

KIC 01121752

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})
01121752-01	OBS	2333.01	3.930852	135.191240	100.2	3.080	18.5	20.0	1.19	6038	1.42	713.00
01121752-02	OBS	2333.02	7.630096	137.077357	129.4	2.915	15.9	17.2	1.19	6038	1.63	294.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
01121752-01	OBS	PC	0.97	0	0	0	0	NO_COMMENT
01121752-02	OBS	PC	0.99	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.

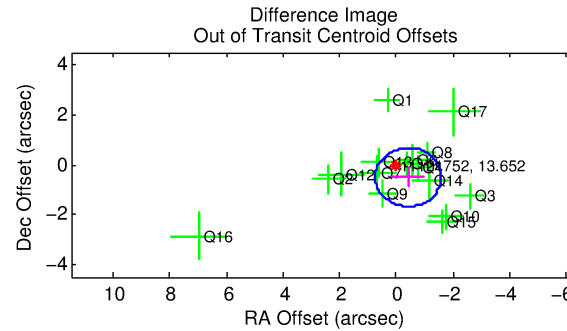
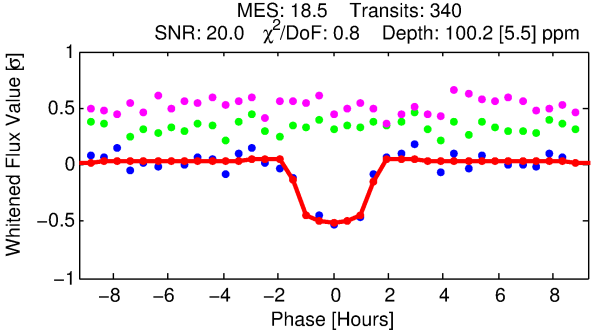
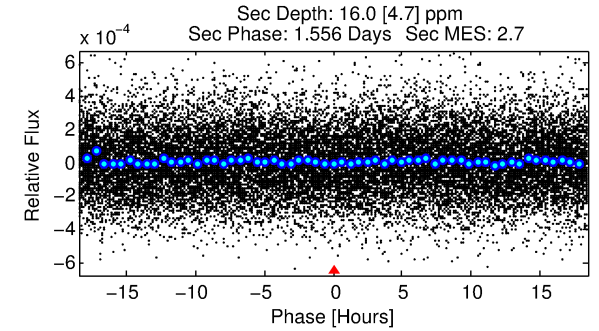
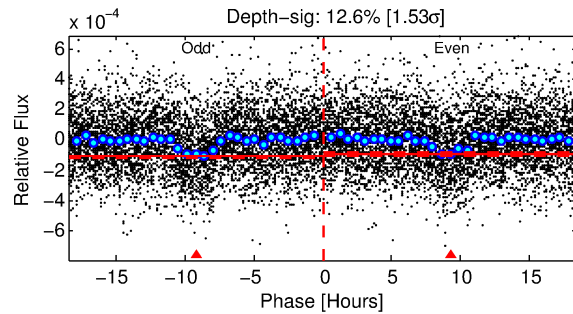
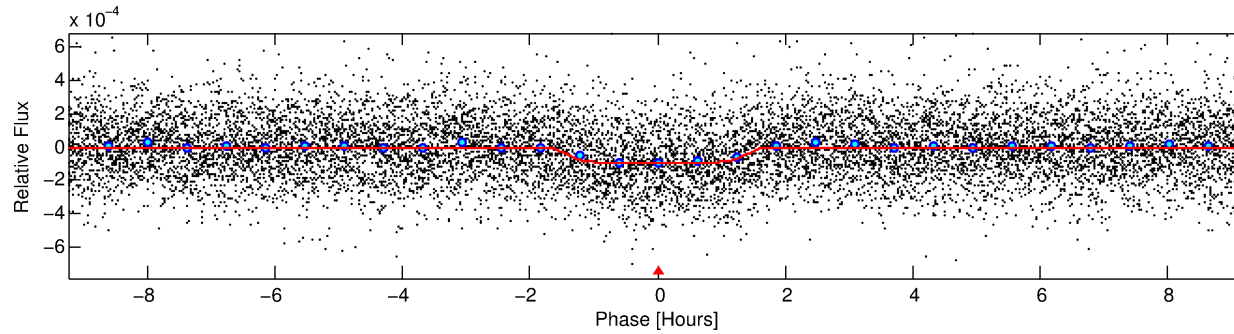
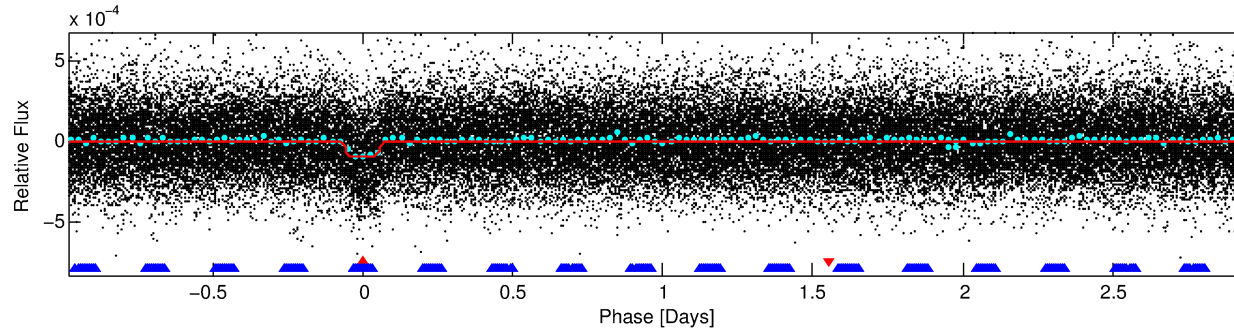
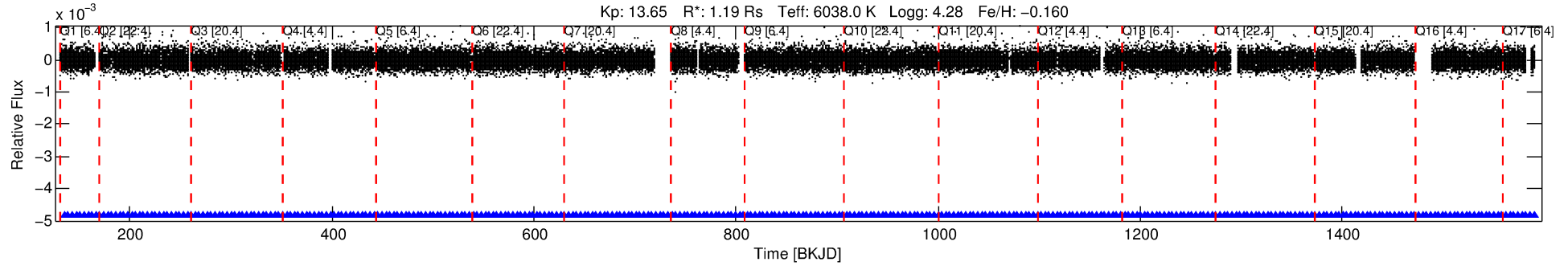
Ephemeris Match Information For 01121752-01

No Significant Match Found

DV One-Page Summary

KIC: 11121752 Candidate: 1 of 2 Period: 3.931 d
KOI: K02333.01 Name: Kepler-380b Corr: 0.970

Kp: 13.65 R*: 1.19 Rs Teff: 6038.0 K Logg: 4.28 Fe/H: -0.160



DV Fit Results:

Period = 3.93085 [0.00001] d
Epoch = 135.1912 [0.0024] BKJD
Rp/R* = 0.0109 [0.0029]
a/R* = 4.35 [5.74]
b = 0.91 [0.26]
Seff = 713.00 [189.03]
Teq = 1318 [87] K
Rp = 1.42 [0.43] Re
a = 0.0487 [0.0076] AU
Ag = 10.33 [6.73] [1.39σ]
Teffp = 3652 [553] K [4.17σ]

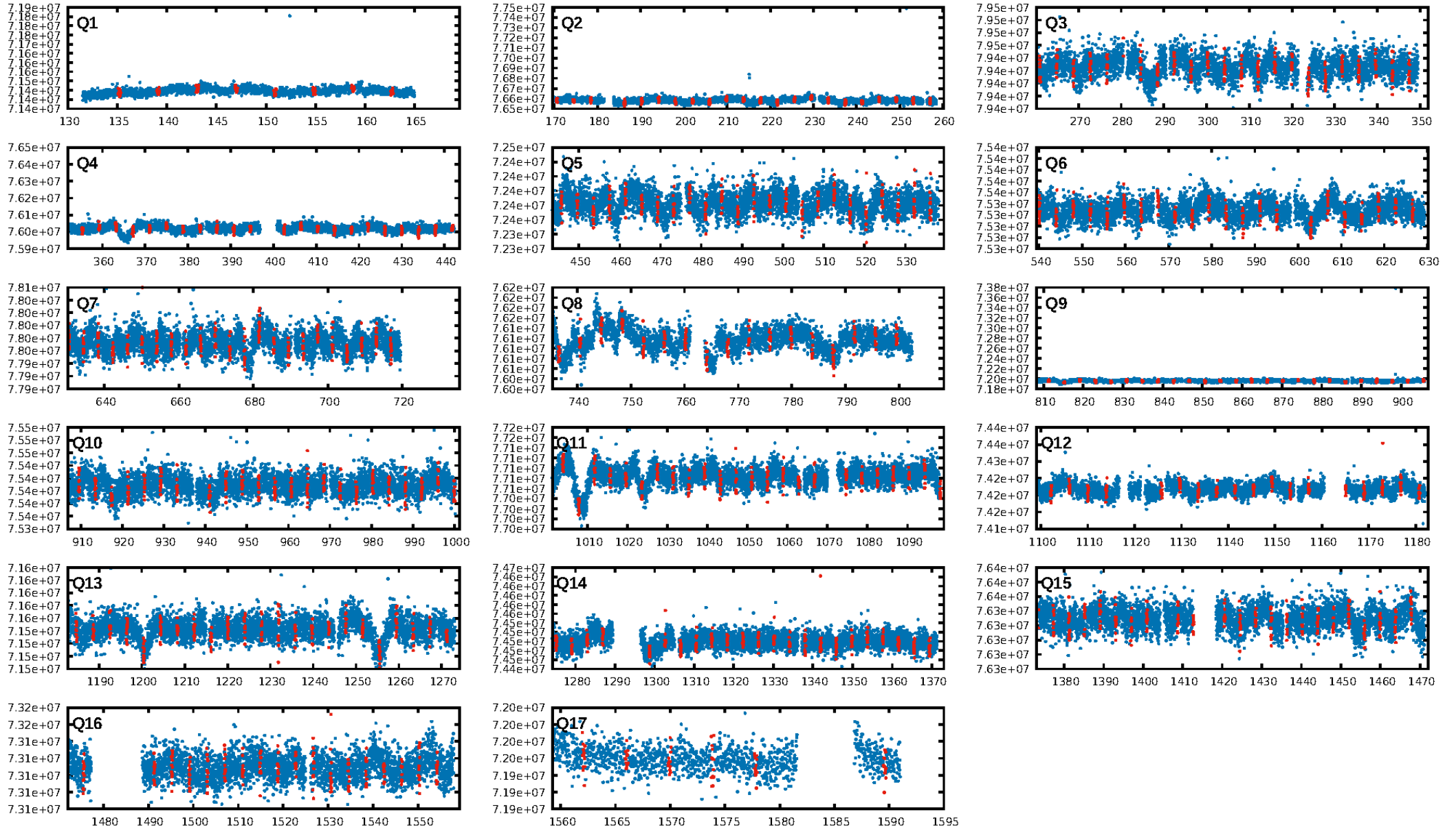
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [20.93σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.97e-73
RollingBand-fgt: 1.00 [326/326]
GhostDiagnostic-chr: 11.07
Centroid-sig: 0.1%
Centroid-so: 1.516 arcsec [2.22σ]
OotOffset-rm: 0.655 arcsec [1.68σ]
KicOffset-rm: 0.565 arcsec [1.54σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.81 [13/16]
DiffImageOverlap-fno: 1.00 [17/17]

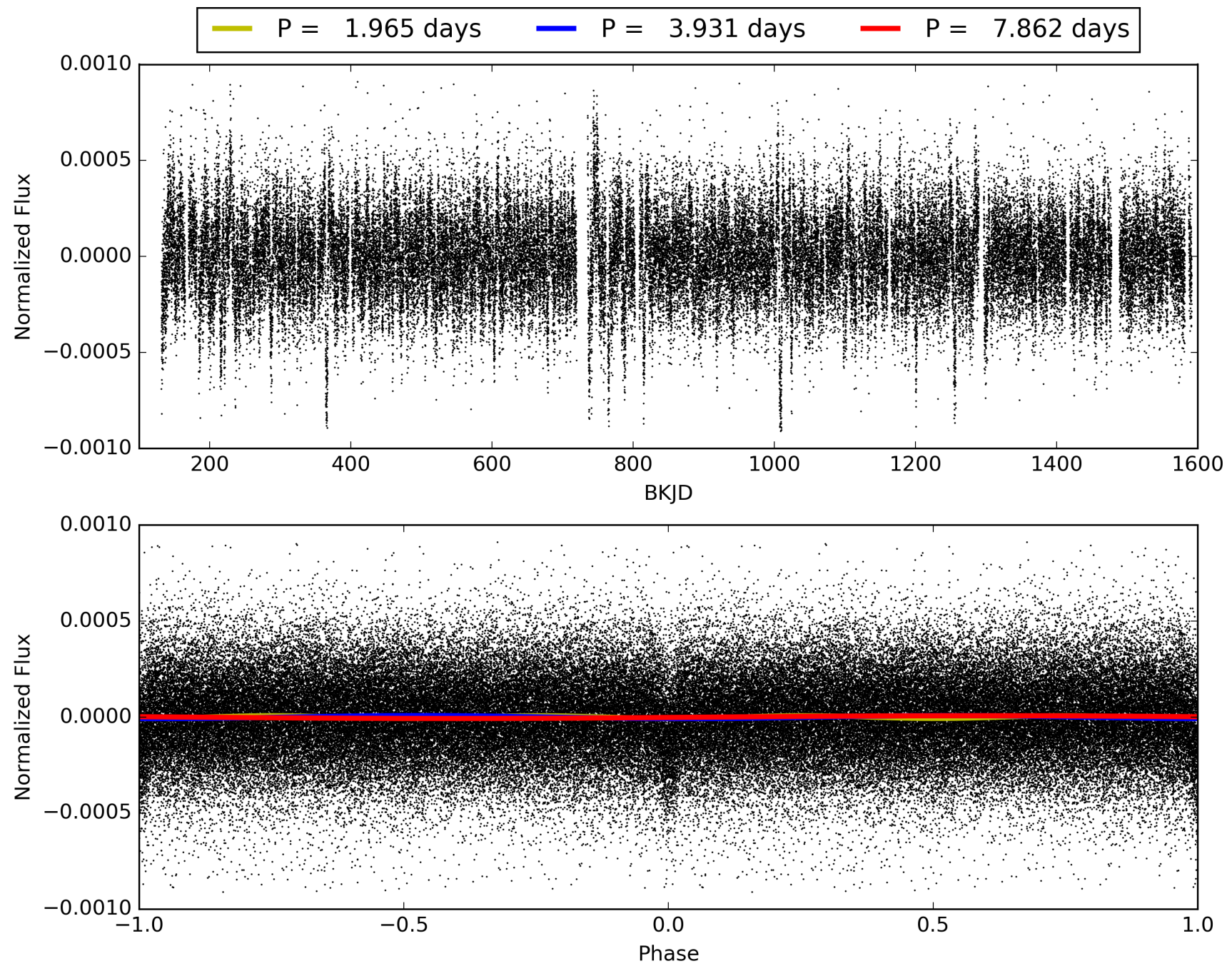
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 08:08:35 Z

