

KIC 010341831

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})
010341831-01	OBS	1164.01	0.933719	131.532800	93.1	3.345	19.4	17.5	0.48	3682	0.46	169.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010341831-01	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 010341831-01

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
010341831-01	10341831	2823.01	10341917	1:1	170.6	43	-3	15.81	14.96	7.17	Col-Anomaly	1	2.89	1.02

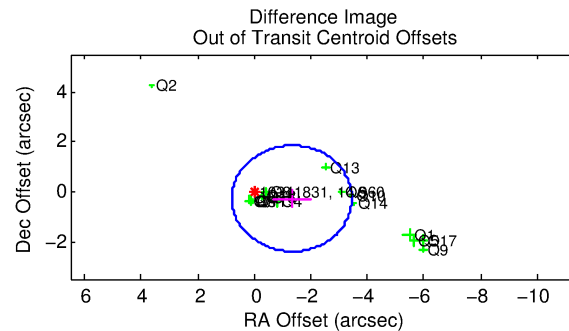
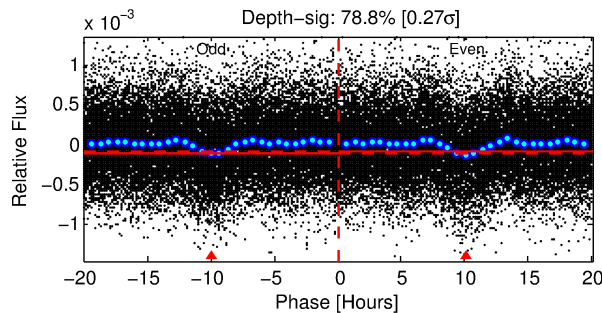
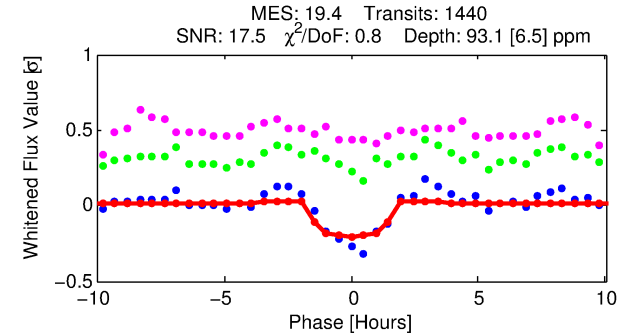
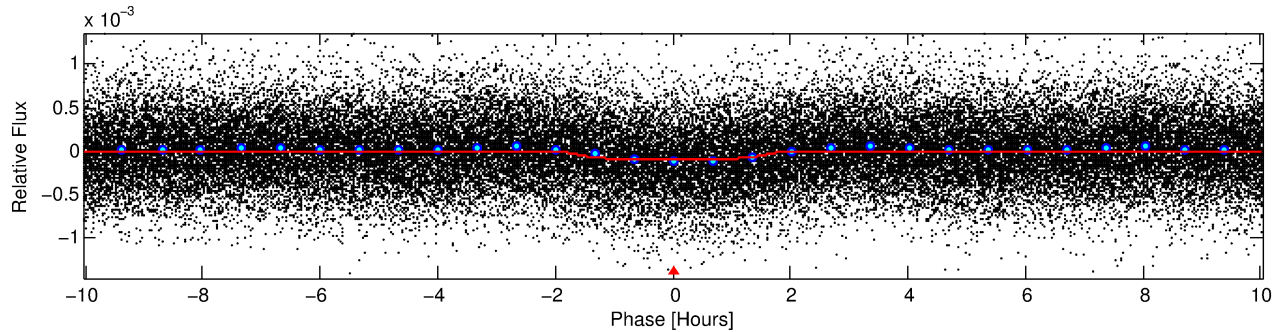
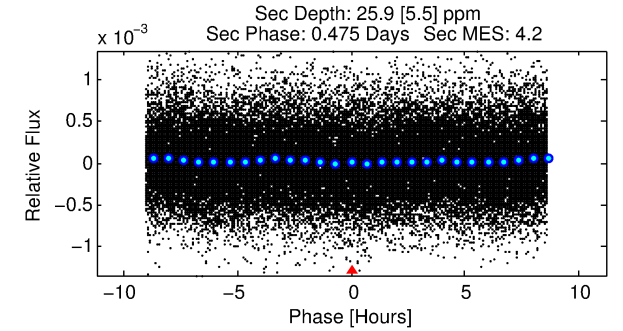
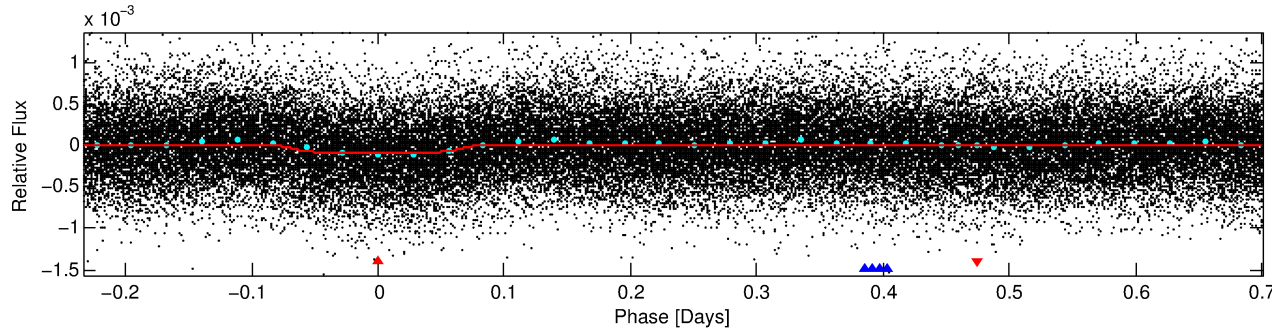
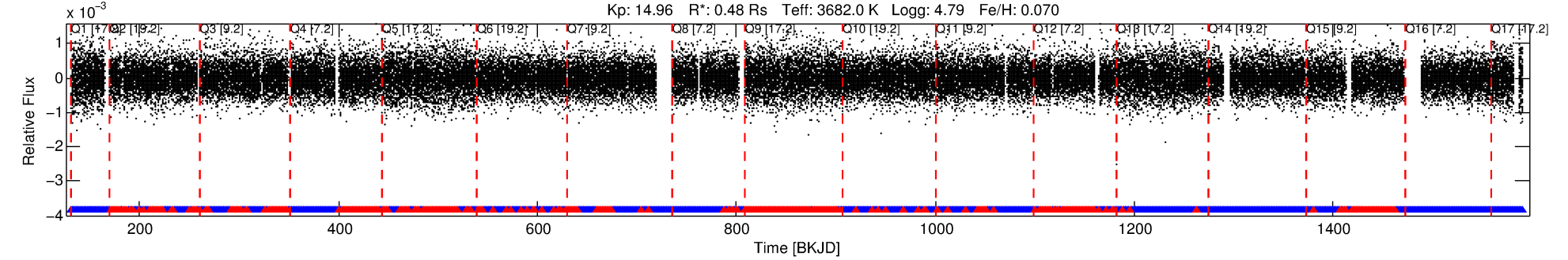
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match 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: 10341831 Candidate: 1 of 2 Period: 0.934 d

KOI: K01164 Corr: No Ephemeris Match

Kp: 14.96 R*: 0.48 Rs Teff: 3682.0 K Logg: 4.79 Fe/H: 0.070



DV Fit Results:

Period = 0.93372 [0.00001] d
Epoch = 131.5328 [0.0021] BKJD
Rp/R* = 0.0087 [0.0072]
a/R* = 2.23 [6.15]
b = 0.01 [338.82]
Seff = 169.21 [17.28]
Teq = 920 [23] K
Rp = 0.46 [0.38] Re
a = 0.0150 [0.0008] AU
Ag = 15.38 [25.53] [0.56σ]
Teff = 2816 [1168] K [1.62σ]

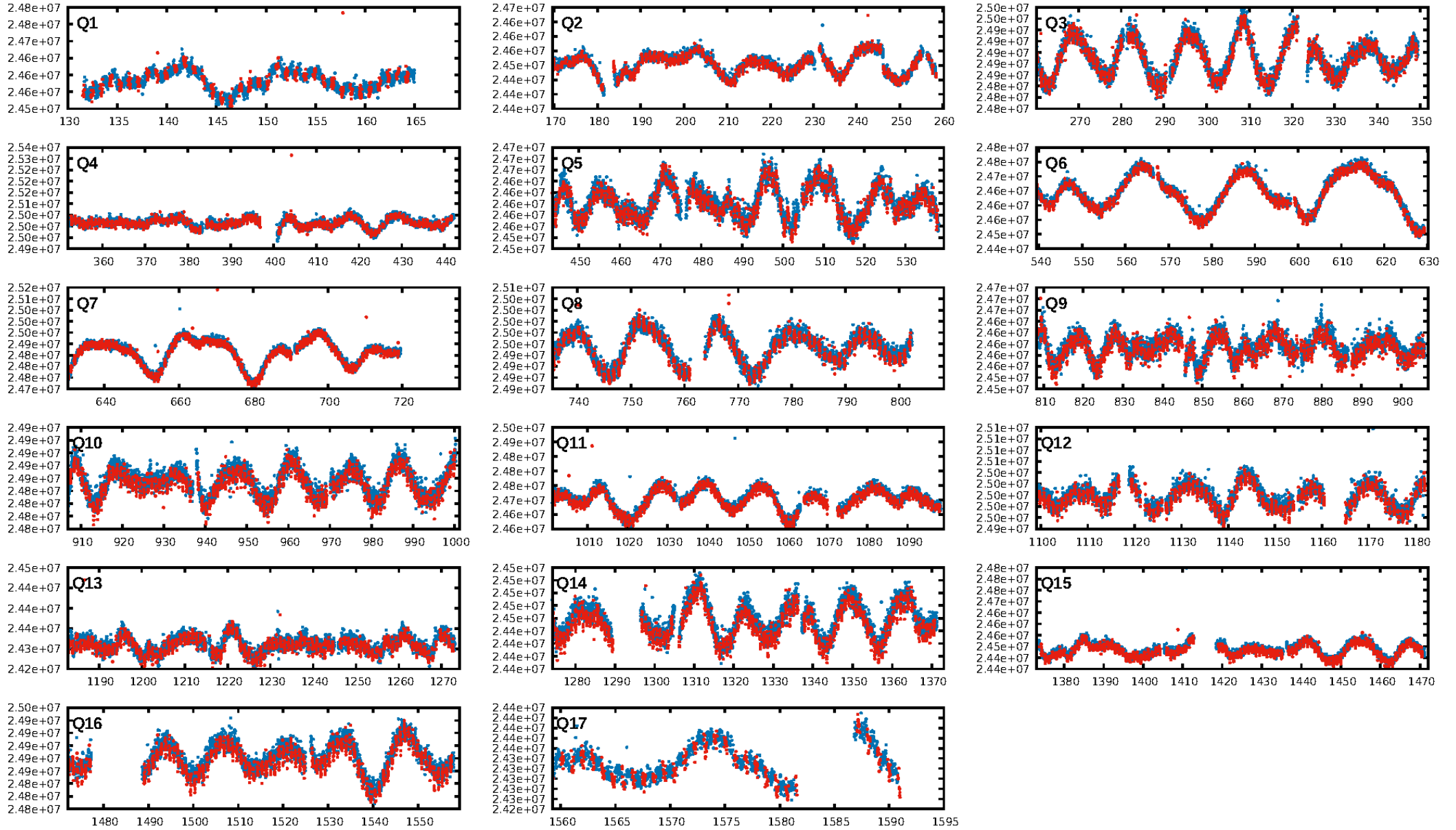
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1209.96σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.24e-71
RollingBand-fgt: 0.66 [902/1374]
GhostDiagnostic-chr: -0.2454
Centroid-sig: 0.0%
Centroid-so: 4.277 arcsec [5.50σ]
OotOffset-rm: 1.355 arcsec [1.92σ]
KicOffset-rm: 1.045 arcsec [1.58σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.06 [1/17]
DiffImageOverlap-fno: 1.00 [17/17]

