

KIC 011752906

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})
011752906-01	OBS	0253.01	6.383154	132.306504	2377.4	1.986	55.2	63.9	0.58	3757	3.32	18.76
011752906-02	OBS	0253.02	20.618208	145.506759	810.4	4.158	12.3	14.3	0.58	3757	2.20	3.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011752906-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
011752906-02	OBS	PC	0.99	0	0	0	0	CENT_KIC_POS

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

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

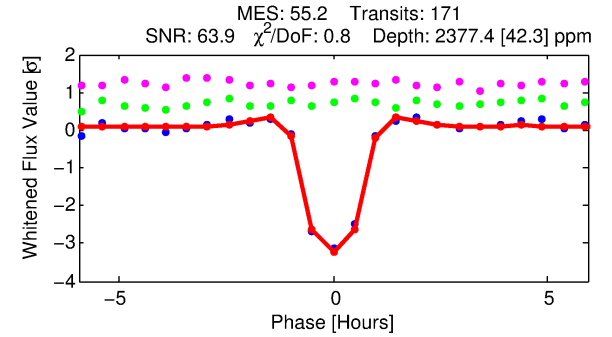
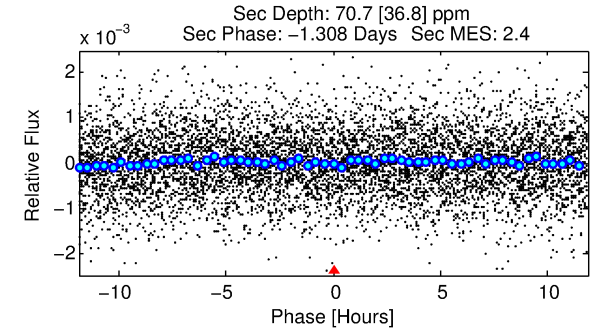
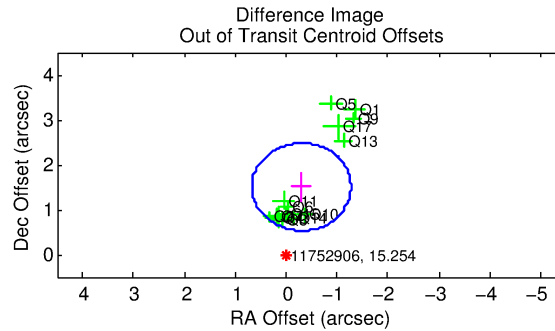
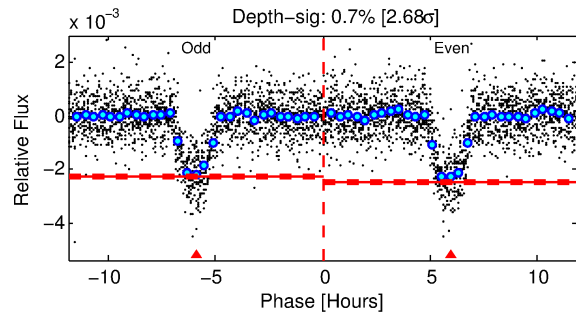
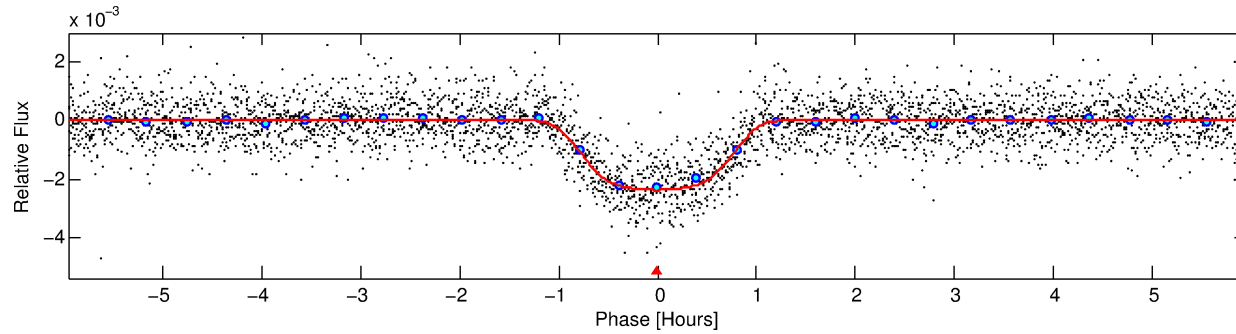
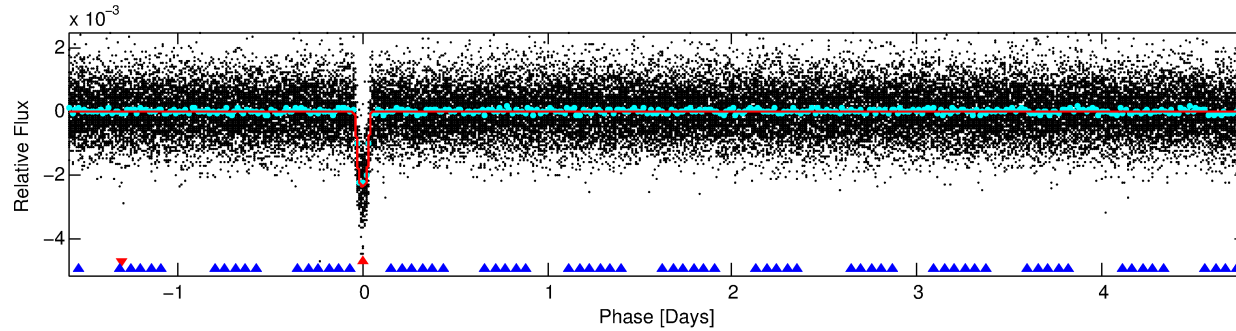
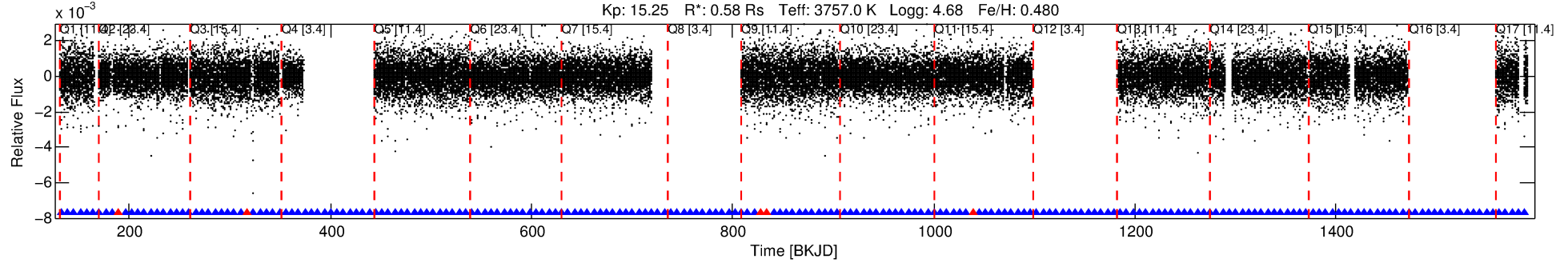
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011752906-01

No Significant Match Found

DV One-Page Summary

KIC: 11752906 Candidate: 1 of 2 Period: 6.383 d
KOI: K00253.01 Corr: 0.941



DV Fit Results:

Period = 6.38315 [0.00001] d
Epoch = 132.3065 [0.0006] BKJD
Rp/R* = 0.0528 [0.0029]
a/R* = 14.91 [2.65]
b = 0.86 [0.06]
Seff = 18.76 [2.13]
Teq = 531 [15] K
Rp = 3.32 [0.27] Re
a = 0.0562 [0.0029] AU
Ag = 11.15 [5.97] [1.70 σ]
Teffp = 1499 [202] K [4.79 σ]

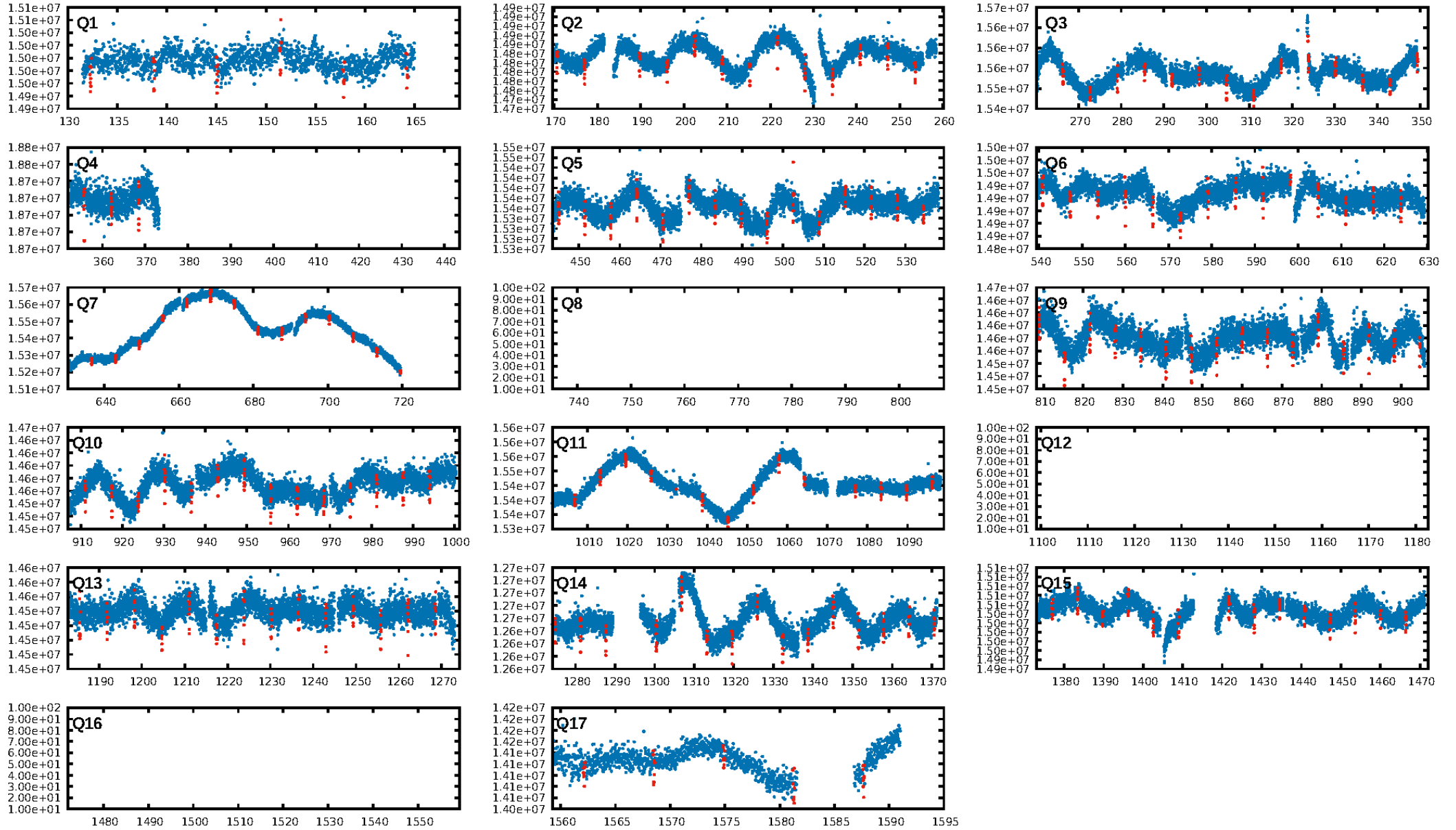
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [74.14 σ]
ModelChiSquare2-sig: 86.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.97 [152/157]
GhostDiagnostic-chr: 3.463
Centroid-sig: 0.0%
Centroid-so: 1.004 arcsec [9.30 σ]
OotOffset-rm: 1.534 arcsec [4.72 σ]
KicOffset-rm: 0.451 arcsec [4.92 σ]
OotOffset-st: 4/4/1/5 [14]
KicOffset-st: 4/4/1/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

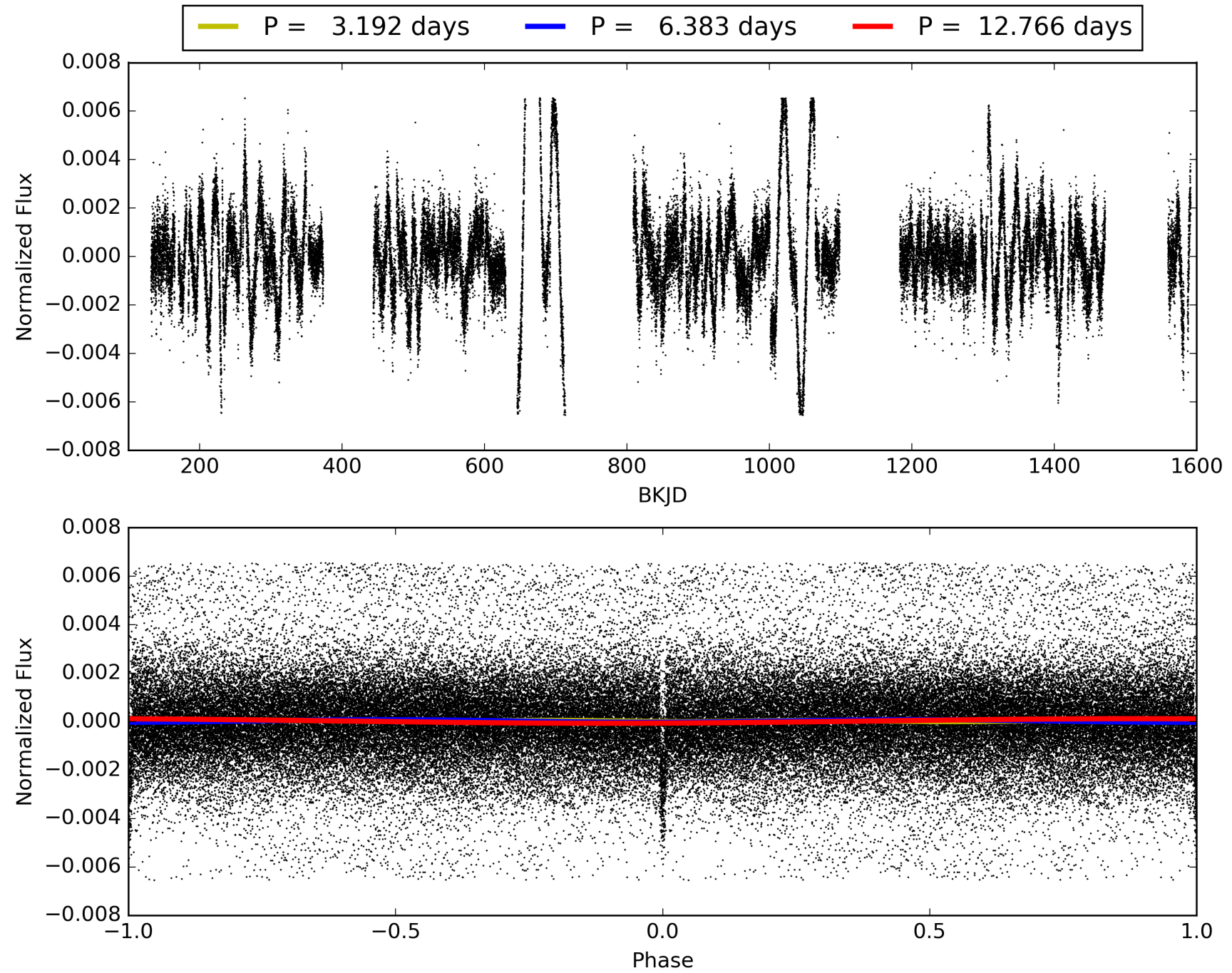
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 011752906-01, PDC Light Curves

