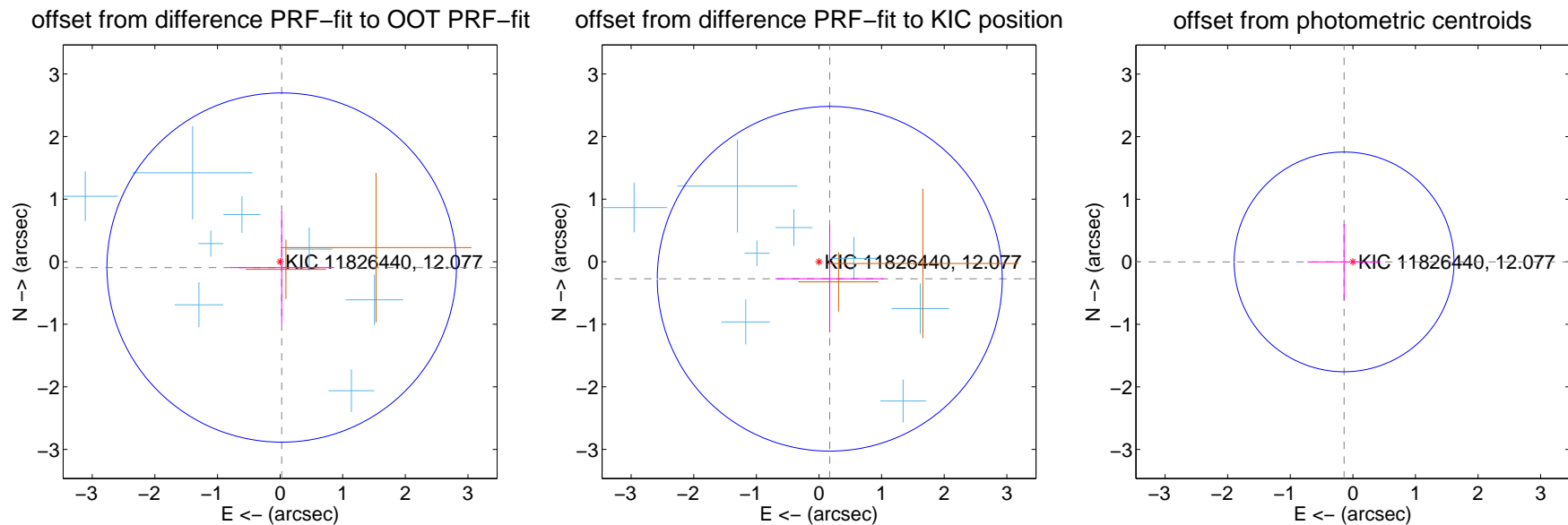
DV Centroid Data

Supplemental centroid analysis for 011826440-02. Kepler magnitude: 12.08. Transit SNR 9.16

There are 8 quarters with good PRF difference image offsets

