

KIC 005390342

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})
005390342-01	OBS	No	1.094851	132.471562	142.7	1.674	45.5	13.0	1.20	6534	1.78	4768.16
005390342-02	OBS	No	1.094906	131.901619	13004.3	1.500	59.1	-1.0	1.20	6534	13.81	4767.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005390342-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST
005390342-02	OBS	FP	0.00	1	0	1	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST—EPHEM_MATCH

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

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

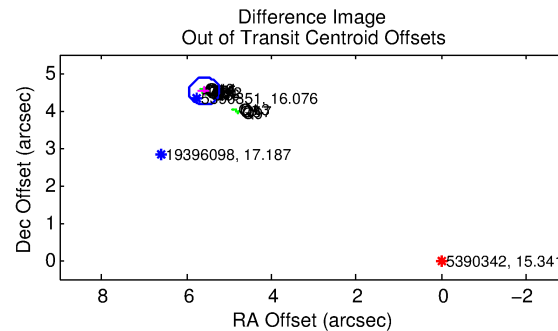
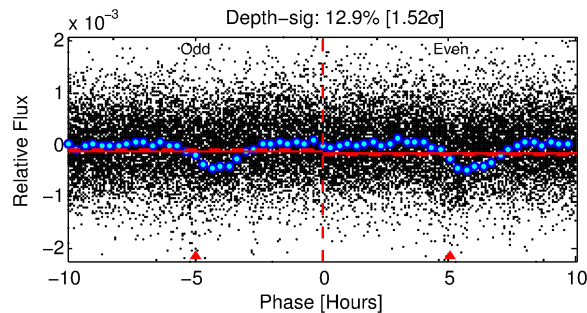
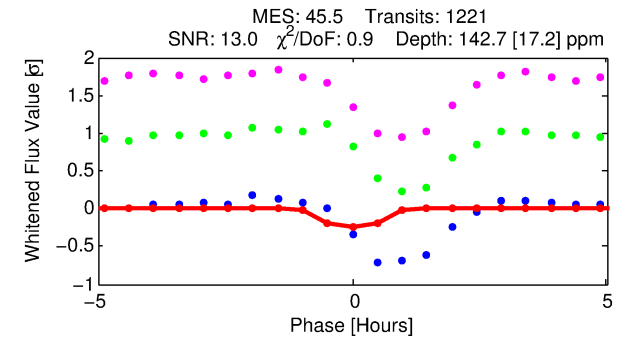
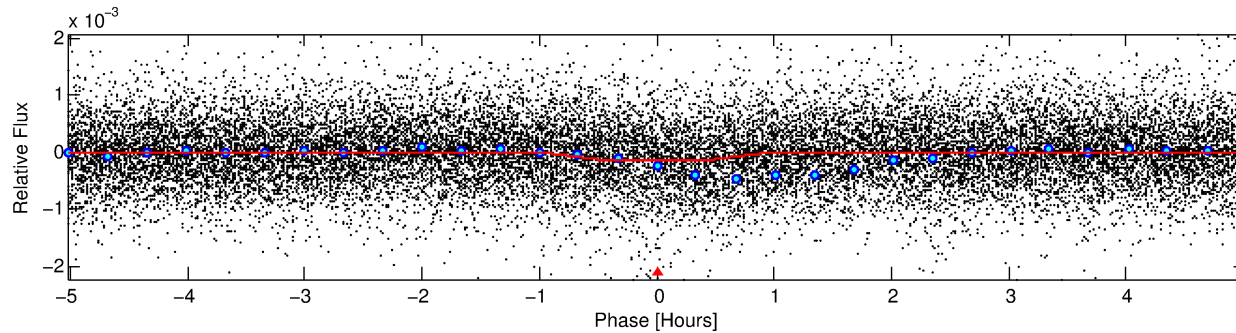
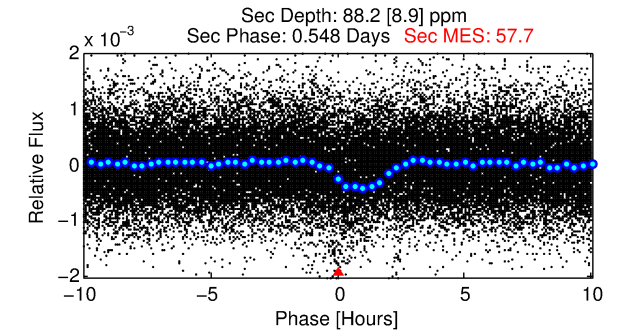
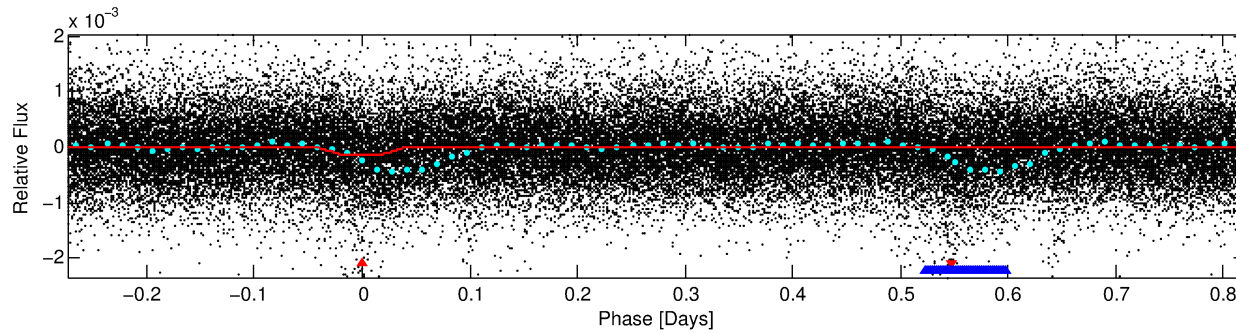
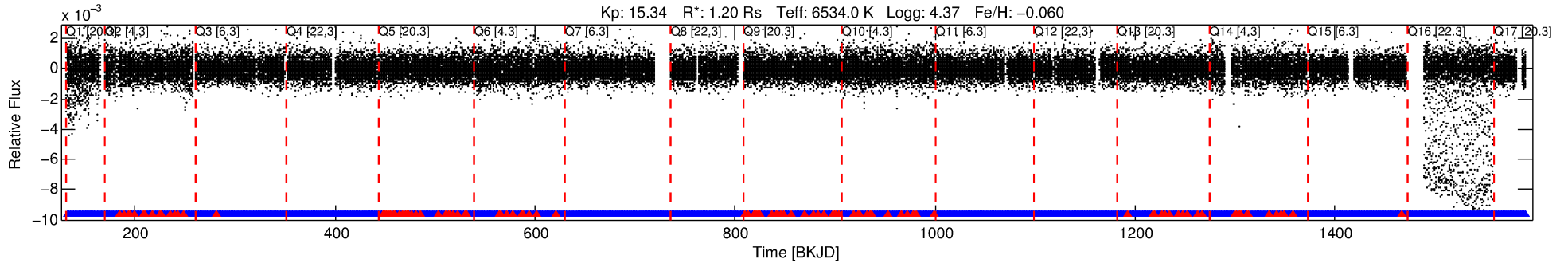
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005390342-01

No Significant Match Found

DV One-Page Summary

KIC: 5390342 Candidate: 1 of 2 Period: 1.095 d



DV Fit Results:

Period = 1.09485 [0.00001] d
Epoch = 132.4716 [0.0019] BKJD
Rp/R* = 0.0136 [0.0037]
a/R* = 2.00 [2.31]
b = 0.95 [0.16]
Seff = 4768.16 [1776.86]
Teq = 2119 [197] K
Rp = 1.78 [0.71] Re
a = 0.0222 [0.0053] AU
Ag = 7.56 [4.88] [1.35σ]
Teff = 5433 [782] K [4.11σ]

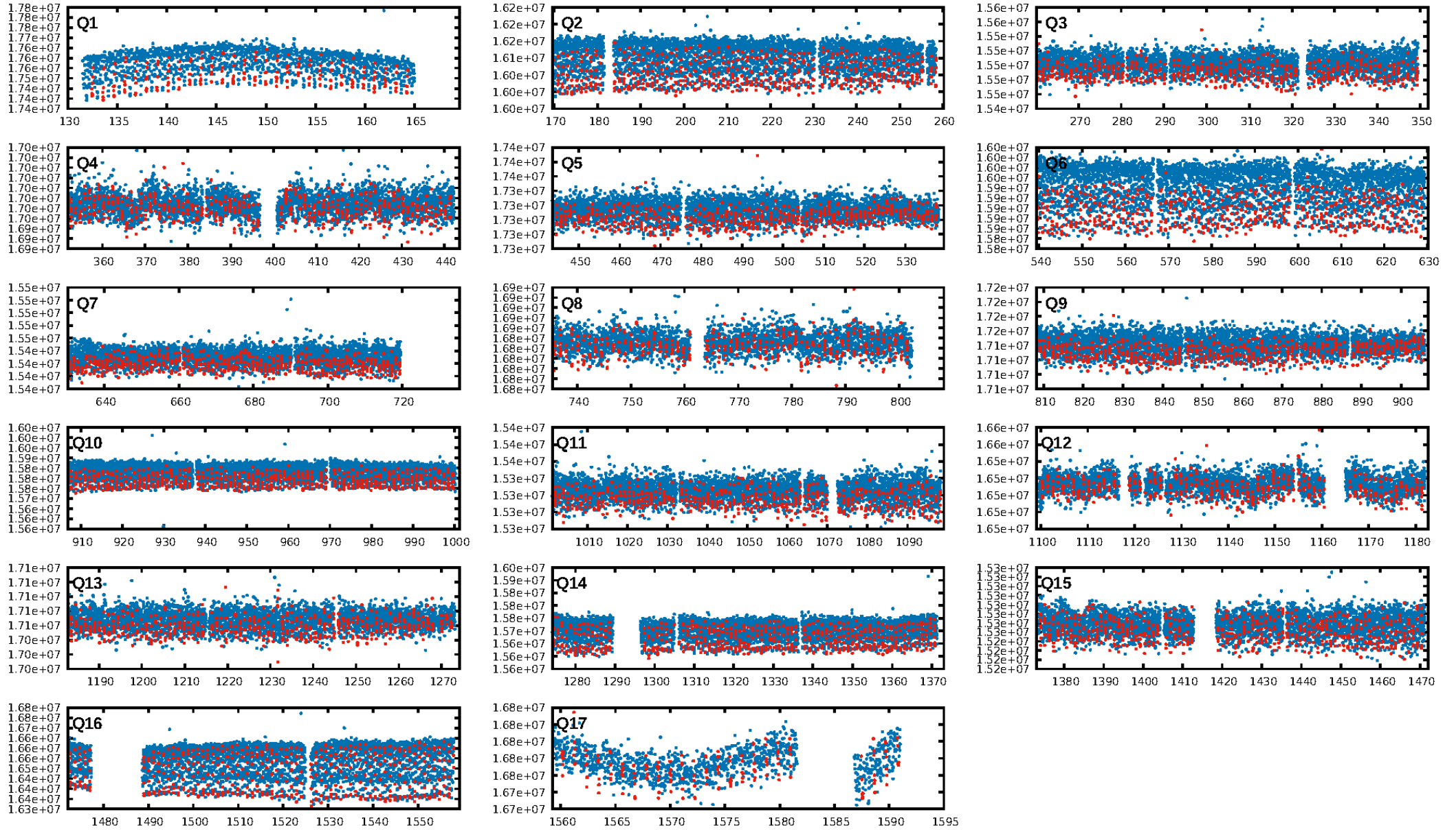
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.90 [1056/1167]
GhostDiagnostic-chr: -0.12
Centroid-sig: N/A
Centroid-so: 38.030 arcsec [24.79σ]
OotOffset-rm: 7.186 arcsec [59.70σ]
KicOffset-rm: 7.221 arcsec [106.11σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

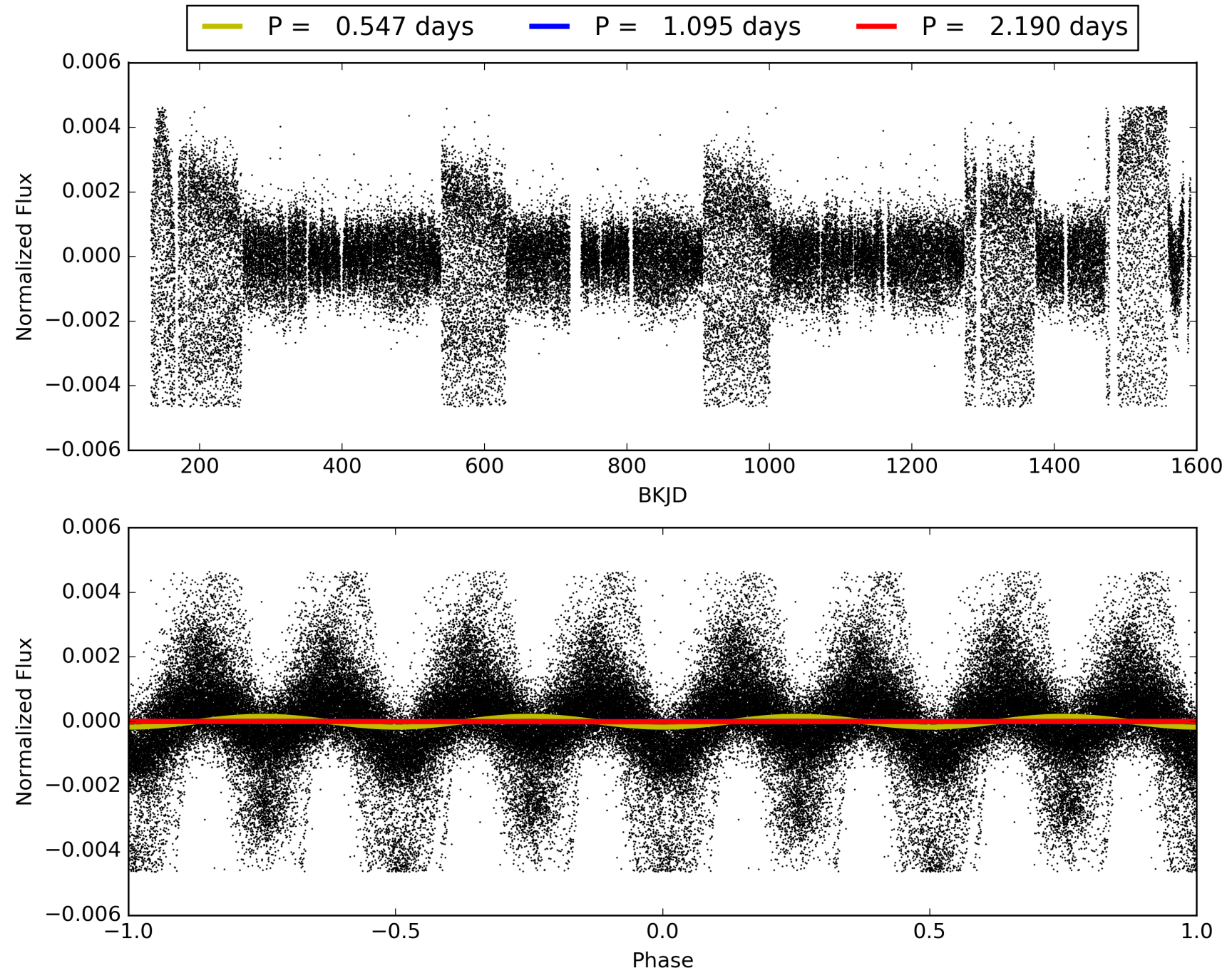
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:00:47 Z

