

KIC 009641103

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})
009641103-01	OBS	7212.01	1.089038	132.046713	27.3	2.188	8.2	7.5	0.74	5096	0.47	920.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009641103-01	OBS	FP	0.00	0	0	0	1	CENT_KIC_POS—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.

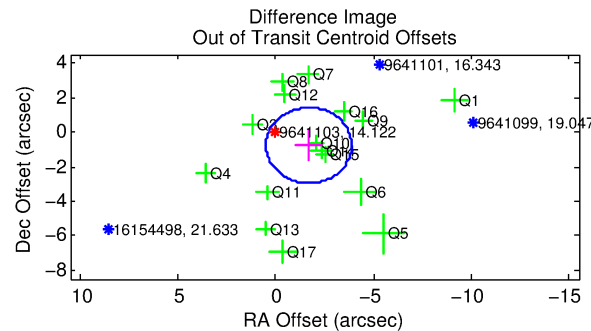
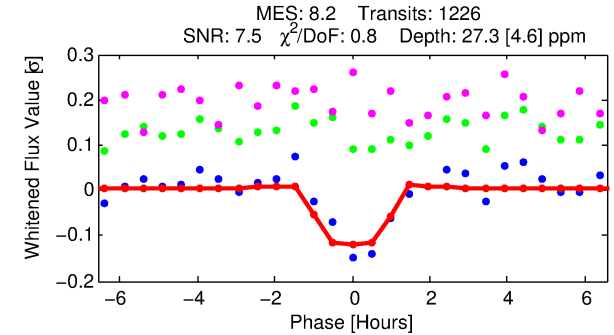
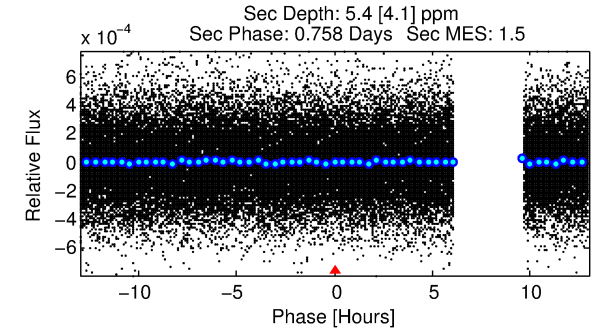
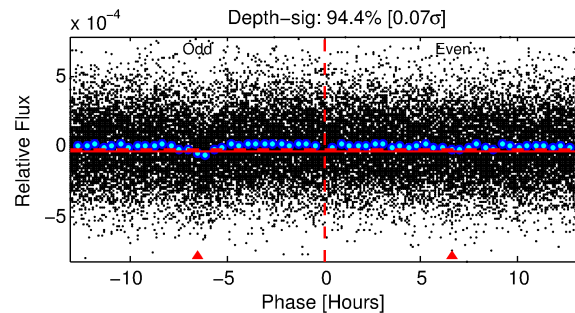
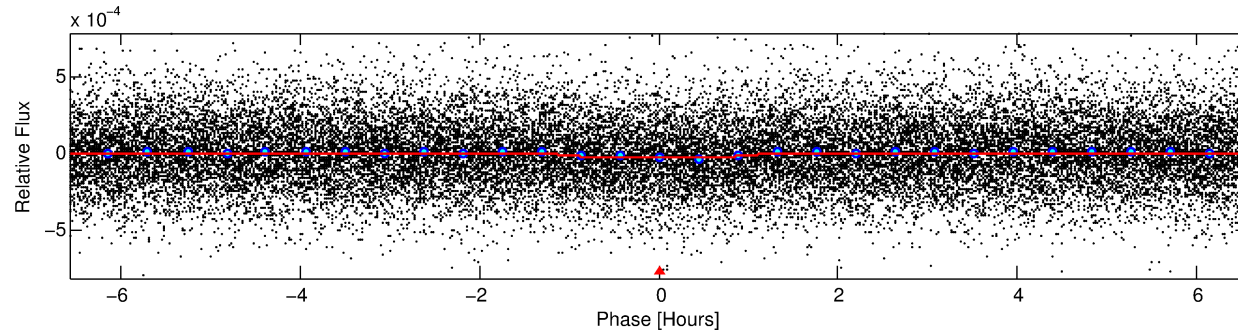
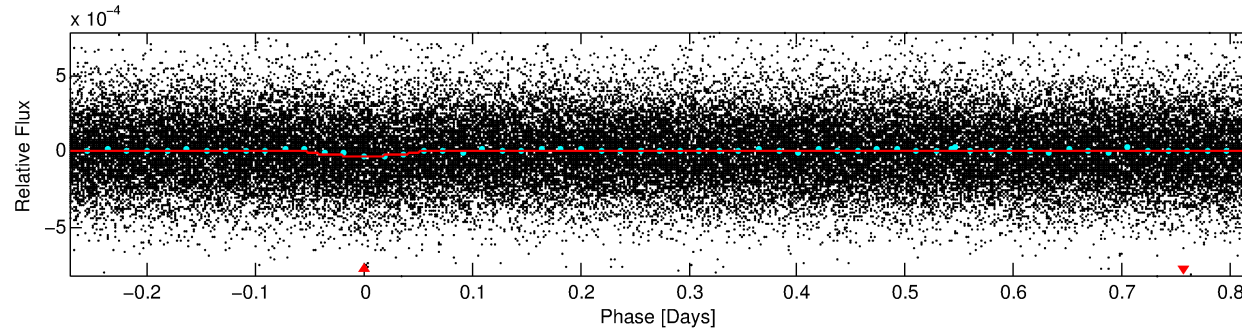
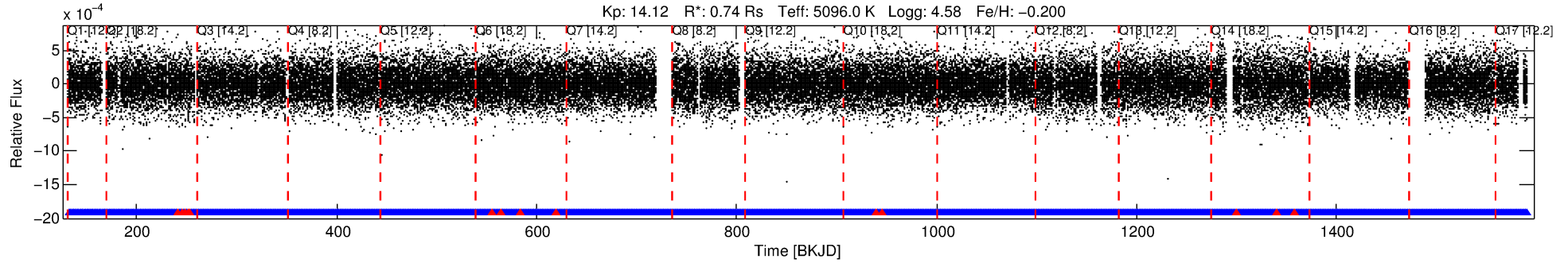
Ephemeris Match Information For 009641103-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
009641103-01	9641103	7211.01	9641031	1:1	230.9	25	53	9.18	14.13	11220.00	Direct-PRF	0	3.25	1.77

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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 $\sigma_P < 5.0$ and $\sigma_T < 5.0$. 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: 9641103 Candidate: 1 of 1 Period: 1.089 d
KOI: K07212.01 Corr: 0.793



DV Fit Results:

Period = 1.08904 [0.00001] d
Epoch = 132.0467 [0.0038] BKJD
Rp/R* = 0.0058 [0.0042]
a/R* = 1.95 [4.36]
b = 0.90 [0.66]
Seff = 920.59 [155.58]
Teq = 1405 [59] K
Rp = 0.47 [0.34] Re
a = 0.0189 [0.0016] AU
Ag = 4.86 [7.99] [0.48 σ]
Teffp = 3224 [1326] K [1.37 σ]

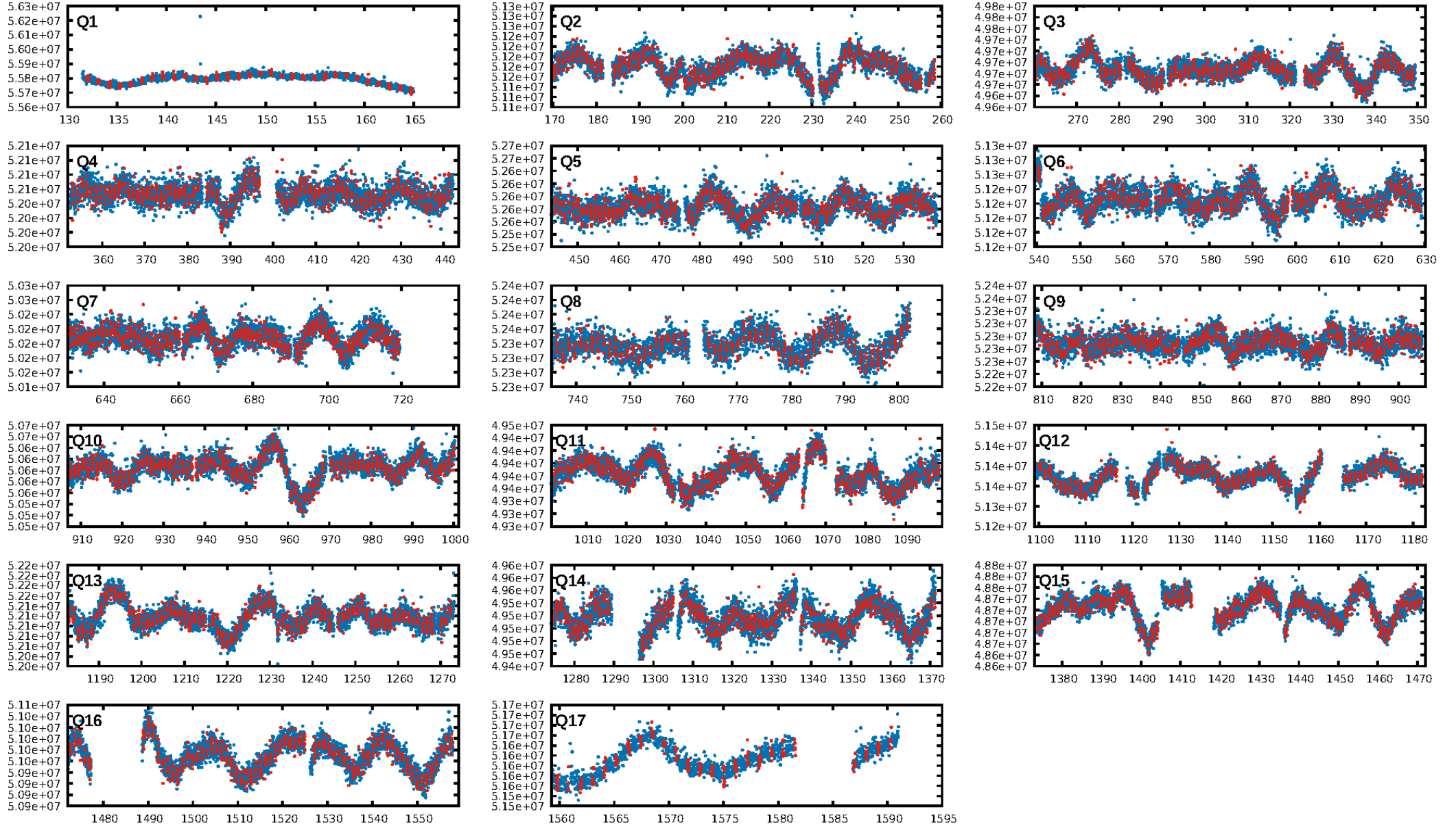
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.62e-16
RollingBand-fgt: 0.99 [1155/1170]
GhostDiagnostic-chr: -0.3668
Centroid-sig: 81.1%
Centroid-so: 0.197 arcsec [0.12 σ]
OotOffset-rm: 1.848 arcsec [2.53 σ]
KicOffset-rm: 2.022 arcsec [2.65 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.12 [2/16]
DiffImageOverlap-fno: 1.00 [17/17]

