

KIC 004952341

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})
004952341-01	OBS	2818.01	1.796782	133.056189	78.6	6.355	12.6	13.8	1.71	7592	1.98	7816.27
004952341-02	OBS	No	0.829904	132.058706	0.2	7.258	9.6	0.1	1.71	7592	0.10	21892.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004952341-01	OBS	FP	0.00	0	1	1	0	MOD_ODDEVEN_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
004952341-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

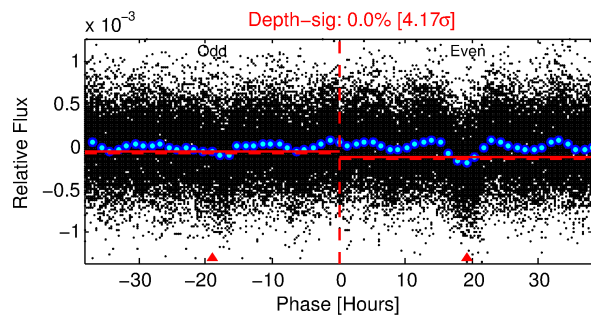
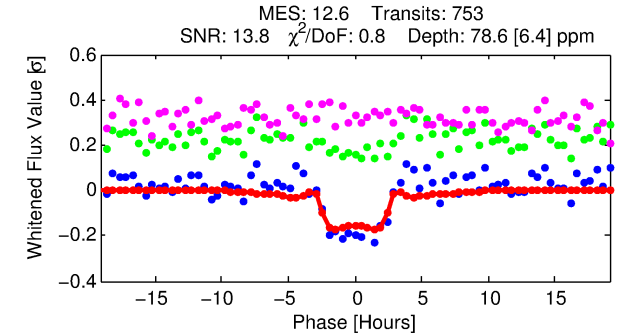
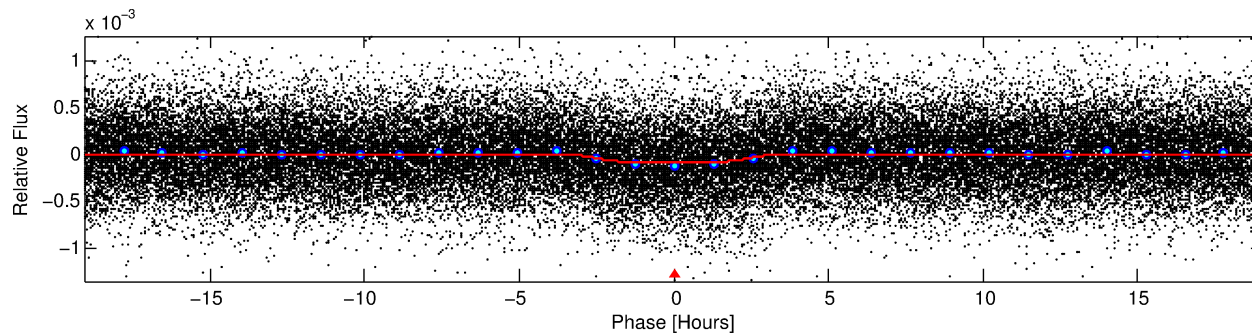
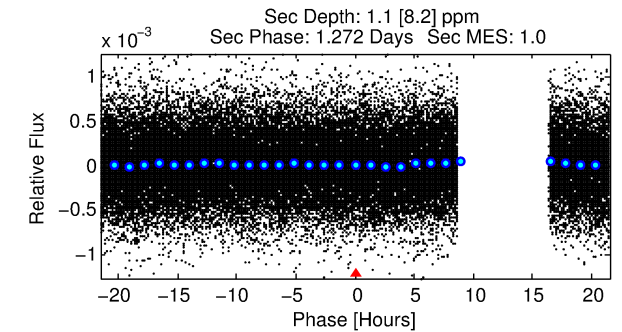
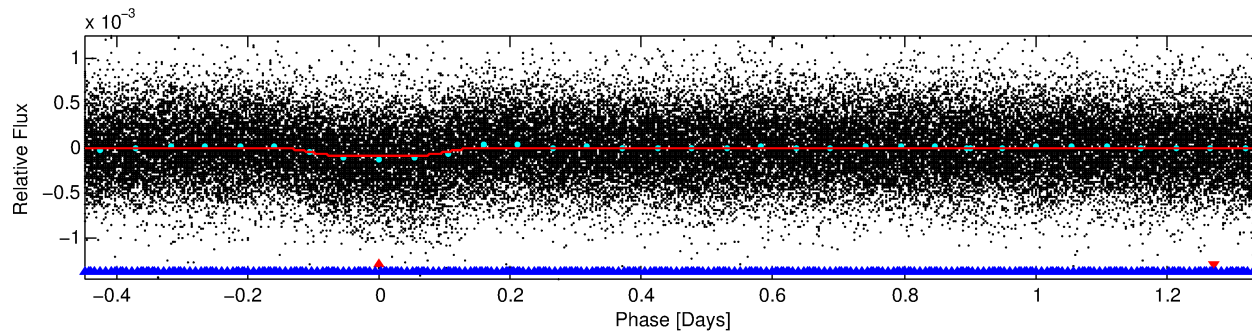
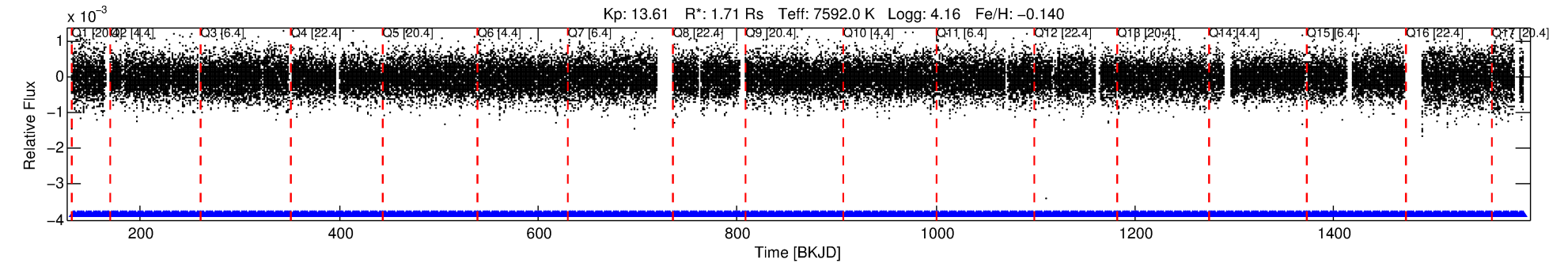
Ephemeris Match Information For 004952341-01

No Significant Match Found

DV One-Page Summary

KIC: 4952341 Candidate: 1 of 2 Period: 1.797 d

KOI: K02818.01 Corr: 0.901



DV Fit Results:

Period = 1.79678 [0.00002] d
Epoch = 133.0562 [0.0053] BKJD
Rp/R* = 0.0106 [0.0005]
a/R* = 1.13 [0.03]
b = 0.98 [0.01]
Seff = 7816.26 [3016.10]
Teq = 2398 [231] K
Rp = 1.98 [0.60] Re
a = 0.0334 [0.0082] AU
Ag = 0.17 [1.29] [-0.64 σ]
Teffp = 2398 [4429] K [-0.00 σ]

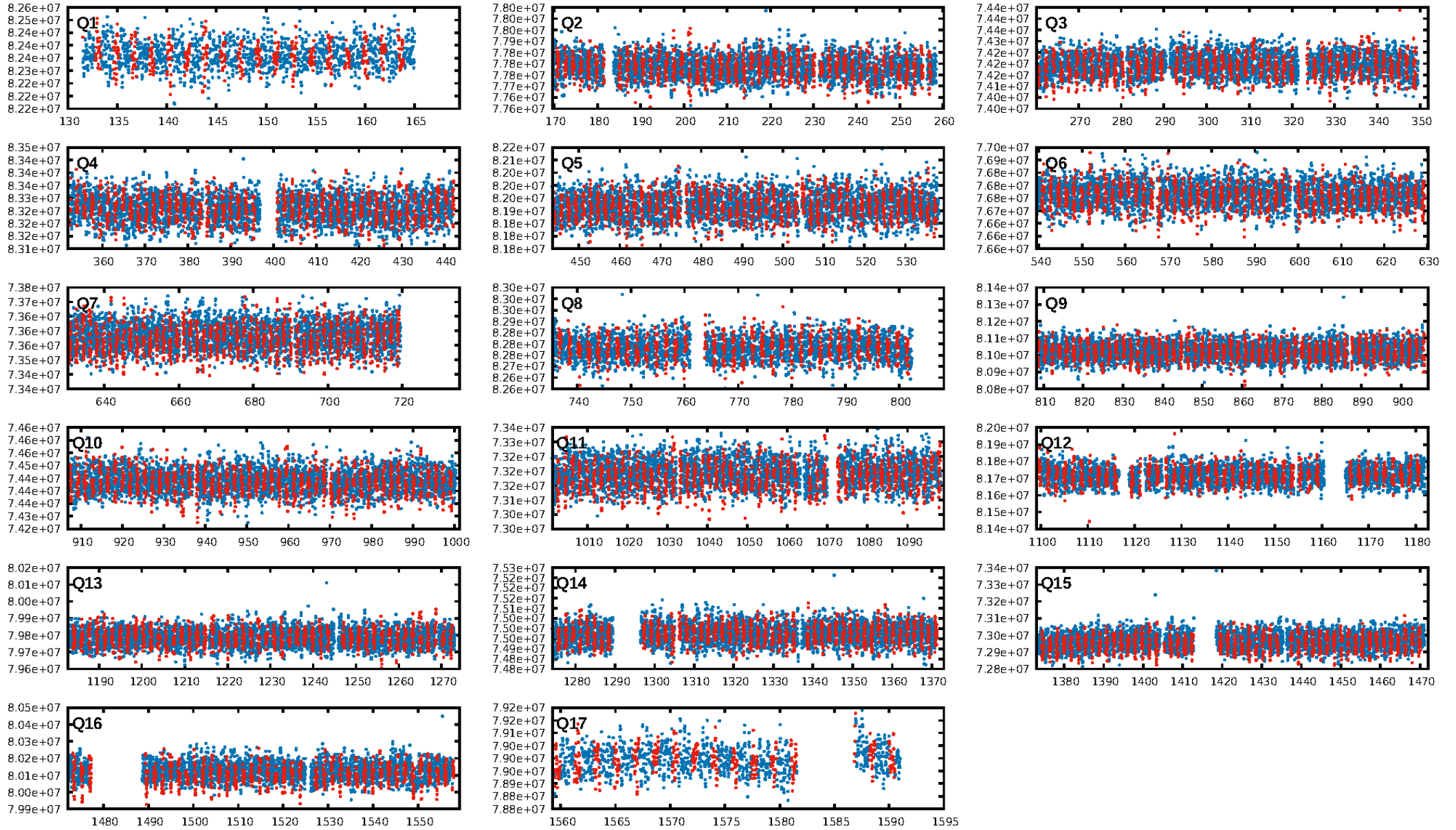
DV Diagnostic Results:

ShortPeriod-sig: 98.4% [2.41 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [720/720]
GhostDiagnostic-chr: -0.07601
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/17]

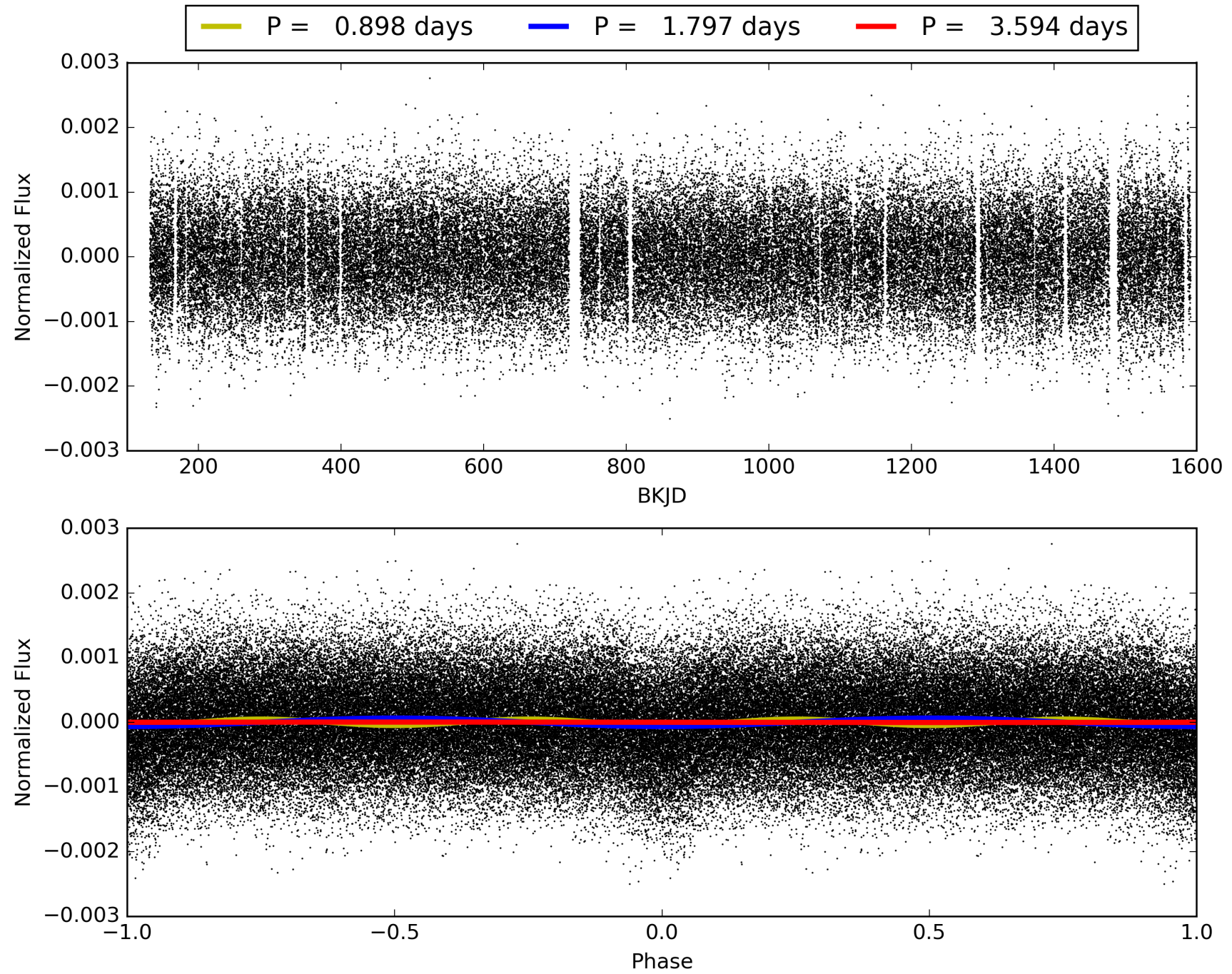
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:47:43 Z

