

KIC 007502559

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})
007502559-01	OBS	No	0.644434	131.642216	37.1	2.063	9.3	8.2	2.77	7693	1.99	69422.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007502559-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

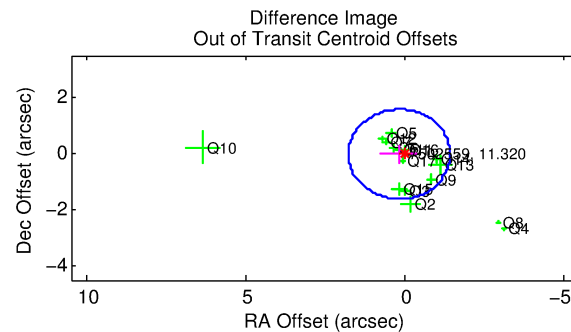
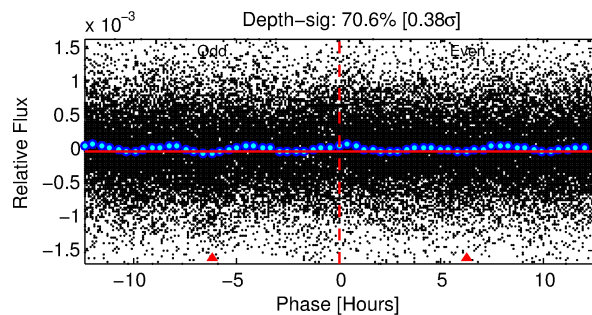
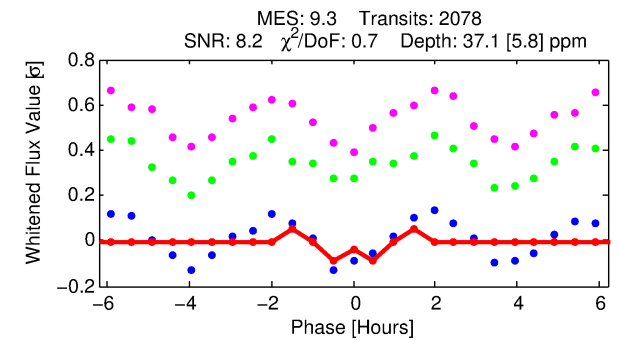
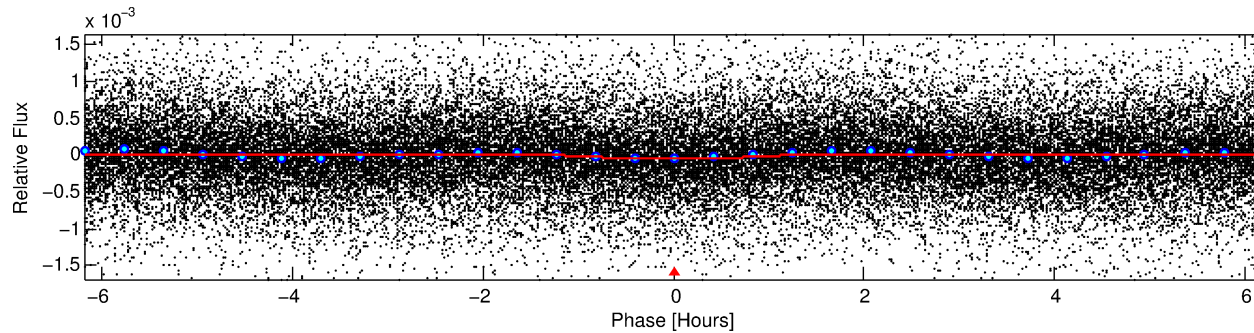
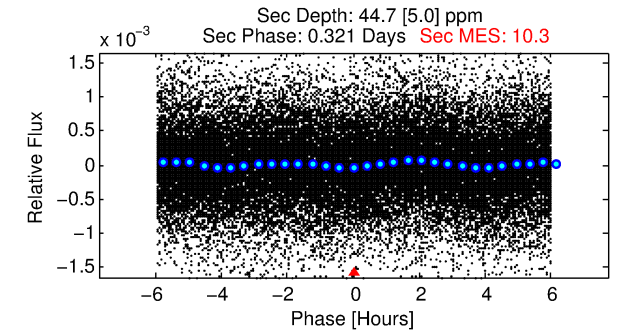
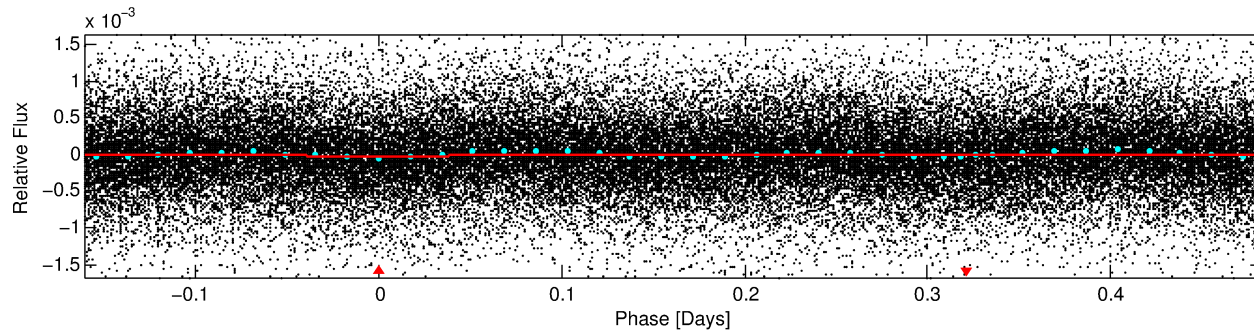
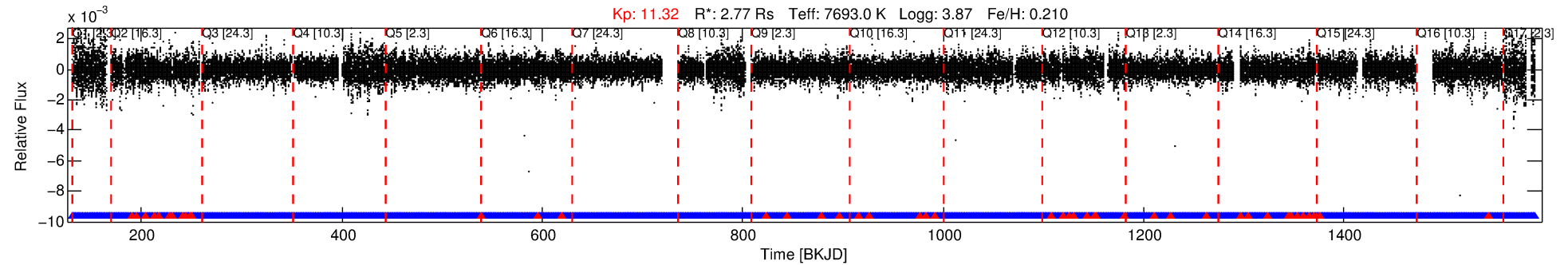
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007502559-01

No Significant Match Found

DV One-Page Summary

KIC: 7502559 Candidate: 1 of 1 Period: 0.644 d



DV Fit Results:

Period = 0.64443 [0.00001] d
Epoch = 131.6422 [0.0012] BKJD
Rp/R* = 0.0066 [0.0012]
a/R* = 1.36 [0.63]
b = 0.92 [0.17]
Seff = 69422.96 [36176.45]
Teq = 4139 [539] K
Rp = 1.99 [0.83] Re
a = 0.0186 [0.0061] AU
Ag = 2.14 [1.32] [0.86σ]
Teffp = 7740 [810] K [3.70σ]

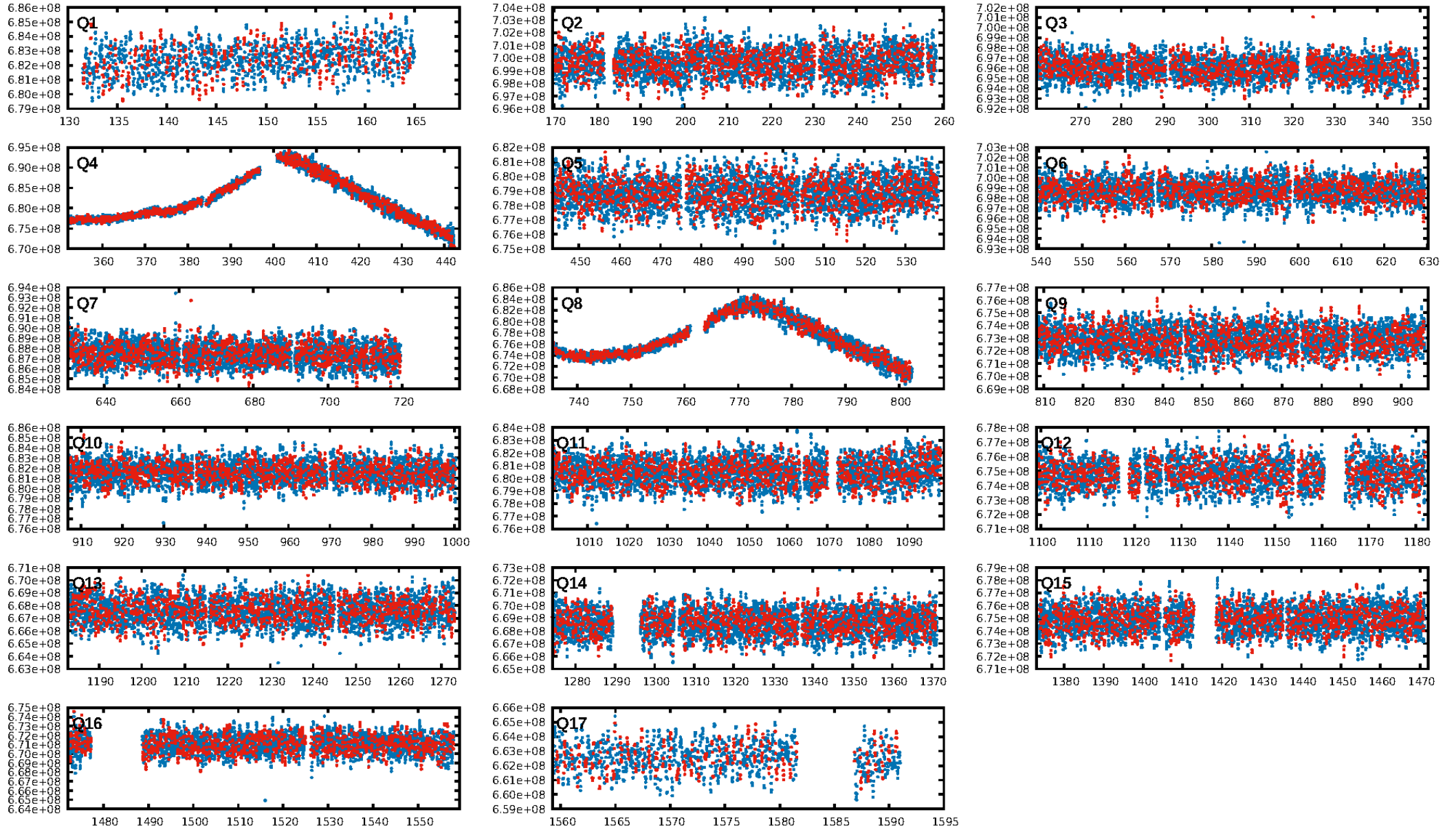
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.10e-17
RollingBand-fgt: 0.98 [1938/1985]
GhostDiagnostic-chr: 0.4533
Centroid-sig: 78.2%
Centroid-so: 0.181 arcsec [0.61σ]
OotOffset-rm: 0.183 arcsec [0.34σ]
KicOffset-rm: 0.432 arcsec [0.94σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 1.00 [17/17]