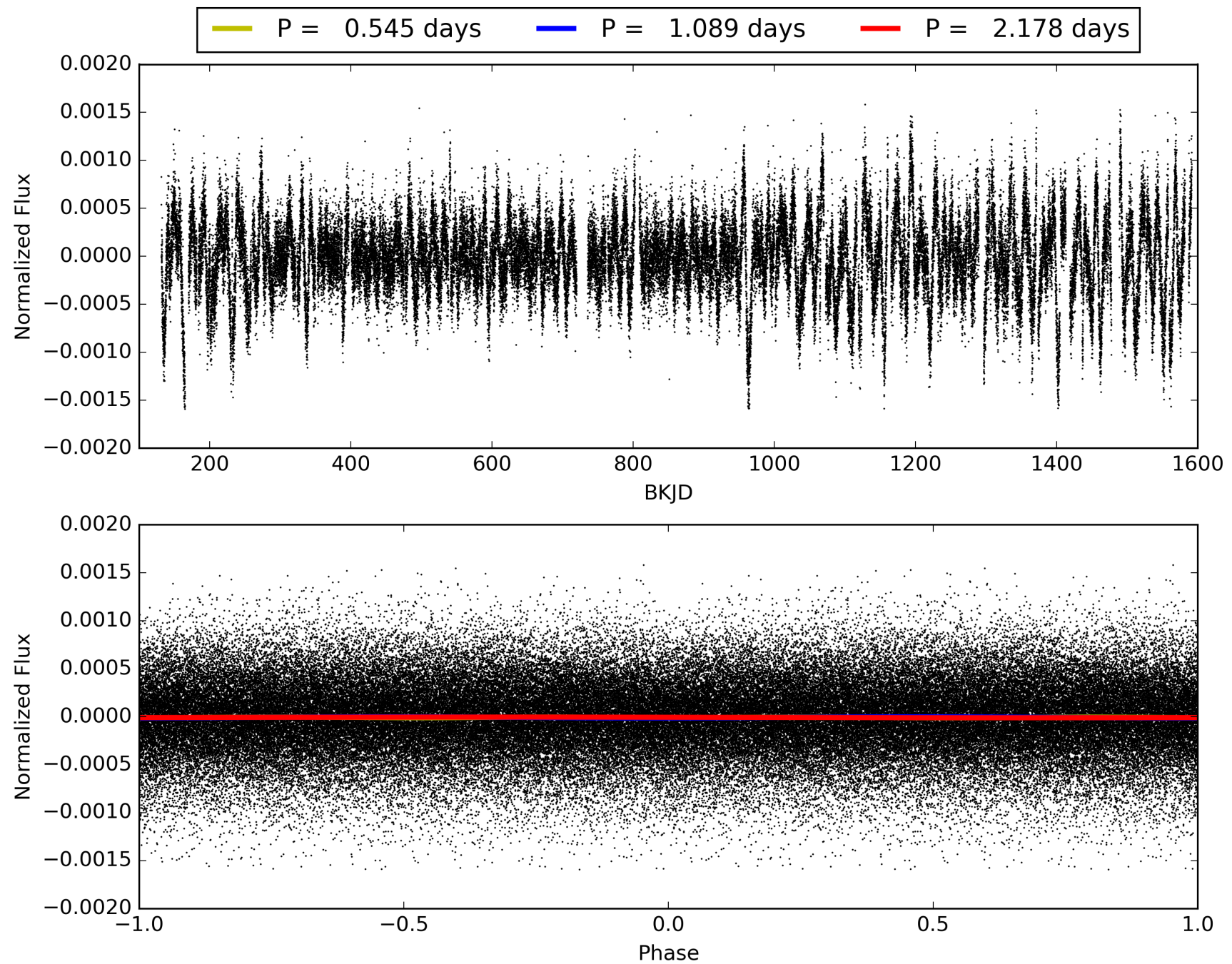
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:22:04 Z