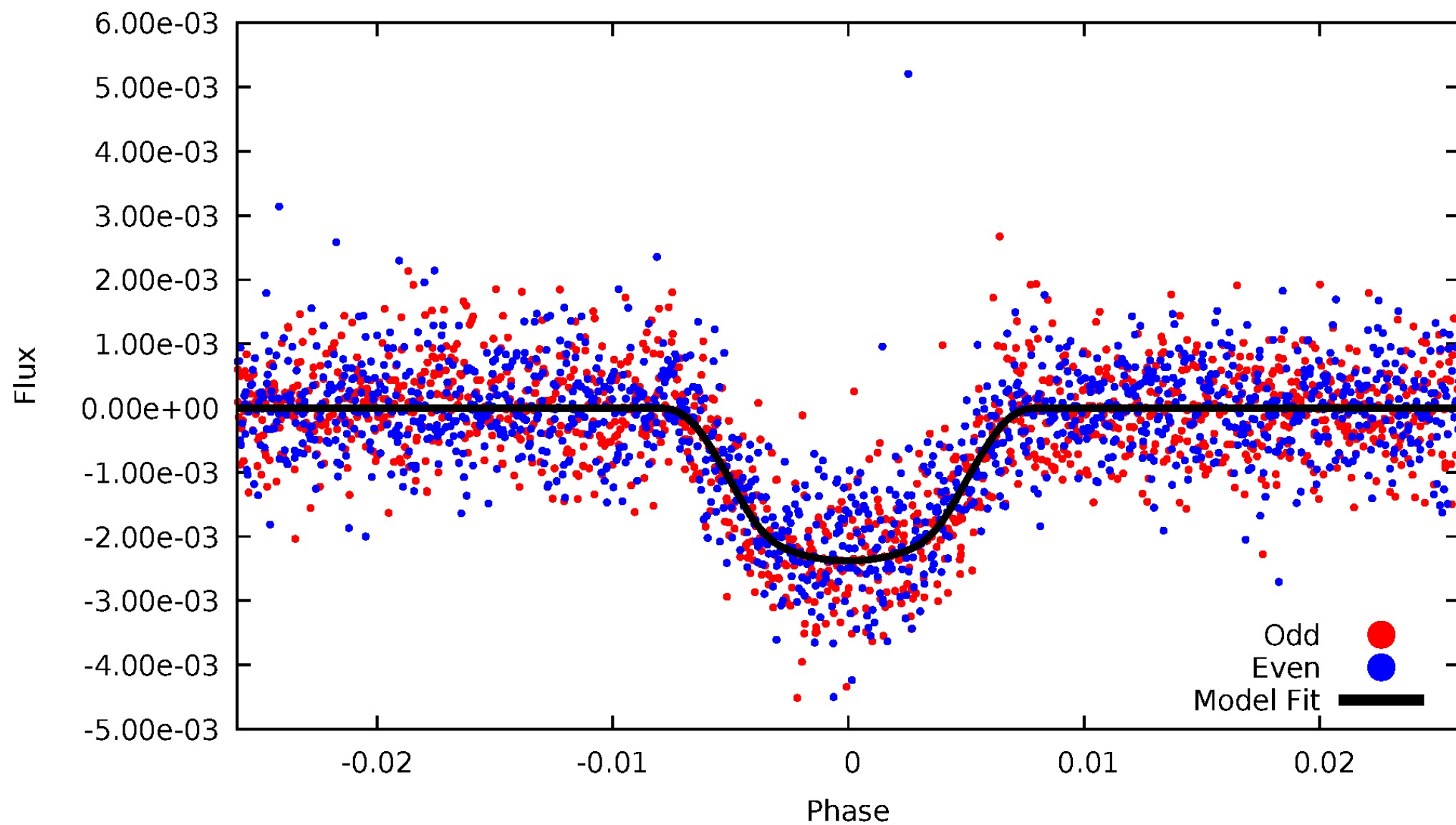


TCE 011752906-01



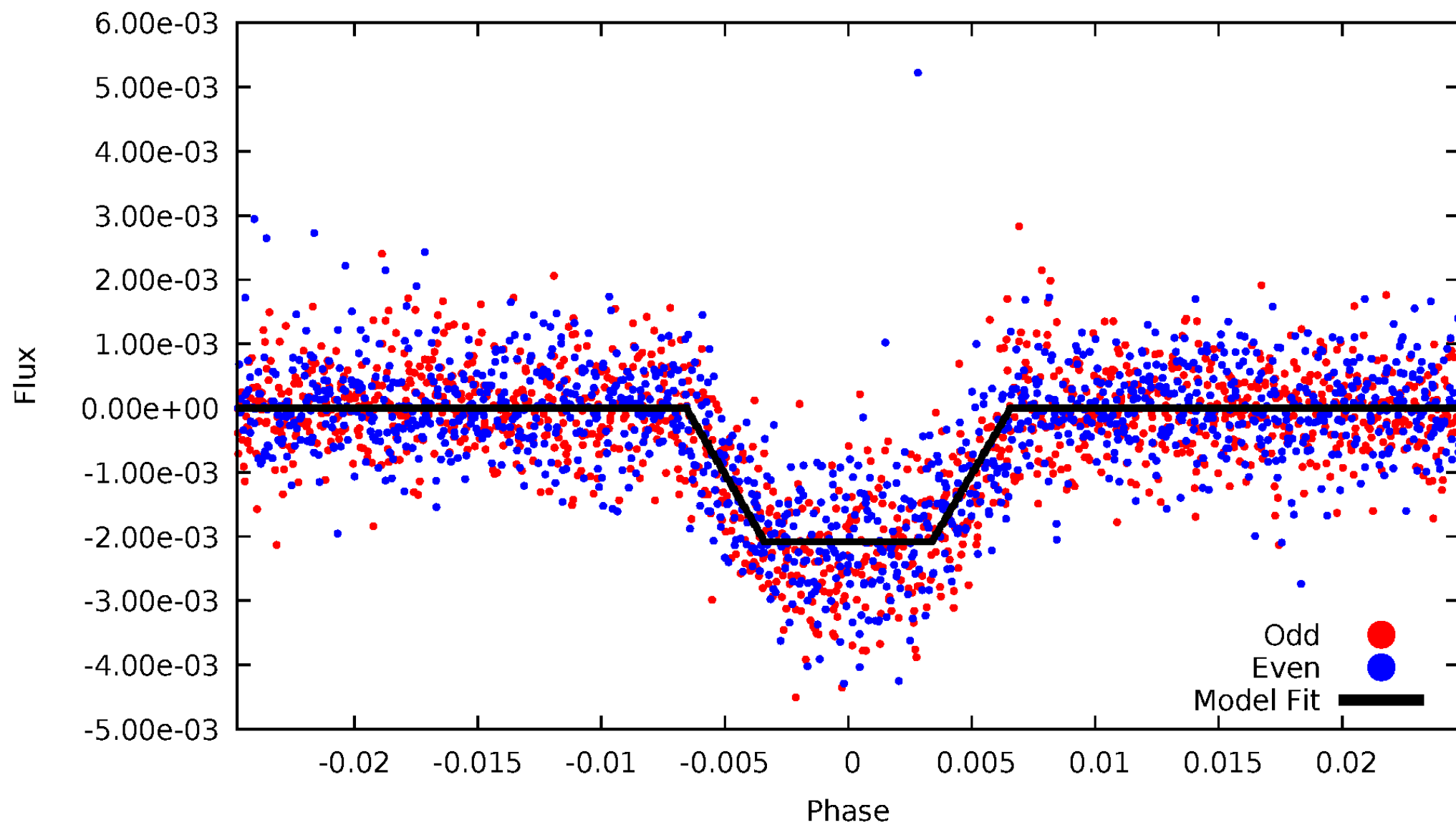
DV Odd/Even

TCE 011752906-01



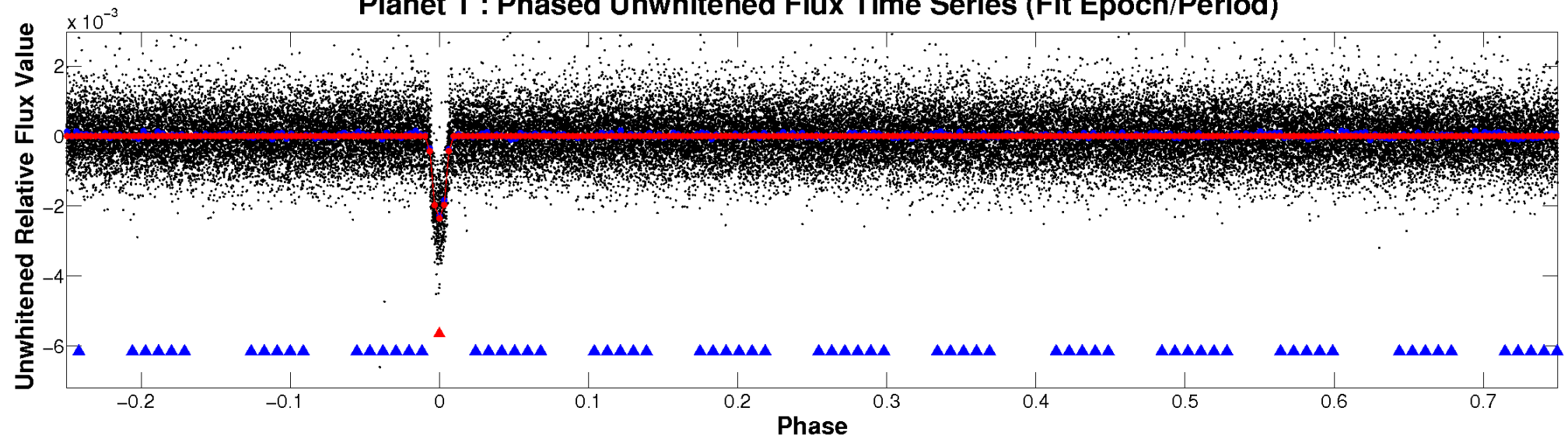
ALT Odd/Even

TCE 011752906-01

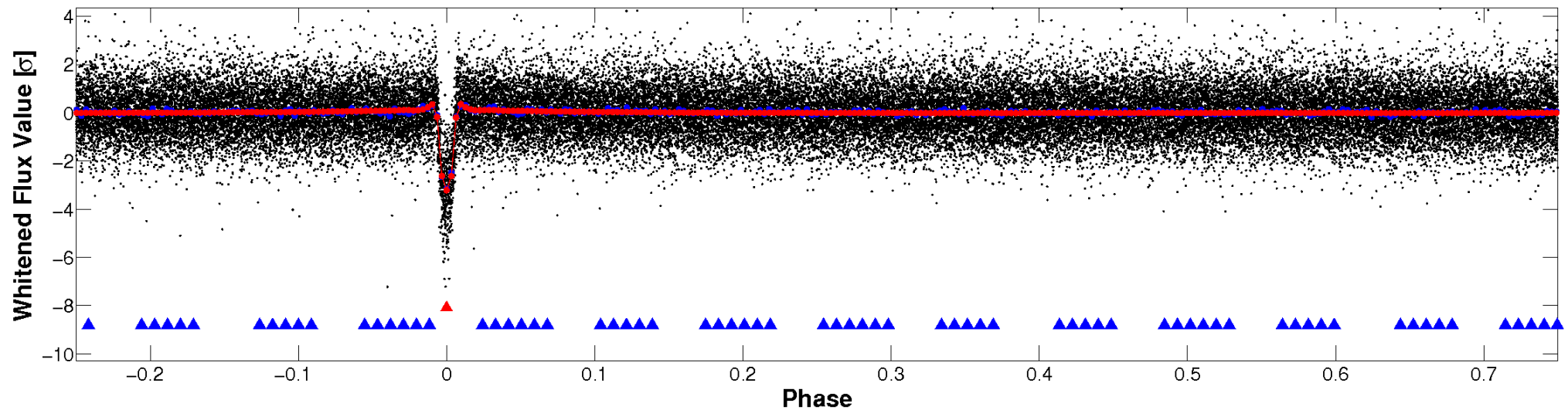


Non-Whitened Vs. Whitened Light Curve

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

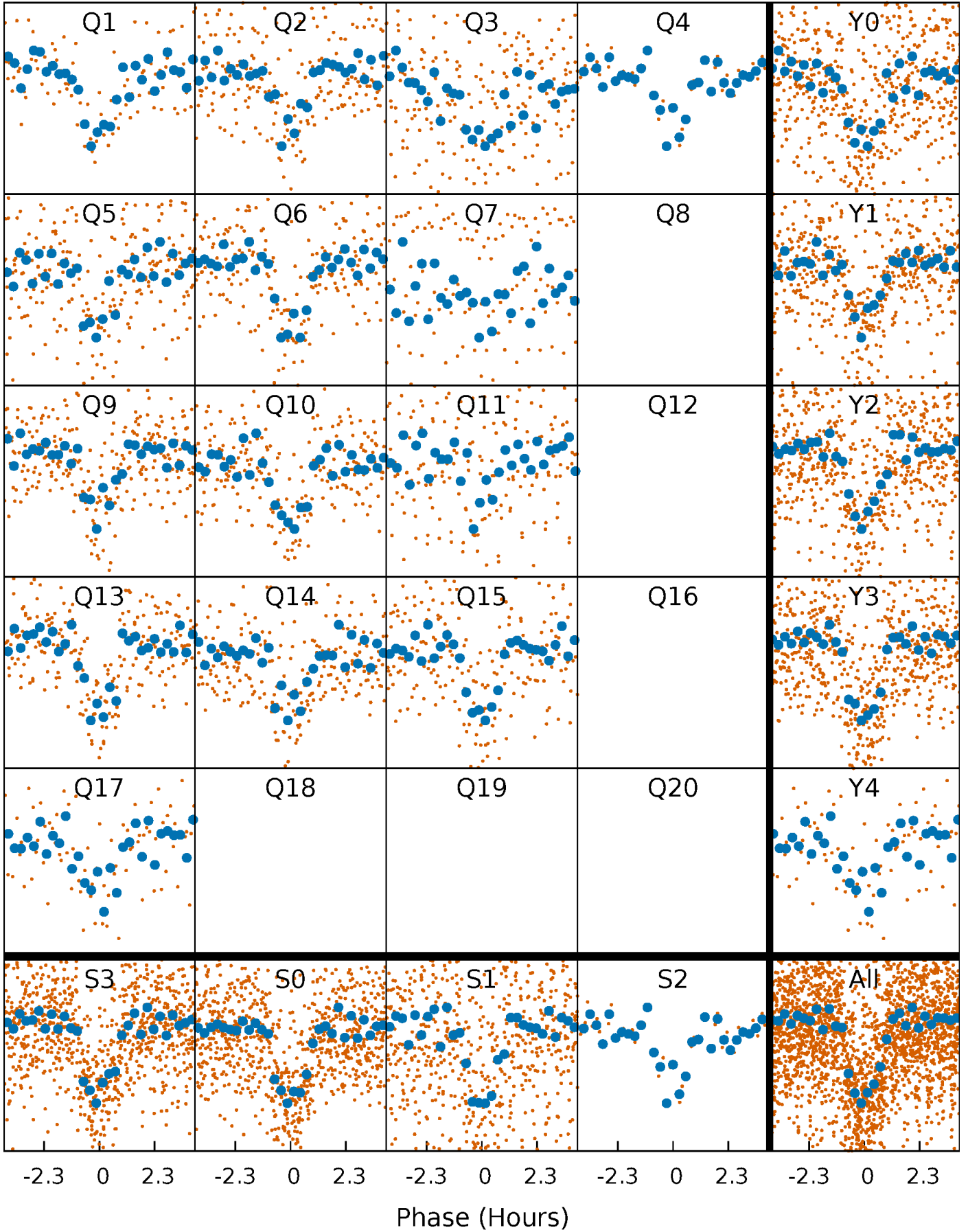


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



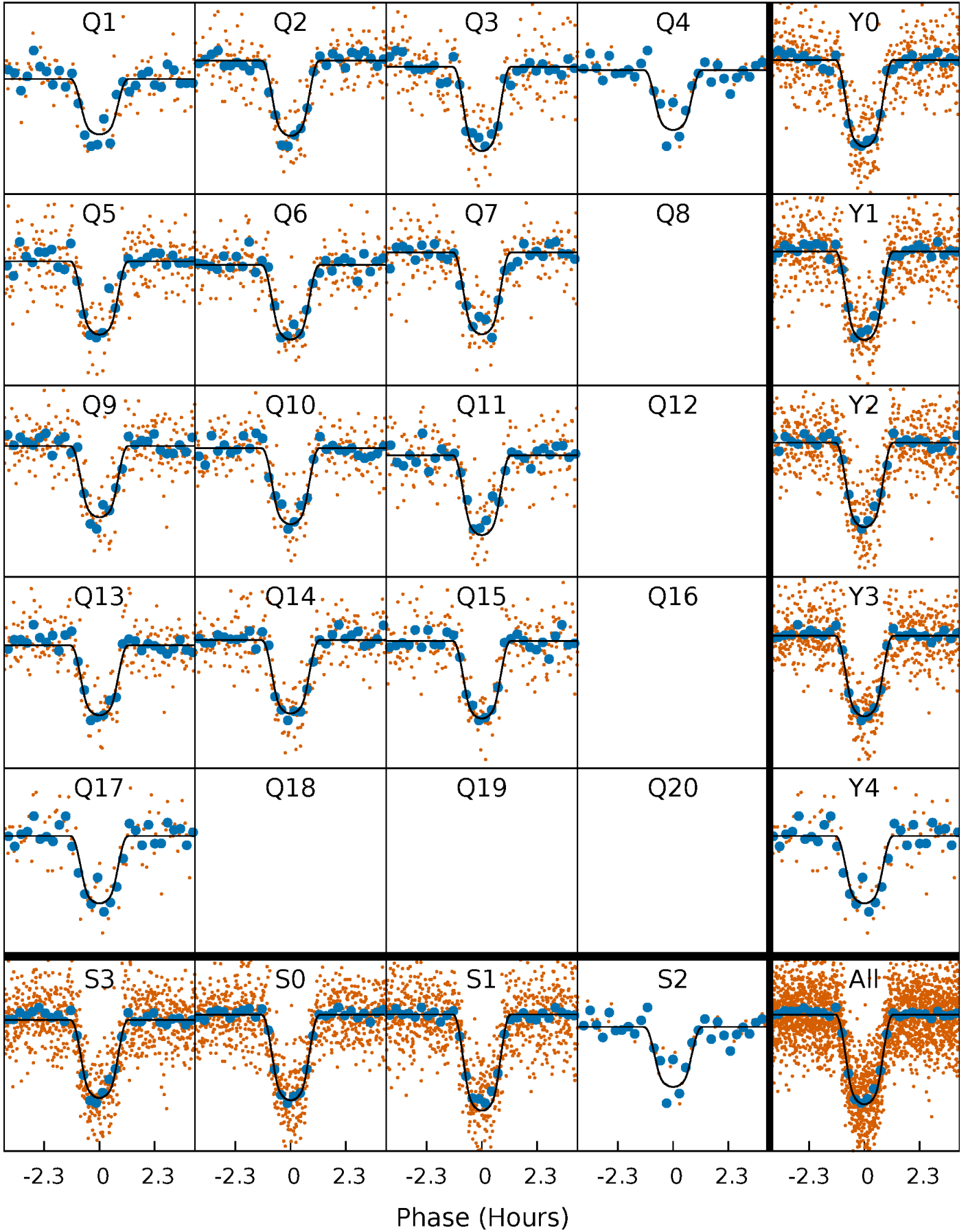
PDC Quarter-Phased Transit Curves

TCE 011752906-01 P= 6.383154 Days $T_0=132.306504$ (BKJD)



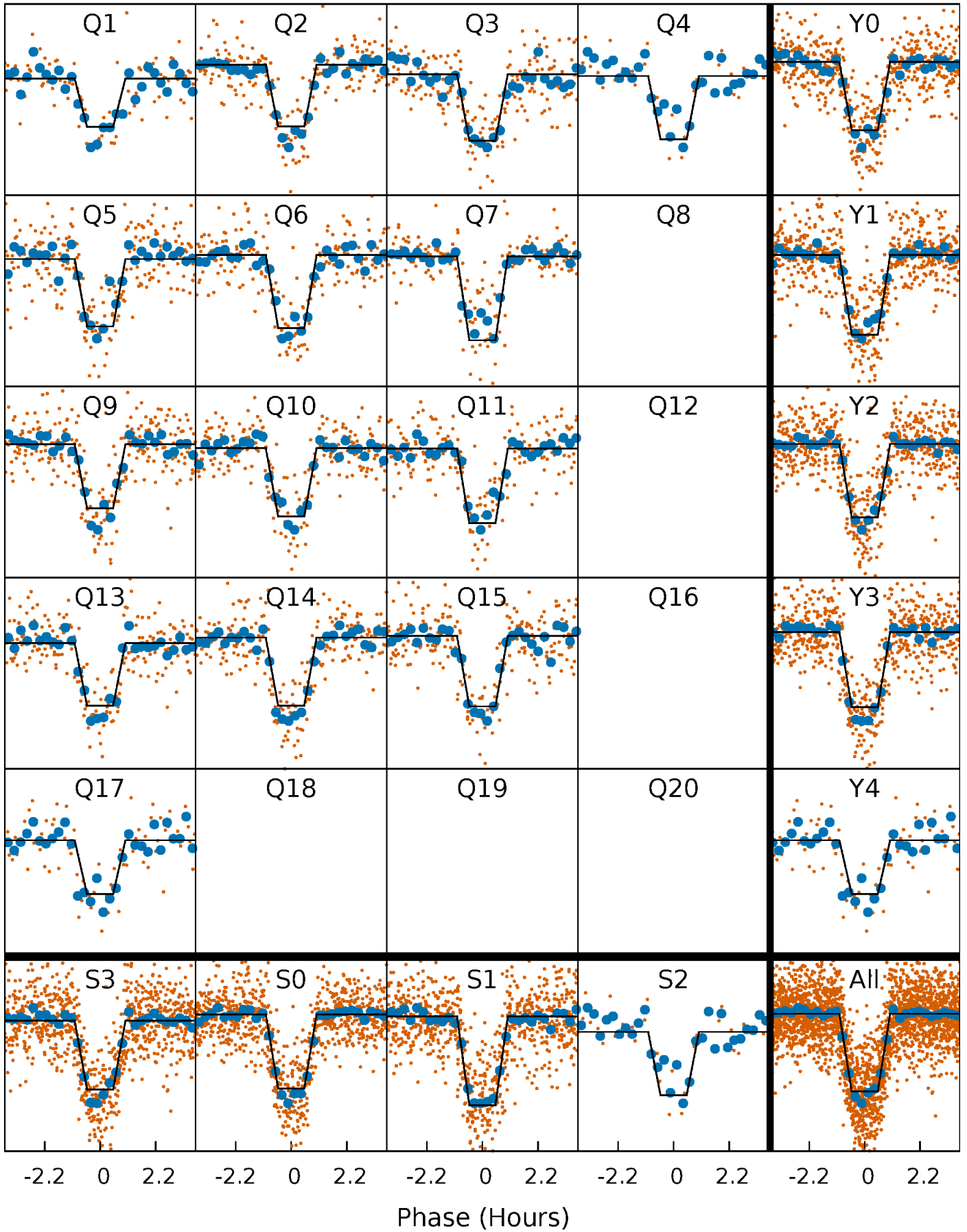
DV Quarter-Phased Transit Curves

TCE 011752906-01 P= 6.383154 Days $T_0=132.306504$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

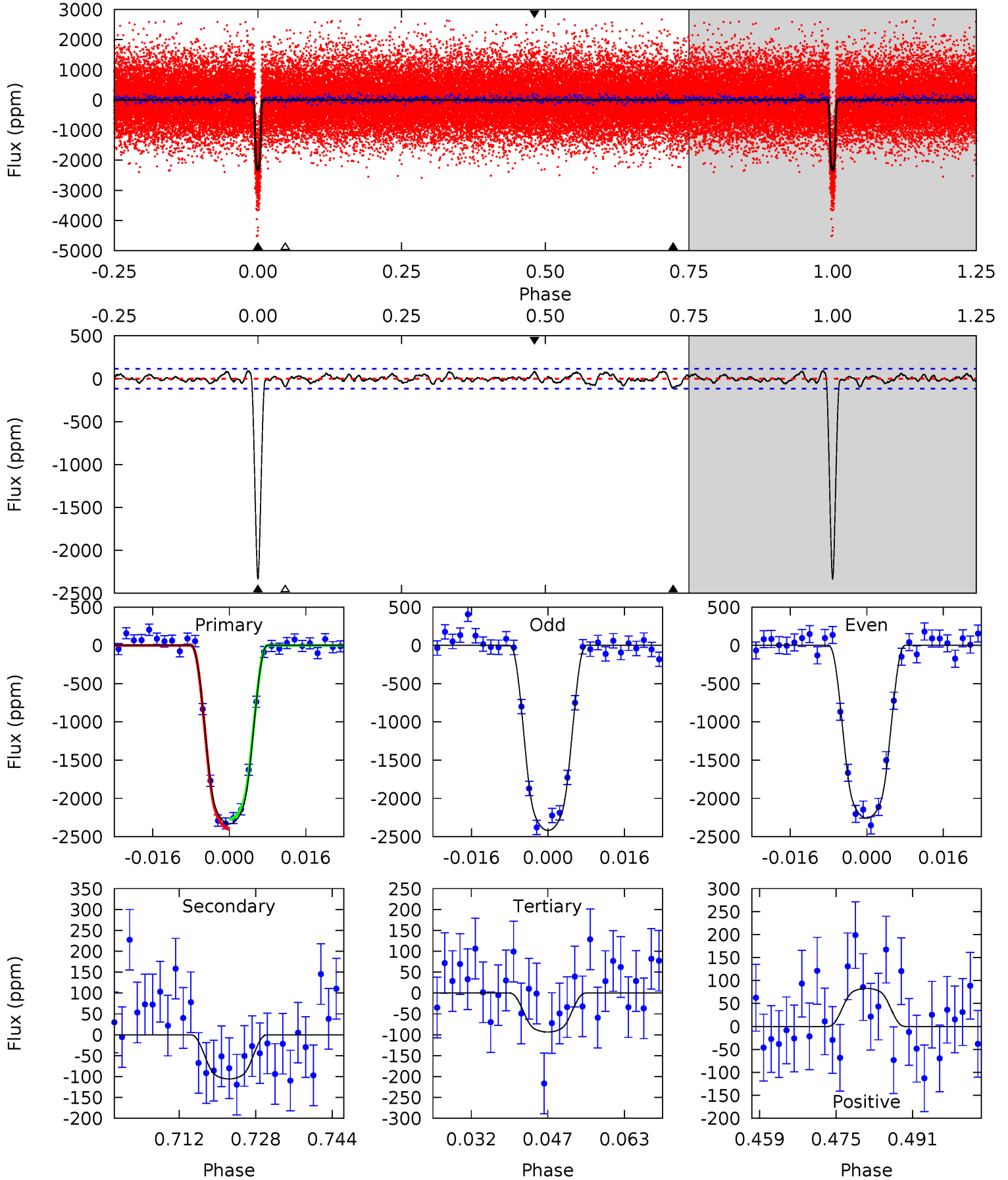
TCE 011752906-01 P= 6.383178 Days $T_0=132.303271$ (BKJD)



