

KIC 005015459

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})
005015459-01	OBS	3923.01	158.322465	251.751037	4796.8	2.202	31.5	32.4	0.57	4340	6.49	0.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005015459-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

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 005015459-01

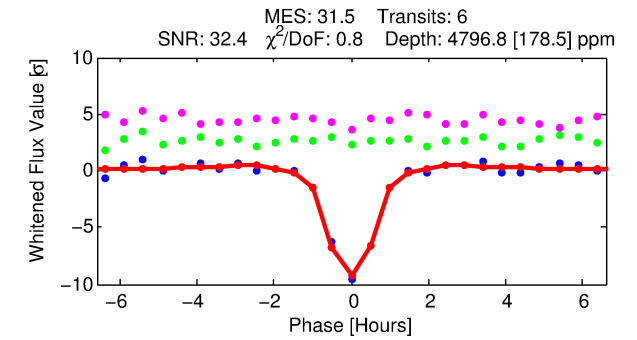
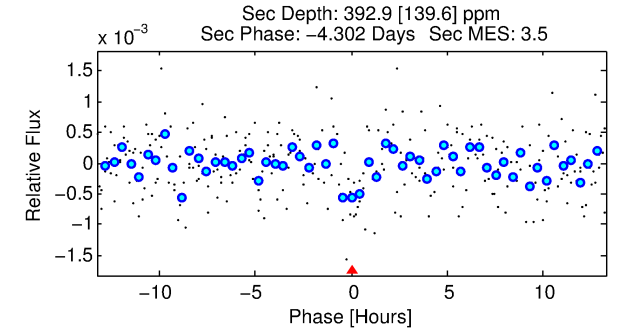
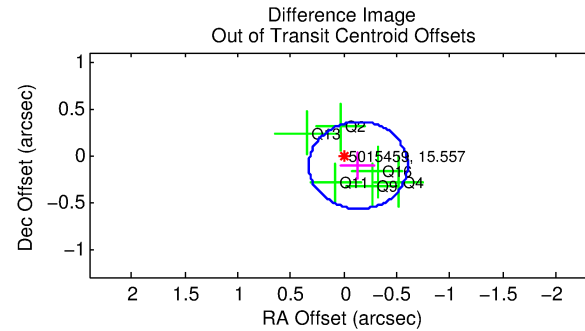
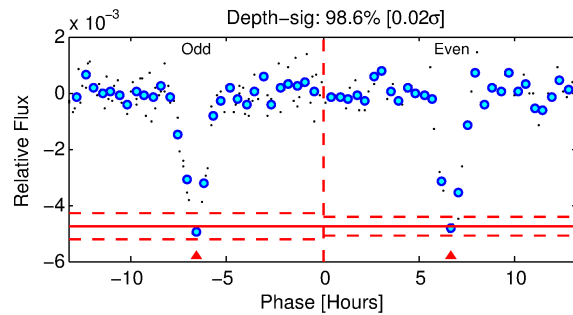
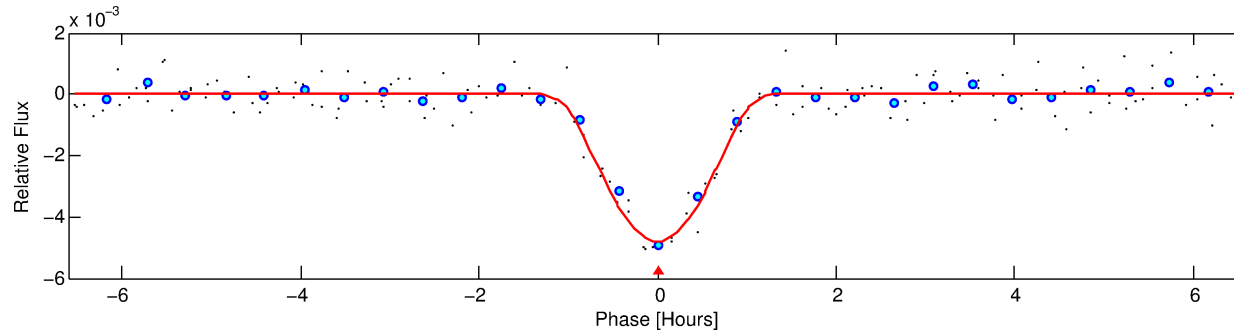
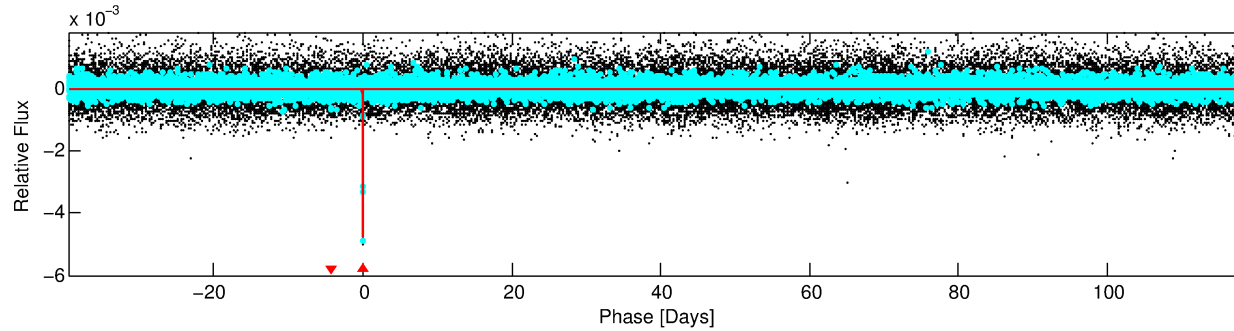
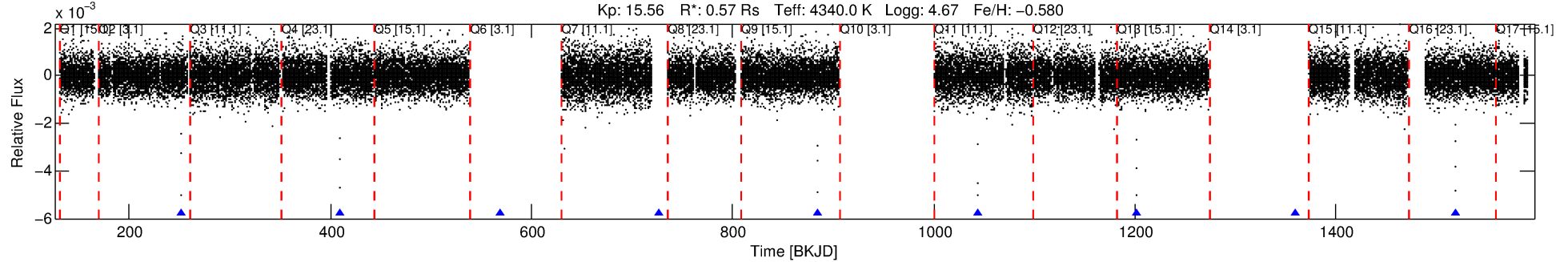
No Significant Match Found

DV One-Page Summary

KIC: 5015459 Candidate: 1 of 1 Period: 158.322 d

KOI: K03923.01 Corr: 0.965

Kp: 15.56 R*: 0.57 Rs Teff: 4340.0 K Logg: 4.67 Fe/H: -0.580



DV Fit Results:

Period = 158.32247 [0.00034] d
Epoch = 251.7510 [0.0017] BKJD
Rp/R* = 0.1039 [0.1232]
a/R* = 287.32 [85.22]
b = 0.97 [0.20]
Seff = 0.47 [0.08]
Teq = 211 [9] K
Rp = 6.49 [7.72] Re
a = 0.4717 [0.0375] AU
Ag = 1142.59 [2741.76] [0.42σ]
Teff = 1895 [1137] K [1.48σ]

