

KIC 004058881

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})
004058881-01	OBS	3912.01	3.886243	132.575597	183.0	5.412	16.2	17.1	0.99	6014	1.59	462.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004058881-01	OBS	FP	0.00	0	0	1	0	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 004058881-01

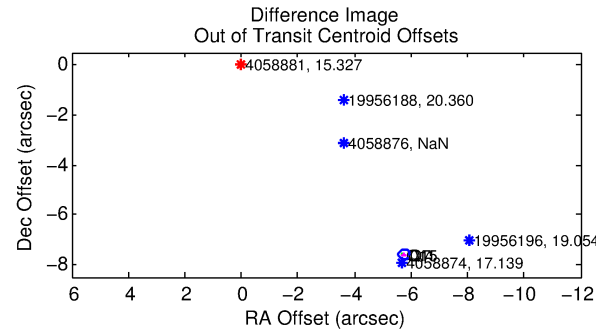
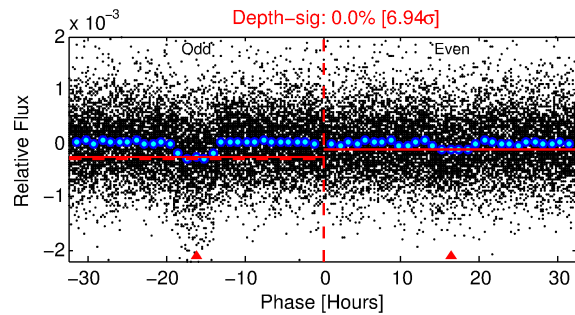
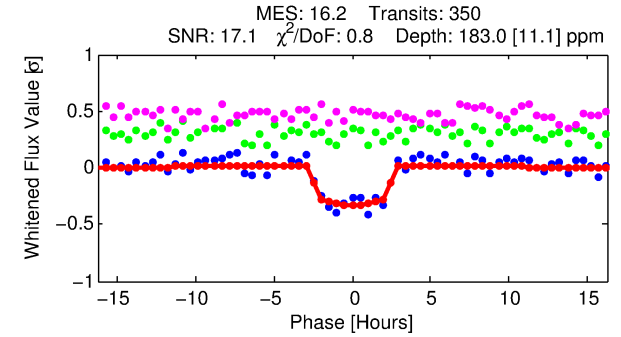
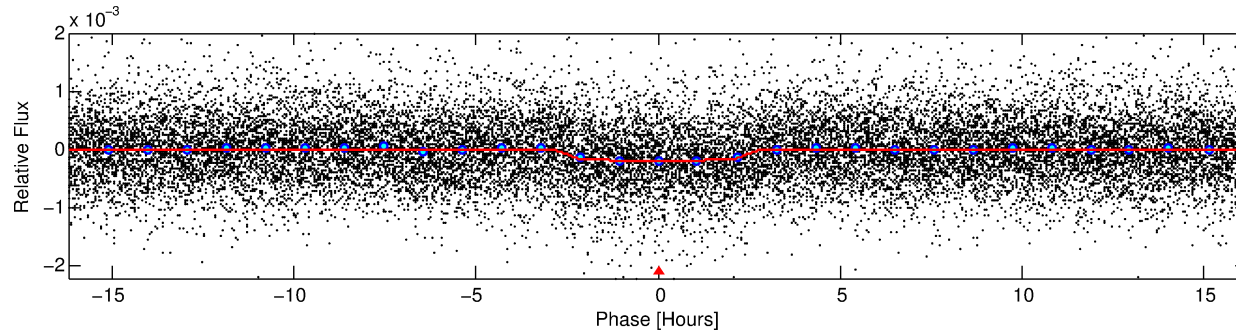
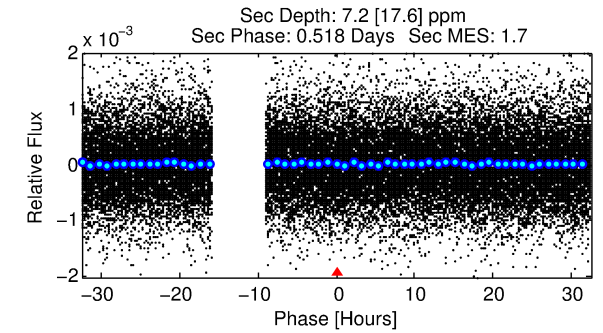
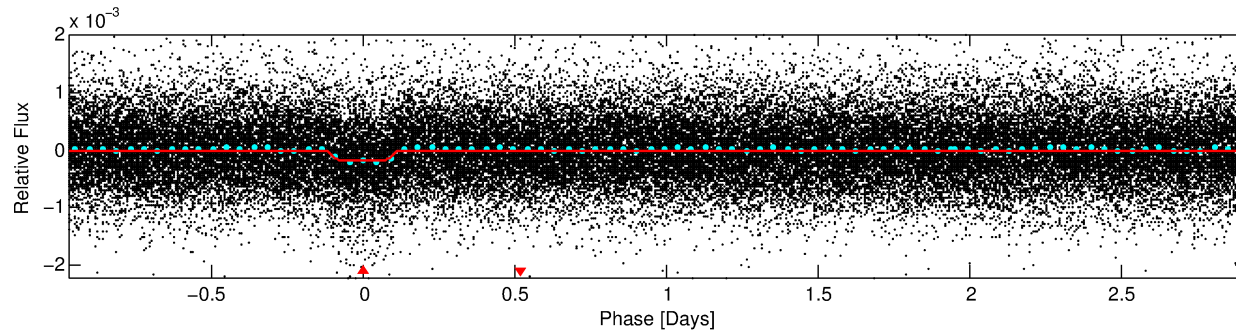
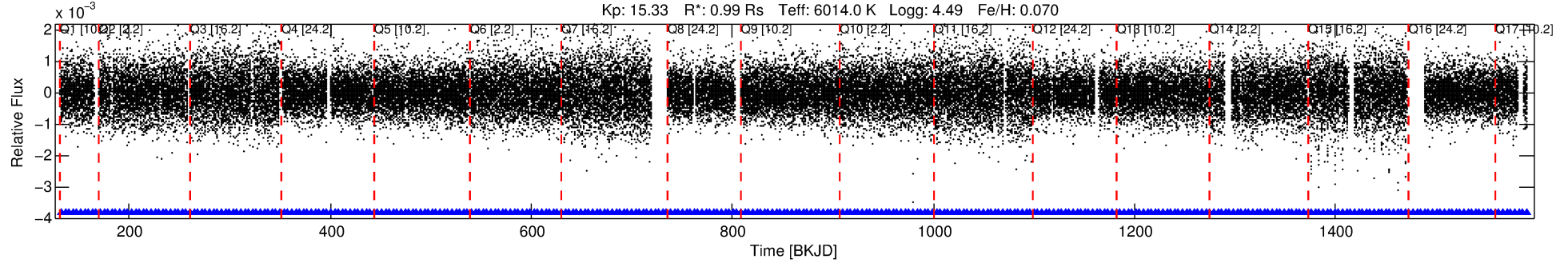
No Significant Match Found

DV One-Page Summary

KIC: 4058881 Candidate: 1 of 1 Period: 3.886 d

KOI: K03912 Corr: No Ephemeris Match

Kp: 15.33 R*: 0.99 Rs Teff: 6014.0 K Logg: 4.49 Fe/H: 0.070



DV Fit Results:

Period = 3.88624 [0.00003] d
Epoch = 132.5756 [0.0045] BKJD
Rp/R* = 0.0146 [0.0028]
a/R* = 2.74 [2.24]
b = 0.90 [0.20]
Seff = 462.89 [178.46]
Teq = 1183 [114] K
Rp = 1.59 [0.55] Re
a = 0.0500 [0.0123] AU
Ag = 3.91 [9.84] [0.30σ]
Teff = 2572 [1602] K [0.87σ]

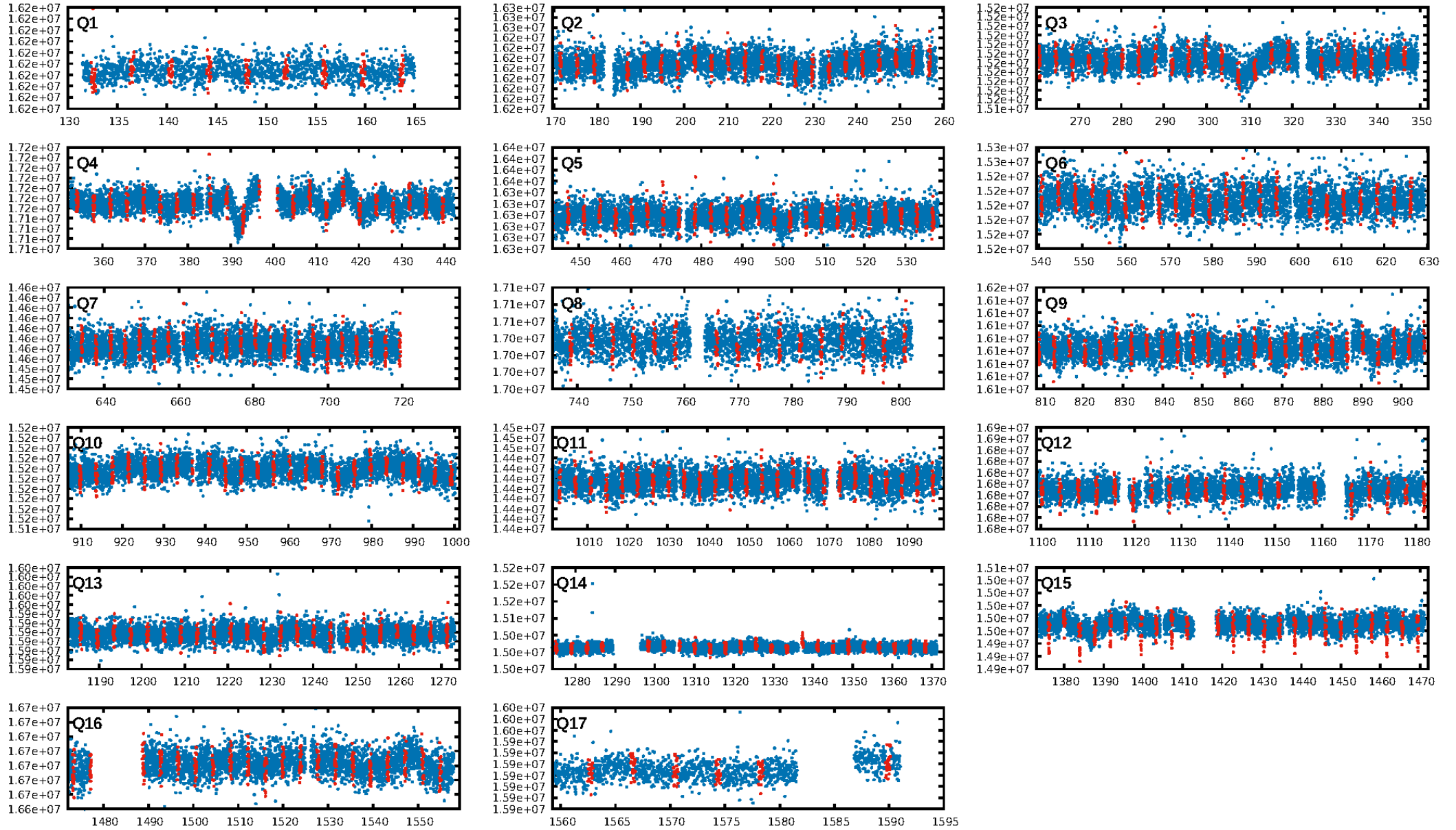
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.04e-59
RollingBand-fgt: 1.00 [335/335]
GhostDiagnostic-chr: -0.3996
Centroid-sig: 0.0%
Centroid-so: 80.229 arcsec [76.07σ]
OotOffset-rm: 9.536 arcsec [136.39σ]
KicOffset-rm: 9.737 arcsec [141.72σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [17/17]