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

TCE 004952341-01, PDC Light Curves

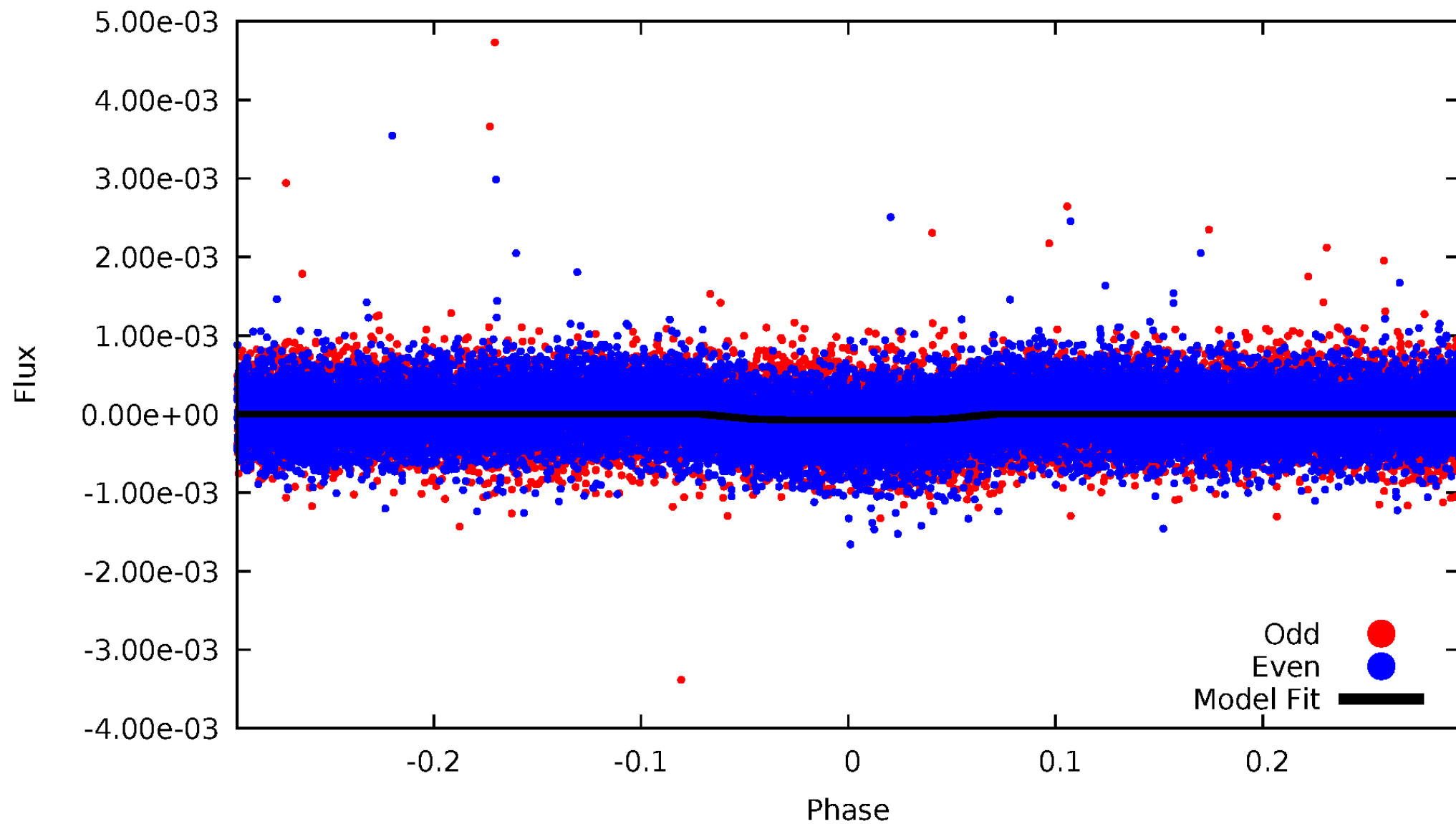


TCE 004952341-01



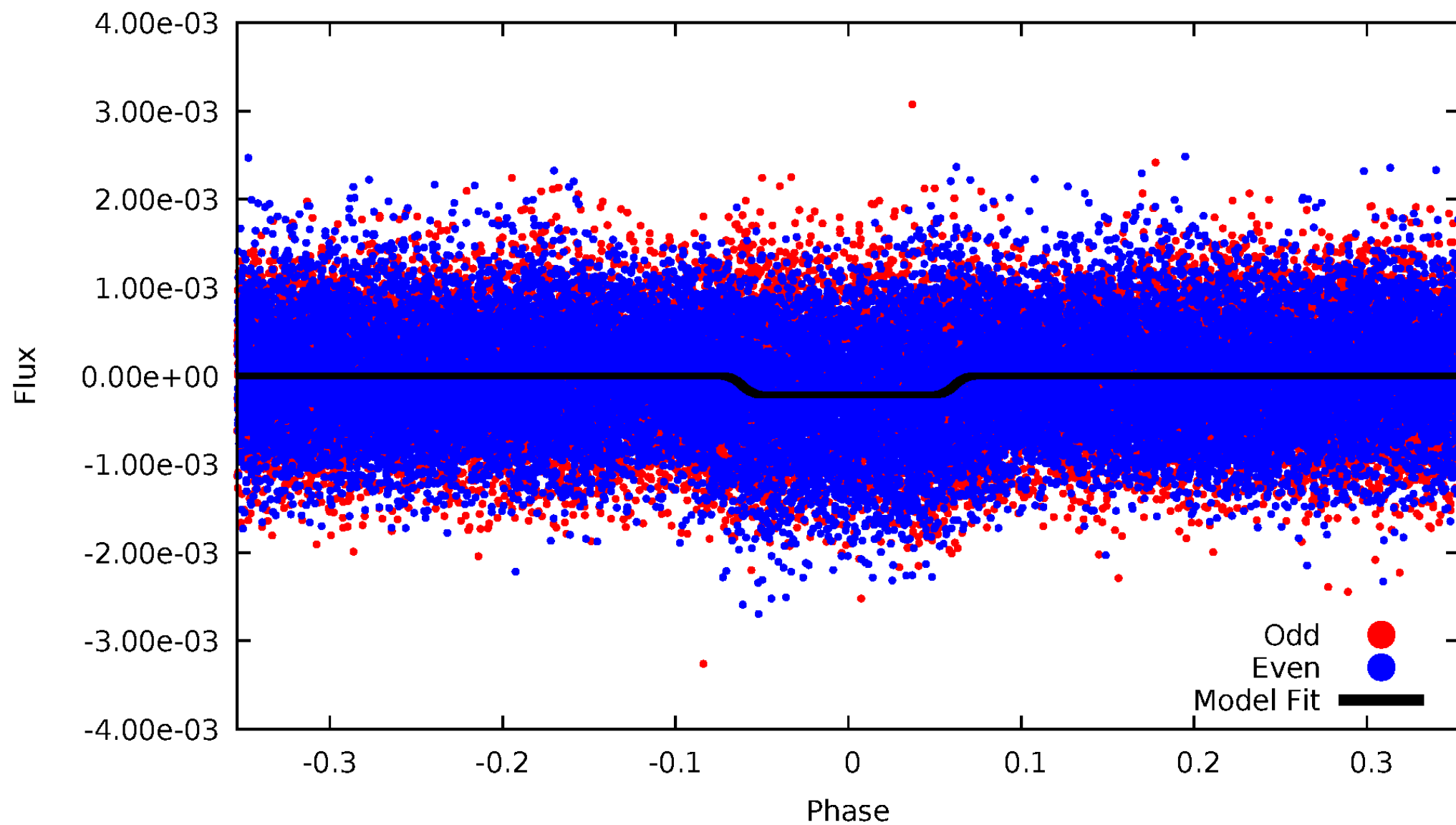
DV Odd/Even

TCE 004952341-01

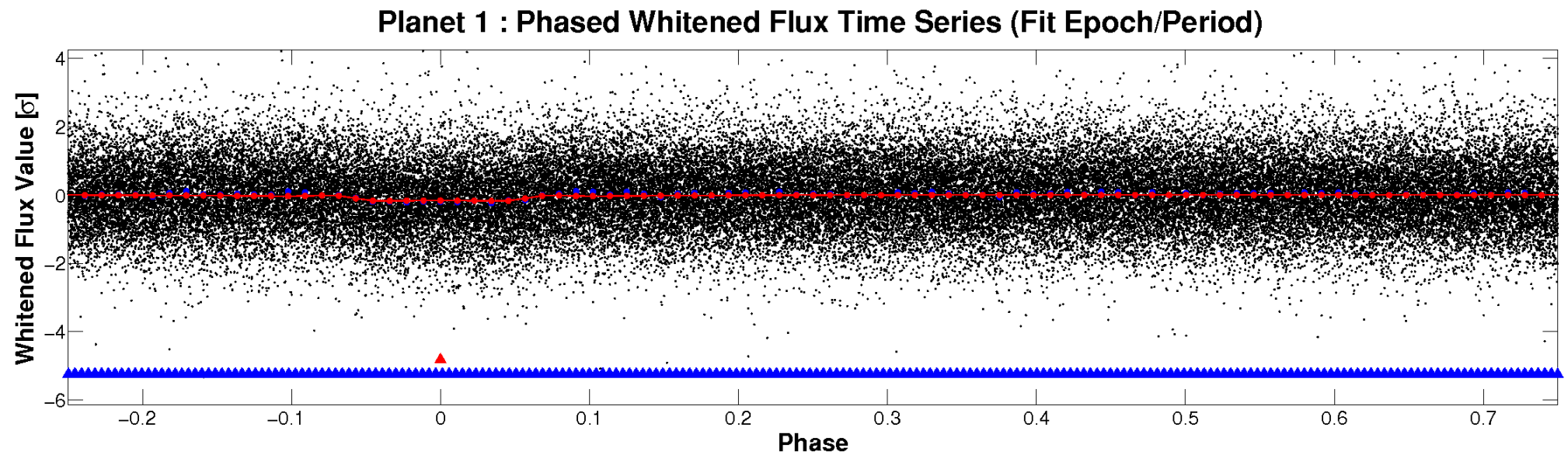
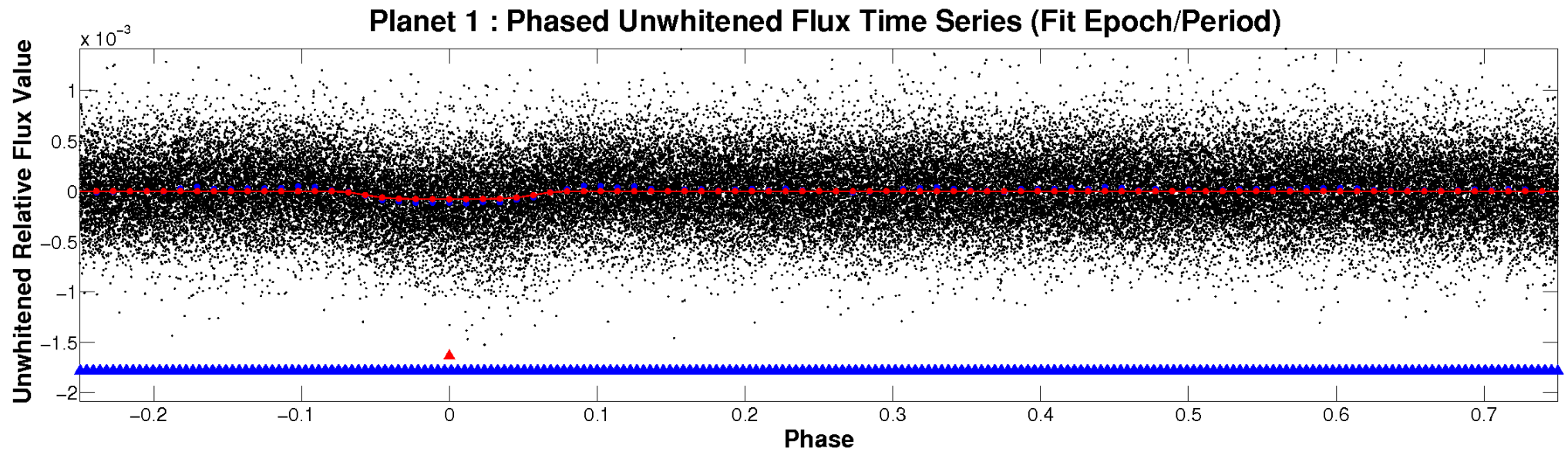


ALT Odd/Even

TCE 004952341-01

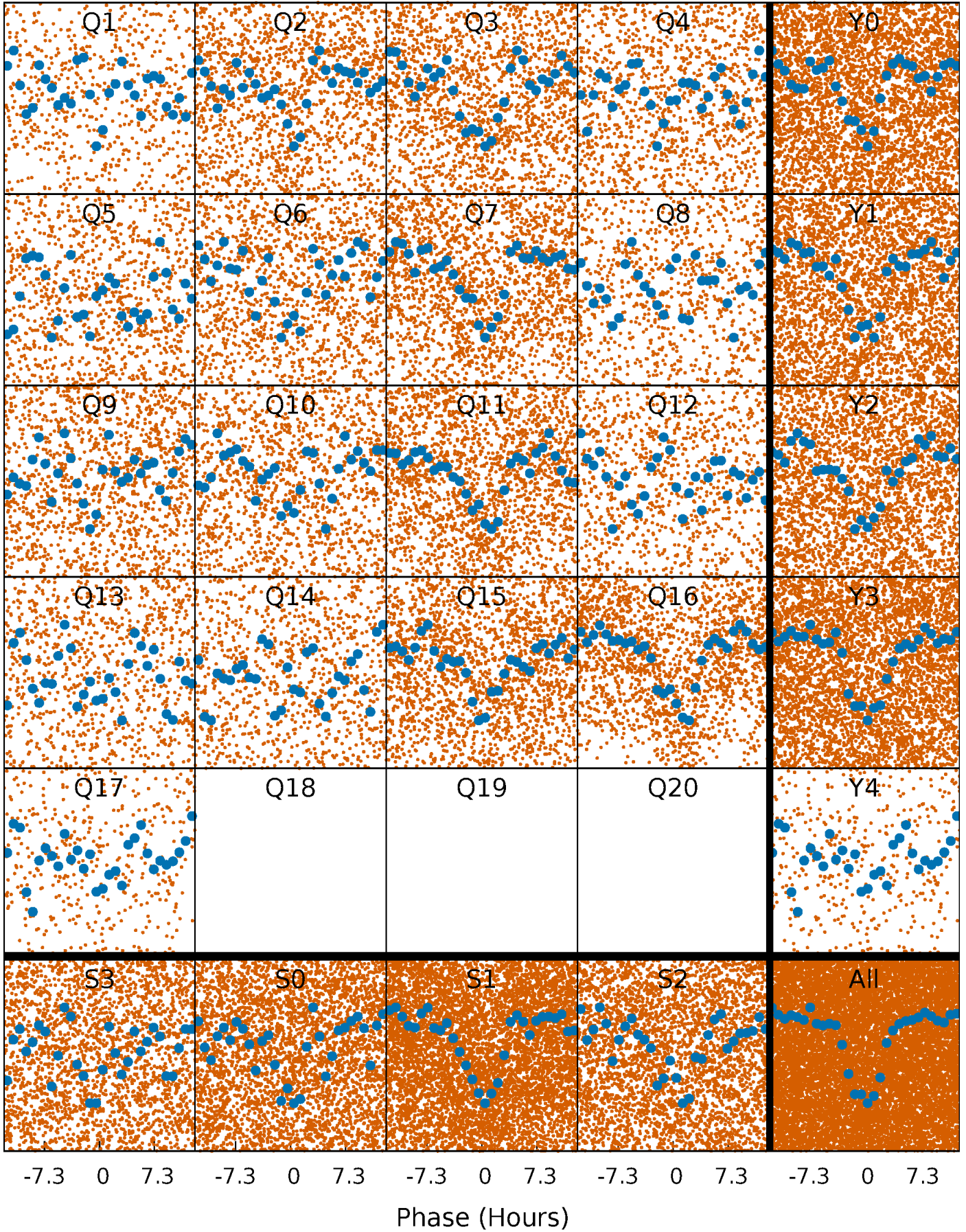


Non-Whitened Vs. Whitened Light Curve



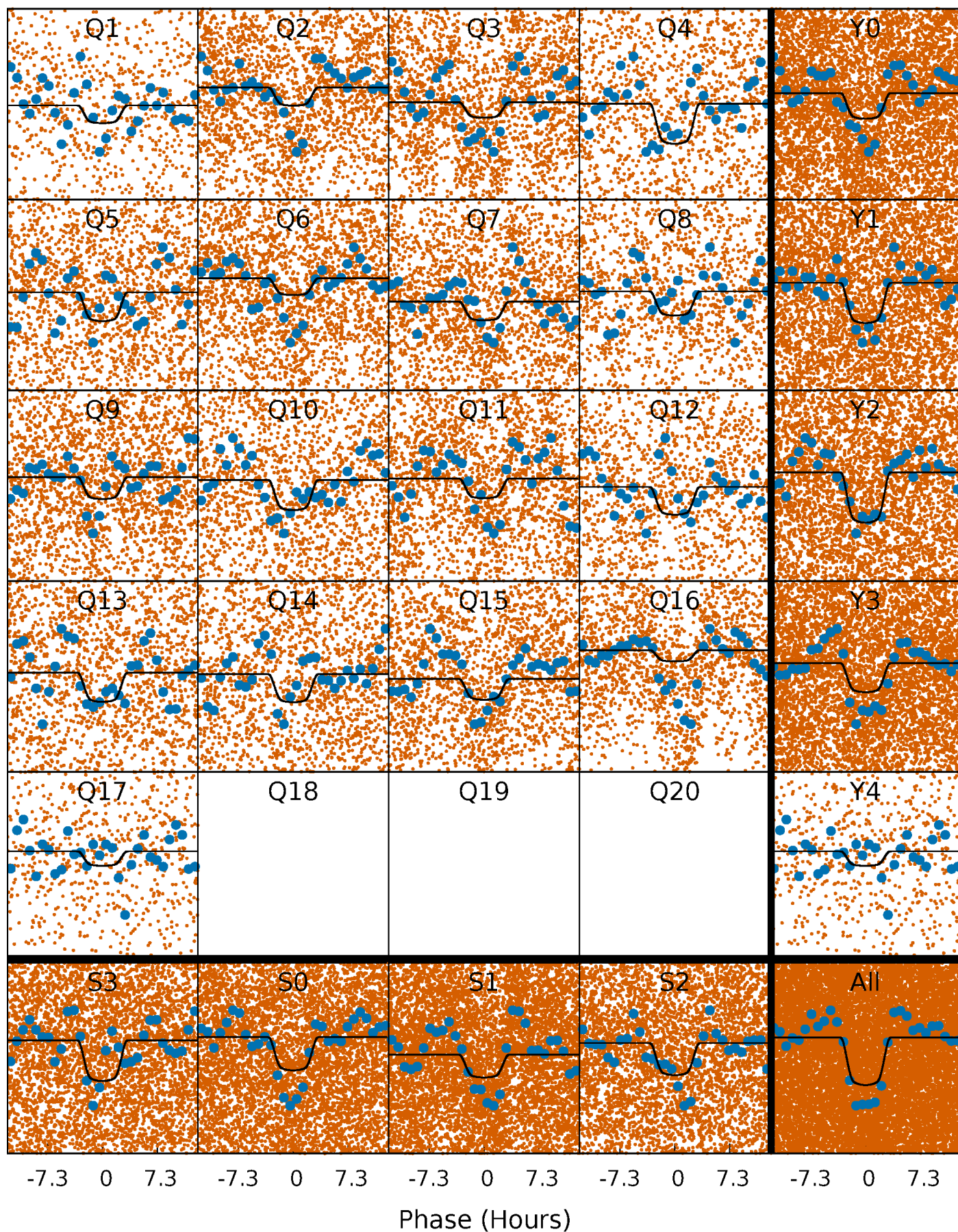
PDC Quarter-Phased Transit Curves

TCE 004952341-01 P= 1.796782 Days $T_0=133.056189$ (BKJD)



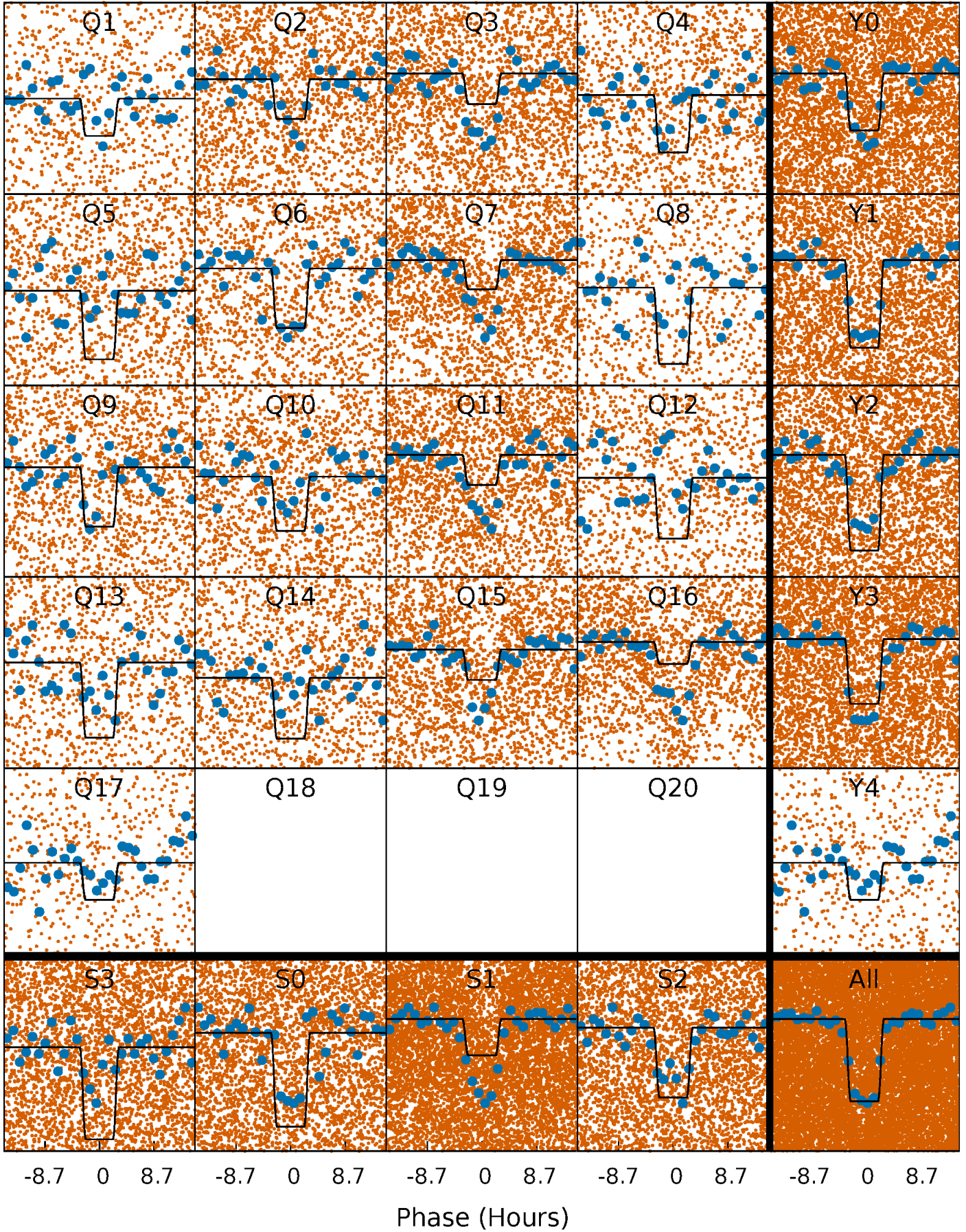
DV Quarter-Phased Transit Curves

TCE 004952341-01 P= 1.796782 Days $T_0=133.056189$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

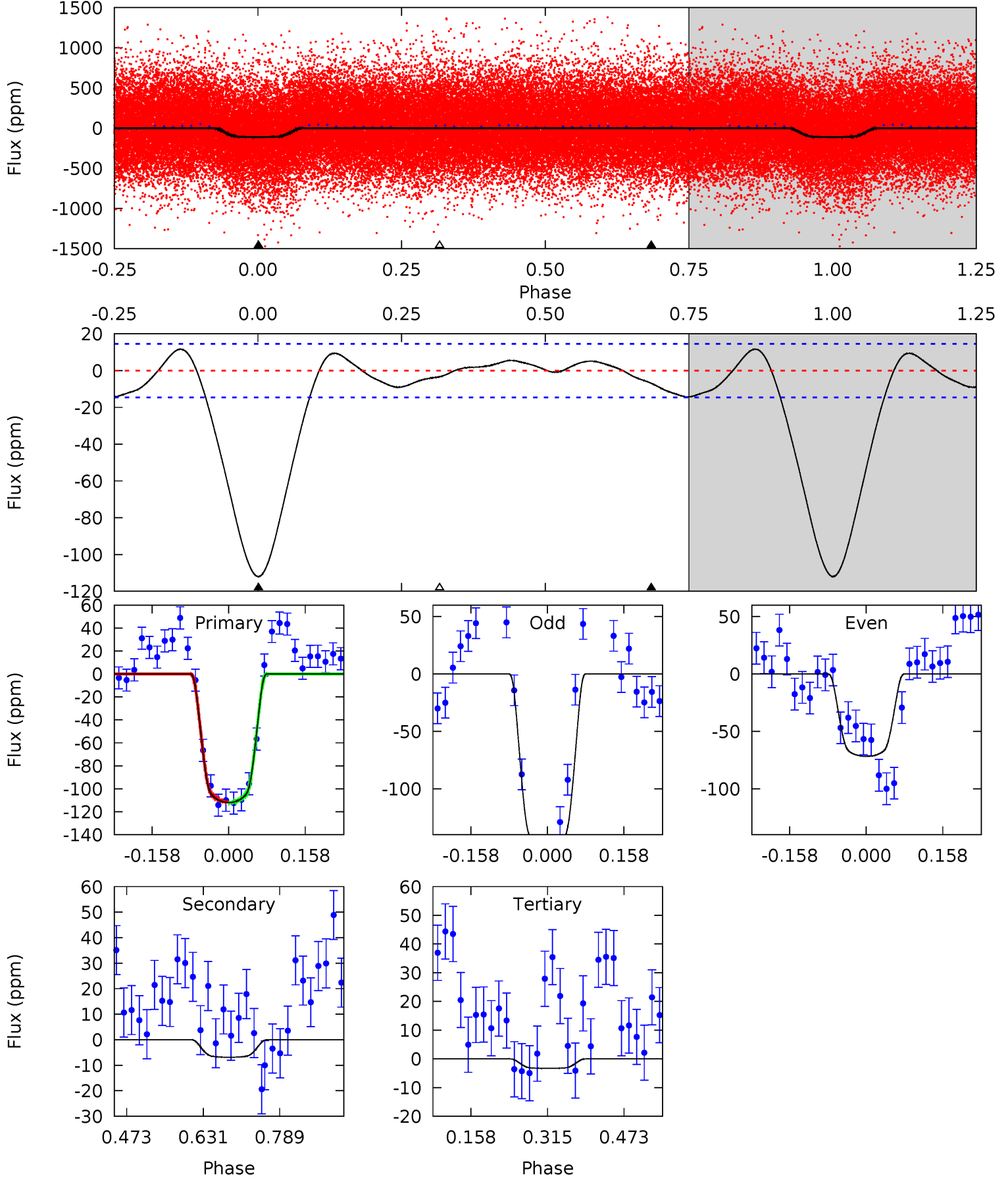
TCE 004952341-01 P= 1.796819 Days $T_0=133.041749$ (BKJD)