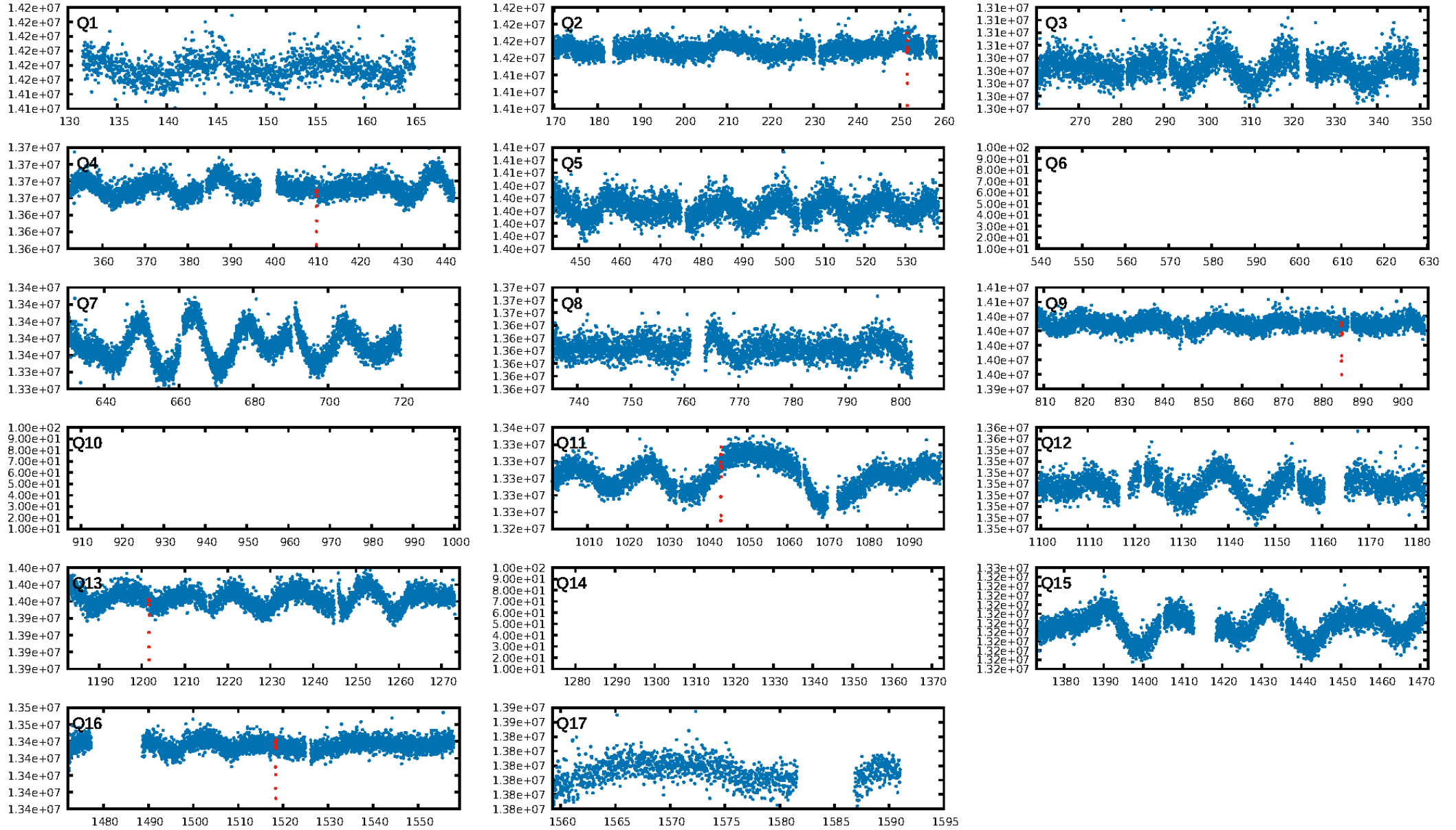
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.03e-199
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 6.413
Centroid-sig: 17.4%
Centroid-so: 0.875 arcsec [1.83σ]
OotOffset-rm: 0.175 arcsec [1.13σ]
KicOffset-rm: 0.217 arcsec [1.55σ]
OotOffset-st: 1/1/2/2 [6]
KicOffset-st: 1/1/2/2 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [6/6]

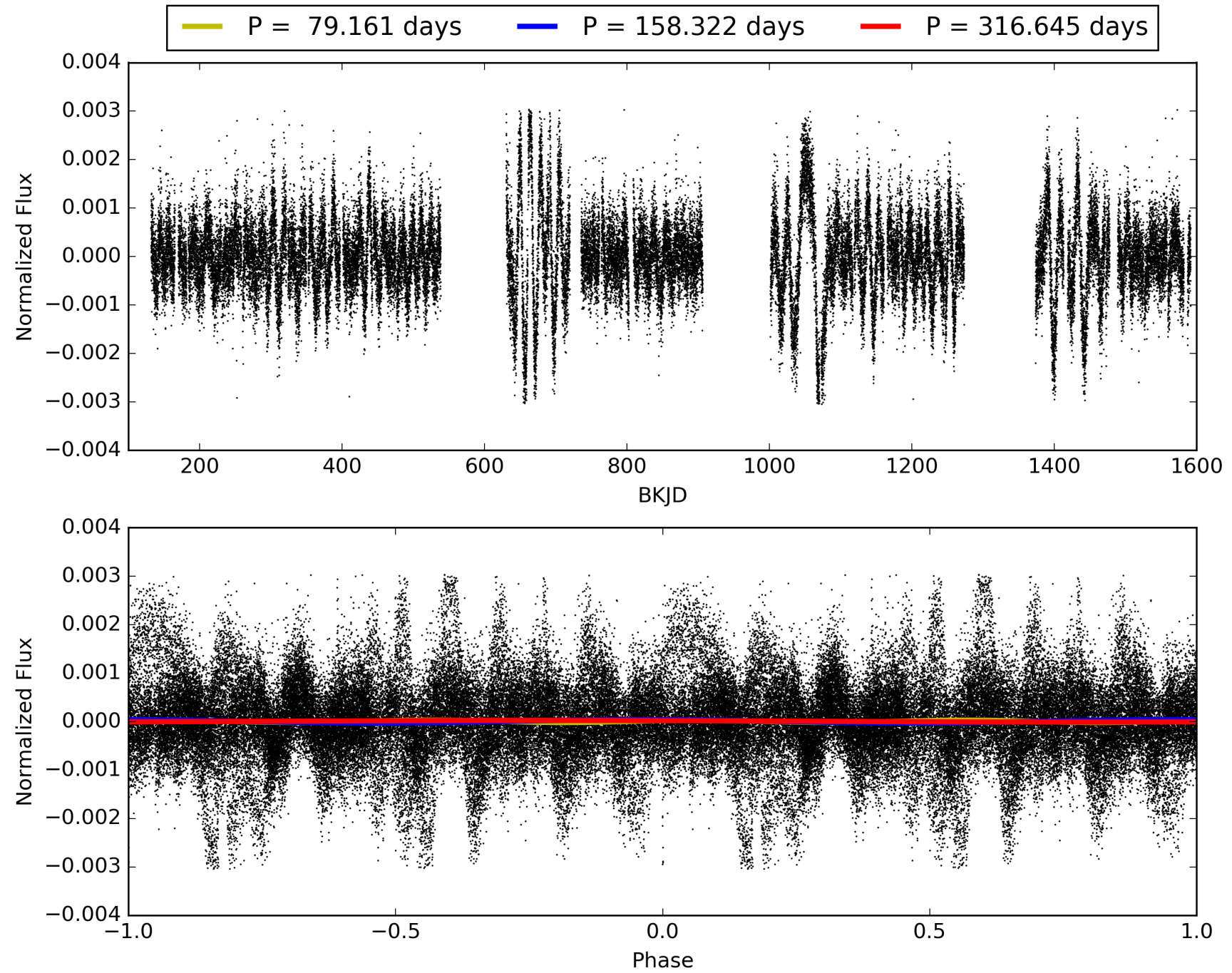
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:17:49 Z

