

KIC 010614845

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})
010614845-01	OBS	8027.01	0.573768	131.788277	845.5	2.000	9.2	-1.0	0.57	4891	1.63	1326.15
010614845-02	OBS	No	209.306469	234.679840	891.8	2.282	11.1	7.1	0.57	4891	1.89	0.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010614845-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
010614845-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

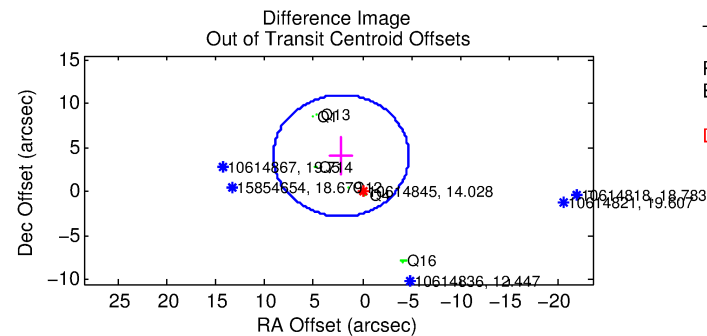
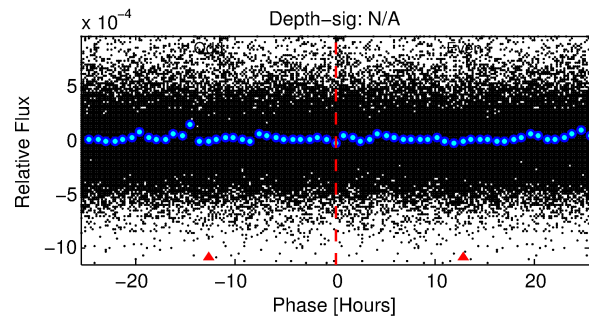
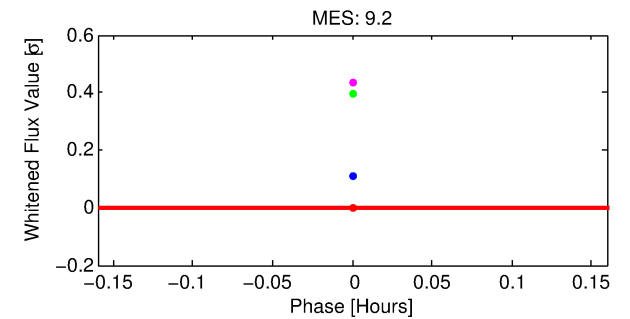
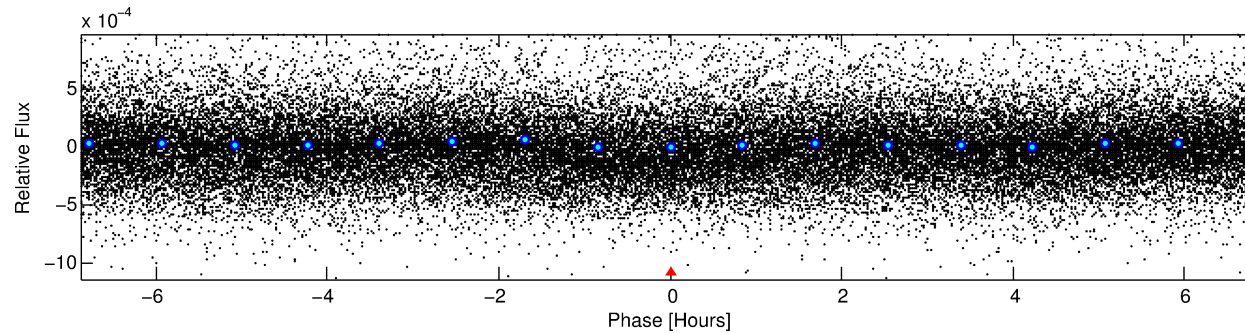
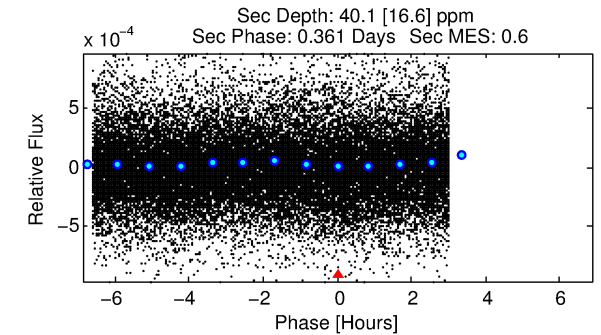
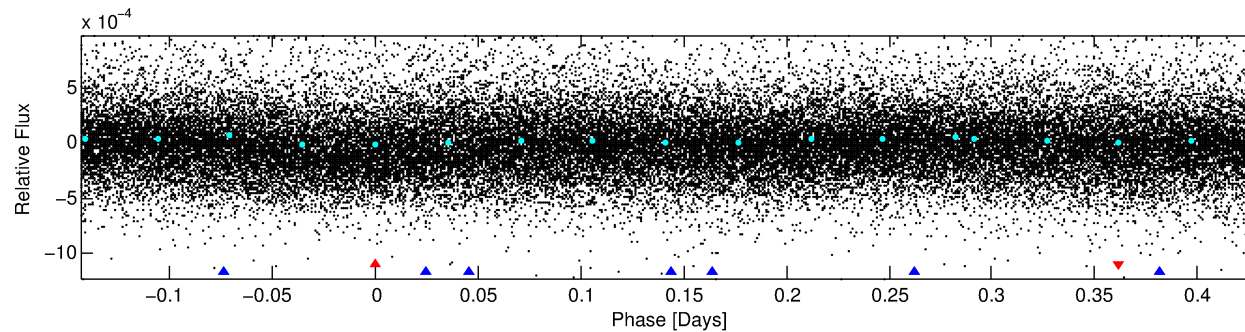
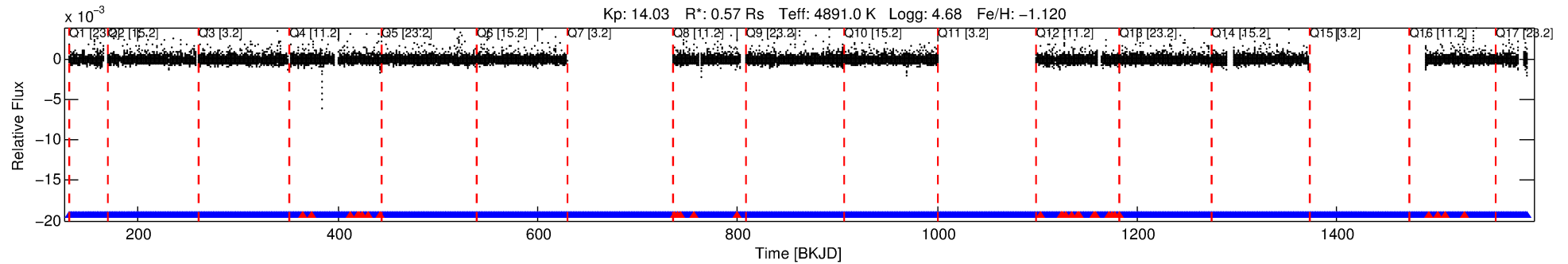
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010614845-01

No Significant Match Found

DV One-Page Summary

KIC: 10614845 Candidate: 1 of 2 Period: 0.574 d



TPS TCE Results:

Period = 0.57377 d
Epoch = 131.7883 BKJD

DV fit results are unavailable

DV Diagnostic Results:

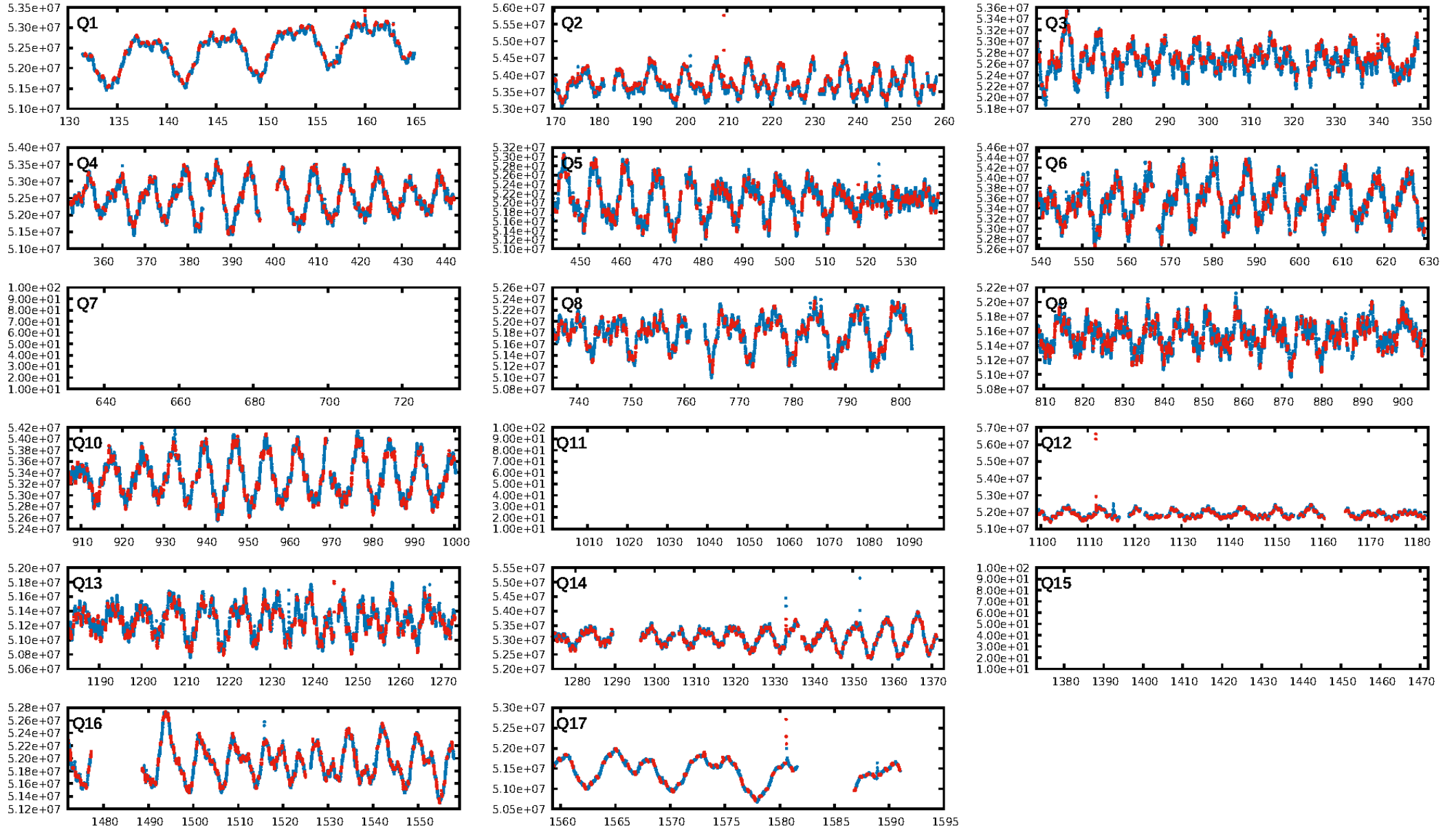
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1650.79σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.33e-17
RollingBand-fgt: 0.98 [1728/1762]
GhostDiagnostic-chr: 2.198

Centroid-sig: 24.6%
Centroid-so: 4.956 arcsec [16.92σ]
OotOffset-rm: 4.655 arcsec [2.02σ]
KicOffset-rm: 0.998 arcsec [2.71σ]
OotOffset-st: 0/0/3/3 [6]
KicOffset-st: 2/1/3/3 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 1.00 [14/14]

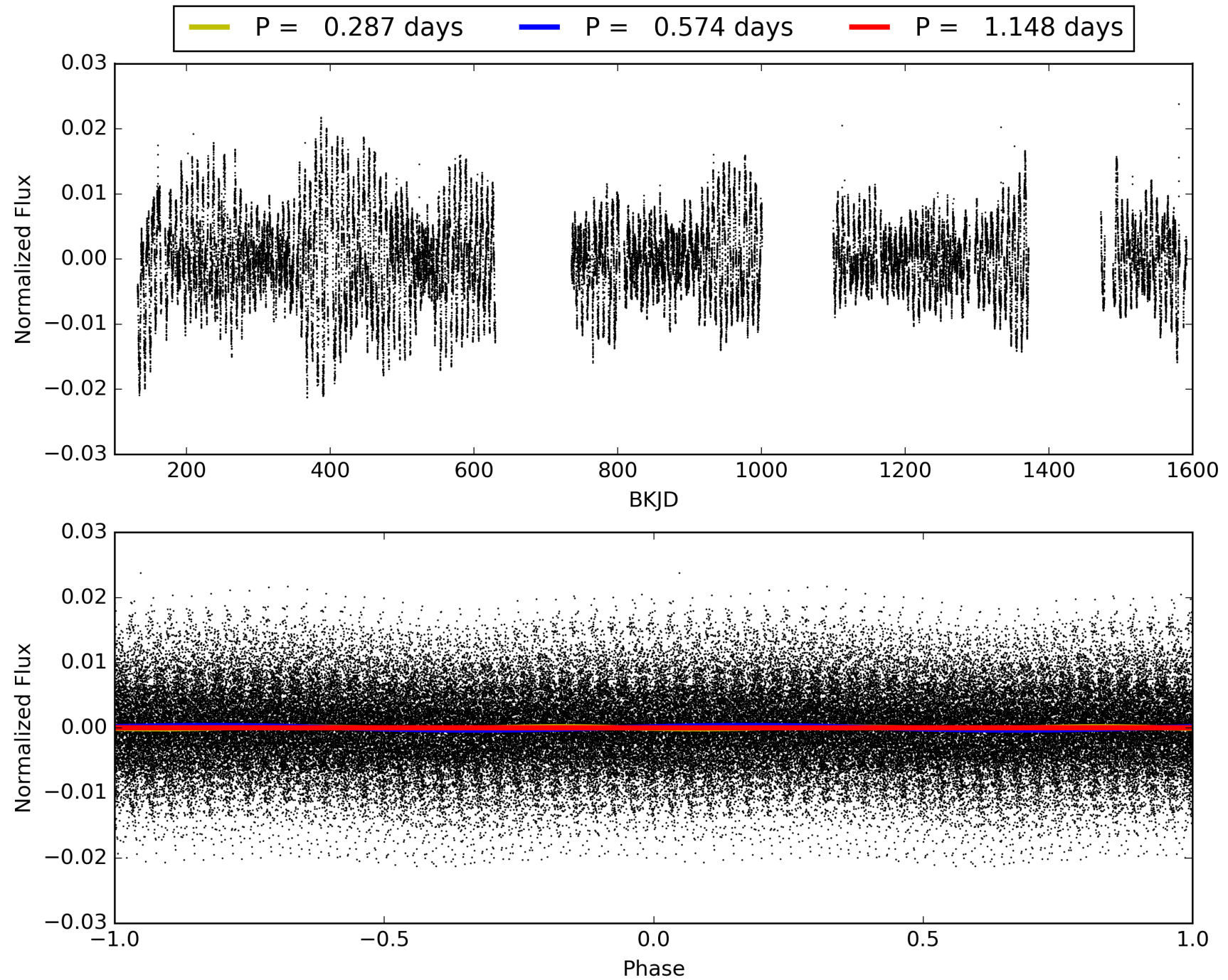
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:49:38 Z