DV Model-Shift Uniqueness Test

004952341-01, P = 1.796782 Days, E = 131.259407 Days

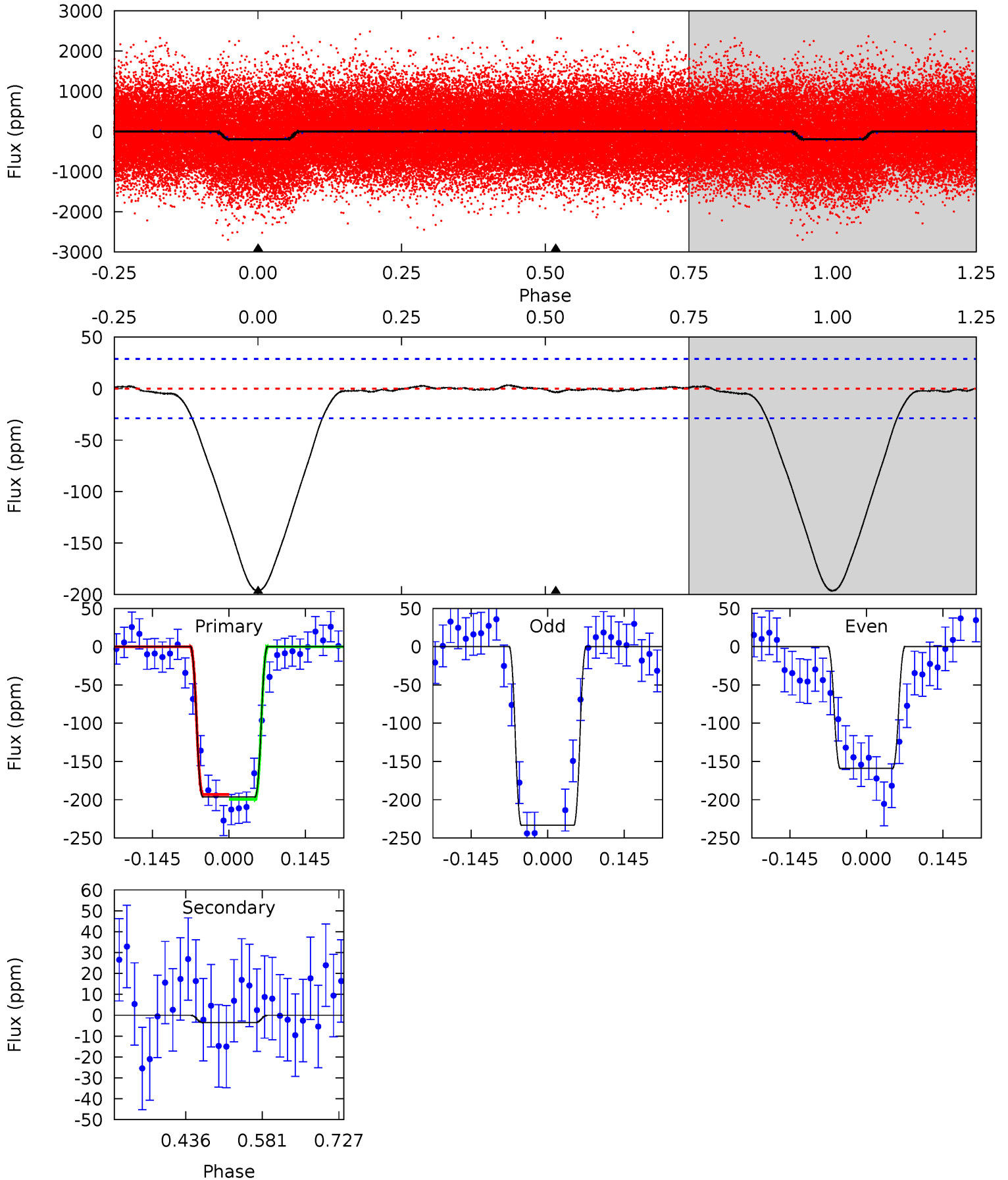
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.4	2.11	1.02	0	4.47	1.41	1.34	33.4	34.4	1.09	2.11	12.3	1.08	0.09	0.08



Alt Model-Shift Uniqueness Test

004952341-01, P = 1.796819 Days, E = 131.244930 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.6	0.55	0	0	4.49	1.46	0.30	30.6	30.6	0.55	0.55	5.78	1.27	0.02	0.49



Stellar Parameters For KIC 004952341

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7592^{+211}_{-316}	$4.159^{+0.124}_{-0.186}$	$-0.140^{+0.200}_{-0.350}$	$1.714^{+0.512}_{-0.341}$	$1.545^{+0.219}_{-0.241}$	$0.432^{+0.294}_{-0.213}$
	+3%/-4%	+3%/-4%	+143%/-250%	+30%/-20%	+14%/-16%	+68%/-49%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004952341-01 / KOI 2818.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 3	$2.03^{+0.34}_{-0.25}$	3375^{+277}_{-210}	3775^{+373}_{-616}	$1.002^{+0.633}_{-0.501}$
Alt.	-4 ± 6	$2.77^{+0.44}_{-0.32}$	3368^{+236}_{-227}	-2561^{+6069}_{-1060}	$0.258^{+0.510}_{-0.489}$

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 004952341-01. Kepler magnitude: 13.61. Transit SNR 13.78

There are 0 quarters with good PRF difference image offsets

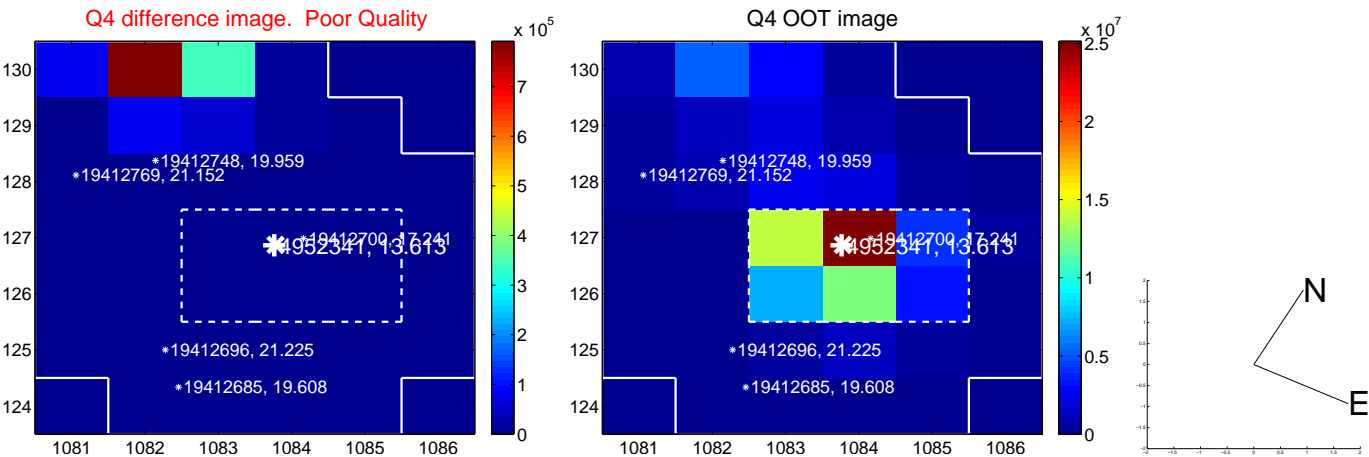
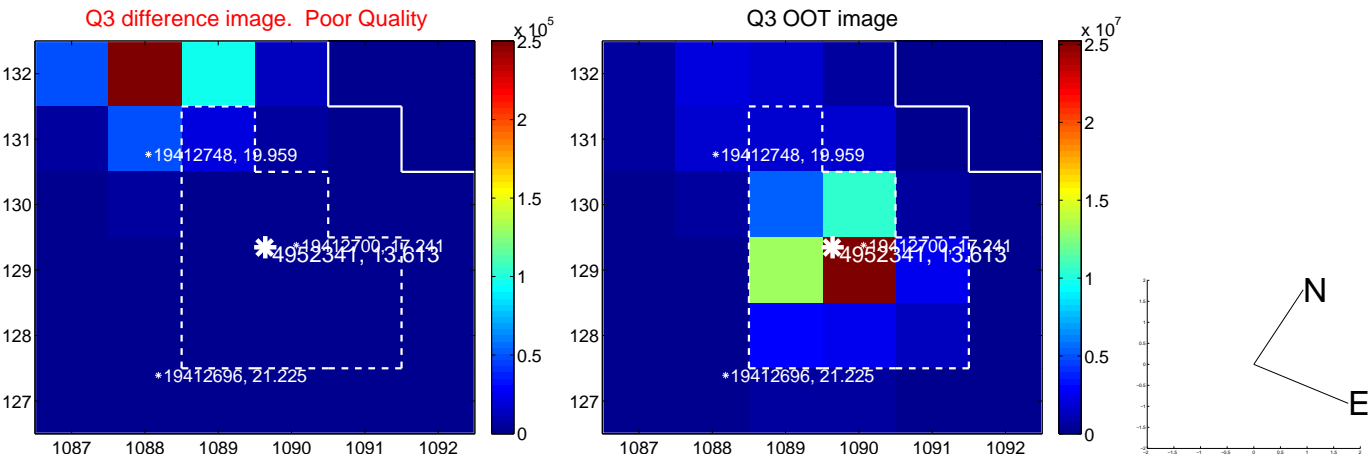
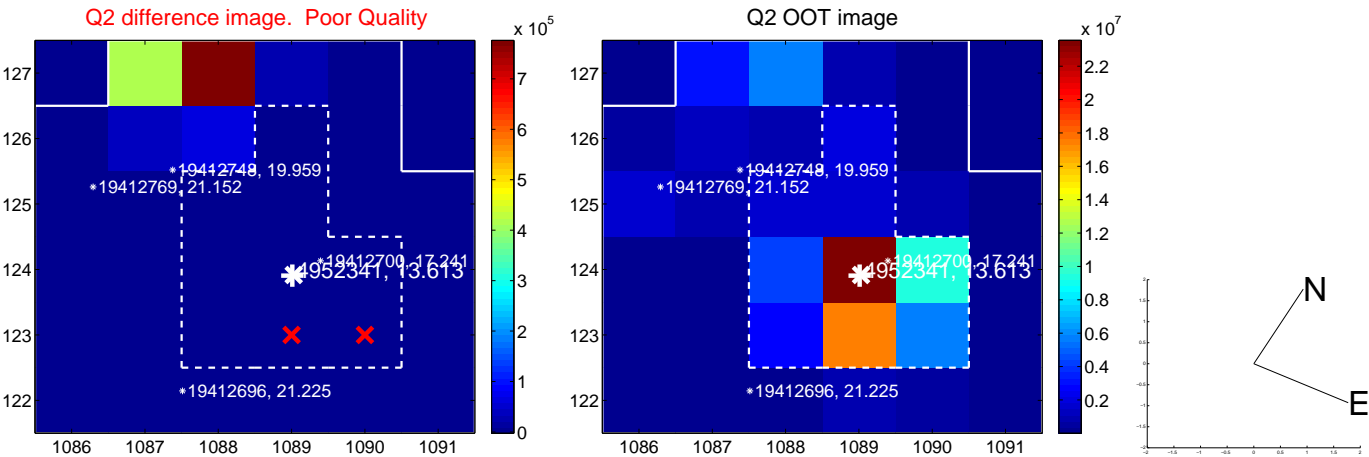
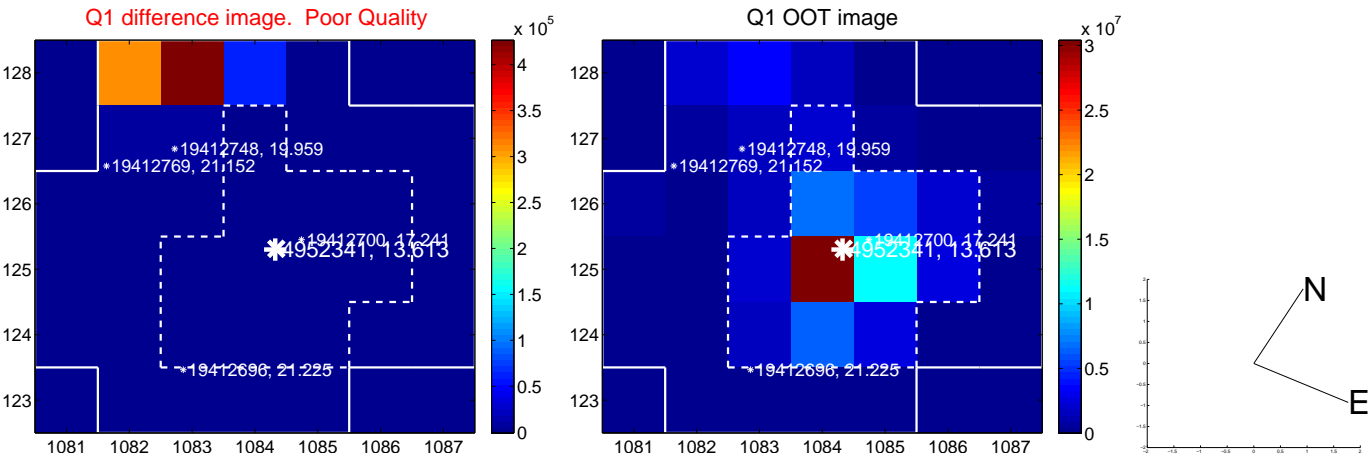
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—

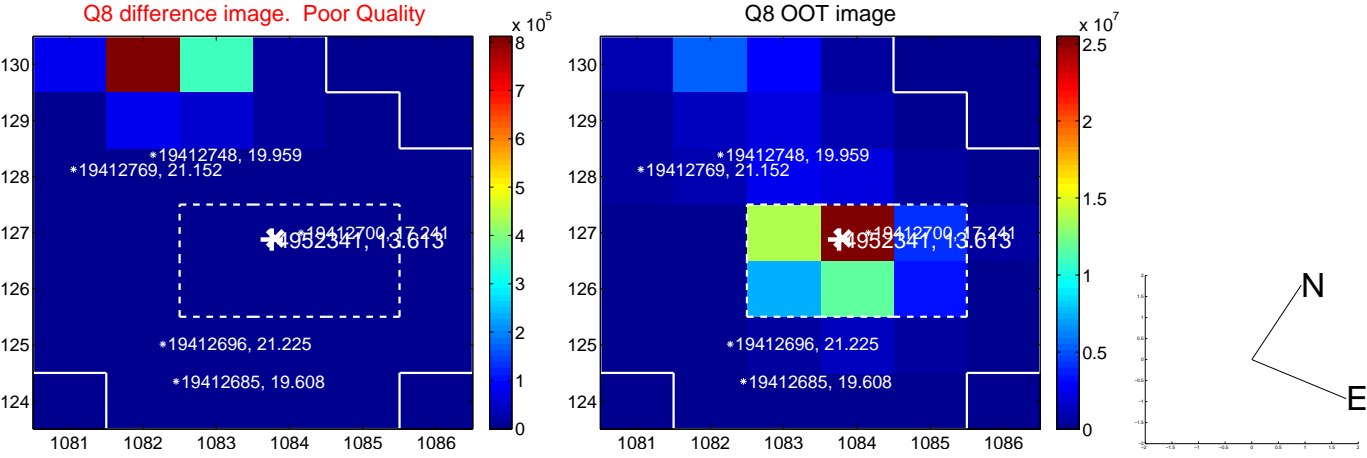
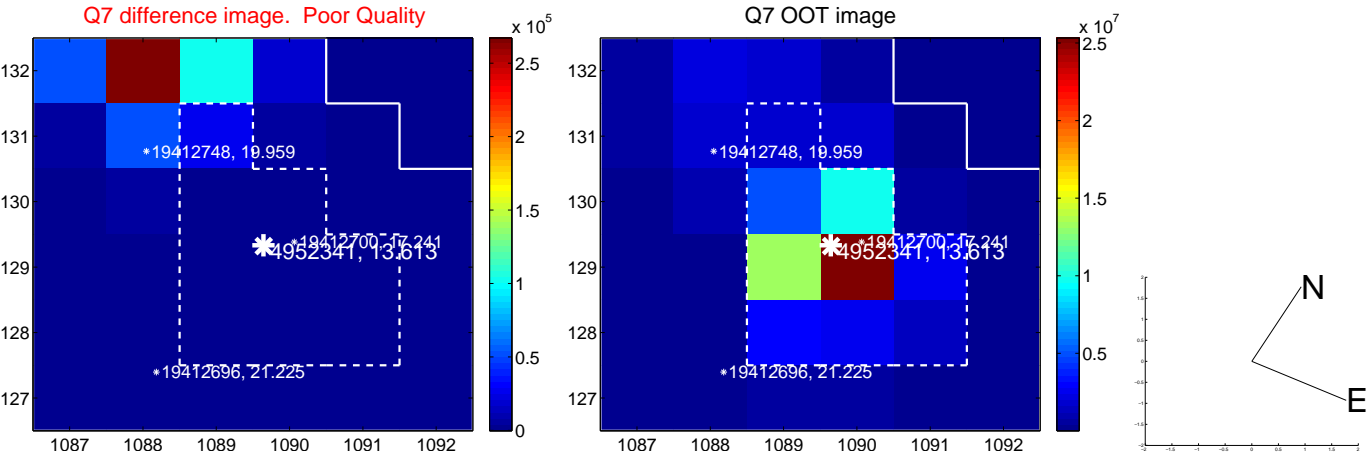
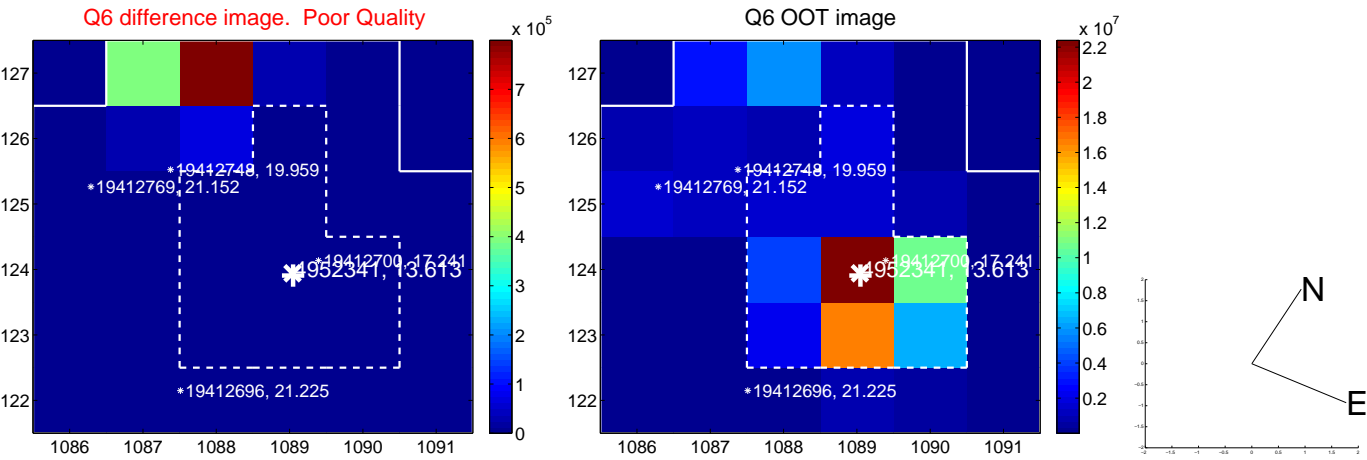
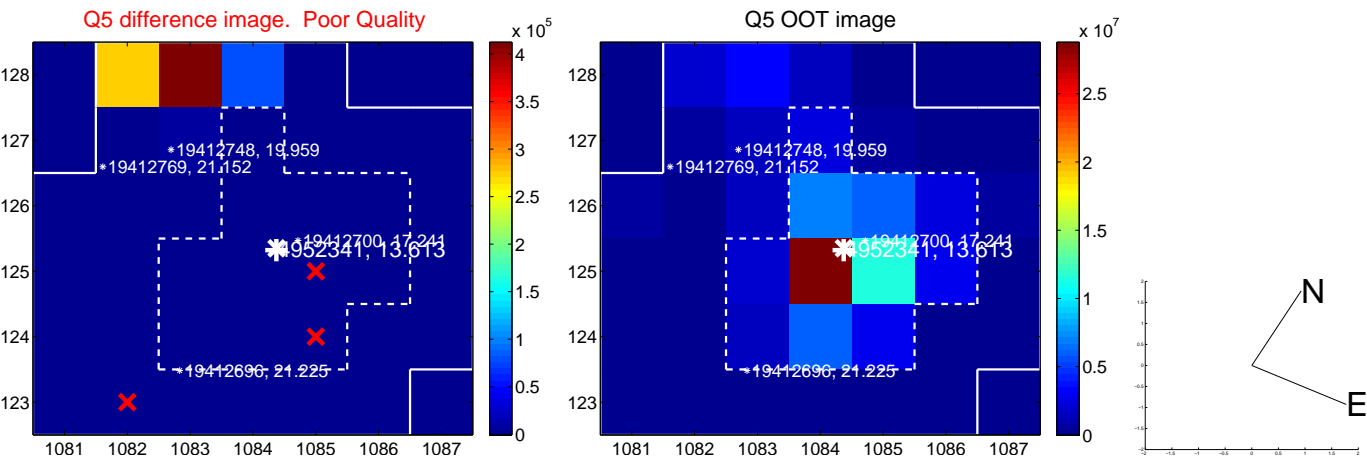


