

KIC 009277896

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})
009277896-01	OBS	1632.01	4.594948	133.832903	109.0	2.907	23.5	25.5	1.38	6056	1.70	716.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009277896-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

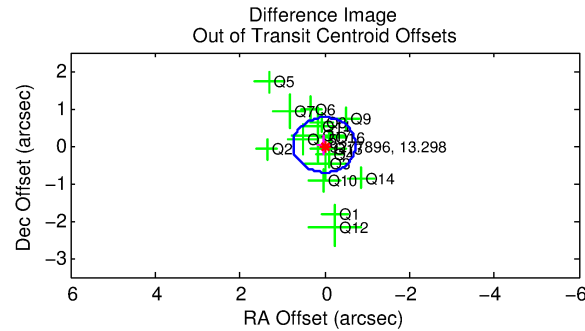
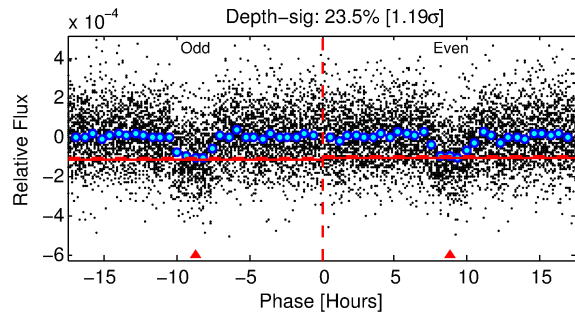
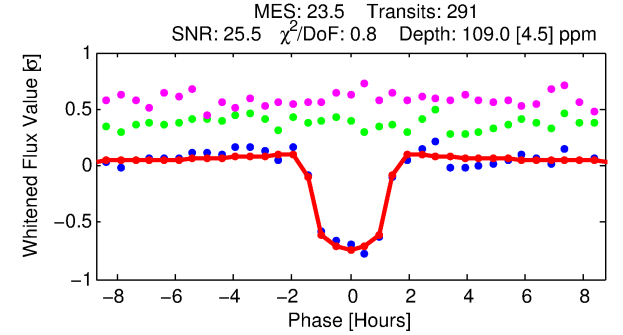
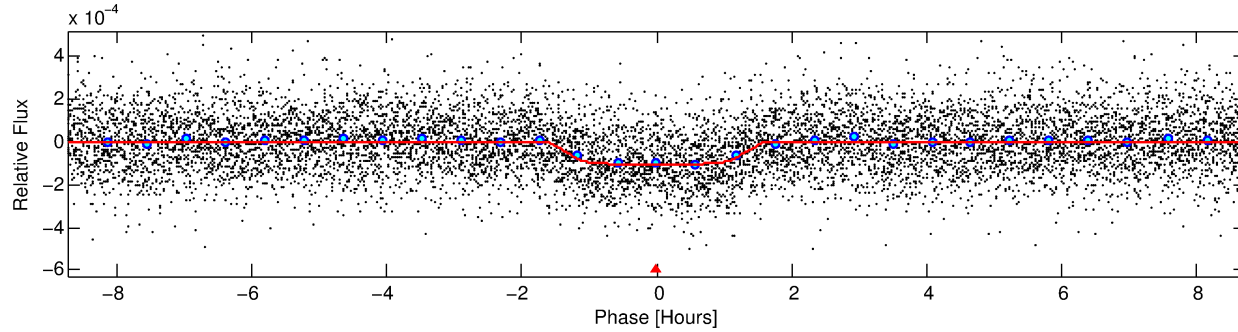
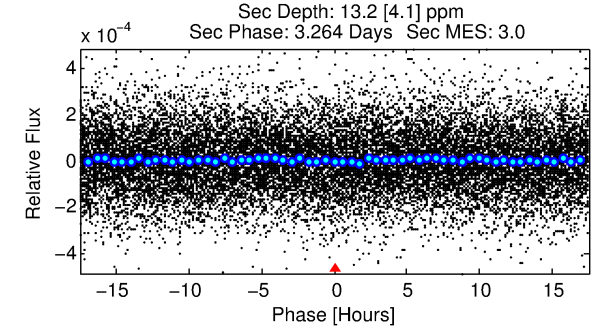
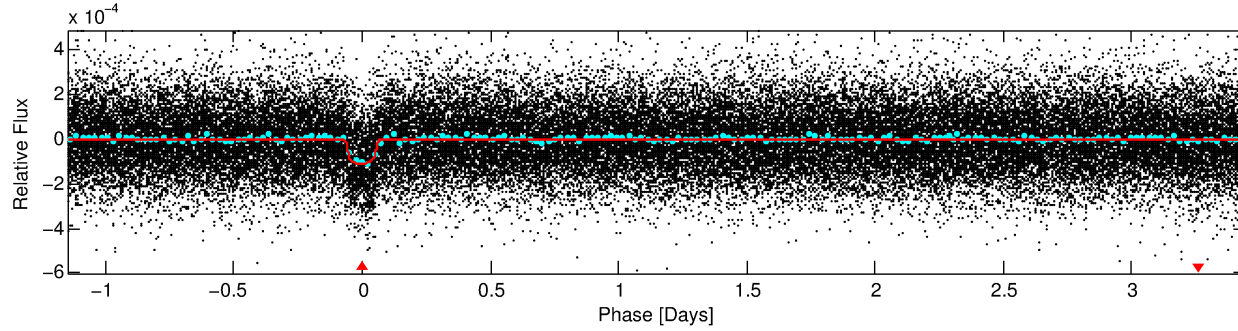
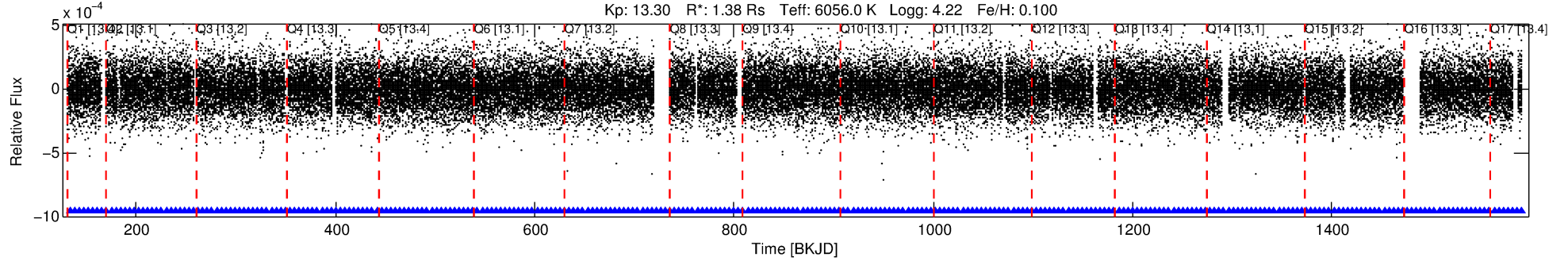
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009277896-01

No Significant Match Found

DV One-Page Summary

KIC: 9277896 Candidate: 1 of 1 Period: 4.595 d
KOI: K01632.01 Corr: 0.964



DV Fit Results:

Period = 4.59495 [0.00001] d
Epoch = 133.8329 [0.0018] BKJD
Rp/R* = 0.0113 [0.0025]
a/R* = 5.66 [6.16]
b = 0.90 [0.24]
Seff = 716.79 [188.73]
Teq = 1319 [87] K
Rp = 1.70 [0.48] Re
a = 0.0566 [0.0090] AU
Ag = 8.02 [4.76] [1.48σ]
Teffp = 3433 [469] K [4.44σ]

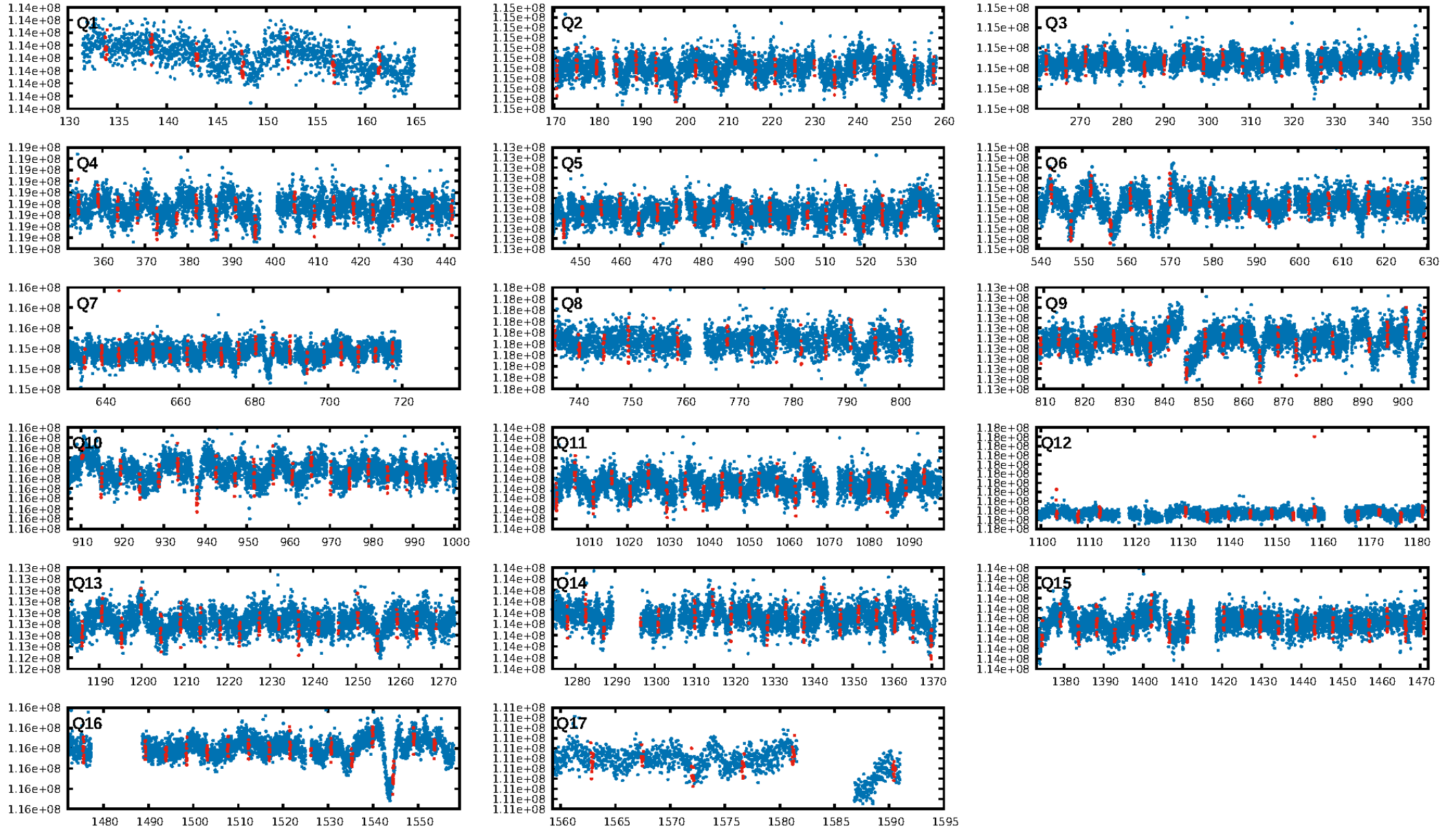
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.09e-120
RollingBand-fgt: 1.00 [278/278]
GhostDiagnostic-chr: 5.179
Centroid-sig: 4.2%
Centroid-so: 0.924 arcsec [1.91σ]
OotOffset-rm: 0.028 arcsec [0.11σ]
KicOffset-rm: 0.270 arcsec [1.09σ]
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]