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

TCE 010614845-01, PDC Light Curves

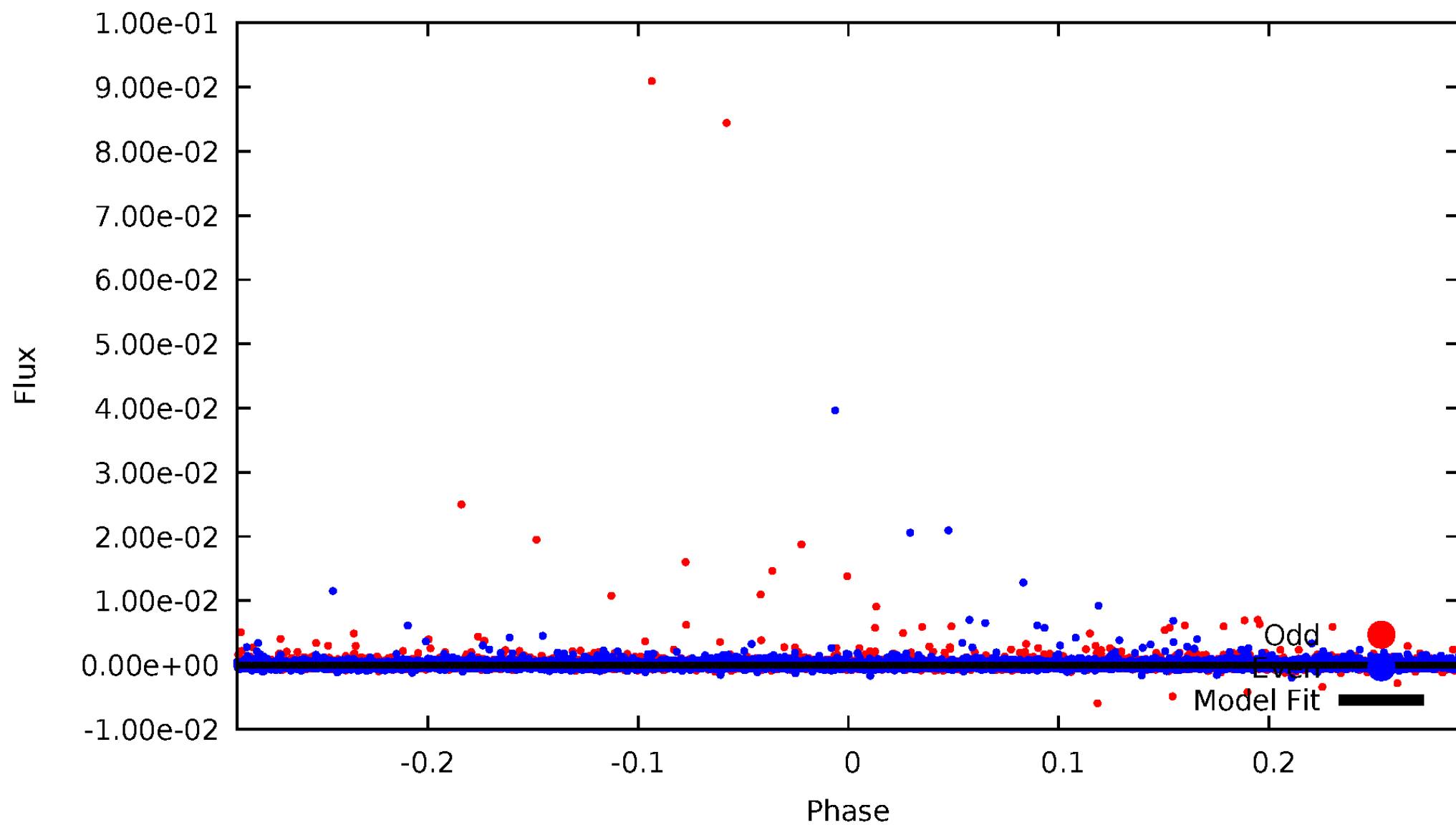


TCE 010614845-01



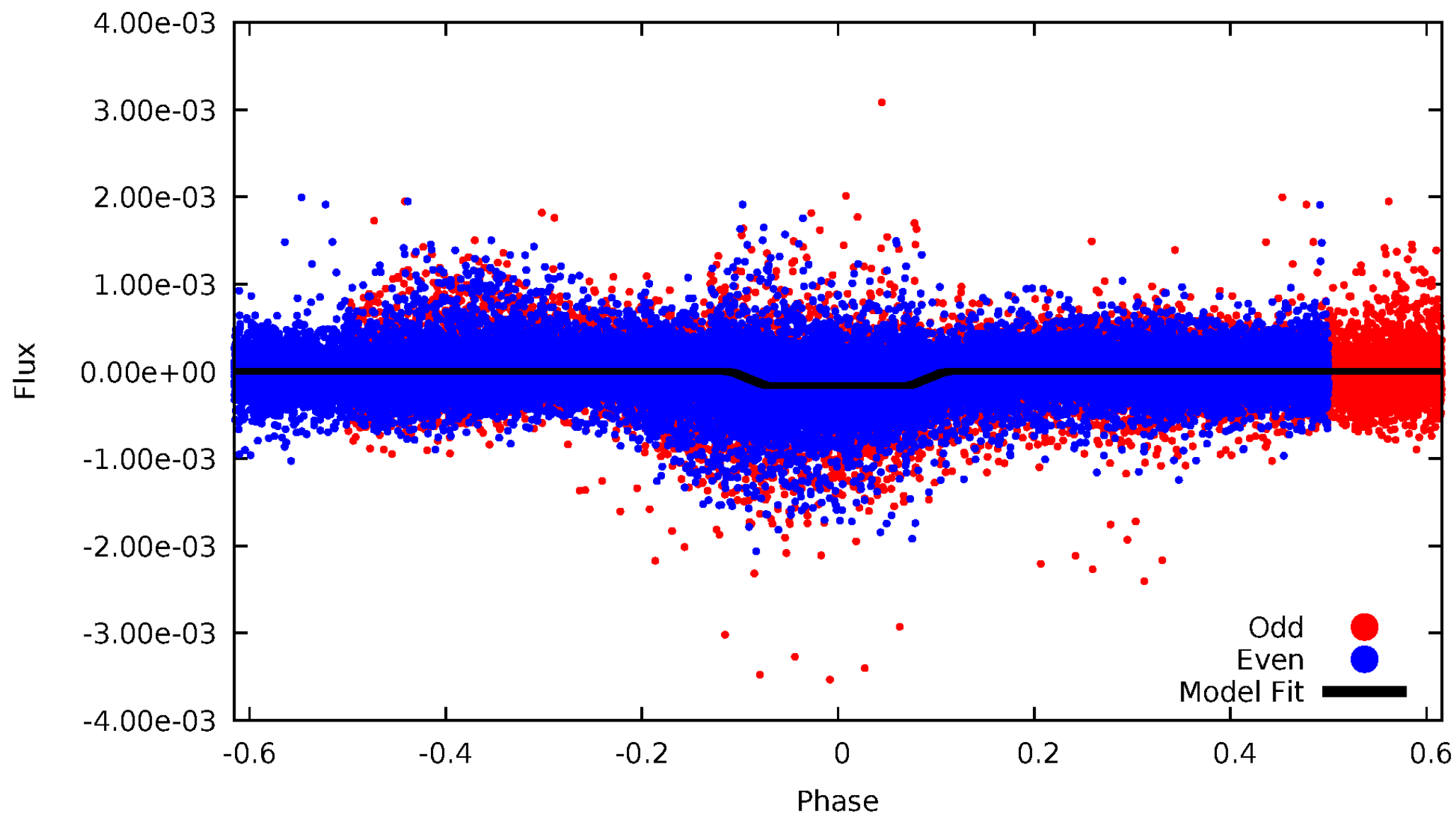
DV Odd/Even

TCE 010614845-01

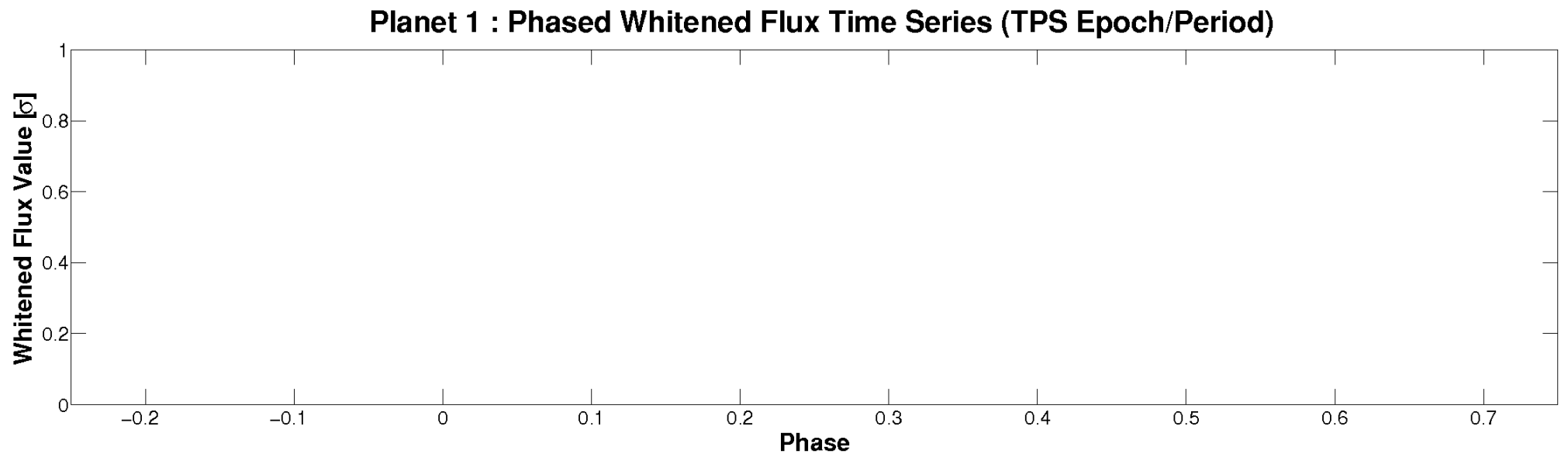
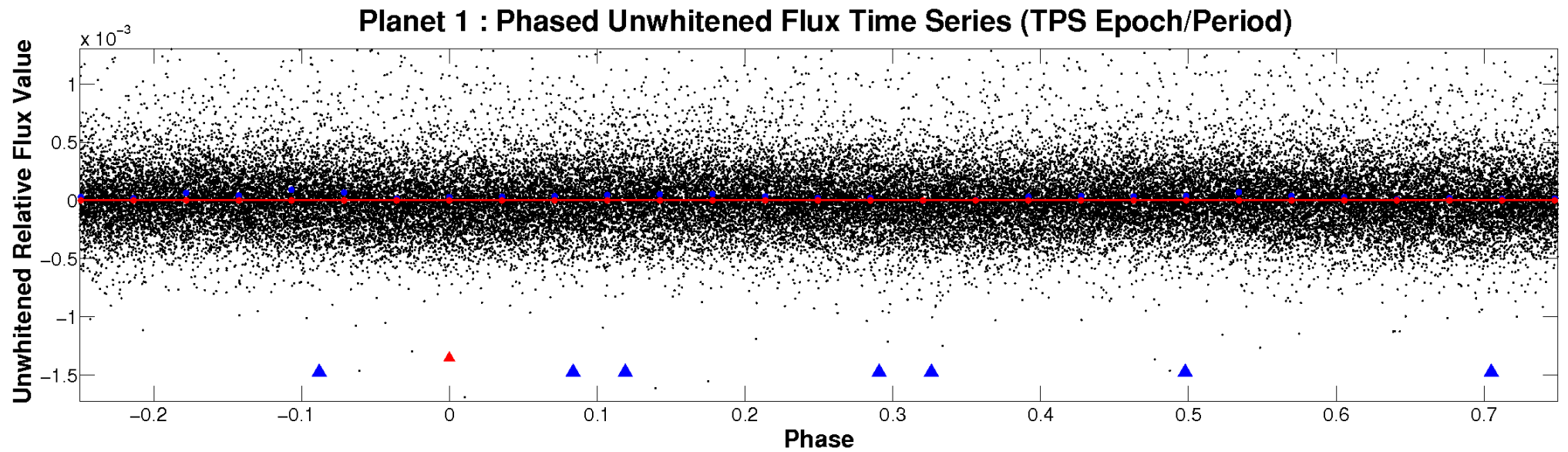


ALT Odd/Even

TCE 010614845-01

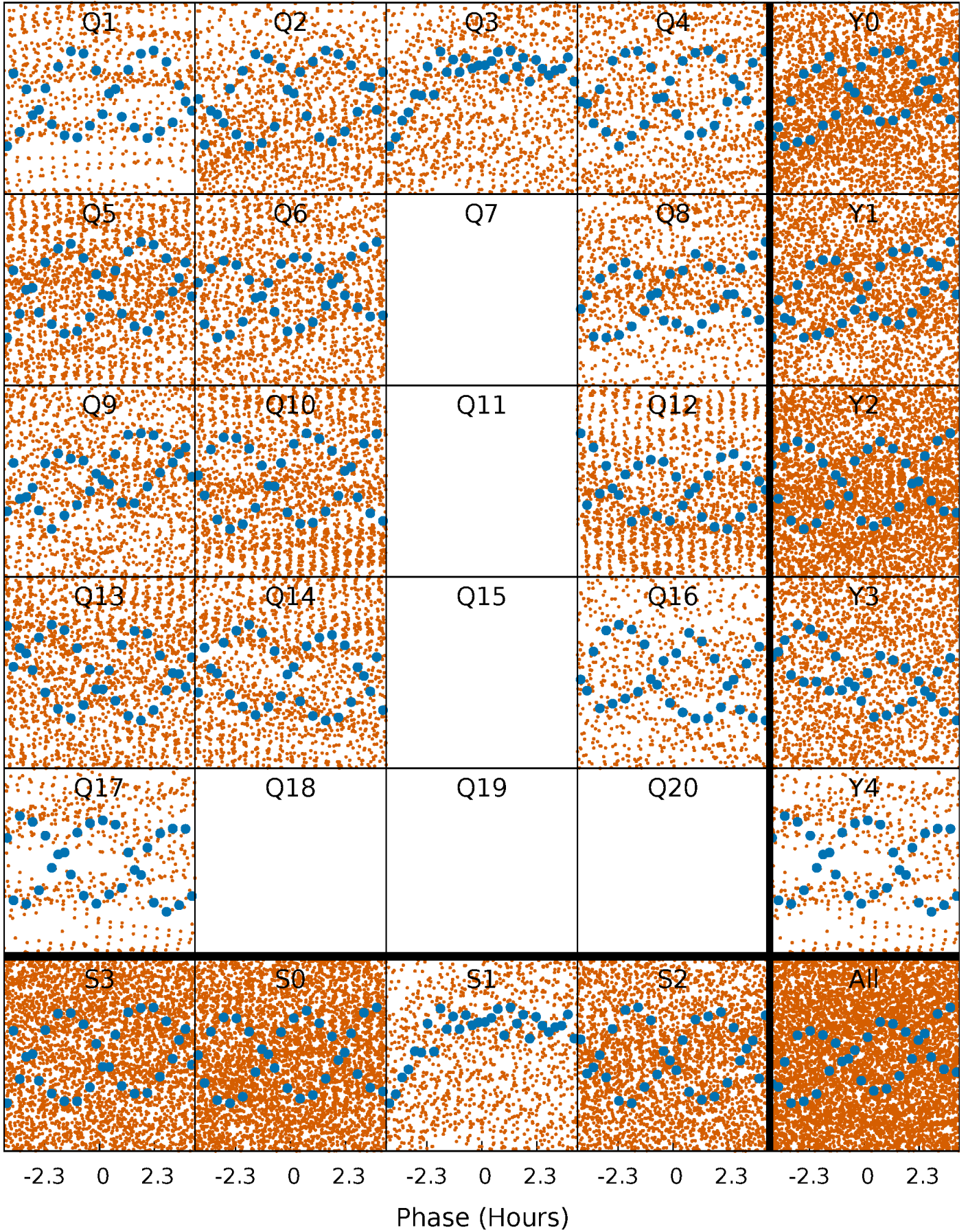


Non-Whitened Vs. Whitened Light Curve



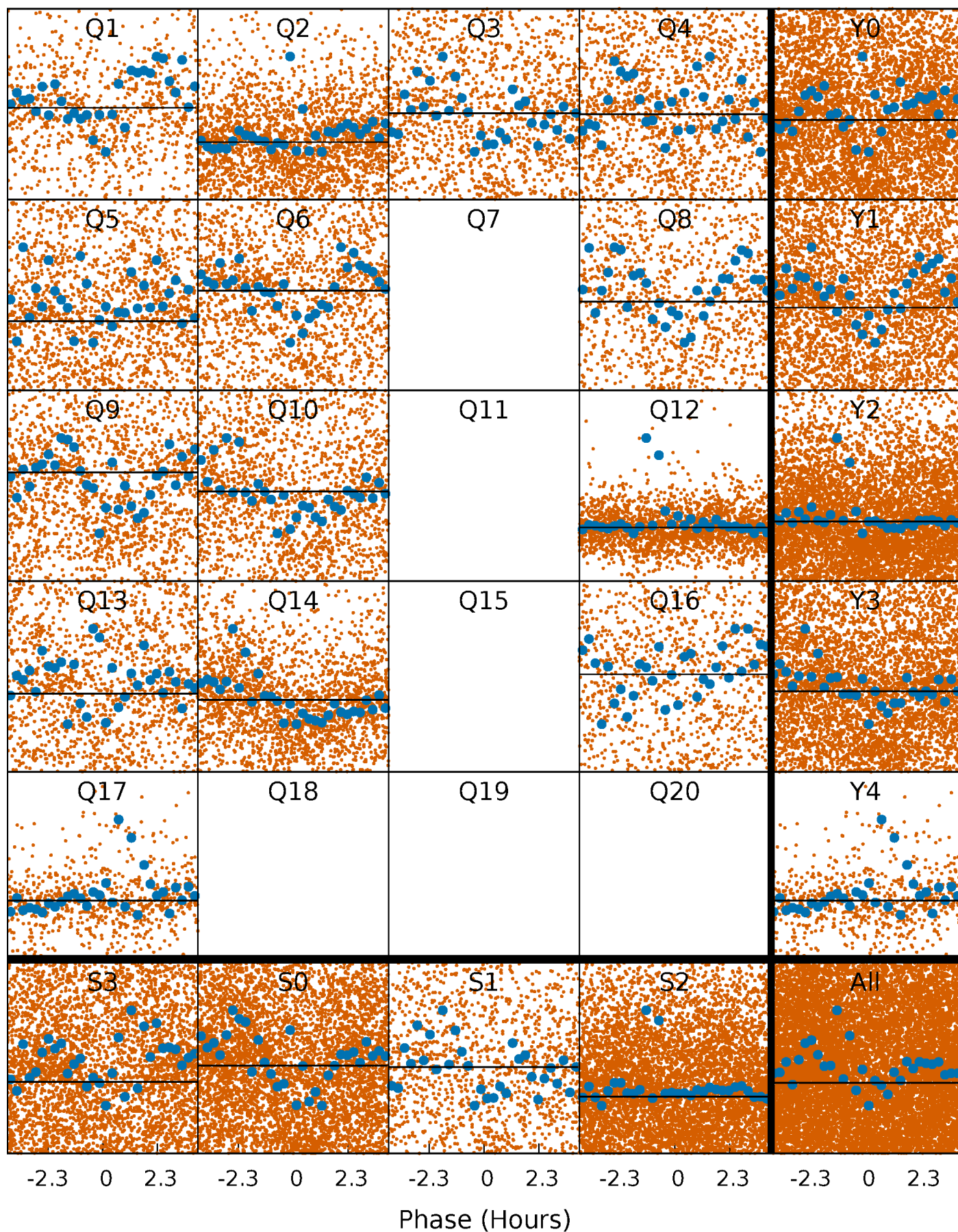
PDC Quarter-Phased Transit Curves

TCE 010614845-01 P= 0.573768 Days $T_0=131.788277$ (BKJD)



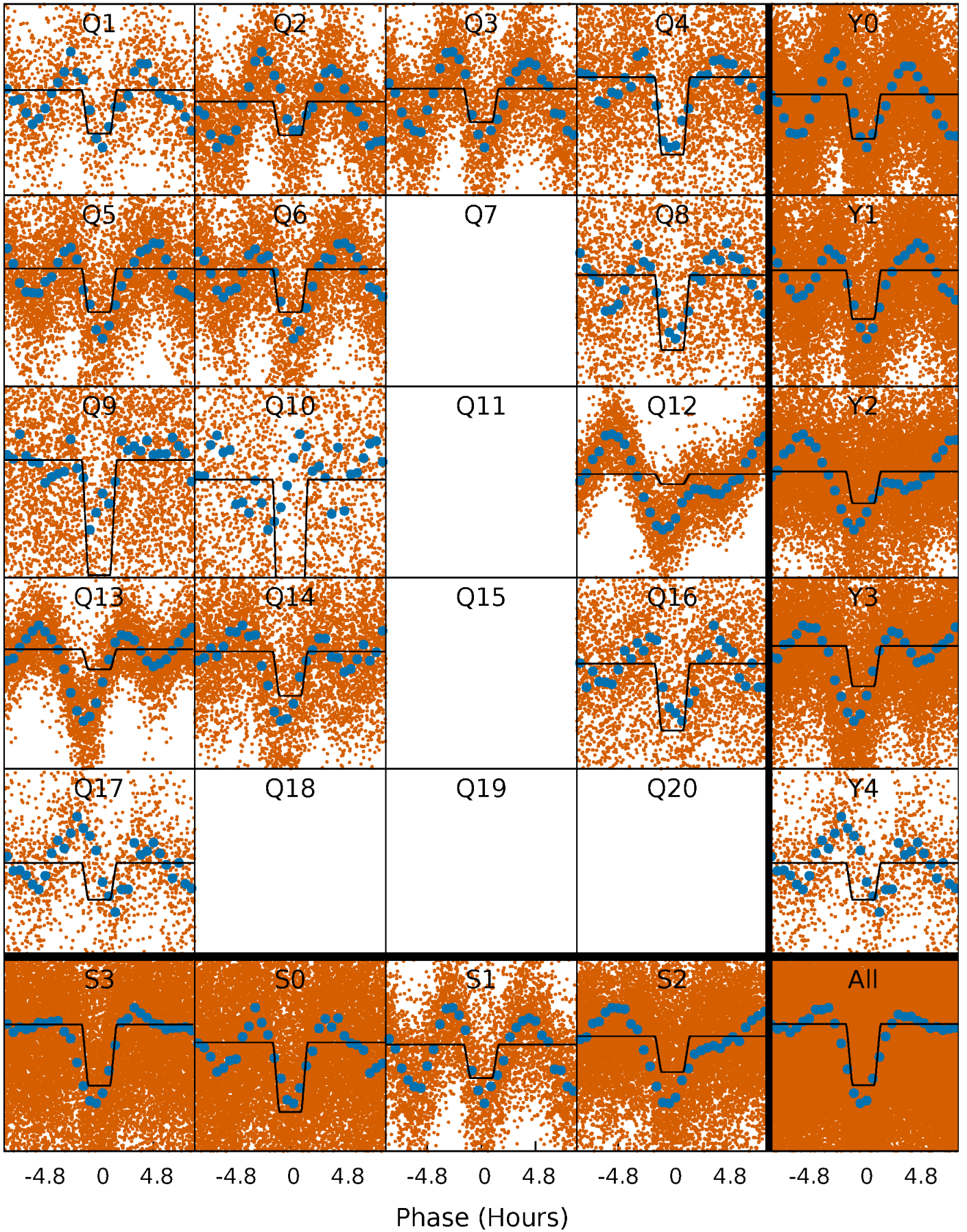
DV Quarter-Phased Transit Curves

TCE 010614845-01 P= 0.573768 Days $T_0=131.788277$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