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

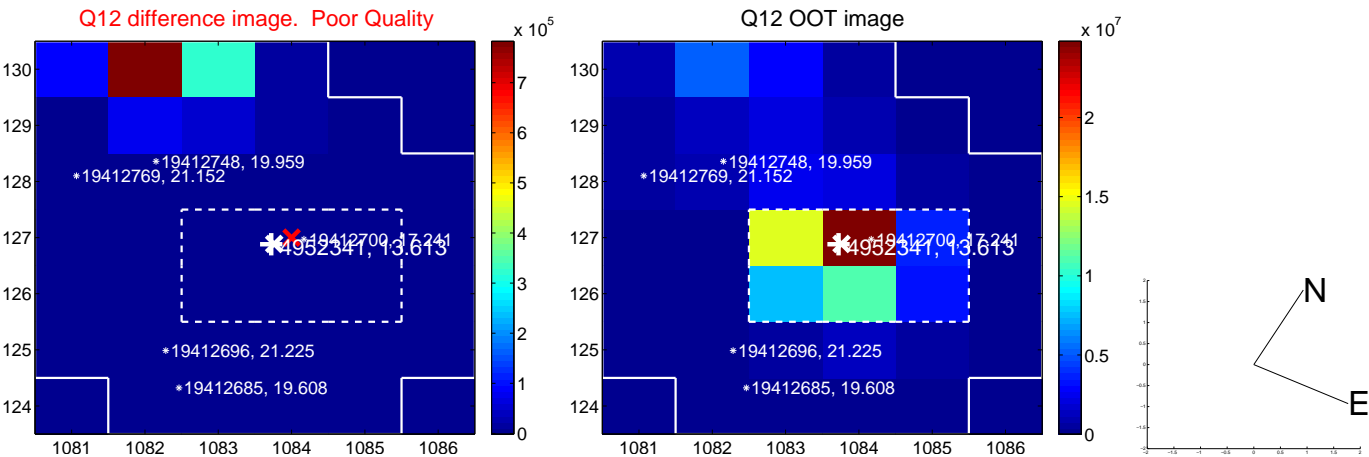
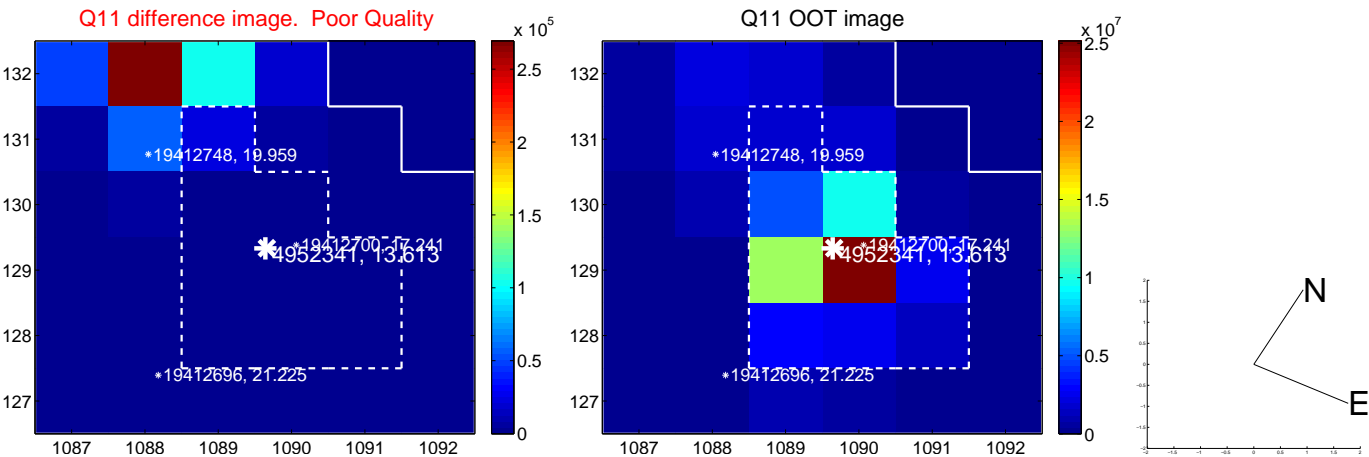
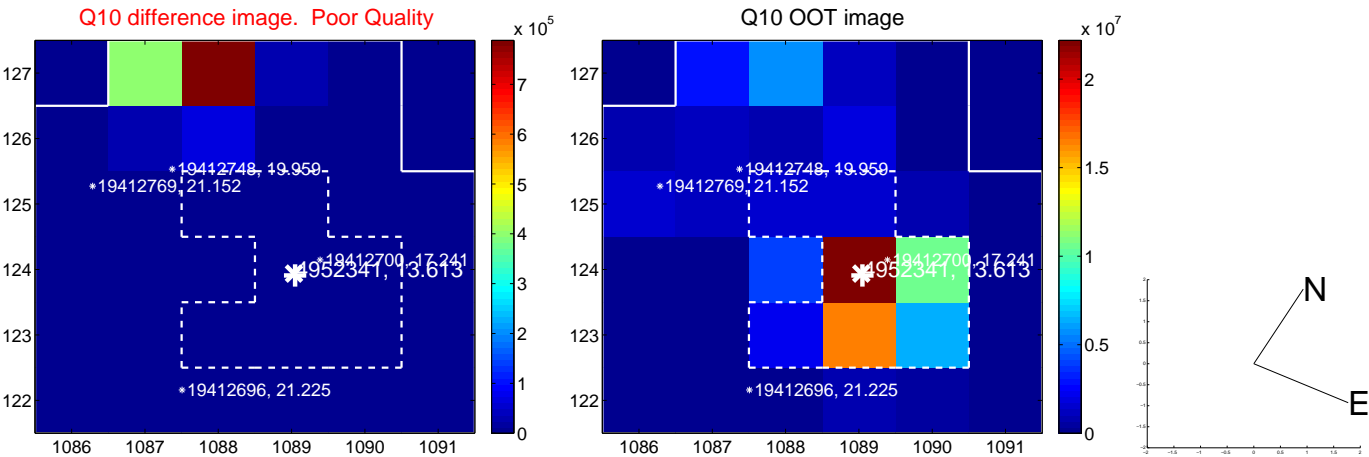
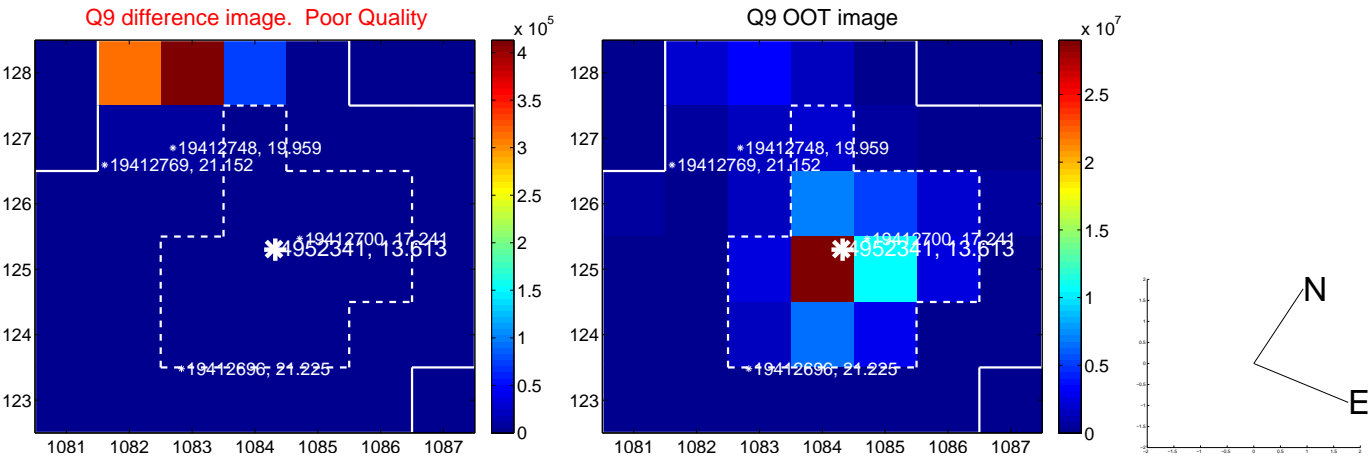
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



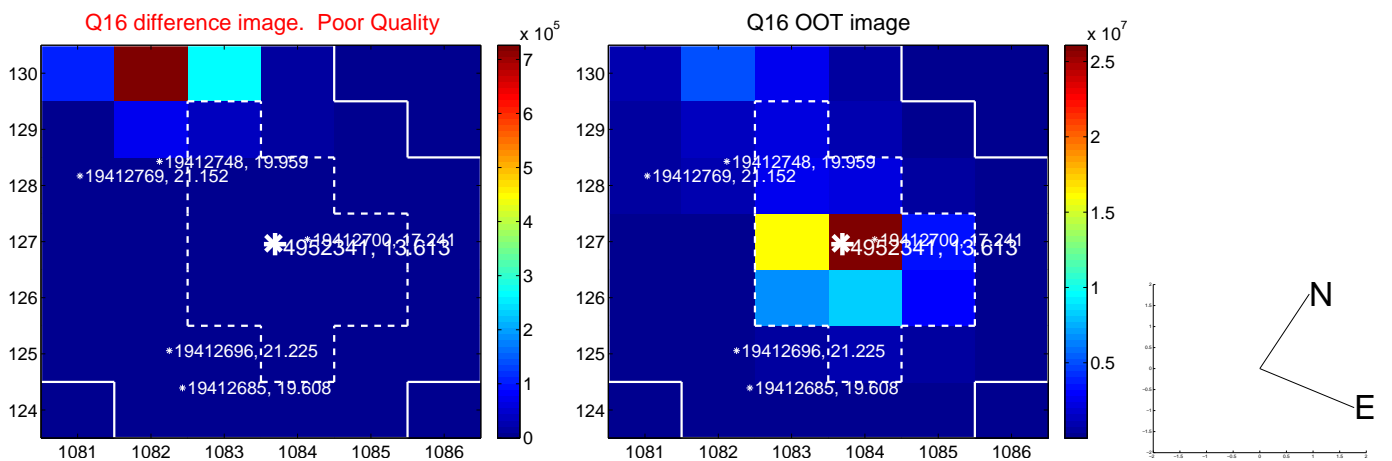
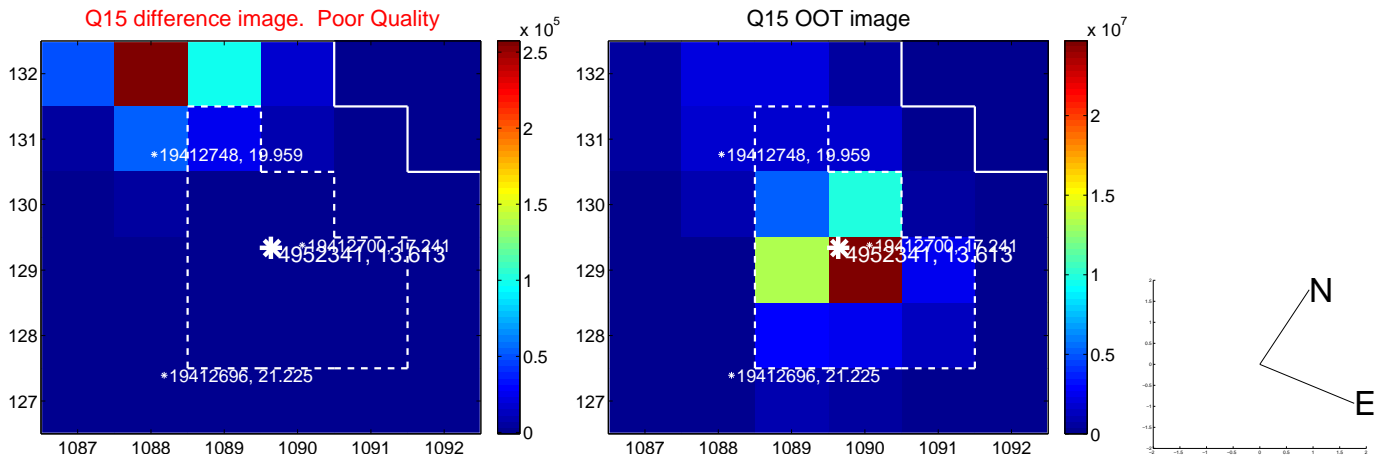
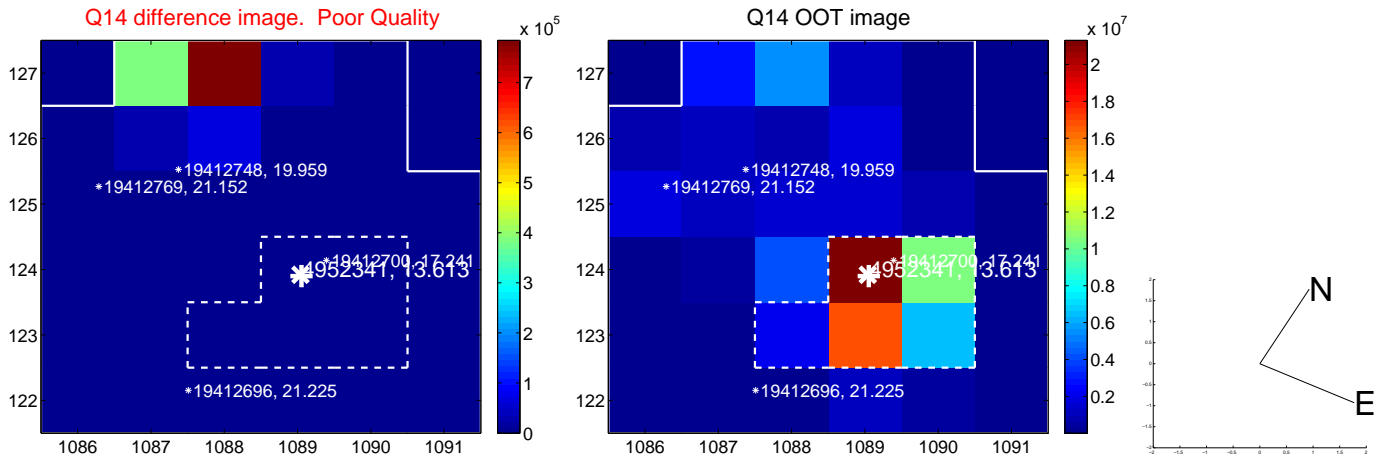
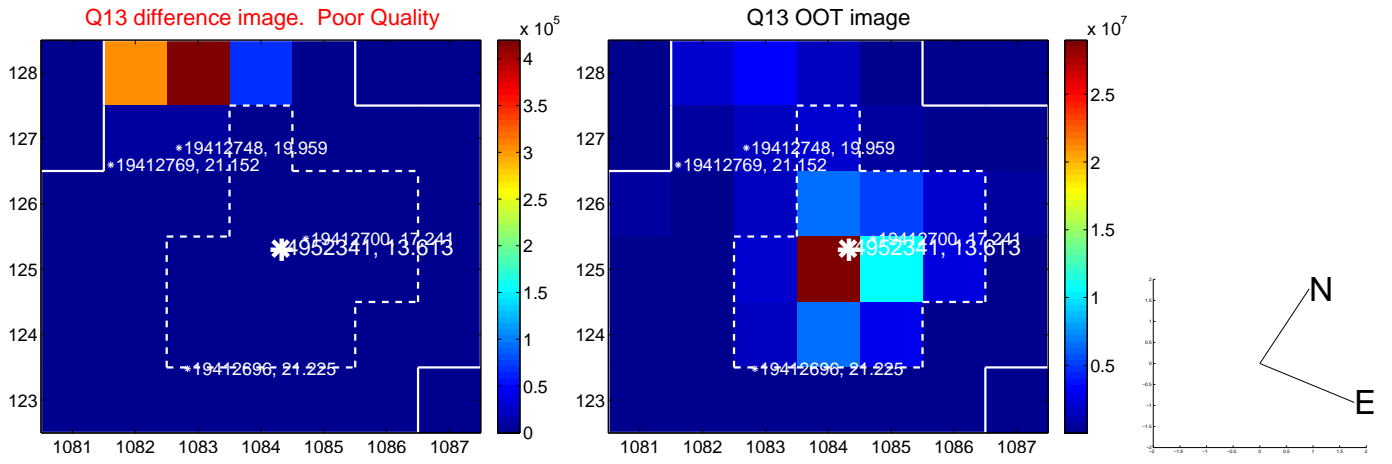
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



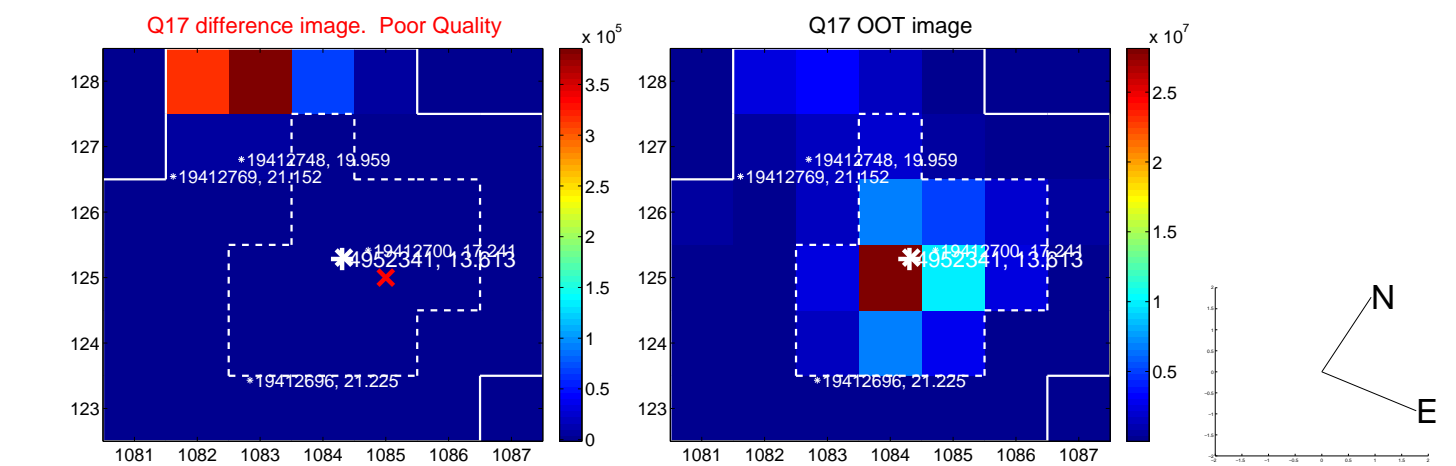
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



