

KIC 003003019

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})
003003019-01	OBS	7642.01	0.502610	131.614722	38.6	2.540	9.1	9.6	1.10	6029	0.81	8925.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003003019-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_ALT—CENT_RESOLVED_OFFSET

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

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

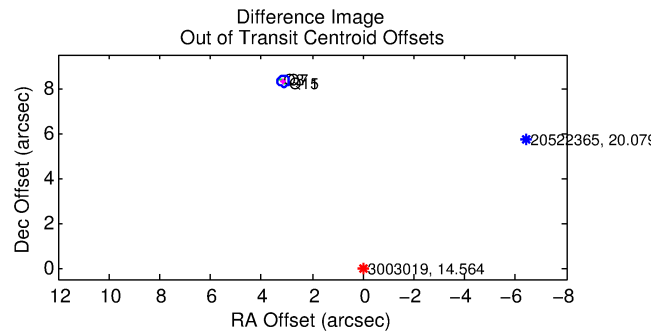
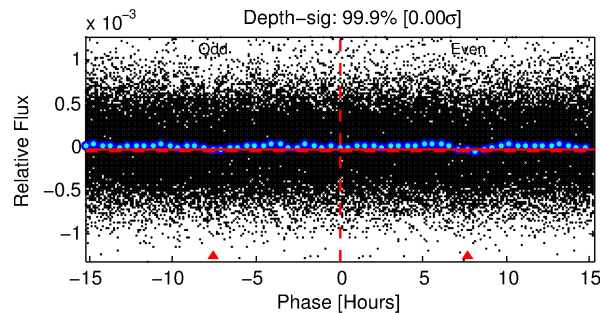
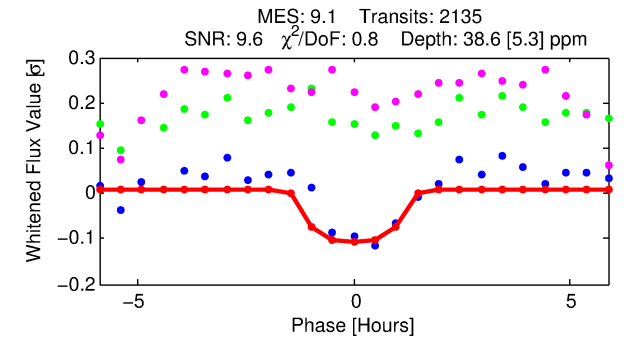
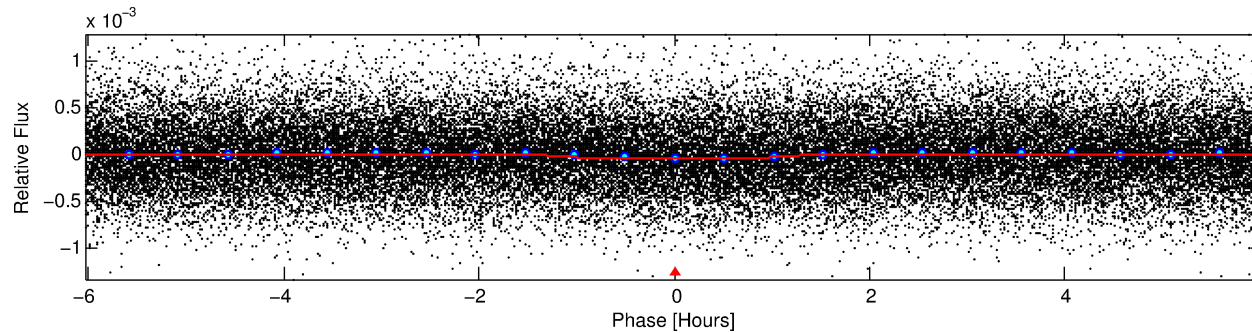
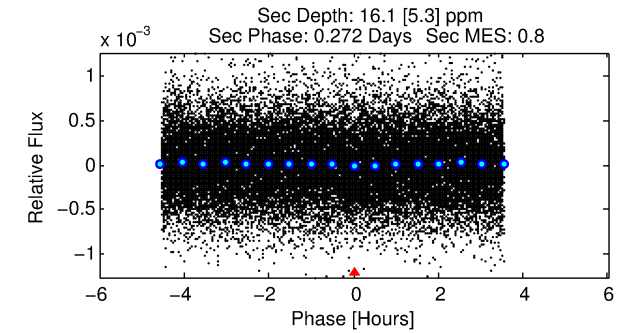
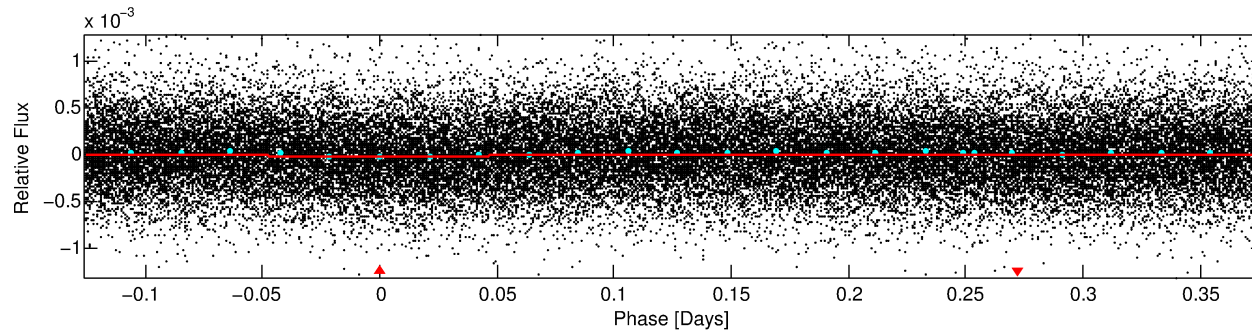
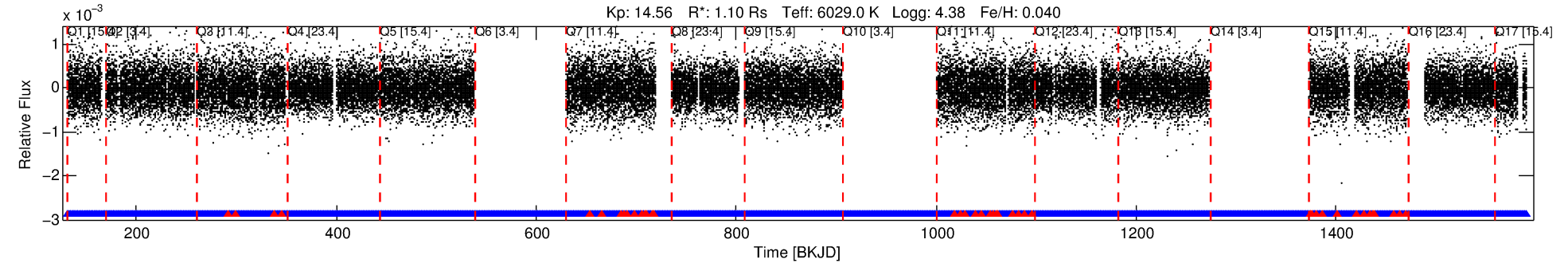
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003003019-01

No Significant Match Found

DV One-Page Summary

KIC: 3003019 Candidate: 1 of 1 Period: 0.503 d



DV Fit Results:

Period = 0.50261 [0.00001] d
Epoch = 131.6147 [0.0033] BKJD
Rp/R* = 0.0068 [0.0057]
a/R* = 1.15 [1.26]
b = 0.91 [0.89]
Seff = 8925.56 [3640.72]
Teq = 2478 [253] K
Rp = 0.81 [0.73] Re
a = 0.0126 [0.0033] AU
Ag = 2.15 [3.79] [0.30σ]
Teffp = 4641 [2004] K [1.07σ]

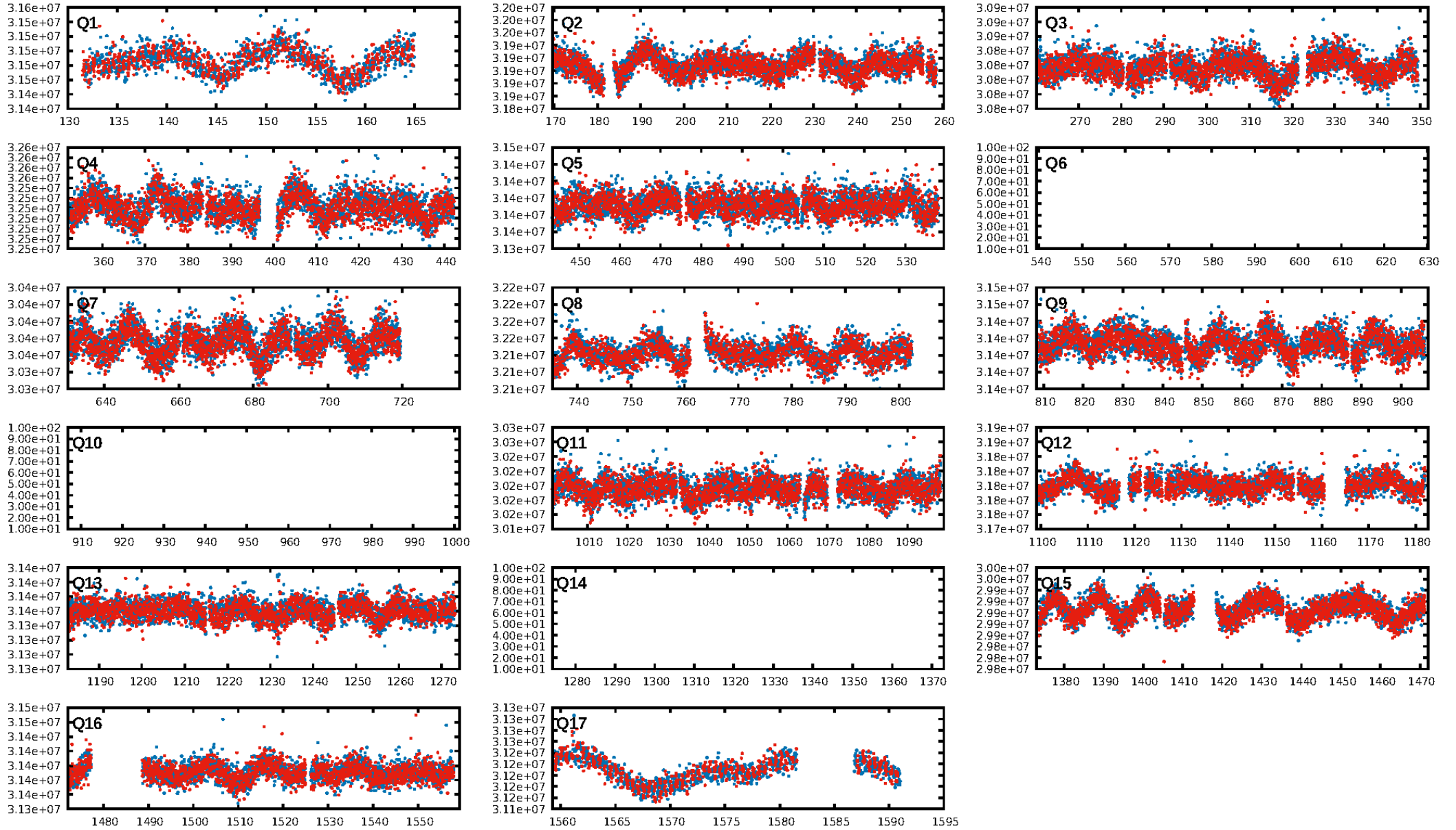
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.96e-16
RollingBand-fgt: 0.98 [1973/2016]
GhostDiagnostic-chr: -1.138
Centroid-sig: 0.0%
Centroid-so: 6.254 arcsec [3.88σ]
OotOffset-rm: 8.899 arcsec [108.34σ]
KicOffset-rm: 8.844 arcsec [105.63σ]
OotOffset-st: 0/4/0/0 [4]
KicOffset-st: 0/4/0/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [14/14]

