

KIC 002578891

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})
002578891-01	OBS	No	2.327324	131.900942	5.1	19.568	14.4	2.8	1.58	6767	0.36	3267.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002578891-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

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

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

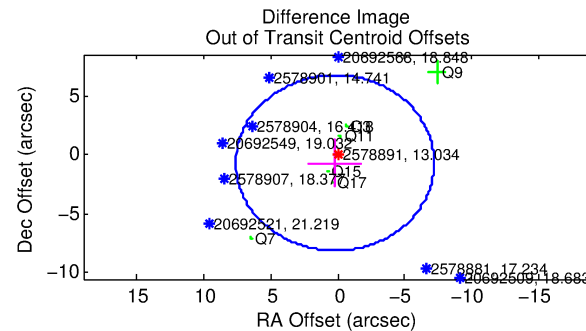
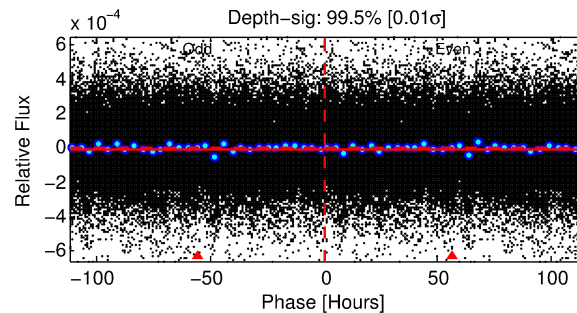
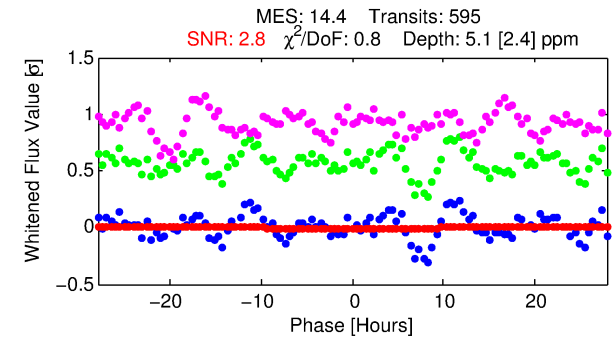
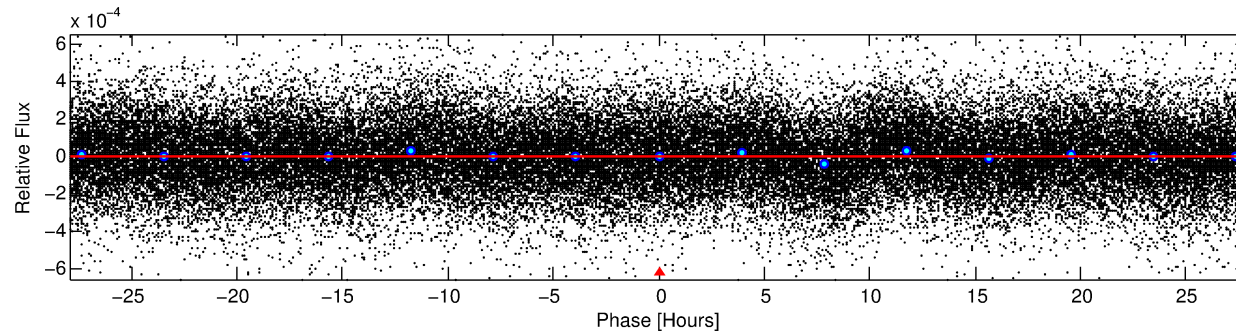
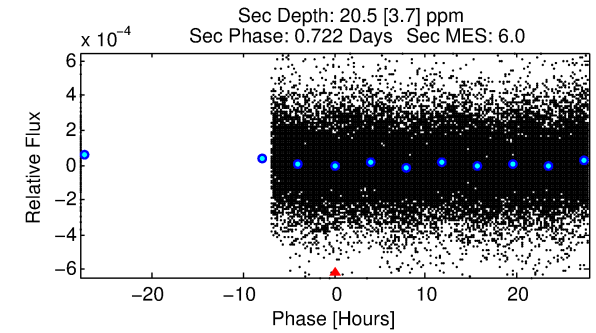
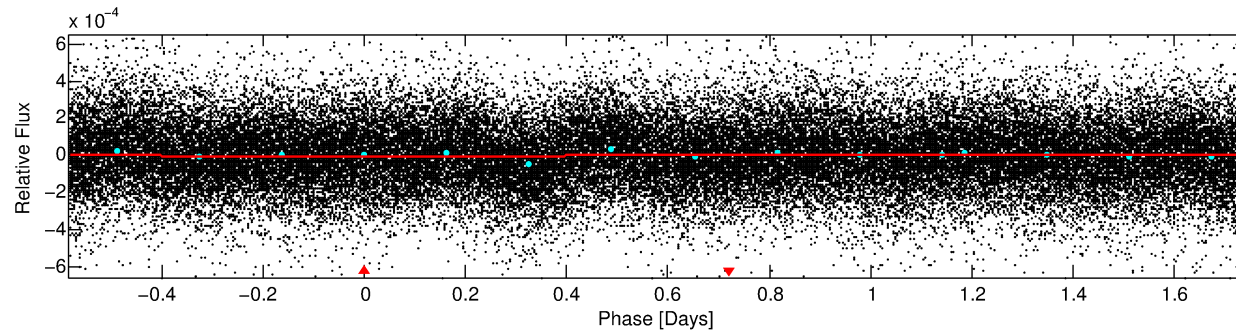
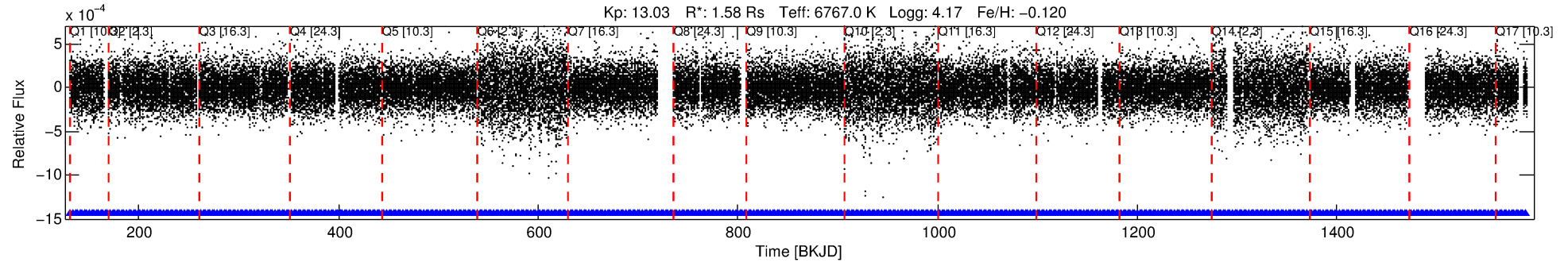
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002578891-01

No Significant Match Found

DV One-Page Summary

KIC: 2578891 Candidate: 1 of 1 Period: 2.327 d



DV Fit Results:

Period = 2.32732 [0.00017] d
Epoch = 131.9009 [0.0378] BKJD
Rp/R* = 0.0021 [0.0068]
a/R* = 1.11 [3.88]
b = 0.30 [54.91]
Seff = 3267.82 [1263.57]
Teq = 1928 [186] K
Rp = 0.36 [1.17] Re
a = 0.0379 [0.0093] AU
Ag = 122.17 [782.80] [0.15σ]
Teffp = 9910 [15855] K [0.50σ]

