

KIC 010601604

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})
010601604-01	OBS	No	0.932883	131.684268	47.9	2.872	7.8	6.8	1.08	6022	0.89	4015.20
010601604-02	OBS	No	120.797850	145.639687	507.3	3.128	8.9	5.3	1.08	6022	2.70	6.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010601604-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
010601604-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

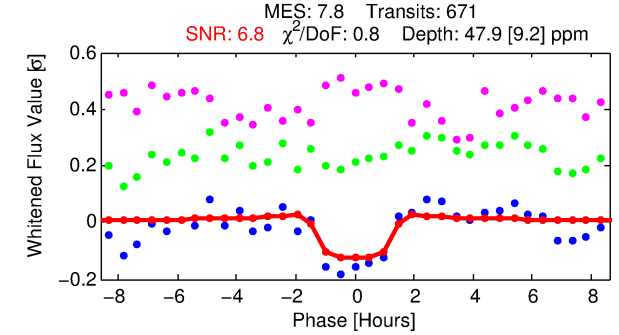
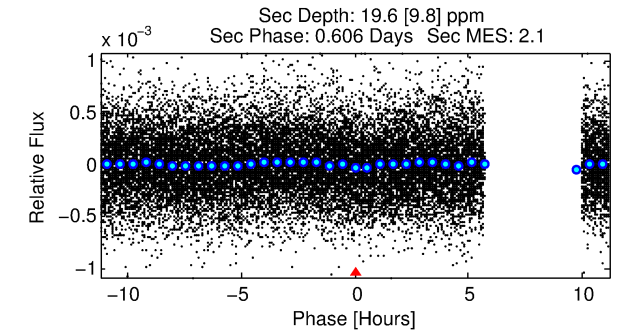
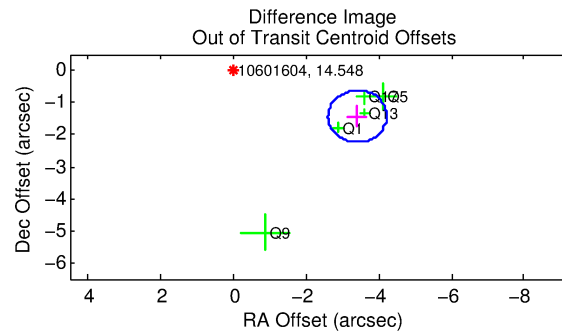
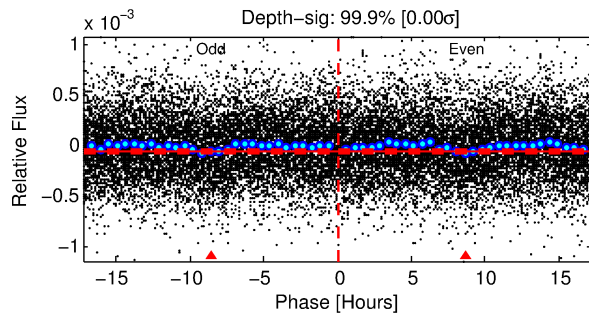
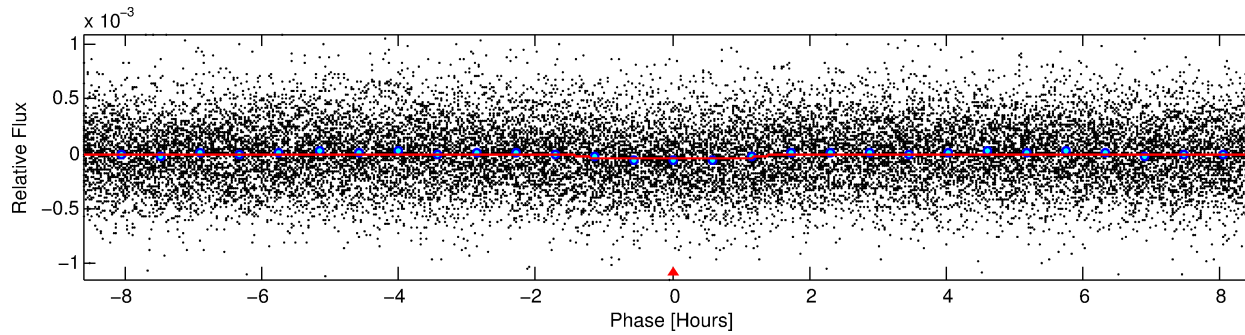
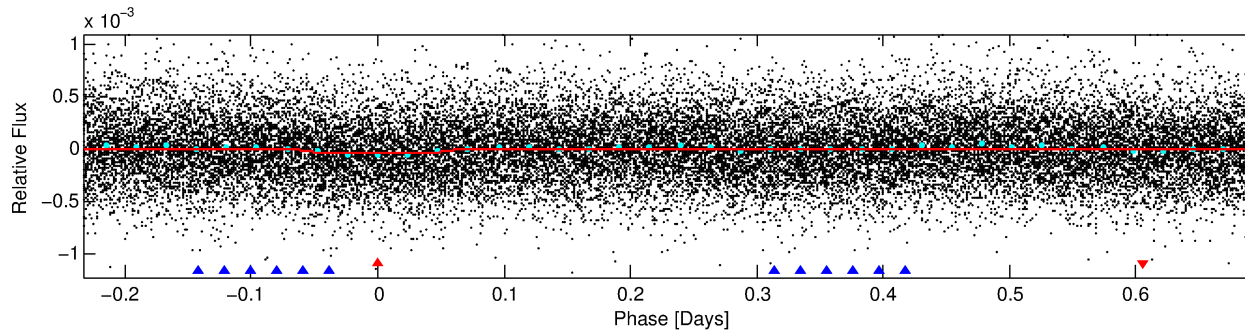
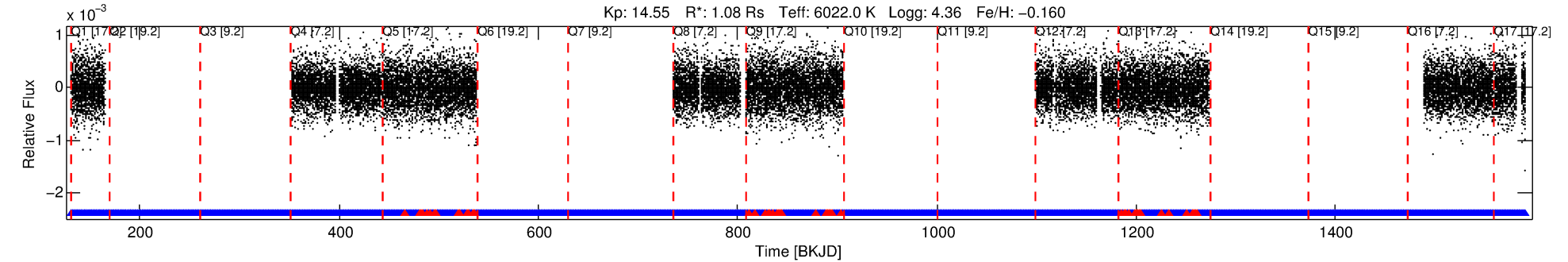
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010601604-01

No Significant Match Found

DV One-Page Summary

KIC: 10601604 Candidate: 1 of 2 Period: 0.933 d



DV Fit Results:

Period = 0.93288 [0.00001] d
Epoch = 131.6843 [0.0043] BKJD
Rp/R* = 0.0075 [0.0058]
a/R* = 1.46 [3.15]
b = 0.90 [0.87]
Seff = 4015.21 [1556.57]
Teq = 2030 [197] K
Rp = 0.89 [0.73] Re
a = 0.0186 [0.0046] AU
Ag = 4.76 [7.89] [0.48 σ]
Teffp = 4635 [1885] K [1.37 σ]

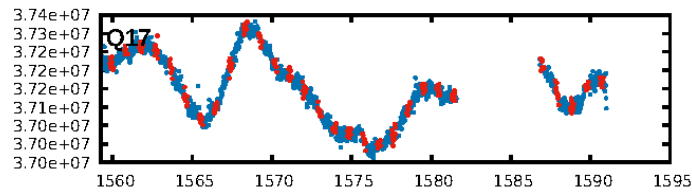
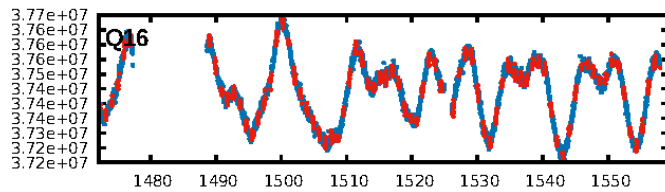
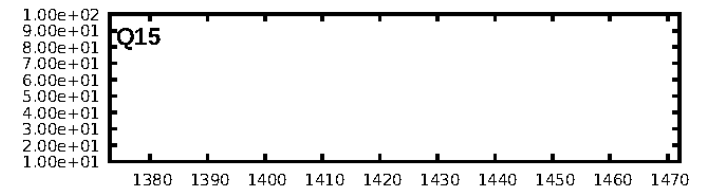
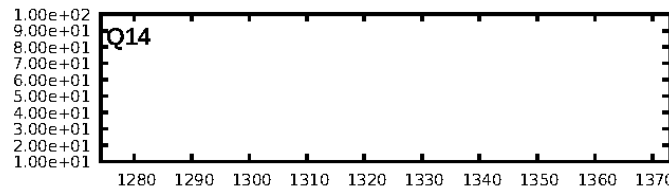
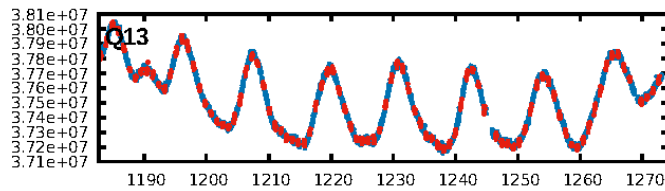
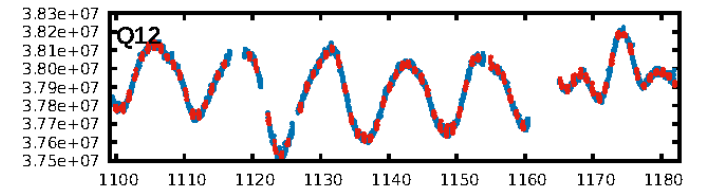
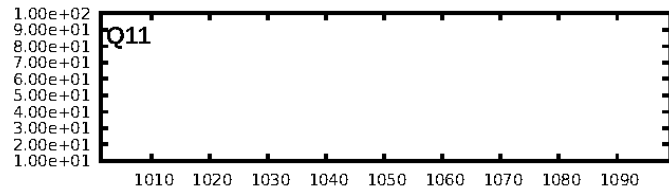
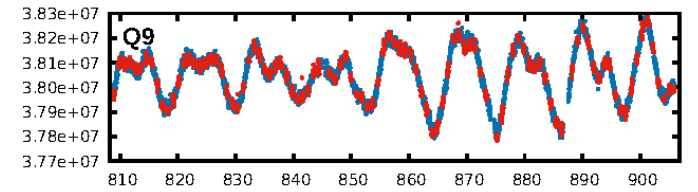
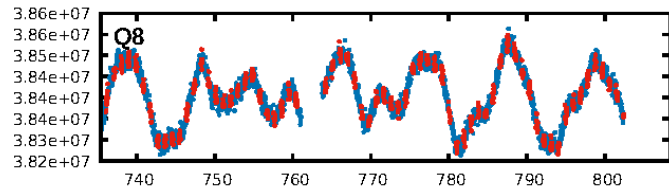
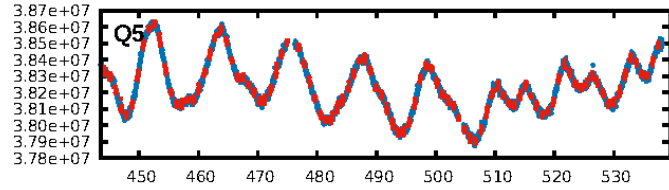
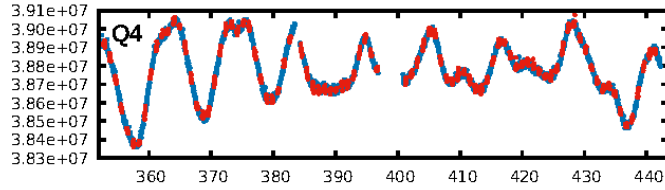
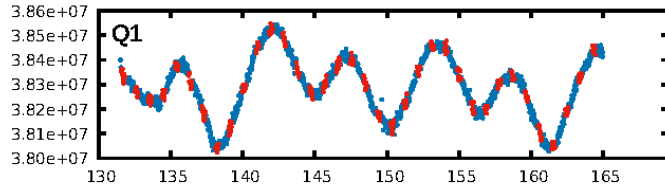
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [677.46 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.35e-14
RollingBand-fgt: 0.91 [554/606]
GhostDiagnostic-chr: 1.591
Centroid-sig: 83.1%
Centroid-so: 0.743 arcsec [0.44 σ]
OotOffset-rm: 3.699 arcsec [13.72 σ]
KicOffset-rm: 3.712 arcsec [13.50 σ]
OotOffset-st: 0/0/0/5 [5]
KicOffset-st: 0/0/0/5 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 1.00 [9/9]

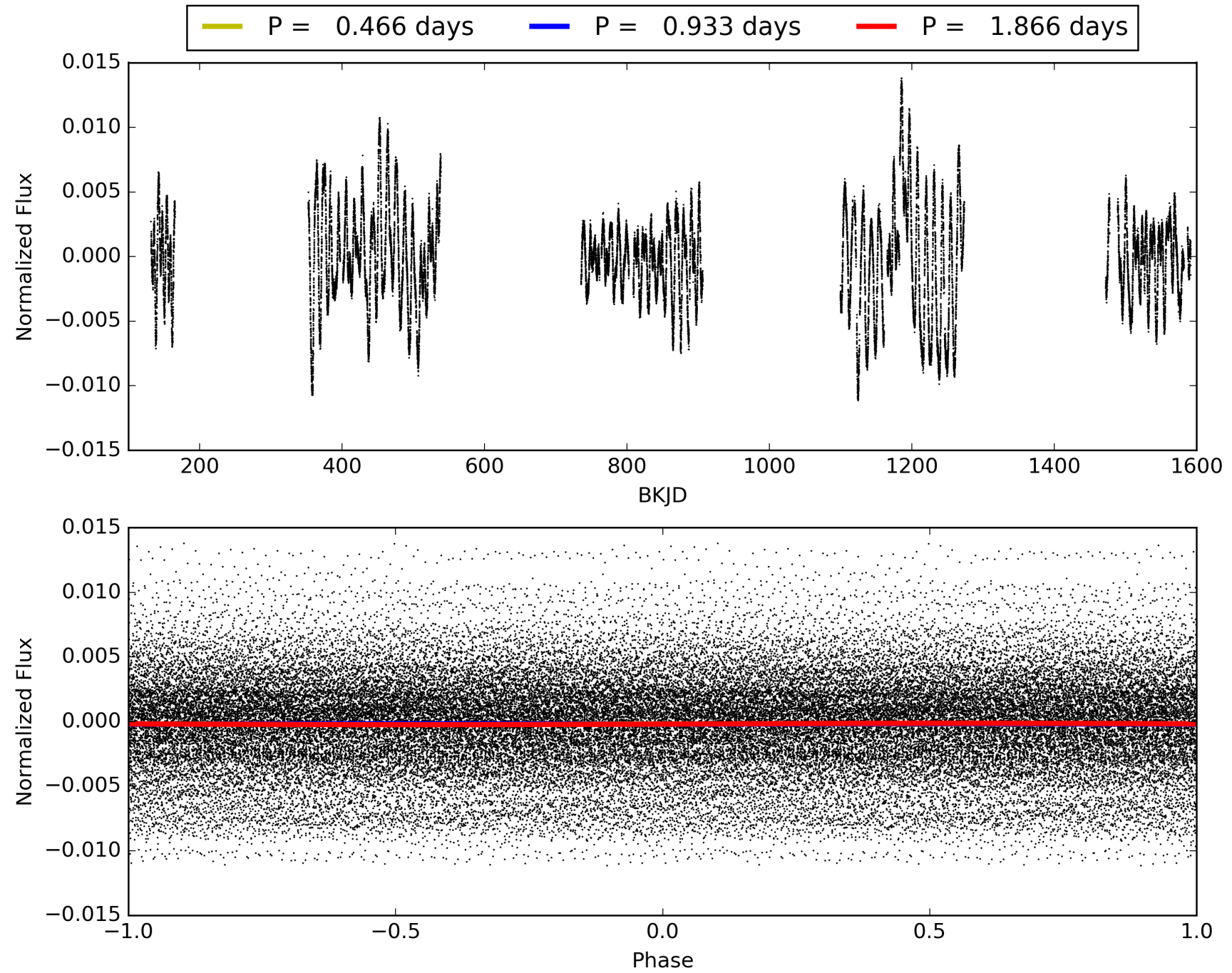
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:40:36 Z

