

KIC 012601040

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})
012601040-01	OBS	No	388.183150	333.830483	210.0	3.500	10.5	-1.0	155.63	3262	207.24	2103.06
012601040-02	OBS	No	440.029903	231.032648	513.2	5.000	17.8	-1.0	155.63	3262	323.71	1779.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012601040-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
012601040-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST

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

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

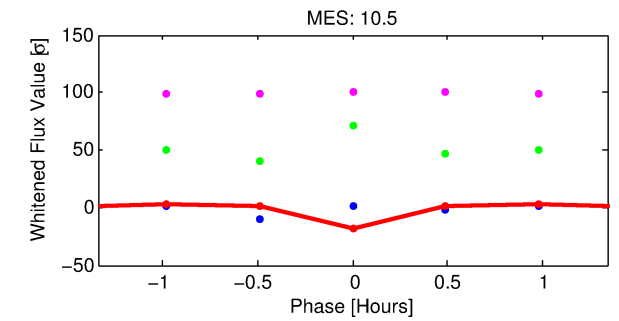
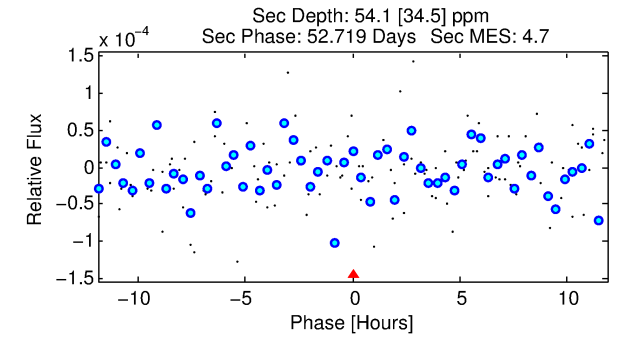
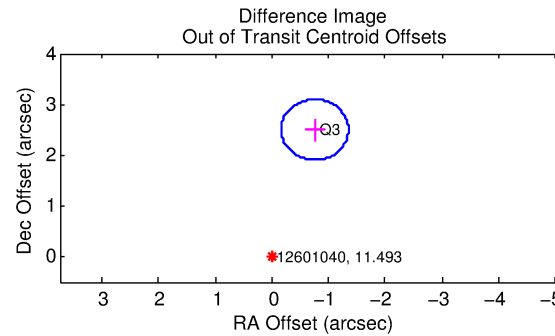
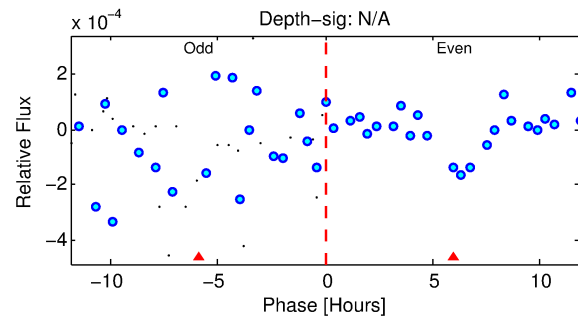
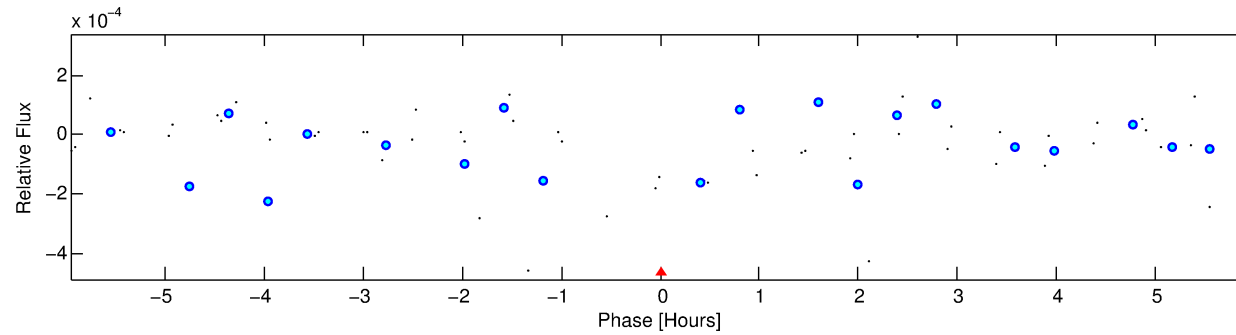
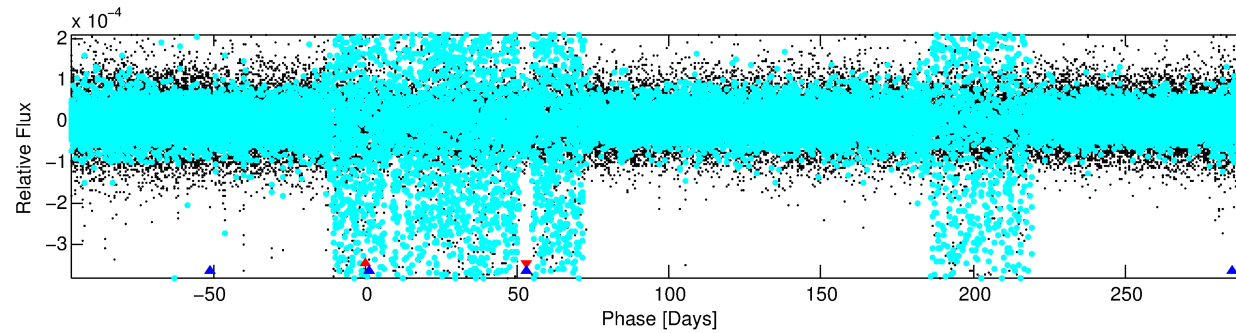
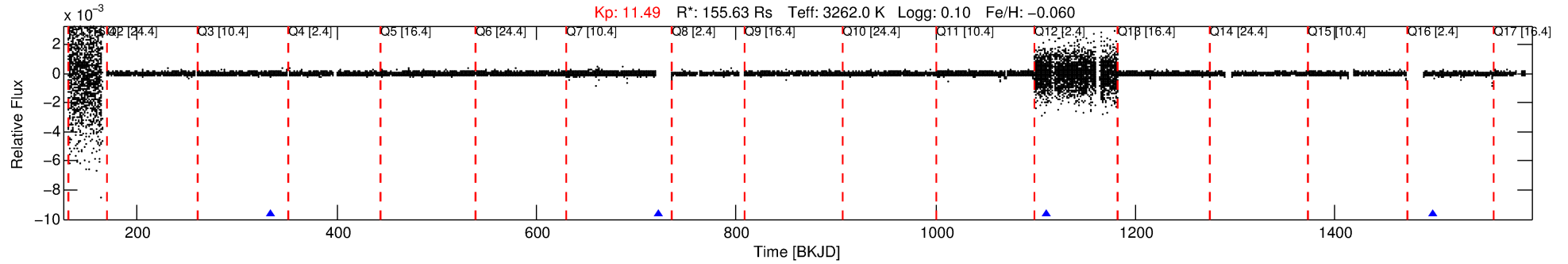
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012601040-01

No Significant Match Found

DV One-Page Summary

KIC: 12601040 Candidate: 1 of 2 Period: 388.183 d



TPS TCE Results:

Period = 388.18315 d
Epoch = 333.8305 BKJD

DV fit results are unavailable

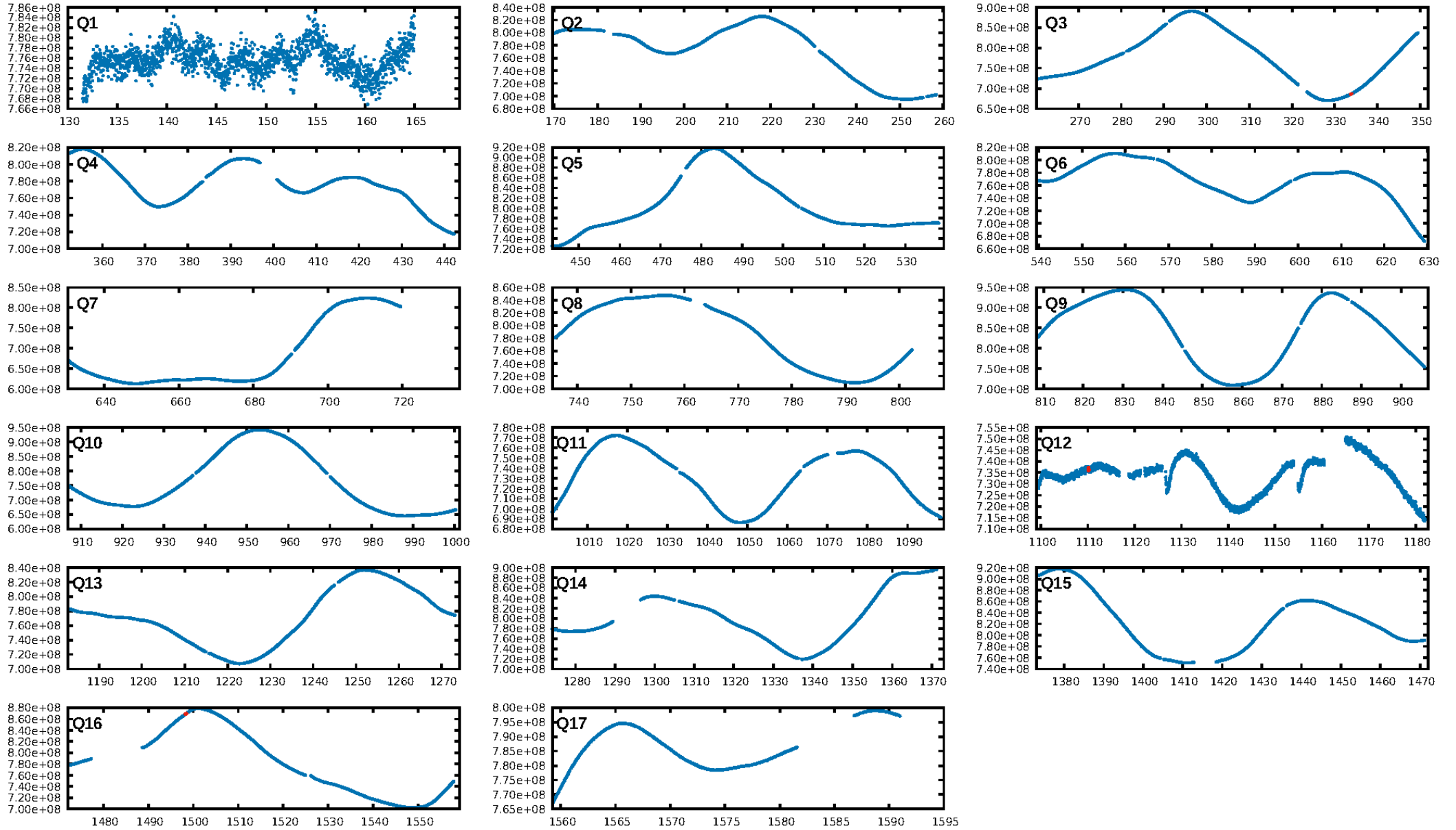
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [203.88σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.14e-05
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.856
Centroid-sig: N/A
Centroid-so: 2.749 arcsec [0.90σ]
OotOffset-rm: 2.611 arcsec [13.12σ]
KicOffset-rm: 2.913 arcsec [14.64σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
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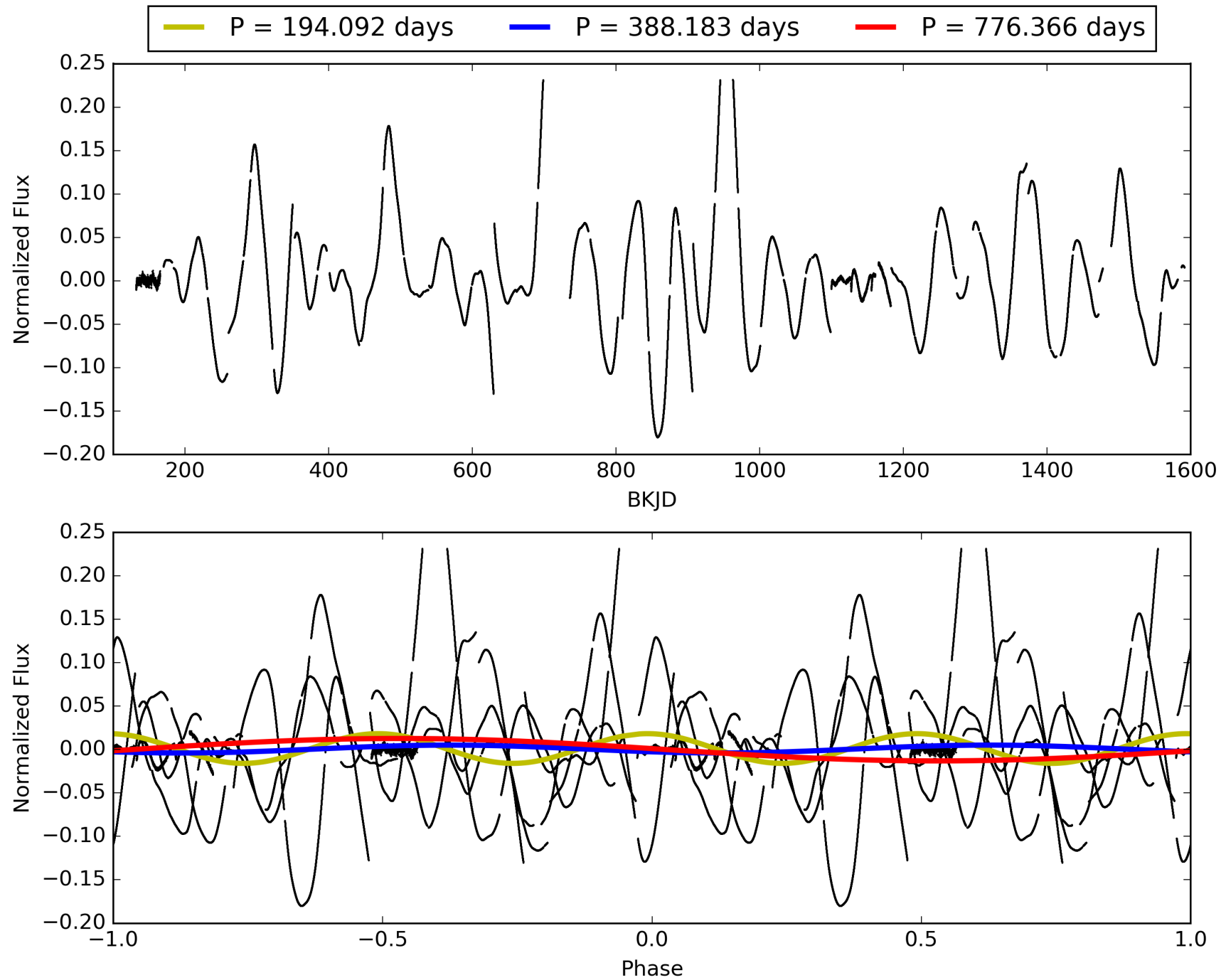
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 012601040-01, PDC Light Curves

