

KIC 004644952

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})
004644952-01	OBS	1805.01	6.941354	137.544351	853.1	1.985	80.6	85.1	0.88	5527	3.09	139.50
004644952-02	OBS	1805.03	4.362722	135.233976	318.5	2.350	39.2	43.3	0.88	5527	1.88	259.12
004644952-03	OBS	1805.02	31.782223	134.862867	576.0	3.958	27.7	32.4	0.88	5527	2.27	18.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004644952-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
004644952-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
004644952-03	OBS	PC	1.00	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.

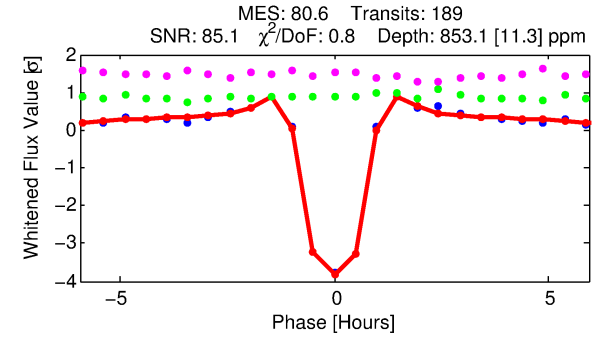
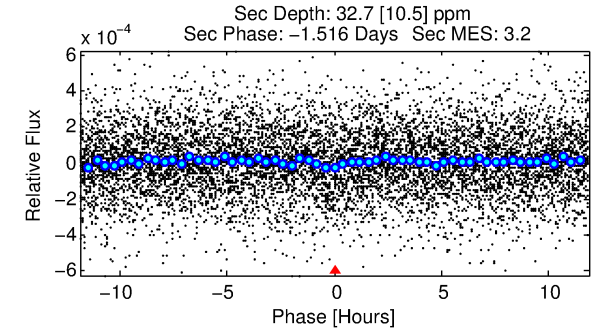
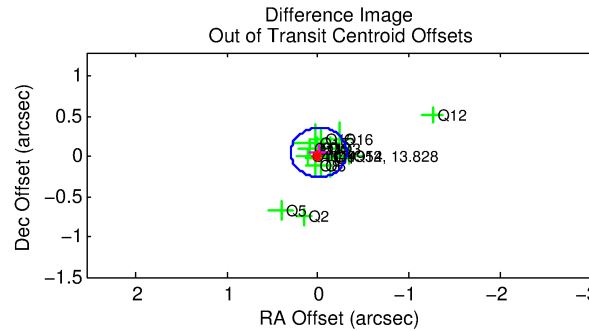
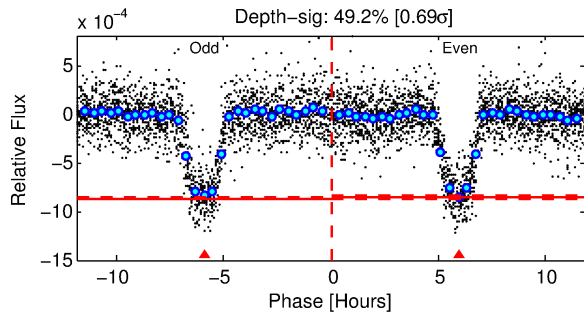
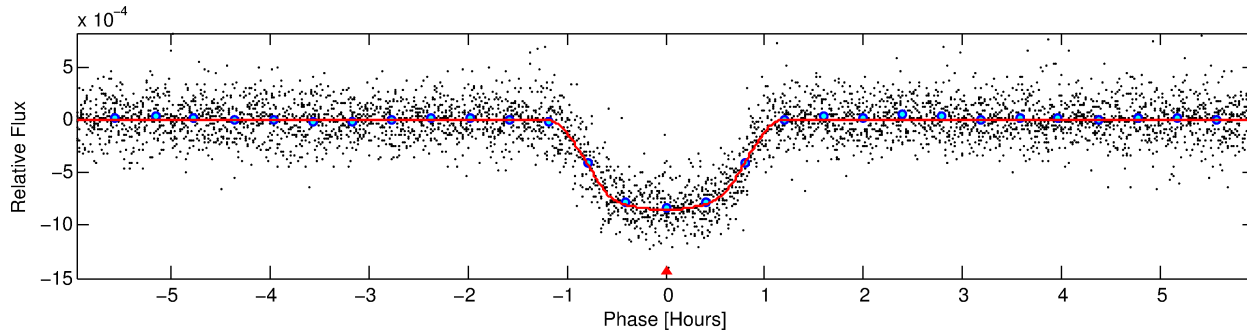
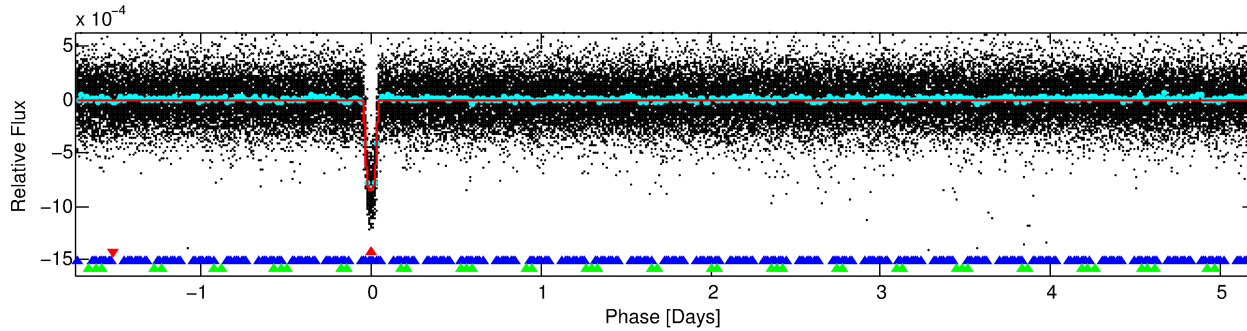
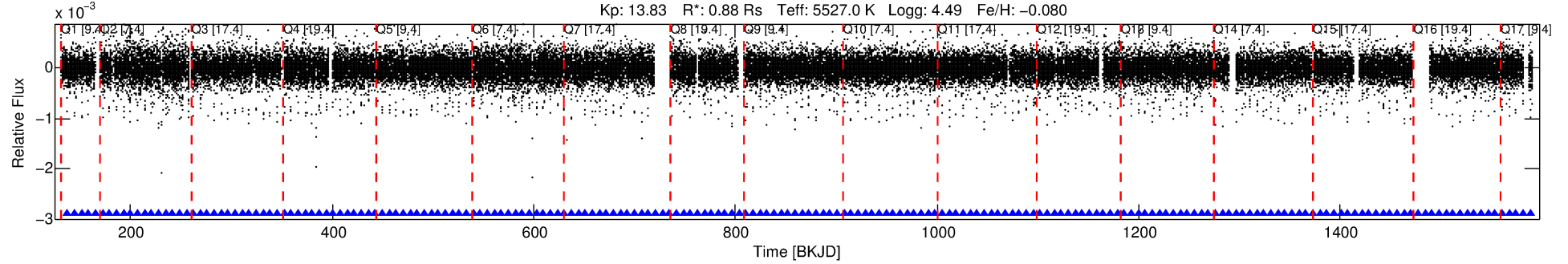
Ephemeris Match Information For 004644952-01

No Significant Match Found

DV One-Page Summary

KIC: 4644952 Candidate: 1 of 3 Period: 6.941 d
KOI: K01805.01 Name: Kepler-319c Corr: 0.949

Kp: 13.83 R*: 0.88 Rs Teff: 5527.0 K Logg: 4.49 Fe/H: -0.080



DV Fit Results:

Period = 6.94135 [0.00000] d
Epoch = 137.5444 [0.0004] BKJD
Rp/R* = 0.0322 [0.0011]
a/R* = 13.46 [1.95]
b = 0.90 [0.03]
Seff = 139.50 [24.63]
Teff = 876 [39] K
Rp = 3.09 [0.37] Re
a = 0.0681 [0.0070] AU
Ag = 8.75 [3.20] [2.42σ]
Teffp = 2330 [198] K [7.22σ]

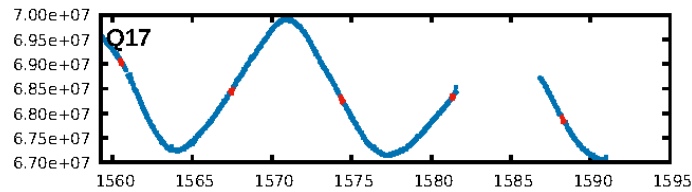
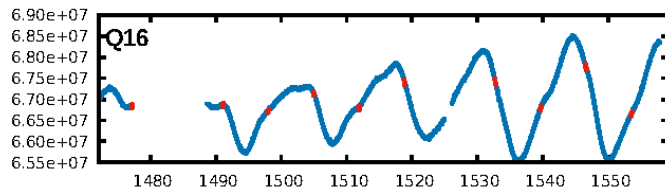
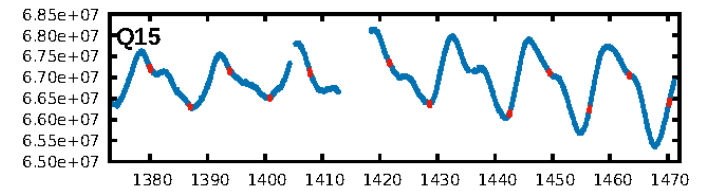
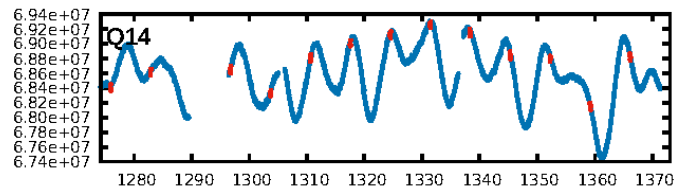
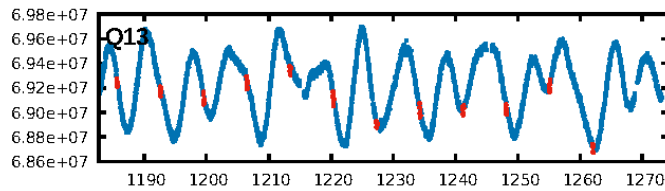
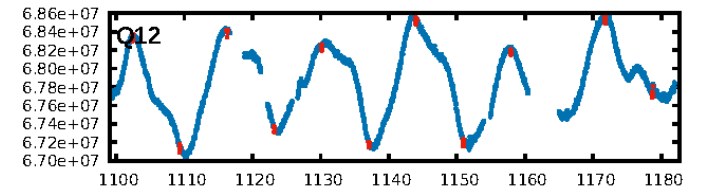
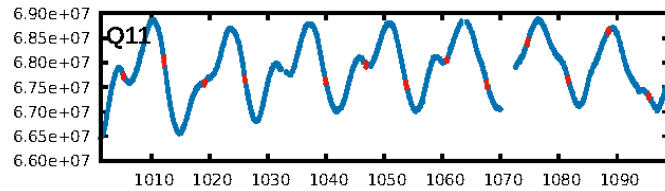
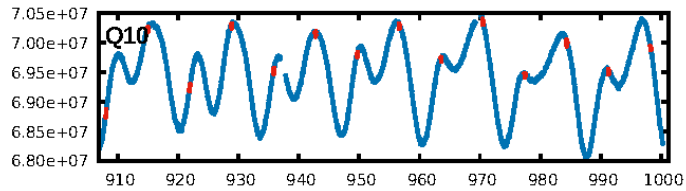
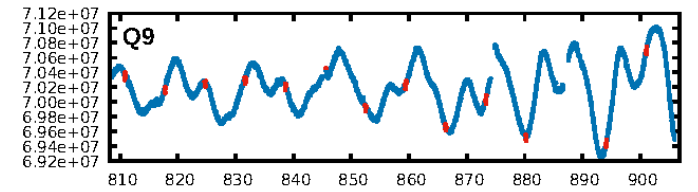
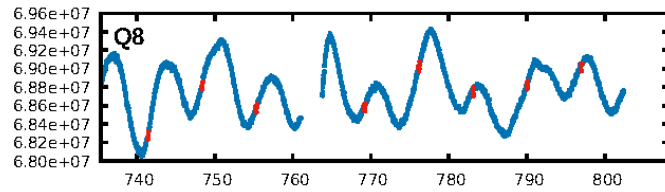
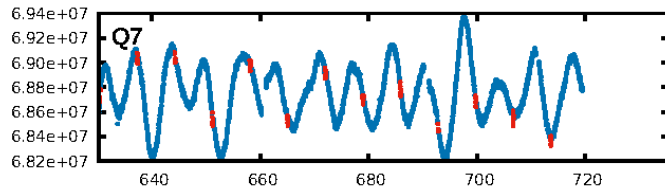
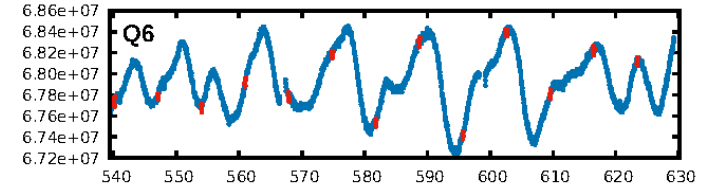
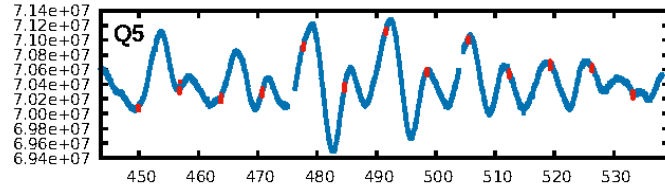
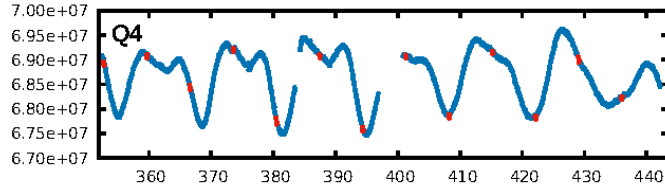
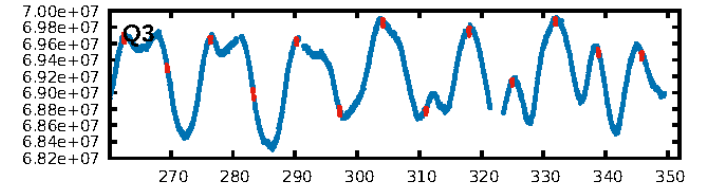
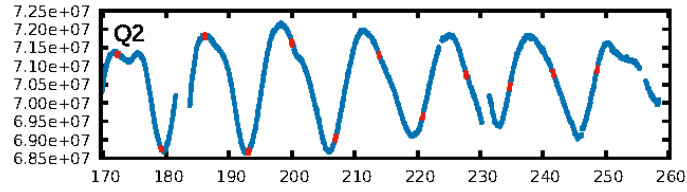
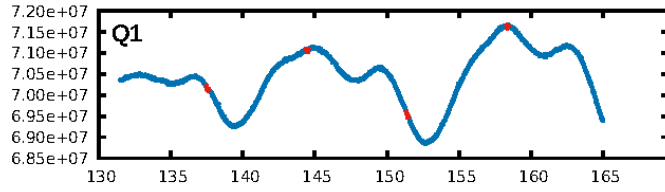
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [20.12σ]
LongPeriod-sig: 100.0% [134.65σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [180/180]
GhostDiagnostic-chr: 2.945
Centroid-sig: 8.8%
Centroid-so: 0.103 arcsec [0.94σ]
OotOffset-rm: 0.053 arcsec [0.52σ]
KicOffset-rm: 0.074 arcsec [0.96σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

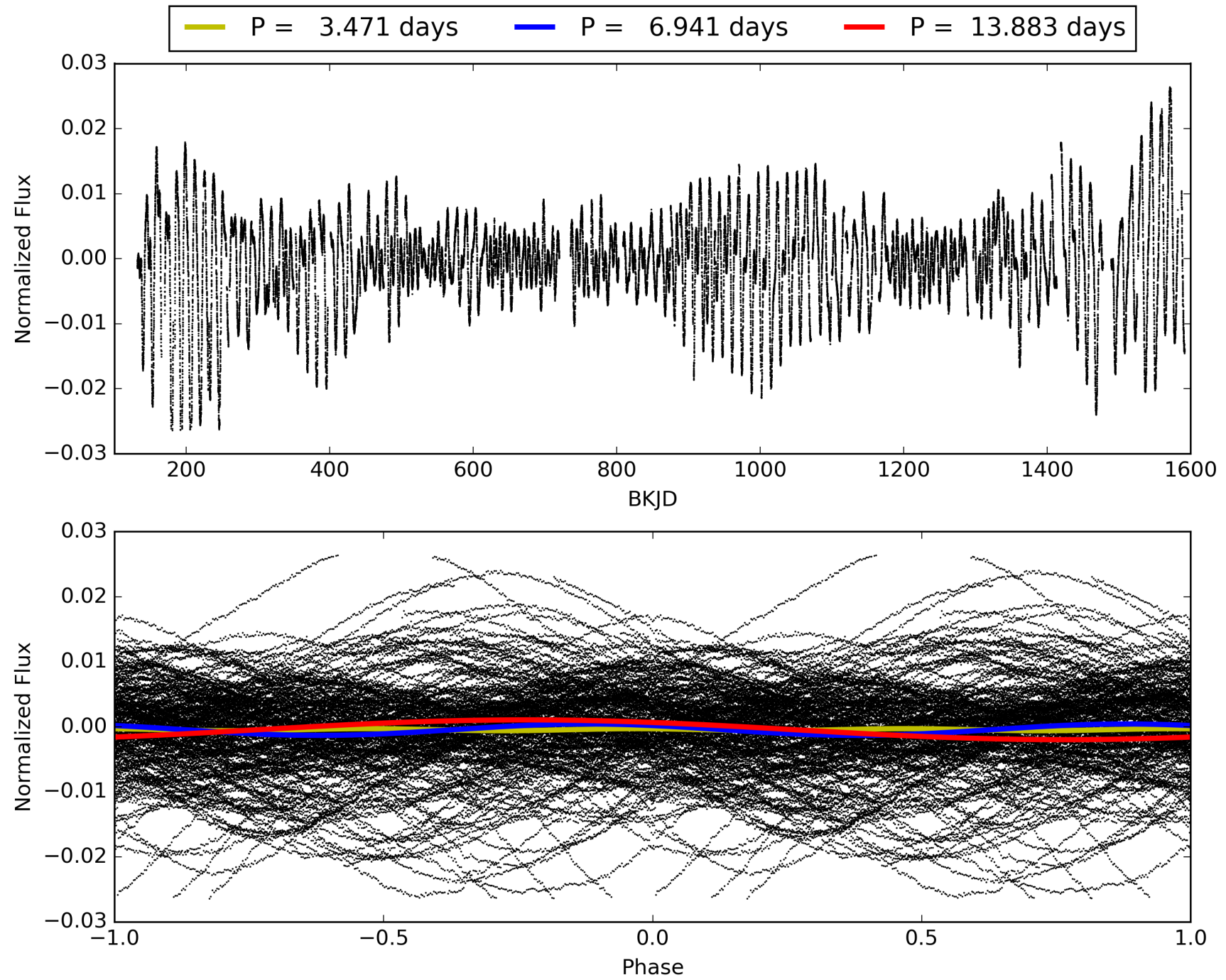
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004644952-01, PDC Light Curves

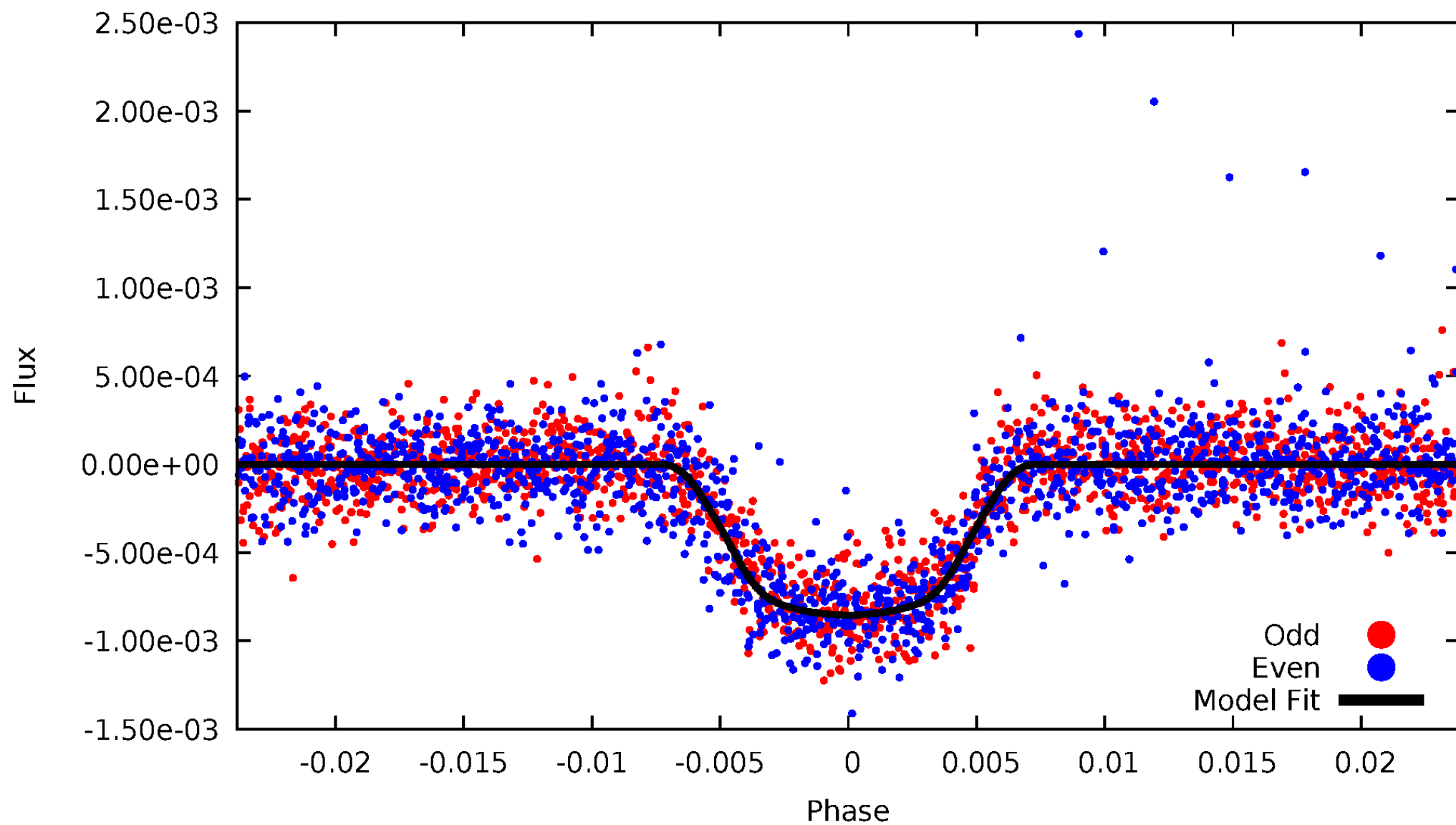


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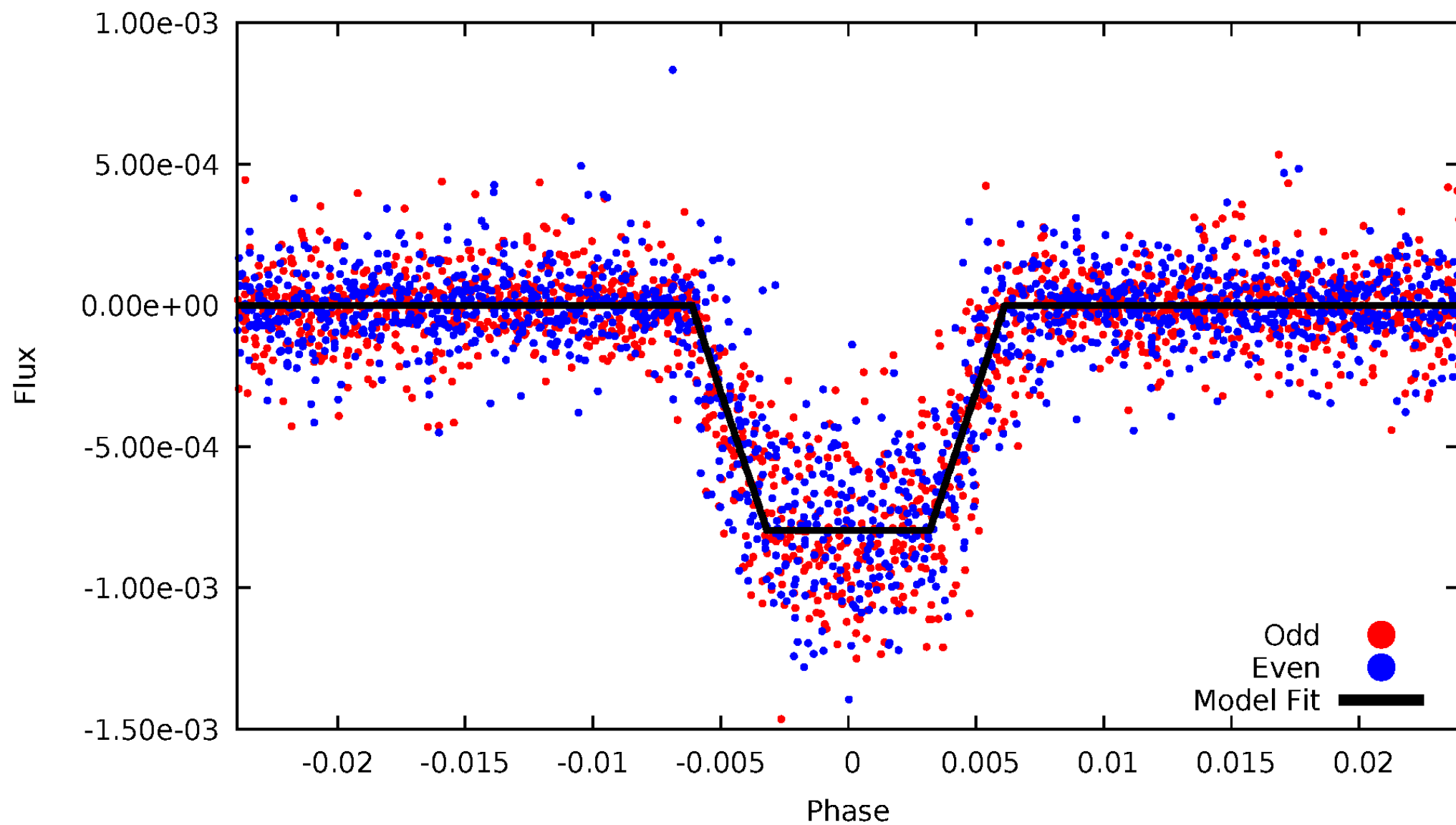
DV Odd/Even

TCE 004644952-01



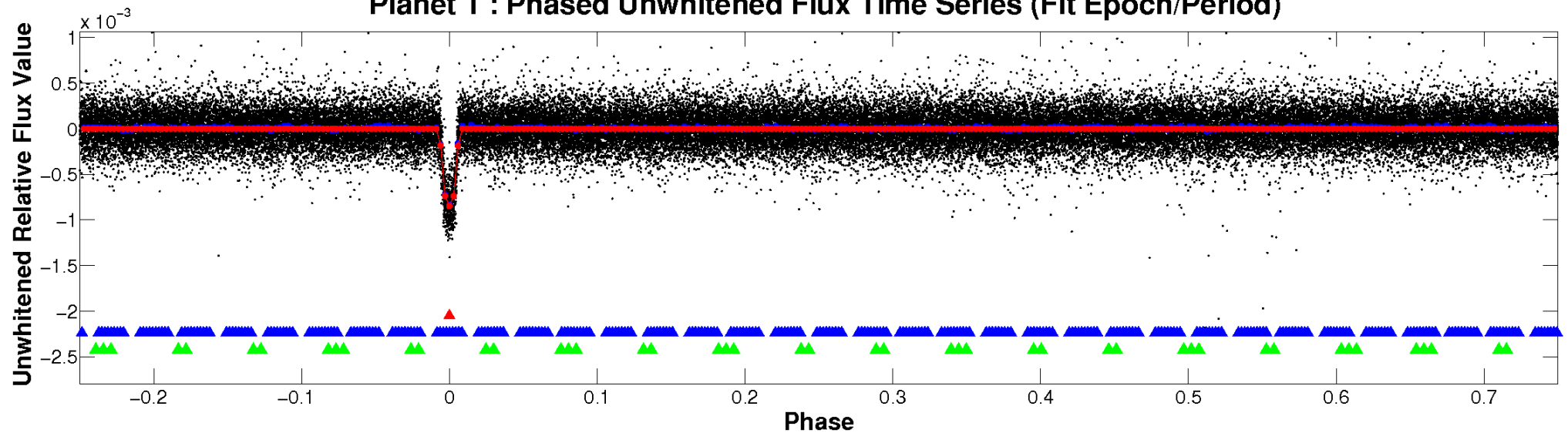
ALT Odd/Even

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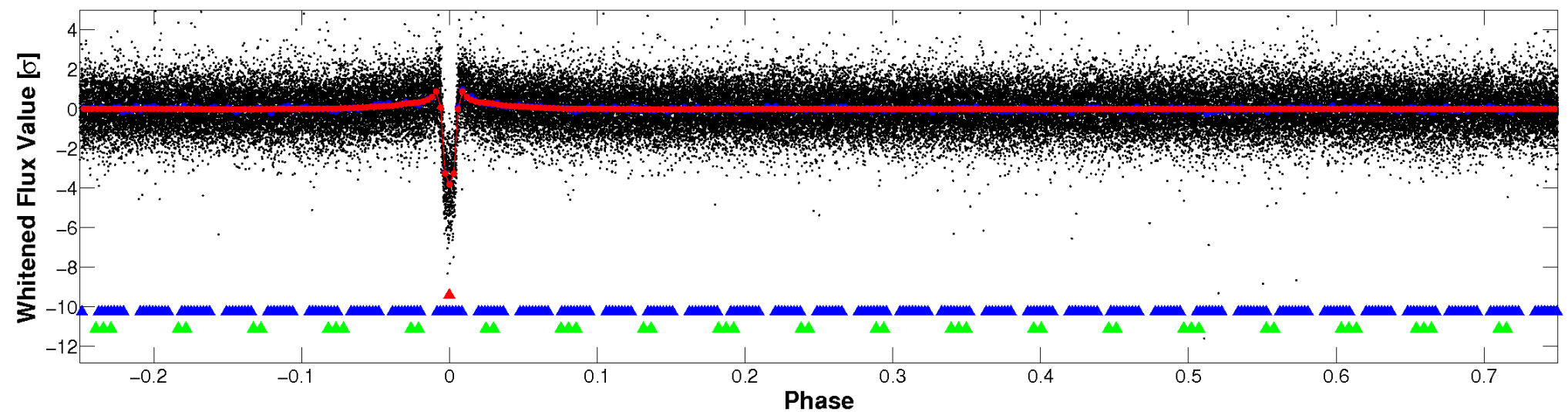