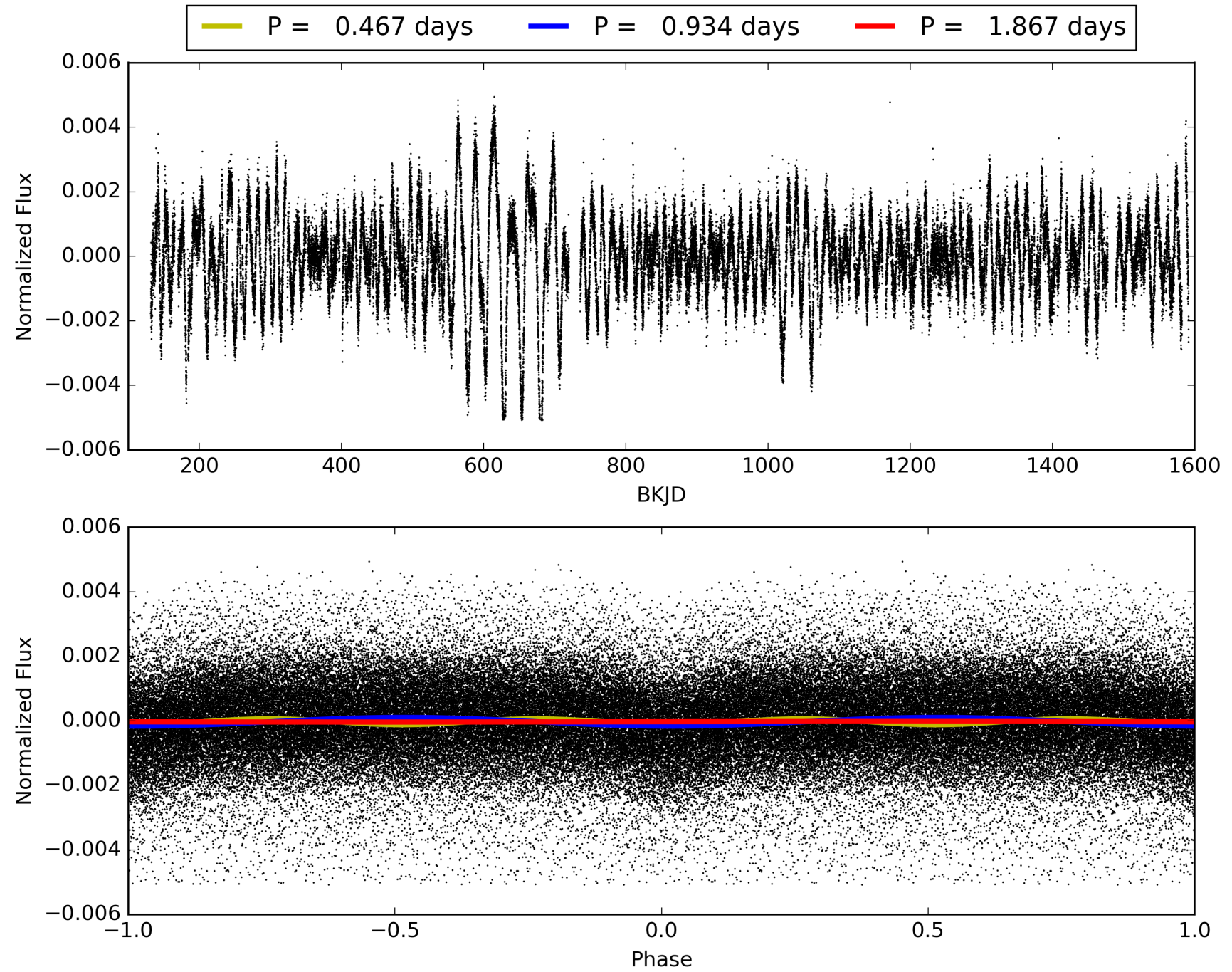
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:20:23 Z

