

KIC 008572936

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})
008572936-01	OBS	2459.01	27.795717	136.180062	439852.8	9.000	19001.3	-1.0	1.13	5915	58.36	43.60
008572936-02	OBS	No	27.795944	146.719531	471756.4	3.000	17773.9	-1.0	1.13	5915	61.65	43.60
008572936-03	OBS	No	5.559841	136.089225	7924.8	66.718	1586.2	118.4	1.13	5915	11.33	372.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008572936-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
008572936-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
008572936-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

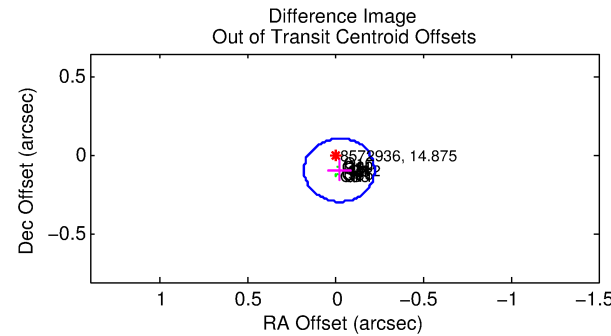
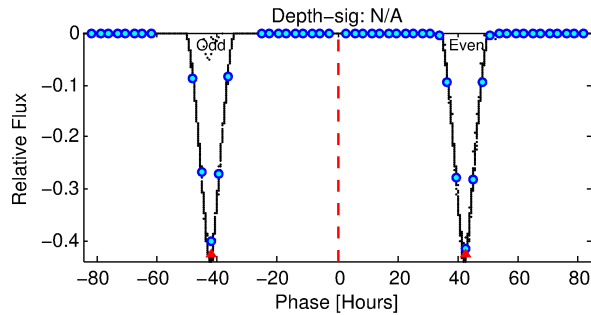
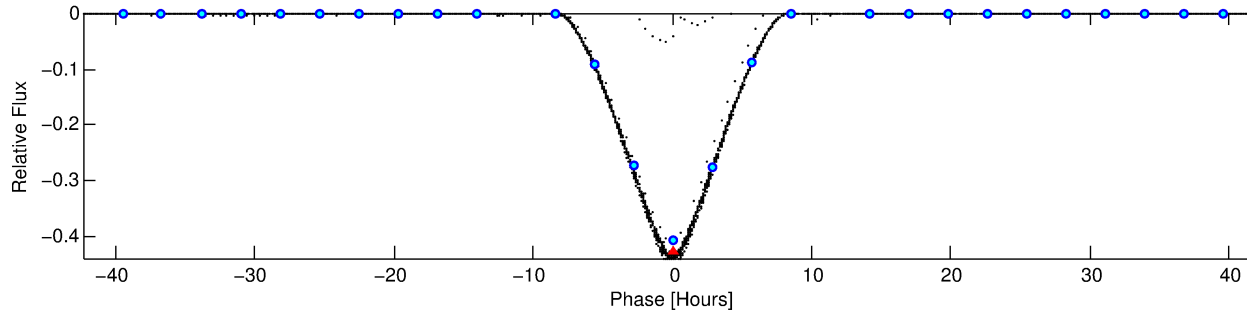
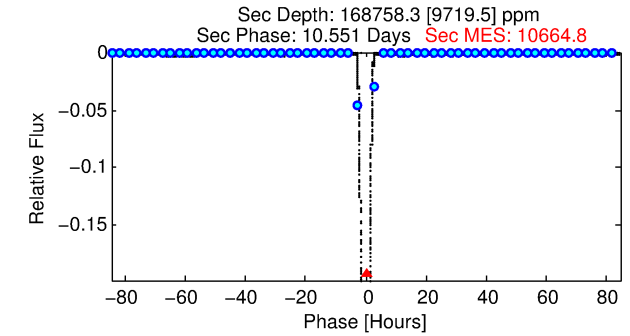
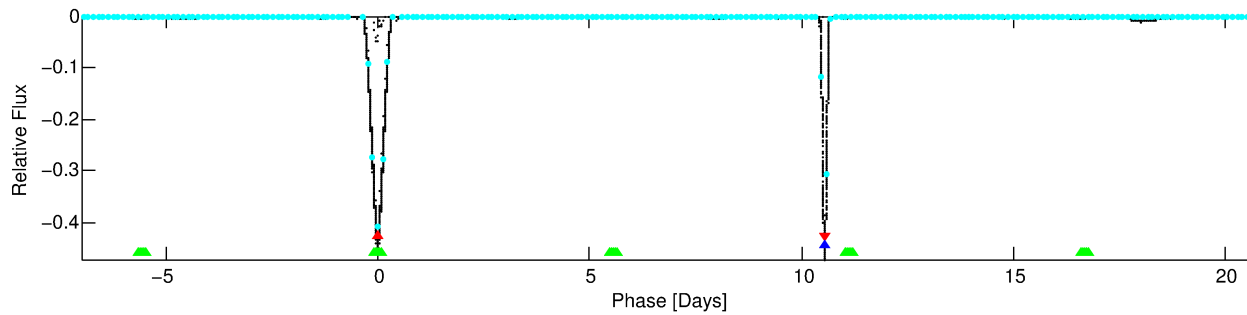
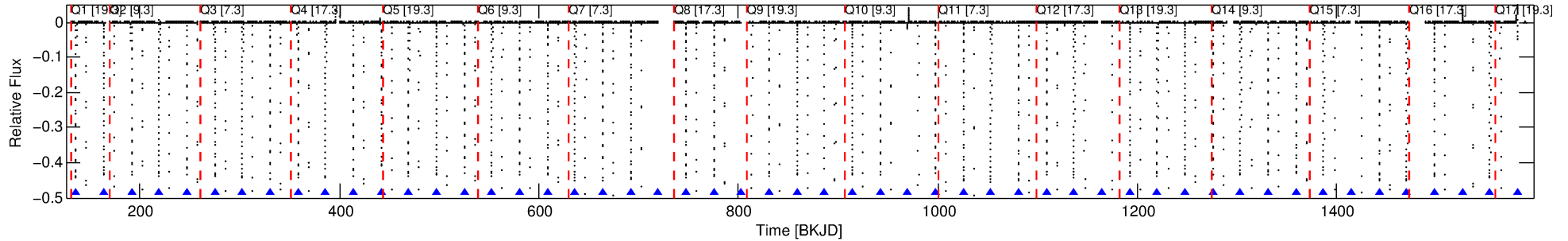
Ephemeris Match Information For 008572936-01

No Significant Match Found

DV One-Page Summary

KIC: 8572936 Candidate: 1 of 3 Period: 27.796 d
KOI: K02459.01 Corr: 0.756

Kp: 14.88 R*: 1.13 Rs Teff: 5915.0 K Logg: 4.33 Fe/H: -0.060



TPS TCE Results:

Period = 27.79572 d
Epoch = 136.1801 BKJD

DV fit results are unavailable

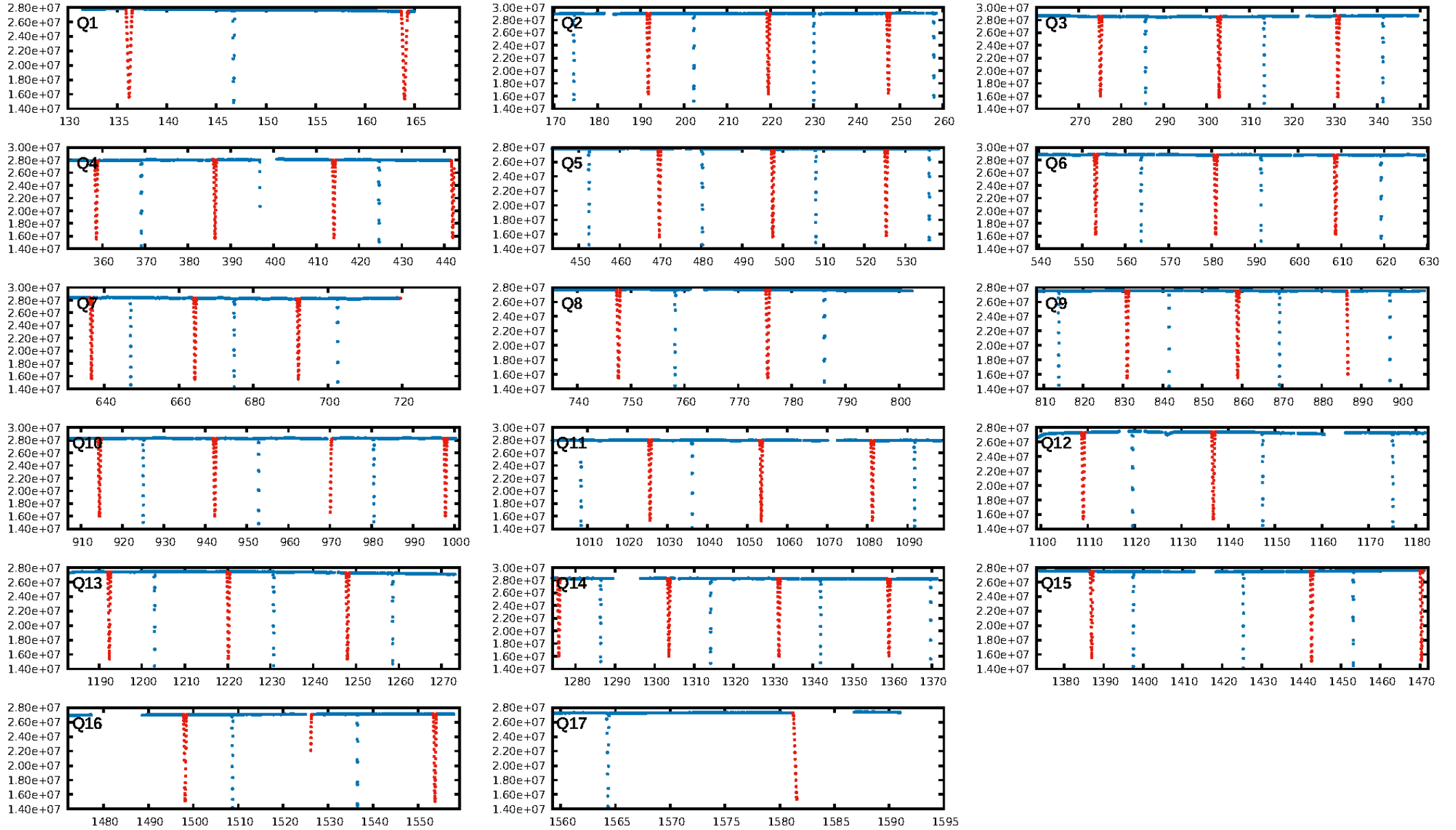
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.93 σ]
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [46/46]
GhostDiagnostic-chr: 1.392
Centroid-sig: N/A
Centroid-so: 0.176 arcsec [284.26 σ]
OotOffset-rm: 0.092 arcsec [1.38 σ]
KicOffset-rm: 0.047 arcsec [0.69 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.00 [0/16]

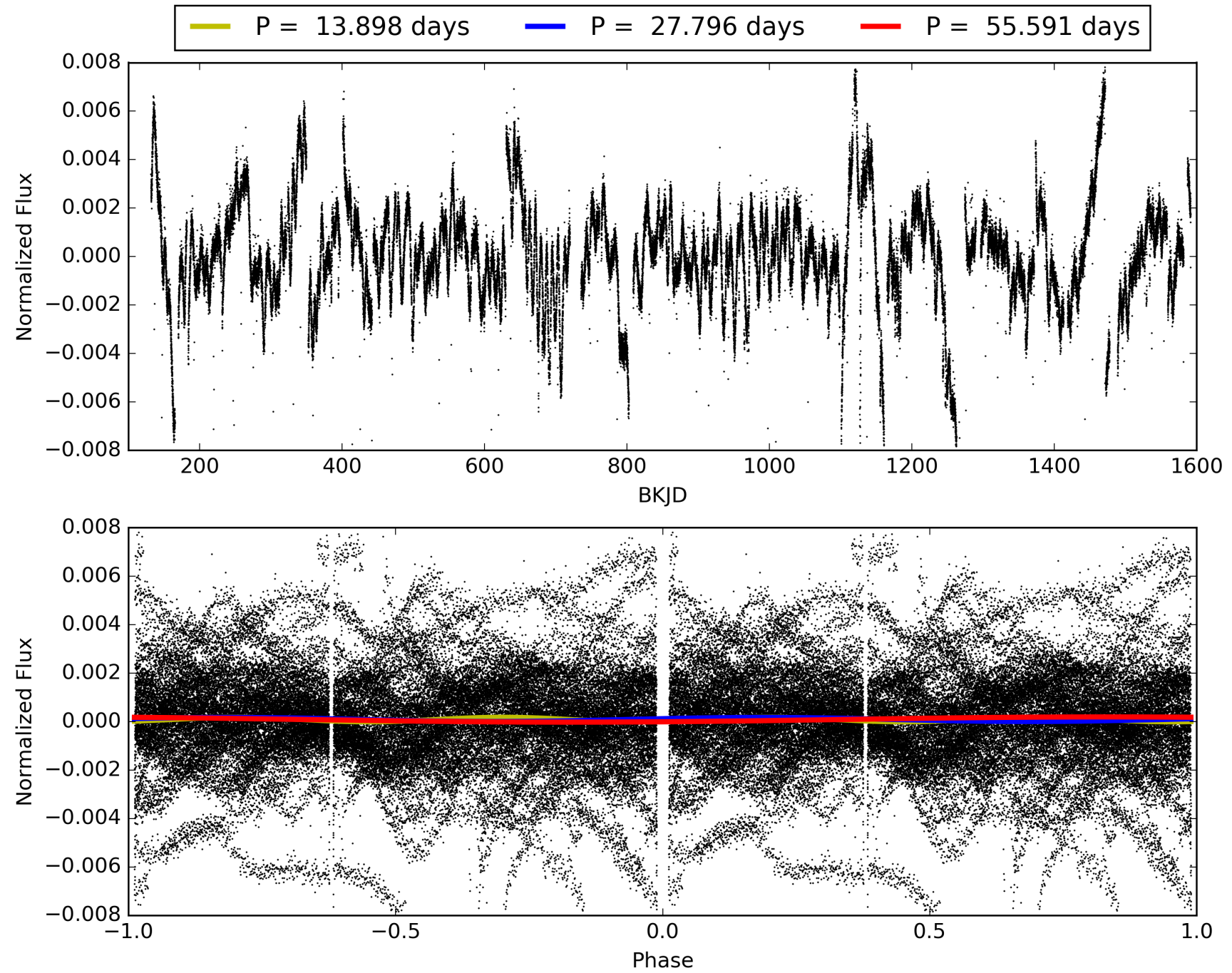
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:25:48 Z

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

TCE 008572936-01, PDC Light Curves

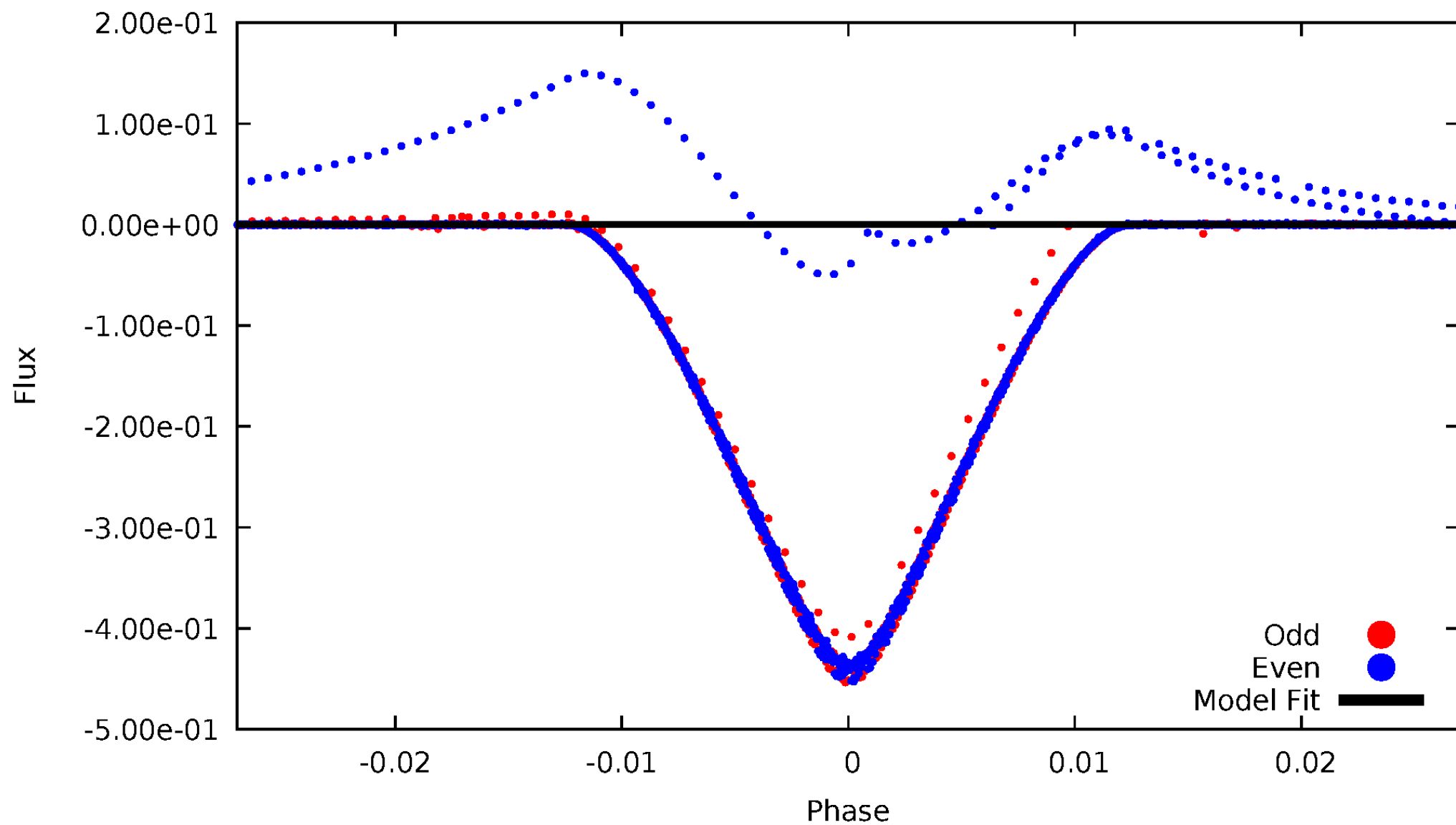


TCE 008572936-01



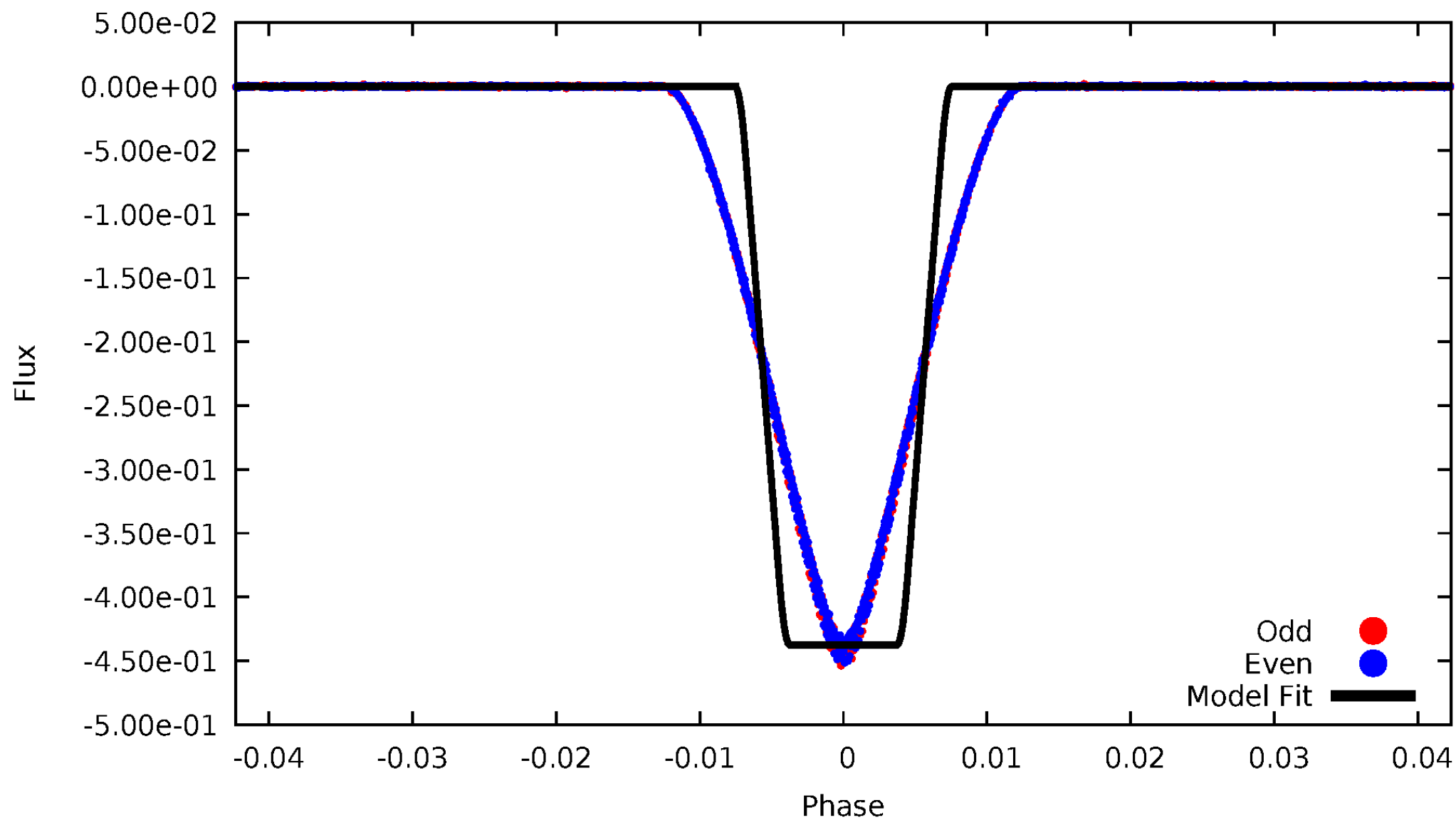
DV Odd/Even

TCE 008572936-01



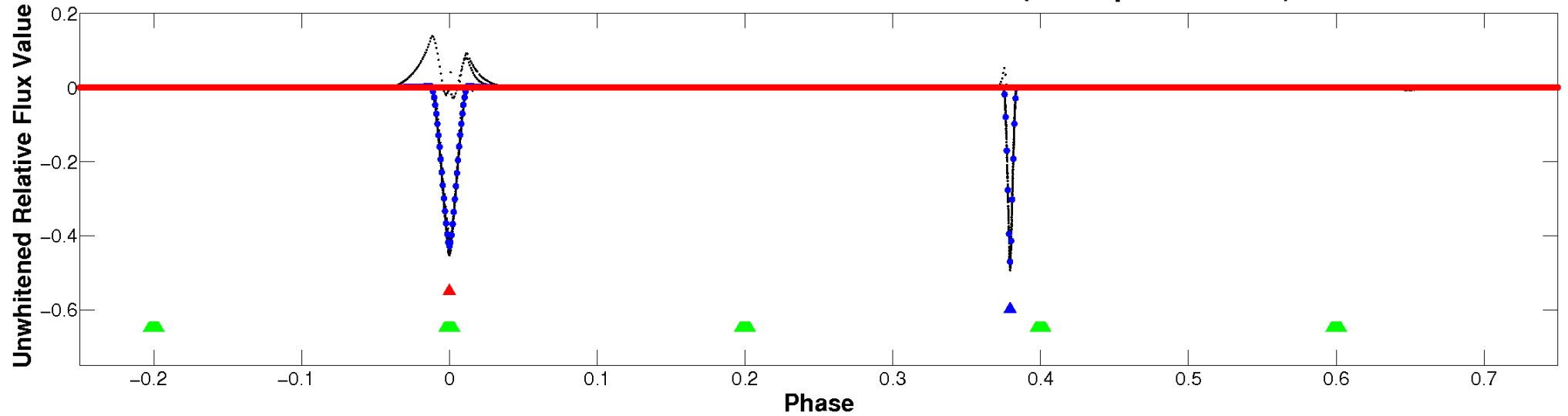
ALT Odd/Even

TCE 008572936-01



Non-Whitened Vs. Whitened Light Curve

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

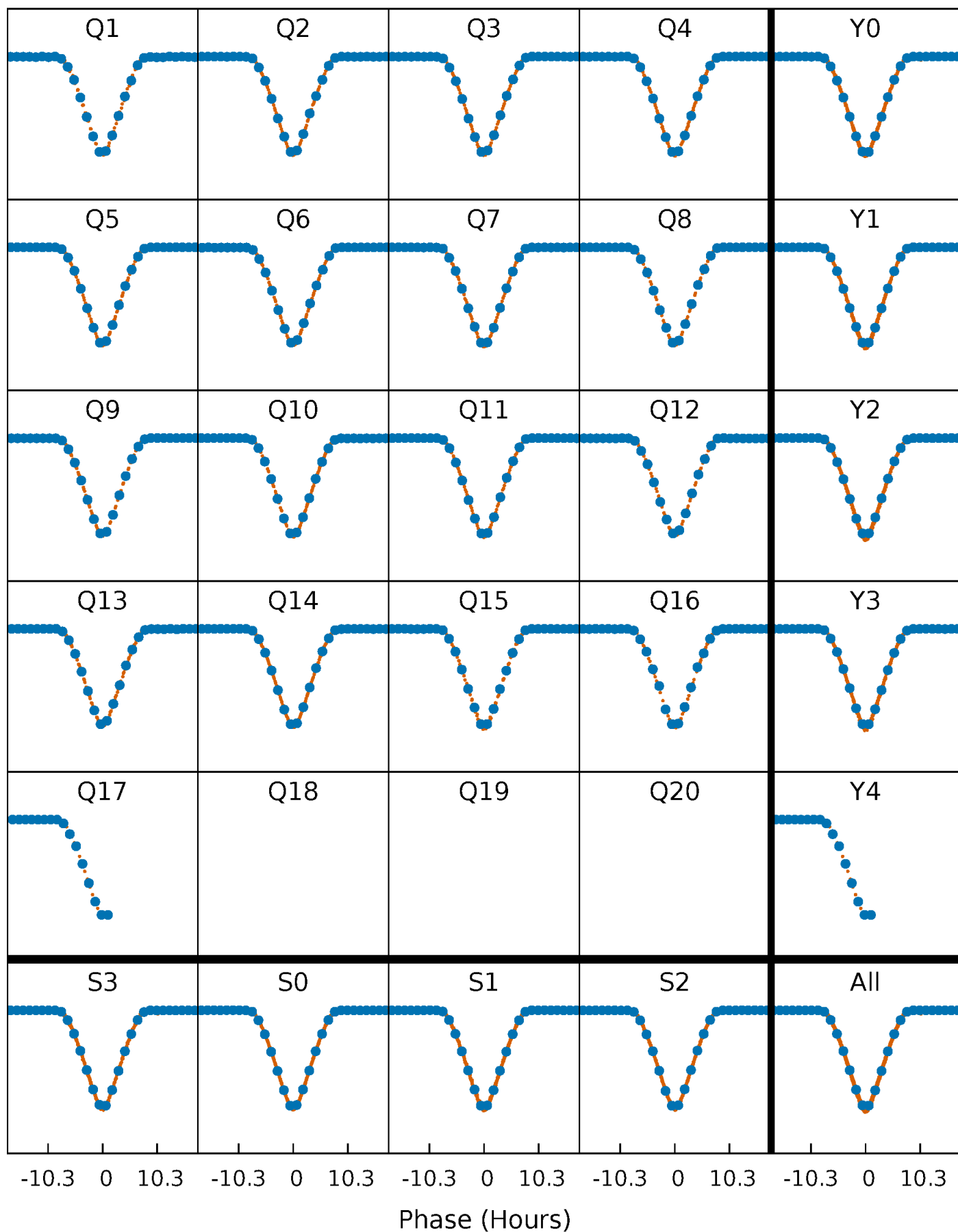


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



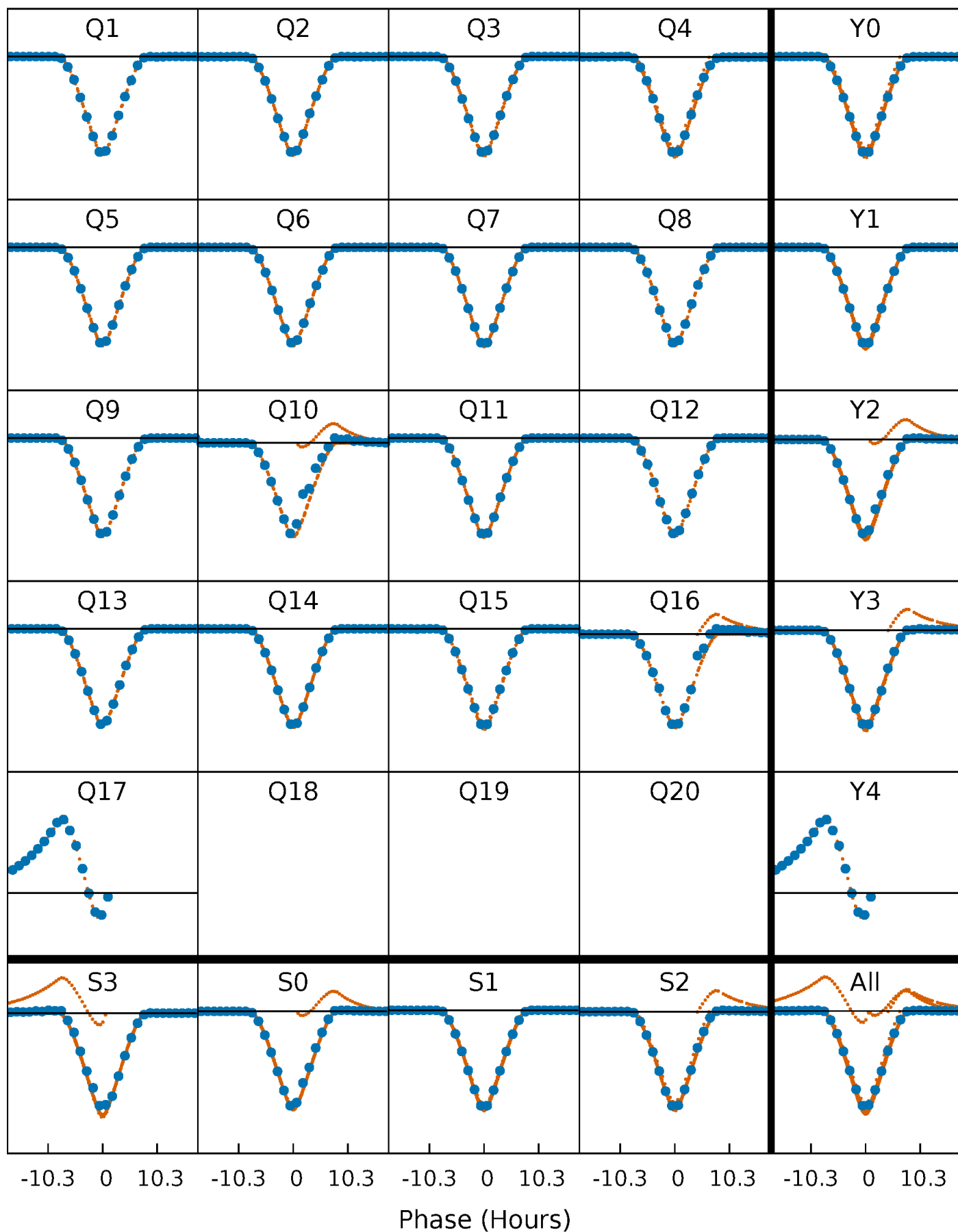
PDC Quarter-Phased Transit Curves

TCE 008572936-01 P= 27.795717 Days $T_0=136.180062$ (BKJD)