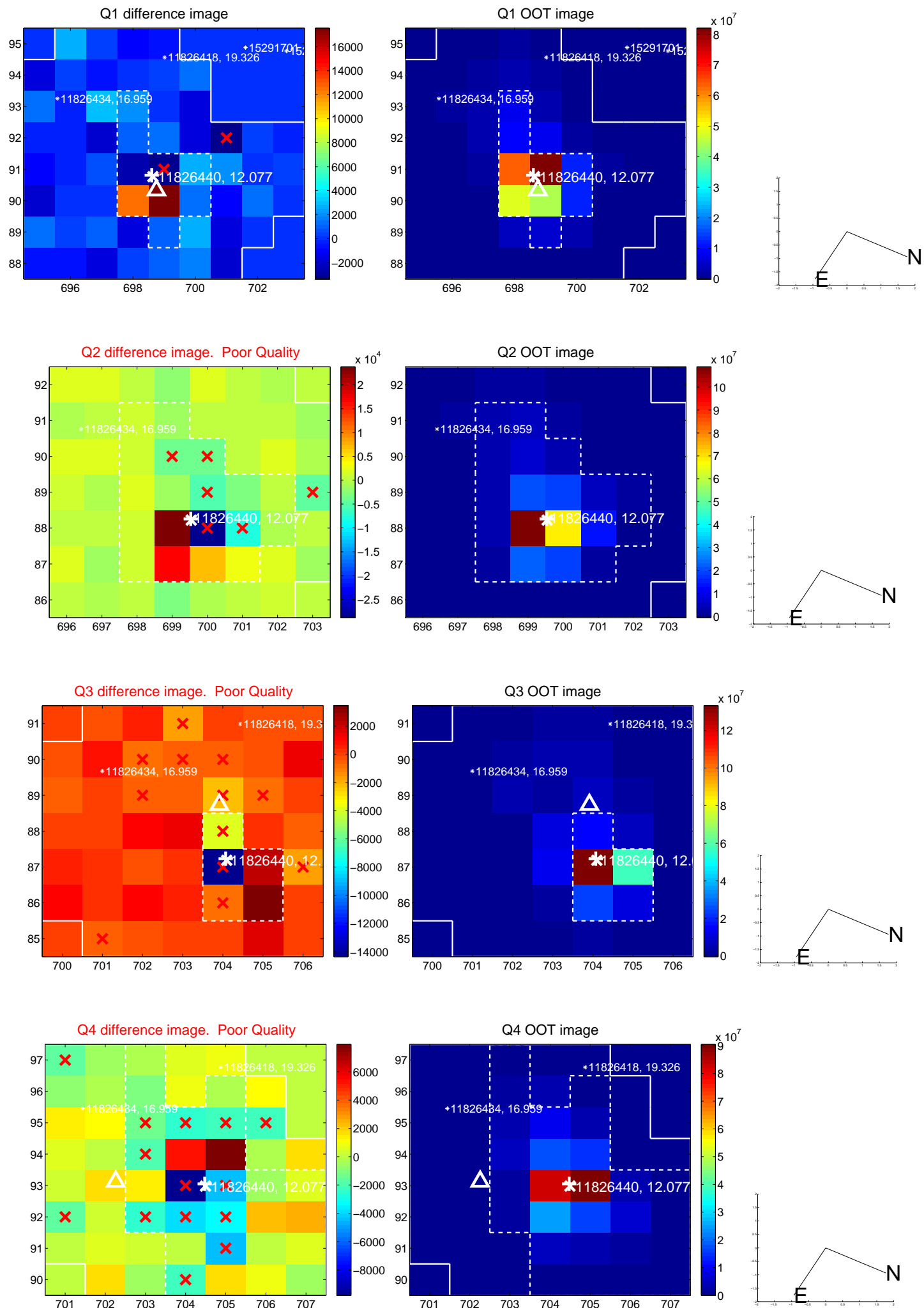
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.097 ± 0.930	0.10	-0.025 ± 0.816	-0.094 ± 0.891
