

KIC 008459663

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})
008459663-01	OBS	4356.01	174.510599	201.471489	1587.6	6.806	11.0	11.6	0.45	4367	1.88	0.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008459663-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT

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 008459663-01

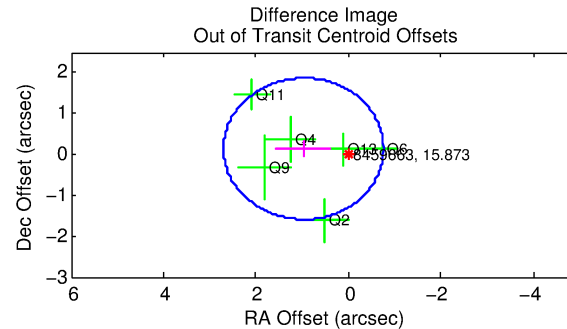
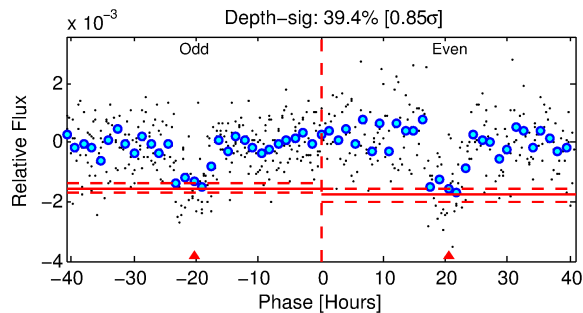
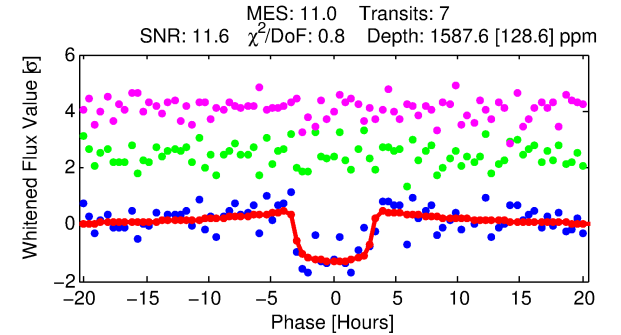
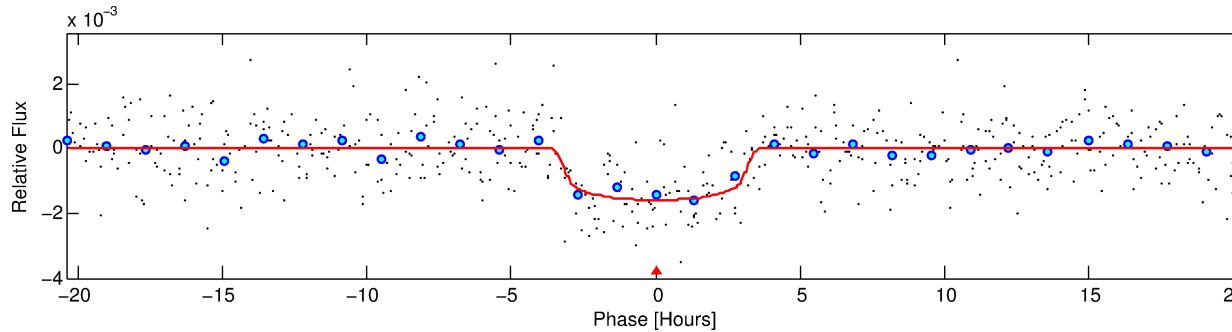
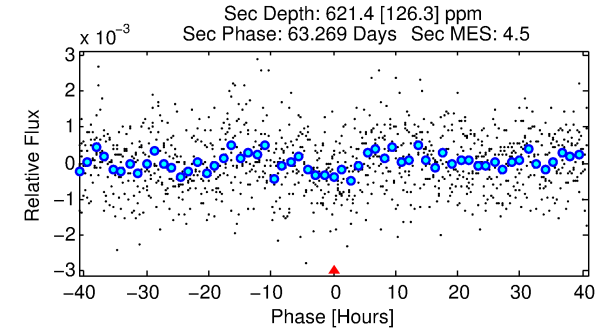
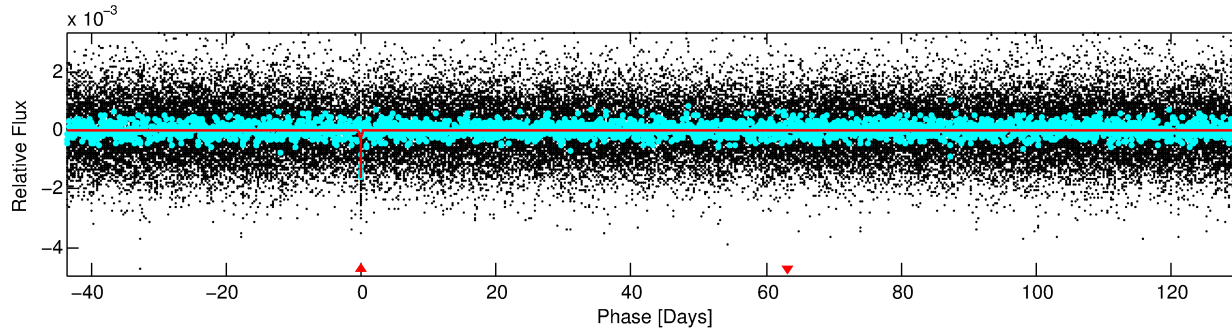
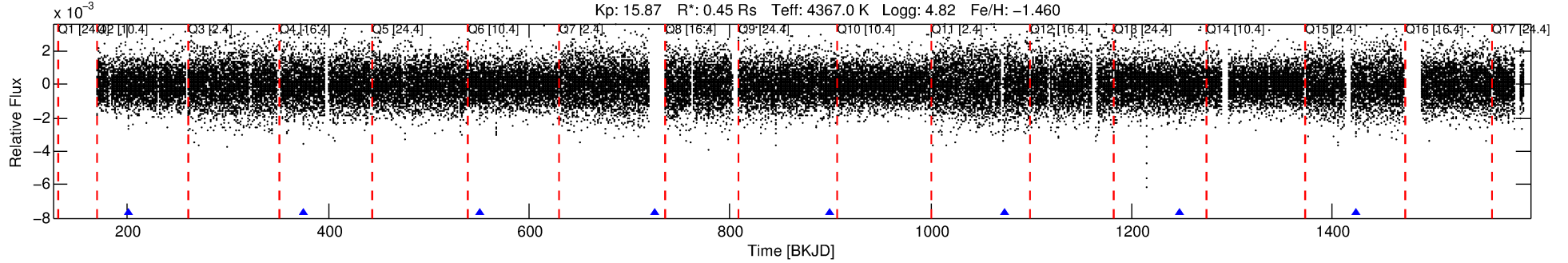
No Significant Match Found

DV One-Page Summary

KIC: 8459663 Candidate: 1 of 1 Period: 174.511 d

KOI: K04356.01 Corr: 0.974

Kp: 15.87 R*: 0.45 Rs Teff: 4367.0 K Logg: 4.82 Fe/H: -1.460



DV Fit Results:

Period = 174.51060 [0.00174] d
Epoch = 201.4715 [0.0072] BKJD
Rp/R* = 0.0380 [0.0153]
a/R* = 167.64 [320.15]
b = 0.59 [2.14]
Seff = 0.28 [0.05]
Teq = 186 [9] K
Rp = 1.88 [0.78] Re
a = 0.4834 [0.0432] AU
Ag = 22703.07 [18988.93] [1.20σ]
Teffp = 3535 [742] K [4.51σ]

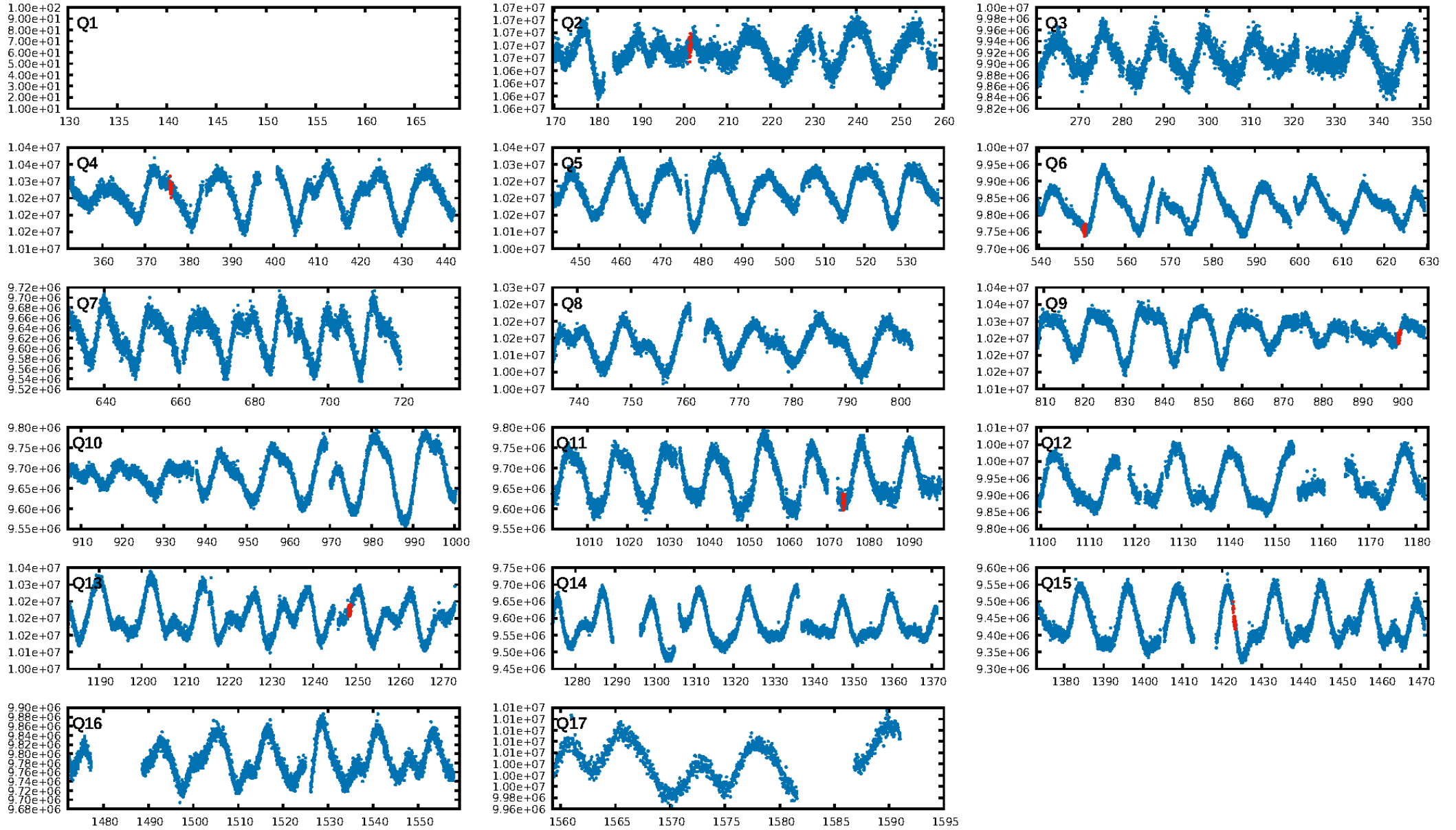
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 88.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.97e-23
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 49.01
Centroid-sig: 4.0%
Centroid-so: 1.470 arcsec [1.61σ]
OotOffset-rm: 0.985 arcsec [1.71σ]
KicOffset-rm: 0.362 arcsec [1.06σ]
OotOffset-st: 2/1/1/2 [6]
KicOffset-st: 2/1/1/2 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [7/7]