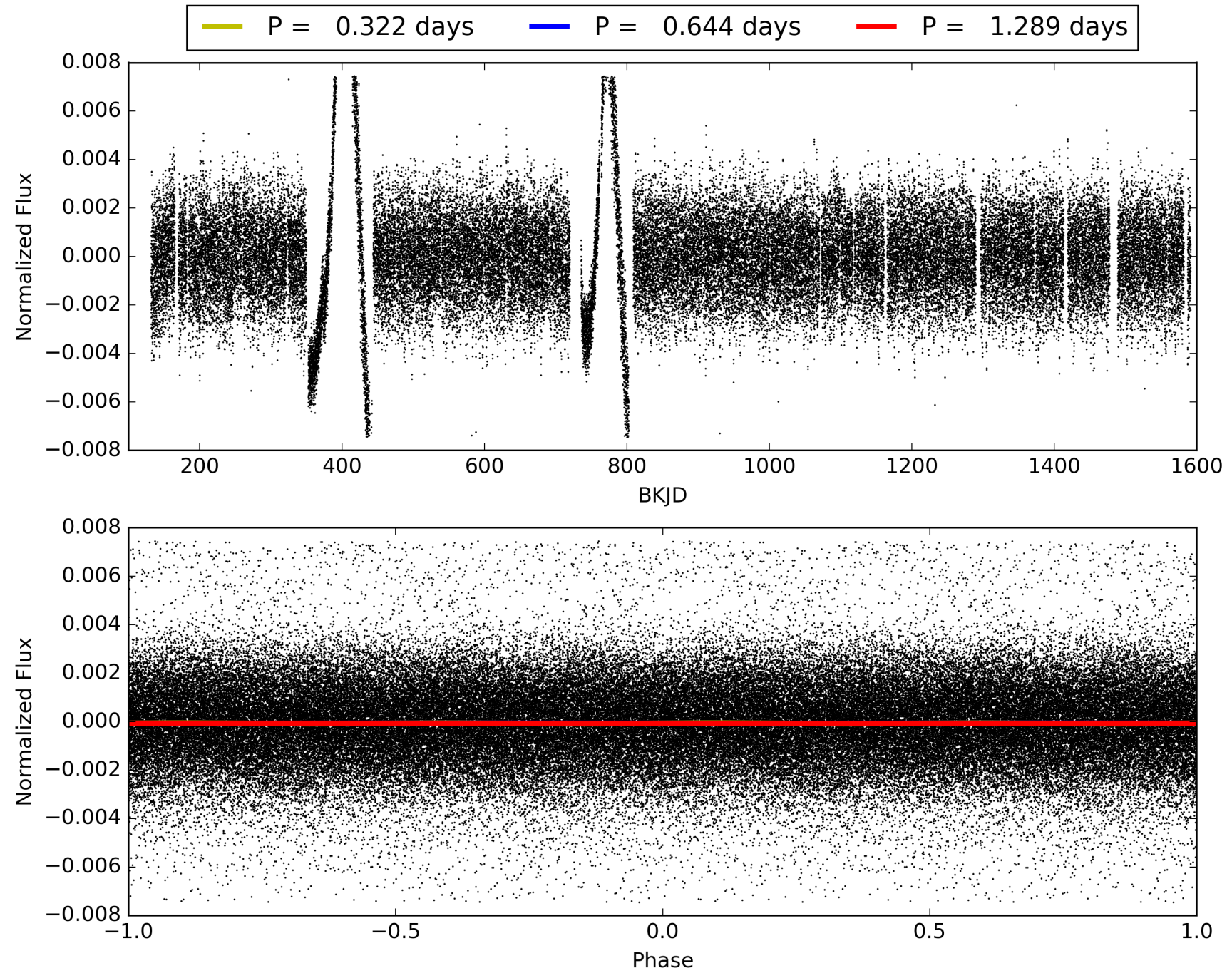
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 08:57:05 Z