Non-Whitened Vs. Whitened Light Curve

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

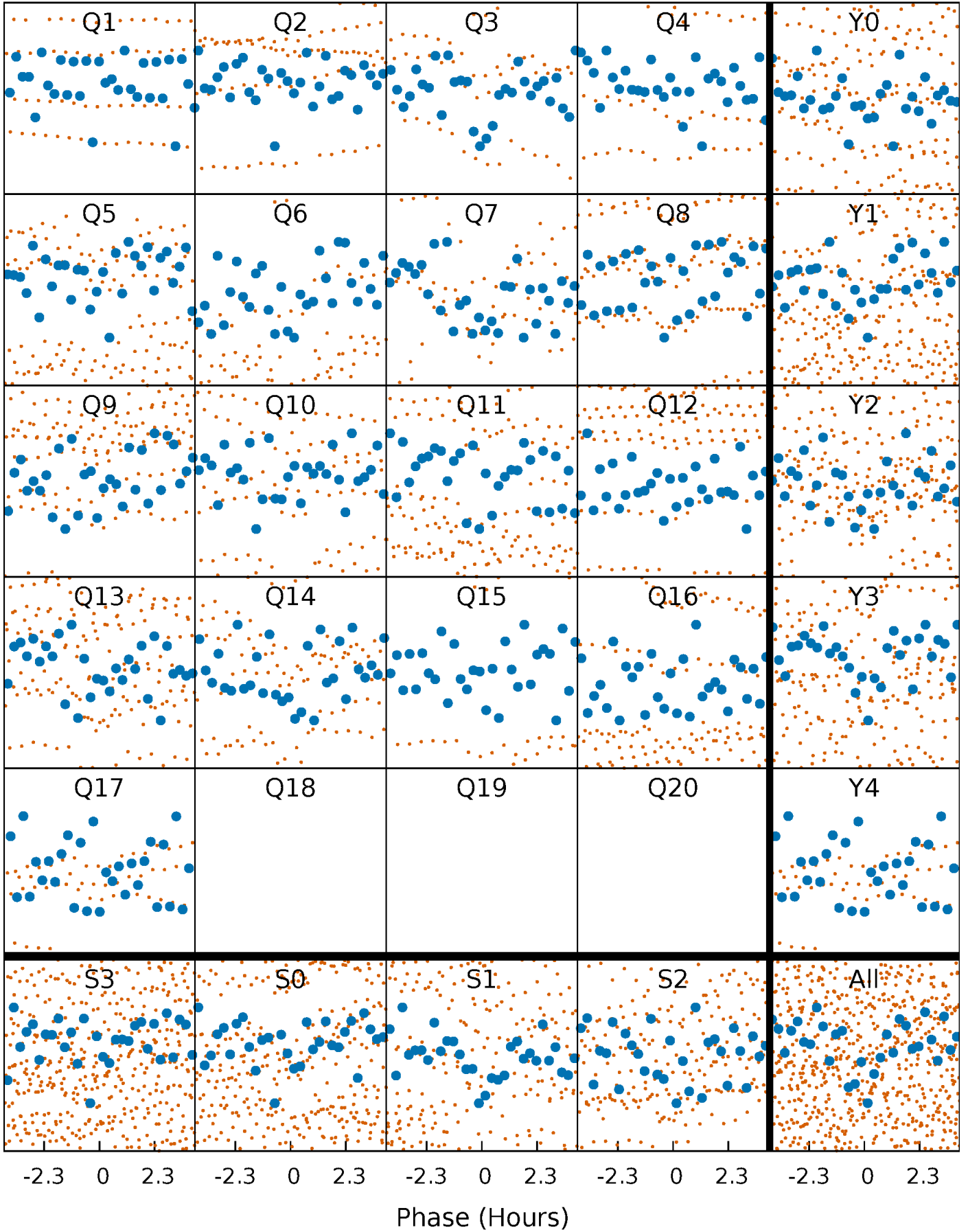


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



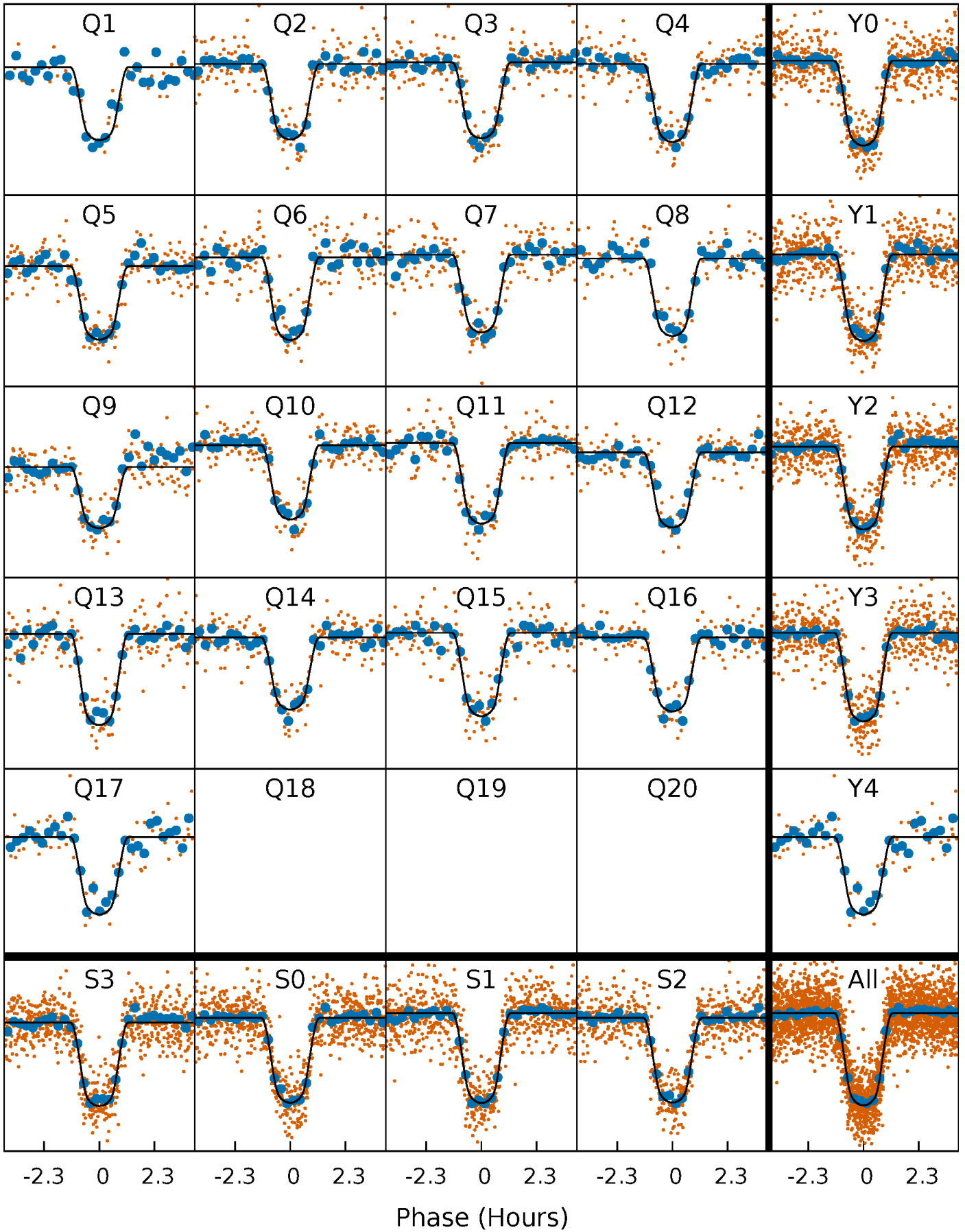
PDC Quarter-Phased Transit Curves

TCE 004644952-01 P= 6.941354 Days $T_0=137.544351$ (BKJD)



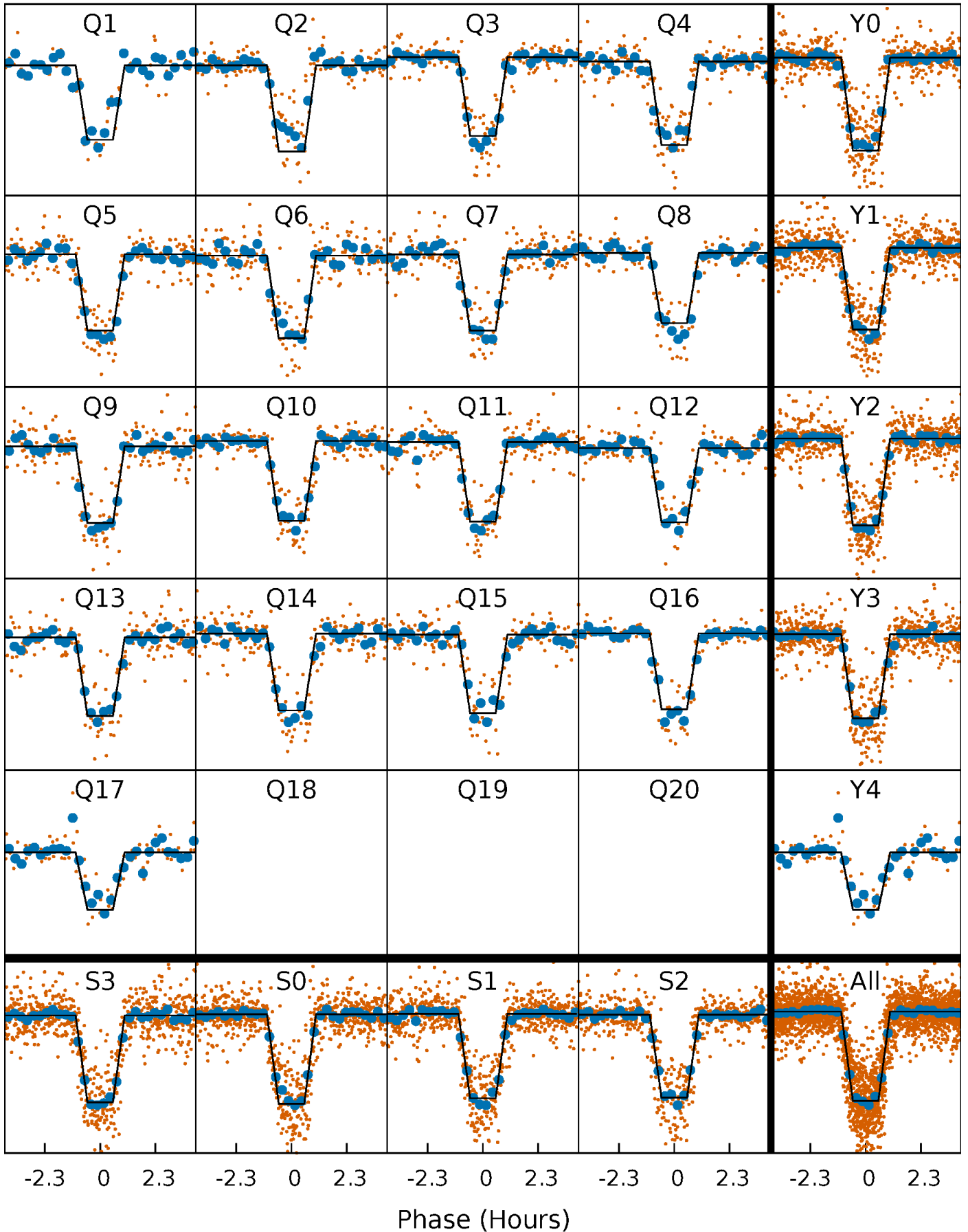
DV Quarter-Phased Transit Curves

TCE 004644952-01 P= 6.941354 Days $T_0=137.544351$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

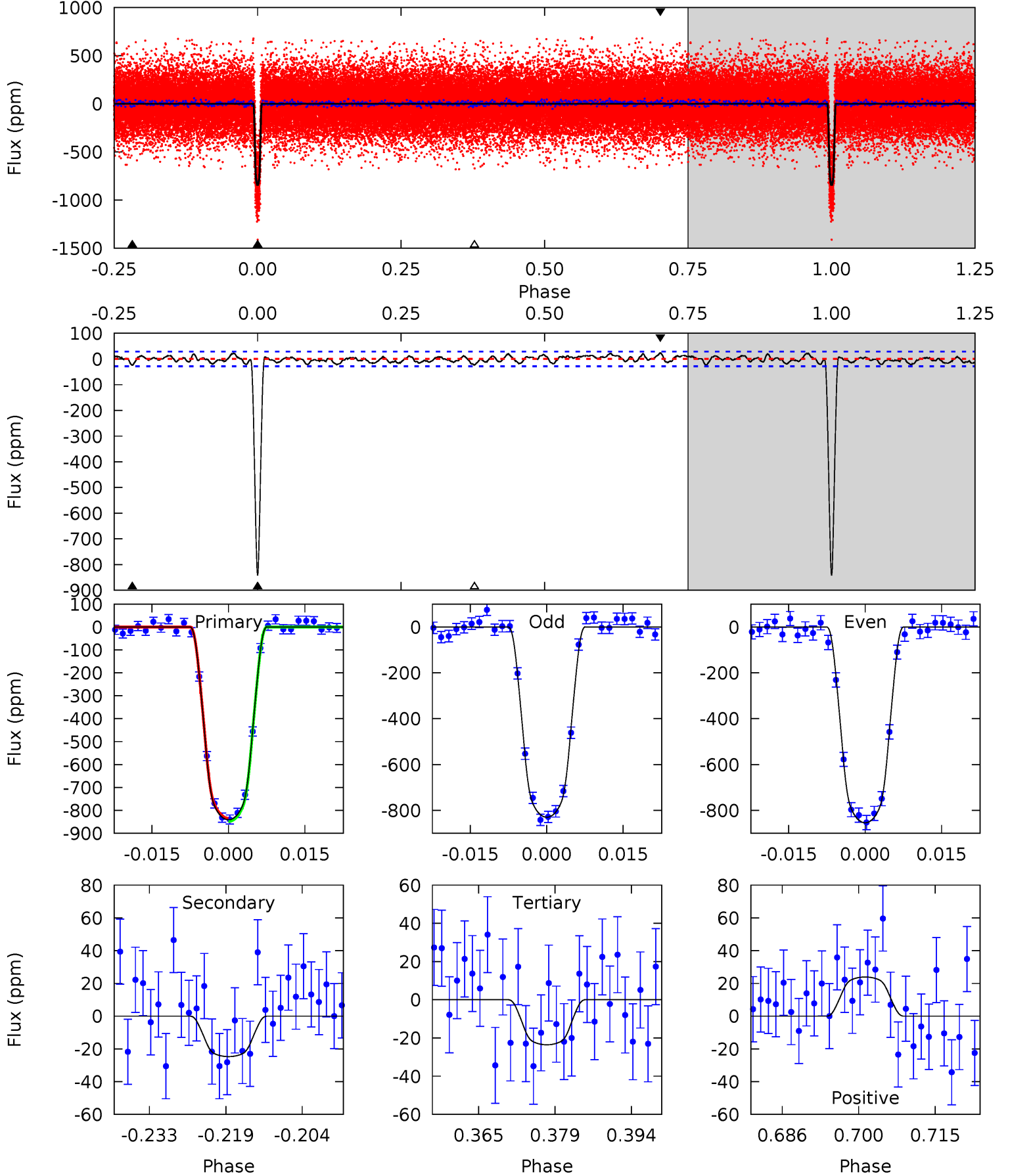
TCE 004644952-01 P= 6.941324 Days $T_0=137.547708$ (BKJD)



DV Model-Shift Uniqueness Test

004644952-01, P = 6.941354 Days, E = 130.602997 Days

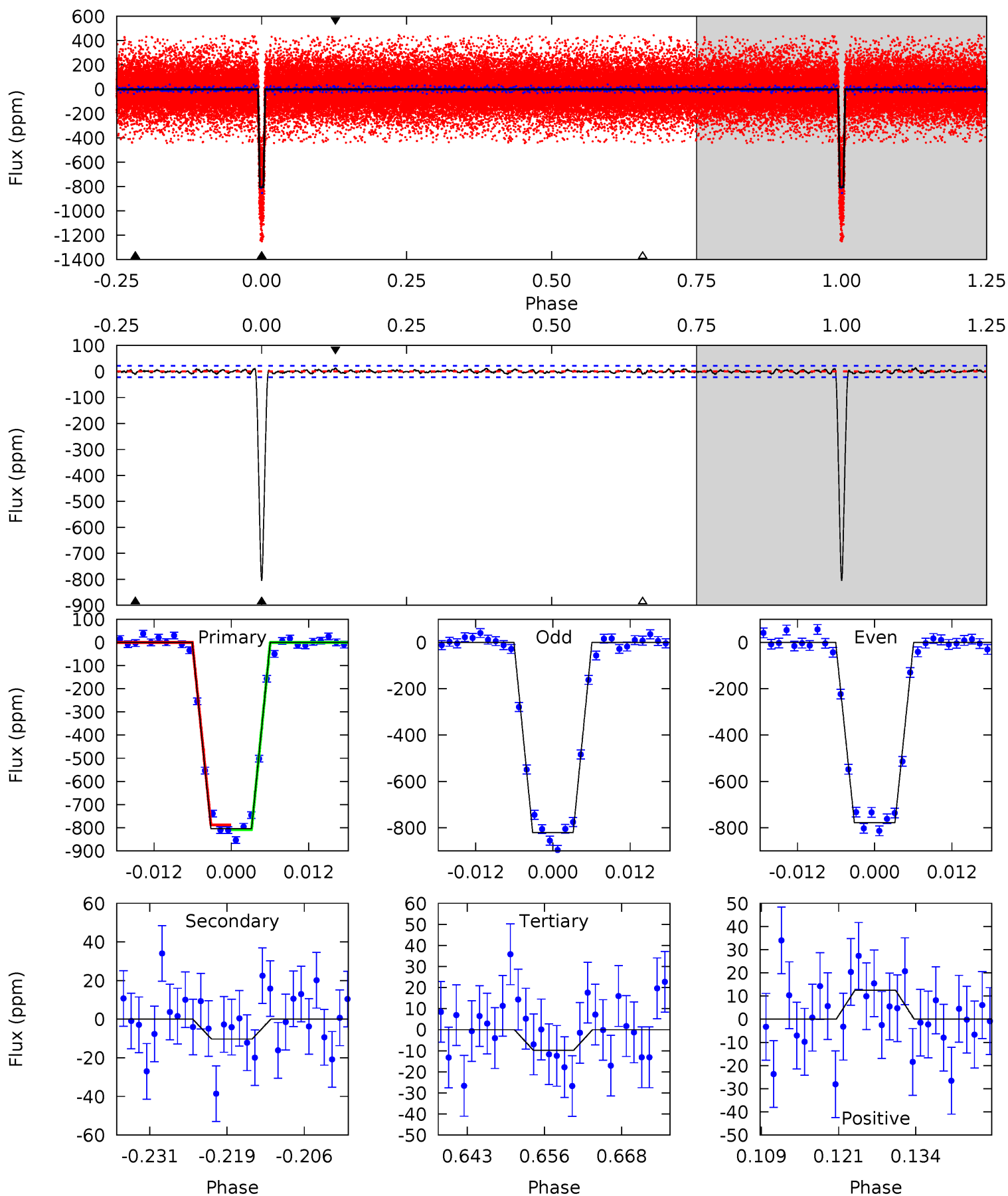
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
145.1	4.26	4.06	4.12	4.95	2.44	1.67	141.0	141.0	0.20	0.14	2.10	0.98	0.03	1.13



Alt Model-Shift Uniqueness Test

004644952-01, P = 6.941324 Days, E = 130.606384 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
181.9	2.33	2.20	2.83	4.99	2.51	0.87	179.7	179.0	0.13	-0.50	4.74	0.99	0.02	2.36



Stellar Parameters For KIC 004644952

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5527^{+110}_{-110}	$4.491^{+0.060}_{-0.090}$	$-0.080^{+0.150}_{-0.150}$	$0.880^{+0.100}_{-0.067}$	$0.875^{+0.055}_{-0.050}$	$1.808^{+0.424}_{-0.489}$
	+2%/-2%	+1%/-2%	+188%/-188%	+11%/-8%	+6%/-6%	+23%/-27%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 004644952-01 / KOI 1805.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-25 ± 6	$3.12^{+0.22}_{-0.20}$	1229^{+44}_{-35}	2857^{+101}_{-124}	$6.422^{+1.743}_{-1.731}$
Alt.	-10 ± 4	$2.72^{+0.22}_{-0.18}$	1227^{+46}_{-37}	2615^{+154}_{-181}	$3.430^{+1.787}_{-1.410}$

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 $A_{obs} \gg 1.0$

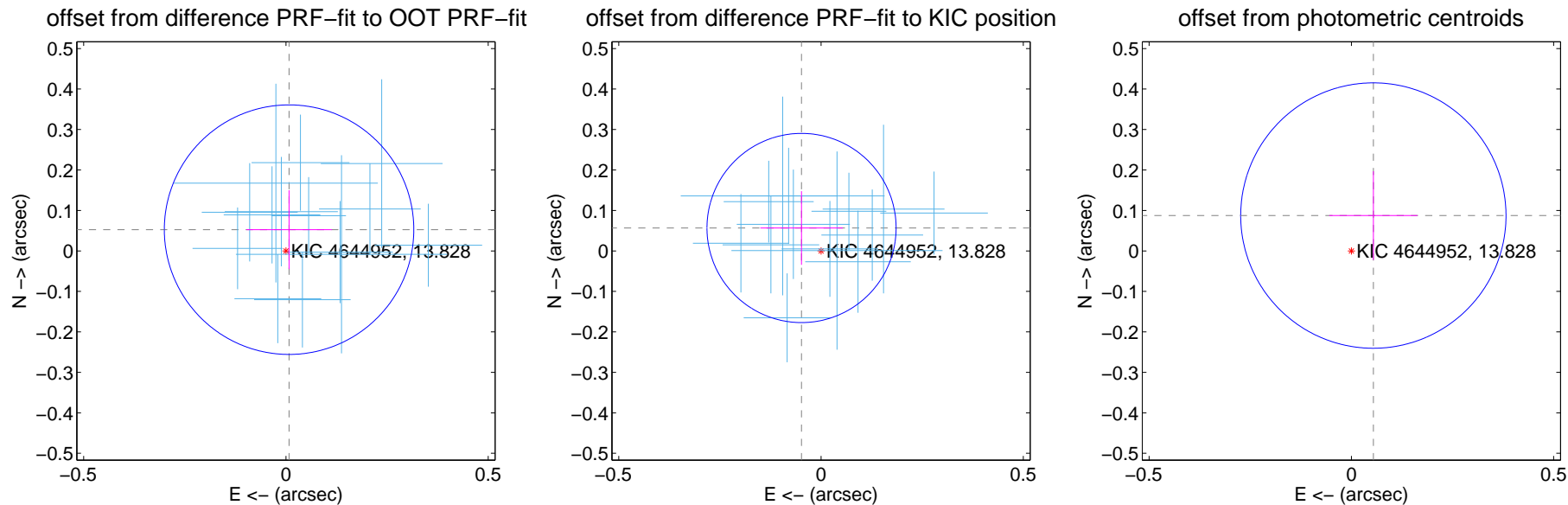
DV Centroid Data

Supplemental centroid analysis for 004644952-01. Kepler magnitude: 13.83. Transit SNR 85.09

There are 17 quarters with good PRF difference image offsets

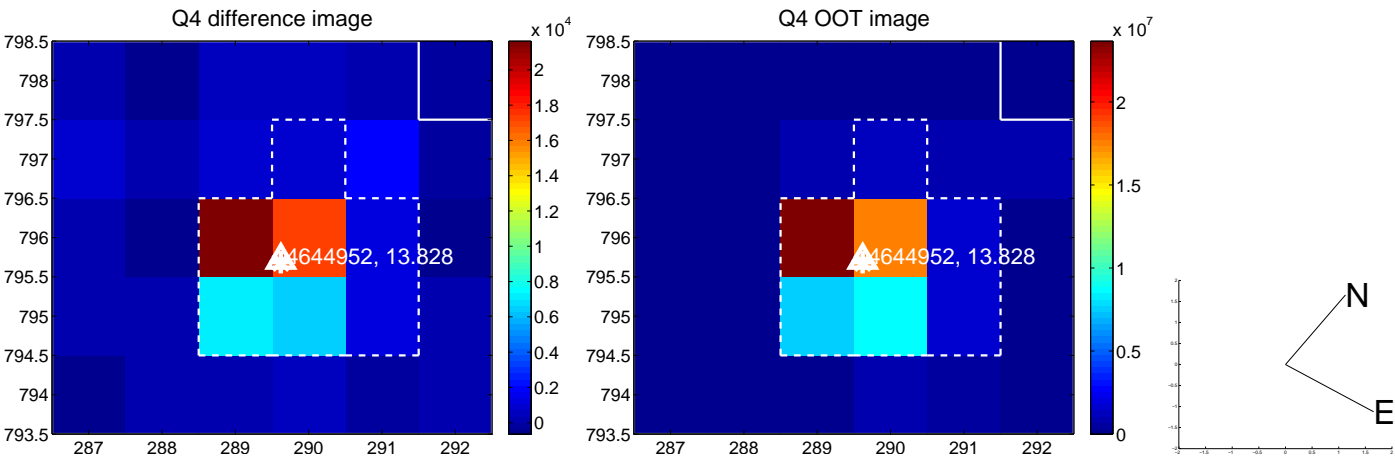
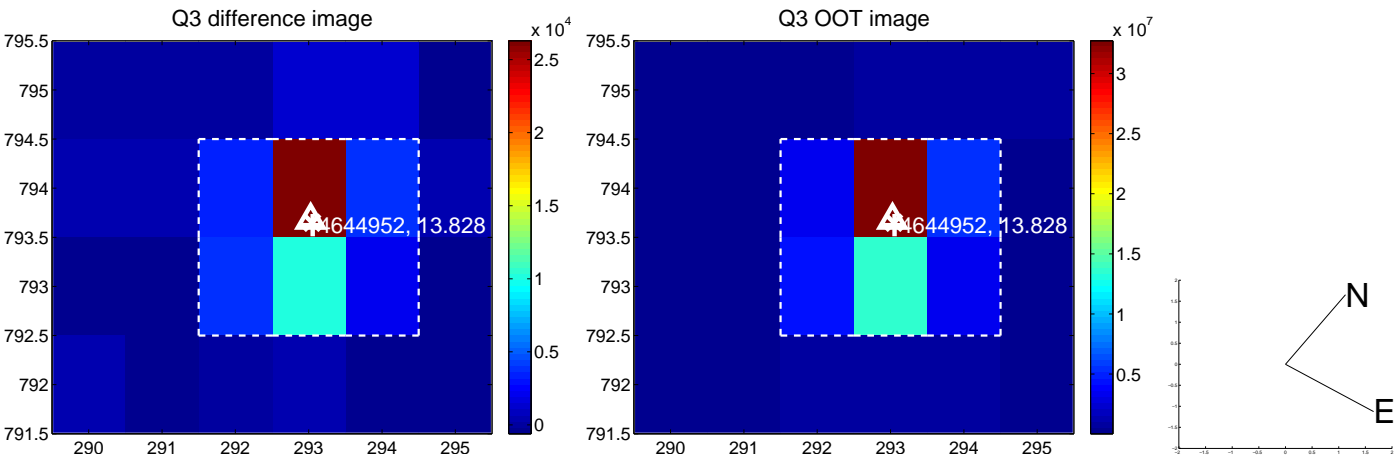
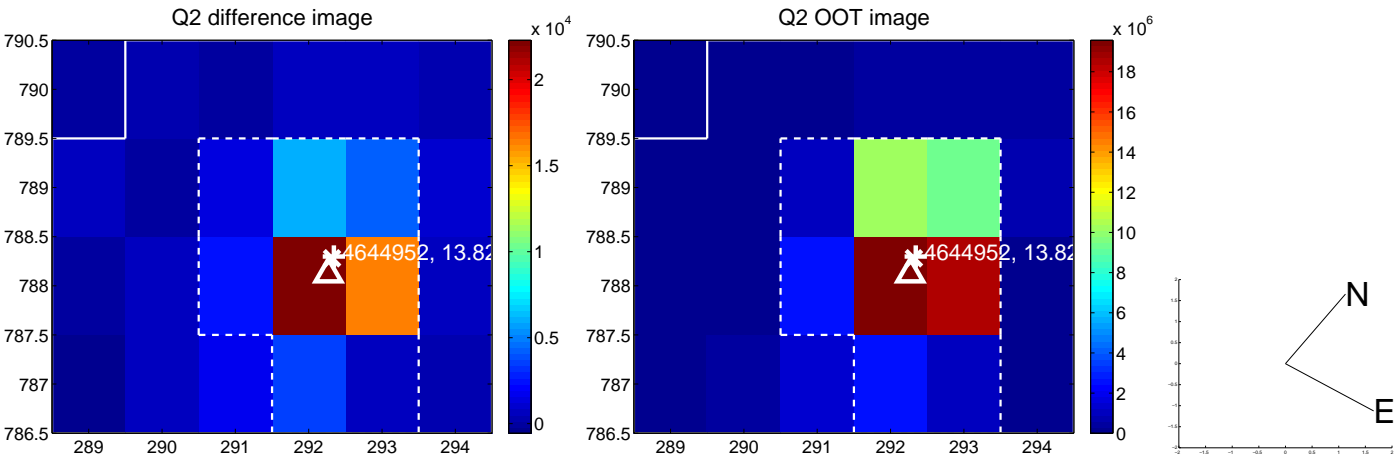
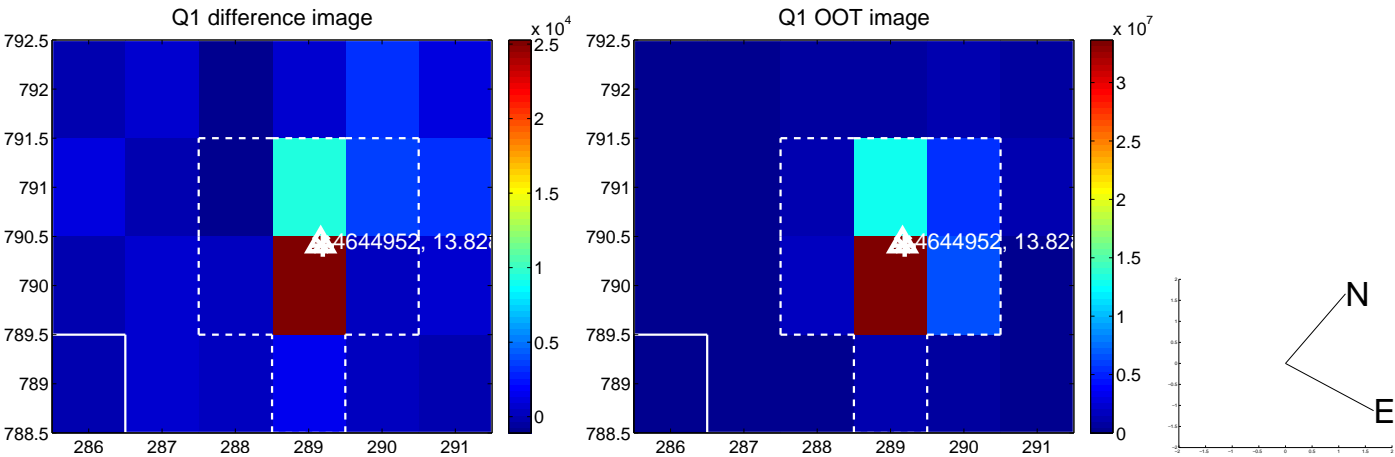
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.053 ± 0.103	0.52	-0.008 ± 0.106	0.053 ± 0.097
PRF-fit source offset from KIC position	0.074 ± 0.078	0.96	0.048 ± 0.102	0.057 ± 0.091
photometric centroid source offset	0.10 ± 0.11	0.94	-0.05 ± 0.11	0.09 ± 0.11

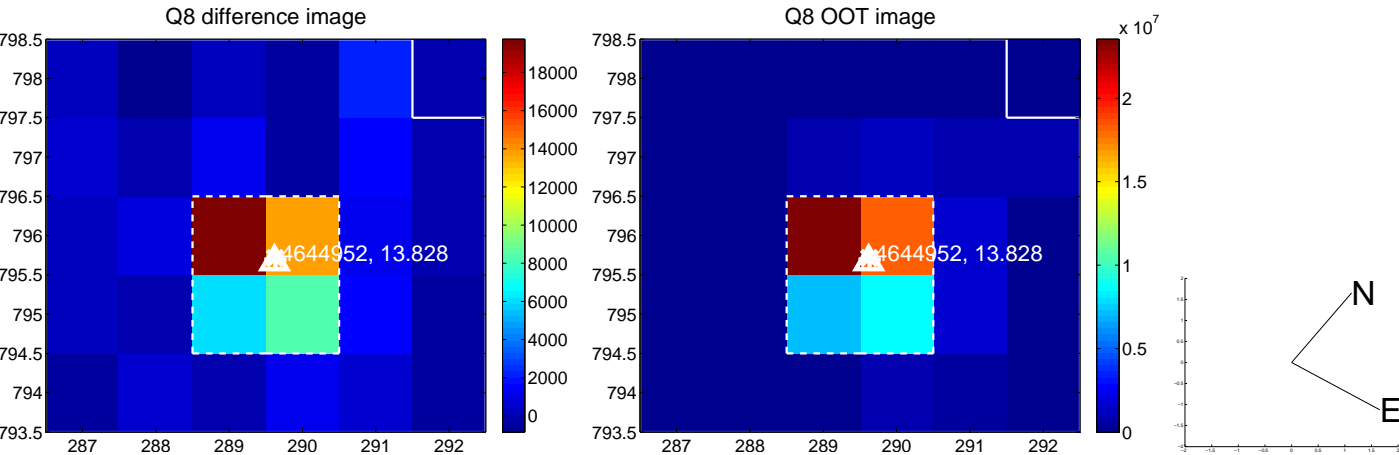
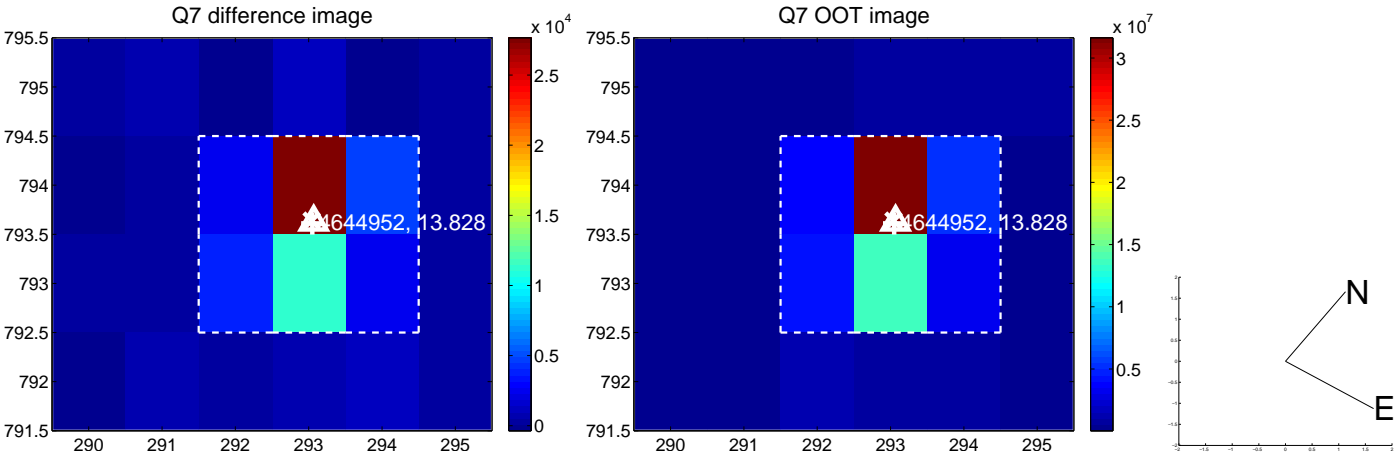
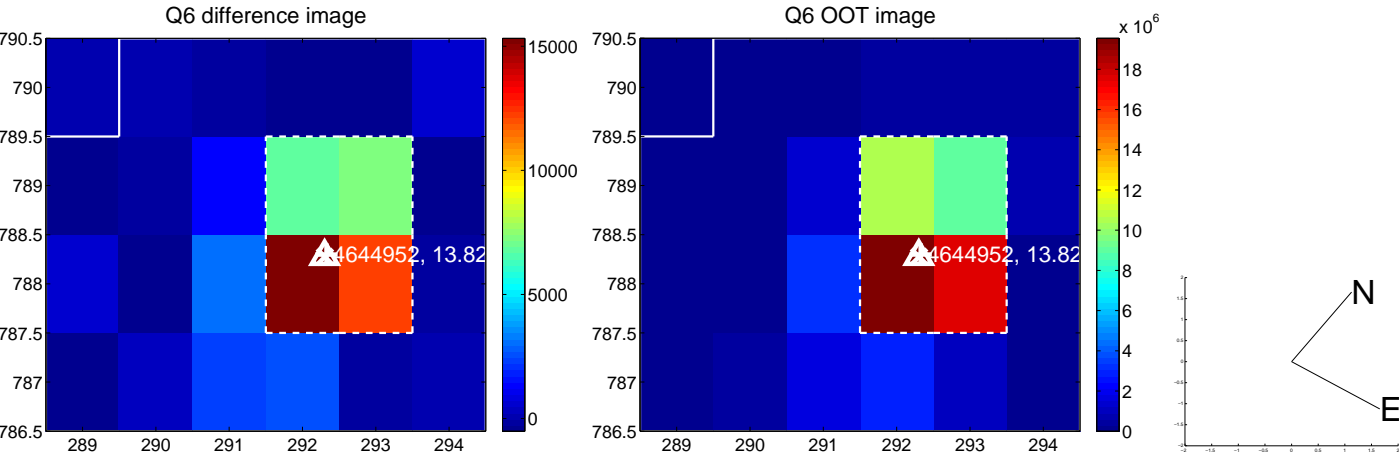
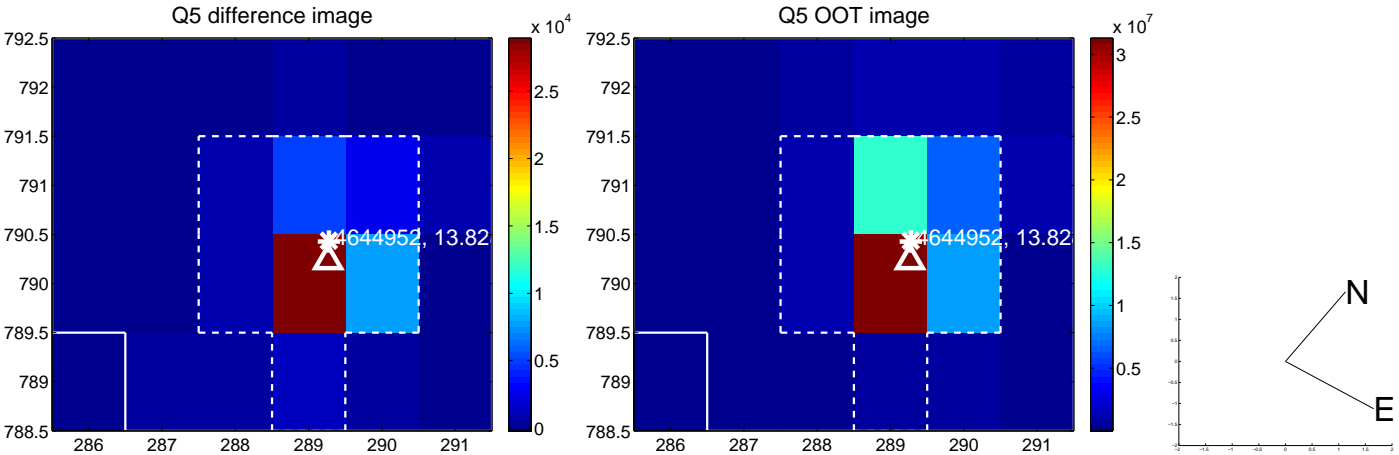


