

KIC 011246161

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})
011246161-01	OBS	2796.01	1.074793	132.584514	69.4	0.841	9.0	9.2	0.99	5749	0.98	2235.30
011246161-02	OBS	No	1.074806	132.038386	74.1	1.383	12.8	13.3	0.99	5749	1.02	2235.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011246161-01	OBS	PC	1.00	0	0	0	0	MOD_SEC_DV—PLANET_PERIOD_IS_HALF_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE
011246161-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 011246161-01

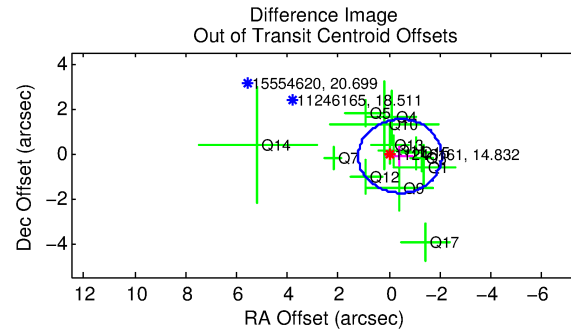
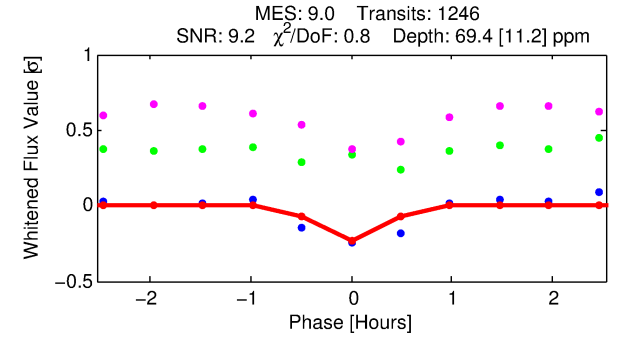
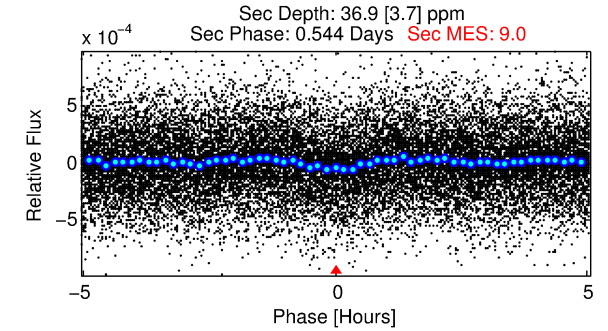
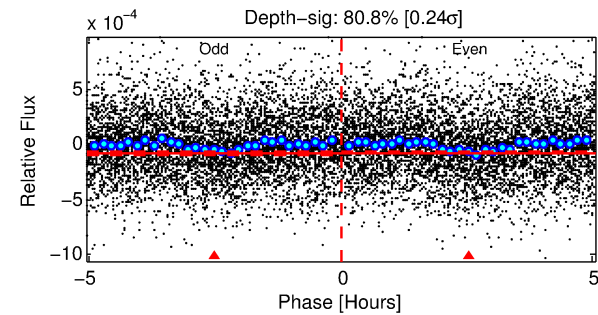
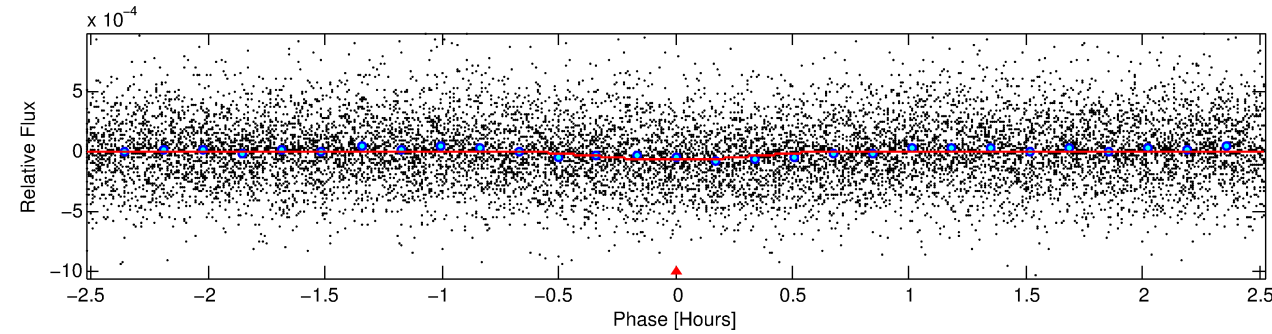
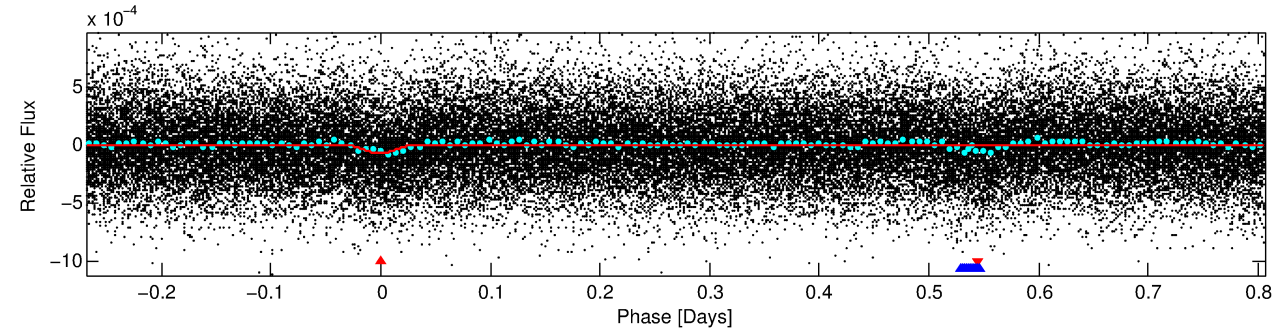
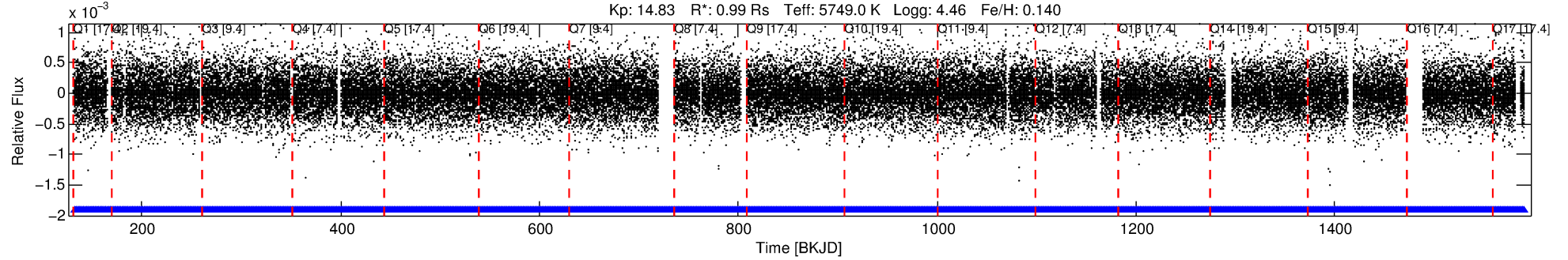
No Significant Match Found

DV One-Page Summary

KIC: 11246161 Candidate: 1 of 2 Period: 1.075 d

KOI: K02796 Corr: No Ephemeris Match

Kp: 14.83 R*: 0.99 Rs Teff: 5749.0 K Logg: 4.46 Fe/H: 0.140



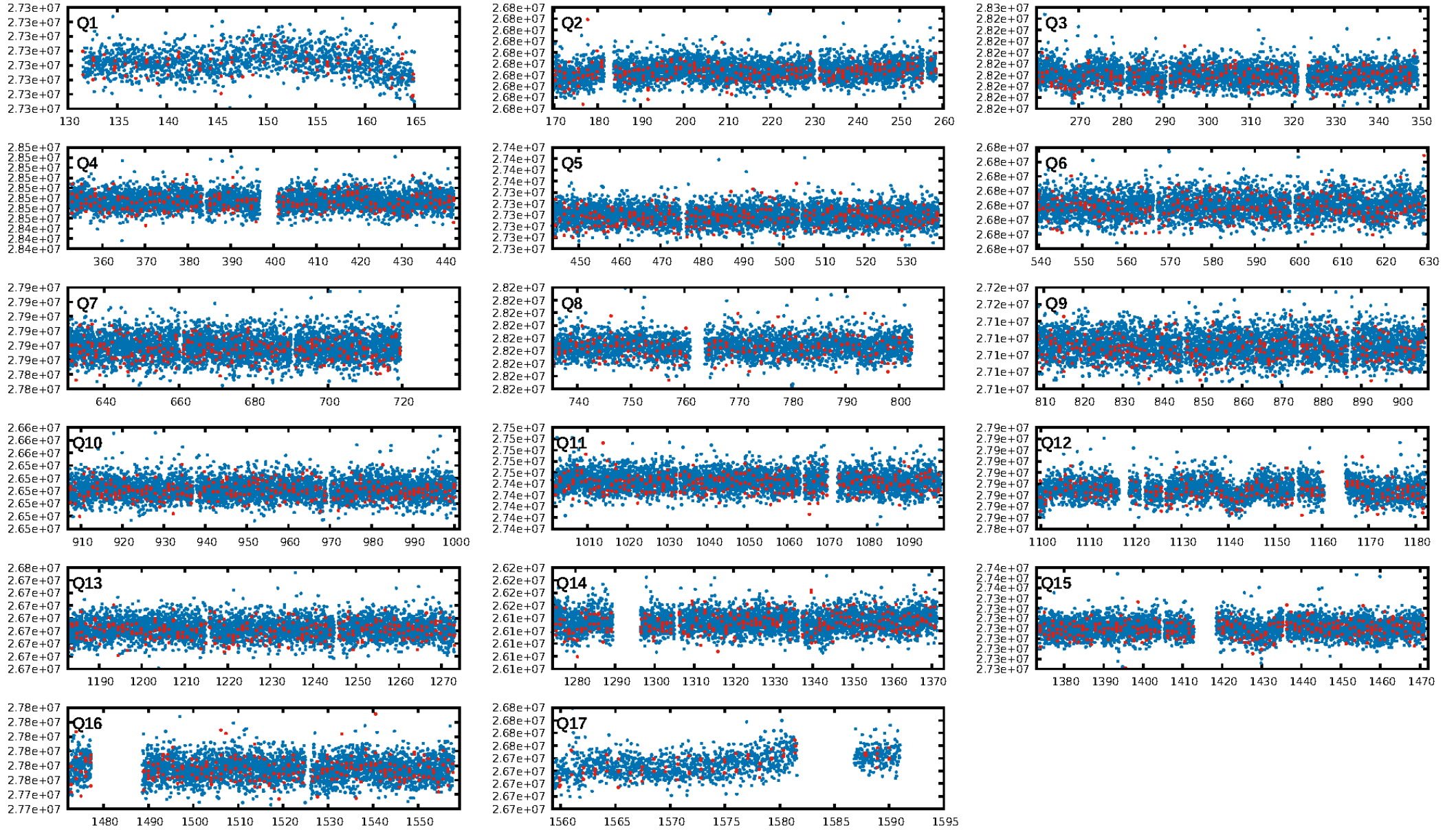
DV Fit Results:

Period = 1.07479 [0.00001] d
Epoch = 132.5845 [0.0018] BKJD
Rp/R* = 0.0091 [0.0039]
a/R* = 4.80 [8.98]
b = 0.89 [0.48]
Seff = 2235.30 [483.51]
Teff = 1753 [95] K
Rp = 0.98 [0.44] Re
a = 0.0207 [0.0028] AU
Ag = 8.99 [7.96] [1.00σ]
Teffp = 4694 [1013] K [2.89σ]

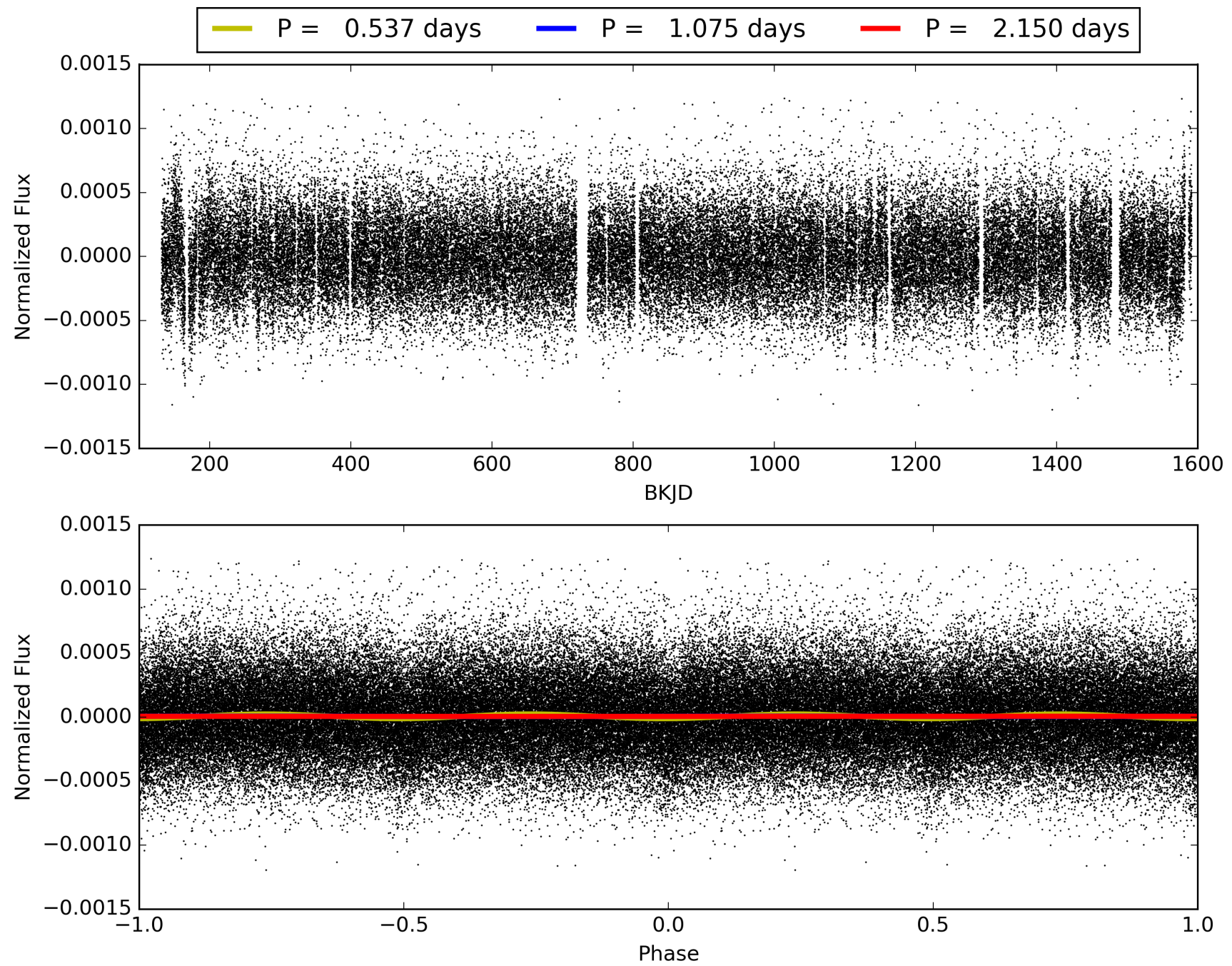
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.96e-22
RollingBand-fgt: 1.00 [1190/1190]
GhostDiagnostic-chr: 31.7
Centroid-sig: 27.2%
Centroid-so: 1.310 arcsec [0.97σ]
OotOffset-rm: 0.448 arcsec [0.82σ]
KicOffset-rm: 0.542 arcsec [1.02σ]
OotOffset-st: 2/4/2/5 [13]
KicOffset-st: 2/4/2/5 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011246161-01, PDC Light Curves

