

KIC 005307858

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})
005307858-01	OBS	2558.01	1.867237	132.097414	358.2	5.650	22.6	24.9	1.02	6117	2.63	1405.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005307858-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST

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 005307858-01

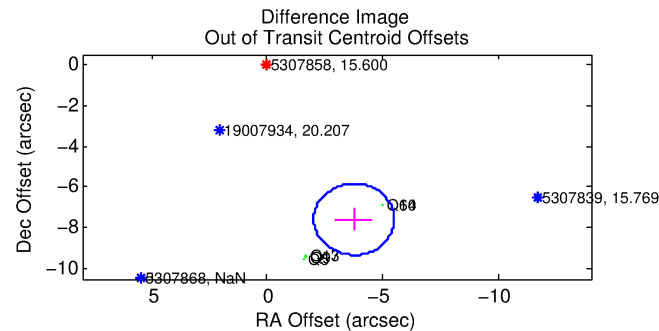
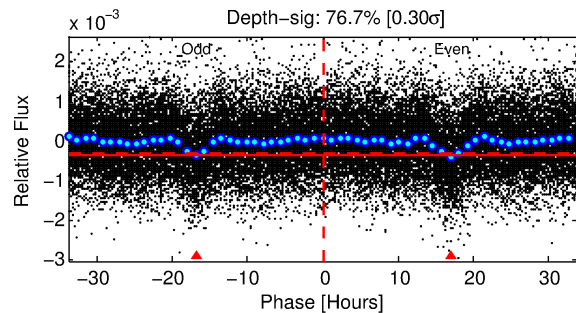
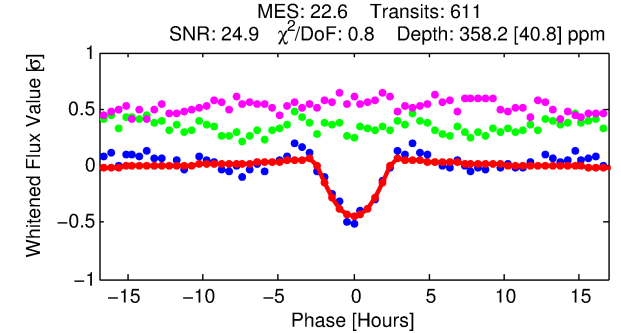
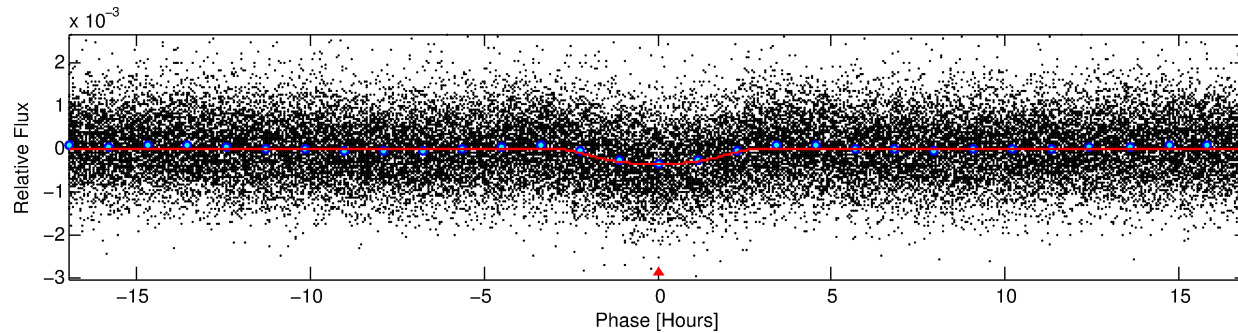
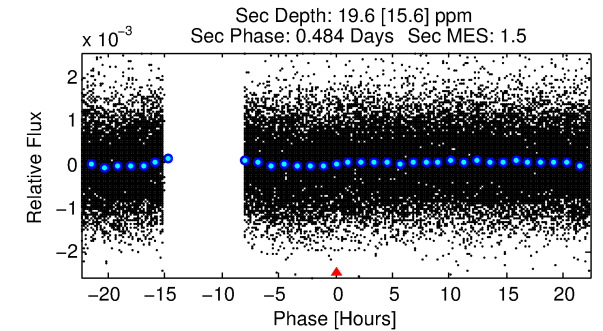
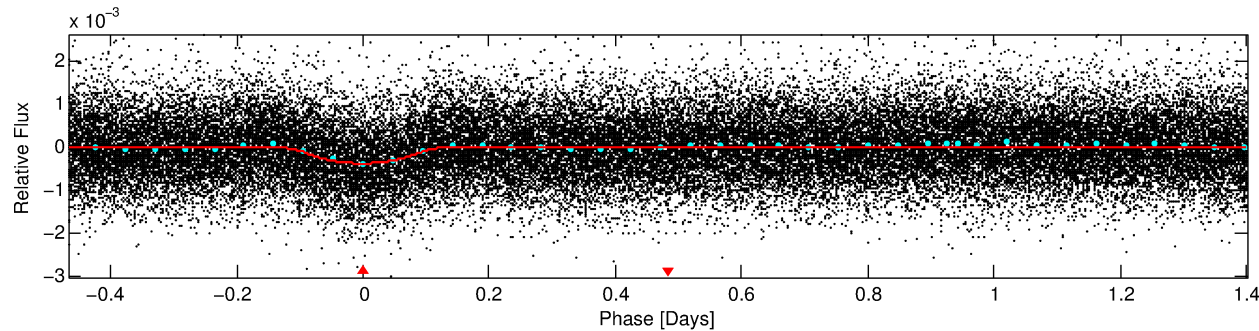
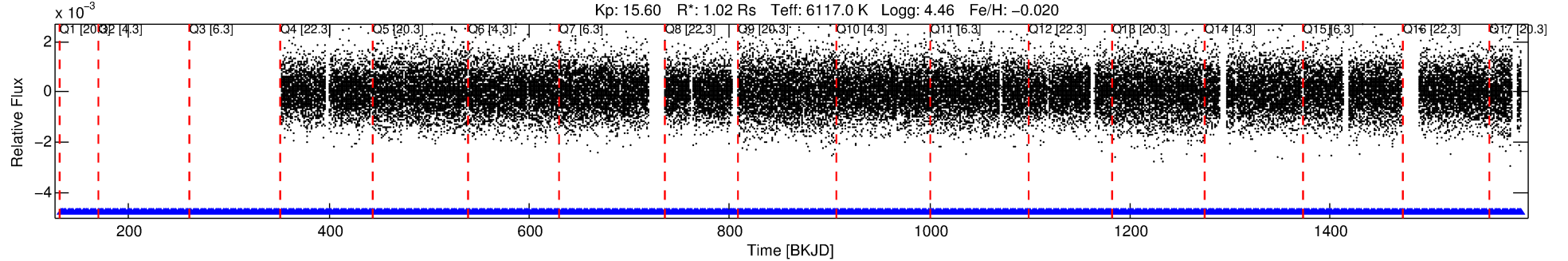
No Significant Match Found

DV One-Page Summary

KIC: 5307858 Candidate: 1 of 1 Period: 1.867 d

KOI: K02558.01 Corr: 0.859

Kp: 15.60 R*: 1.02 Rs Teff: 6117.0 K Logg: 4.46 Fe/H: -0.020



DV Fit Results:

Period = 1.86724 [0.00001] d
Epoch = 132.0974 [0.0042] BKJD
Rp/R* = 0.0235 [0.0024]
a/R* = 1.25 [0.05]
b = 0.98 [0.01]
Seff = 1405.83 [569.91]
Teq = 1561 [158] K
Rp = 2.63 [0.82] Re
a = 0.0306 [0.0078] AU
Ag = 1.46 [1.31] [0.35 σ]
Teff = 2652 [554] K [1.89 σ]

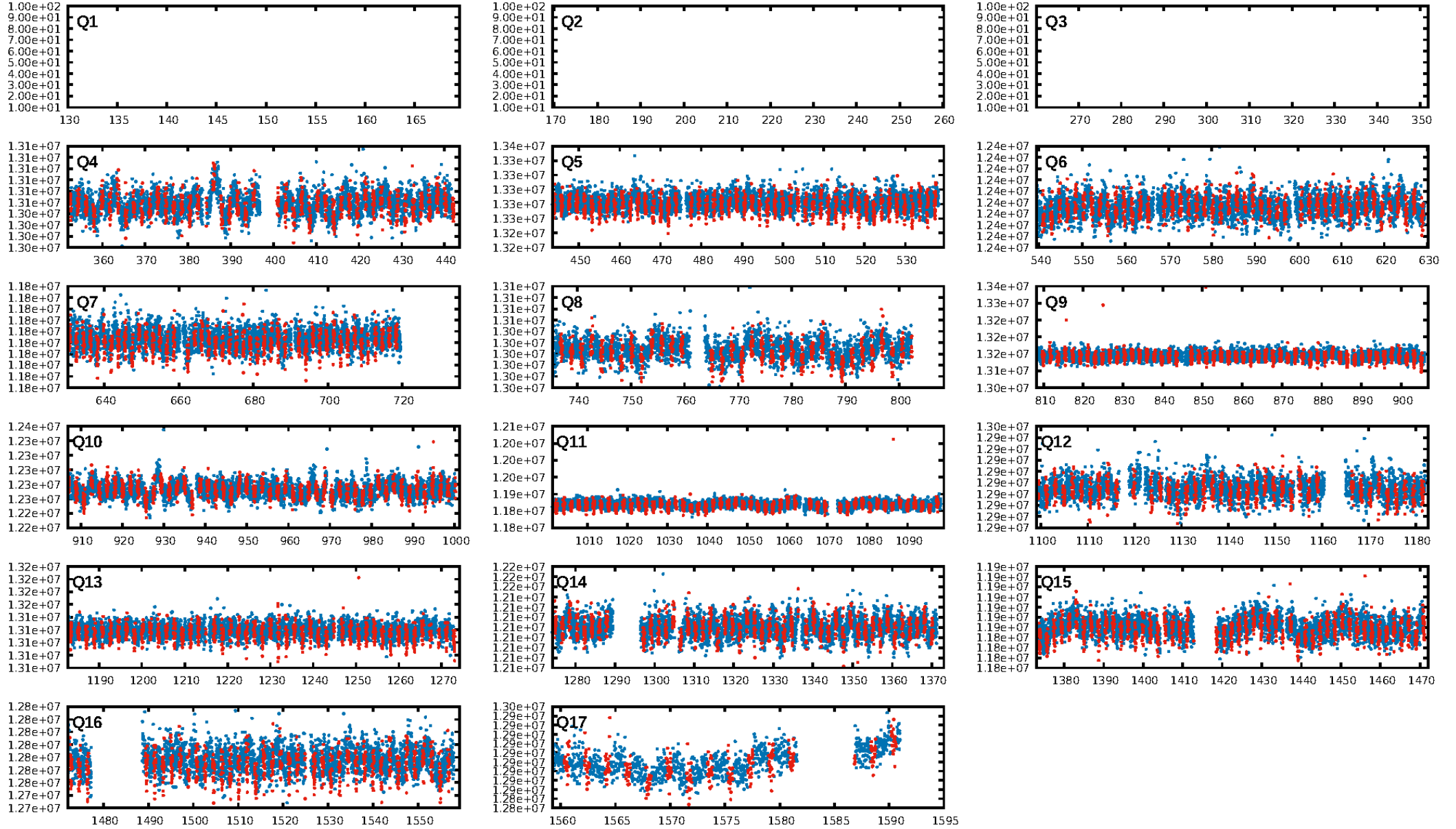
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.04e-98
RollingBand-fgt: 1.00 [597/597]
GhostDiagnostic-chr: -0.1566
Centroid-sig: 0.0%
Centroid-so: 84.154 arcsec [156.74 σ]
OotOffset-rm: 8.456 arcsec [14.57 σ]
KicOffset-rm: 7.825 arcsec [11.87 σ]
OotOffset-st: 3/0/0/4 [7]
KicOffset-st: 3/0/0/4 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [14/14]