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

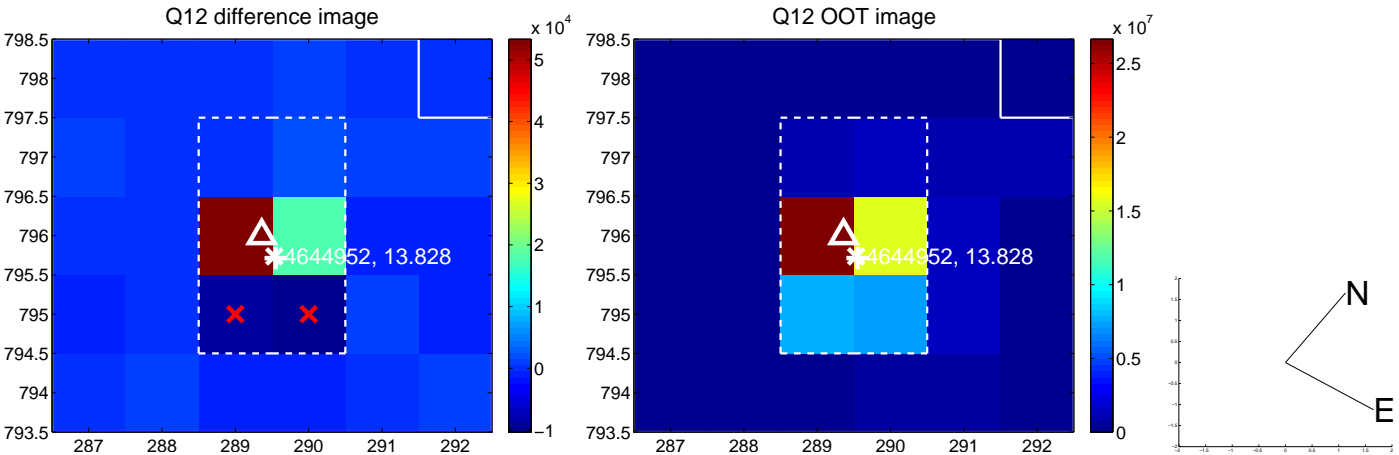
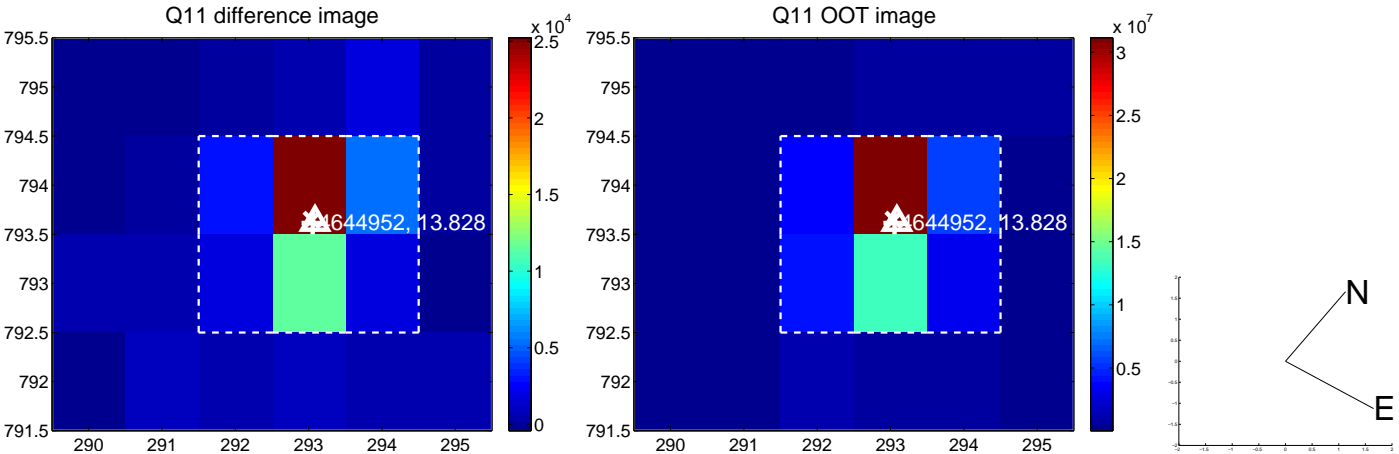
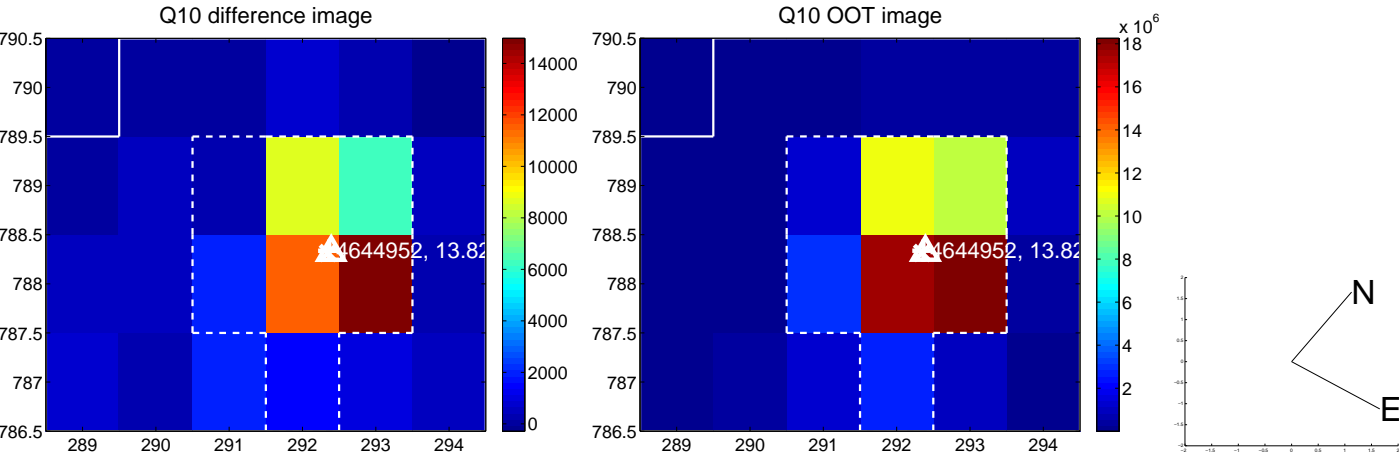
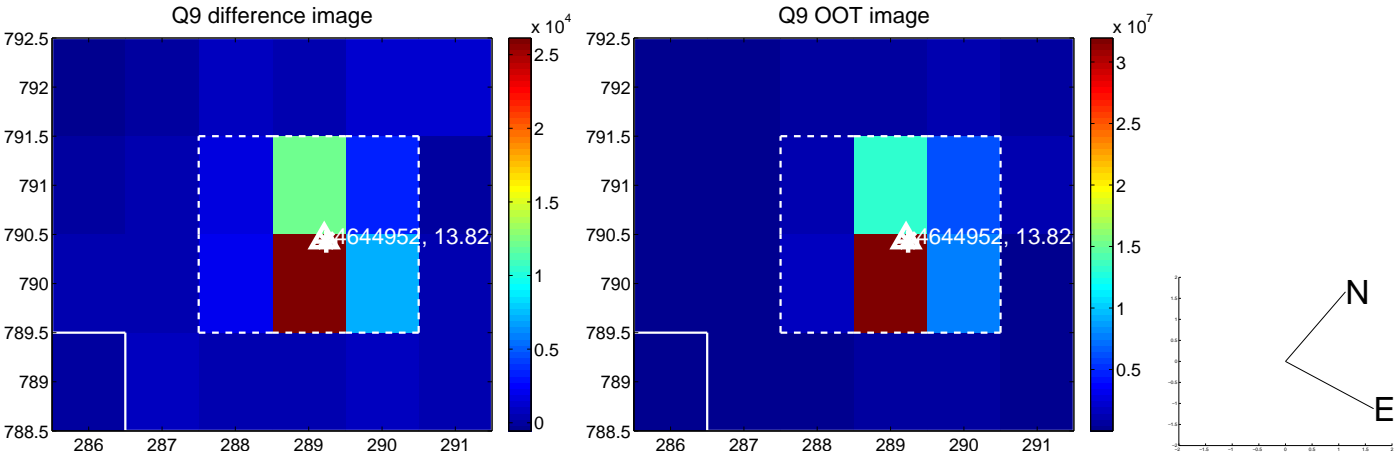
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



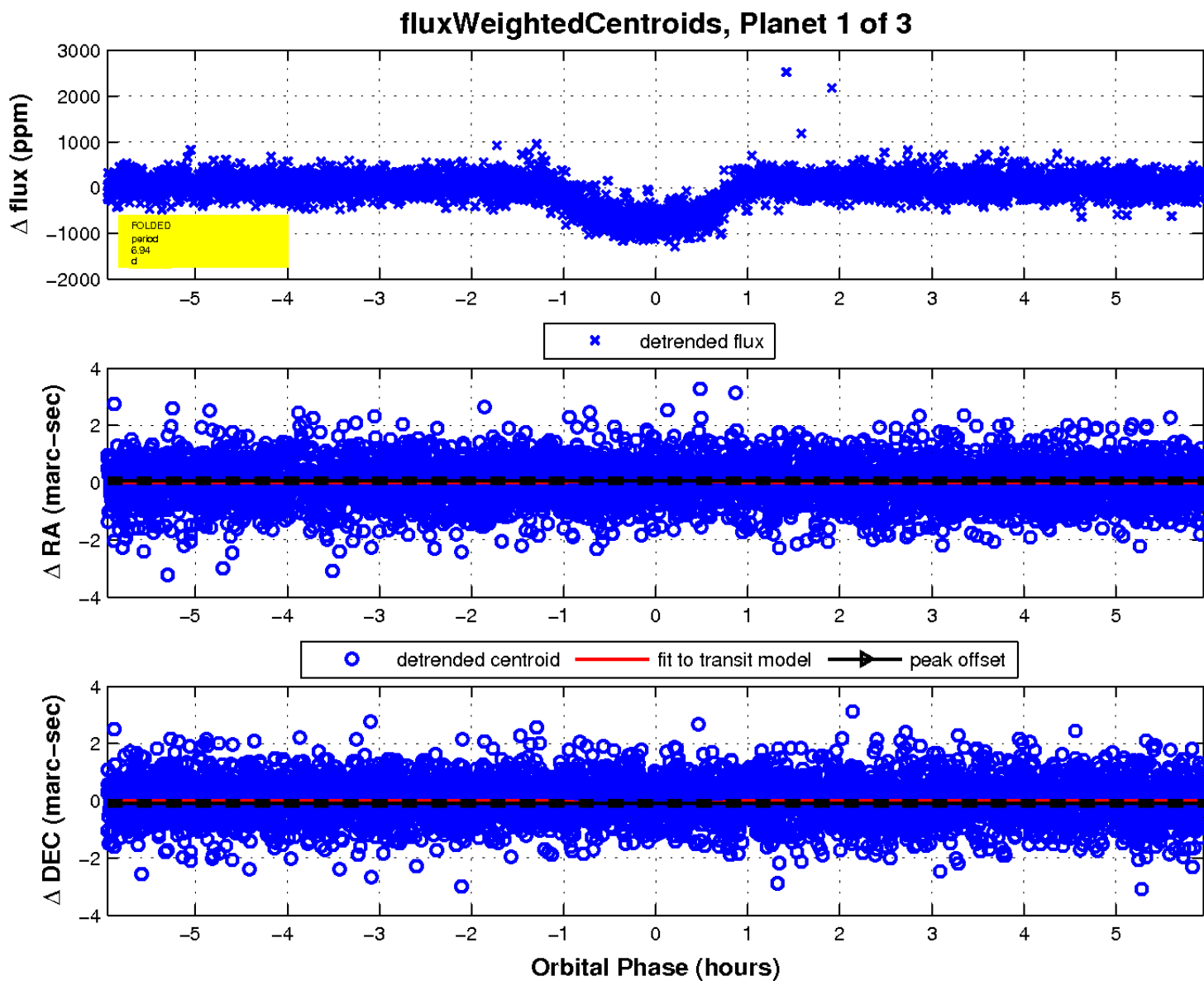
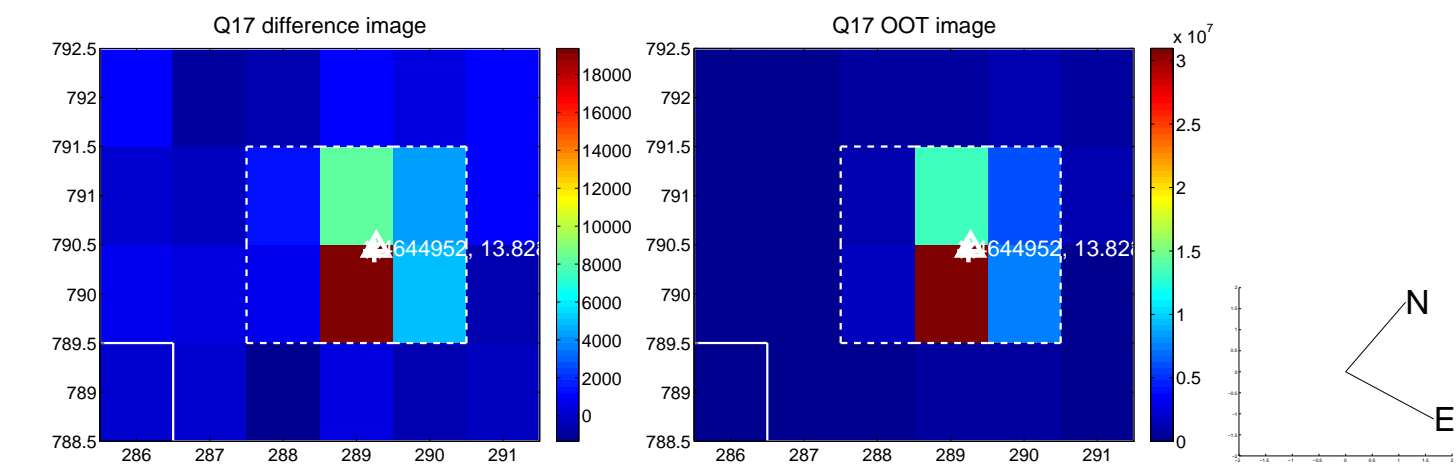
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

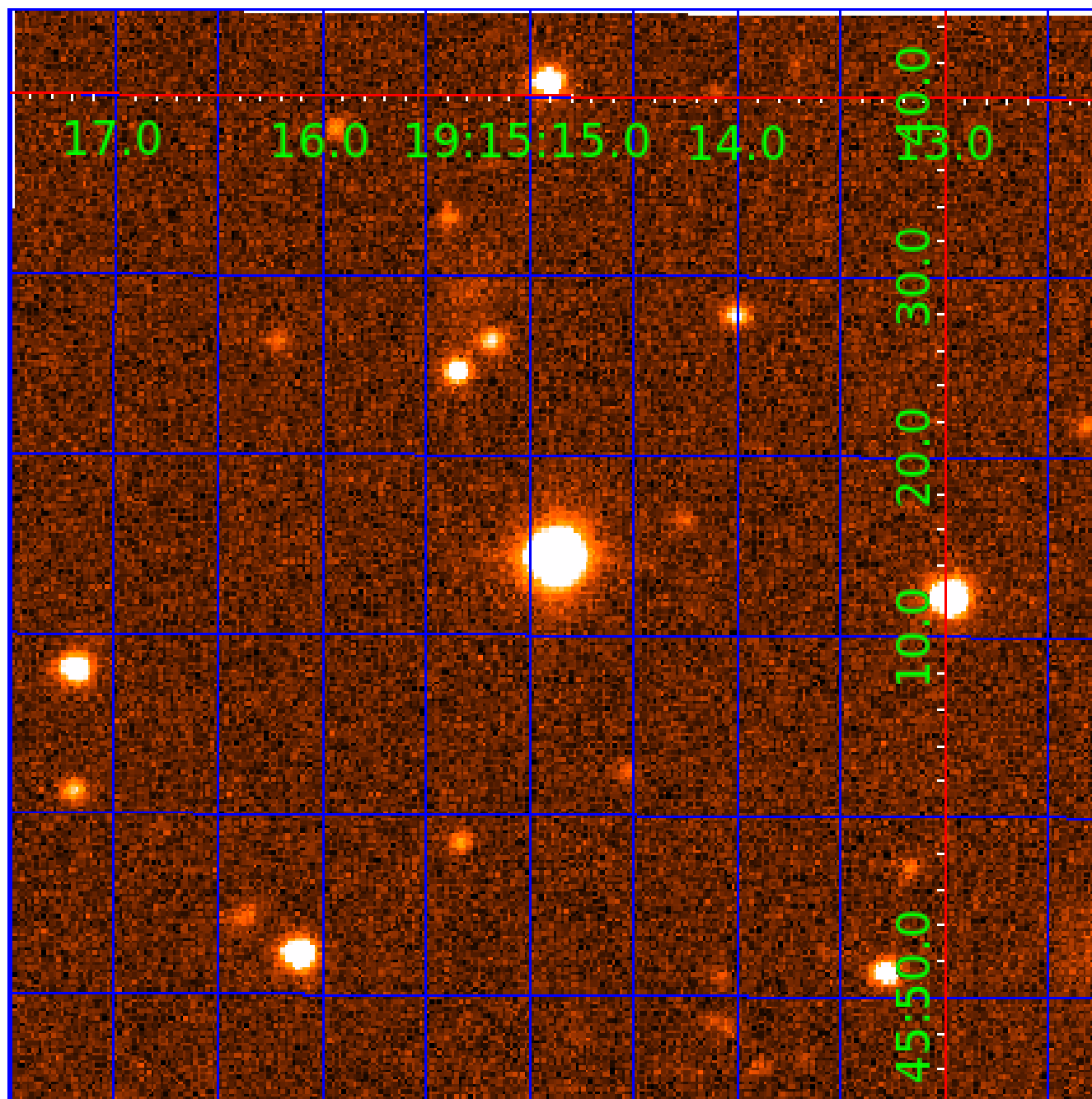


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004644952

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

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004644952-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
004644952-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
004644952-03	OBS	PC	1.00	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.

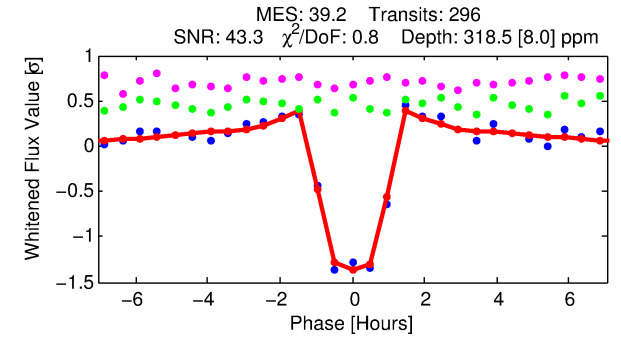
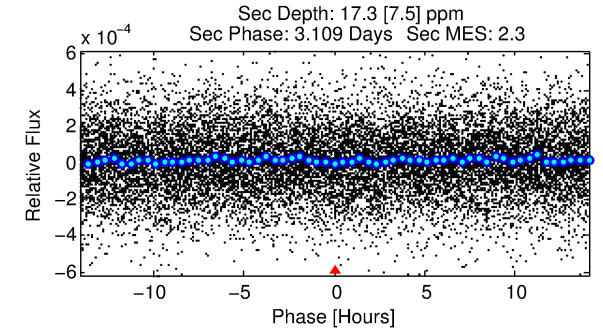
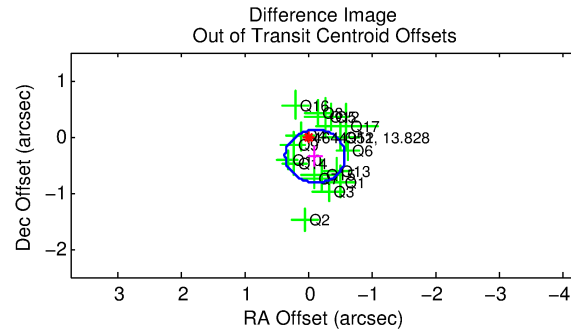
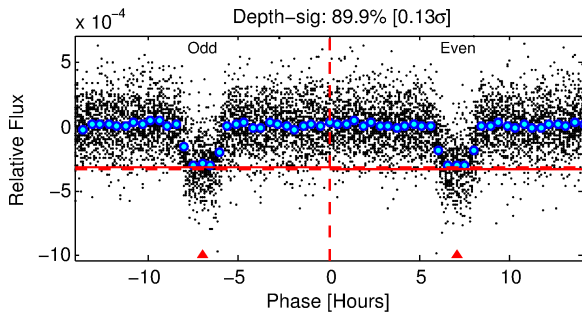
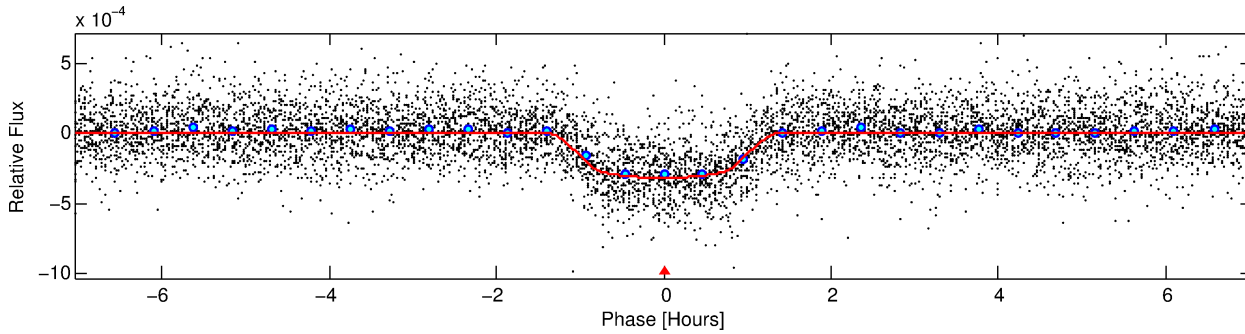
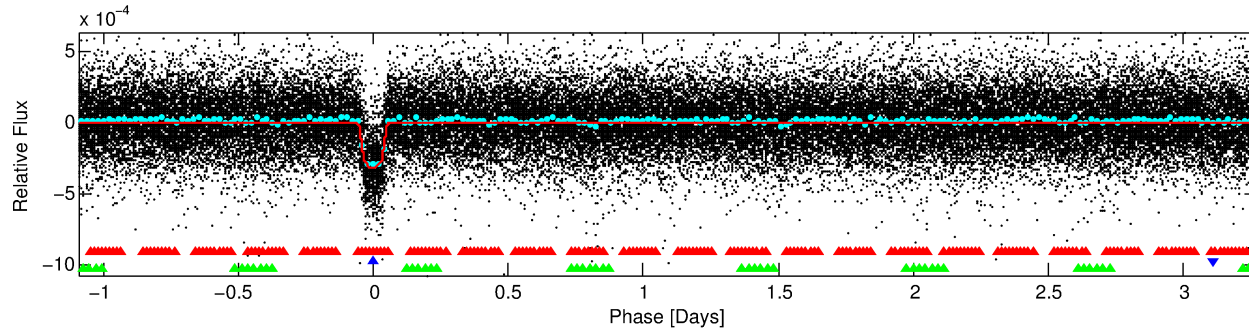
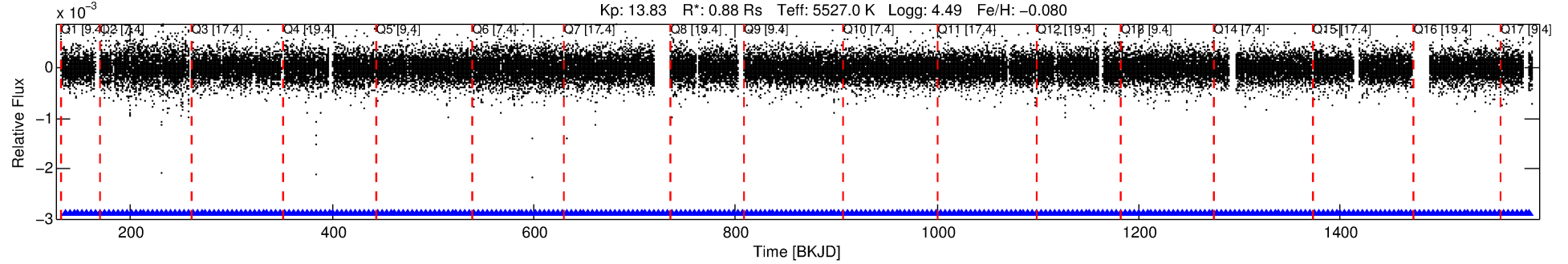
Ephemeris Match Information For 004644952-02

No Significant Match Found

DV One-Page Summary

KIC: 4644952 Candidate: 2 of 3 Period: 4.363 d
KOI: K01805.03 Name: Kepler-319b Corr: 0.966

Kp: 13.83 R*: 0.88 Rs Teff: 5527.0 K Logg: 4.49 Fe/H: -0.080



DV Fit Results:

Period = 4.36272 [0.00001] d
Epoch = 135.2340 [0.0008] BKJD
Rp/R* = 0.0196 [0.0020]
a/R* = 6.86 [3.06]
b = 0.90 [0.10]
Seff = 259.12 [45.74]
Teff = 1023 [45] K
Rp = 1.88 [0.29] Re
a = 0.0500 [0.0051] AU
Ag = 6.74 [3.38] [1.70σ]
Teffp = 2548 [308] K [4.90σ]

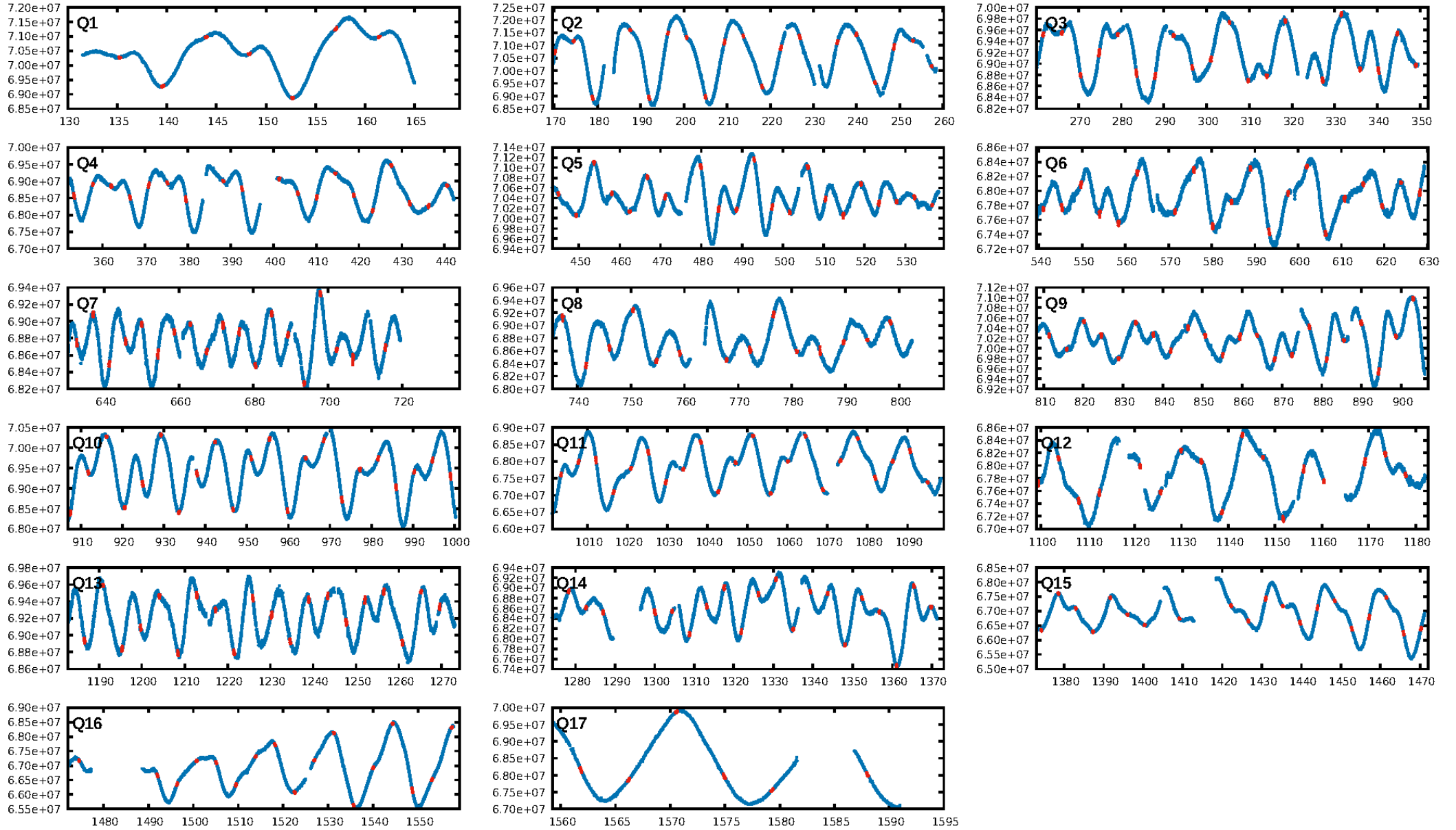
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [20.12σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.14e-308
RollingBand-fgt: 1.00 [283/283]
GhostDiagnostic-chr: 3.033
Centroid-sig: 34.3%
Centroid-so: 0.185 arcsec [0.90σ]
OotOffset-rm: 0.363 arcsec [2.31σ]
KicOffset-rm: 0.340 arcsec [2.16σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