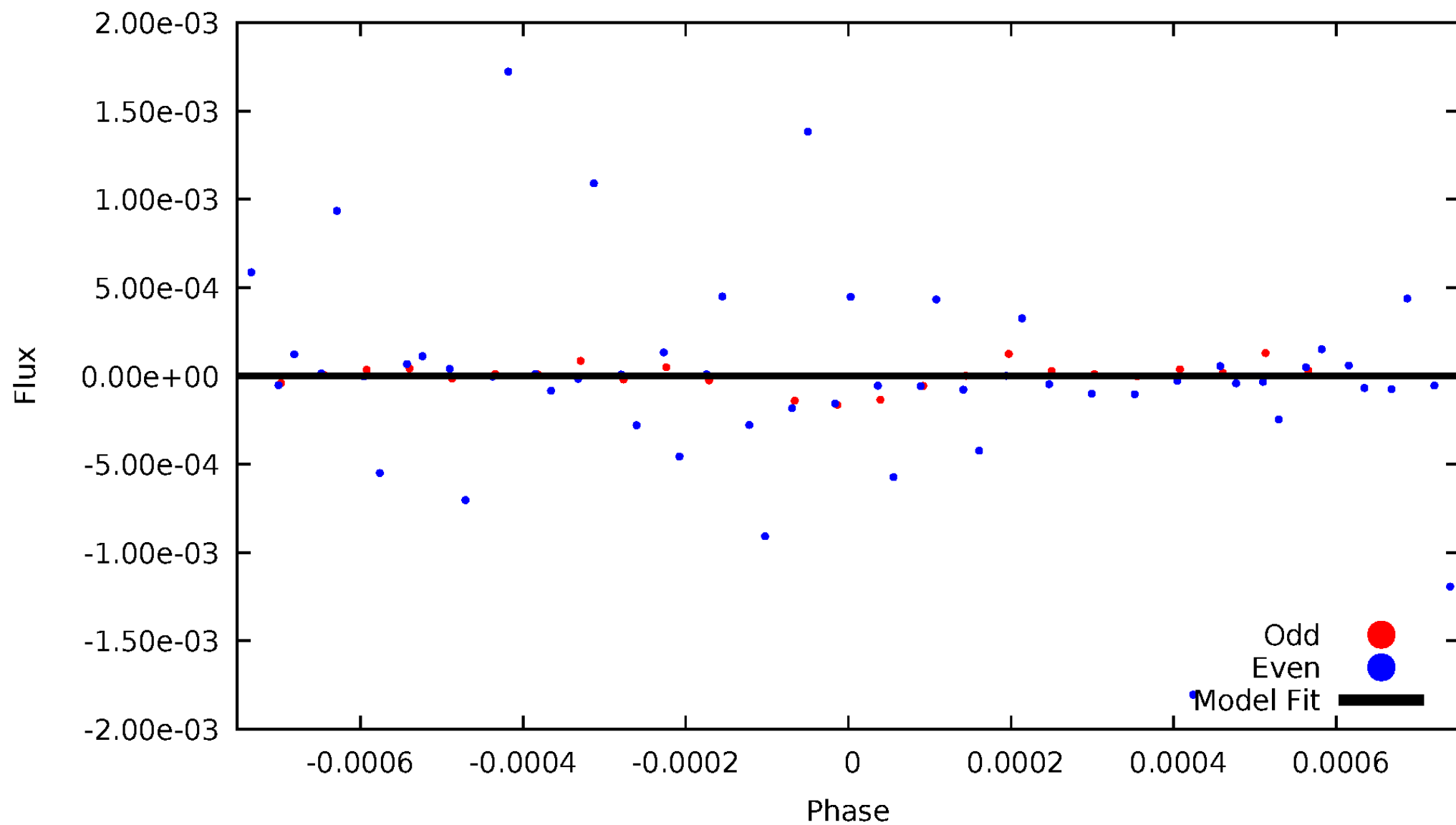


TCE 012601040-01



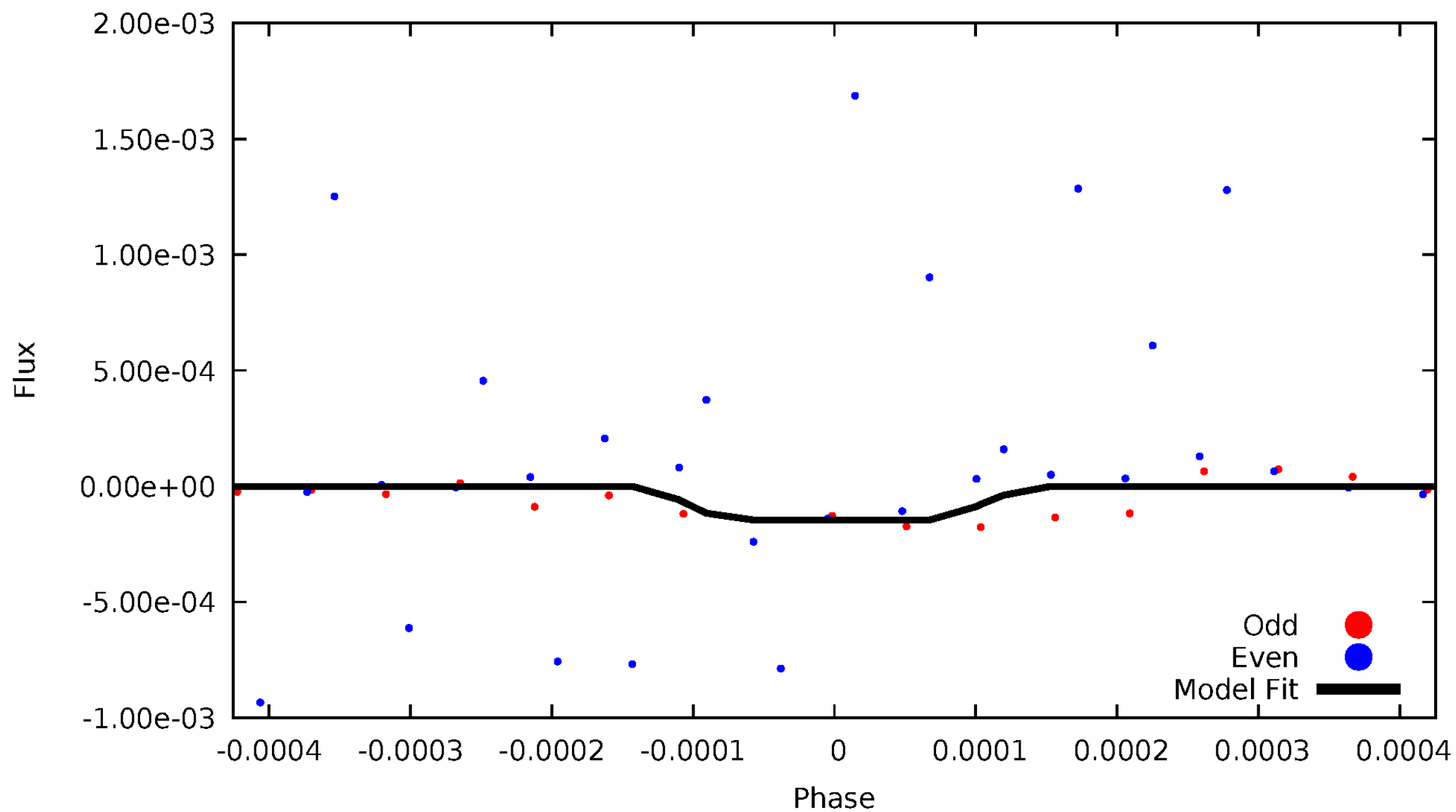
DV Odd/Even

TCE 012601040-01

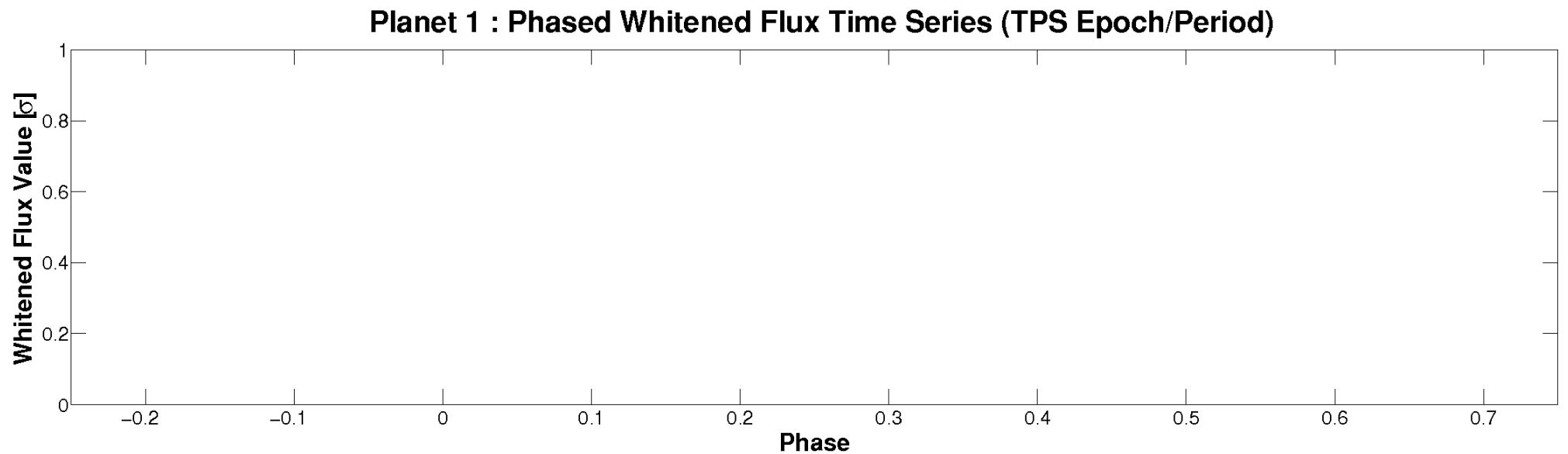
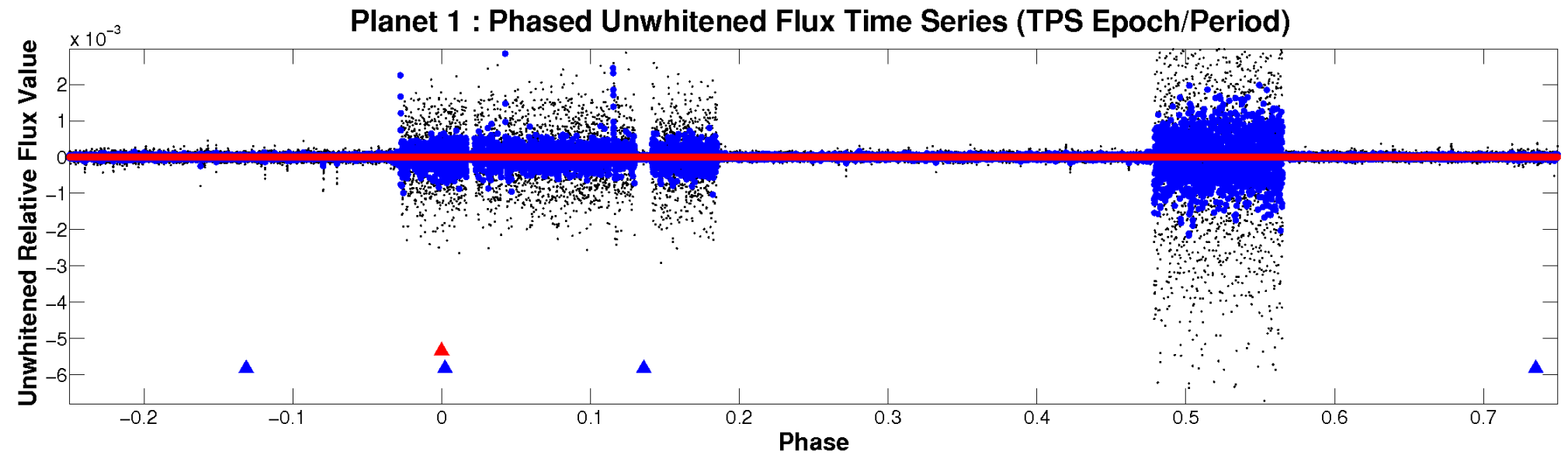


ALT Odd/Even

TCE 012601040-01

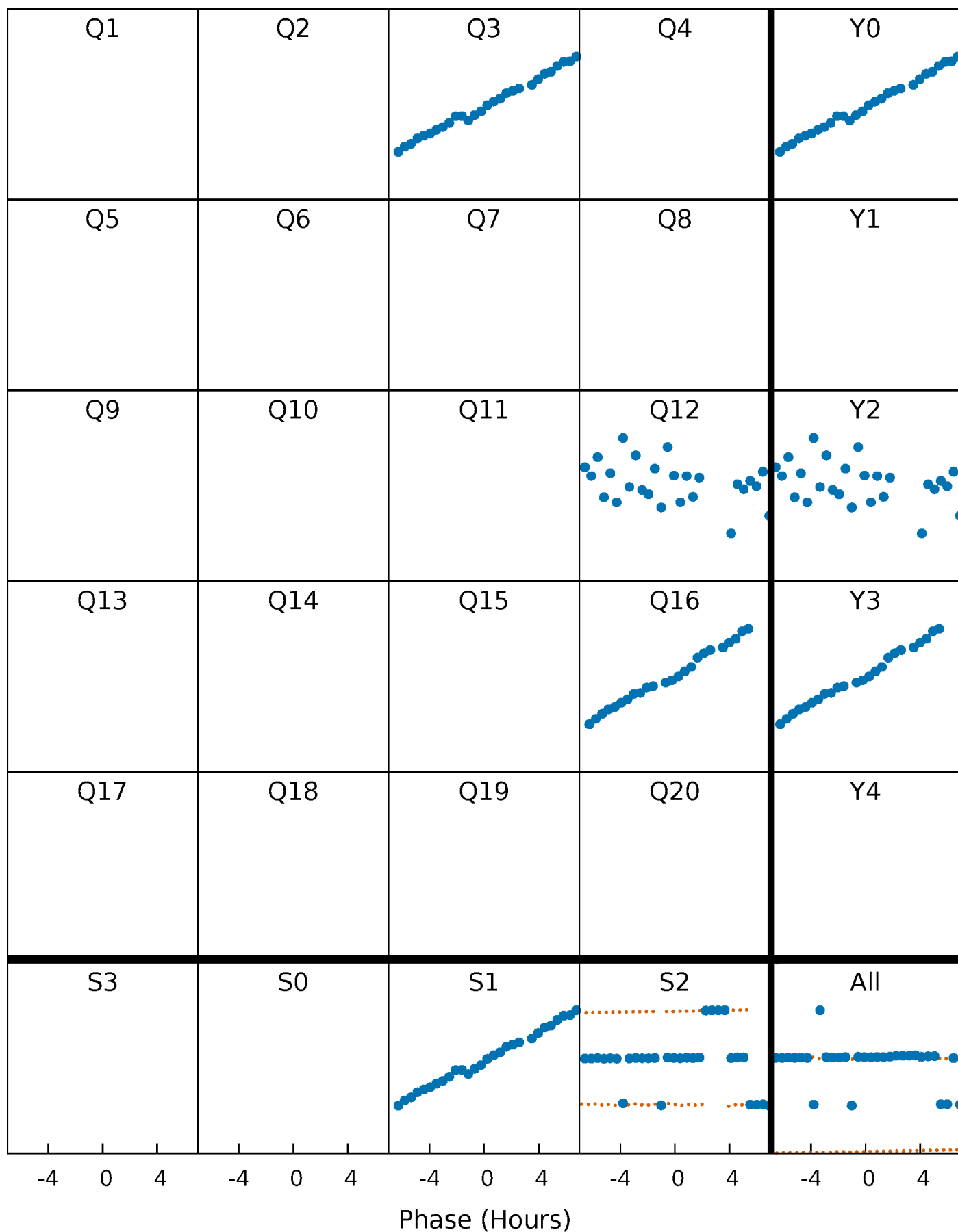


Non-Whitened Vs. Whitened Light Curve



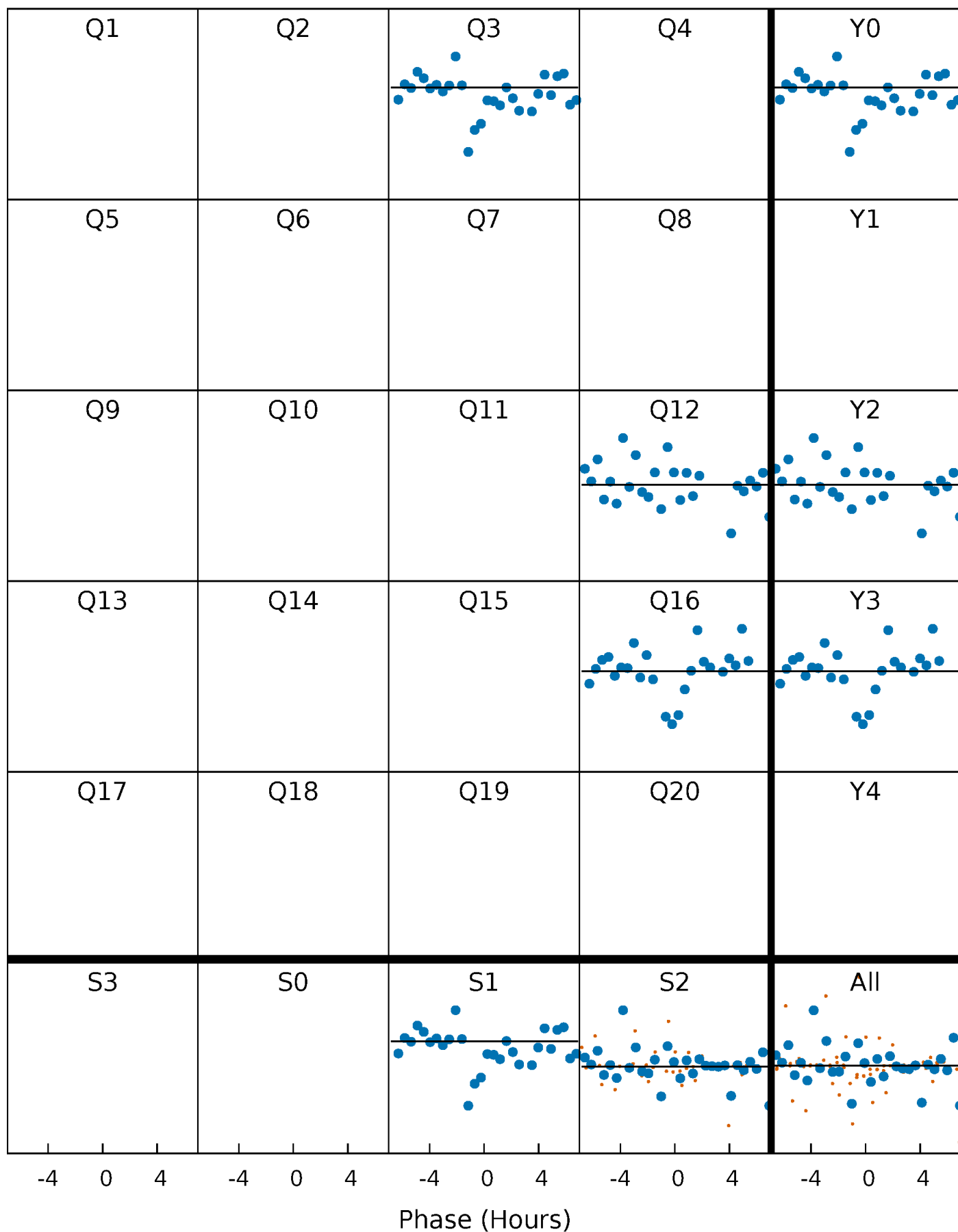
PDC Quarter-Phased Transit Curves

TCE 012601040-01 P=388.183151 Days $T_0=333.830483$ (BKJD)