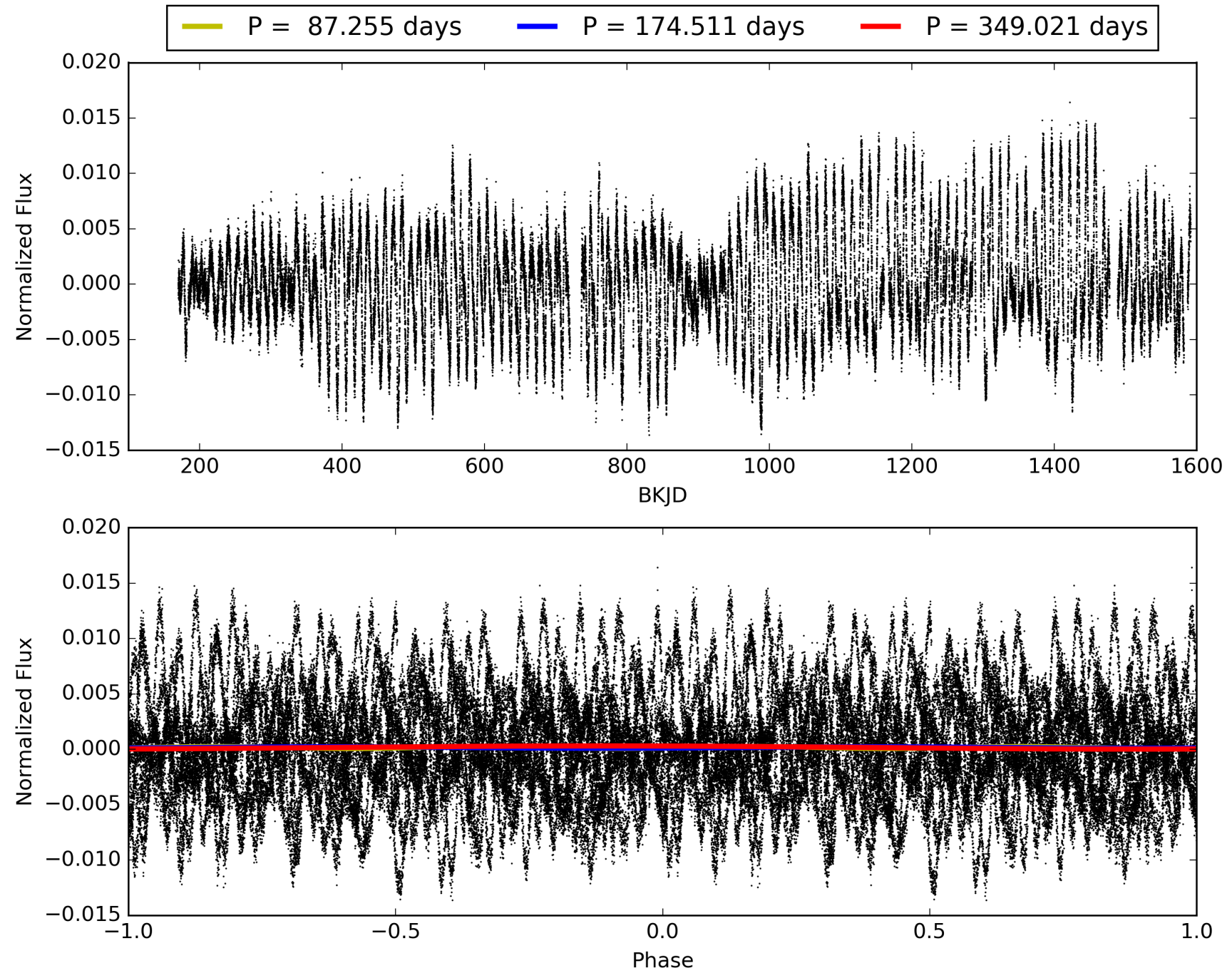
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:18:05 Z