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

TCE 005390342-01, PDC Light Curves

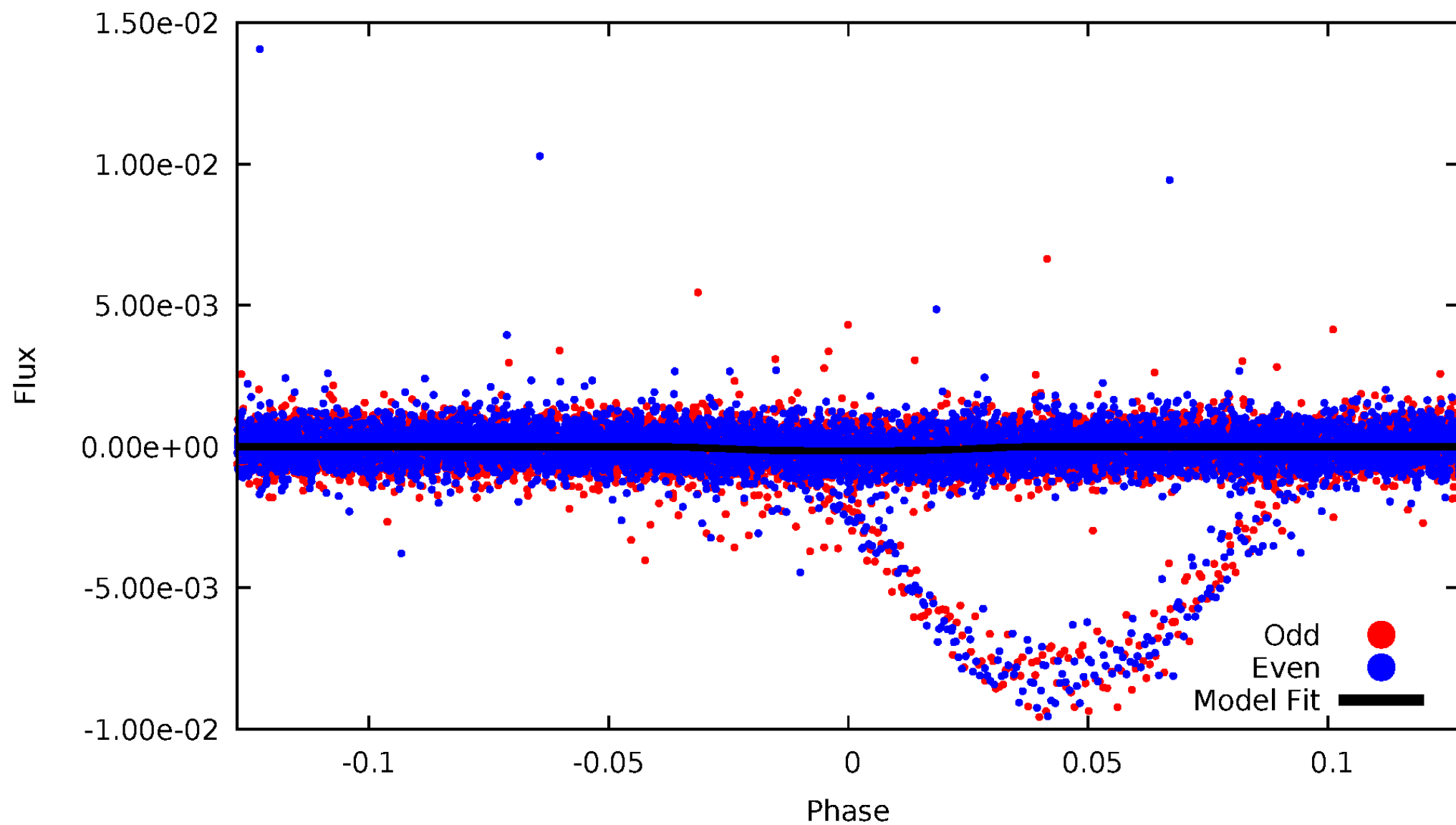


TCE 005390342-01



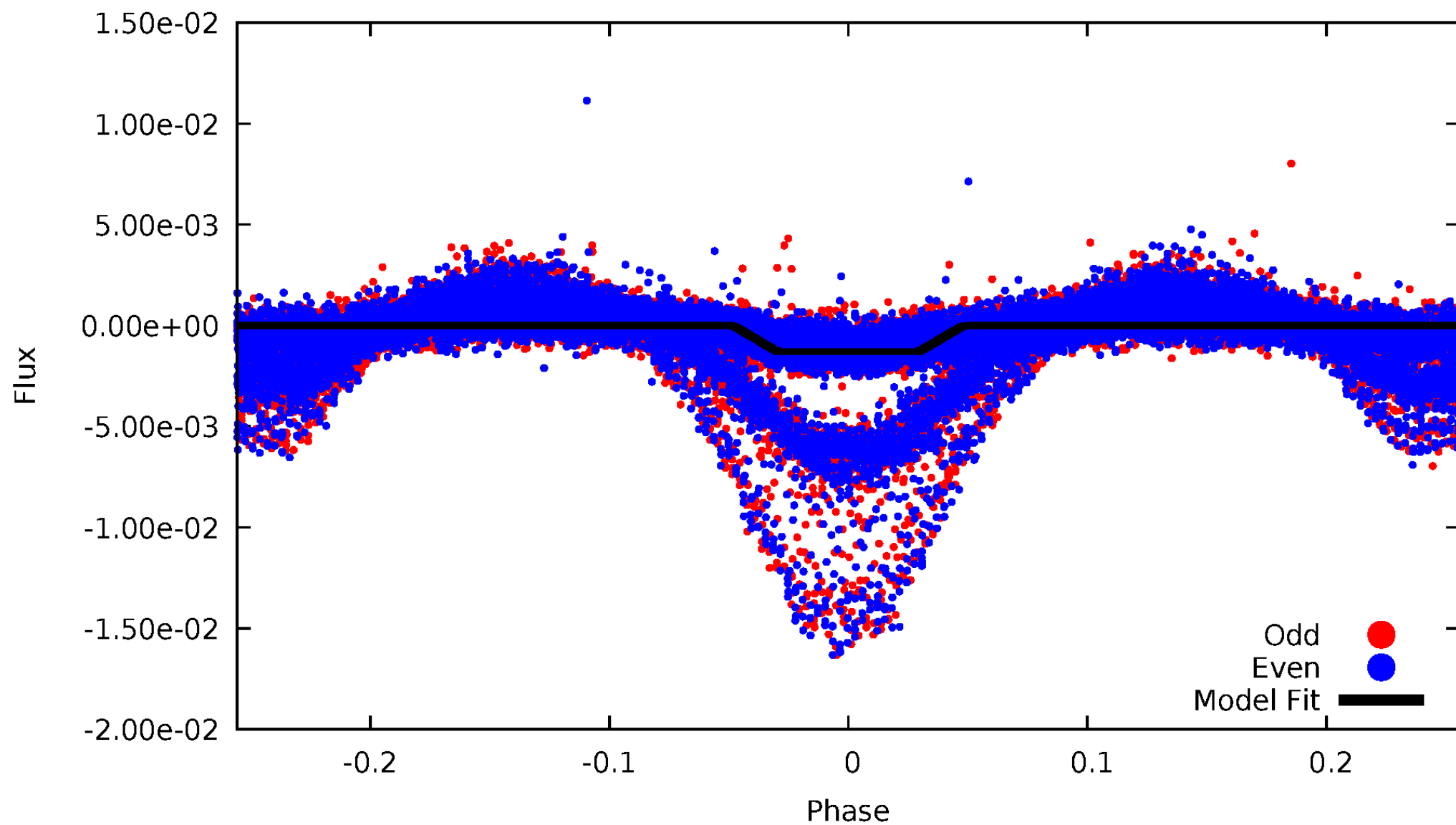
DV Odd/Even

TCE 005390342-01



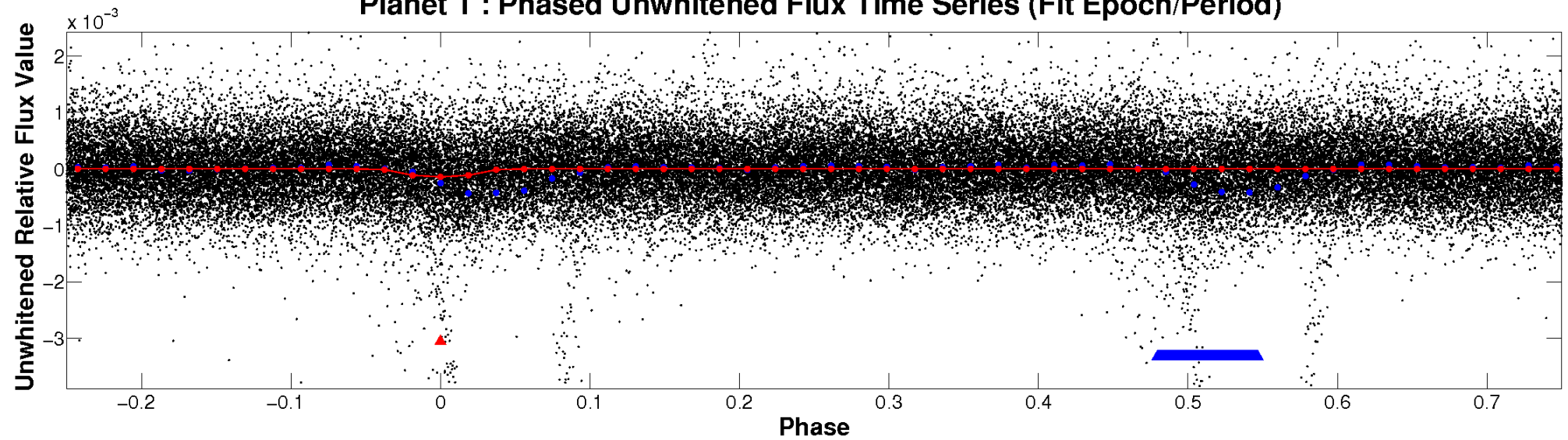
ALT Odd/Even

TCE 005390342-01

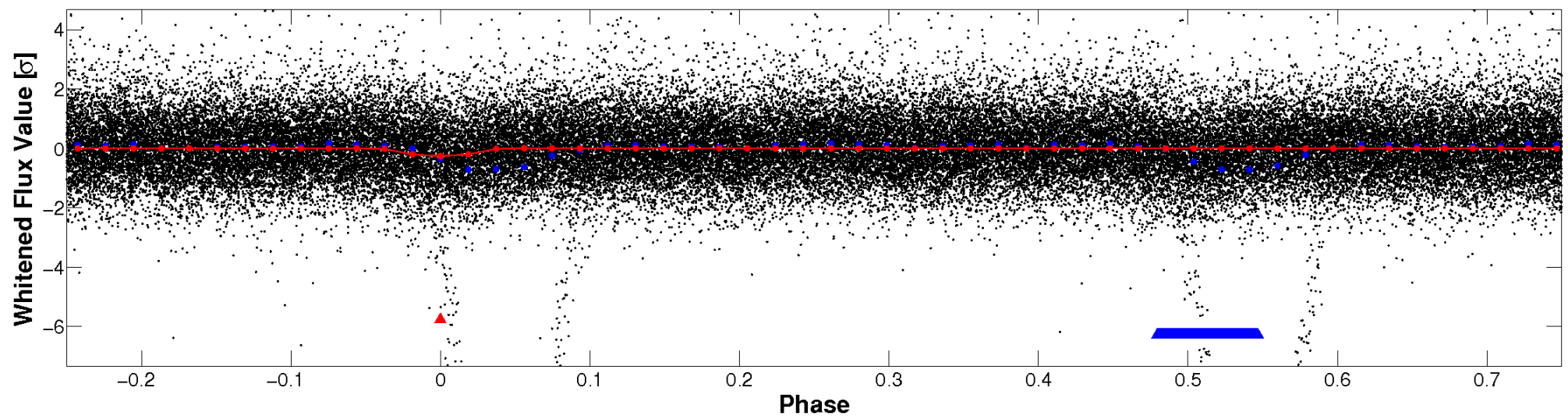


Non-Whitened Vs. Whitened Light Curve

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

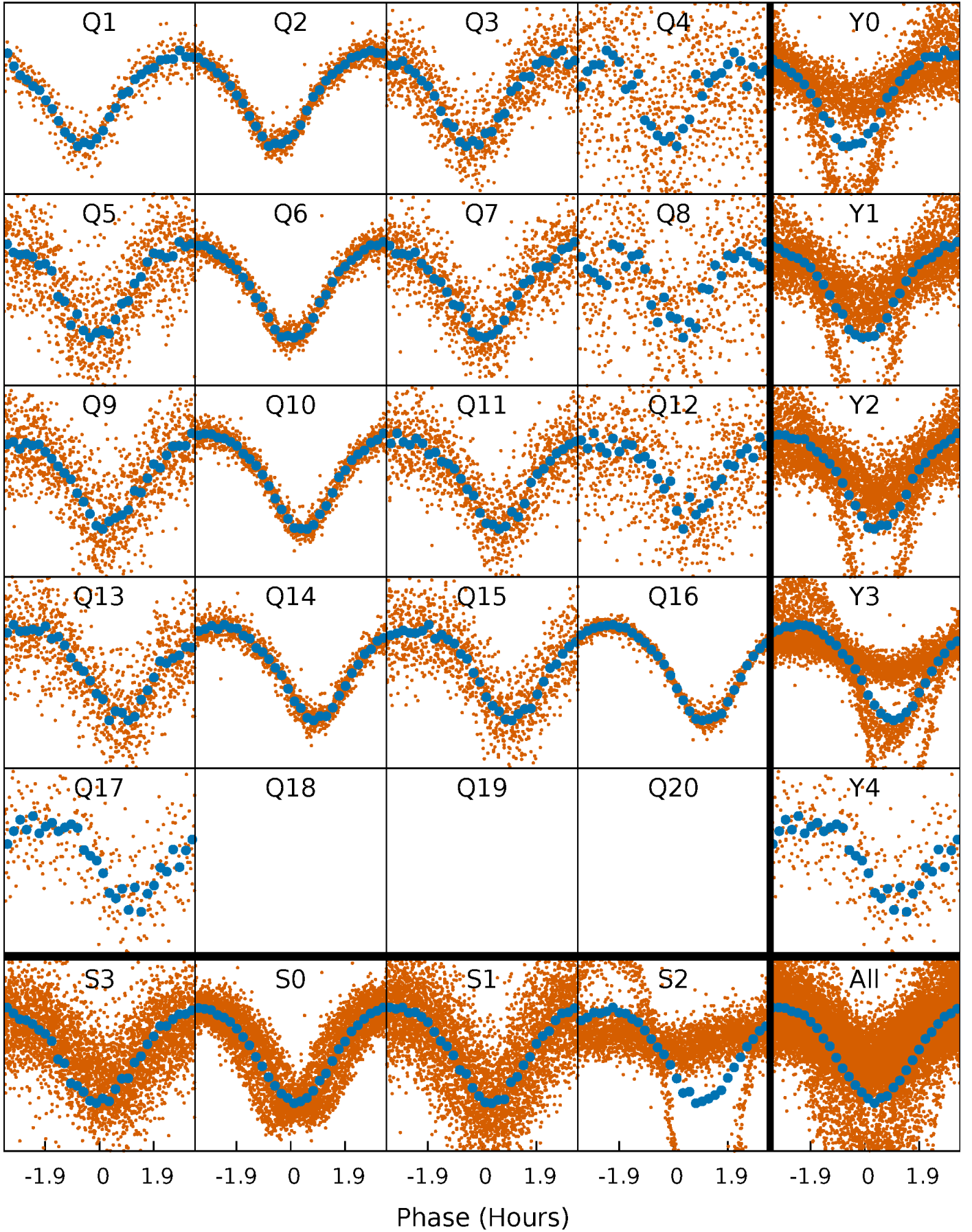


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



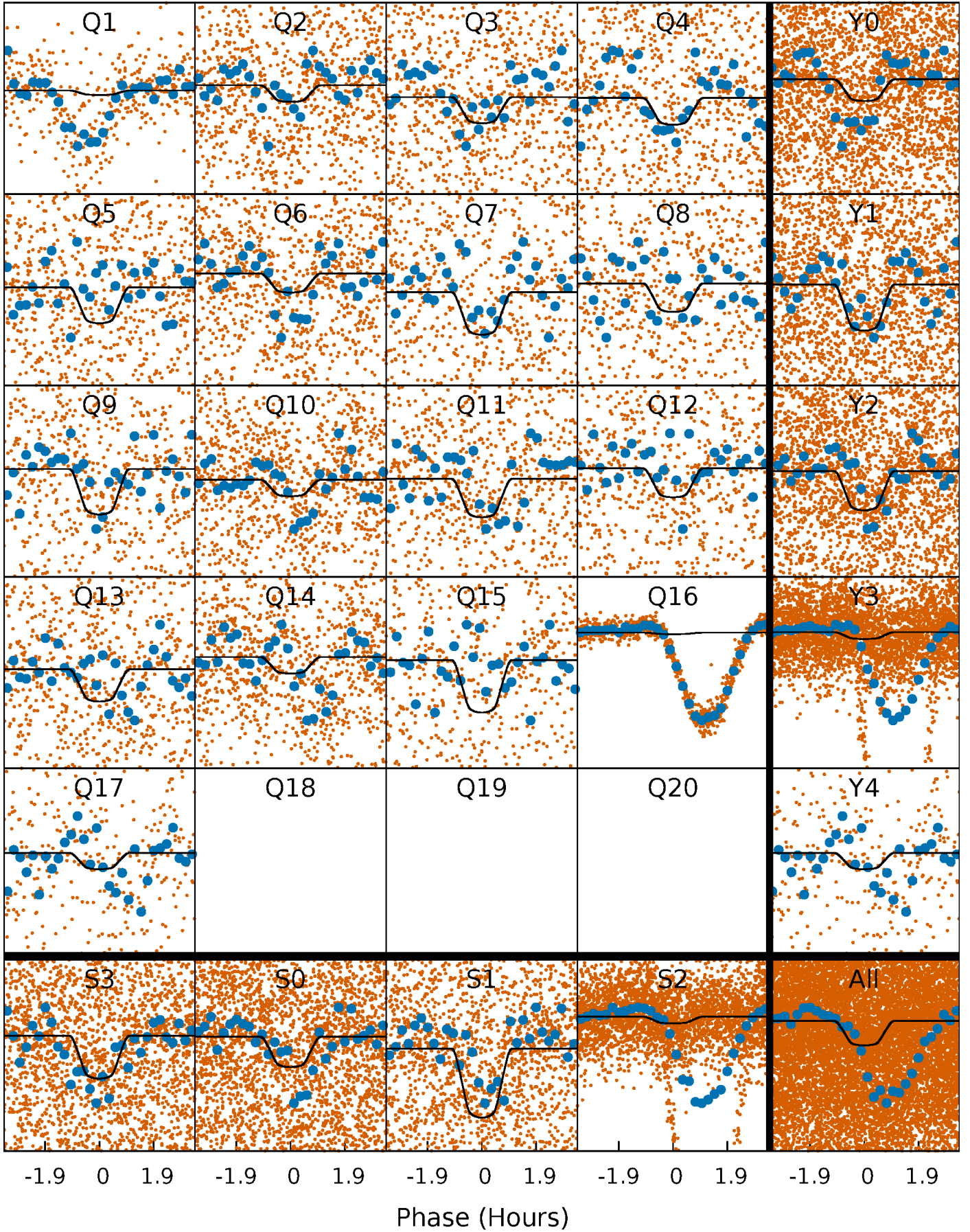
PDC Quarter-Phased Transit Curves

TCE 005390342-01 P= 1.094851 Days $T_0=132.471562$ (BKJD)



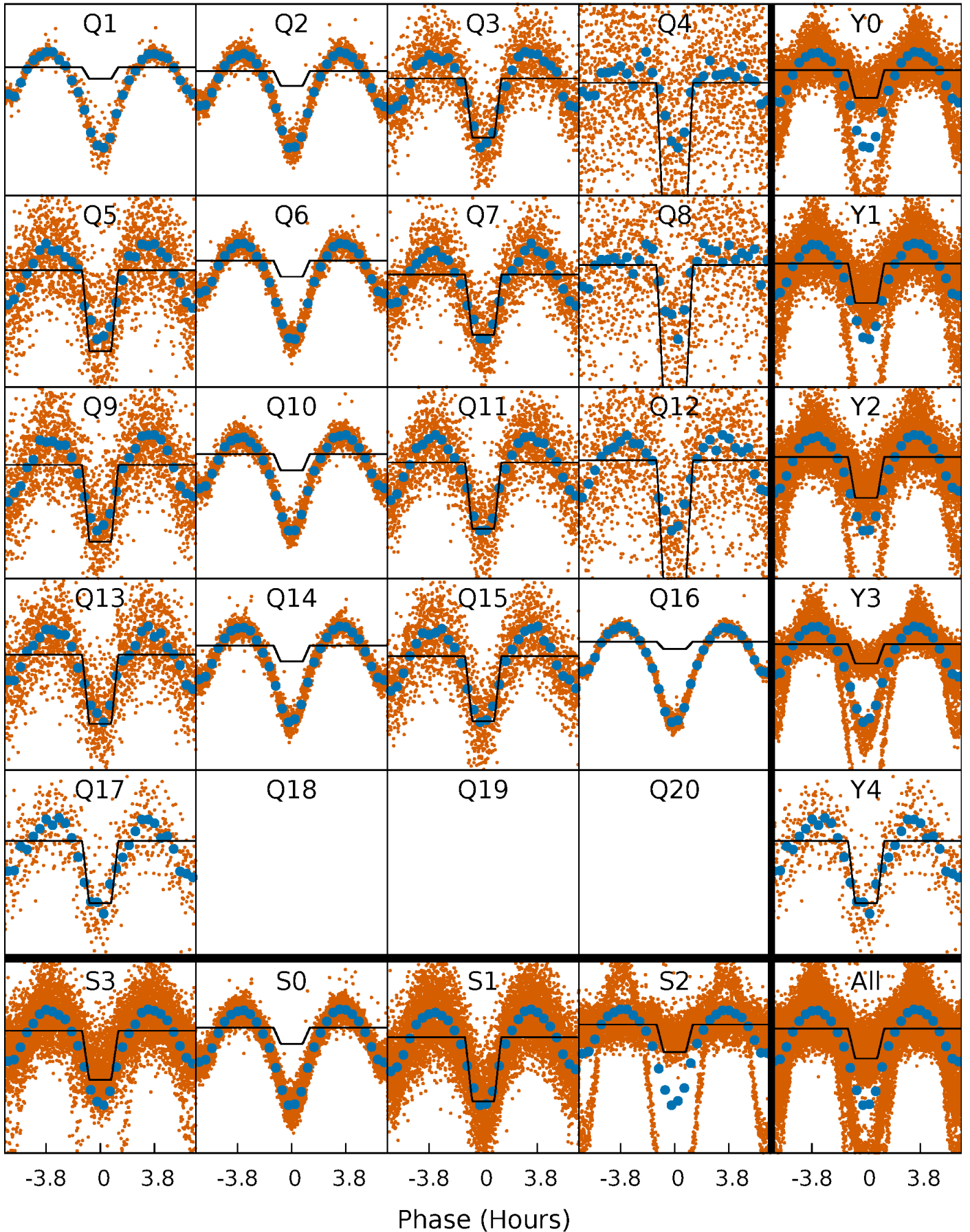
DV Quarter-Phased Transit Curves

TCE 005390342-01 P= 1.094851 Days $T_0=132.471562$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

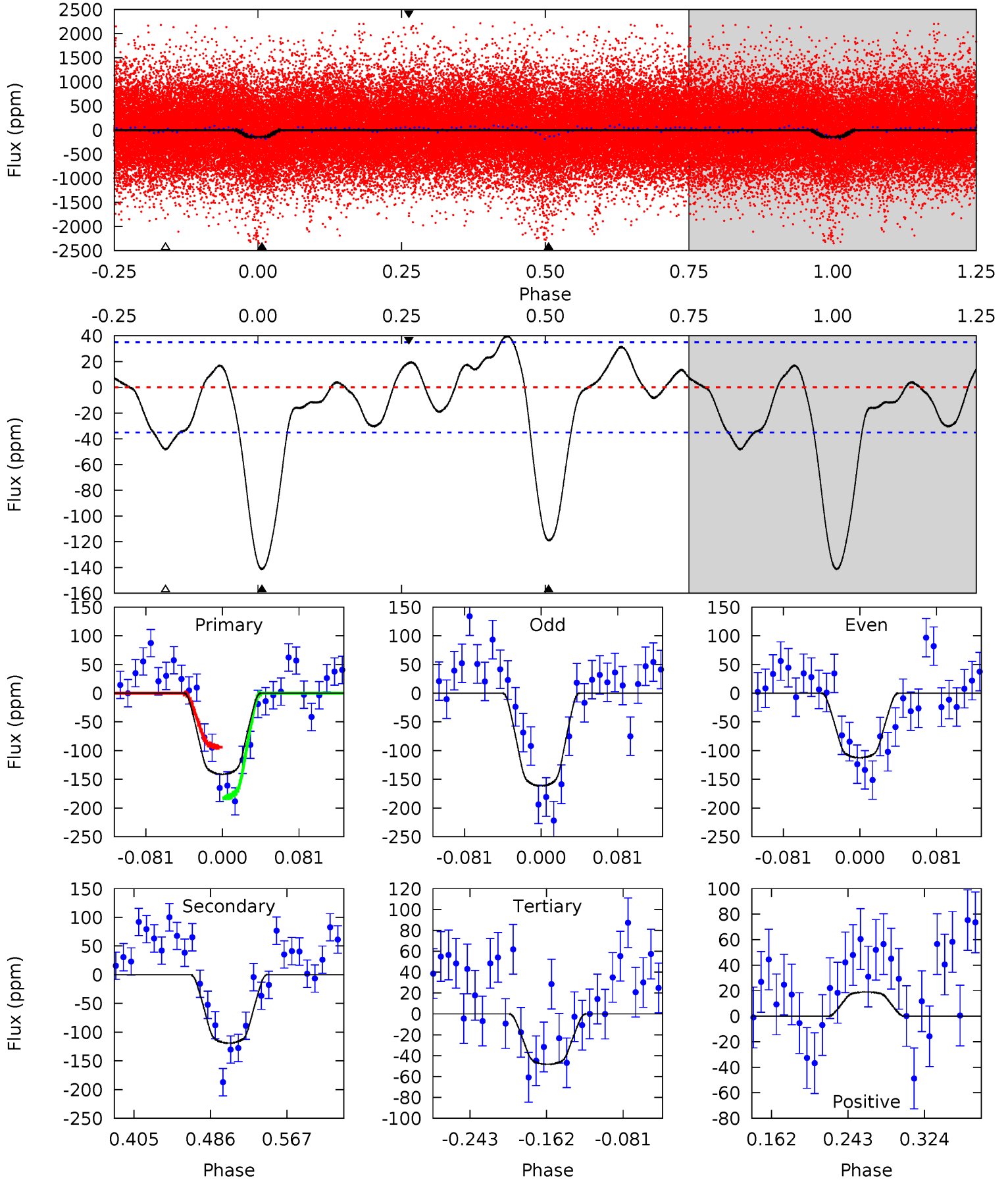
TCE 005390342-01 P= 1.094910 Days $T_0=132.444978$ (BKJD)



DV Model-Shift Uniqueness Test

005390342-01, P = 1.094851 Days, E = 131.376711 Days

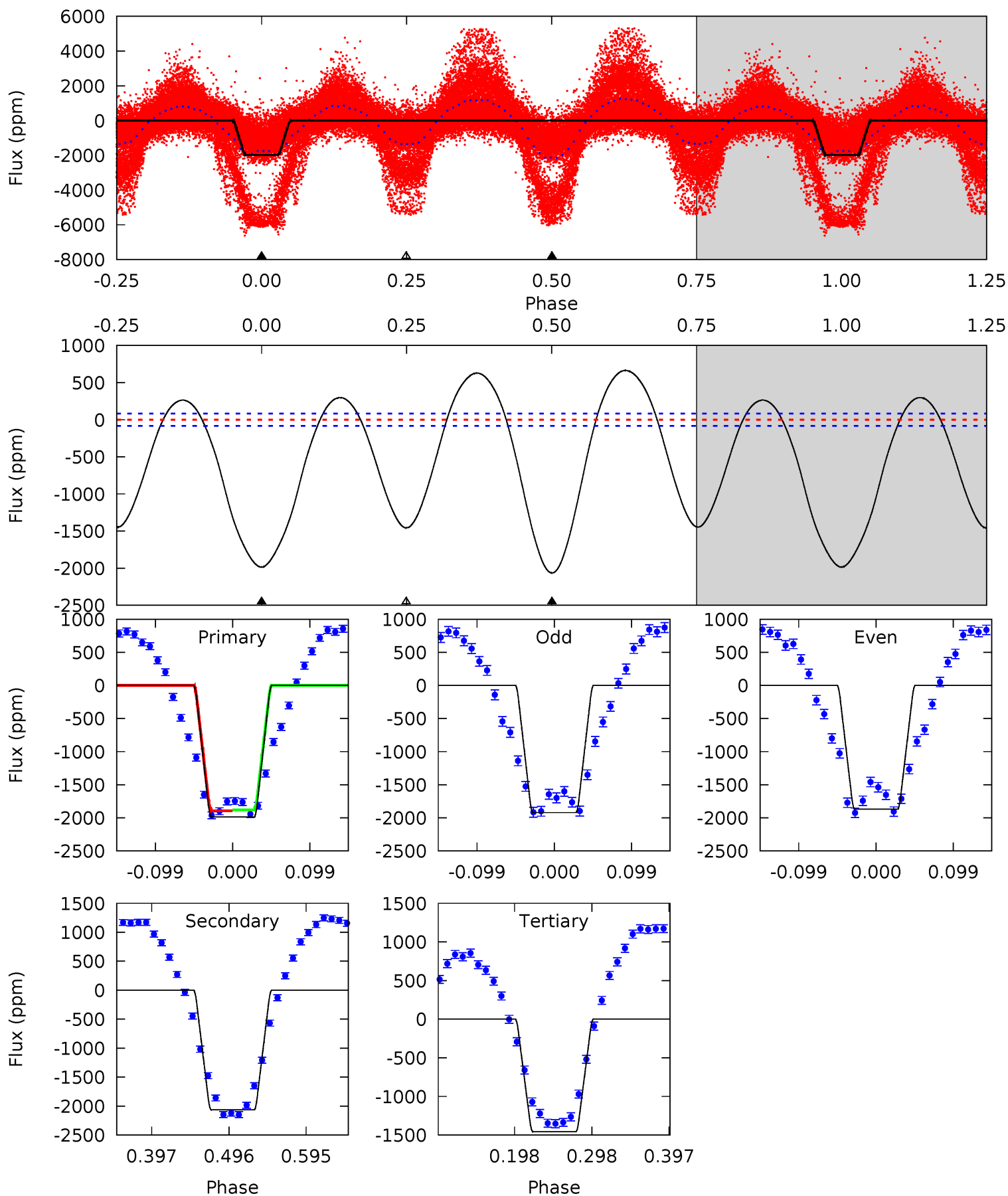
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	15.7	6.34	2.49	4.61	1.74	2.54	12.2	16.1	9.31	13.2	3.23	2.04	0.22	5.82