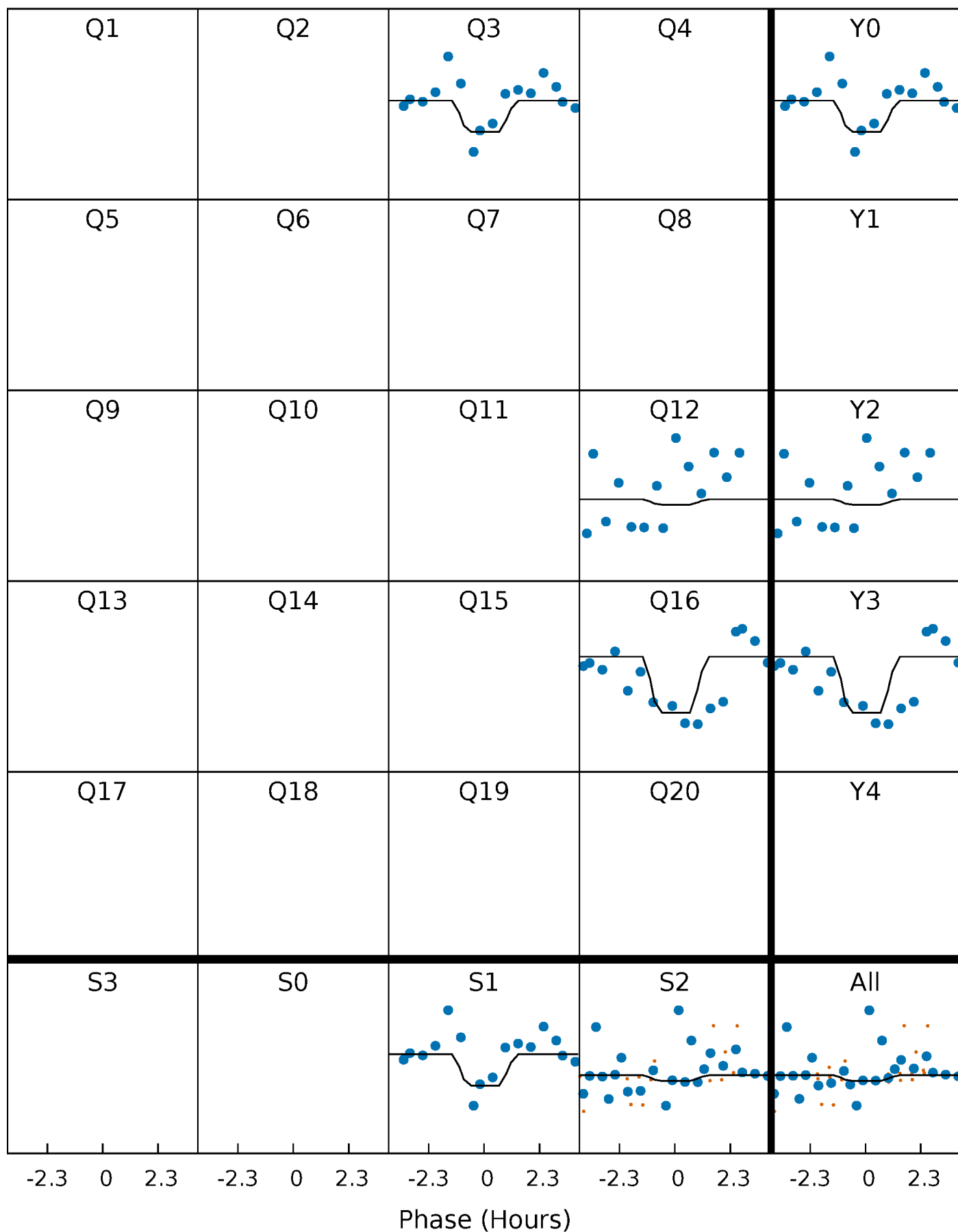
DV Quarter-Phased Transit Curves

TCE 012601040-01 P=388.183151 Days $T_0=333.830483$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

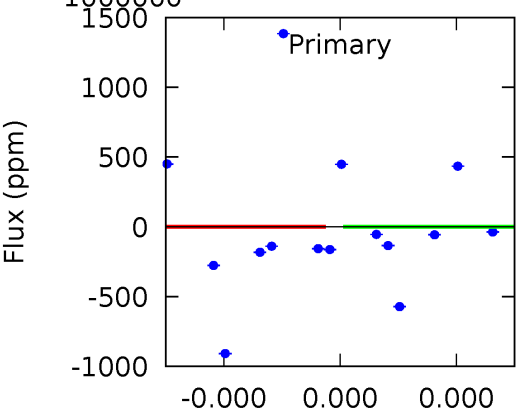
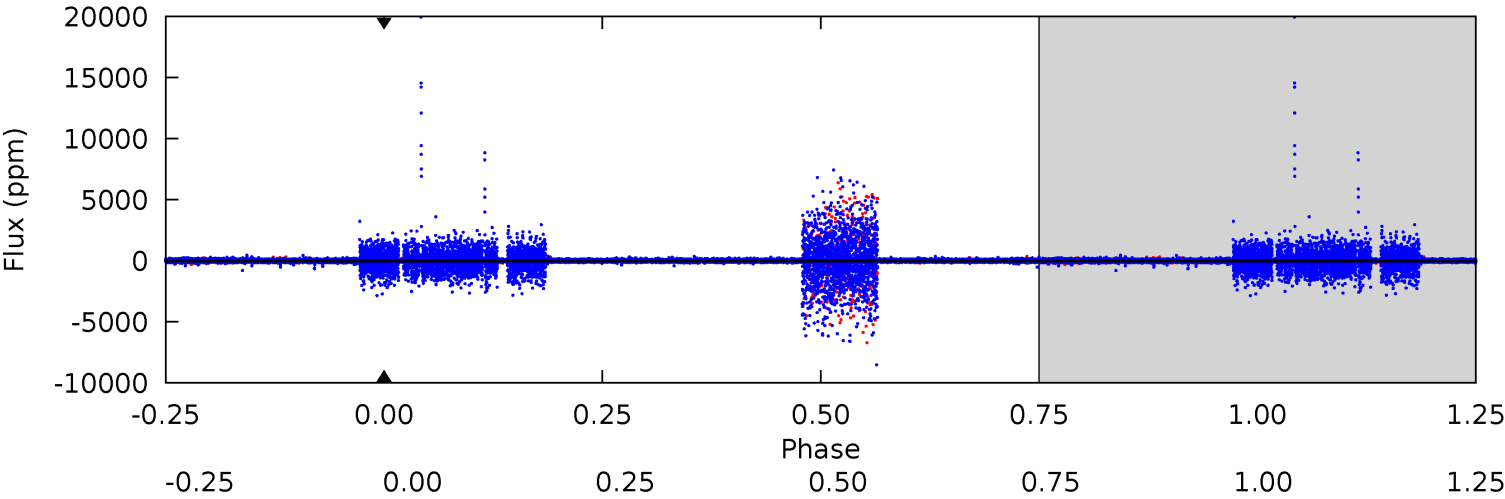
TCE 012601040-01 P=388.183151 Days $T_0=333.805486$ (BKJD)



DV Model-Shift Uniqueness Test

012601040-01, P = 388.183151 Days, E = 333.830483 Days

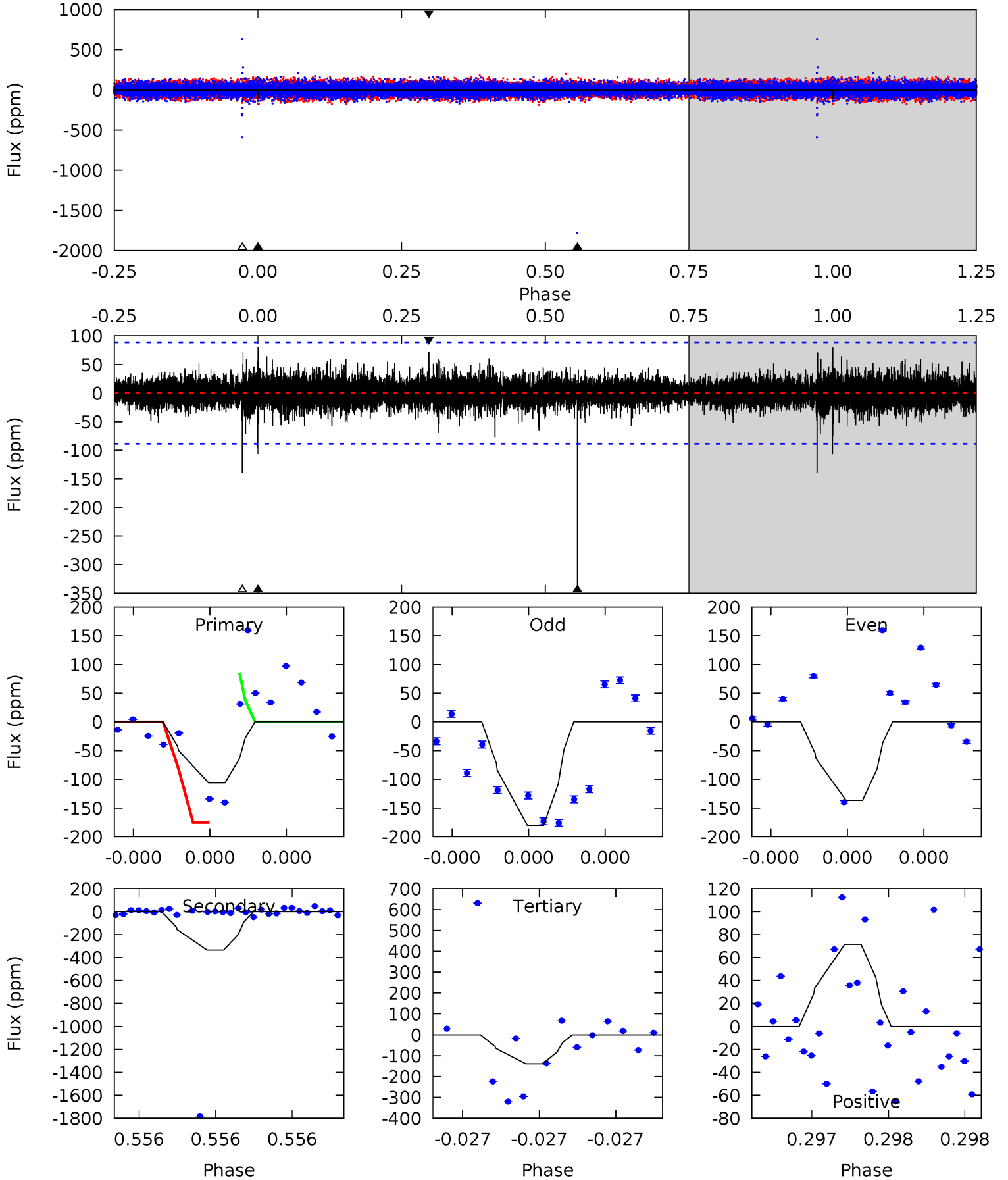
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

012601040-01, P = 388.183151 Days, E = 333.805486 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.81	21.5	8.91	4.57	5.69	3.65	0.82	-2.11	2.24	12.6	16.9	0.65	-0.73	0.19	2.49



Stellar Parameters For KIC 012601040

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3262^{+117}_{-78}	$0.102^{+0.195}_{-0.065}$	$-0.060^{+0.250}_{-0.150}$	$155.634^{+7.354}_{-27.576}$	$1.118^{+0.207}_{-0.128}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+191%/-64%	+417%/-250%	+5%/-18%	+19%/-11%	+88%/-15%
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 012601040-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$1190.20^{+1467.06}_{-862.23}$	2387^{+113}_{-127}	-2761^{+9607}_{-3896}	$-0.313^{+95.761}_{-88.518}$
Alt.	-335 ± 16	$1172.05^{+1241.05}_{-846.60}$	2383^{+110}_{-106}	-2248^{+5374}_{-202}	$0.163^{+1.929}_{-0.126}$

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 $A_{obs} \gg 1.0$

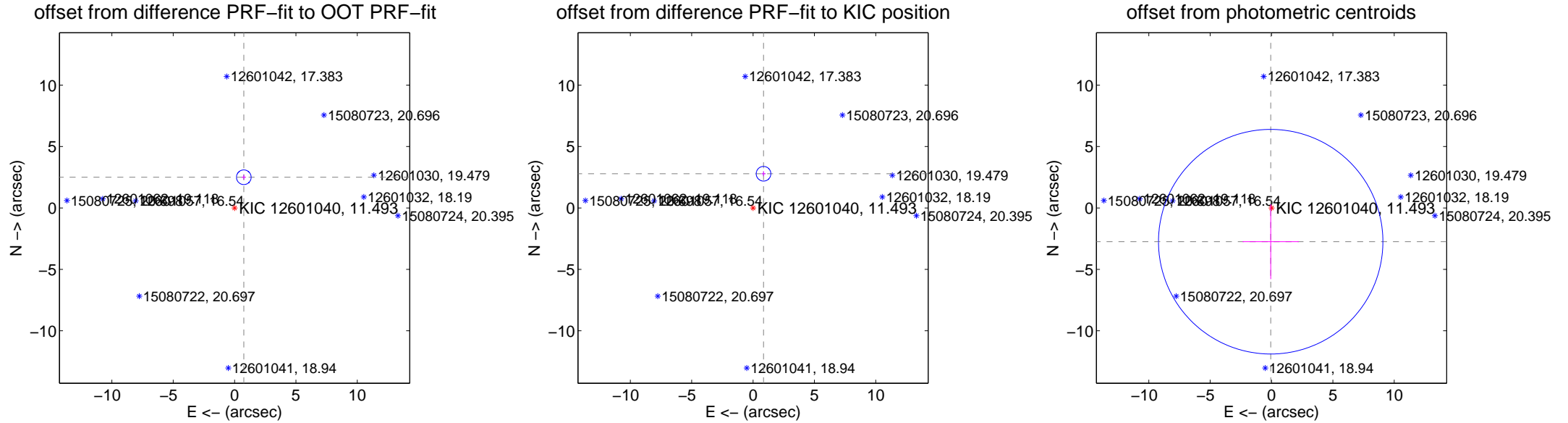
DV Centroid Data

Supplemental centroid analysis for 012601040-01. **Kepler magnitude: 11.49.** Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