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

TCE 009641103-01, PDC Light Curves

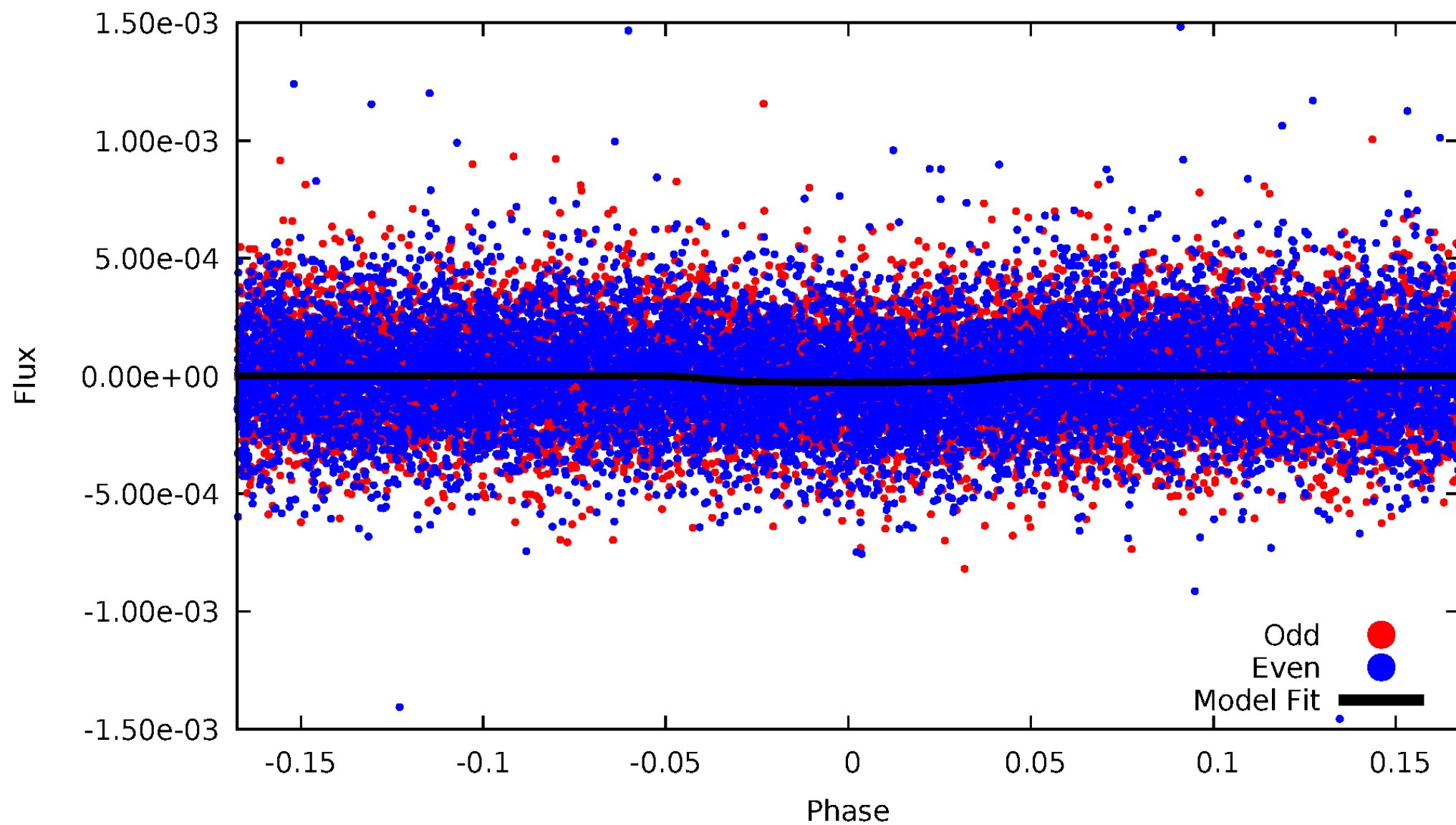


TCE 009641103-01



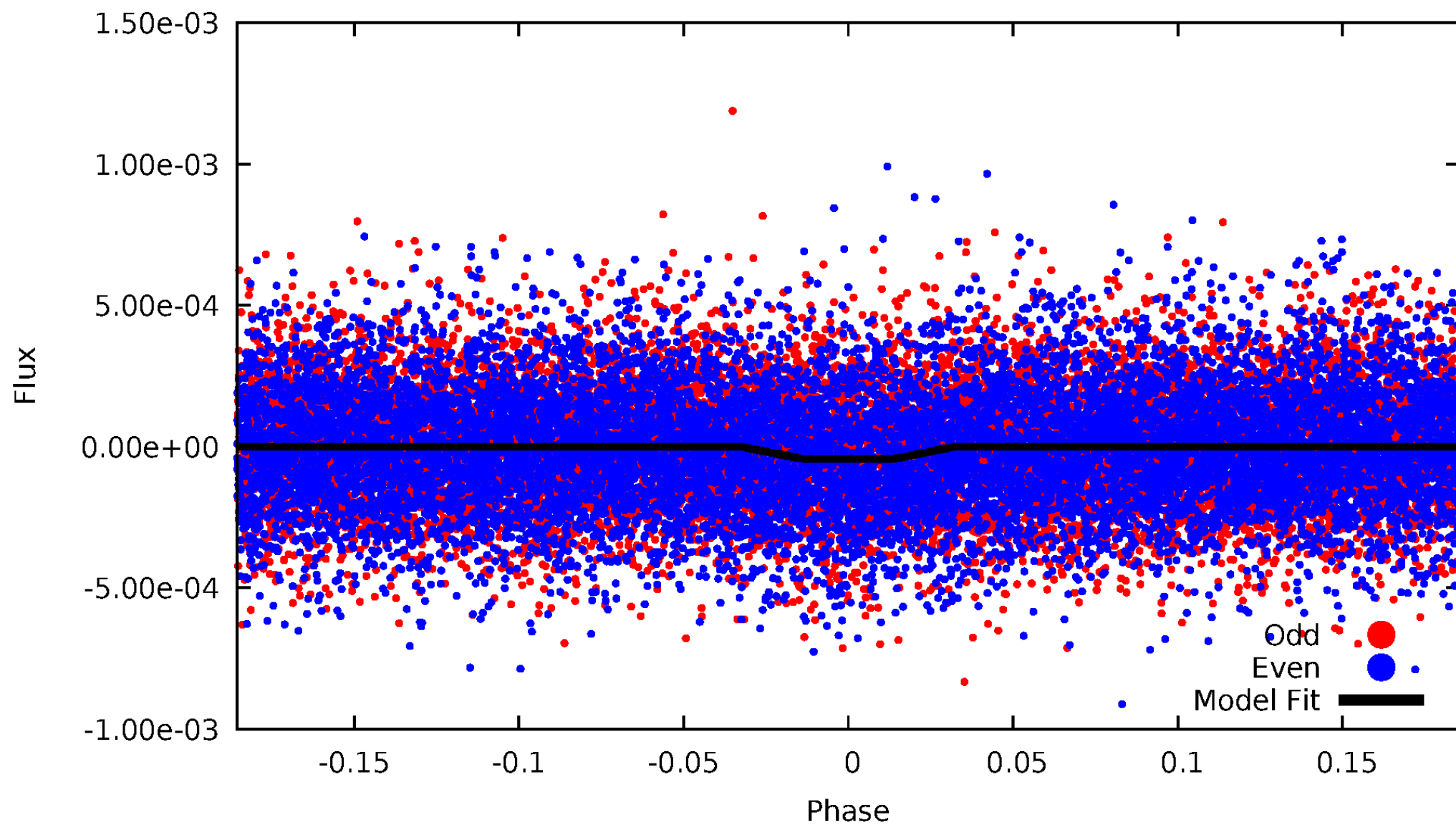
DV Odd/Even

TCE 009641103-01

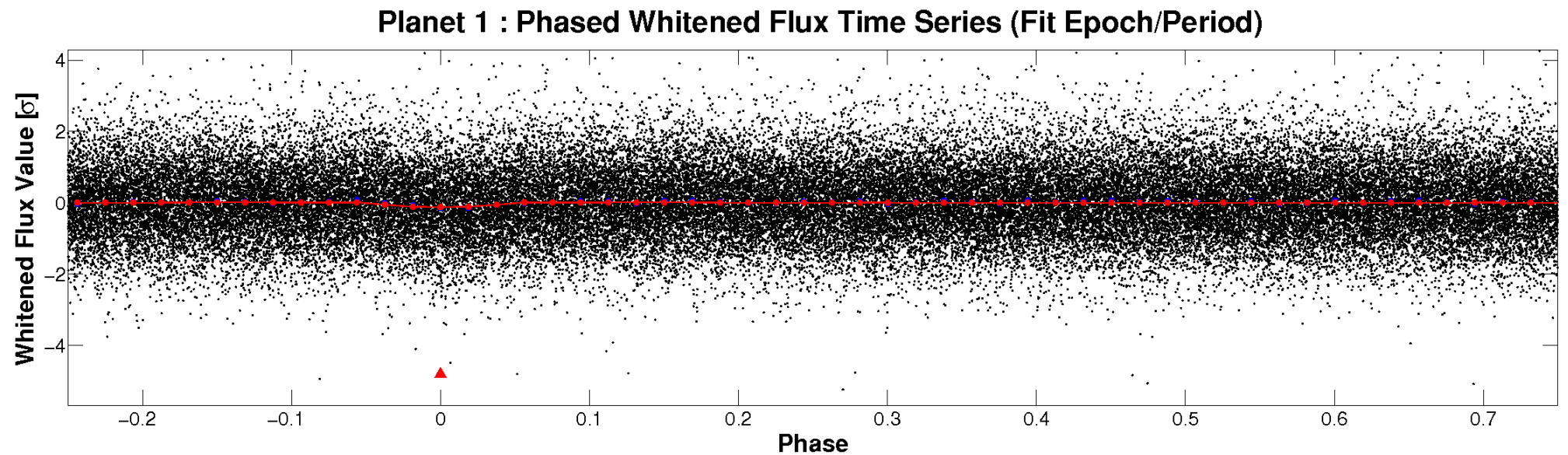
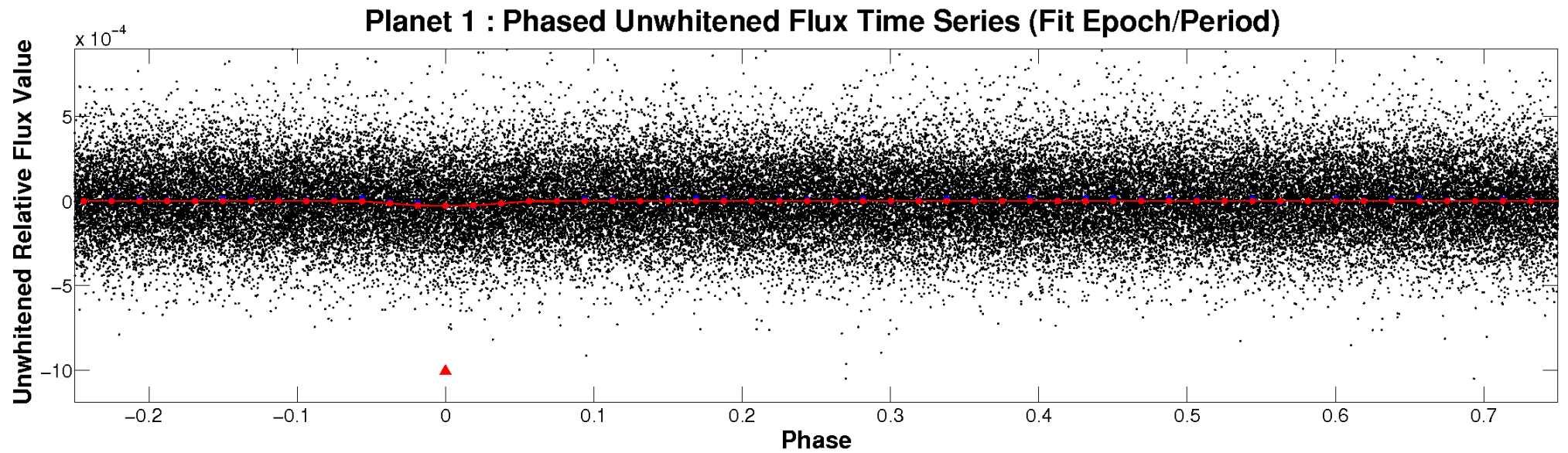