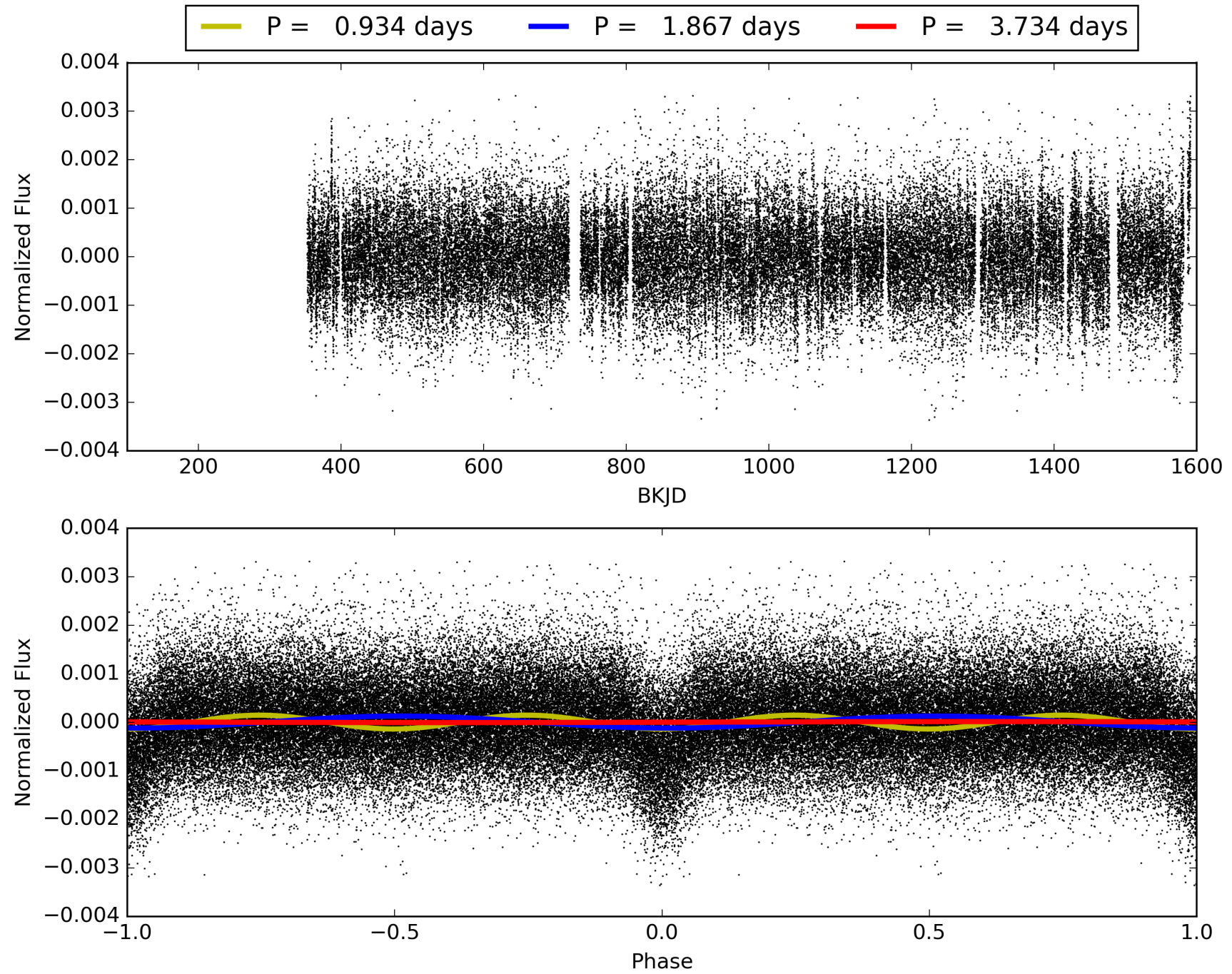
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:57:23 Z