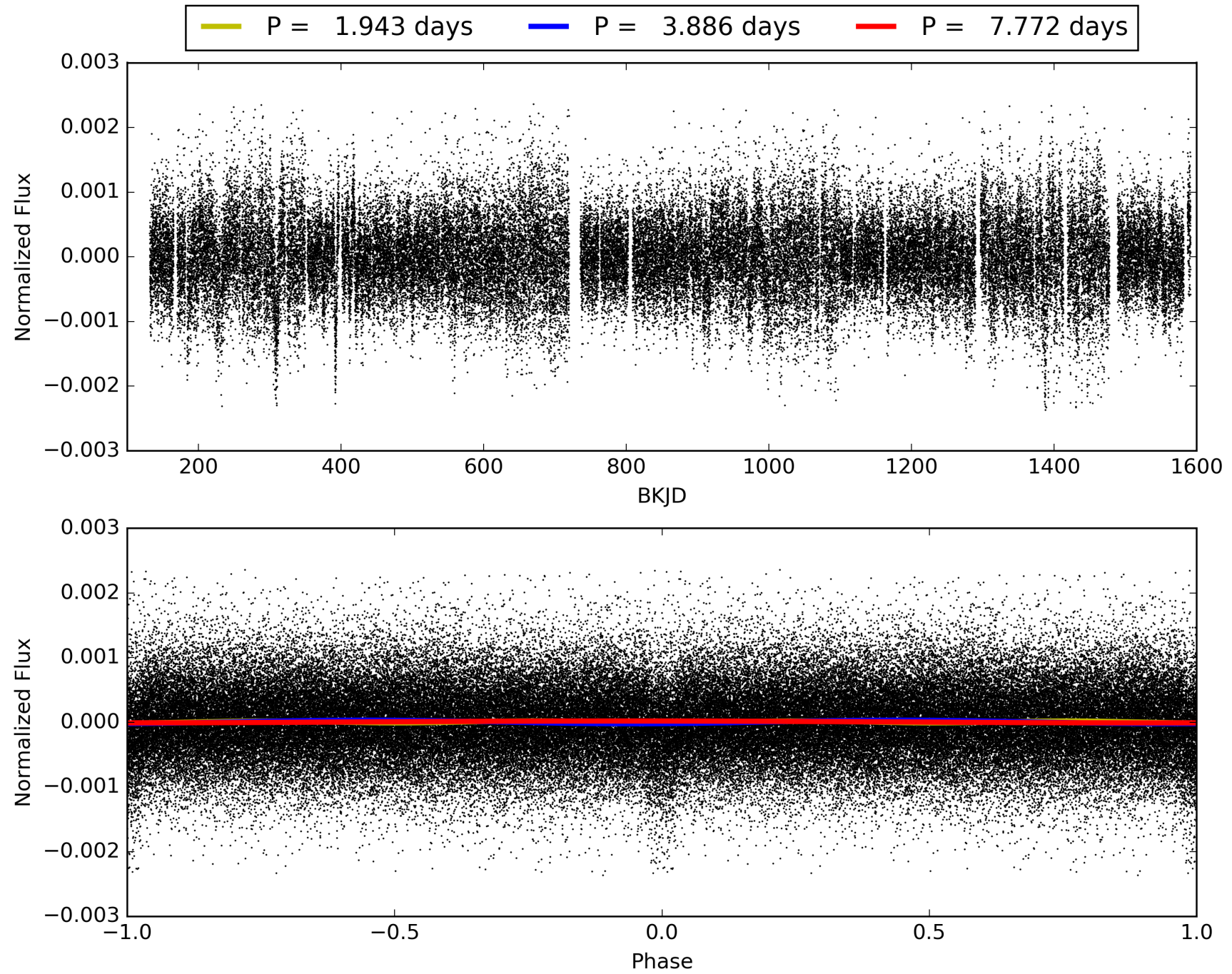
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:22:27 Z

