

KIC 006616218

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})
006616218-01	OBS	1692.01	5.960401	137.264645	797.8	3.021	135.8	131.8	0.89	5418	3.03	148.42
006616218-02	OBS	1692.02	2.461071	133.319197	79.8	2.346	17.8	19.8	0.89	5418	0.94	482.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006616218-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006616218-02	OBS	PC	0.96	0	0	0	0	NO_COMMENT

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

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

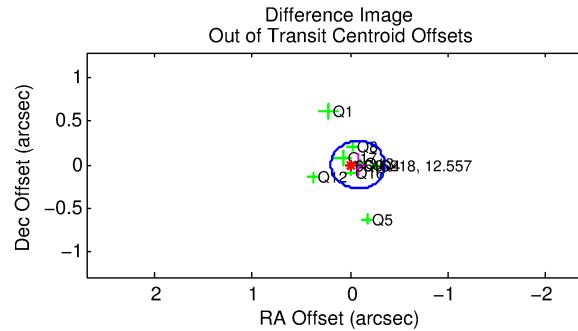
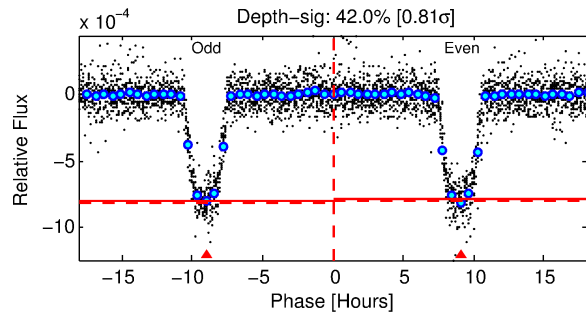
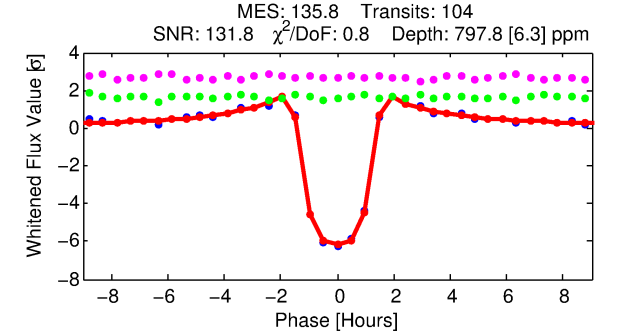
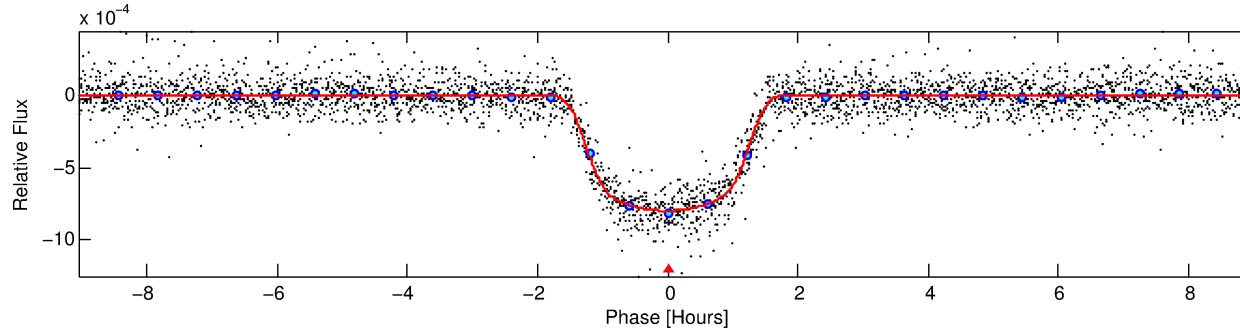
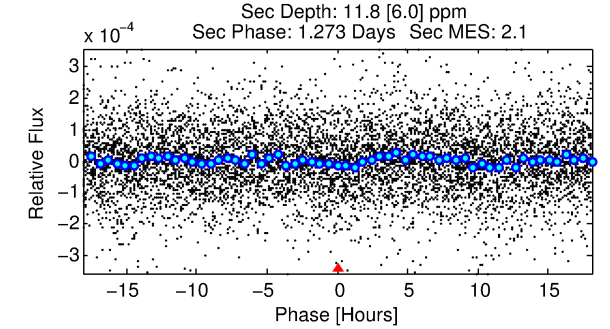
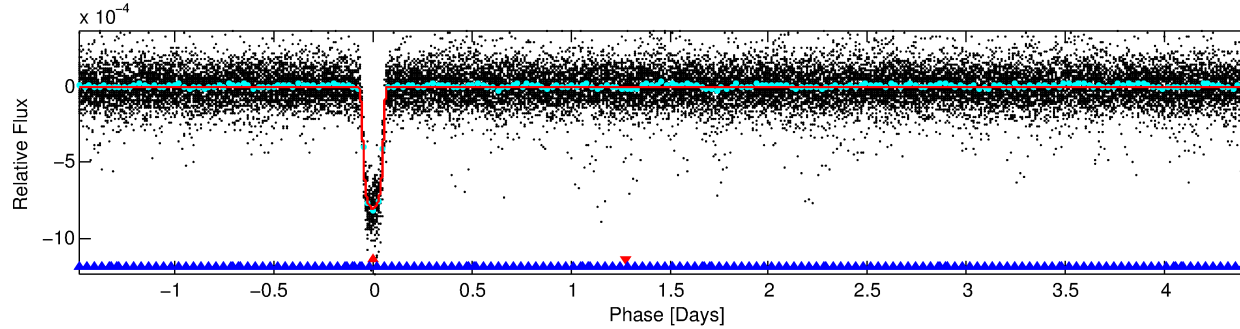
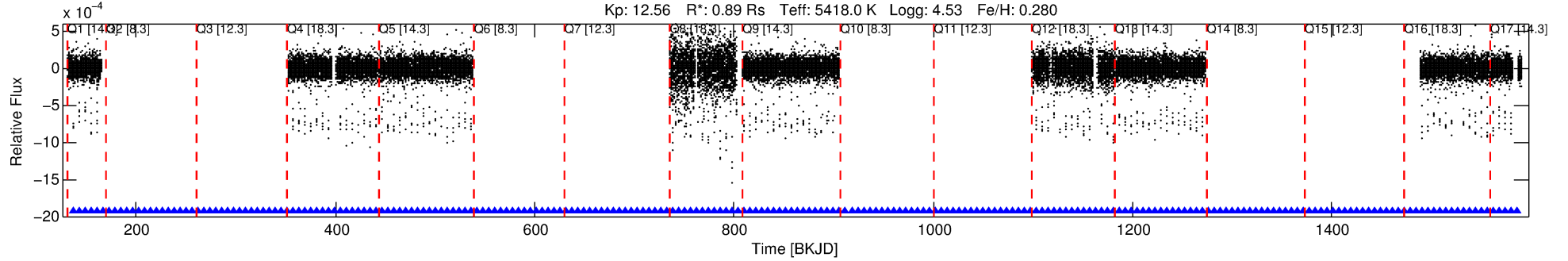
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006616218-01

No Significant Match Found

DV One-Page Summary

KIC: 6616218 Candidate: 1 of 2 Period: 5.960 d
KOI: K01692.01 Name: Kepler-314c Corr: 0.969



DV Fit Results:

Period = 5.96040 [0.00000] d
Epoch = 137.2646 [0.0004] BKJD
Rp/R* = 0.0313 [0.0005]
a/R* = 7.61 [0.46]
b = 0.90 [0.01]
Seff = 148.42 [28.55]
Teff = 890 [43] K
Rp = 3.03 [0.36] Re
a = 0.0639 [0.0071] AU
Ag = 2.88 [1.55] [1.21σ]
Teffp = 1793 [232] K [3.83σ]

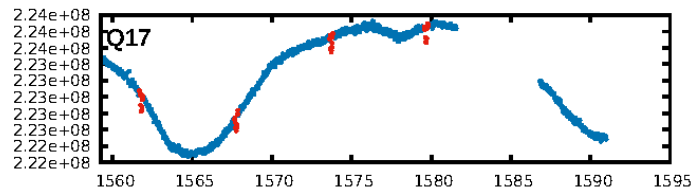
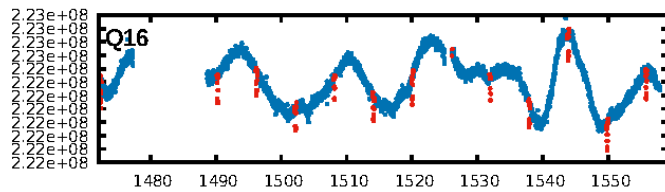
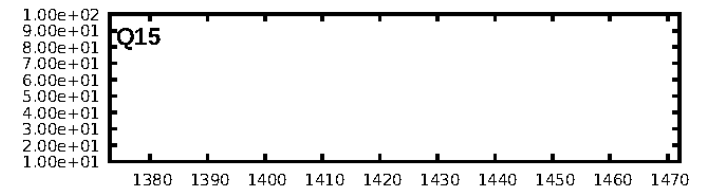
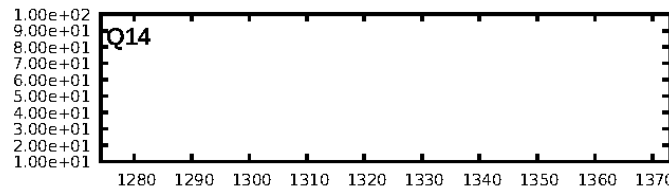
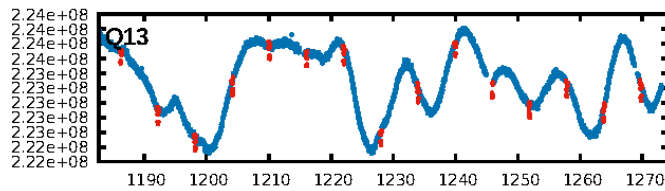
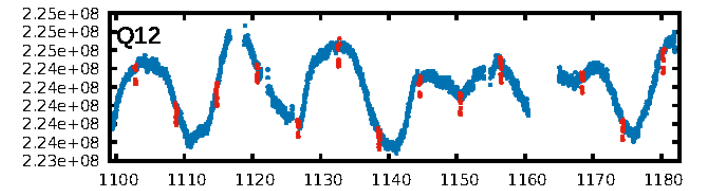
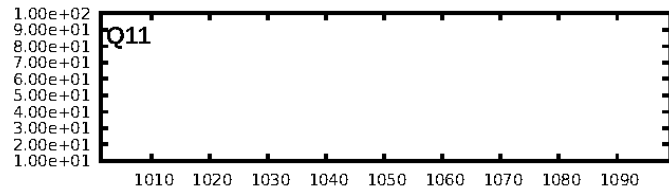
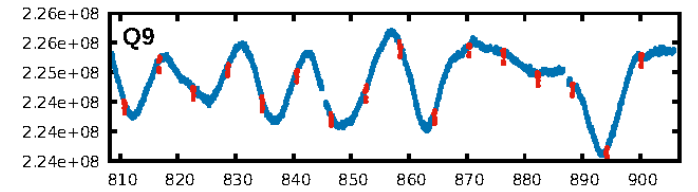
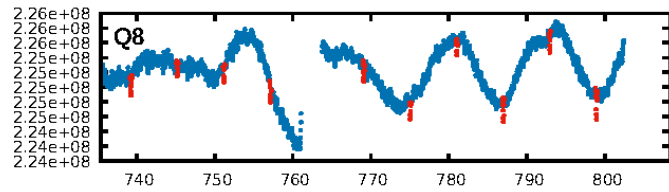
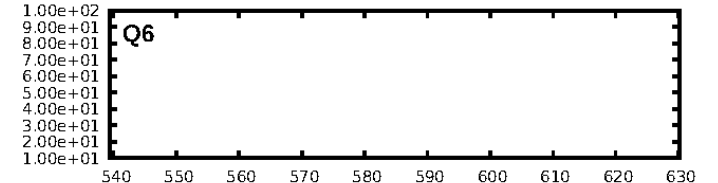
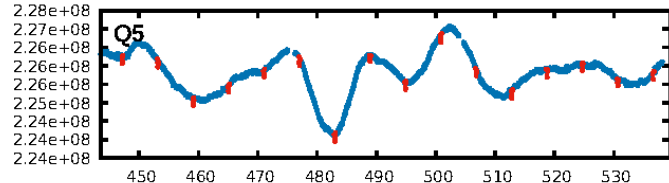
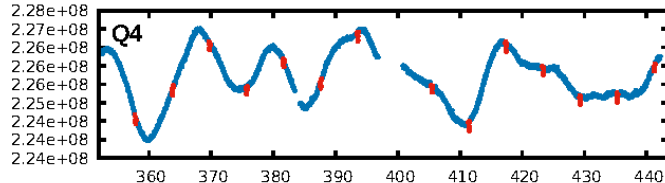
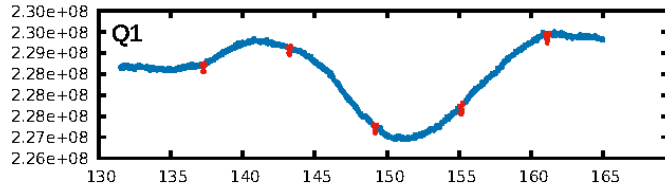
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [21.95σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [95/95]
GhostDiagnostic-chr: 8.836
Centroid-sig: 22.5%
Centroid-so: 0.276 arcsec [4.11σ]
OotOffset-rm: 0.074 arcsec [0.81σ]
KicOffset-rm: 0.201 arcsec [1.58σ]
OotOffset-st: 0/0/4/5 [9]
KicOffset-st: 0/0/4/5 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

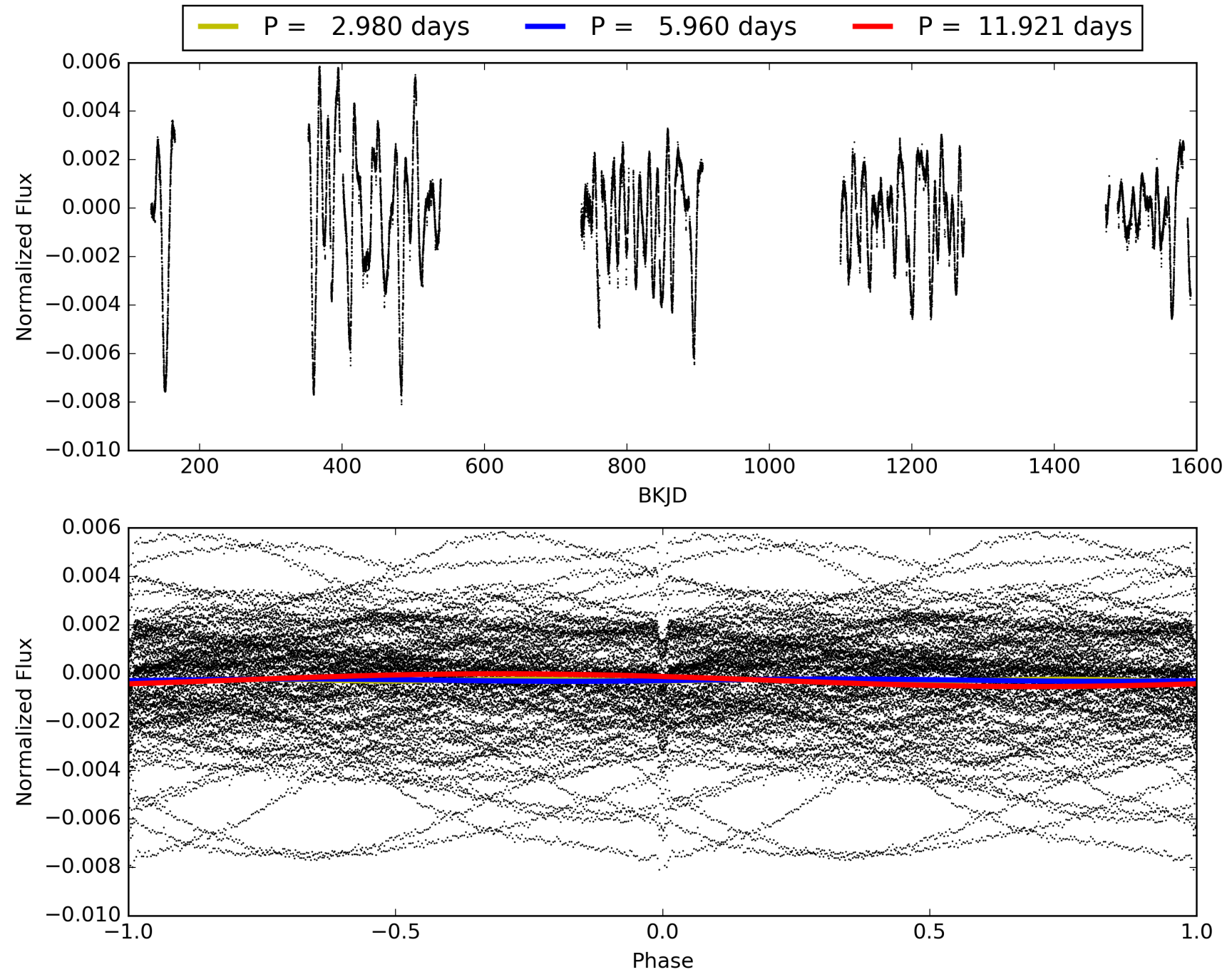
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:10:24 Z

