

KIC 004826652

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})
004826652-01	OBS	No	44.731752	139.334745	74.3	1.261	11.4	7.1	10.62	4758	11.80	542.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004826652-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

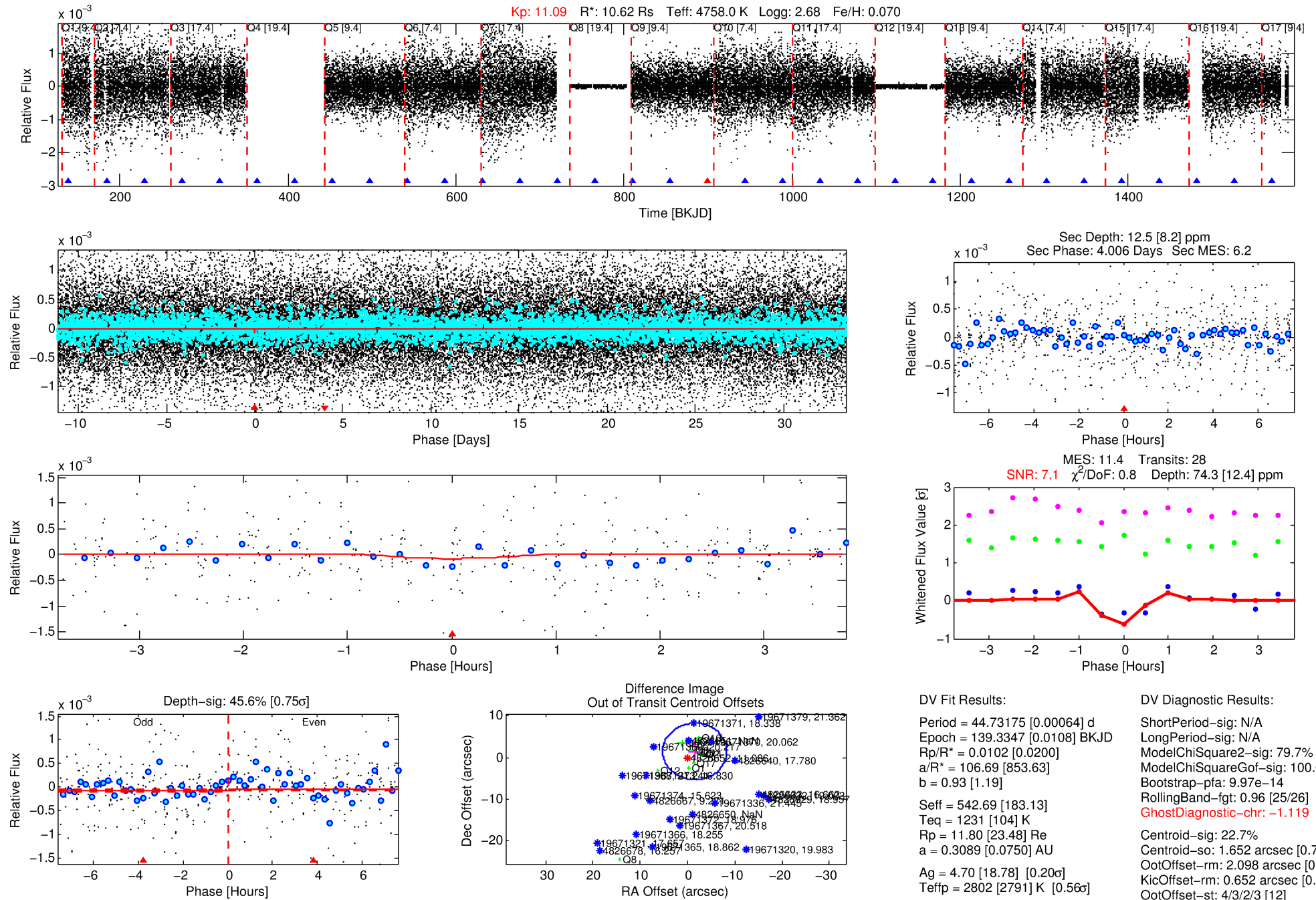
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004826652-01

No Significant Match Found

DV One-Page Summary

KIC: 4826652 Candidate: 1 of 1 Period: 44.732 d



DV Fit Results:

Period = 44.73175 [0.00064] d
Epoch = 139.3347 [0.0108] BKJD
Rp/R* = 0.0102 [0.0200]
a/R* = 106.69 [853.63]
b = 0.93 [1.19]
Seff = 542.69 [183.13]
Teff = 1231 [104] K
Rp = 11.80 [23.48] Re
a = 0.3089 [0.0750] AU
Ag = 4.70 [18.78] [0.20 σ]
Teffp = 2802 [2791] K [0.56 σ]

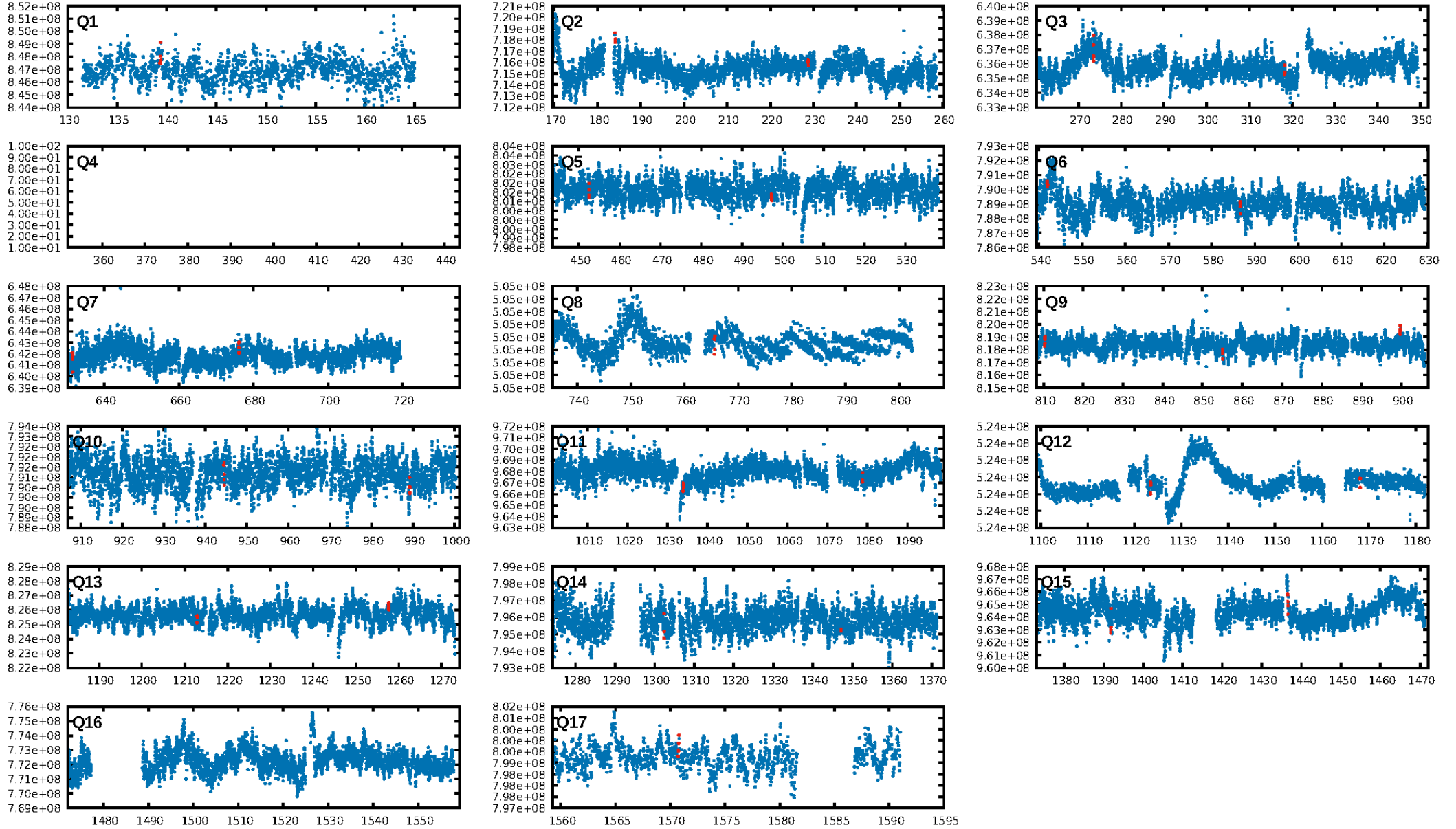
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 79.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.97e-14
RollingBand-fgt: 0.96 [25/26]
GhostDiagnostic-chr: -1.119
Centroid-sig: 22.7%
Centroid-so: 1.652 arcsec [0.78 σ]
OotOffset-rm: 2.098 arcsec [0.93 σ]
KicOffset-rm: 0.652 arcsec [0.24 σ]
OotOffset-st: 4/3/2/3 [12]
KicOffset-st: 4/3/2/3 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 1.00 [15/15]

