

KIC 010073654

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})
010073654-01	OBS	No	1.111247	131.929334	49.6	6.471	8.0	9.5	0.94	5973	0.67	2227.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010073654-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

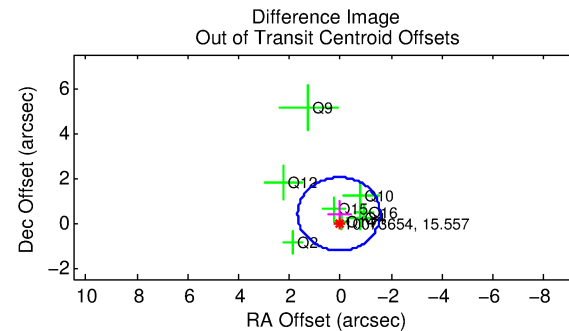
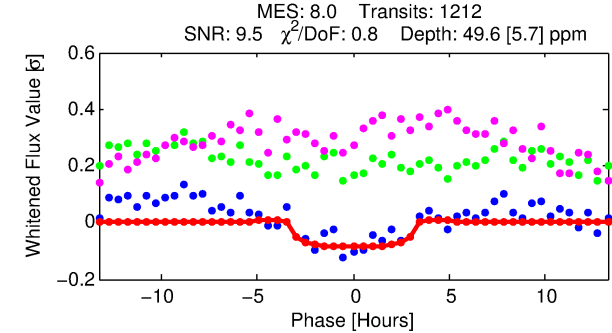
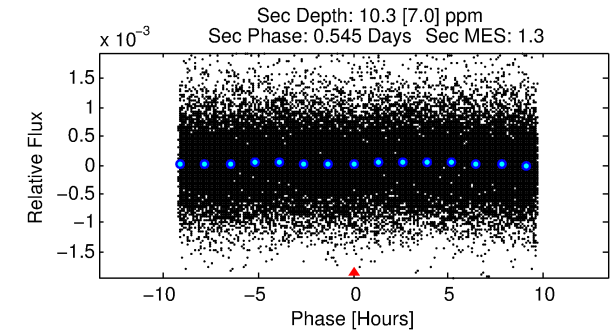
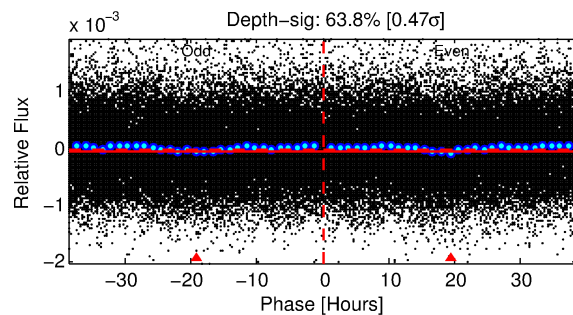
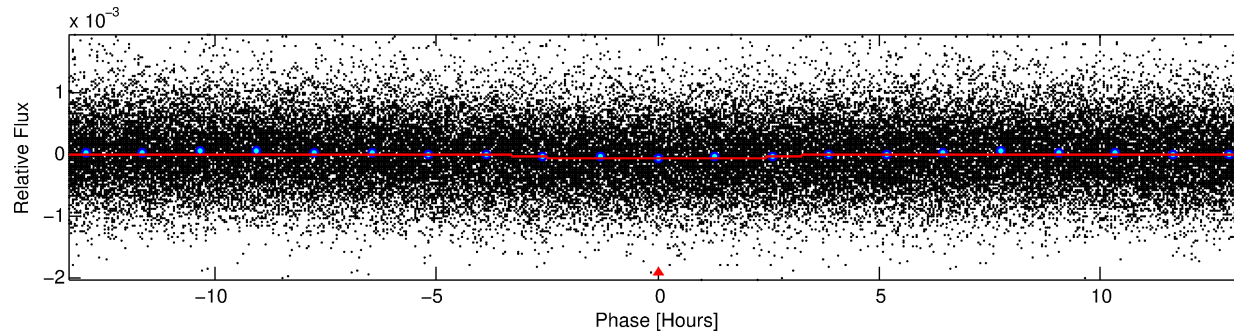
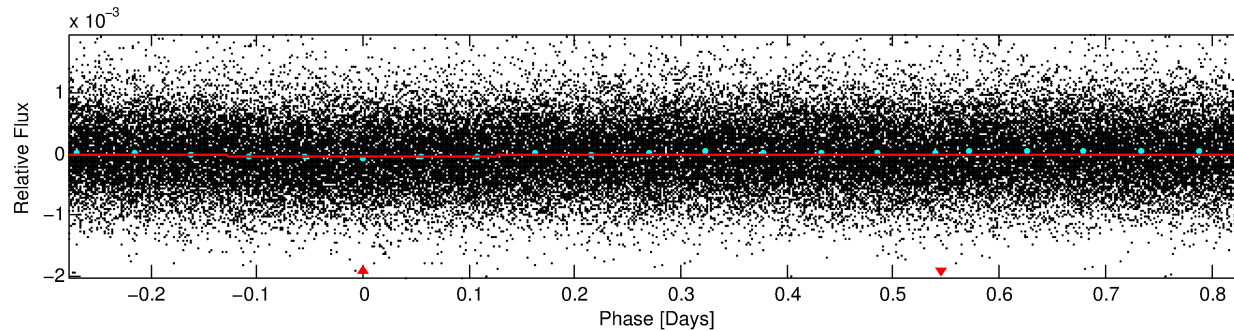
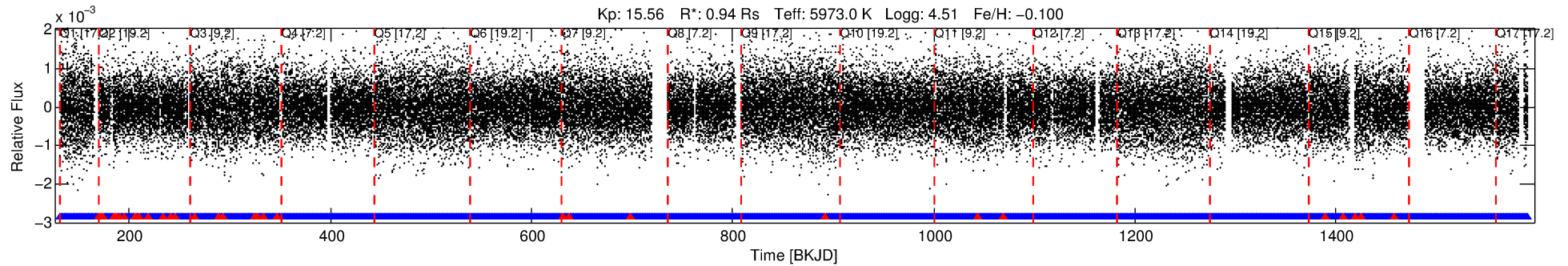
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010073654-01

No Significant Match Found

DV One-Page Summary

KIC: 10073654 Candidate: 1 of 1 Period: 1.111 d



DV Fit Results:

Period = 1.11125 [0.00002] d
Epoch = 131.9293 [0.0071] BKJD
Rp/R* = 0.0065 [0.0094]
a/R* = 1.40 [4.57]
b = 0.40 [14.34]
Seff = 2227.37 [845.09]
Teq = 1752 [166] K
Rp = 0.67 [0.97] Re
a = 0.0212 [0.0052] AU
Ag = 5.70 [16.88] [0.28 σ]
Teff = 4186 [3077] K [0.79 σ]

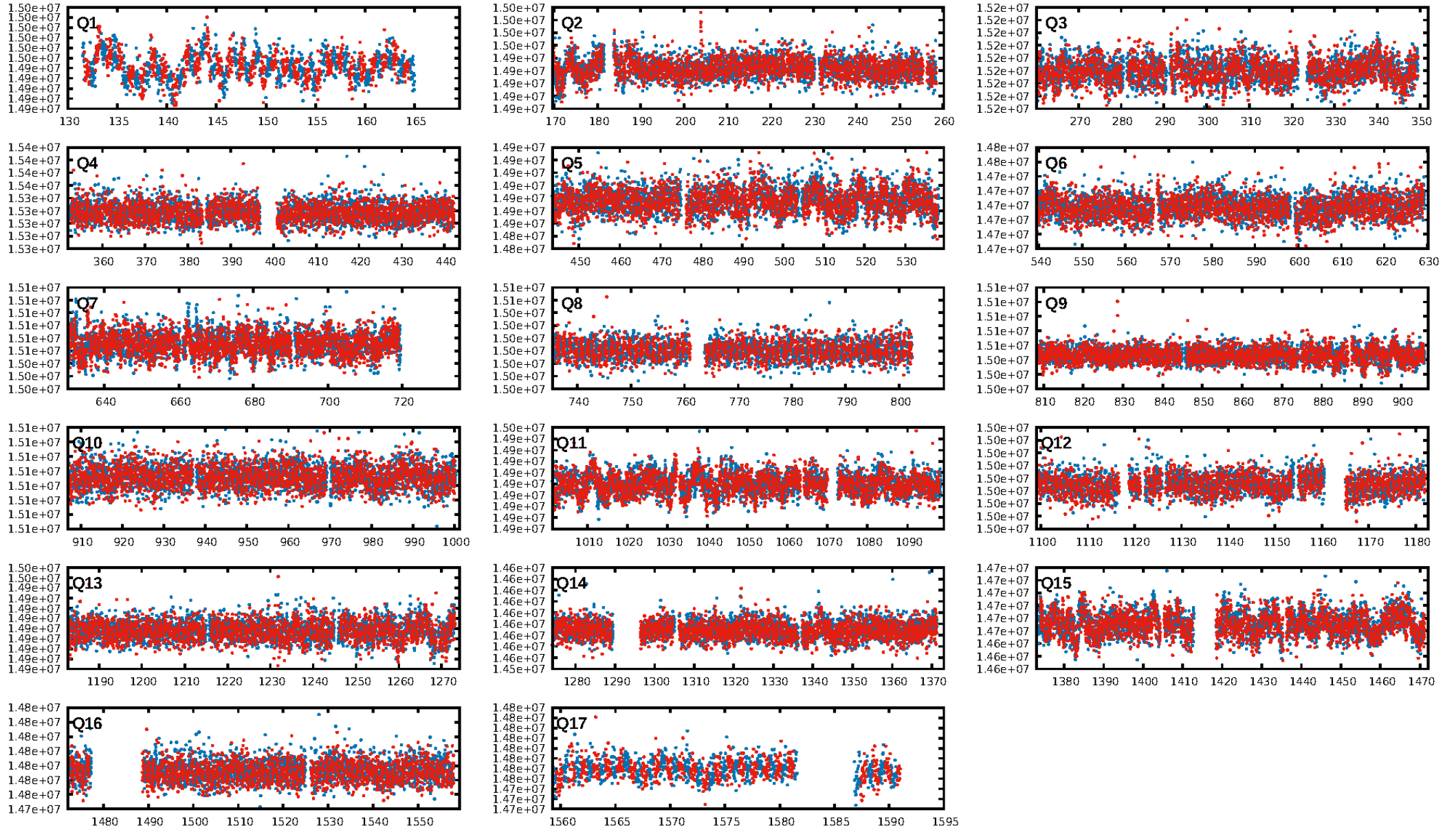
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.32e-13
RollingBand-fgt: 0.97 [1120/1158]
GhostDiagnostic-chr: 2.104
Centroid-sig: 12.6%
Centroid-so: 2.631 arcsec [1.30 σ]
OotOffset-rm: 0.400 arcsec [0.74 σ]
KicOffset-rm: 0.472 arcsec [0.86 σ]
OotOffset-st: 3/1/3/1 [8]
KicOffset-st: 3/1/3/1 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 1.00 [17/17]