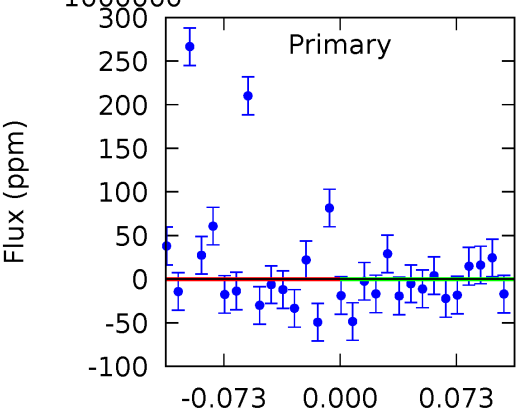
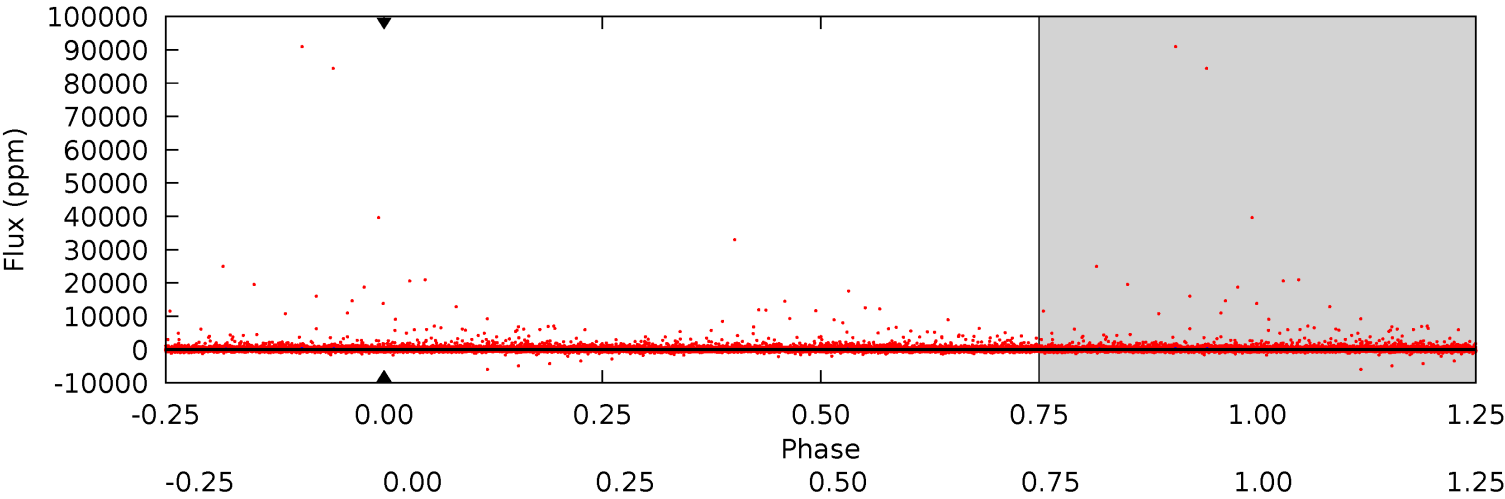
TCE 010614845-01 P= 0.573768 Days $T_0=131.811298$ (BKJD)



DV Model-Shift Uniqueness Test

010614845-01, P = 0.573768 Days, E = 131.214509 Days

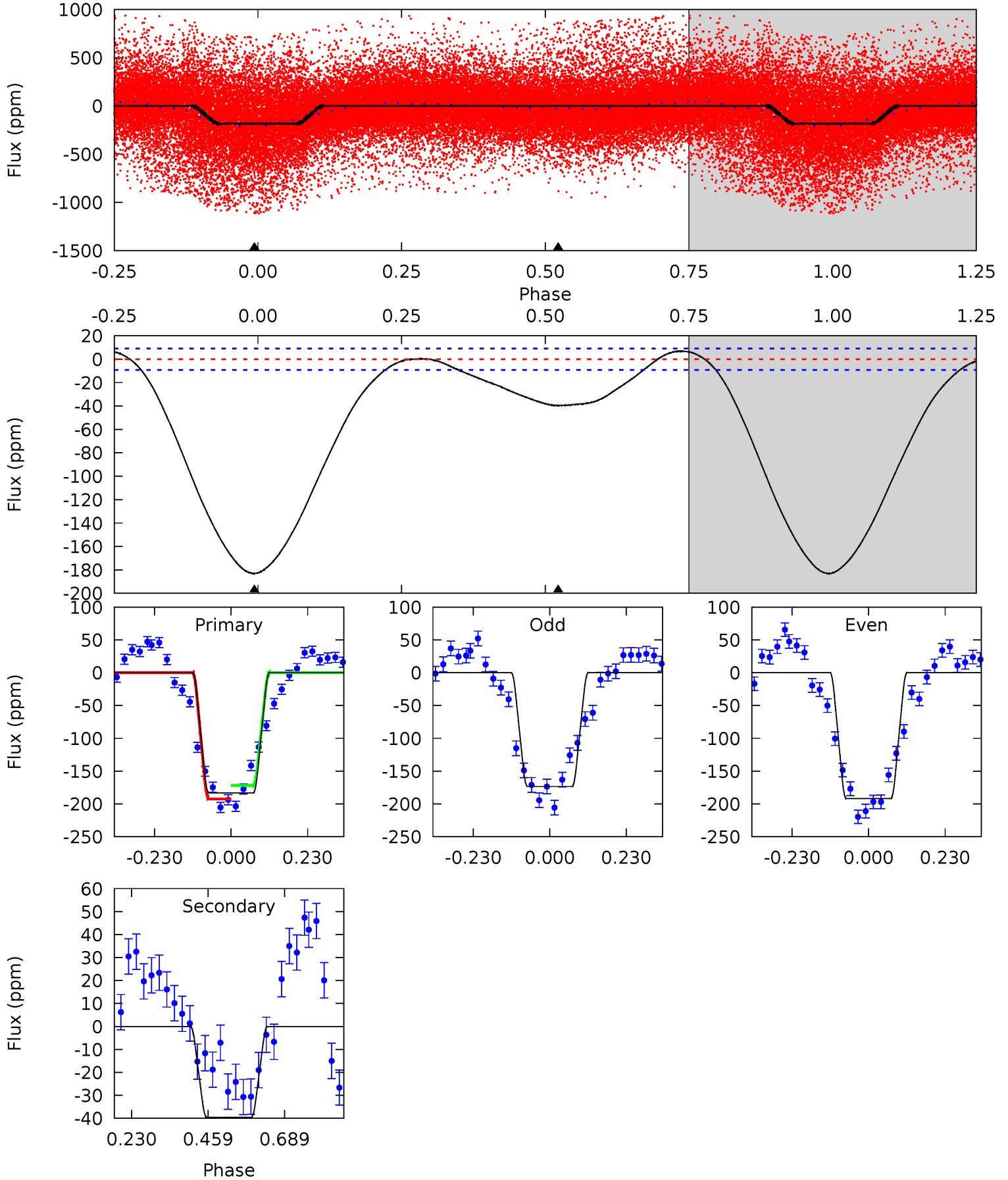
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010614845-01, P = 0.573768 Days, E = 131.237530 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
87.7	19.0	0	0	4.39	1.20	1.92	87.7	87.7	19.0	19.0	4.39	1.14	0.04	4.96



Stellar Parameters For KIC 010614845

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4891^{+161}_{-161}	$4.683^{+0.052}_{-0.032}$	$-1.120^{+0.300}_{-0.300}$	$0.571^{+0.039}_{-0.039}$	$0.572^{+0.049}_{-0.021}$	$4.331^{+0.844}_{-0.587}$
	+3%/-3%	+1%/-1%	+27%/-27%	+7%/-7%	+9%/-4%	+19%/-14%
Source	PHO1	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 010614845-01 / KOI 8027.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$4.66^{+5.05}_{-3.27}$	2137^{+82}_{-82}	2624^{+13132}_{-16350}	$0.681^{+701.729}_{-518.178}$
Alt.	-40 ± 2	$4.34^{+4.82}_{-3.09}$	2143^{+75}_{-76}	-2340^{+5496}_{-182}	$0.150^{+1.635}_{-0.116}$

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

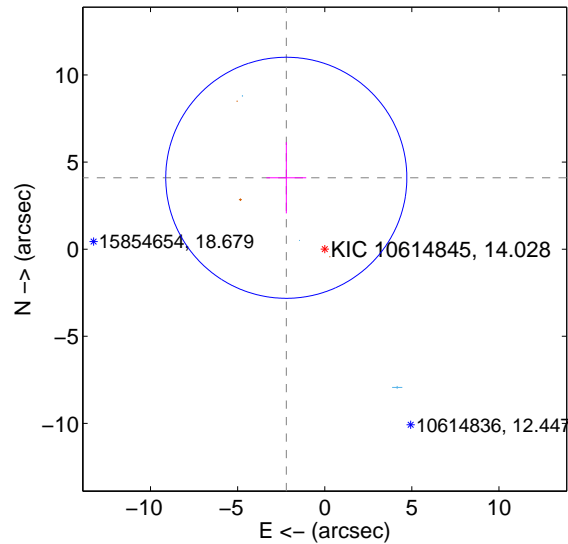
Supplemental centroid analysis for 010614845-01. Kepler magnitude: 14.03. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

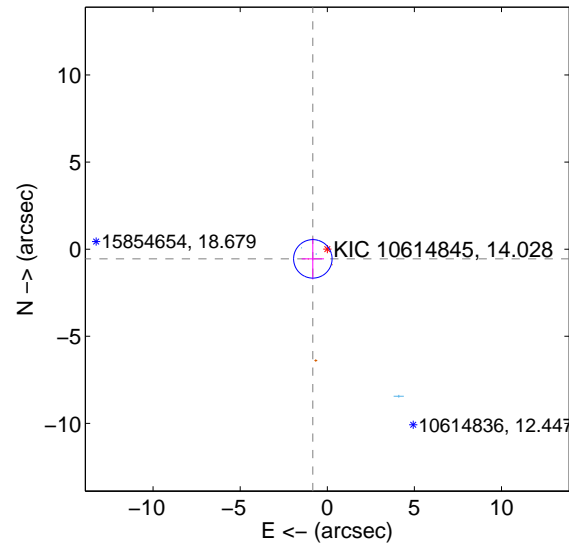
The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.655 ± 2.306	2.02	2.207 ± 1.144	4.099 ± 2.045
PRF-fit source offset from KIC position	0.998 ± 0.368	2.71	0.829 ± 0.639	-0.556 ± 1.183
photometric centroid source offset	4.96 ± 0.29	16.92	-1.99 ± 0.17	-4.54 ± 0.31

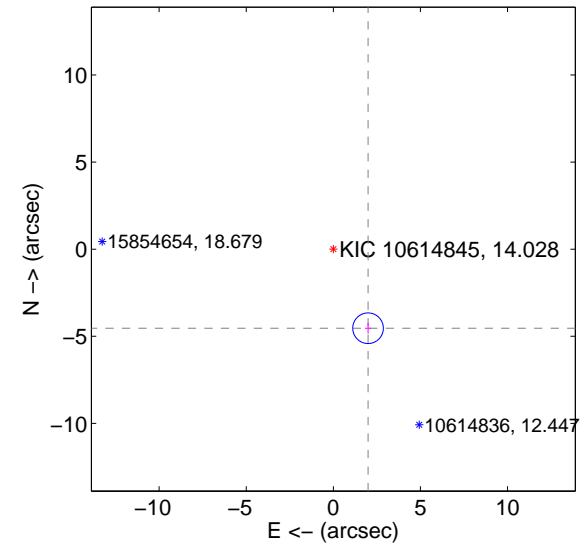
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

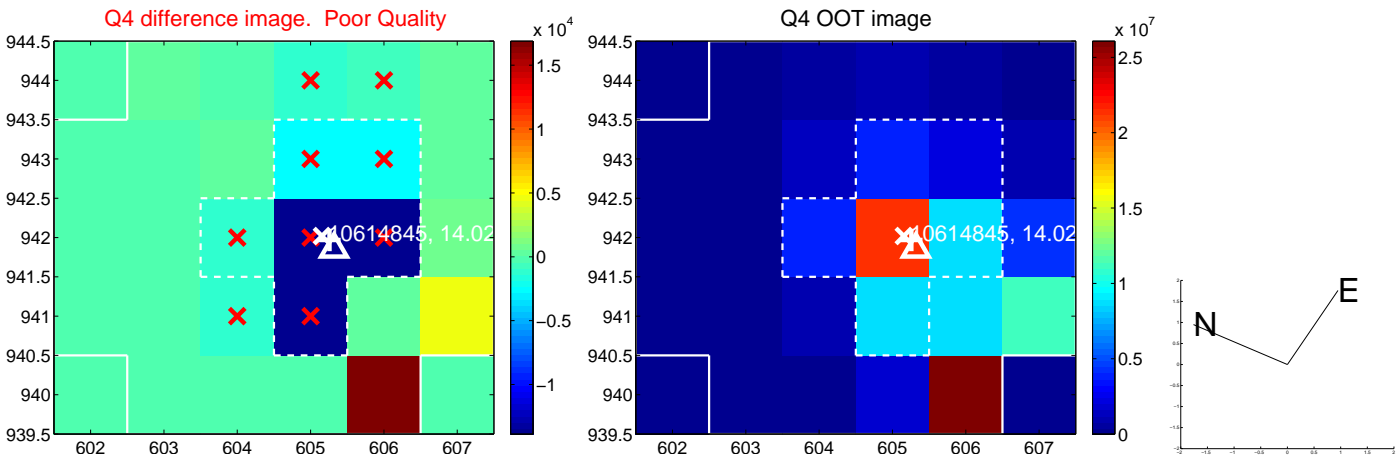
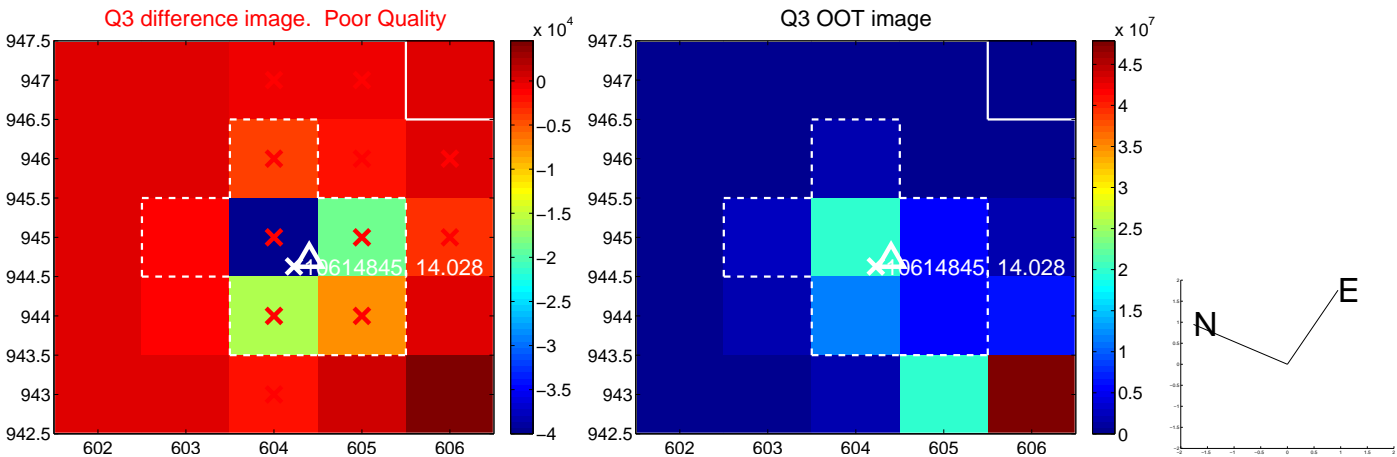
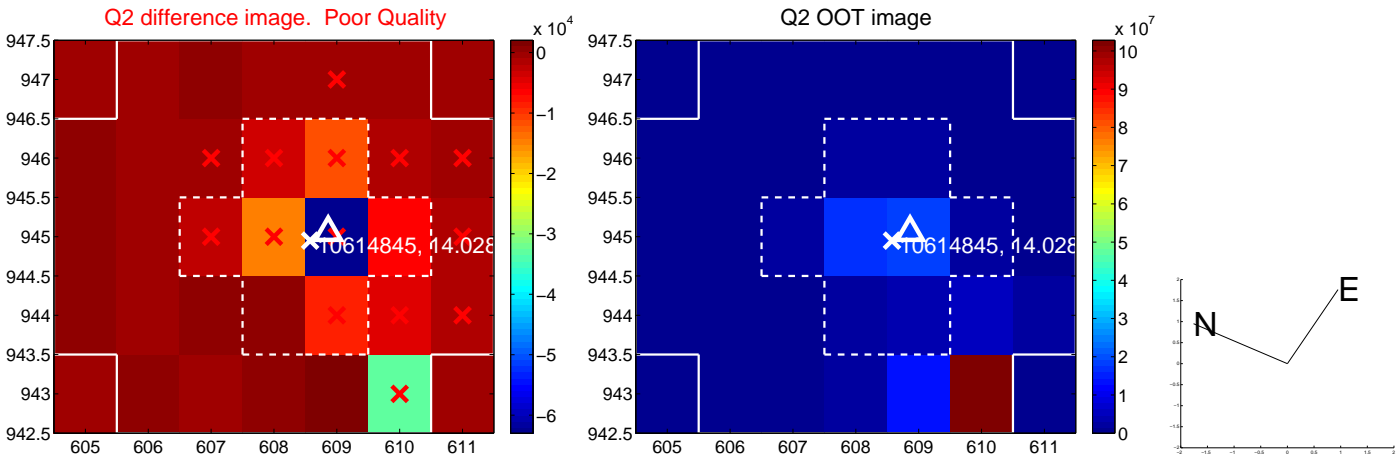
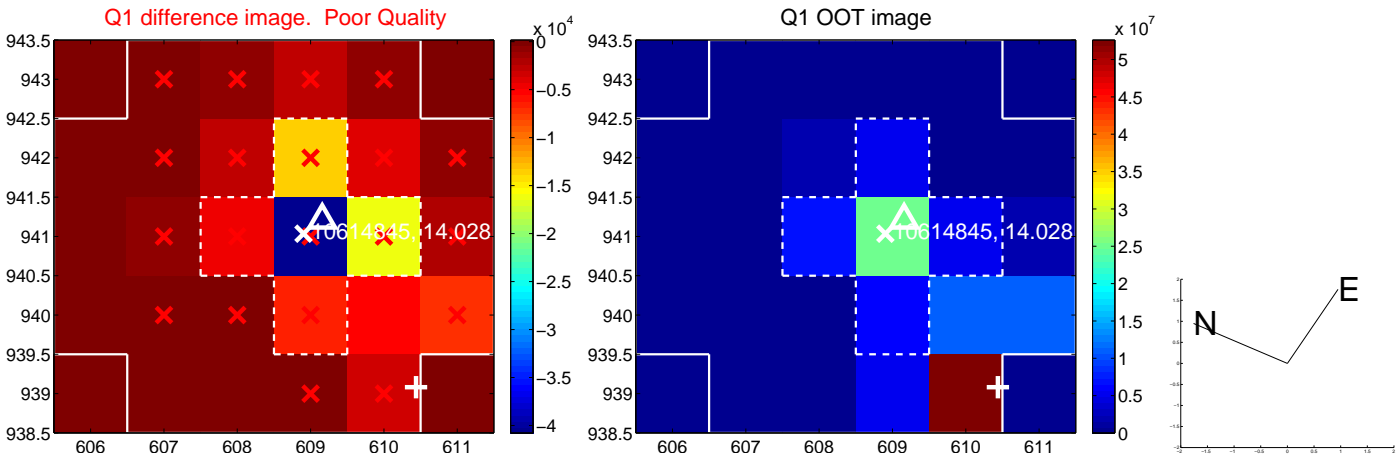