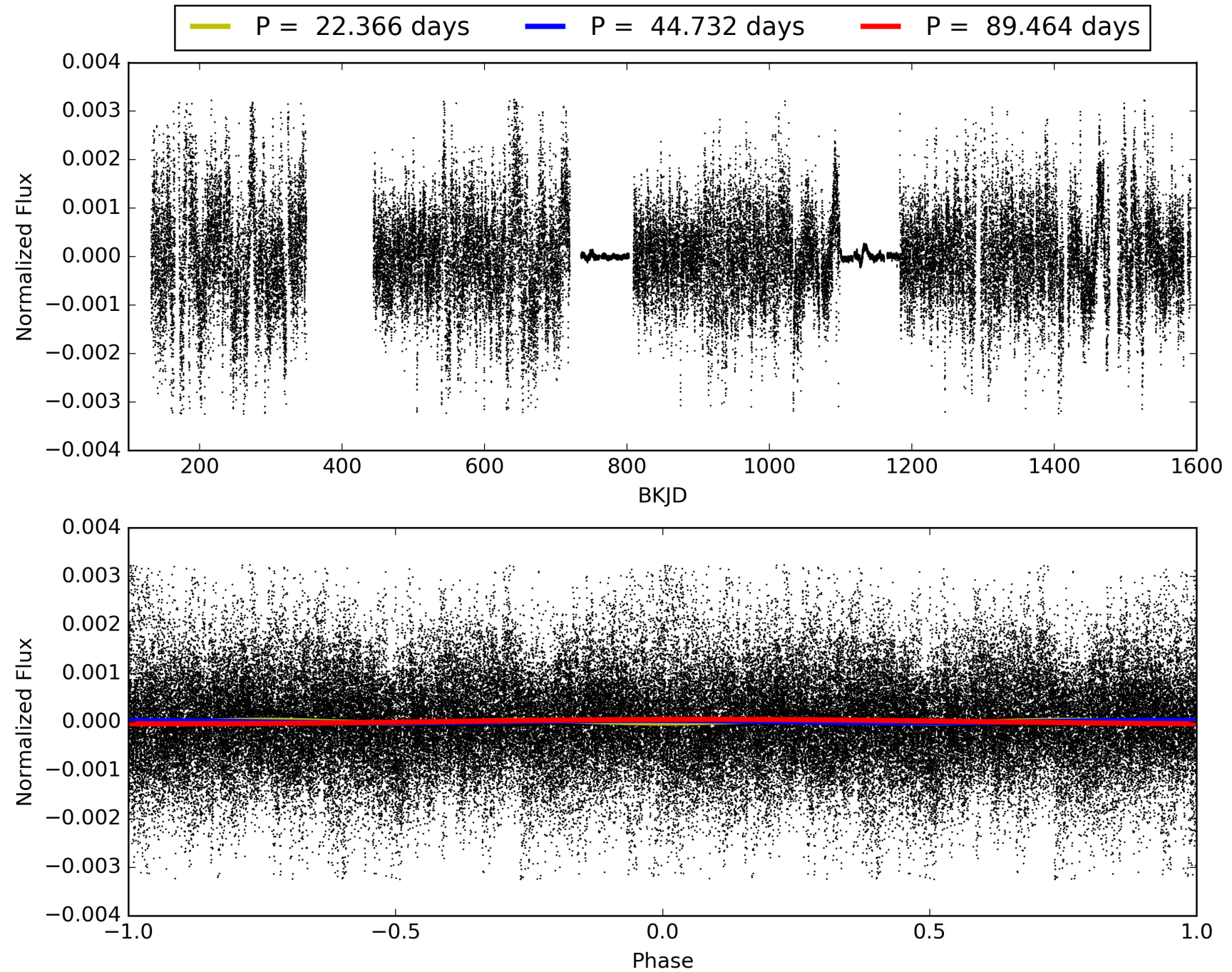
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:06:57 Z