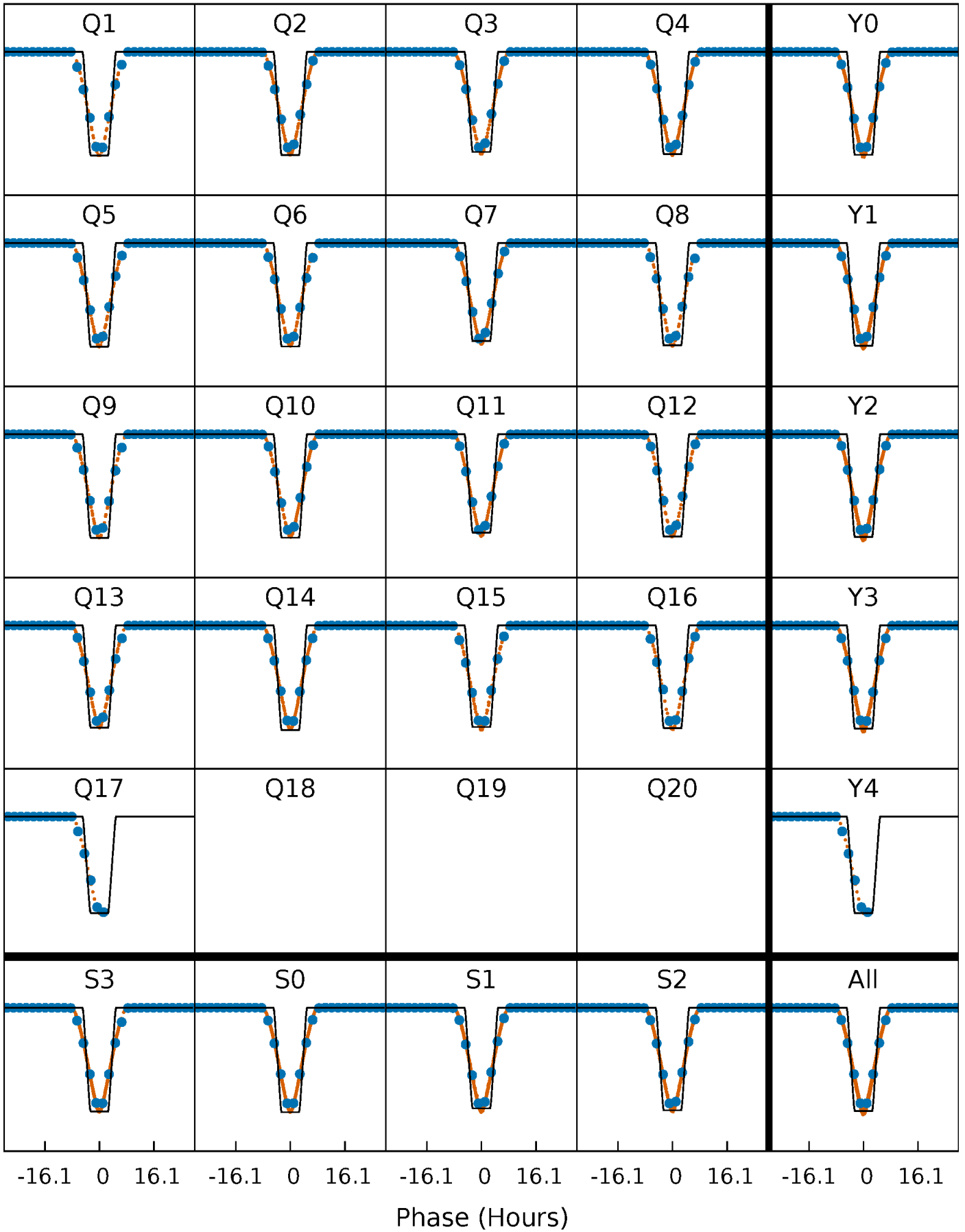
DV Quarter-Phased Transit Curves

TCE 008572936-01 P= 27.795717 Days $T_0=136.180062$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

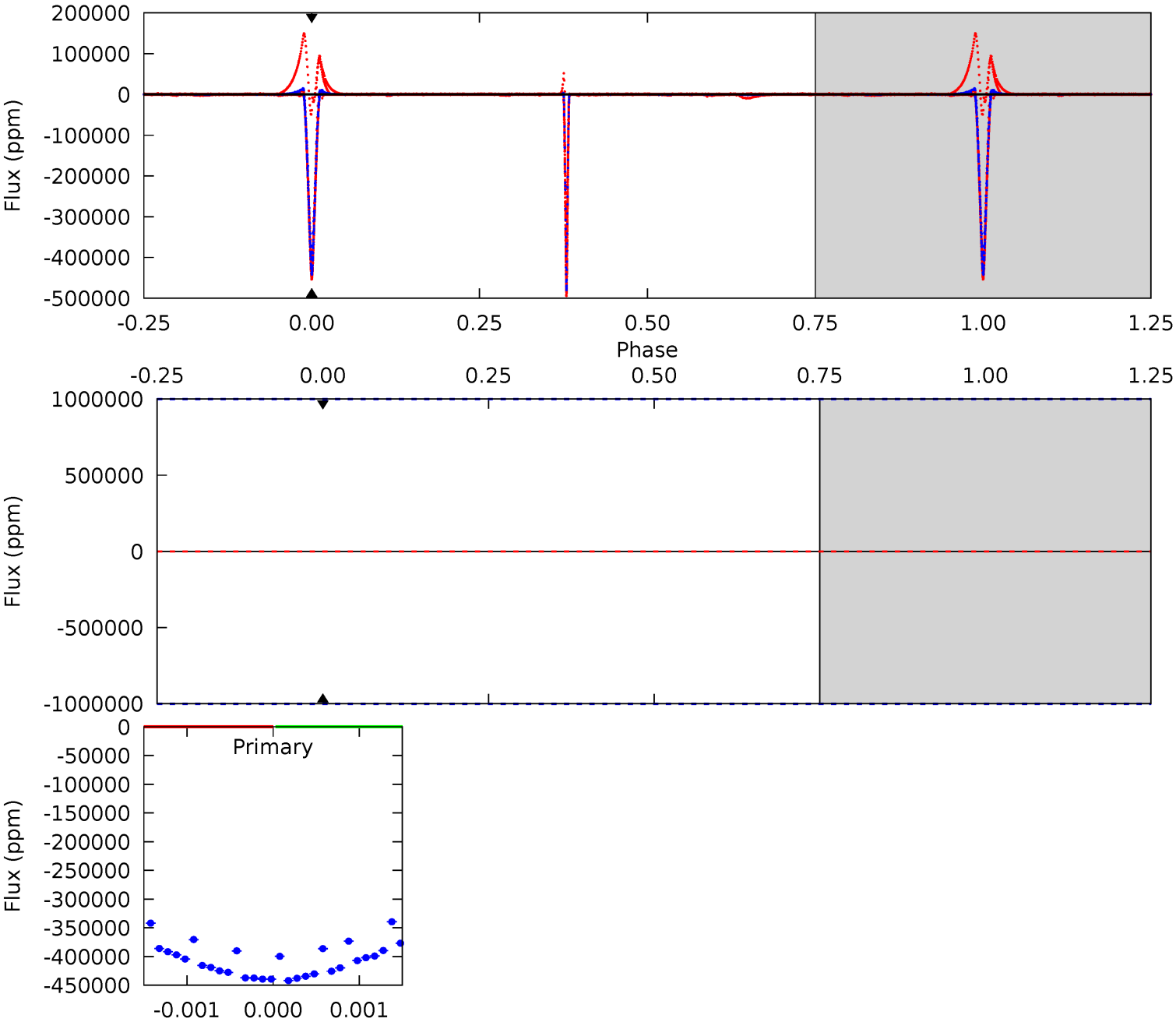
TCE 008572936-01 P= 27.795717 Days $T_0=136.180778$ (BKJD)



DV Model-Shift Uniqueness Test

008572936-01, P = 27.795717 Days, E = 108.384345 Days

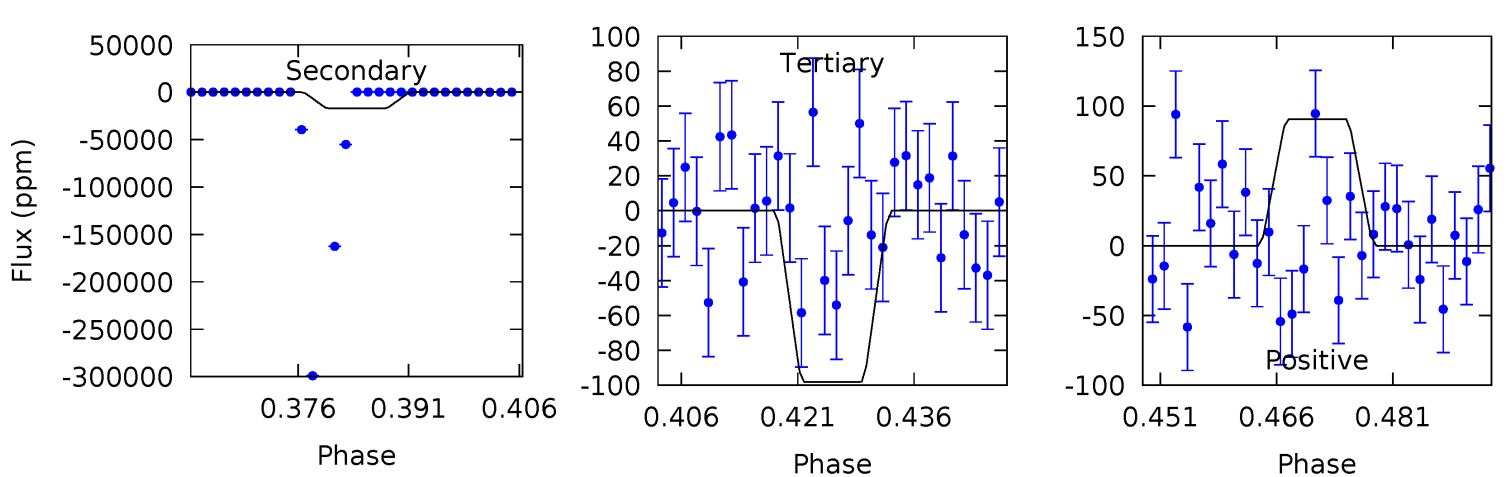
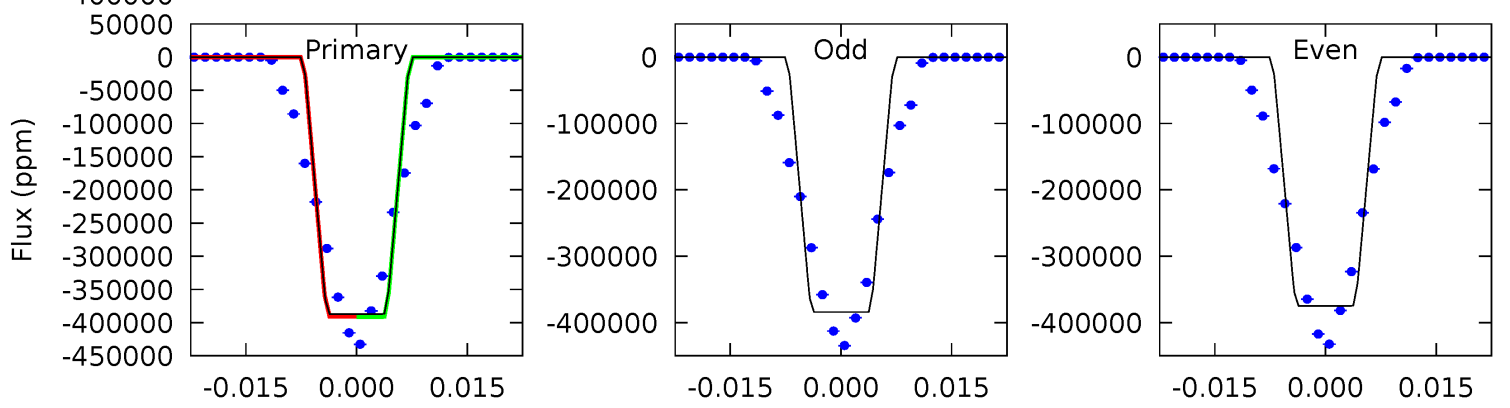
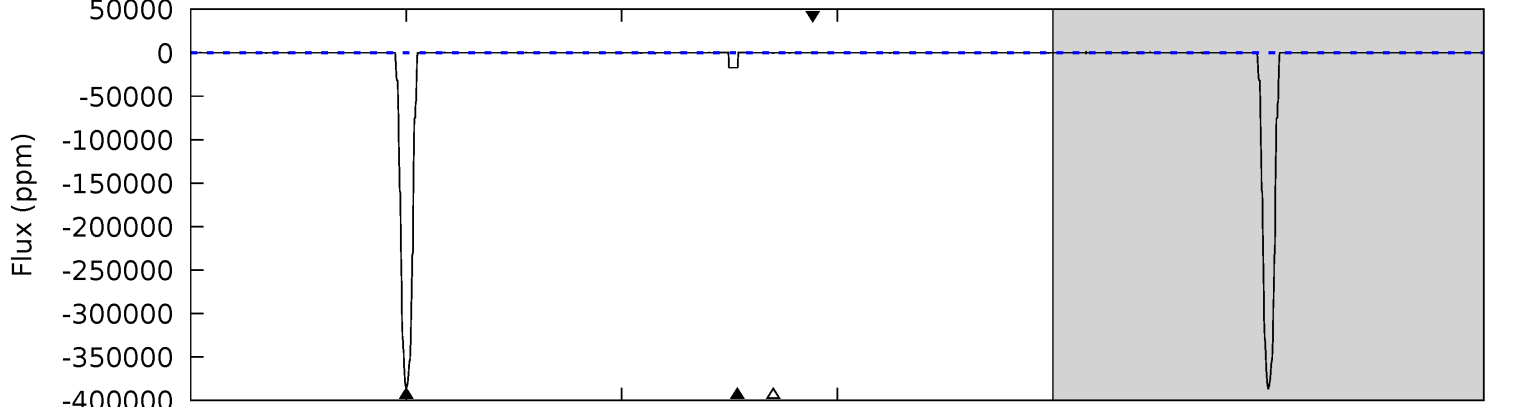
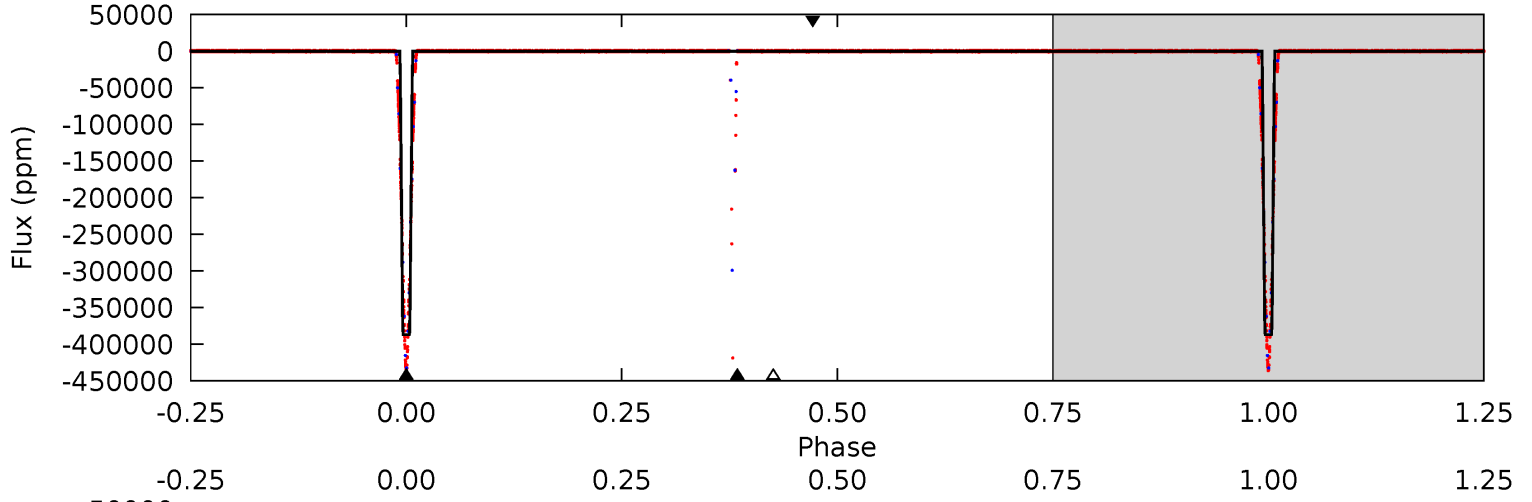
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008572936-01, P = 27.795717 Days, E = 108.385061 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17008	757.2	4.31	3.98	4.95	2.43	1.39	17004	17004	752.9	753.2	235.6	1.02	0.00	1.67



Stellar Parameters For KIC 008572936

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5915^{+105}_{-117}	$4.329^{+0.055}_{-0.045}$	$-0.060^{+0.150}_{-0.150}$	$1.130^{+0.073}_{-0.081}$	$0.992^{+0.078}_{-0.071}$	$0.970^{+0.204}_{-0.155}$
	+2%/-2%	+1%/-1%	+250%/-250%	+6%/-7%	+8%/-7%	+21%/-16%
Source	SPE36	TRA36	SPE36	DSEP		

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

Secondary Eclipse Parameters for KIC 008572936-01 / KOI 2459.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$58.67^{+12.03}_{-12.91}$	914^{+23}_{-24}	-2851^{+7813}_{-2033}	$-20.303^{+568.140}_{-489.606}$
Alt.	-17223 ± 23	$81.29^{+13.61}_{-13.08}$	914^{+23}_{-25}	3228^{+171}_{-136}	47^{+19}_{-12}

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

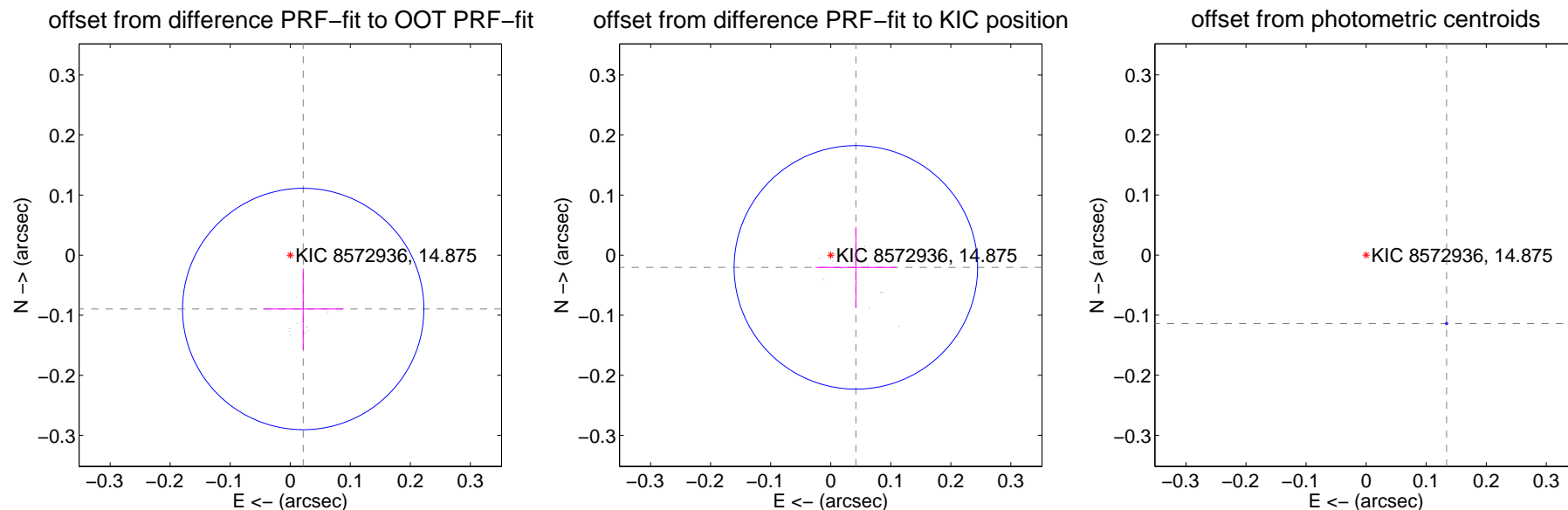
DV Centroid Data

Supplemental centroid analysis for 008572936-01. Kepler magnitude: 14.88. Transit SNR -1.00

There are 16 quarters with good PRF difference image offsets

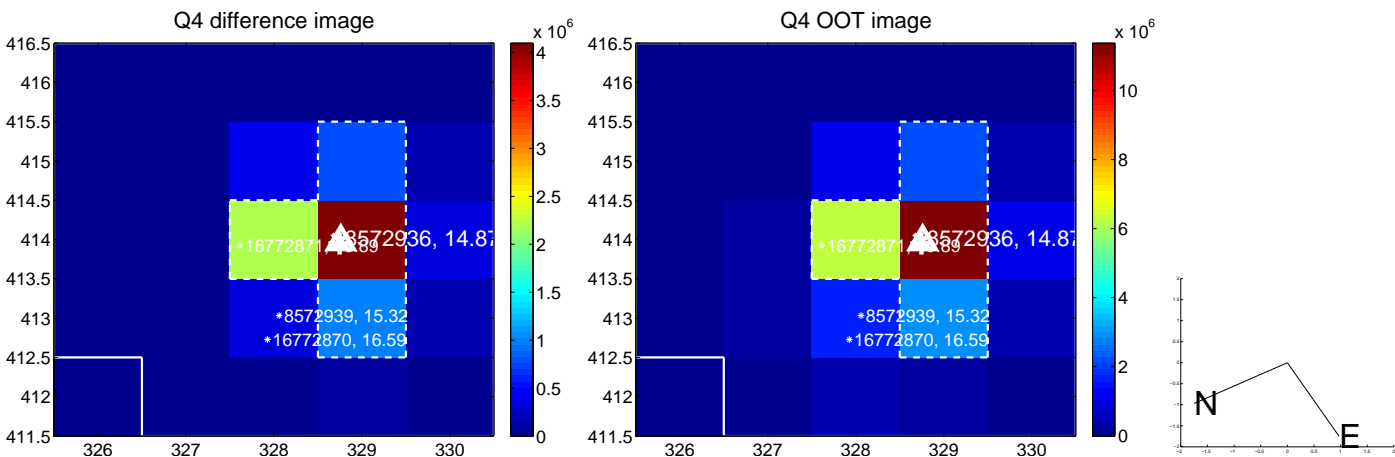
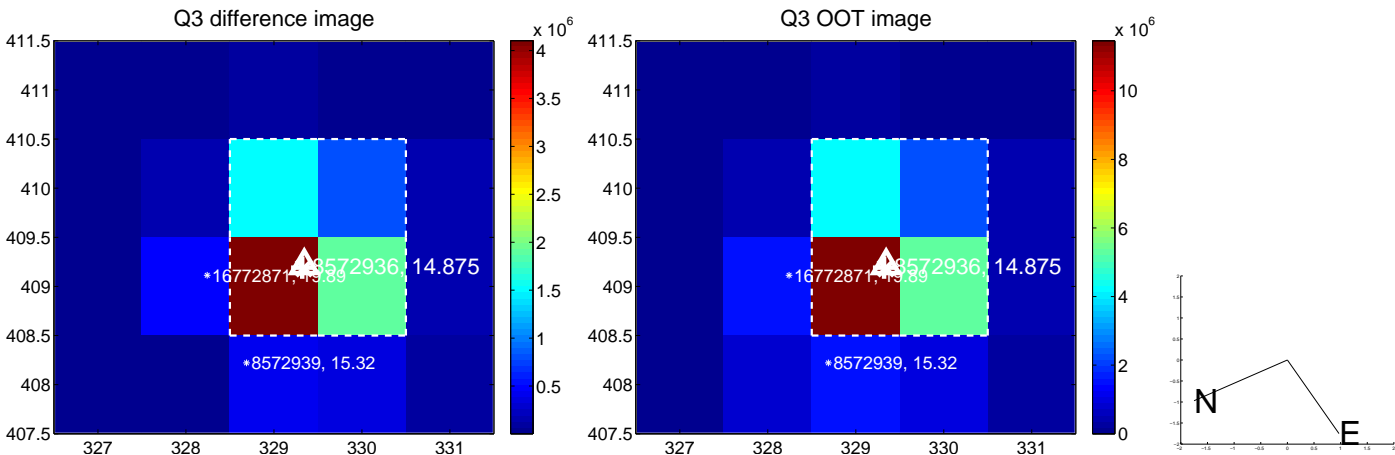
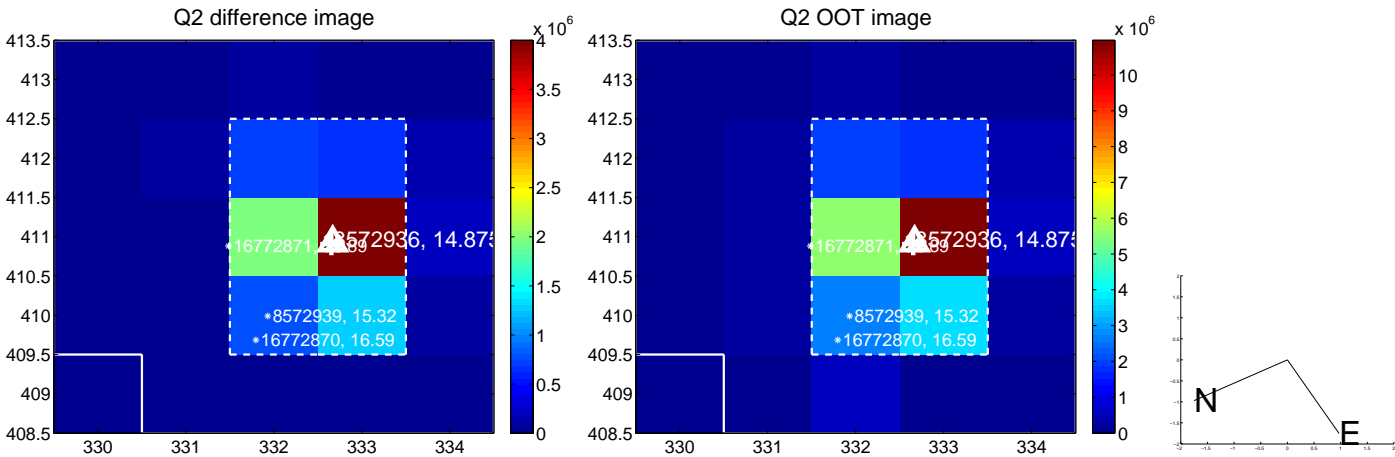
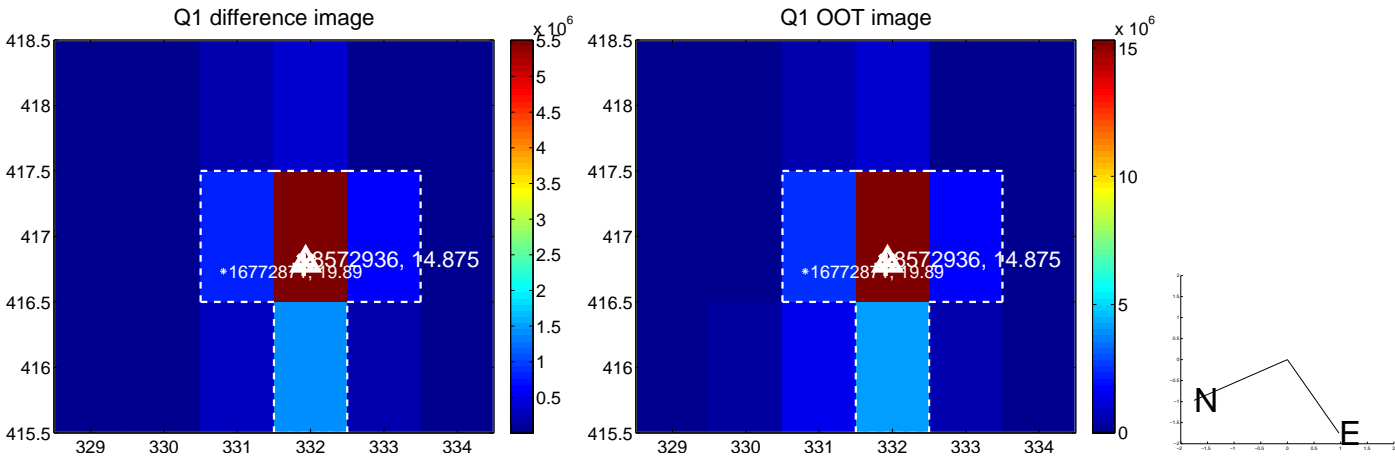
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.092 ± 0.067	1.38	-0.022 ± 0.067	-0.090 ± 0.067
PRF-fit source offset from KIC position	0.047 ± 0.068	0.69	-0.042 ± 0.067	-0.020 ± 0.067
photometric centroid source offset	0.18 ± 0.00	284.26	-0.13 ± 0.00	-0.11 ± 0.00

