

KIC 004848321

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})
004848321-01	OBS	4573.01	1.501789	131.564926	73.1	3.073	10.7	11.2	0.99	5964	0.99	1620.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004848321-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—HALO_GHOST—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.

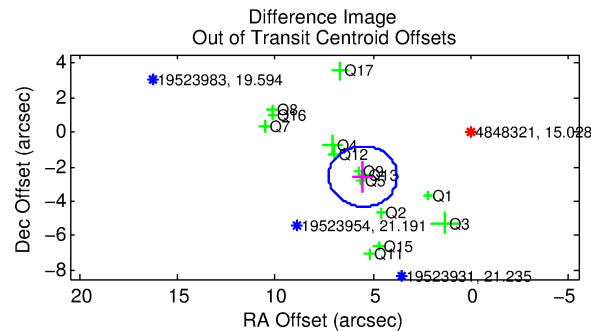
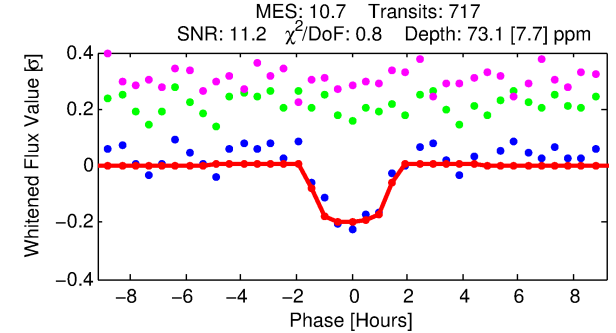
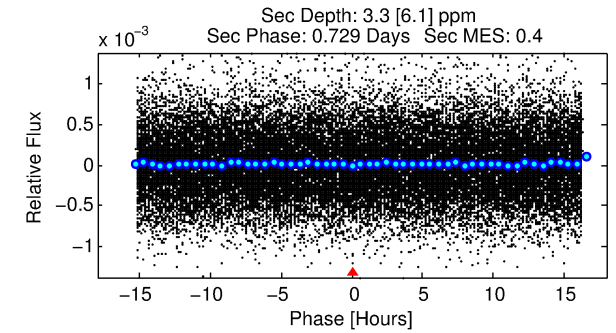
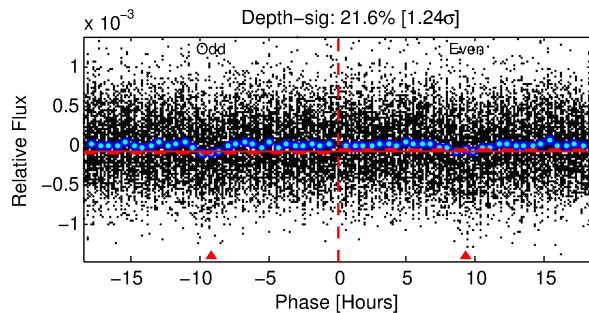
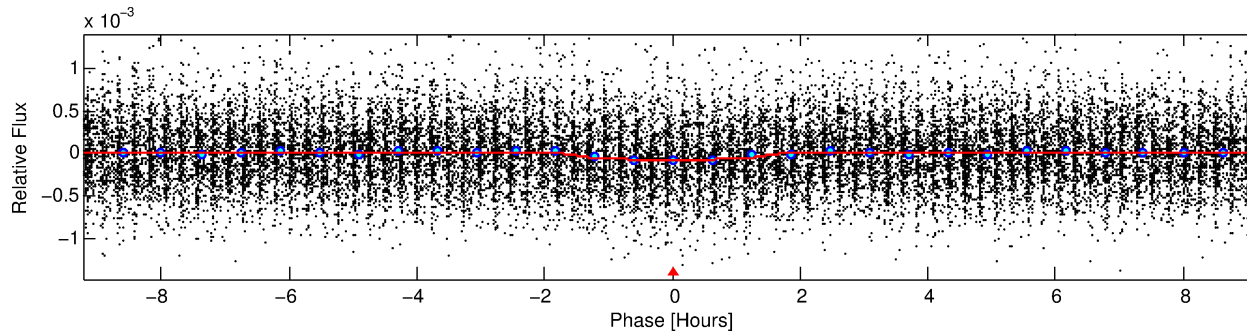
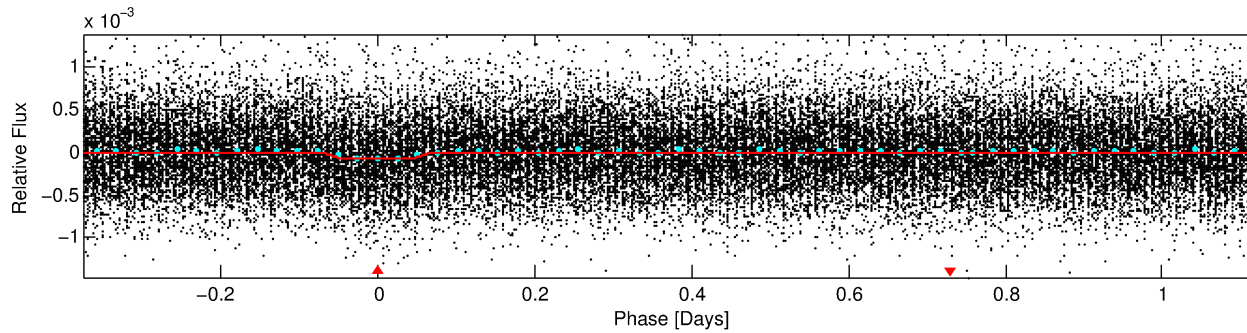
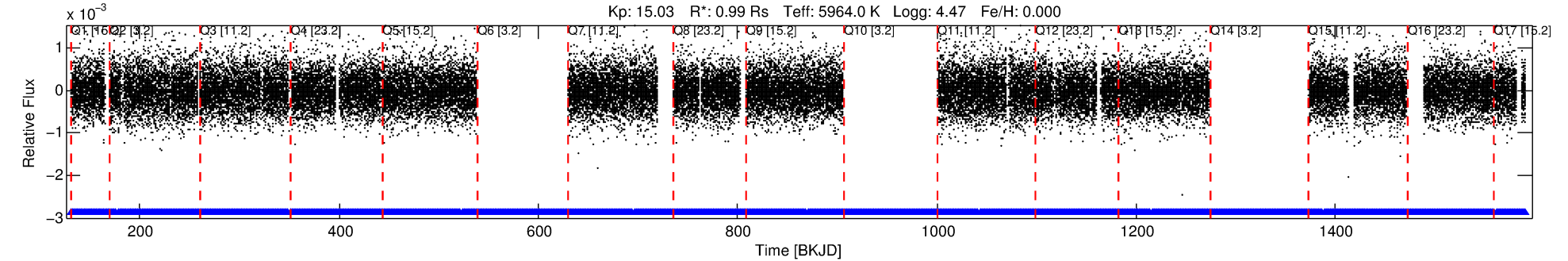
Ephemeris Match Information For 004848321-01

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
004848321-01	4848321	004848423-01	4848423	1:1	87.0	-21	5	11.82	15.02	5561.00	Direct-PRF	0	2.16	1.70

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: 4848321 Candidate: 1 of 1 Period: 1.502 d
KOI: K04573.01 Corr: 0.950



DV Fit Results:

Period = 1.50179 [0.00001] d
Epoch = 131.5649 [0.0038] BKJD
Rp/R* = 0.0092 [0.0054]
a/R* = 2.01 [4.50]
b = 0.89 [0.71]
Seff = 1620.98 [670.91]
Teq = 1618 [167] K
Rp = 0.99 [0.66] Re
a = 0.0261 [0.0069] AU
Ag = 1.25 [2.79] [0.09 σ]
Teffp = 2643 [1462] K [0.70 σ]

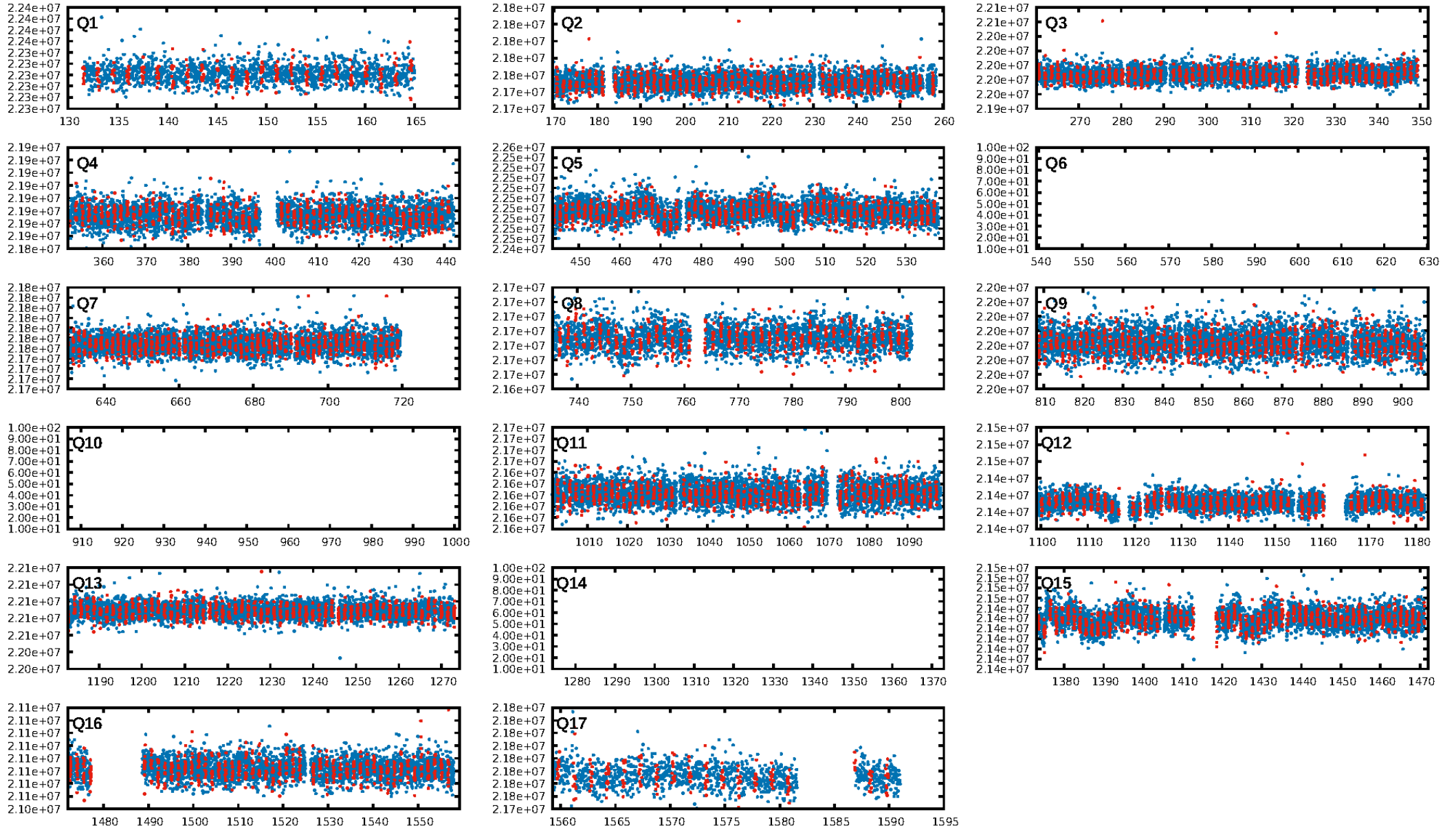
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.35e-28
RollingBand-fgt: 1.00 [676/676]
GhostDiagnostic-chr: -0.1349
Centroid-sig: 0.0%
Centroid-so: 11.797 arcsec [9.14 σ]
OotOffset-rm: 6.087 arcsec [10.42 σ]
KicOffset-rm: 6.051 arcsec [9.27 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.07 [1/14]
DiffImageOverlap-fno: 1.00 [14/14]