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

TCE 005015459-01, PDC Light Curves

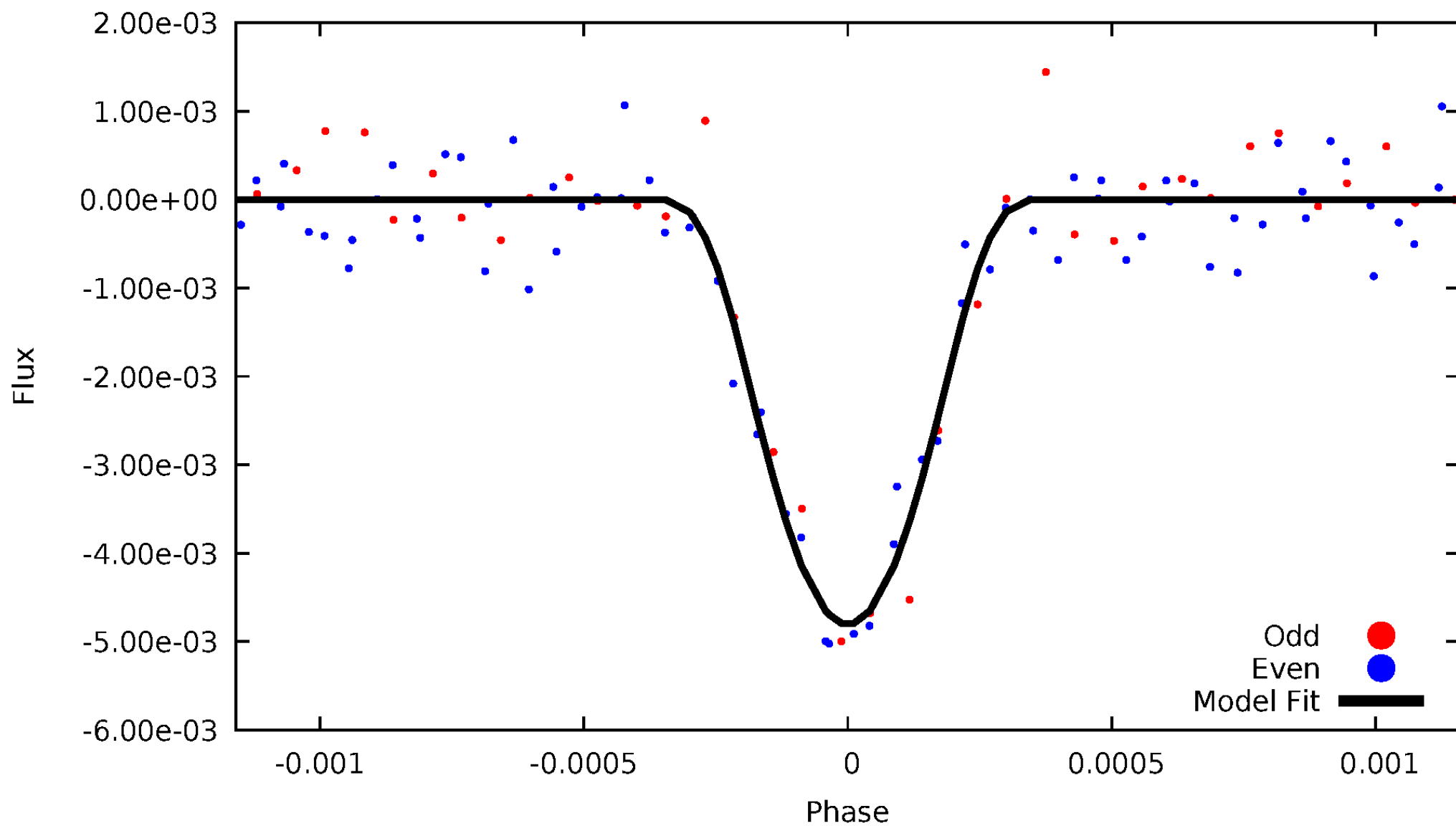


TCE 005015459-01



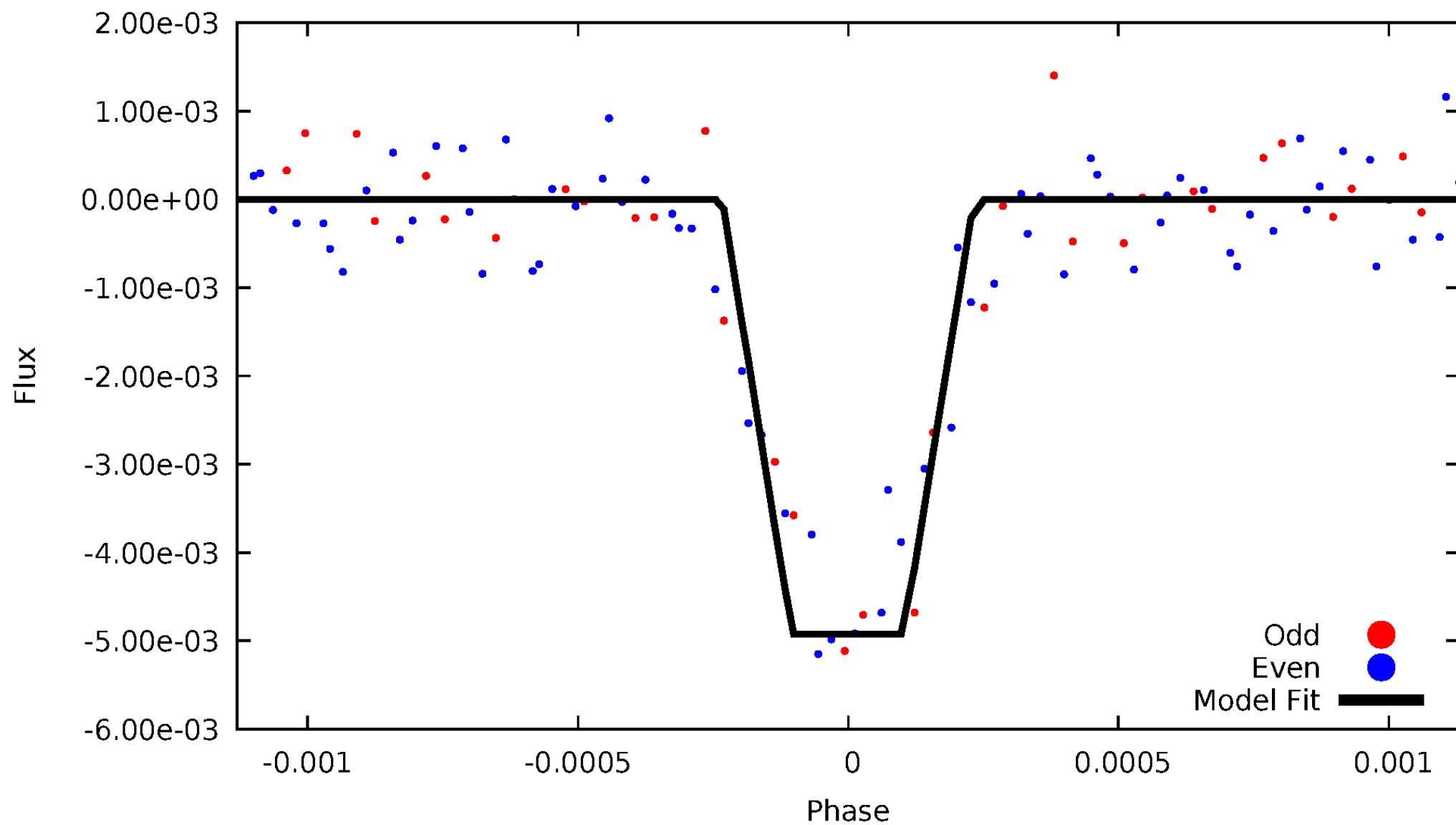
DV Odd/Even

TCE 005015459-01



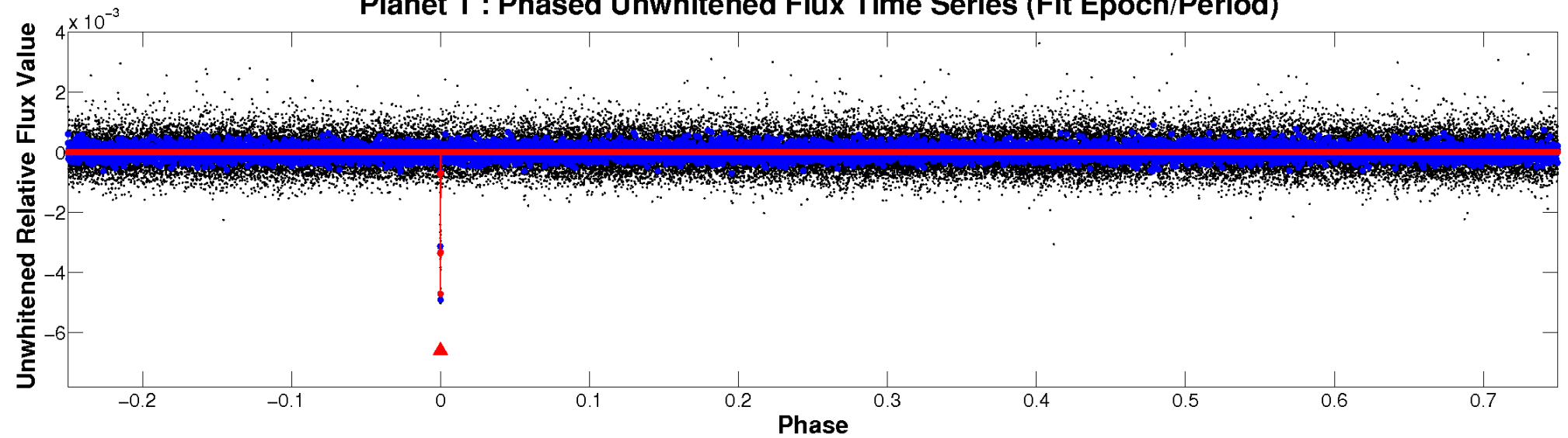
ALT Odd/Even

TCE 005015459-01