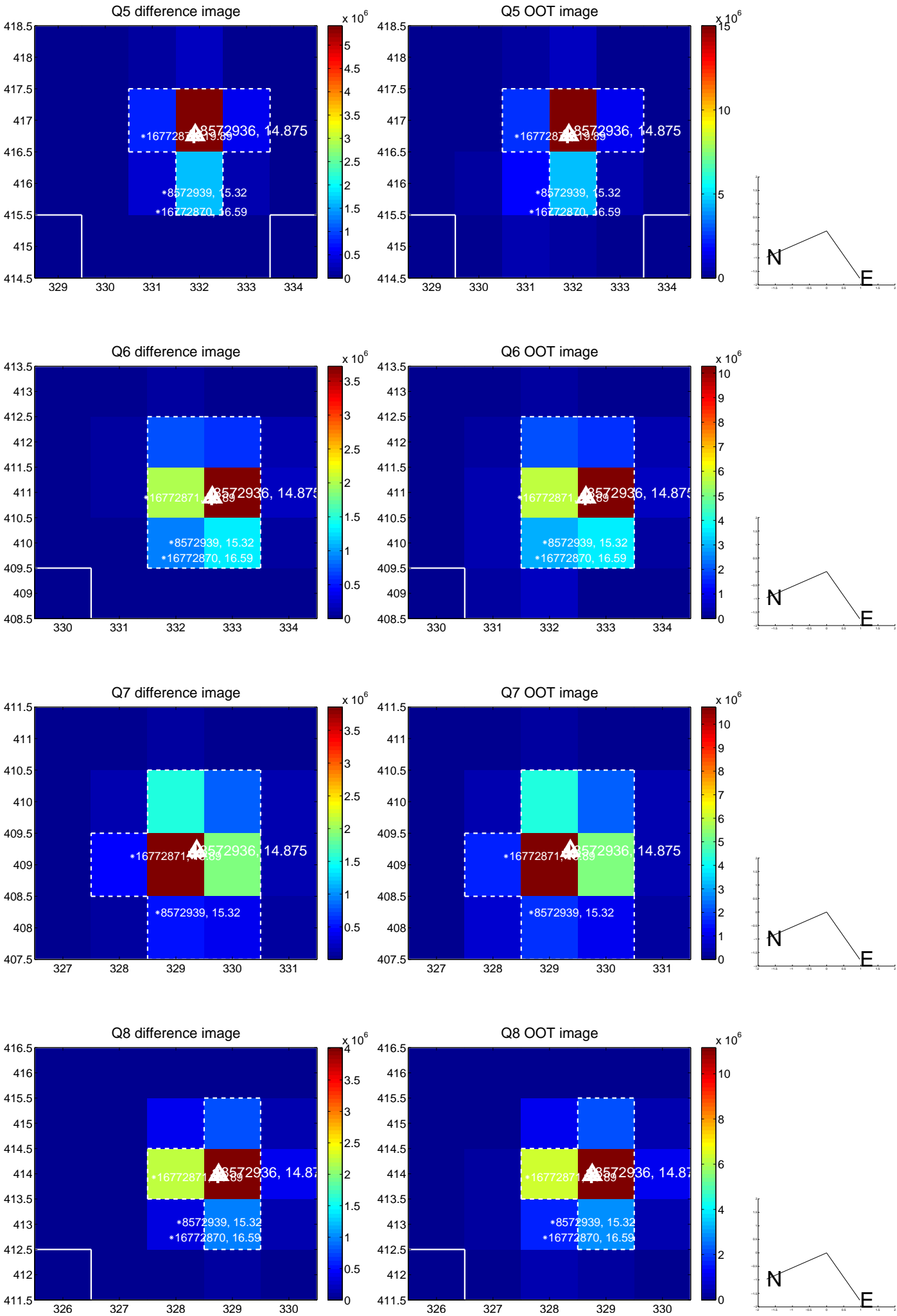


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

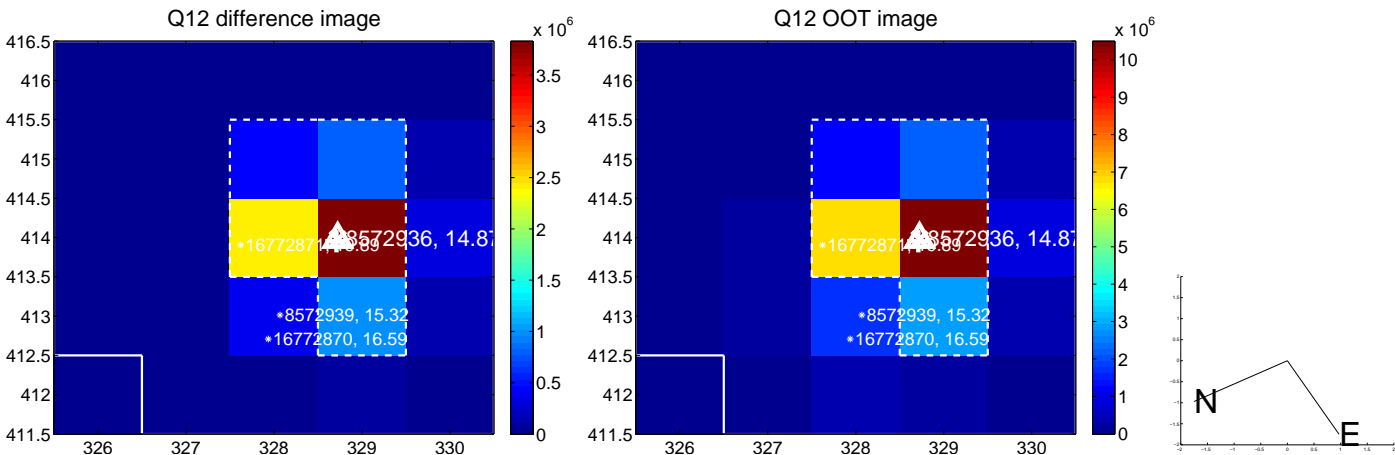
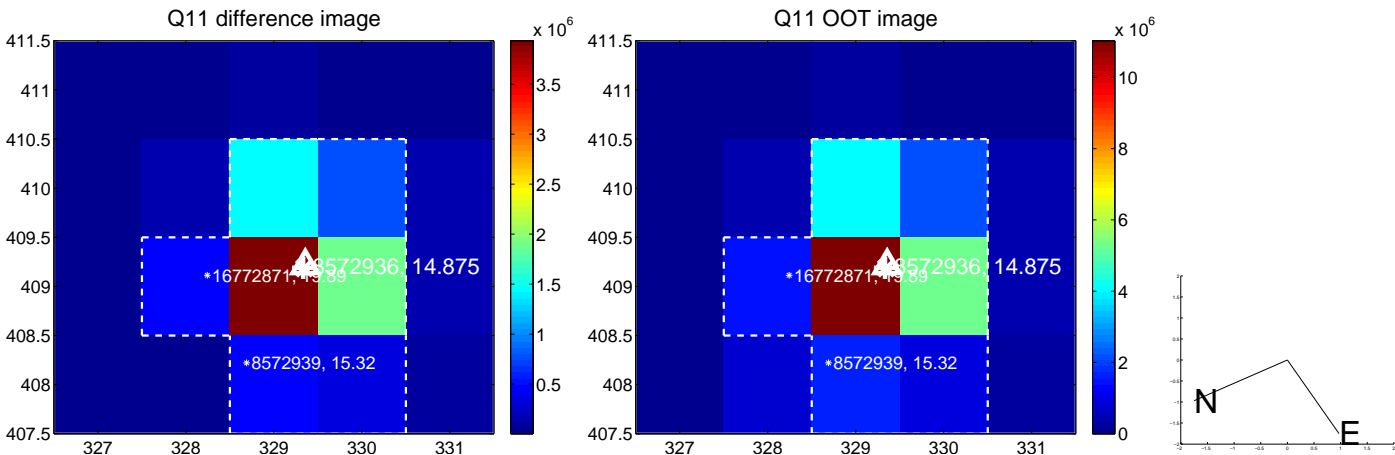
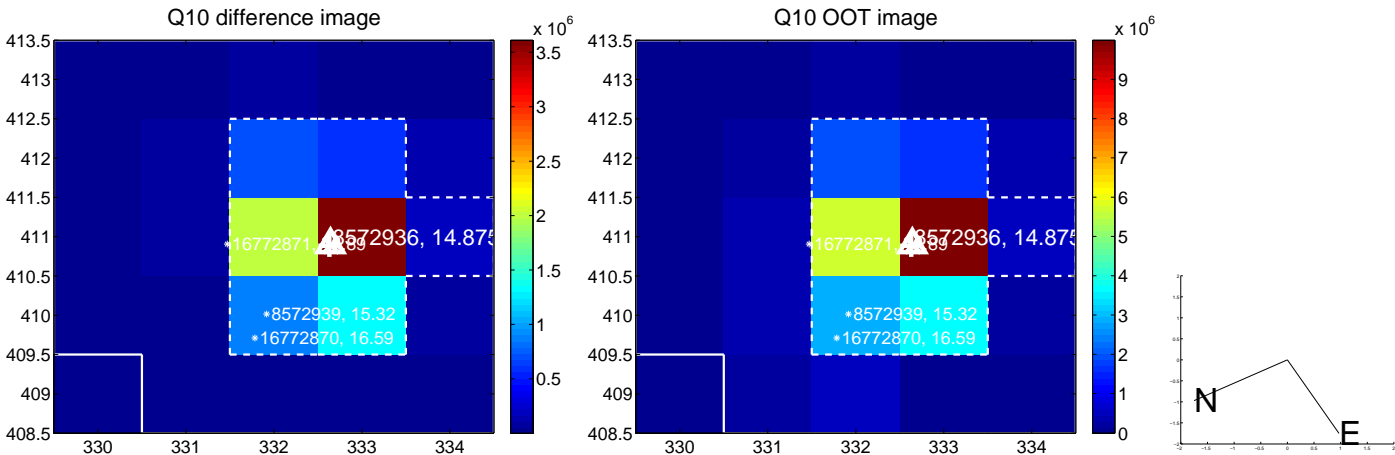
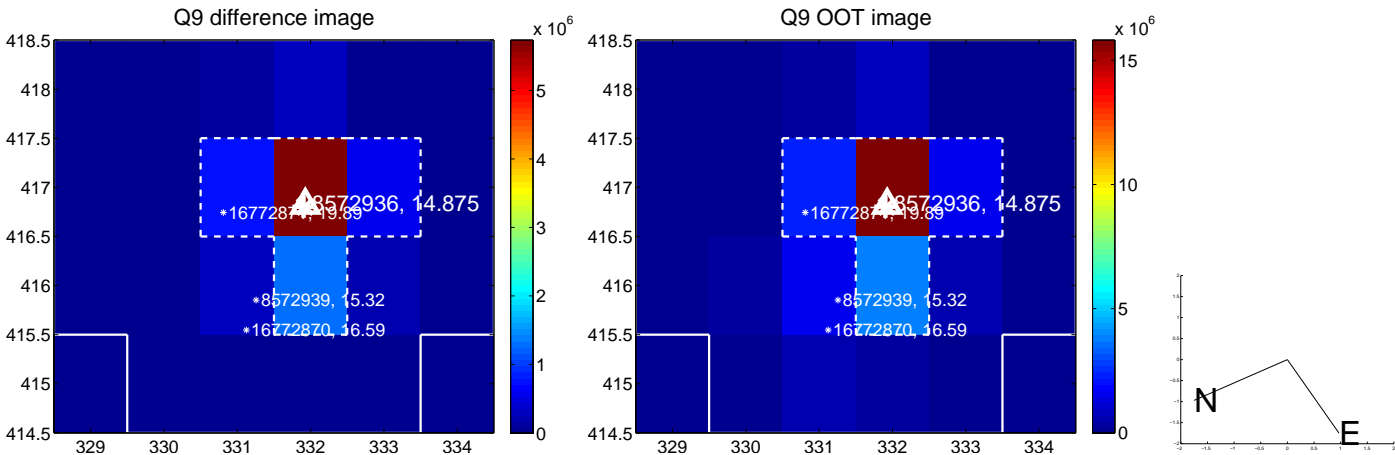
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



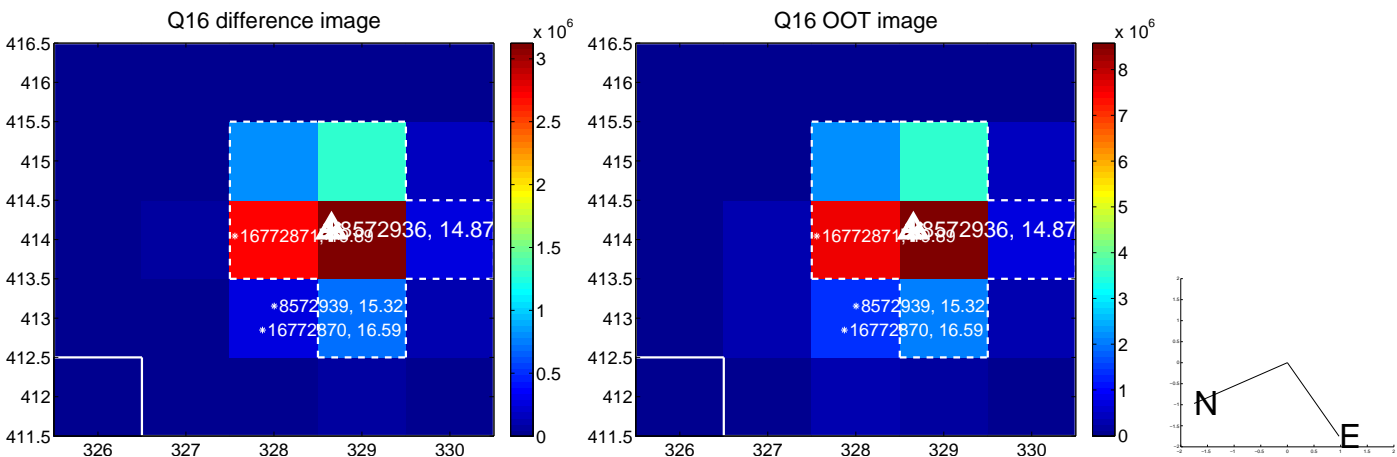
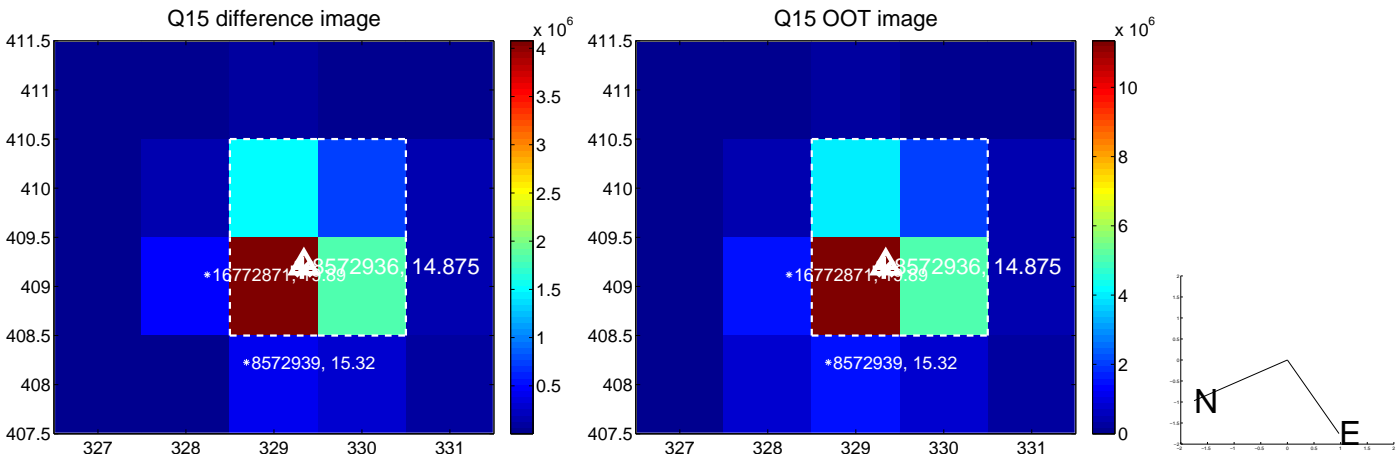
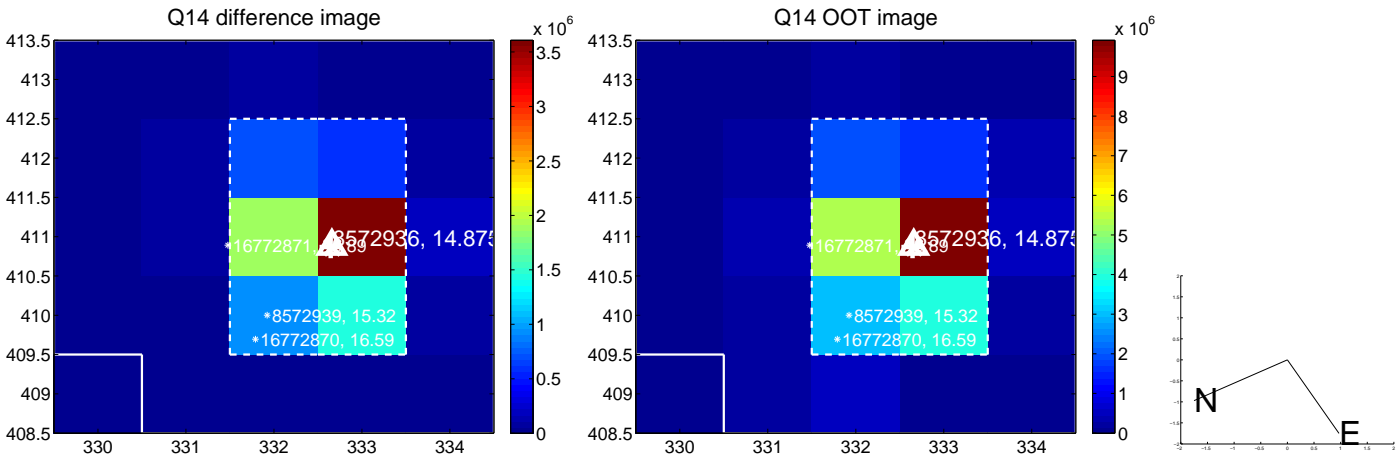
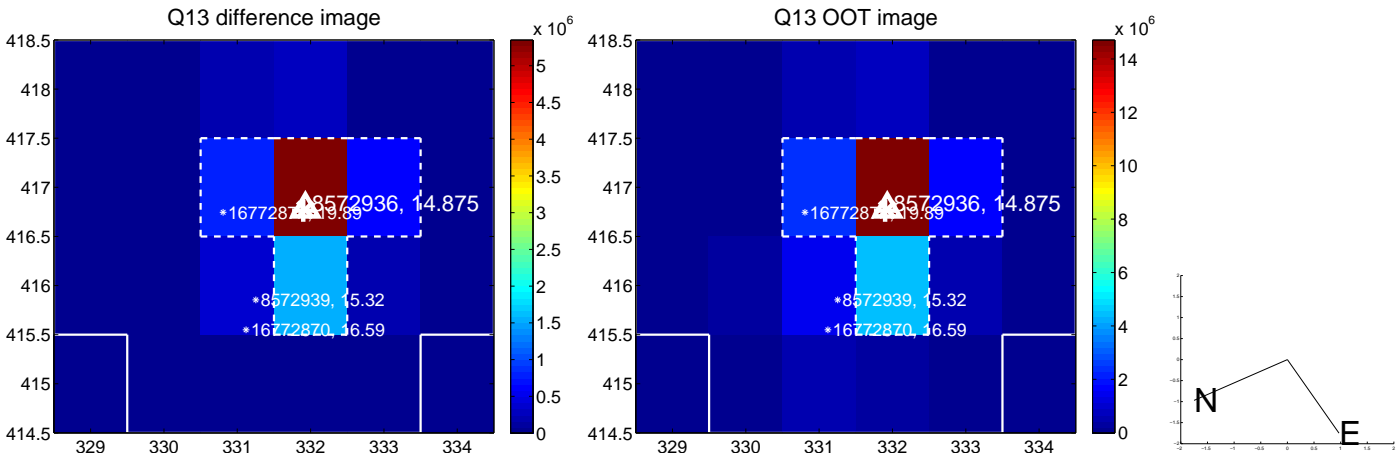
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



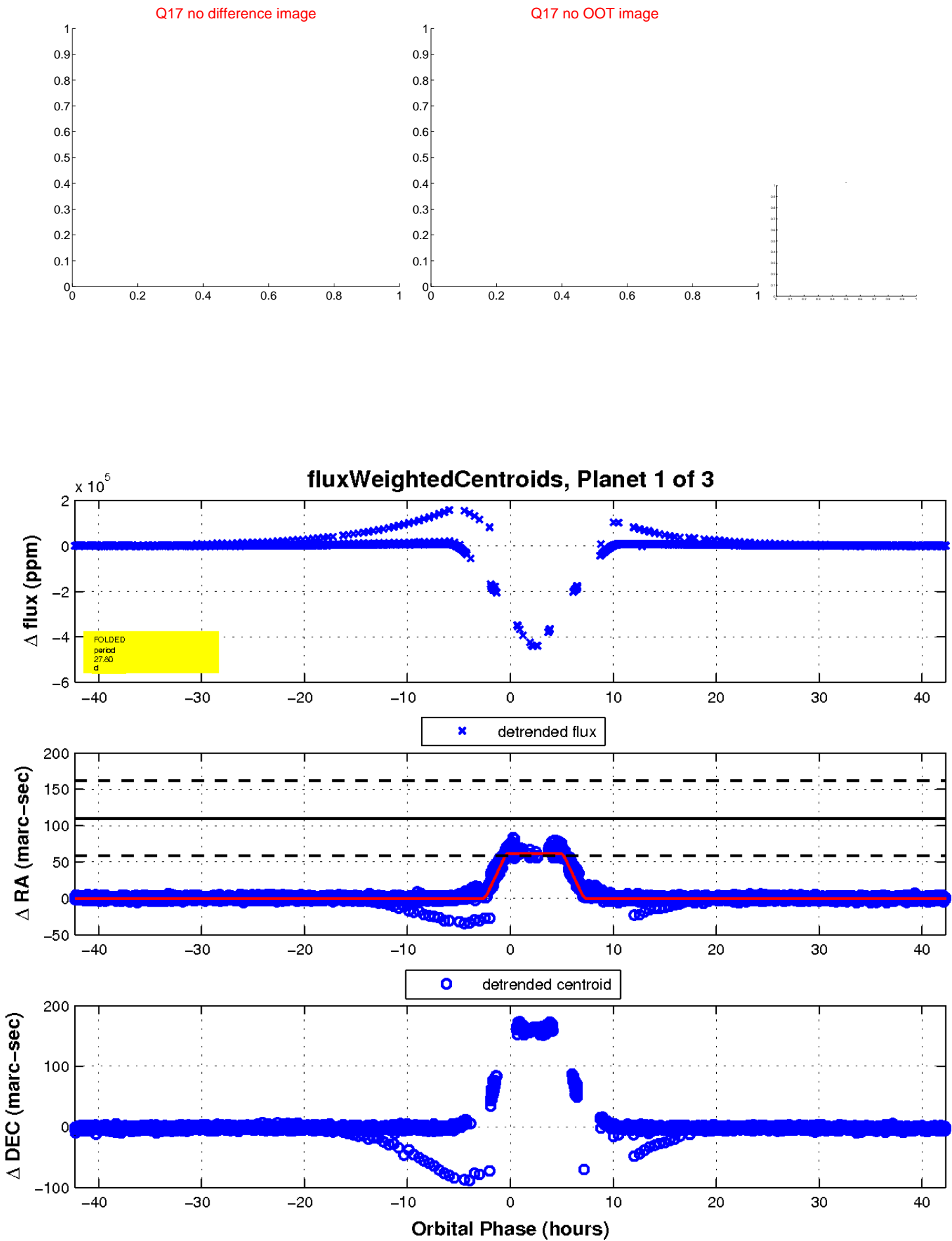
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

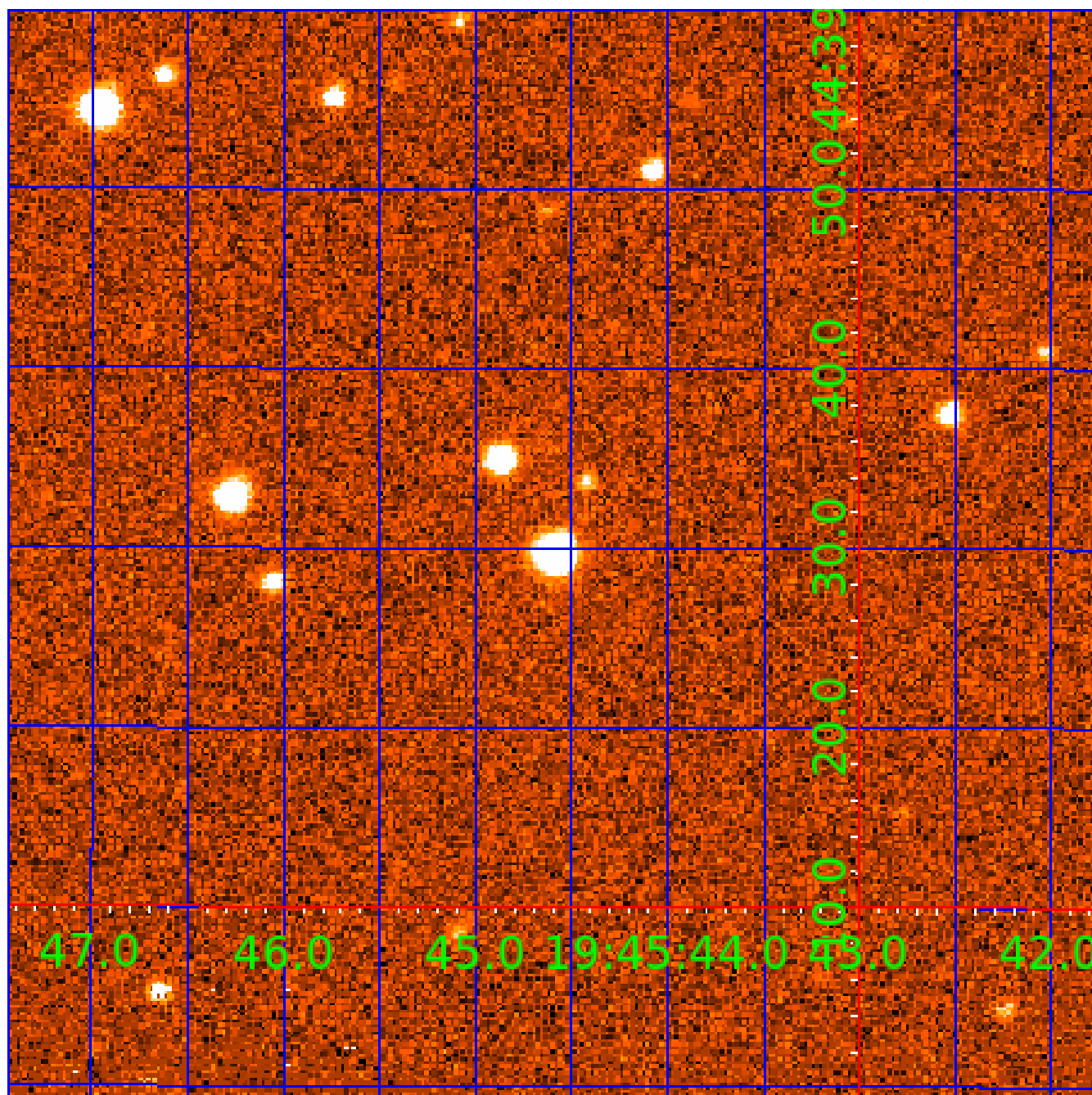


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008572936

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})
008572936-01	OBS	2459.01	27.795717	136.180062	439852.8	9.000	19001.3	-1.0	1.13	5915	58.36	43.60
008572936-02	OBS	No	27.795944	146.719531	471756.4	3.000	17773.9	-1.0	1.13	5915	61.65	43.60
008572936-03	OBS	No	5.559841	136.089225	7924.8	66.718	1586.2	118.4	1.13	5915	11.33	372.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008572936-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
008572936-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
008572936-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

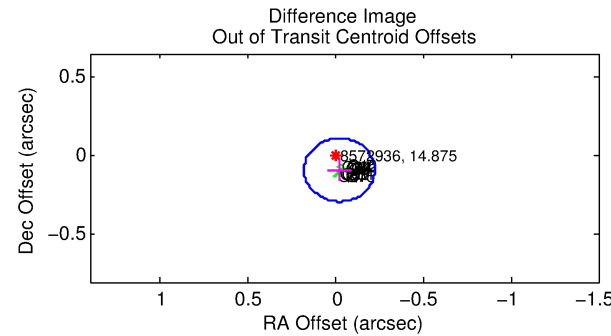
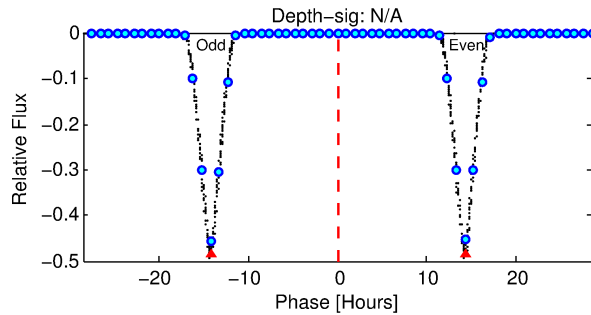
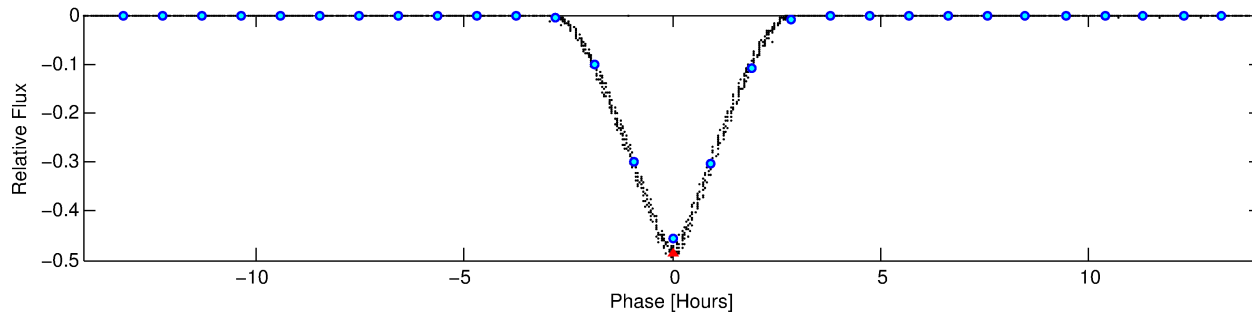
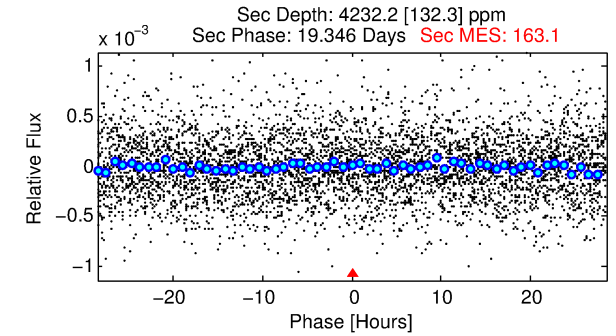
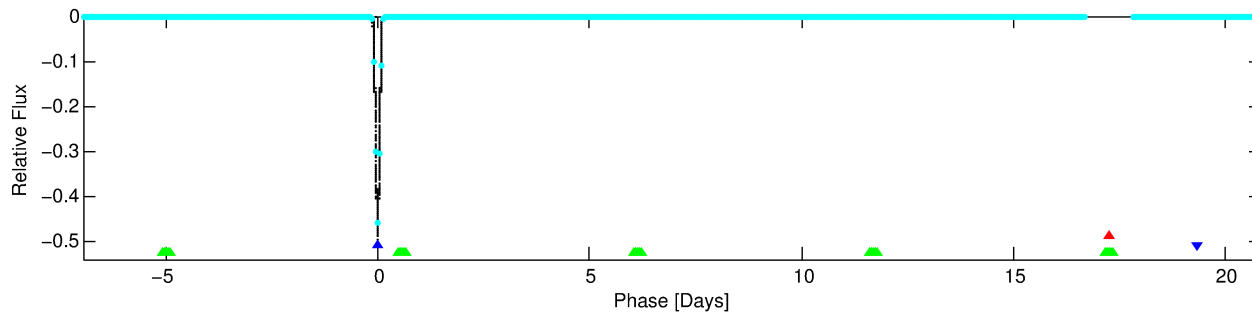
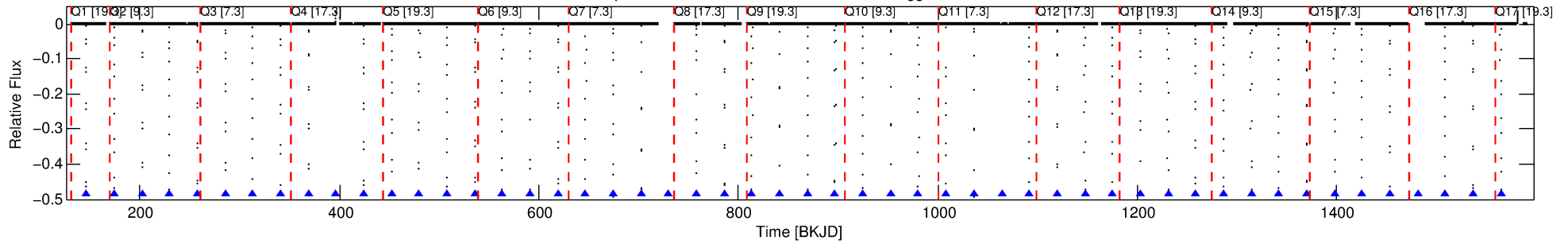
Ephemeris Match Information For 008572936-02

No Significant Match Found

DV One-Page Summary

KIC: 8572936 Candidate: 2 of 3 Period: 27.796 d
KOI: K02459 Corr: No Ephemeris Match

Kp: 14.88 R*: 1.13 Rs Teff: 5915.0 K Logg: 4.33 Fe/H: -0.060



TPS TCE Results:

Period = 27.79594 d
Epoch = 146.7195 BKJD

DV fit results are unavailable

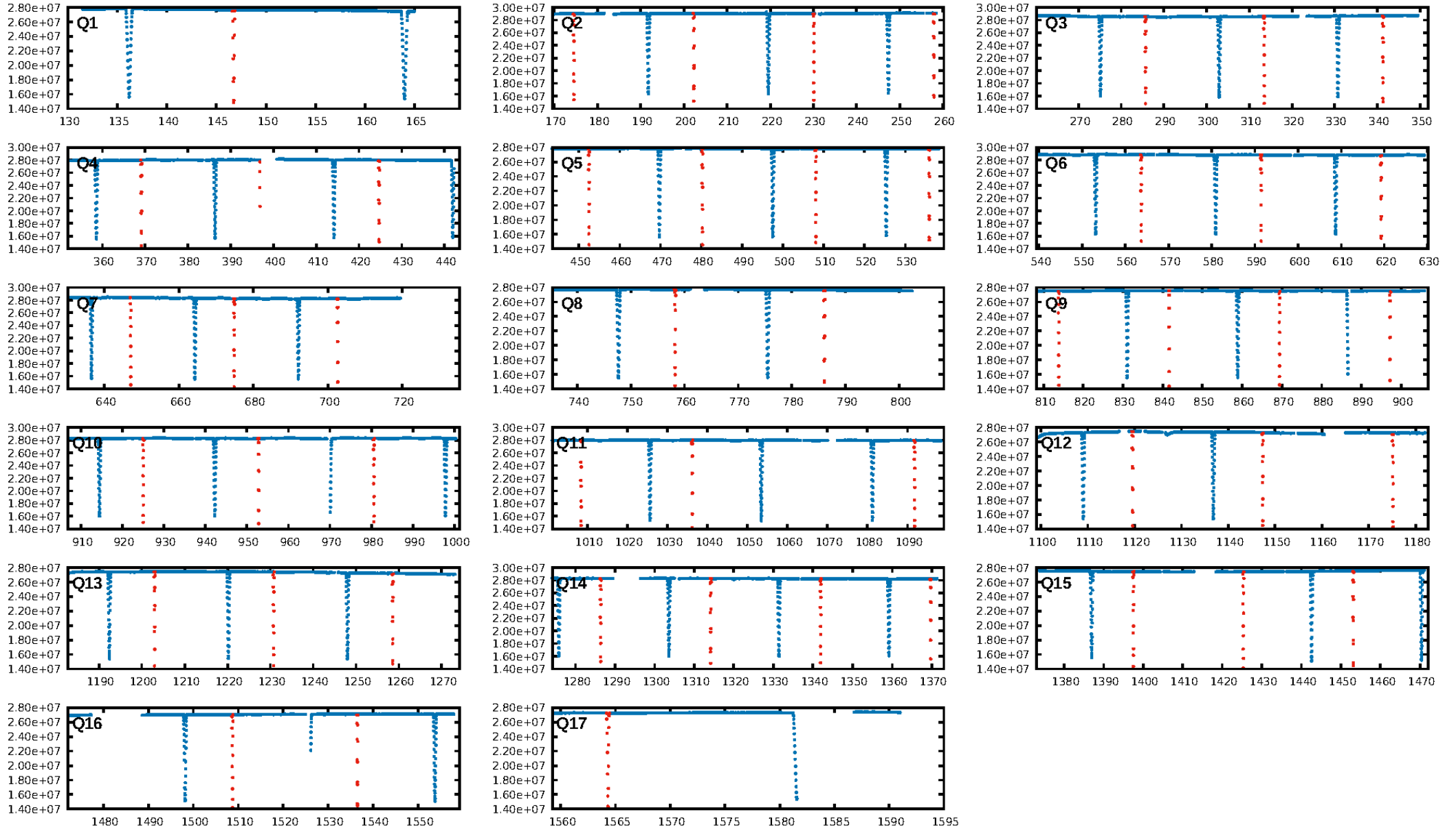
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [47/47]
GhostDiagnostic-chr: 3.025
Centroid-sig: N/A
Centroid-so: 0.189 arcsec [250.56 σ]
OotOffset-rm: 0.091 arcsec [1.36 σ]
KicOffset-rm: 0.050 arcsec [0.75 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

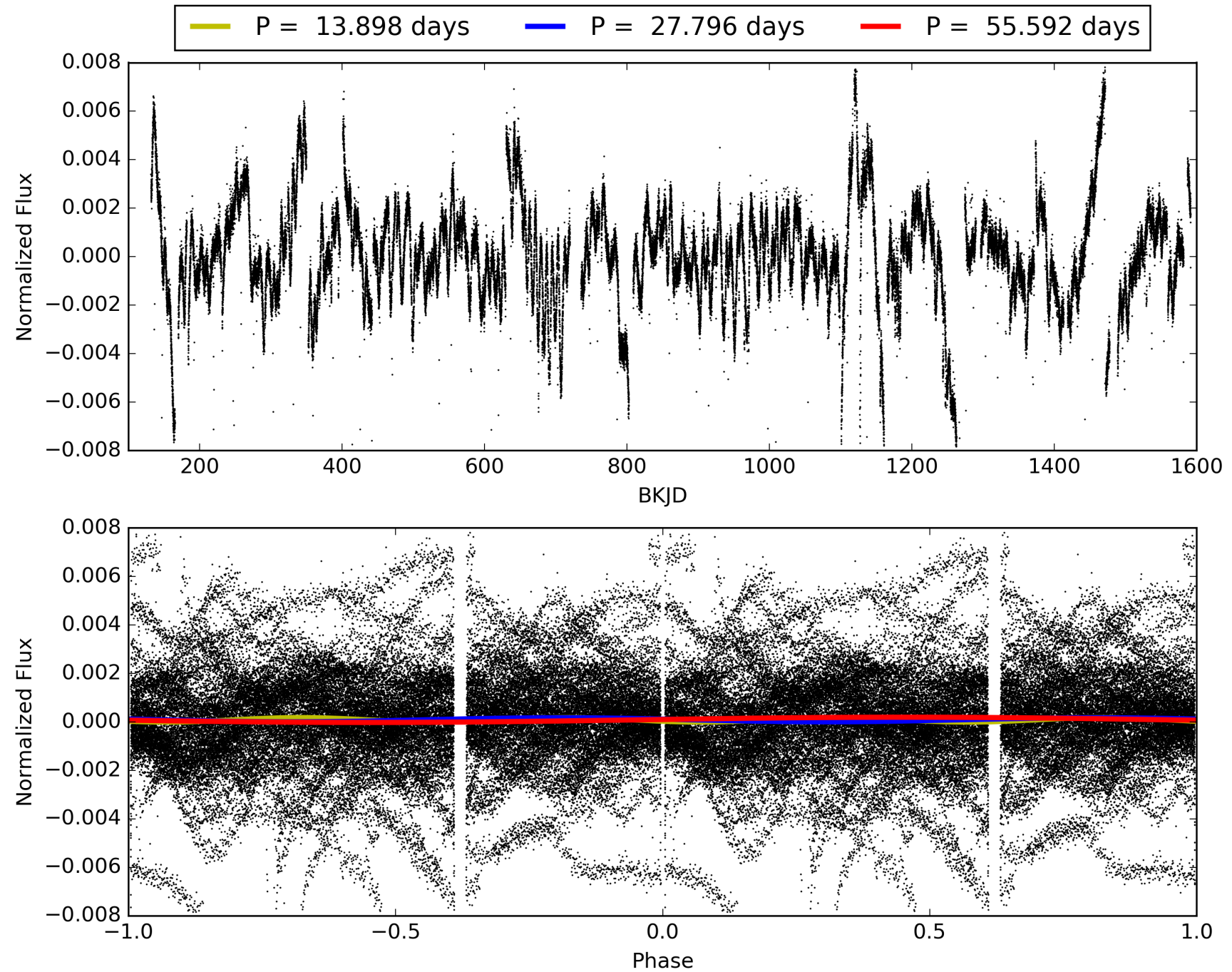
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:25:51 Z