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

TCE 011121752-01, PDC Light Curves

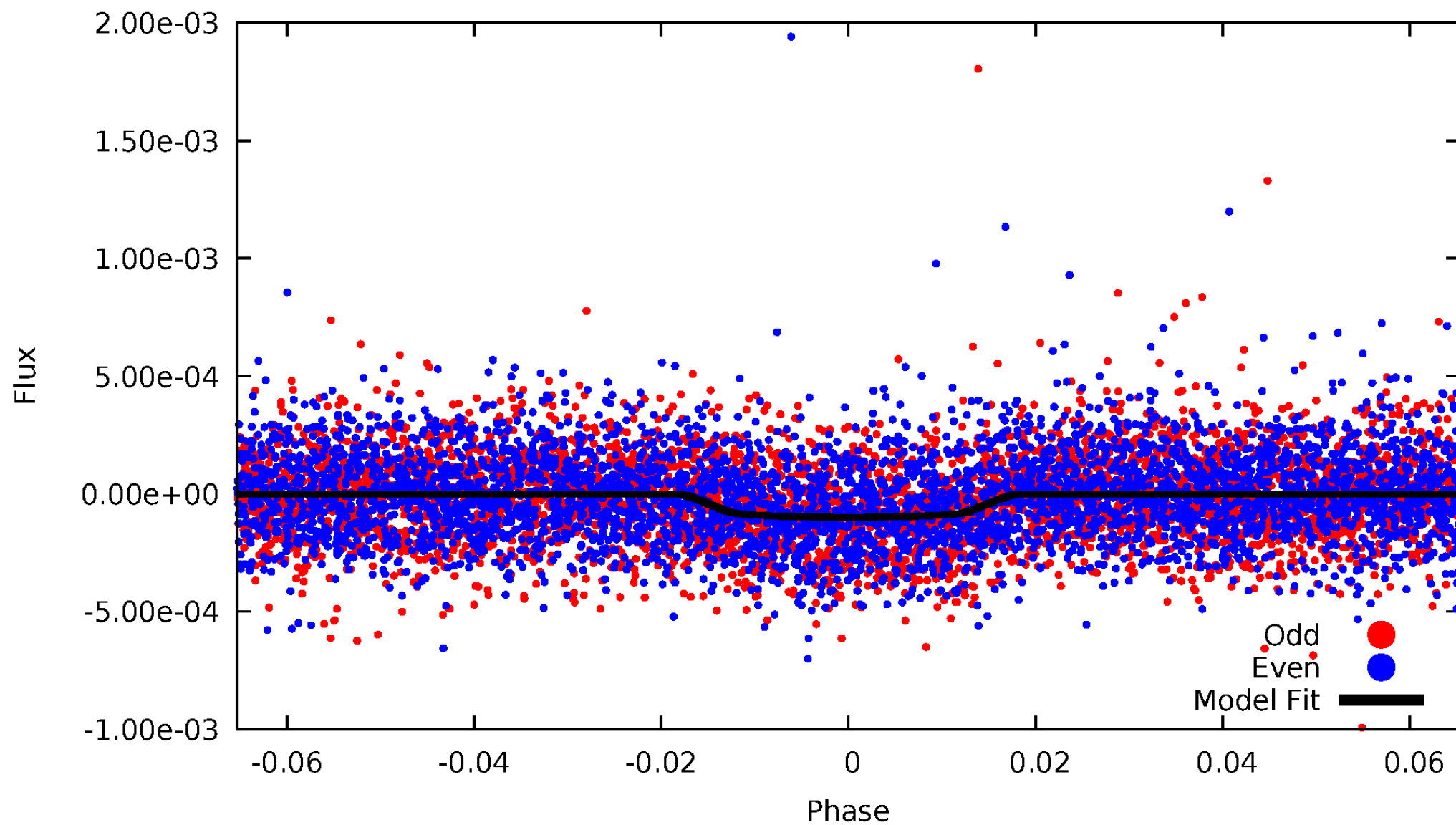


TCE 011121752-01



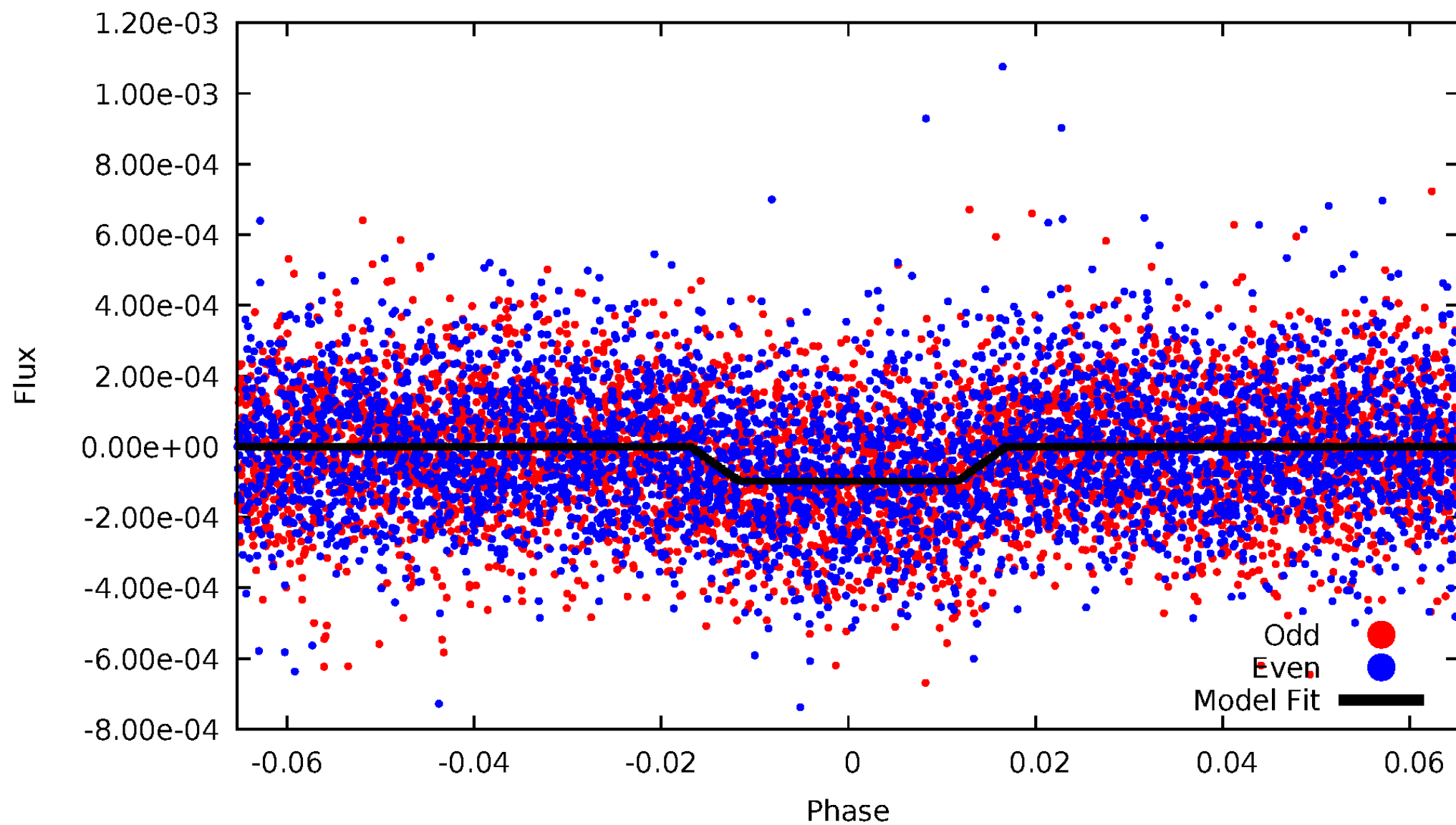
DV Odd/Even

TCE 011121752-01



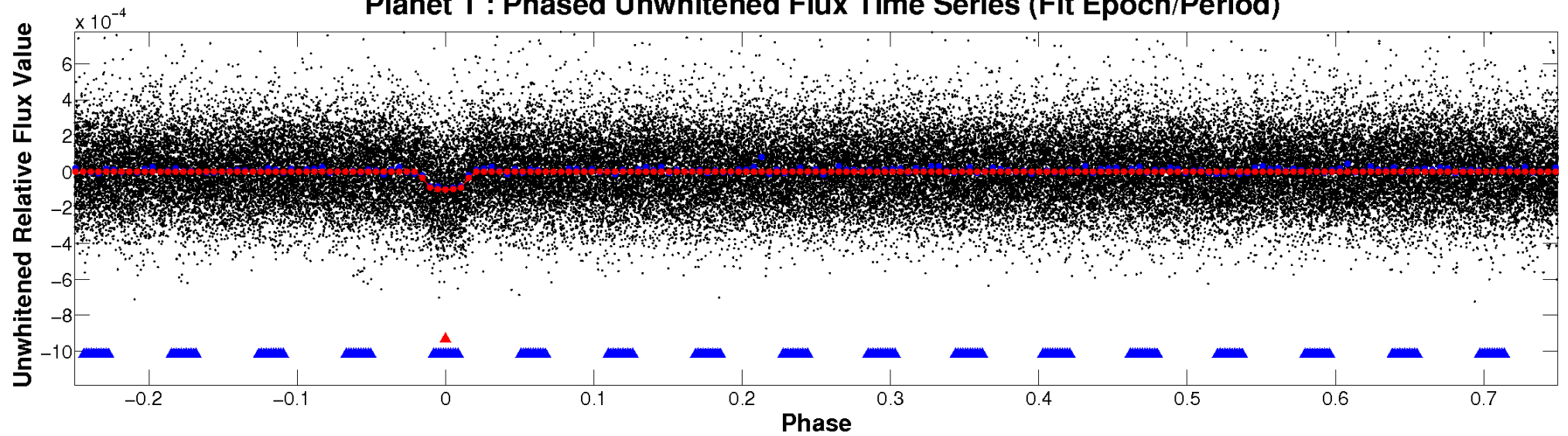
ALT Odd/Even

TCE 011121752-01

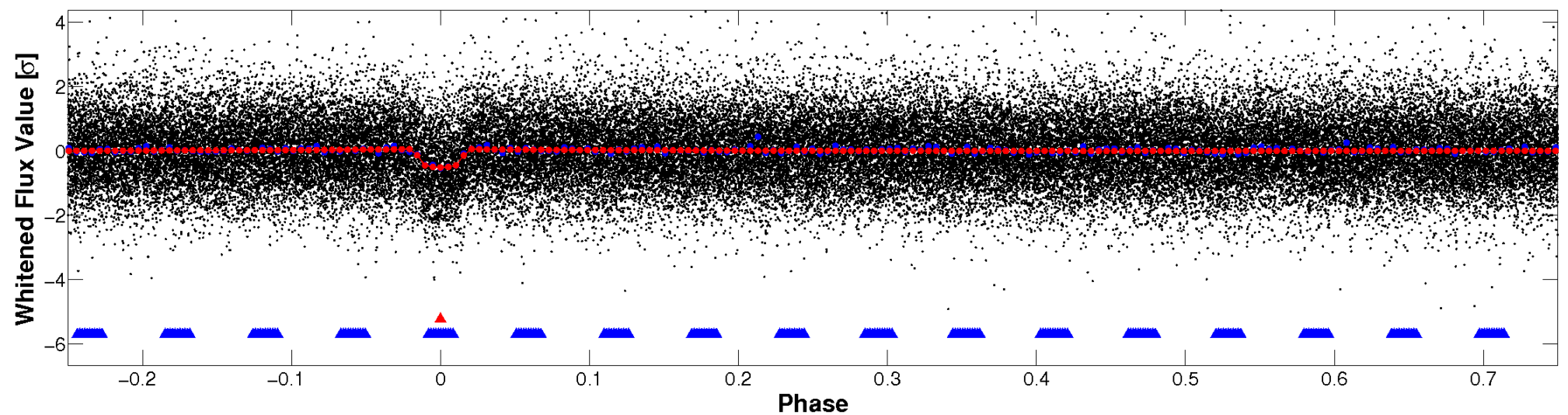


Non-Whitened Vs. Whitened Light Curve

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

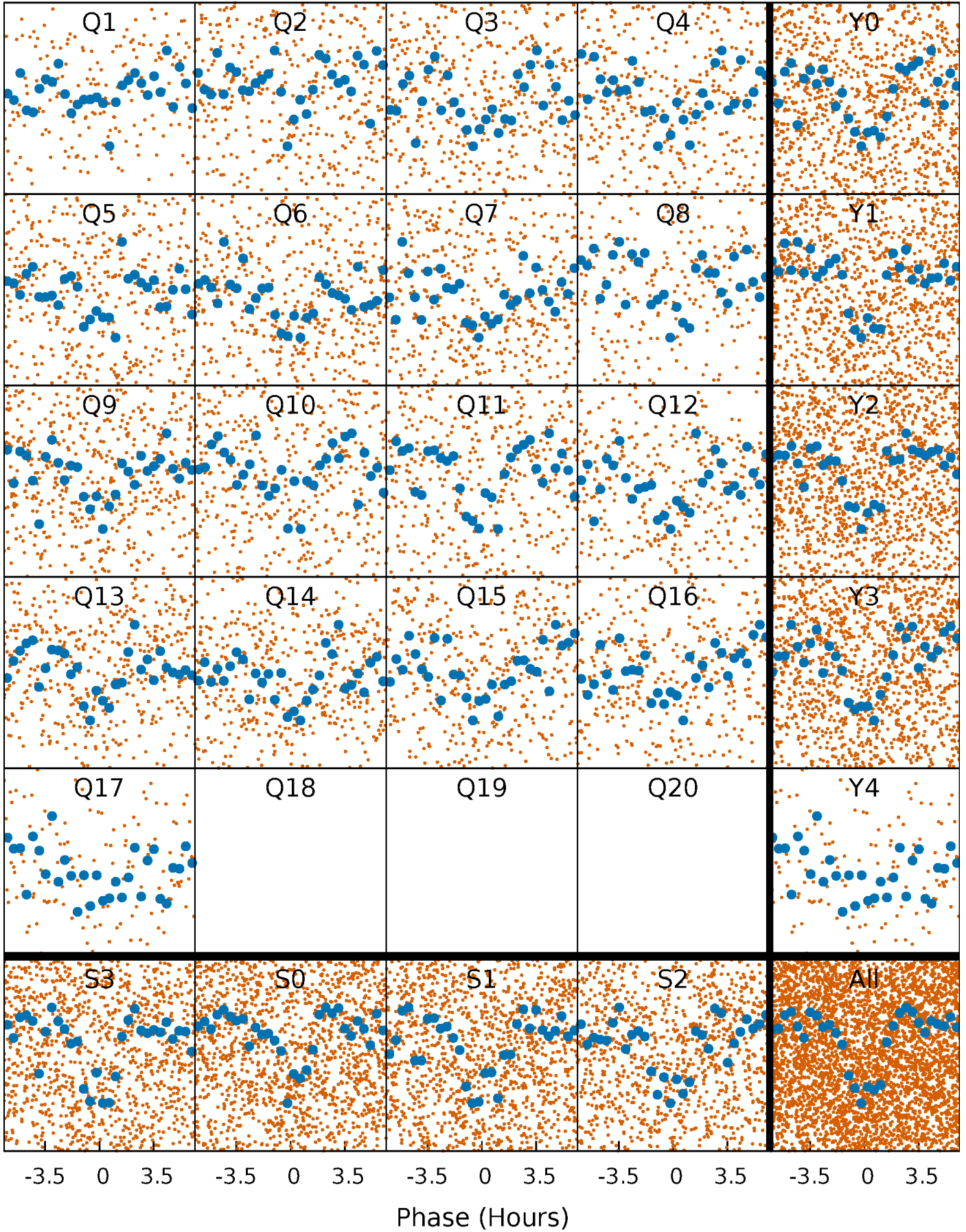


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



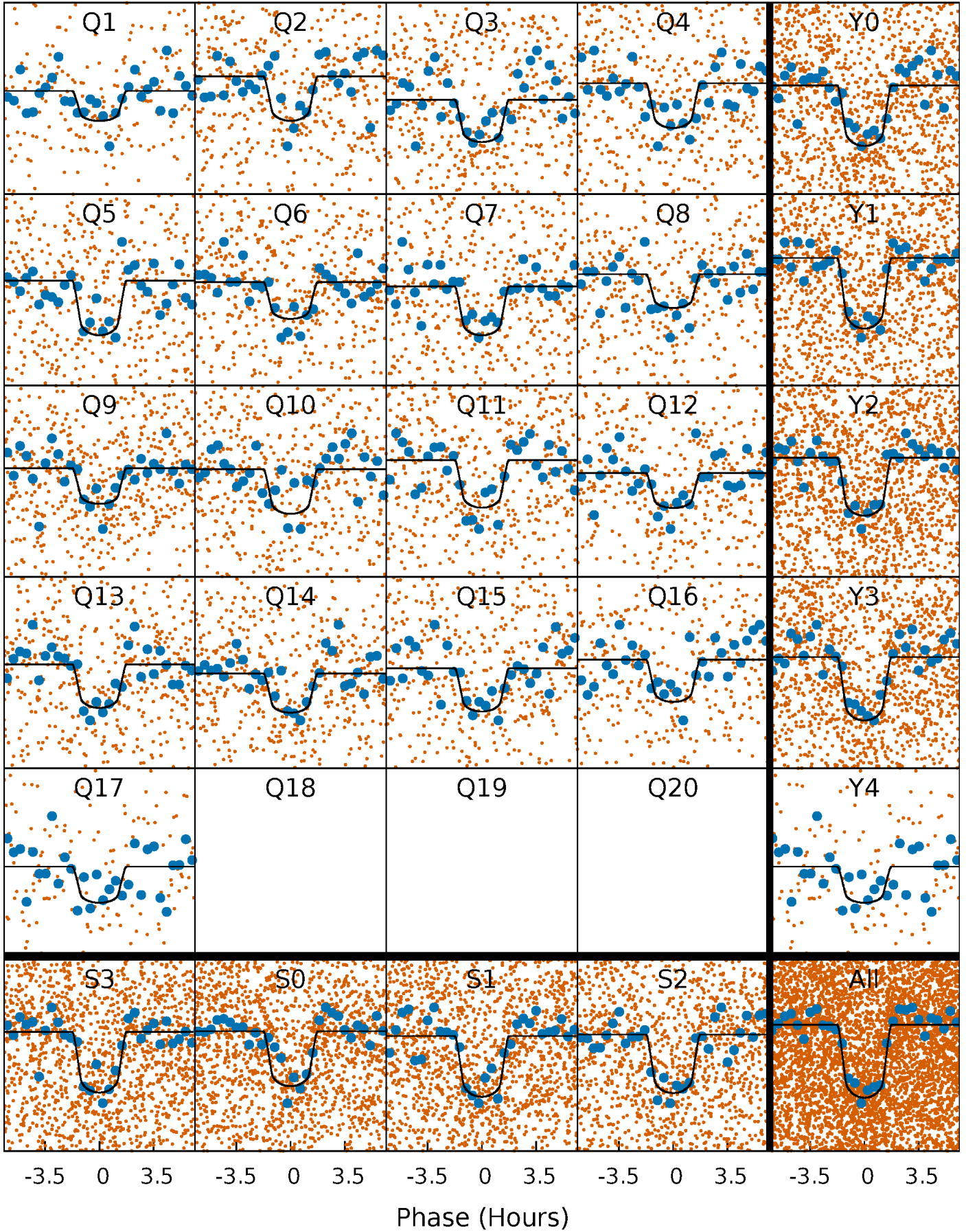
PDC Quarter-Phased Transit Curves

TCE 011121752-01 P= 3.930852 Days $T_0=135.191240$ (BKJD)



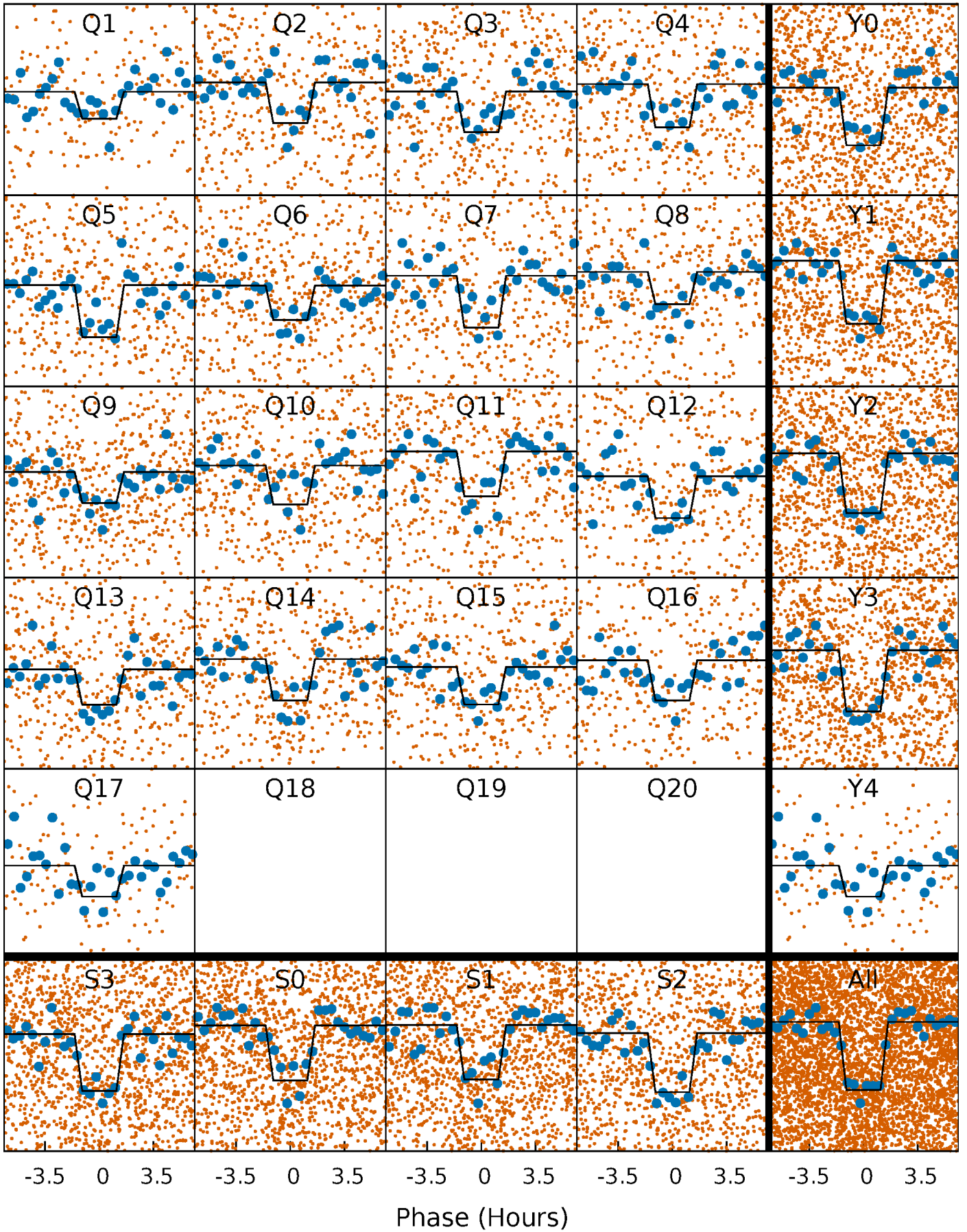
DV Quarter-Phased Transit Curves

TCE 011121752-01 P= 3.930852 Days $T_0=135.191240$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

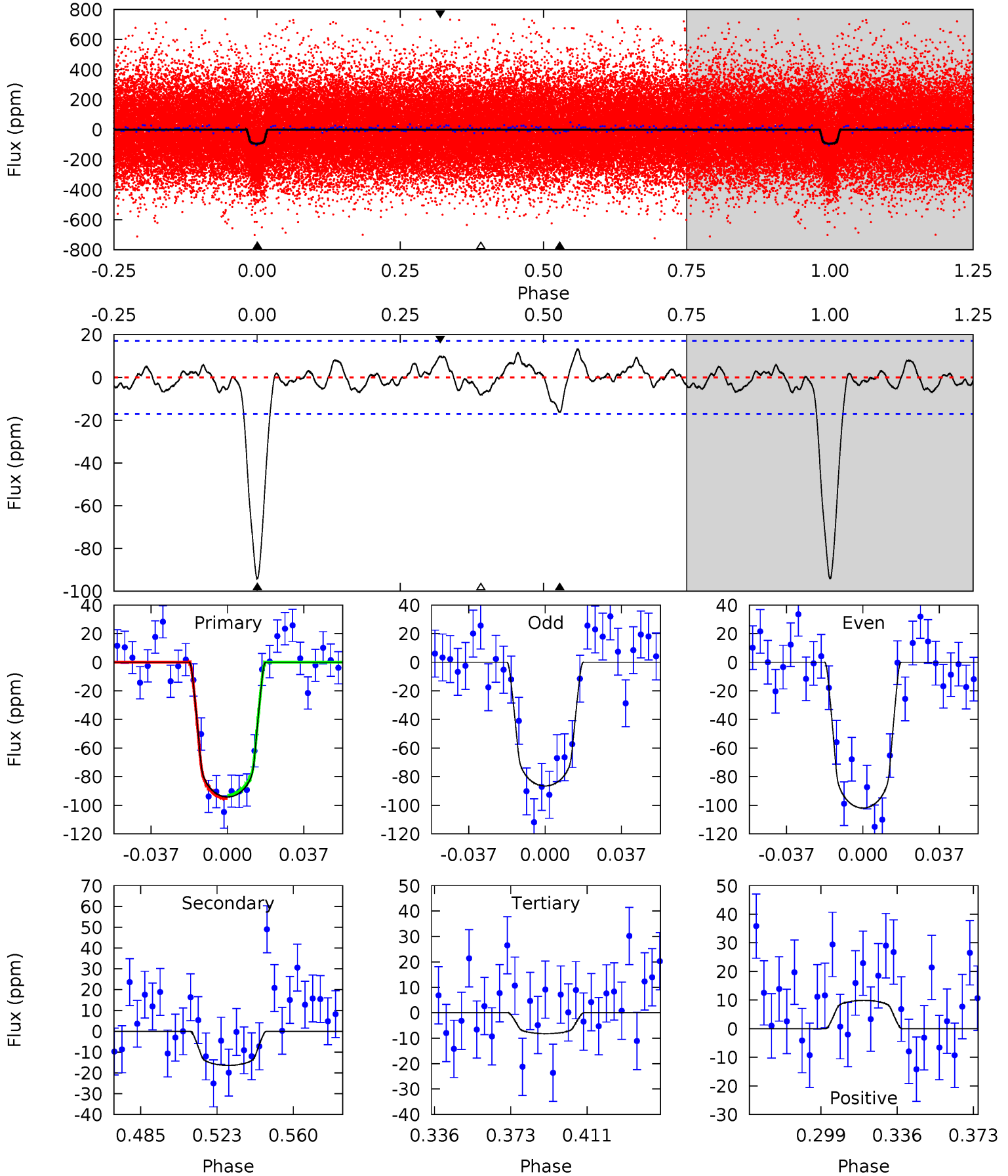
TCE 011121752-01 P= 3.930866 Days $T_0=135.190470$ (BKJD)