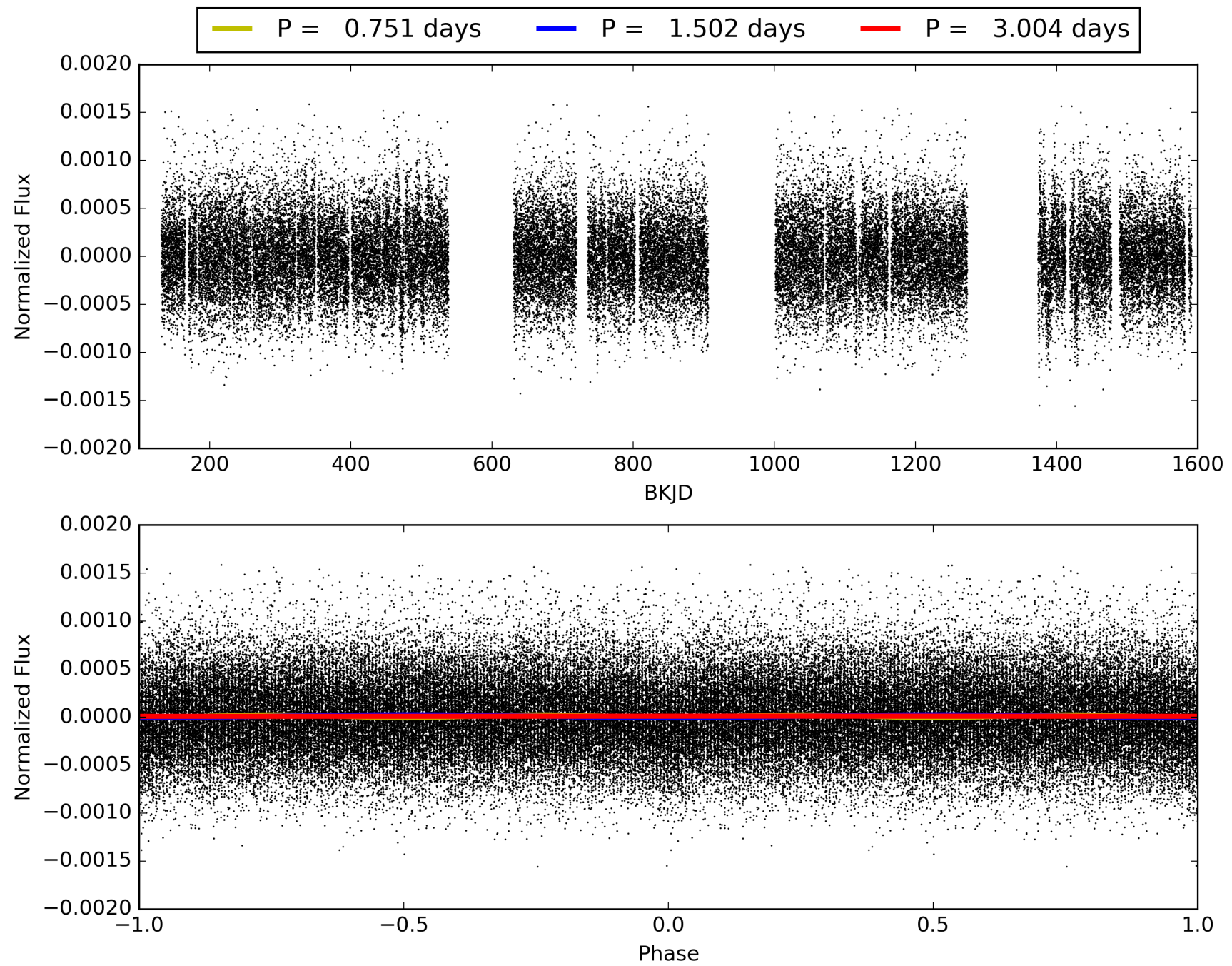
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:19:56 Z