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

TCE 010601604-01, PDC Light Curves

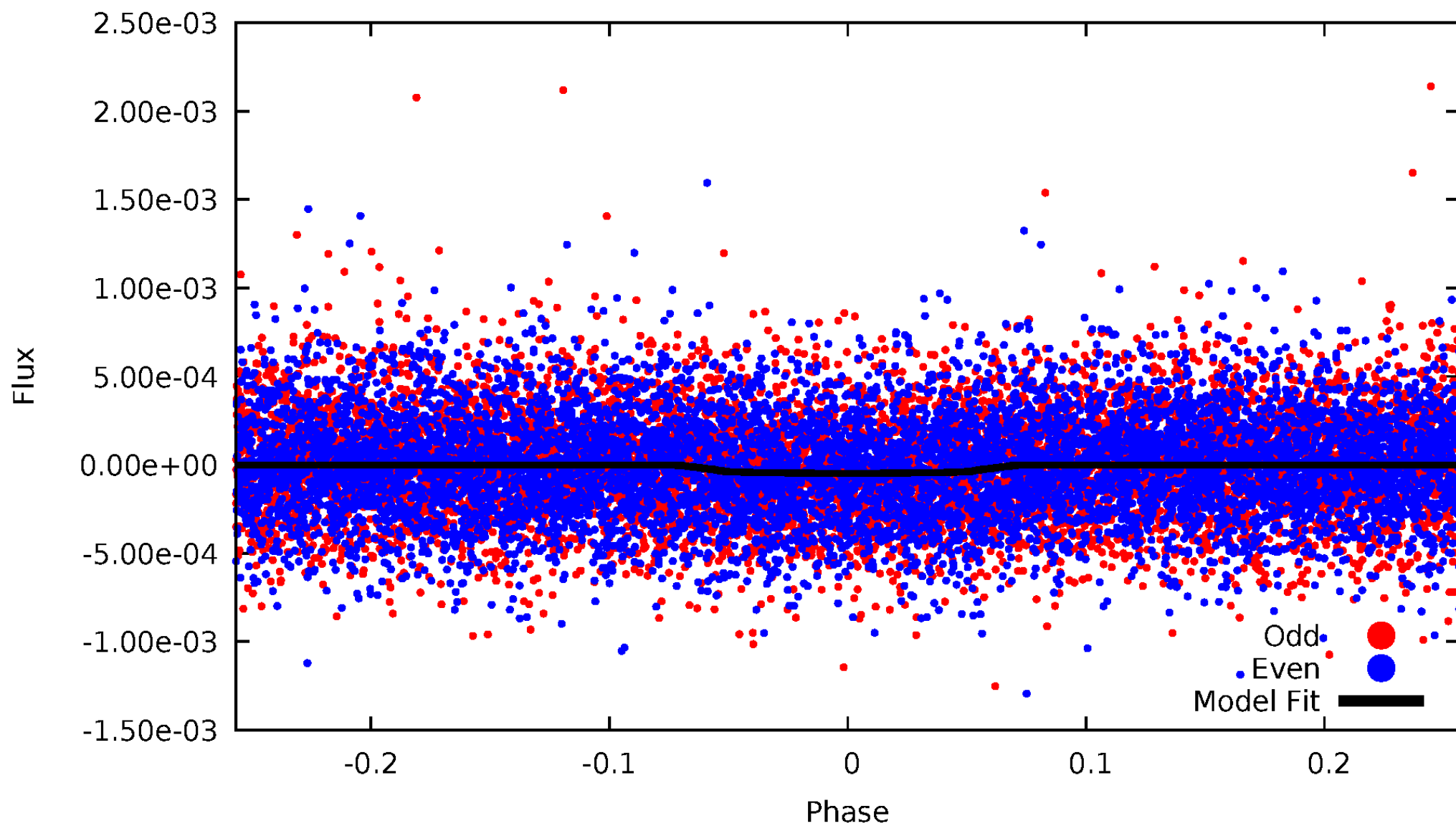


TCE 010601604-01



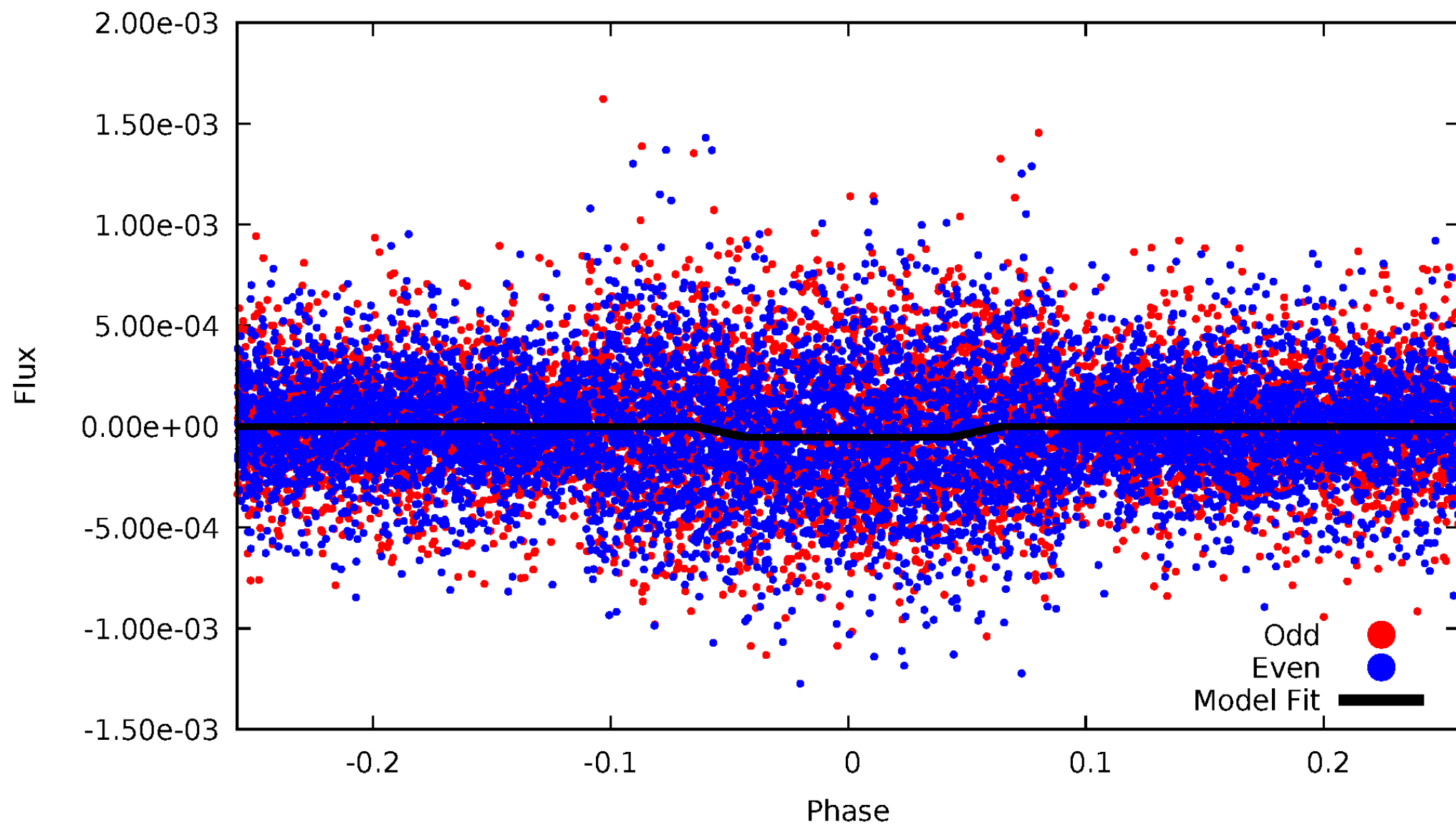
DV Odd/Even

TCE 010601604-01

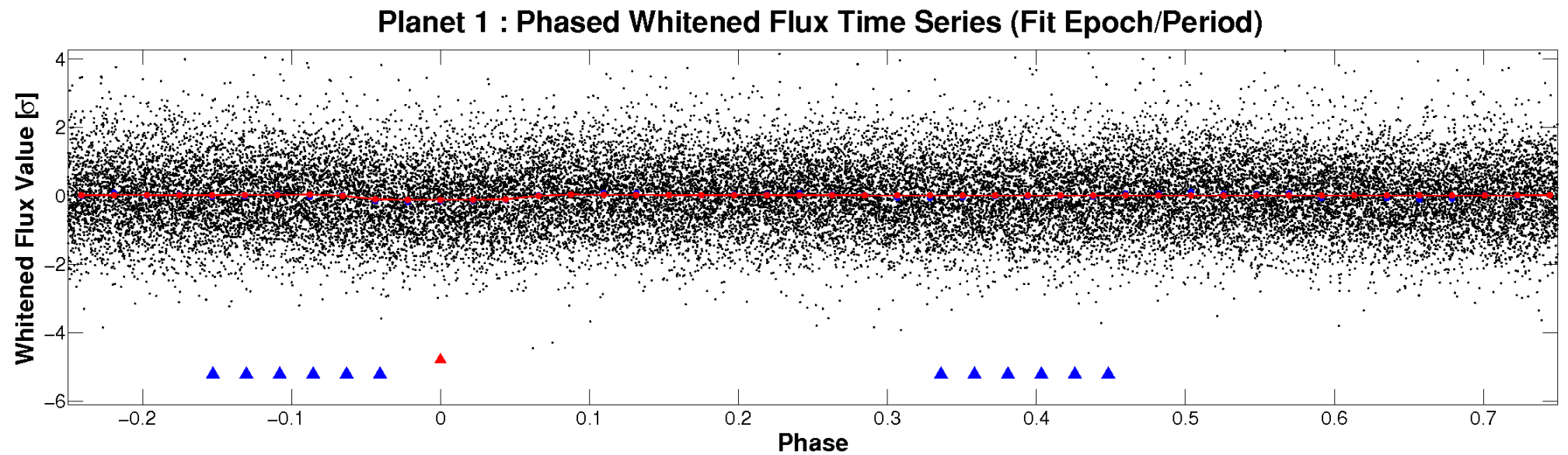
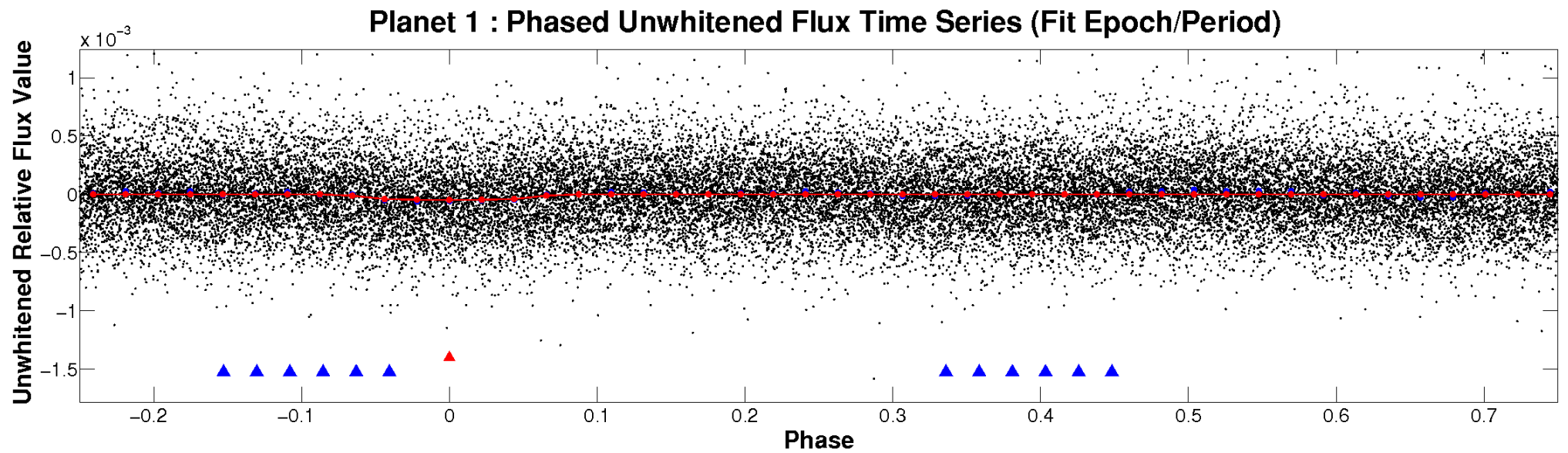


ALT Odd/Even

TCE 010601604-01

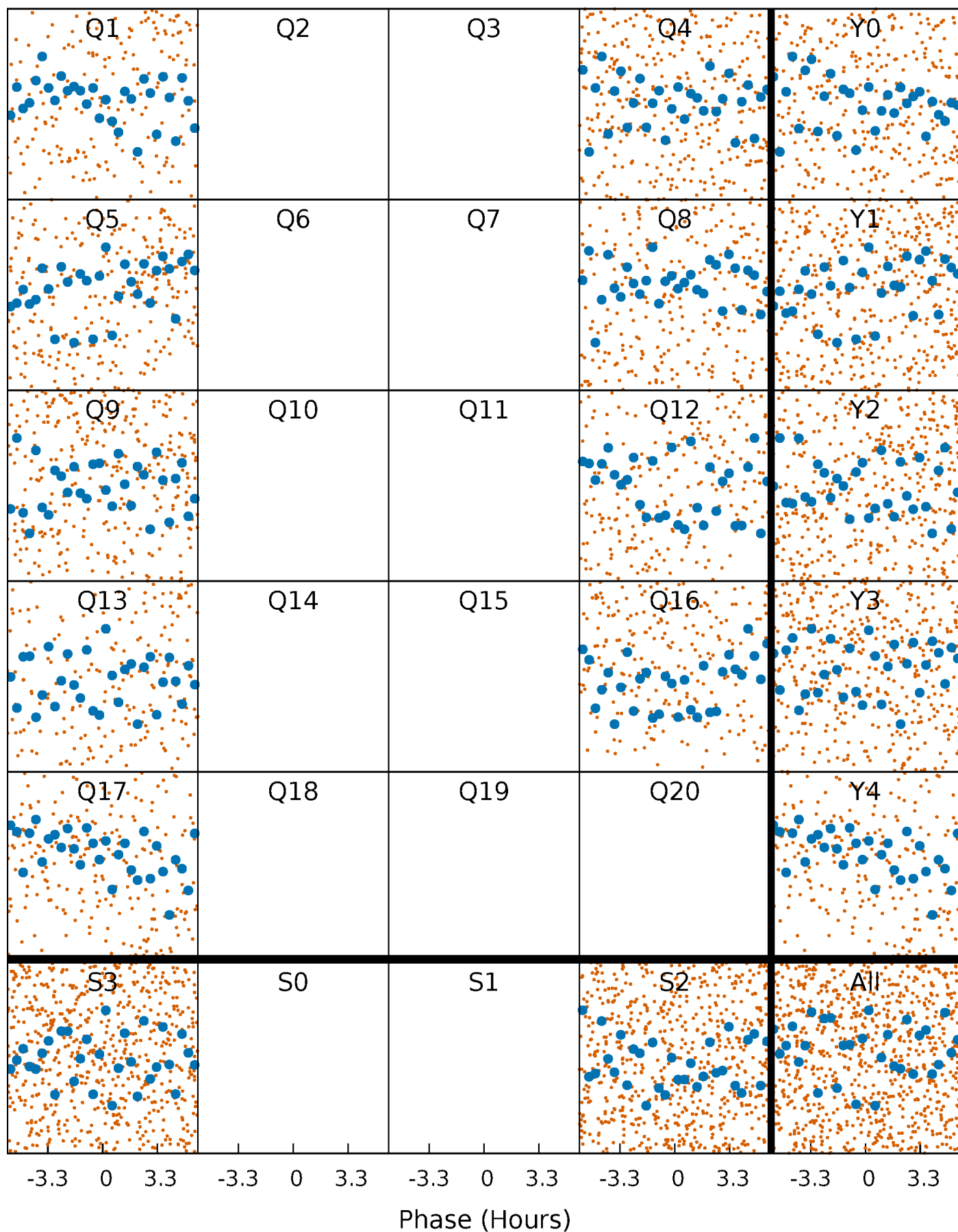


Non-Whitened Vs. Whitened Light Curve



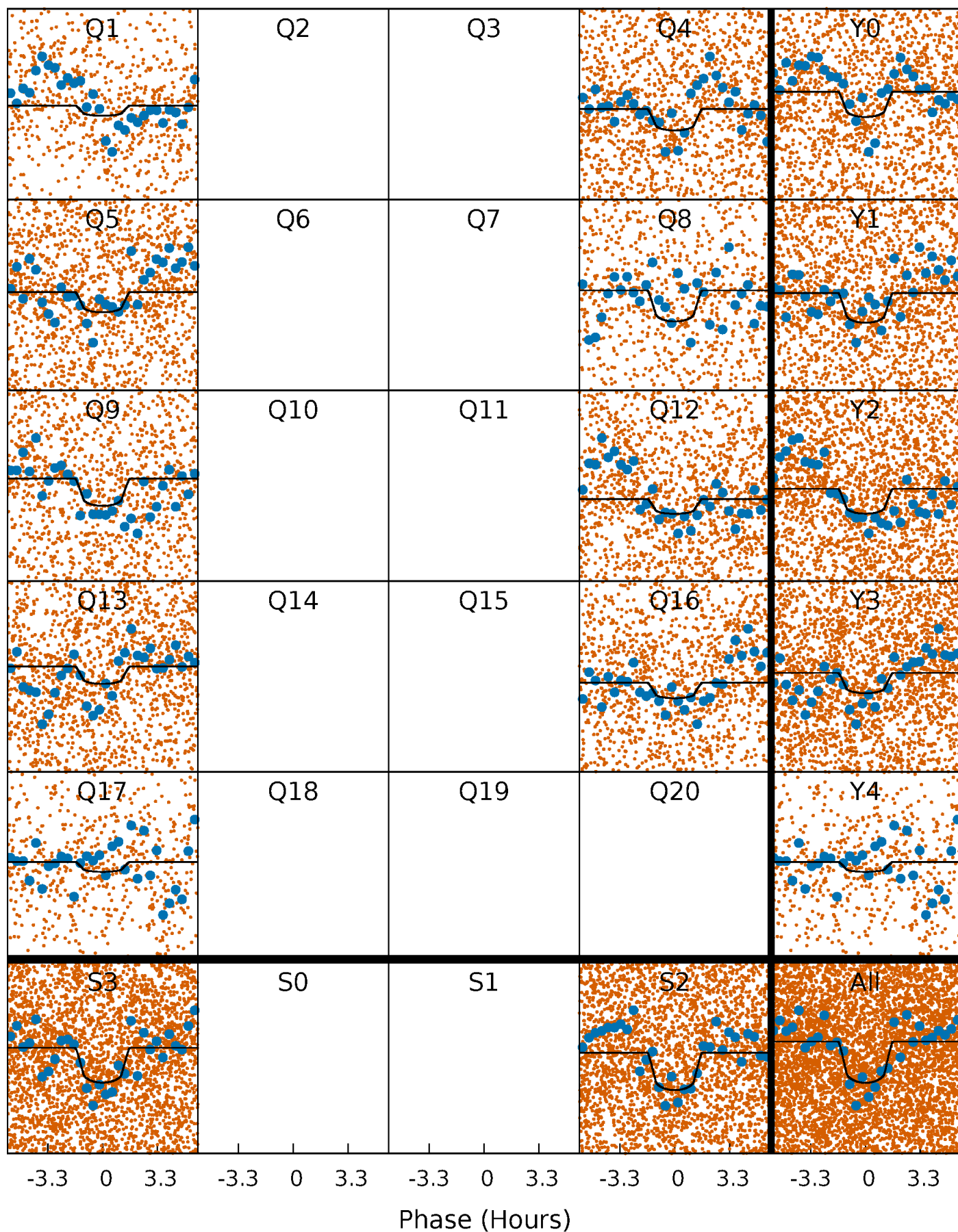
PDC Quarter-Phased Transit Curves

TCE 010601604-01 P= 0.932883 Days $T_0=131.684268$ (BKJD)