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

TCE 010341831-01, PDC Light Curves

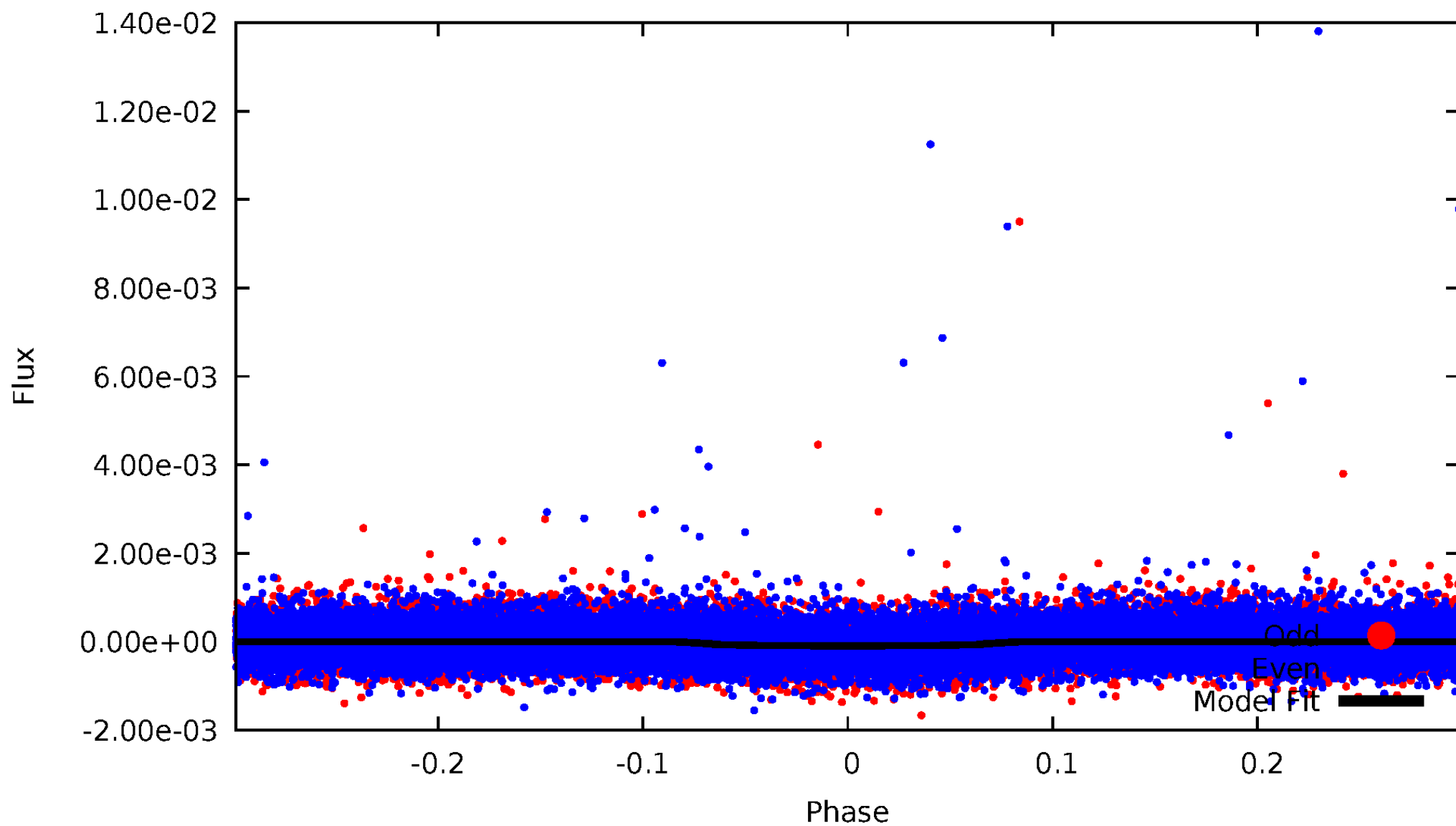


TCE 010341831-01



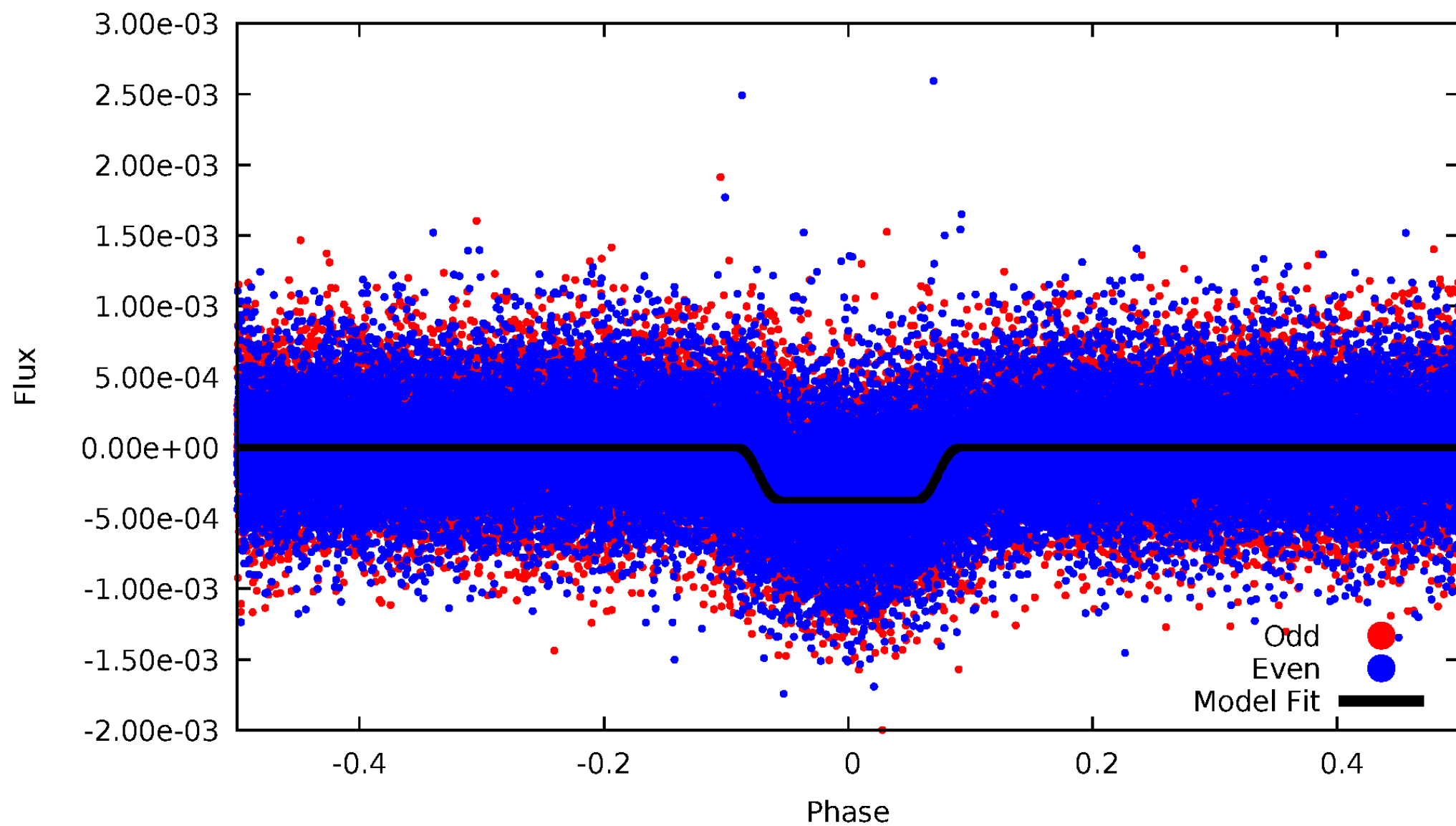
DV Odd/Even

TCE 010341831-01



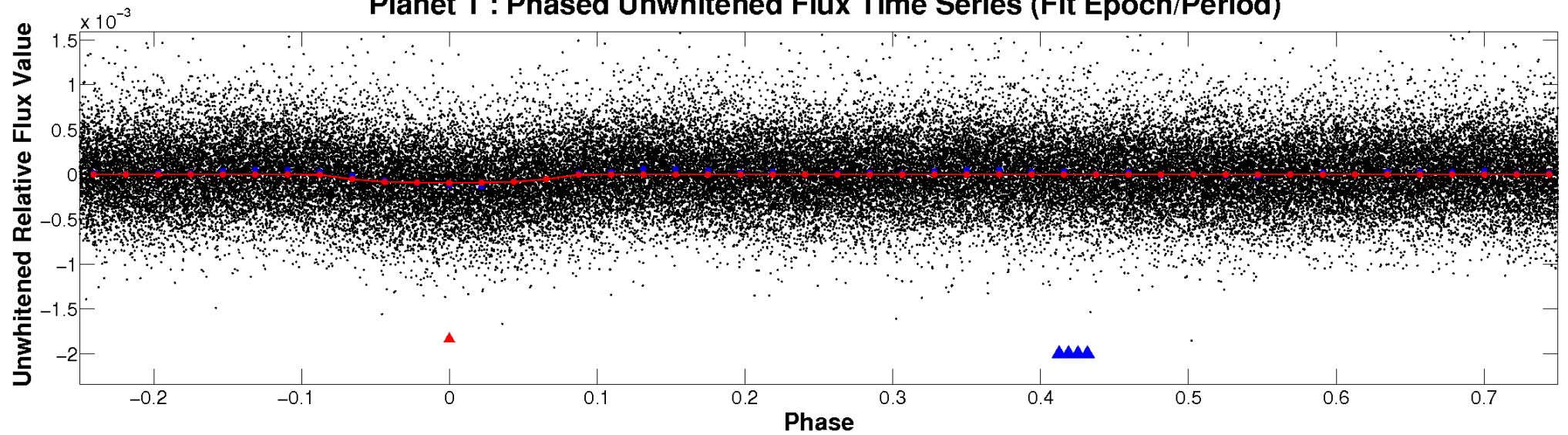
ALT Odd/Even

TCE 010341831-01

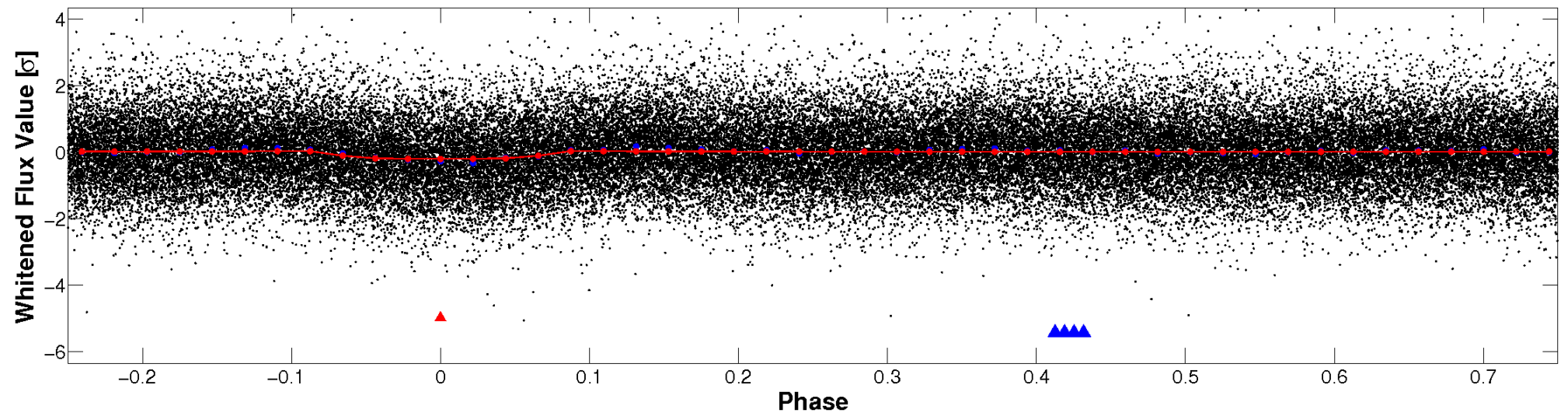


Non-Whitened Vs. Whitened Light Curve

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

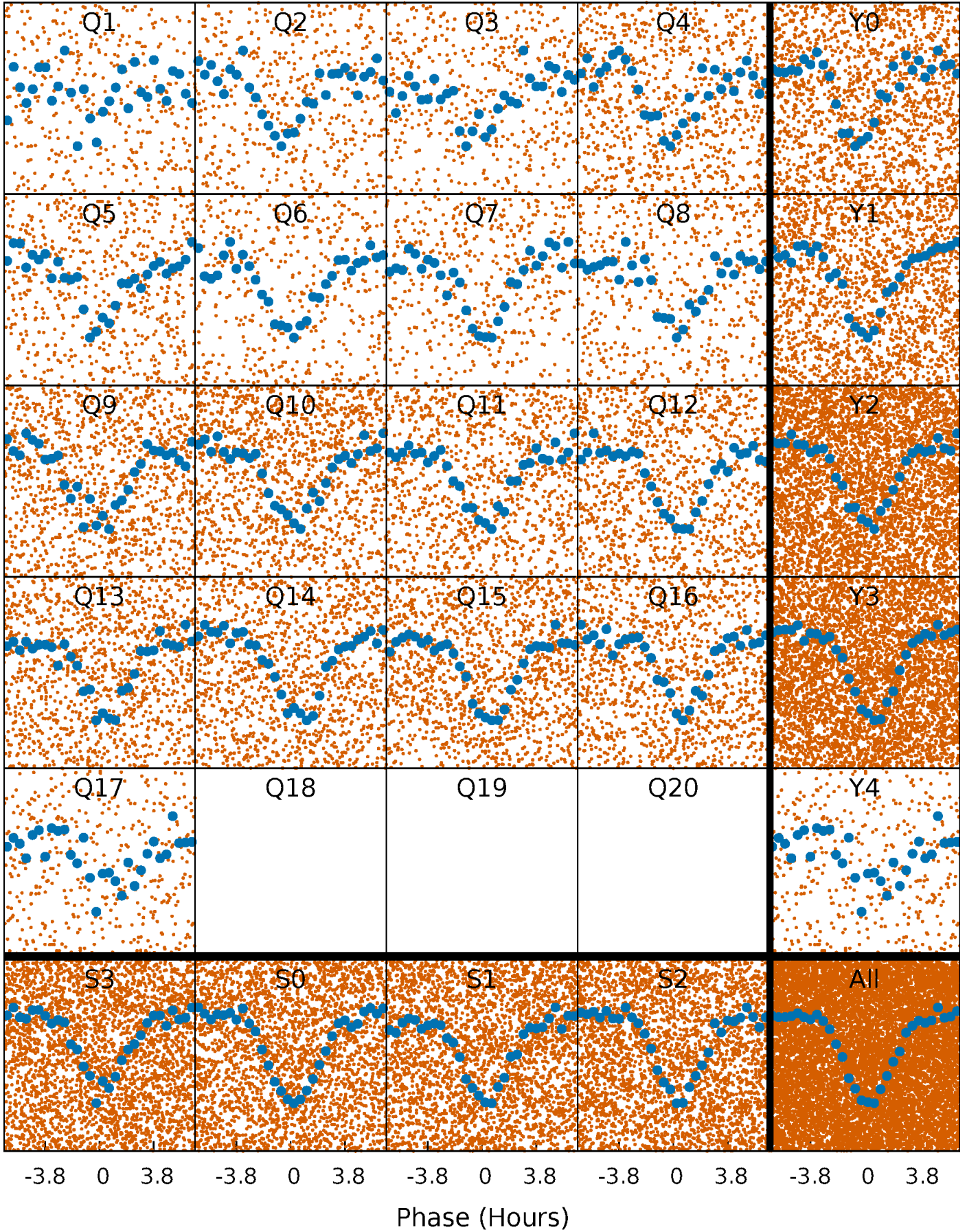


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



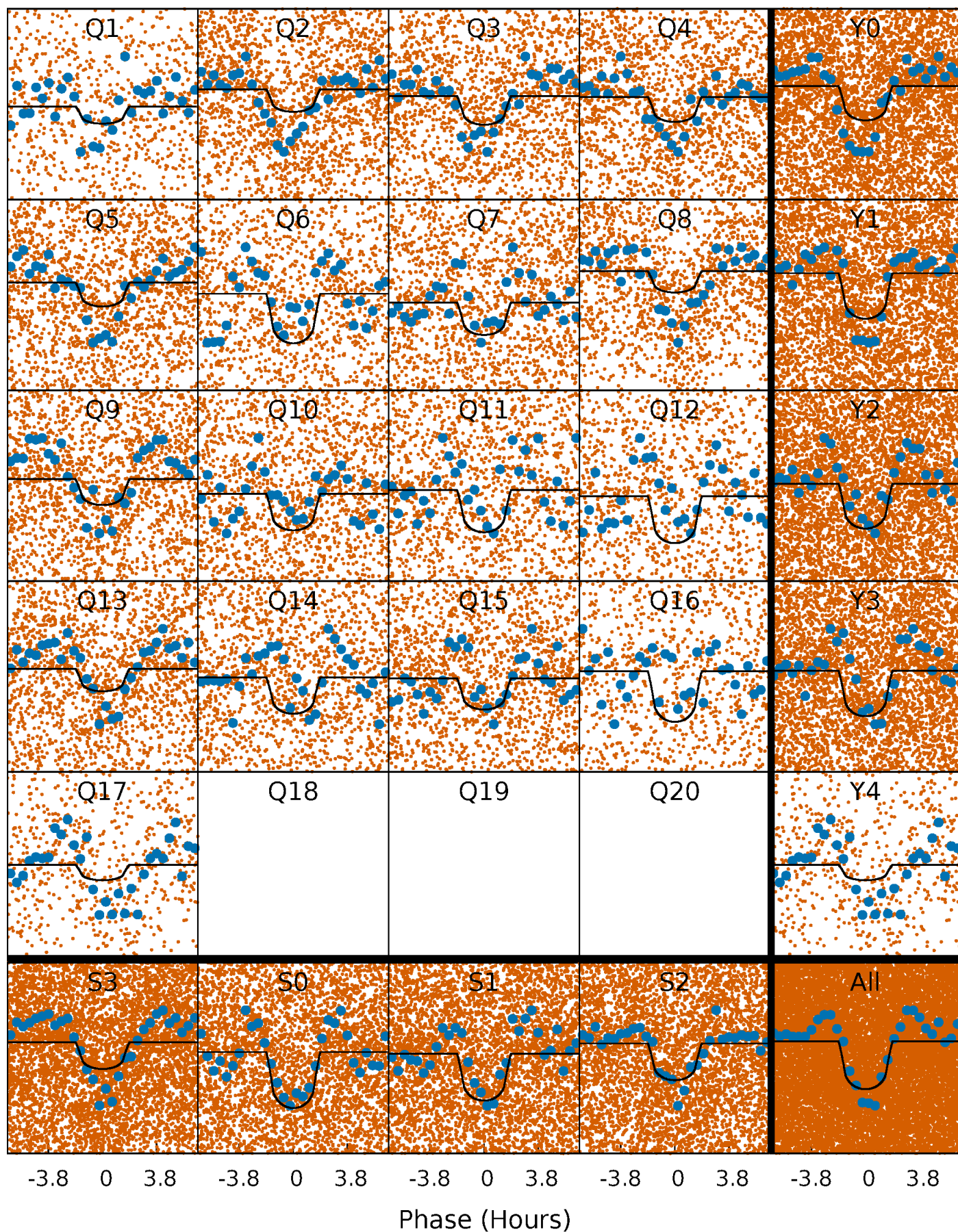
PDC Quarter-Phased Transit Curves

TCE 010341831-01 P= 0.933719 Days $T_0=131.532800$ (BKJD)