ALT Odd/Even

TCE 009641103-01

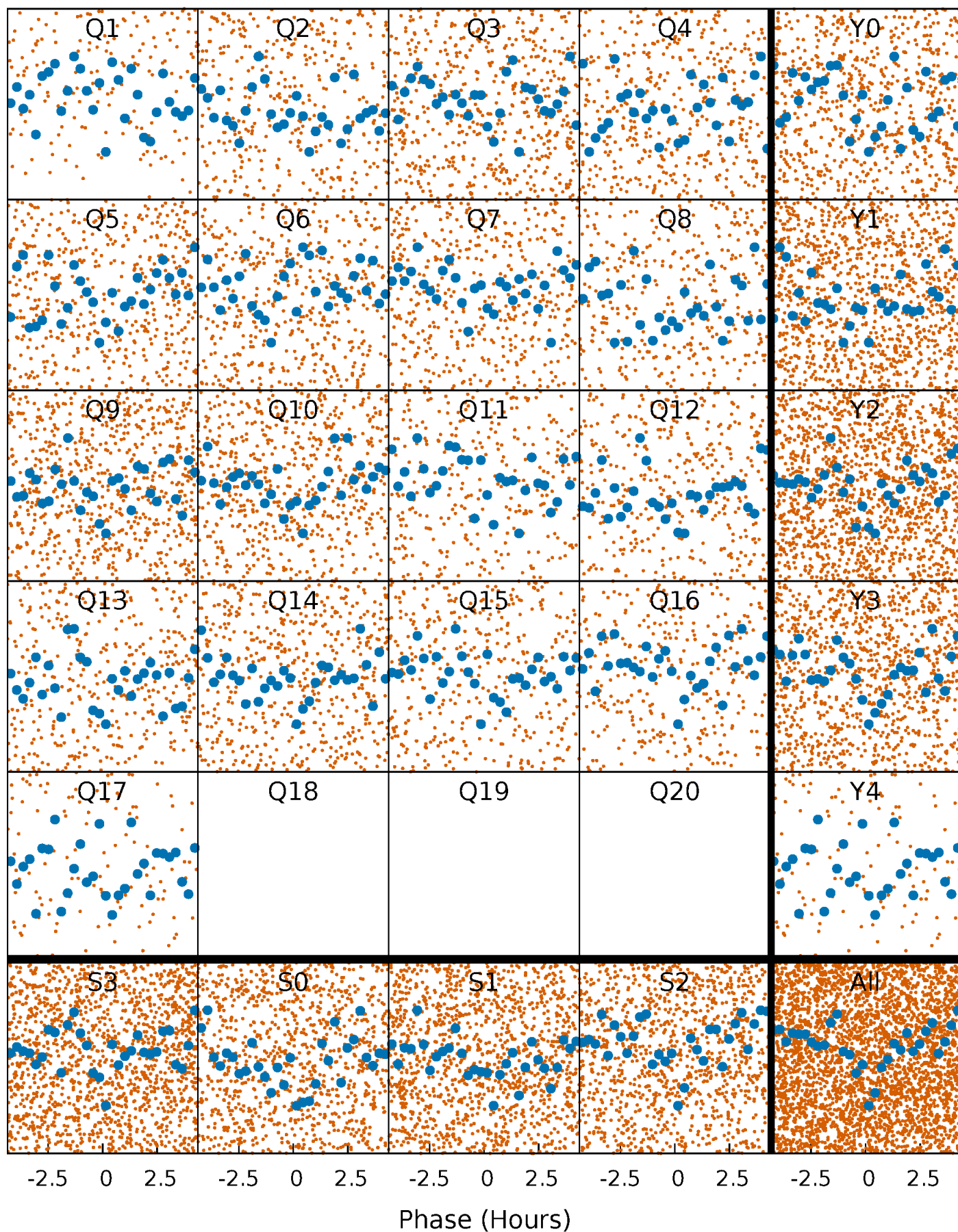


Non-Whitened Vs. Whitened Light Curve



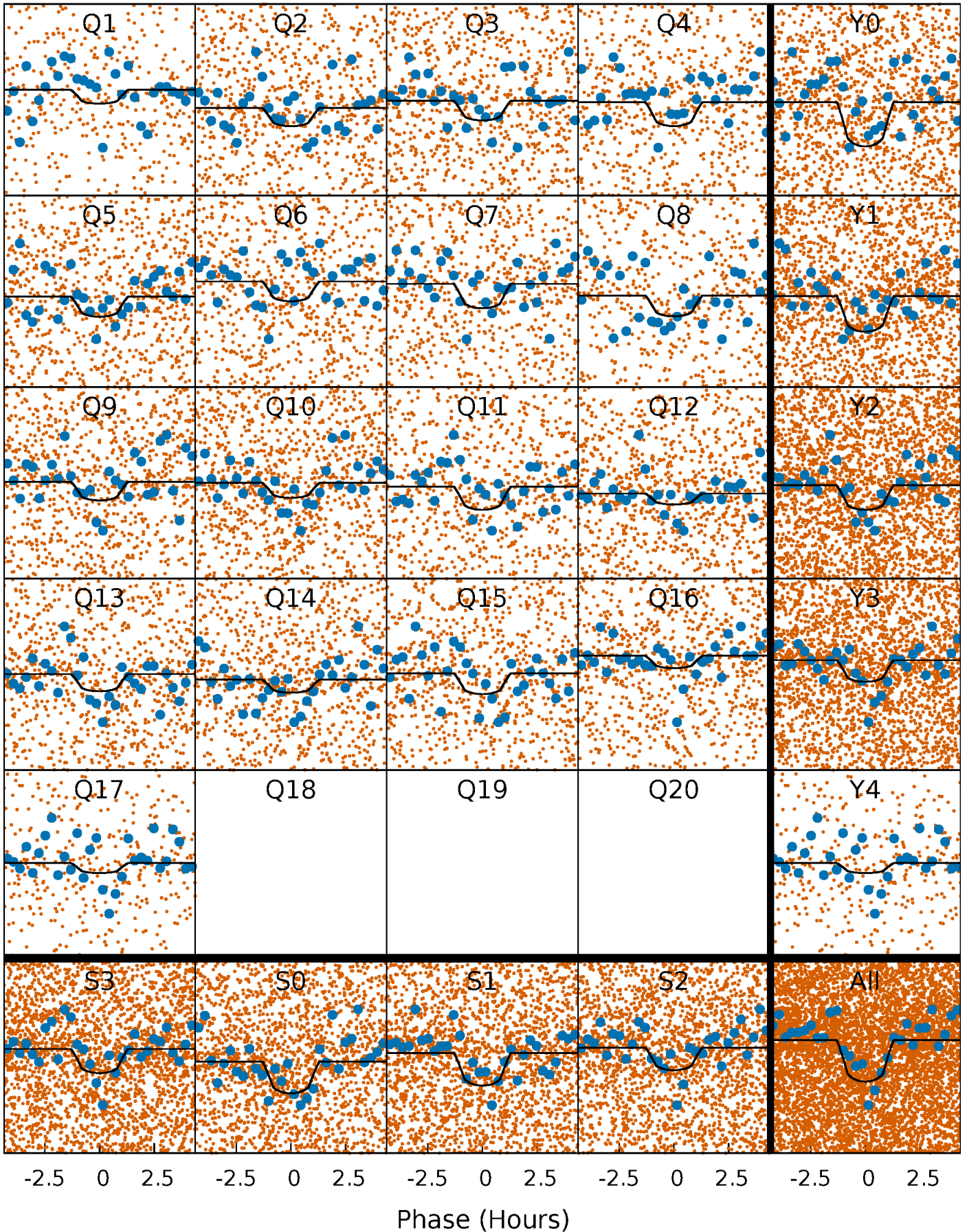
PDC Quarter-Phased Transit Curves

TCE 009641103-01 P= 1.089038 Days $T_0=132.046713$ (BKJD)



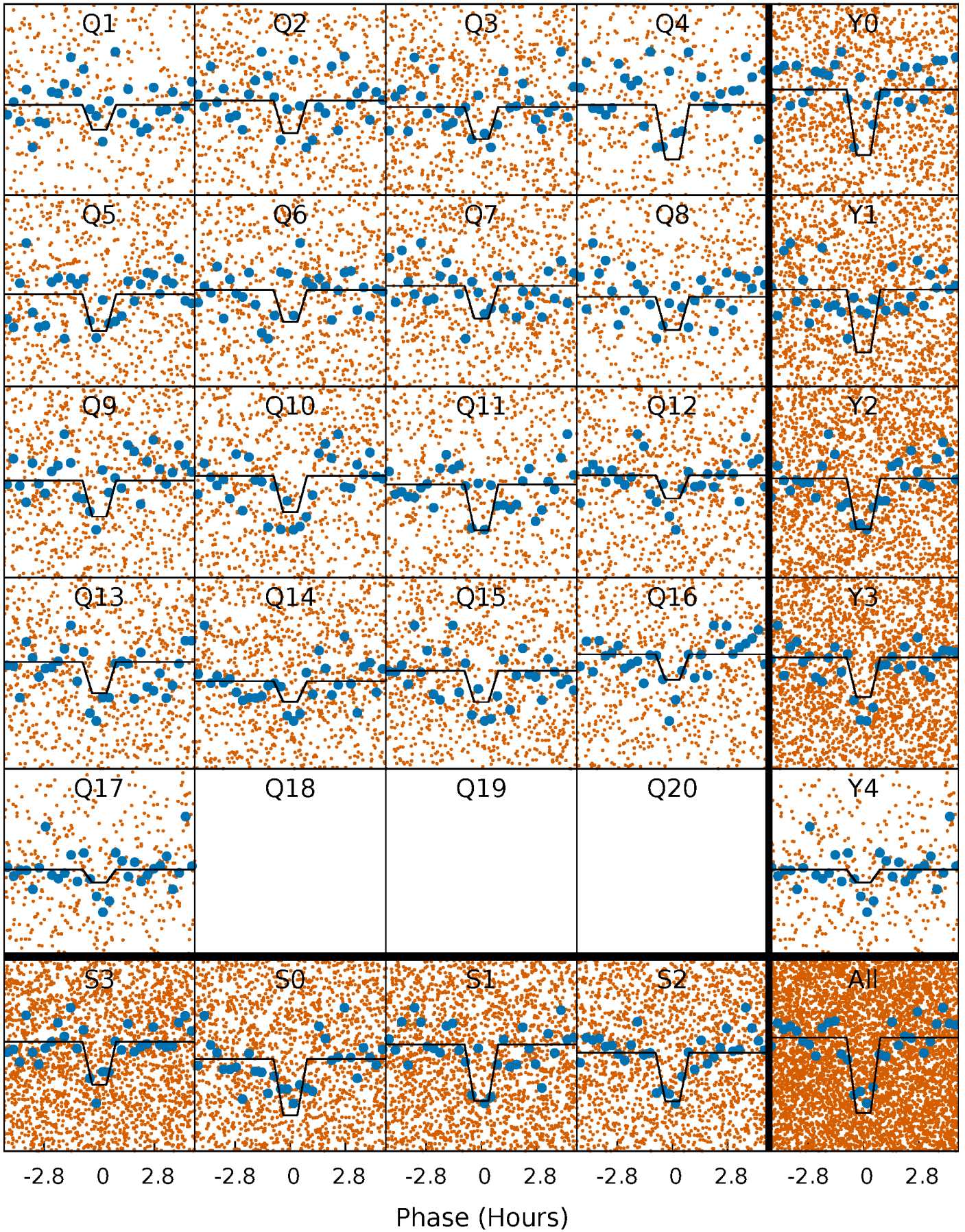
DV Quarter-Phased Transit Curves

TCE 009641103-01 P= 1.089038 Days $T_0=132.046713$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

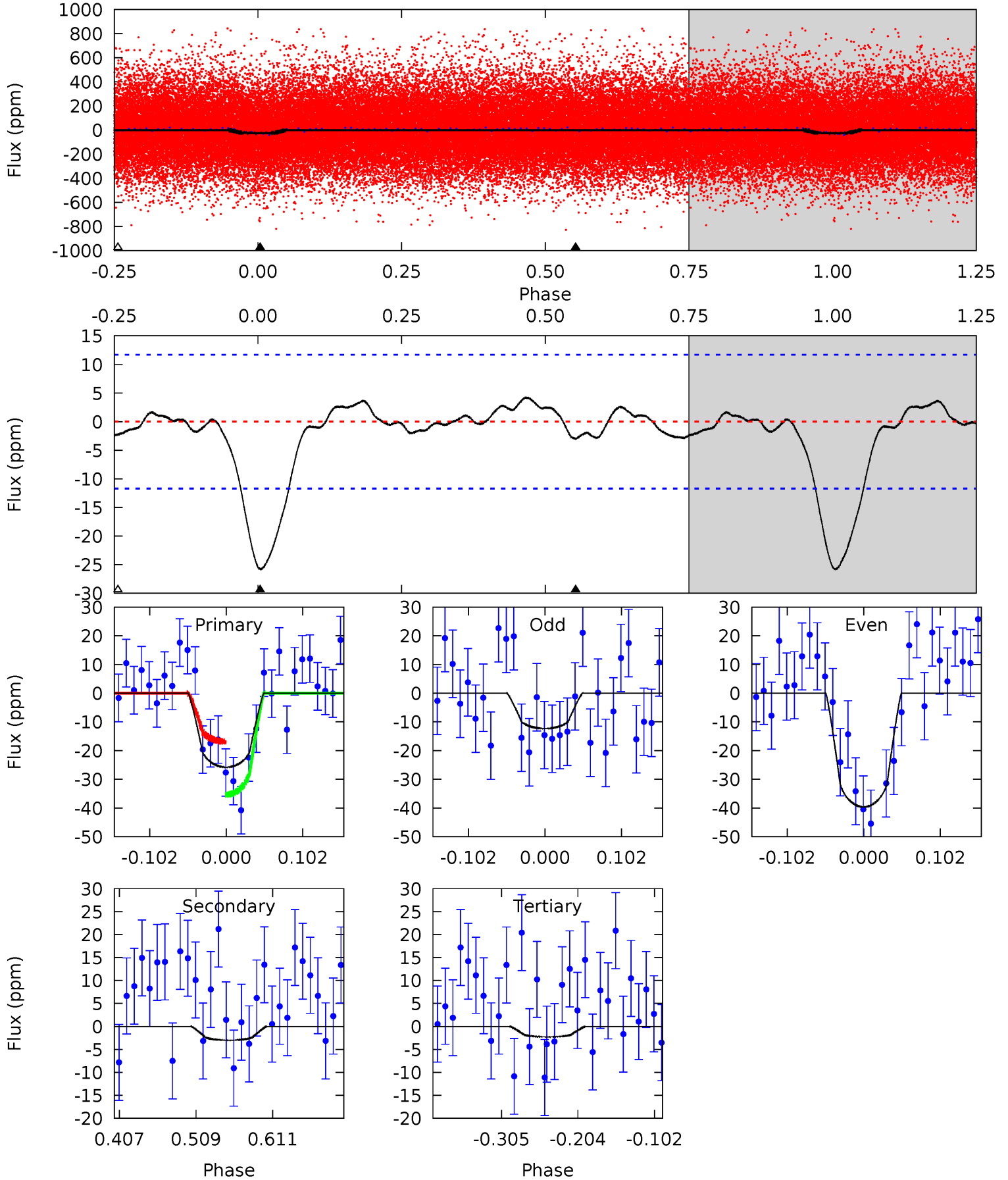
TCE 009641103-01 P= 1.089054 Days $T_0=132.041811$ (BKJD)