offset from photometric centroids

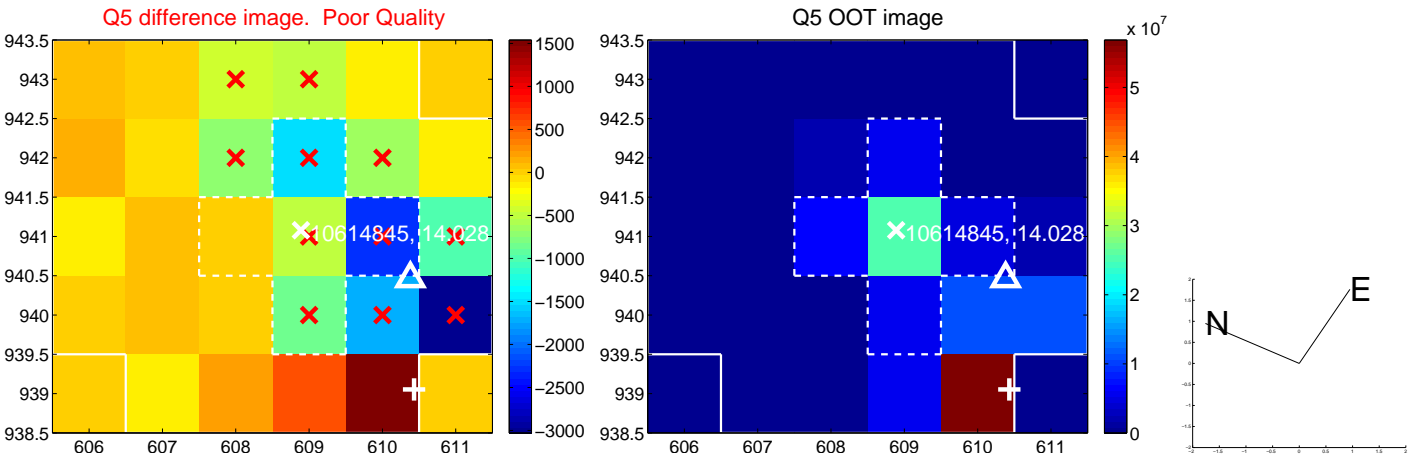


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

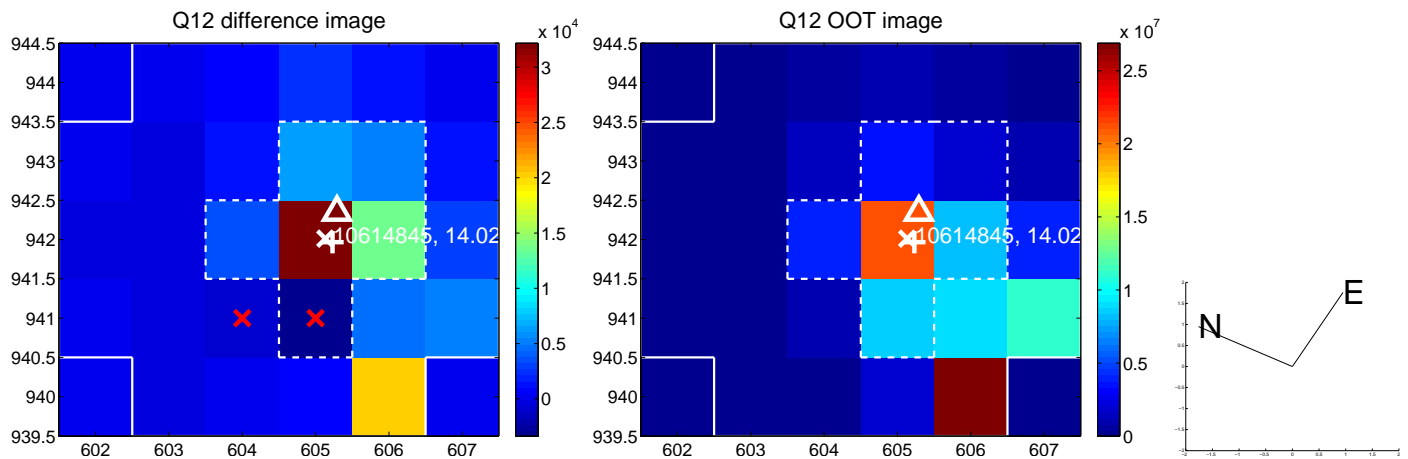
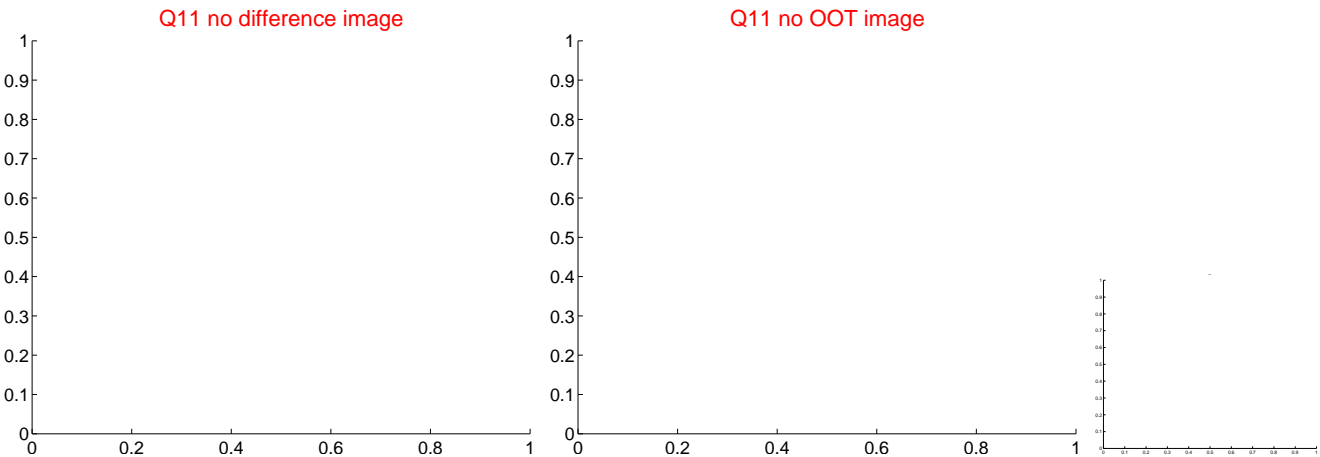
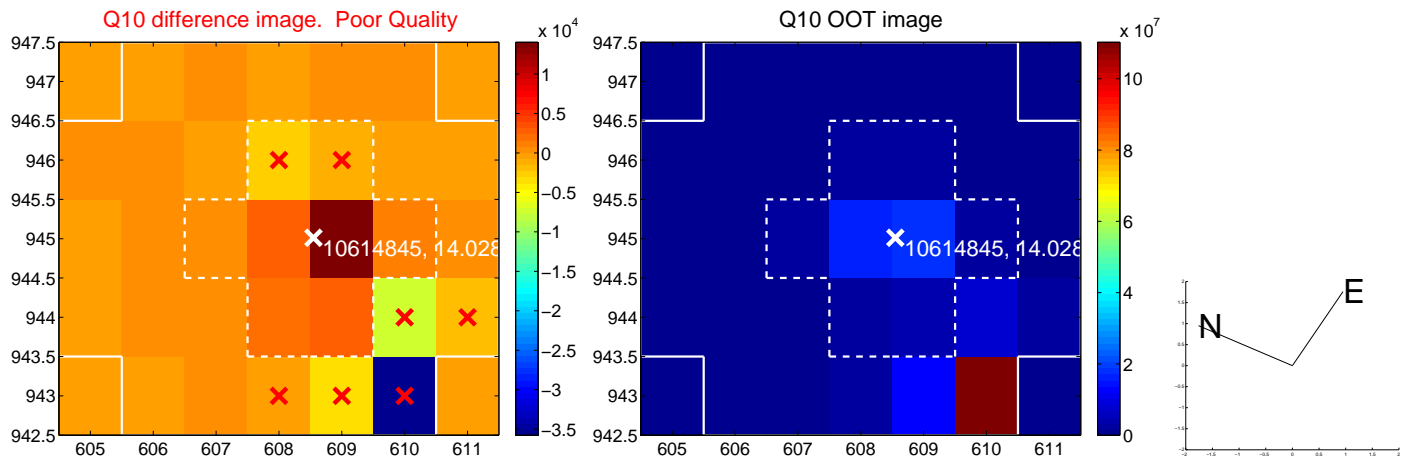
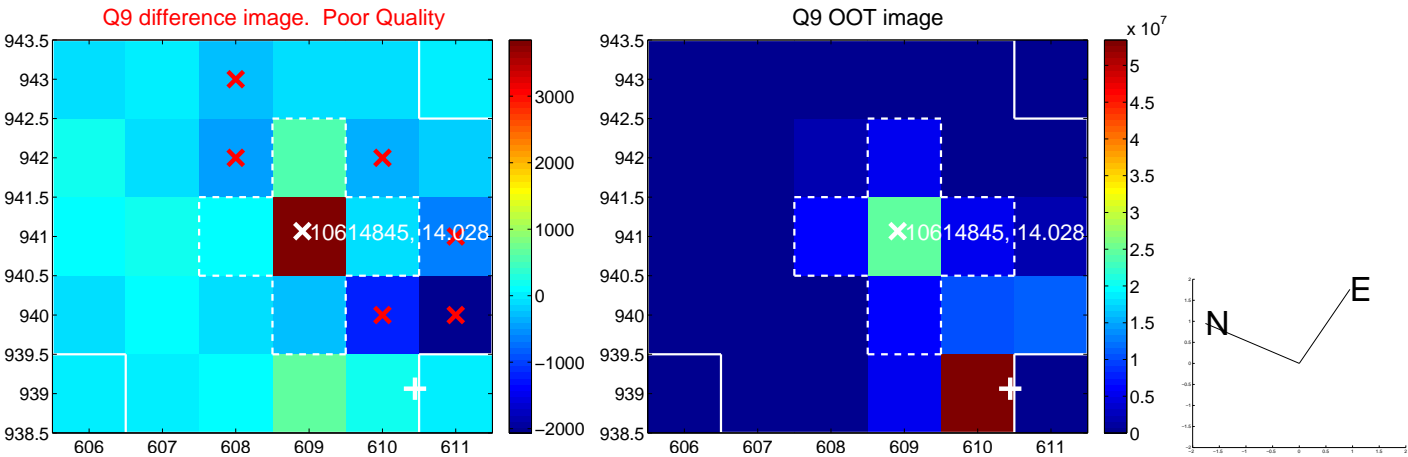
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



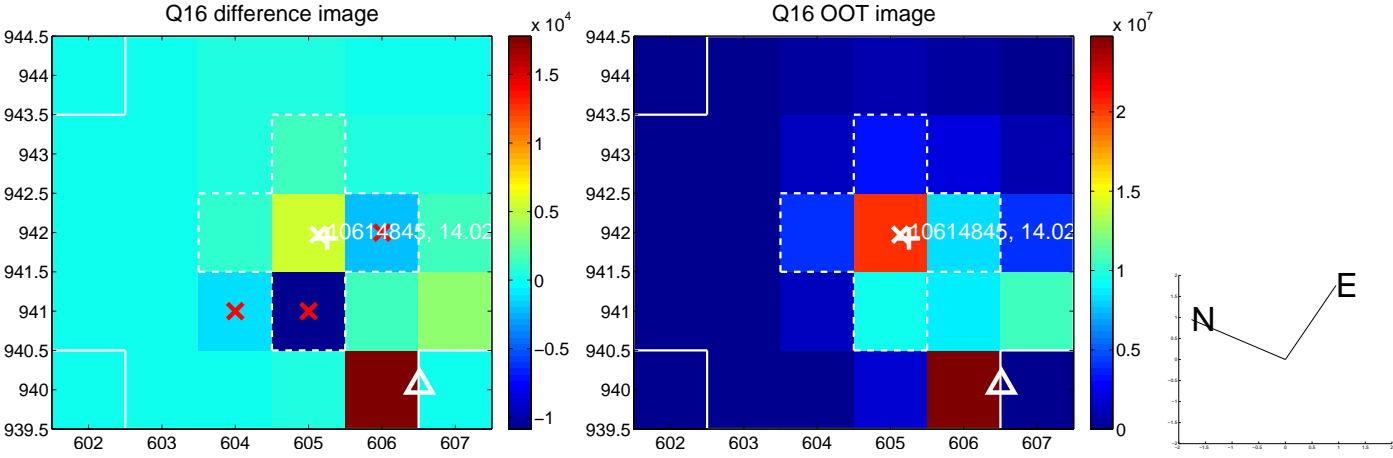
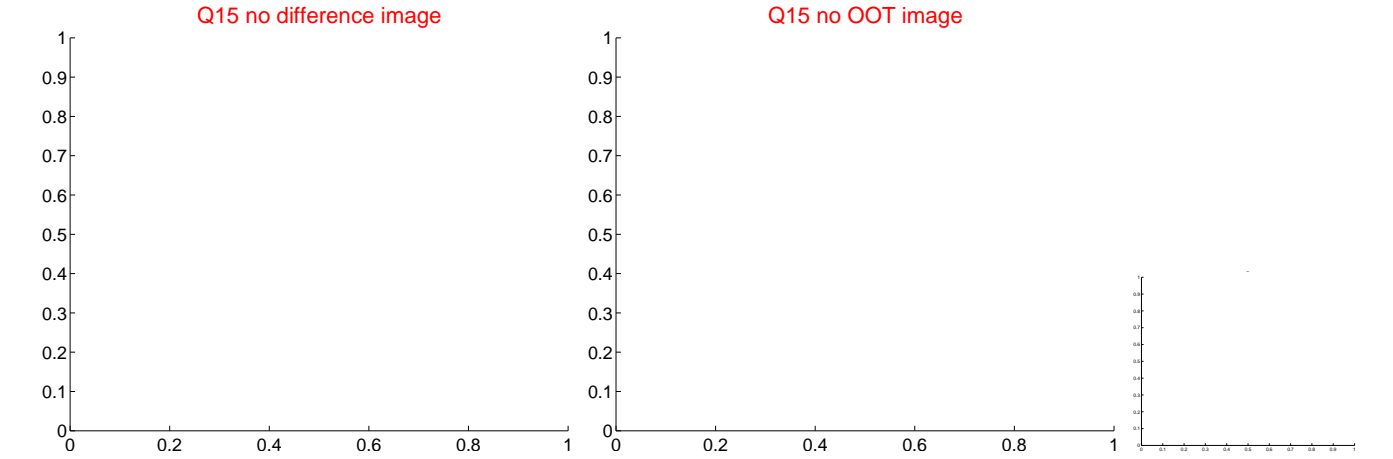
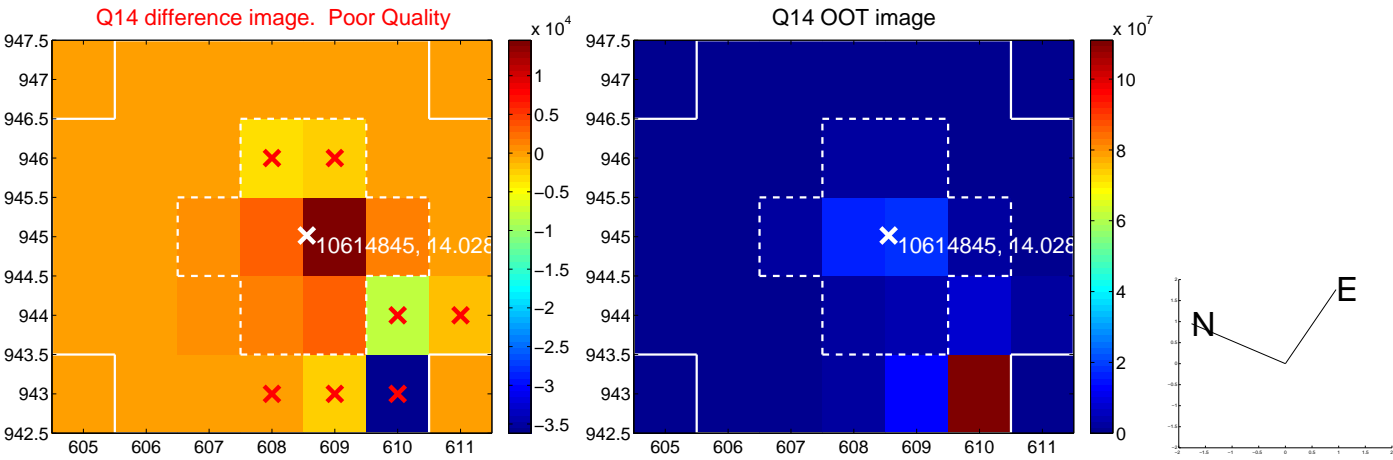
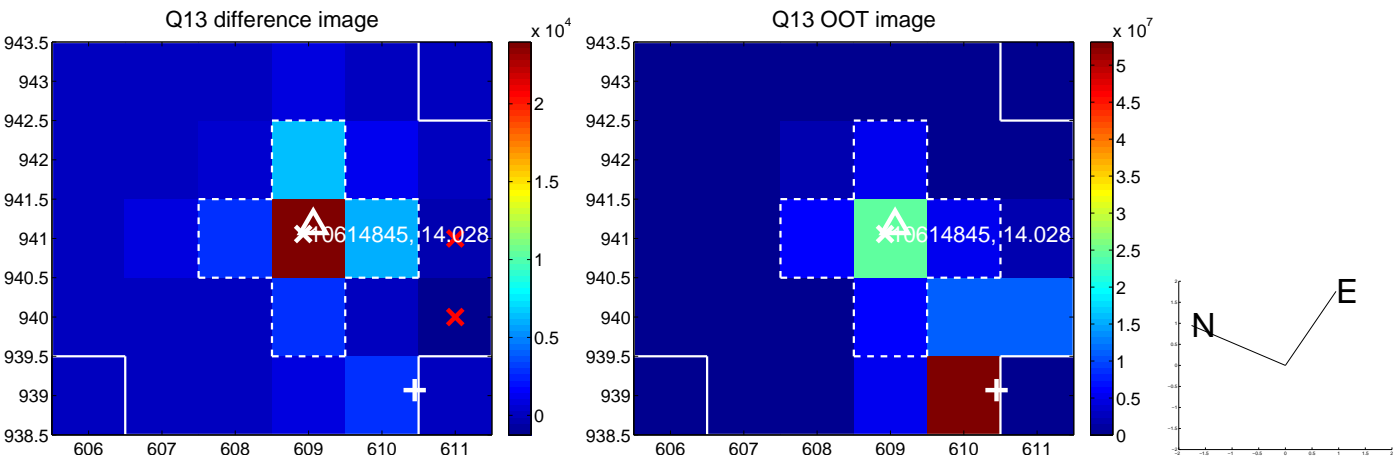
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



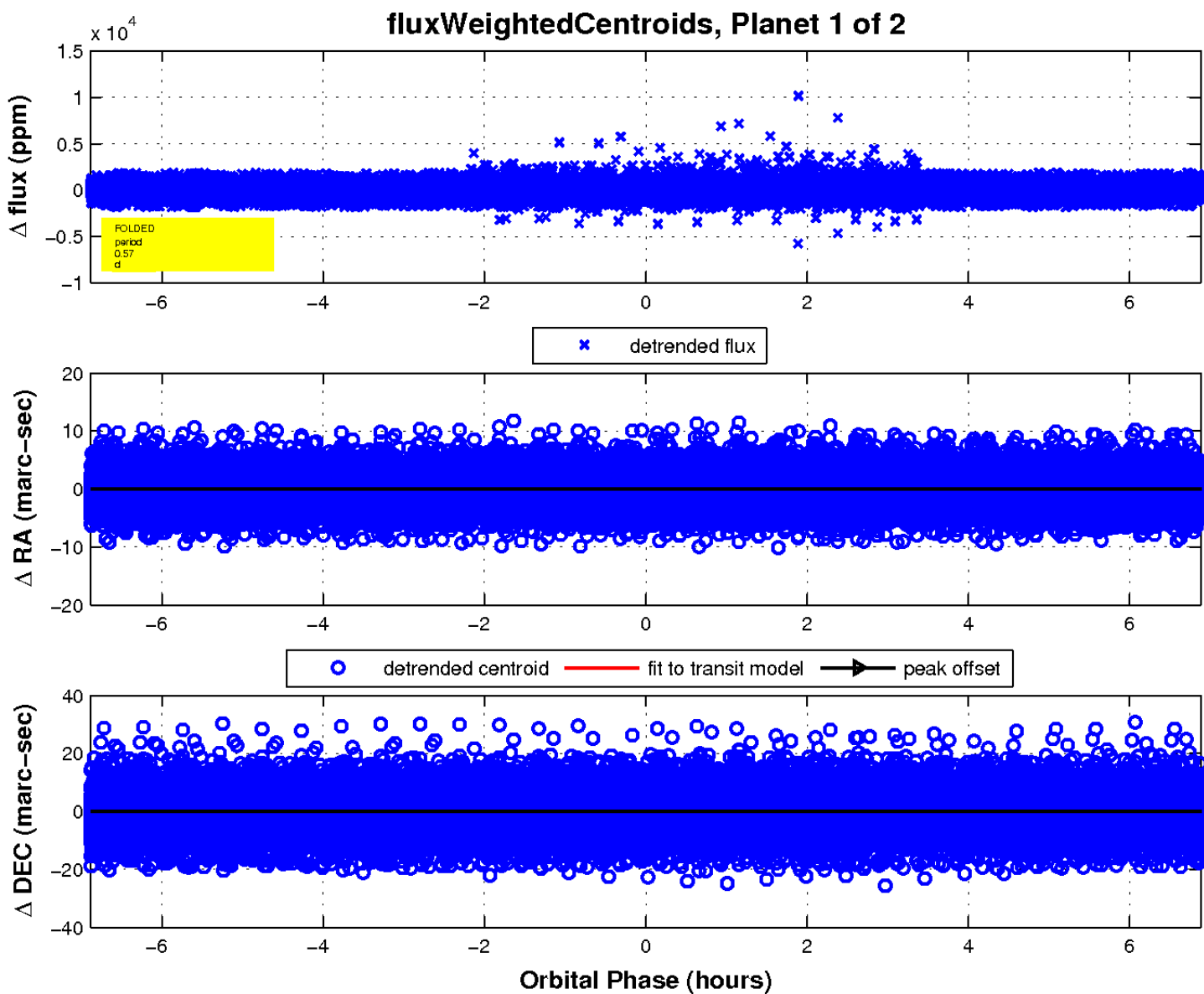
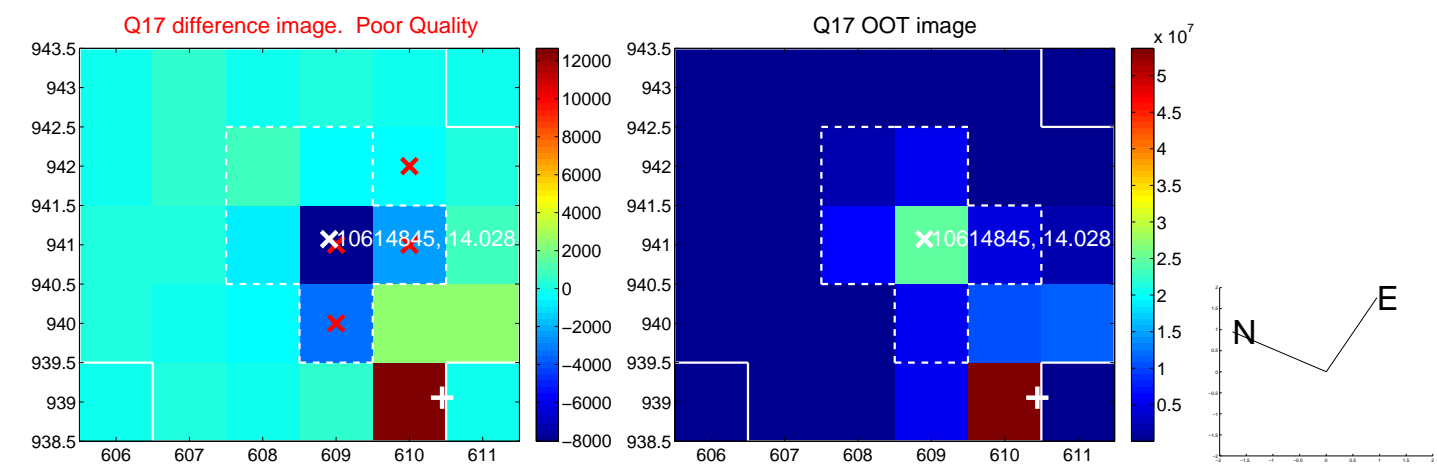
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