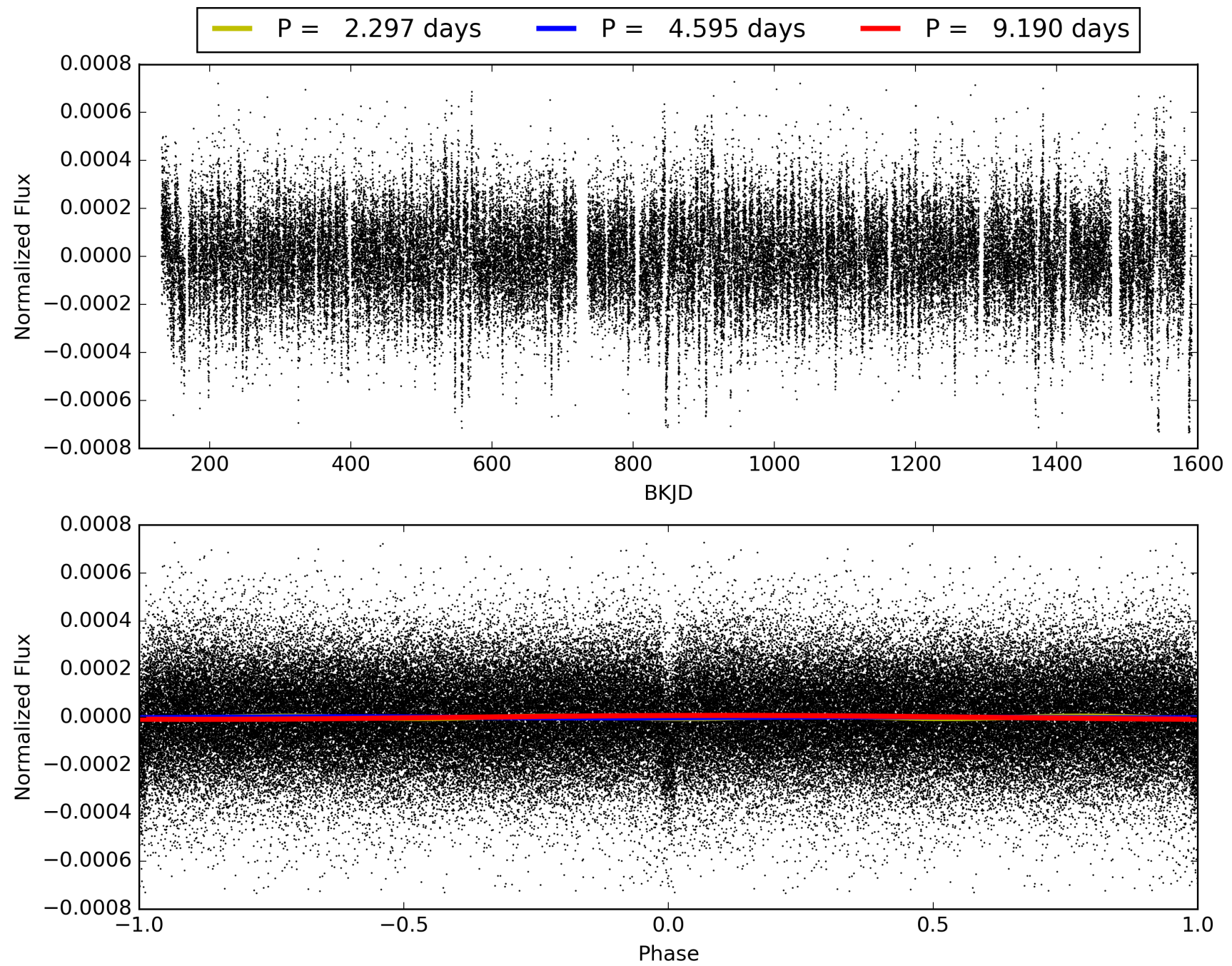
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:34:44 Z