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

TCE 004848321-01, PDC Light Curves

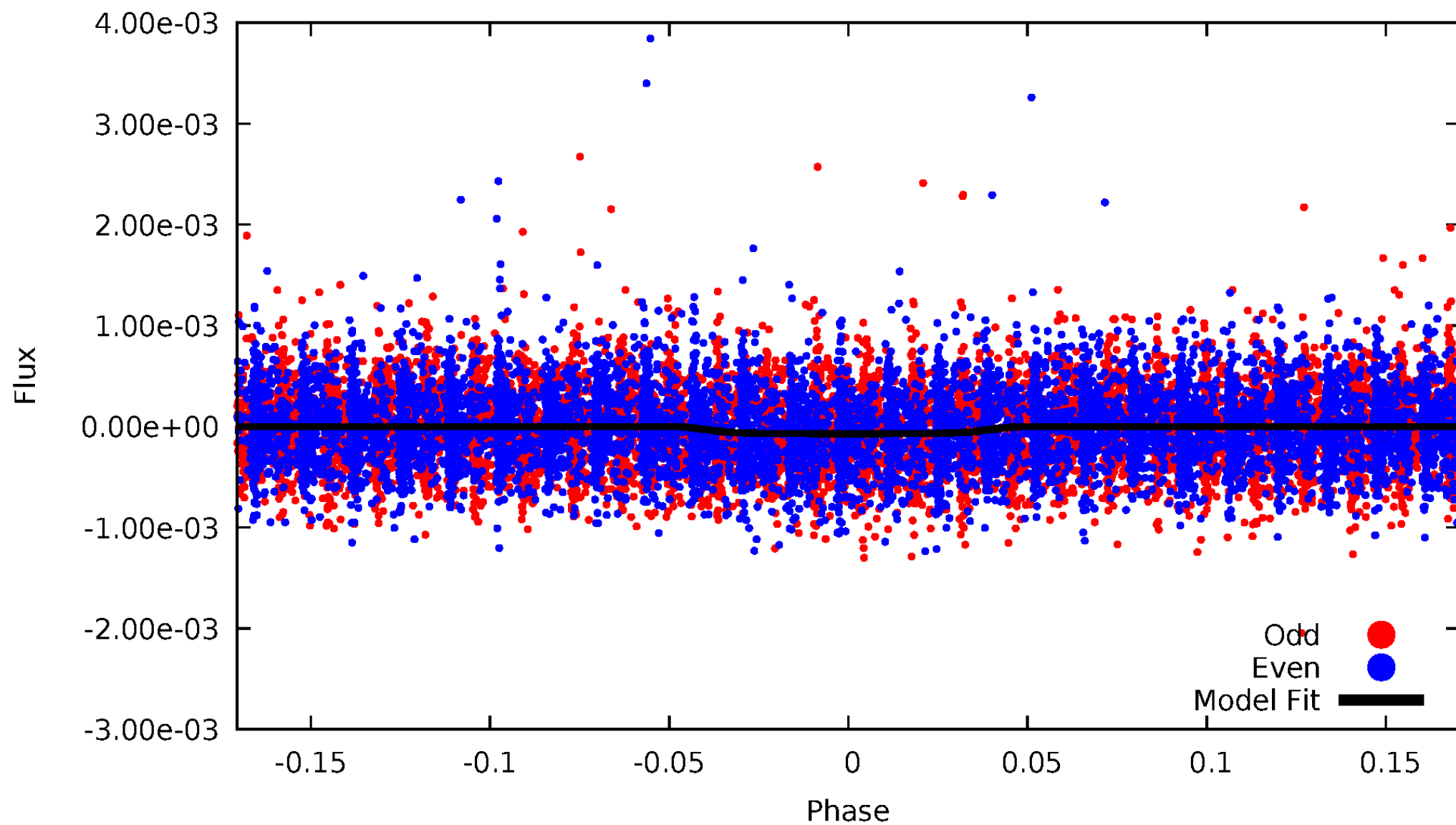


TCE 004848321-01



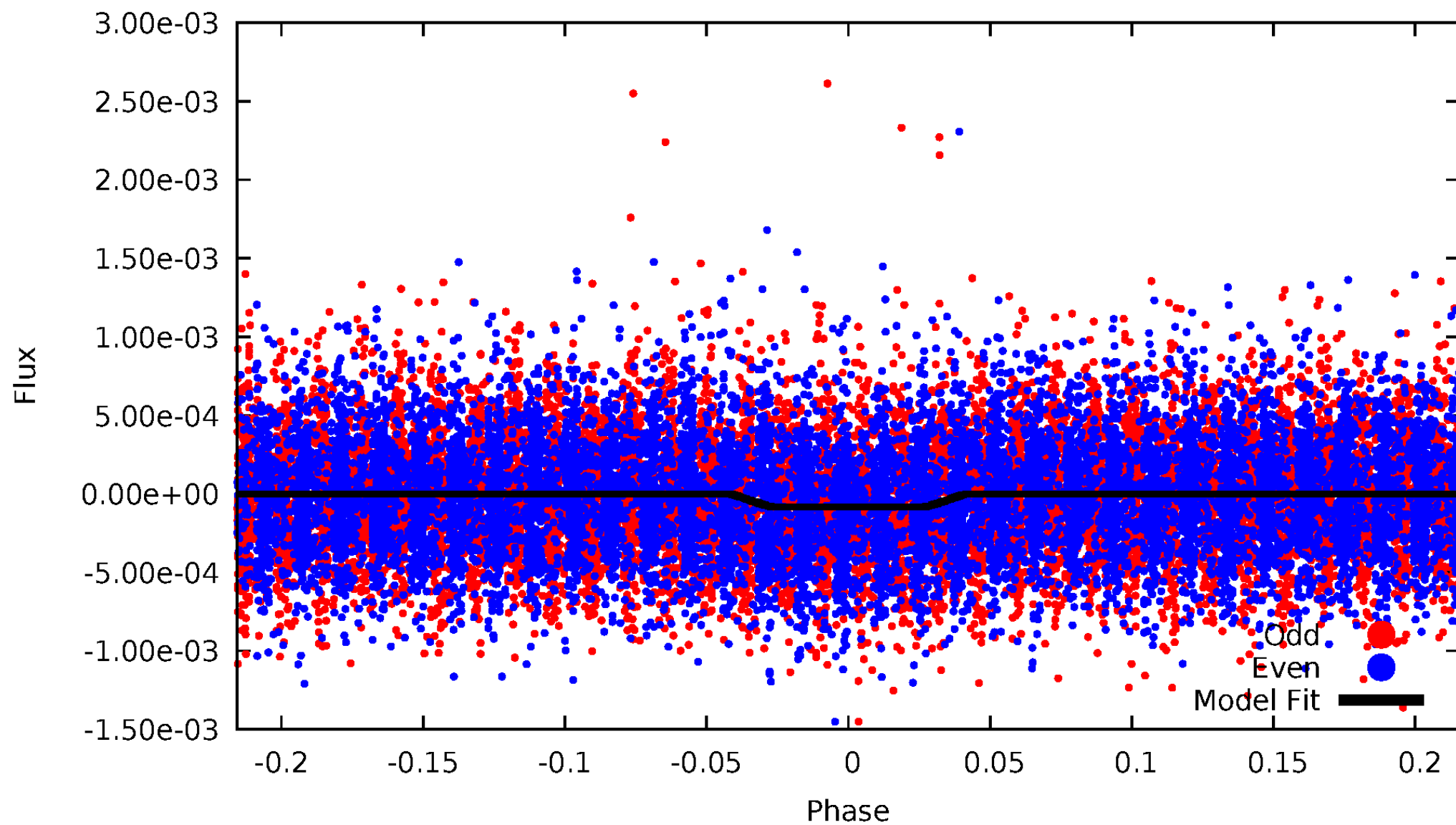
DV Odd/Even

TCE 004848321-01



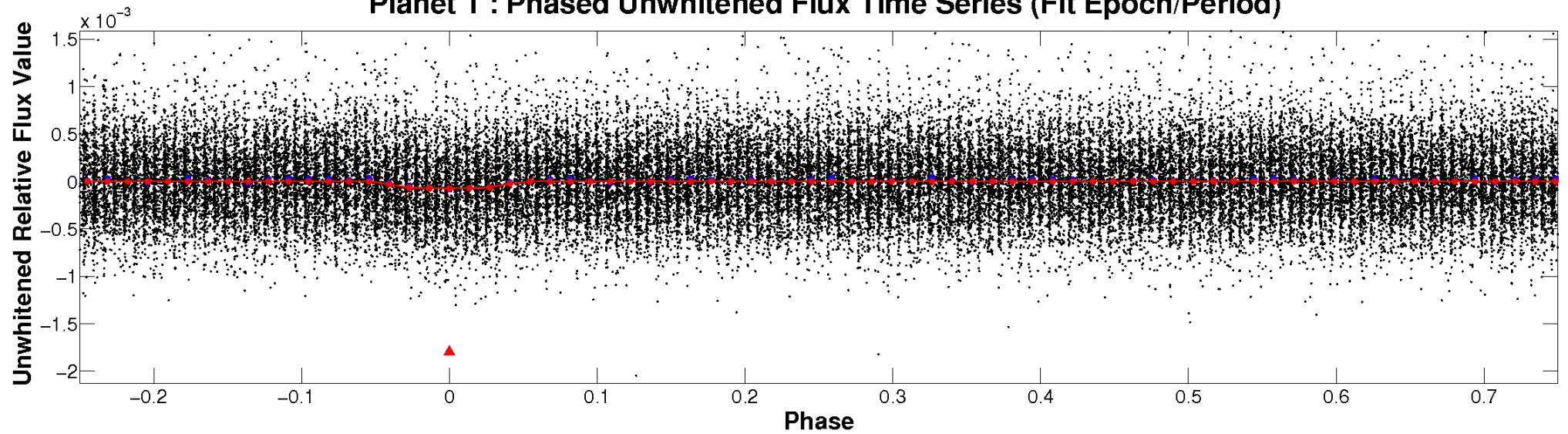
ALT Odd/Even

TCE 004848321-01

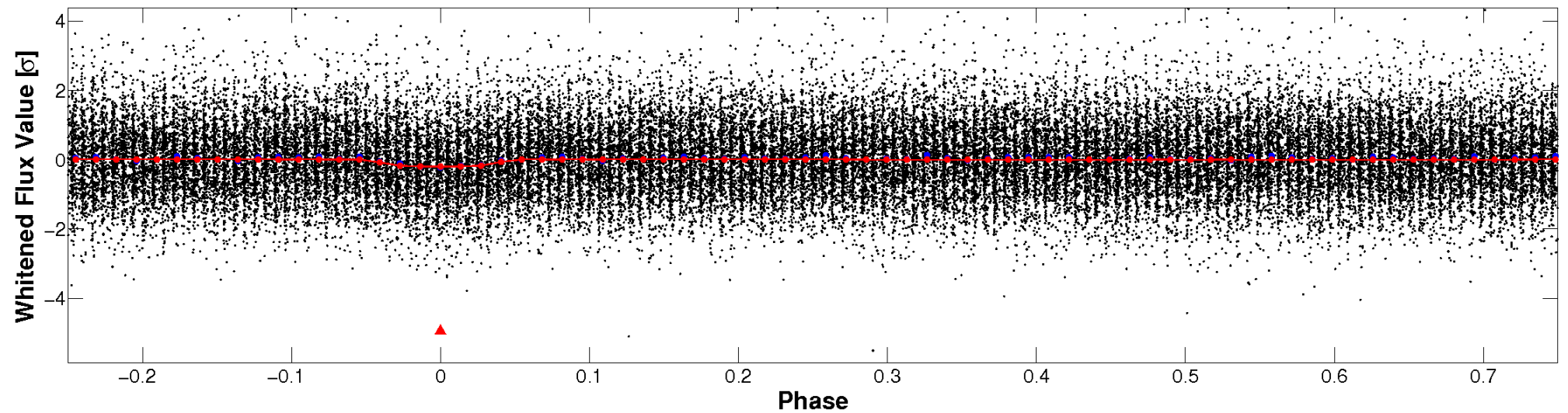


Non-Whitened Vs. Whitened Light Curve

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

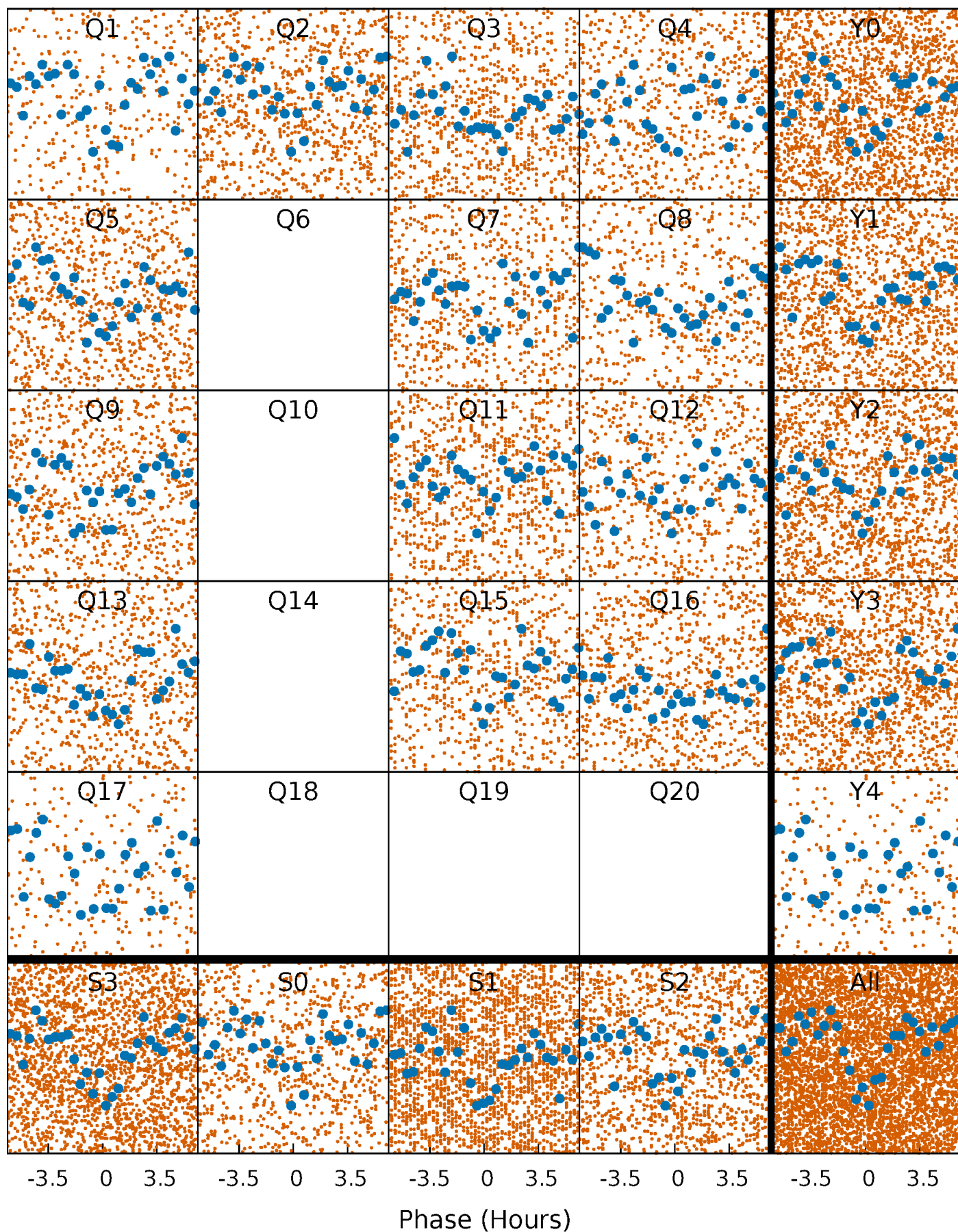


