

KIC 008939837

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})
008939837-01	OBS	No	323.686409	261.170576	207.0	18.647	7.3	6.8	1.03	6161	1.60	1.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008939837-01	OBS	FP	0.04	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE--CENT_FEW_DIFFS

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

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

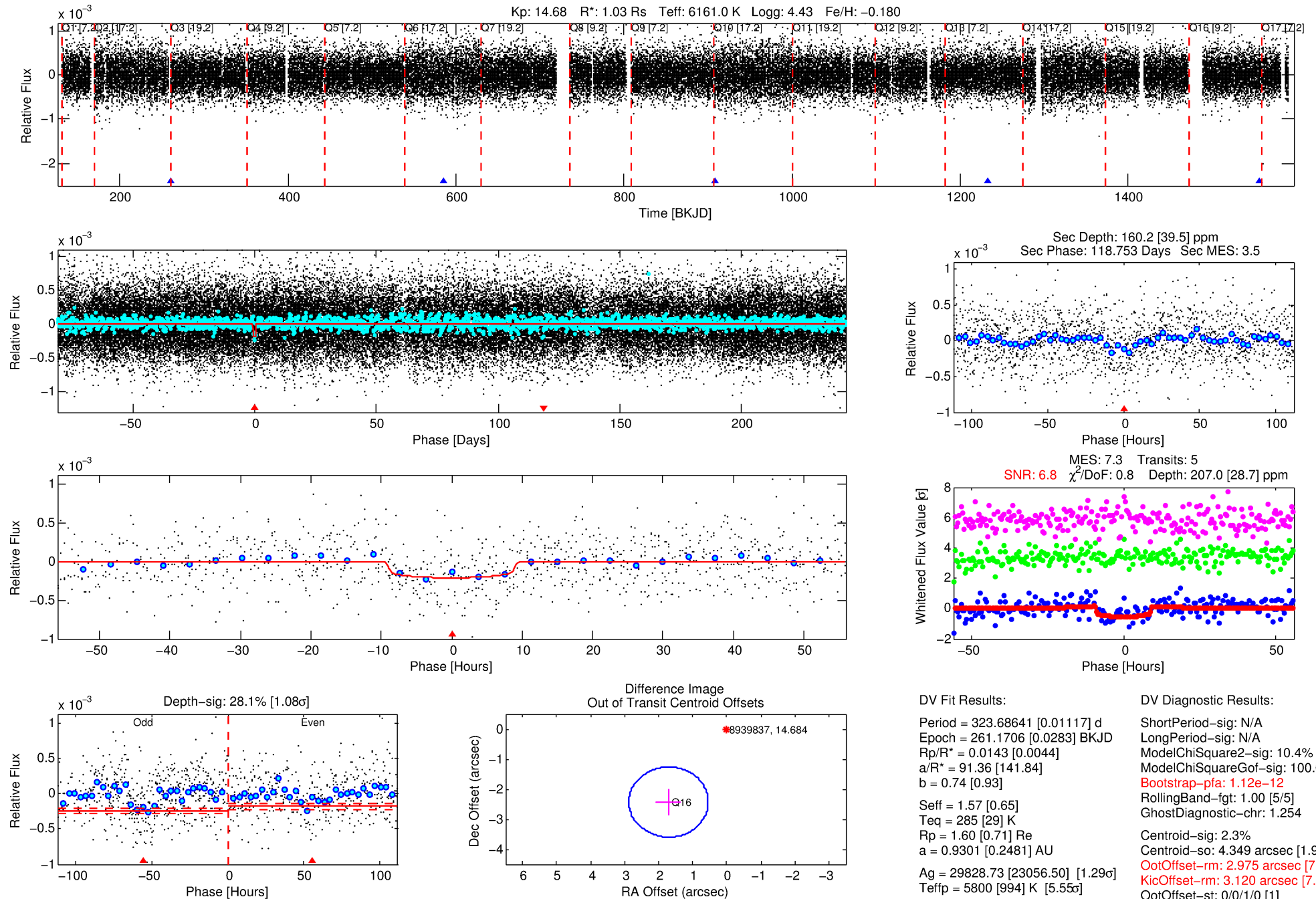
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008939837-01

No Significant Match Found

DV One-Page Summary

KIC: 8939837 Candidate: 1 of 1 Period: 323.686 d



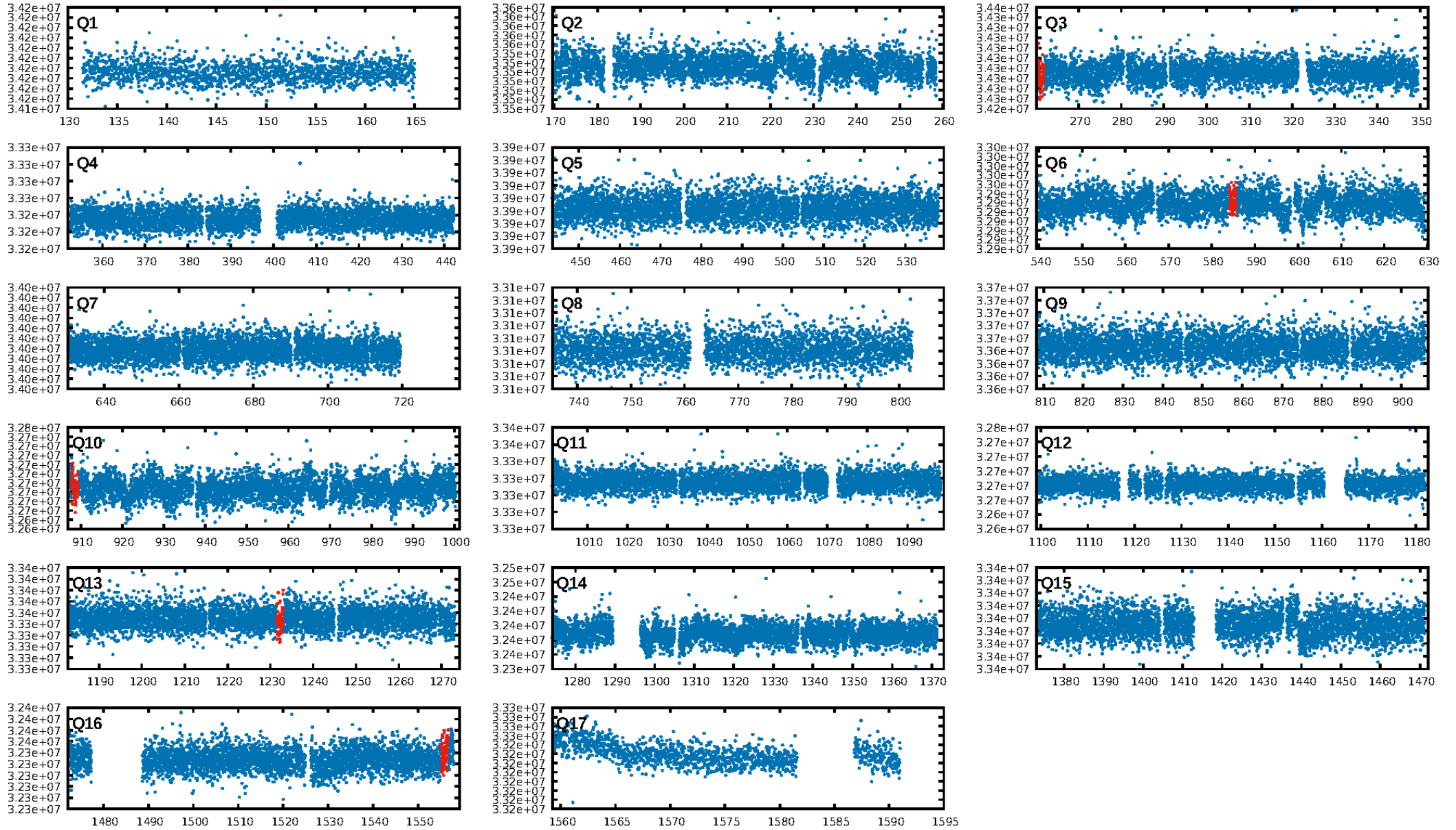
DV Fit Results:

Period = 323.68641 [0.01117] d
Epoch = 261.1706 [0.0283] BKJD
Rp/R* = 0.0143 [0.0044]
a/R* = 91.36 [141.84]
b = 0.74 [0.93]
Seff = 1.57 [0.65]
Teff = 285 [29] K
Rp = 1.60 [0.71] Re
a = 0.9301 [0.2481] AU
Ag = 29828.73 [23056.50] [1.29 σ]
Teffp = 5800 [994] K [5.55 σ]