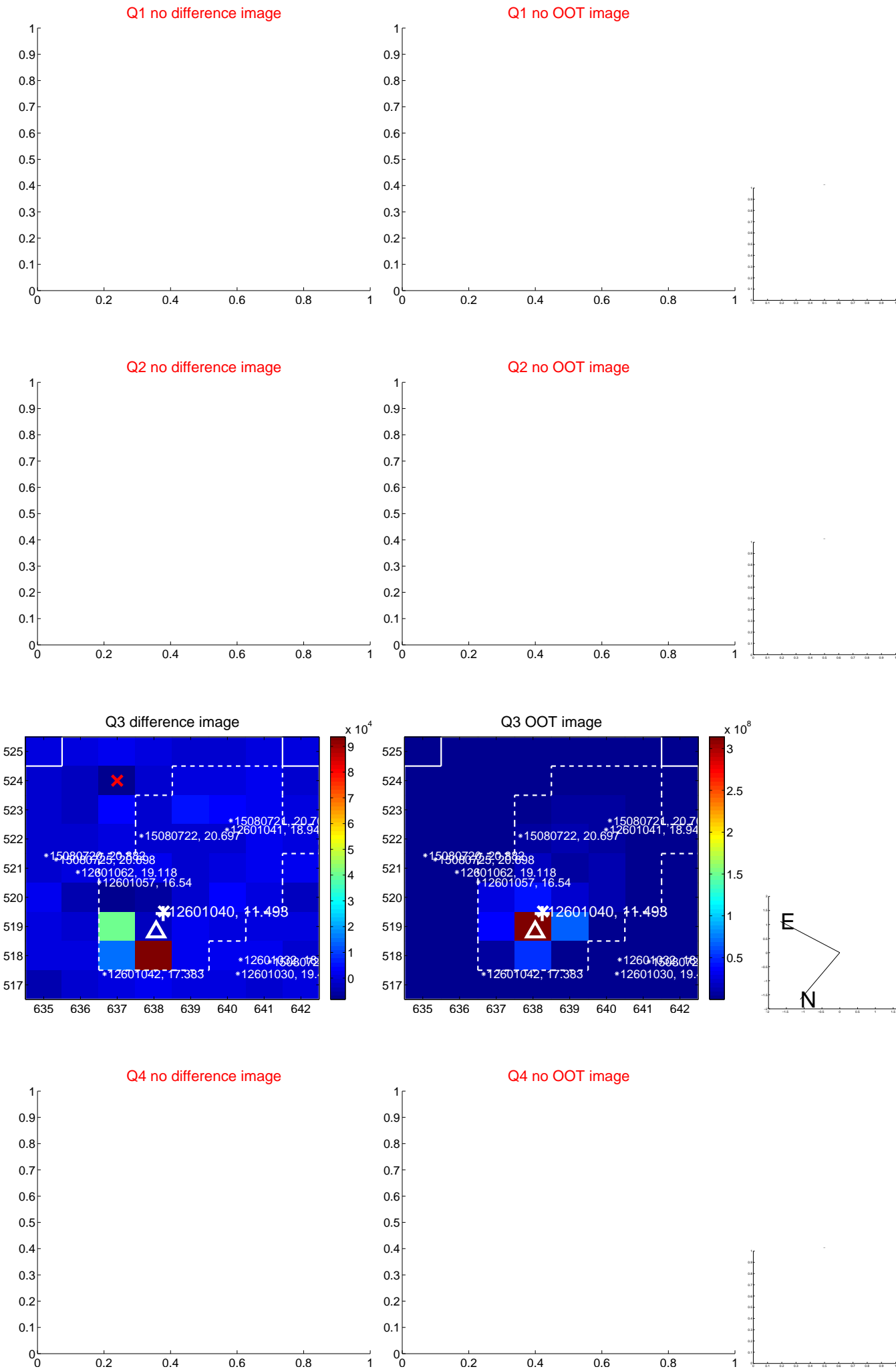
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.611 ± 0.199	13.12	-0.753 ± 0.167	2.500 ± 0.202
PRF-fit source offset from KIC position	2.913 ± 0.199	14.64	-0.854 ± 0.167	2.785 ± 0.202
photometric centroid source offset	2.75 ± 3.05	0.90	0.07 ± 2.29	-2.75 ± 3.05



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.



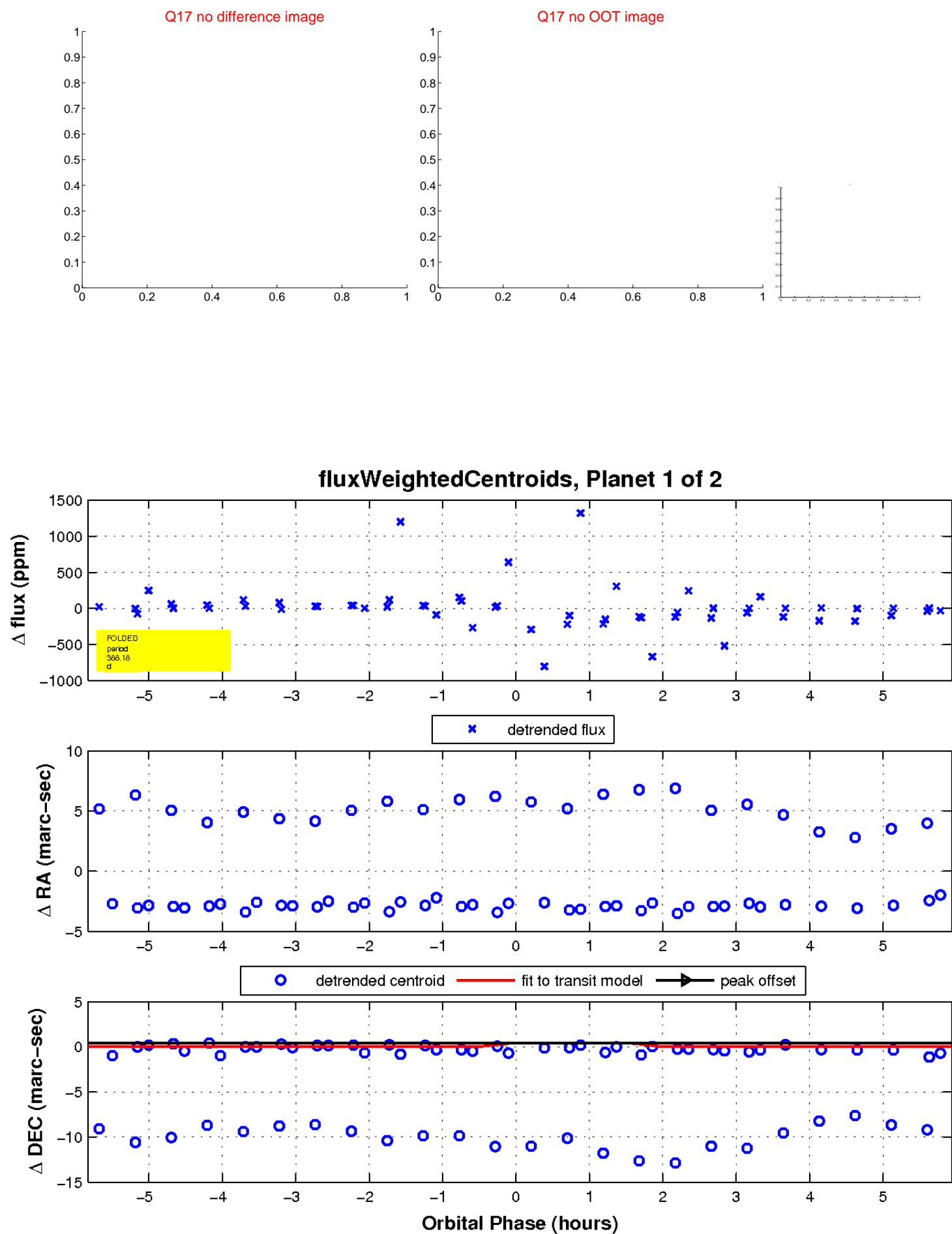
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



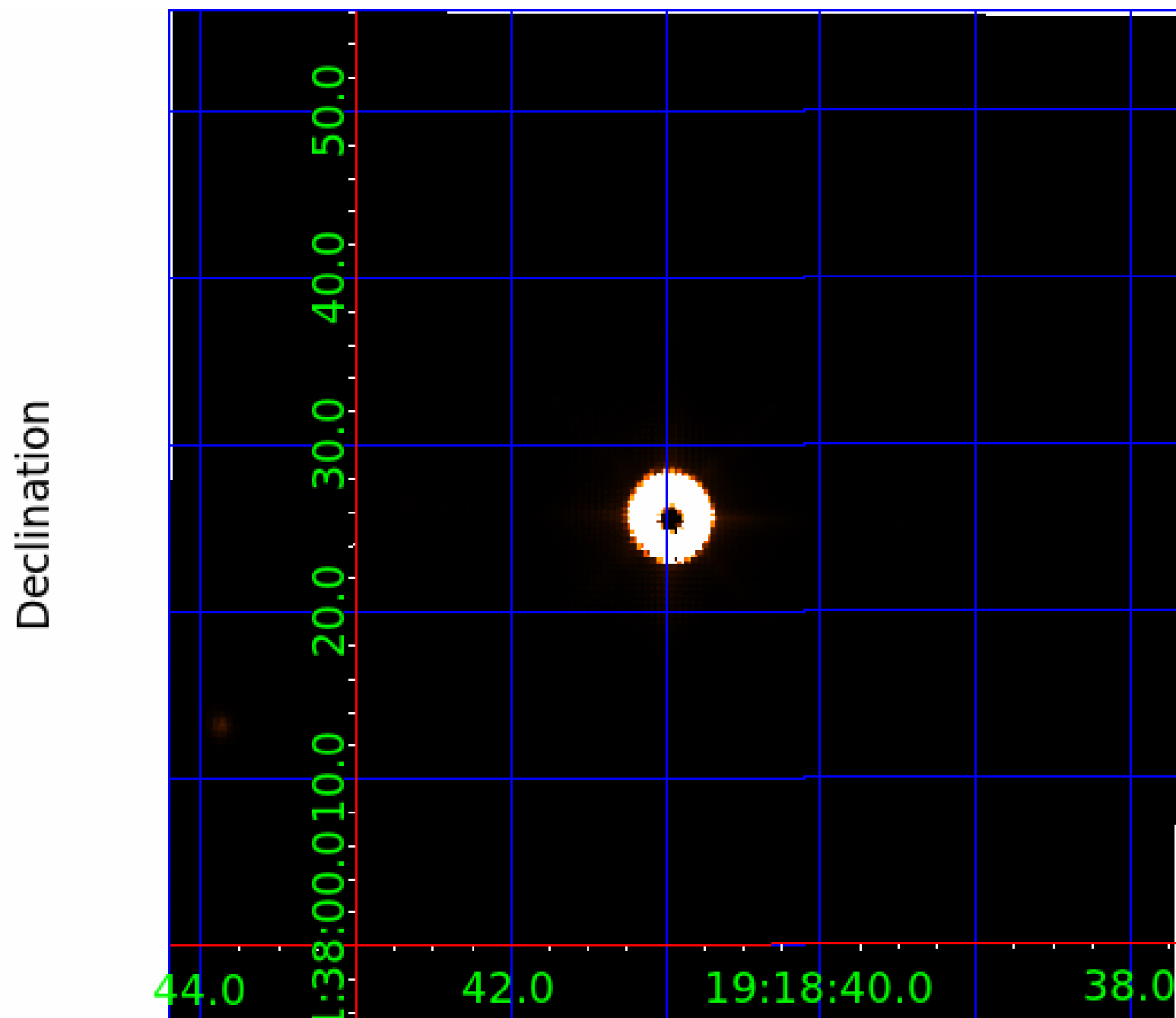
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 012601040

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})
012601040-01	OBS	No	388.183150	333.830483	210.0	3.500	10.5	-1.0	155.63	3262	207.24	2103.06
012601040-02	OBS	No	440.029903	231.032648	513.2	5.000	17.8	-1.0	155.63	3262	323.71	1779.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012601040-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
012601040-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST

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

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

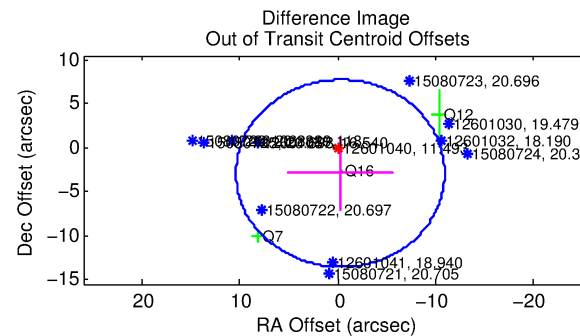
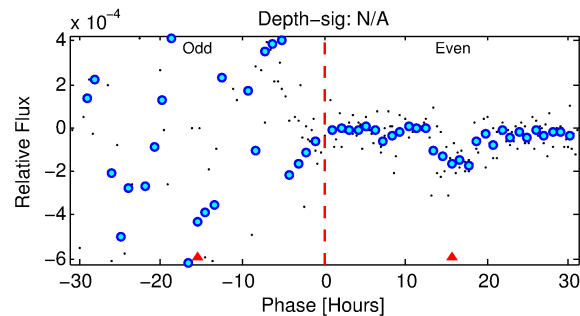
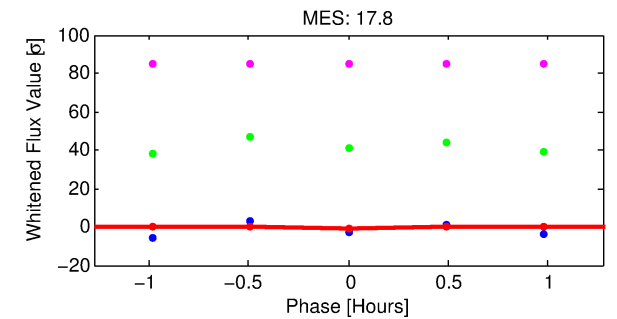
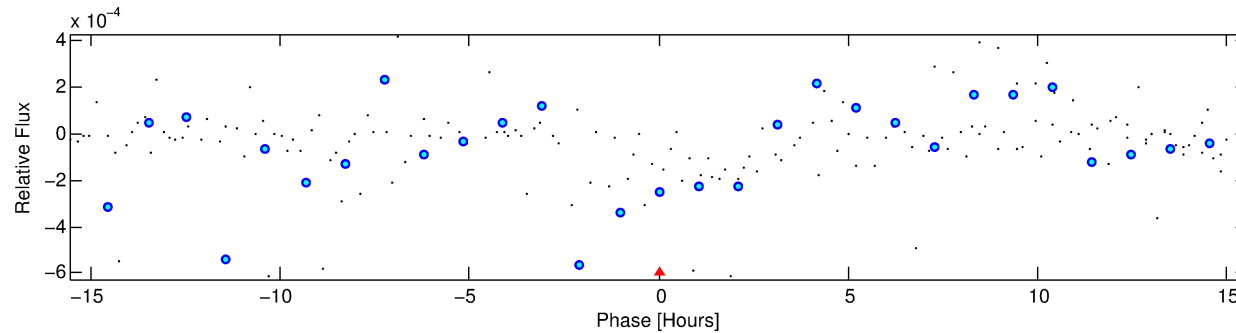
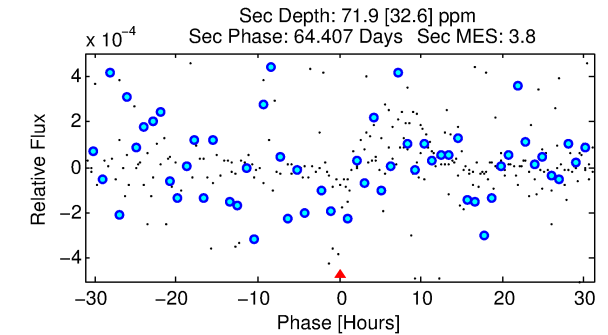
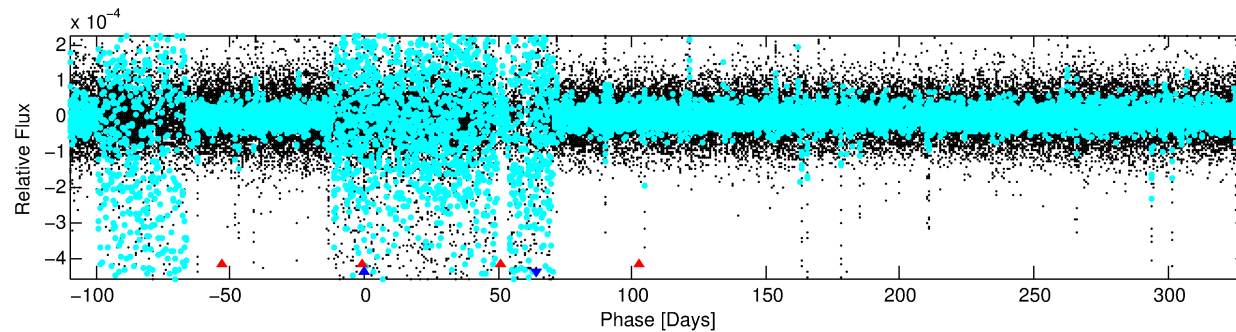
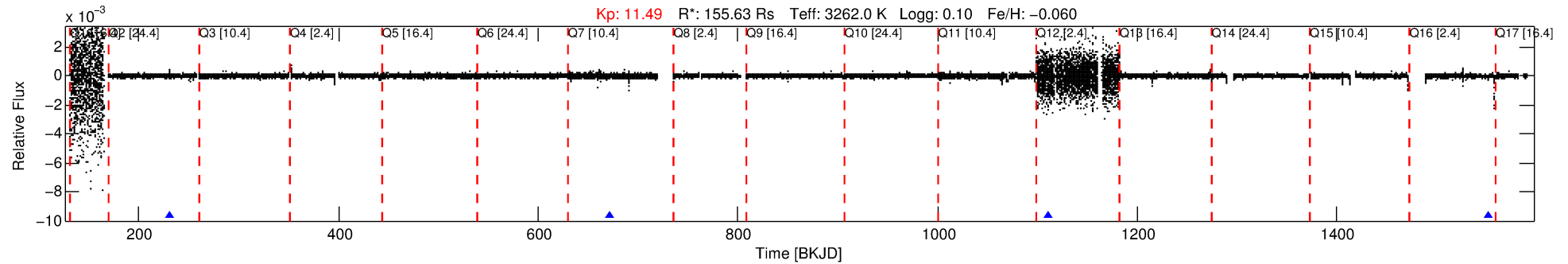
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012601040-02

