

KIC 005024450

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})
005024450-01	OBS	1544.01	1.525926	132.693774	24505.9	3.136	1805.1	1254.6	1.06	6203	23.89	2083.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005024450-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—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 005024450-01

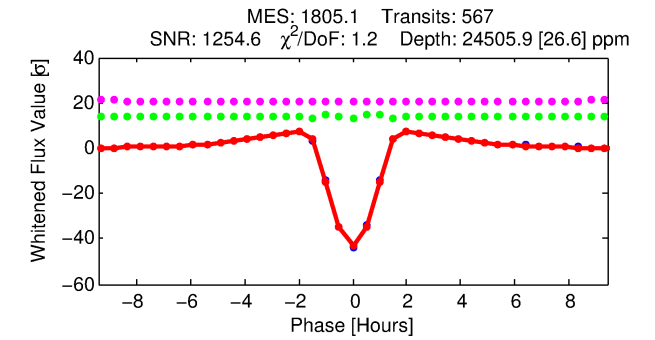
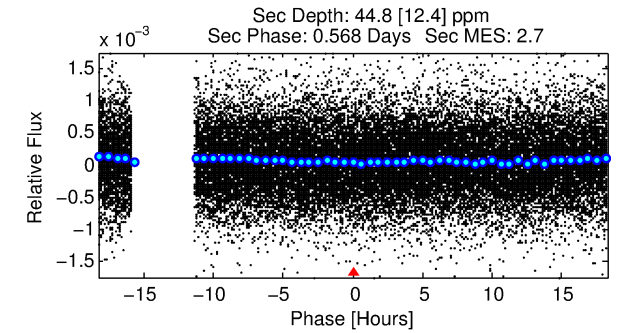
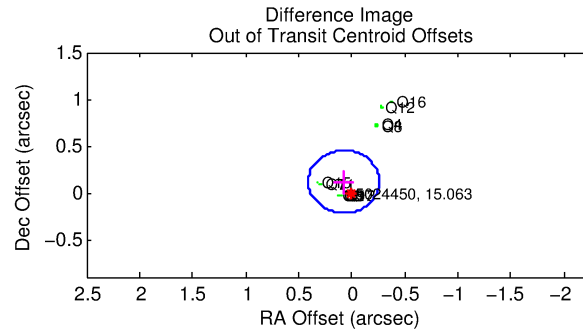
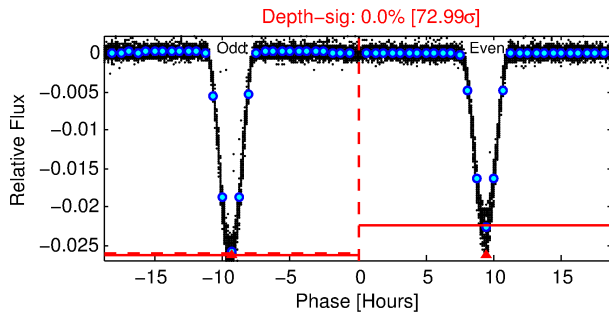
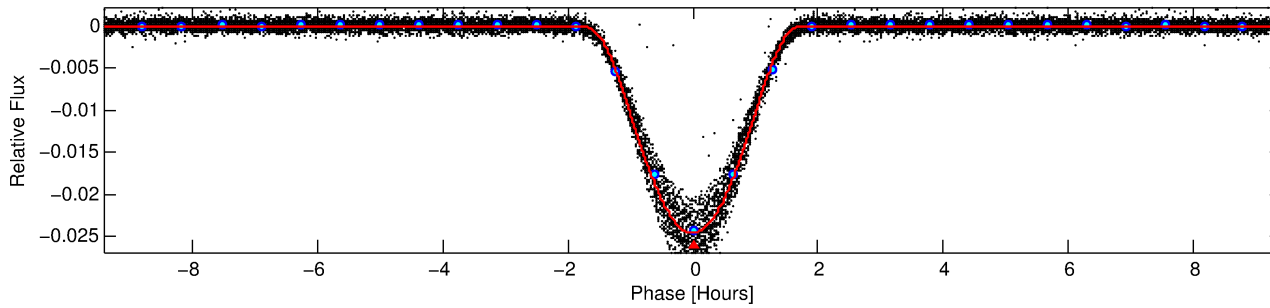
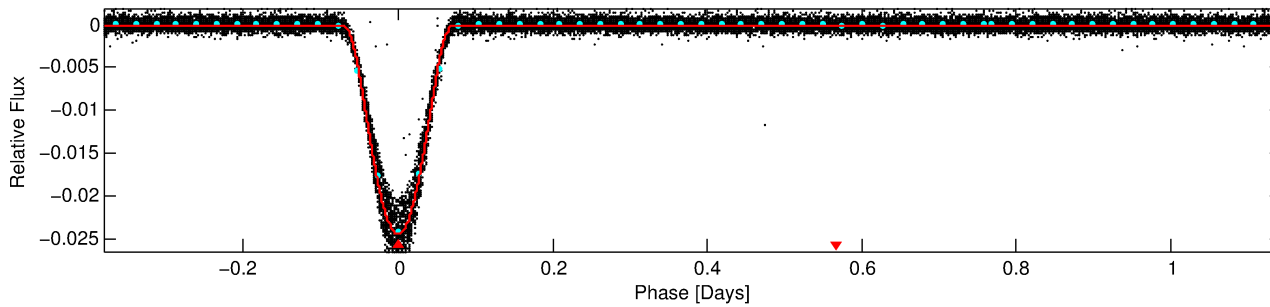
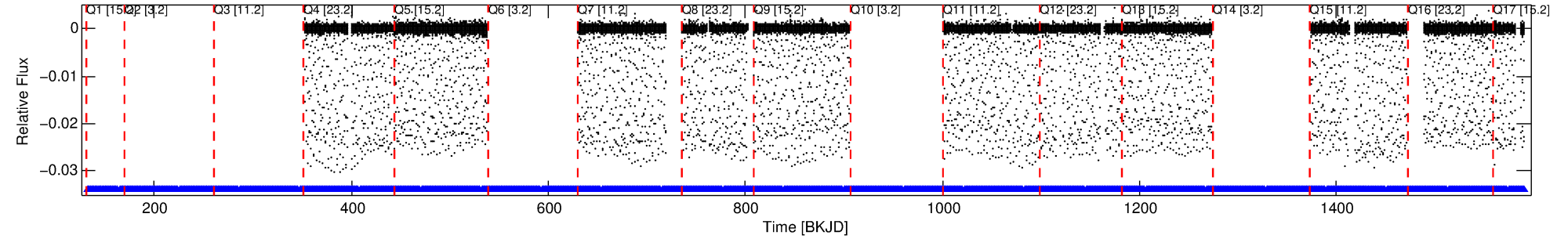
No Significant Match Found