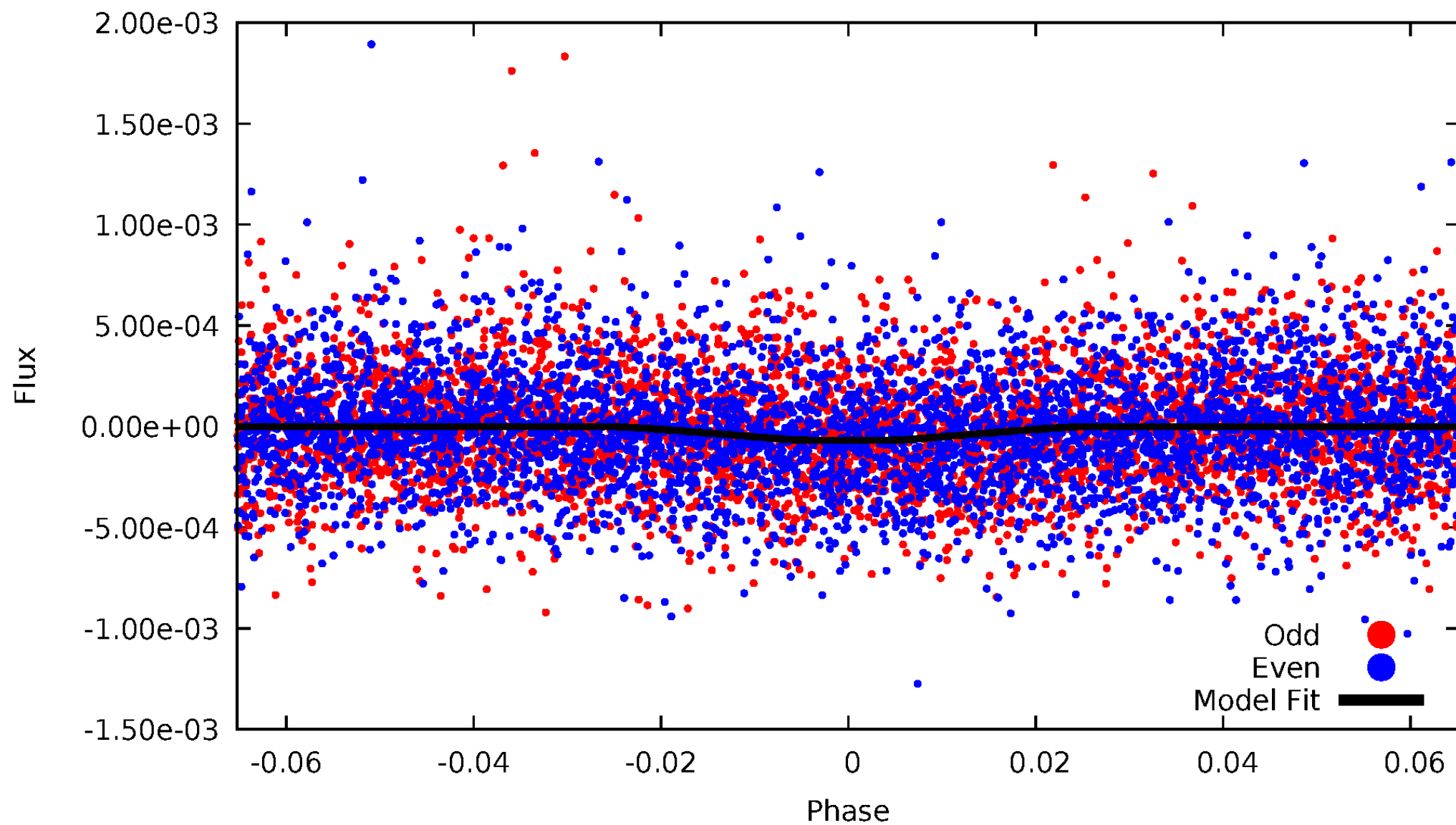


TCE 011246161-01



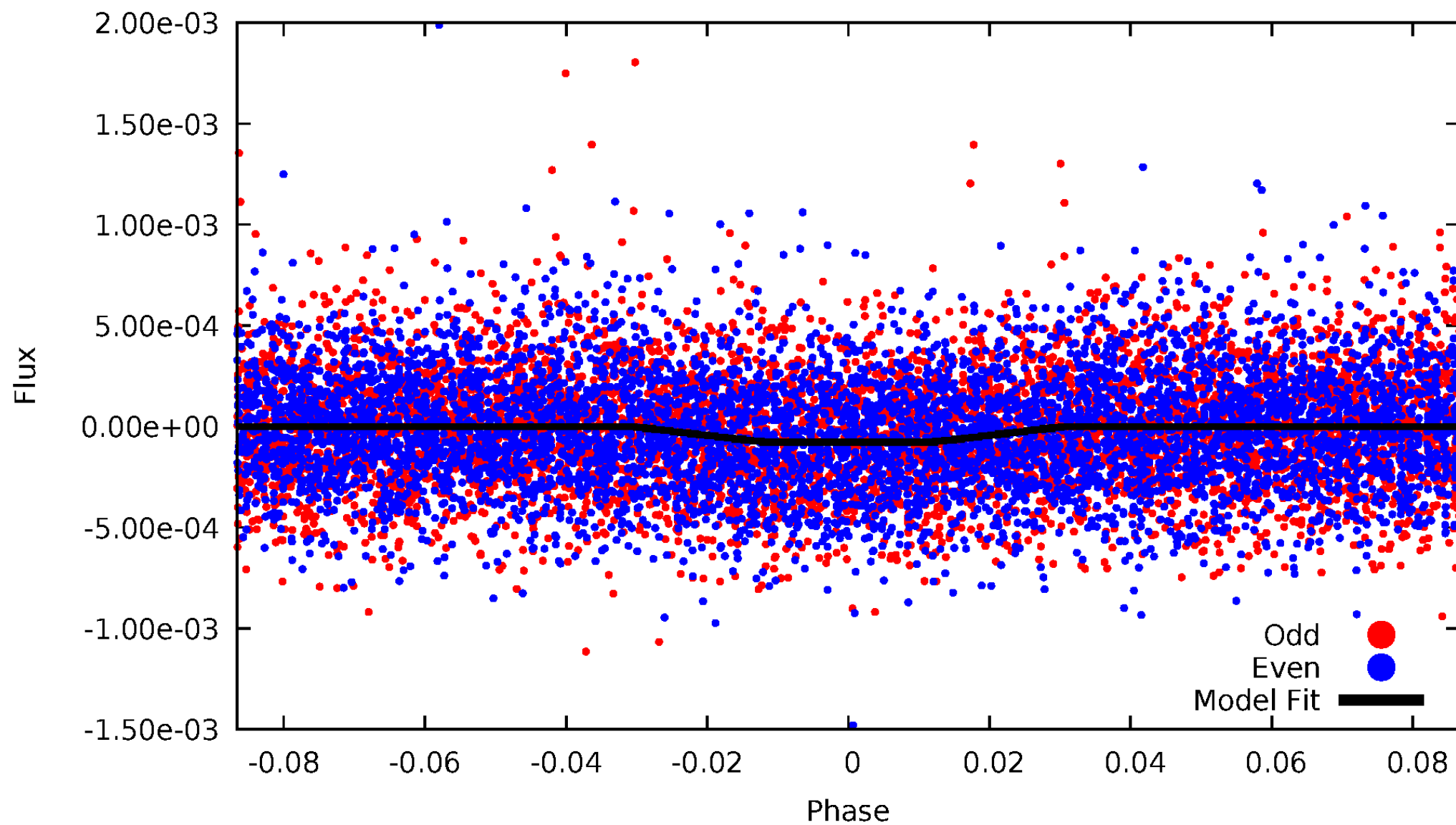
DV Odd/Even

TCE 011246161-01

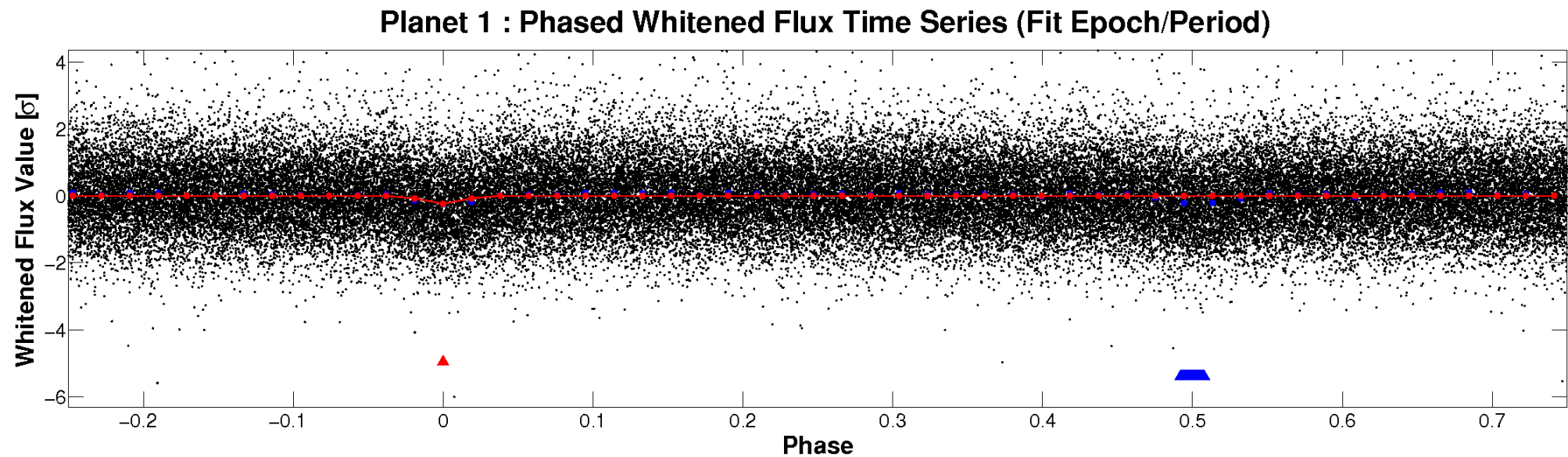
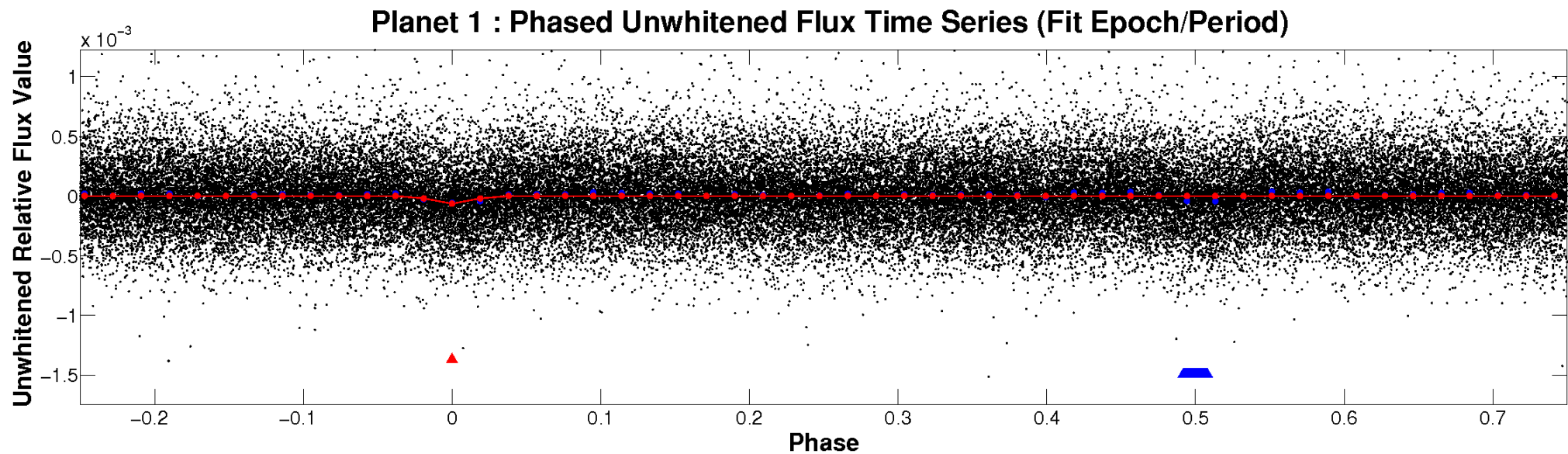


ALT Odd/Even

TCE 011246161-01

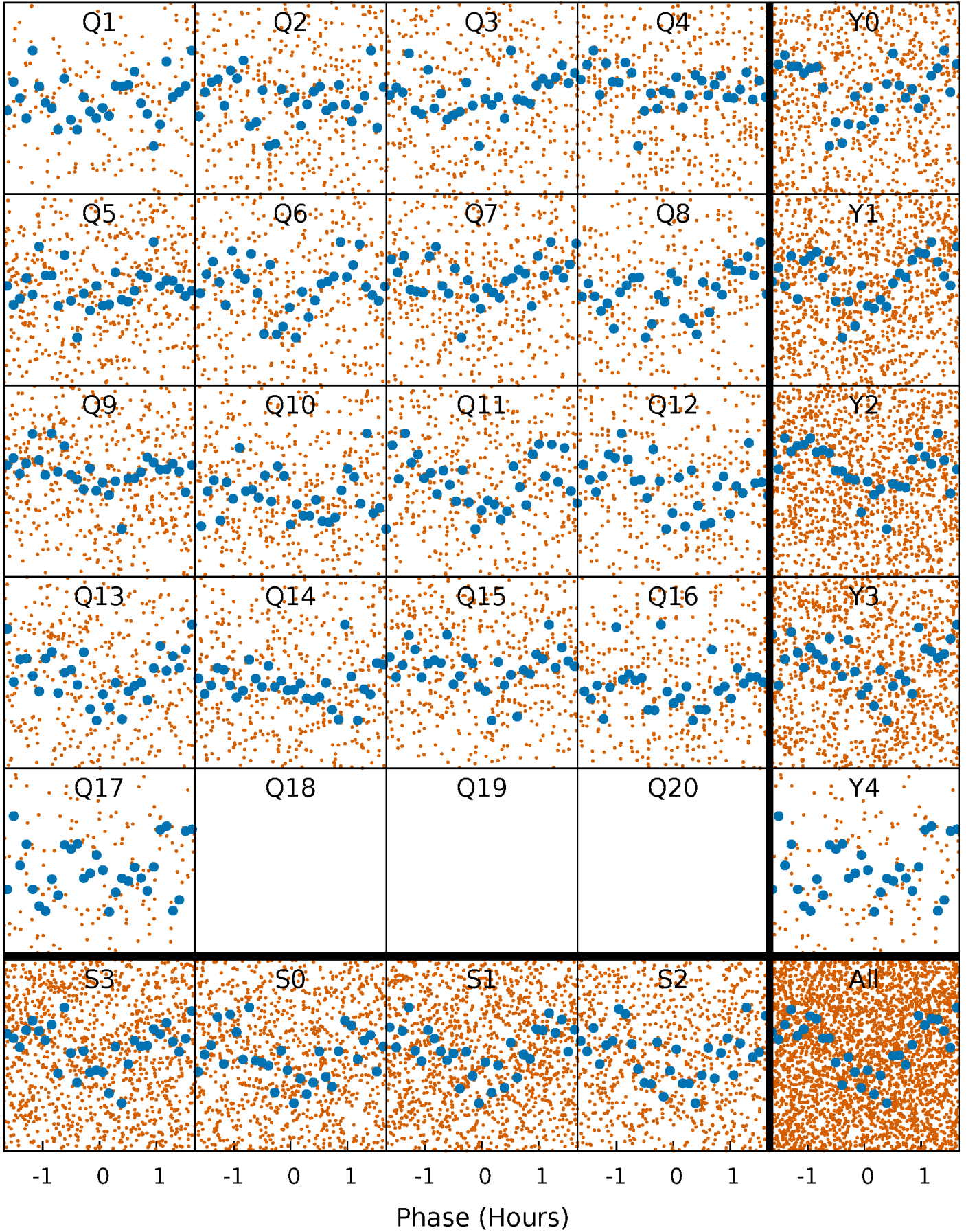


Non-Whitened Vs. Whitened Light Curve



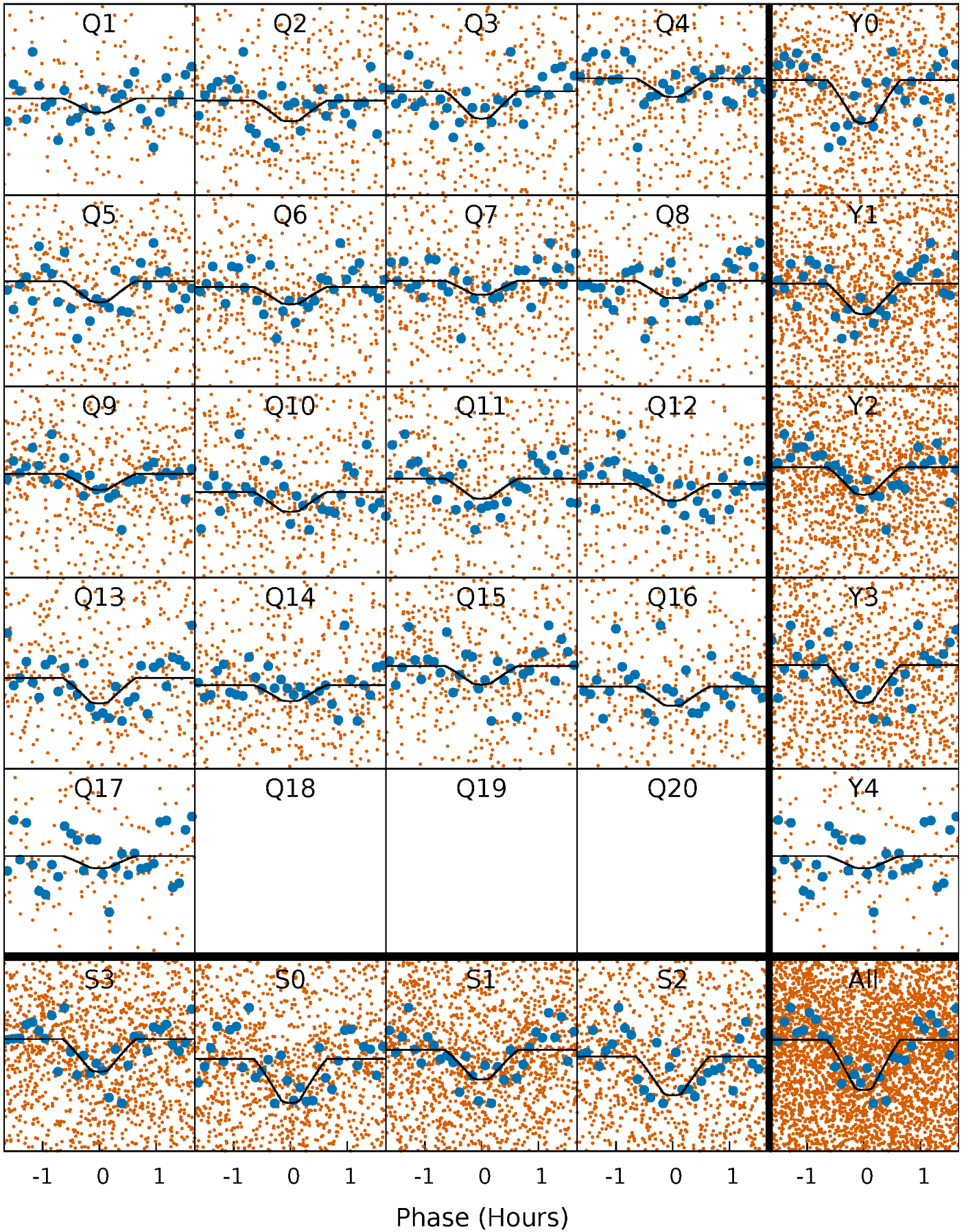
PDC Quarter-Phased Transit Curves

TCE 011246161-01 P= 1.074793 Days $T_0=132.584514$ (BKJD)



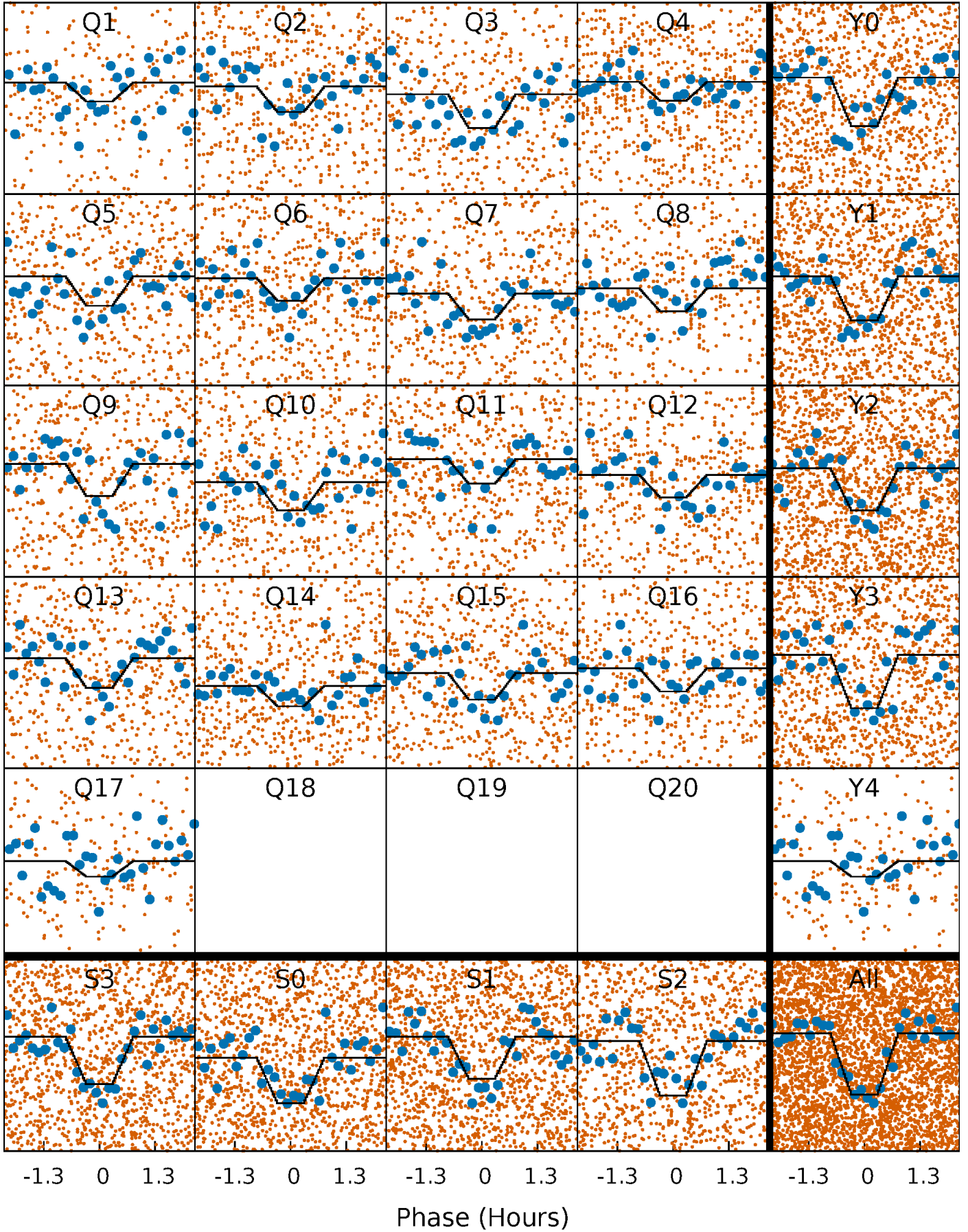
DV Quarter-Phased Transit Curves

TCE 011246161-01 P= 1.074793 Days $T_0=132.584514$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