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

TCE 007502559-01, PDC Light Curves

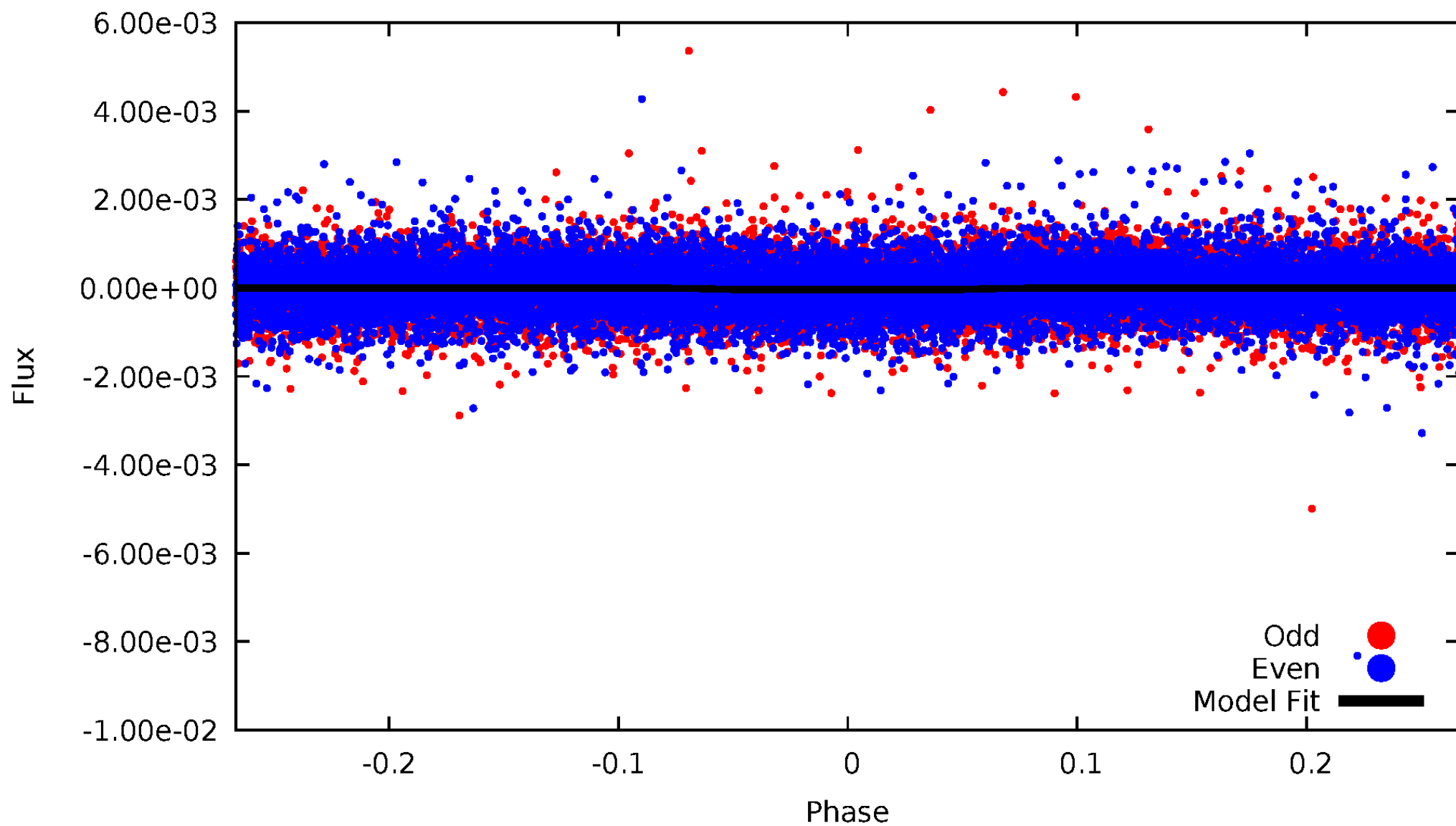


TCE 007502559-01



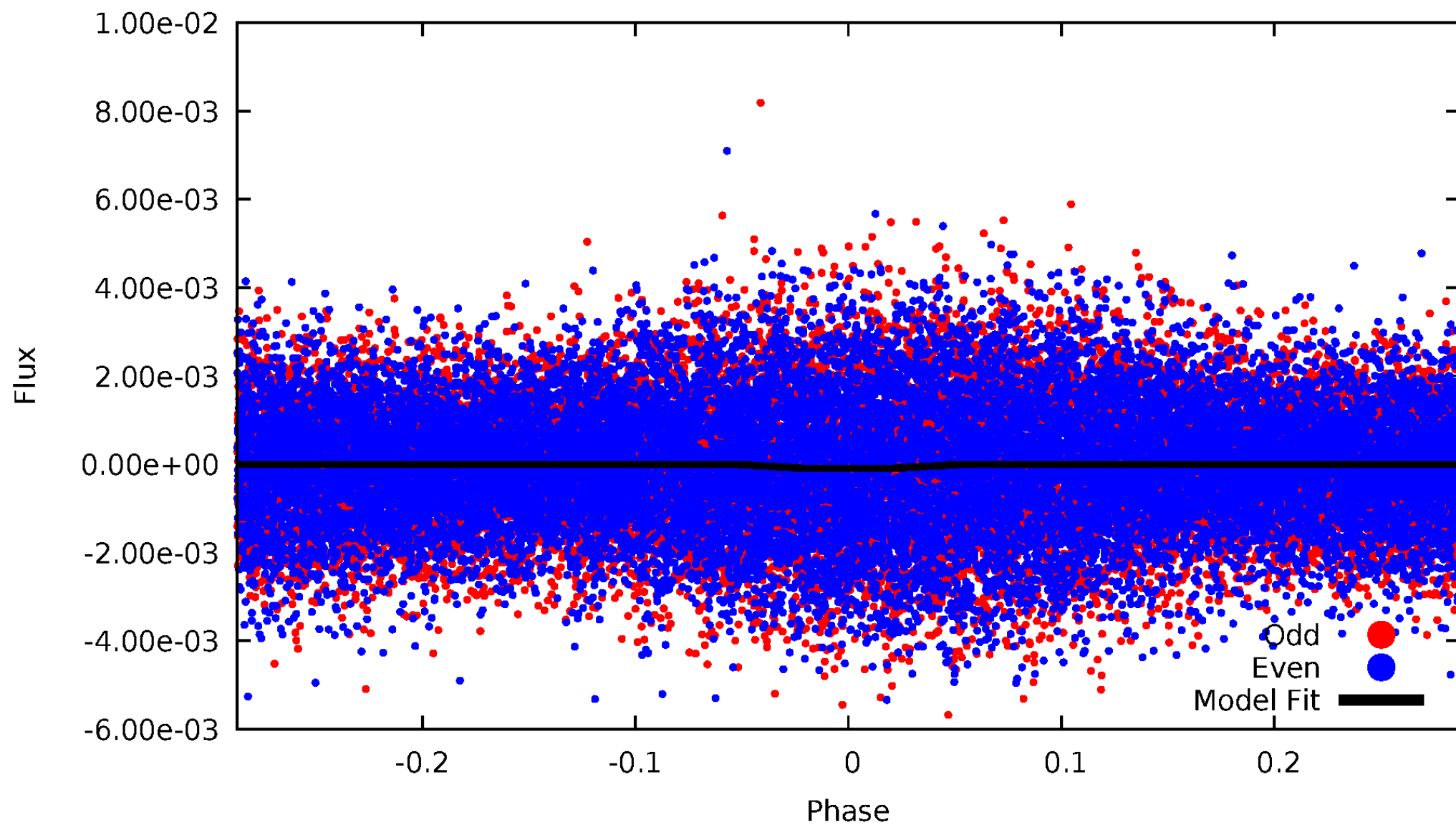
DV Odd/Even

TCE 007502559-01



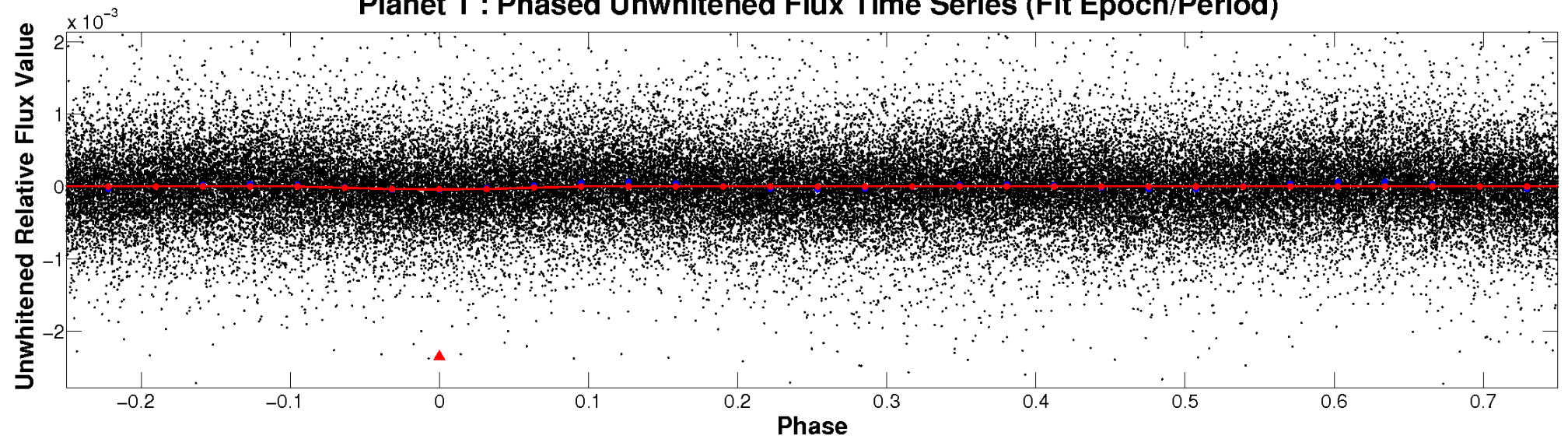
ALT Odd/Even

TCE 007502559-01

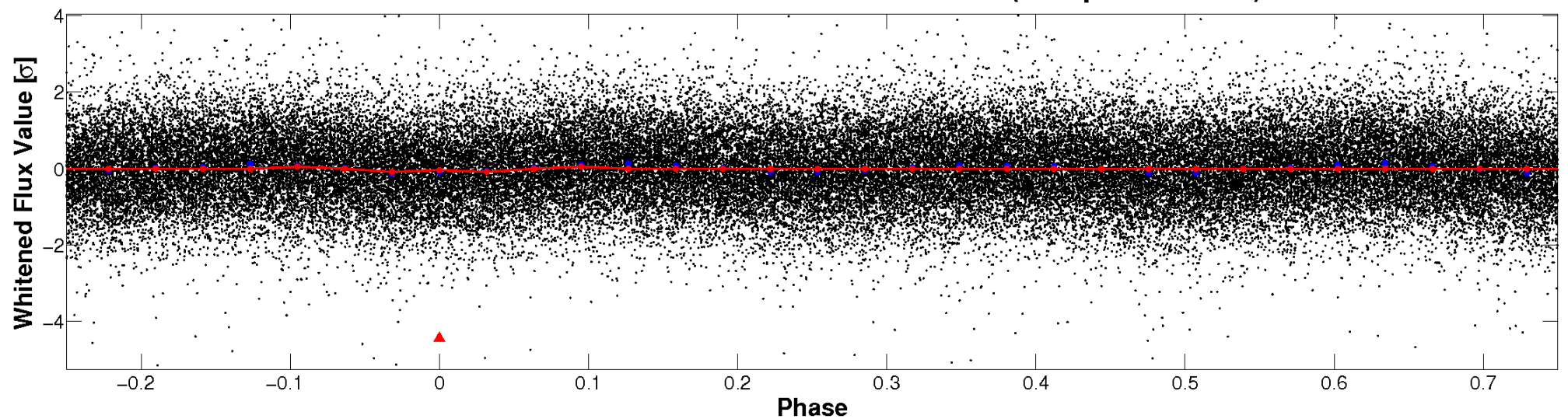


Non-Whitened Vs. Whitened Light Curve

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