DV One-Page Summary

KIC: 5024450 Candidate: 1 of 1 Period: 1.526 d

KOI: K01544.01 Corr: 0.996

Kp: 15.06 R*: 1.06 Rs Teff: 6203.0 K Logg: 4.43 Fe/H: -0.060



DV Fit Results:

Period = 1.52593 [0.00000] d
Epoch = 132.6938 [0.0000] BKJD
Rp/R* = 0.2065 [0.0040]
a/R* = 3.02 [0.01]
b = 0.93 [0.01]
Seff = 2083.50 [912.57]
Teff = 1723 [189] K
Rp = 23.89 [8.26] Re
a = 0.0267 [0.0076] AU
Ag = 0.03 [0.02] [-63.84σ]
Teffp = 1116 [91] K [-2.90σ]

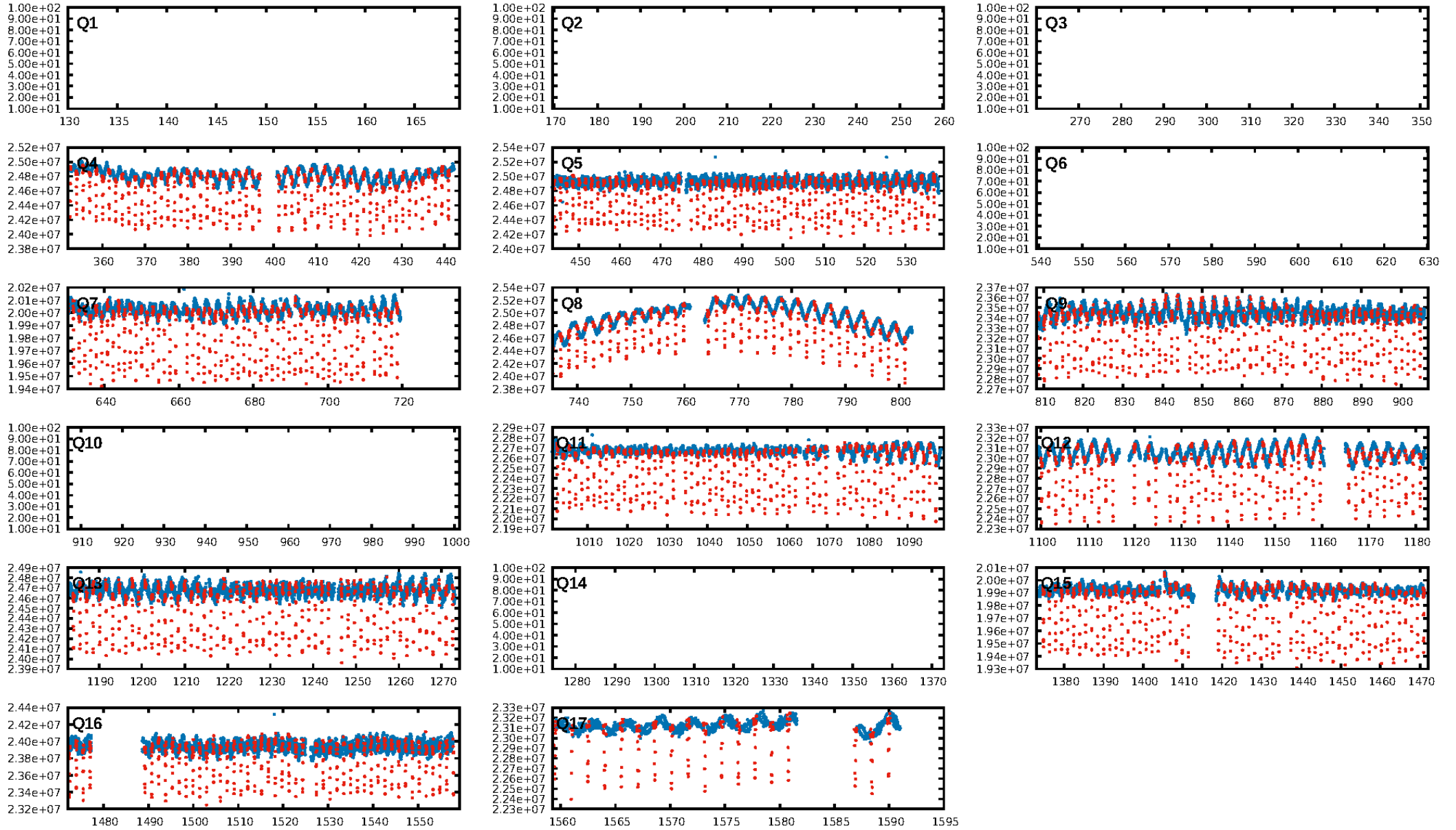
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [549/549]
GhostDiagnostic-chr: 14.66
Centroid-sig: N/A
Centroid-so: 0.487 arcsec [121.99σ]
OotOffset-rm: 0.139 arcsec [1.25σ]
KicOffset-rm: 0.045 arcsec [0.66σ]
OotOffset-st: 0/3/4/4 [11]
KicOffset-st: 0/3/4/4 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [11/11]

