

KIC 008974140

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})
008974140-01	OBS	No	0.508677	131.845838	138.5	3.088	11.3	12.1	3.12	7166	3.95	98888.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008974140-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

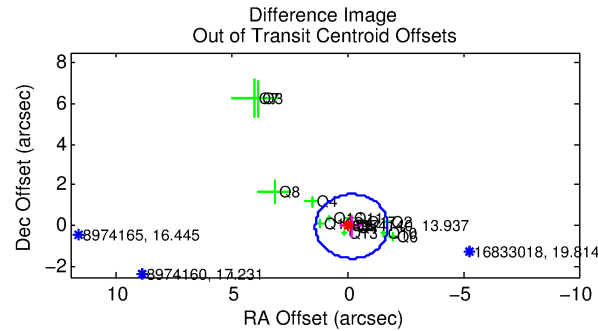
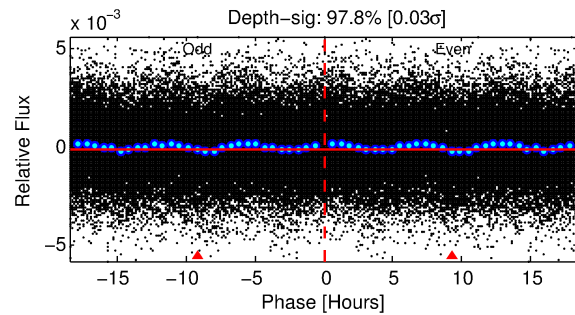
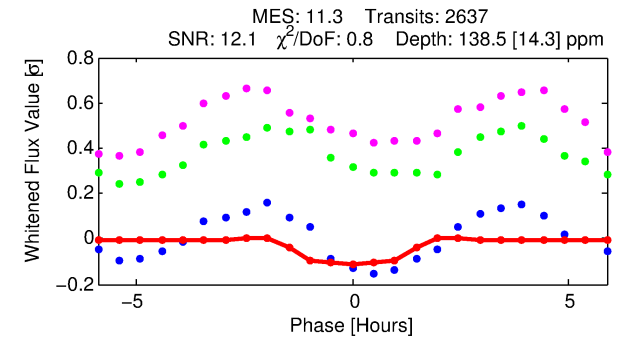
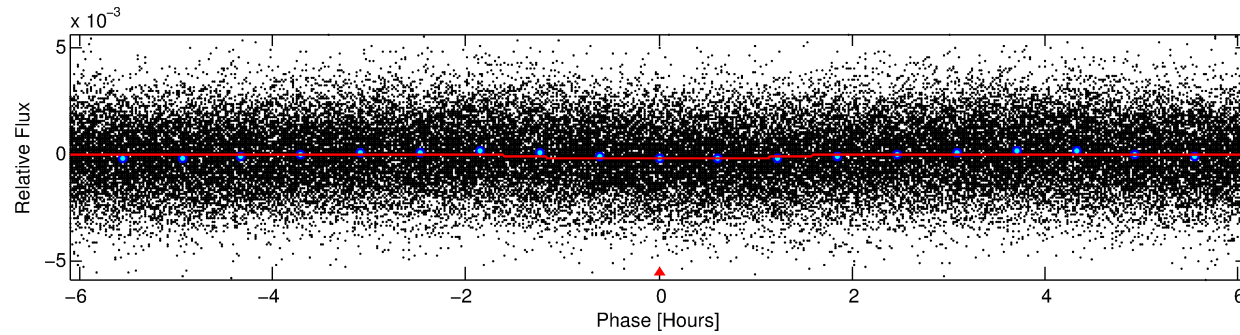
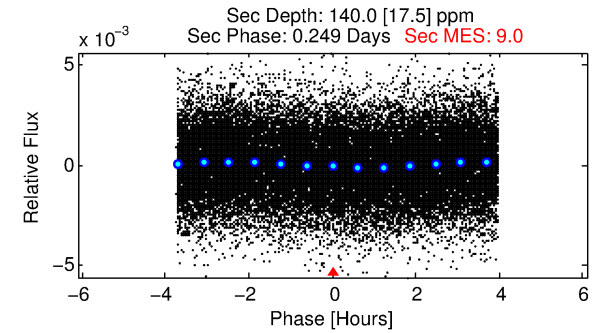
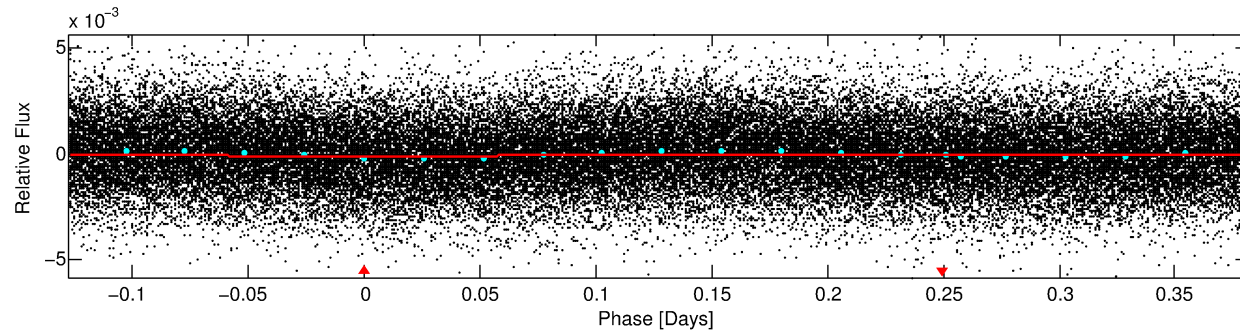
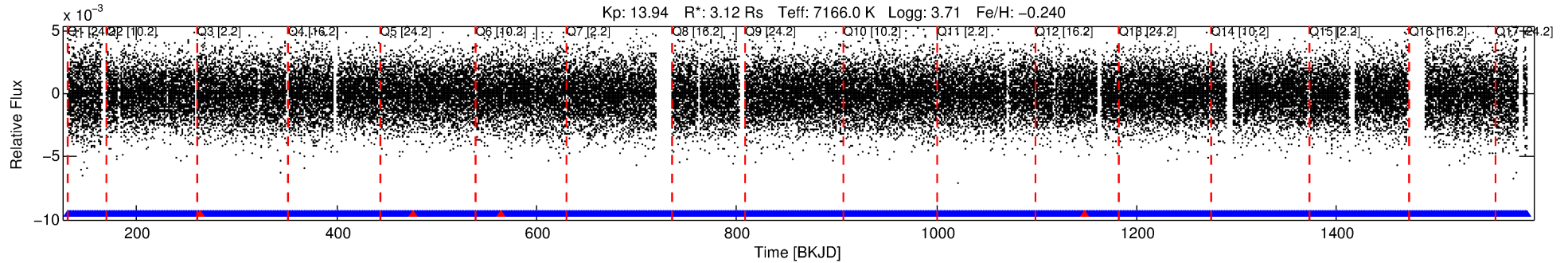
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008974140-01

No Significant Match Found

DV One-Page Summary

KIC: 8974140 Candidate: 1 of 1 Period: 0.509 d



DV Fit Results:

Period = 0.50868 [0.00001] d
Epoch = 131.8458 [0.0034] BKJD
Rp/R* = 0.0116 [0.0110]
a/R* = 1.23 [2.04]
b = 0.72 [3.34]
Seff = 98888.10 [86189.30]
Teff = 4522 [985] K
Rp = 3.95 [4.26] Re
a = 0.0152 [0.0079] AU
Ag = 1.14 [2.37] [0.06σ]
Teffp = 7229 [3446] K [0.76σ]

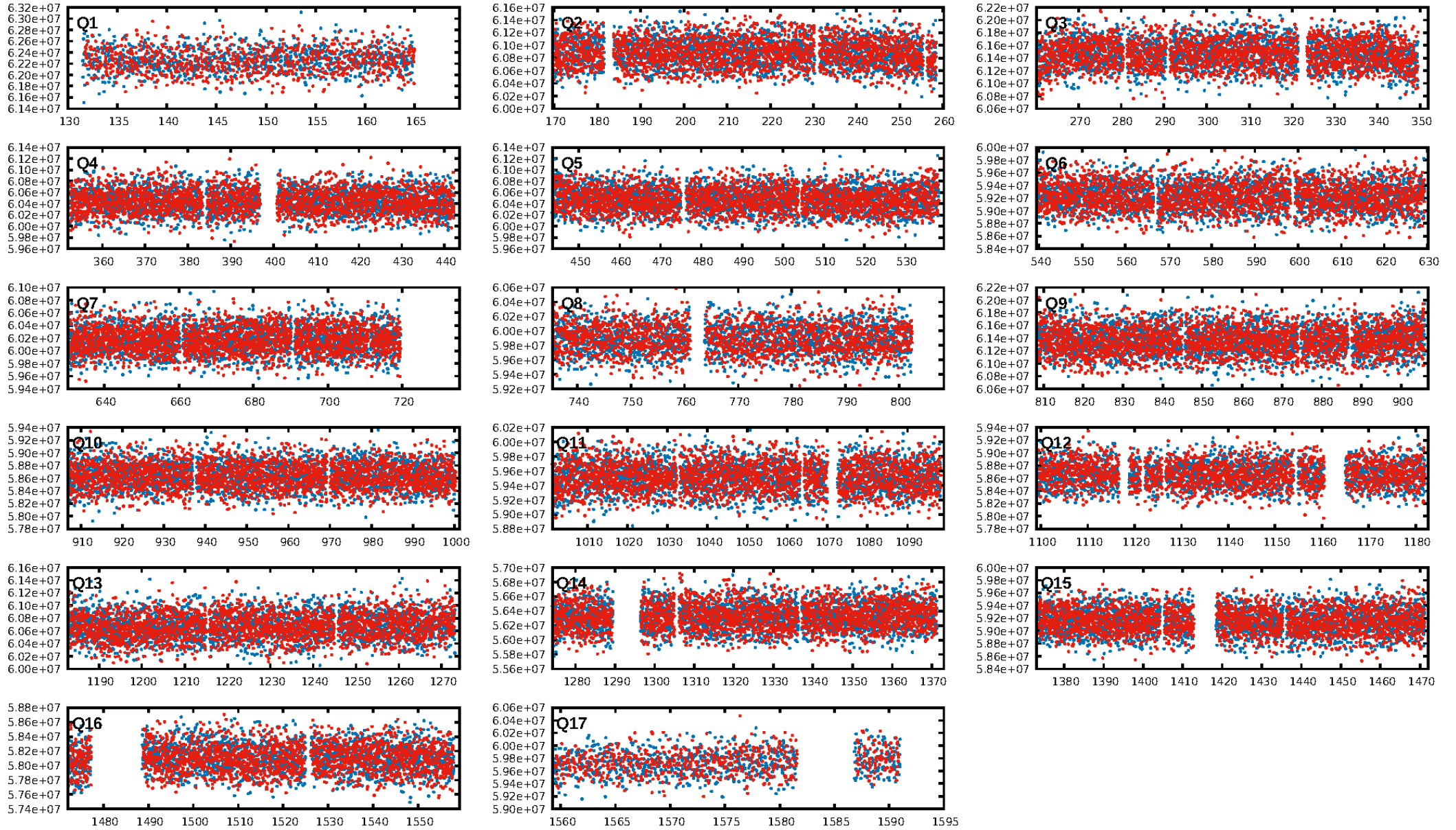
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.44e-20
RollingBand-fgt: 1.00 [2514/2518]
GhostDiagnostic-chr: 0.6421
Centroid-sig: 0.1%
Centroid-so: 0.550 arcsec [2.54σ]
OotOffset-rm: 0.162 arcsec [0.31σ]
KicOffset-rm: 0.209 arcsec [0.32σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.73 [11/15]
DiffImageOverlap-fno: 1.00 [17/17]