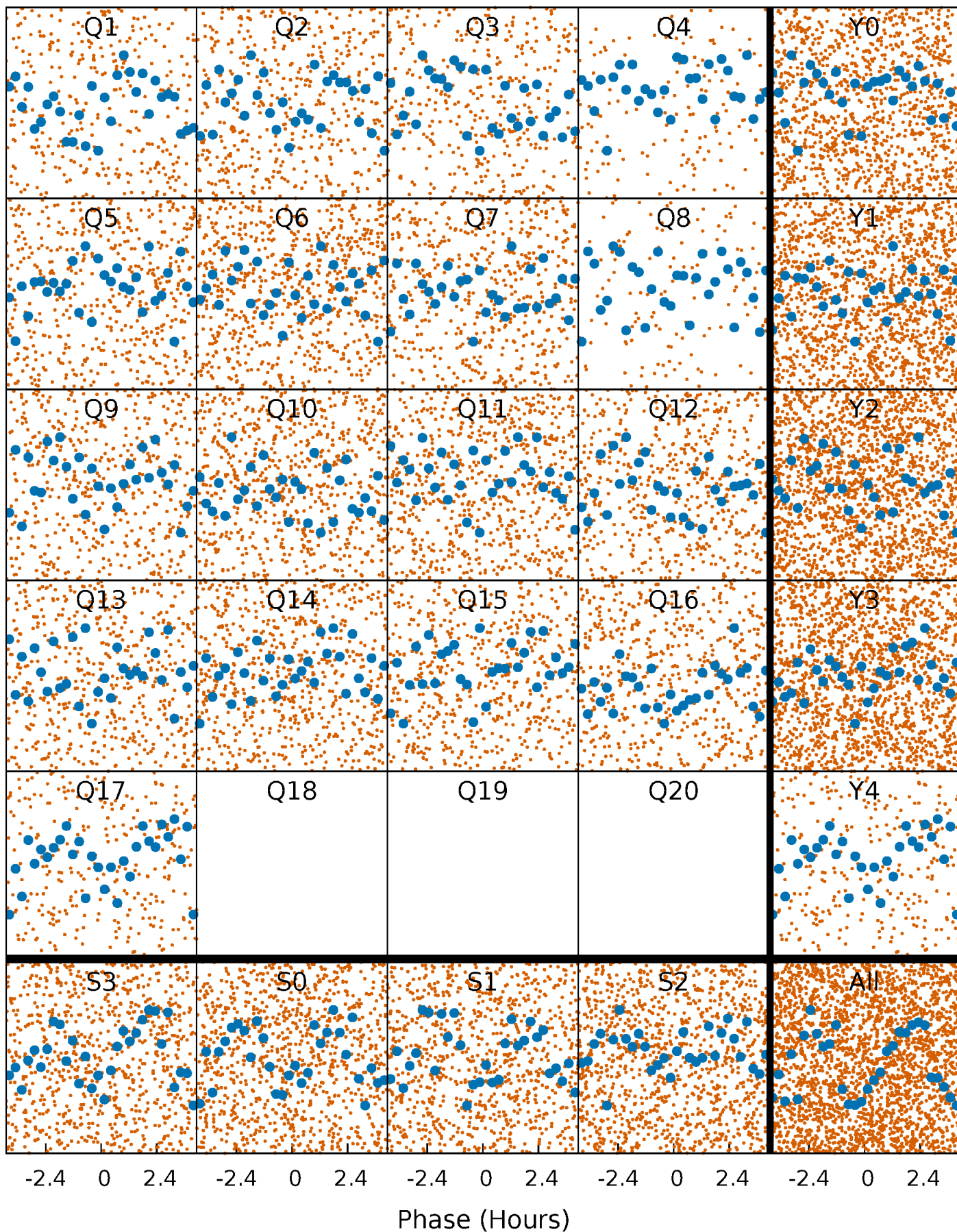


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



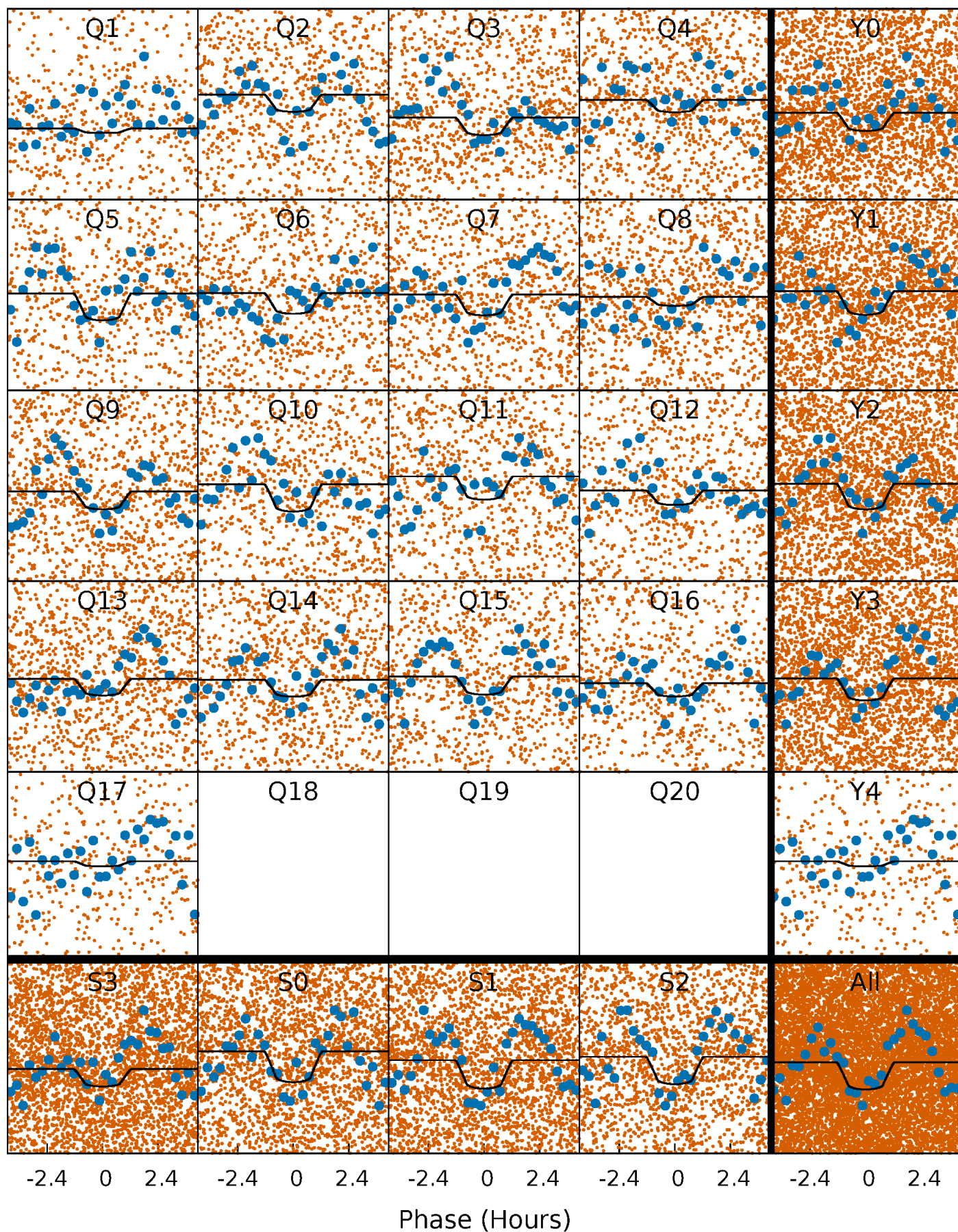
PDC Quarter-Phased Transit Curves

TCE 007502559-01 P= 0.644434 Days $T_0=131.642216$ (BKJD)



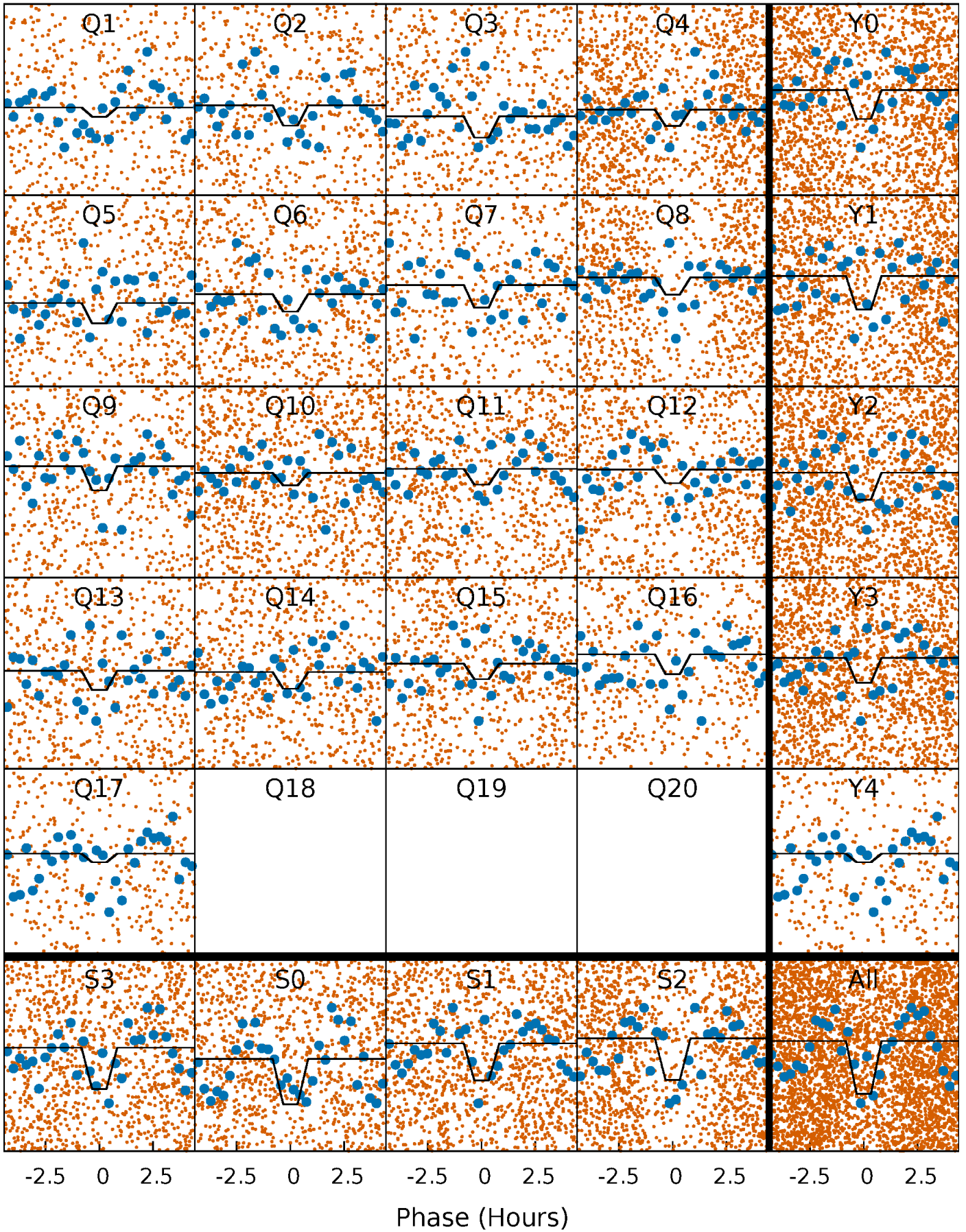
DV Quarter-Phased Transit Curves

TCE 007502559-01 P= 0.644434 Days $T_0=131.642216$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