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



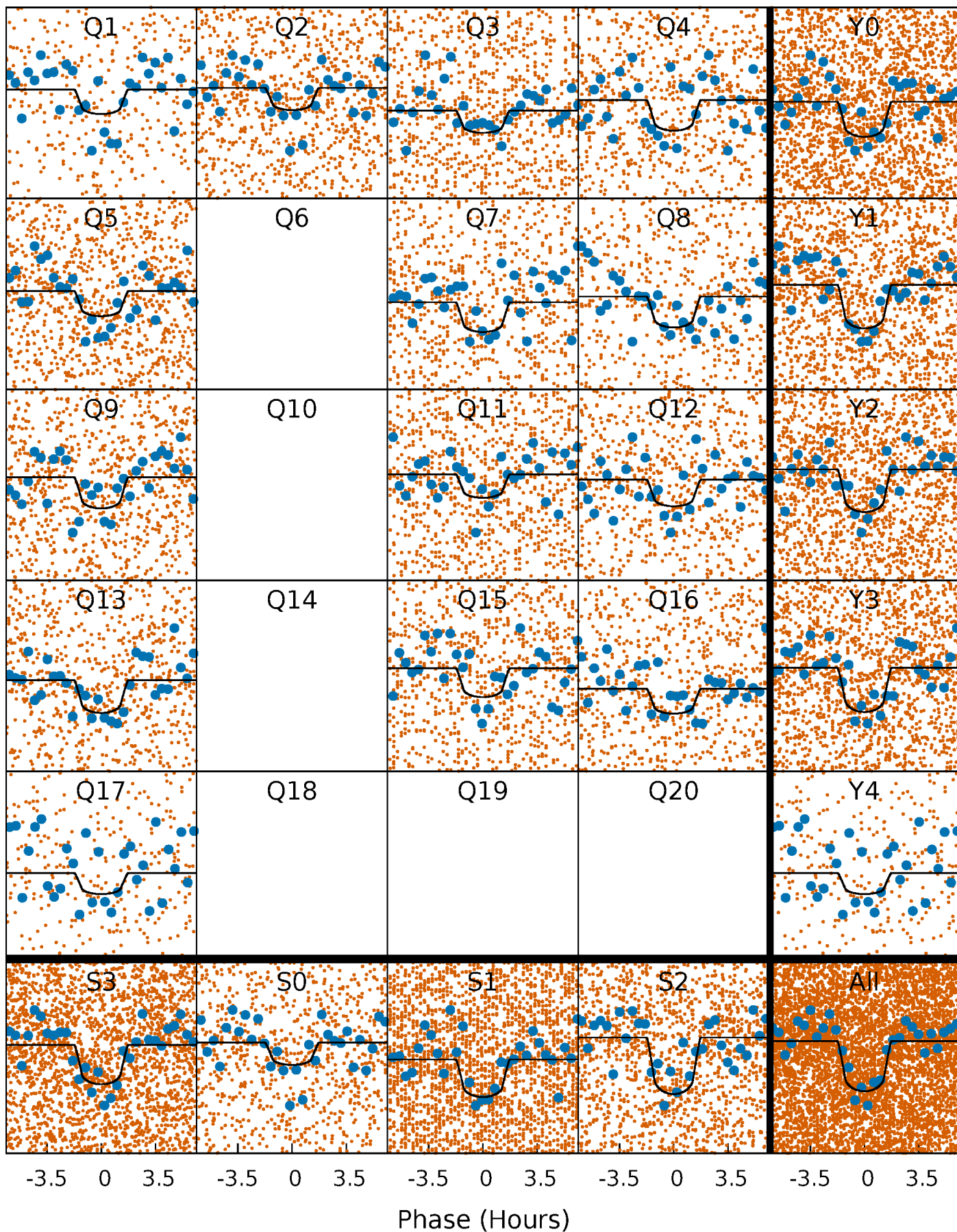
PDC Quarter-Phased Transit Curves

TCE 004848321-01 P= 1.501789 Days $T_0=131.564926$ (BKJD)



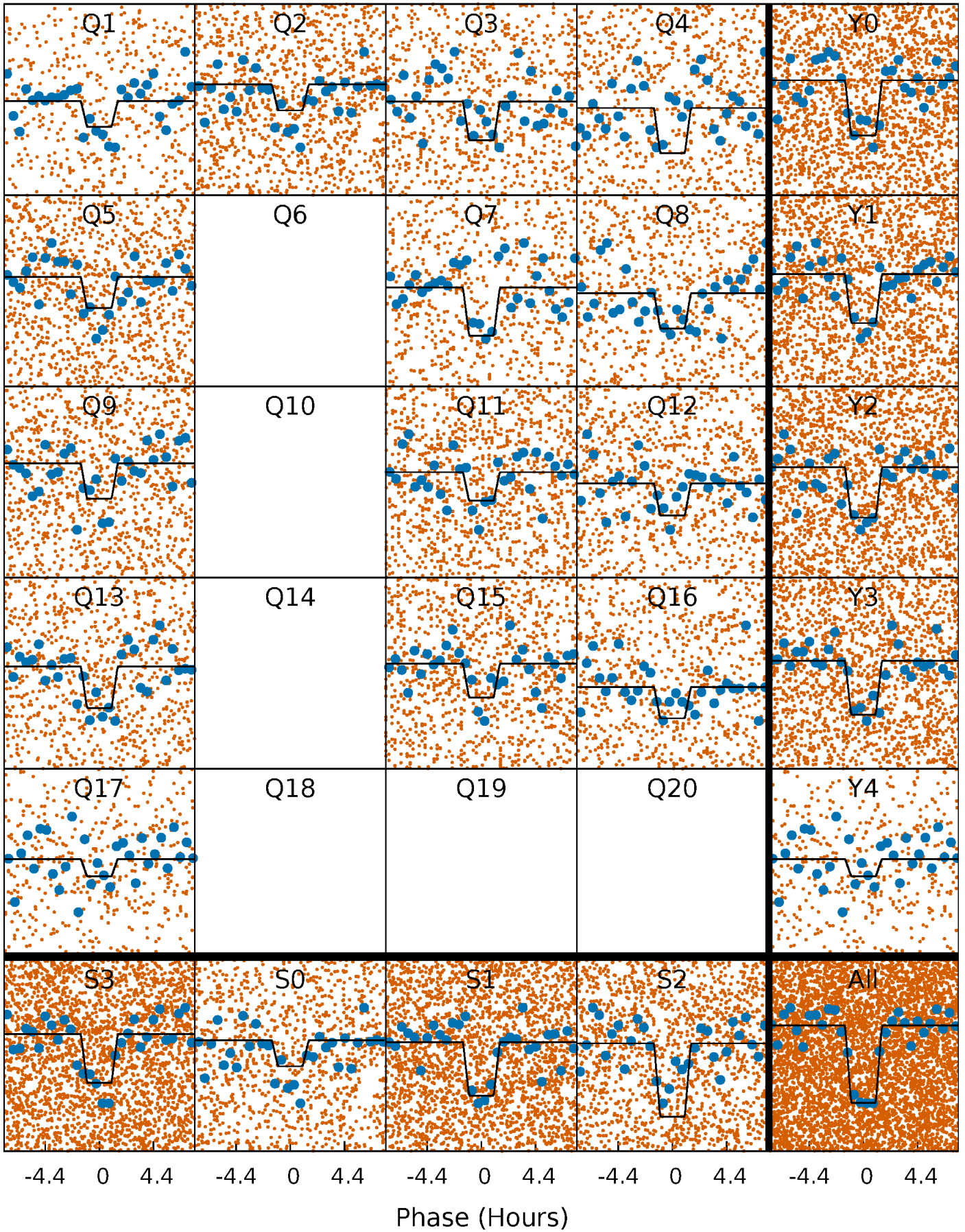
DV Quarter-Phased Transit Curves

TCE 004848321-01 P= 1.501789 Days $T_0=131.564926$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

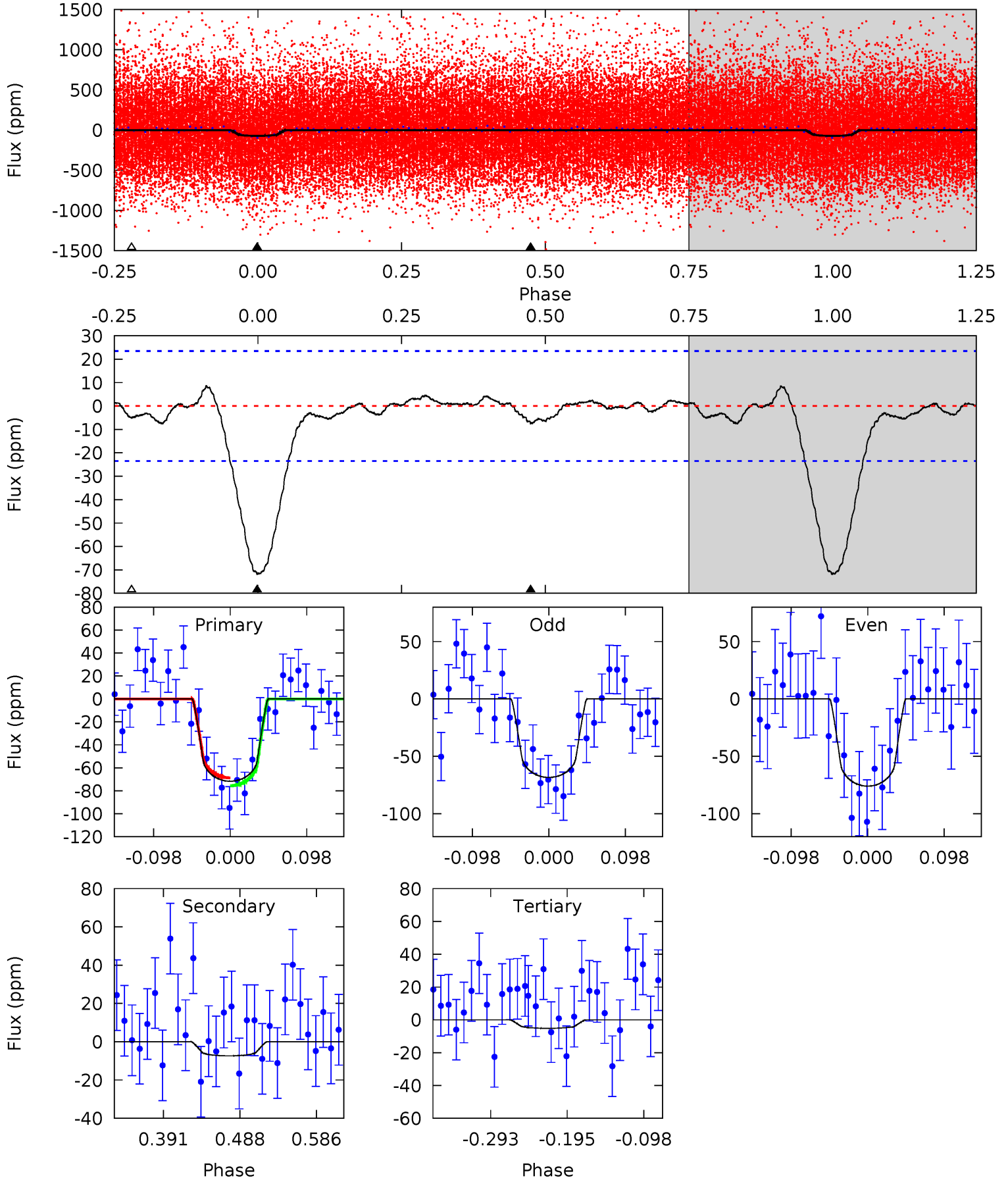
TCE 004848321-01 P= 1.501795 Days $T_0=131.562300$ (BKJD)



