

KIC 002830919

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
002830919-01	OBS	4387.01	1.540379	132.011486	67.8	1.803	9.4	8.9	0.99	5974	0.96	1703.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002830919-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH

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 002830919-01

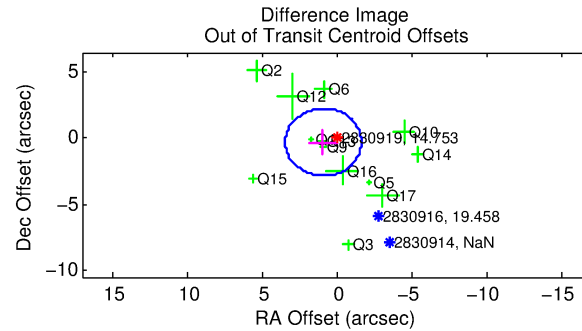
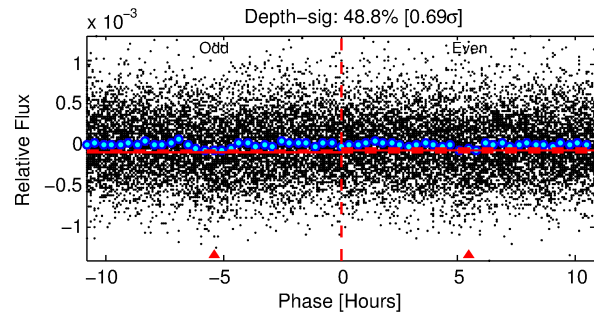
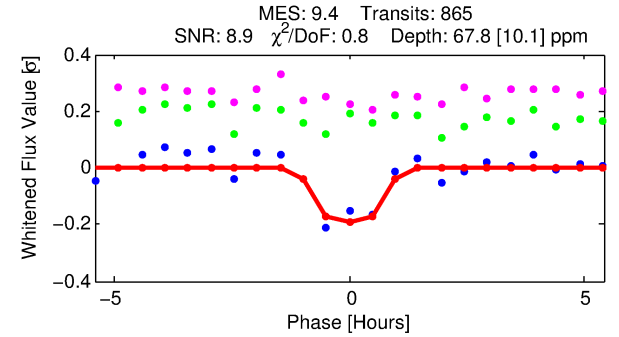
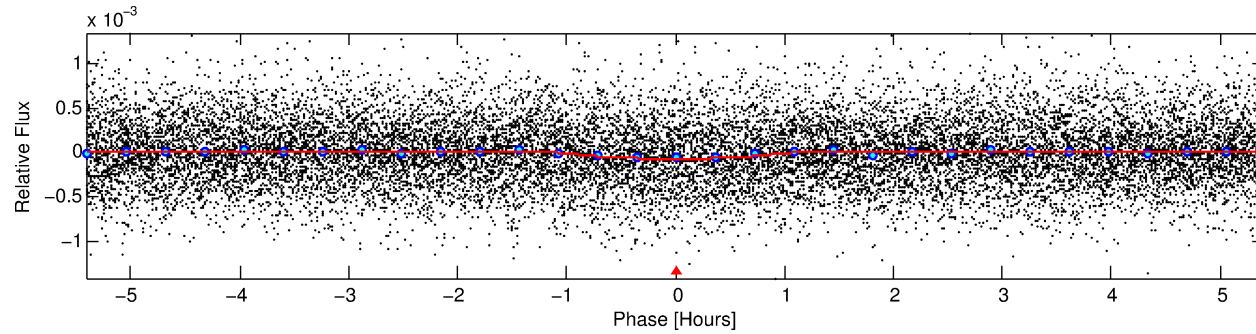
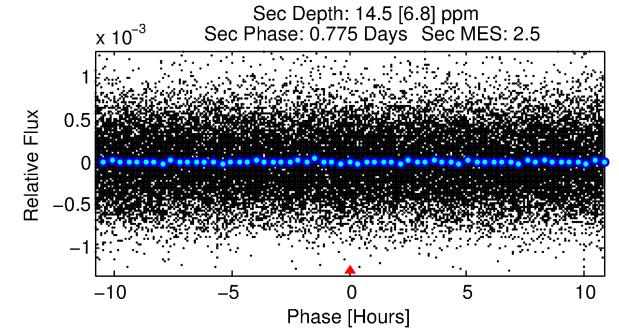
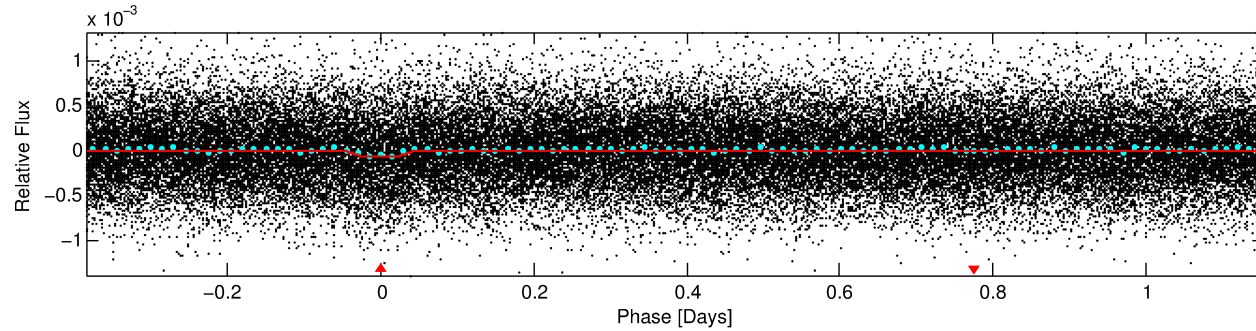
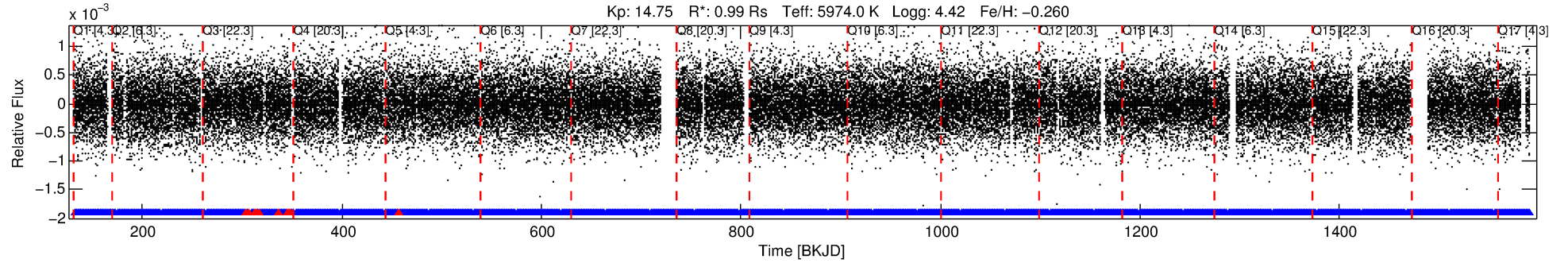
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
002830919-01	2830919	6363.01	3836413	1:1	5083.6	-770	6	13.76	14.75	1090.60	Col-Anomaly	0	0.87	0.95

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 2830919 Candidate: 1 of 1 Period: 1.540 d

KOI: K04387.01 Corr: 0.932



DV Fit Results:

Period = 1.54038 [0.00001] d
Epoch = 132.0115 [0.0032] BKJD
Rp/R* = 0.0089 [0.0060]
a/R* = 3.13 [9.84]
b = 0.90 [0.76]
Seff = 1703.14 [622.35]
Teq = 1638 [150] K
Rp = 0.96 [0.70] Re
a = 0.0256 [0.0061] AU
Ag = 5.67 [8.31] [0.56σ]
Teffp = 3909 [1396] K [1.62σ]

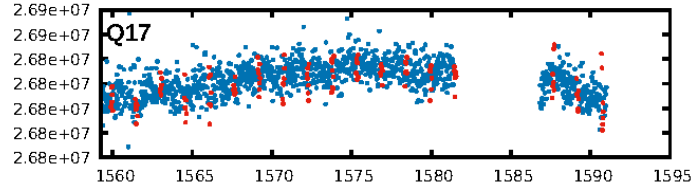
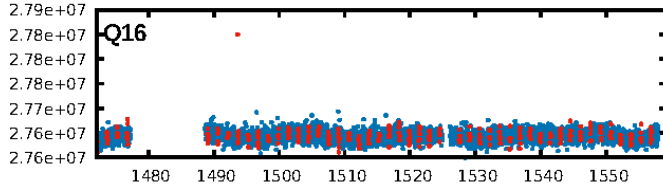
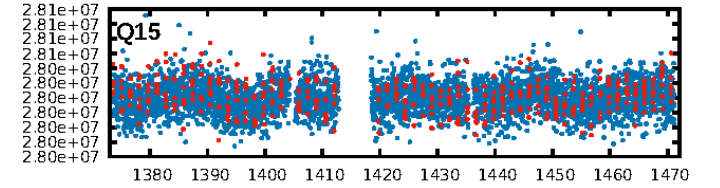
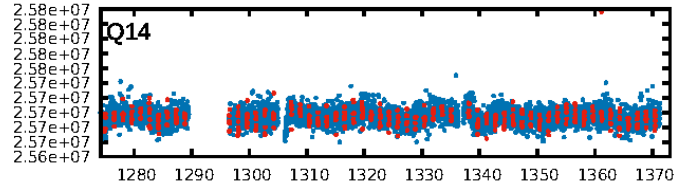
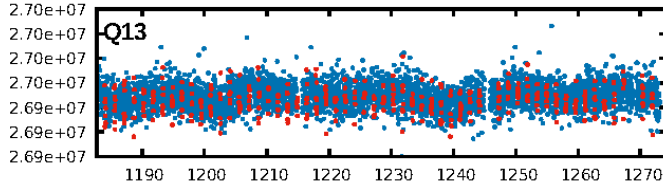
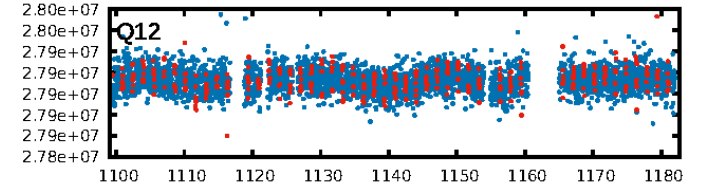
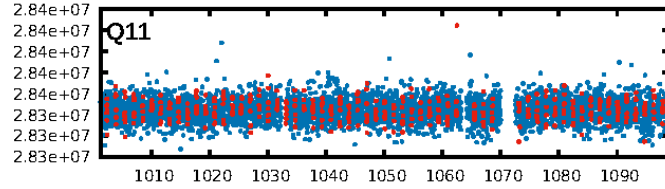
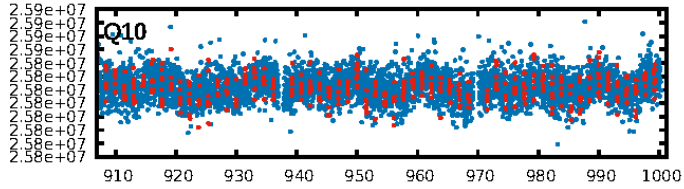
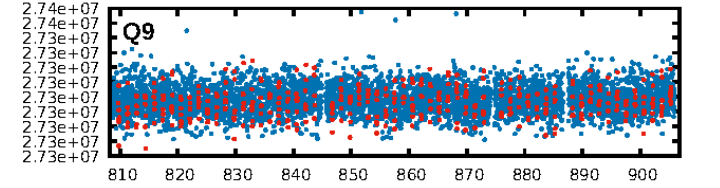
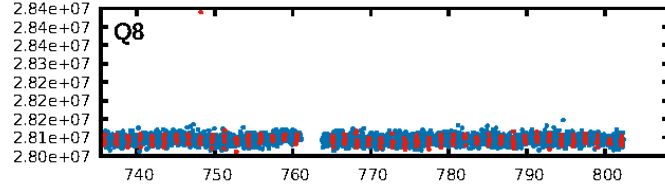
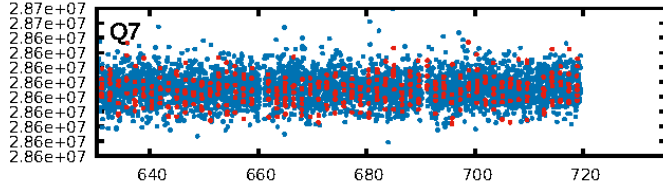
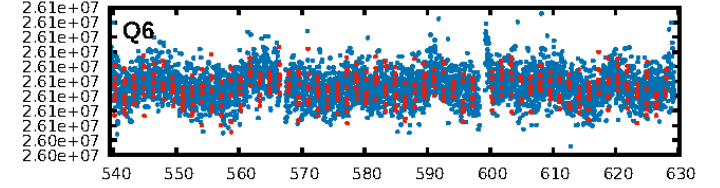
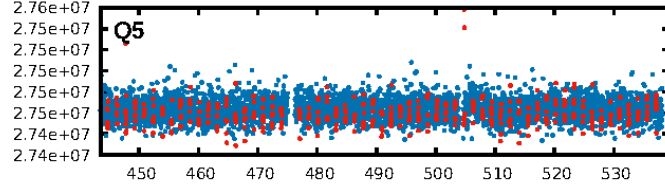
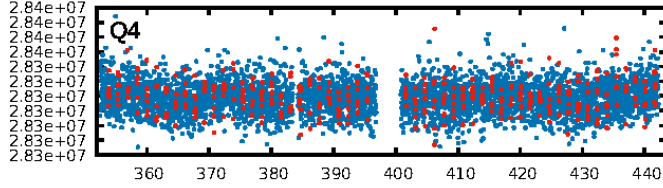
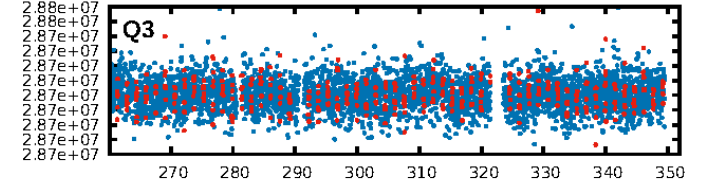
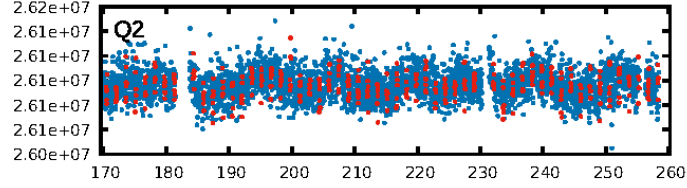
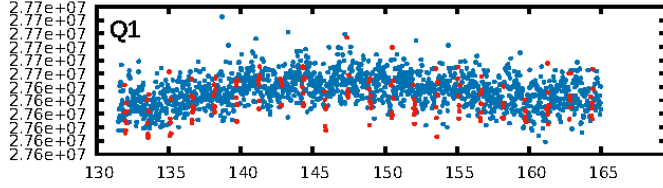
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.46e-21
RollingBand-fgt: 0.99 [815/825]
GhostDiagnostic-chr: 5.369
Centroid-sig: 30.2%
Centroid-so: 0.202 arcsec [0.13σ]
OotOffset-rm: 0.937 arcsec [1.10σ]
KicOffset-rm: 1.000 arcsec [1.39σ]
OotOffset-st: 4/2/2/5 [13]
KicOffset-st: 4/2/2/5 [13]
DiffImageQuality-fgm: 0.00 [0/13]
DiffImageOverlap-fno: 1.00 [17/17]