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

TCE 004826652-01, PDC Light Curves

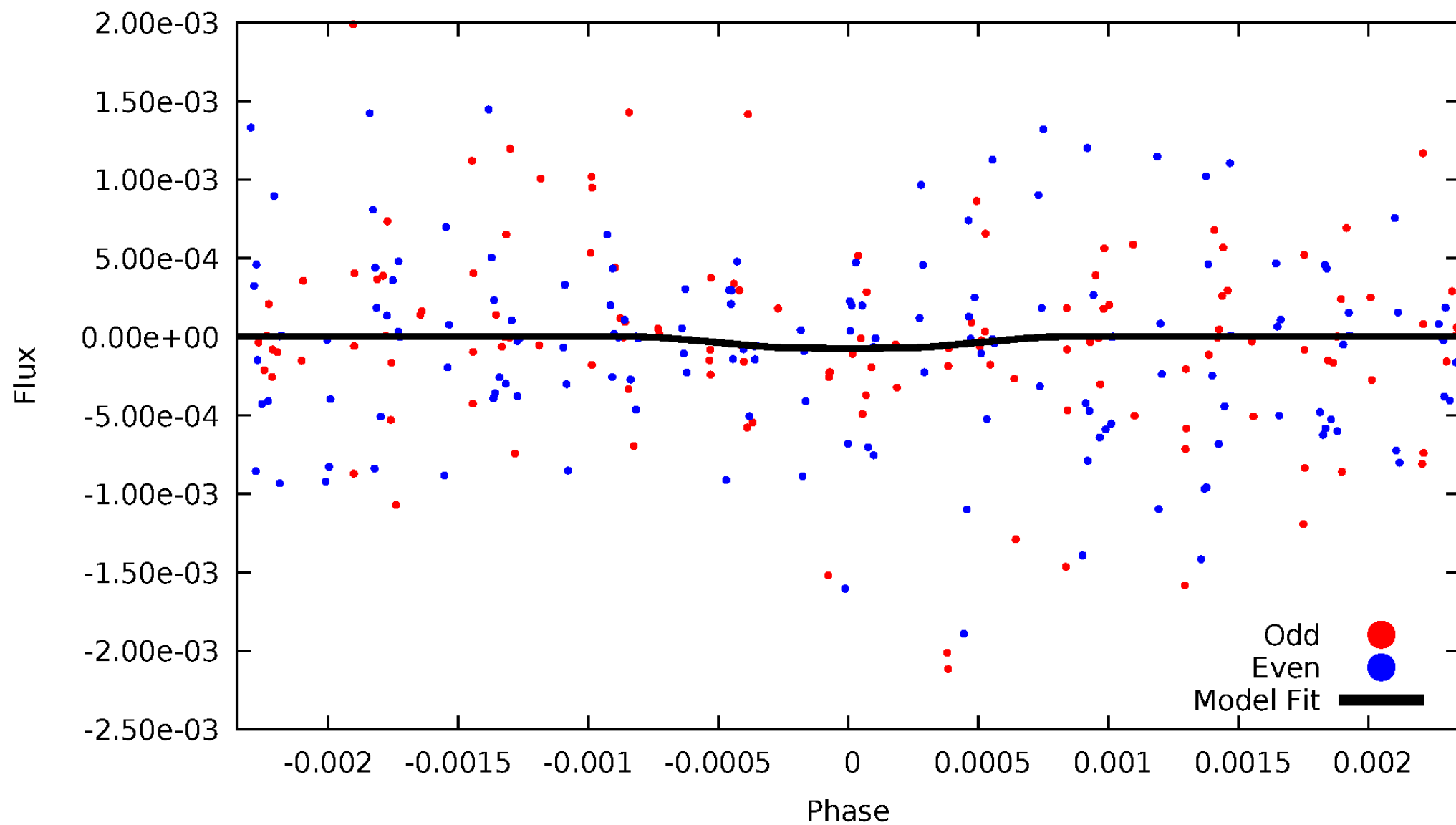


TCE 004826652-01



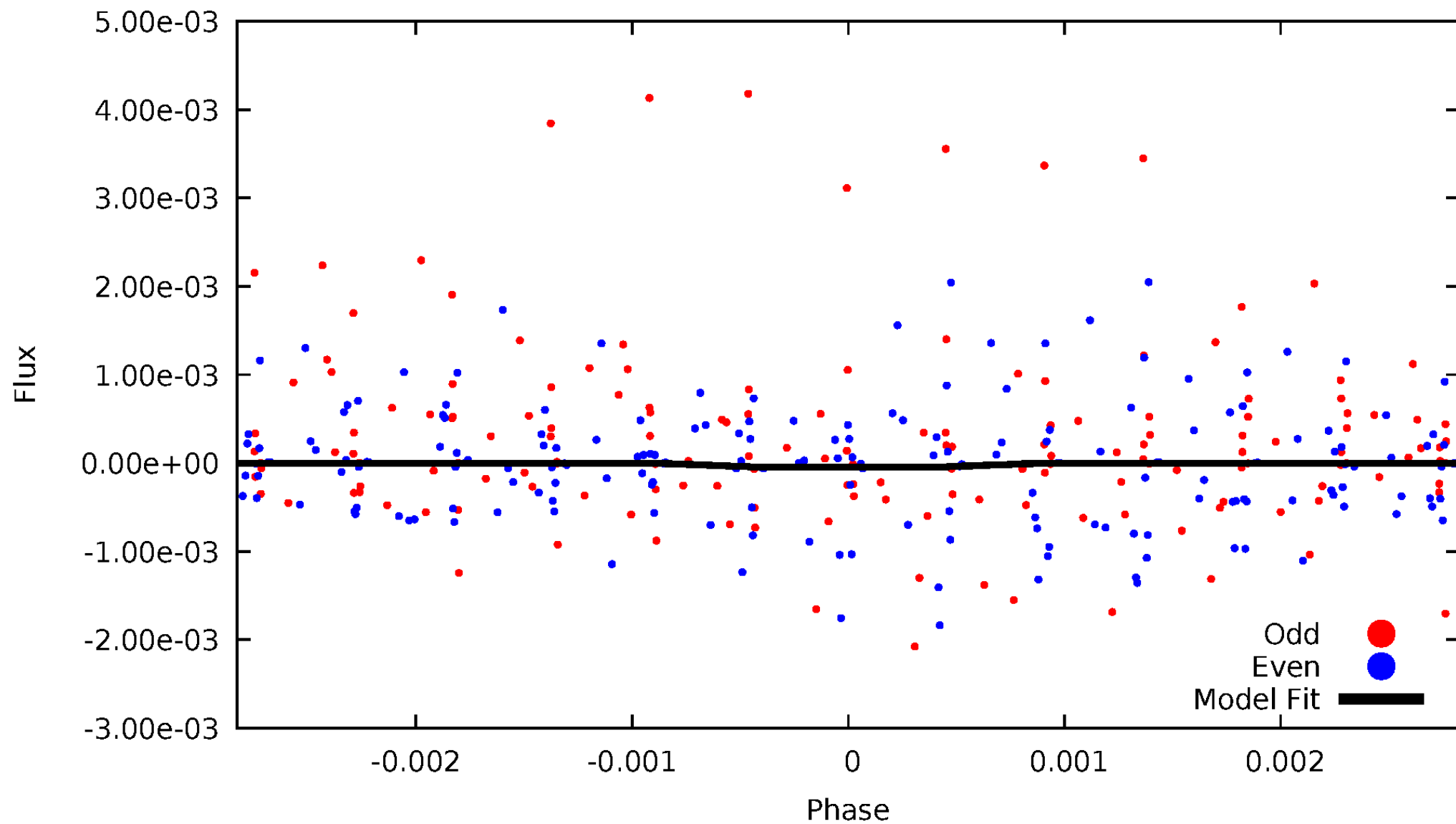
DV Odd/Even

TCE 004826652-01



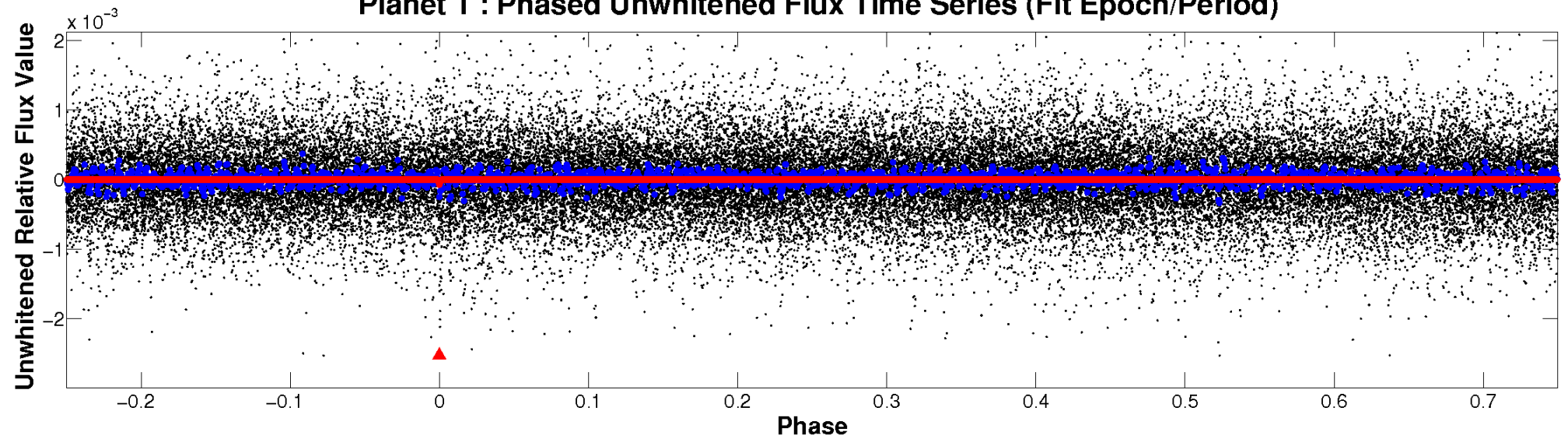
ALT Odd/Even

TCE 004826652-01

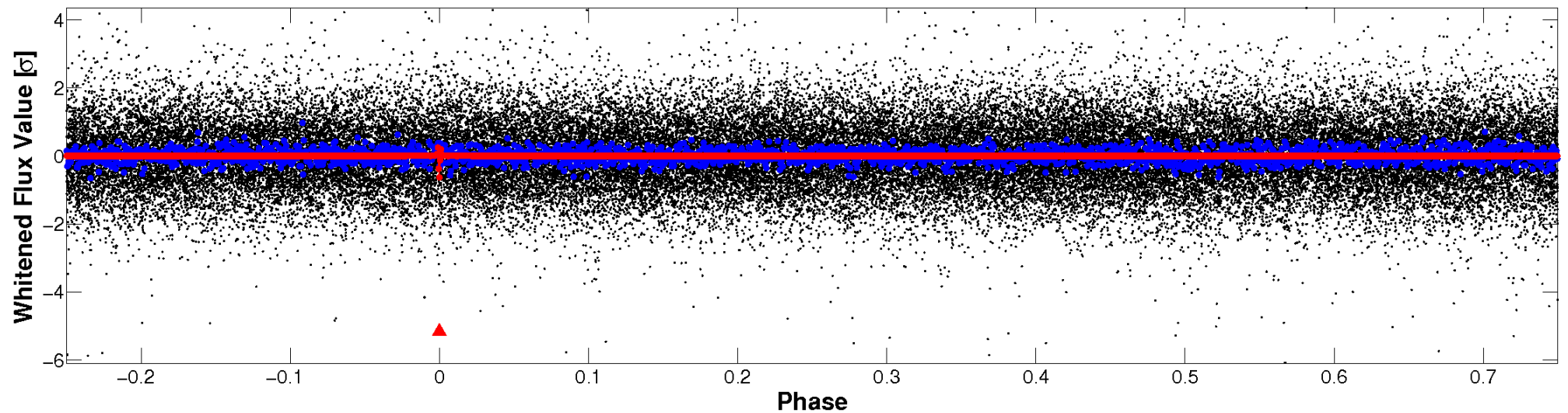


Non-Whitened Vs. Whitened Light Curve

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