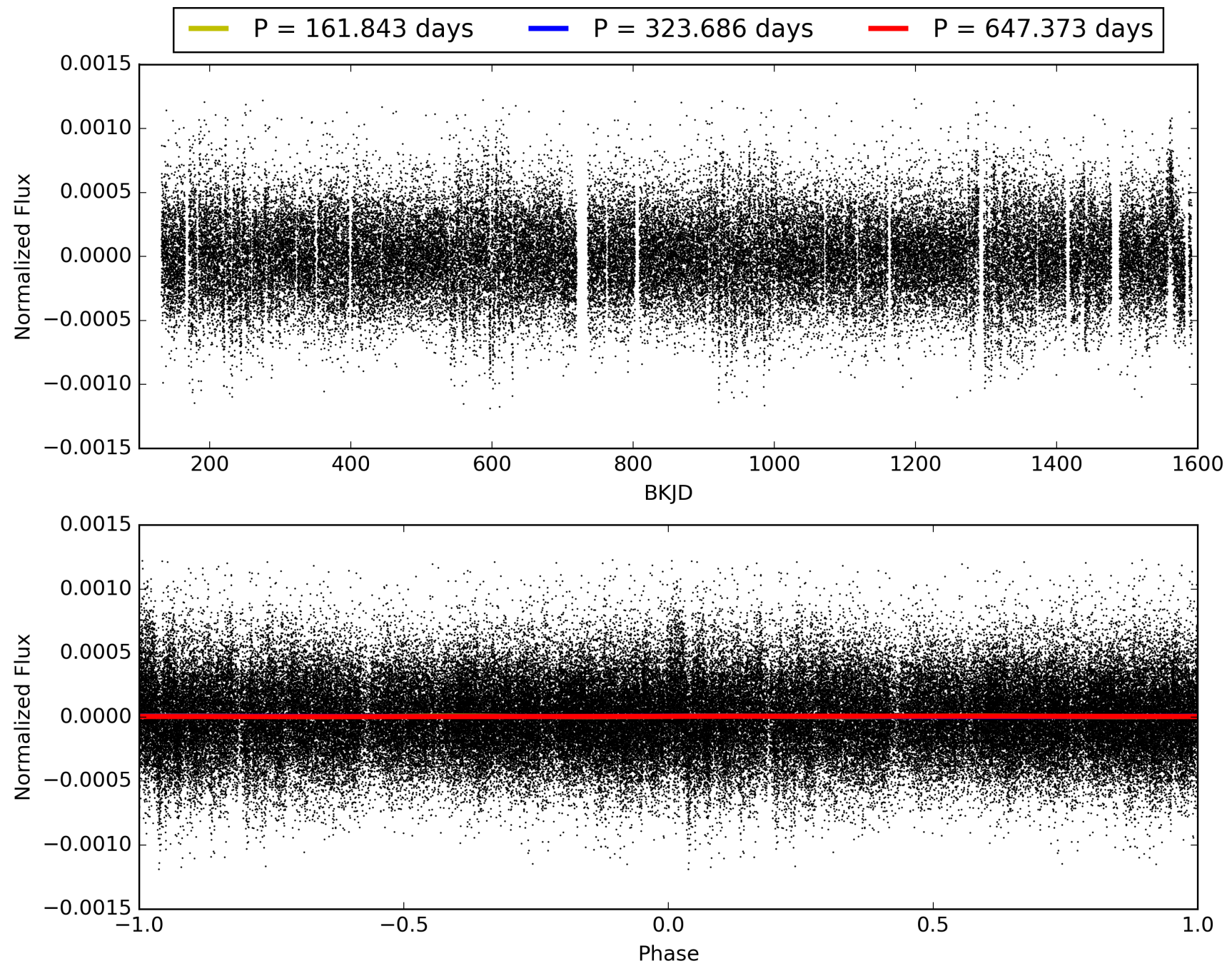
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.12e-12
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.254
Centroid-sig: 2.3%
Centroid-so: 4.349 arcsec [1.95 σ]
OotOffset-rm: 2.975 arcsec [7.65 σ]
KicOffset-rm: 3.120 arcsec [7.96 σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 008939837-01, PDC Light Curves