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

TCE 006616218-01, PDC Light Curves

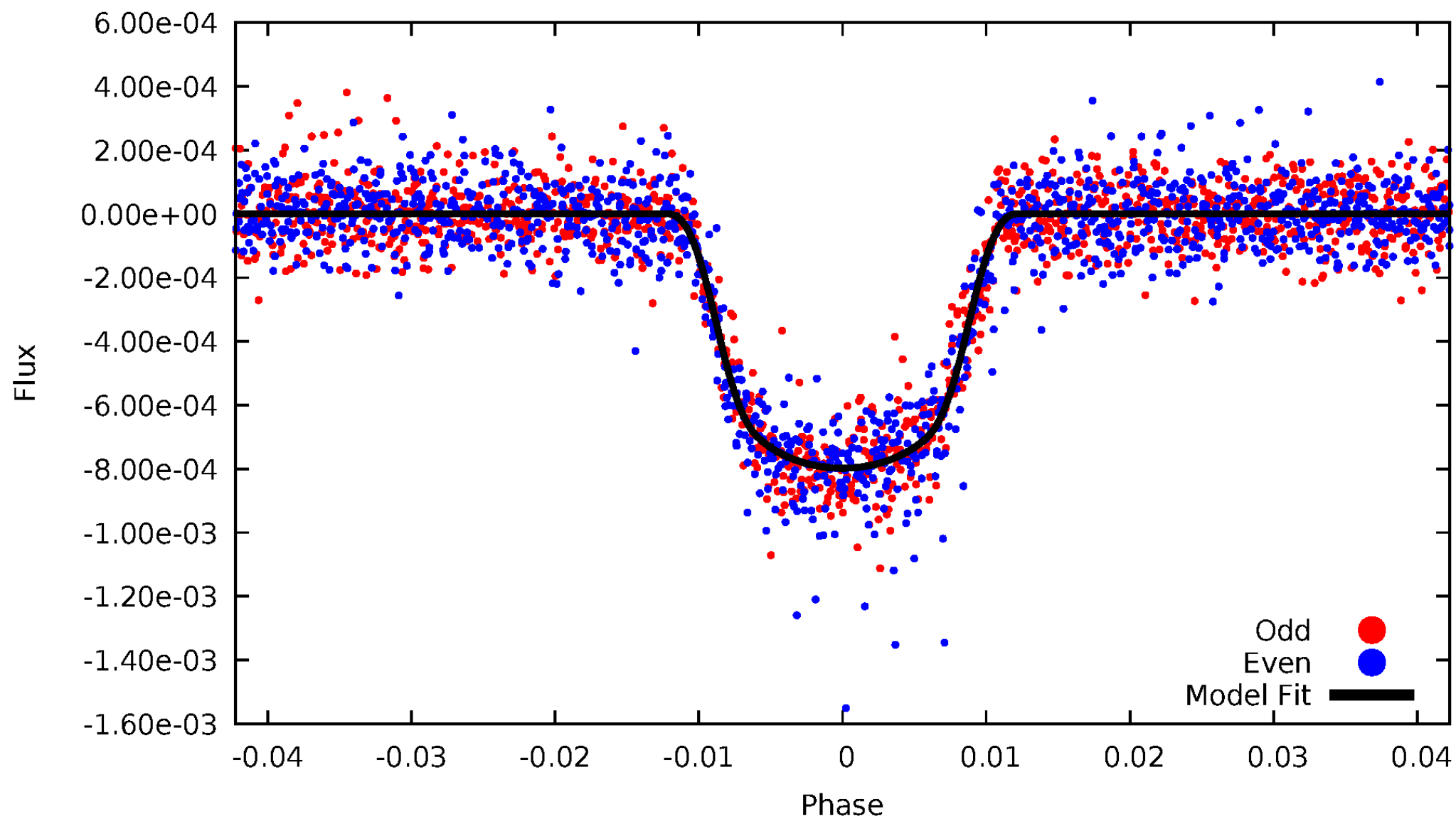


TCE 006616218-01



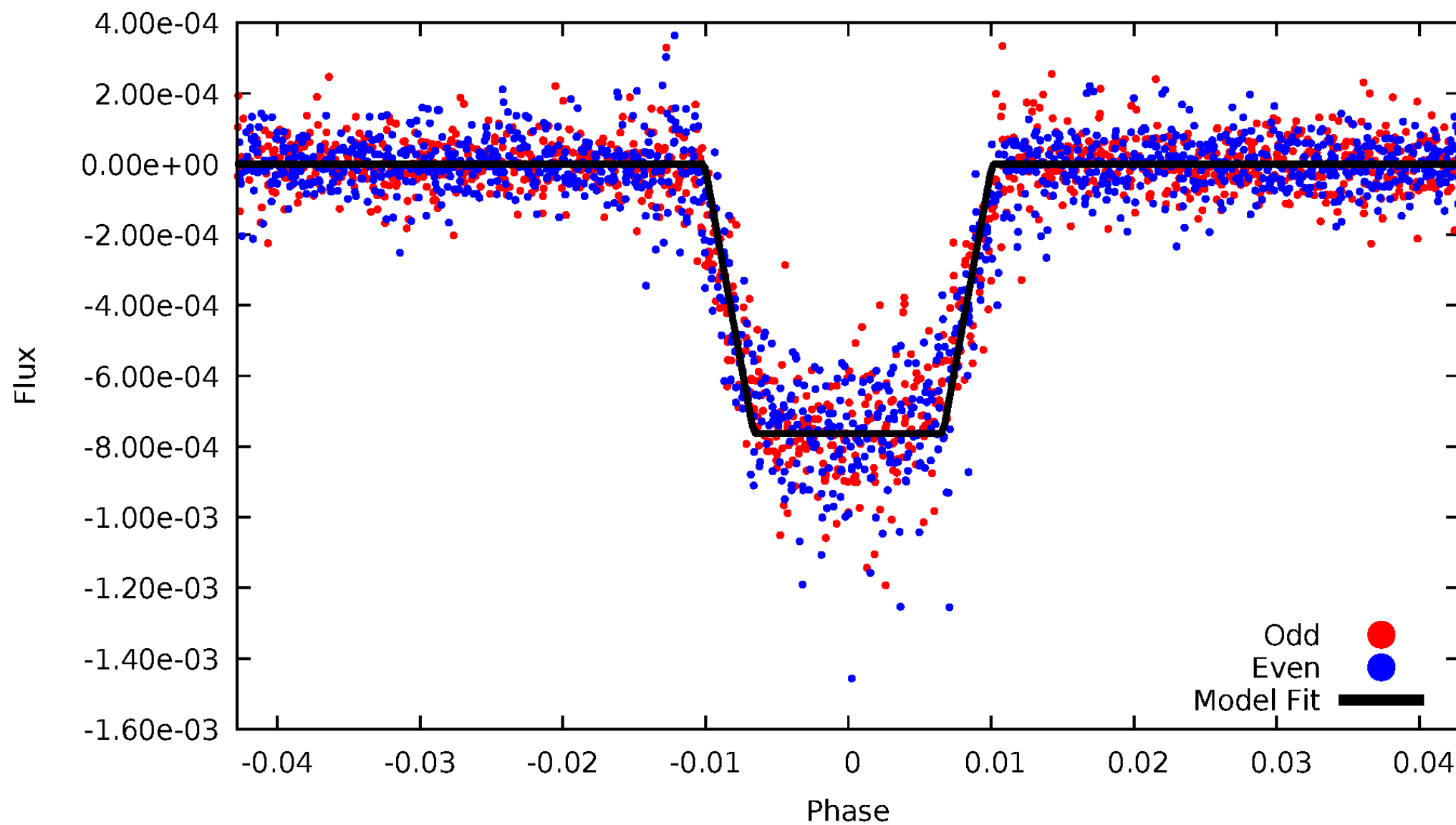
DV Odd/Even

TCE 006616218-01



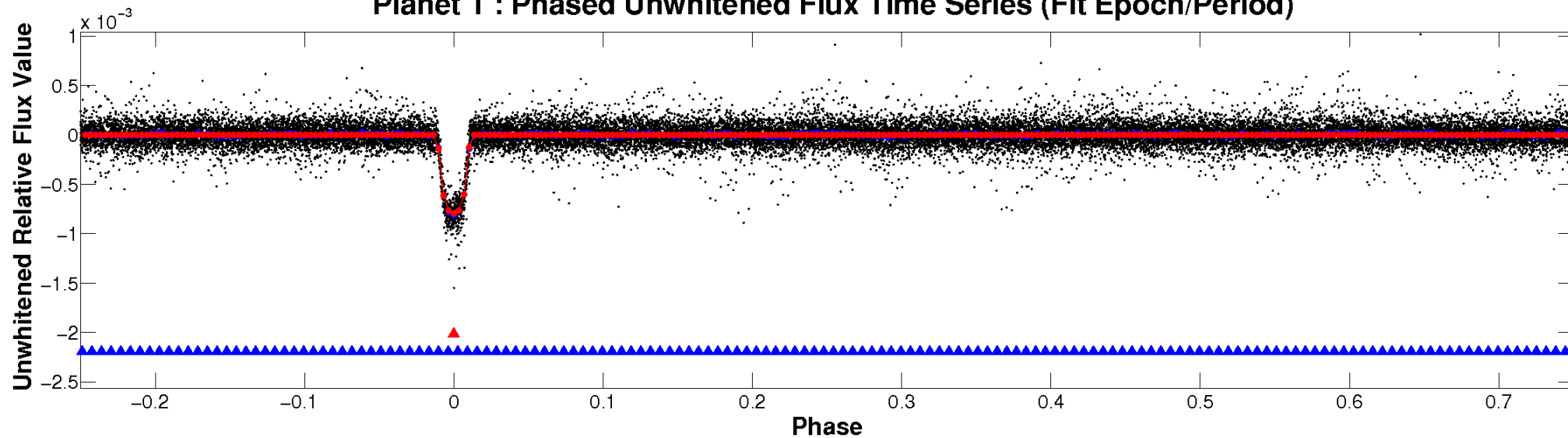
ALT Odd/Even

TCE 006616218-01

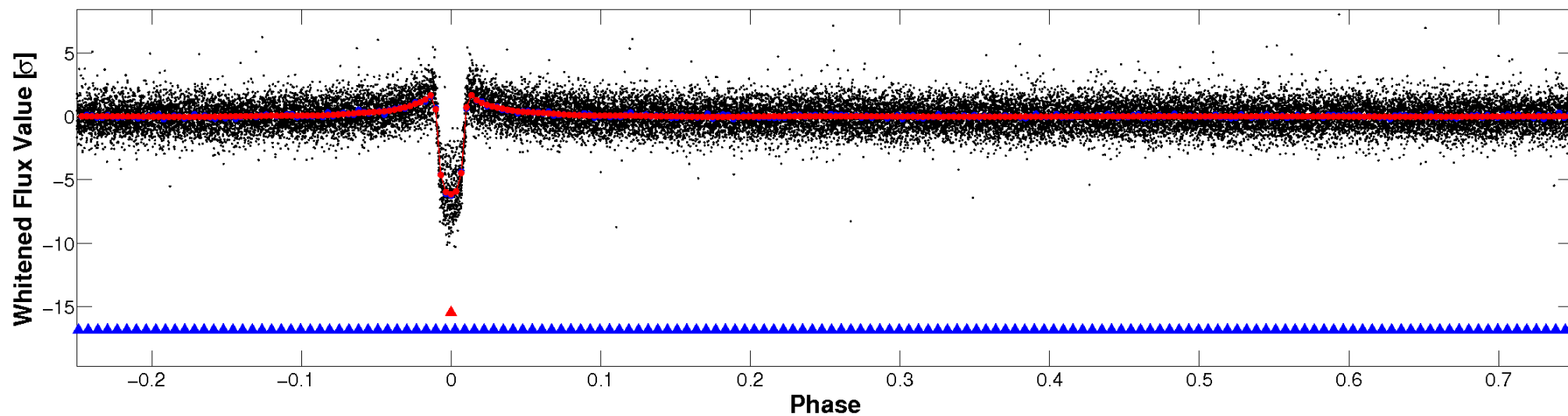


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

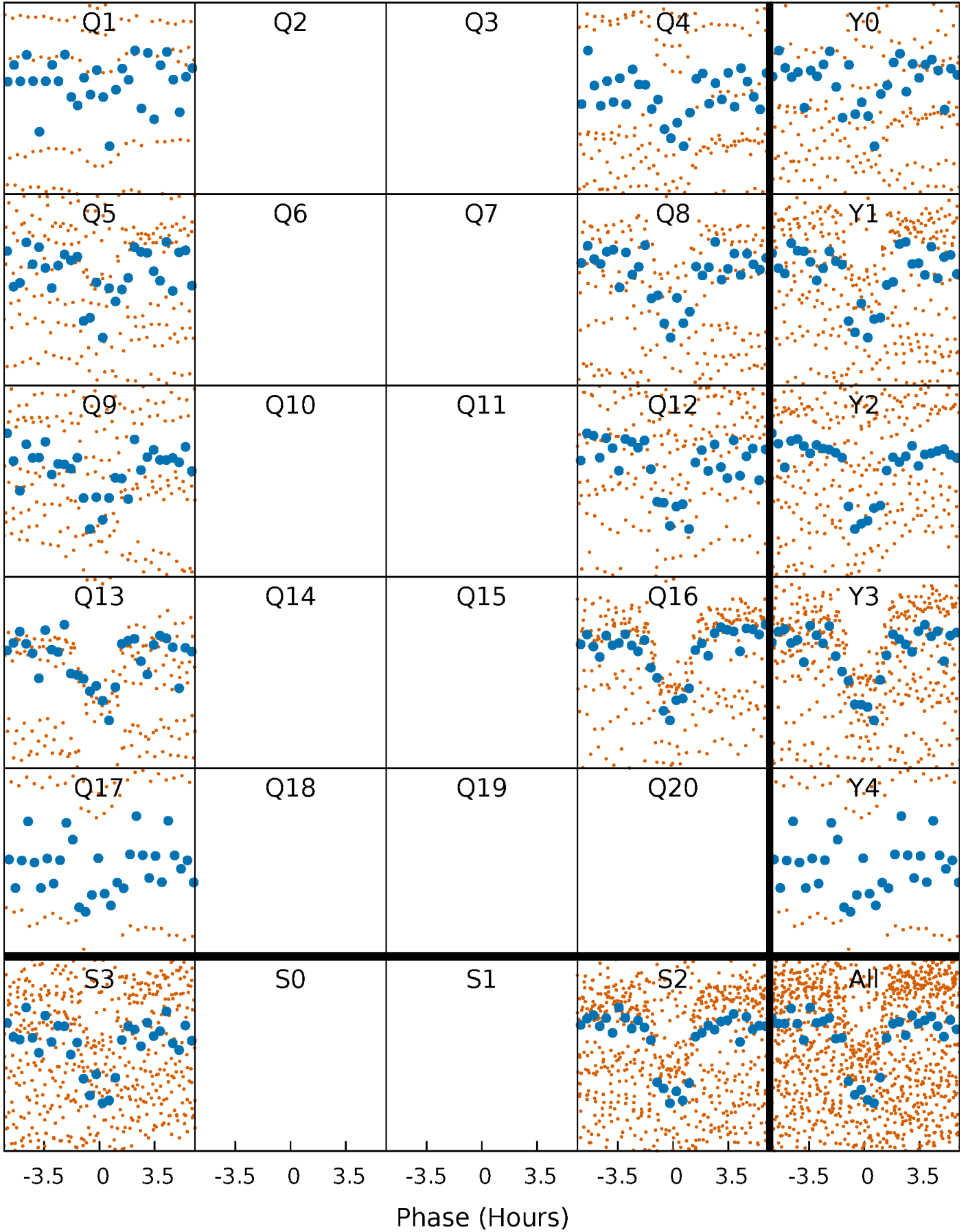


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



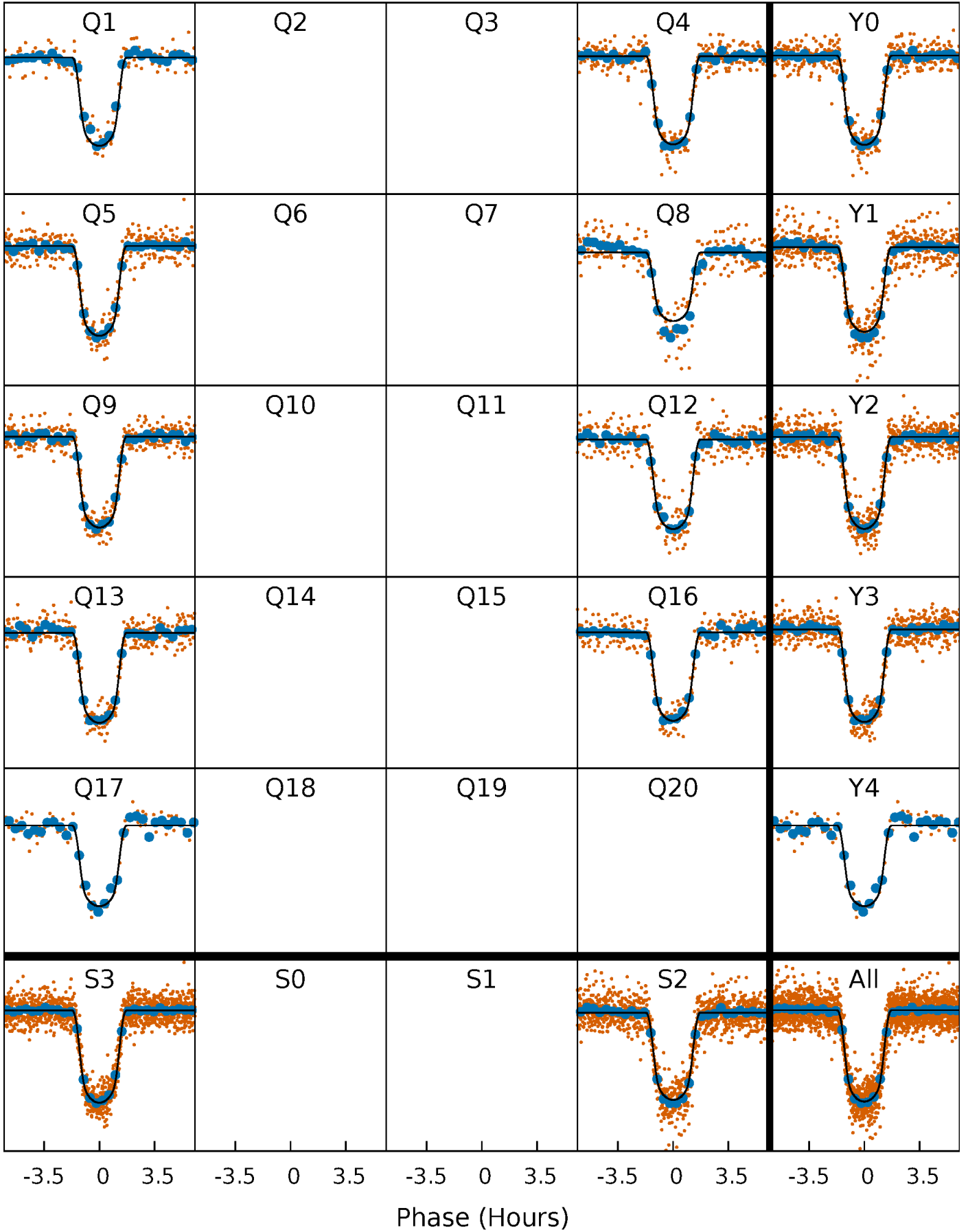
PDC Quarter-Phased Transit Curves

TCE 006616218-01 P= 5.960401 Days $T_0=137.264645$ (BKJD)



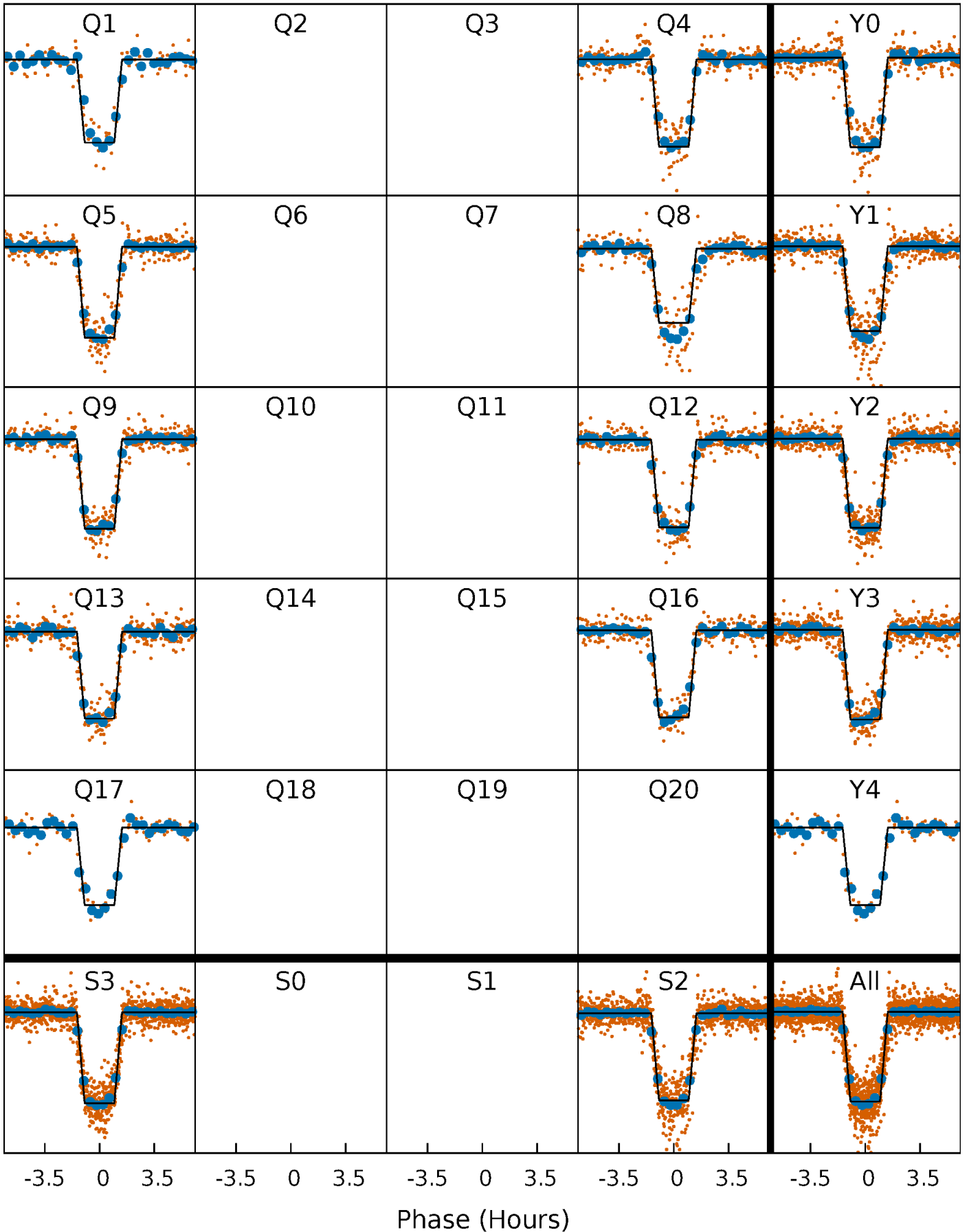
DV Quarter-Phased Transit Curves

TCE 006616218-01 P= 5.960401 Days $T_0=137.264645$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