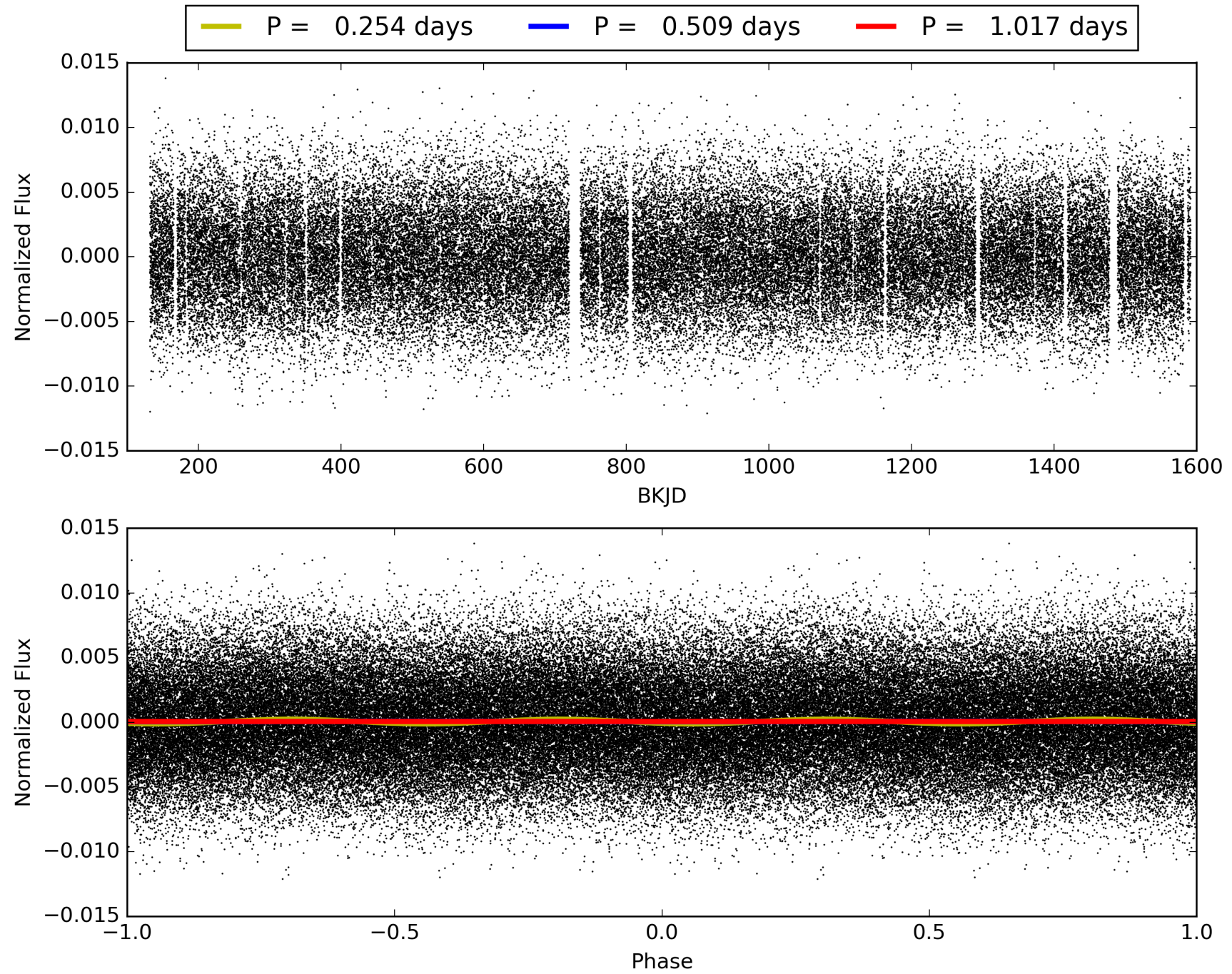
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:11:45 Z