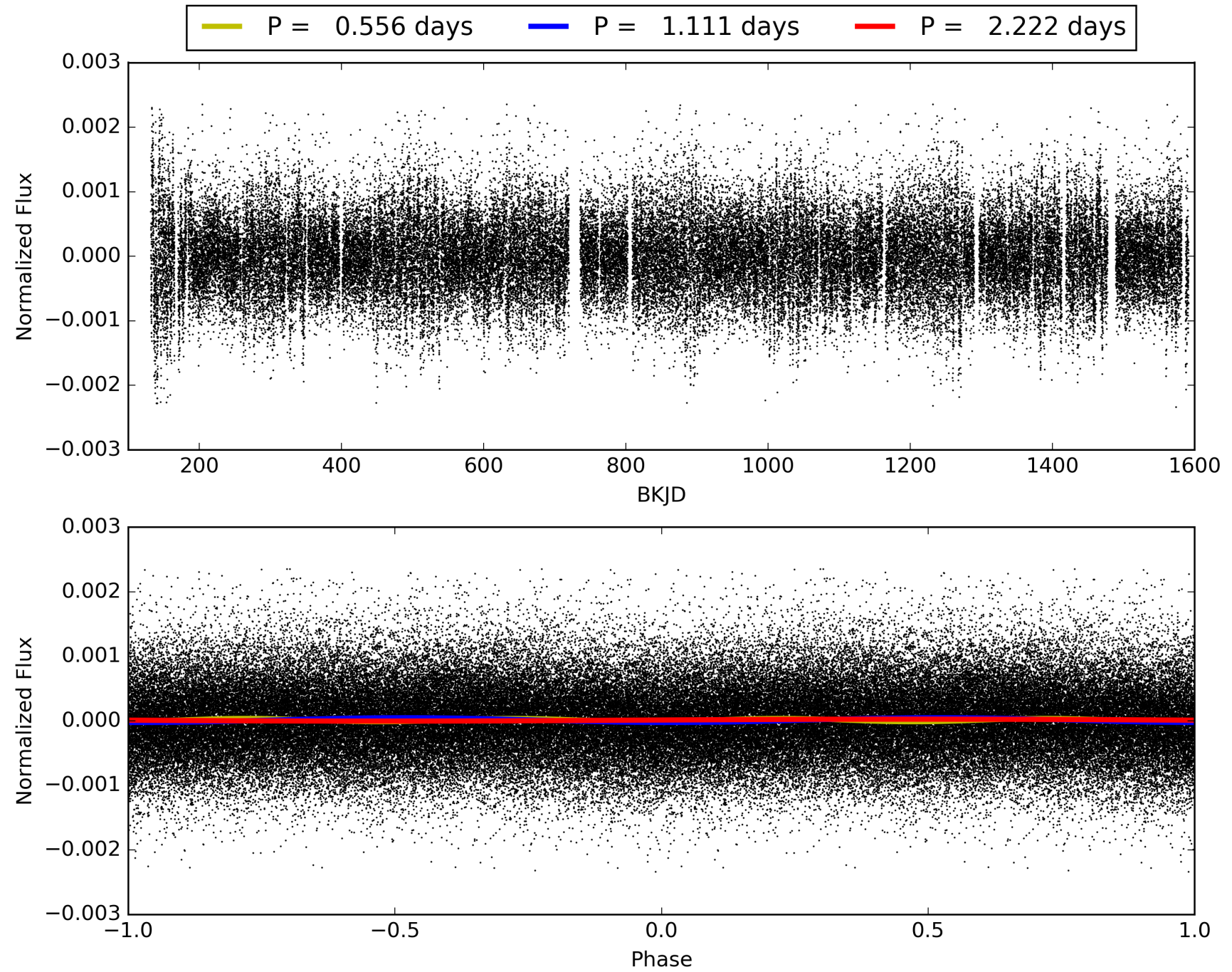
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:29:41 Z