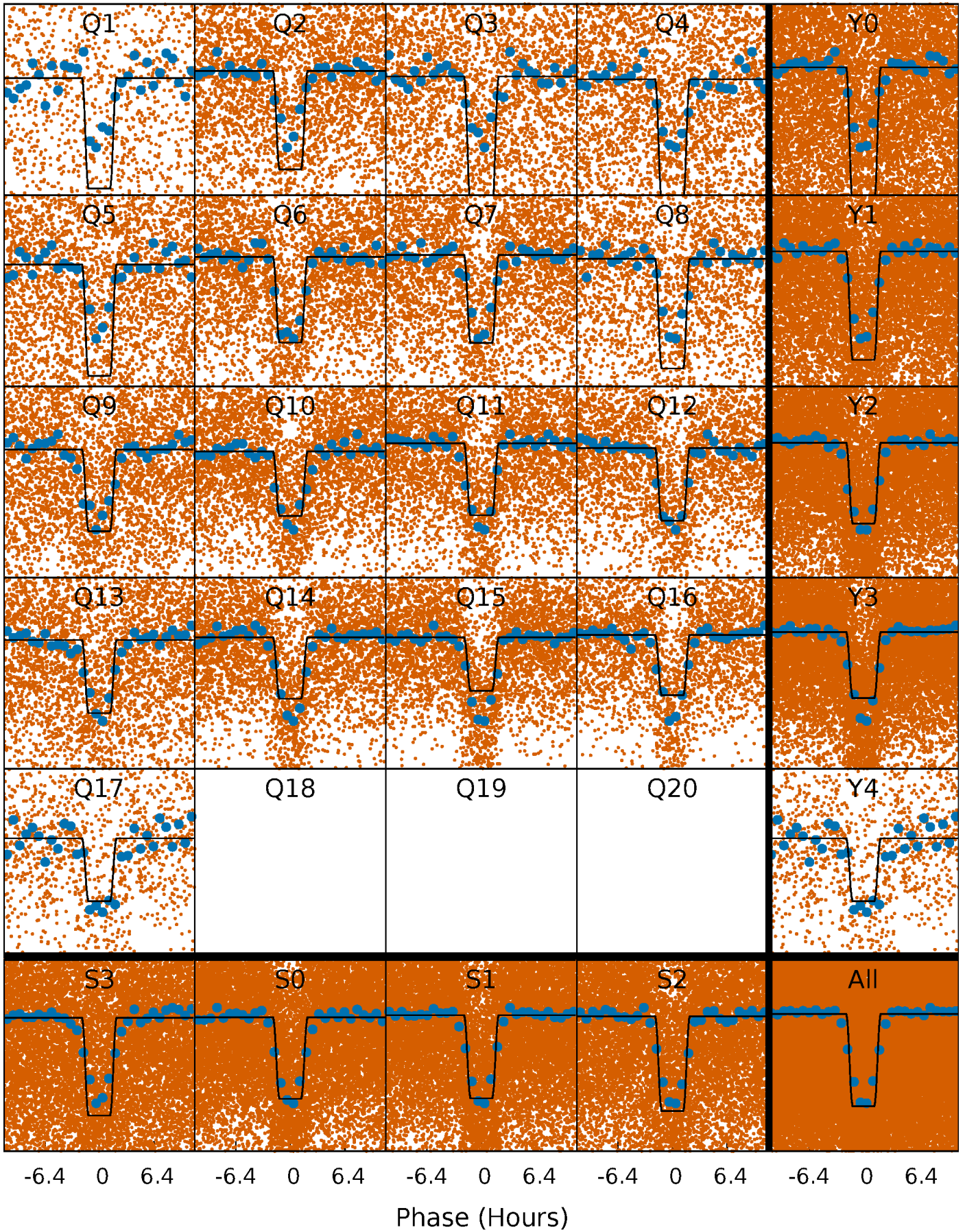
DV Quarter-Phased Transit Curves

TCE 010341831-01 P= 0.933719 Days $T_0=131.532800$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

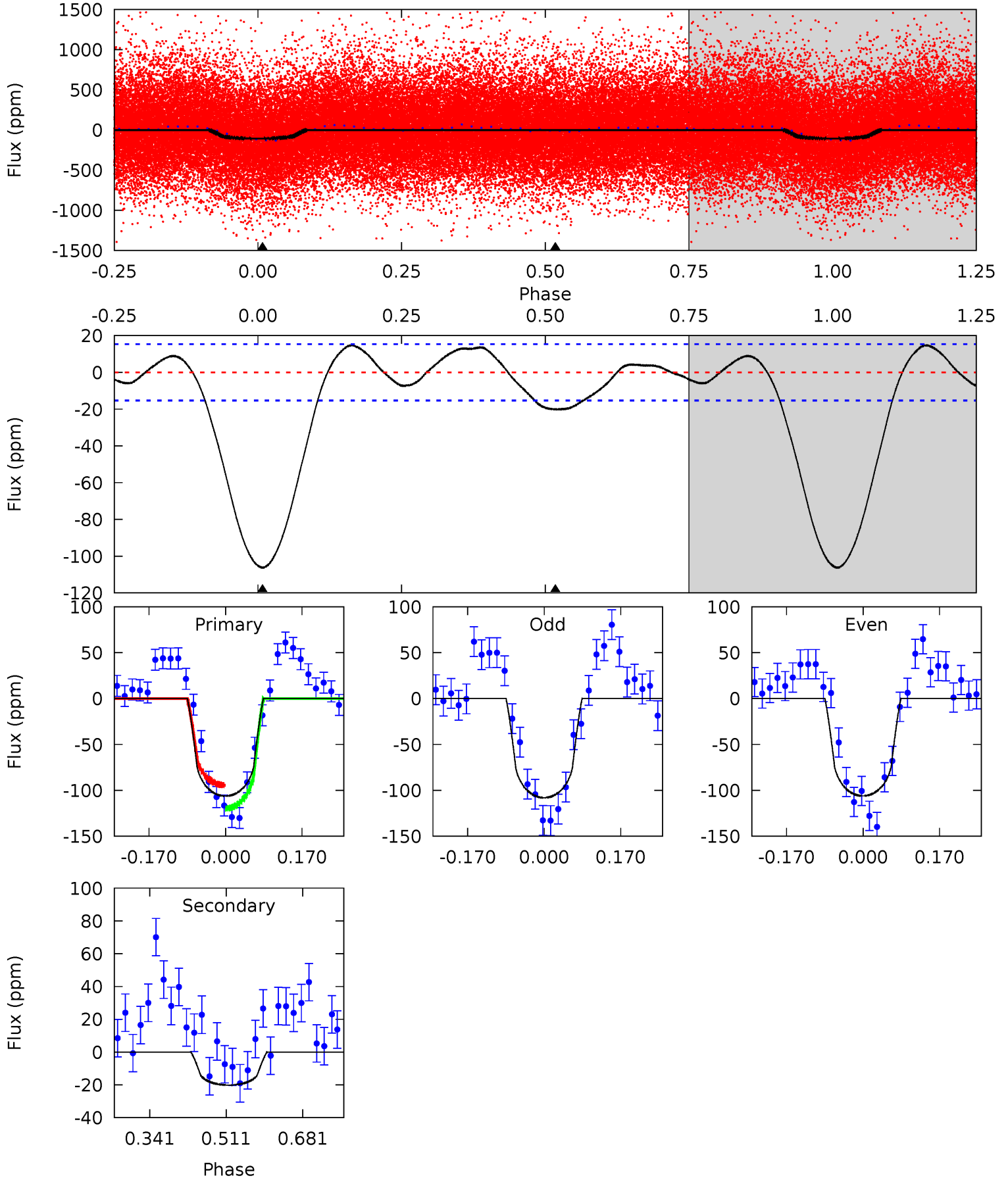
TCE 010341831-01 P= 0.933748 Days $T_0=131.517298$ (BKJD)



DV Model-Shift Uniqueness Test

010341831-01, P = 0.933719 Days, E = 130.599081 Days

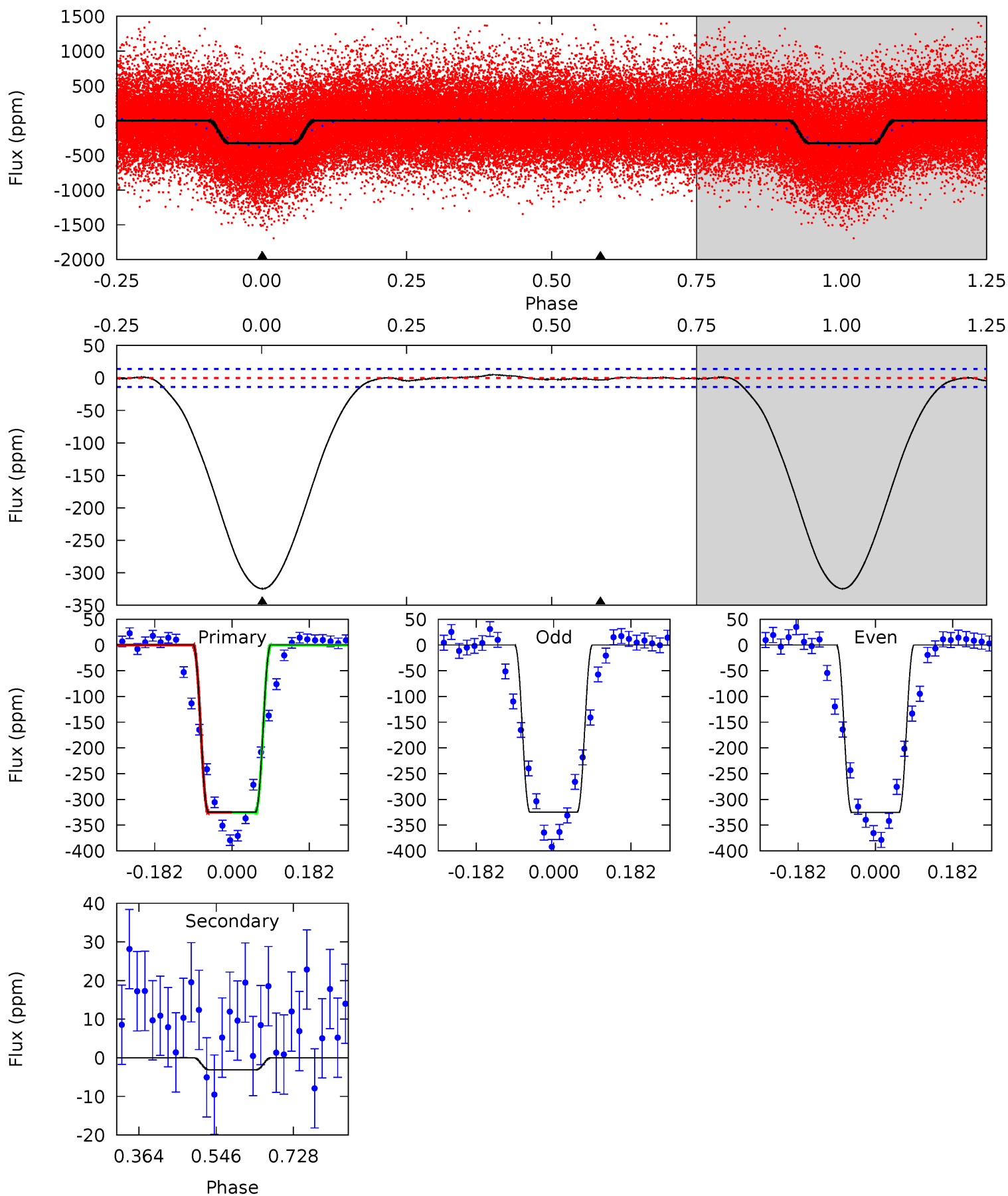
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.8	5.84	0	0	4.45	1.37	1.61	30.8	30.8	5.84	5.84	0.29	1.04	0.12	3.70