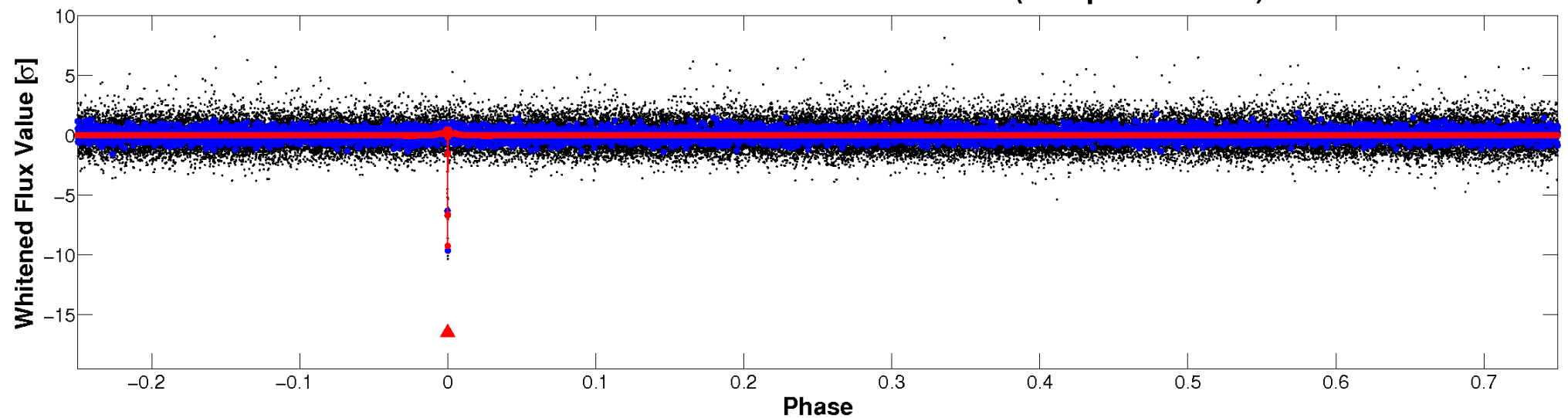


Non-Whitened Vs. Whitened Light Curve

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

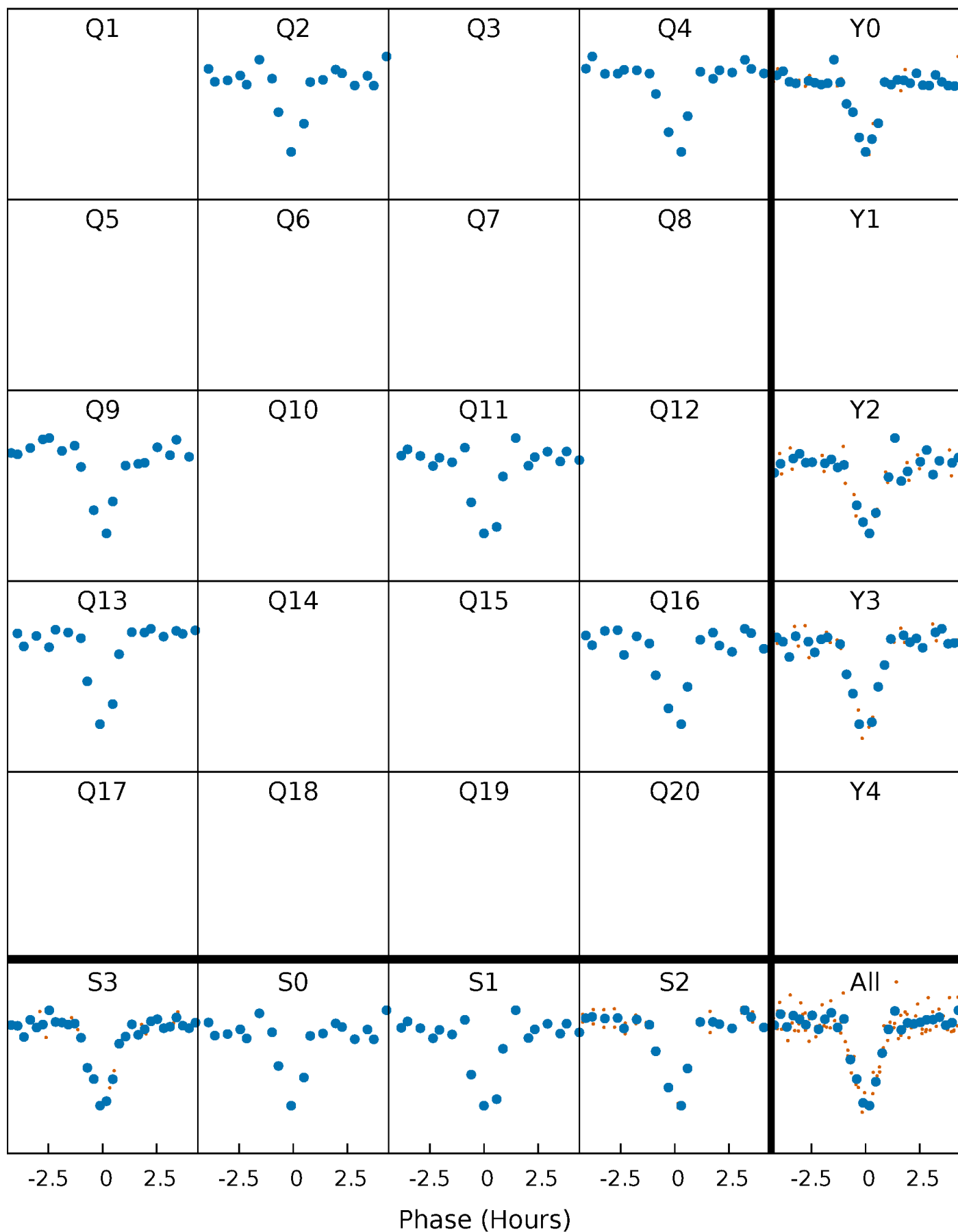


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



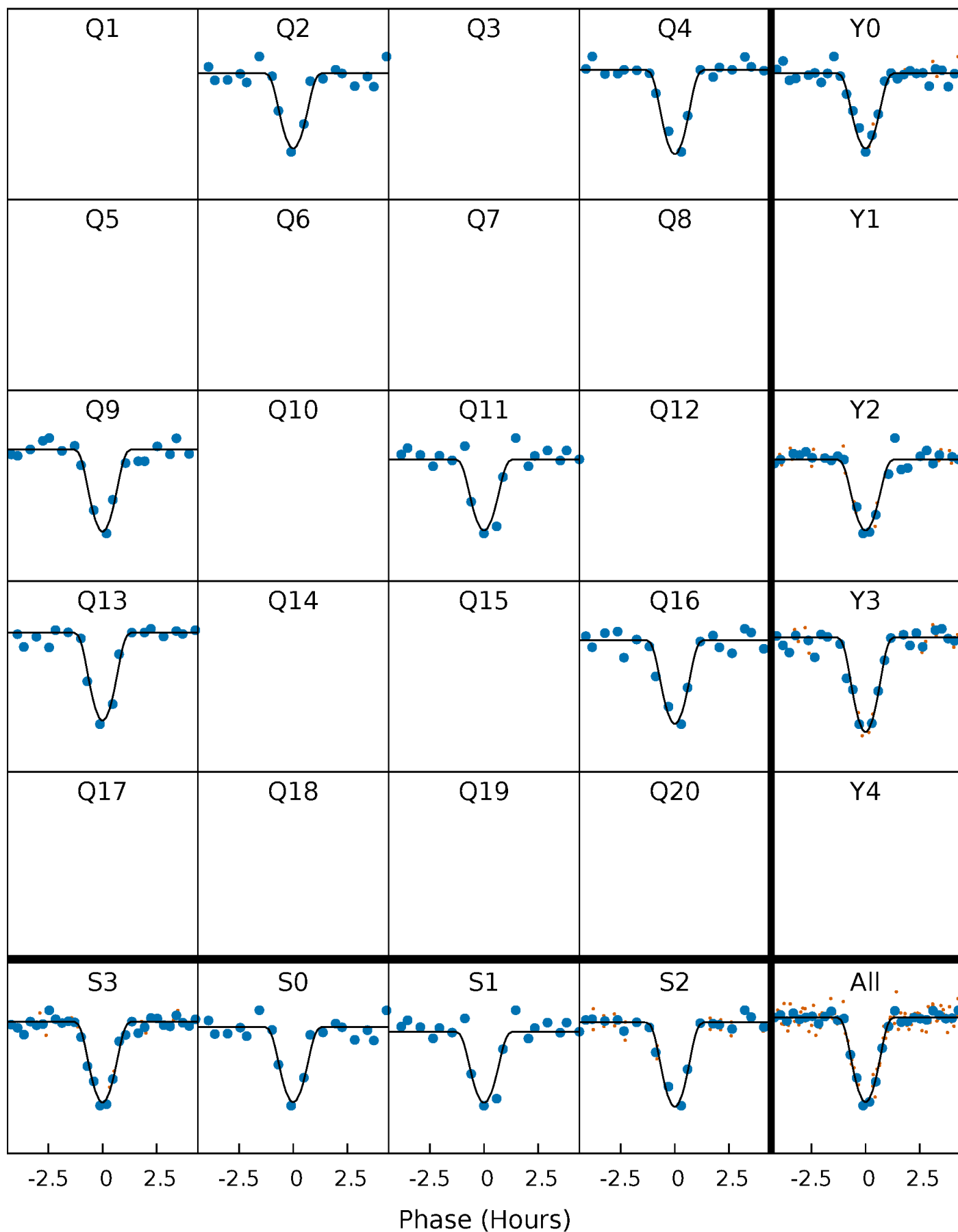
PDC Quarter-Phased Transit Curves