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

TCE 010073654-01, PDC Light Curves

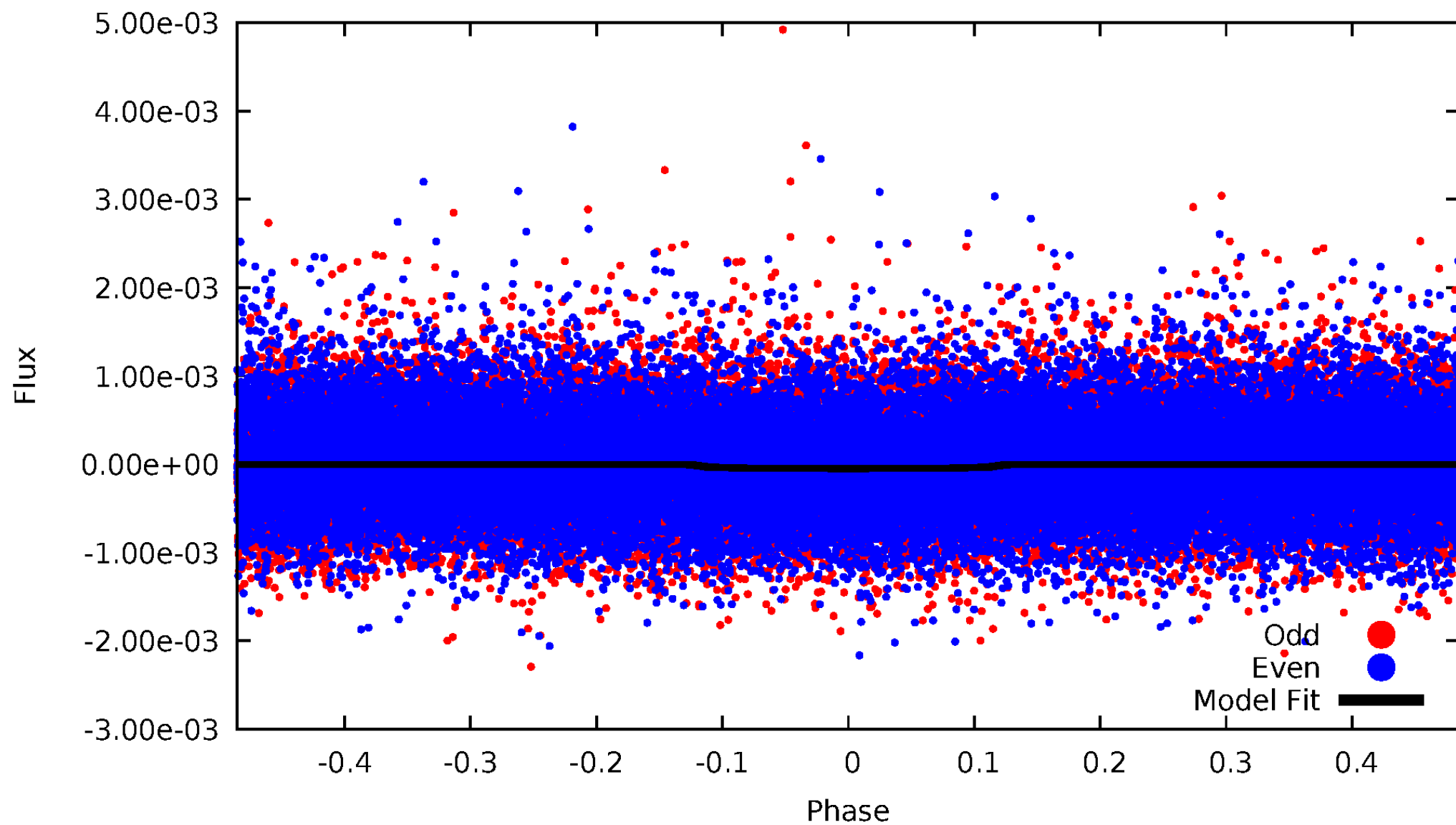


TCE 010073654-01



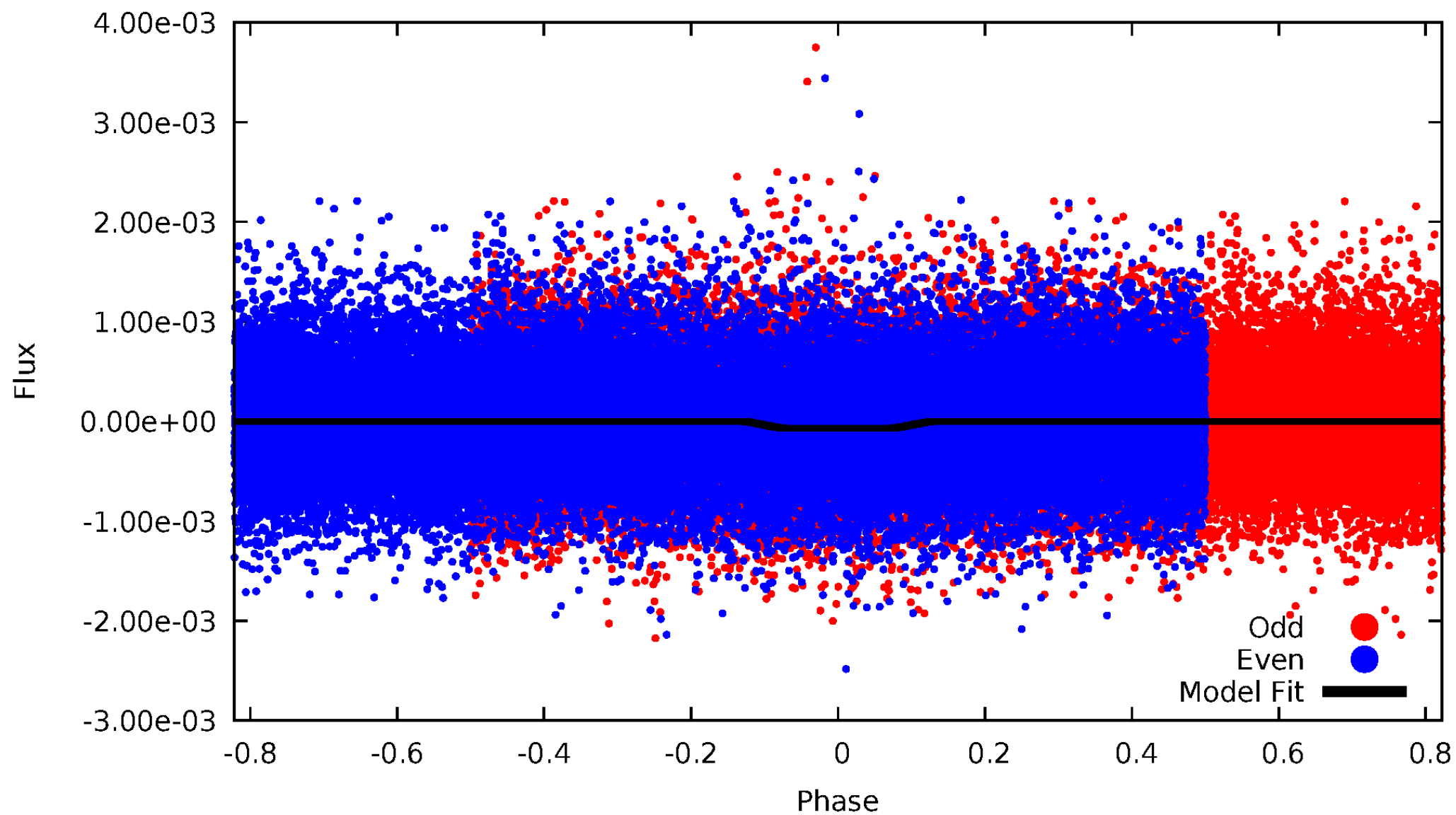
DV Odd/Even

TCE 010073654-01

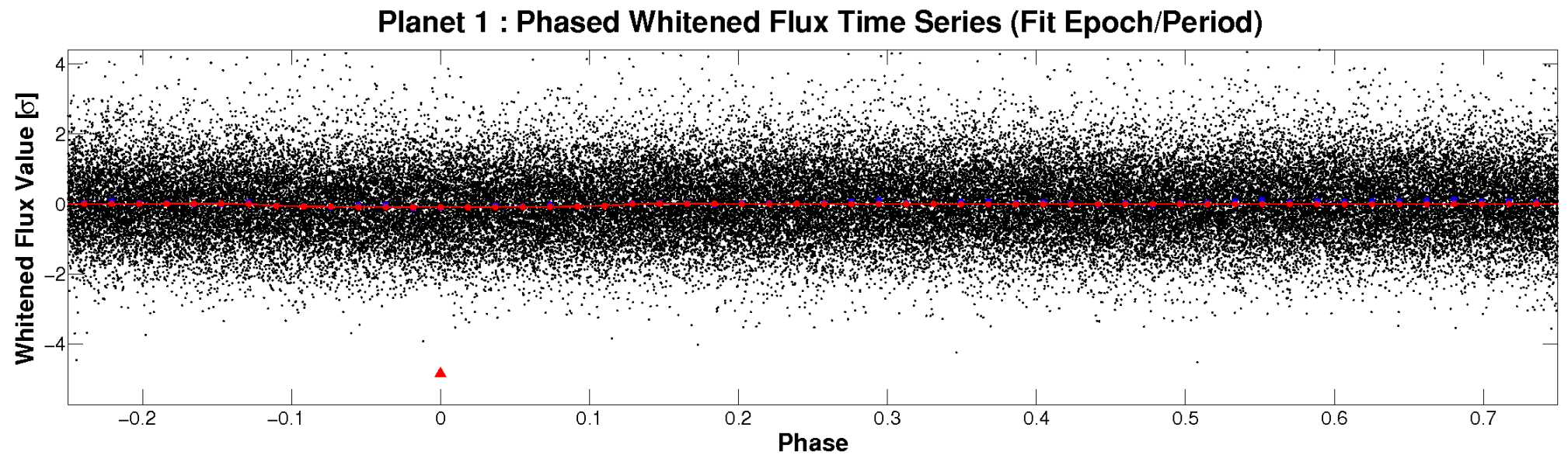
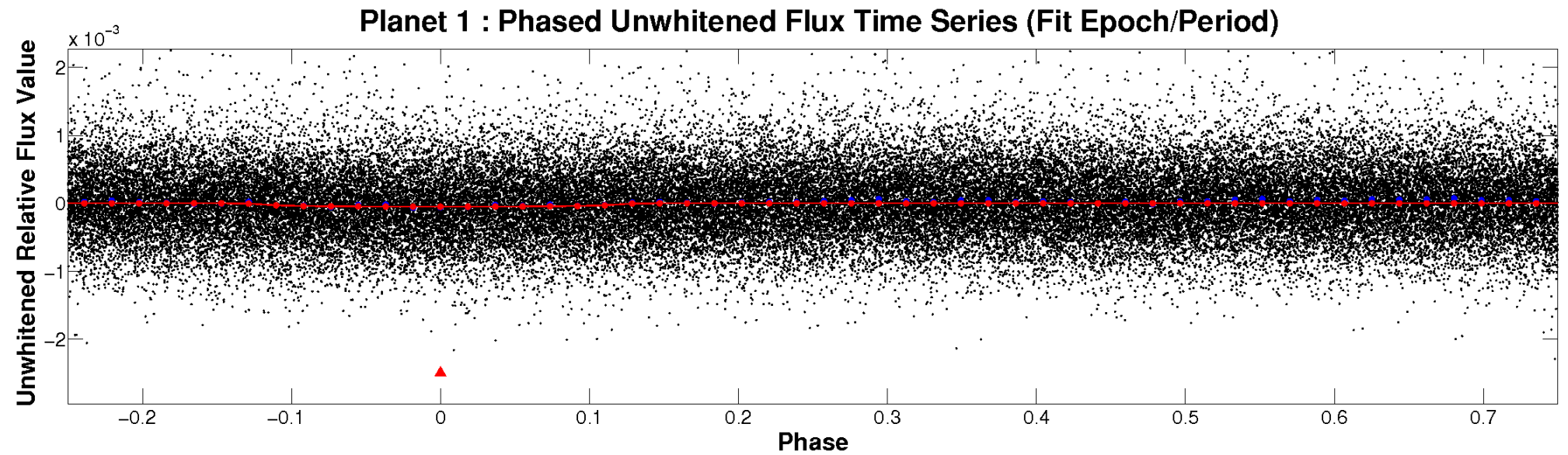


ALT Odd/Even

TCE 010073654-01

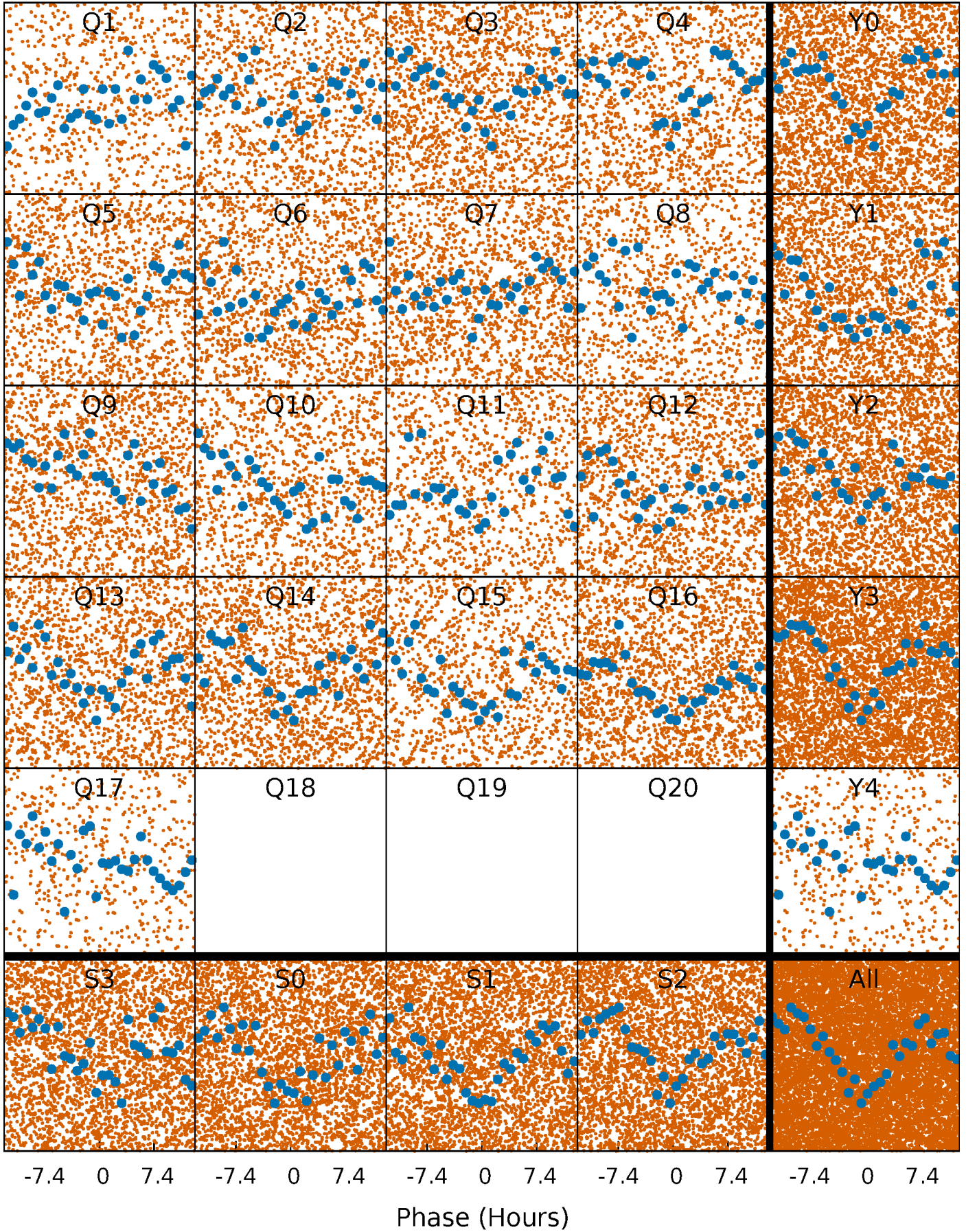


Non-Whitened Vs. Whitened Light Curve



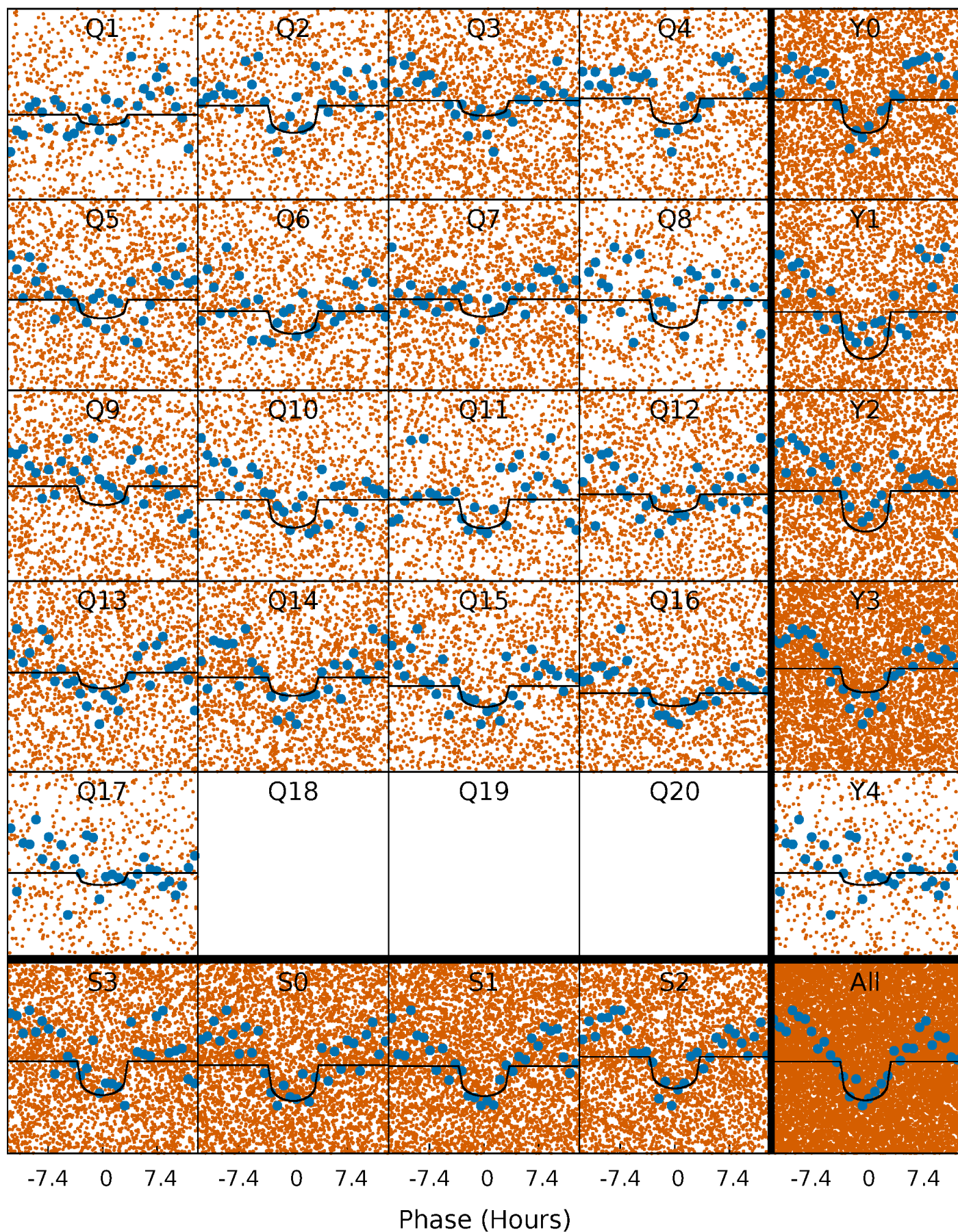
PDC Quarter-Phased Transit Curves

TCE 010073654-01 P= 1.111247 Days $T_0=131.929334$ (BKJD)