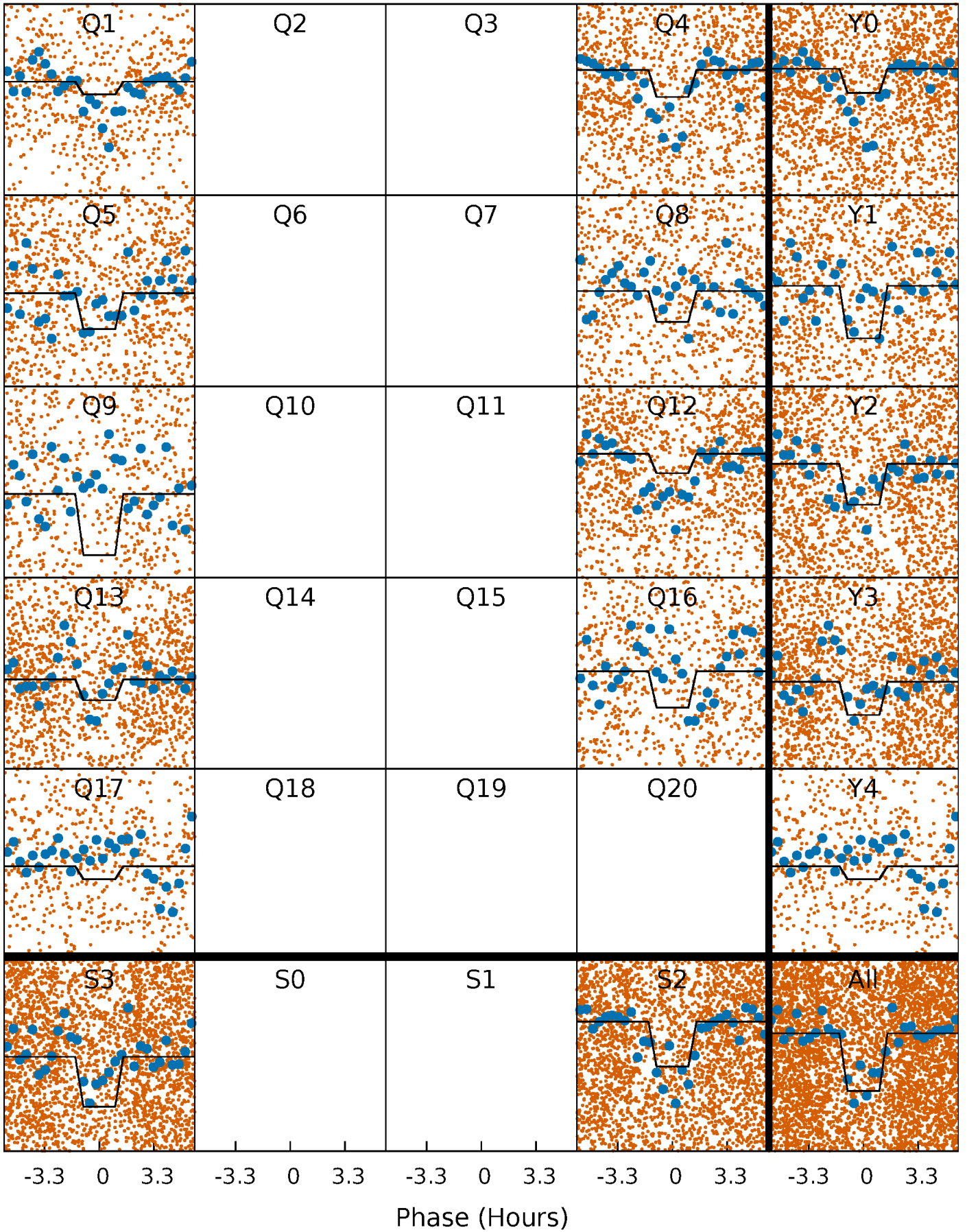
DV Quarter-Phased Transit Curves

TCE 010601604-01 P= 0.932883 Days $T_0=131.684268$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

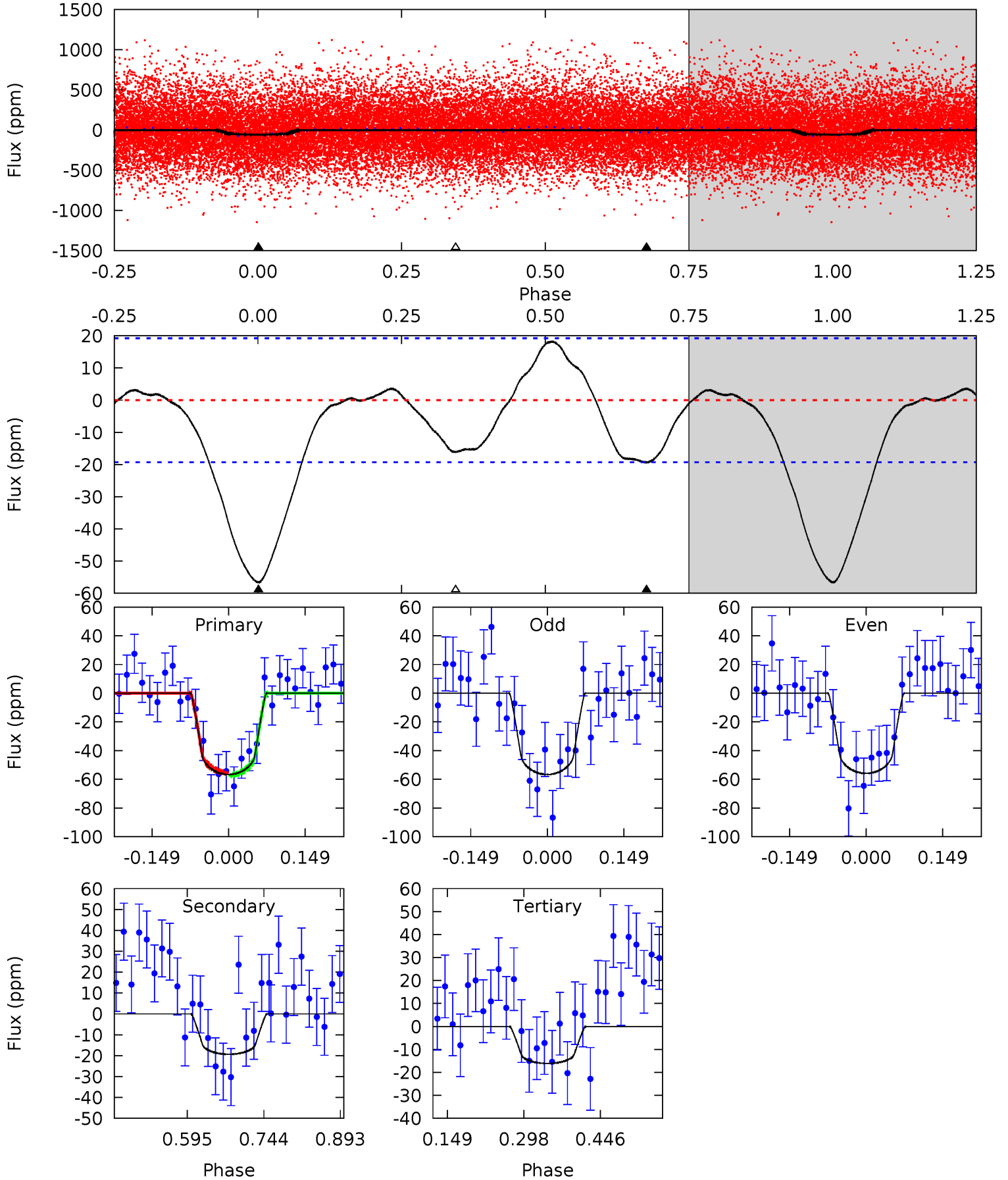
TCE 010601604-01 P= 0.932885 Days $T_0=131.684591$ (BKJD)



DV Model-Shift Uniqueness Test

010601604-01, P = 0.932883 Days, E = 130.751385 Days

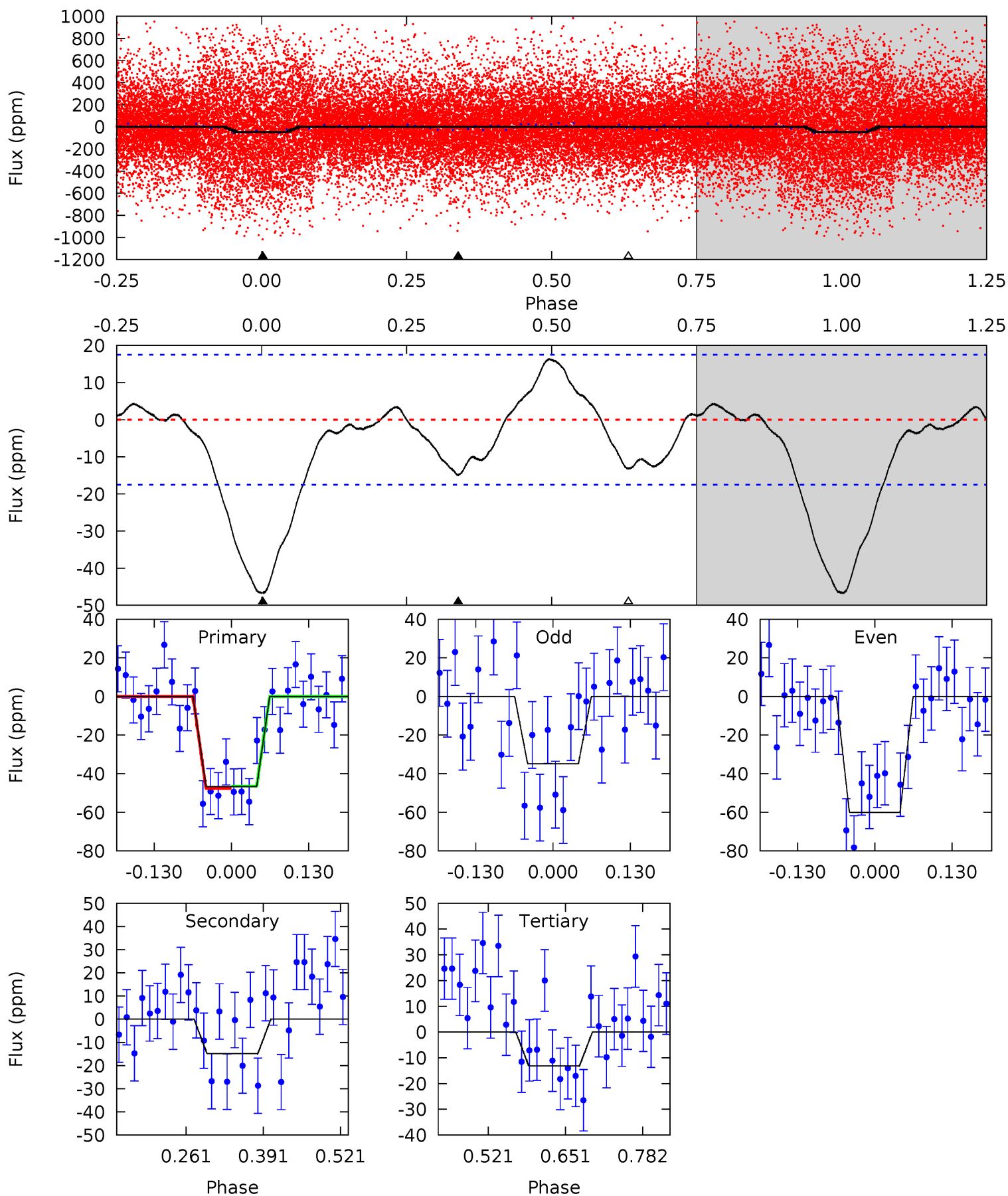
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	4.50	3.75	0	4.48	1.44	2.21	9.42	13.2	0.75	4.50	0.09	1.09	0.24	0.19



Alt Model-Shift Uniqueness Test

010601604-01, P = 0.932885 Days, E = 130.751706 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	3.84	3.38	0	4.51	1.51	1.99	8.63	12.0	0.45	3.84	3.20	0.98	0.26	0.16



Stellar Parameters For KIC 010601604

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6022^{+189}_{-231}	$4.360^{+0.128}_{-0.192}$	$-0.160^{+0.300}_{-0.300}$	$1.085^{+0.325}_{-0.175}$	$0.984^{+0.155}_{-0.113}$	$1.084^{+0.636}_{-0.537}$
	+3%/-4%	+3%/-4%	+188%/-188%	+30%/-16%	+16%/-11%	+59%/-50%
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 010601604-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-19 ± 4	$0.97^{+0.65}_{-0.55}$	2855^{+206}_{-184}	4545^{+2261}_{-911}	$3.996^{+16.425}_{-2.661}$
Alt.	-15 ± 4	$0.97^{+0.70}_{-0.60}$	2843^{+228}_{-181}	4302^{+2272}_{-932}	$3.086^{+15.770}_{-2.147}$

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

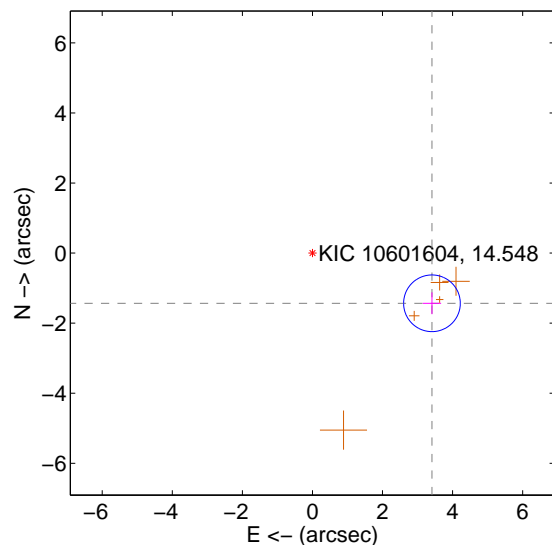
Supplemental centroid analysis for 010601604-01. Kepler magnitude: 14.55. Transit SNR 6.81

There are 0 quarters with good PRF difference image offsets

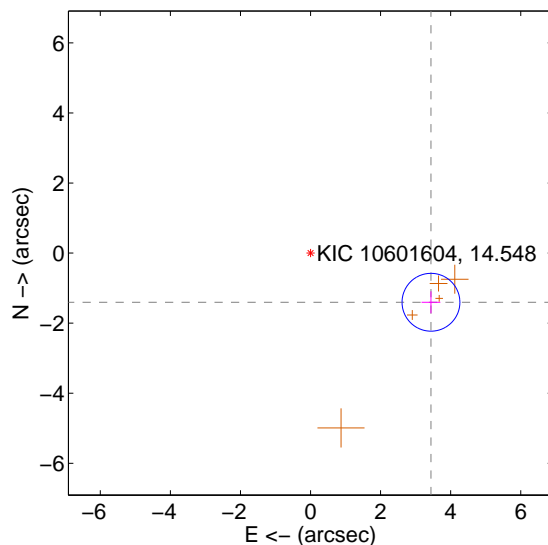
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.699 ± 0.270	13.72	-3.411 ± 0.261	-1.432 ± 0.313
PRF-fit source offset from KIC position	3.712 ± 0.275	13.50	-3.437 ± 0.268	-1.403 ± 0.314
photometric centroid source offset	0.74 ± 1.67	0.44	-0.74 ± 1.67	0.08 ± 1.59

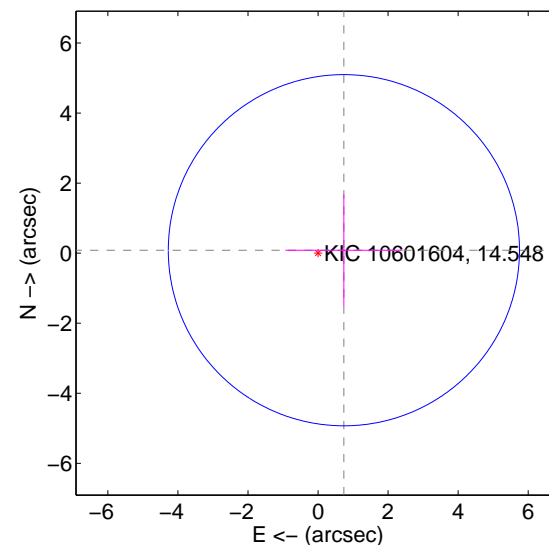
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

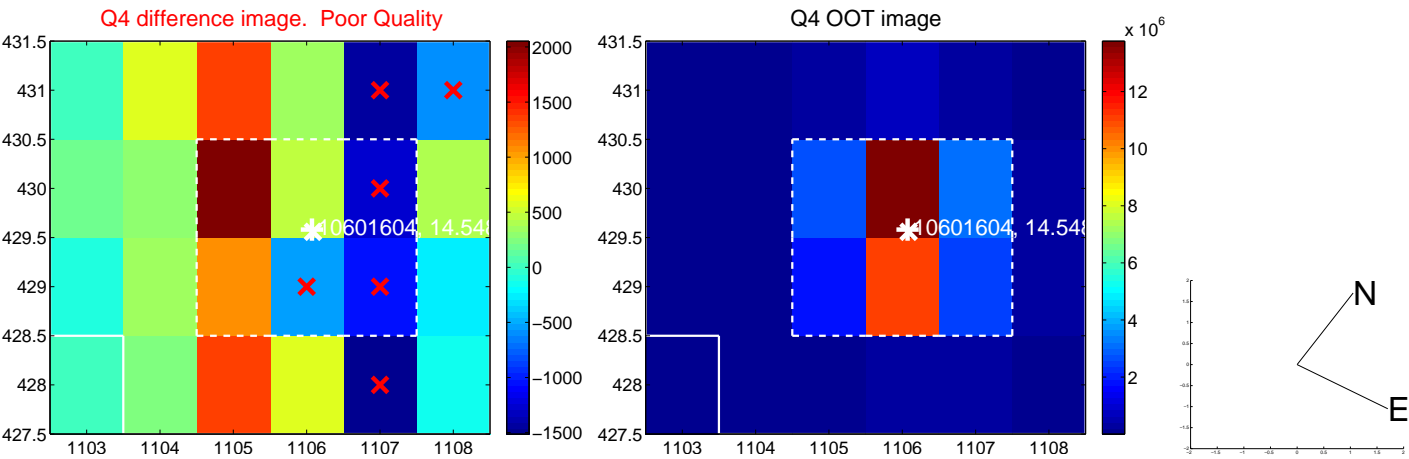
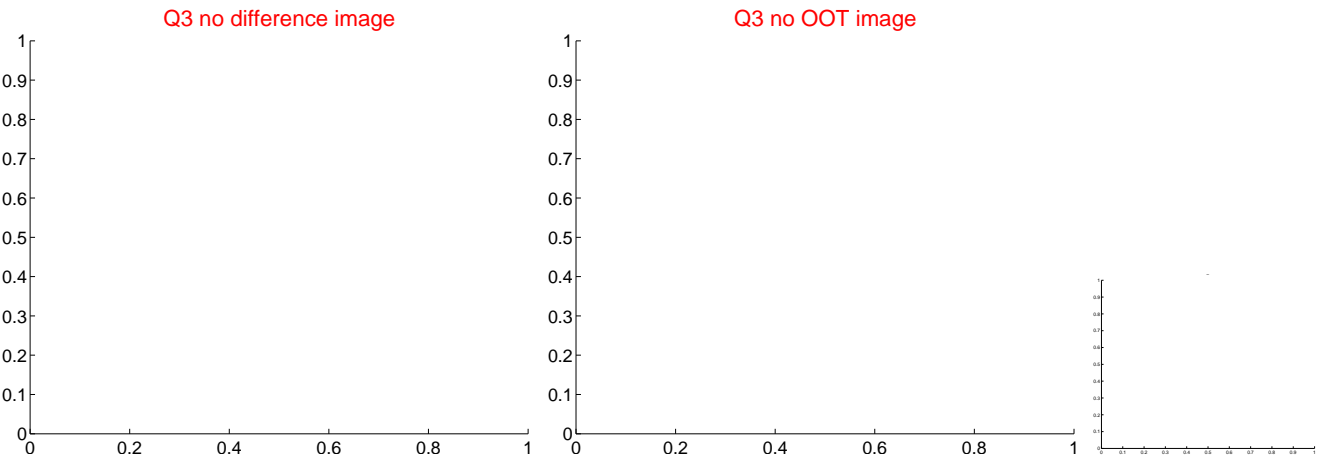
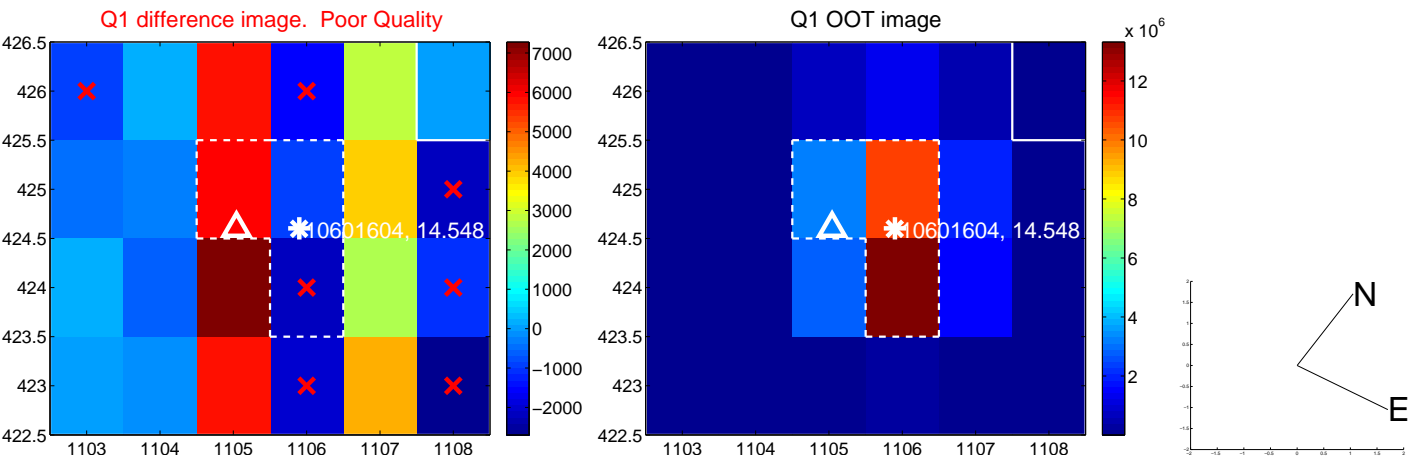