DV Model-Shift Uniqueness Test

004848321-01, P = 1.501789 Days, E = 130.063137 Days

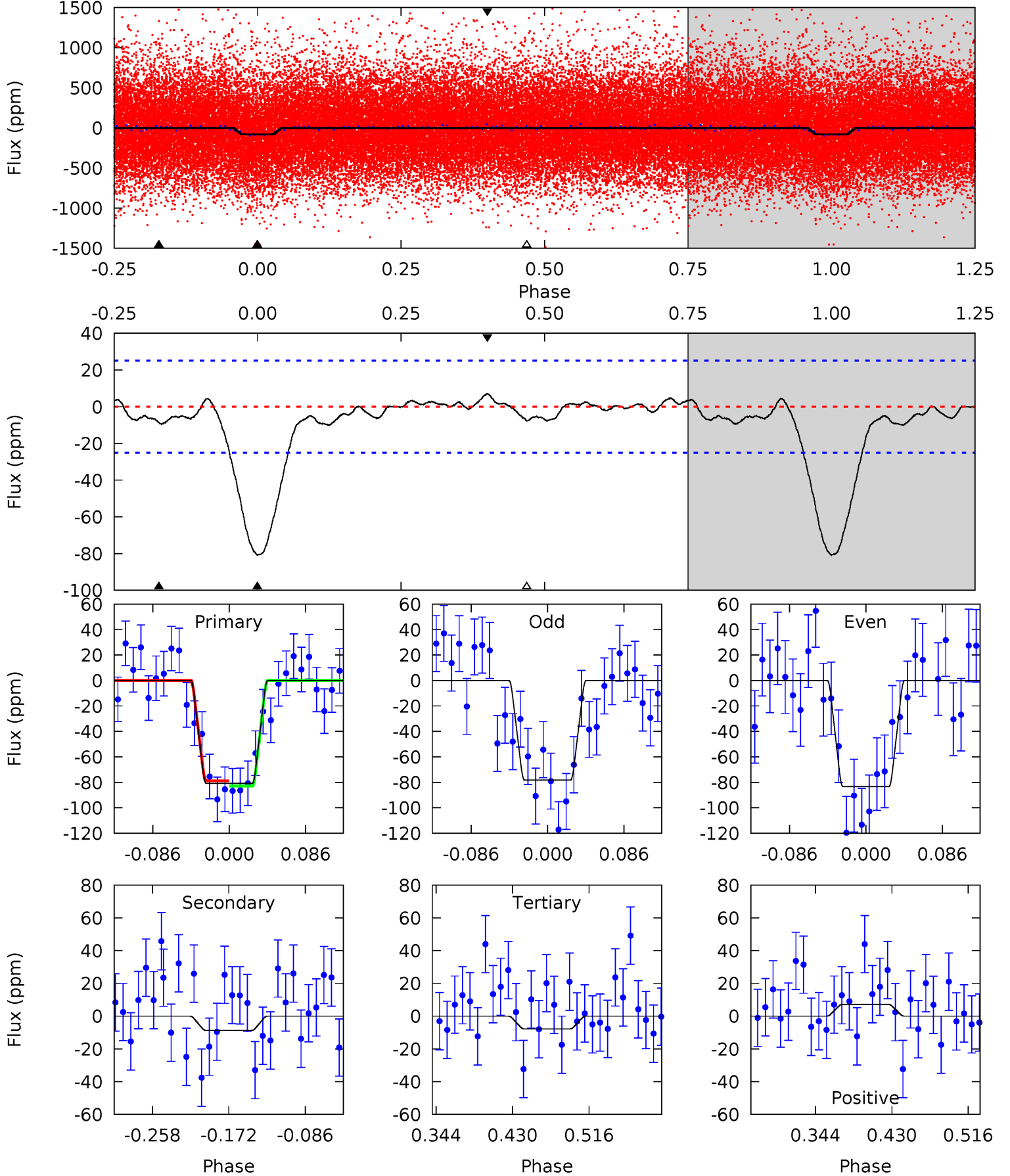
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	1.44	1.00	0	4.57	1.66	0.50	12.9	13.9	0.44	1.44	0.74	0.86	0.11	0.67



Alt Model-Shift Uniqueness Test

004848321-01, P = 1.501795 Days, E = 130.060505 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	1.59	1.43	1.32	4.60	1.72	0.68	13.4	13.5	0.17	0.27	0.47	0.95	0.08	0.37



Stellar Parameters For KIC 004848321

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5964^{+184}_{-226}	$4.471^{+0.056}_{-0.210}$	$0.000^{+0.250}_{-0.300}$	$0.987^{+0.312}_{-0.104}$	$1.049^{+0.138}_{-0.138}$	$1.540^{+0.457}_{-0.835}$
	+3%/-4%	+1%/-5%	+inf%/-inf%	+32%/-11%	+13%/-13%	+30%/-54%
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 004848321-01 / KOI 4573.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7 ± 5	$1.04^{+0.64}_{-0.58}$	2307^{+161}_{-122}	3485^{+1326}_{-969}	$2.181^{+9.527}_{-1.702}$
Alt.	-9 ± 5	$1.02^{+0.62}_{-0.55}$	2320^{+160}_{-134}	3629^{+1332}_{-845}	$2.721^{+11.699}_{-2.061}$

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 $A_{obs} \gg 1.0$

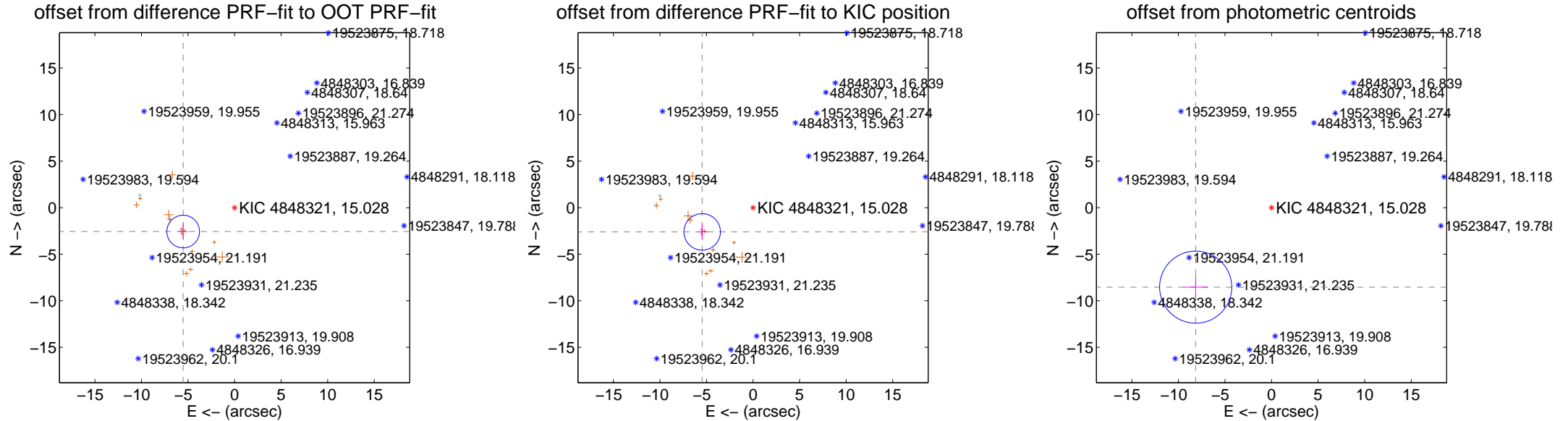
DV Centroid Data

Supplemental centroid analysis for 004848321-01. Kepler magnitude: 15.03. Transit SNR 11.18