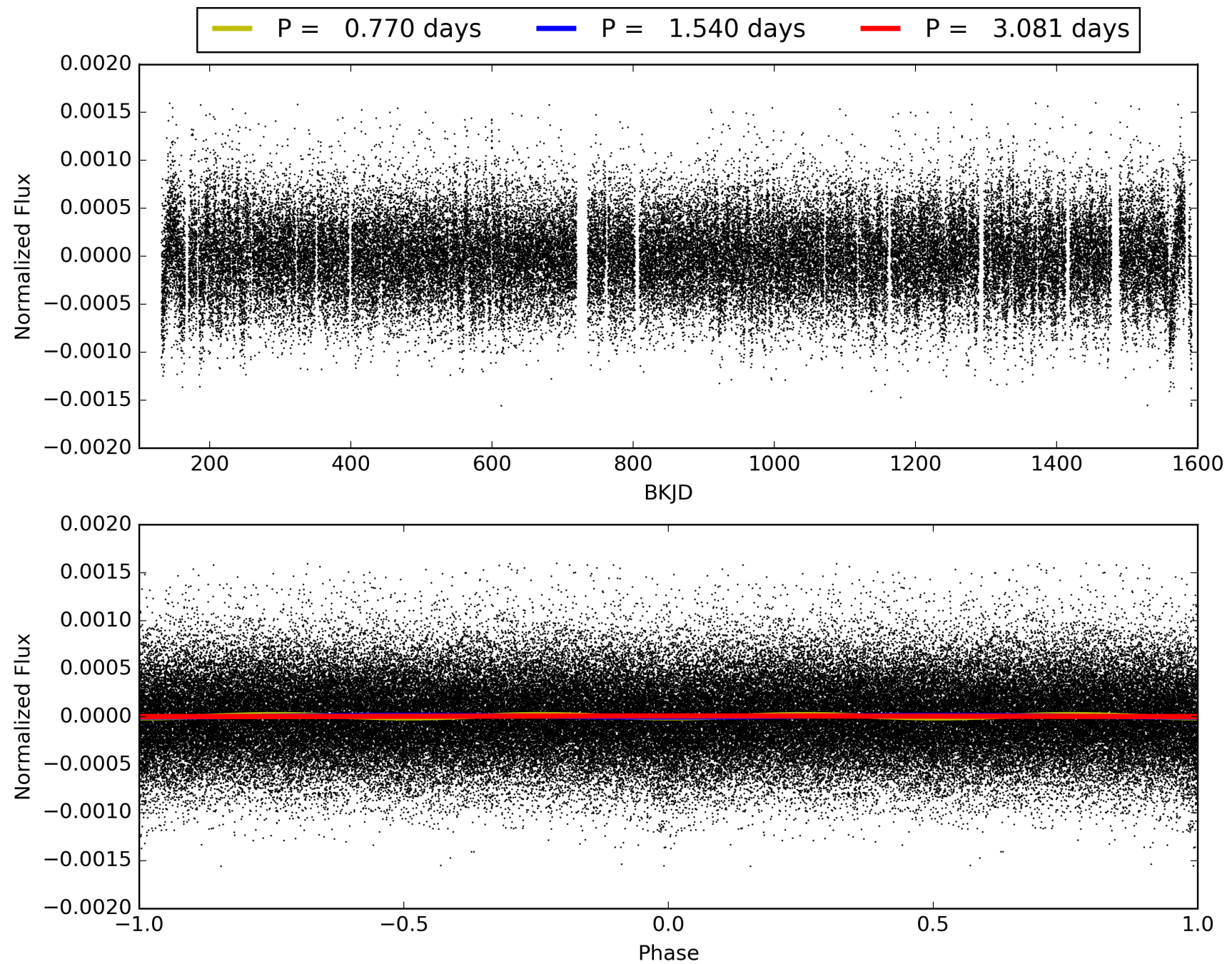
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:50:14 Z