offset from photometric centroids

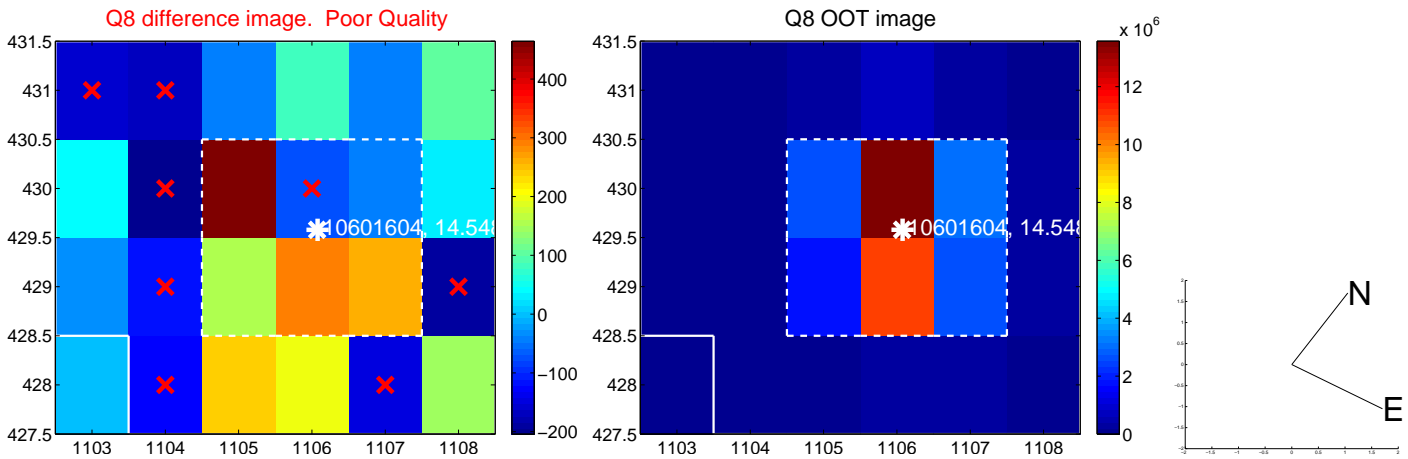
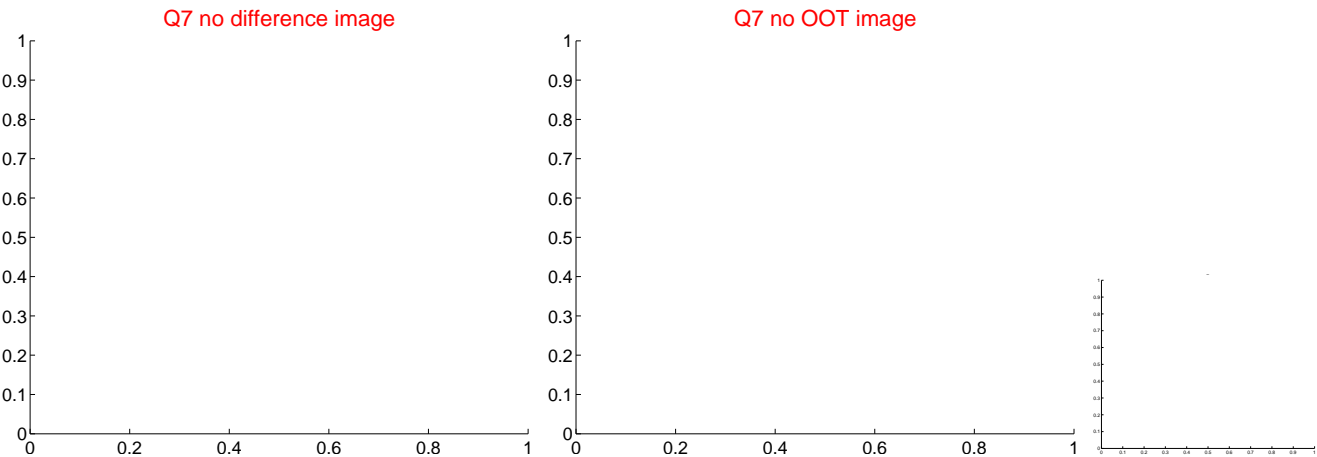
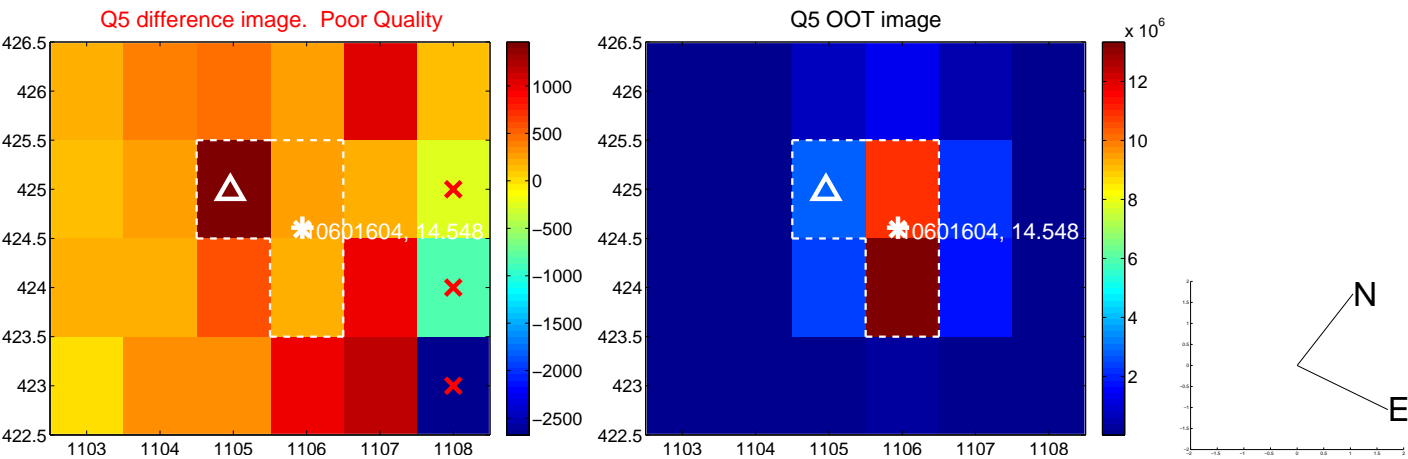


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

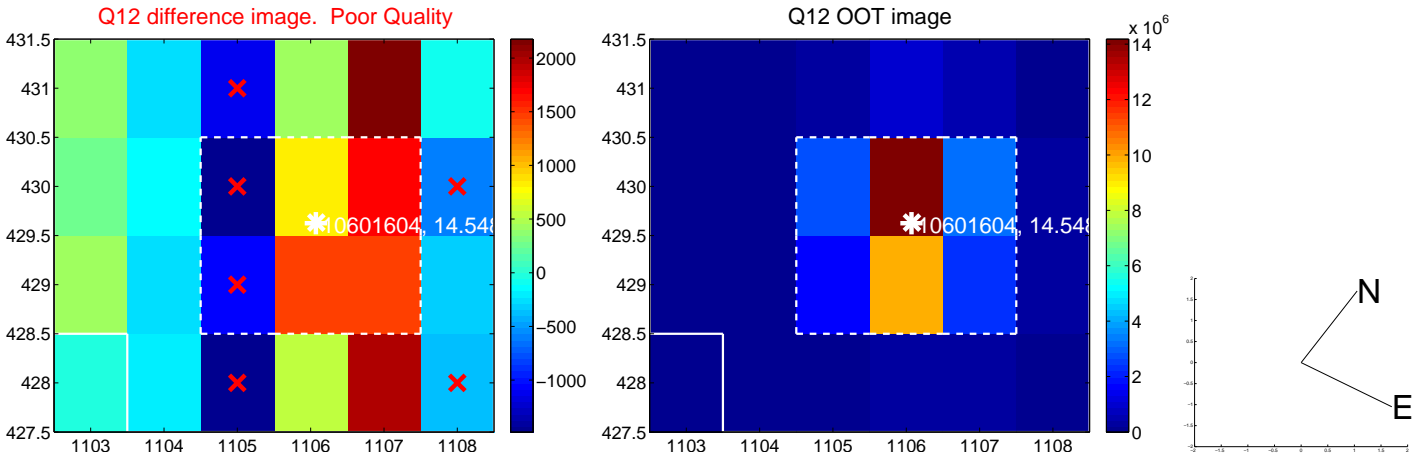
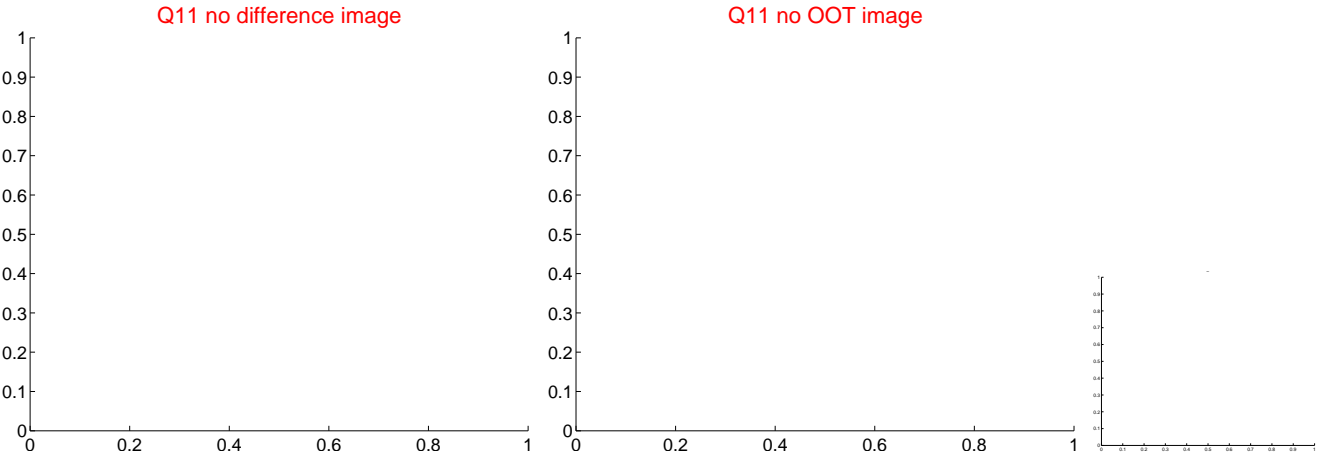
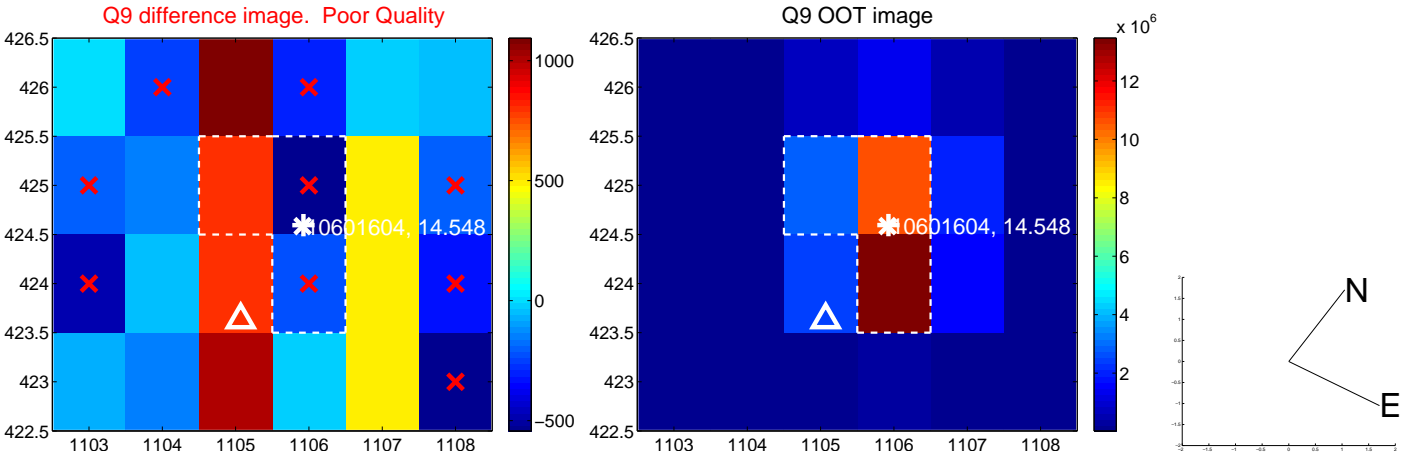
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



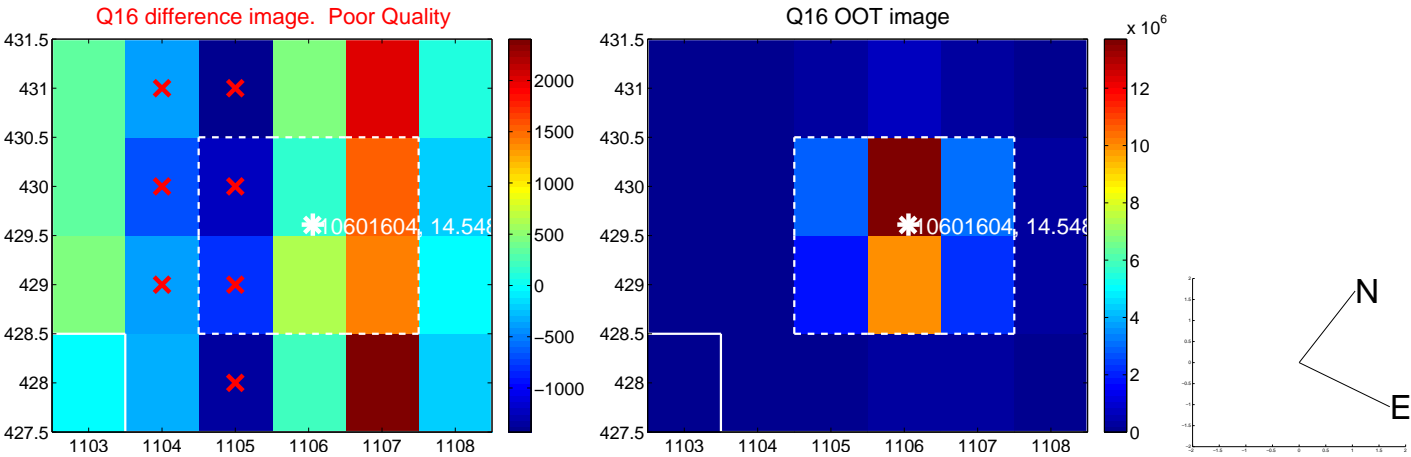
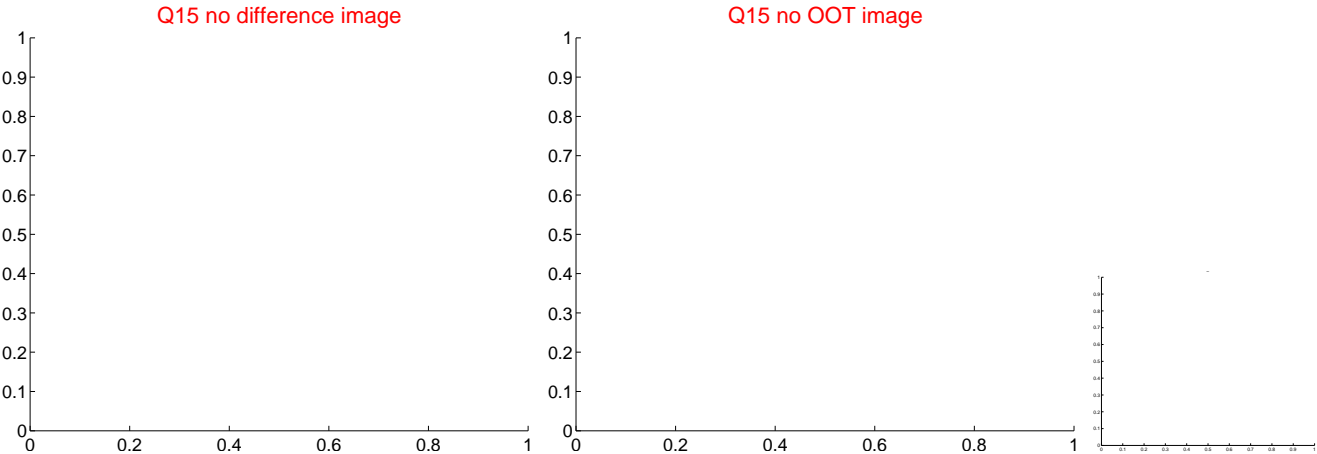
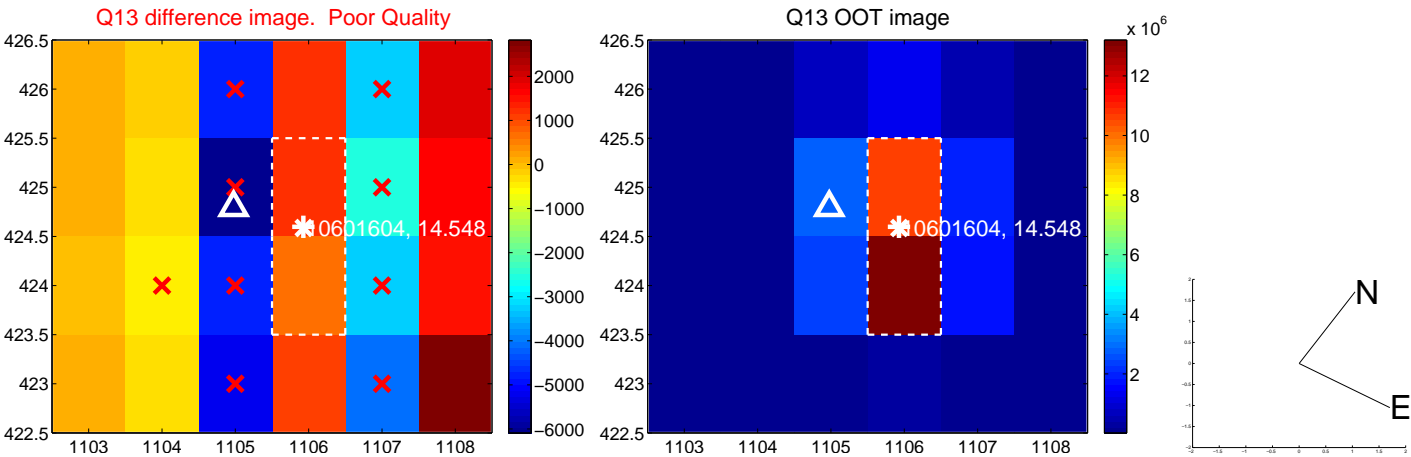
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