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

TCE 005307858-01, PDC Light Curves

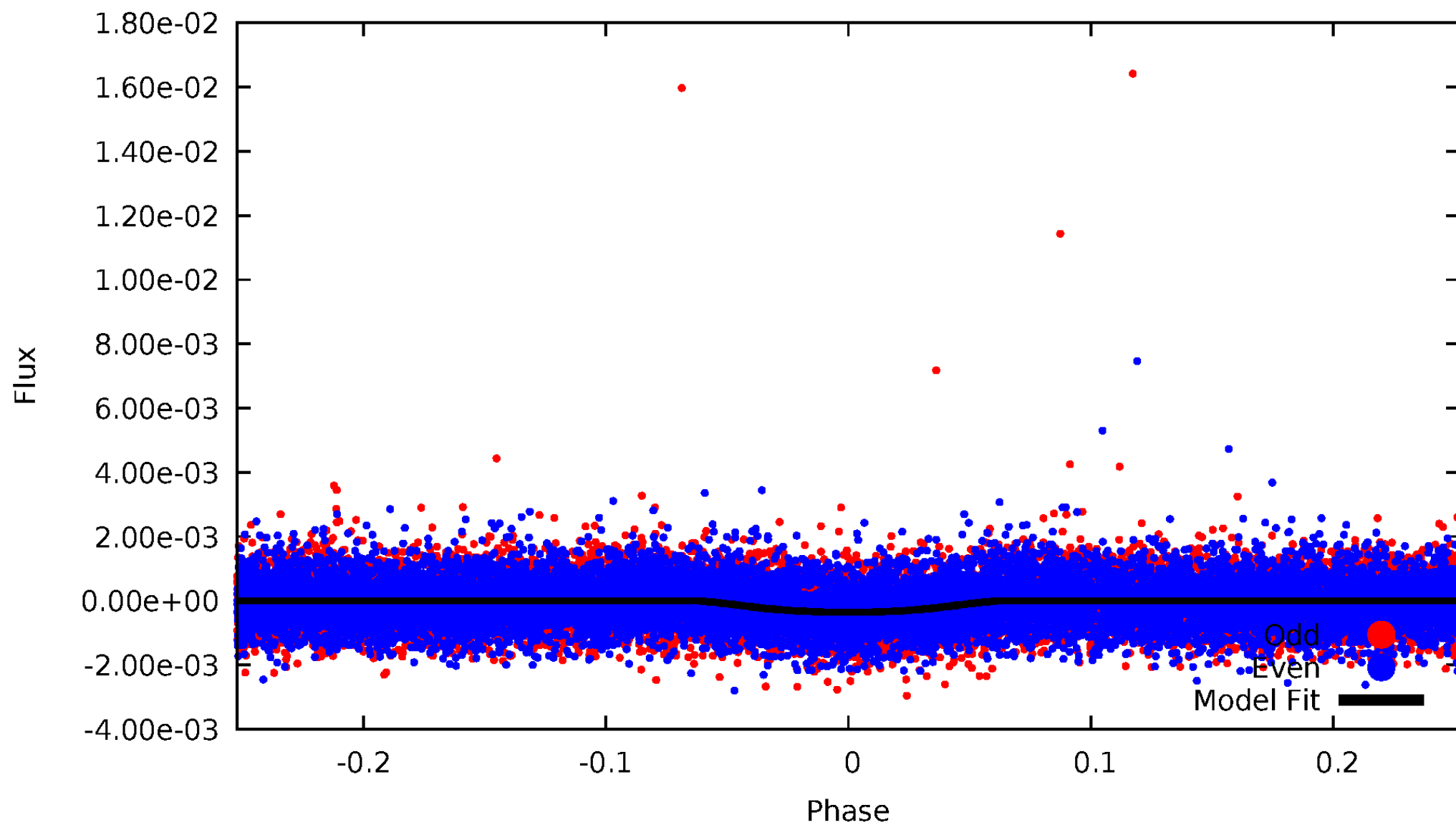


TCE 005307858-01



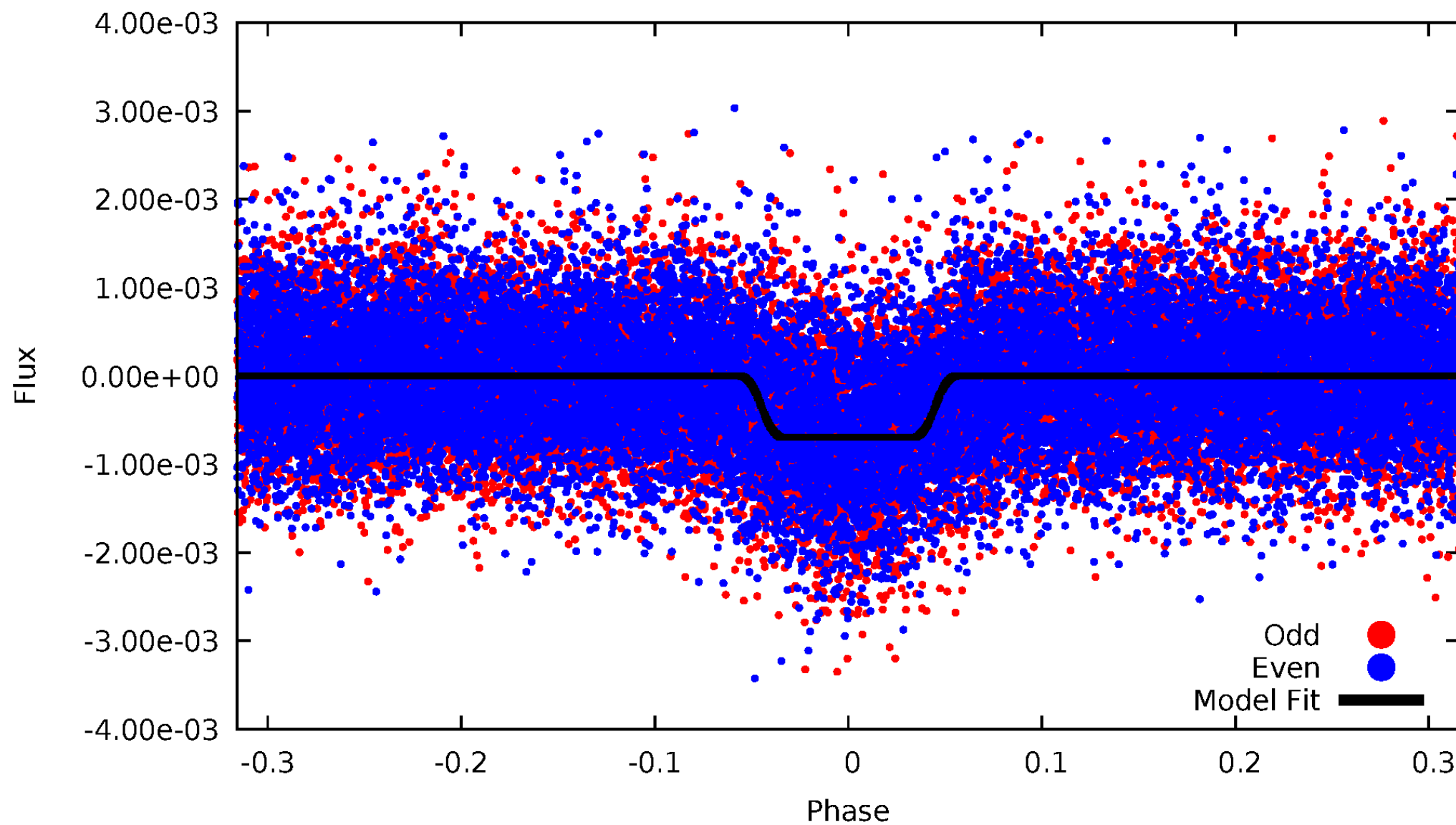
DV Odd/Even

TCE 005307858-01



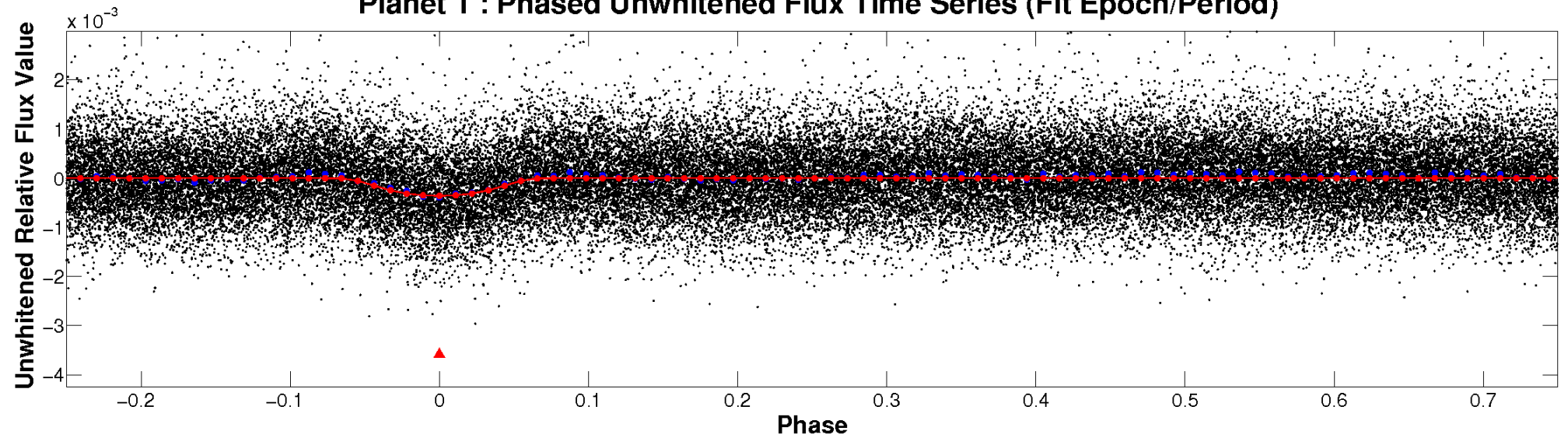
ALT Odd/Even

TCE 005307858-01

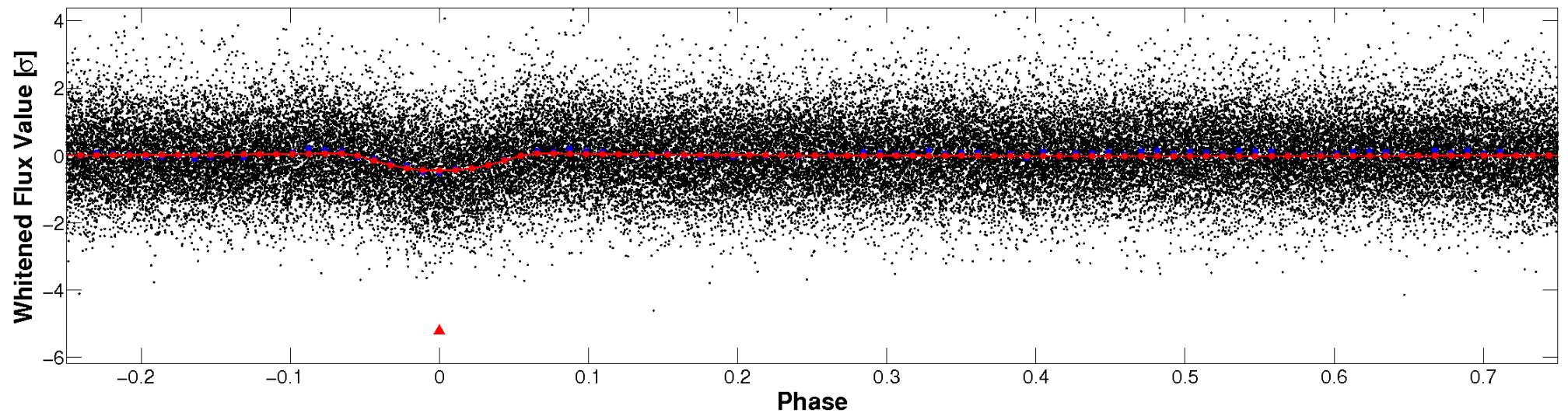


Non-Whitened Vs. Whitened Light Curve

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

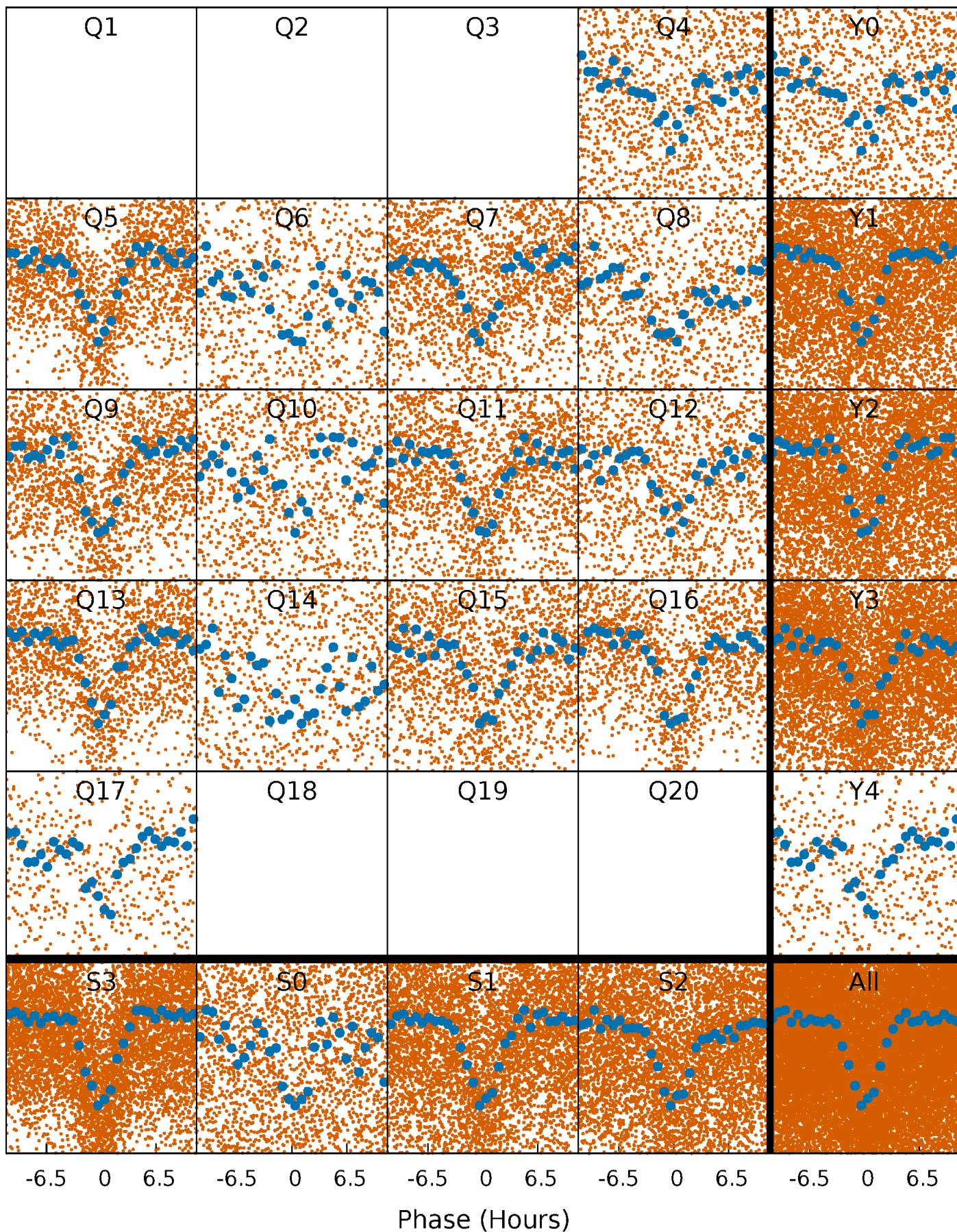