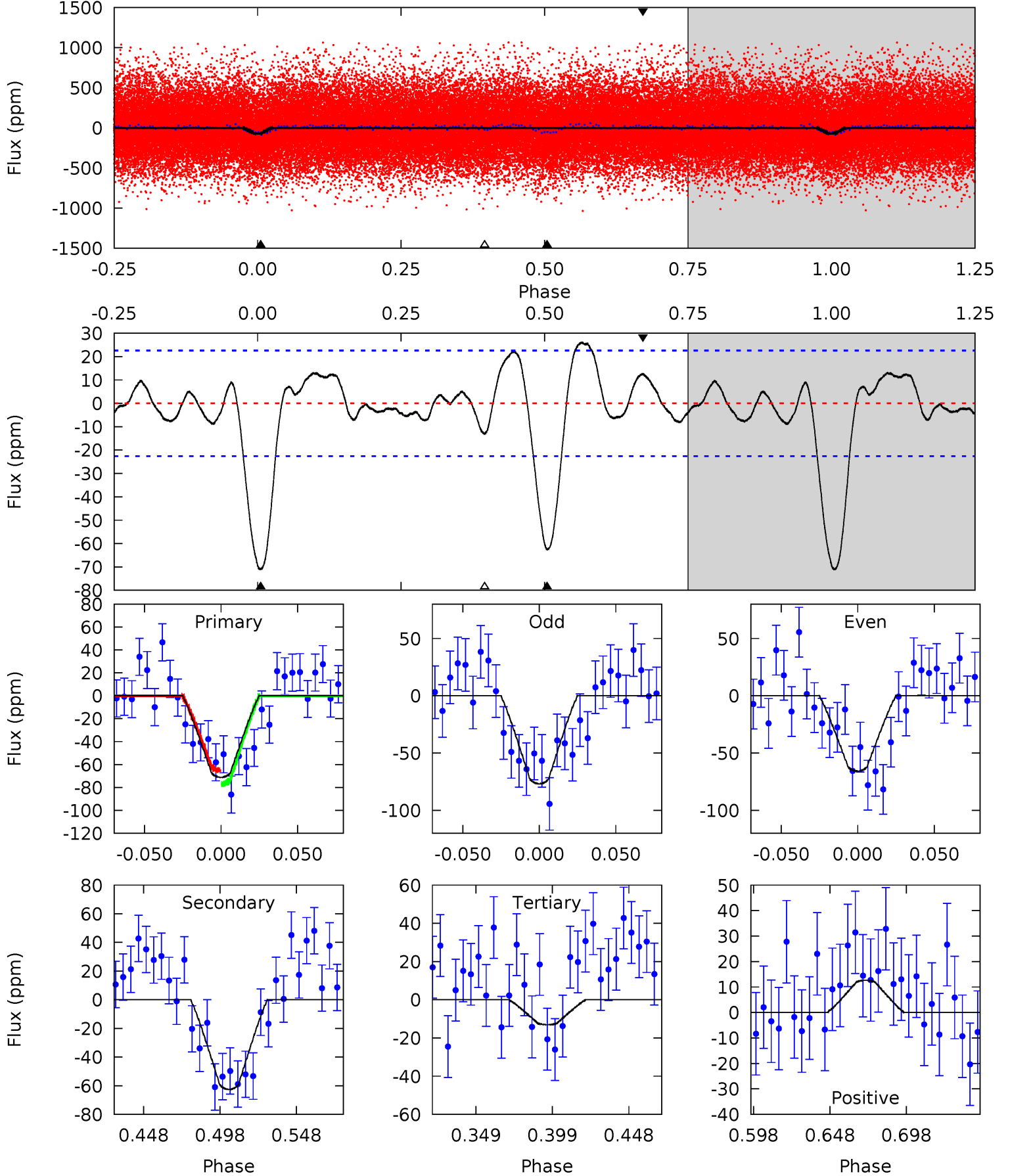
TCE 011246161-01 P= 1.074799 Days $T_0=132.584181$ (BKJD)



DV Model-Shift Uniqueness Test

011246161-01, P = 1.074793 Days, E = 131.509721 Days

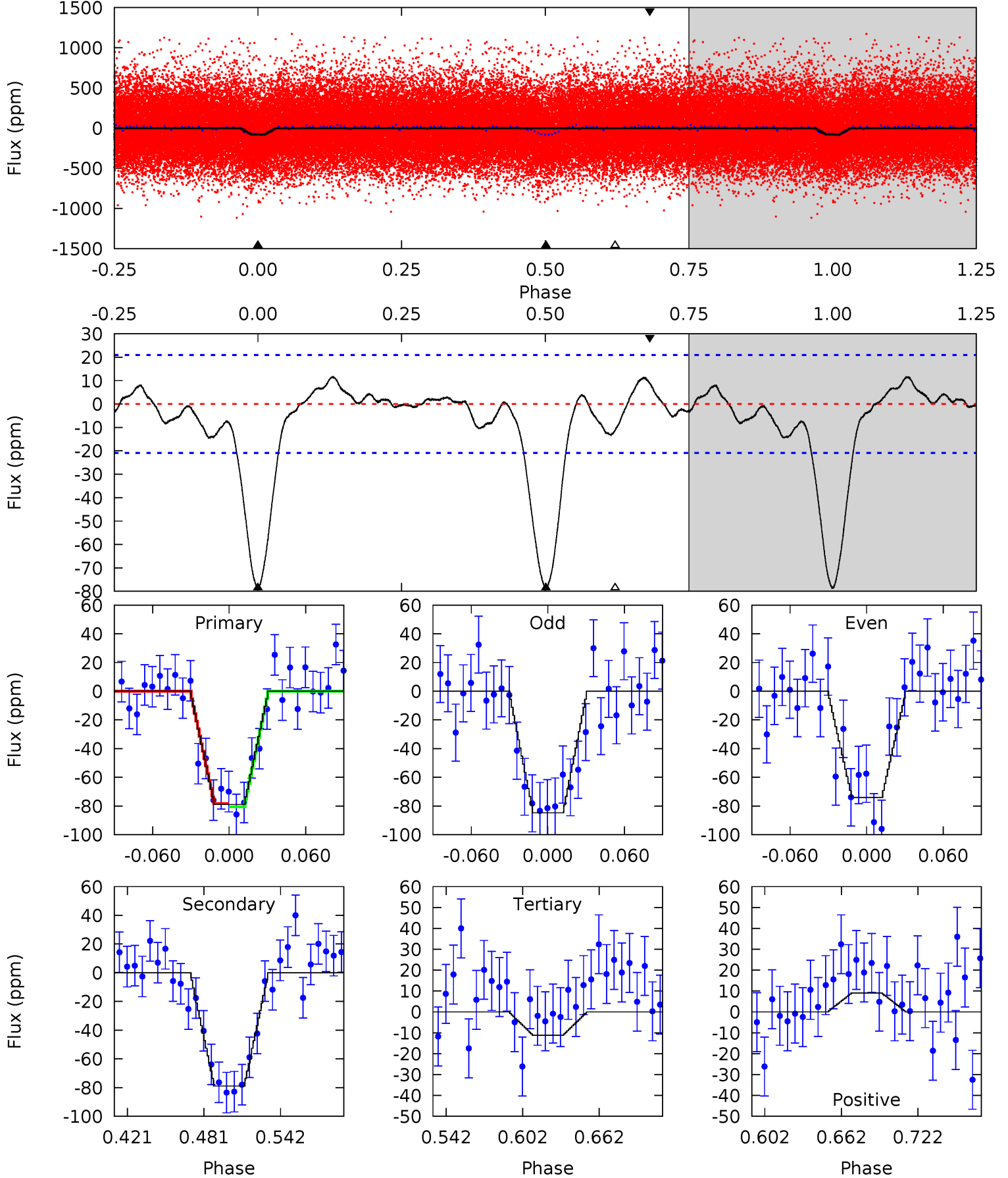
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	13.0	2.73	2.63	4.71	1.96	1.79	12.1	12.2	10.3	10.4	1.15	0.98	0.27	1.24



Alt Model-Shift Uniqueness Test

011246161-01, P = 1.074799 Days, E = 131.509382 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	17.6	2.50	2.03	4.67	1.88	1.32	15.1	15.6	15.1	15.6	1.19	0.98	0.13	0.25



Stellar Parameters For KIC 011246161

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5749^{+78}_{-86}	$4.457^{+0.042}_{-0.119}$	$0.140^{+0.150}_{-0.150}$	$0.988^{+0.147}_{-0.063}$	$1.020^{+0.056}_{-0.062}$	$1.489^{+0.243}_{-0.515}$
	+1%/-1%	+1%/-3%	+107%/-107%	+15%/-6%	+5%/-6%	+16%/-35%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 011246161-01 / KOI 2796.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-63 ± 5	$0.97^{+0.46}_{-0.42}$	2468^{+94}_{-66}	5437^{+1939}_{-838}	15^{+32}_{-8}
Alt.	-79 ± 4	$0.99^{+0.42}_{-0.43}$	2471^{+98}_{-62}	5662^{+2063}_{-800}	19^{+39}_{-10}

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

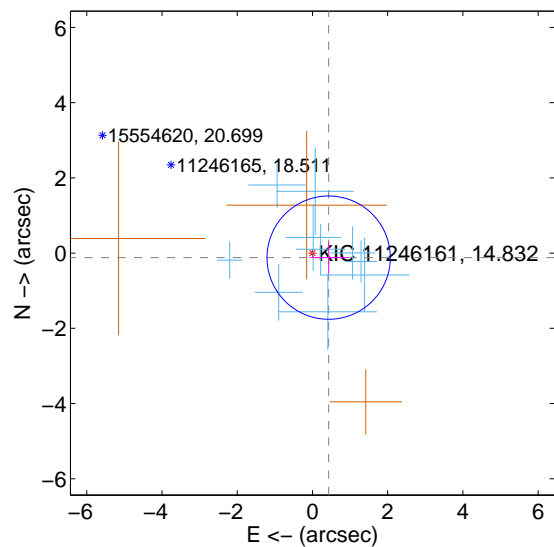
Supplemental centroid analysis for 011246161-01. Kepler magnitude: 14.83. Transit SNR 9.19

There are 10 quarters with good PRF difference image offsets

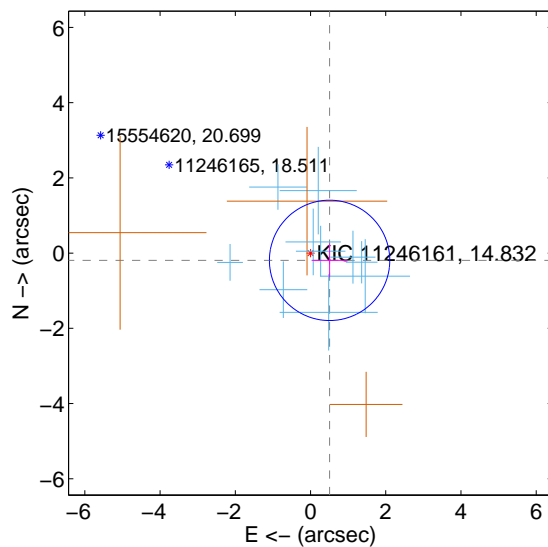
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.448 ± 0.546	0.82	-0.432 ± 0.511	-0.121 ± 0.416
PRF-fit source offset from KIC position	0.542 ± 0.533	1.02	-0.507 ± 0.477	-0.193 ± 0.448
photometric centroid source offset	1.31 ± 1.35	0.97	-0.07 ± 1.45	-1.31 ± 1.35

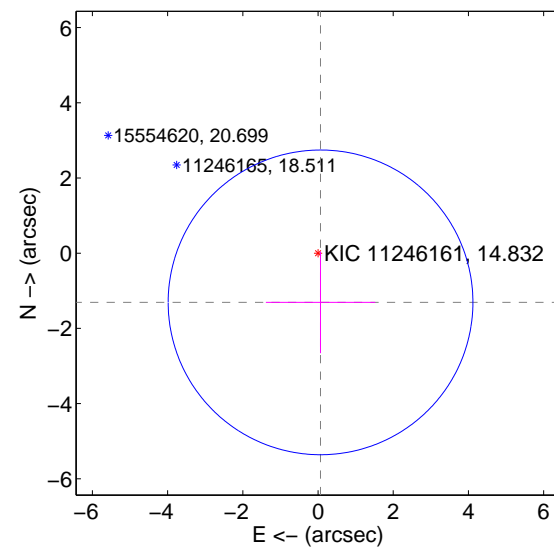
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