No Significant Match Found

DV One-Page Summary

KIC: 12601040 Candidate: 2 of 2 Period: 440.030 d



TPS TCE Results:

Period = 440.02990 d
Epoch = 231.0326 BKJD

DV fit results are unavailable

DV Diagnostic Results:

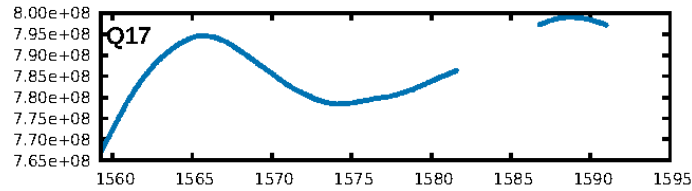
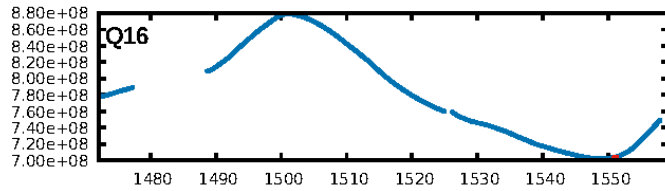
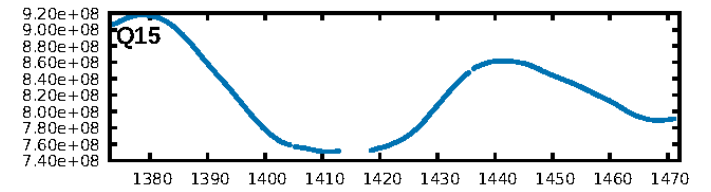
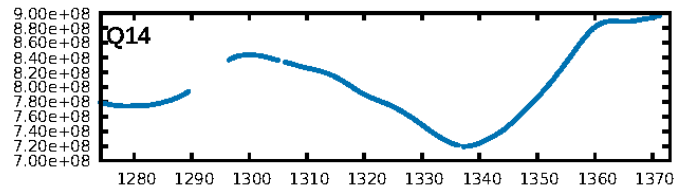
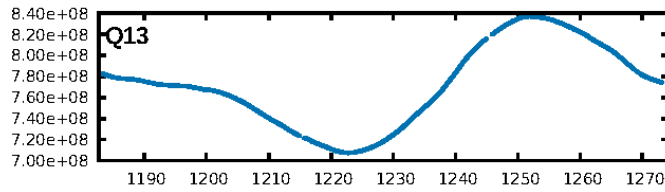
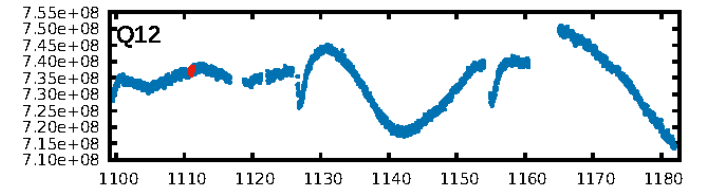
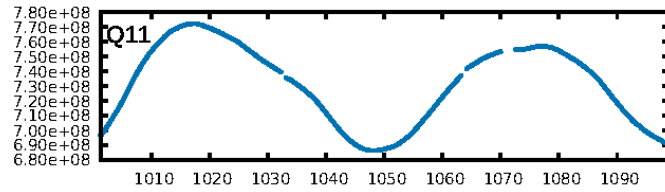
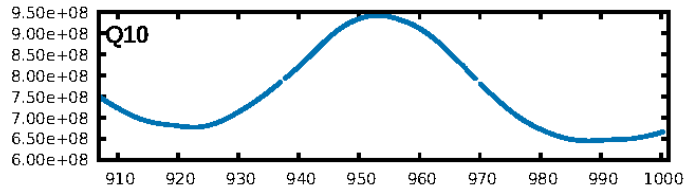
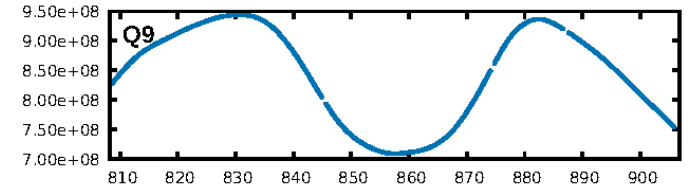
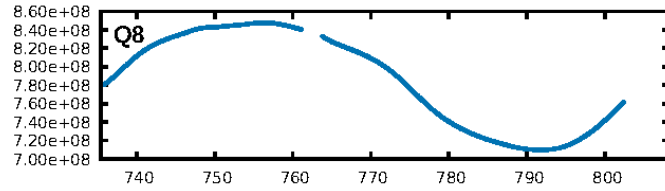
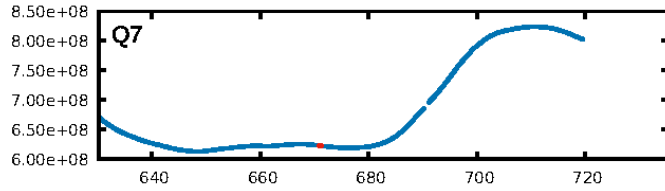
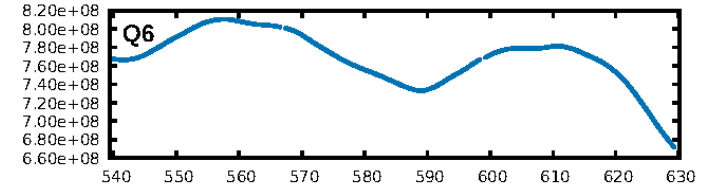
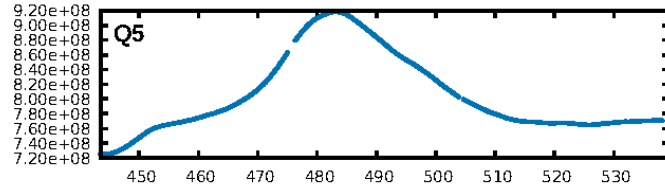
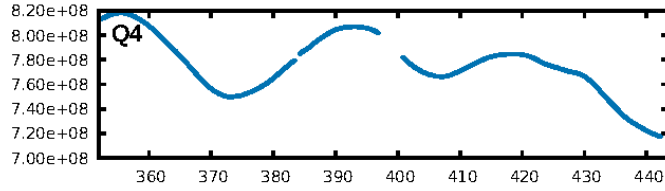
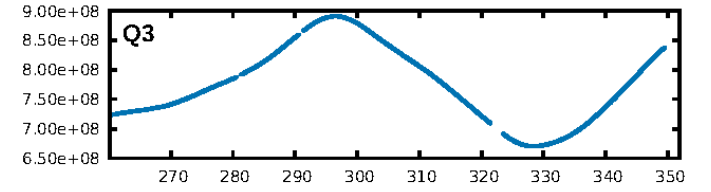
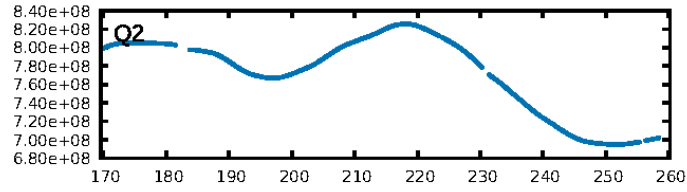
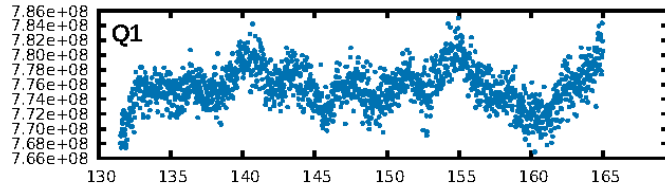
ShortPeriod-sig: 100.0% [203.88σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.01e-07
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.01519

Centroid-sig: N/A
Centroid-so: 2.472 arcsec [1.78σ]
OotOffset-rm: 2.919 arcsec [0.82σ]
KicOffset-rm: 2.962 arcsec [0.94σ]
OotOffset-st: 0/1/2/0 [3]
KicOffset-st: 0/1/2/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

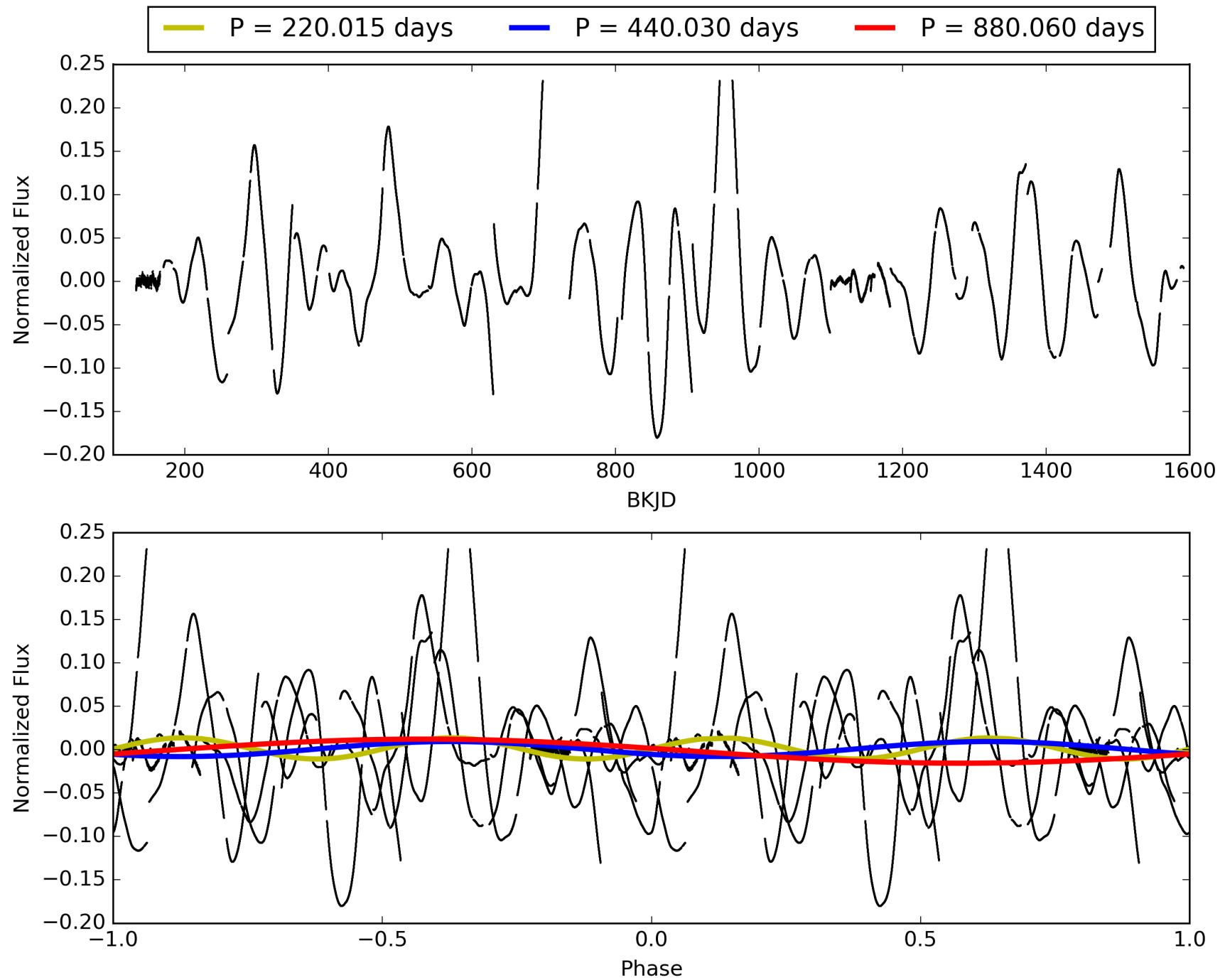
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:00:02 Z