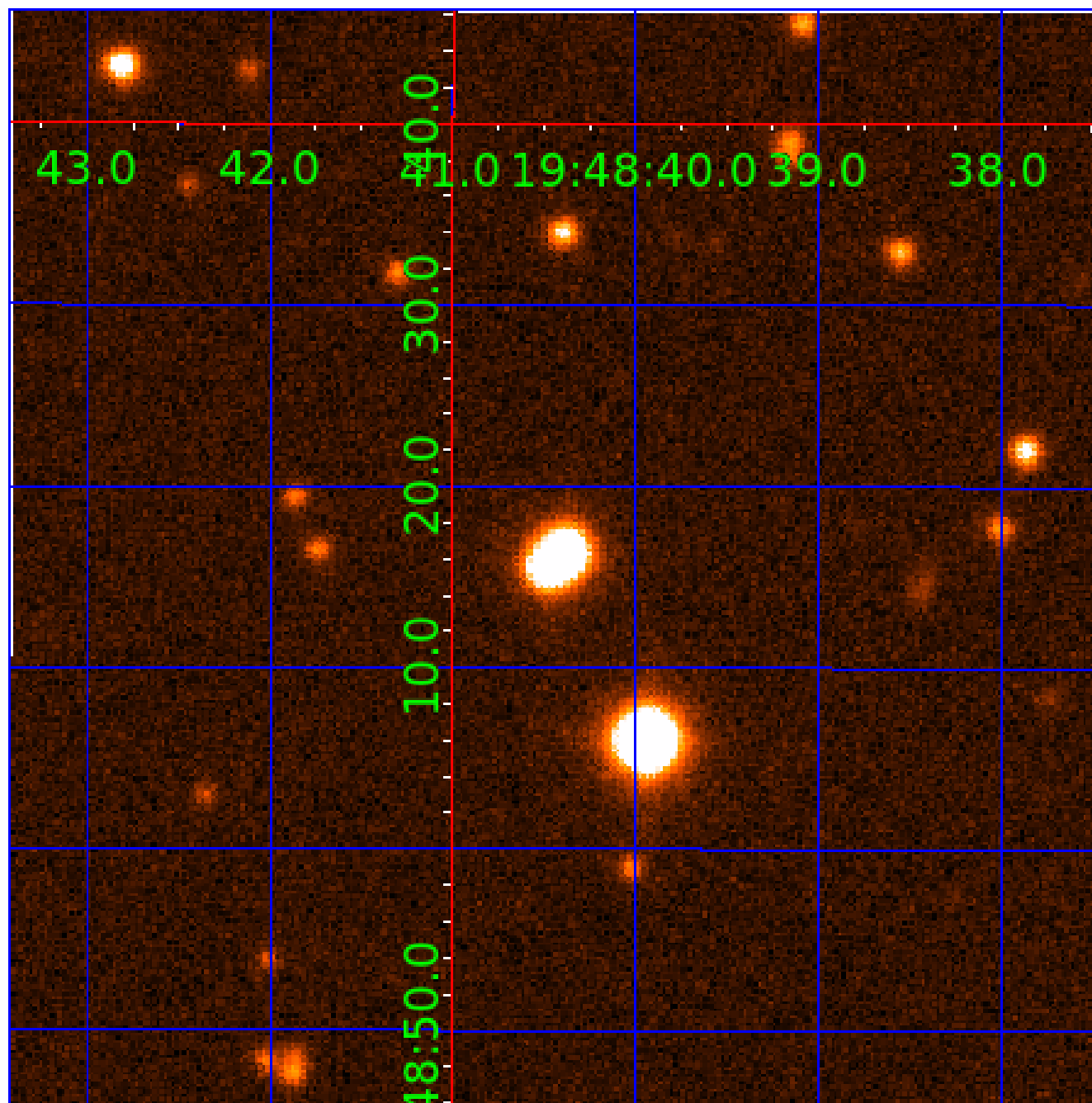


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010614845

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})
010614845-01	OBS	8027.01	0.573768	131.788277	845.5	2.000	9.2	-1.0	0.57	4891	1.63	1326.15
010614845-02	OBS	No	209.306469	234.679840	891.8	2.282	11.1	7.1	0.57	4891	1.89	0.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010614845-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
010614845-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

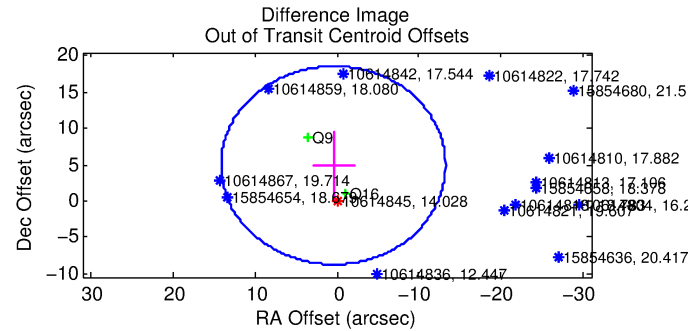
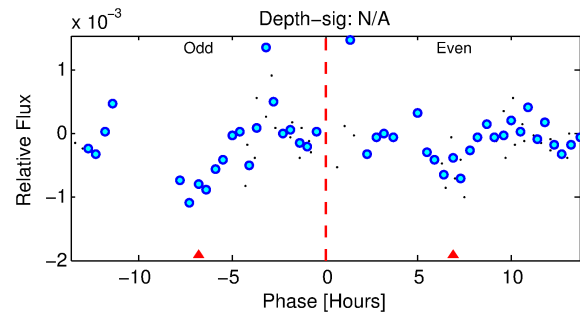
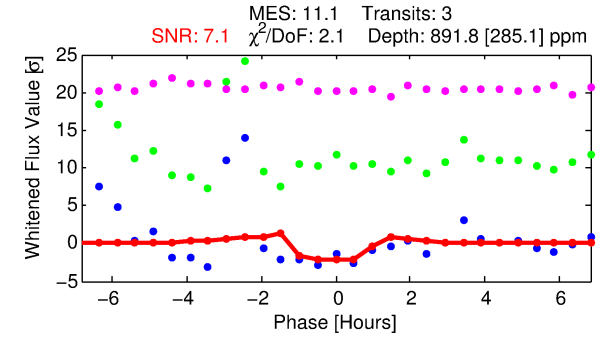
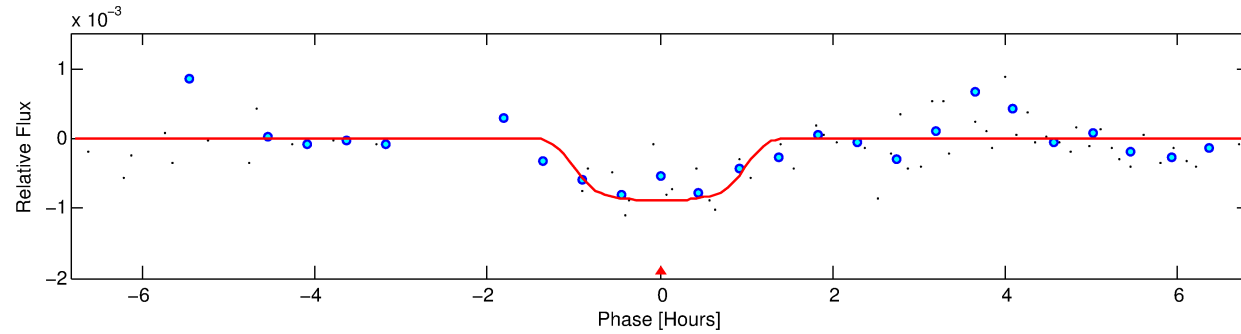
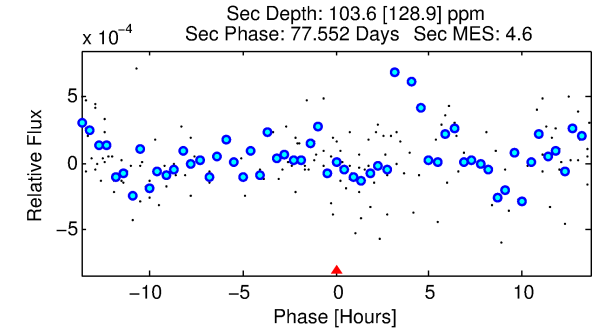
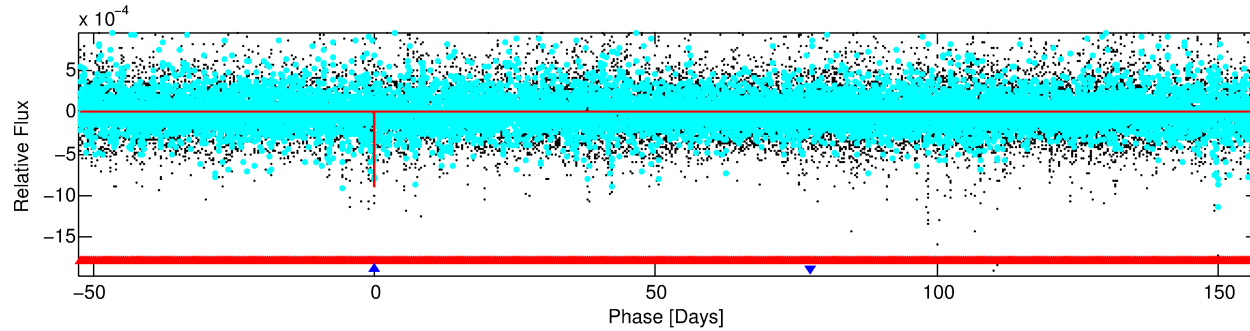
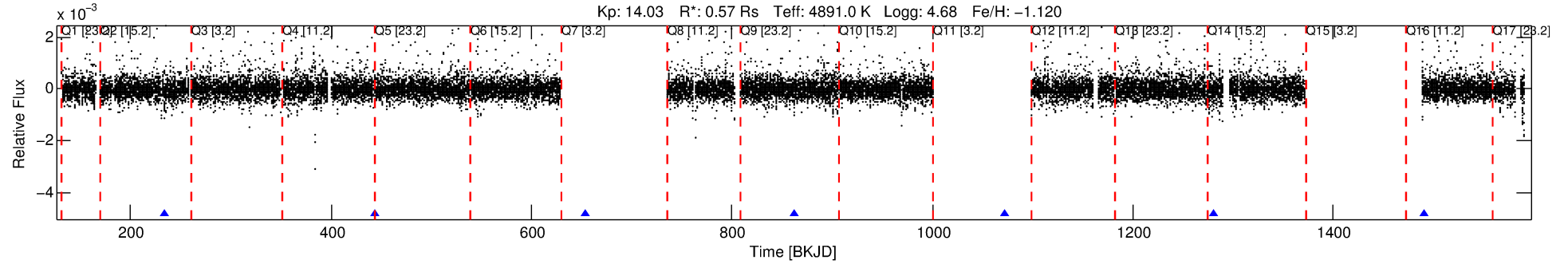
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010614845-02

No Significant Match Found

DV One-Page Summary

KIC: 10614845 Candidate: 2 of 2 Period: 209.306 d



DV Fit Results:

Period = 209.30647 [0.00400] d
Epoch = 234.6798 [0.0106] BKJD
Rp/R* = 0.0304 [0.0828]
a/R* = 462.40 [5024.62]
b = 0.79 [5.21]
Seff = 0.51 [0.08]
Teff = 215 [9] K
Rp = 1.89 [5.16] Re
a = 0.5732 [0.0347] AU
Ag = 5230.96 [29261.09] [0.18σ]
Teffp = 2832 [3961] K [0.66σ]

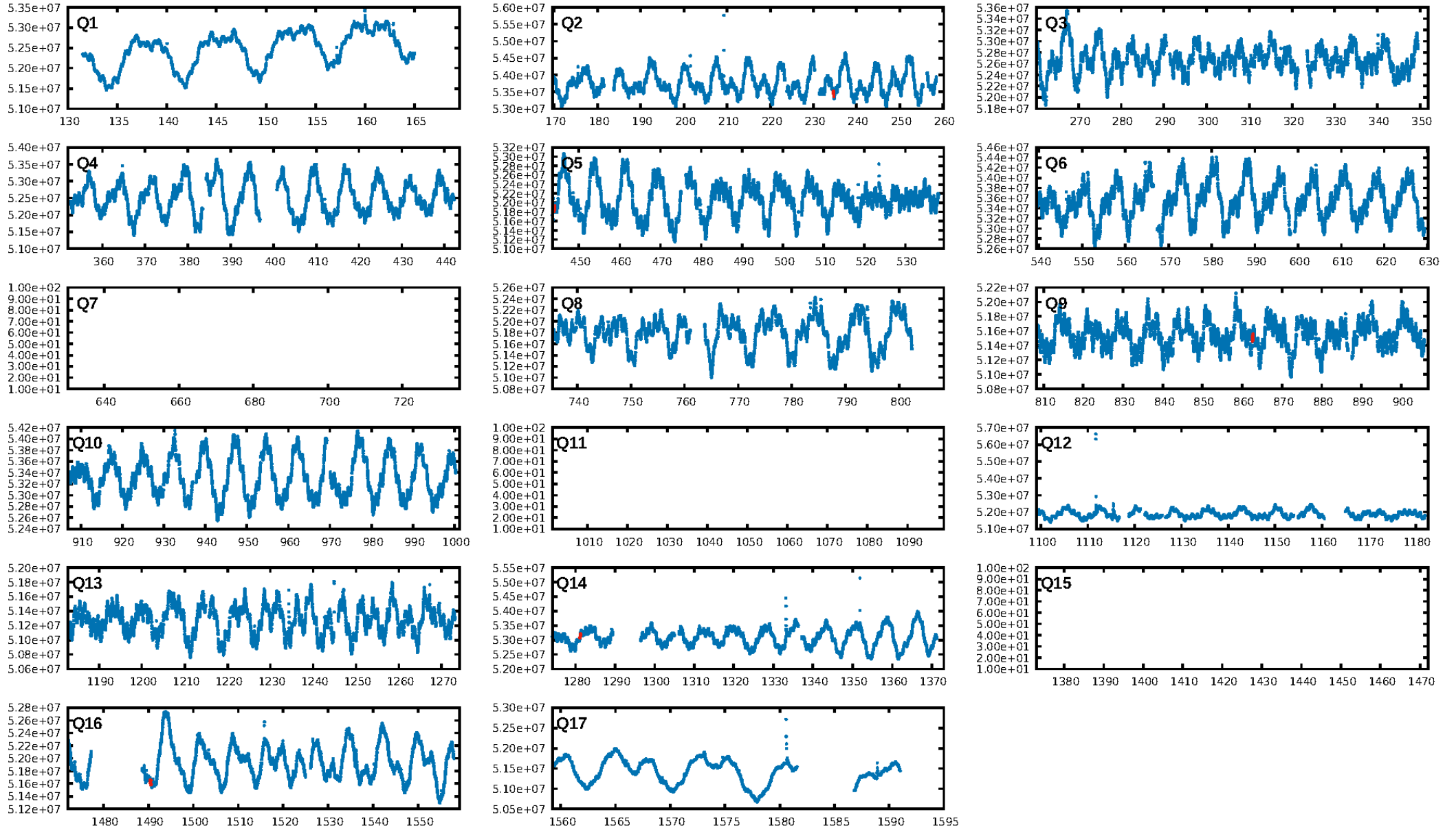
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1650.79σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.5%
ModelChiSquareGof-sig: 85.6%
Bootstrap-pfa: 1.69e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.131
Centroid-sig: 40.8%
Centroid-so: 4.344 arcsec [4.22σ]
OotOffset-rm: 4.926 arcsec [1.08σ]
KicOffset-rm: 0.961 arcsec [1.81σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/4]

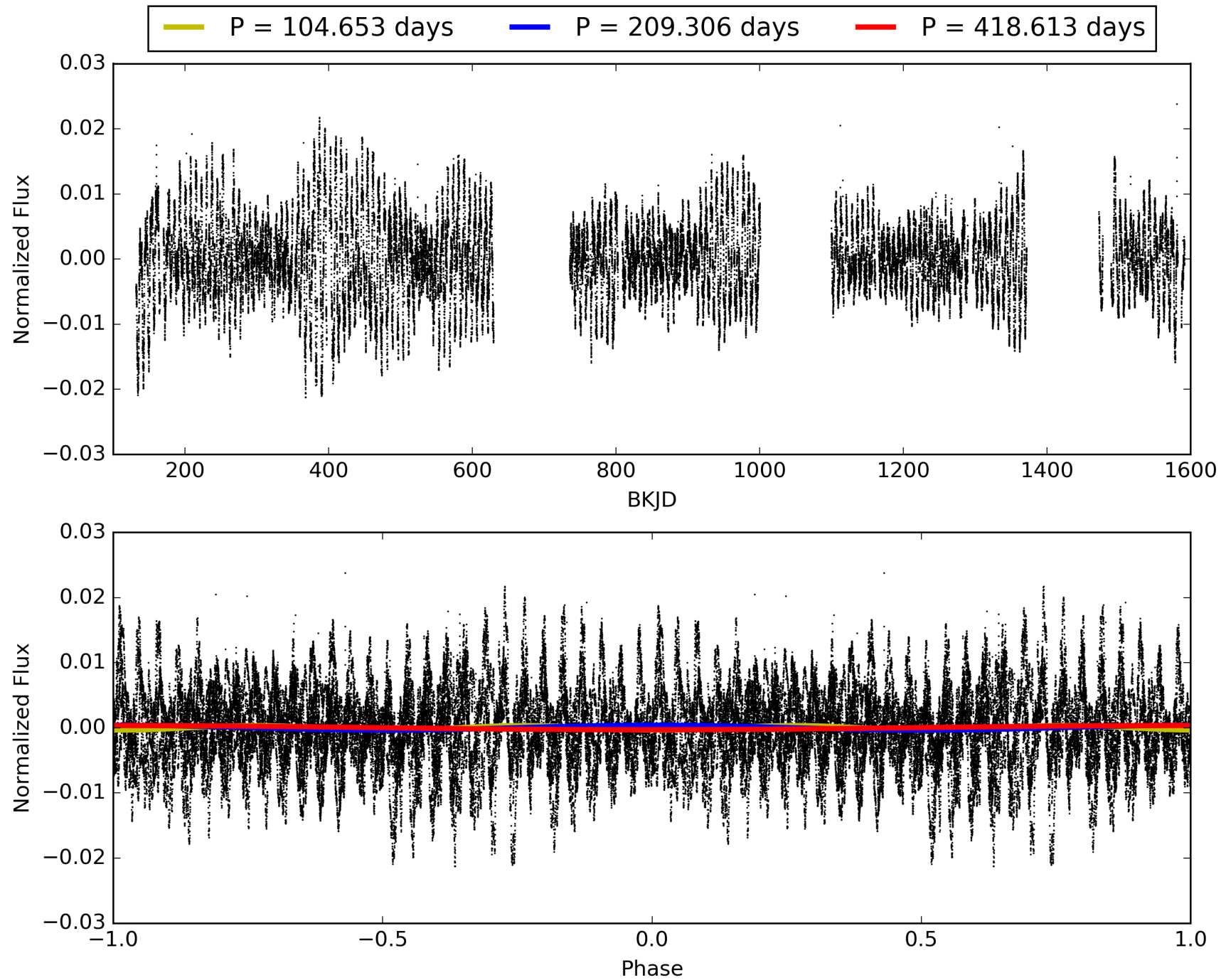
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:49:51 Z