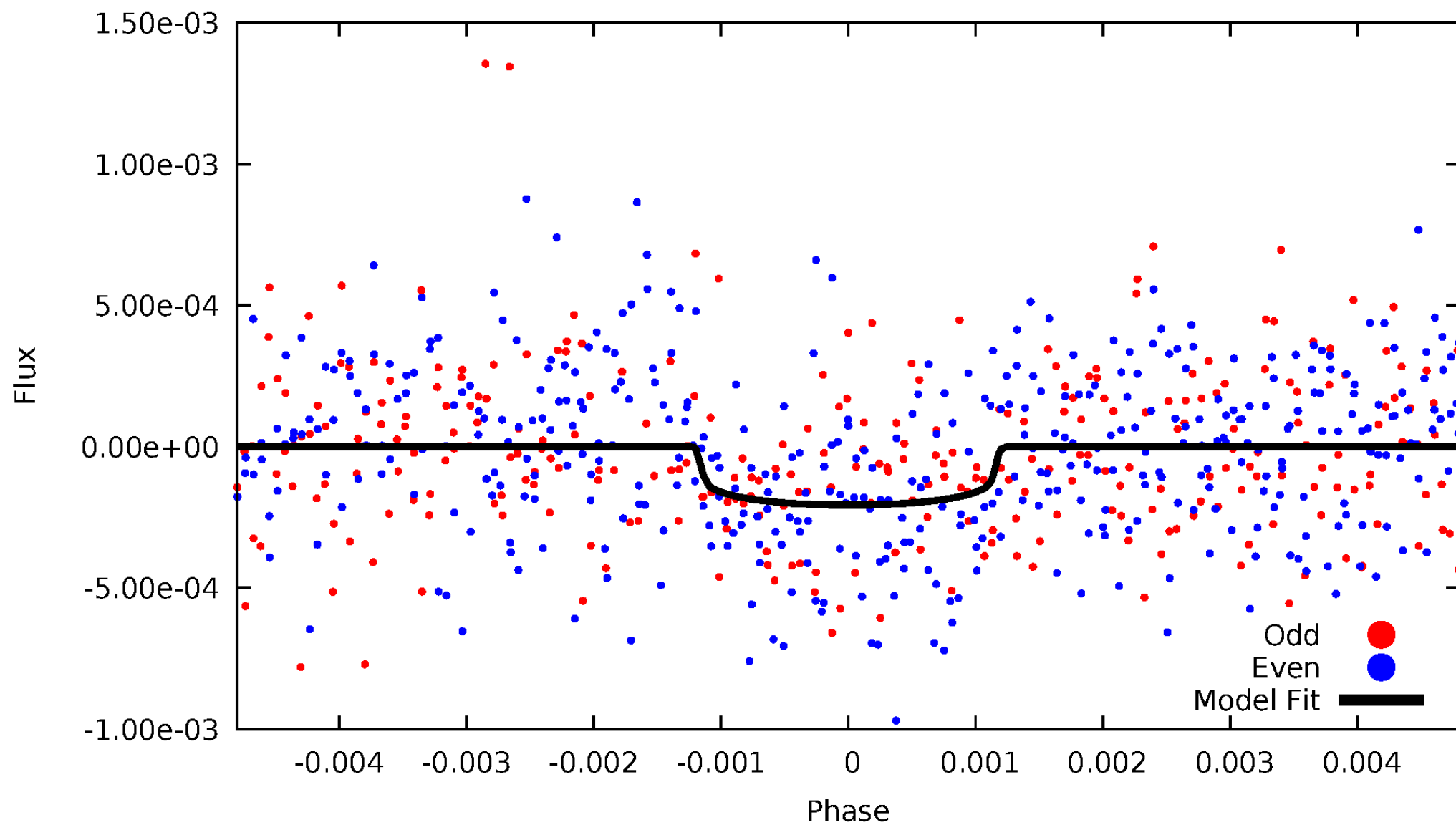


TCE 008939837-01



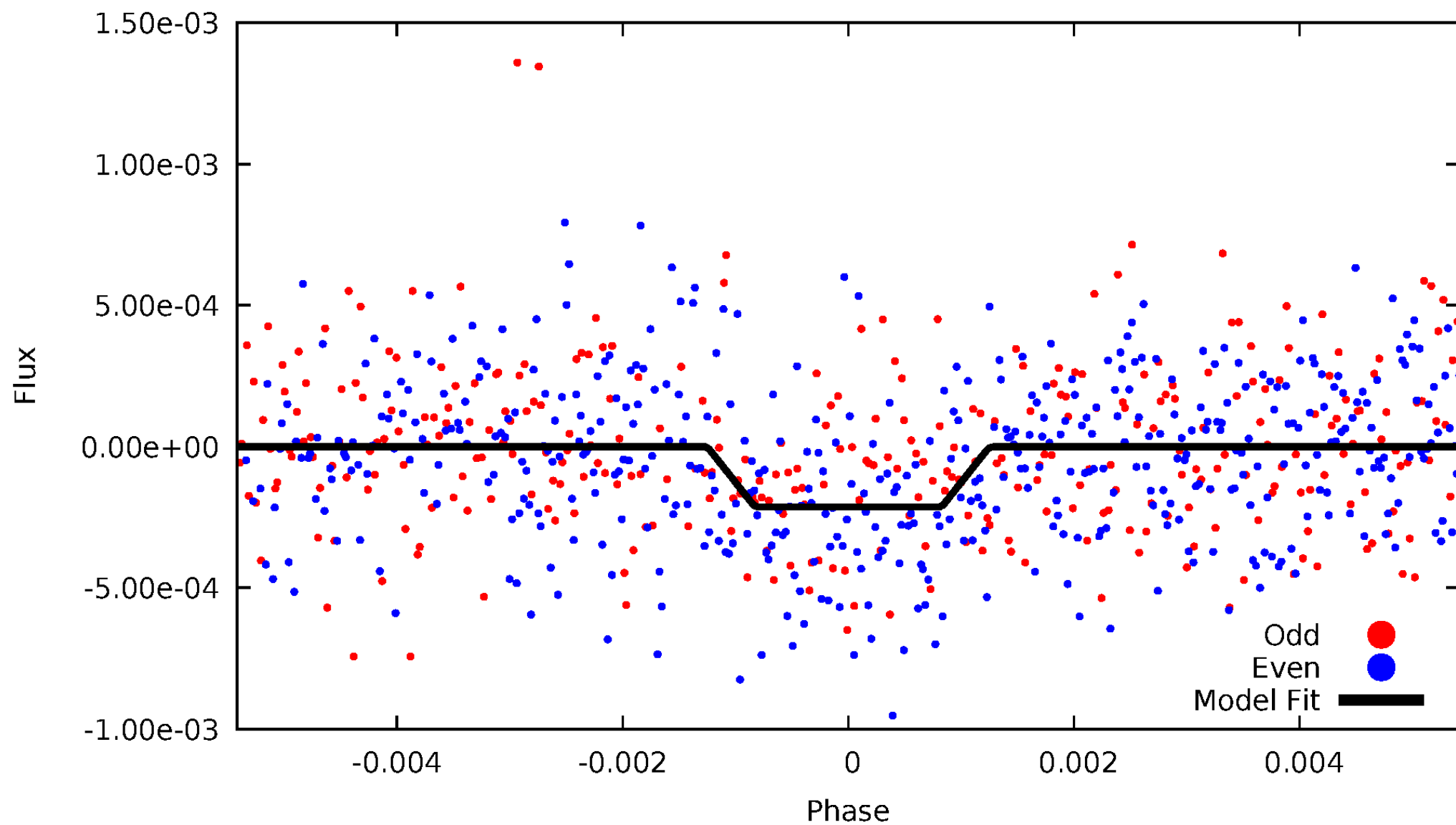
DV Odd/Even

TCE 008939837-01



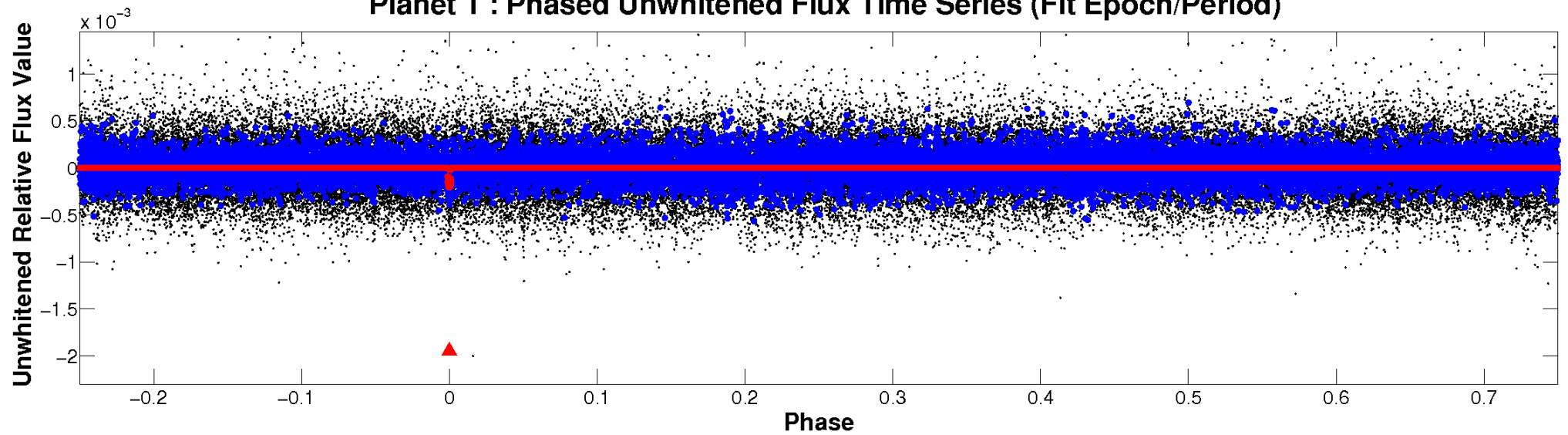
ALT Odd/Even

TCE 008939837-01

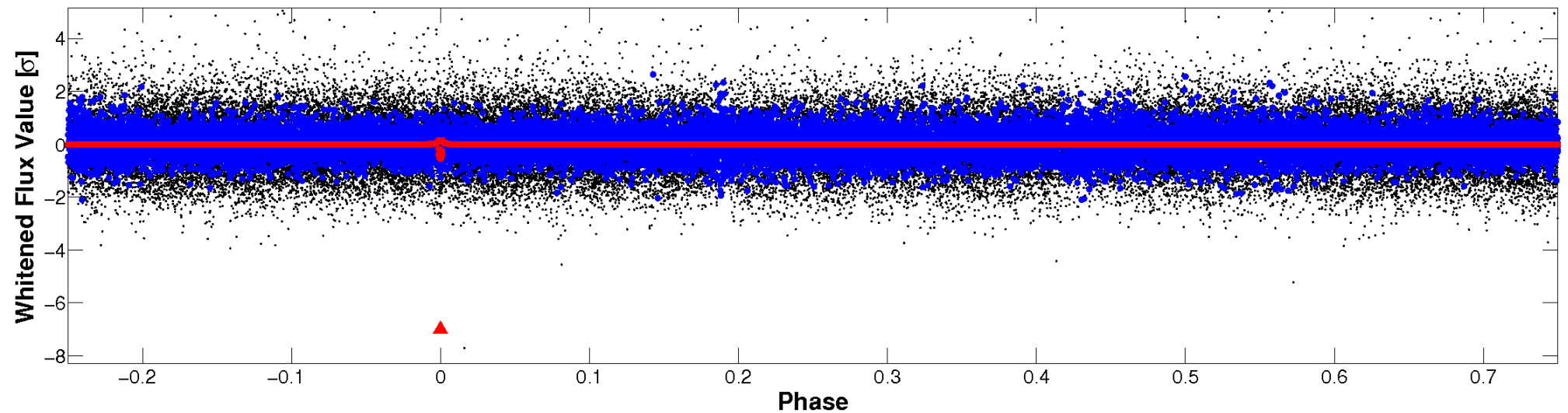


Non-Whitened Vs. Whitened Light Curve

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

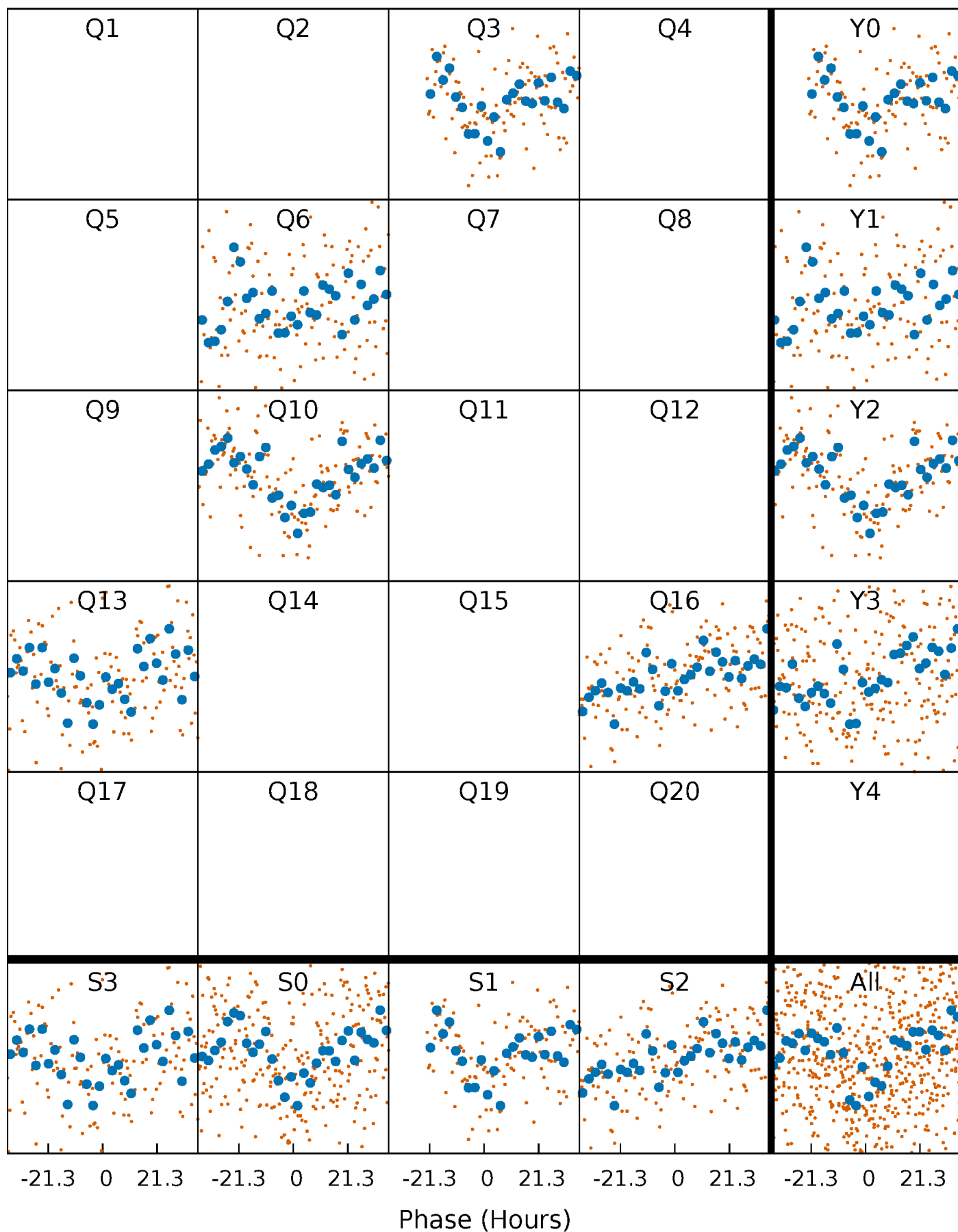


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