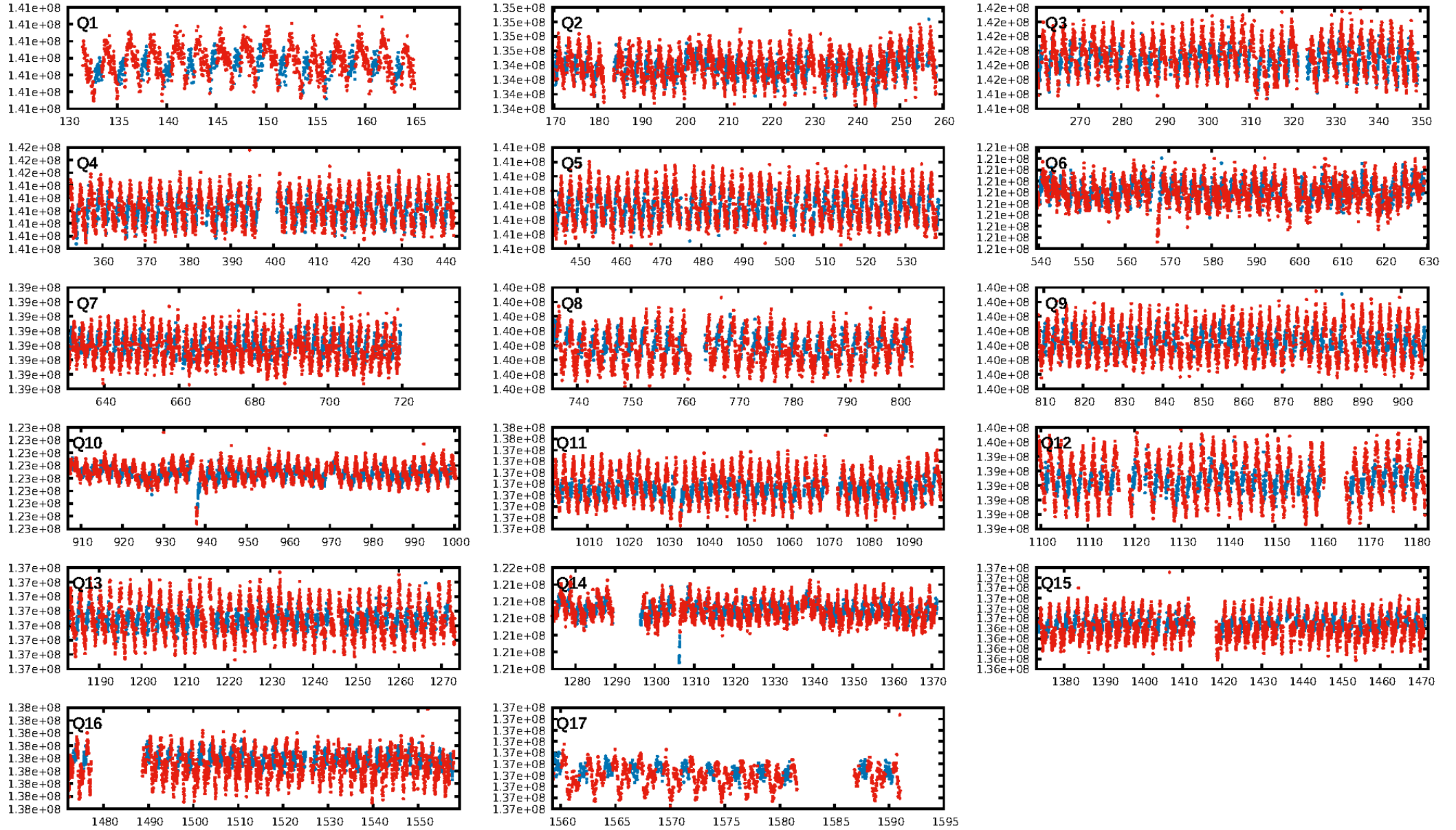
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [567/567]
GhostDiagnostic-chr: 1.138
Centroid-sig: 0.0%
Centroid-so: 11.726 arcsec [3.33σ]
OotOffset-rm: 0.715 arcsec [0.29σ]
KicOffset-rm: 0.481 arcsec [0.19σ]
OotOffset-st: 0/4/0/2 [6]
KicOffset-st: 0/4/0/2 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 1.00 [17/17]

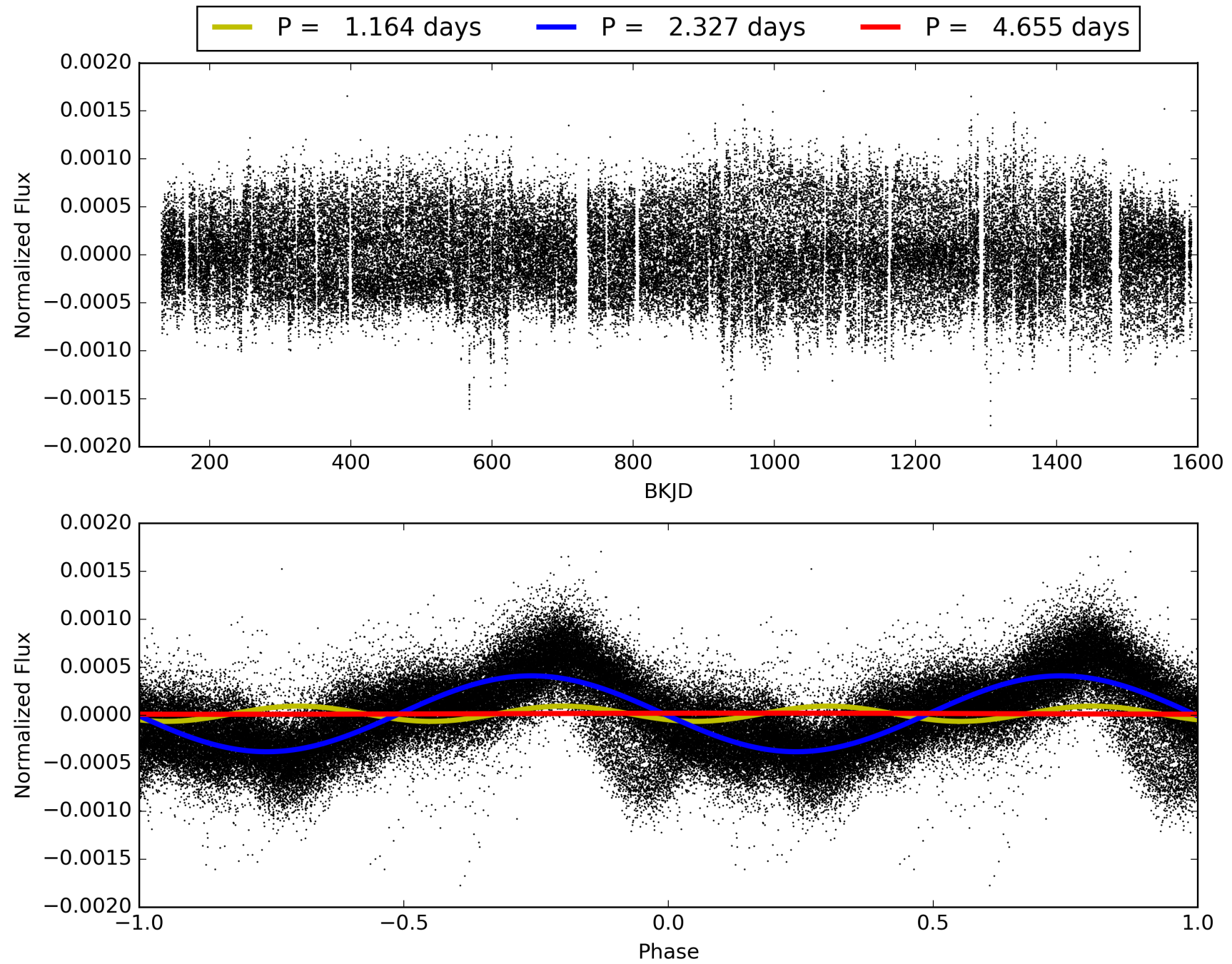
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:09:04 Z