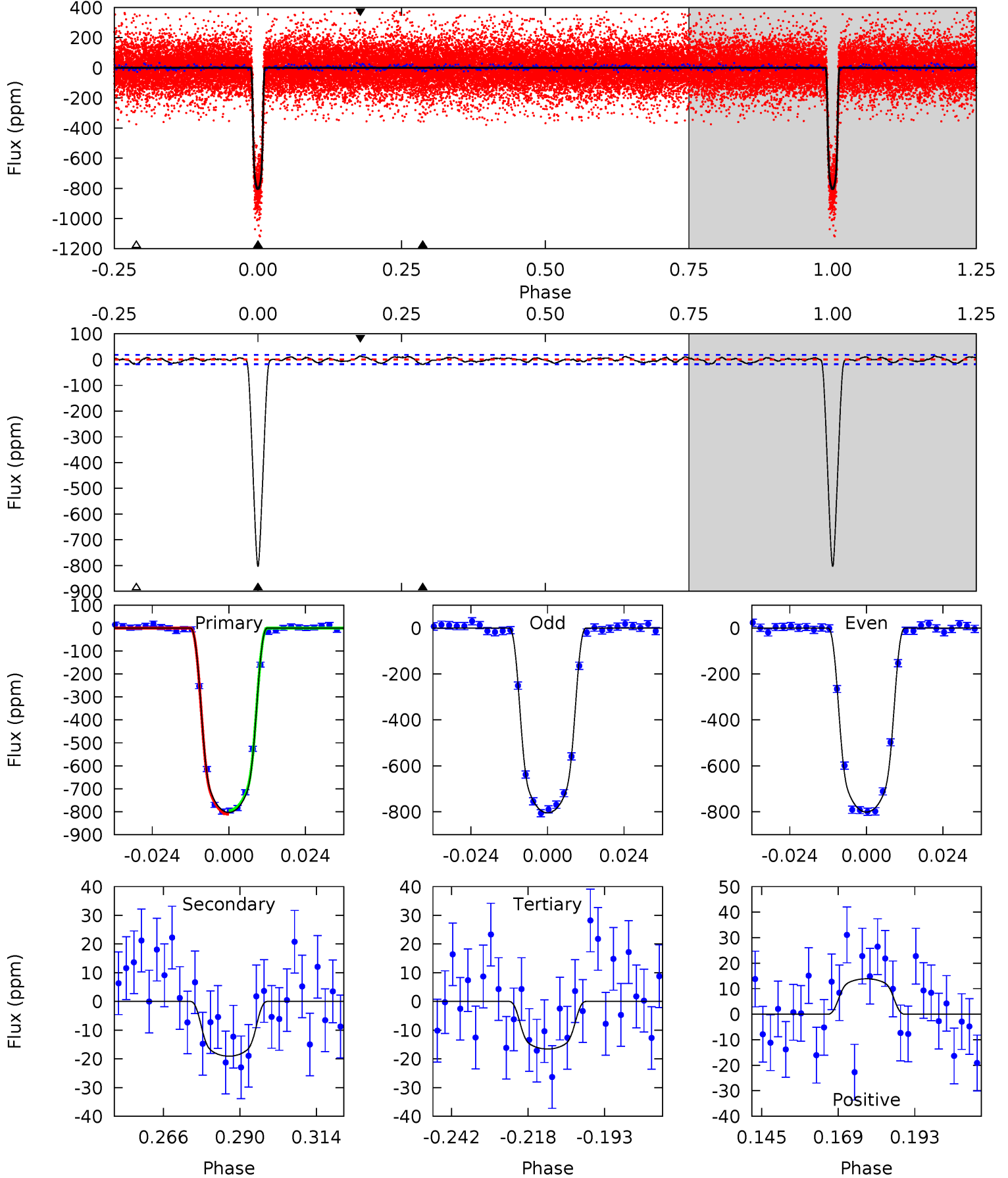
TCE 006616218-01 P= 5.960425 Days $T_0=137.262135$ (BKJD)



DV Model-Shift Uniqueness Test

006616218-01, P = 5.960401 Days, E = 131.304244 Days

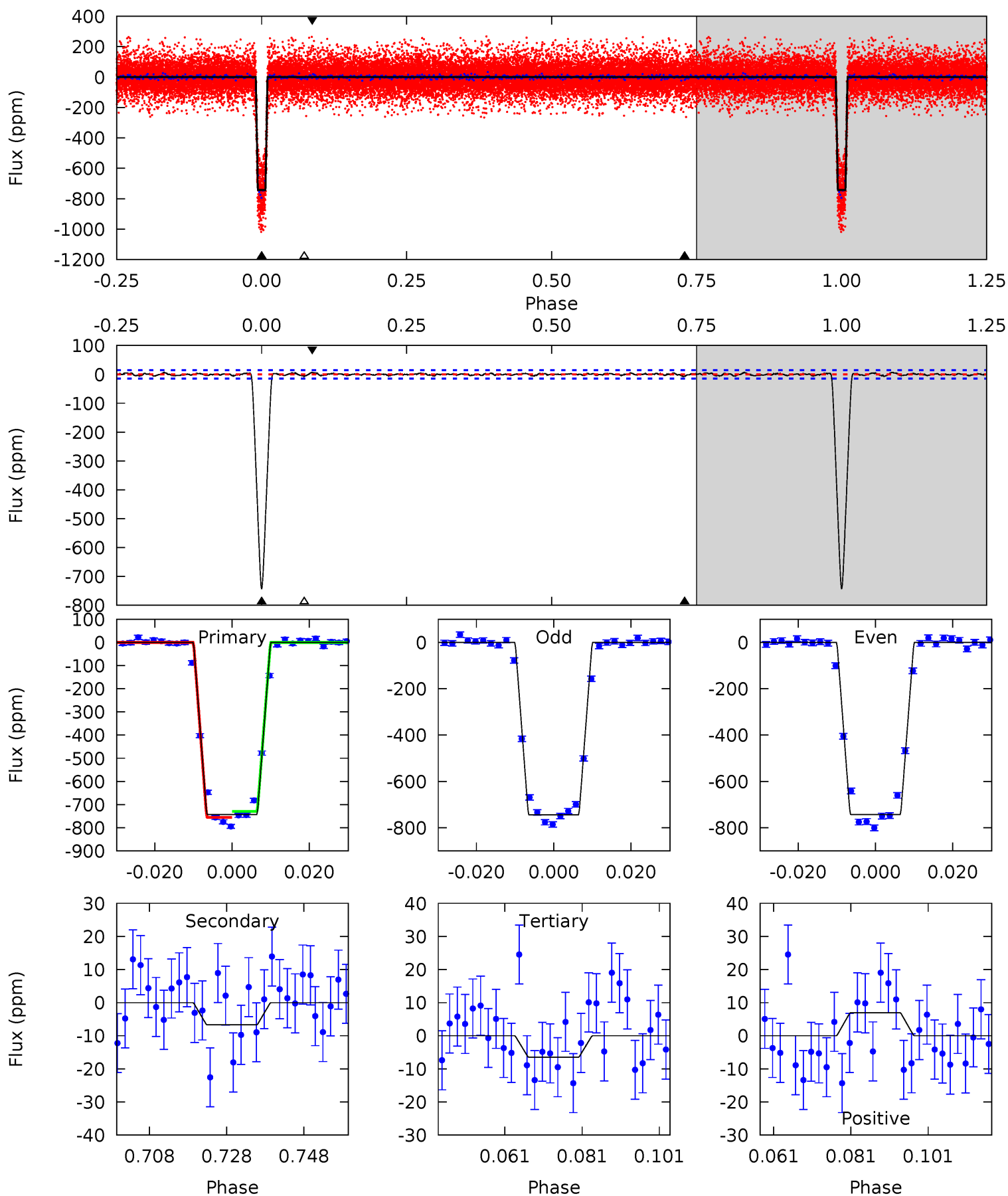
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
215.1	5.11	4.44	3.71	4.85	2.25	1.70	210.7	211.4	0.67	1.39	0.45	1.01	0.02	2.14



Alt Model-Shift Uniqueness Test

006616218-01, P = 5.960425 Days, E = 131.301710 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
250.4	2.27	2.19	2.34	4.89	2.32	0.80	248.2	248.1	0.07	-0.07	0.30	1.01	0.01	4.39



Stellar Parameters For KIC 006616218

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5418^{+98}_{-108}	$4.534^{+0.024}_{-0.102}$	$0.280^{+0.150}_{-0.150}$	$0.886^{+0.104}_{-0.037}$	$0.978^{+0.037}_{-0.067}$	$1.980^{+0.181}_{-0.586}$
	+2%/-2%	+1%/-2%	+54%/-54%	+12%/-4%	+4%/-7%	+9%/-30%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 006616218-01 / KOI 1692.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-19 ± 4	$3.06^{+0.21}_{-0.10}$	1258^{+40}_{-33}	2747^{+74}_{-92}	$4.473^{+1.005}_{-0.962}$
Alt.	-7 ± 3	$2.70^{+0.18}_{-0.11}$	1258^{+39}_{-34}	2447^{+142}_{-214}	$1.967^{+0.958}_{-0.928}$

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

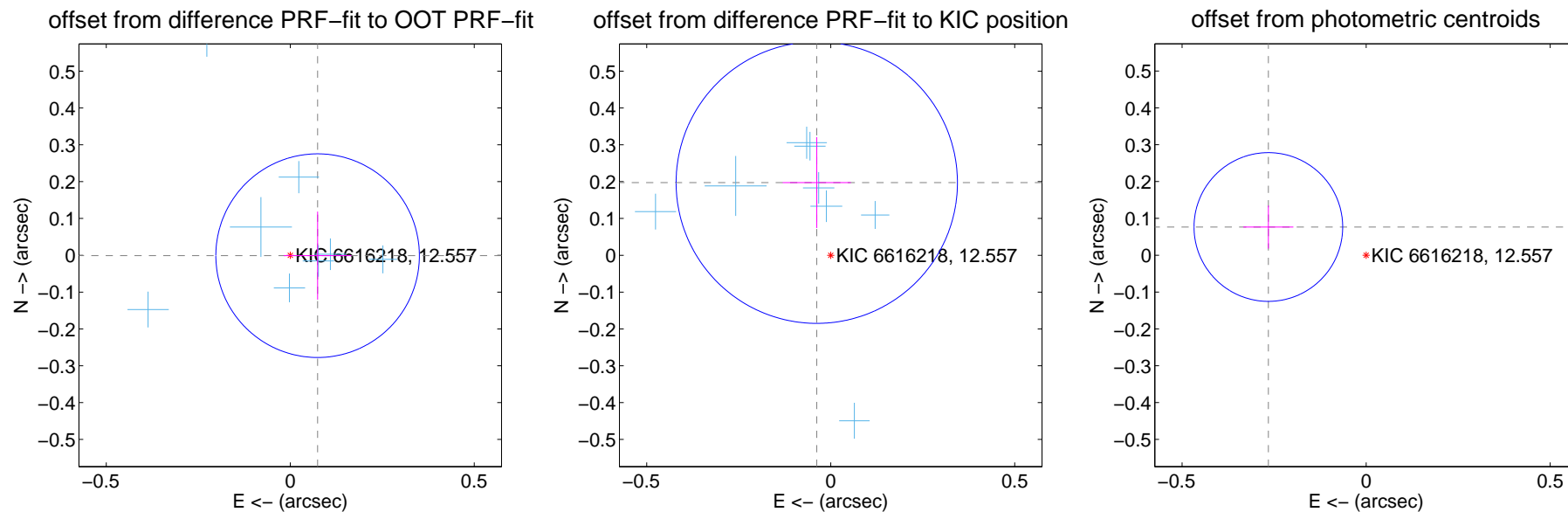
DV Centroid Data

Supplemental centroid analysis for 006616218-01. Kepler magnitude: 12.56. Transit SNR 131.78

There are 9 quarters with good PRF difference image offsets

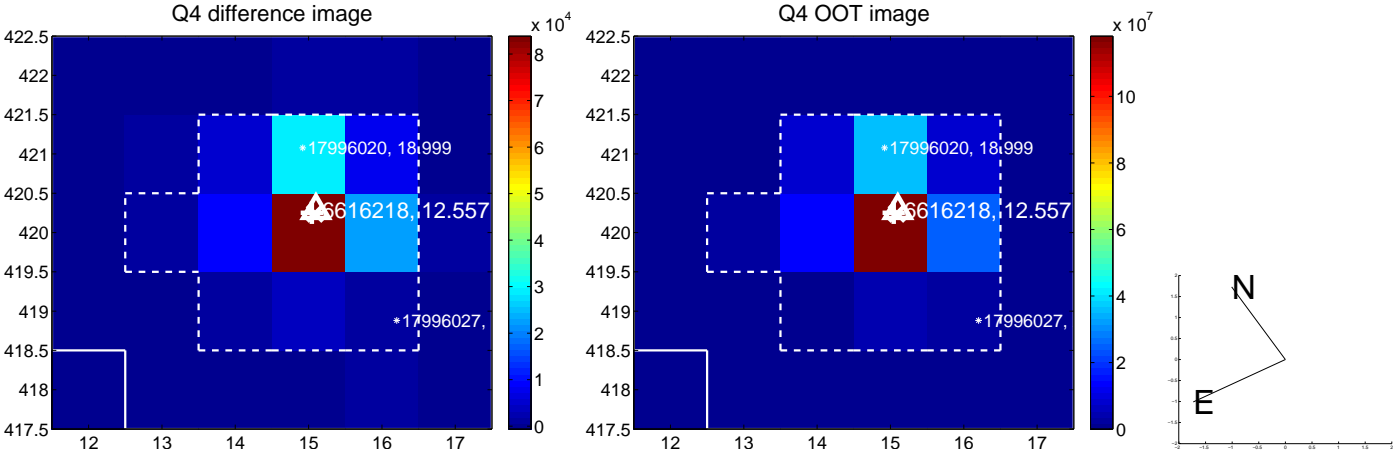
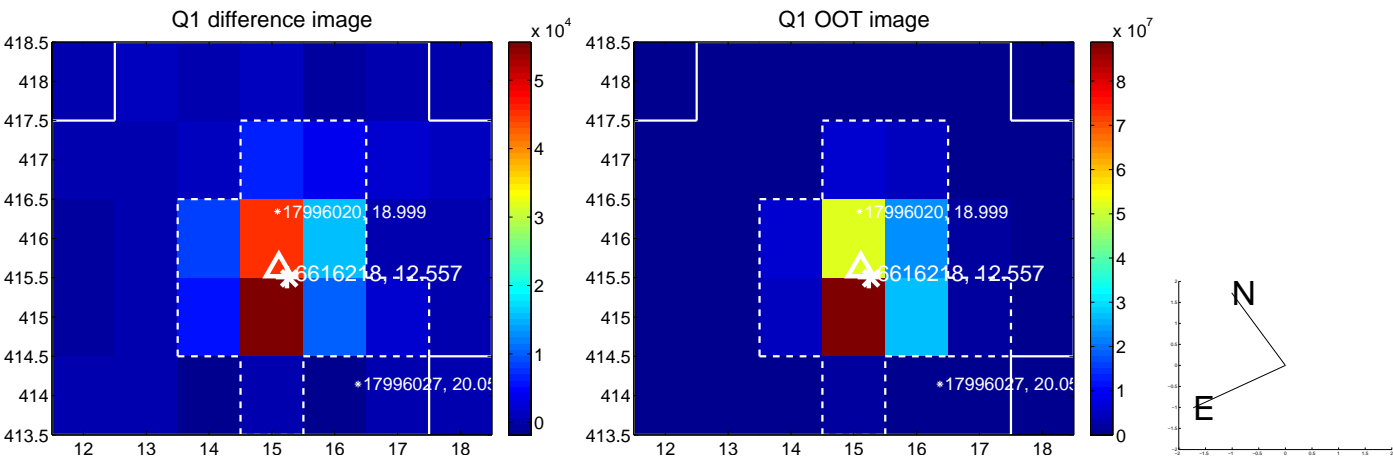
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.074 ± 0.092	0.81	-0.074 ± 0.092	-0.001 ± 0.120
PRF-fit source offset from KIC position	0.201 ± 0.127	1.58	0.038 ± 0.093	0.197 ± 0.123
photometric centroid source offset	0.28 ± 0.07	4.11	0.27 ± 0.07	0.08 ± 0.06

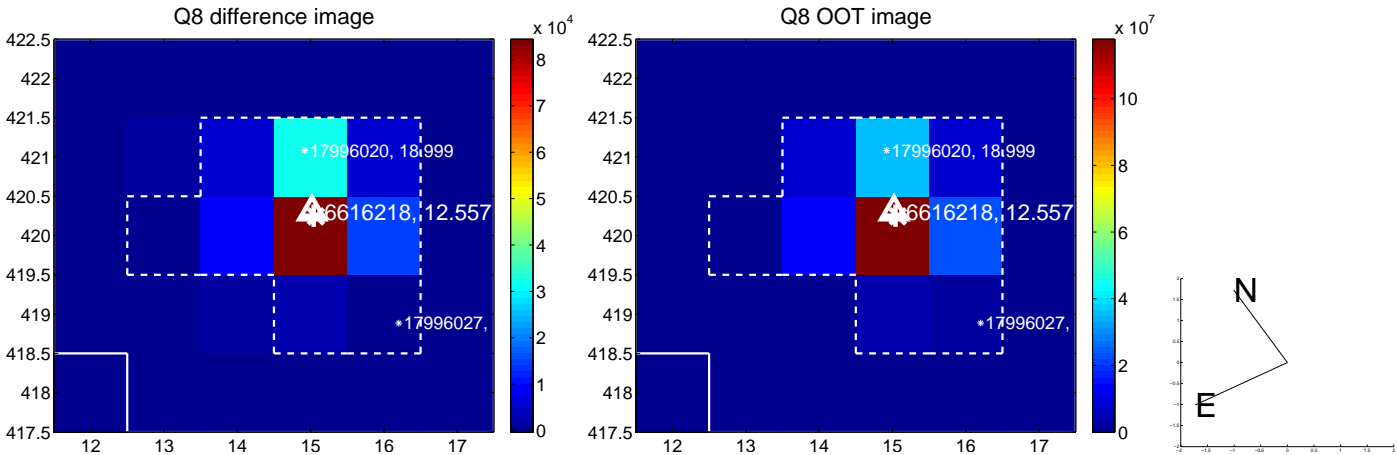
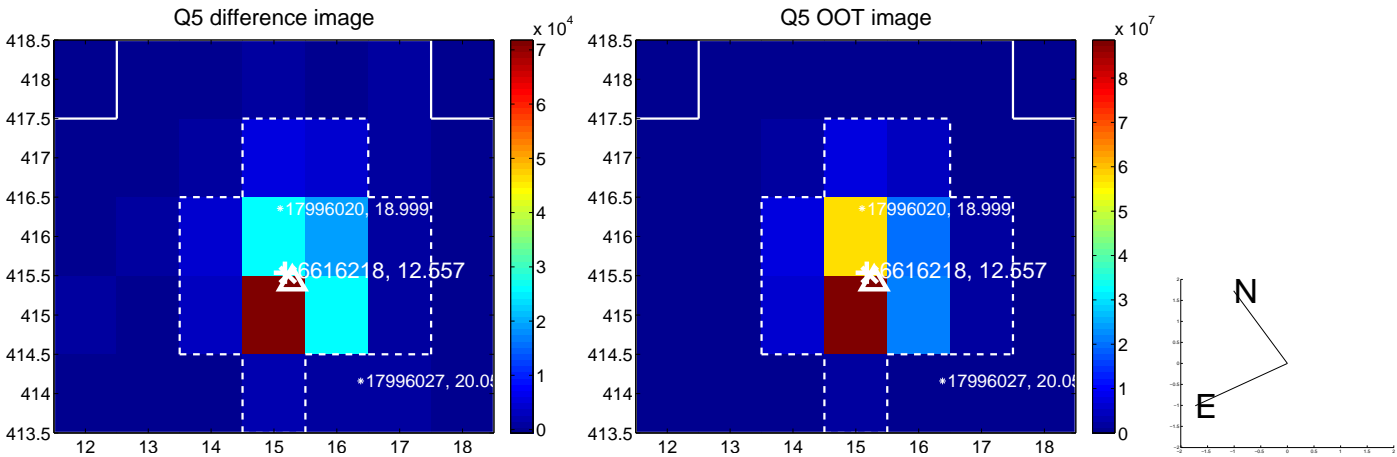


