

KIC 005174920

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})
005174920-01	OBS	No	0.950470	132.233743	6.5	2.740	7.7	8.6	3.38	8107	1.00	75879.25
005174920-02	OBS	6535.01	0.950425	131.805830	5.6	6.366	10.2	10.8	3.38	8107	0.89	75884.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005174920-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005174920-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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.

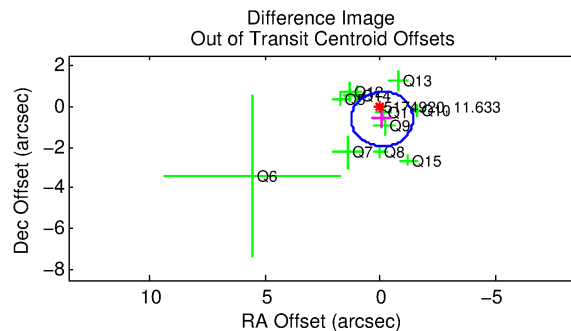
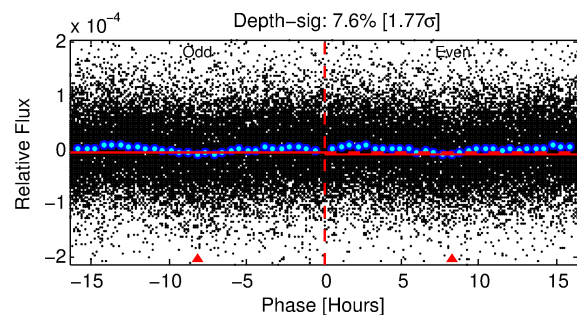
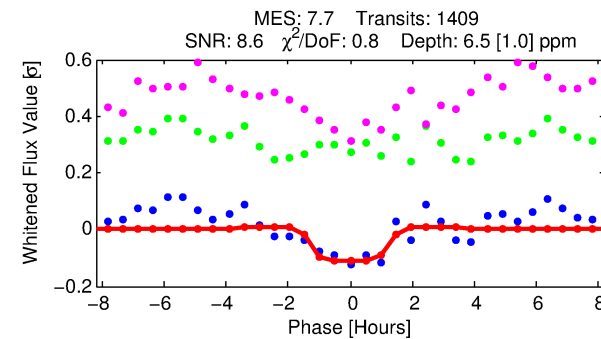
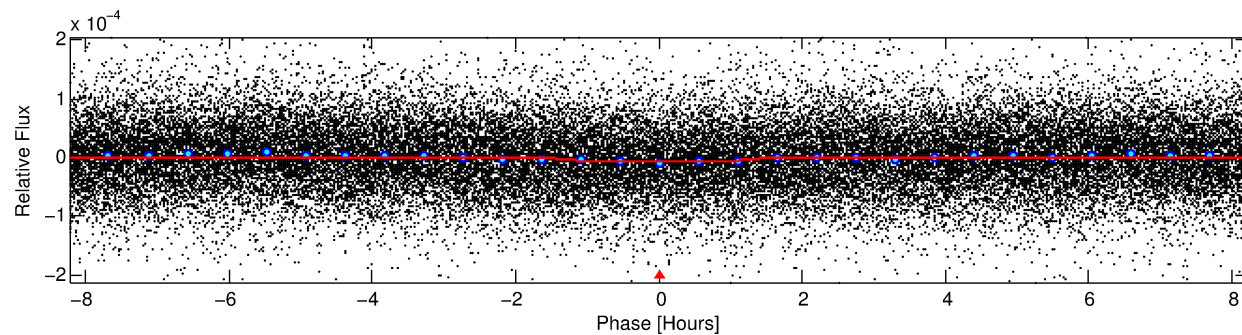
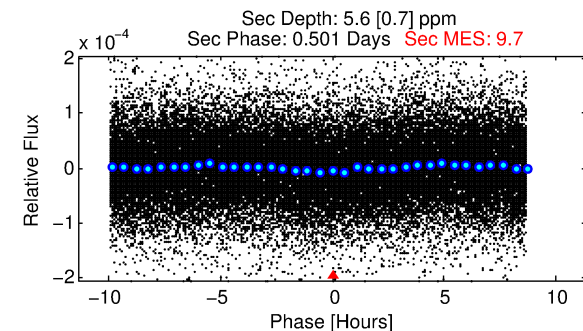
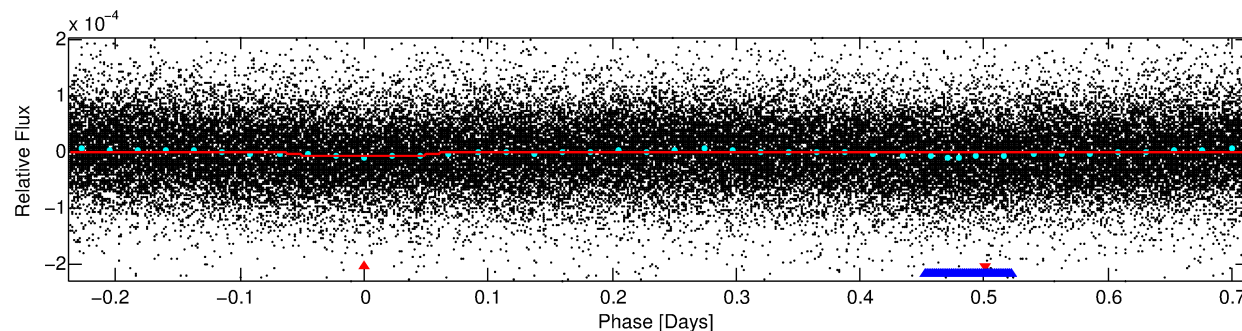
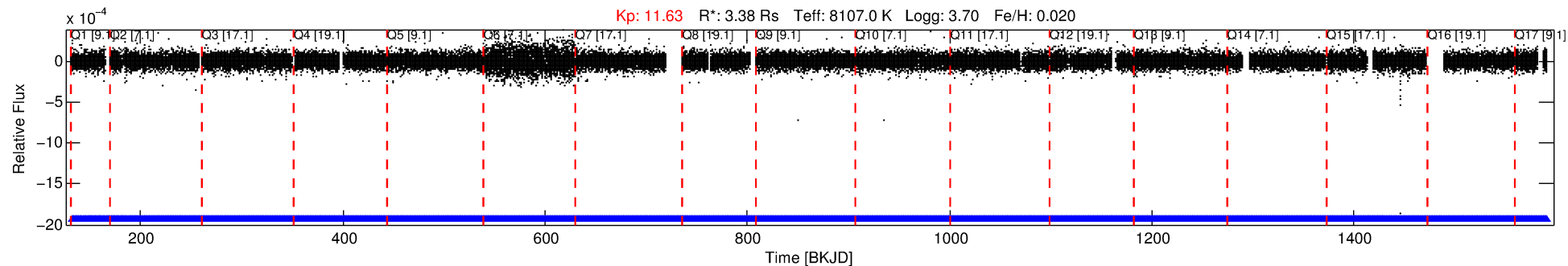
Ephemeris Match Information For 005174920-01

No Significant Match Found

DV One-Page Summary

KIC: 5174920 Candidate: 1 of 2 Period: 0.950 d

KOI: K06535 Corr: No Ephemeris Match



DV Fit Results:

Period = 0.95047 [0.00001] d
Epoch = 132.2337 [0.0040] BKJD
Rp/R* = 0.0027 [0.0004]
a/R* = 1.50 [0.67]
b = 0.90 [0.17]
Seff = 75879.25 [59193.34]
Teq = 4232 [825] K
Rp = 1.01 [0.51] Re
a = 0.0242 [0.0114] AU
Ag = 1.77 [1.46] [0.53σ]
Teffp = 7549 [698] K [3.07σ]

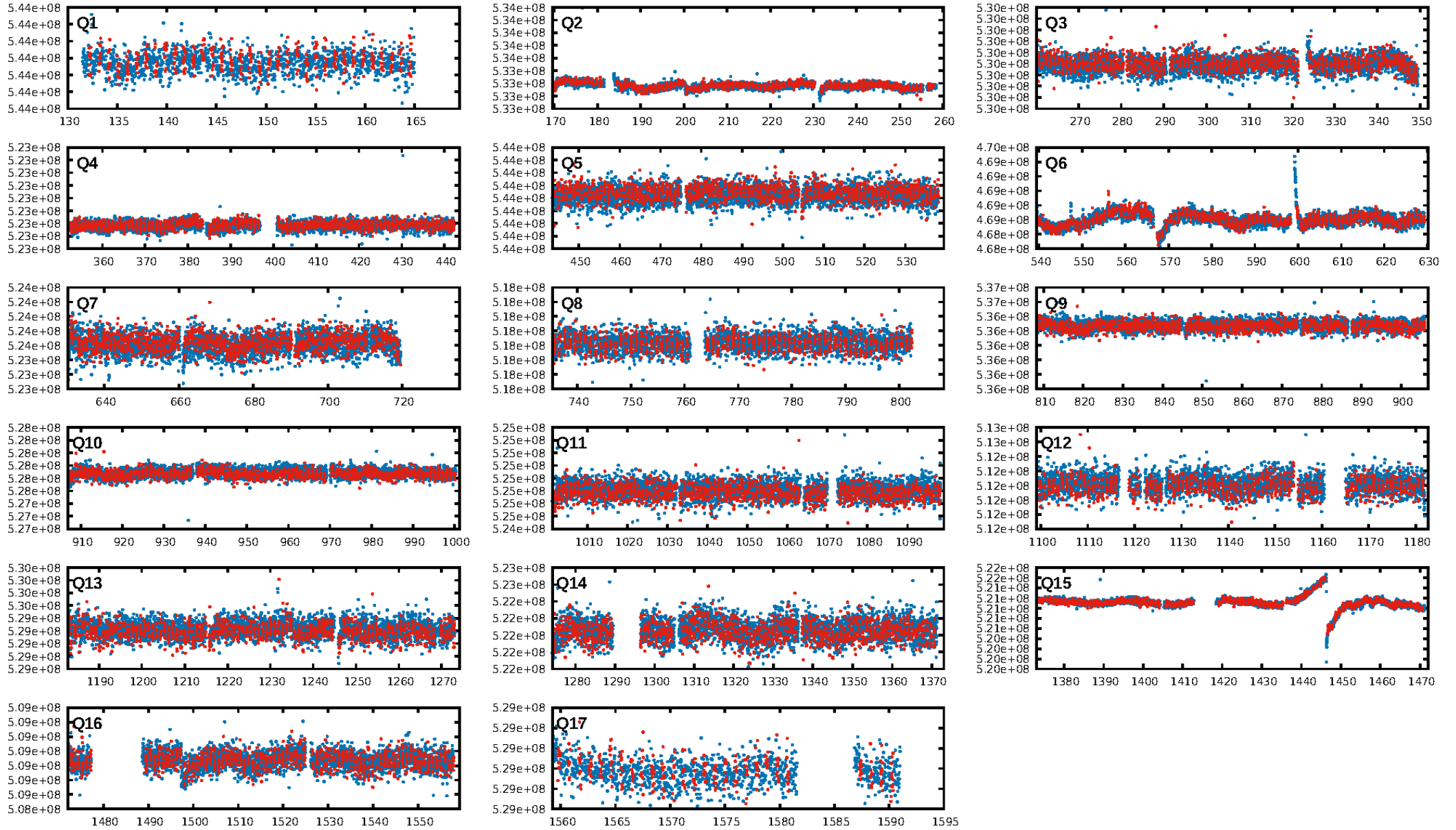
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1347/1347]
GhostDiagnostic-chr: -15.24
Centroid-sig: 0.1%
Centroid-so: 3.002 arcsec [2.27σ]
OotOffset-rm: 0.619 arcsec [1.39σ]
KicOffset-rm: 0.373 arcsec [0.84σ]
OotOffset-st: 3/3/2/3 [11]
KicOffset-st: 3/3/2/3 [11]
DiffImageQuality-fgm: 0.73 [8/11]
DiffImageOverlap-fno: 1.00 [17/17]

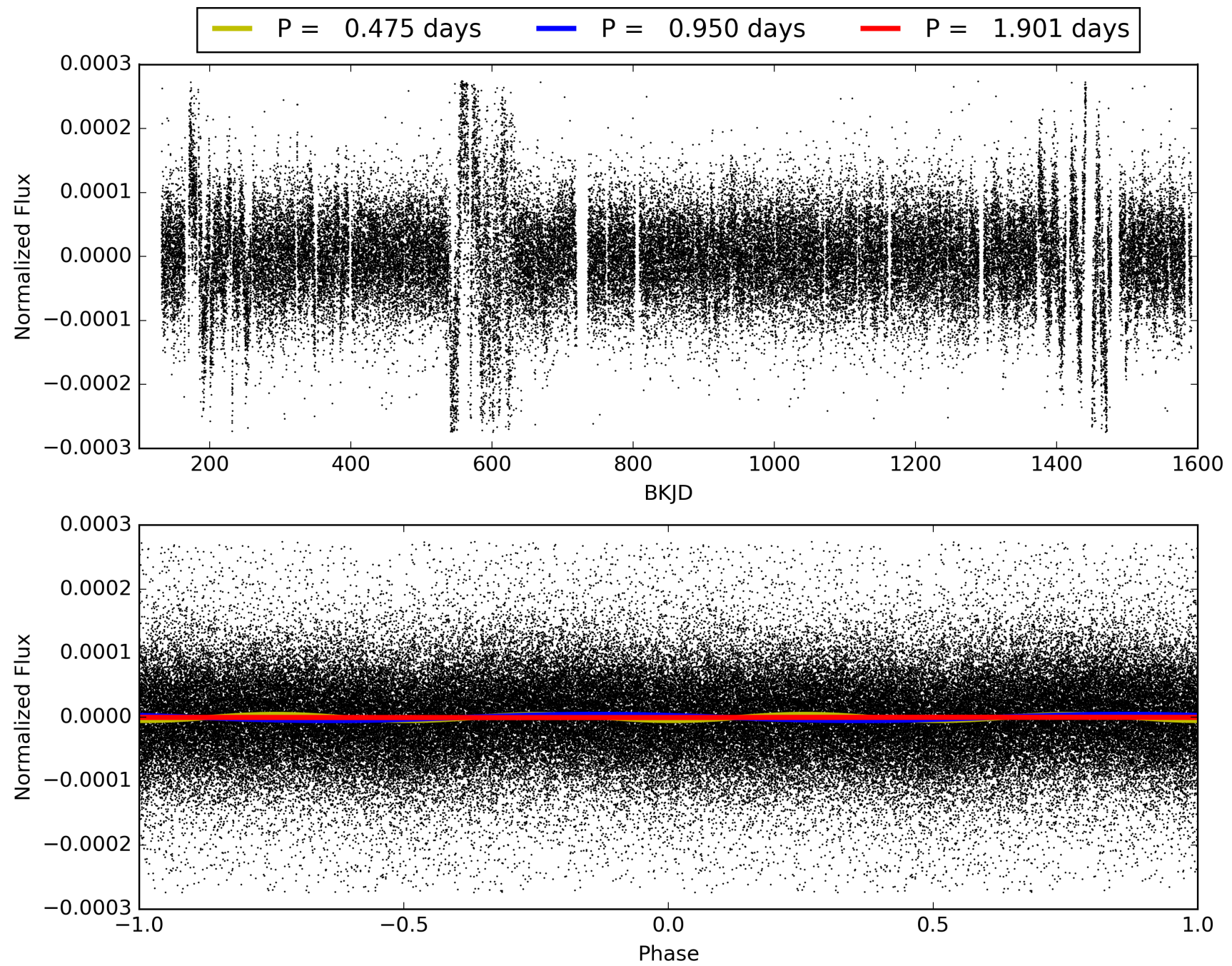
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:07:06 Z