TCE 005015459-01 P=158.322465 Days $T_0=251.751037$ (BKJD)



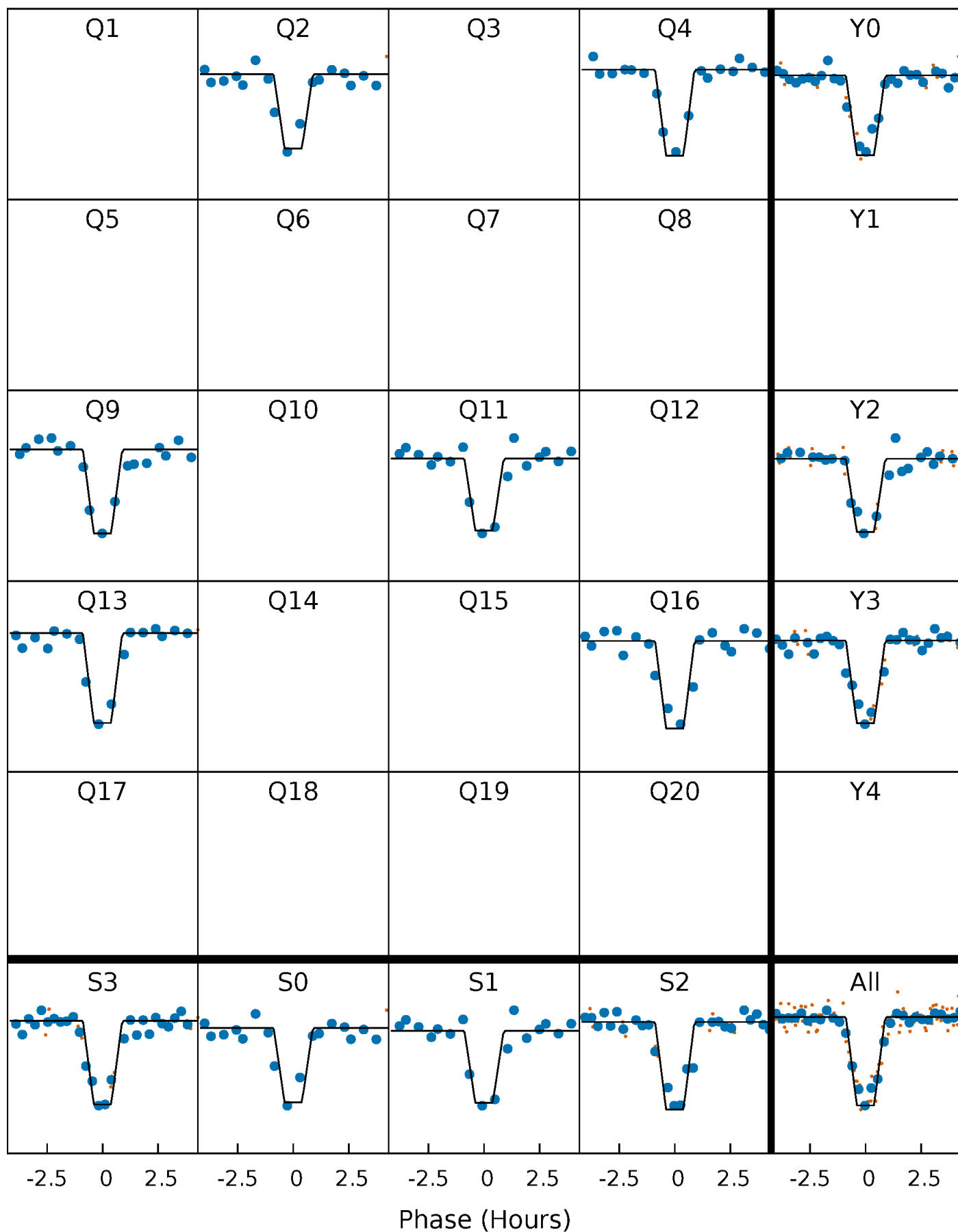
DV Quarter-Phased Transit Curves

TCE 005015459-01 P=158.322465 Days $T_0=251.751037$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

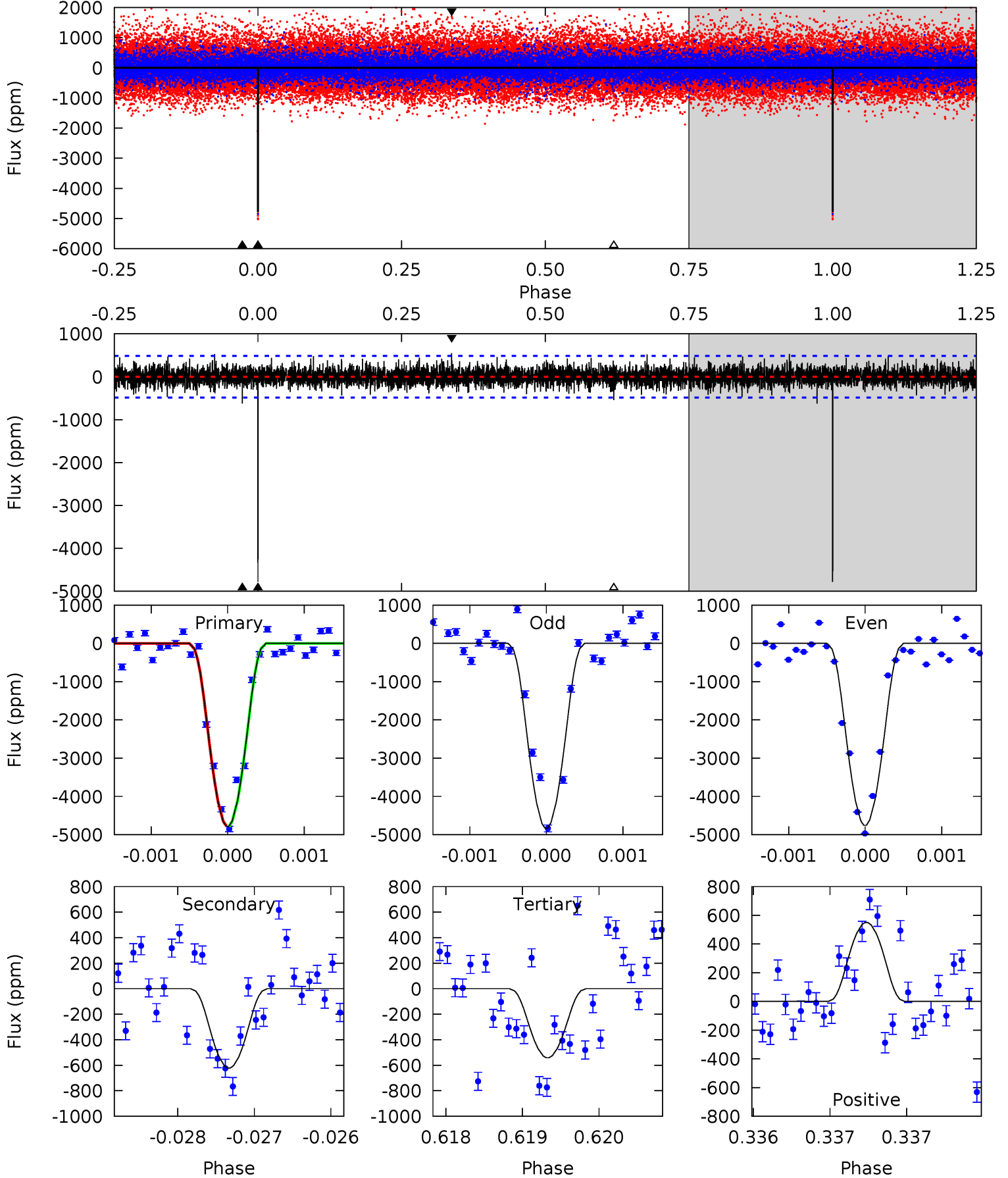
TCE 005015459-01 P=158.321669 Days $T_0=251.754185$ (BKJD)