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



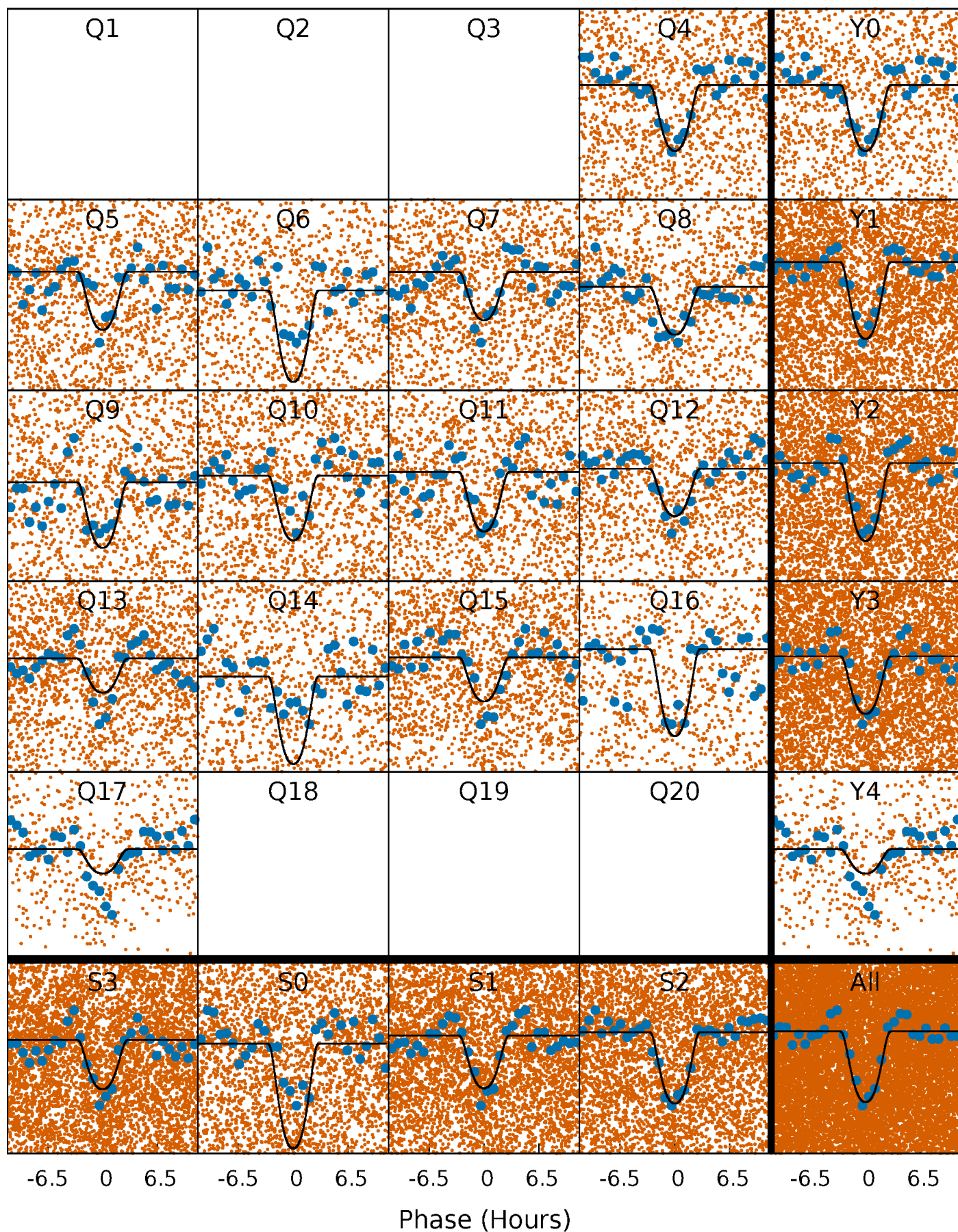
PDC Quarter-Phased Transit Curves

TCE 005307858-01 P= 1.867237 Days $T_0=132.097414$ (BKJD)



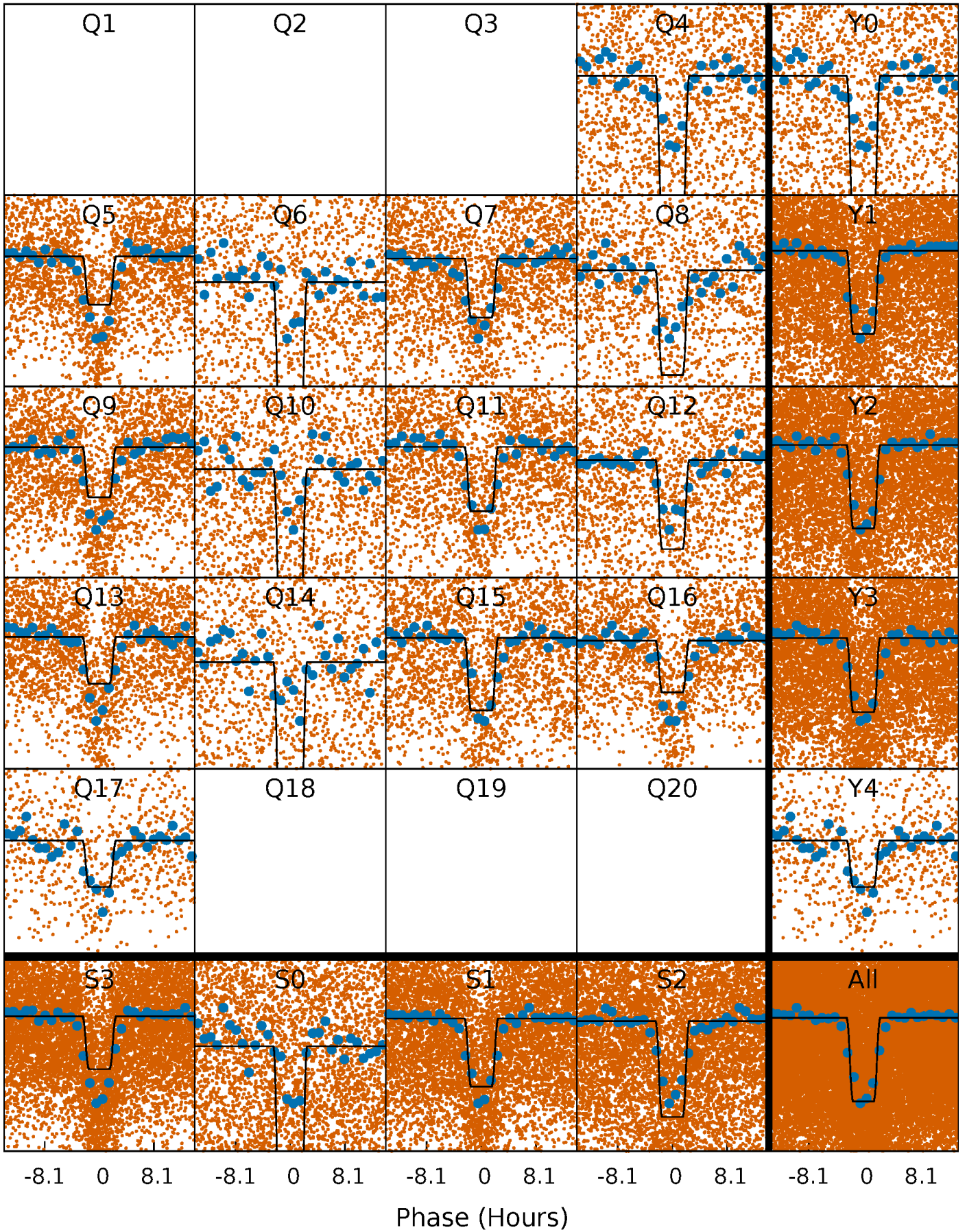
DV Quarter-Phased Transit Curves

TCE 005307858-01 P= 1.867237 Days $T_0=132.097414$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

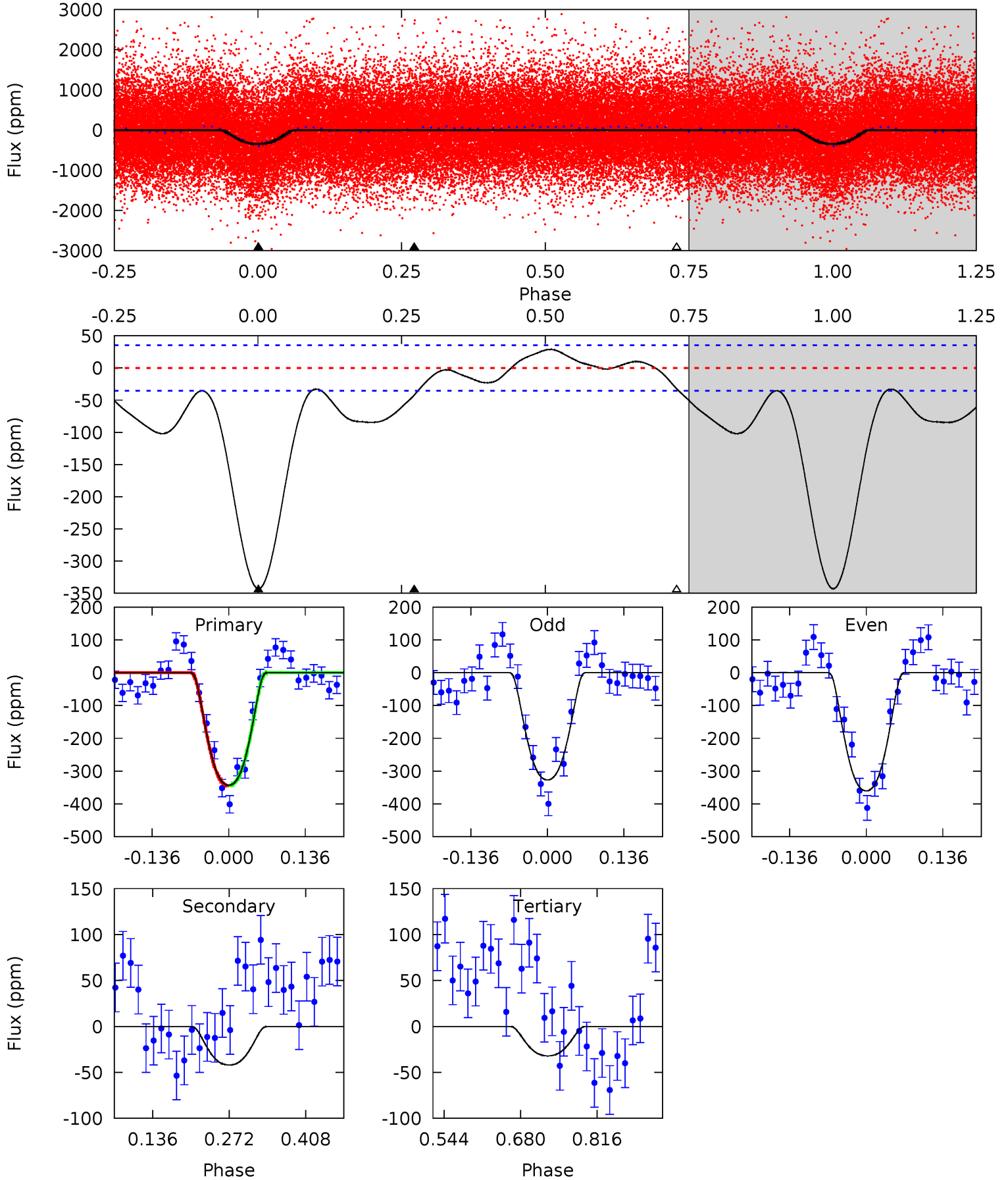
TCE 005307858-01 P= 1.867253 Days $T_0=132.089976$ (BKJD)