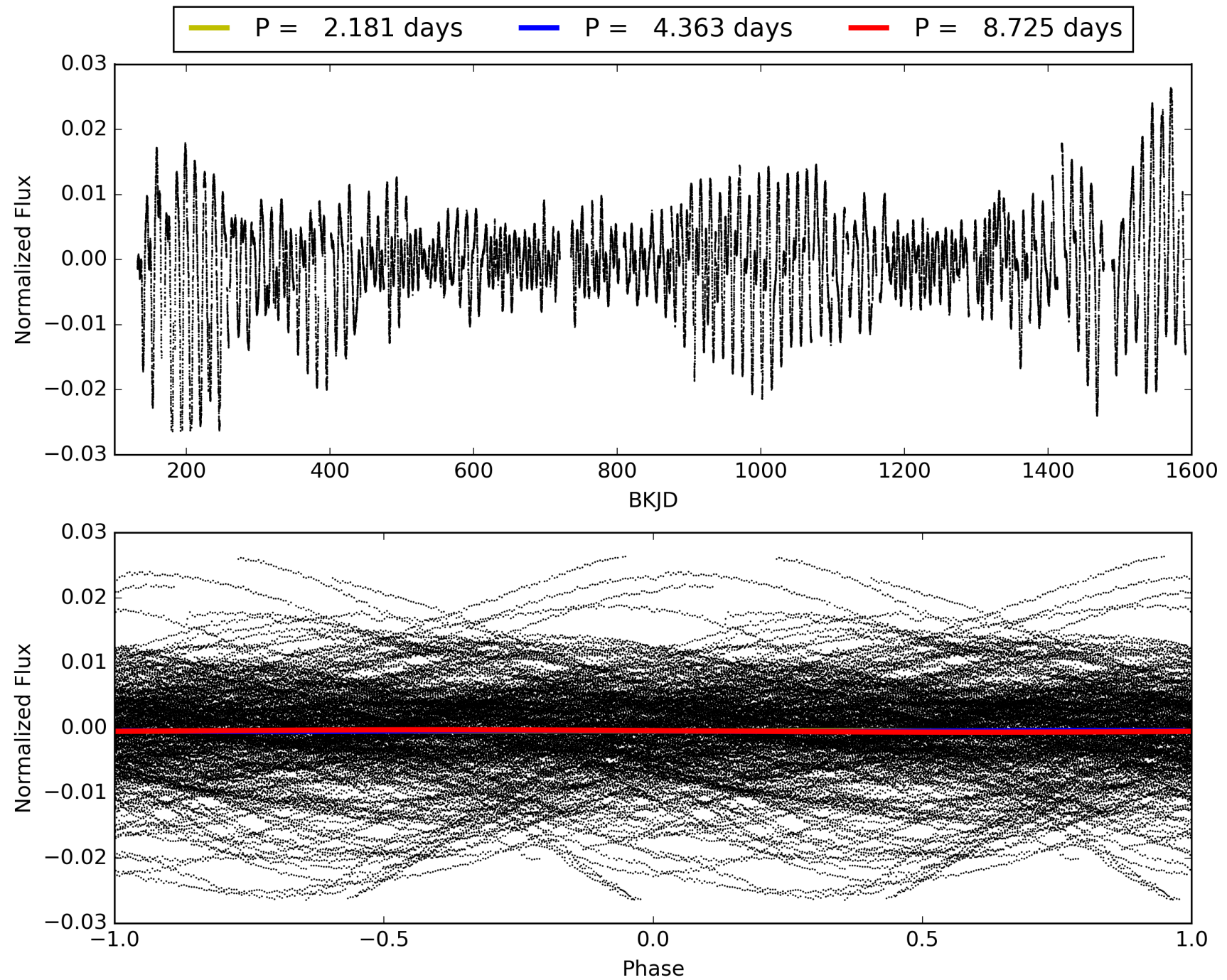
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:44:15 Z

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

TCE 004644952-02, PDC Light Curves

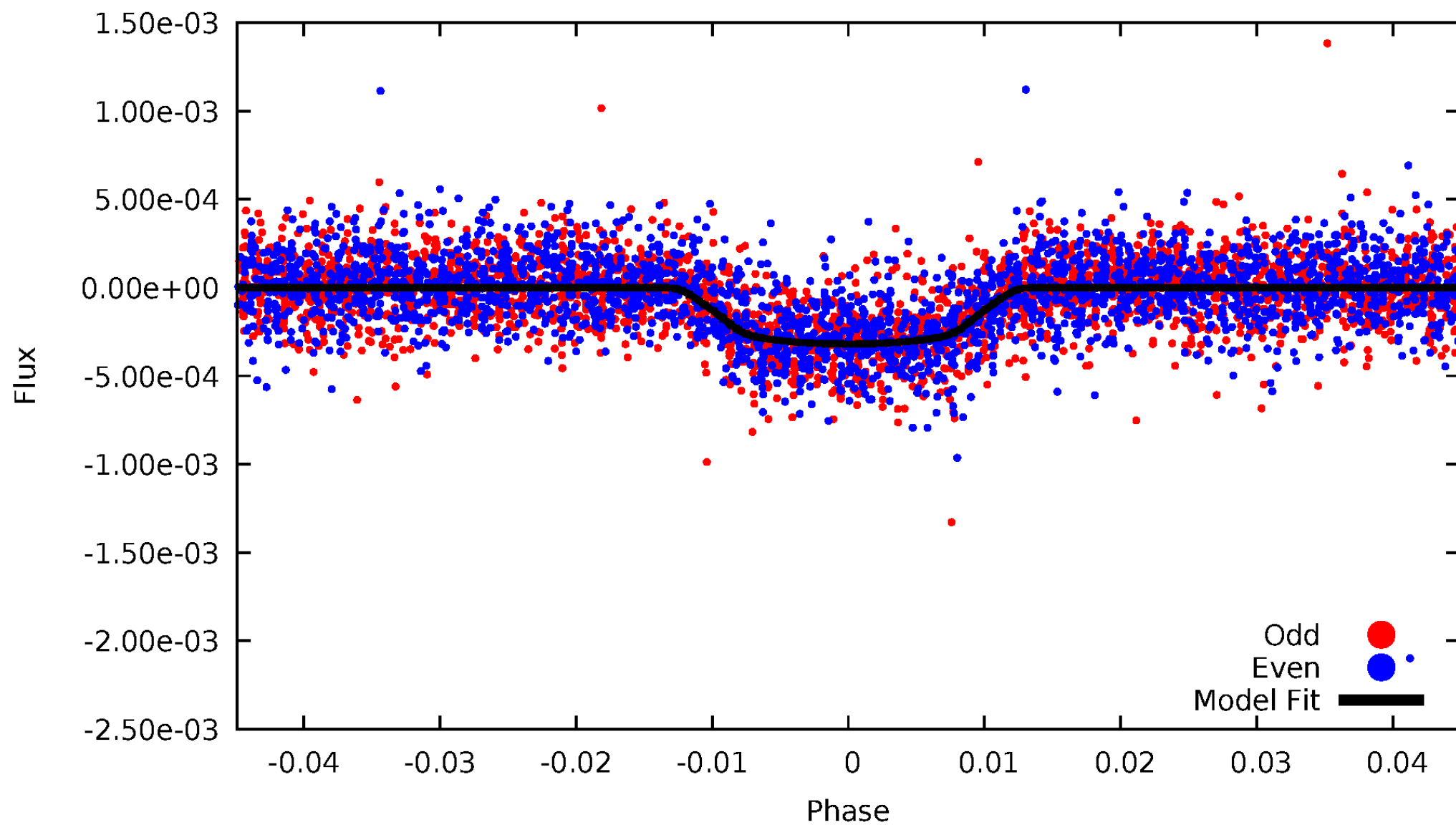


TCE 004644952-02



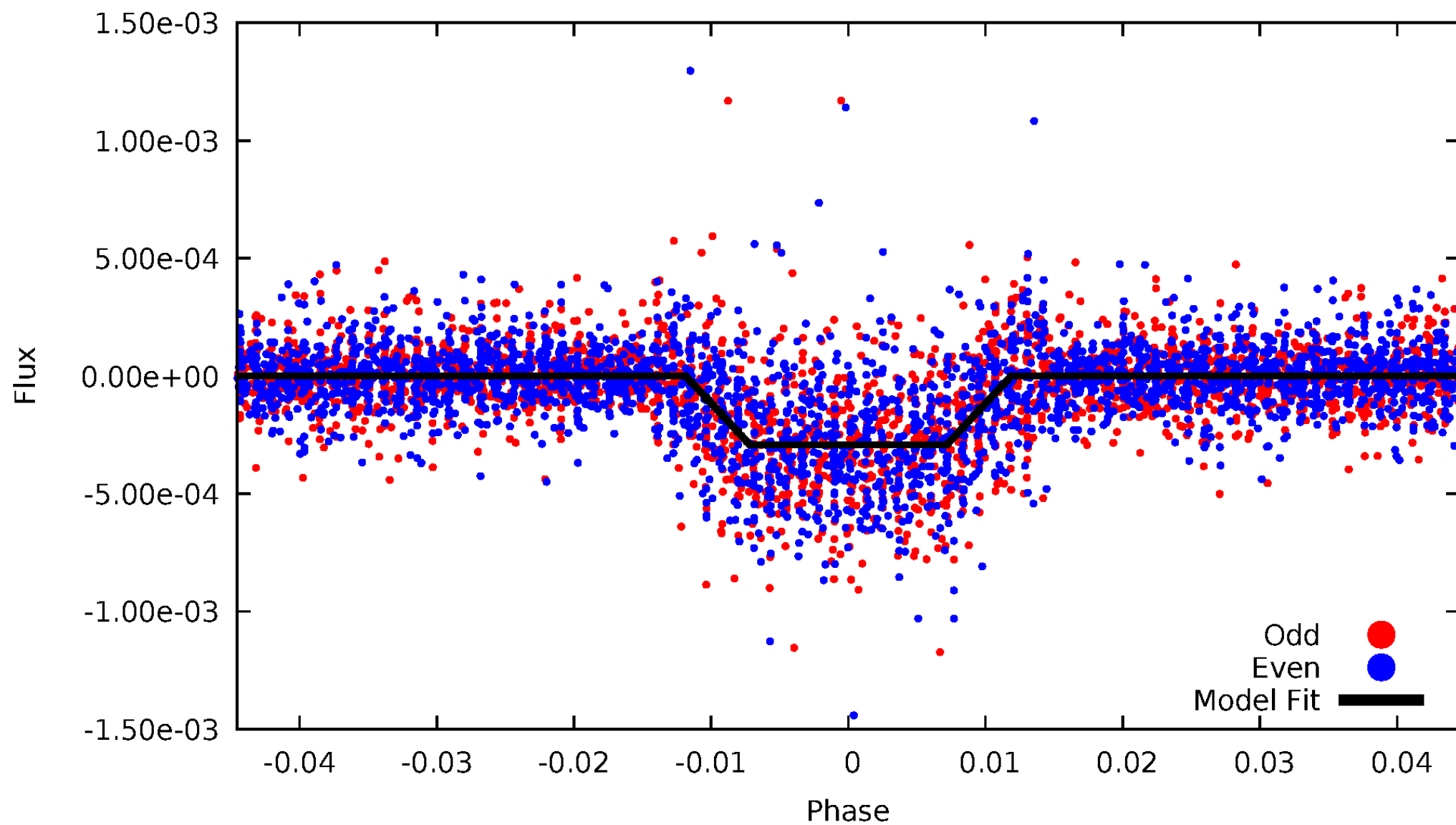
DV Odd/Even

TCE 004644952-02



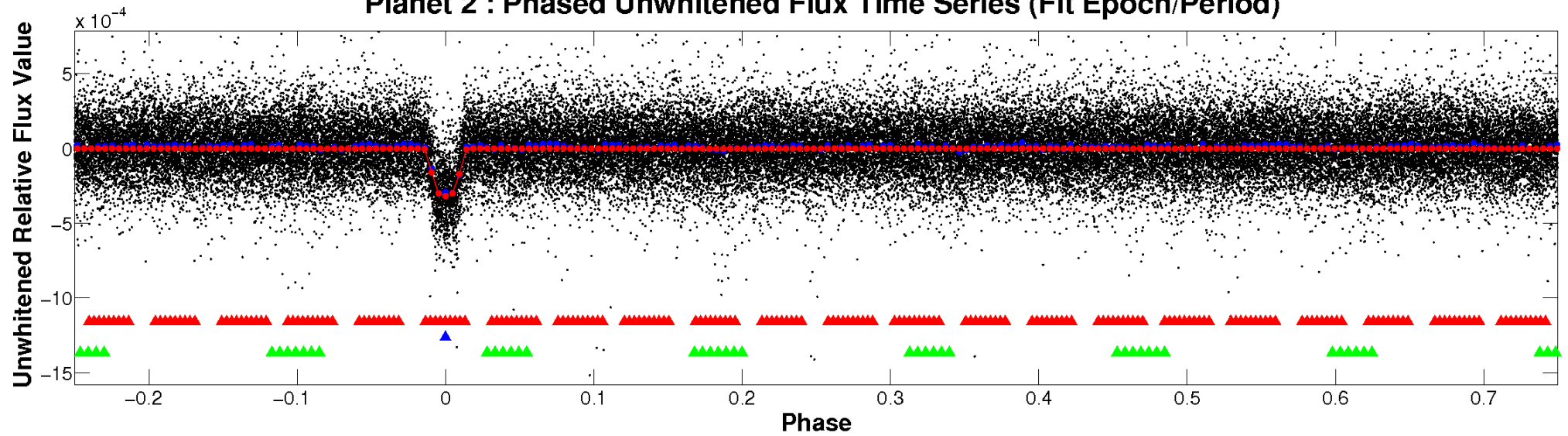
ALT Odd/Even

TCE 004644952-02

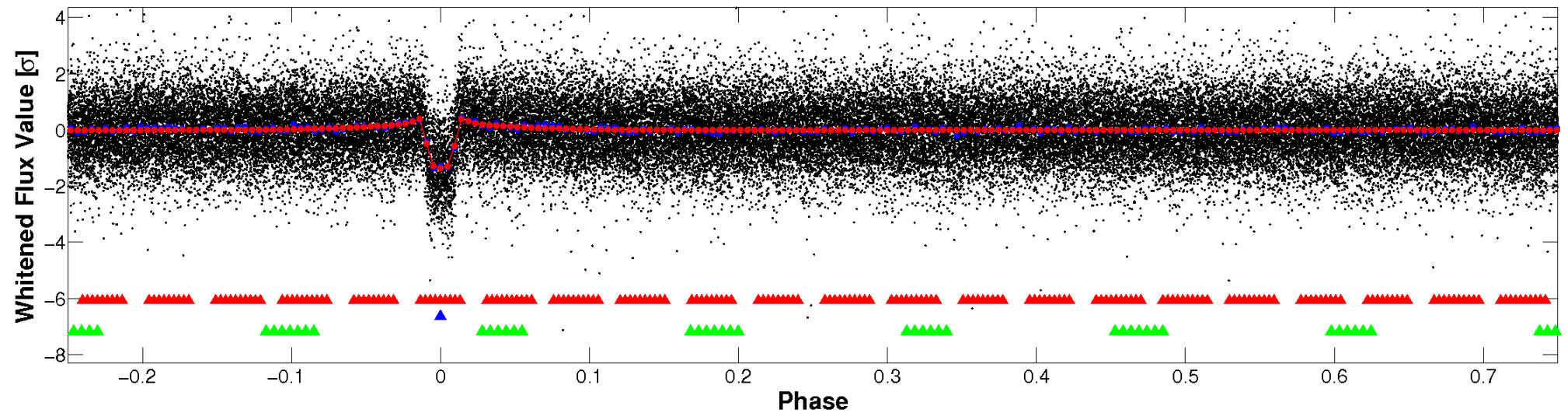


Non-Whitened Vs. Whitened Light Curve

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

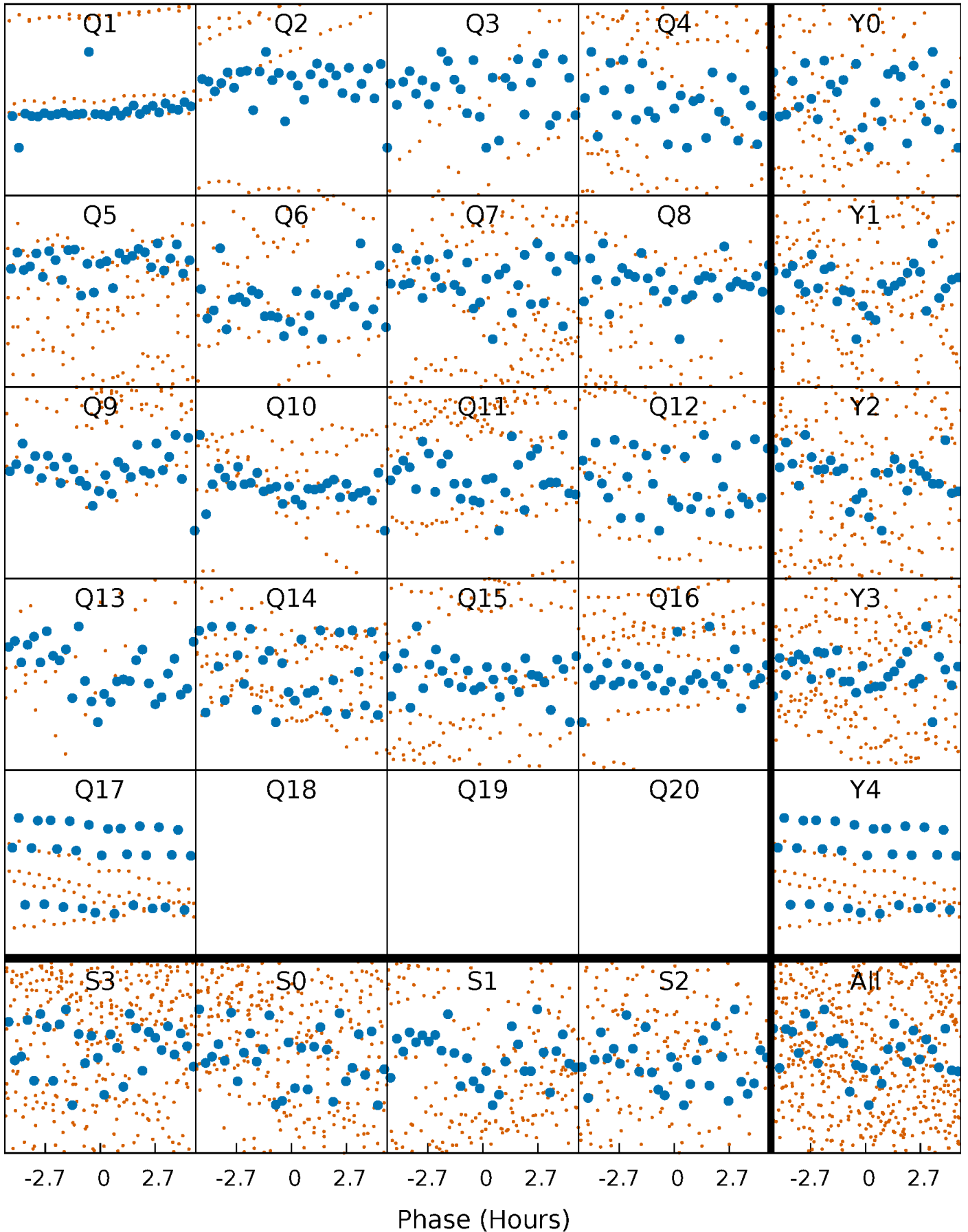


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



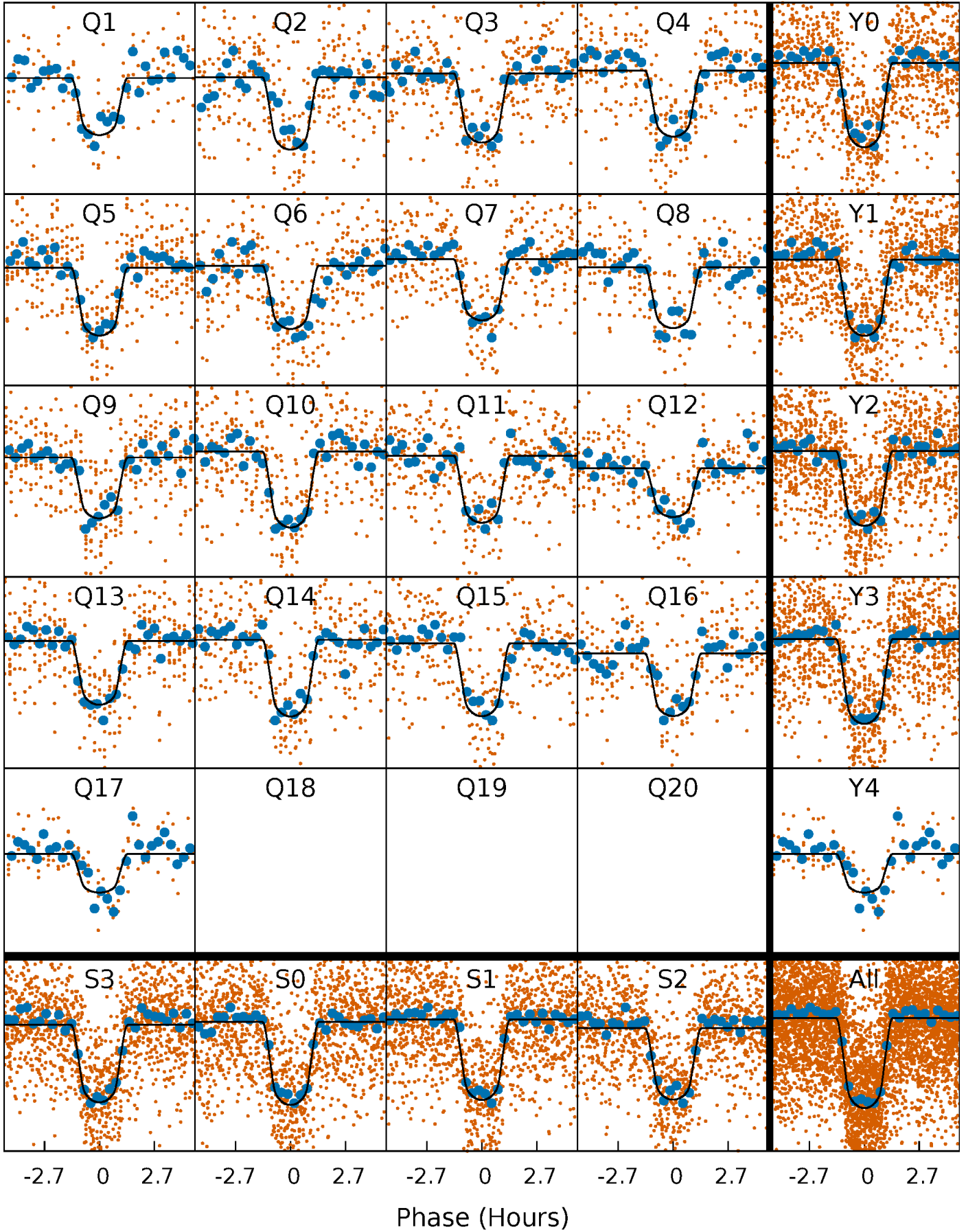
PDC Quarter-Phased Transit Curves

TCE 004644952-02 P= 4.362722 Days $T_0=135.233976$ (BKJD)



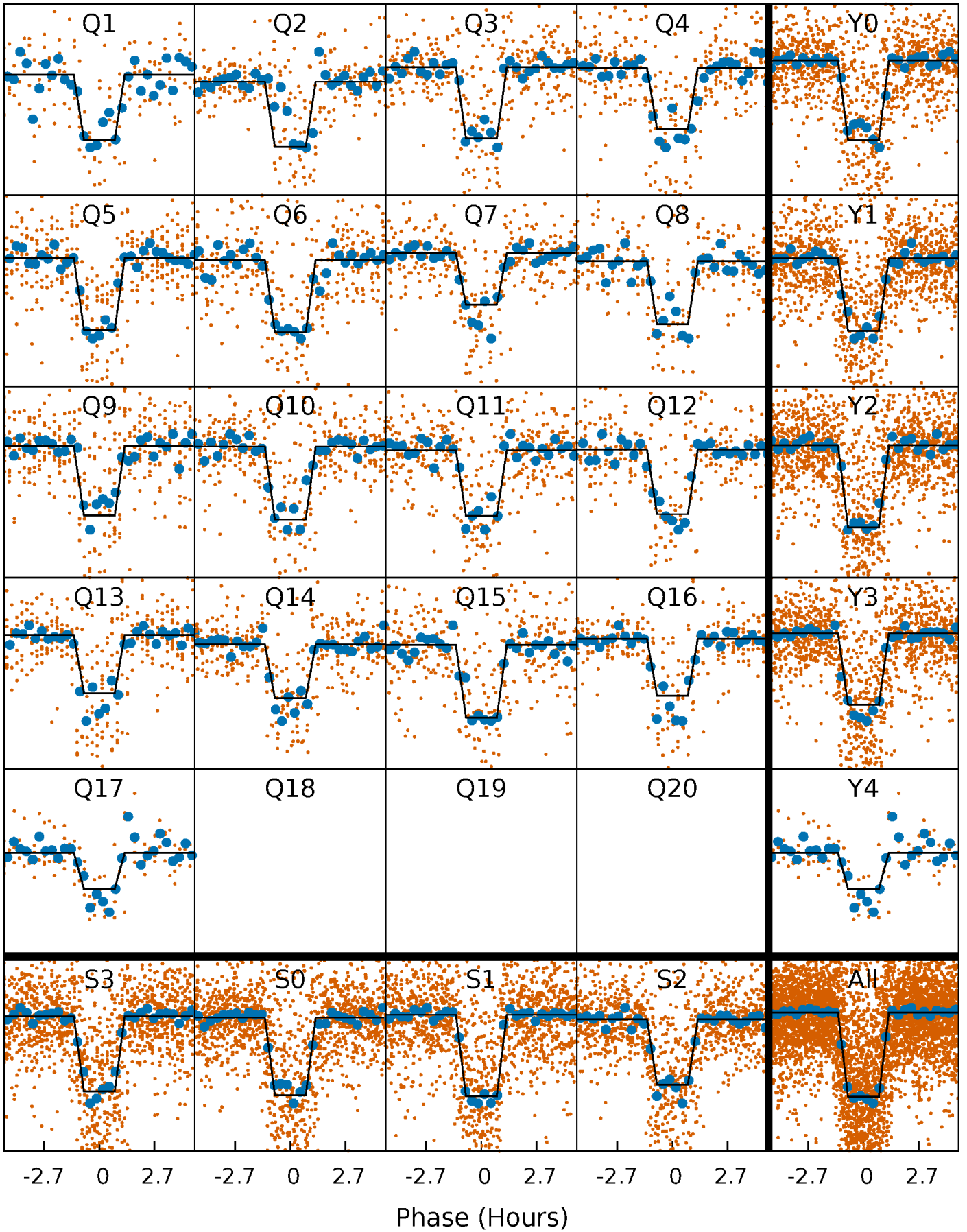
DV Quarter-Phased Transit Curves

TCE 004644952-02 P= 4.362722 Days $T_0=135.233976$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

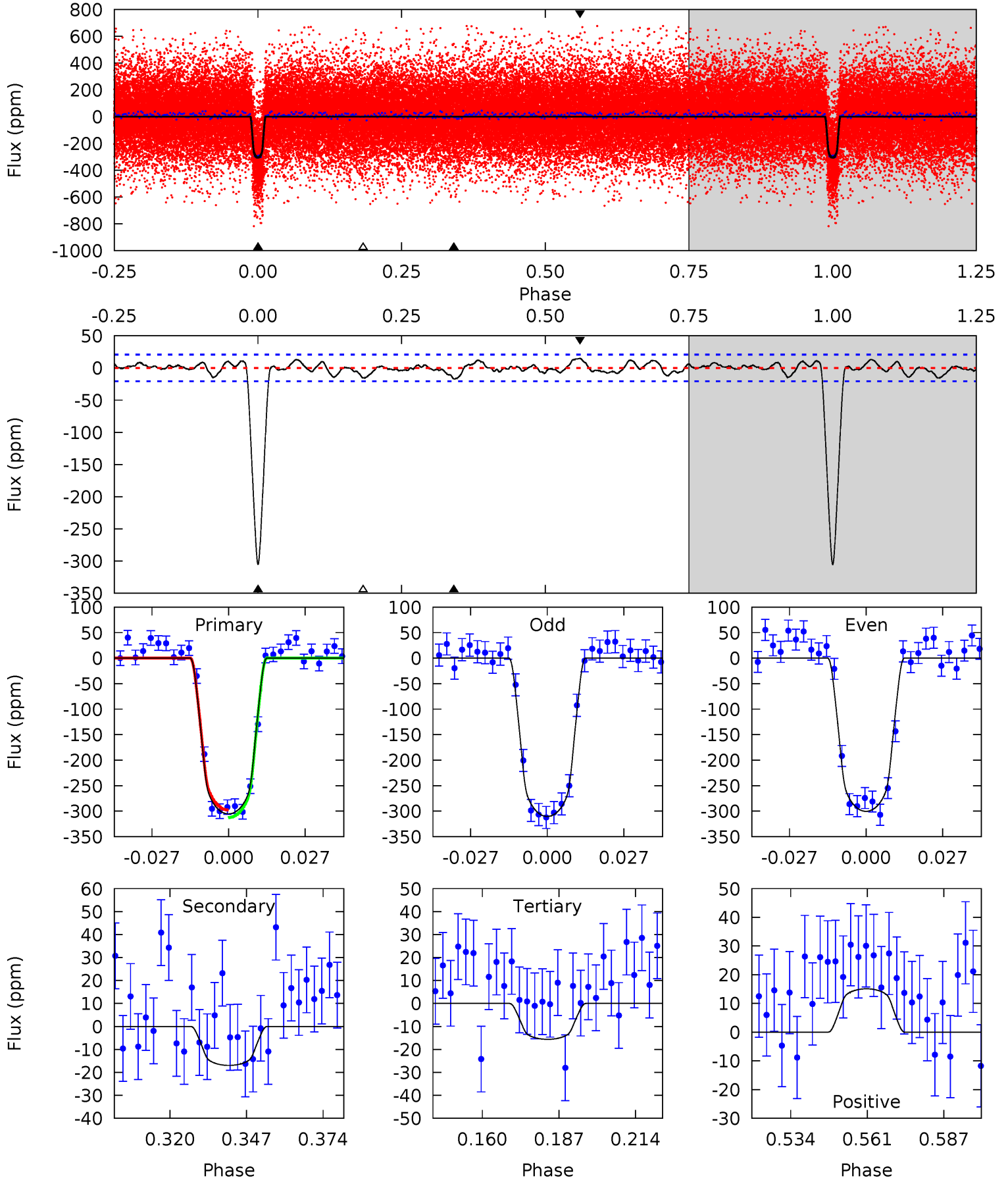
TCE 004644952-02 P= 4.362753 Days $T_0=135.231128$ (BKJD)



DV Model-Shift Uniqueness Test

004644952-02, P = 4.362722 Days, E = 130.871254 Days

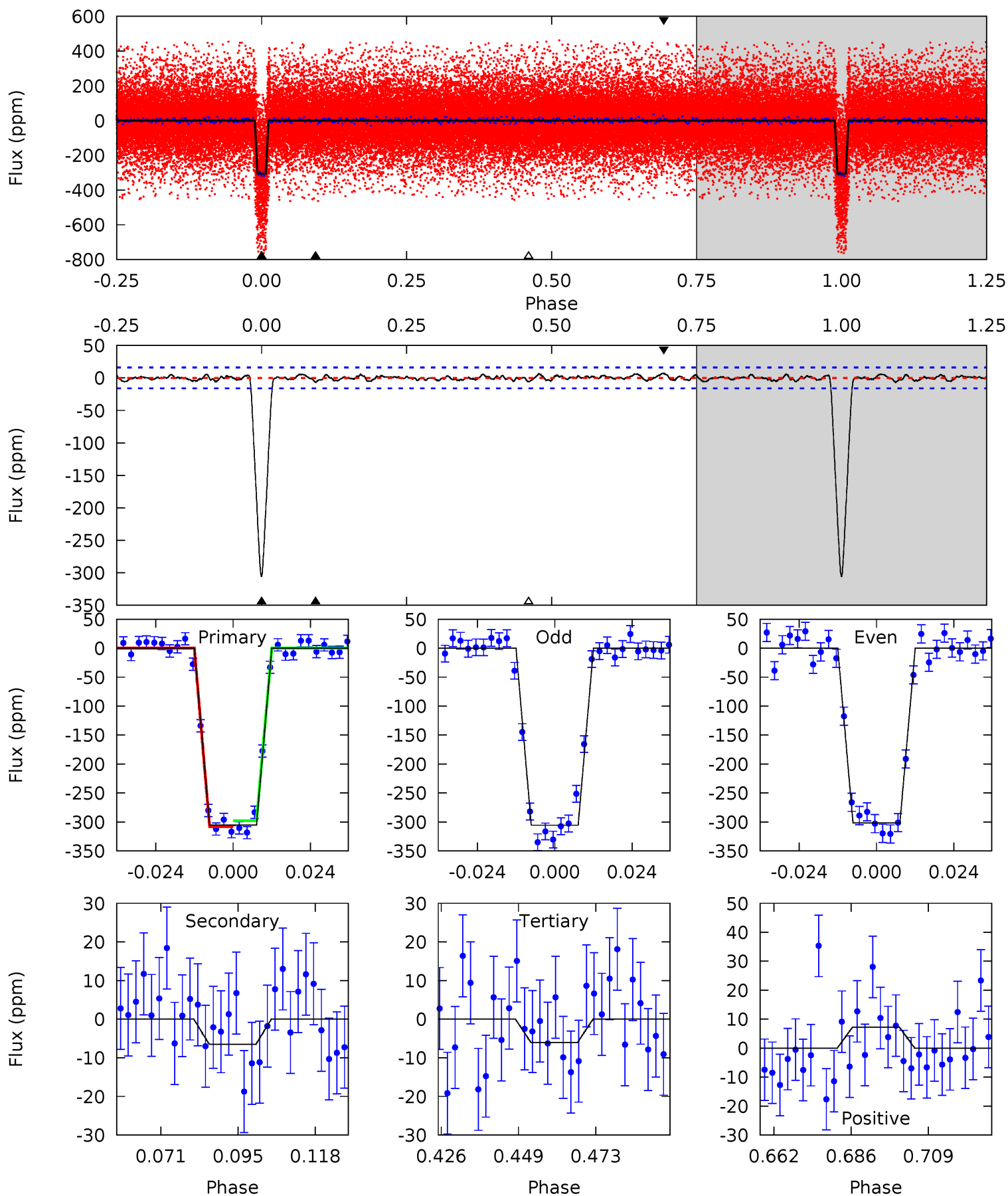
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
71.3	3.96	3.65	3.53	4.83	2.22	1.44	67.7	67.8	0.32	0.44	1.16	1.01	0.05	1.73