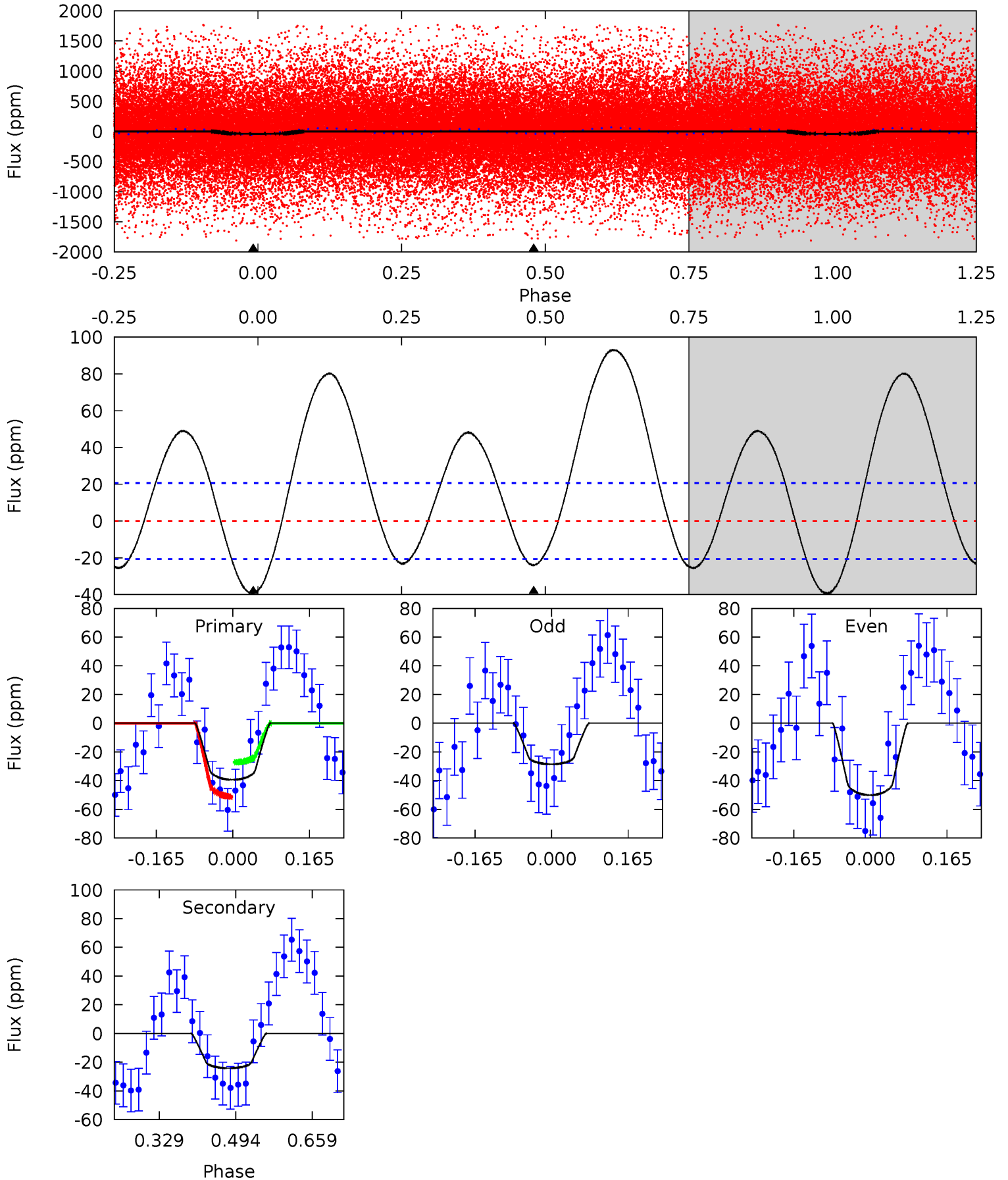
TCE 007502559-01 P= 0.644439 Days $T_0=131.619303$ (BKJD)



DV Model-Shift Uniqueness Test

007502559-01, P = 0.644434 Days, E = 130.997782 Days

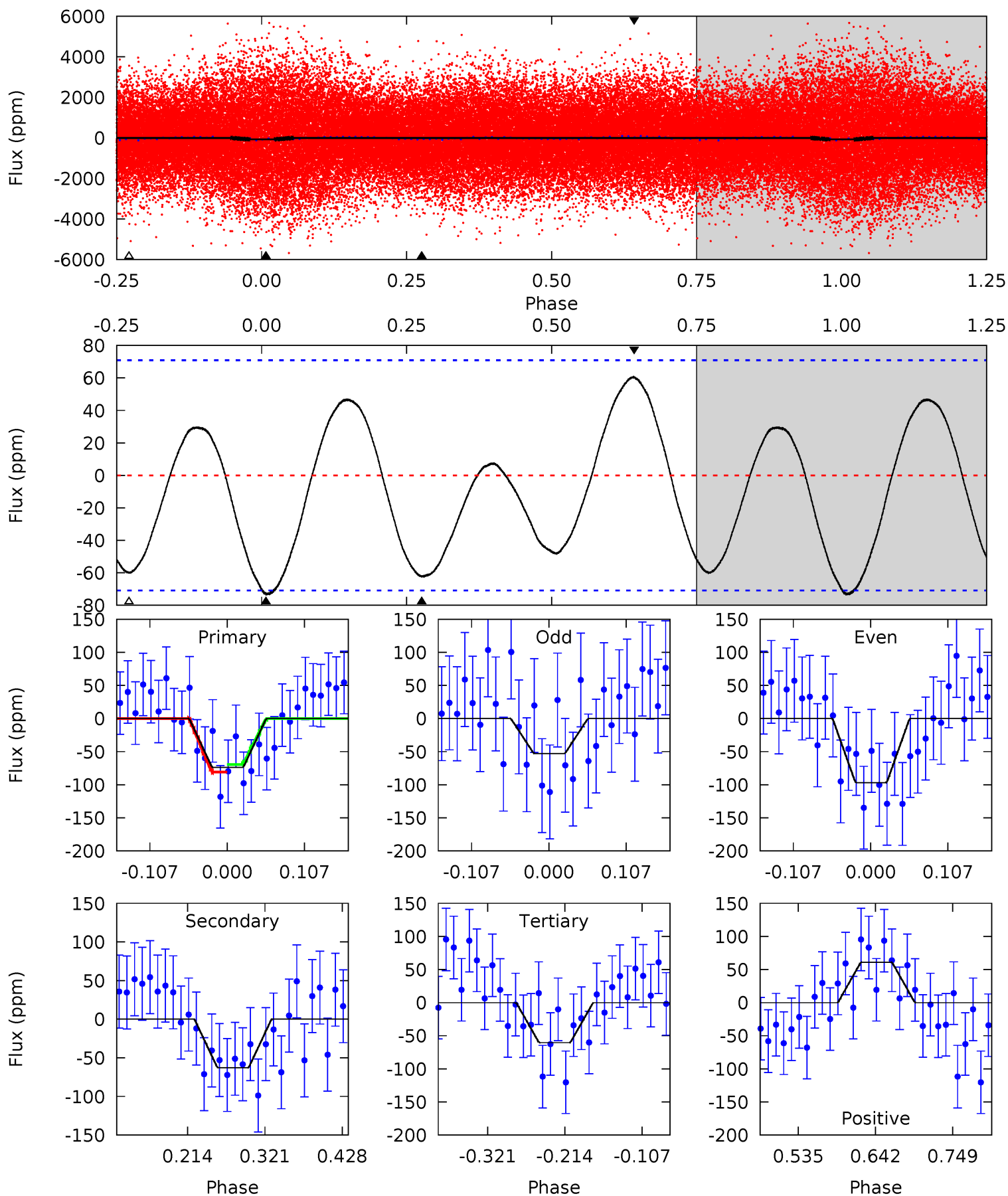
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.48	5.21	0	0	4.46	1.39	6.37	8.48	8.48	5.21	5.21	2.33	0.75	0.70	2.58



Alt Model-Shift Uniqueness Test

007502559-01, P = 0.644439 Days, E = 130.974864 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.74	4.03	3.88	3.91	4.55	1.61	2.35	0.86	0.83	0.15	0.12	1.33	0.88	0.45	0.34



Stellar Parameters For KIC 007502559

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7693^{+214}_{-349}	$3.869^{+0.273}_{-0.117}$	$0.210^{+0.150}_{-0.450}$	$2.765^{+0.521}_{-1.041}$	$2.059^{+0.260}_{-0.483}$	$0.137^{+0.259}_{-0.050}$
	+3%/-5%	+7%/-3%	+71%/-214%	+19%/-38%	+13%/-23%	+189%/-36%
Source	KIC0	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 007502559-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-24 ± 5	$1.88^{+0.51}_{-0.41}$	5664^{+443}_{-537}	6082^{+867}_{-864}	$1.314^{+0.851}_{-0.545}$
Alt.	-63 ± 16	$2.80^{+0.51}_{-0.60}$	5709^{+343}_{-440}	6496^{+849}_{-822}	$1.543^{+0.888}_{-0.570}$