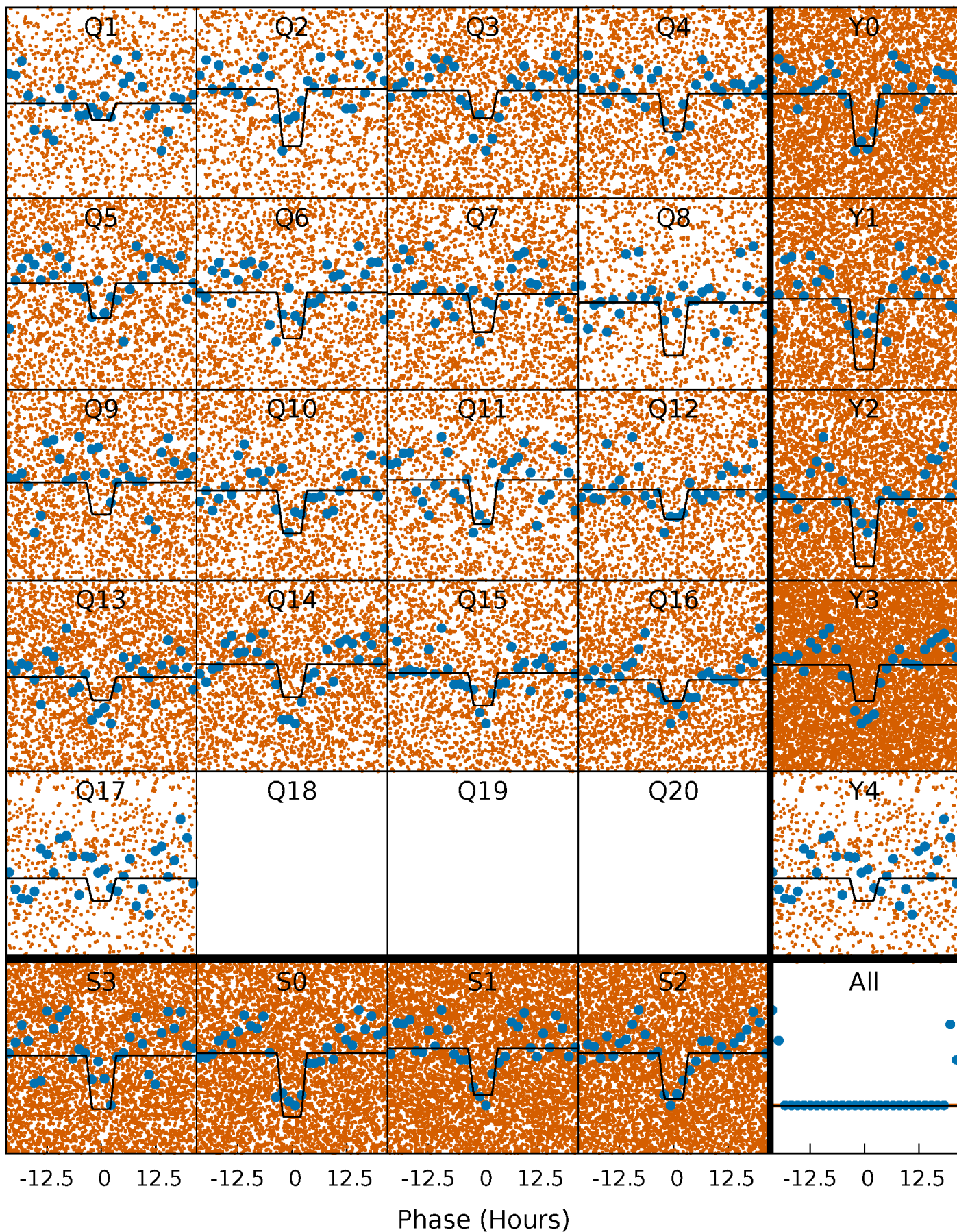
DV Quarter-Phased Transit Curves

TCE 010073654-01 P= 1.111247 Days $T_0=131.929334$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

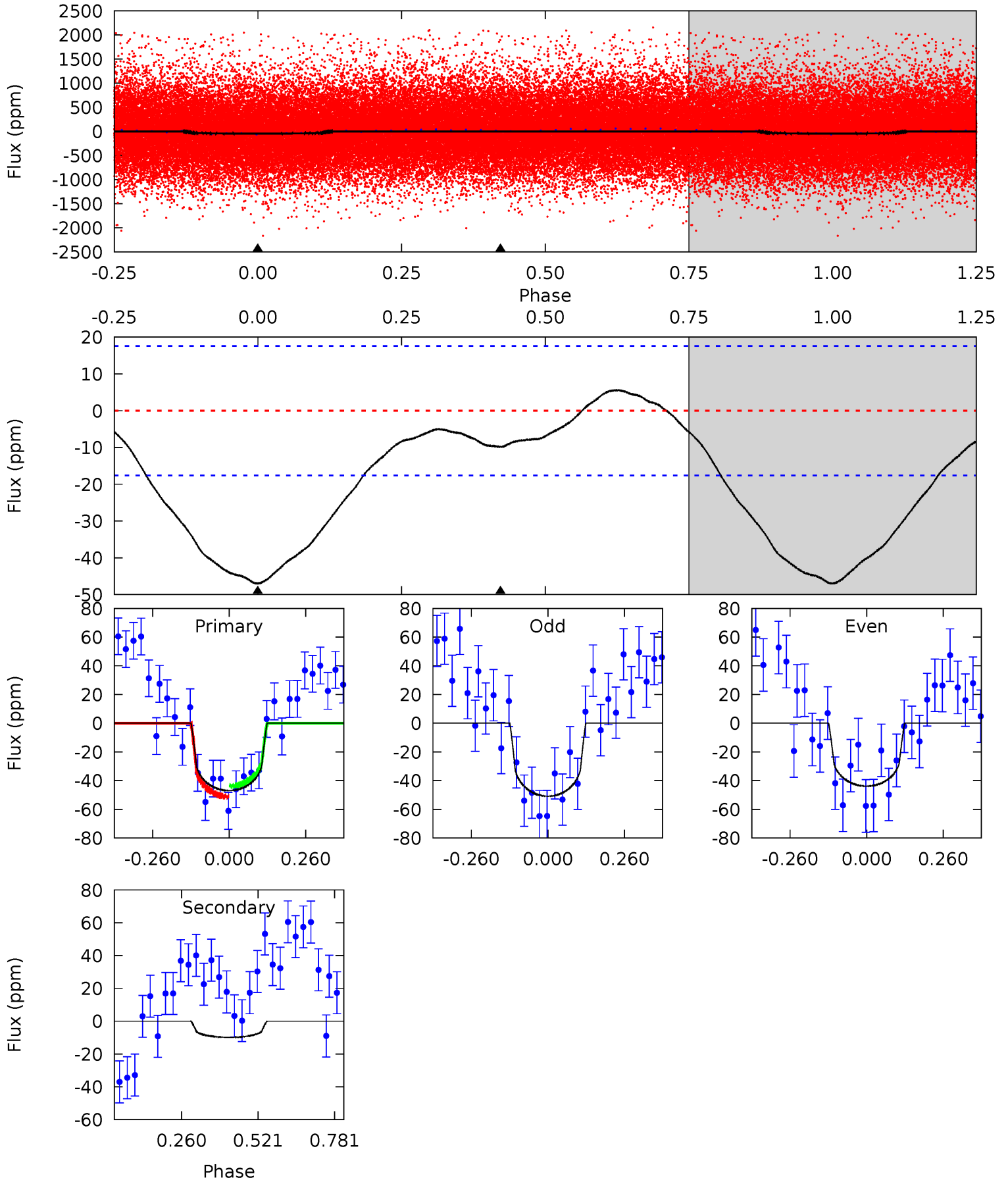
TCE 010073654-01 P= 1.111244 Days $T_0=131.926869$ (BKJD)



DV Model-Shift Uniqueness Test

010073654-01, P = 1.111247 Days, E = 130.818087 Days

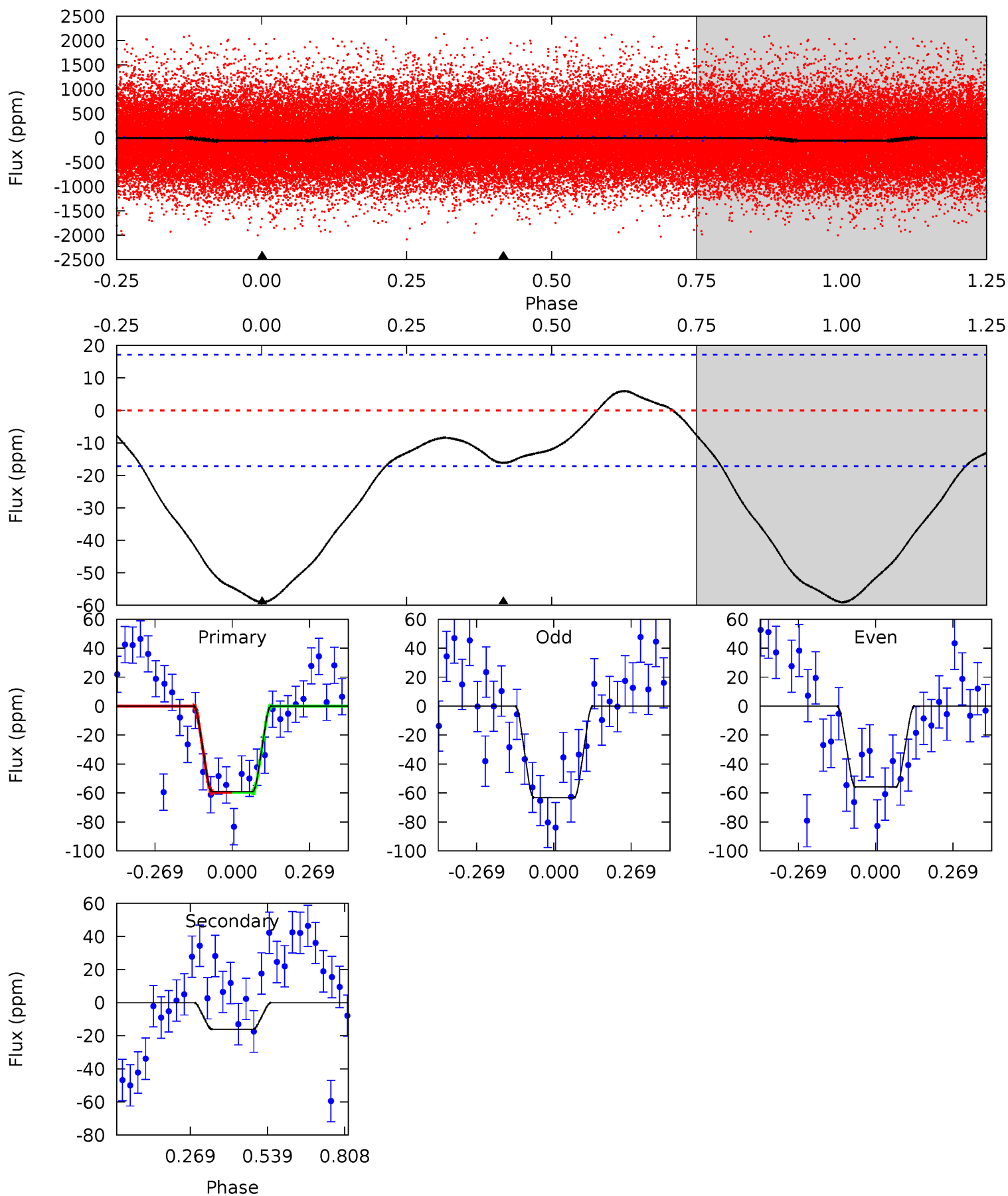
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	2.45	0	0	4.36	1.13	0.85	11.6	11.6	2.45	2.45	0.87	0.97	0.11	0.92