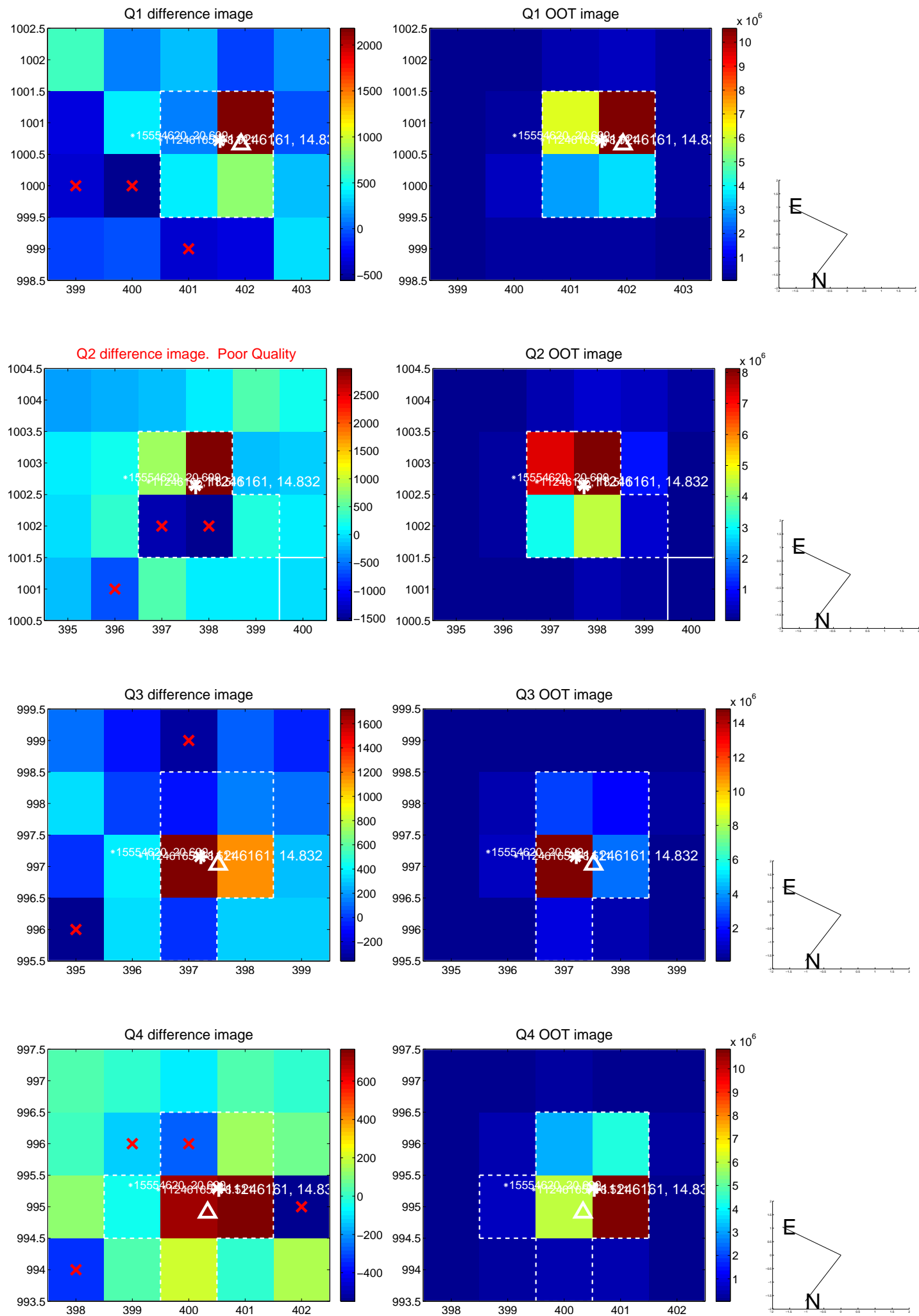


offset from photometric centroids

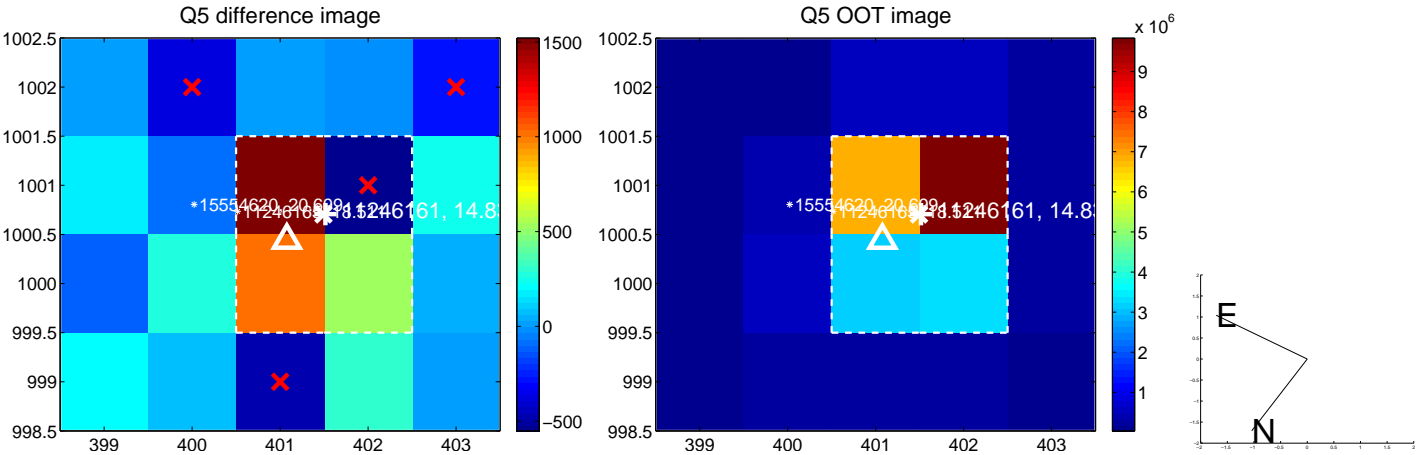


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

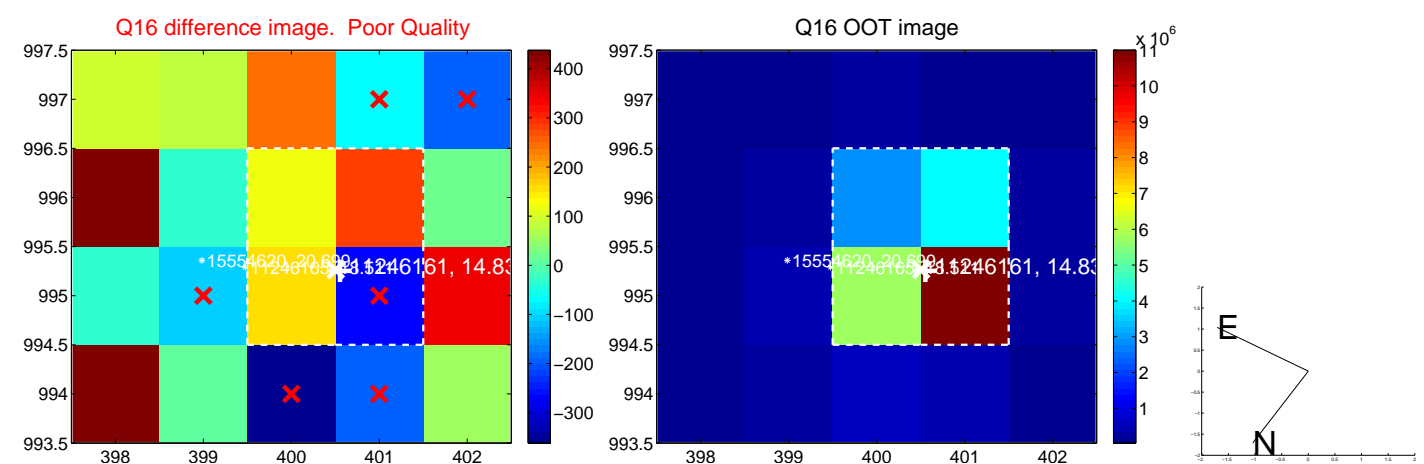
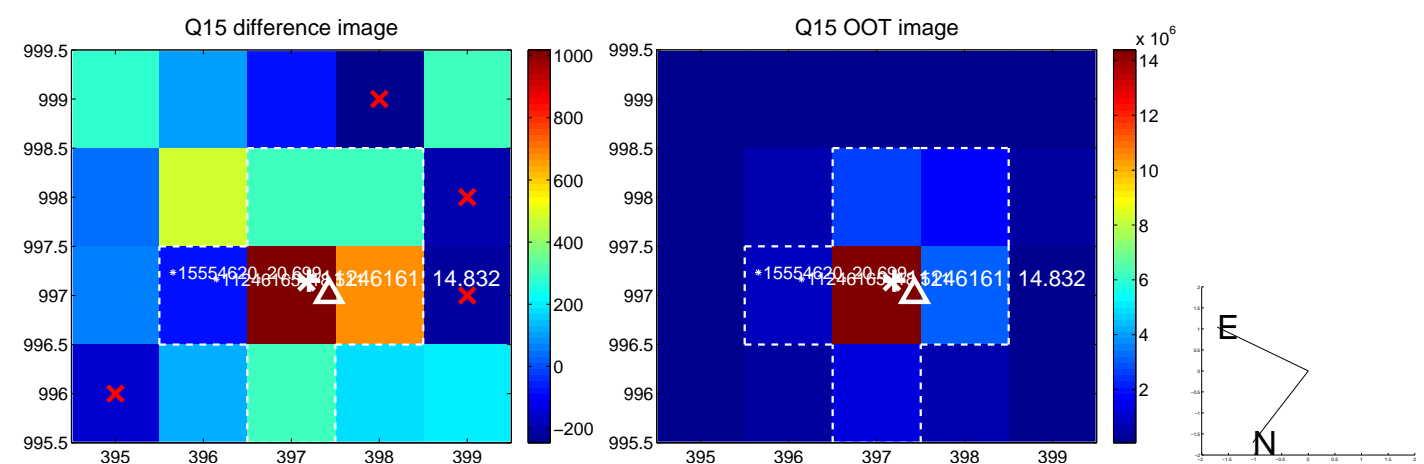
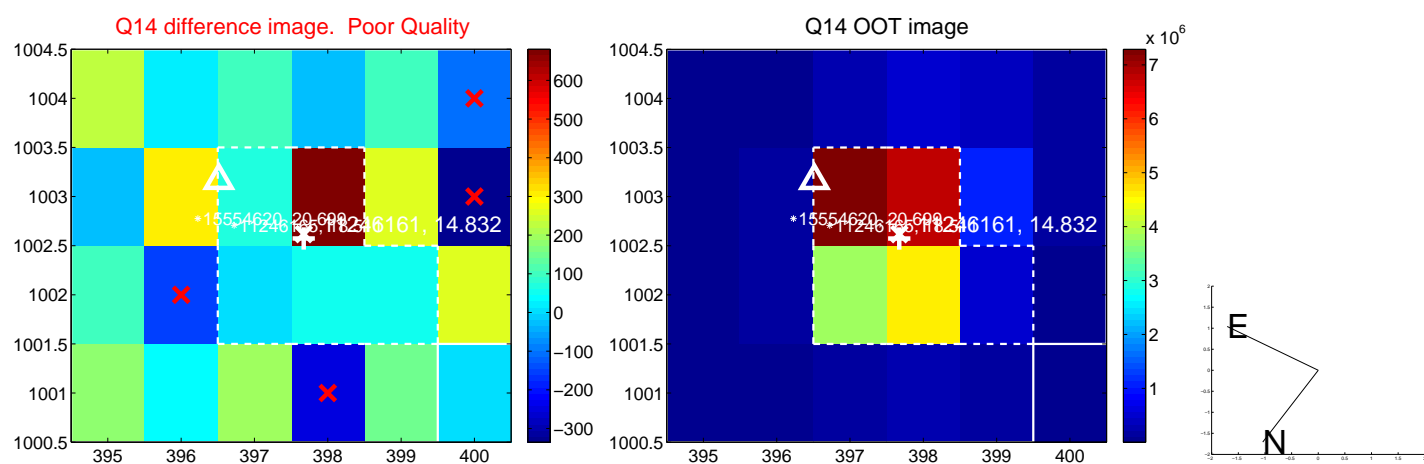
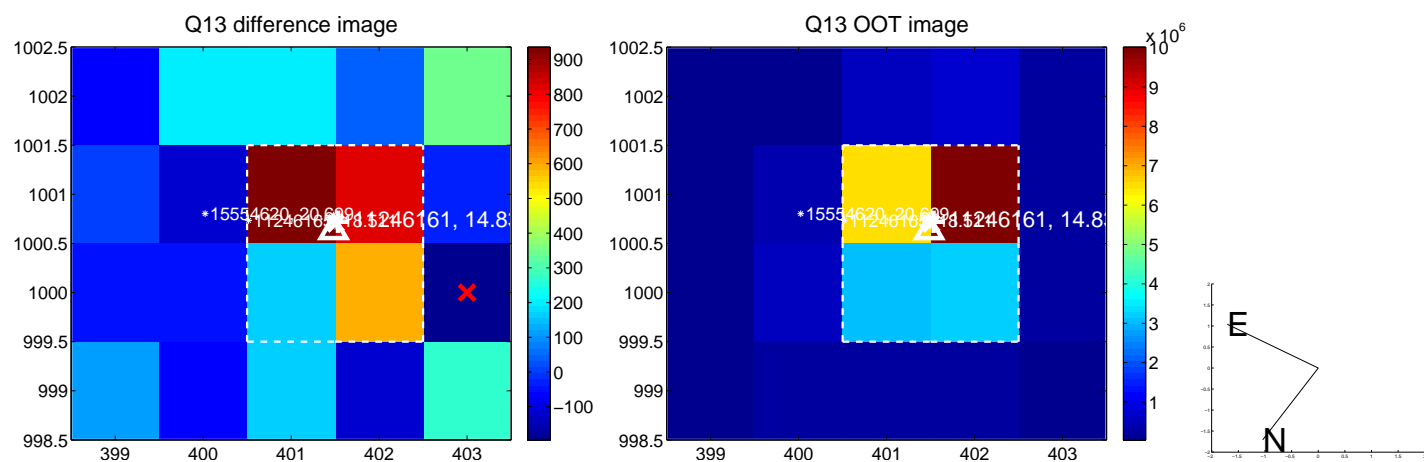
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



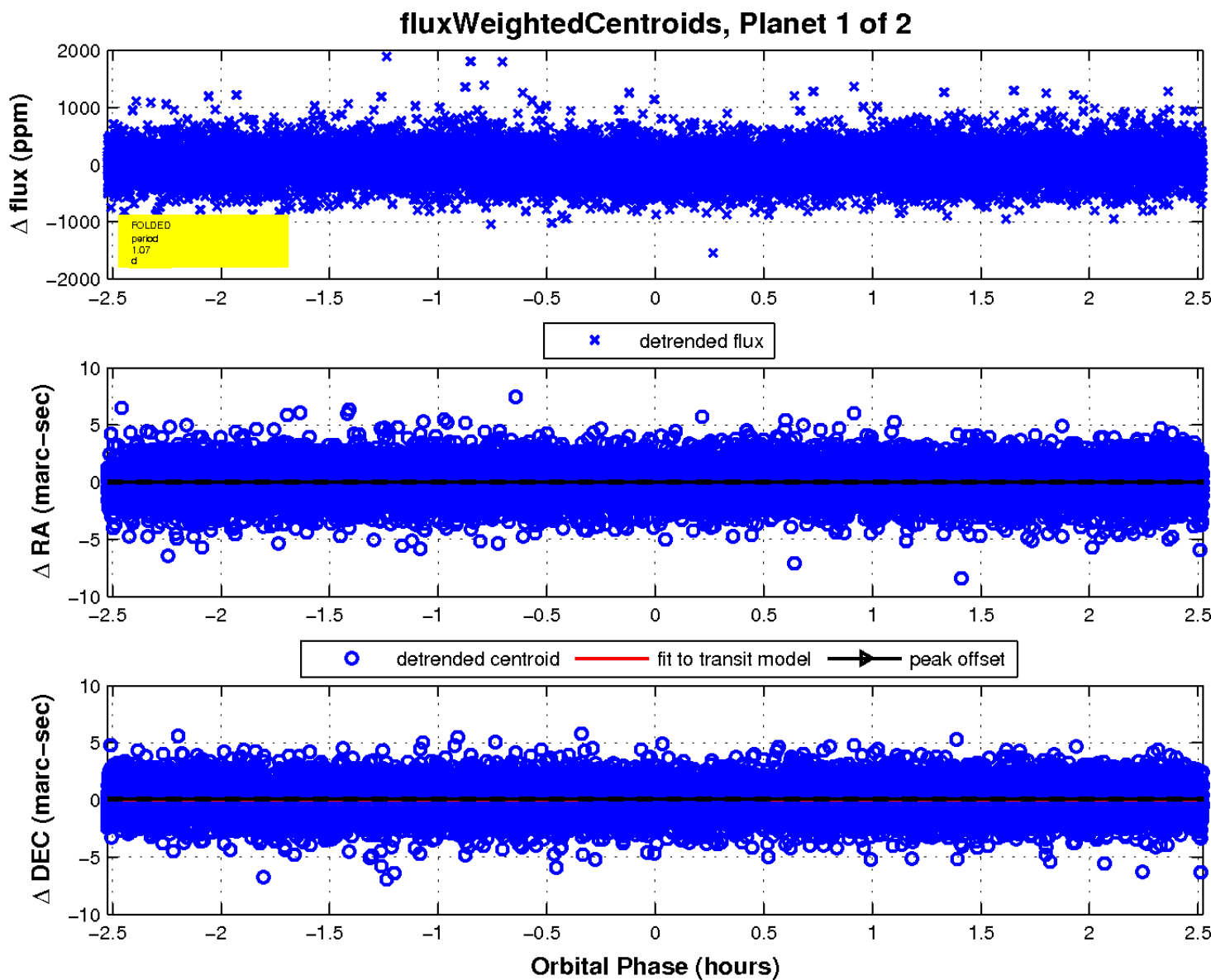
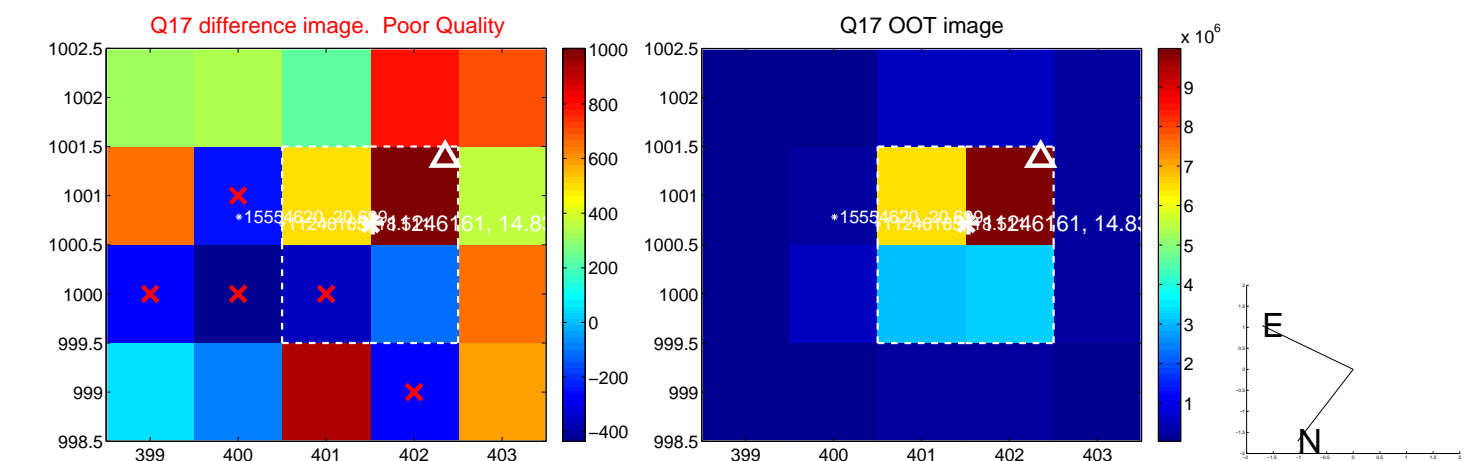
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

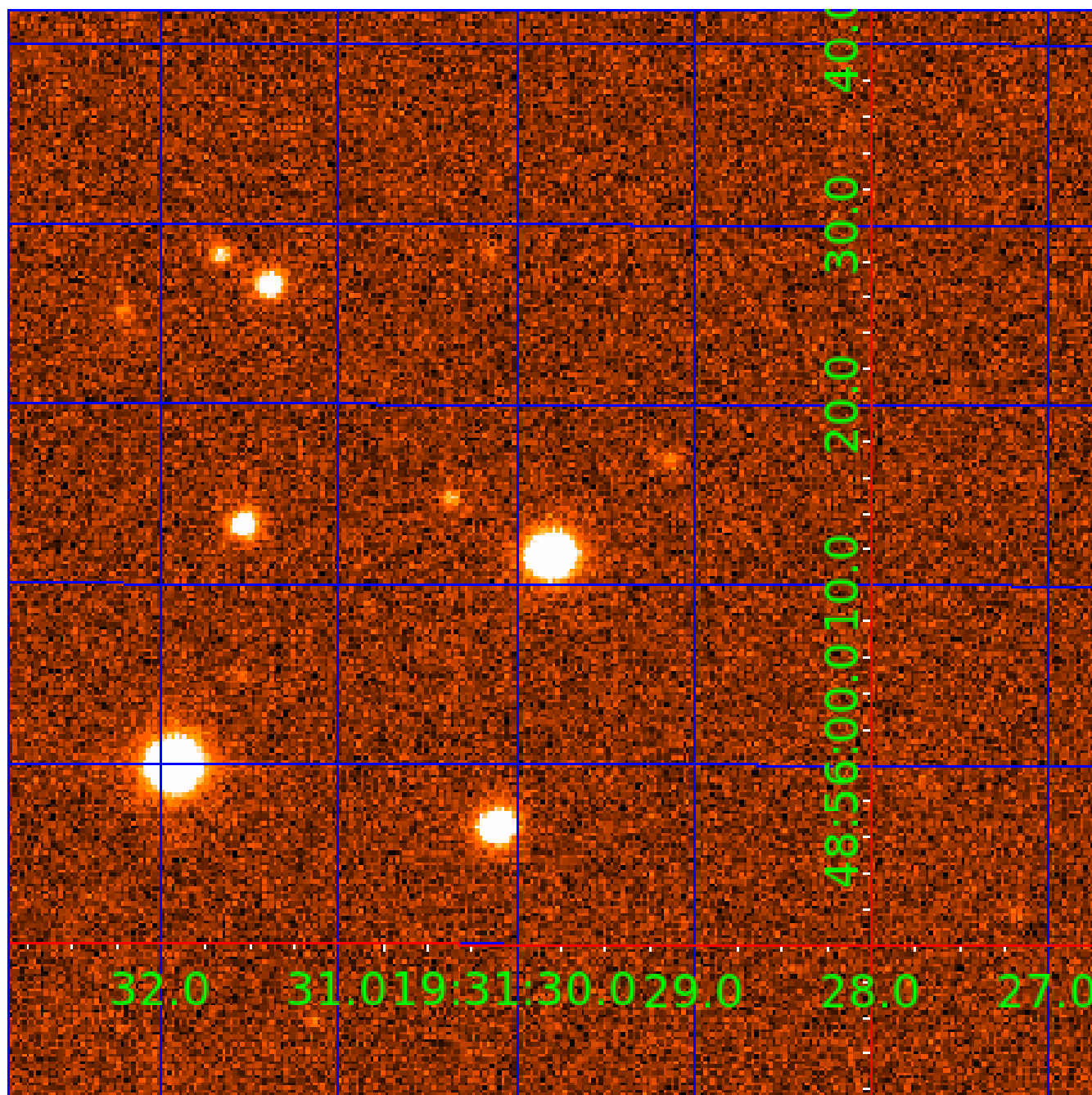


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011246161

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})
011246161-01	OBS	2796.01	1.074793	132.584514	69.4	0.841	9.0	9.2	0.99	5749	0.98	2235.30
011246161-02	OBS	No	1.074806	132.038386	74.1	1.383	12.8	13.3	0.99	5749	1.02	2235.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011246161-01	OBS	PC	1.00	0	0	0	0	MOD_SEC_DV—PLANET_PERIOD_IS_HALF_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE
011246161-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 011246161-02

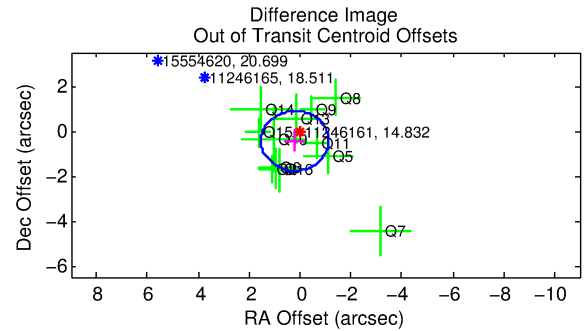
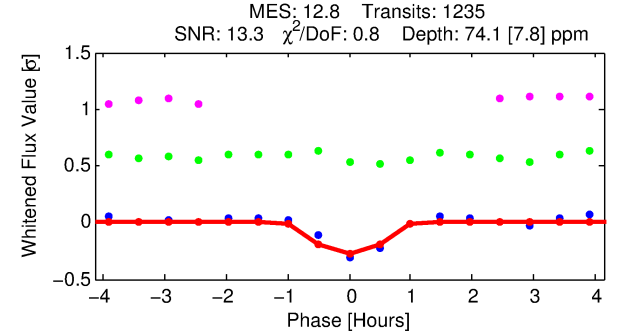
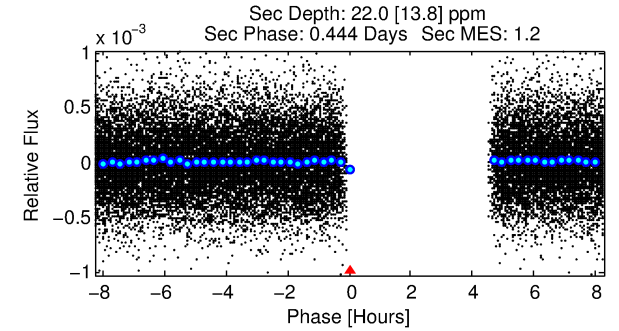
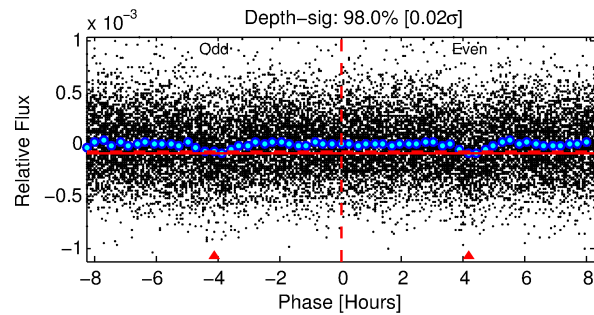
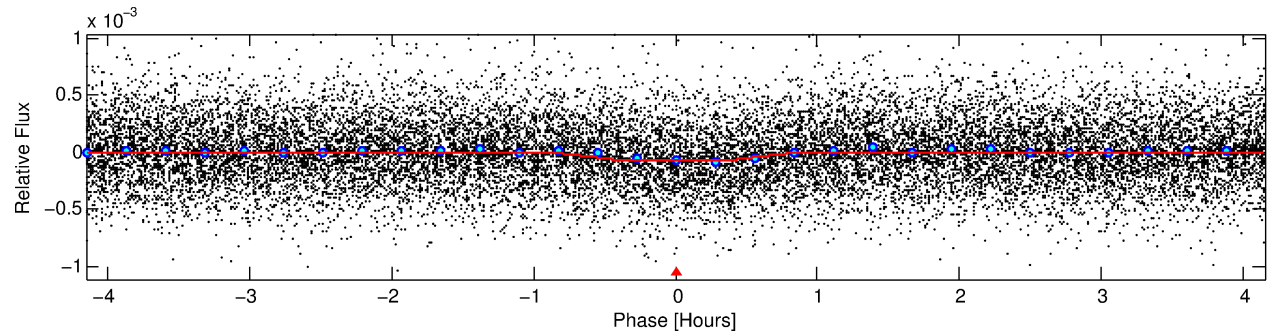
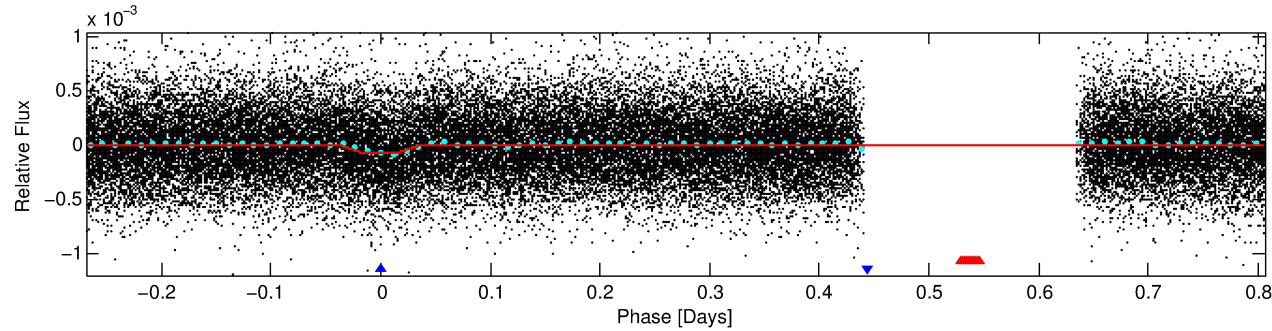
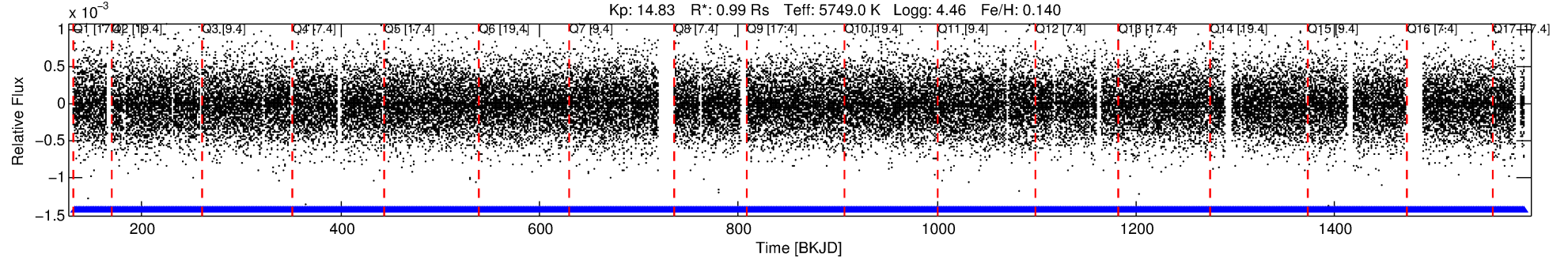
No Significant Match Found