DV Model-Shift Uniqueness Test

011121752-01, P = 3.930852 Days, E = 131.260388 Days

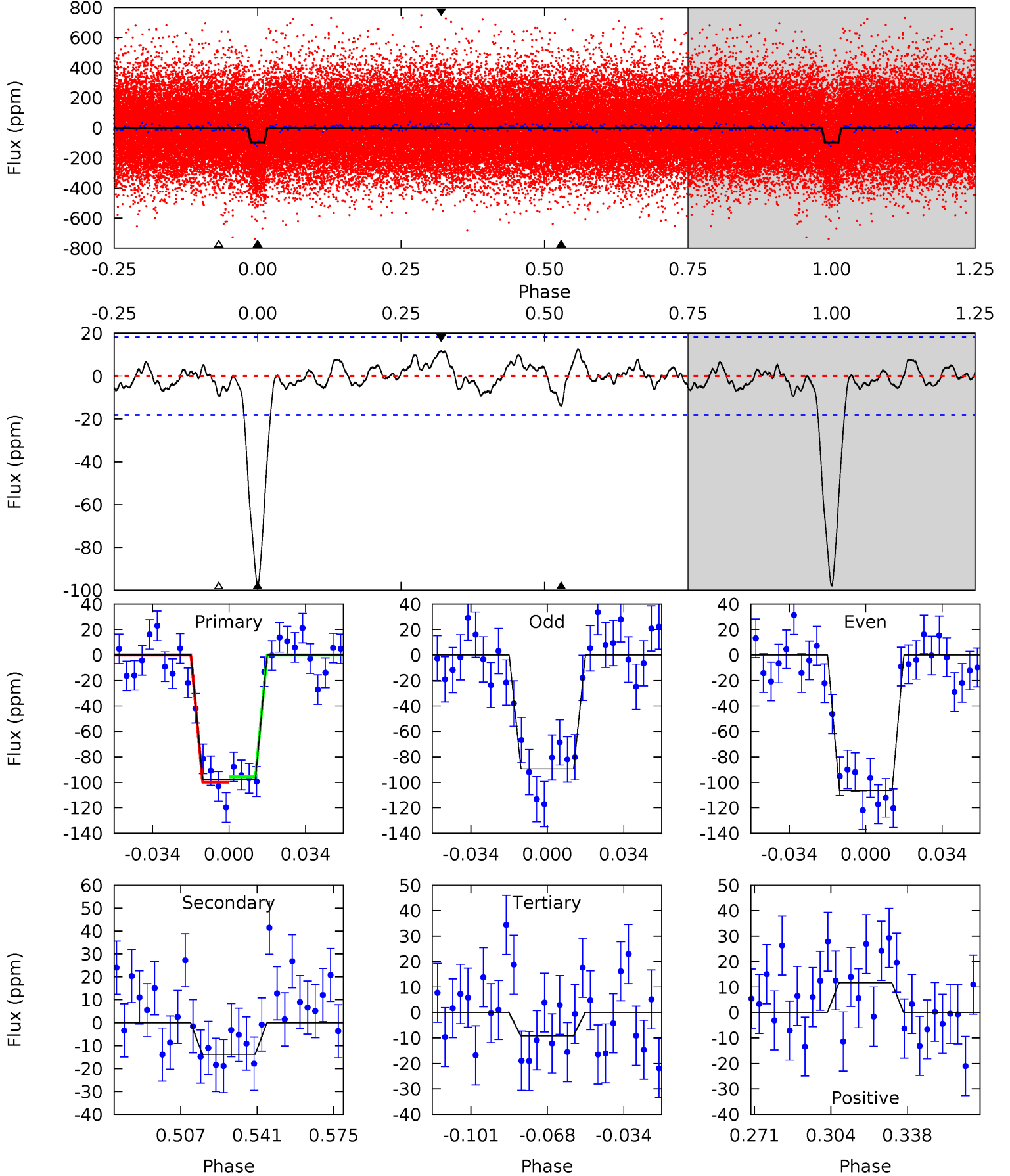
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.2	4.56	2.28	2.75	4.77	2.08	1.15	23.9	23.5	2.27	1.81	2.16	0.97	0.12	0.33



Alt Model-Shift Uniqueness Test

011121752-01, P = 3.930866 Days, E = 131.259604 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.9	3.66	2.43	3.10	4.79	2.12	1.17	23.4	22.8	1.24	0.56	2.23	1.01	0.11	0.59



Stellar Parameters For KIC 011121752

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6038^{+121}_{-121}	$4.284^{+0.150}_{-0.112}$	$-0.160^{+0.150}_{-0.150}$	$1.191^{+0.186}_{-0.186}$	$0.995^{+0.084}_{-0.063}$	$0.830^{+0.532}_{-0.277}$
	+2%/-2%	+4%/-3%	+94%/-94%	+16%/-16%	+8%/-6%	+64%/-33%
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 011121752-01 / KOI 2333.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-16 ± 4	$1.39^{+0.38}_{-0.37}$	1833^{+91}_{-95}	3973^{+474}_{-352}	11^{+9}_{-5}
Alt.	-14 ± 4	$1.28^{+0.37}_{-0.38}$	1831^{+91}_{-83}	3988^{+601}_{-387}	11^{+12}_{-5}

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 $A_{obs} \gg 1.0$

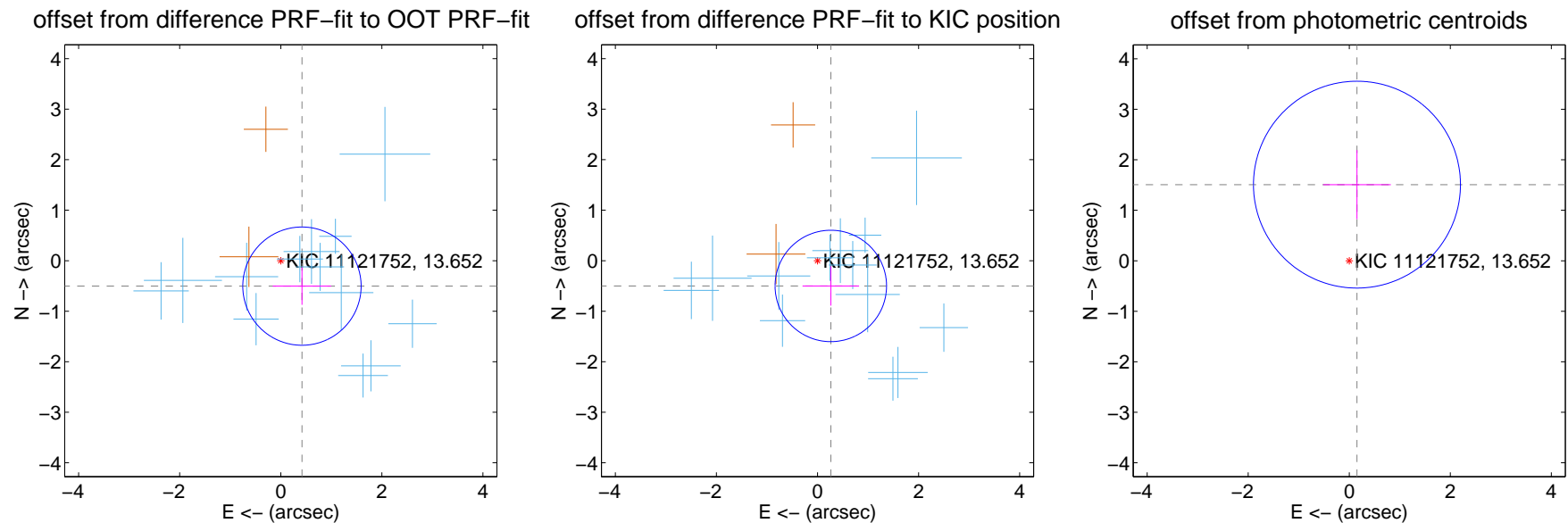
DV Centroid Data

Supplemental centroid analysis for 011121752-01. Kepler magnitude: 13.65. Transit SNR 19.96

There are 13 quarters with good PRF difference image offsets

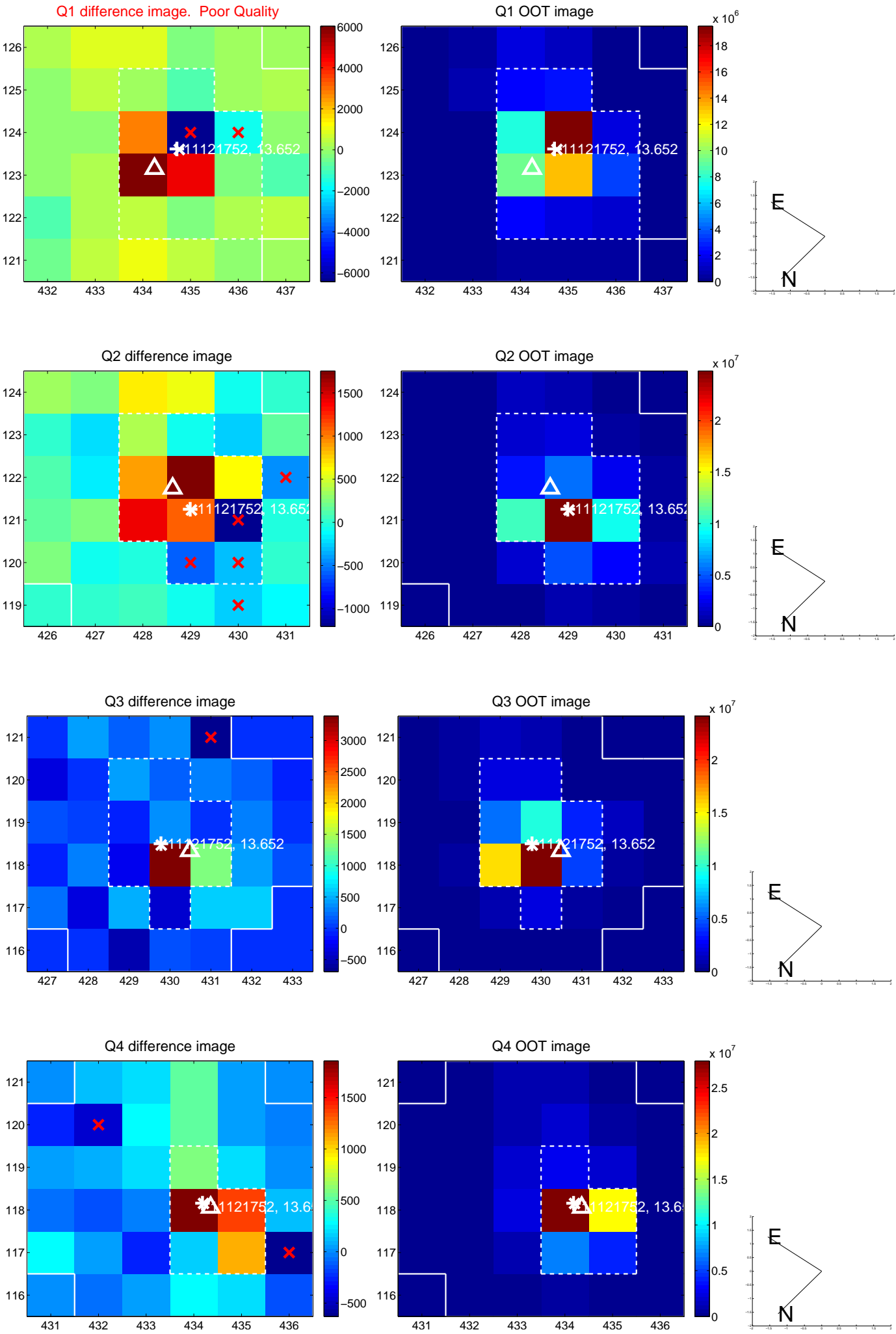
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.655 ± 0.390	1.68	-0.419 ± 0.578	-0.504 ± 0.370
PRF-fit source offset from KIC position	0.565 ± 0.368	1.54	-0.263 ± 0.560	-0.500 ± 0.389
photometric centroid source offset	1.52 ± 0.68	2.22	-0.15 ± 0.67	1.51 ± 0.68

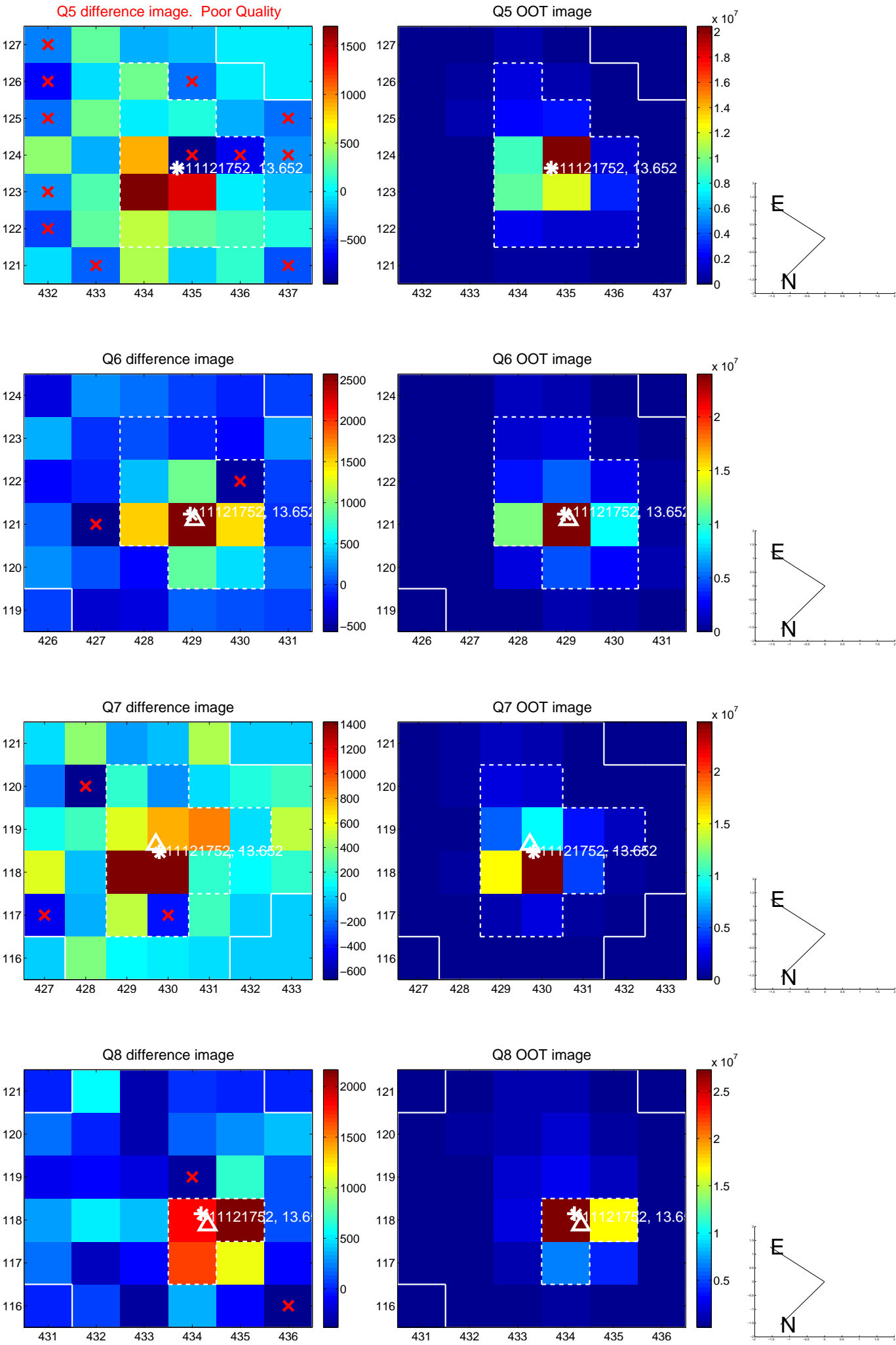


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

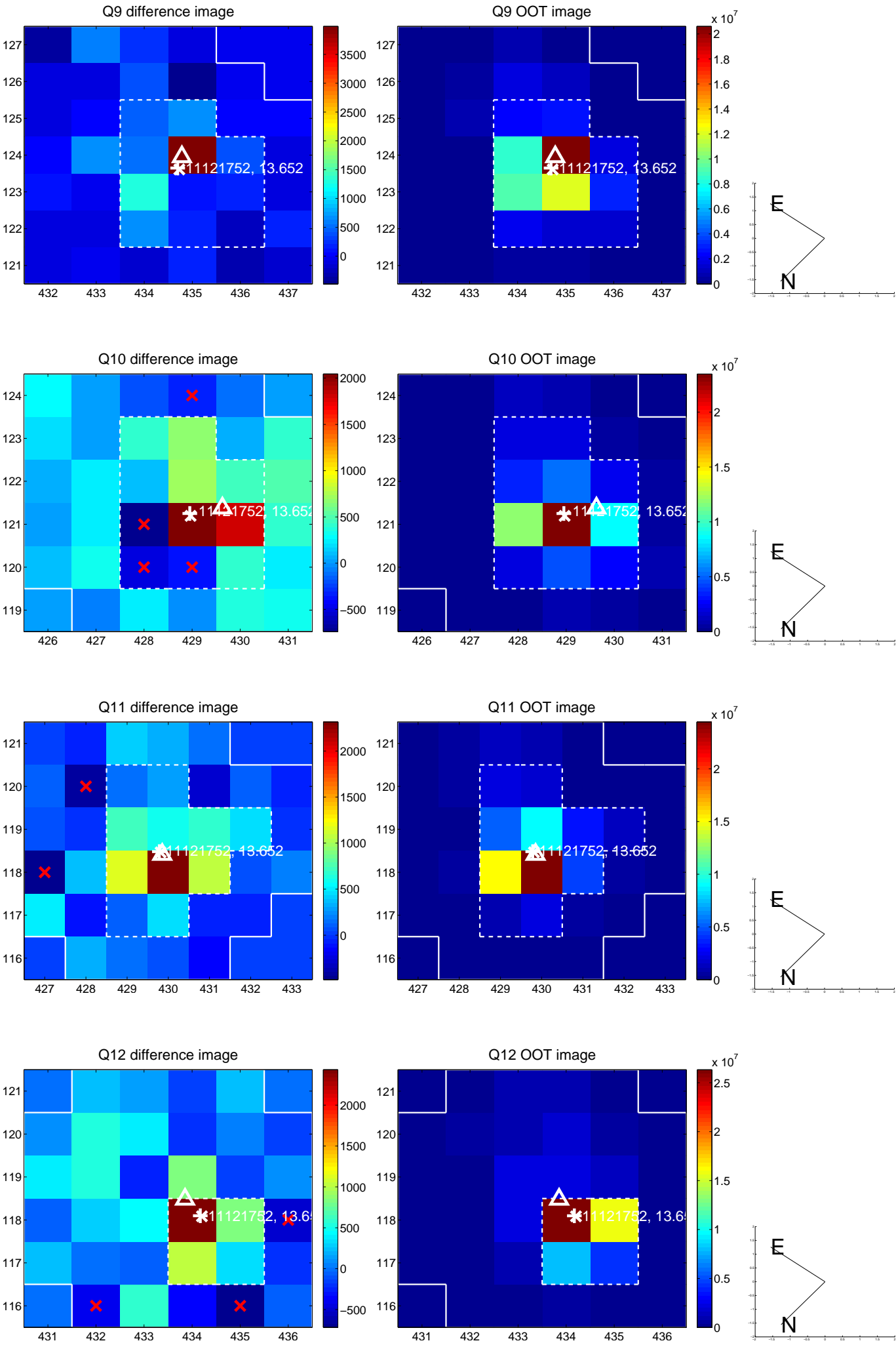
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