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

TCE 005174920-01, PDC Light Curves

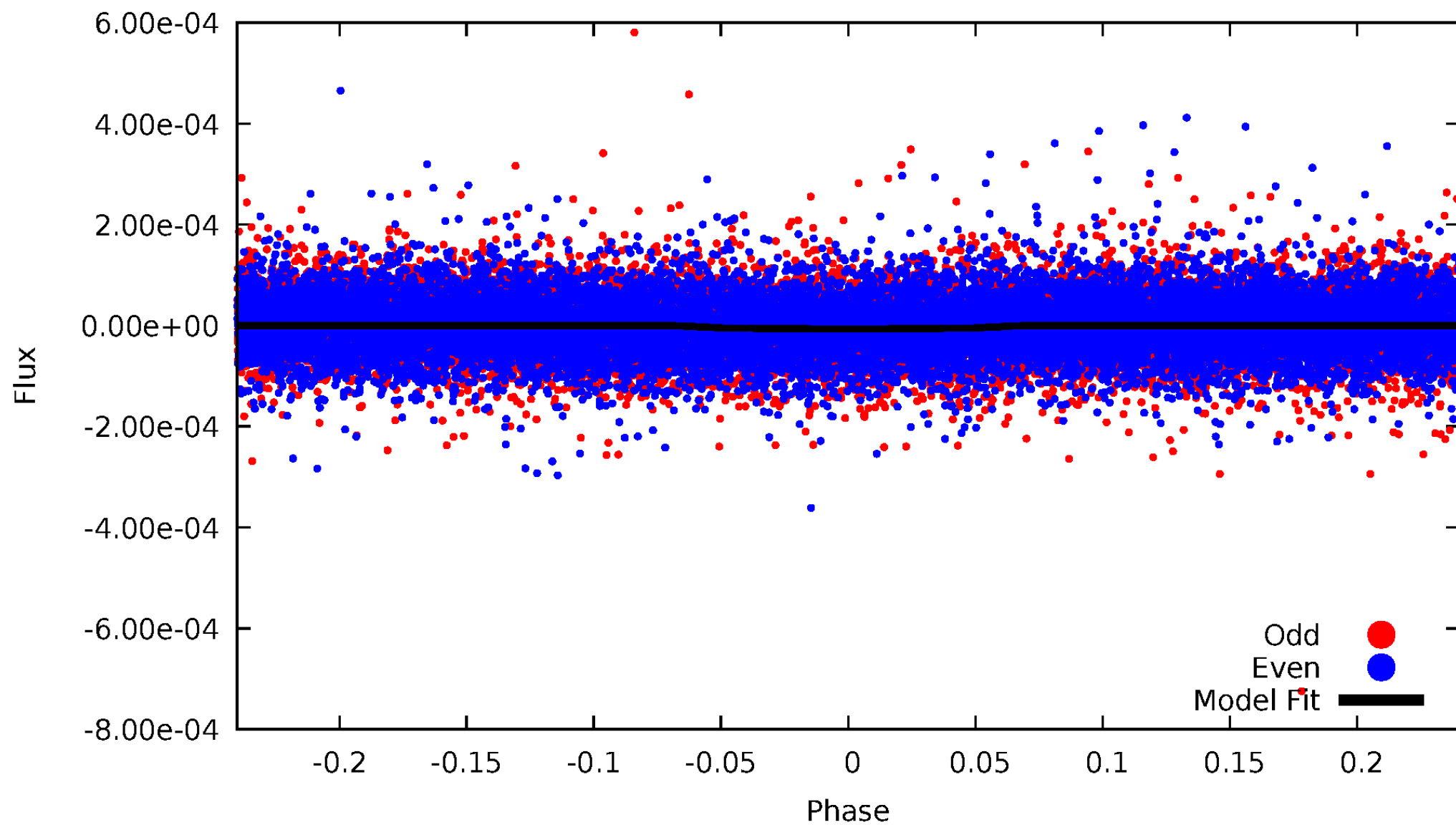


TCE 005174920-01



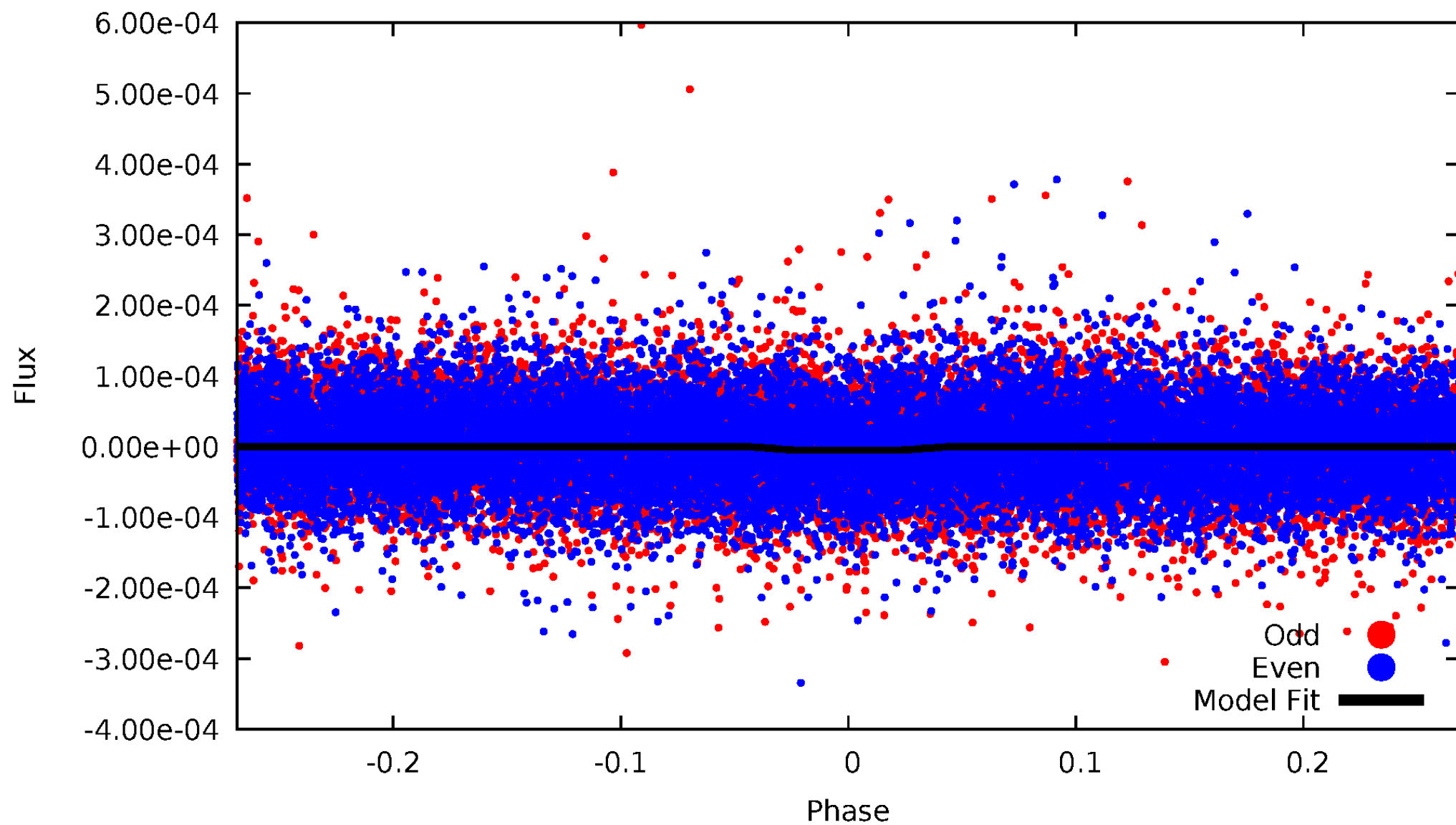
DV Odd/Even

TCE 005174920-01

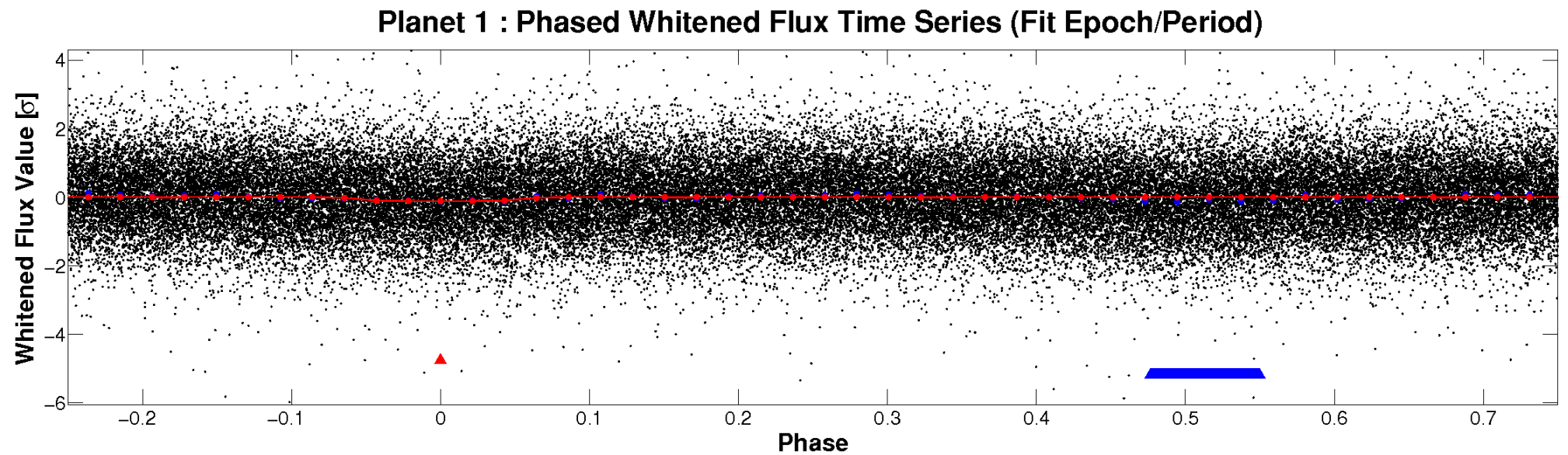
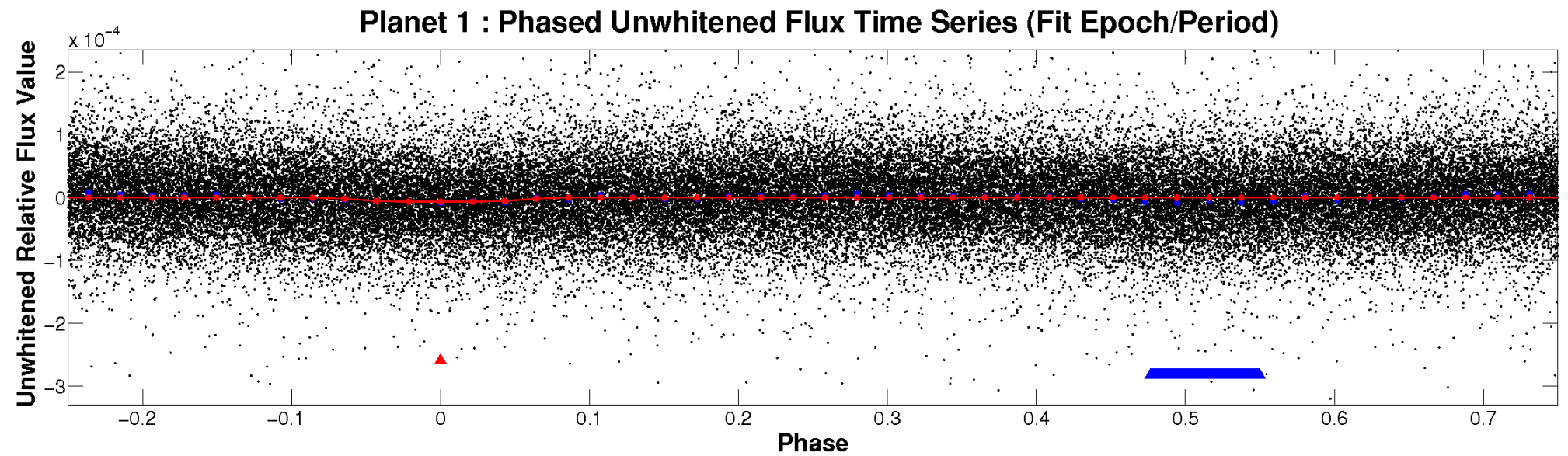


ALT Odd/Even

TCE 005174920-01

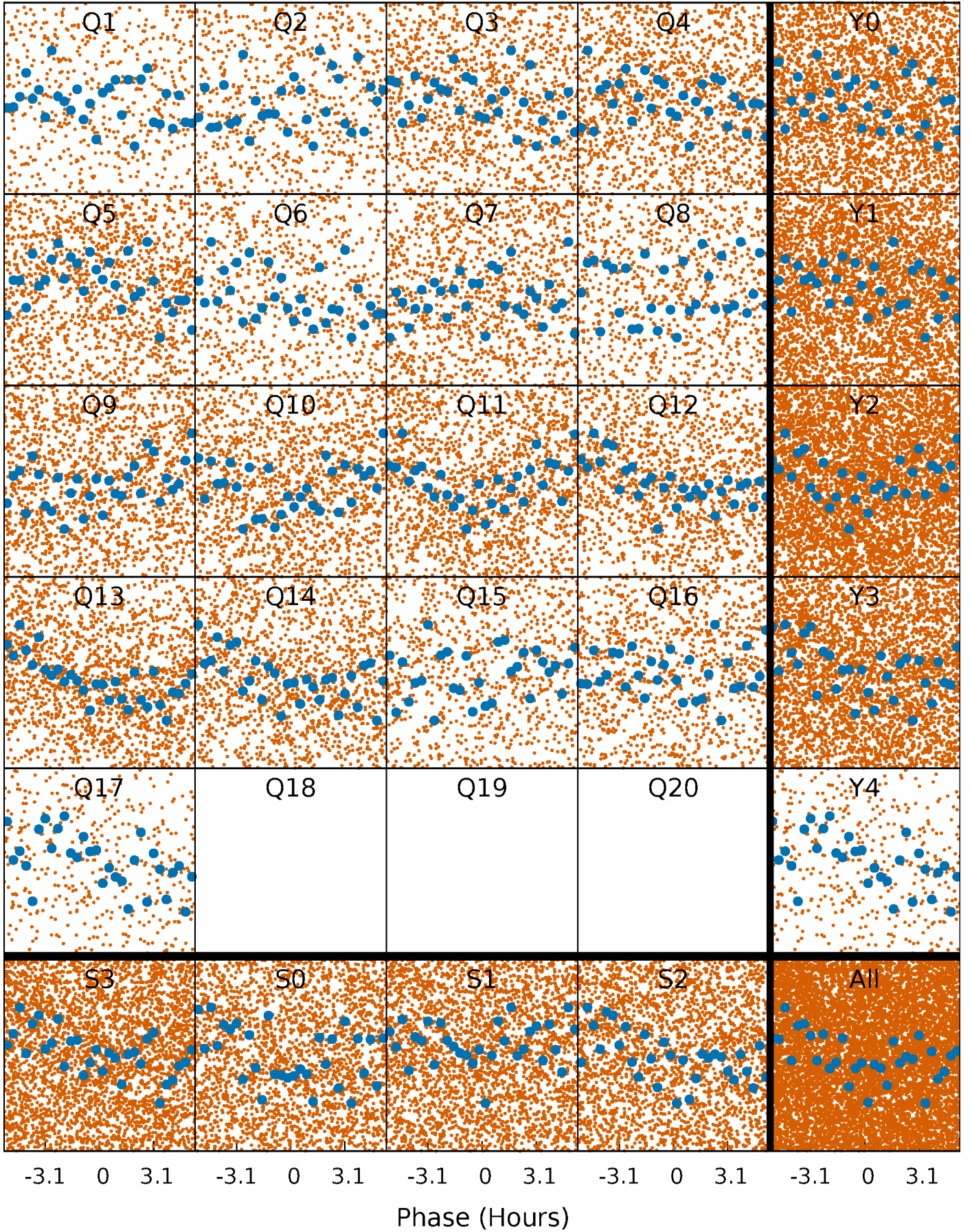


Non-Whitened Vs. Whitened Light Curve



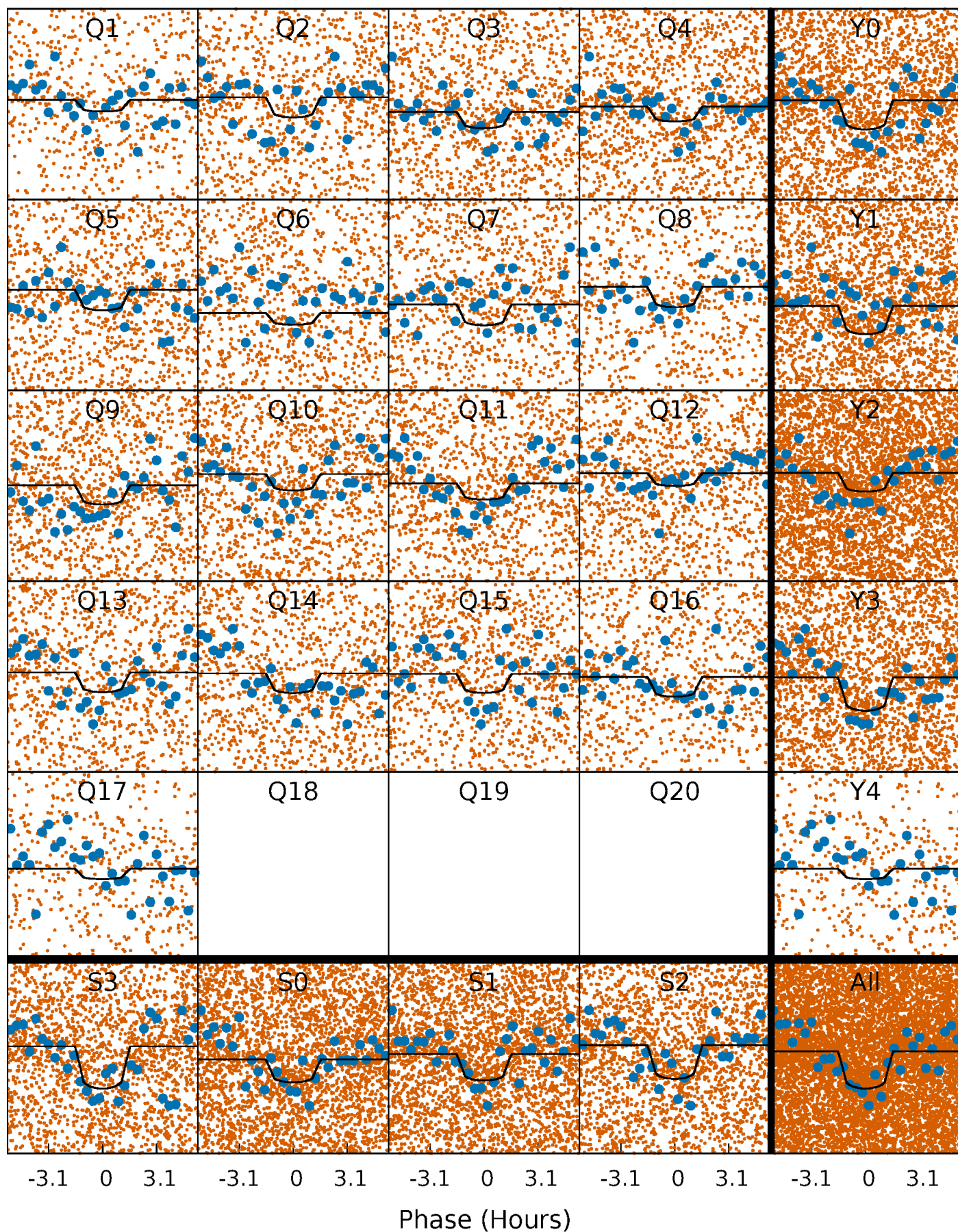
PDC Quarter-Phased Transit Curves

TCE 005174920-01 P= 0.950470 Days $T_0=132.233743$ (BKJD)



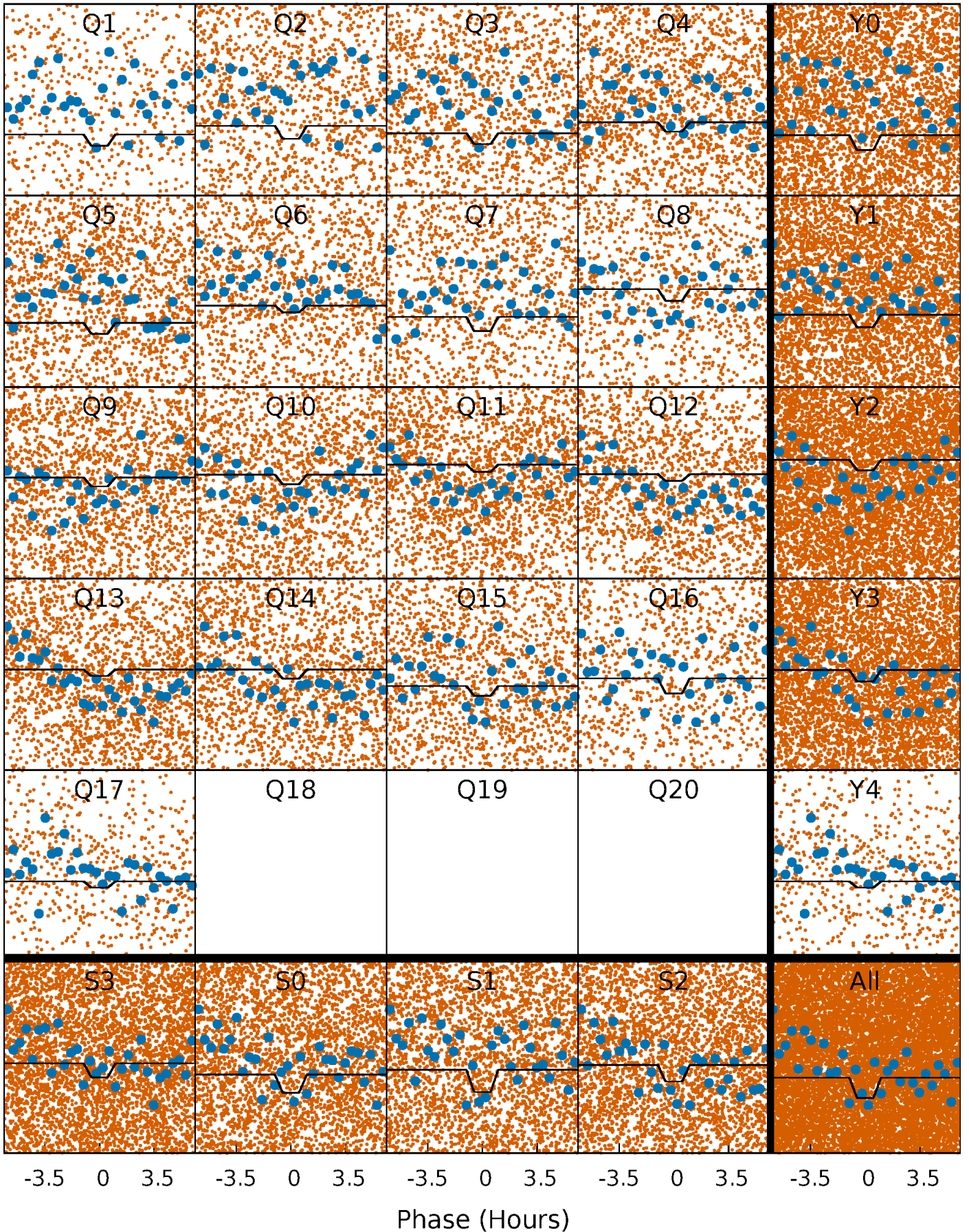
DV Quarter-Phased Transit Curves

TCE 005174920-01 P= 0.950470 Days $T_0=132.233743$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

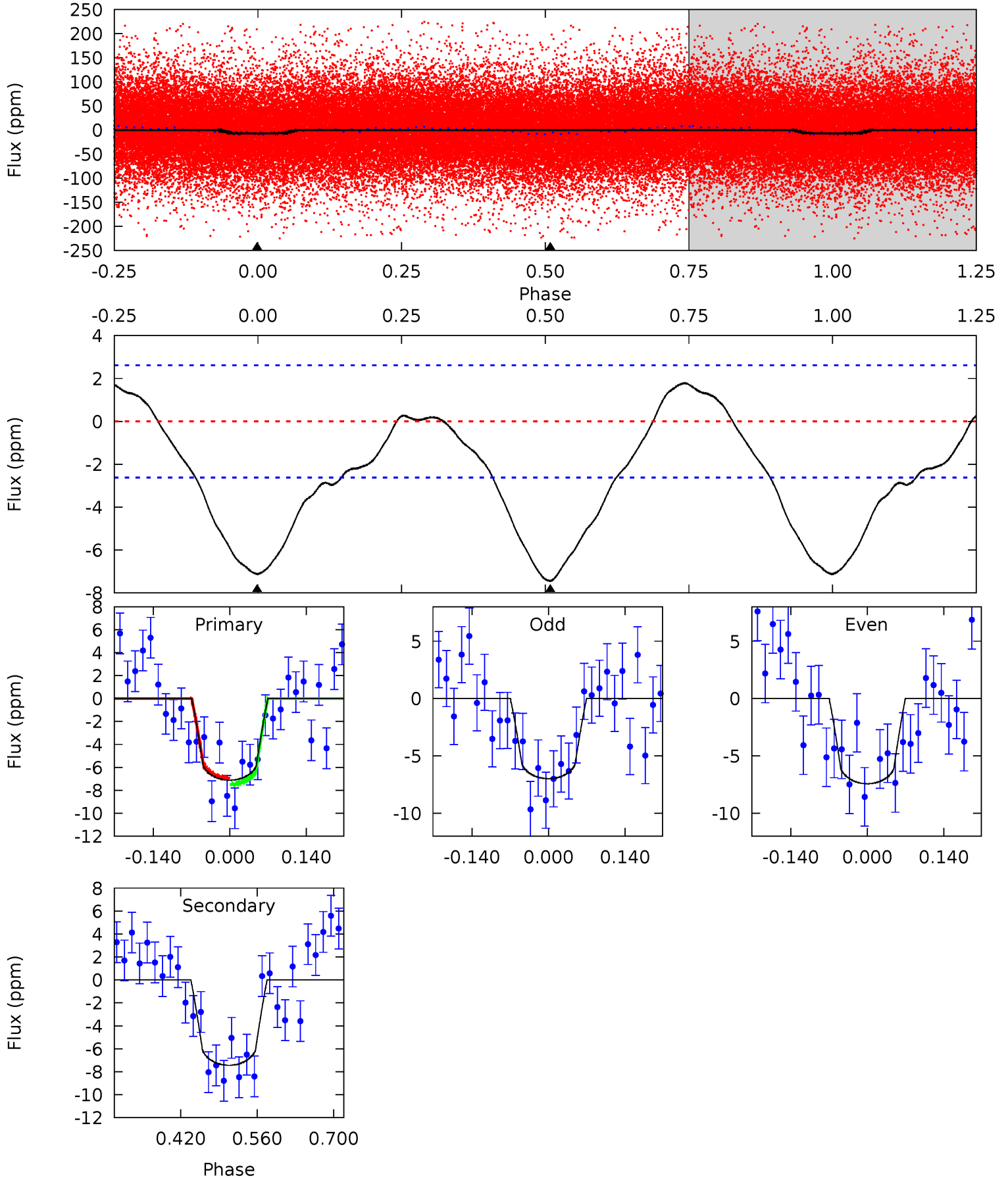
TCE 005174920-01 P= 0.950472 Days $T_0=132.239456$ (BKJD)