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

TCE 009277896-01, PDC Light Curves

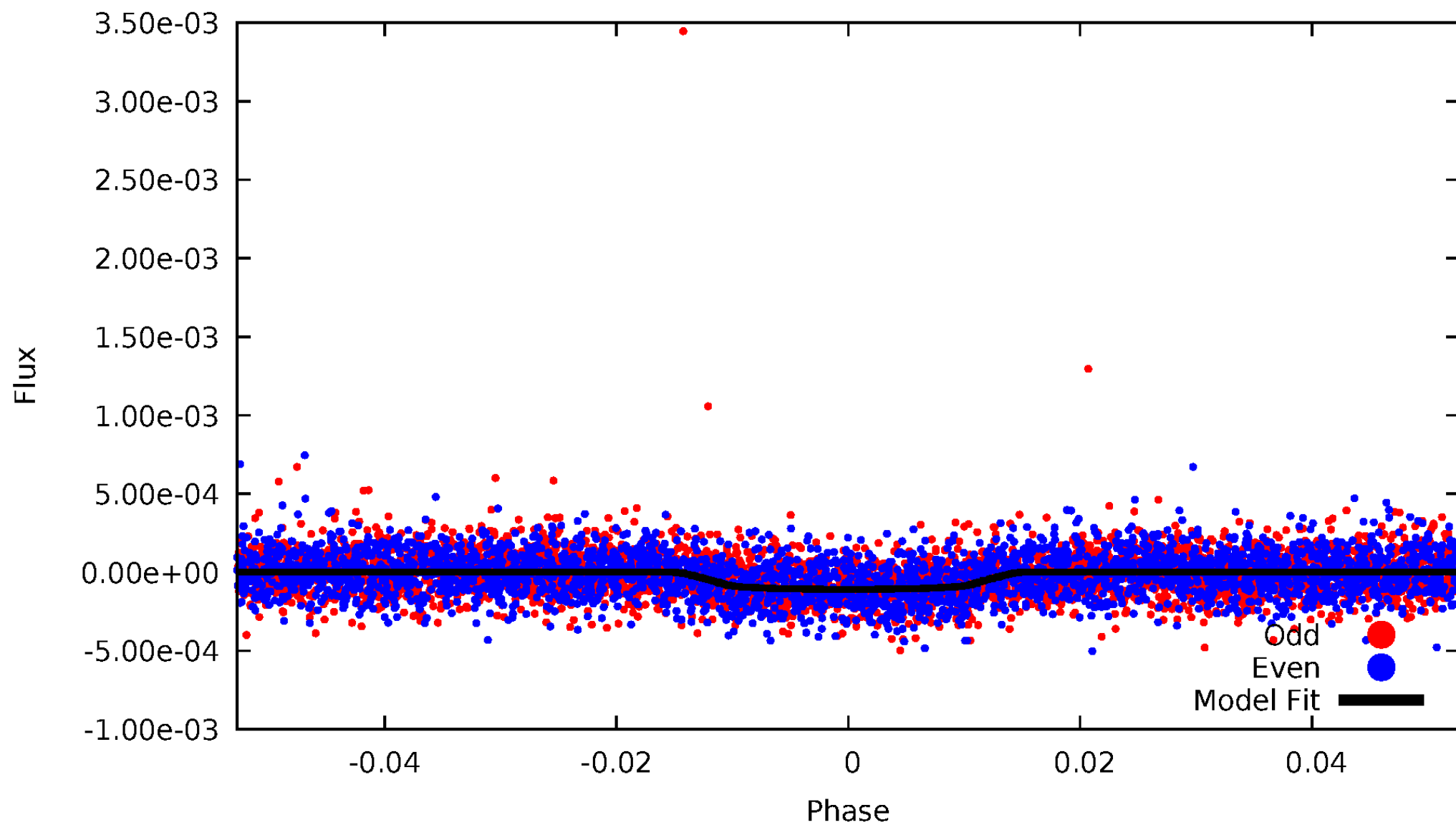


TCE 009277896-01



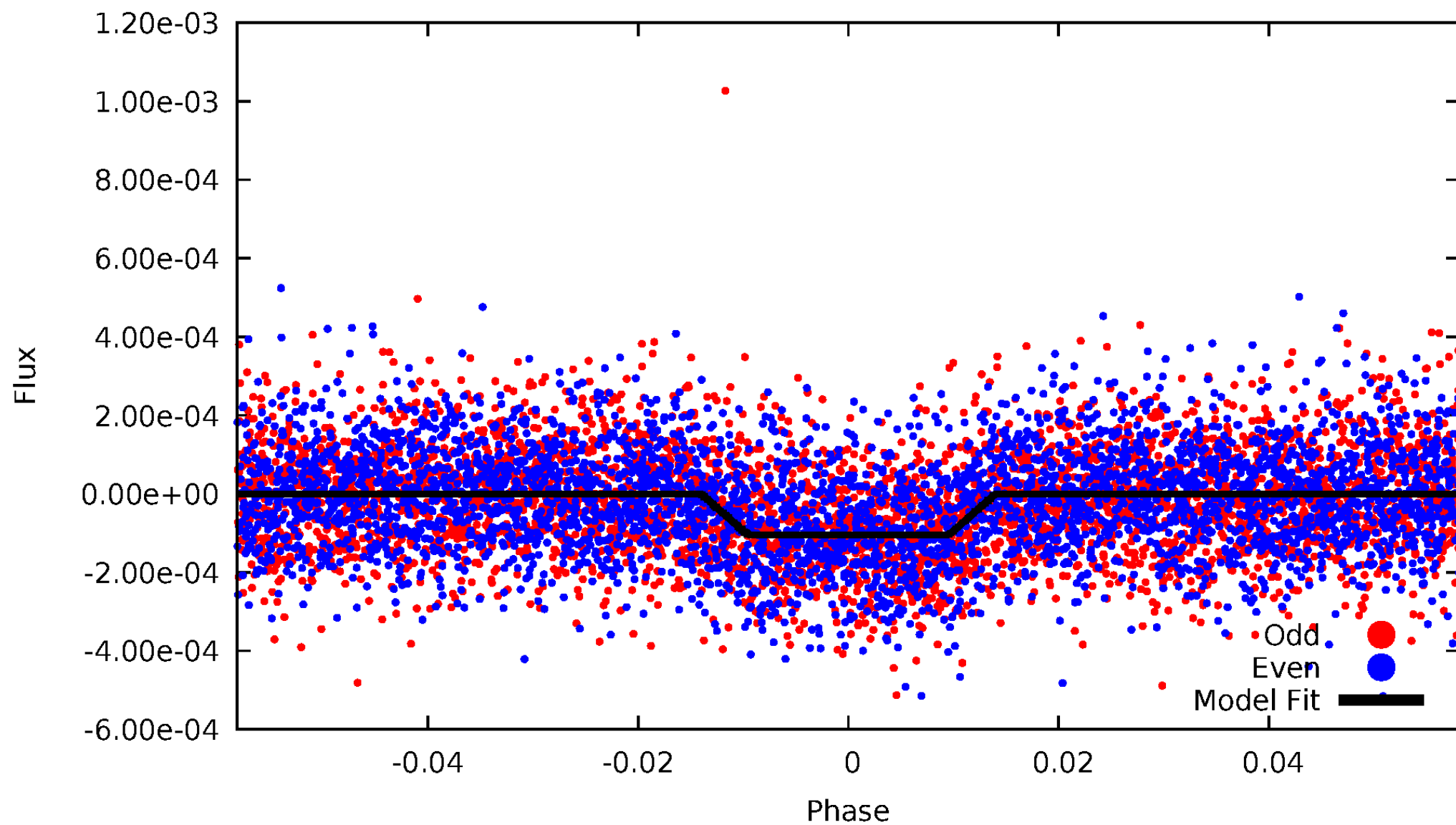
DV Odd/Even

TCE 009277896-01



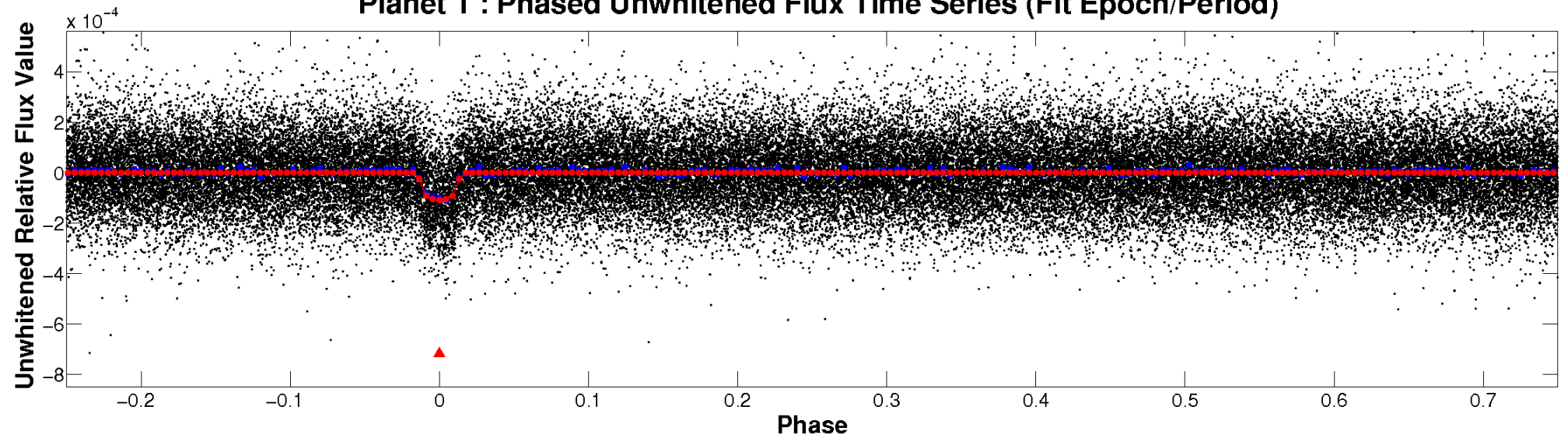
ALT Odd/Even

TCE 009277896-01

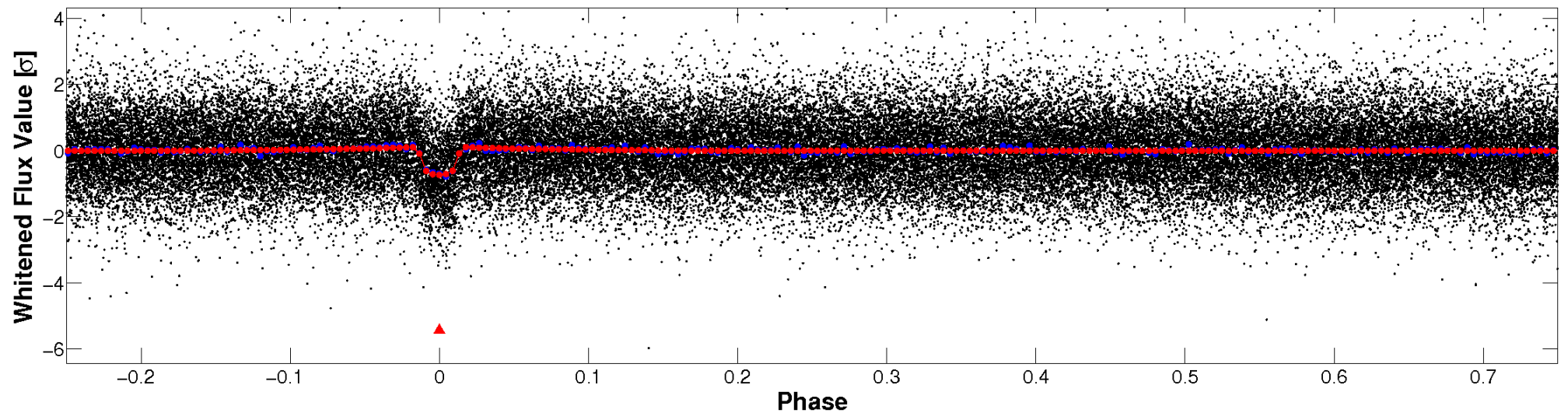


Non-Whitened Vs. Whitened Light Curve

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