DV Model-Shift Uniqueness Test

011752906-01, P = 6.383154 Days, E = 125.923350 Days

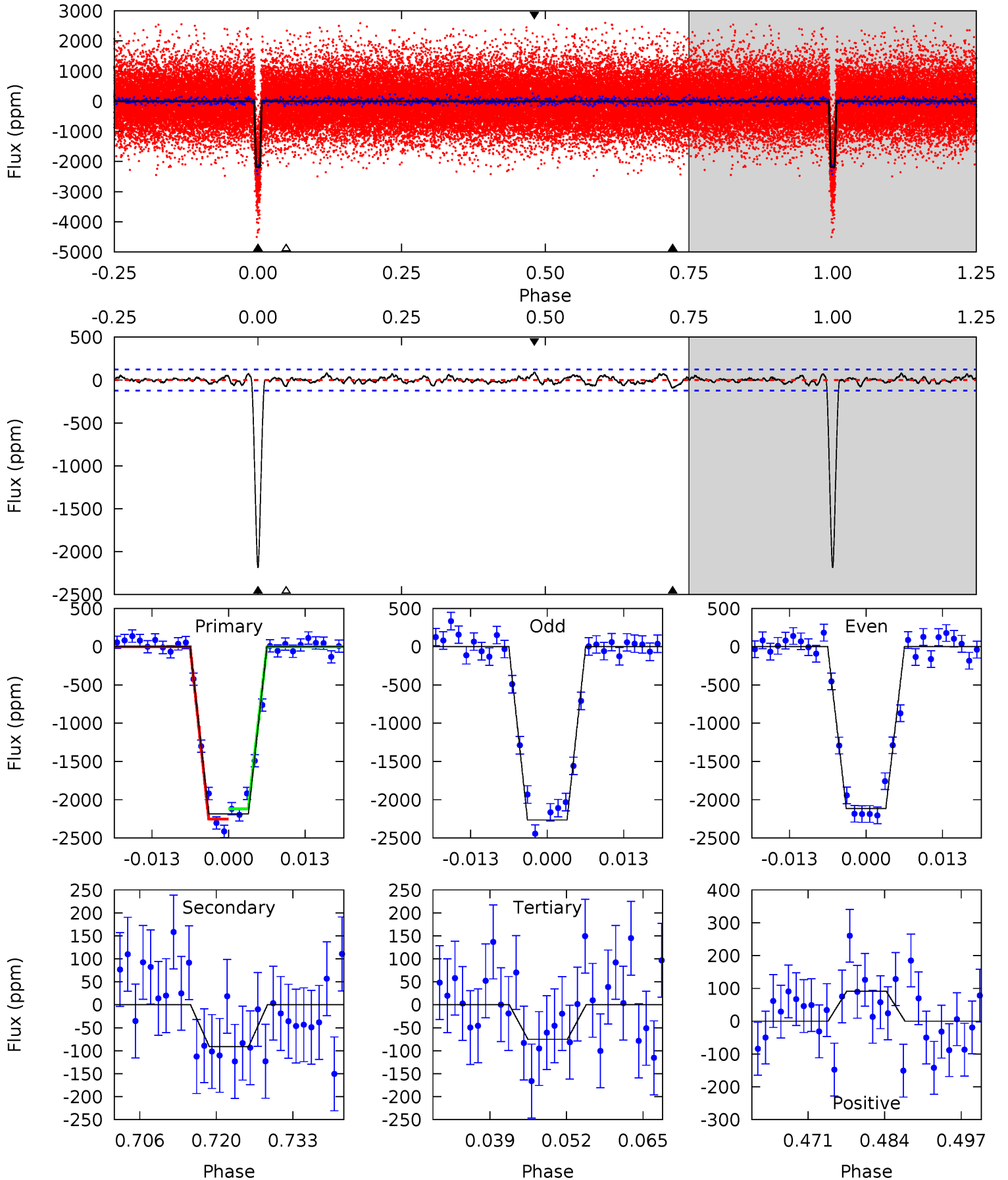
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
99.8	4.52	4.00	3.55	4.94	2.41	1.43	95.8	96.2	0.52	0.97	3.44	0.99	0.04	2.54



Alt Model-Shift Uniqueness Test

011752906-01, P = 6.383178 Days, E = 125.920093 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
88.0	3.66	3.03	3.68	4.97	2.48	1.20	85.0	84.3	0.63	-0.02	2.99	0.98	0.04	2.70



Stellar Parameters For KIC 011752906

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3757^{+74}_{-82}	$4.681^{+0.039}_{-0.015}$	$0.480^{+0.050}_{-0.150}$	$0.576^{+0.022}_{-0.036}$	$0.581^{+0.029}_{-0.029}$	$4.281^{+0.692}_{-0.286}$
	+2%/-2%	+1%/-0%	+10%/-31%	+4%/-6%	+5%/-5%	+16%/-7%
Source	SPE70	SPE60	SPE70	DSEP		

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

Secondary Eclipse Parameters for KIC 011752906-01 / KOI 0253.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-106 ± 23	$3.29^{+0.20}_{-0.18}$	737^{+17}_{-18}	2374^{+80}_{-85}	17^{+4}_{-5}
Alt.	-91 ± 25	$2.85^{+0.20}_{-0.19}$	738^{+14}_{-17}	2413^{+94}_{-94}	20^{+6}_{-6}

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

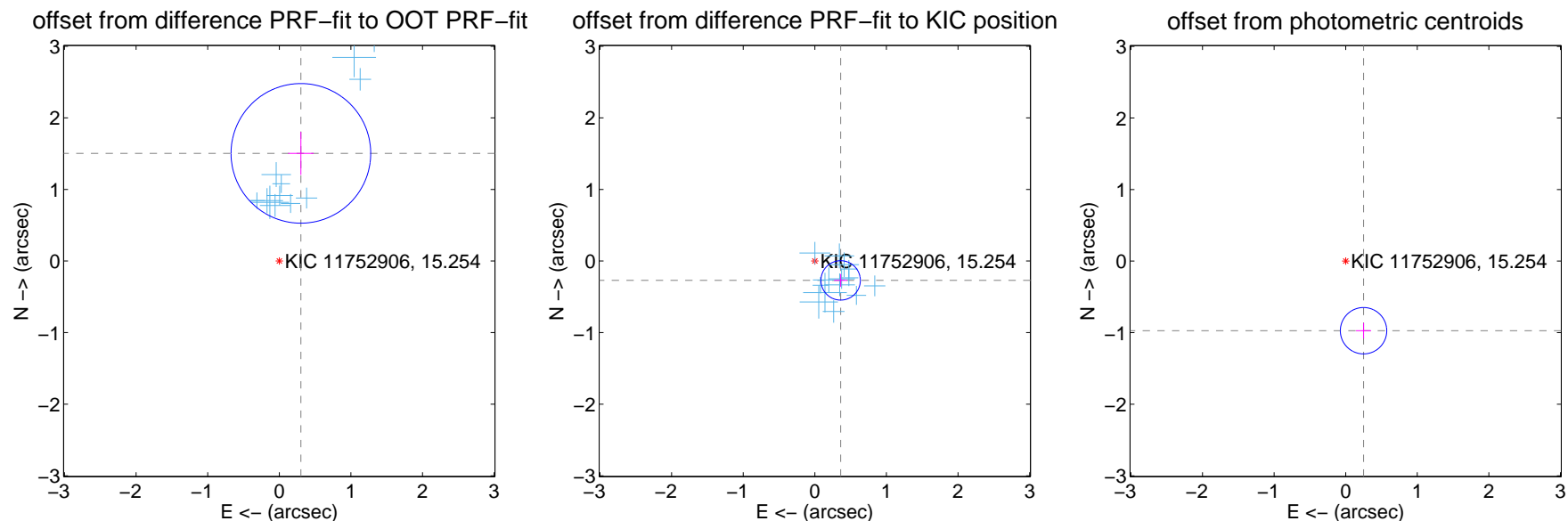
DV Centroid Data

Supplemental centroid analysis for 011752906-01. Kepler magnitude: 15.25. Transit SNR 63.87

There are 14 quarters with good PRF difference image offsets

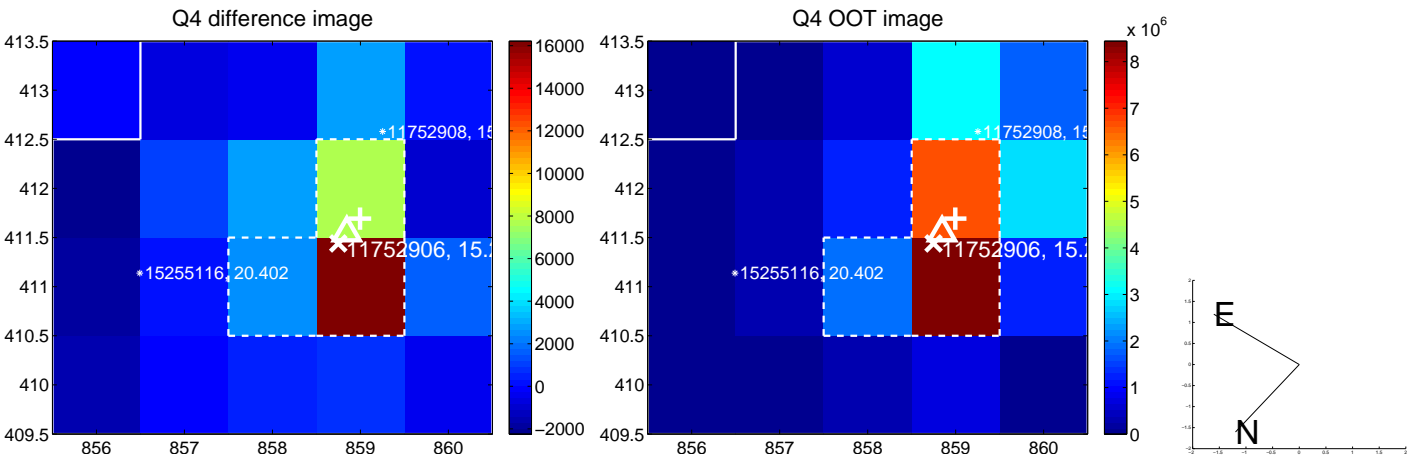
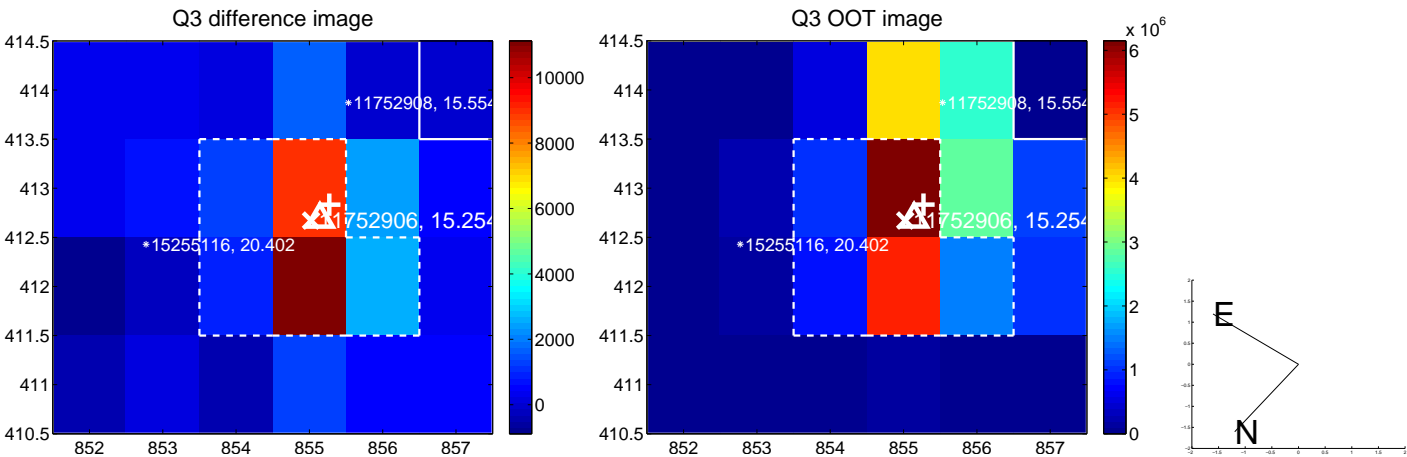
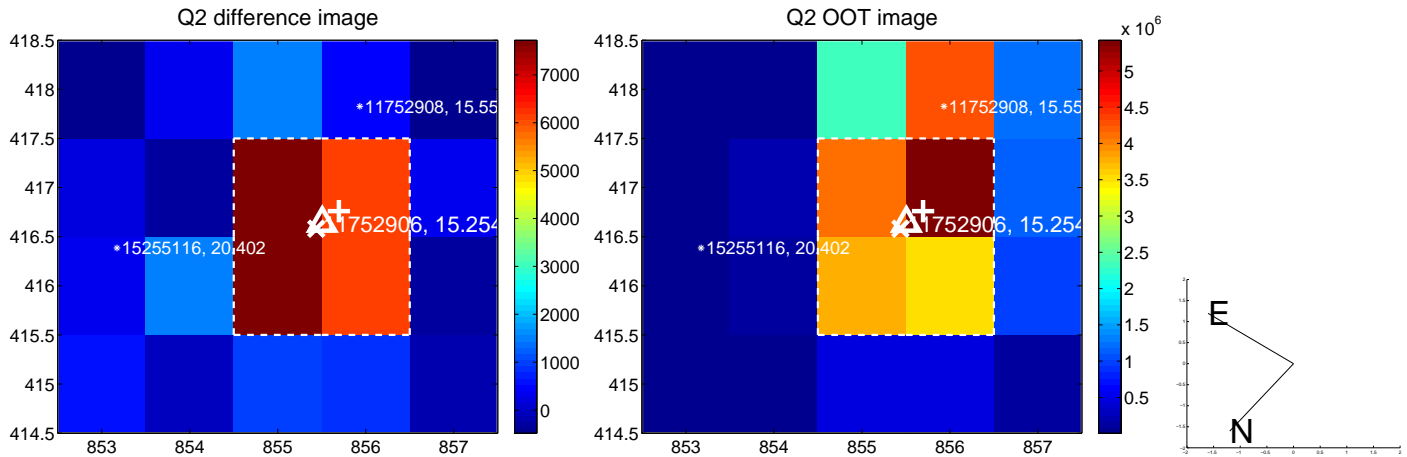
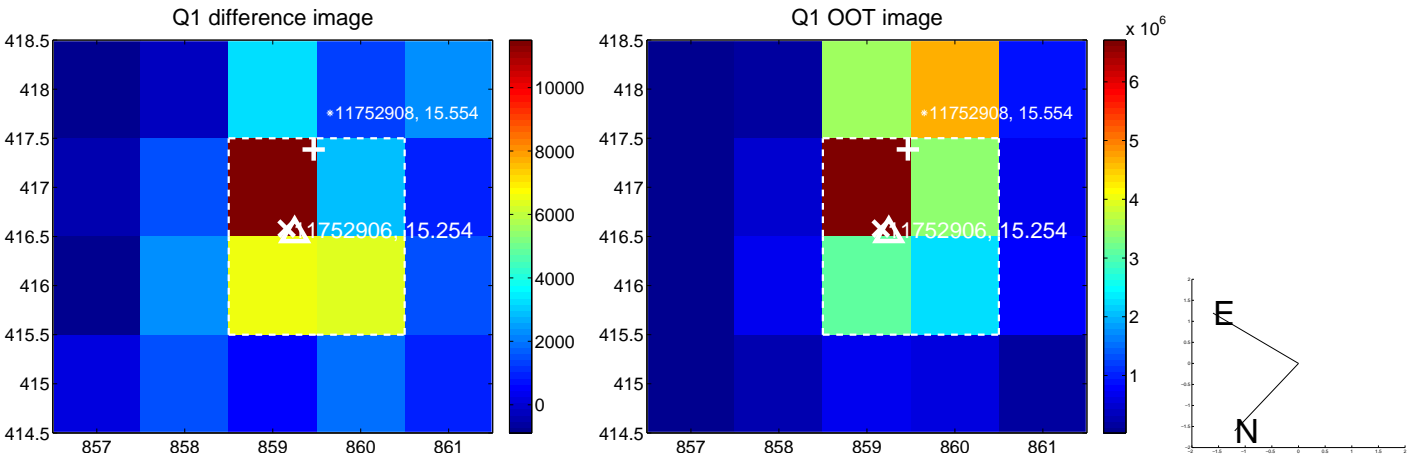
The OOT PRF centroid is offset from the target star catalog position by about 3.41 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.534 ± 0.325	4.72	-0.301 ± 0.178	1.504 ± 0.300
PRF-fit source offset from KIC position	0.451 ± 0.092	4.92	-0.361 ± 0.092	-0.271 ± 0.091
photometric centroid source offset	1.00 ± 0.11	9.30	-0.25 ± 0.11	-0.97 ± 0.11

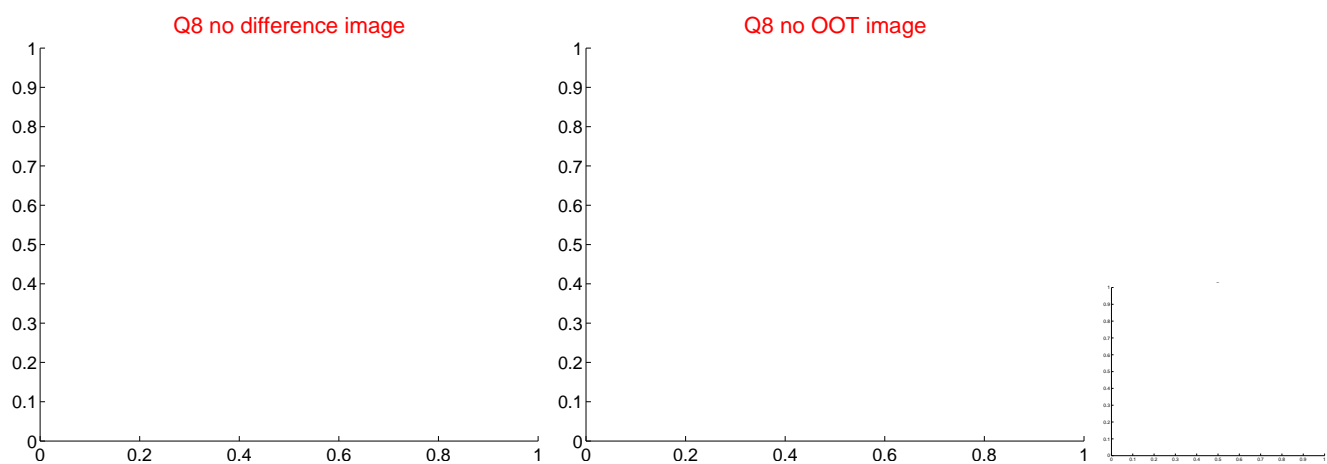
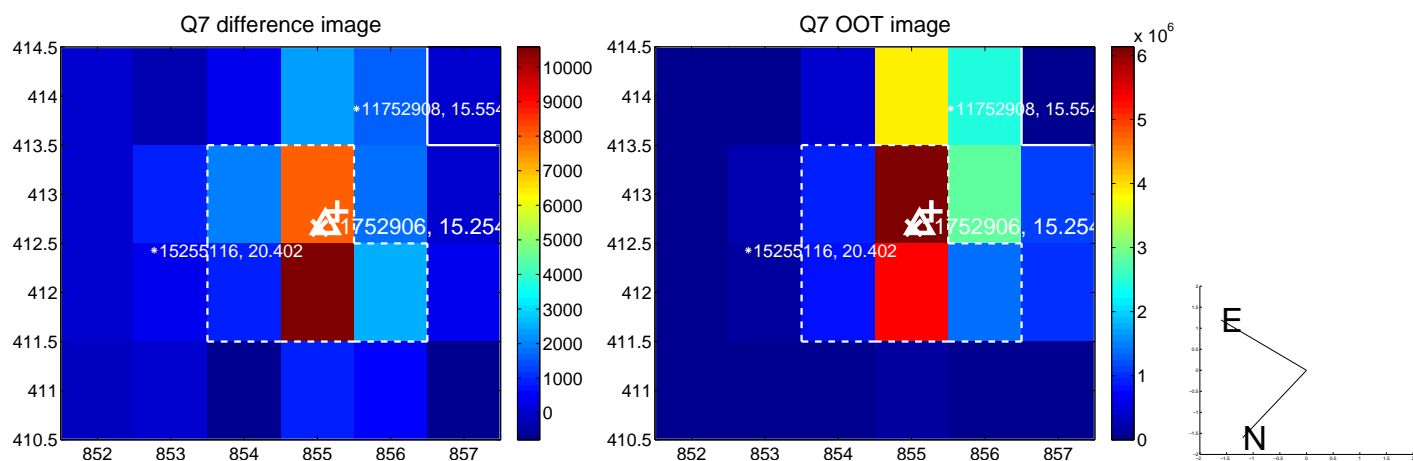
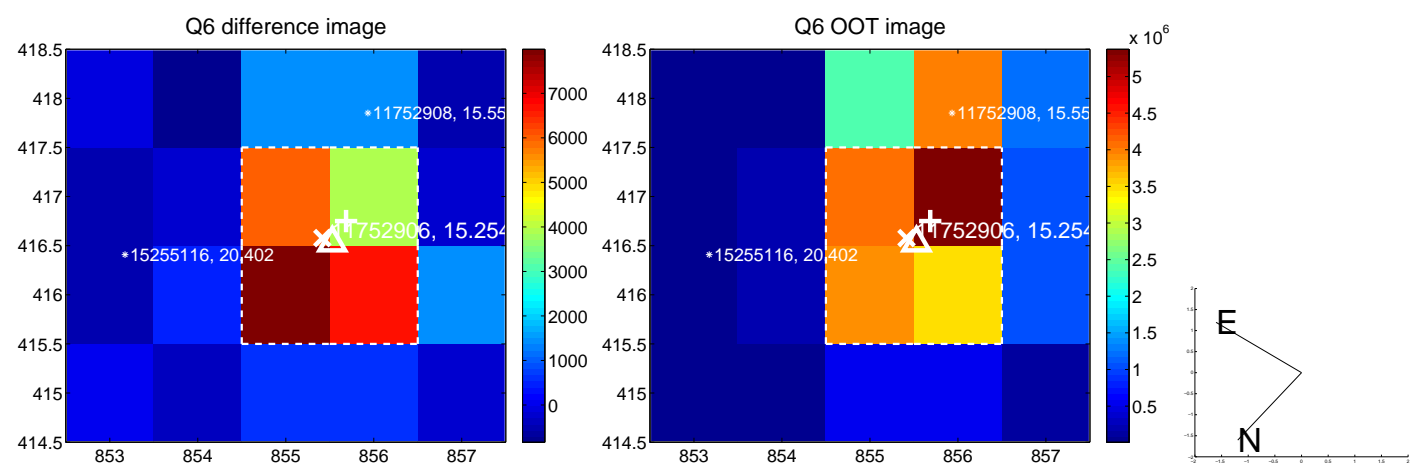
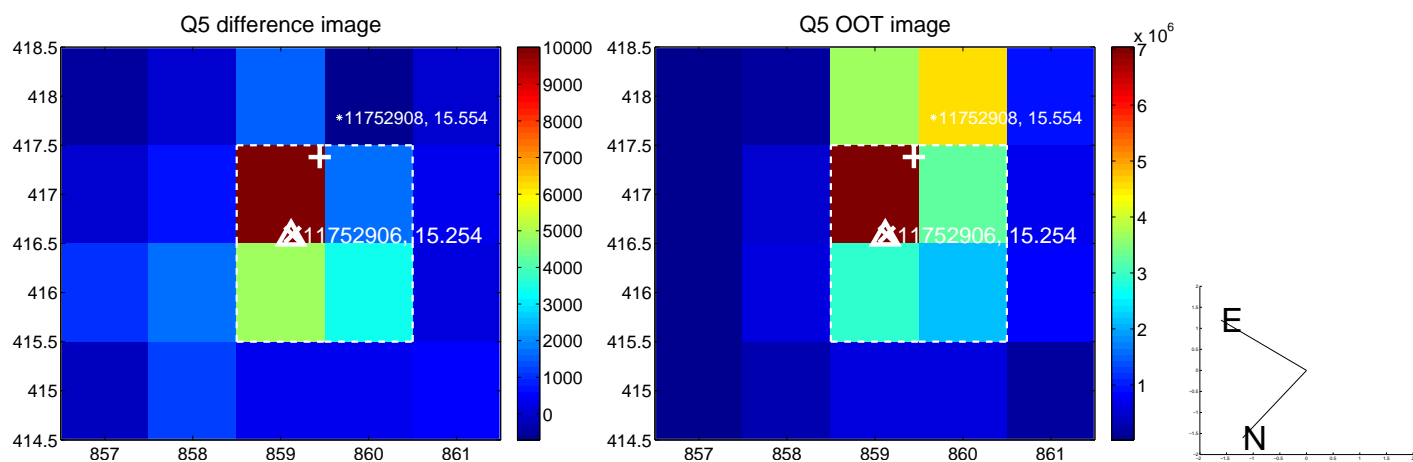