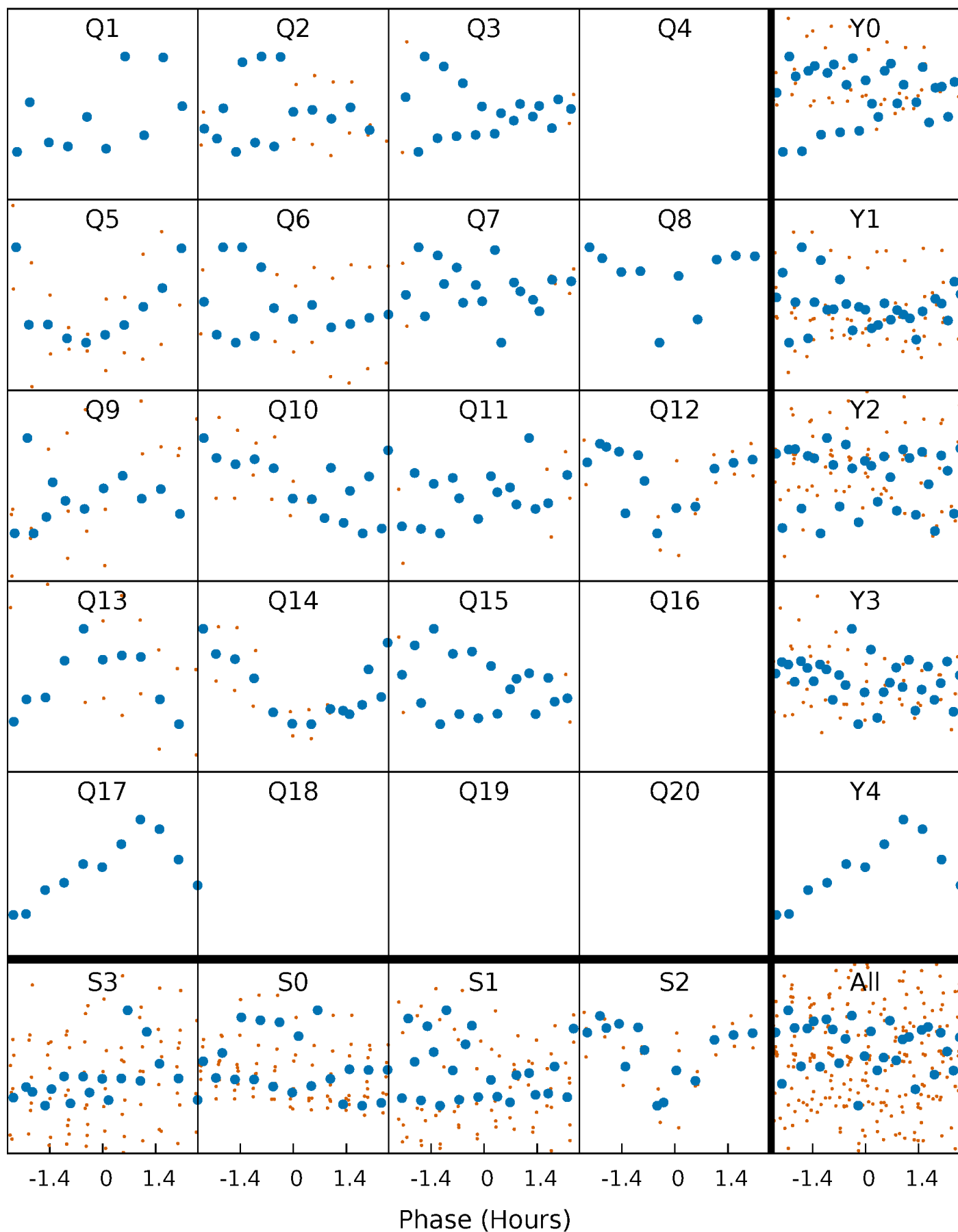


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



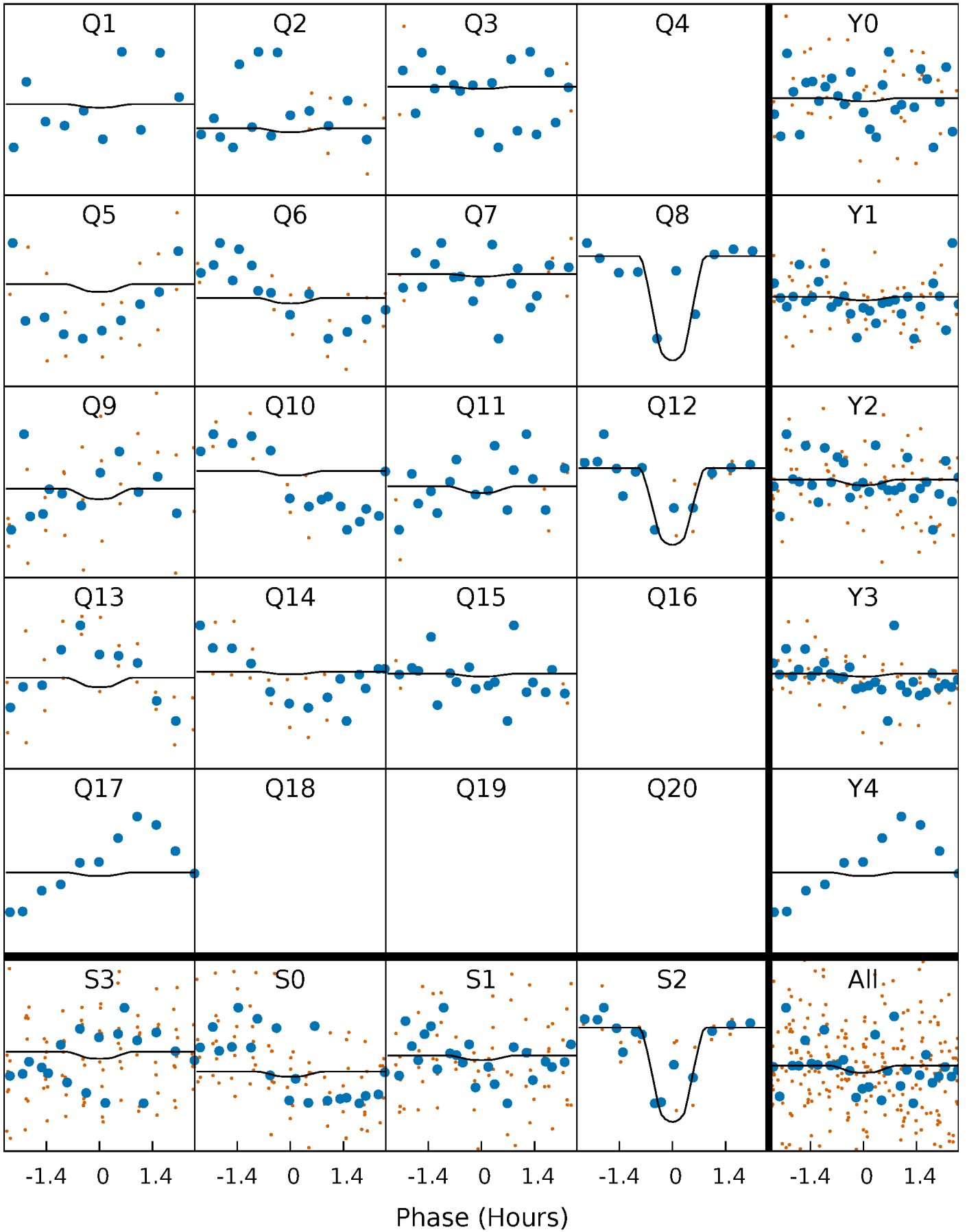
PDC Quarter-Phased Transit Curves

TCE 004826652-01 P= 44.731752 Days $T_0=139.334745$ (BKJD)



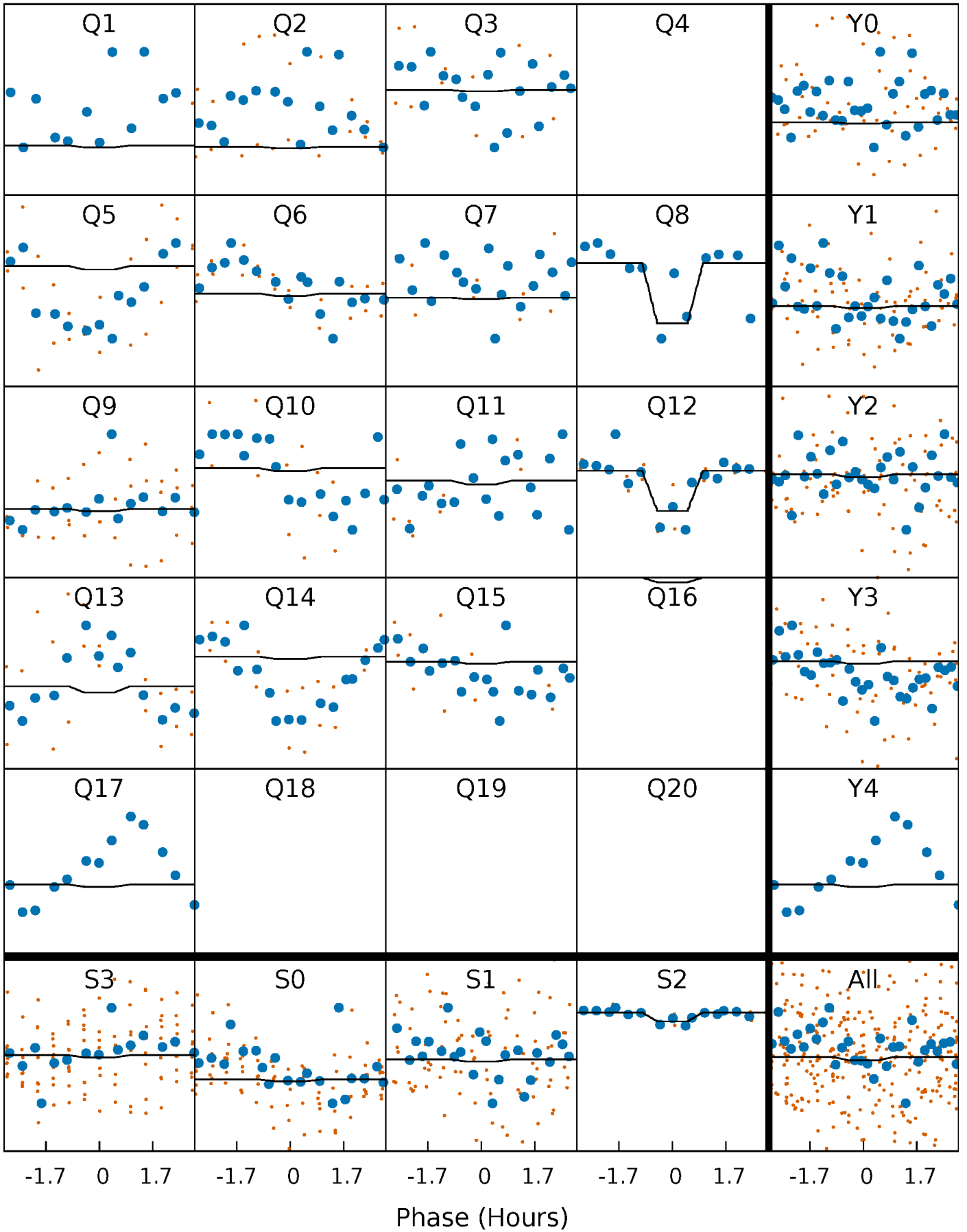
DV Quarter-Phased Transit Curves

TCE 004826652-01 P= 44.731752 Days $T_0=139.334745$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