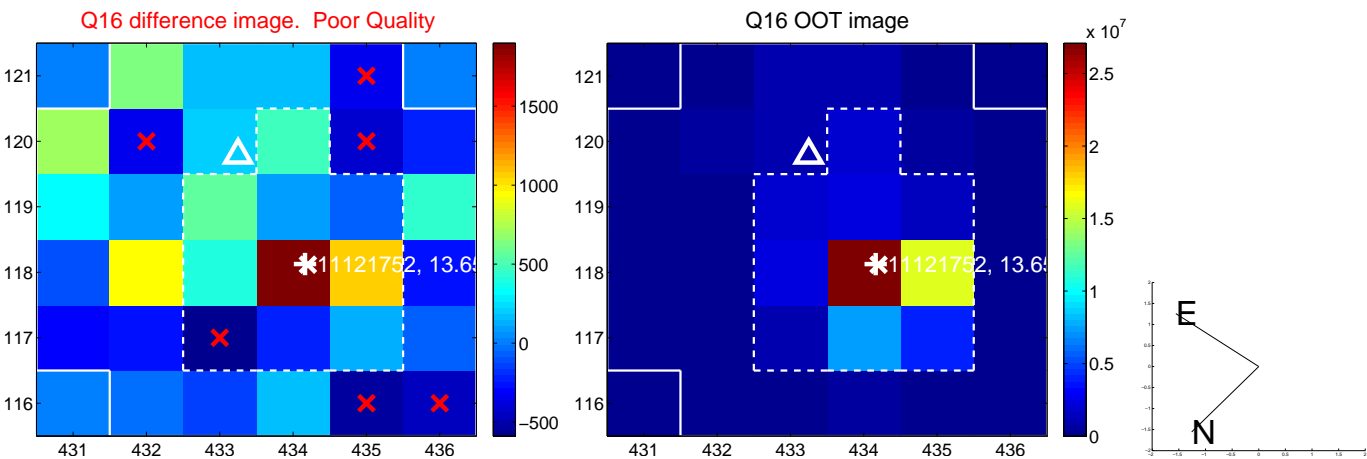
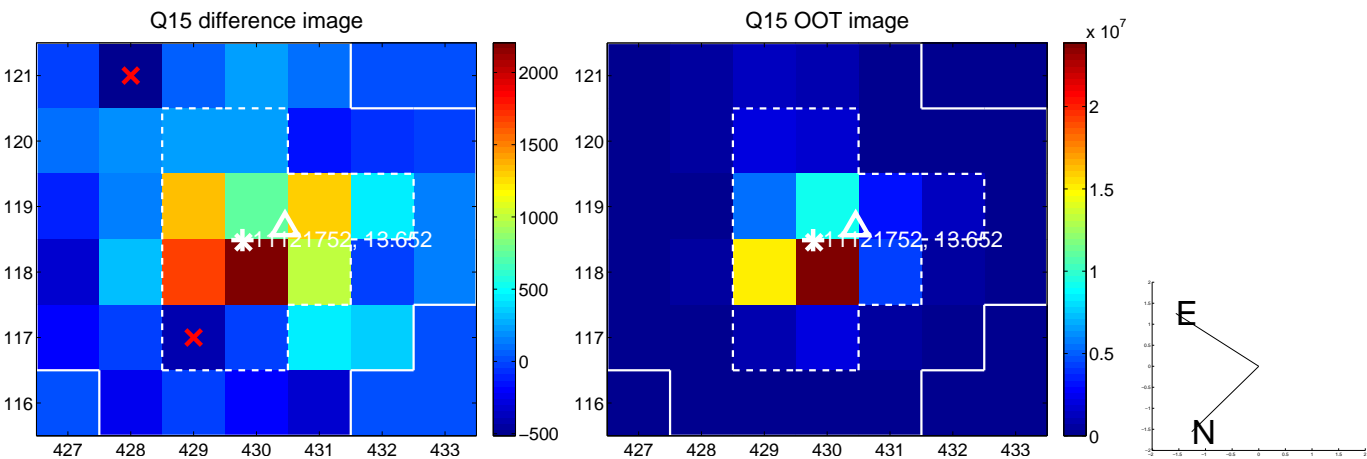
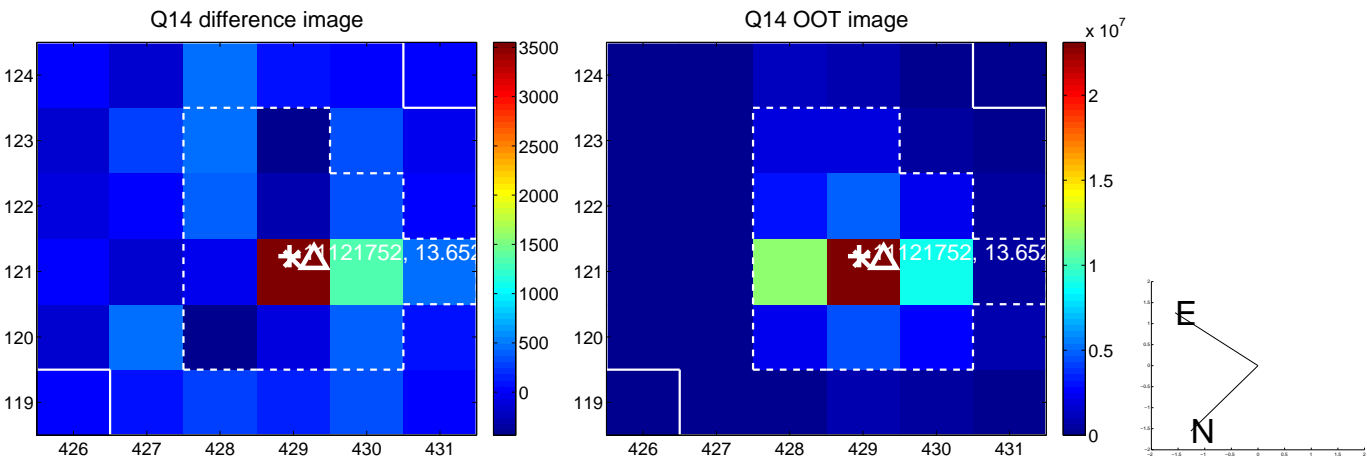
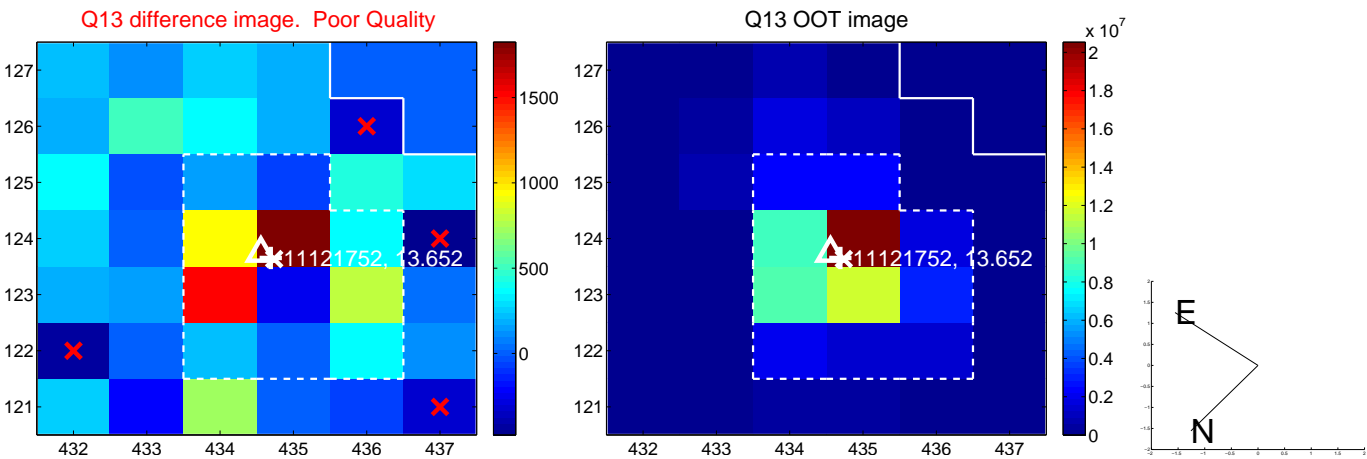
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



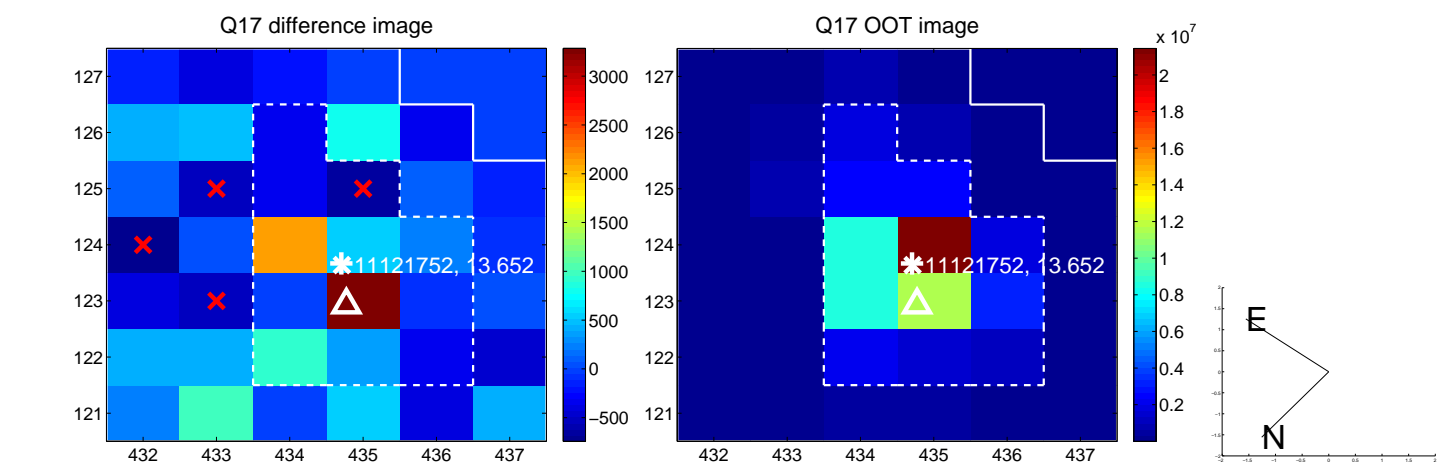
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



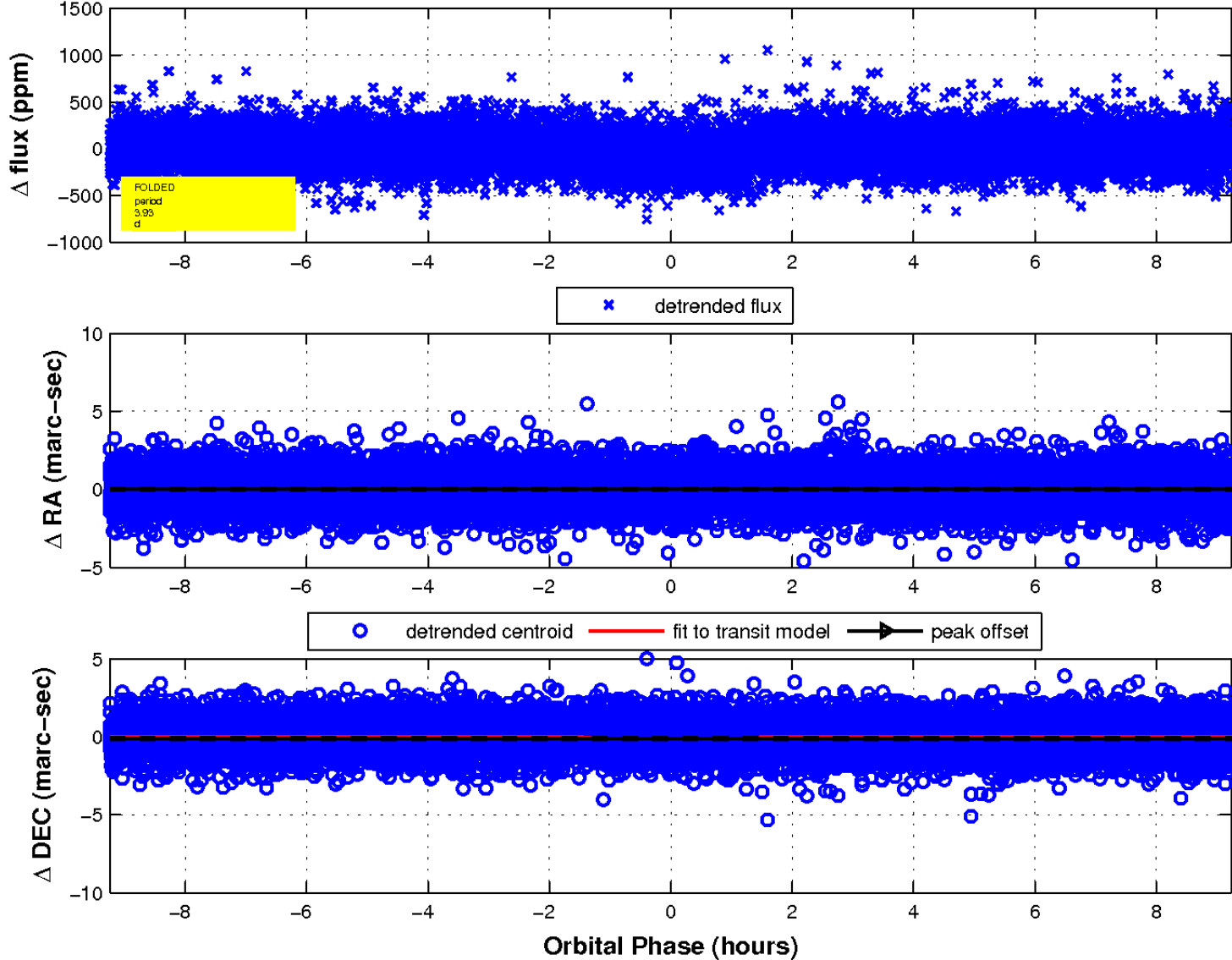
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

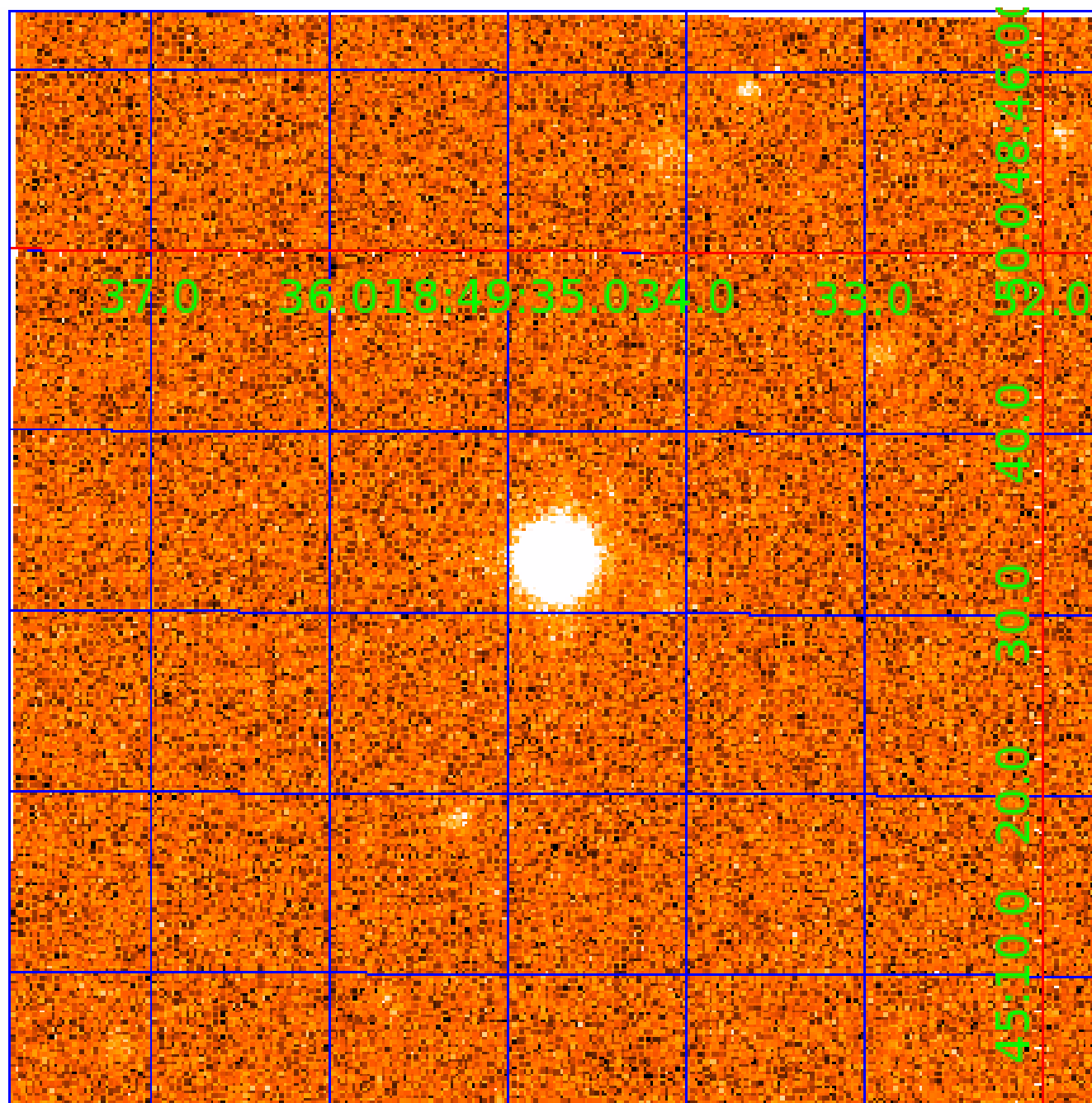


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 01121752

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})
01121752-01	OBS	2333.01	3.930852	135.191240	100.2	3.080	18.5	20.0	1.19	6038	1.42	713.00
01121752-02	OBS	2333.02	7.630096	137.077357	129.4	2.915	15.9	17.2	1.19	6038	1.63	294.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
01121752-01	OBS	PC	0.97	0	0	0	0	NO_COMMENT
01121752-02	OBS	PC	0.99	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.