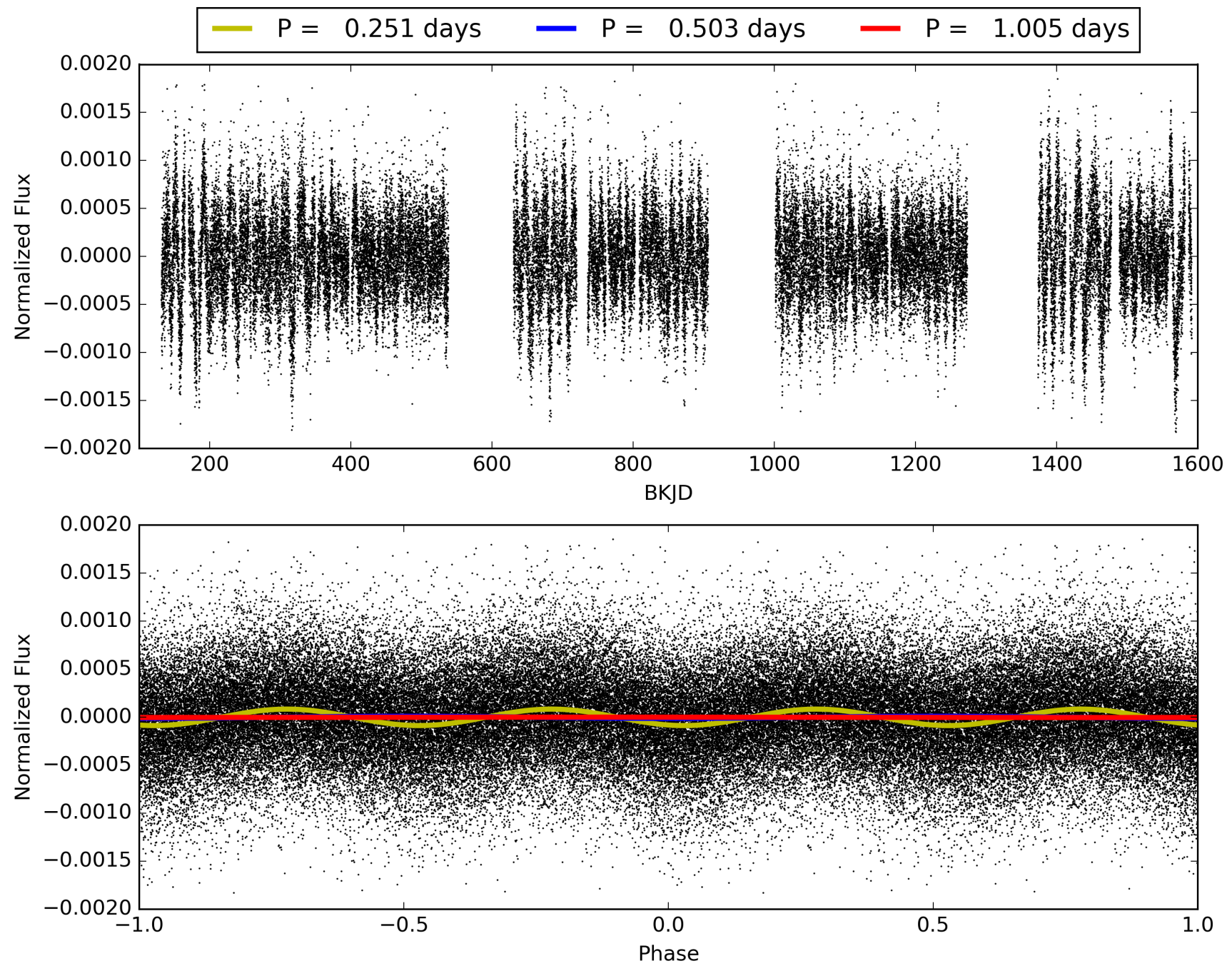
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:34:30 Z