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

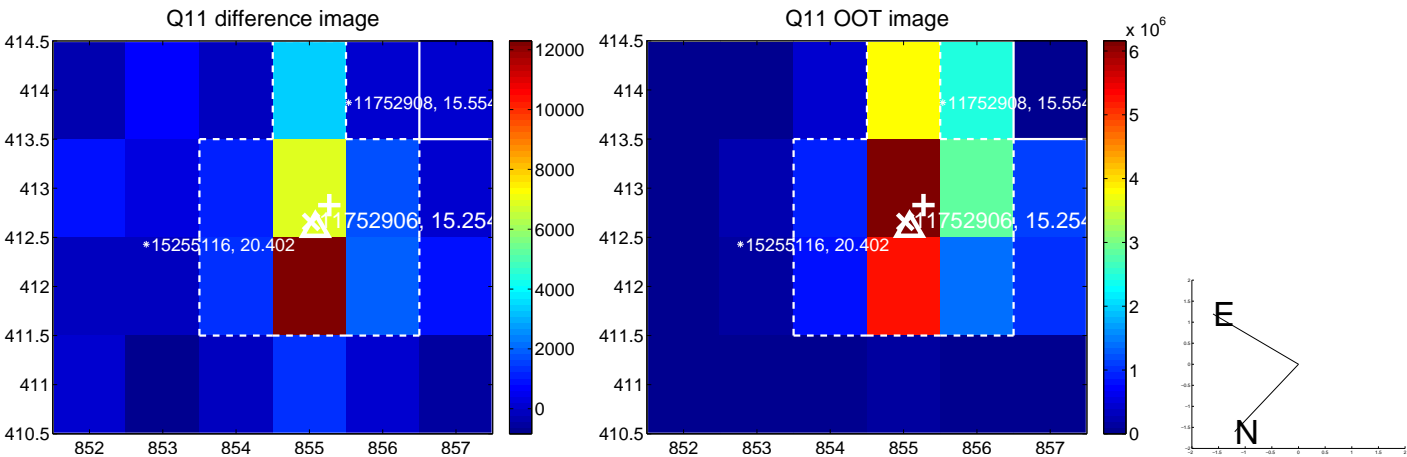
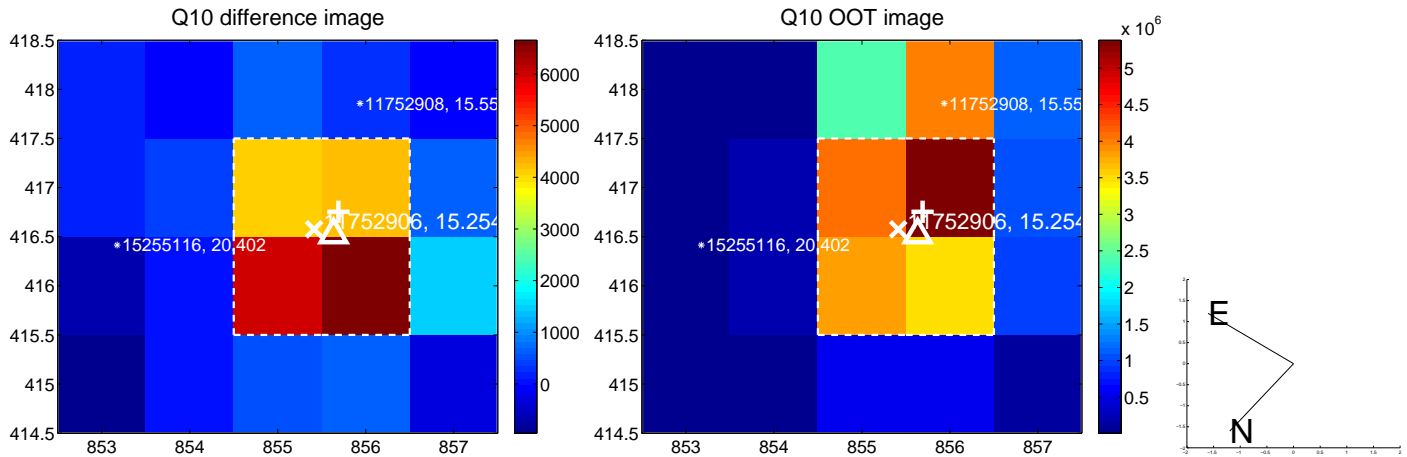
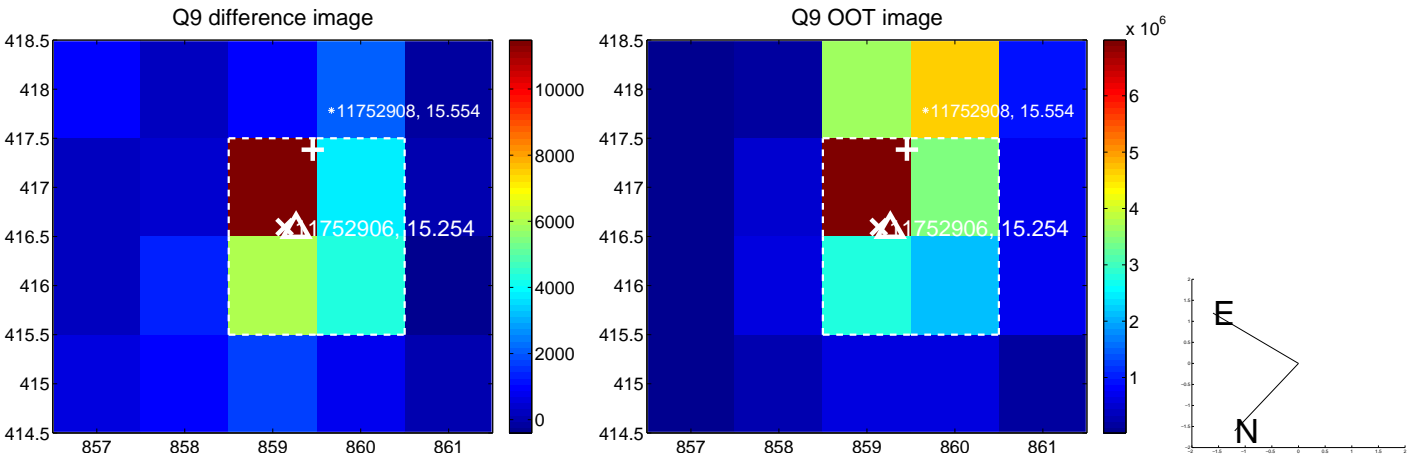
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



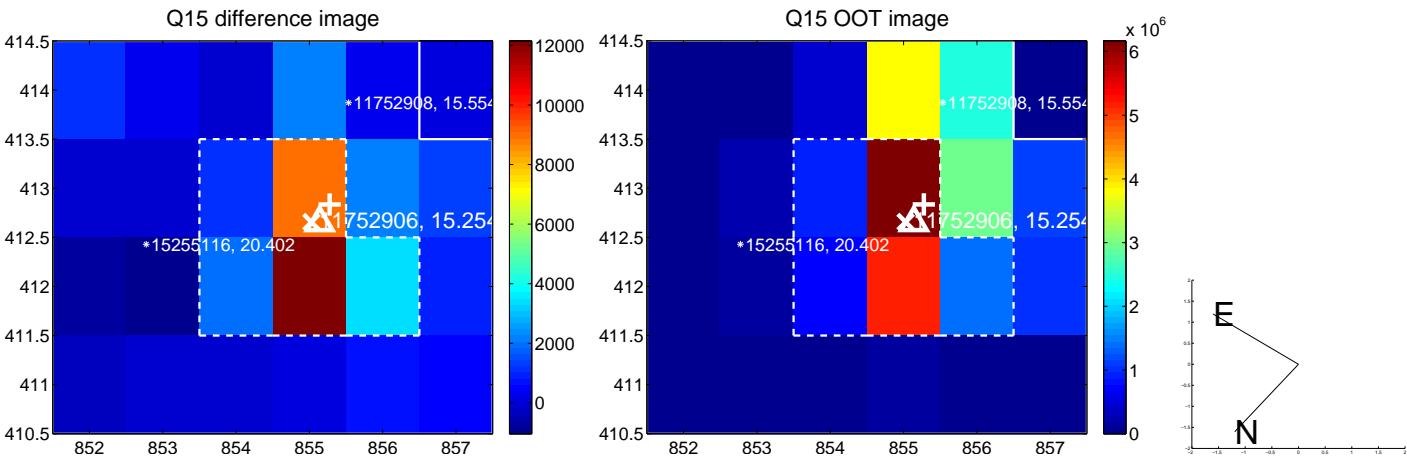
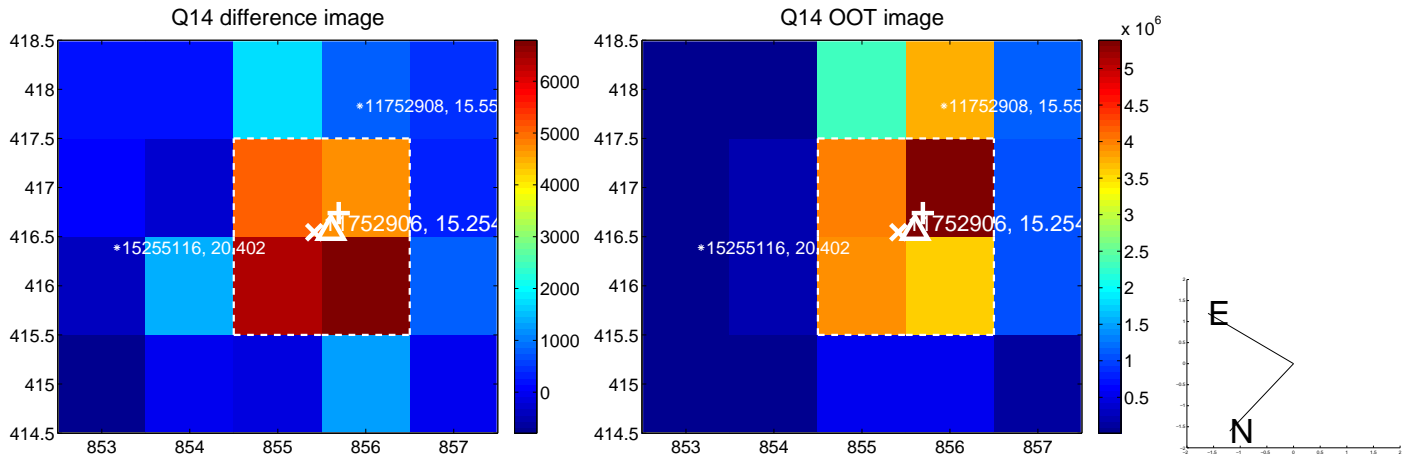
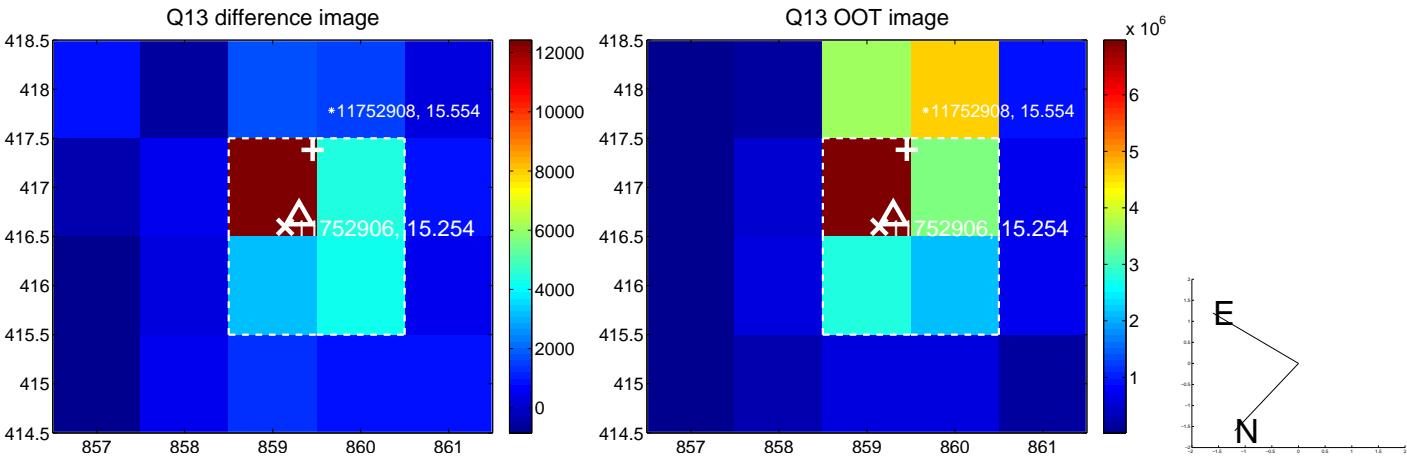
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



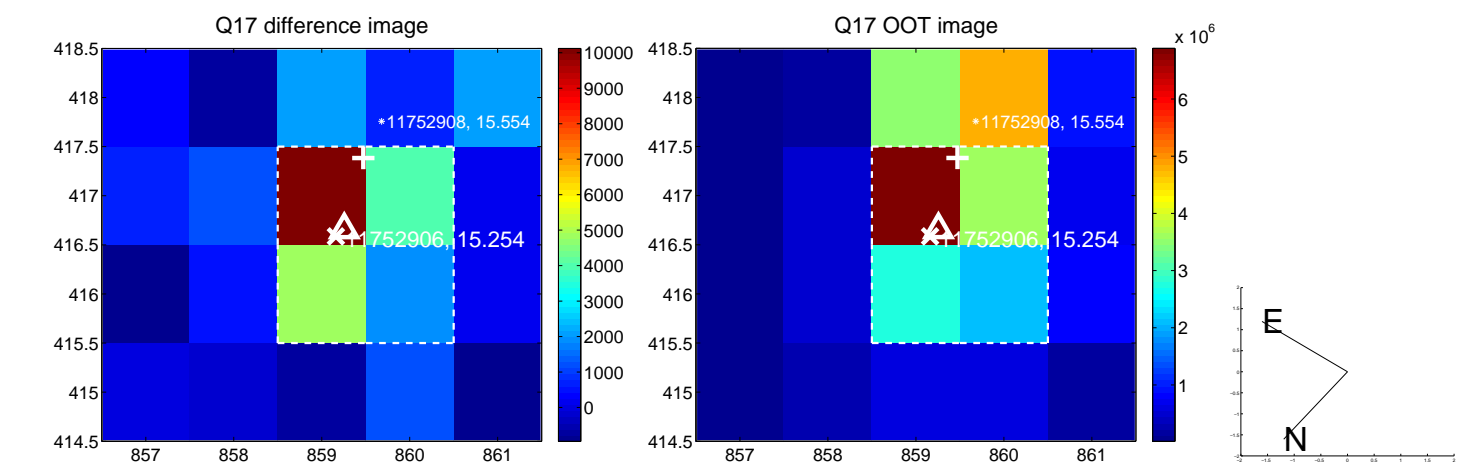
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



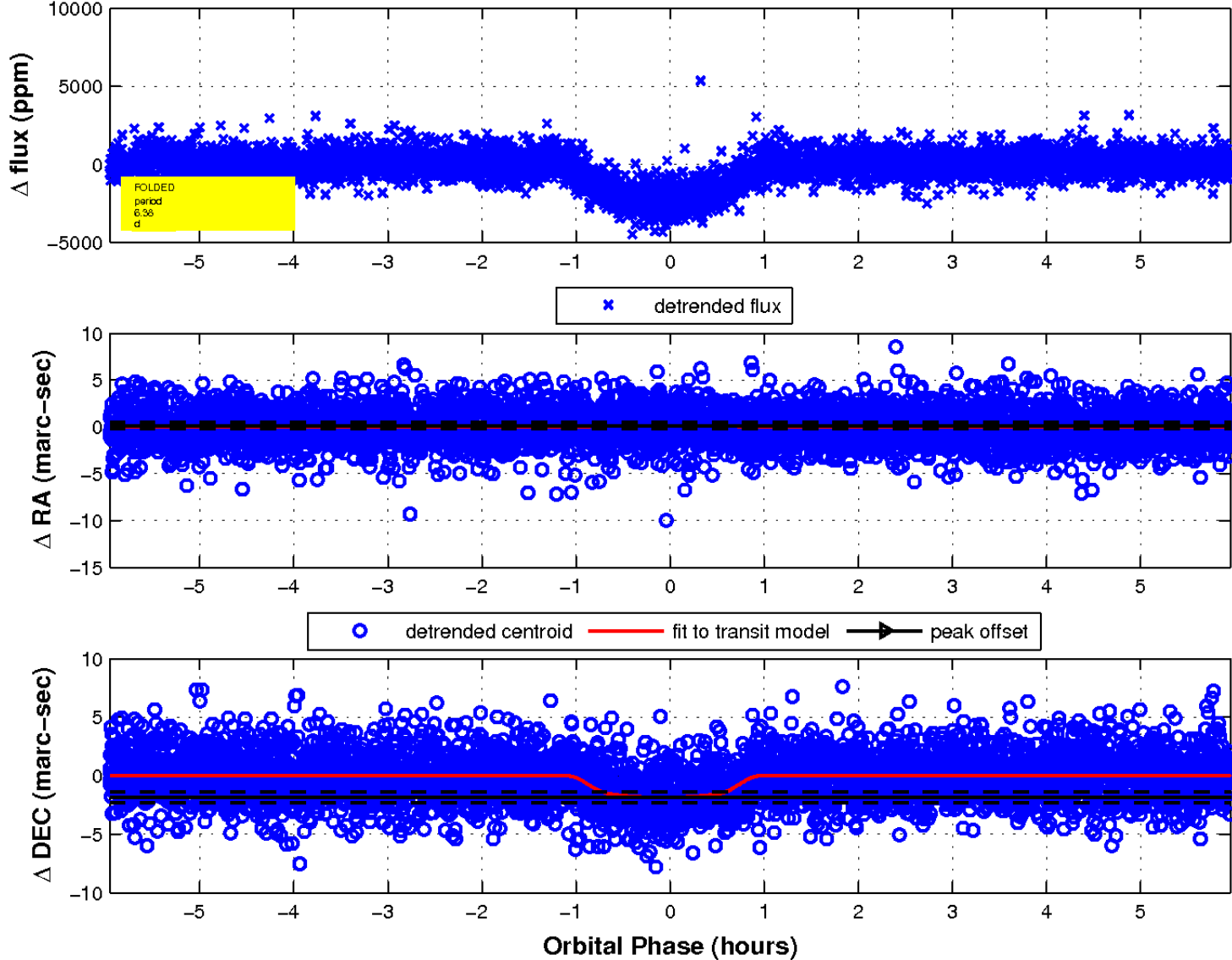
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