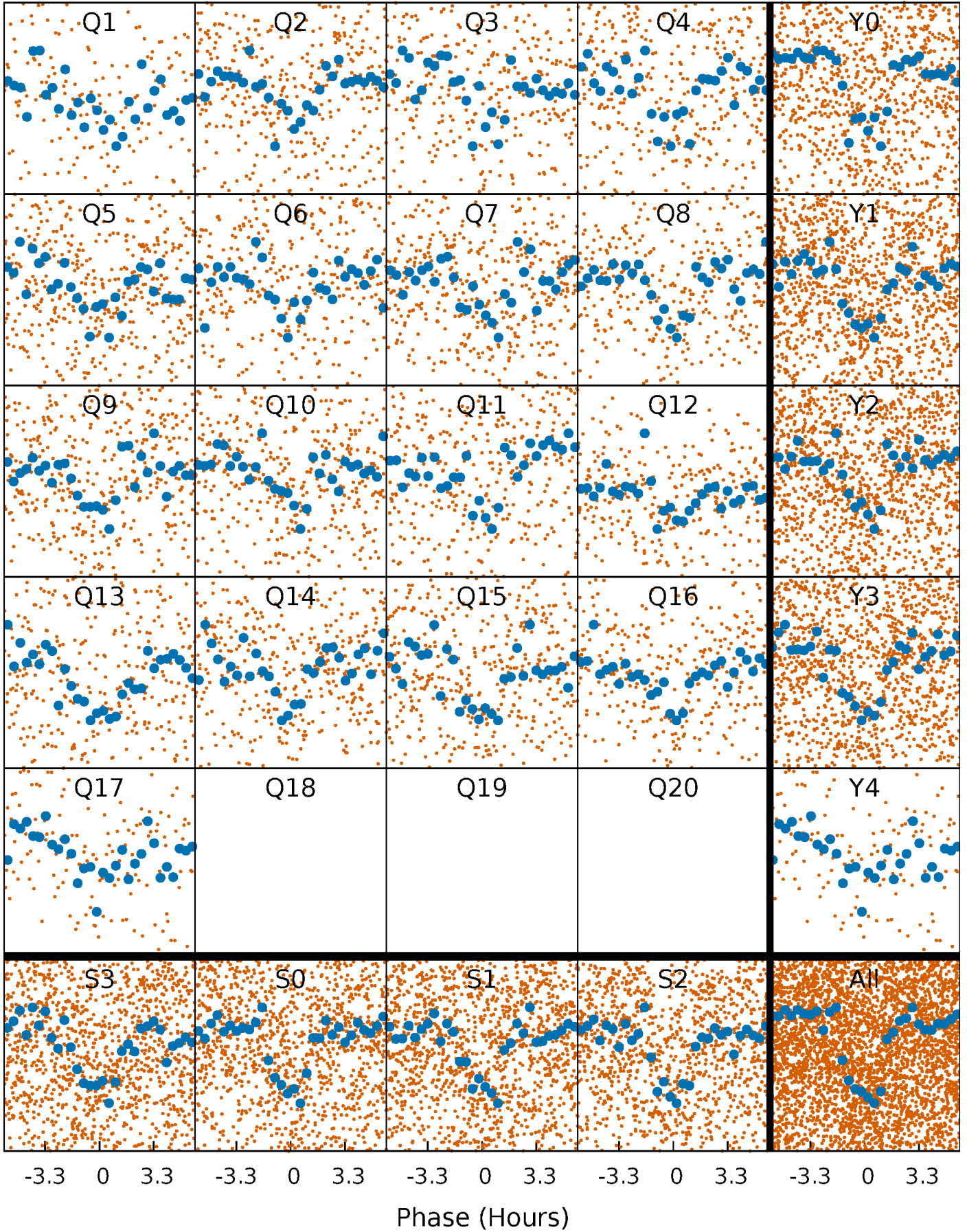


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



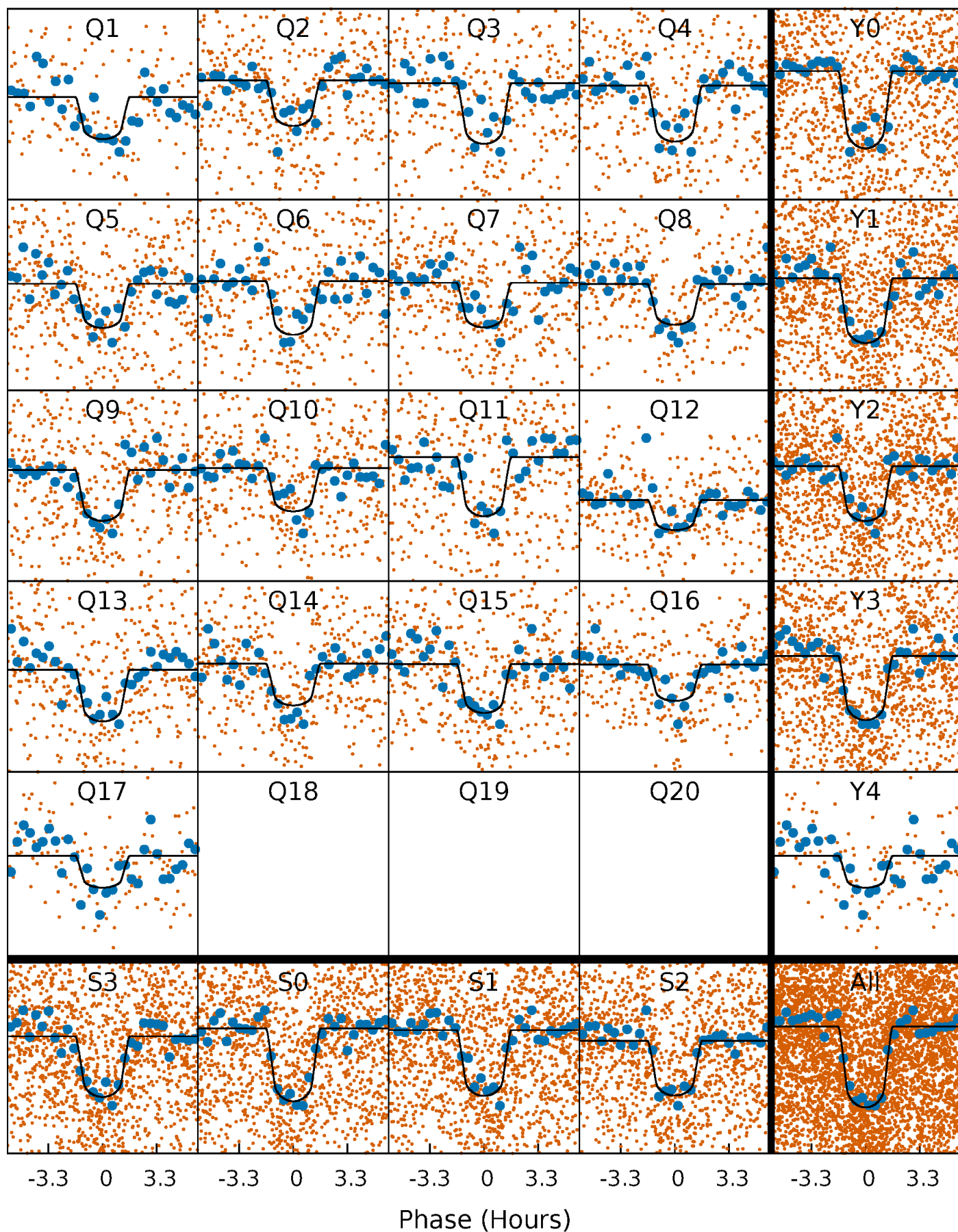
PDC Quarter-Phased Transit Curves

TCE 009277896-01 P= 4.594948 Days $T_0=133.832903$ (BKJD)



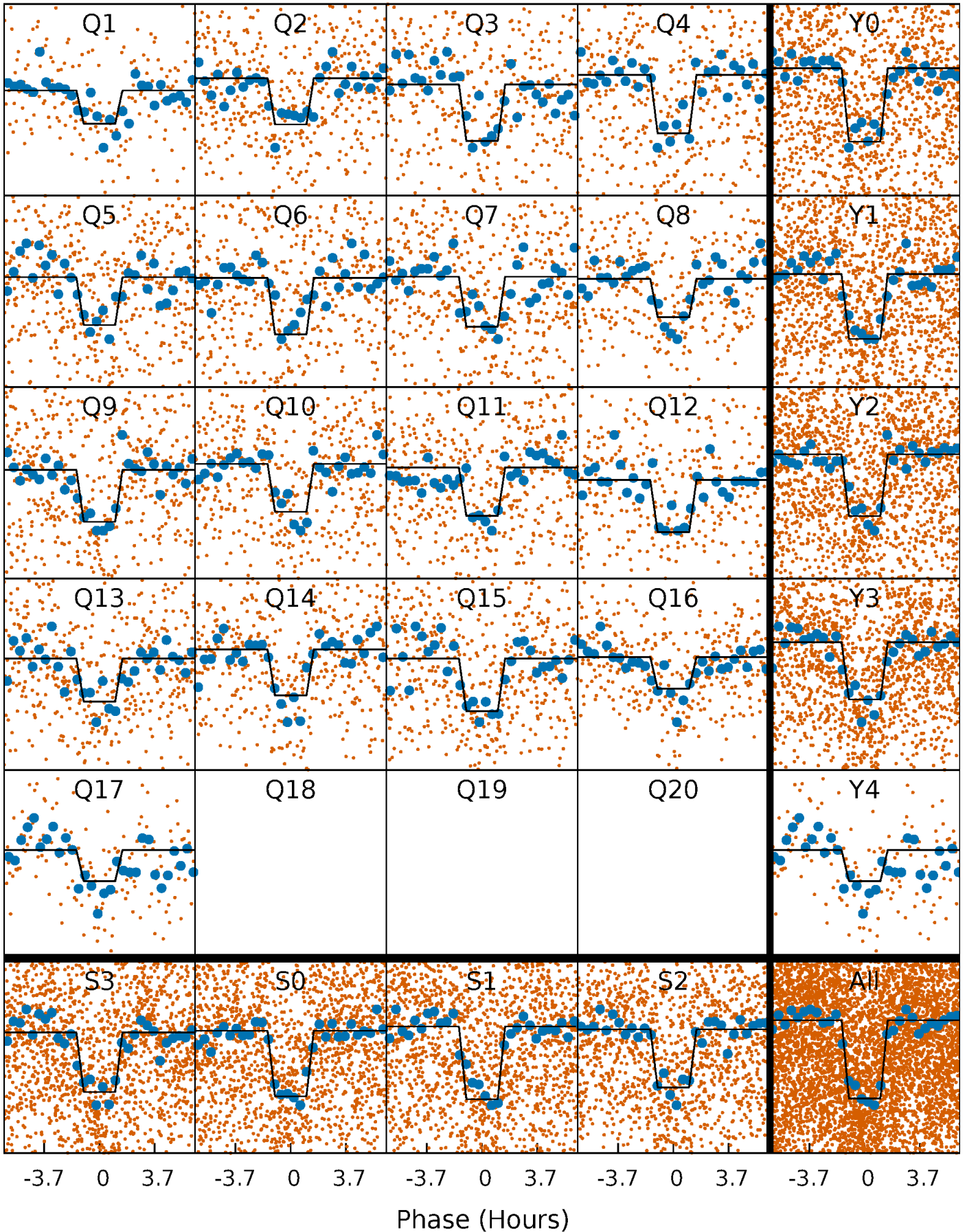
DV Quarter-Phased Transit Curves

TCE 009277896-01 $P = 4.594948$ Days $T_0 = 133.832903$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