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

TCE 008459663-01, PDC Light Curves

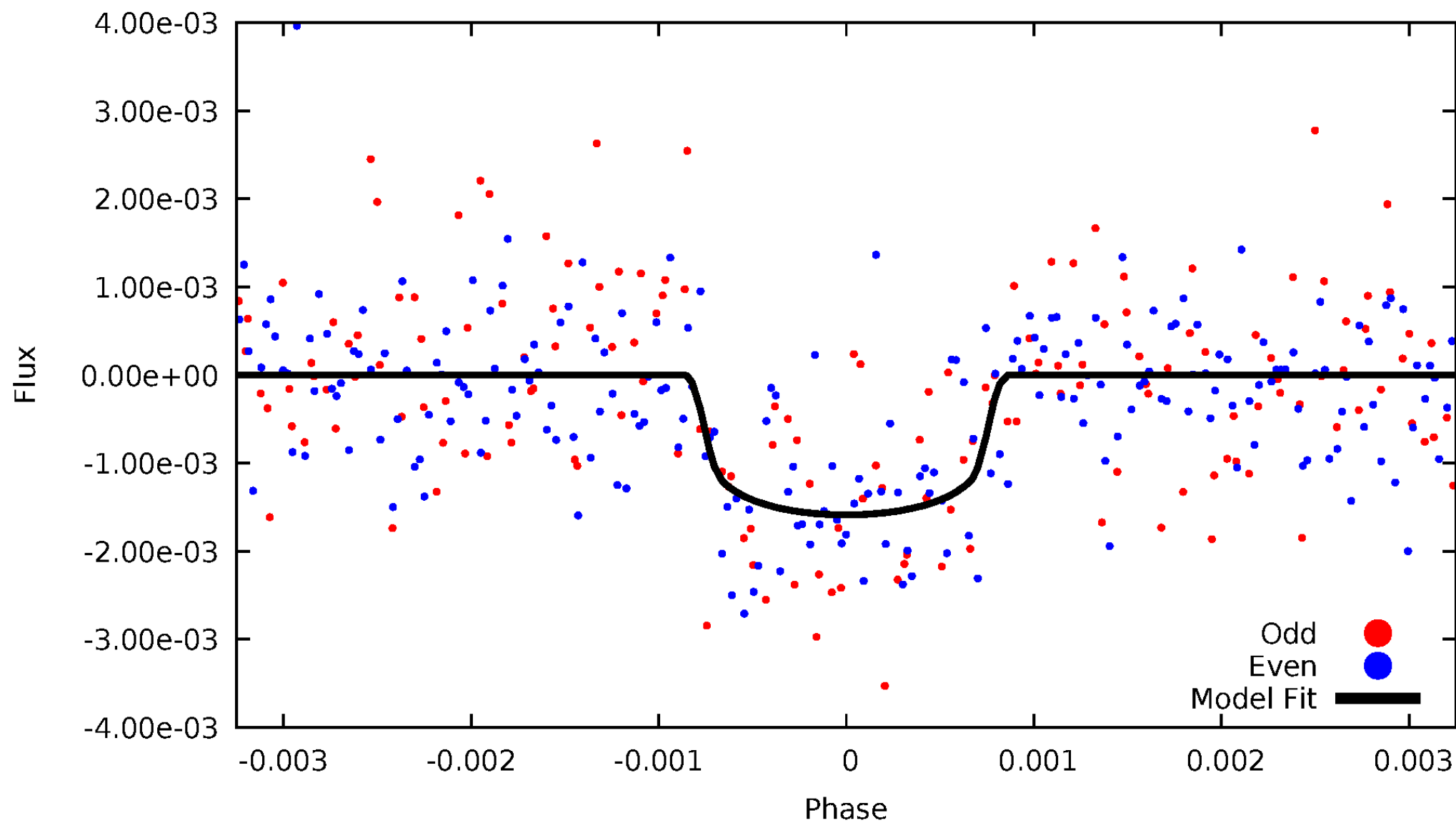


TCE 008459663-01



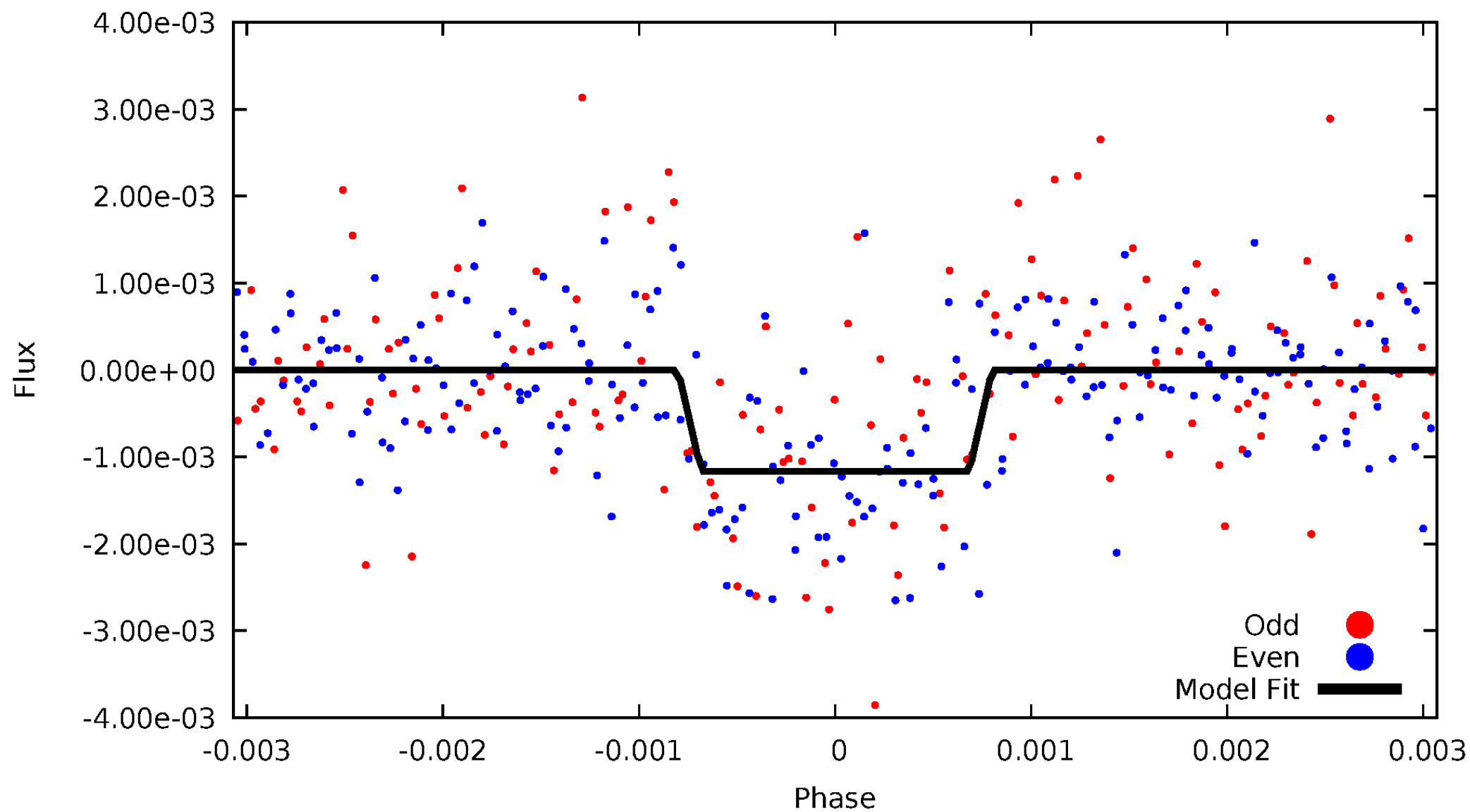
DV Odd/Even

TCE 008459663-01



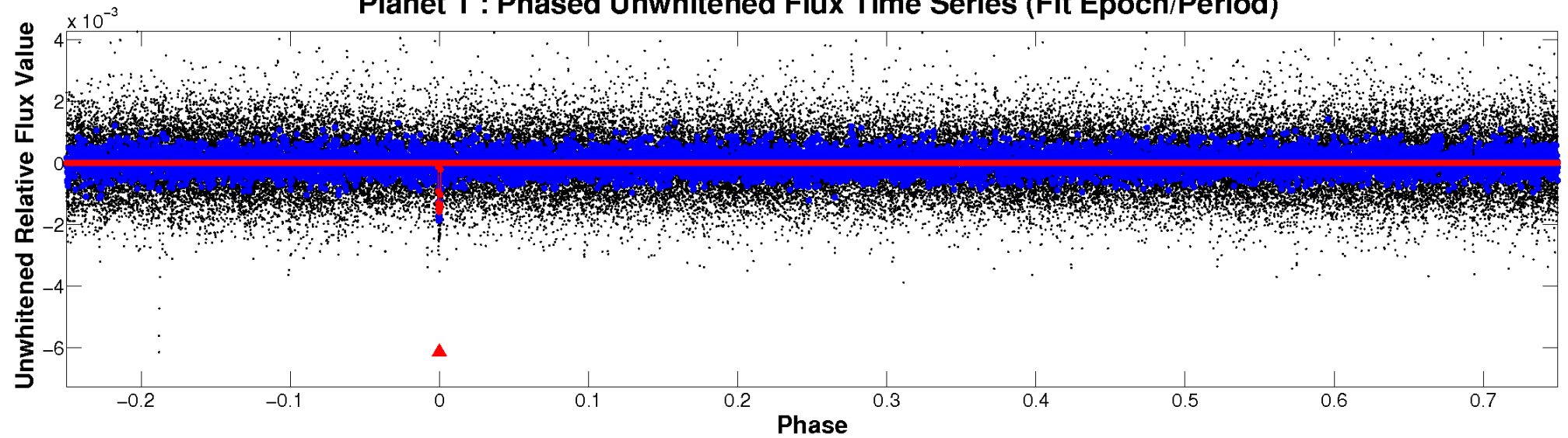
ALT Odd/Even

TCE 008459663-01

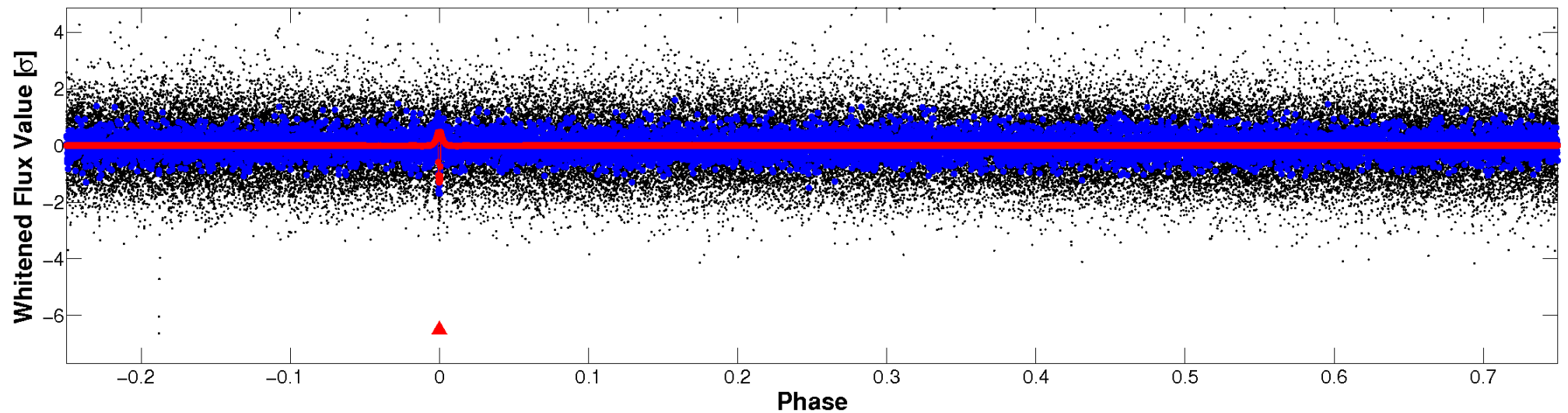


Non-Whitened Vs. Whitened Light Curve

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

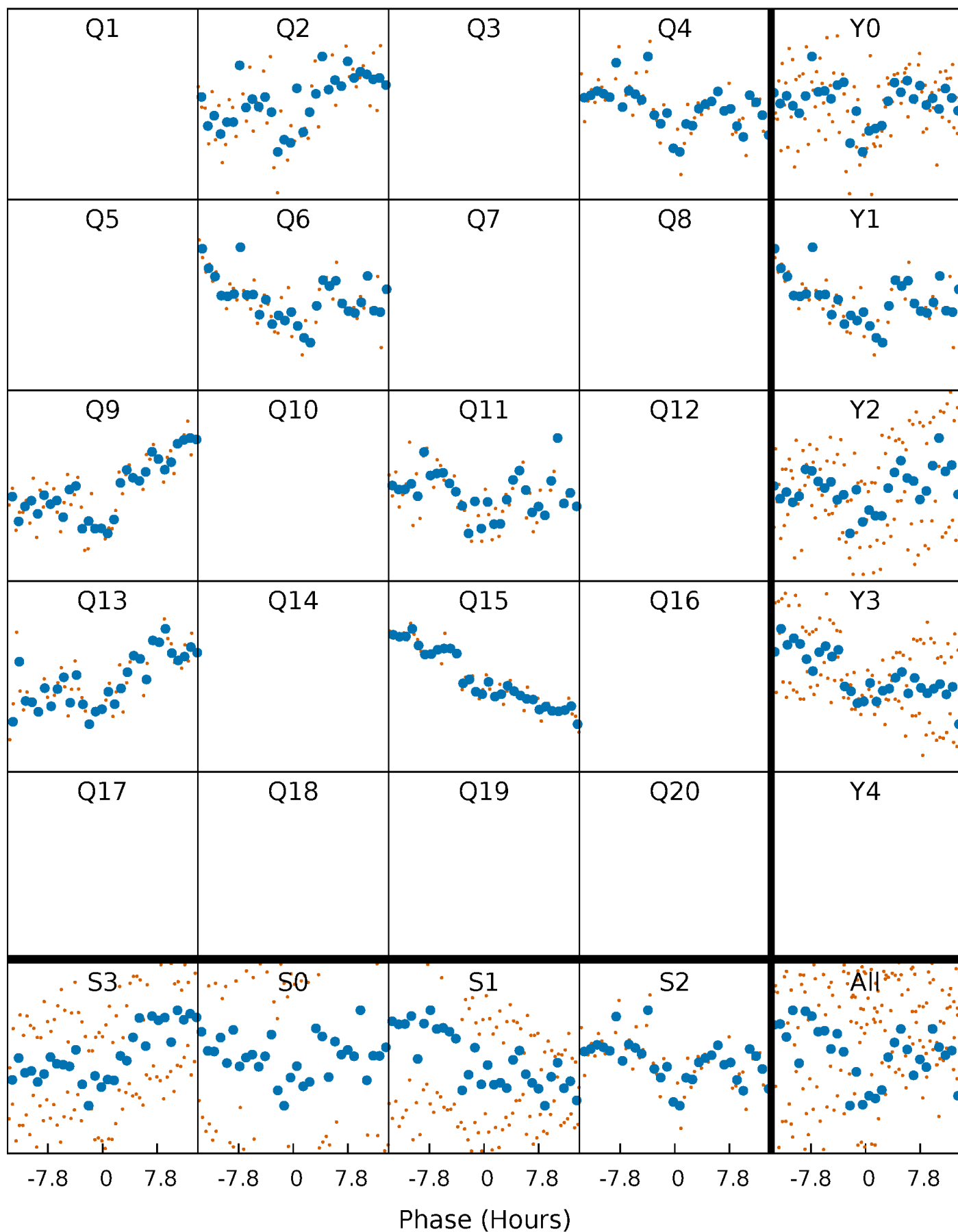