Alt Model-Shift Uniqueness Test

004644952-02, P = 4.362753 Days, E = 130.868375 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
92.6	1.96	1.82	2.20	4.86	2.26	0.78	90.8	90.4	0.14	-0.23	0.57	1.00	0.02	1.58



Stellar Parameters For KIC 004644952

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5527^{+110}_{-110}	$4.491^{+0.060}_{-0.090}$	$-0.080^{+0.150}_{-0.150}$	$0.880^{+0.100}_{-0.067}$	$0.875^{+0.055}_{-0.050}$	$1.808^{+0.424}_{-0.489}$
	+2%/-2%	+1%/-2%	+188%/-188%	+11%/-8%	+6%/-6%	+23%/-27%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 004644952-02 / KOI 1805.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-17 ± 4	$1.91^{+0.22}_{-0.23}$	1434^{+51}_{-46}	3108^{+171}_{-152}	$6.375^{+2.633}_{-1.876}$
Alt.	-6 ± 3	$1.64^{+0.23}_{-0.19}$	1438^{+47}_{-43}	2806^{+216}_{-280}	$3.114^{+1.994}_{-1.613}$

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

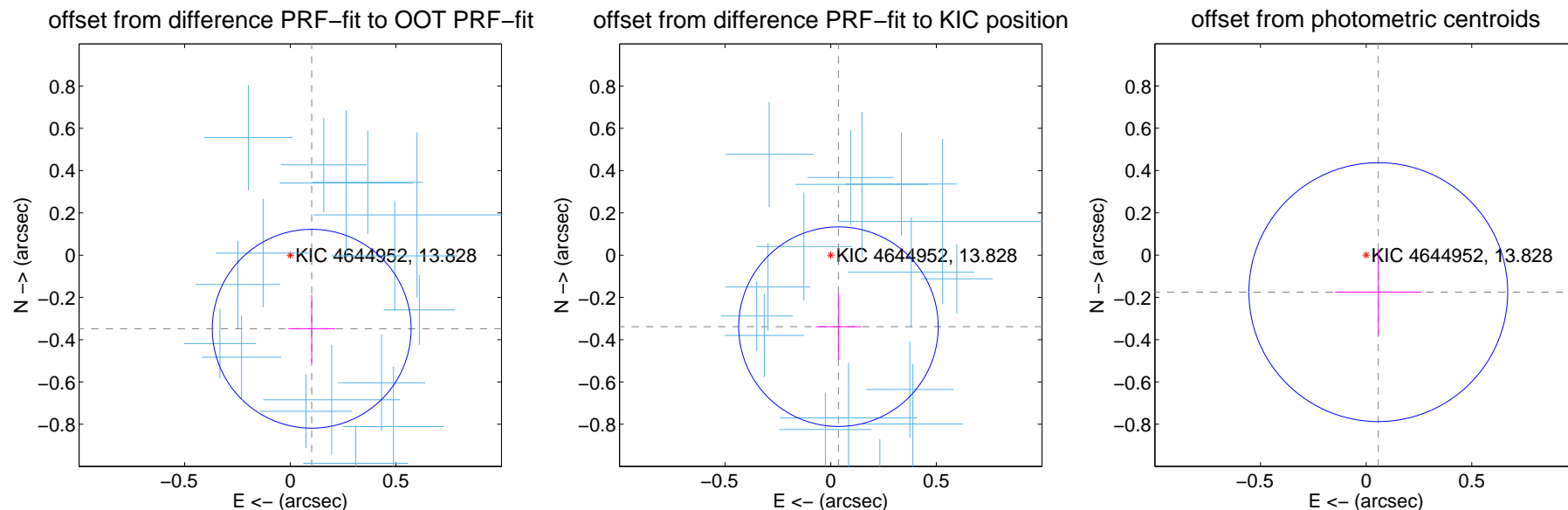
DV Centroid Data

Supplemental centroid analysis for 004644952-02. Kepler magnitude: 13.83. Transit SNR 43.28

There are 17 quarters with good PRF difference image offsets

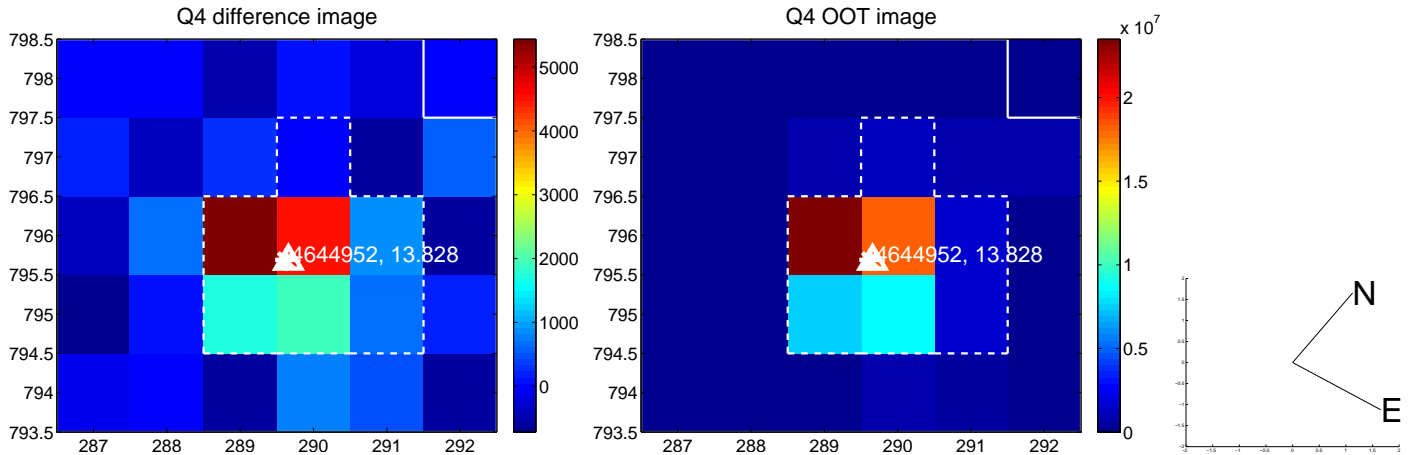
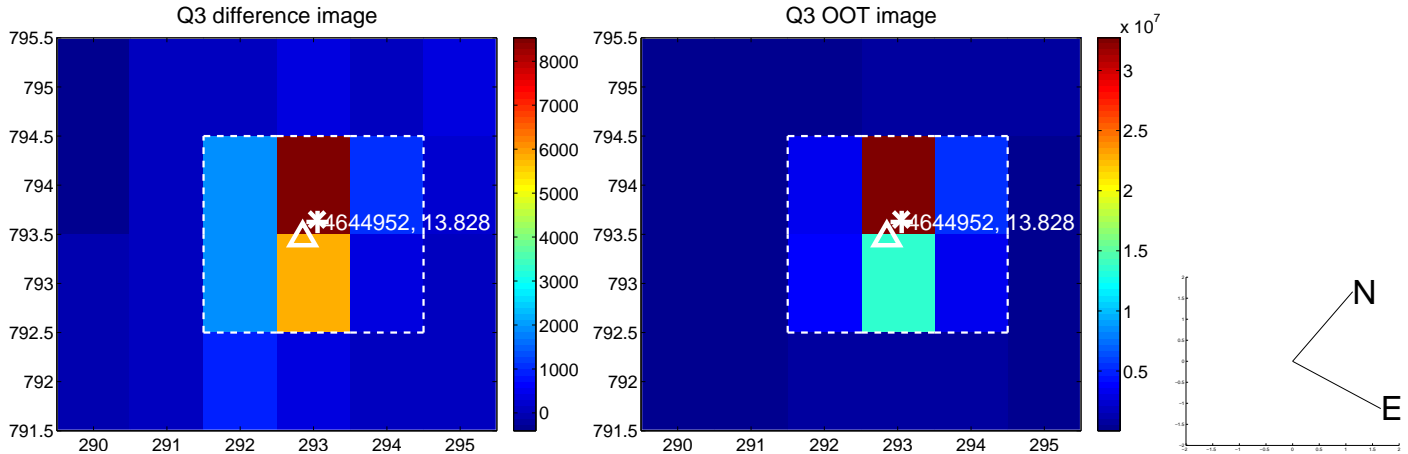
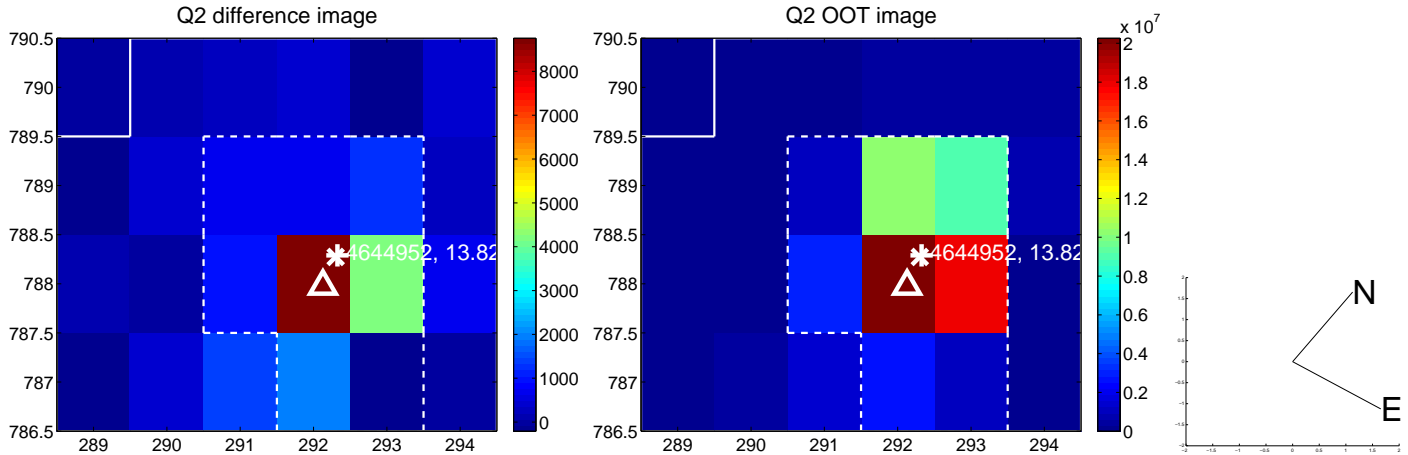
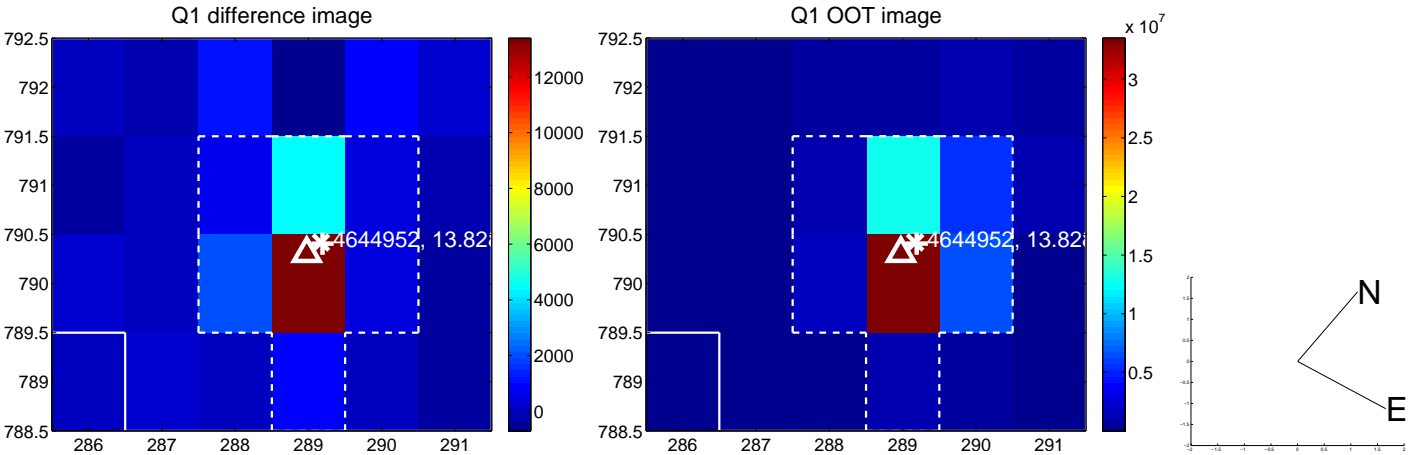
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.363 ± 0.157	2.31	-0.101 ± 0.111	-0.348 ± 0.160
PRF-fit source offset from KIC position	0.340 ± 0.157	2.16	-0.037 ± 0.108	-0.339 ± 0.158
photometric centroid source offset	0.18 ± 0.20	0.90	-0.06 ± 0.20	-0.18 ± 0.20

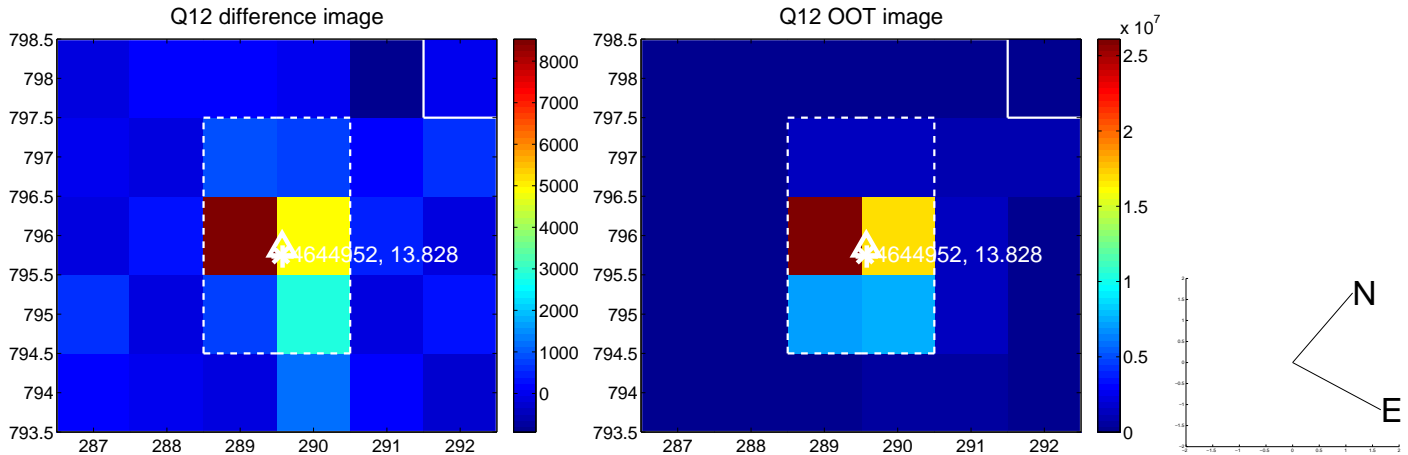
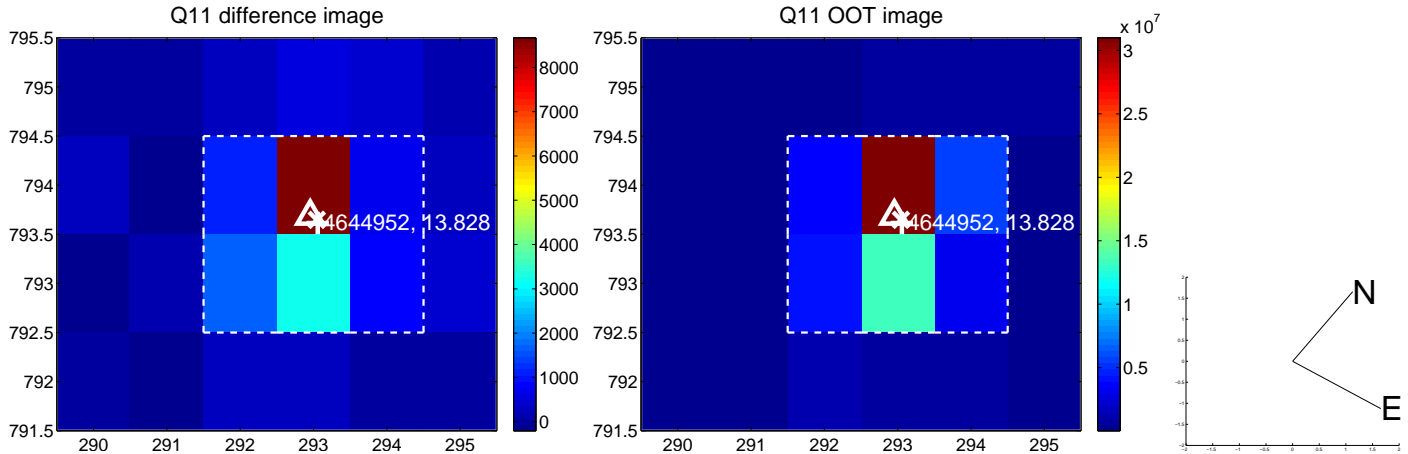
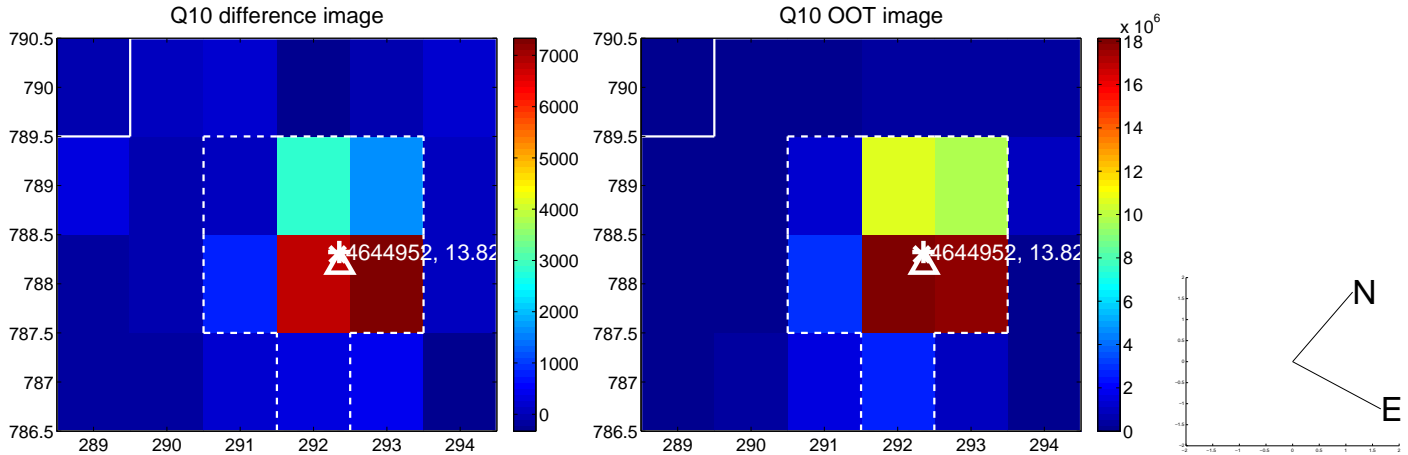
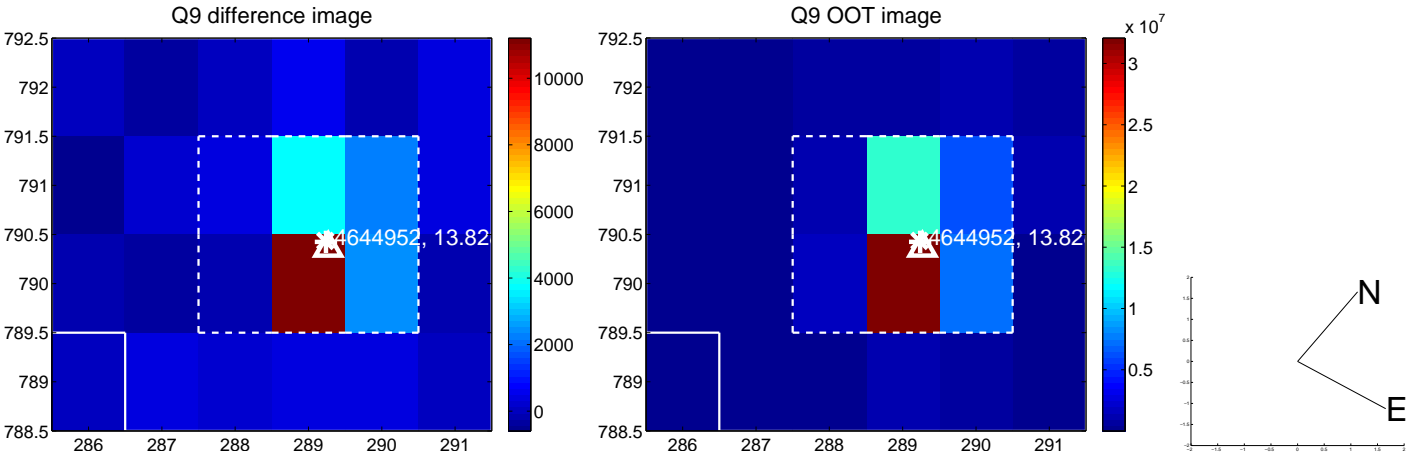


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

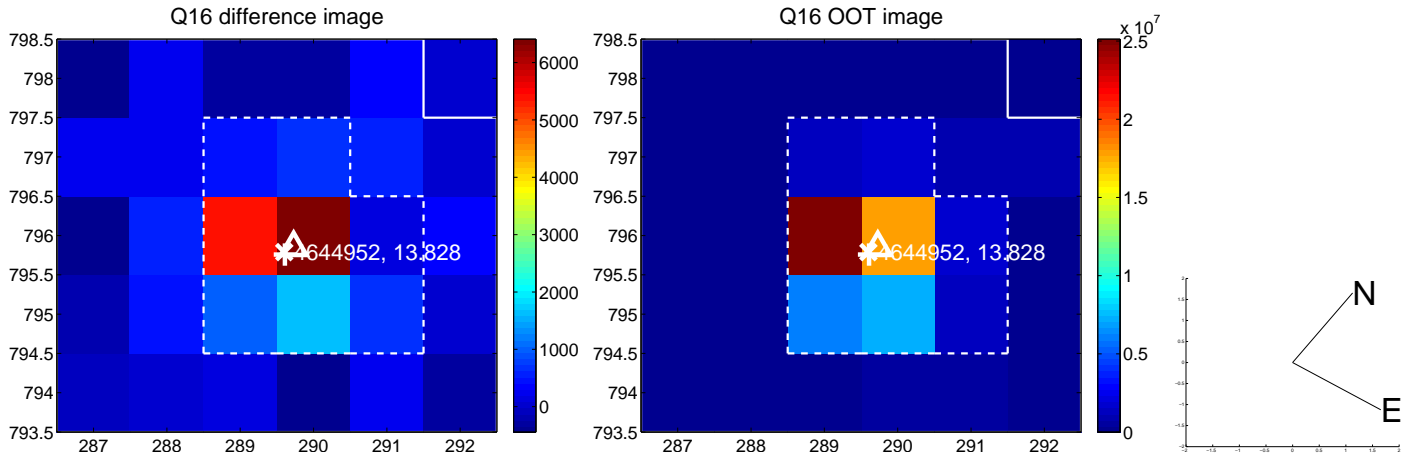
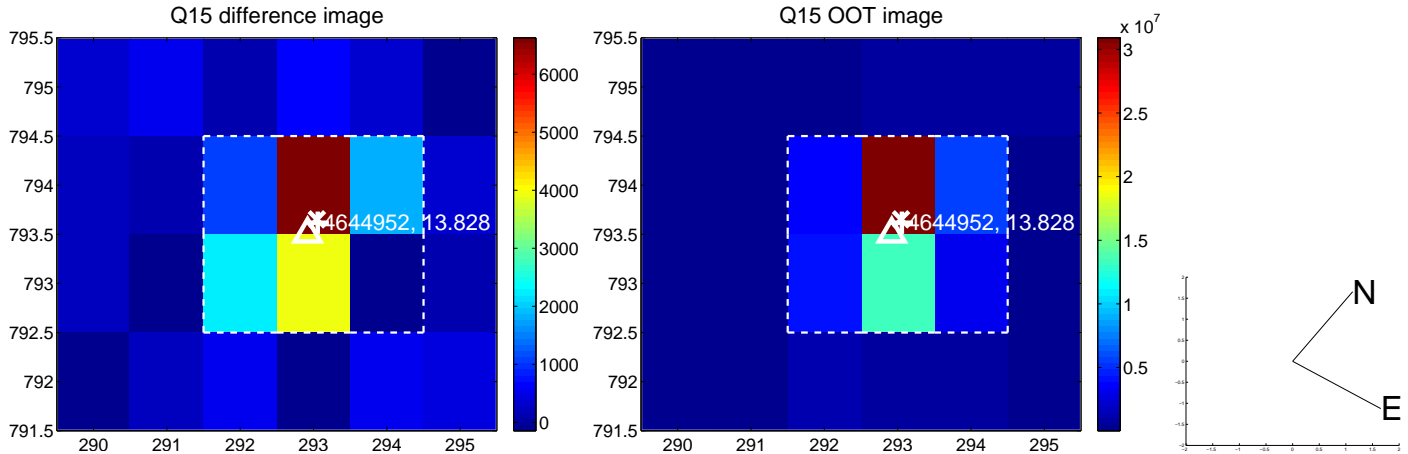
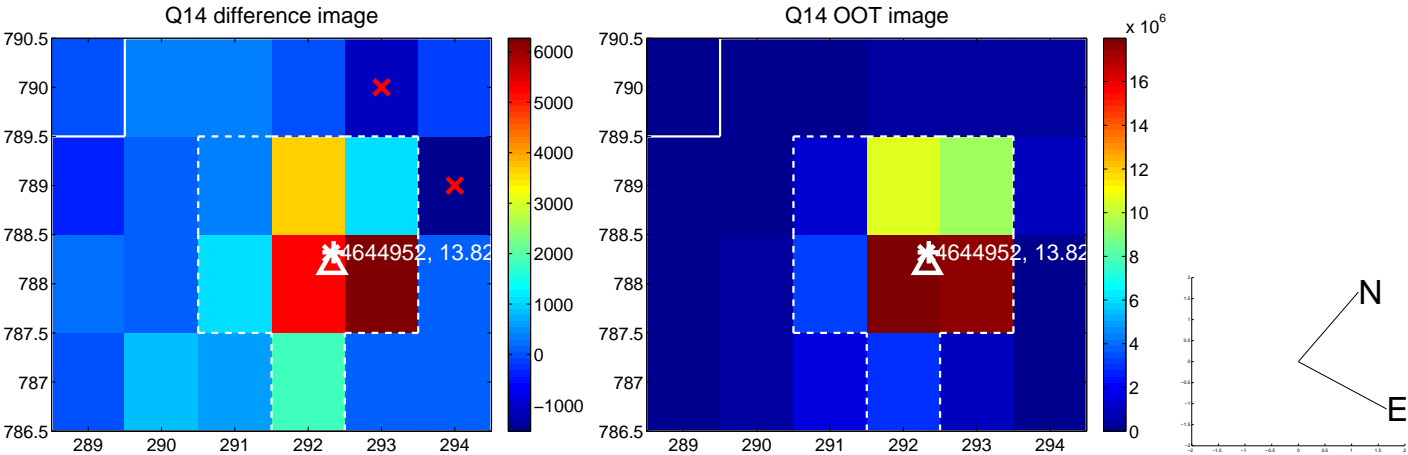
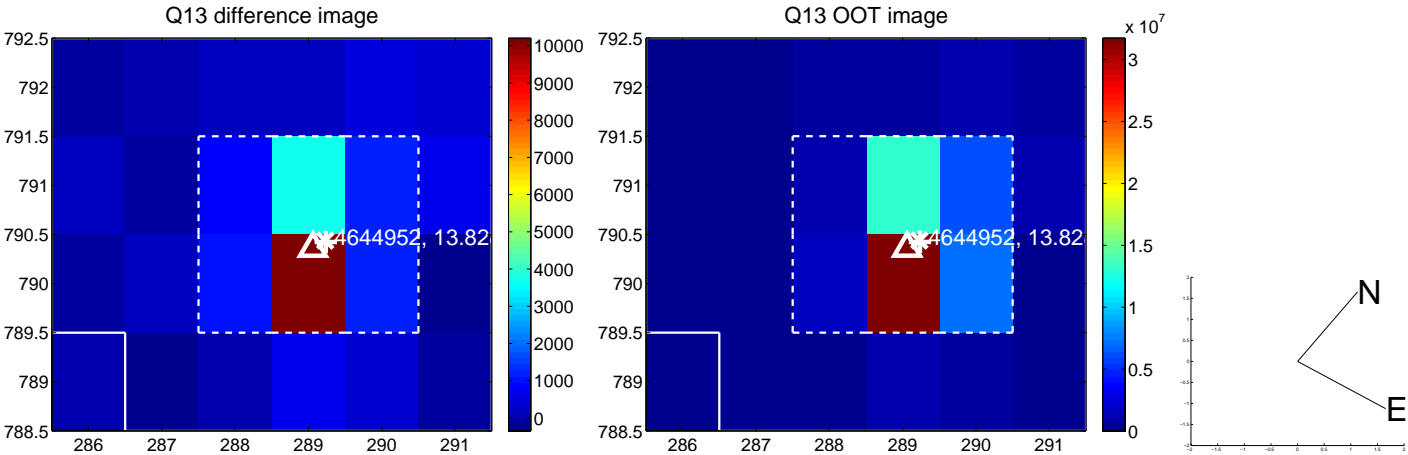
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



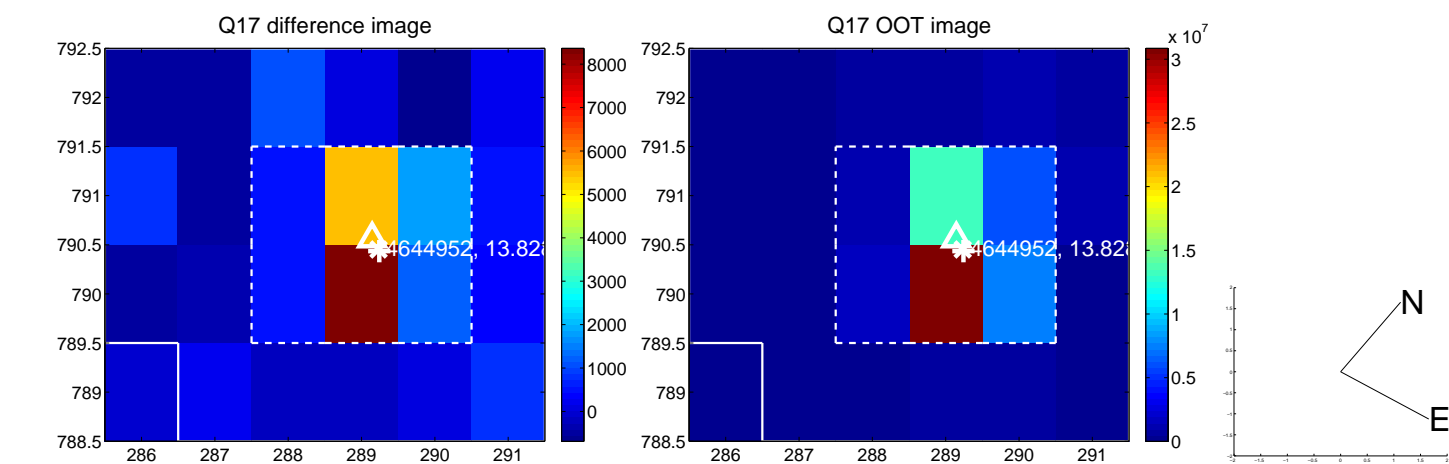
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