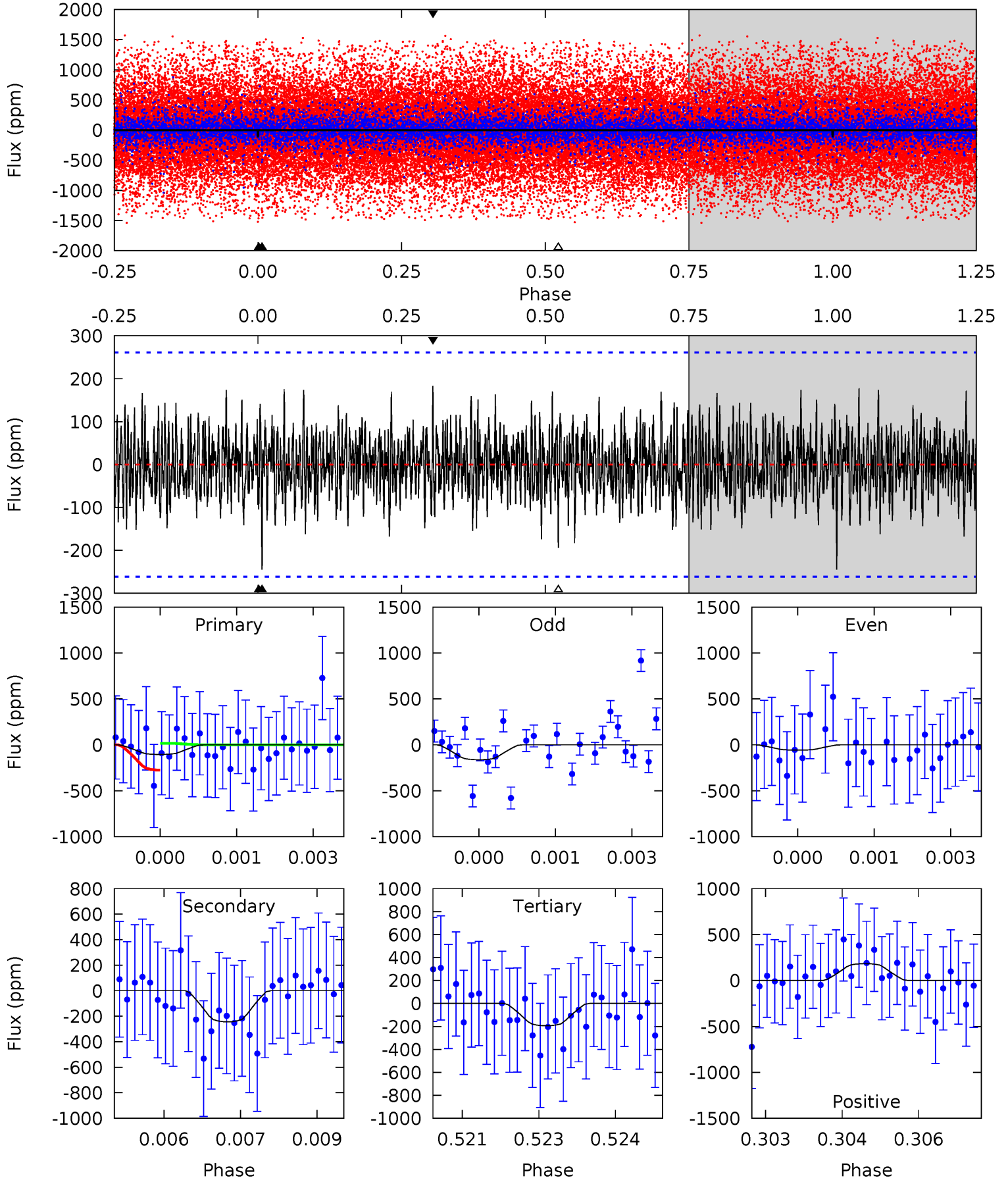
TCE 004826652-01 P= 44.731651 Days $T_0=139.338276$ (BKJD)



DV Model-Shift Uniqueness Test

004826652-01, P = 44.731752 Days, E = 94.602993 Days

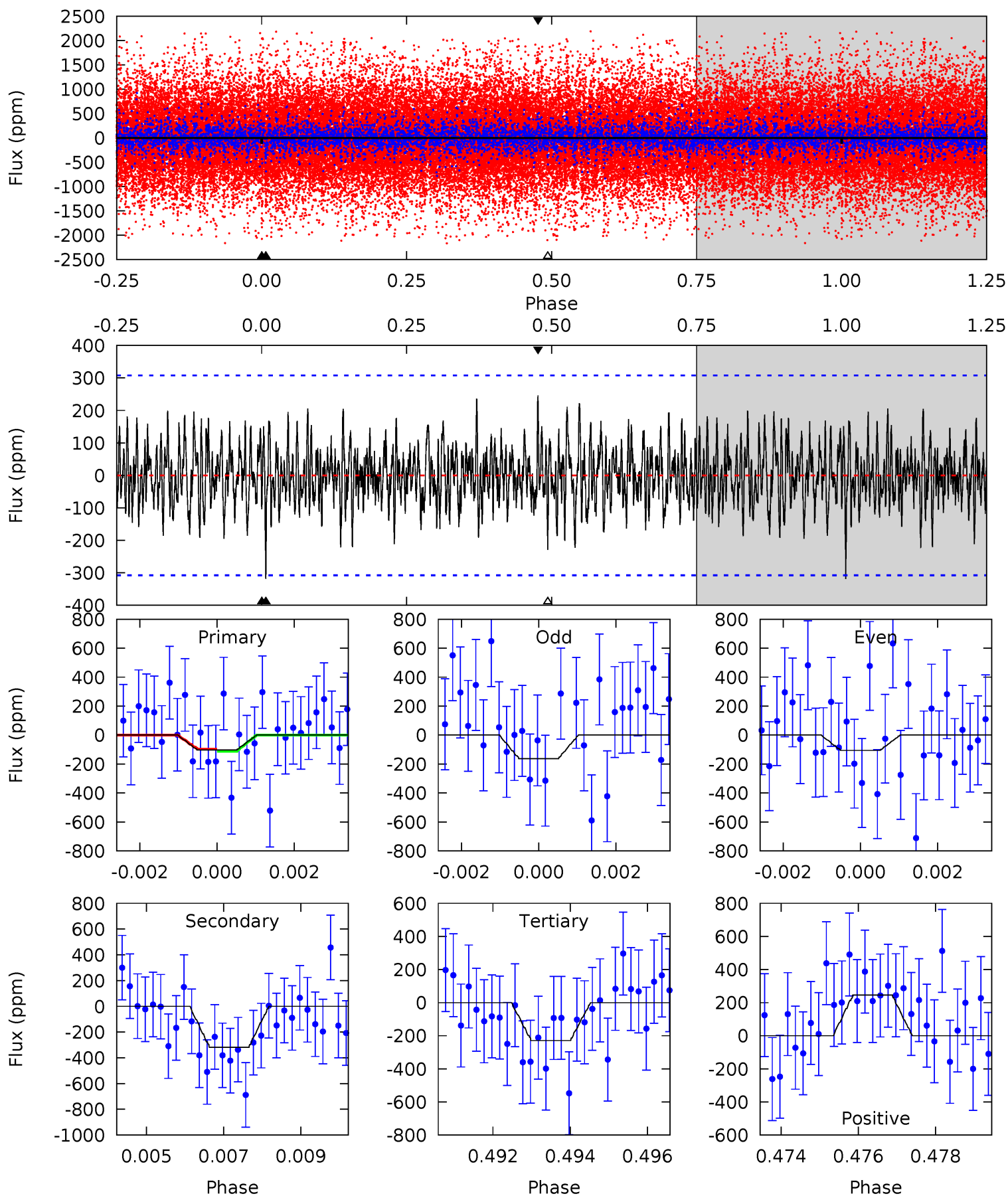
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.15	5.04	4.00	3.78	5.38	3.18	1.23	-1.85	-1.63	1.04	1.26	1.09	2.94	0.43	2.67



Alt Model-Shift Uniqueness Test

004826652-01, P = 44.731651 Days, E = 94.606625 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.80	5.54	3.98	4.28	5.35	3.13	1.34	-2.18	-2.48	1.56	1.27	0.50	-0.62	0.44	0.12



Stellar Parameters For KIC 004826652

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4758^{+56}_{-98}	$2.679^{+0.165}_{-0.135}$	$0.070^{+0.100}_{-0.150}$	$10.621^{+1.778}_{-3.301}$	$1.961^{+0.855}_{-0.777}$	$0.002^{+0.003}_{-0.001}$
	+1%/-2%	+6%/-5%	+143%/-214%	+17%/-31%	+44%/-40%	+112%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004826652-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-245 ± 49	$20.94^{+20.21}_{-13.79}$	1716^{+92}_{-106}	4470^{+2824}_{-972}	30^{+210}_{-22}
Alt.	-319 ± 58	$19.13^{+18.98}_{-13.27}$	1718^{+87}_{-112}	4897^{+4071}_{-1106}	47^{+422}_{-35}

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 $A_{obs} \gg 1.0$

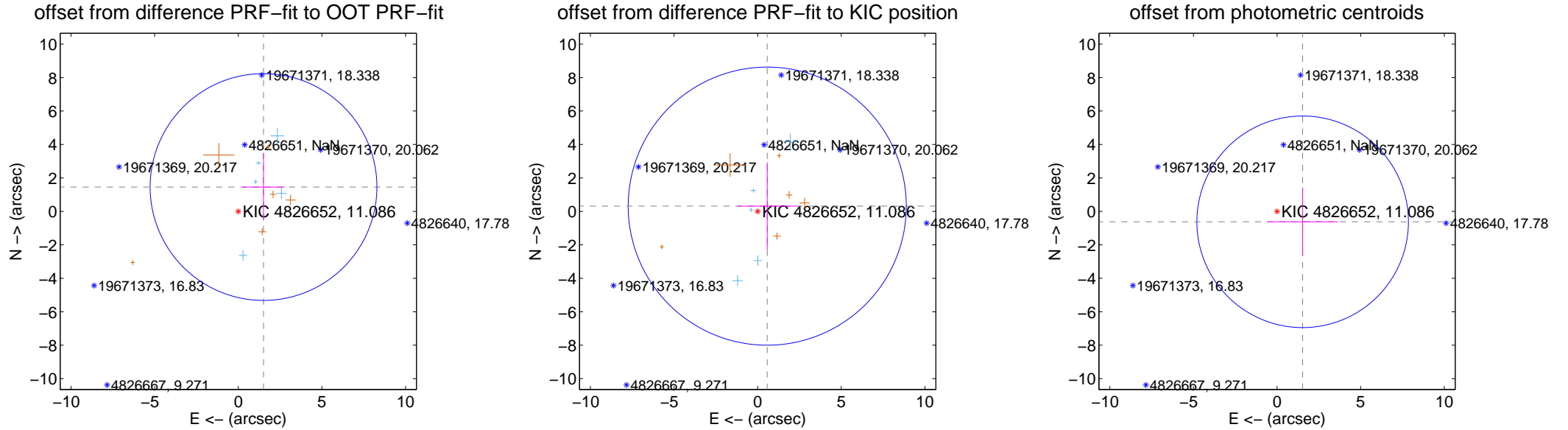
DV Centroid Data

Supplemental centroid analysis for 004826652-01. **Kepler magnitude: 11.09.** Transit SNR 7.09