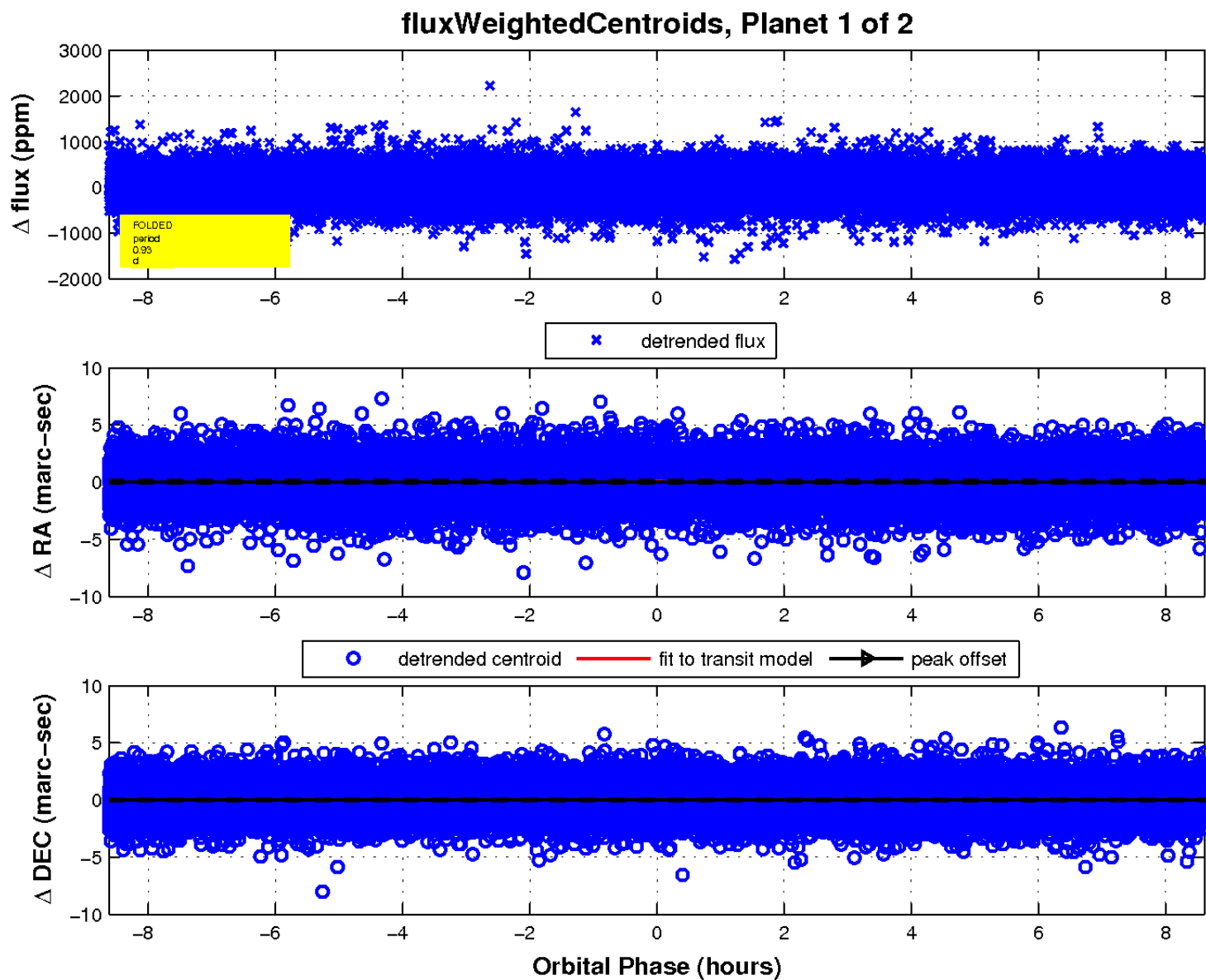
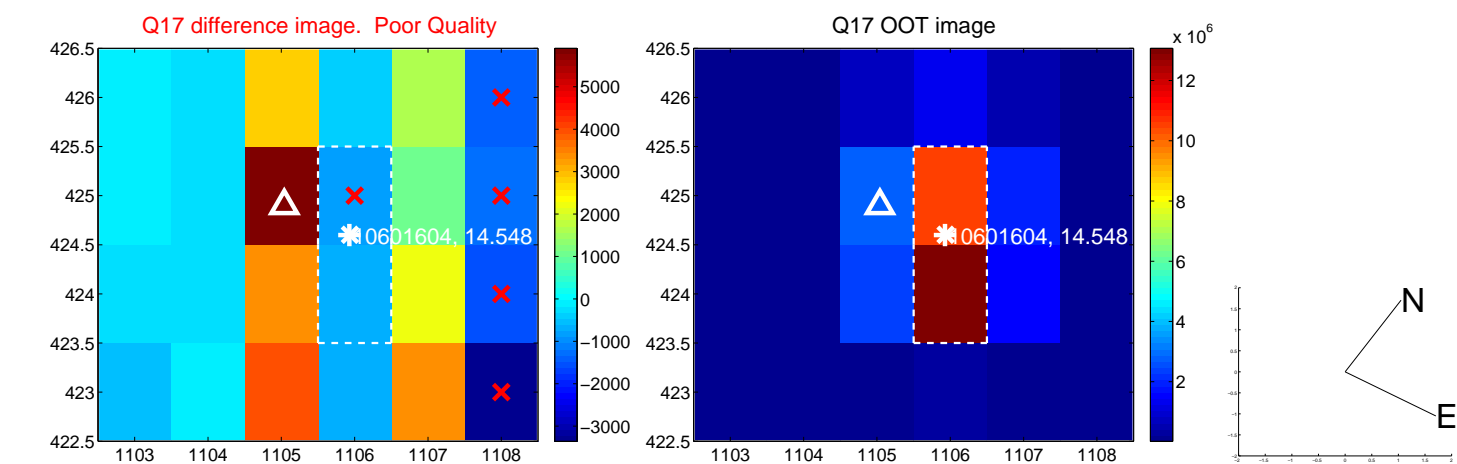
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

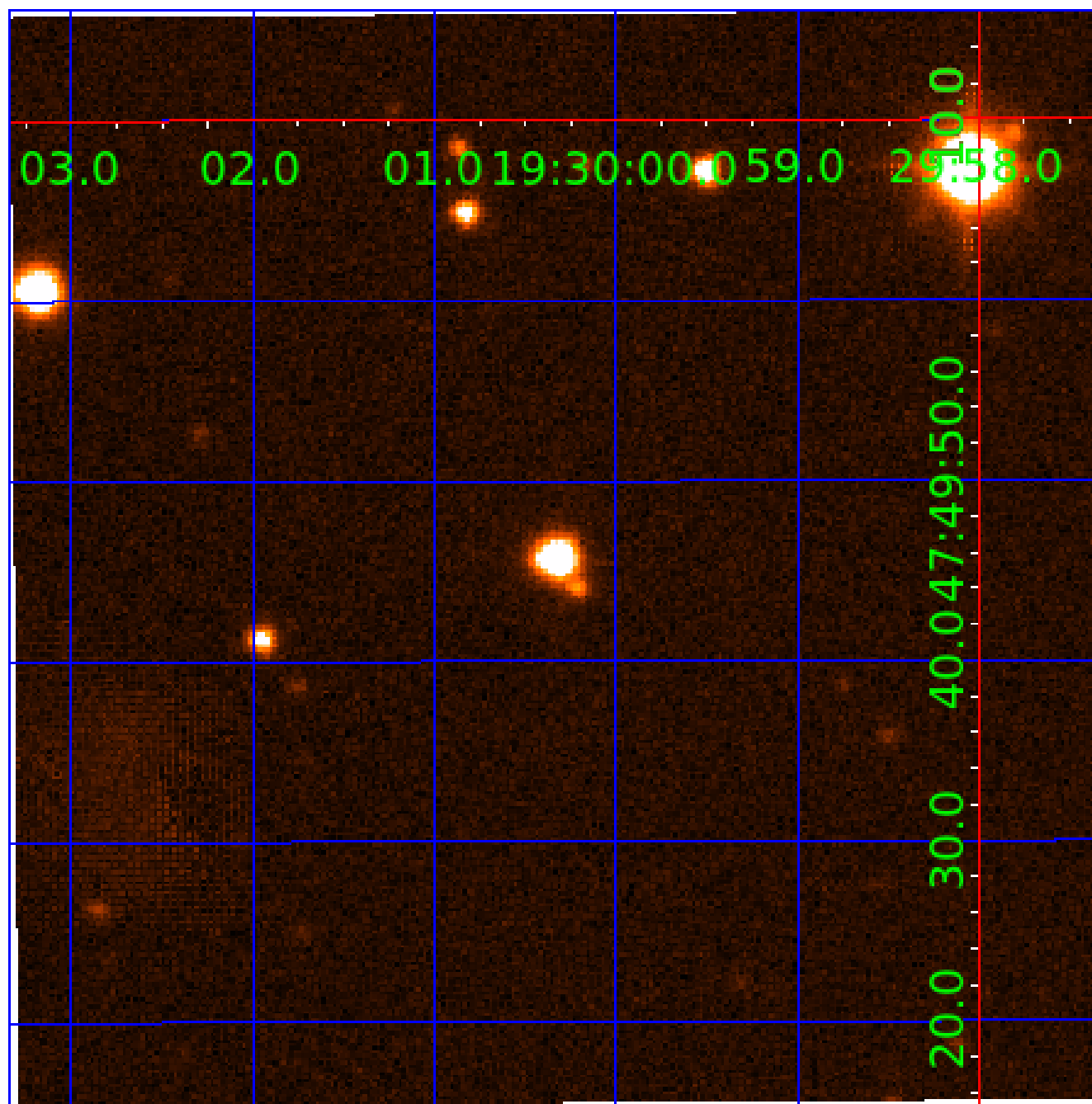


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010601604

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})
010601604-01	OBS	No	0.932883	131.684268	47.9	2.872	7.8	6.8	1.08	6022	0.89	4015.20
010601604-02	OBS	No	120.797850	145.639687	507.3	3.128	8.9	5.3	1.08	6022	2.70	6.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010601604-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
010601604-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

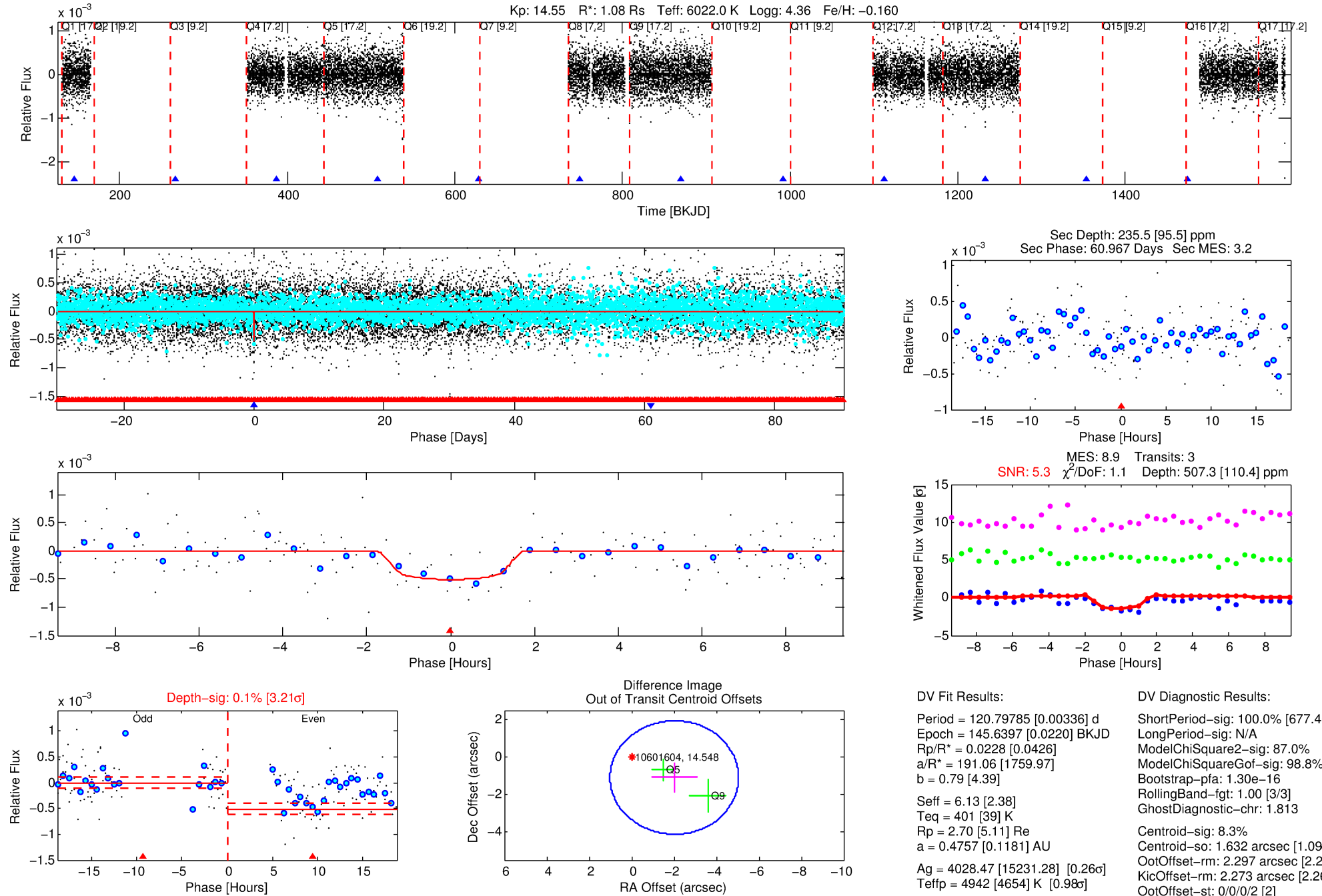
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010601604-02

No Significant Match Found

DV One-Page Summary

KIC: 10601604 Candidate: 2 of 2 Period: 120.798 d



DV Fit Results:

Period = 120.79785 [0.00336] d
Epoch = 145.6397 [0.0220] BKJD
Rp/R* = 0.0228 [0.0426]
a/R* = 191.06 [1759.97]
b = 0.79 [4.39]
Seff = 6.13 [2.38]
Teq = 401 [39] K
Rp = 2.70 [5.11] Re
a = 0.4757 [0.1181] AU
Ag = 4028.47 [15231.28] [0.26 σ]
Teffp = 4942 [4654] K [0.98 σ]

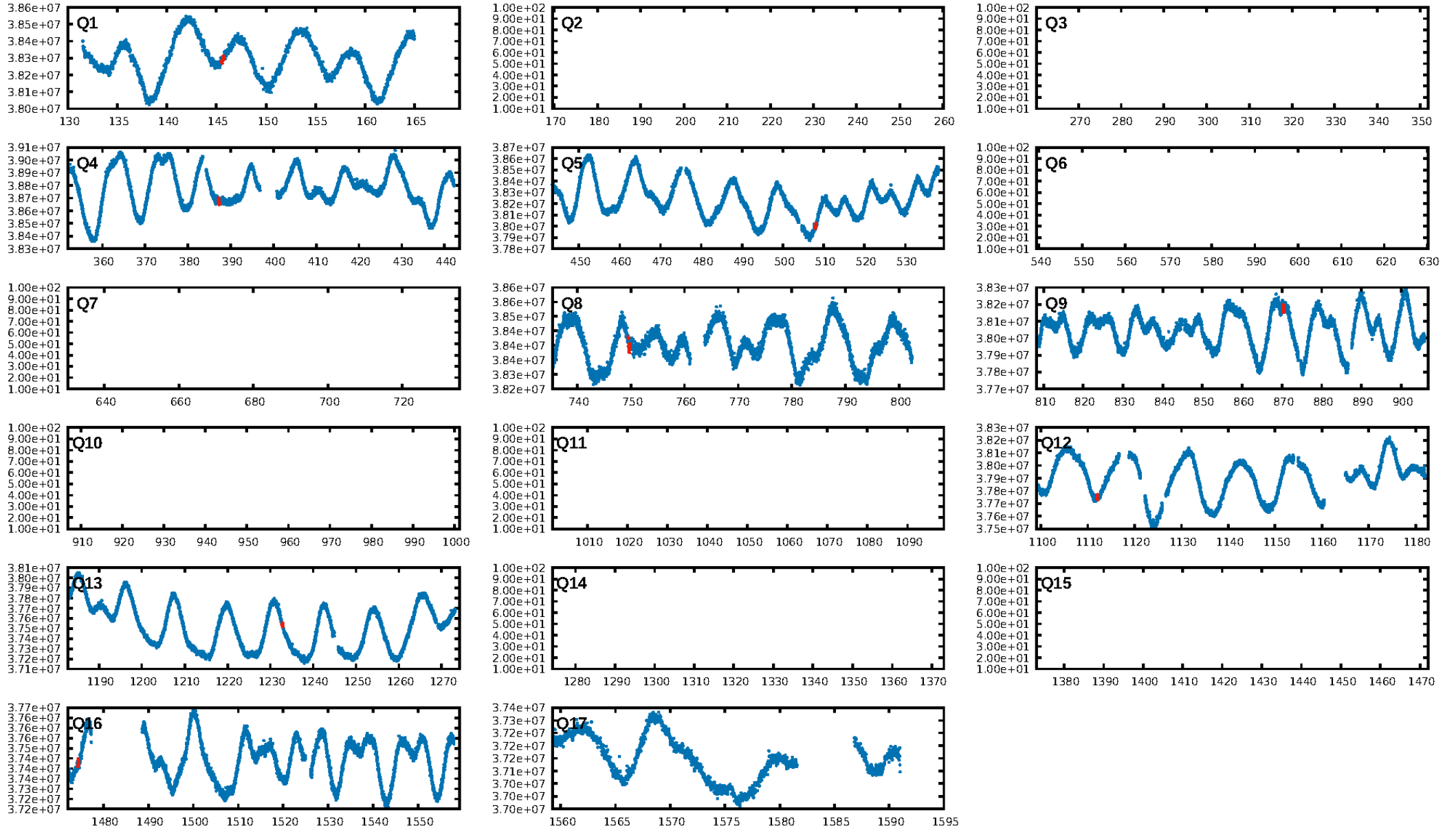
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [677.46 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.0%
ModelChiSquareGof-sig: 98.8%
Bootstrap-pfa: 1.30e-16
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.813
Centroid-sig: 8.3%
Centroid-so: 1.632 arcsec [1.09 σ]
OotOffset-rm: 2.297 arcsec [2.27 σ]
KicOffset-rm: 2.273 arcsec [2.26 σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.14 [1/7]