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

TCE 008974140-01, PDC Light Curves

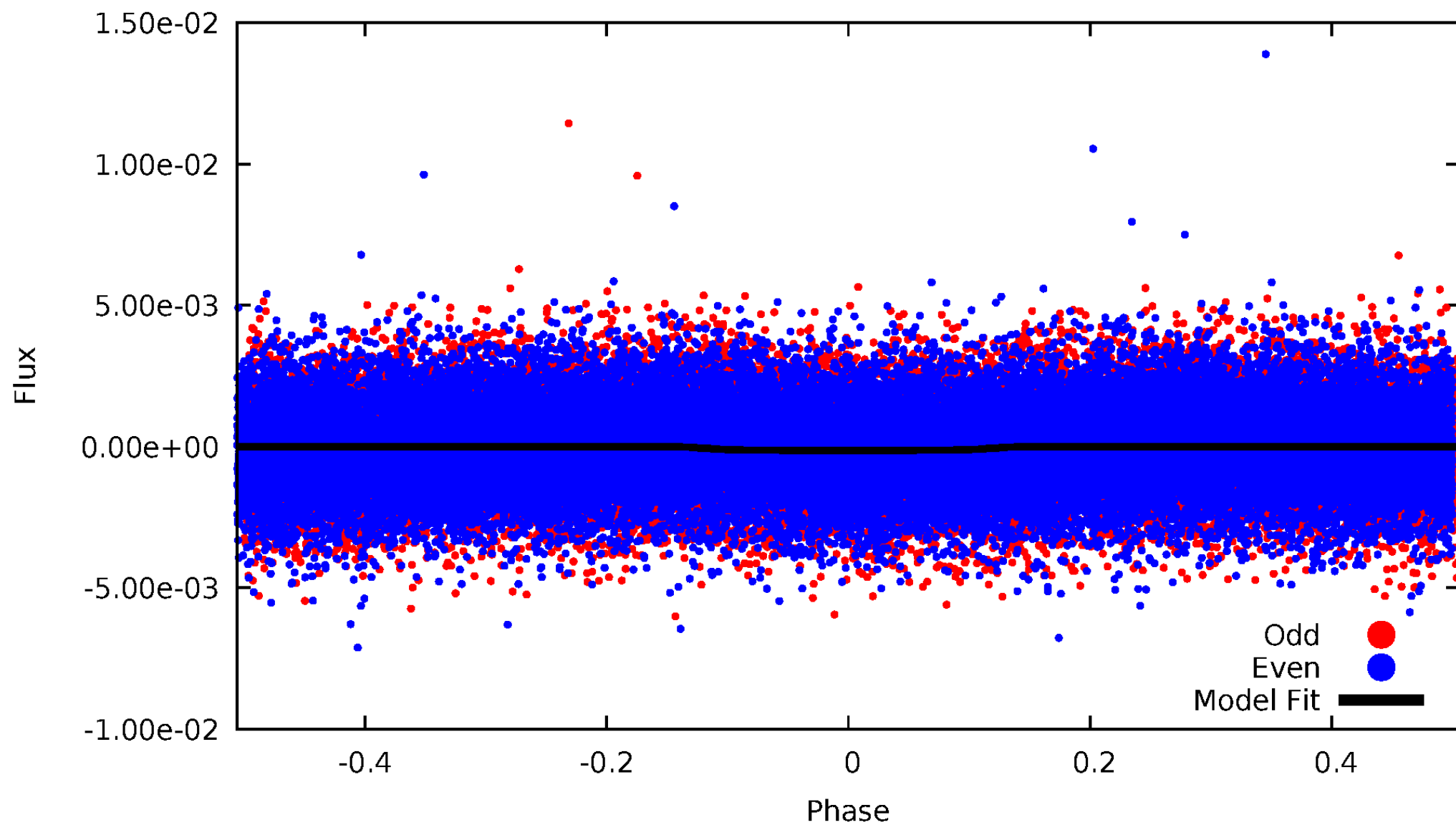


TCE 008974140-01



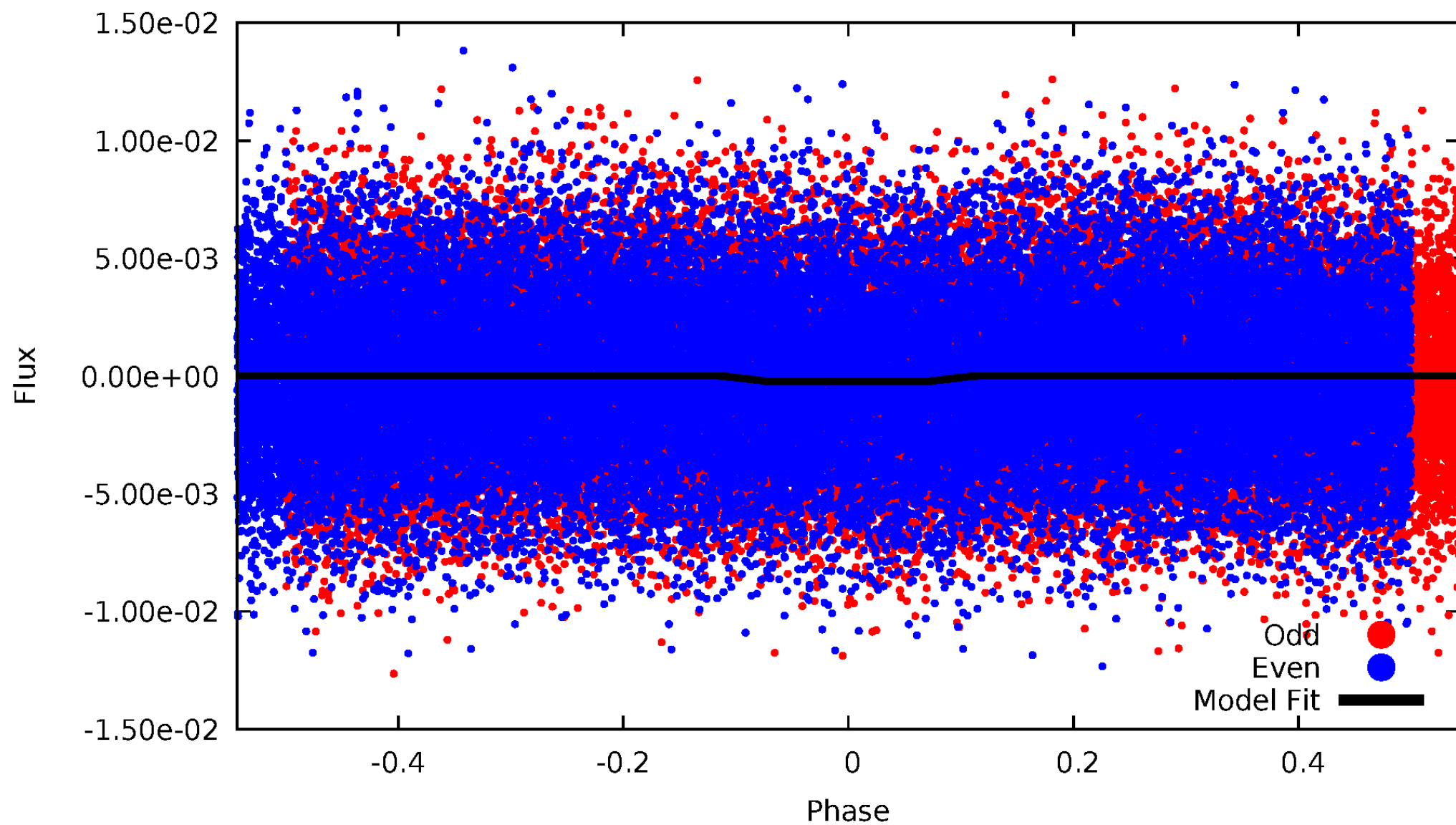
DV Odd/Even

TCE 008974140-01



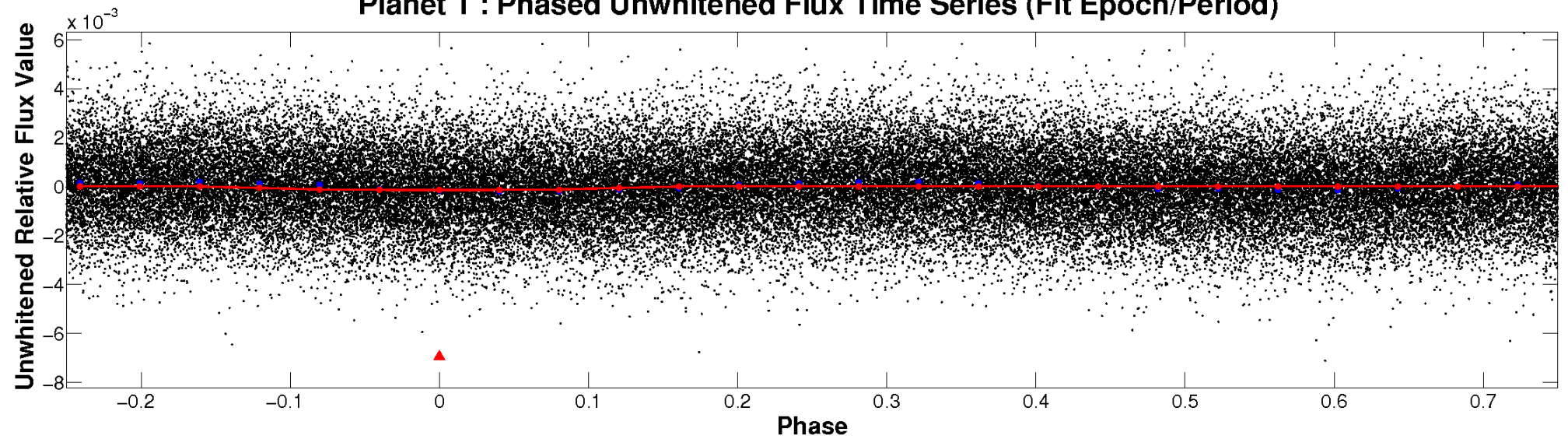
ALT Odd/Even

TCE 008974140-01

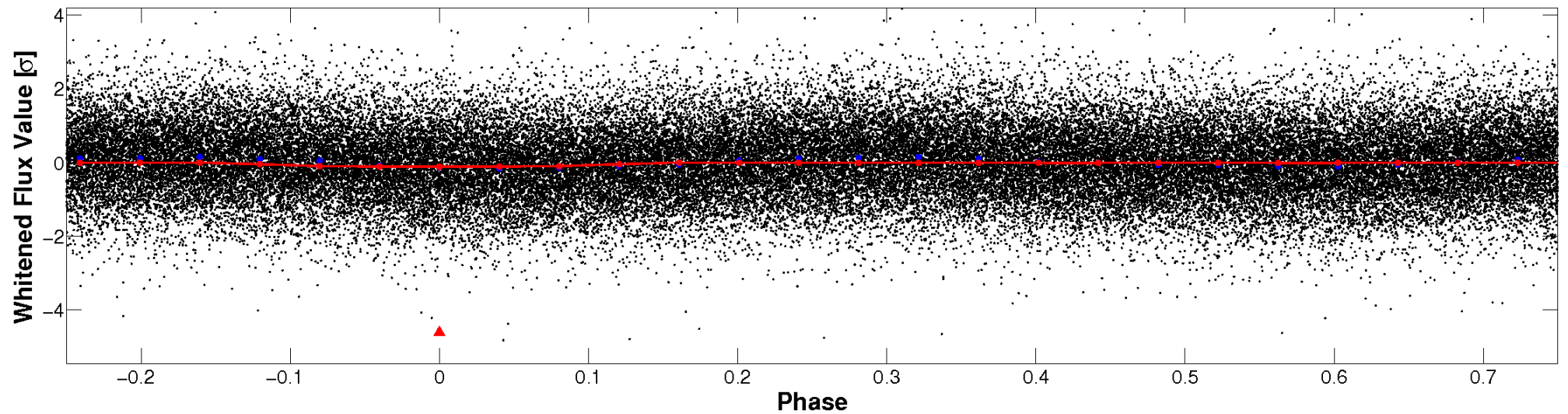


Non-Whitened Vs. Whitened Light Curve

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

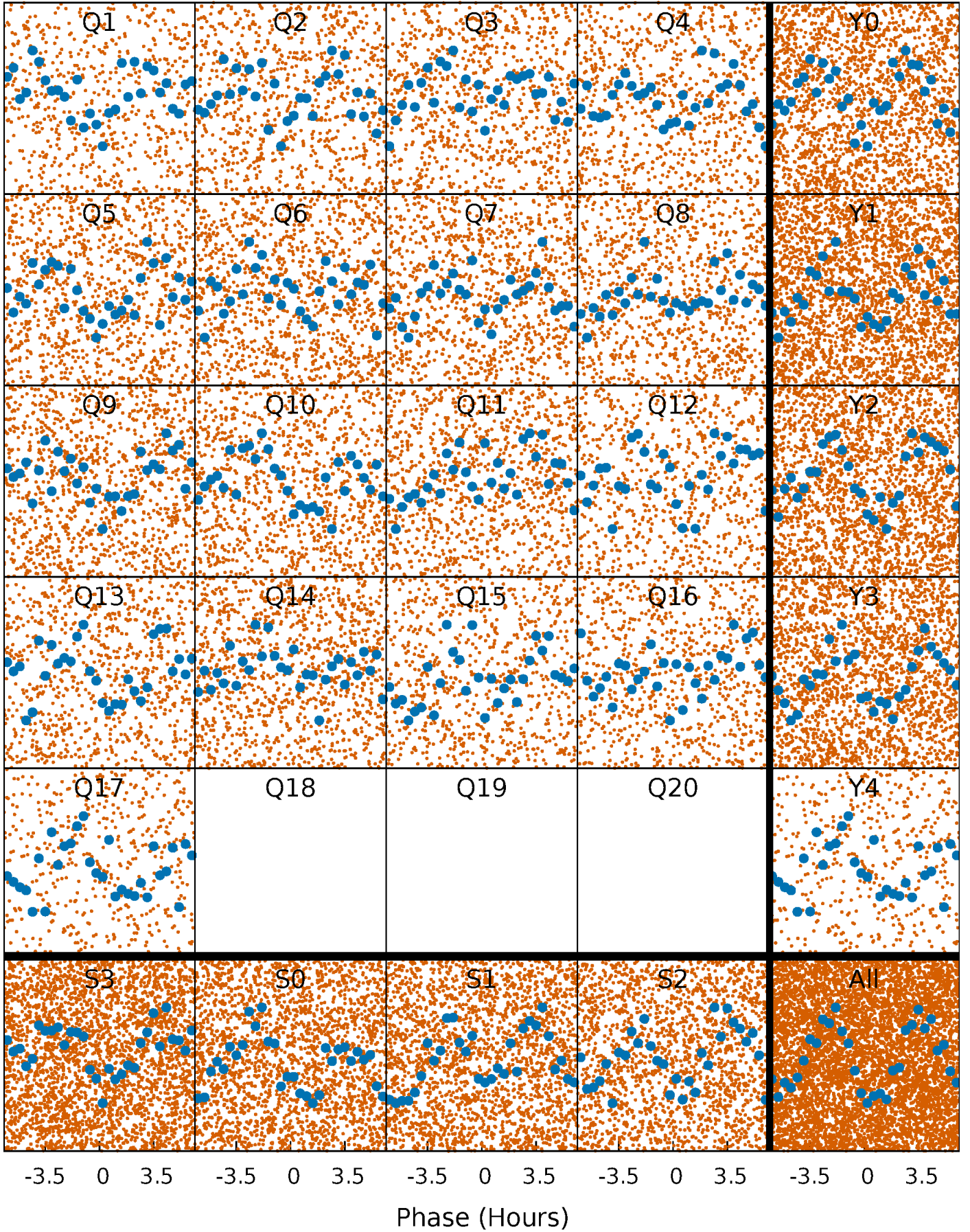