PRF-fit source offset from KIC position	0.323 ± 0.918	0.35	-0.172 ± 0.868	-0.273 ± 0.859
photometric centroid source offset	0.14 ± 0.59	0.24	0.14 ± 0.59	-0.00 ± 0.61

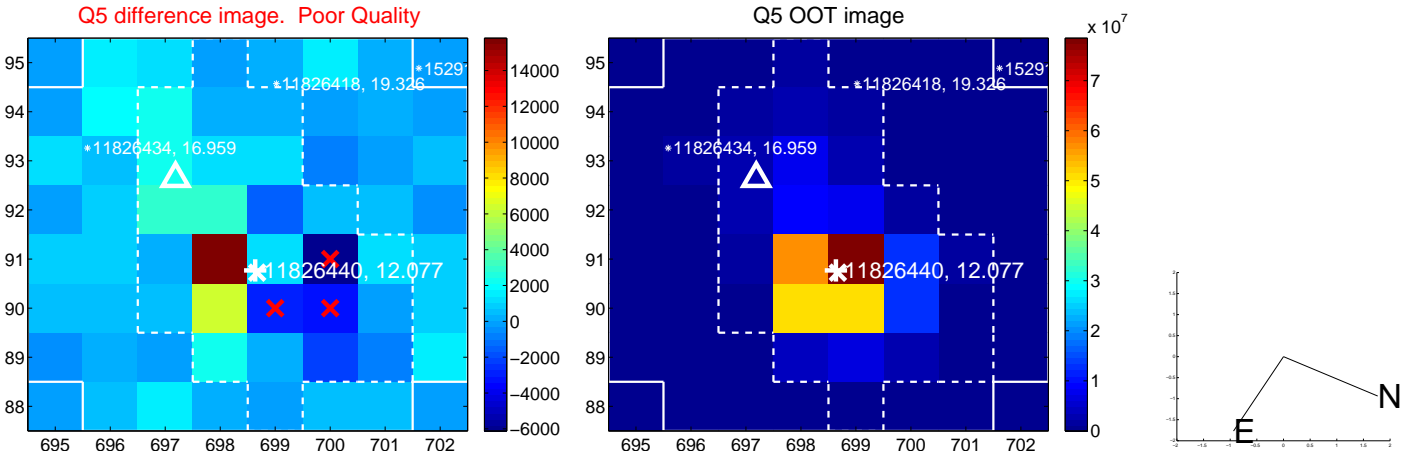