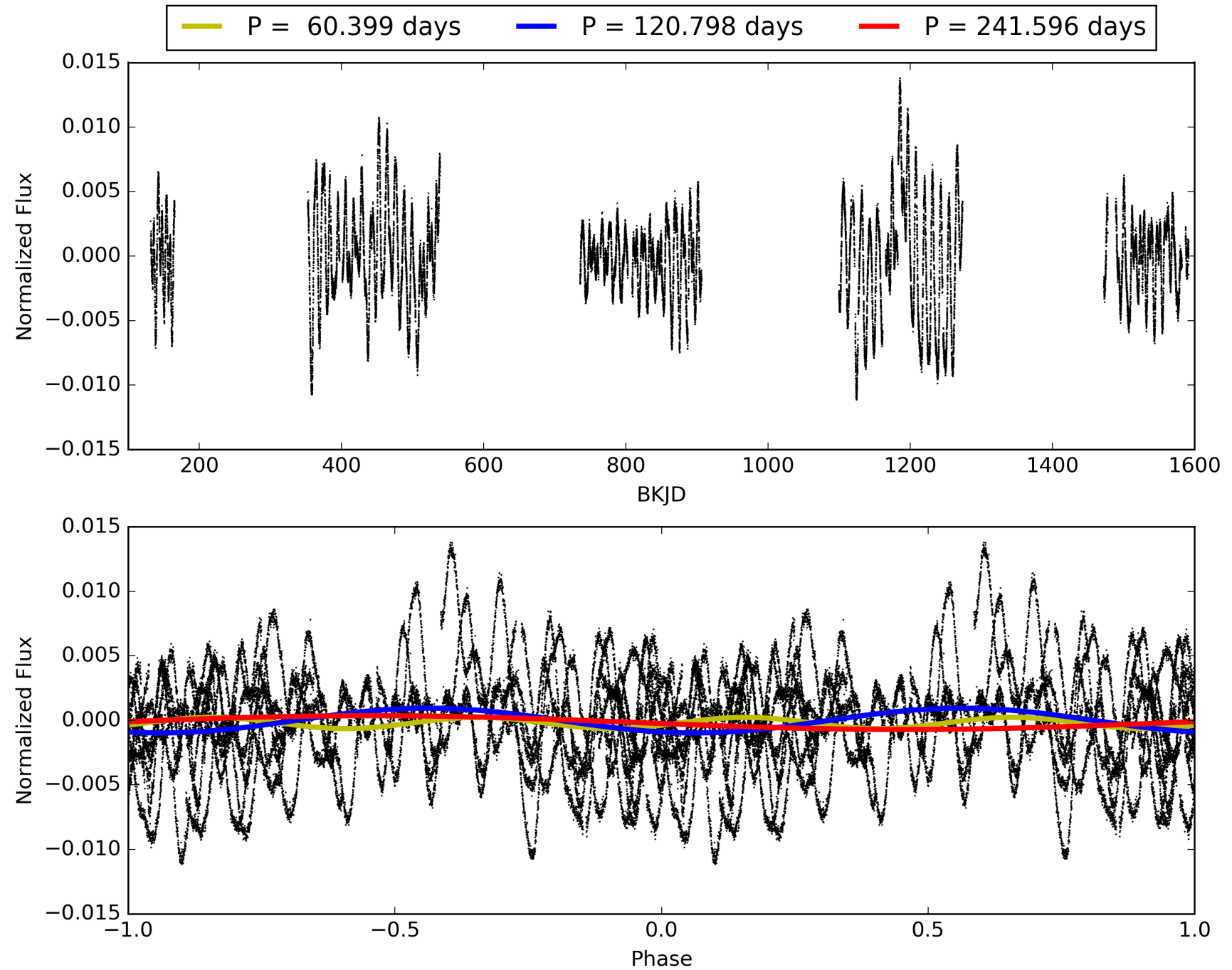
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:40:43 Z