DV Model-Shift Uniqueness Test

005174920-01, P = 0.950470 Days, E = 131.283273 Days

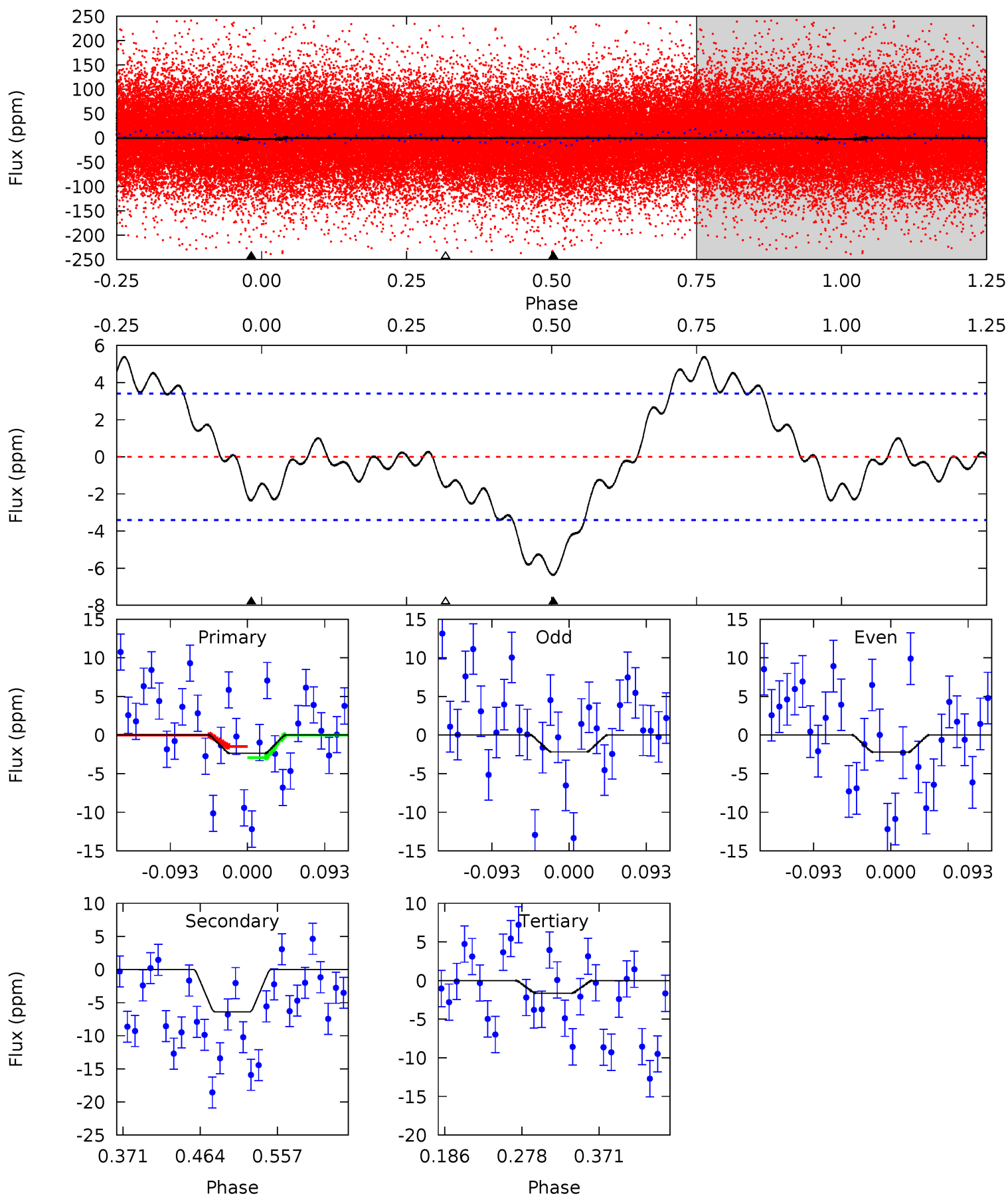
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	12.7	0	0	4.49	1.48	2.09	12.2	12.2	12.7	12.7	0.38	0.83	0.19	0.48



Alt Model-Shift Uniqueness Test

005174920-01, P = 0.950472 Days, E = 131.288984 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.16	8.55	2.19	0	4.58	1.68	3.10	0.98	3.16	6.36	8.55	0.02	1.08	0.46	0.96



Stellar Parameters For KIC 005174920

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8107^{+224}_{-365}	$3.698^{+0.448}_{-0.140}$	$0.020^{+0.200}_{-0.400}$	$3.385^{+0.878}_{-1.631}$	$2.086^{+0.377}_{-0.503}$	$0.076^{+0.312}_{-0.032}$
	+3%/-5%	+12%/-4%	+1000%/-2000%	+26%/-48%	+18%/-24%	+412%/-42%
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 005174920-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 1	$0.95^{+0.24}_{-0.26}$	5712^{+490}_{-683}	7716^{+986}_{-739}	$2.667^{+2.244}_{-0.950}$
Alt.	-6 ± 1	$0.77^{+0.22}_{-0.21}$	5705^{+542}_{-669}	8413^{+1432}_{-1048}	$3.439^{+2.977}_{-1.420}$

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

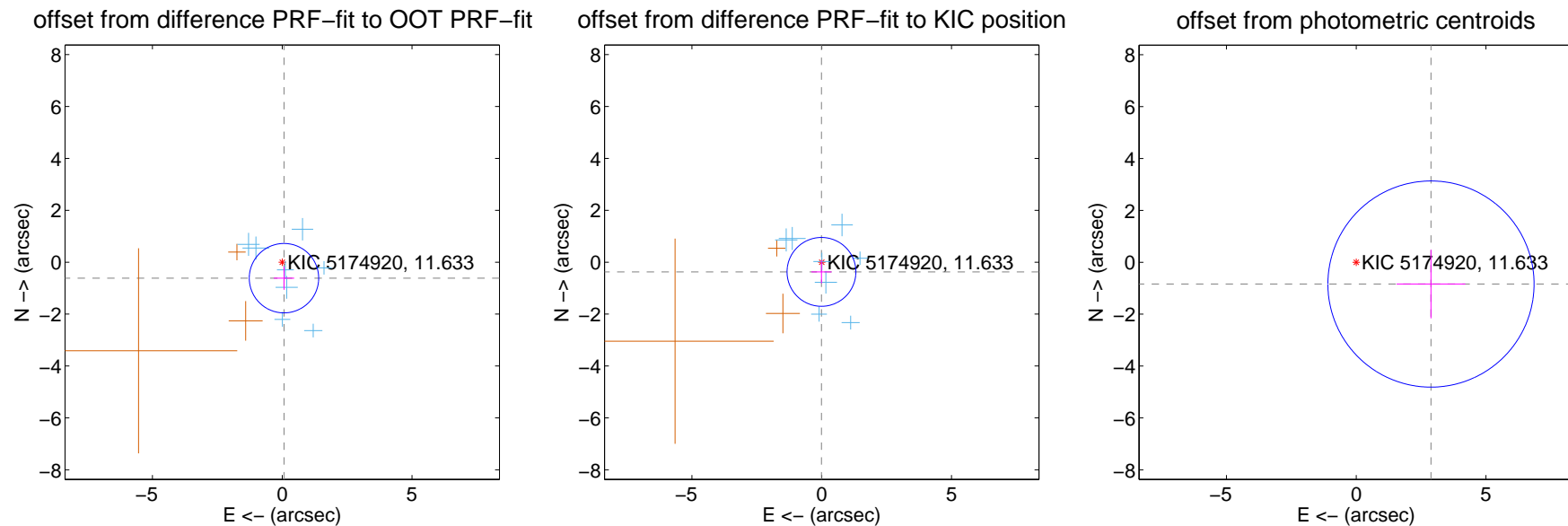
DV Centroid Data

Supplemental centroid analysis for 005174920-01. **Kepler magnitude: 11.63.** Transit SNR 8.61

There are 8 quarters with good PRF difference image offsets

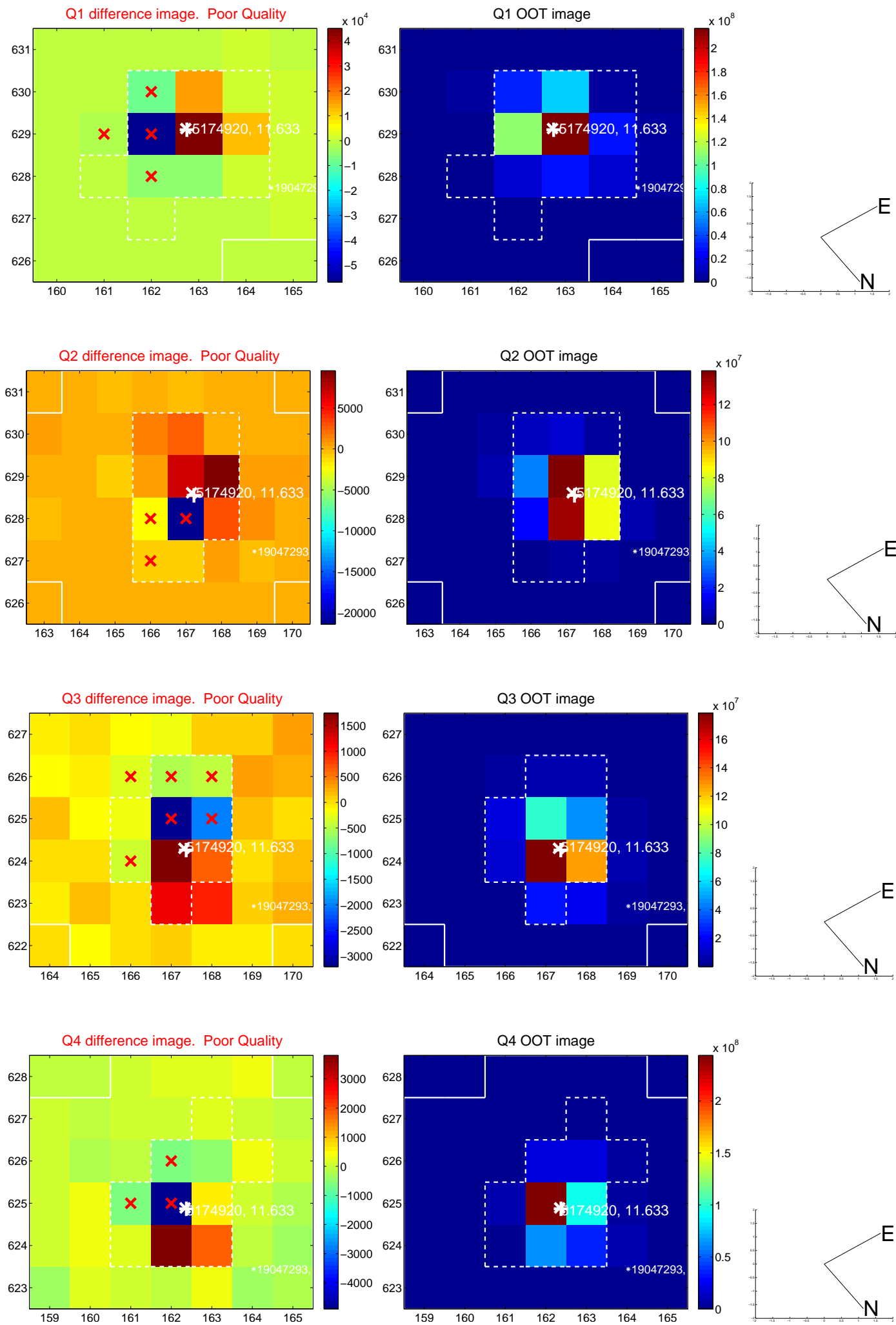
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.619 ± 0.446	1.39	-0.068 ± 0.394	-0.616 ± 0.446
PRF-fit source offset from KIC position	0.373 ± 0.442	0.84	0.010 ± 0.387	-0.373 ± 0.442
photometric centroid source offset	3.00 ± 1.32	2.27	-2.88 ± 1.32	-0.84 ± 1.32

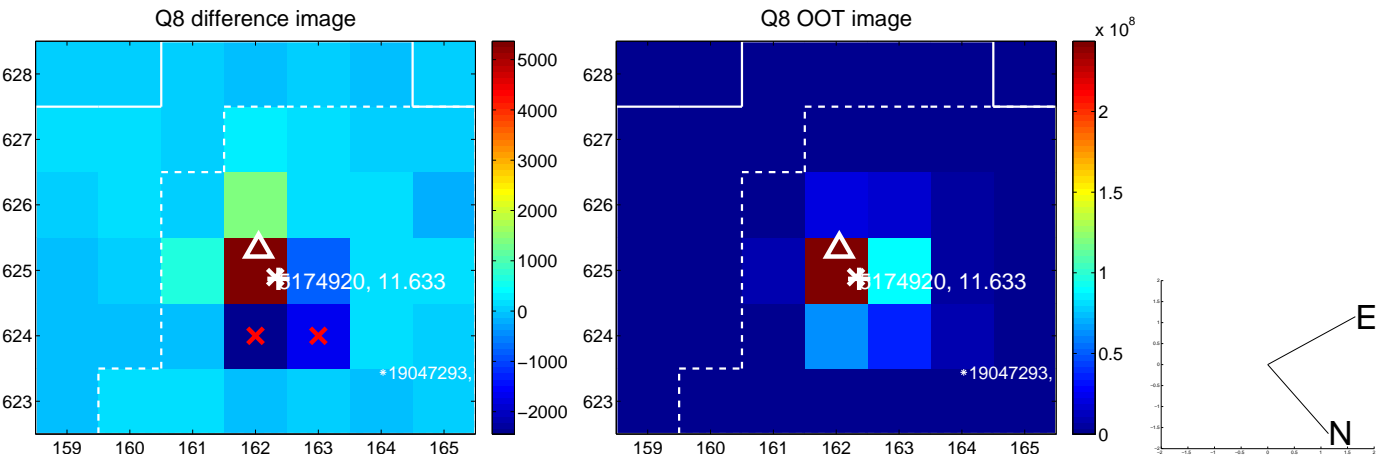
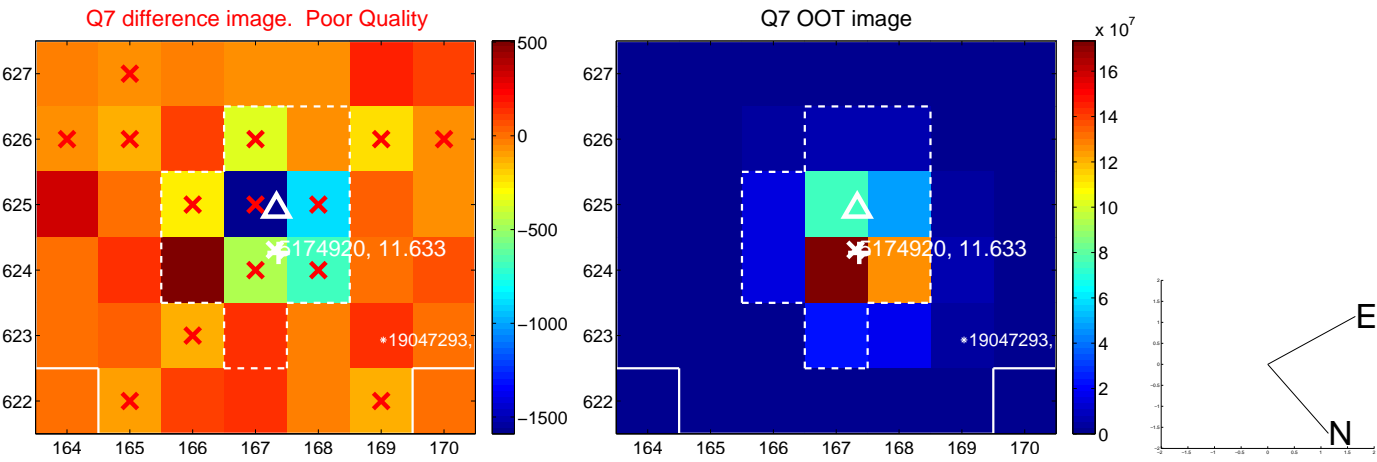
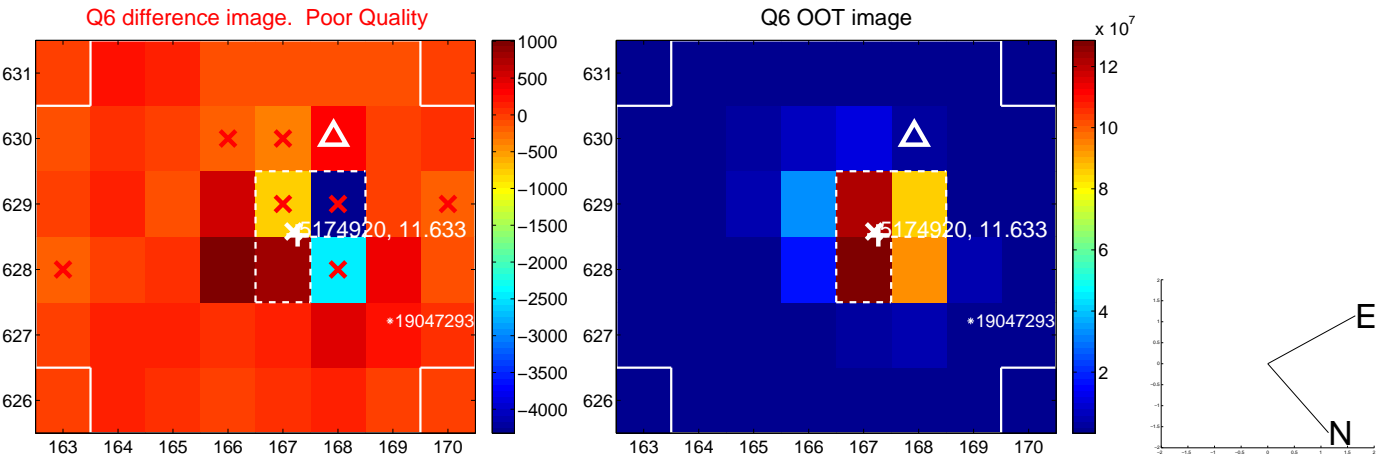
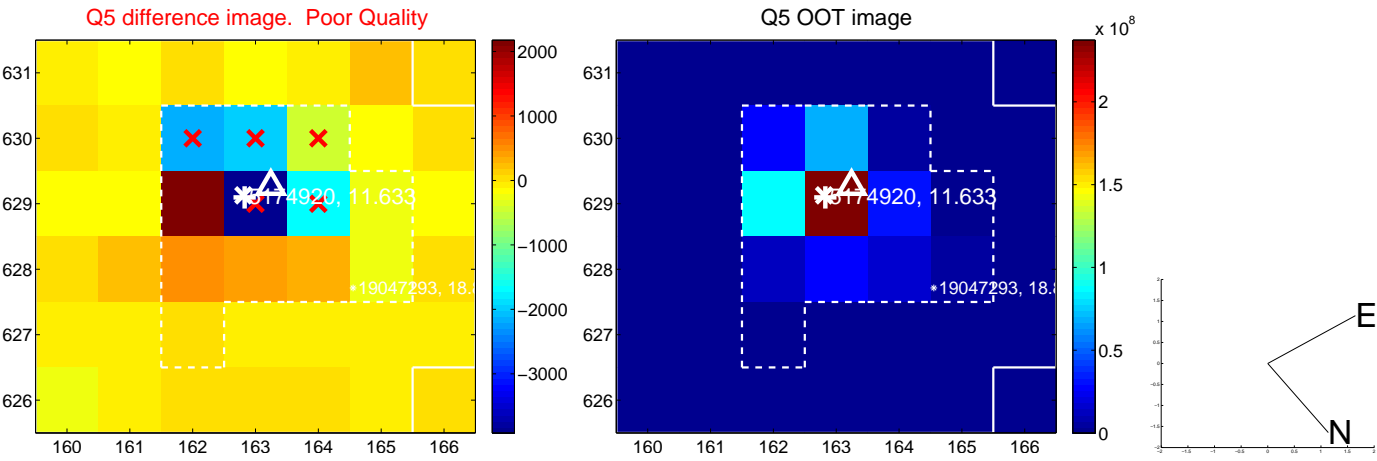