Alt Model-Shift Uniqueness Test

005390342-01, P = 1.094910 Days, E = 131.350068 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
109.7	114.1	80.5	0	4.57	1.65	38.3	29.2	109.7	33.5	114.1	1.45	2.31	0.24	0



Stellar Parameters For KIC 005390342

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6534^{+180}_{-271}	$4.365^{+0.075}_{-0.175}$	$-0.060^{+0.250}_{-0.300}$	$1.199^{+0.356}_{-0.153}$	$1.219^{+0.164}_{-0.181}$	$0.996^{+0.331}_{-0.484}$
	+3%/-4%	+2%/-4%	+417%/-500%	+30%/-13%	+13%/-15%	+33%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005390342-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-119 ± 8	$1.86^{+0.59}_{-0.53}$	3002^{+209}_{-176}	5727^{+1095}_{-607}	$9.087^{+8.728}_{-3.740}$
Alt.	-2065 ± 18	$4.86^{+0.84}_{-0.65}$	2989^{+215}_{-167}	7310^{+601}_{-461}	24^{+7}_{-7}

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 $A_{obs} \gg 1.0$

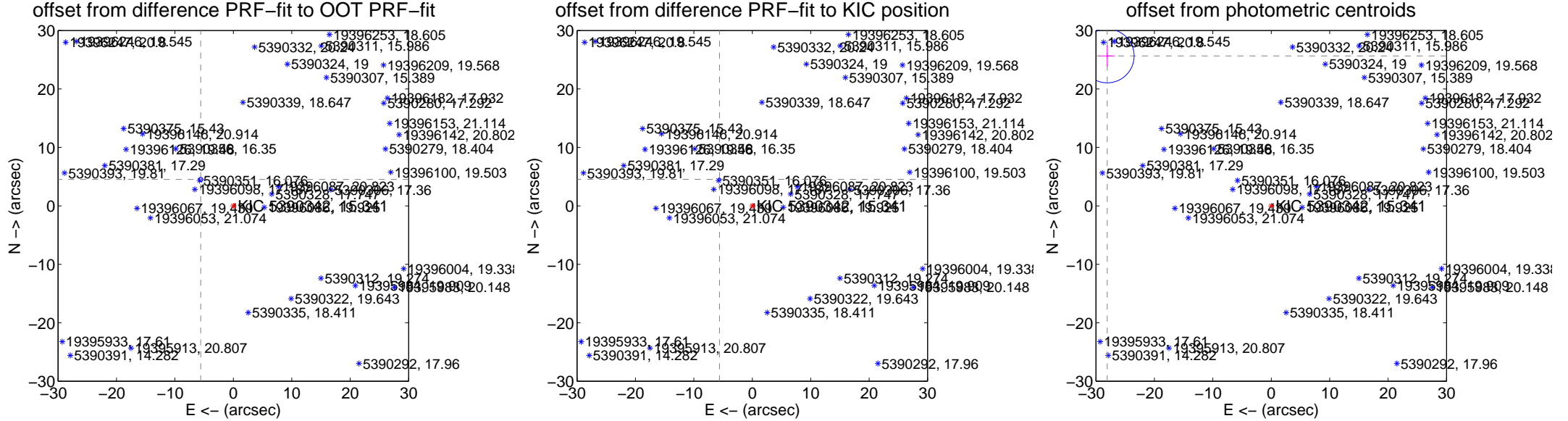
DV Centroid Data

Supplemental centroid analysis for 005390342-01. Kepler magnitude: 15.34. Transit SNR 13.03

There are 17 quarters with good PRF difference image offsets

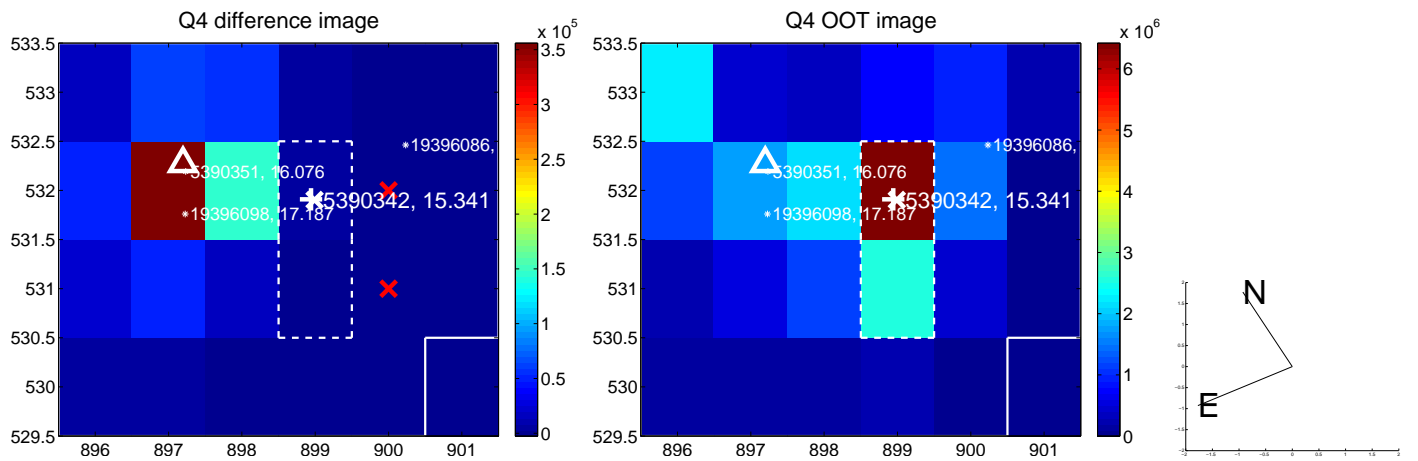
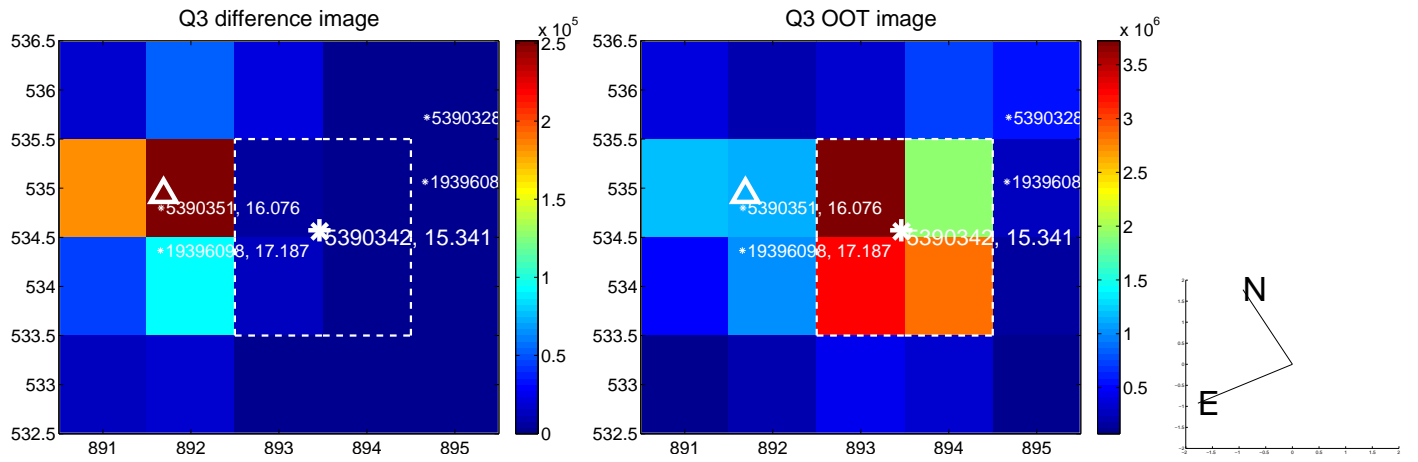
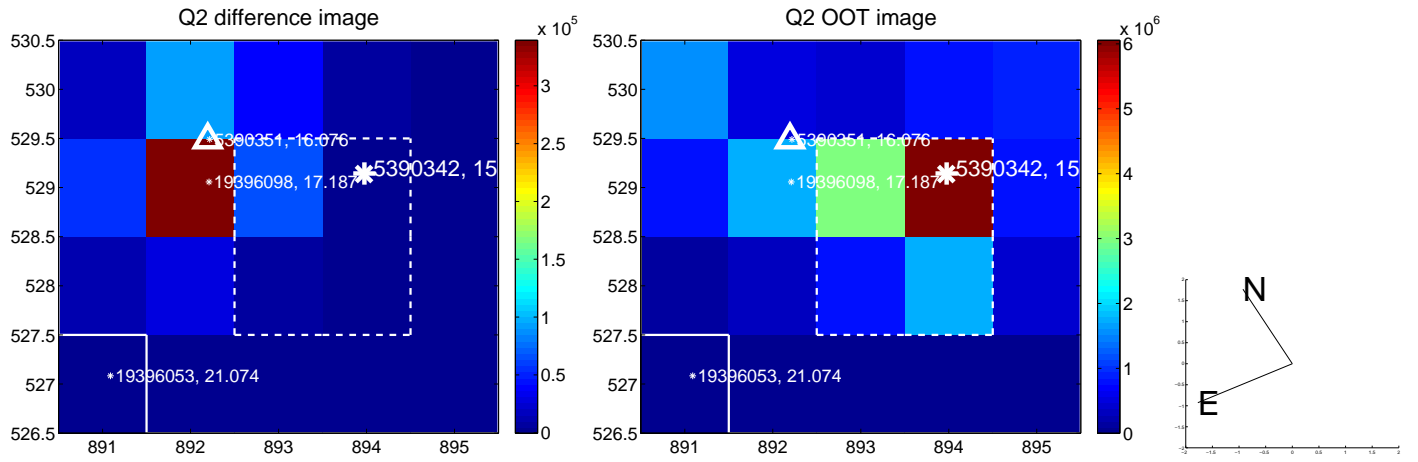
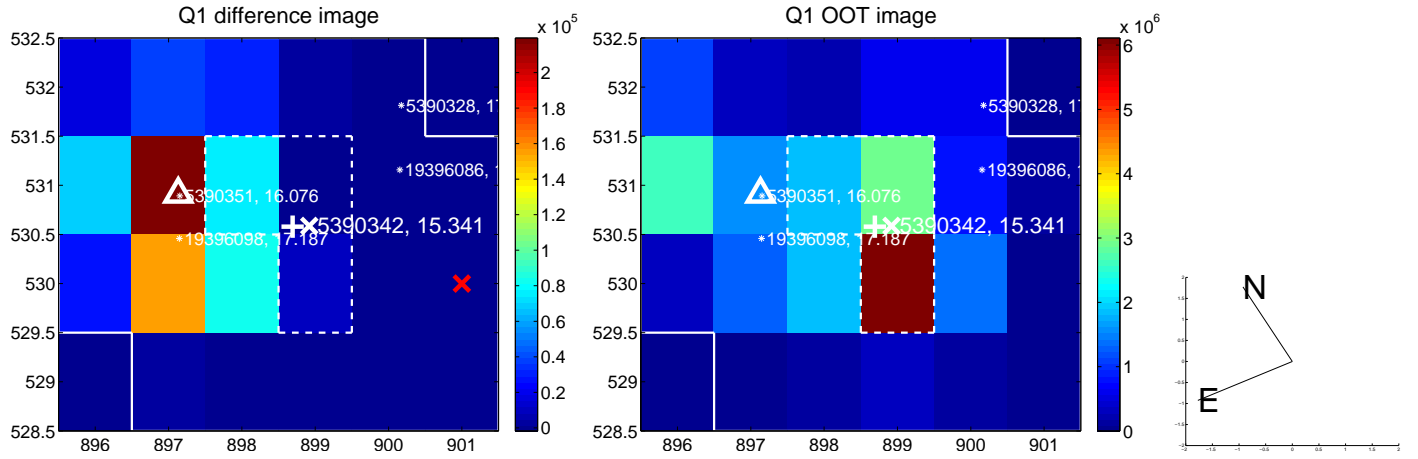
The direct PRF centroid is offset from the target star catalog position by about 1.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.186 \pm 0.120	59.70	5.585 \pm 0.106	4.521 \pm 0.088
PRF-fit source offset from KIC position	7.221 \pm 0.068	106.11	5.622 \pm 0.068	4.531 \pm 0.069
photometric centroid source offset	38.03 \pm 1.53	24.79	28.08 \pm 1.31	25.65 \pm 1.77

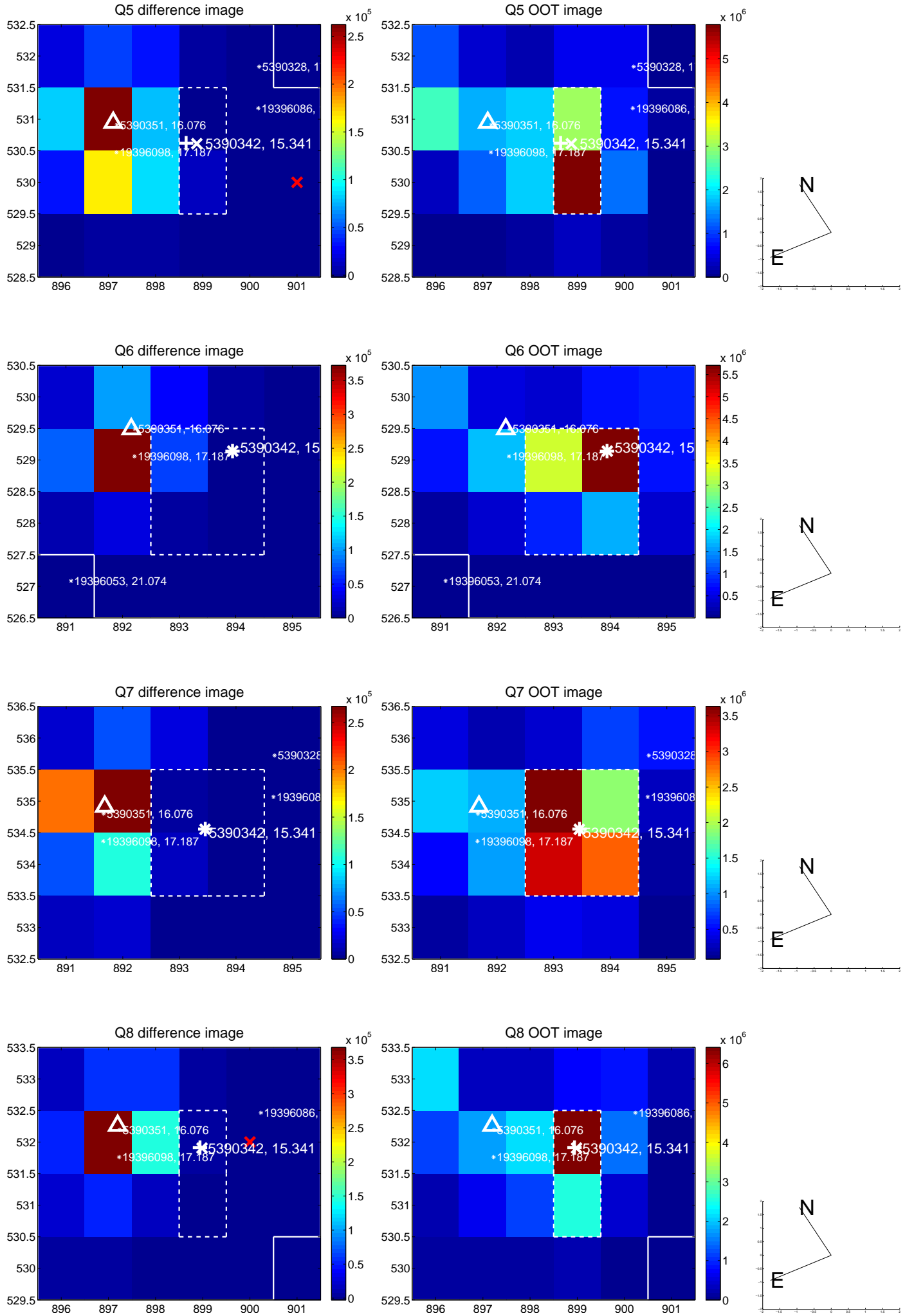


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

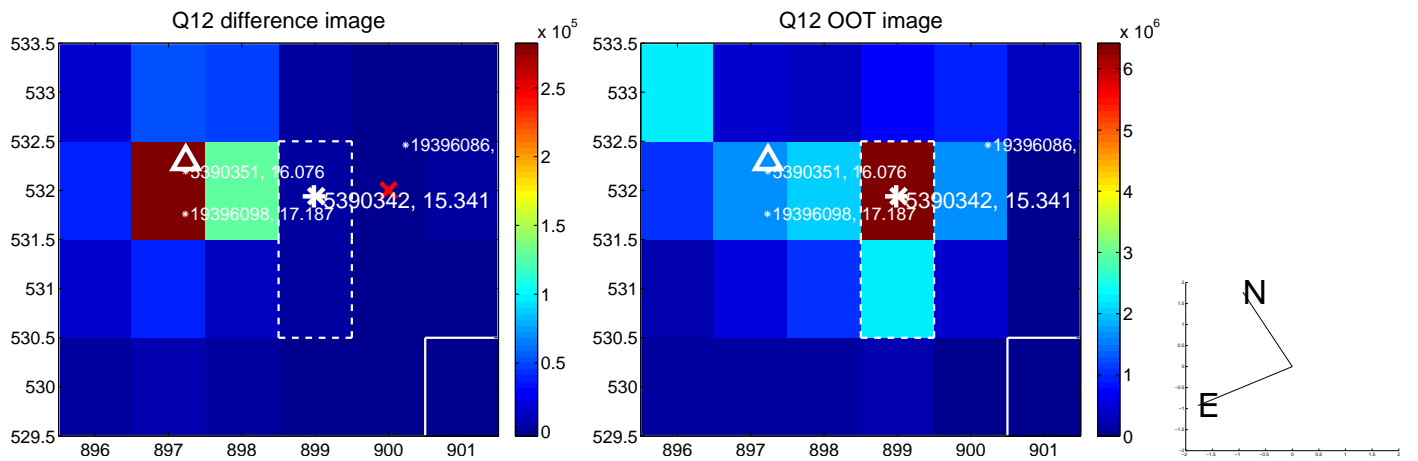
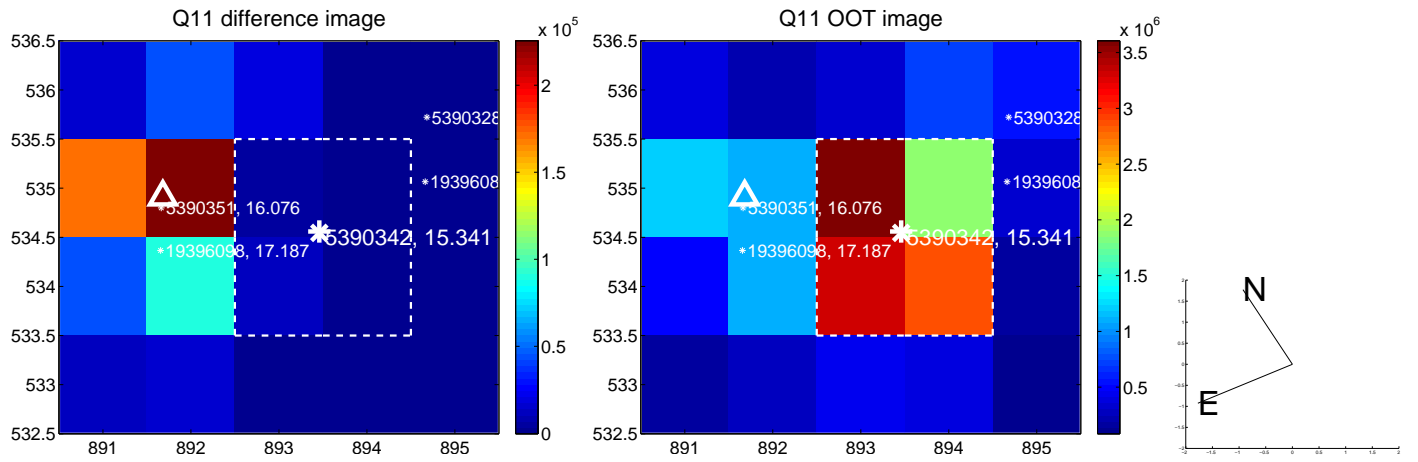
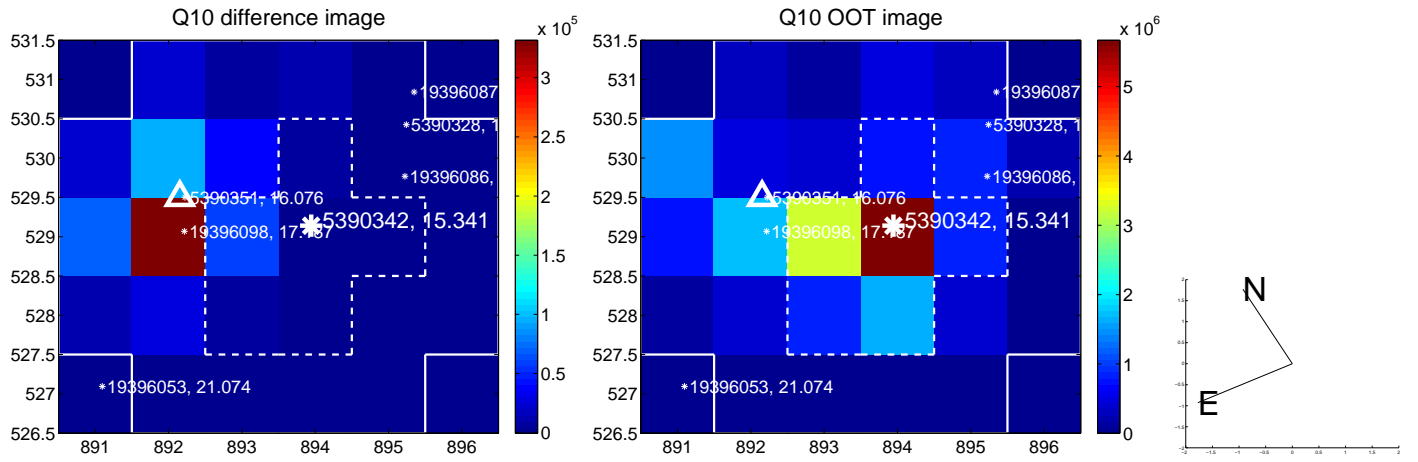
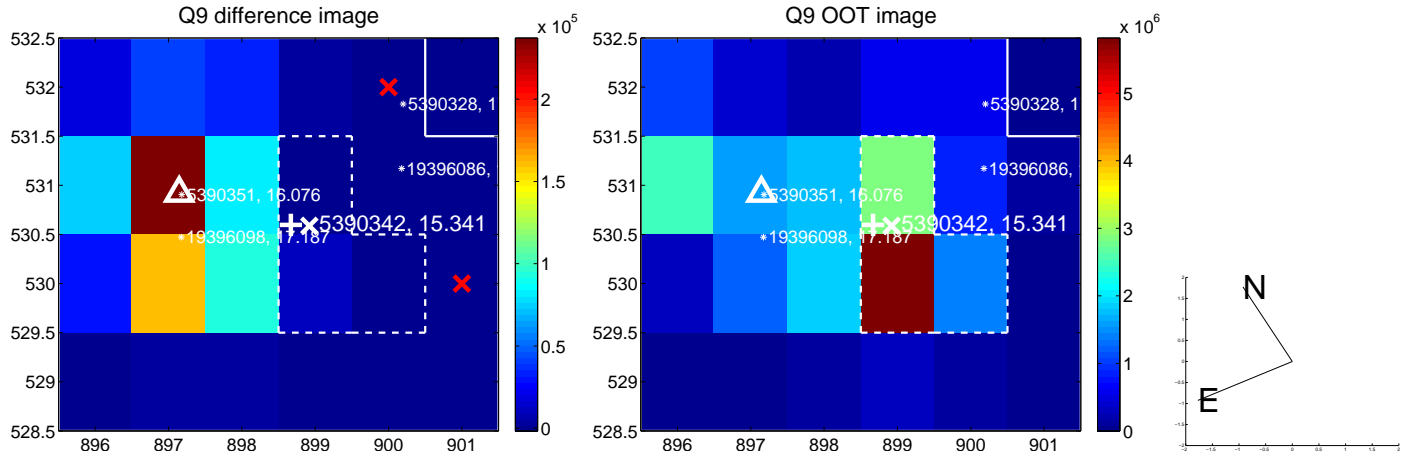
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