There are 5 quarters with good PRF difference image offsets

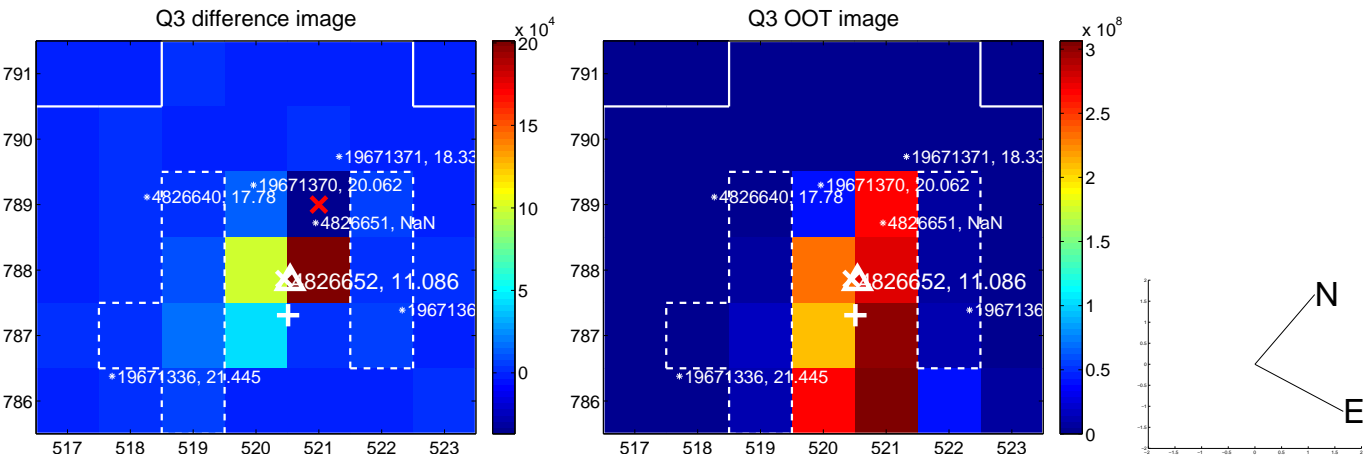
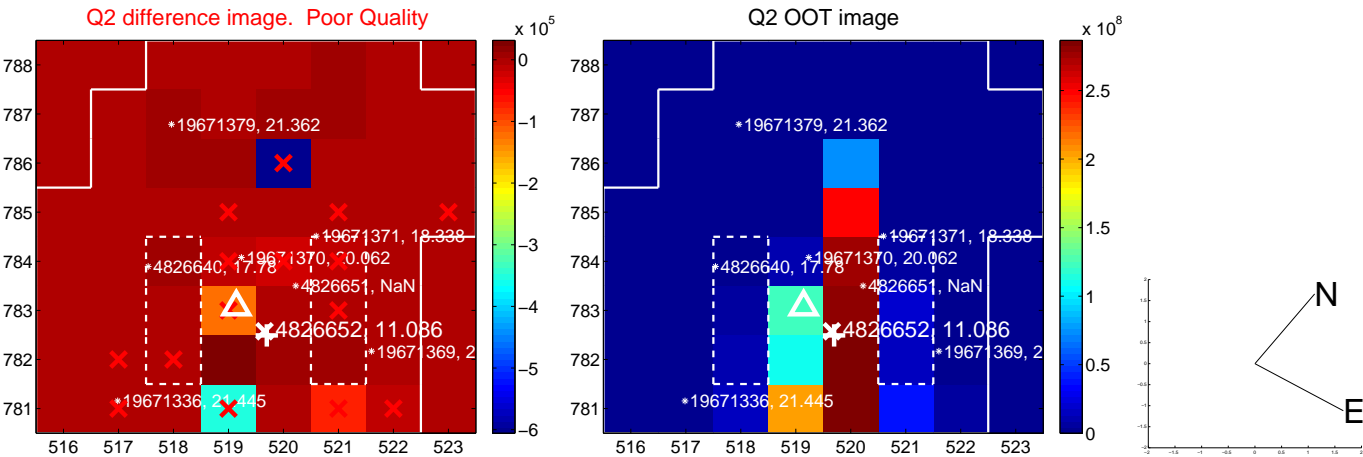
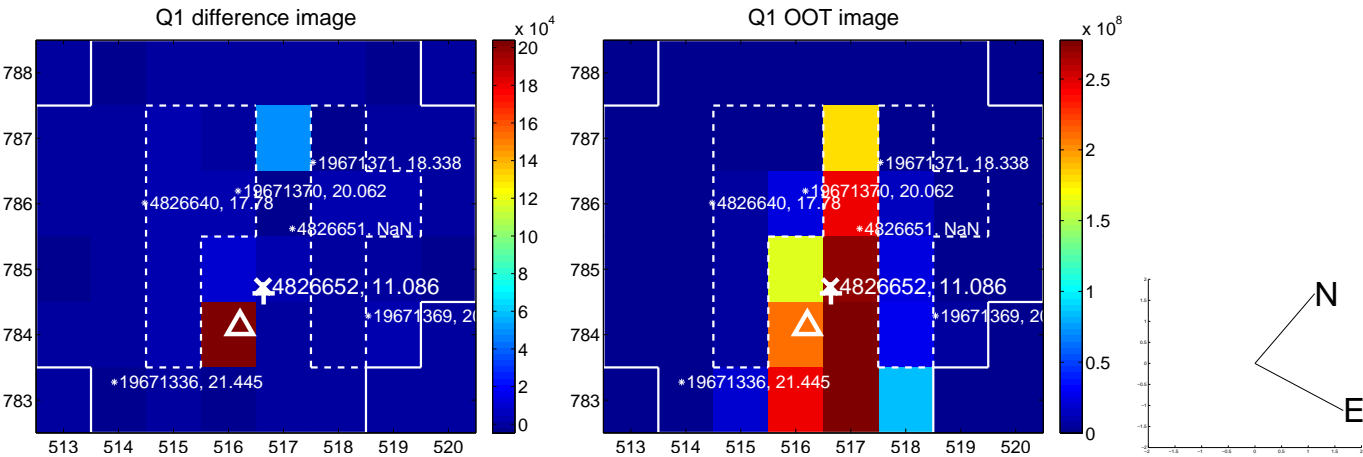
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.098 ± 2.260	0.93	-1.509 ± 1.266	1.457 ± 2.016
PRF-fit source offset from KIC position	0.652 ± 2.771	0.24	-0.572 ± 1.775	0.313 ± 2.609
photometric centroid source offset	1.65 ± 2.11	0.78	-1.53 ± 2.12	-0.62 ± 2.05