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



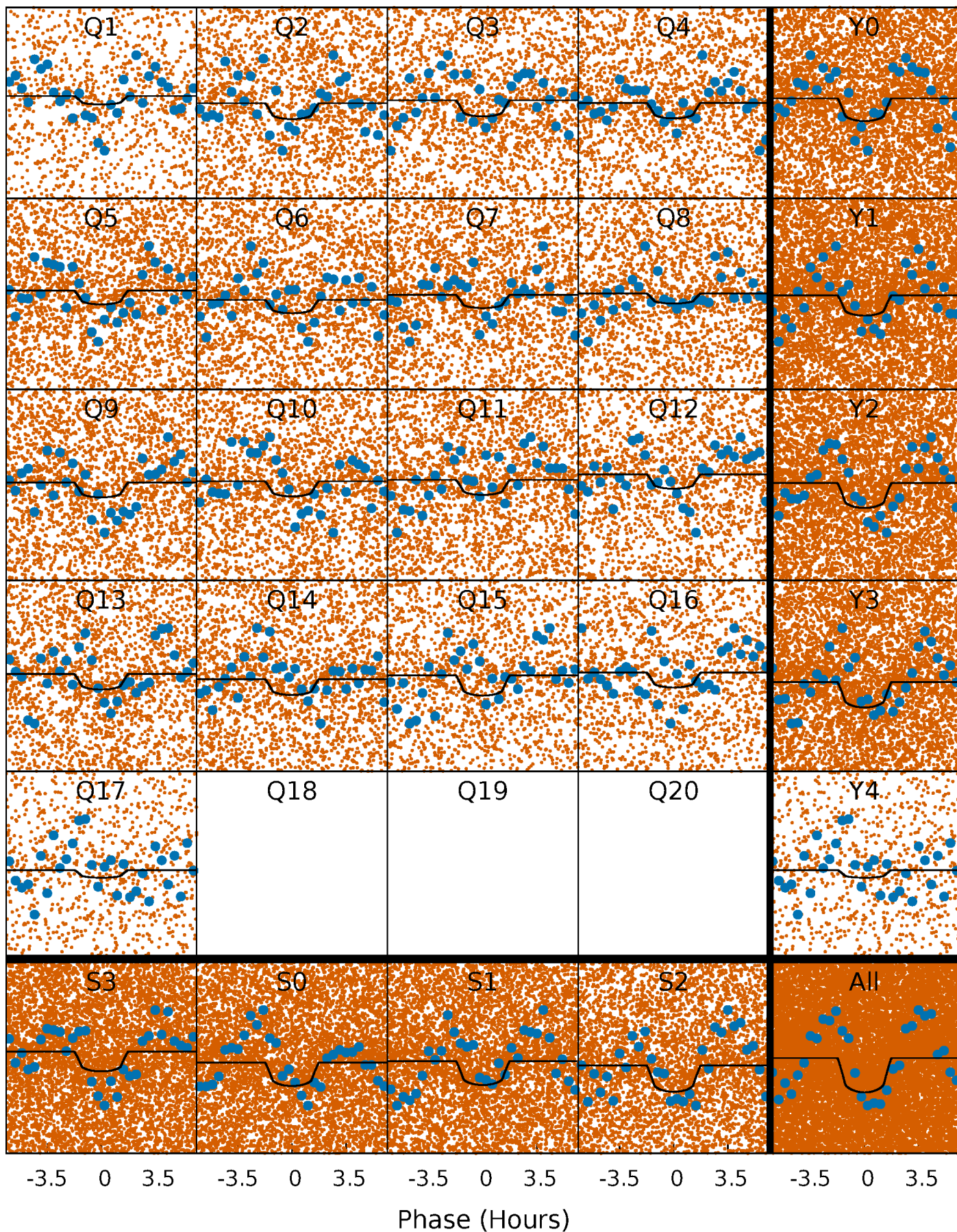
PDC Quarter-Phased Transit Curves

TCE 008974140-01 P= 0.508677 Days $T_0=131.845838$ (BKJD)



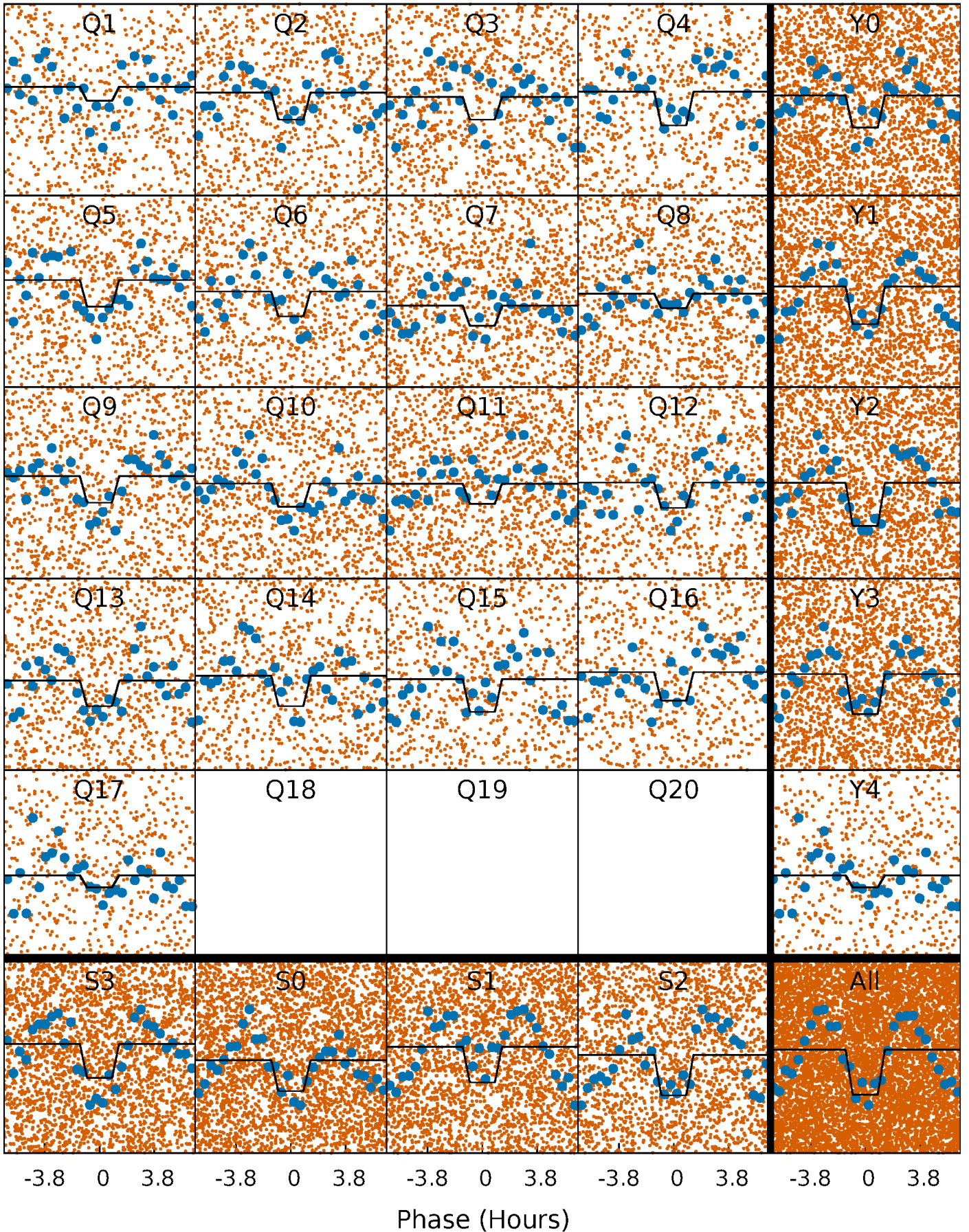
DV Quarter-Phased Transit Curves

TCE 008974140-01 P= 0.508677 Days $T_0=131.845838$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

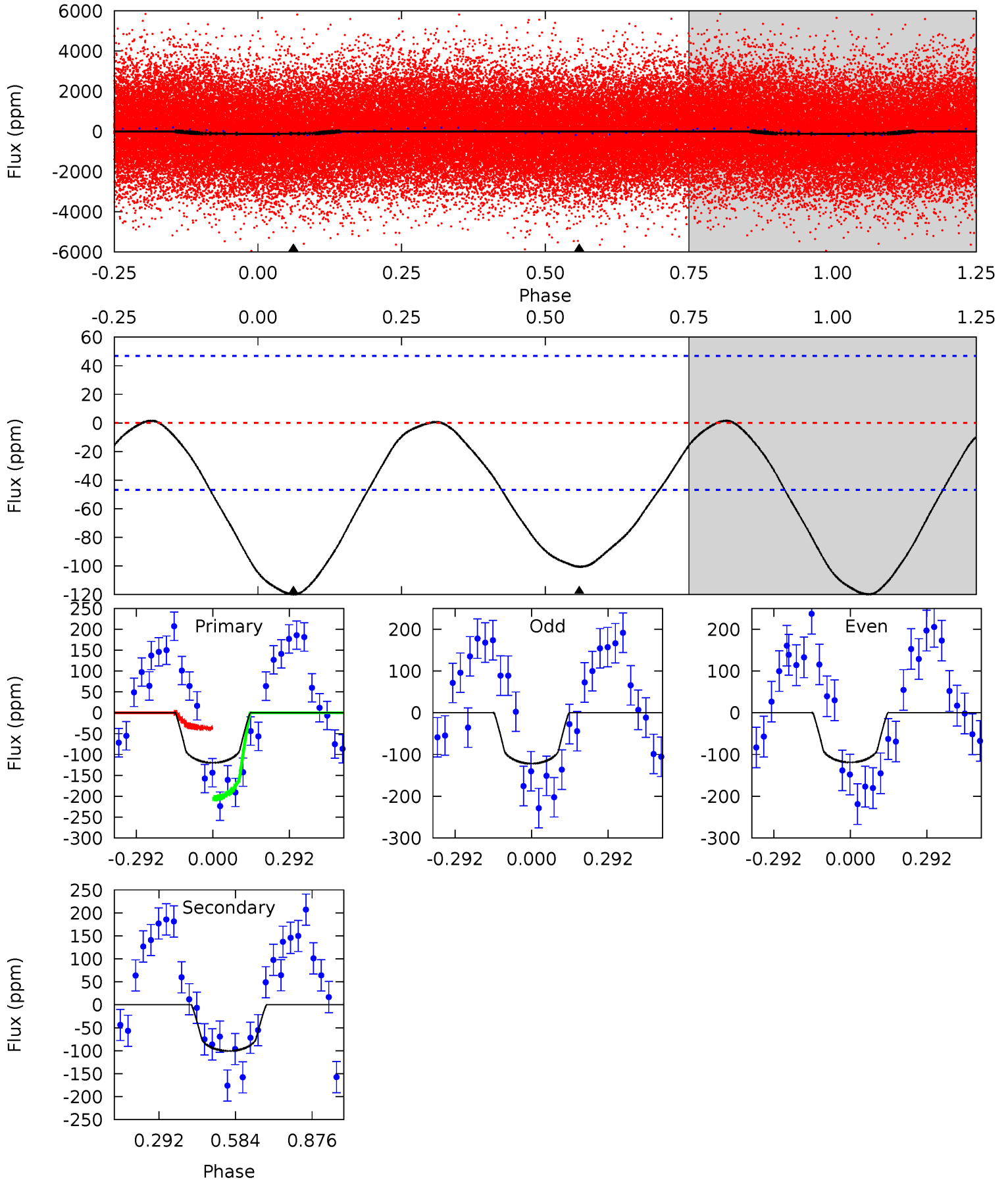
TCE 008974140-01 P= 0.508702 Days $T_0=131.839891$ (BKJD)