DV Model-Shift Uniqueness Test

009641103-01, P = 1.089038 Days, E = 130.957675 Days

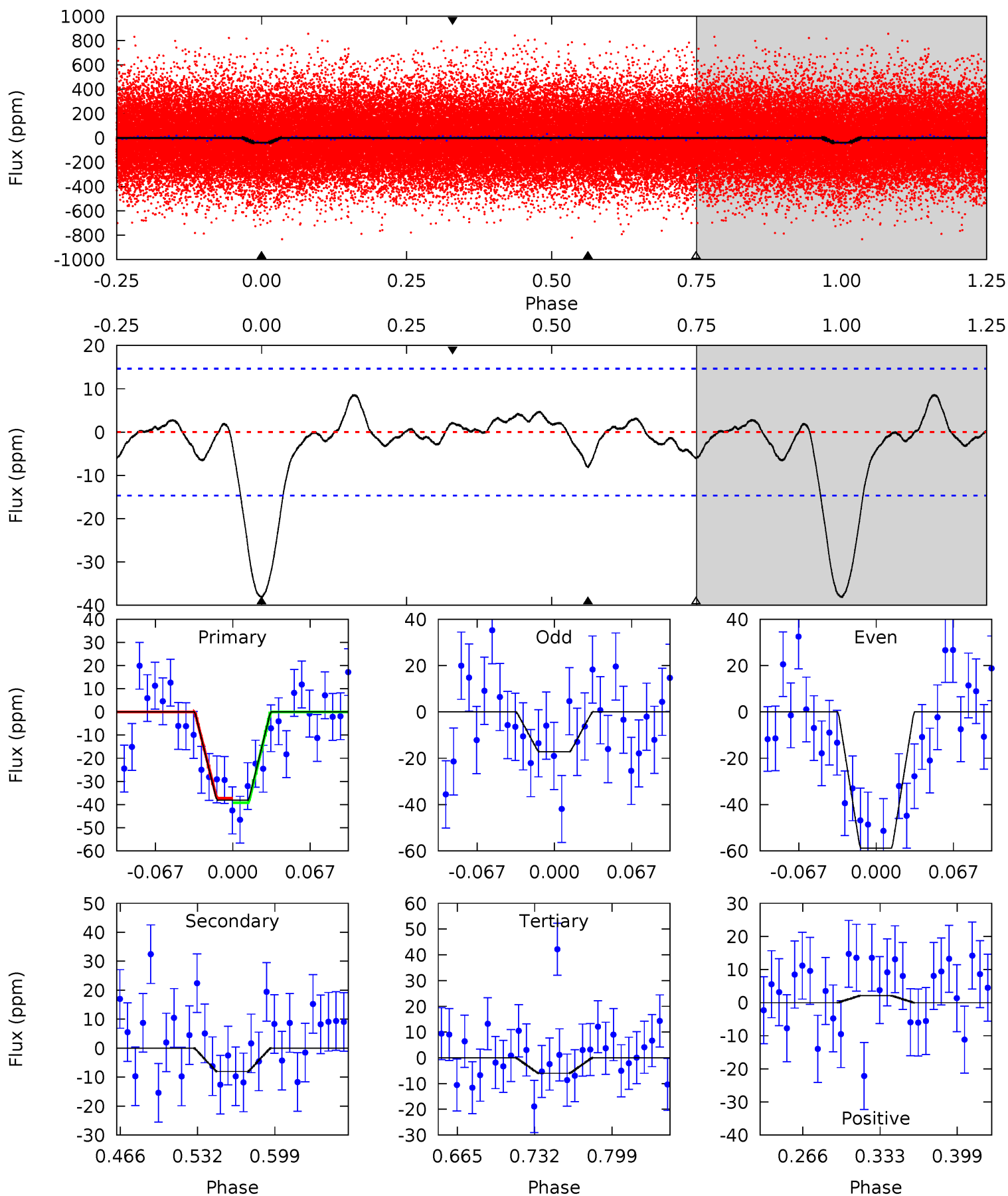
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	1.17	0.89	0	4.56	1.64	0.63	9.18	10.1	0.28	1.17	5.32	1.14	0.14	3.61



Alt Model-Shift Uniqueness Test

009641103-01, P = 1.089054 Days, E = 130.952757 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	2.56	1.90	0.67	4.65	1.83	0.92	10.2	11.4	0.66	1.90	6.62	1.09	0.18	0.30



Stellar Parameters For KIC 009641103

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5096^{+153}_{-138}	$4.582^{+0.050}_{-0.061}$	$-0.200^{+0.300}_{-0.300}$	$0.737^{+0.081}_{-0.066}$	$0.758^{+0.081}_{-0.066}$	$2.663^{+0.616}_{-0.598}$
	+3%/-3%	+1%/-1%	+150%/-150%	+11%/-9%	+11%/-9%	+23%/-22%
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 009641103-01 / KOI 7212.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3 ± 3	$0.51^{+0.33}_{-0.29}$	1965^{+76}_{-65}	3068^{+1110}_{-1319}	$1.996^{+9.700}_{-1.683}$
Alt.	-8 ± 3	$0.57^{+0.32}_{-0.33}$	1972^{+70}_{-68}	3590^{+1363}_{-620}	$4.739^{+21.726}_{-3.130}$

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

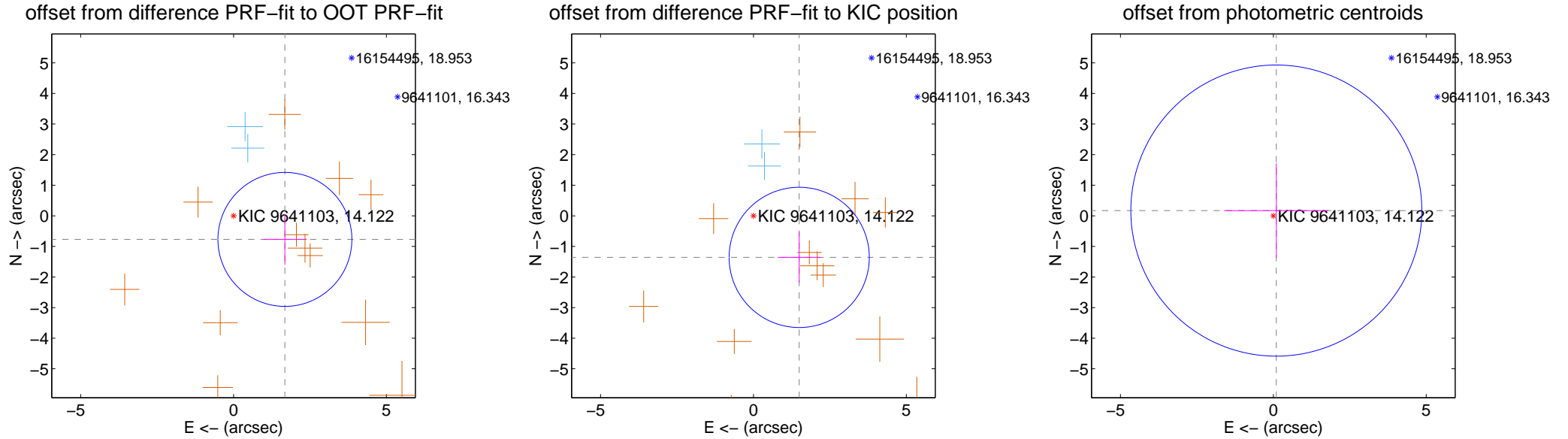
DV Centroid Data

Supplemental centroid analysis for 009641103-01. Kepler magnitude: 14.12. Transit SNR 7.52

There are 2 quarters with good PRF difference image offsets

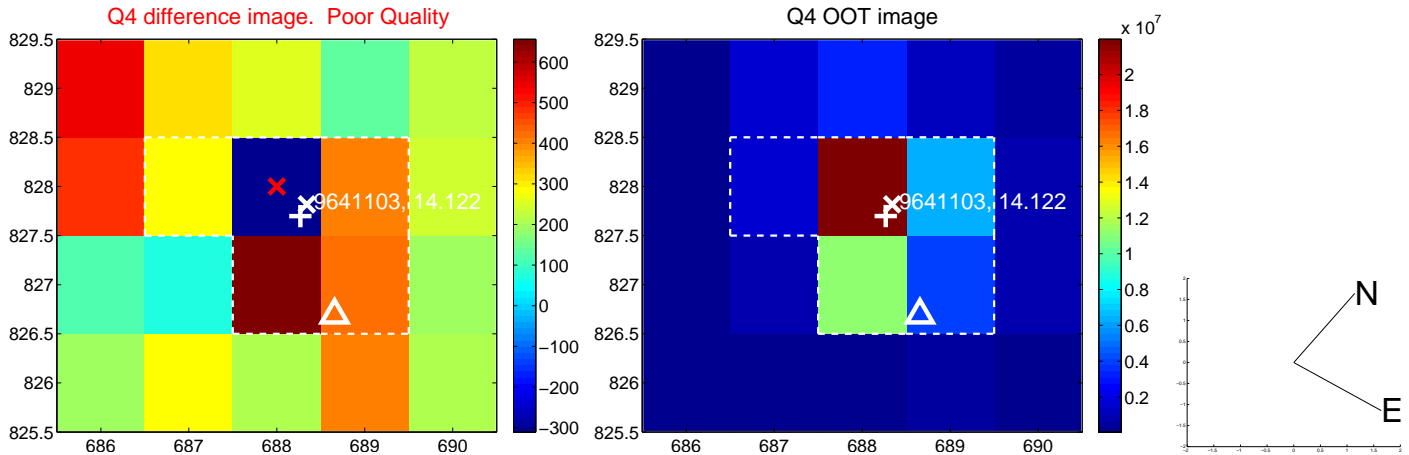
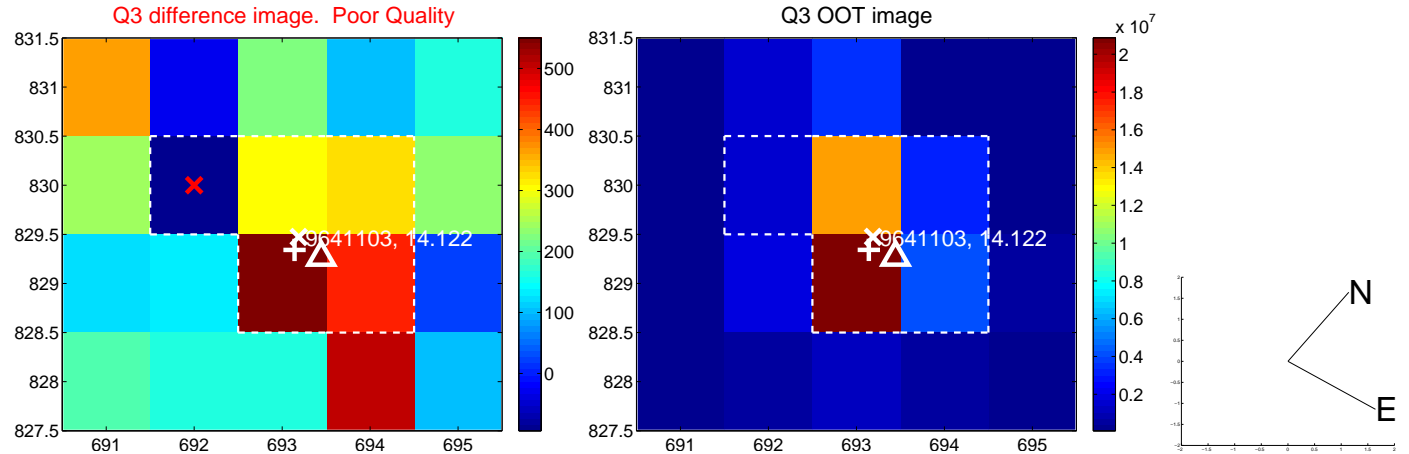
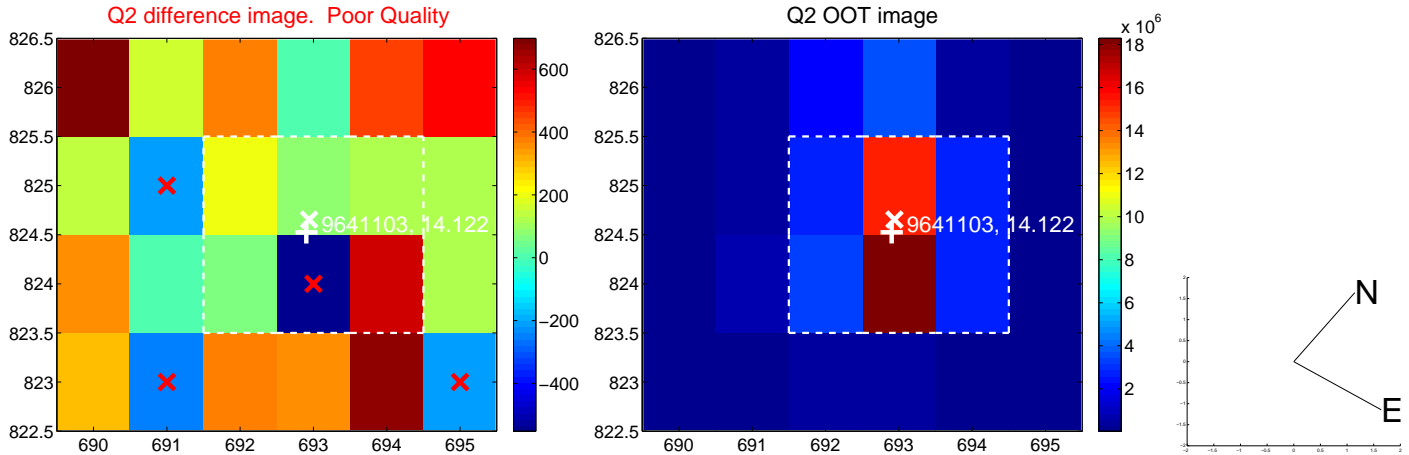
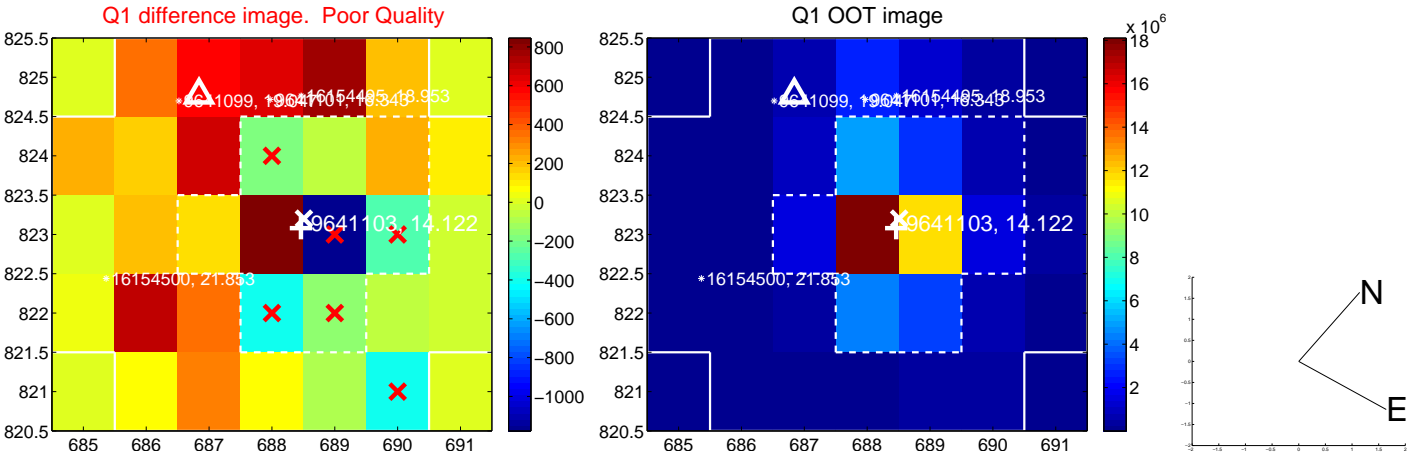
The direct PRF centroid is offset from the target star catalog position by about 0.72 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.848 ± 0.730	2.53	-1.680 ± 0.707	-0.770 ± 0.829
PRF-fit source offset from KIC position	2.022 ± 0.764	2.65	-1.497 ± 0.702	-1.359 ± 0.833
photometric centroid source offset	0.20 ± 1.59	0.12	-0.10 ± 1.70	0.17 ± 1.54