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

TCE 004058881-01, PDC Light Curves

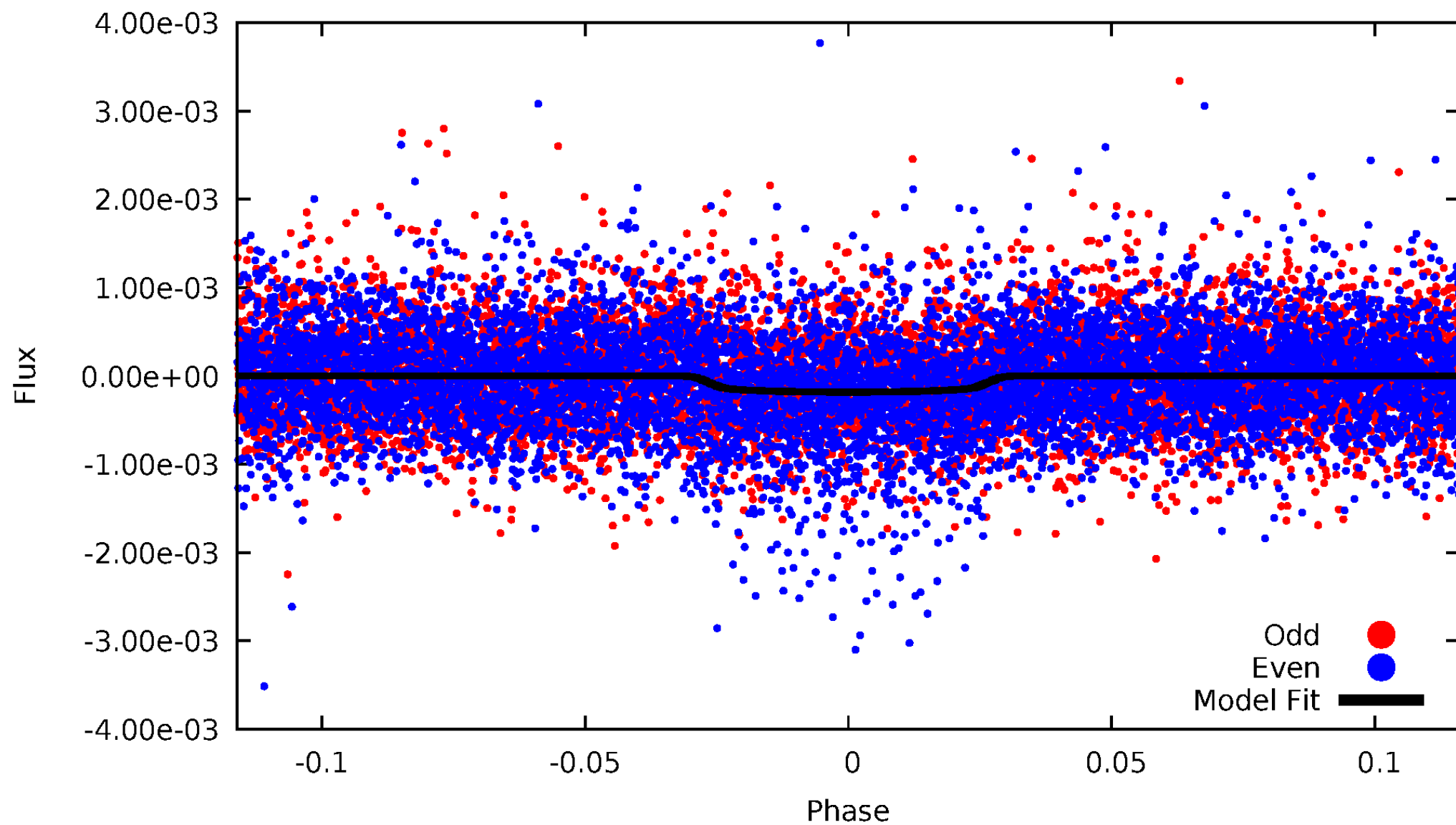


TCE 004058881-01



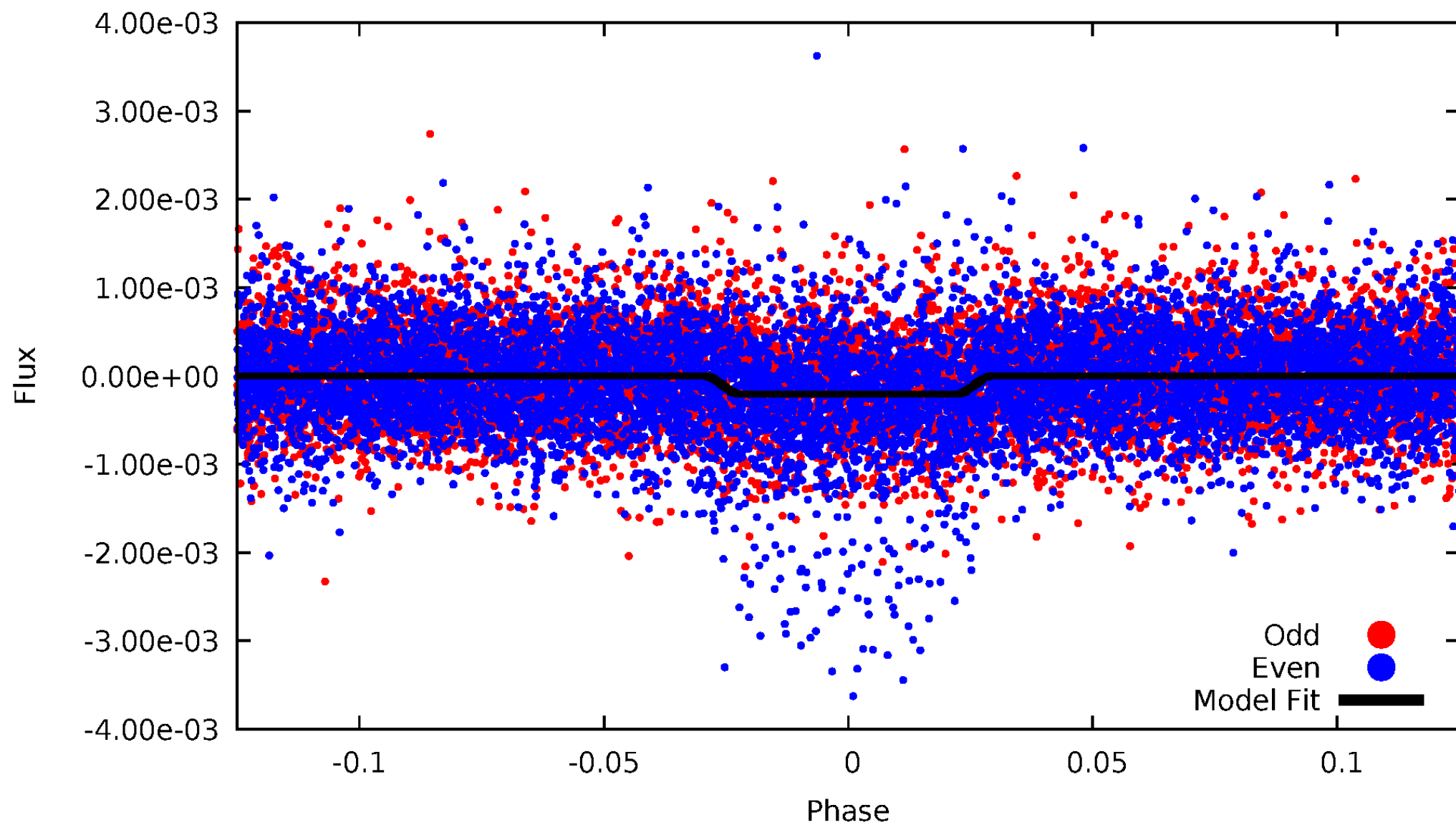
DV Odd/Even

TCE 004058881-01



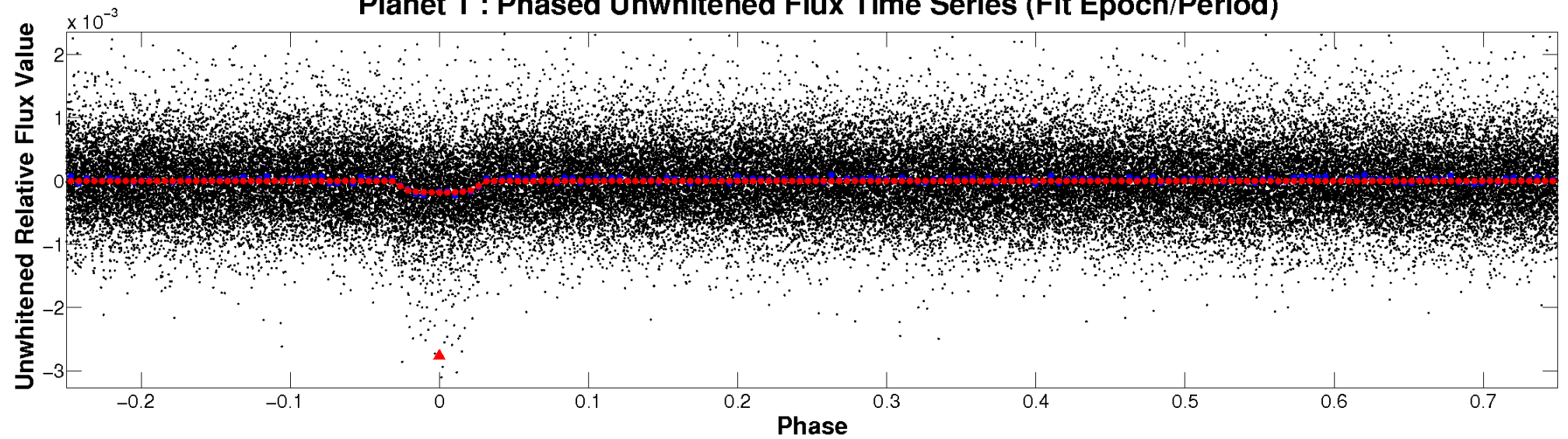
ALT Odd/Even

TCE 004058881-01

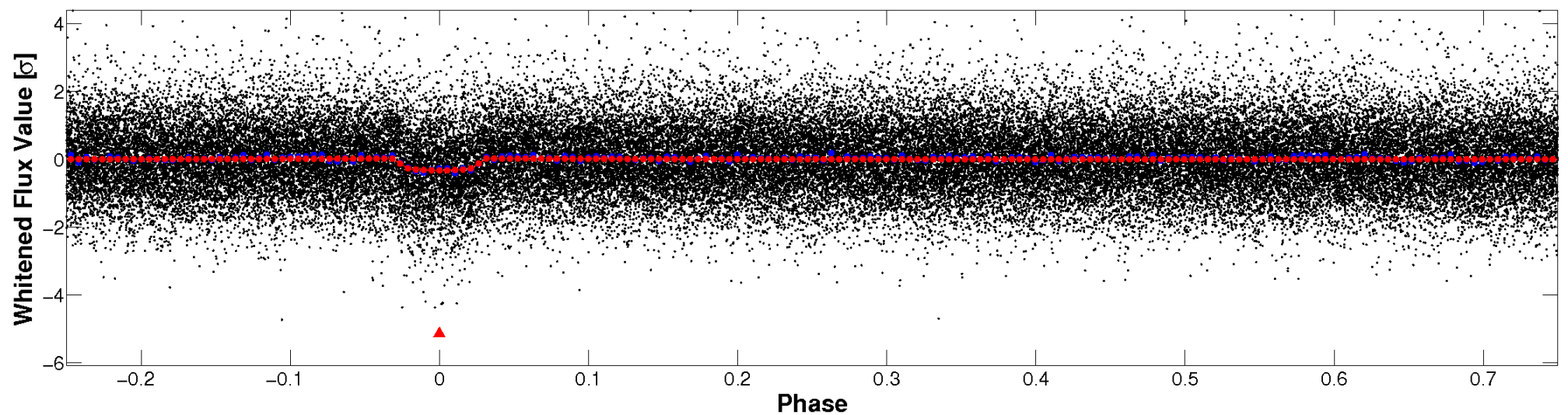


Non-Whitened Vs. Whitened Light Curve

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

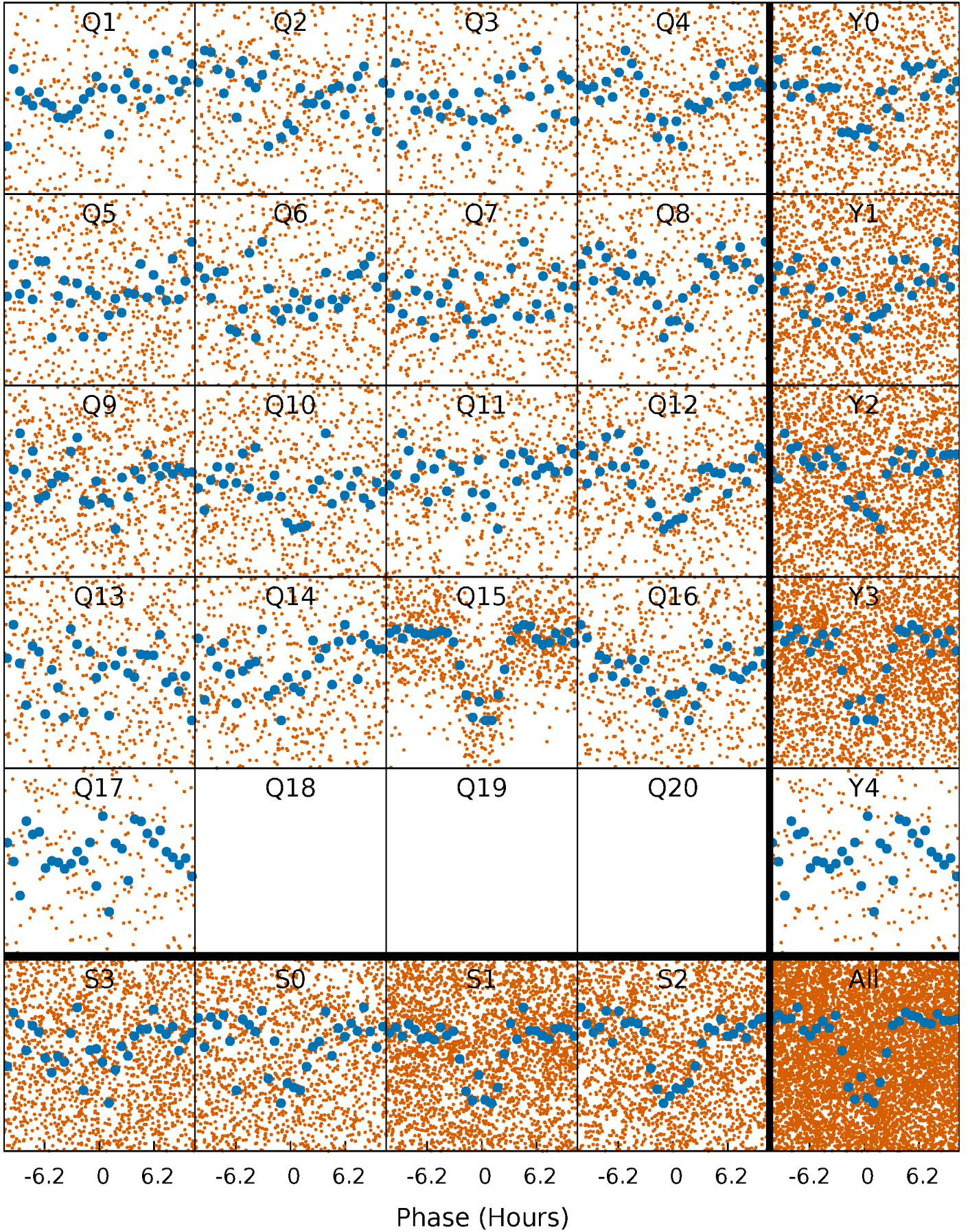


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



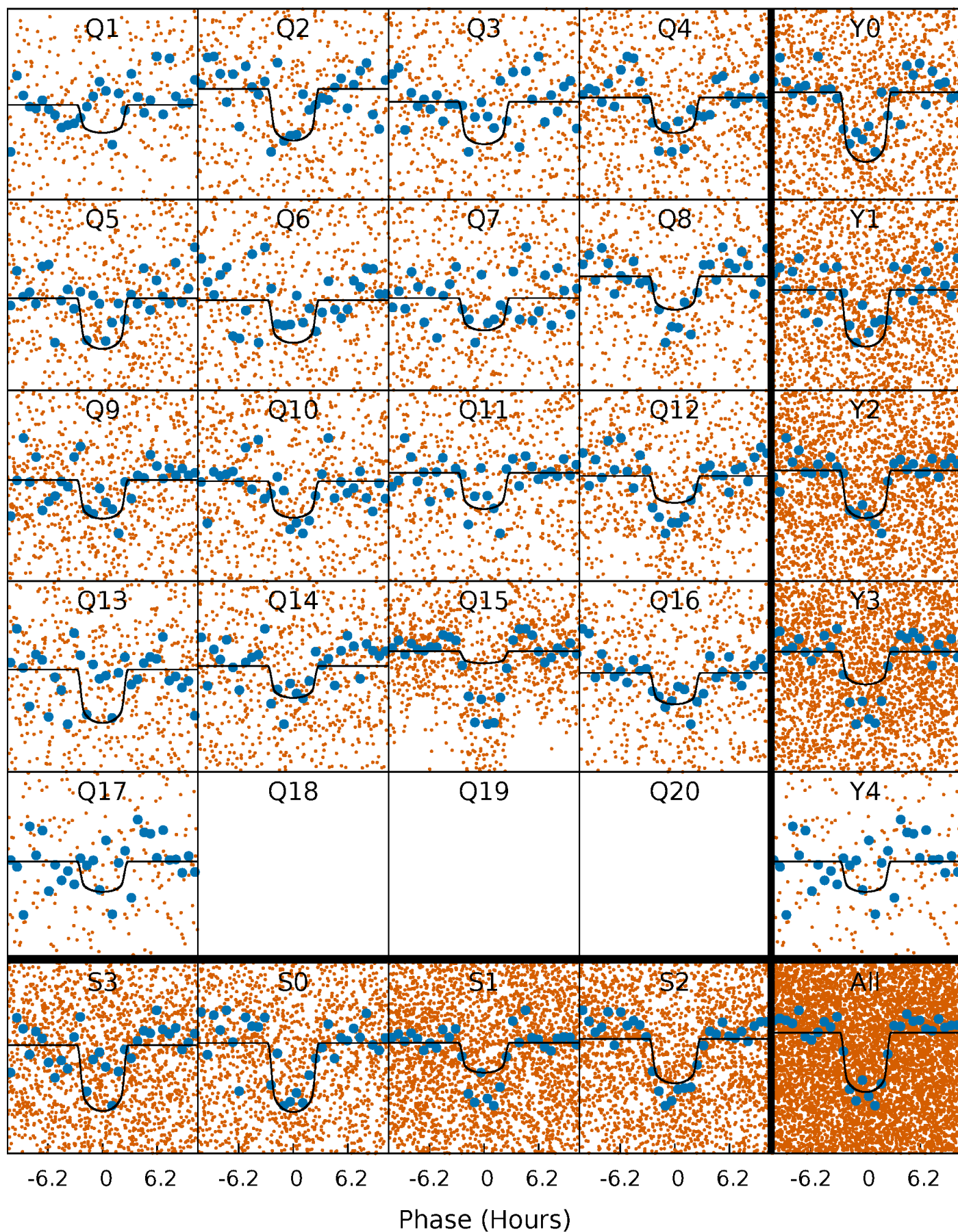
PDC Quarter-Phased Transit Curves

TCE 004058881-01 P= 3.886243 Days $T_0=132.575597$ (BKJD)