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

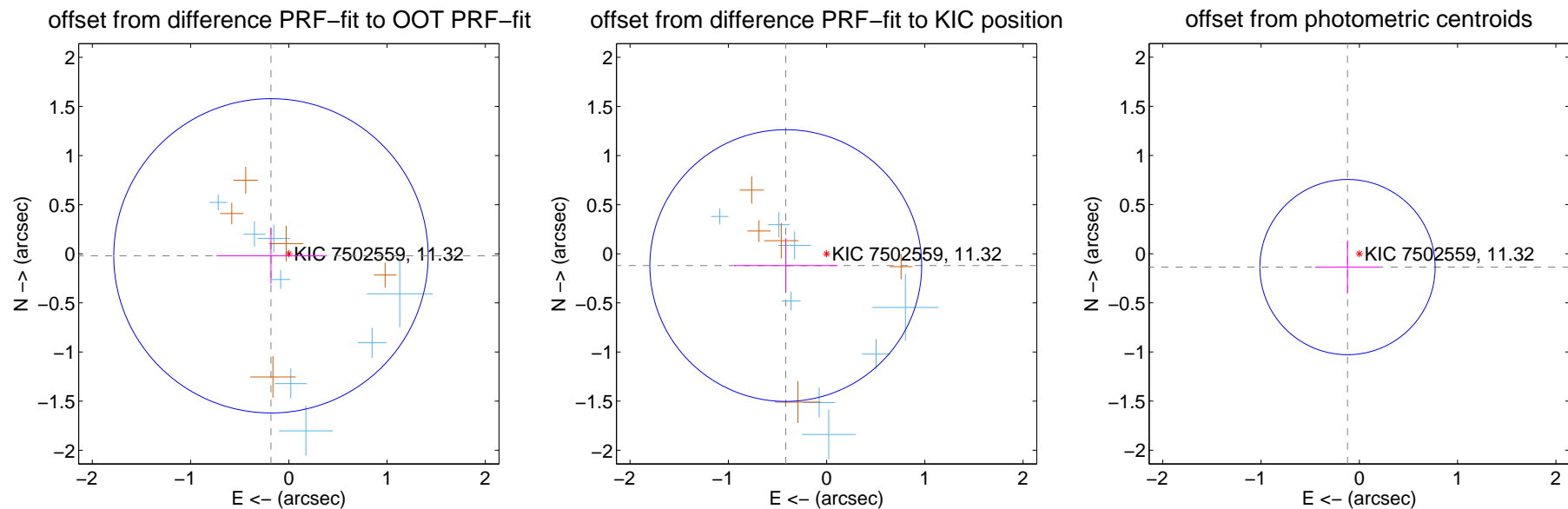
DV Centroid Data

Supplemental centroid analysis for 007502559-01. **Kepler magnitude: 11.32.** Transit SNR 8.15

There are 9 quarters with good PRF difference image offsets

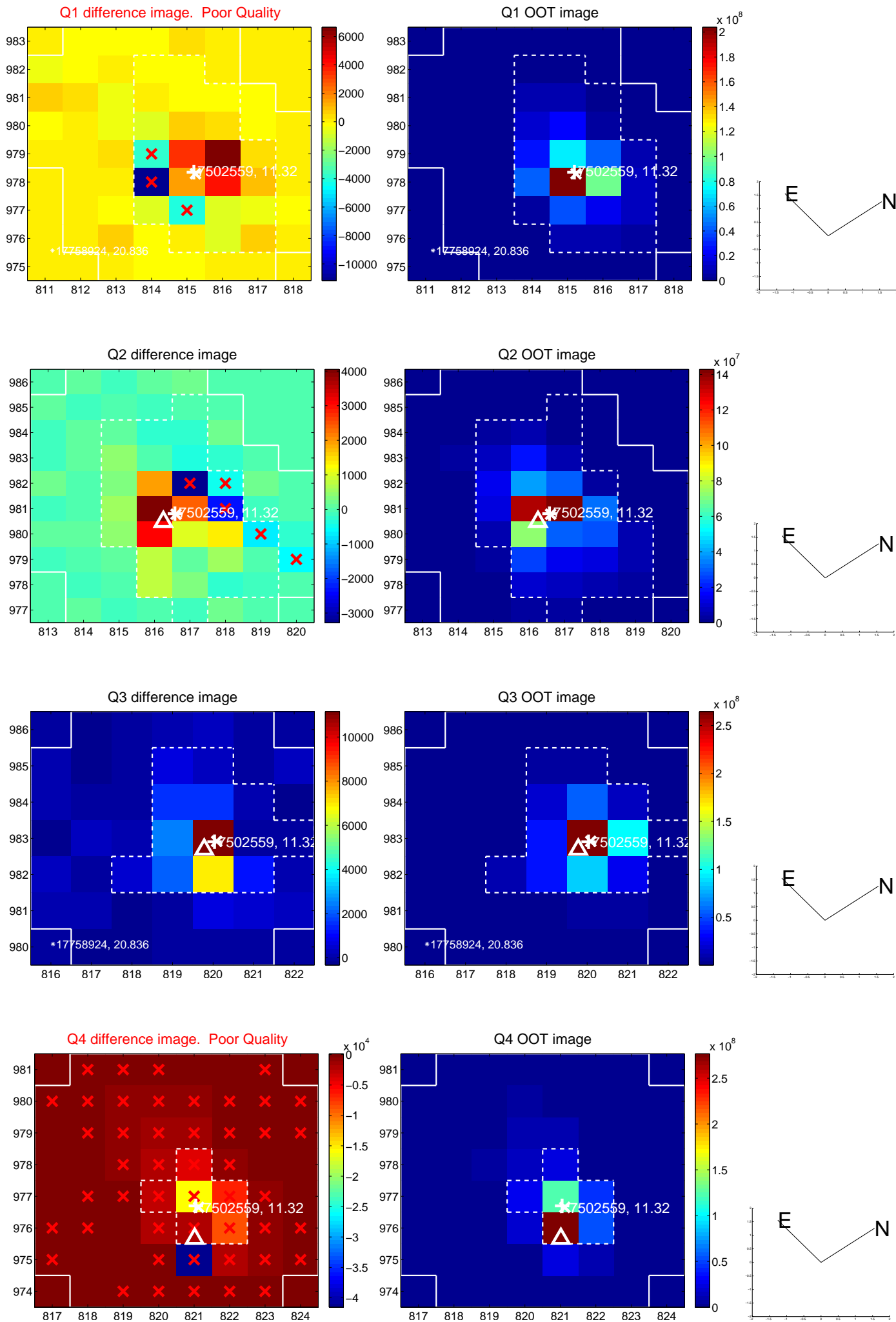
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.183 ± 0.533	0.34	0.182 ± 0.555	-0.021 ± 0.286
PRF-fit source offset from KIC position	0.432 ± 0.461	0.94	0.415 ± 0.527	-0.120 ± 0.278
photometric centroid source offset	0.18 ± 0.30	0.61	0.12 ± 0.33	-0.14 ± 0.27

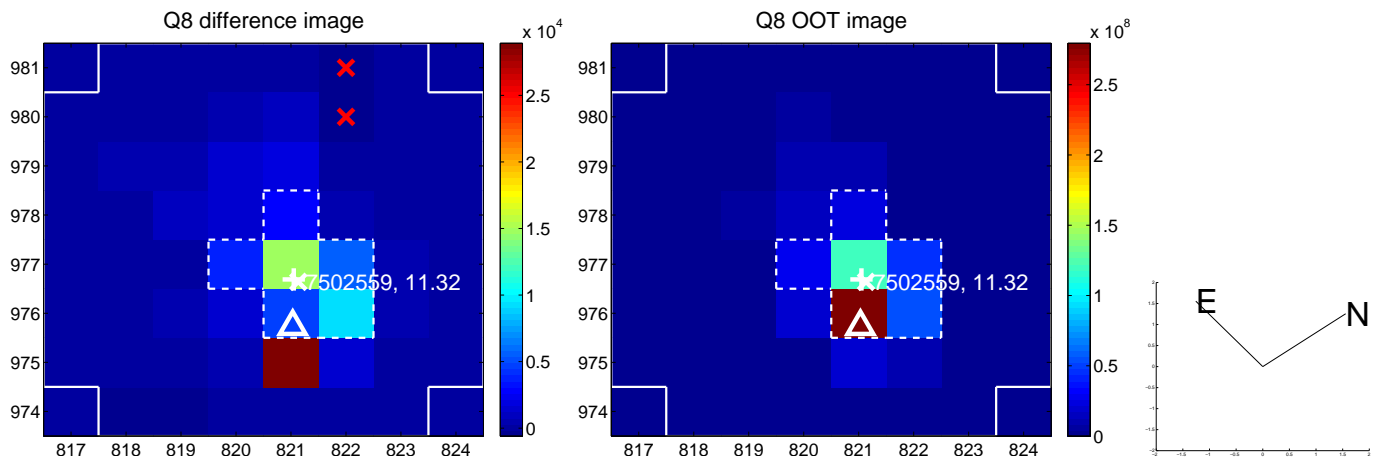
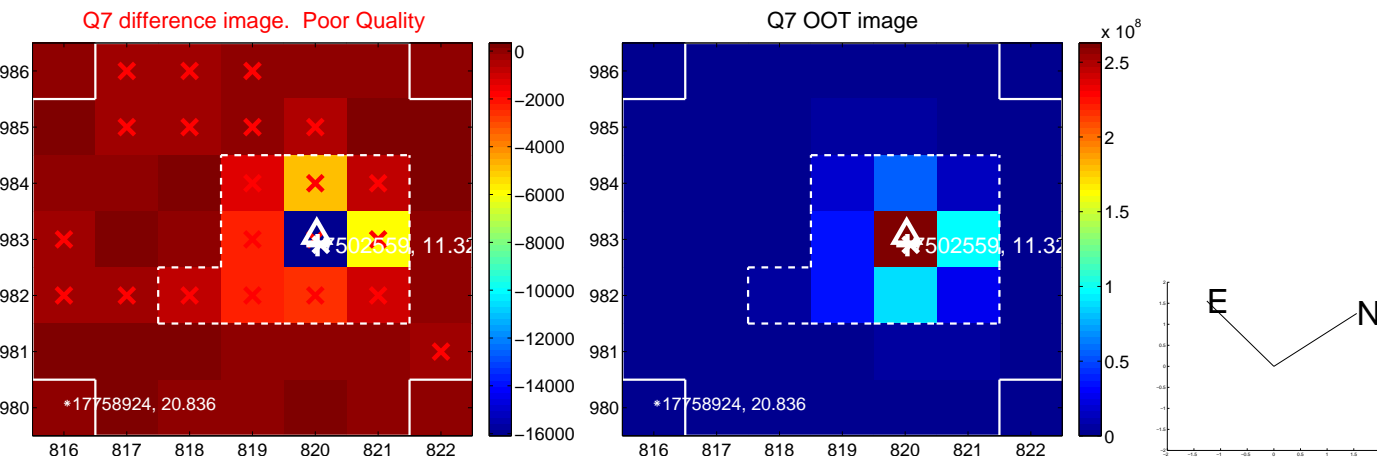
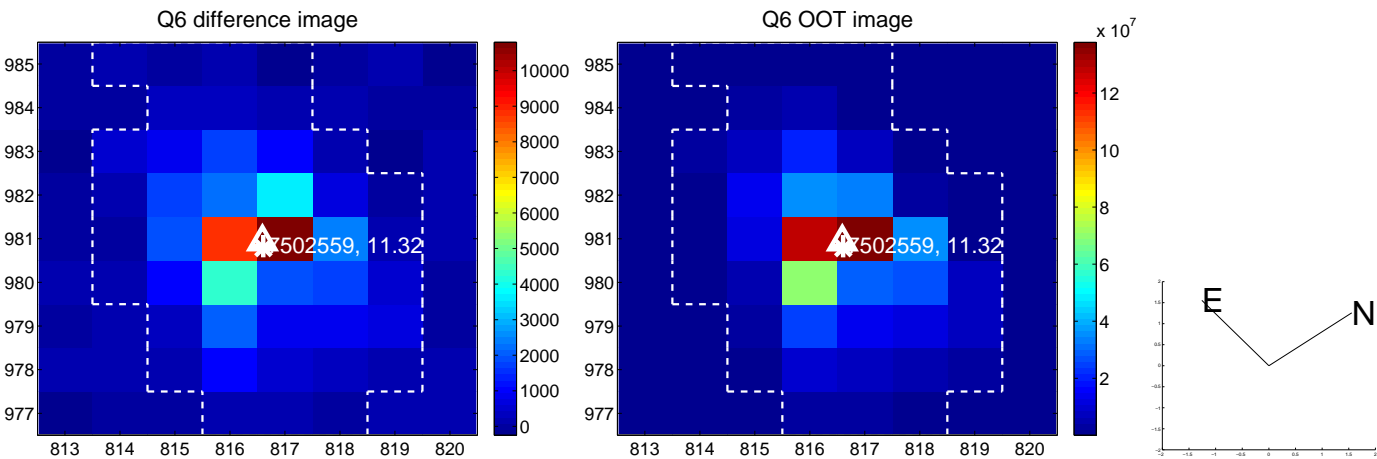
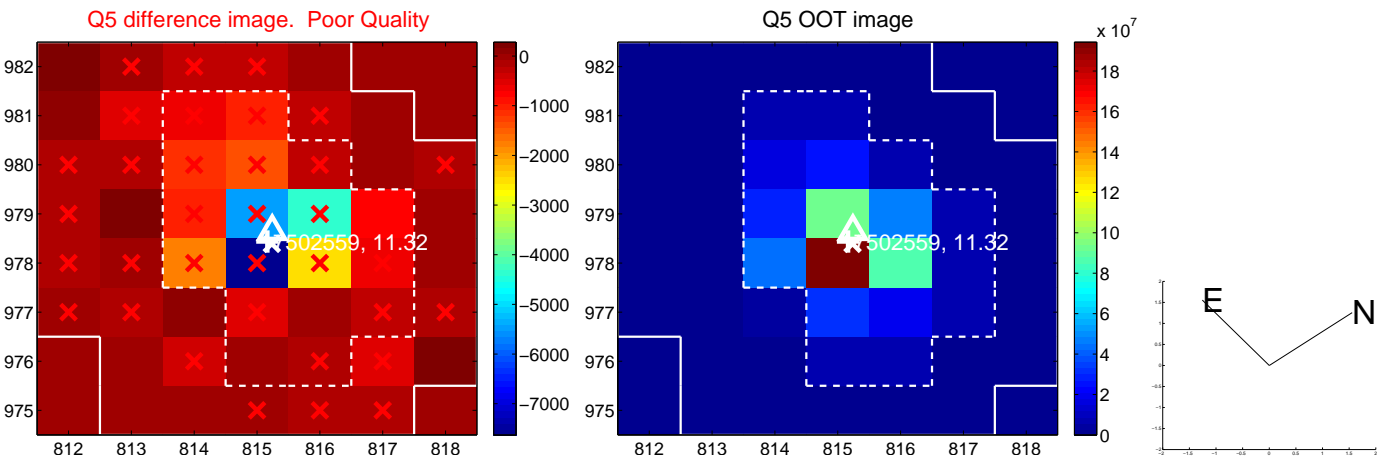