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

TCE 002578891-01, PDC Light Curves

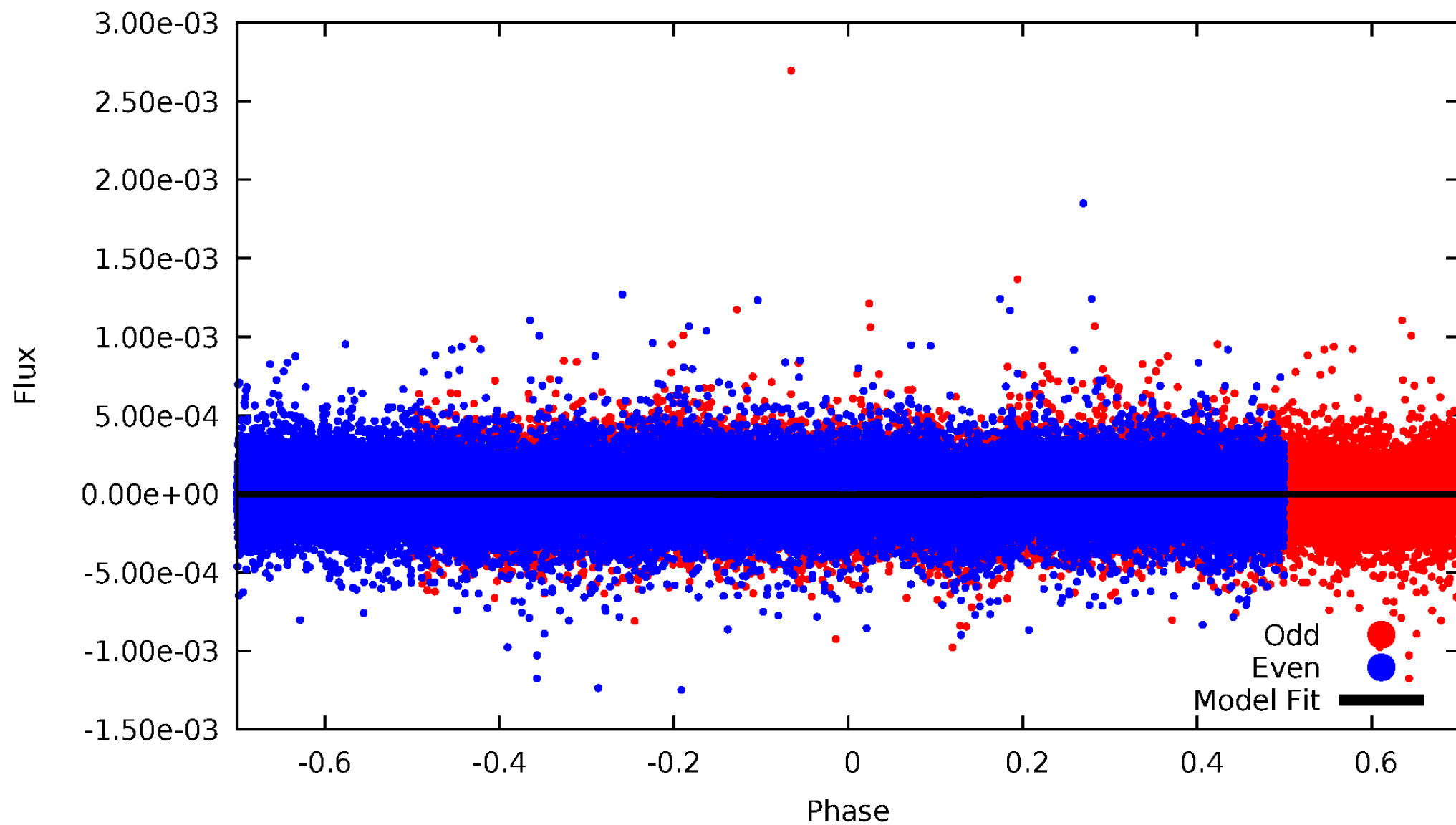


TCE 002578891-01



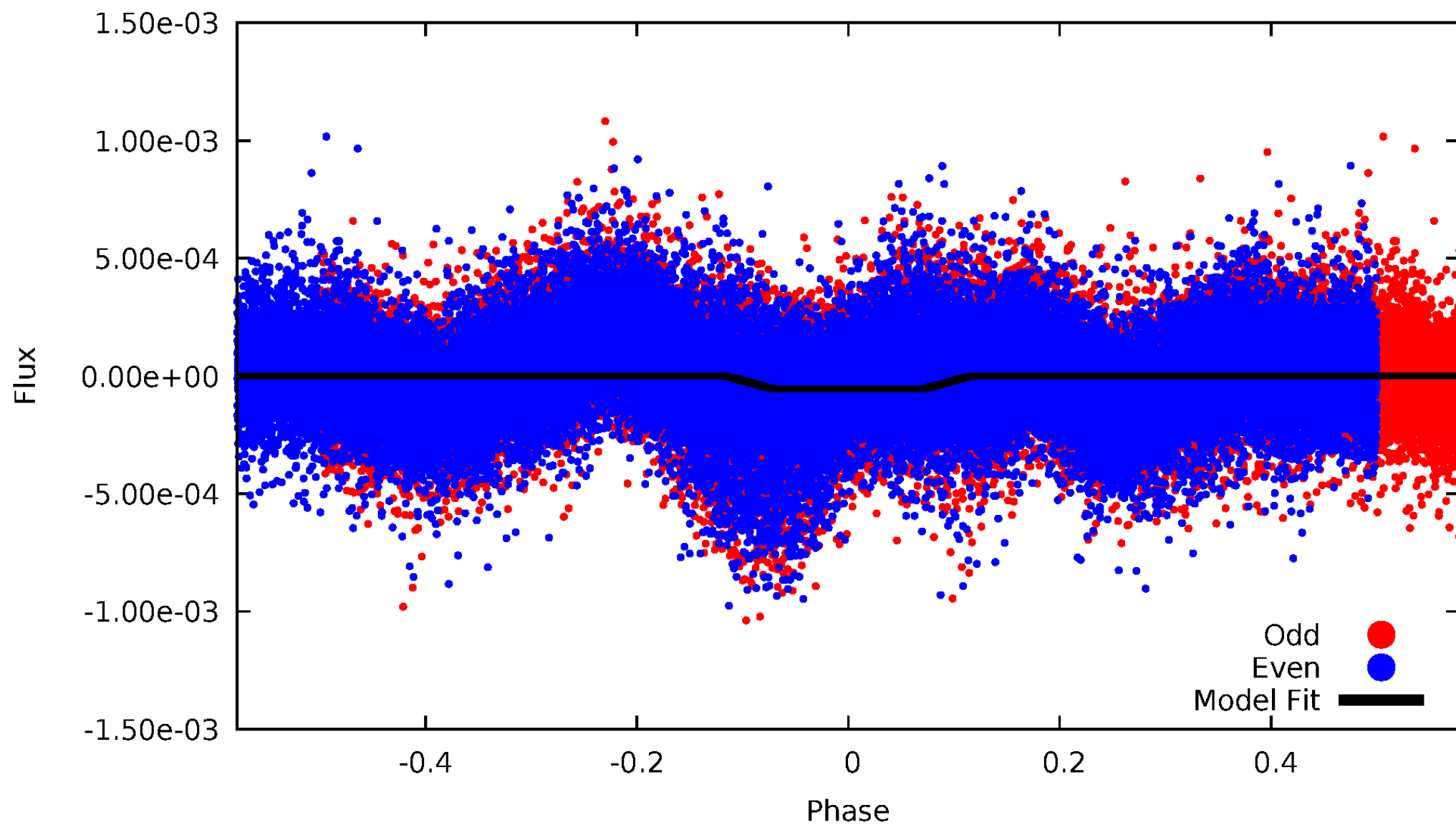
DV Odd/Even

TCE 002578891-01



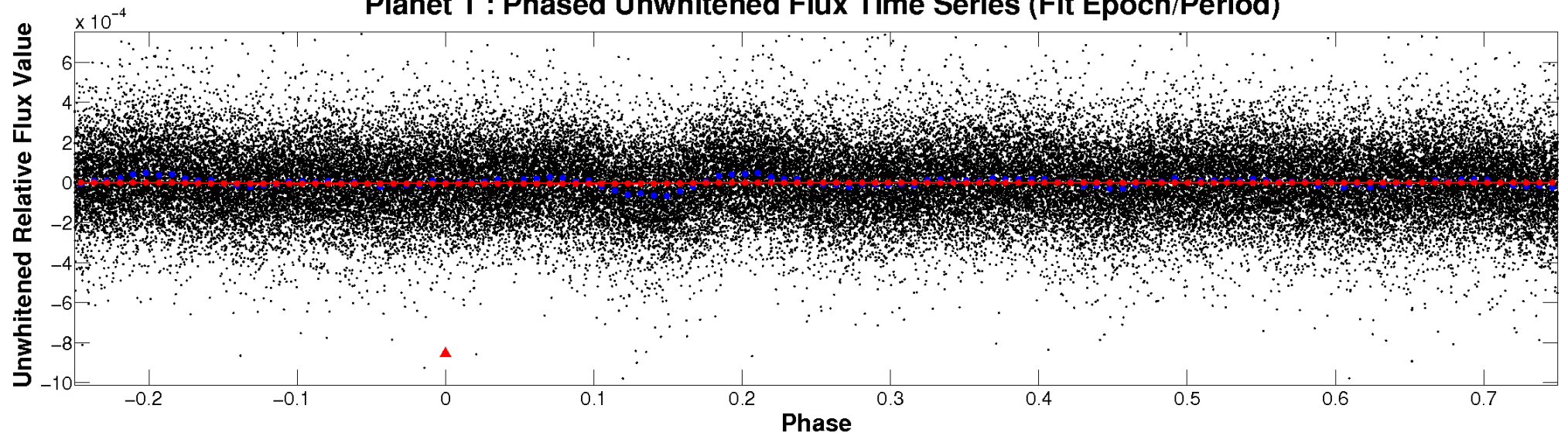
ALT Odd/Even

TCE 002578891-01

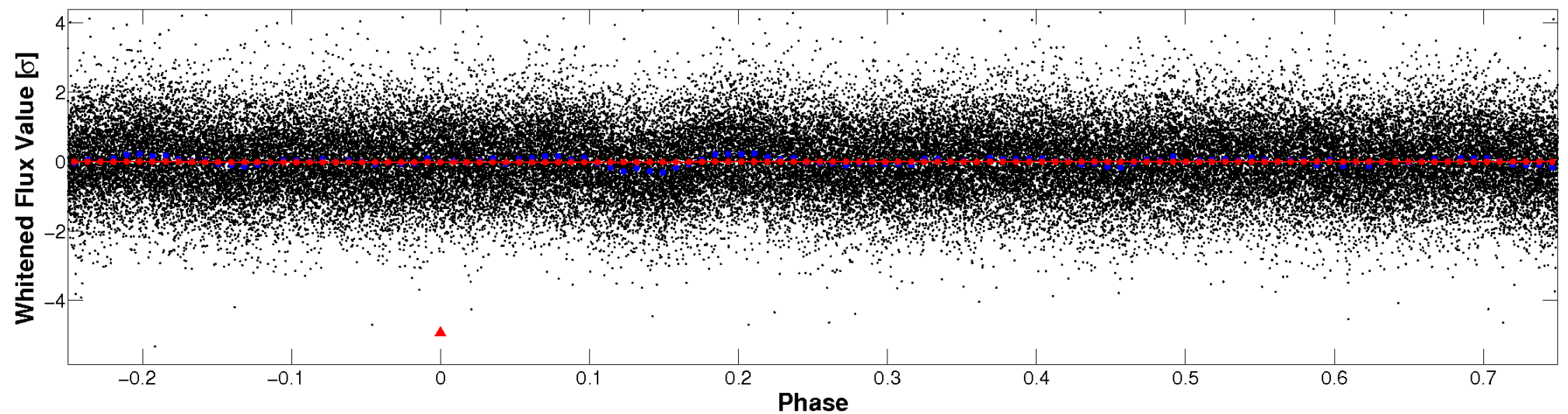


Non-Whitened Vs. Whitened Light Curve

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