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



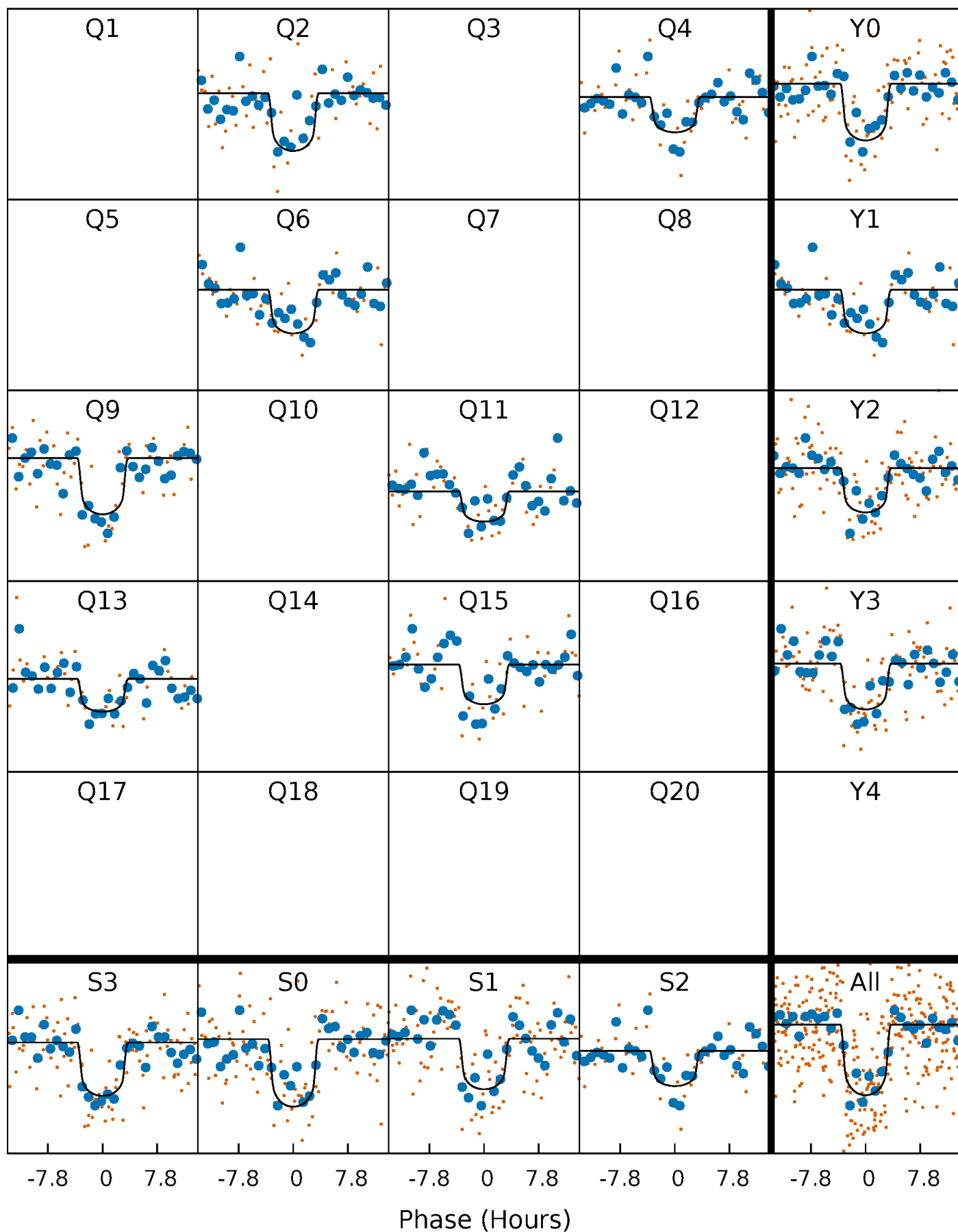
PDC Quarter-Phased Transit Curves

TCE 008459663-01 P=174.510599 Days $T_0=201.471489$ (BKJD)



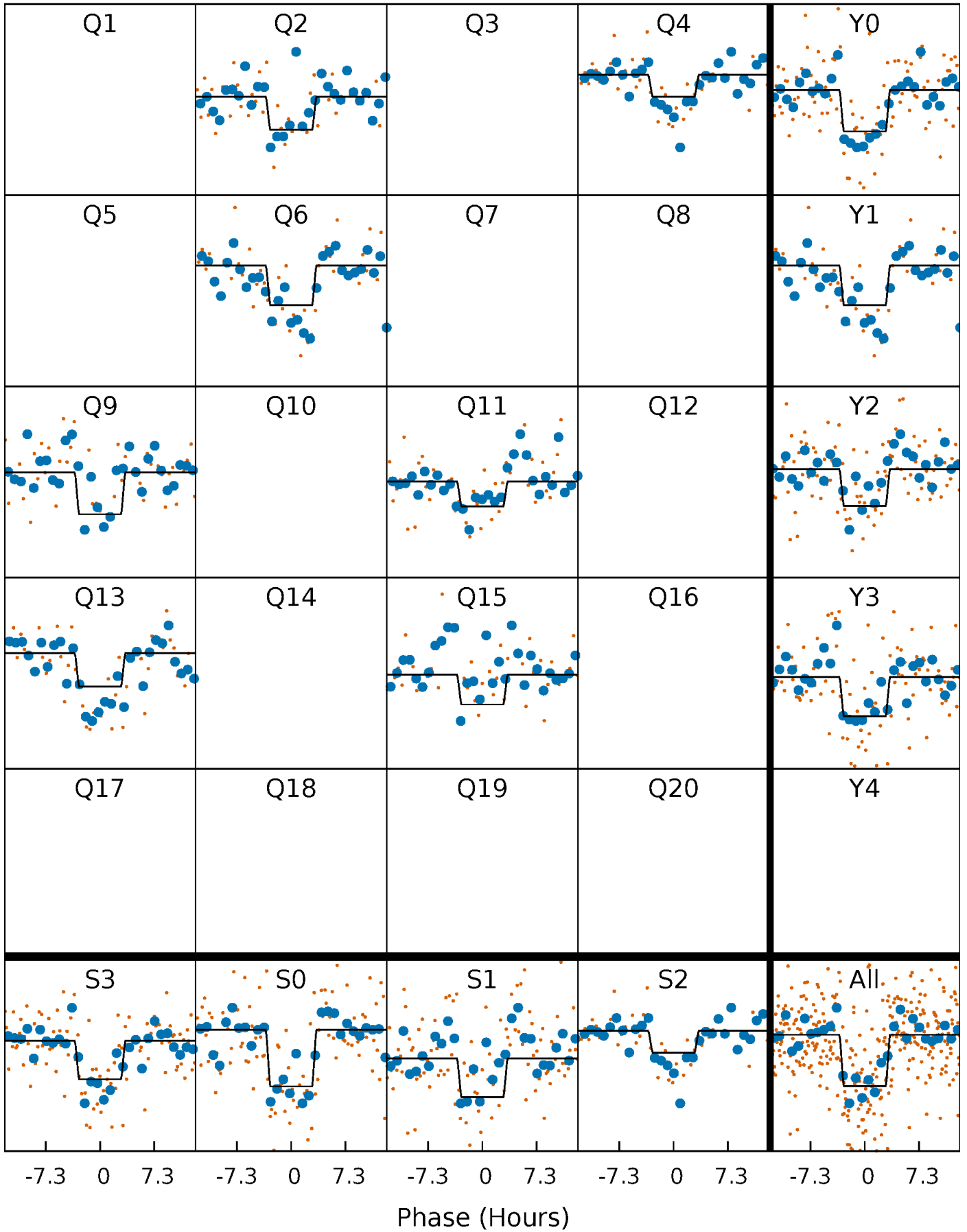
DV Quarter-Phased Transit Curves

TCE 008459663-01 P=174.510599 Days $T_0=201.471489$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

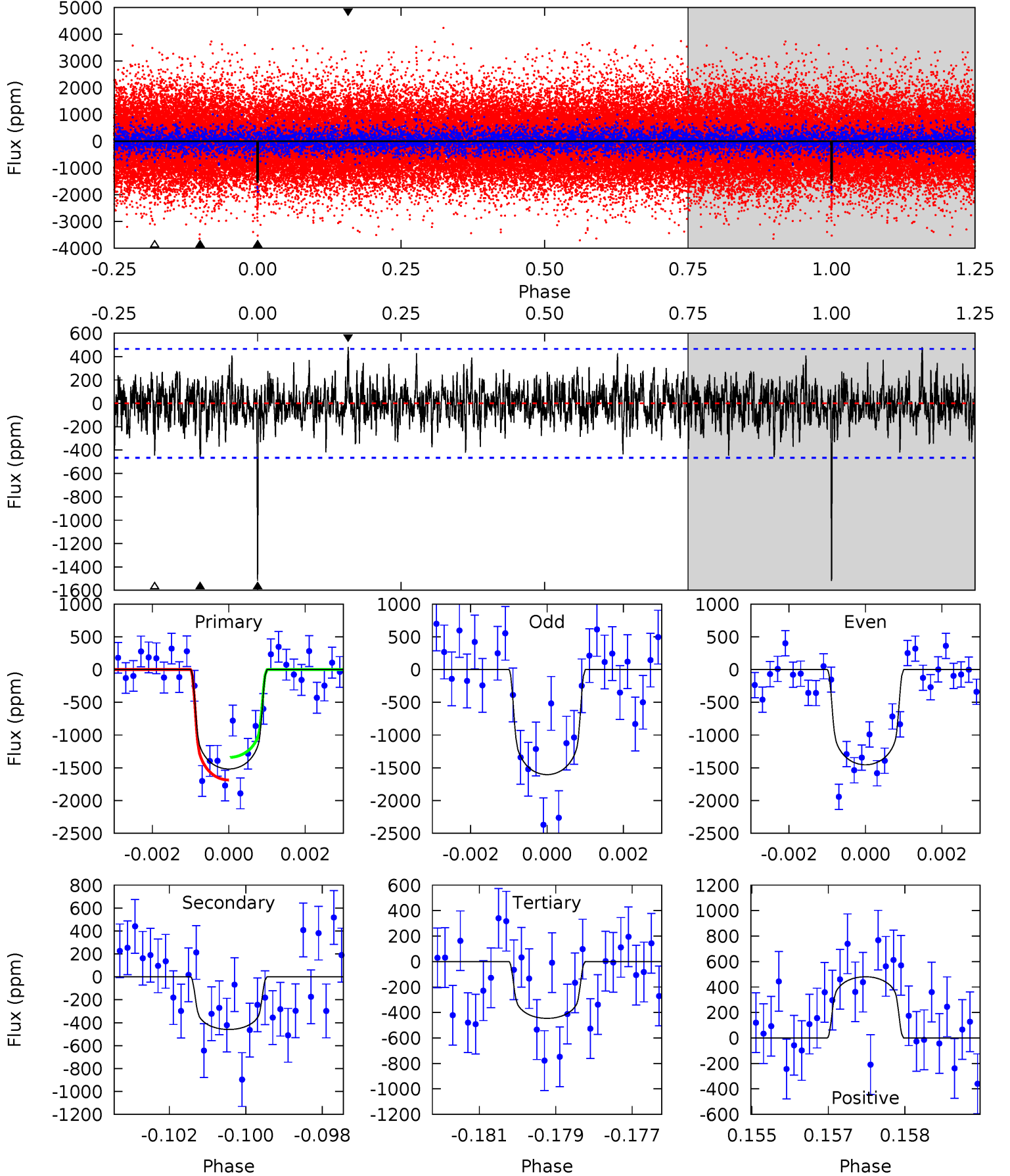
TCE 008459663-01 P=174.509414 Days $T_0=201.473007$ (BKJD)