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

TCE 003003019-01, PDC Light Curves

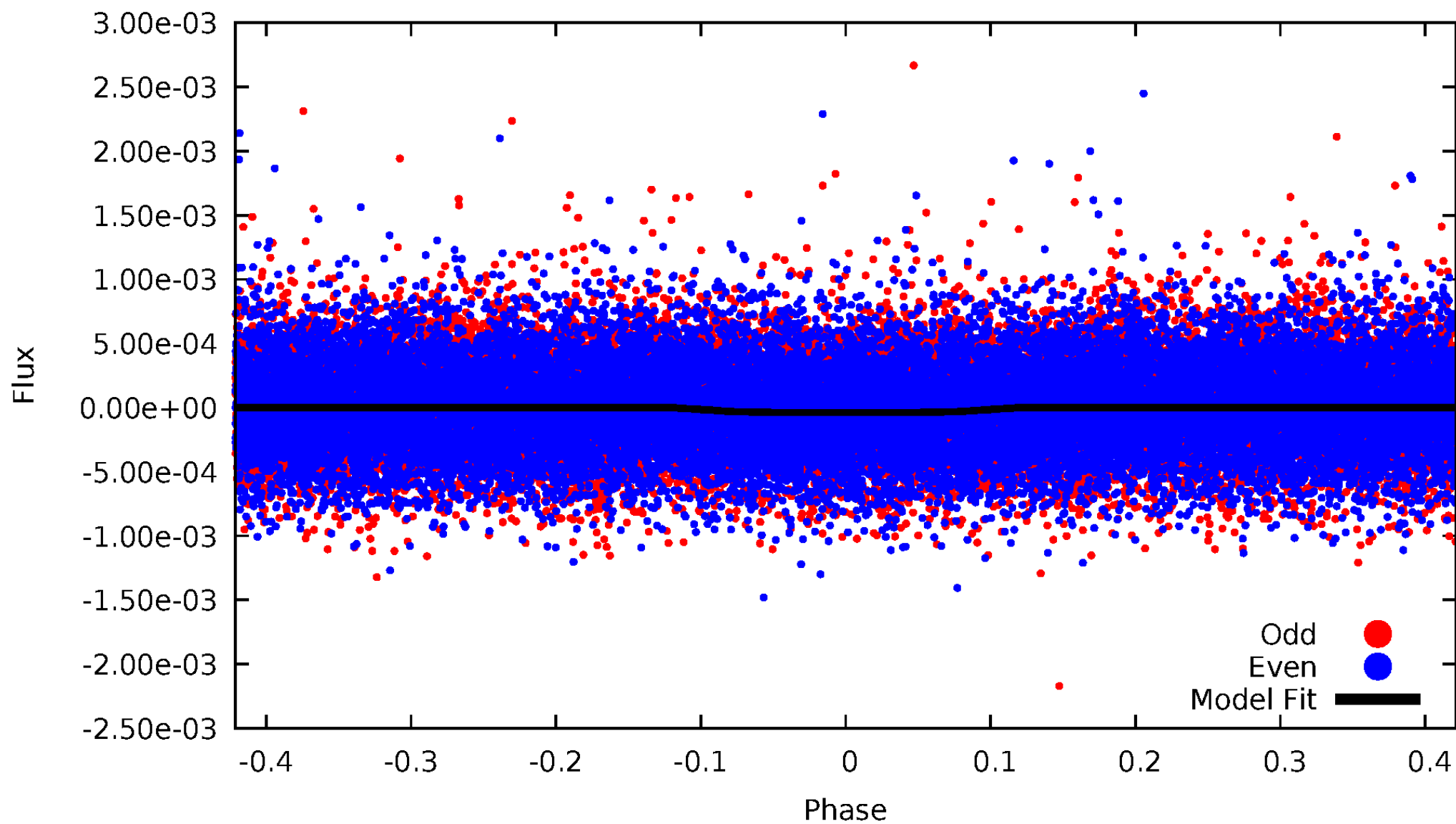


TCE 003003019-01



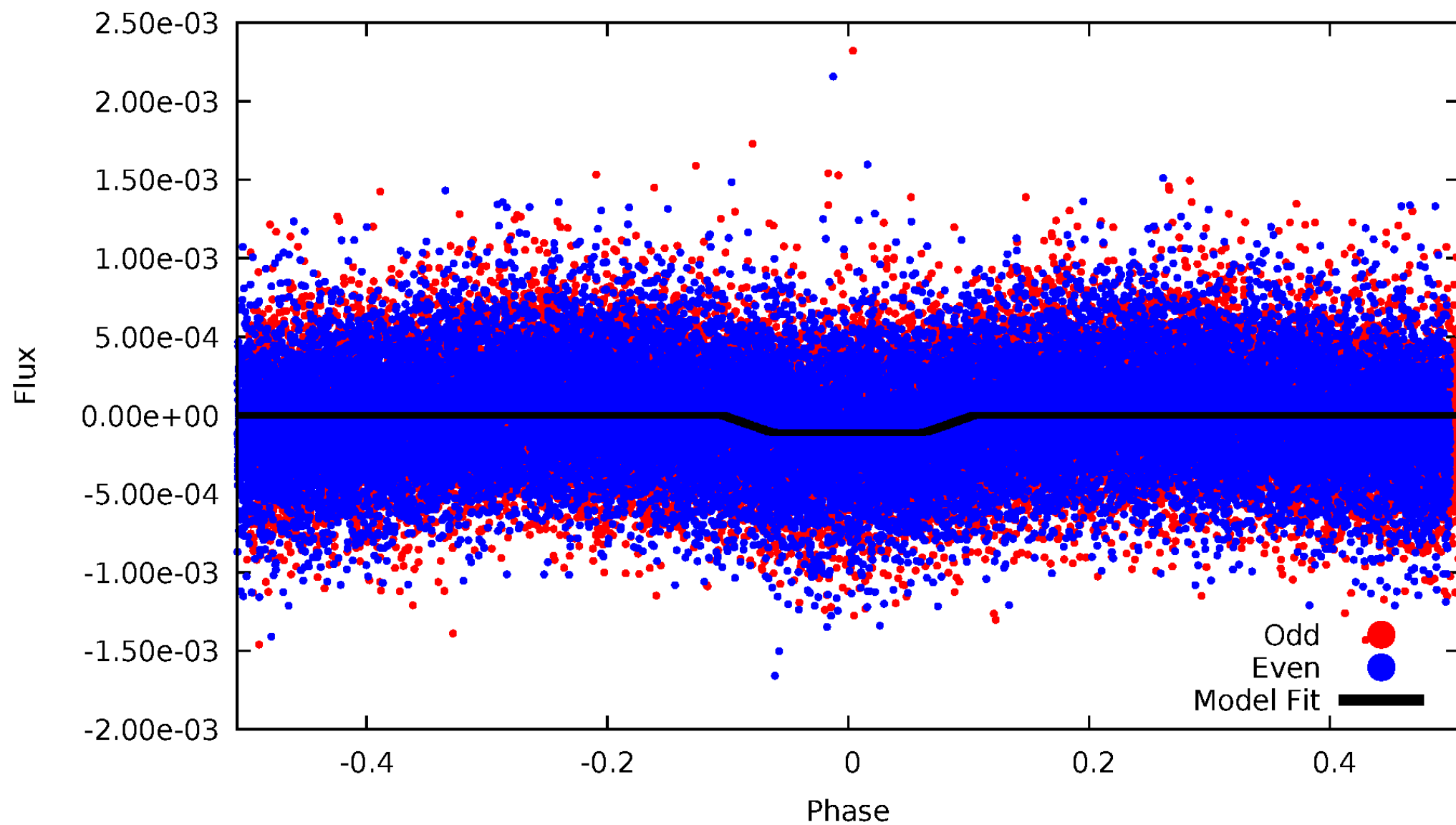
DV Odd/Even

TCE 003003019-01



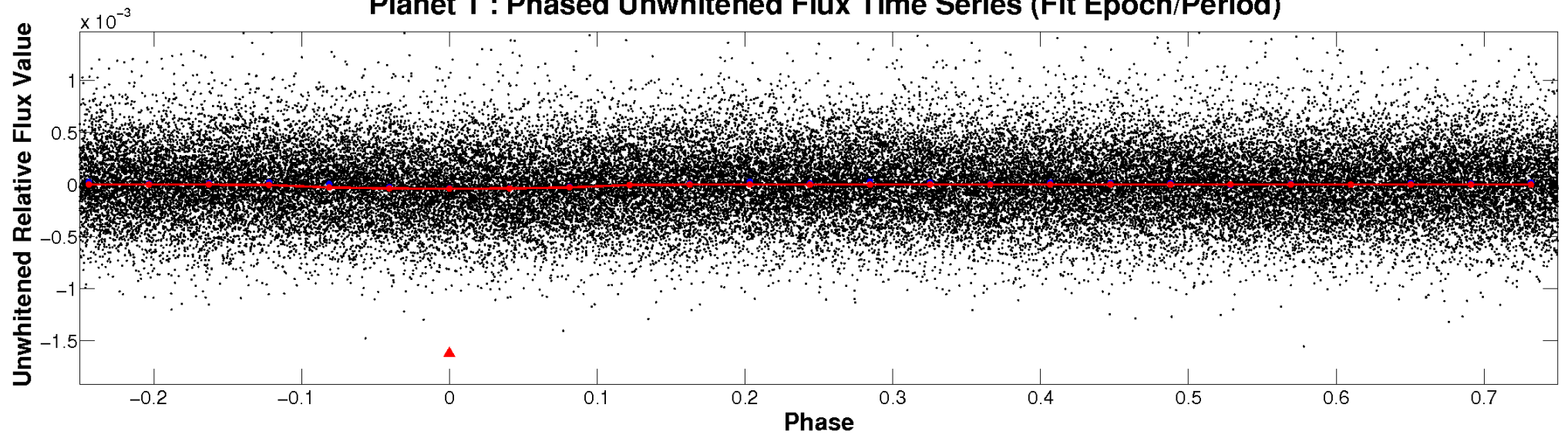
ALT Odd/Even

TCE 003003019-01

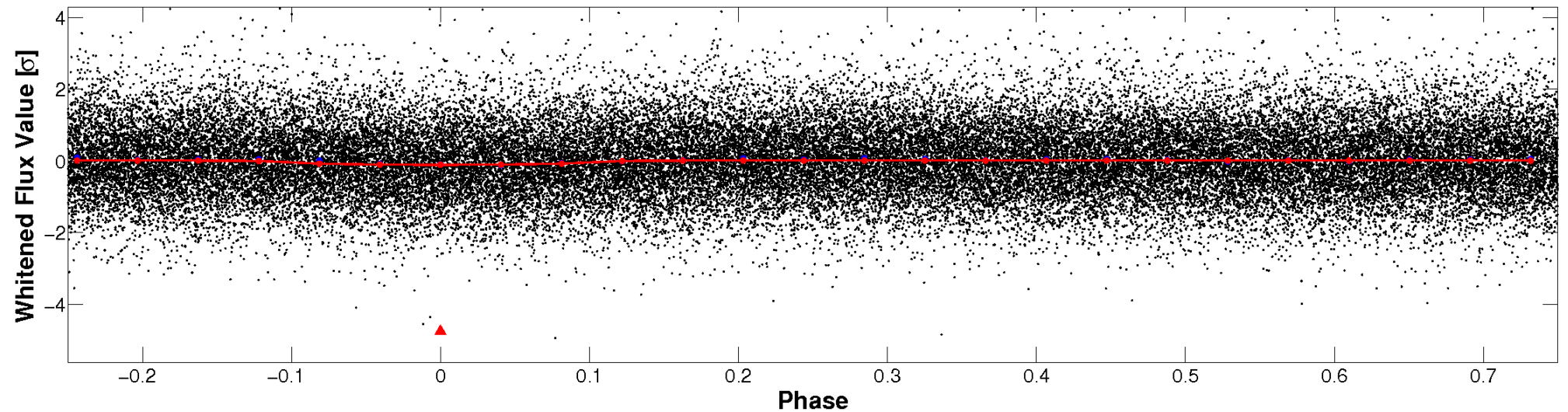


Non-Whitened Vs. Whitened Light Curve

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