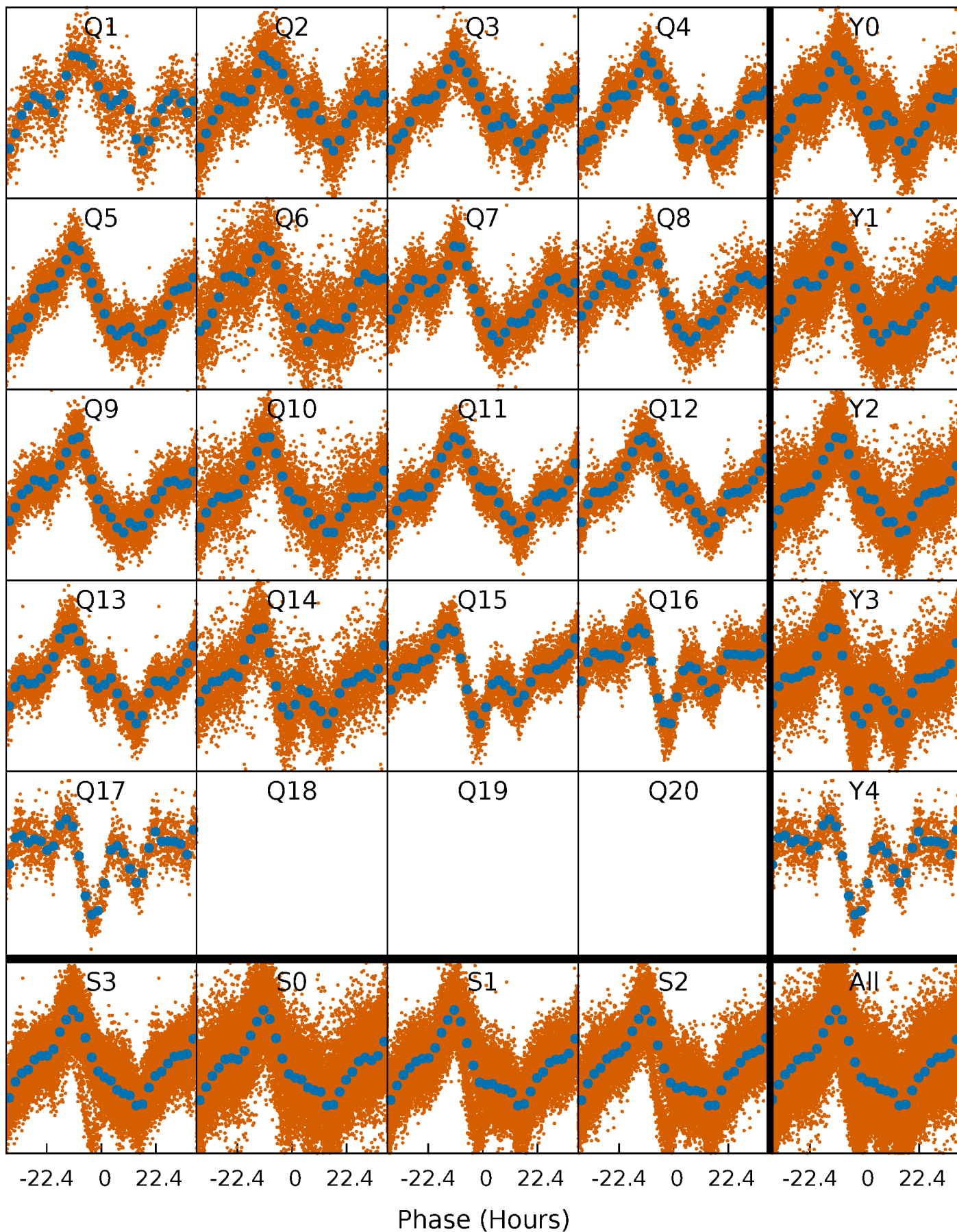


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



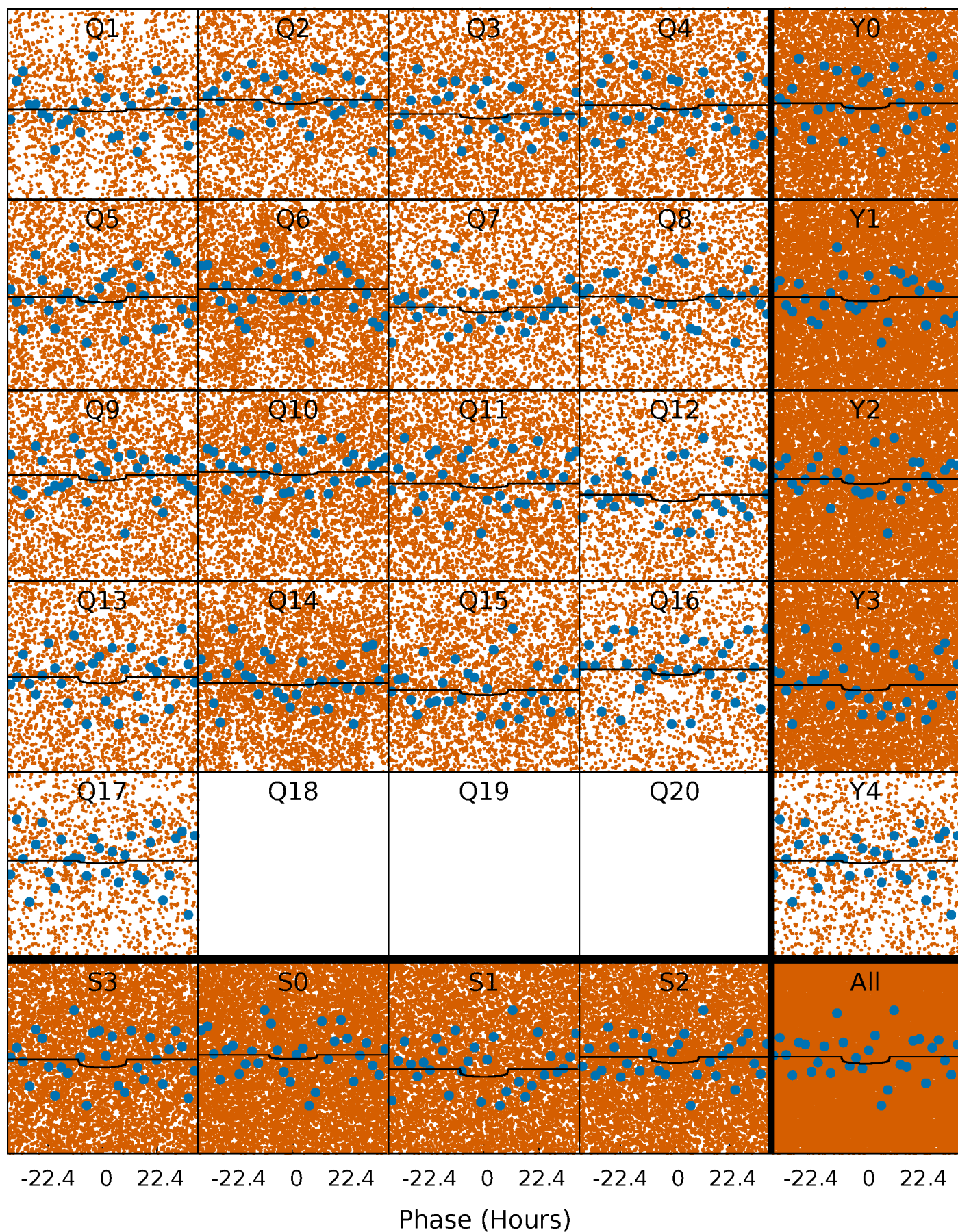
PDC Quarter-Phased Transit Curves

TCE 002578891-01 P= 2.327324 Days $T_0=131.900942$ (BKJD)



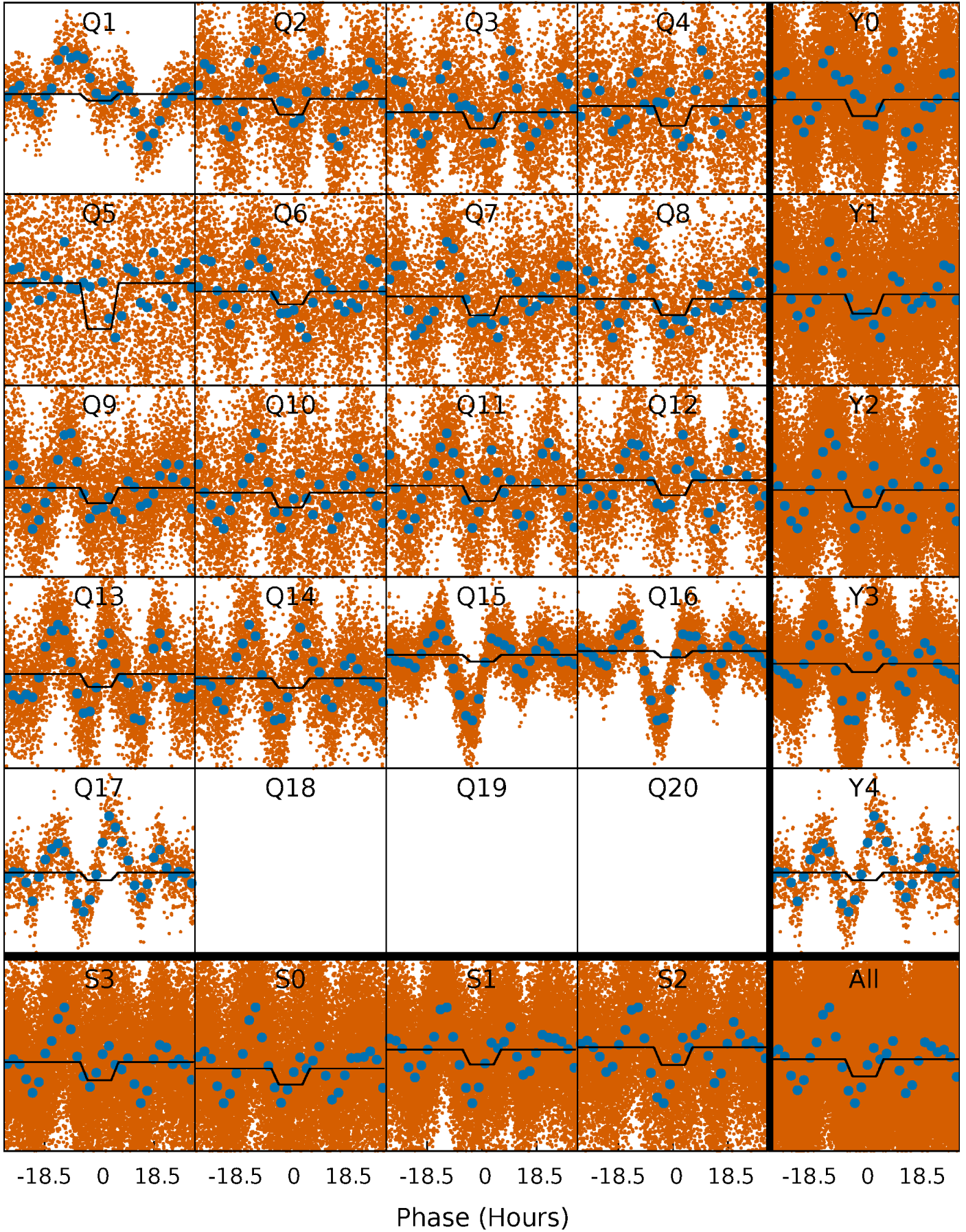
DV Quarter-Phased Transit Curves

TCE 002578891-01 P= 2.327324 Days $T_0=131.900942$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