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

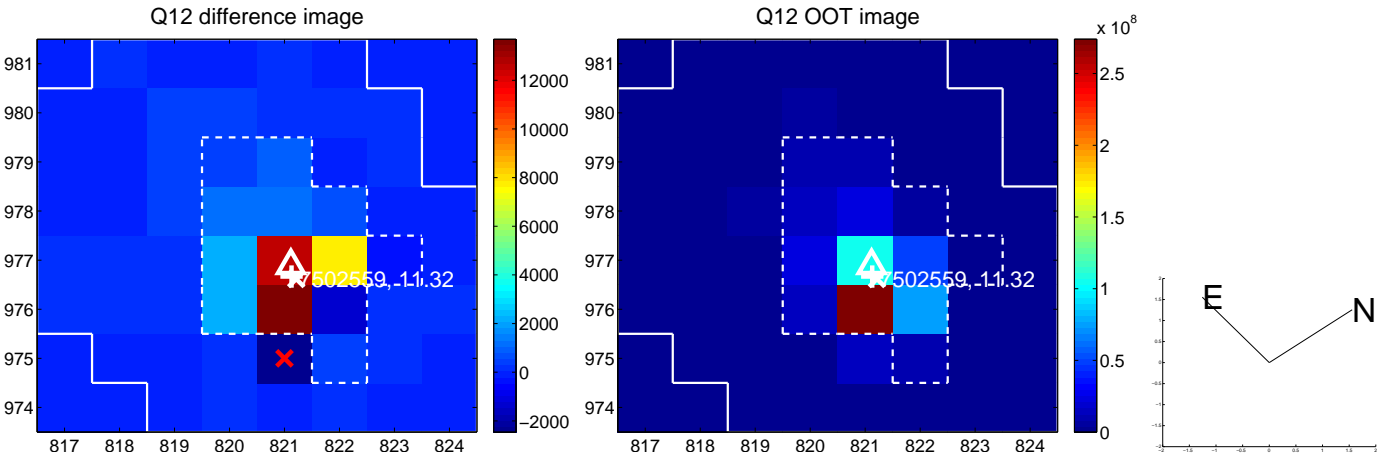
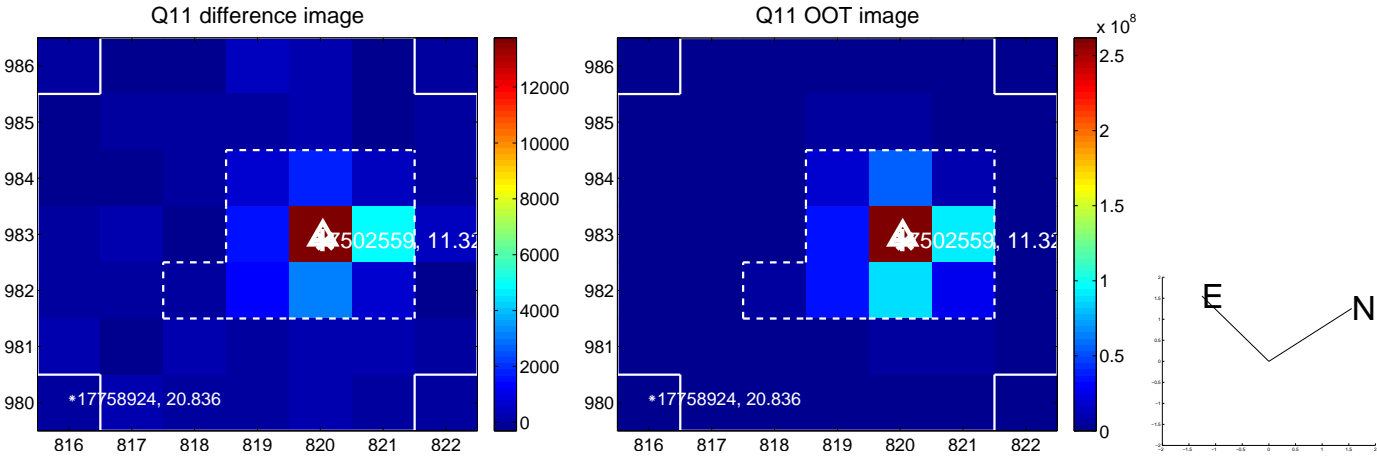
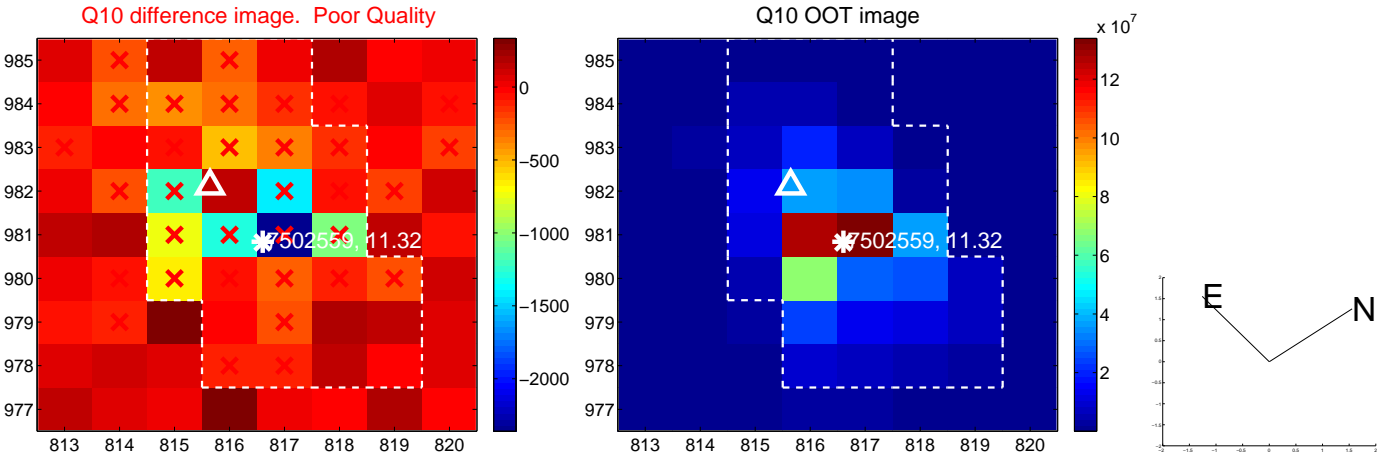
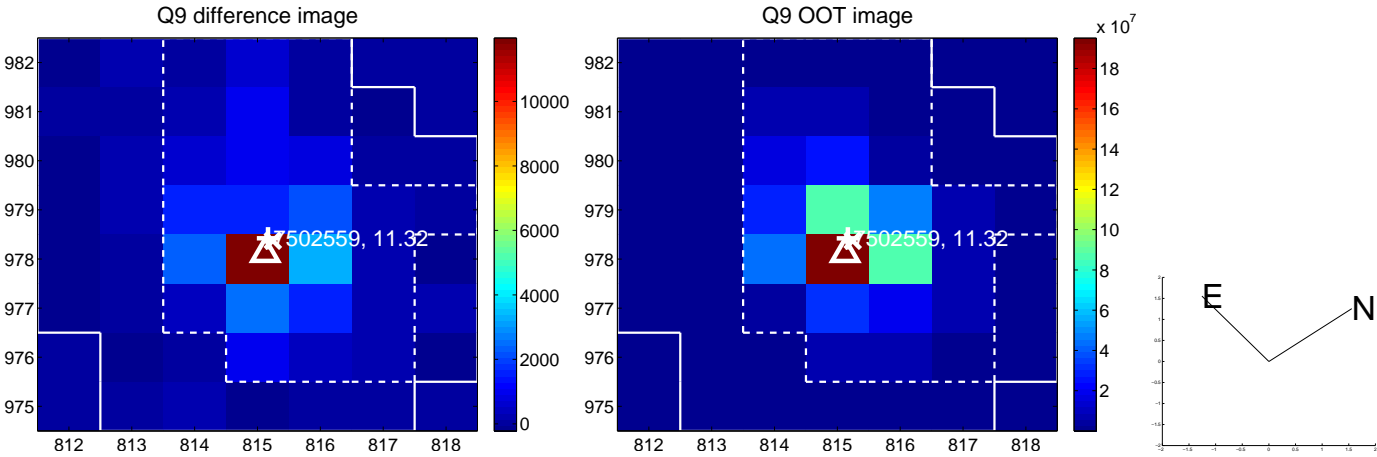
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