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

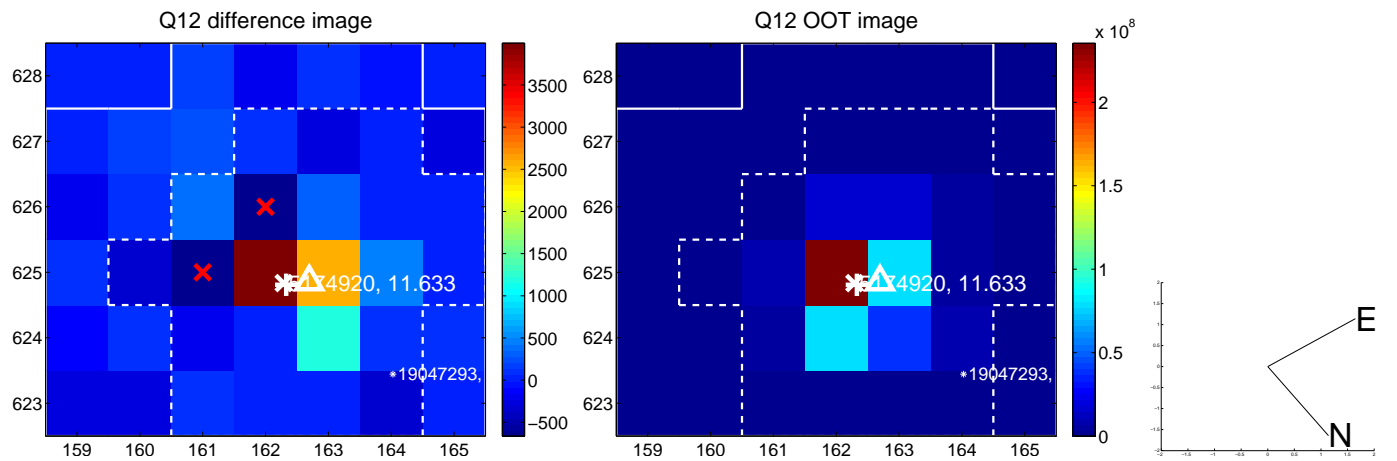
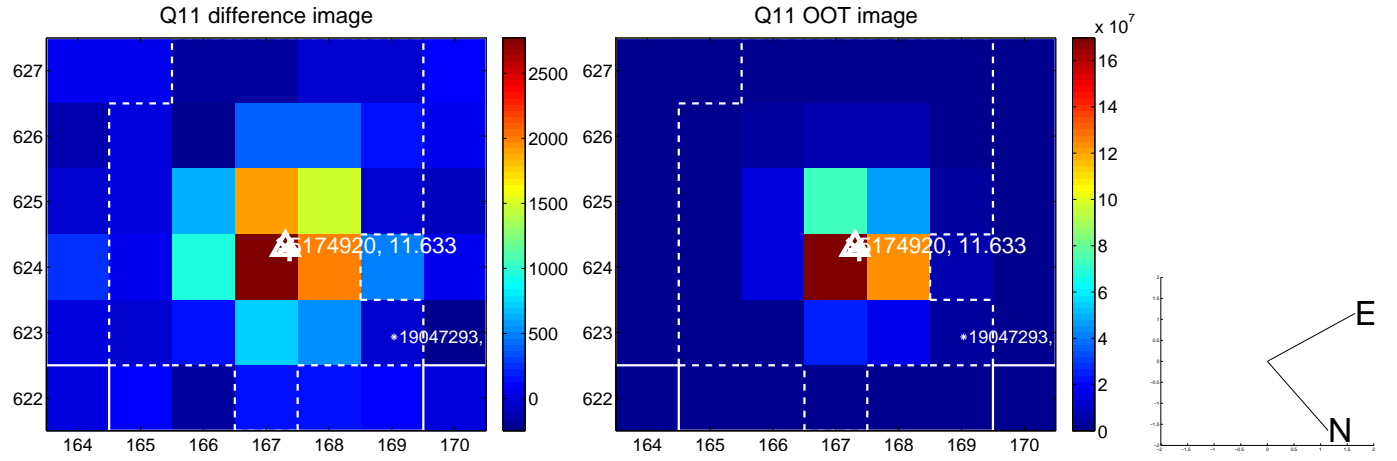
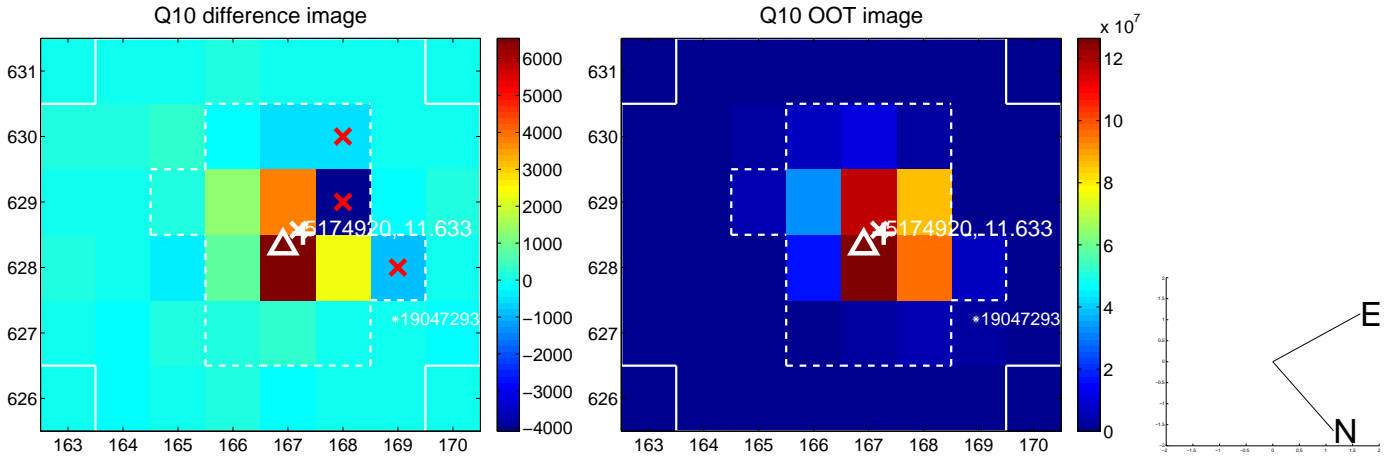
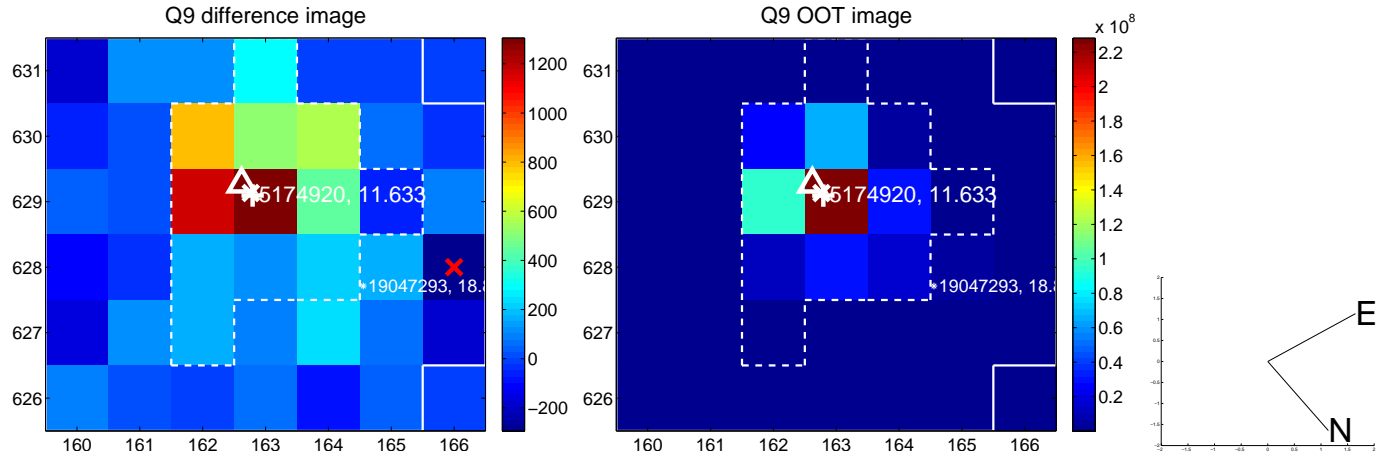
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



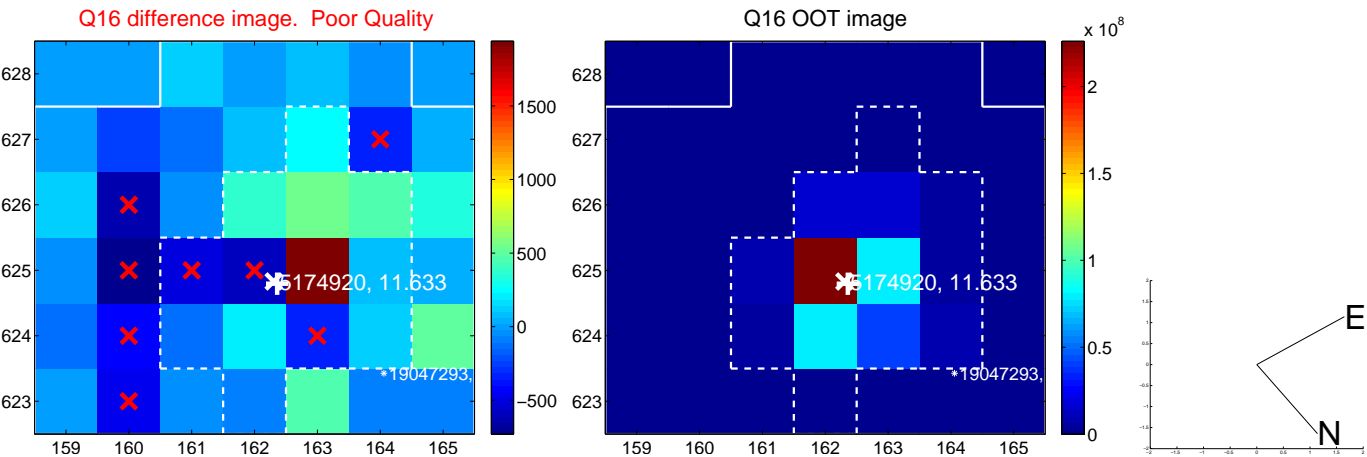
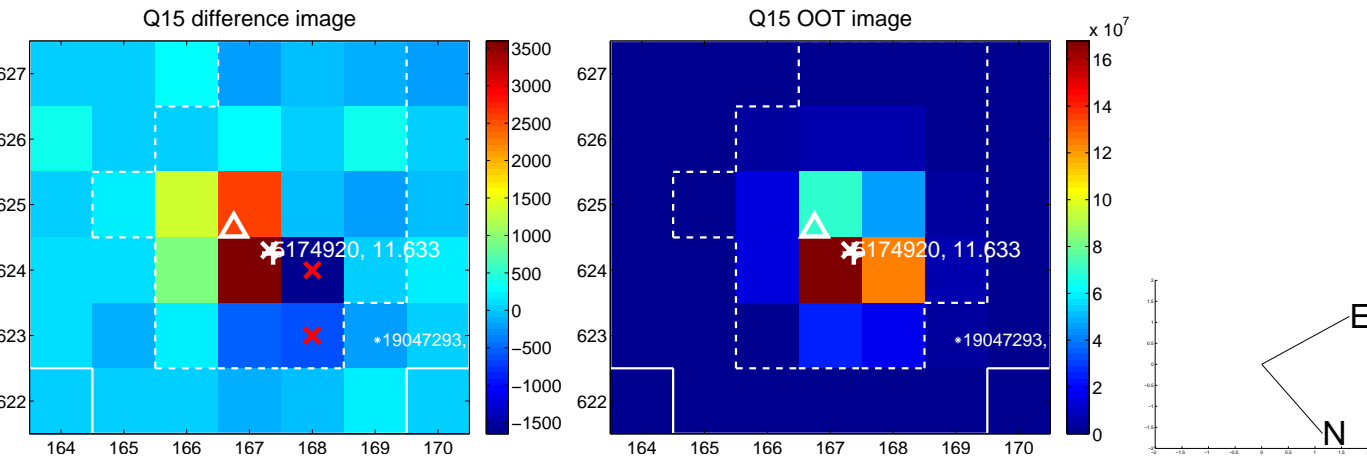
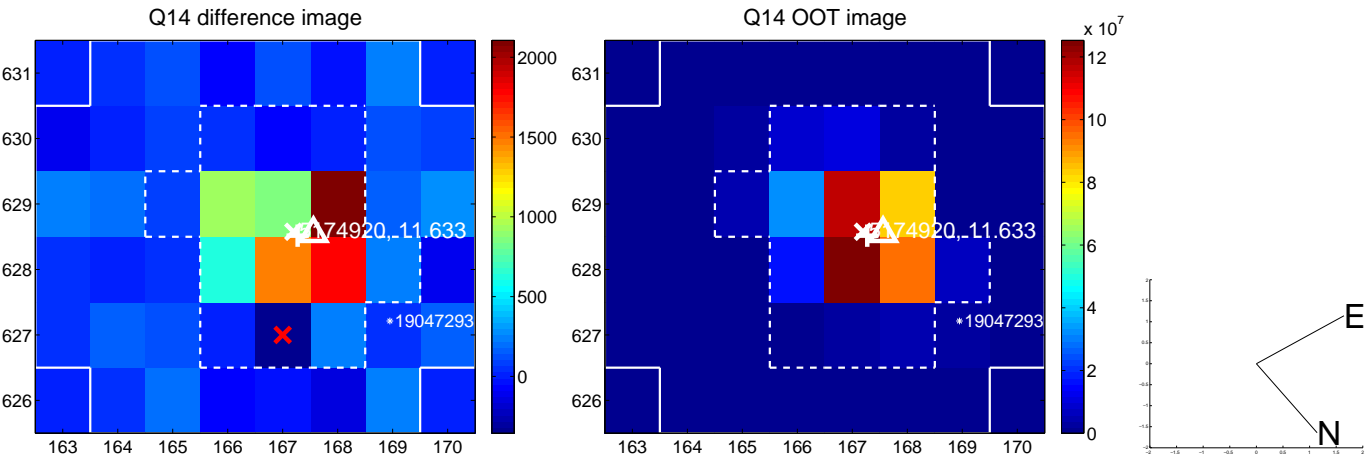
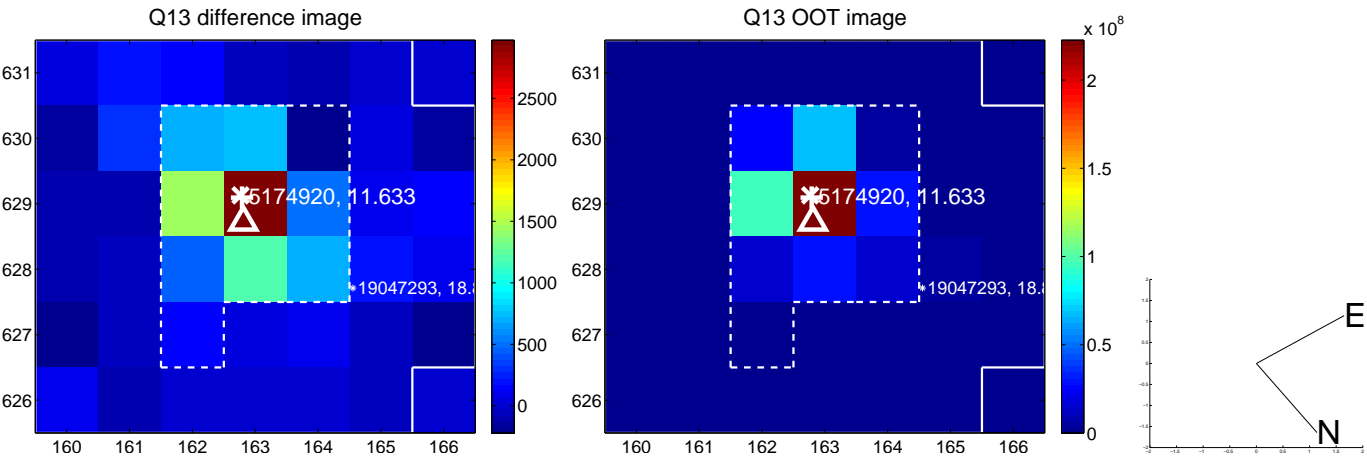
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



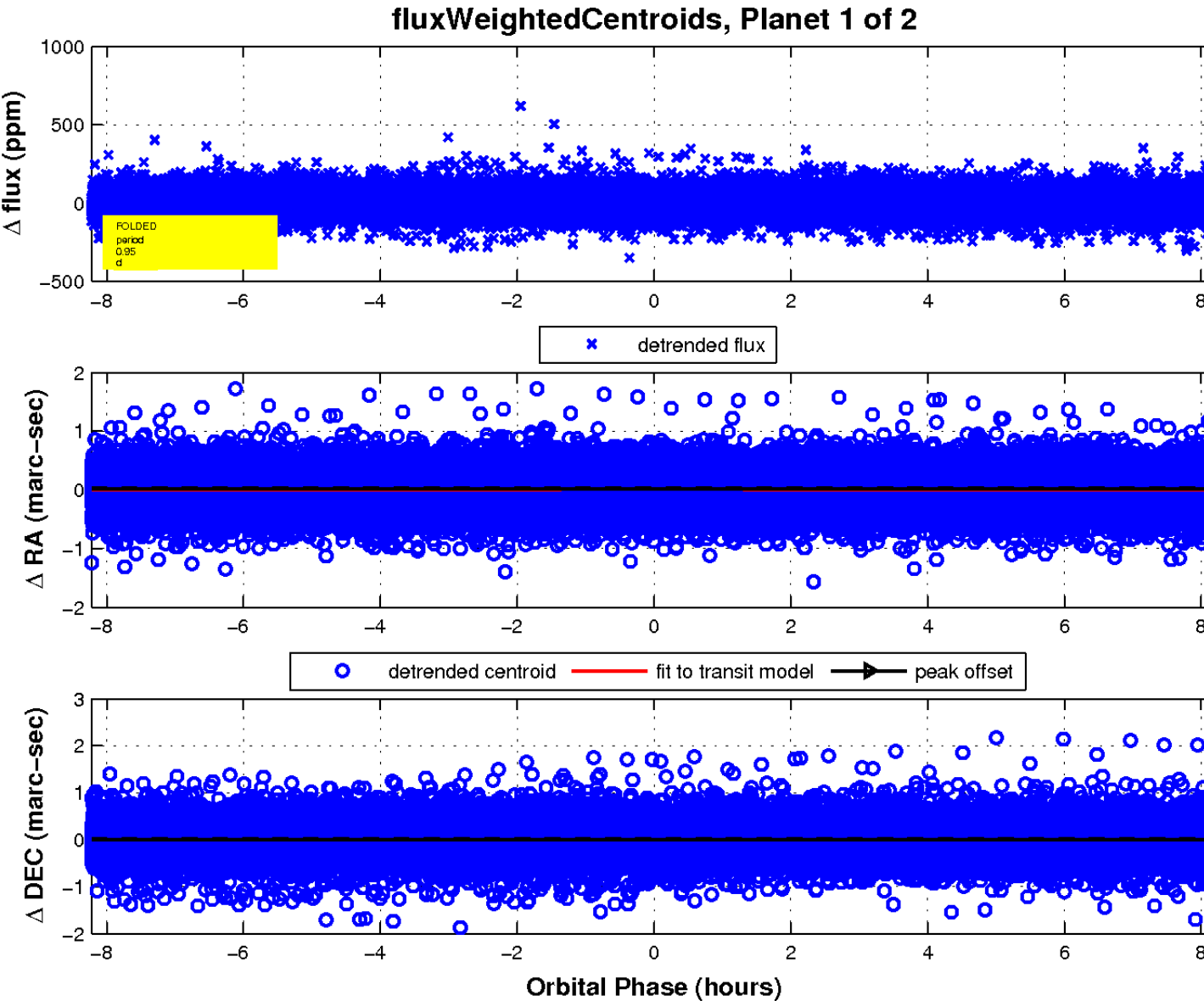
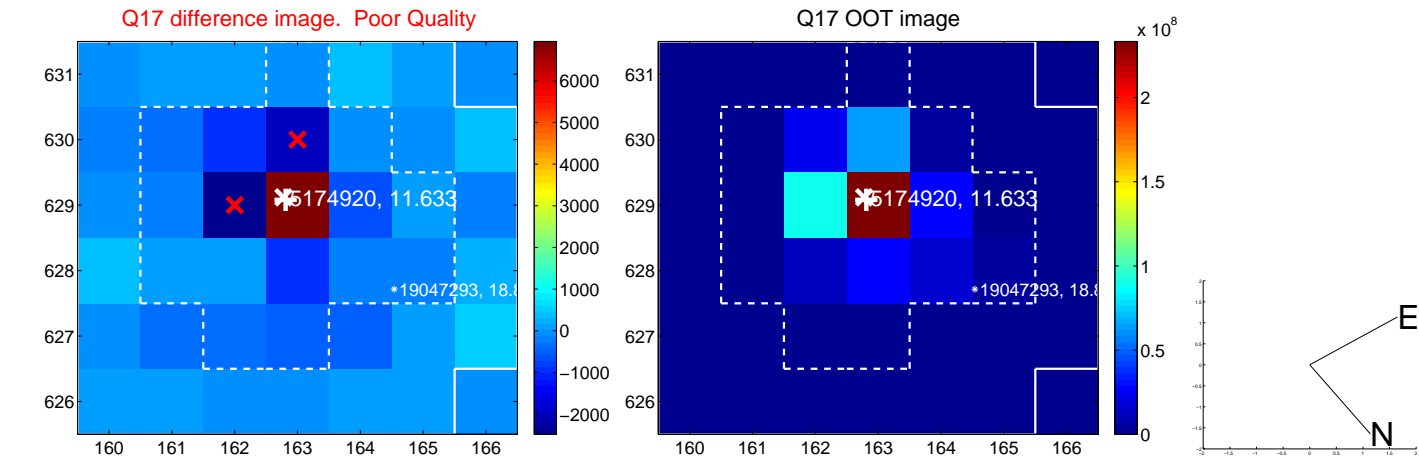
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