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

TCE 002830919-01, PDC Light Curves

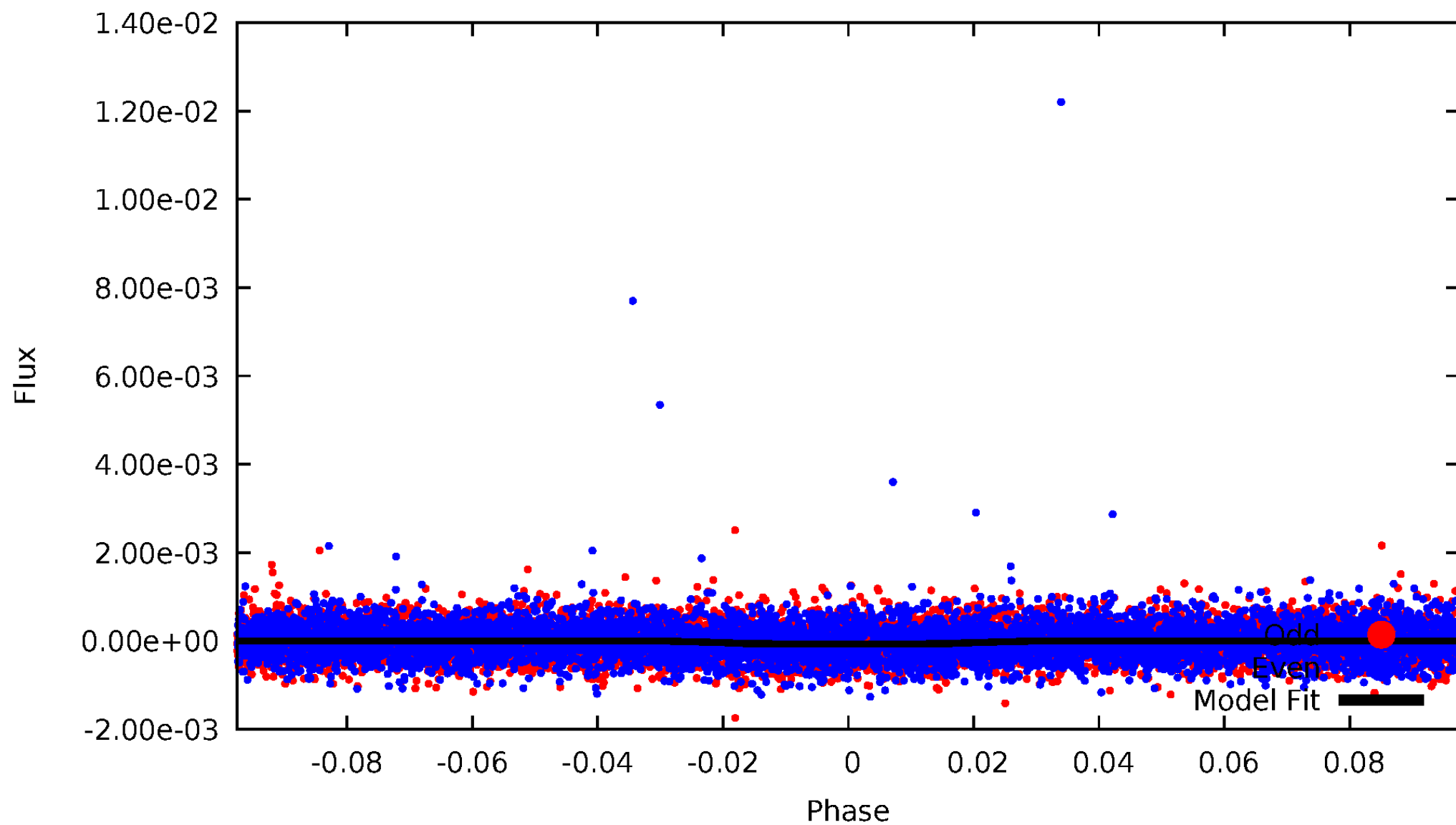


TCE 002830919-01



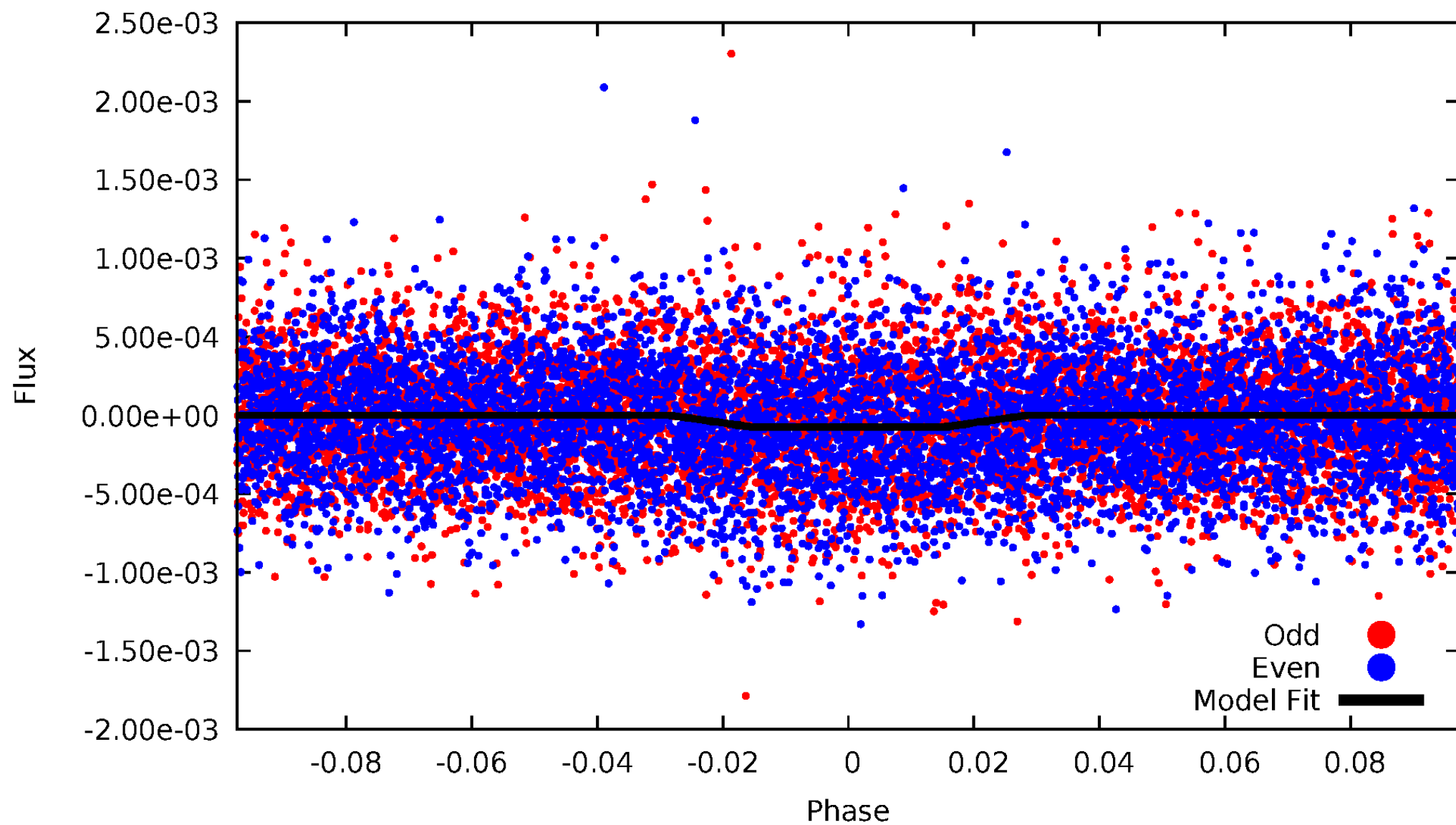
DV Odd/Even

TCE 002830919-01

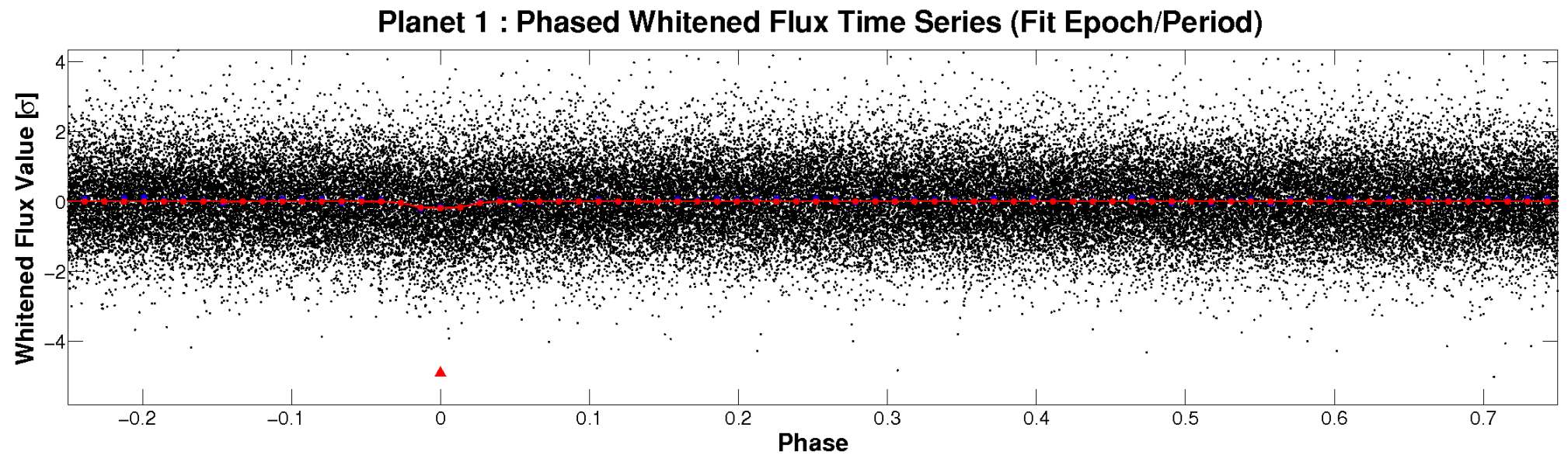
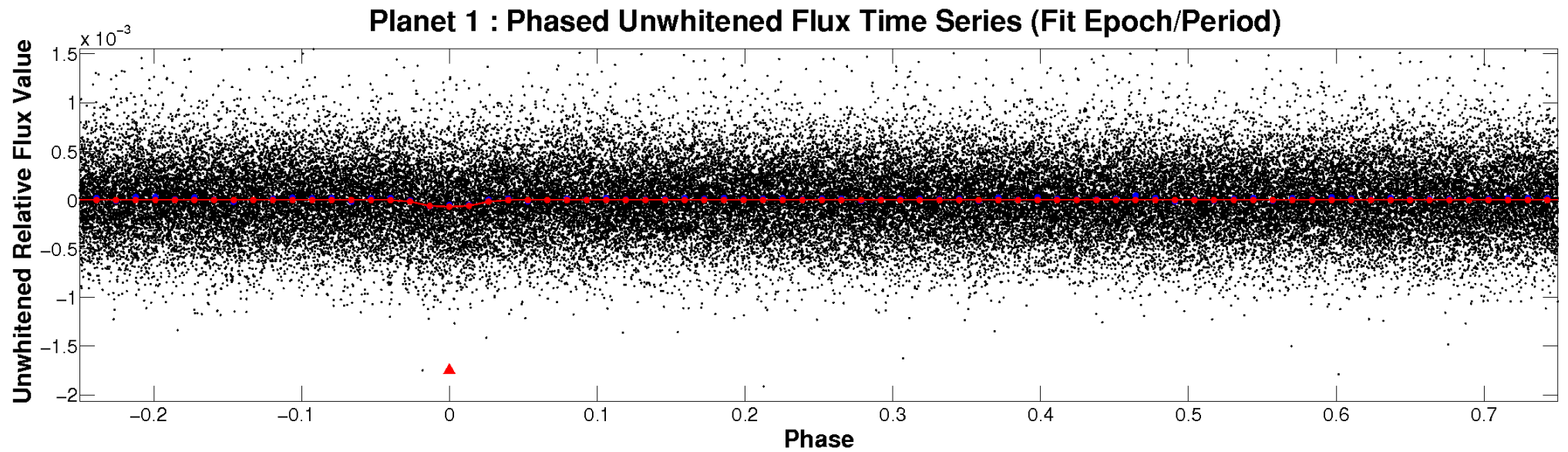