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

TCE 010614845-02, PDC Light Curves

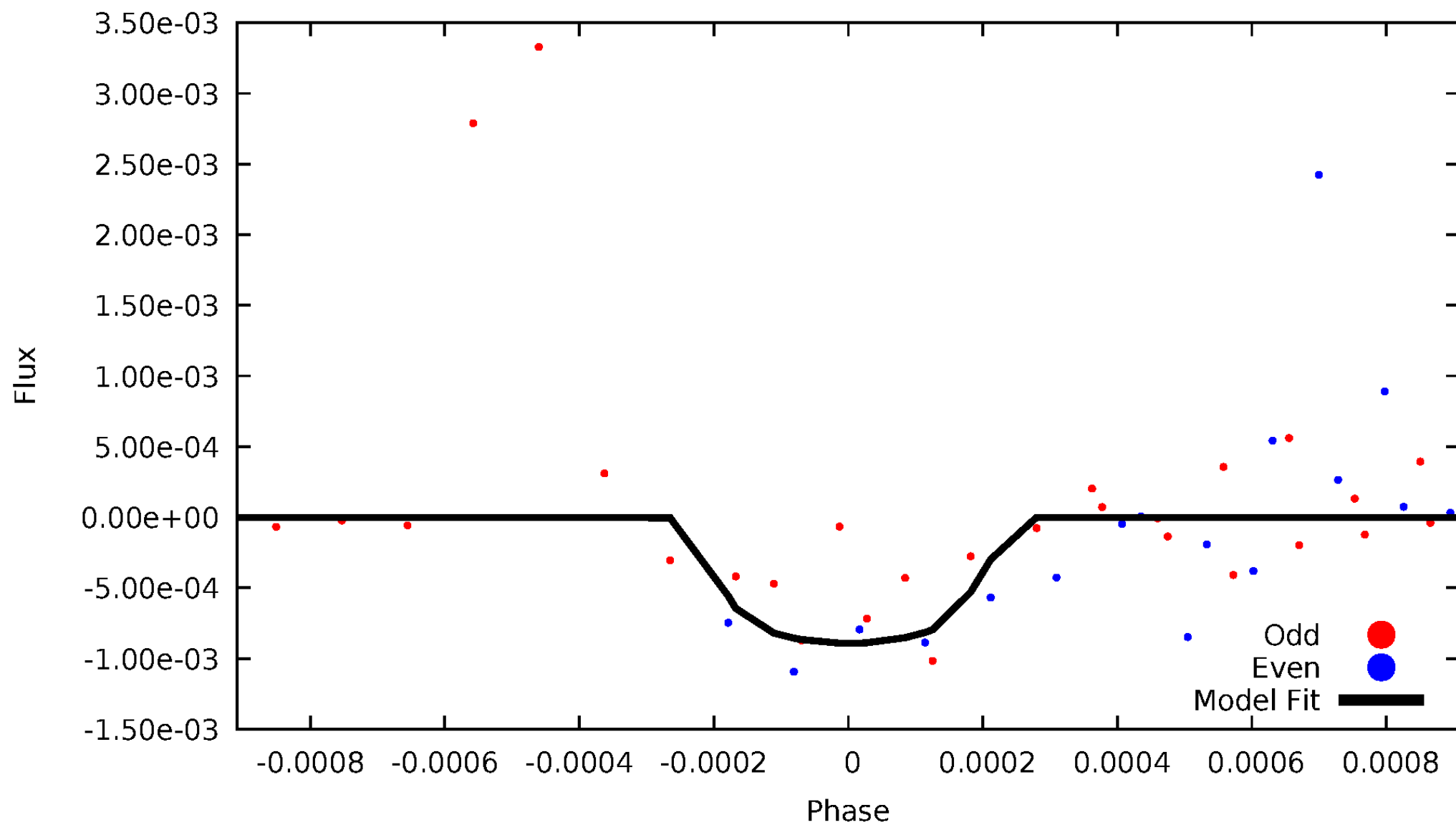


TCE 010614845-02



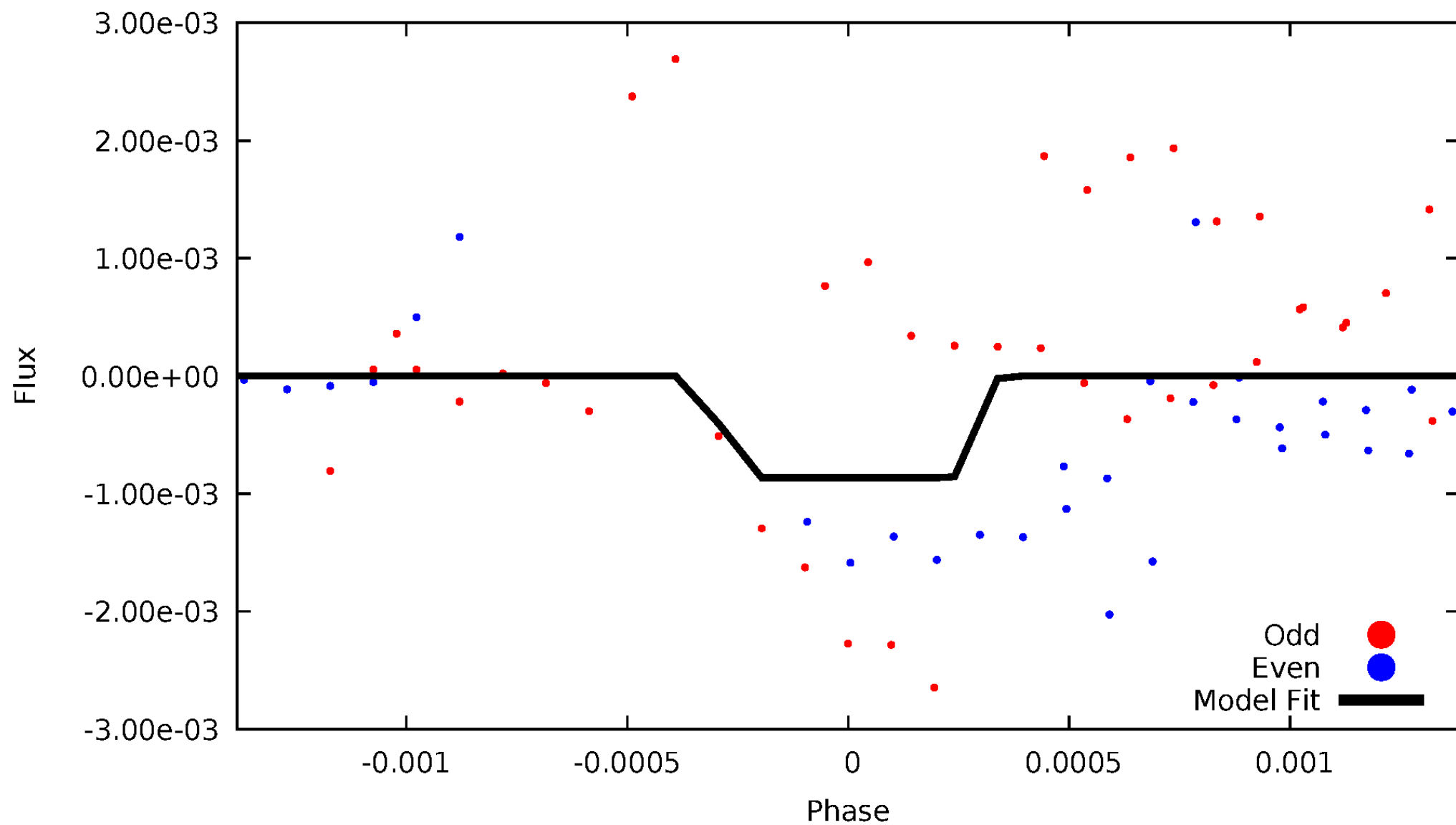
DV Odd/Even

TCE 010614845-02



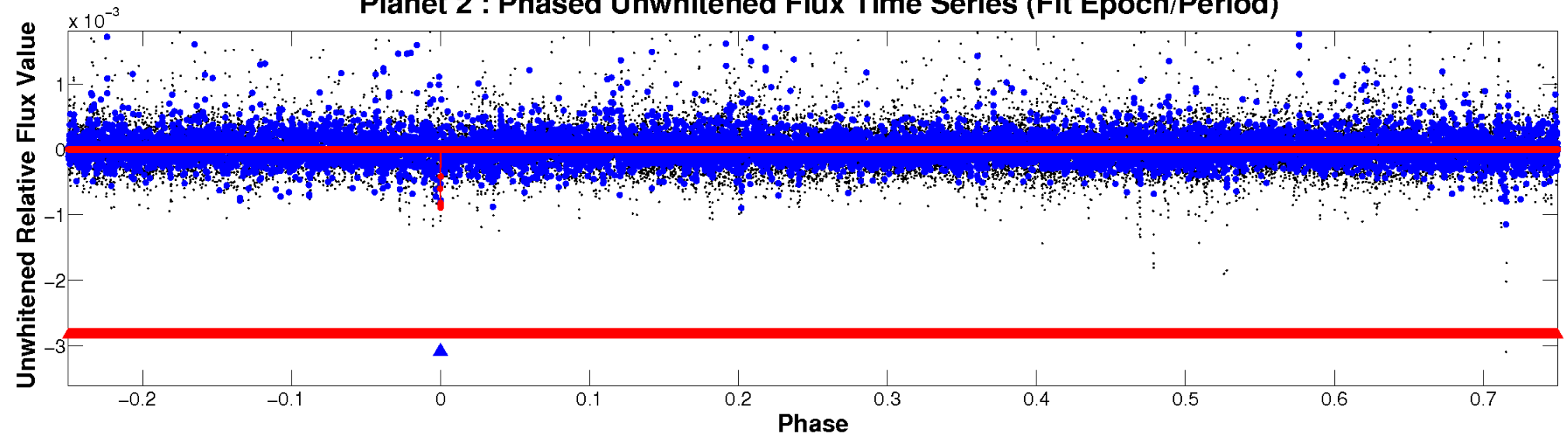
ALT Odd/Even

TCE 010614845-02

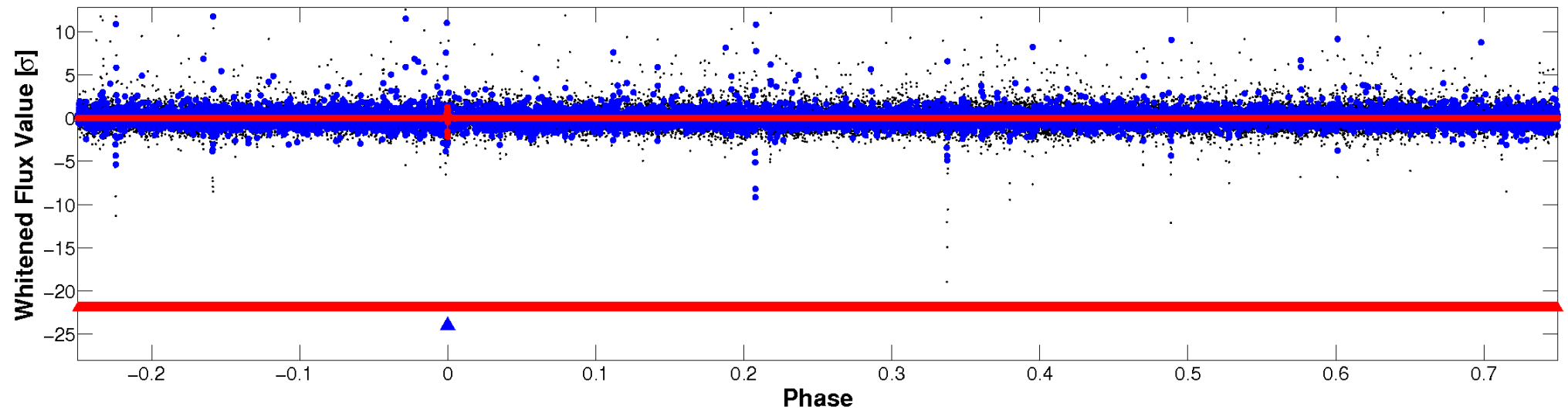


Non-Whitened Vs. Whitened Light Curve

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

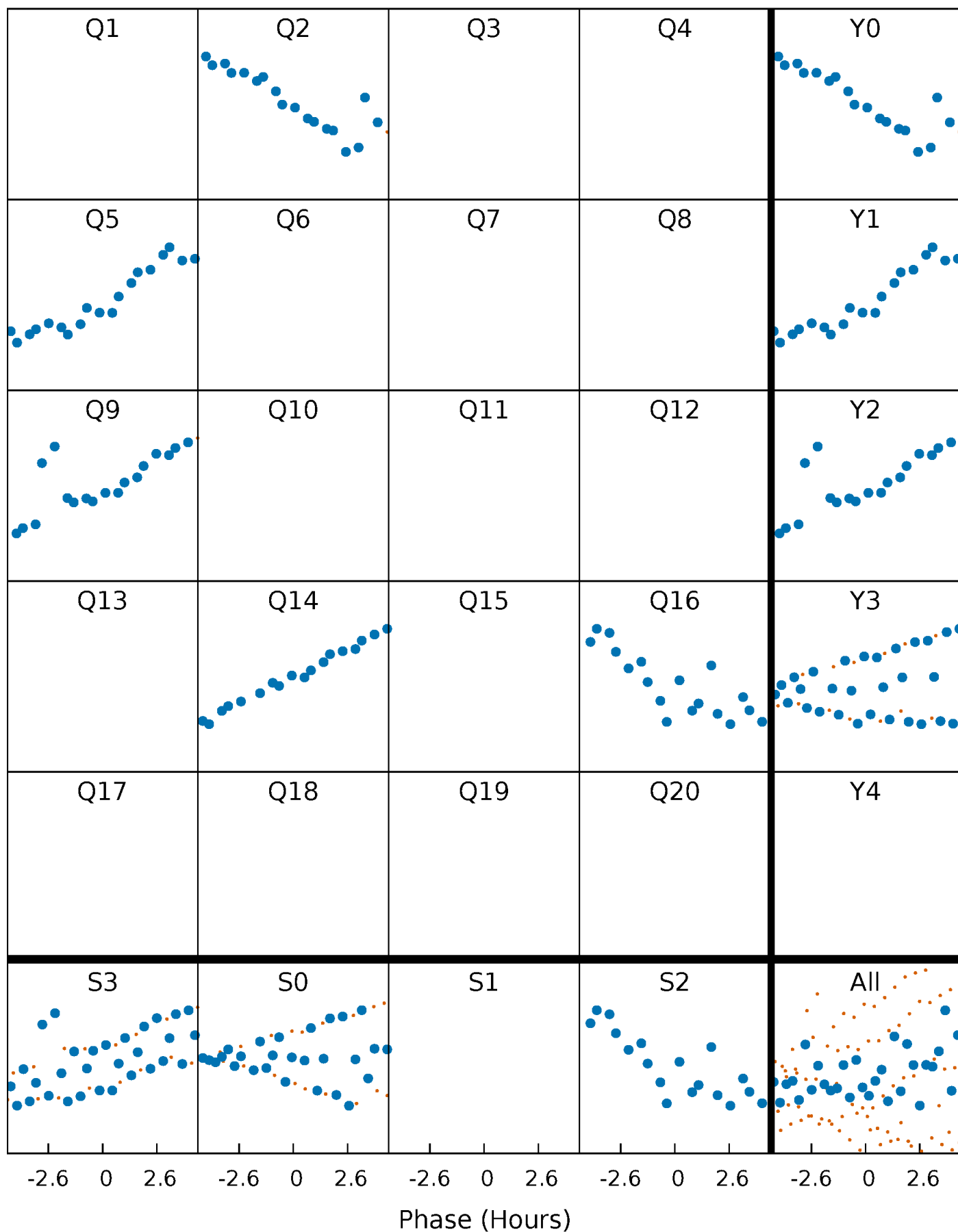


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



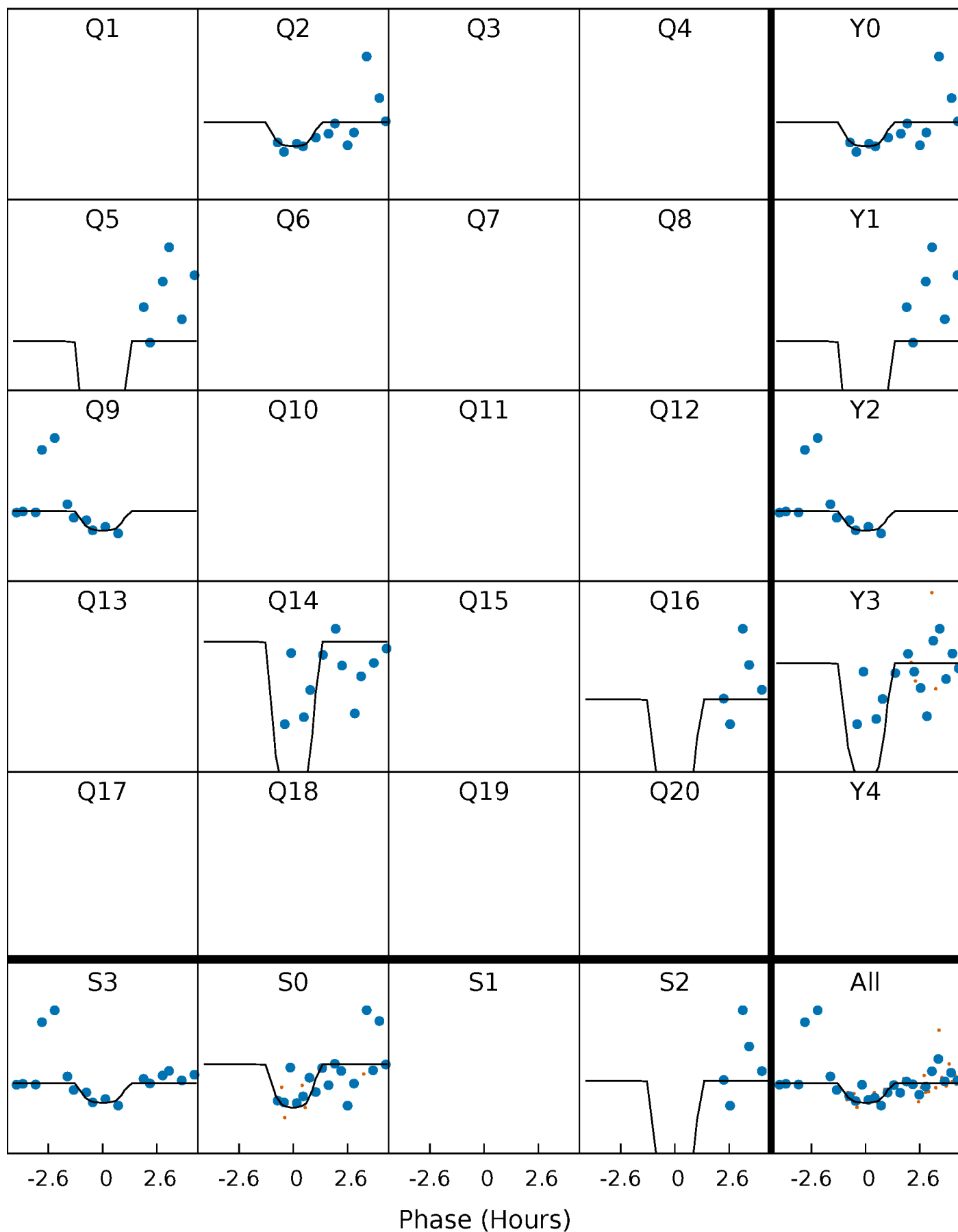
PDC Quarter-Phased Transit Curves

TCE 010614845-02 $P=209.306469$ Days $T_0=234.679840$ (BKJD)