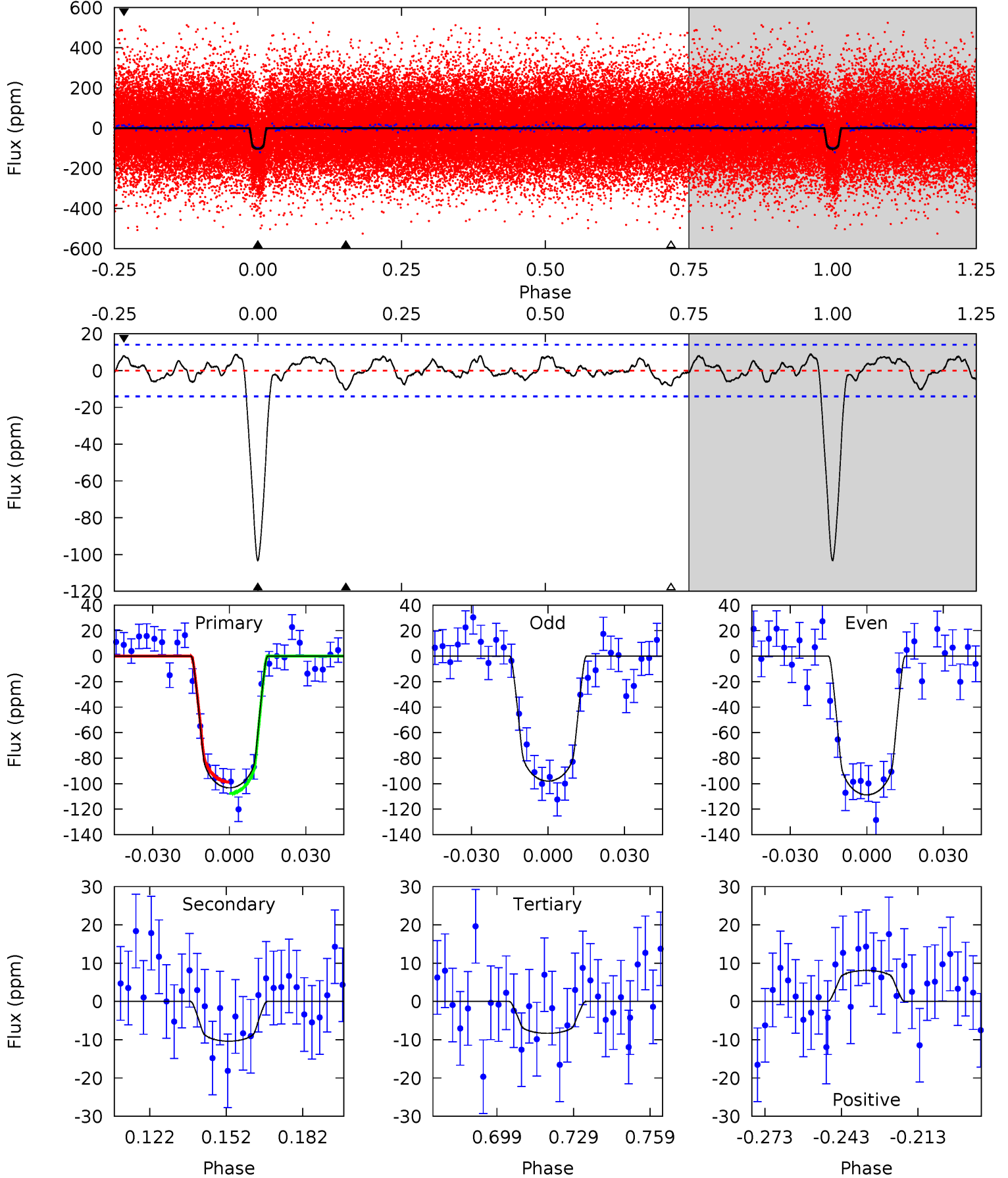
TCE 009277896-01 P= 4.594919 Days $T_0=133.837263$ (BKJD)



DV Model-Shift Uniqueness Test

009277896-01, P = 4.594948 Days, E = 129.237955 Days

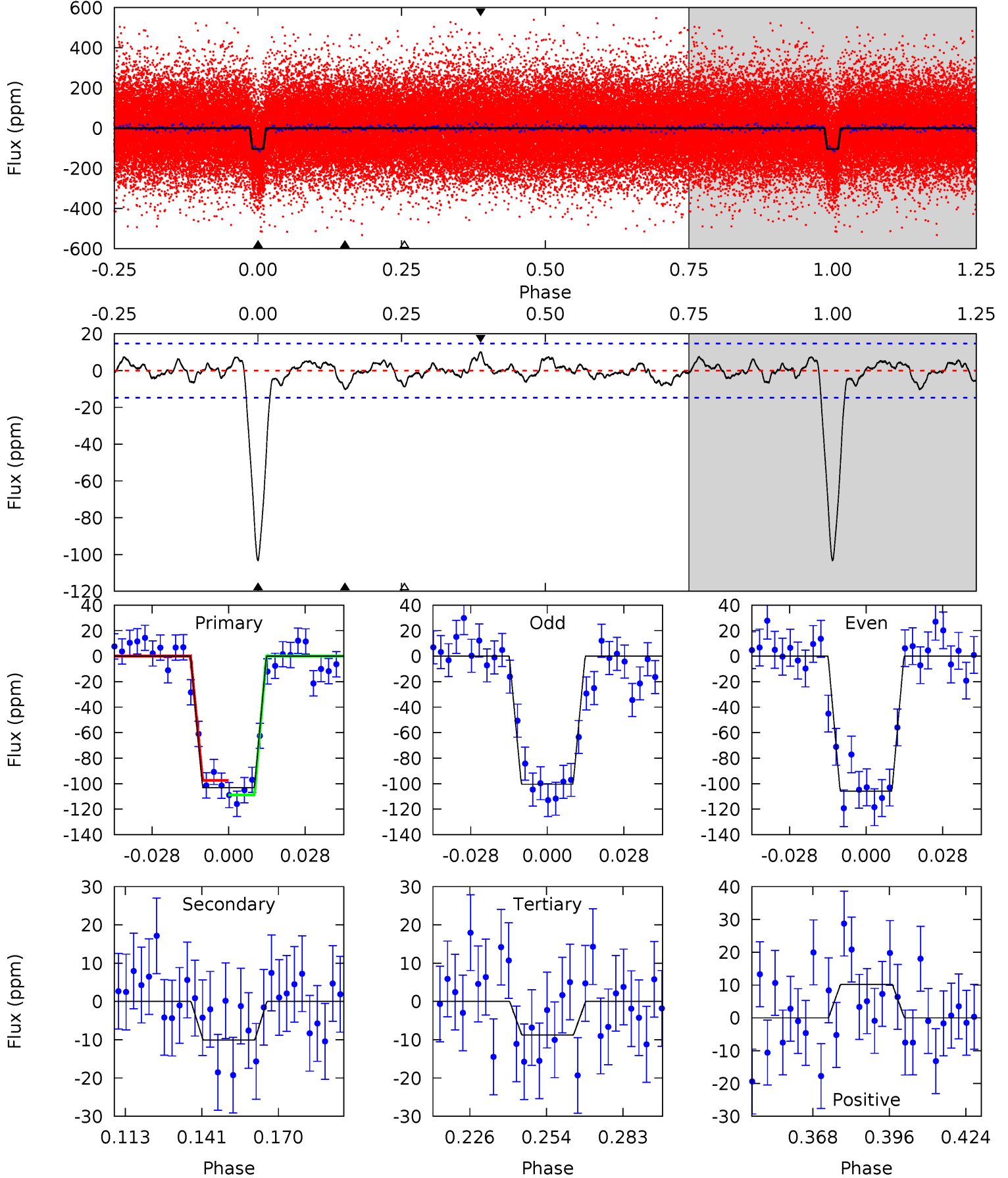
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.3	3.55	2.85	2.77	4.81	2.17	1.32	32.5	32.6	0.70	0.78	1.85	1.02	0.08	1.54



Alt Model-Shift Uniqueness Test

009277896-01, P = 4.594919 Days, E = 129.242344 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.8	3.30	2.86	3.35	4.82	2.19	1.17	30.9	30.4	0.44	-0.05	0.91	0.99	0.09	1.90



Stellar Parameters For KIC 009277896

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6056^{+121}_{-133}	$4.217^{+0.143}_{-0.117}$	$0.100^{+0.150}_{-0.150}$	$1.381^{+0.240}_{-0.240}$	$1.148^{+0.093}_{-0.104}$	$0.614^{+0.409}_{-0.208}$
	+2%/-2%	+3%/-3%	+150%/-150%	+17%/-17%	+8%/-9%	+67%/-34%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 009277896-01 / KOI 1632.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 3	$1.68^{+0.44}_{-0.40}$	1838^{+97}_{-91}	3631^{+361}_{-326}	$6.341^{+4.807}_{-2.753}$
Alt.	-10 ± 3	$1.54^{+0.45}_{-0.37}$	1839^{+95}_{-93}	3696^{+435}_{-330}	$7.099^{+6.247}_{-3.033}$