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

TCE 008572936-02, PDC Light Curves

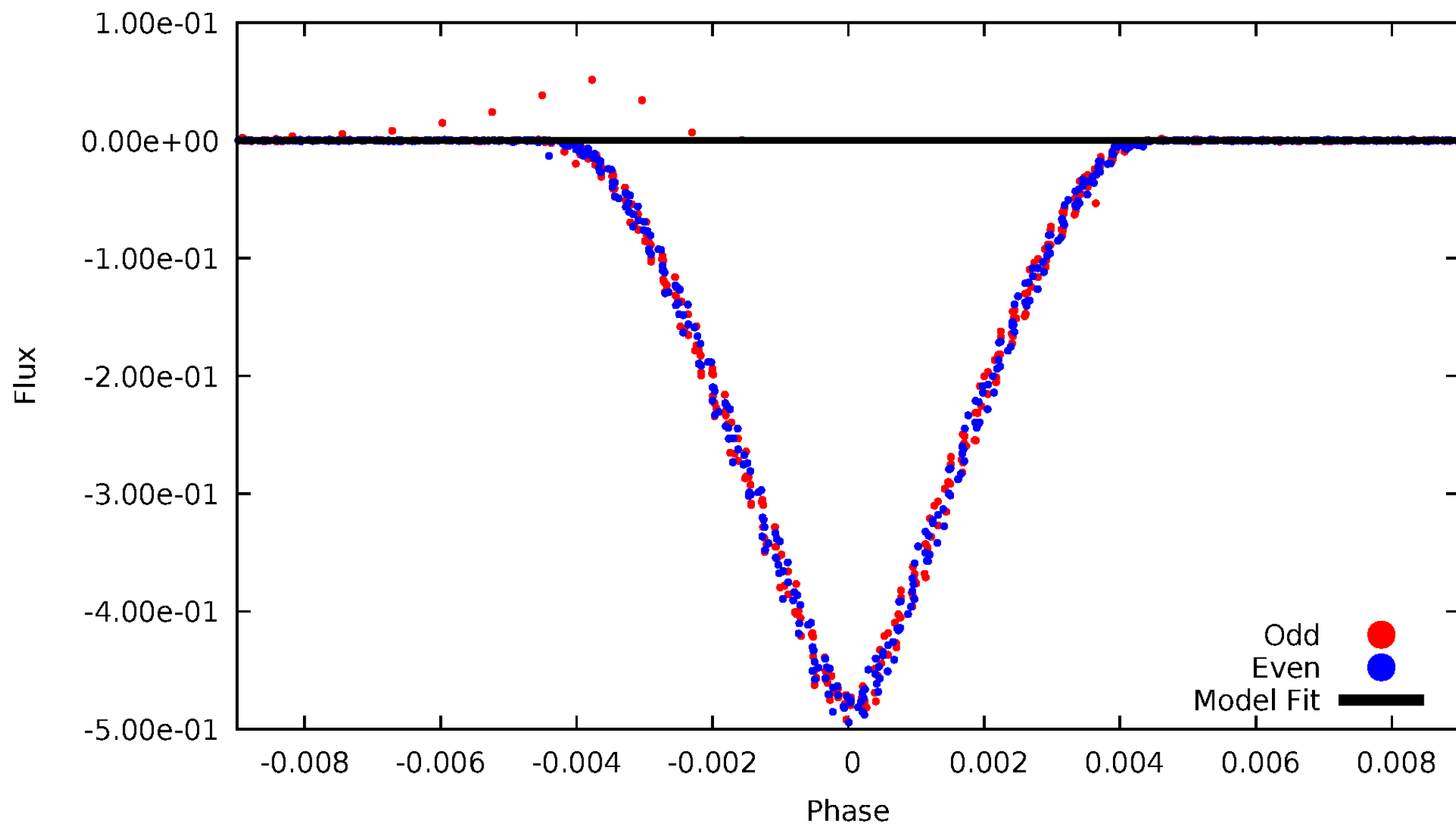


TCE 008572936-02



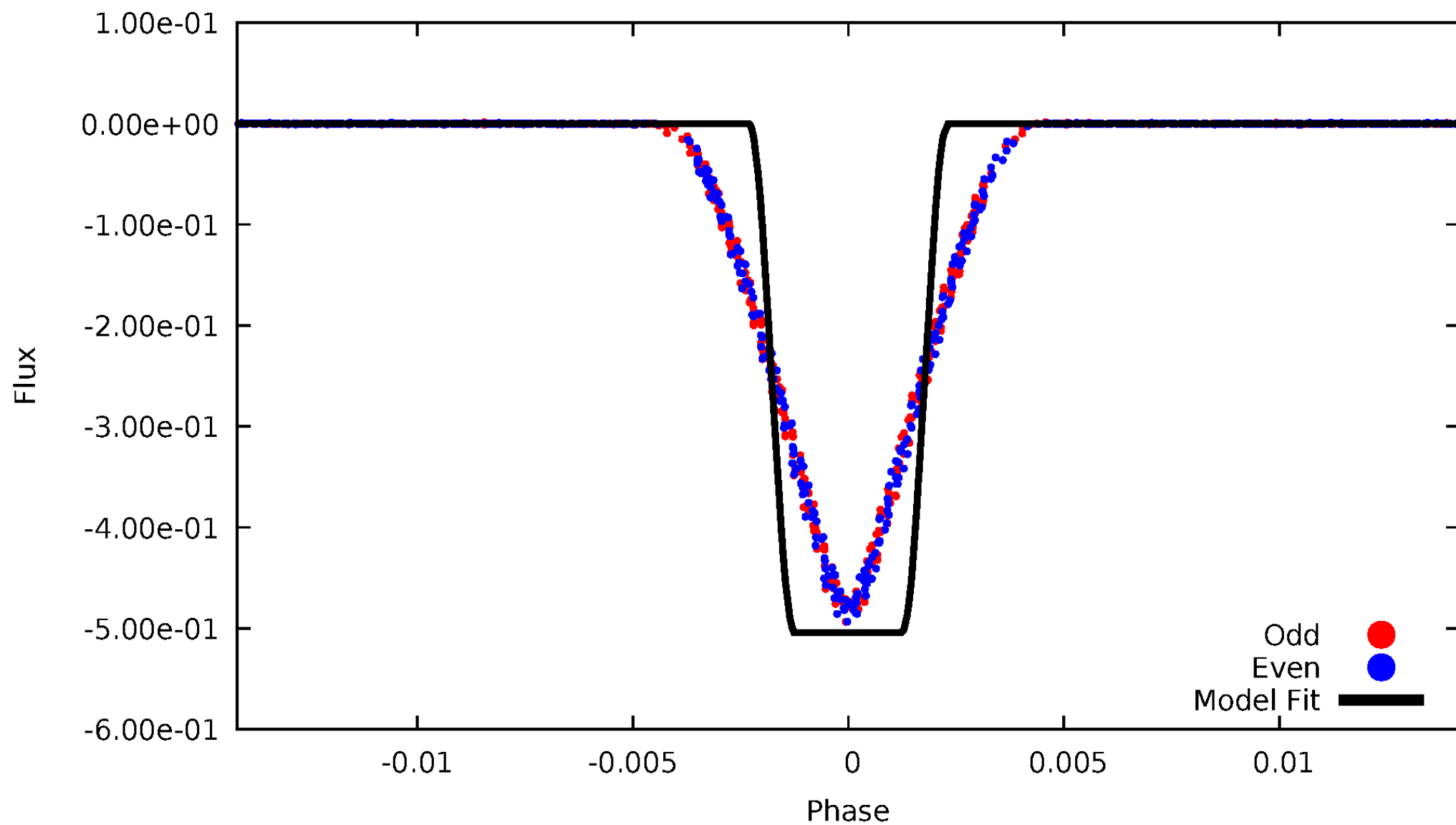
DV Odd/Even

TCE 008572936-02



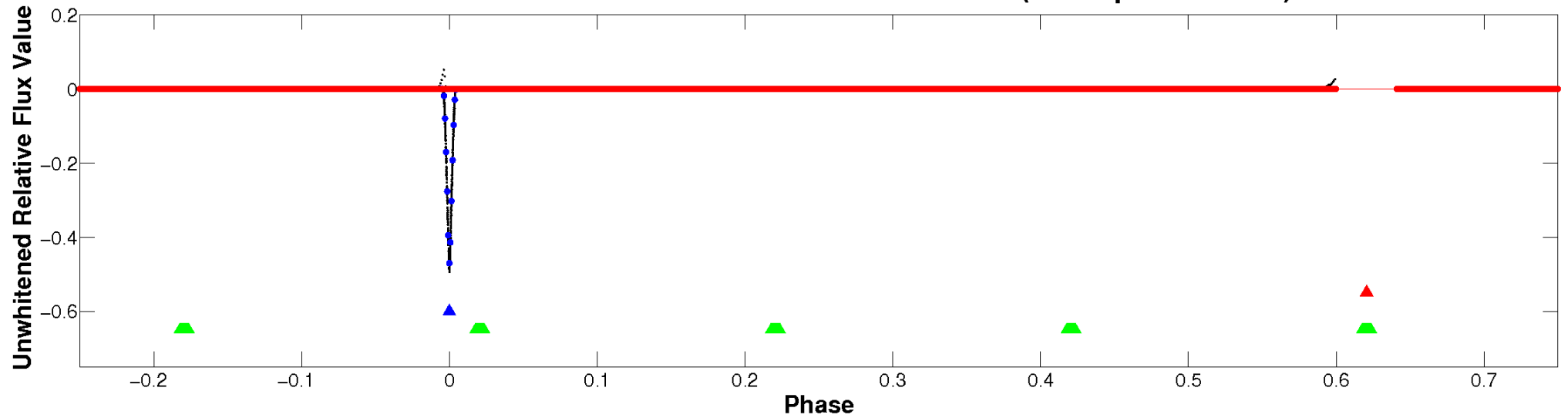
ALT Odd/Even

TCE 008572936-02



Non-Whitened Vs. Whitened Light Curve

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

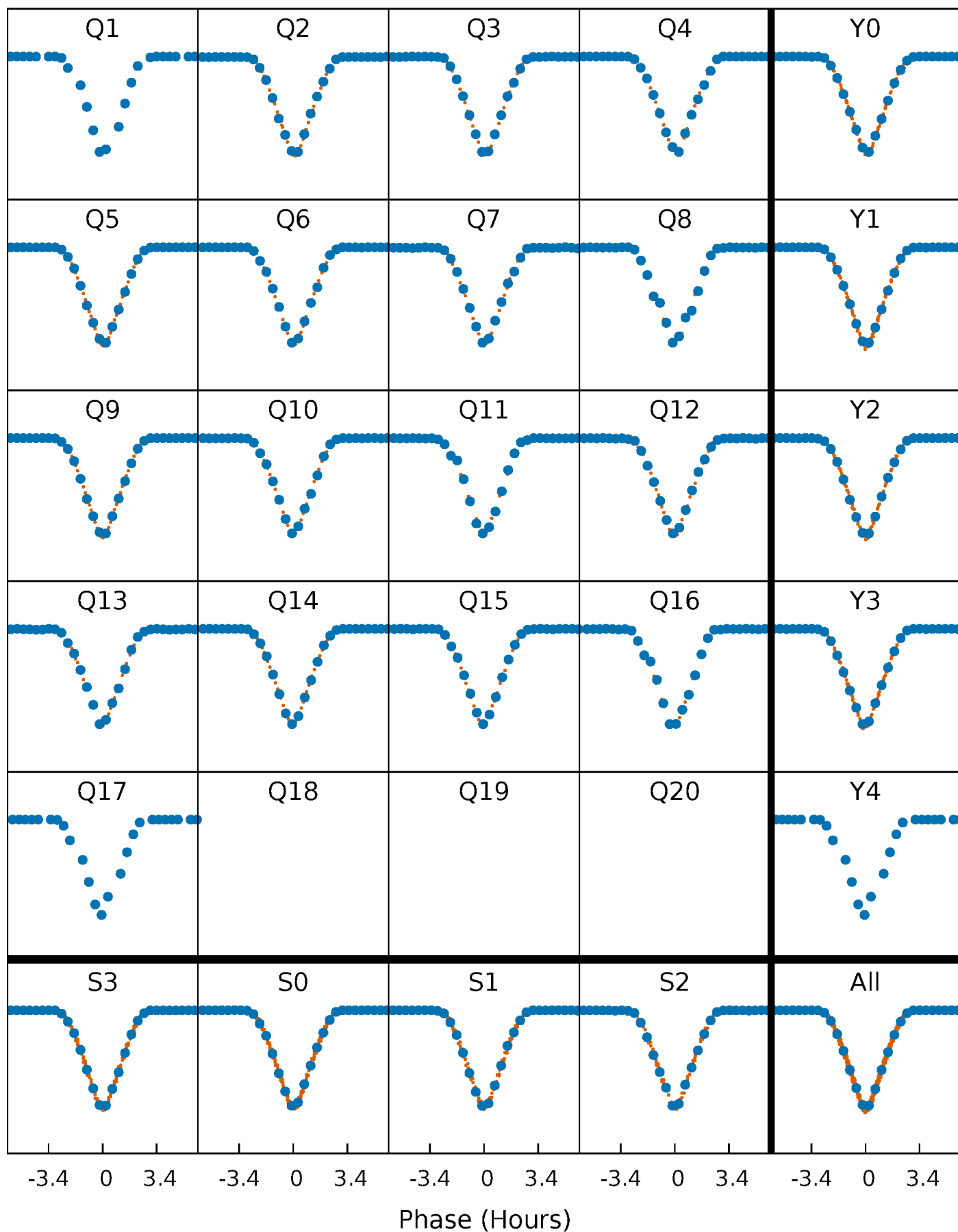


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



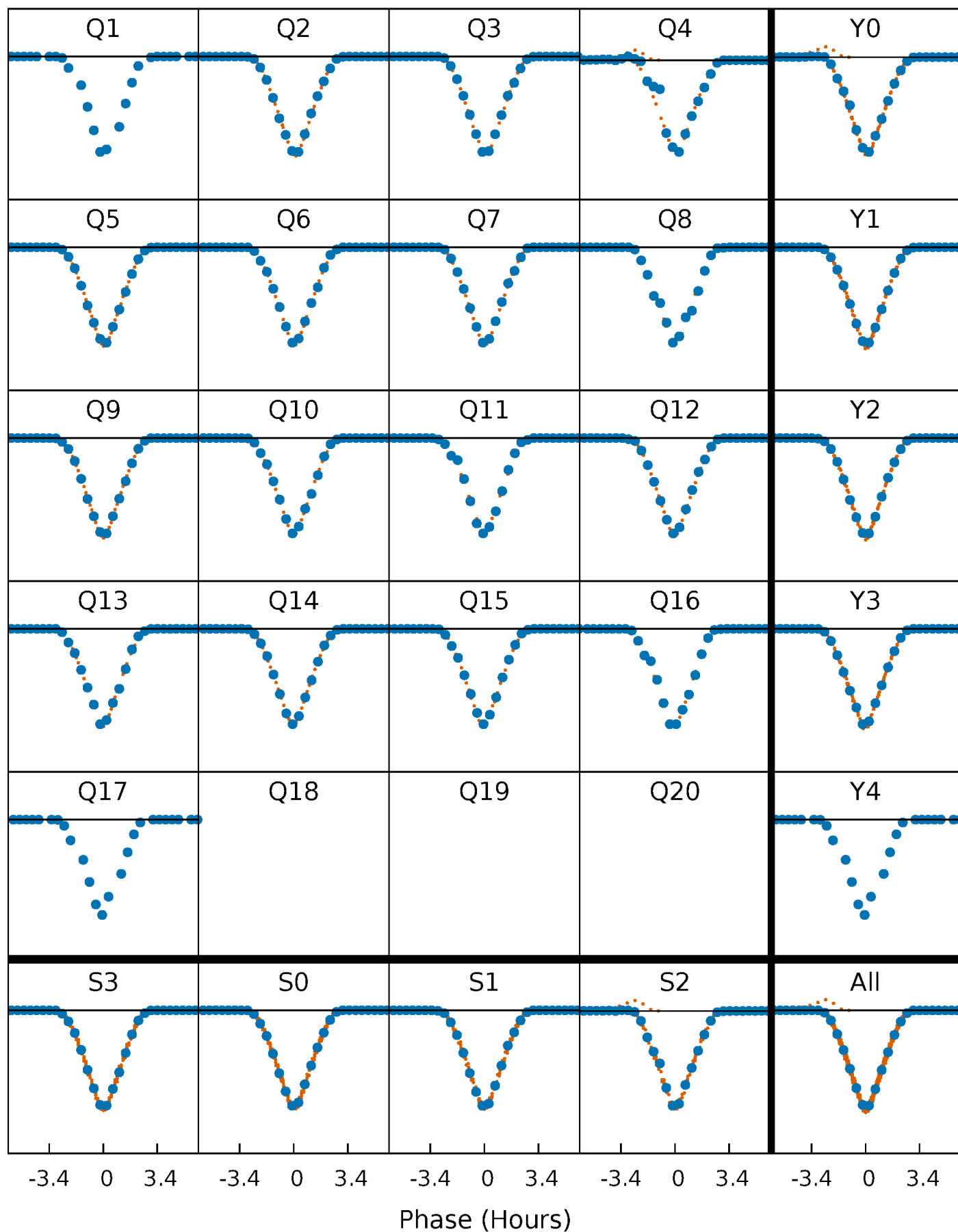
PDC Quarter-Phased Transit Curves

TCE 008572936-02 P= 27.795944 Days $T_0=146.719531$ (BKJD)



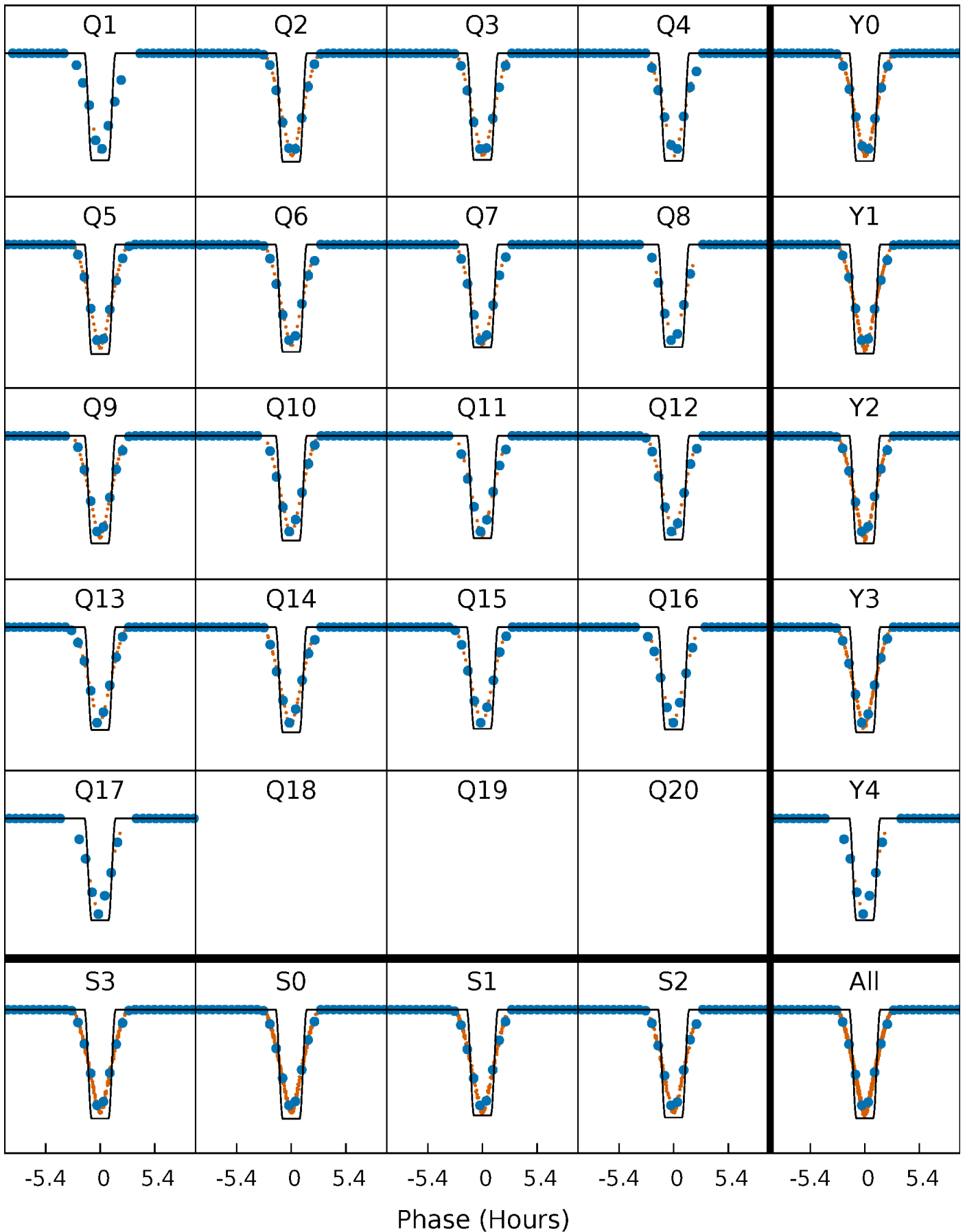
DV Quarter-Phased Transit Curves

TCE 008572936-02 P= 27.795944 Days $T_0=146.719531$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

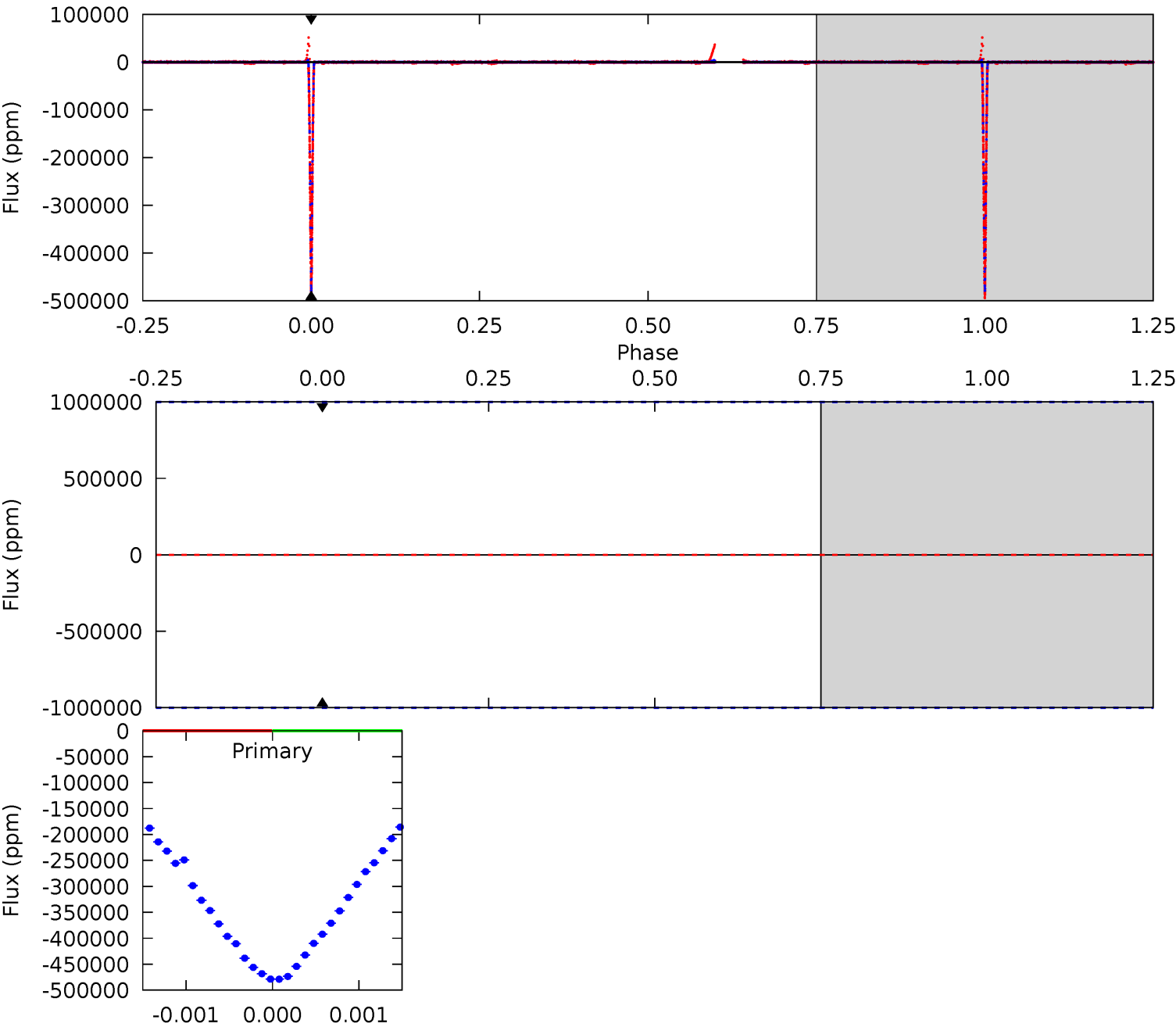
TCE 008572936-02 P= 27.795944 Days $T_0=146.720392$ (BKJD)



DV Model-Shift Uniqueness Test

008572936-02, P = 27.795944 Days, E = 118.923587 Days

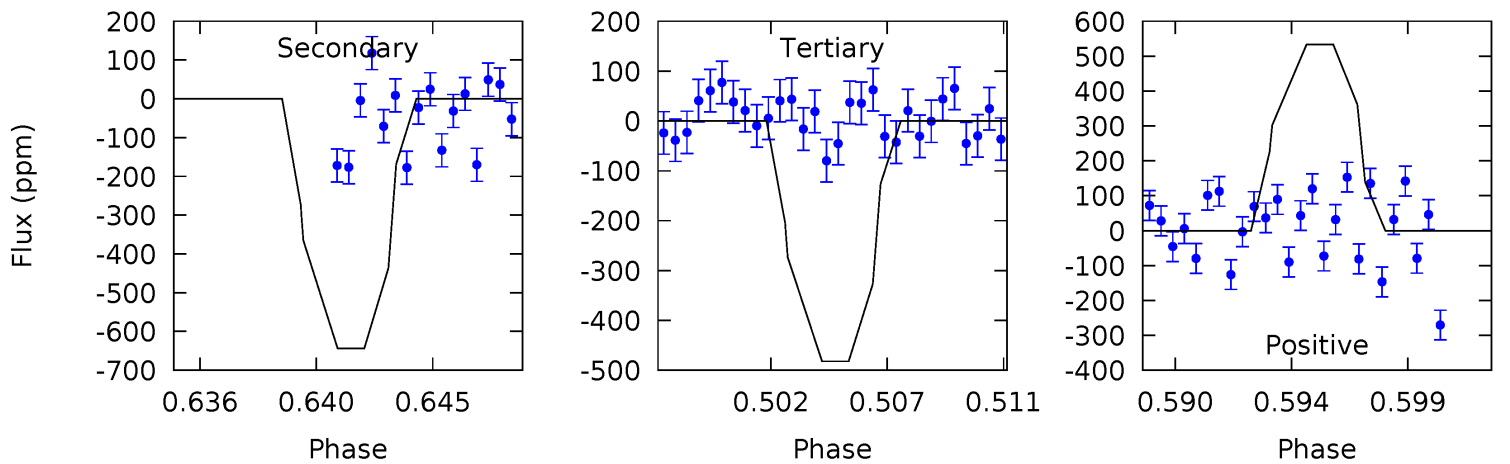
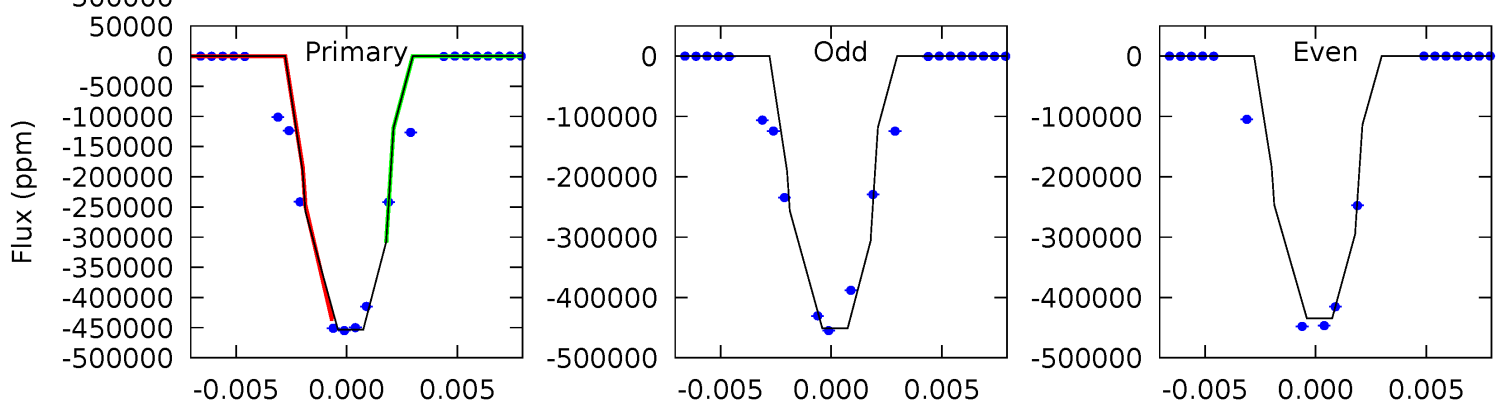
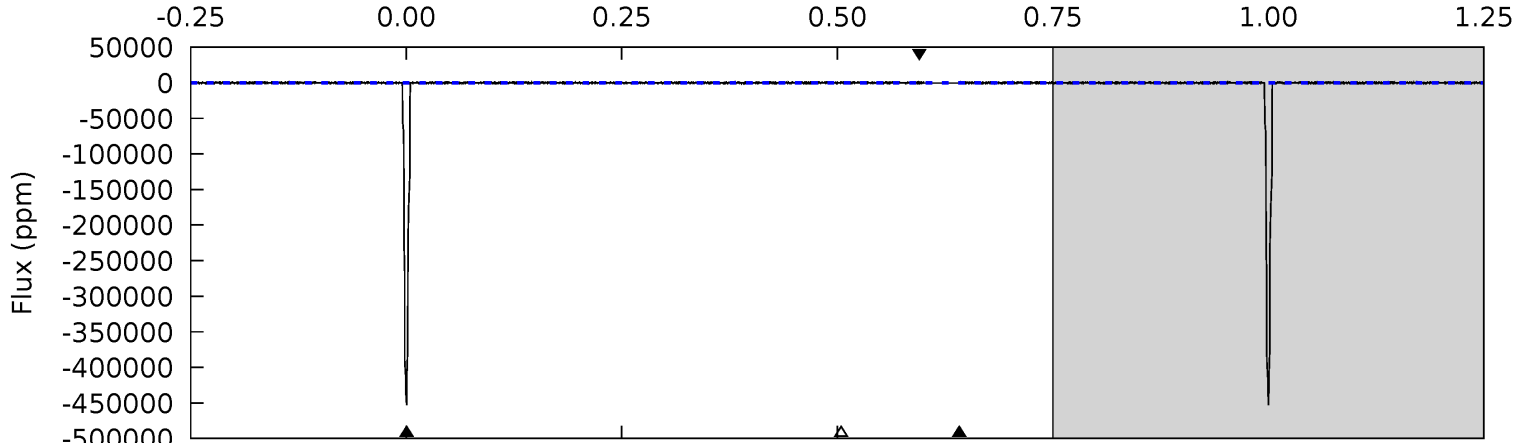
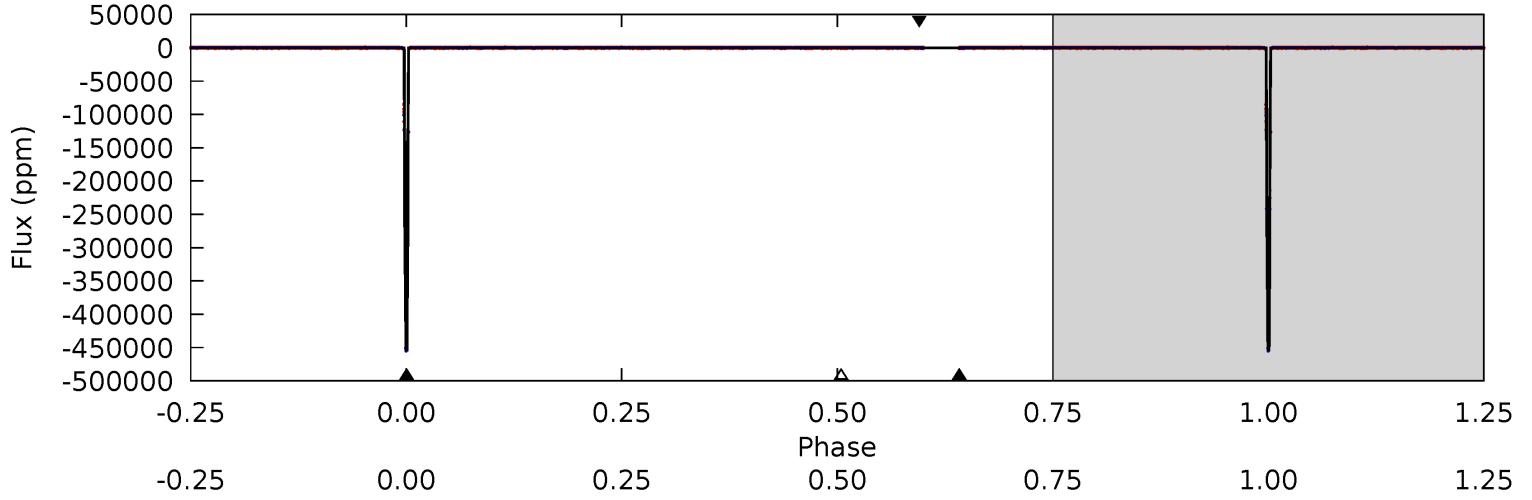
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008572936-02, P = 27.795944 Days, E = 118.924448 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5432	7.72	5.78	6.39	5.17	2.83	3.83	5426	5425	1.94	1.32	106.8	1.00	0.00	0