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

TCE 010601604-02, PDC Light Curves

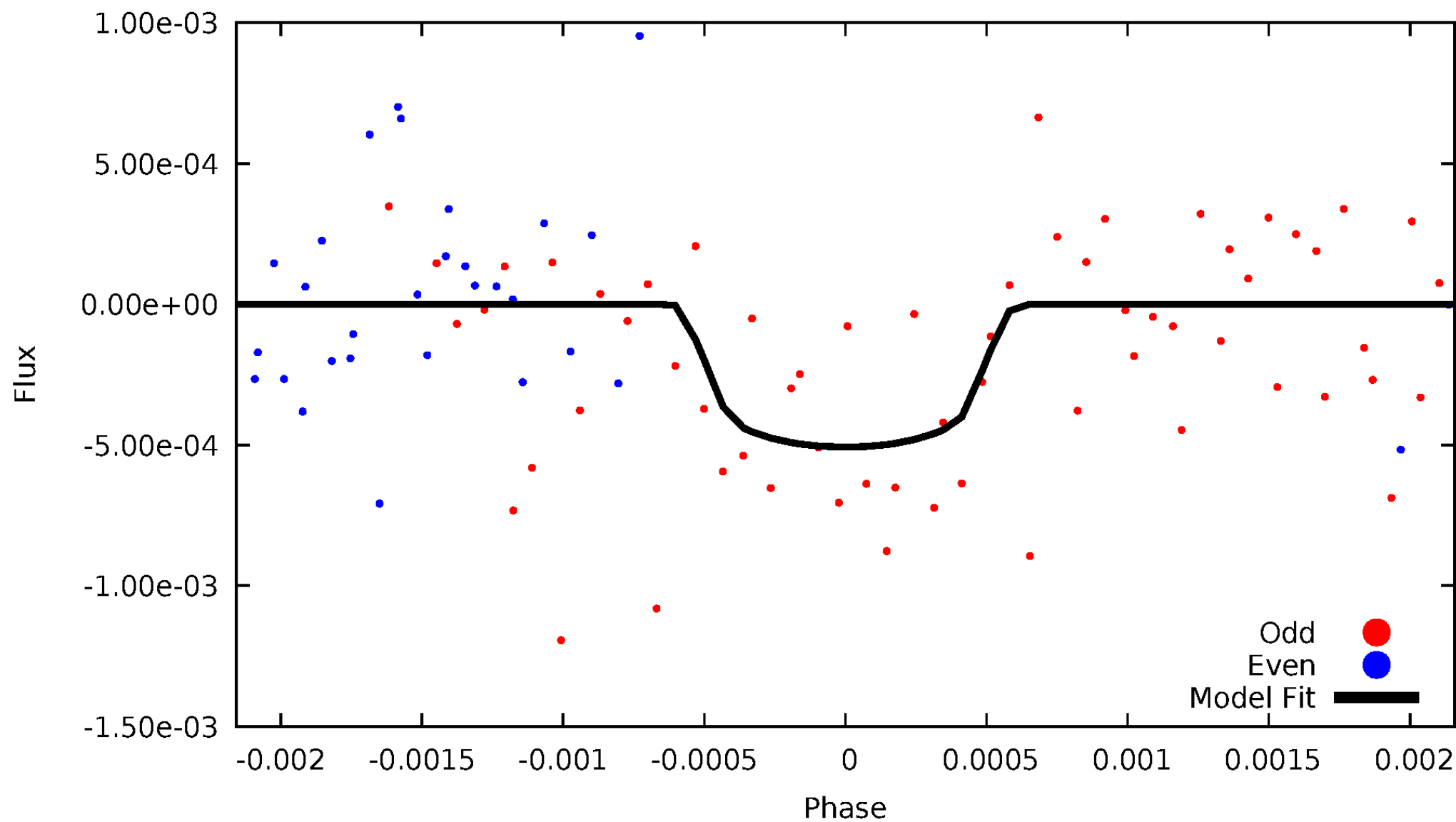


TCE 010601604-02



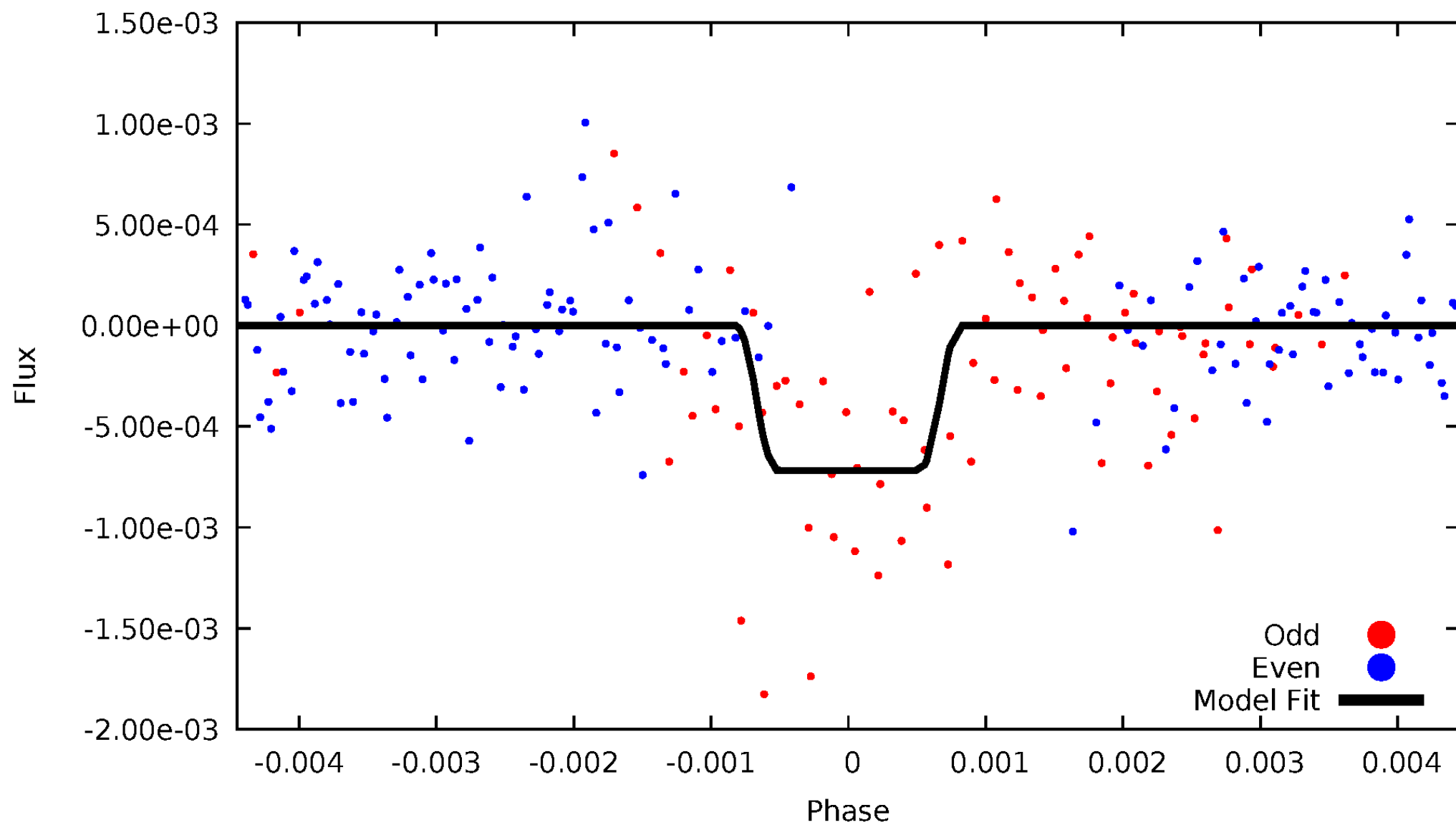
DV Odd/Even

TCE 010601604-02



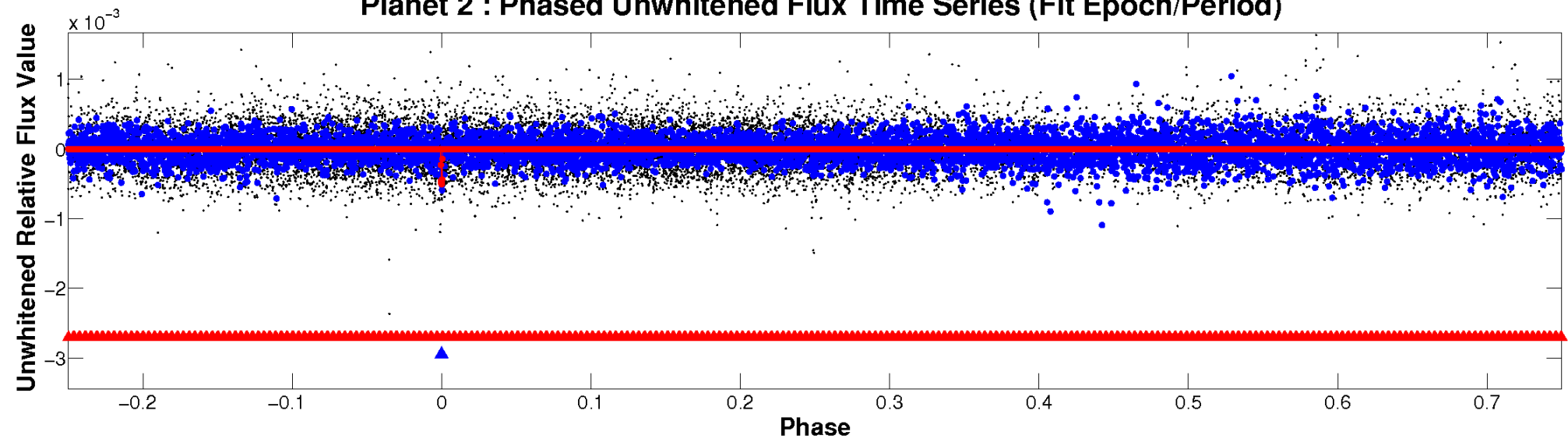
ALT Odd/Even

TCE 010601604-02

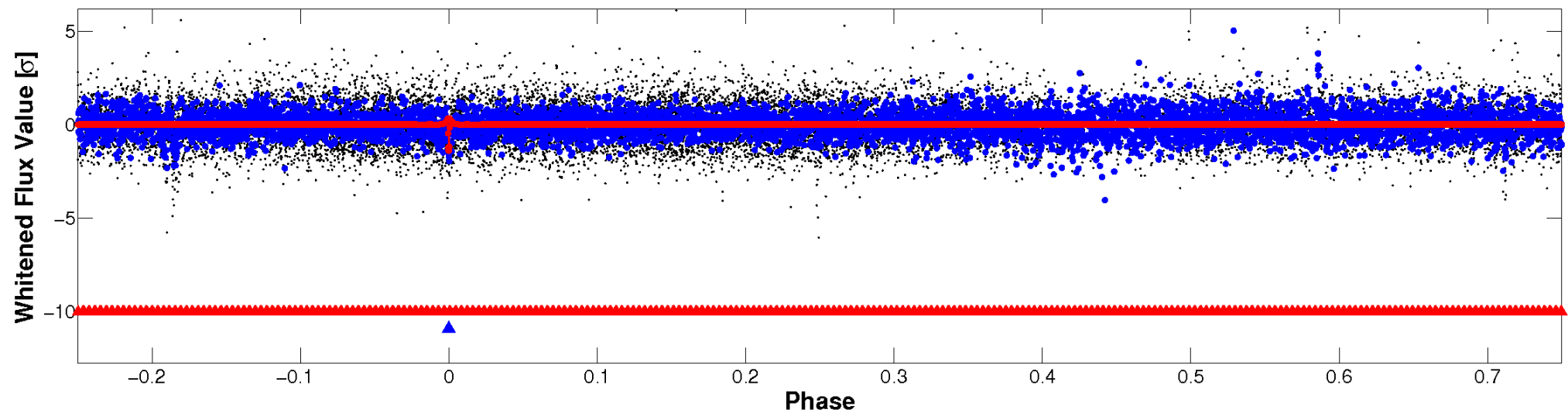


Non-Whitened Vs. Whitened Light Curve

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

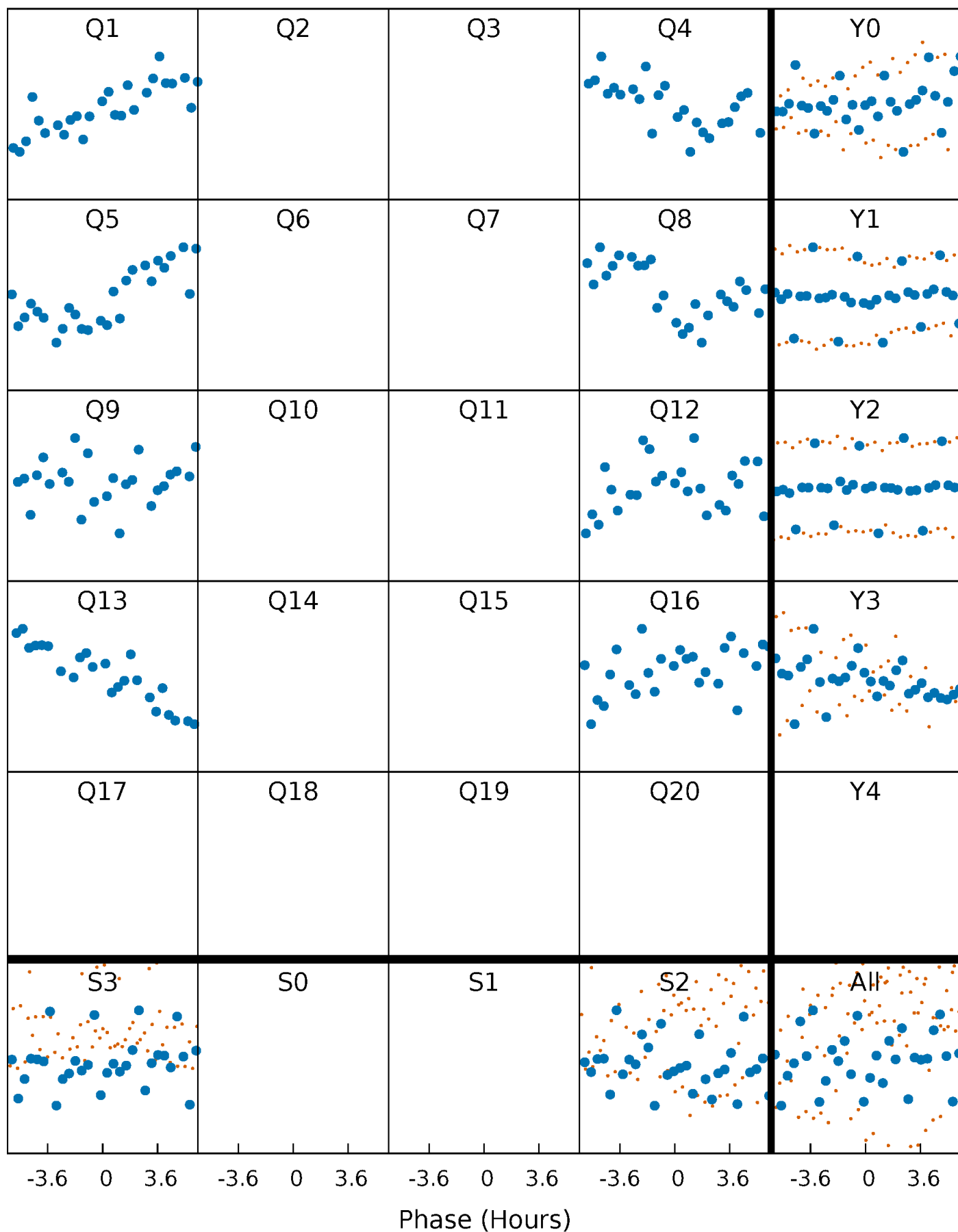


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



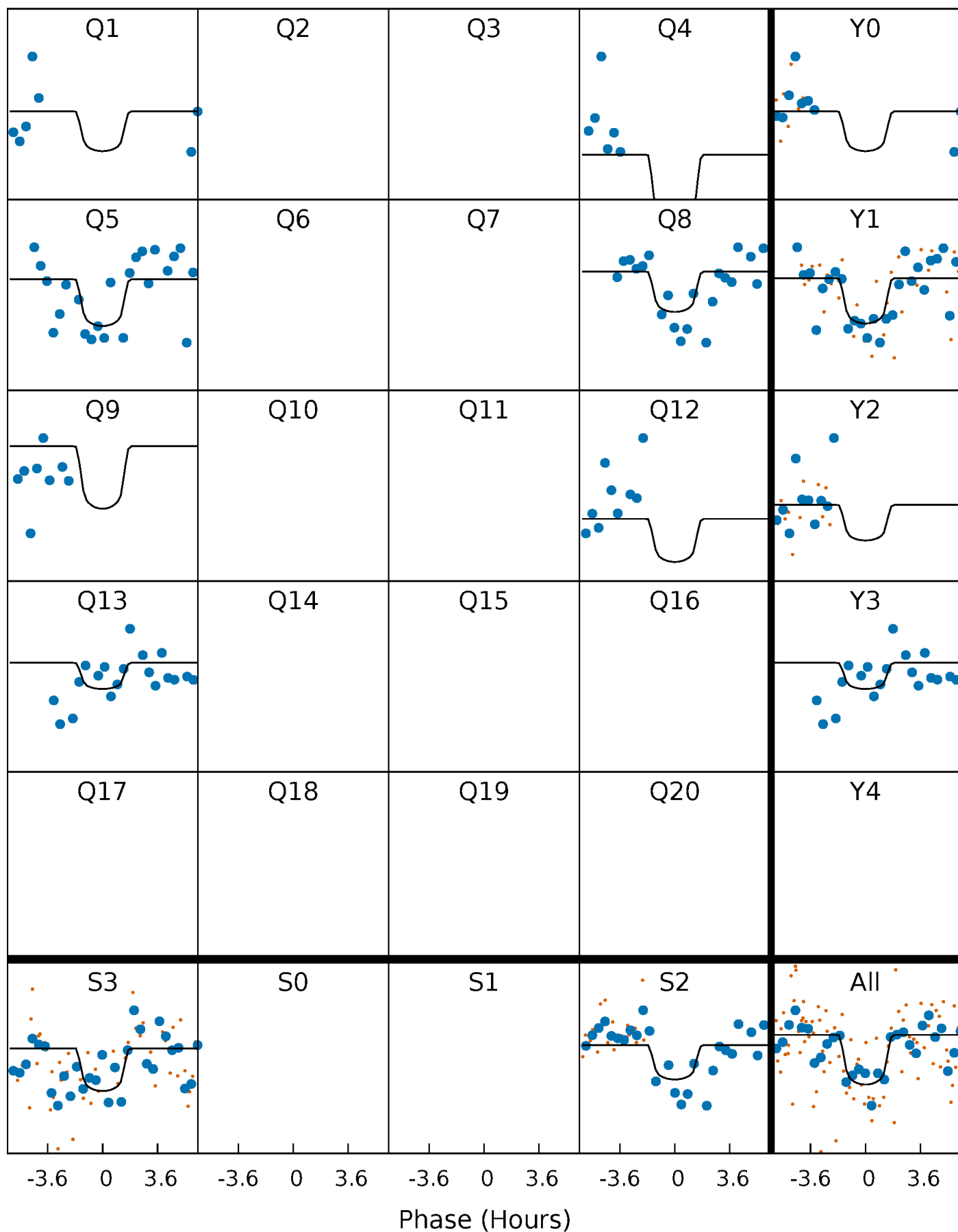
PDC Quarter-Phased Transit Curves

TCE 010601604-02 P=120.797850 Days $T_0=145.639687$ (BKJD)



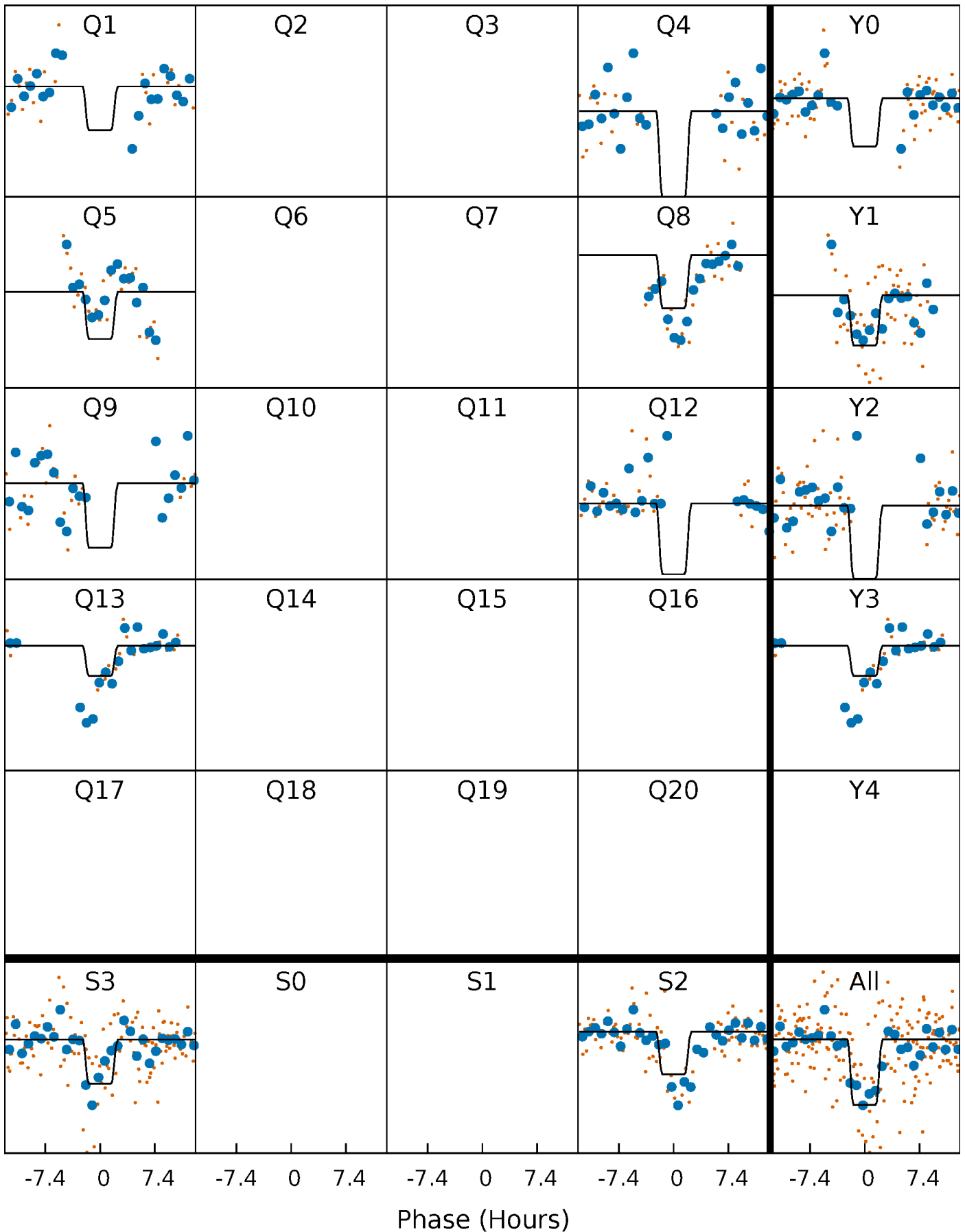
DV Quarter-Phased Transit Curves

TCE 010601604-02 P=120.797850 Days $T_0=145.639687$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

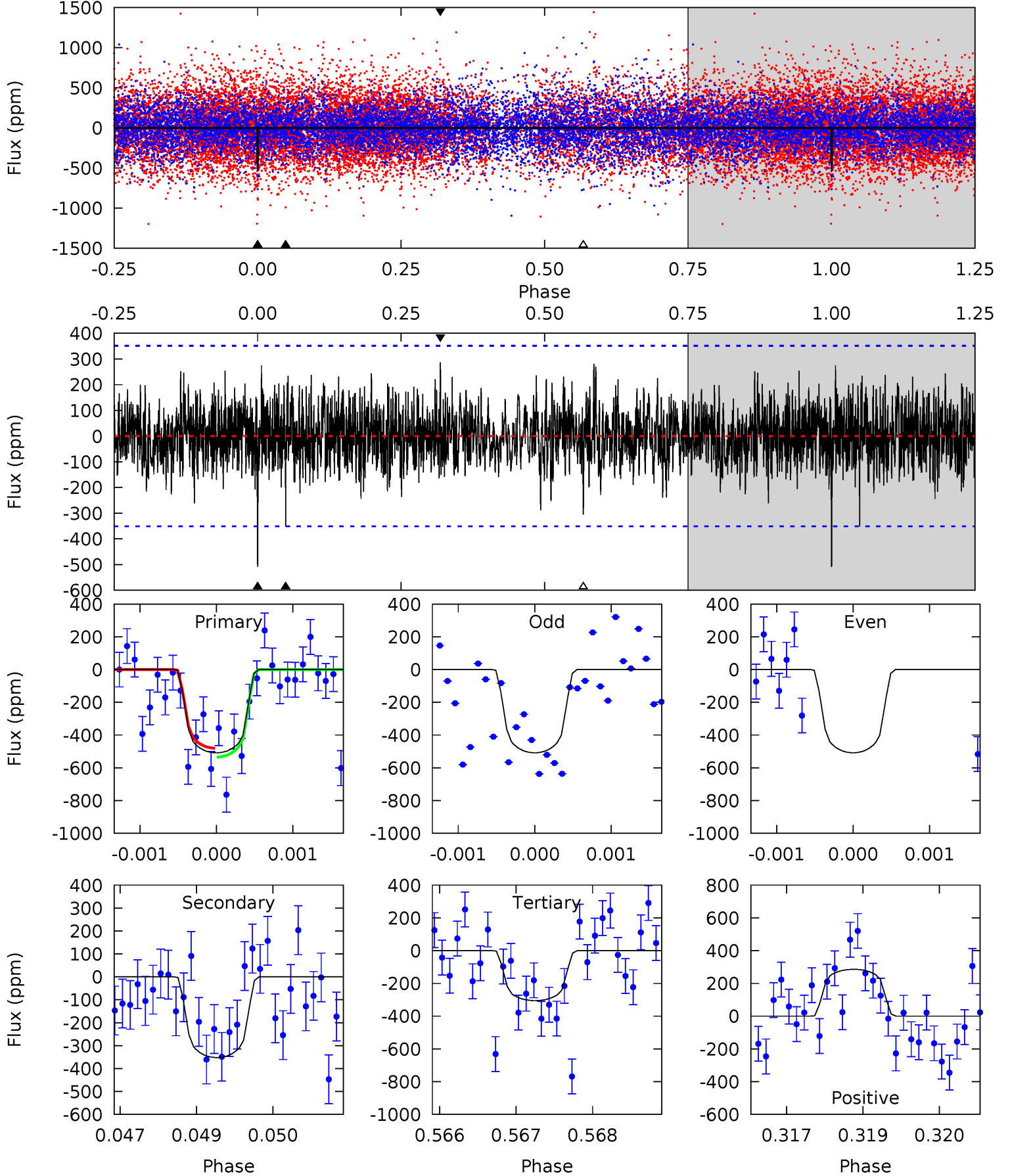
TCE 010601604-02 P=120.788103 Days $T_0=145.679706$ (BKJD)



DV Model-Shift Uniqueness Test

010601604-02, $P = 120.797850$ Days, $E = 24.841837$ Days

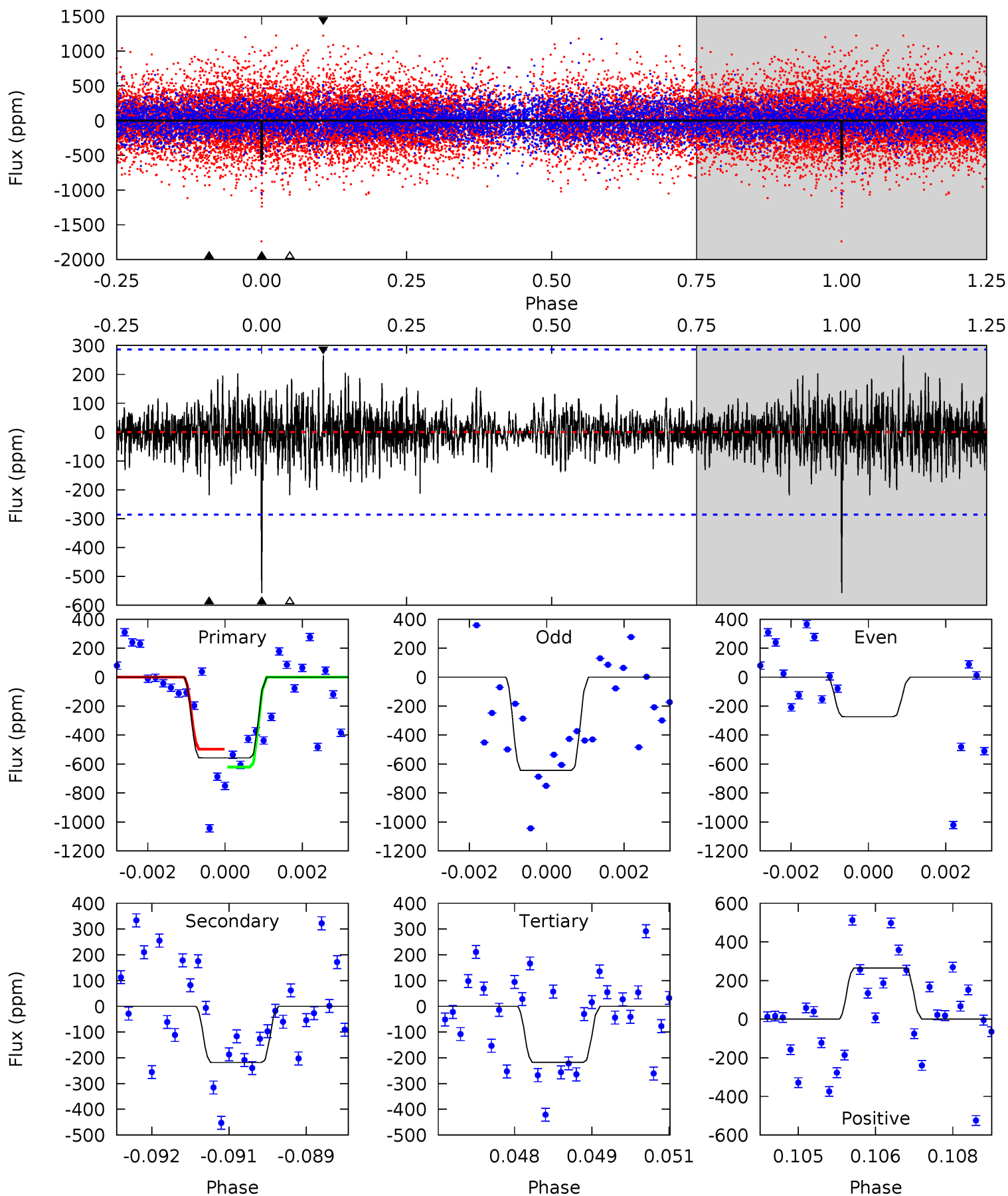
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.86	5.44	4.72	4.42	5.42	3.24	1.30	3.14	3.44	0.72	1.02	0	0.92	0.36	0.41



Alt Model-Shift Uniqueness Test

010601604-02, P = 120.788103 Days, E = 24.891603 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	4.10	4.09	4.99	5.37	3.17	1.06	6.38	5.49	0.00	-0.89	2.42	0.85	0.32	1.16



Stellar Parameters For KIC 010601604

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6022^{+189}_{-231}	$4.360^{+0.128}_{-0.192}$	$-0.160^{+0.300}_{-0.300}$	$1.085^{+0.325}_{-0.175}$	$0.984^{+0.155}_{-0.113}$	$1.084^{+0.636}_{-0.537}$
	+3%/-4%	+3%/-4%	+188%/-188%	+30%/-16%	+16%/-11%	+59%/-50%
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 010601604-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-352 ± 65	$4.73^{+4.50}_{-3.39}$	563^{+39}_{-35}	4365^{+3683}_{-900}	1973^{+22816}_{-1454}
Alt.	-218 ± 53	$4.94^{+4.66}_{-3.11}$	562^{+42}_{-34}	3937^{+1948}_{-737}	1102^{+7446}_{-804}

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 $A_{obs} \gg 1.0$

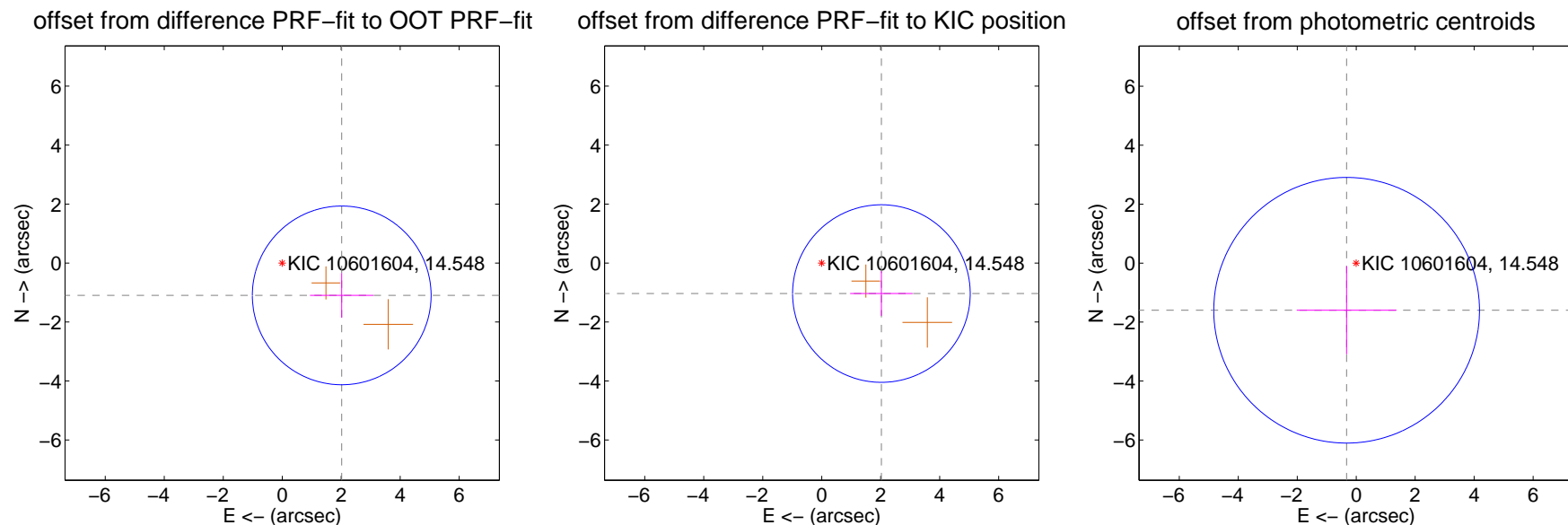
DV Centroid Data

Supplemental centroid analysis for 010601604-02. Kepler magnitude: 14.55. Transit SNR 5.33