DV Model-Shift Uniqueness Test

005015459-01, P = 158.322465 Days, E = 93.428572 Days

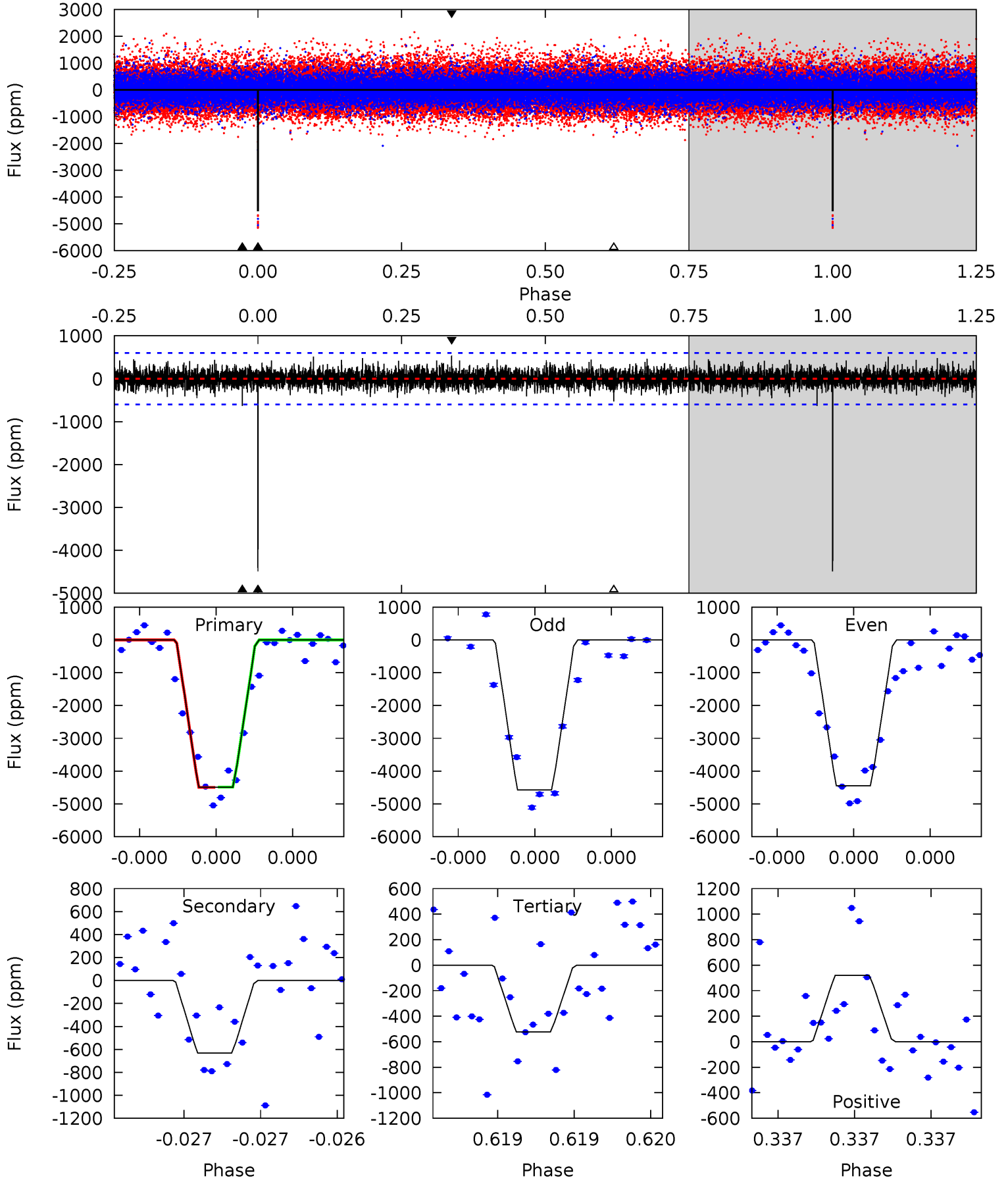
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.3	7.06	6.15	6.25	5.52	3.39	1.51	48.2	48.1	0.91	0.81	0.39	0.99	0.10	0.14



Alt Model-Shift Uniqueness Test

005015459-01, P = 158.321669 Days, E = 93.432516 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.9	5.89	4.88	4.84	5.59	3.51	1.19	37.0	37.0	1.00	1.04	0.53	1.00	0.10	0.05



Stellar Parameters For KIC 005015459

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4340^{+118}_{-144}	$4.670^{+0.059}_{-0.027}$	$-0.580^{+0.300}_{-0.300}$	$0.572^{+0.045}_{-0.056}$	$0.557^{+0.058}_{-0.042}$	$4.203^{+1.133}_{-0.506}$
	+3%/-3%	+1%/-1%	+52%/-52%	+8%/-10%	+10%/-8%	+27%/-12%
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 005015459-01 / KOI 3923.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-621 ± 88	$8.45^{+6.79}_{-5.17}$	292^{+10}_{-11}	2568^{+780}_{-324}	1045^{+6306}_{-713}
Alt.	-632 ± 107	$6.97^{+6.37}_{-4.65}$	293^{+9}_{-10}	2703^{+1010}_{-388}	1586^{+11888}_{-1161}

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 $A_{obs} \gg 1.0$

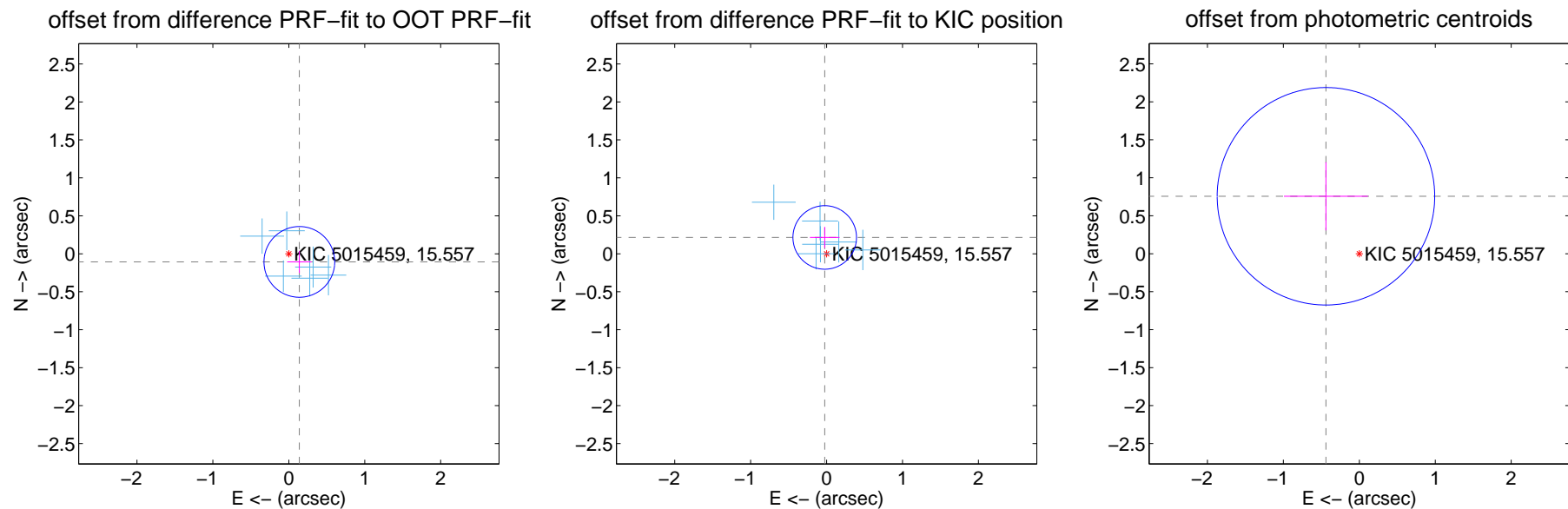
DV Centroid Data

Supplemental centroid analysis for 005015459-01. Kepler magnitude: 15.56. Transit SNR 32.36