DV One-Page Summary

KIC: 11246161 Candidate: 2 of 2 Period: 1.075 d

KOI: K02796 Corr: No Ephemeris Match

Kp: 14.83 R*: 0.99 Rs Teff: 5749.0 K Logg: 4.46 Fe/H: 0.140



DV Fit Results:

Period = 1.07481 [0.00001] d
Epoch = 132.0384 [0.0017] BKJD
Rp/R* = 0.0094 [0.0059]
a/R* = 2.86 [7.34]
b = 0.90 [0.63]
Seff = 2235.26 [483.50]
Teff = 1753 [95] K
Rp = 1.02 [0.65] Re
a = 0.0207 [0.0028] AU
Ag = 4.99 [7.04] [0.57σ]
Teffp = 4051 [1415] K [1.62σ]

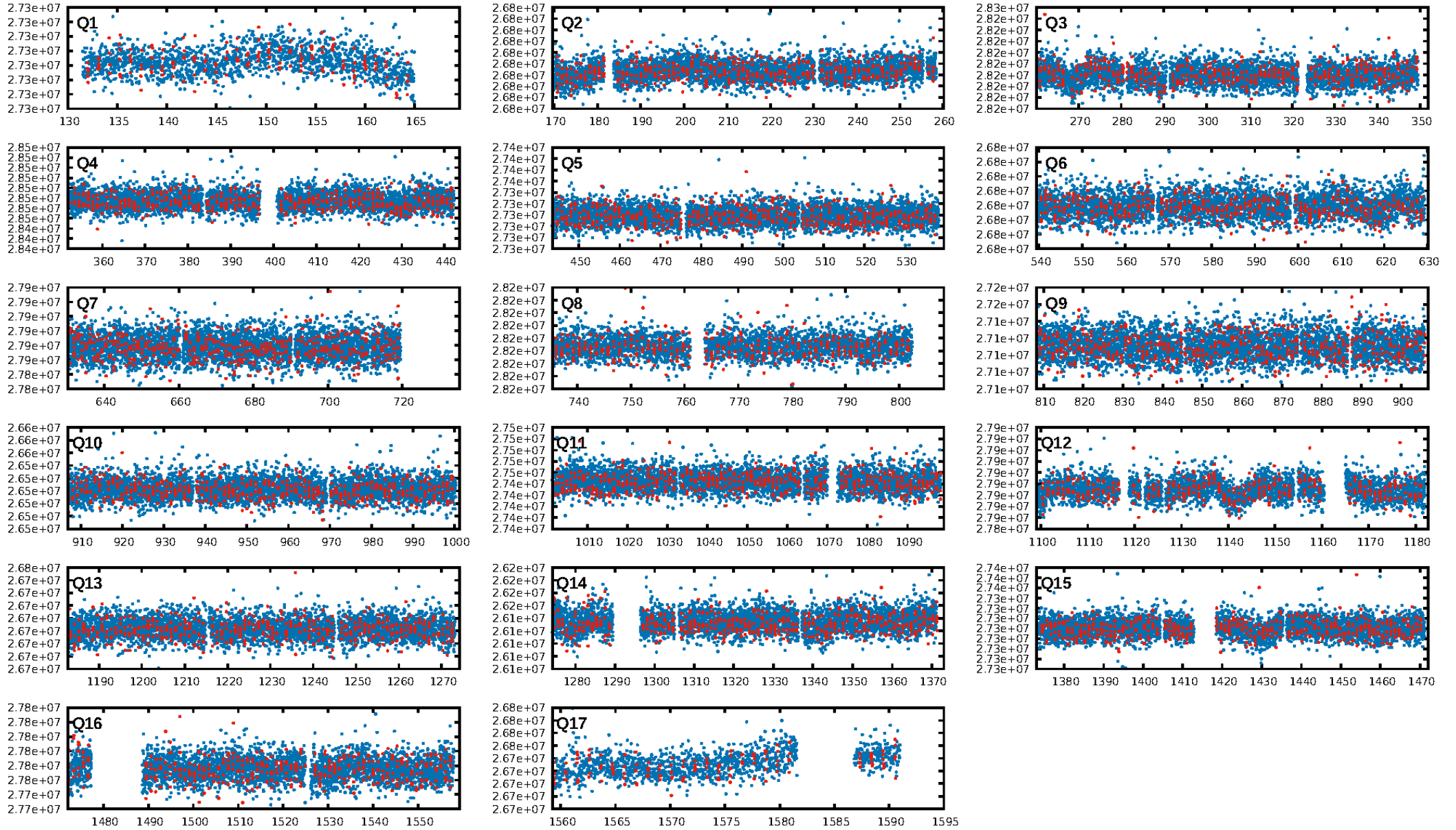
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.73e-38
RollingBand-fgt: 1.00 [1179/1179]
GhostDiagnostic-chr: 2.048
Centroid-sig: 0.5%
Centroid-so: 1.941 arcsec [1.94σ]
OotOffset-rm: 0.492 arcsec [1.11σ]
KicOffset-rm: 0.481 arcsec [1.04σ]
OotOffset-st: 4/3/2/3 [12]
KicOffset-st: 4/3/2/3 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [17/17]

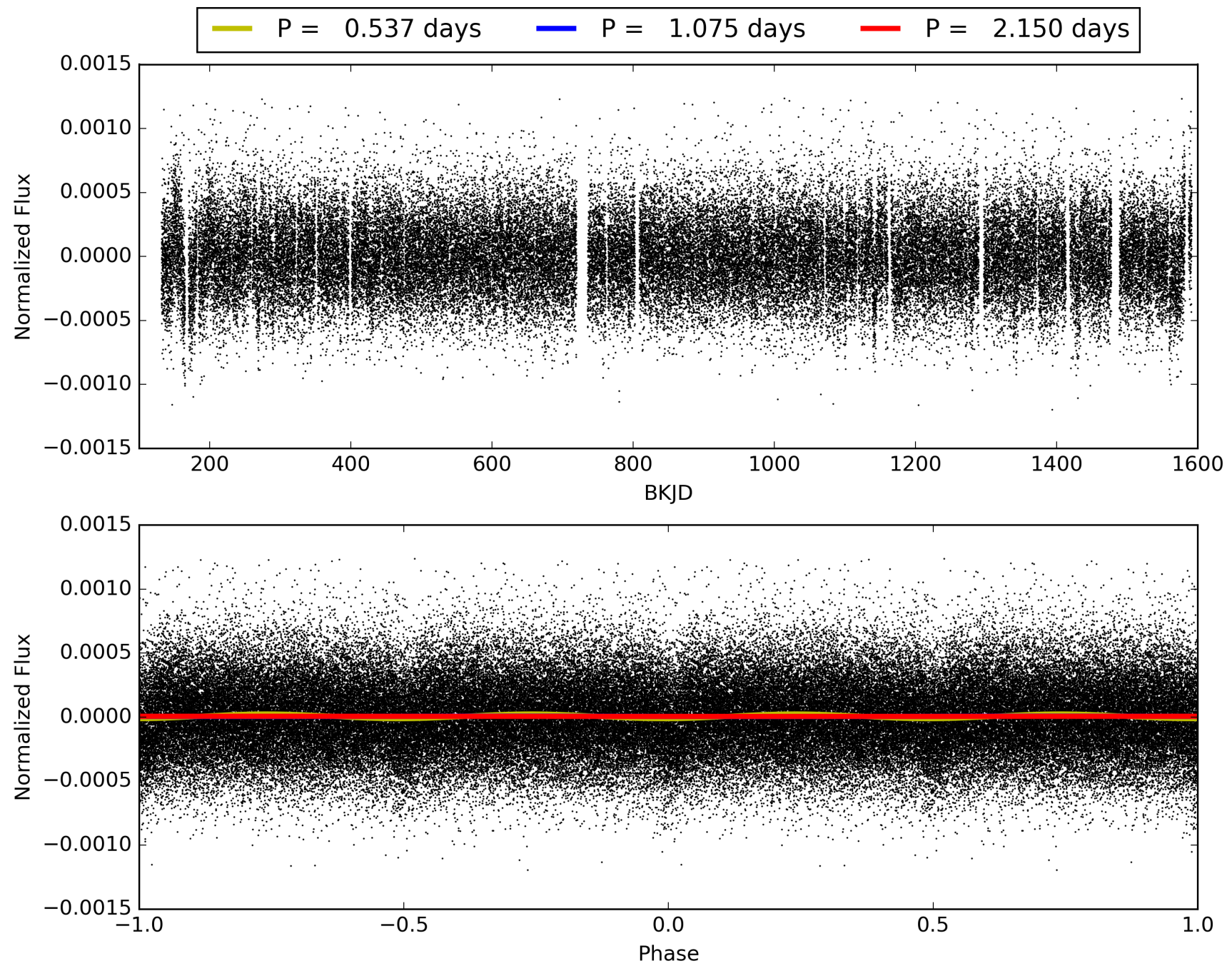
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:15:43 Z