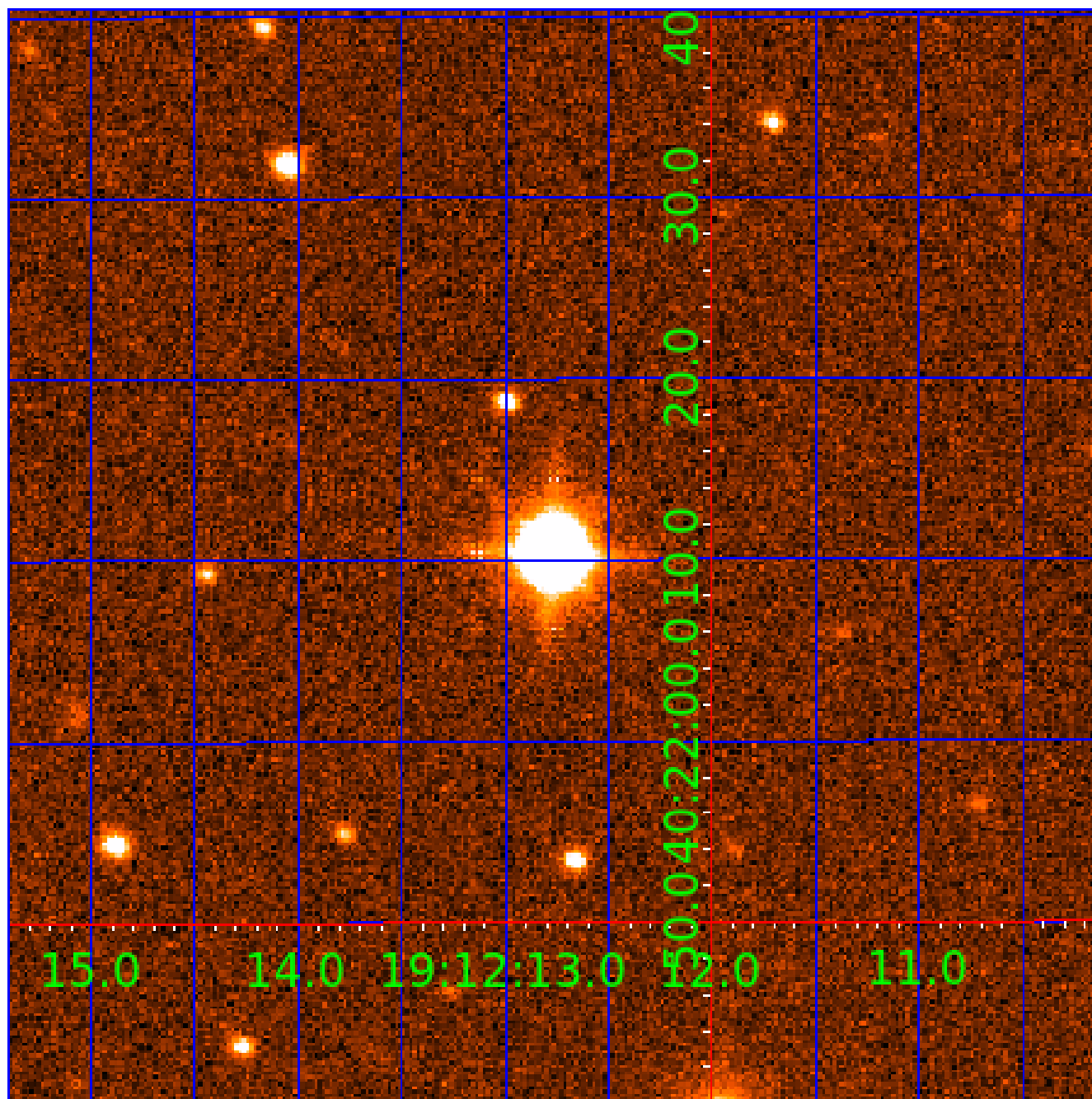


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005174920

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})
005174920-01	OBS	No	0.950470	132.233743	6.5	2.740	7.7	8.6	3.38	8107	1.00	75879.25
005174920-02	OBS	6535.01	0.950425	131.805830	5.6	6.366	10.2	10.8	3.38	8107	0.89	75884.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005174920-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005174920-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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.

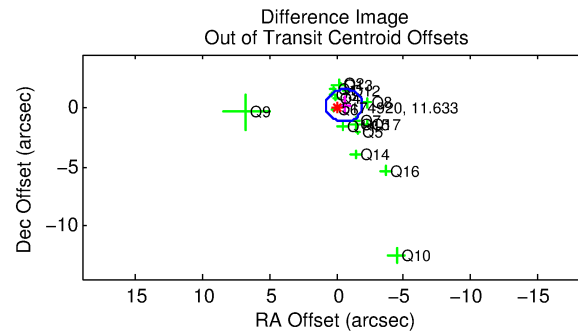
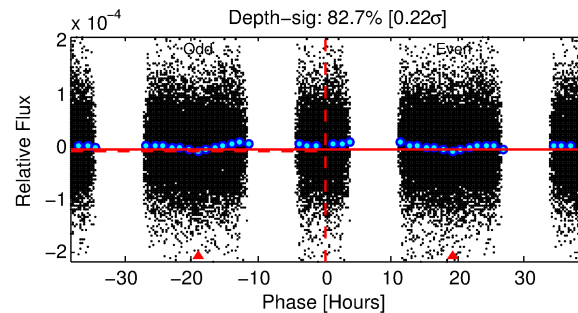
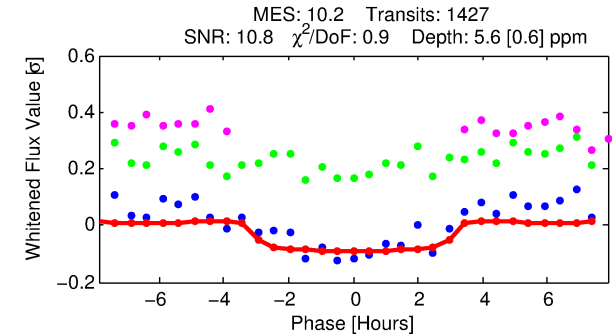
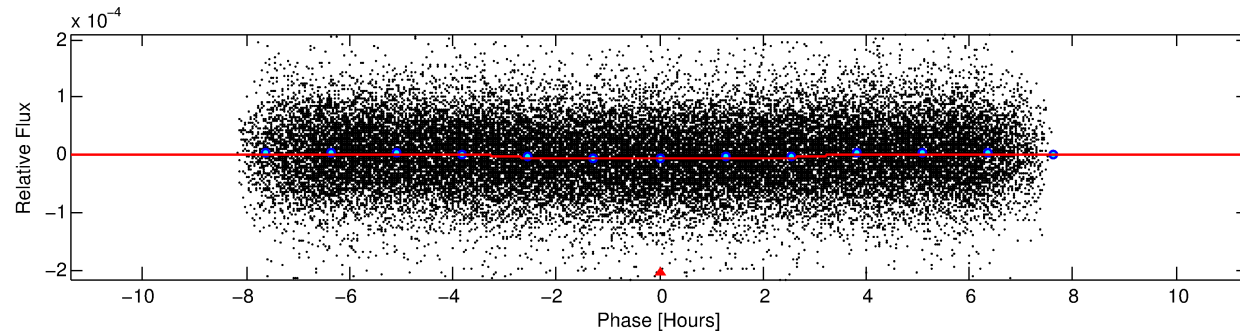
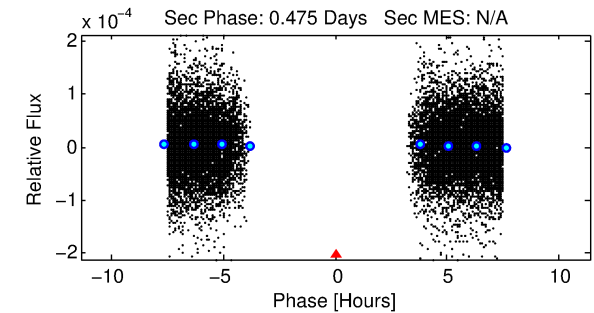
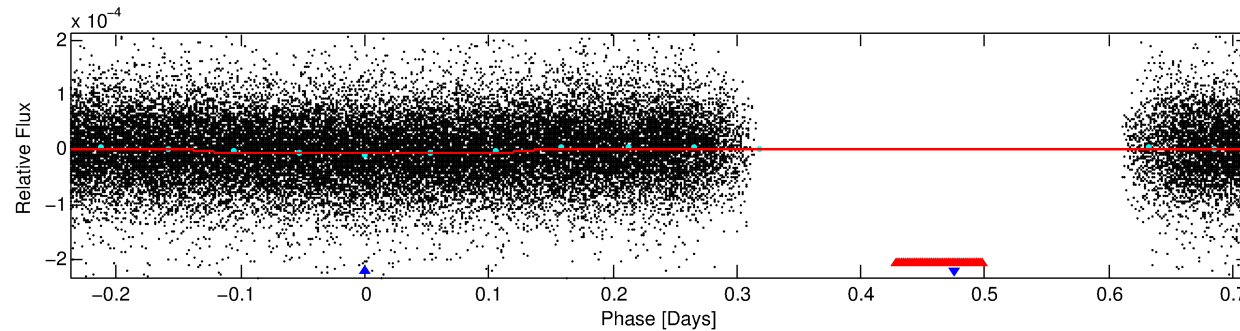
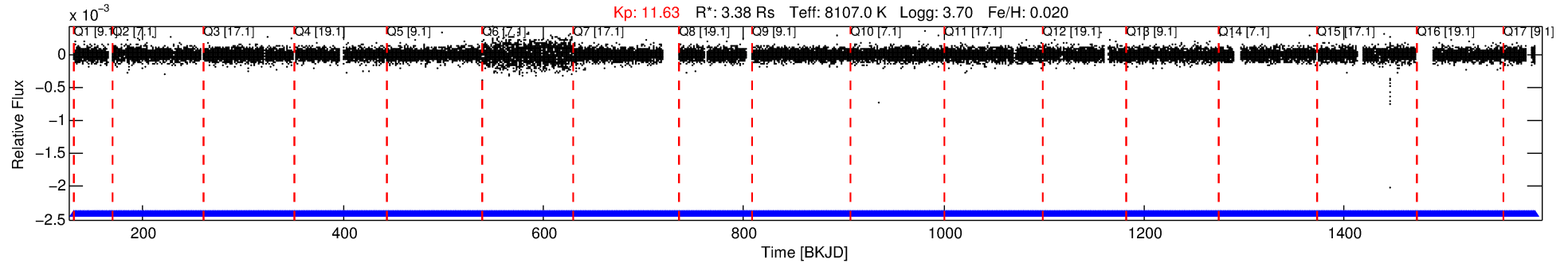
Ephemeris Match Information For 005174920-02

No Significant Match Found

DV One-Page Summary

KIC: 5174920 Candidate: 2 of 2 Period: 0.950 d

KOI: K06535 Corr: No Ephemeris Match



DV Fit Results:

Period = 0.95042 [0.00001] d
Epoch = 131.8058 [0.0056] BKJD
 R_p/R^* = 0.0024 [0.0009]
 a/R^* = 1.12 [0.49]
 b = 0.80 [0.98]
 S_{eff} = 75884.08 [59197.10]
 T_{eq} = 4232 [825] K
 R_p = 0.88 [0.53] R_e
 a = 0.0242 [0.0114] AU

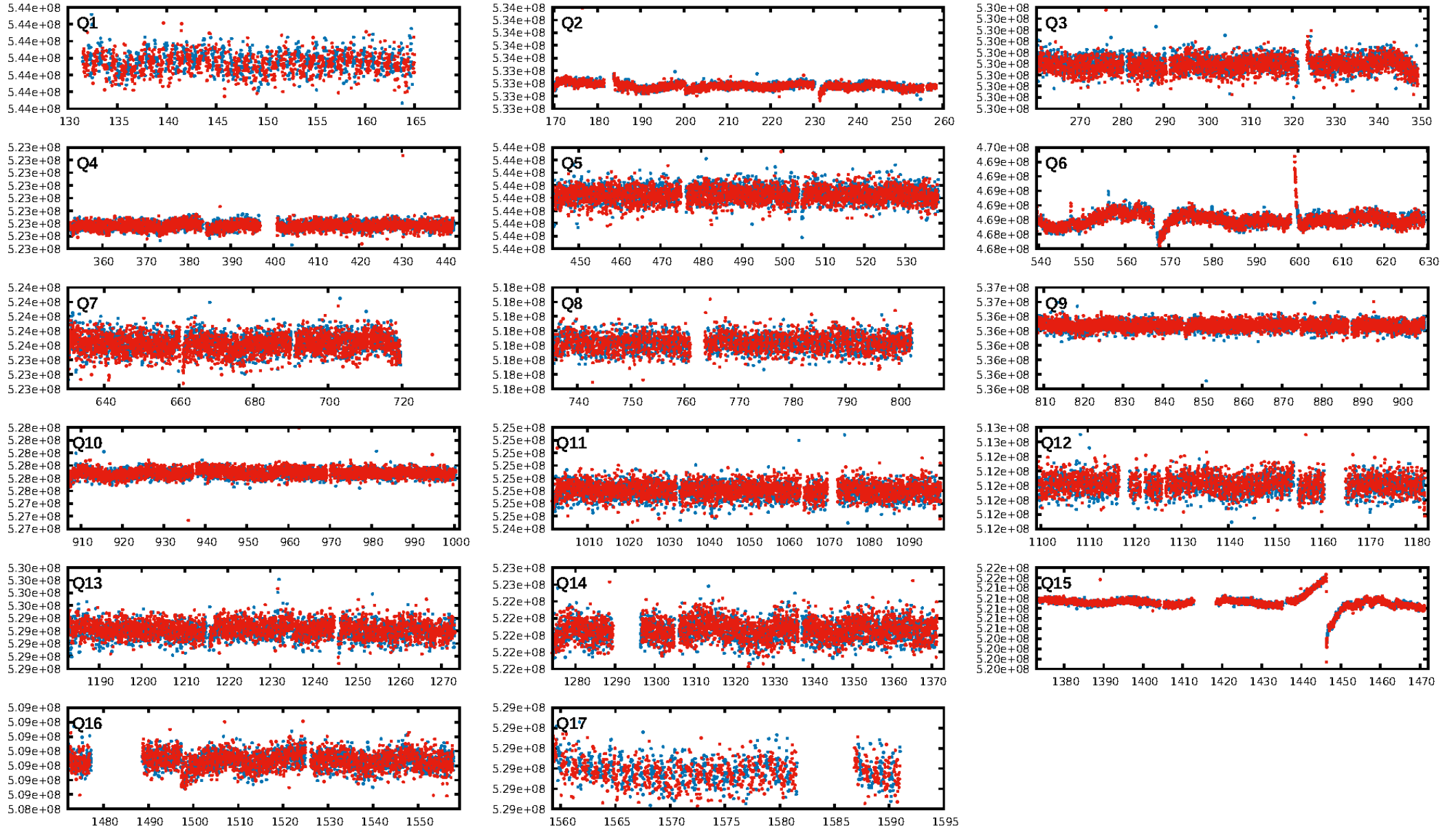
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1362/1362]
GhostDiagnostic-chr: 1.388
Centroid-sig: 2.2%
Centroid-so: 1.973 arcsec [1.78σ]
OotOffset-rm: 0.591 arcsec [1.30σ]
KicOffset-rm: 0.652 arcsec [1.29σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 0.00 [0/17]

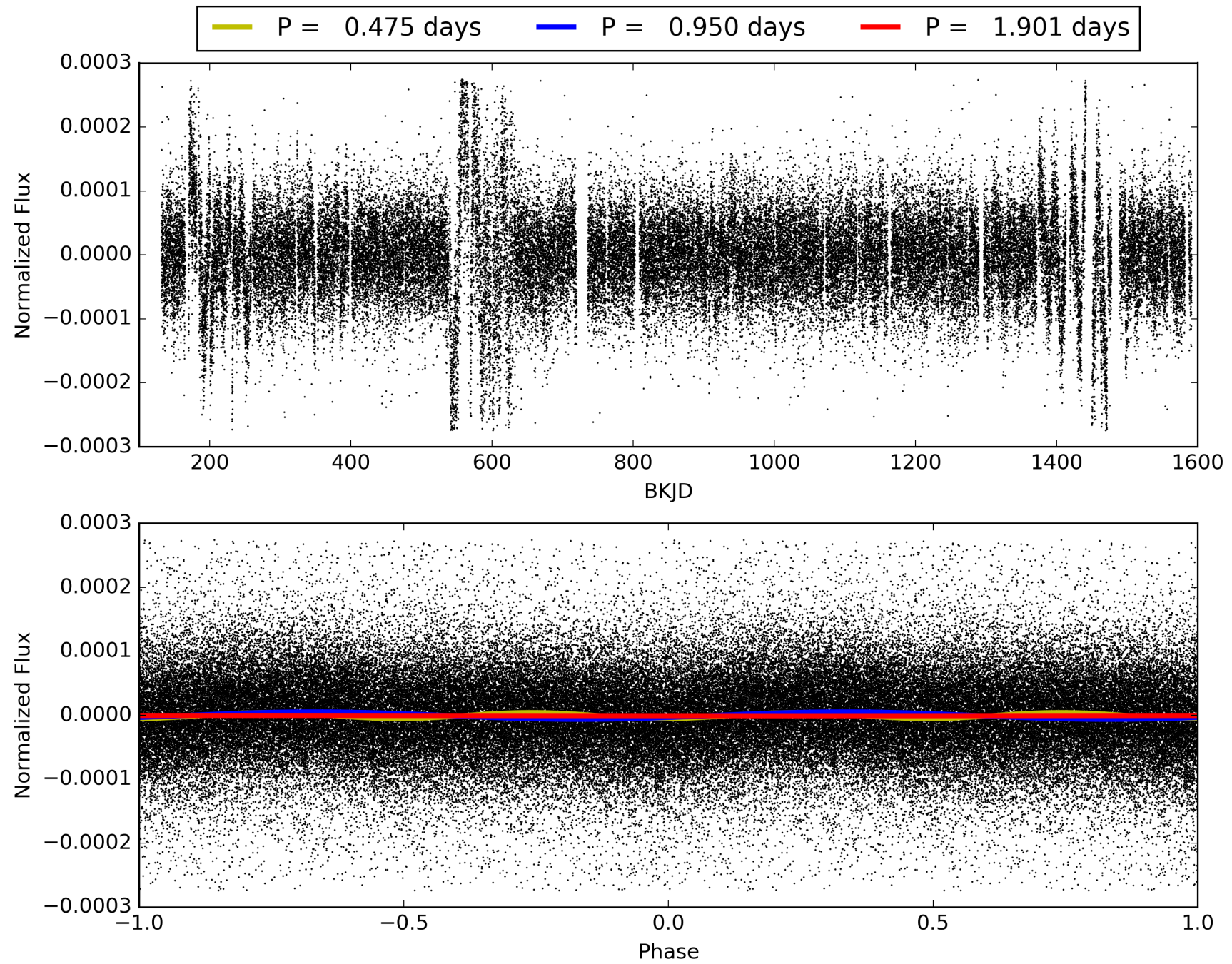
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:07:19 Z