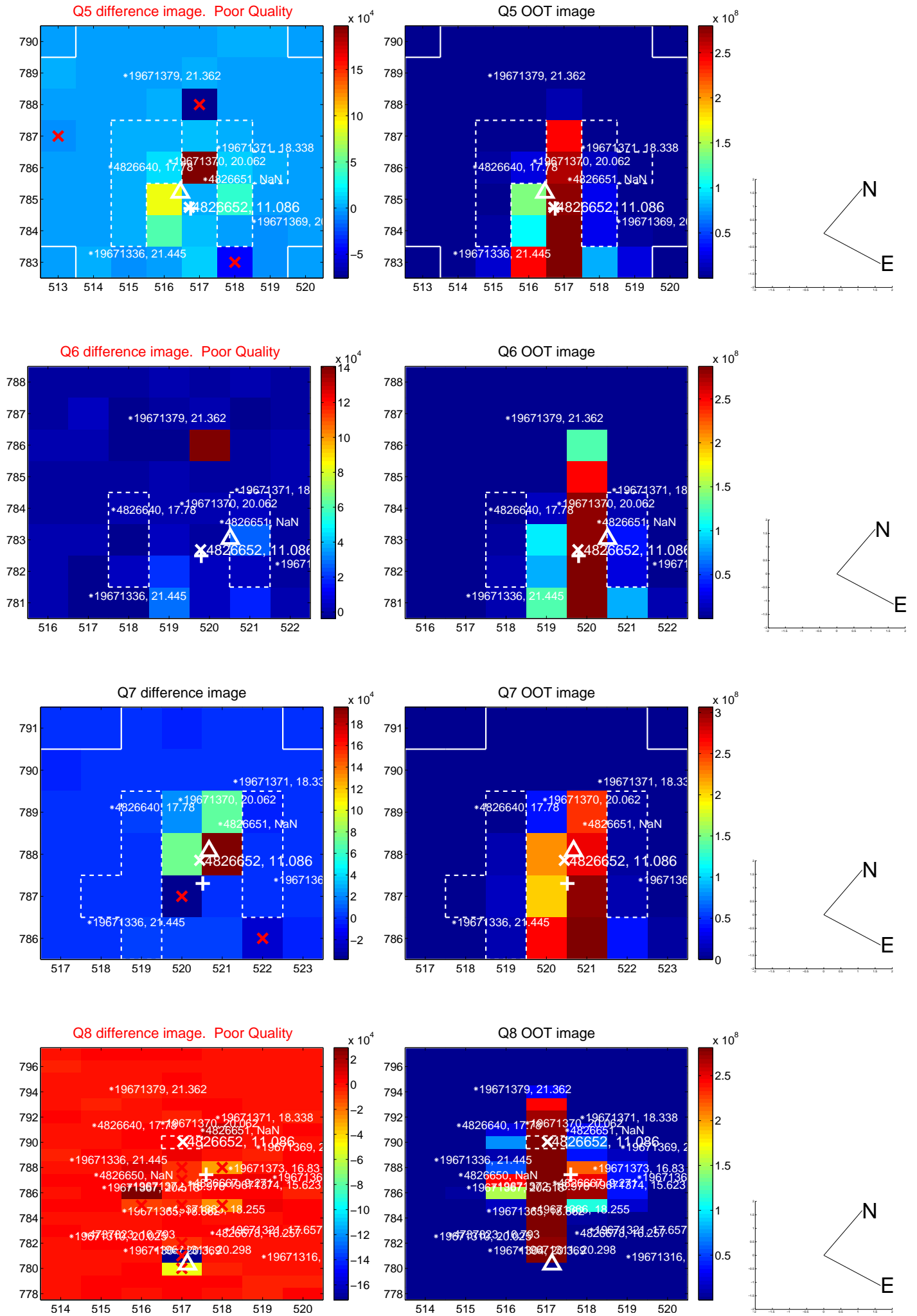


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

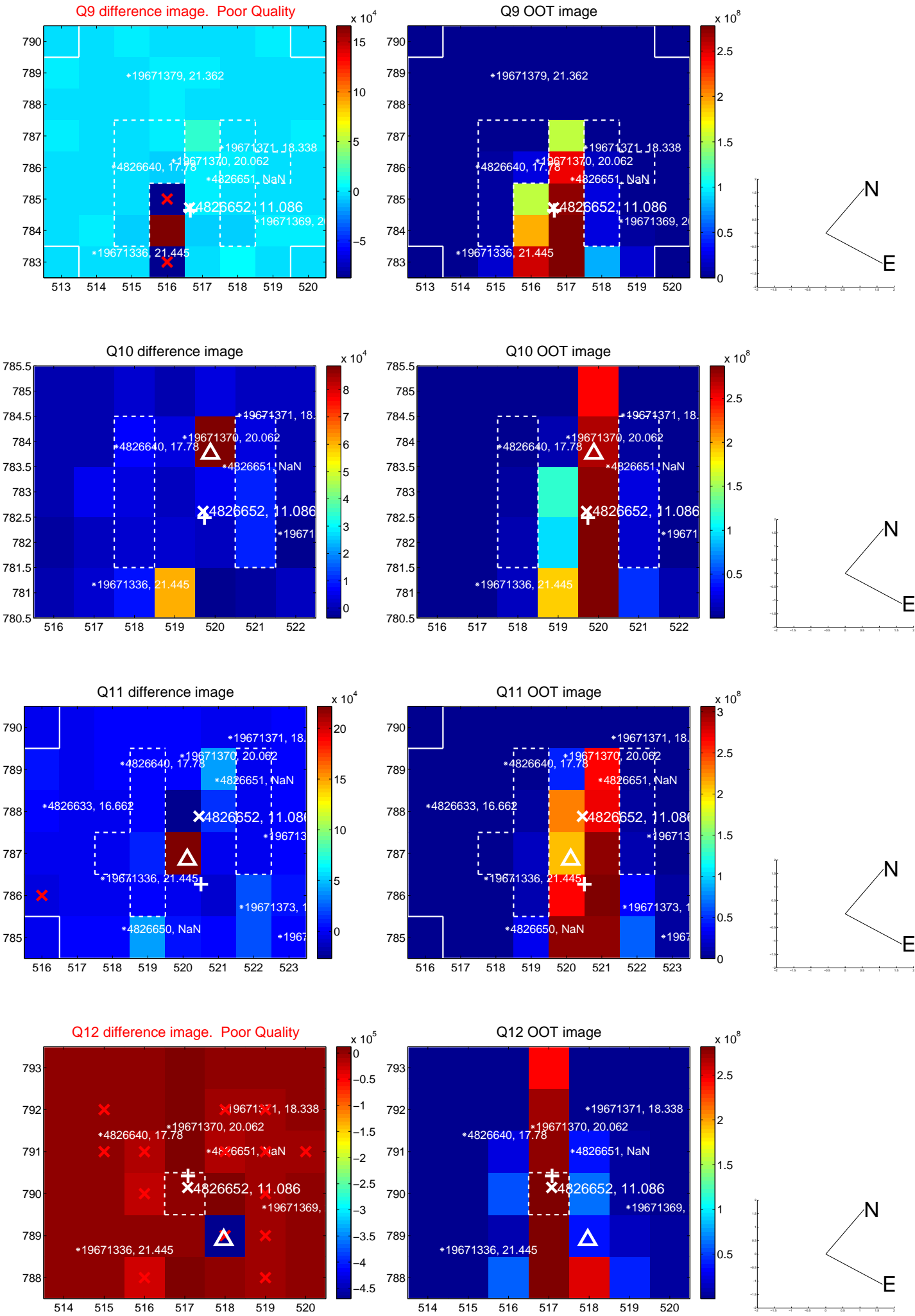
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



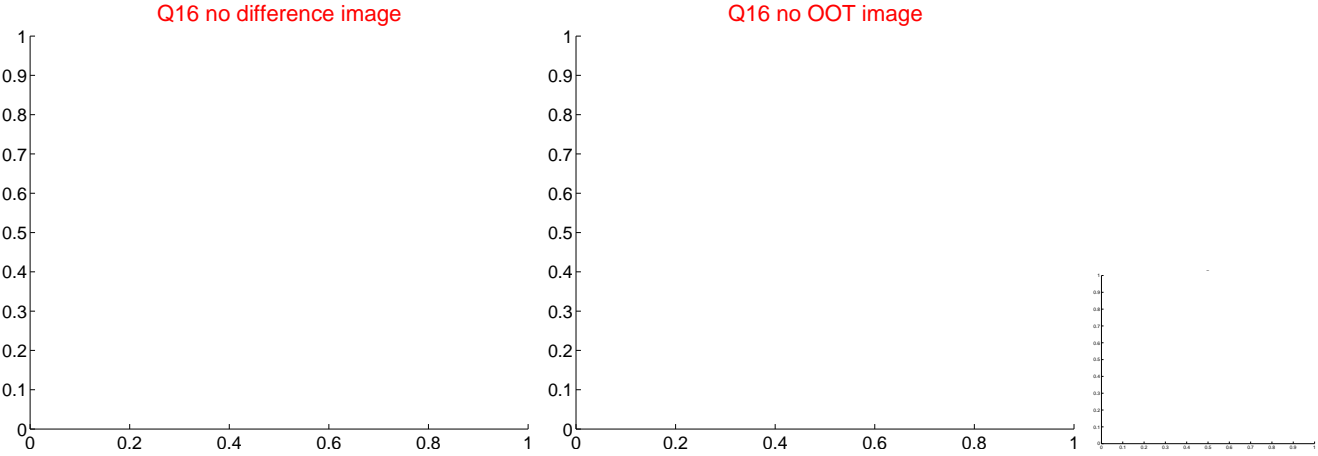
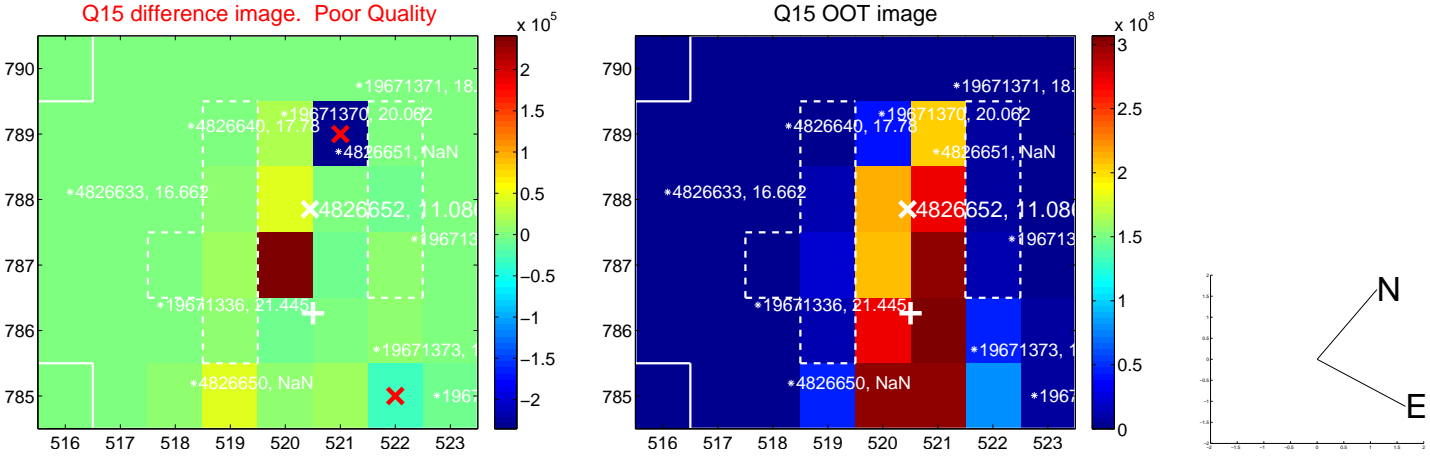
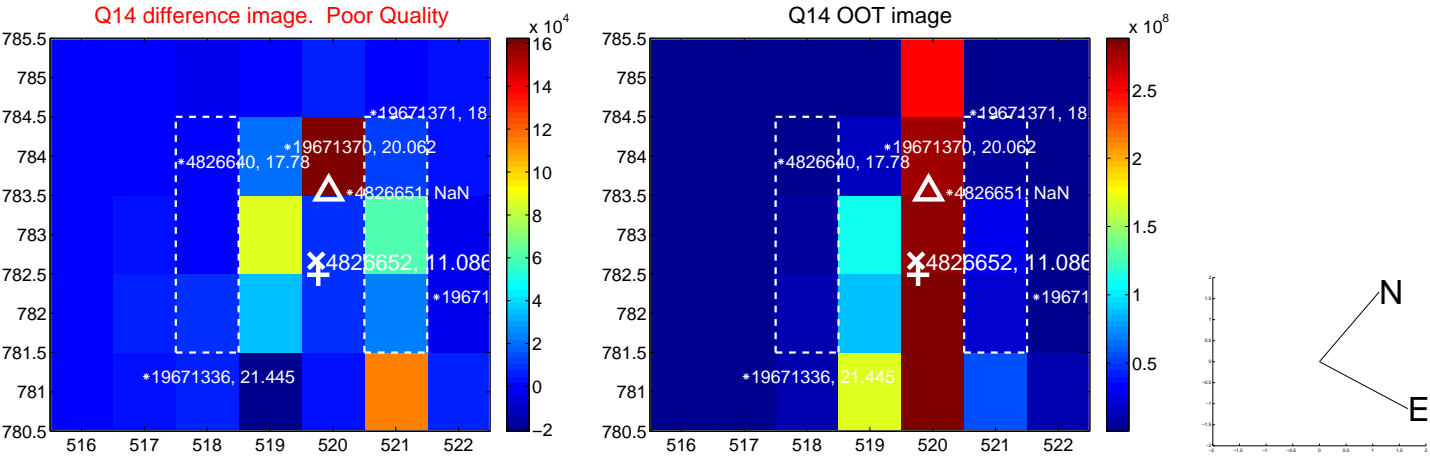
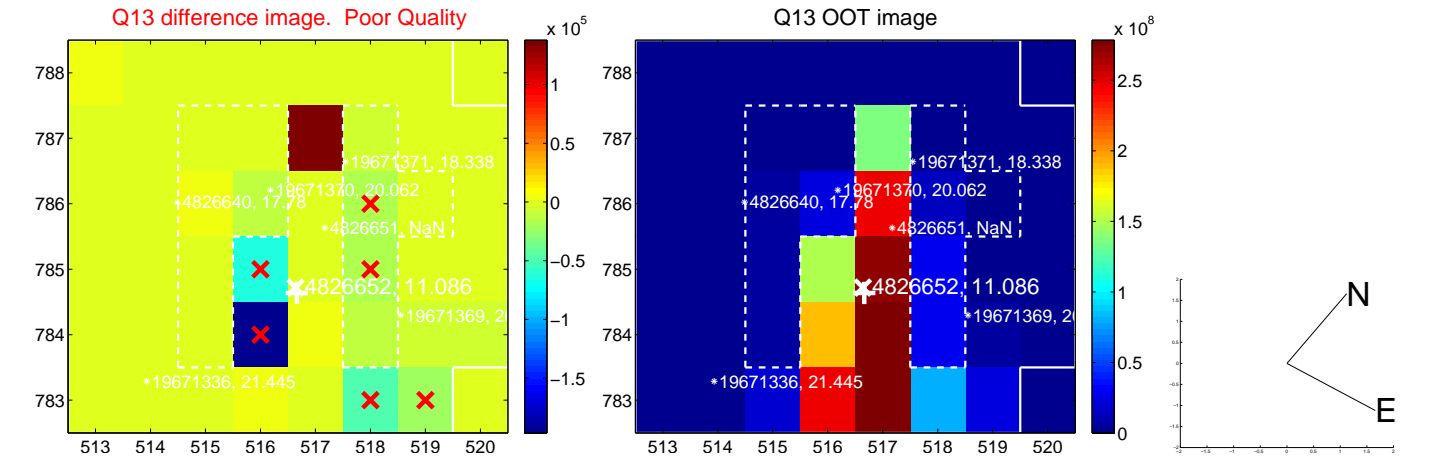
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