DV Model-Shift Uniqueness Test

008459663-01, $P = 174.510599$ Days, $E = 26.960890$ Days

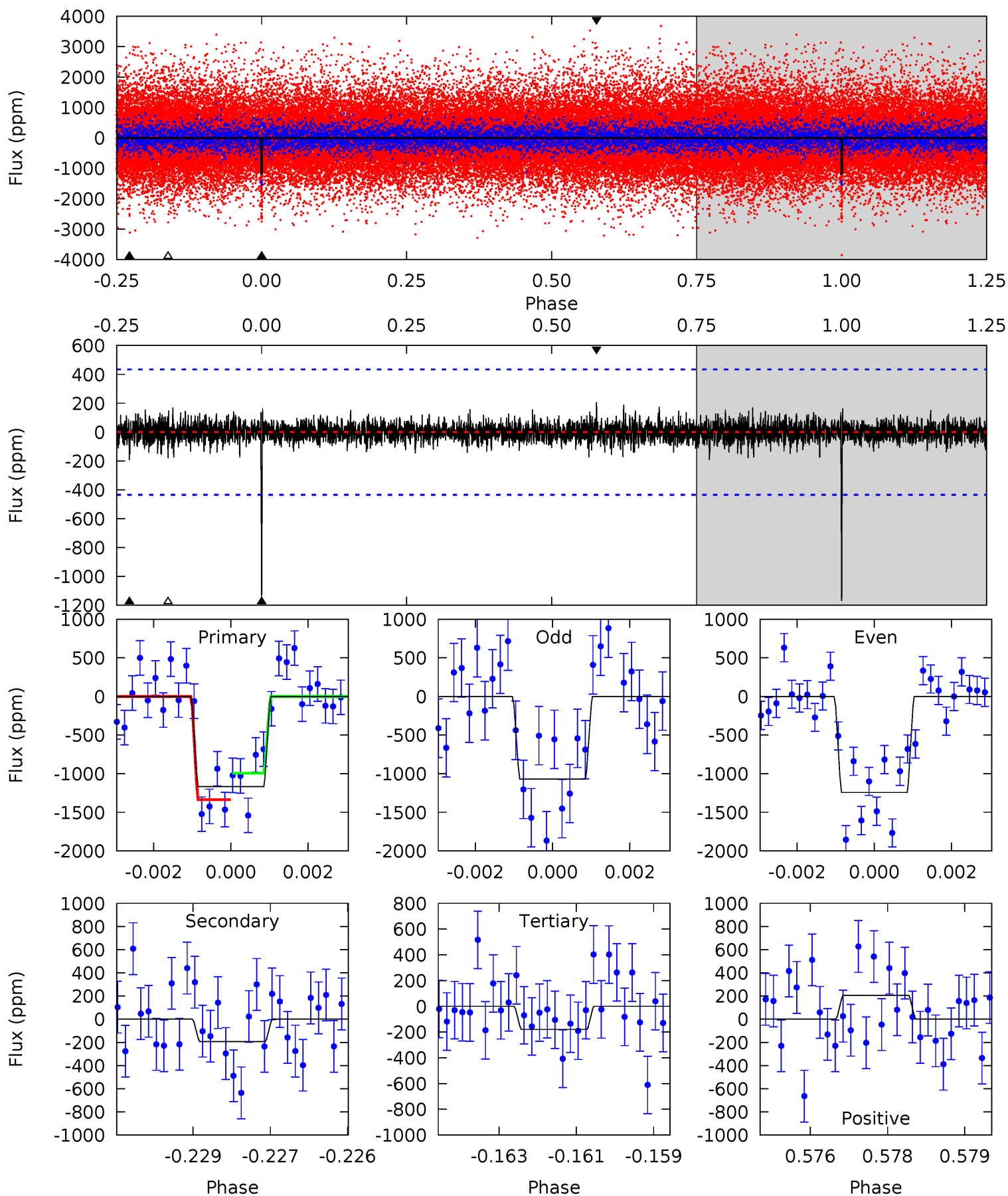
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	5.28	5.13	5.52	5.35	3.13	1.47	12.3	11.9	0.15	-0.24	0.85	0.94	0.24	1.99



Alt Model-Shift Uniqueness Test

008459663-01, $P = 174.509414$ Days, $E = 26.963593$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	2.38	2.22	2.55	5.37	3.16	0.57	12.2	11.9	0.16	-0.17	1.04	1.09	0.15	2.13



Stellar Parameters For KIC 008459663

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4367^{+124}_{-155}	$4.822^{+0.060}_{-0.054}$	$-1.460^{+0.300}_{-0.300}$	$0.452^{+0.038}_{-0.052}$	$0.496^{+0.025}_{-0.050}$	$7.542^{+2.188}_{-1.421}$
	+3%/-4%	+1%/-1%	+21%/-21%	+8%/-12%	+5%/-10%	+29%/-19%
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 008459663-01 / KOI 4356.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-459 ± 87	$1.92^{+0.74}_{-0.80}$	260^{+9}_{-11}	3530^{+759}_{-351}	15967^{+33483}_{-7816}
Alt.	-193 ± 81	$1.67^{+0.73}_{-0.67}$	259^{+10}_{-10}	3216^{+600}_{-410}	8478^{+17227}_{-5099}

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 $A_{obs} \gg 1.0$

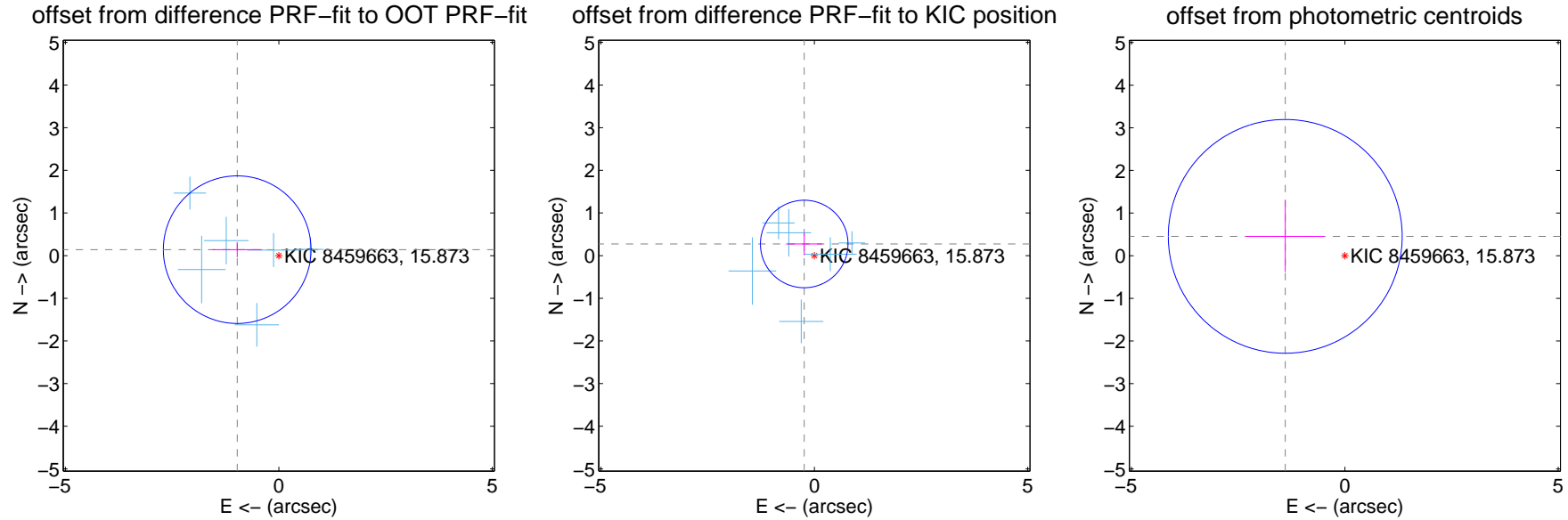
DV Centroid Data

Supplemental centroid analysis for 008459663-01. Kepler magnitude: 15.87. Transit SNR 11.64