Alt Model-Shift Uniqueness Test

010073654-01, P = 1.111244 Days, E = 130.815625 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	4.10	0	0	4.35	1.10	0.99	15.0	15.0	4.10	4.10	0.93	0.86	0.09	0.01



Stellar Parameters For KIC 010073654

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5973^{+160}_{-196}	$4.506^{+0.048}_{-0.192}$	$-0.100^{+0.300}_{-0.300}$	$0.935^{+0.280}_{-0.093}$	$1.024^{+0.122}_{-0.134}$	$1.762^{+0.354}_{-0.922}$
	+3%/-3%	+1%/-4%	+300%/-300%	+30%/-10%	+12%/-13%	+20%/-52%
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 010073654-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 4	$1.00^{+0.84}_{-0.67}$	2493^{+171}_{-116}	3705^{+2241}_{-918}	$2.293^{+20.036}_{-1.693}$
Alt.	-16 ± 4	$1.14^{+0.91}_{-0.74}$	2500^{+166}_{-119}	3912^{+2414}_{-853}	$2.999^{+23.029}_{-2.106}$

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 $A_{obs} \gg 1.0$

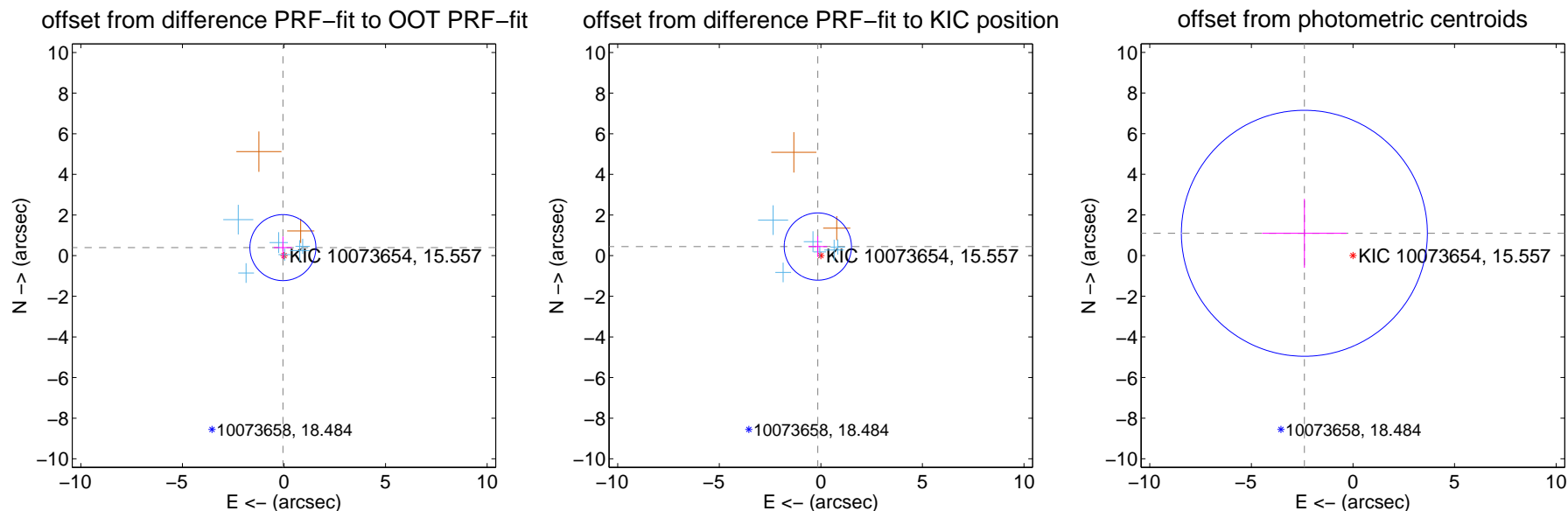
DV Centroid Data

Supplemental centroid analysis for 010073654-01. Kepler magnitude: 15.56. Transit SNR 9.51

There are 6 quarters with good PRF difference image offsets

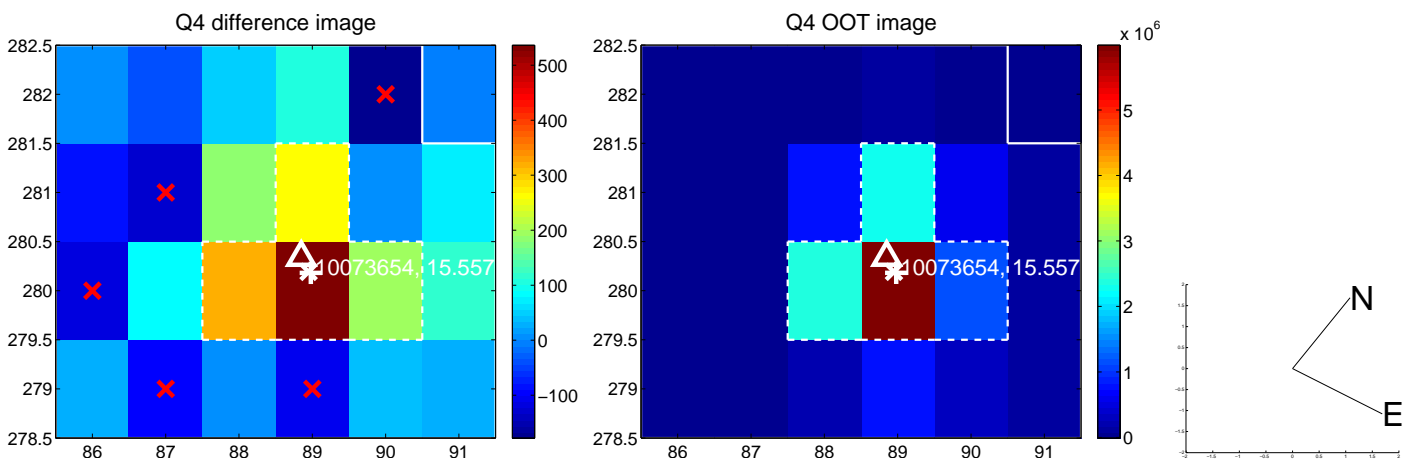
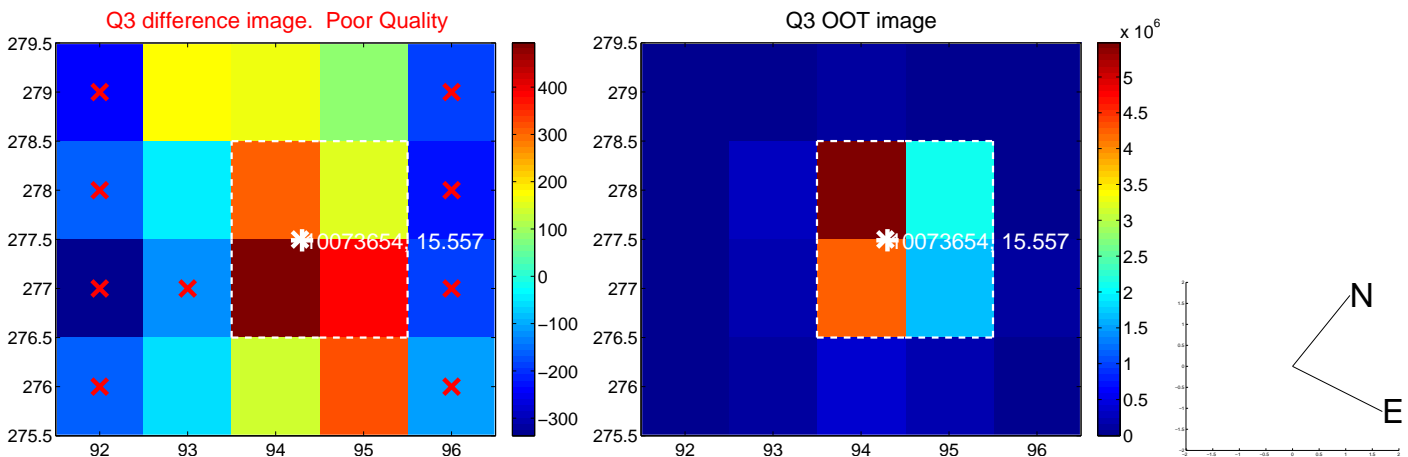
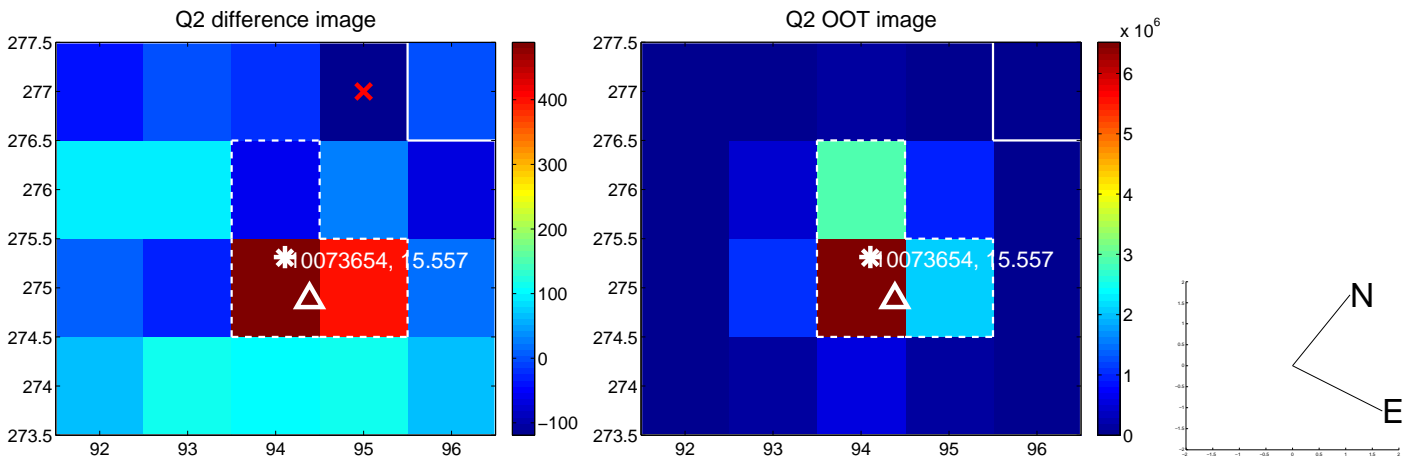
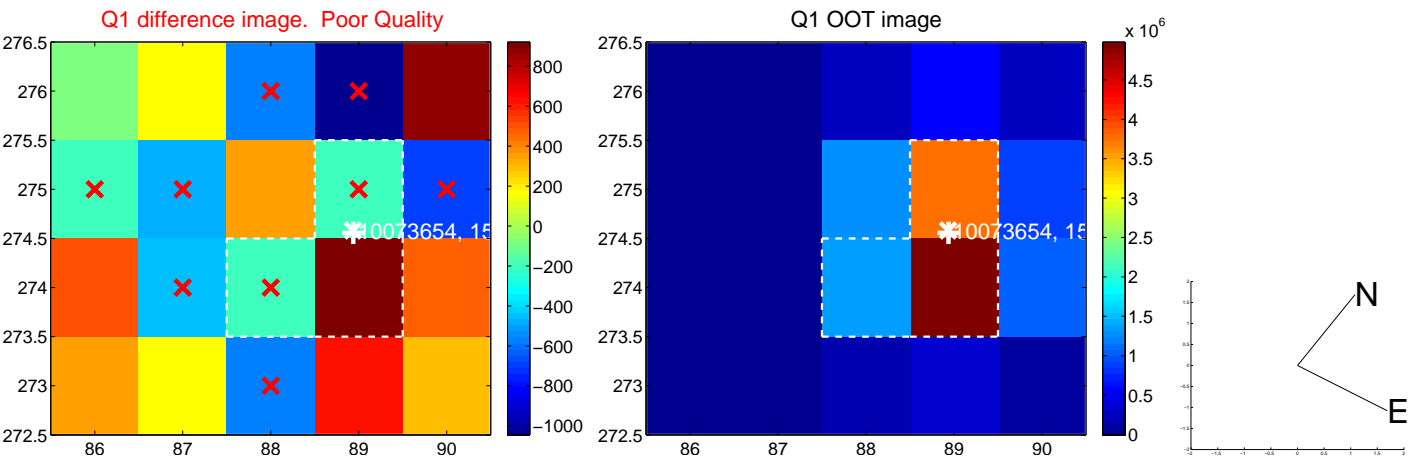
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.400 ± 0.541	0.74	0.054 ± 0.445	0.396 ± 0.542
PRF-fit source offset from KIC position	0.472 ± 0.552	0.86	0.149 ± 0.463	0.448 ± 0.515
photometric centroid source offset	2.63 ± 2.02	1.30	2.39 ± 2.08	1.10 ± 1.69