DV Model-Shift Uniqueness Test

005307858-01, P = 1.867237 Days, E = 132.097414 Days

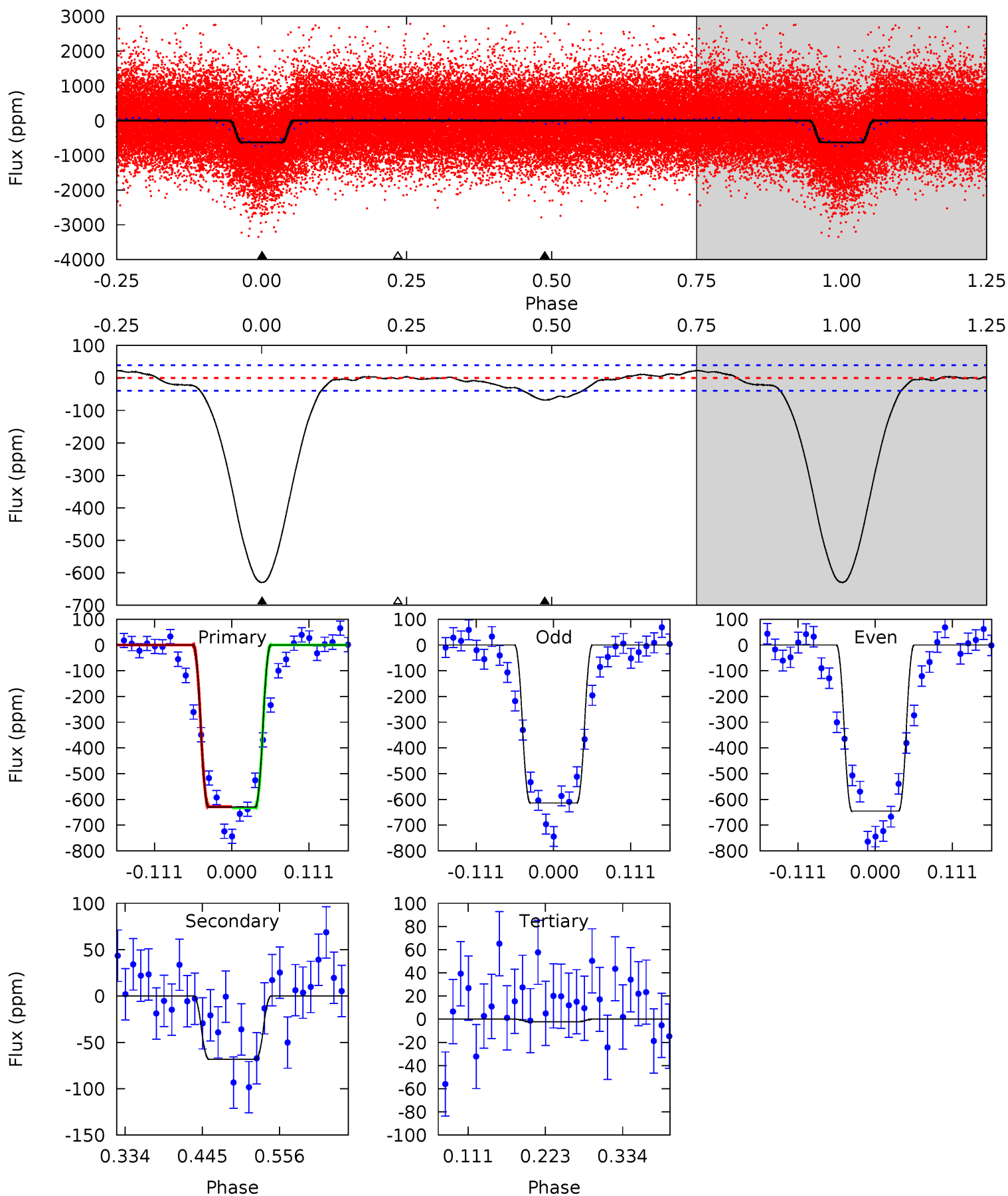
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.7	5.35	4.09	0	4.50	1.49	5.27	39.6	43.7	1.26	5.35	2.12	1.08	0.08	0.06



Alt Model-Shift Uniqueness Test

005307858-01, P = 1.867253 Days, E = 132.089976 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
72.9	7.92	0.27	0	4.54	1.59	1.29	72.6	72.9	7.65	7.92	1.84	1.03	0.04	0.25



Stellar Parameters For KIC 005307858

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6117^{+193}_{-236}	$4.457^{+0.052}_{-0.208}$	$-0.020^{+0.250}_{-0.300}$	$1.025^{+0.302}_{-0.130}$	$1.095^{+0.135}_{-0.151}$	$1.433^{+0.389}_{-0.733}$
	+3%/-4%	+1%/-5%	+1250%/-1500%	+29%/-13%	+12%/-14%	+27%/-51%
Source	KIC0	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 005307858-01 / KOI 2558.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-42 ± 8	$2.72^{+0.47}_{-0.38}$	2225^{+158}_{-117}	3572^{+197}_{-212}	$2.792^{+1.163}_{-0.889}$
Alt.	-68 ± 9	$3.07^{+0.53}_{-0.37}$	2238^{+156}_{-129}	3737^{+191}_{-169}	$3.619^{+1.175}_{-1.027}$

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

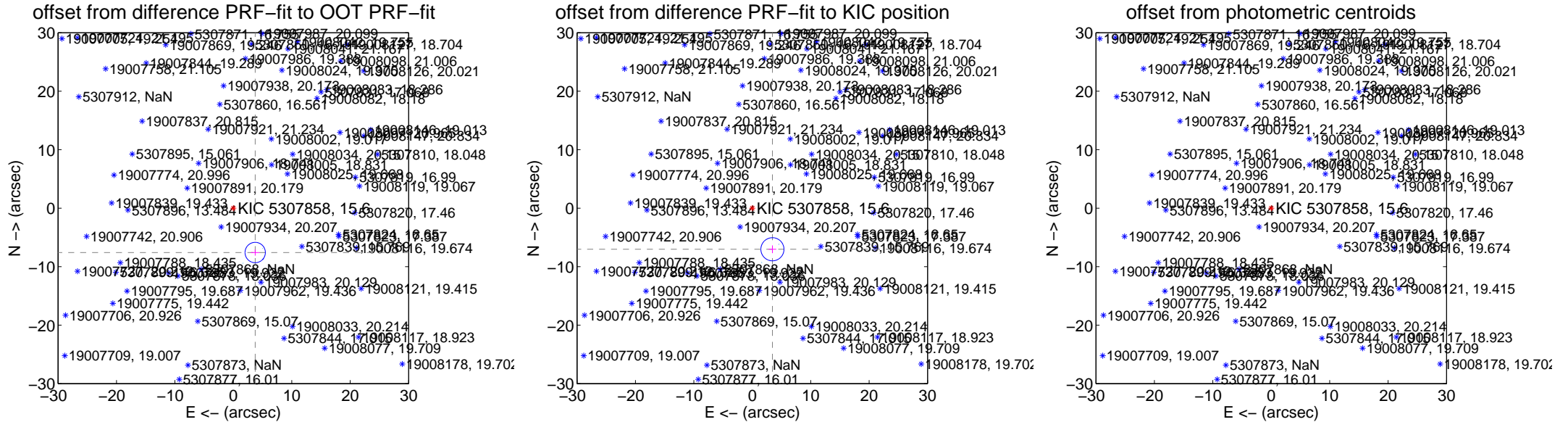
DV Centroid Data

Supplemental centroid analysis for 005307858-01. Kepler magnitude: 15.60. Transit SNR 24.93

There are 7 quarters with good PRF difference image offsets

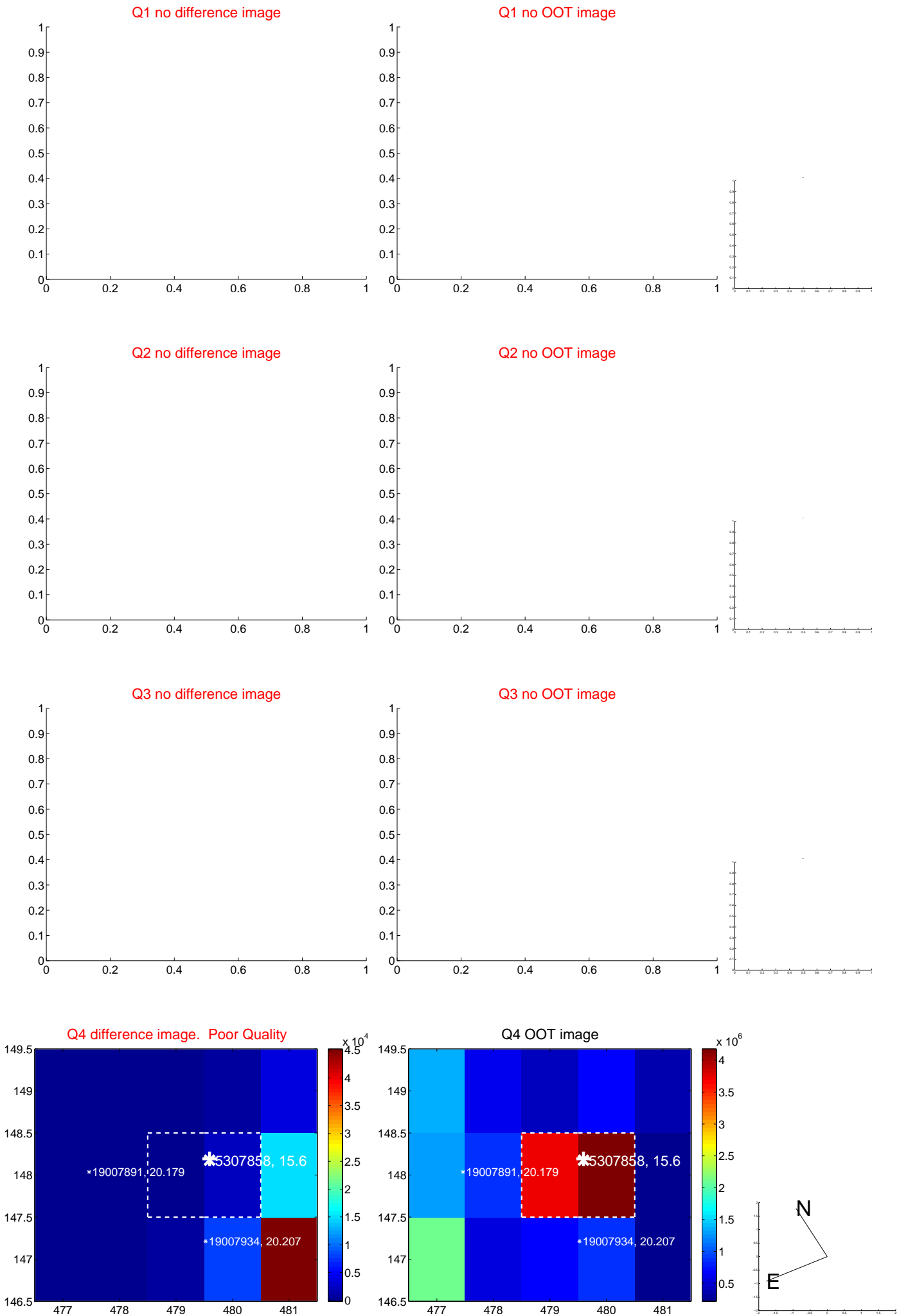
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.456 \pm 0.580	14.57	-3.740 \pm 0.743	-7.584 \pm 0.533
PRF-fit source offset from KIC position	7.825 \pm 0.659	11.87	-3.445 \pm 0.657	-7.026 \pm 0.660
photometric centroid source offset	84.16 \pm 0.54	156.74	-43.54 \pm 0.60	-72.02 \pm 0.51