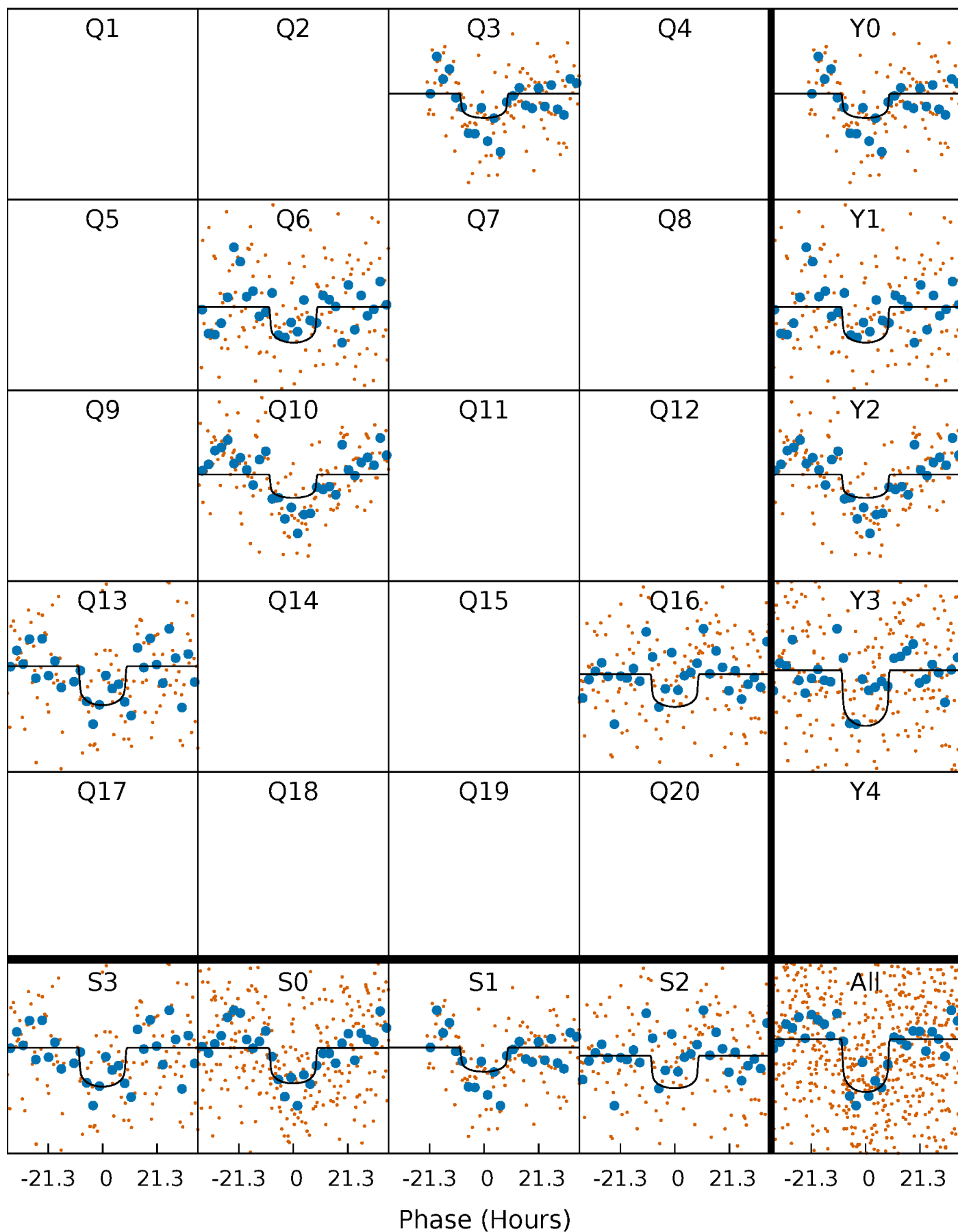
PDC Quarter-Phased Transit Curves

TCE 008939837-01 P=323.686409 Days $T_0=261.170576$ (BKJD)



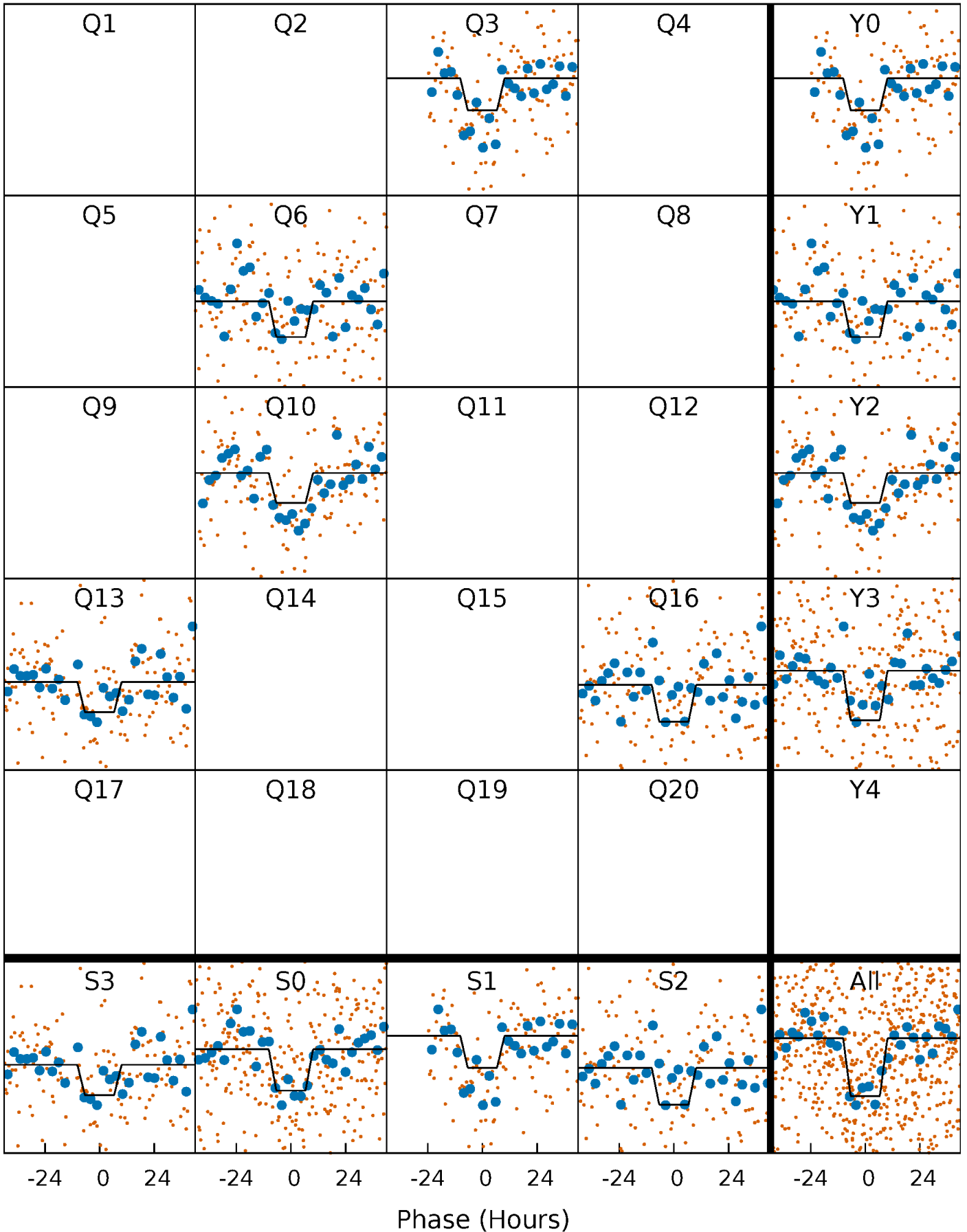
DV Quarter-Phased Transit Curves

TCE 008939837-01 P=323.686409 Days $T_0=261.170576$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

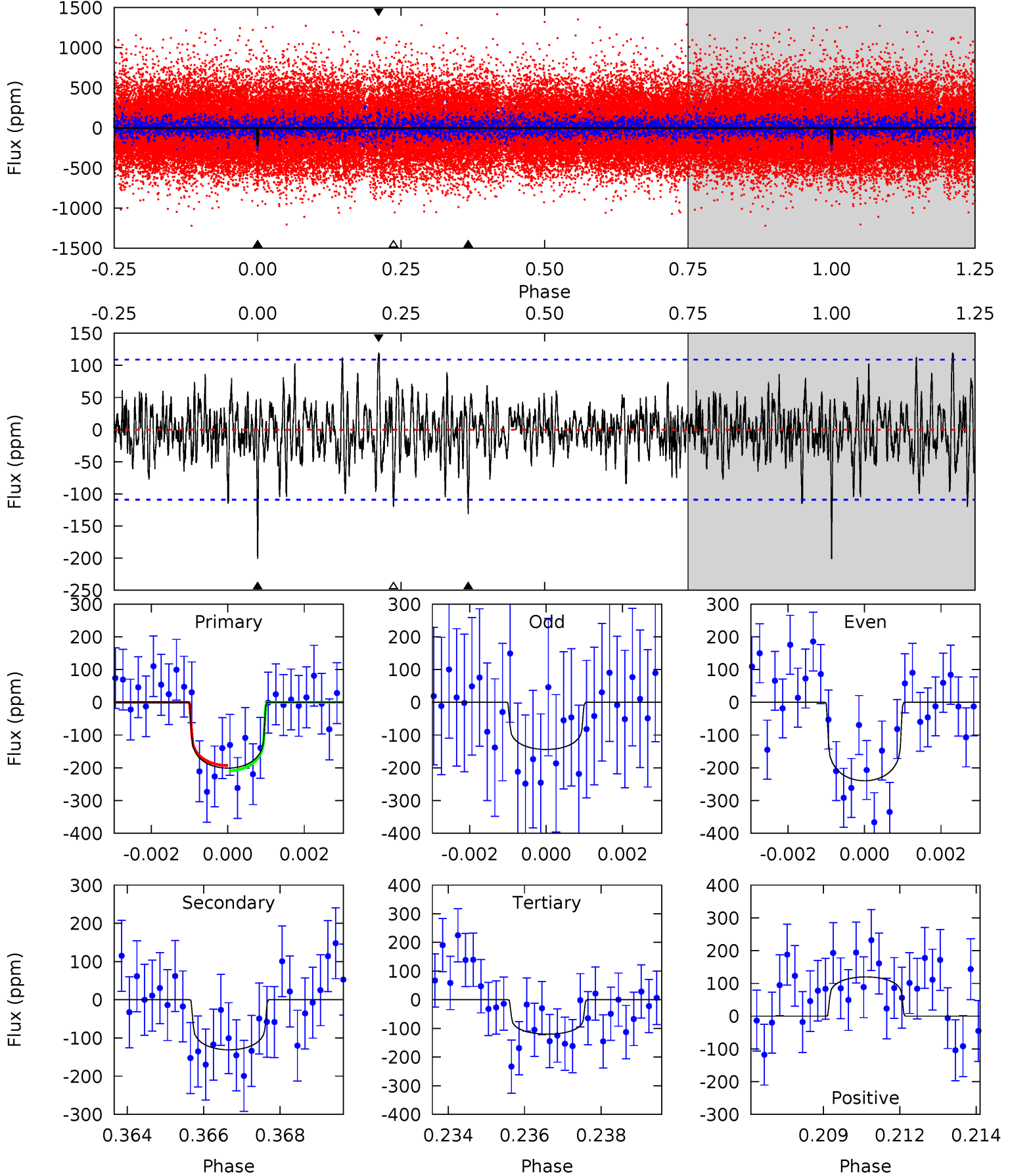
TCE 008939837-01 $P=323.653968$ Days $T_0=261.229713$ (BKJD)