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

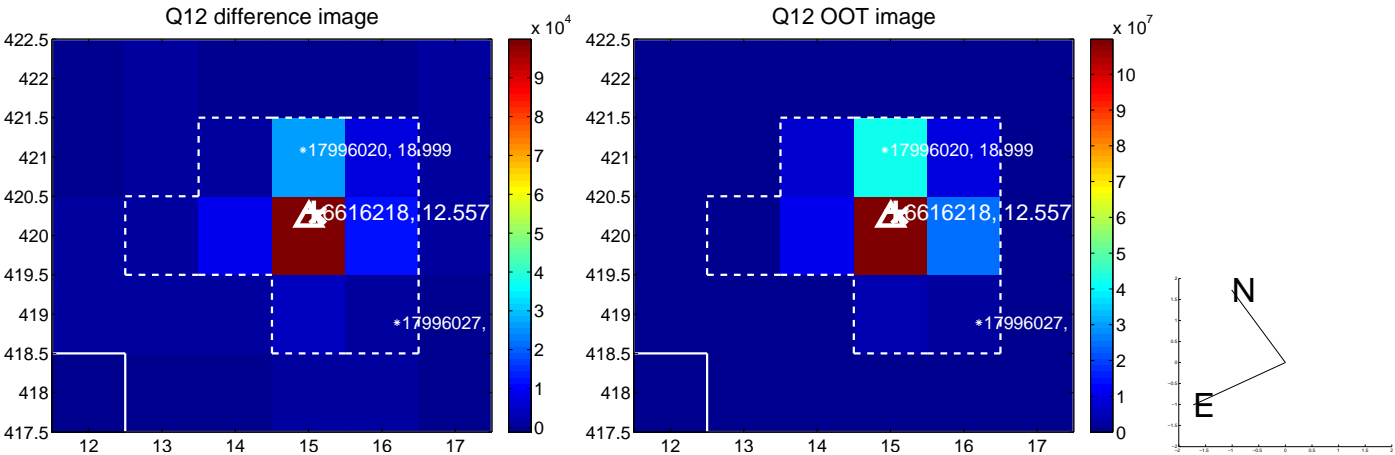
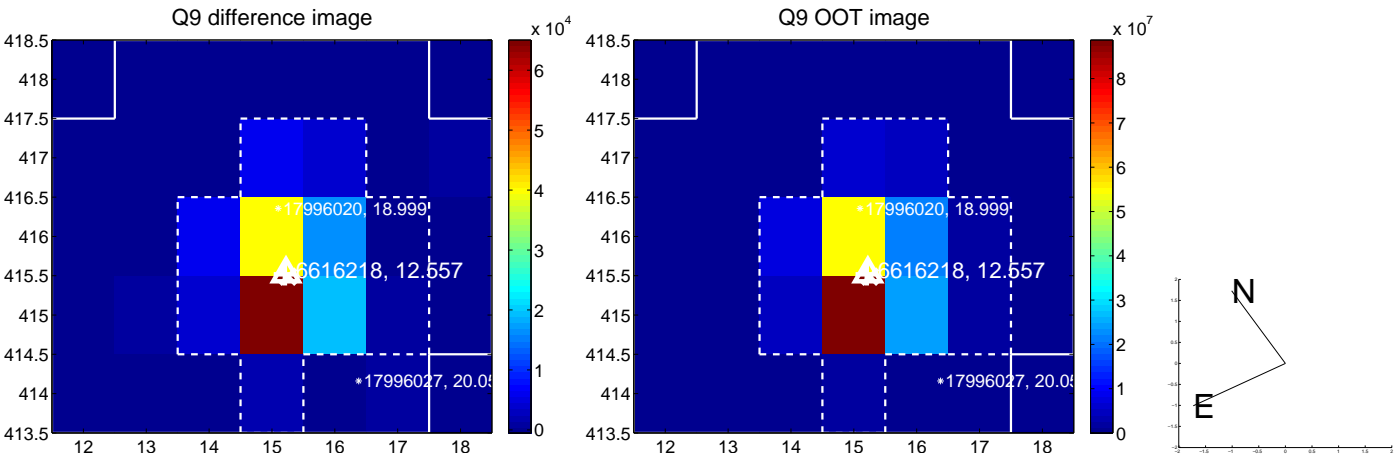
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



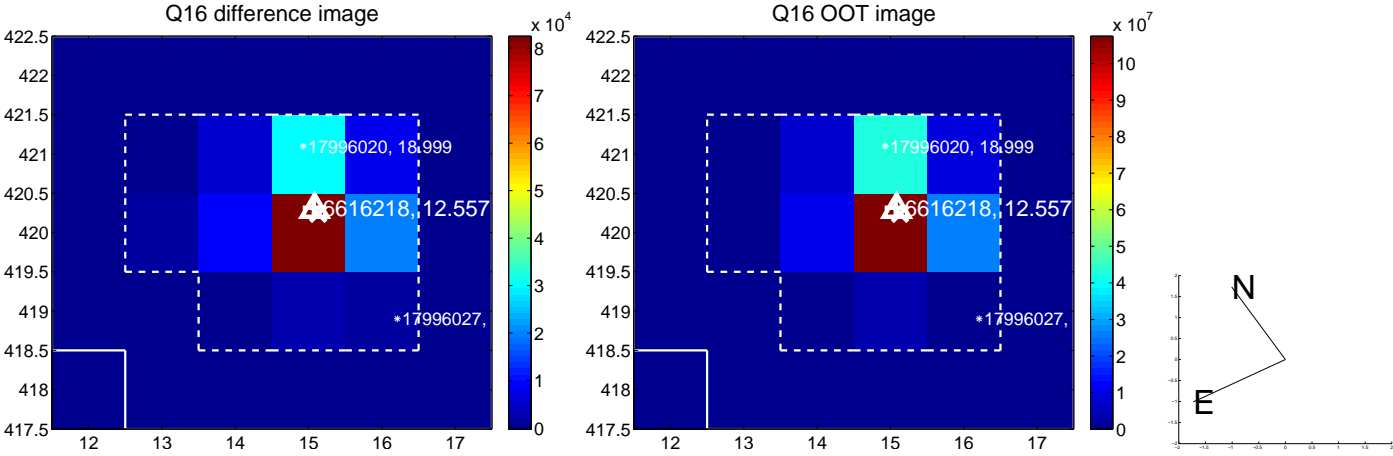
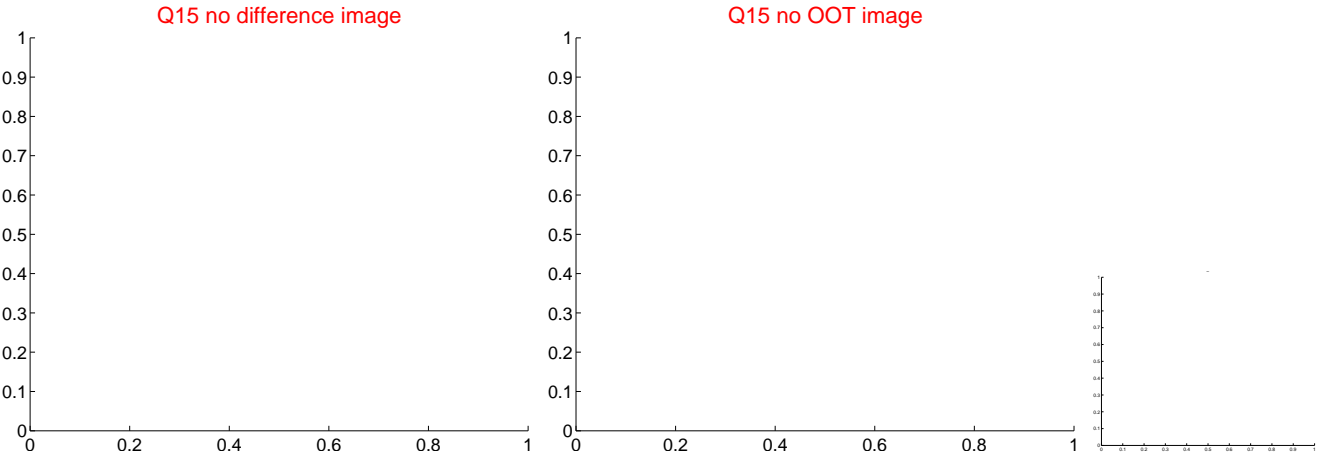
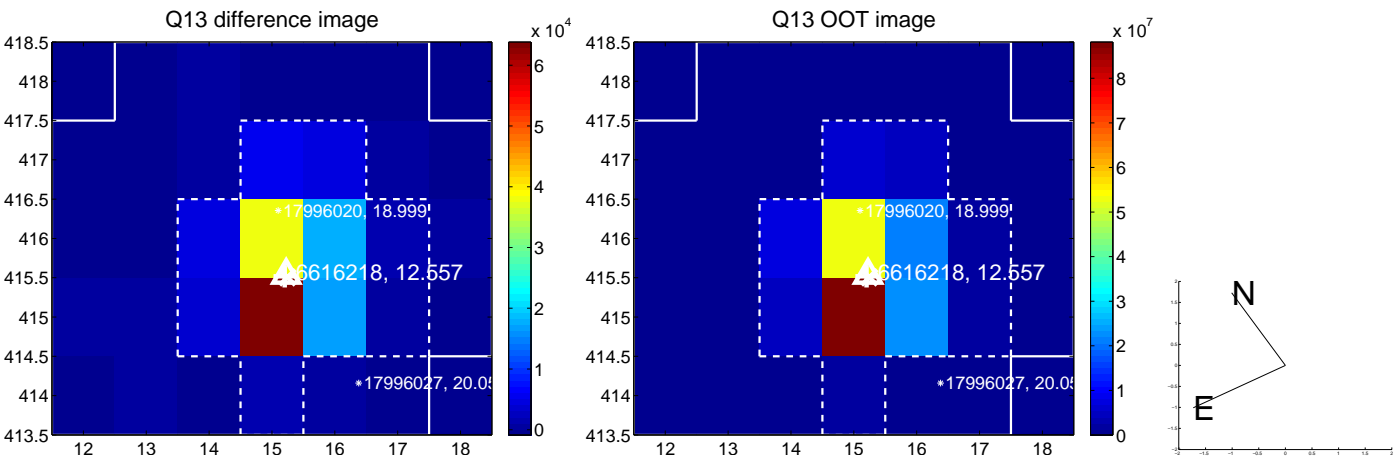
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



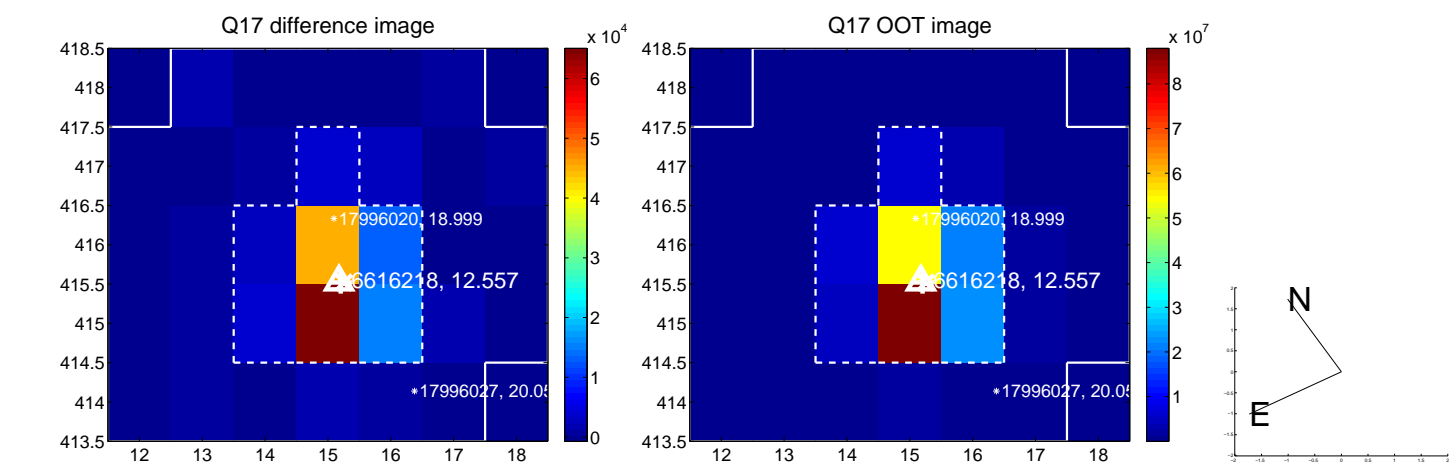
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



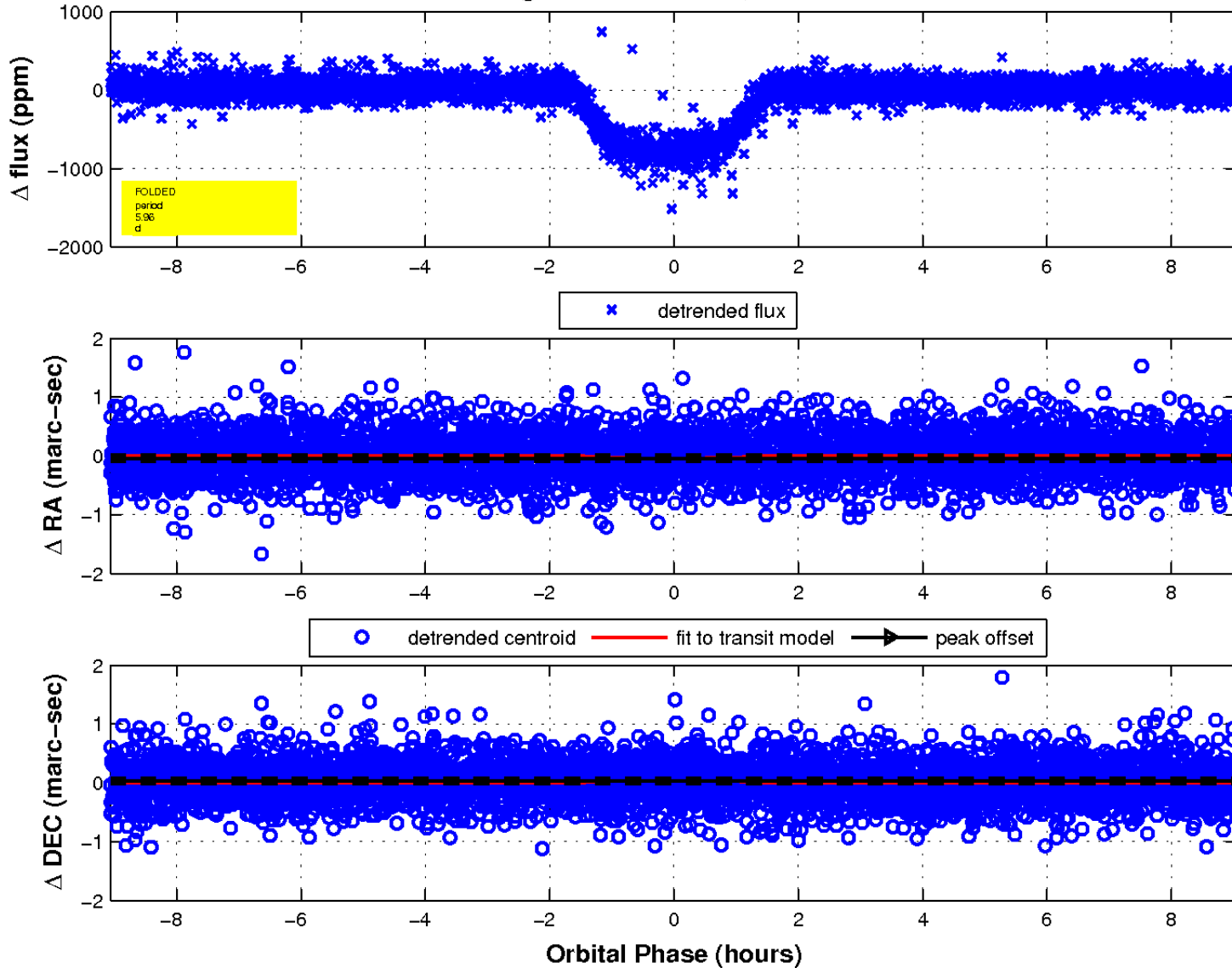
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

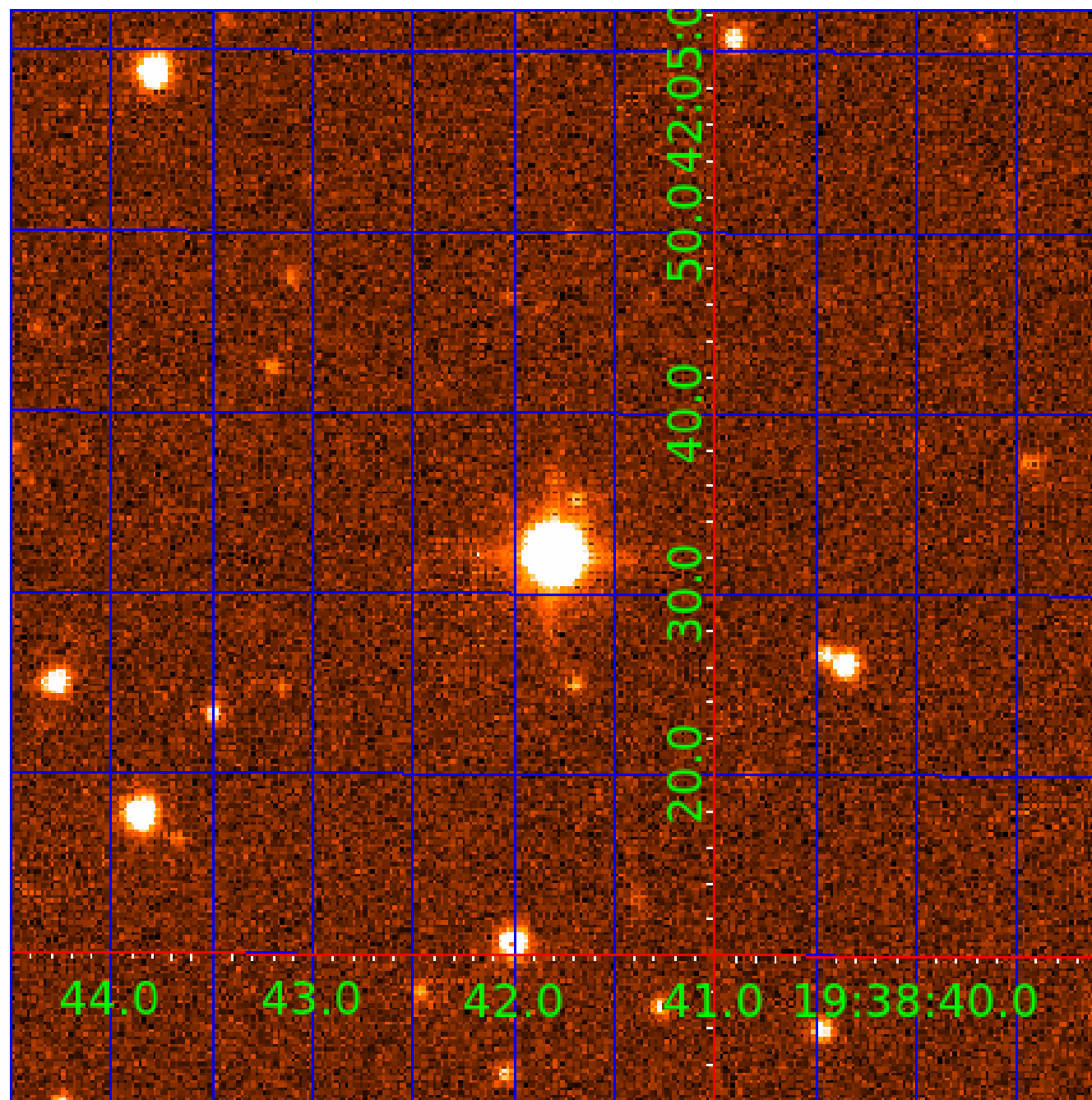


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 006616218

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})
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Robovetter Results

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006616218-02	OBS	PC	0.96	0	0	0	0	NO_COMMENT