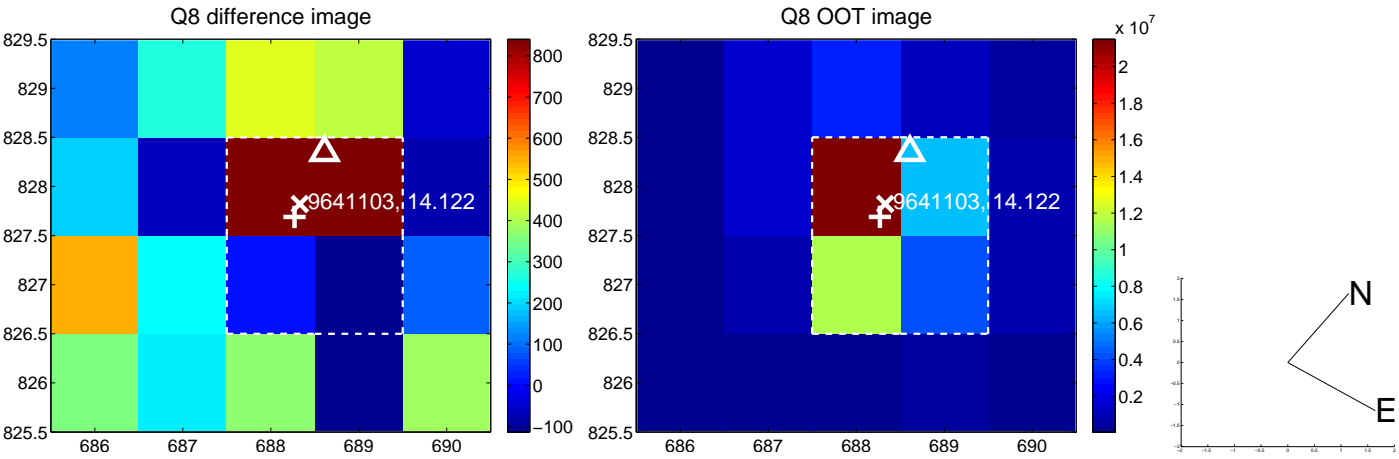
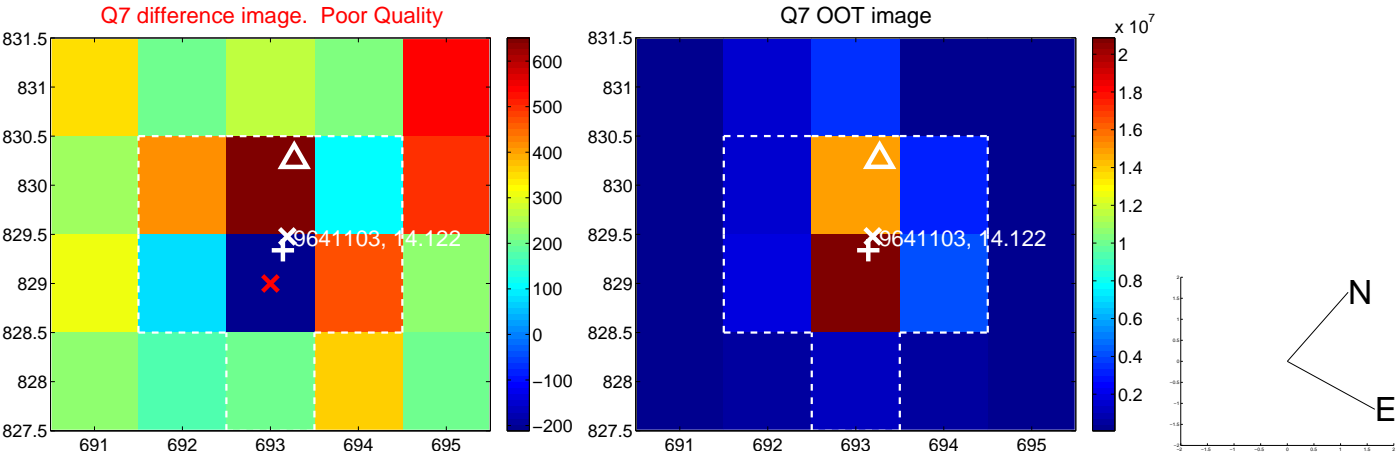
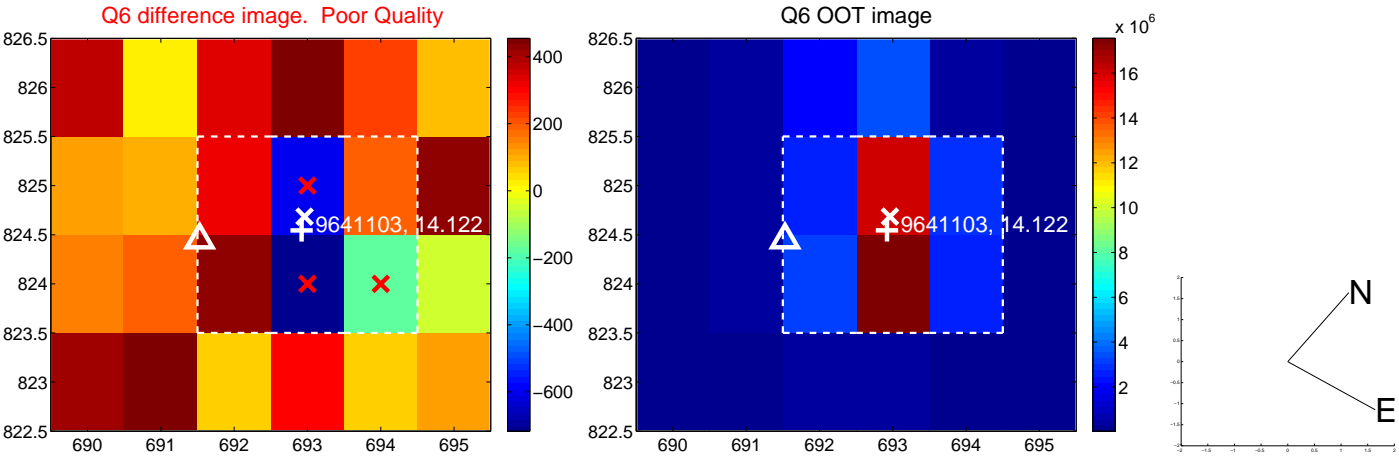
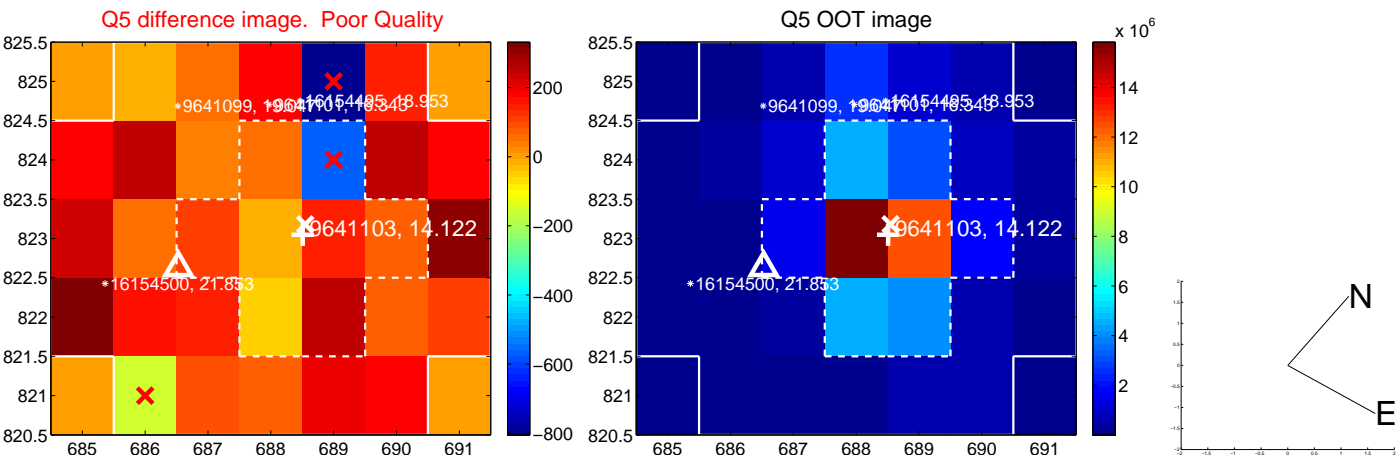