ALT Odd/Even

TCE 002830919-01

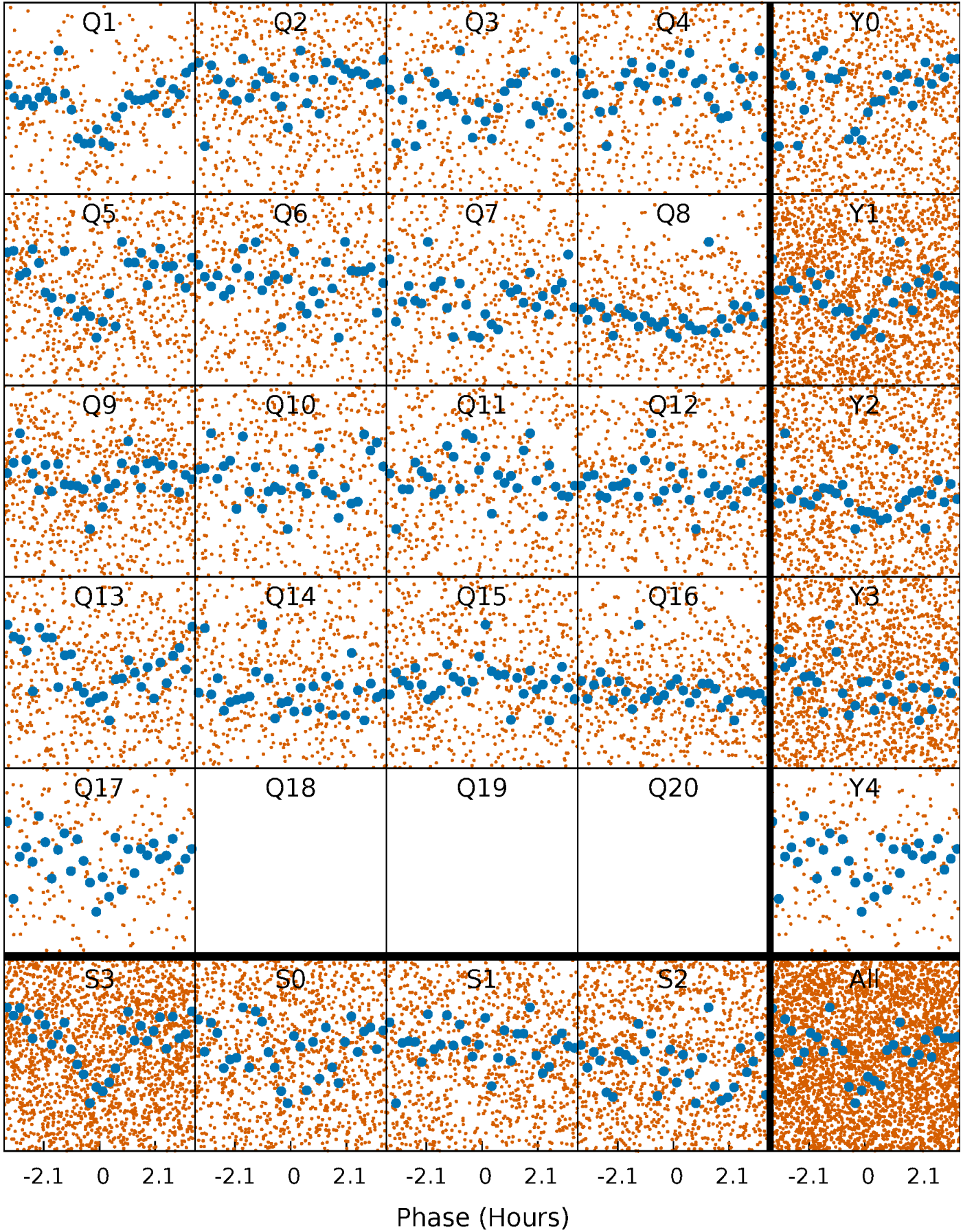


Non-Whitened Vs. Whitened Light Curve



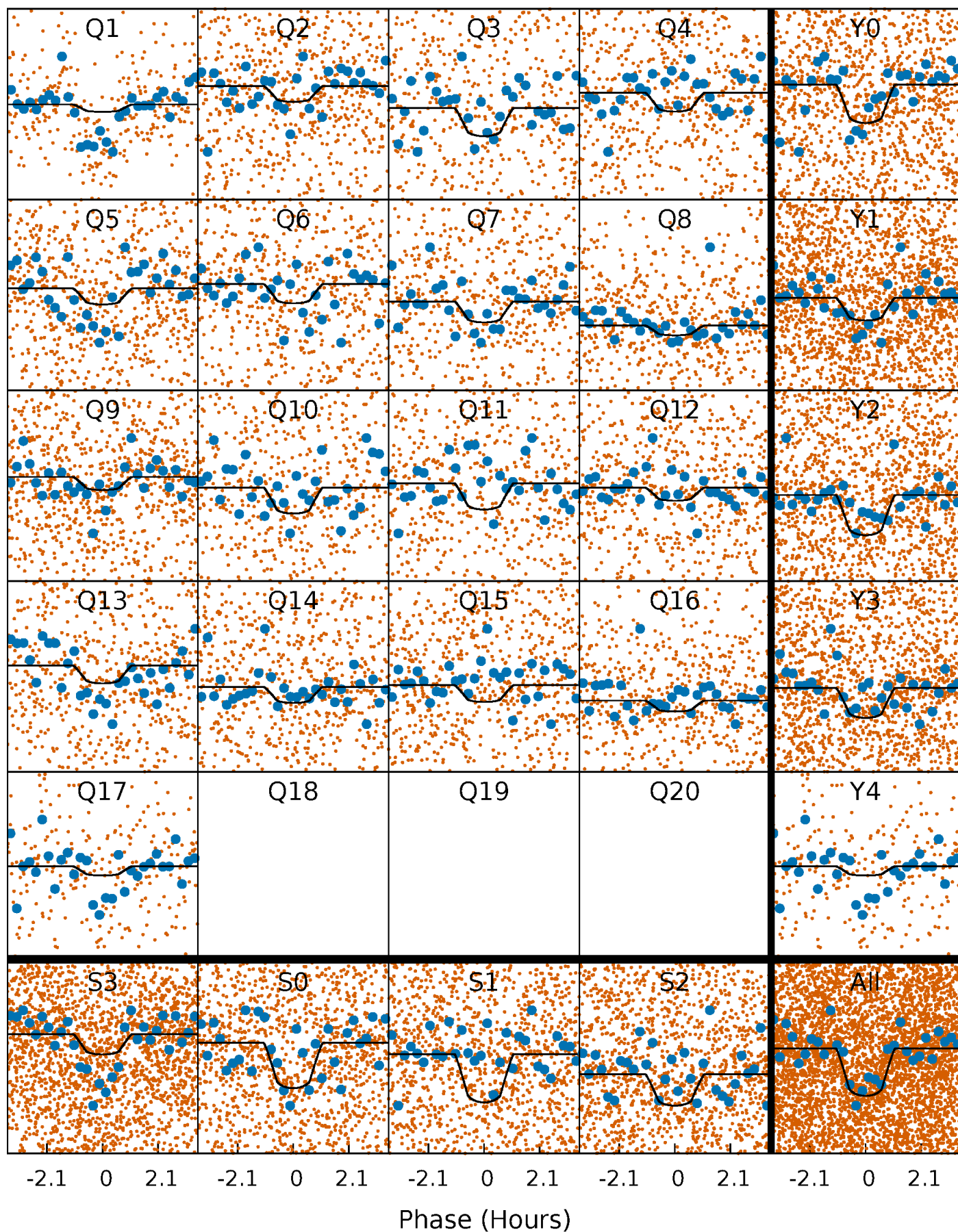
PDC Quarter-Phased Transit Curves

TCE 002830919-01 P= 1.540379 Days $T_0=132.011486$ (BKJD)



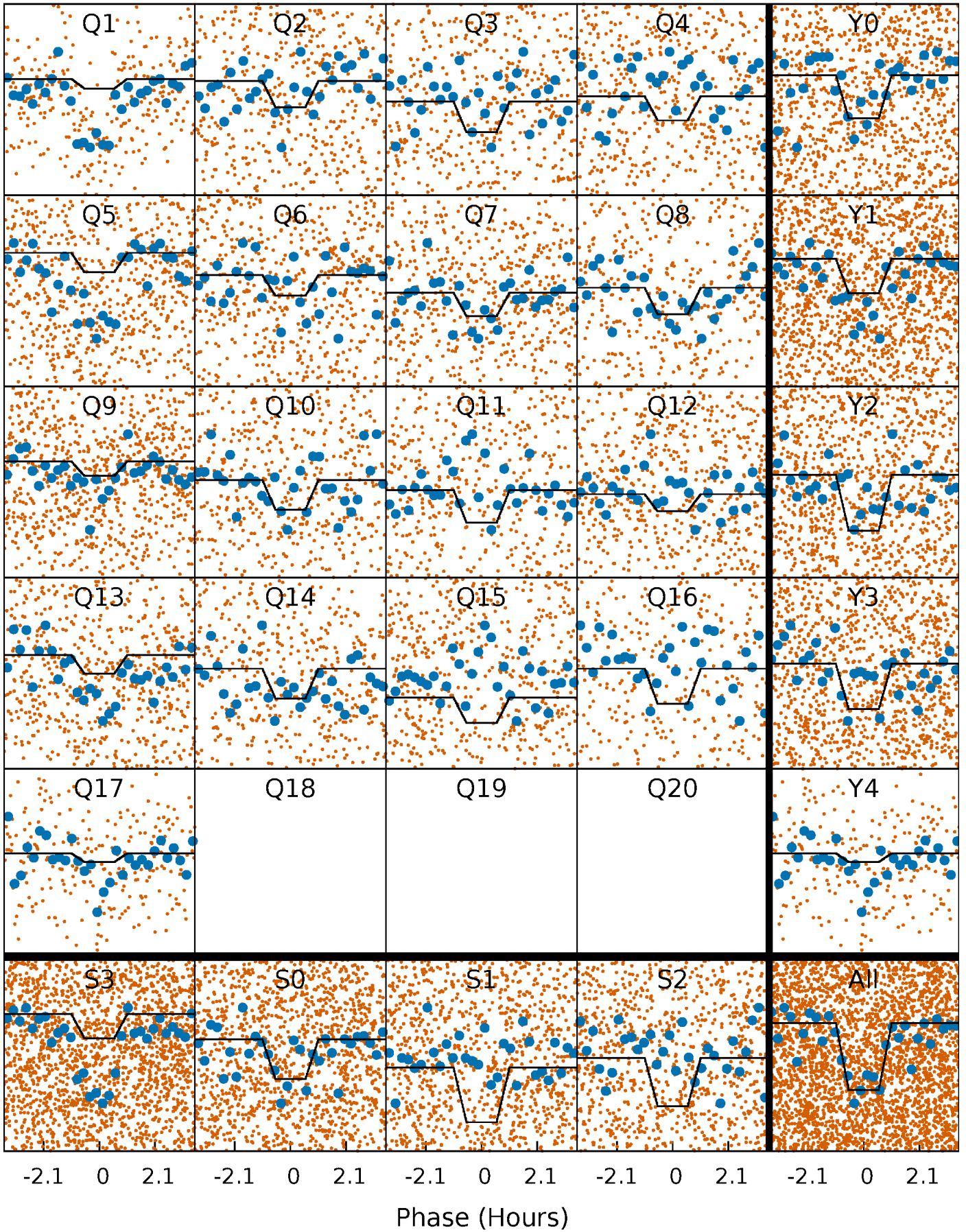
DV Quarter-Phased Transit Curves

TCE 002830919-01 P= 1.540379 Days $T_0=132.011486$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

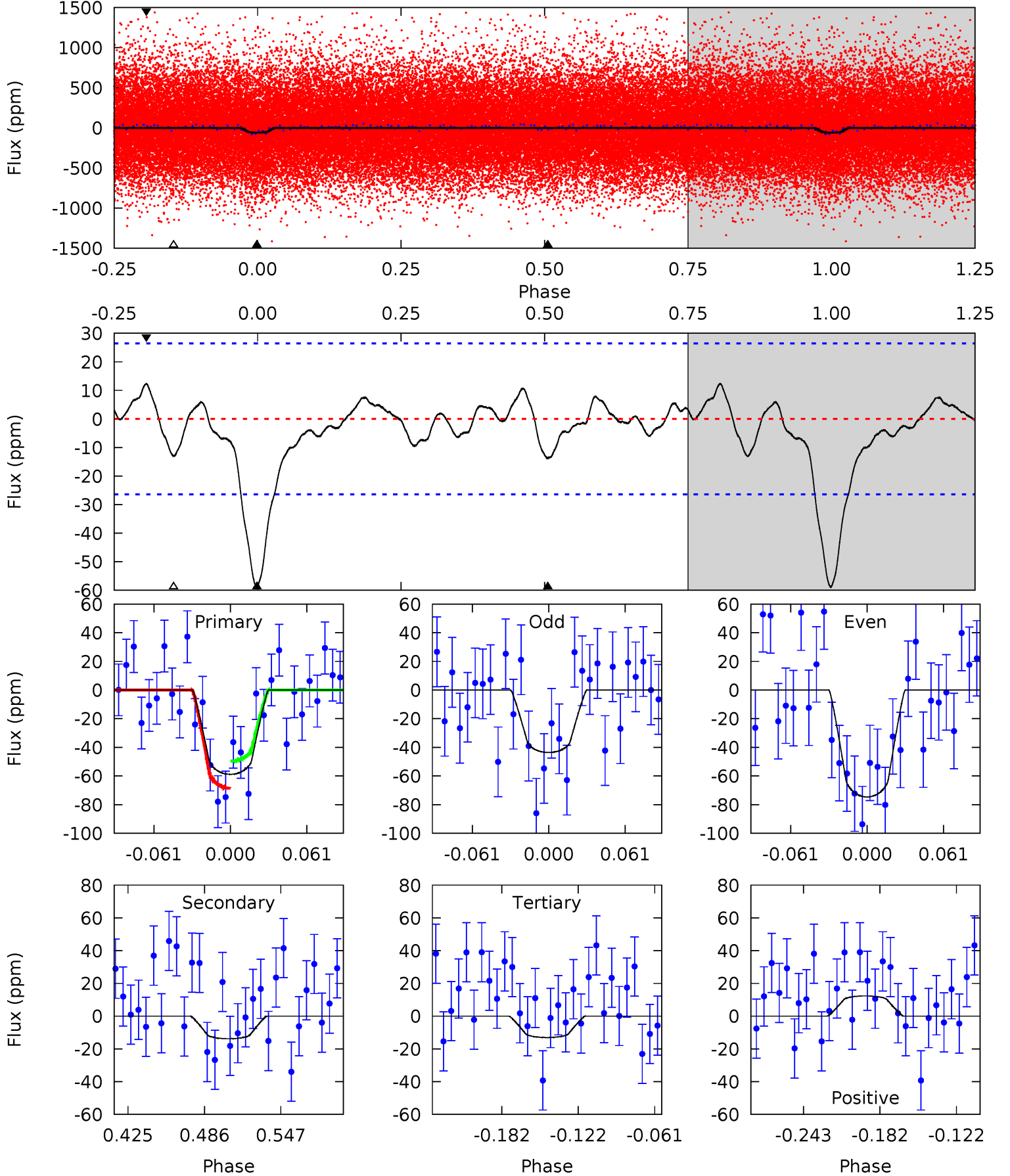
TCE 002830919-01 P= 1.540371 Days $T_0=132.013961$ (BKJD)