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

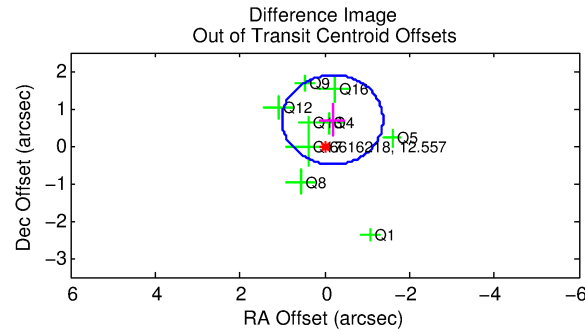
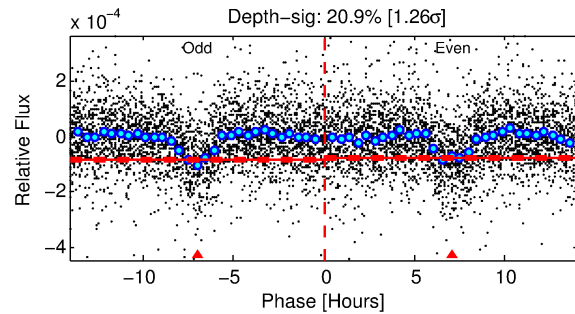
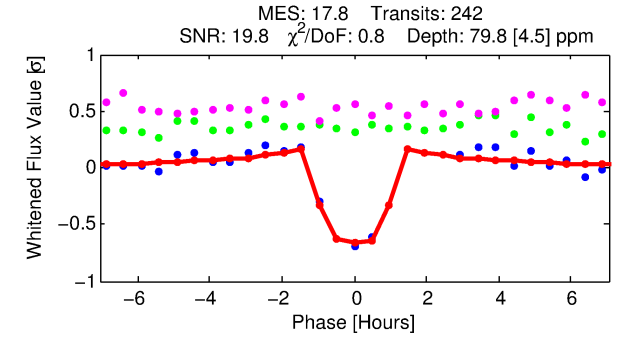
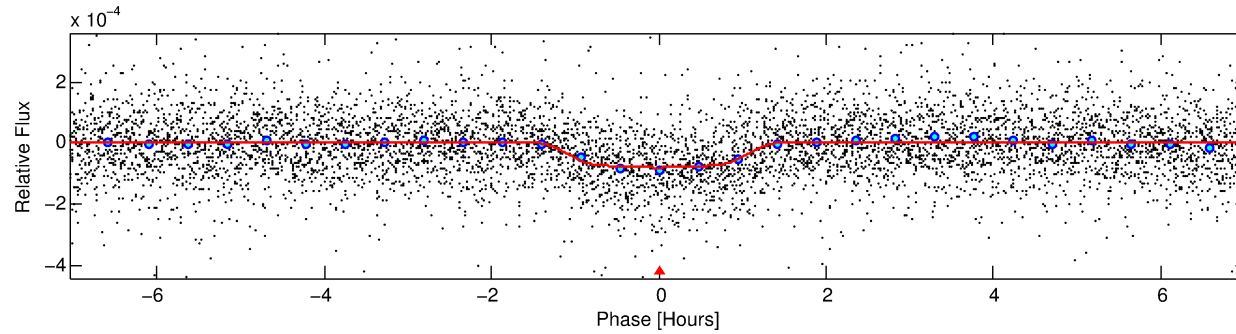
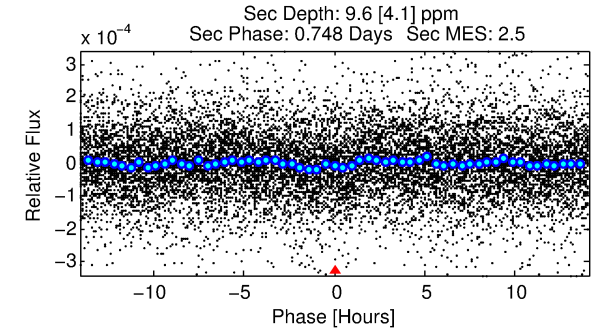
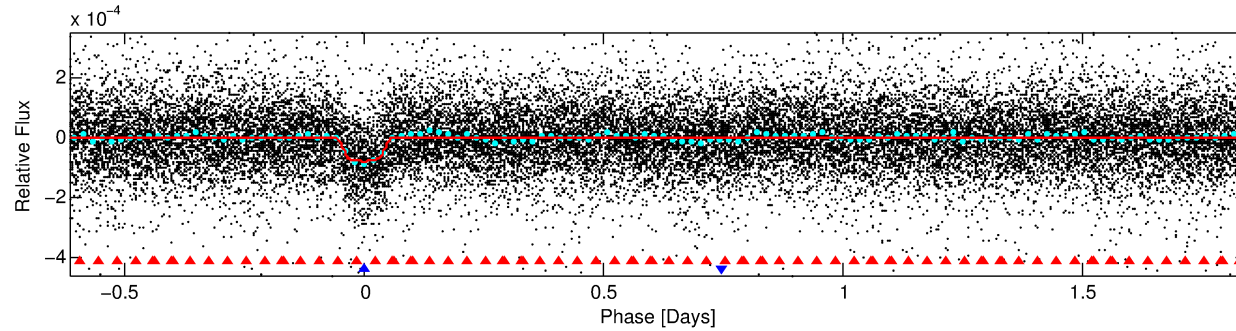
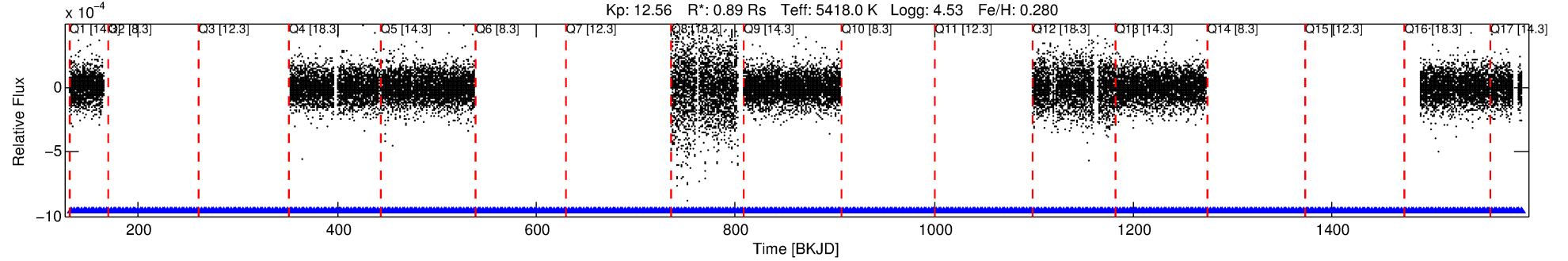
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006616218-02

No Significant Match Found

DV One-Page Summary

KIC: 6616218 Candidate: 2 of 2 Period: 2.461 d
KOI: K01692.02 Name: Kepler-314b Corr: 0.964



DV Fit Results:

Period = 2.46107 [0.00001] d
Epoch = 133.3192 [0.0015] BKJD
Rp/R* = 0.0098 [0.0032]
a/R* = 3.96 [5.17]
b = 0.89 [0.34]
Seff = 482.73 [92.85]
Teff = 1195 [57] K
Rp = 0.94 [0.33] Re
a = 0.0354 [0.0039] AU
Ag = 7.45 [6.00] [1.08σ]
Teffp = 3053 [603] K [3.07σ]

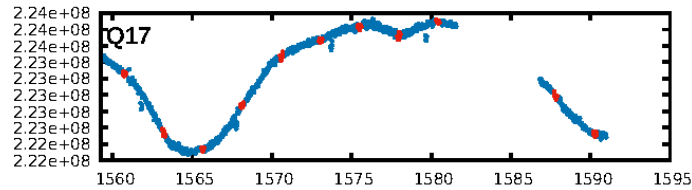
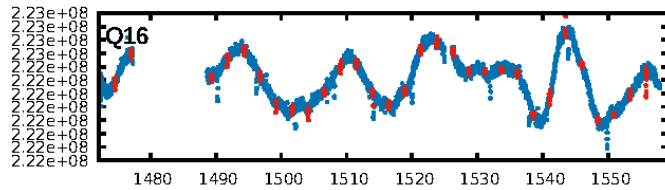
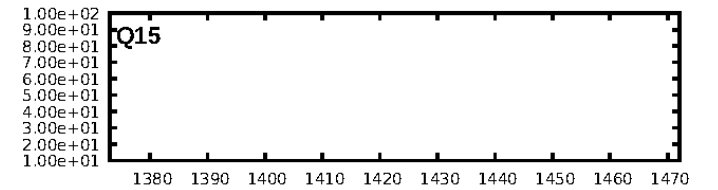
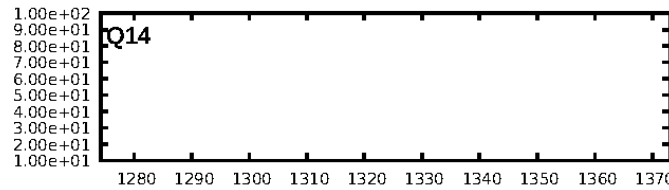
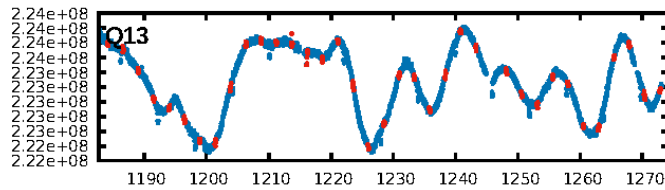
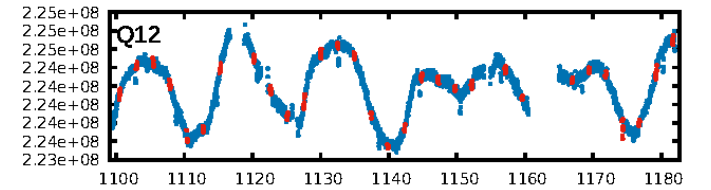
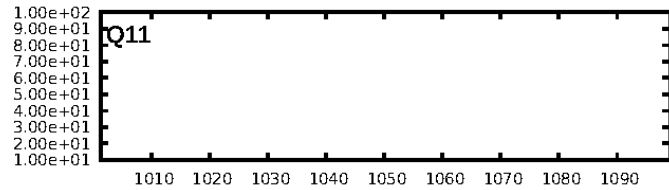
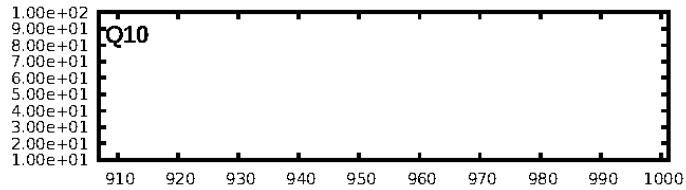
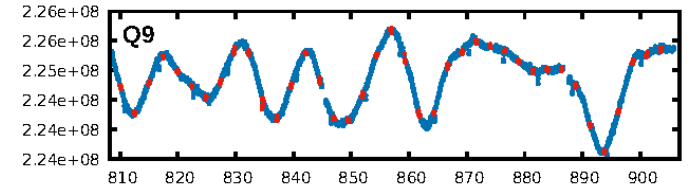
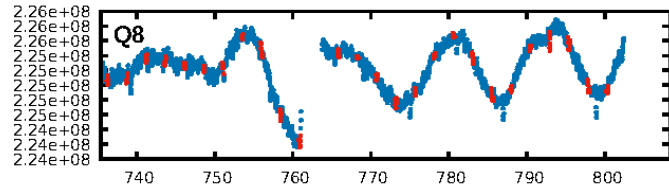
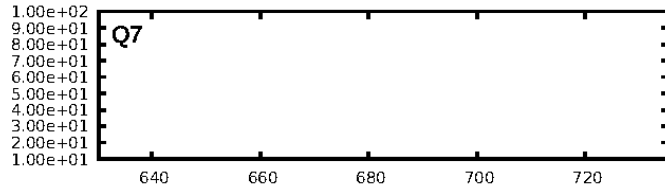
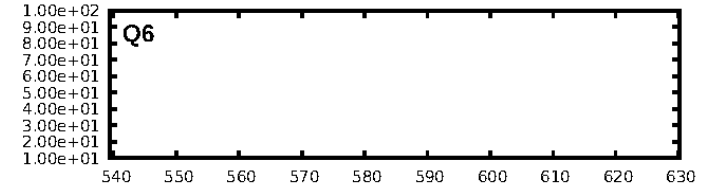
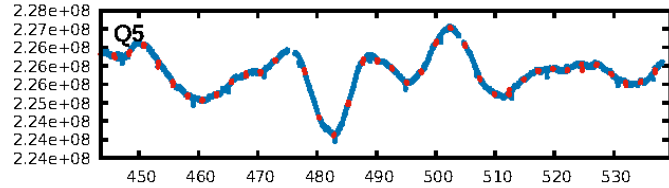
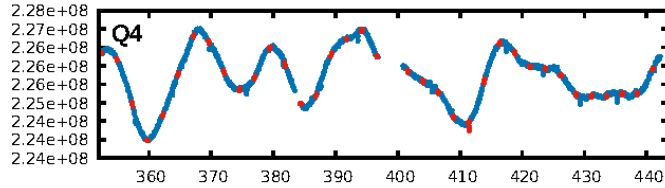
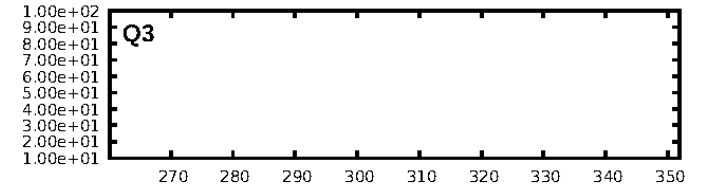
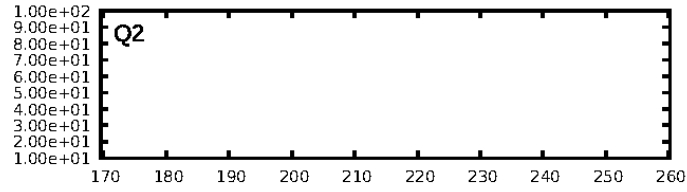
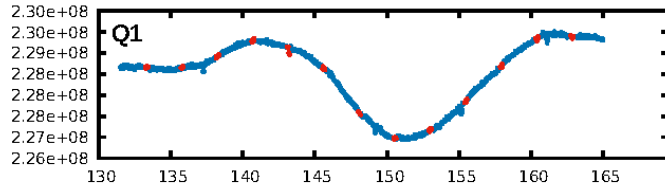
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [21.95σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.39e-65
RollingBand-fgt: 1.00 [219/219]
GhostDiagnostic-chr: 0.8276
Centroid-sig: 0.4%
Centroid-so: 0.838 arcsec [2.13σ]
OotOffset-rm: 0.721 arcsec [1.81σ]
OotOffset-st: 0/0/4/5 [9]
KicOffset-rm: 0.883 arcsec [2.28σ]
KicOffset-st: 0/0/4/5 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

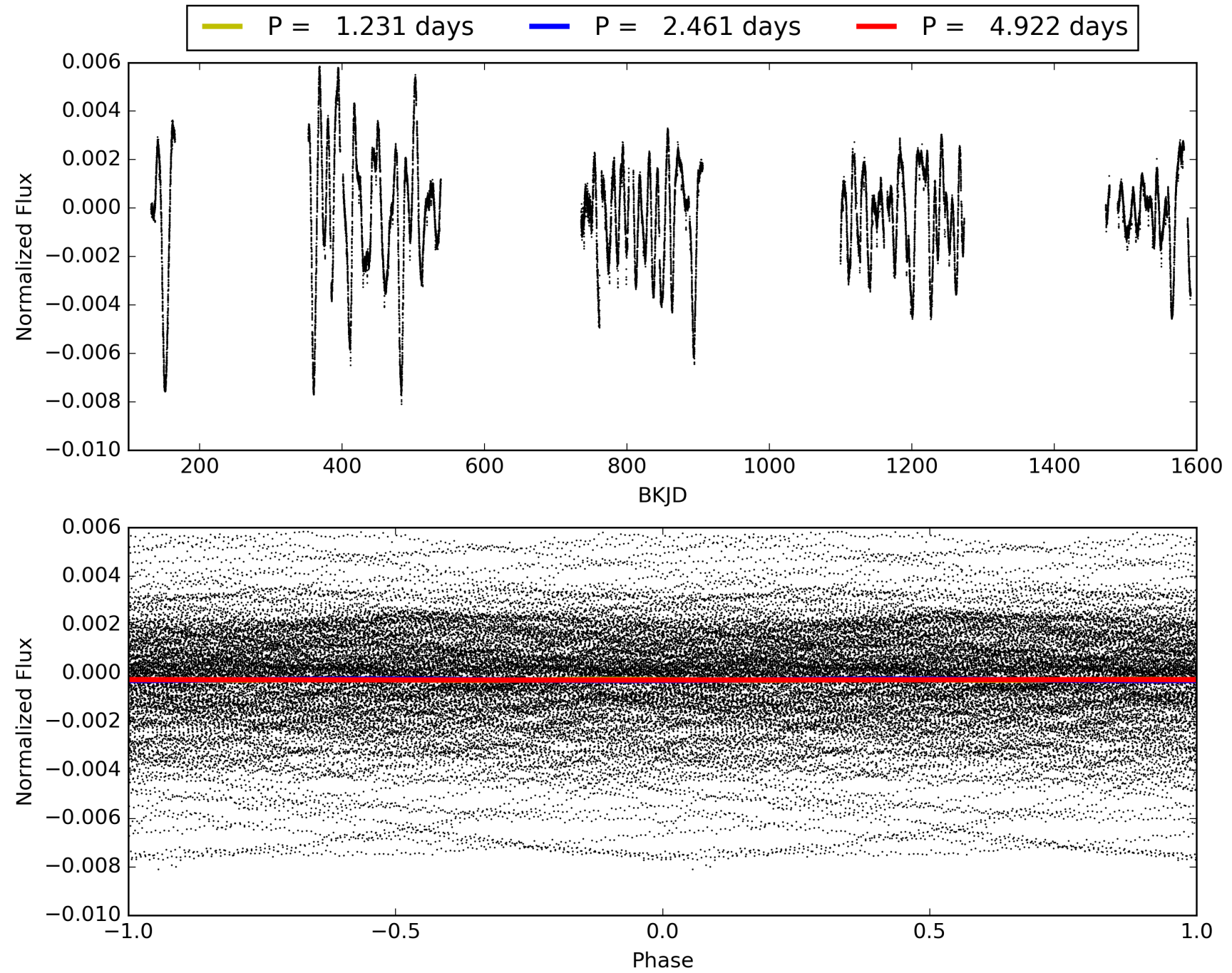
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:10:29 Z