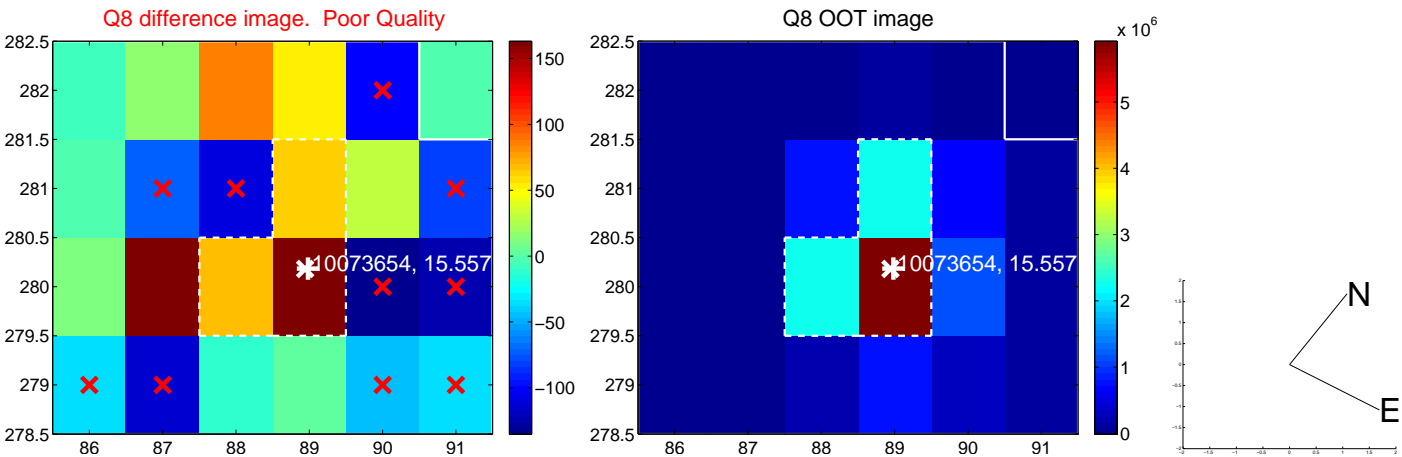
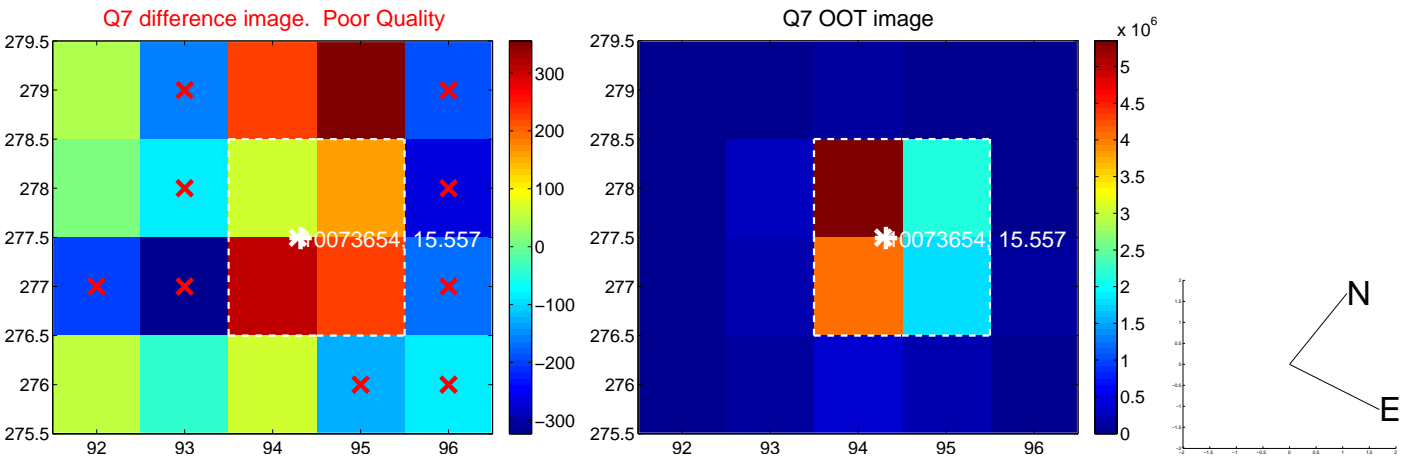
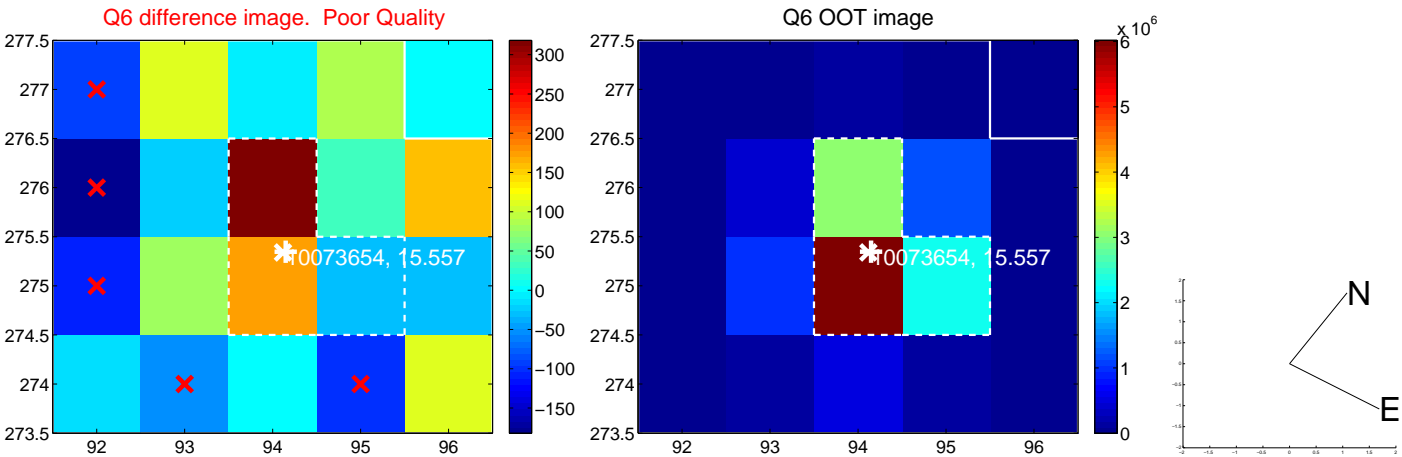
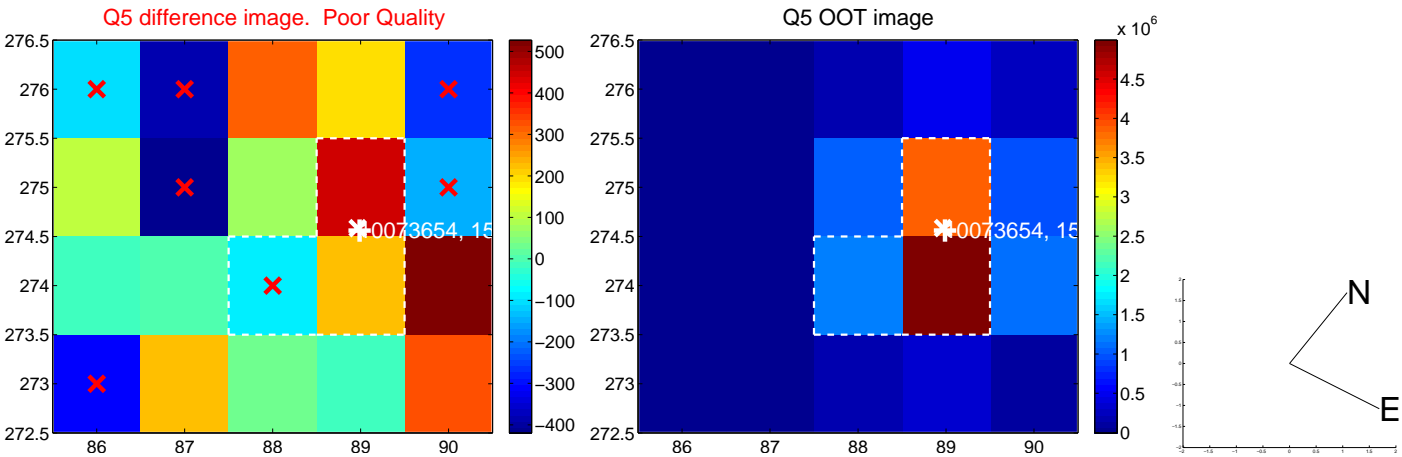