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

TCE 012601040-02, PDC Light Curves

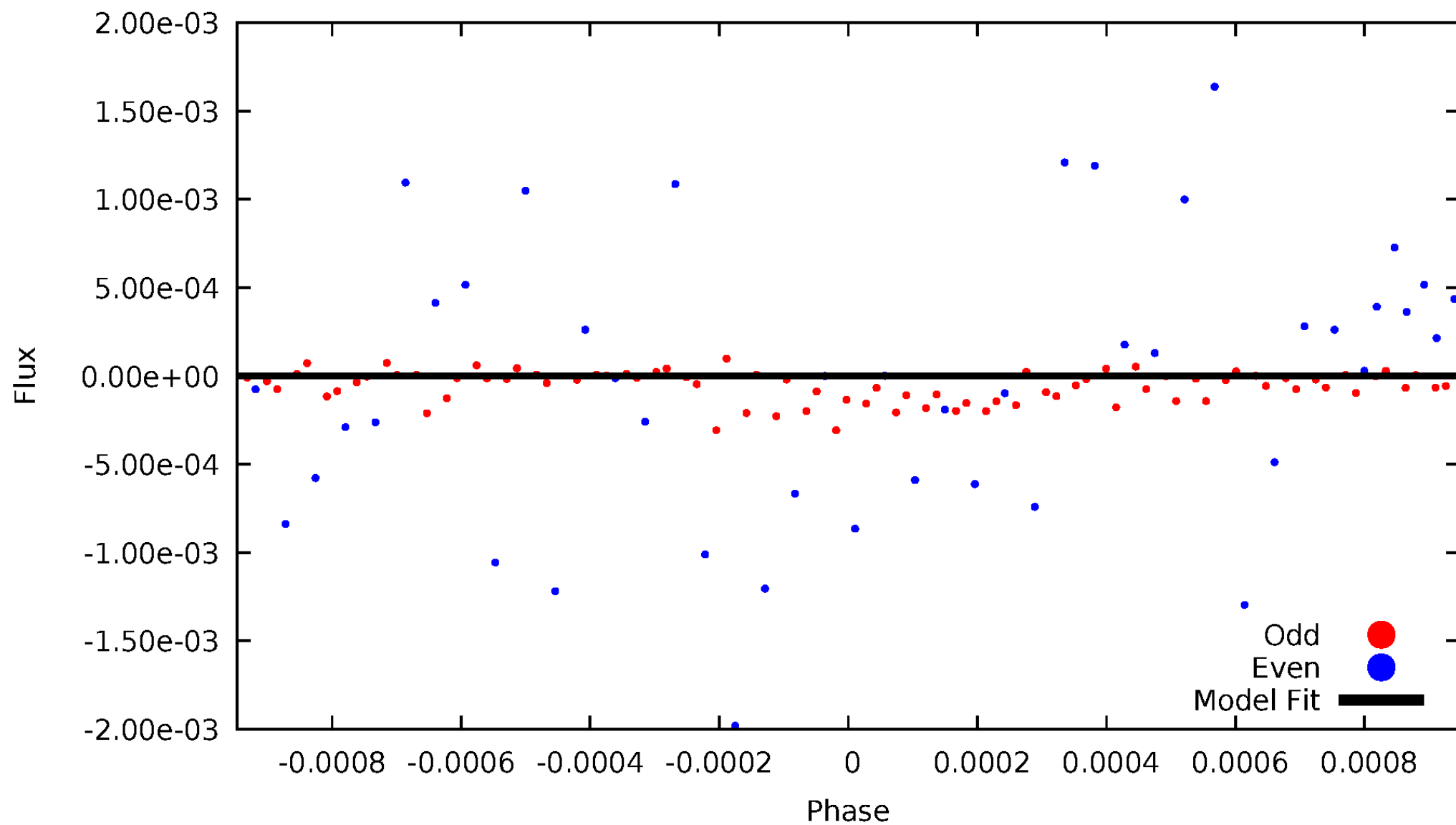


TCE 012601040-02



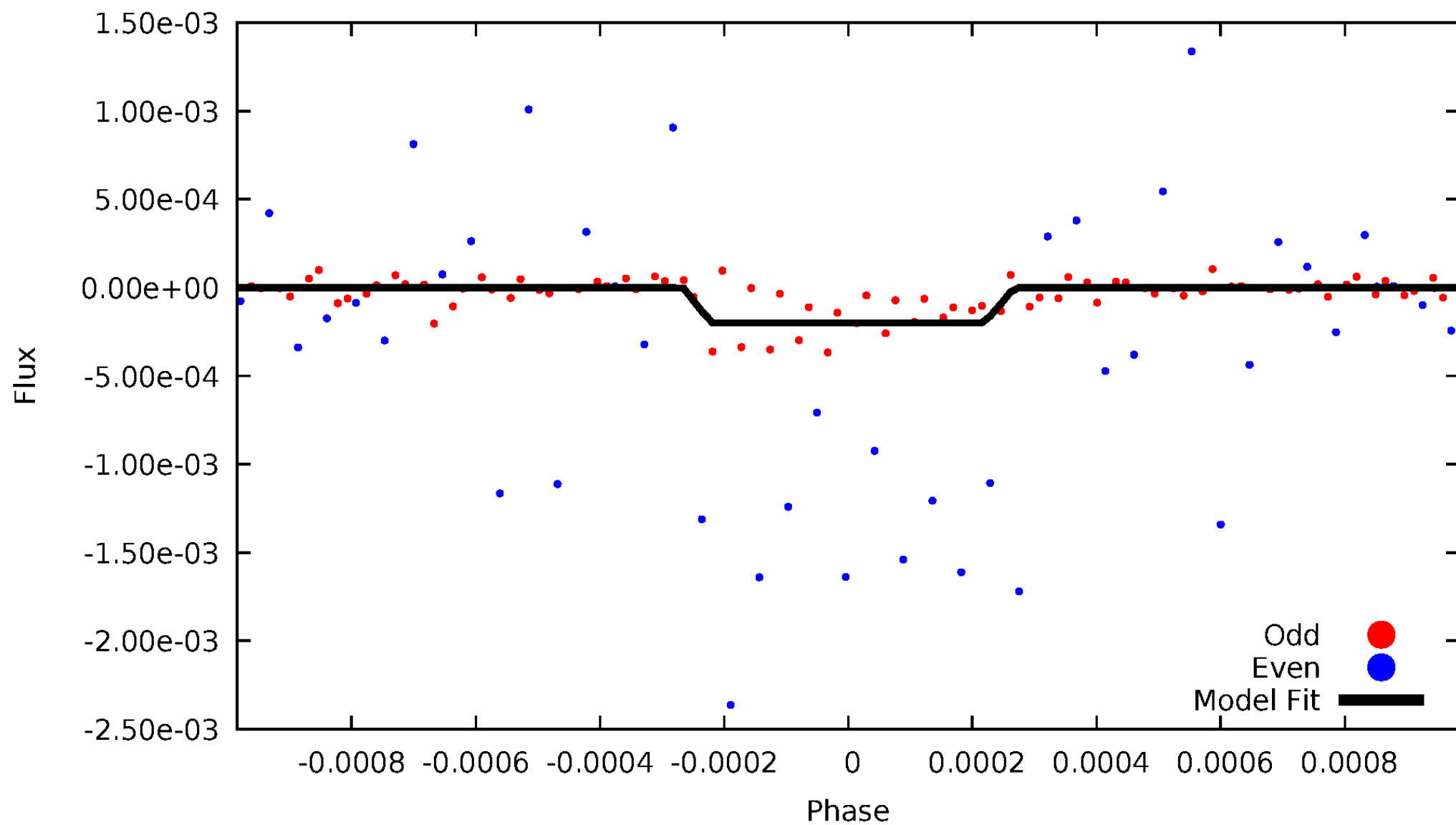
DV Odd/Even

TCE 012601040-02



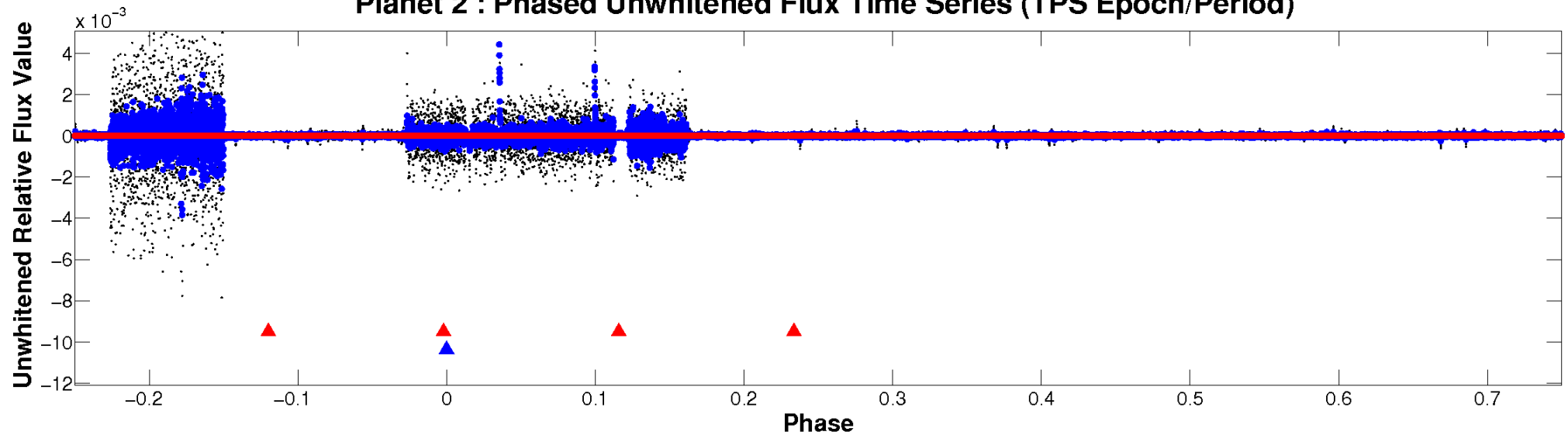
ALT Odd/Even

TCE 012601040-02

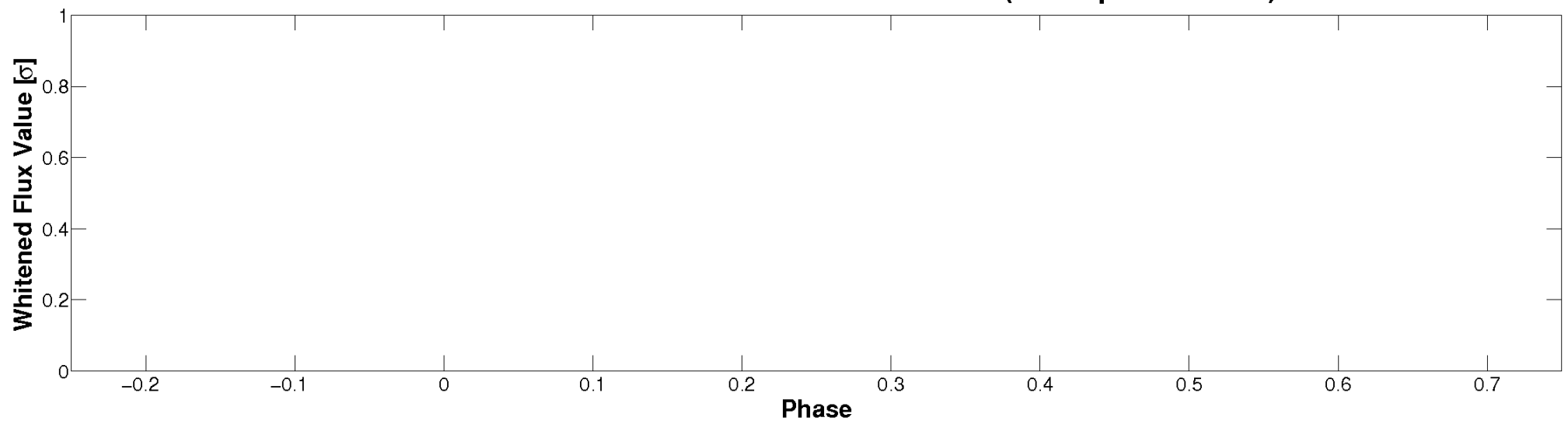


Non-Whitened Vs. Whitened Light Curve

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

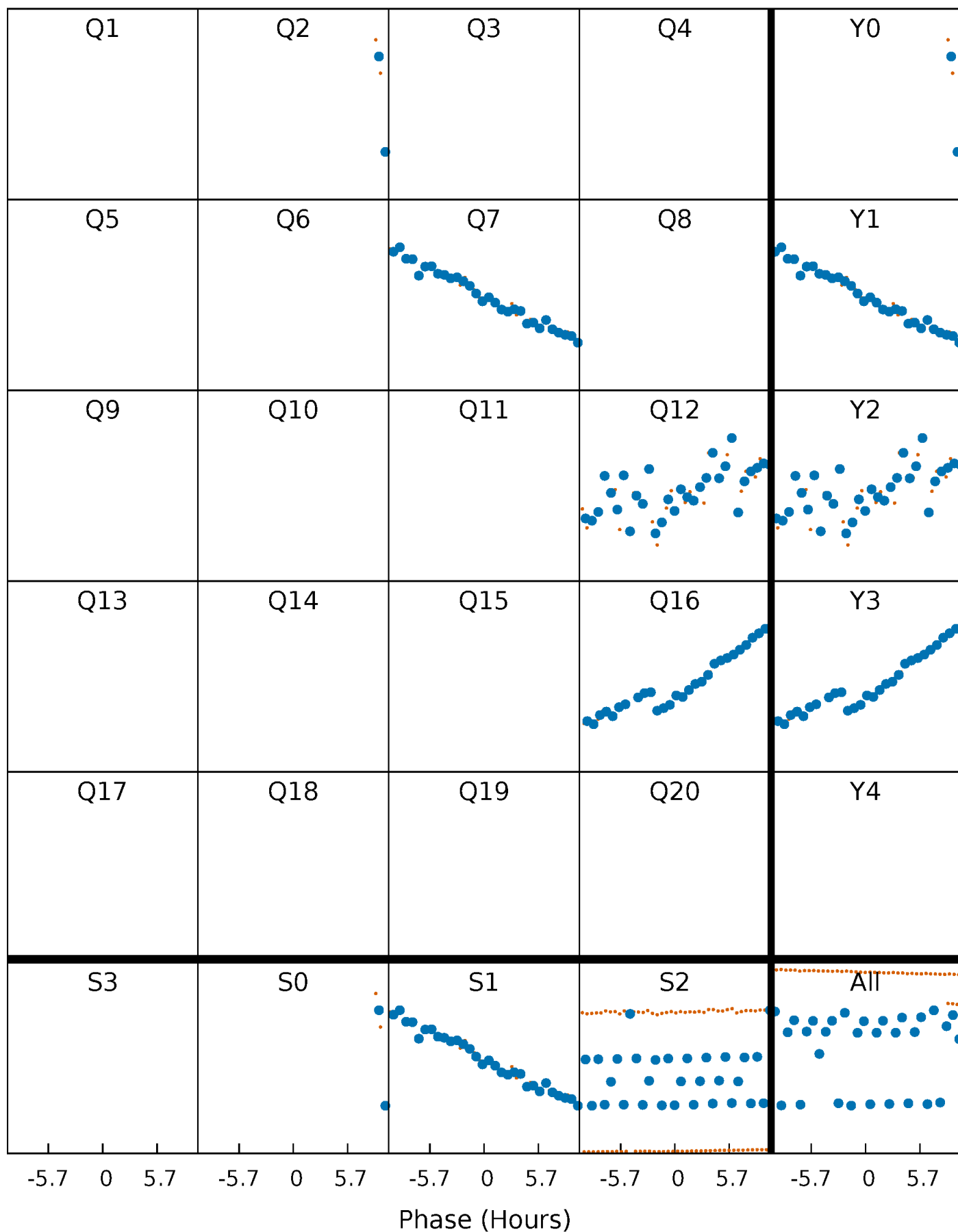


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



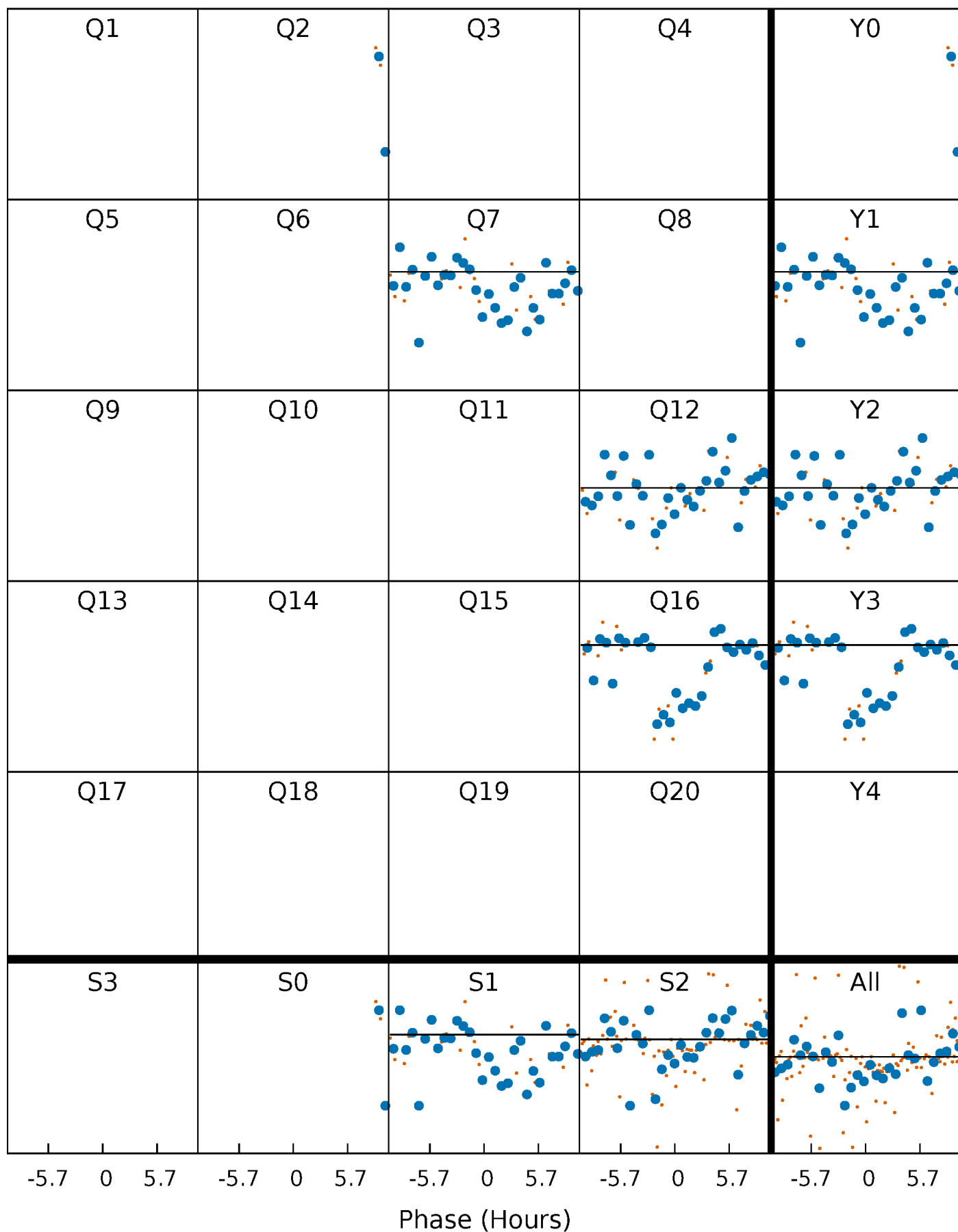
PDC Quarter-Phased Transit Curves

TCE 012601040-02 P=440.029903 Days $T_0=231.032648$ (BKJD)