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

TCE 006616218-02, PDC Light Curves

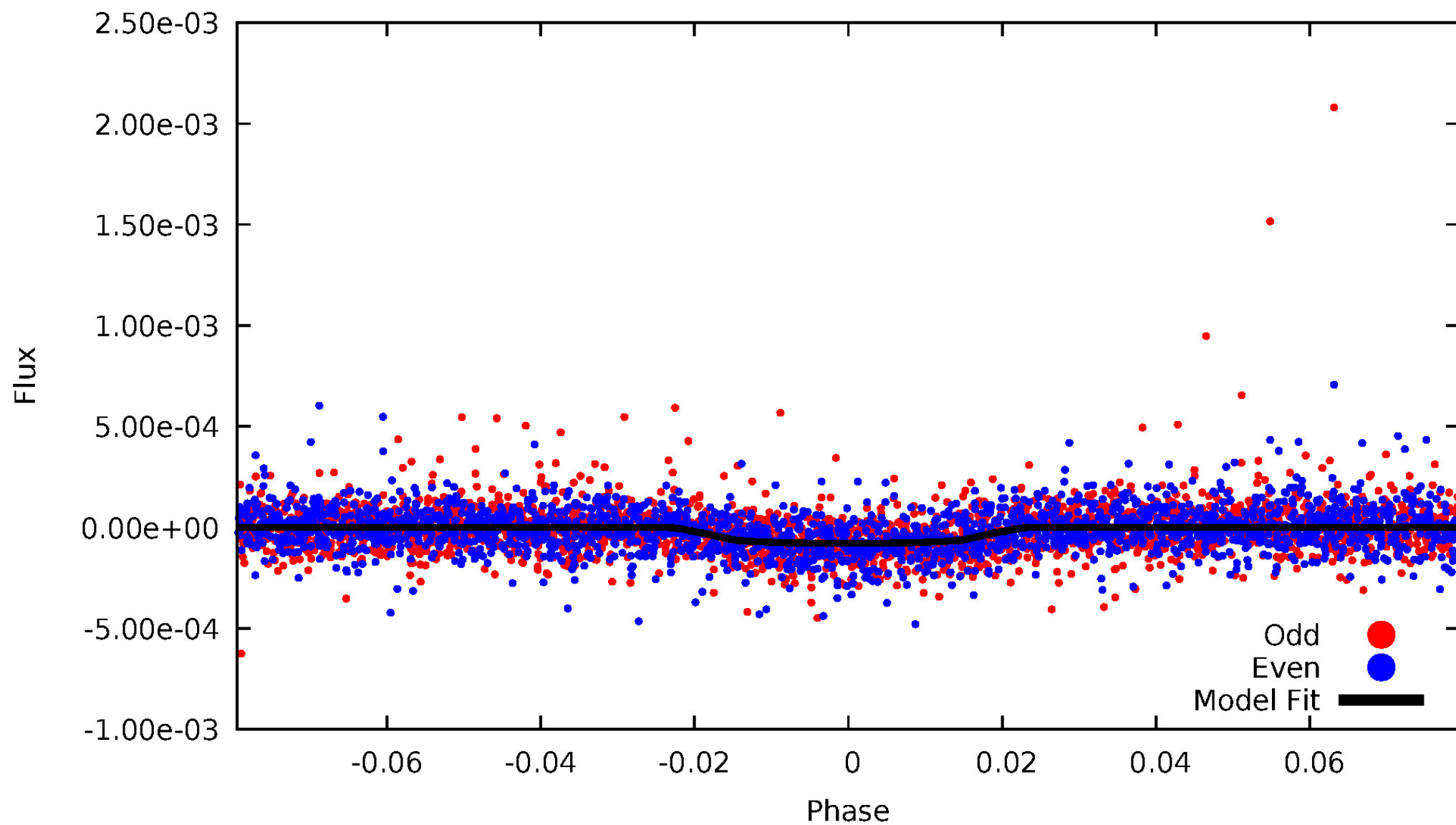


TCE 006616218-02



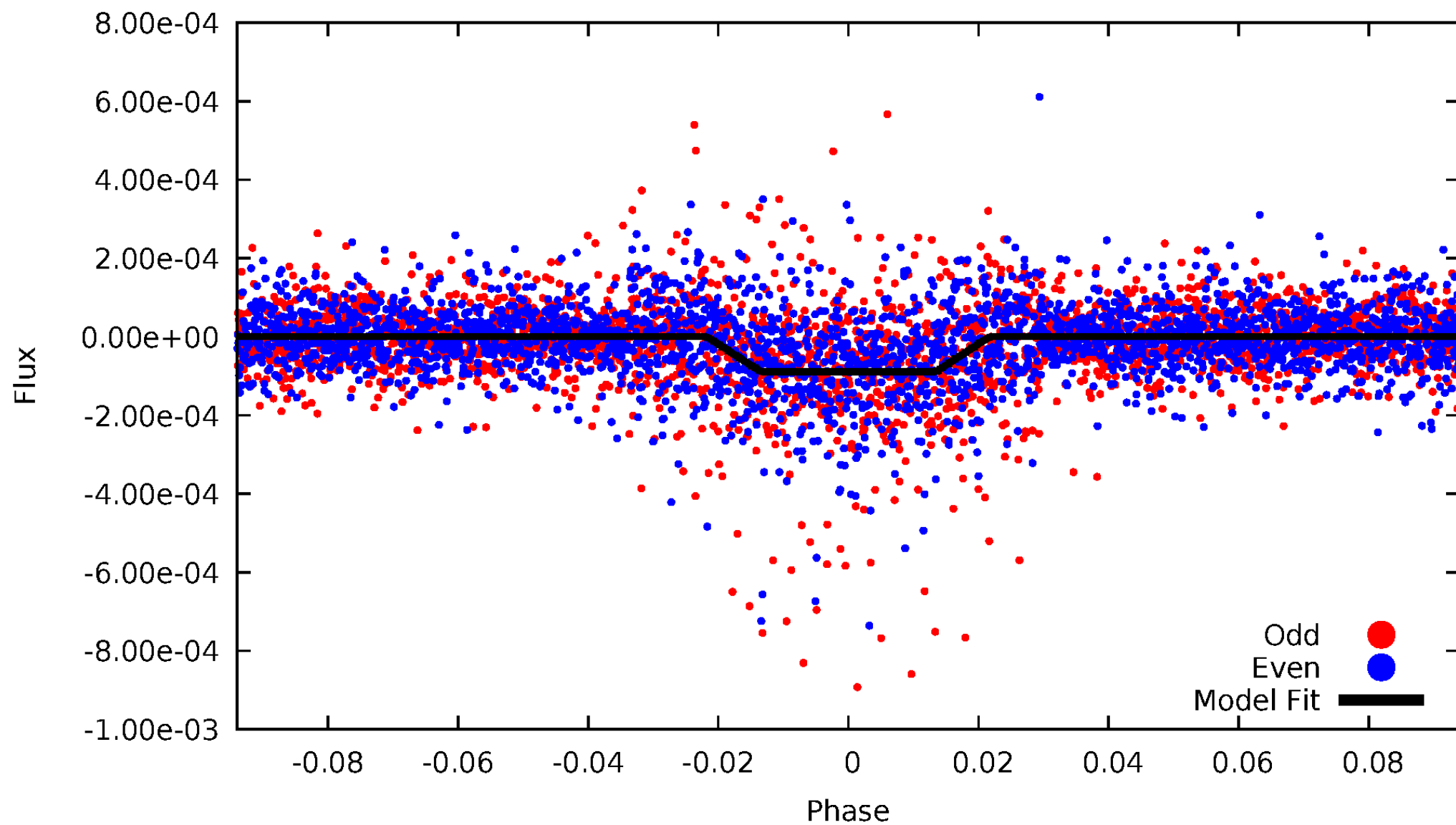
DV Odd/Even

TCE 006616218-02



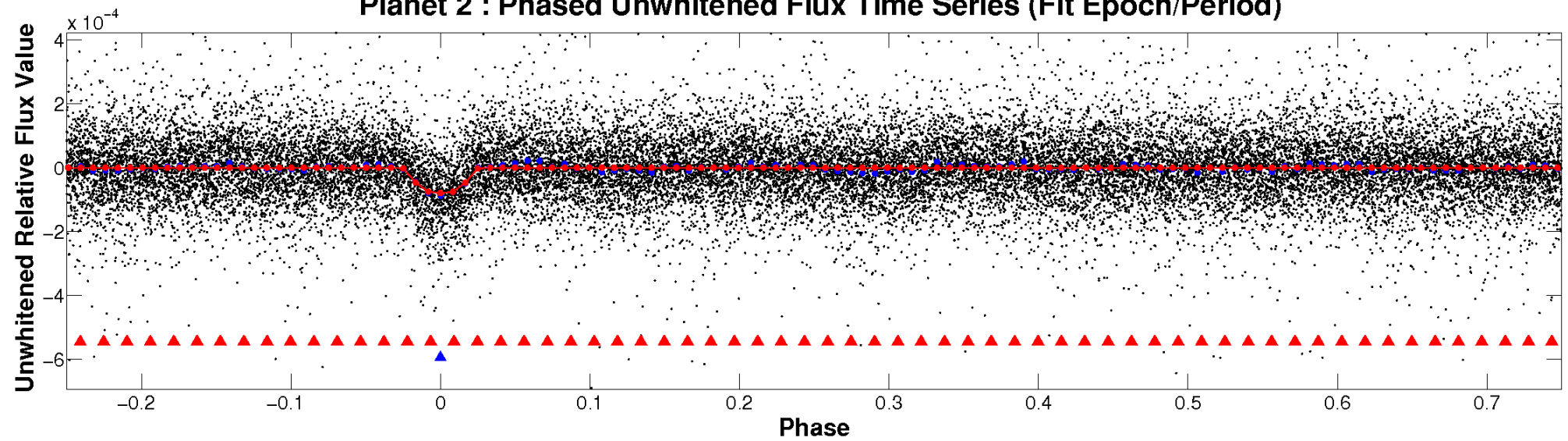
ALT Odd/Even

TCE 006616218-02

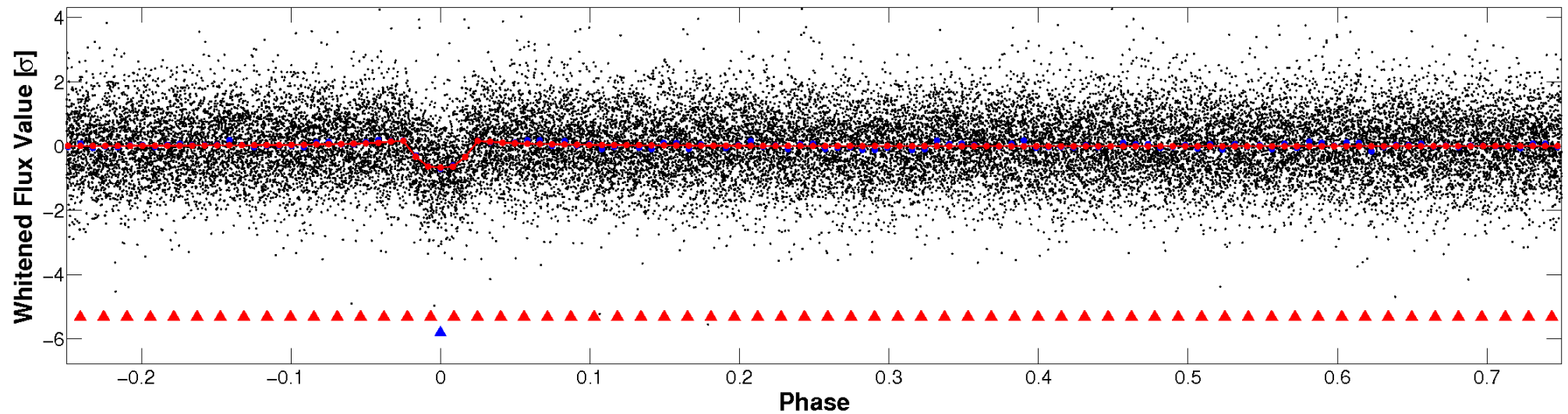


Non-Whitened Vs. Whitened Light Curve

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

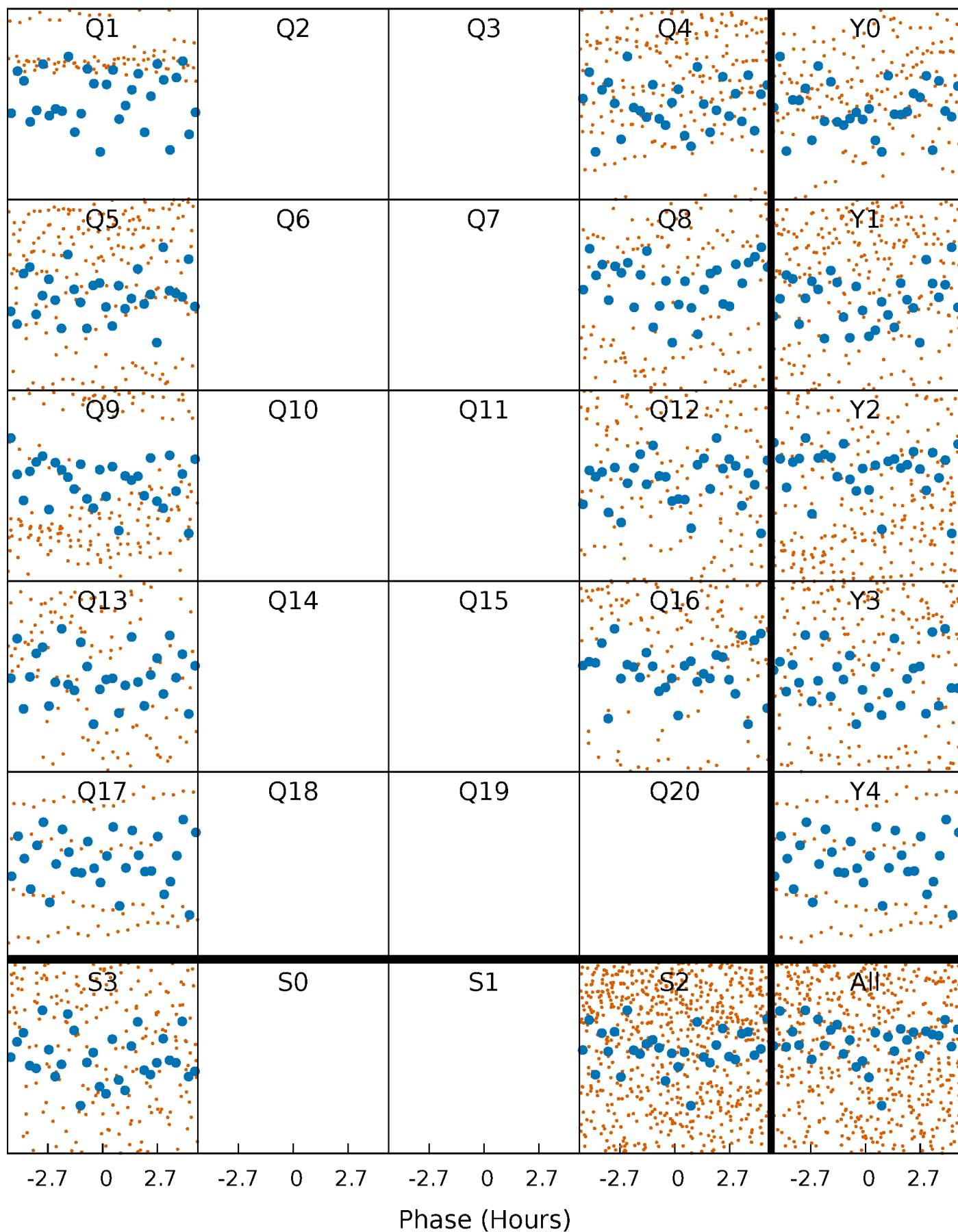


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



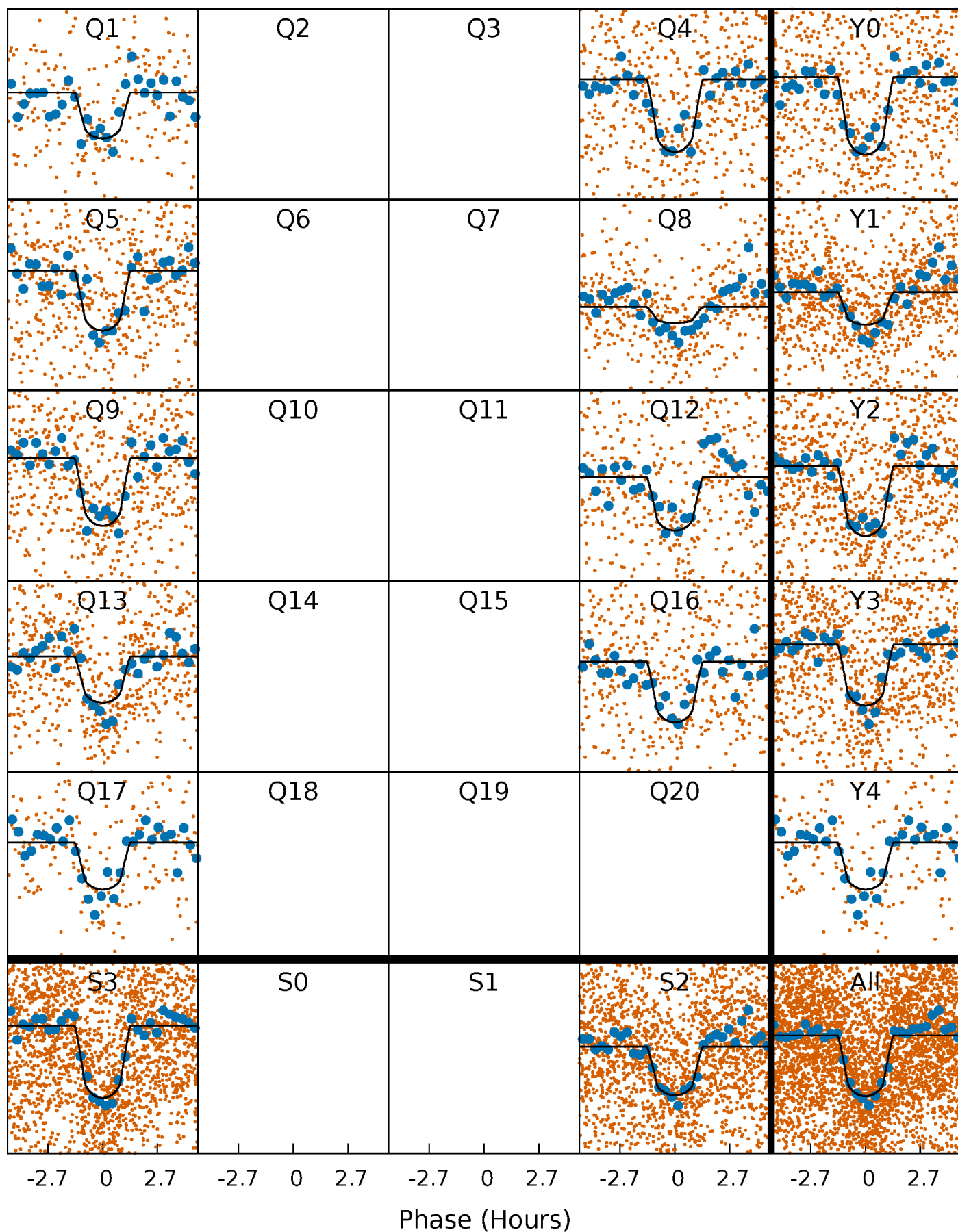
PDC Quarter-Phased Transit Curves

TCE 006616218-02 P= 2.461071 Days $T_0=133.319197$ (BKJD)



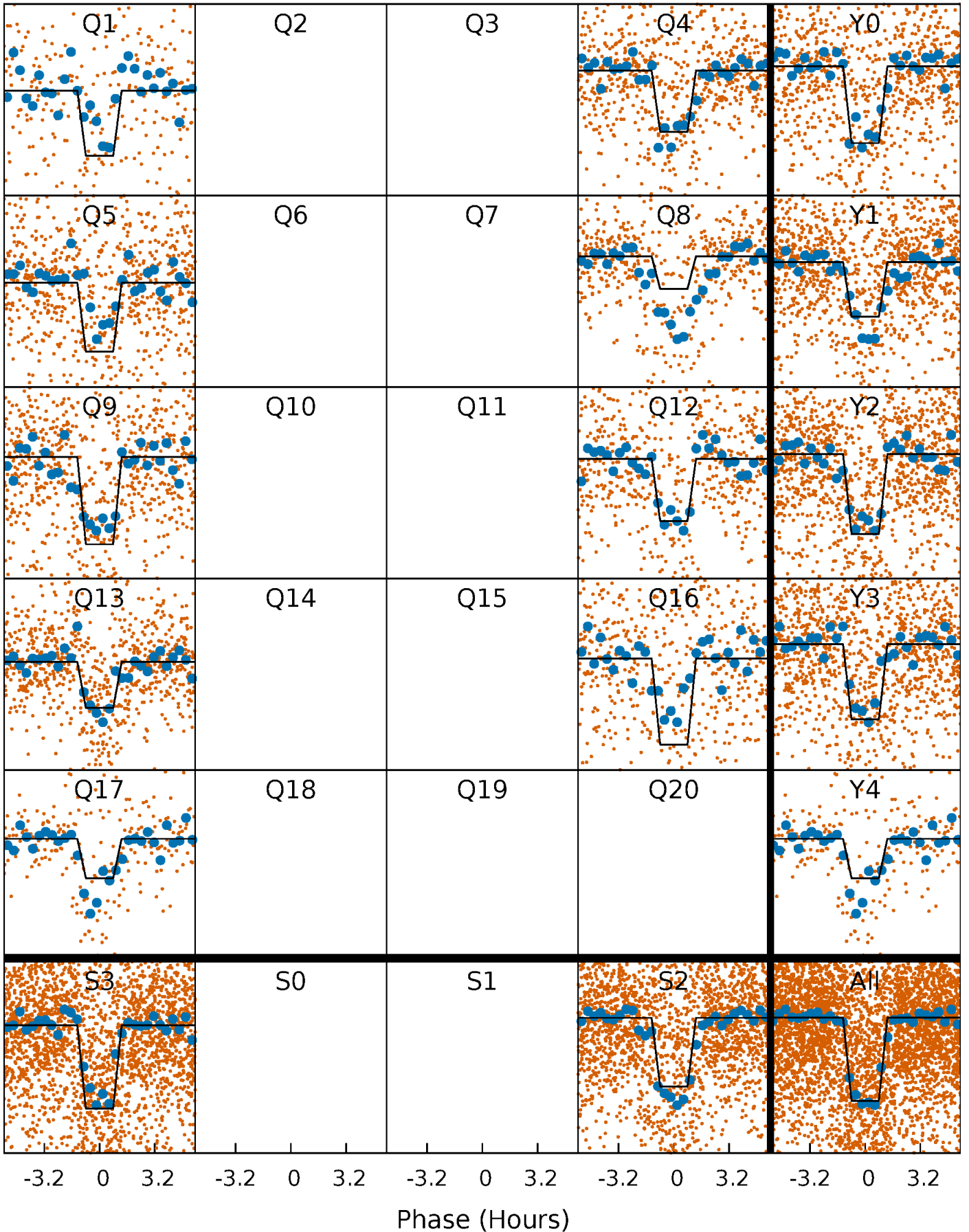
DV Quarter-Phased Transit Curves

TCE 006616218-02 P= 2.461071 Days $T_0=133.319197$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

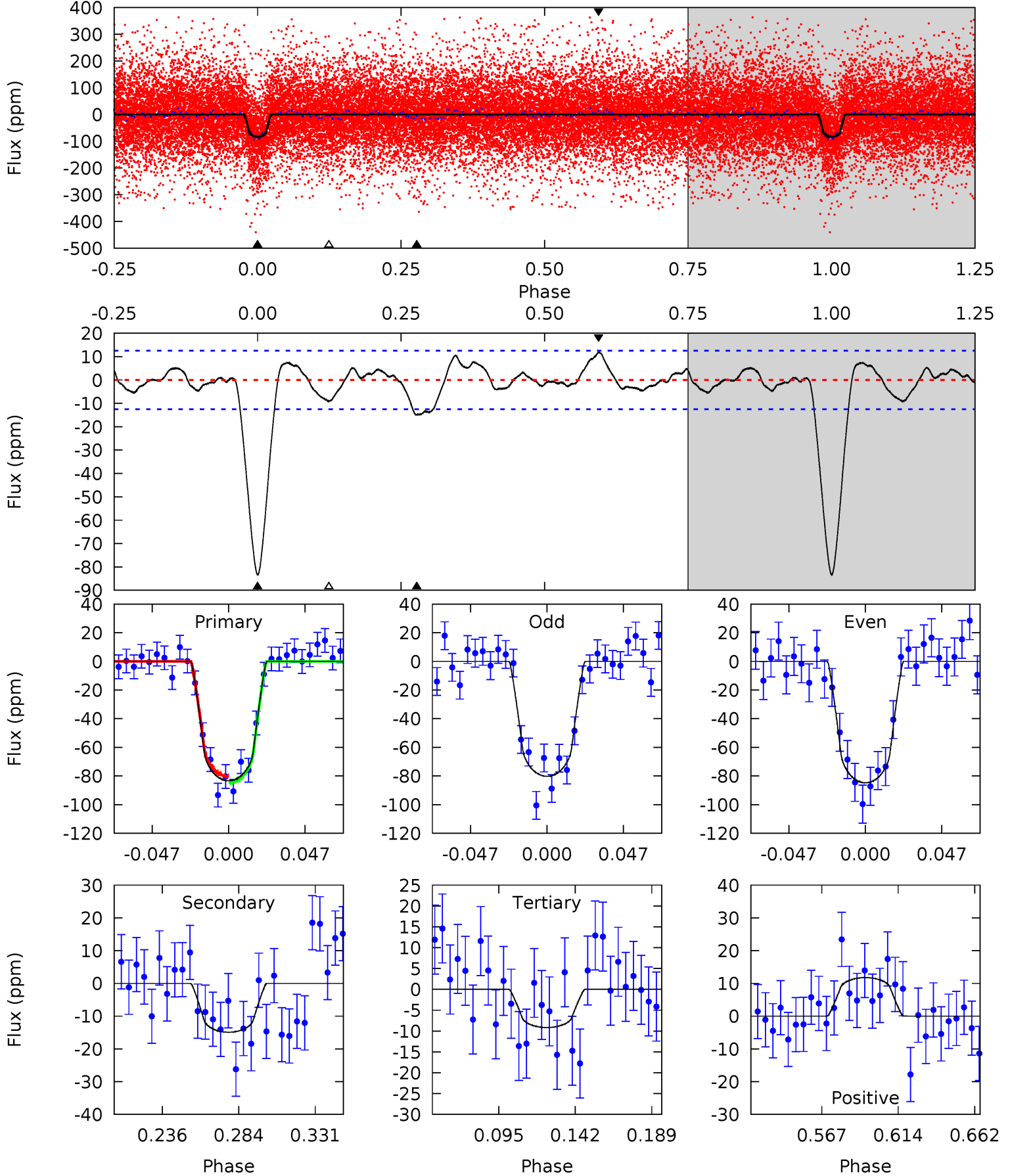
TCE 006616218-02 P= 2.461087 Days $T_0=133.315197$ (BKJD)