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

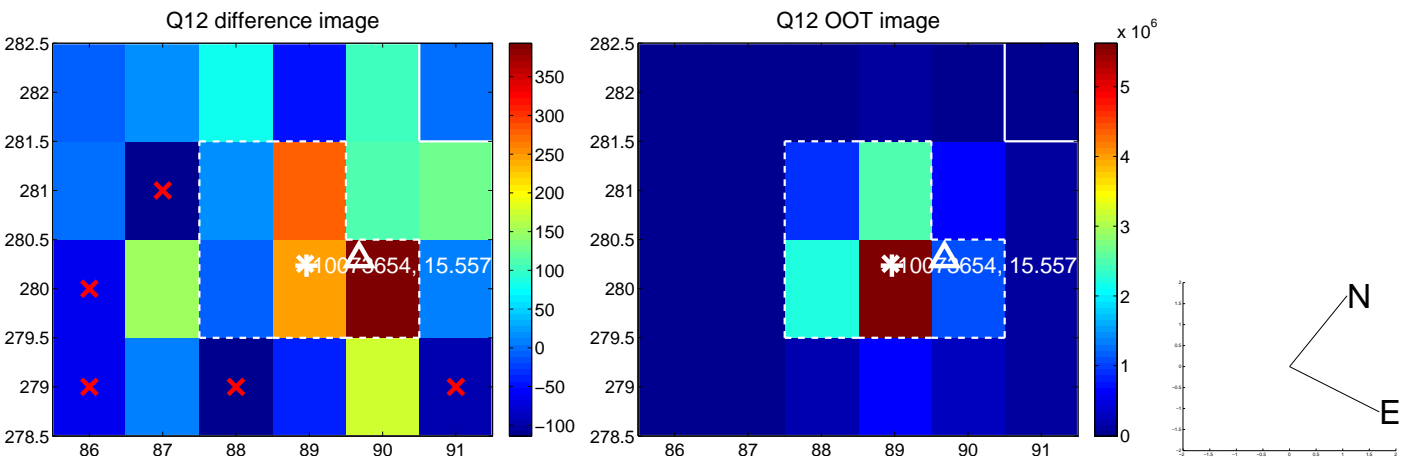
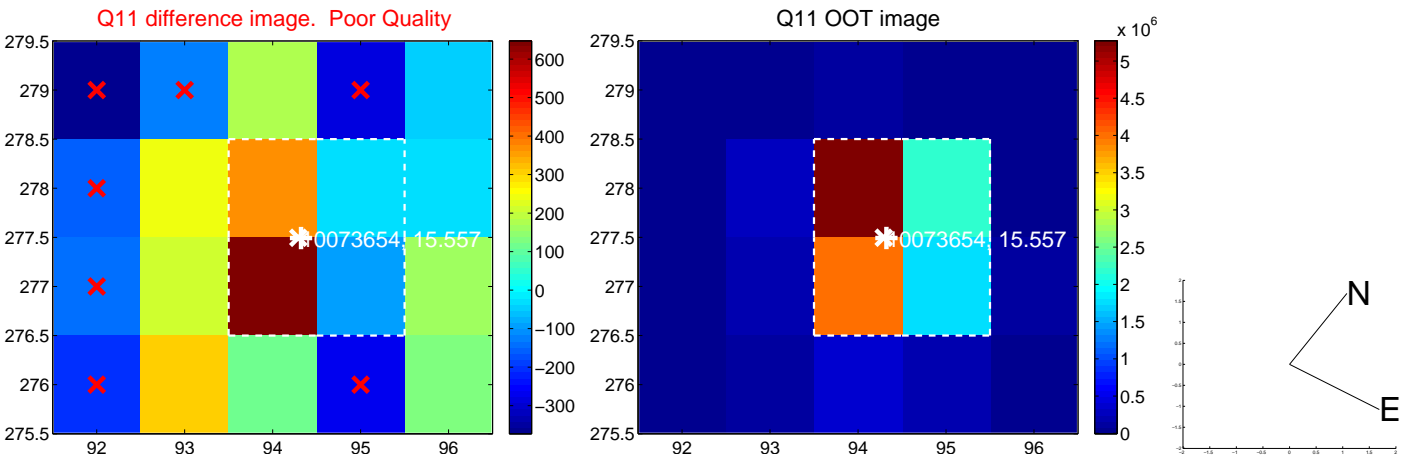
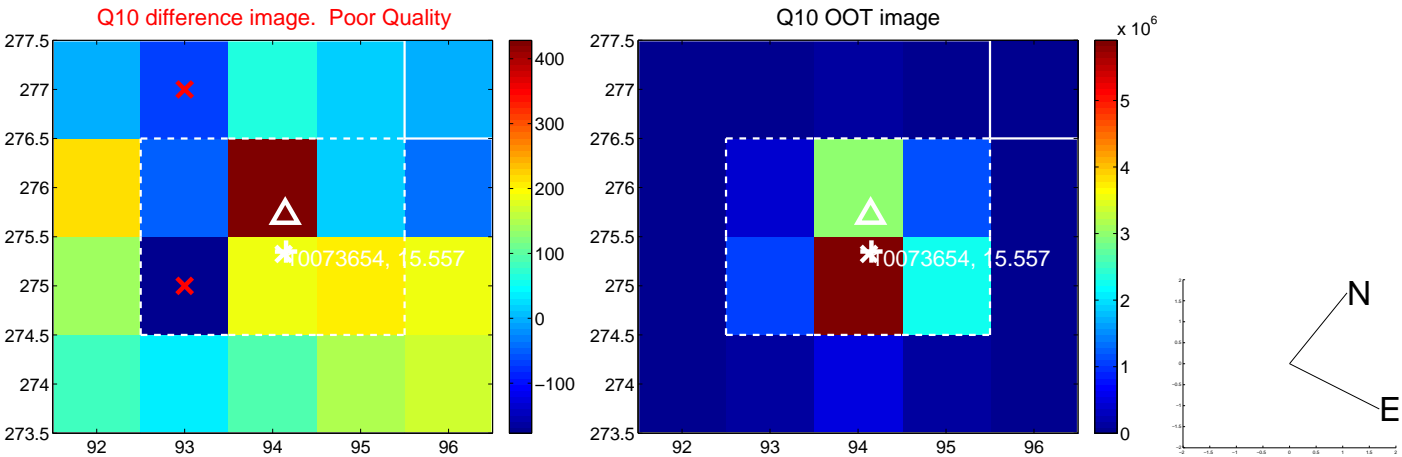
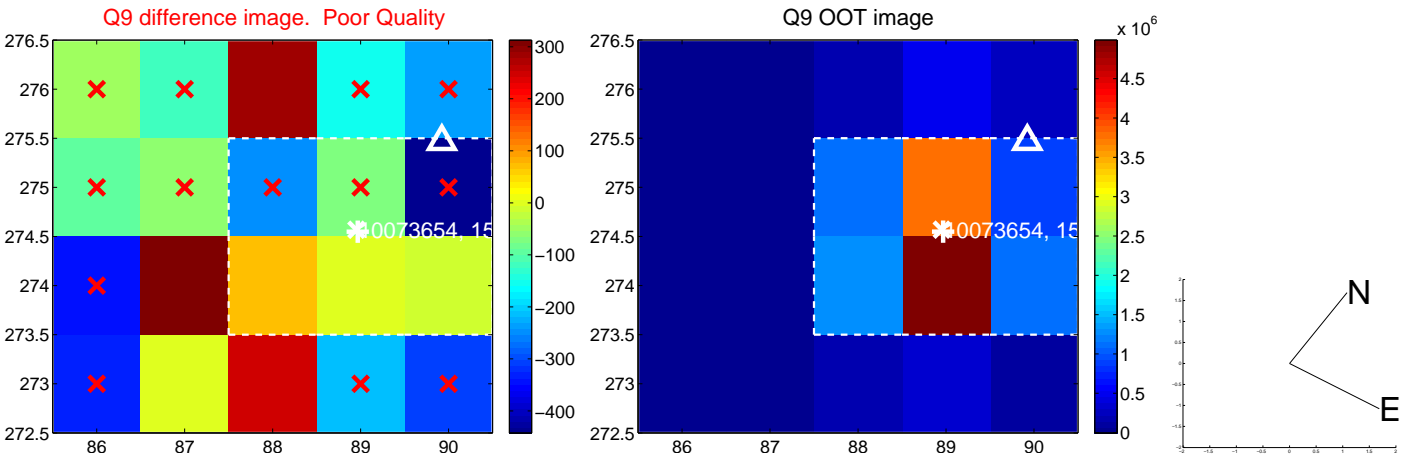
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