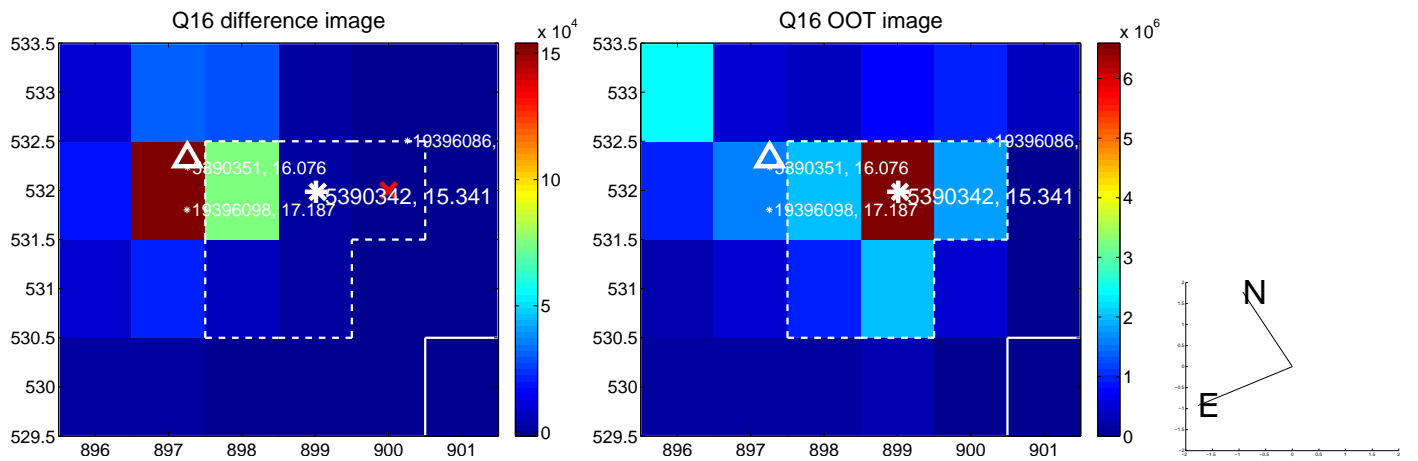
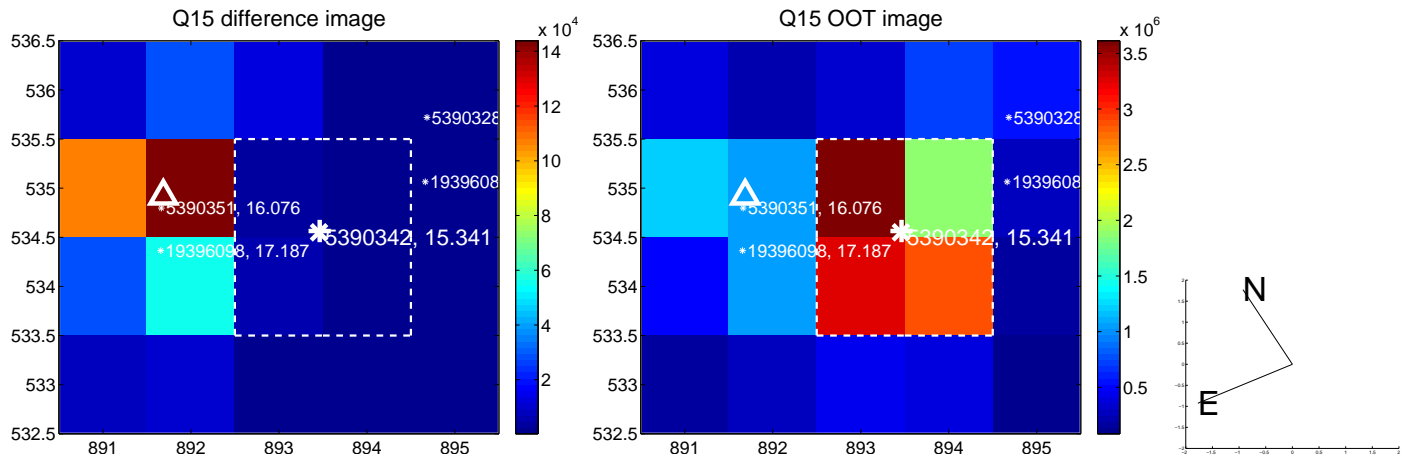
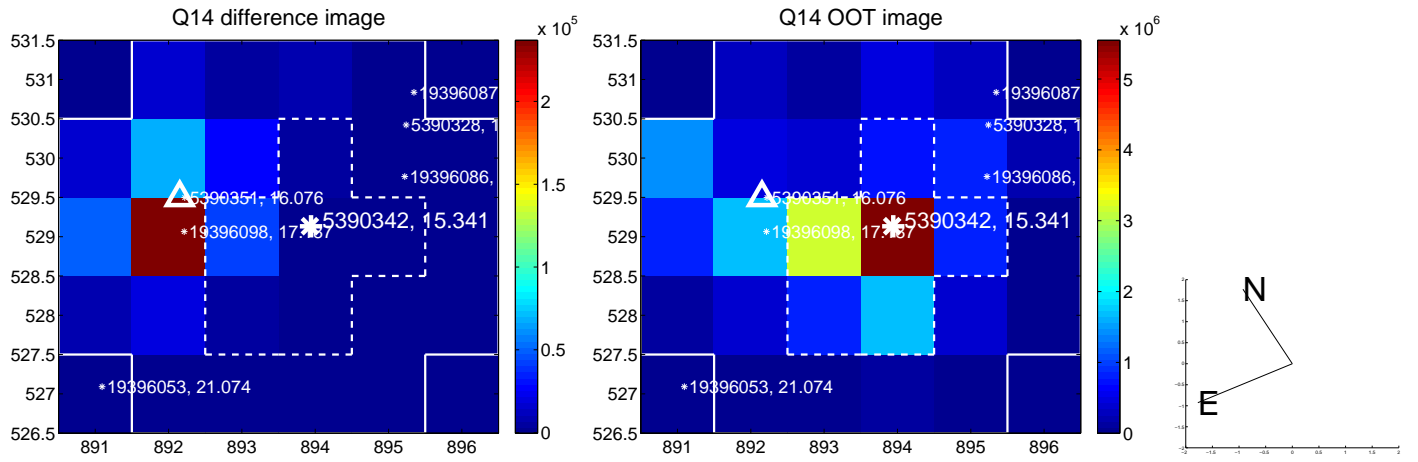
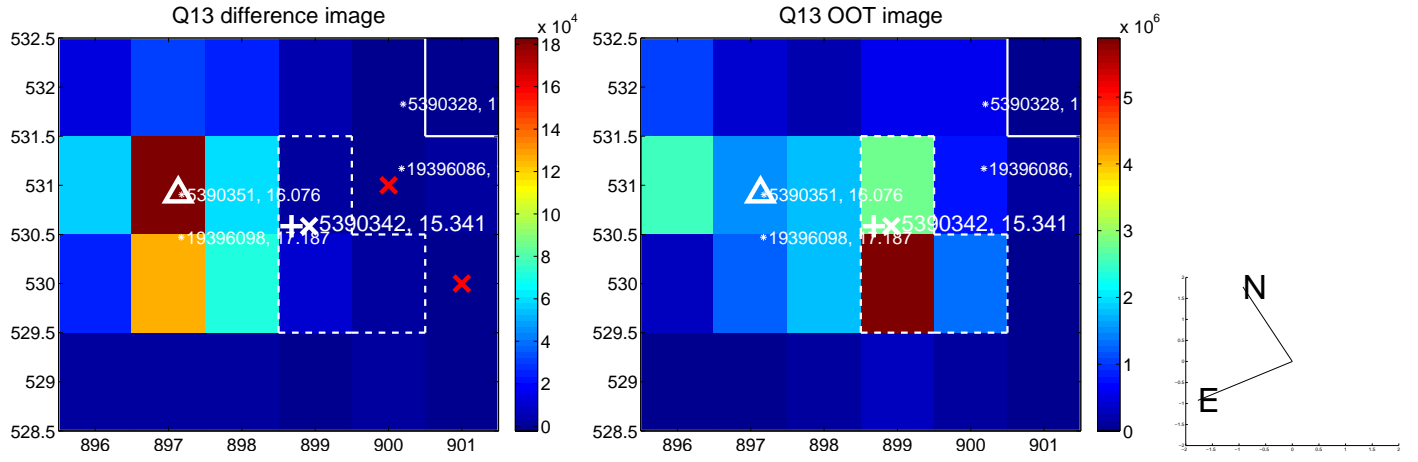
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



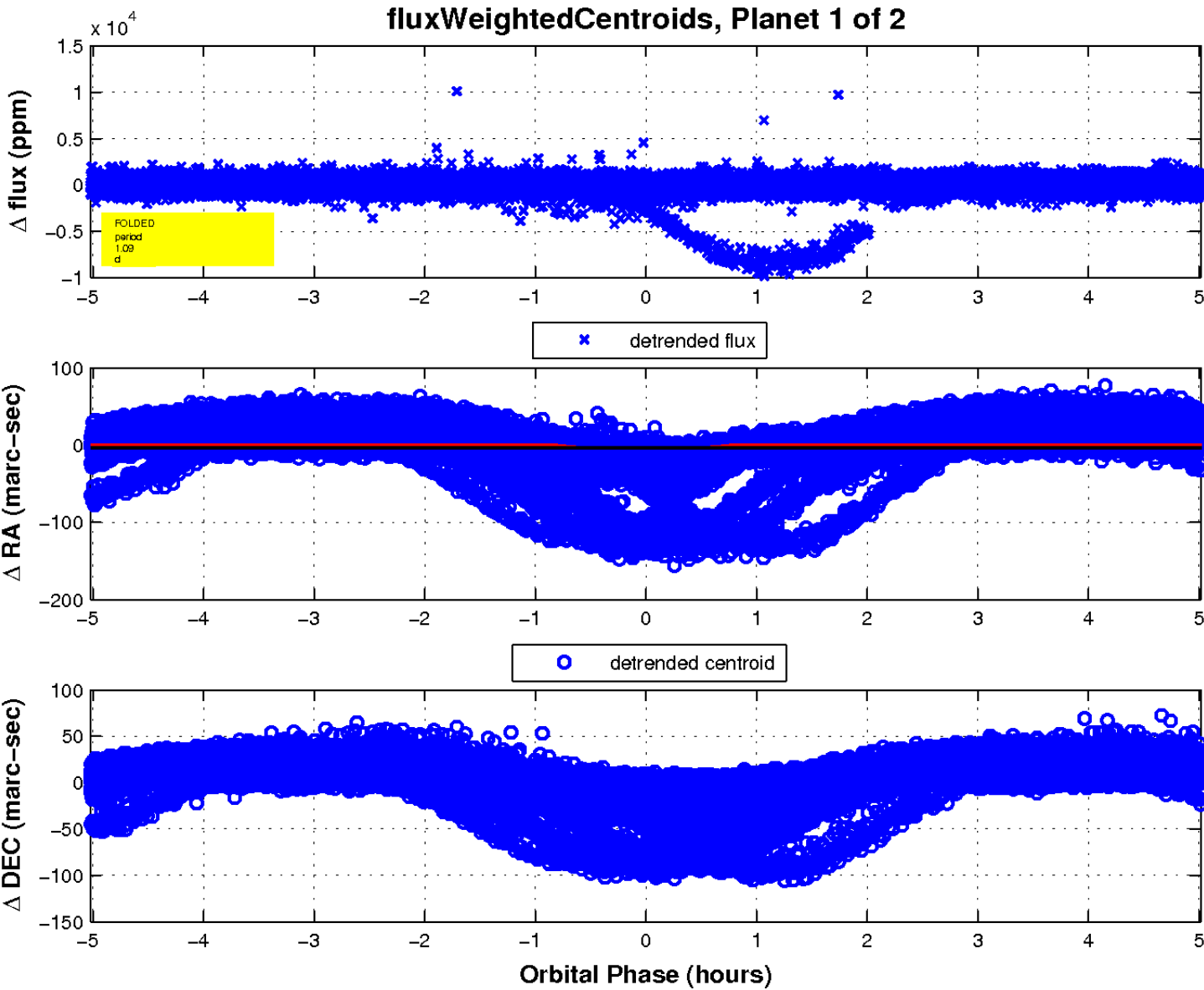
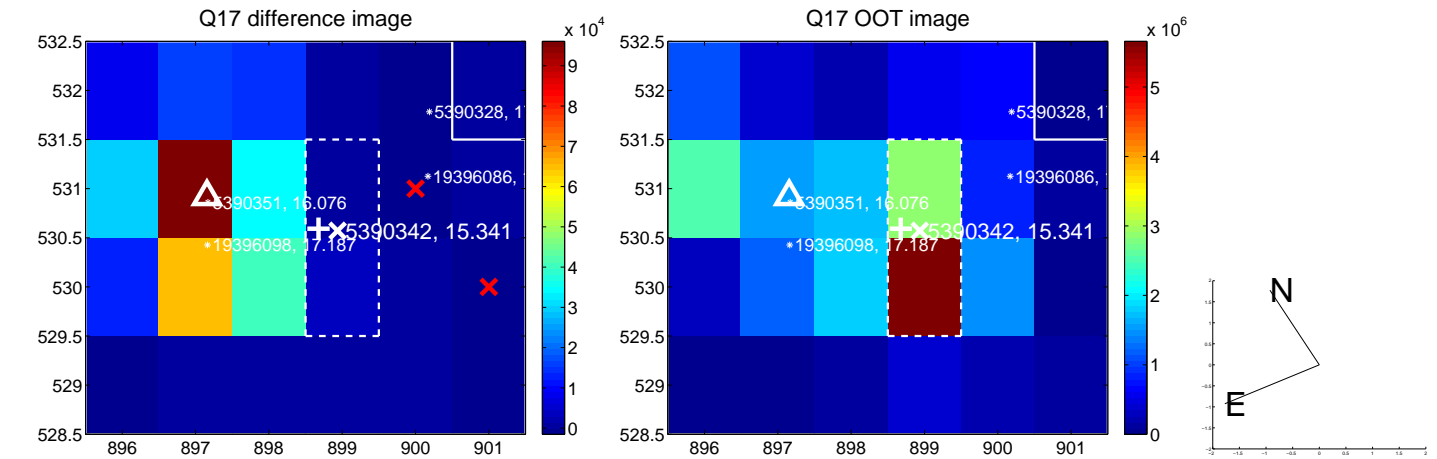
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



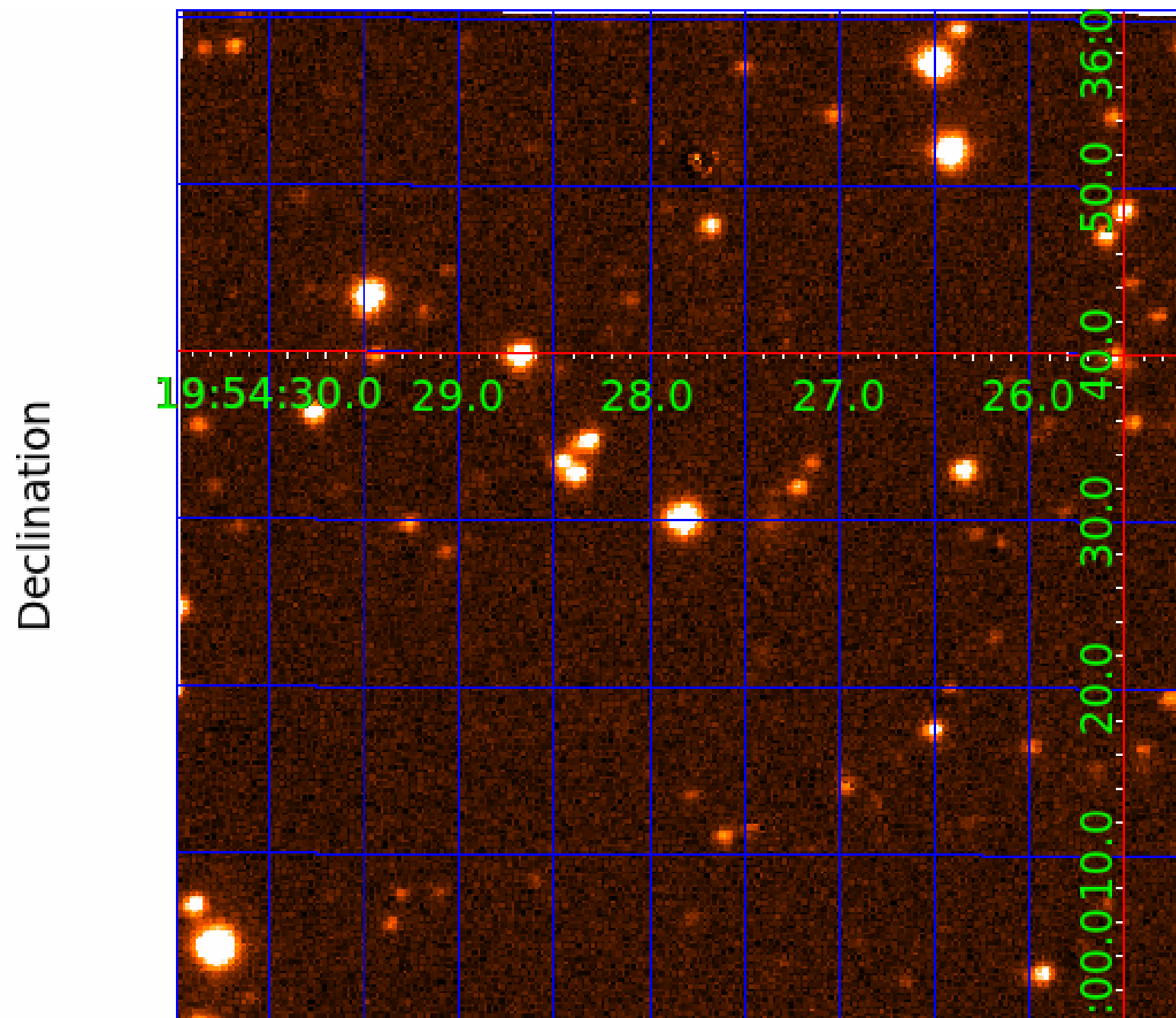
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005390342

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})
005390342-01	OBS	No	1.094851	132.471562	142.7	1.674	45.5	13.0	1.20	6534	1.78	4768.16
005390342-02	OBS	No	1.094906	131.901619	13004.3	1.500	59.1	-1.0	1.20	6534	13.81	4767.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005390342-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST
005390342-02	OBS	FP	0.00	1	0	1	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST—EPHEM_MATCH

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.