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

TCE 005174920-02, PDC Light Curves

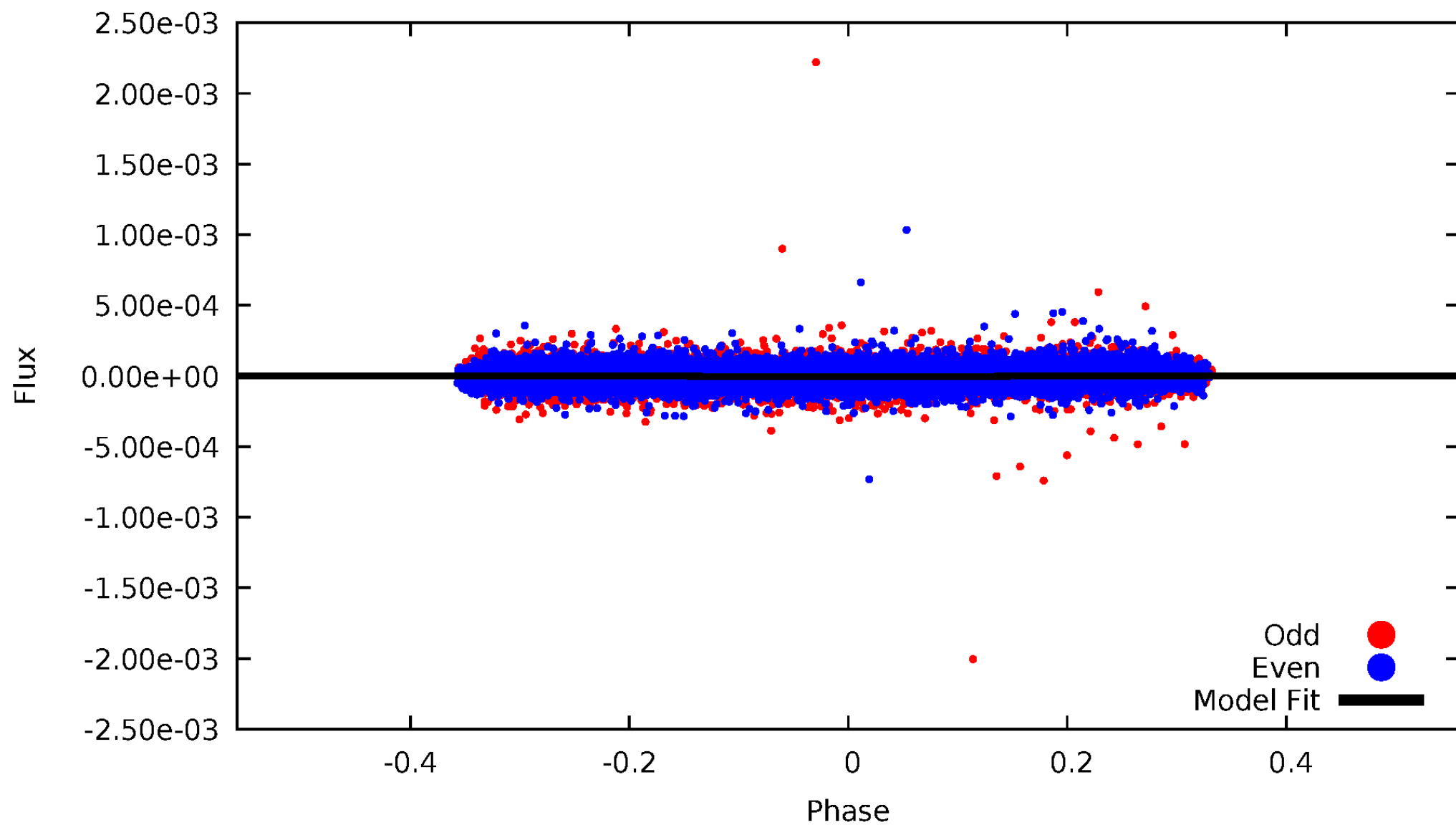


TCE 005174920-02



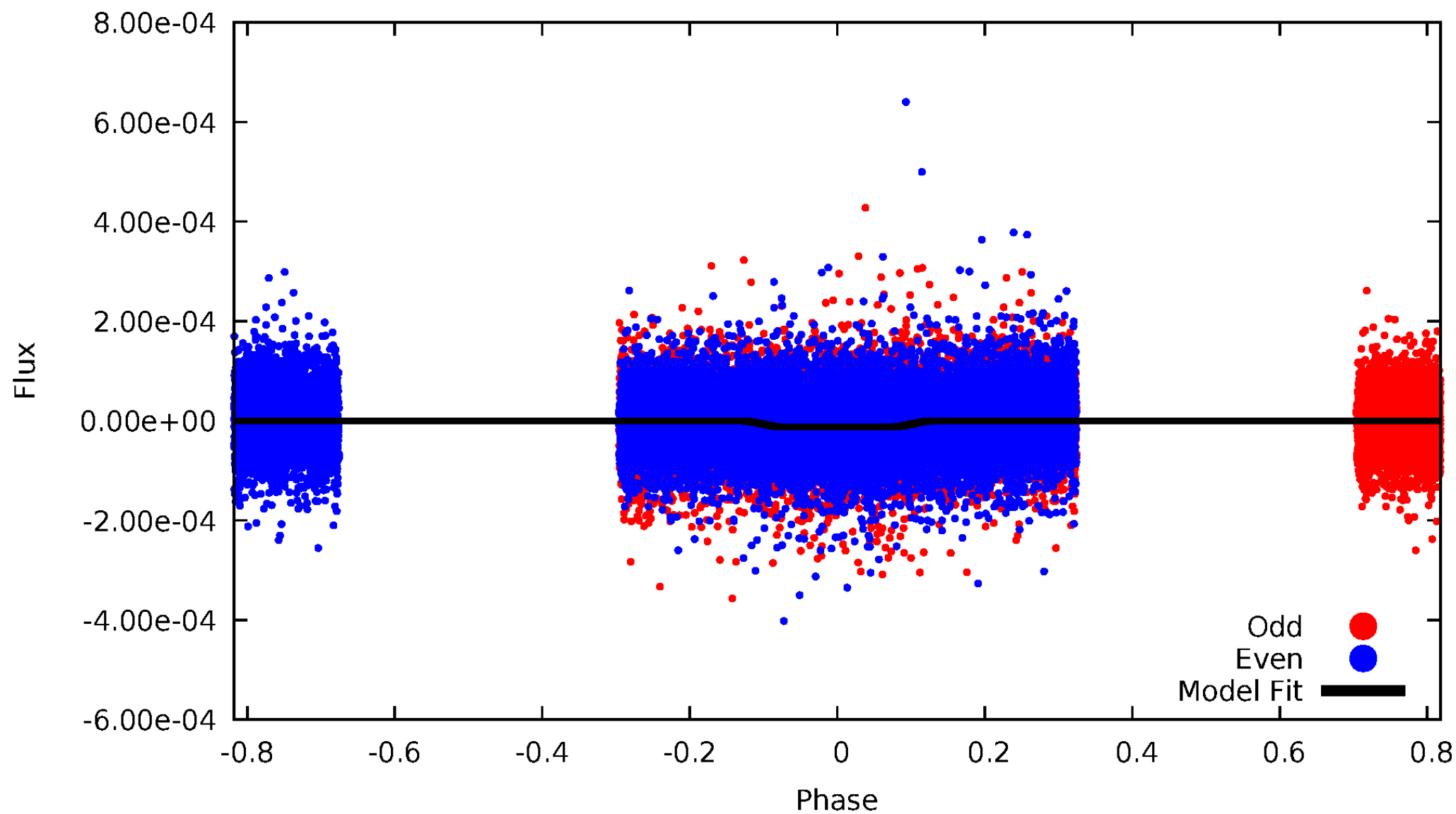
DV Odd/Even

TCE 005174920-02



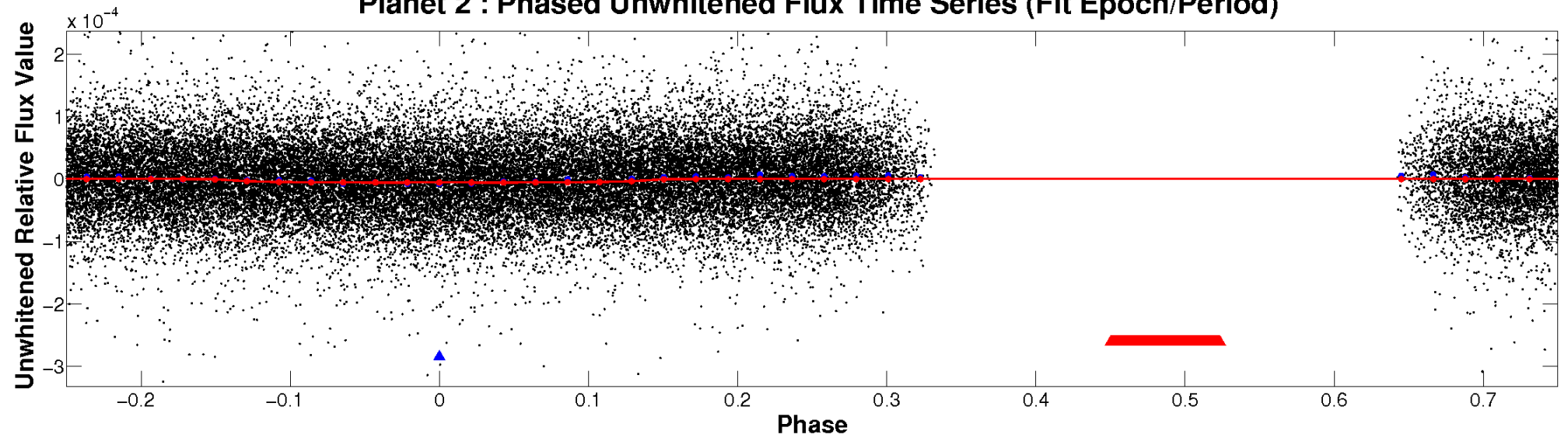
ALT Odd/Even

TCE 005174920-02

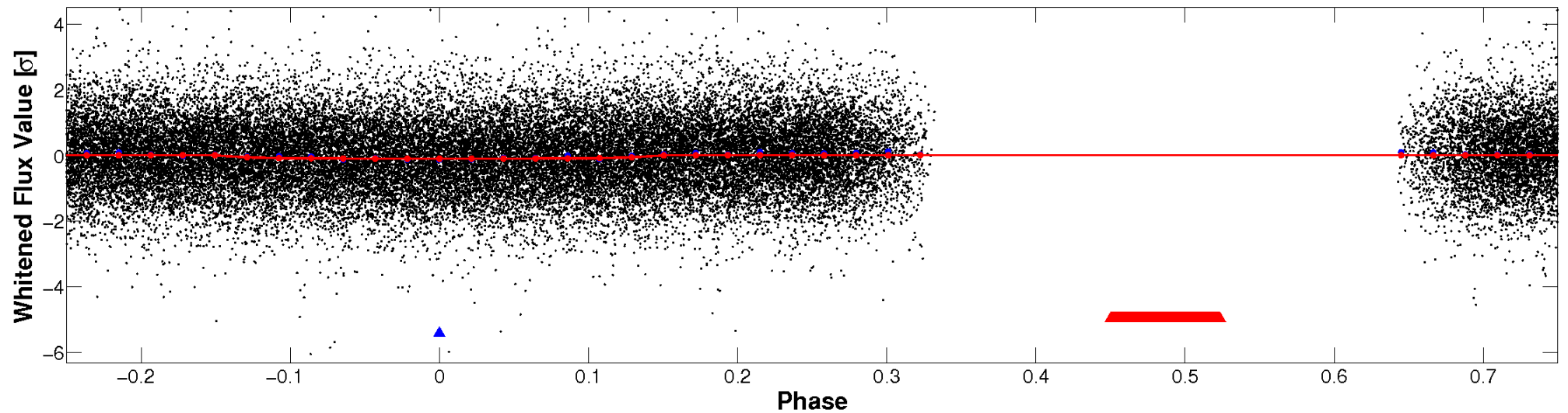


Non-Whitened Vs. Whitened Light Curve

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

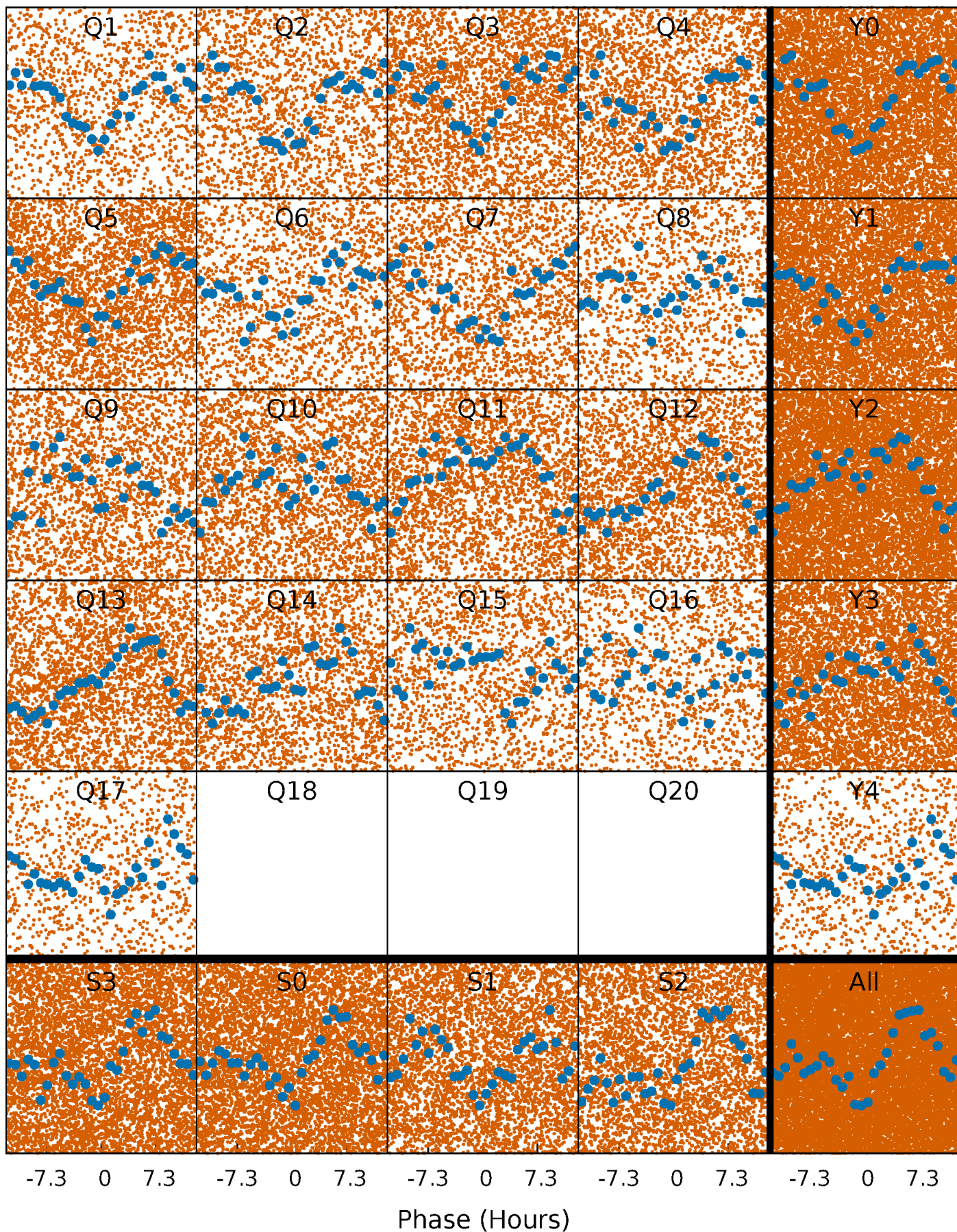


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



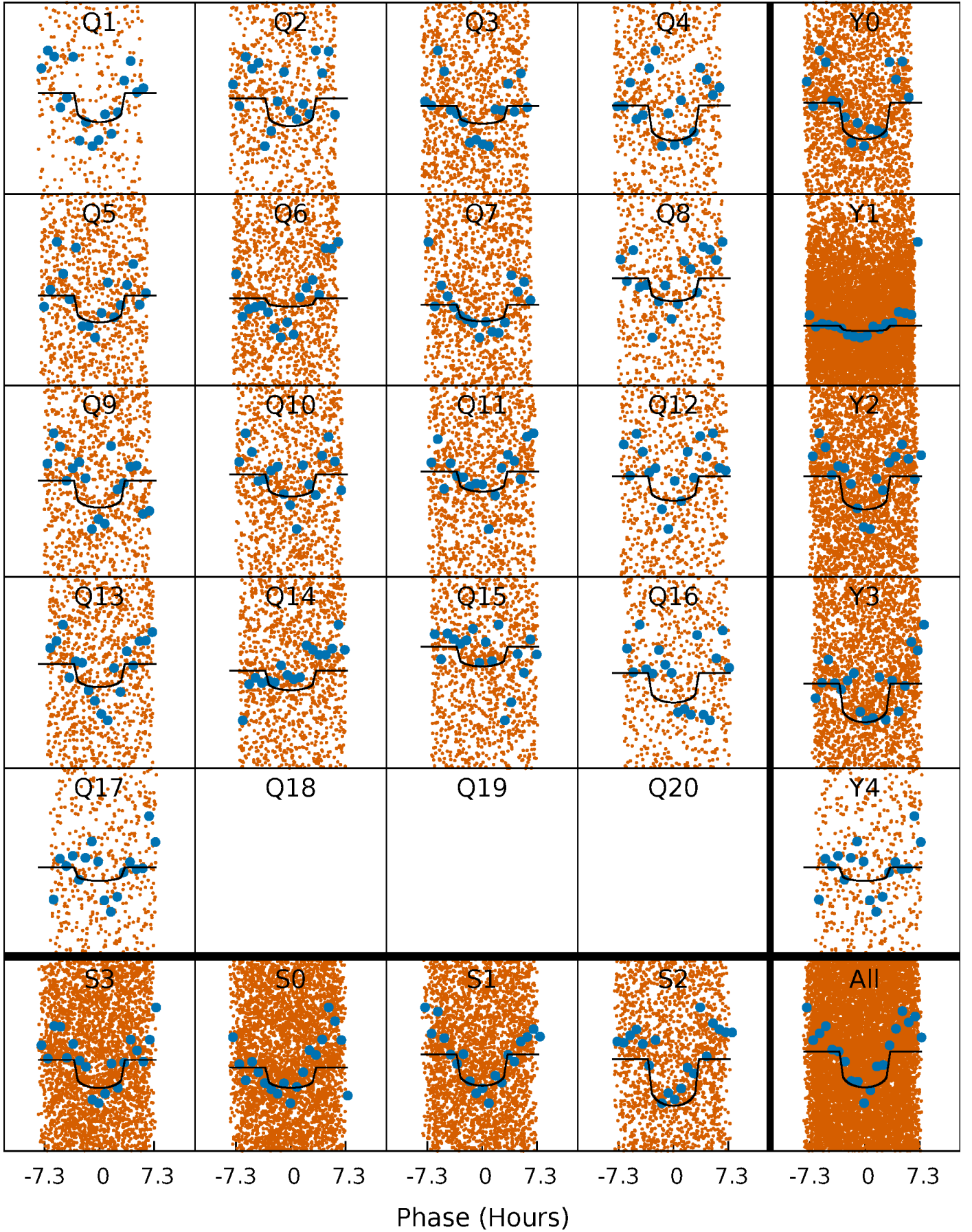
PDC Quarter-Phased Transit Curves

TCE 005174920-02 P= 0.950424 Days $T_0=131.805830$ (BKJD)



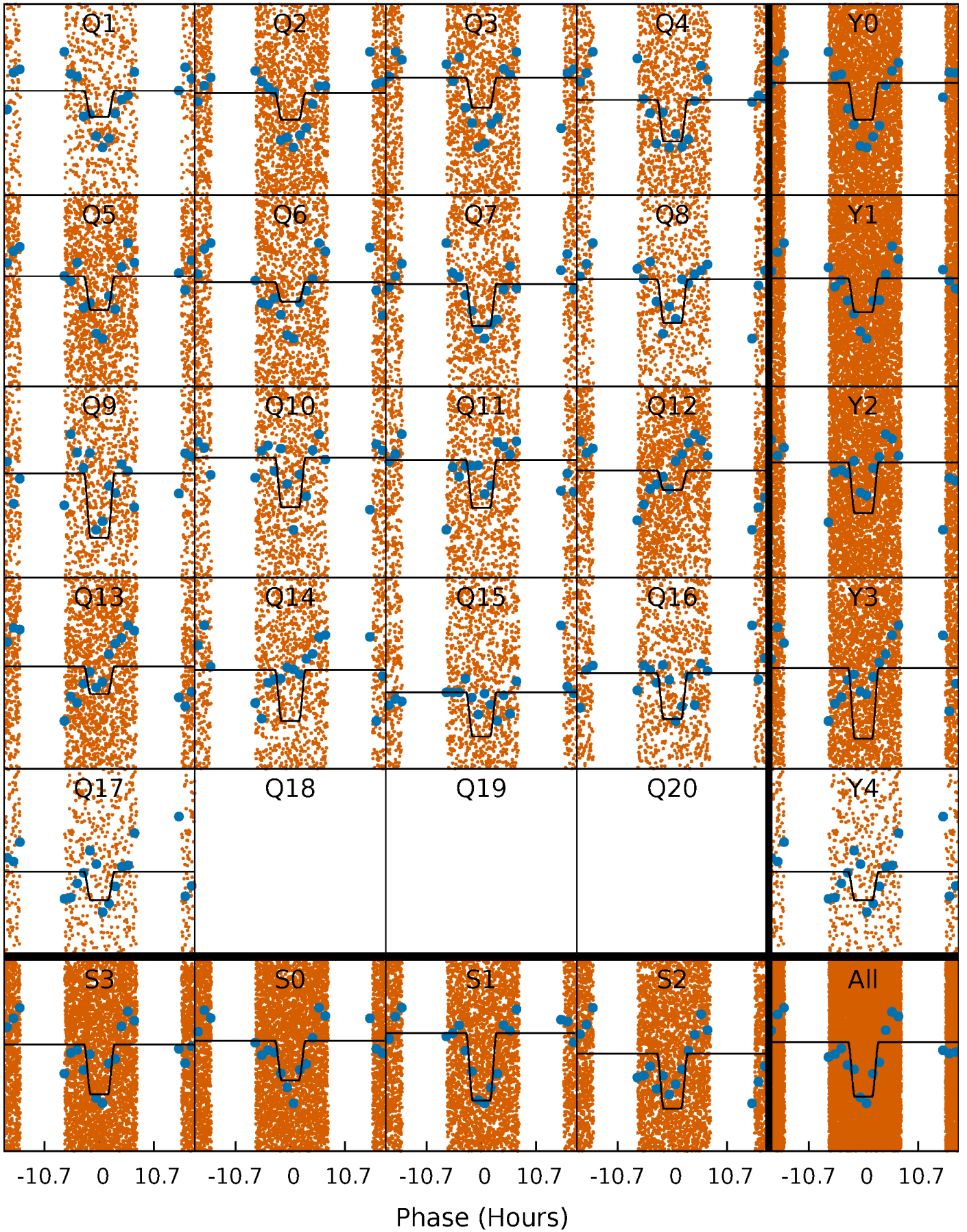
DV Quarter-Phased Transit Curves

TCE 005174920-02 P= 0.950424 Days $T_0=131.805830$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