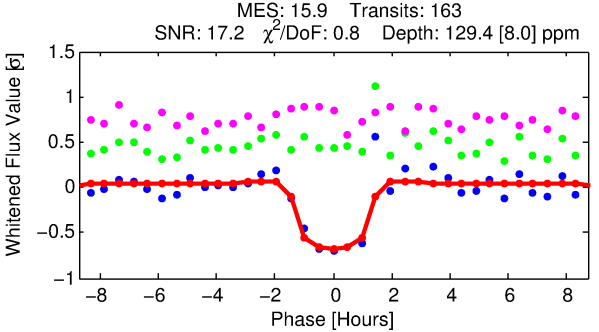
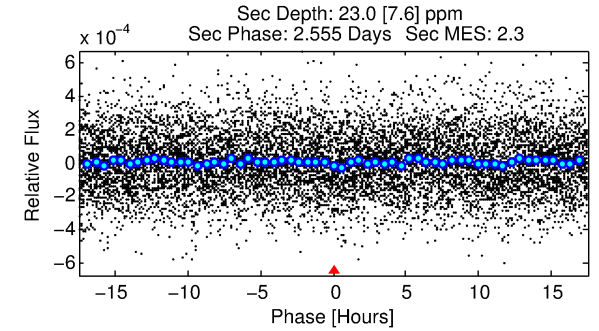
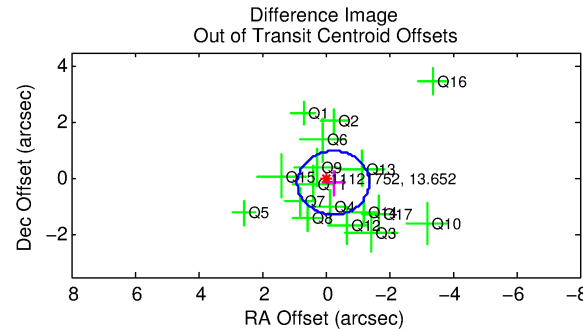
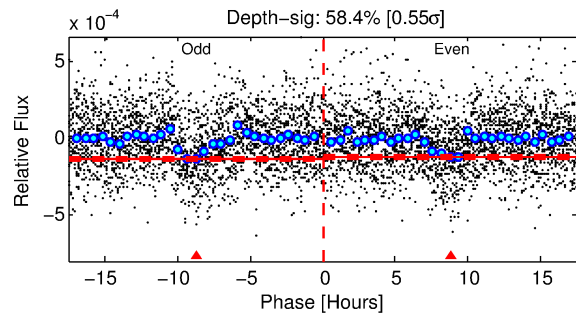
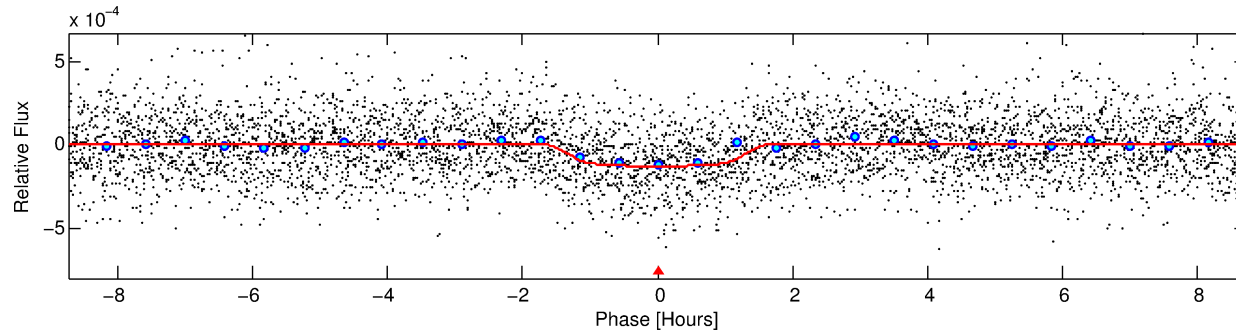
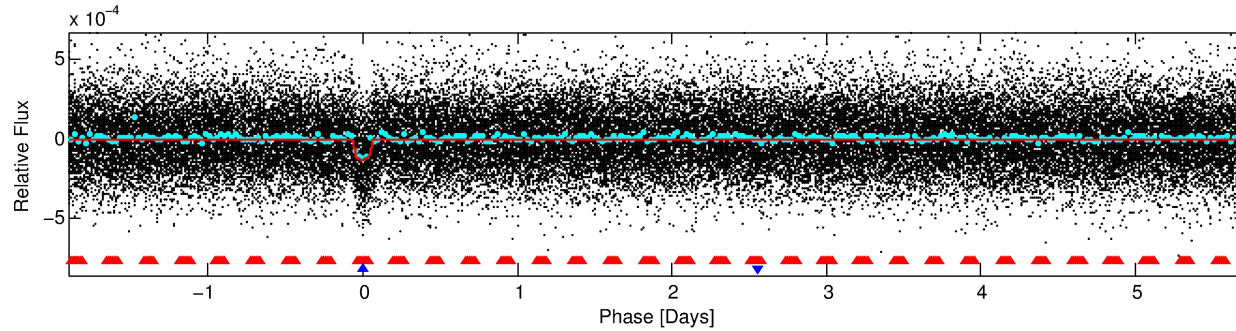
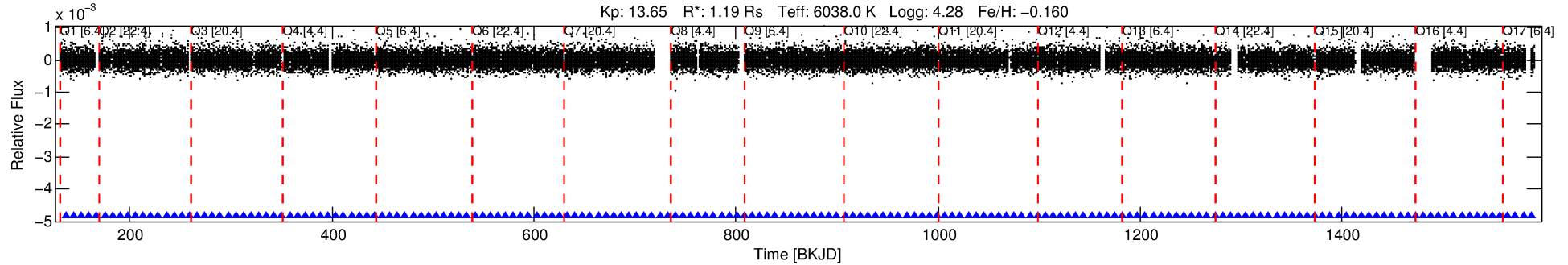
Ephemeris Match Information For 01121752-02

No Significant Match Found

DV One-Page Summary

KIC: 11121752 Candidate: 2 of 2 Period: 7.630 d
KOI: K02333.02 Name: Kepler-380c Corr: 0.962

Kp: 13.65 R*: 1.19 Rs Teff: 6038.0 K Logg: 4.28 Fe/H: -0.160



DV Fit Results:

Period = 7.63010 [0.00003] d
Epoch = 137.0774 [0.0034] BKJD
Rp/R* = 0.0125 [0.0033]
a/R* = 8.48 [11.54]
b = 0.92 [0.23]
Seff = 294.47 [78.07]
Teq = 1056 [70] K
Rp = 1.63 [0.49] Re
a = 0.0757 [0.0118] AU
Ag = 27.32 [18.22] [1.44σ]
Teffp = 3734 [581] K [4.57σ]

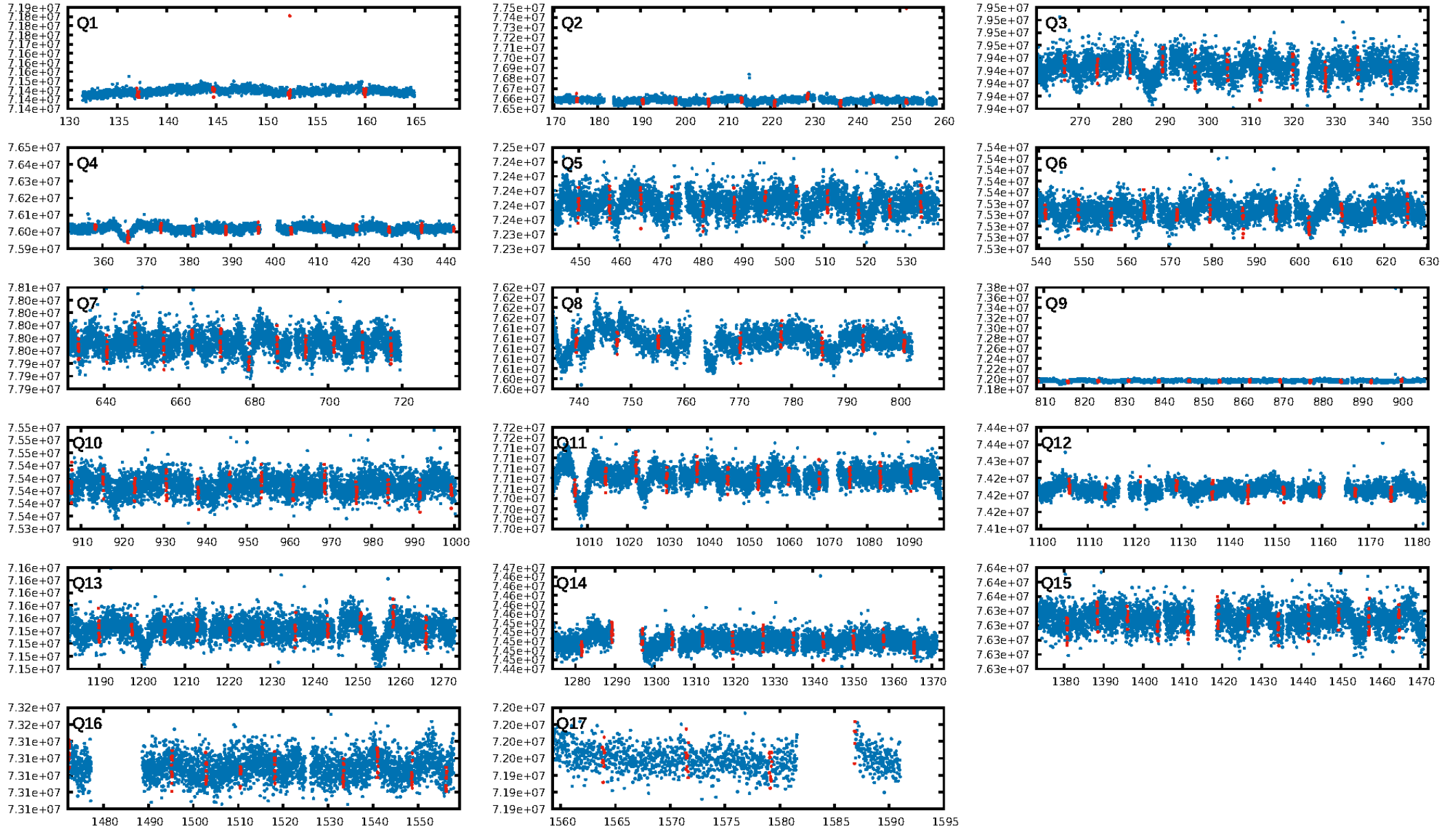
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [20.93σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.83e-55
RollingBand-fgt: 1.00 [155/155]
GhostDiagnostic-chr: -12.13
Centroid-sig: 11.3%
Centroid-so: 0.985 arcsec [1.28σ]
OotOffset-rm: 0.282 arcsec [0.75σ]
KicOffset-rm: 0.142 arcsec [0.35σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

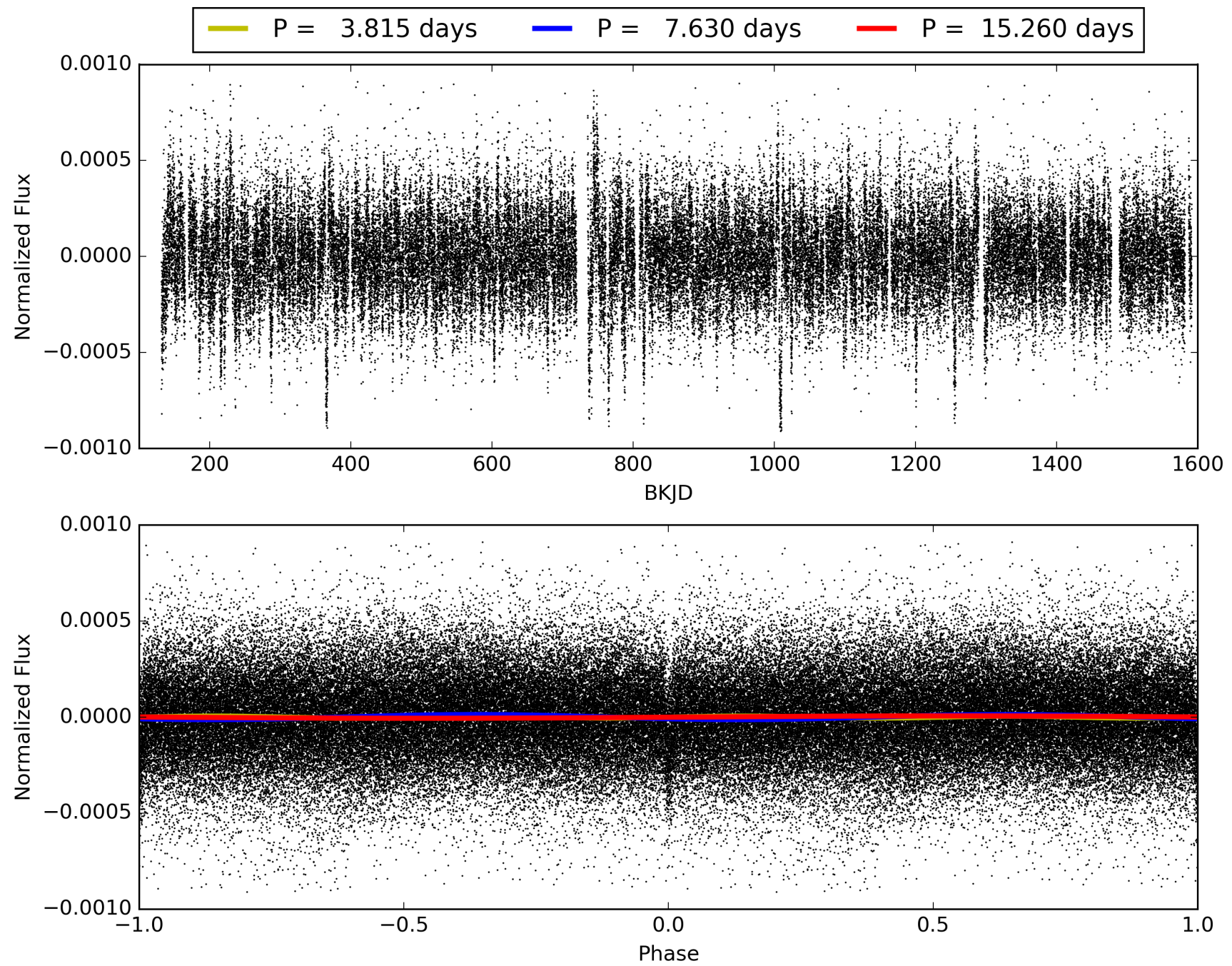
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 011121752-02, PDC Light Curves