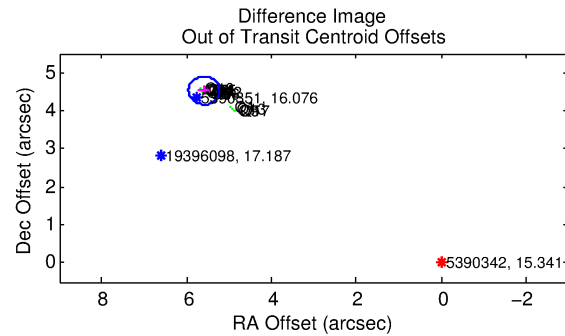
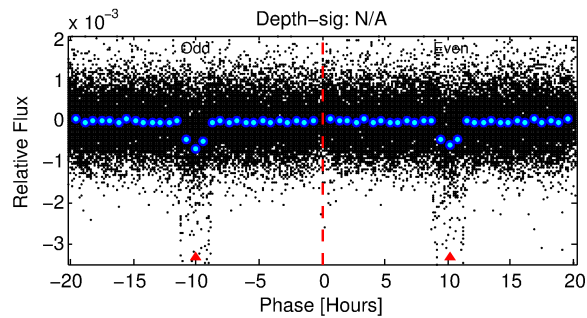
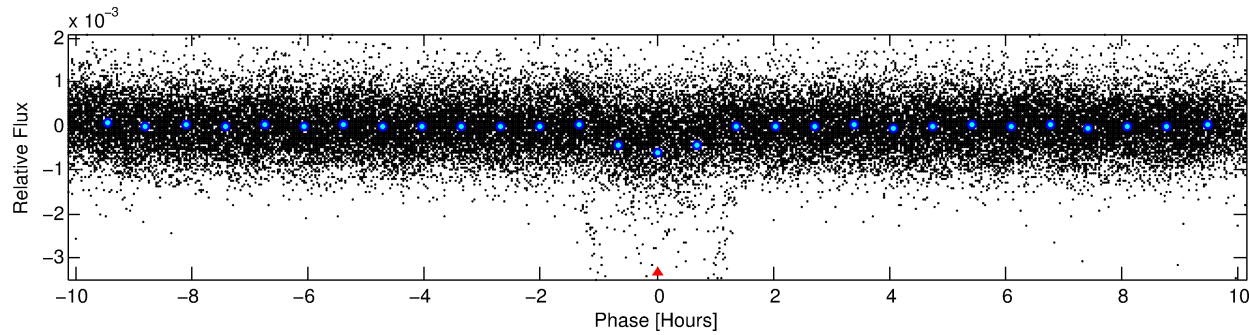
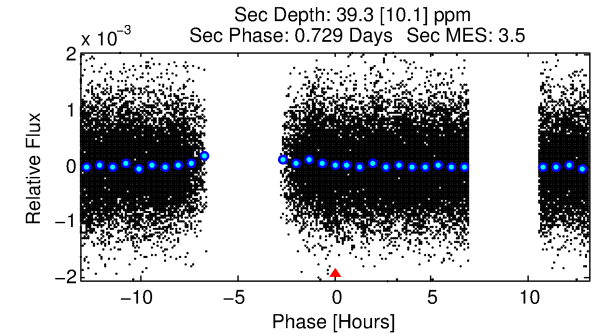
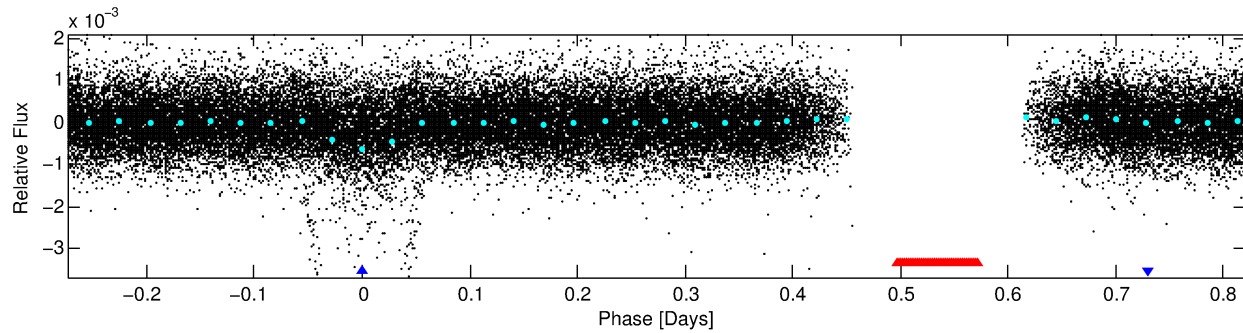
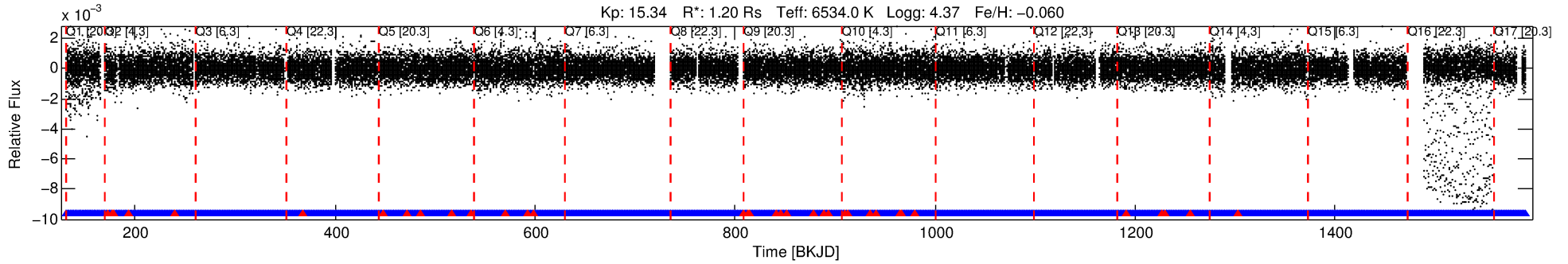
Ephemeris Match Information For 005390342-02

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005390342-02	5390342	005390351-pri	5390351	2:1	7.2	-1	2	16.08	15.34	15.42	Direct-PRF	0	0.23	0.27

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5390342 Candidate: 2 of 2 Period: 1.095 d



TPS TCE Results:

Period = 1.09491 d
Epoch = 131.9016 BKJD

DV fit results are unavailable

DV Diagnostic Results:

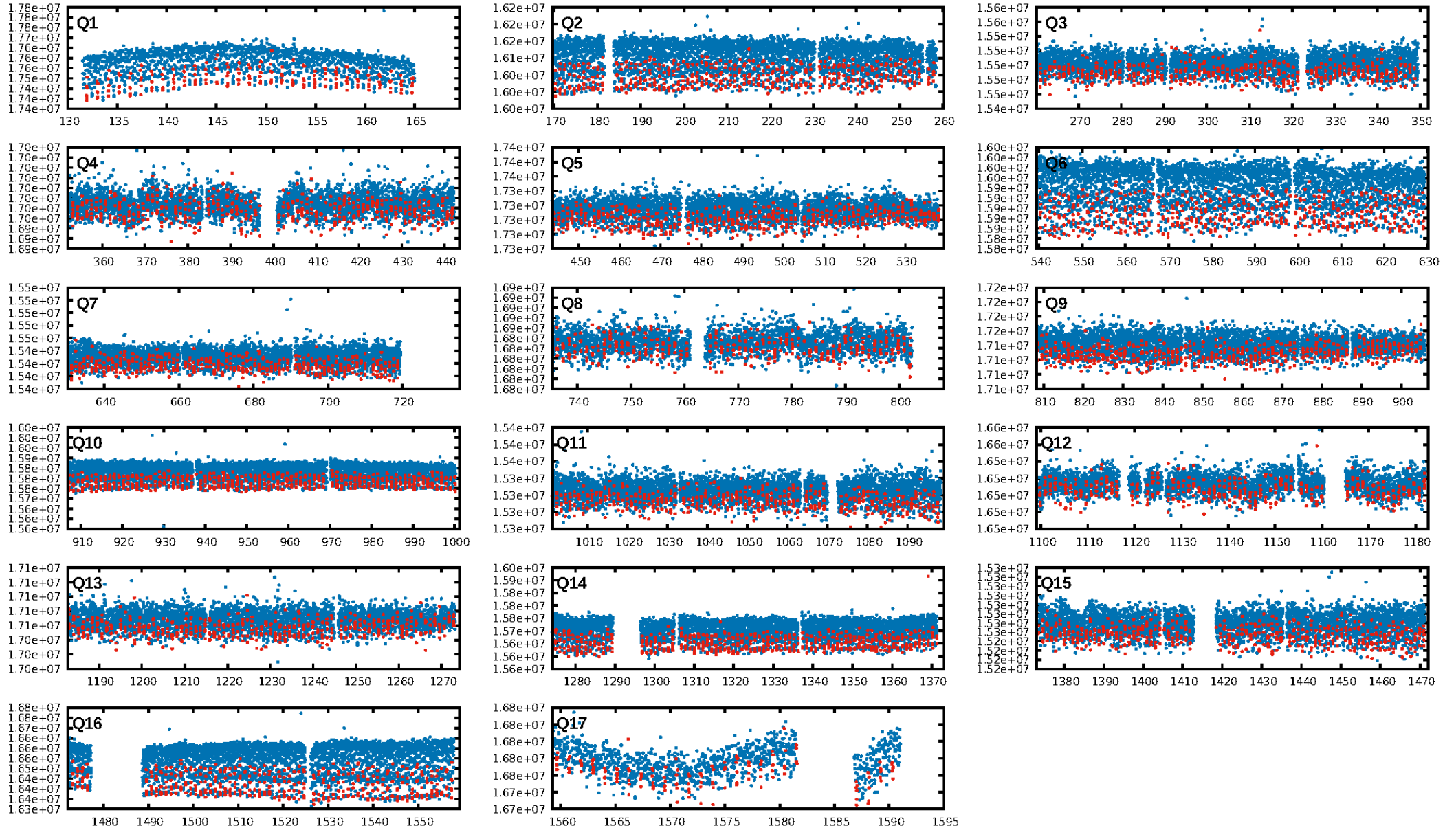
ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [1136/1171]
GhostDiagnostic-chr: -0.1033

Centroid-sig: N/A
Centroid-so: 5.564 arcsec [39.72σ]
OotOffset-rm: 7.196 arcsec [58.71σ]
KicOffset-rm: 7.211 arcsec [105.77σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

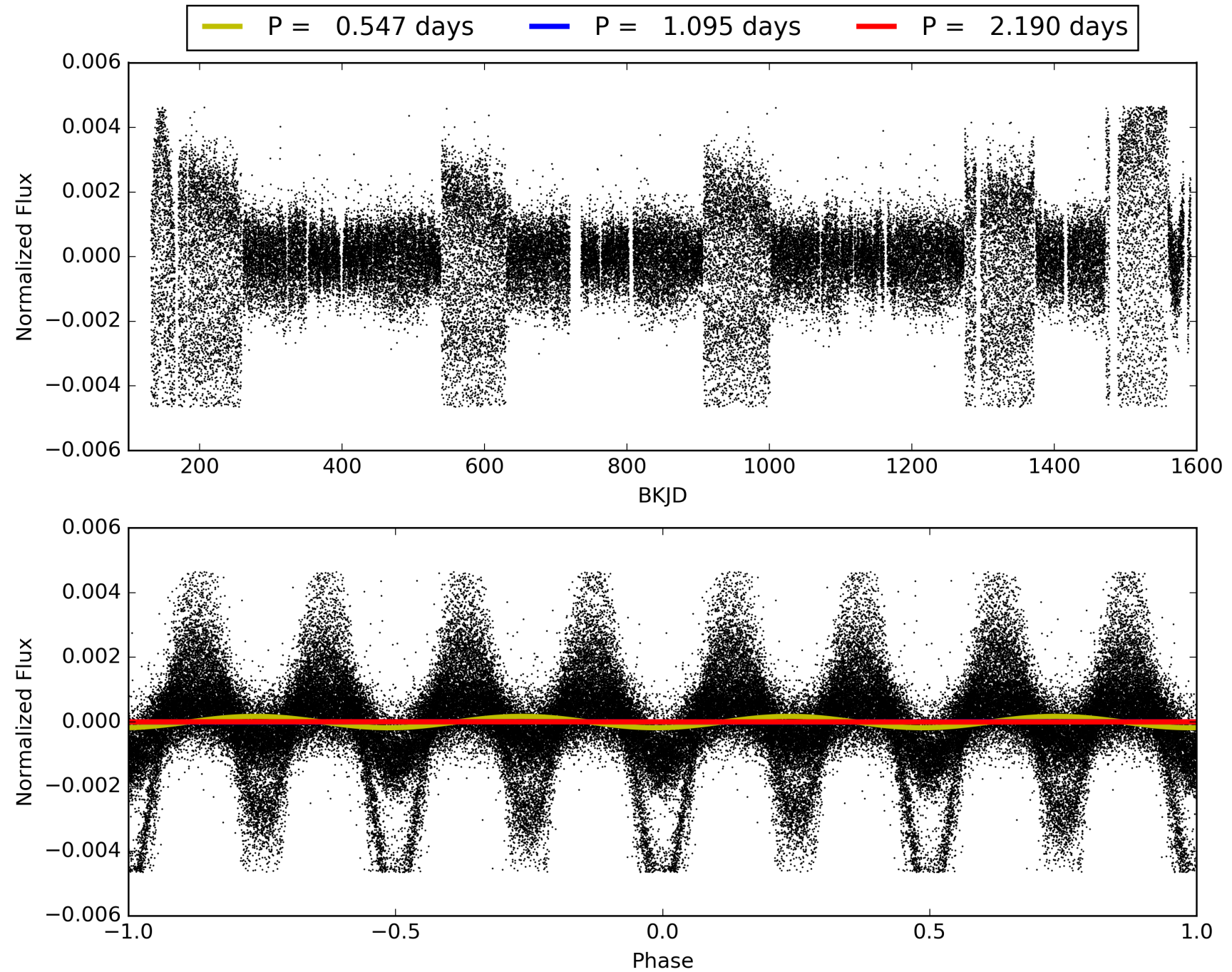
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:00:57 Z