DV Model-Shift Uniqueness Test

002830919-01, P = 1.540379 Days, E = 130.471107 Days

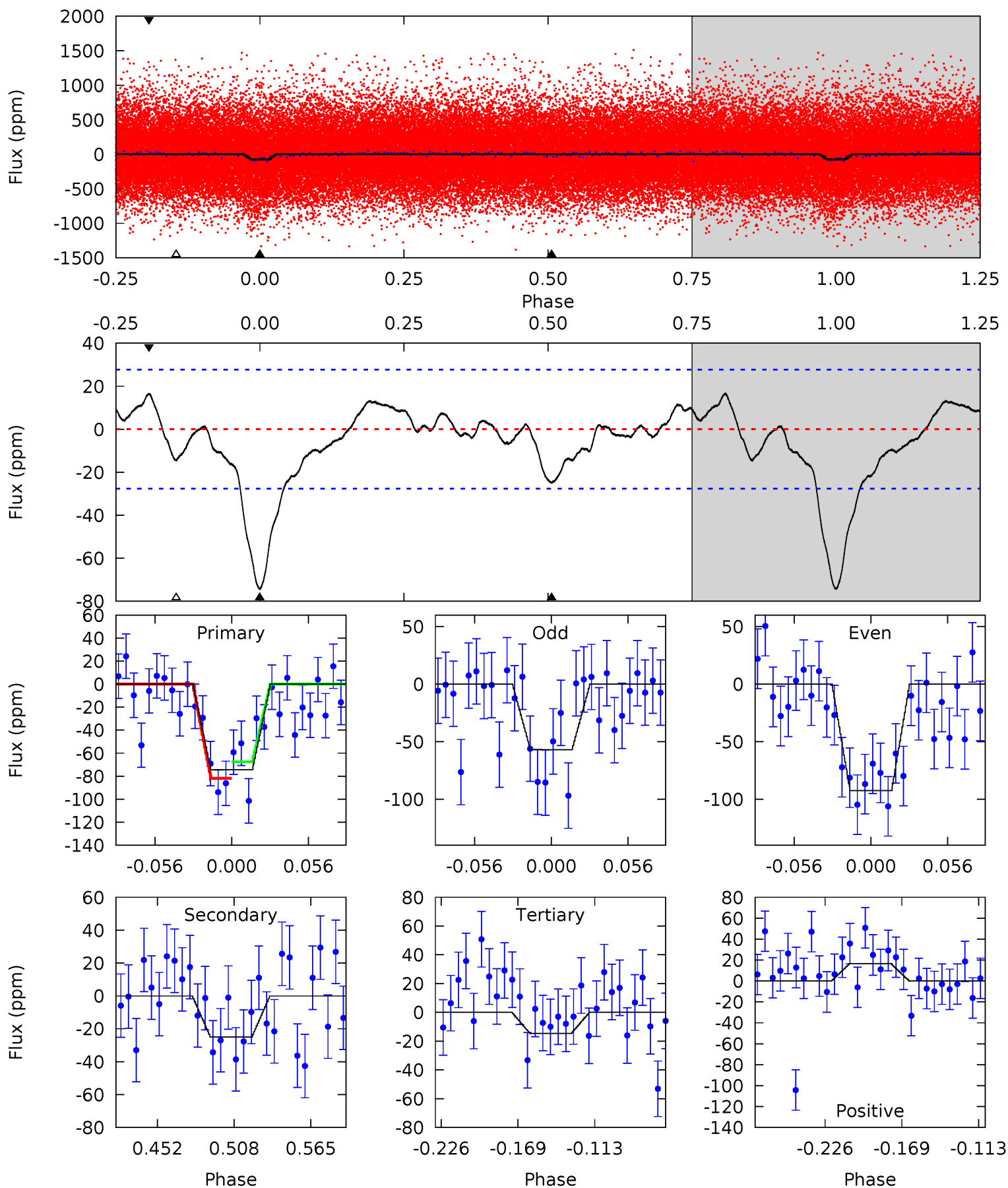
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	2.44	2.31	2.18	4.67	1.88	0.89	8.09	8.22	0.13	0.26	2.75	0.94	0.17	1.68



Alt Model-Shift Uniqueness Test

002830919-01, P = 1.540371 Days, E = 130.473590 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	4.22	2.46	2.79	4.68	1.91	1.32	10.1	9.80	1.76	1.43	3.01	0.91	0.18	1.22



Stellar Parameters For KIC 002830919

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5974^{+161}_{-179}	$4.422^{+0.101}_{-0.188}$	$-0.260^{+0.300}_{-0.300}$	$0.989^{+0.281}_{-0.152}$	$0.944^{+0.130}_{-0.106}$	$1.375^{+0.627}_{-0.695}$
	+3%/-3%	+2%/-4%	+115%/-115%	+28%/-15%	+14%/-11%	+46%/-51%
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 002830919-01 / KOI 4387.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-14 ± 6	$1.02^{+0.64}_{-0.58}$	2312^{+158}_{-119}	3992^{+1684}_{-733}	$4.629^{+20.867}_{-3.126}$
Alt.	-25 ± 6	$1.10^{+0.63}_{-0.66}$	2322^{+155}_{-127}	4414^{+2086}_{-704}	$7.475^{+34.384}_{-4.539}$

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

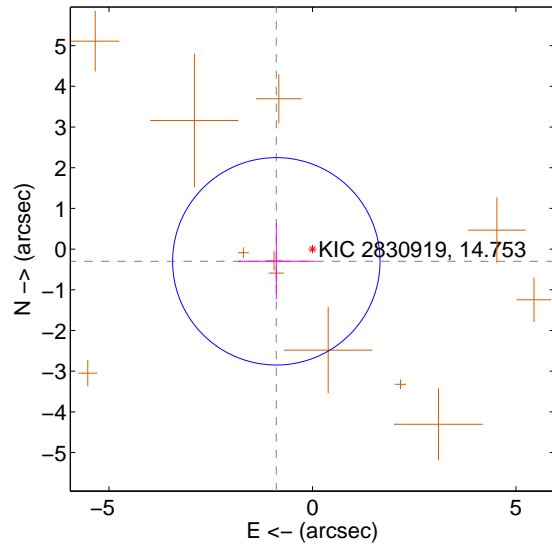
Supplemental centroid analysis for 002830919-01. Kepler magnitude: 14.75. Transit SNR 8.88

There are 0 quarters with good PRF difference image offsets

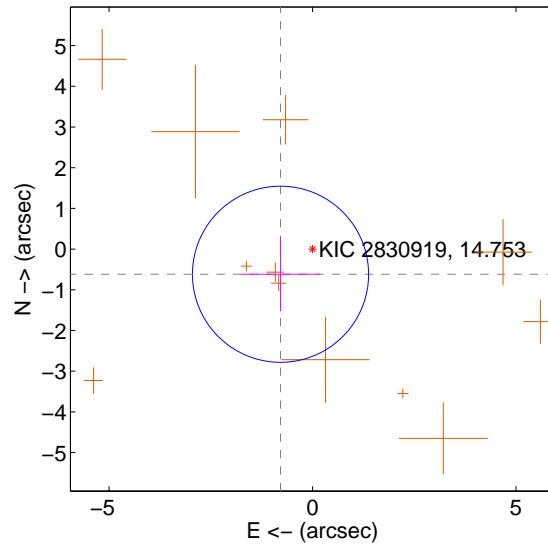
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.937 ± 0.849	1.10	0.888 ± 0.950	-0.300 ± 0.938
PRF-fit source offset from KIC position	1.000 ± 0.721	1.39	0.787 ± 0.967	-0.618 ± 0.909
photometric centroid source offset	0.20 ± 1.58	0.13	0.20 ± 1.58	-0.03 ± 1.64

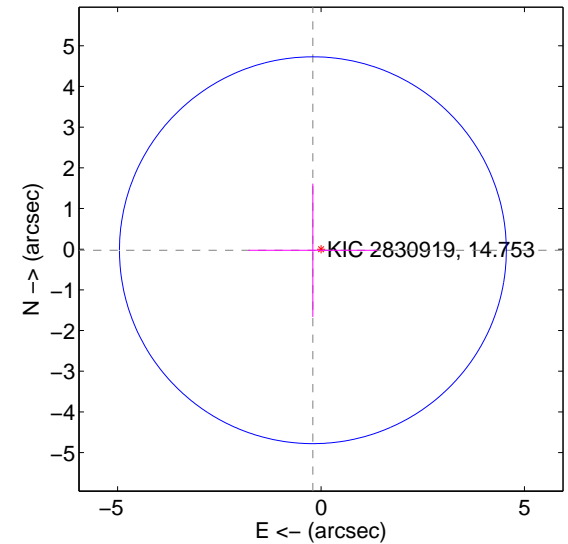
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