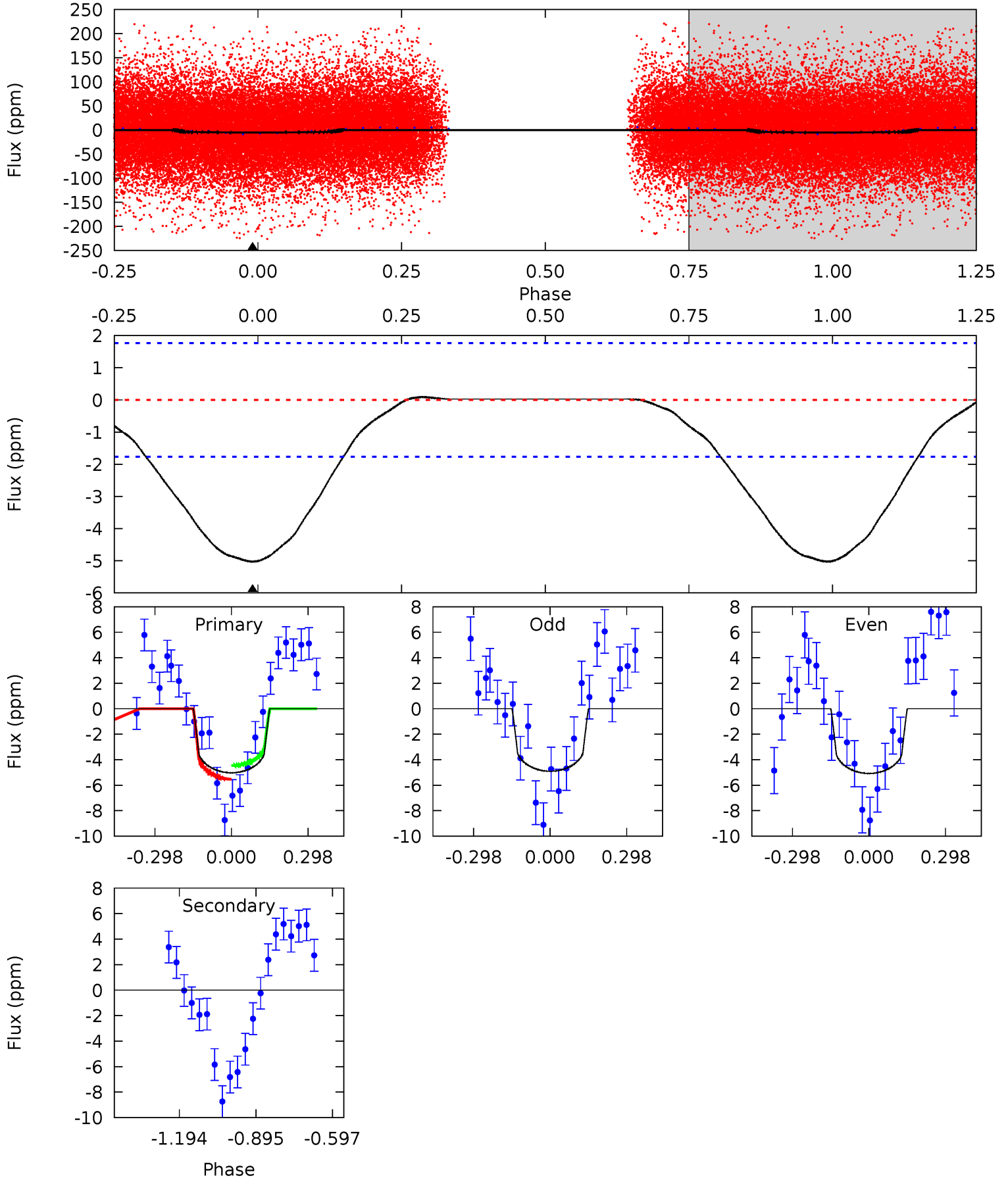
TCE 005174920-02 P= 0.950472 Days $T_0=131.743520$ (BKJD)



DV Model-Shift Uniqueness Test

005174920-02, $P = 0.950424$ Days, $E = 130.855406$ Days

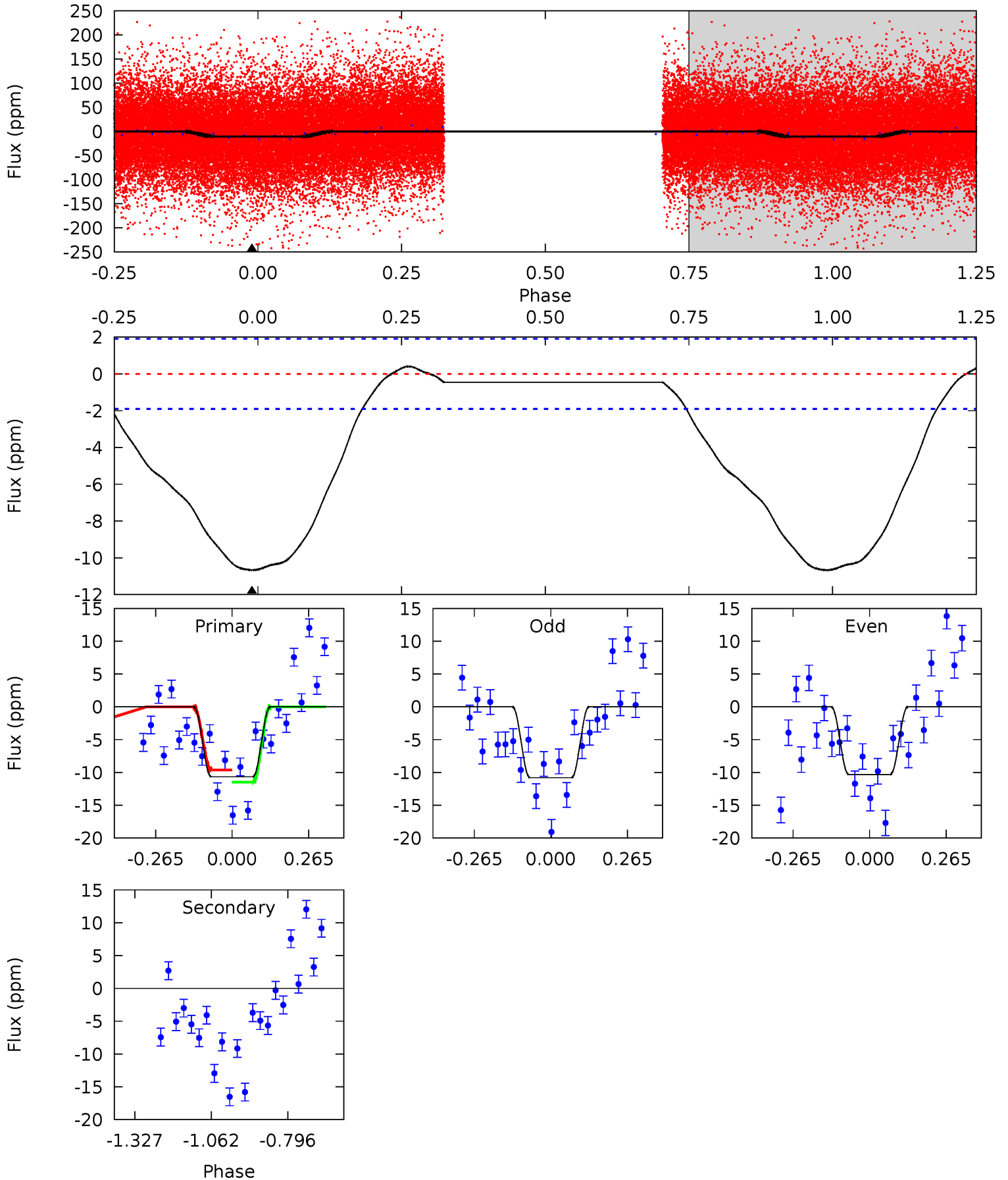
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	0	0	0	4.33	1.04	0.32	12.3	12.3	0	0	0.22	1.01	0.02	1.32



Alt Model-Shift Uniqueness Test

005174920-02, P = 0.950472 Days, E = 130.793048 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	0	0	0	4.36	1.11	0.94	24.4	24.4	0	0	0.56	1.11	0.04	2.06



Stellar Parameters For KIC 005174920

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8107^{+224}_{-365}	$3.698^{+0.448}_{-0.140}$	$0.020^{+0.200}_{-0.400}$	$3.385^{+0.878}_{-1.631}$	$2.086^{+0.377}_{-0.503}$	$0.076^{+0.312}_{-0.032}$
	+3%/-5%	+12%/-4%	+1000%/-2000%	+26%/-48%	+18%/-24%	+412%/-42%
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 005174920-02 / KOI 6535.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 0	$0.82^{+0.37}_{-0.33}$	5741^{+477}_{-652}	-4680^{+1251}_{-681}	$0.008^{+0.231}_{-0.234}$
Alt.	0 ± 0	$1.21^{+0.40}_{-0.38}$	5712^{+473}_{-735}	-4703^{+661}_{-444}	$-0.002^{+0.105}_{-0.107}$

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

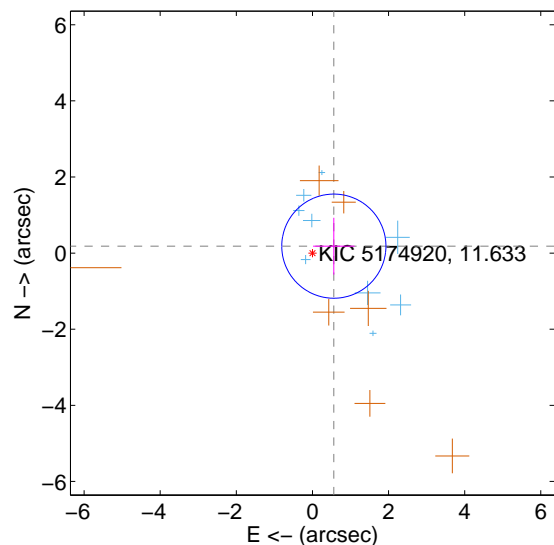
Supplemental centroid analysis for 005174920-02. **Kepler magnitude: 11.63.** Transit SNR 10.82

There are 9 quarters with good PRF difference image offsets

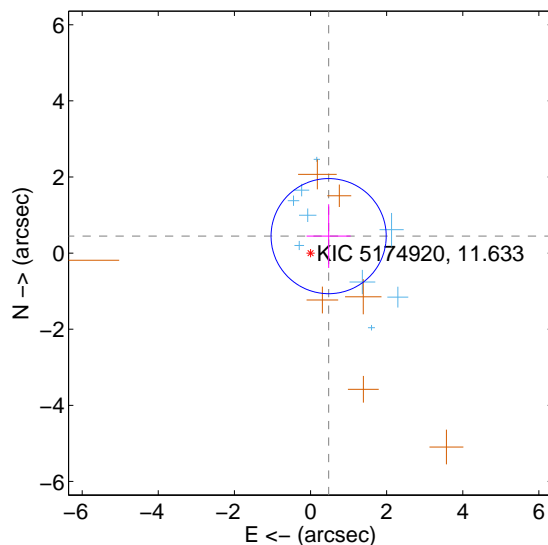
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.591 ± 0.456	1.30	-0.562 ± 0.545	0.182 ± 0.746
PRF-fit source offset from KIC position	0.652 ± 0.504	1.29	-0.476 ± 0.580	0.446 ± 0.837
photometric centroid source offset	1.97 ± 1.11	1.78	1.07 ± 1.12	1.66 ± 1.10

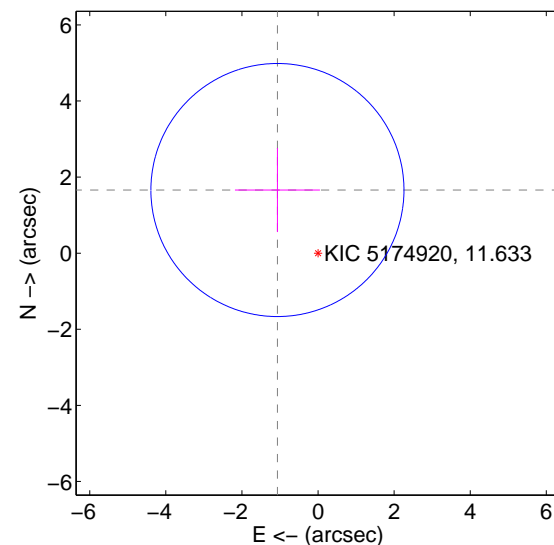
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