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

TCE 011246161-02, PDC Light Curves

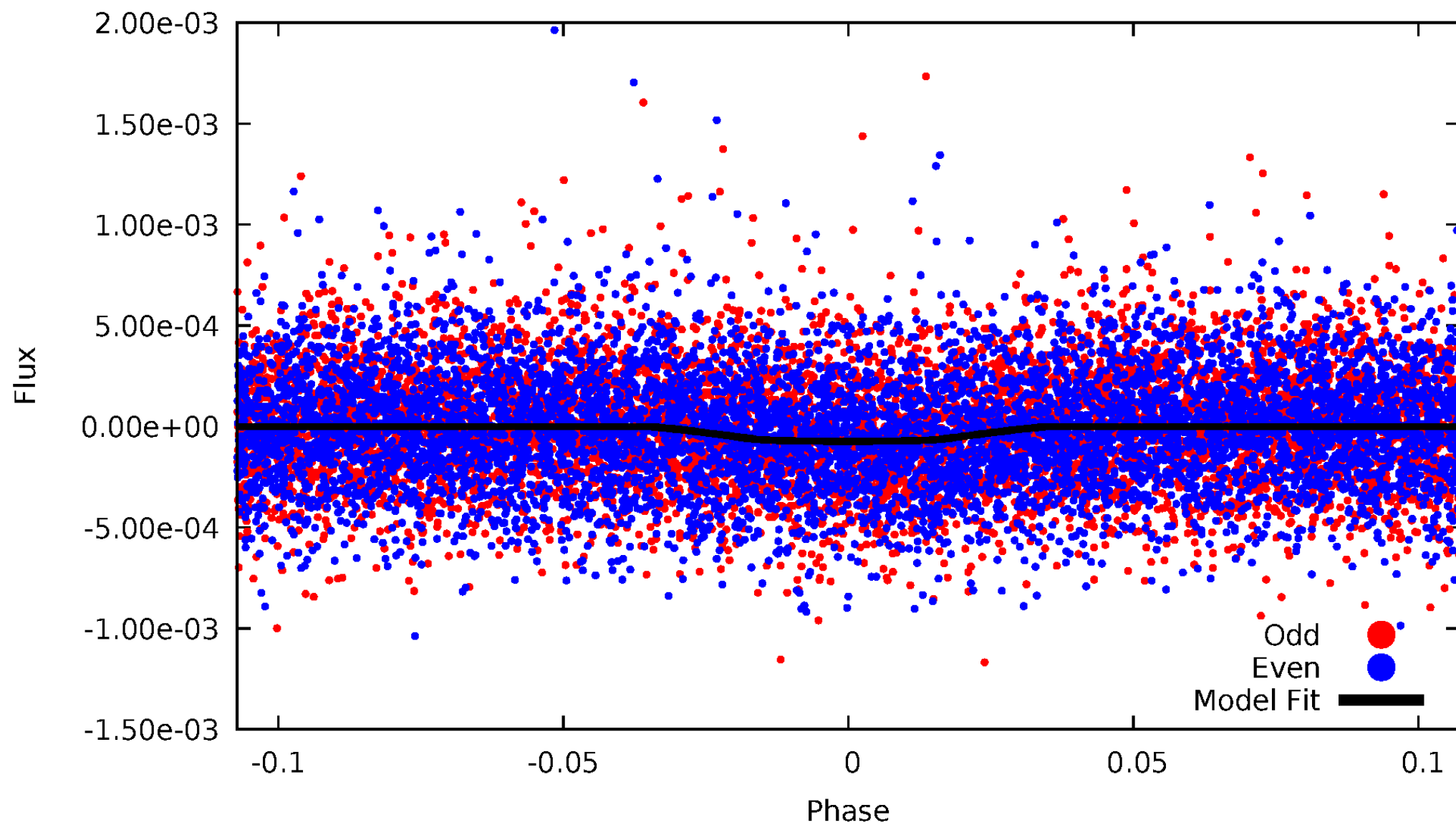


TCE 011246161-02



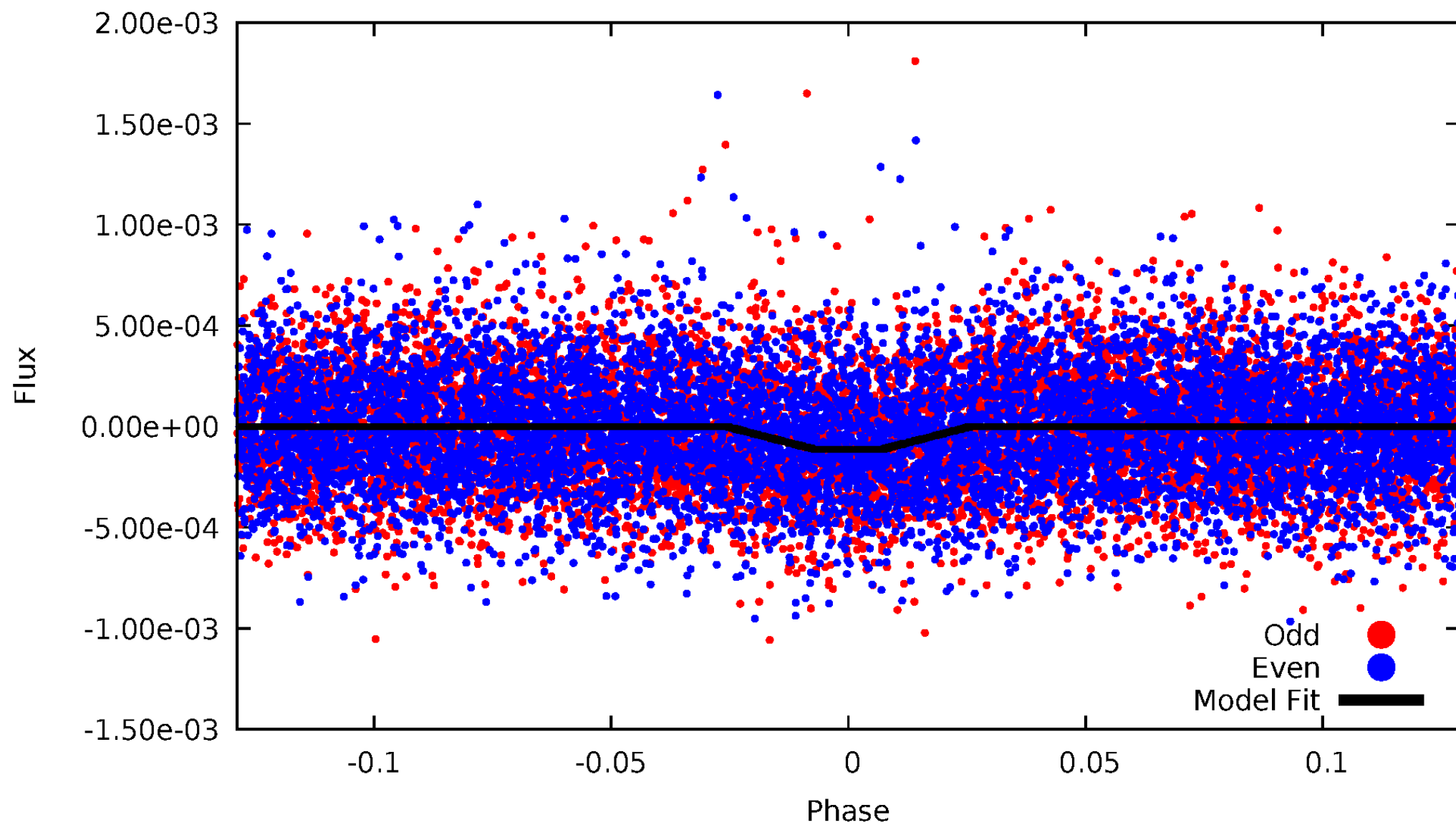
DV Odd/Even

TCE 011246161-02



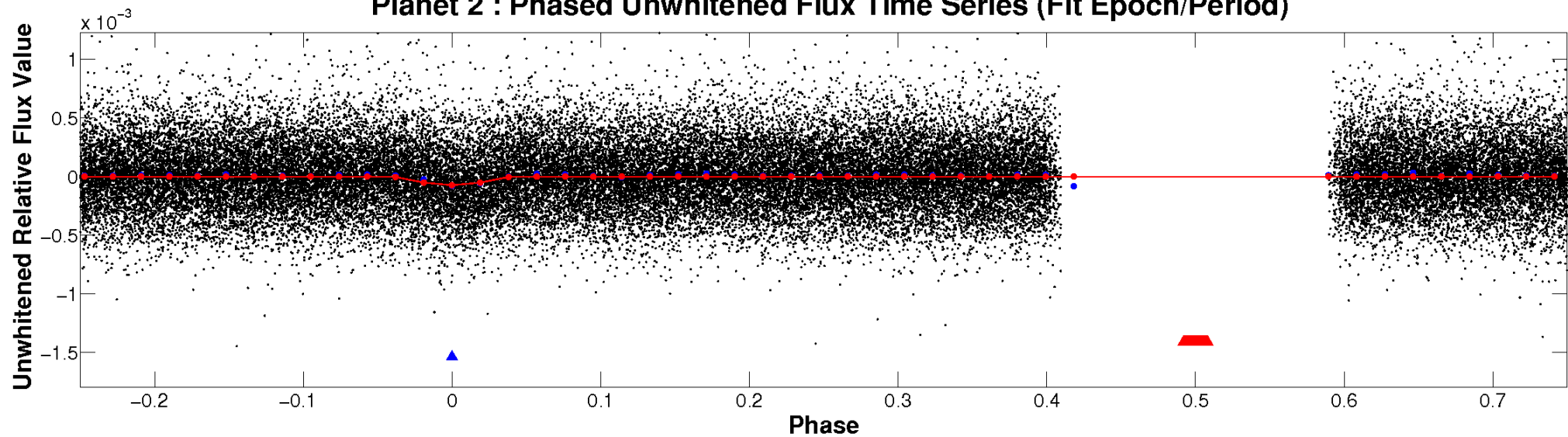
ALT Odd/Even

TCE 011246161-02

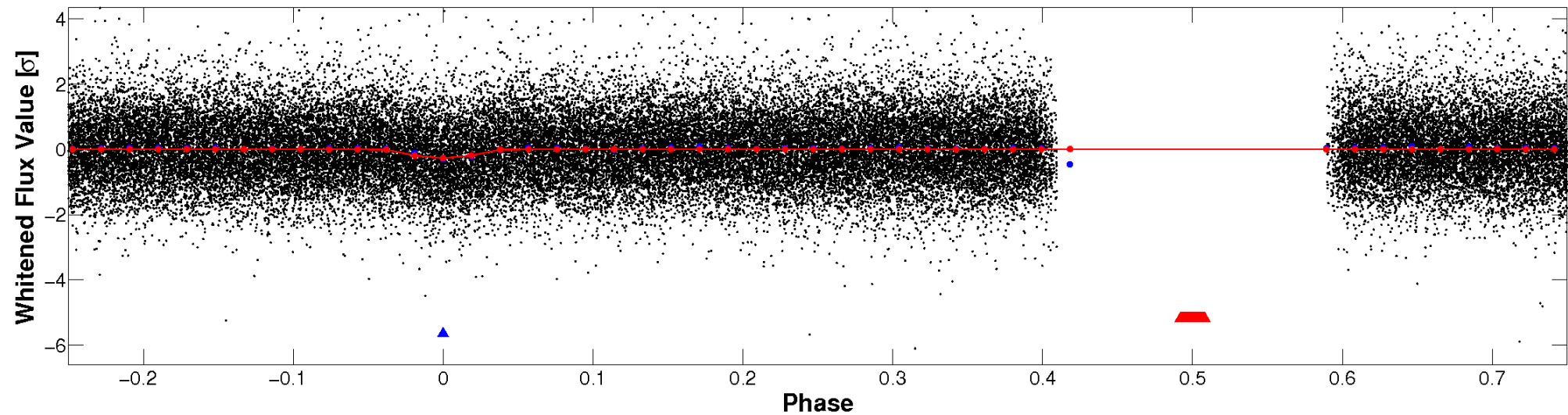


Non-Whitened Vs. Whitened Light Curve

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

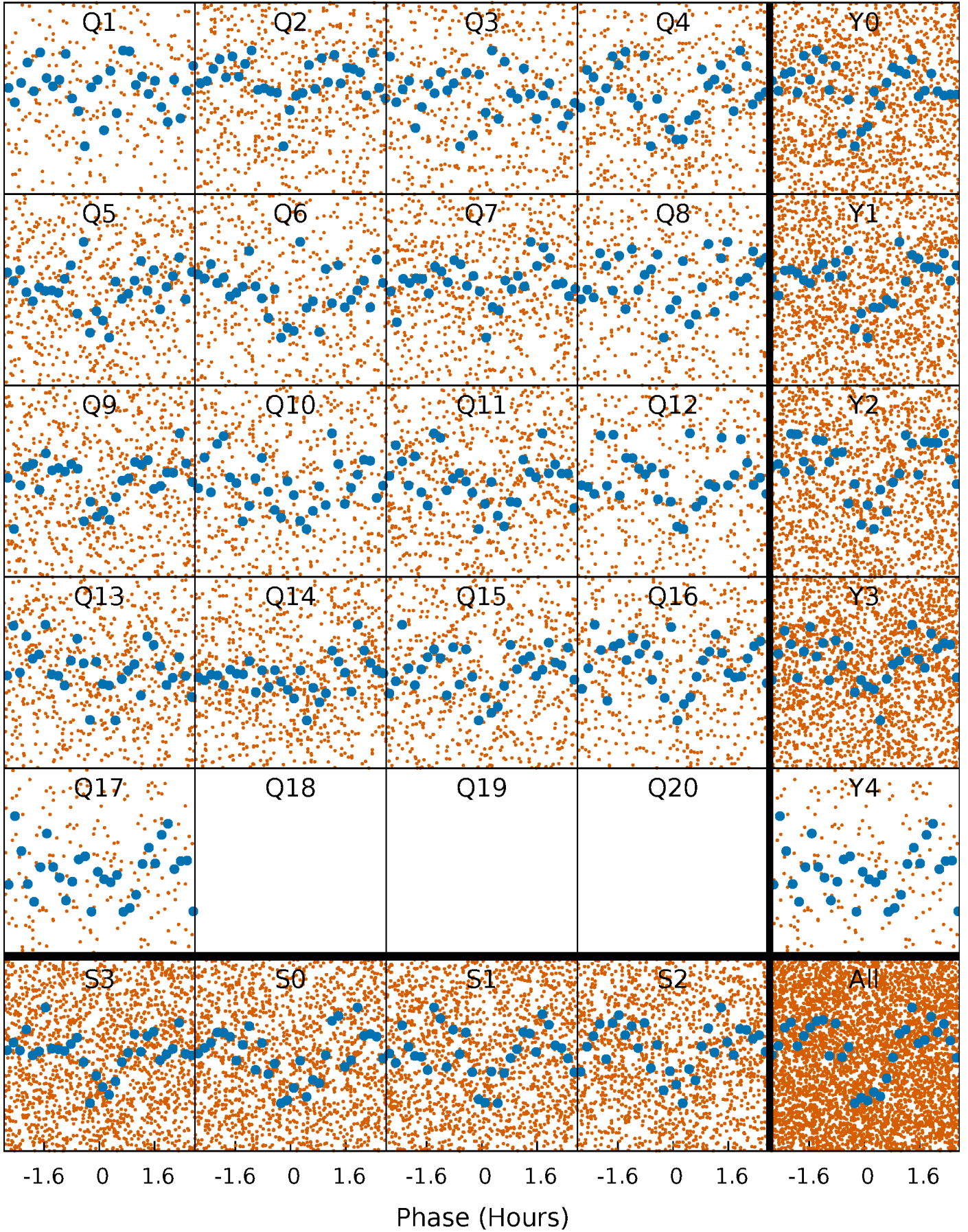


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



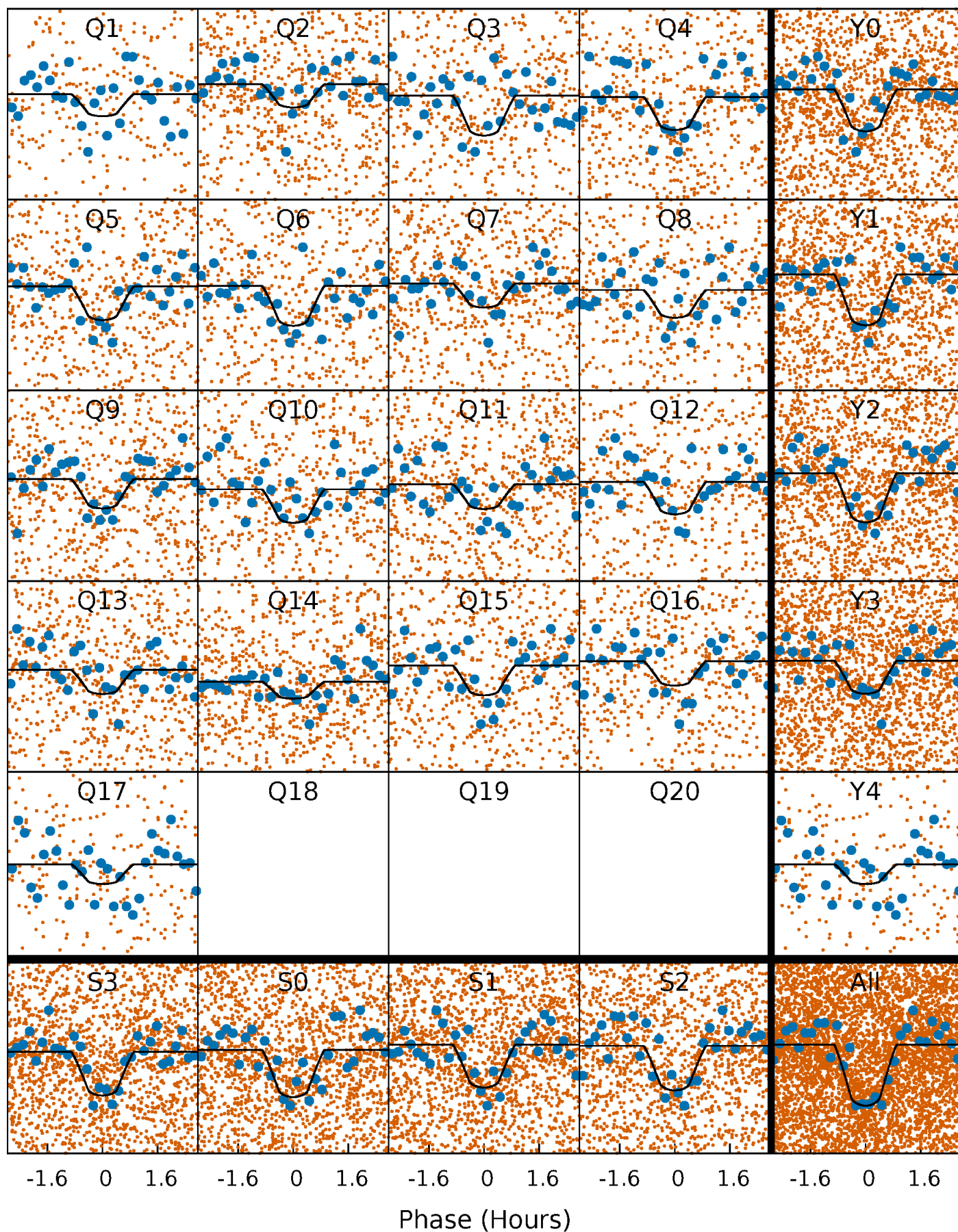
PDC Quarter-Phased Transit Curves

TCE 011246161-02 P= 1.074806 Days $T_0=132.038386$ (BKJD)



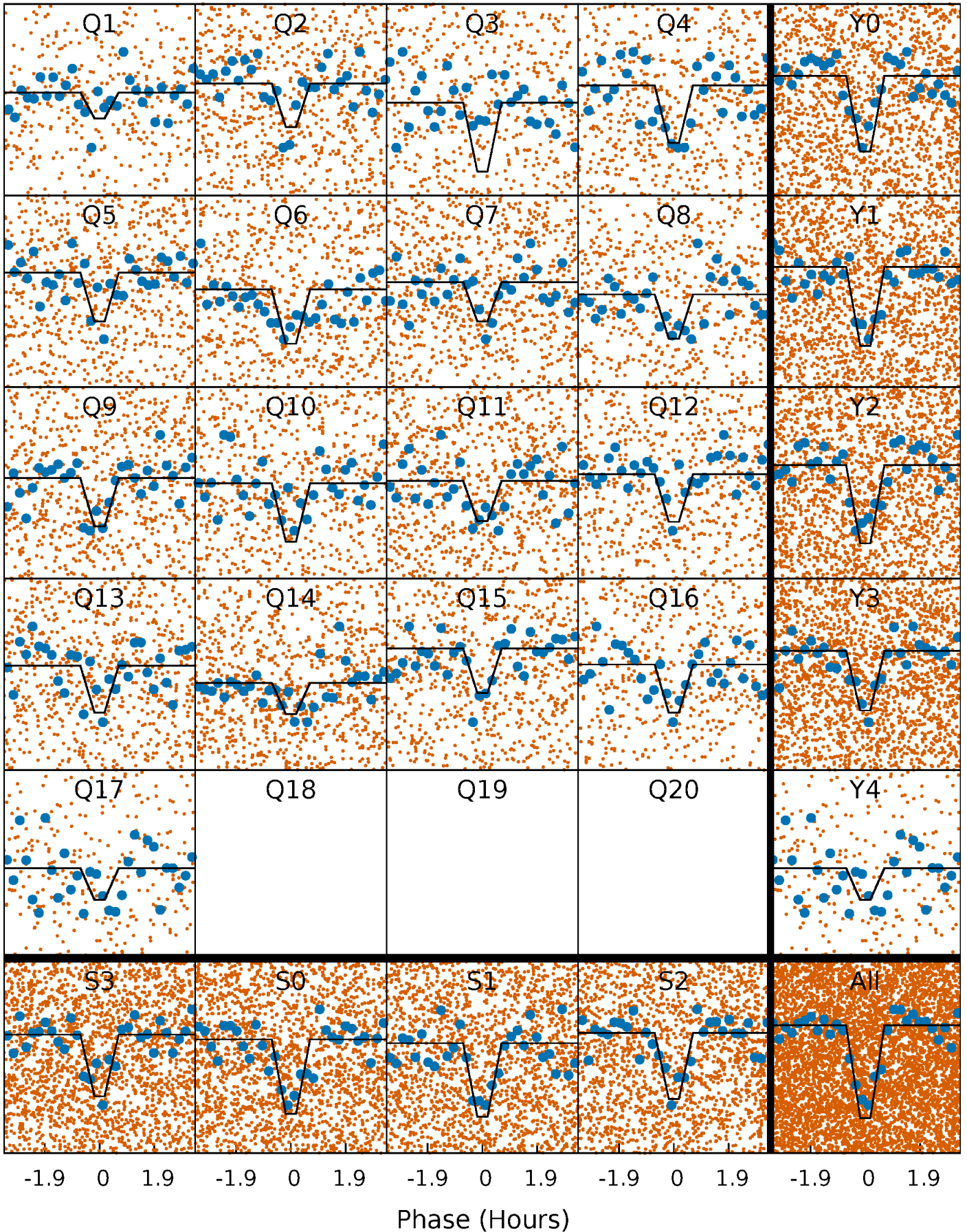
DV Quarter-Phased Transit Curves

TCE 011246161-02 P= 1.074806 Days $T_0=132.038386$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

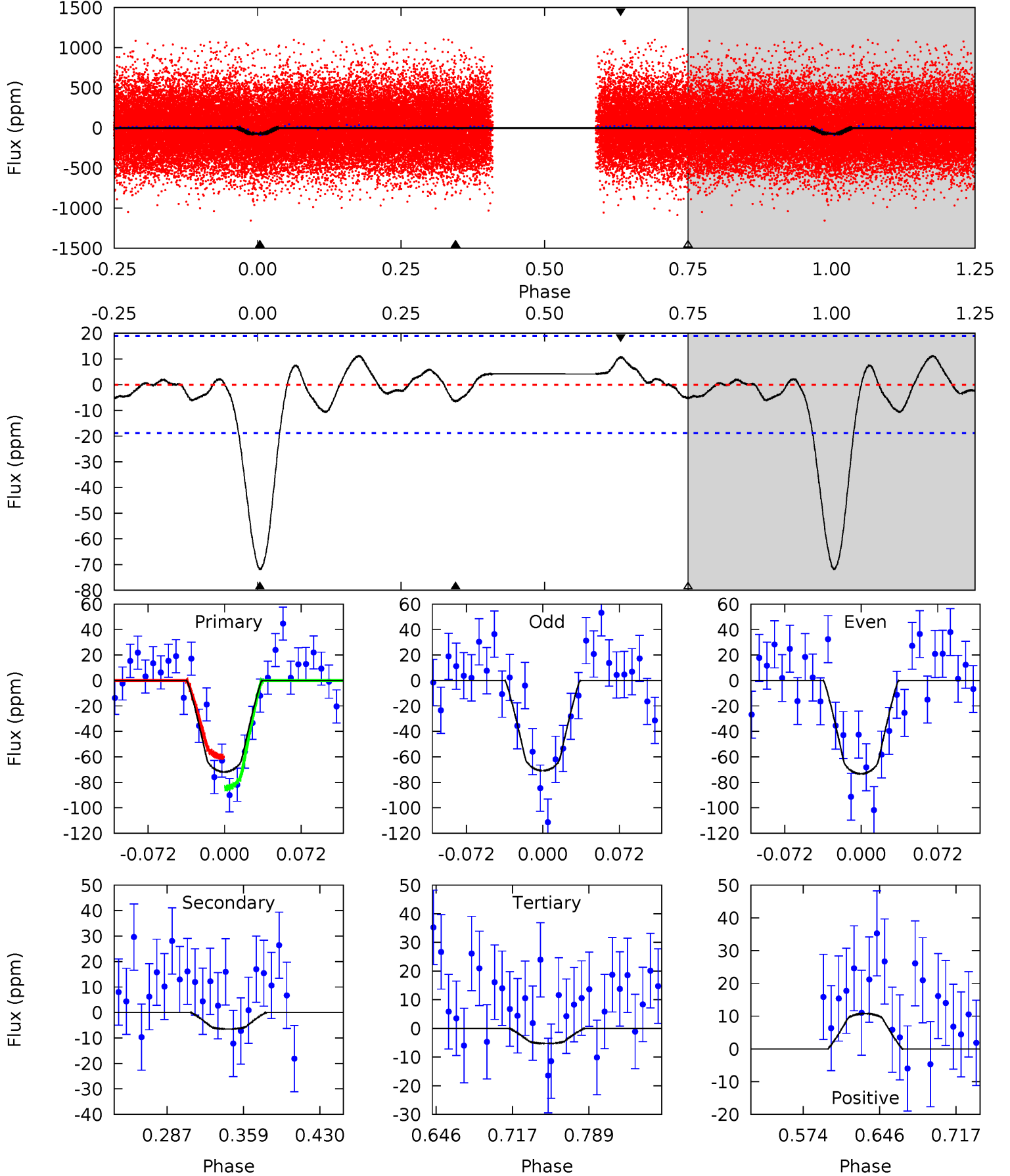
TCE 011246161-02 P= 1.074817 Days $T_0=132.036515$ (BKJD)



DV Model-Shift Uniqueness Test

011246161-02, P = 1.074806 Days, E = 130.963580 Days

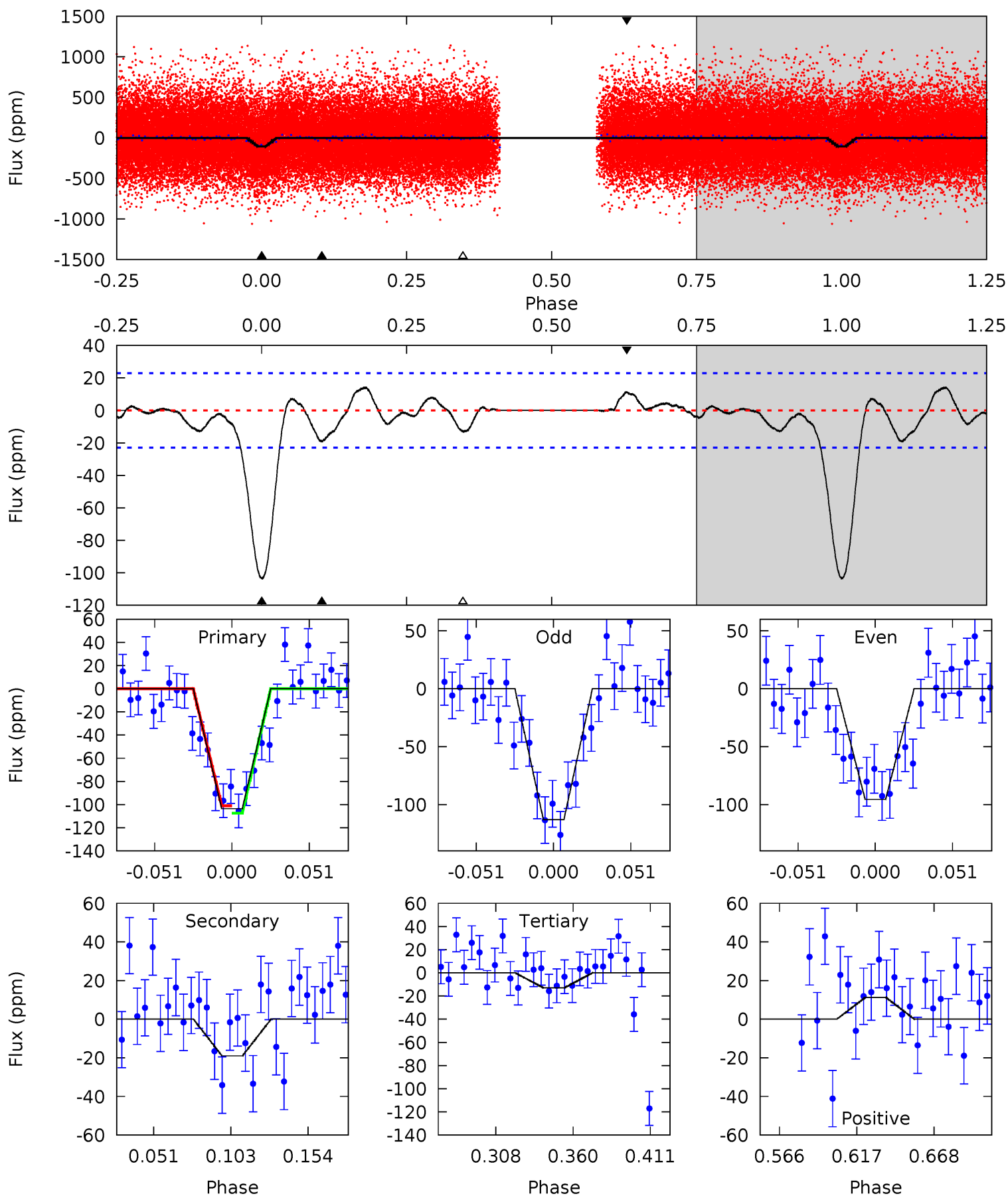
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	1.60	1.29	2.64	4.63	1.80	1.21	16.3	15.0	0.31	-1.04	0.29	0.92	0.14	3.01