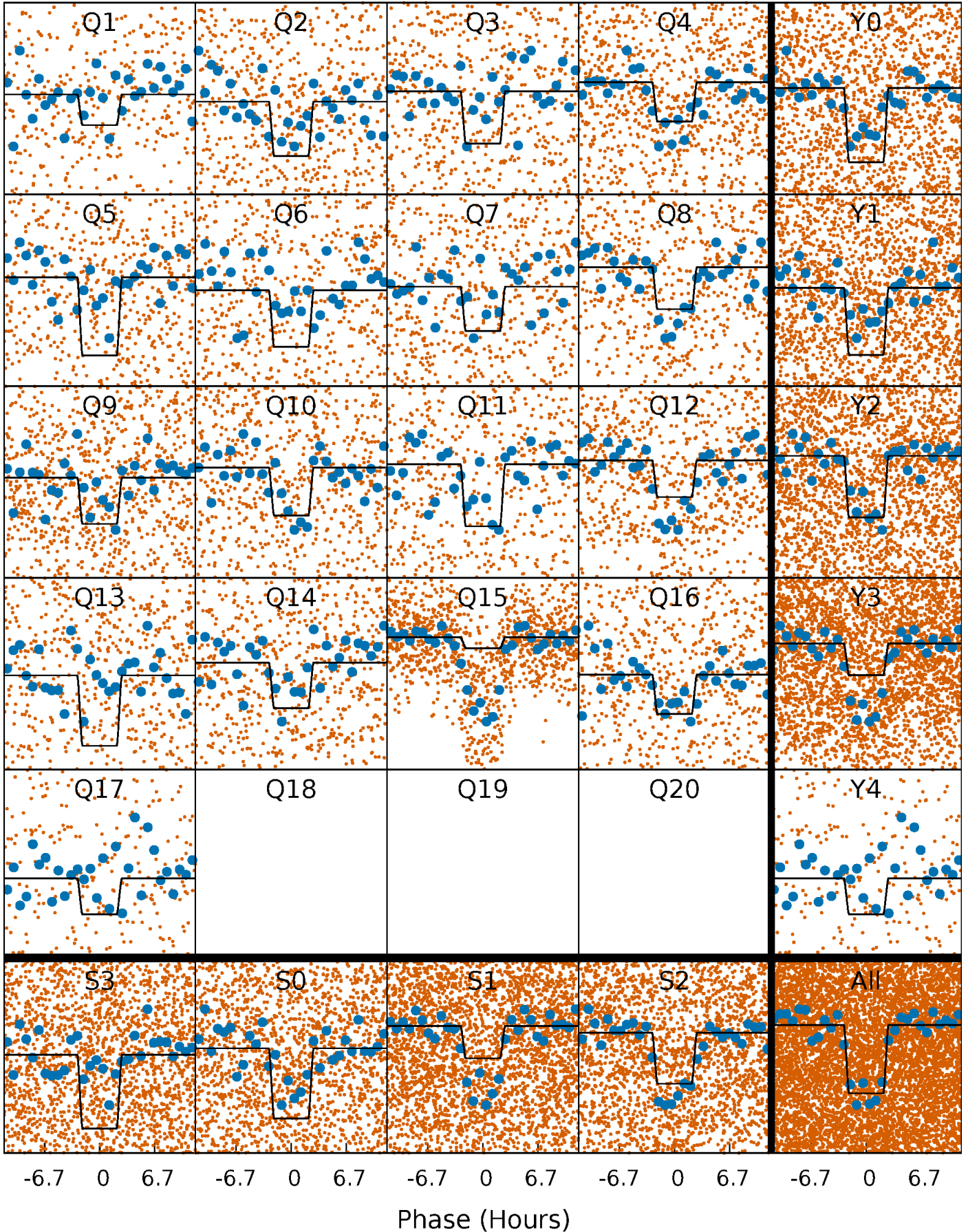
DV Quarter-Phased Transit Curves

TCE 004058881-01 P= 3.886243 Days $T_0=132.575597$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

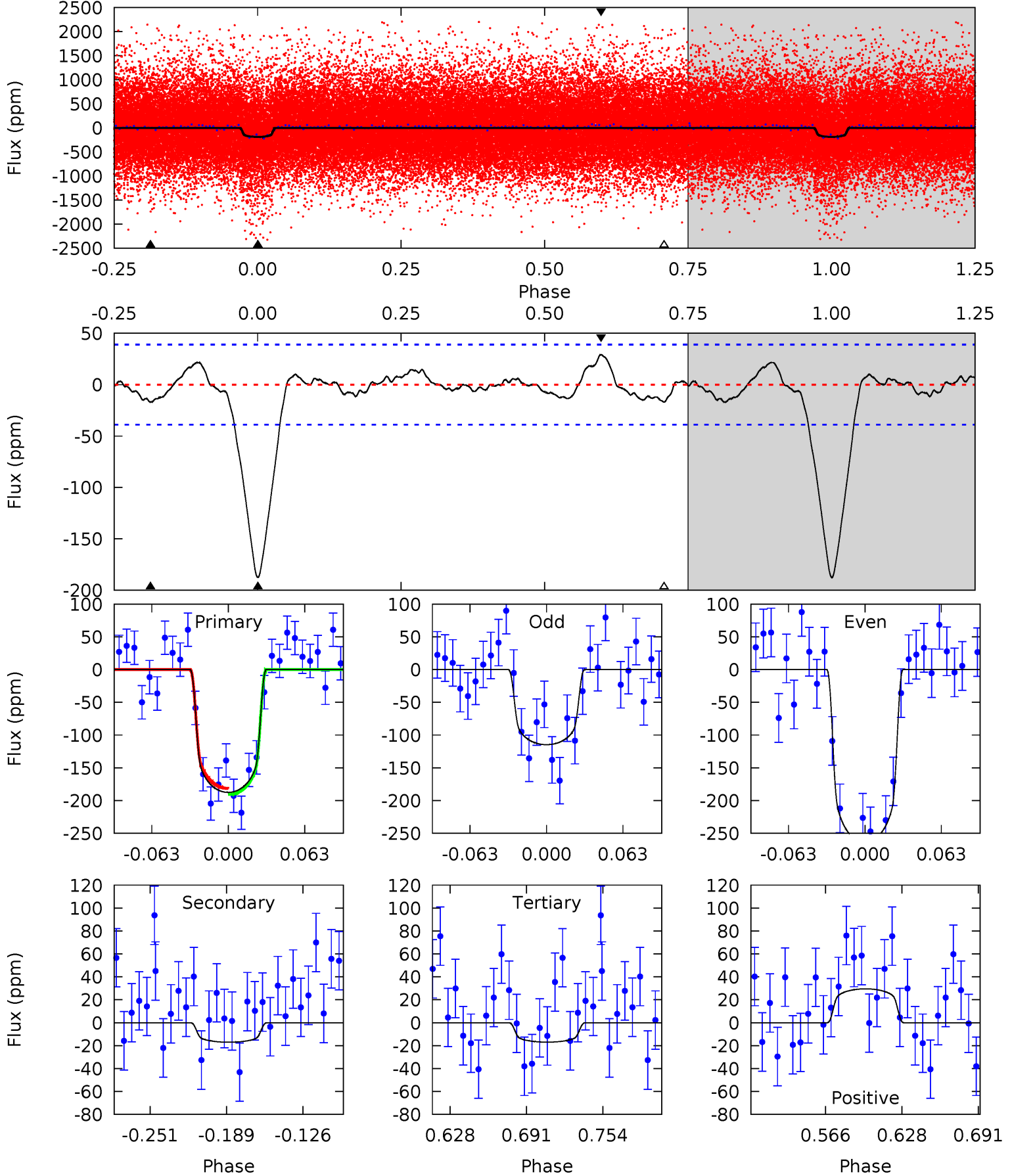
TCE 004058881-01 P= 3.886235 Days $T_0=132.579693$ (BKJD)



DV Model-Shift Uniqueness Test

004058881-01, P = 3.886243 Days, E = 128.689354 Days

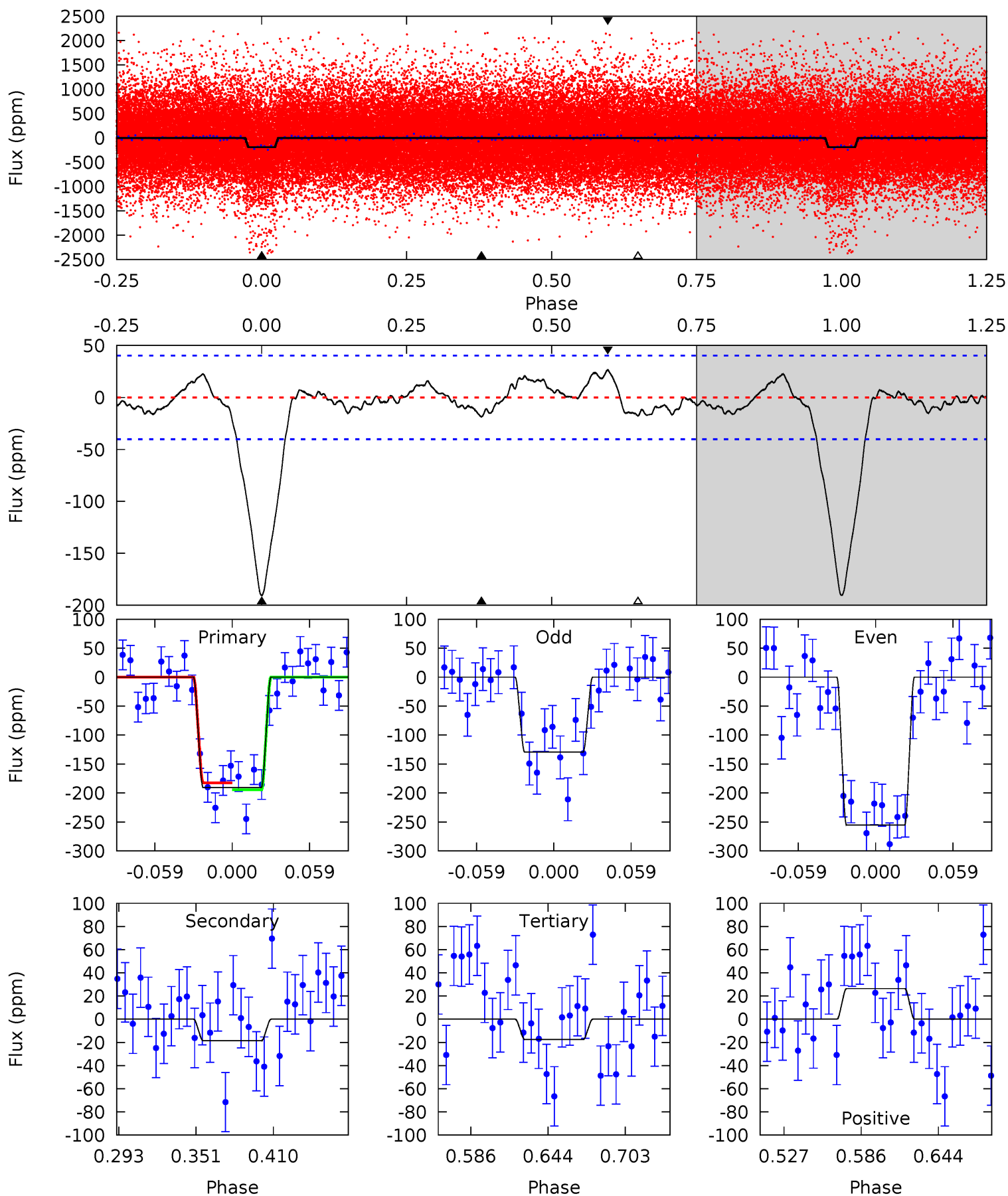
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	2.04	2.03	3.53	4.66	1.86	1.15	20.4	18.9	0.01	-1.49	8.92	1.35	0.14	0.56