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

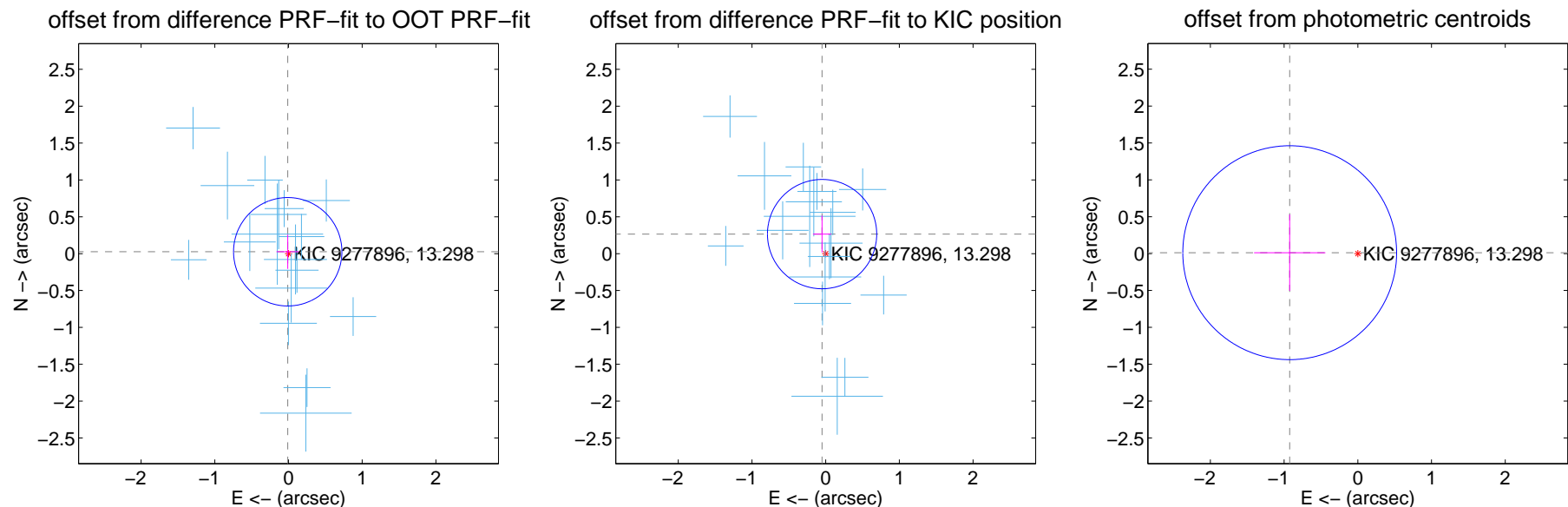
DV Centroid Data

Supplemental centroid analysis for 009277896-01. Kepler magnitude: 13.30. Transit SNR 25.54

There are 17 quarters with good PRF difference image offsets

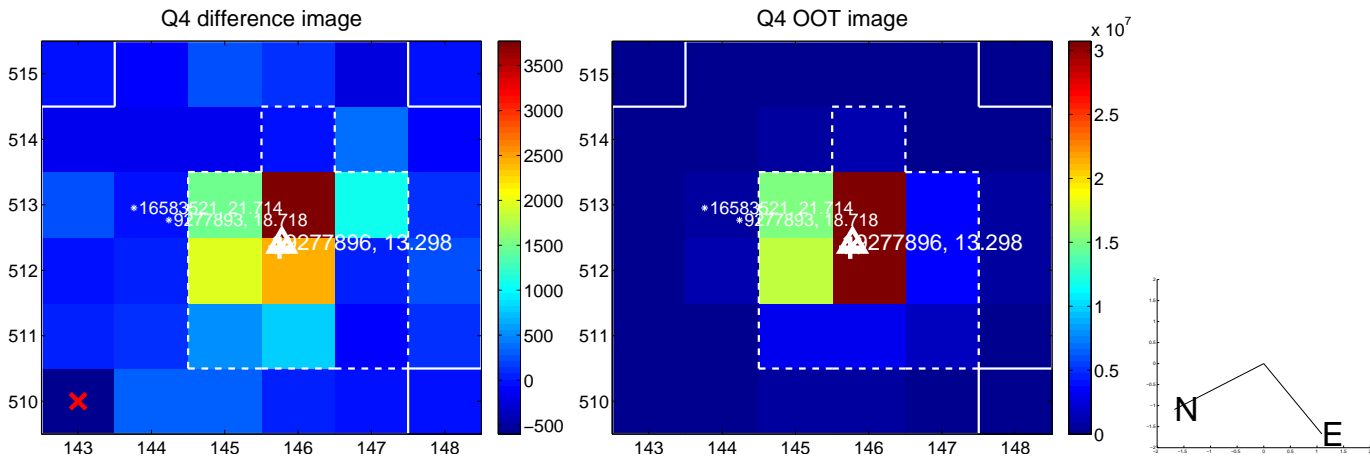
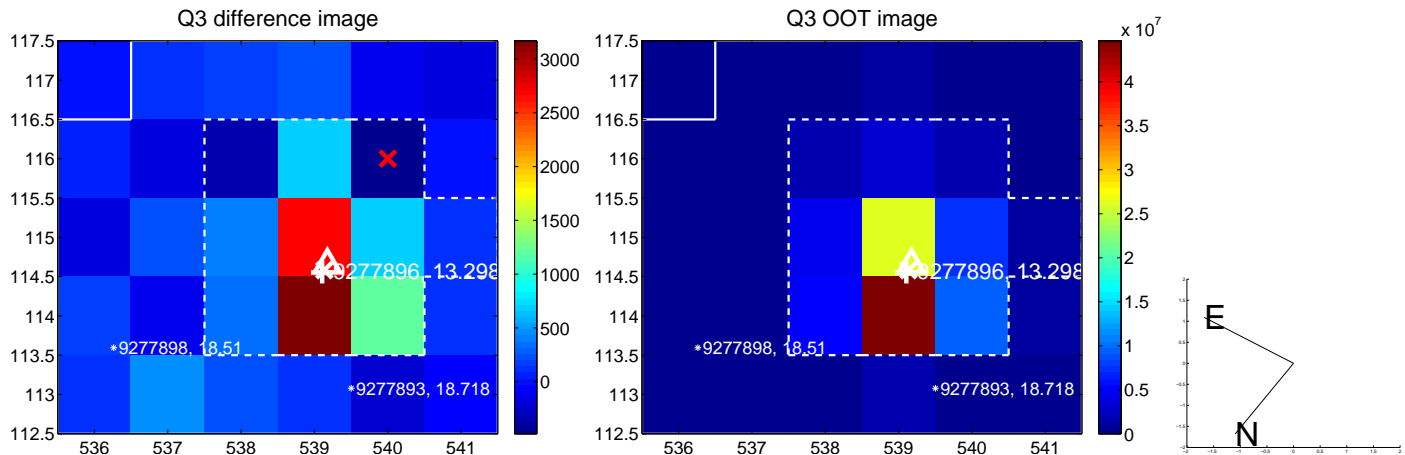
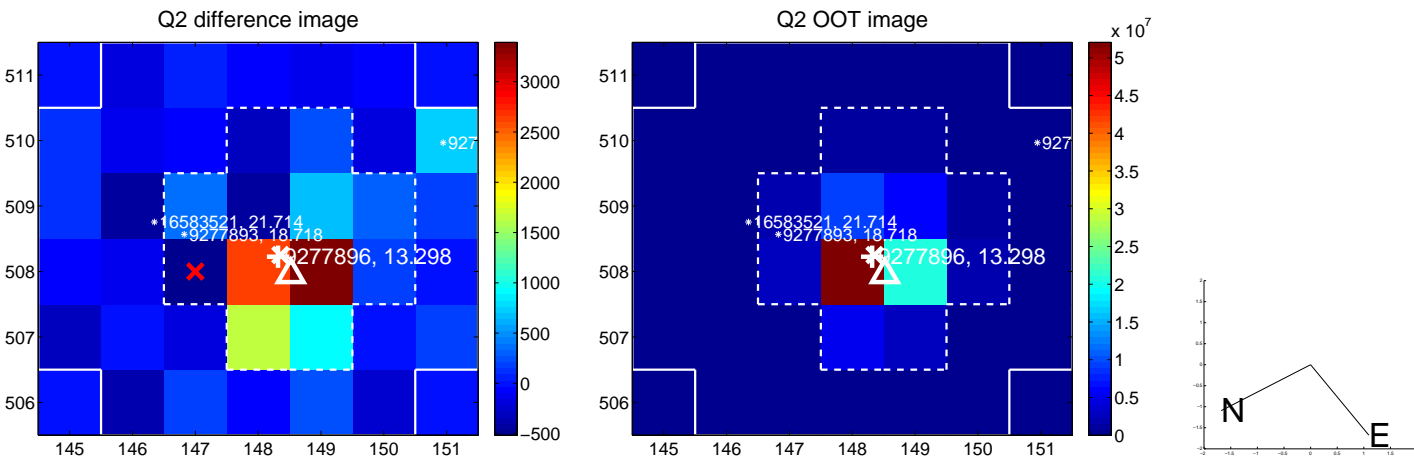
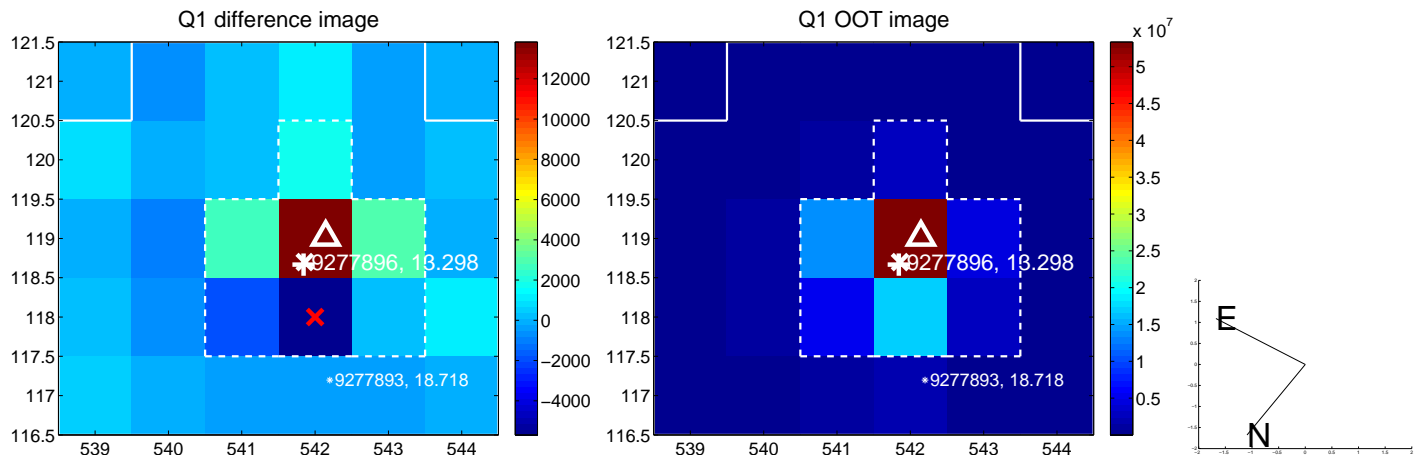
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.028 ± 0.245	0.11	0.010 ± 0.152	0.026 ± 0.233
PRF-fit source offset from KIC position	0.270 ± 0.247	1.09	0.049 ± 0.123	0.265 ± 0.250
photometric centroid source offset	0.92 ± 0.48	1.91	0.92 ± 0.48	0.01 ± 0.52