DV Model-Shift Uniqueness Test

008974140-01, P = 0.508677 Days, E = 131.337161 Days

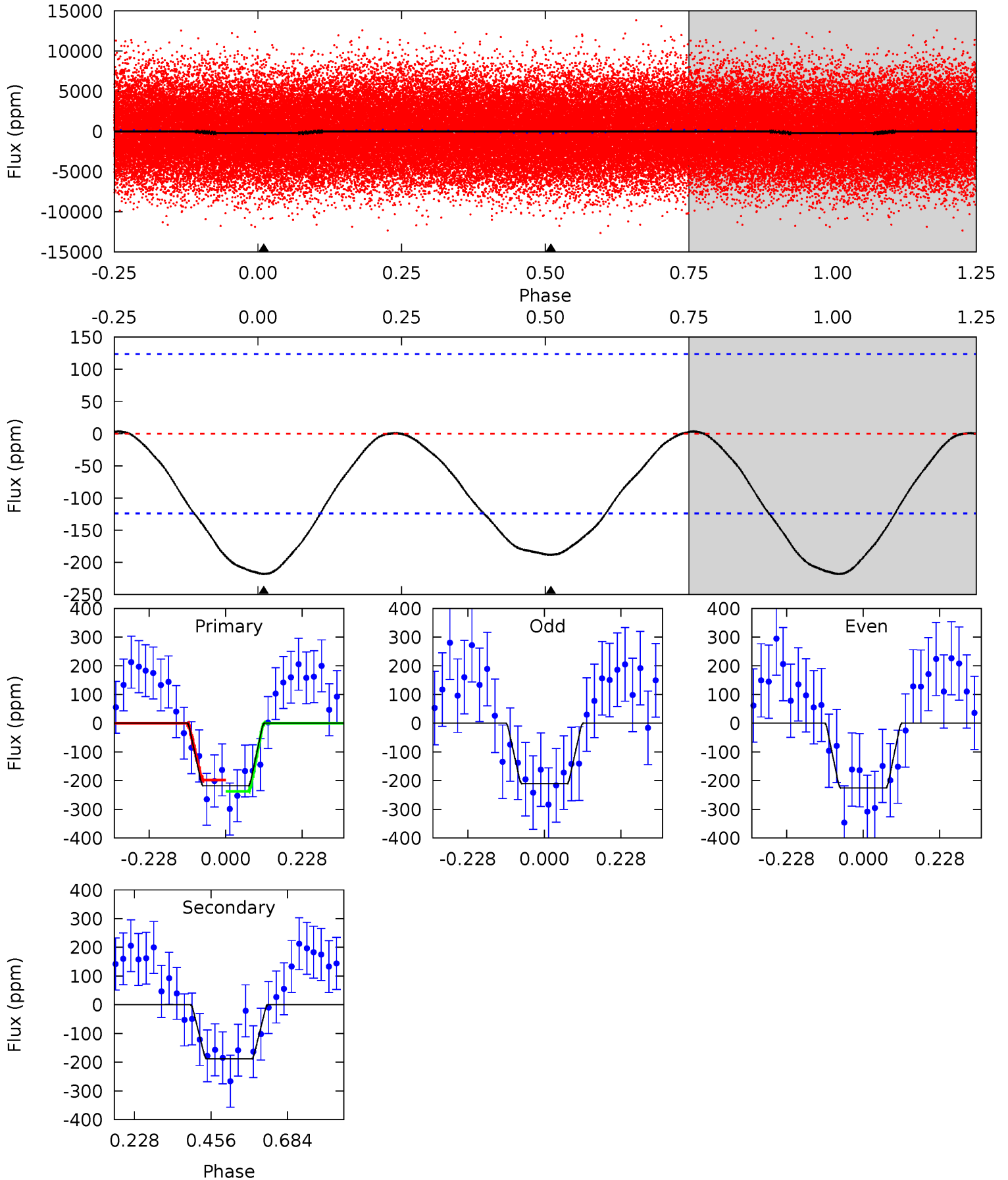
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	9.31	0	0	4.33	1.05	0.11	11.1	11.1	9.31	9.31	0.14	1.17	0.01	7.73



Alt Model-Shift Uniqueness Test

008974140-01, P = 0.508702 Days, E = 131.331189 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.73	6.68	0	0	4.39	1.21	0.18	7.73	7.73	6.68	6.68	0.26	0.96	0.02	0.70



Stellar Parameters For KIC 008974140

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7166^{+228}_{-371}	$3.711^{+0.504}_{-0.084}$	$-0.240^{+0.250}_{-0.300}$	$3.116^{+0.402}_{-1.607}$	$1.818^{+0.178}_{-0.535}$	$0.085^{+0.473}_{-0.022}$
	+3%/-5%	+14%/-2%	+104%/-125%	+13%/-52%	+10%/-29%	+558%/-27%
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 008974140-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-101 ± 11	$4.09^{+3.18}_{-2.69}$	6031^{+495}_{-758}	5260^{+5735}_{-8969}	$0.757^{+5.301}_{-0.516}$
Alt.	-188 ± 28	$4.72^{+3.35}_{-2.60}$	6068^{+455}_{-811}	5761^{+5107}_{-2252}	$1.042^{+4.359}_{-0.692}$

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

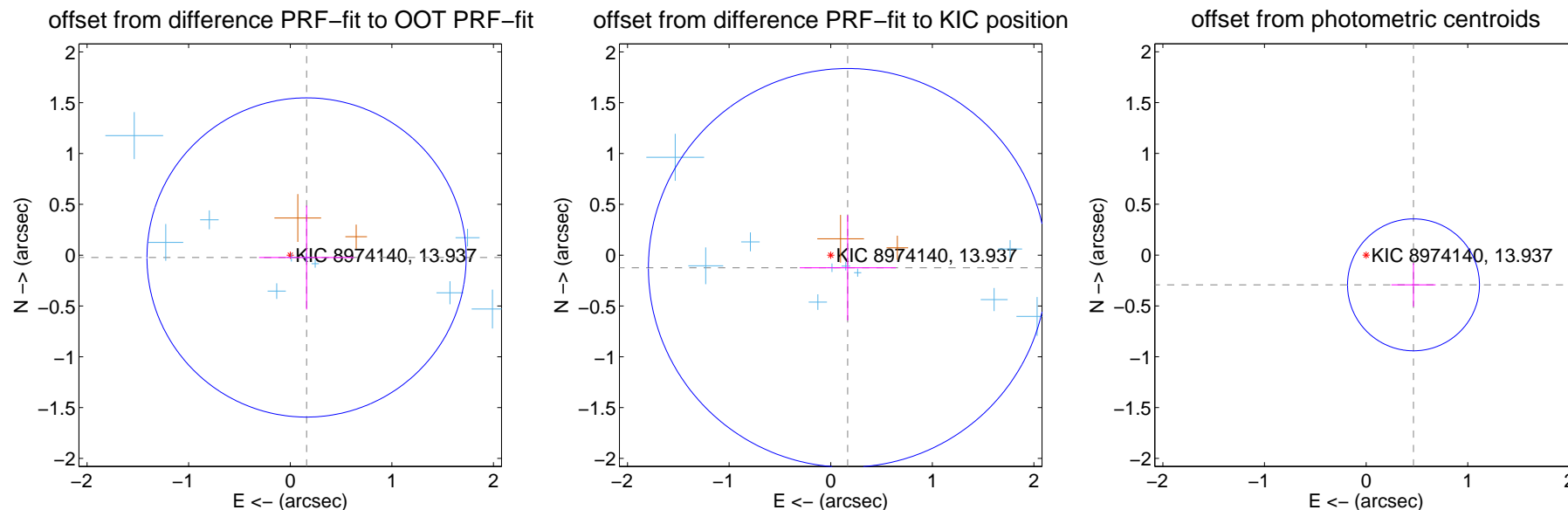
DV Centroid Data

Supplemental centroid analysis for 008974140-01. Kepler magnitude: 13.94. Transit SNR 12.10

There are 11 quarters with good PRF difference image offsets

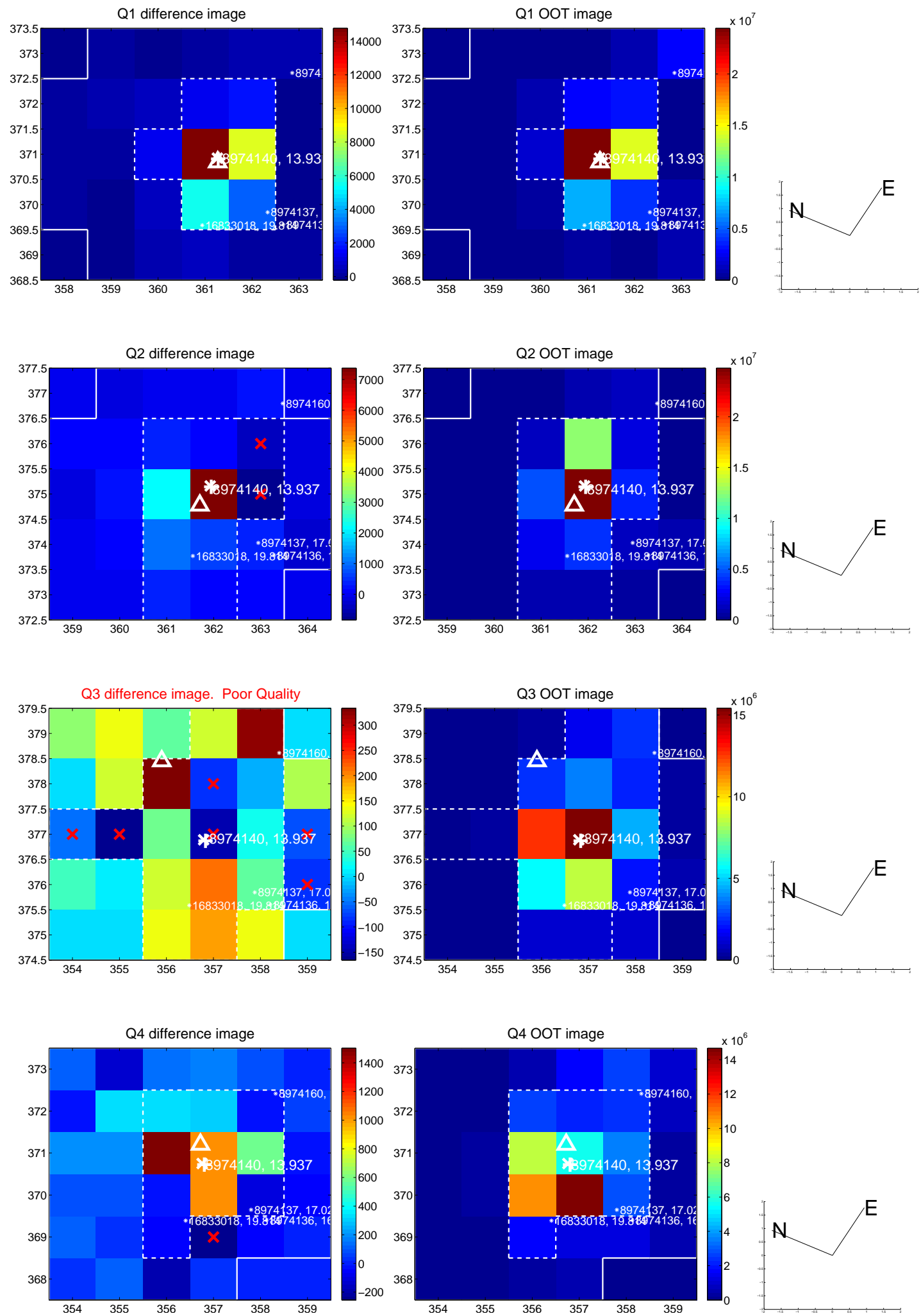
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.162 ± 0.523	0.31	-0.160 ± 0.468	-0.023 ± 0.511
PRF-fit source offset from KIC position	0.209 ± 0.654	0.32	-0.167 ± 0.473	-0.125 ± 0.517
photometric centroid source offset	0.55 ± 0.22	2.54	-0.47 ± 0.22	-0.29 ± 0.21