There are 1 quarters with good PRF difference image offsets

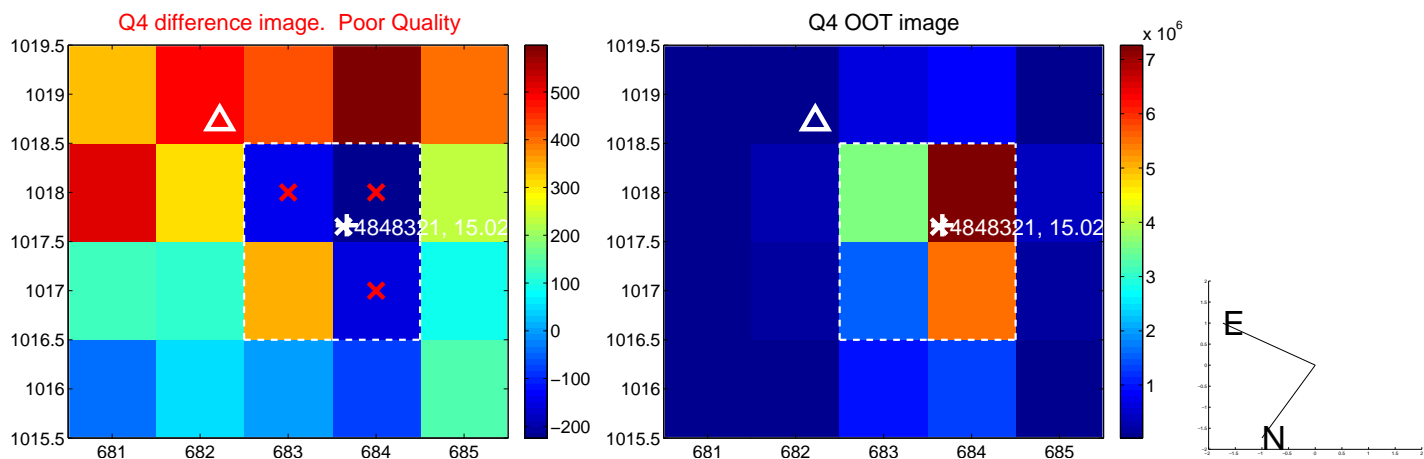
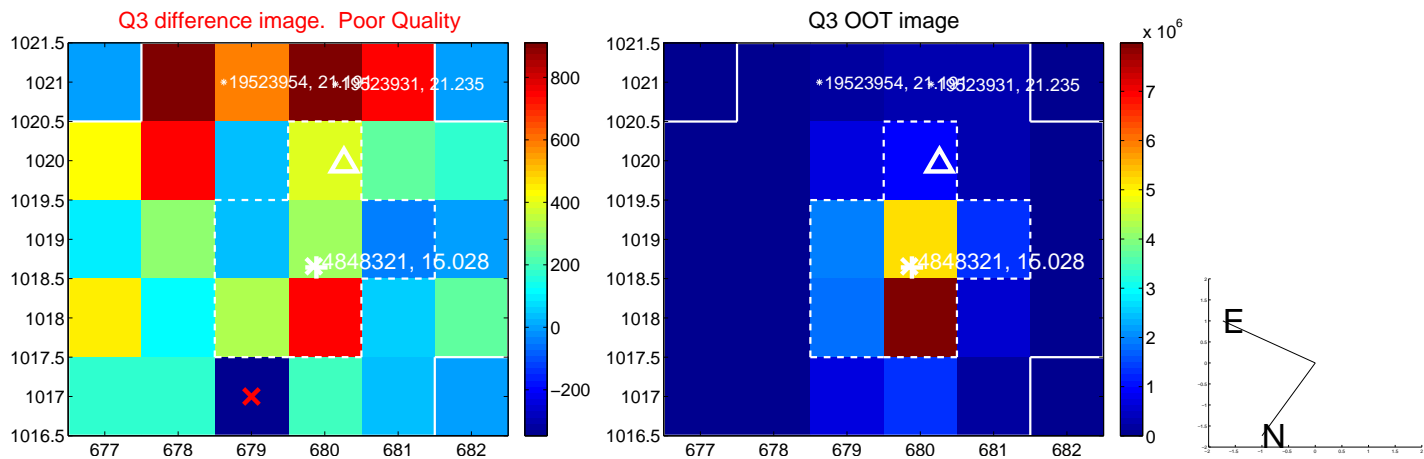
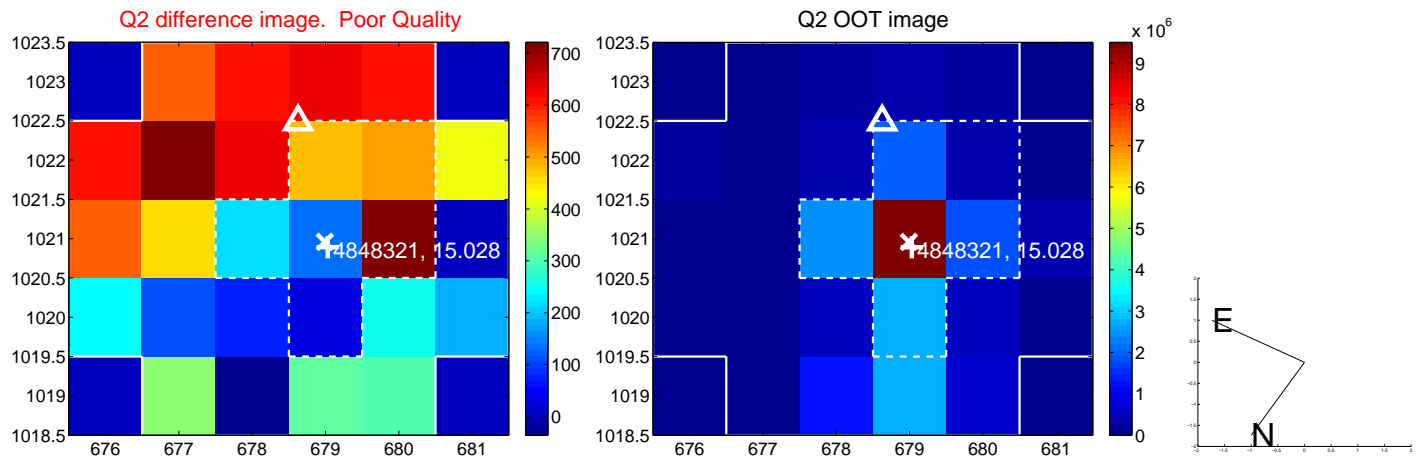
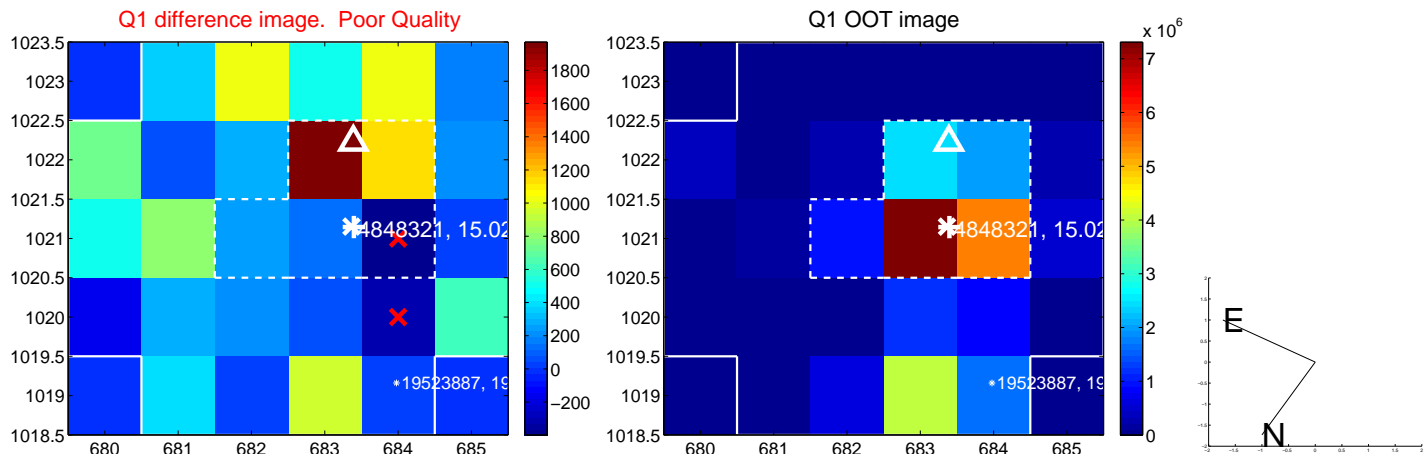
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.087 ± 0.584	10.42	5.521 ± 0.504	-2.563 ± 0.865
PRF-fit source offset from KIC position	6.051 ± 0.653	9.27	5.464 ± 0.598	-2.601 ± 0.855
photometric centroid source offset	11.80 ± 1.29	9.14	8.14 ± 1.34	-8.54 ± 1.25

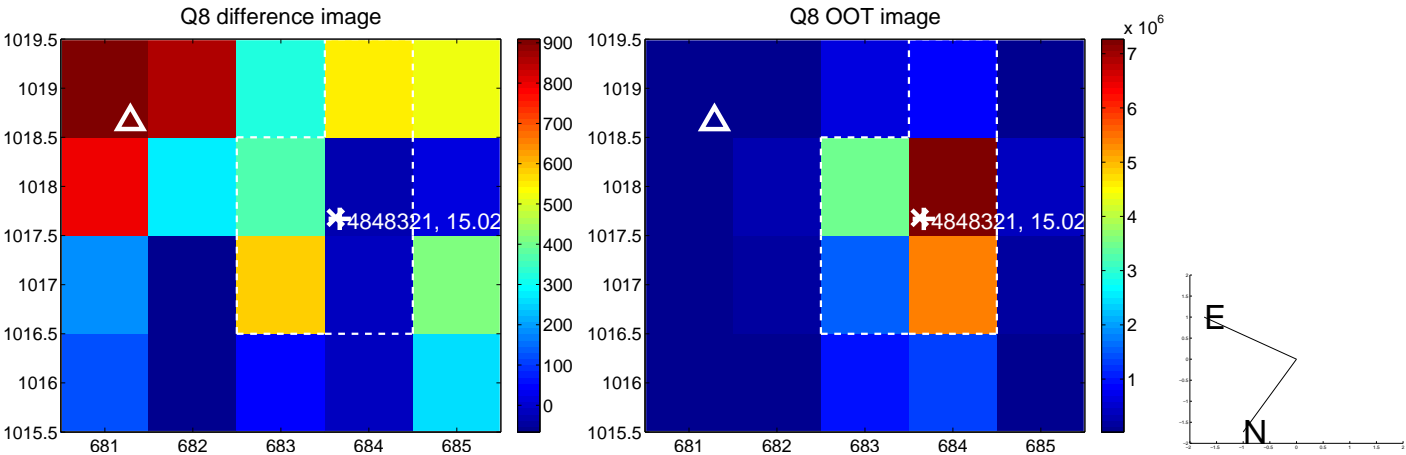
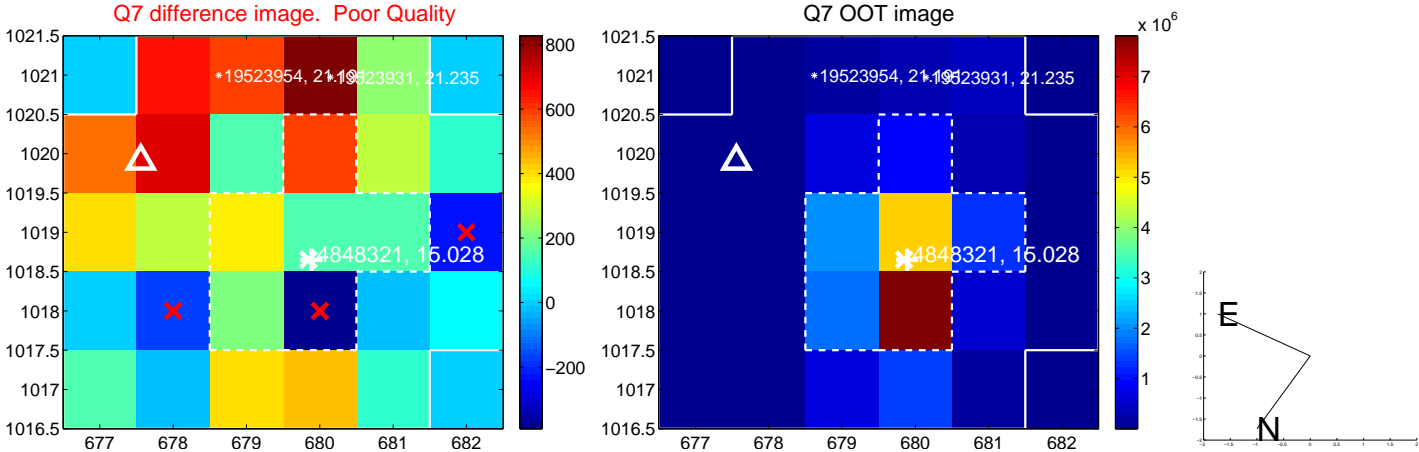
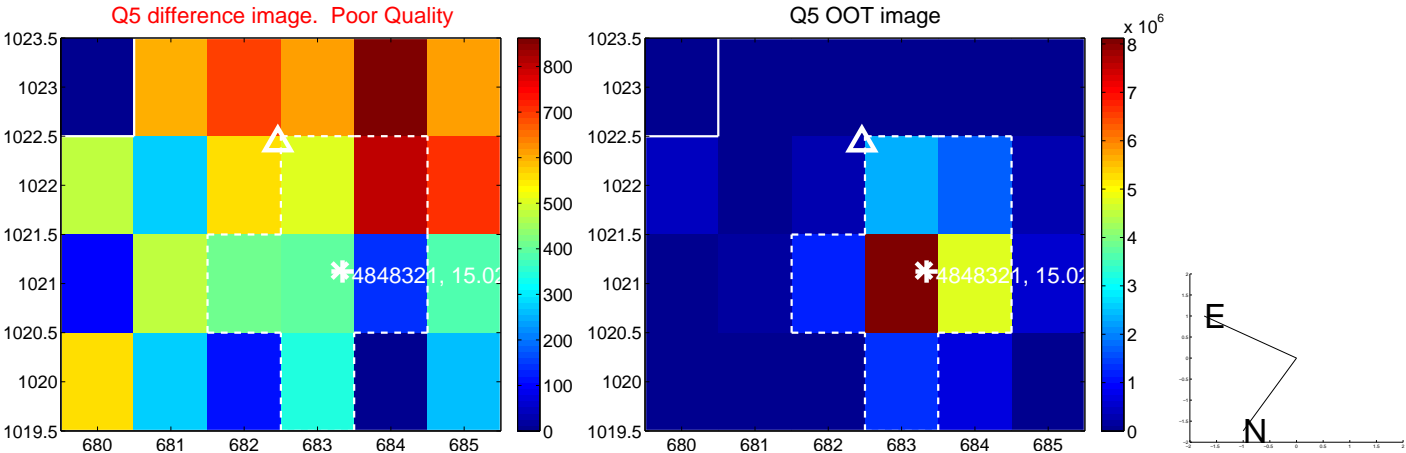