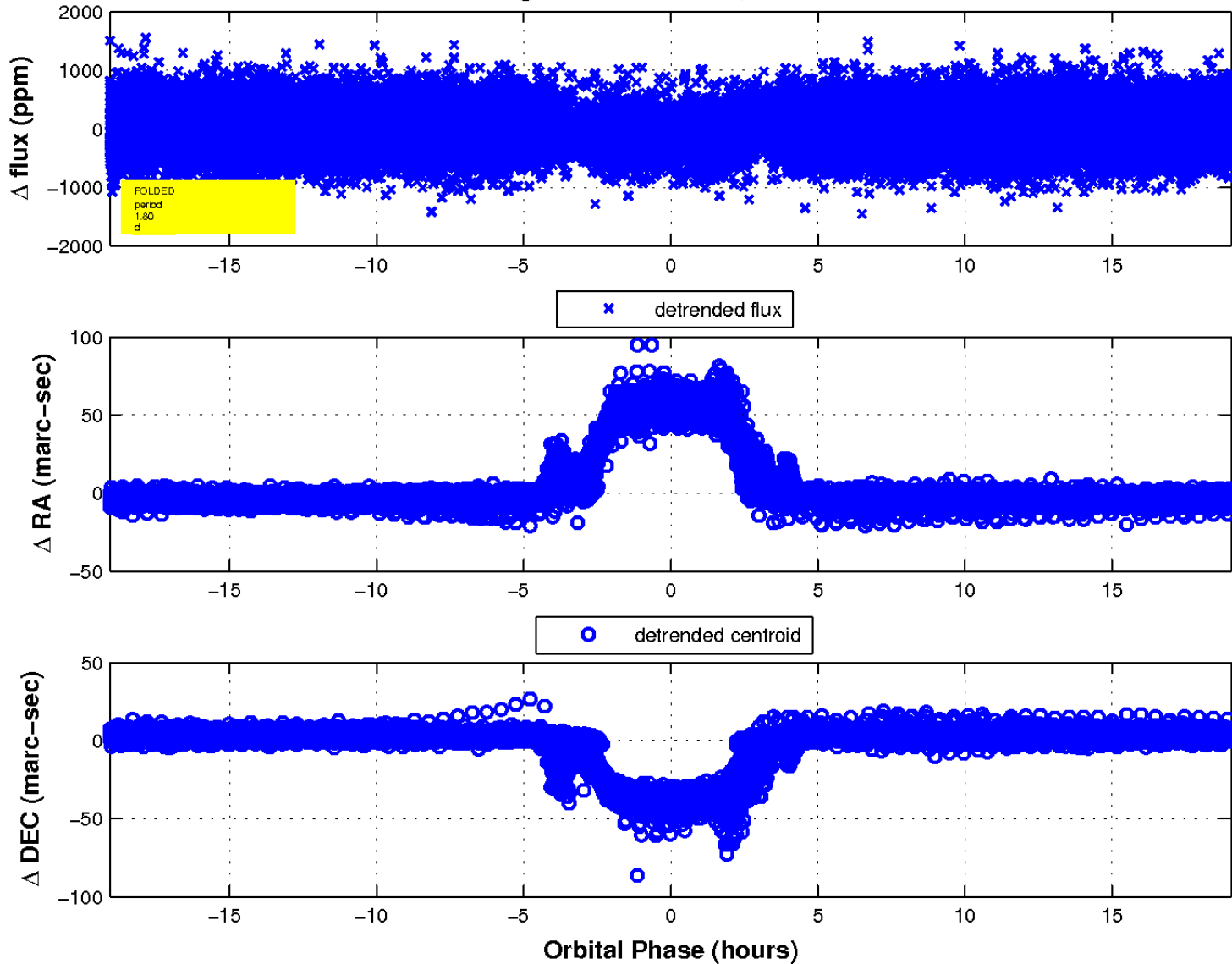
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

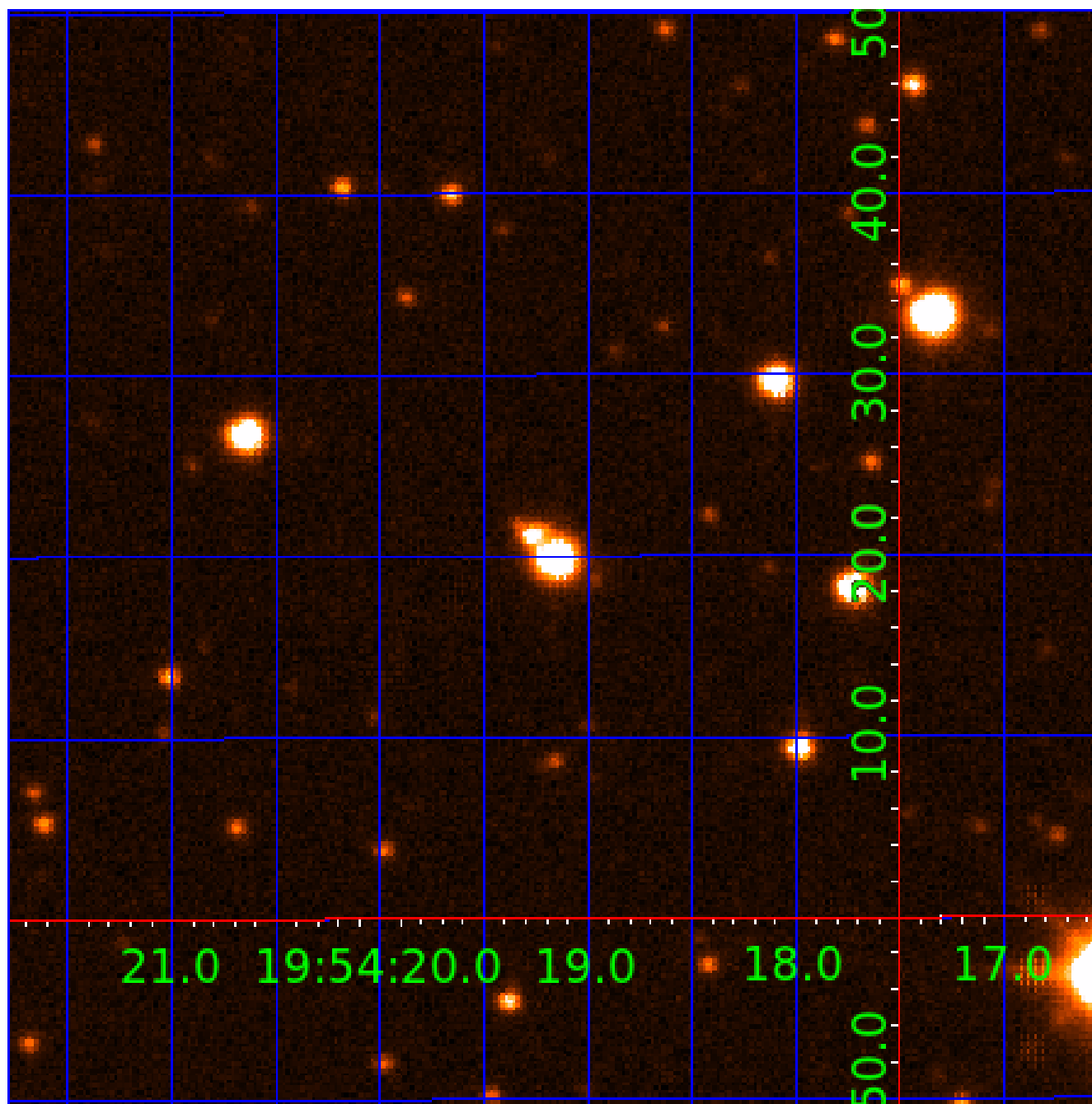


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 004952341

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
004952341-01	OBS	FP	0.00	0	1	1	0	MOD_ODDEVEN_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
004952341-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

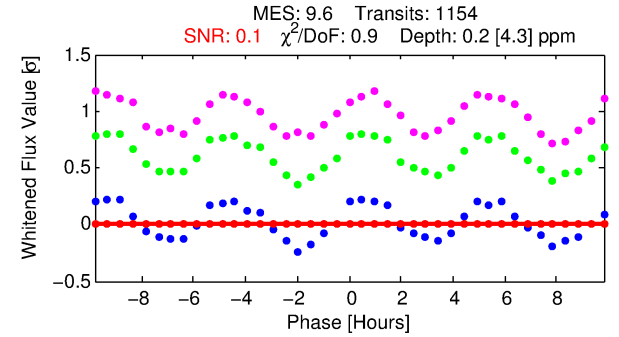
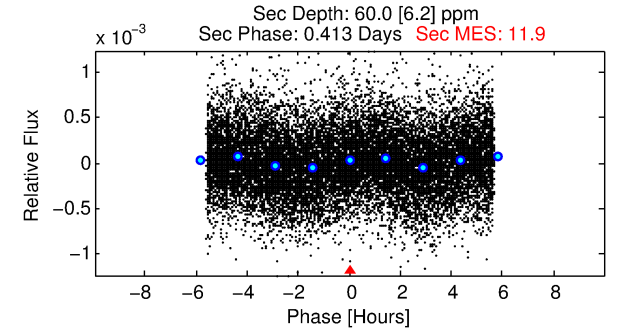
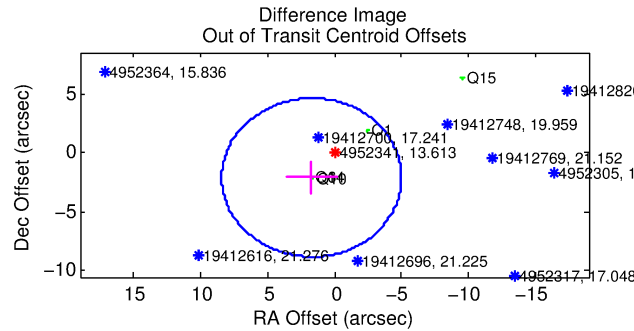
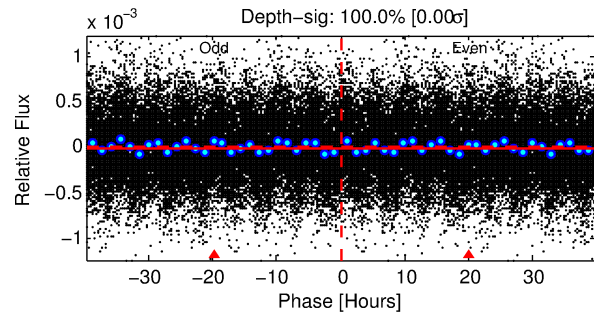
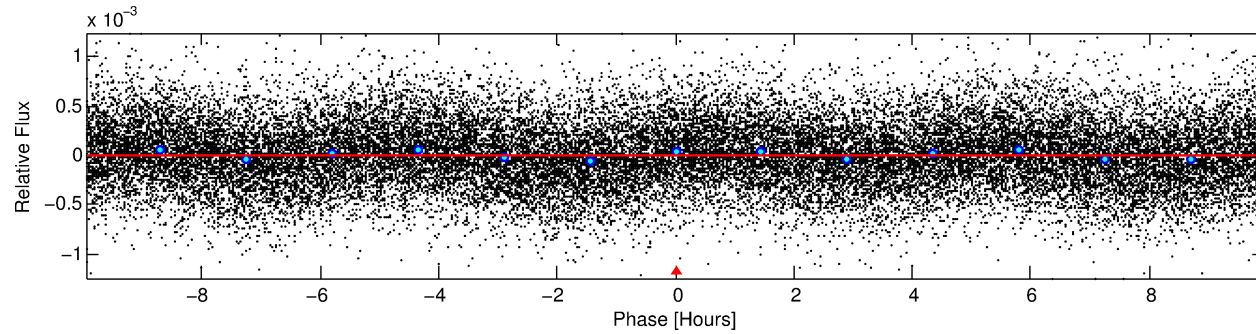
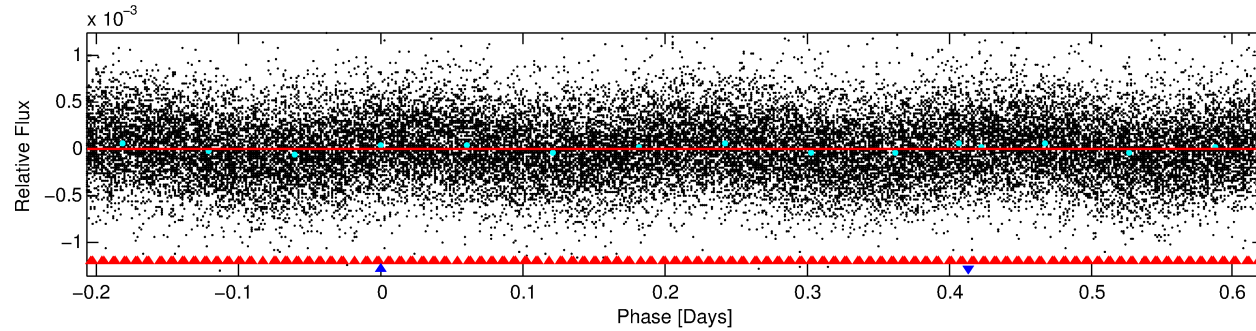
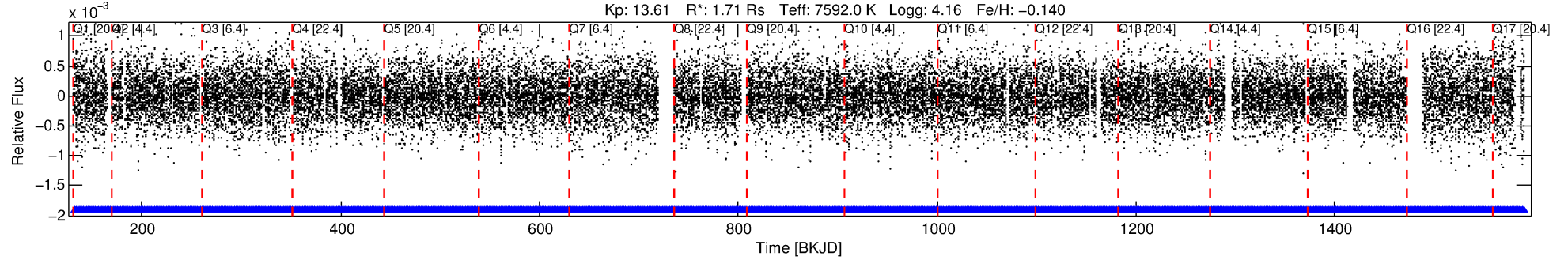
Ephemeris Match Information For 004952341-02

No Significant Match Found

DV One-Page Summary

KIC: 4952341 Candidate: 2 of 2 Period: 0.830 d
KOI: K02818 Corr: No Ephemeris Match

Kp: 13.61 R*: 1.71 Rs Teff: 7592.0 K Logg: 4.16 Fe/H: -0.140



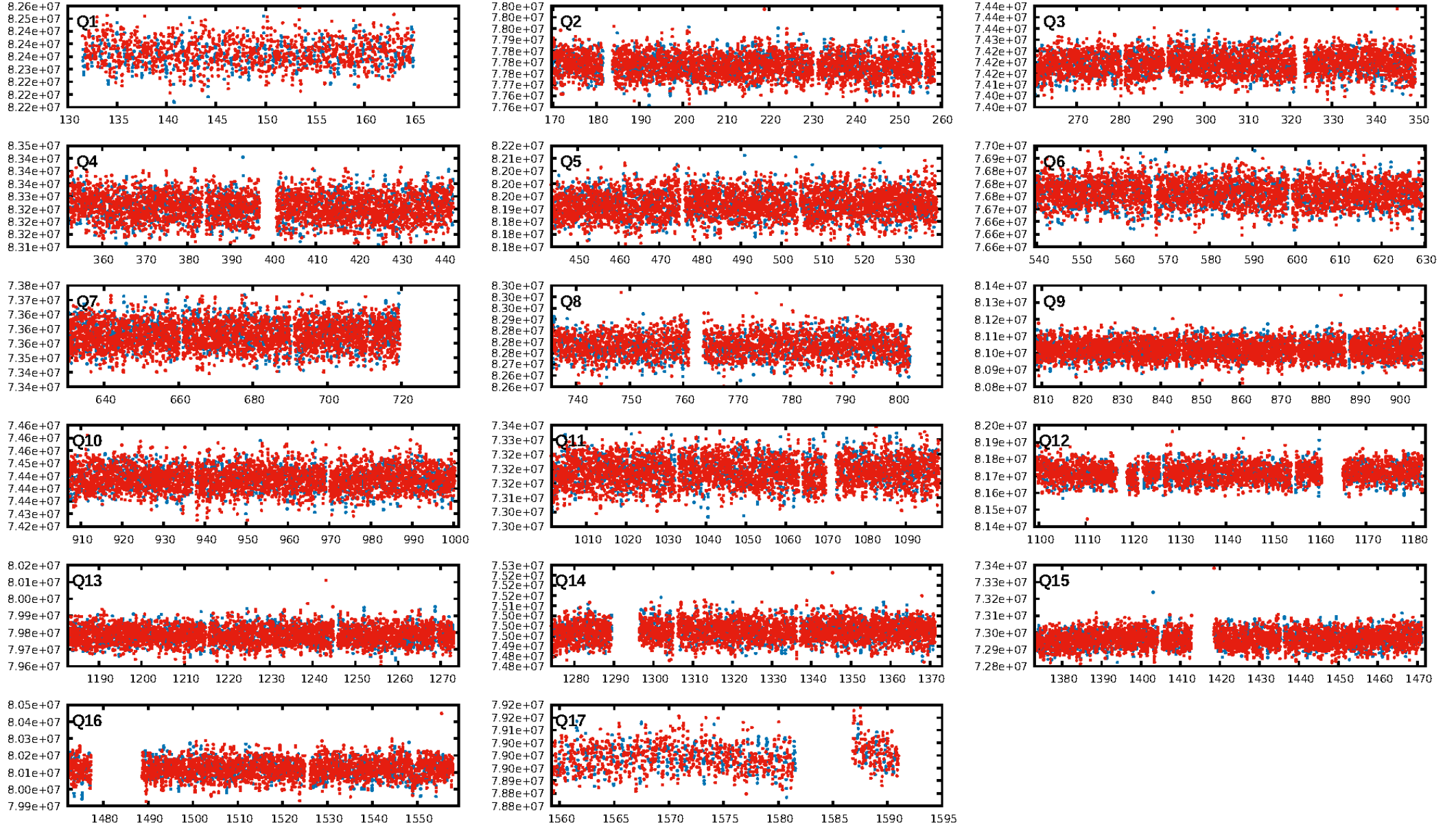
DV Fit Results:

Period = 0.82990 [0.00252] d
Epoch = 132.0587 [0.7996] BKJD
Rp/R* = 0.0005 [0.0118]
a/R* = 1.02 [5.48]
b = 0.90 [29.64]
Seff = 21892.17 [8448.11]
Teq = 3102 [299] K
Rp = 0.10 [2.21] Re
a = 0.0200 [0.0049] AU
Ag = 1413.66 [64702.04] [0.02σ]
Teffp = 29405 [336462] K [0.08σ]

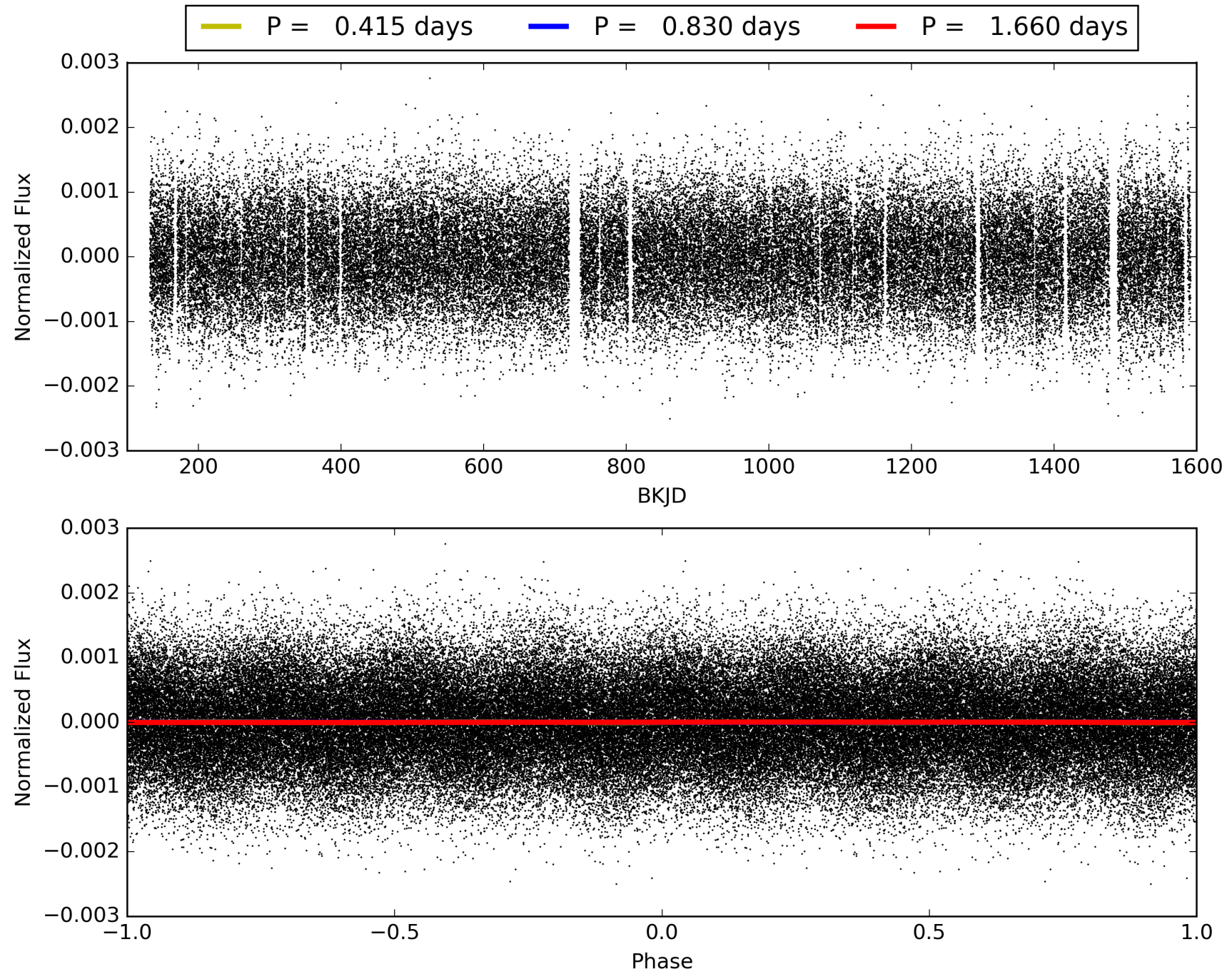
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 98.4% [2.41σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1103/1103]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 2.698 arcsec [1.21σ]
KicOffset-rm: 2.807 arcsec [1.30σ]
OotOffset-st: 3/1/0/1 [5]
KicOffset-st: 3/1/0/1 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004952341-02, PDC Light Curves