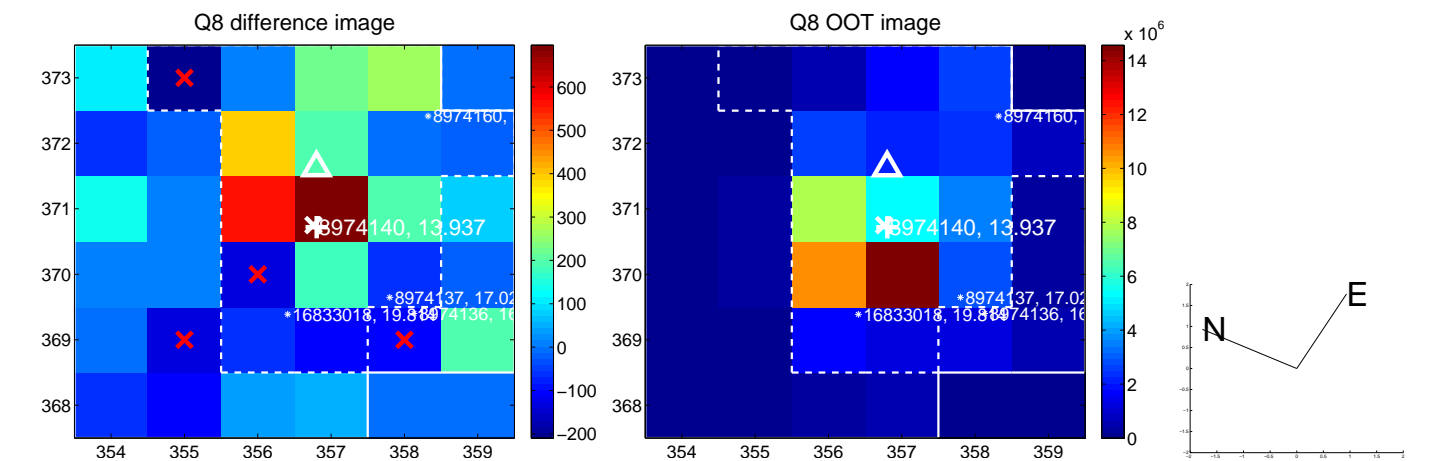
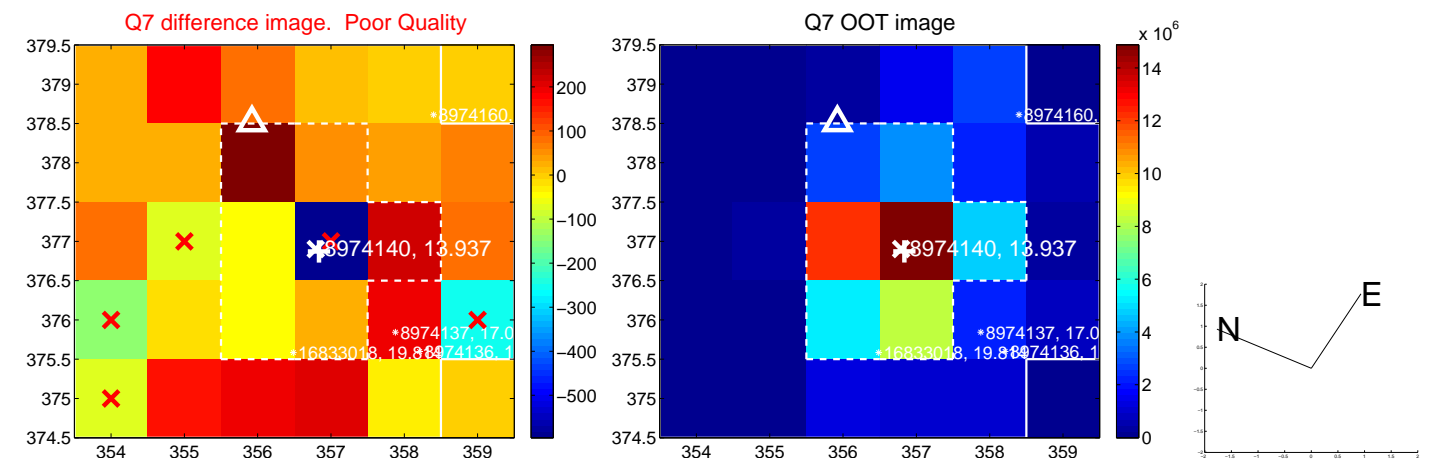
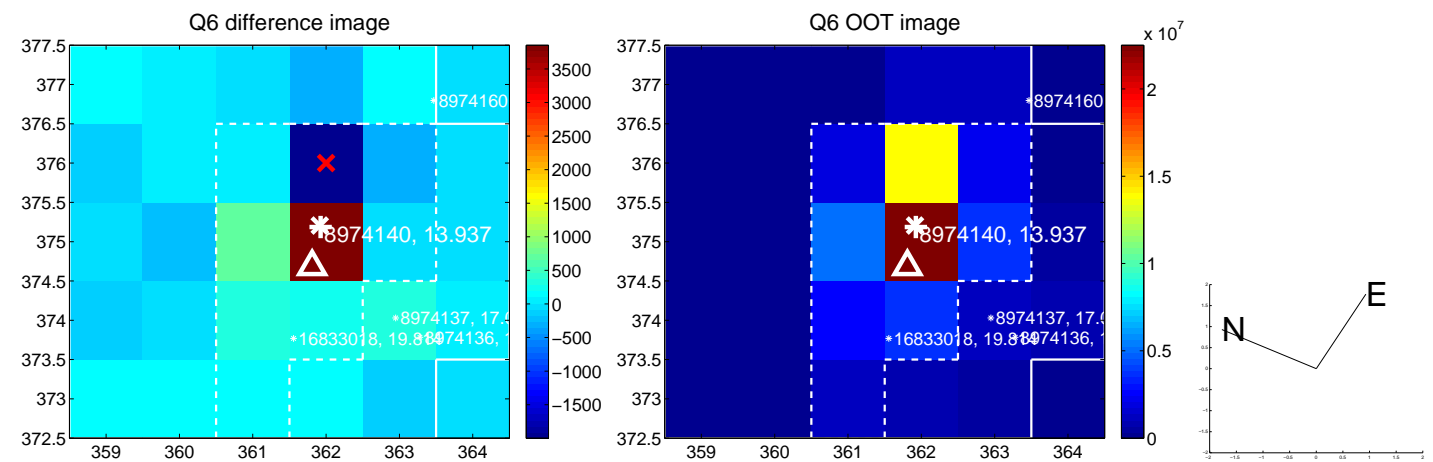
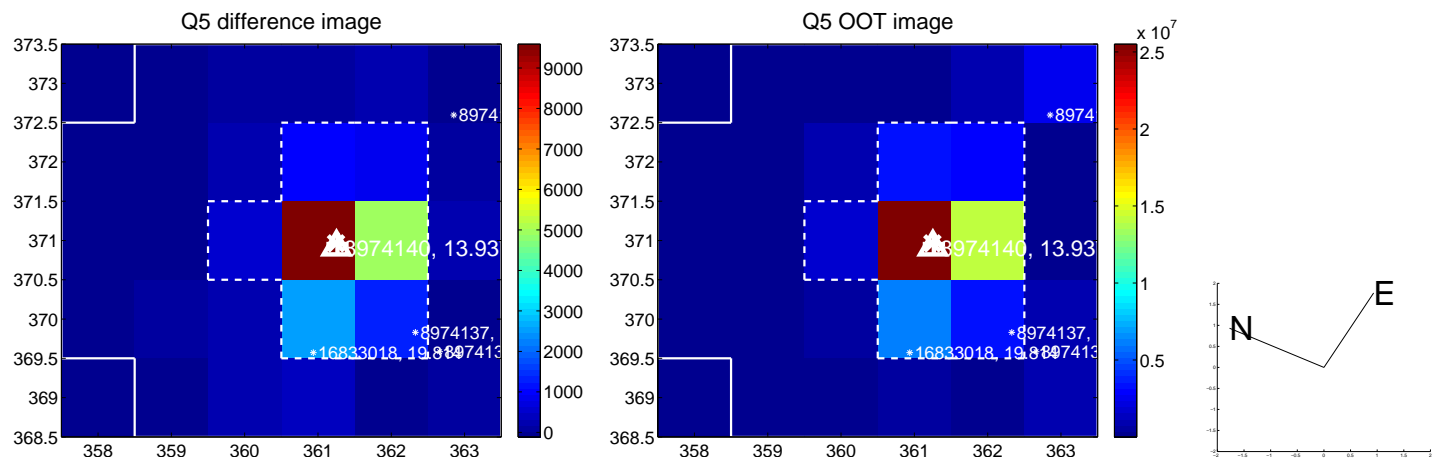