Stellar Parameters For KIC 008572936

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5915^{+105}_{-117}	$4.329^{+0.055}_{-0.045}$	$-0.060^{+0.150}_{-0.150}$	$1.130^{+0.073}_{-0.081}$	$0.992^{+0.078}_{-0.071}$	$0.970^{+0.204}_{-0.155}$
	+2%/-2%	+1%/-1%	+250%/-250%	+6%/-7%	+8%/-7%	+21%/-16%
Source	SPE36	TRA36	SPE36	DSEP		

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

Secondary Eclipse Parameters for KIC 008572936-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$62.51^{+12.52}_{-12.13}$	915^{+23}_{-25}	-2732^{+7765}_{-1989}	$-13.855^{+579.872}_{-412.977}$
Alt.	-644 ± 83	$87.86^{+13.17}_{-13.31}$	914^{+24}_{-26}	2051^{+86}_{-88}	$1.497^{+0.613}_{-0.404}$

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

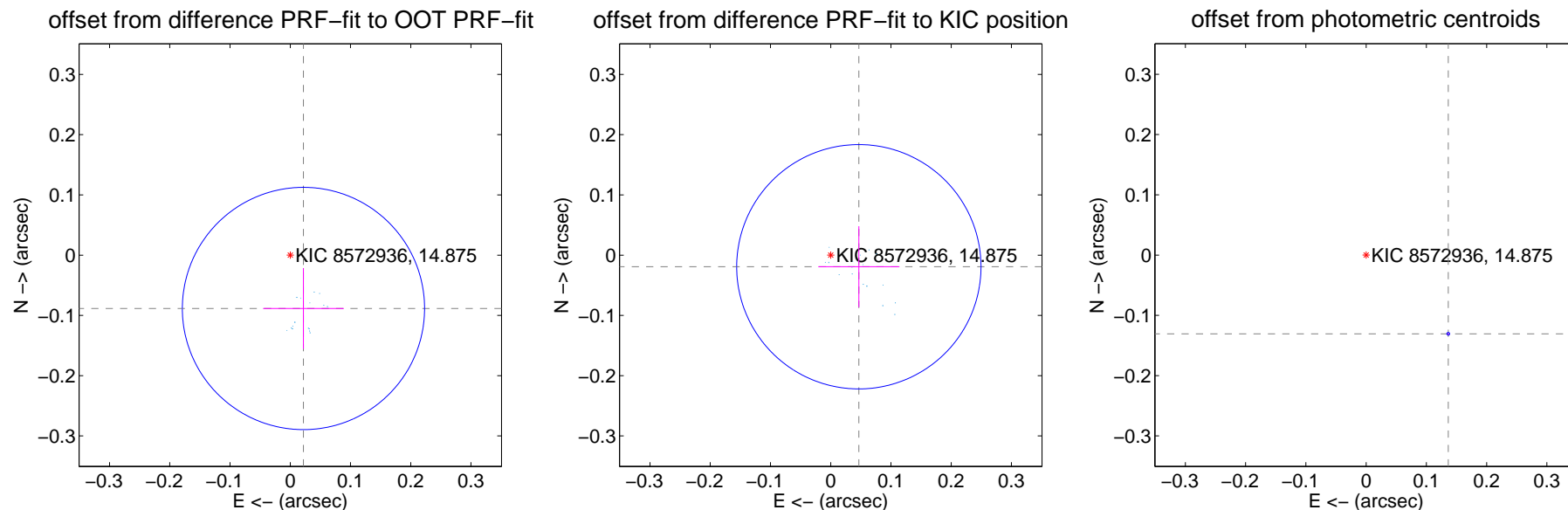
DV Centroid Data

Supplemental centroid analysis for 008572936-02. Kepler magnitude: 14.88. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

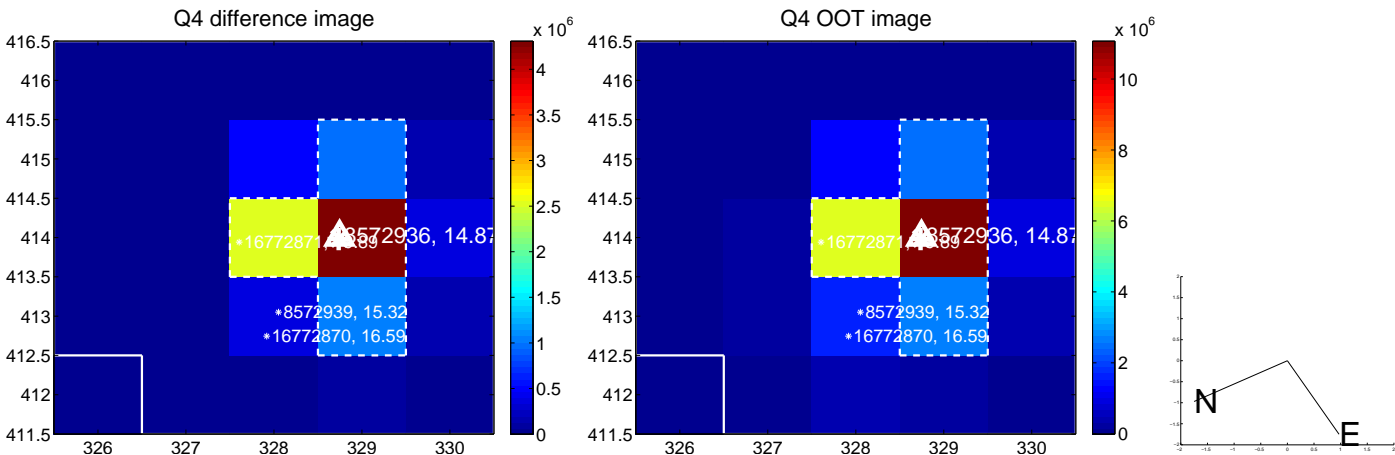
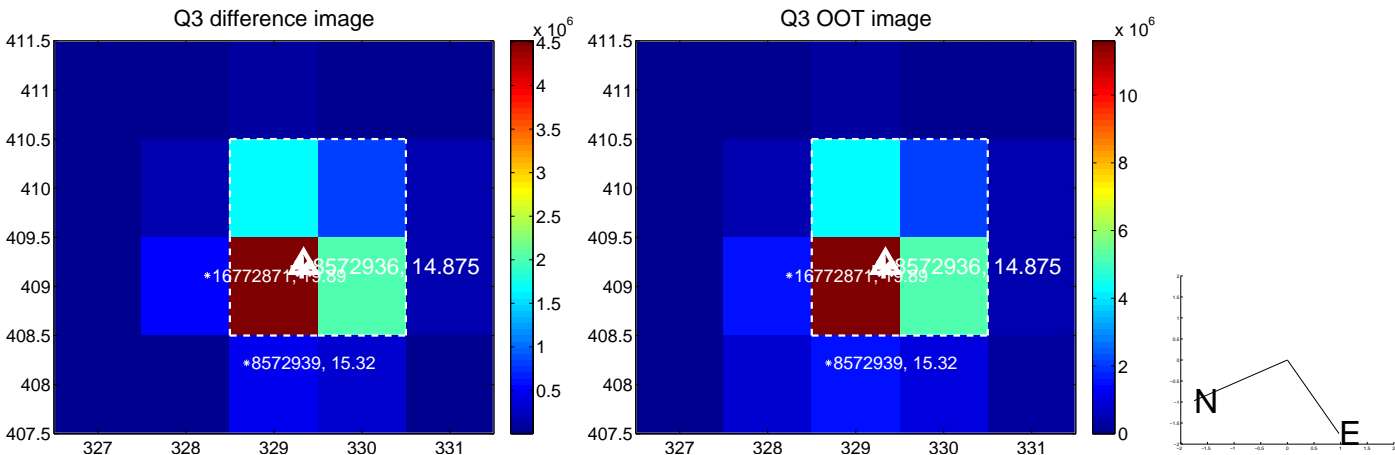
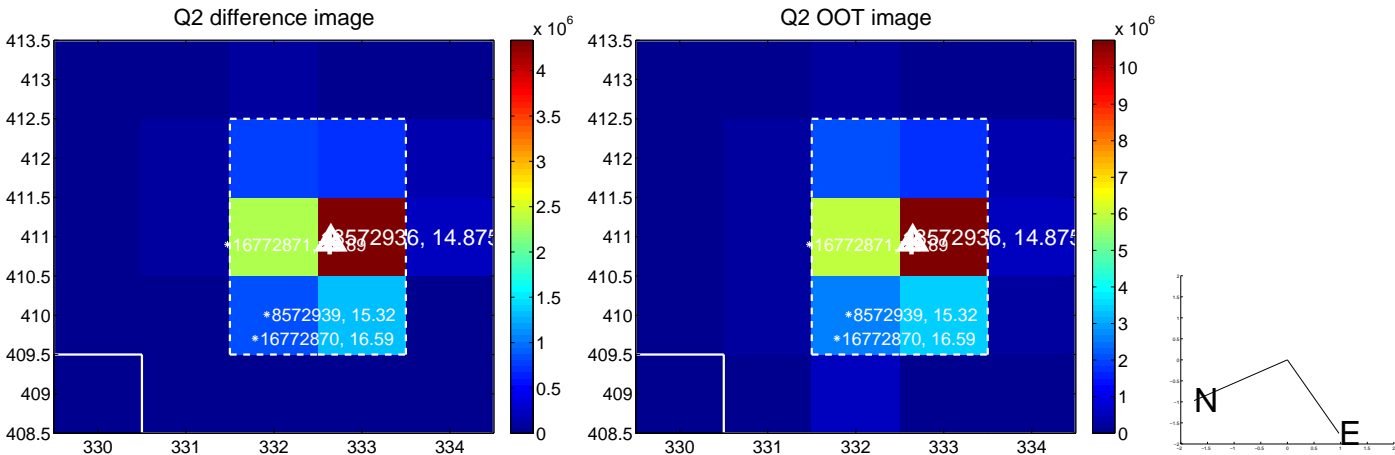
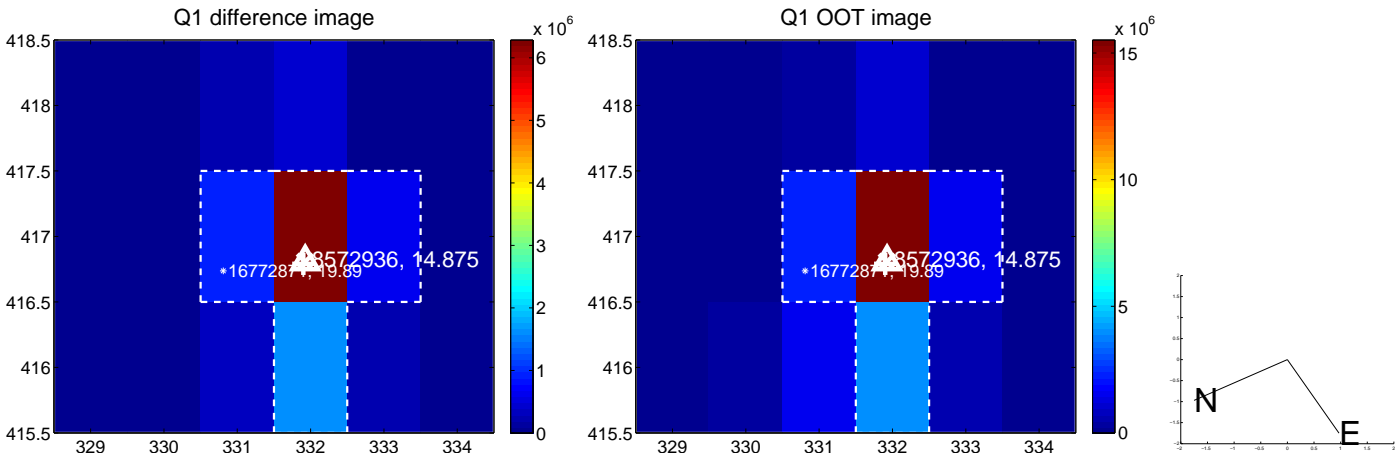
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.091 ± 0.067	1.36	-0.022 ± 0.067	-0.088 ± 0.067
PRF-fit source offset from KIC position	0.050 ± 0.068	0.75	-0.047 ± 0.067	-0.019 ± 0.067
photometric centroid source offset	0.19 ± 0.00	250.56	-0.14 ± 0.00	-0.13 ± 0.00

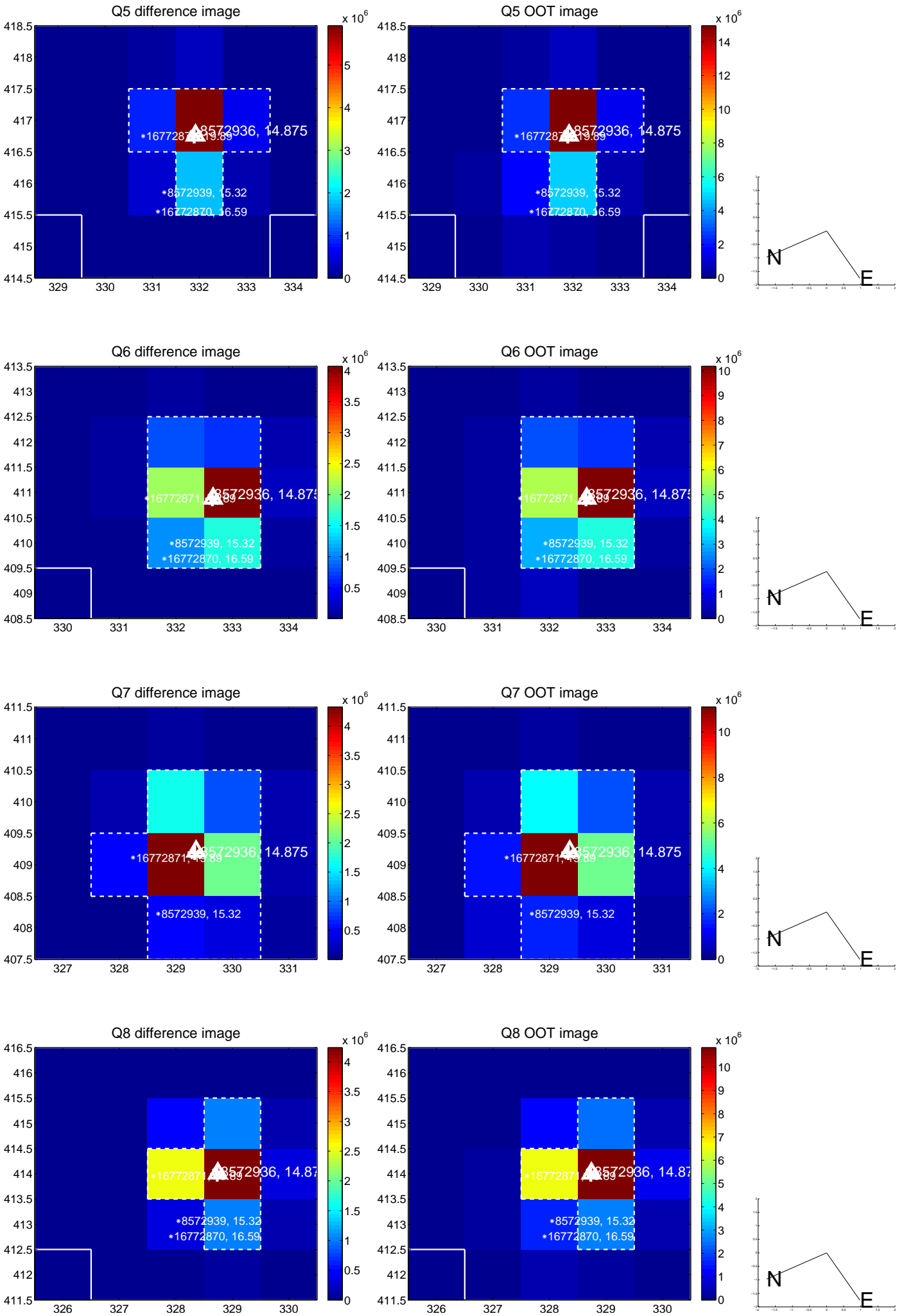


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

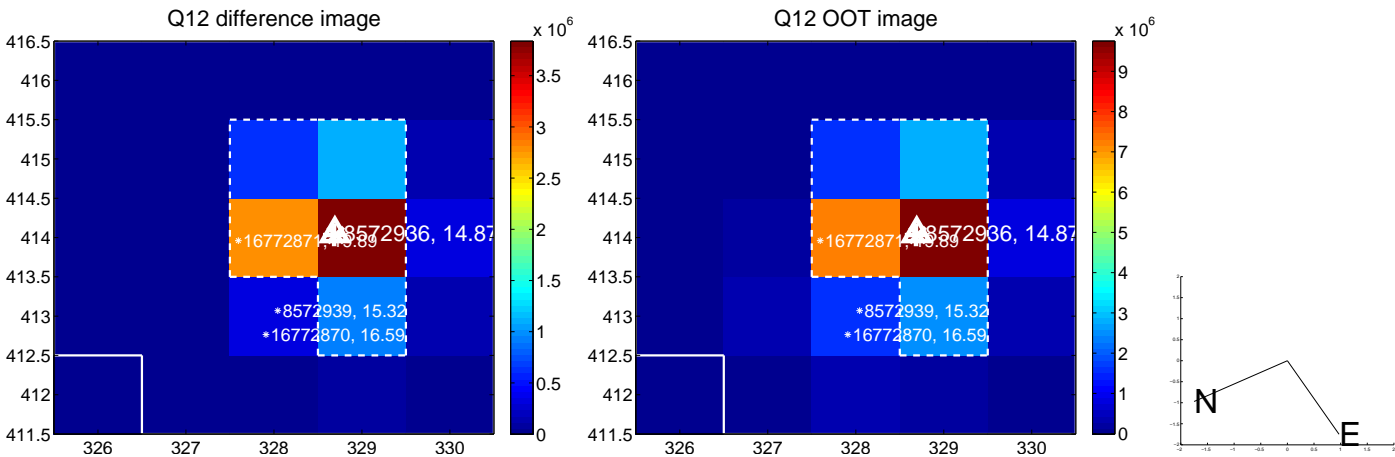
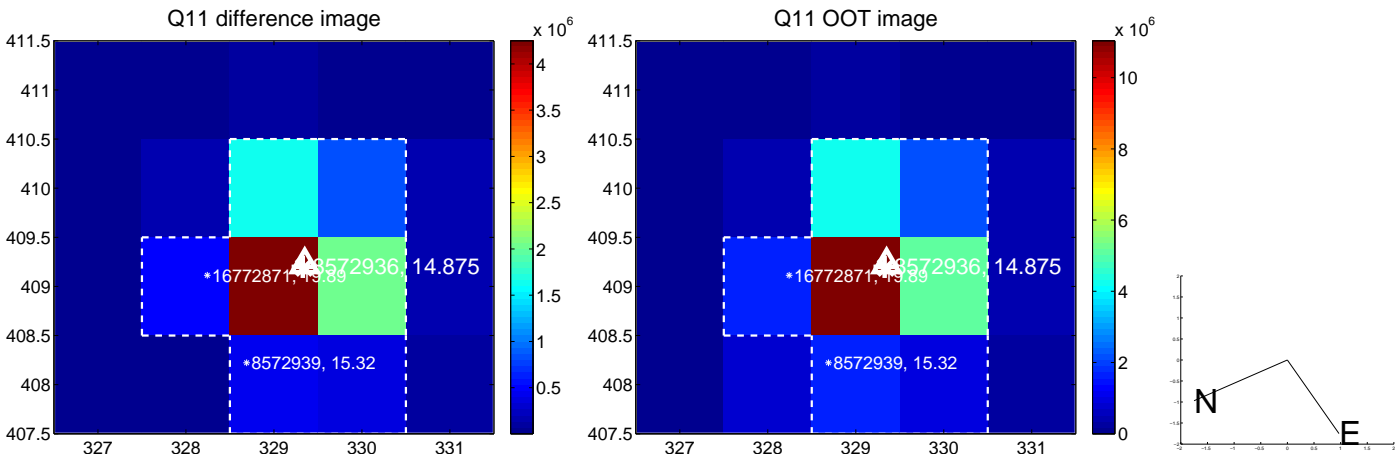
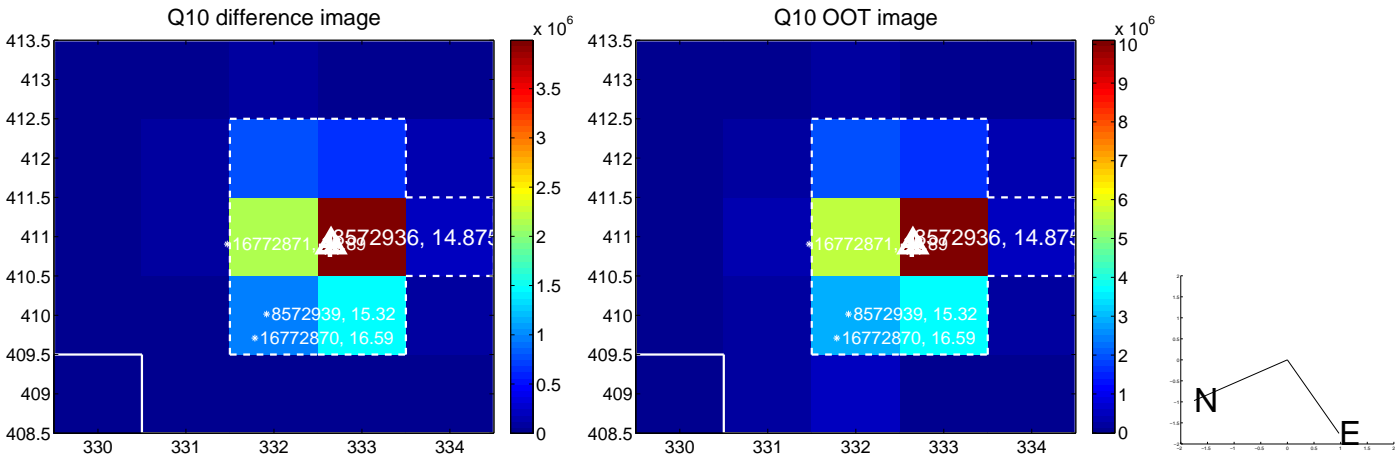
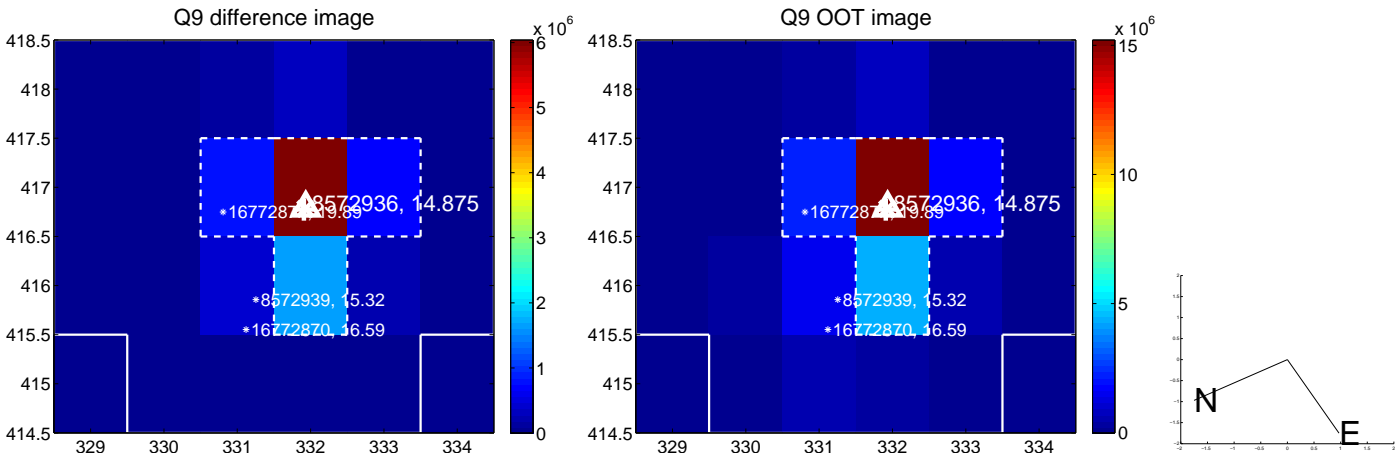
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



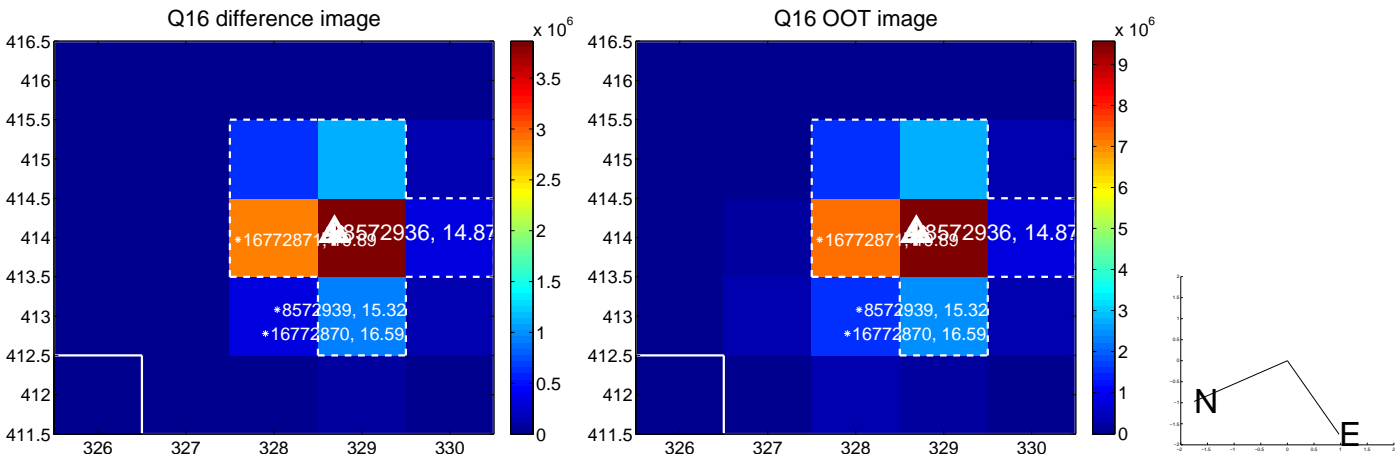
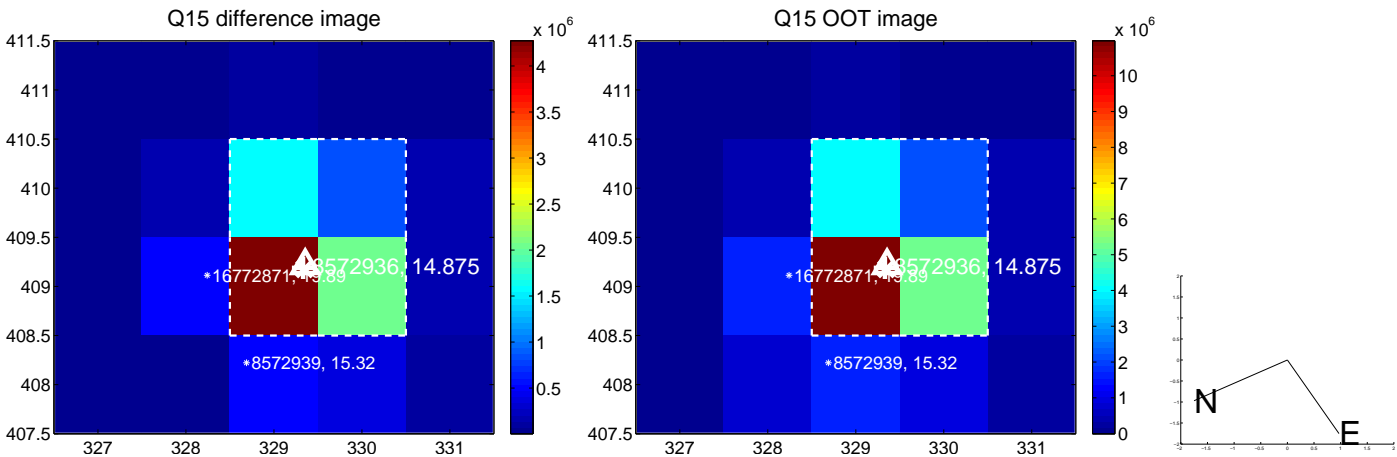
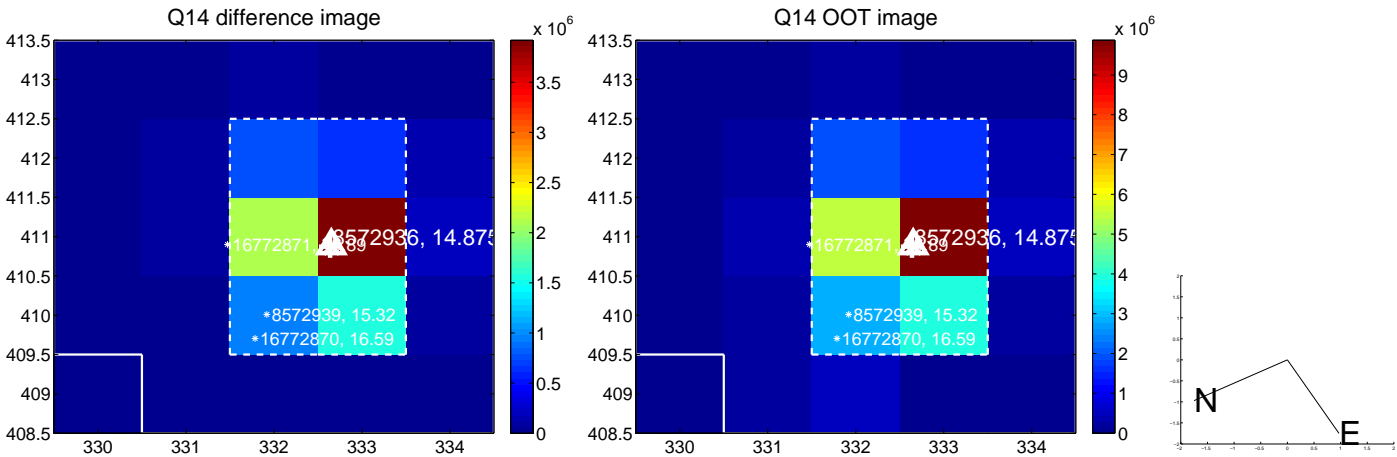
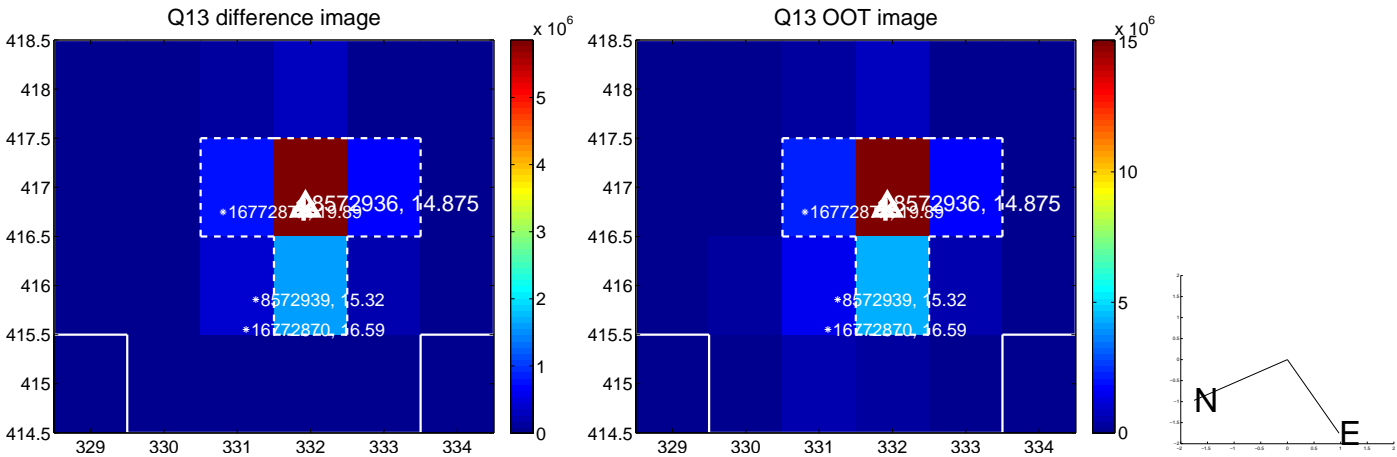
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