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

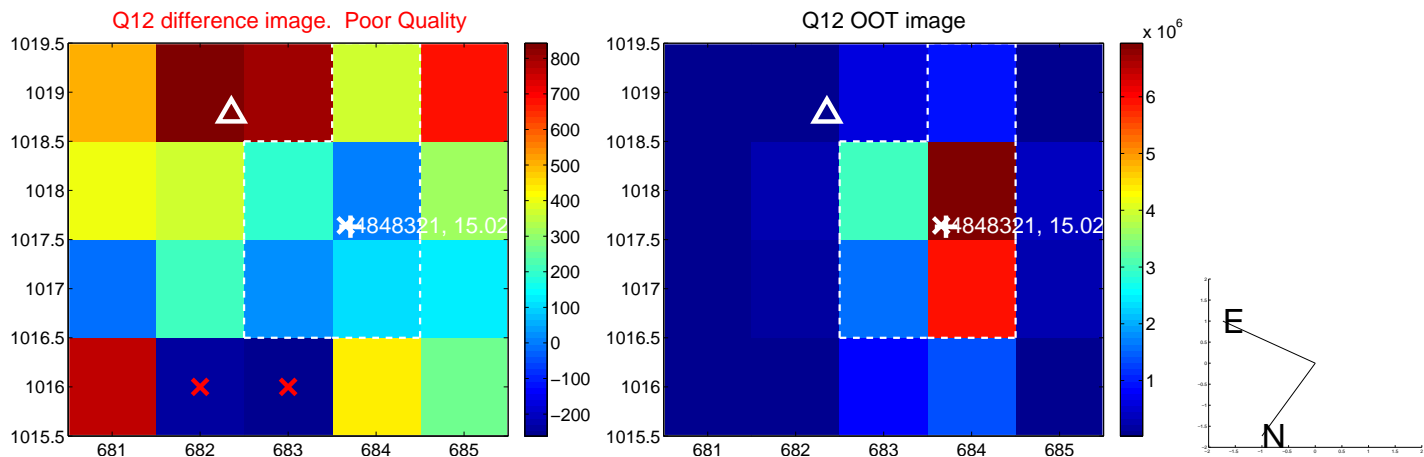
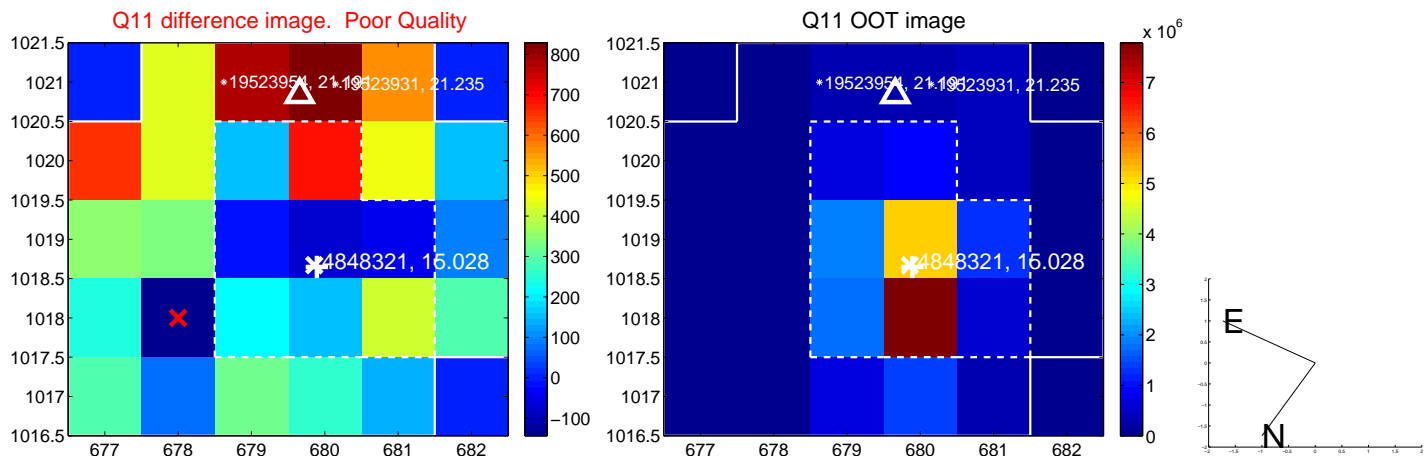
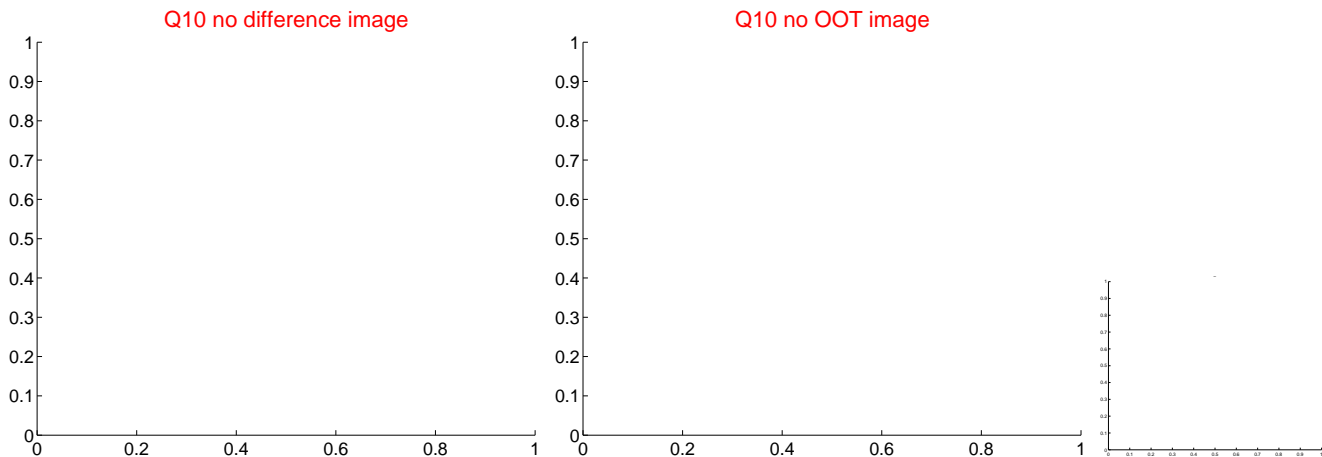
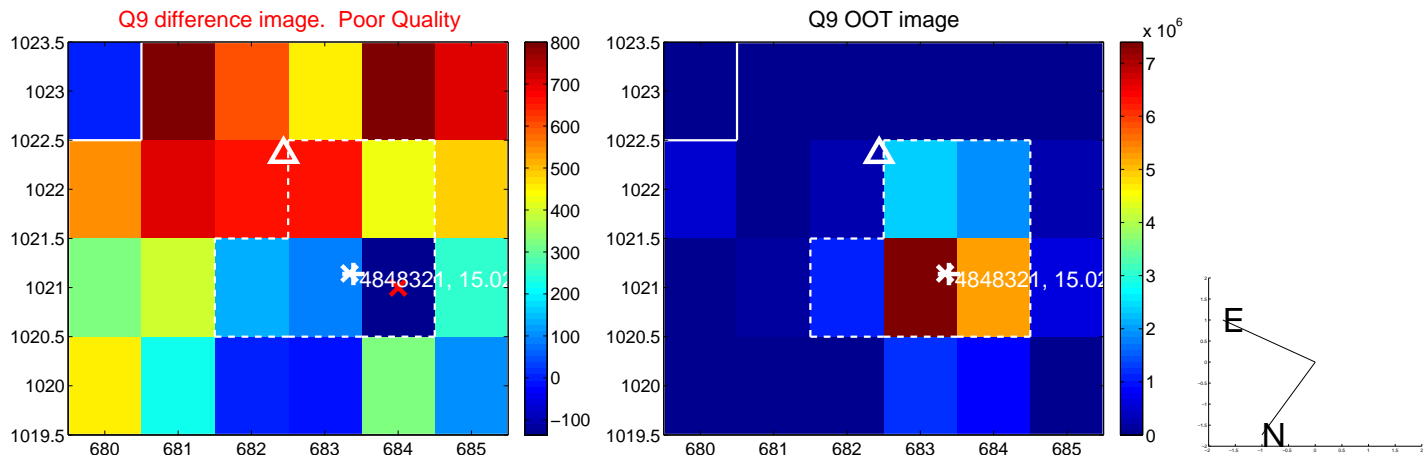
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