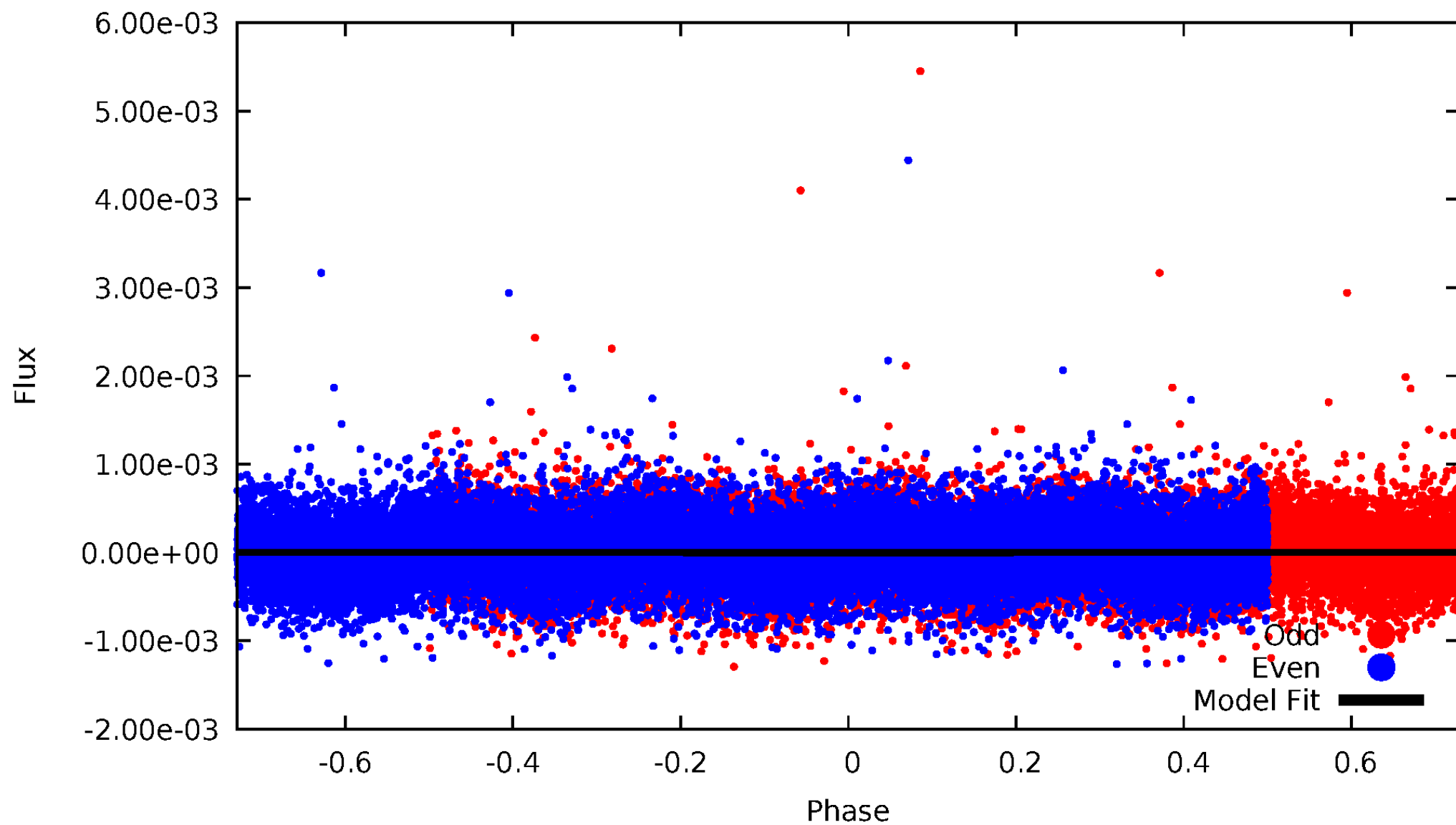


TCE 004952341-02



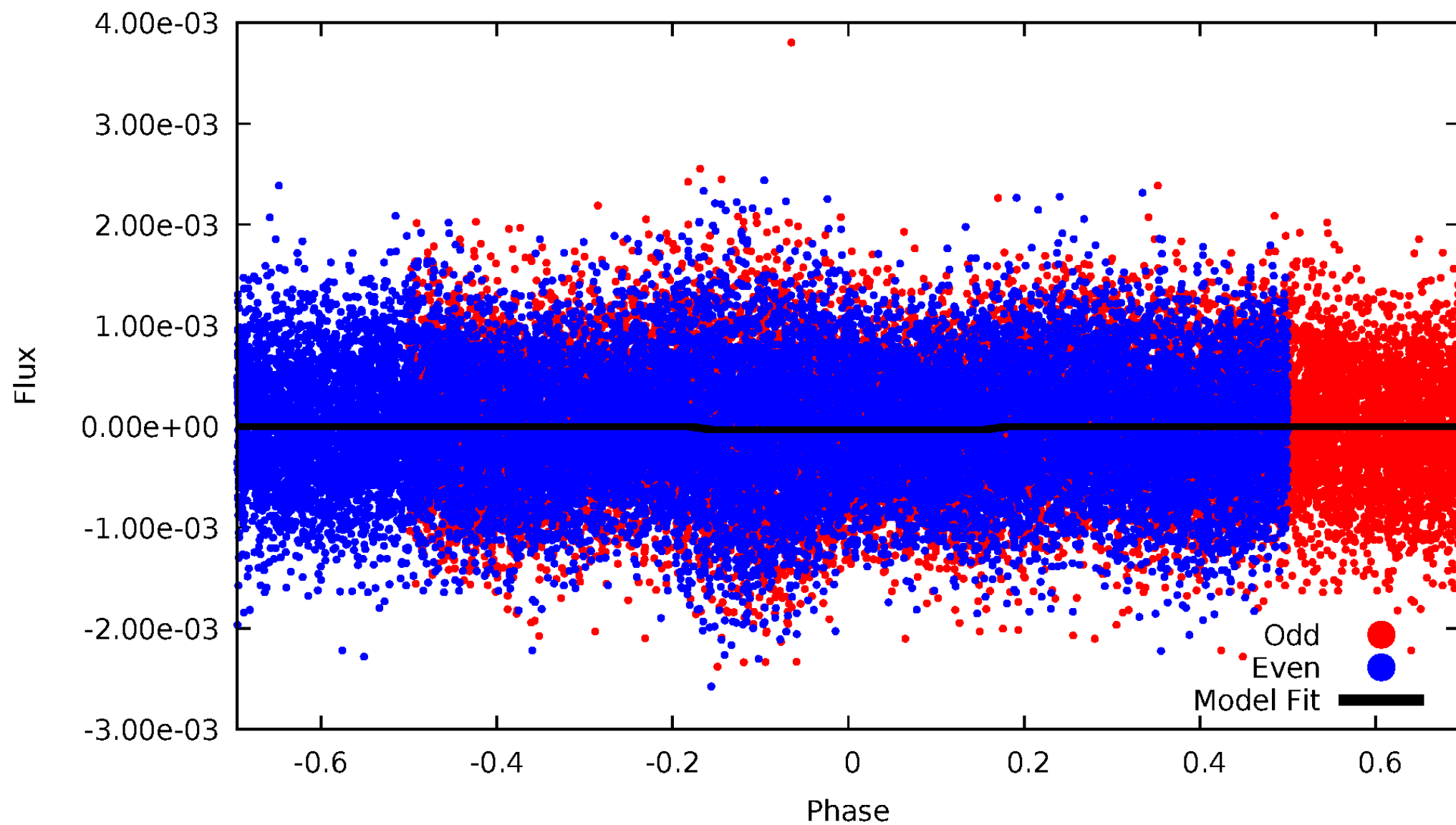
DV Odd/Even

TCE 004952341-02



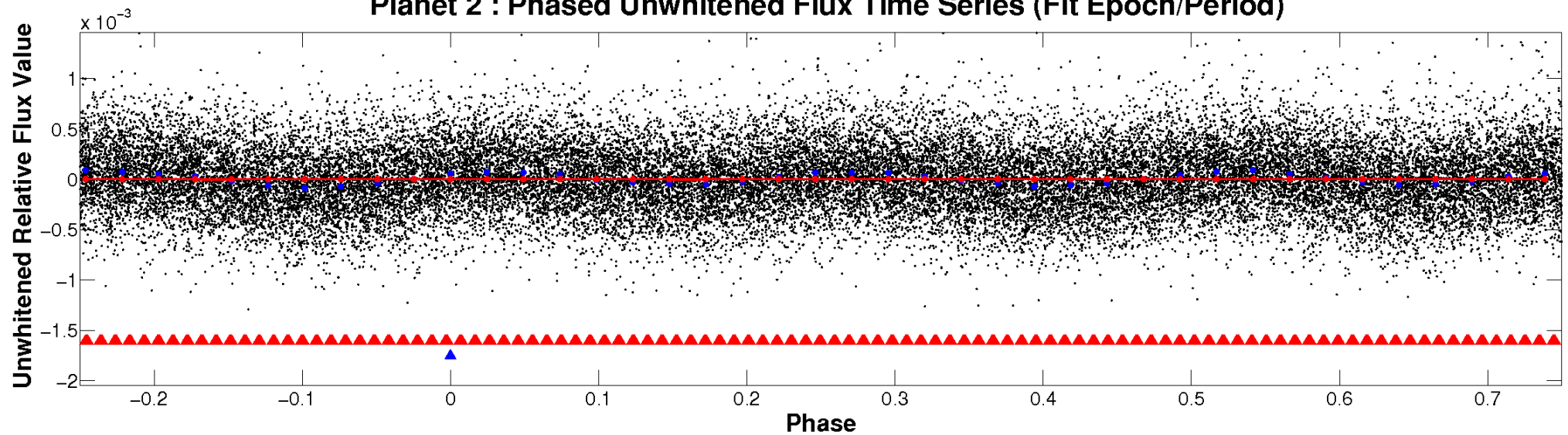
ALT Odd/Even

TCE 004952341-02

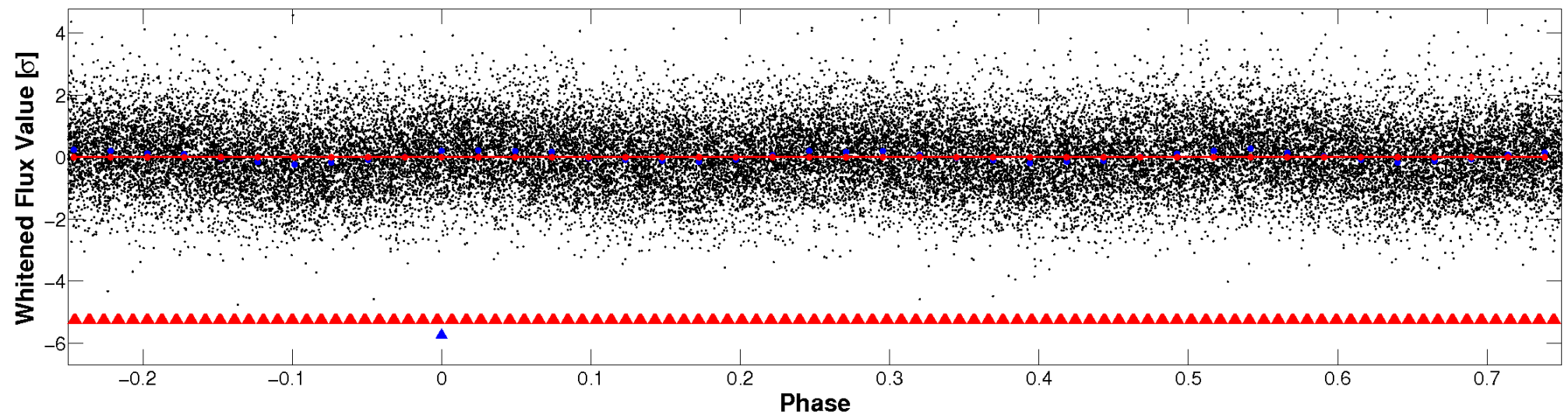


Non-Whitened Vs. Whitened Light Curve

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

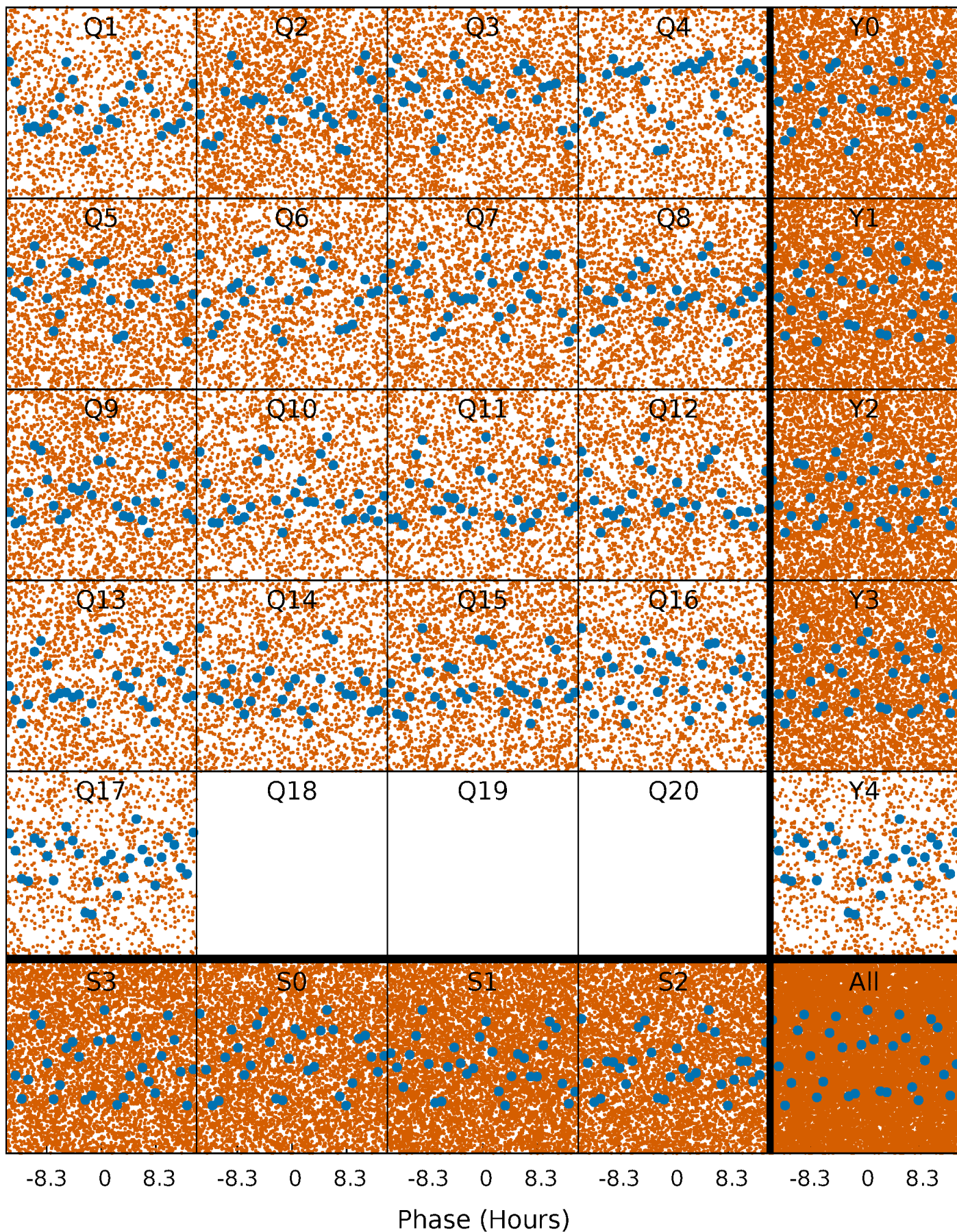


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



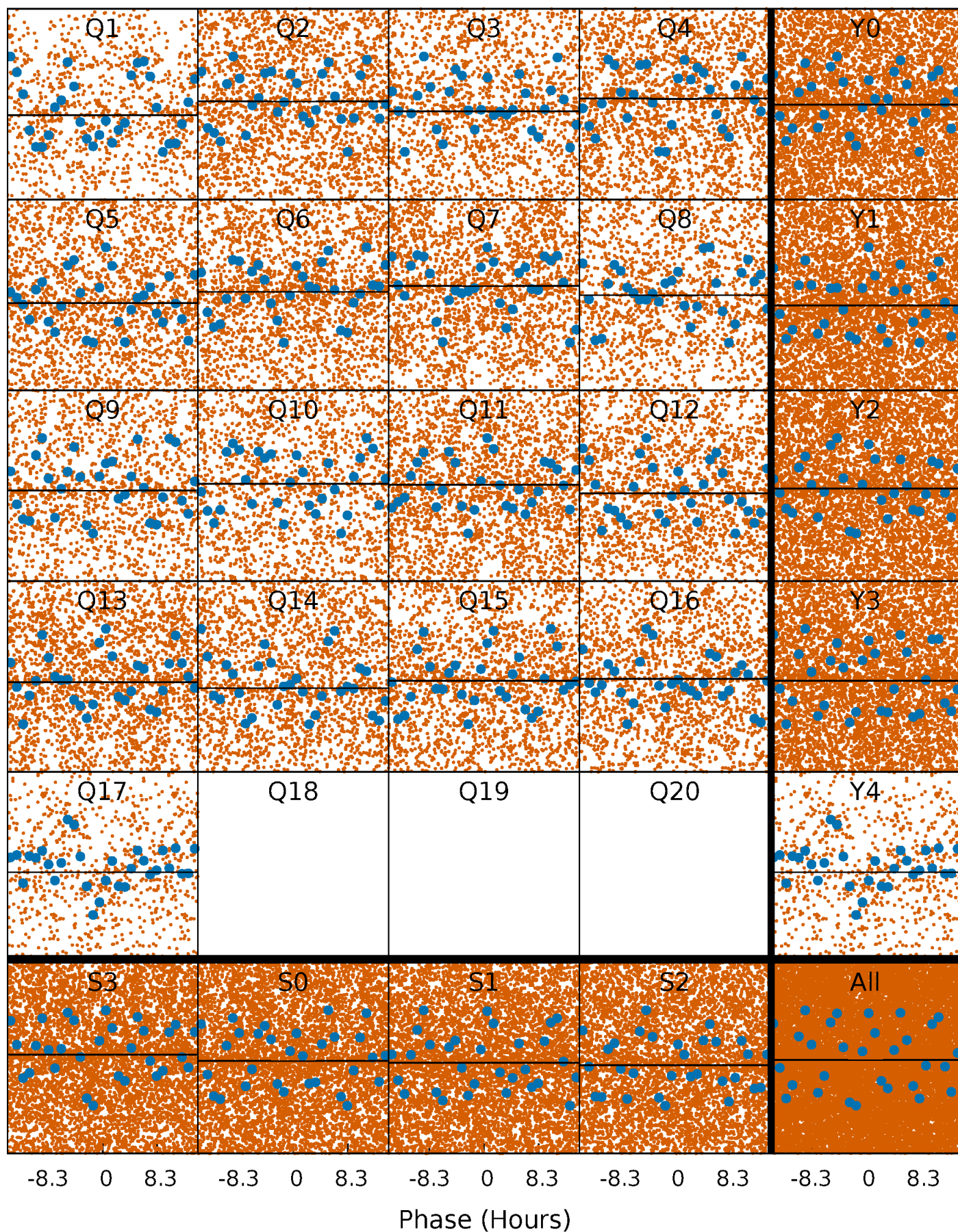
PDC Quarter-Phased Transit Curves

TCE 004952341-02 P= 0.829904 Days $T_0=132.058706$ (BKJD)