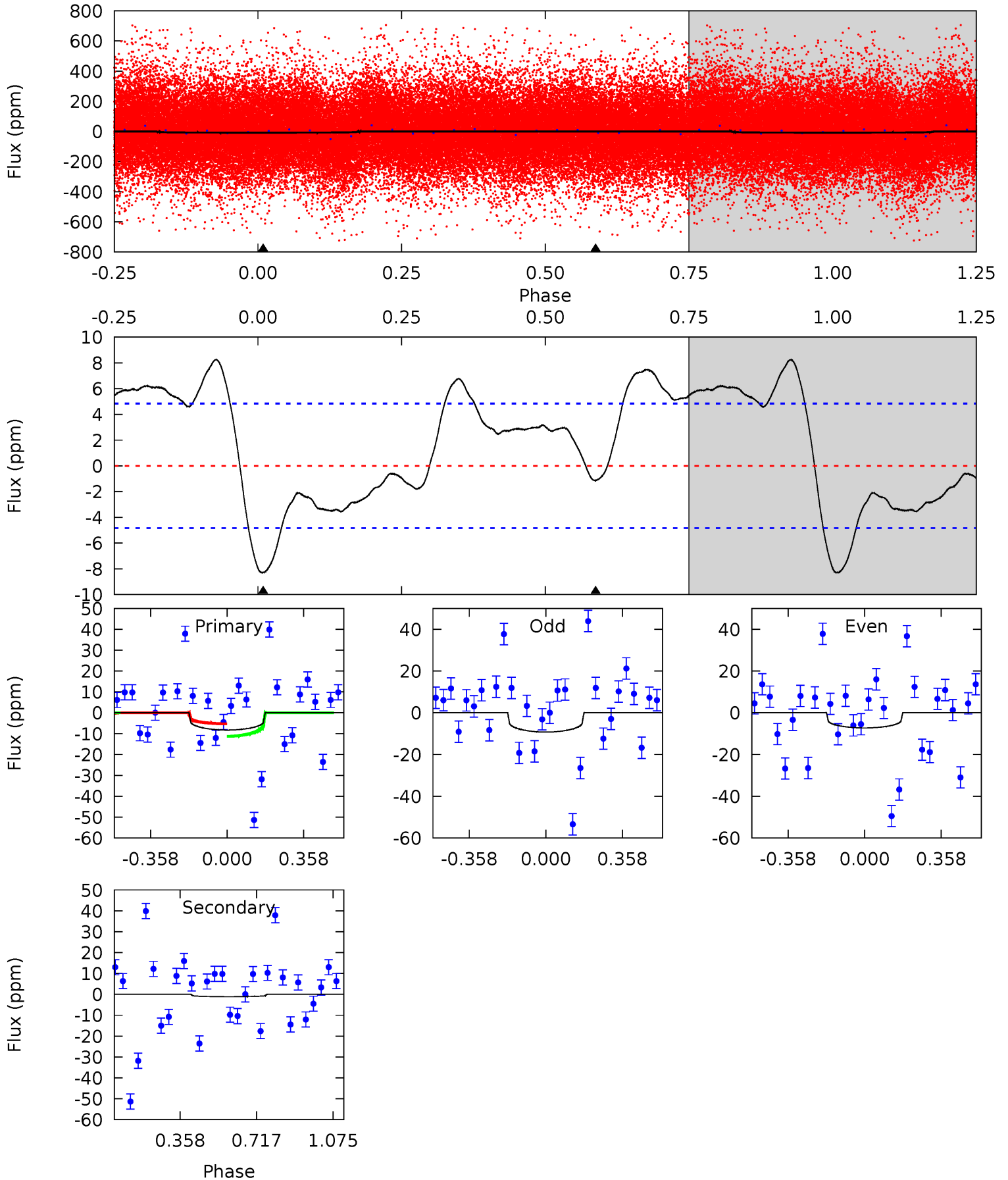
TCE 002578891-01 P= 2.327374 Days $T_0=131.939246$ (BKJD)



DV Model-Shift Uniqueness Test

002578891-01, P = 2.327324 Days, E = 129.573618 Days

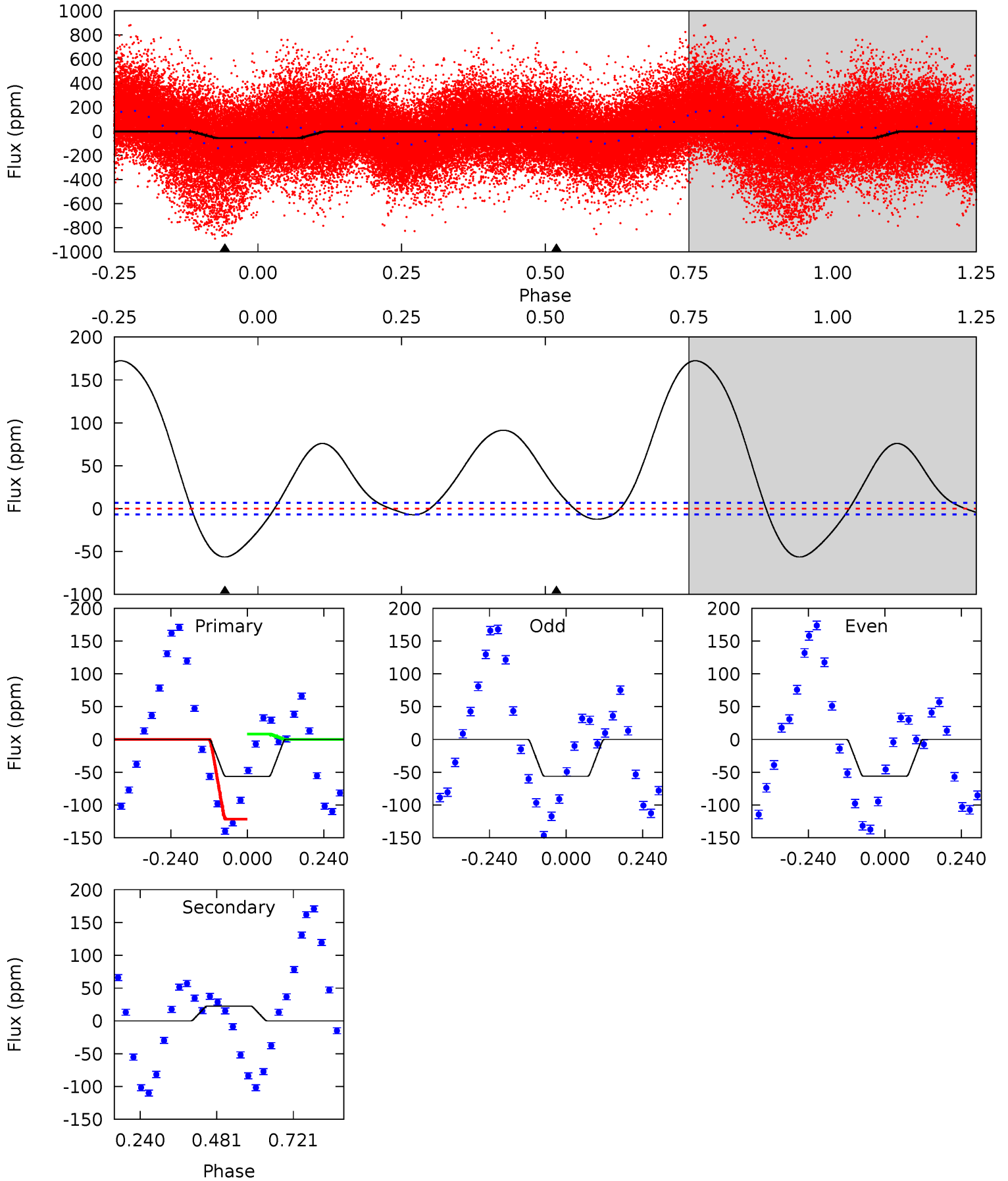
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.35	1.02	0	0	4.29	0.92	2.79	7.35	7.35	1.02	1.02	0.89	1.10	0.50	2.65



Alt Model-Shift Uniqueness Test

002578891-01, P = 2.327374 Days, E = 129.611872 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.7	-14.7	0	0	4.38	1.17	5.74	36.7	36.7	-14.7	-14.7	0.06	1.30	0.75	33.7