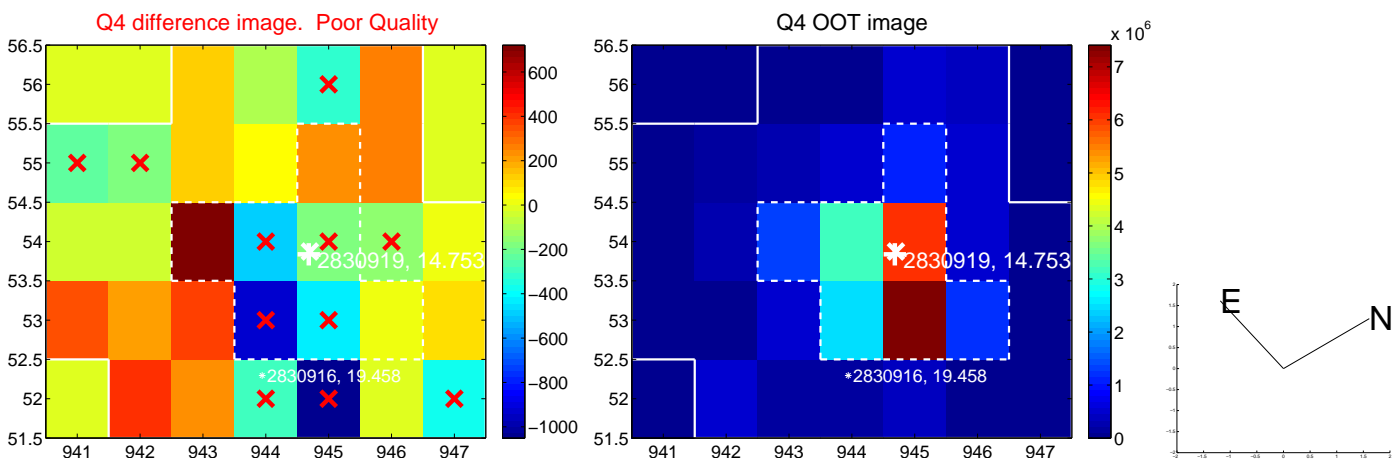
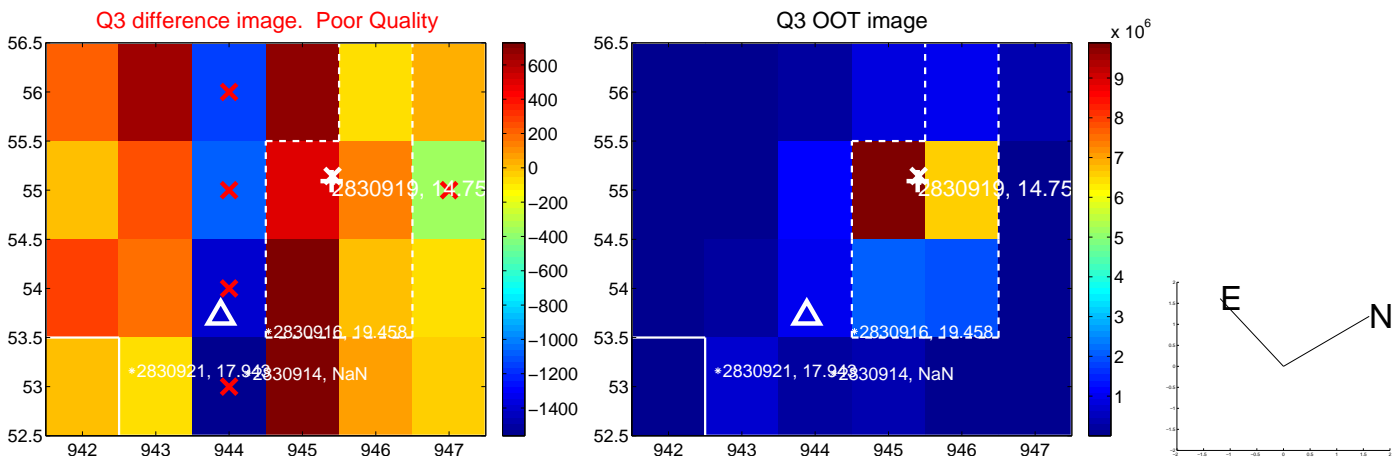
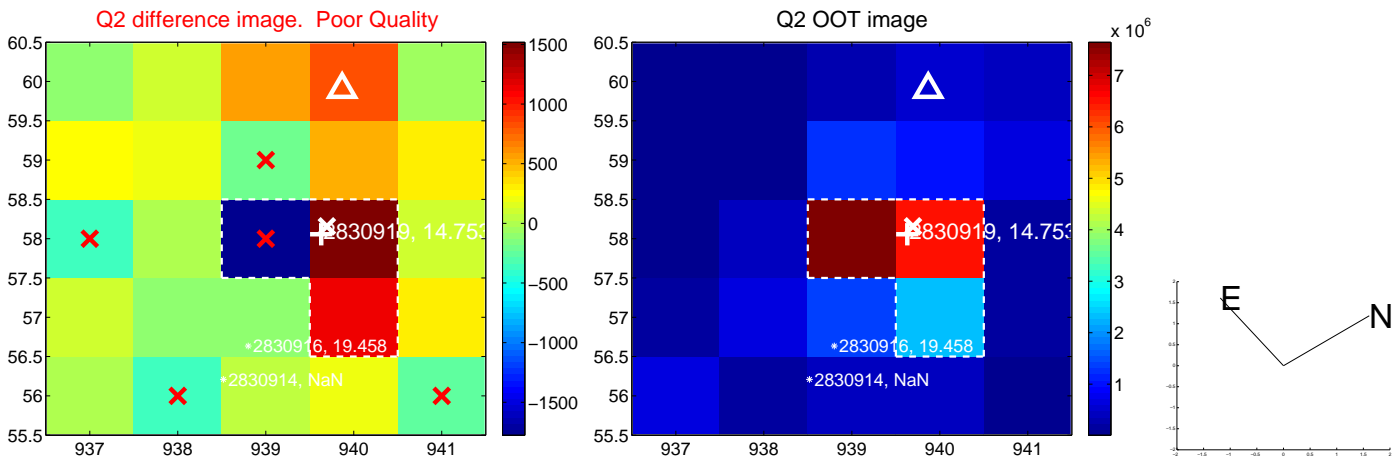
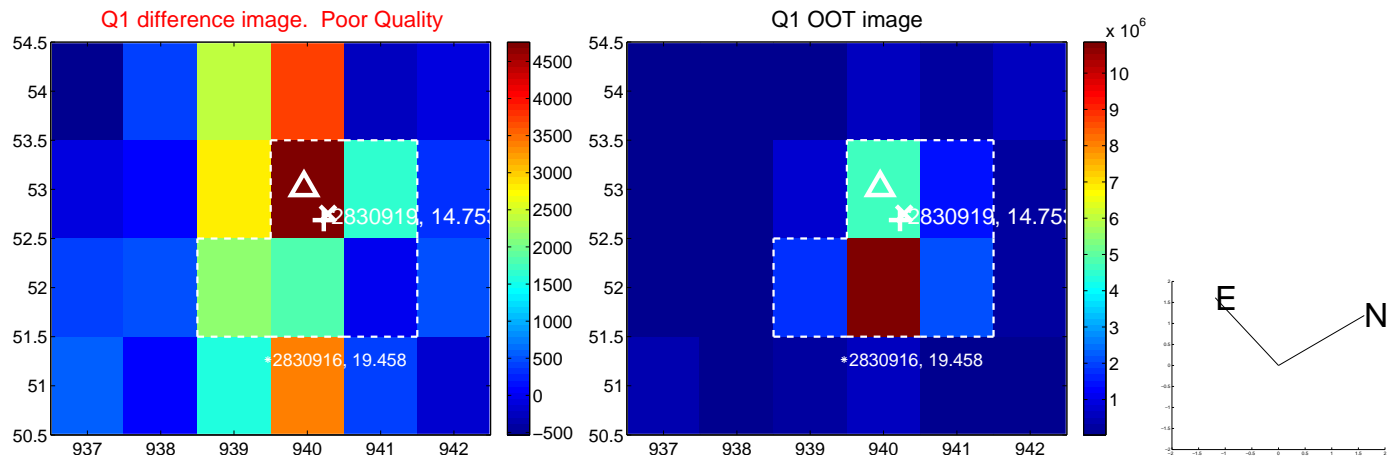


offset from photometric centroids

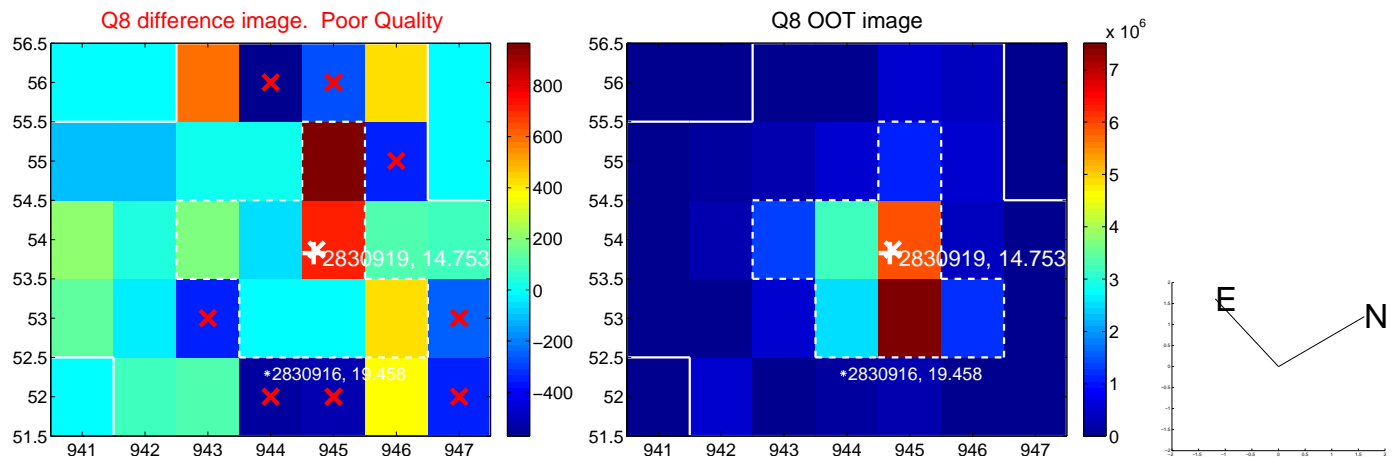
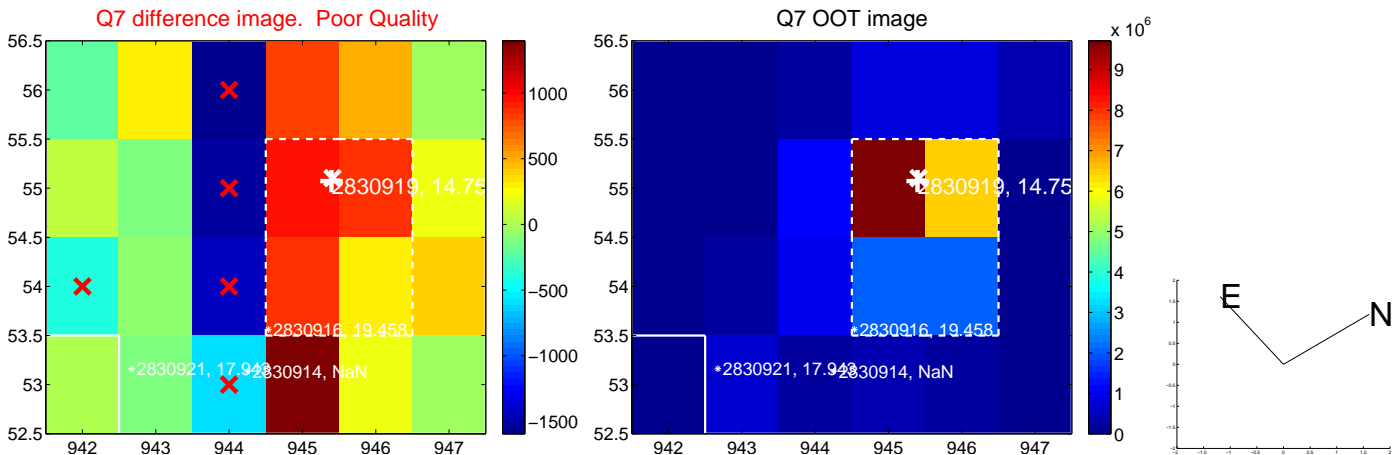
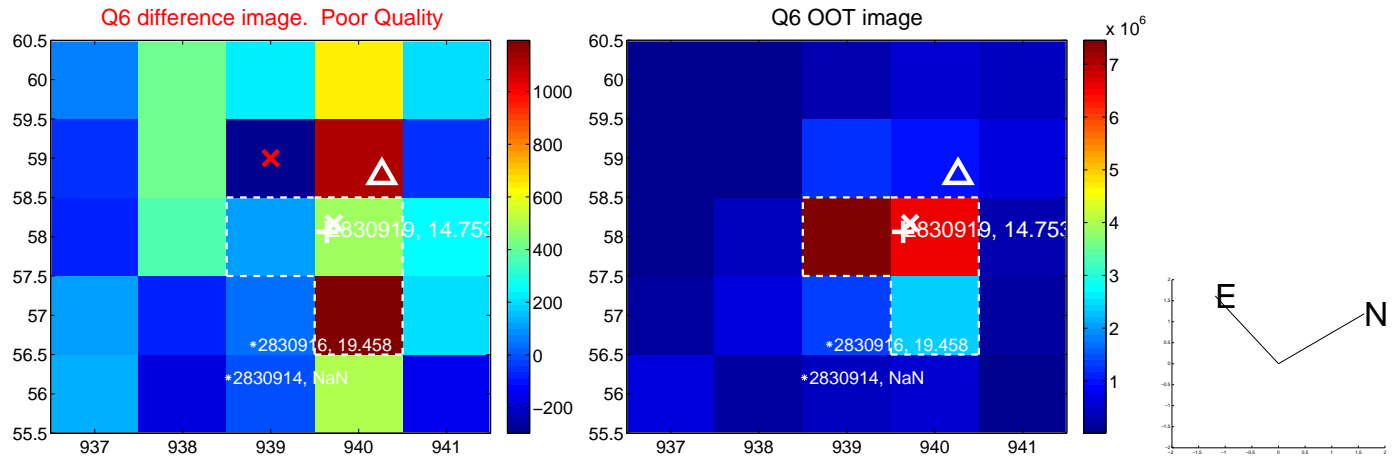
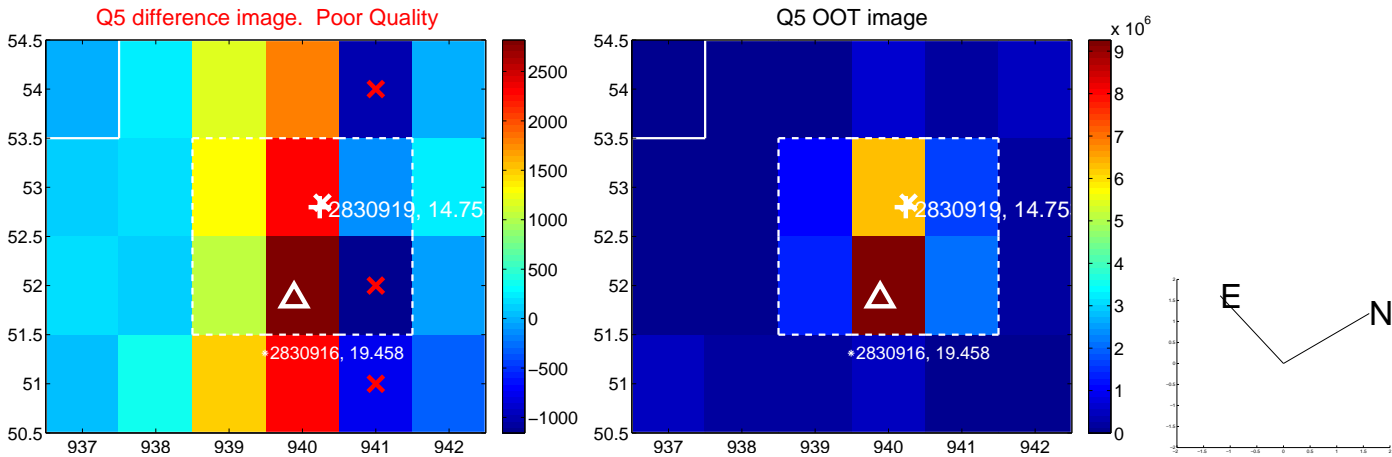