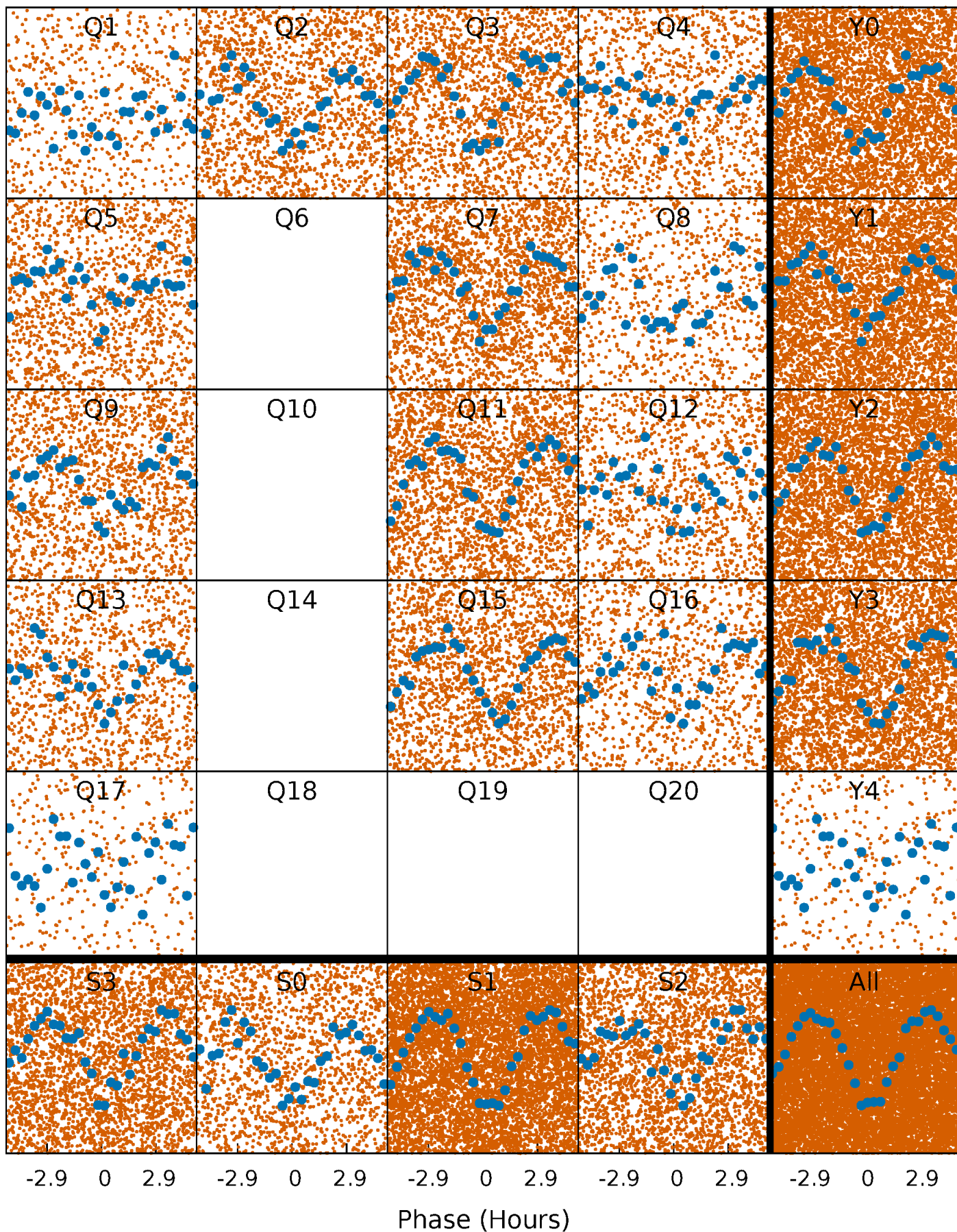


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



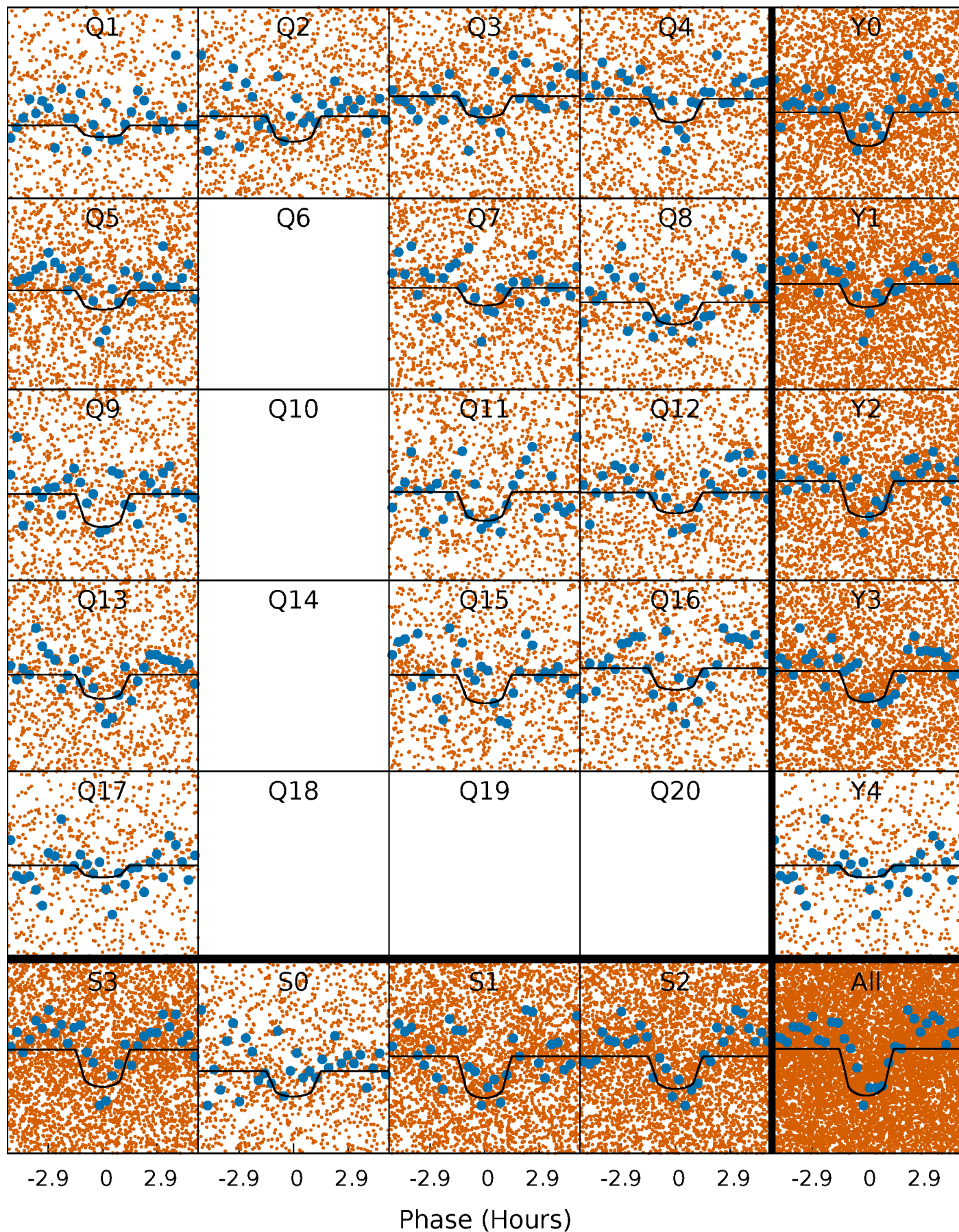
PDC Quarter-Phased Transit Curves

TCE 003003019-01 P= 0.502610 Days $T_0=131.614722$ (BKJD)



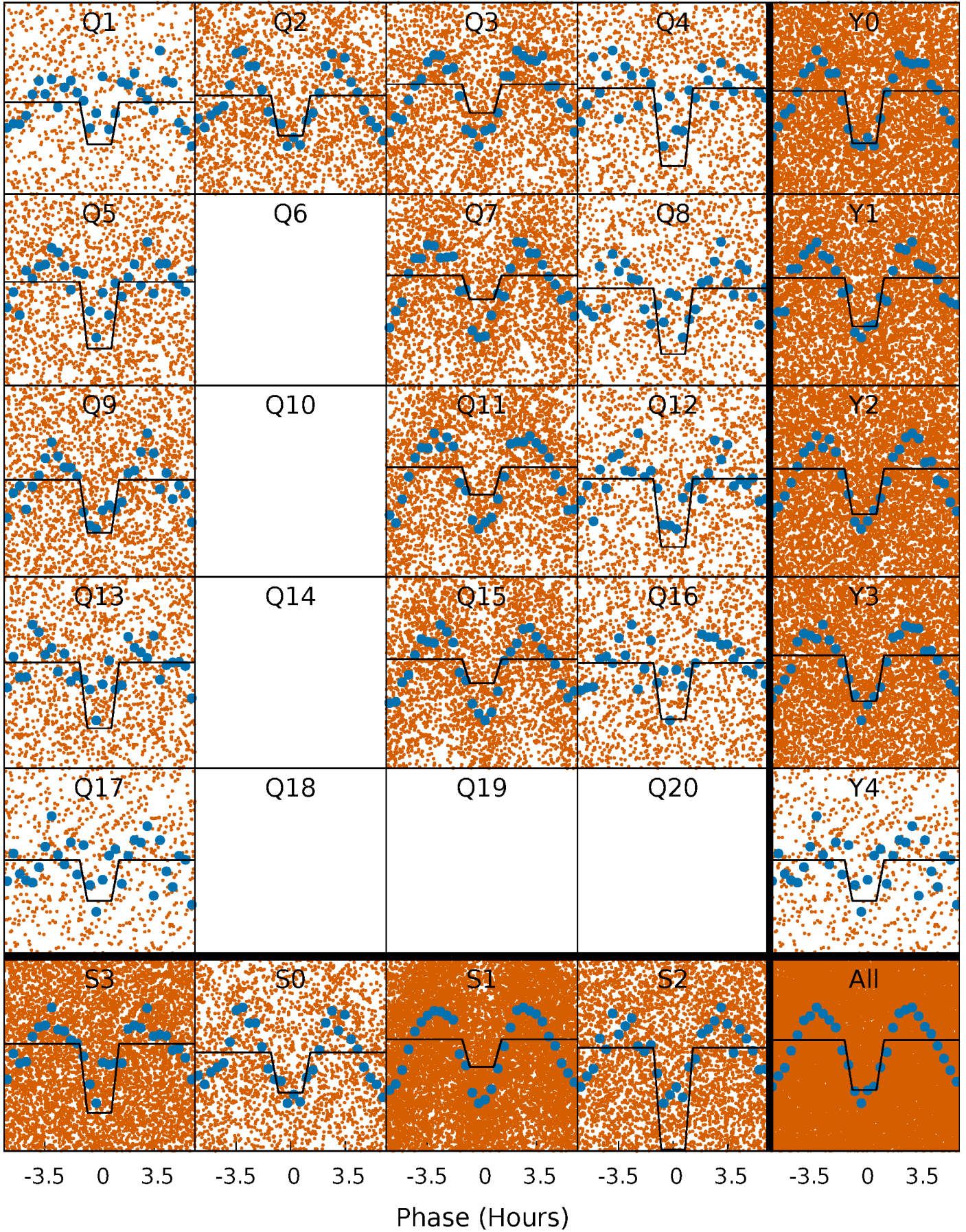
DV Quarter-Phased Transit Curves

TCE 003003019-01 P= 0.502610 Days $T_0=131.614722$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