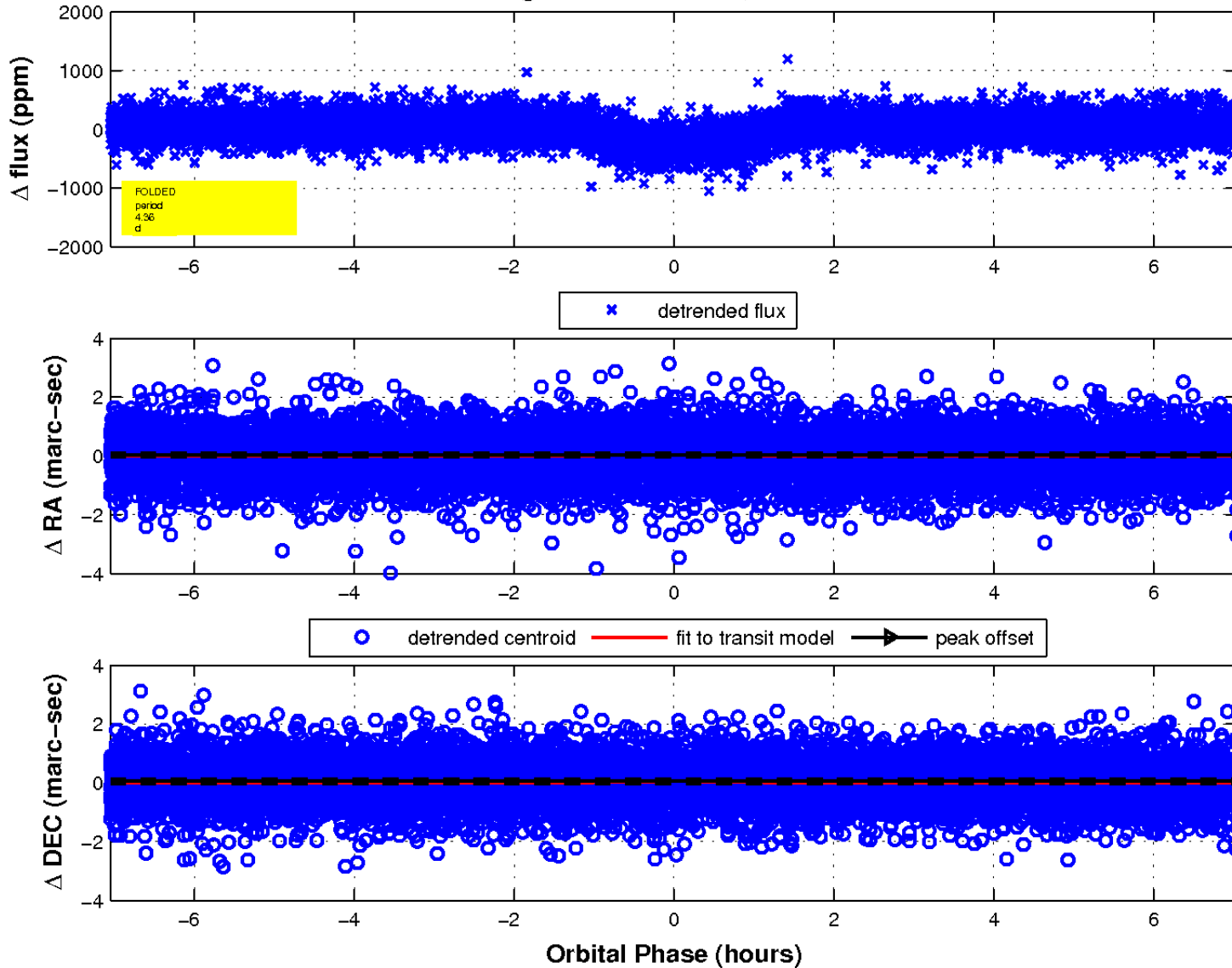
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

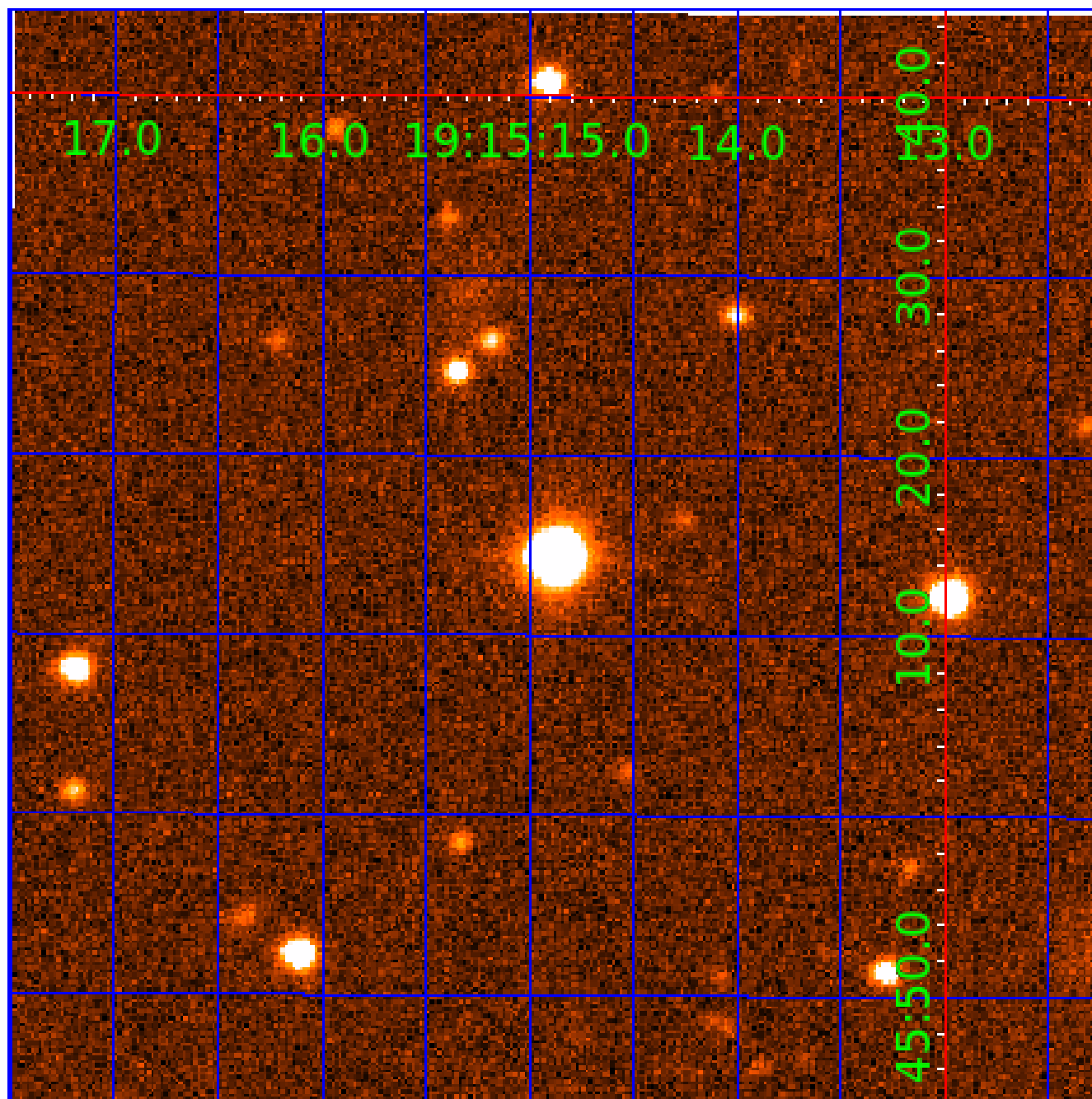


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 004644952

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})
004644952-01	OBS	1805.01	6.941354	137.544351	853.1	1.985	80.6	85.1	0.88	5527	3.09	139.50
004644952-02	OBS	1805.03	4.362722	135.233976	318.5	2.350	39.2	43.3	0.88	5527	1.88	259.12
004644952-03	OBS	1805.02	31.782223	134.862867	576.0	3.958	27.7	32.4	0.88	5527	2.27	18.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004644952-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
004644952-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
004644952-03	OBS	PC	1.00	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.

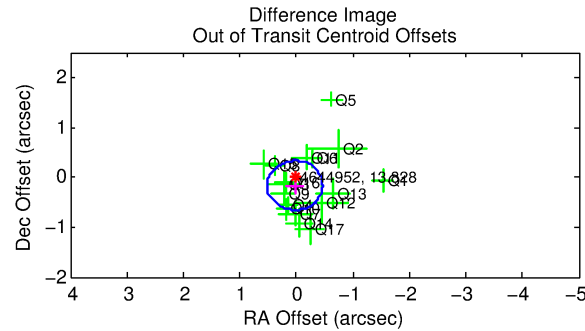
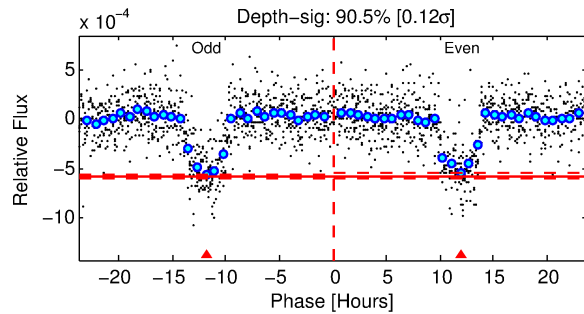
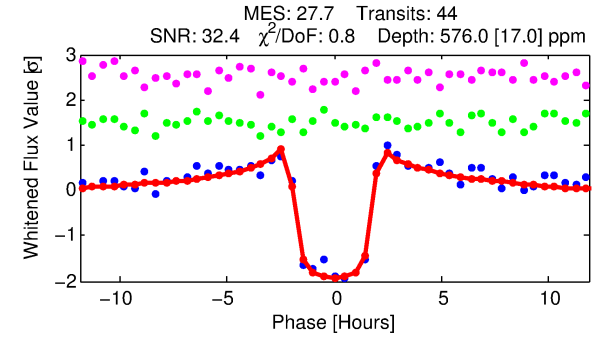
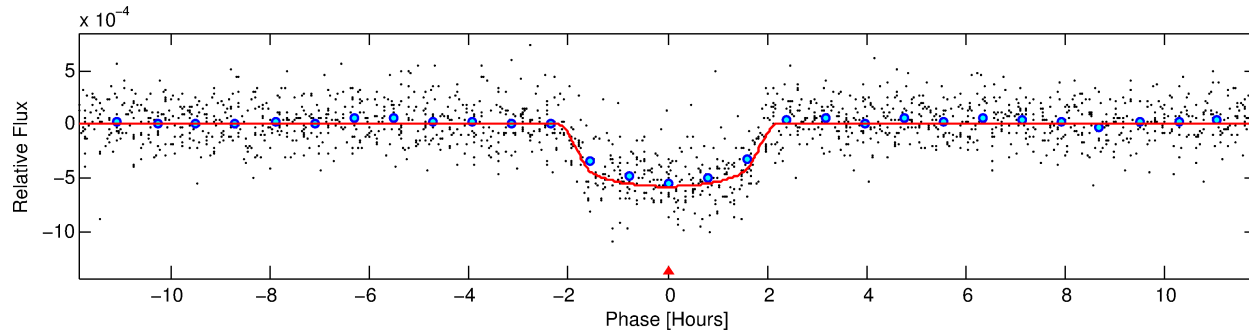
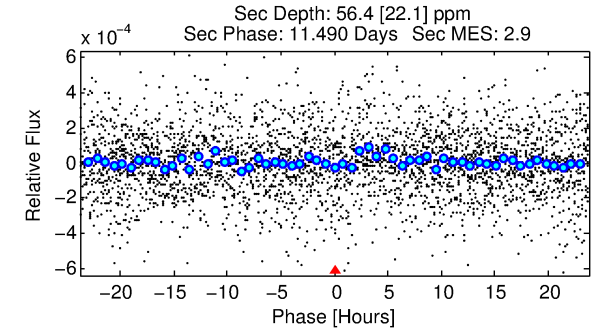
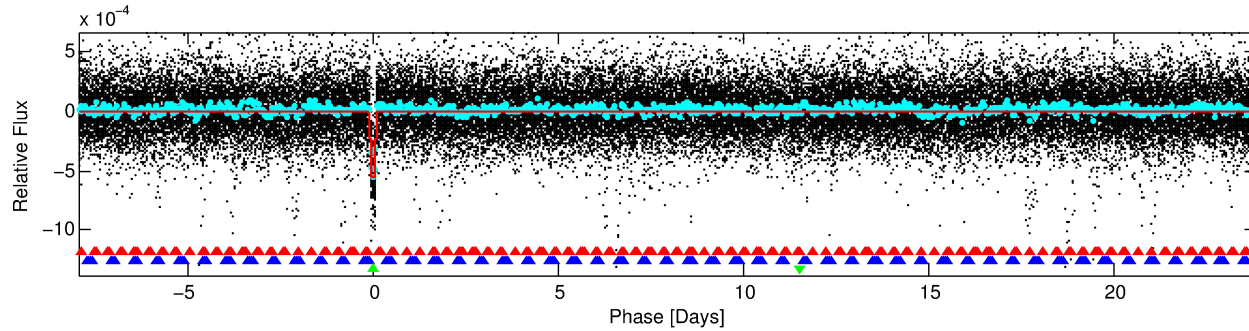
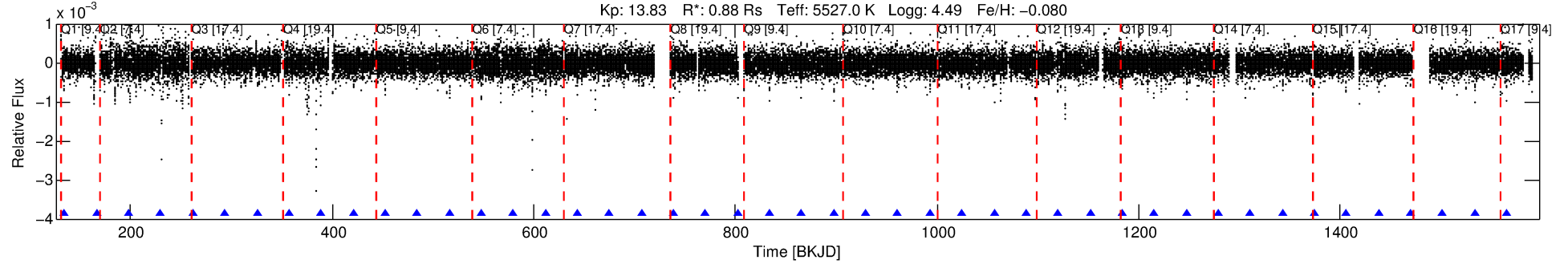
Ephemeris Match Information For 004644952-03

No Significant Match Found

DV One-Page Summary

KIC: 4644952 Candidate: 3 of 3 Period: 31.782 d
KOI: K01805.02 Name: Kepler-319d Corr: 0.984

Kp: 13.83 R*: 0.88 Rs Teff: 5527.0 K Logg: 4.49 Fe/H: -0.080



DV Fit Results:

Period = 31.78222 [0.00007] d
Epoch = 134.8629 [0.0020] BKJD
Rp/R* = 0.0237 [0.0048]
a/R* = 44.30 [36.97]
b = 0.73 [0.55]
Seff = 18.35 [3.24]
Teq = 528 [23] K
Rp = 2.27 [0.53] Re
a = 0.1878 [0.0193] AU
Ag = 211.43 [123.77] [1.70σ]
Teffp = 3111 [443] K [5.83σ]

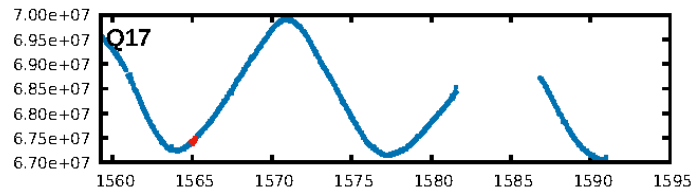
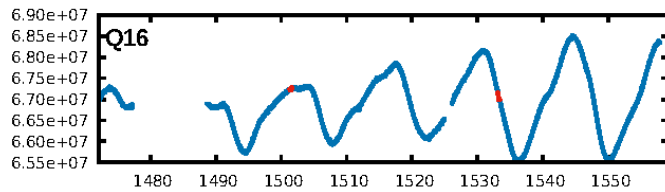
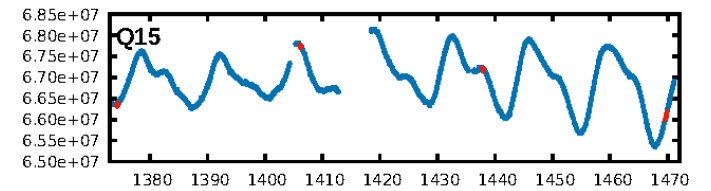
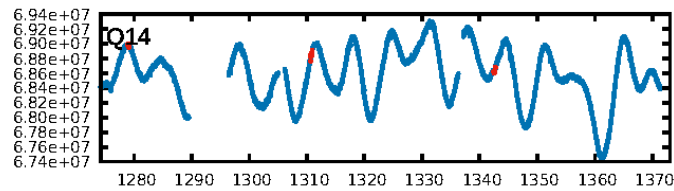
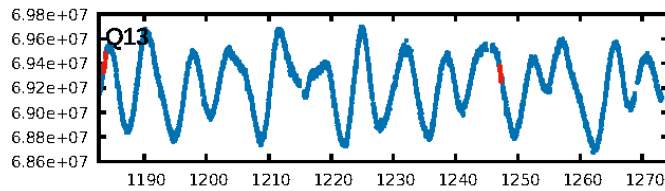
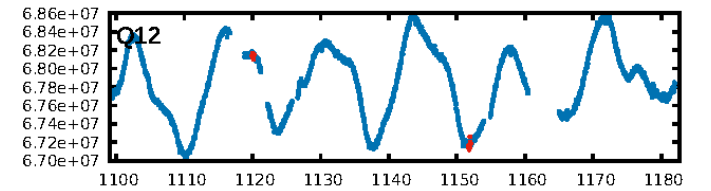
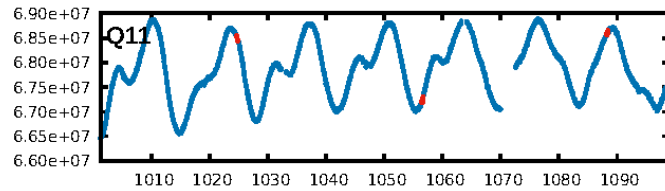
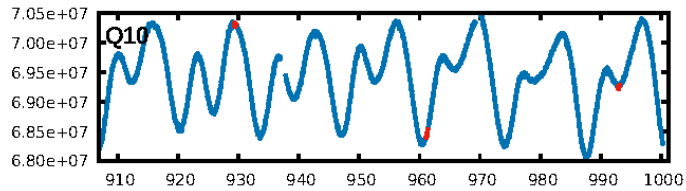
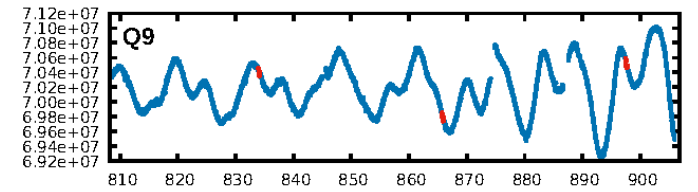
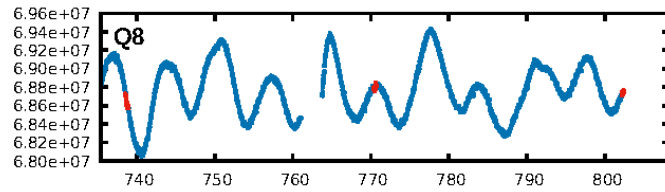
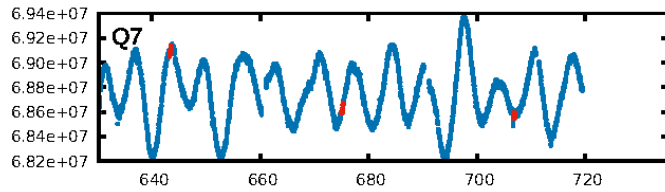
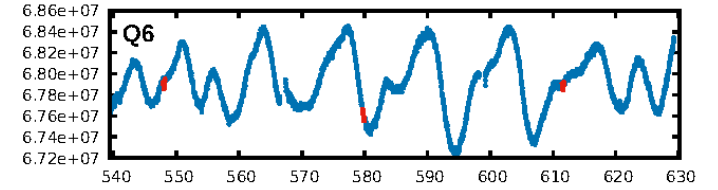
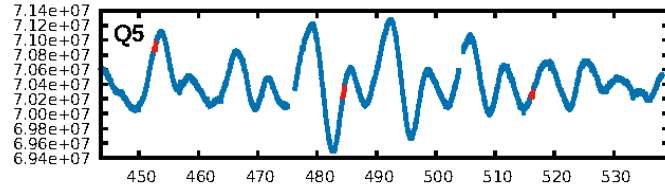
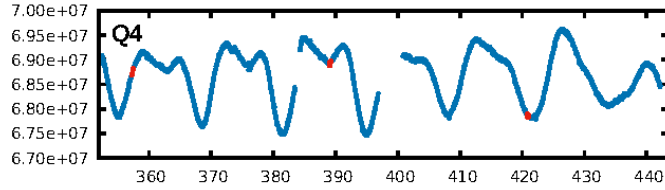
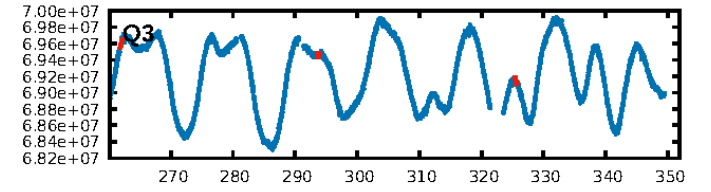
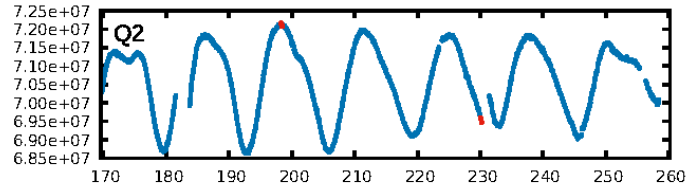
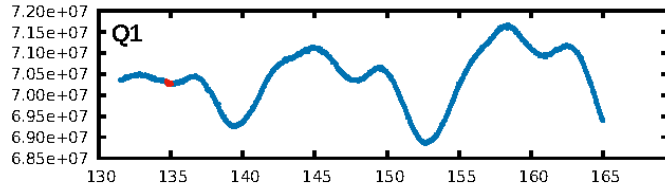
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [134.65σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 83.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.39e-117
RollingBand-fgt: 1.00 [42/42]
GhostDiagnostic-chr: 2.187
Centroid-sig: 3.4%
Centroid-so: 0.349 arcsec [1.52σ]
OotOffset-rm: 0.166 arcsec [1.01σ]
KicOffset-rm: 0.209 arcsec [1.22σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.94 [16/17]

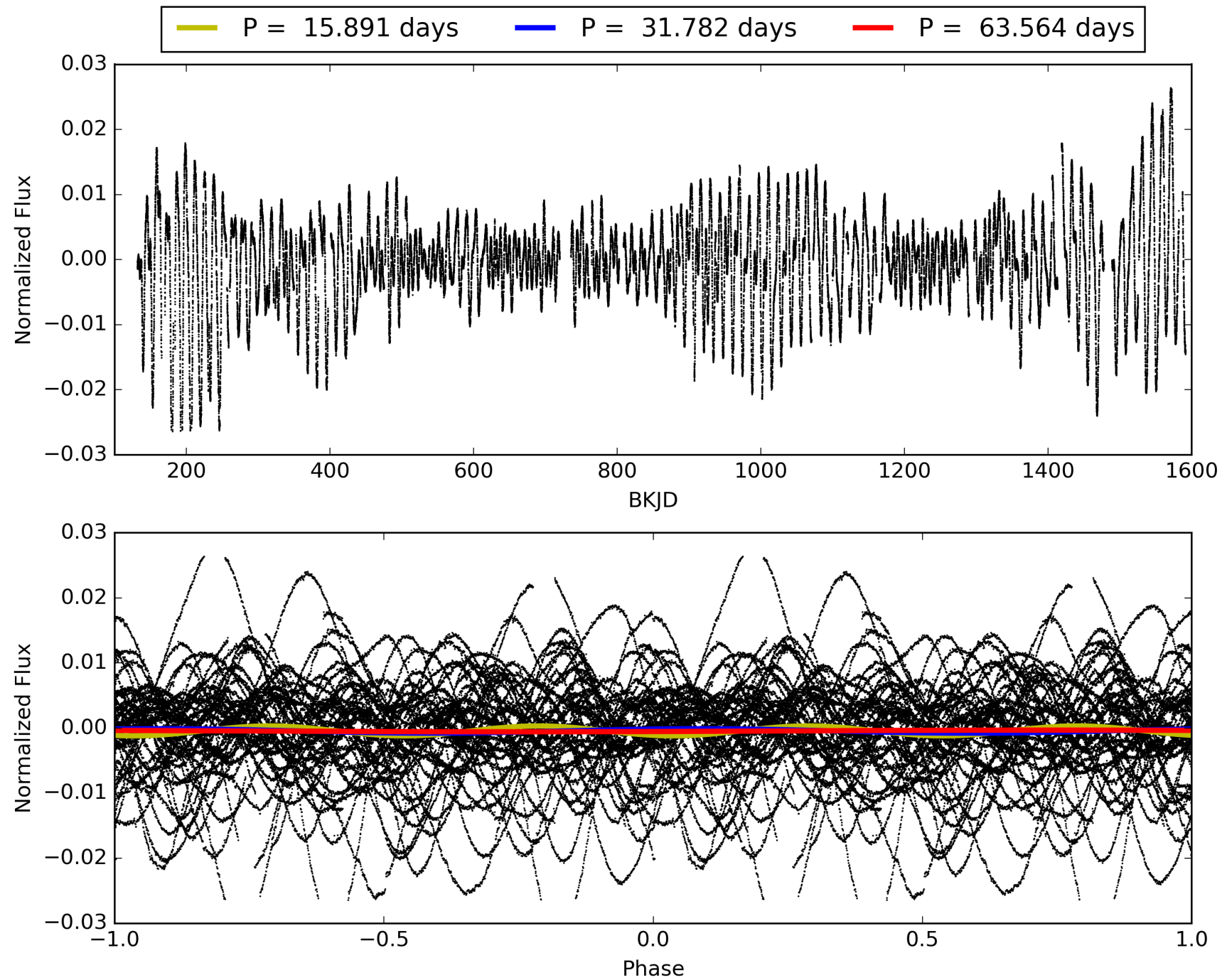
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:44:22 Z