Alt Model-Shift Uniqueness Test

004058881-01, P = 3.886235 Days, E = 128.693458 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	2.15	2.04	3.07	4.68	1.89	1.27	20.1	19.1	0.11	-0.92	7.32	1.56	0.12	0.70



Stellar Parameters For KIC 004058881

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6014^{+181}_{-199}	$4.486^{+0.050}_{-0.200}$	$0.070^{+0.200}_{-0.350}$	$0.993^{+0.286}_{-0.095}$	$1.101^{+0.116}_{-0.159}$	$1.584^{+0.394}_{-0.767}$
	+3%/-3%	+1%/-4%	+286%/-500%	+29%/-10%	+11%/-14%	+25%/-48%
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 004058881-01 / KOI 3912.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-17 ± 8	$1.66^{+0.35}_{-0.32}$	1693^{+116}_{-86}	3581^{+400}_{-415}	$8.084^{+6.195}_{-4.566}$
Alt.	-19 ± 9	$1.62^{+0.35}_{-0.35}$	1689^{+113}_{-80}	3652^{+447}_{-398}	$9.183^{+8.239}_{-4.781}$

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

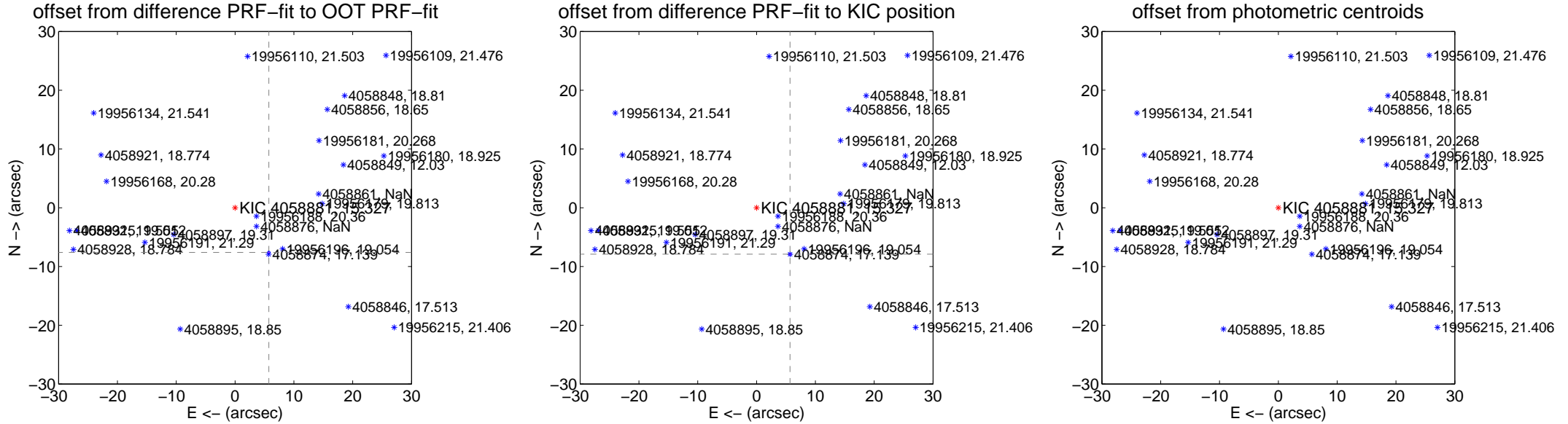
DV Centroid Data

Supplemental centroid analysis for 004058881-01. Kepler magnitude: 15.33. Transit SNR 17.06

There are 3 quarters with good PRF difference image offsets

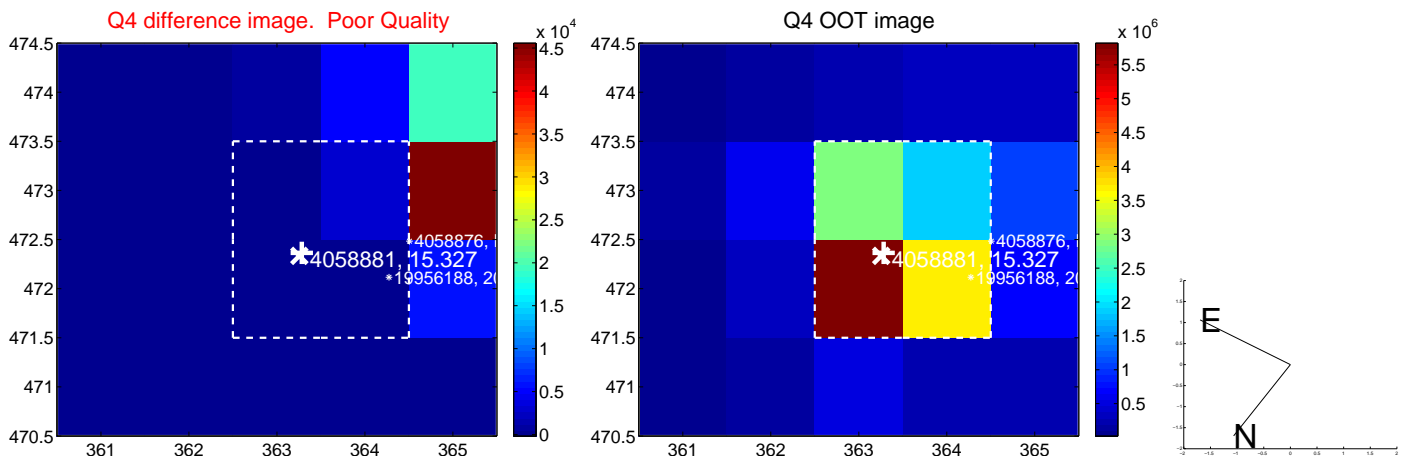
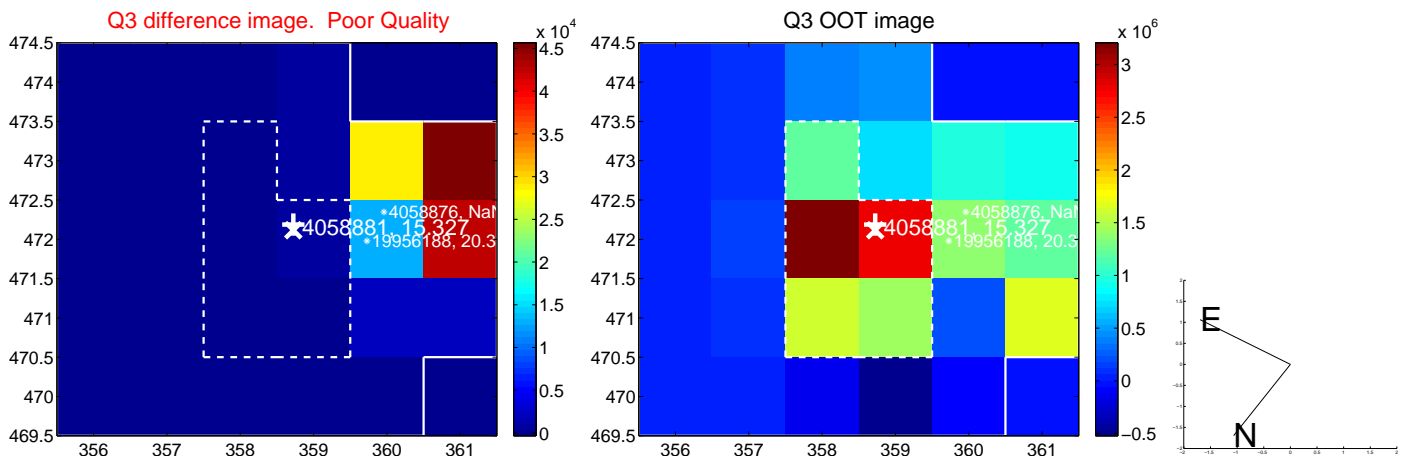
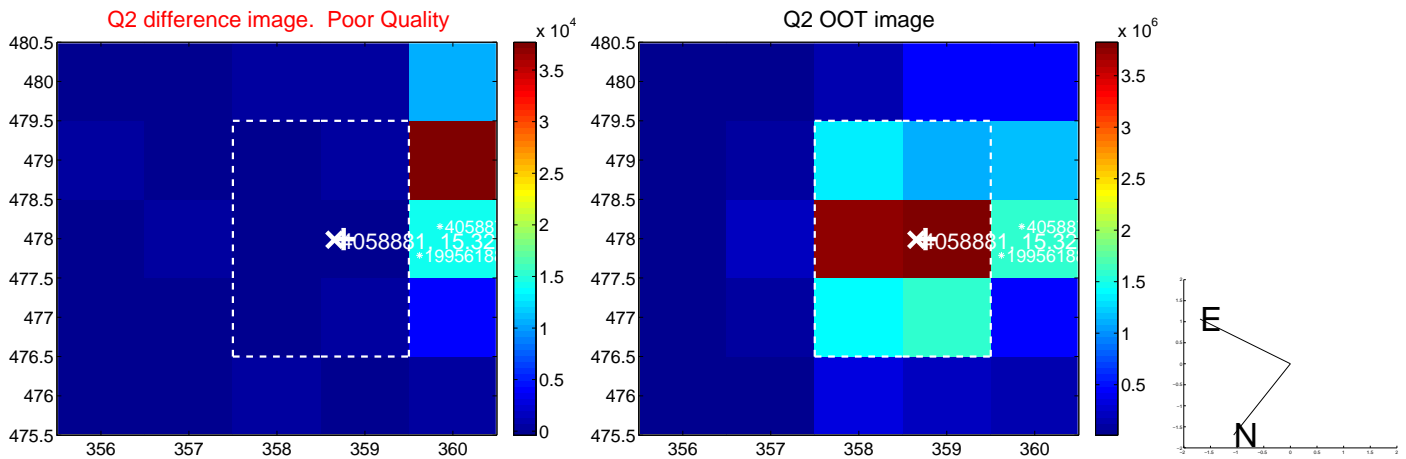
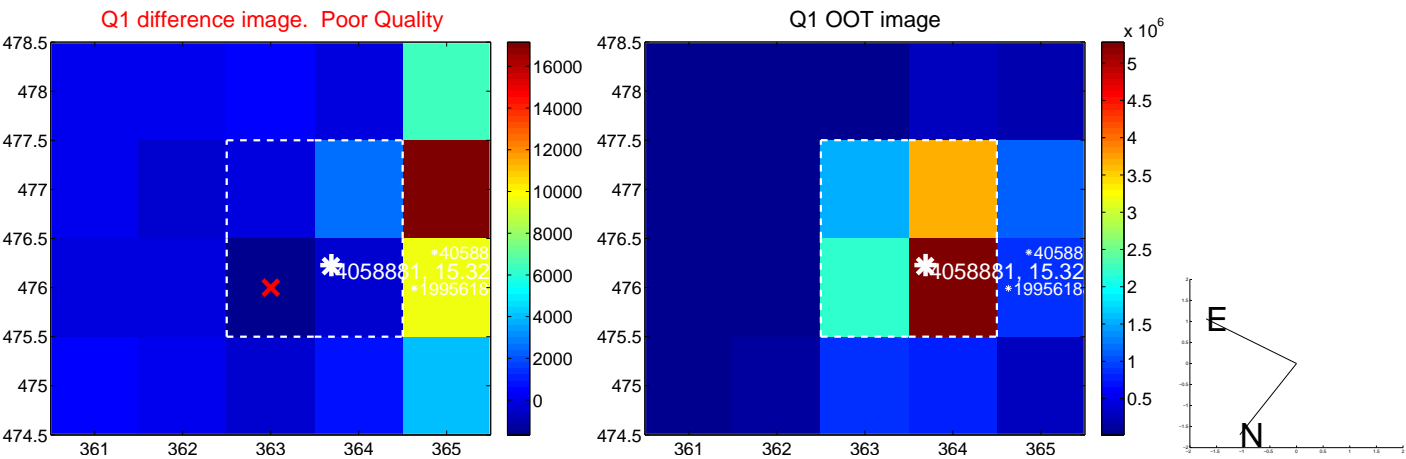
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.536 \pm 0.070	136.39	-5.749 \pm 0.074	-7.608 \pm 0.067
PRF-fit source offset from KIC position	9.737 \pm 0.069	141.72	-5.685 \pm 0.072	-7.905 \pm 0.067
photometric centroid source offset	80.23 \pm 1.05	76.07	-35.73 \pm 1.02	-71.84 \pm 1.06