Stellar Parameters For KIC 002578891

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6767^{+165}_{-259}	$4.167^{+0.157}_{-0.192}$	$-0.120^{+0.250}_{-0.300}$	$1.579^{+0.469}_{-0.341}$	$1.345^{+0.184}_{-0.224}$	$0.481^{+0.381}_{-0.228}$
	+2%/-4%	+4%/-5%	+208%/-250%	+30%/-22%	+14%/-17%	+79%/-47%
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 002578891-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1 ± 1	$0.97^{+0.94}_{-0.65}$	2695^{+208}_{-182}	3041^{+1847}_{-6025}	$0.732^{+6.123}_{-0.740}$
Alt.	23 ± 2	$1.47^{+1.19}_{-0.88}$	2706^{+206}_{-184}	-5123^{+945}_{-3229}	$-8.204^{+5.684}_{-41.689}$

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

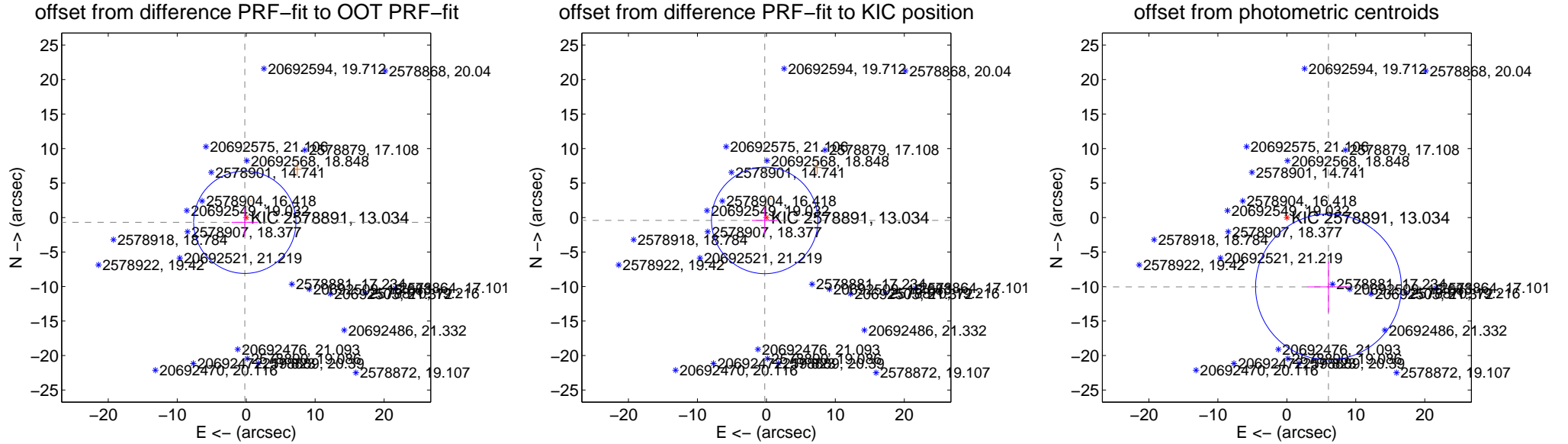
DV Centroid Data

Supplemental centroid analysis for 002578891-01. Kepler magnitude: 13.03. Transit SNR 2.84

There are 2 quarters with good PRF difference image offsets

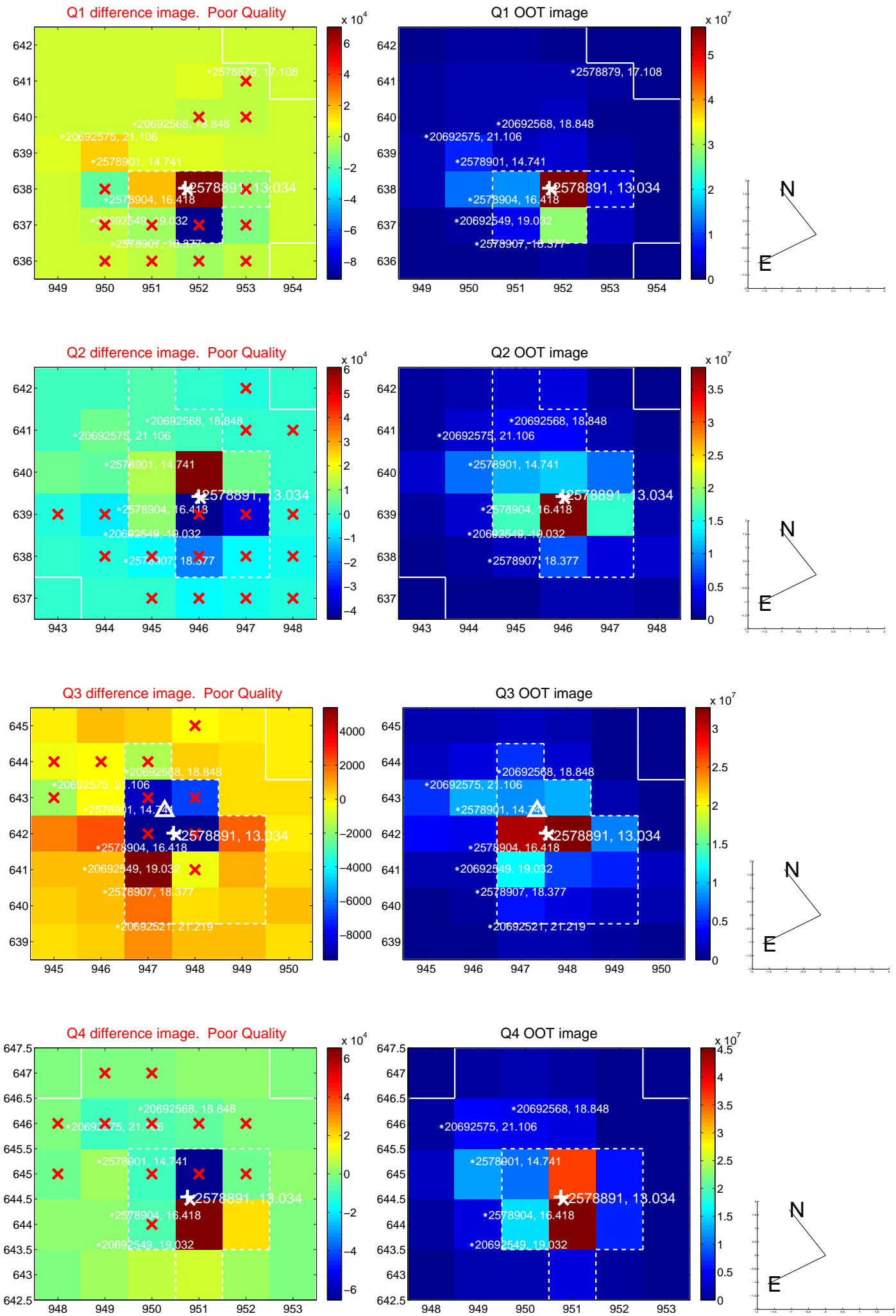
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.715 ± 2.471	0.29	0.200 ± 1.903	-0.686 ± 2.035
PRF-fit source offset from KIC position	0.481 ± 2.572	0.19	0.240 ± 1.859	-0.417 ± 1.918
photometric centroid source offset	11.73 ± 3.52	3.33	-6.04 ± 3.02	-10.05 ± 3.69