DV Model-Shift Uniqueness Test

006616218-02, P = 2.461071 Days, E = 130.858126 Days

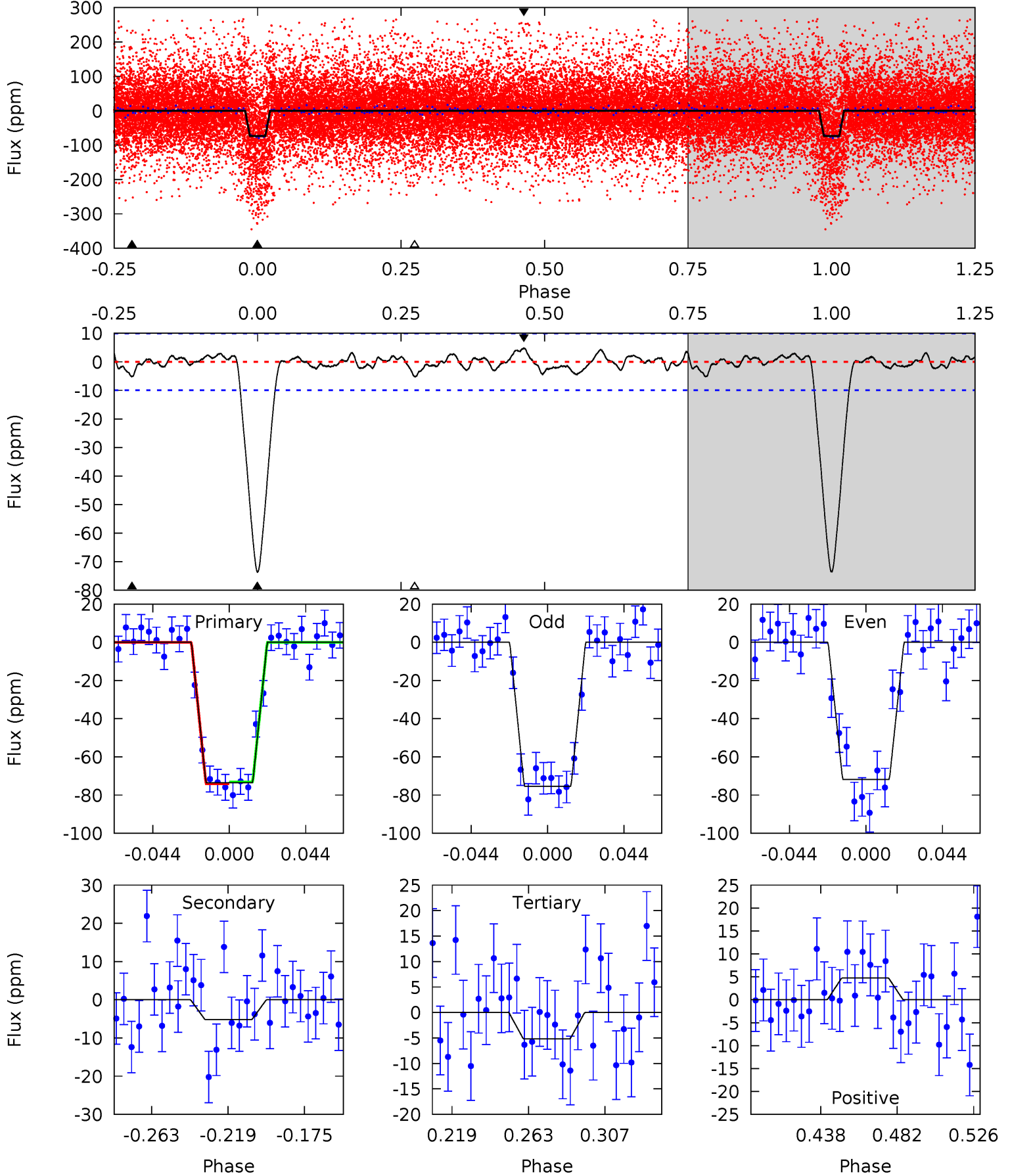
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.4	5.61	3.45	4.43	4.72	1.98	1.58	27.9	26.9	2.17	1.19	0.85	1.01	0.12	0.78



Alt Model-Shift Uniqueness Test

006616218-02, P = 2.461087 Days, E = 130.854110 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.1	2.49	2.47	2.27	4.73	2.02	0.91	32.6	32.8	0.02	0.22	0.85	1.27	0.06	0.21



Stellar Parameters For KIC 006616218

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5418^{+98}_{-108}	$4.534^{+0.024}_{-0.102}$	$0.280^{+0.150}_{-0.150}$	$0.886^{+0.104}_{-0.037}$	$0.978^{+0.037}_{-0.067}$	$1.980^{+0.181}_{-0.586}$
	+2%/-2%	+1%/-2%	+54%/-54%	+12%/-4%	+4%/-7%	+9%/-30%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 006616218-02 / KOI 1692.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-15 ± 3	$0.96^{+0.32}_{-0.32}$	1688^{+54}_{-45}	3744^{+601}_{-363}	11^{+14}_{-5}
Alt.	-5 ± 2	$0.94^{+0.32}_{-0.31}$	1689^{+55}_{-47}	3184^{+504}_{-393}	$4.094^{+5.807}_{-2.340}$

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

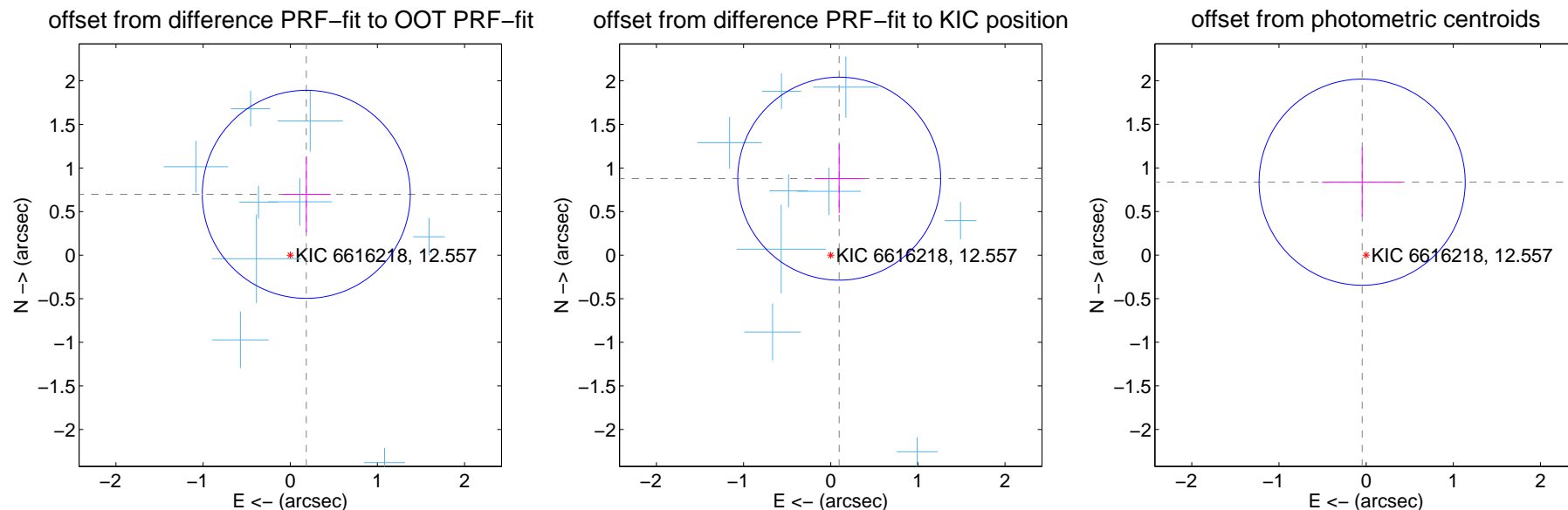
DV Centroid Data

Supplemental centroid analysis for 006616218-02. Kepler magnitude: 12.56. Transit SNR 19.82

There are 9 quarters with good PRF difference image offsets

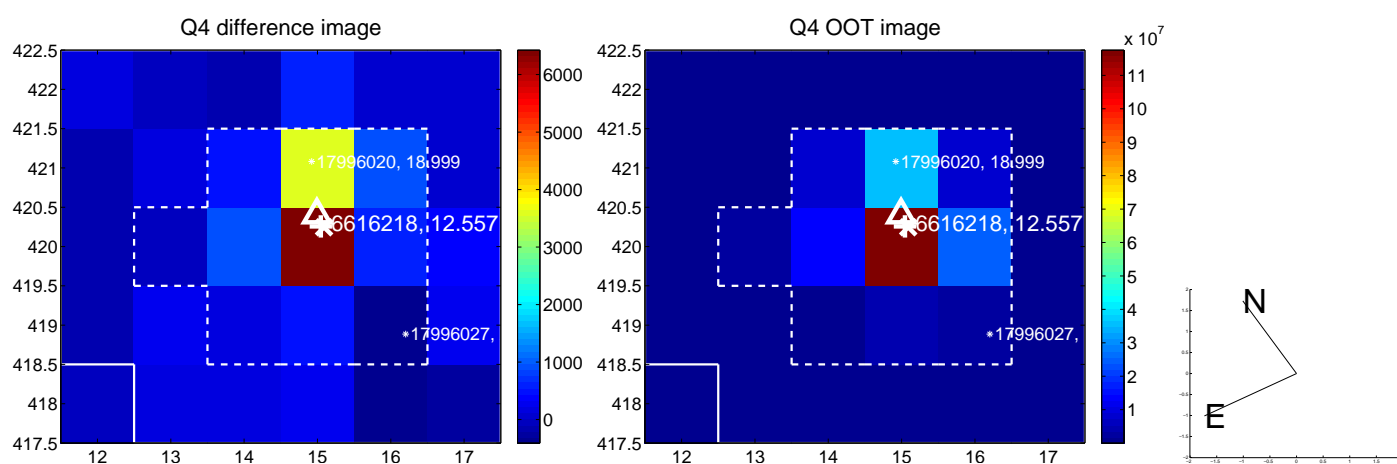
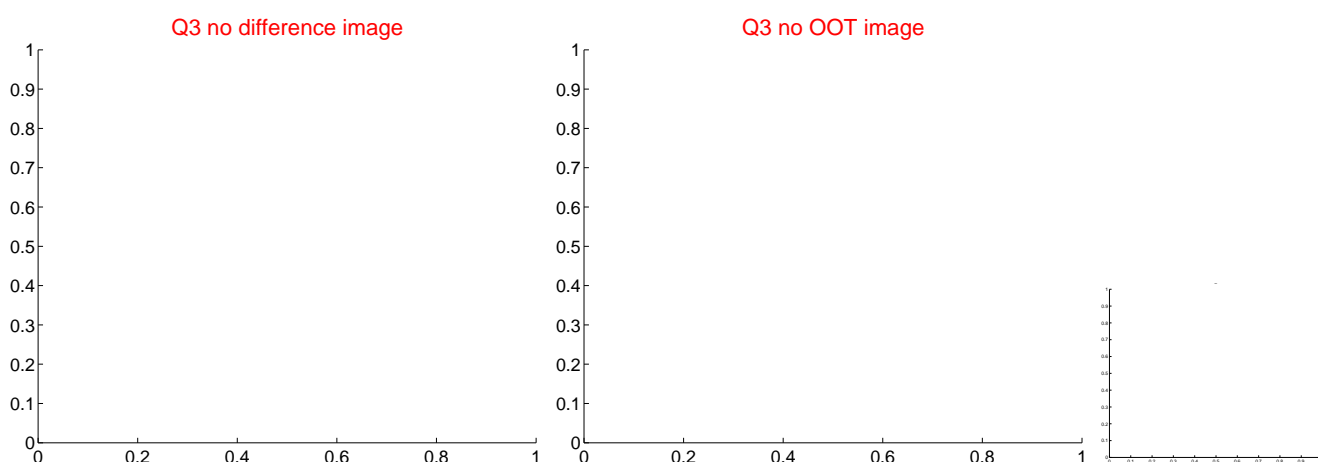
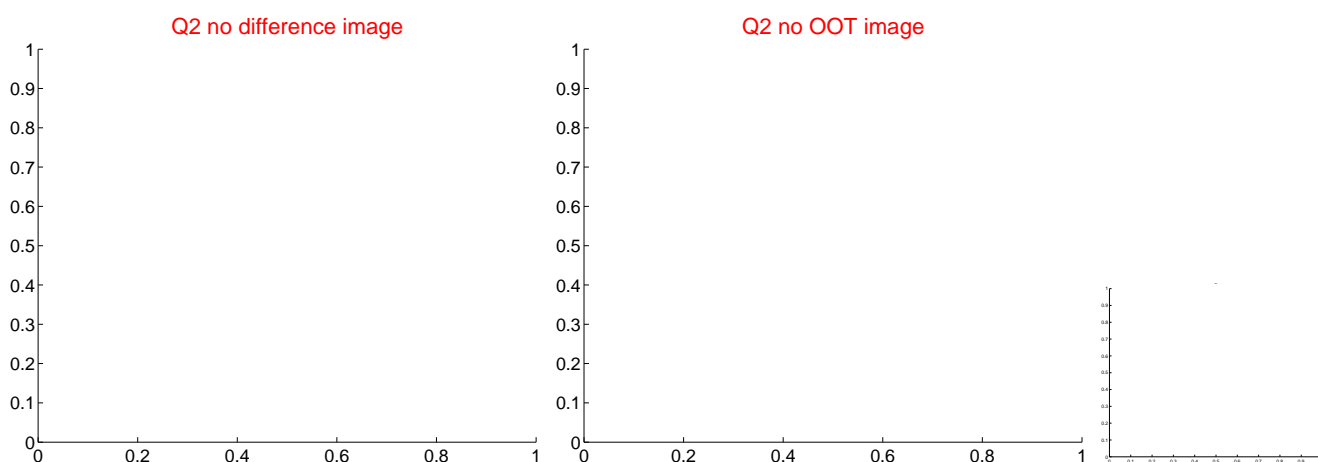
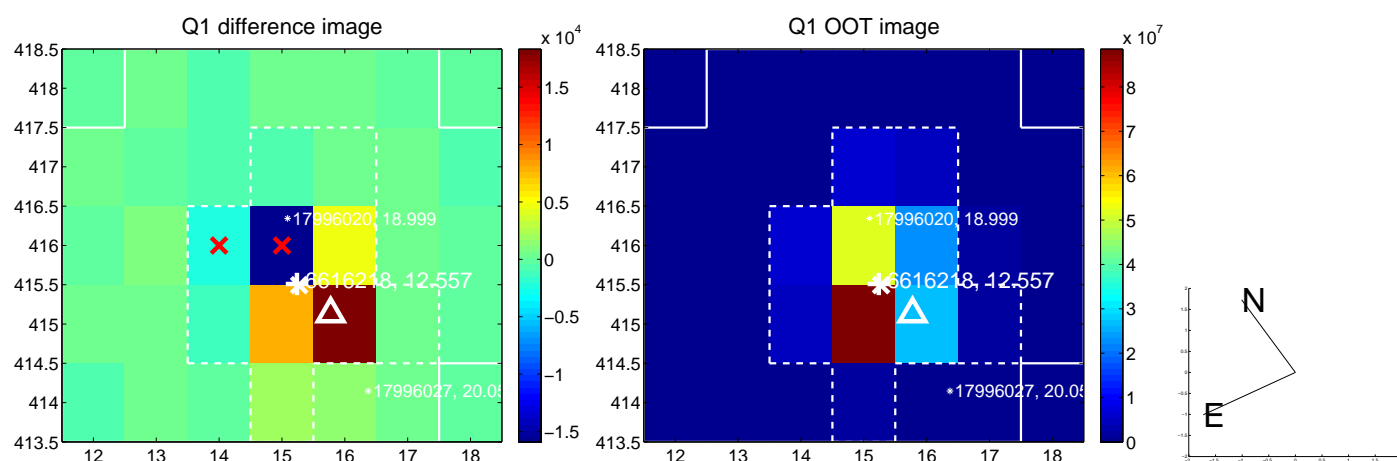
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.721 ± 0.398	1.81	-0.184 ± 0.281	0.698 ± 0.434
PRF-fit source offset from KIC position	0.883 ± 0.388	2.28	-0.097 ± 0.282	0.878 ± 0.394
photometric centroid source offset	0.84 ± 0.39	2.13	0.05 ± 0.46	0.84 ± 0.39

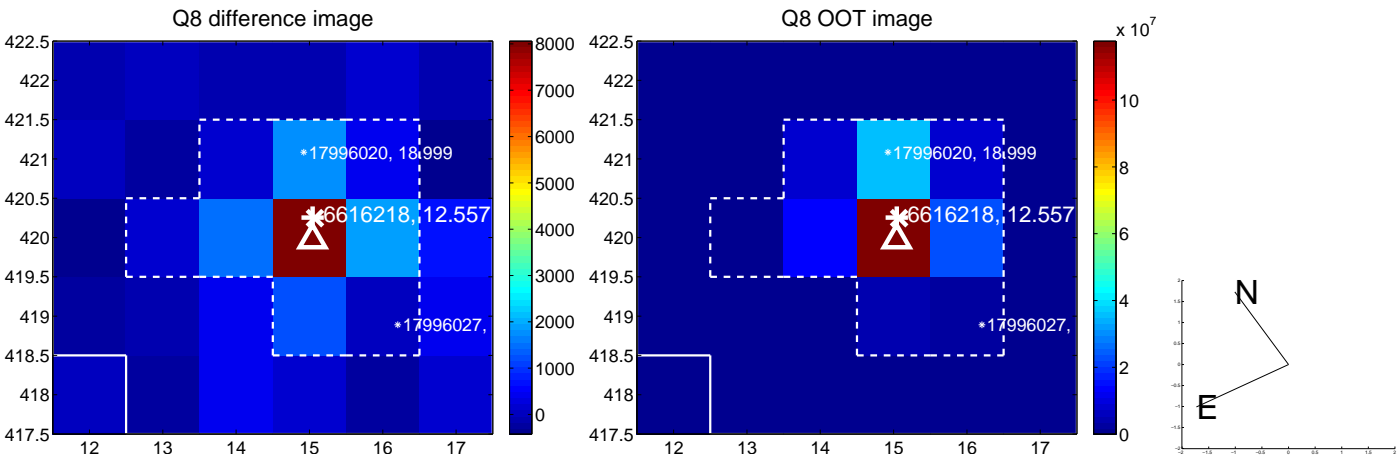
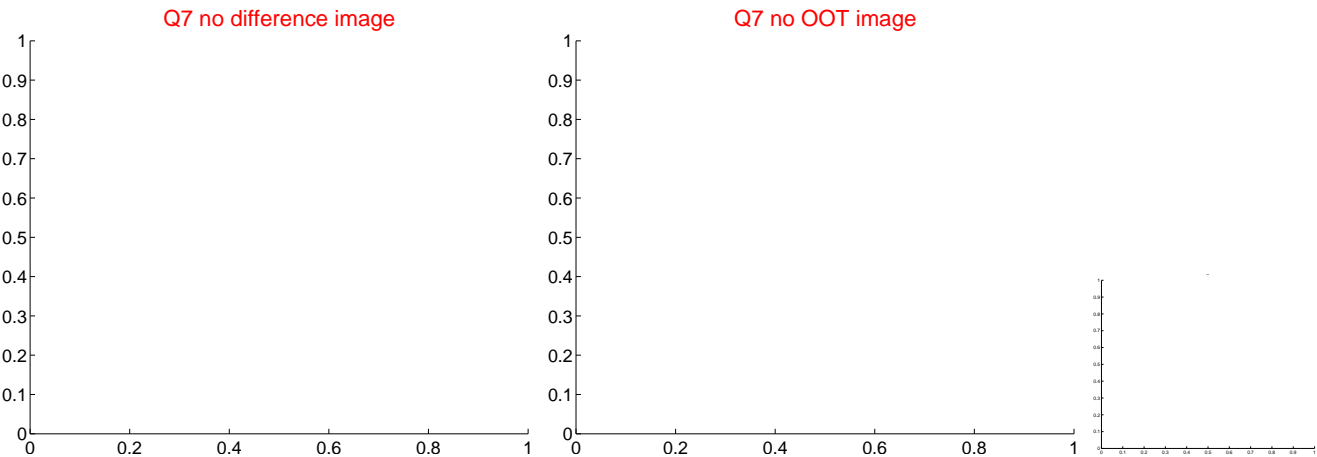
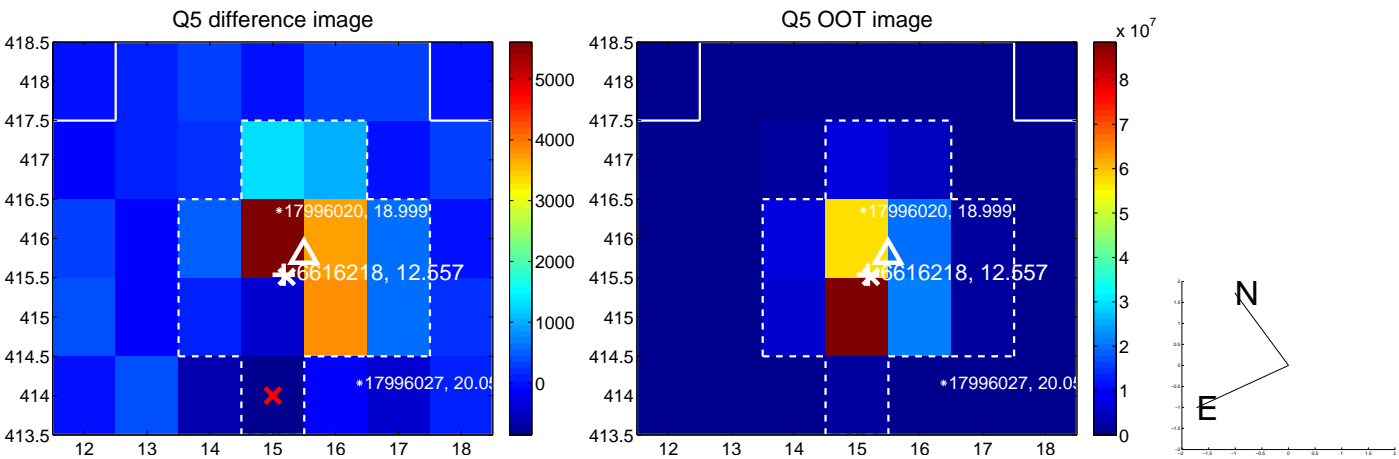