There are 6 quarters with good PRF difference image offsets

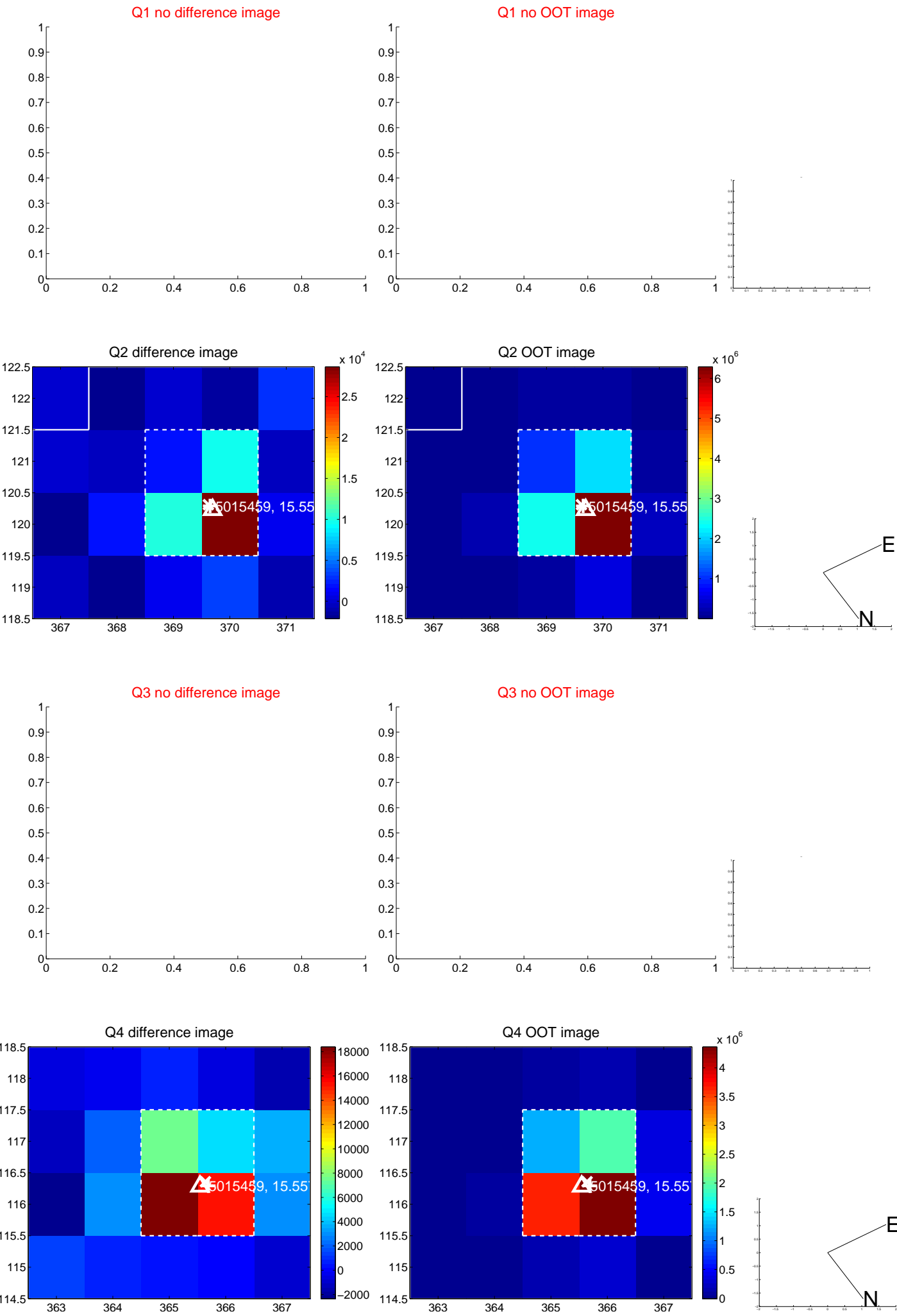
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.175 ± 0.155	1.13	-0.139 ± 0.161	-0.107 ± 0.146
PRF-fit source offset from KIC position	0.217 ± 0.140	1.55	0.024 ± 0.195	0.215 ± 0.139
photometric centroid source offset	0.87 ± 0.48	1.83	0.44 ± 0.55	0.76 ± 0.45



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.

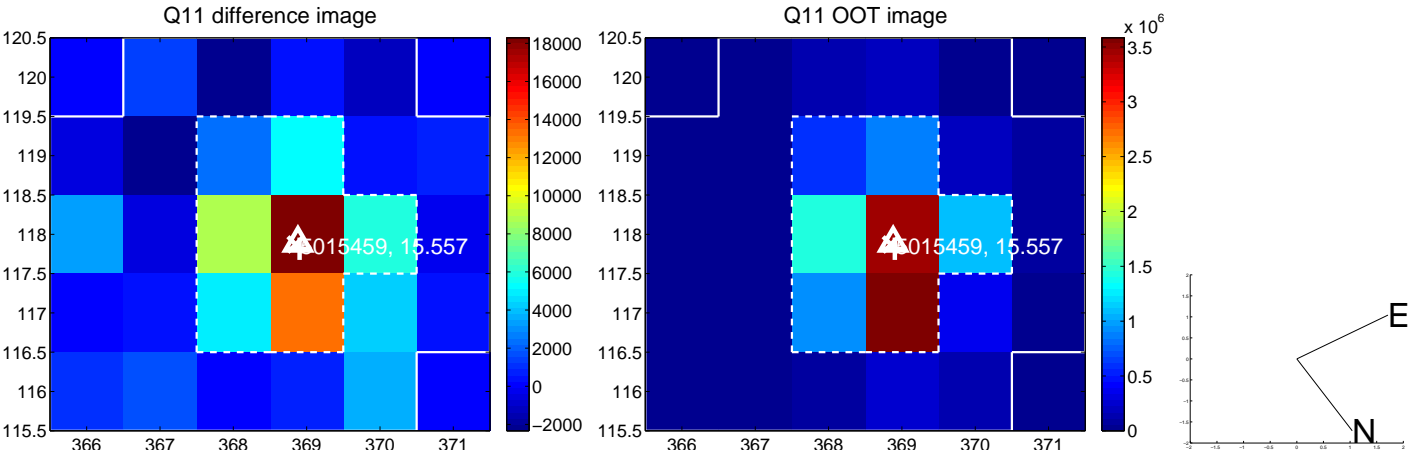
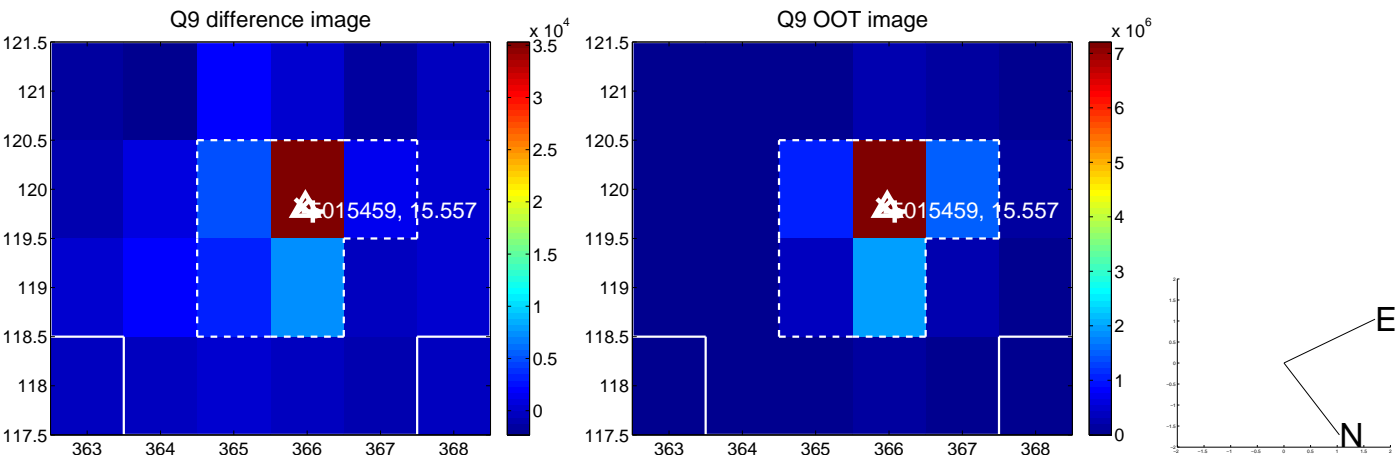
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