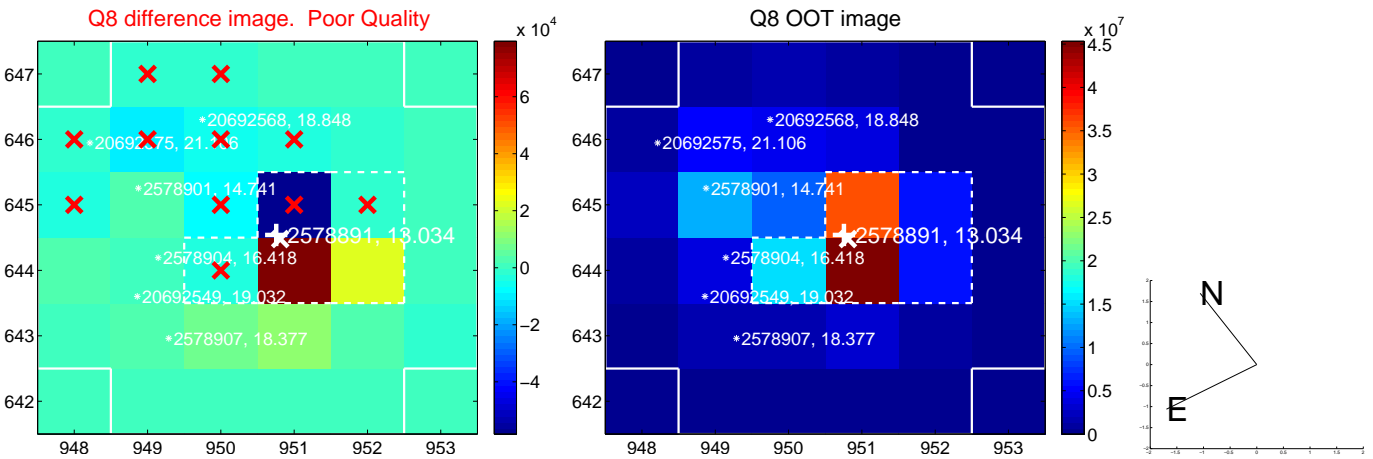
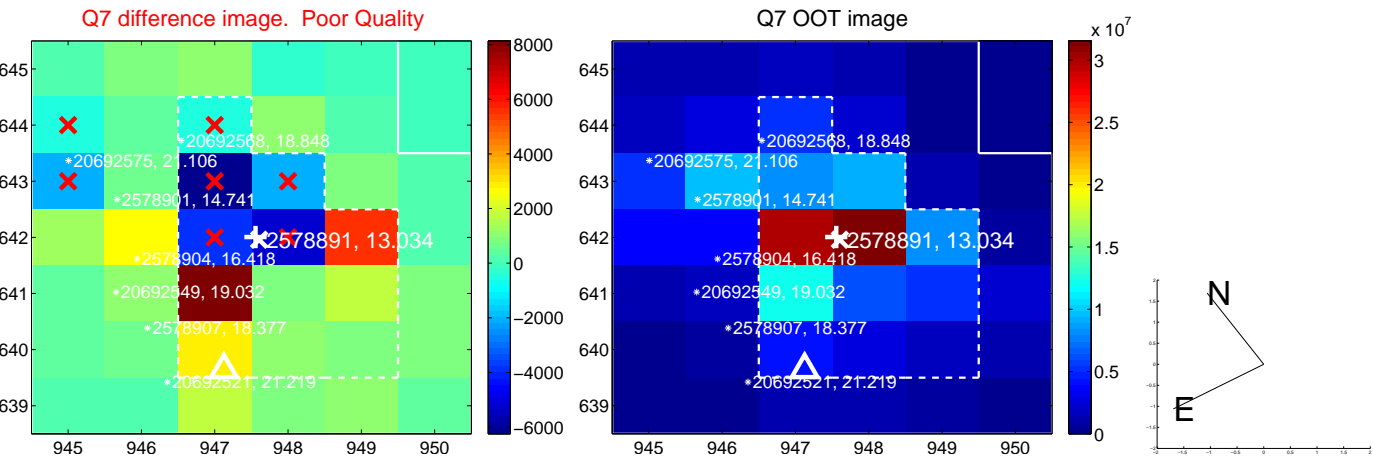
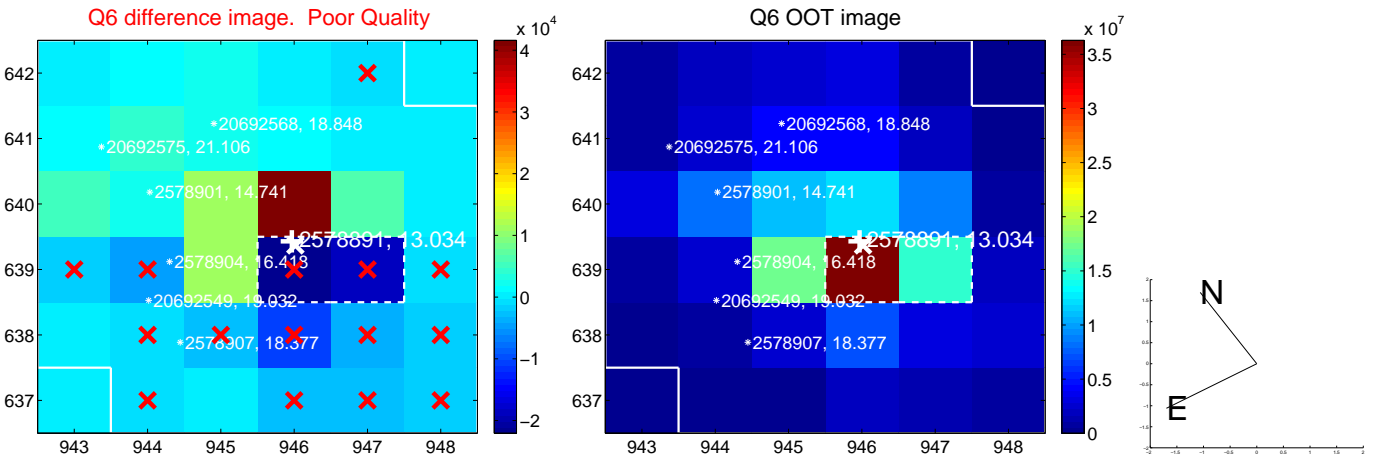
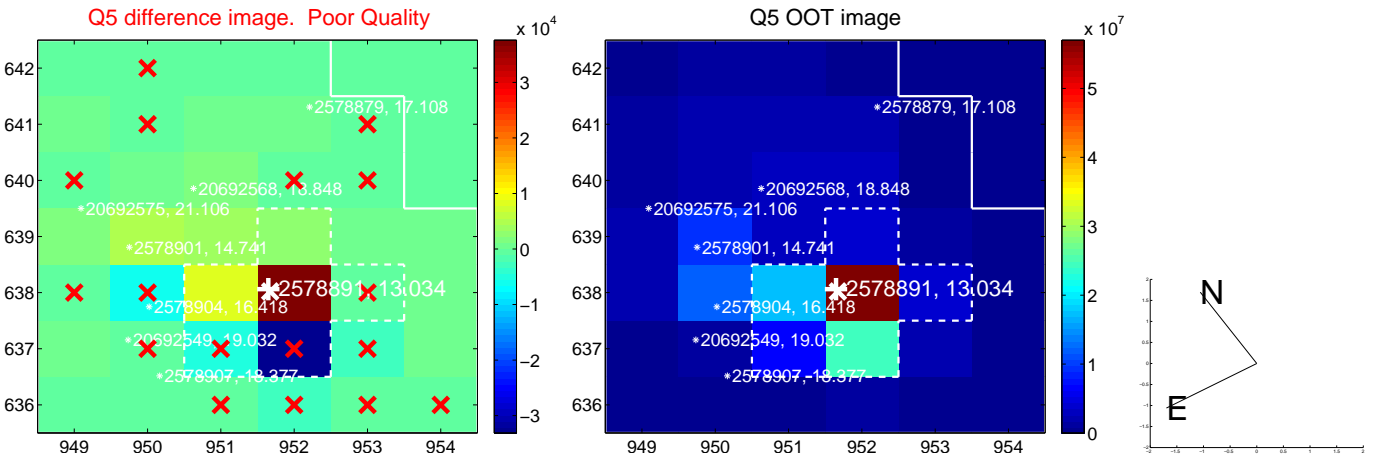


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

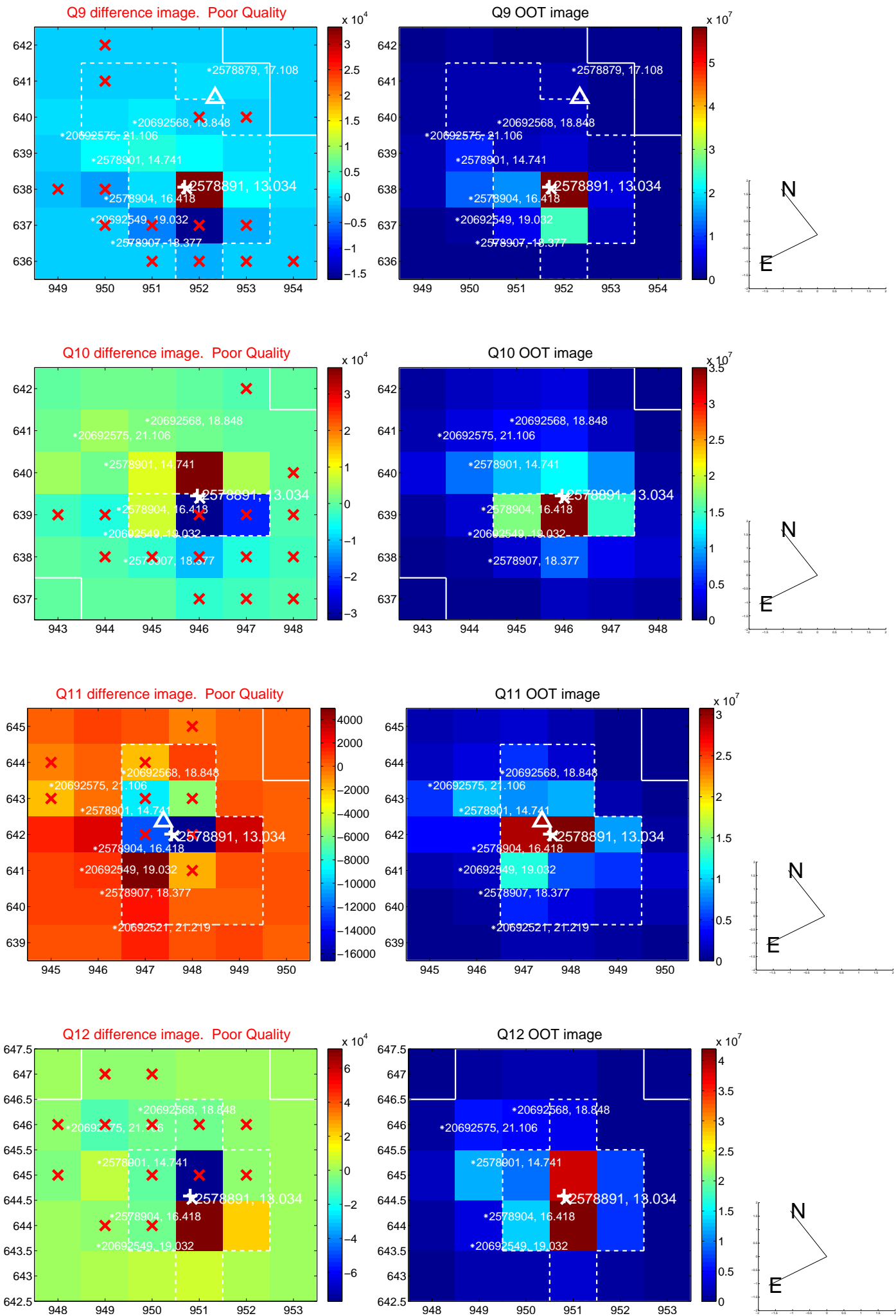
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