Alt Model-Shift Uniqueness Test

010341831-01, $P = 0.933748$ Days, $E = 130.583550$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
104.5	0.99	0	0	4.44	1.33	0.74	104.5	104.5	0.99	0.99	0.09	0.99	0.02	0.02



Stellar Parameters For KIC 010341831

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3682^{+58}_{-65}	$4.786^{+0.028}_{-0.039}$	$0.070^{+0.100}_{-0.100}$	$0.480^{+0.031}_{-0.031}$	$0.512^{+0.024}_{-0.036}$	$6.539^{+0.866}_{-0.922}$
	+2%/-2%	+1%/-1%	+143%/-143%	+6%/-6%	+5%/-7%	+13%/-14%
Source	SPE5	SPE5	SPE5	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010341831-01 / KOI 1164.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-20 ± 3	$0.53^{+0.34}_{-0.34}$	1288^{+26}_{-29}	2887^{+1019}_{-401}	$9.013^{+57.437}_{-5.905}$
Alt.	-3 ± 3	$1.03^{+0.37}_{-0.40}$	1289^{+27}_{-29}	1653^{+468}_{-3603}	$0.345^{+0.677}_{-0.349}$

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

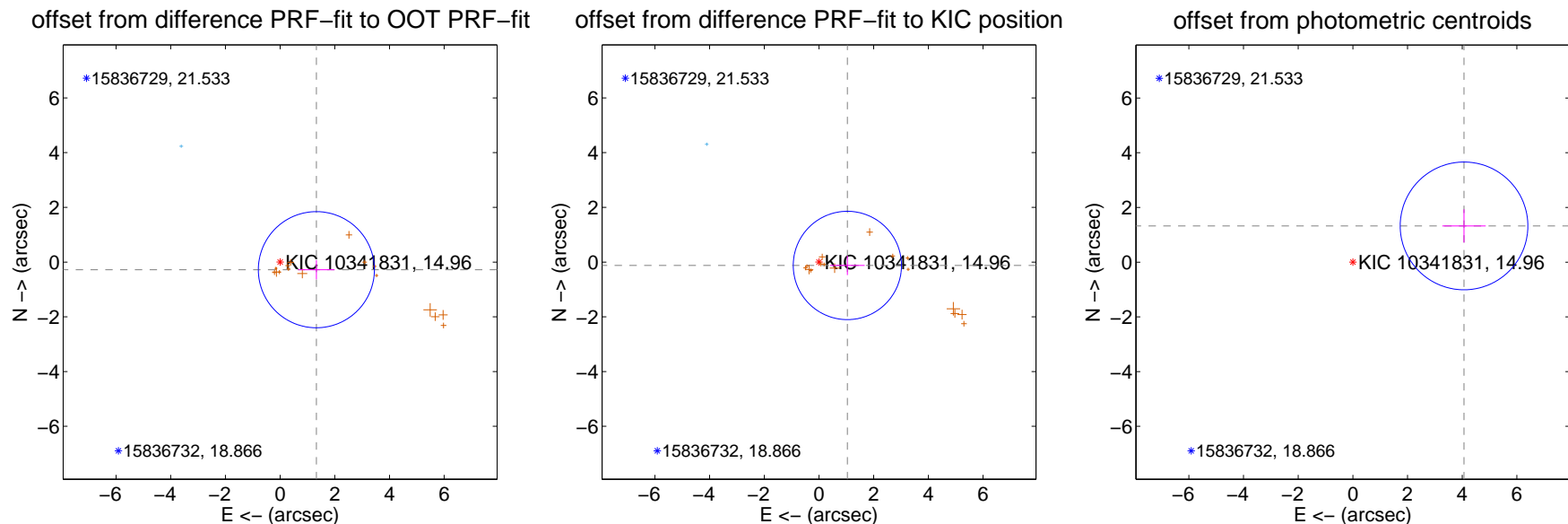
DV Centroid Data

Supplemental centroid analysis for 010341831-01. Kepler magnitude: 14.96. Transit SNR 17.51

There are 1 quarters with good PRF difference image offsets

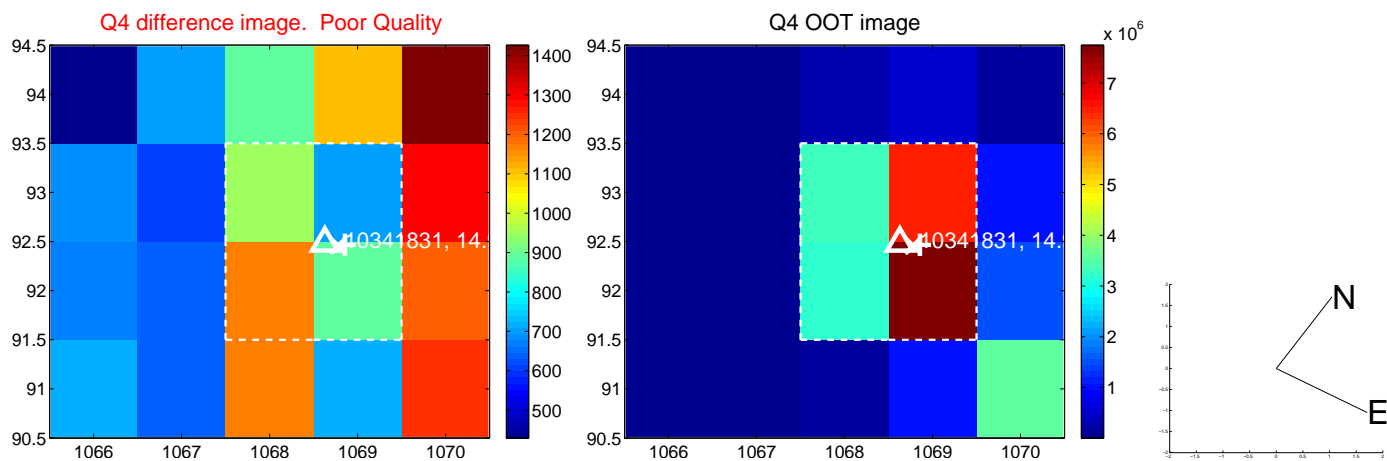
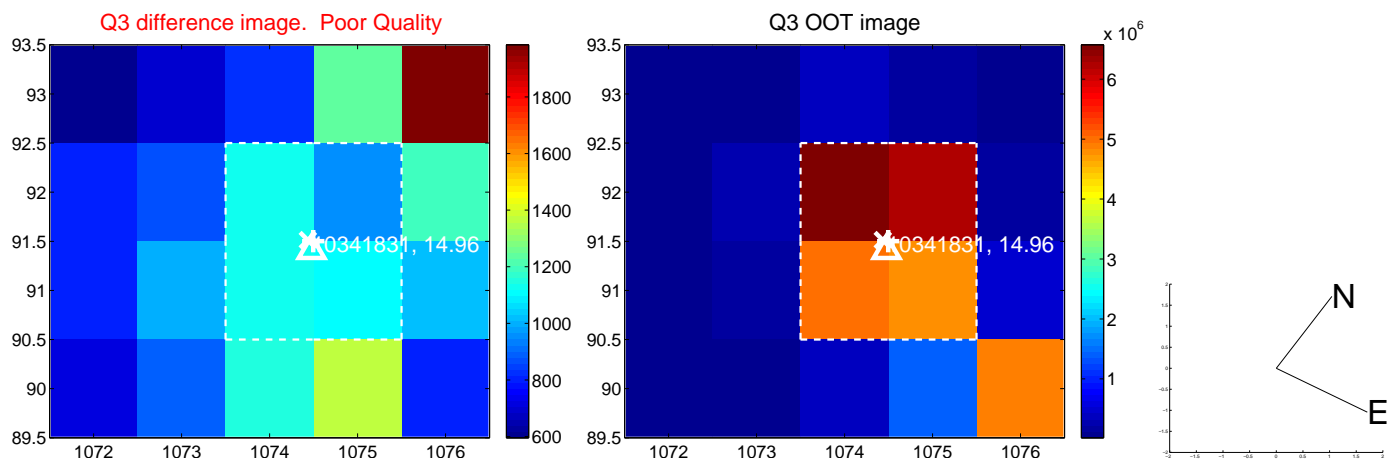
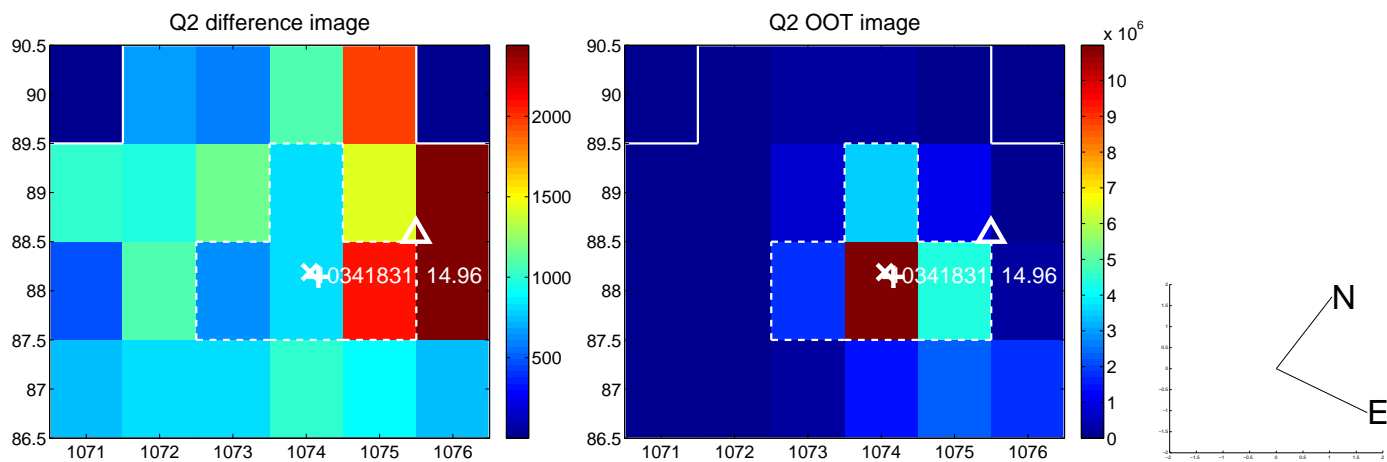
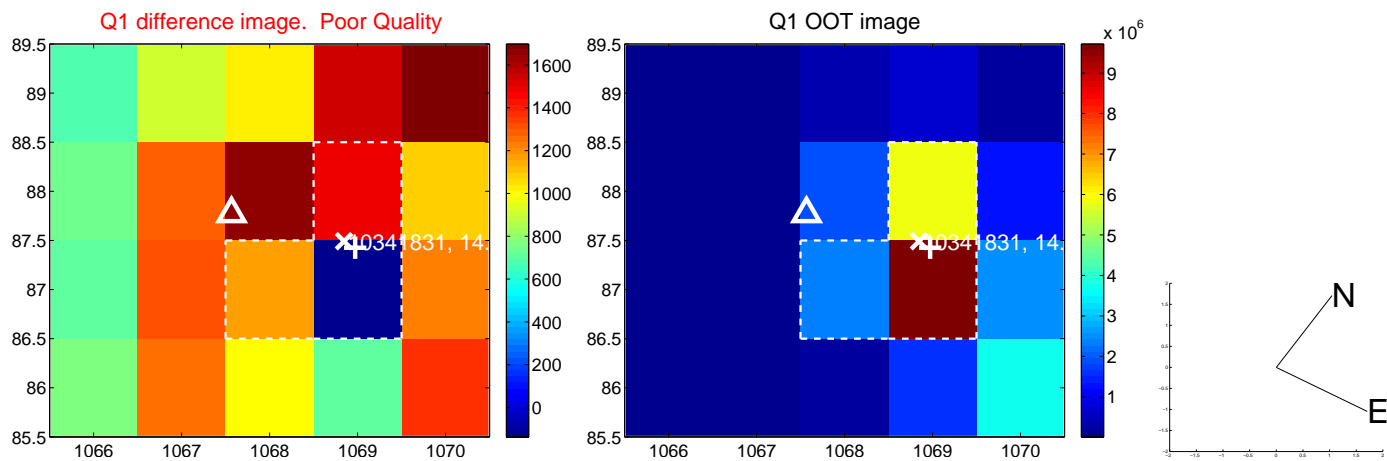
The direct PRF centroid is offset from the target star catalog position by about 0.73 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.355 ± 0.707	1.92	-1.326 ± 0.666	-0.278 ± 0.353
PRF-fit source offset from KIC position	1.045 ± 0.660	1.58	-1.038 ± 0.632	-0.123 ± 0.351
photometric centroid source offset	4.28 ± 0.78	5.50	-4.07 ± 0.79	1.33 ± 0.61