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

TCE 005390342-02, PDC Light Curves

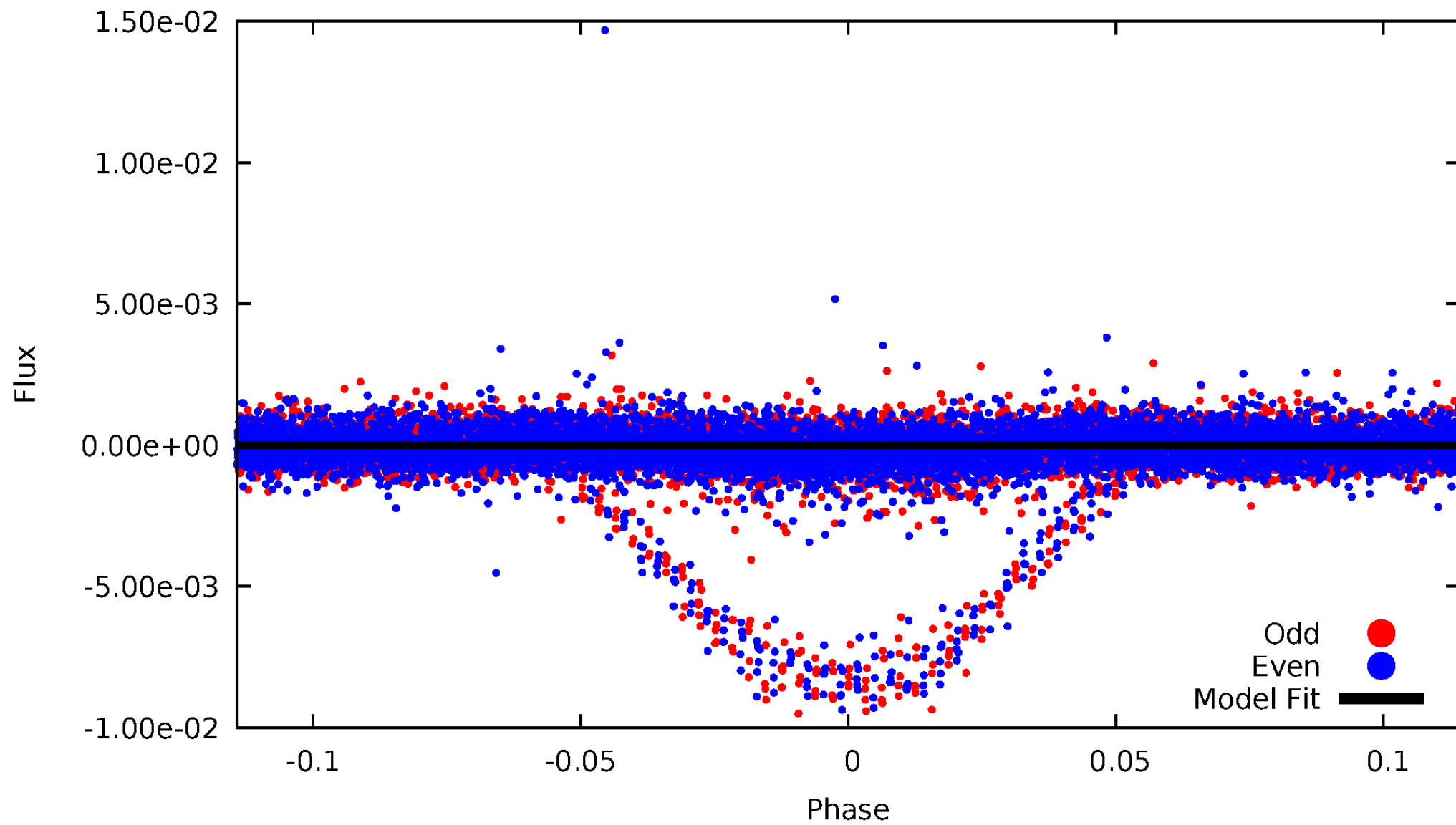


TCE 005390342-02



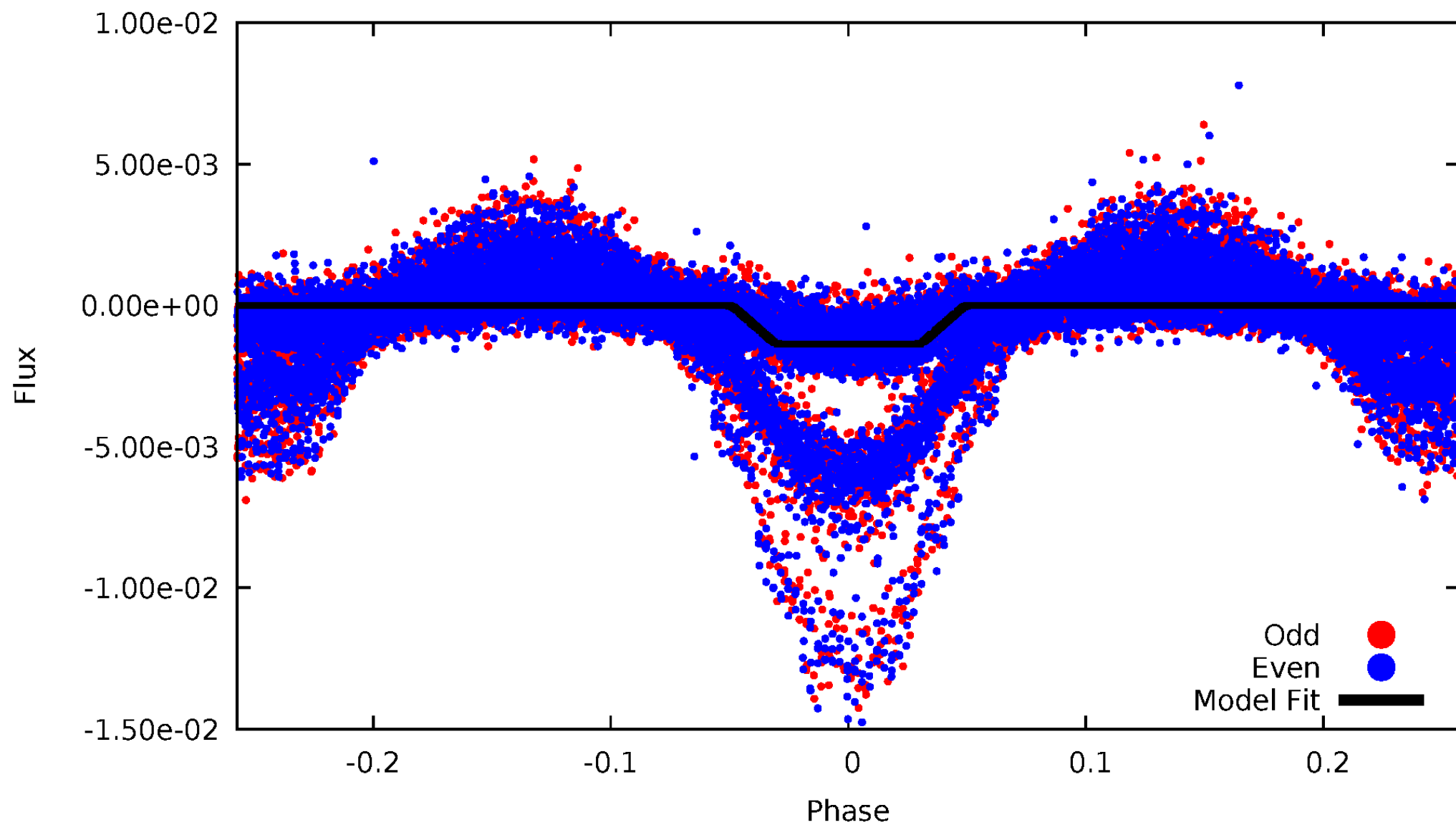
DV Odd/Even

TCE 005390342-02



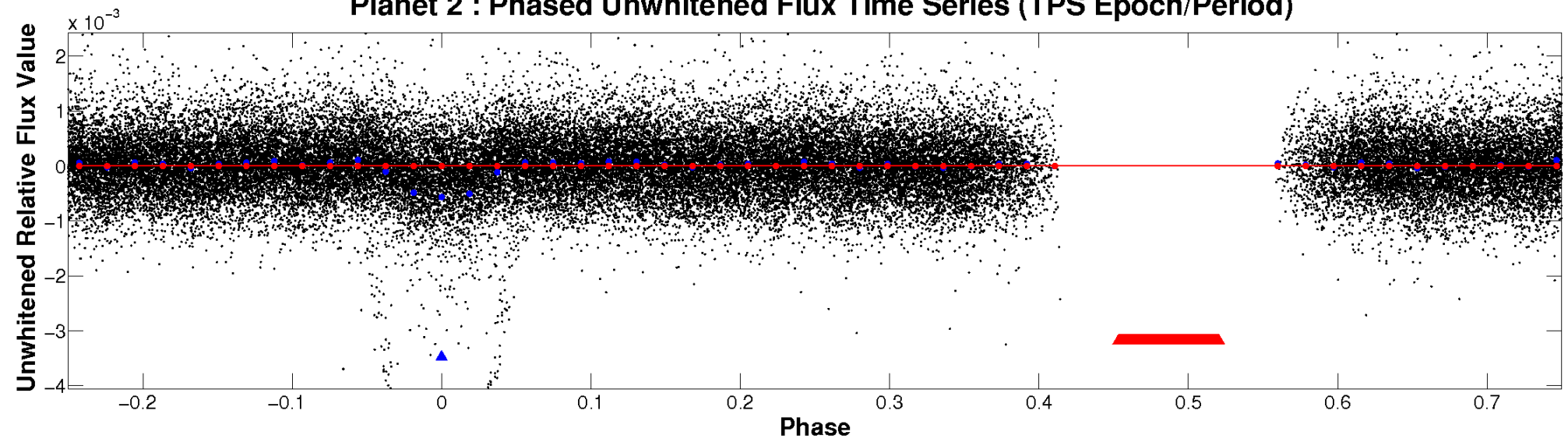
ALT Odd/Even

TCE 005390342-02

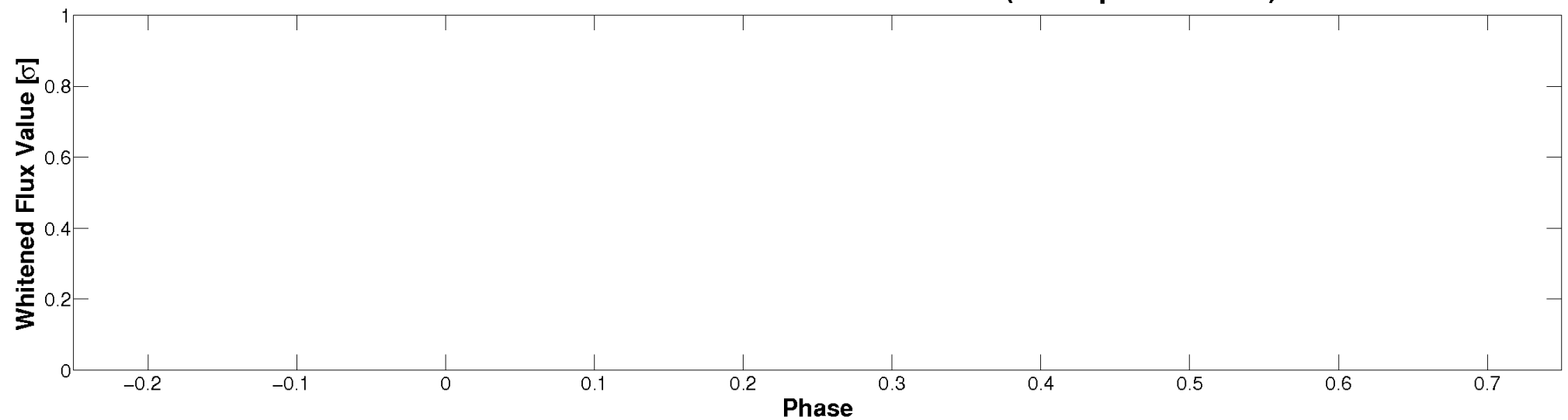


Non-Whitened Vs. Whitened Light Curve

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

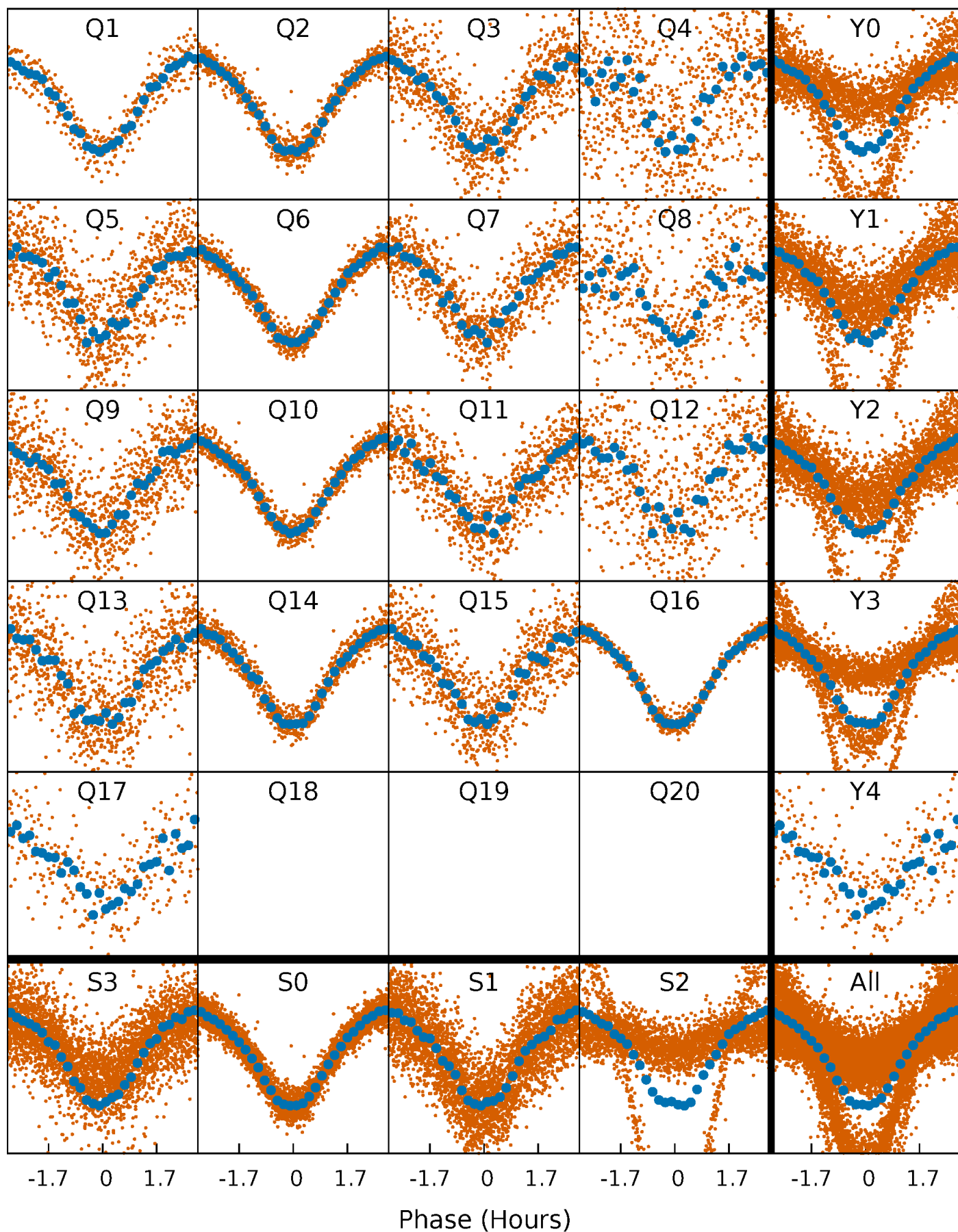


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



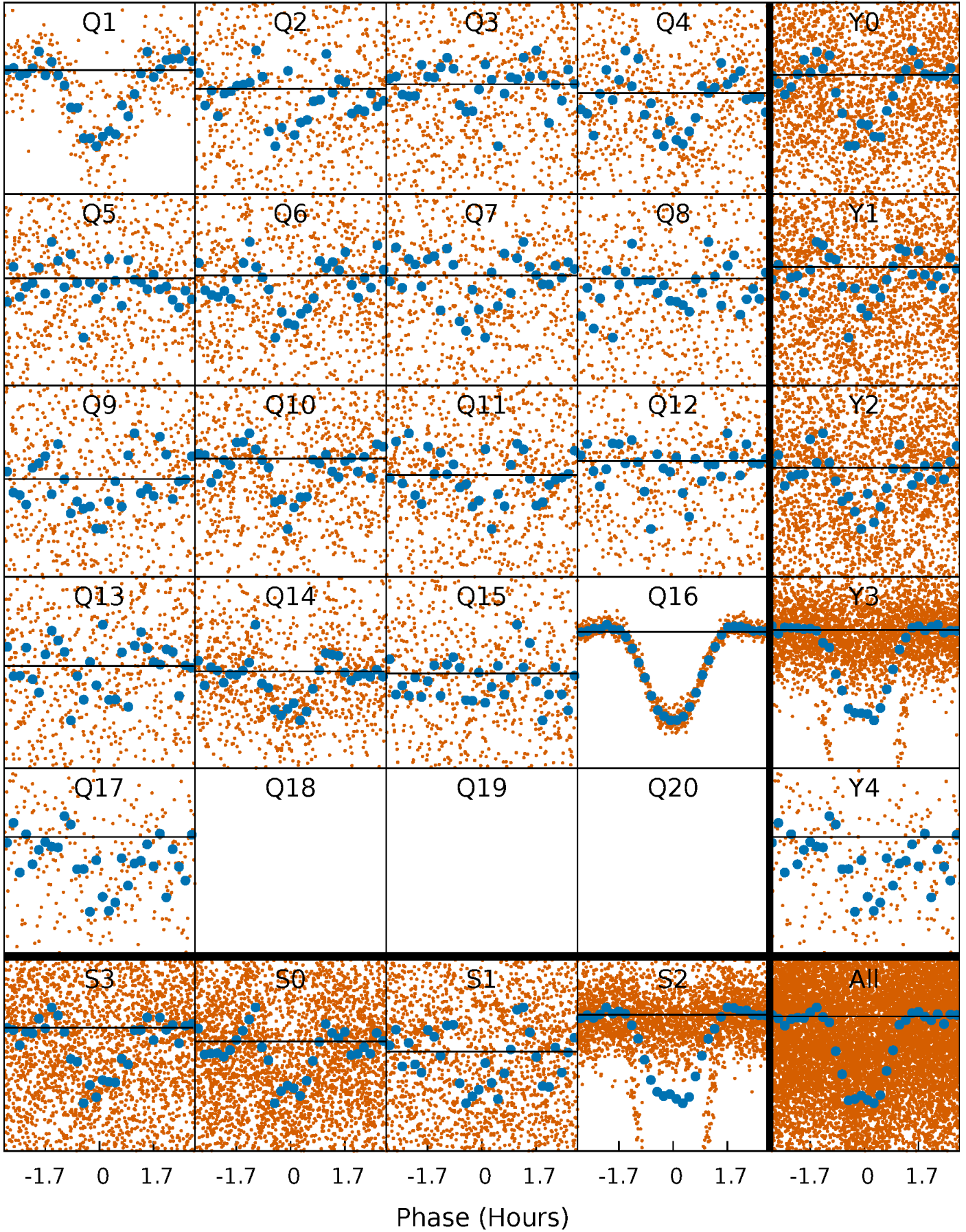
PDC Quarter-Phased Transit Curves

TCE 005390342-02 P= 1.094906 Days $T_0=131.901619$ (BKJD)



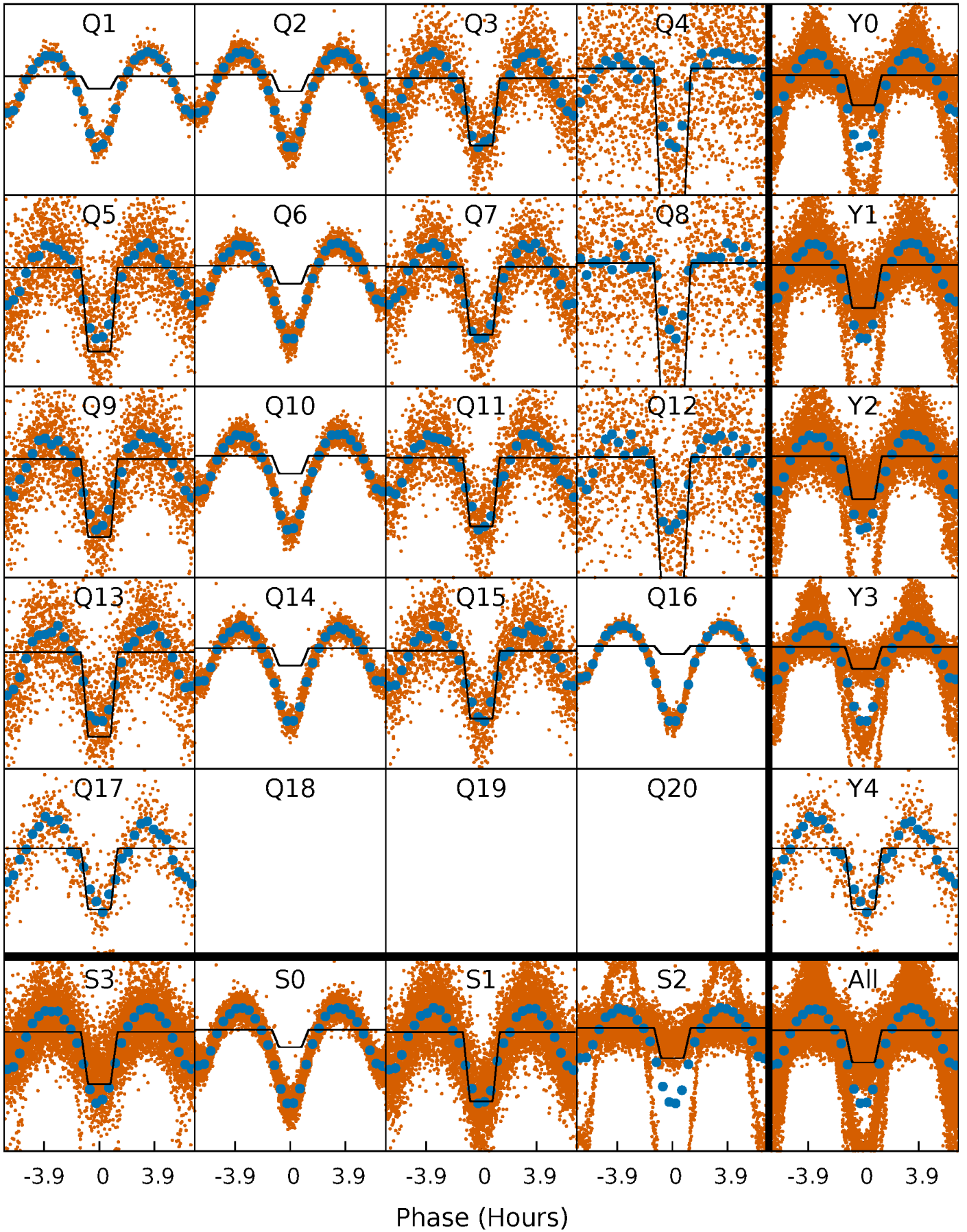
DV Quarter-Phased Transit Curves

TCE 005390342-02 $P = 1.094906$ Days $T_0 = 131.901619$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

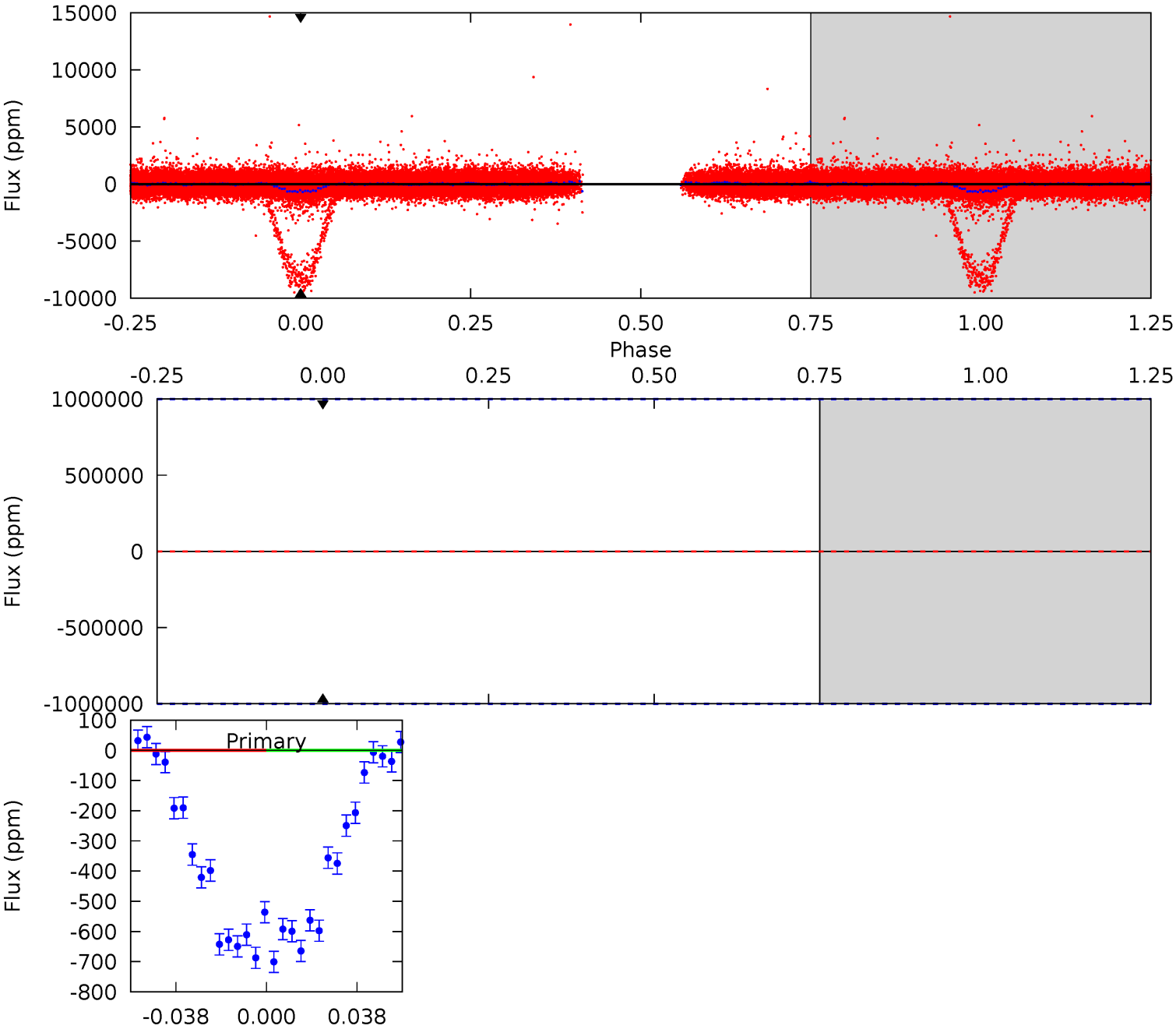
TCE 005390342-02 P= 1.094906 Days $T_0=131.900470$ (BKJD)



DV Model-Shift Uniqueness Test

005390342-02, P = 1.094906 Days, E = 130.806713 Days

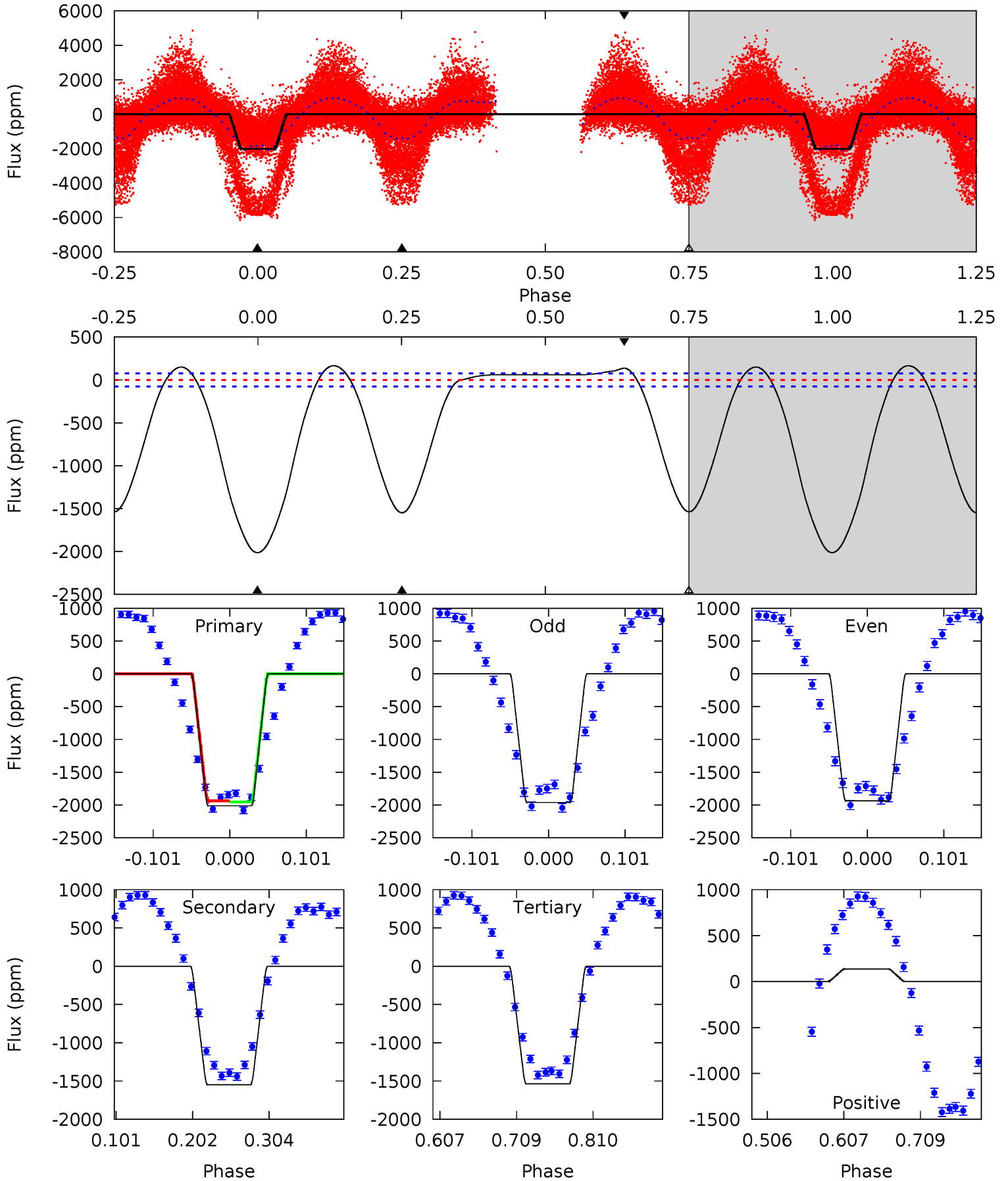
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005390342-02, P = 1.094906 Days, E = 130.805564 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
120.7	92.8	92.1	8.25	4.56	1.64	34.7	28.5	112.4	0.69	84.6	0.69	2.08	0.08	0.46