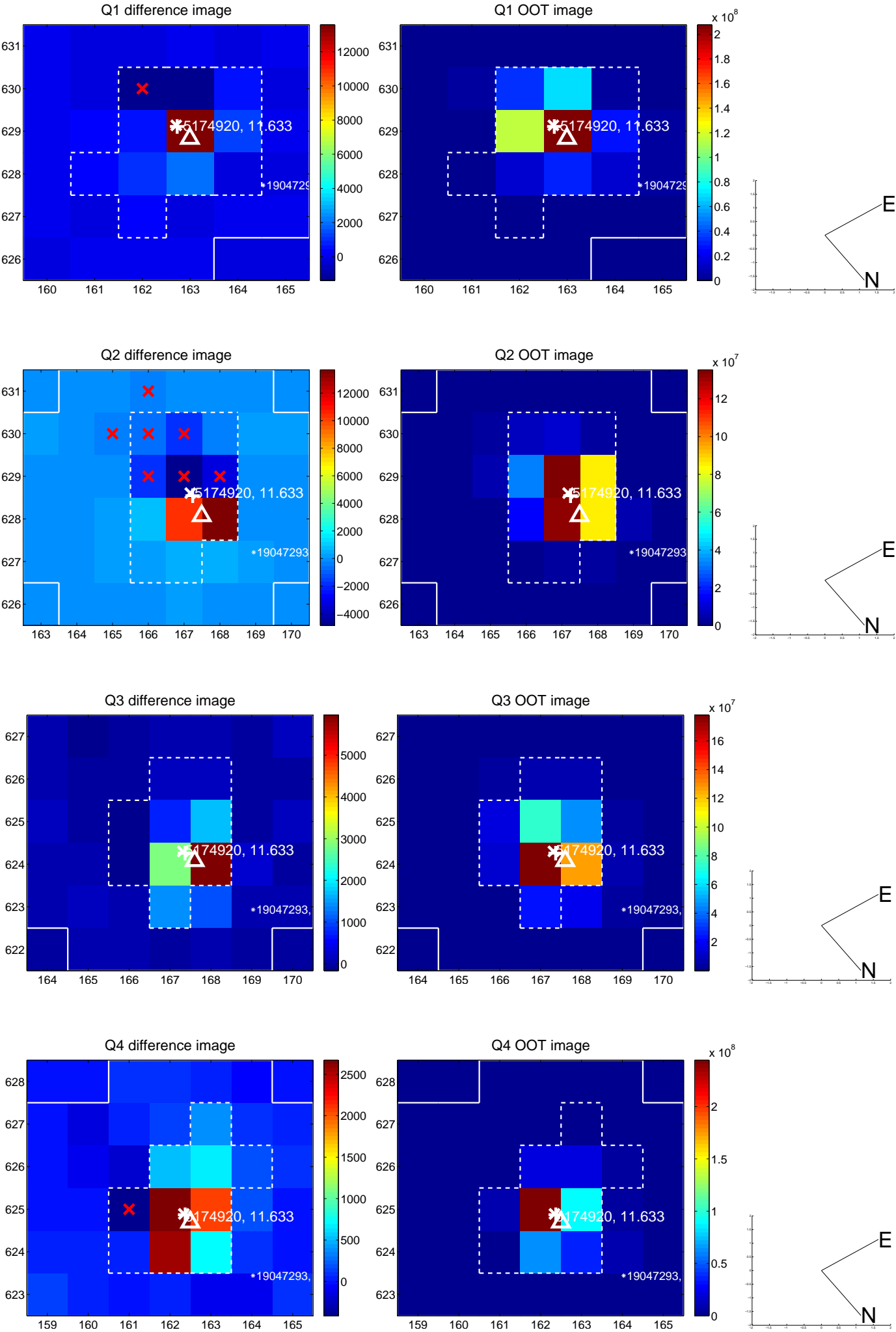


offset from photometric centroids

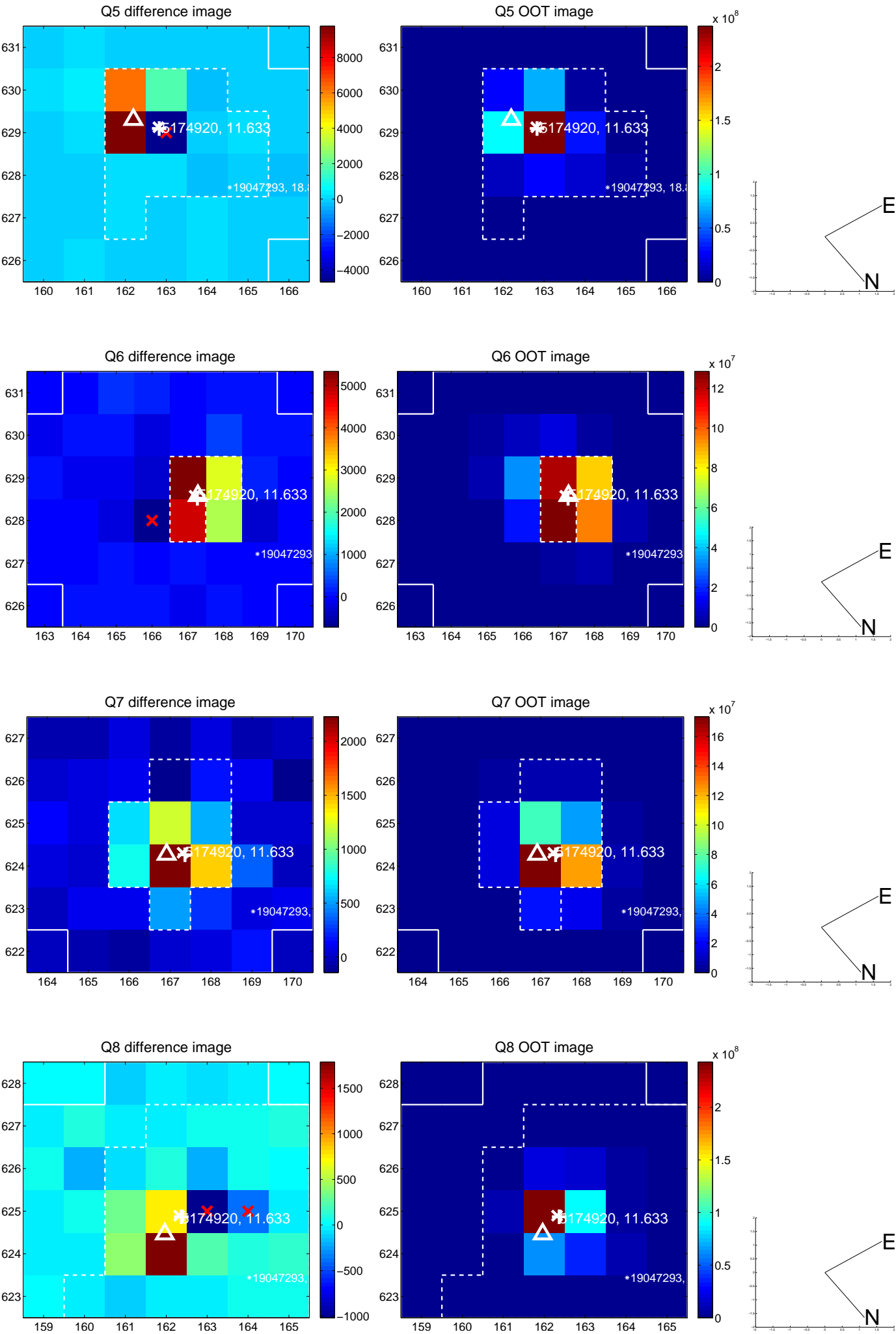


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

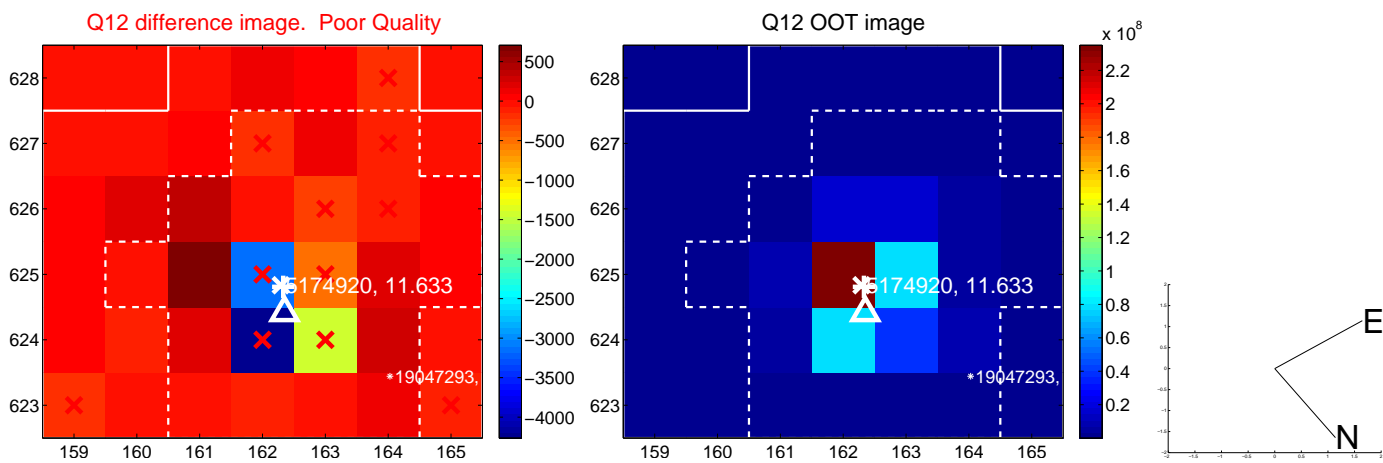
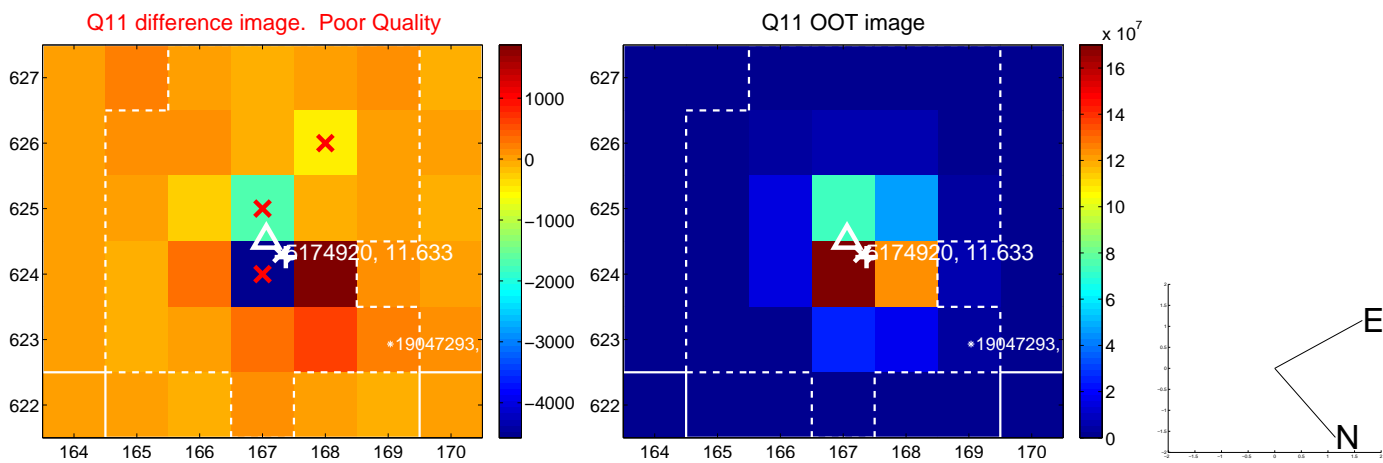
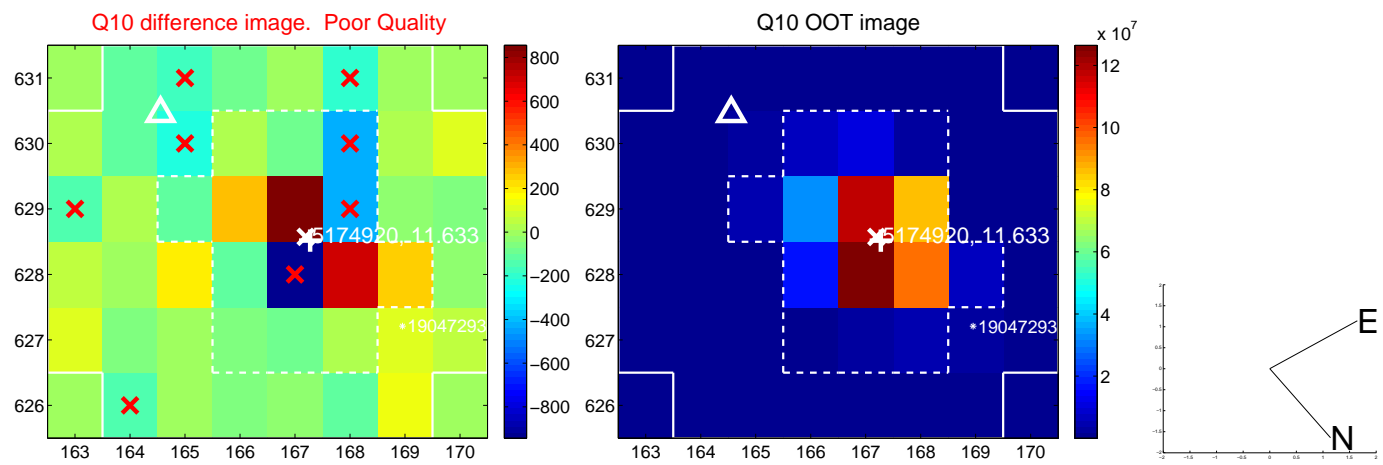
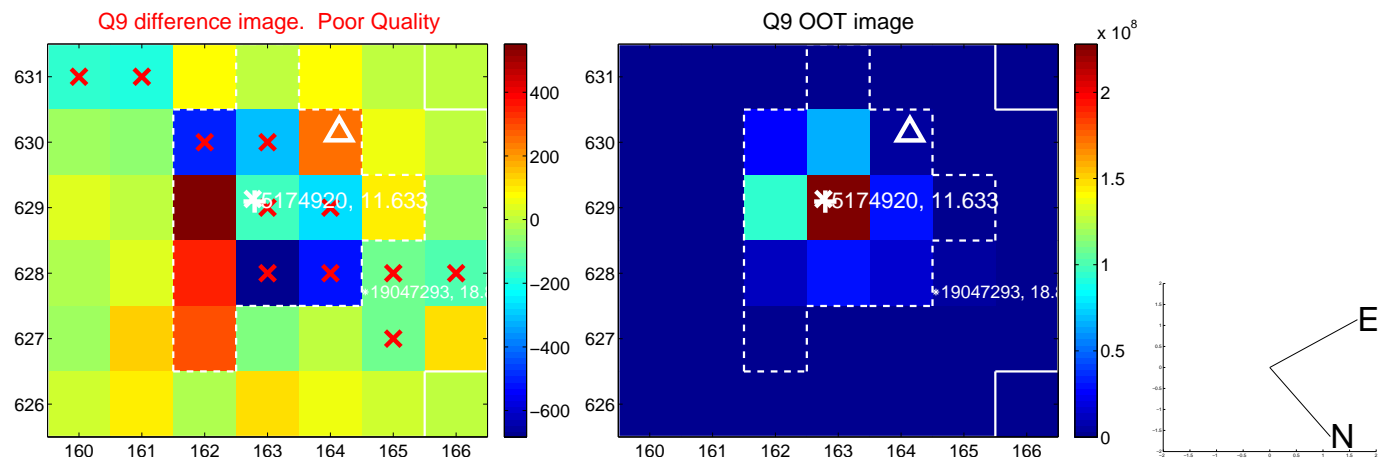
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



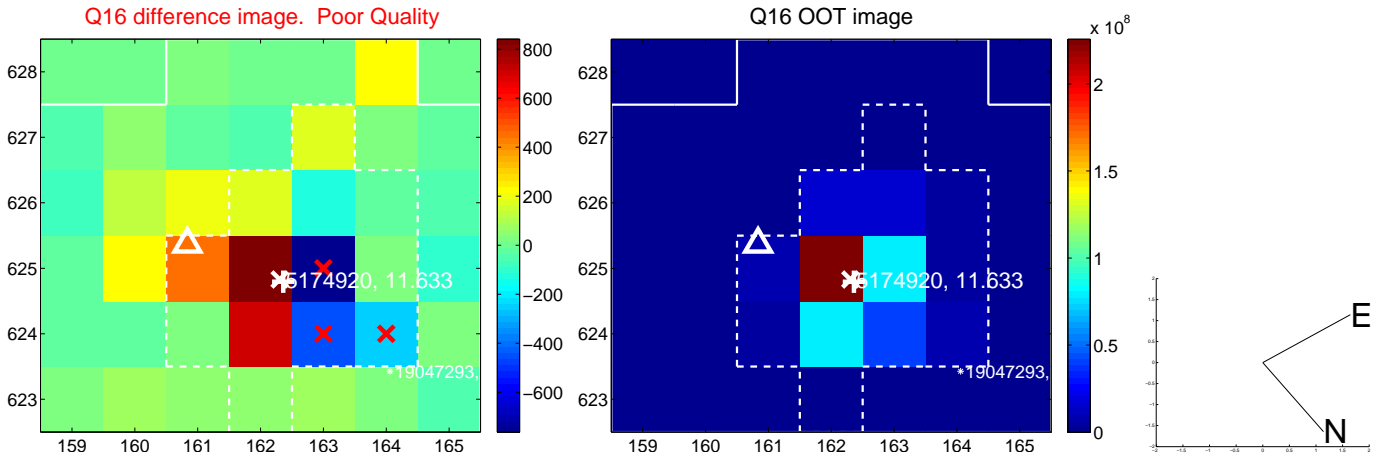
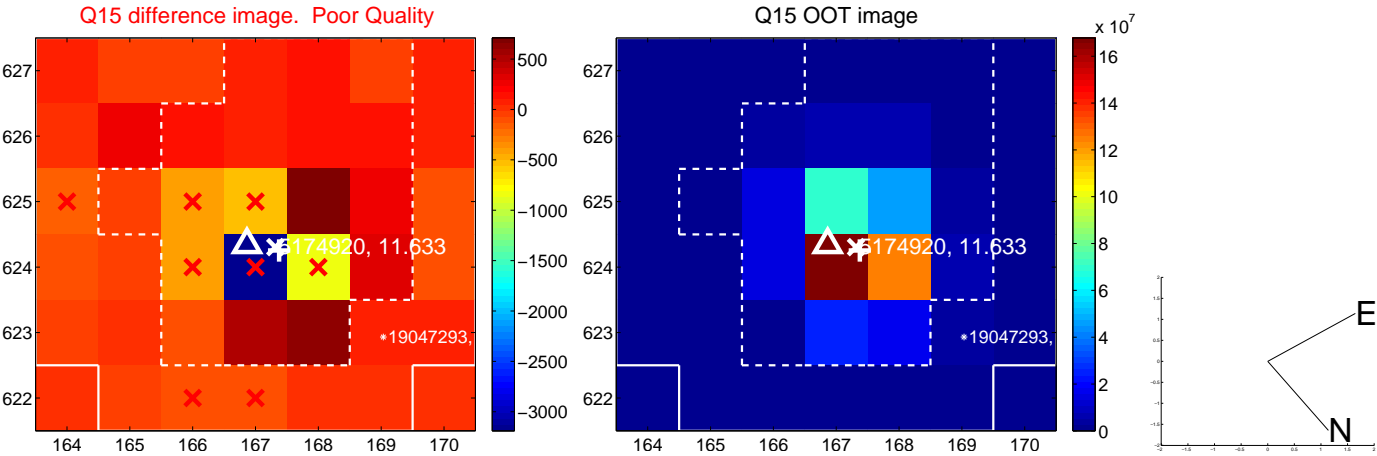
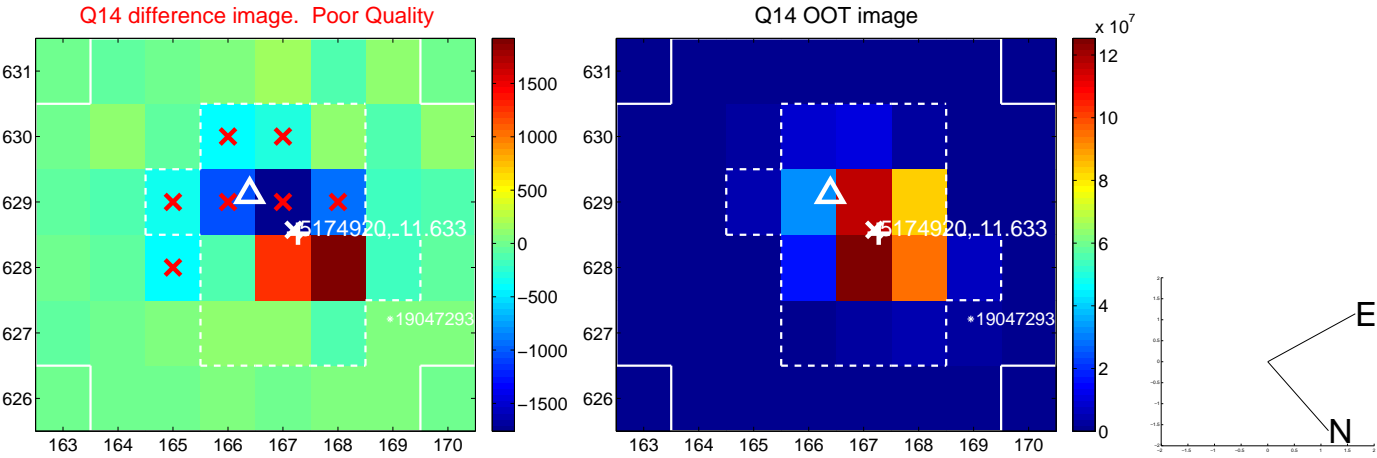
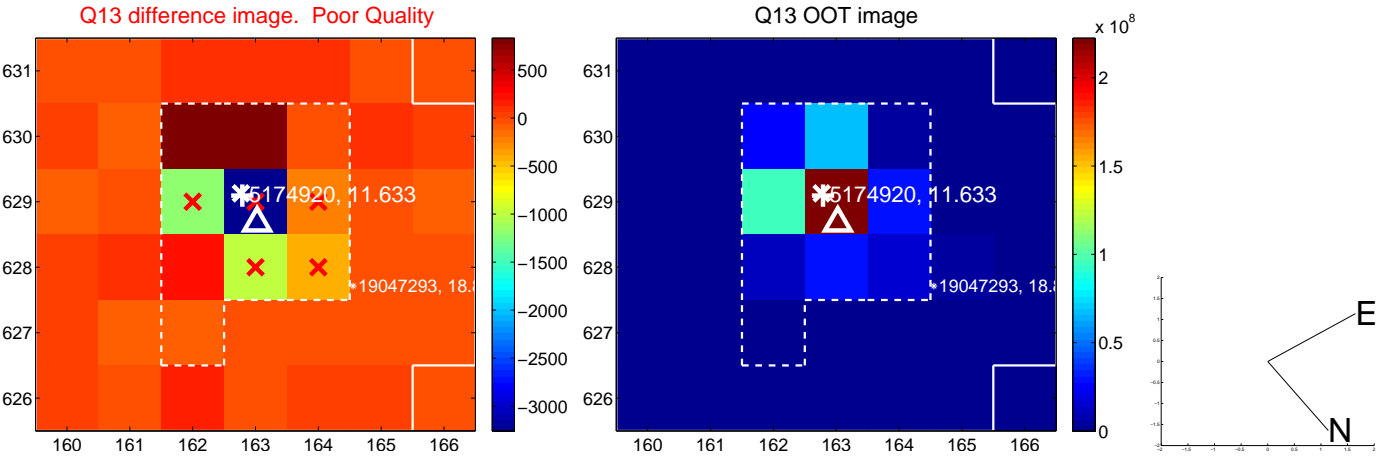
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



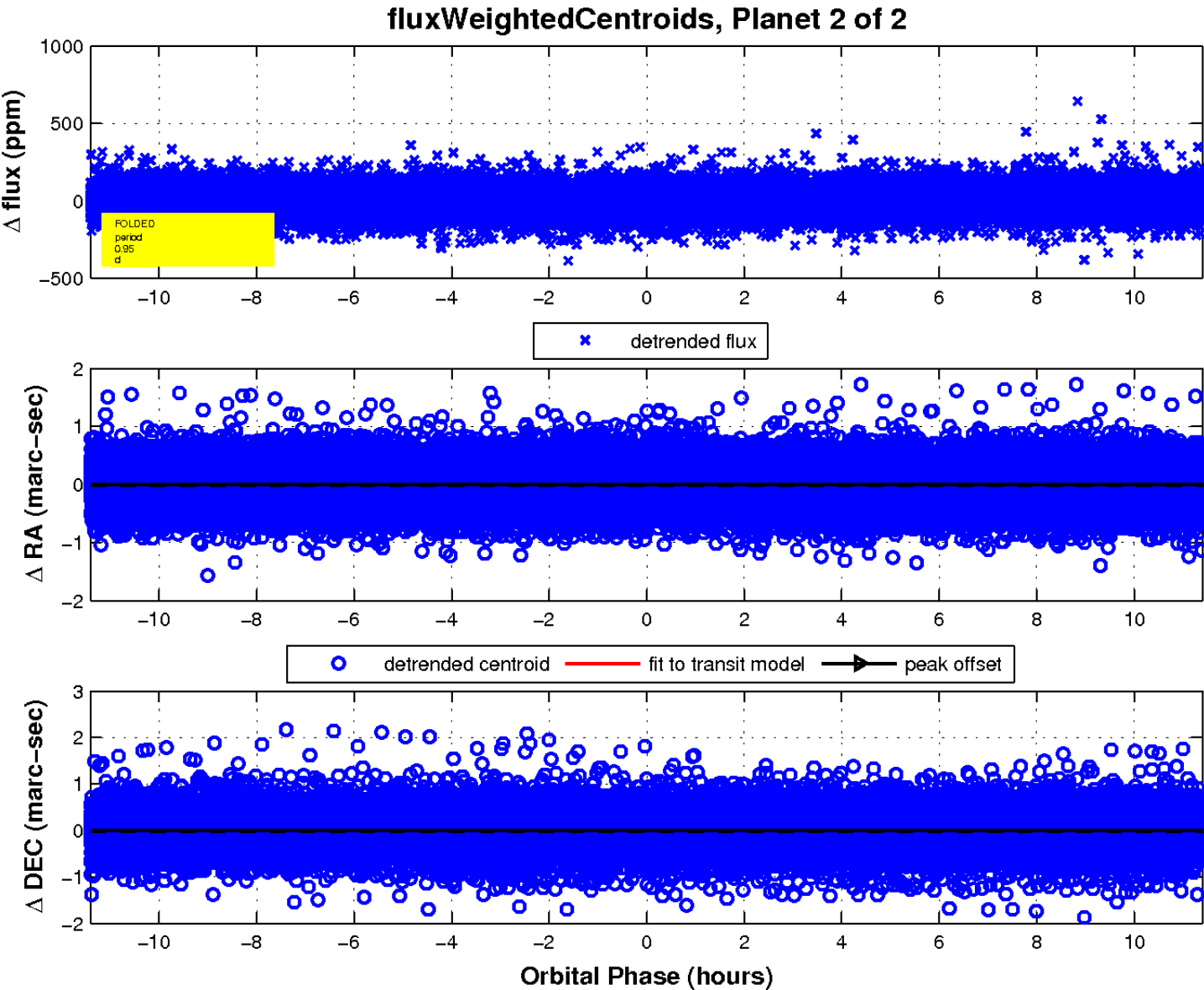
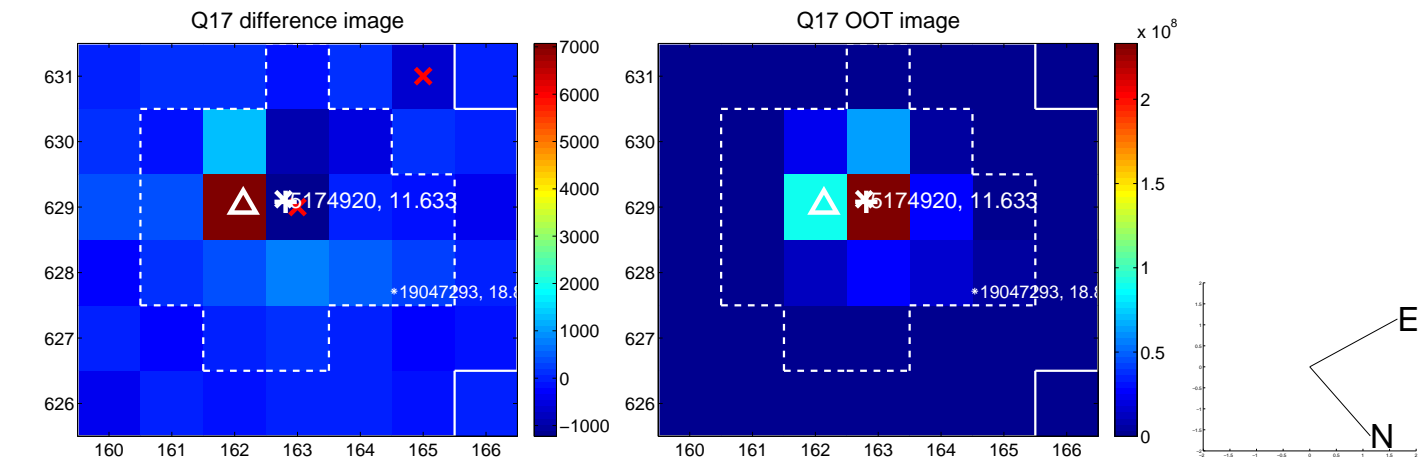
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