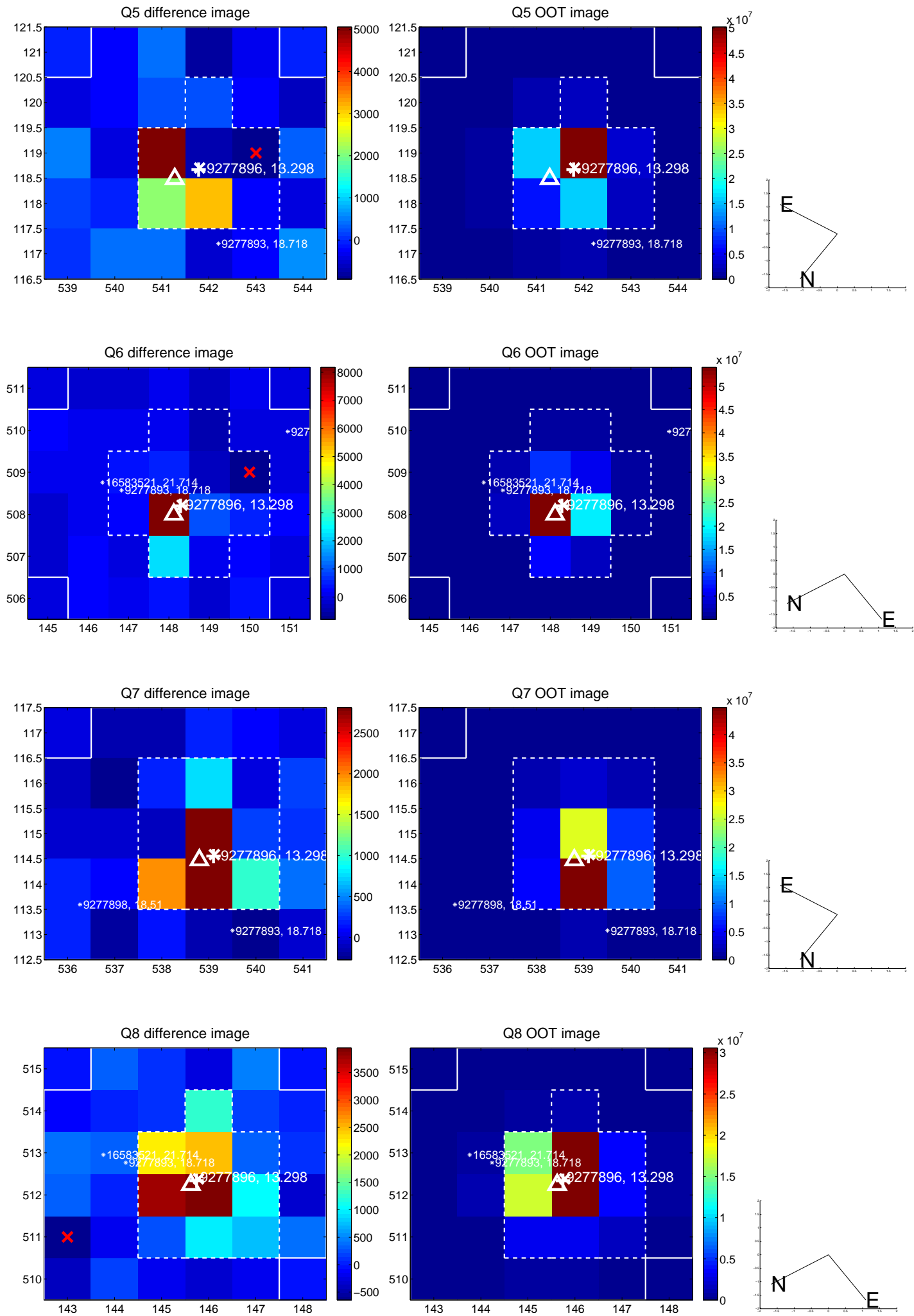


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

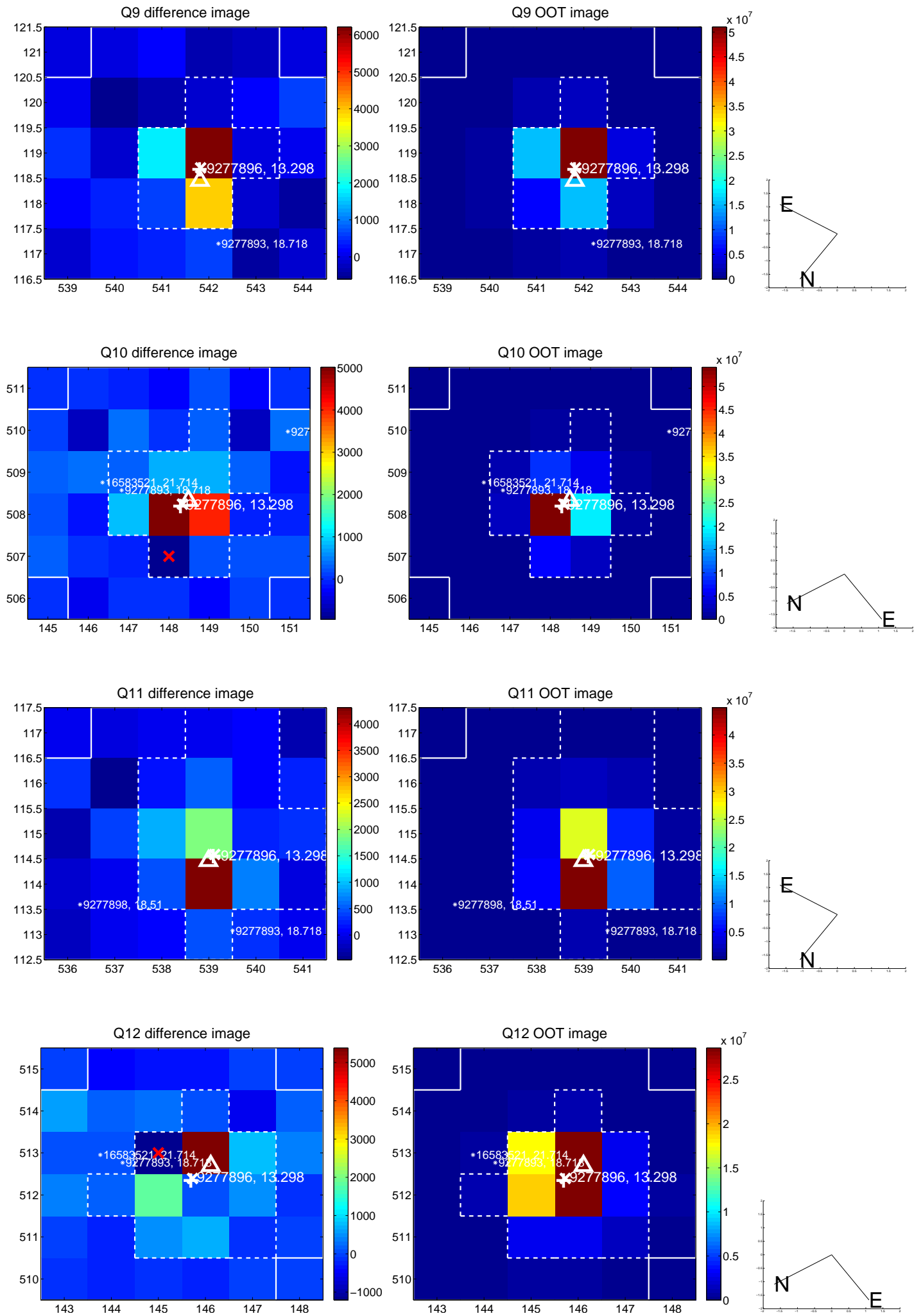
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