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

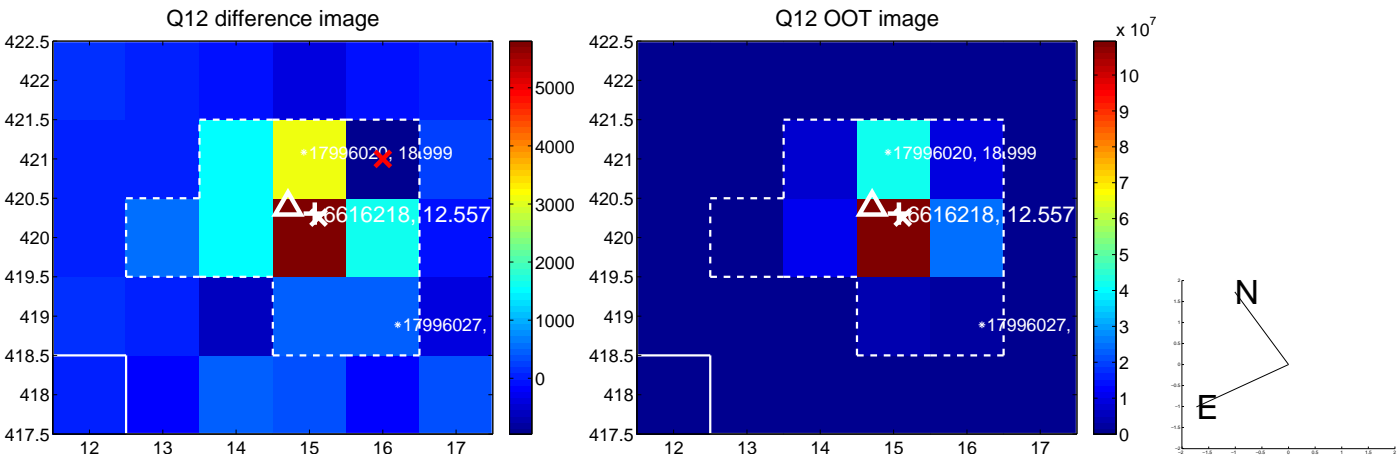
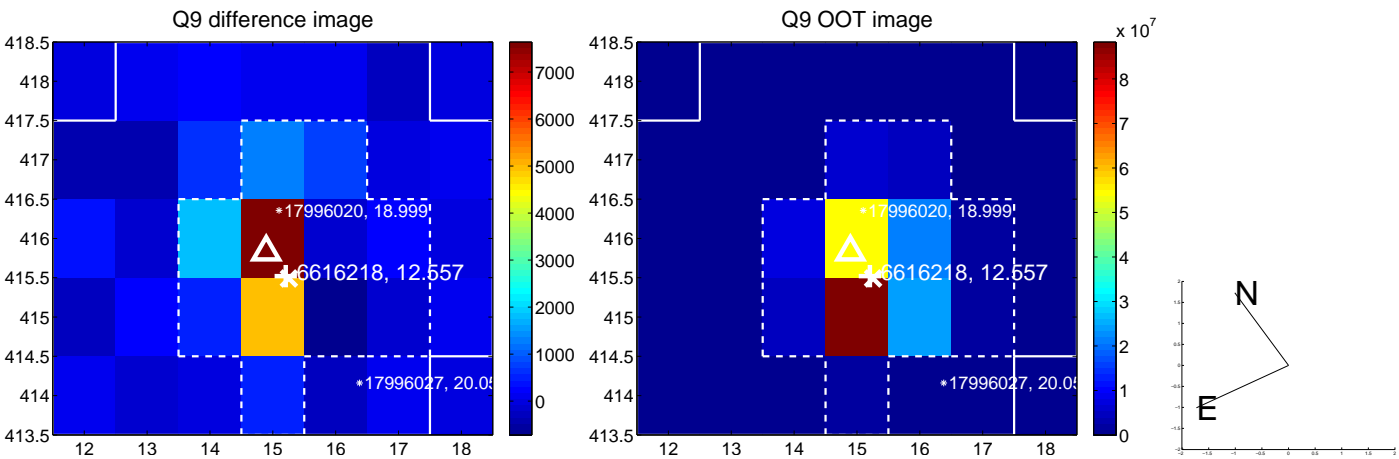
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



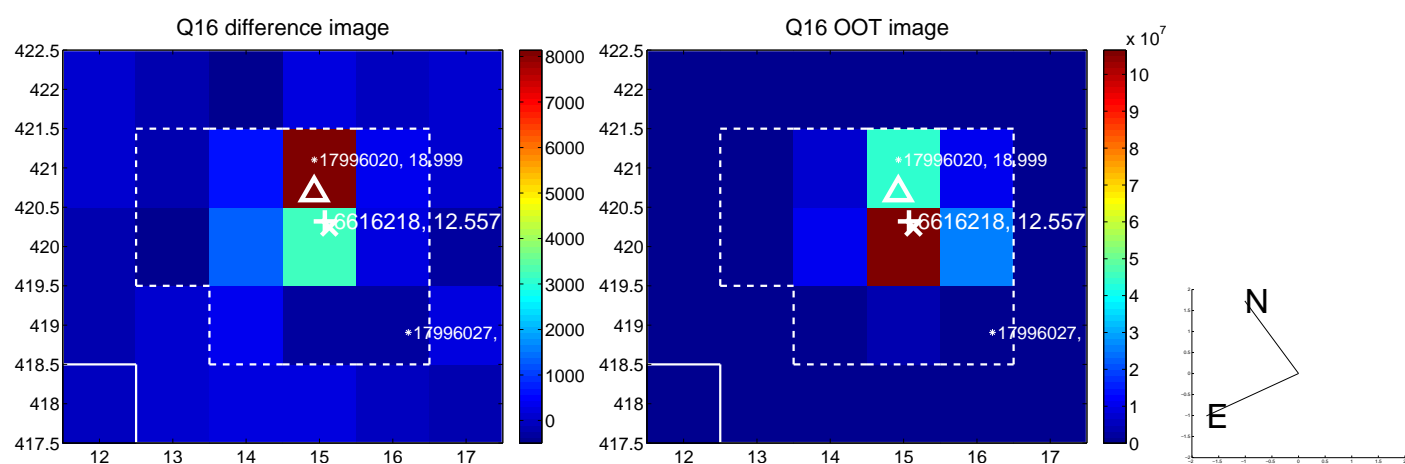
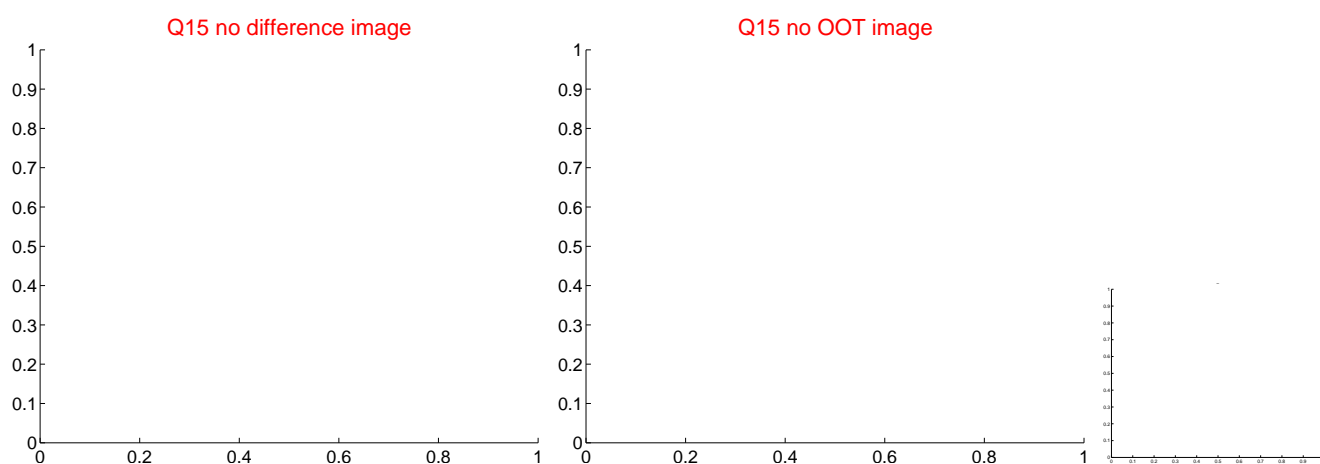
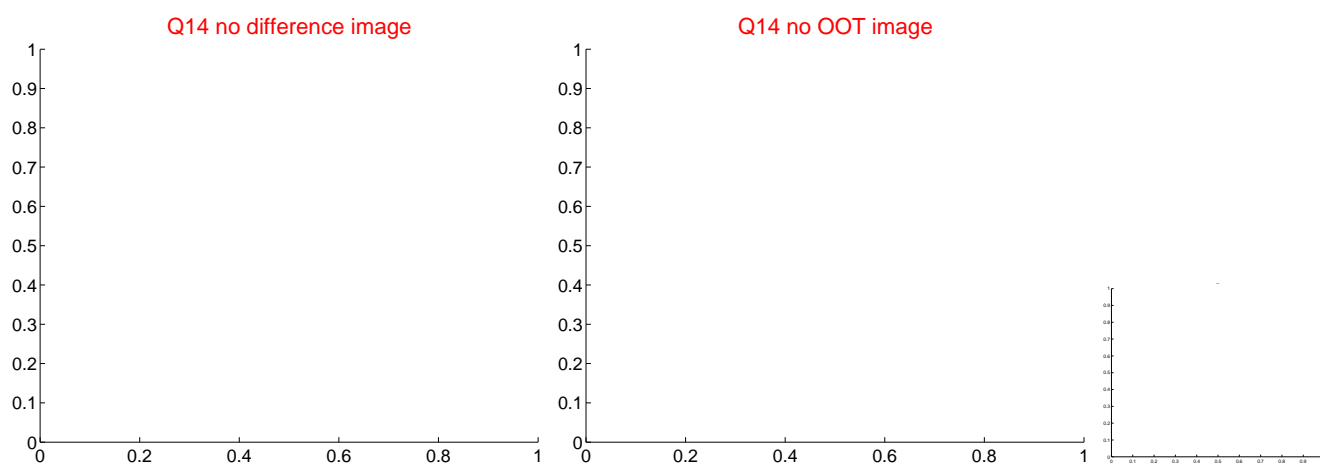
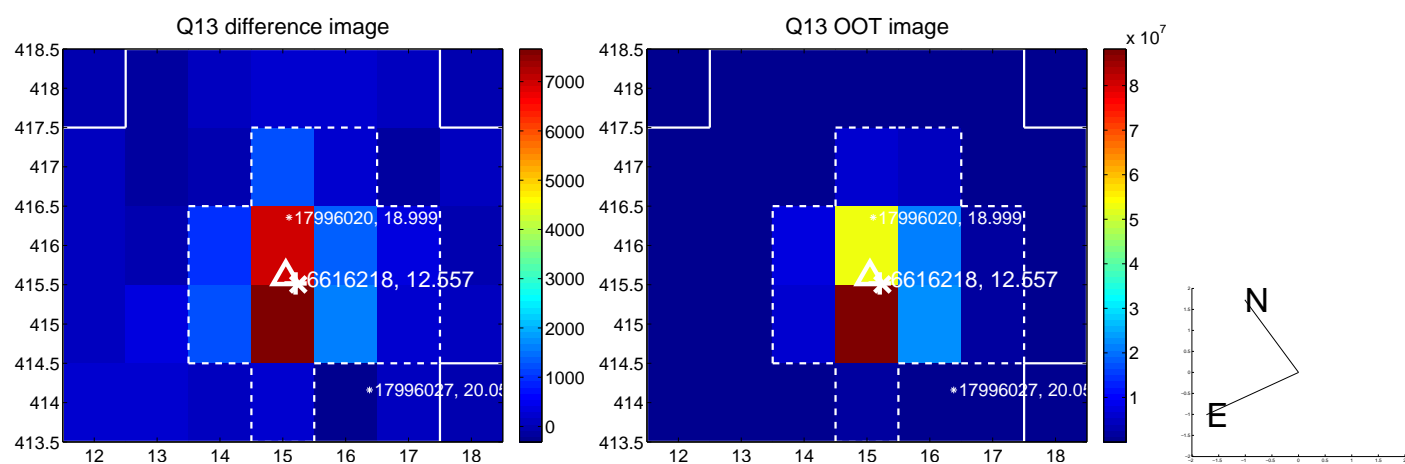
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



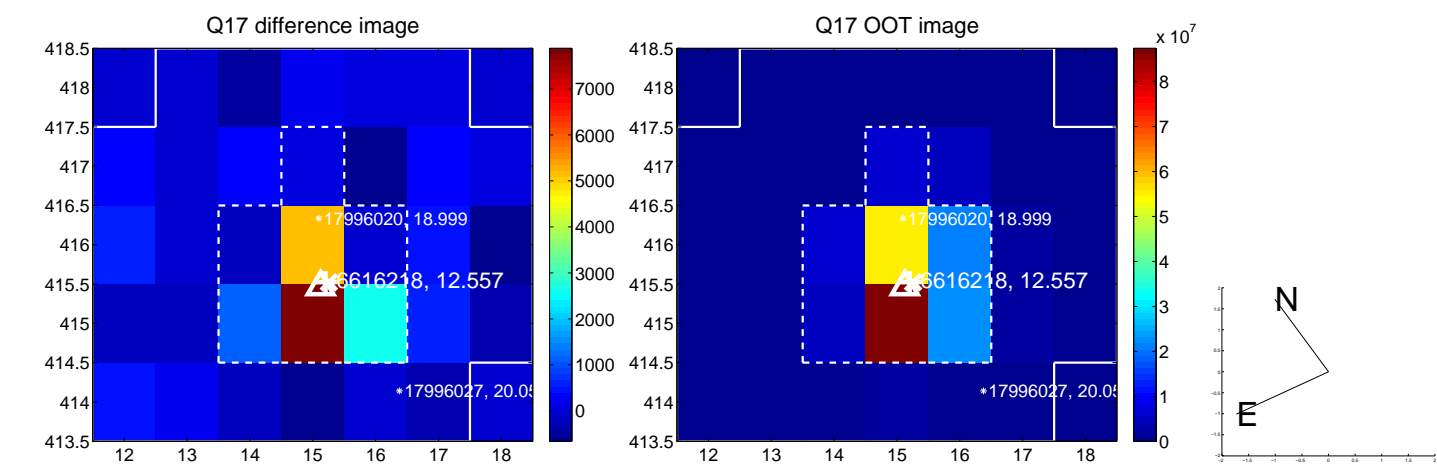
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



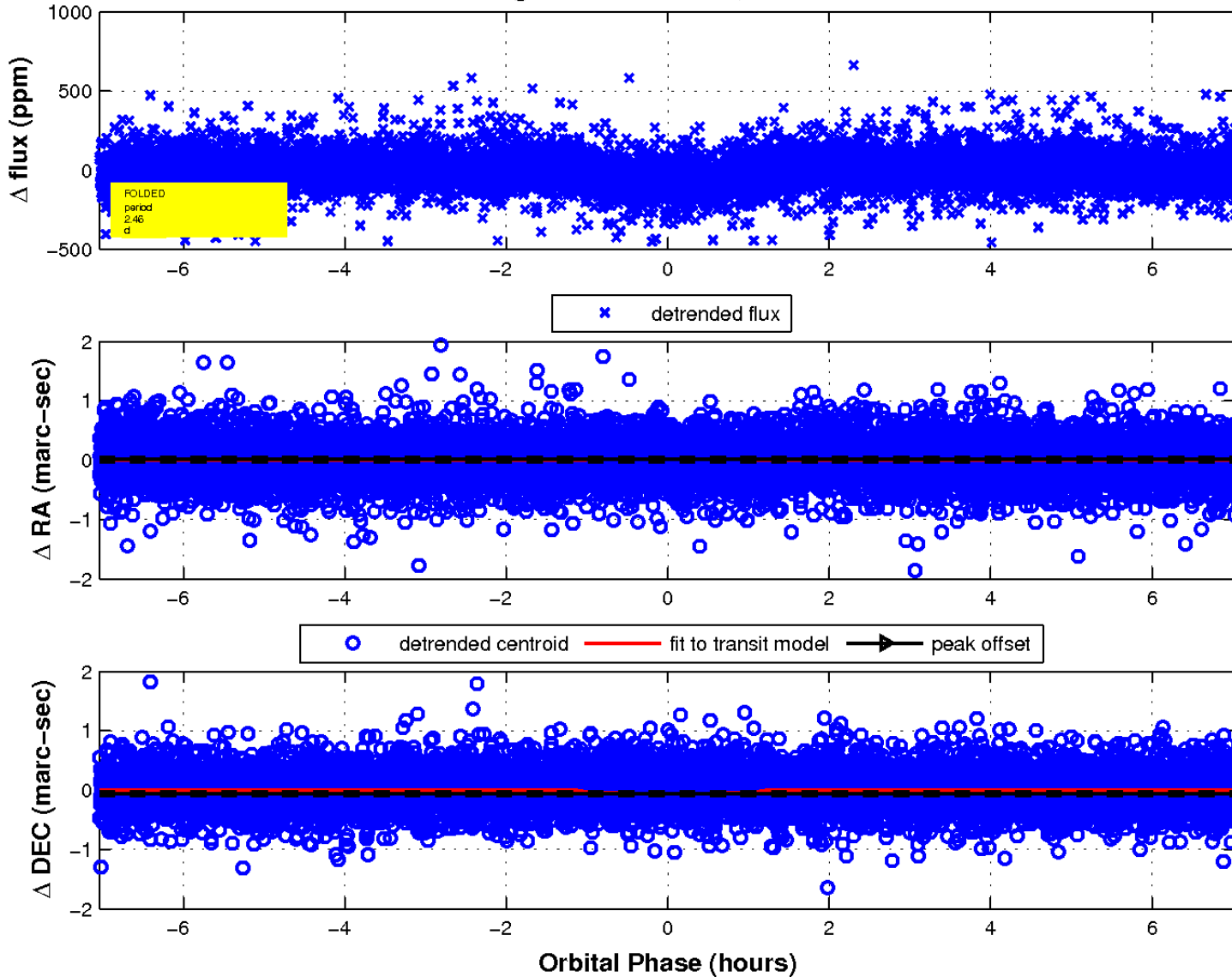
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