DV Model-Shift Uniqueness Test

008939837-01, $P = 323.686409$ Days, $E = 261.170576$ Days

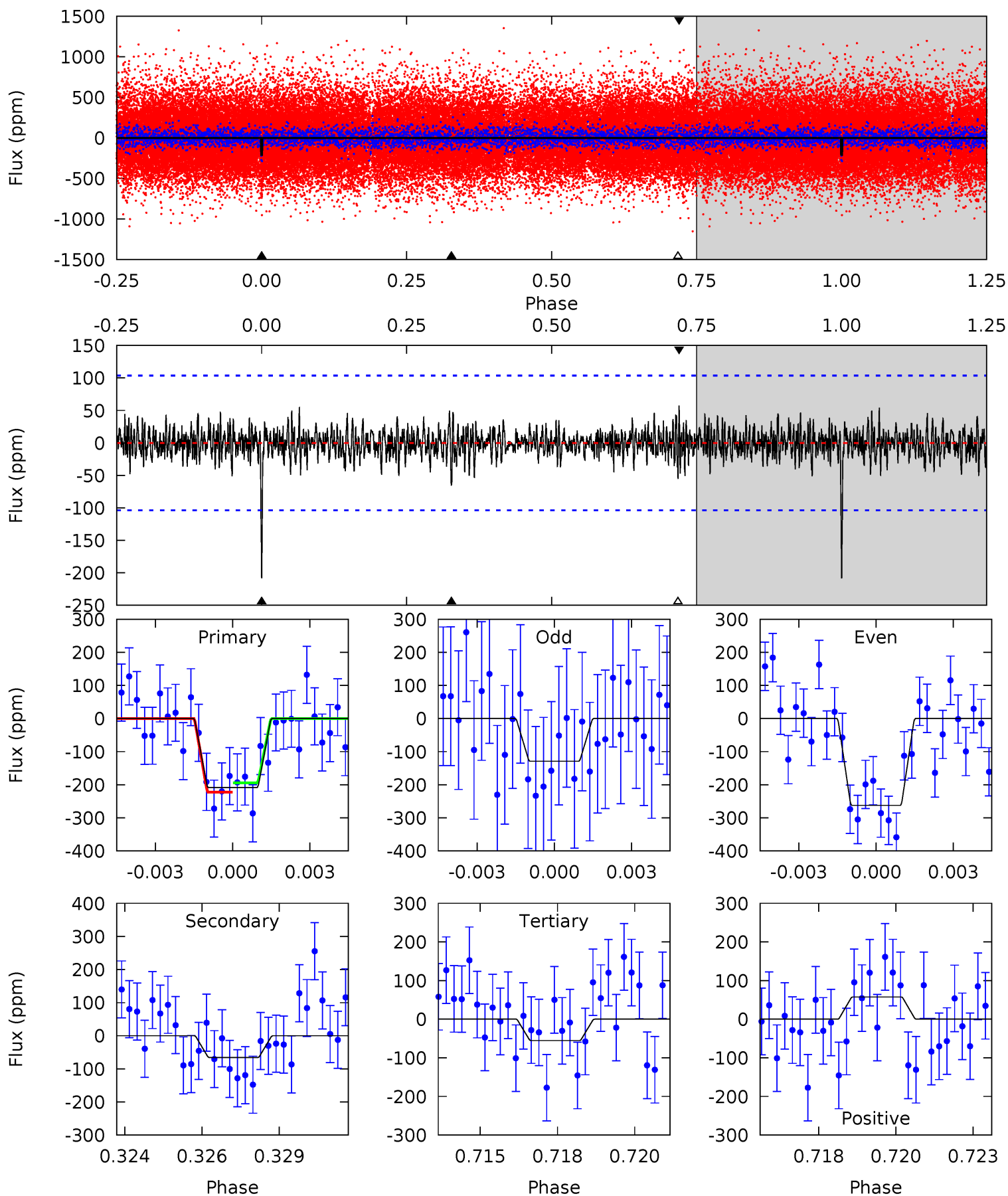
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.76	6.36	5.83	5.81	5.29	3.03	1.55	3.93	3.95	0.53	0.55	2.28	1.07	0.37	0.39



Alt Model-Shift Uniqueness Test

008939837-01, P = 323.653968 Days, E = 261.229713 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	3.34	2.82	2.92	5.28	3.02	0.85	7.80	7.69	0.52	0.42	3.33	1.31	0.22	0.73



Stellar Parameters For KIC 008939837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6161^{+168}_{-224}	$4.426^{+0.070}_{-0.210}$	$-0.180^{+0.250}_{-0.300}$	$1.026^{+0.327}_{-0.117}$	$1.020^{+0.159}_{-0.130}$	$1.329^{+0.496}_{-0.694}$
	+3%/-4%	+2%/-5%	+139%/-167%	+32%/-11%	+16%/-13%	+37%/-52%
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 008939837-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-131 ± 21	$1.66^{+0.59}_{-0.53}$	405^{+31}_{-21}	5507^{+1069}_{-646}	22528^{+24743}_{-10705}
Alt.	-66 ± 20	$1.73^{+0.60}_{-0.54}$	405^{+31}_{-21}	4666^{+809}_{-513}	9949^{+12491}_{-4786}

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 $A_{obs} \gg 1.0$

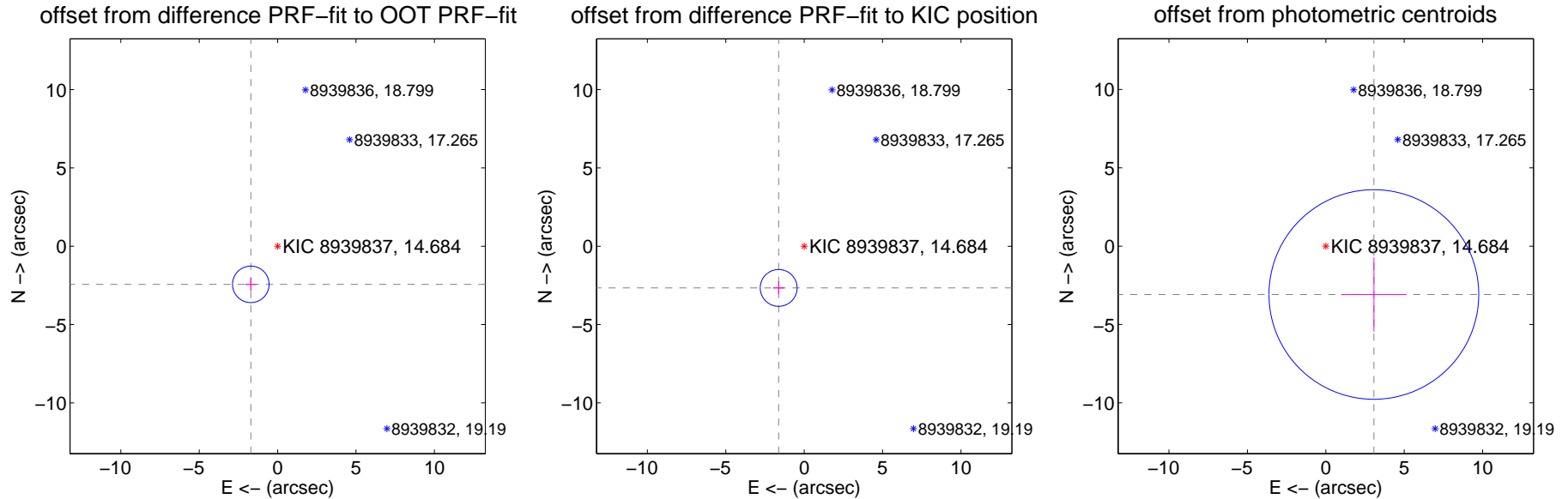
DV Centroid Data

Supplemental centroid analysis for 008939837-01. Kepler magnitude: 14.68. Transit SNR 6.79