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

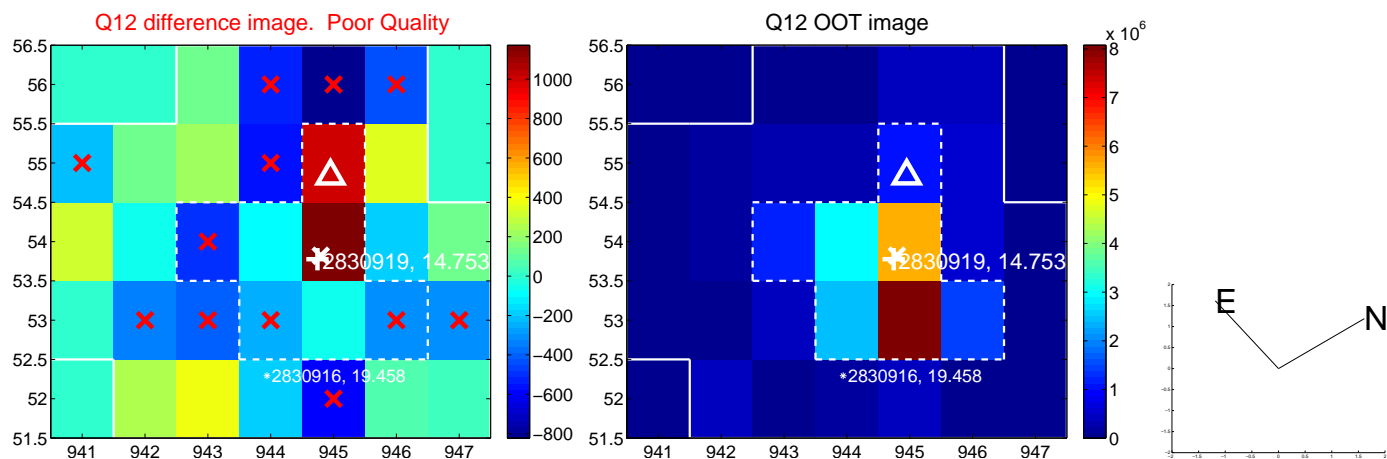
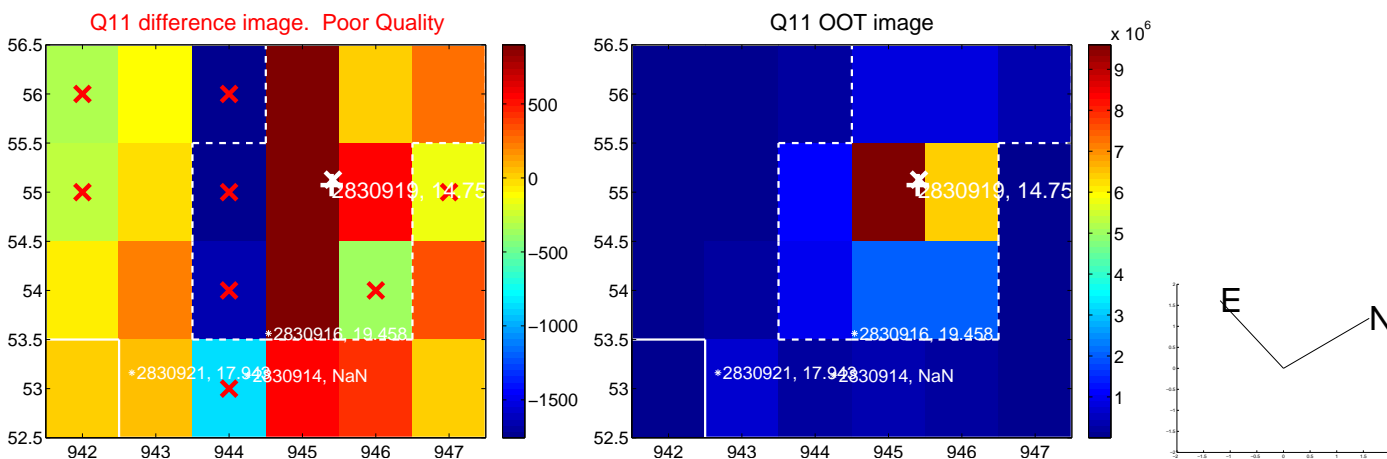
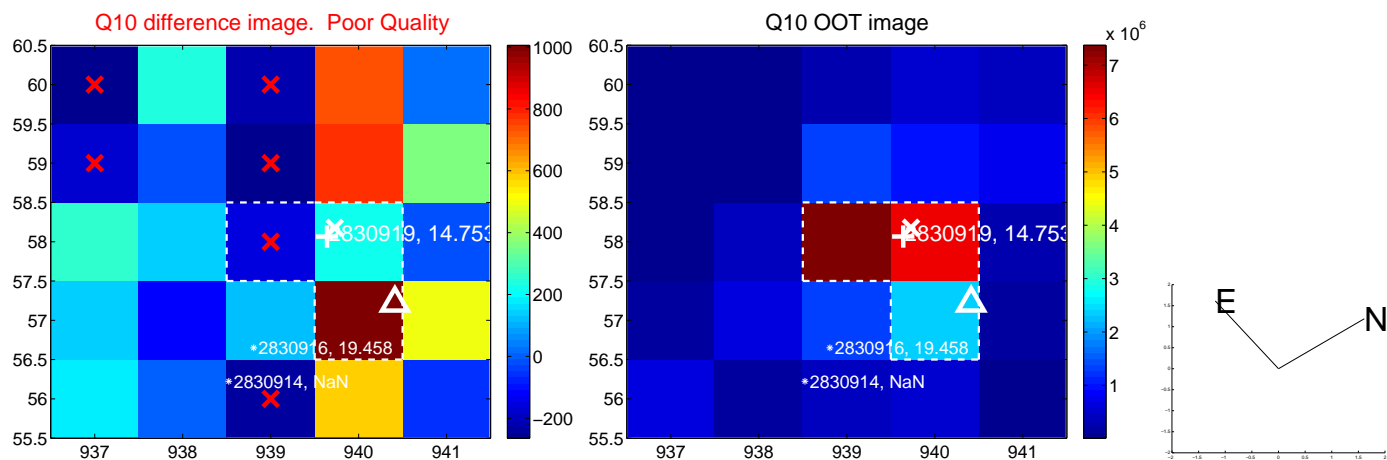
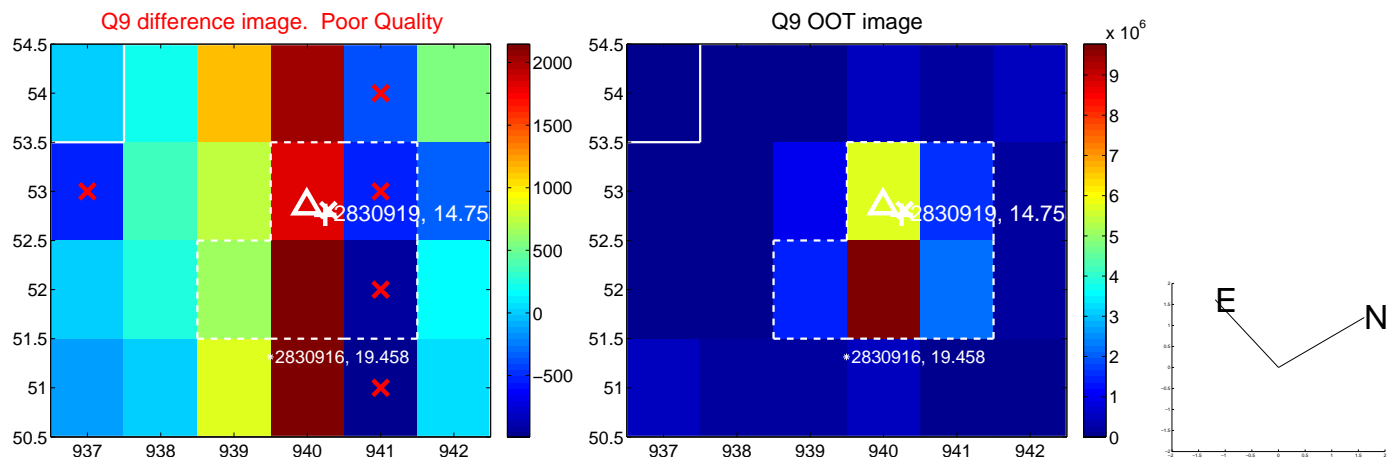
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