There are 6 quarters with good PRF difference image offsets

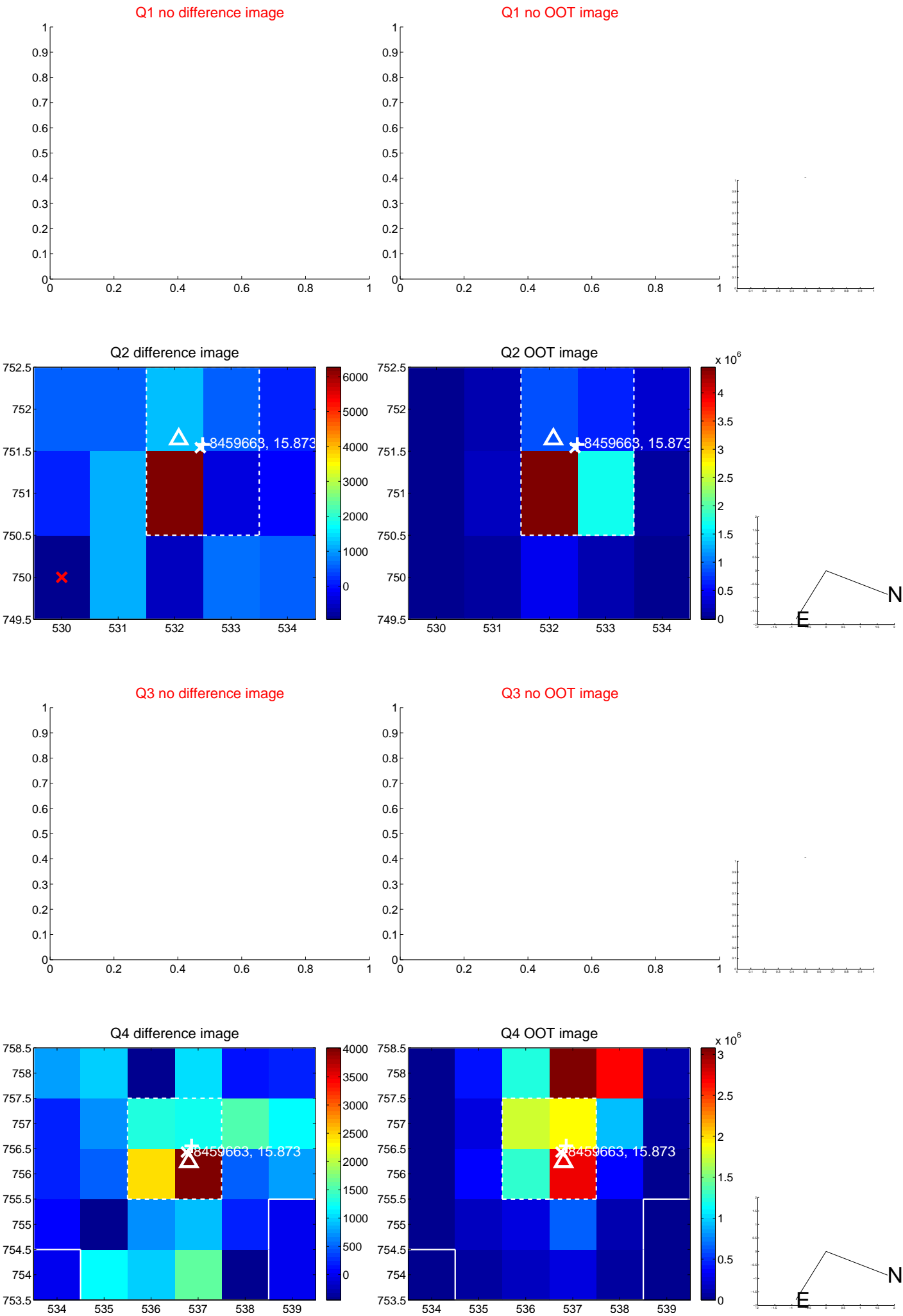
The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.985 ± 0.577	1.71	0.975 ± 0.582	0.140 ± 0.176
PRF-fit source offset from KIC position	0.362 ± 0.342	1.06	0.237 ± 0.423	0.273 ± 0.265
photometric centroid source offset	1.47 ± 0.91	1.61	1.40 ± 0.92	0.45 ± 0.84



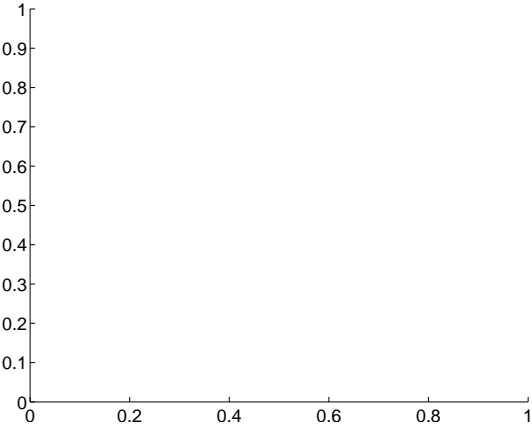
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