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

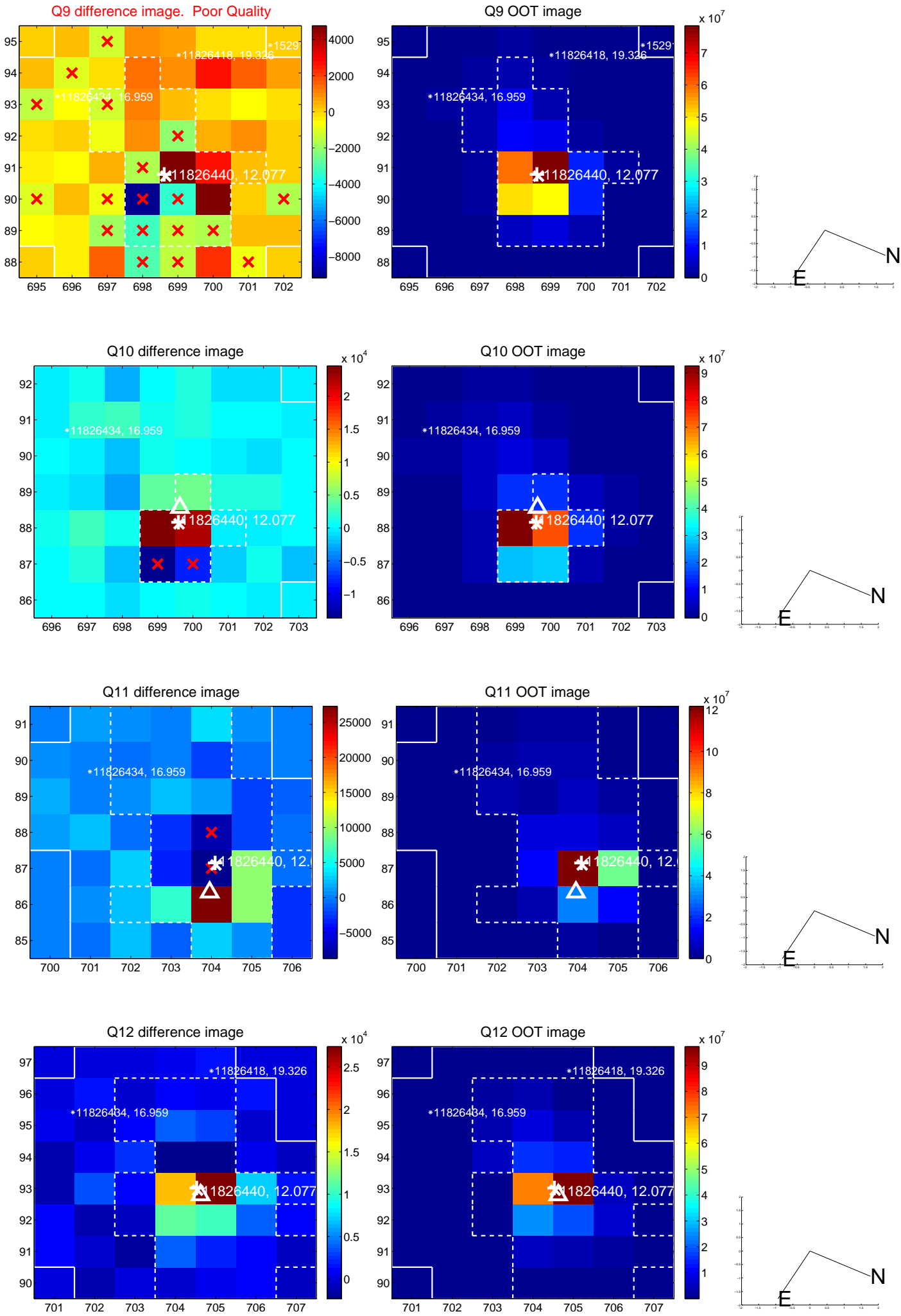
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



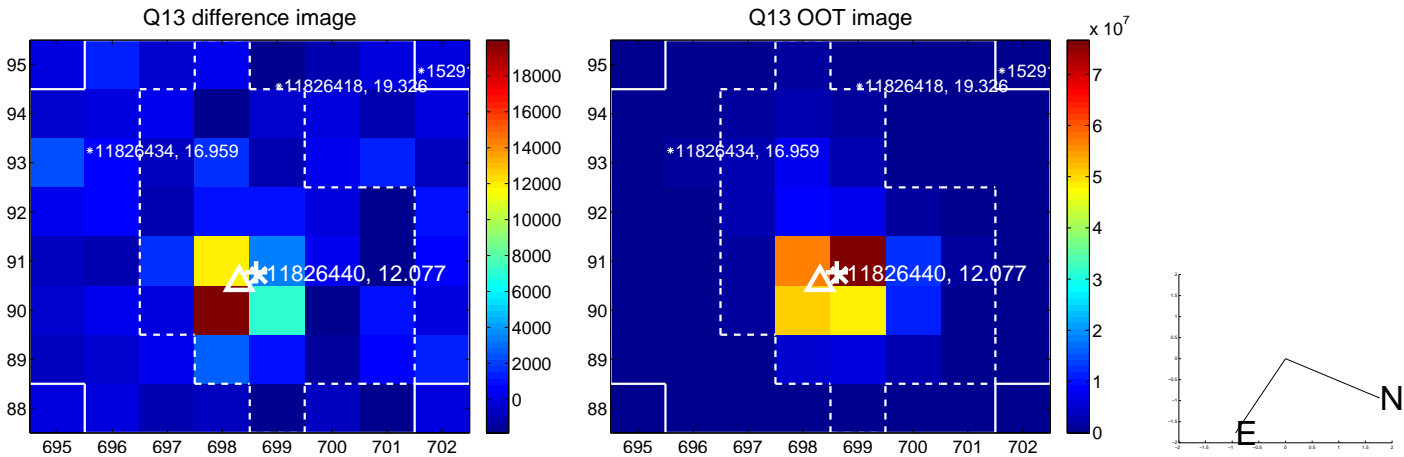