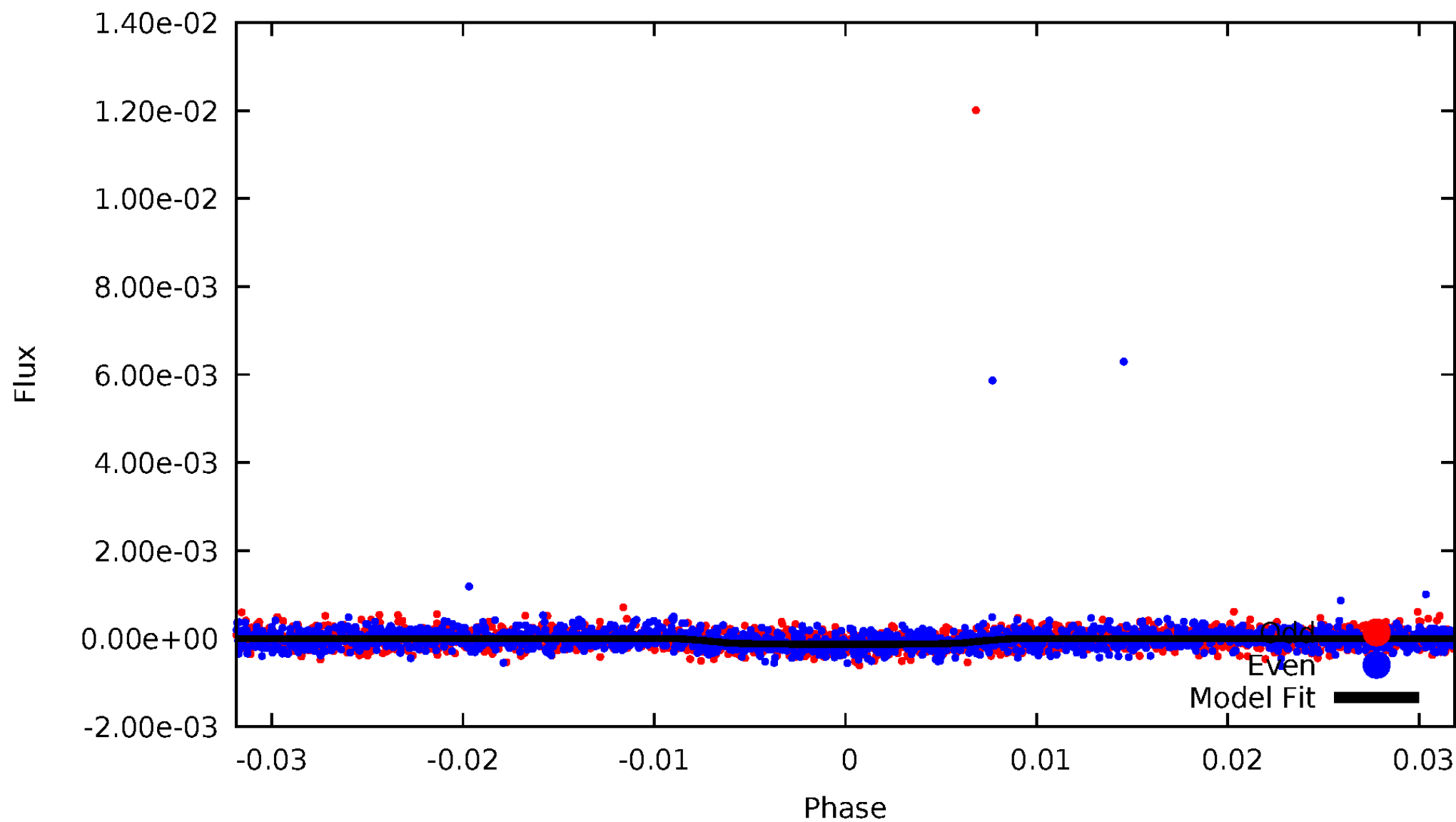


TCE 011121752-02



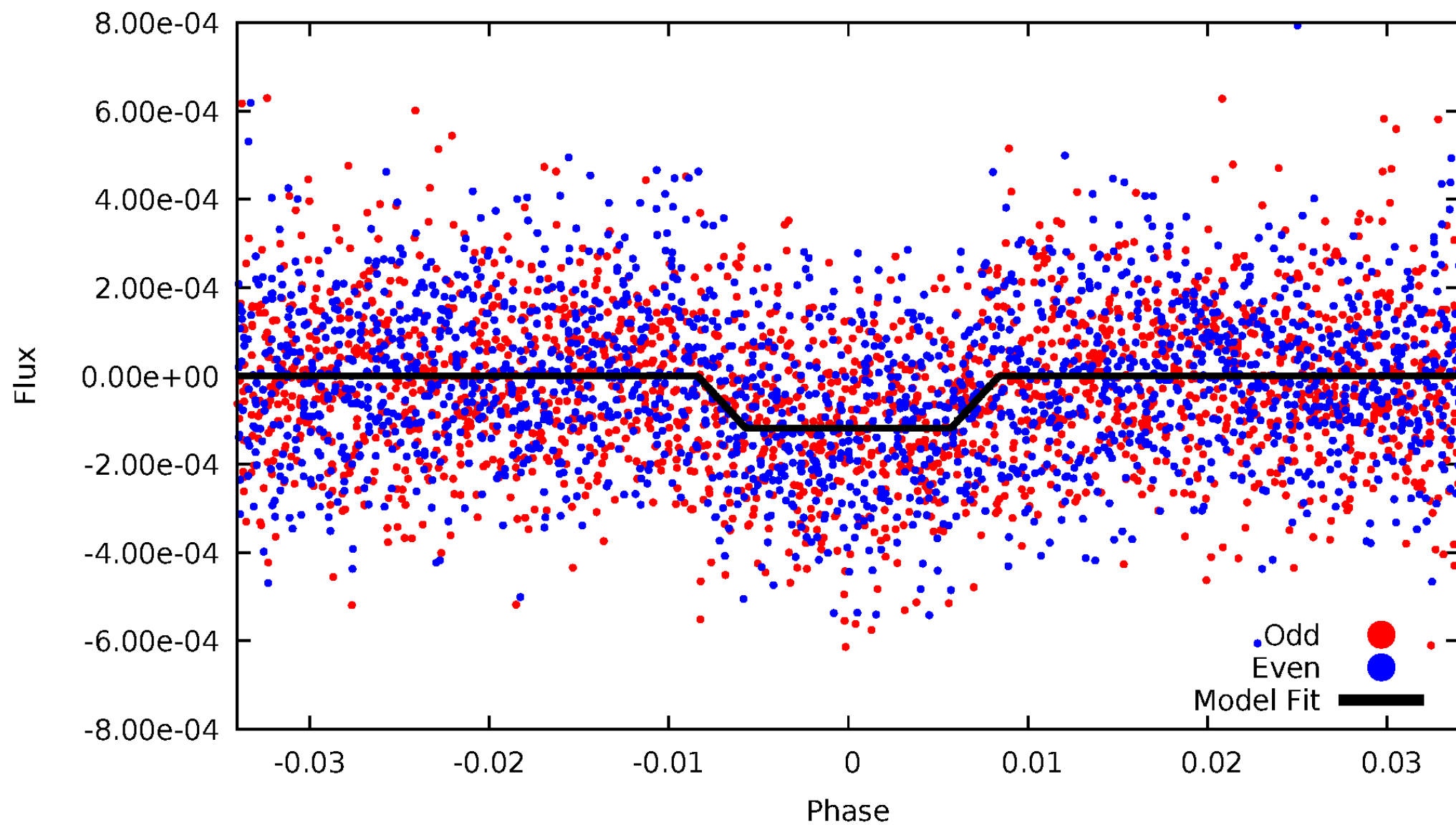
DV Odd/Even

TCE 011121752-02



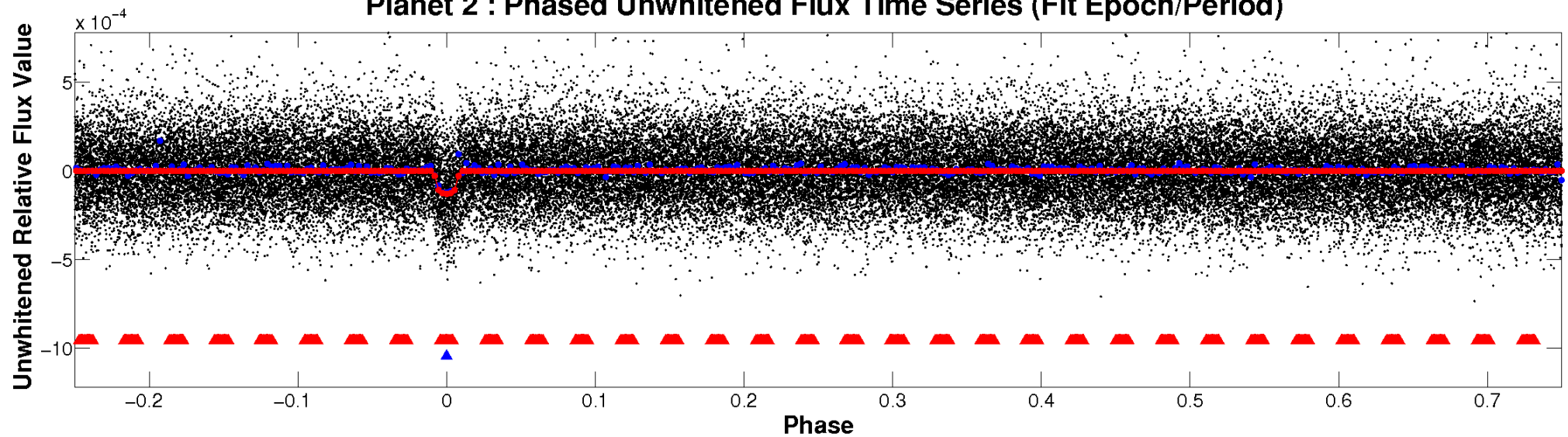
ALT Odd/Even

TCE 011121752-02

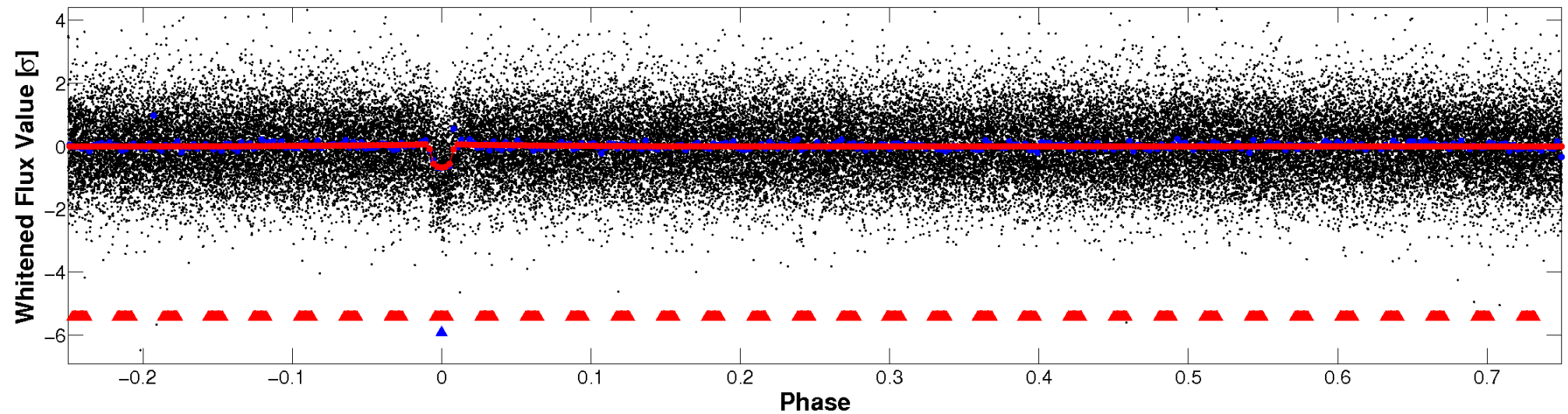


Non-Whitened Vs. Whitened Light Curve

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

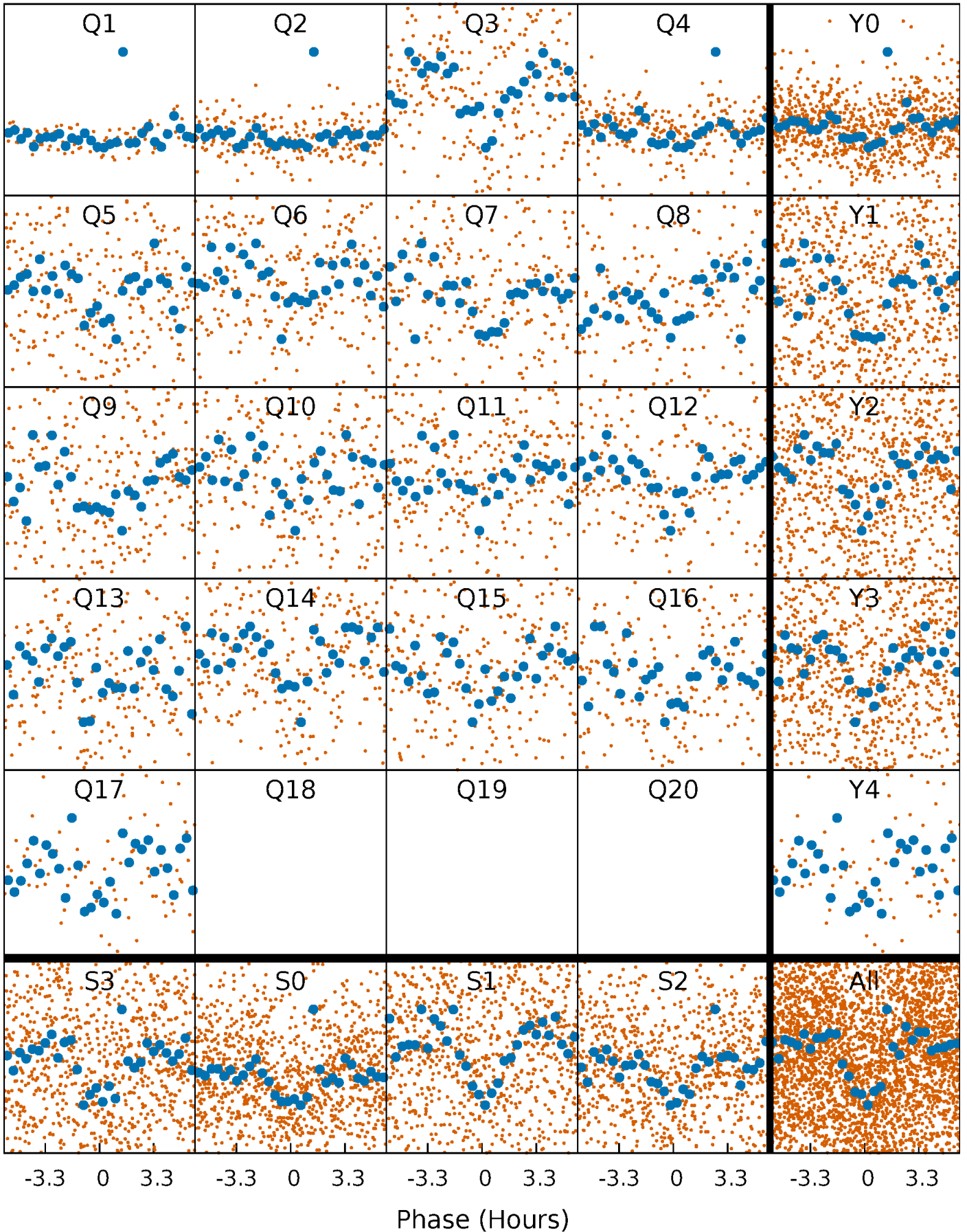


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



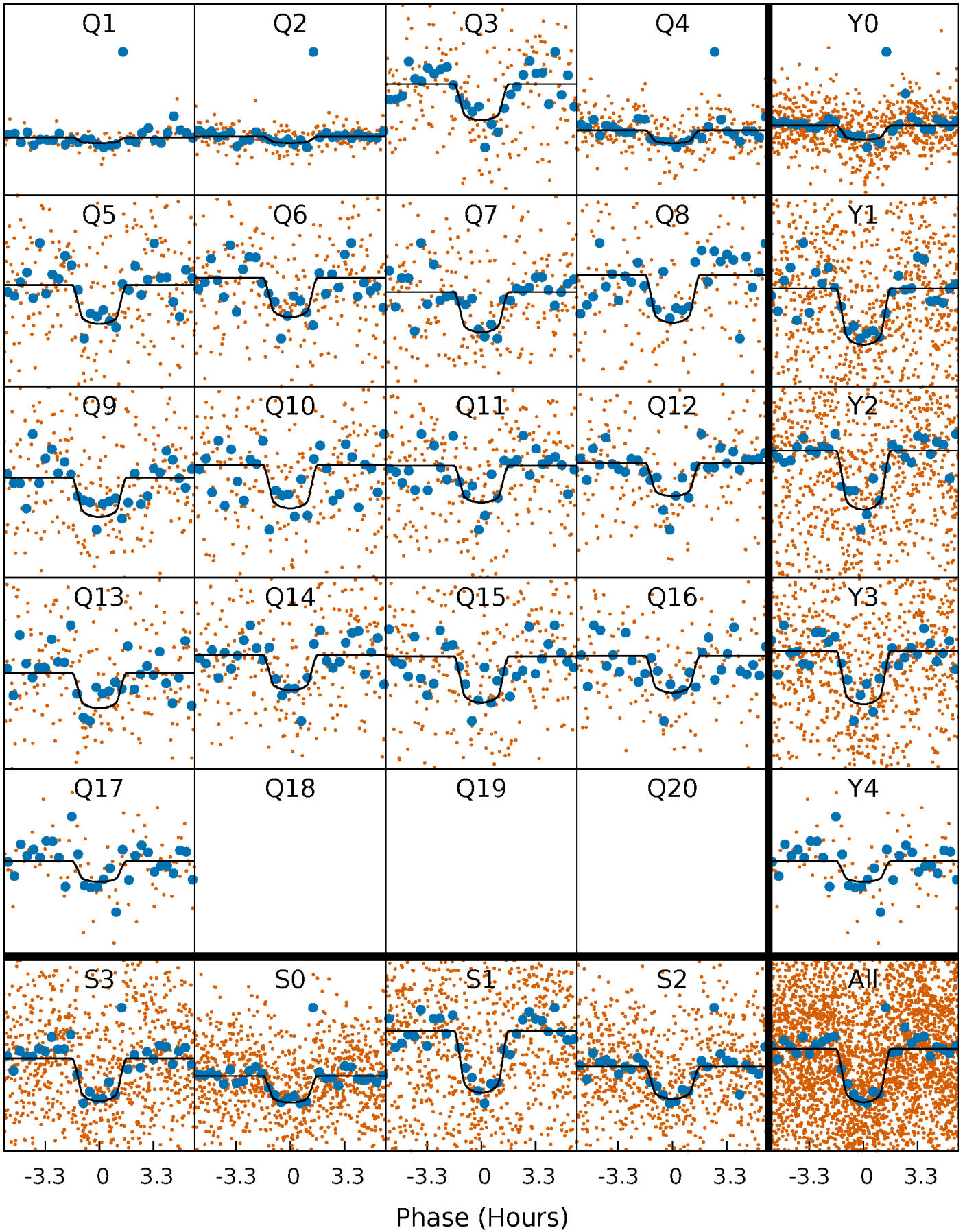
PDC Quarter-Phased Transit Curves

TCE 011121752-02 P= 7.630096 Days $T_0=137.077357$ (BKJD)



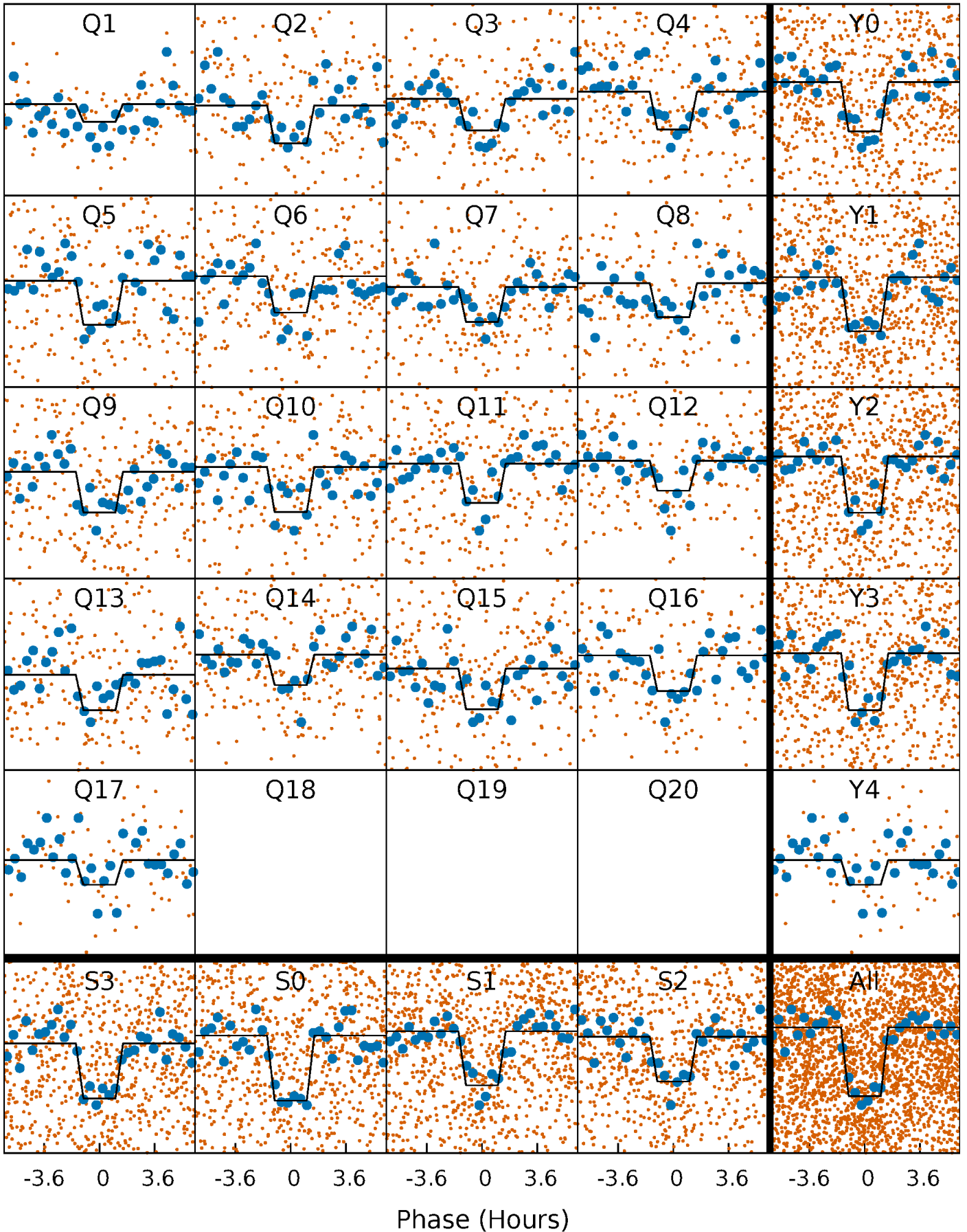
DV Quarter-Phased Transit Curves

TCE 011121752-02 P= 7.630096 Days $T_0=137.077357$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

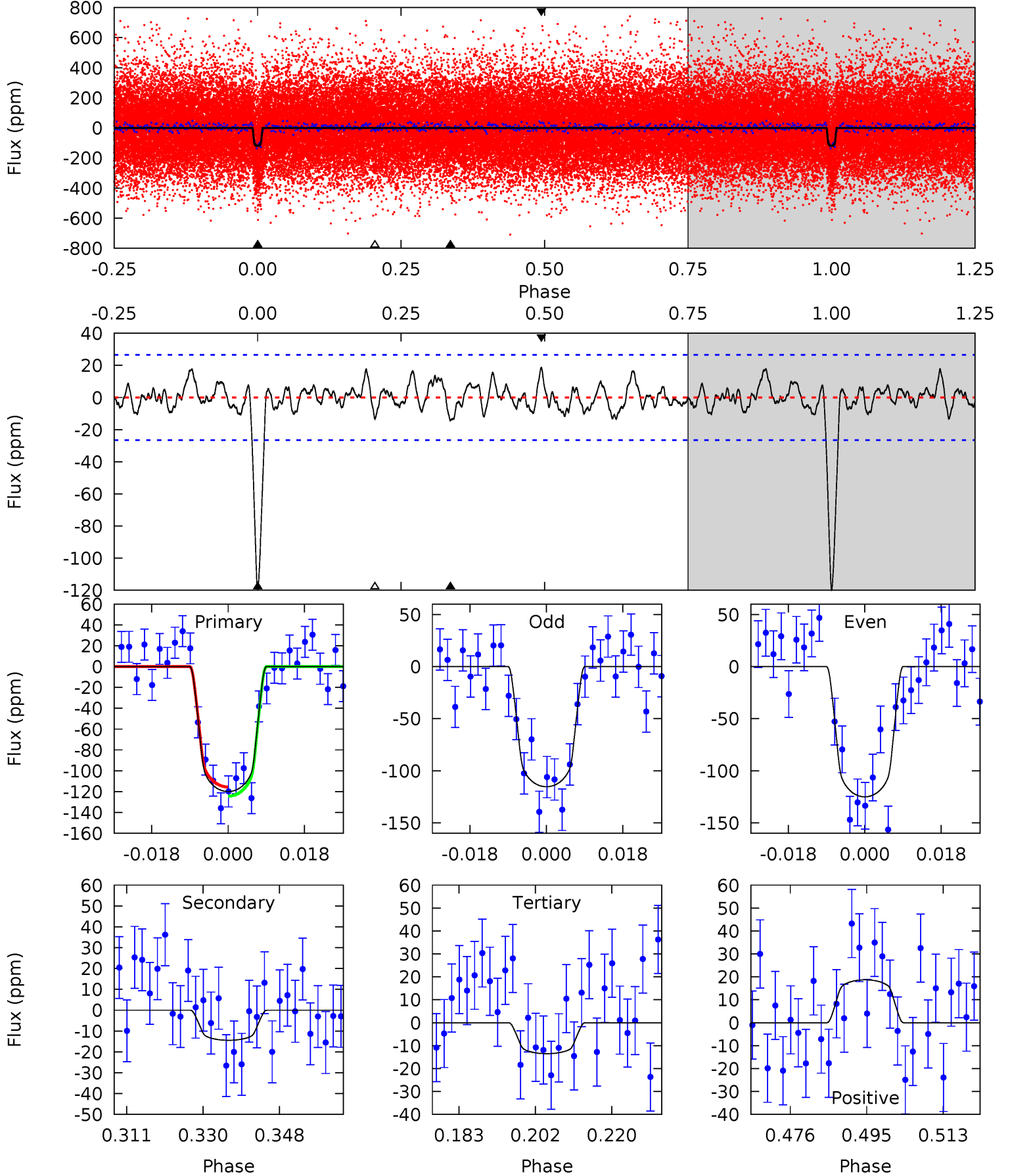
TCE 011121752-02 P= 7.630034 Days $T_0=137.084139$ (BKJD)