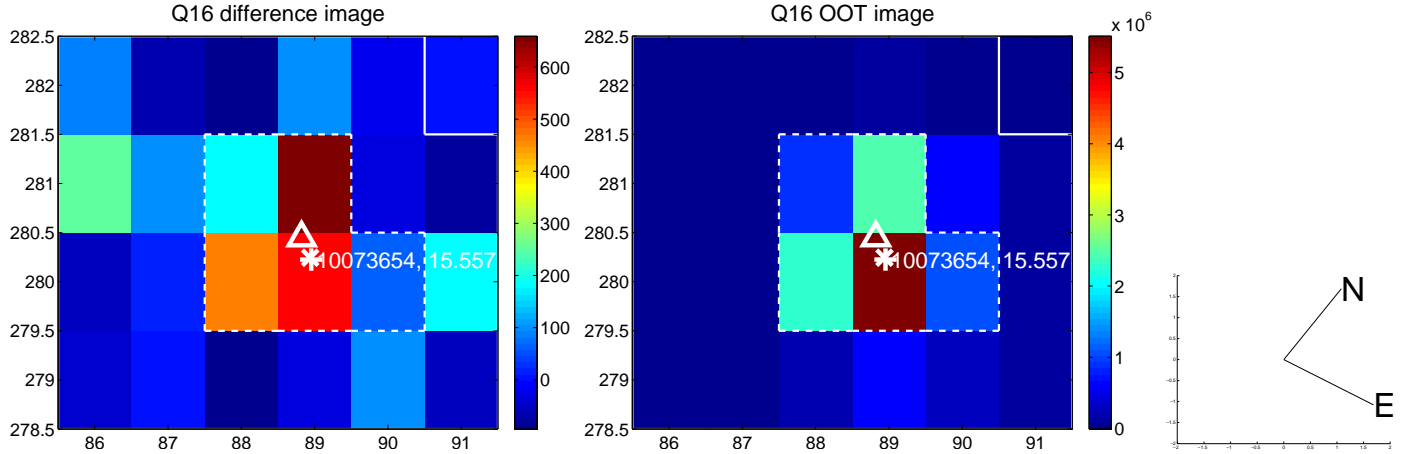
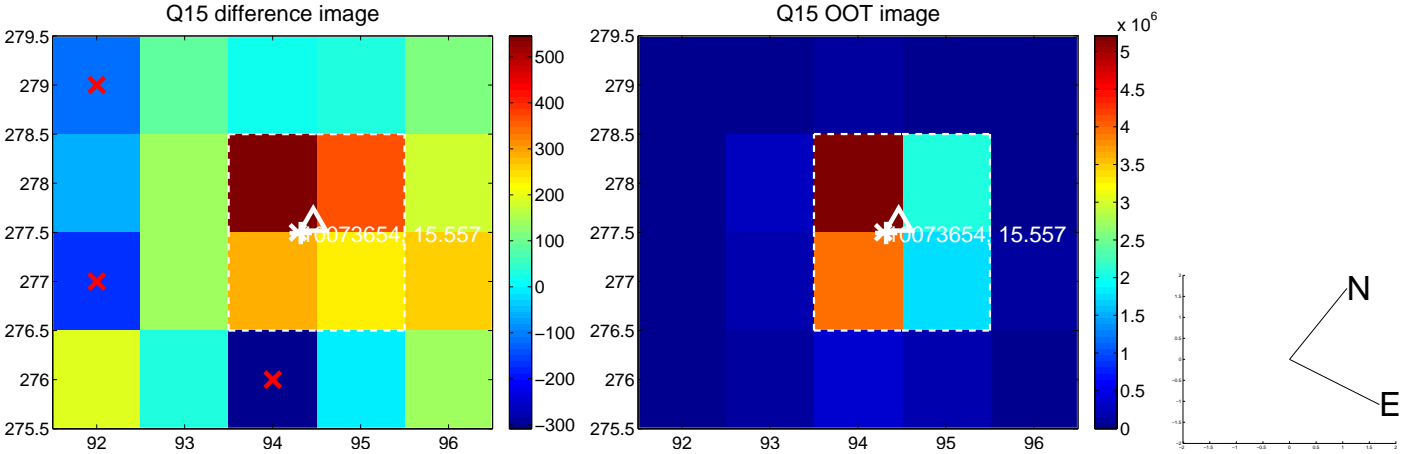
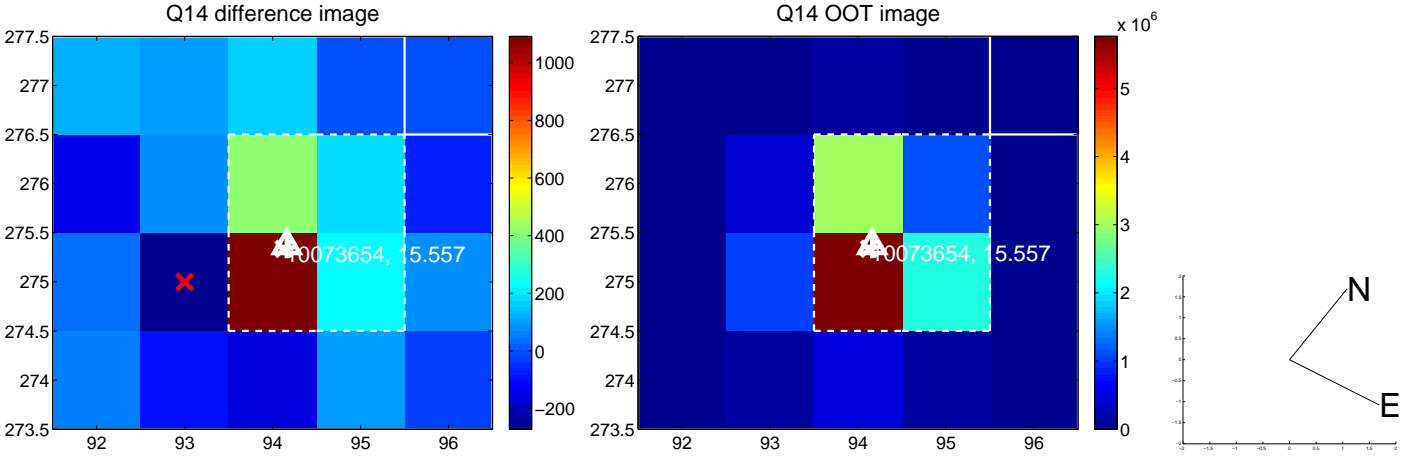
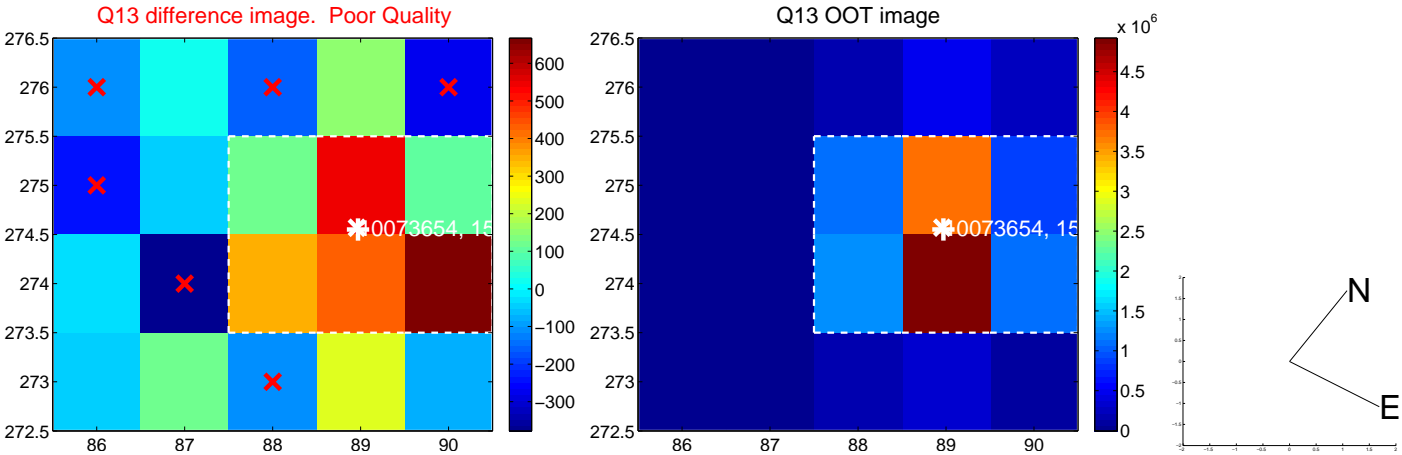
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



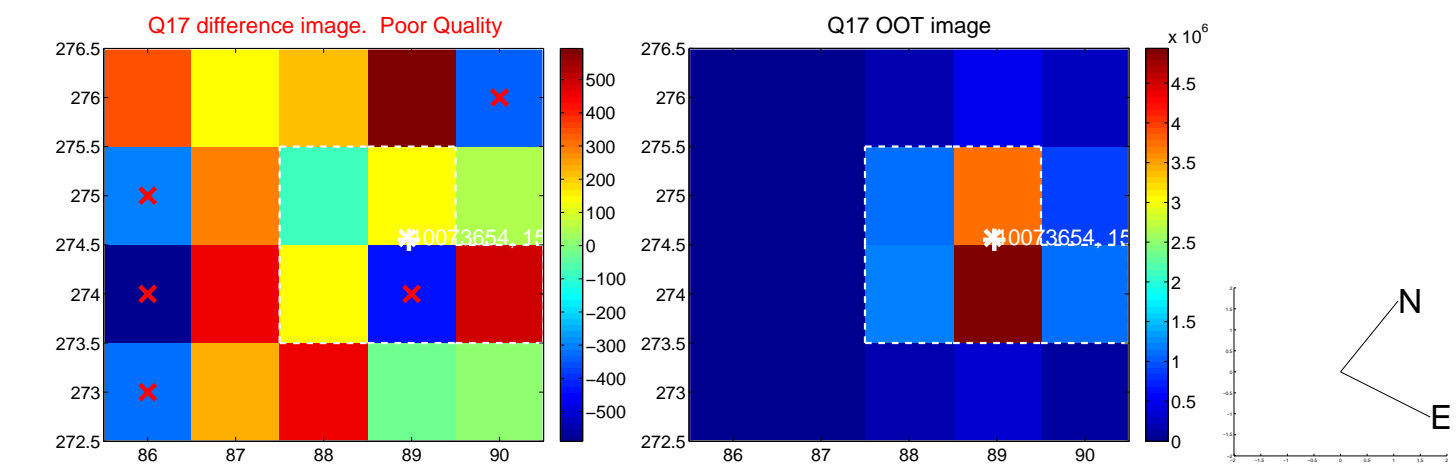
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



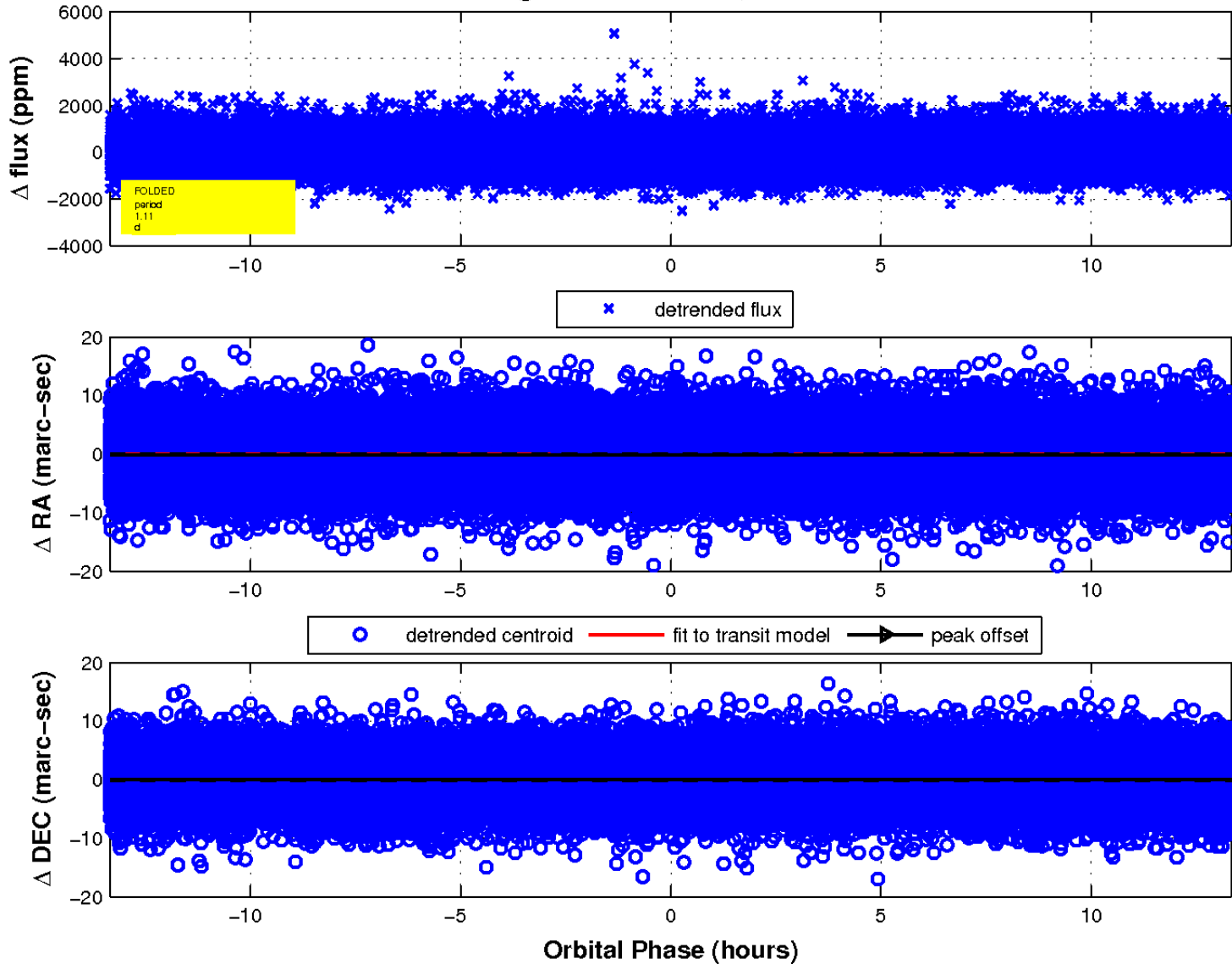
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