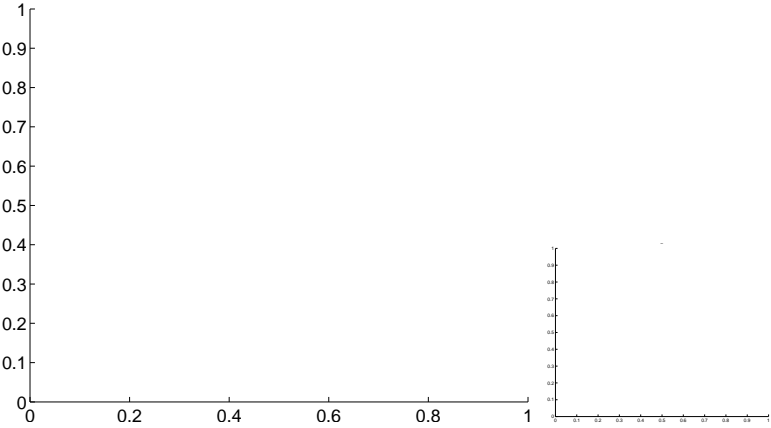


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

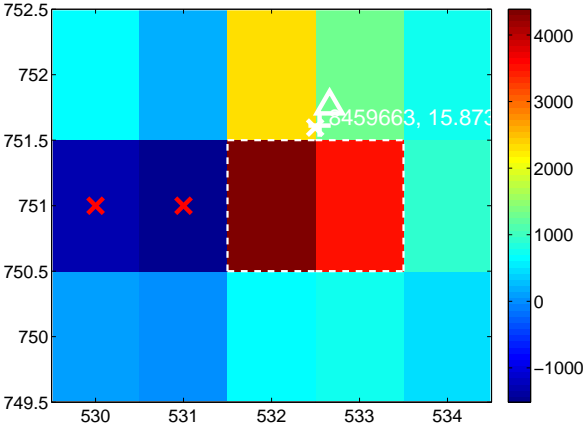
Q5 no difference image



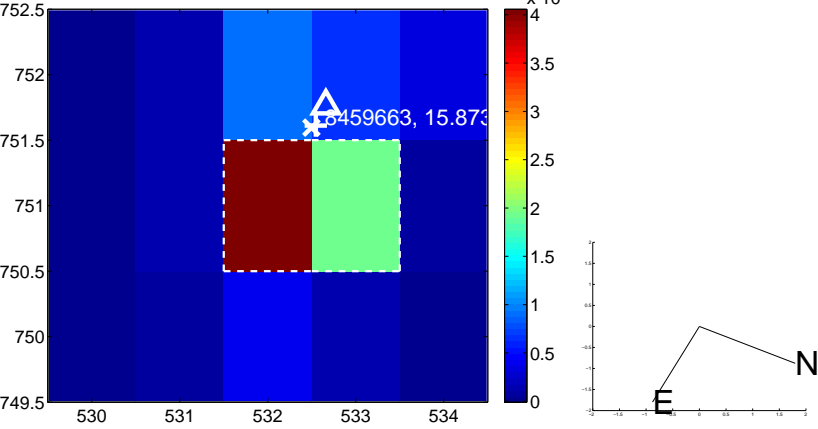
Q5 no OOT image



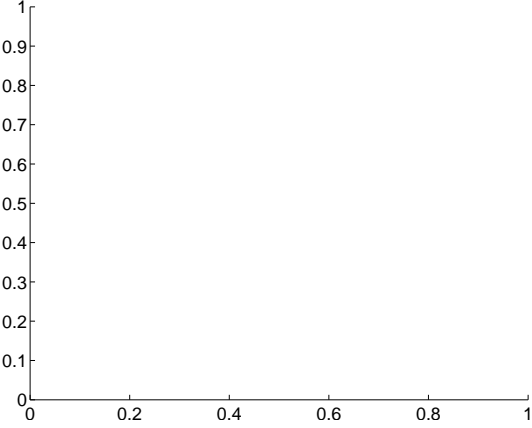
Q6 difference image



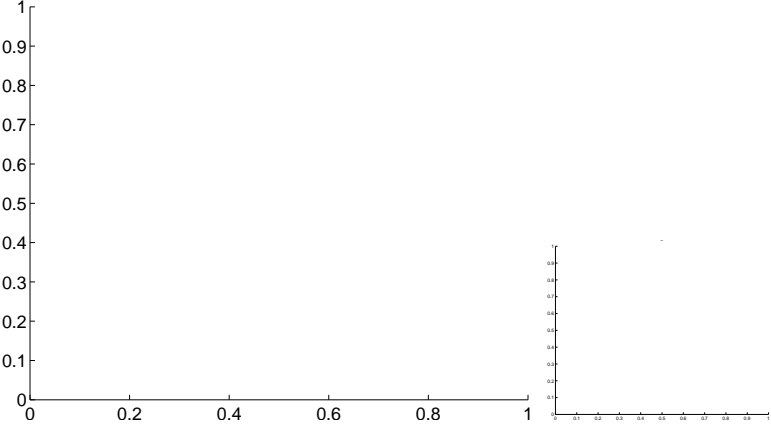
Q6 OOT image



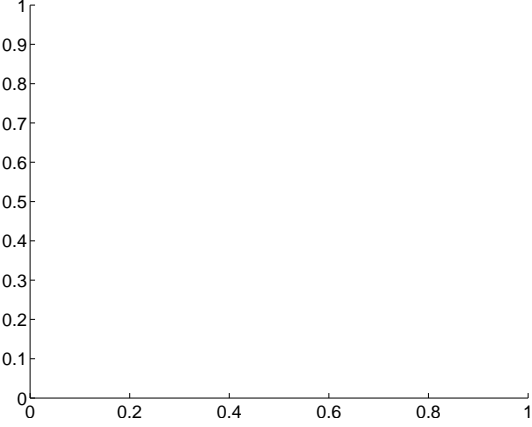
Q7 no difference image



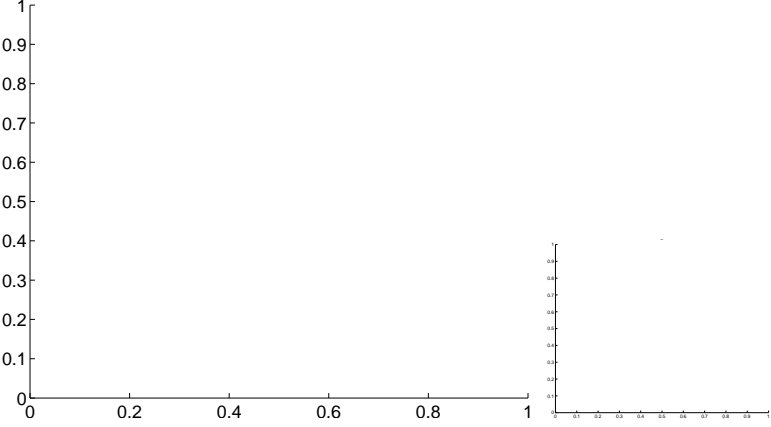
Q7 no OOT image



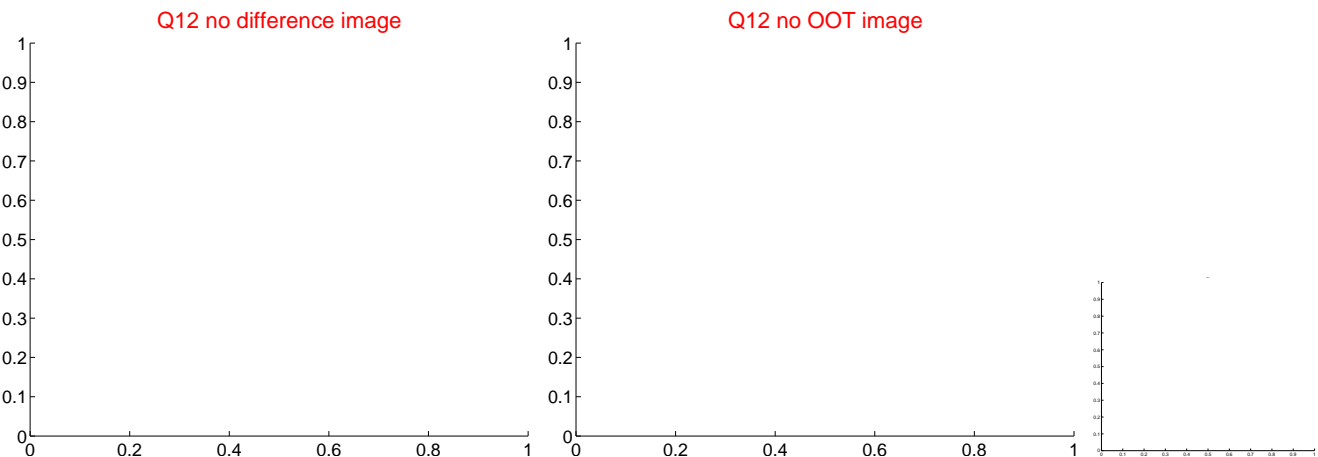
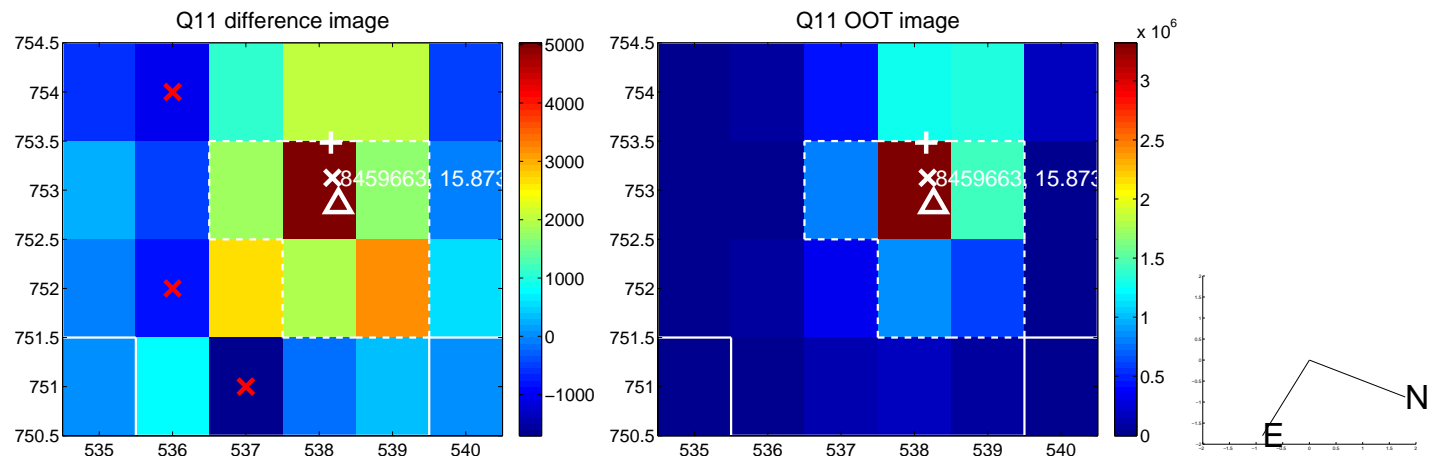
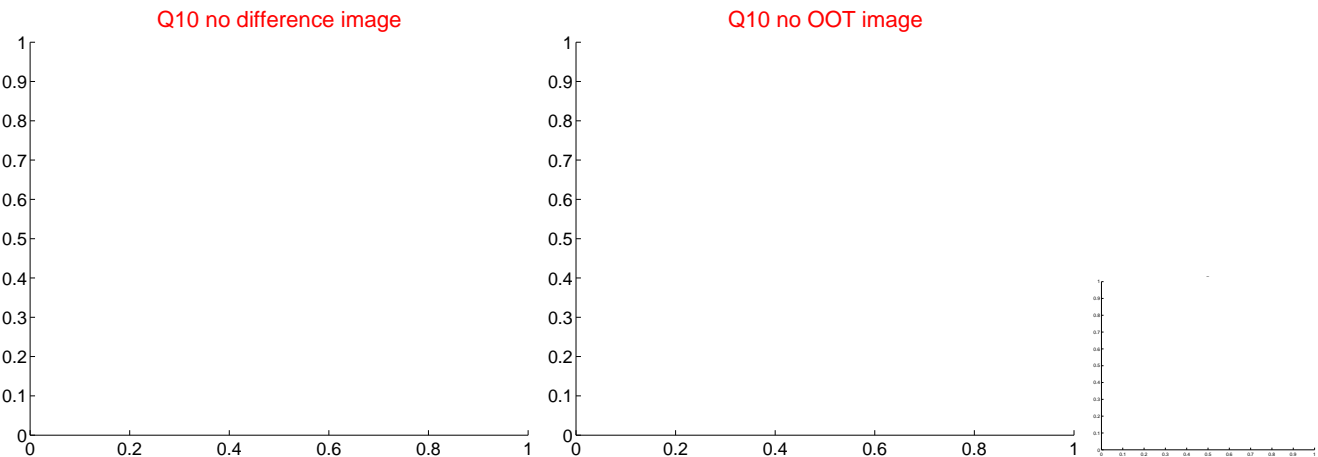
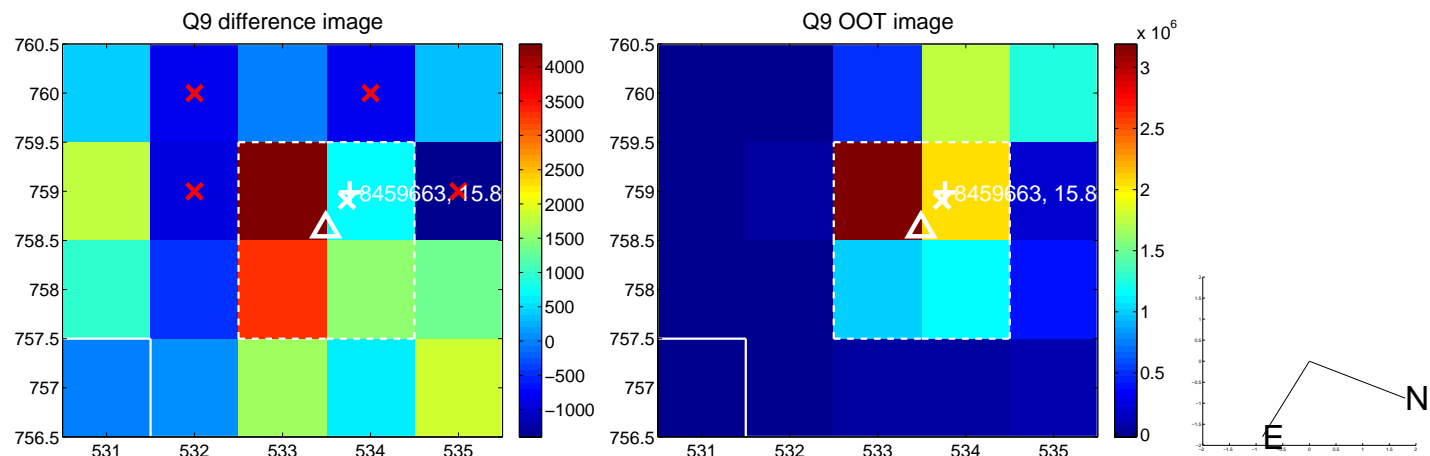
Q8 no difference image