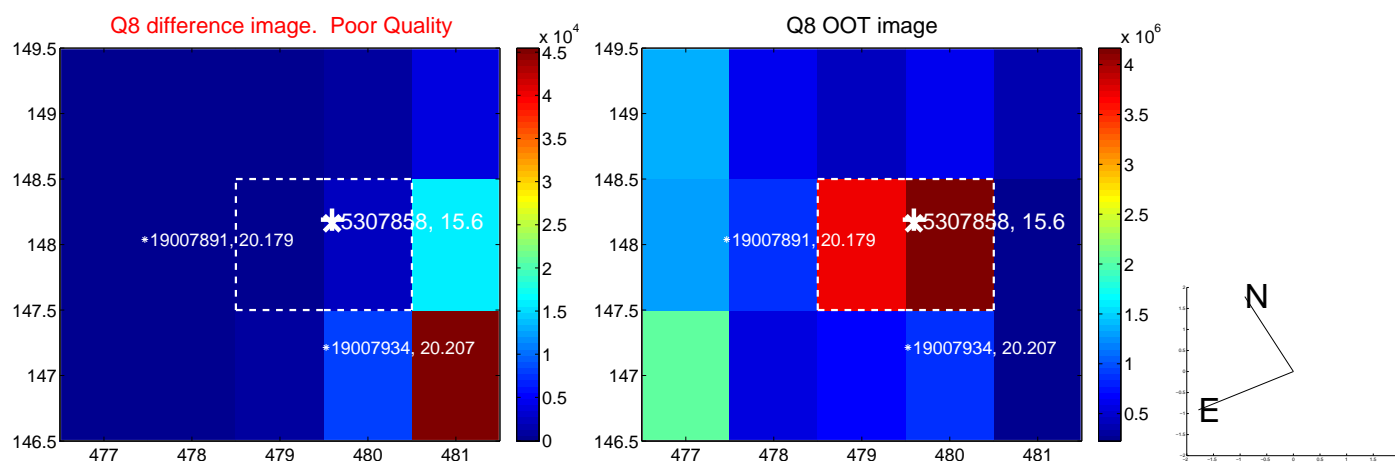
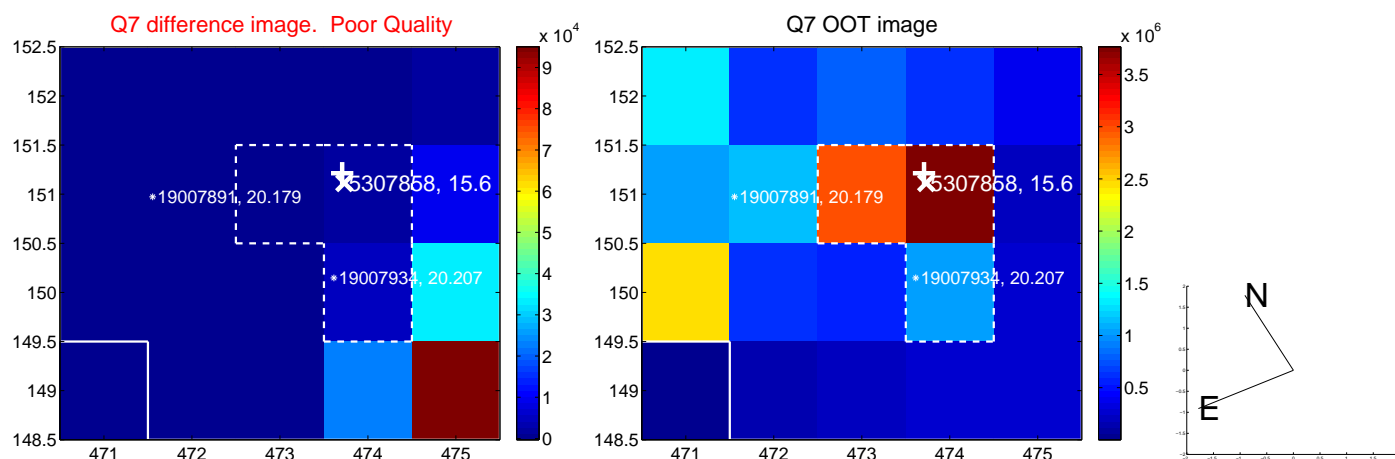
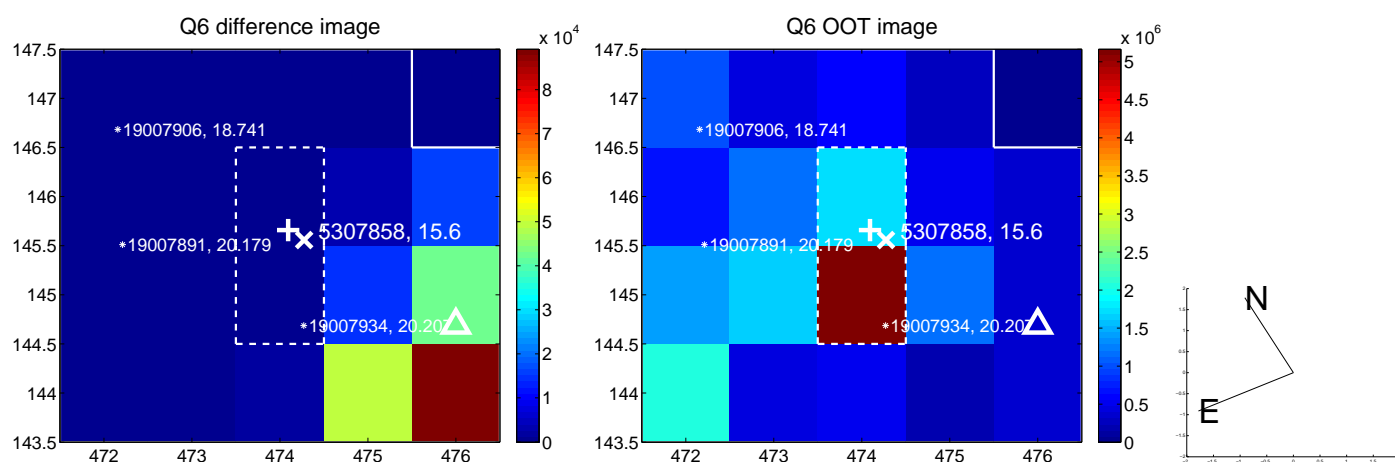
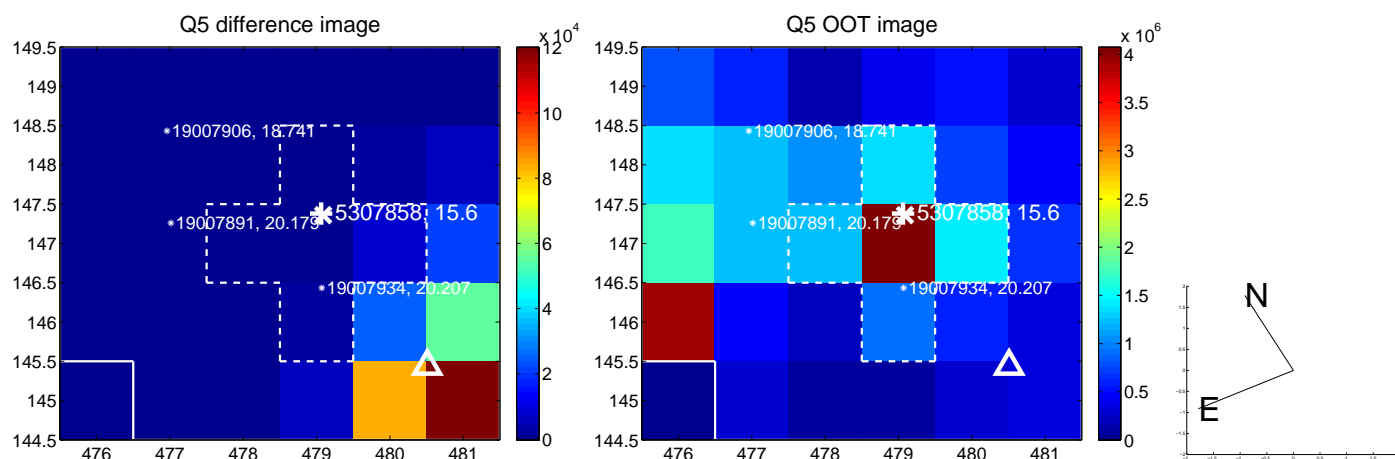