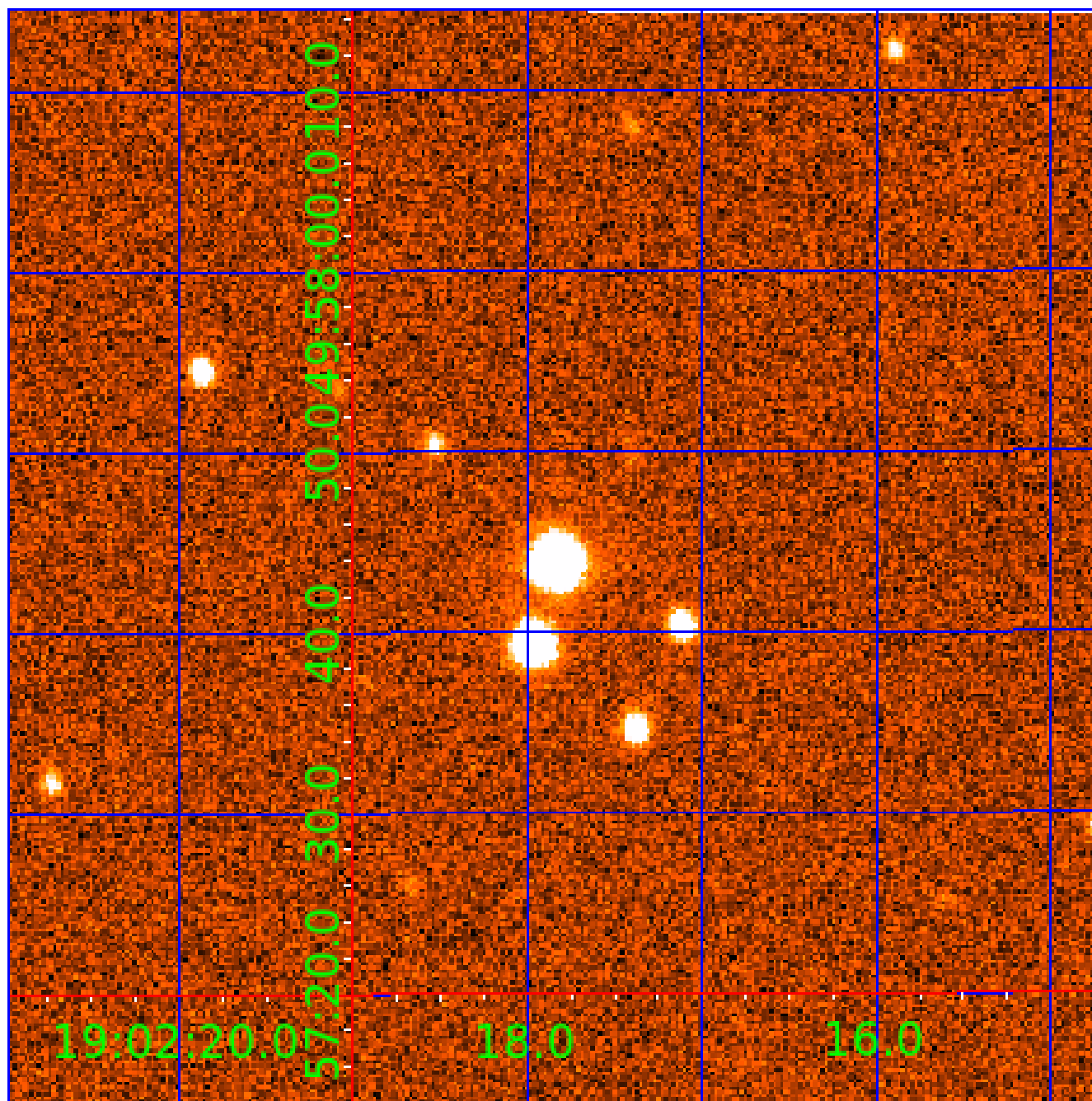


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 011752906

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})
011752906-01	OBS	0253.01	6.383154	132.306504	2377.4	1.986	55.2	63.9	0.58	3757	3.32	18.76
011752906-02	OBS	0253.02	20.618208	145.506759	810.4	4.158	12.3	14.3	0.58	3757	2.20	3.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011752906-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
011752906-02	OBS	PC	0.99	0	0	0	0	CENT_KIC_POS

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 011752906-02

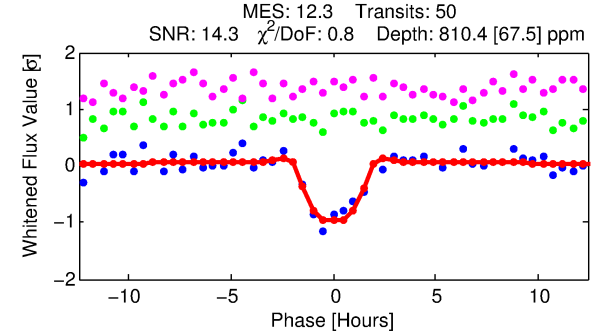
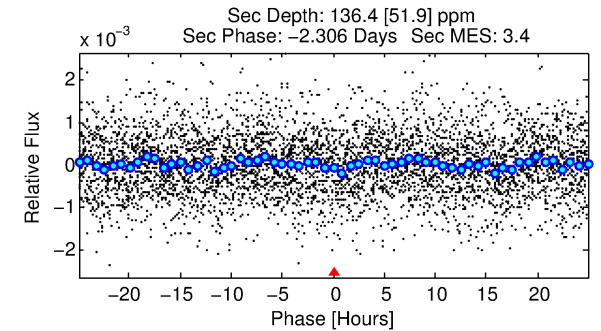
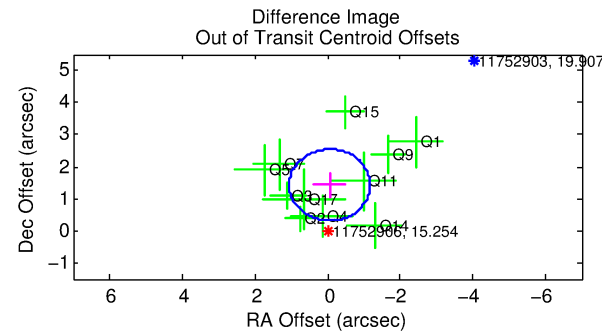
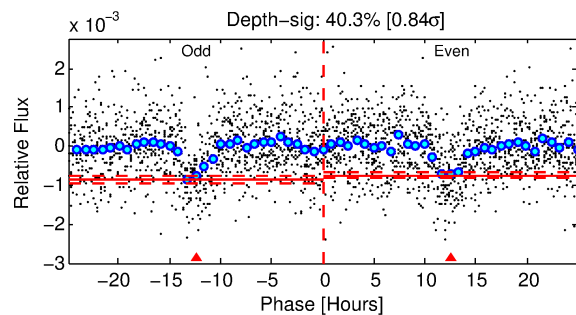
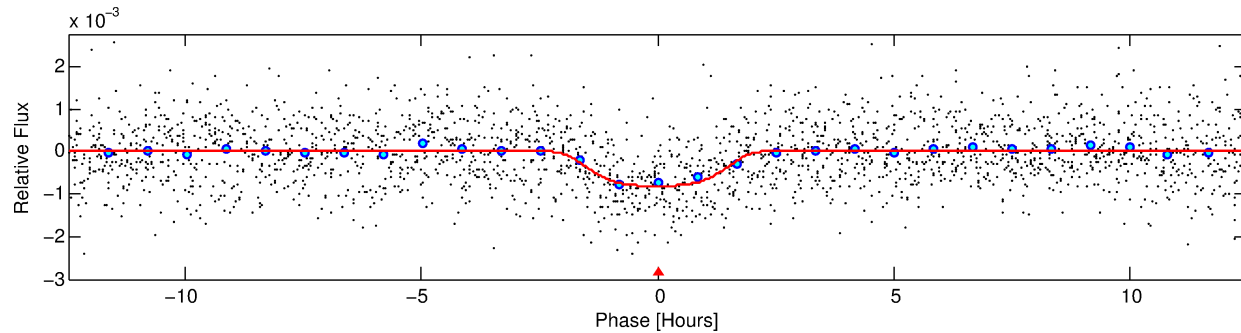
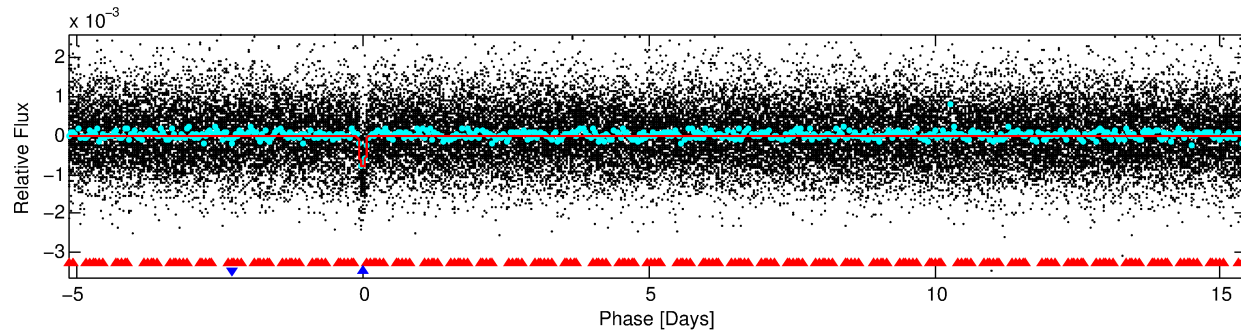
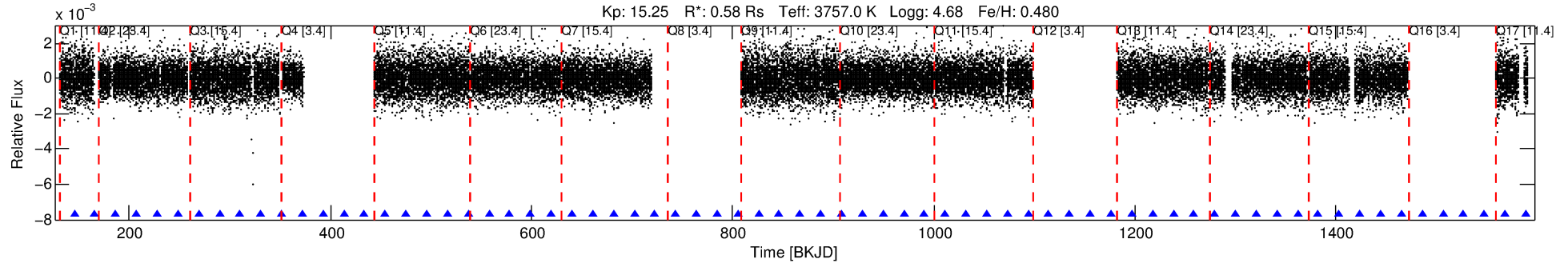
No Significant Match Found

DV One-Page Summary

KIC: 11752906 Candidate: 2 of 2 Period: 20.618 d

KOI: K00253.02 Corr: 0.885

Kp: 15.25 R*: 0.58 Rs Teff: 3757.0 K Logg: 4.68 Fe/H: 0.480



DV Fit Results:

Period = 20.61821 [0.00015] d
Epoch = 145.5068 [0.0061] BKJD
Rp/R* = 0.0350 [0.0026]
a/R* = 15.34 [2.64]
b = 0.95 [0.02]
Seff = 3.93 [0.45]
Teq = 359 [10] K
Rp = 2.20 [0.21] Re
a = 0.1228 [0.0063] AU
Ag = 233.57 [96.98] [2.40σ]
Teff = 2170 [227] K [7.98σ]

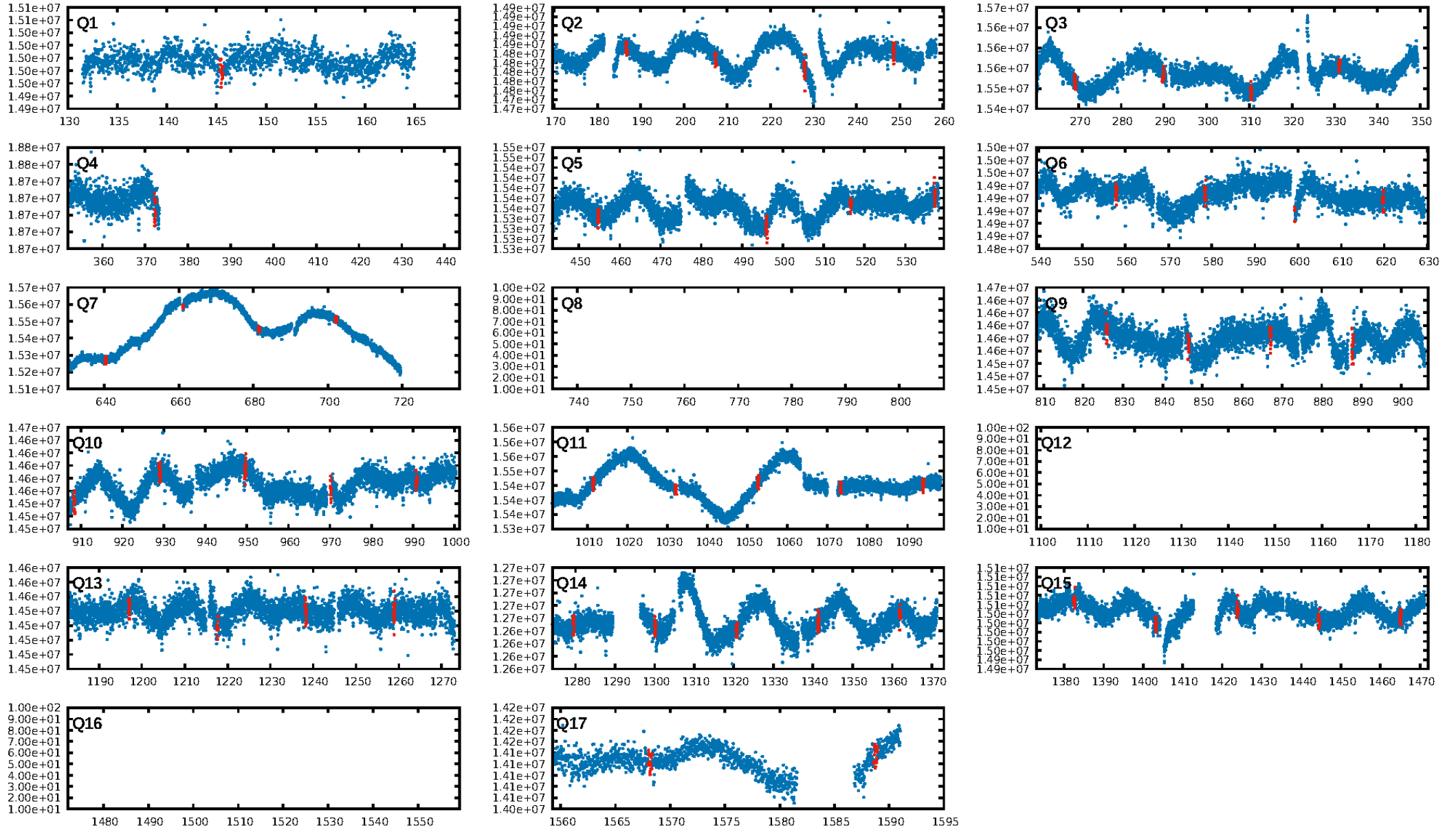
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [74.14σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.72e-33
RollingBand-fgt: 1.00 [46/46]
GhostDiagnostic-chr: 5.116
Centroid-sig: 0.0%
Centroid-so: 0.833 arcsec [1.92σ]
OotOffset-rm: 1.427 arcsec [3.84σ]
KicOffset-rm: 0.586 arcsec [1.68σ]
OotOffset-st: 2/4/1/4 [11]
KicOffset-st: 2/4/1/4 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 0.93 [13/14]

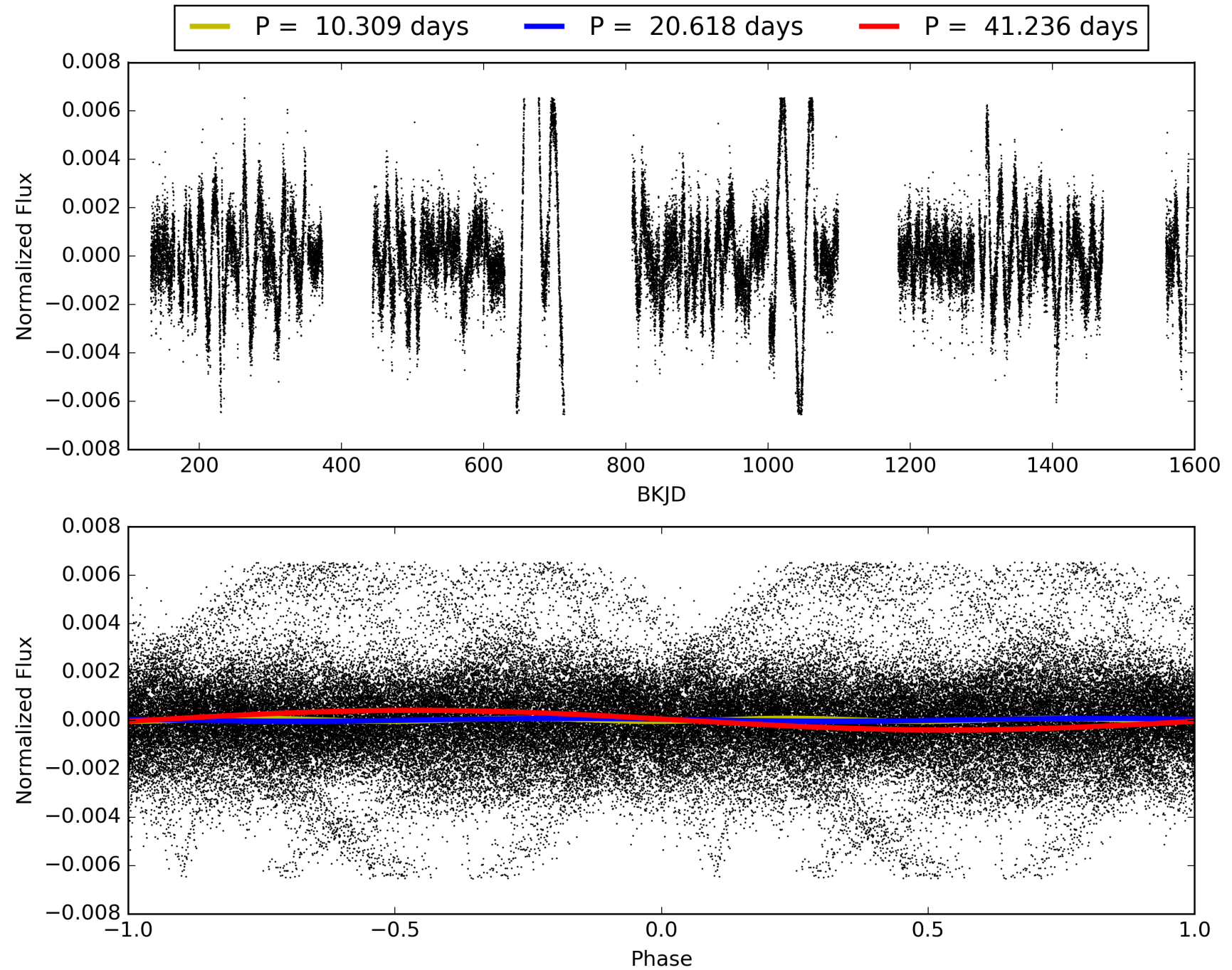
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:27:40 Z