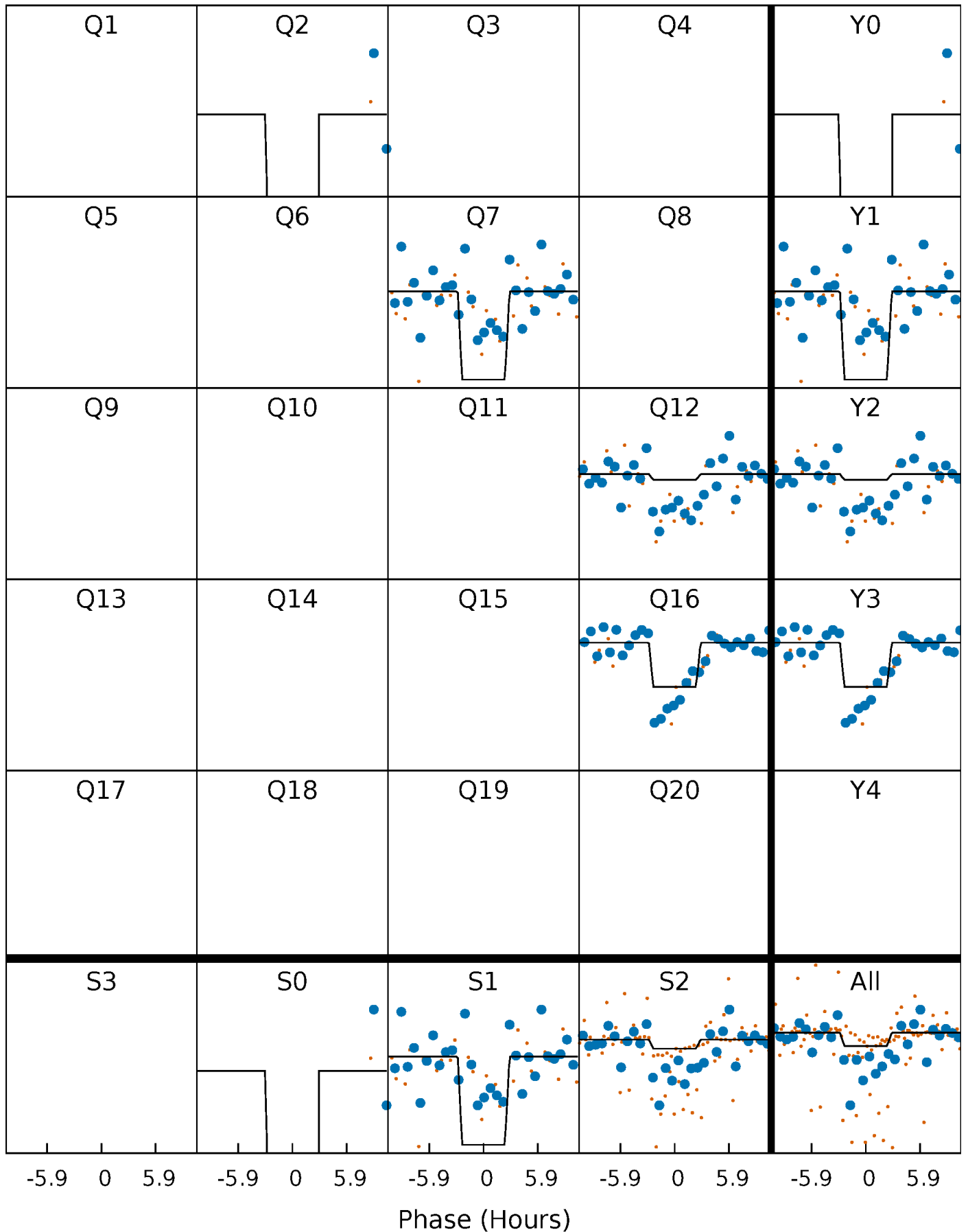
DV Quarter-Phased Transit Curves

TCE 012601040-02 P=440.029903 Days $T_0=231.032648$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

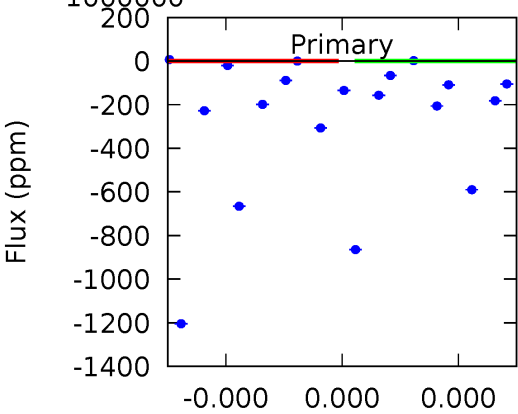
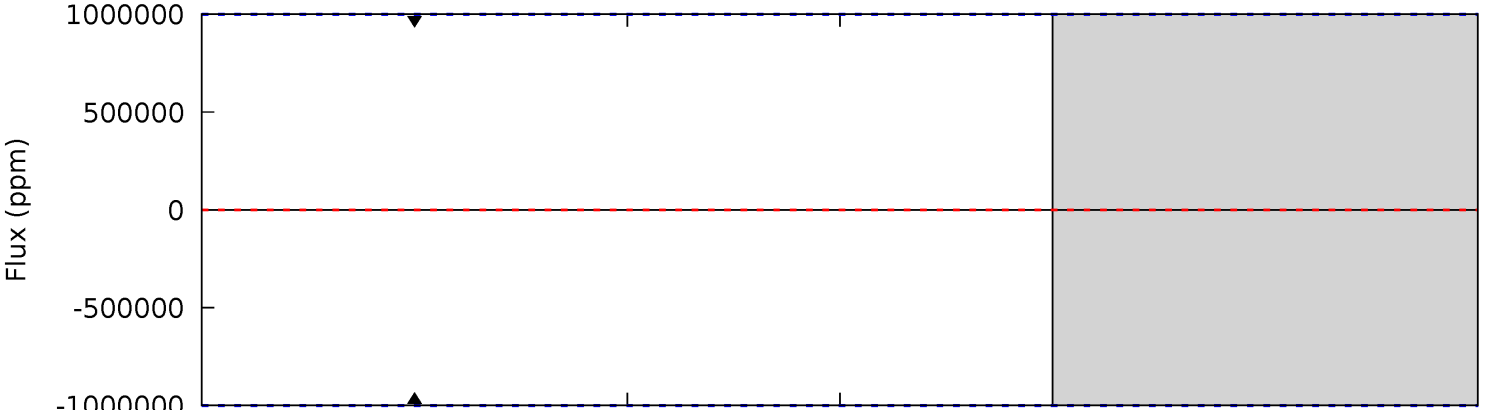
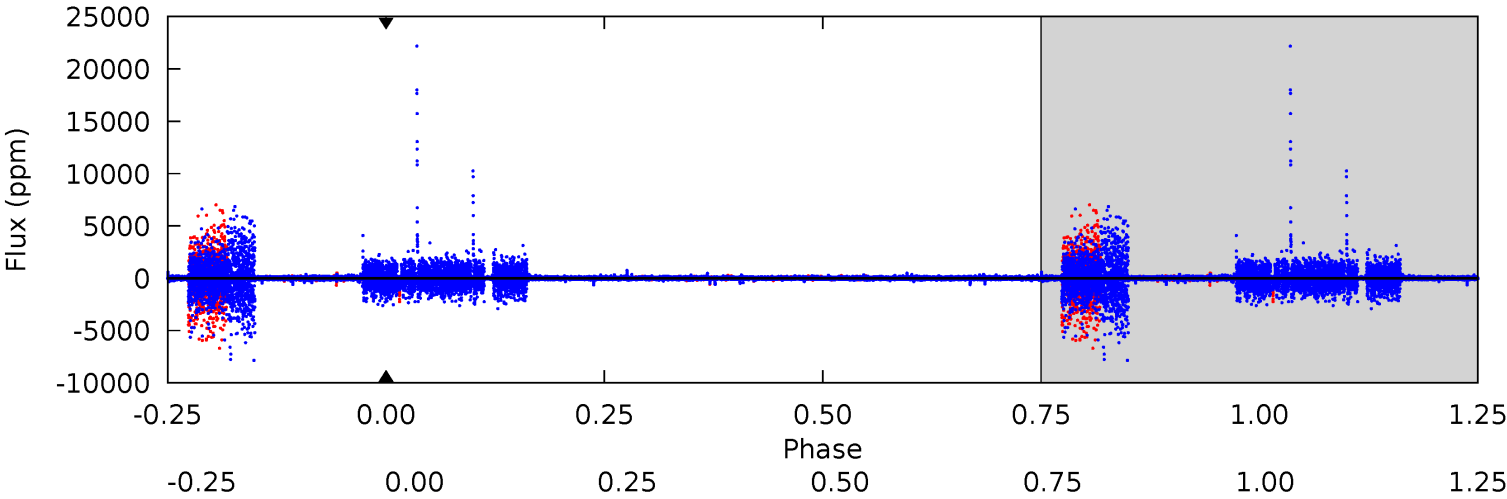
TCE 012601040-02 P=440.029903 Days $T_0=231.038930$ (BKJD)



DV Model-Shift Uniqueness Test

012601040-02, P = 440.029903 Days, E = 231.032648 Days

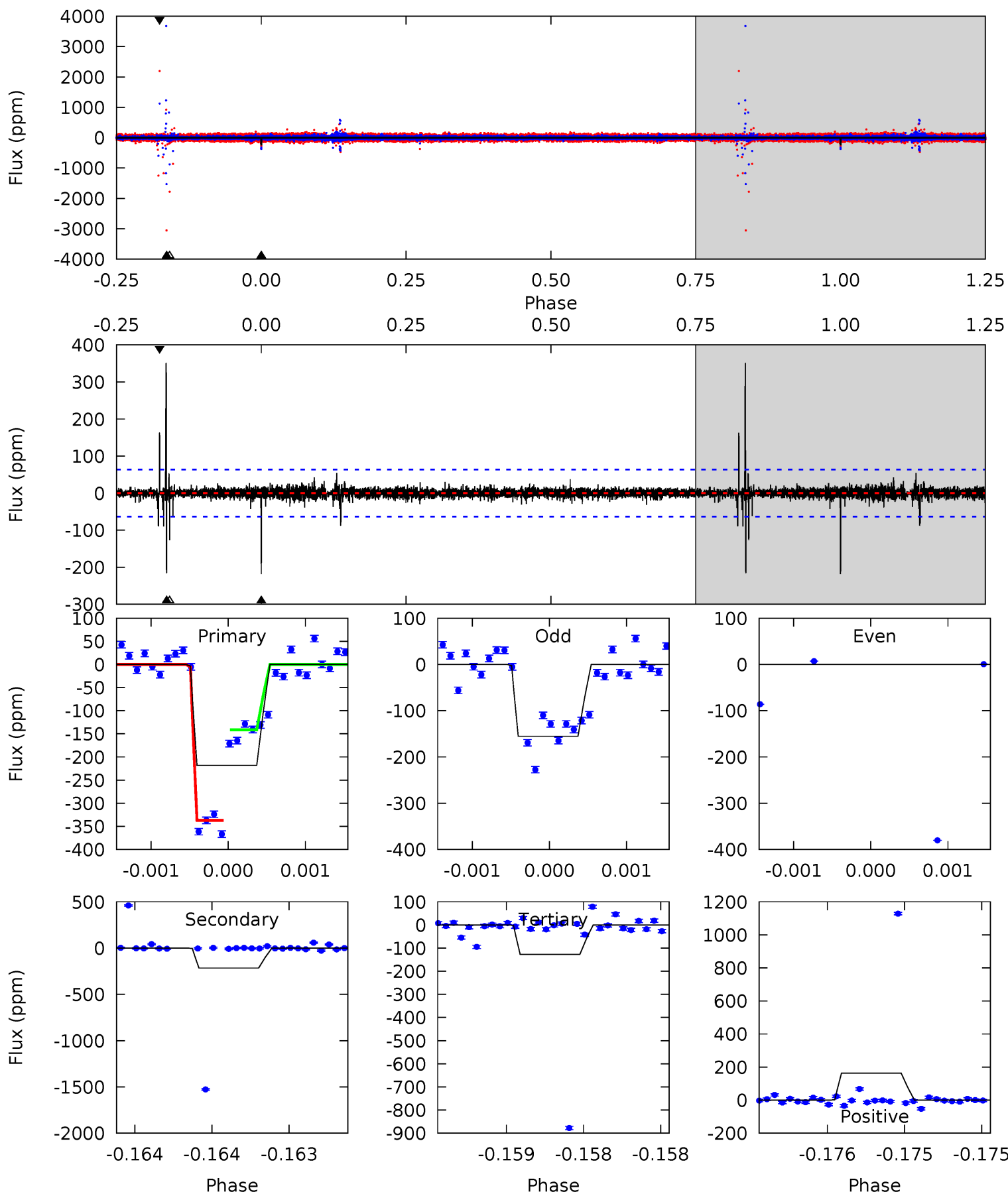
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

012601040-02, P = 440.029903 Days, E = 231.038930 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	18.9	11.1	14.3	5.56	3.46	0.79	7.99	4.84	7.76	4.60	0	2.22	0.62	0



Stellar Parameters For KIC 012601040

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3262^{+117}_{-78}	$0.102^{+0.195}_{-0.065}$	$-0.060^{+0.250}_{-0.150}$	$155.634^{+7.354}_{-27.576}$	$1.118^{+0.207}_{-0.128}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+191%/-64%	+417%/-250%	+5%/-18%	+19%/-11%	+88%/-15%
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 012601040-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$1305.00^{+1288.49}_{-873.35}$	2288^{+100}_{-116}	3042^{+3256}_{-8680}	$1.969^{+82.398}_{-58.994}$
Alt.	-215 ± 11	$1127.06^{+1381.51}_{-749.00}$	2284^{+102}_{-120}	-2249^{+5005}_{-160}	$0.139^{+0.993}_{-0.111}$

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

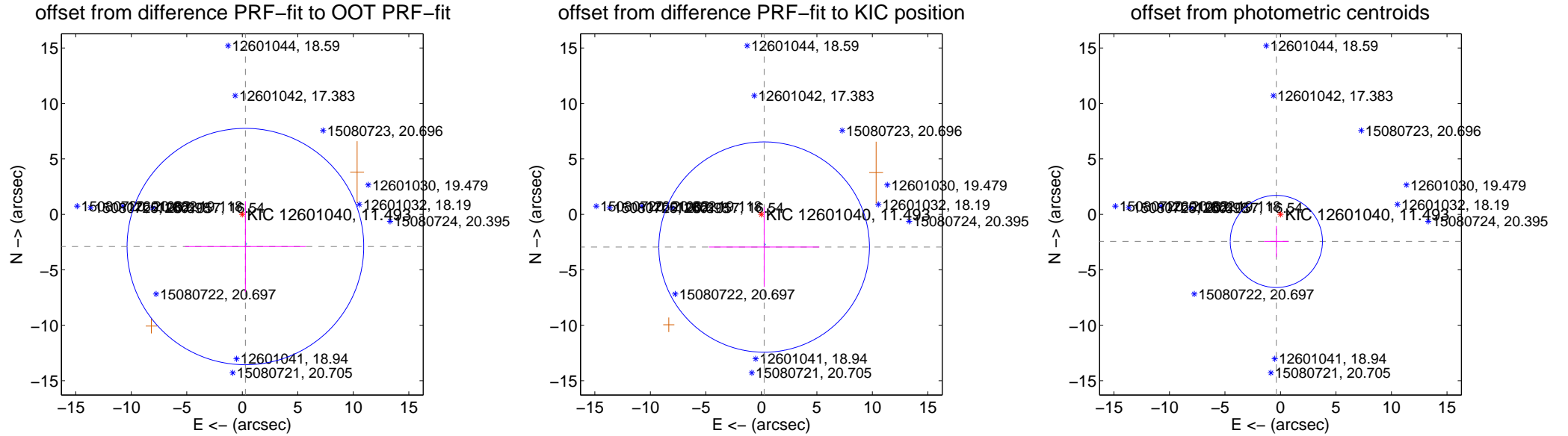
DV Centroid Data

Supplemental centroid analysis for 012601040-02. **Kepler magnitude: 11.49.** Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.919 ± 3.553	0.82	-0.283 ± 5.441	-2.905 ± 4.097
PRF-fit source offset from KIC position	2.962 ± 3.162	0.94	-0.250 ± 4.973	-2.951 ± 3.592
photometric centroid source offset	2.47 ± 1.38	1.78	0.37 ± 1.09	-2.44 ± 1.39