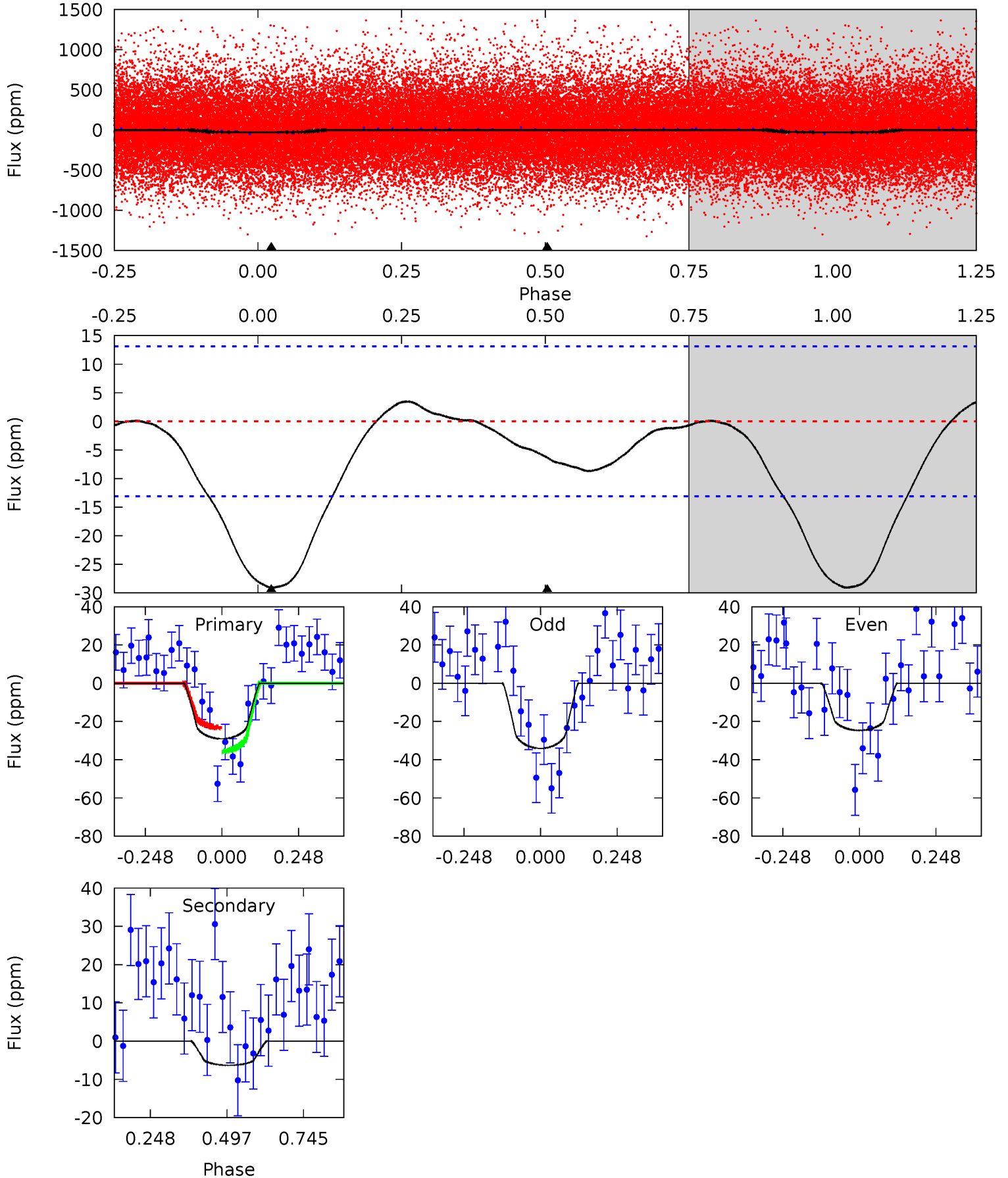
TCE 003003019-01 P= 0.502623 Days $T_0=131.611664$ (BKJD)



DV Model-Shift Uniqueness Test

003003019-01, P = 0.502610 Days, E = 131.112112 Days

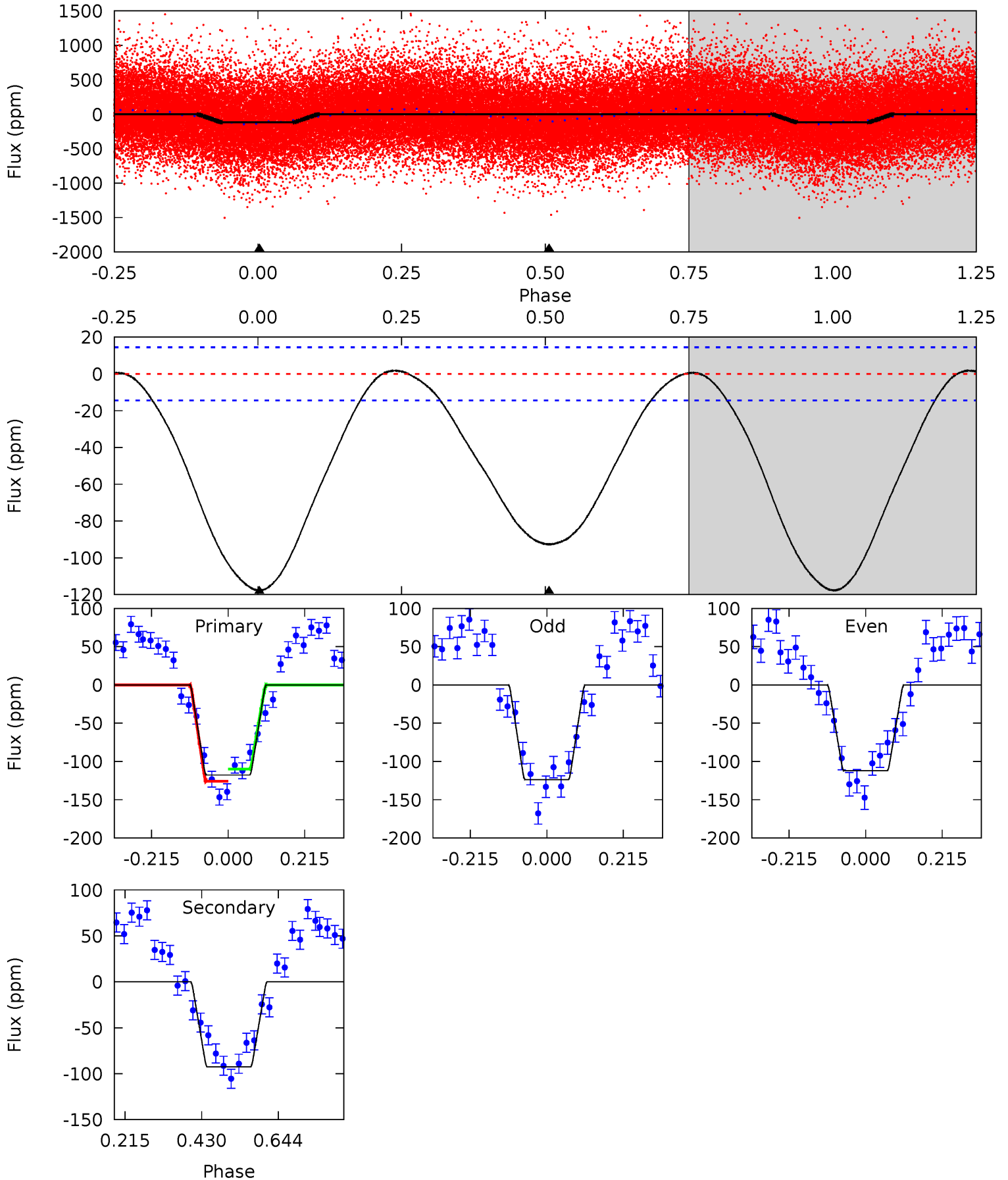
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.69	2.11	0	0	4.37	1.15	0.58	9.69	9.69	2.11	2.11	1.57	0.95	0.11	2.08



Alt Model-Shift Uniqueness Test

003003019-01, P = 0.502623 Days, E = 131.109041 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.0	28.3	0	0	4.40	1.24	0.55	36.0	36.0	28.3	28.3	1.77	1.06	0.01	2.46



Stellar Parameters For KIC 003003019

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6029^{+190}_{-211}	$4.385^{+0.090}_{-0.210}$	$0.040^{+0.250}_{-0.300}$	$1.098^{+0.341}_{-0.146}$	$1.065^{+0.159}_{-0.130}$	$1.135^{+0.458}_{-0.628}$
	+3%/-3%	+2%/-5%	+625%/-750%	+31%/-13%	+15%/-12%	+40%/-55%
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 003003019-01 / KOI 7642.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6 ± 3	$0.91^{+0.70}_{-0.52}$	3516^{+265}_{-200}	3350^{+1874}_{-6391}	$0.598^{+2.617}_{-0.439}$
Alt.	-93 ± 3	$1.34^{+0.75}_{-0.74}$	3517^{+262}_{-196}	5611^{+3333}_{-1049}	$4.524^{+18.107}_{-2.613}$

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 $A_{obs} \gg 1.0$

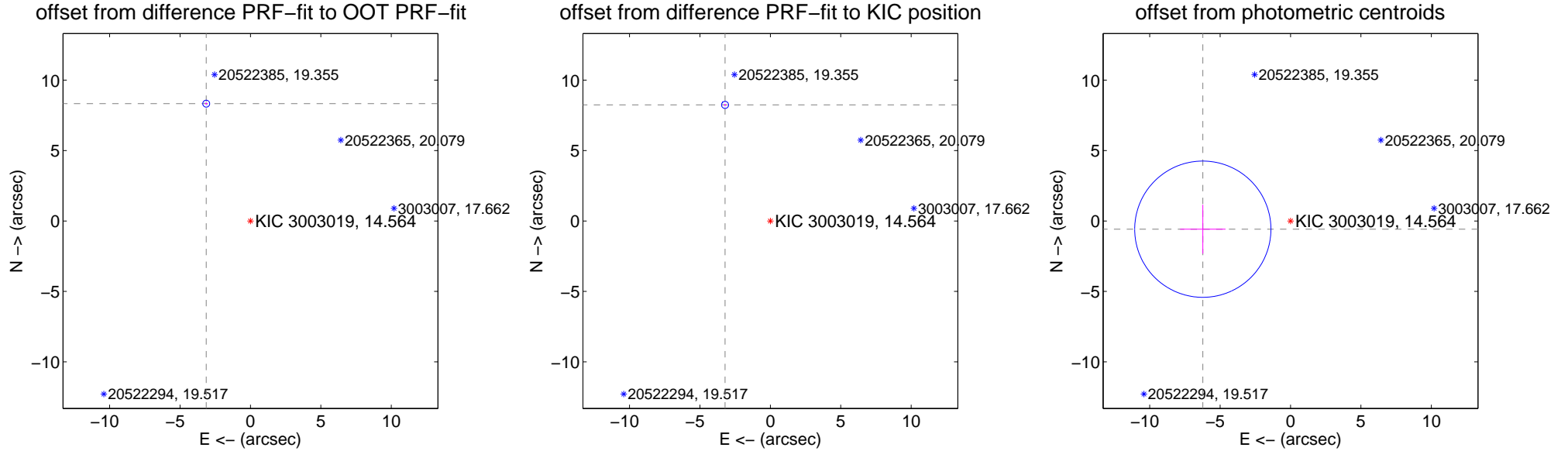
DV Centroid Data

Supplemental centroid analysis for 003003019-01. Kepler magnitude: 14.56. Transit SNR 9.56