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

TCE 011752906-02, PDC Light Curves

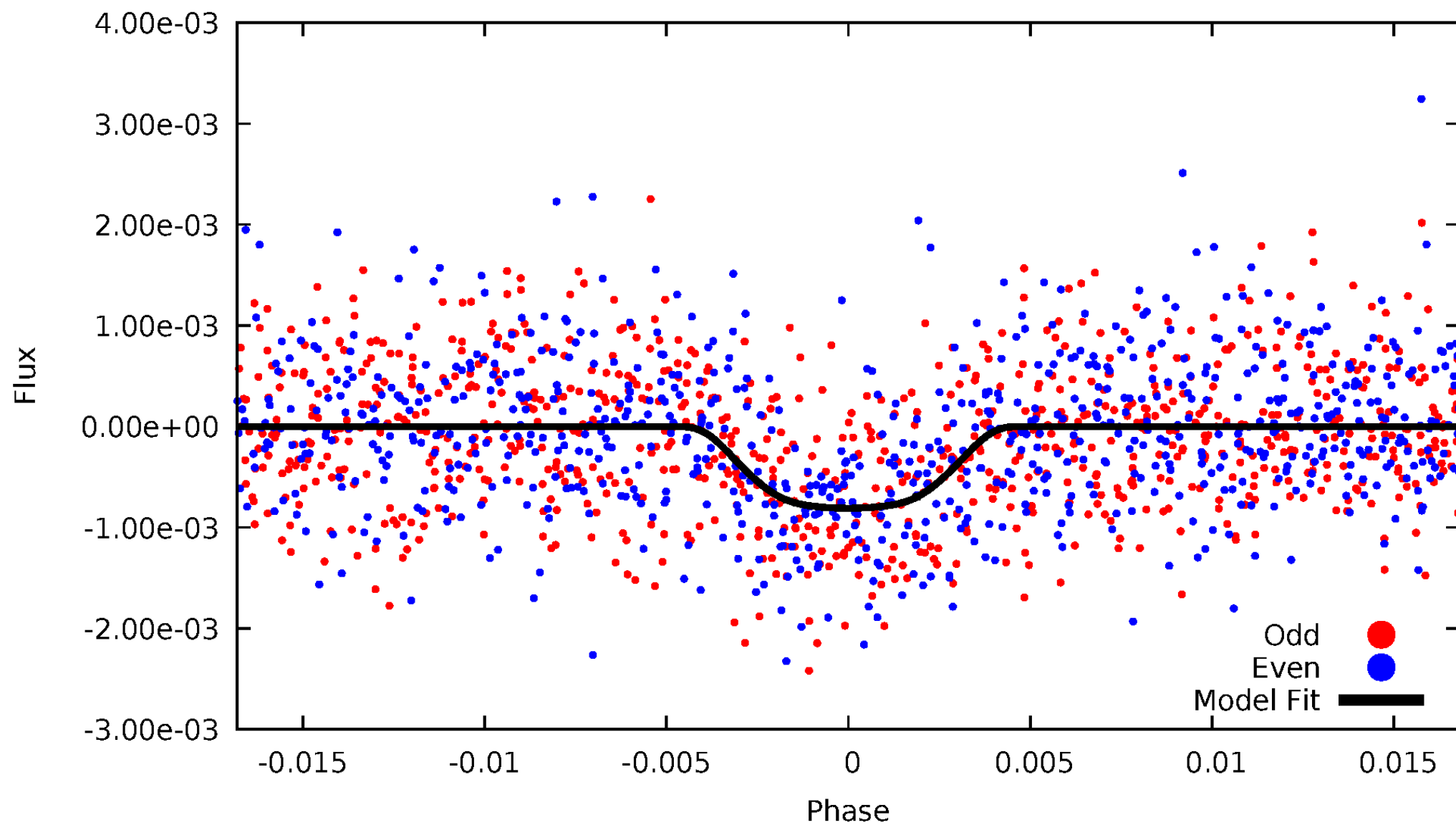


TCE 011752906-02



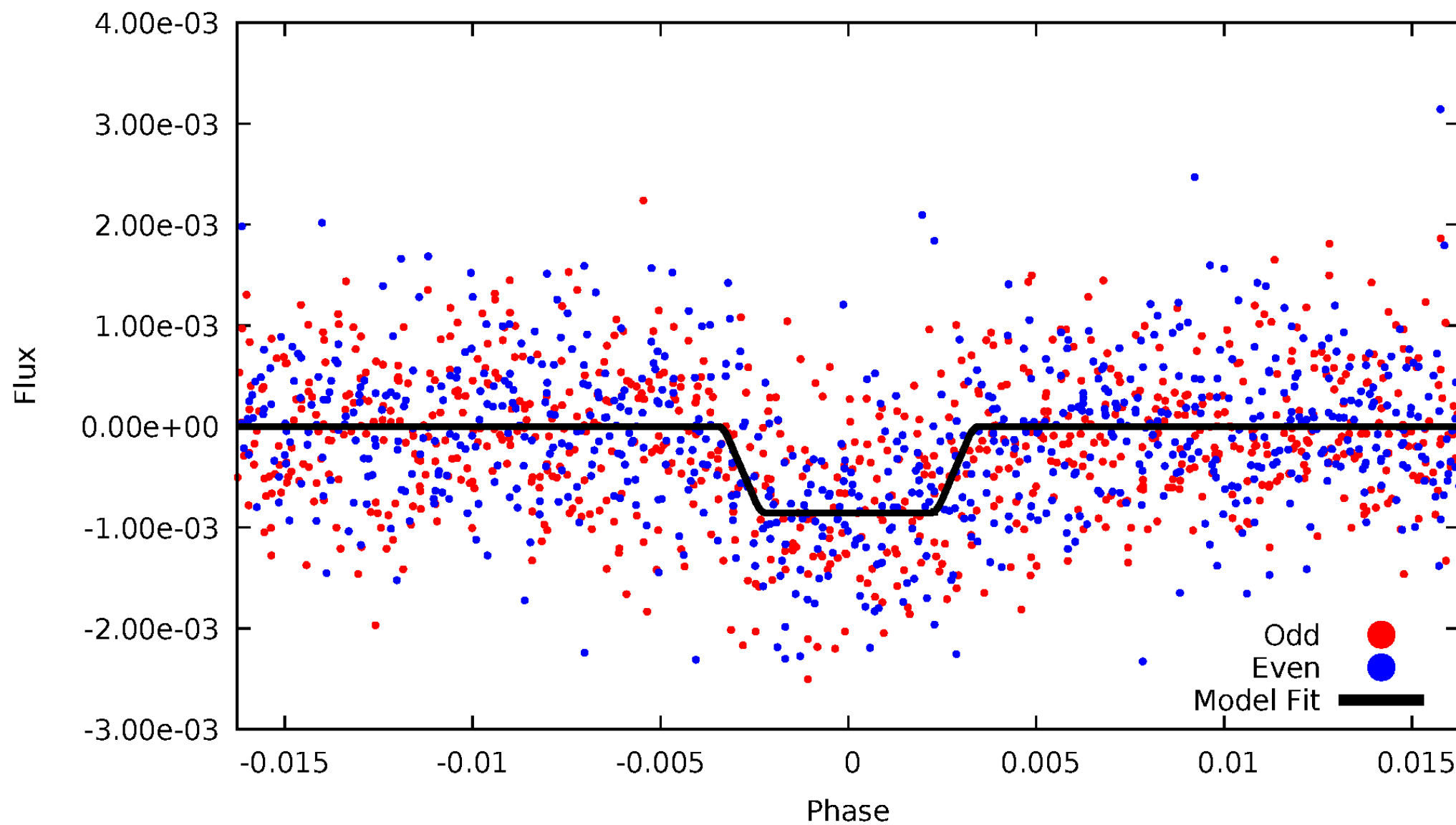
DV Odd/Even

TCE 011752906-02



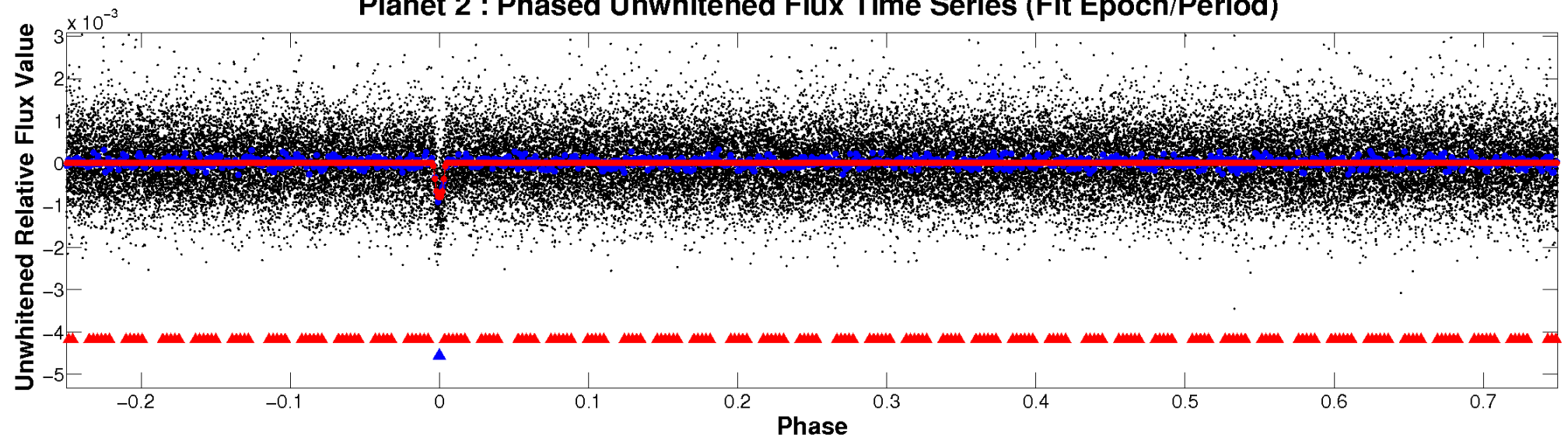
ALT Odd/Even

TCE 011752906-02

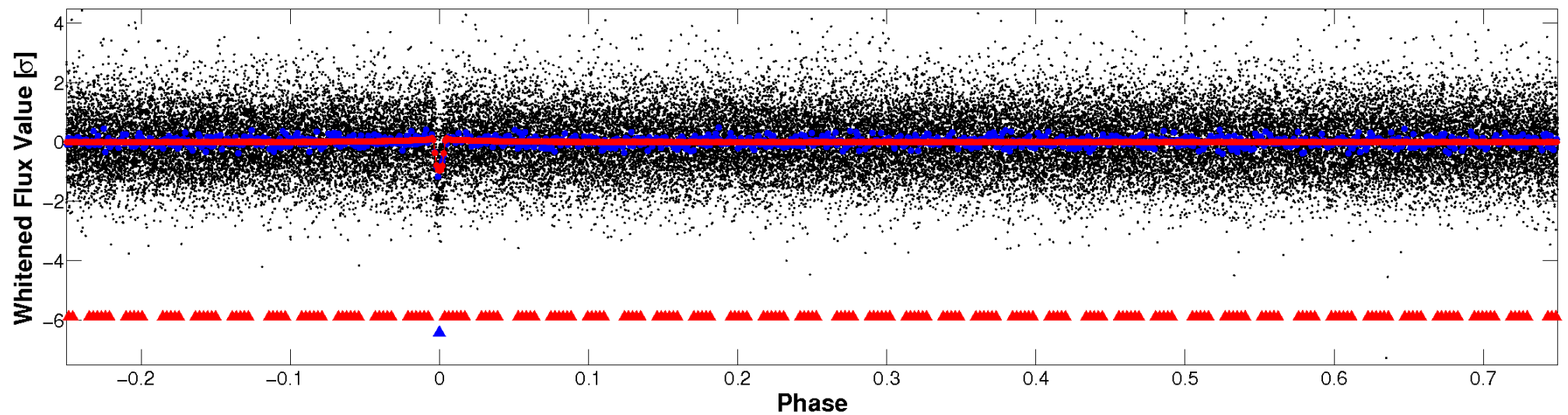


Non-Whitened Vs. Whitened Light Curve

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

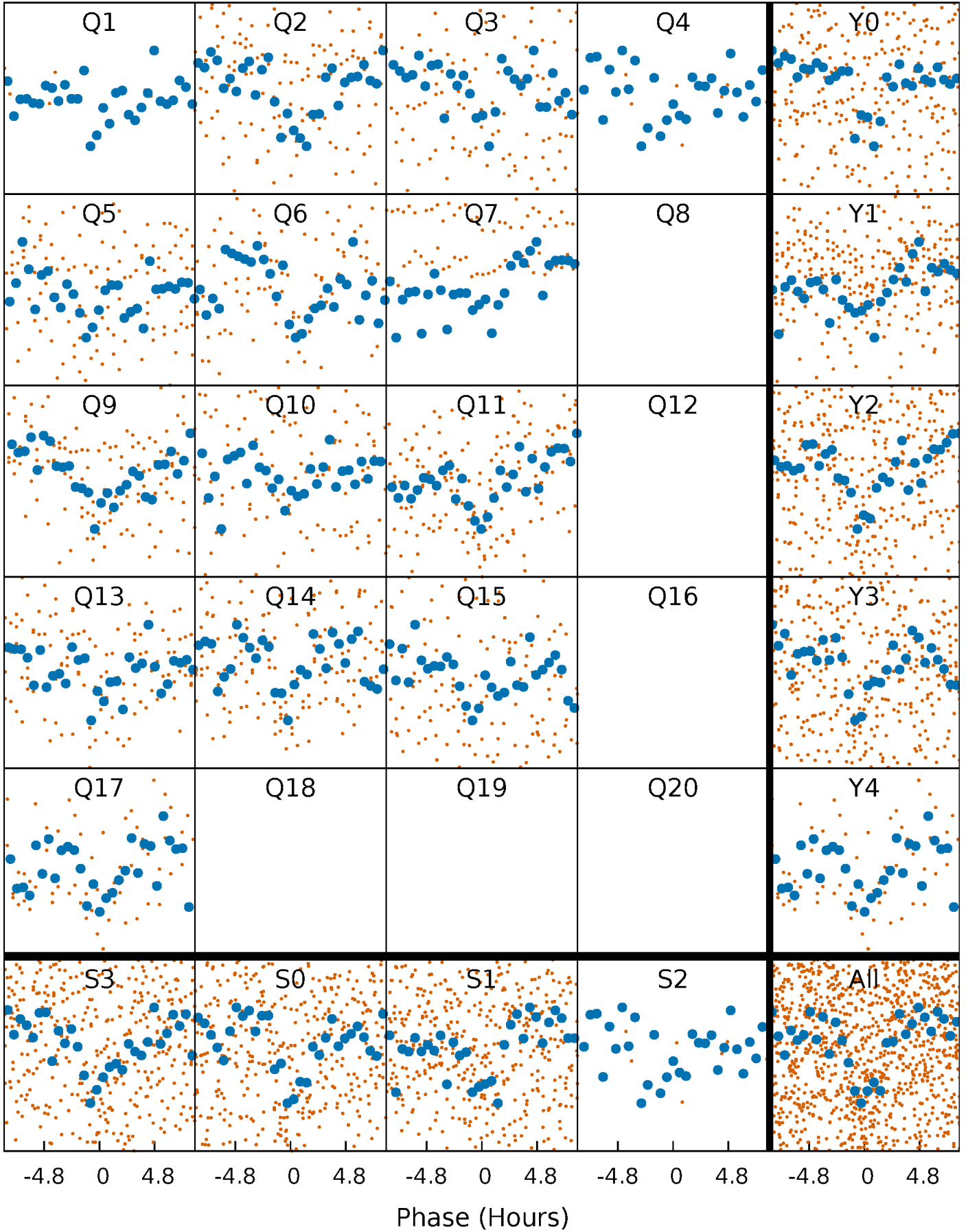


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



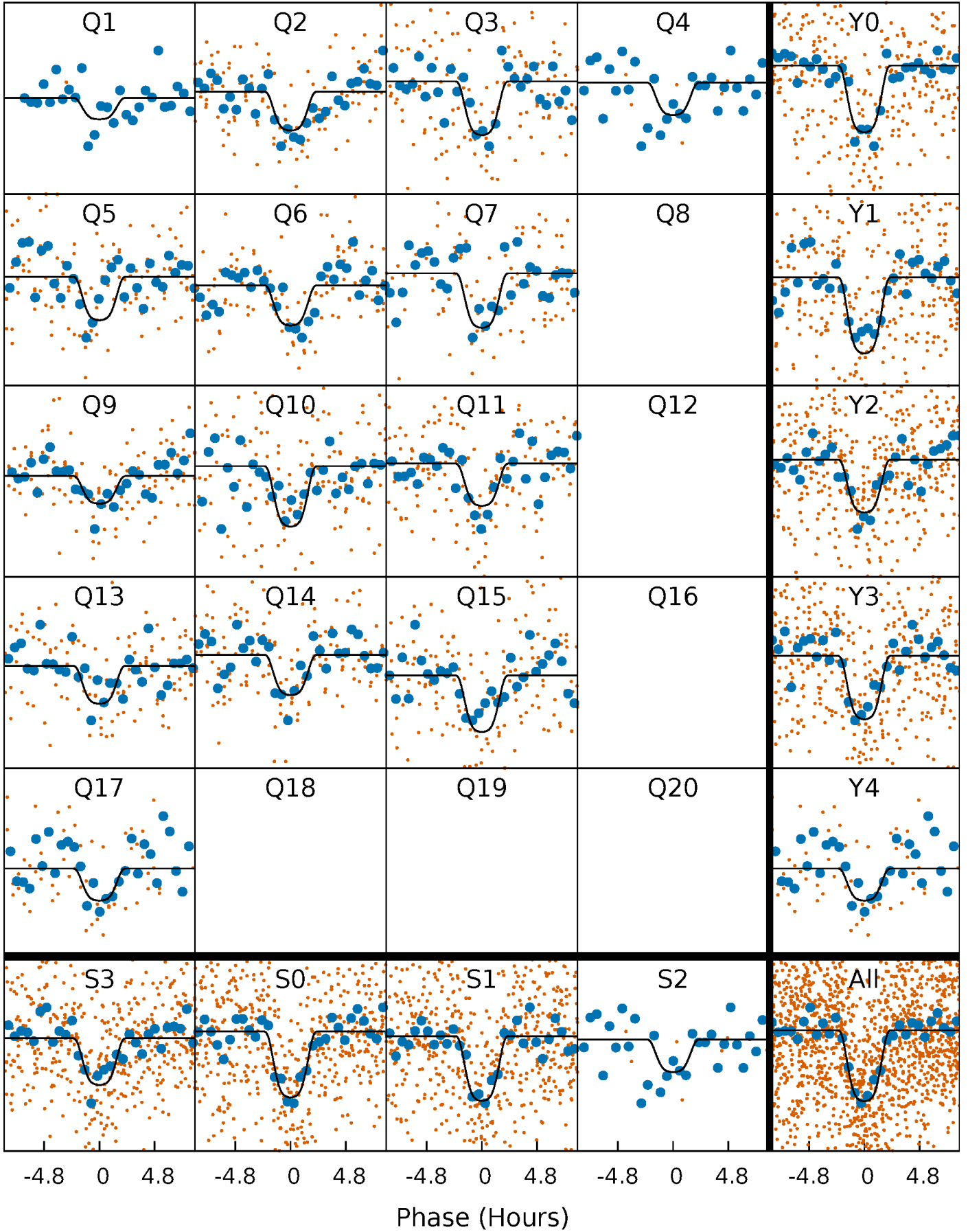
PDC Quarter-Phased Transit Curves

TCE 011752906-02 $P = 20.618208$ Days $T_0 = 145.506759$ (BKJD)



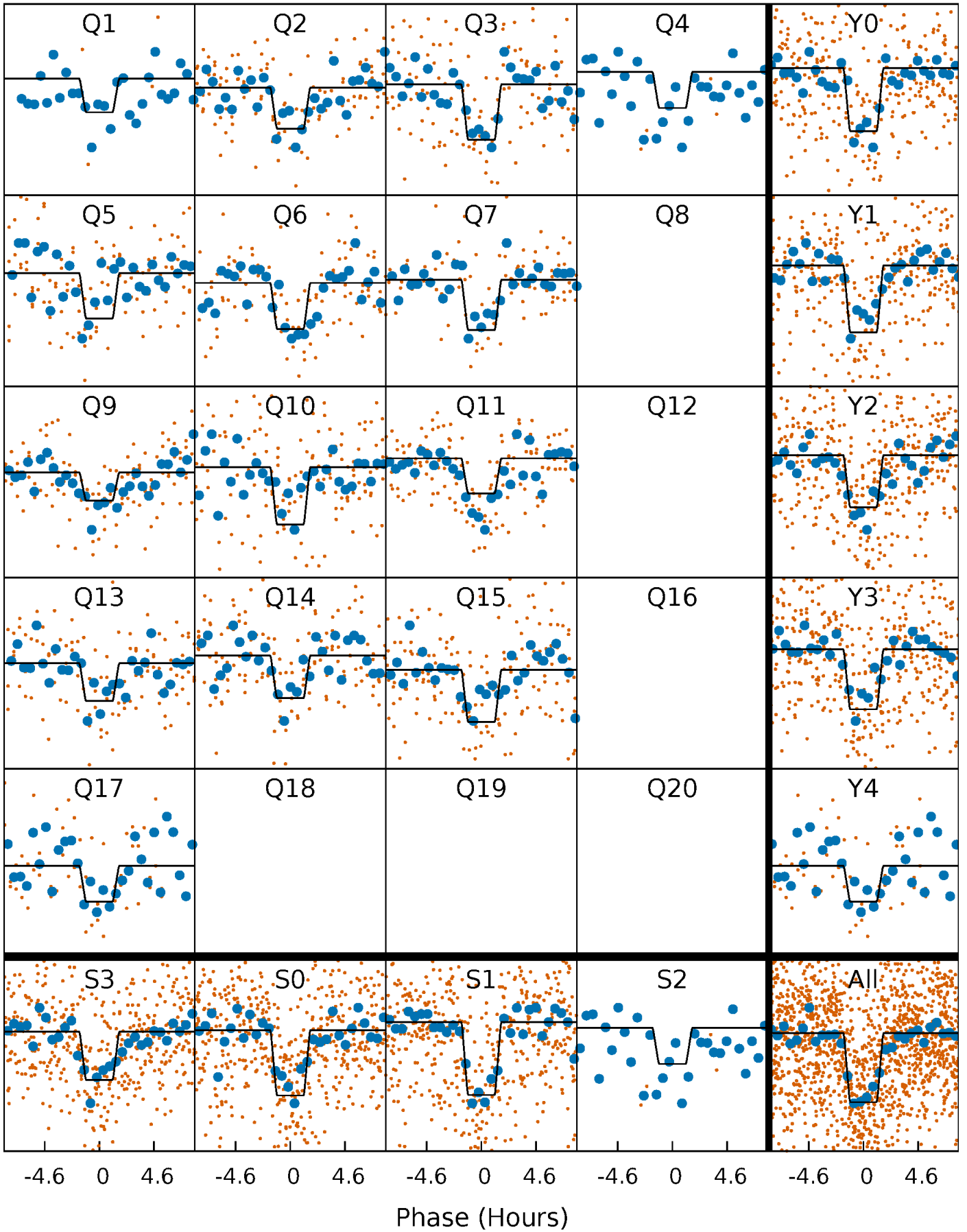
DV Quarter-Phased Transit Curves

TCE 011752906-02 P= 20.618208 Days $T_0=145.506759$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

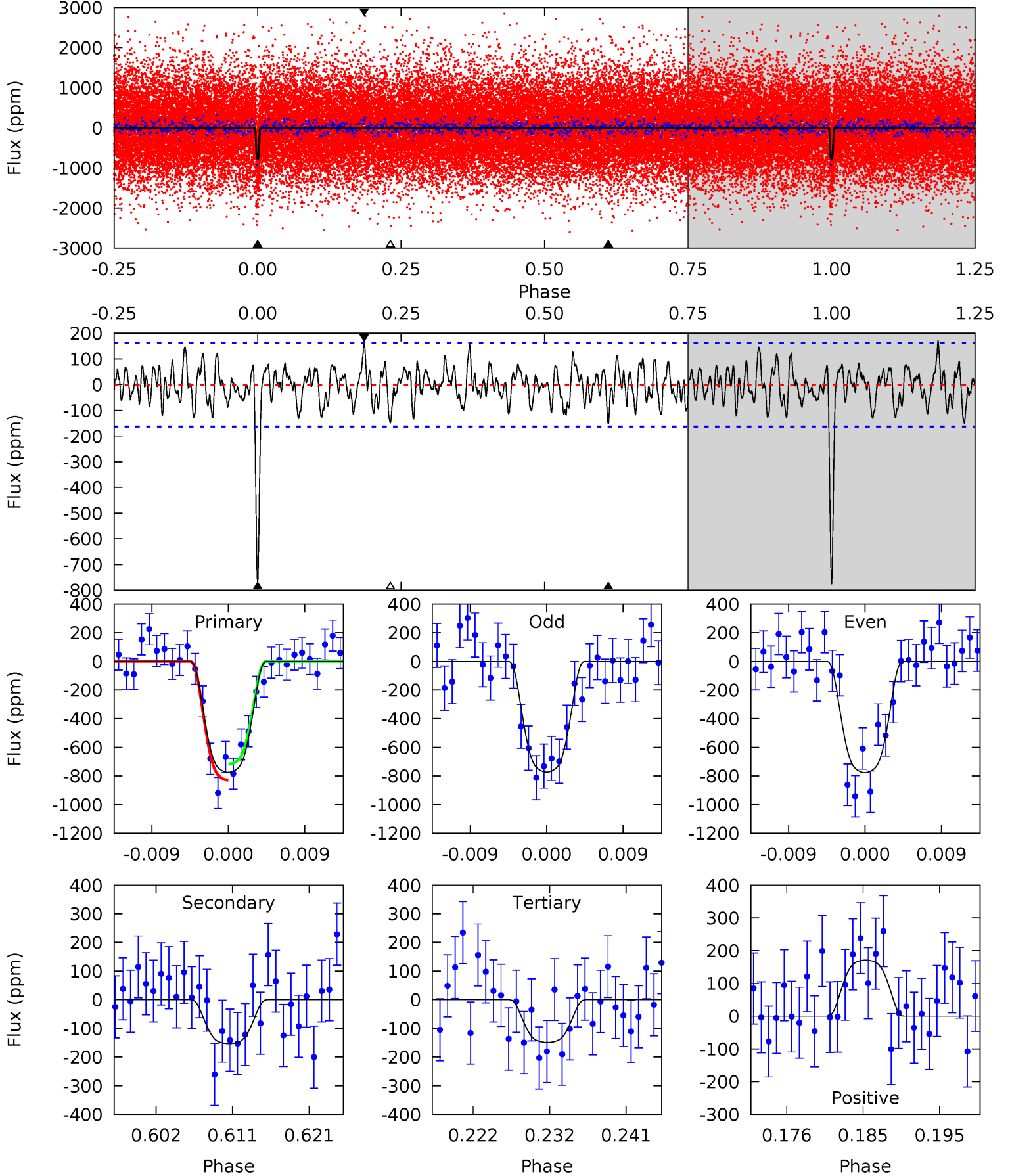
TCE 011752906-02 P= 20.618177 Days $T_0=145.507782$ (BKJD)