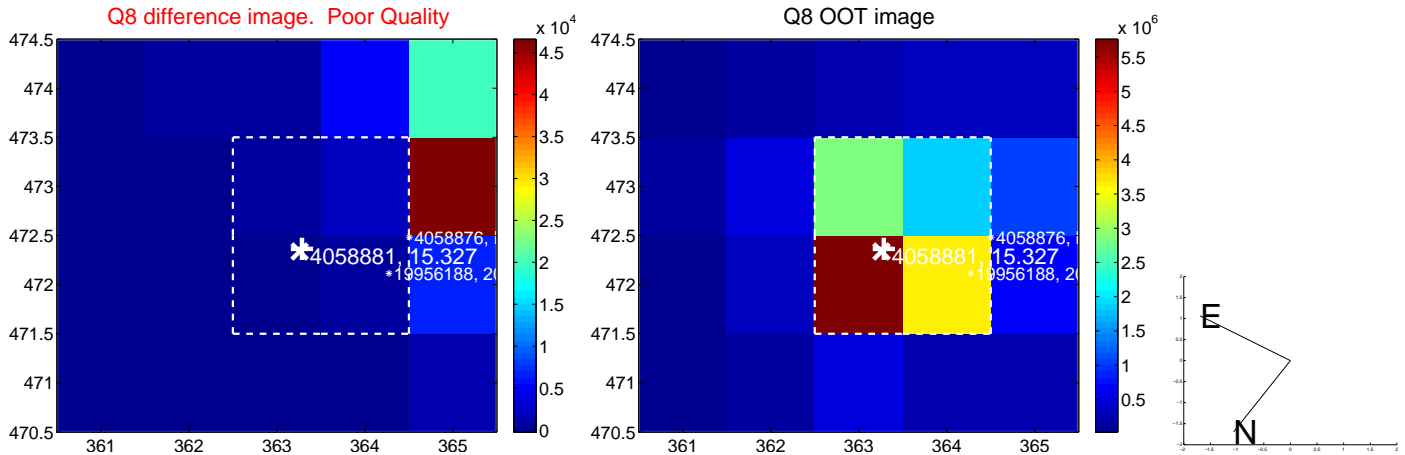
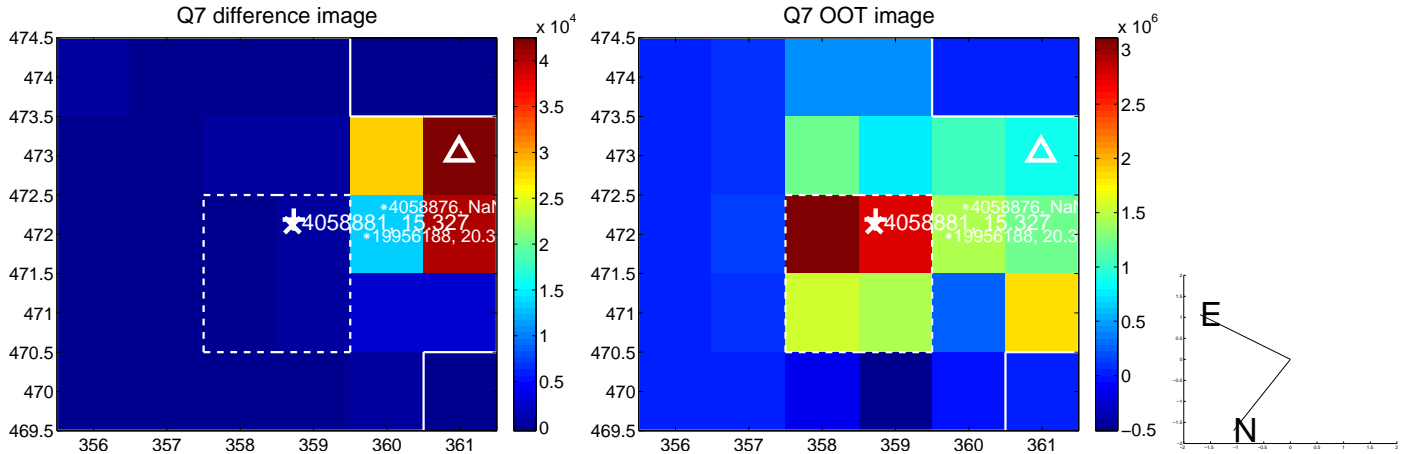
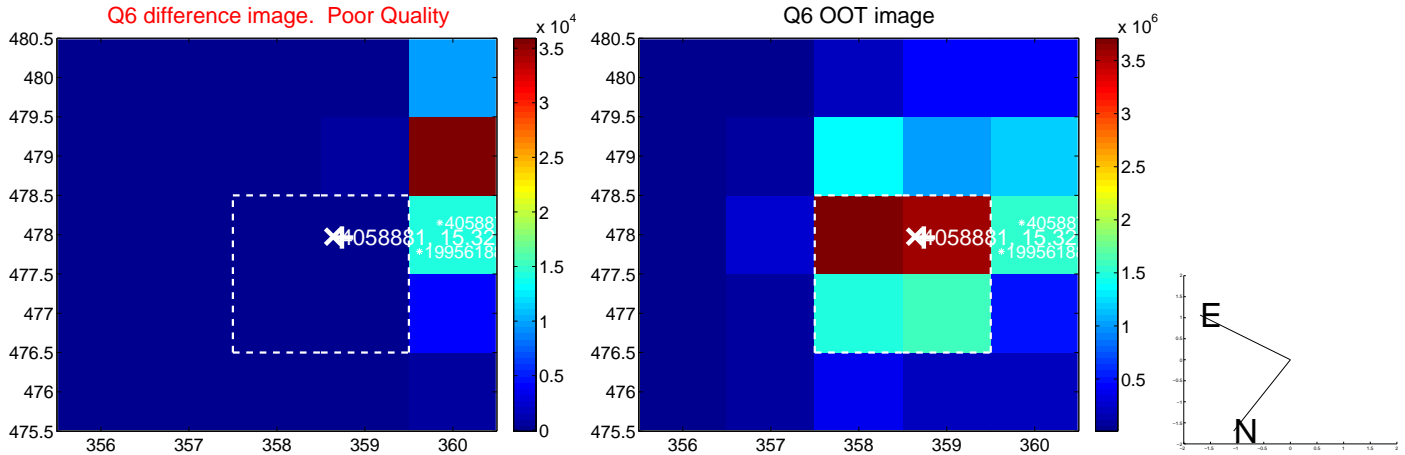
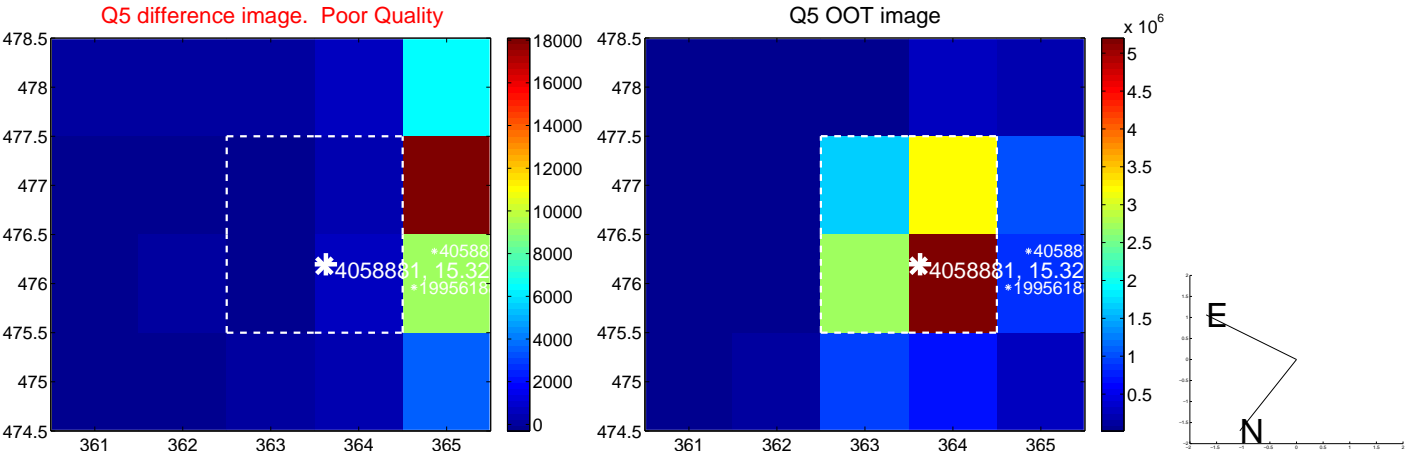