There are 4 quarters with good PRF difference image offsets

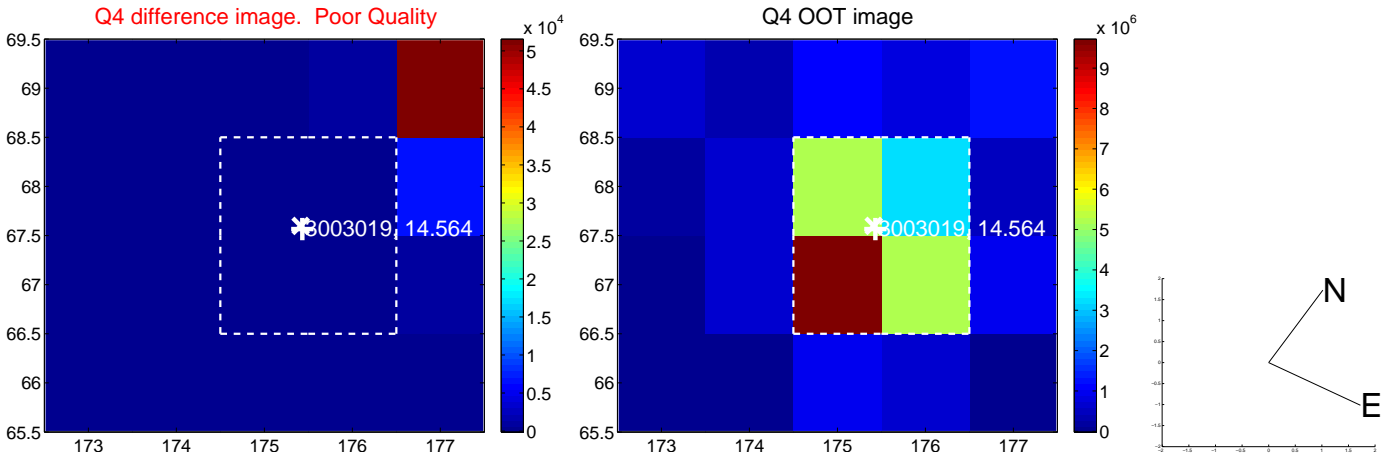
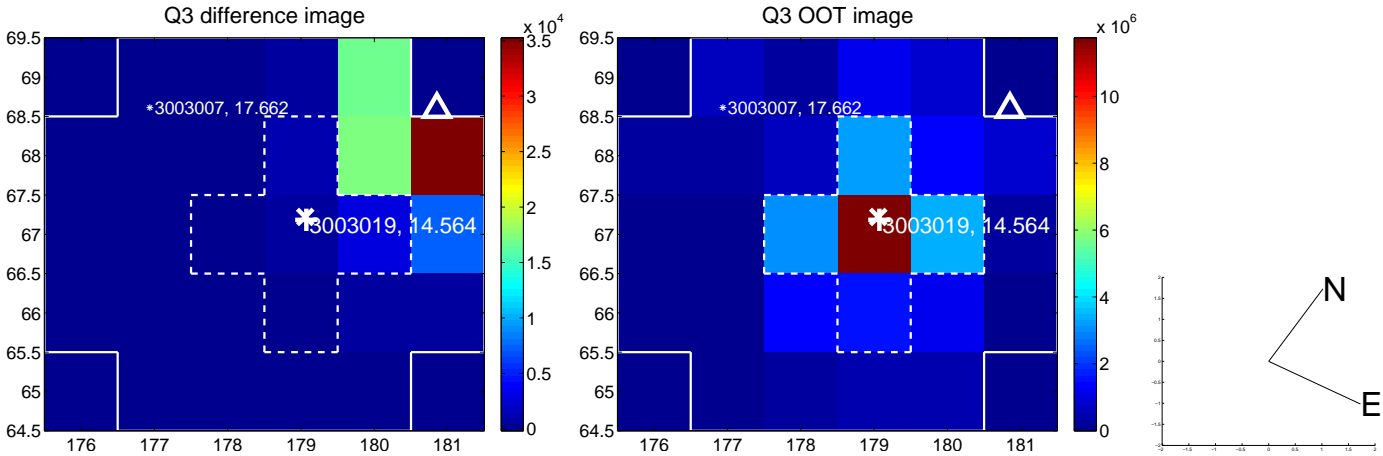
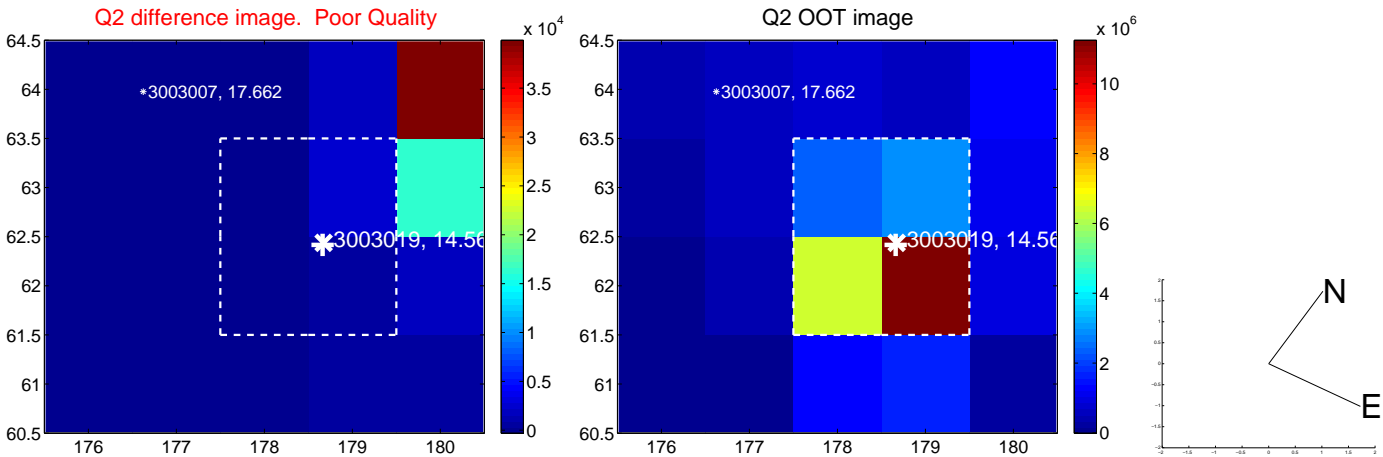
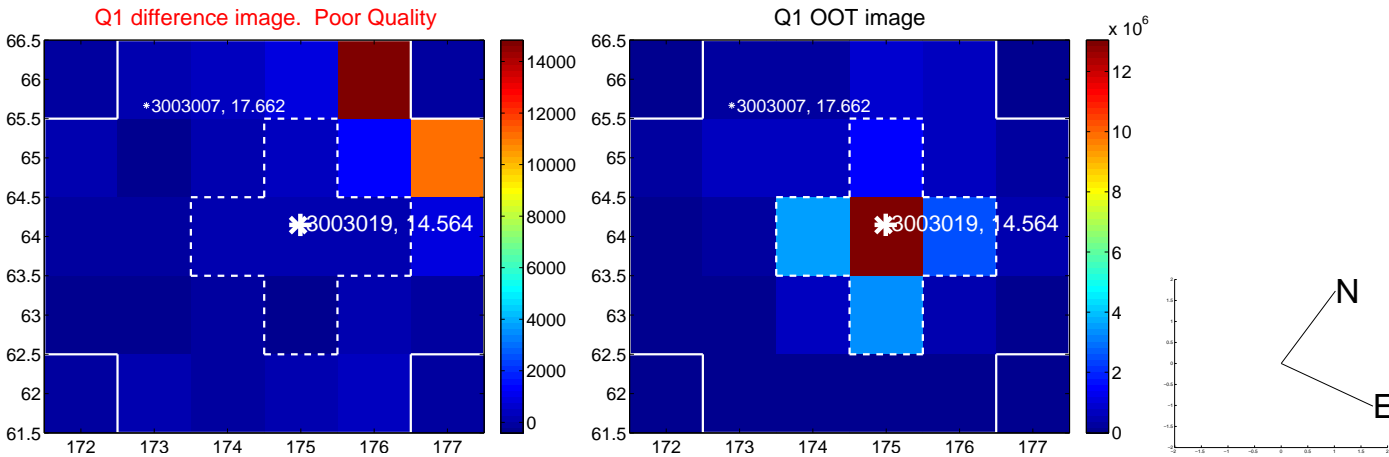
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.899 \pm 0.082	108.34	3.140 \pm 0.083	8.327 \pm 0.082
PRF-fit source offset from KIC position	8.844 \pm 0.084	105.63	3.215 \pm 0.077	8.239 \pm 0.079
photometric centroid source offset	6.25 \pm 1.61	3.88	6.23 \pm 1.61	-0.58 \pm 1.73