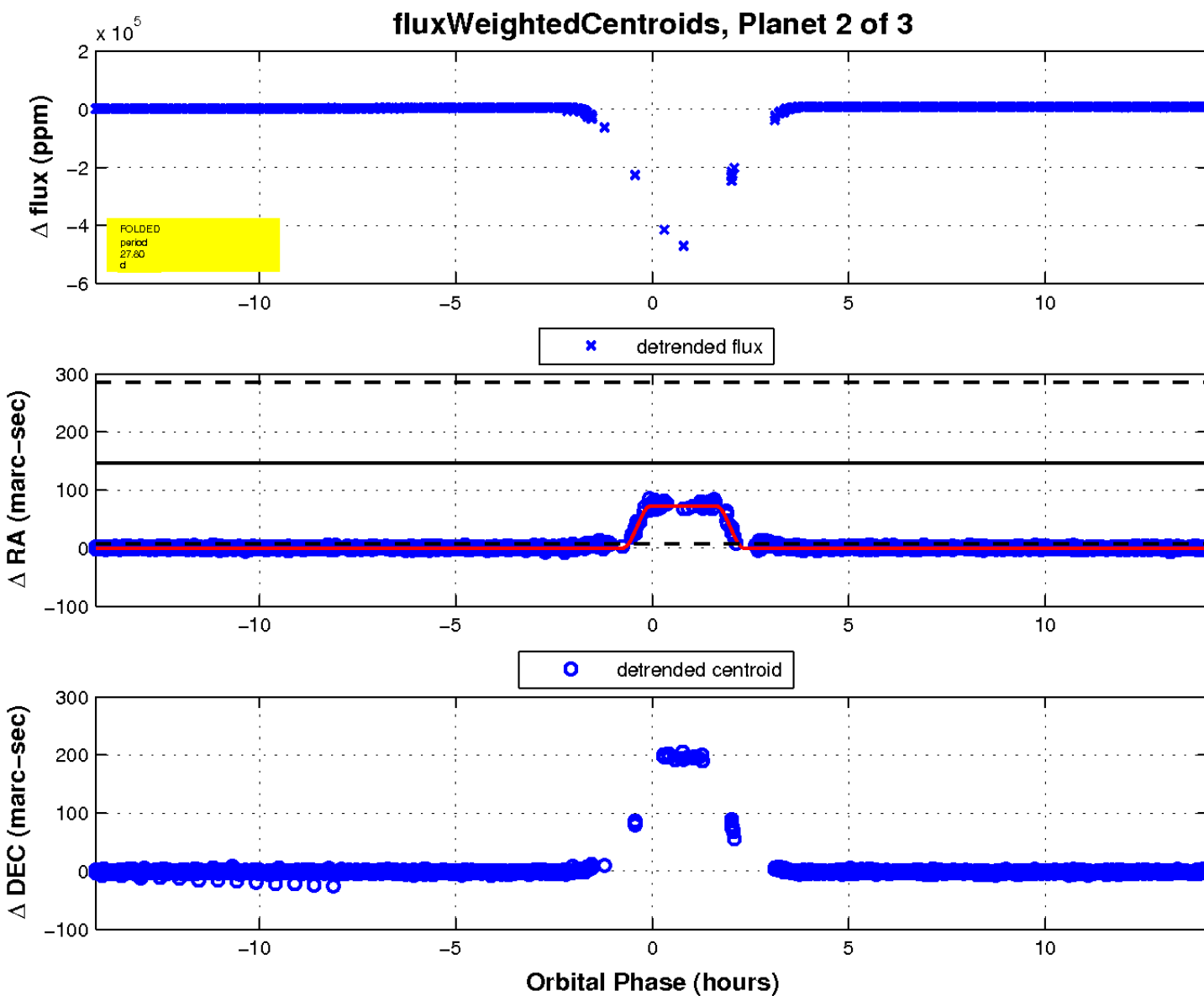
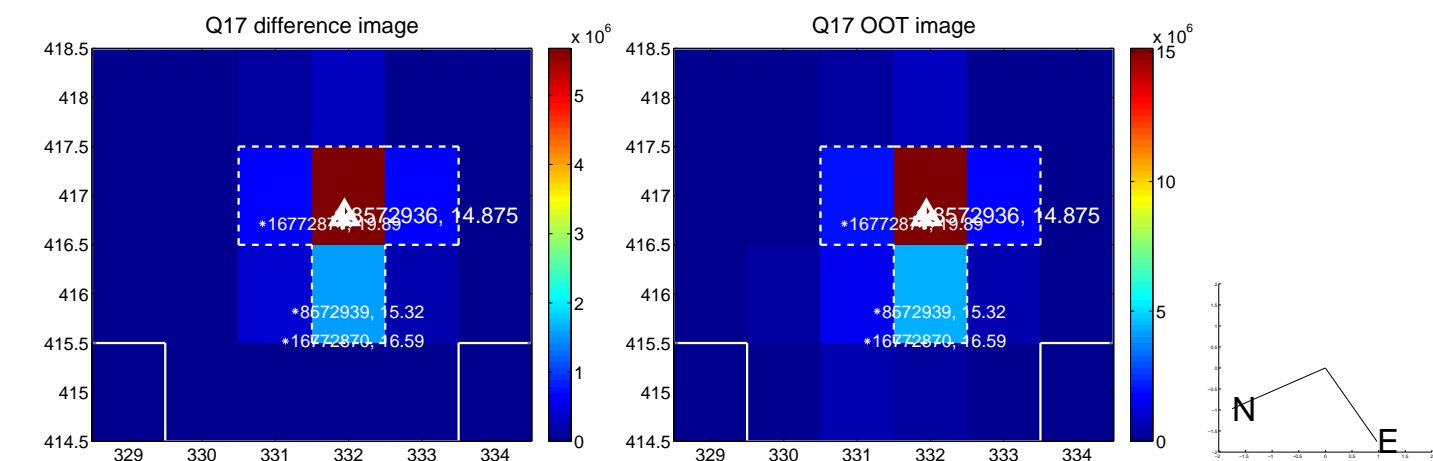
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

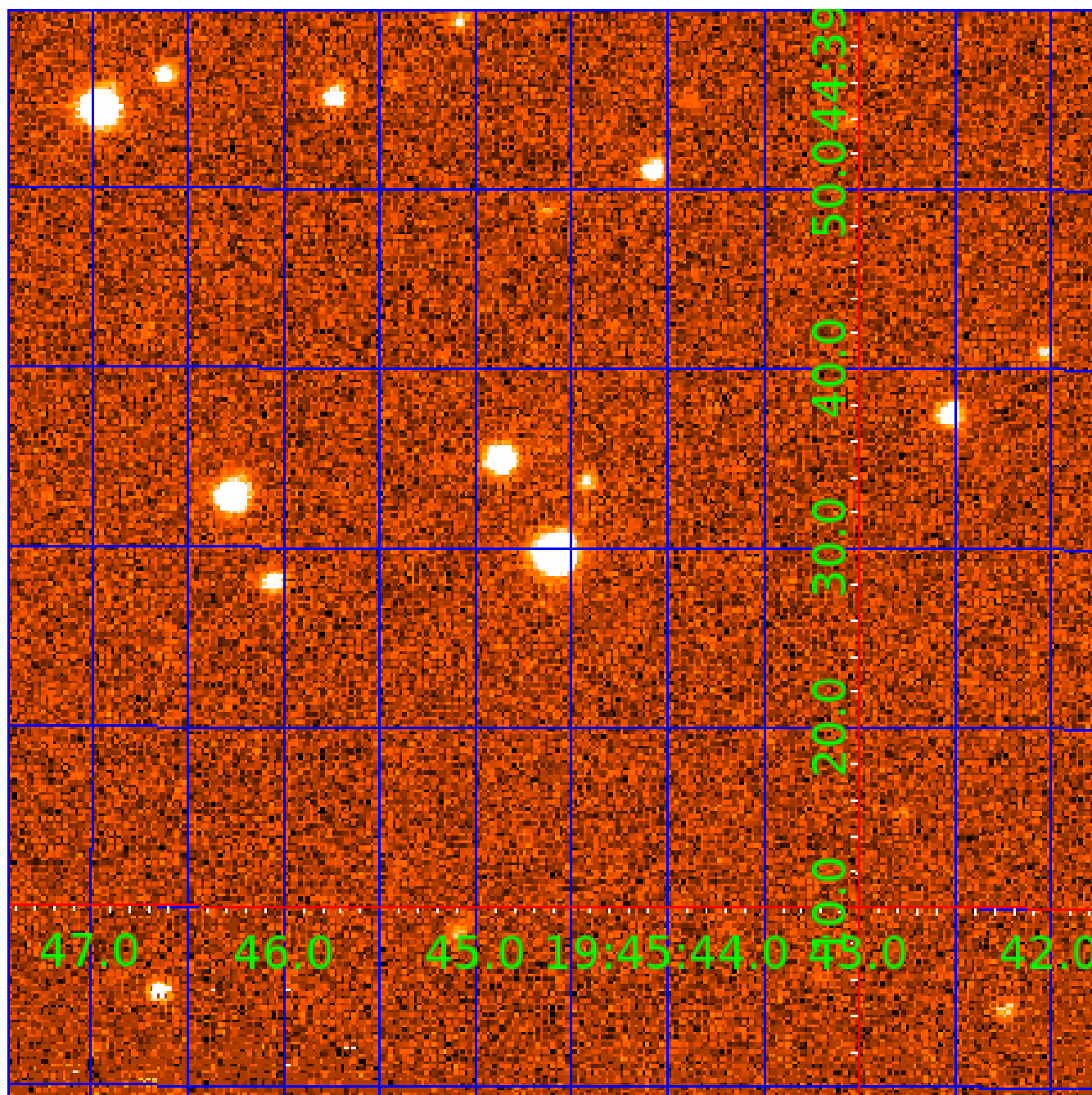


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008572936

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})
008572936-01	OBS	2459.01	27.795717	136.180062	439852.8	9.000	19001.3	-1.0	1.13	5915	58.36	43.60
008572936-02	OBS	No	27.795944	146.719531	471756.4	3.000	17773.9	-1.0	1.13	5915	61.65	43.60
008572936-03	OBS	No	5.559841	136.089225	7924.8	66.718	1586.2	118.4	1.13	5915	11.33	372.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008572936-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
008572936-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
008572936-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

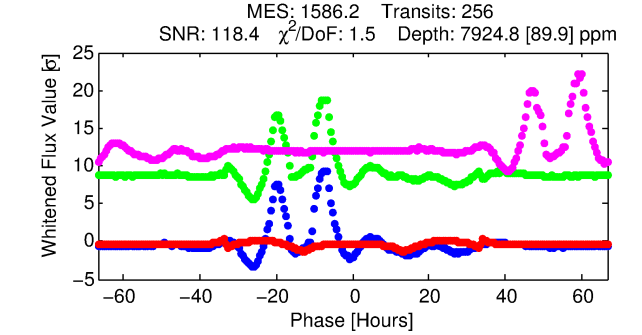
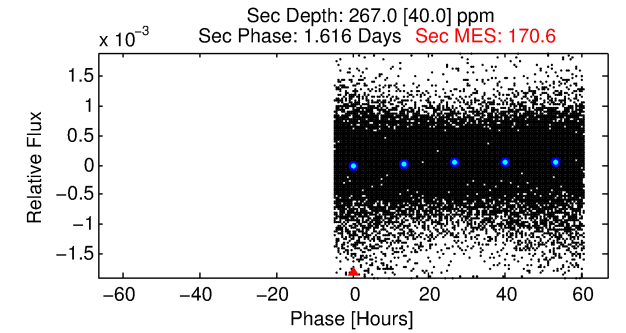
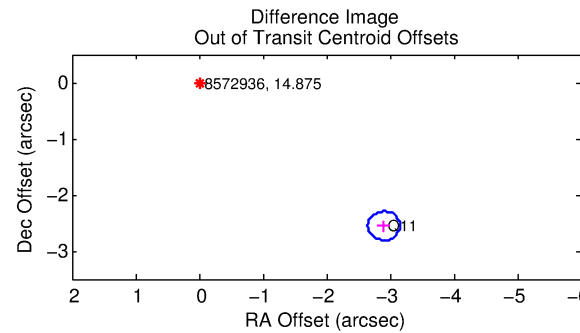
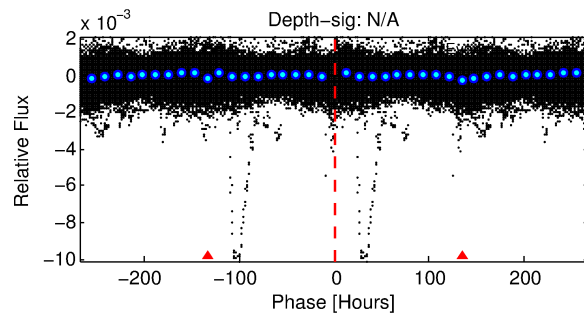
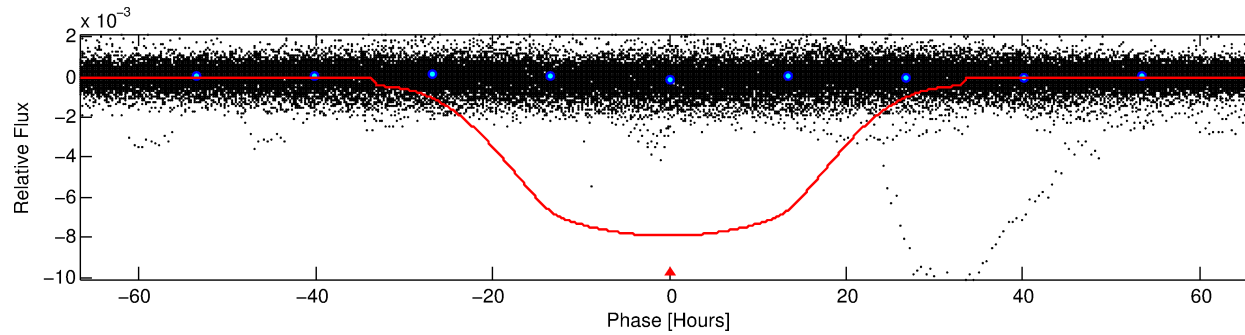
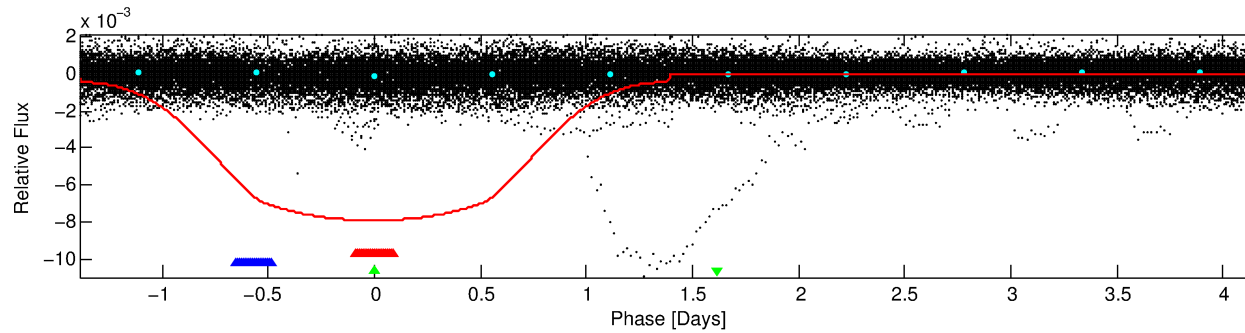
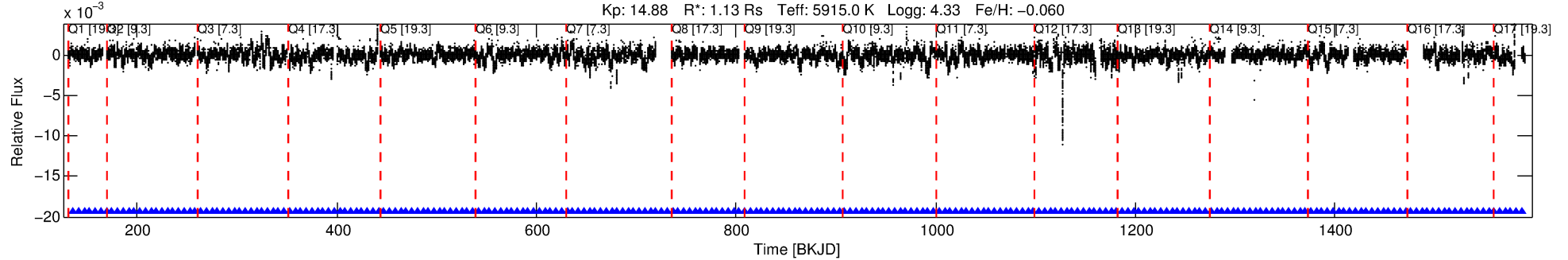
Ephemeris Match Information For 008572936-03

No Significant Match Found

DV One-Page Summary

KIC: 8572936 Candidate: 3 of 3 Period: 5.560 d
KOI: K02459 Corr: No Ephemeris Match

Kp: 14.88 R*: 1.13 Rs Teff: 5915.0 K Logg: 4.33 Fe/H: -0.060



DV Fit Results:

Period = 5.55984 [0.00001] d
Epoch = 136.0892 [0.0013] BKJD
Rp/R* = 0.0919 [0.0005]
a/R* = 1.06 [0.00]
b = 0.83 [0.00]
Seff = 372.69 [46.66]
Teq = 1120 [35] K
Rp = 11.33 [0.81] Re
a = 0.0613 [0.0039] AU
Ag = 4.30 [0.77] [4.29σ]
Teffp = 2495 [106] K [12.32σ]

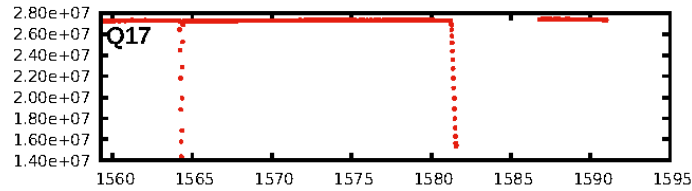
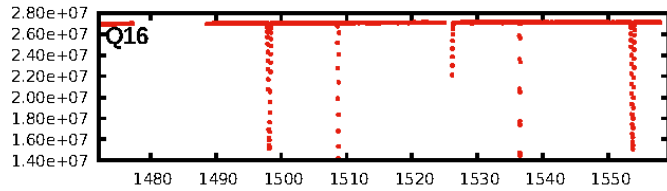
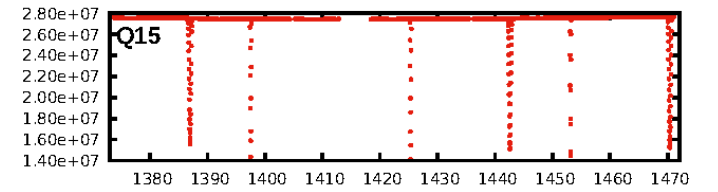
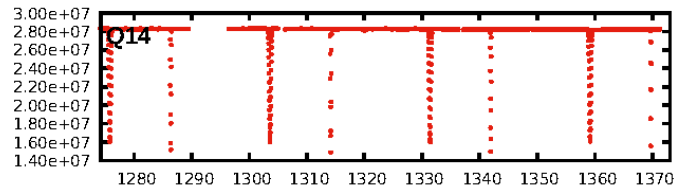
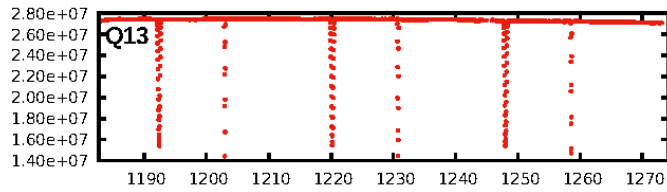
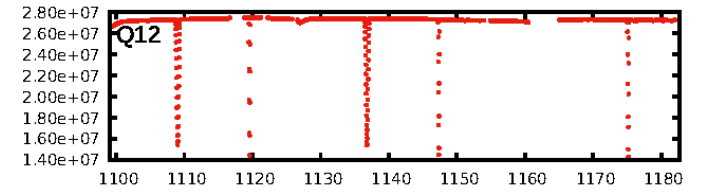
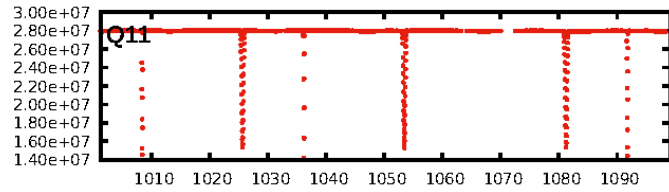
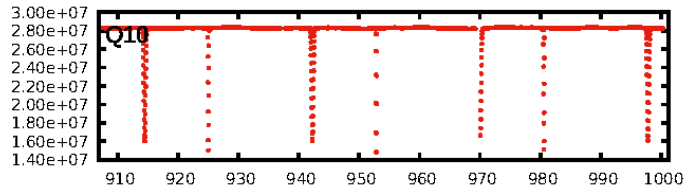
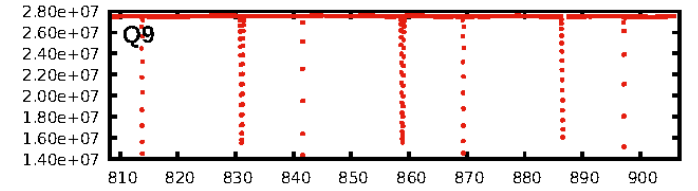
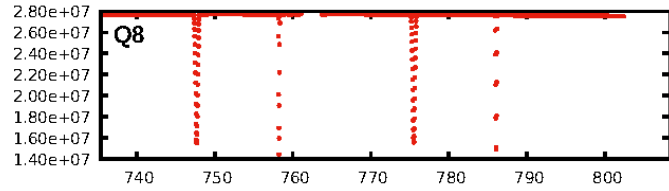
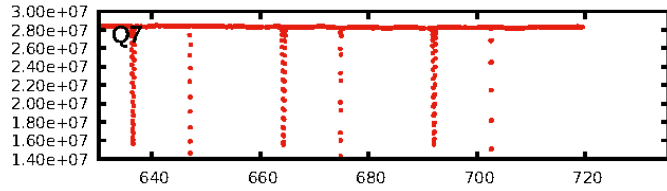
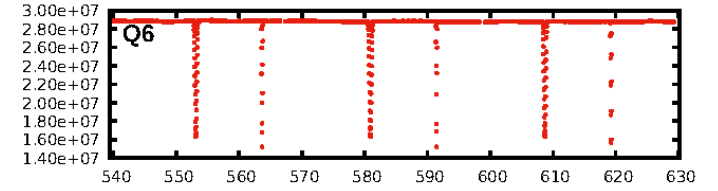
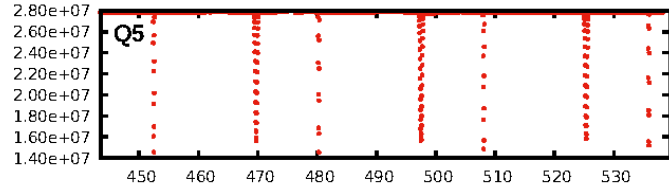
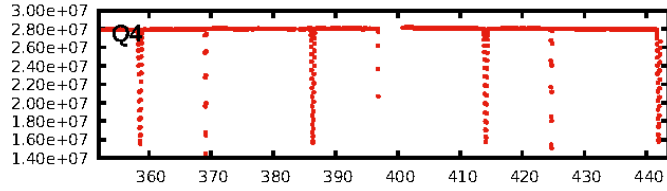
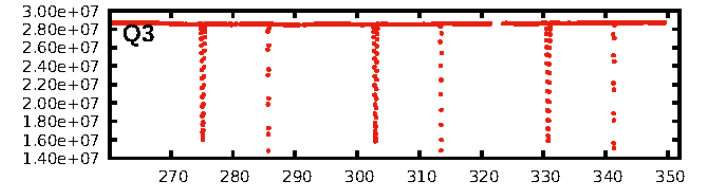
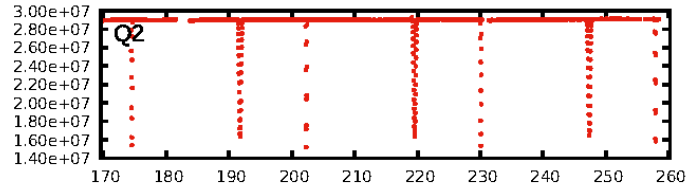
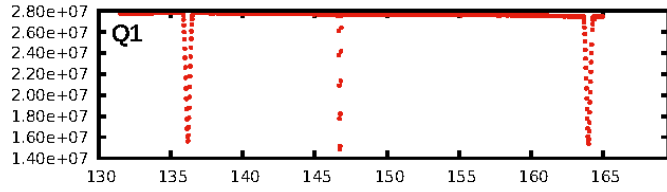
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [7.93σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [243/243]
GhostDiagnostic-chr: 10.25
Centroid-sig: N/A
Centroid-so: 0.265 arcsec [41.51σ]
OotOffset-rm: 3.866 arcsec [45.24σ]
KicOffset-rm: 3.886 arcsec [45.46σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [17/17]

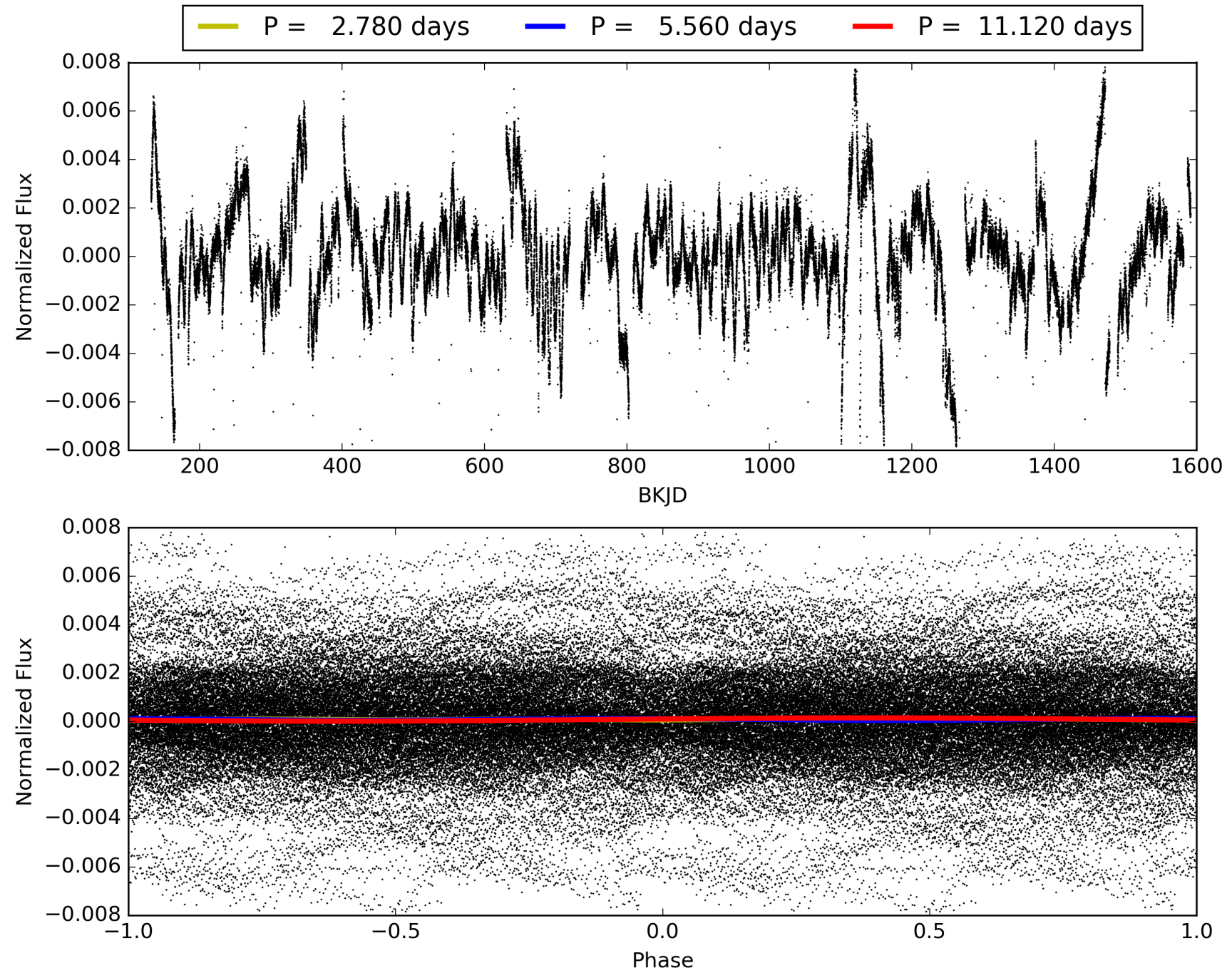
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:26:02 Z