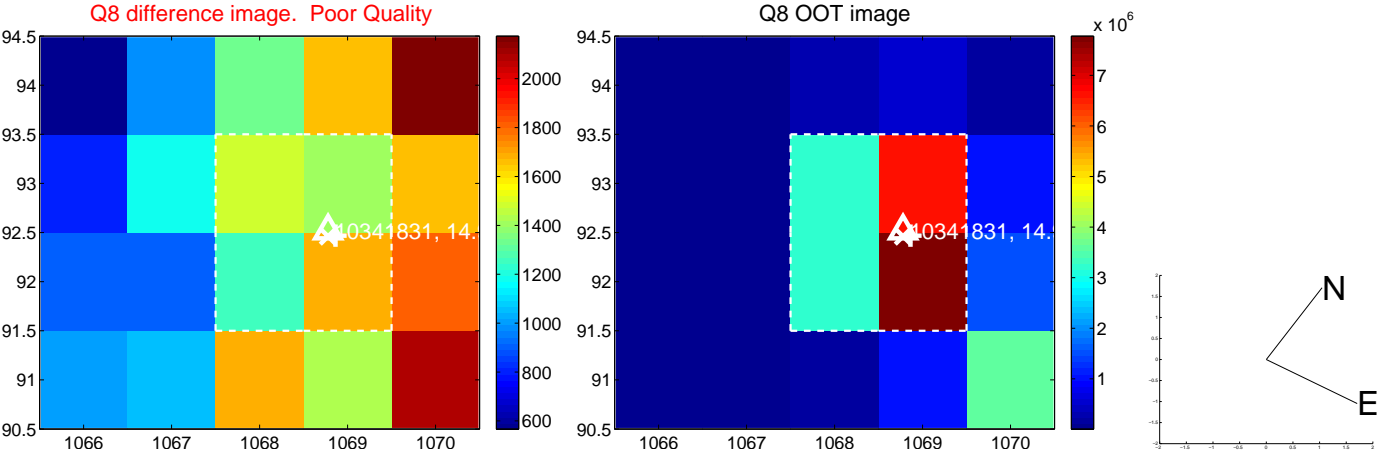
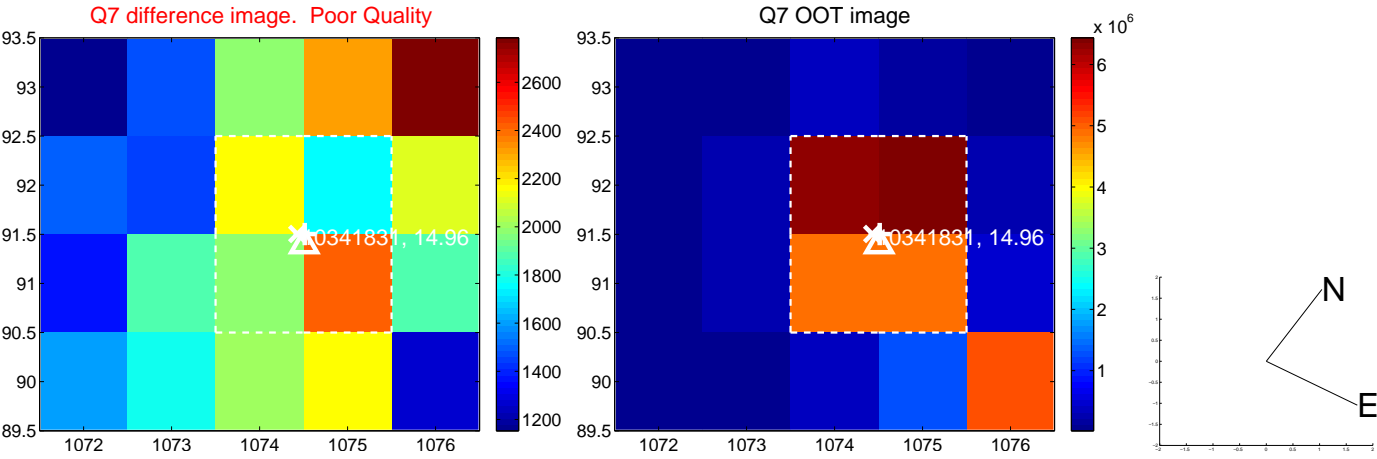
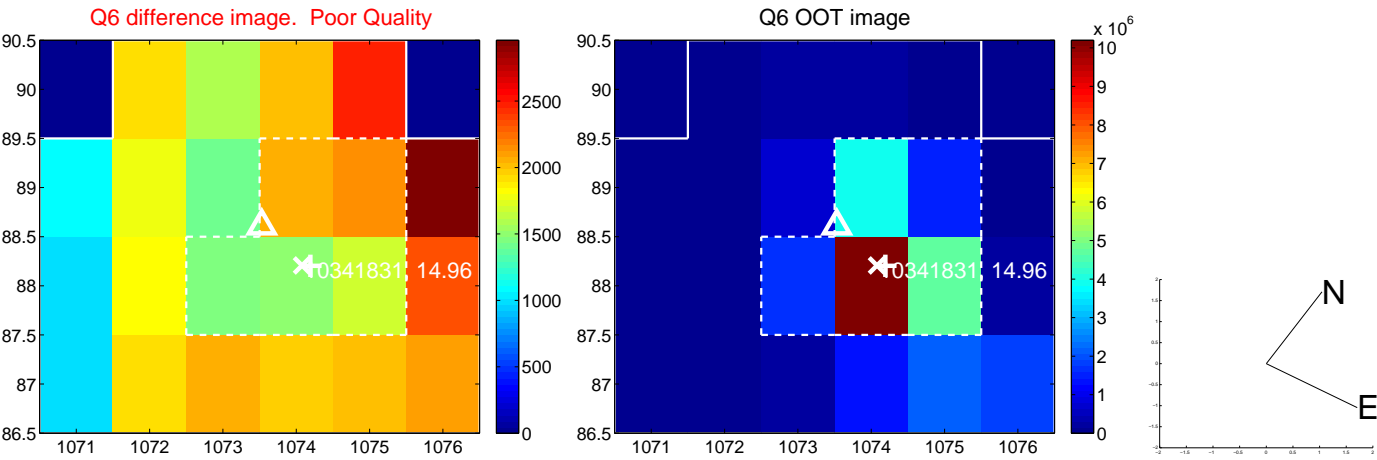
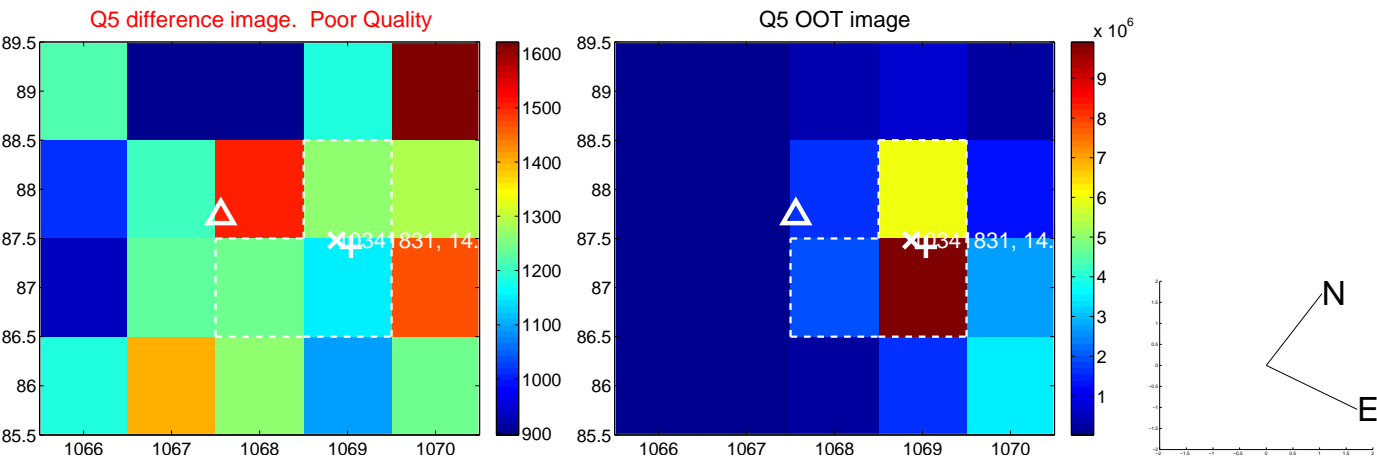