There are 0 quarters with good PRF difference image offsets

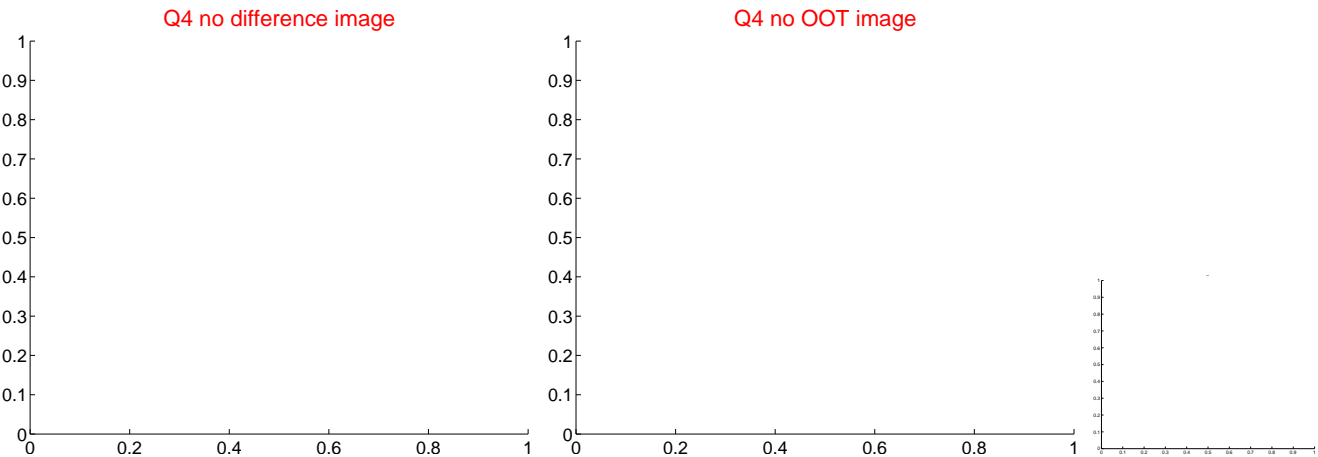
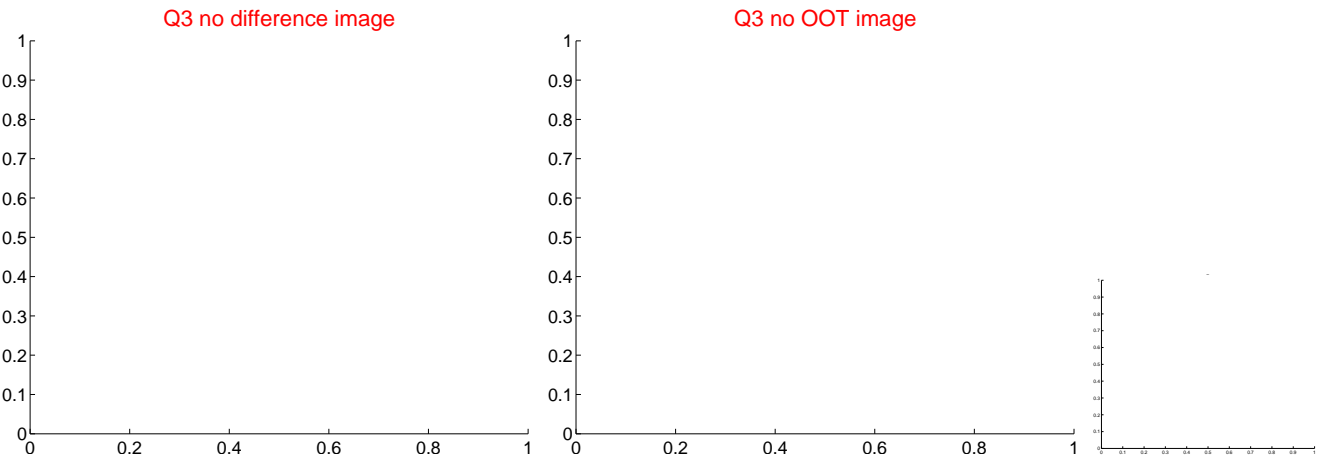
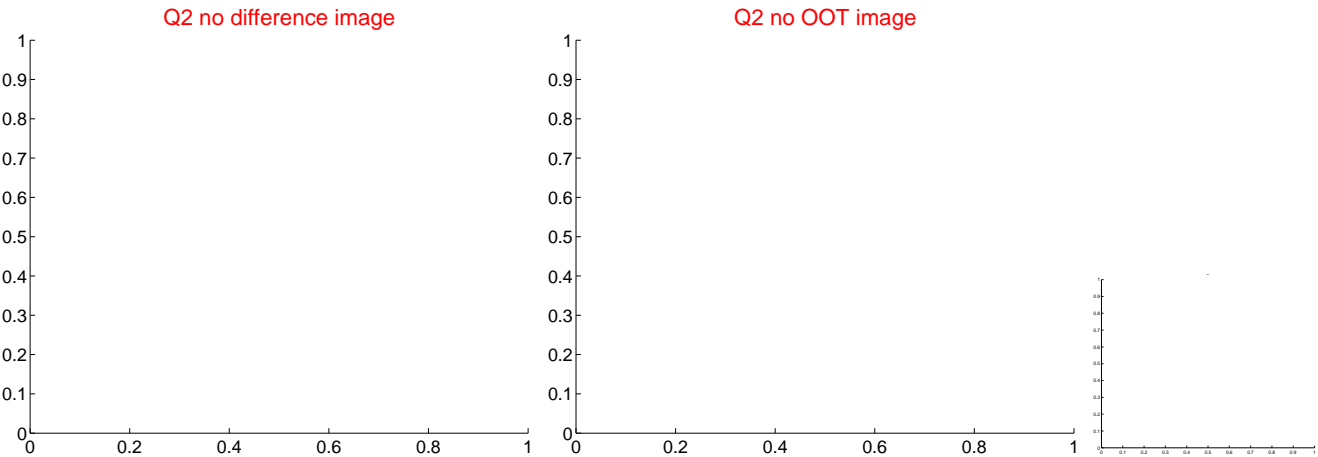
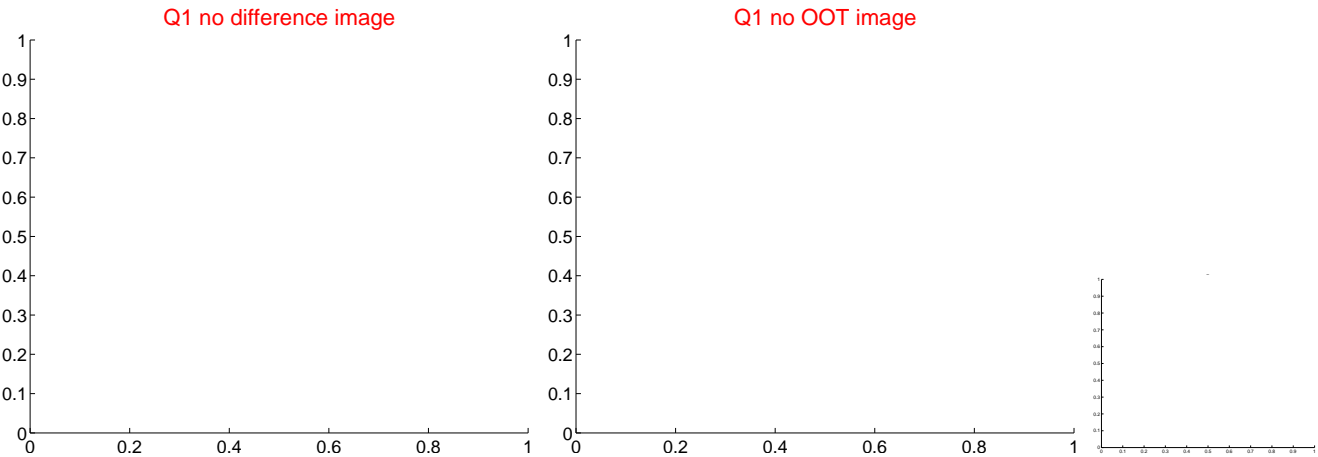
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.975 ± 0.389	7.65	1.710 ± 0.351	-2.434 ± 0.406
PRF-fit source offset from KIC position	3.120 ± 0.392	7.96	1.628 ± 0.351	-2.662 ± 0.406
photometric centroid source offset	4.35 ± 2.23	1.95	-3.07 ± 2.08	-3.08 ± 2.37