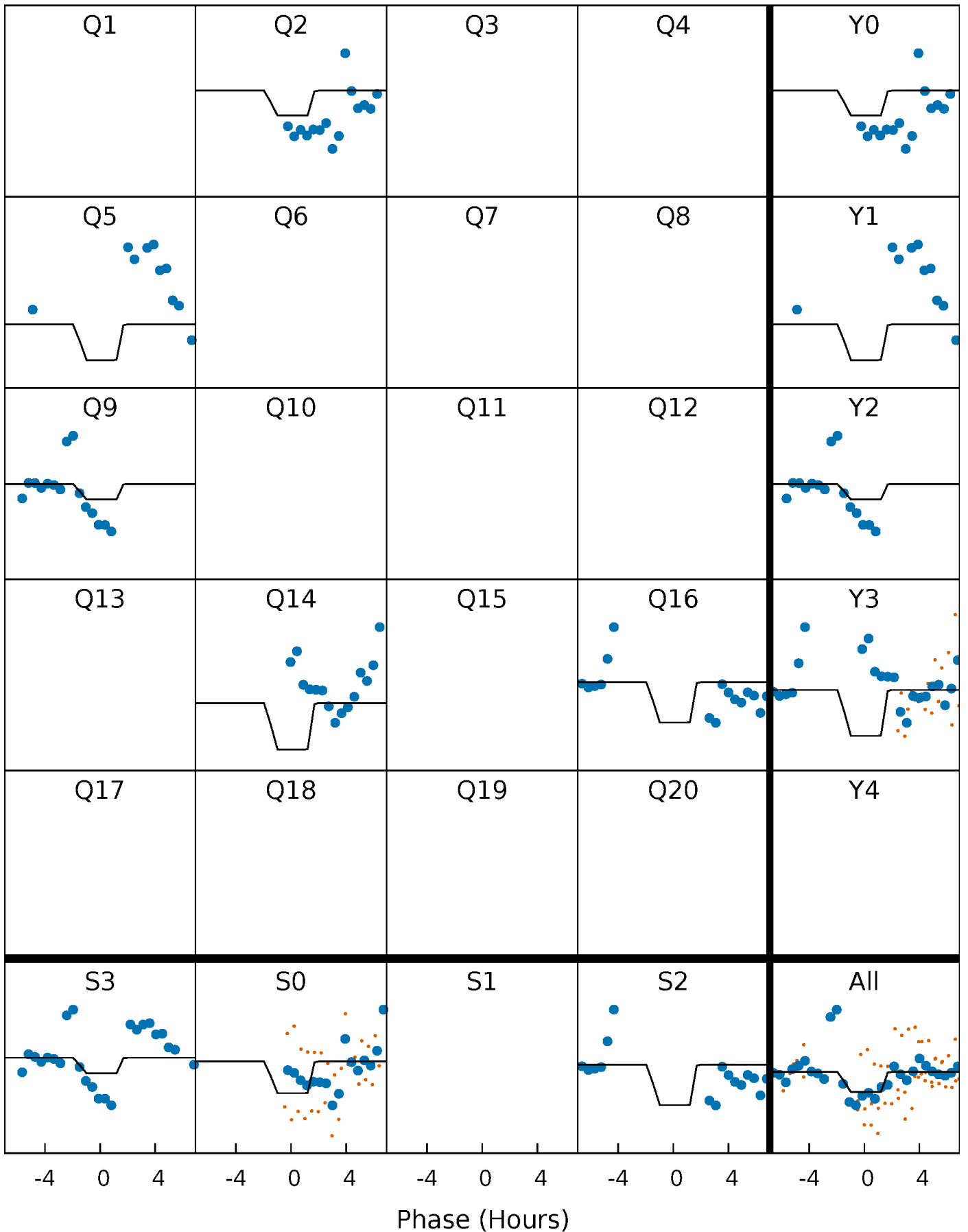
DV Quarter-Phased Transit Curves

TCE 010614845-02 P=209.306469 Days $T_0=234.679840$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

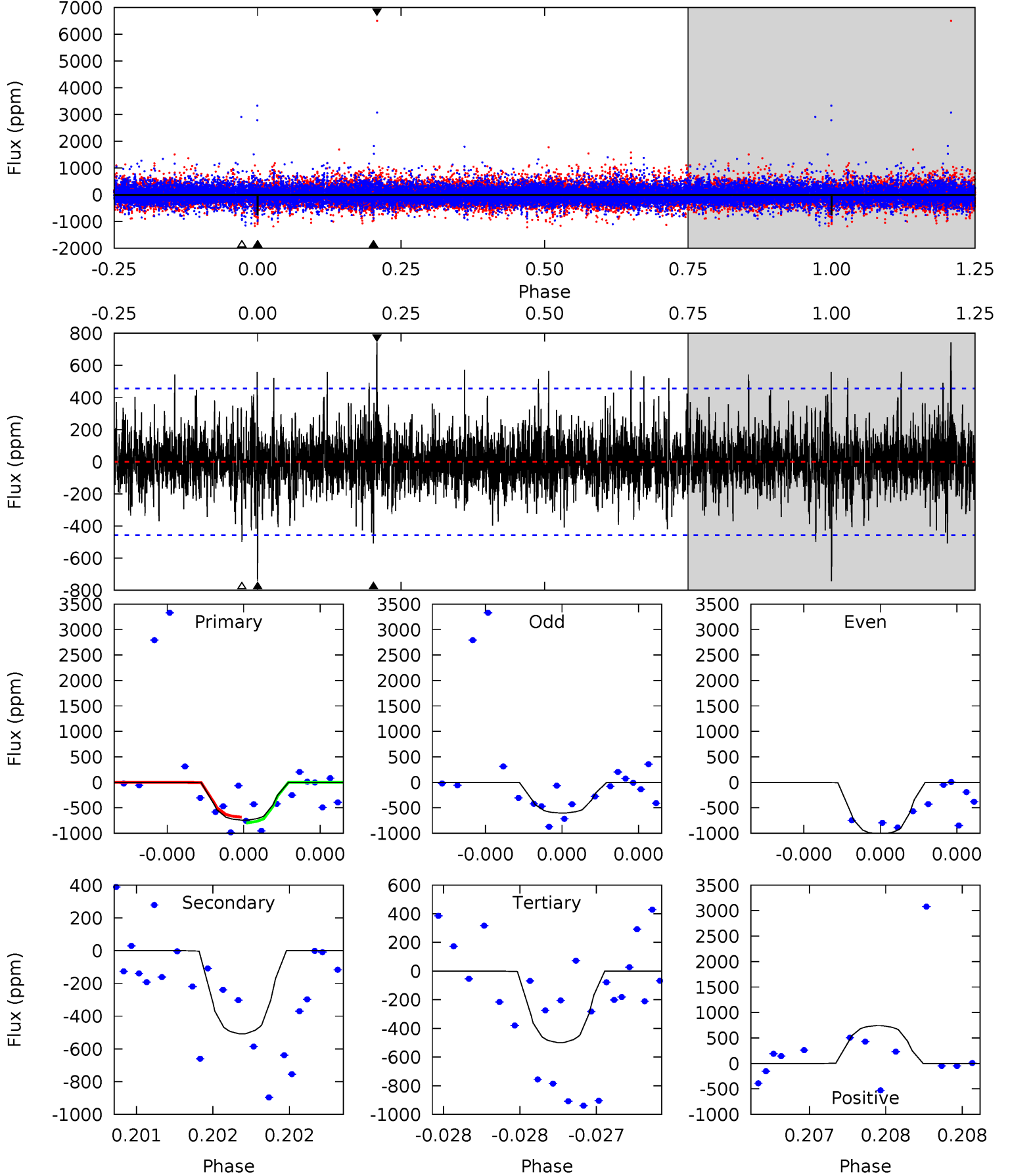
TCE 010614845-02 P=209.307643 Days $T_0=234.661841$ (BKJD)



DV Model-Shift Uniqueness Test

010614845-02, P = 209.306469 Days, E = 25.373371 Days

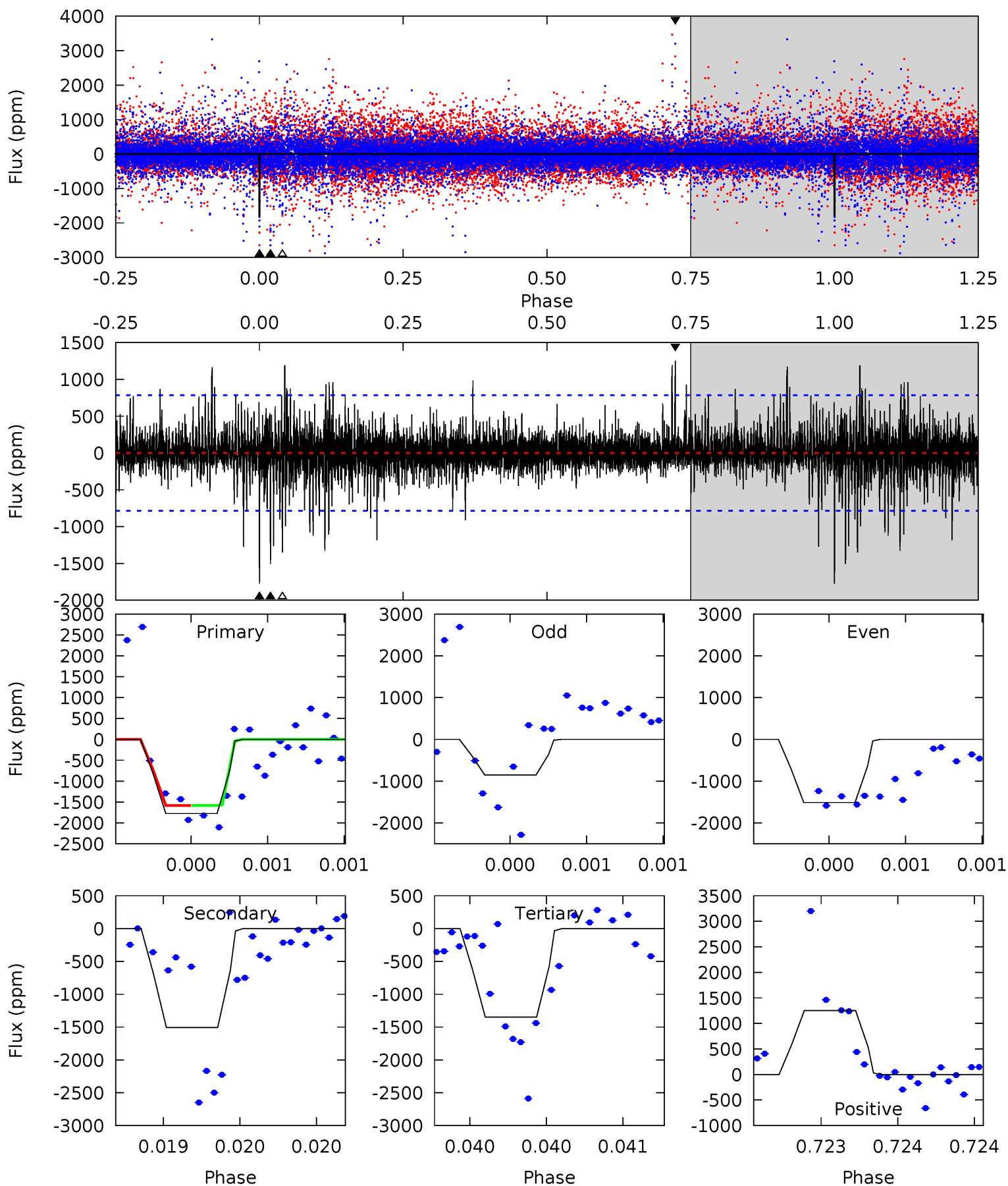
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.08	6.21	6.10	9.07	5.58	3.49	1.49	2.98	0.01	0.11	-2.86	2.05	0.87	0.50	0.70



Alt Model-Shift Uniqueness Test

010614845-02, P = 209.307643 Days, E = 25.354198 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	10.6	9.53	8.84	5.54	3.44	1.36	3.00	3.69	1.11	1.81	2.16	0.64	0.41	0.01



Stellar Parameters For KIC 010614845

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4891^{+161}_{-161}	$4.683^{+0.052}_{-0.032}$	$-1.120^{+0.300}_{-0.300}$	$0.571^{+0.039}_{-0.039}$	$0.572^{+0.049}_{-0.021}$	$4.331^{+0.844}_{-0.587}$
	+3%/-3%	+1%/-1%	+27%/-27%	+7%/-7%	+9%/-4%	+19%/-14%
Source	PHO1	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 010614845-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-509 ± 82	$4.22^{+3.91}_{-2.88}$	299^{+12}_{-10}	3310^{+1681}_{-570}	5082^{+46526}_{-3662}
Alt.	-1507 ± 142	$4.76^{+3.72}_{-3.18}$	300^{+11}_{-11}	3811^{+2066}_{-654}	$12017^{+100899}_{-8267}$

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 $A_{obs} \gg 1.0$

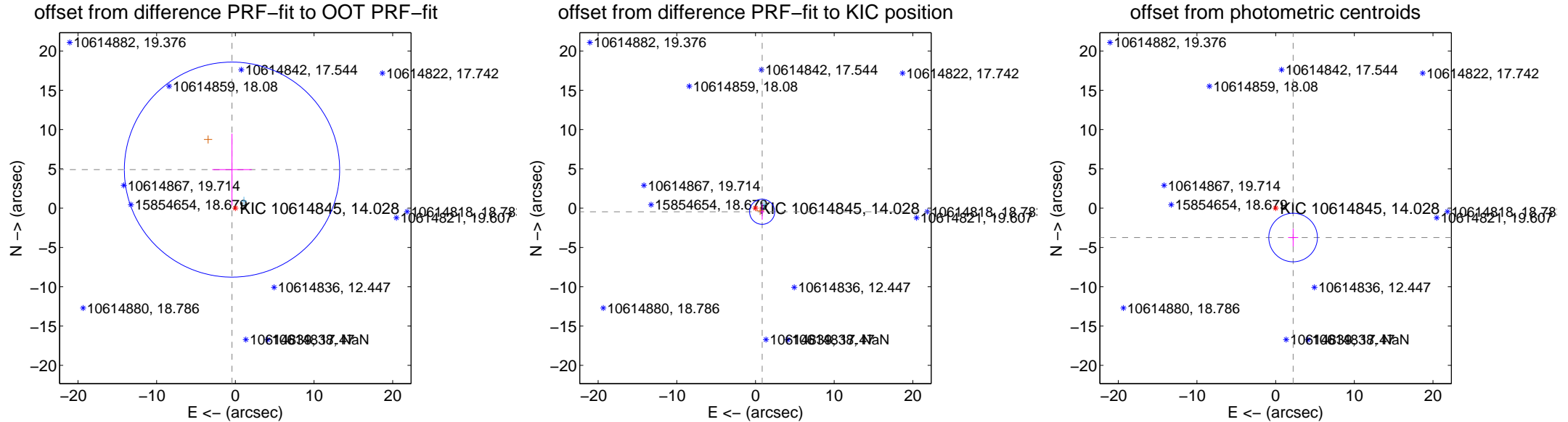
DV Centroid Data

Supplemental centroid analysis for 010614845-02. Kepler magnitude: 14.03. Transit SNR 7.06

There are 1 quarters with good PRF difference image offsets

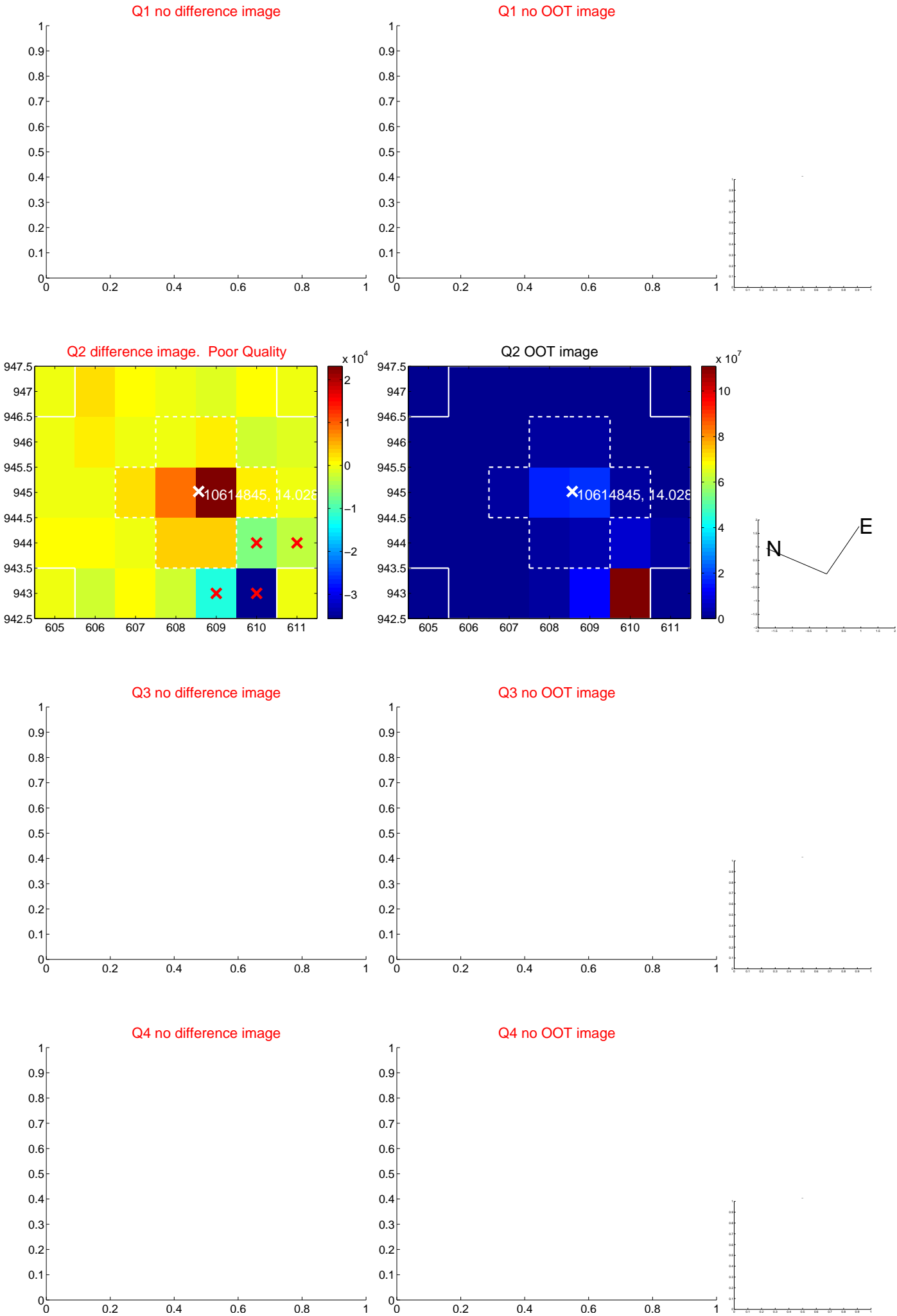
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.926 ± 4.560	1.08	0.423 ± 2.509	4.907 ± 4.572
PRF-fit source offset from KIC position	0.961 ± 0.532	1.81	-0.846 ± 0.264	-0.457 ± 1.007
photometric centroid source offset	4.34 ± 1.03	4.22	-2.22 ± 0.64	-3.73 ± 1.14



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.