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

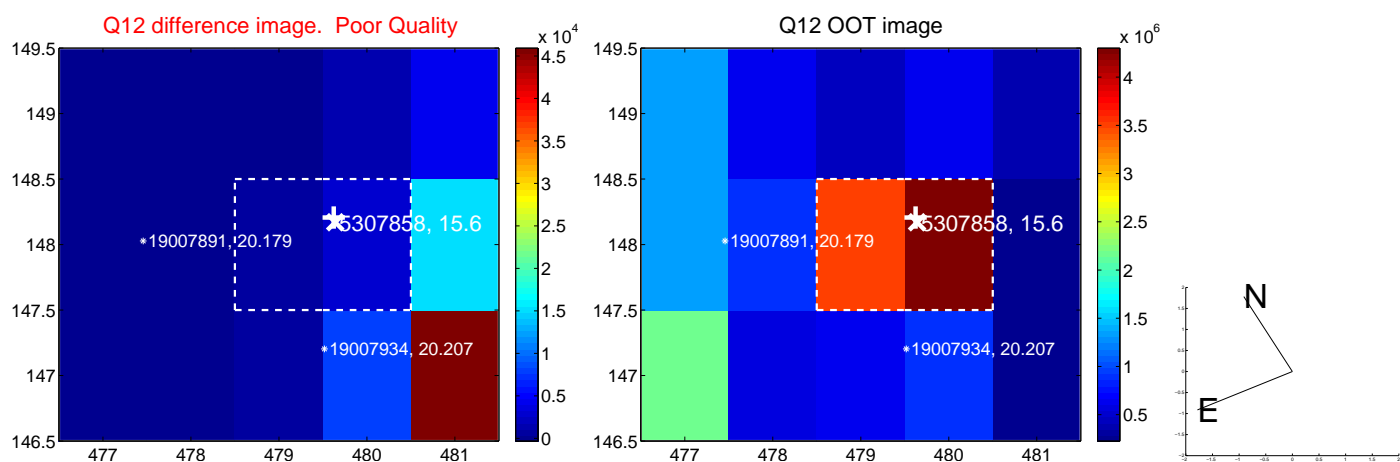
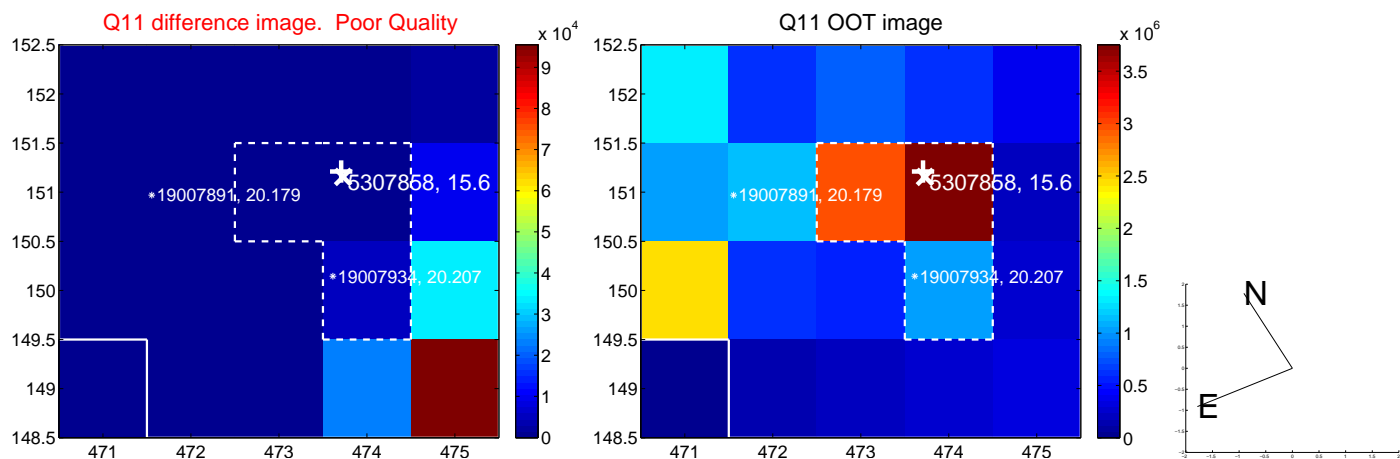
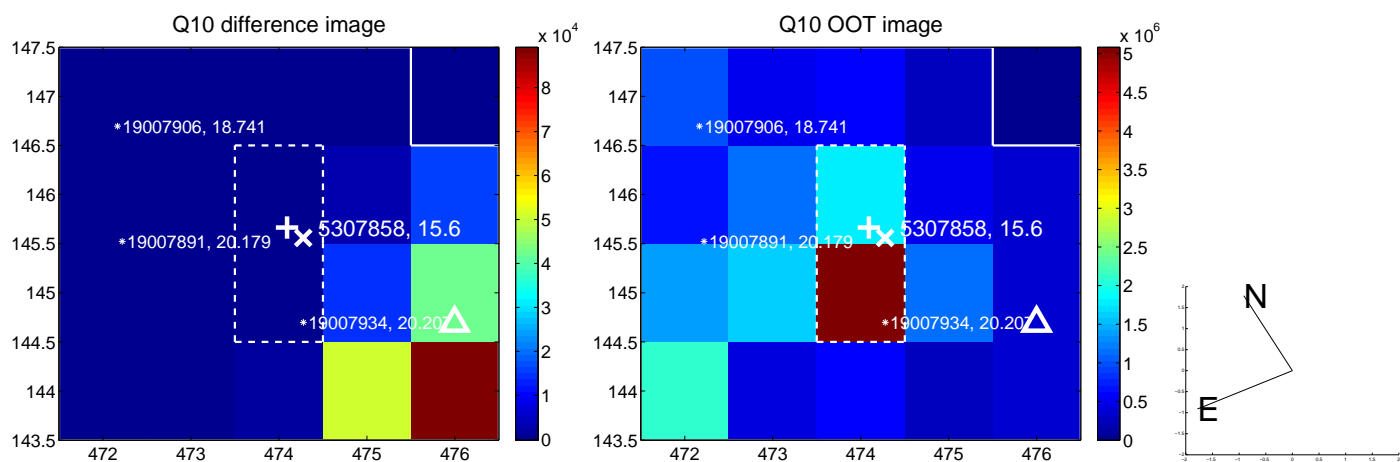
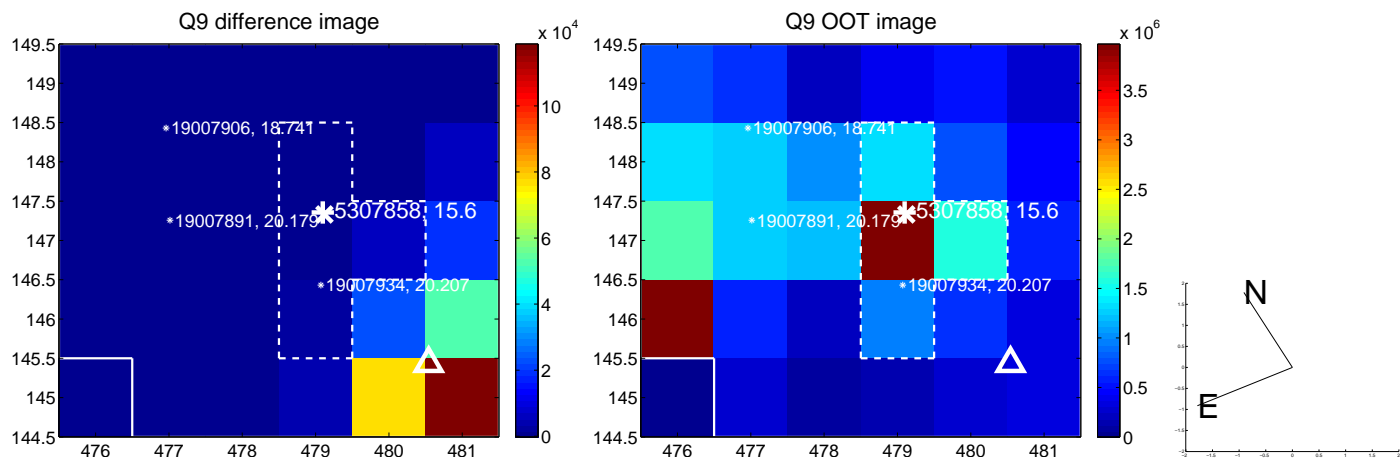
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