Stellar Parameters For KIC 005390342

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6534^{+180}_{-271}	$4.365^{+0.075}_{-0.175}$	$-0.060^{+0.250}_{-0.300}$	$1.199^{+0.356}_{-0.153}$	$1.219^{+0.164}_{-0.181}$	$0.996^{+0.331}_{-0.484}$
	+3%/-4%	+2%/-4%	+417%/-500%	+30%/-13%	+13%/-15%	+33%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005390342-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$16.32^{+12.85}_{-9.96}$	3001^{+197}_{-182}	4720^{+13000}_{-17131}	$4.494^{+198.829}_{-104.085}$
Alt.	-1548 ± 17	$11.40^{+11.47}_{-7.97}$	2980^{+214}_{-161}	4499^{+3824}_{-1141}	$3.181^{+31.357}_{-2.376}$

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

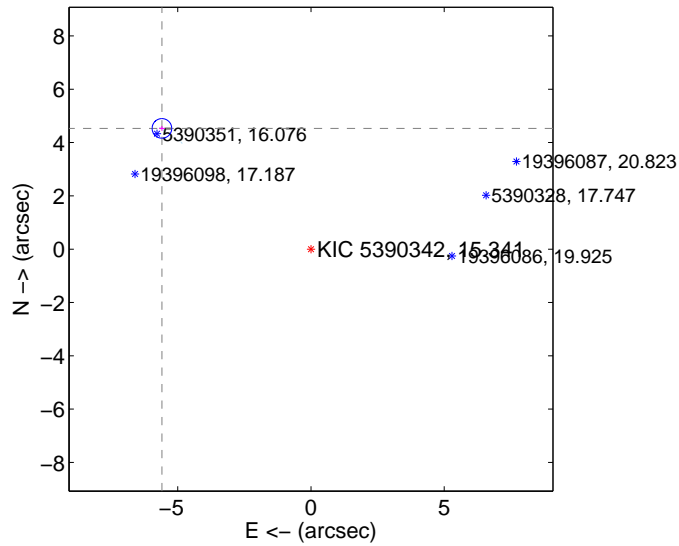
Supplemental centroid analysis for 005390342-02. Kepler magnitude: 15.34. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

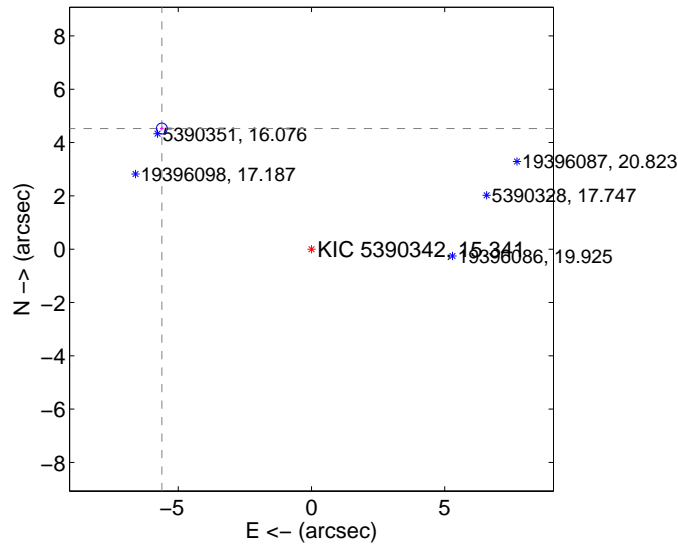
The direct PRF centroid is offset from the target star catalog position by about 0.94 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.196 \pm 0.123	58.71	5.591 \pm 0.108	4.531 \pm 0.089
PRF-fit source offset from KIC position	7.211 \pm 0.068	105.77	5.614 \pm 0.068	4.526 \pm 0.069
photometric centroid source offset	5.56 \pm 0.14	39.72	3.61 \pm 0.11	4.23 \pm 0.16

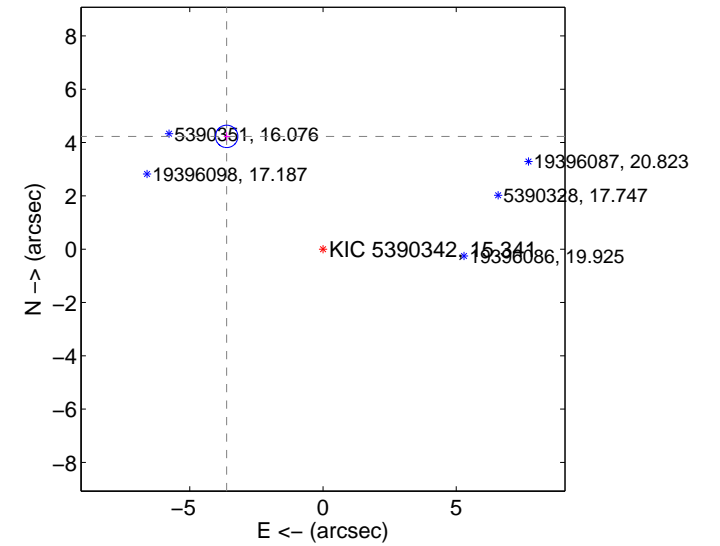
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

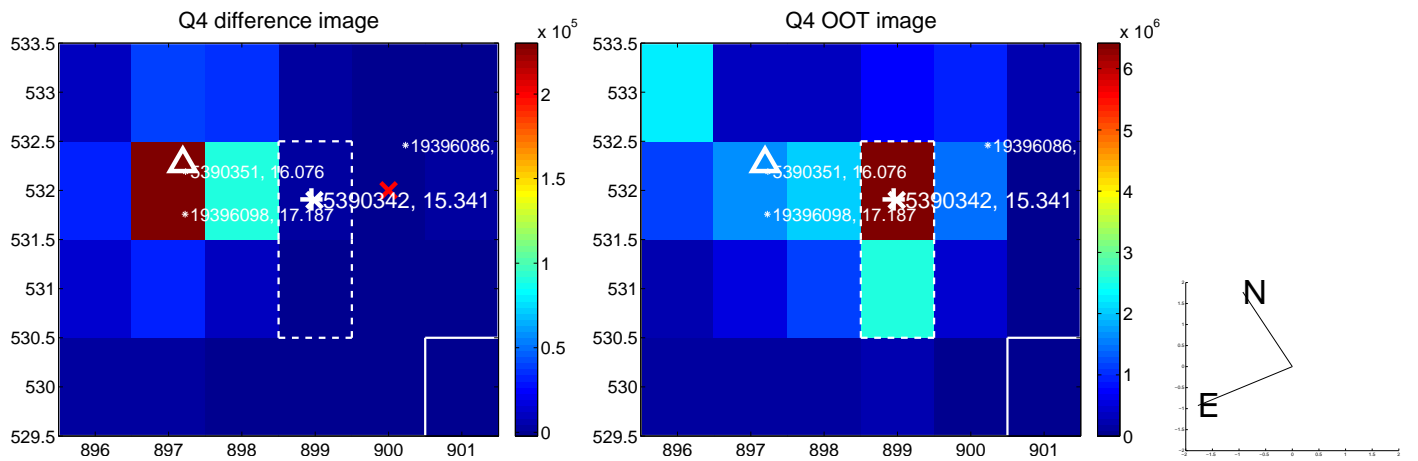
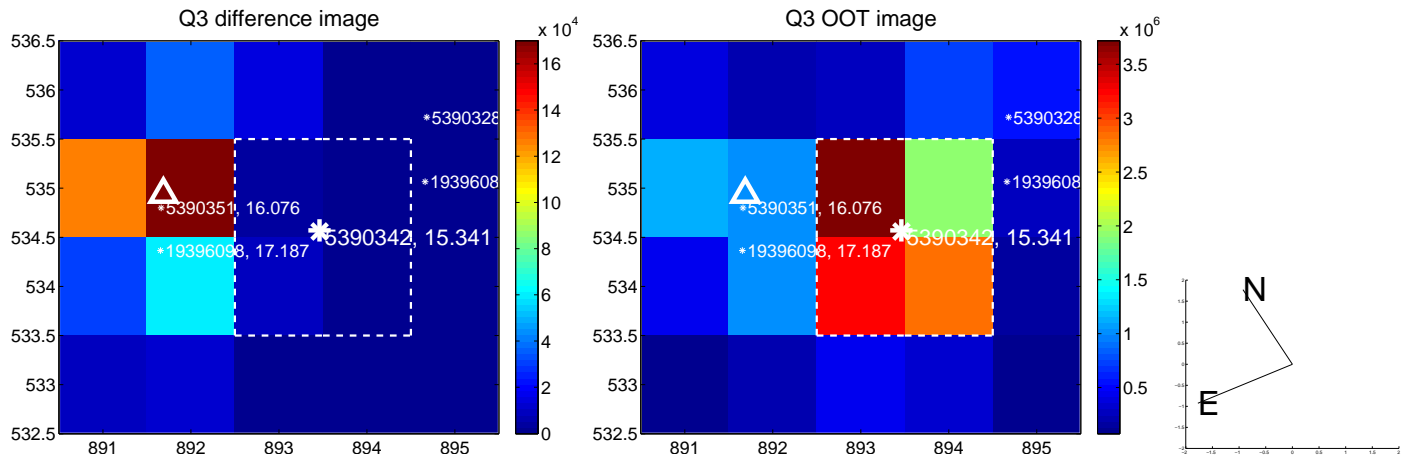
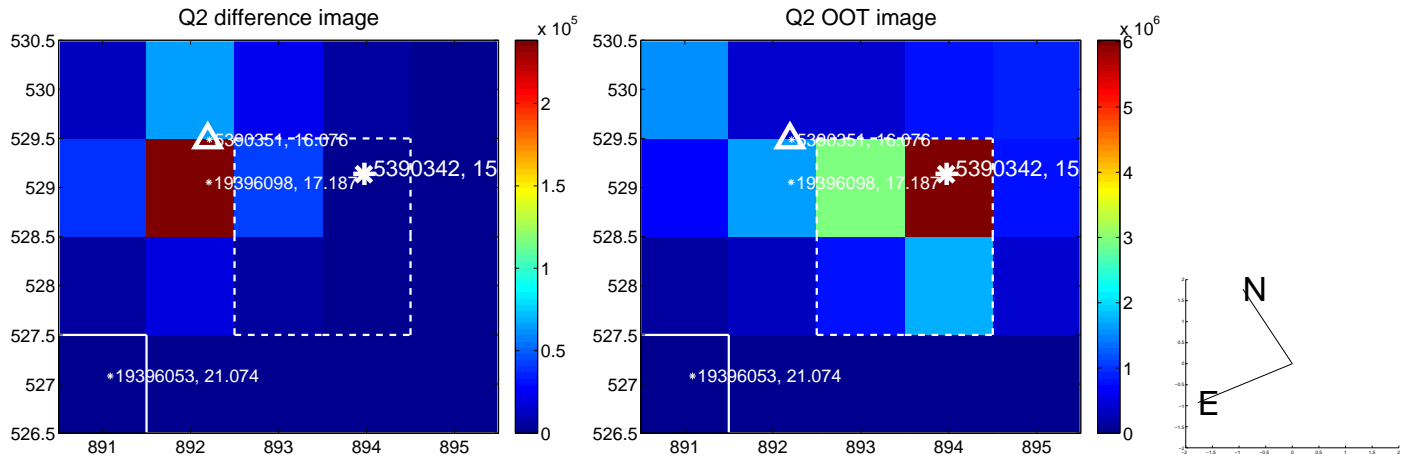
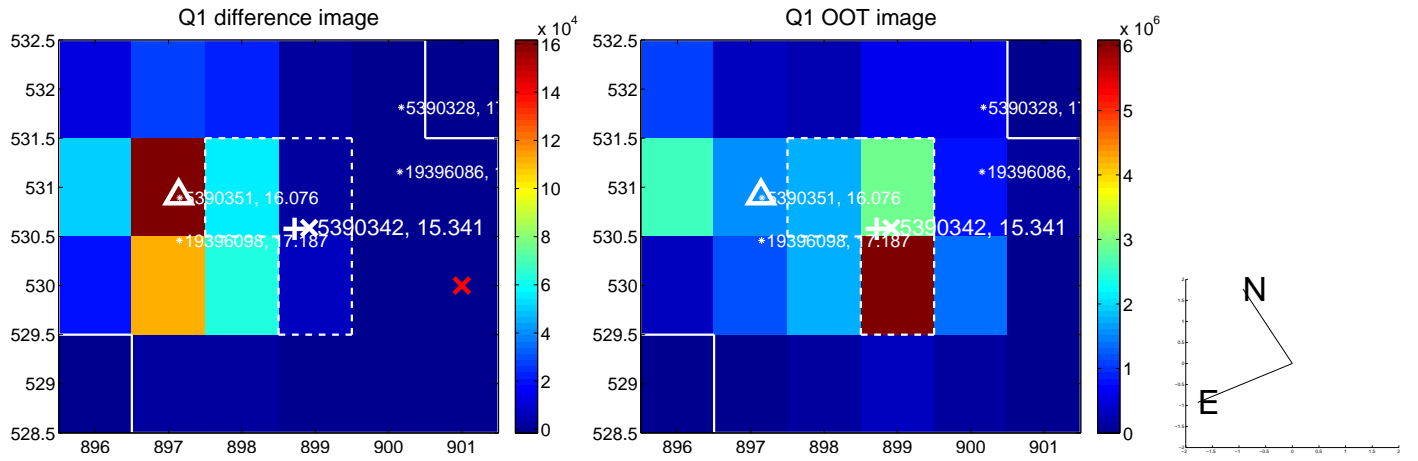


offset from photometric centroids

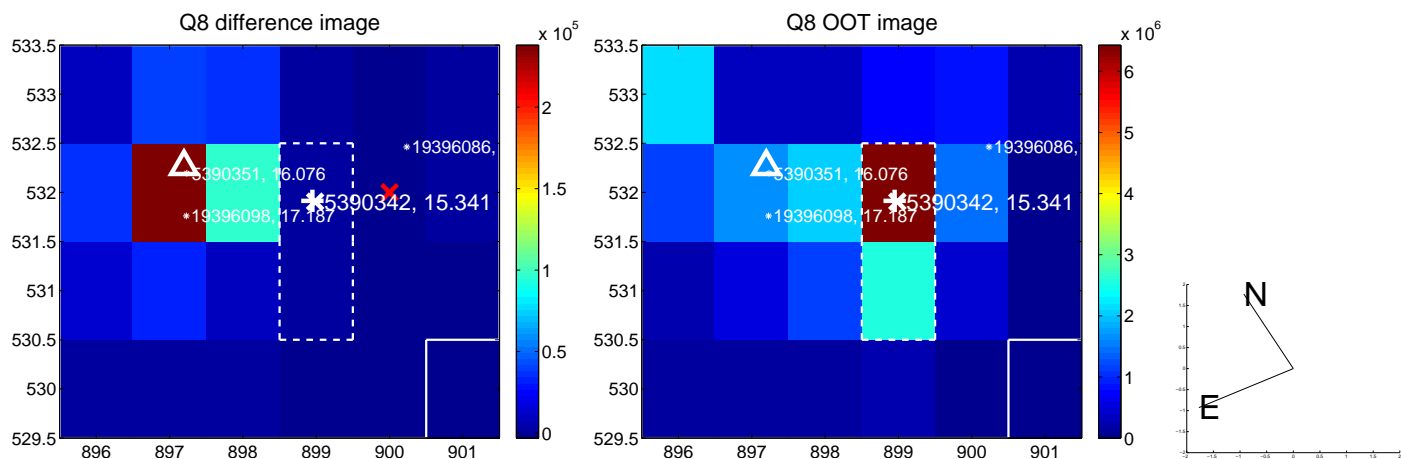
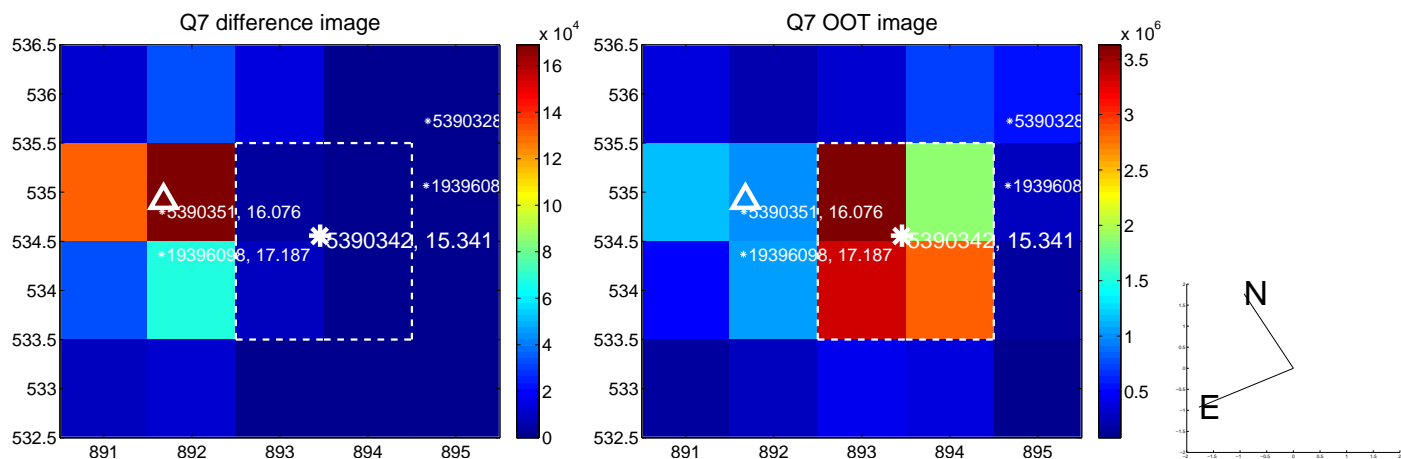
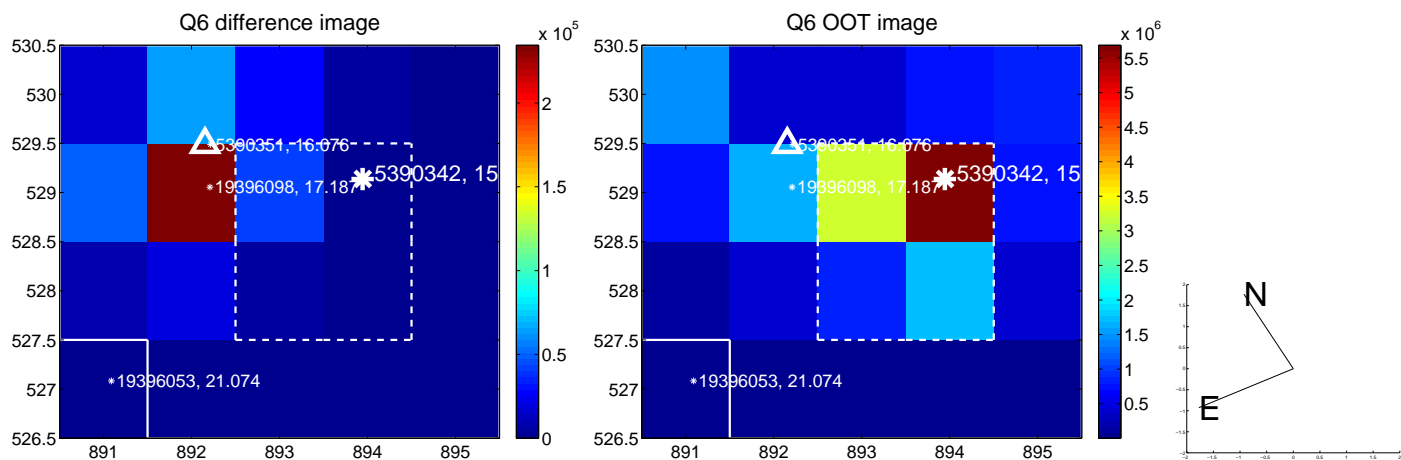
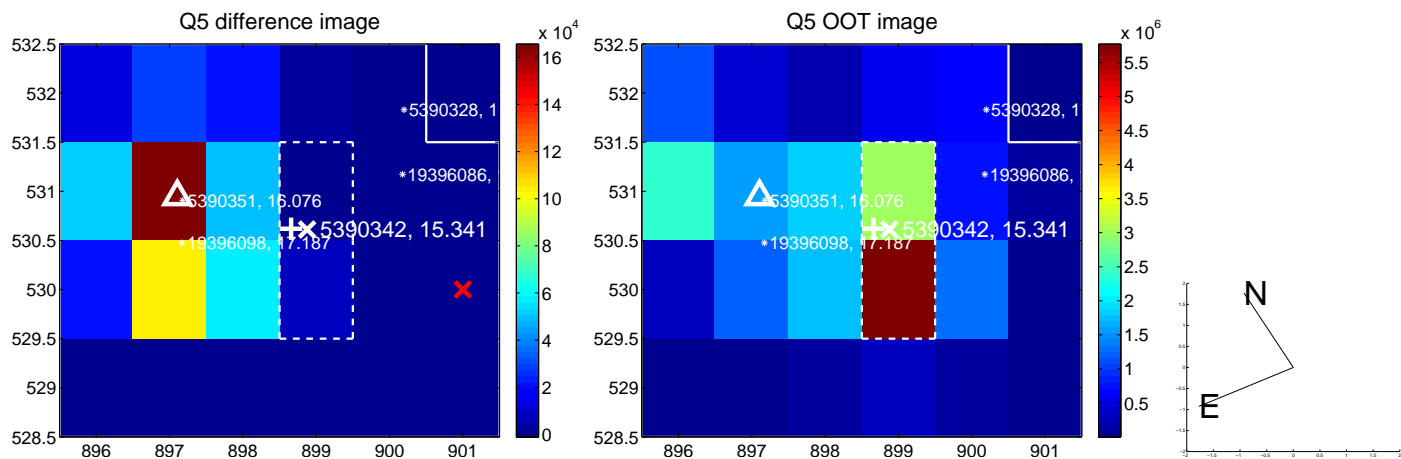