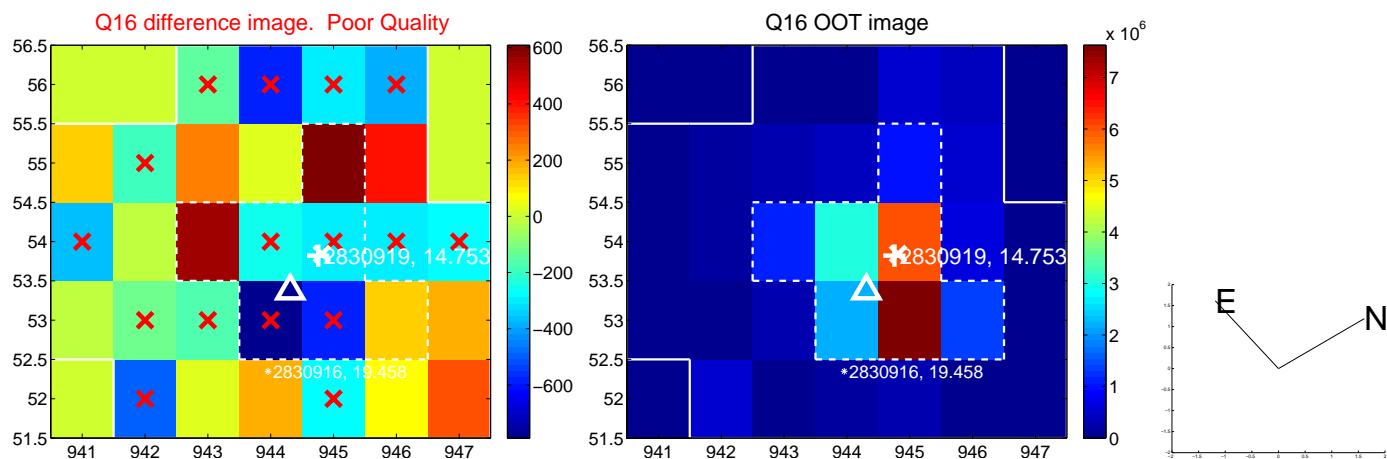
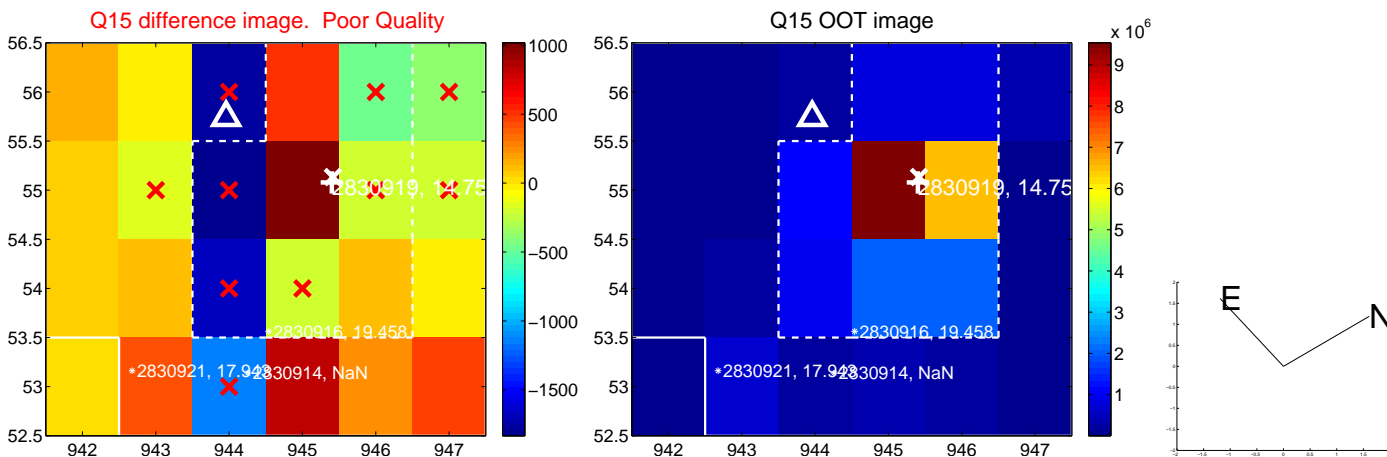
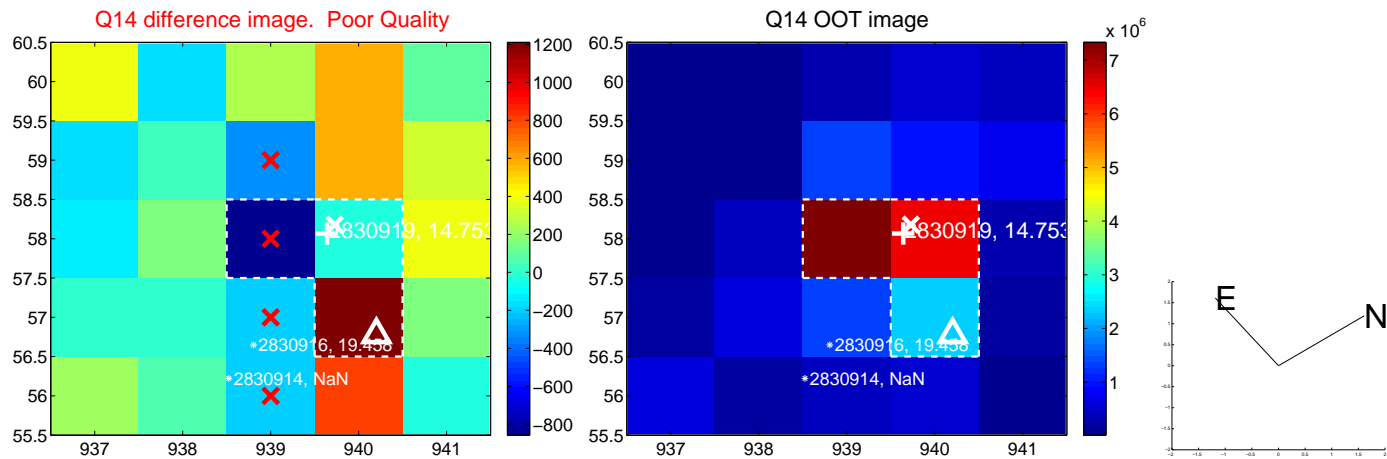
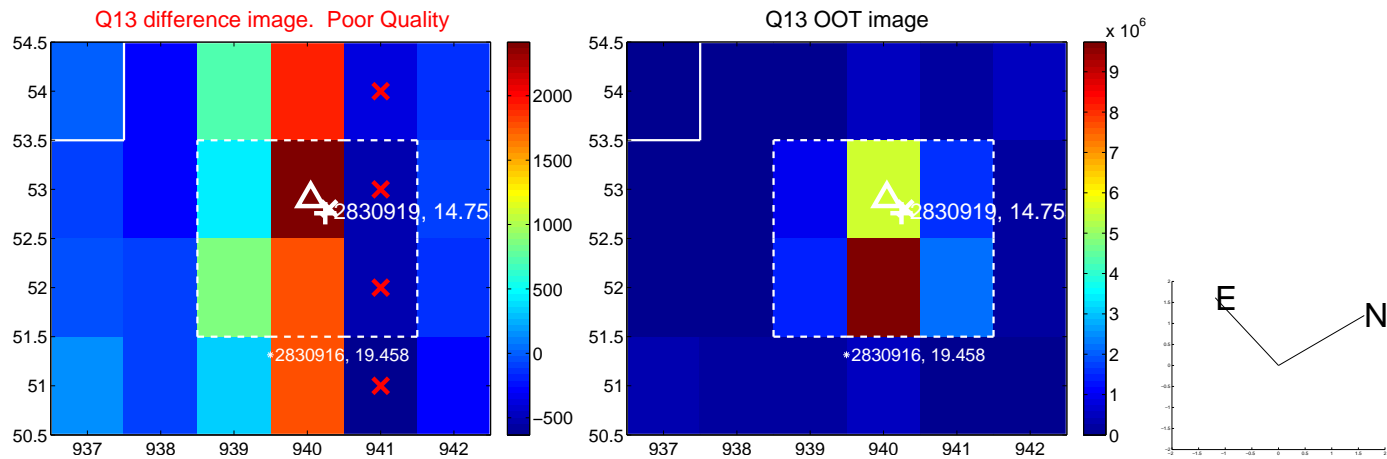
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



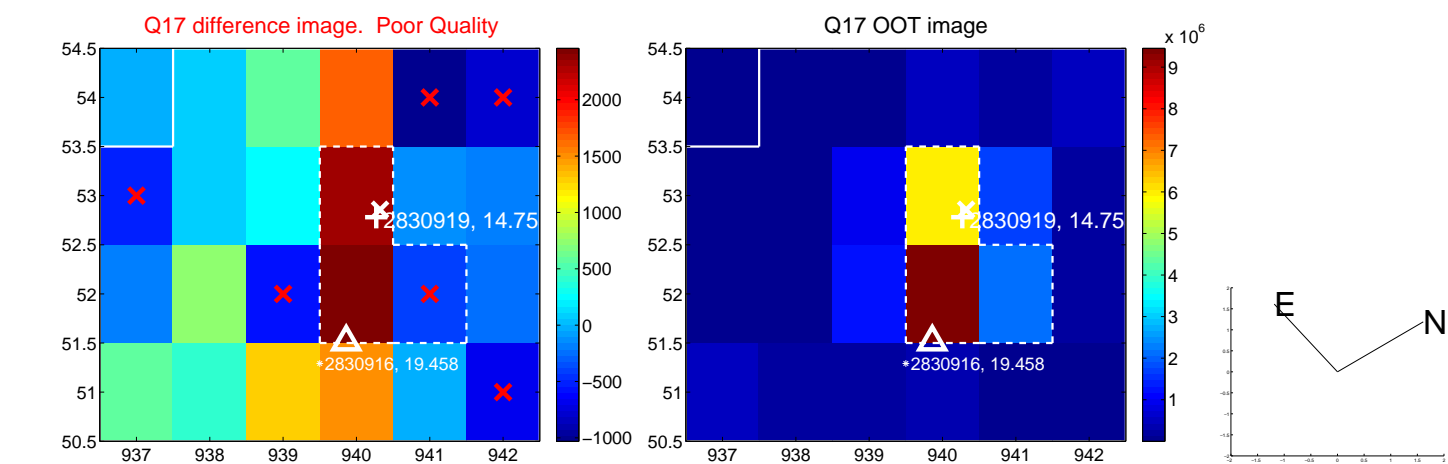
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



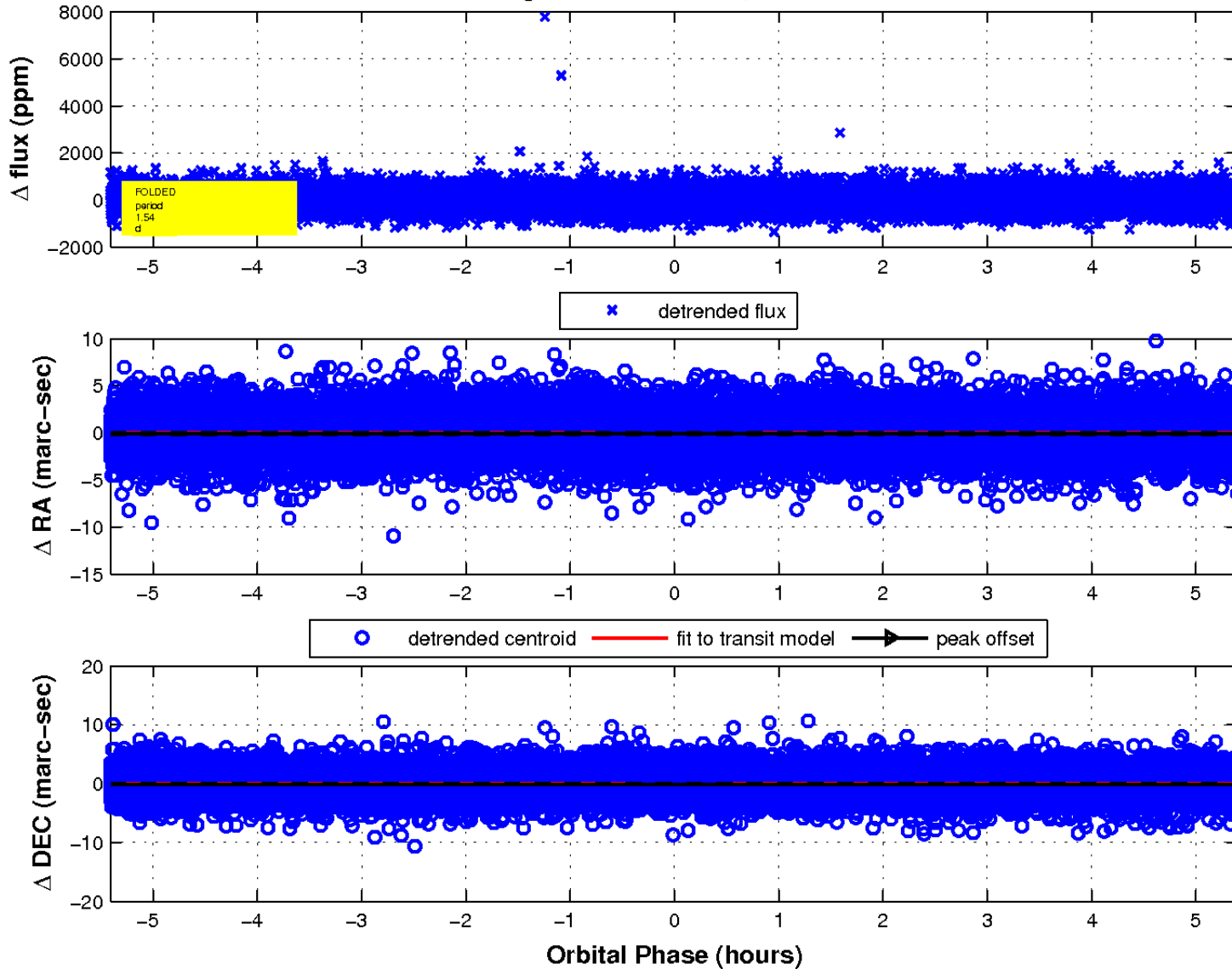
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