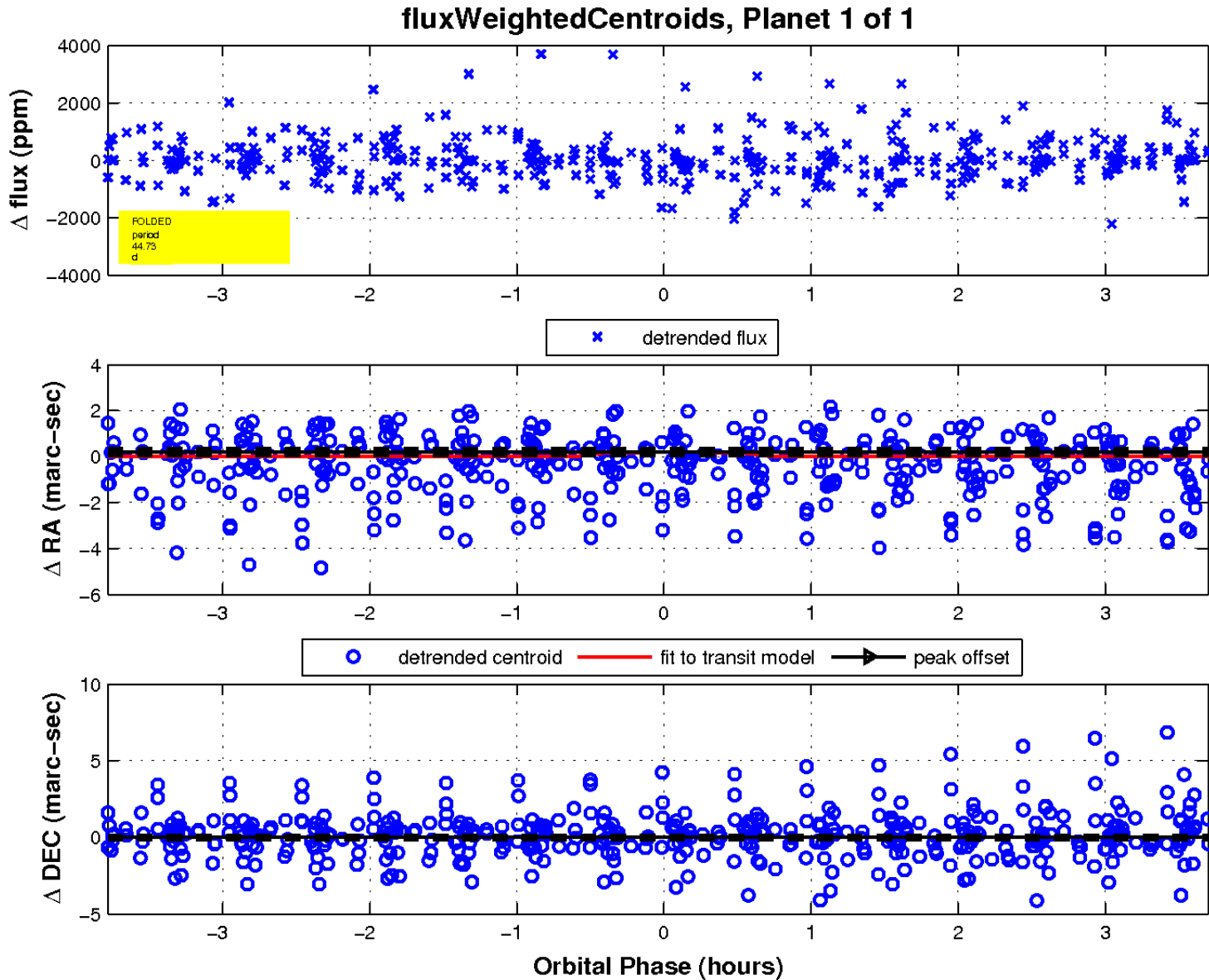
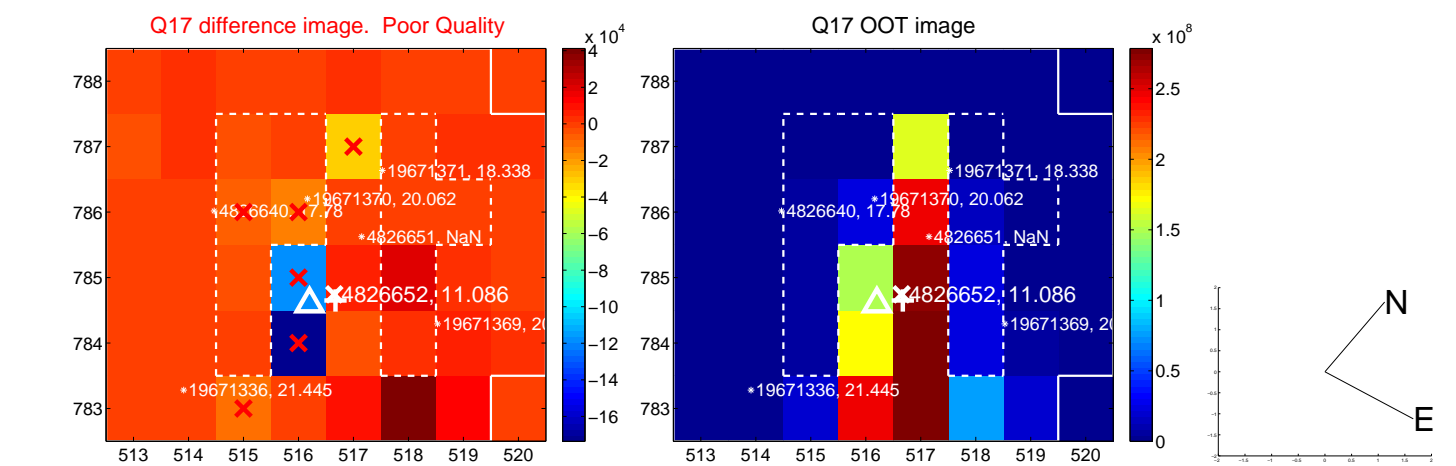
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