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

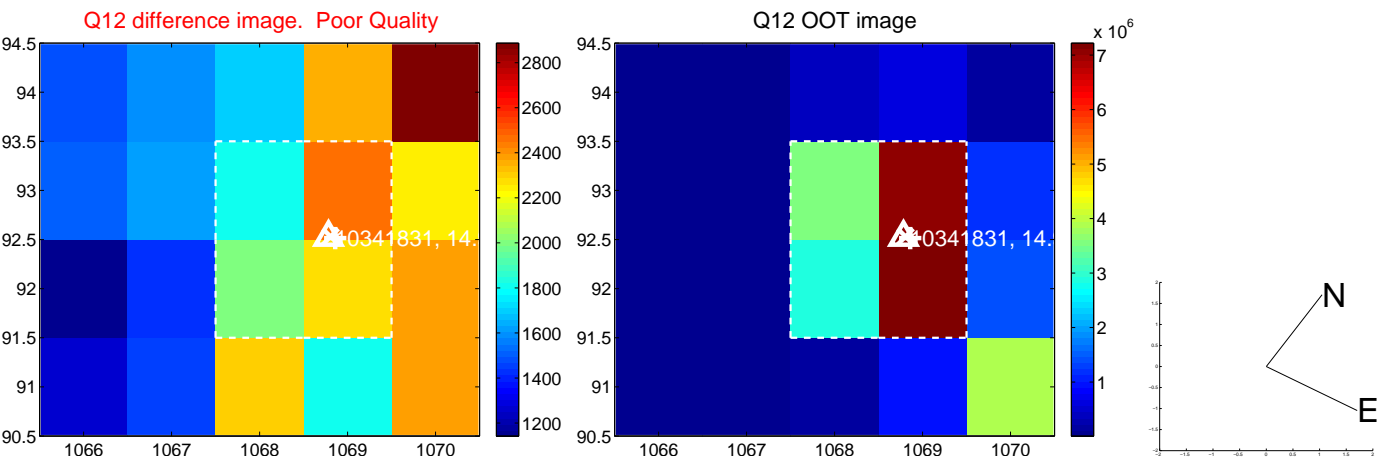
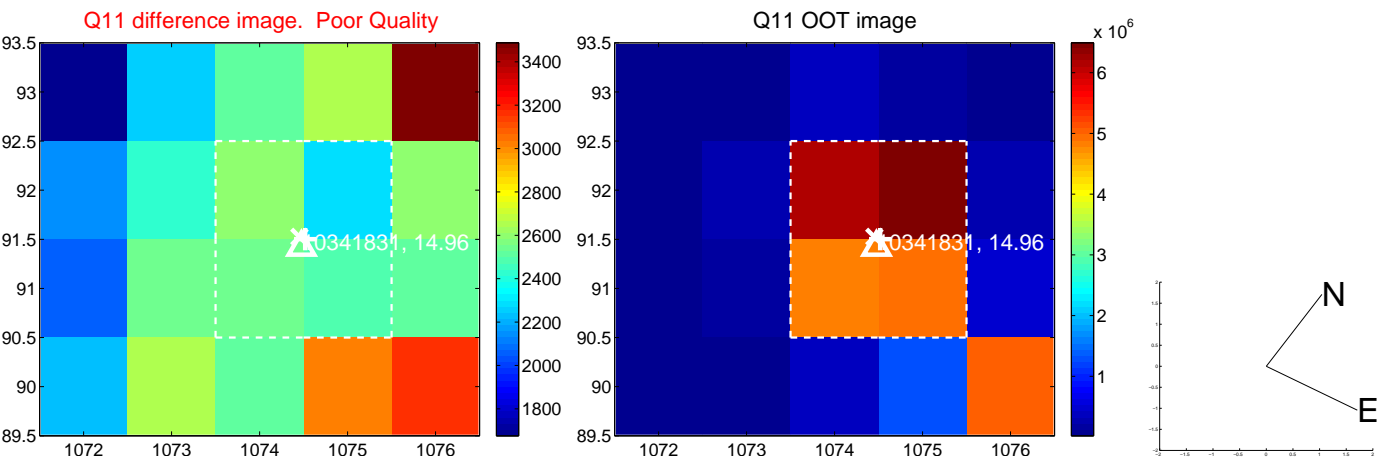
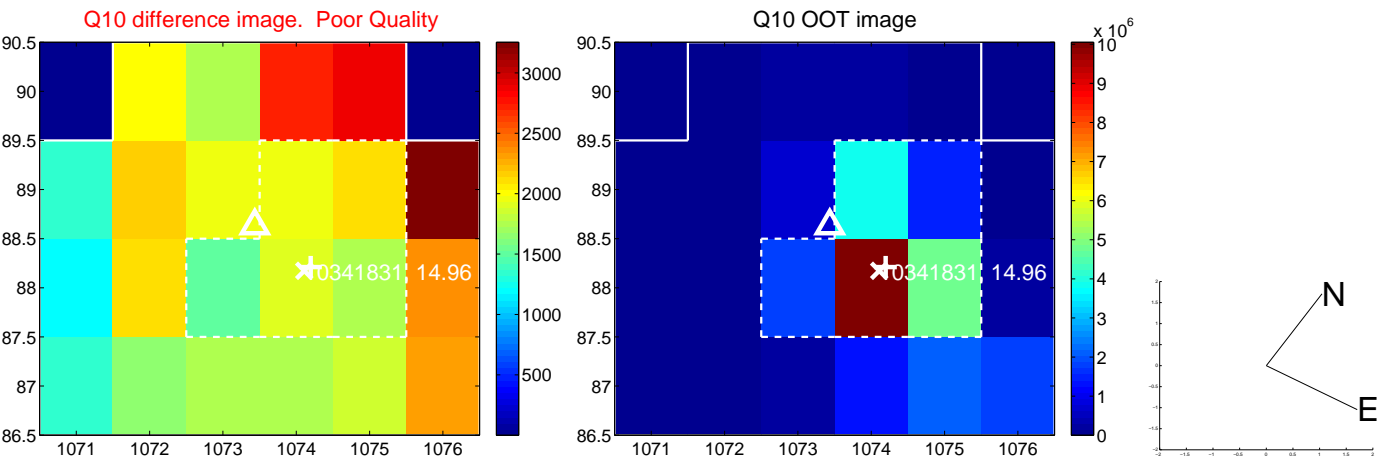
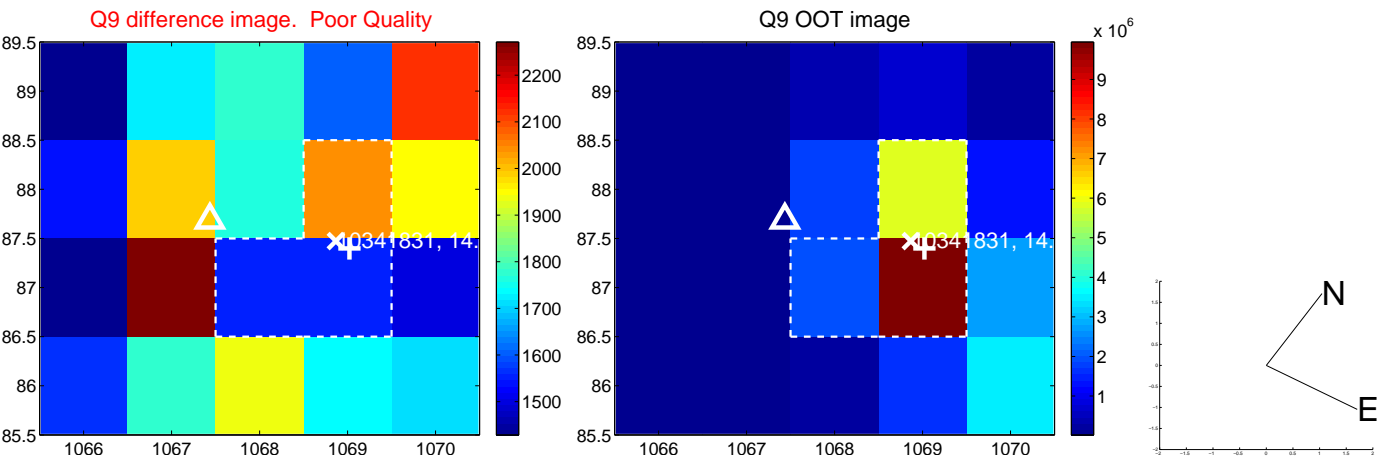
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