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

TCE 008572936-03, PDC Light Curves

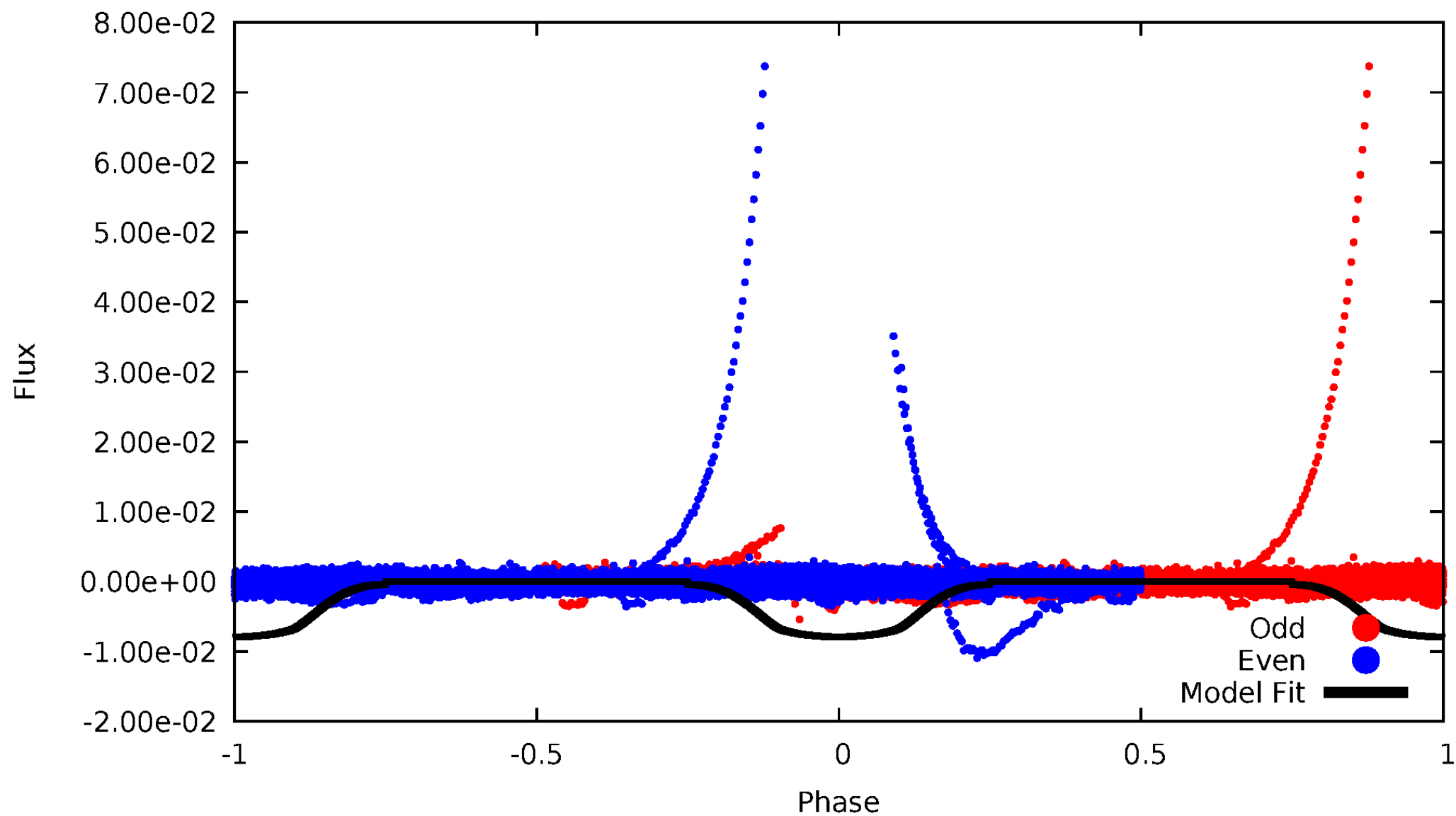


TCE 008572936-03



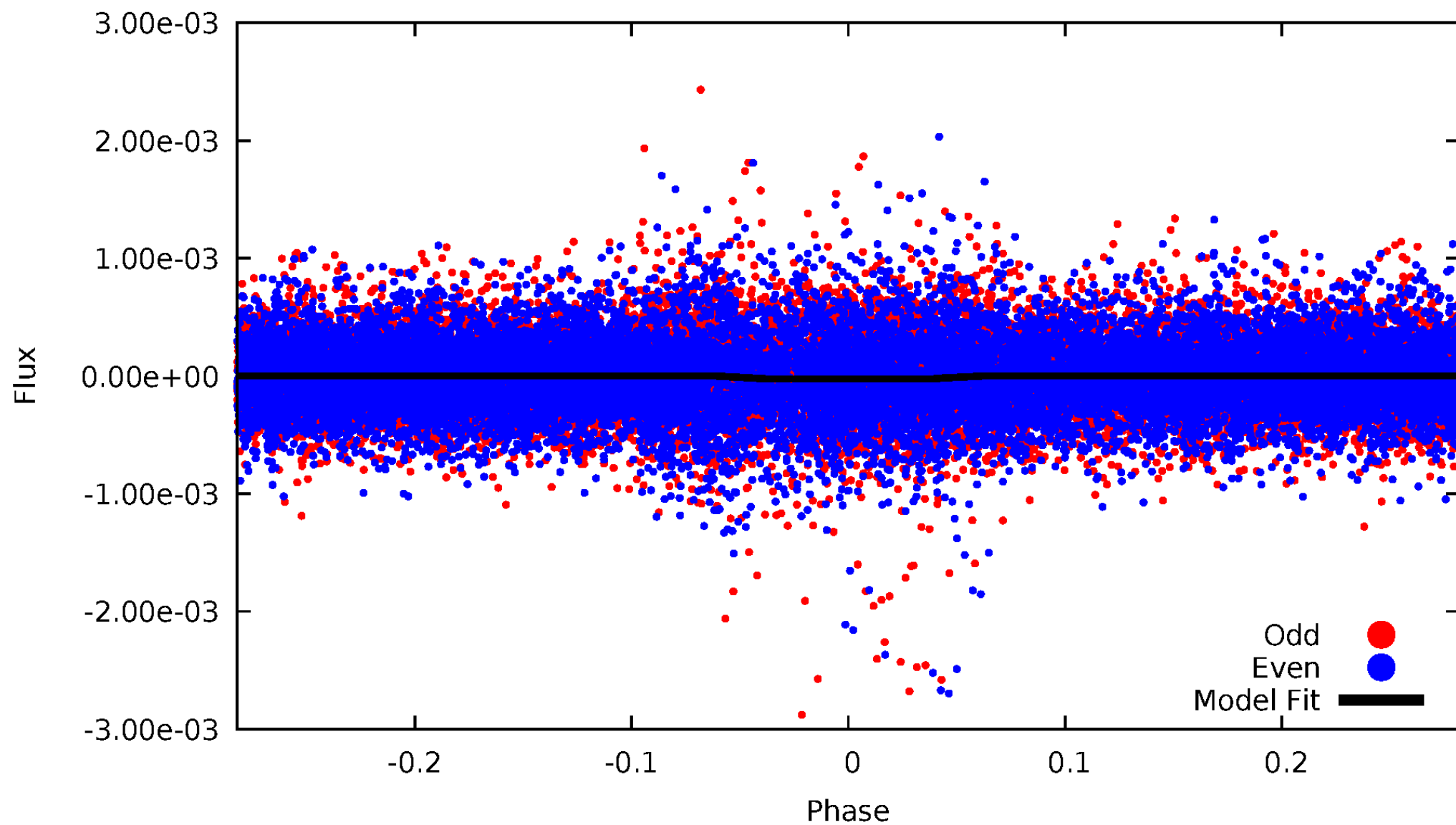
DV Odd/Even

TCE 008572936-03



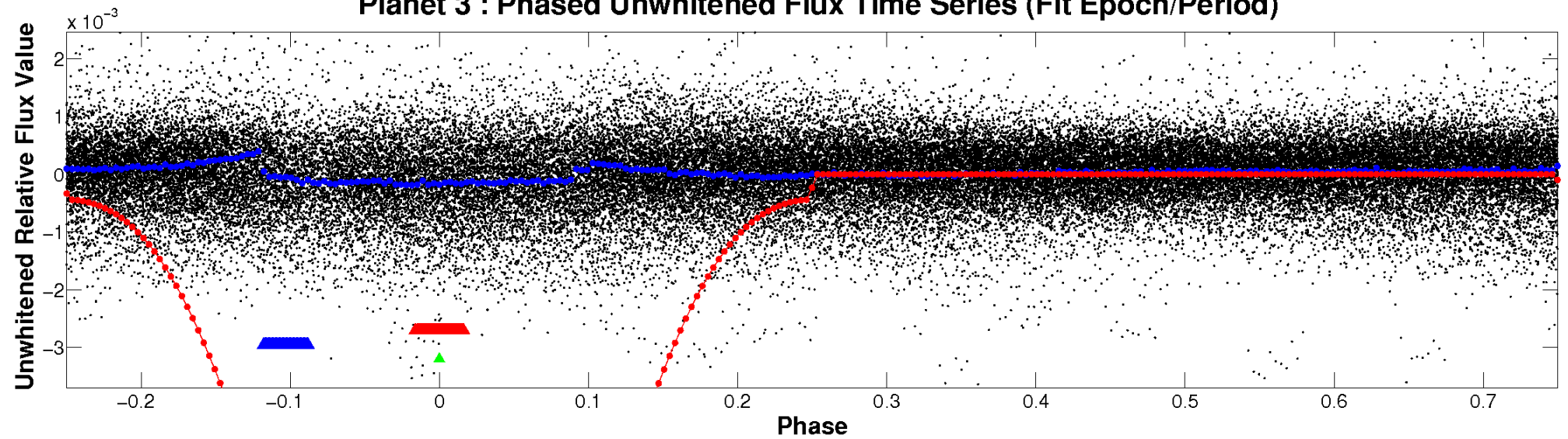
ALT Odd/Even

TCE 008572936-03

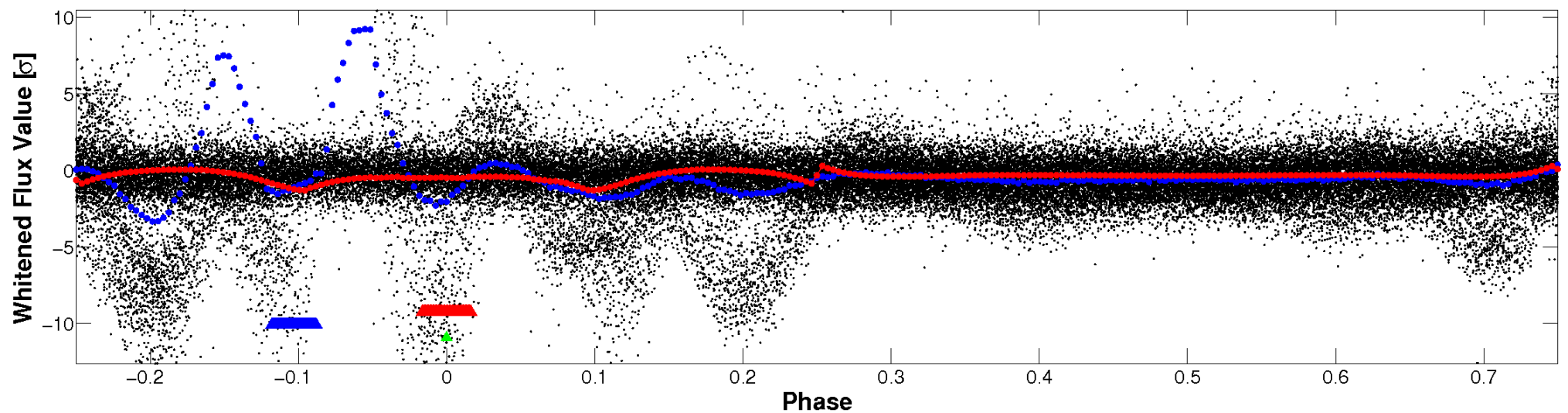


Non-Whitened Vs. Whitened Light Curve

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

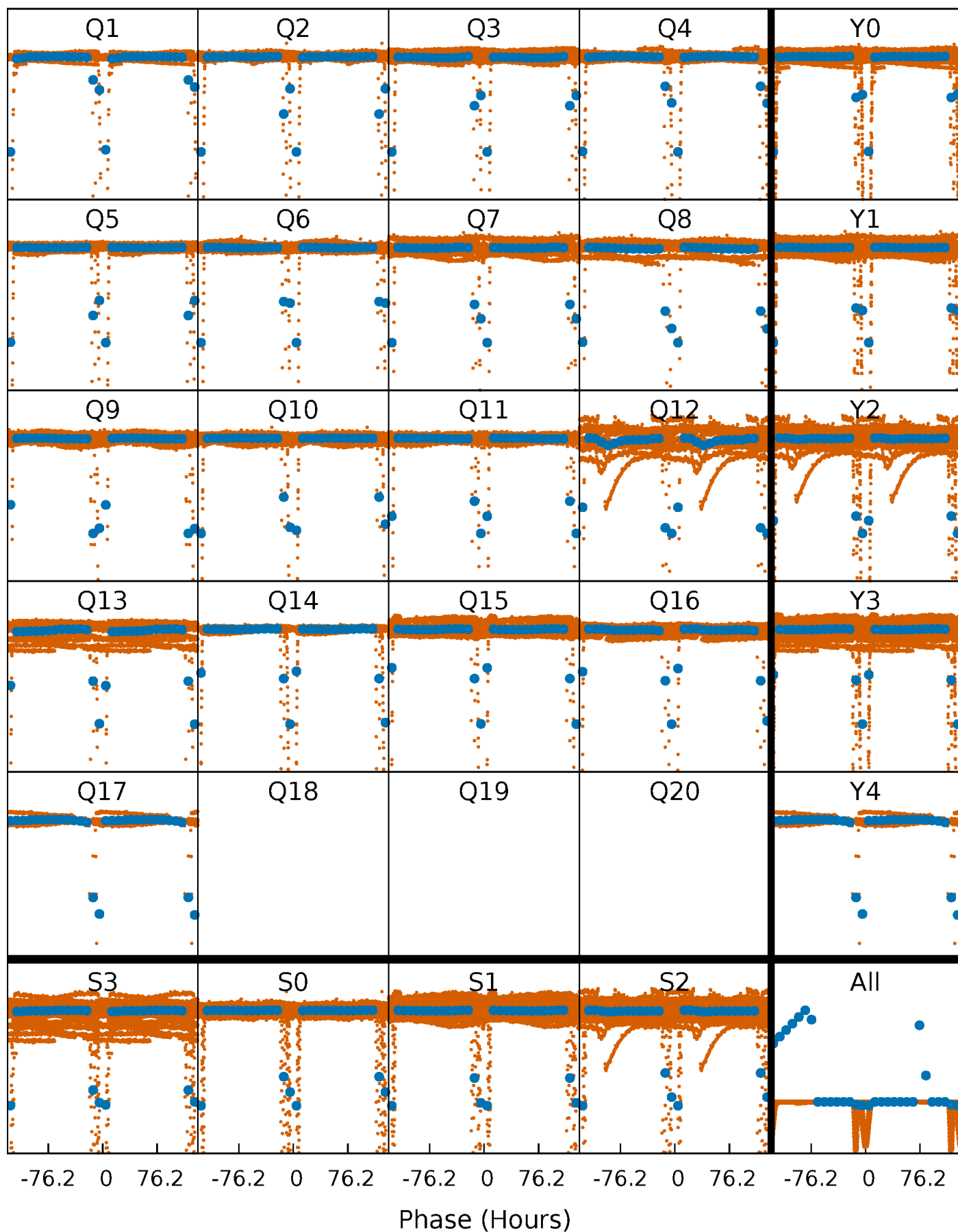


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



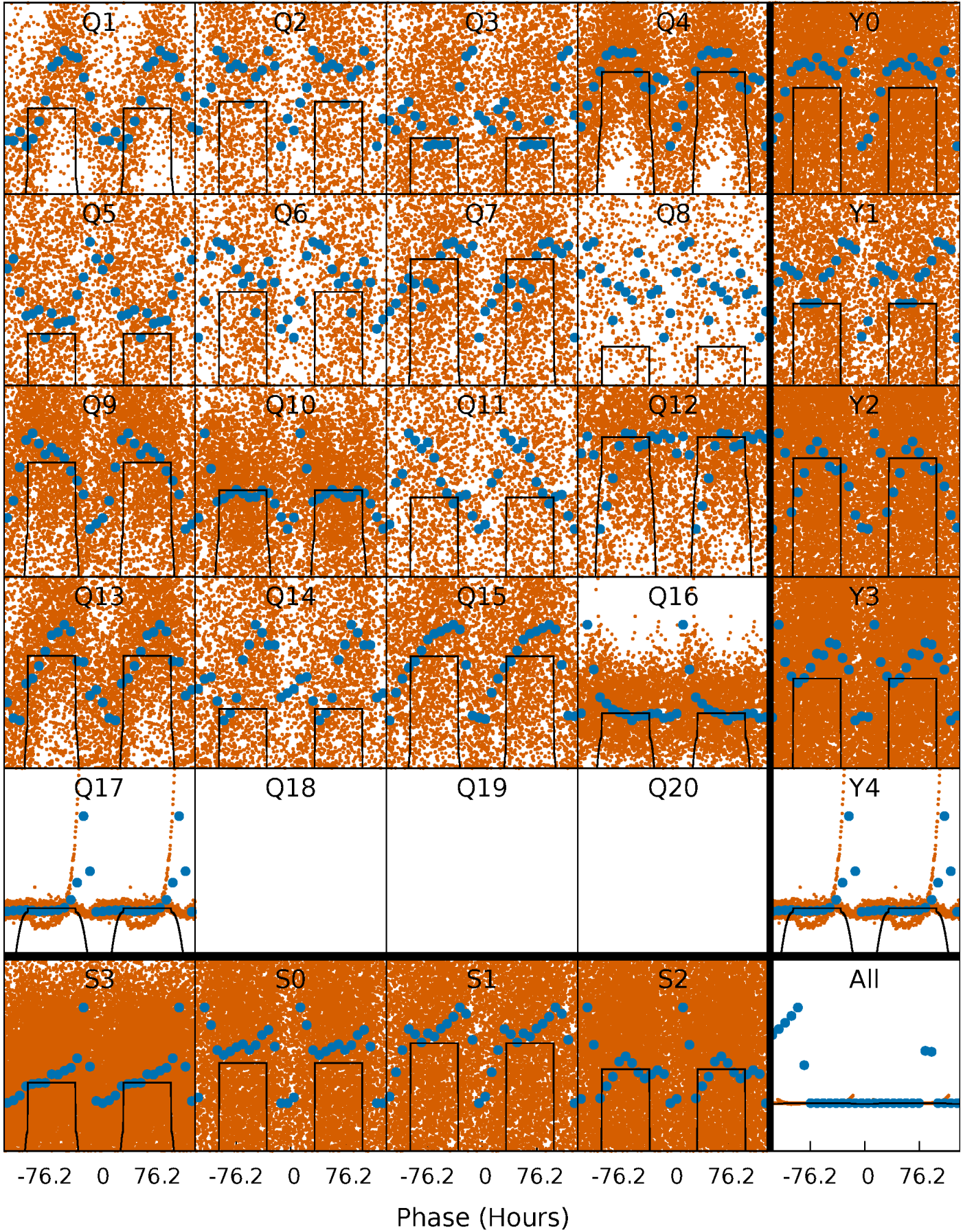
PDC Quarter-Phased Transit Curves

TCE 008572936-03 P= 5.559841 Days $T_0=136.089225$ (BKJD)



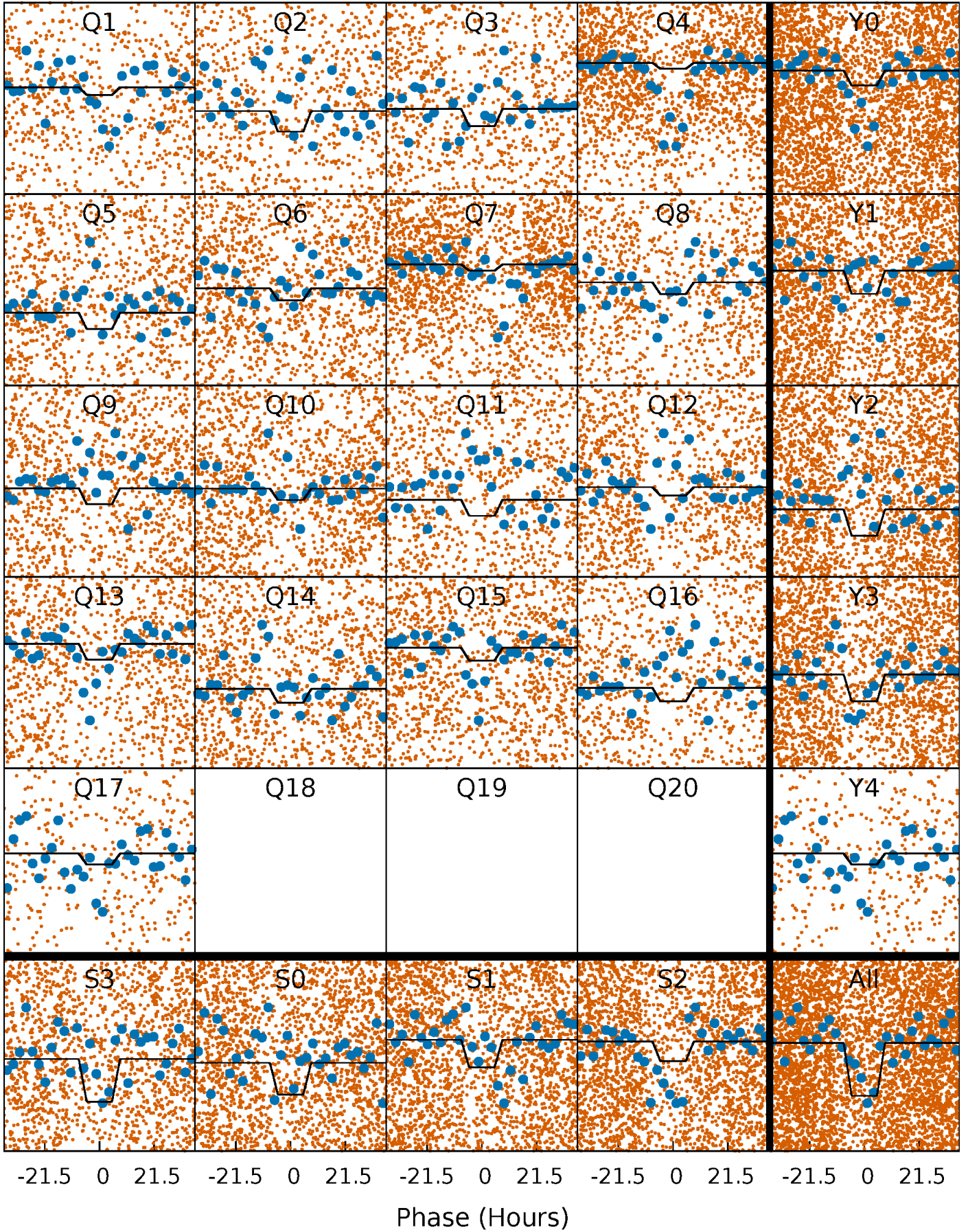
DV Quarter-Phased Transit Curves

TCE 008572936-03 P= 5.559841 Days $T_0=136.089225$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

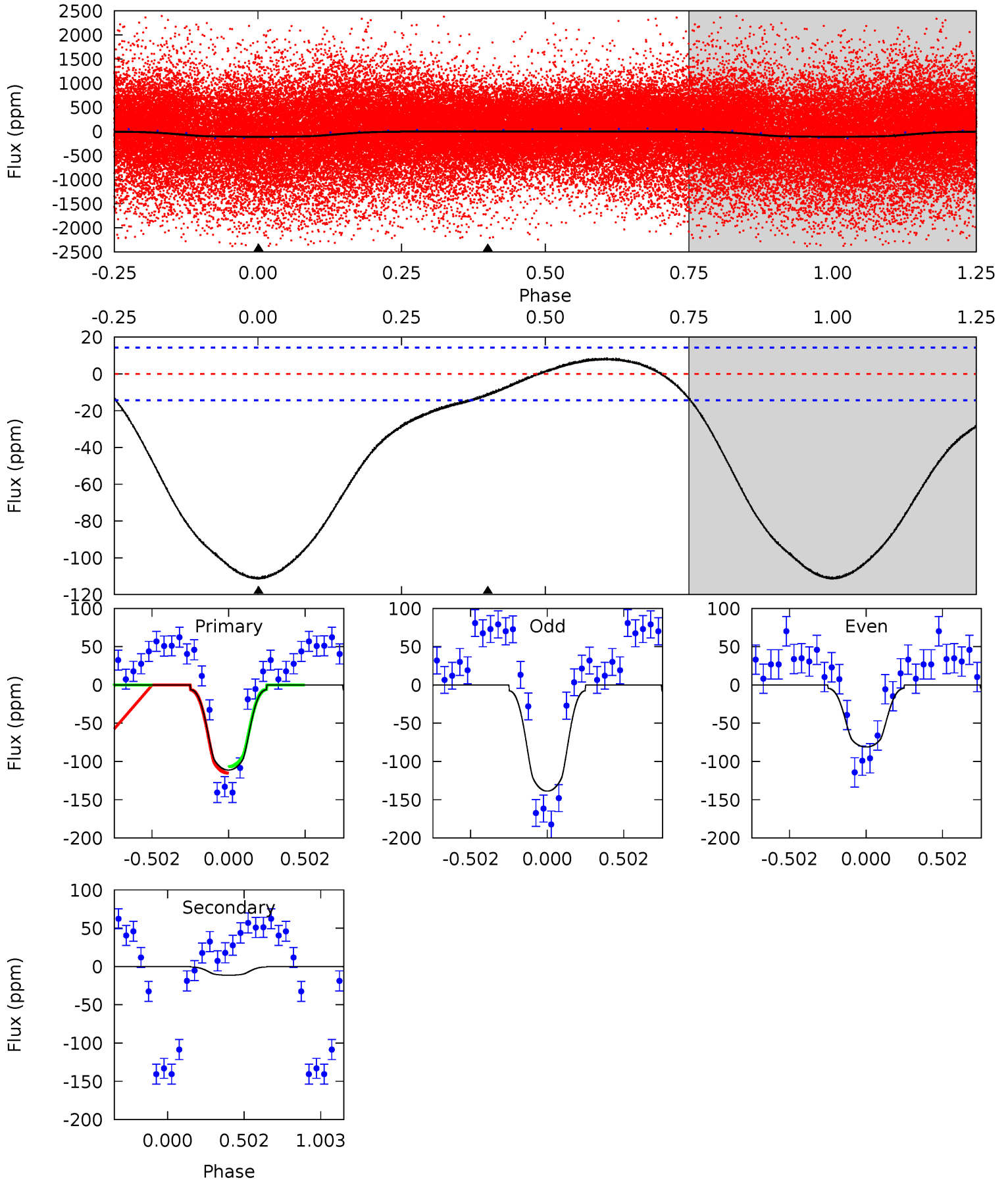
TCE 008572936-03 P= 5.559203 Days $T_0=135.891324$ (BKJD)



DV Model-Shift Uniqueness Test

008572936-03, P = 5.559841 Days, E = 130.529384 Days

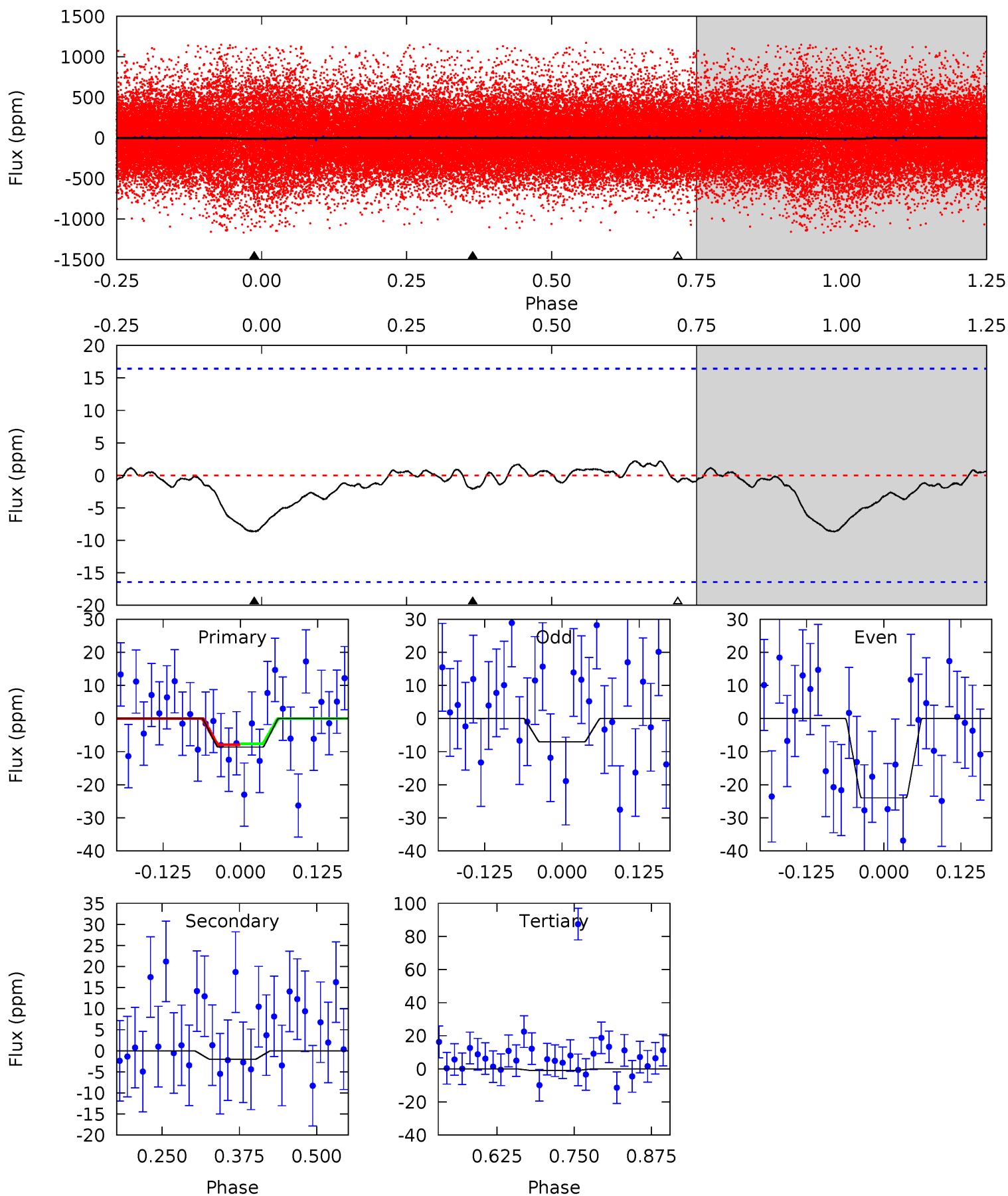
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.8	3.38	0	0	4.21	0.67	1.62	32.8	32.8	3.38	3.38	8.50	23.6	0.08	1.19



Alt Model-Shift Uniqueness Test

008572936-03, P = 5.559203 Days, E = 130.332121 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.37	0.56	0.27	0	4.52	1.53	0.32	2.10	2.37	0.29	0.56	2.26	-0.34	0.21	0.03



Stellar Parameters For KIC 008572936

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5915^{+105}_{-117}	$4.329^{+0.055}_{-0.045}$	$-0.060^{+0.150}_{-0.150}$	$1.130^{+0.073}_{-0.081}$	$0.992^{+0.078}_{-0.071}$	$0.970^{+0.204}_{-0.155}$
	+2%/-2%	+1%/-1%	+250%/-250%	+6%/-7%	+8%/-7%	+21%/-16%
Source	SPE36	TRA36	SPE36	DSEP		

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

Secondary Eclipse Parameters for KIC 008572936-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 3	$11.31^{+0.52}_{-0.53}$	1563^{+39}_{-44}	-2010^{+145}_{-80}	$0.187^{+0.056}_{-0.049}$
Alt.	-2 ± 4	$0.62^{+0.07}_{-0.07}$	1563^{+37}_{-41}	3540^{+766}_{-7060}	10^{+21}_{-20}

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

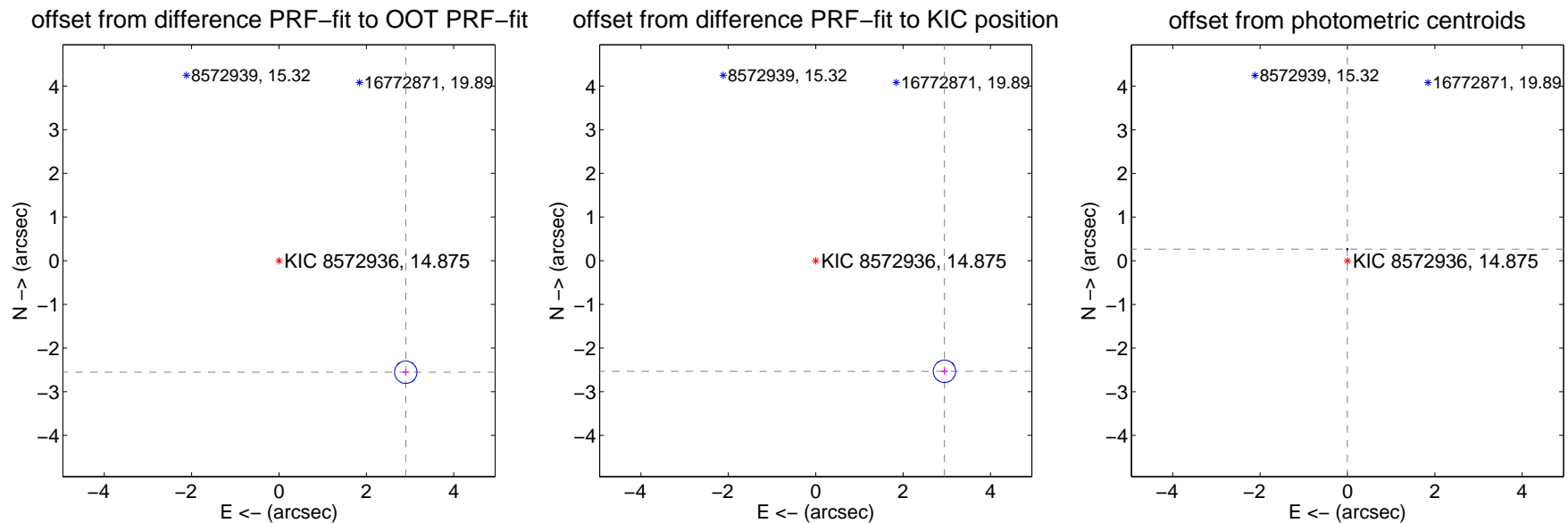
DV Centroid Data

Supplemental centroid analysis for 008572936-03. Kepler magnitude: 14.88. Transit SNR 118.42