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

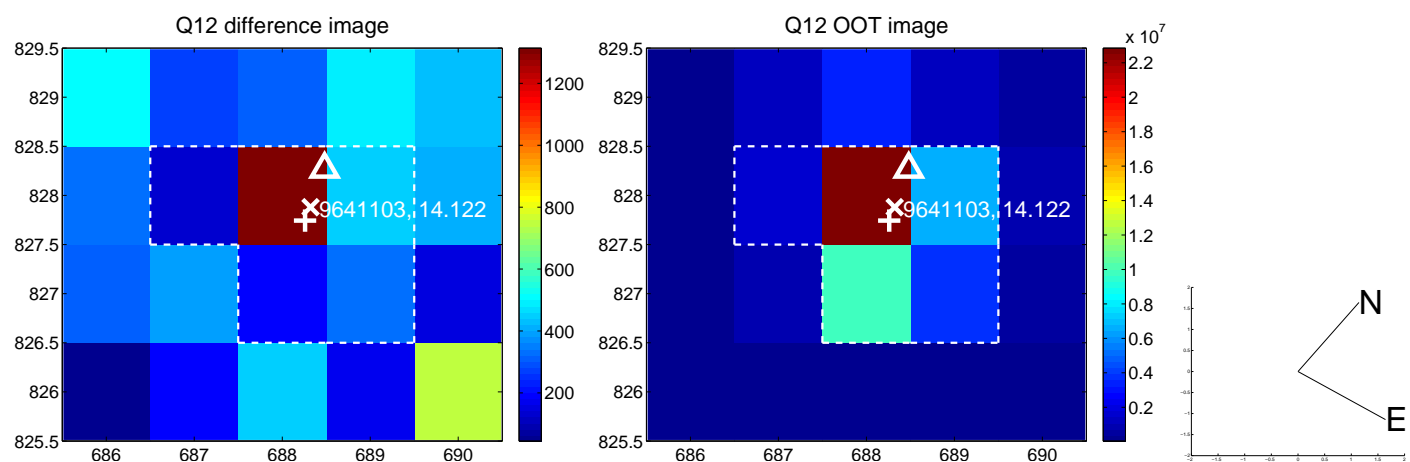
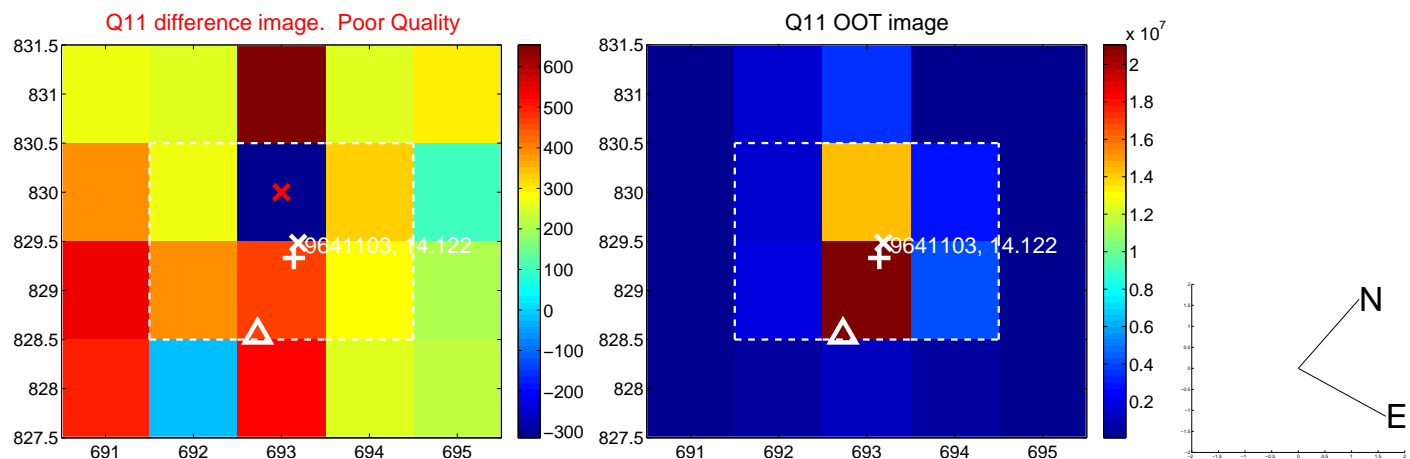
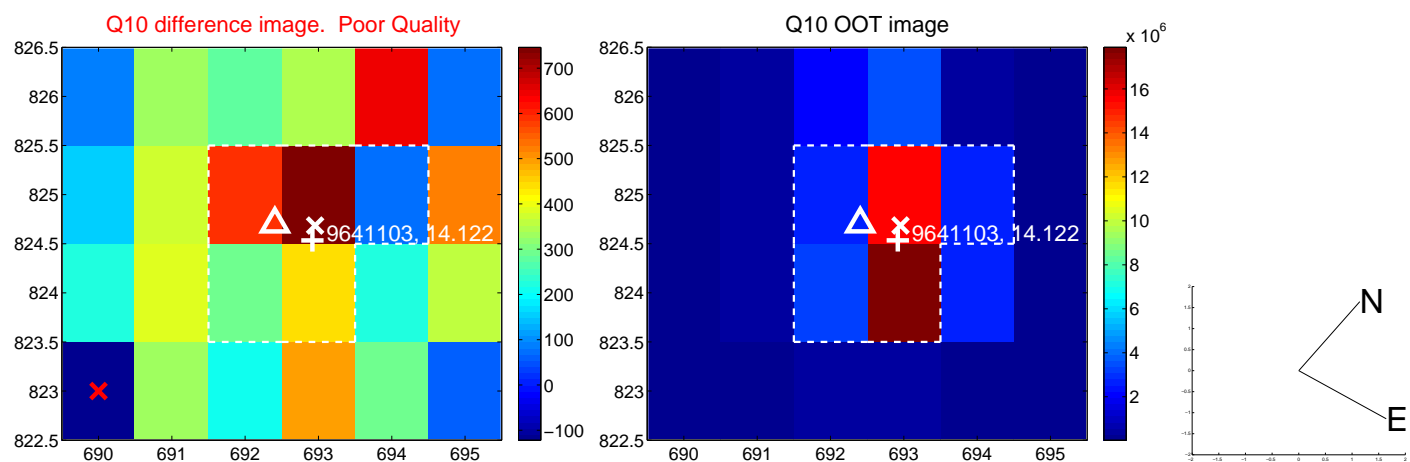
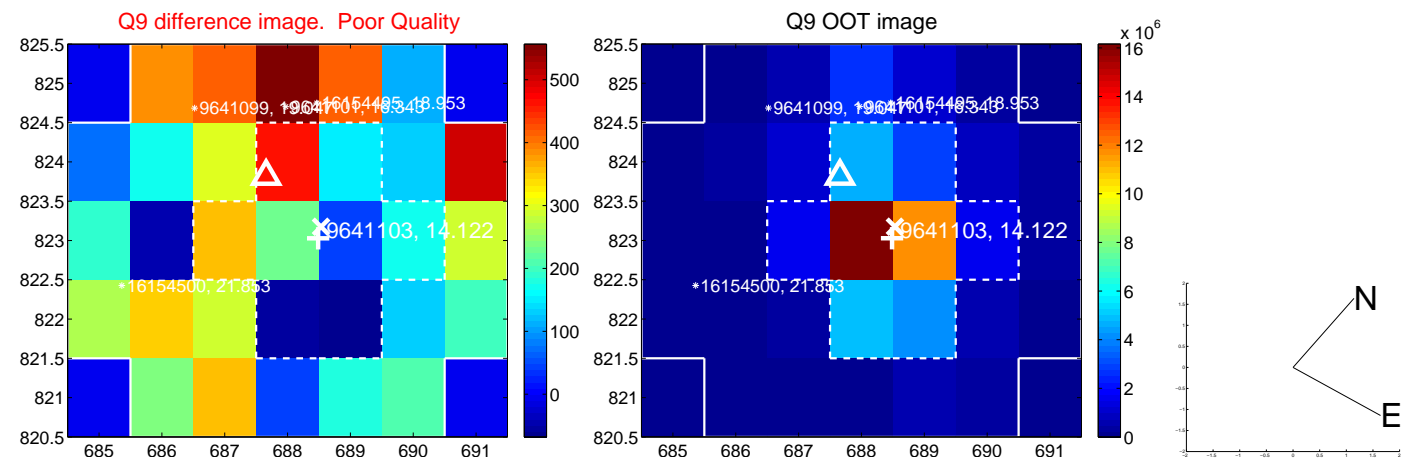
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