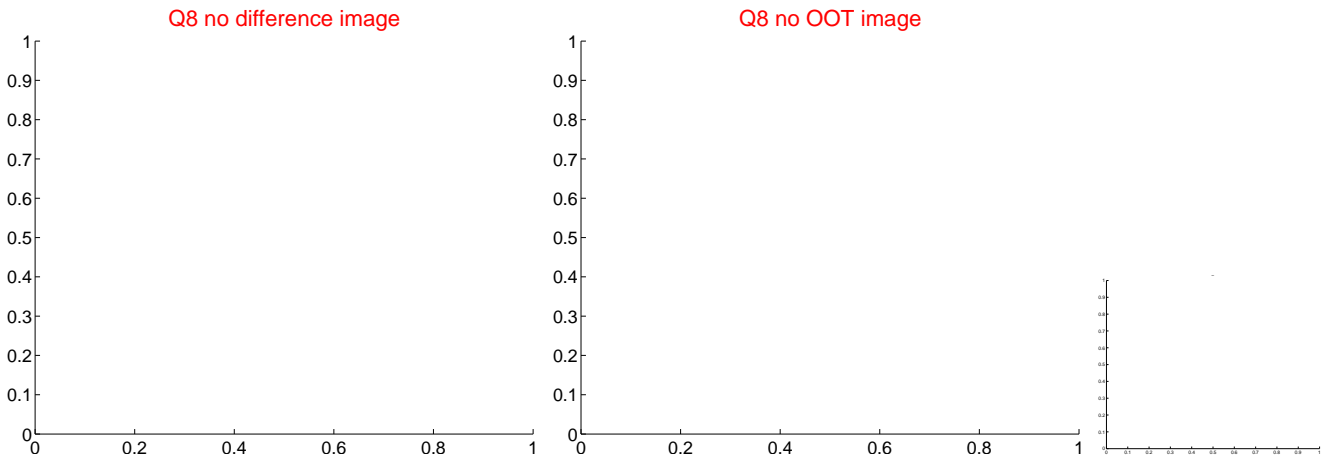
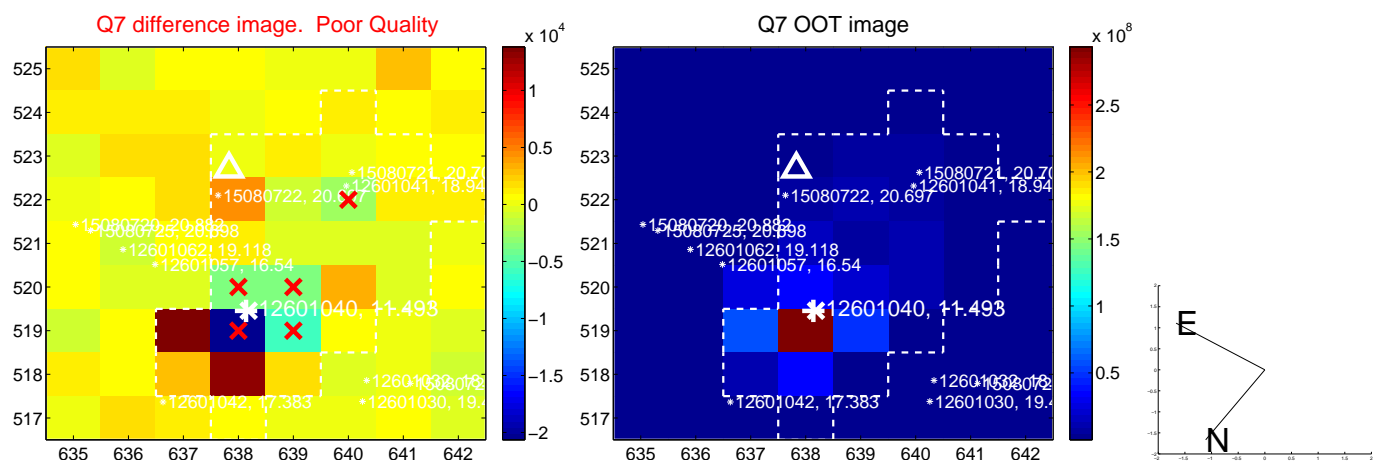
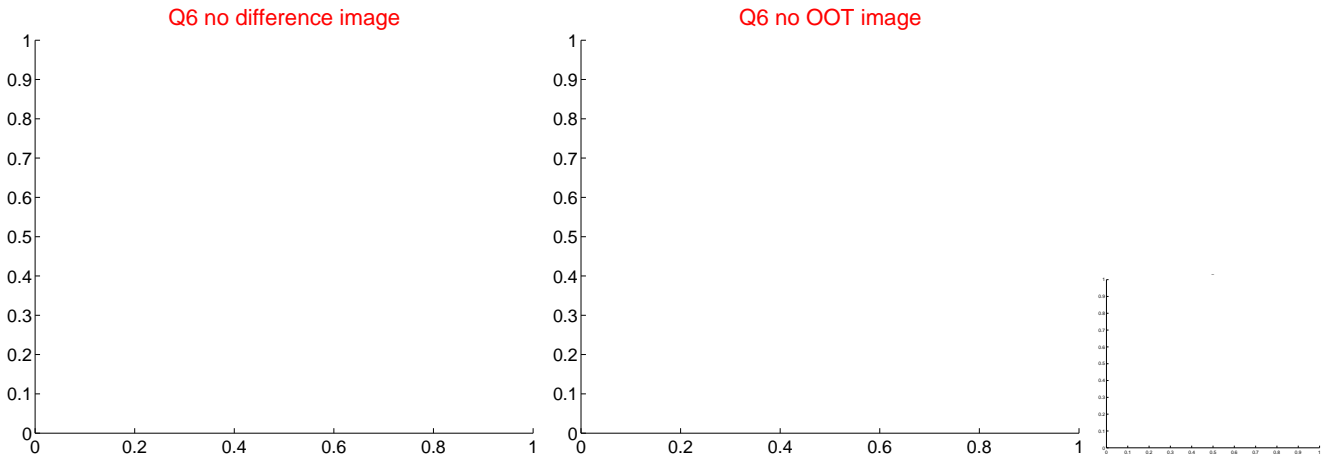
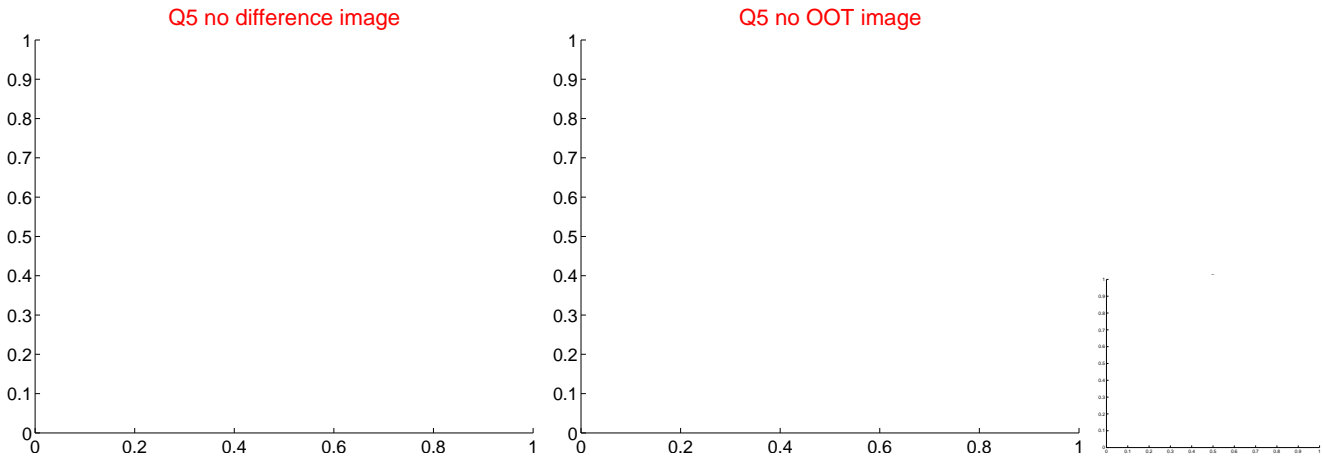


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

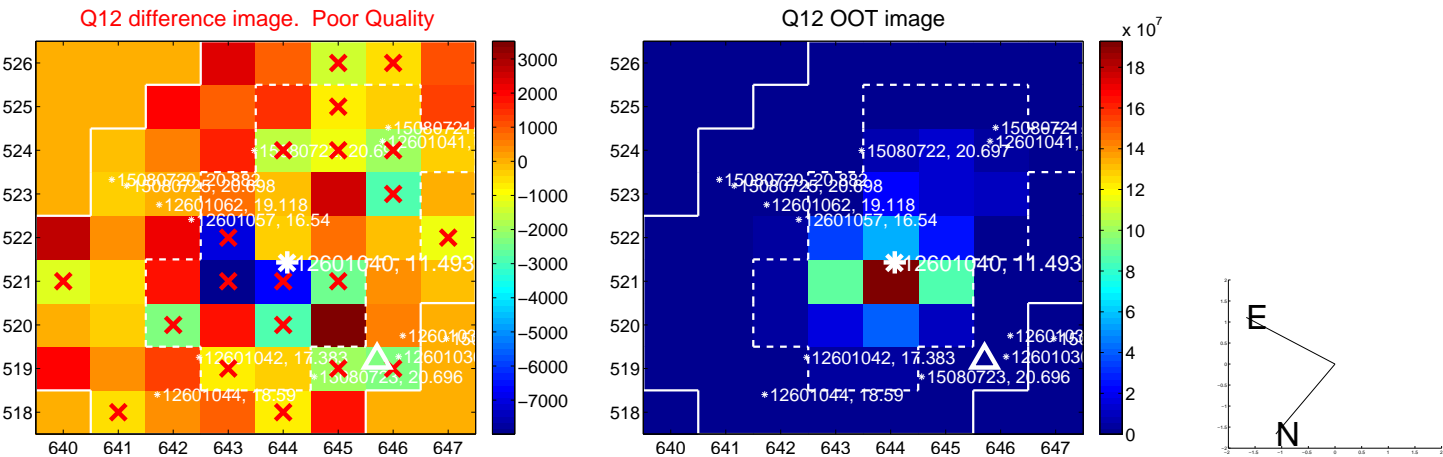
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



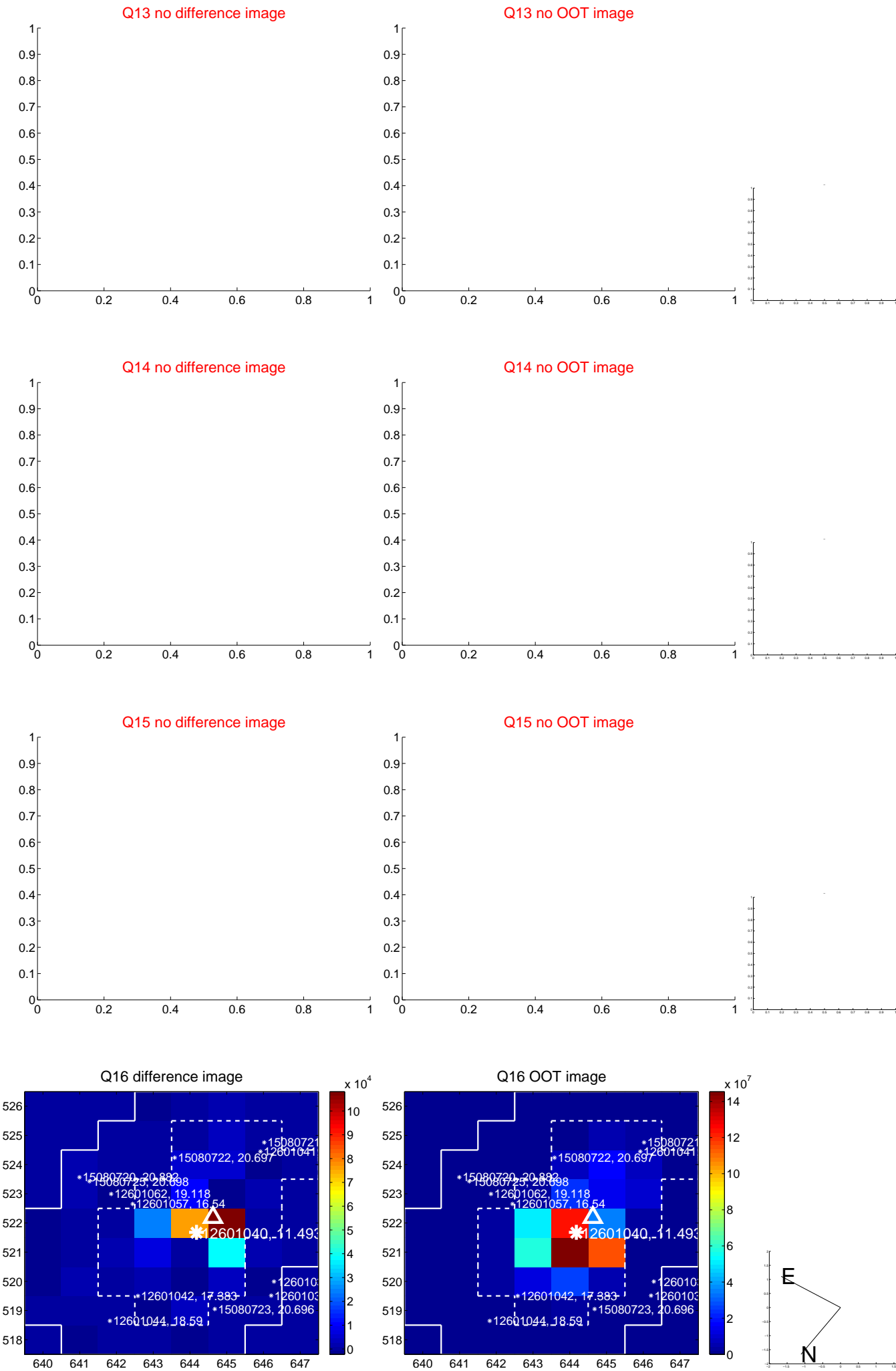
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



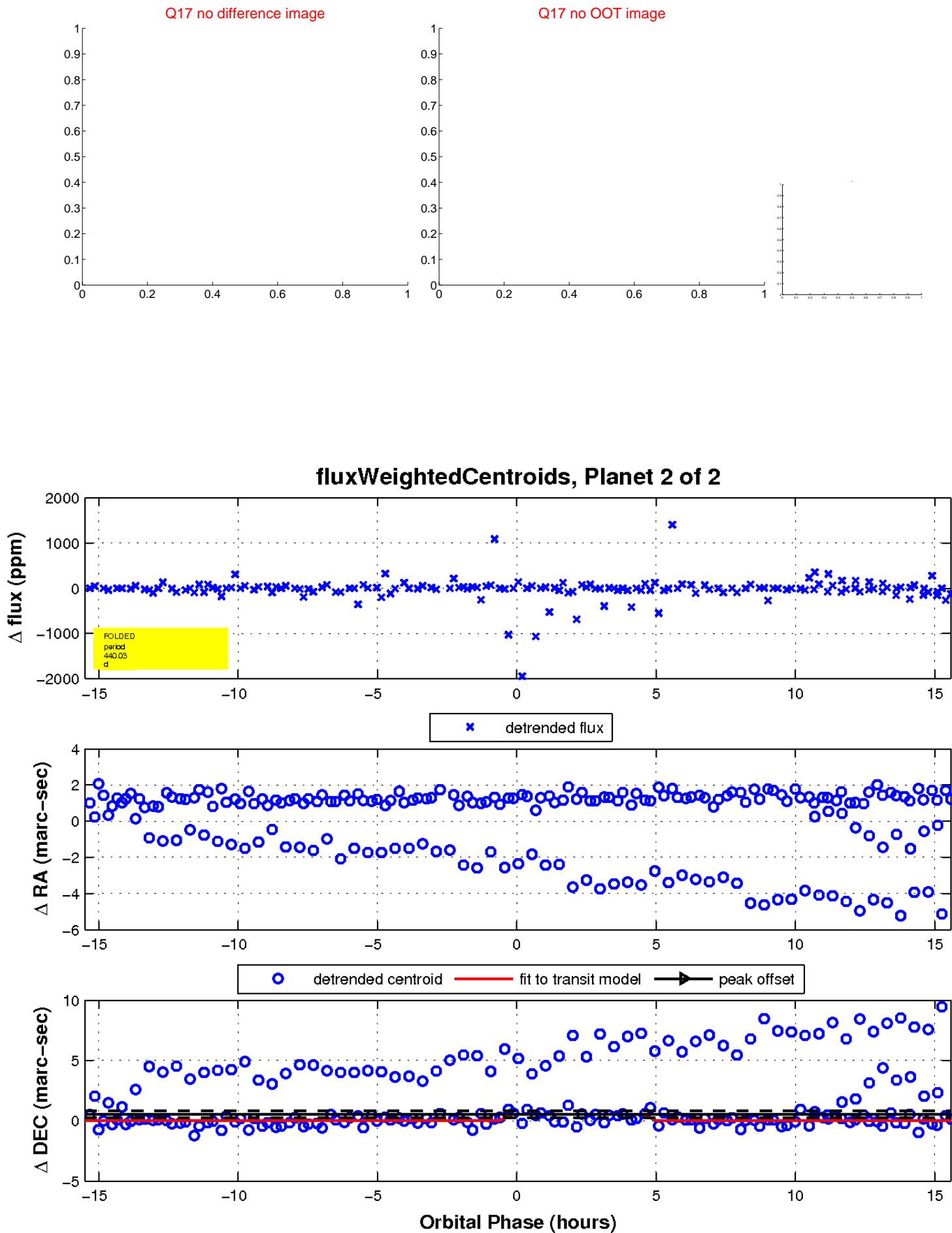
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