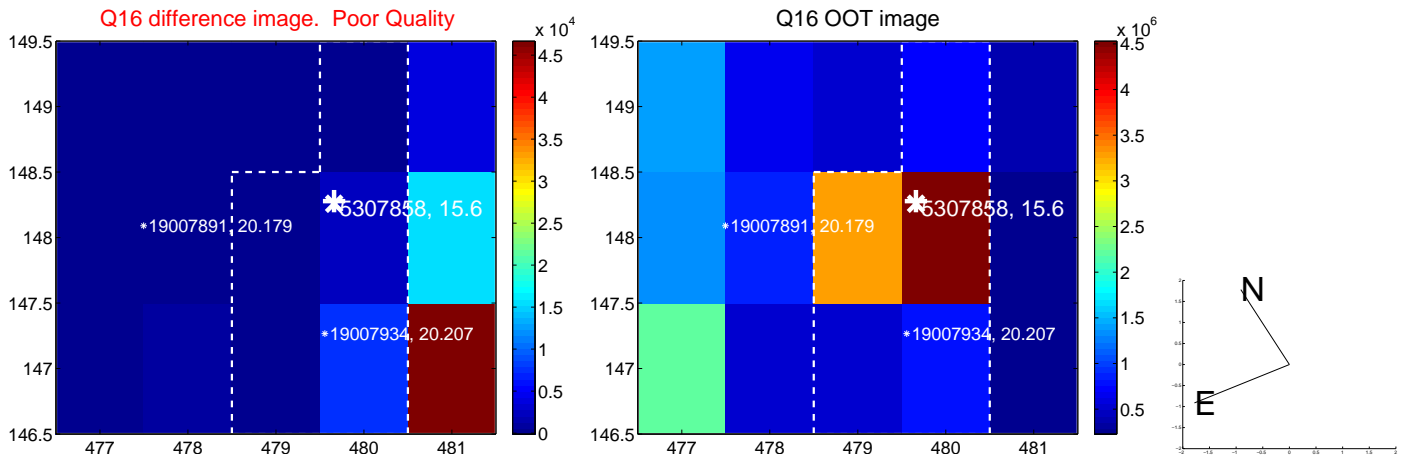
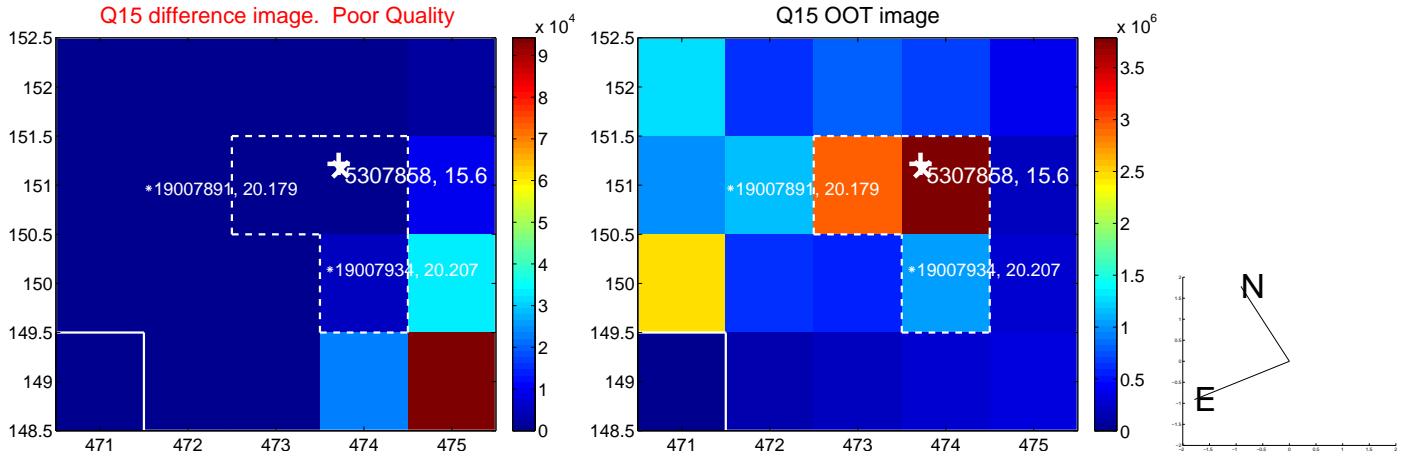
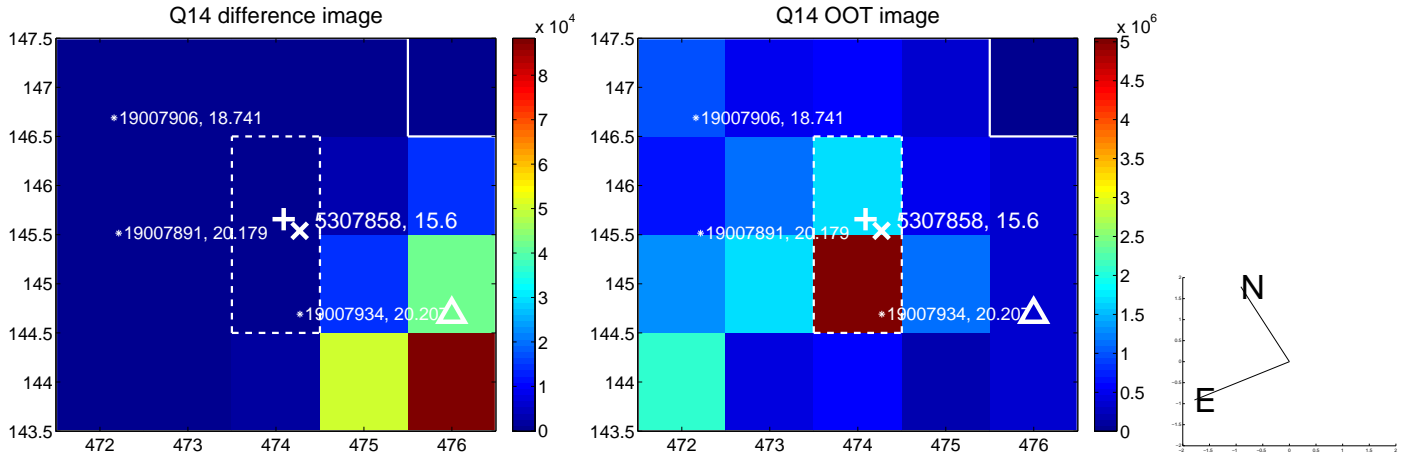
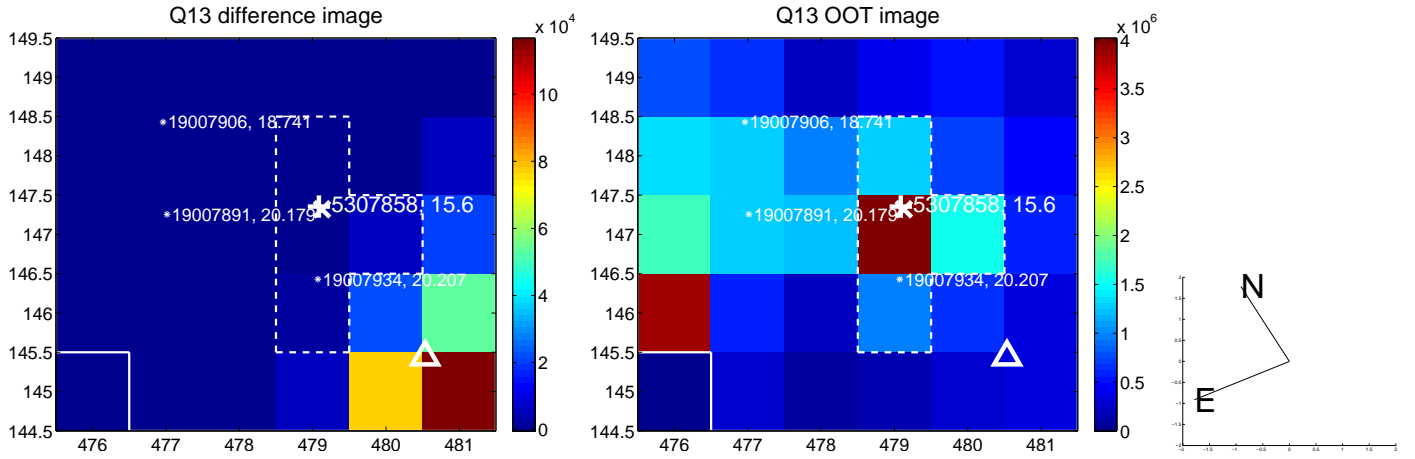
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



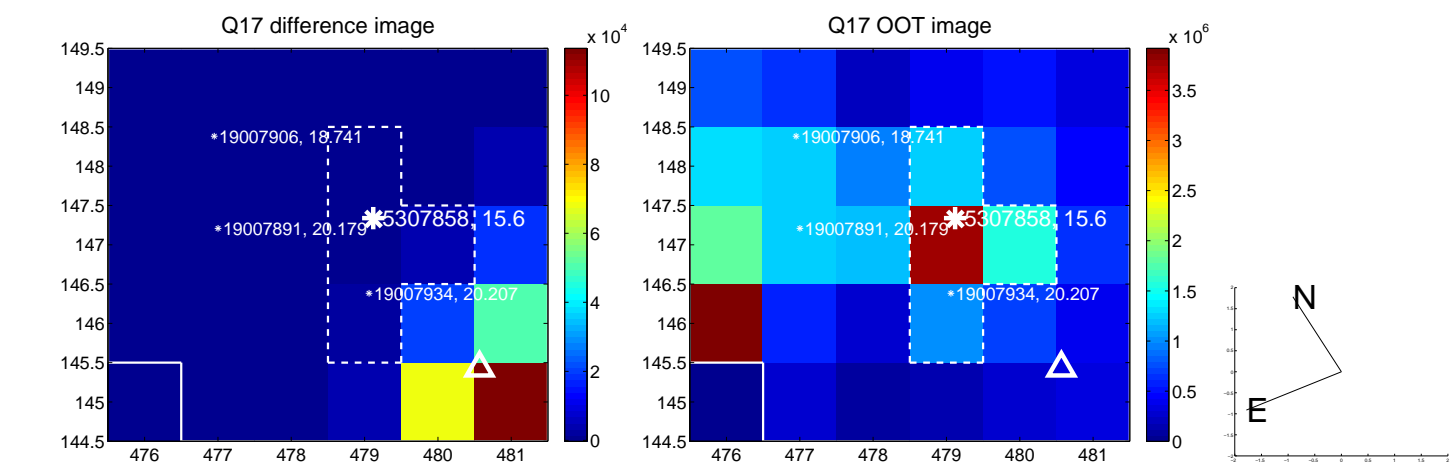
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



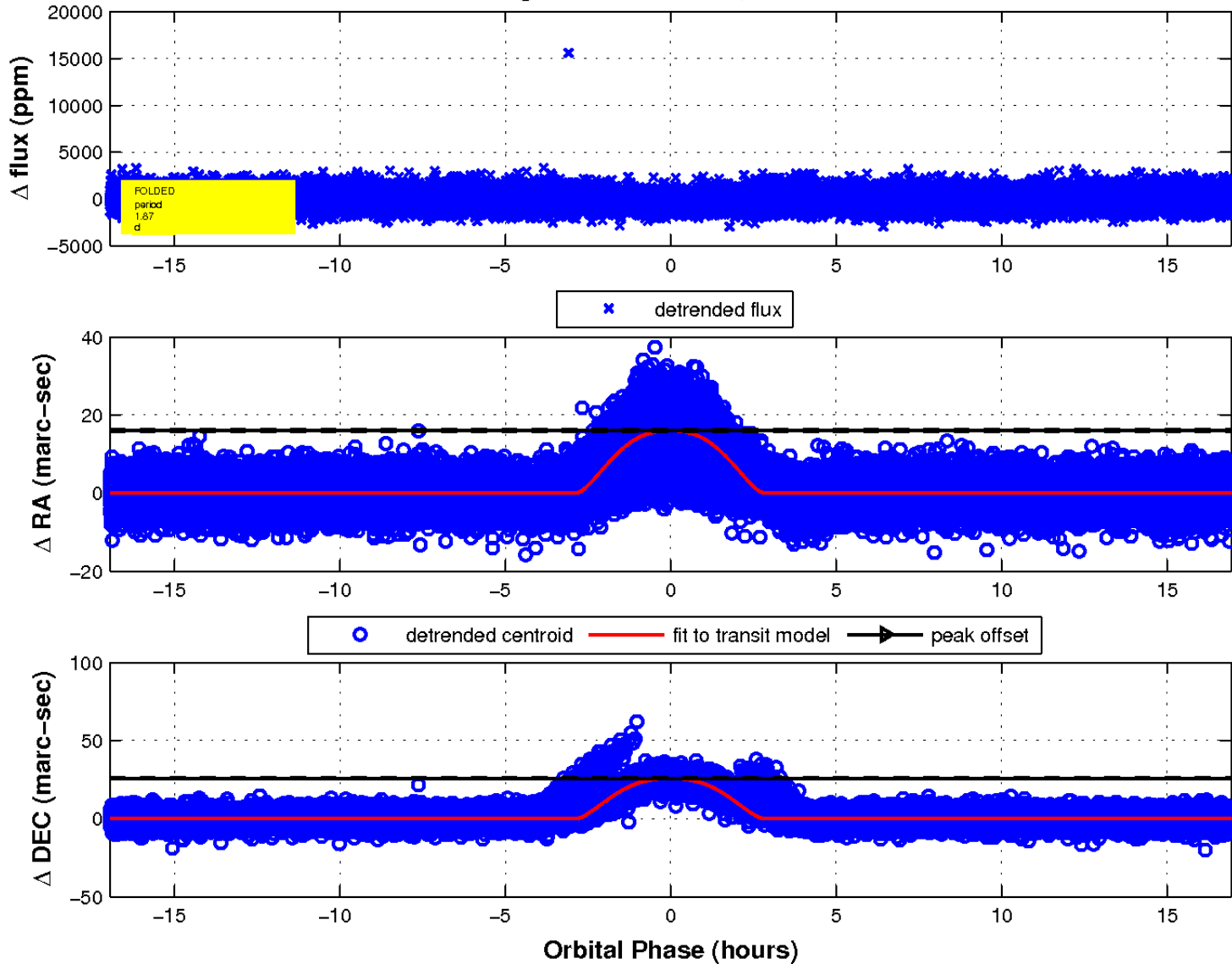
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