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

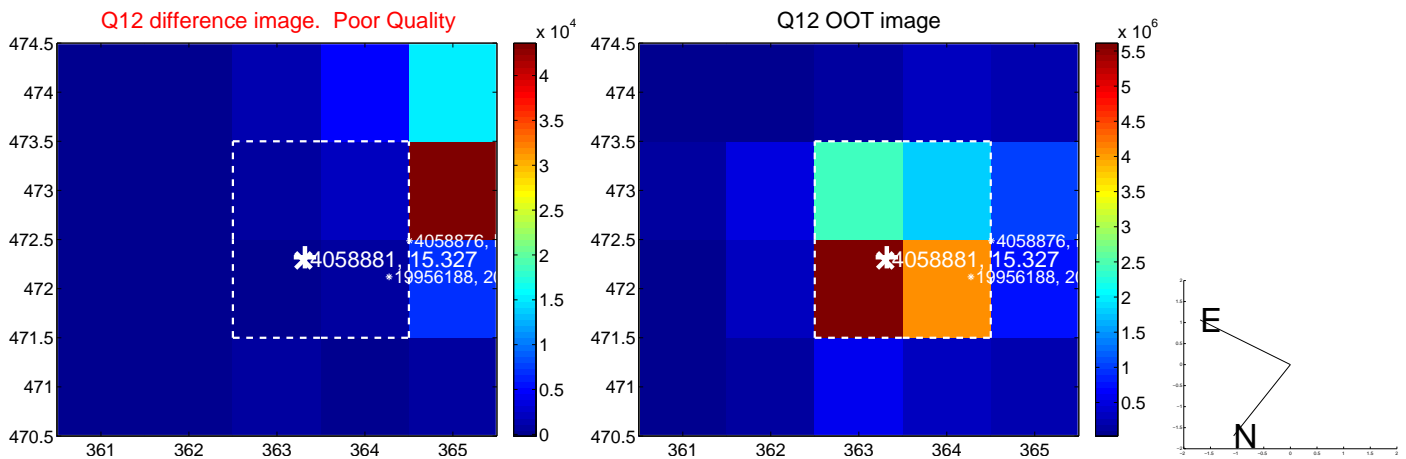
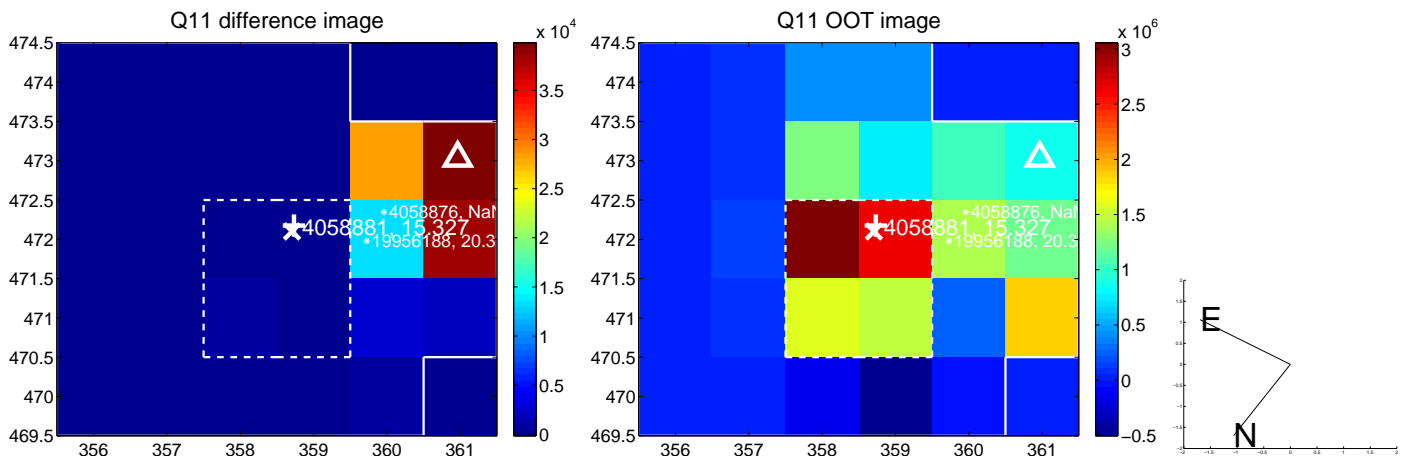
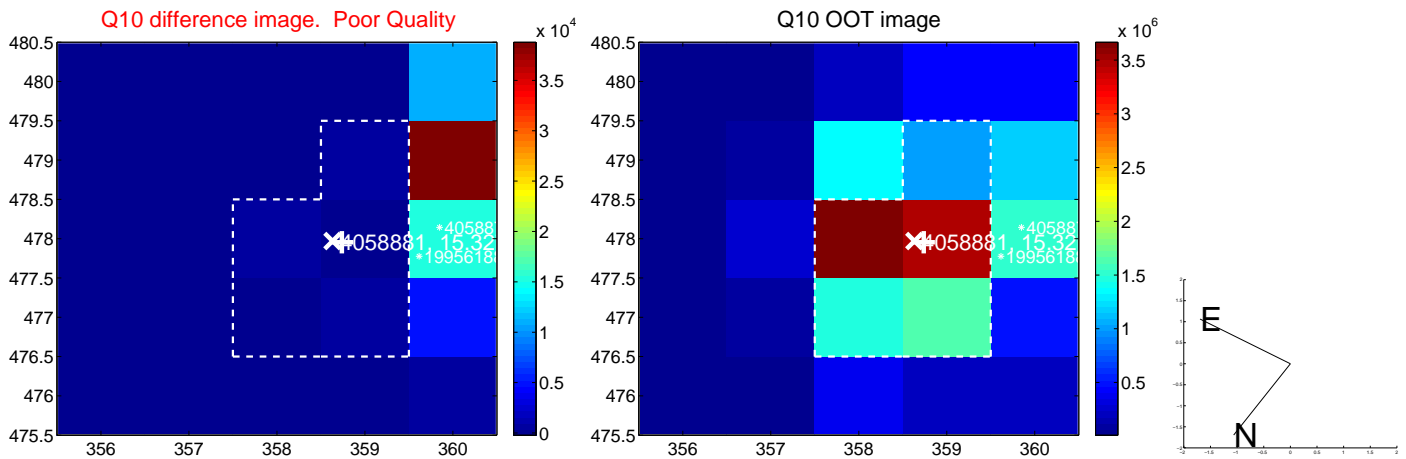
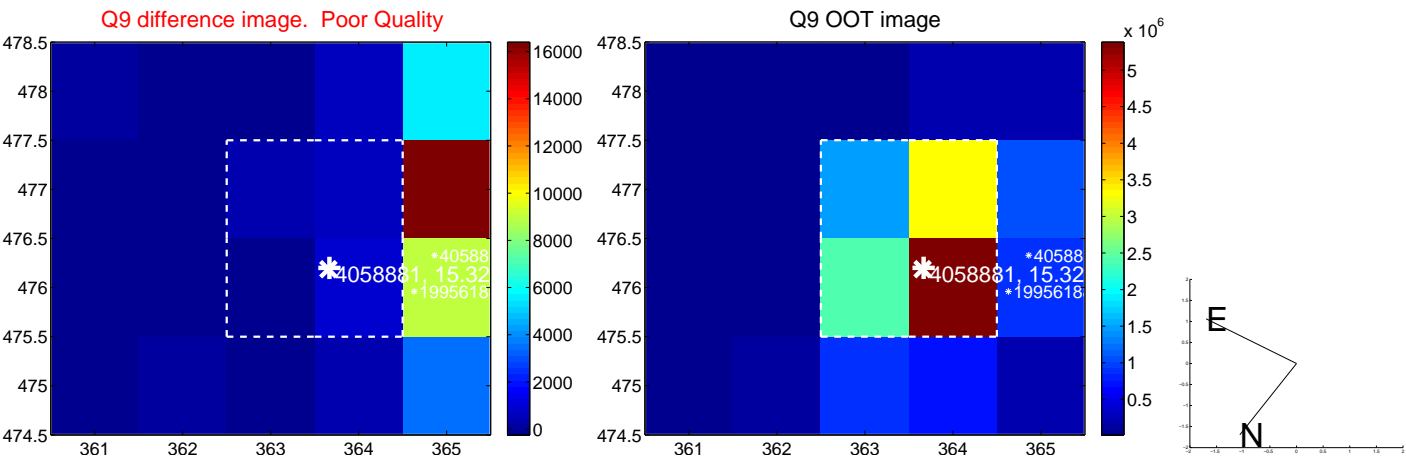
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