There are 0 quarters with good PRF difference image offsets

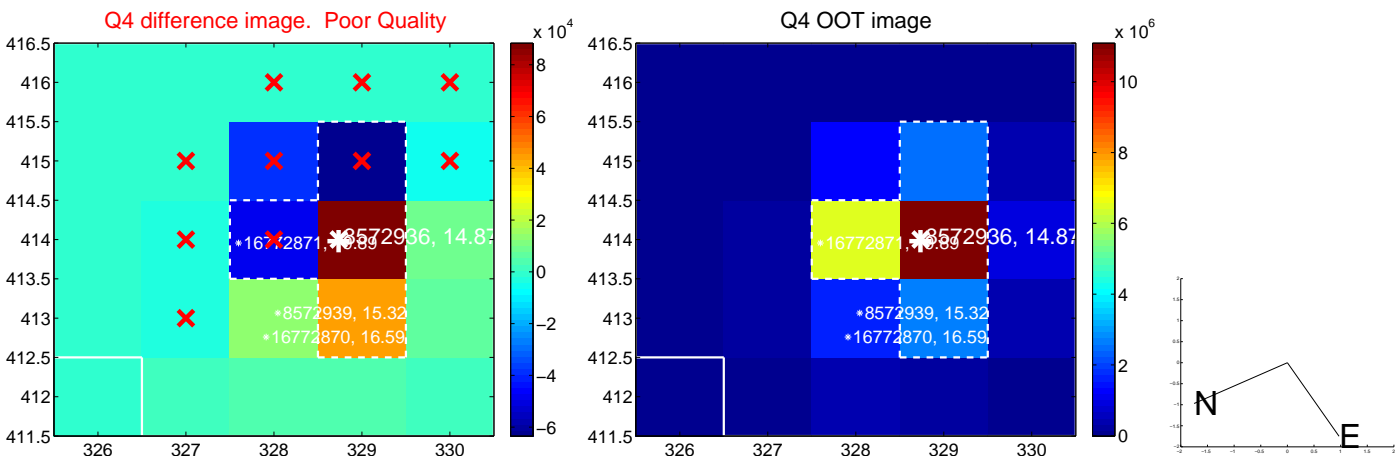
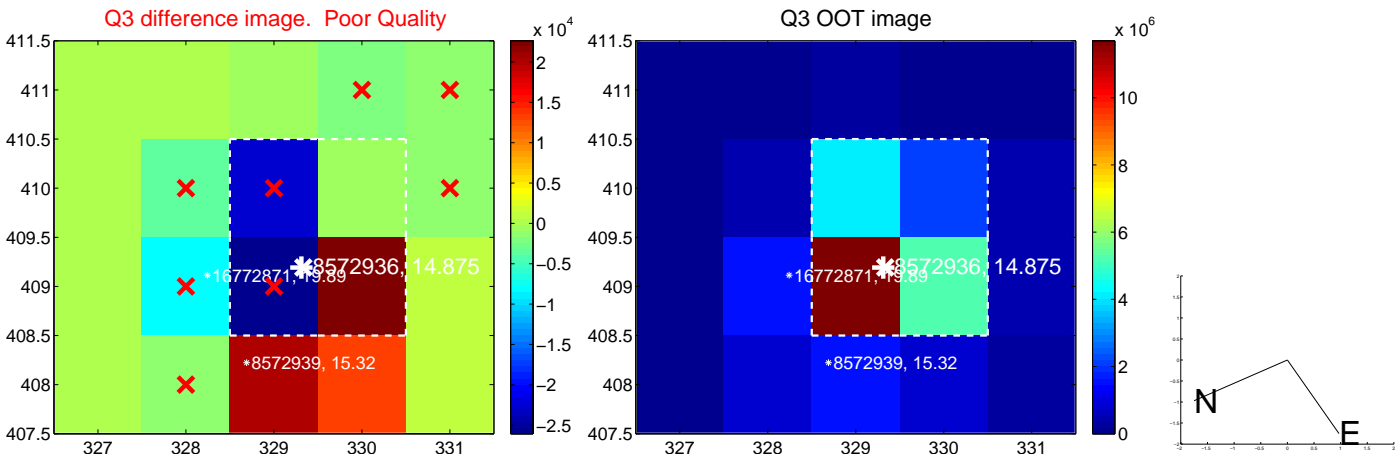
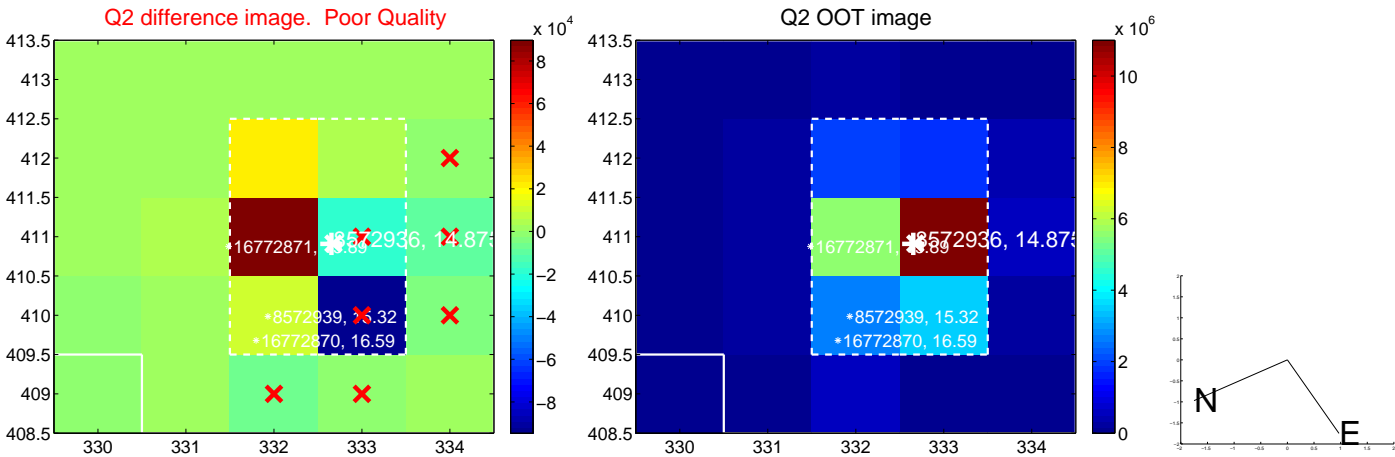
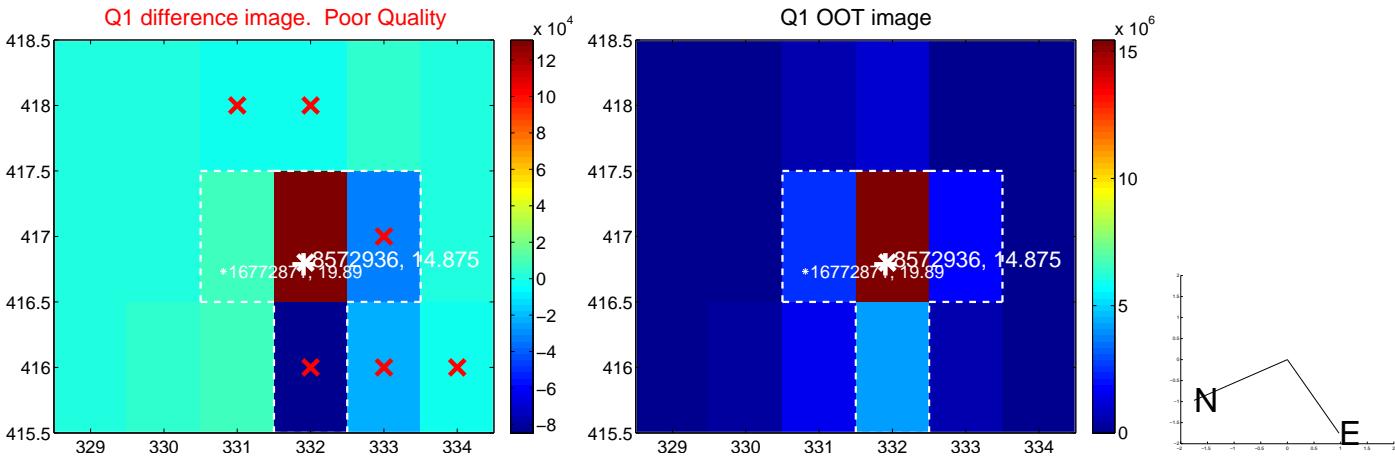
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.866 ± 0.085	45.24	-2.902 ± 0.087	-2.554 ± 0.083
PRF-fit source offset from KIC position	3.886 ± 0.085	45.46	-2.947 ± 0.087	-2.533 ± 0.083
photometric centroid source offset	0.26 ± 0.01	41.51	0.00 ± 0.00	0.26 ± 0.01

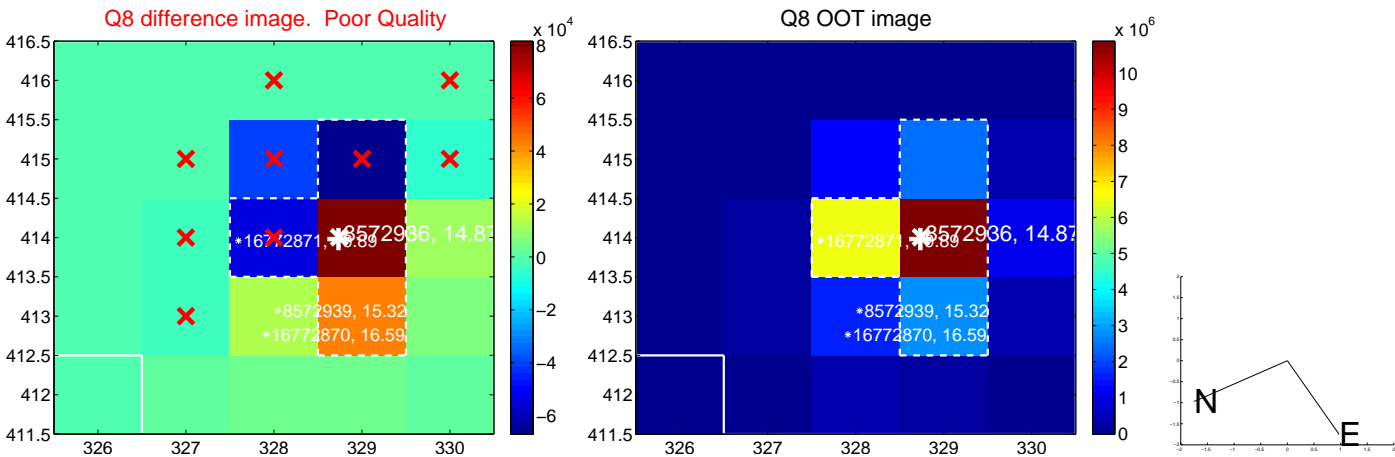
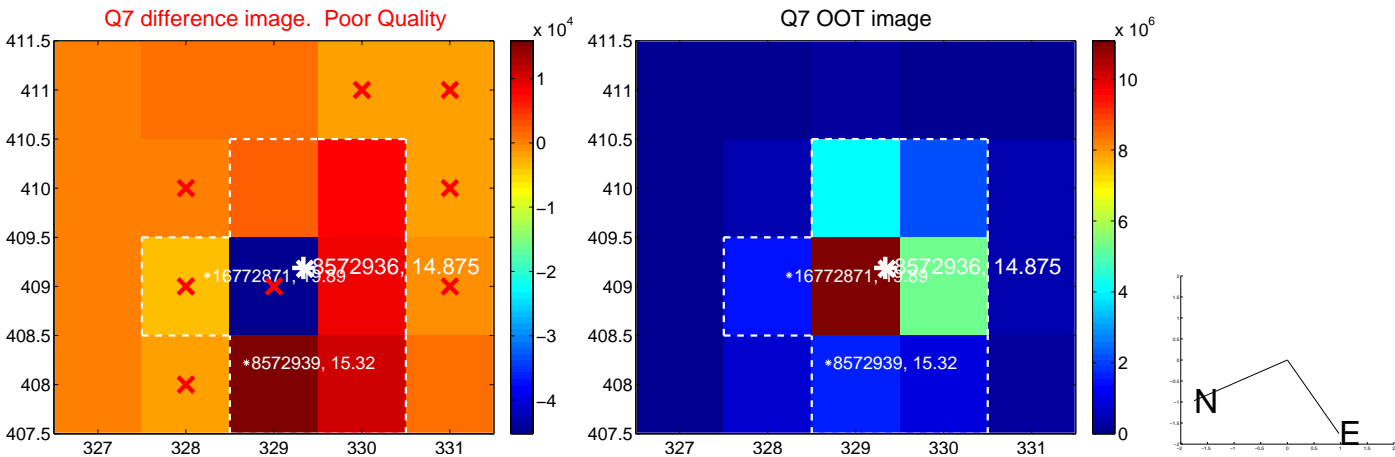
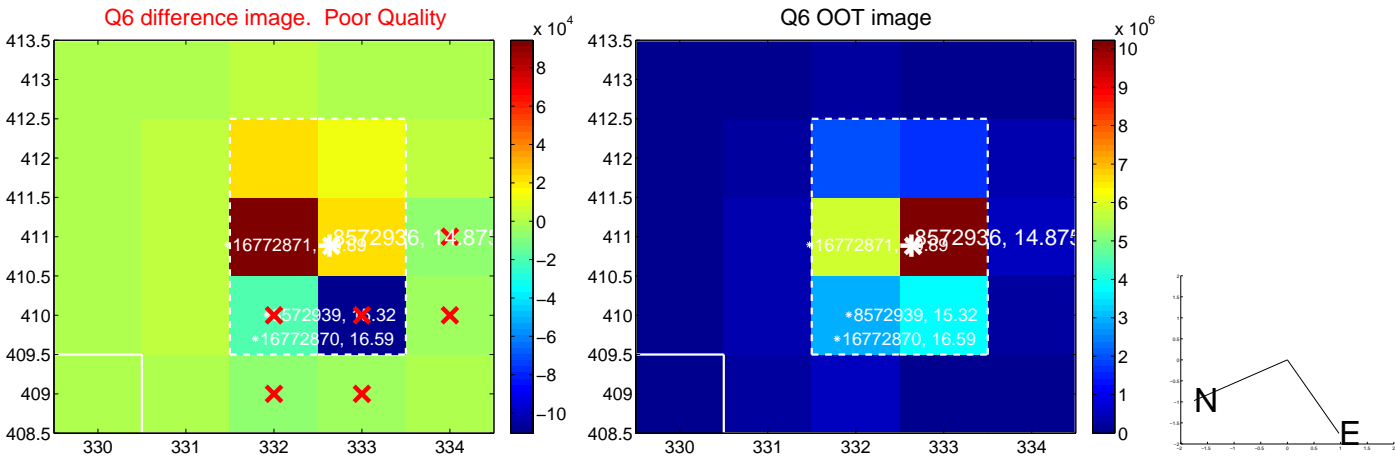
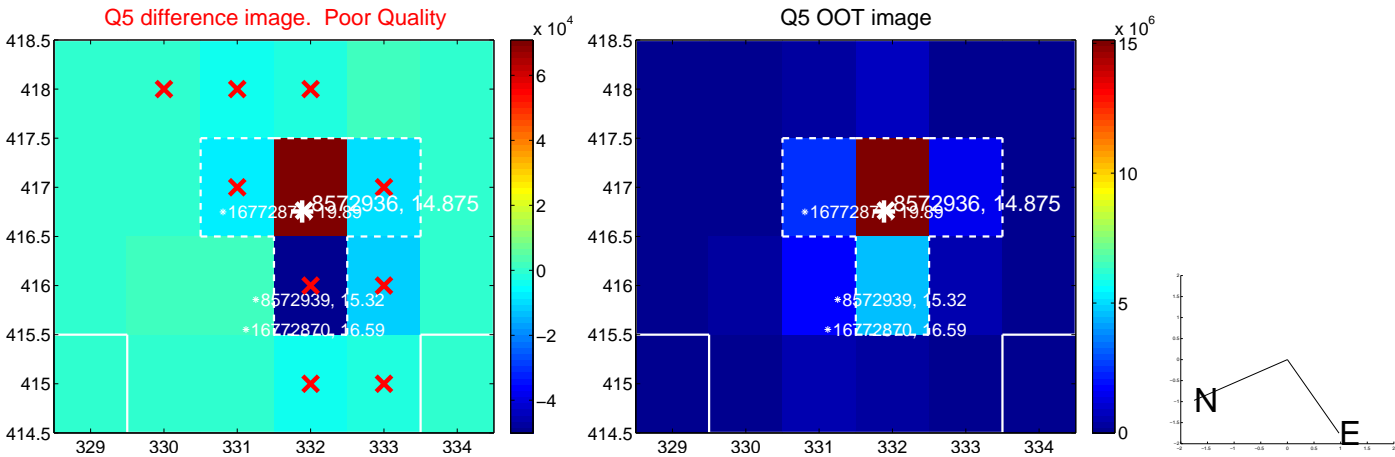


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

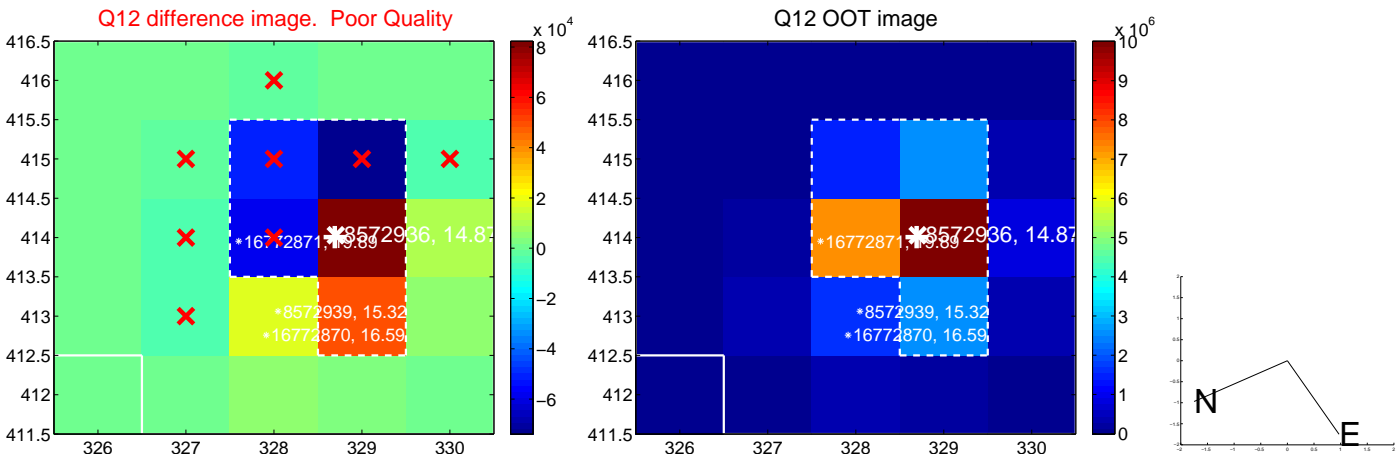
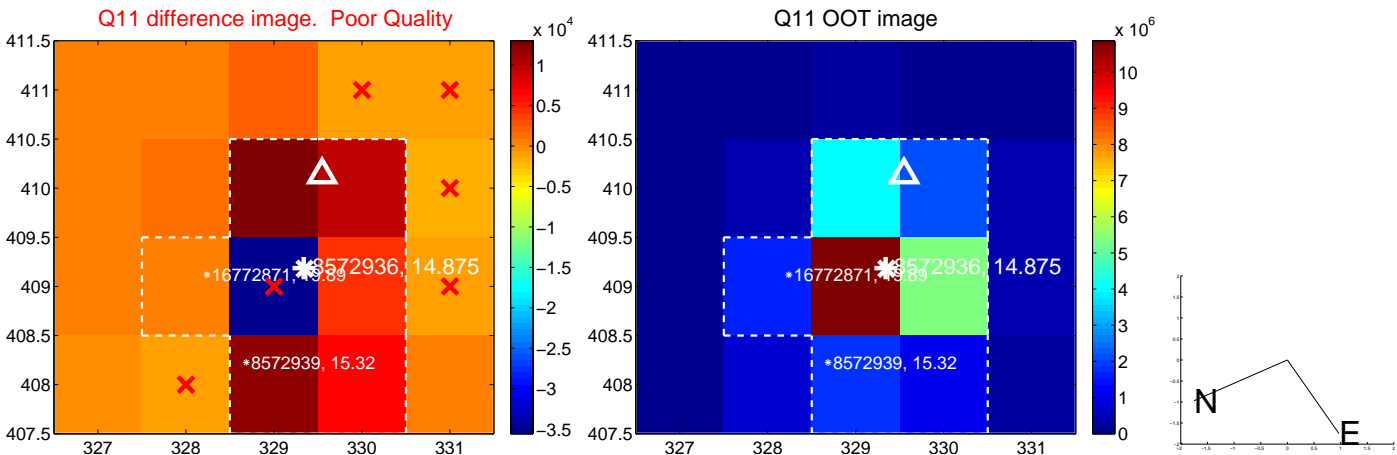
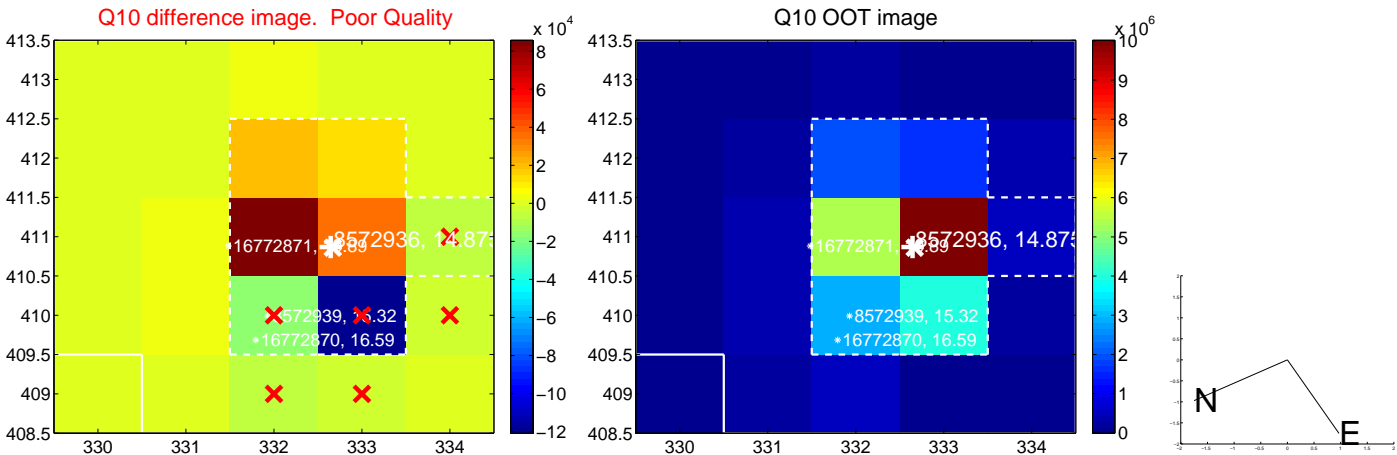
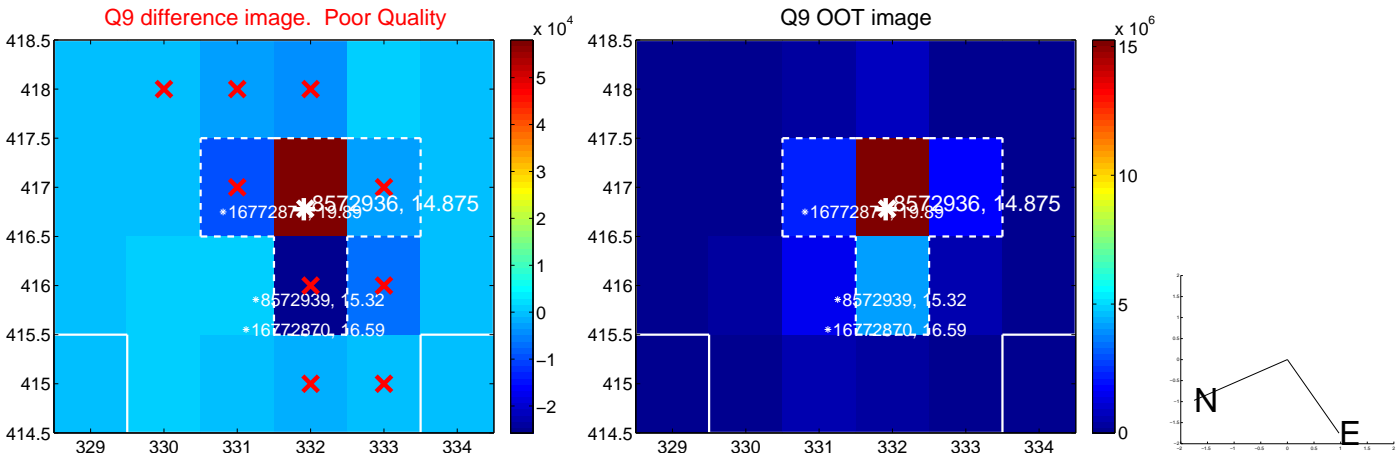
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



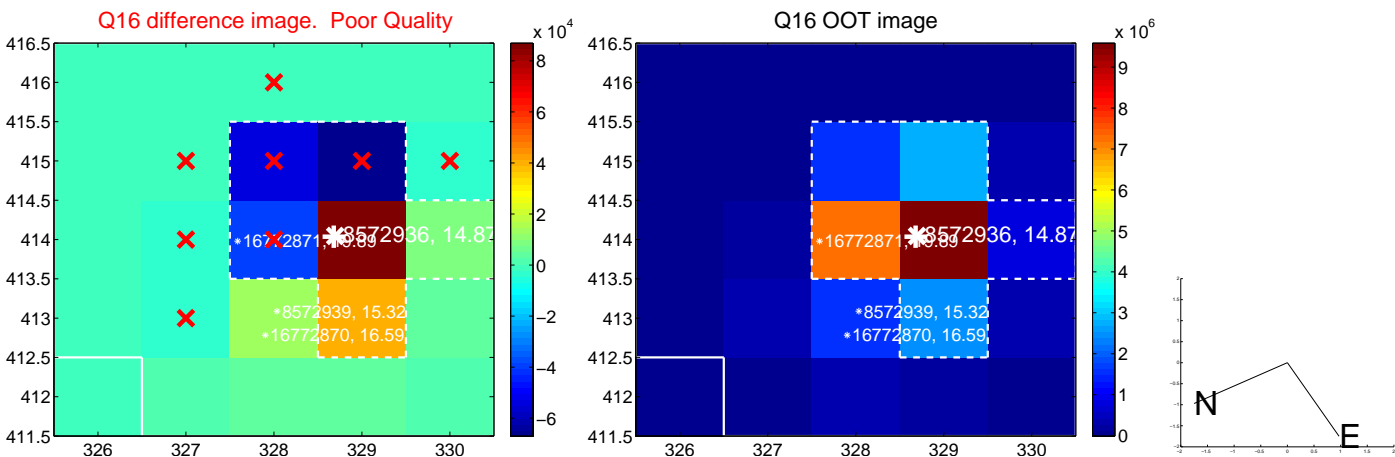
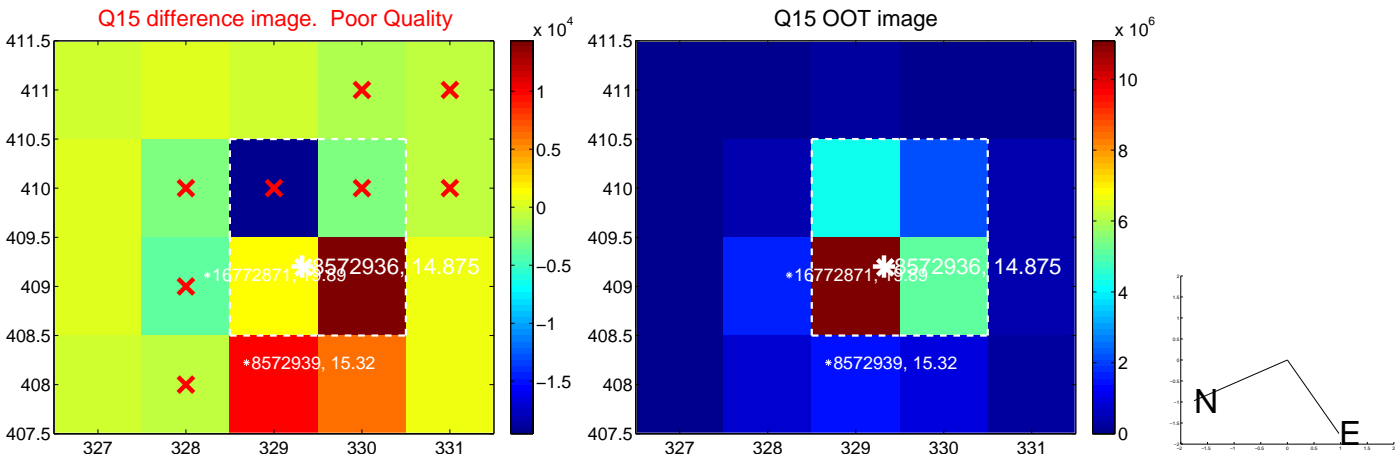
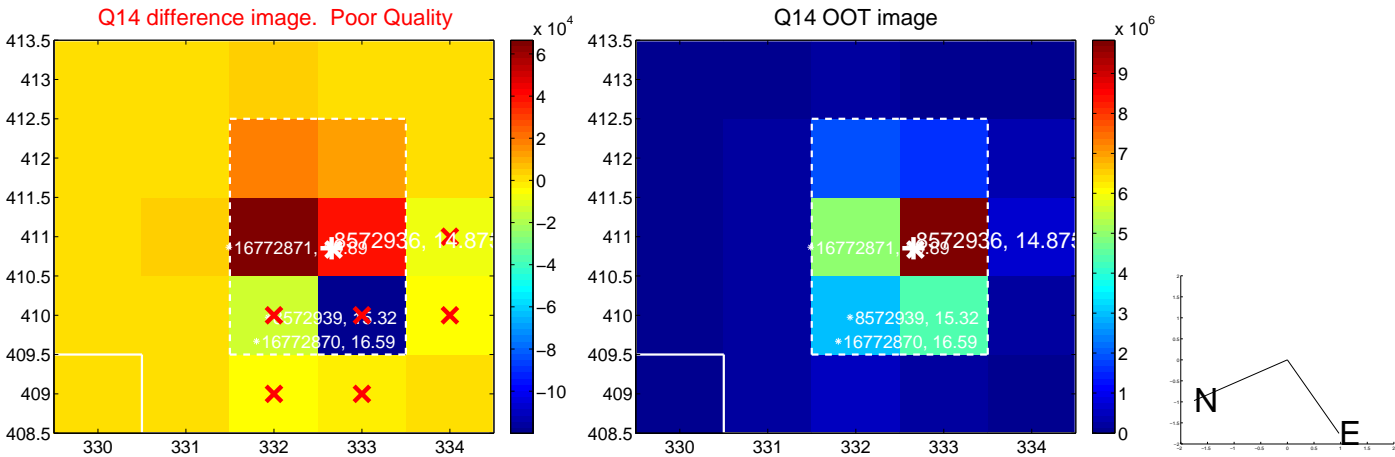
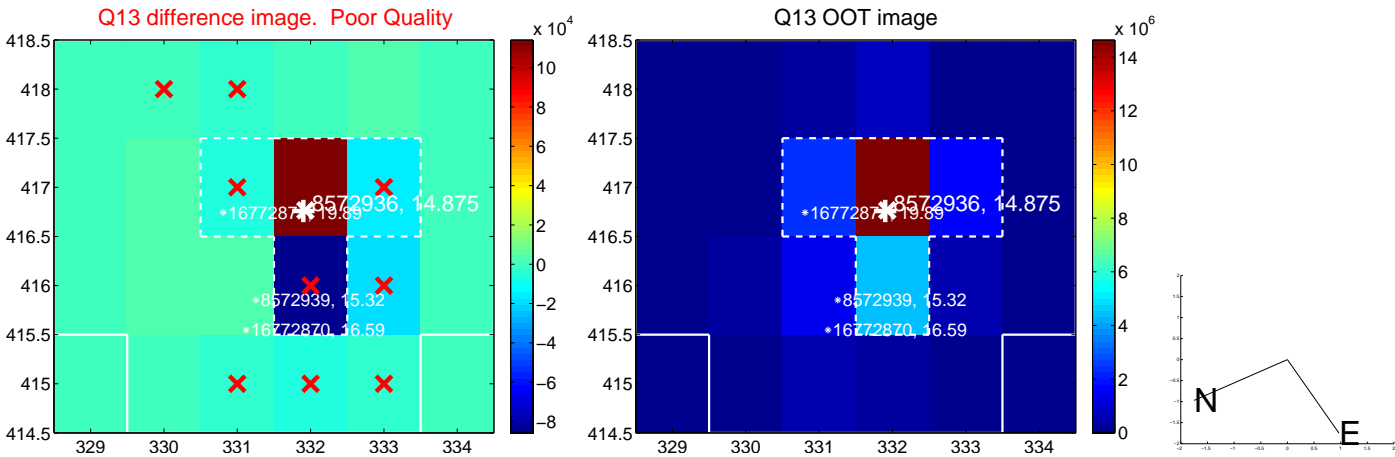
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



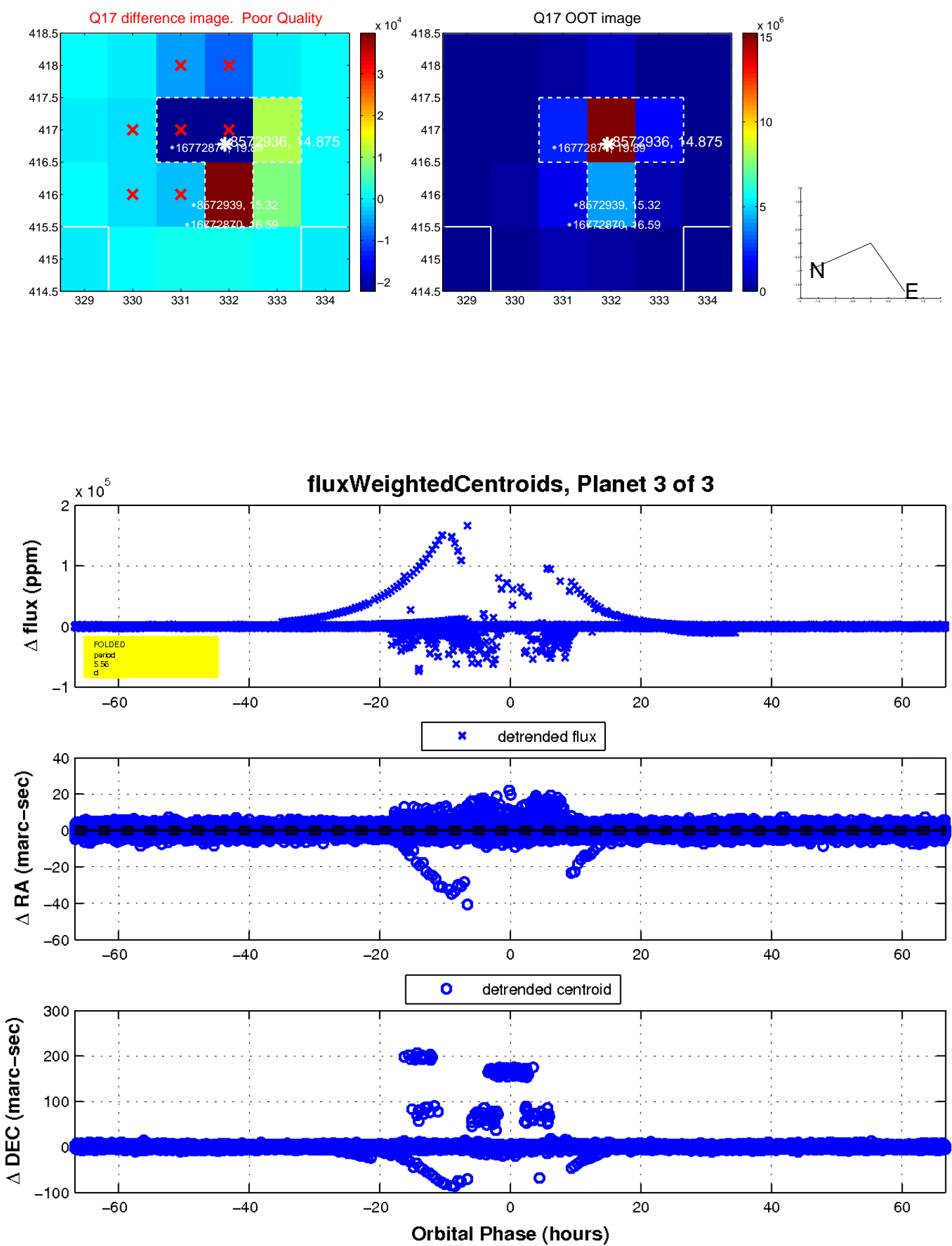
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