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

TCE 004644952-03, PDC Light Curves

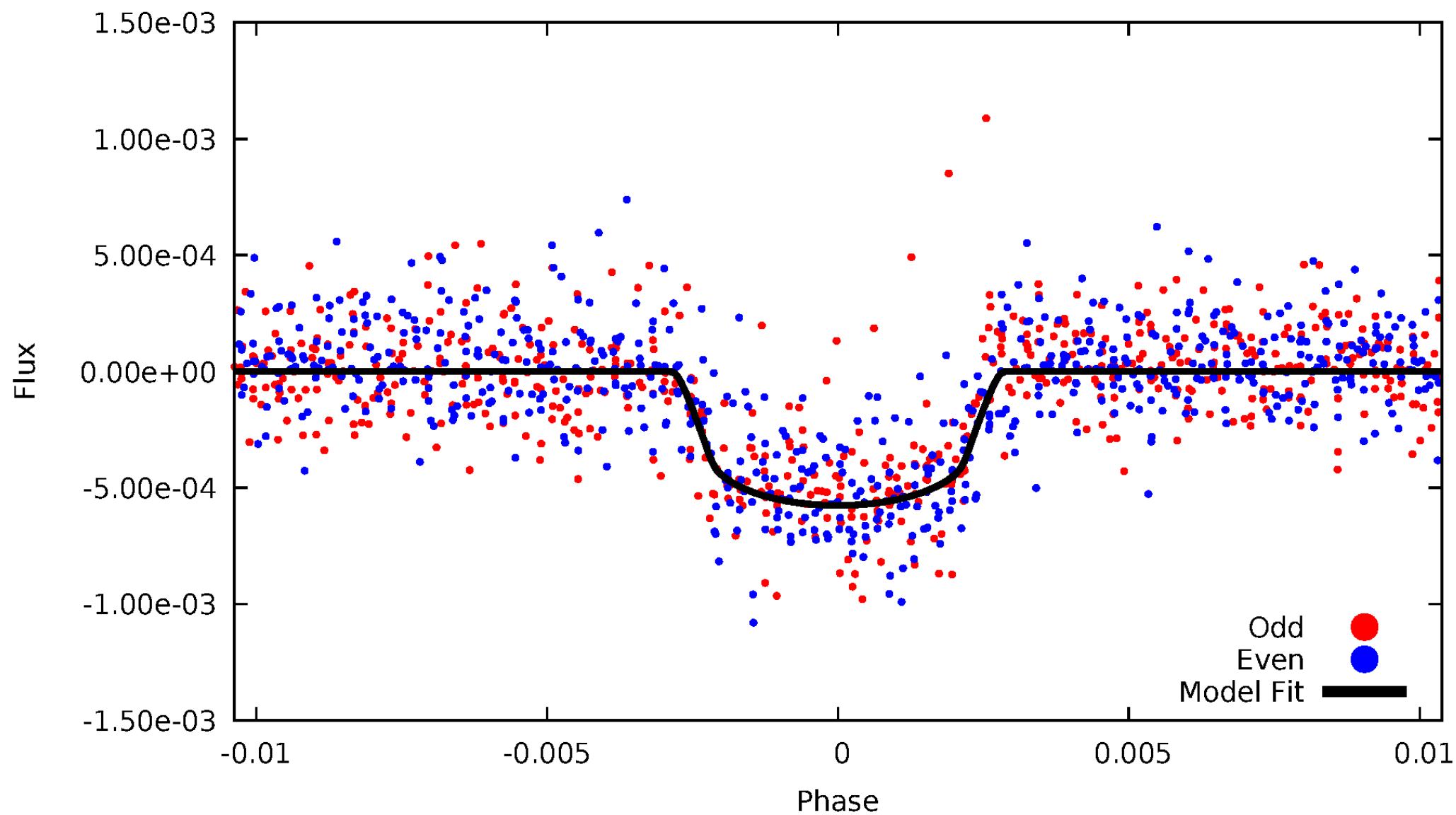


TCE 004644952-03



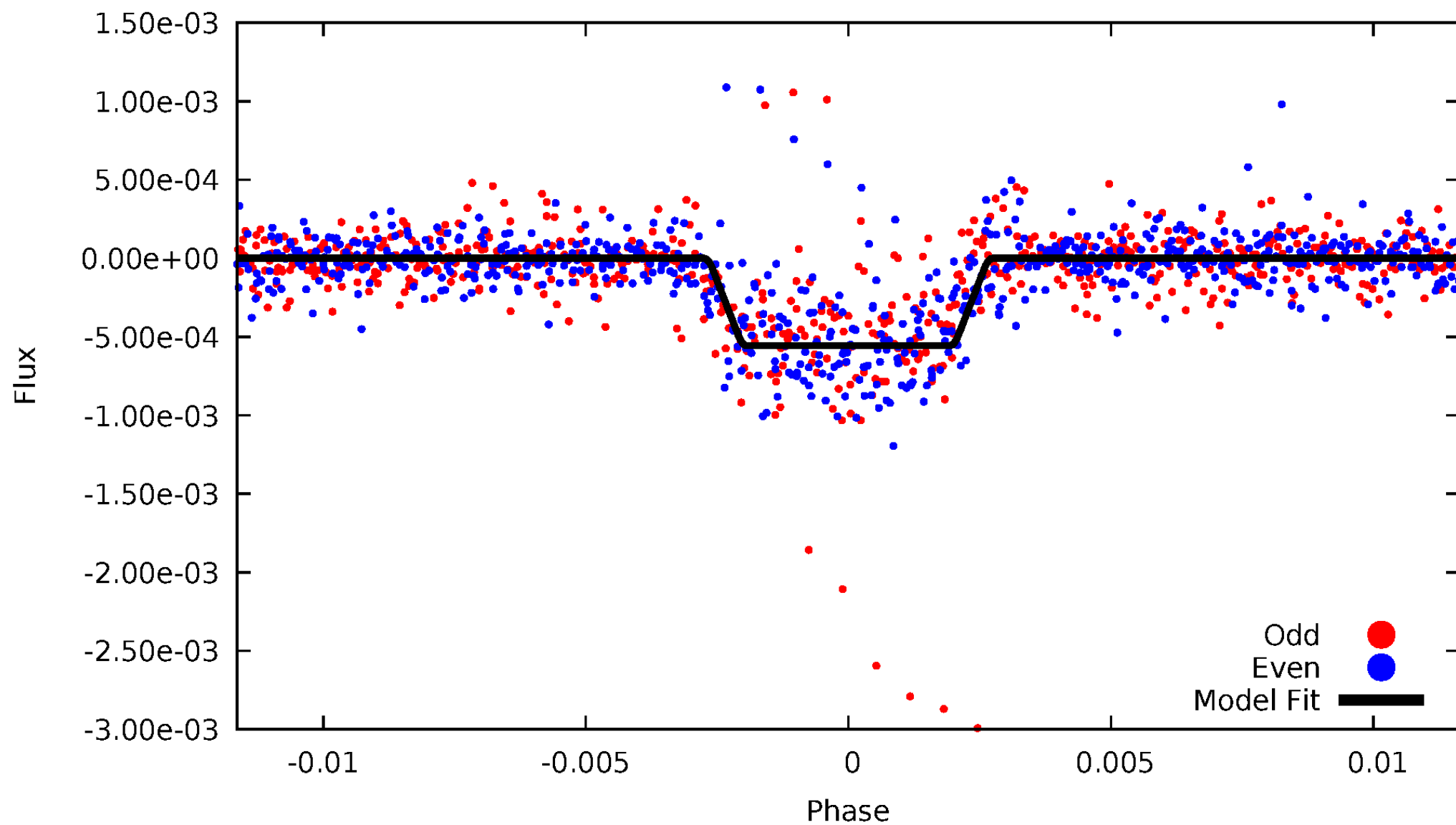
DV Odd/Even

TCE 004644952-03



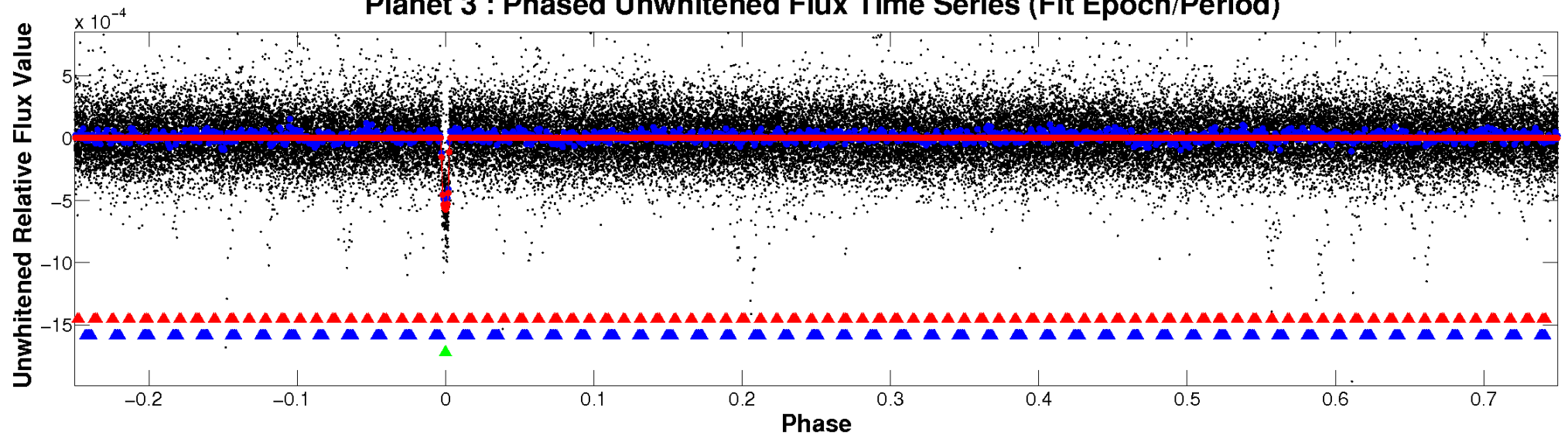
ALT Odd/Even

TCE 004644952-03

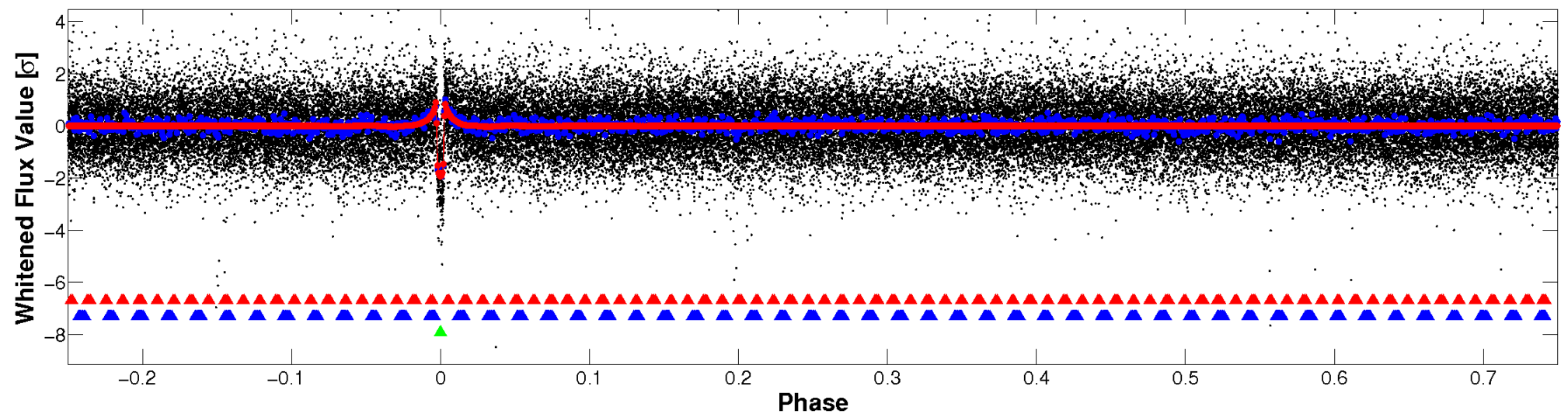


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

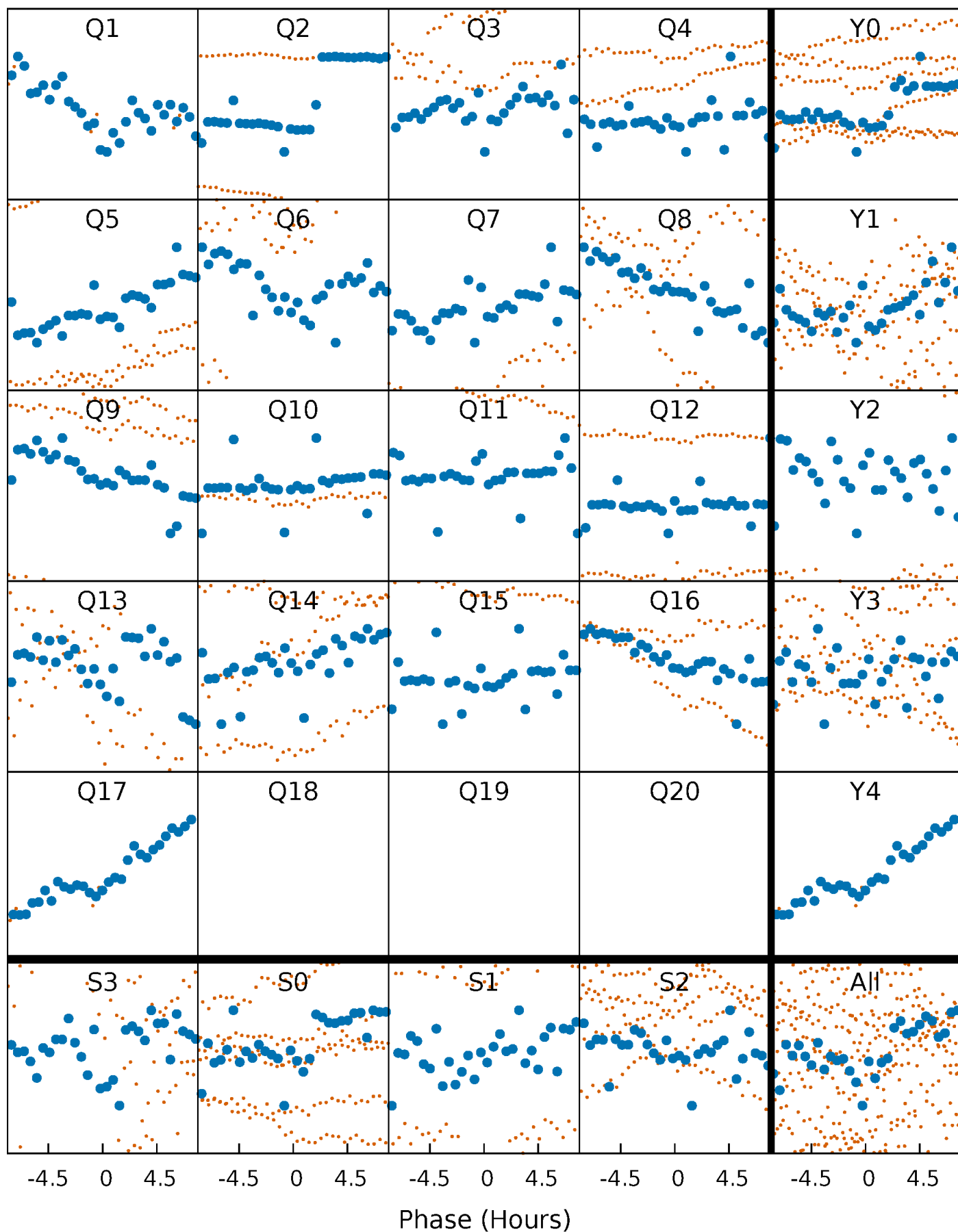


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



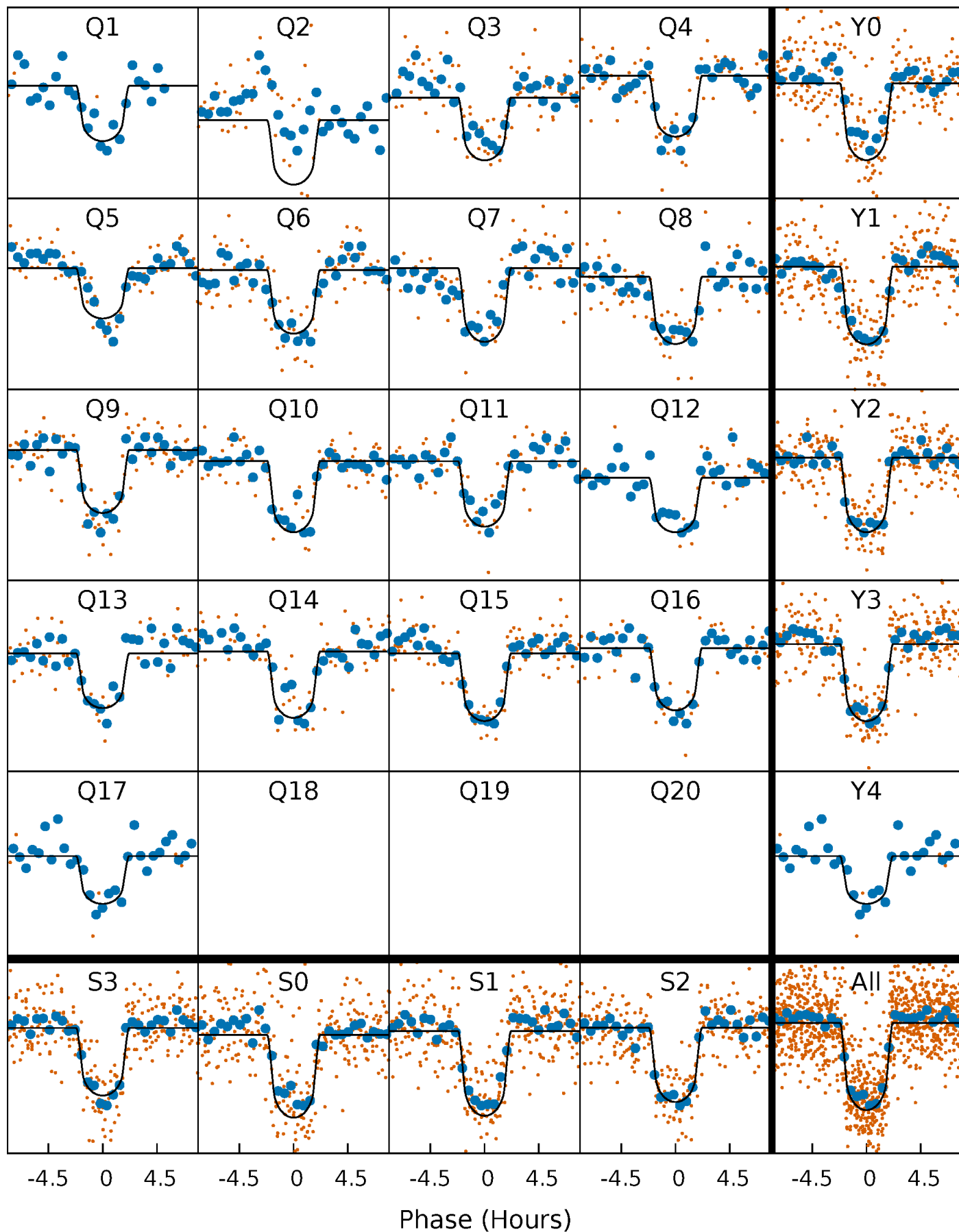
PDC Quarter-Phased Transit Curves

TCE 004644952-03 P= 31.782223 Days $T_0=134.862867$ (BKJD)



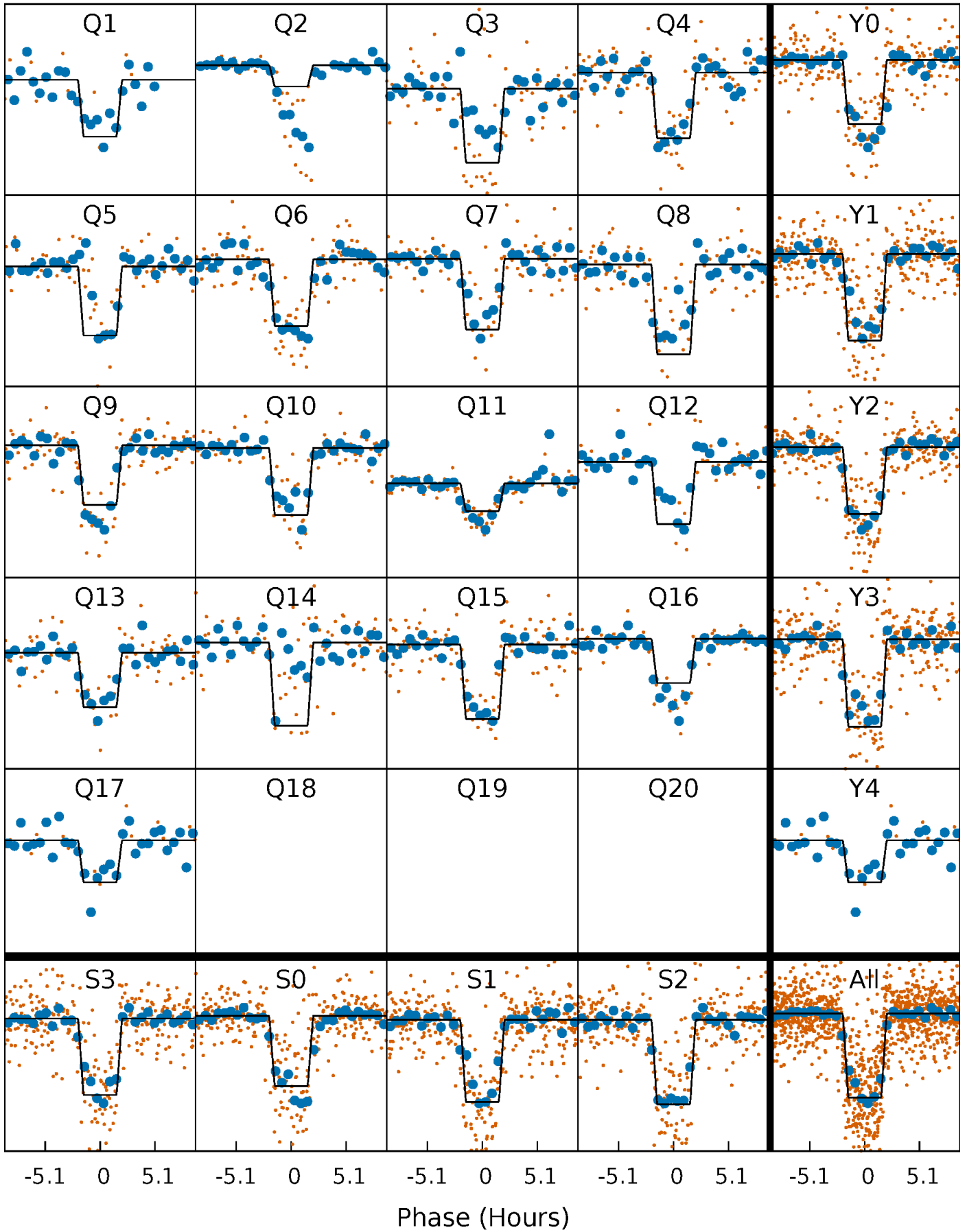
DV Quarter-Phased Transit Curves

TCE 004644952-03 P= 31.782223 Days $T_0=134.862867$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

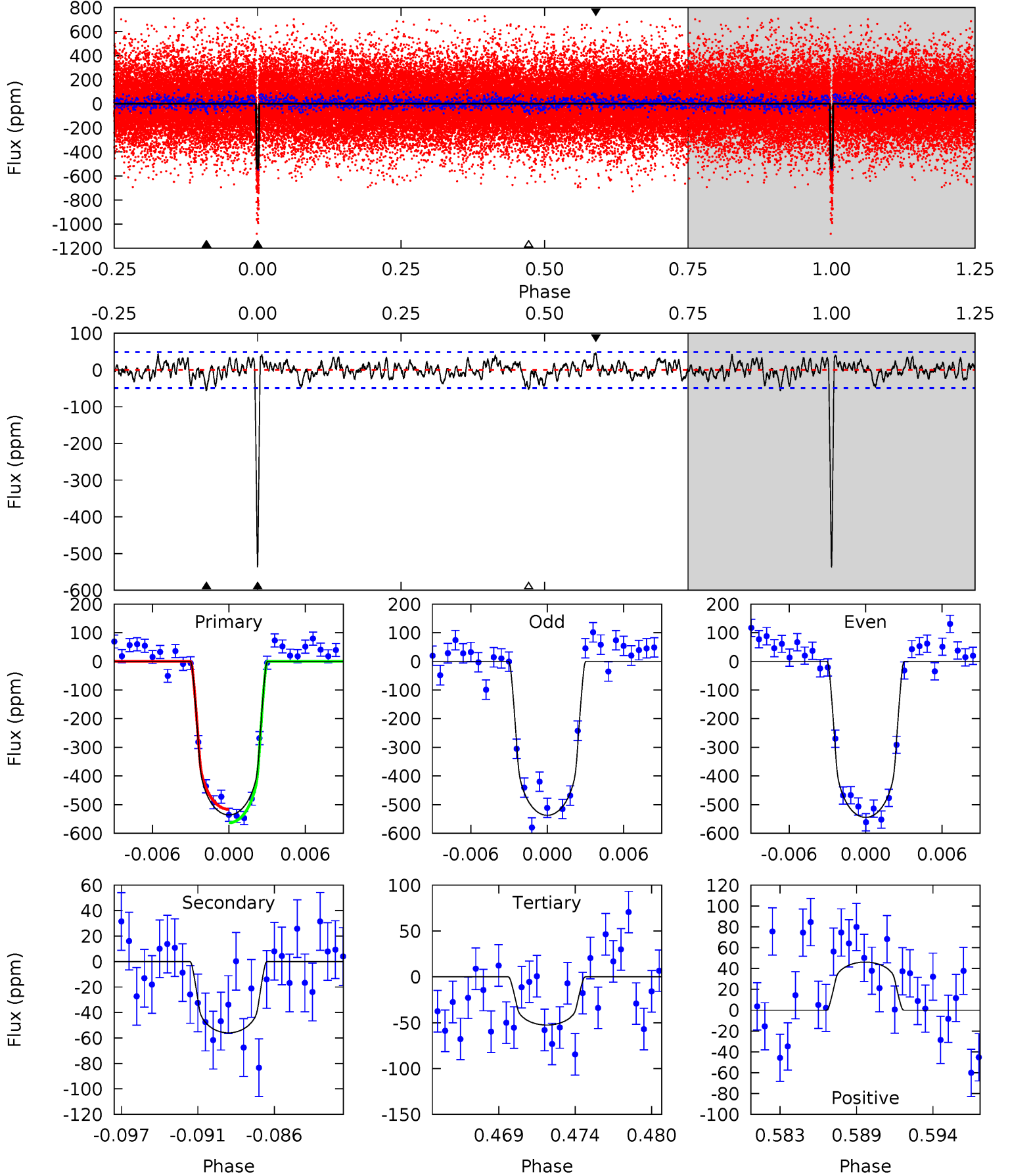
TCE 004644952-03 P= 31.782343 Days $T_0=134.865163$ (BKJD)



DV Model-Shift Uniqueness Test

004644952-03, $P = 31.782223$ Days, $E = 103.080644$ Days

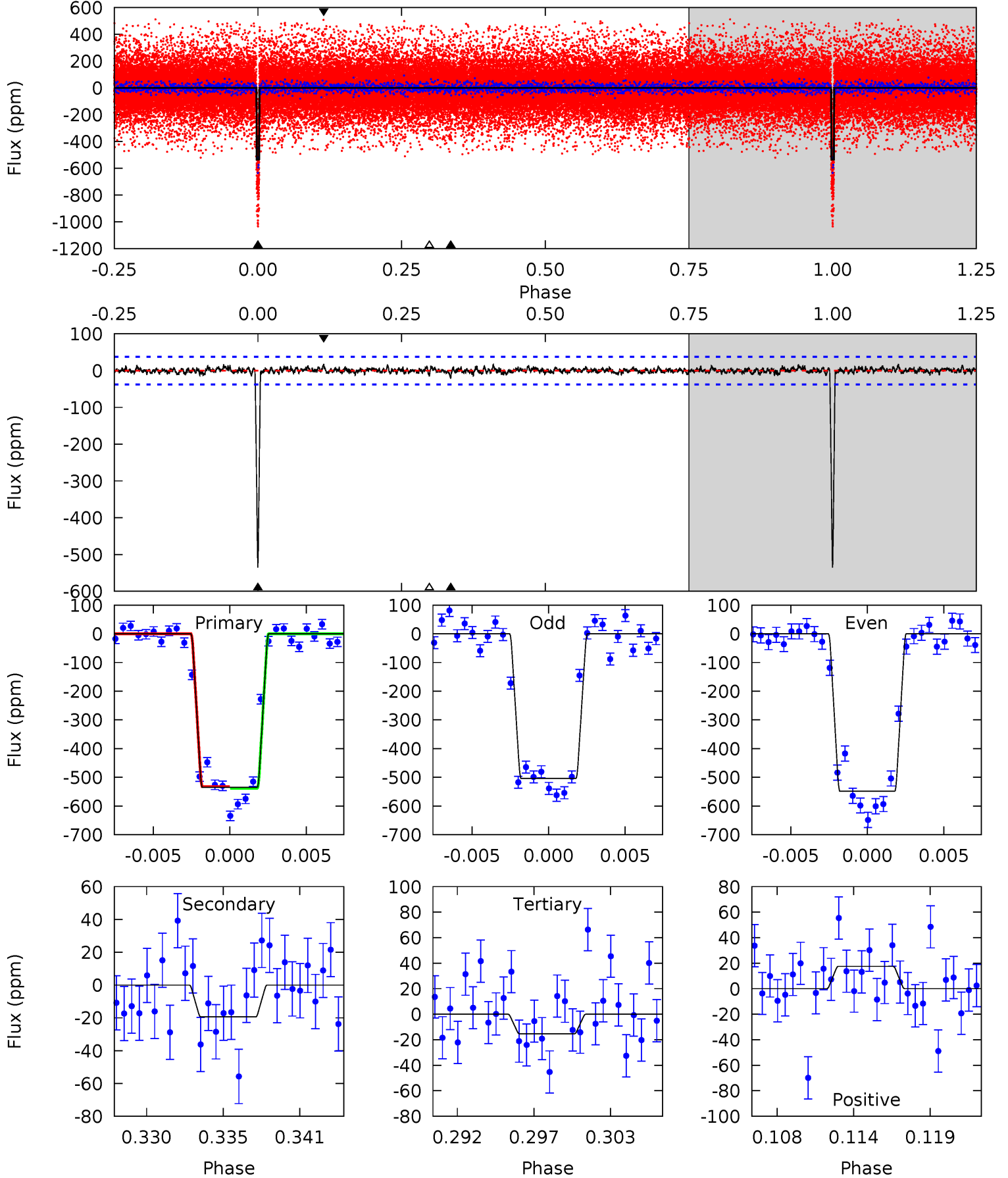
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.0	5.85	5.49	4.82	5.13	2.76	1.73	50.5	51.2	0.35	1.03	0.38	0.98	0.08	2.46



Alt Model-Shift Uniqueness Test

004644952-03, P = 31.782343 Days, E = 103.082820 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.0	2.65	2.10	2.39	5.14	2.78	0.64	70.9	70.6	0.55	0.26	3.09	0.98	0.03	0.42



Stellar Parameters For KIC 004644952

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5527^{+110}_{-110}	$4.491^{+0.060}_{-0.090}$	$-0.080^{+0.150}_{-0.150}$	$0.880^{+0.100}_{-0.067}$	$0.875^{+0.055}_{-0.050}$	$1.808^{+0.424}_{-0.489}$
	+2%/-2%	+1%/-2%	+188%/-188%	+11%/-8%	+6%/-6%	+23%/-27%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 004644952-03 / KOI 1805.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-56 ± 10	$2.29^{+0.51}_{-0.48}$	741^{+26}_{-25}	3558^{+297}_{-243}	205^{+131}_{-71}
Alt.	-19 ± 7	$2.31^{+0.49}_{-0.50}$	741^{+26}_{-24}	3033^{+261}_{-250}	72^{+53}_{-34}

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

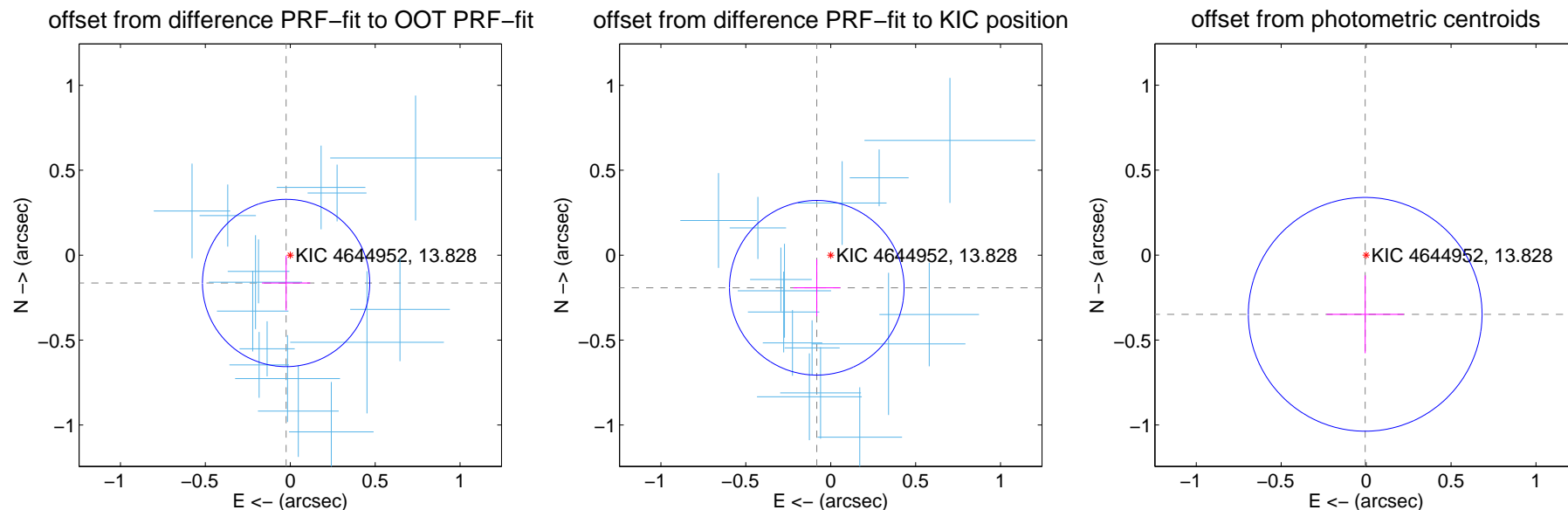
DV Centroid Data

Supplemental centroid analysis for 004644952-03. Kepler magnitude: 13.83. Transit SNR 32.45

There are 17 quarters with good PRF difference image offsets

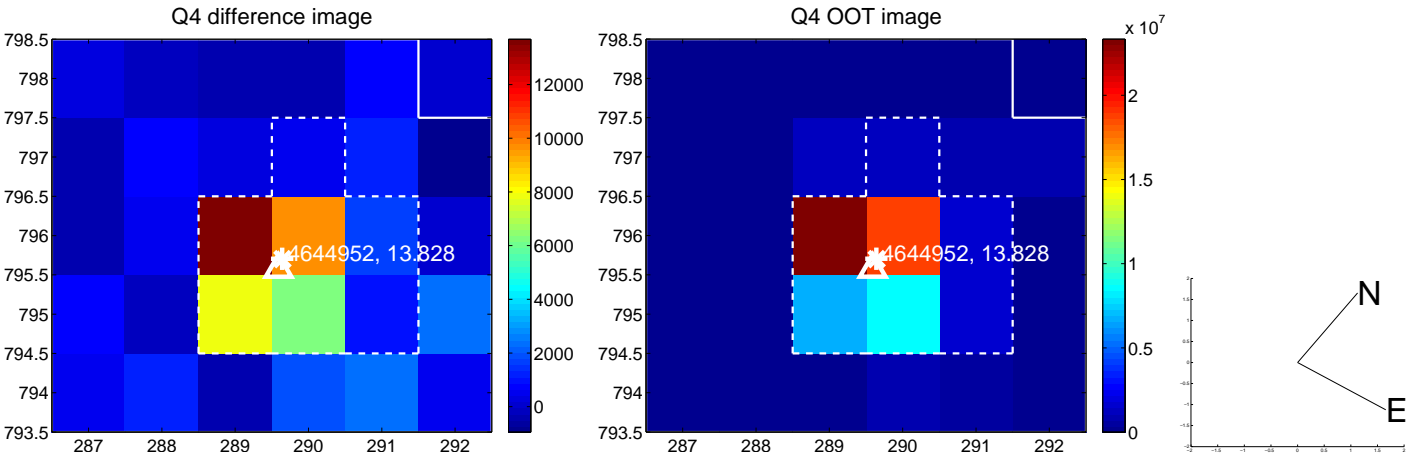
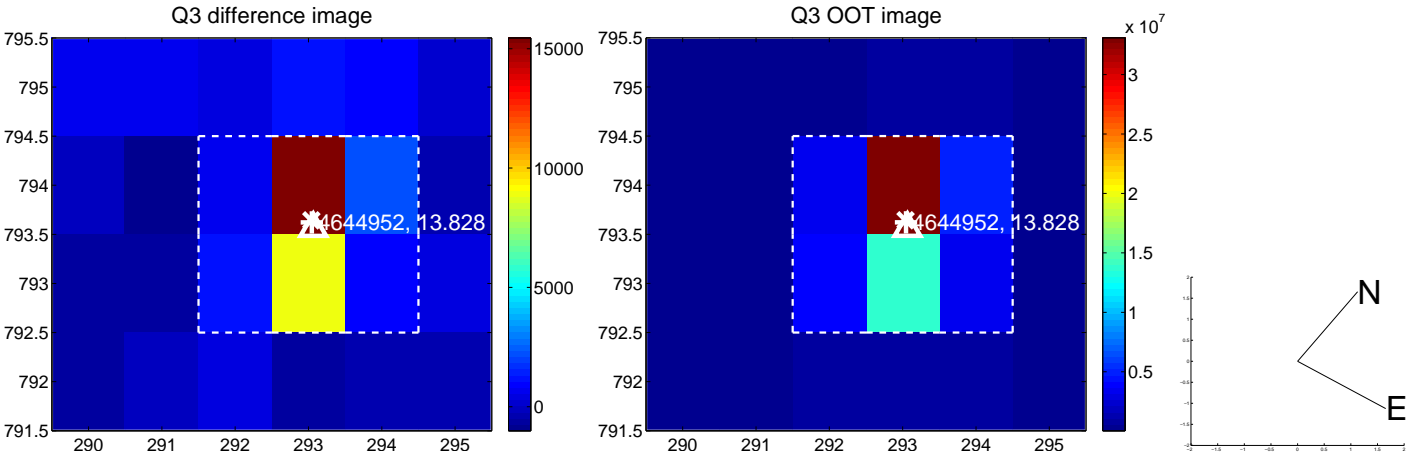
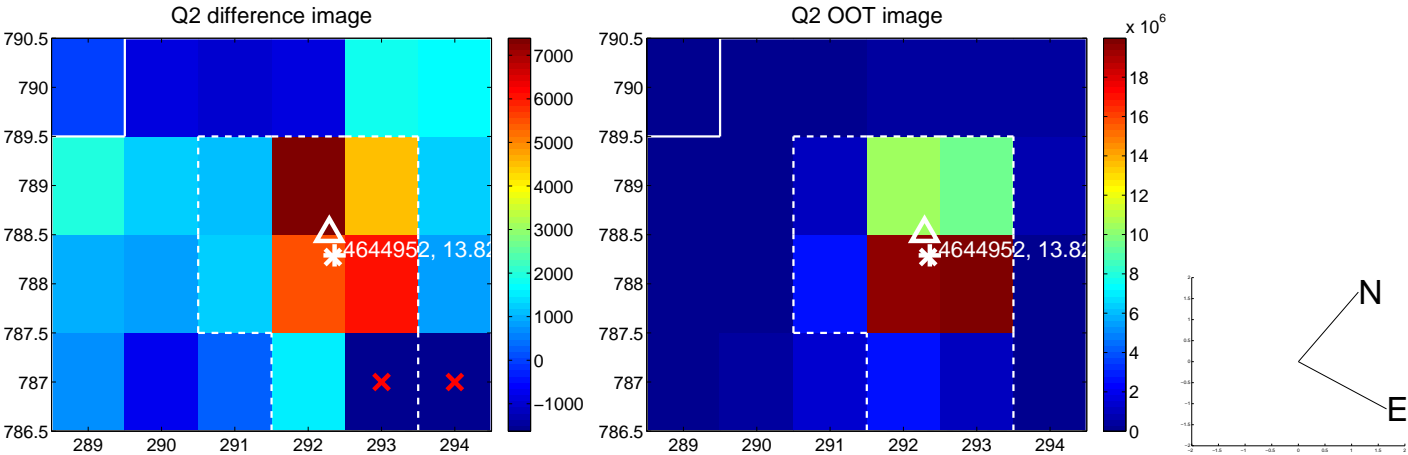
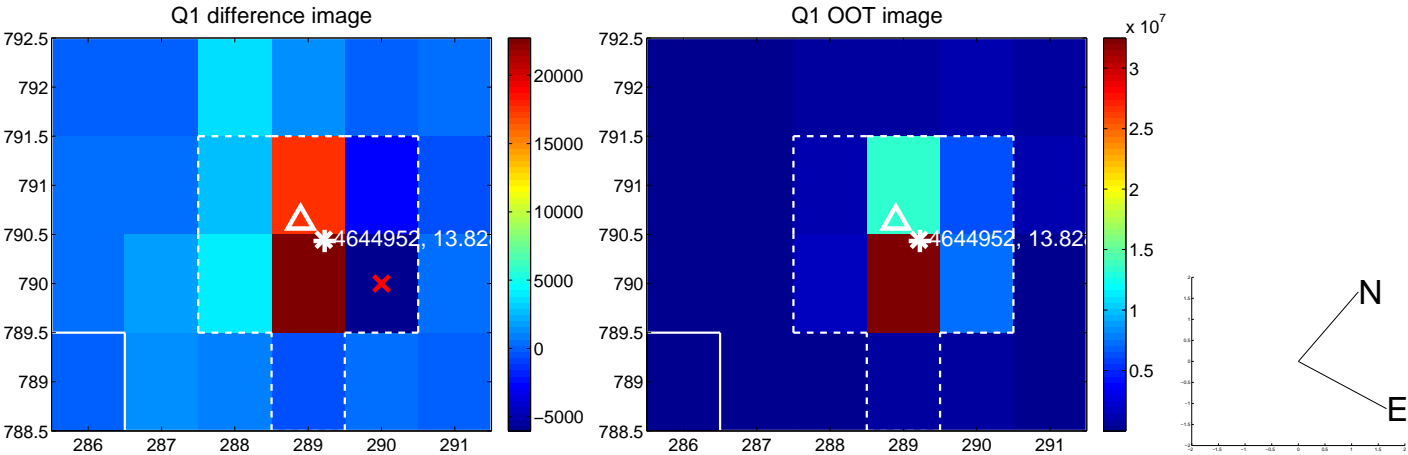
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.166 ± 0.164	1.01	0.025 ± 0.142	-0.164 ± 0.161
PRF-fit source offset from KIC position	0.209 ± 0.171	1.22	0.082 ± 0.139	-0.192 ± 0.167
photometric centroid source offset	0.35 ± 0.23	1.52	0.01 ± 0.23	-0.35 ± 0.23