DV Model-Shift Uniqueness Test

011752906-02, $P = 20.618208$ Days, $E = 124.888551$ Days

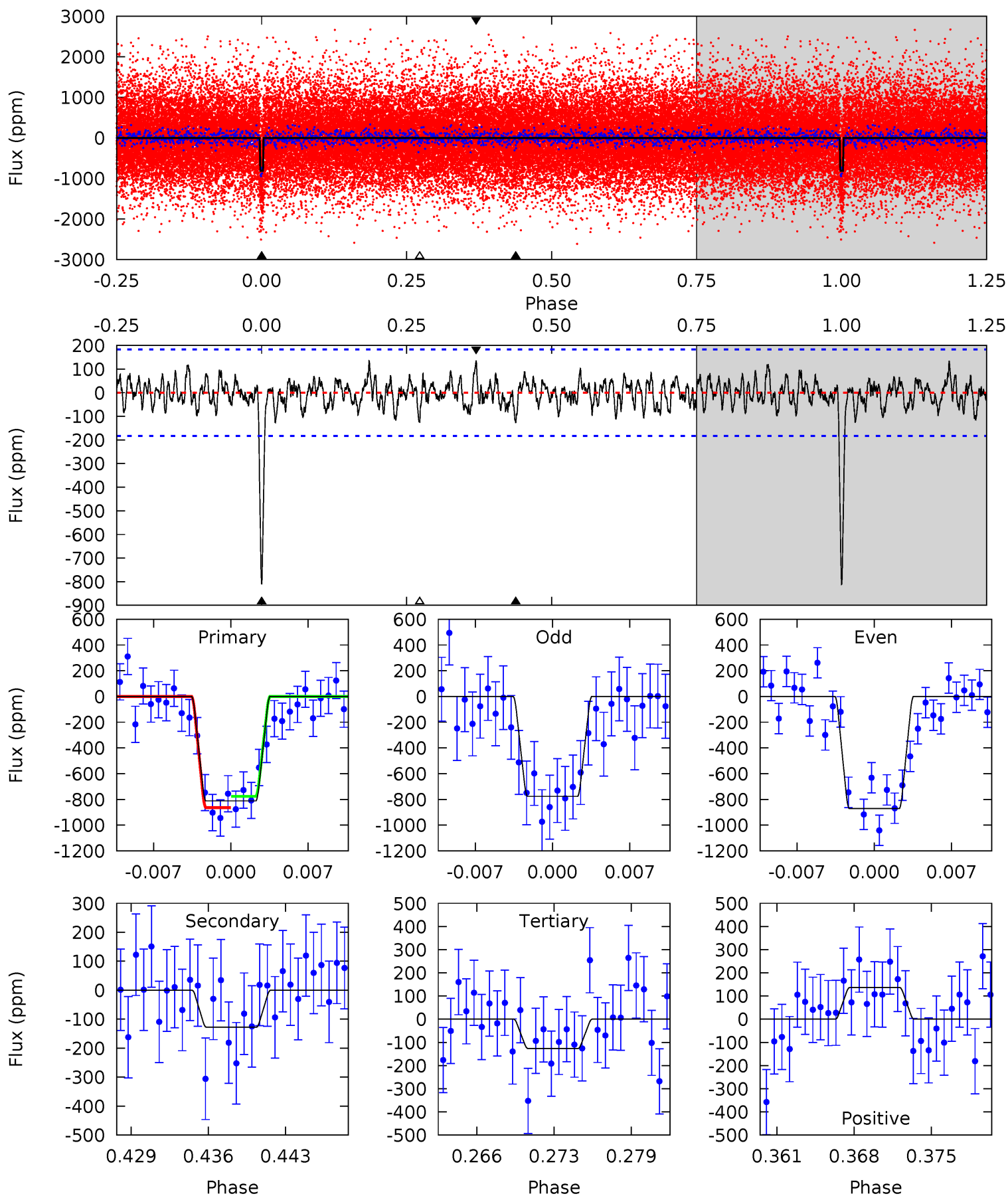
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.9	4.74	4.60	5.29	5.04	2.60	1.75	19.3	18.7	0.13	-0.55	0.06	1.01	0.18	1.72



Alt Model-Shift Uniqueness Test

011752906-02, $P = 20.618177$ Days, $E = 124.889605$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	3.56	3.53	3.80	5.10	2.71	1.26	19.1	18.8	0.03	-0.24	1.32	0.94	0.14	1.23



Stellar Parameters For KIC 011752906

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3757^{+74}_{-82}	$4.681^{+0.039}_{-0.015}$	$0.480^{+0.050}_{-0.150}$	$0.576^{+0.022}_{-0.036}$	$0.581^{+0.029}_{-0.029}$	$4.281^{+0.692}_{-0.286}$
	+2%/-2%	+1%/-0%	+10%/-31%	+4%/-6%	+5%/-5%	+16%/-7%
Source	SPE70	SPE60	SPE70	DSEP		

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

Secondary Eclipse Parameters for KIC 011752906-02 / KOI 0253.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-153 ± 32	$2.19^{+0.18}_{-0.16}$	498^{+12}_{-12}	2755^{+104}_{-108}	268^{+70}_{-64}
Alt.	-128 ± 36	$1.83^{+0.18}_{-0.18}$	499^{+12}_{-12}	2819^{+138}_{-141}	317^{+119}_{-89}

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

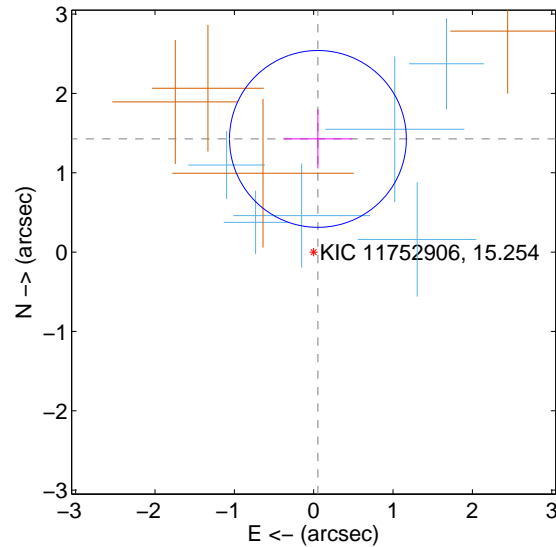
Supplemental centroid analysis for 011752906-02. Kepler magnitude: 15.25. Transit SNR 14.32

There are 7 quarters with good PRF difference image offsets

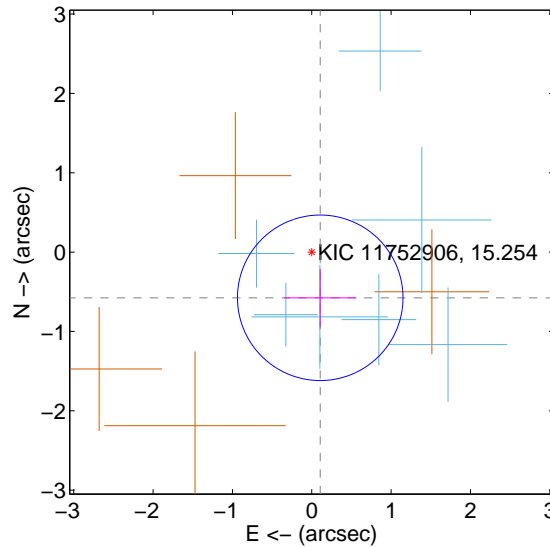
The OOT PRF centroid is offset from the target star catalog position by about 3.29 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.427 ± 0.371	3.84	-0.053 ± 0.433	1.426 ± 0.371
PRF-fit source offset from KIC position	0.586 ± 0.348	1.68	-0.106 ± 0.454	-0.576 ± 0.366
photometric centroid source offset	0.83 ± 0.43	1.92	0.55 ± 0.42	-0.62 ± 0.44

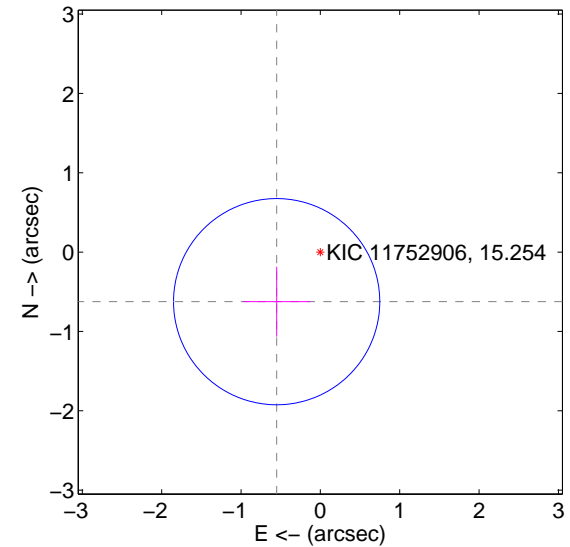
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

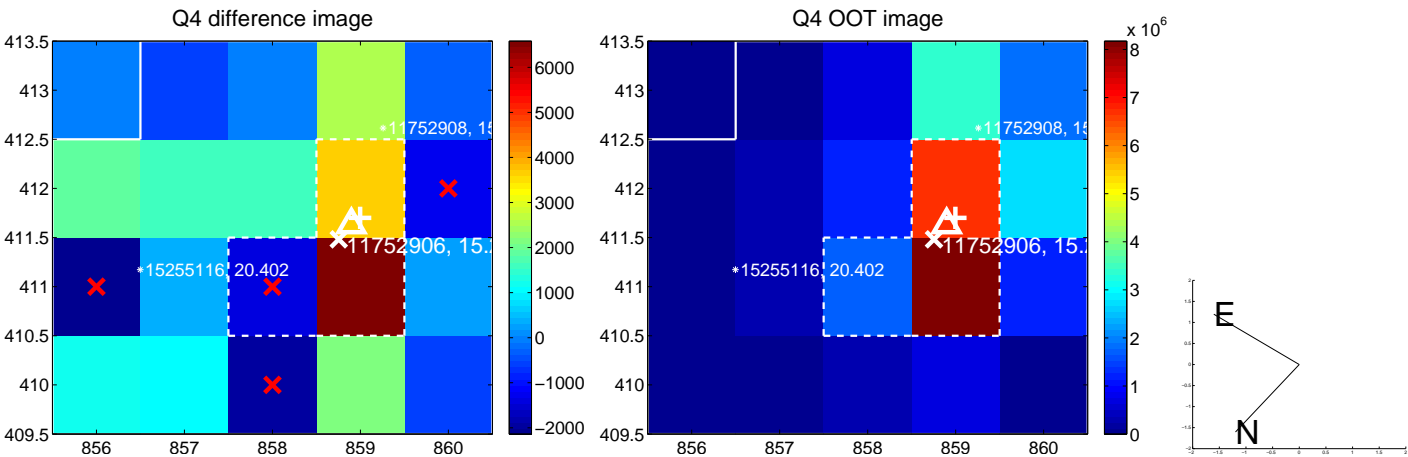
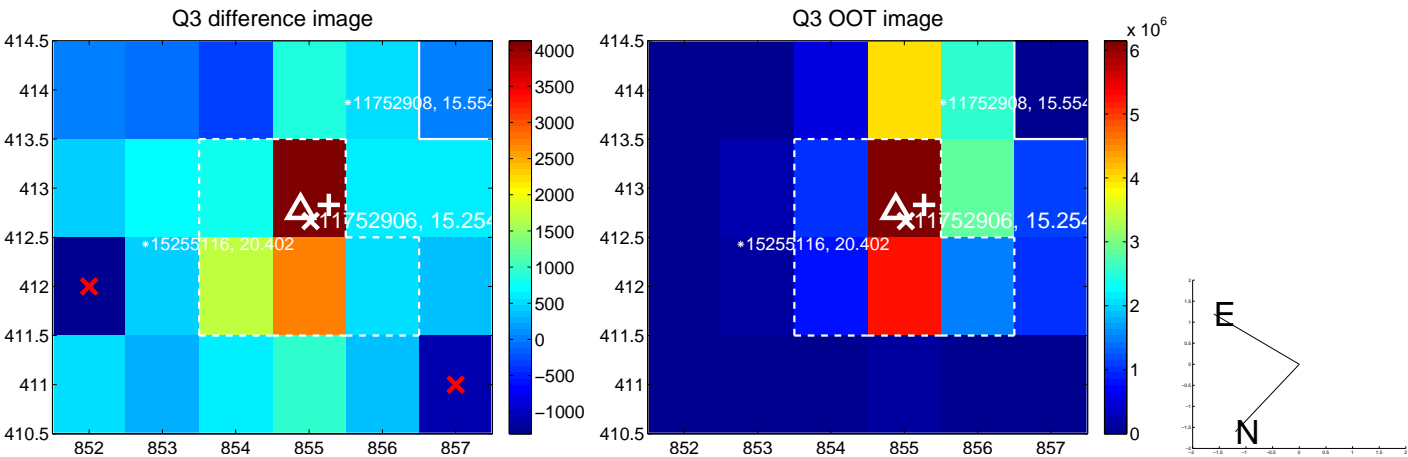
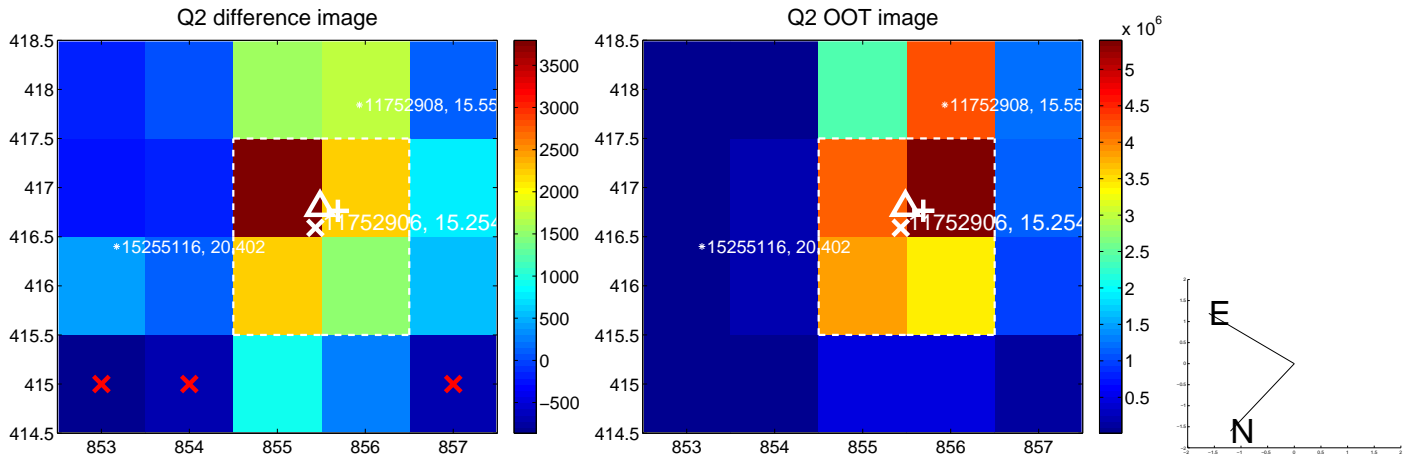
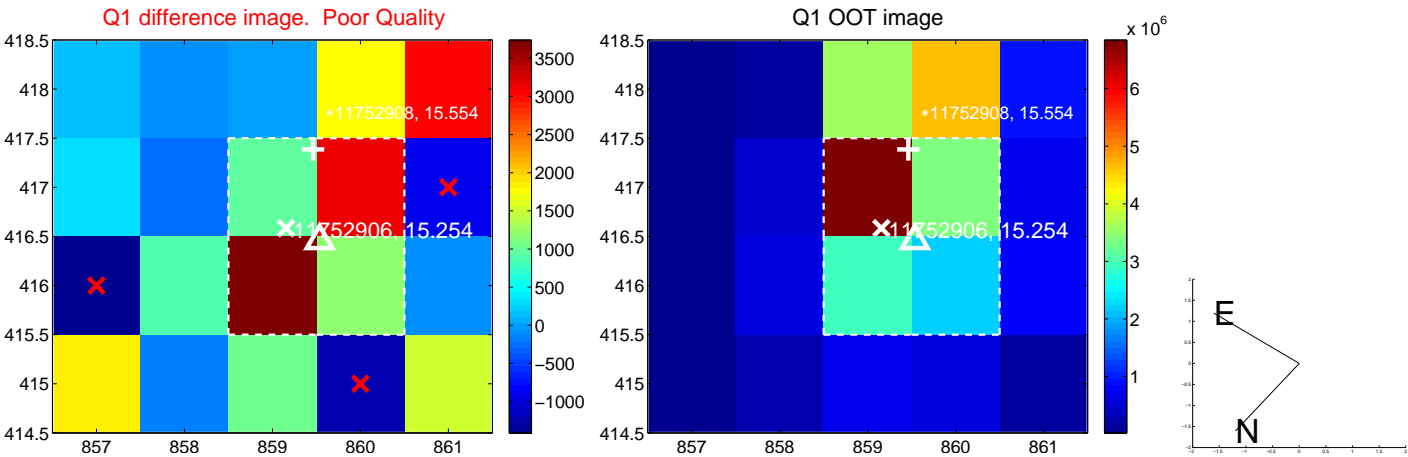