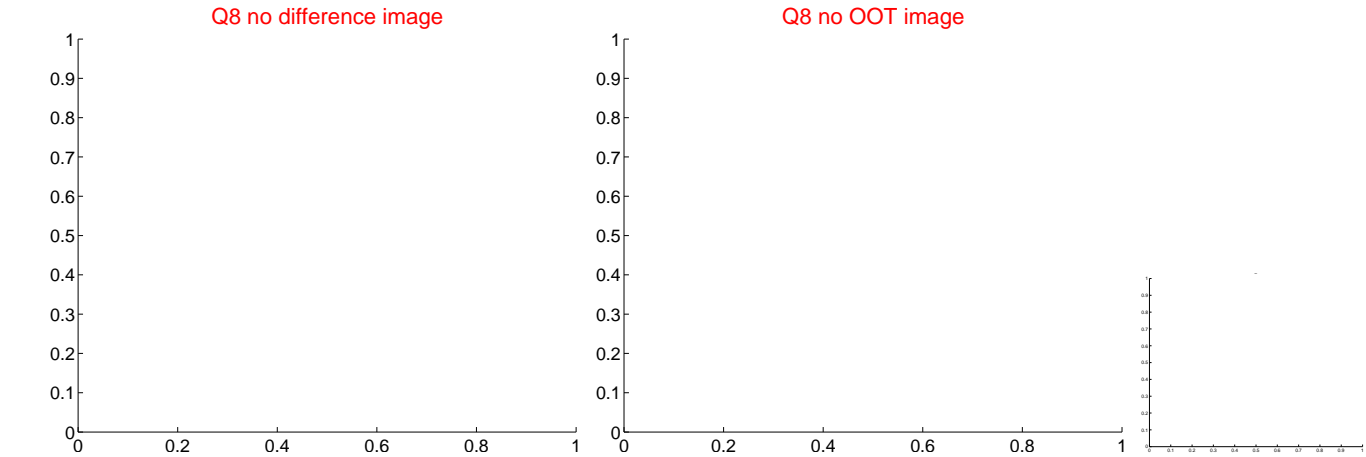
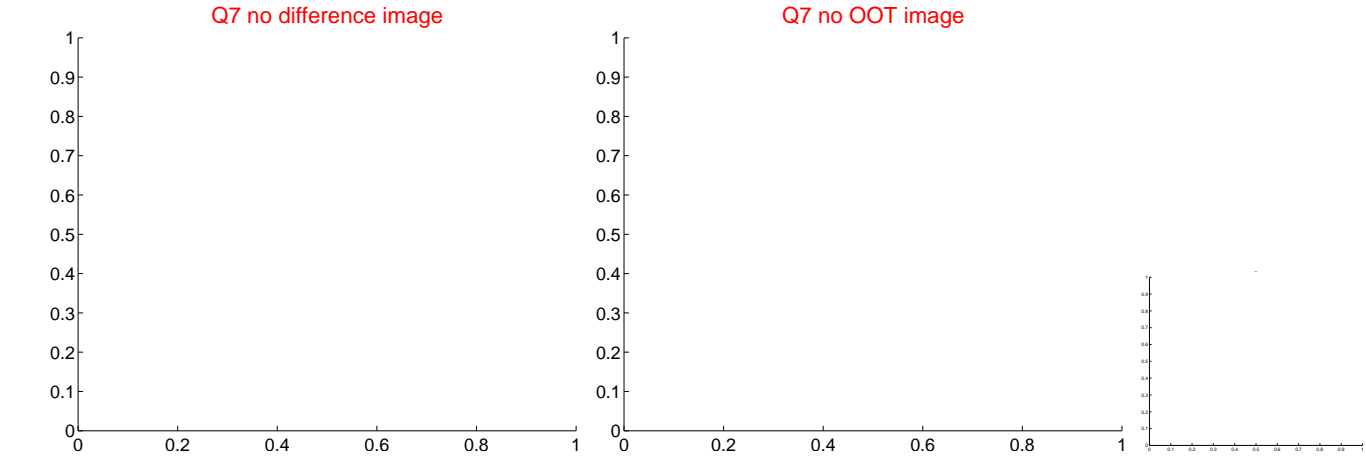
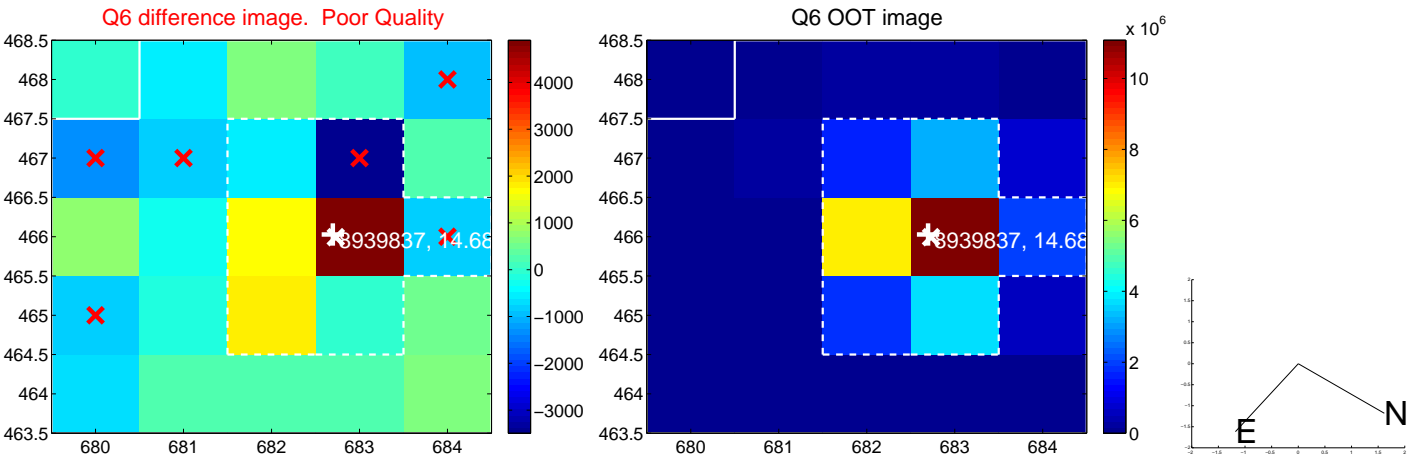
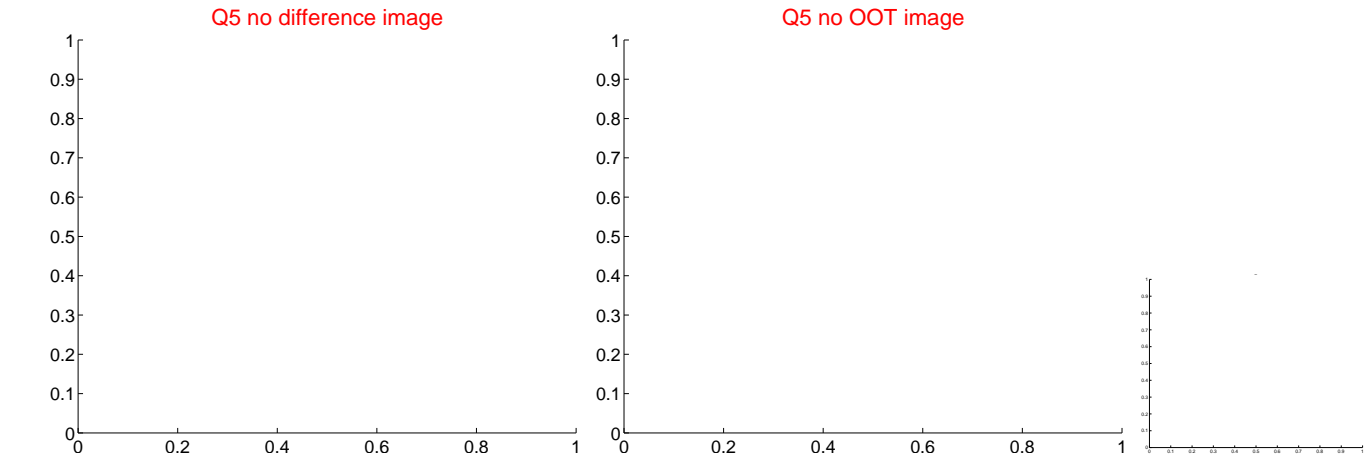


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

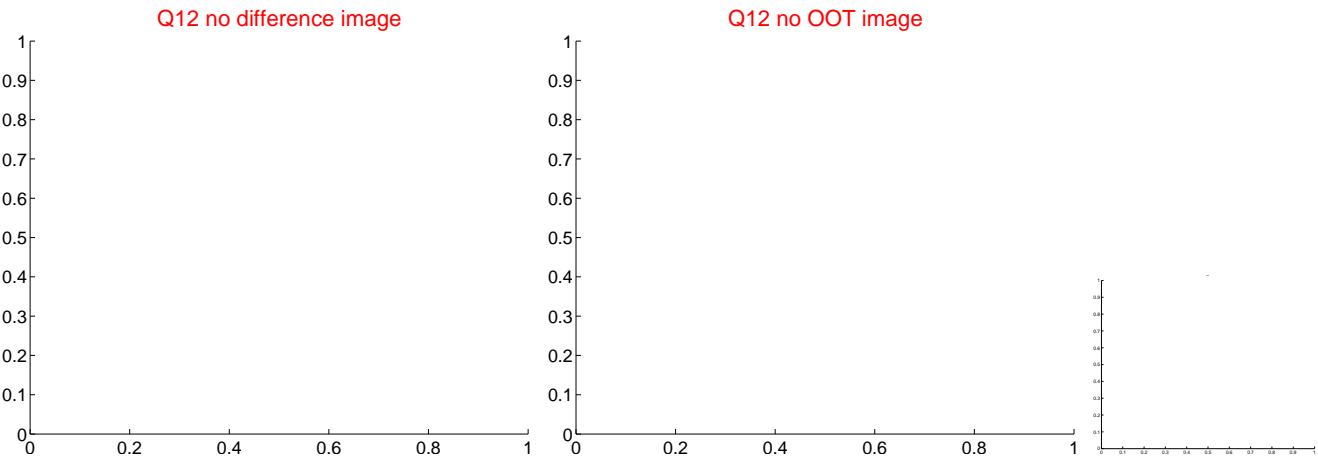
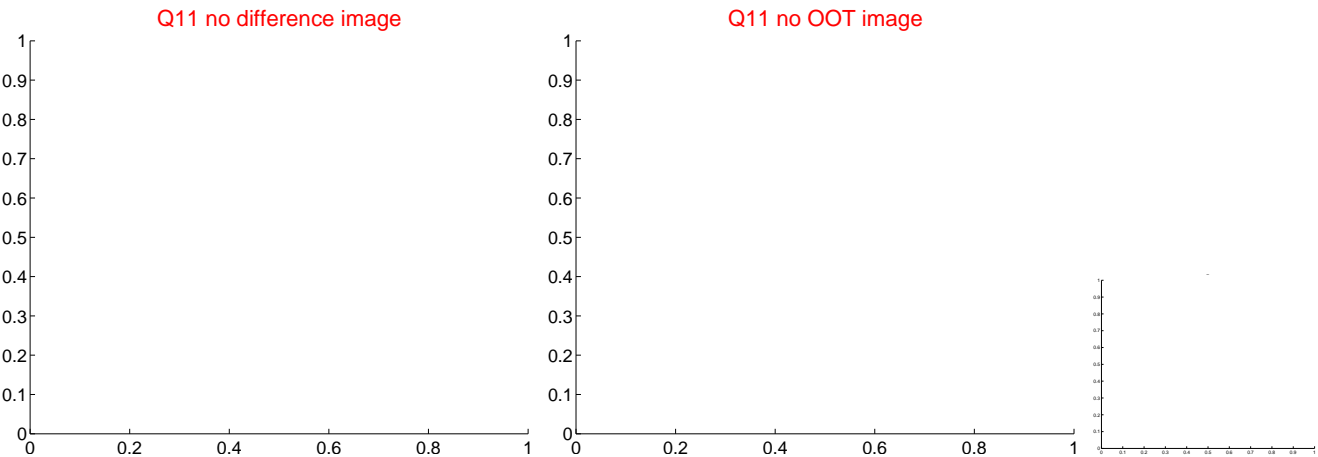
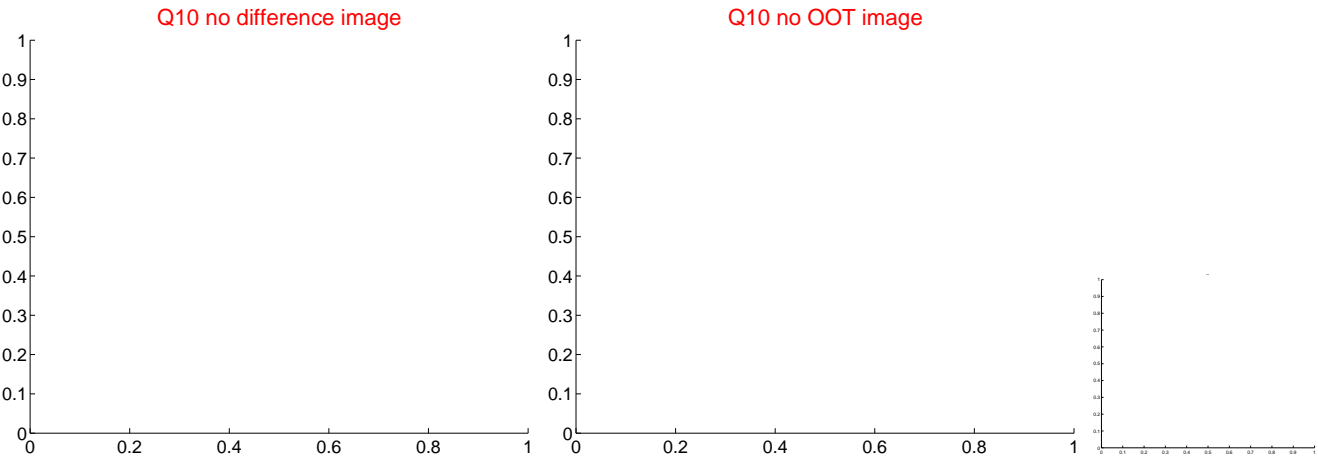
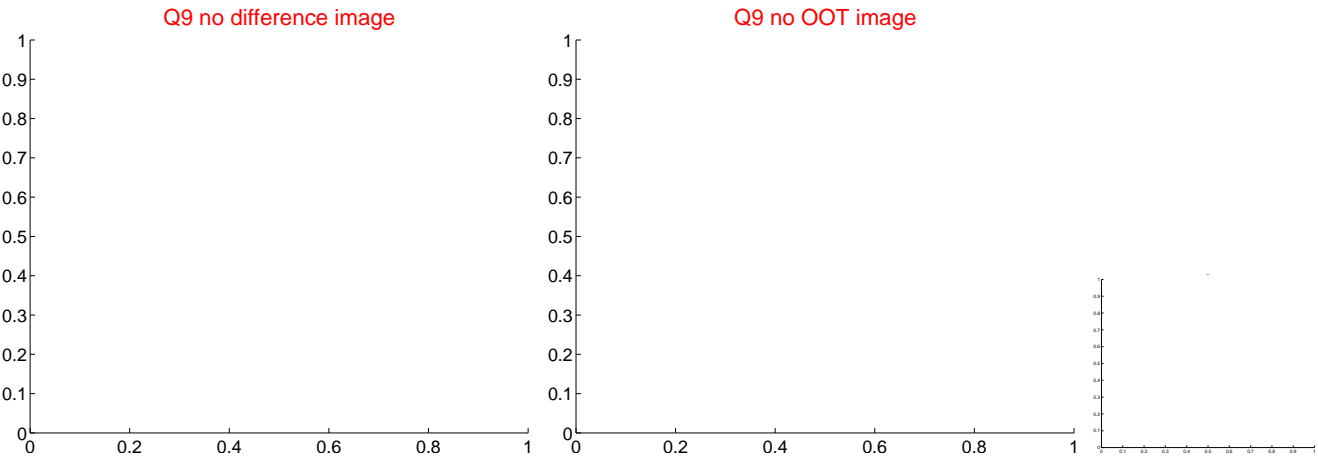
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