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

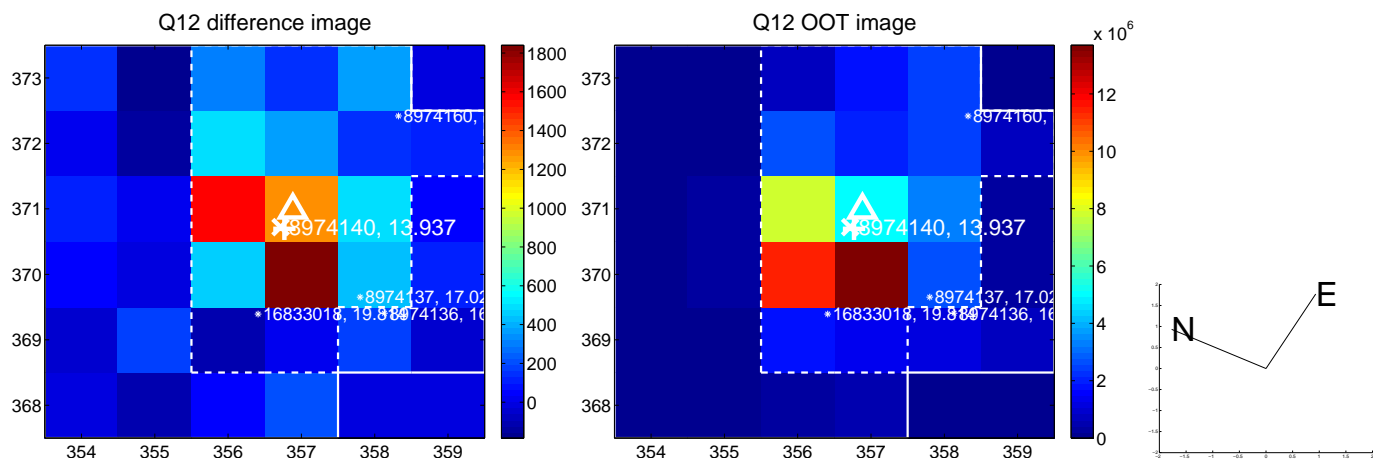
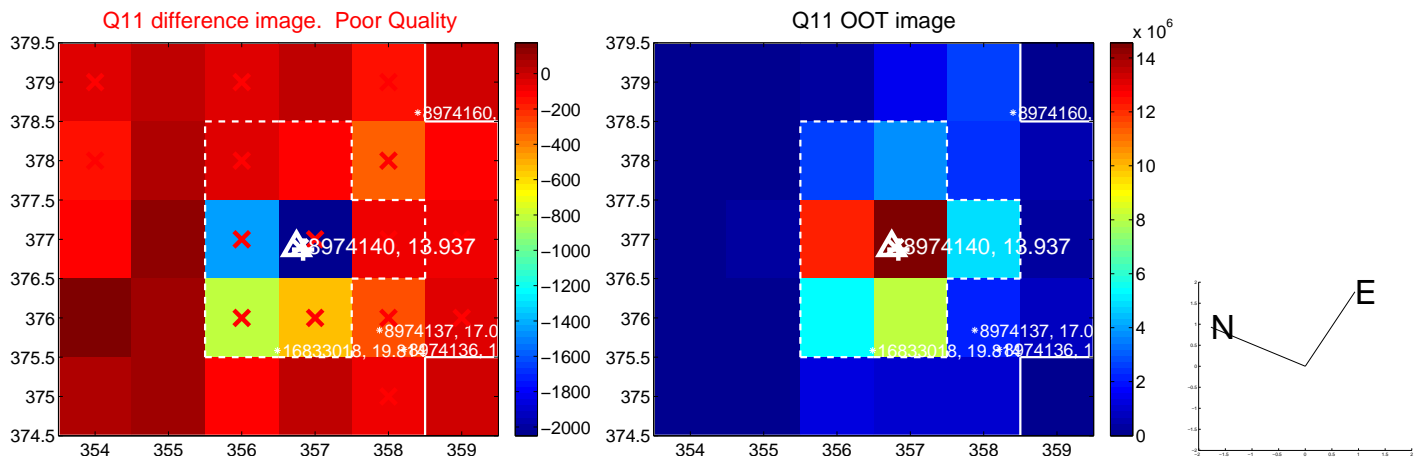
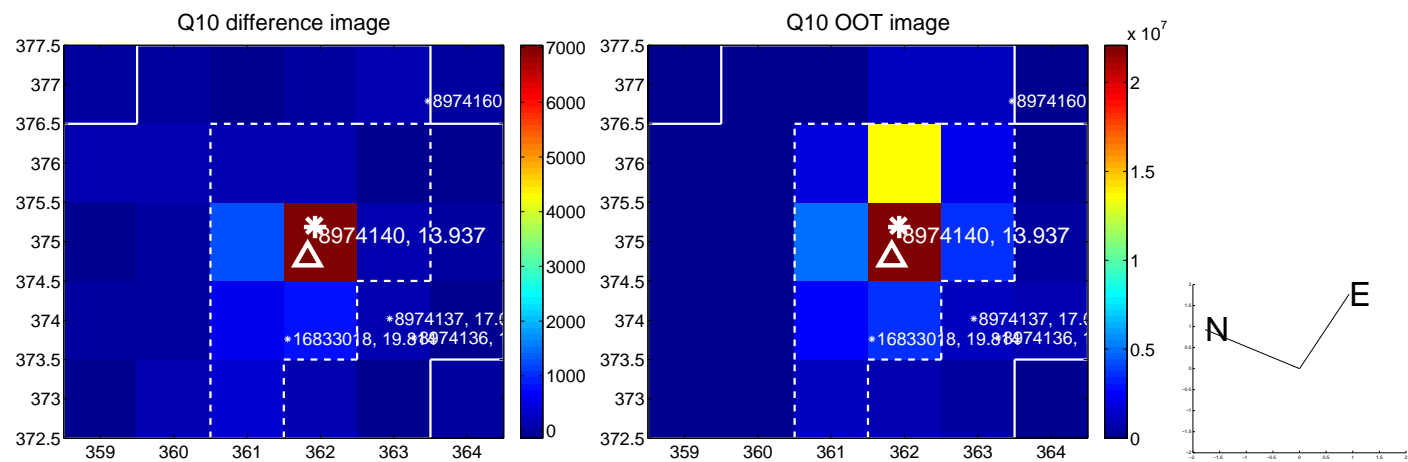
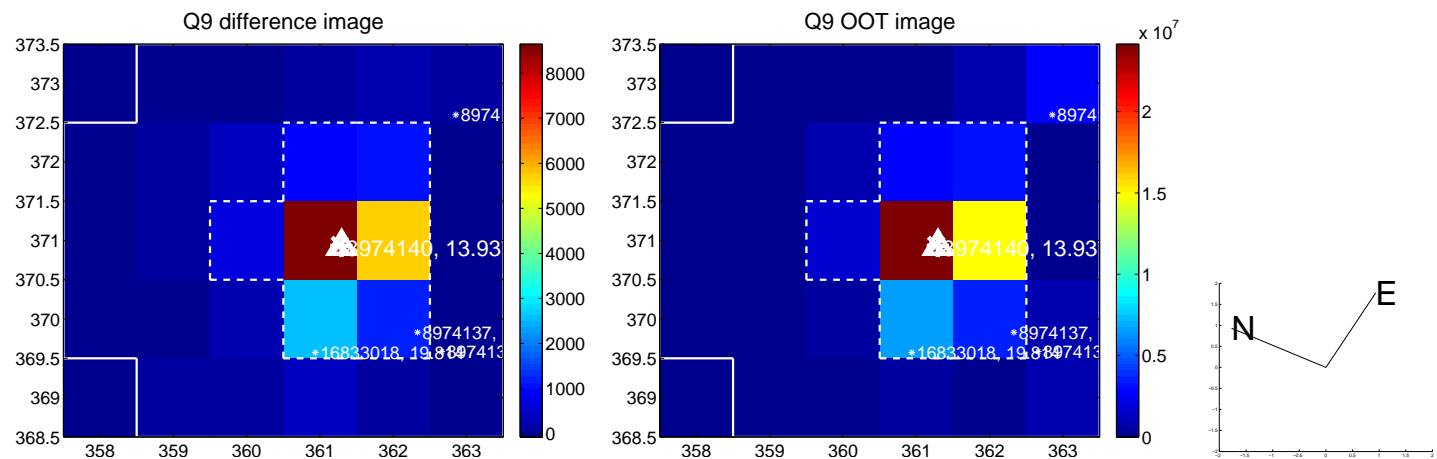
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