DV Model-Shift Uniqueness Test

011121752-02, P = 7.630096 Days, E = 129.447261 Days

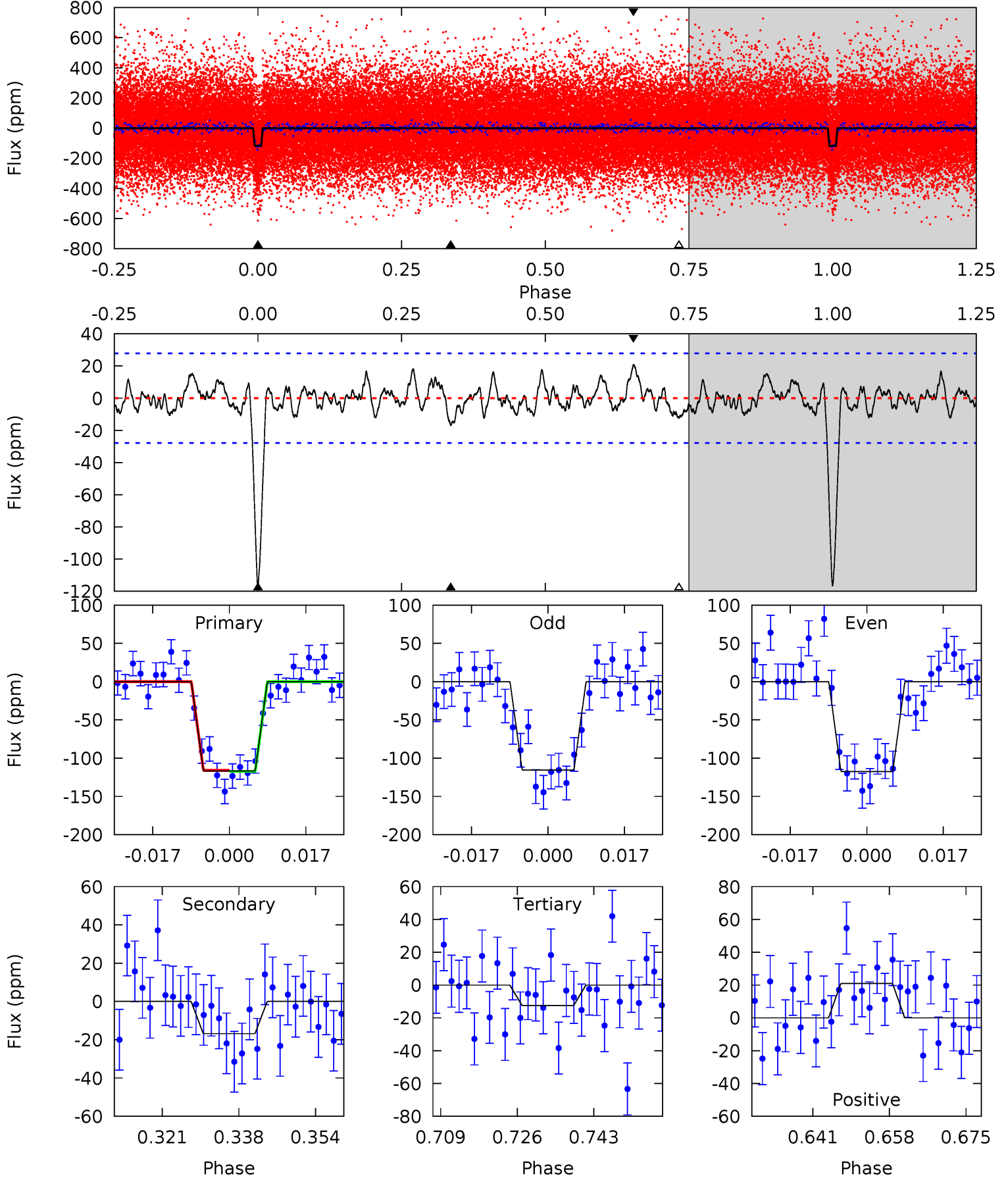
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	2.67	2.50	3.46	4.91	2.36	1.20	19.7	18.7	0.17	-0.79	0.90	0.92	0.13	0.82



Alt Model-Shift Uniqueness Test

011121752-02, P = 7.630034 Days, E = 129.454105 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	2.98	2.20	3.71	4.92	2.39	1.18	18.4	16.9	0.77	-0.73	0.17	1.04	0.15	0.11



Stellar Parameters For KIC 011121752

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6038^{+121}_{-121}	$4.284^{+0.150}_{-0.112}$	$-0.160^{+0.150}_{-0.150}$	$1.191^{+0.186}_{-0.186}$	$0.995^{+0.084}_{-0.063}$	$0.830^{+0.532}_{-0.277}$
	+2%/-2%	+4%/-3%	+94%/-94%	+16%/-16%	+8%/-6%	+64%/-33%
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 011121752-02 / KOI 2333.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-14 ± 5	$1.60^{+0.46}_{-0.42}$	1470^{+71}_{-69}	3728^{+465}_{-372}	18^{+17}_{-9}
Alt.	-17 ± 6	$1.35^{+0.50}_{-0.44}$	1470^{+73}_{-70}	4043^{+662}_{-443}	28^{+37}_{-14}

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 $A_{obs} \gg 1.0$

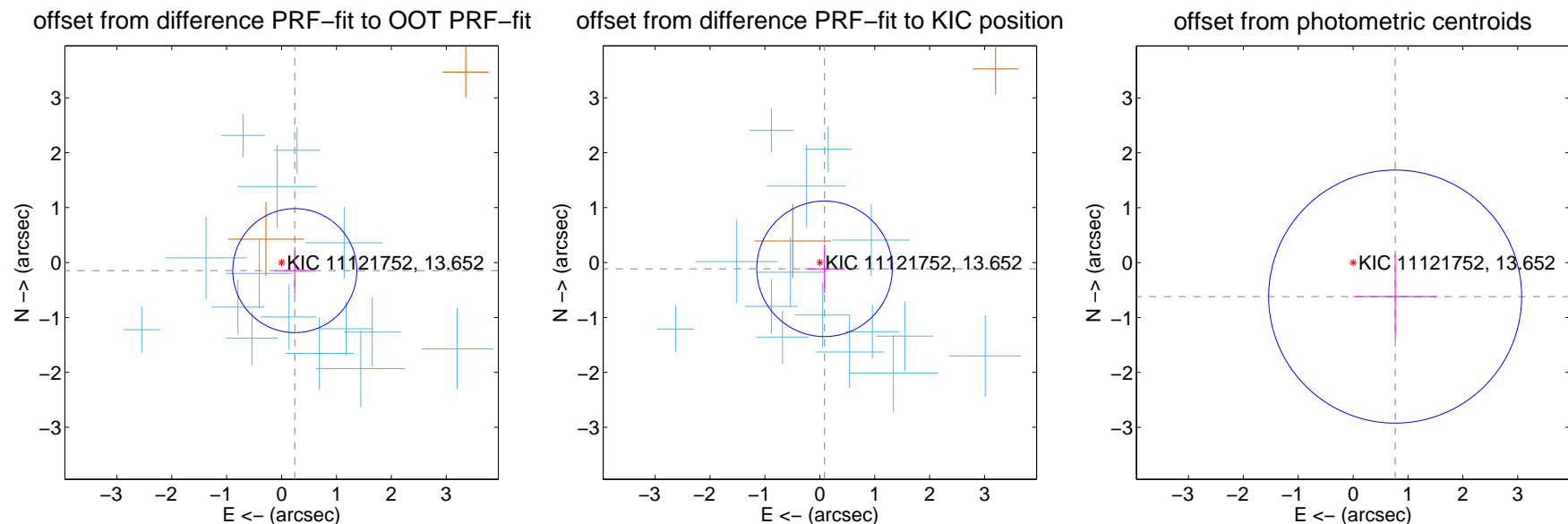
DV Centroid Data

Supplemental centroid analysis for 011121752-02. Kepler magnitude: 13.65. Transit SNR 17.24

There are 15 quarters with good PRF difference image offsets

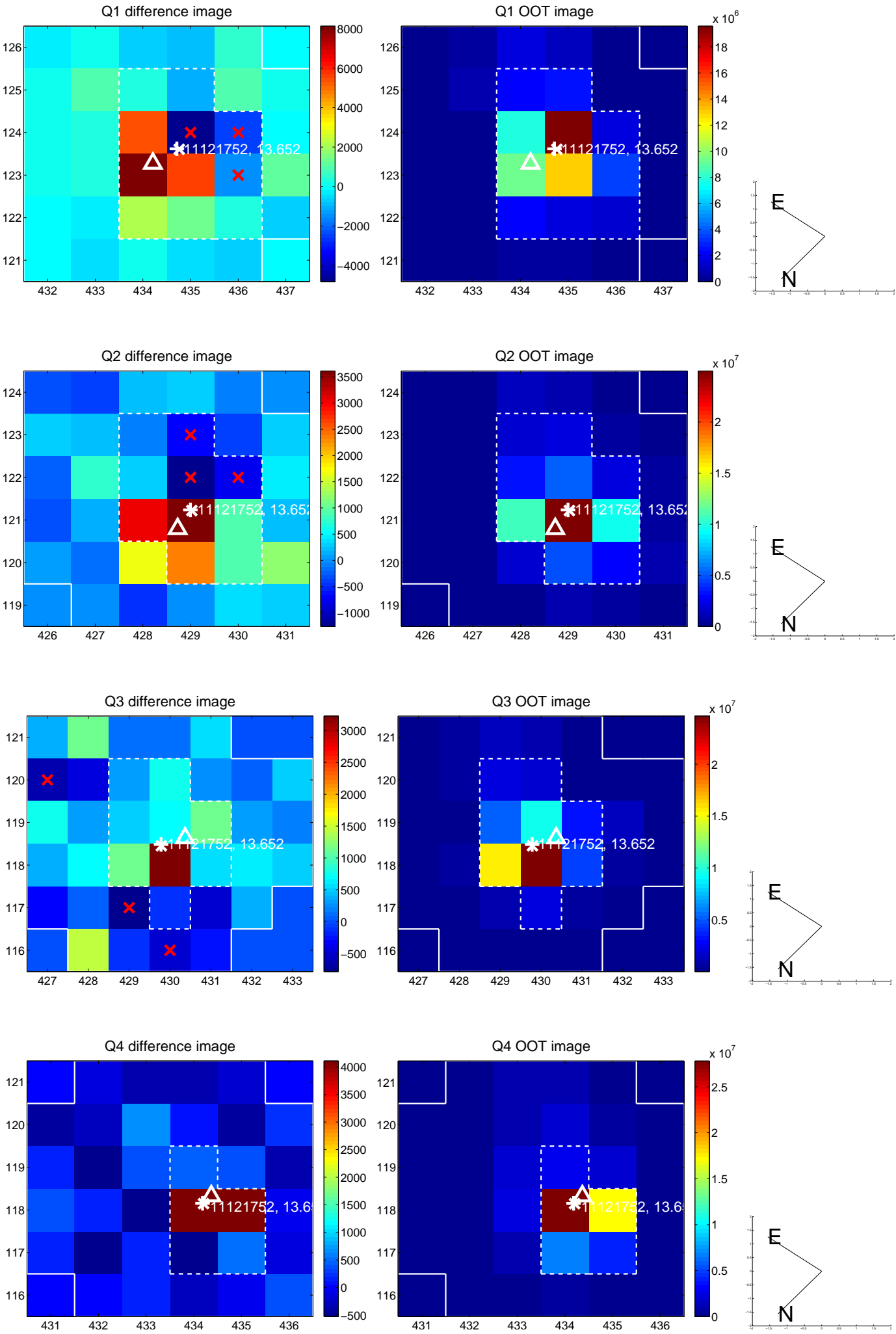
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.282 ± 0.376	0.75	-0.241 ± 0.354	-0.147 ± 0.430
PRF-fit source offset from KIC position	0.142 ± 0.411	0.35	-0.085 ± 0.351	-0.114 ± 0.441
photometric centroid source offset	0.98 ± 0.77	1.28	-0.77 ± 0.76	-0.62 ± 0.78

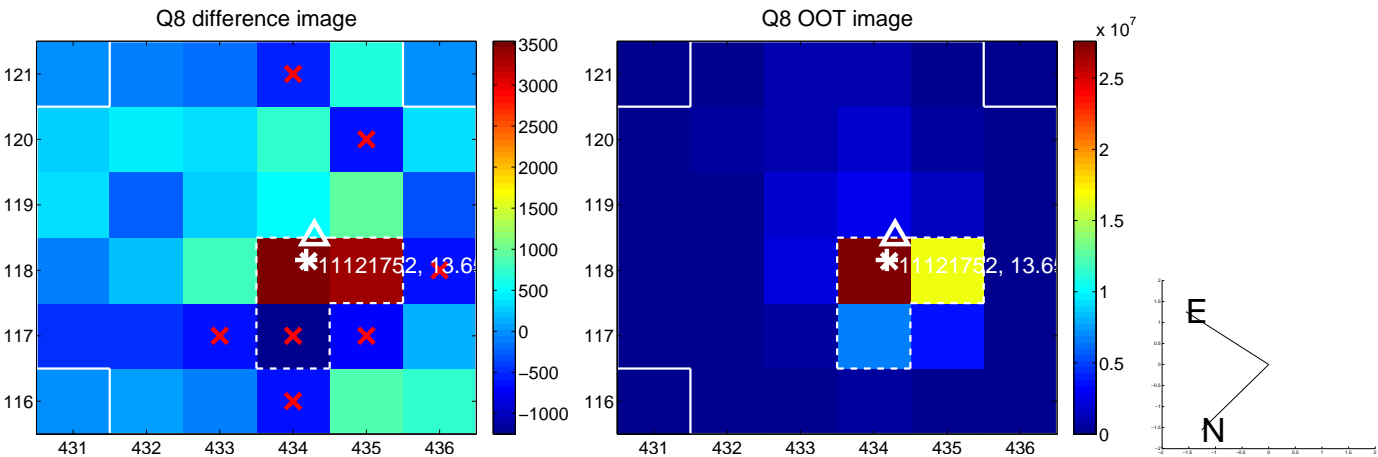
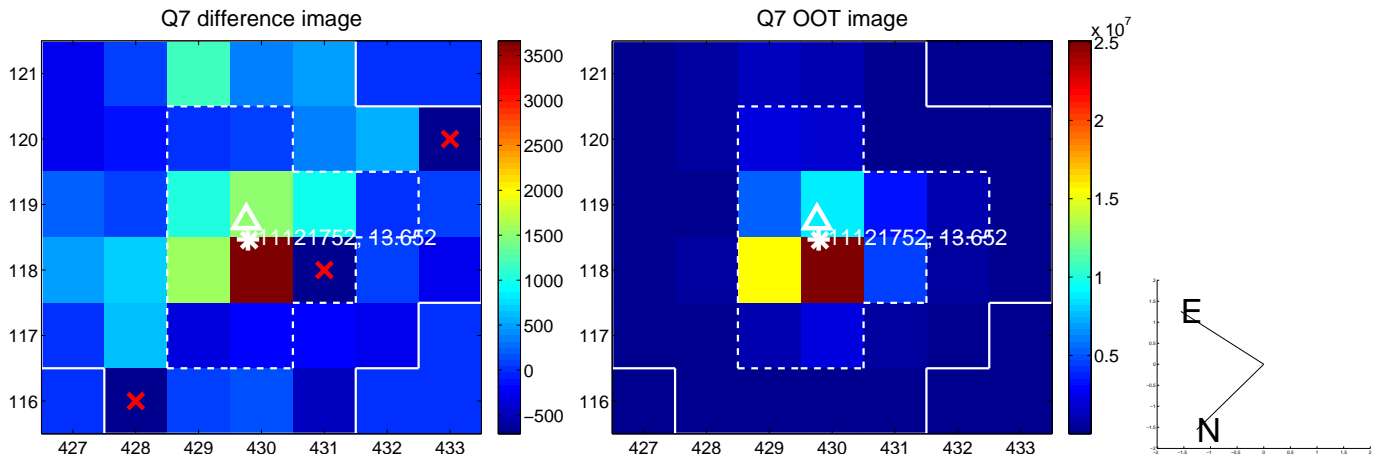
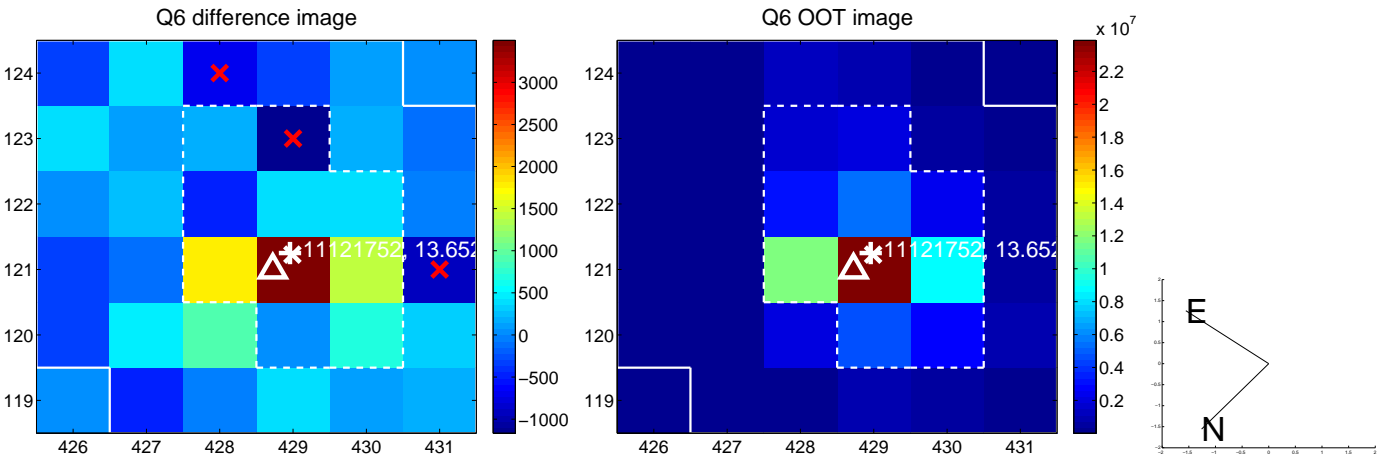
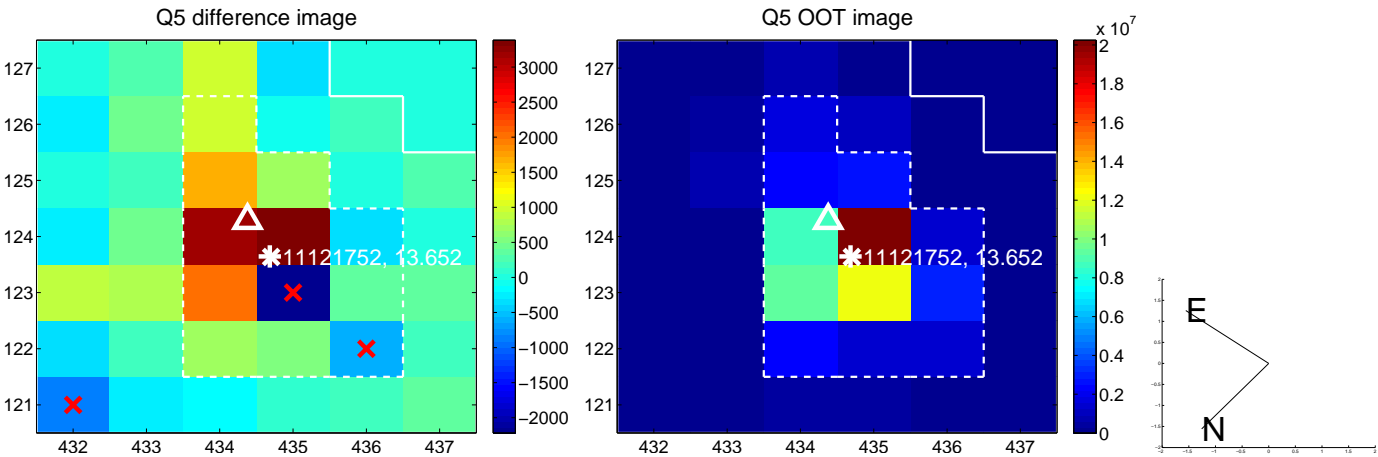