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



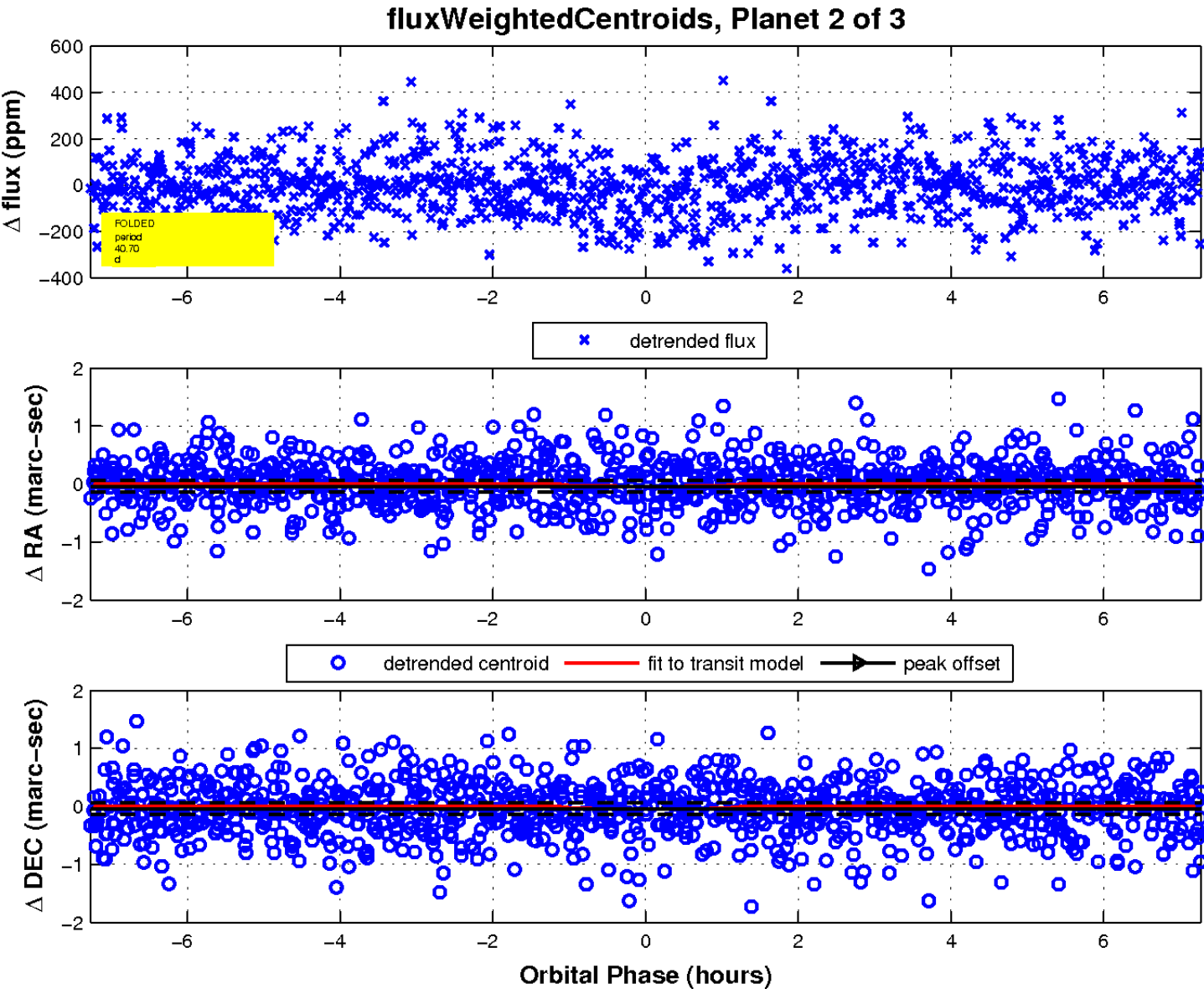
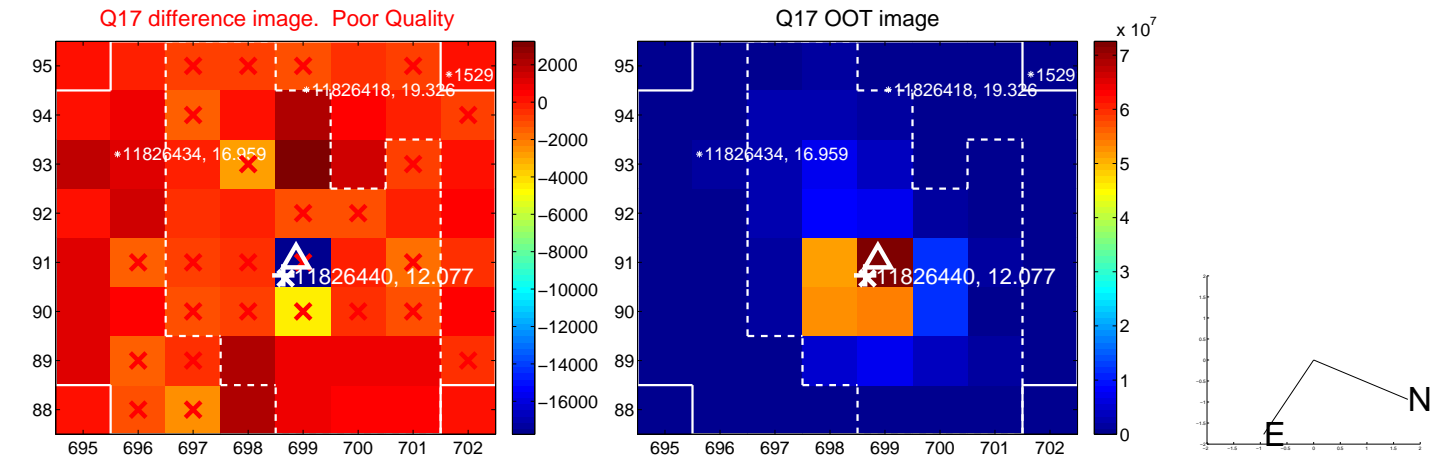
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