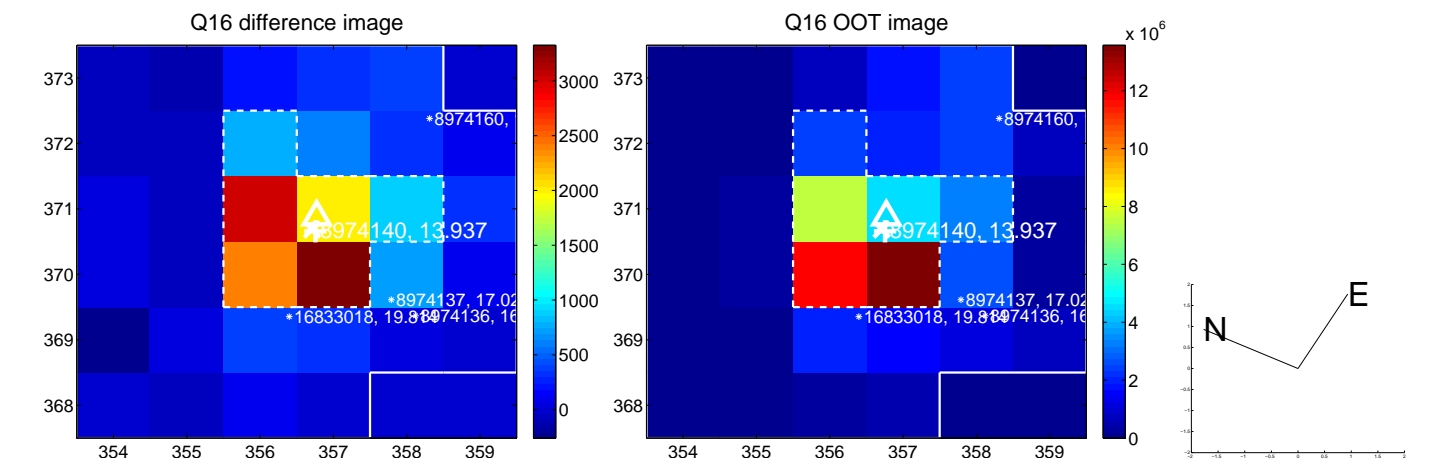
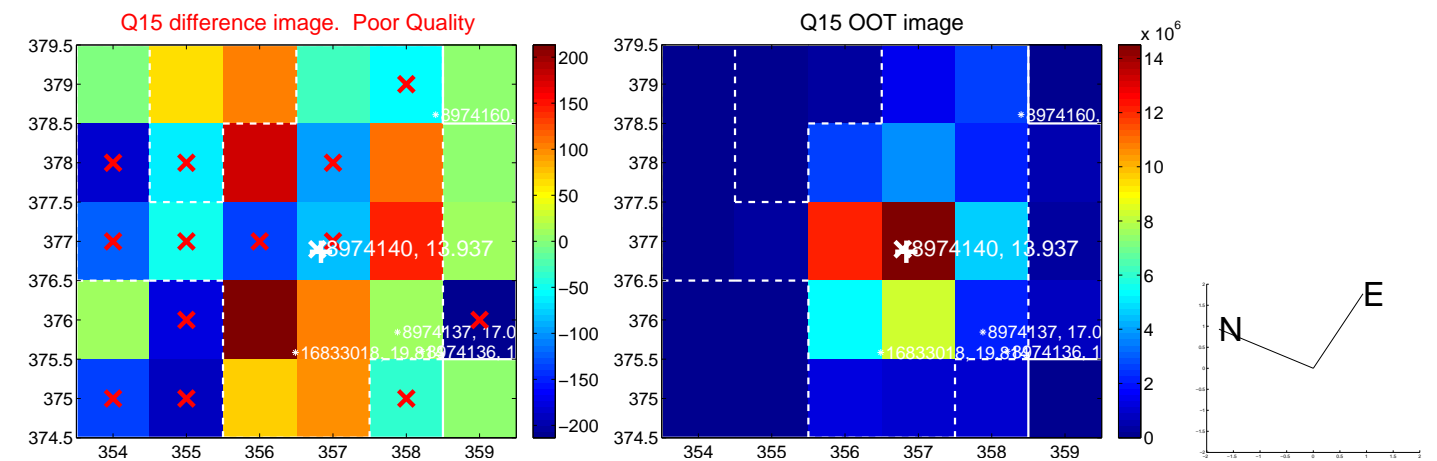
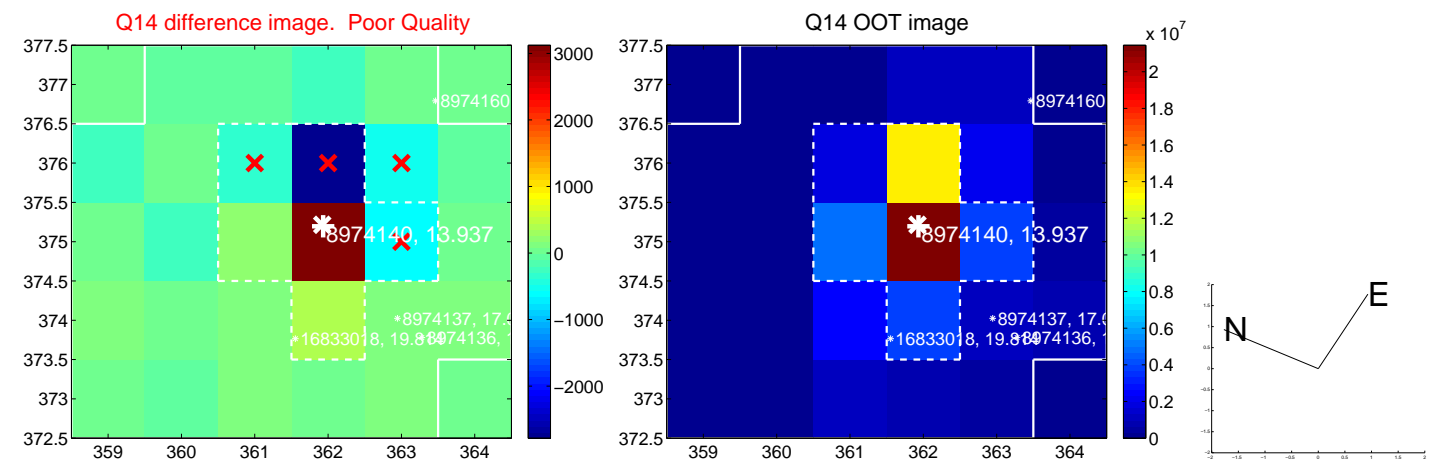
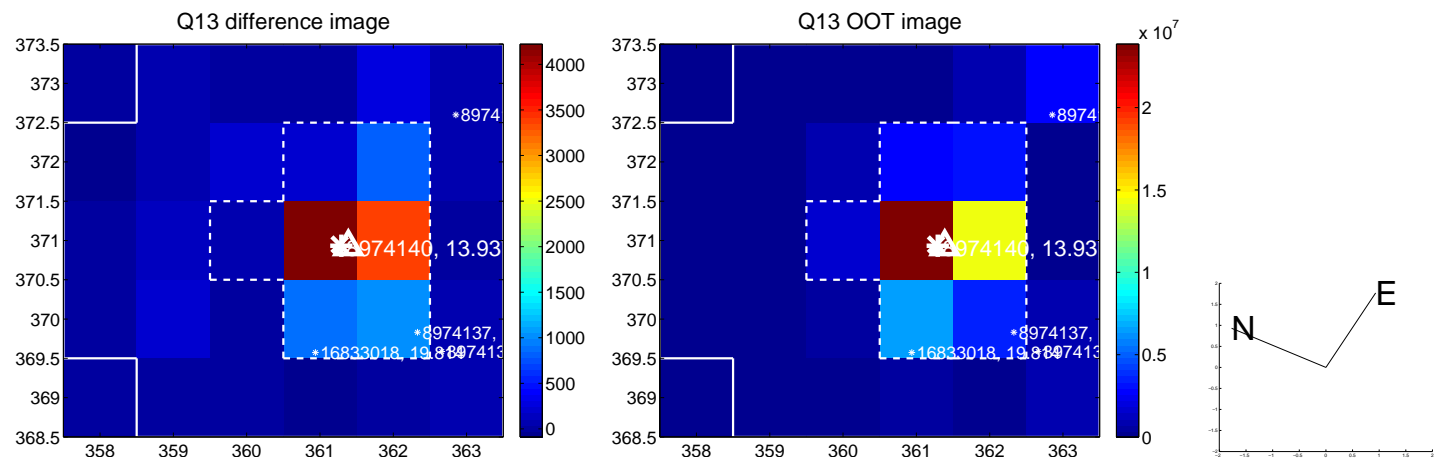
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



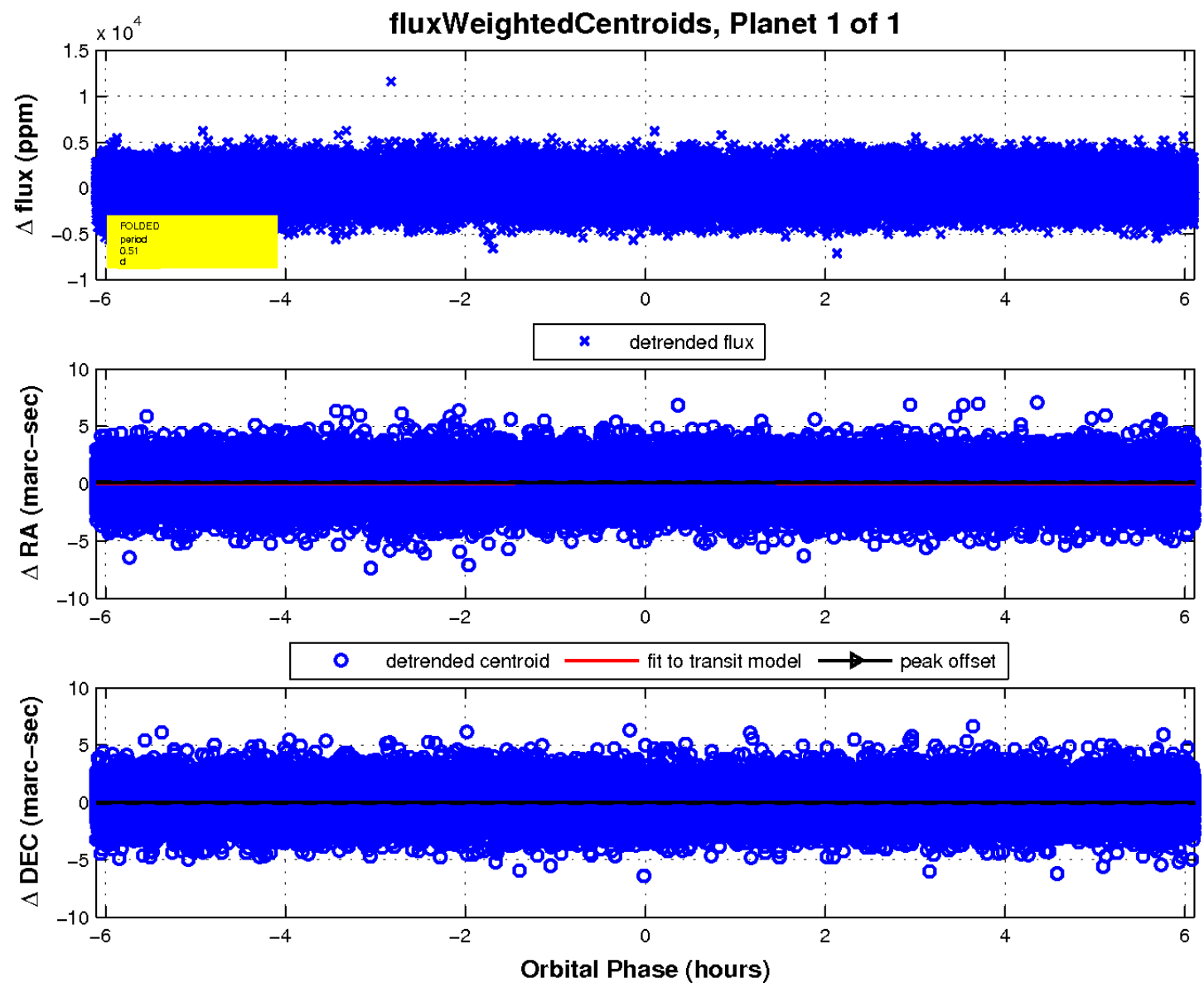
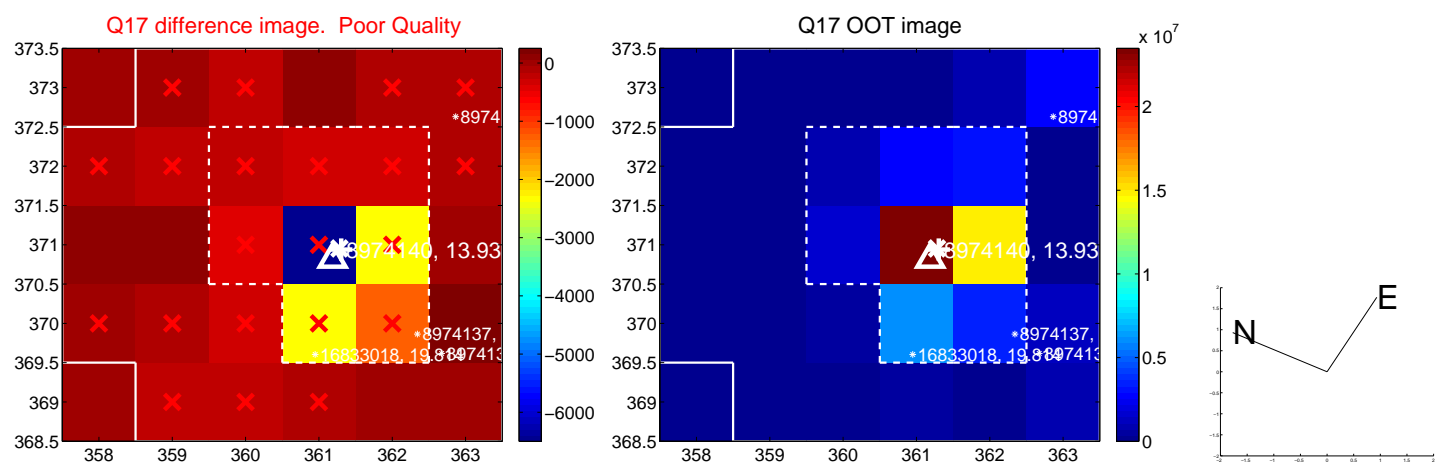
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