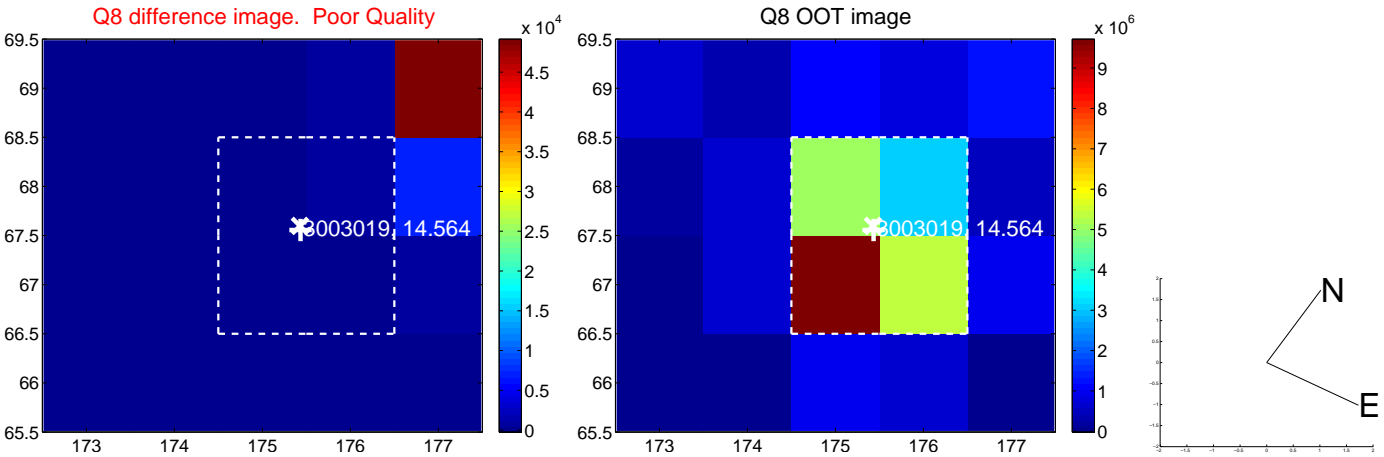
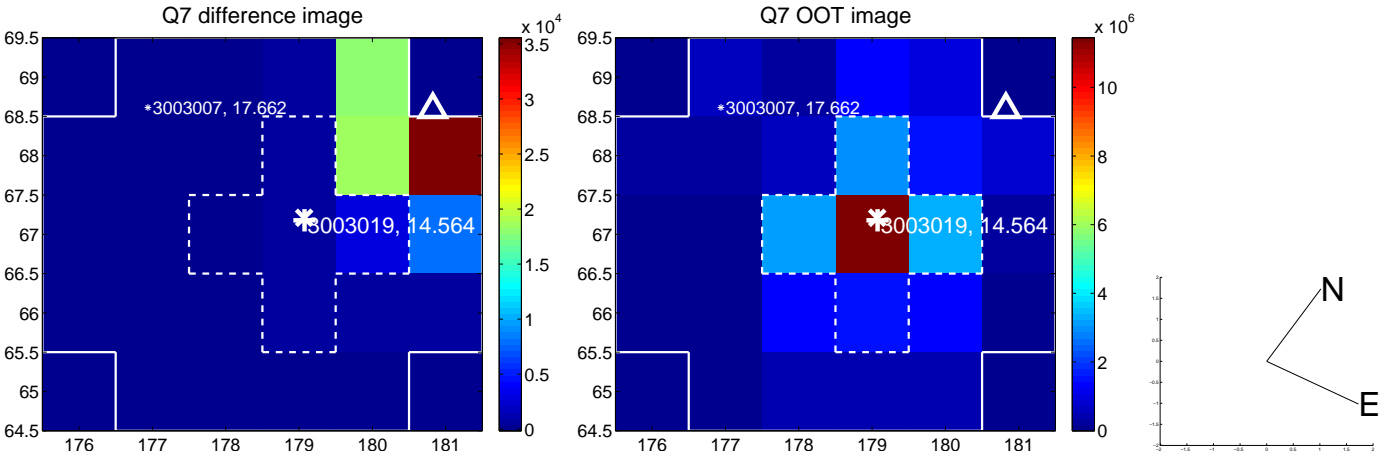
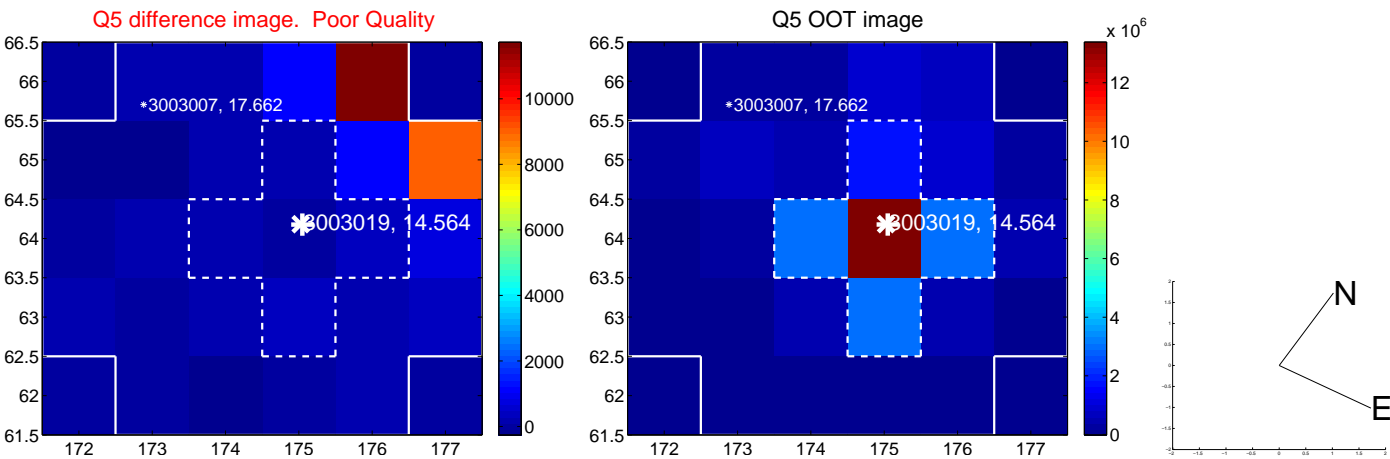


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

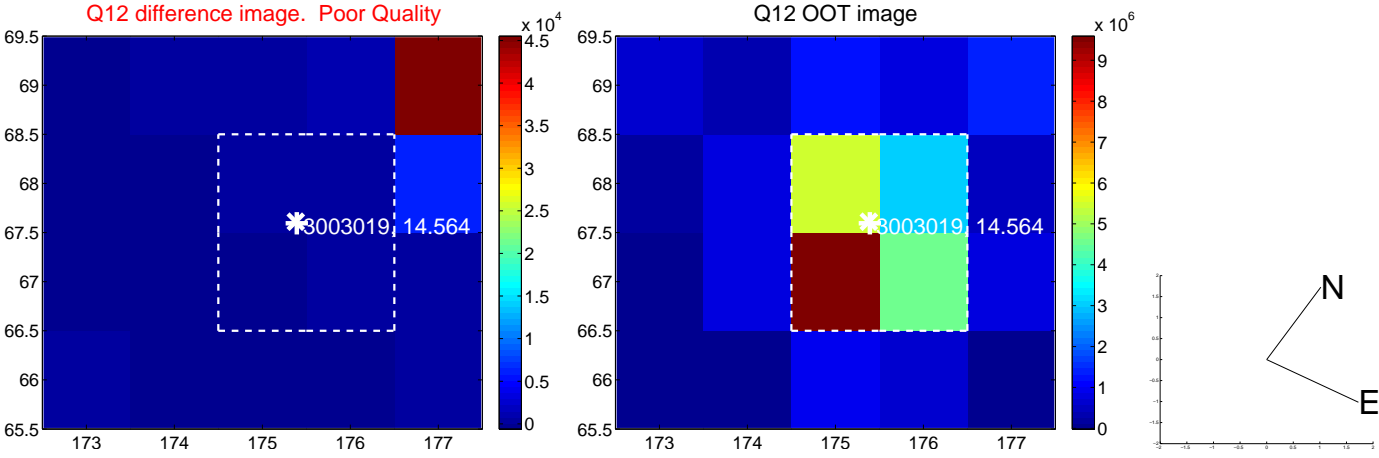
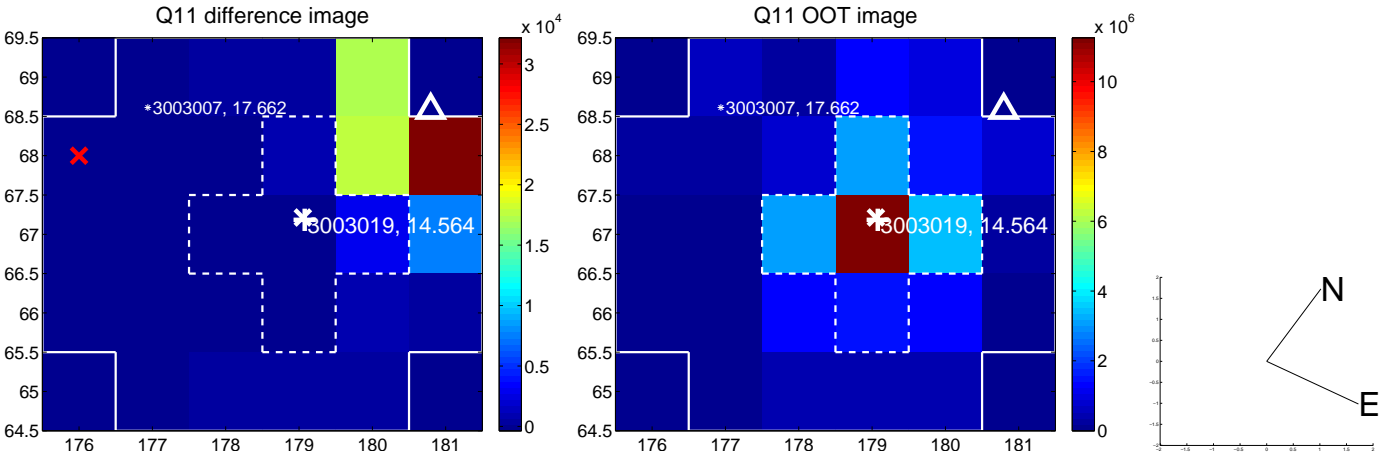
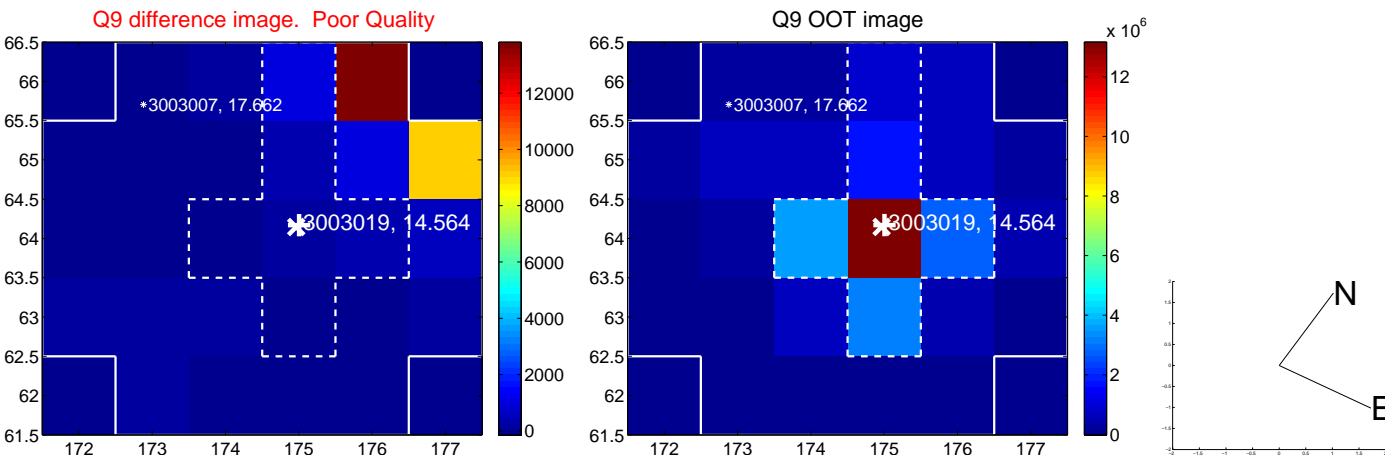
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