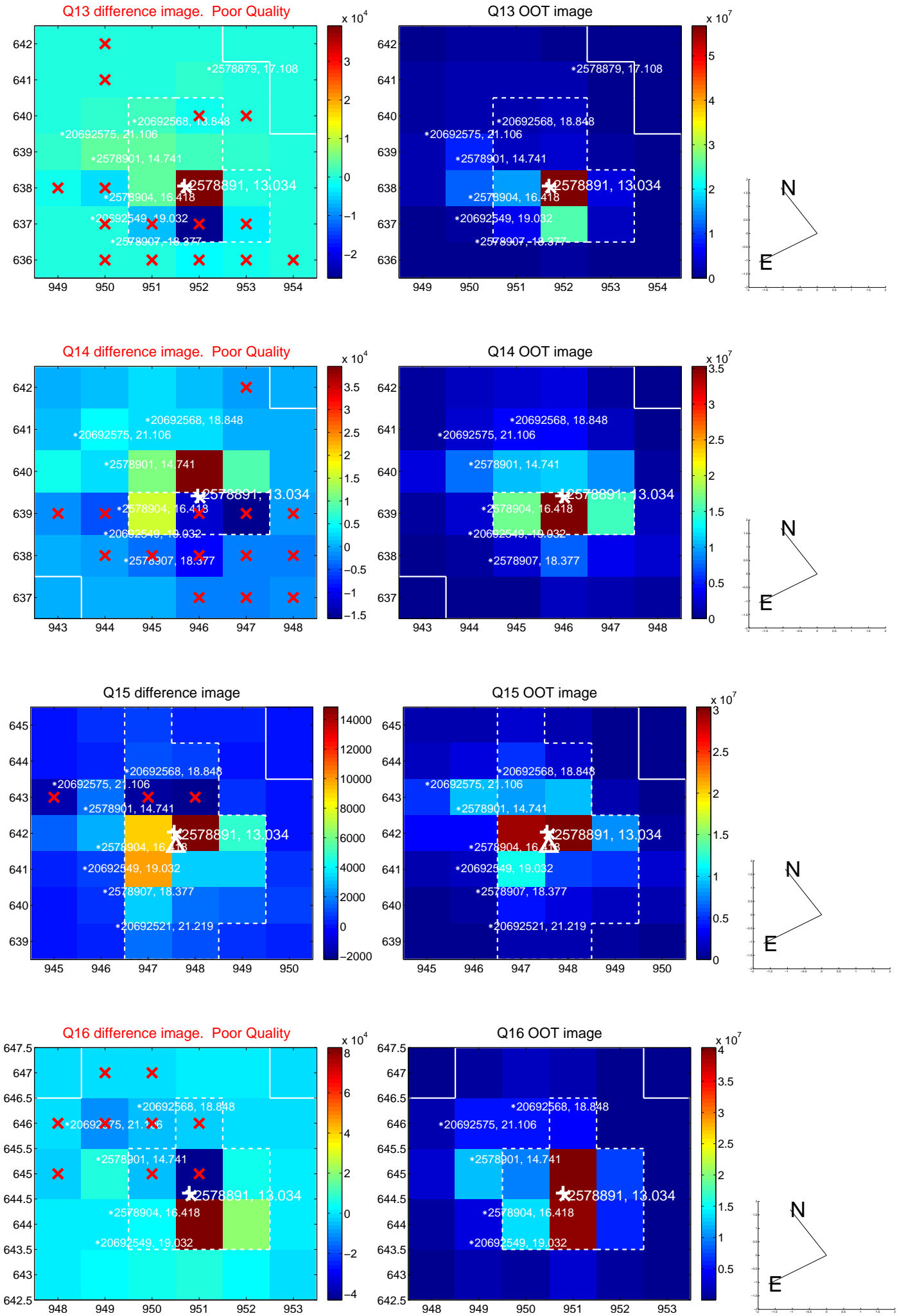
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



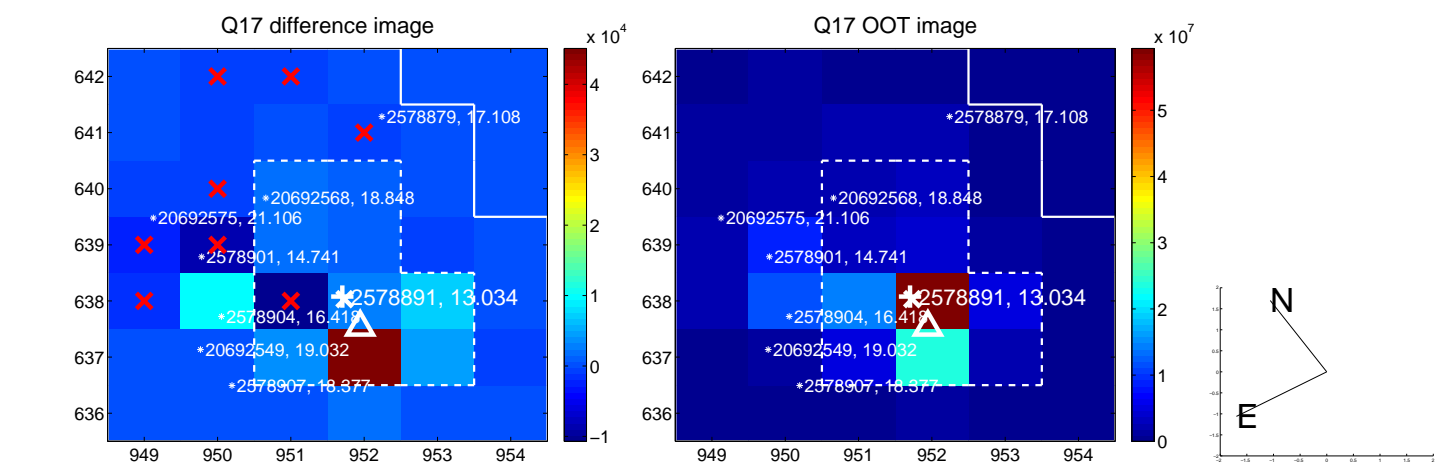
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



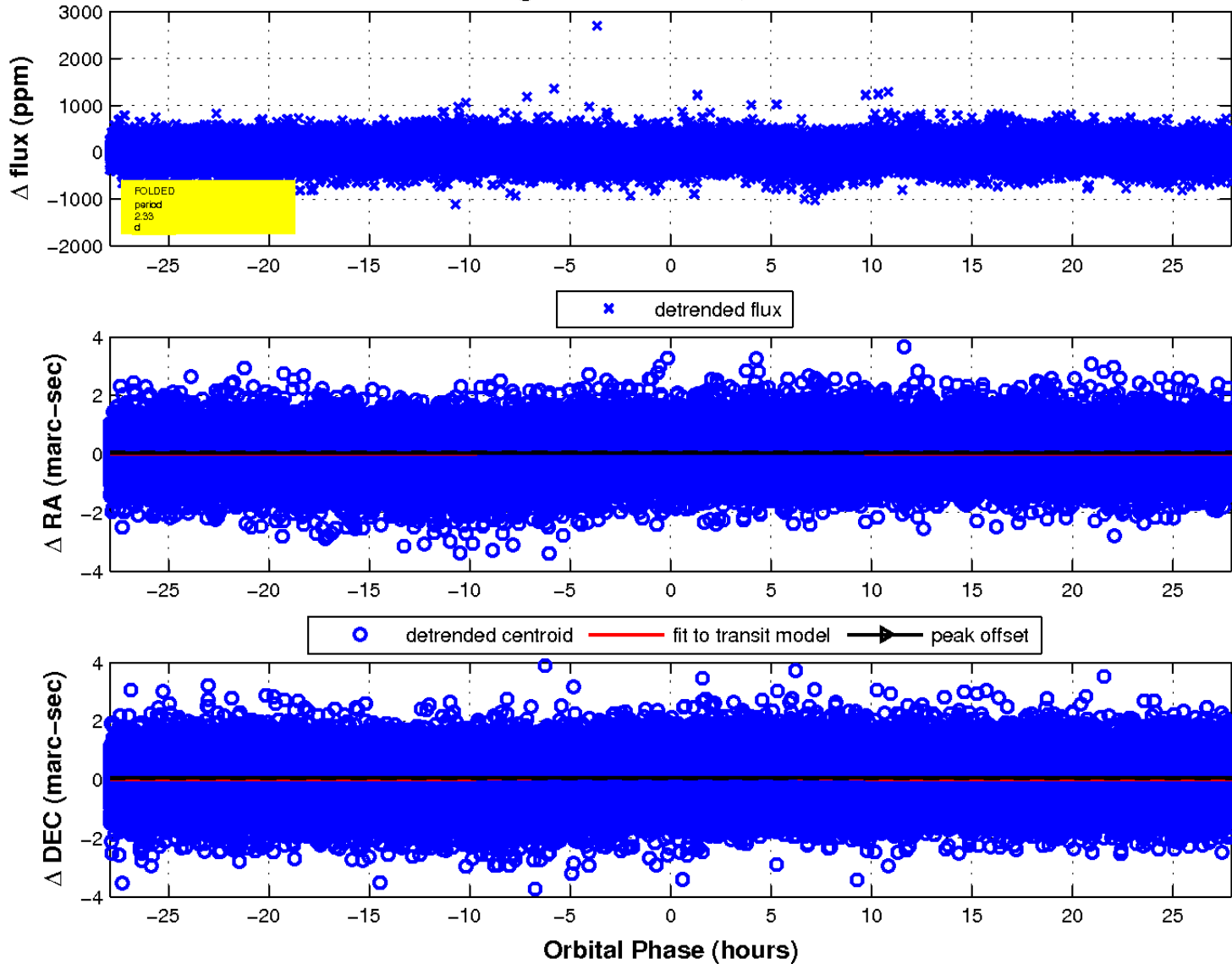
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