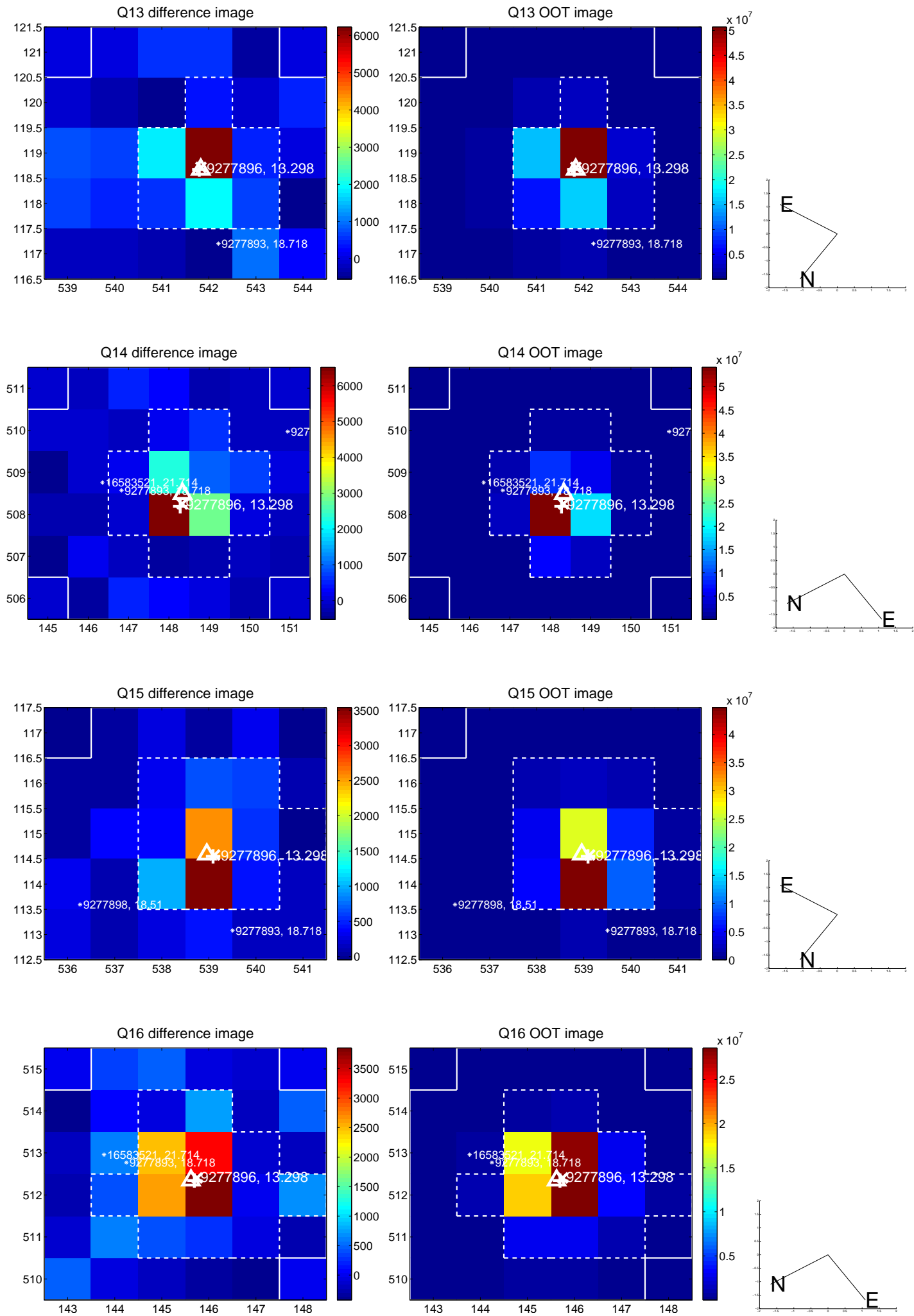
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



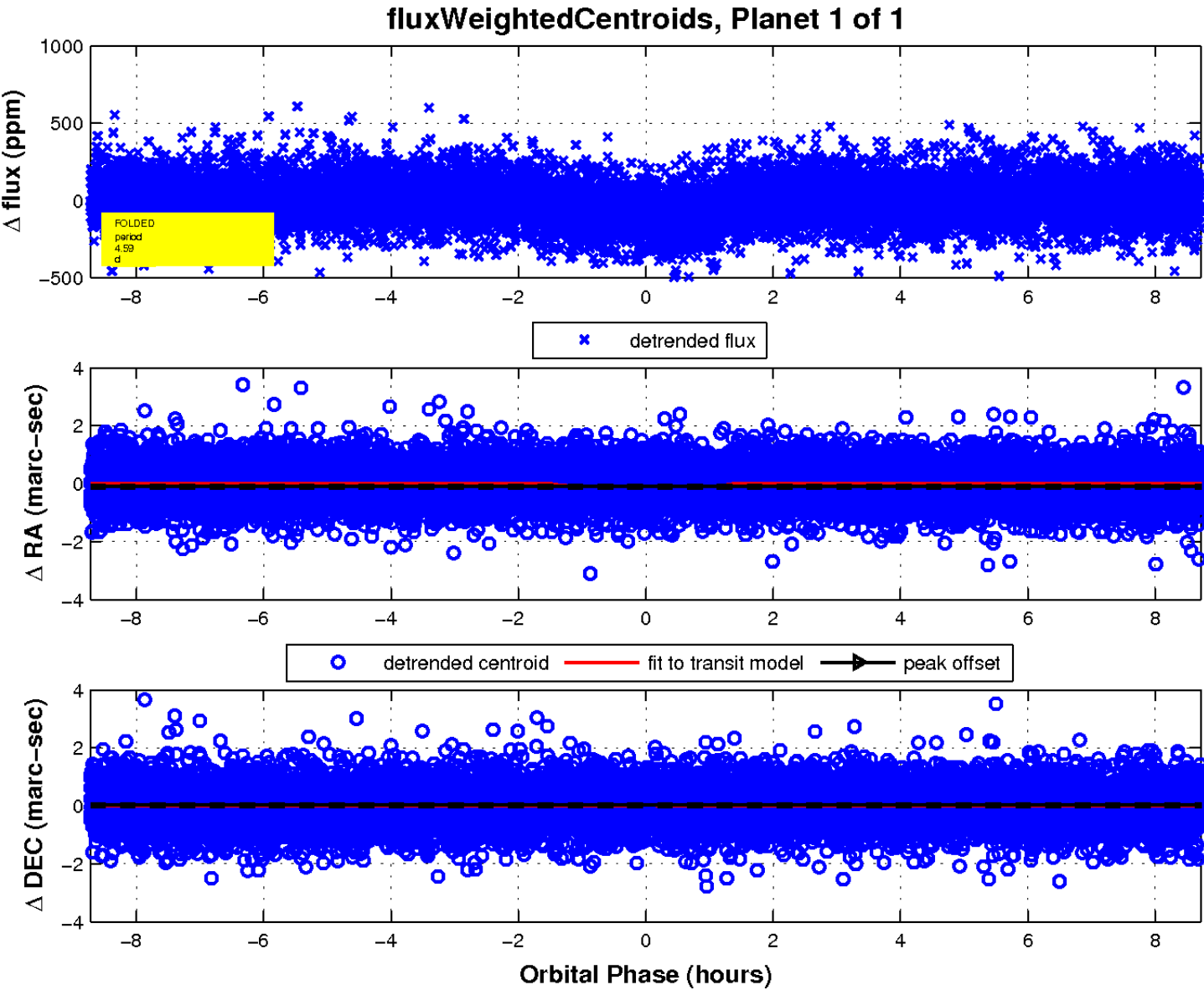
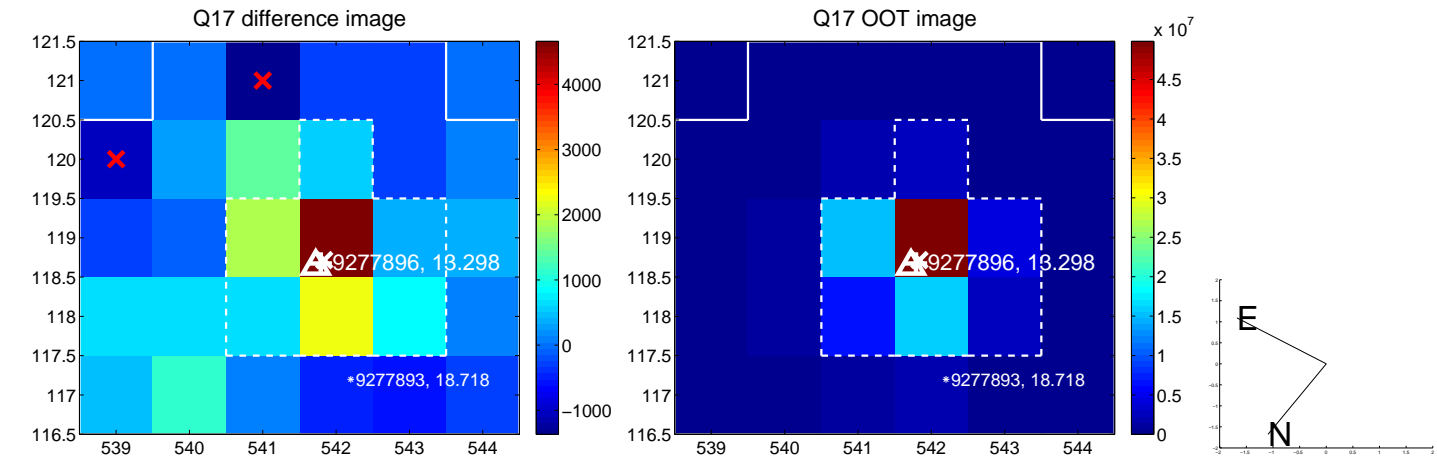
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