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

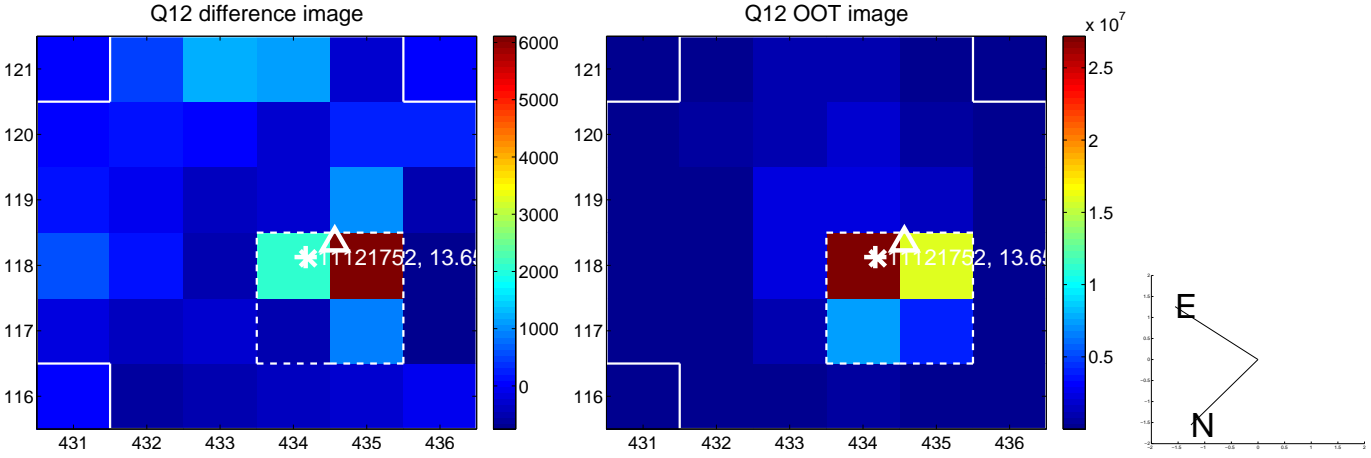
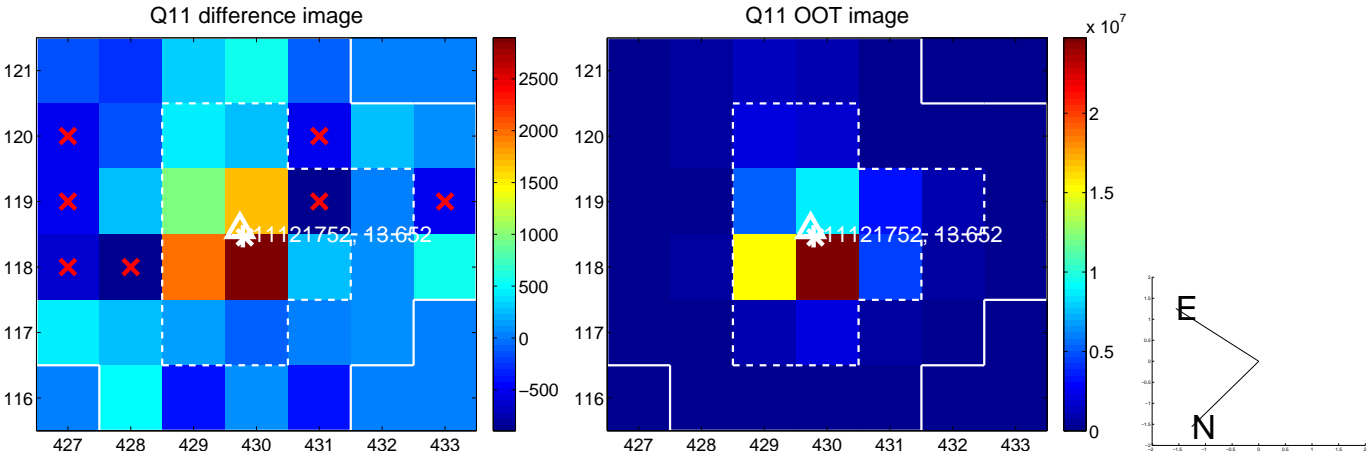
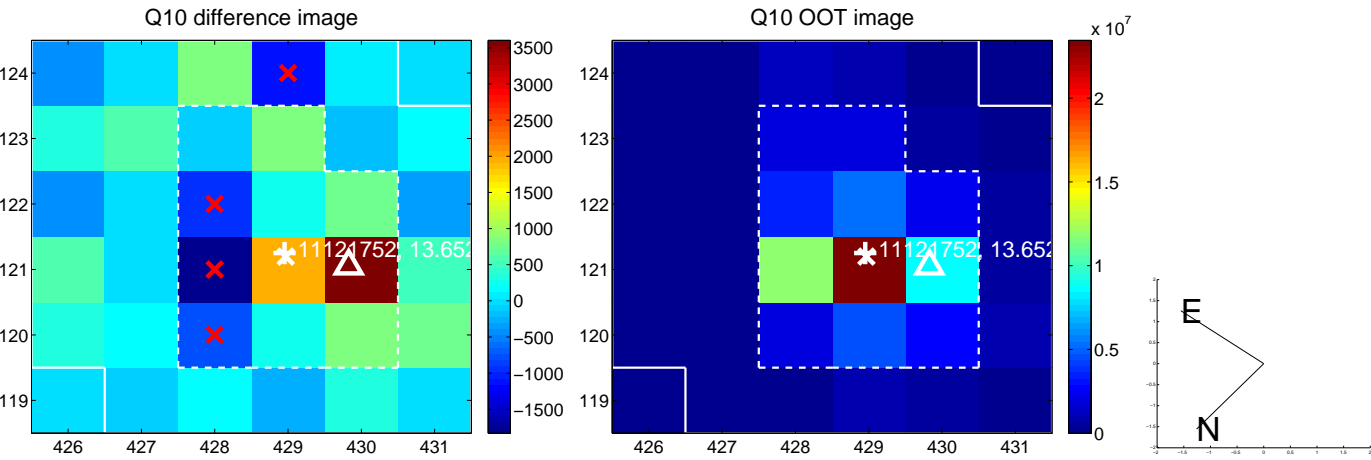
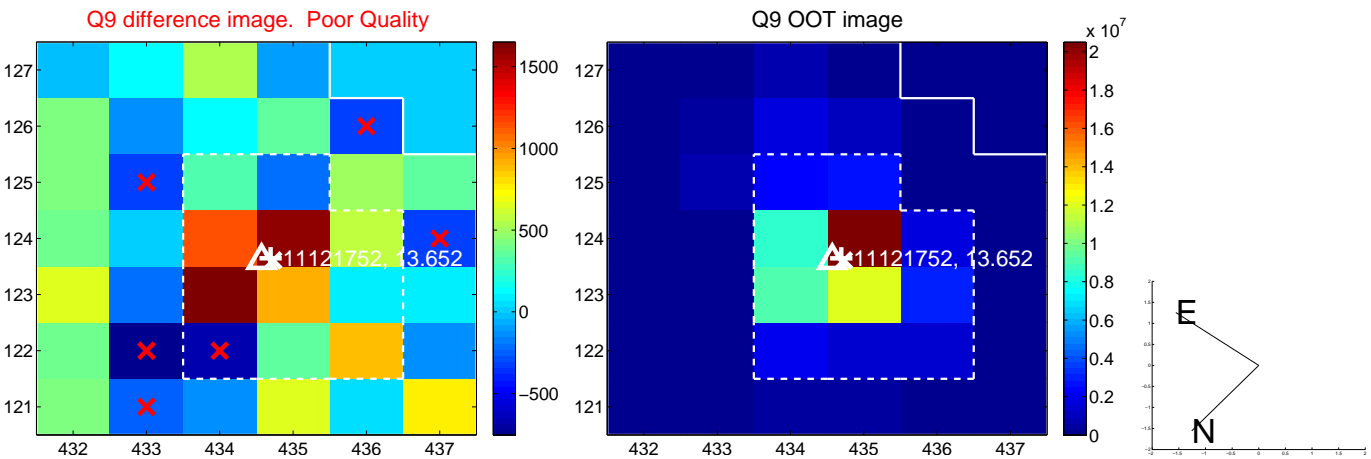
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



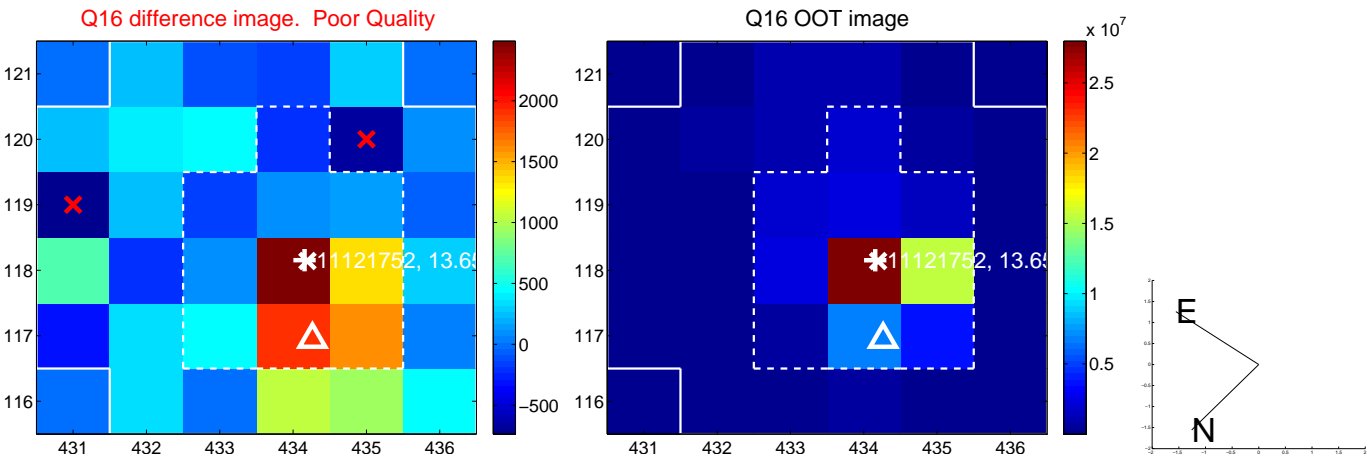
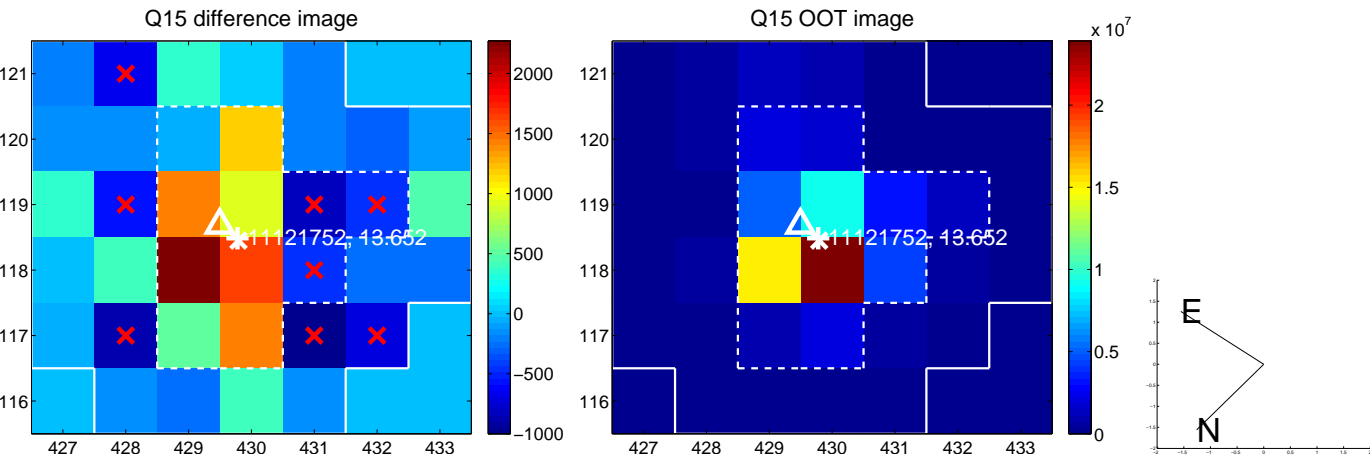
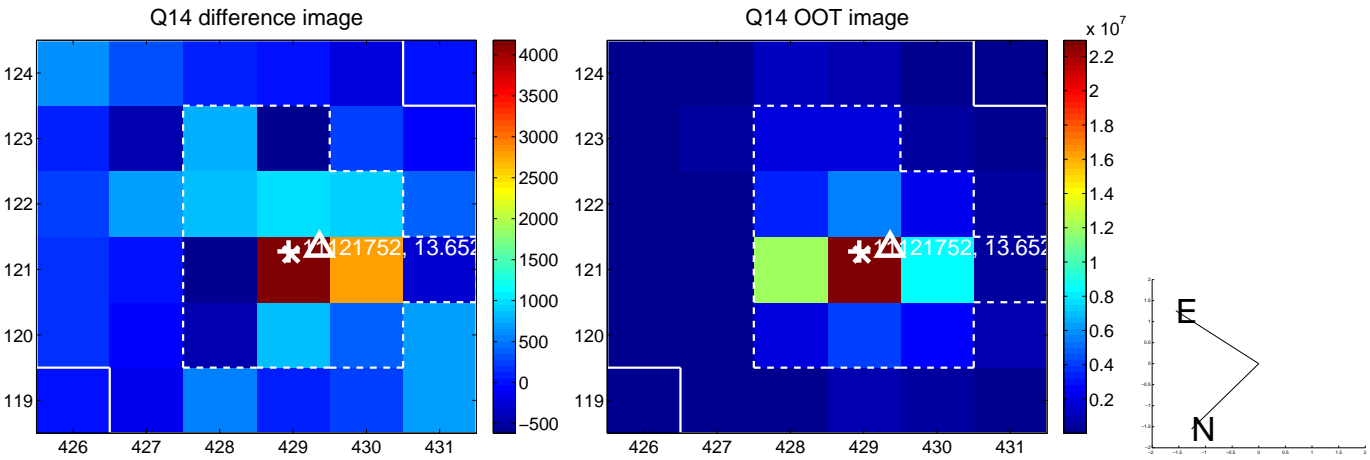
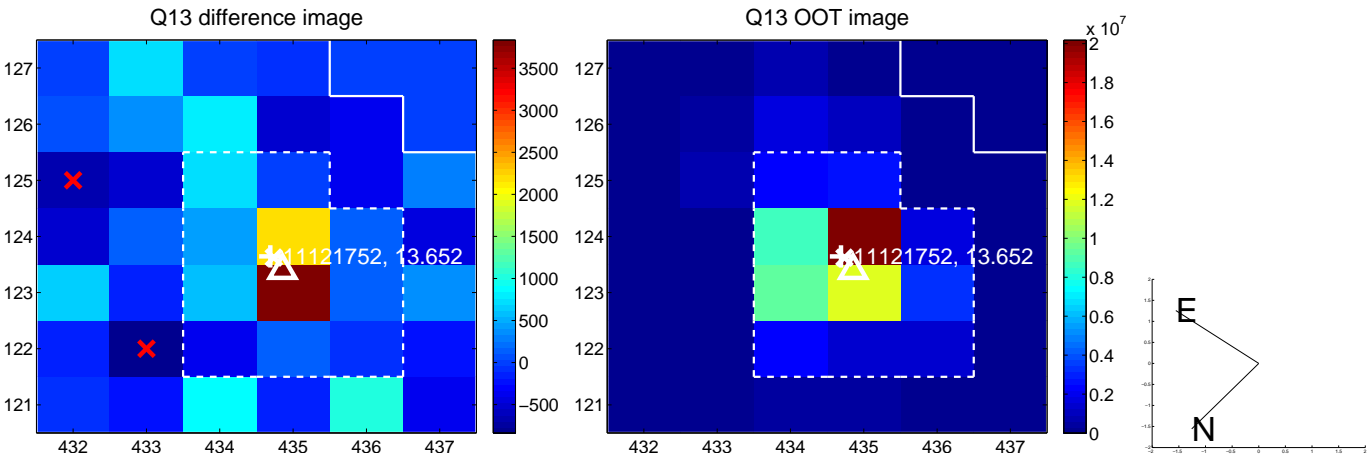
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



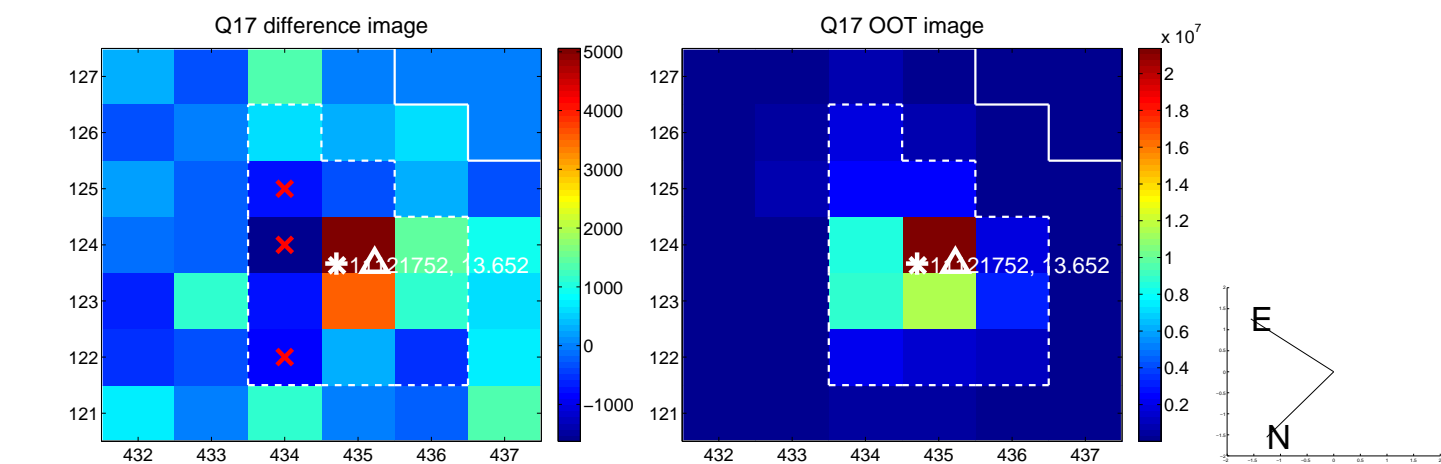
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



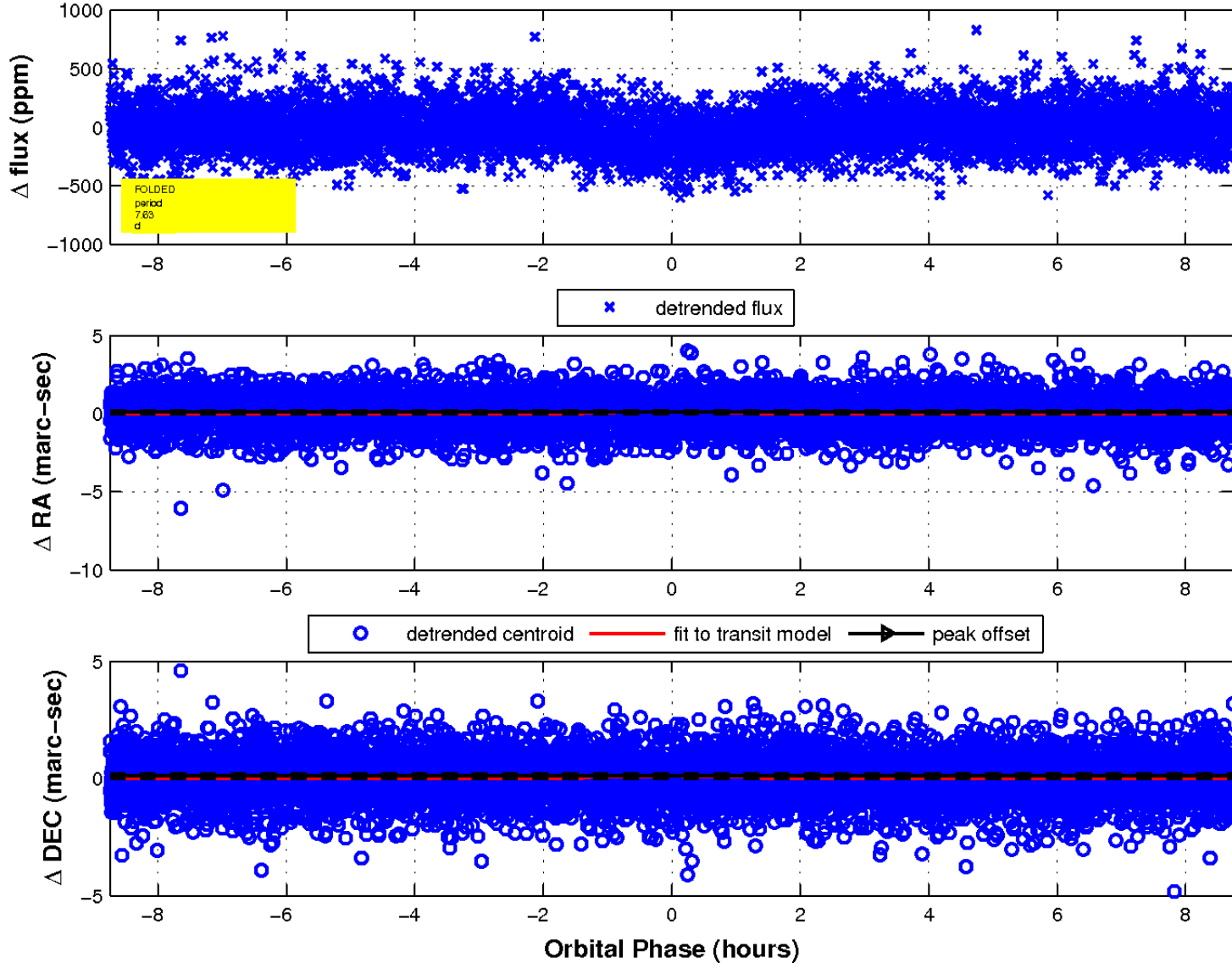
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