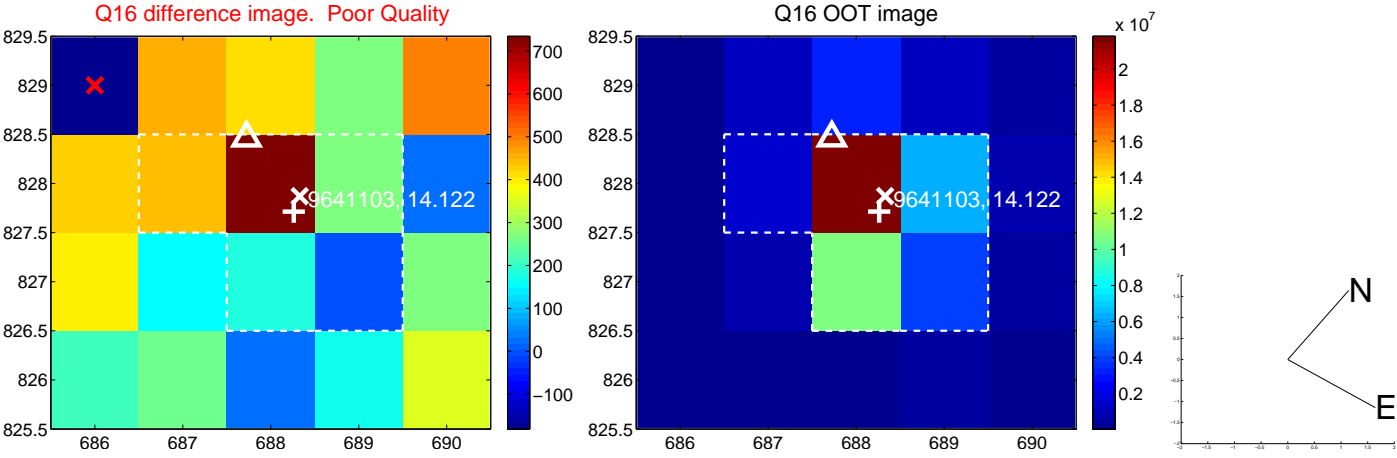
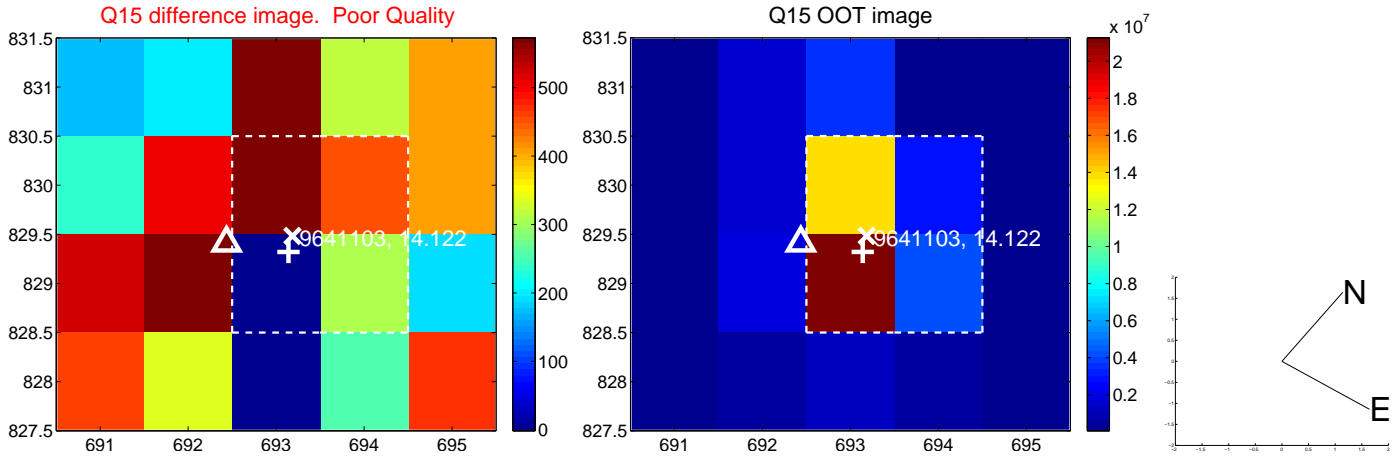
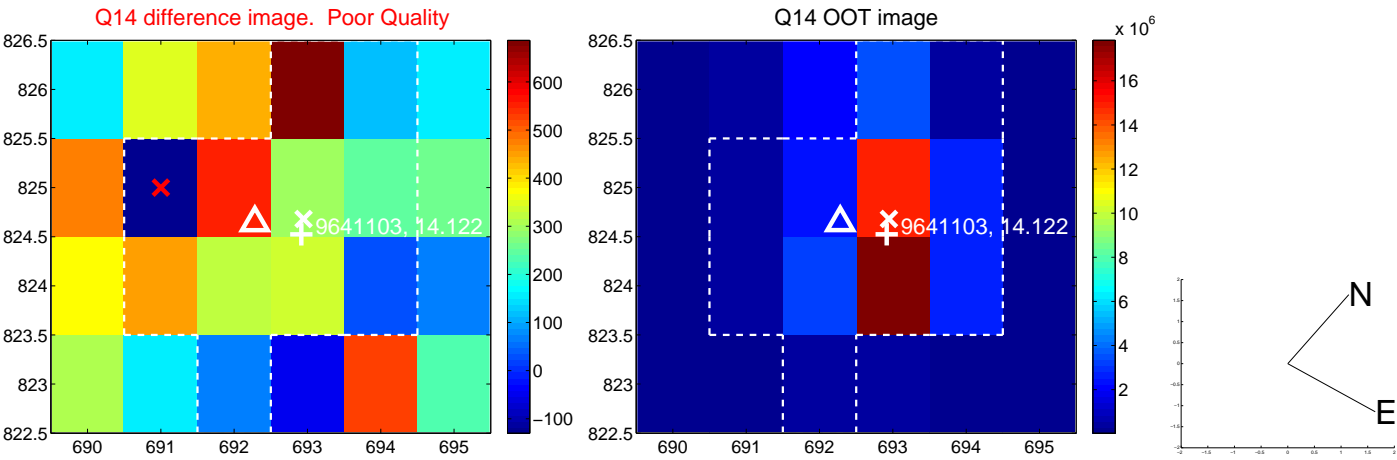
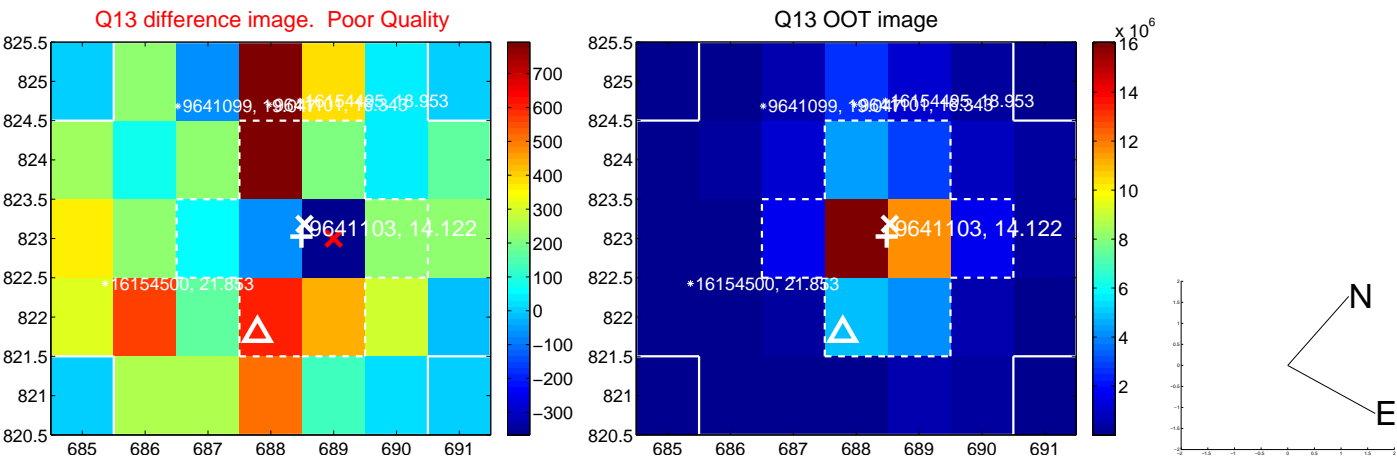
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



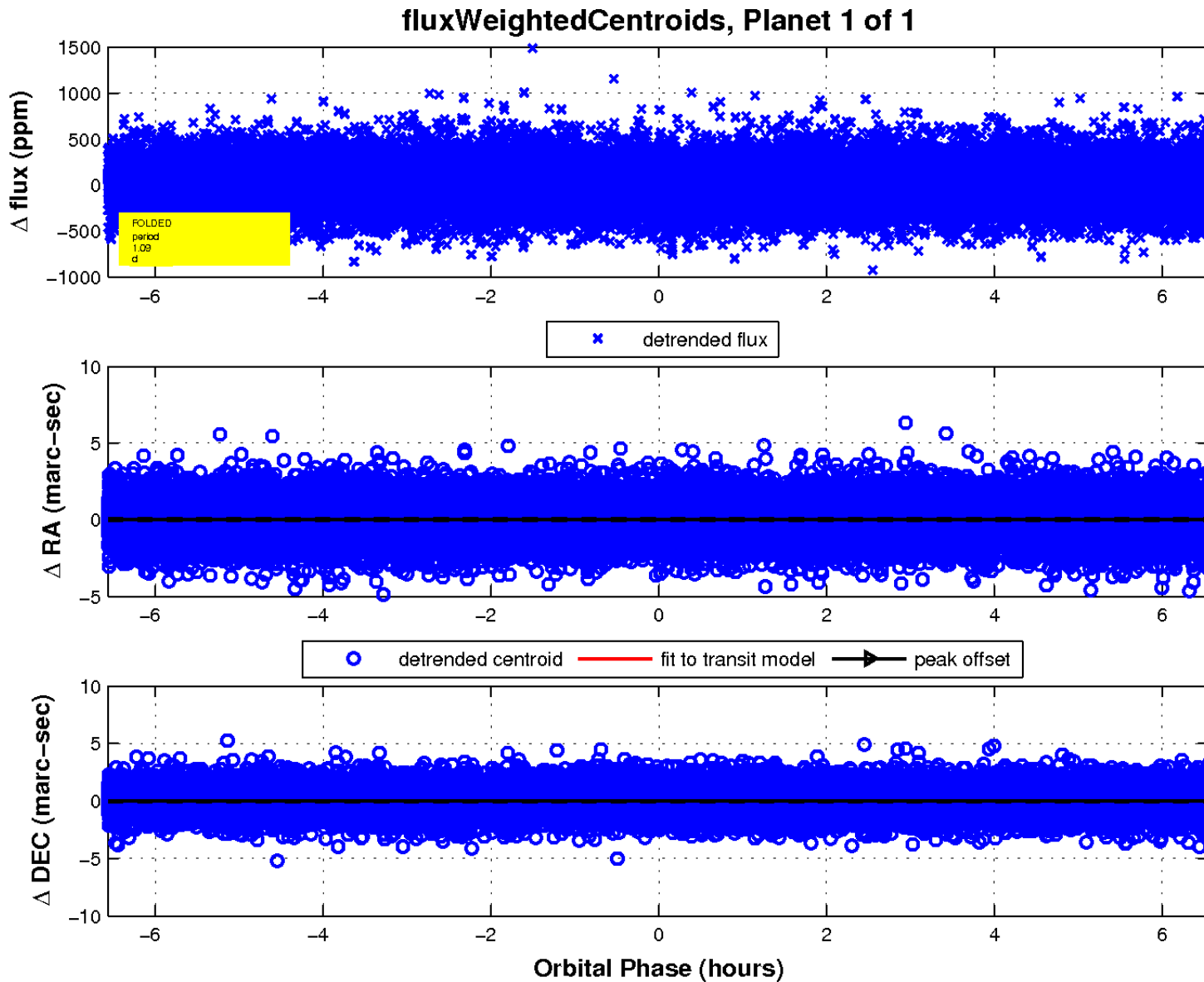
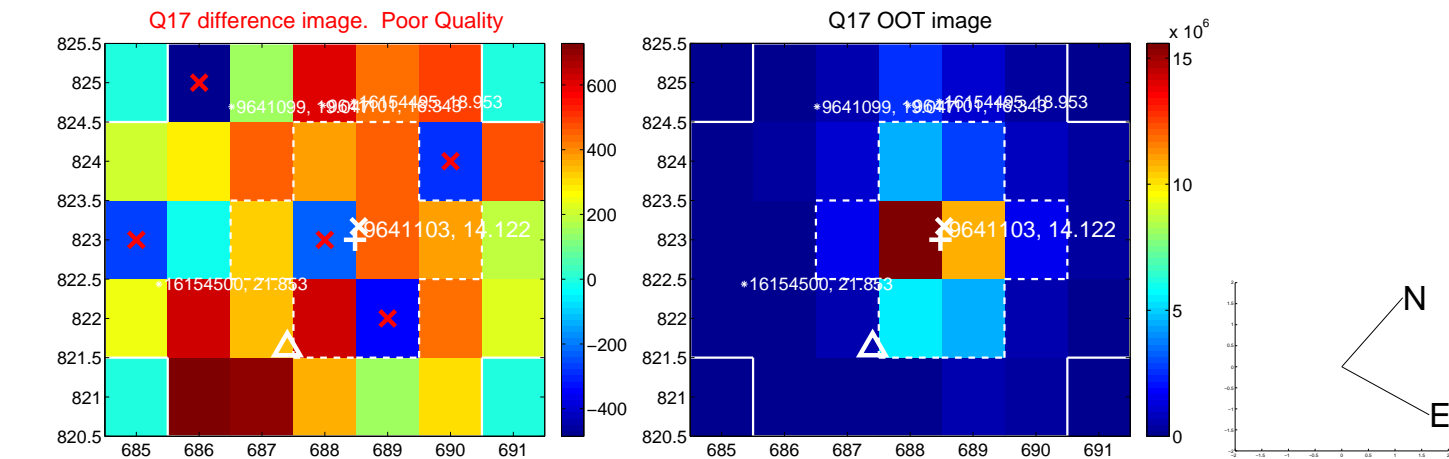
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UKIRT Image