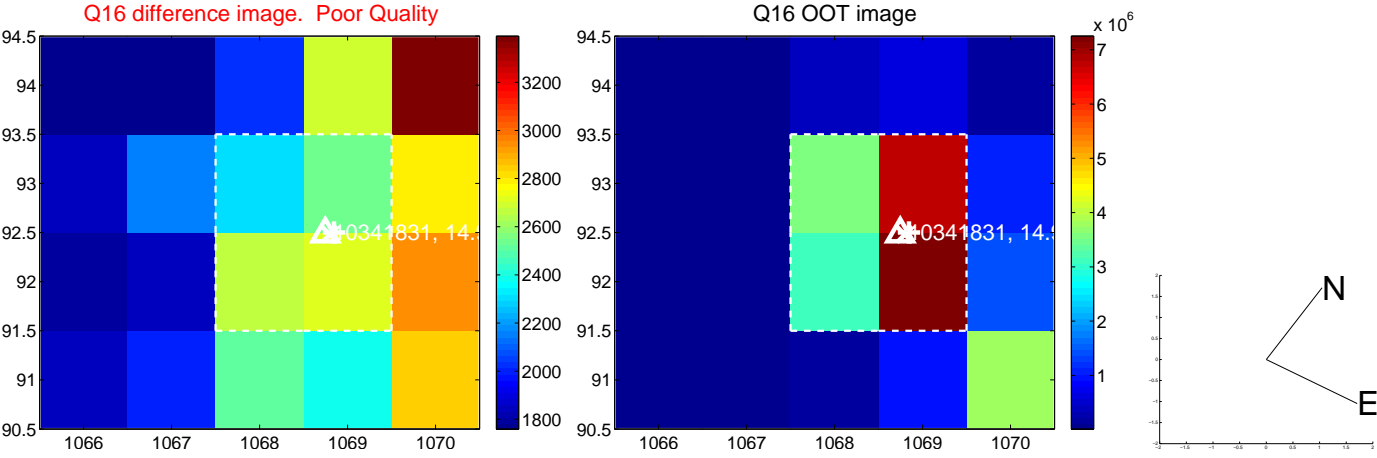
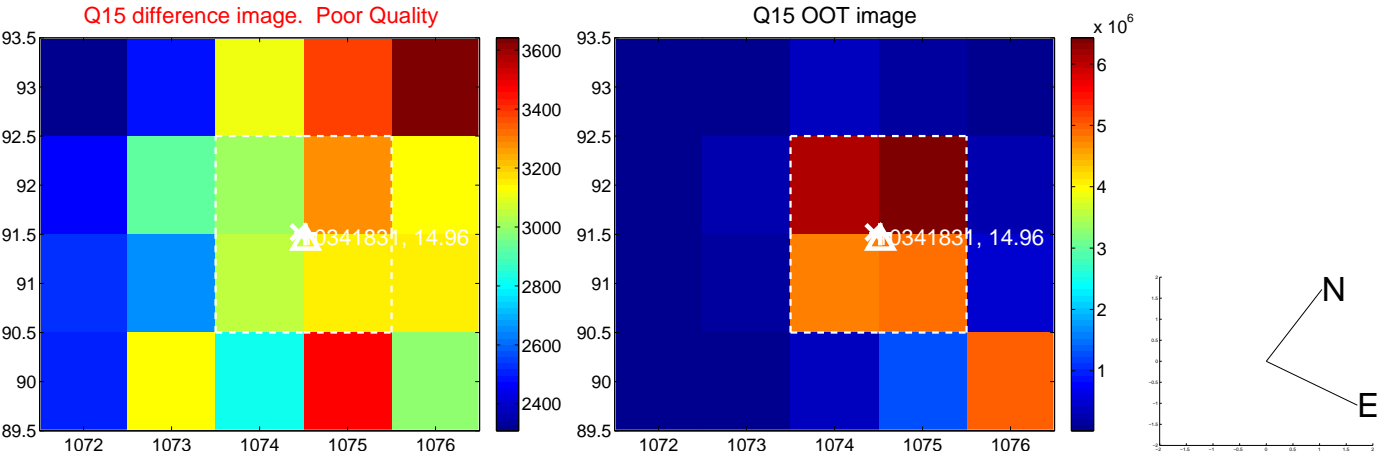
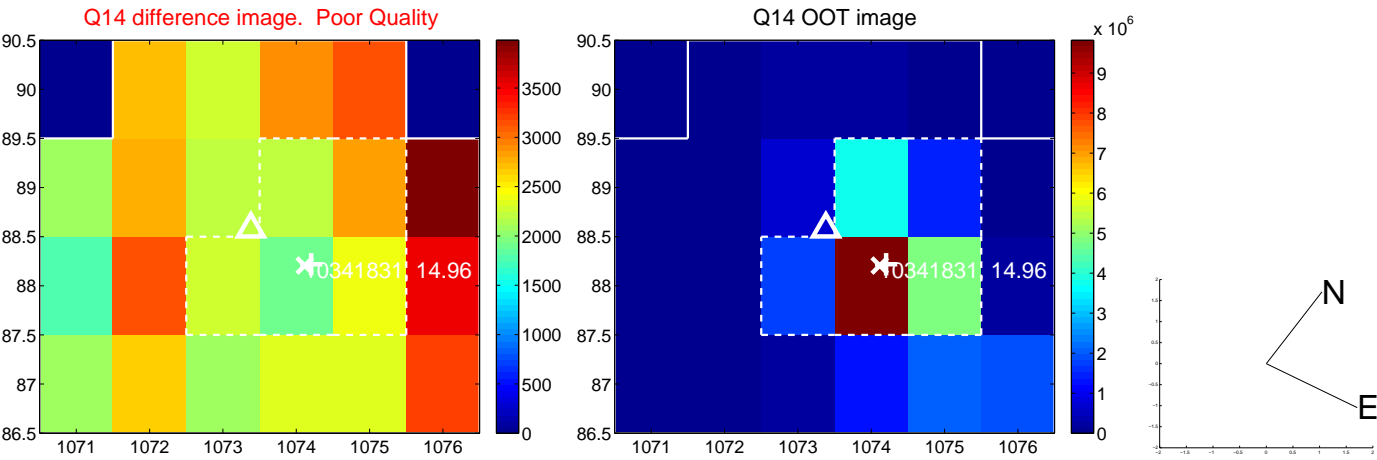
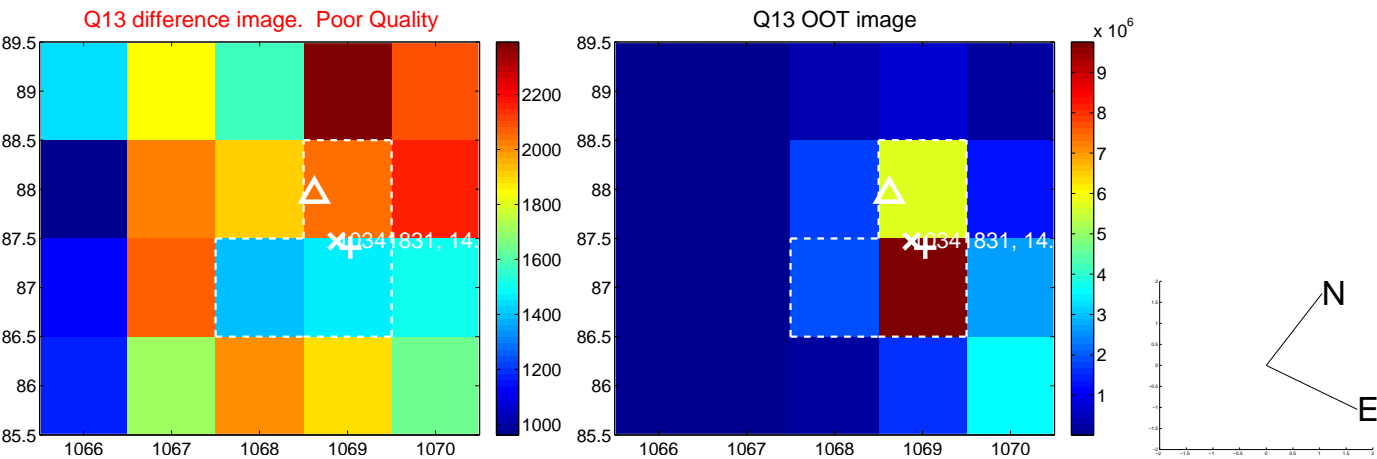
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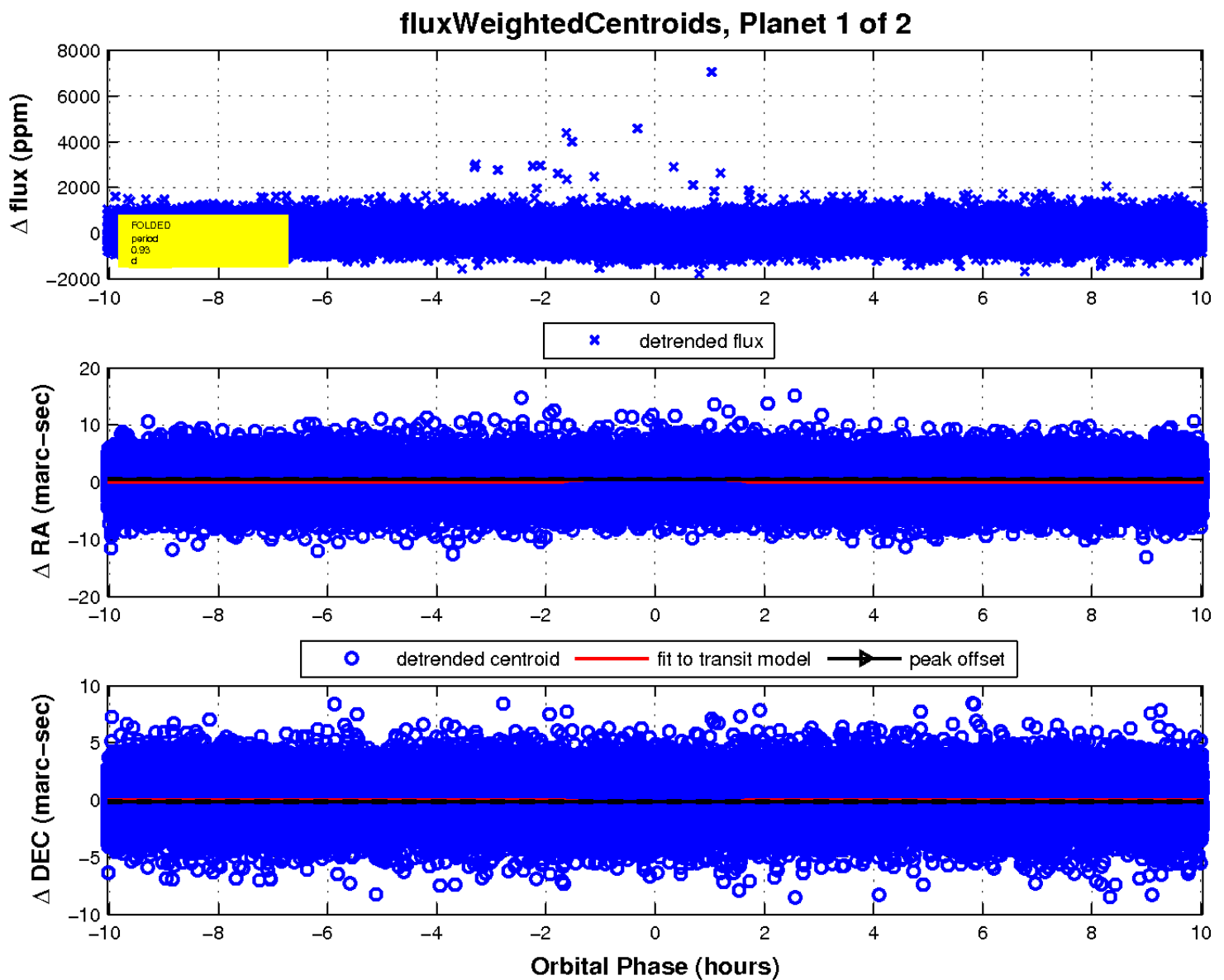
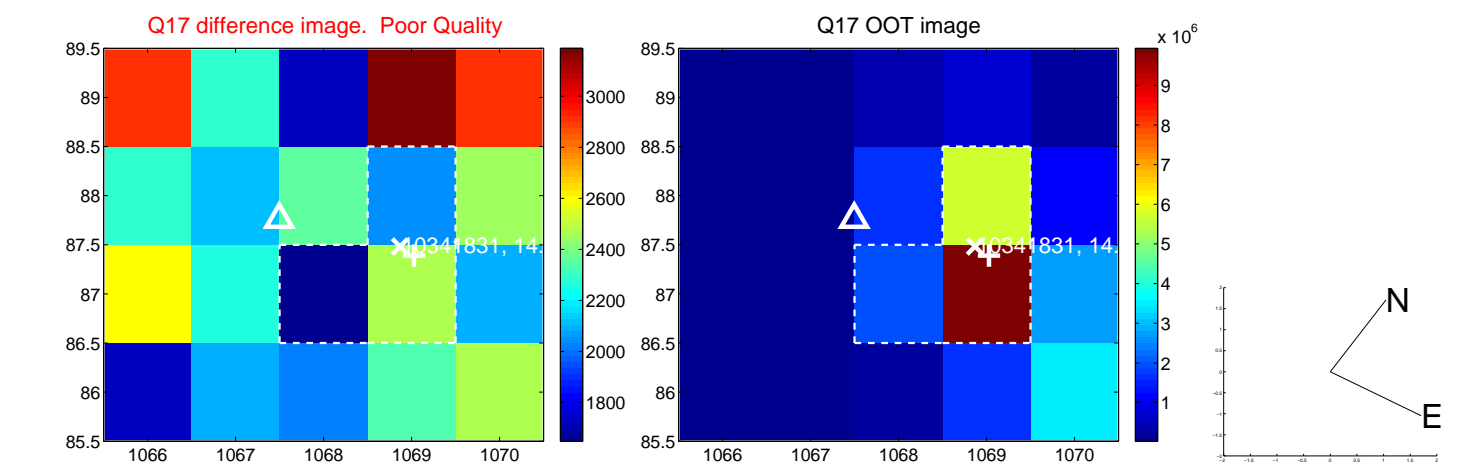
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UKIRT Image