Alt Model-Shift Uniqueness Test

011246161-02, P = 1.074817 Days, E = 130.961698 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	3.89	2.67	2.31	4.70	1.95	1.23	18.5	18.9	1.22	1.58	1.80	0.95	0.12	0.66



Stellar Parameters For KIC 011246161

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5749^{+78}_{-86}	$4.457^{+0.042}_{-0.119}$	$0.140^{+0.150}_{-0.150}$	$0.988^{+0.147}_{-0.063}$	$1.020^{+0.056}_{-0.062}$	$1.489^{+0.243}_{-0.515}$
	+1%/-1%	+1%/-3%	+107%/-107%	+15%/-6%	+5%/-6%	+16%/-35%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 011246161-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7 ± 4	$1.07^{+0.61}_{-0.58}$	2473^{+98}_{-67}	3242^{+1305}_{-5126}	$1.217^{+5.174}_{-0.926}$
Alt.	-19 ± 5	$1.23^{+0.59}_{-0.60}$	2471^{+95}_{-66}	3837^{+1221}_{-555}	$2.831^{+8.021}_{-1.585}$

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 $A_{obs} \gg 1.0$

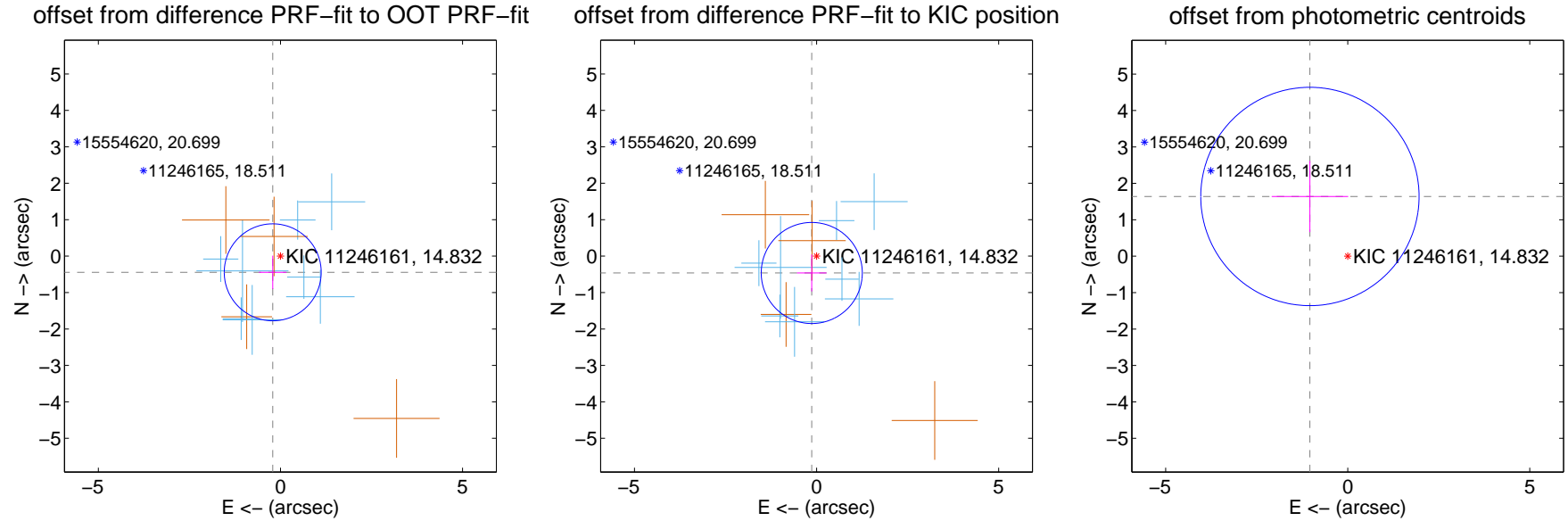
DV Centroid Data

Supplemental centroid analysis for 011246161-02. Kepler magnitude: 14.83. Transit SNR 13.28

There are 8 quarters with good PRF difference image offsets

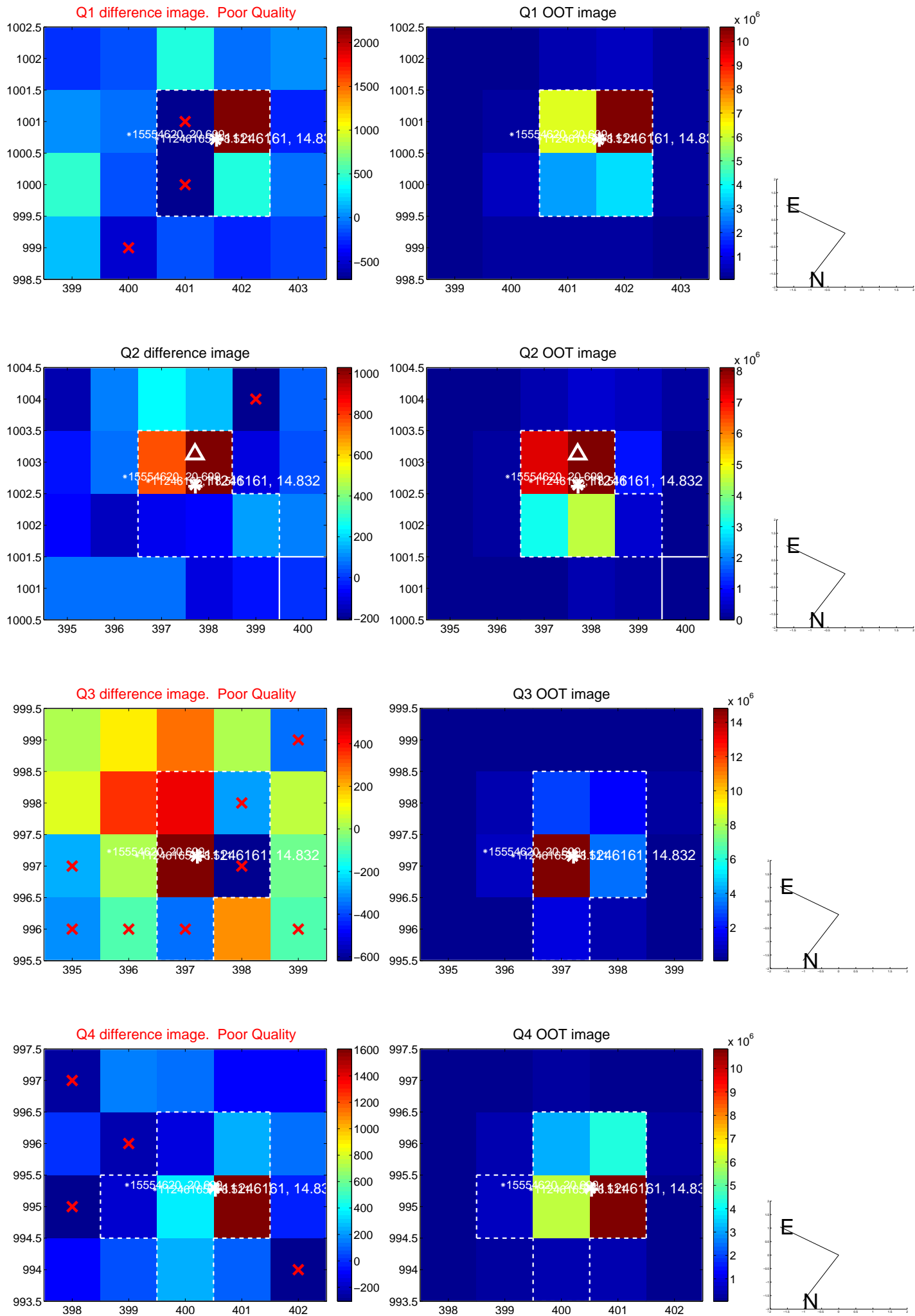
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.492 ± 0.444	1.11	0.212 ± 0.377	-0.444 ± 0.457
PRF-fit source offset from KIC position	0.481 ± 0.462	1.04	0.132 ± 0.405	-0.462 ± 0.506
photometric centroid source offset	1.94 ± 1.00	1.94	1.04 ± 1.05	1.64 ± 0.98

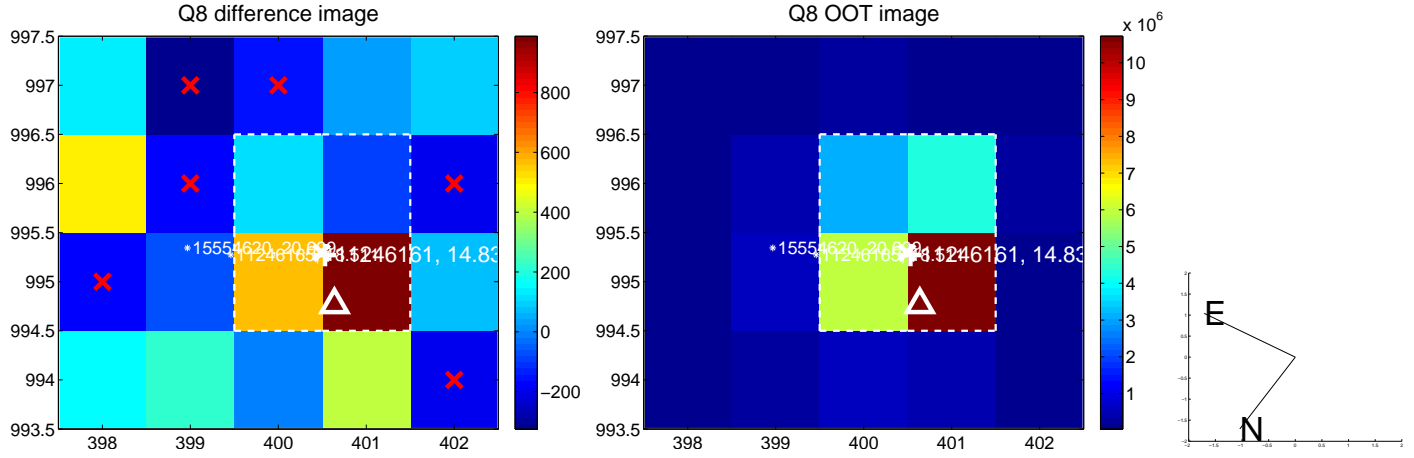
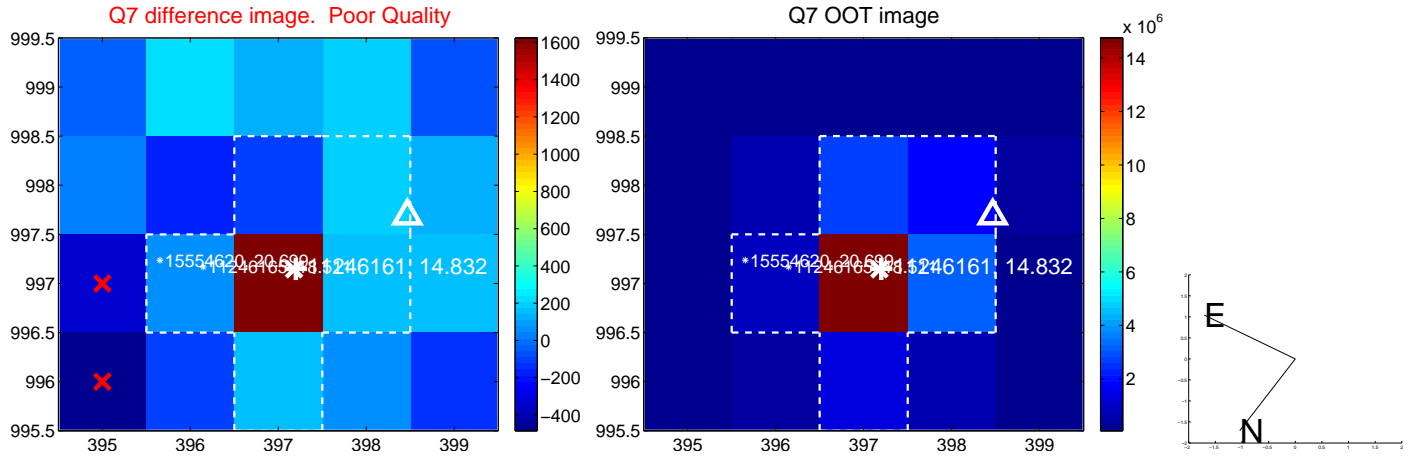
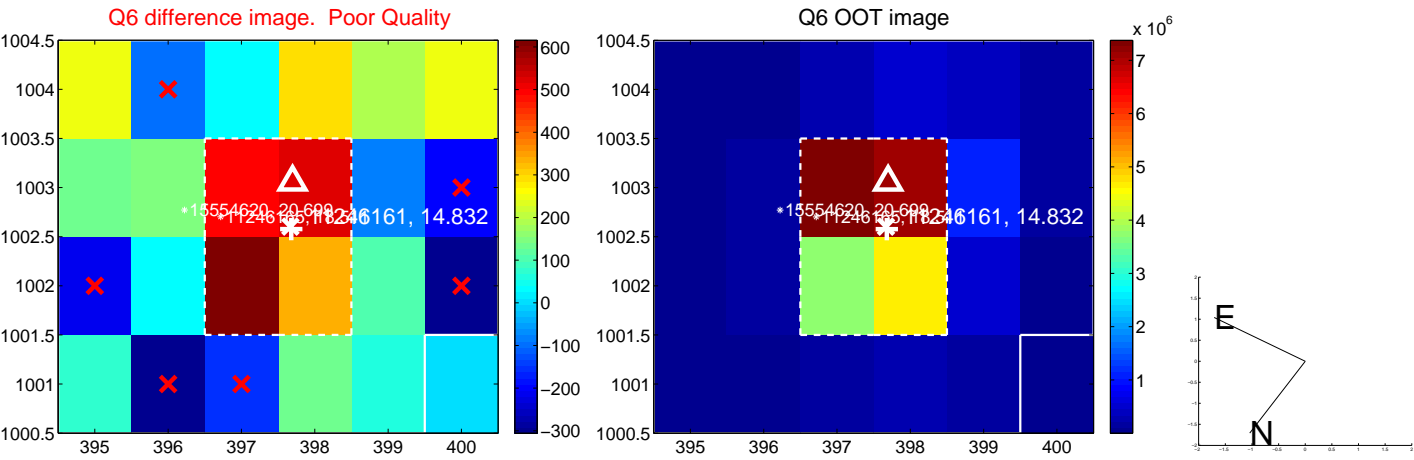
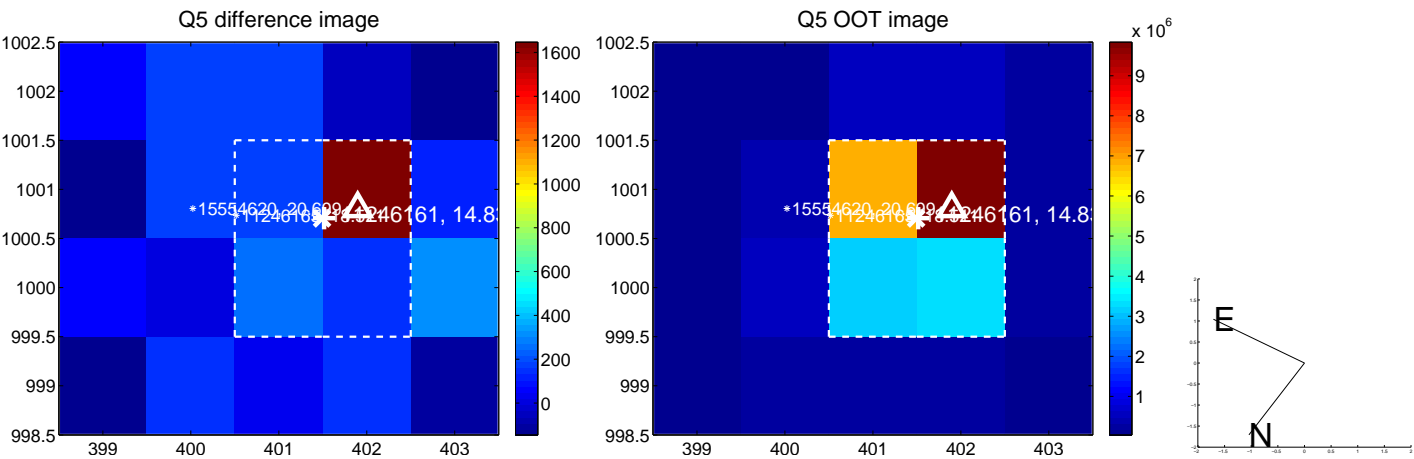