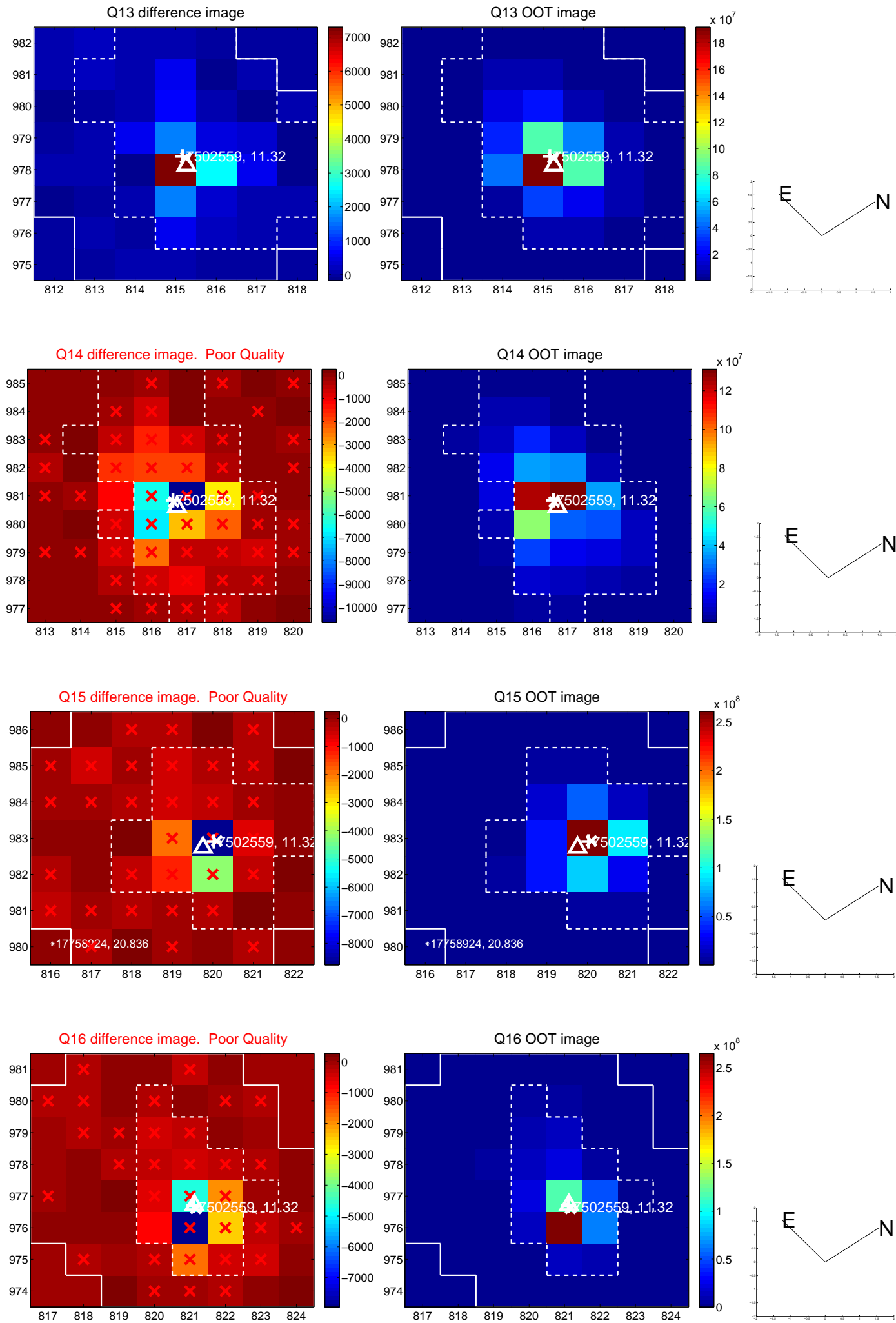
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



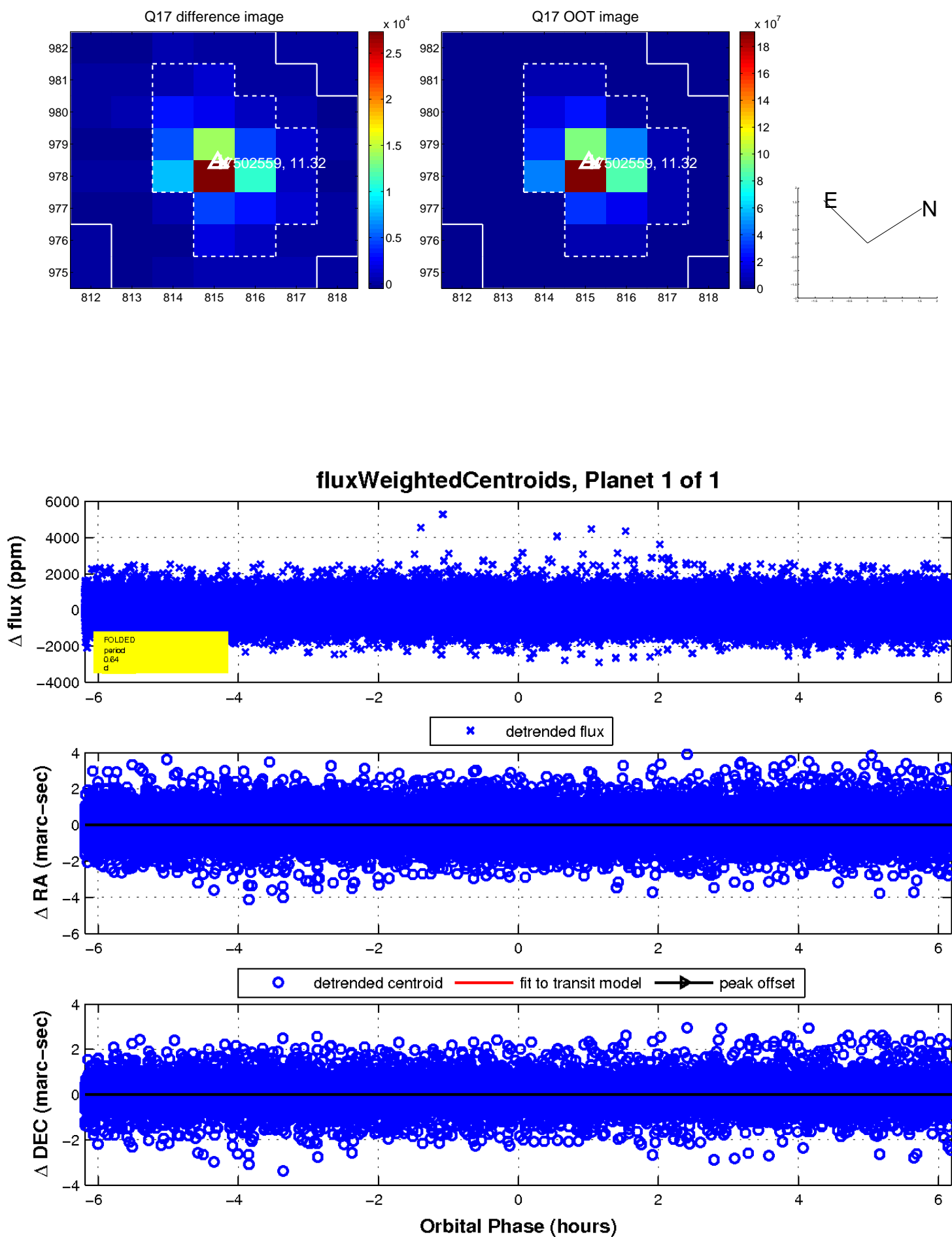
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