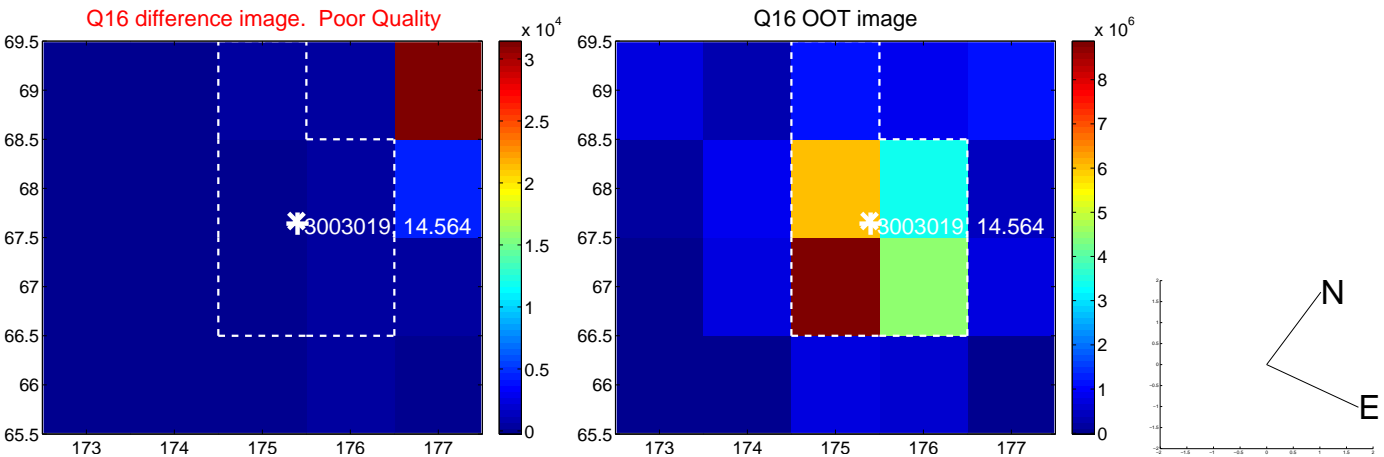
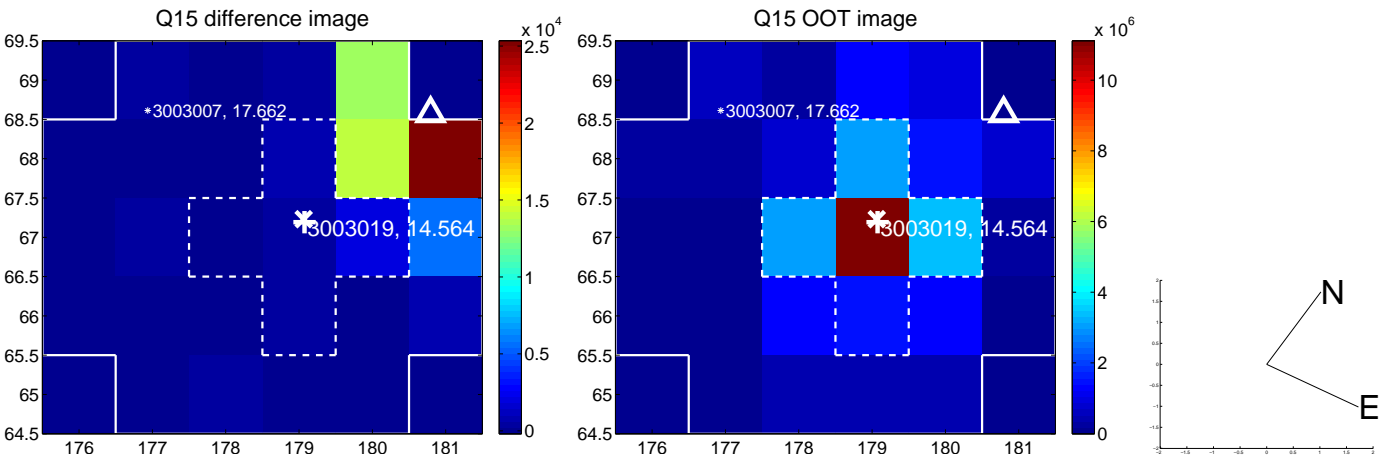
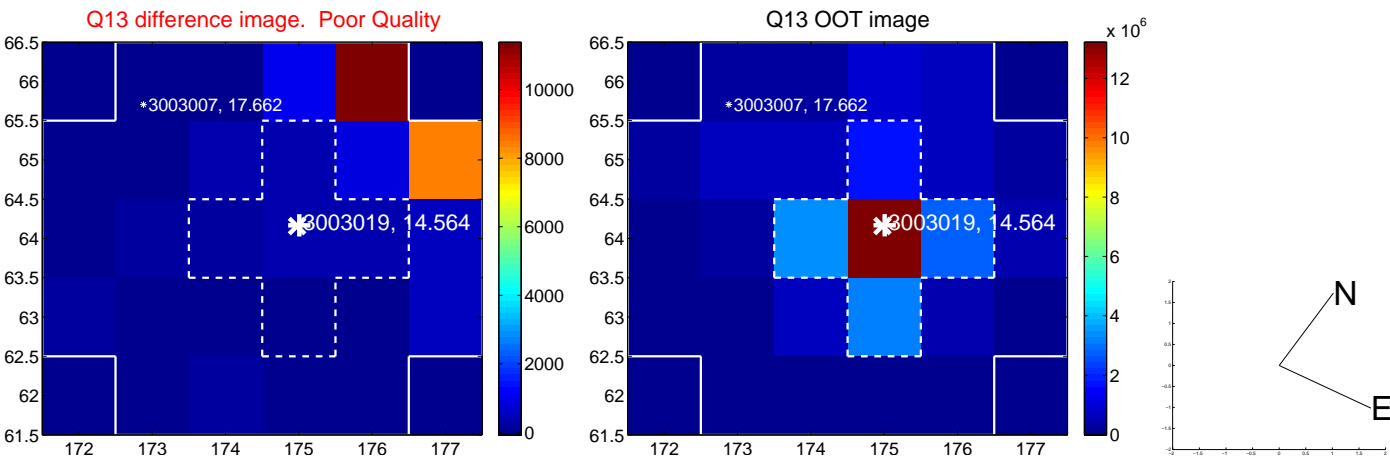
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



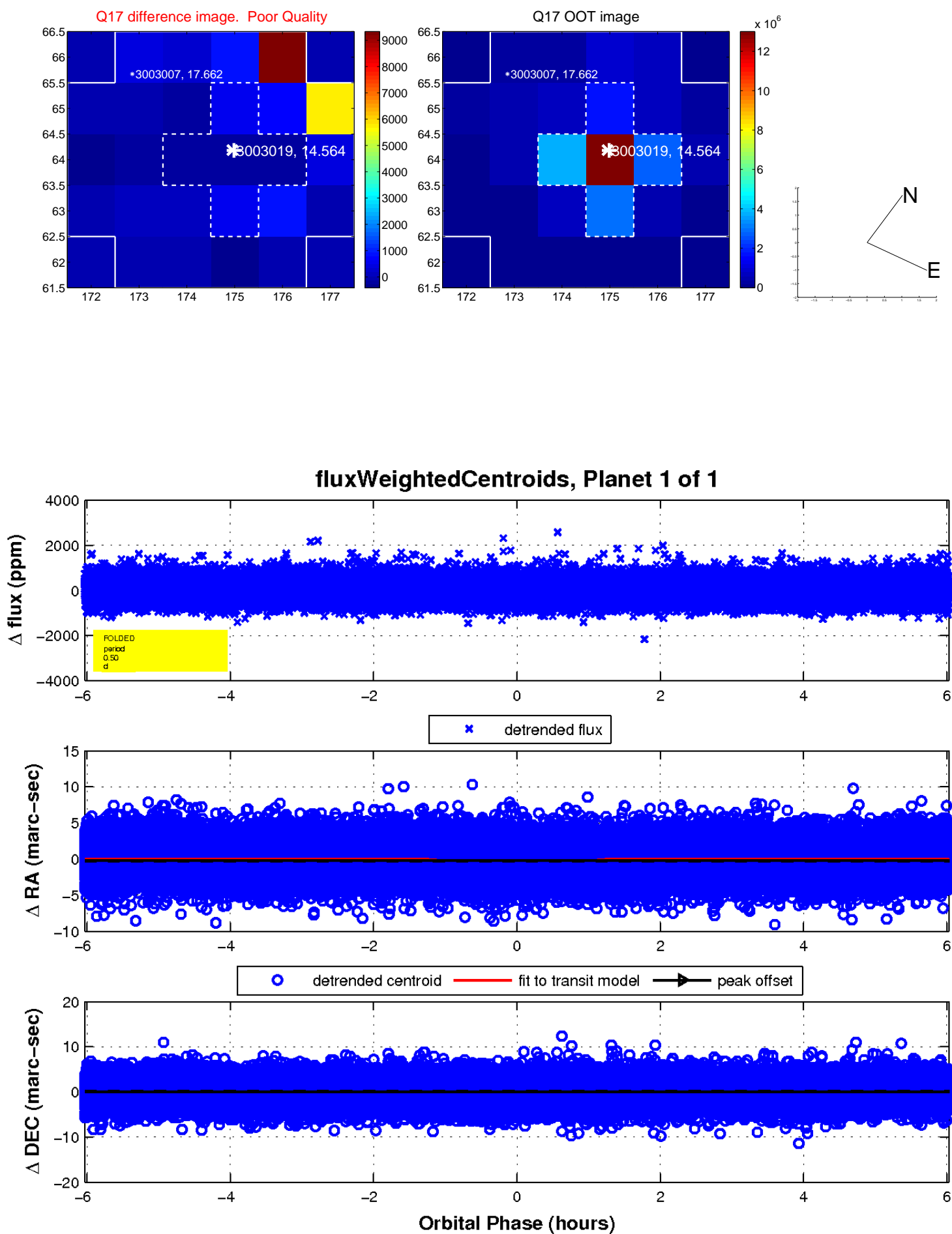
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