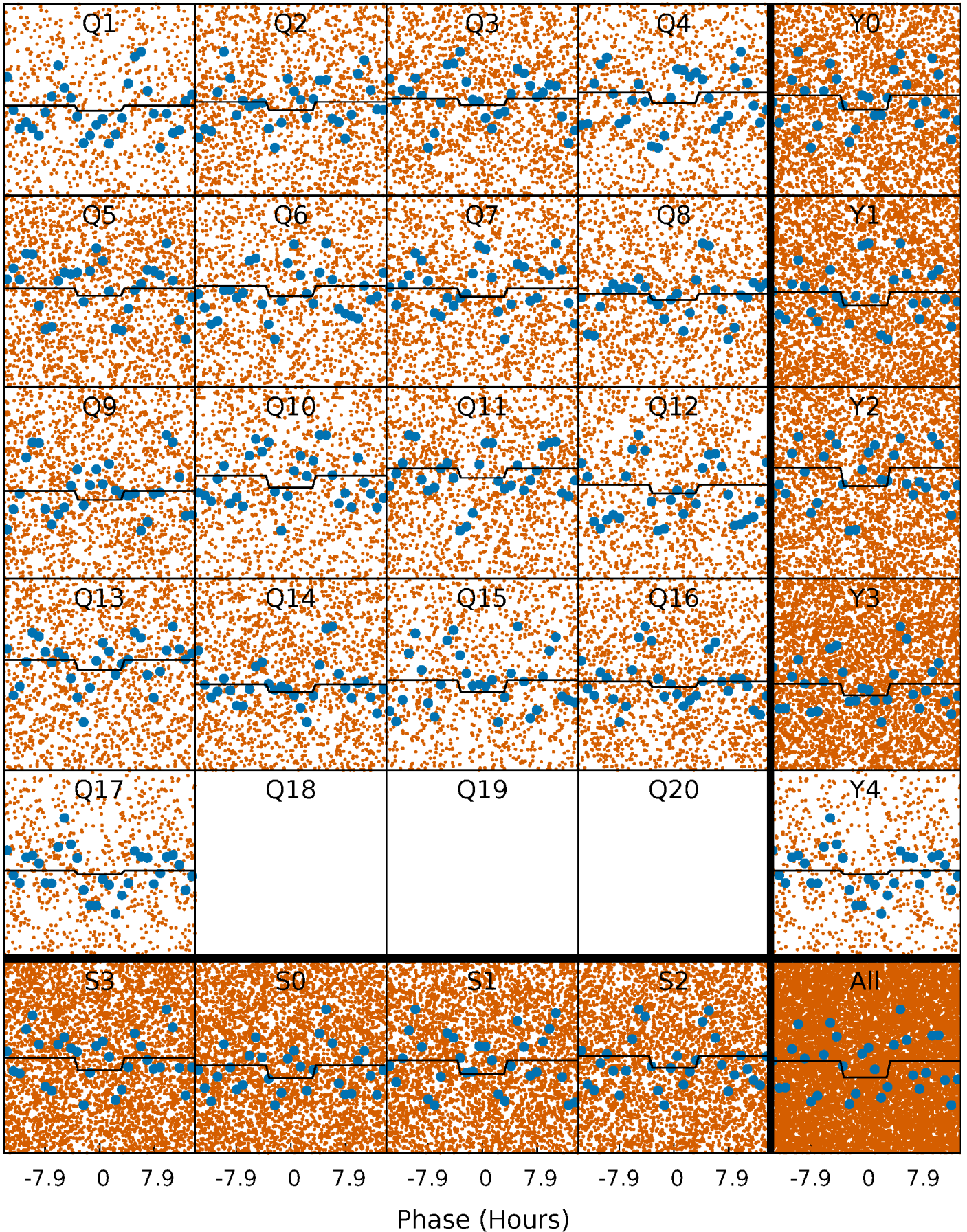
DV Quarter-Phased Transit Curves

TCE 004952341-02 P= 0.829904 Days $T_0=132.058706$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

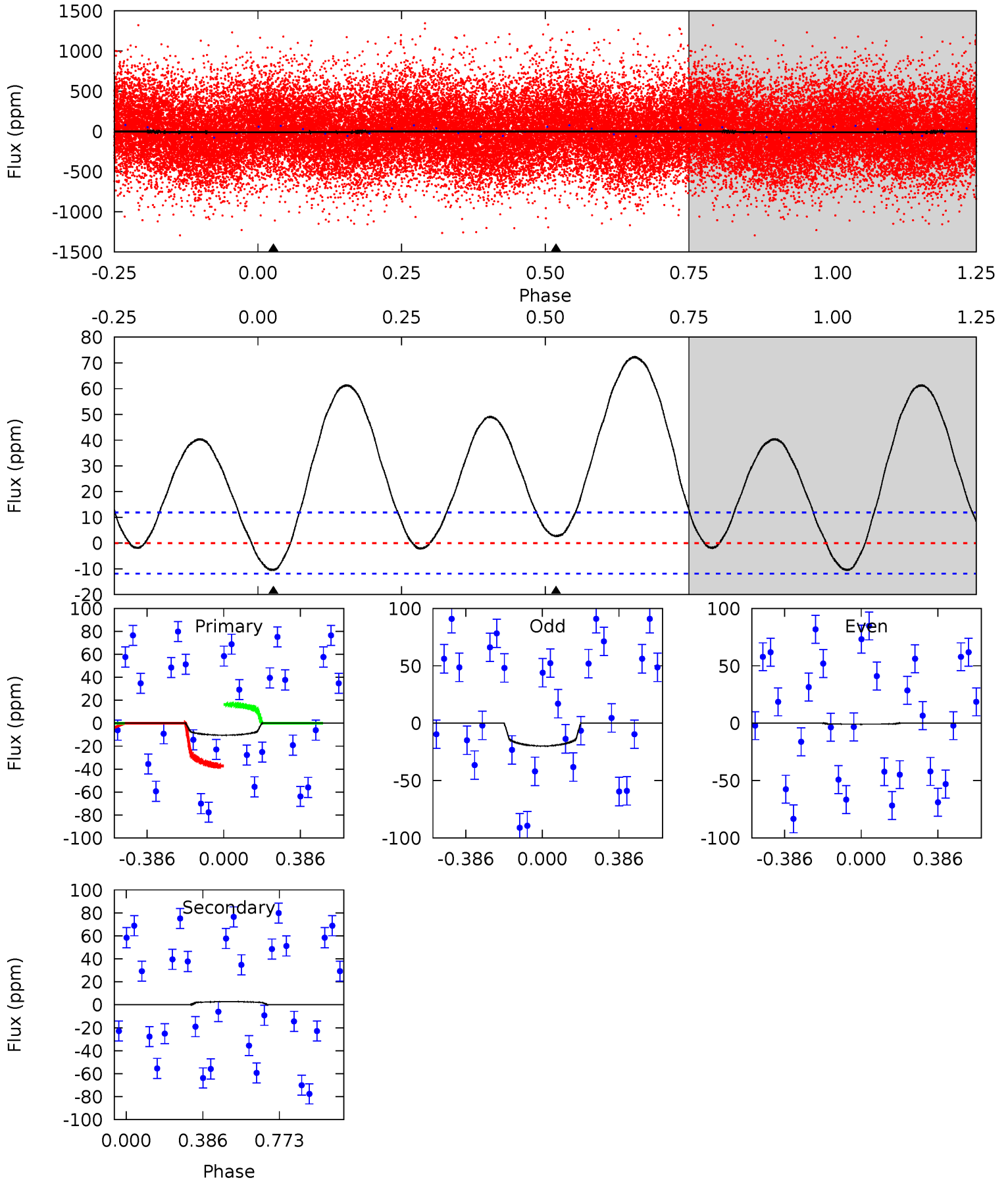
TCE 004952341-02 P= 0.829897 Days $T_0=132.076973$ (BKJD)



DV Model-Shift Uniqueness Test

004952341-02, P = 0.829904 Days, E = 131.228802 Days

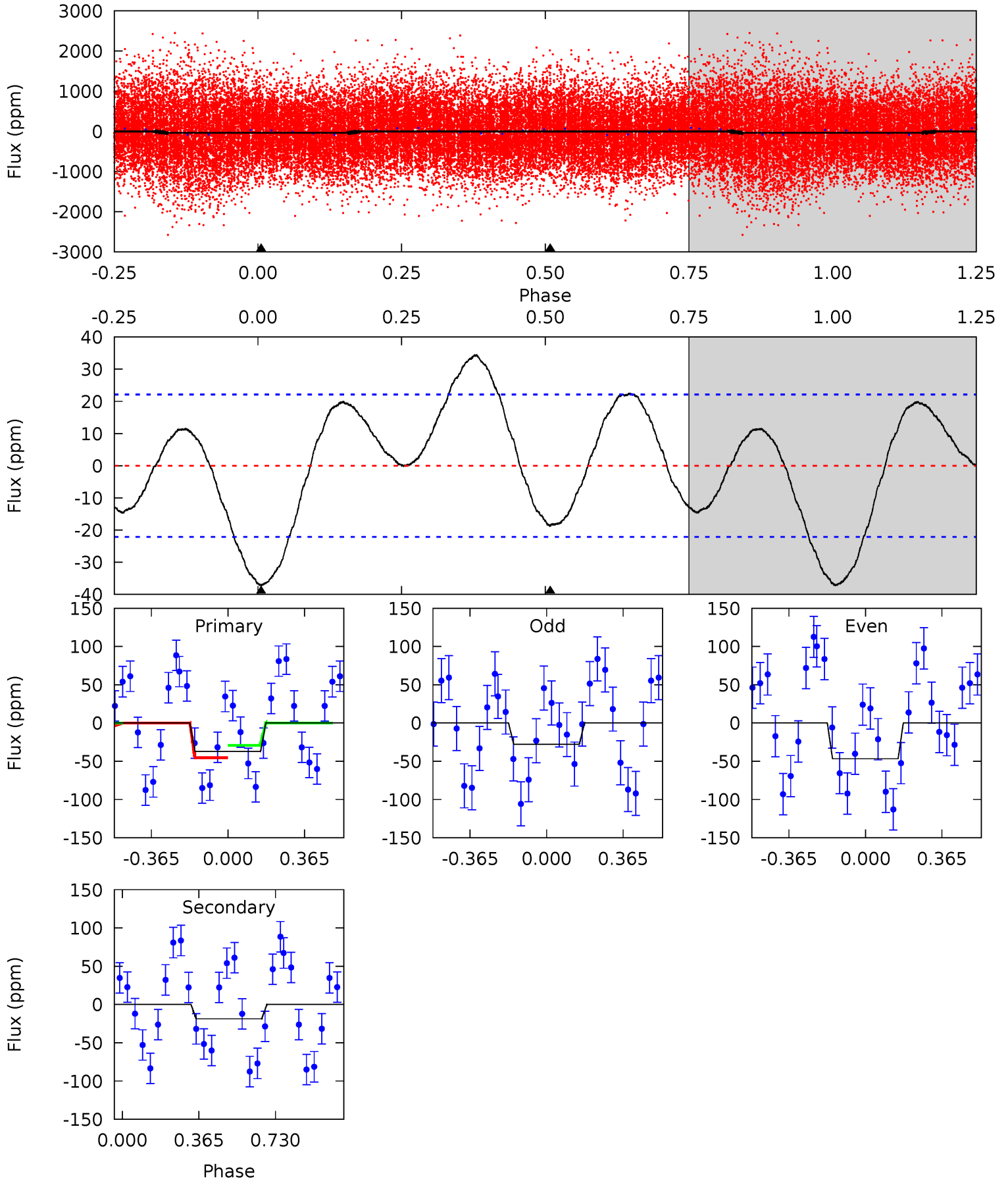
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.76	-0.96	0	0	4.27	0.87	1.87	3.76	3.76	-0.96	-0.96	3.37	2.65	0.87	3.80



Alt Model-Shift Uniqueness Test

004952341-02, P = 0.829897 Days, E = 131.247076 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.21	3.62	0	0	4.29	0.91	1.38	7.21	7.21	3.62	3.62	1.74	1.22	0.48	1.56



Stellar Parameters For KIC 004952341

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7592^{+211}_{-316}	$4.159^{+0.124}_{-0.186}$	$-0.140^{+0.200}_{-0.350}$	$1.714^{+0.512}_{-0.341}$	$1.545^{+0.219}_{-0.241}$	$0.432^{+0.294}_{-0.213}$
	+3%/-4%	+3%/-4%	+143%/-250%	+30%/-20%	+14%/-16%	+68%/-49%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004952341-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	3 ± 3	$1.48^{+1.72}_{-1.03}$	4342^{+352}_{-256}	-4247^{+434}_{-1865}	$-0.160^{+0.165}_{-1.941}$
Alt.	-19 ± 5	$2.02^{+1.80}_{-1.30}$	4363^{+310}_{-312}	4513^{+3448}_{-7338}	$1.026^{+7.209}_{-0.766}$

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 $A_{obs} \gg 1.0$

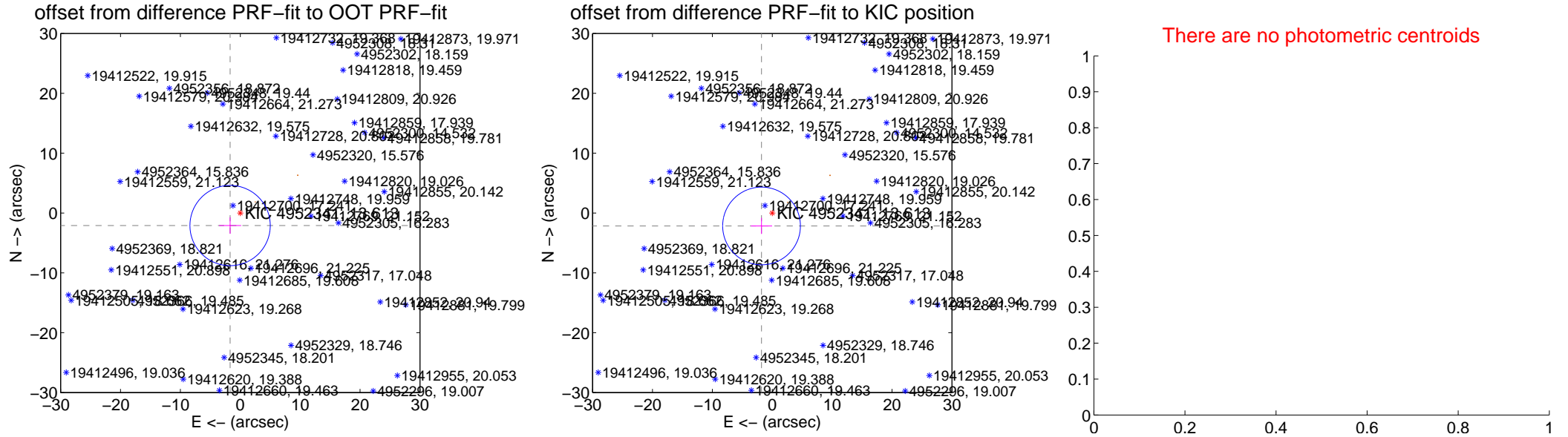
DV Centroid Data

Supplemental centroid analysis for 004952341-02. Kepler magnitude: 13.61. Transit SNR 0.06

There are 0 quarters with good PRF difference image offsets

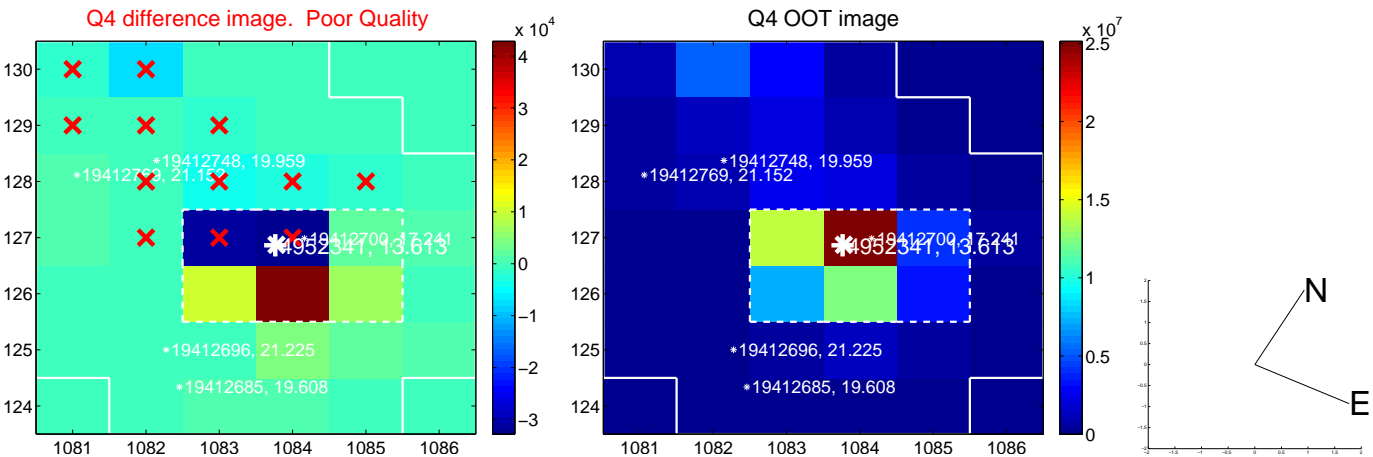
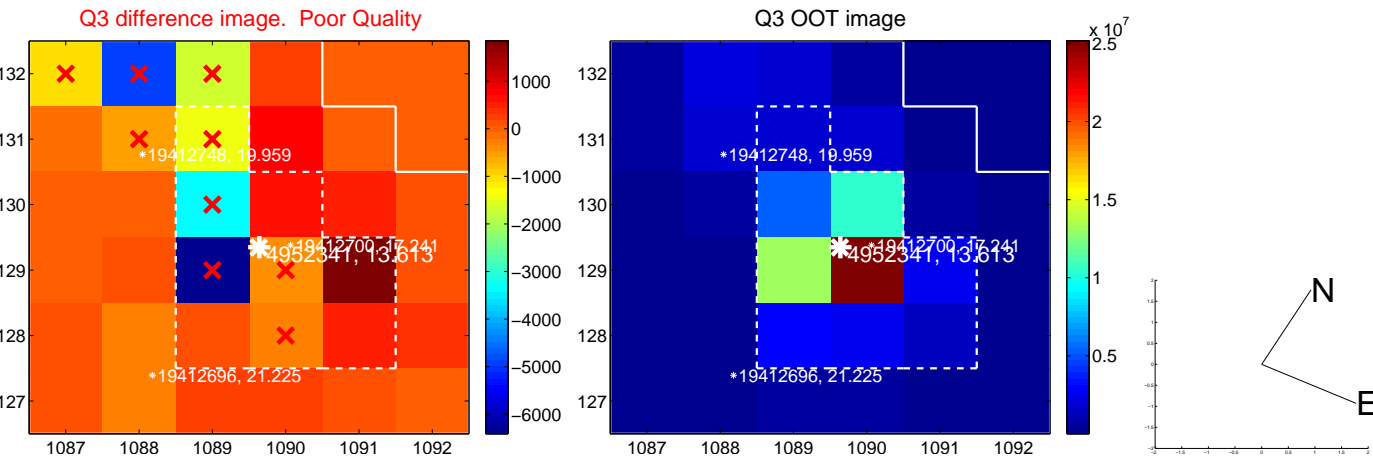
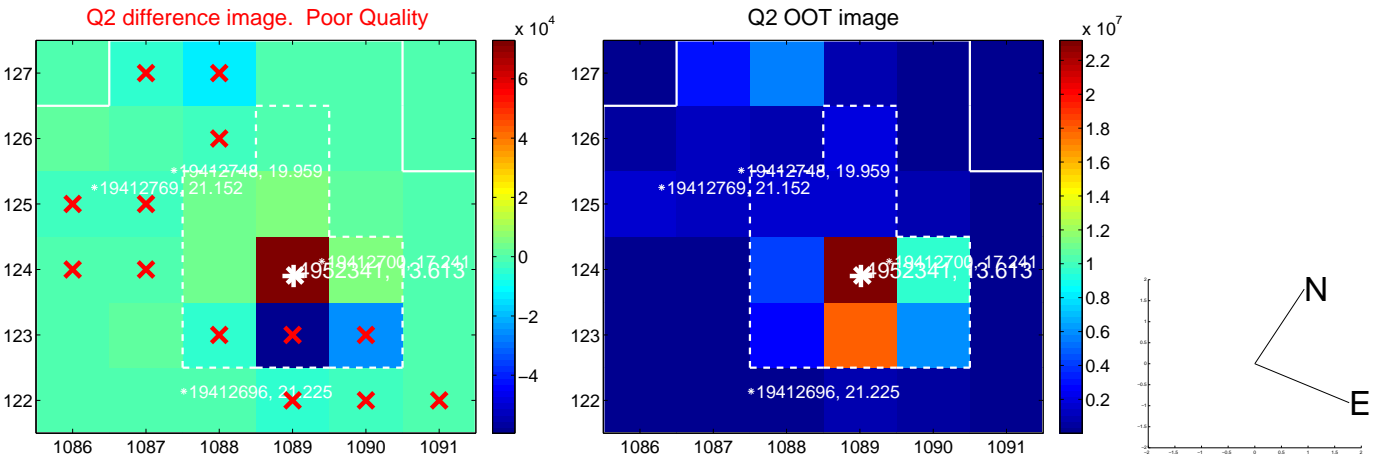
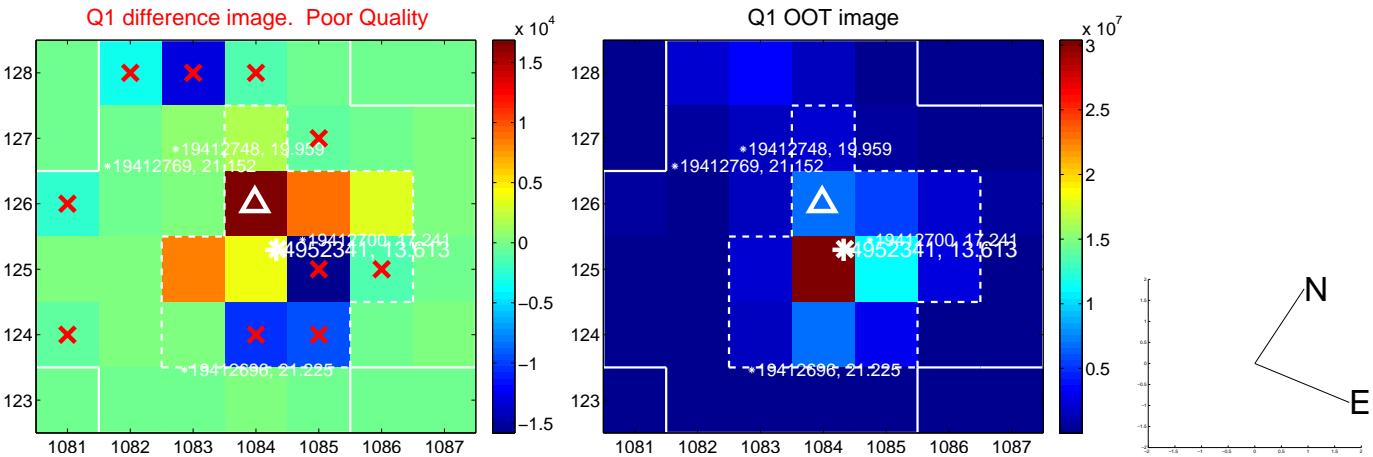
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.698 ± 2.235	1.21	1.702 ± 1.846	-2.093 ± 1.383
PRF-fit source offset from KIC position	2.807 ± 2.163	1.30	1.790 ± 1.775	-2.162 ± 1.343
photometric centroid source offset	—	—	—	—