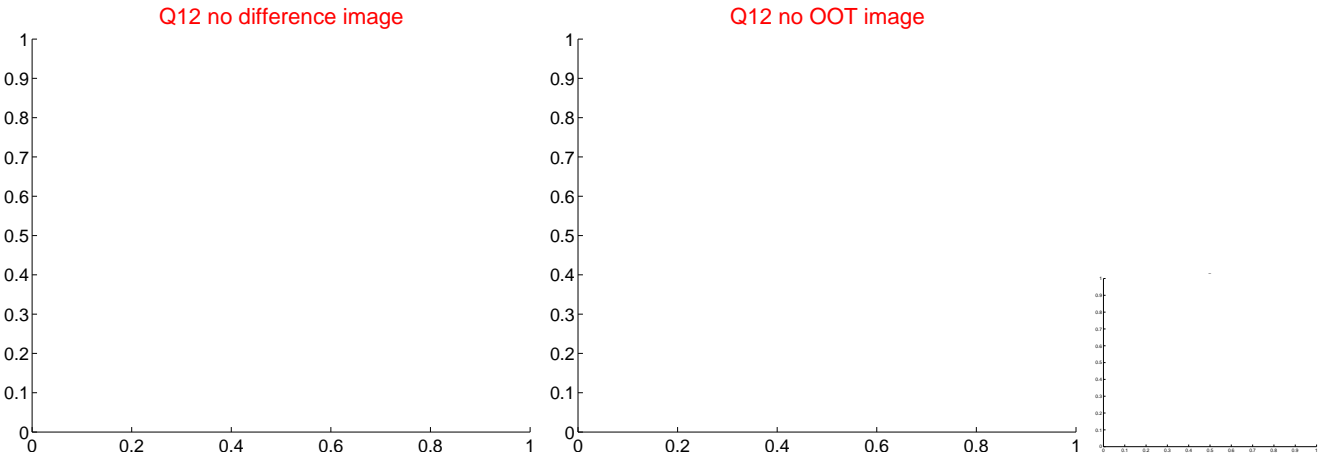
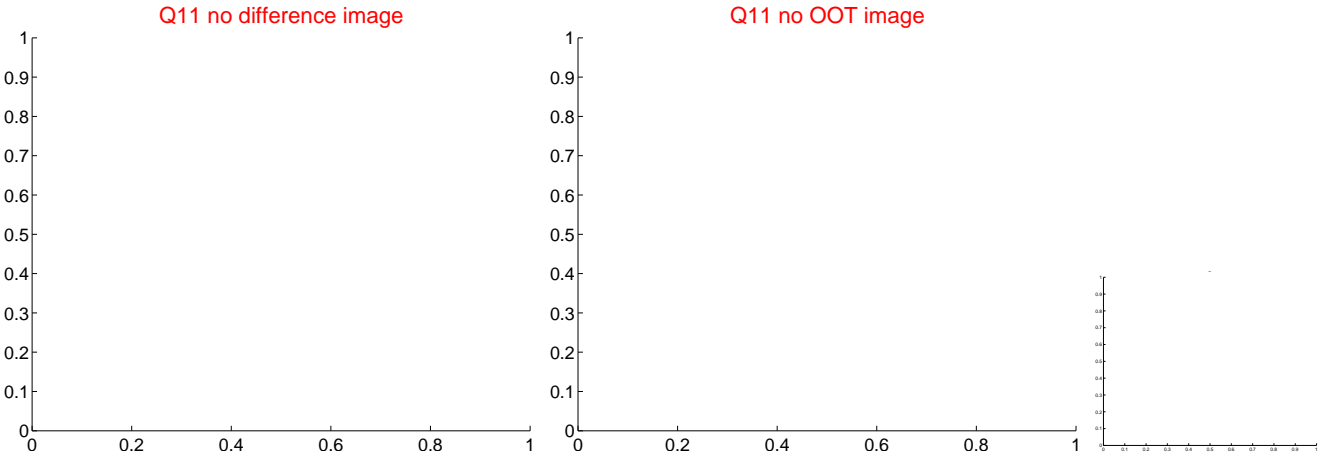
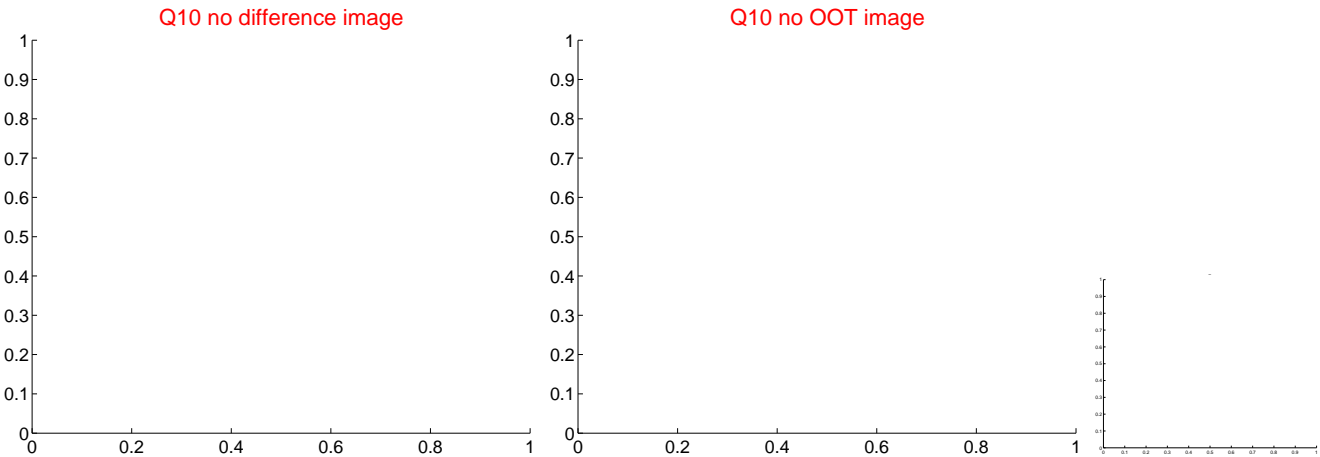
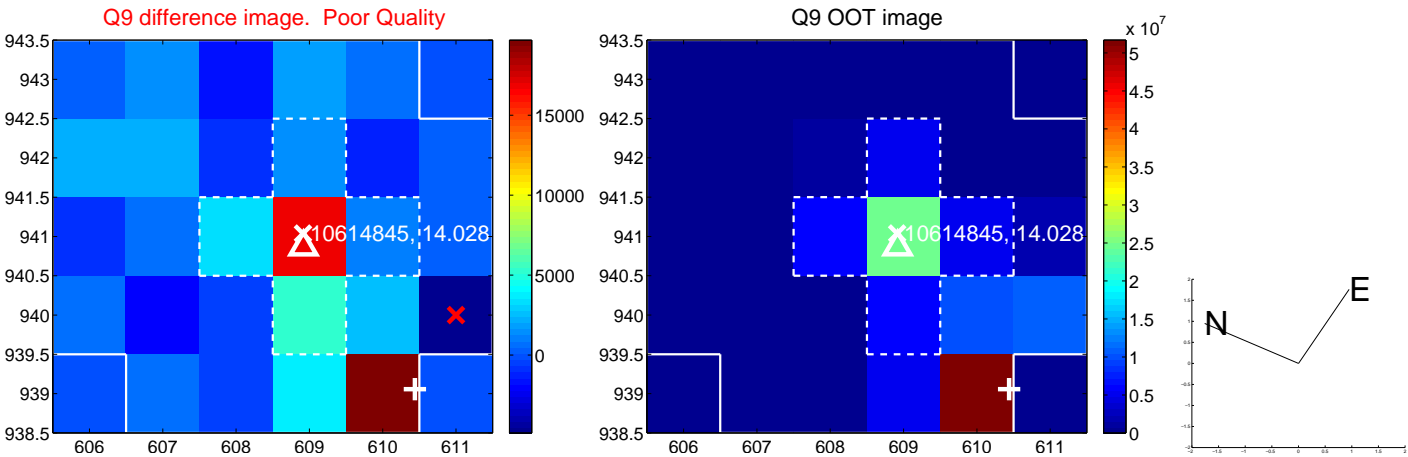
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



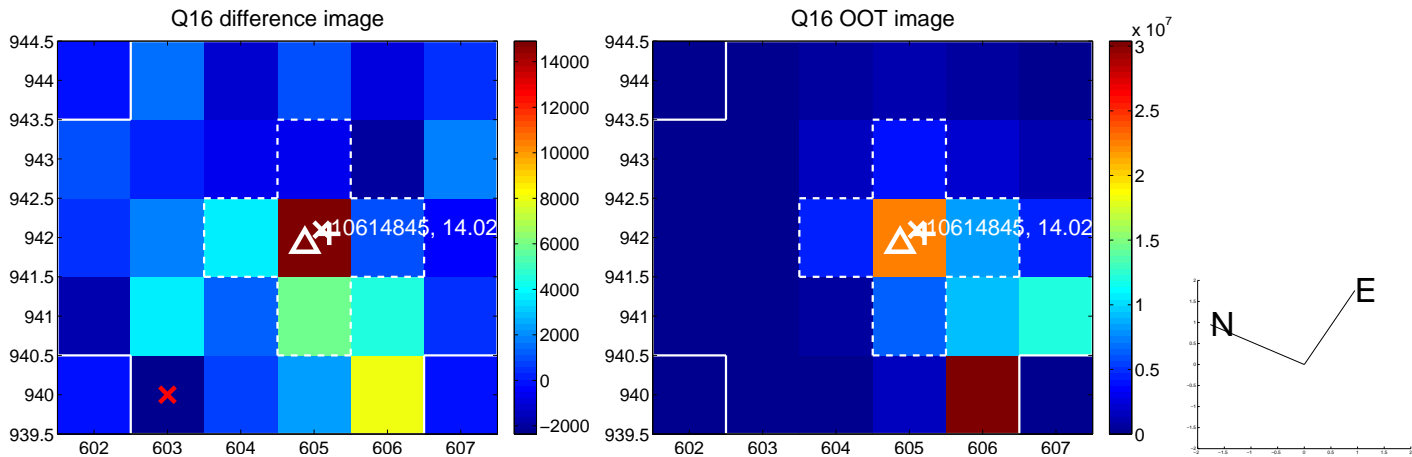
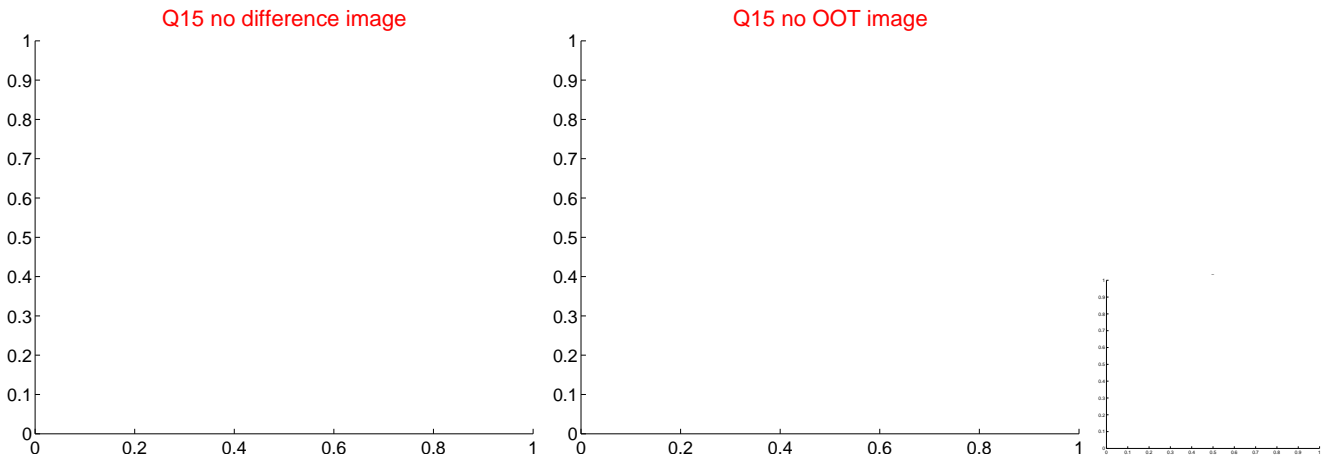
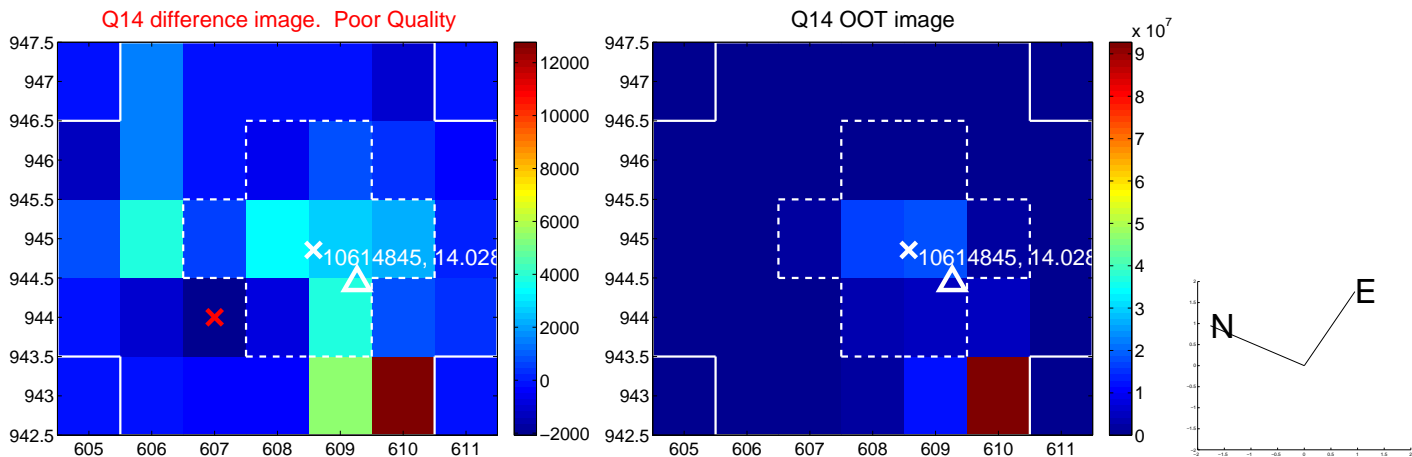
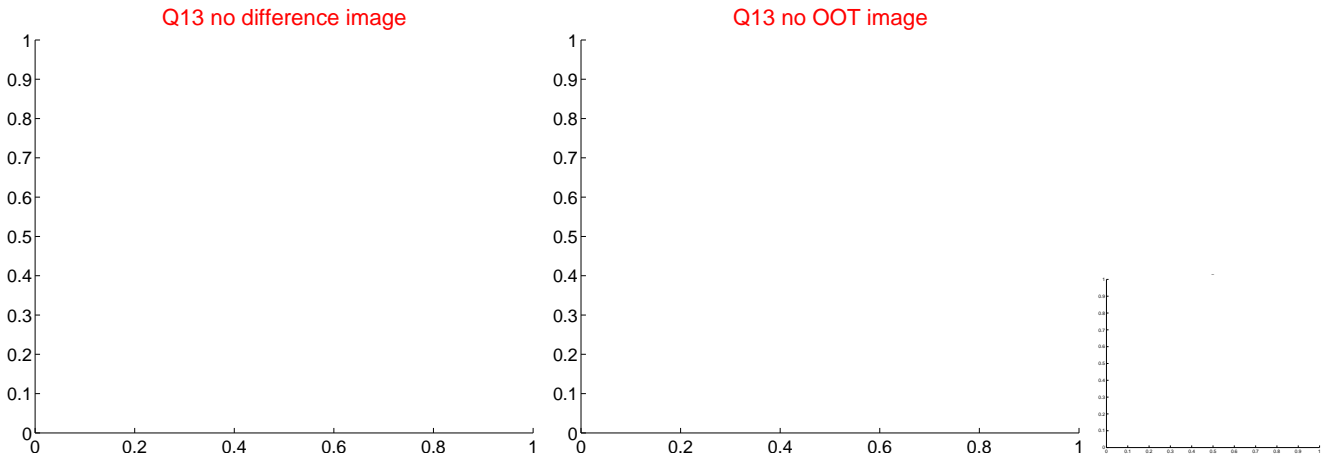
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



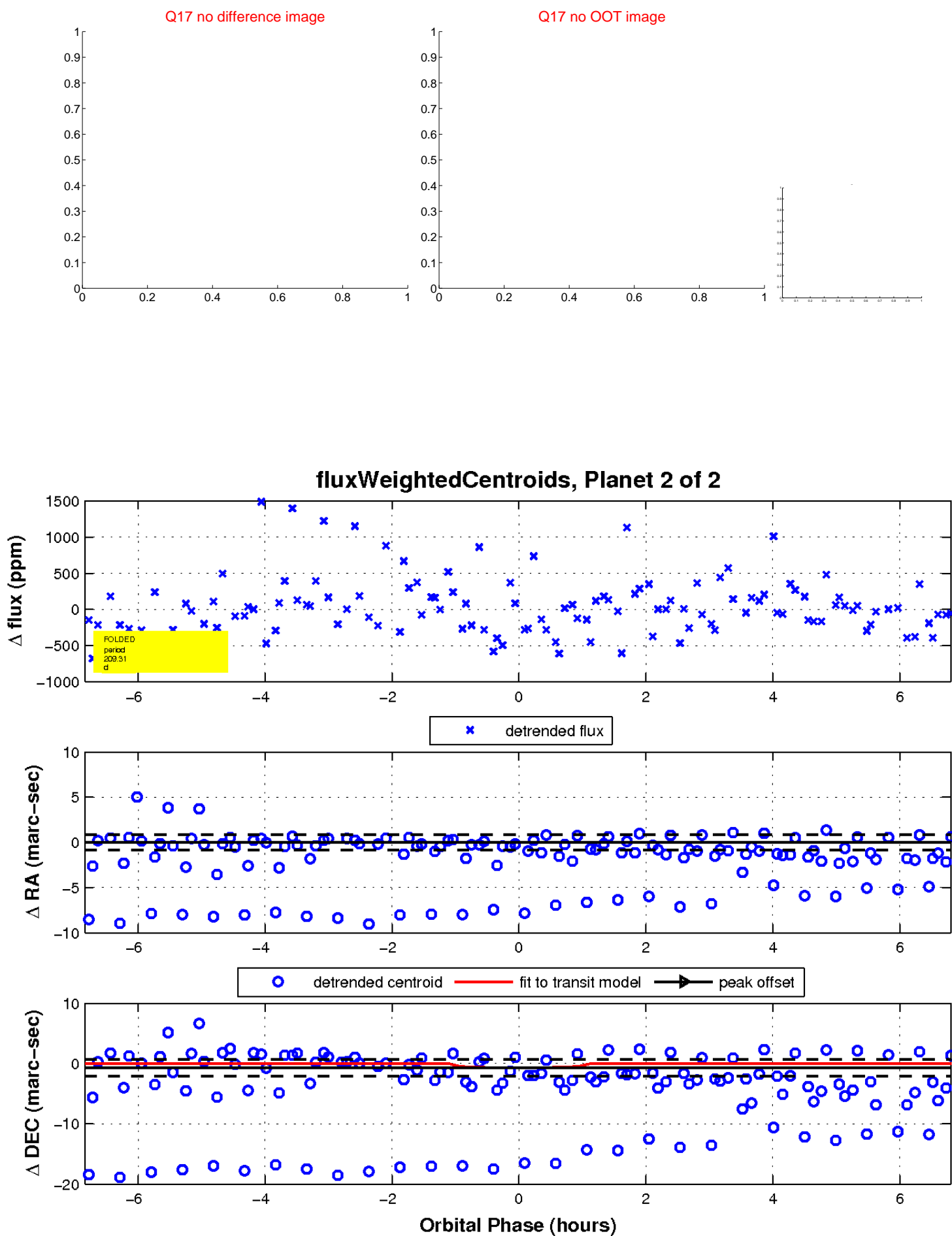
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