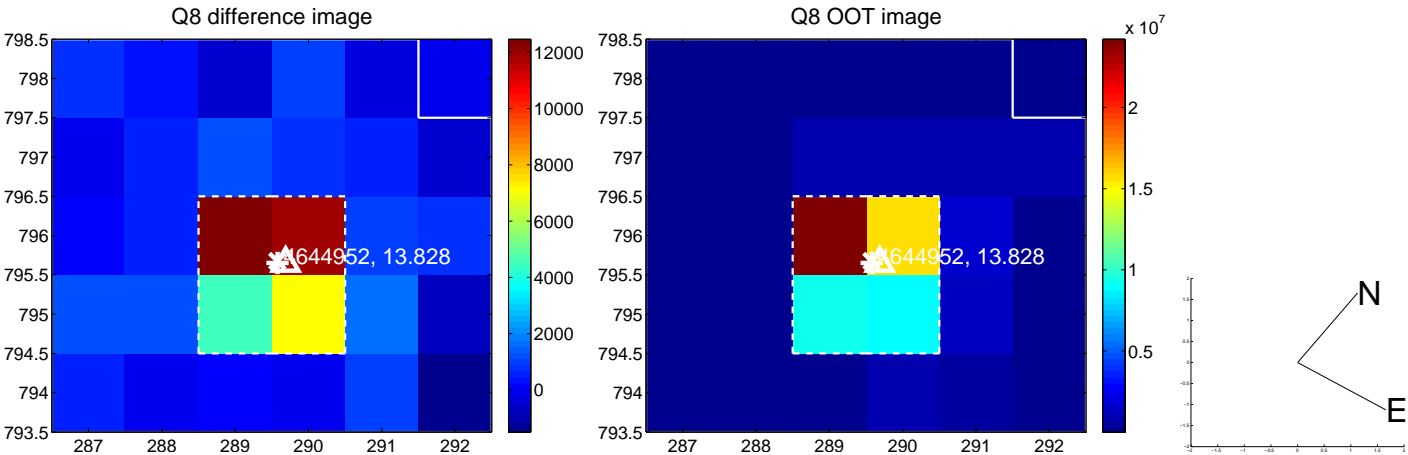
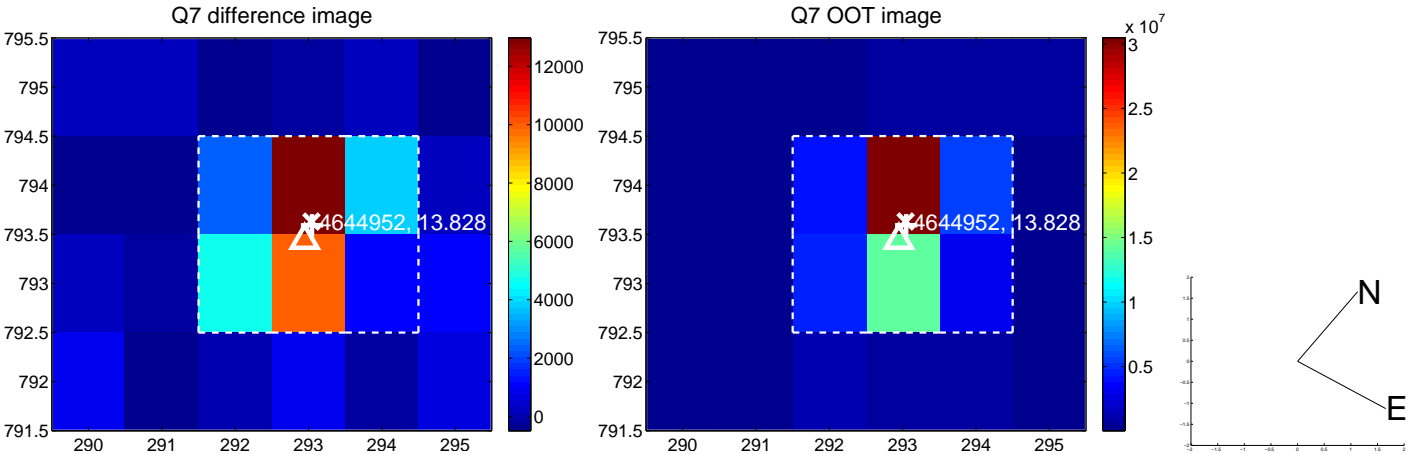
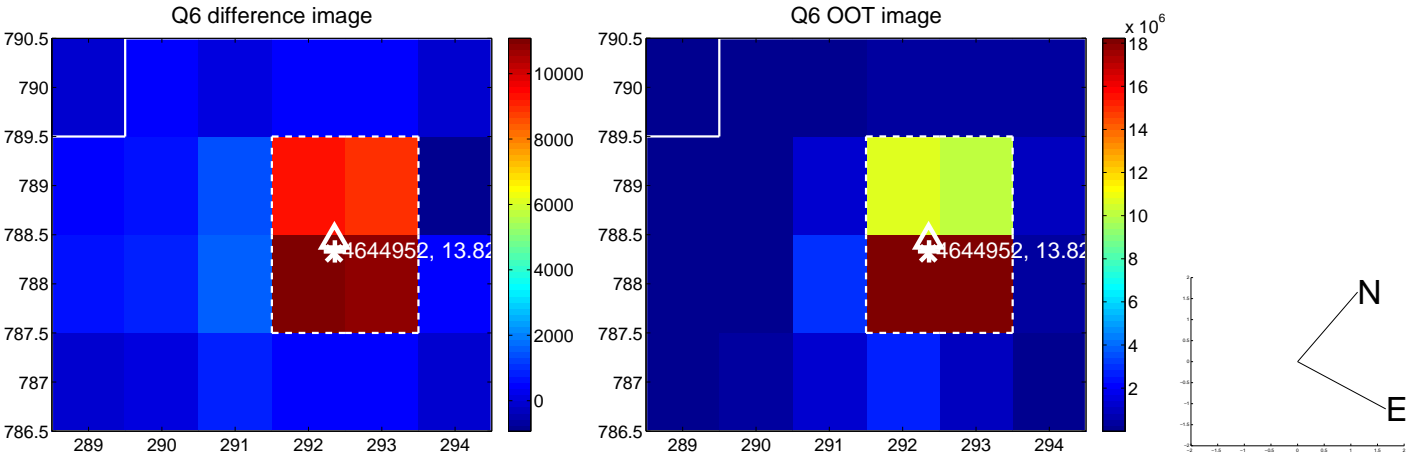
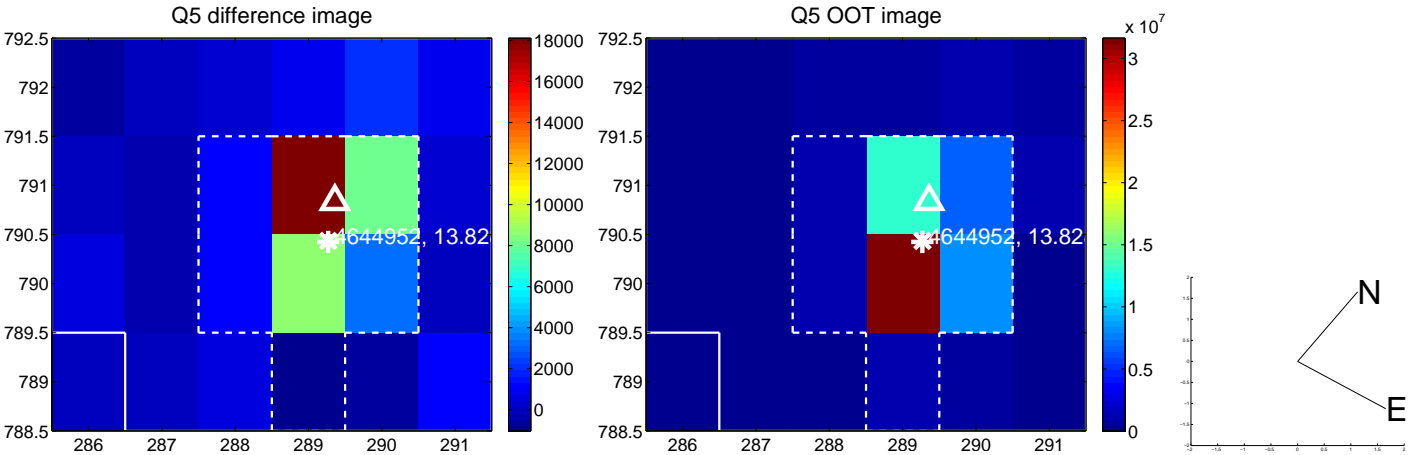


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

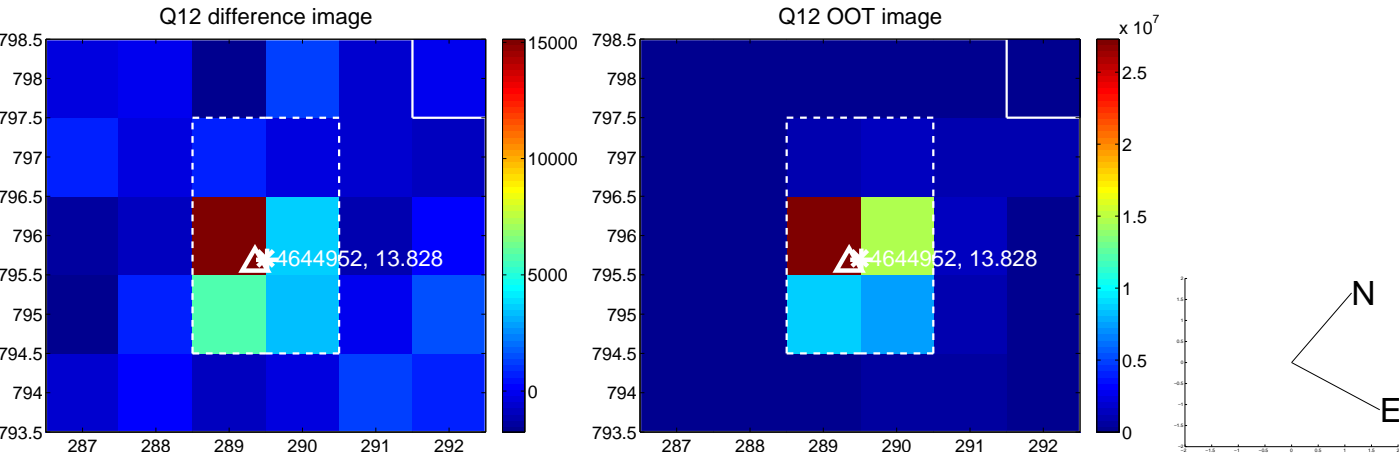
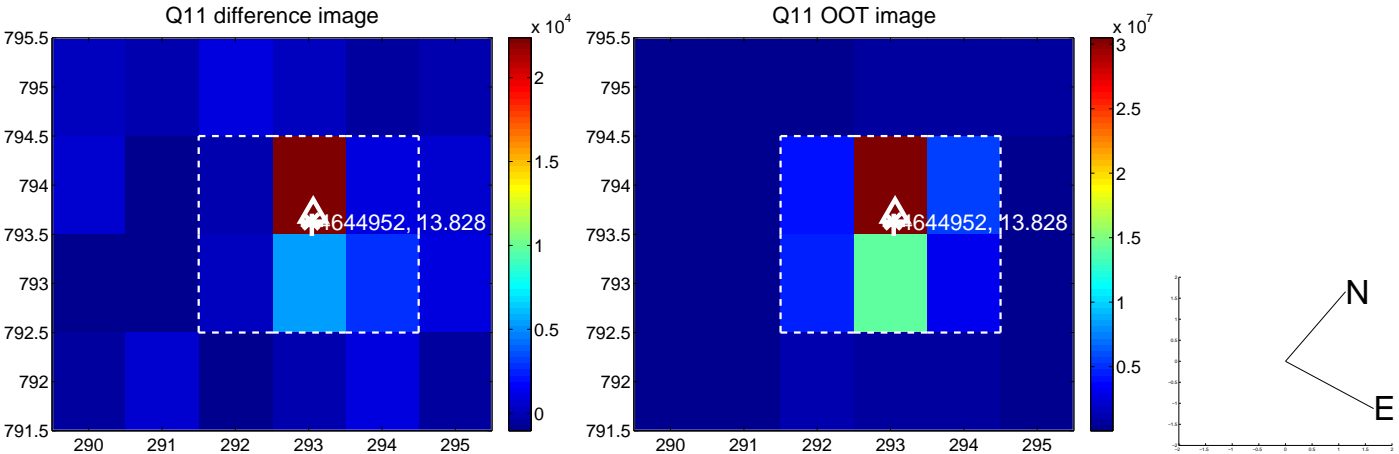
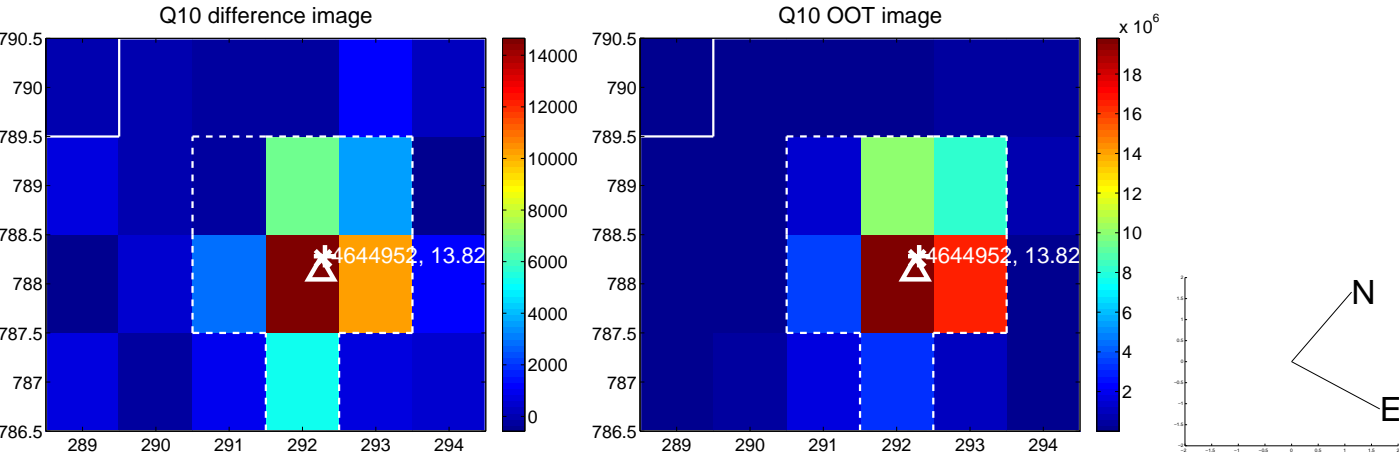
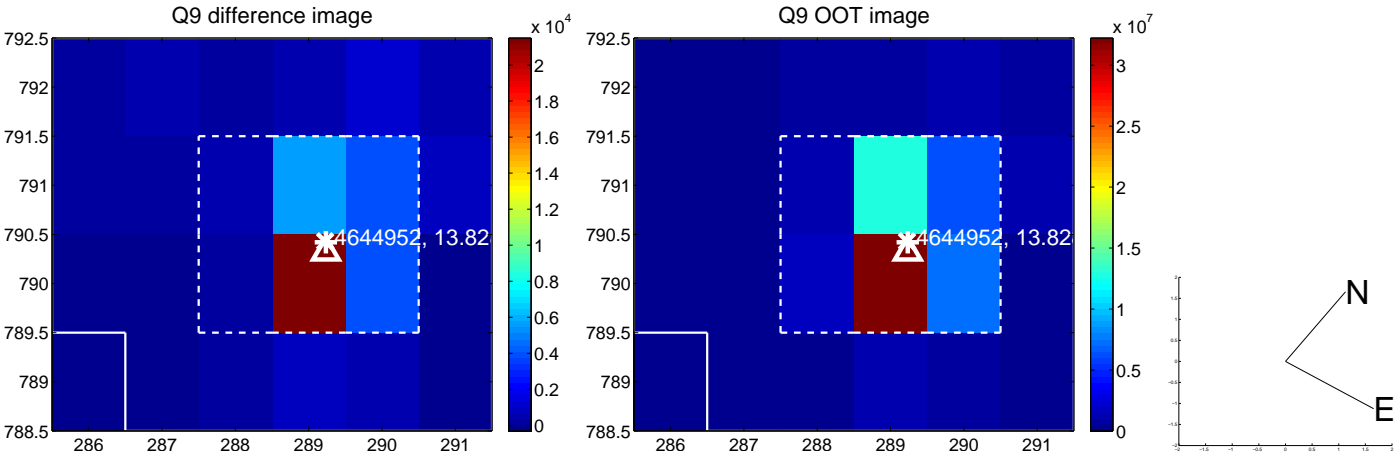
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



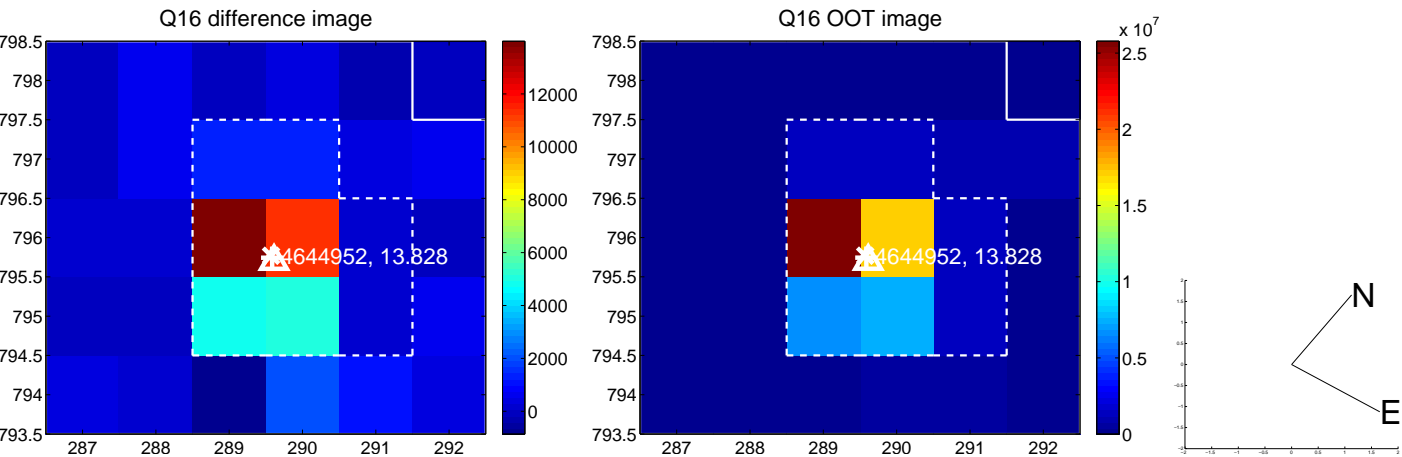
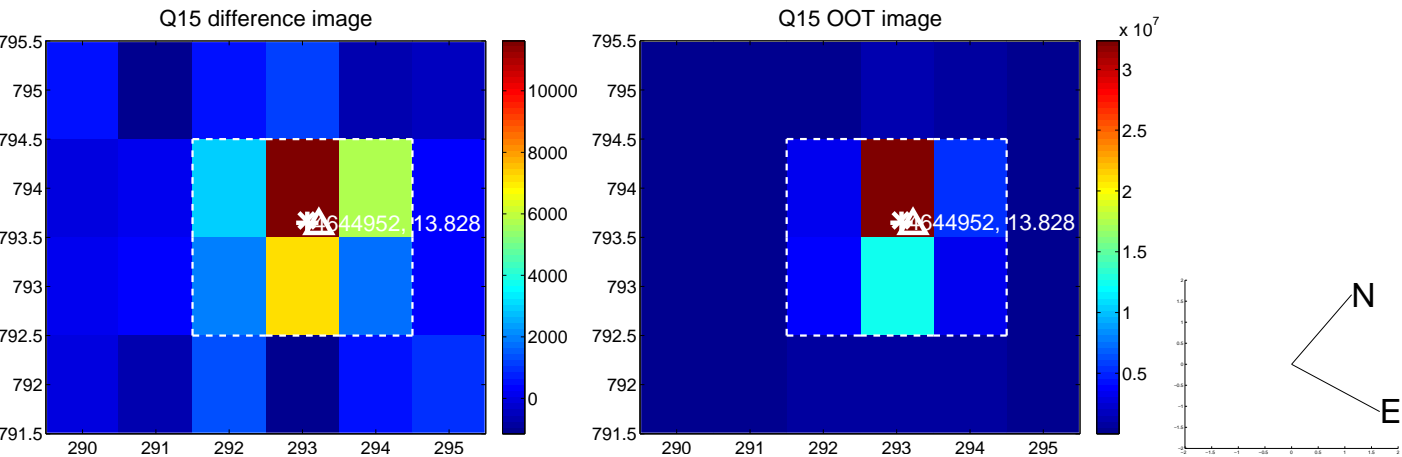
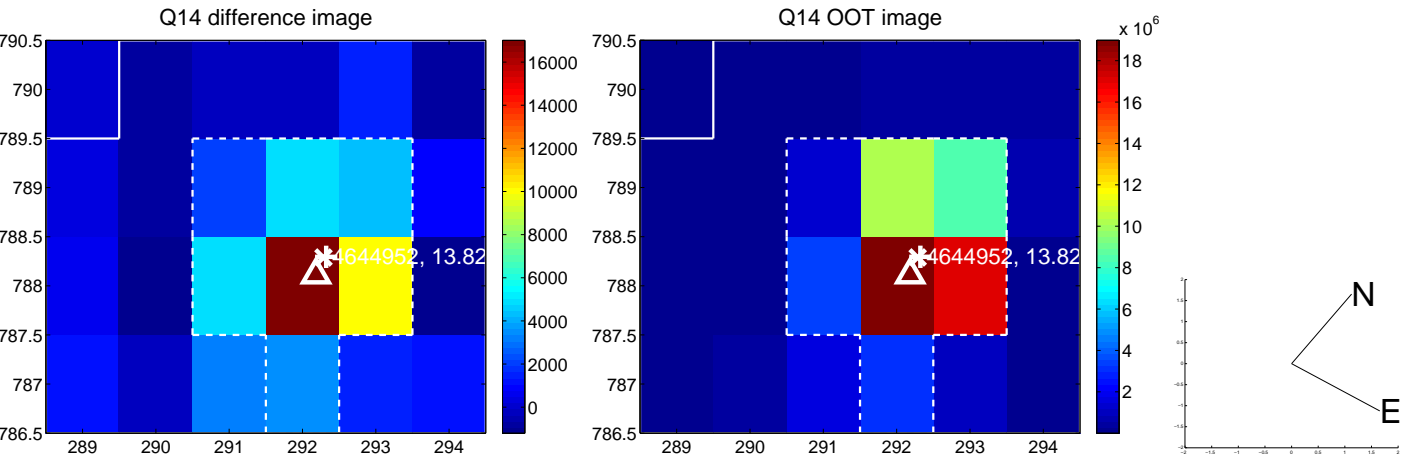
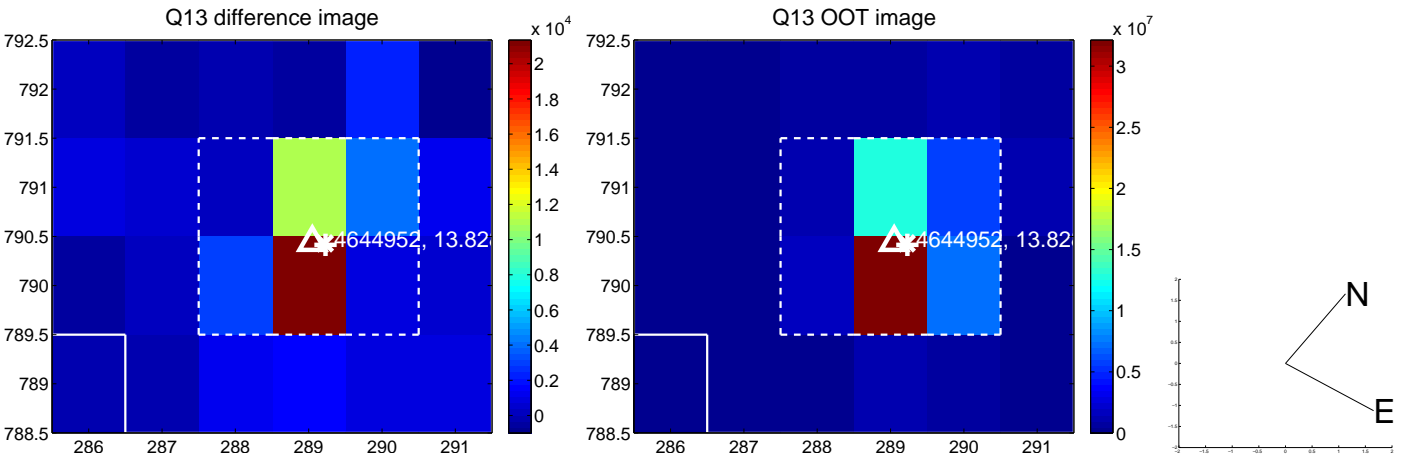
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



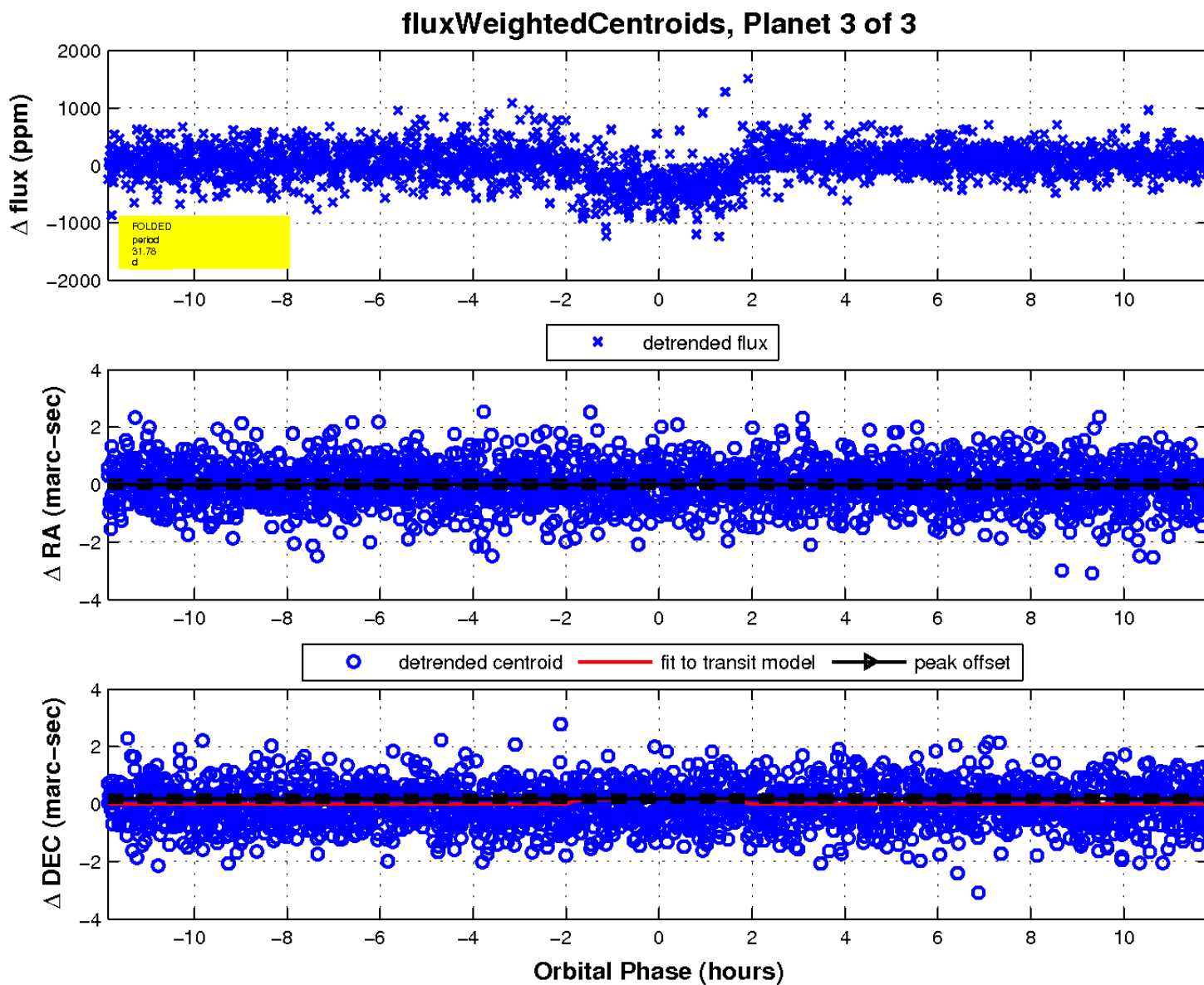
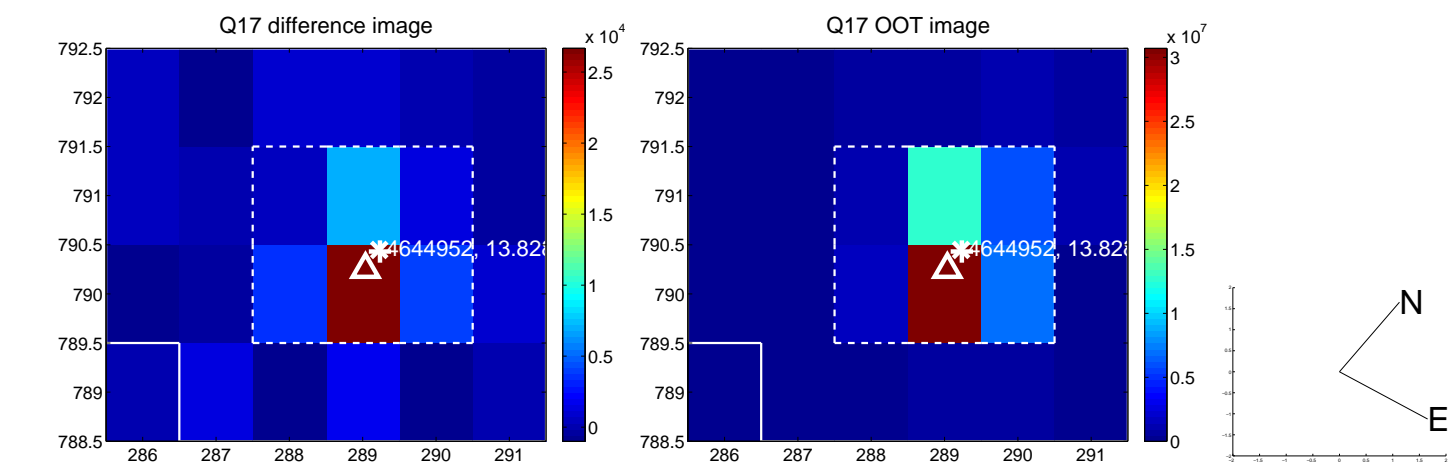
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