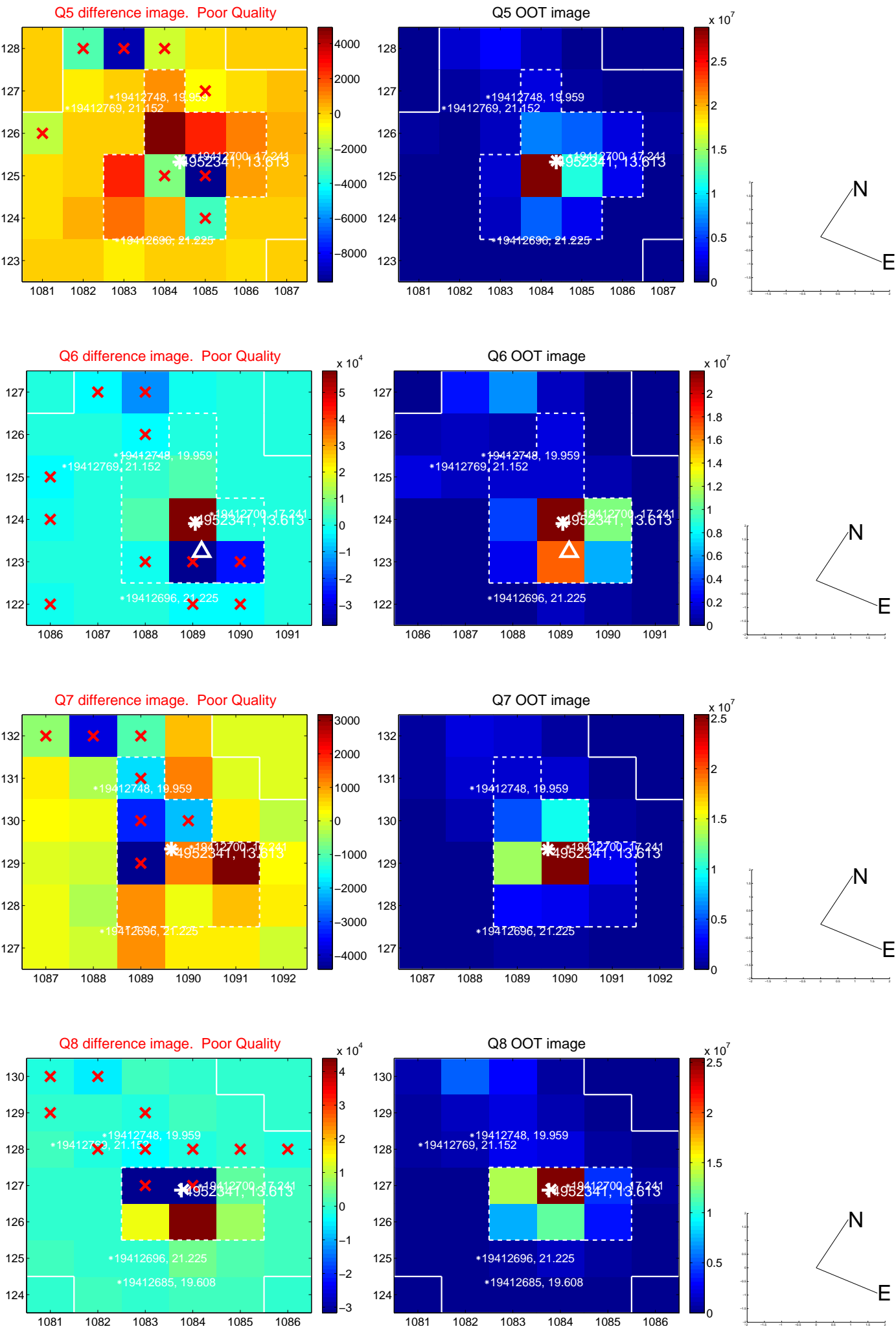


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

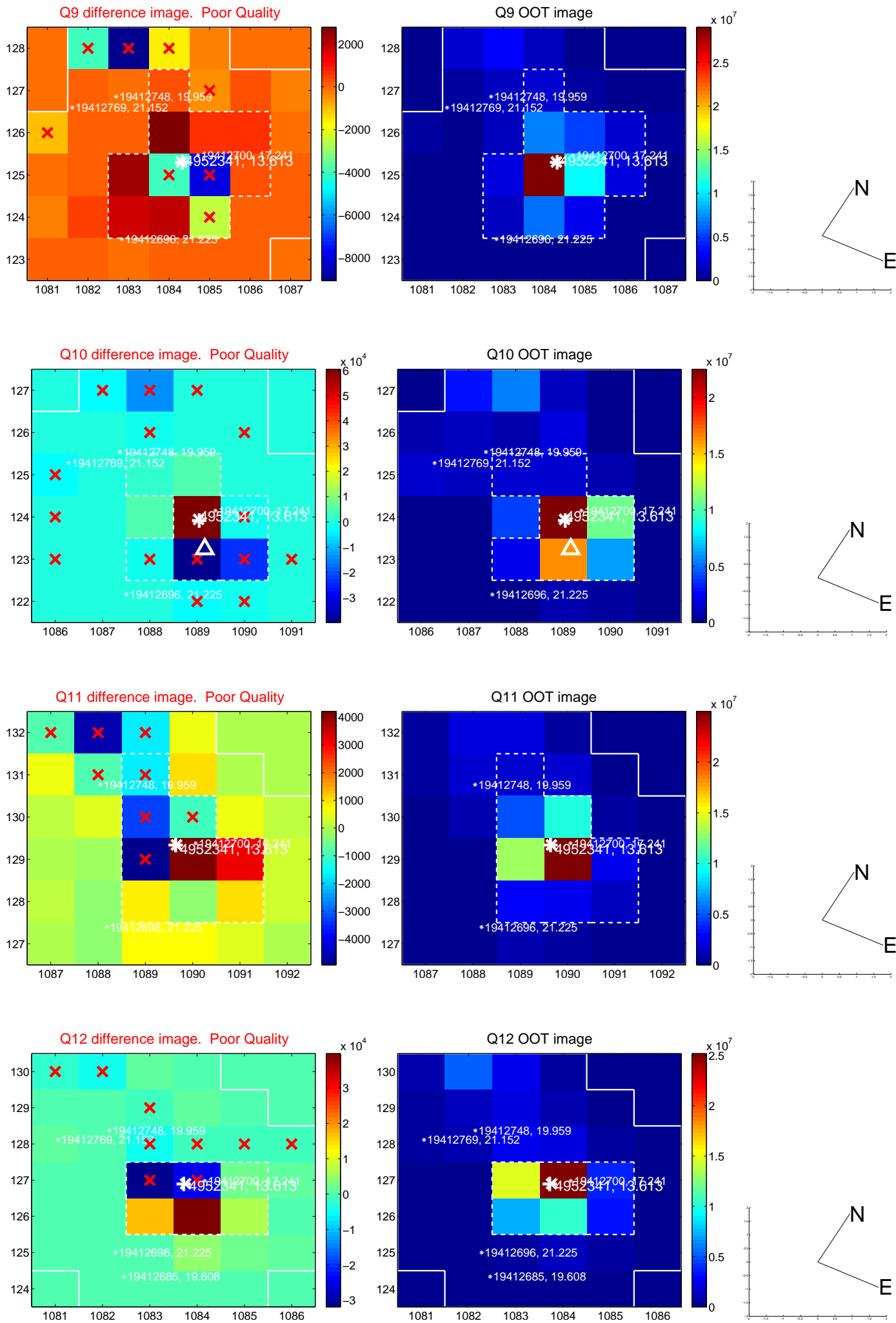
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



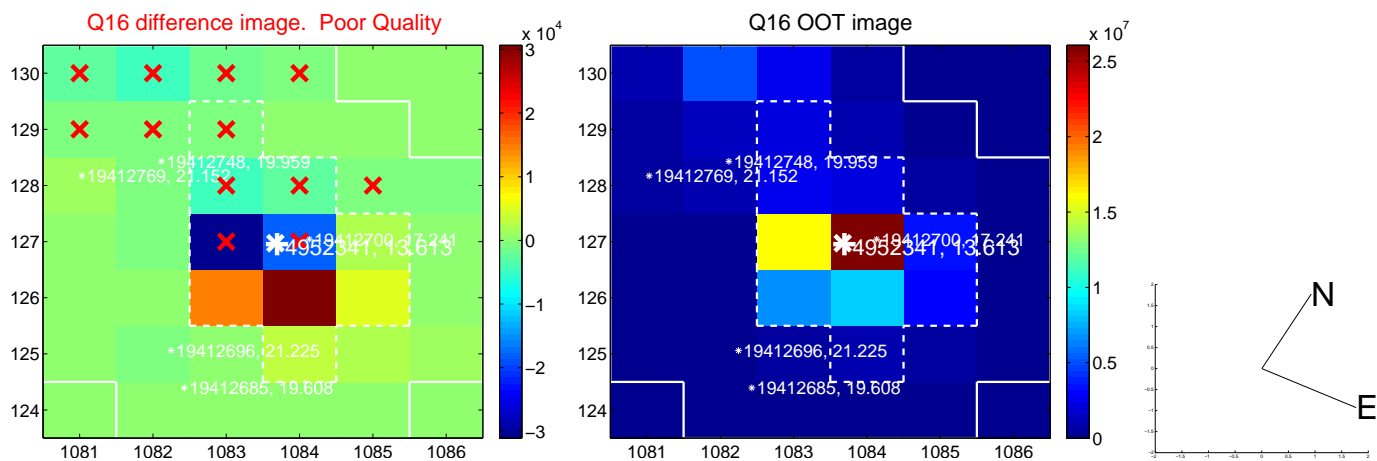
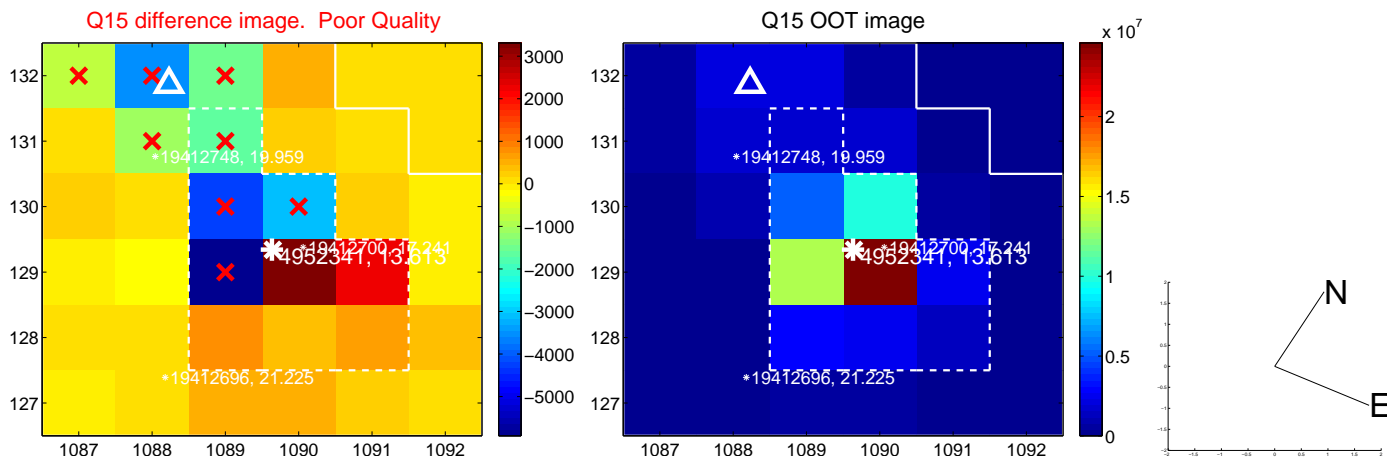
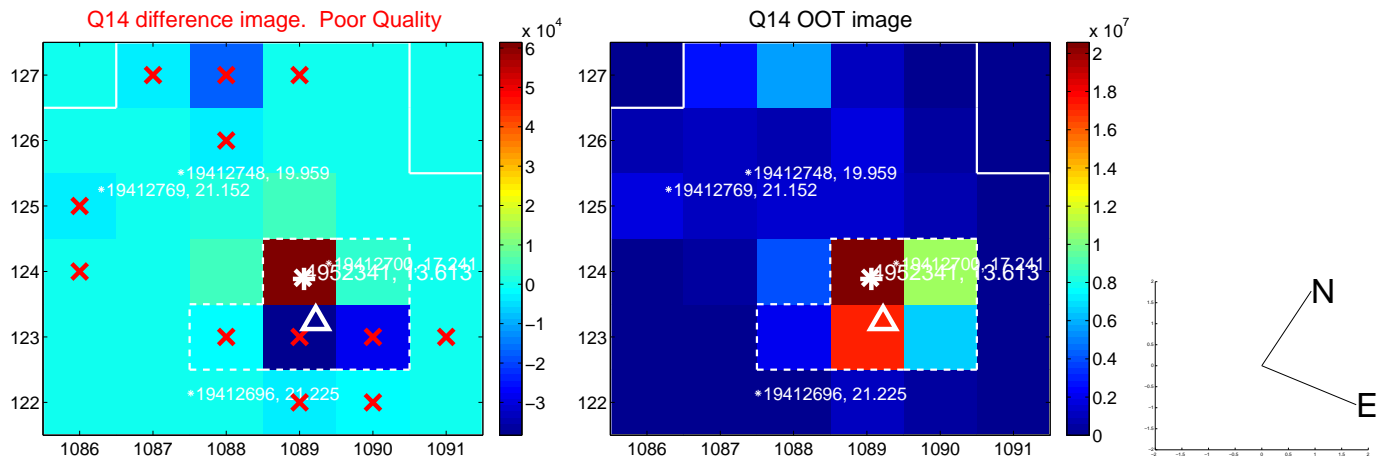
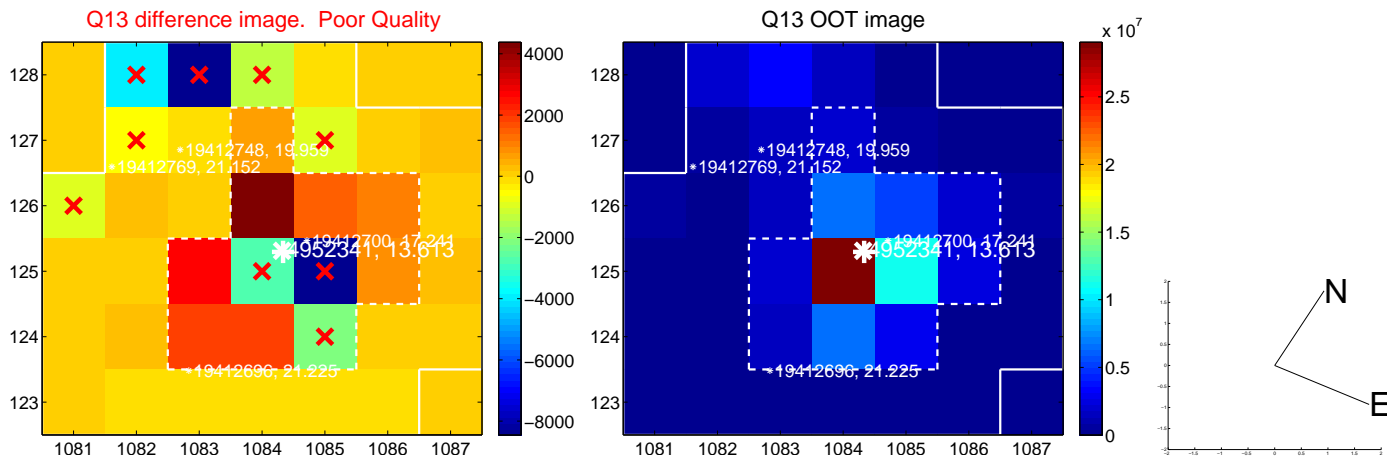
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



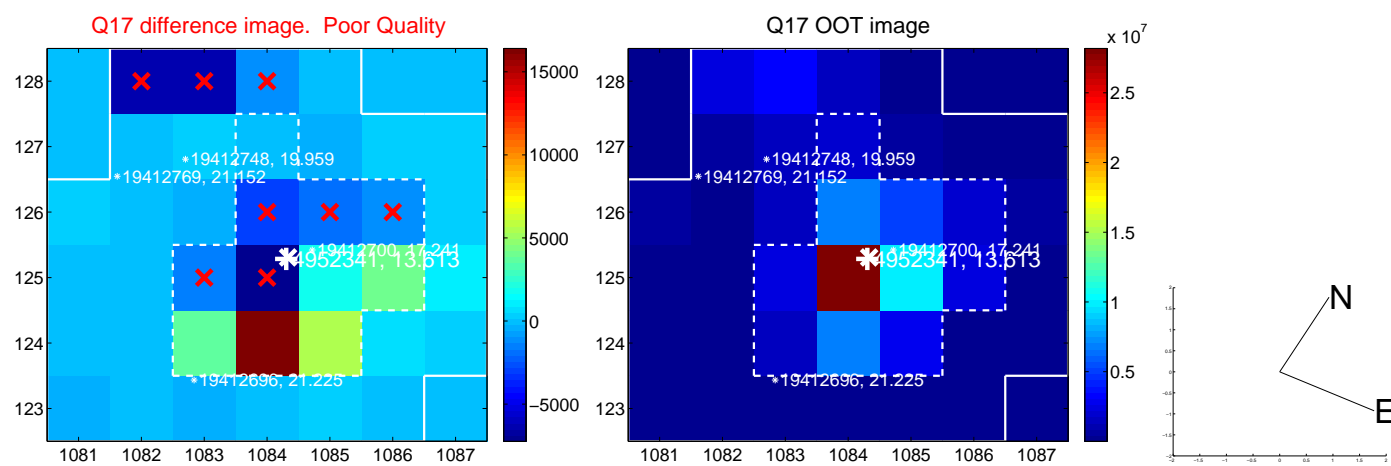
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