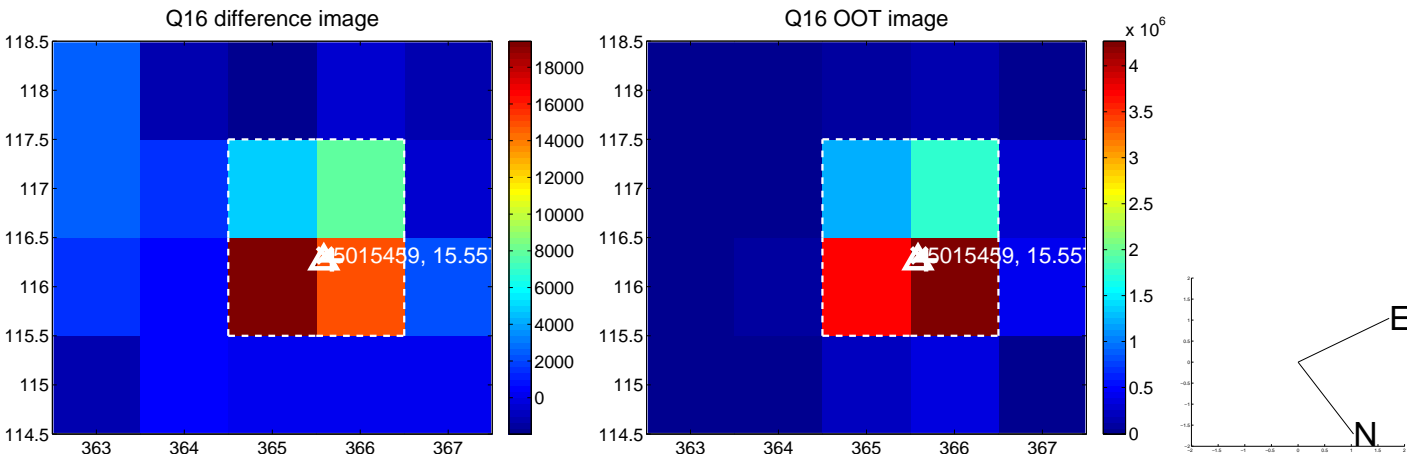
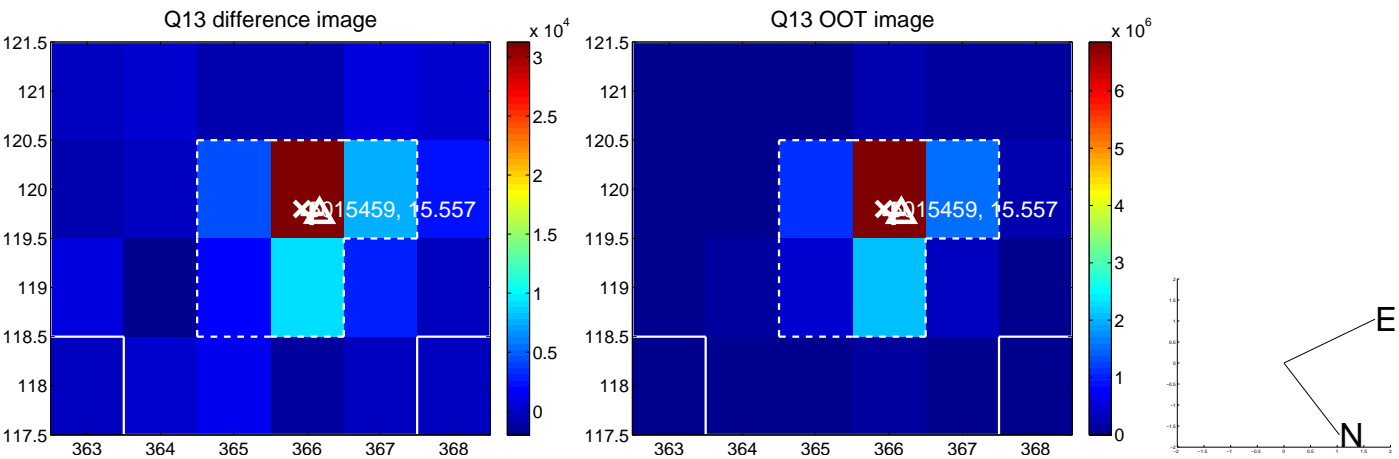
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



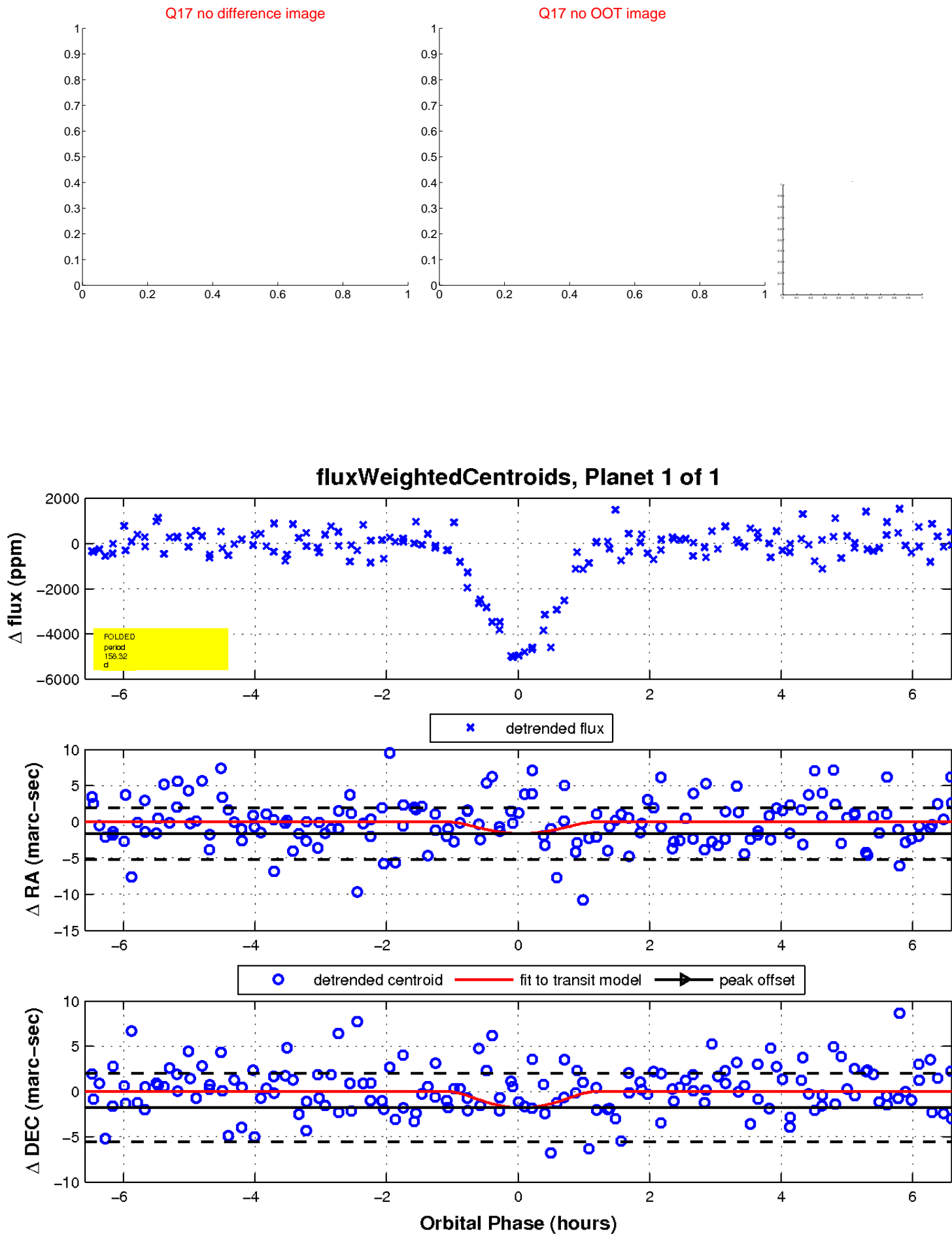
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