There are 0 quarters with good PRF difference image offsets

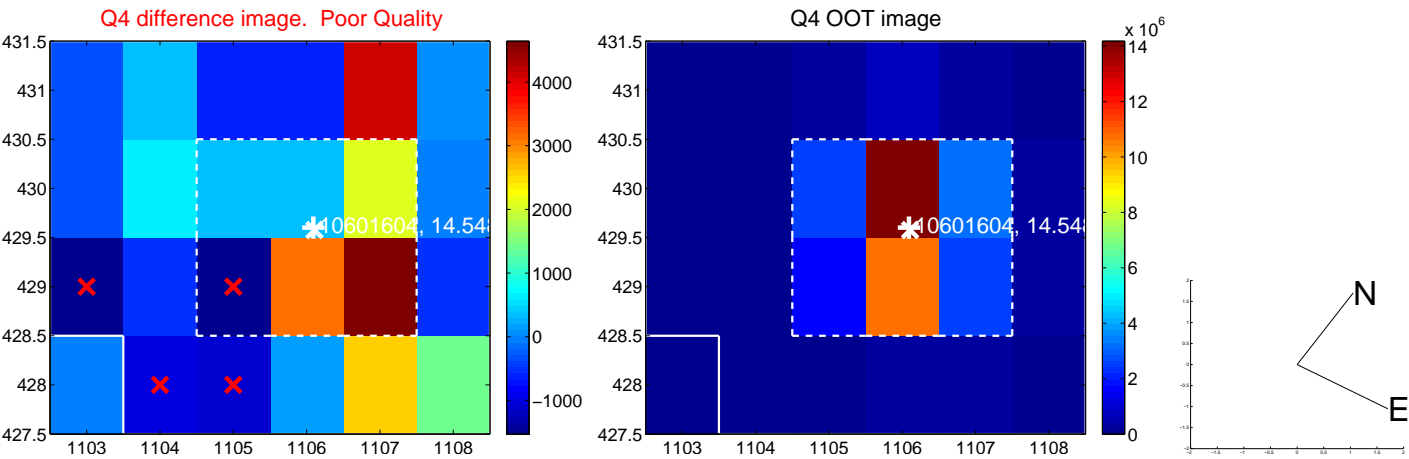
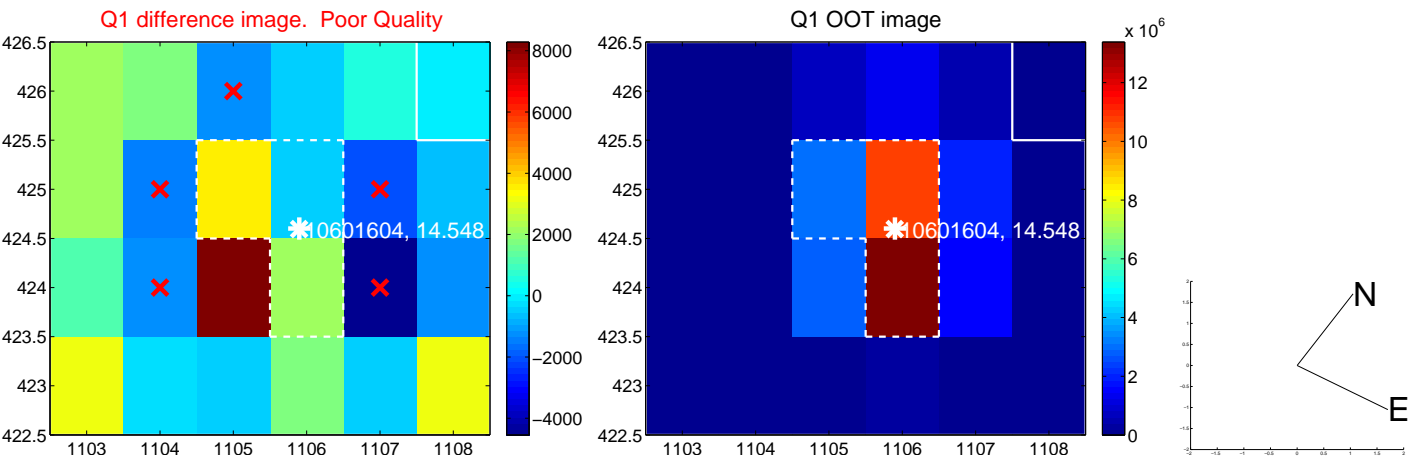
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.297 ± 1.010	2.27	-2.018 ± 1.074	-1.097 ± 0.756
PRF-fit source offset from KIC position	2.273 ± 1.004	2.26	-2.024 ± 1.059	-1.035 ± 0.756
photometric centroid source offset	1.63 ± 1.50	1.09	0.33 ± 1.69	-1.60 ± 1.49

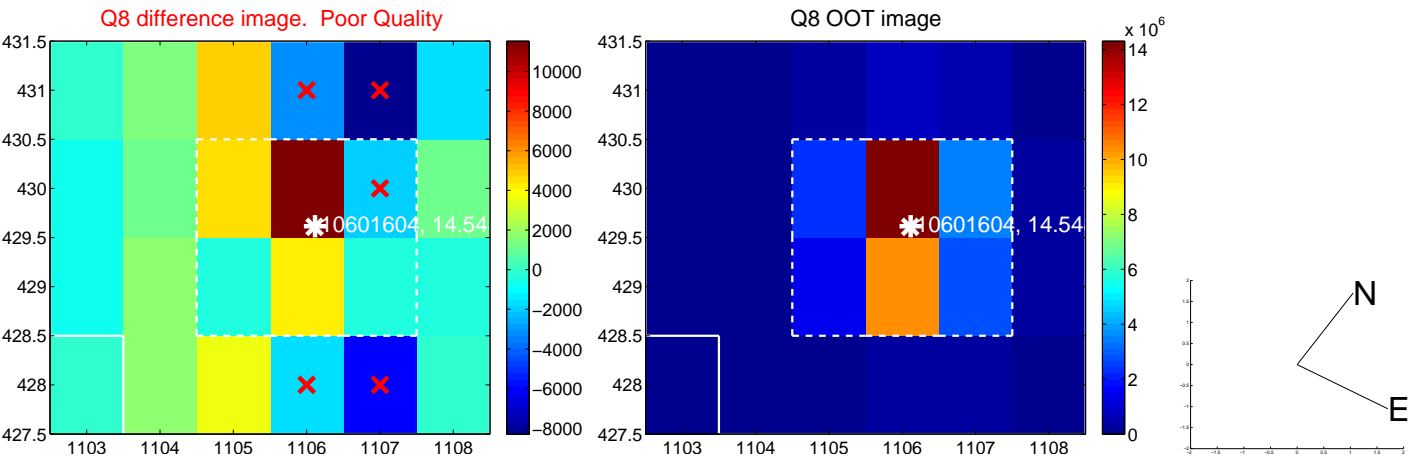
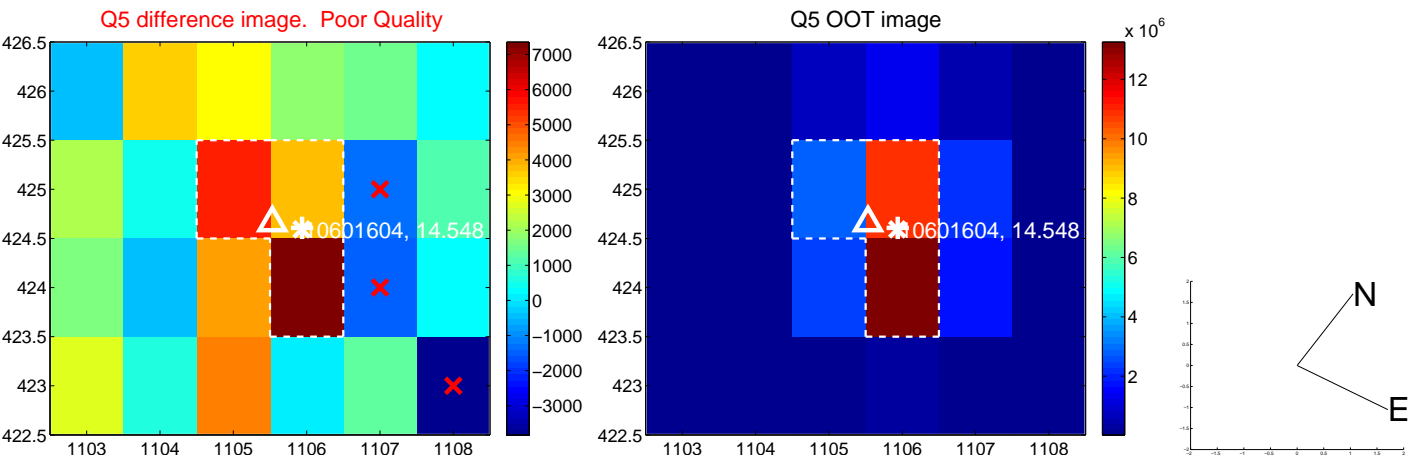


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

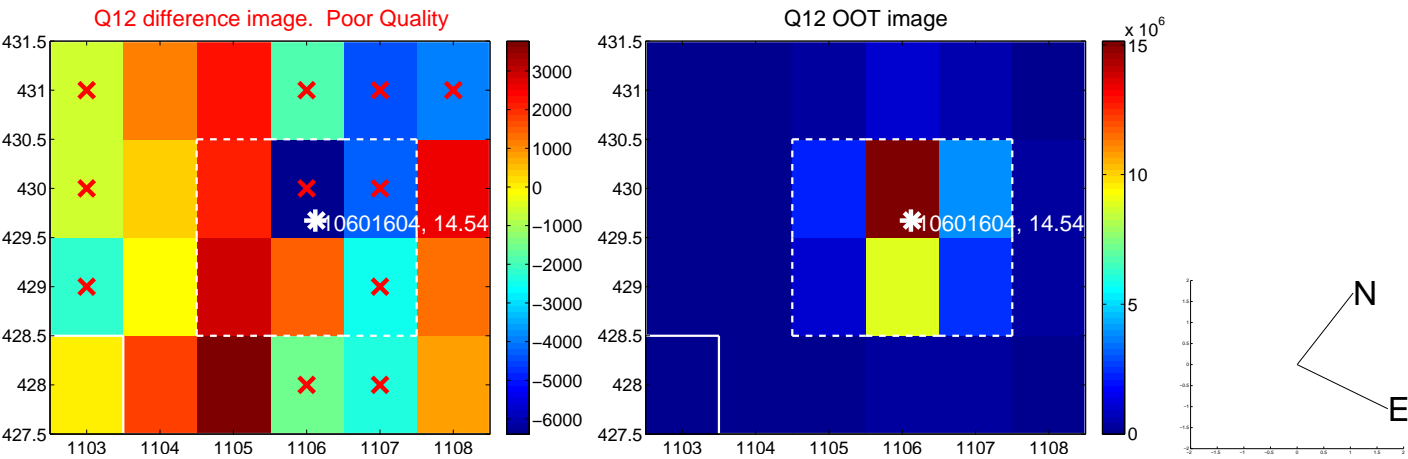
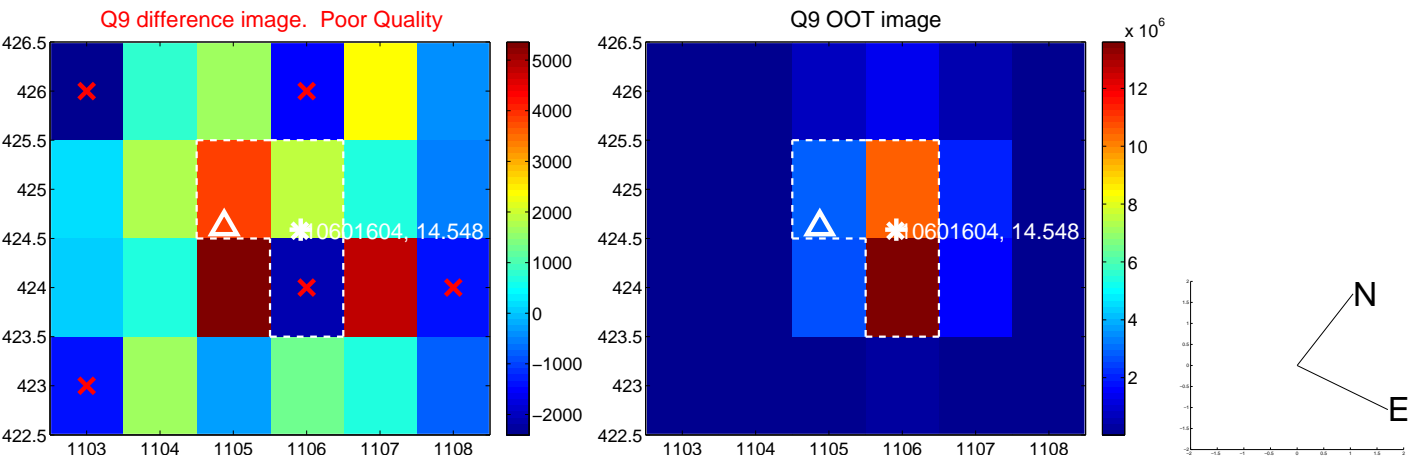
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



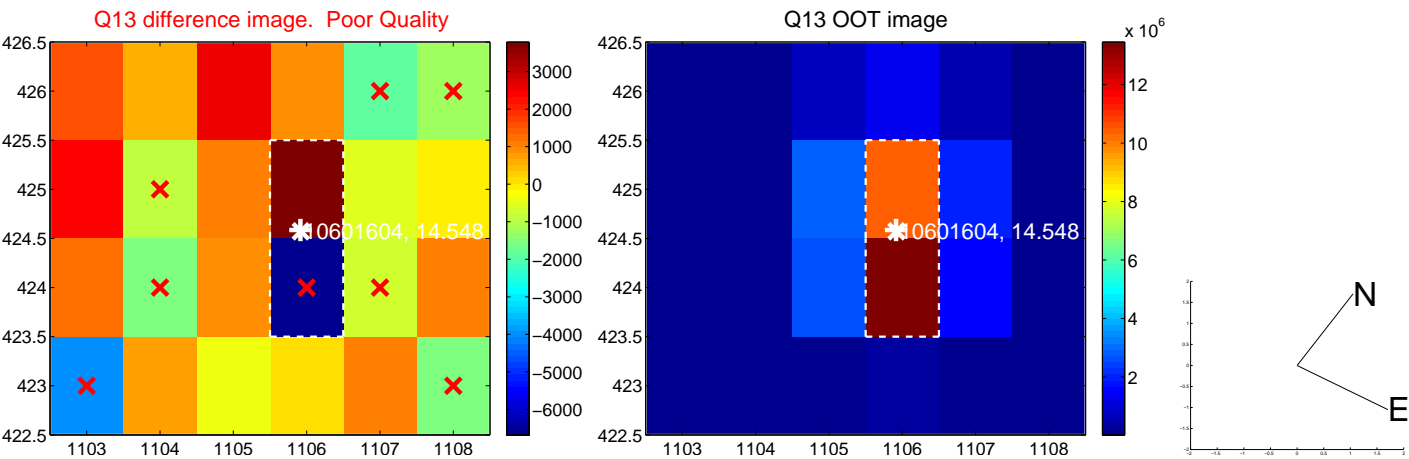
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



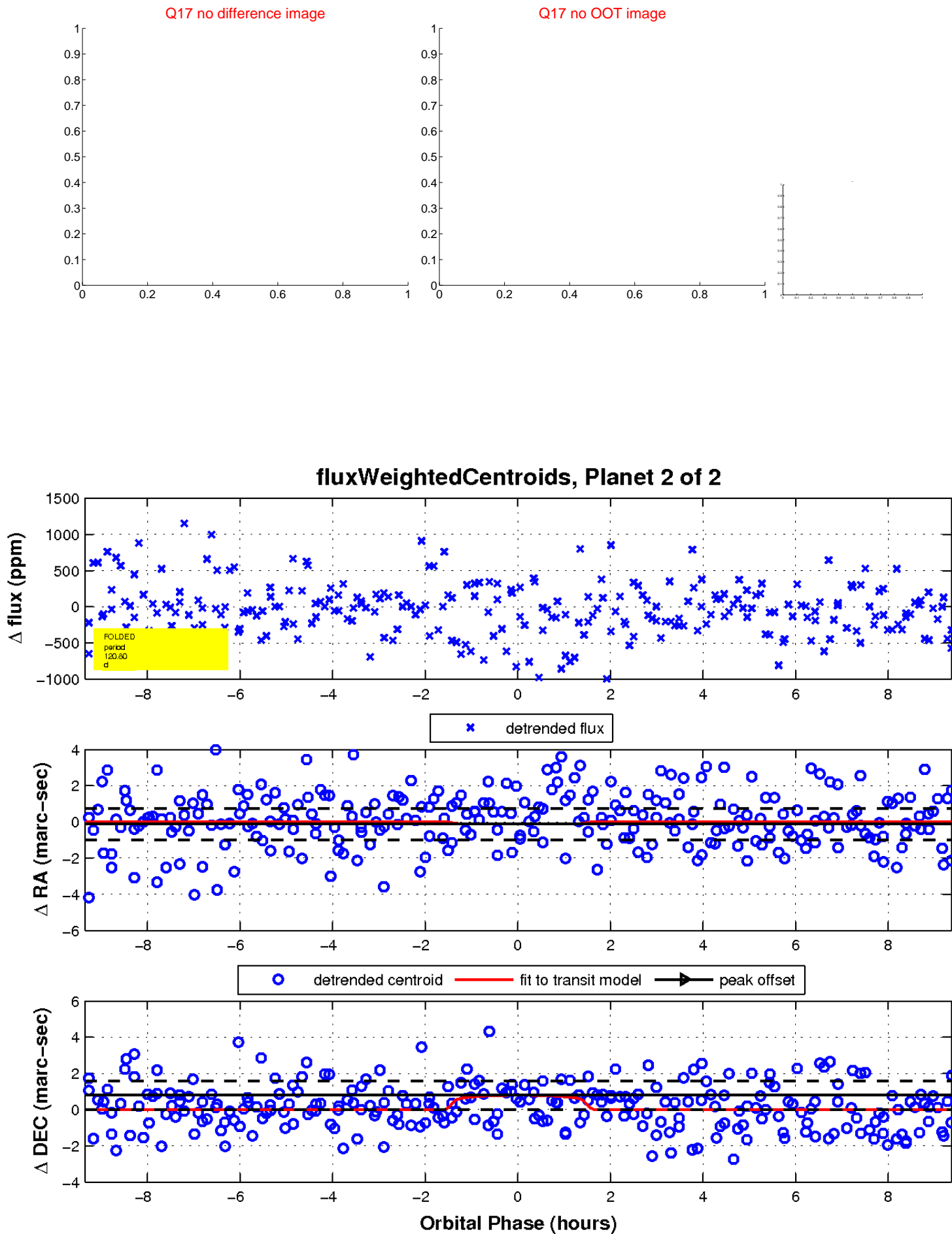
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