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

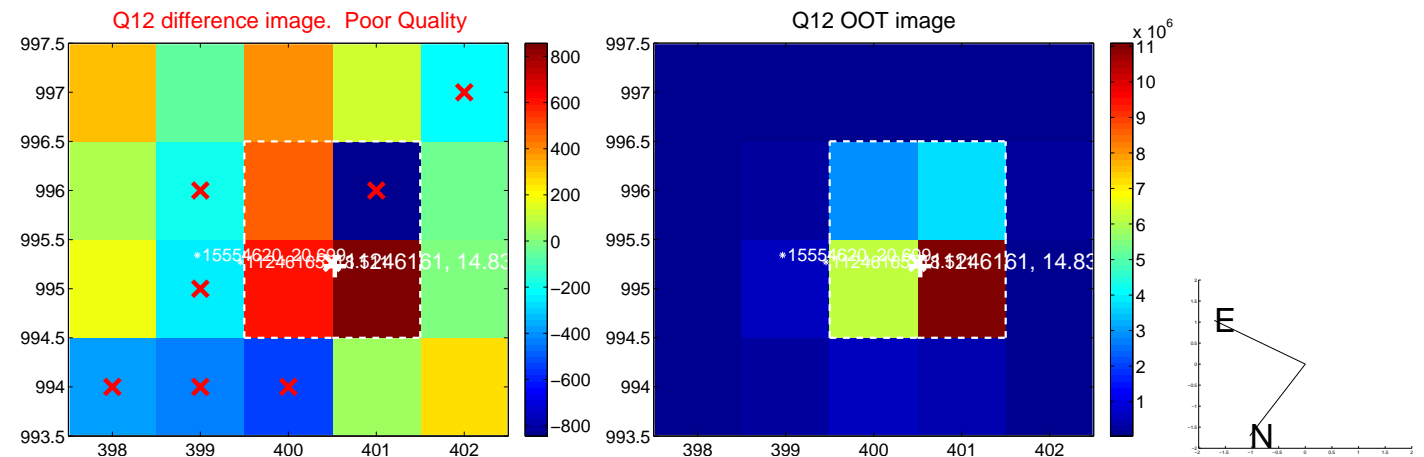
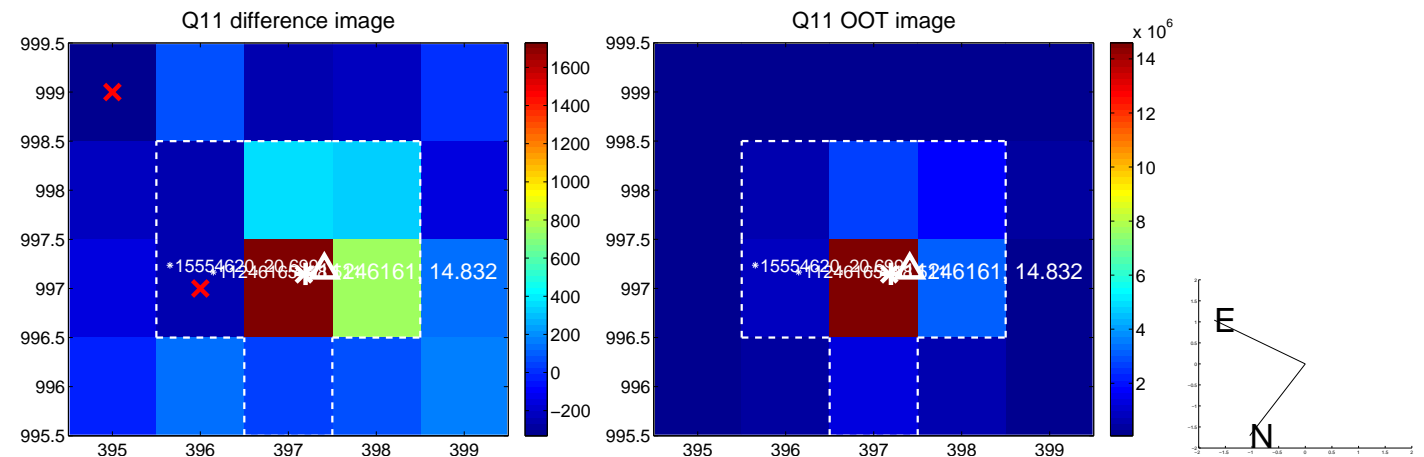
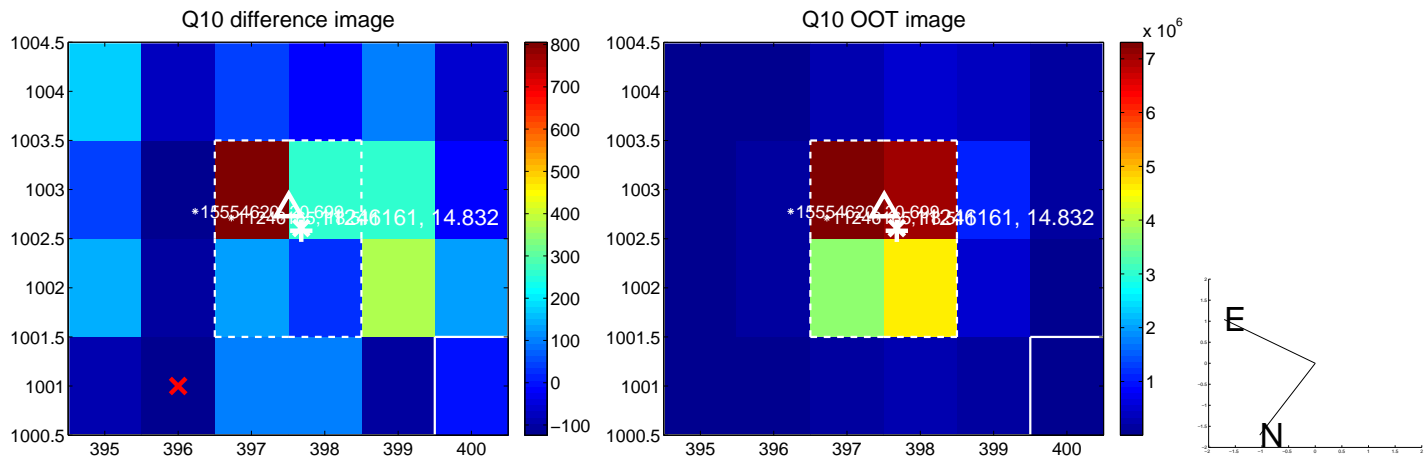
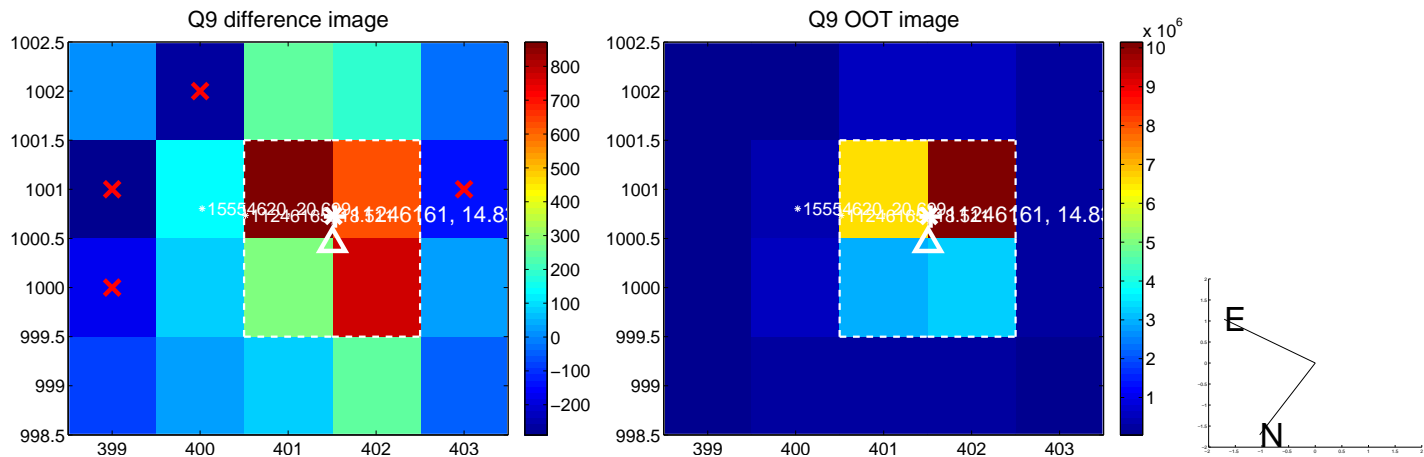
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



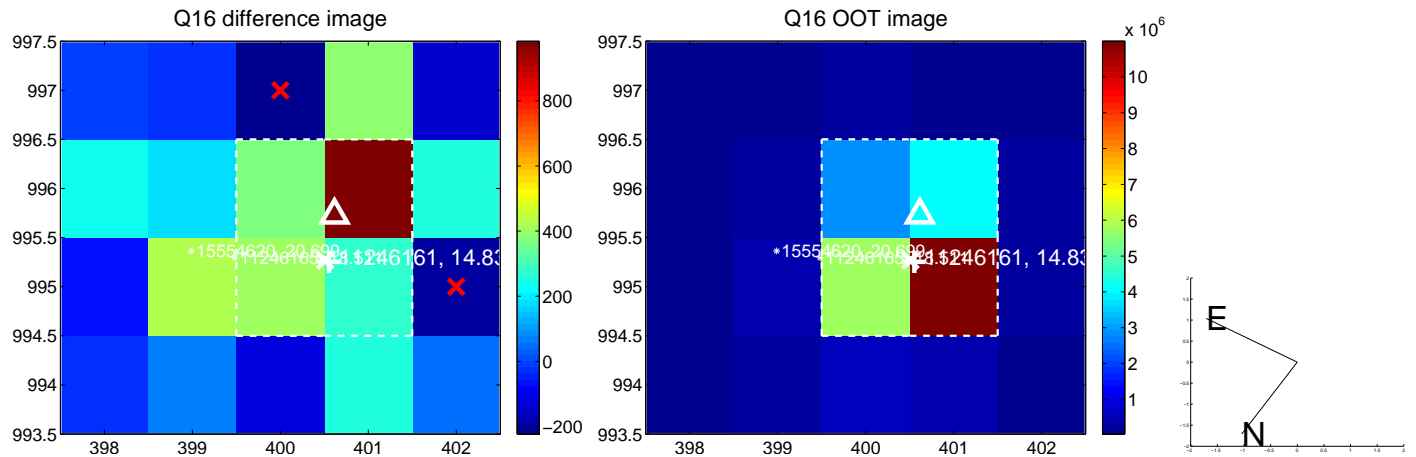
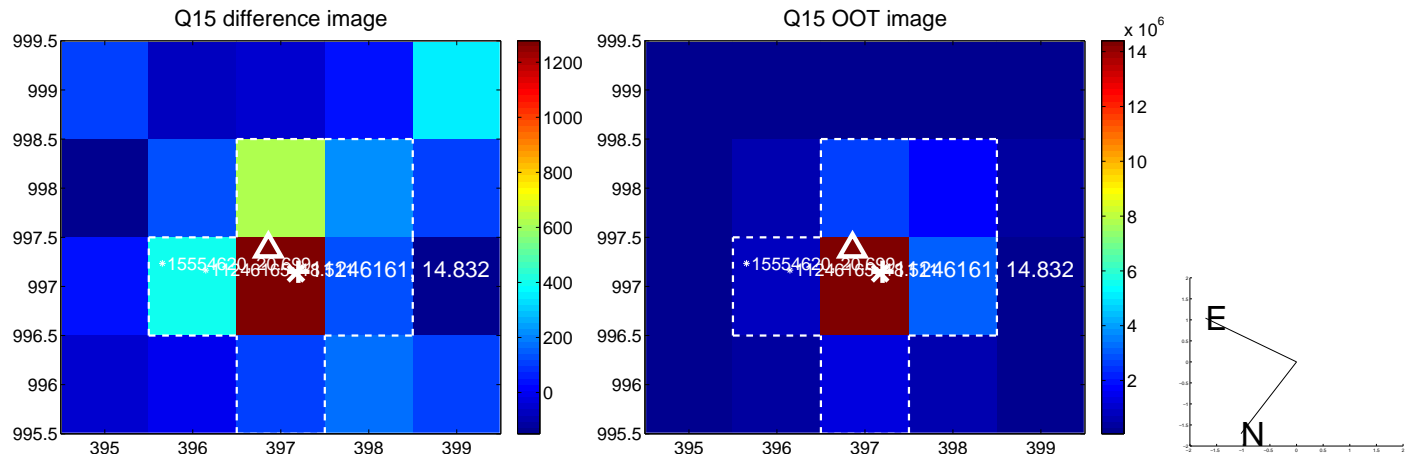
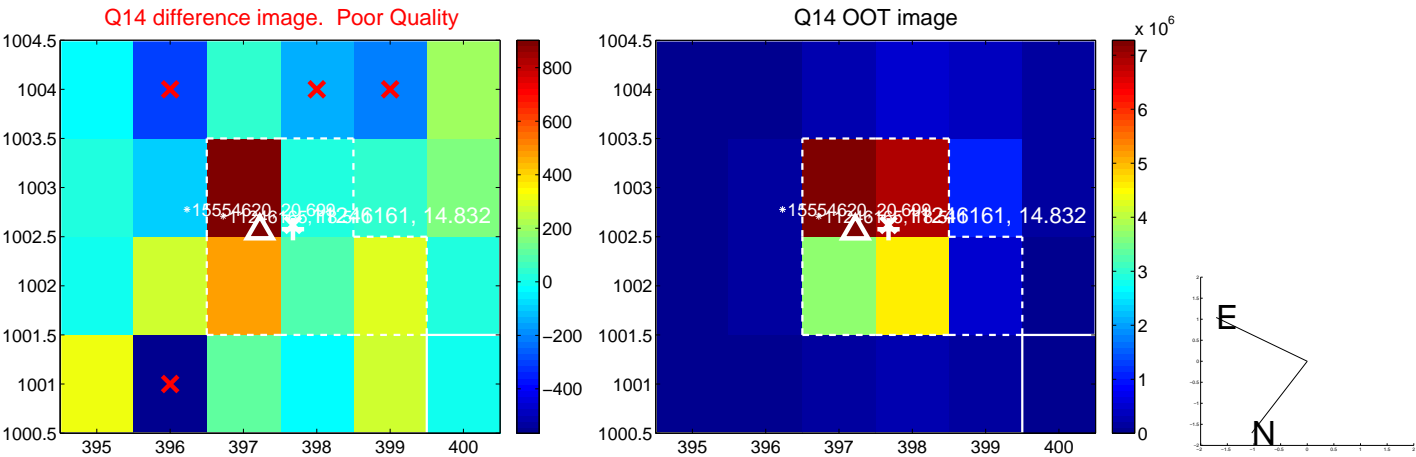
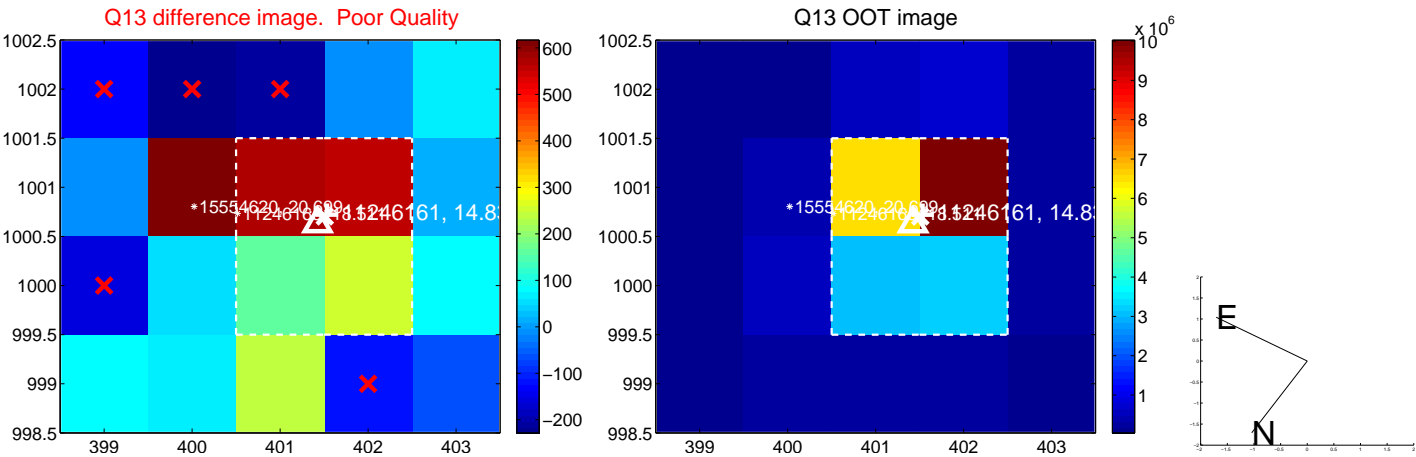
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



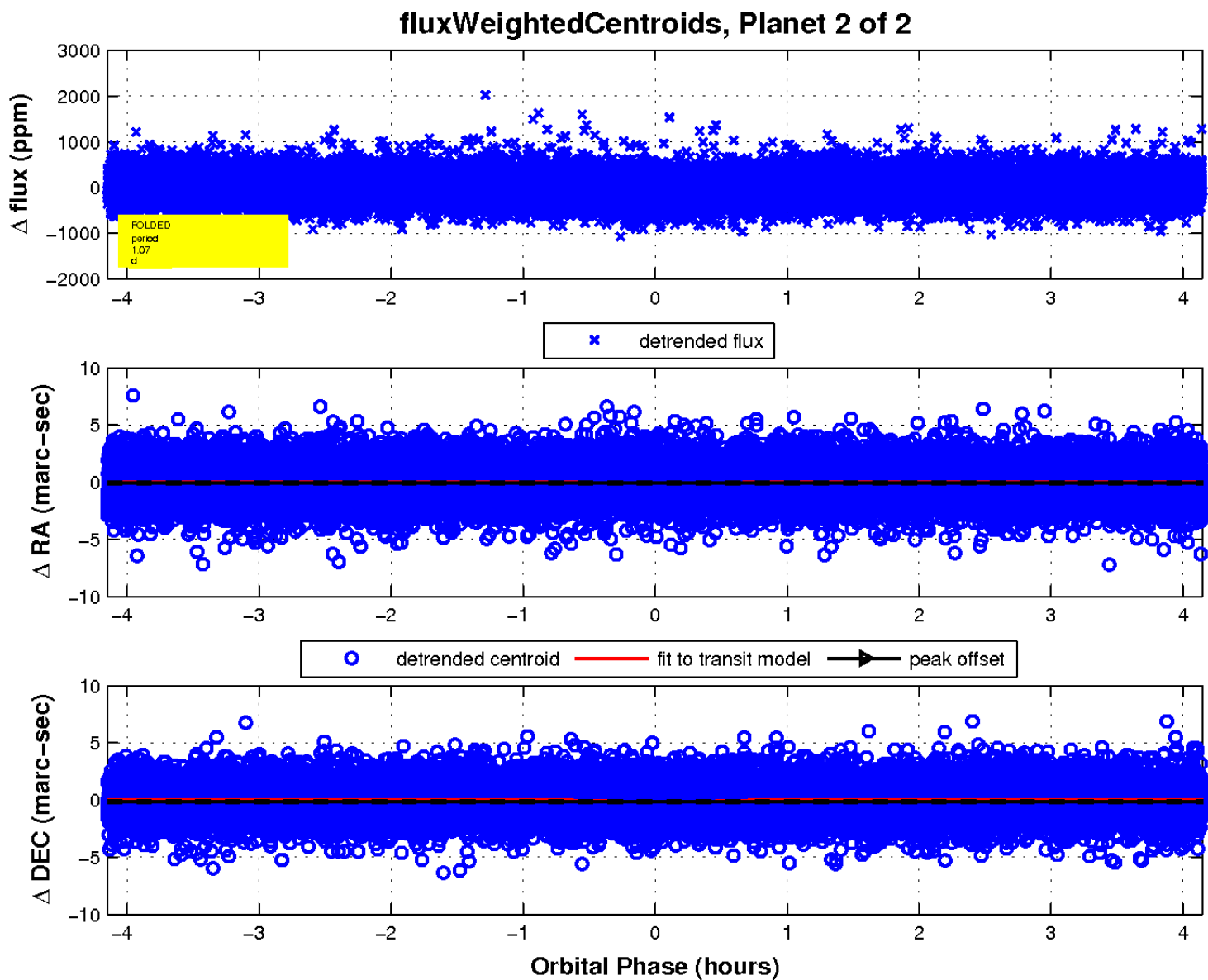
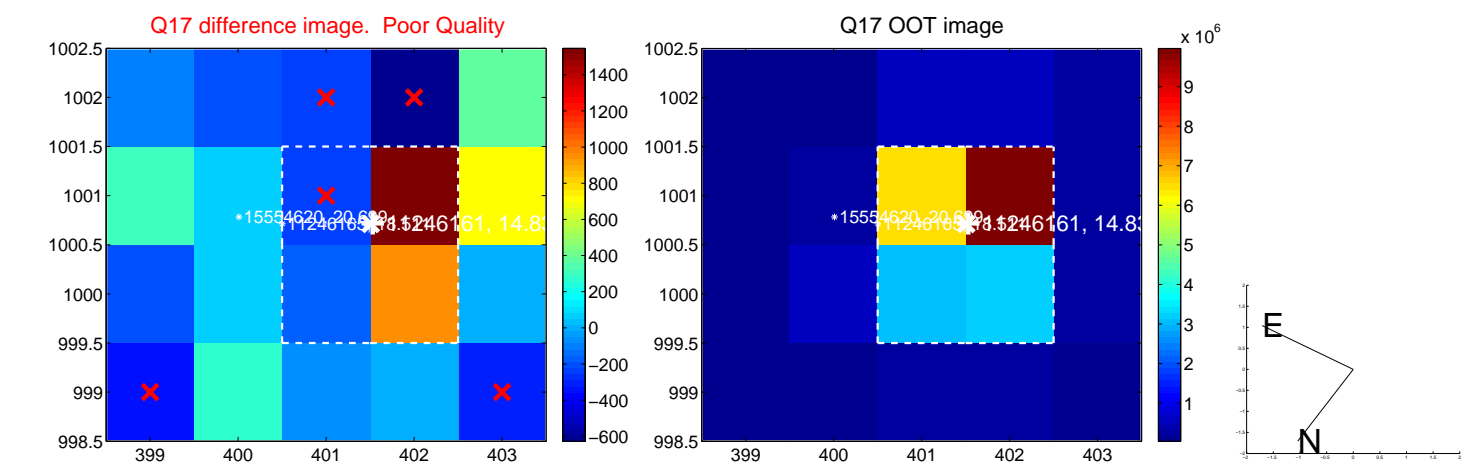
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