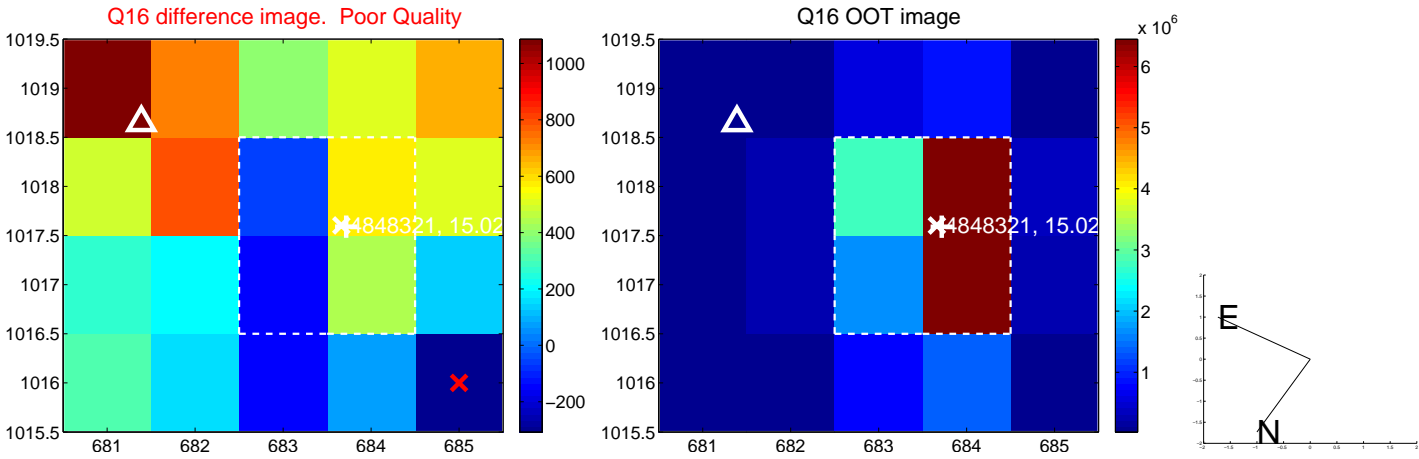
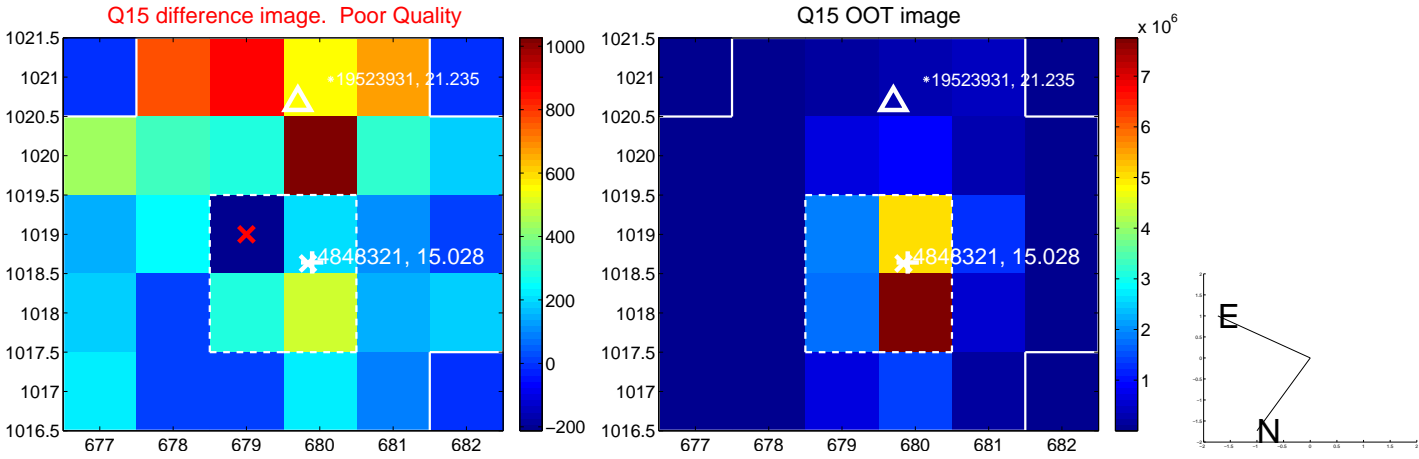
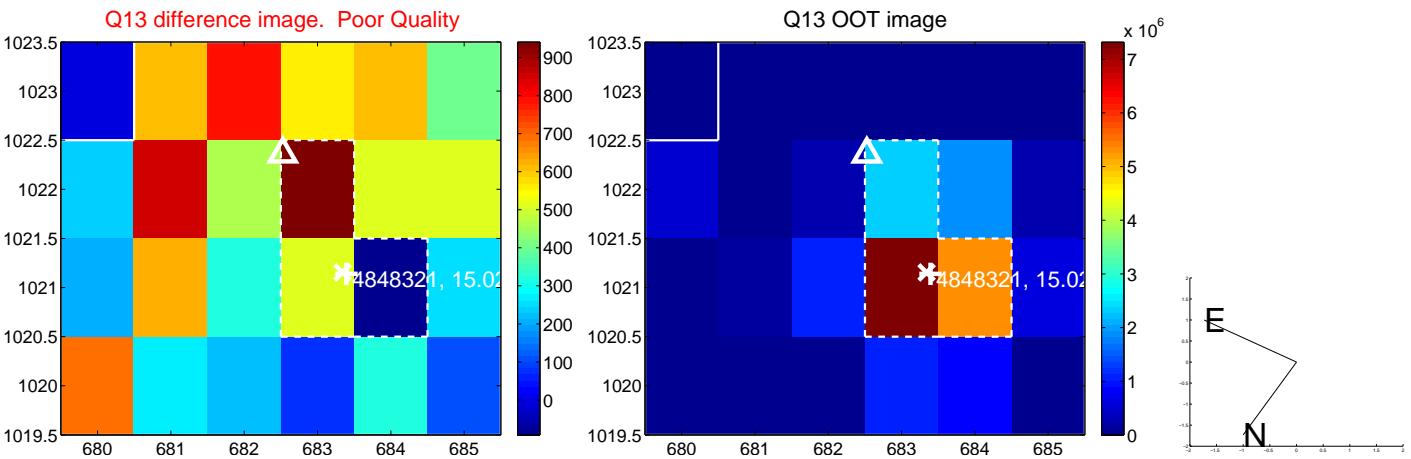
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



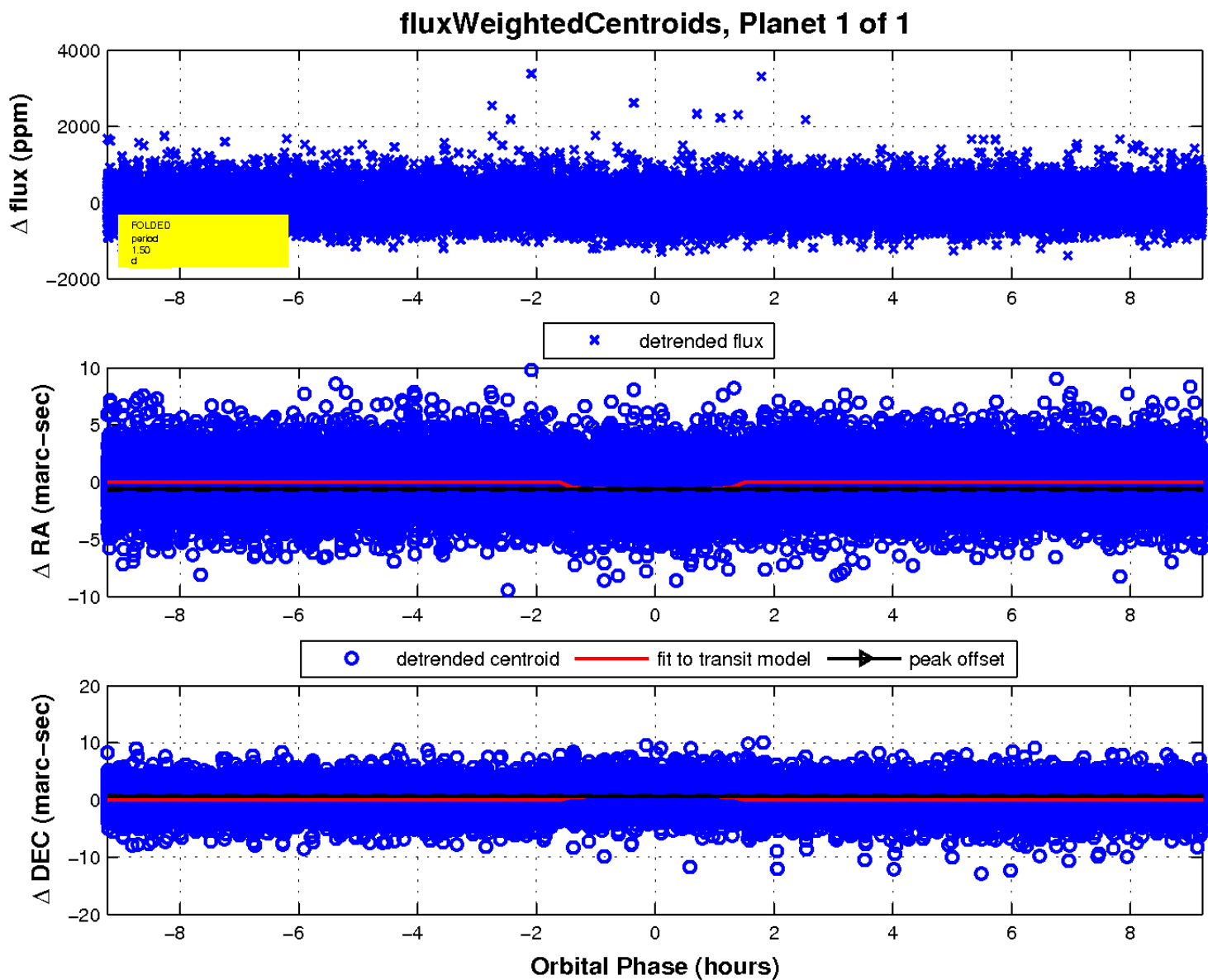
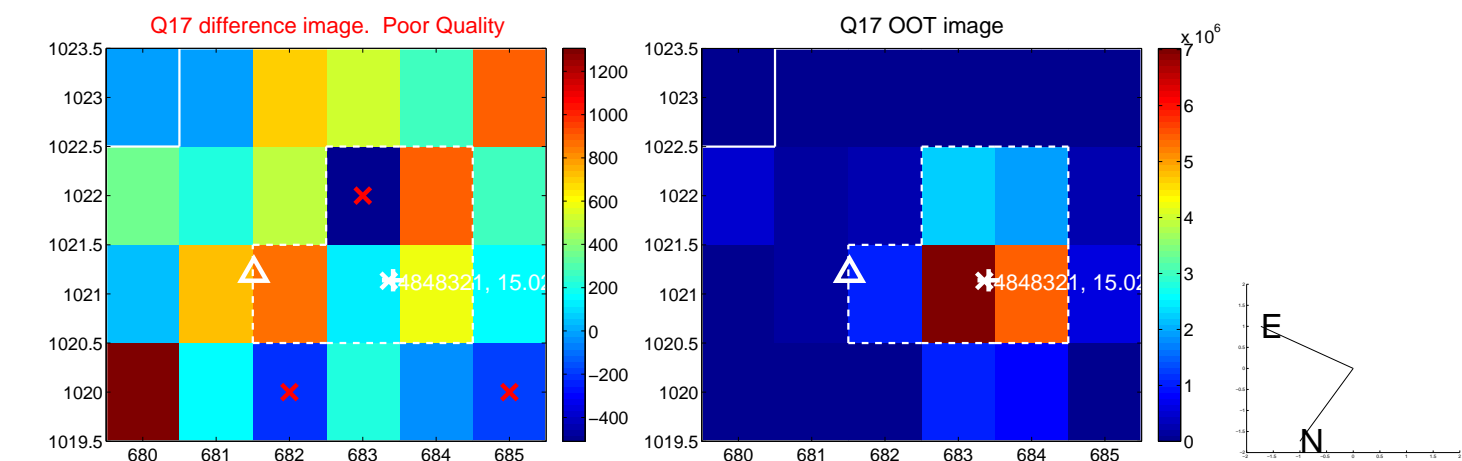
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UKIRT Image

Declination