offset from photometric centroids

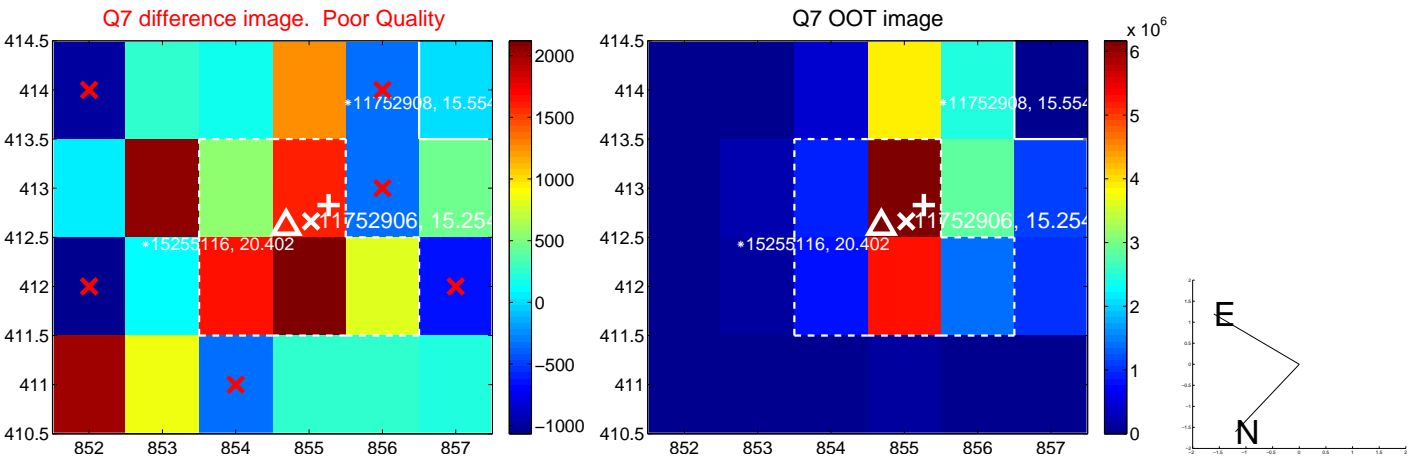
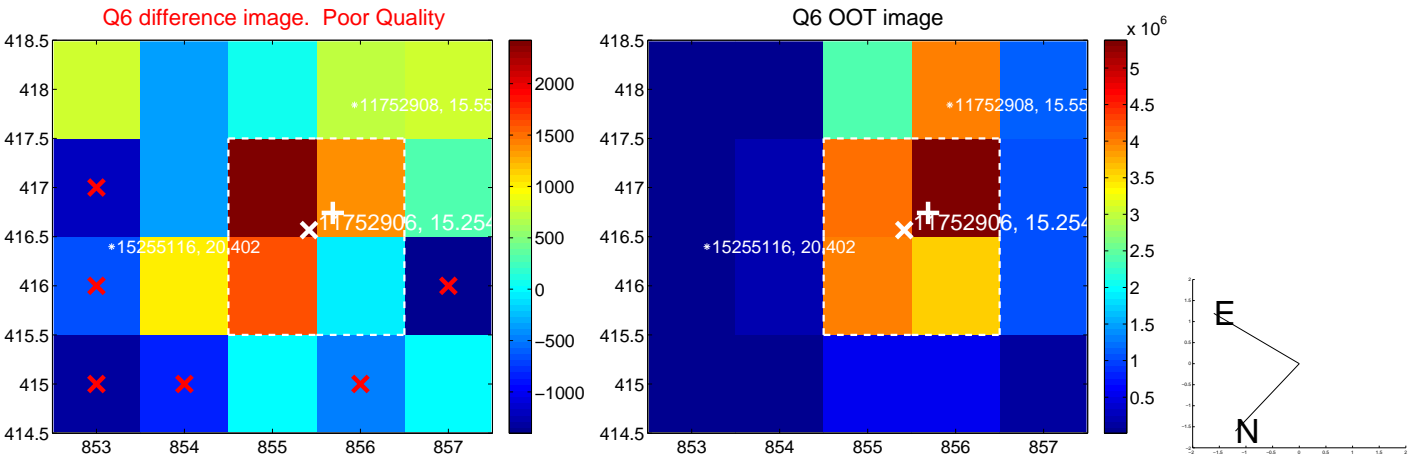
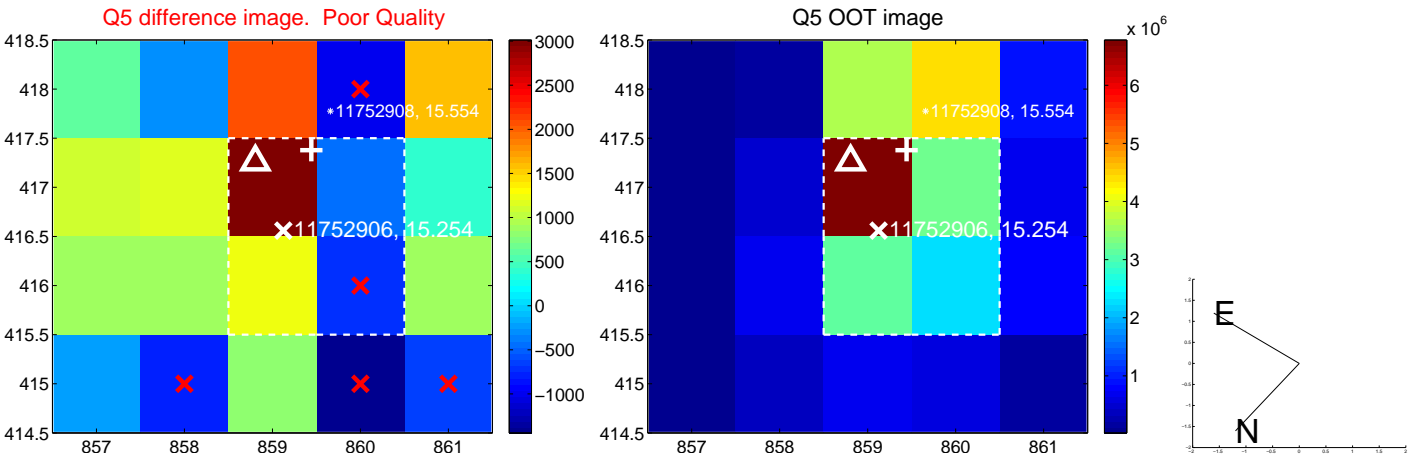


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

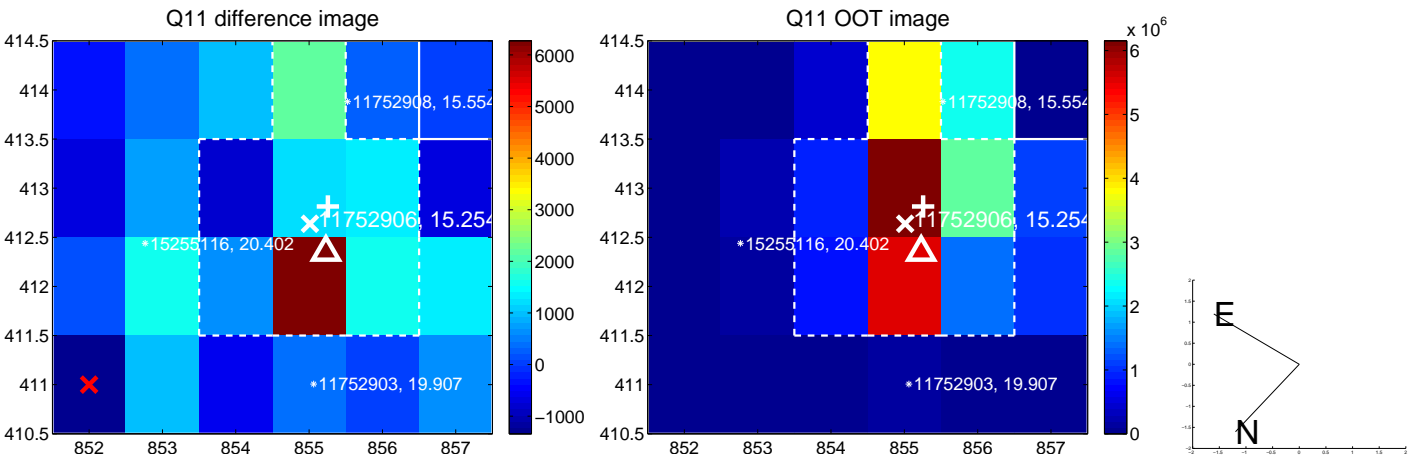
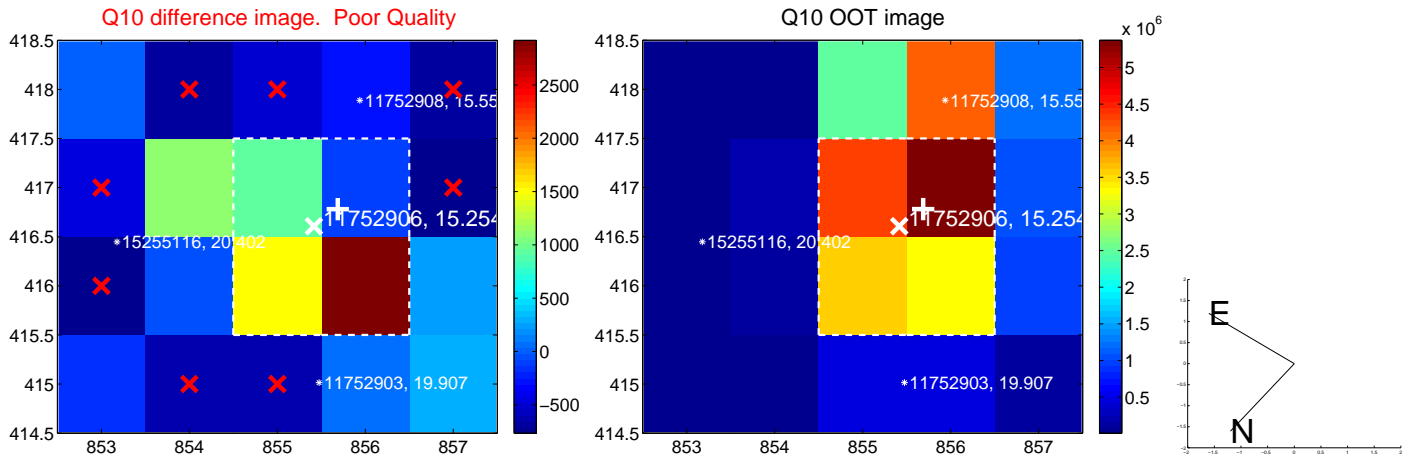
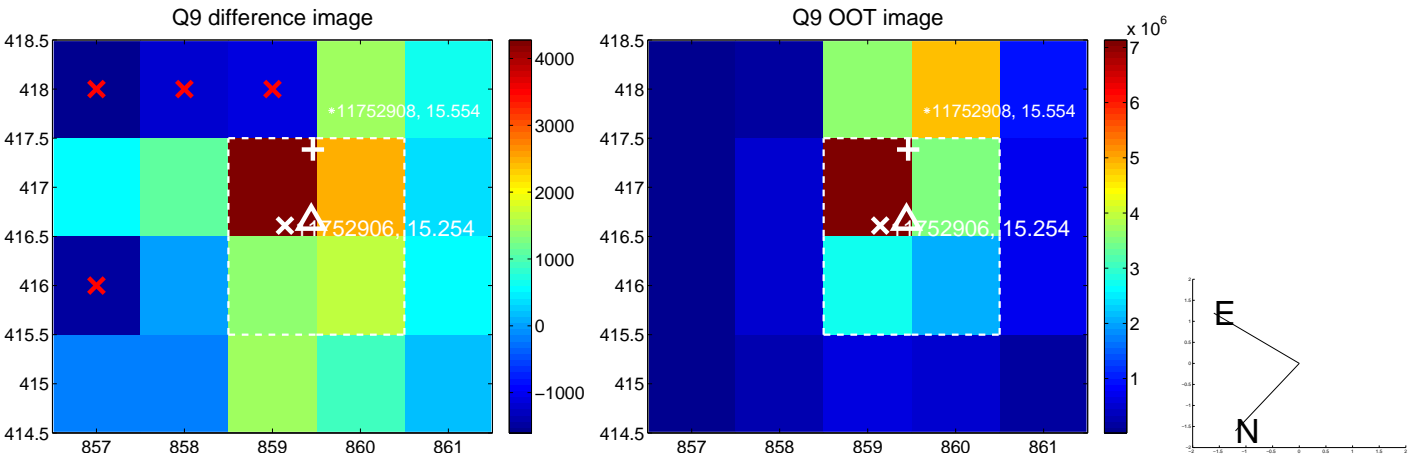
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



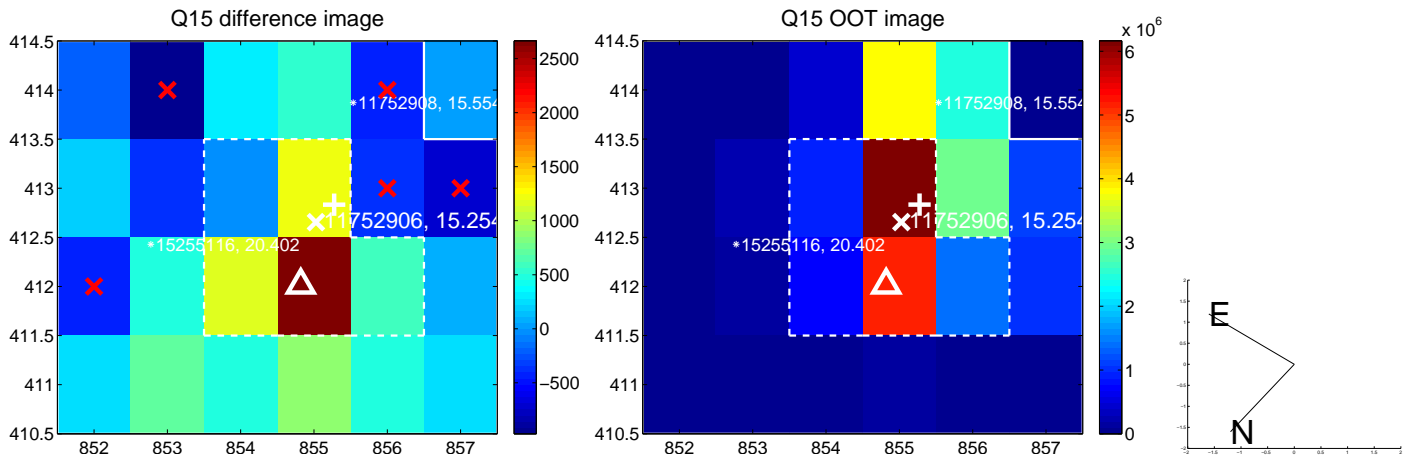
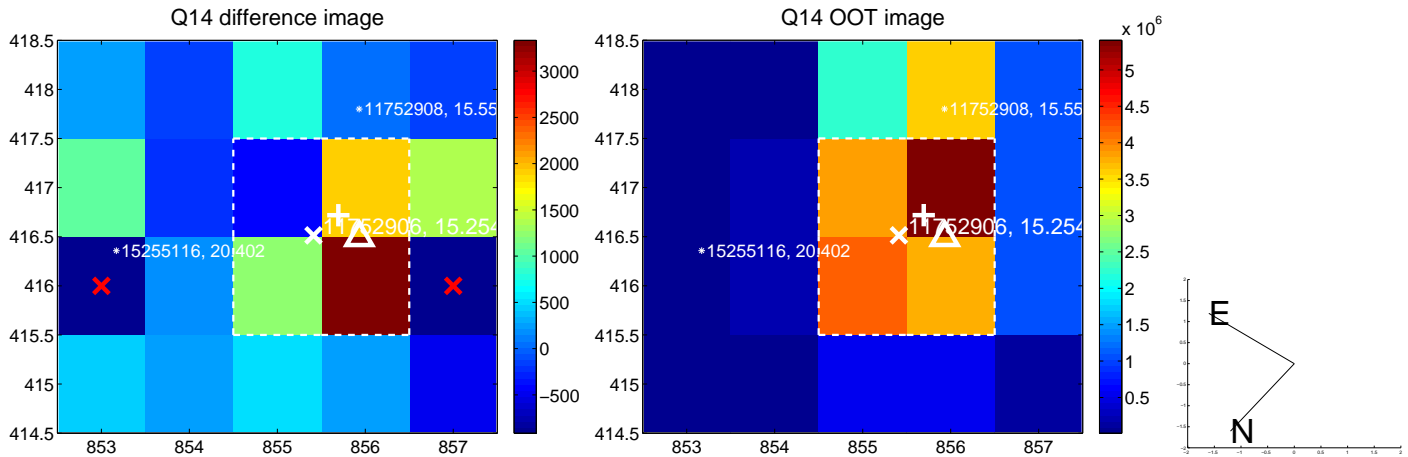
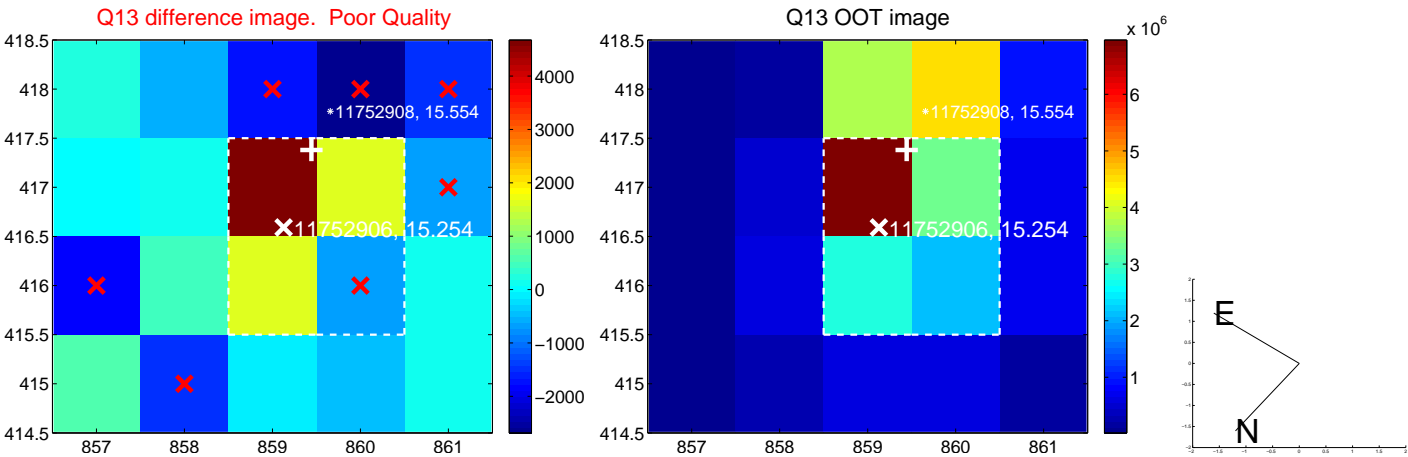
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



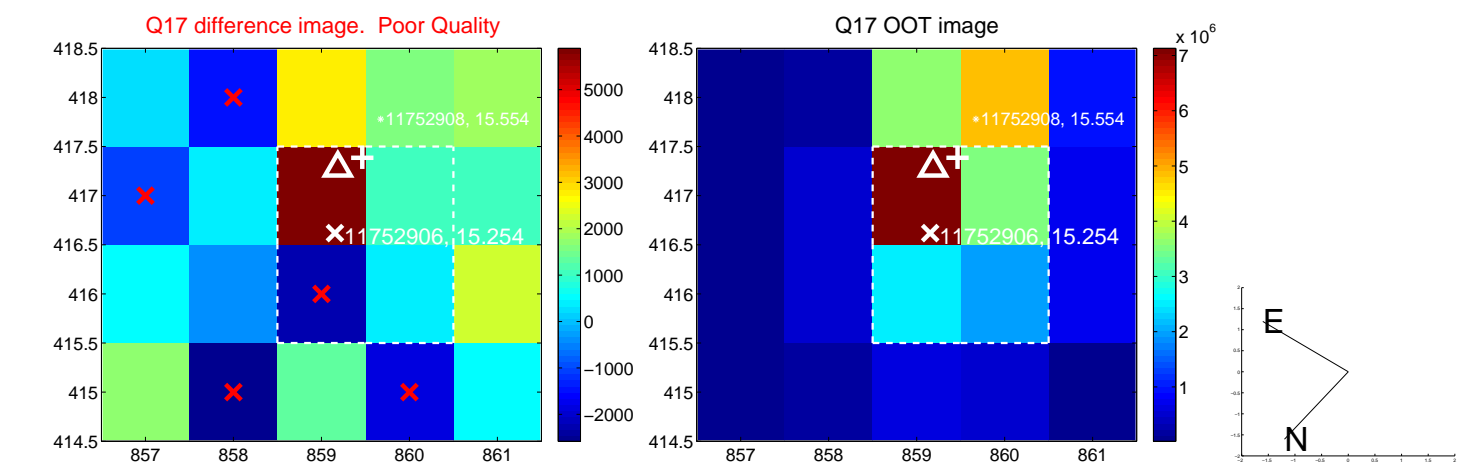
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



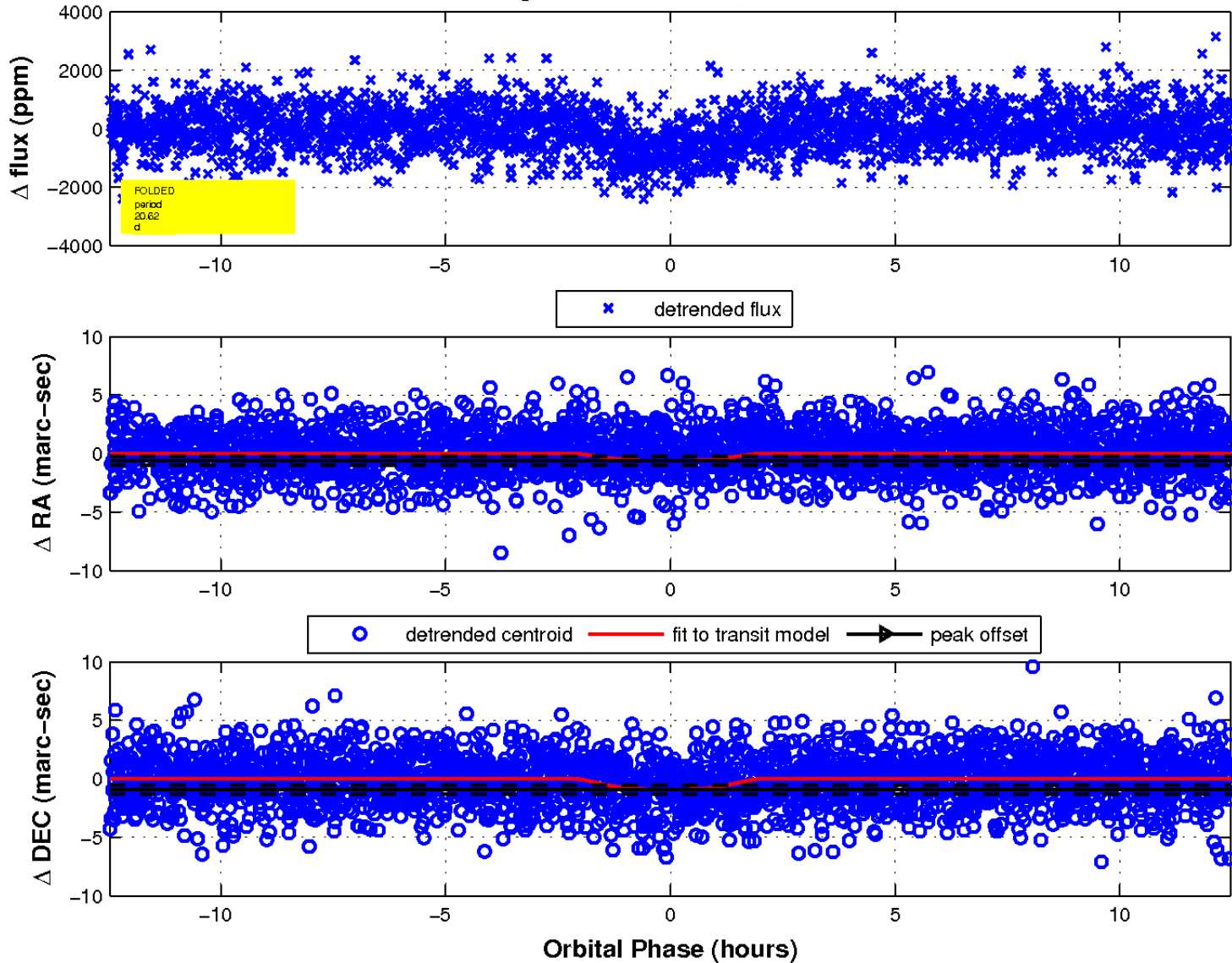
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