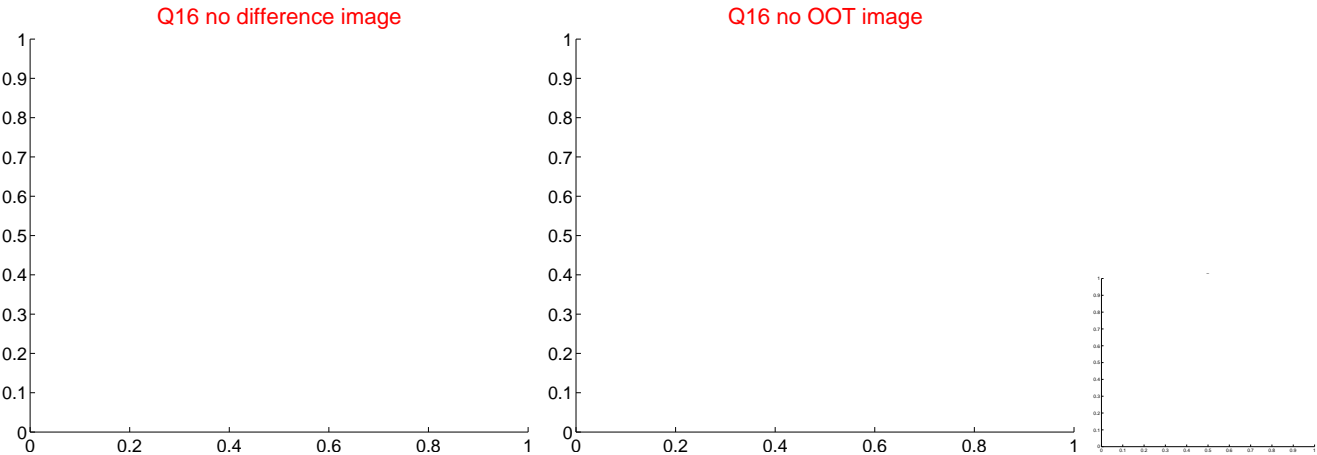
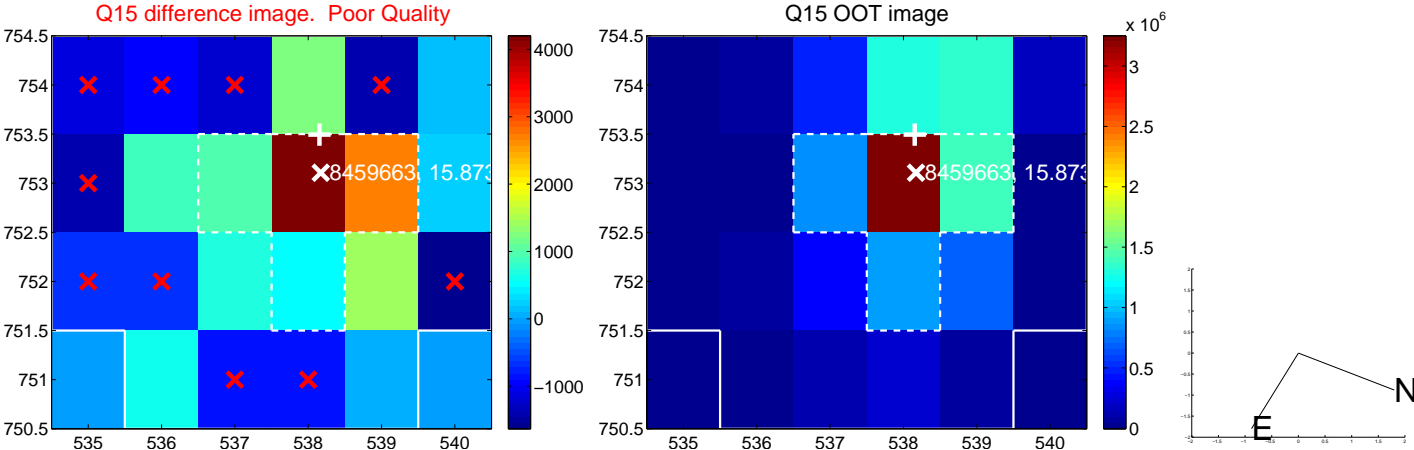
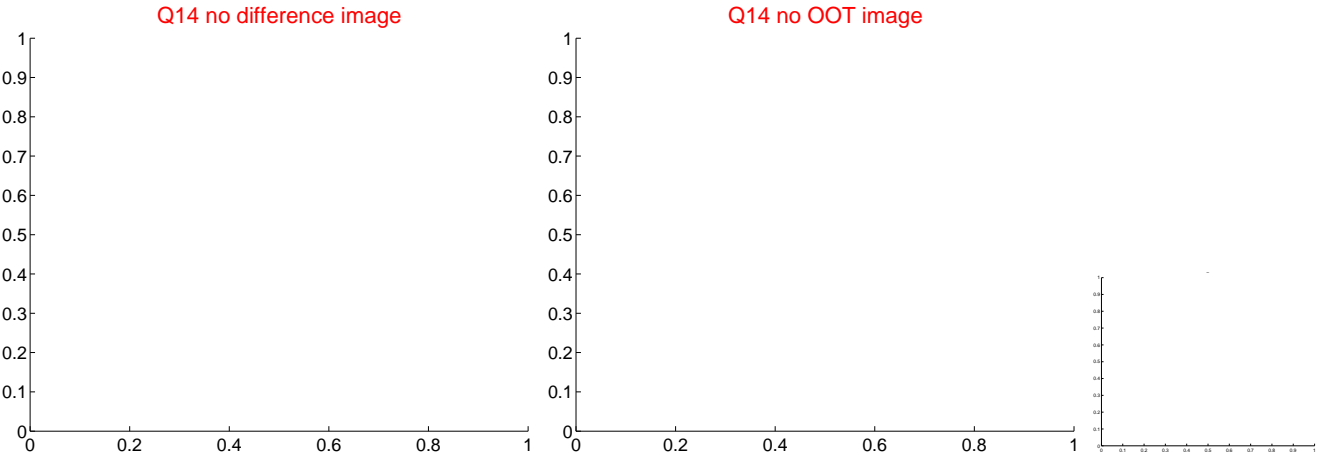
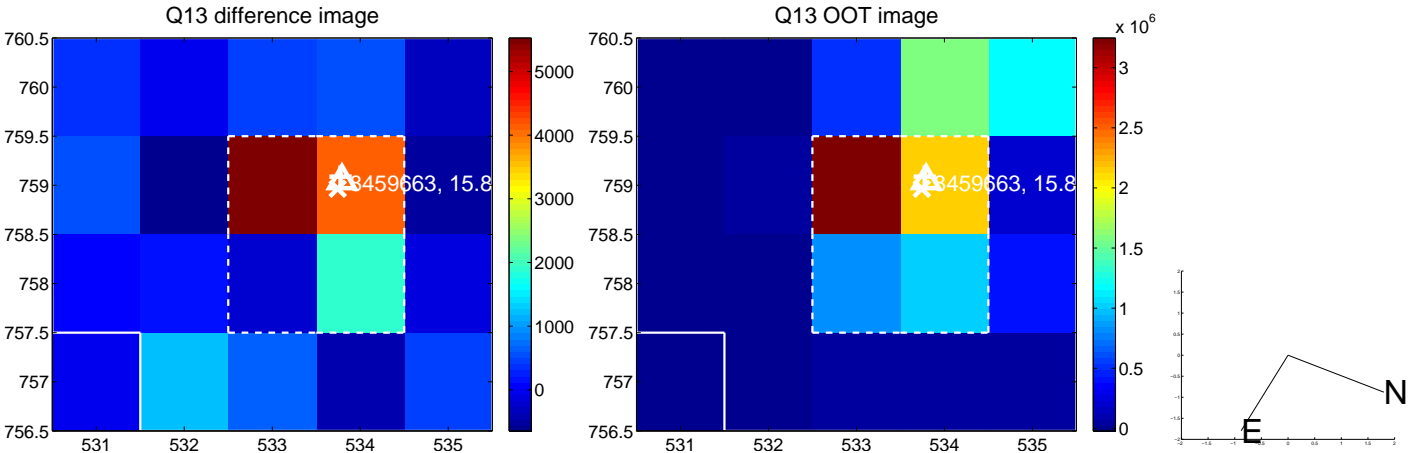
Q8 no OOT image



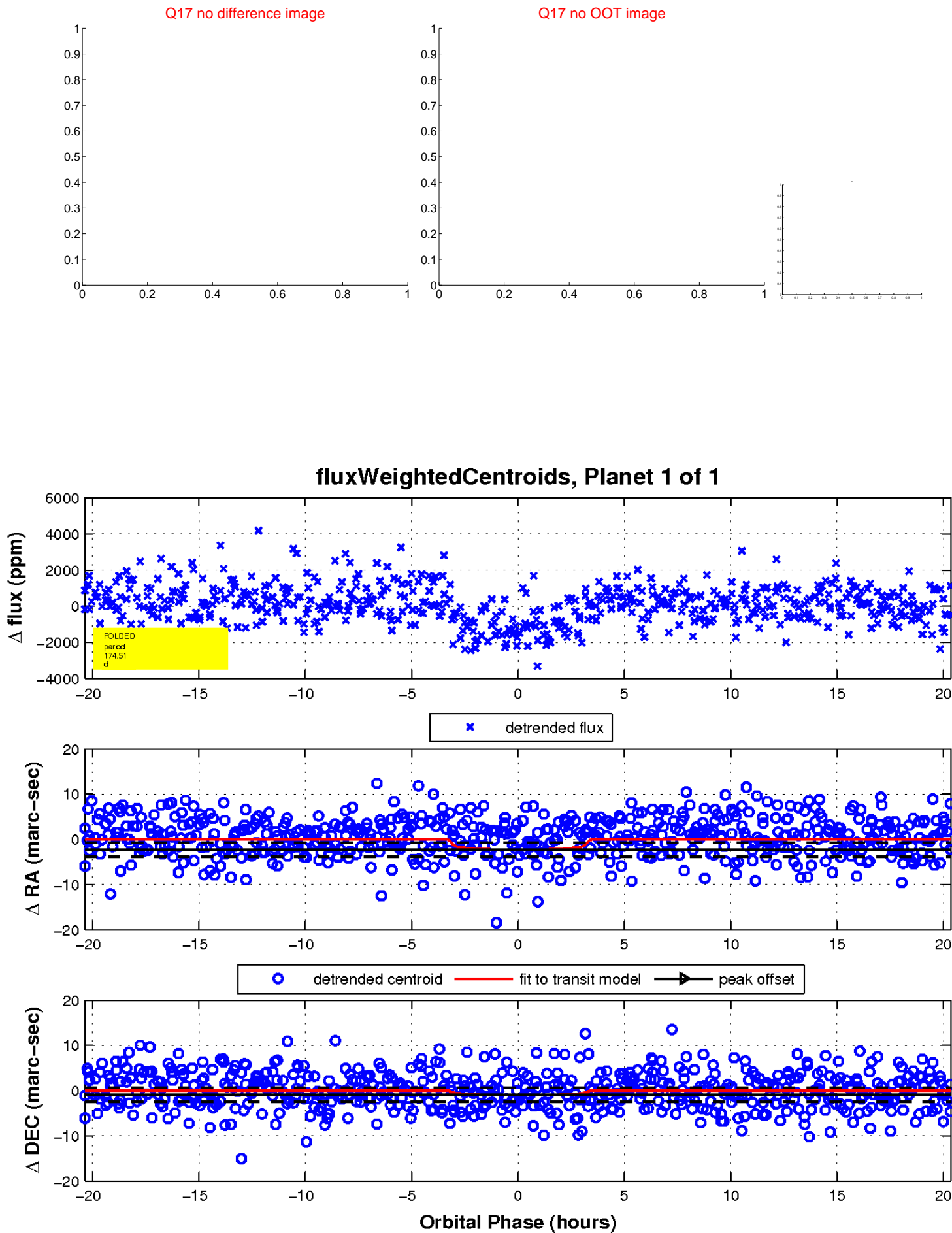
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