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

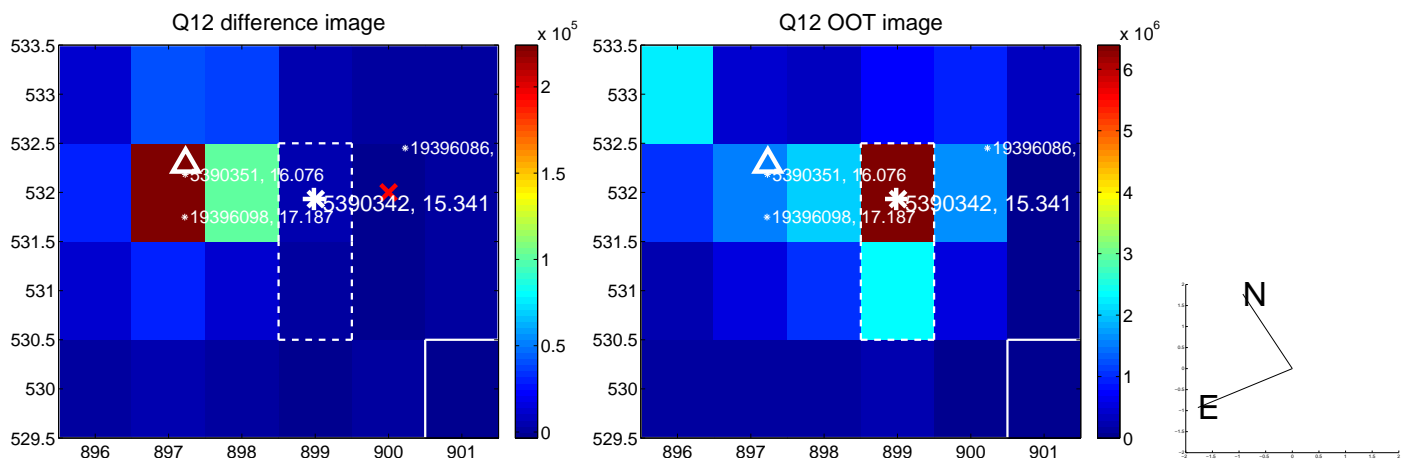
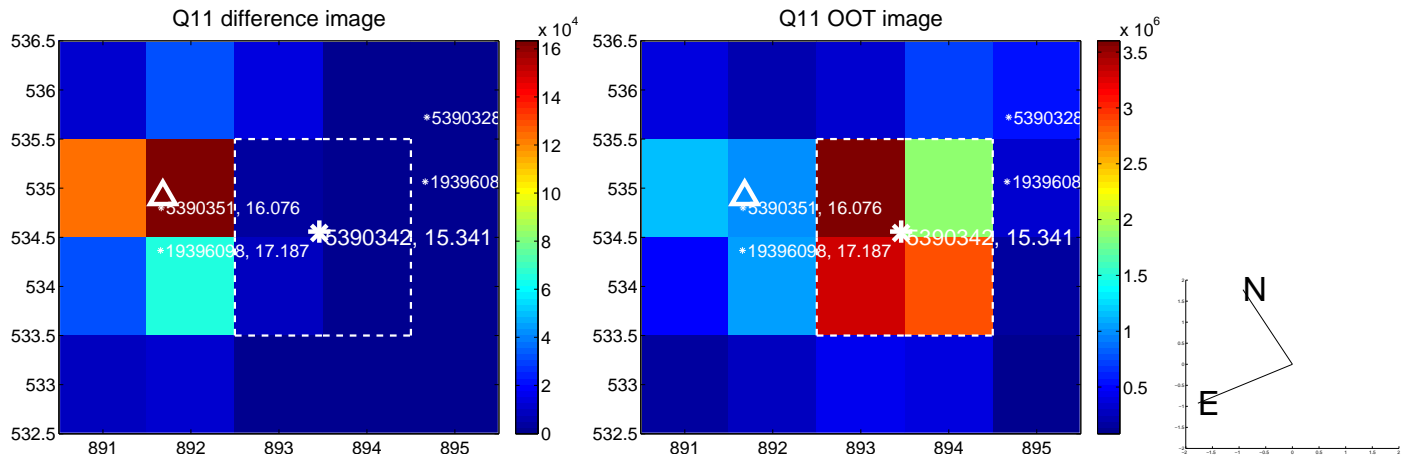
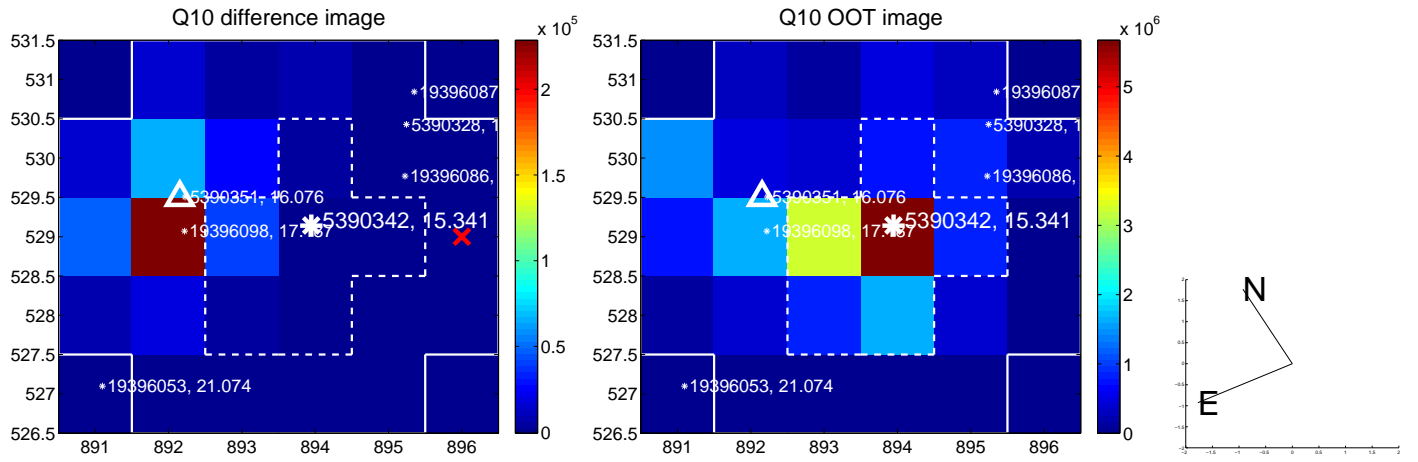
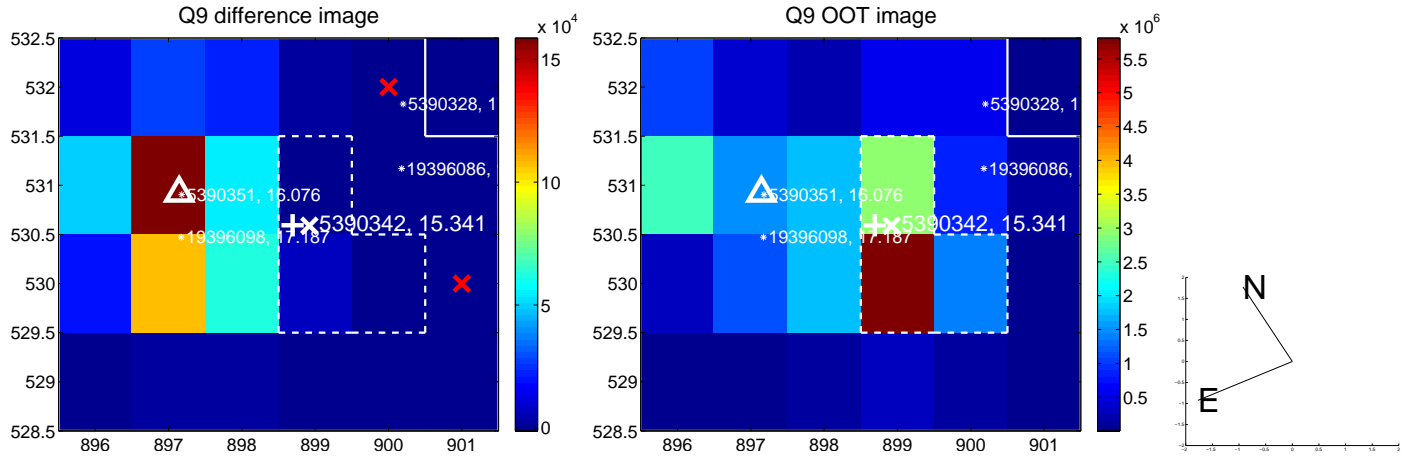
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



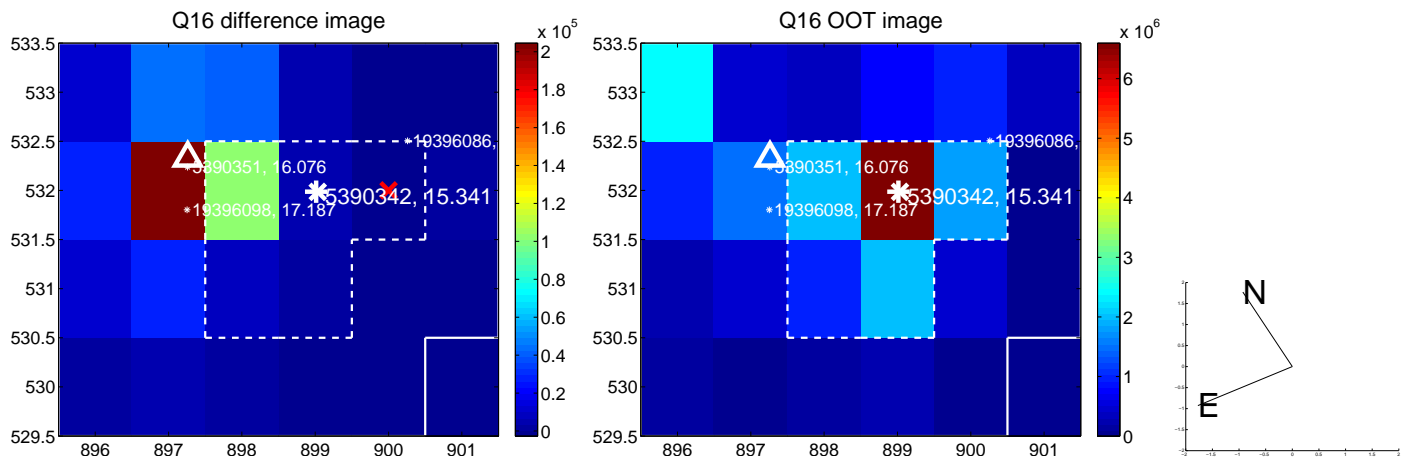
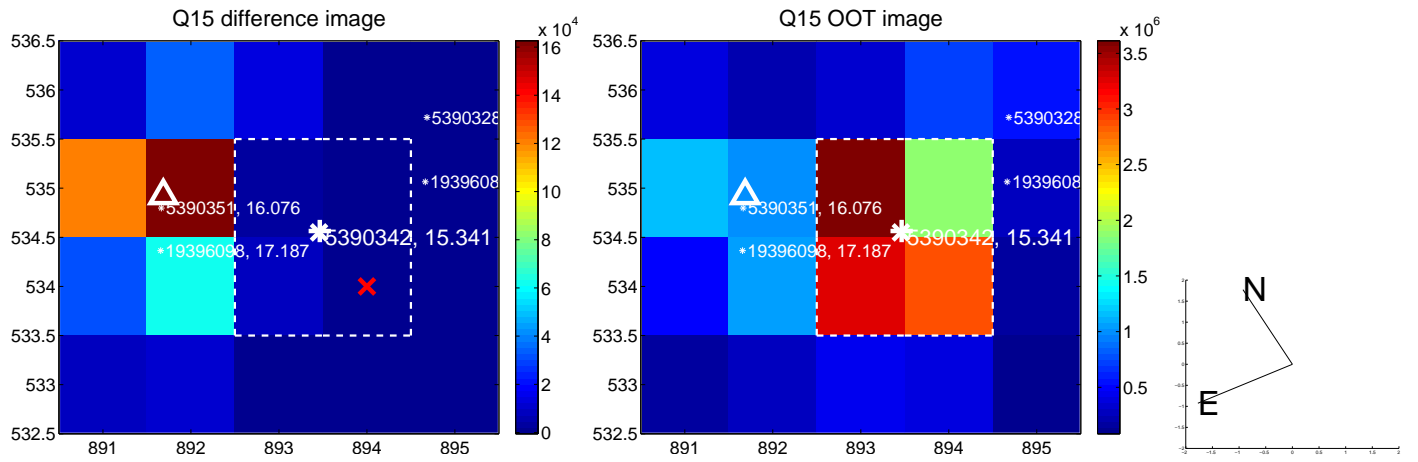
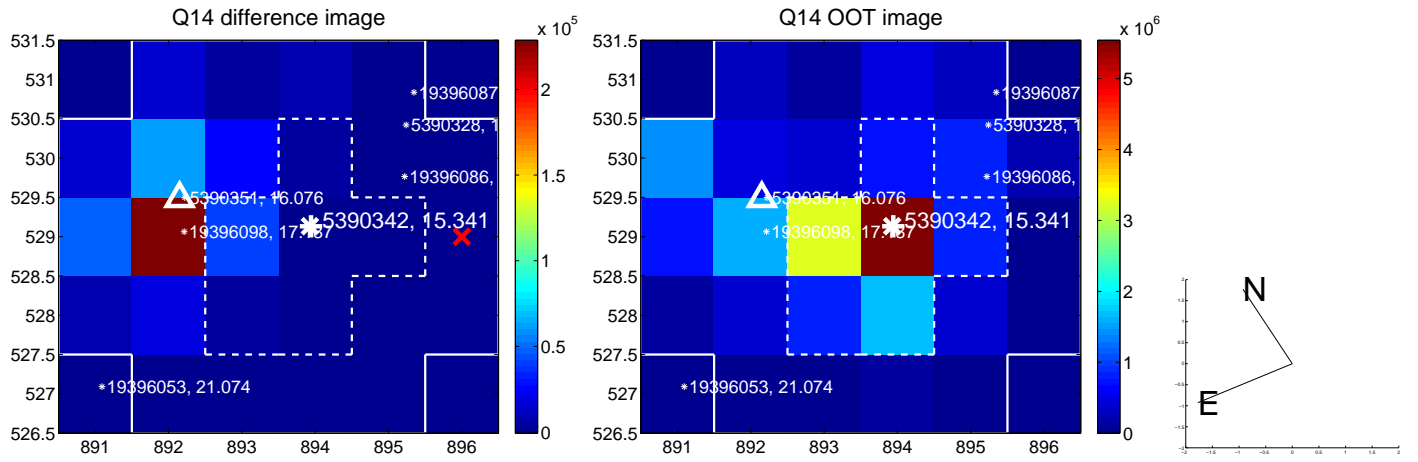
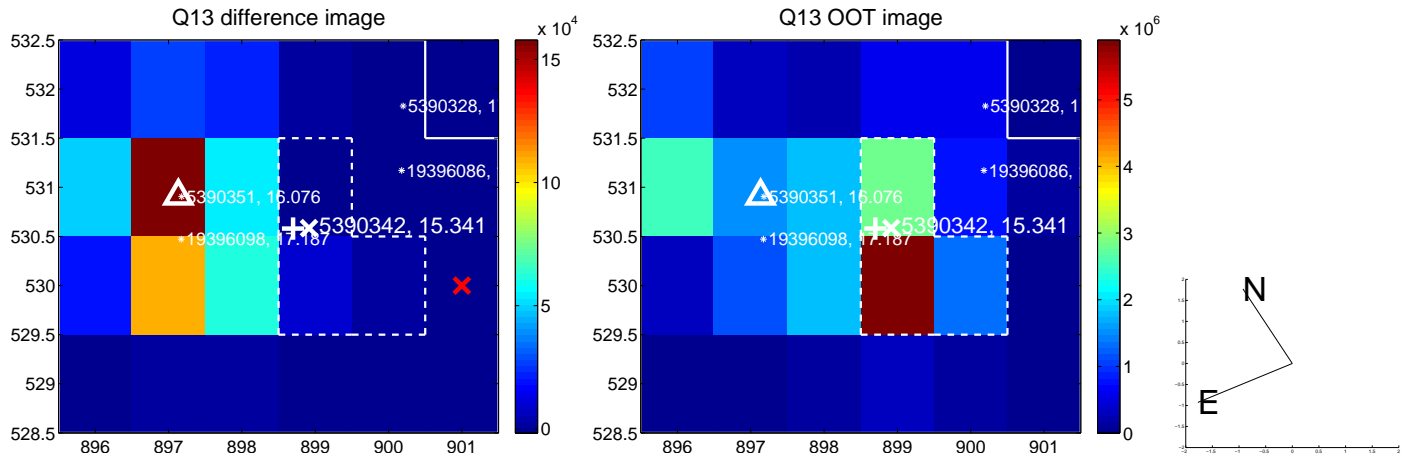
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



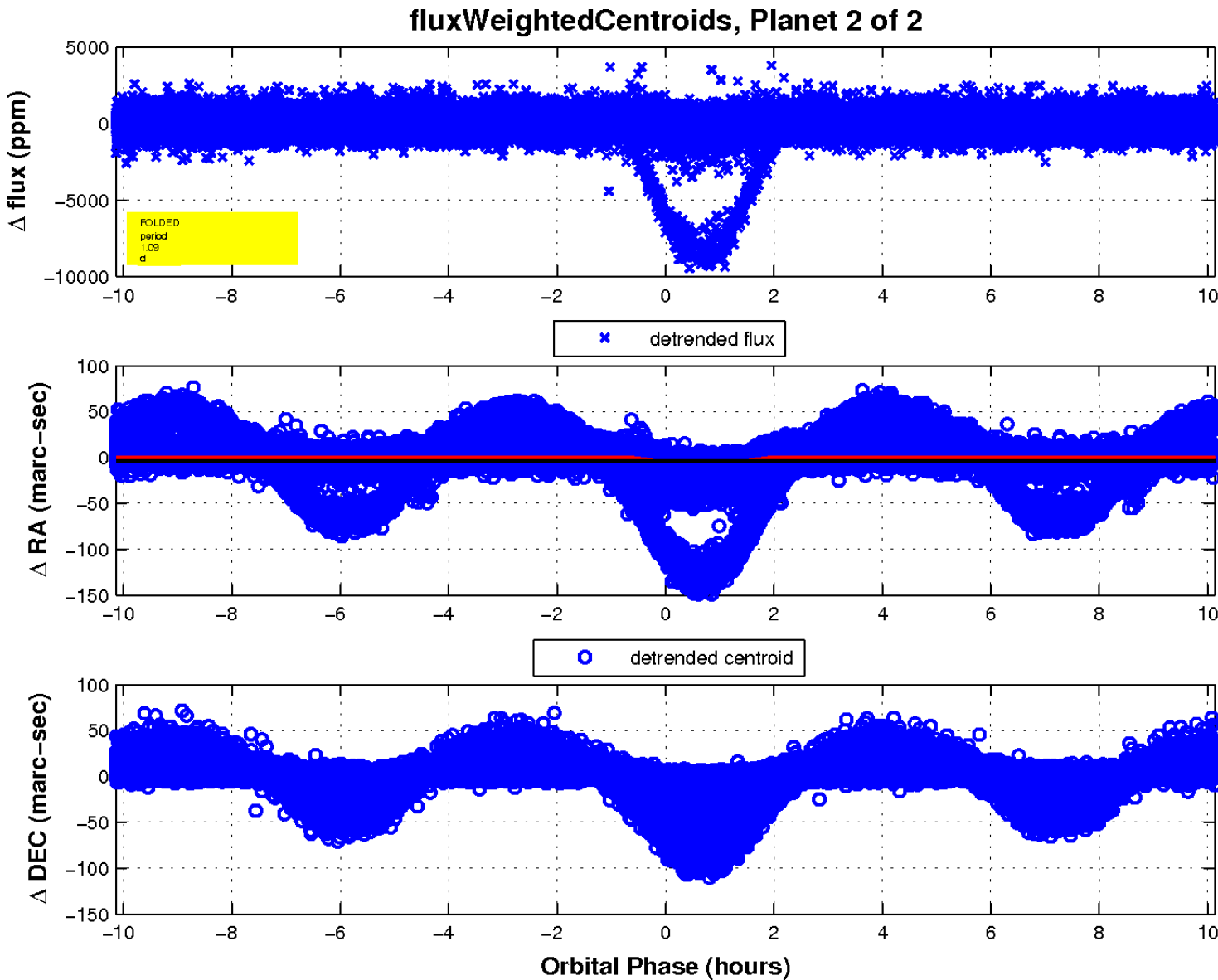
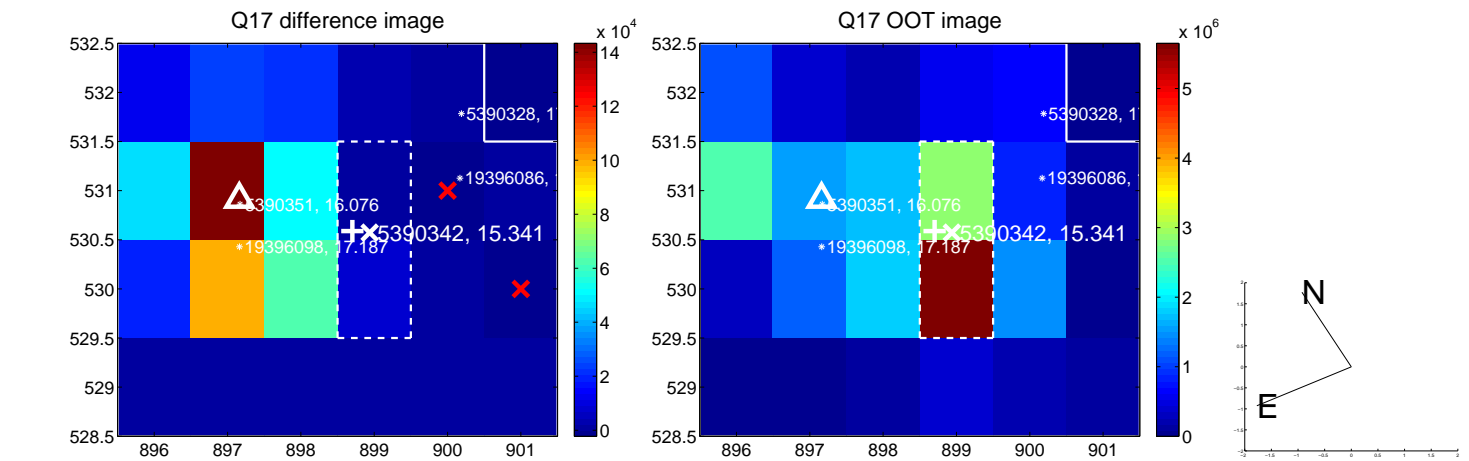
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