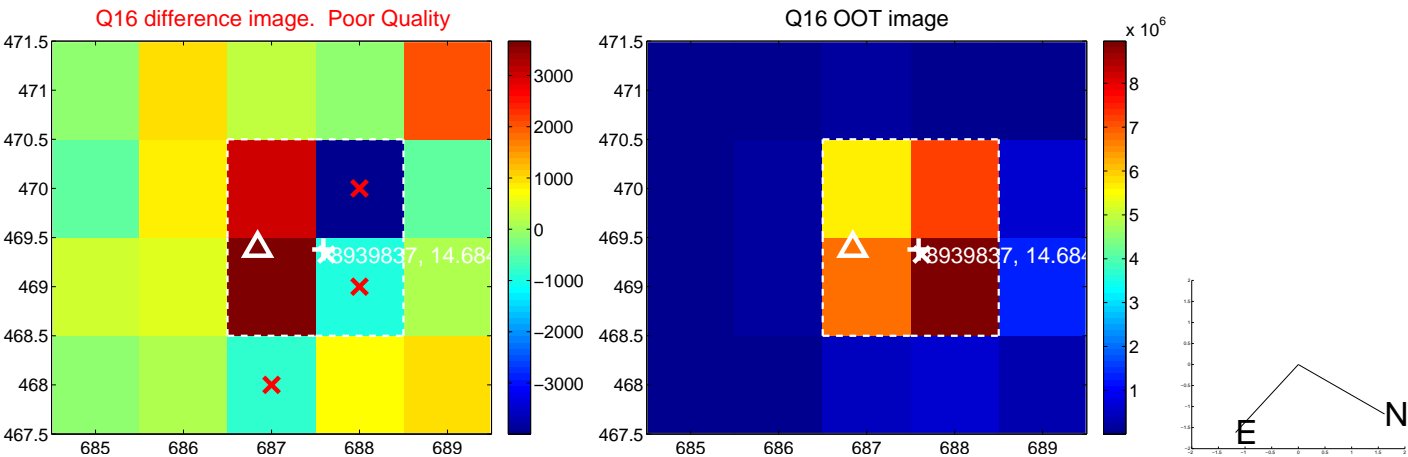
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



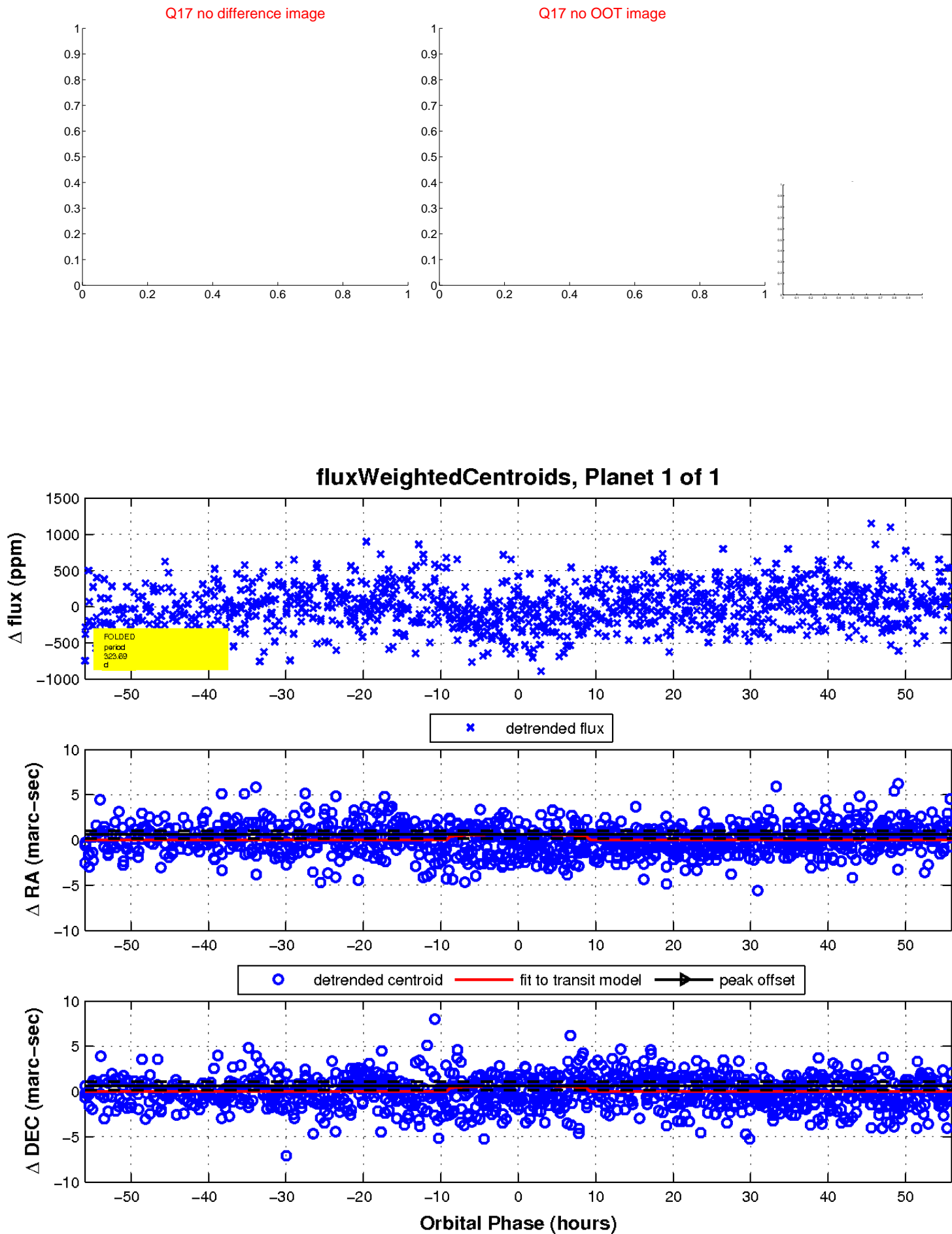
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UKIRT Image

Declination