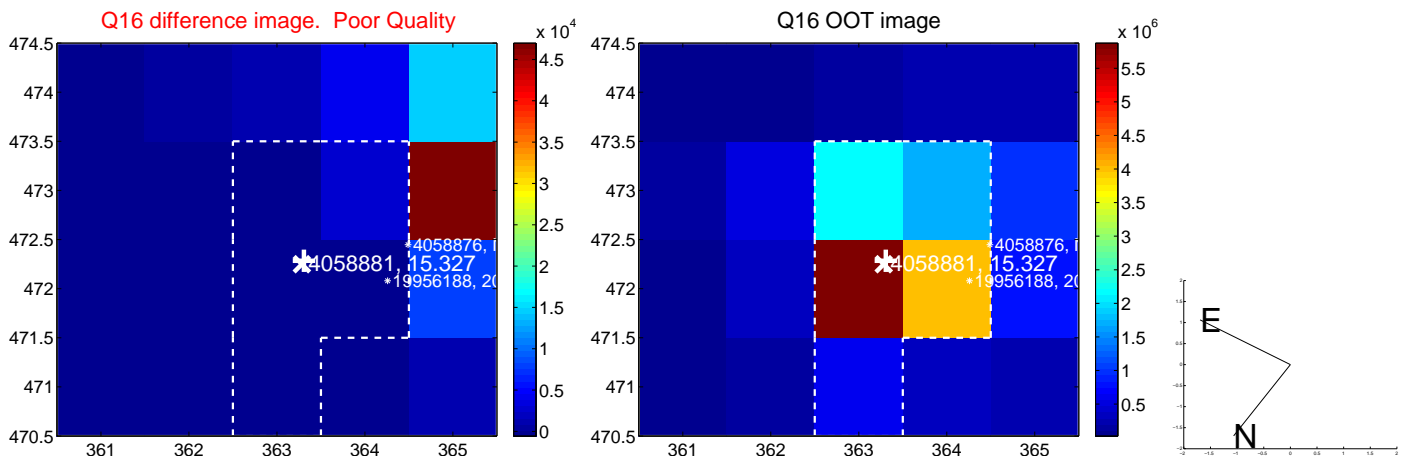
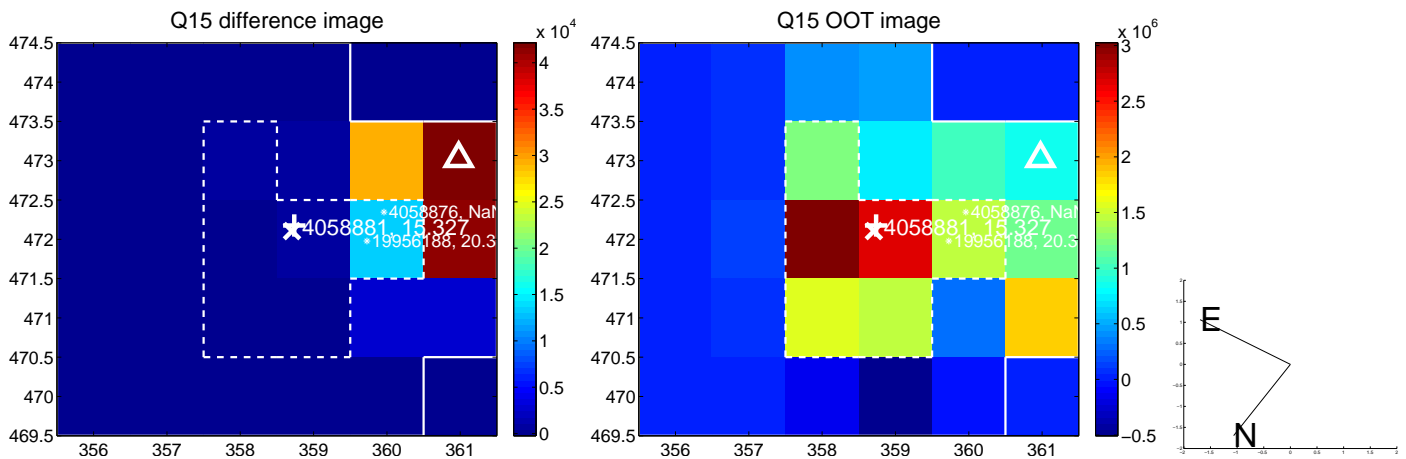
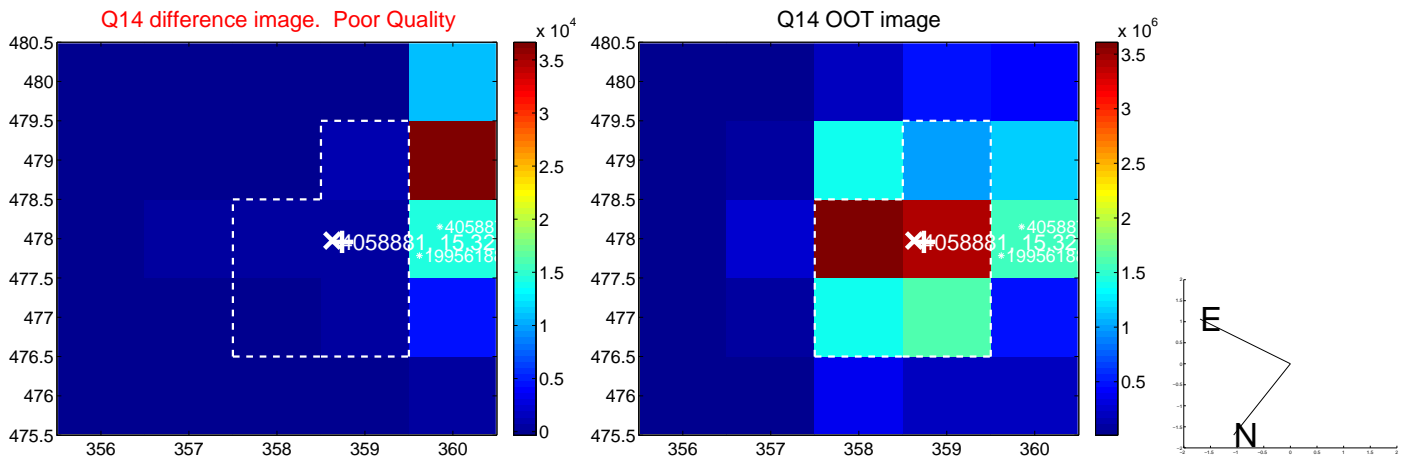
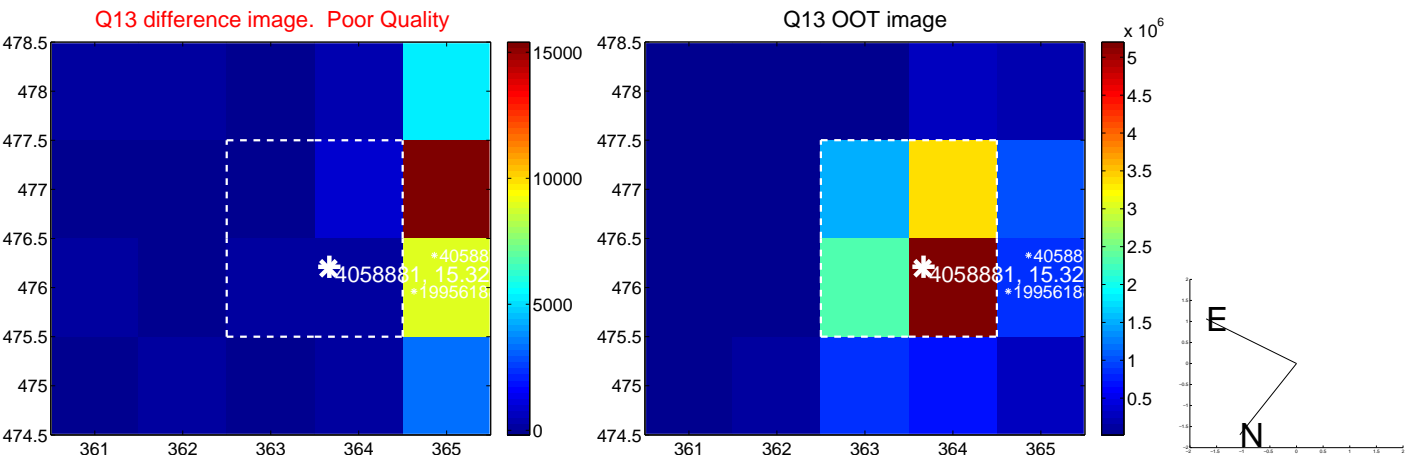
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



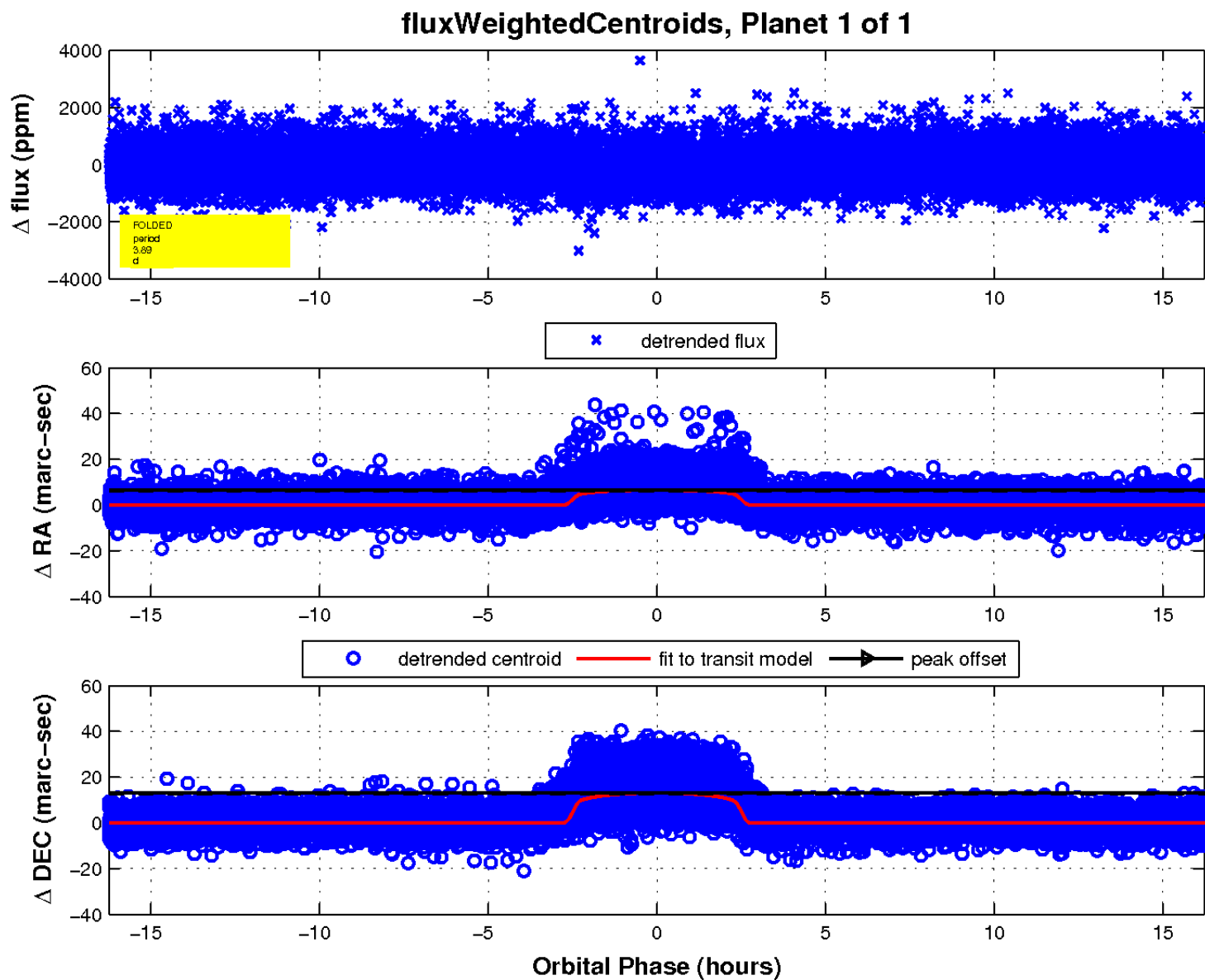
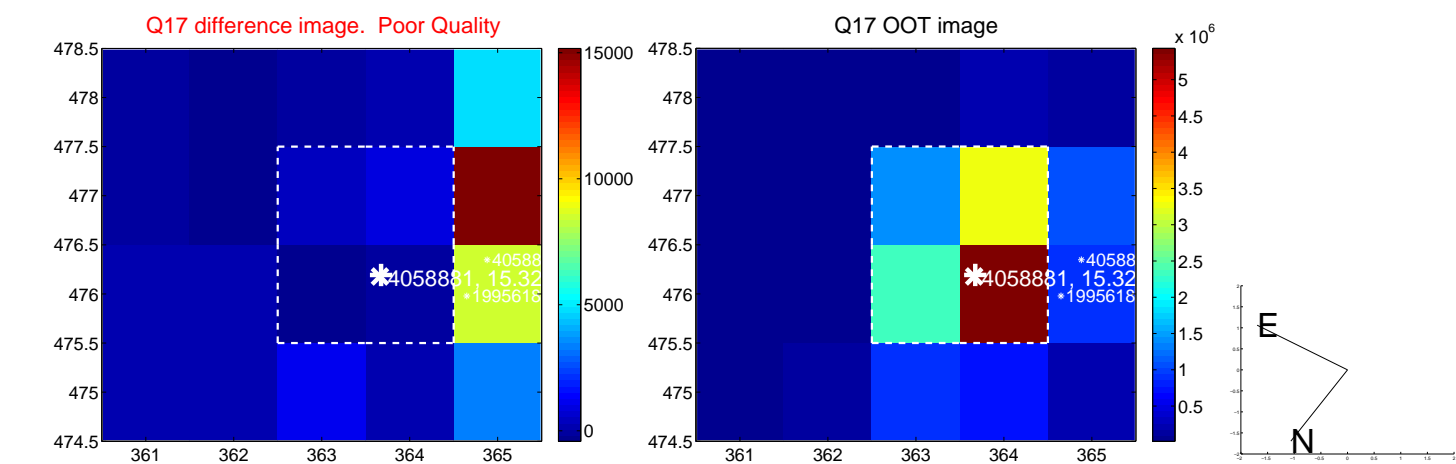
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



UKIRT Image