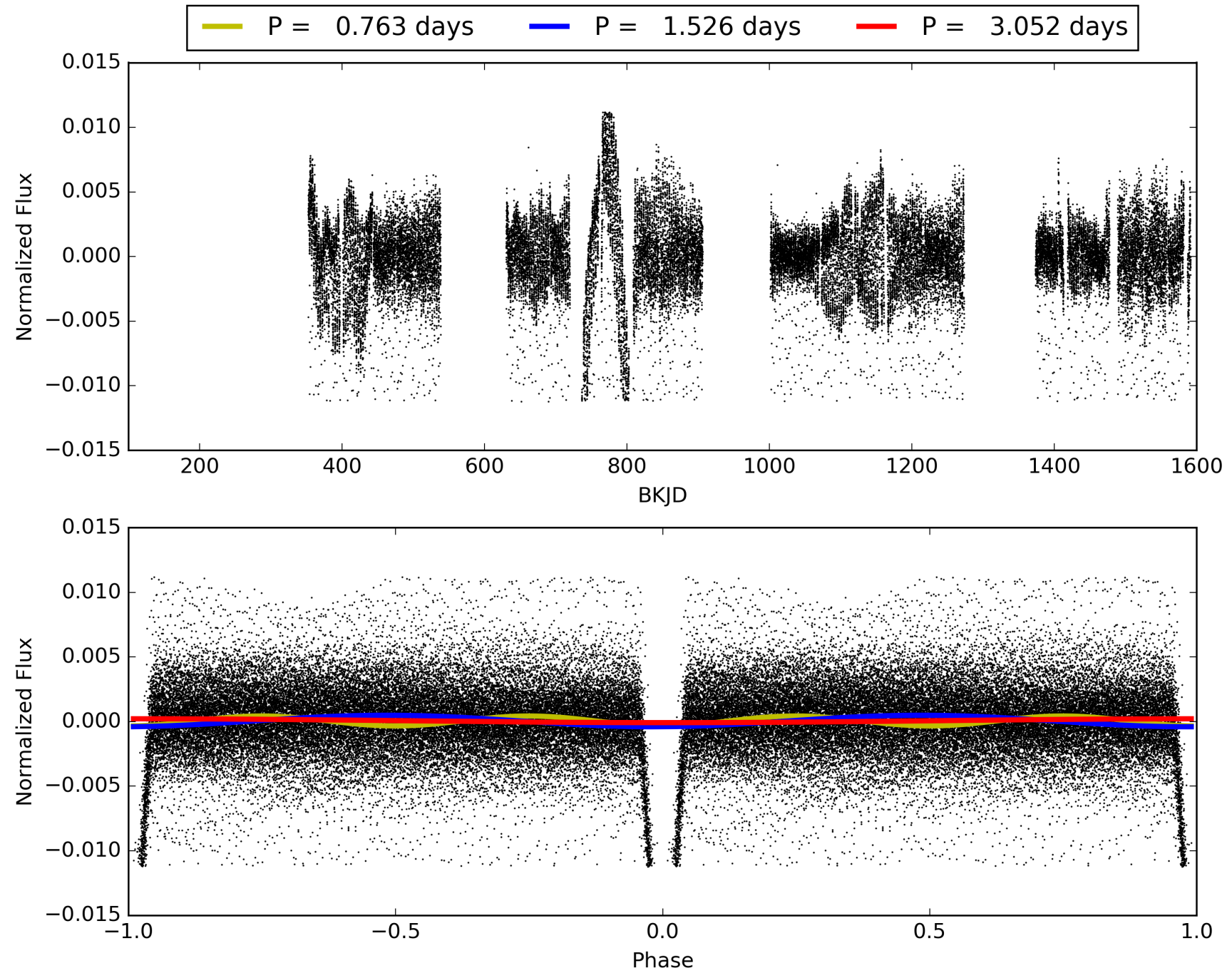
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:22:04 Z

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

TCE 005024450-01, PDC Light Curves

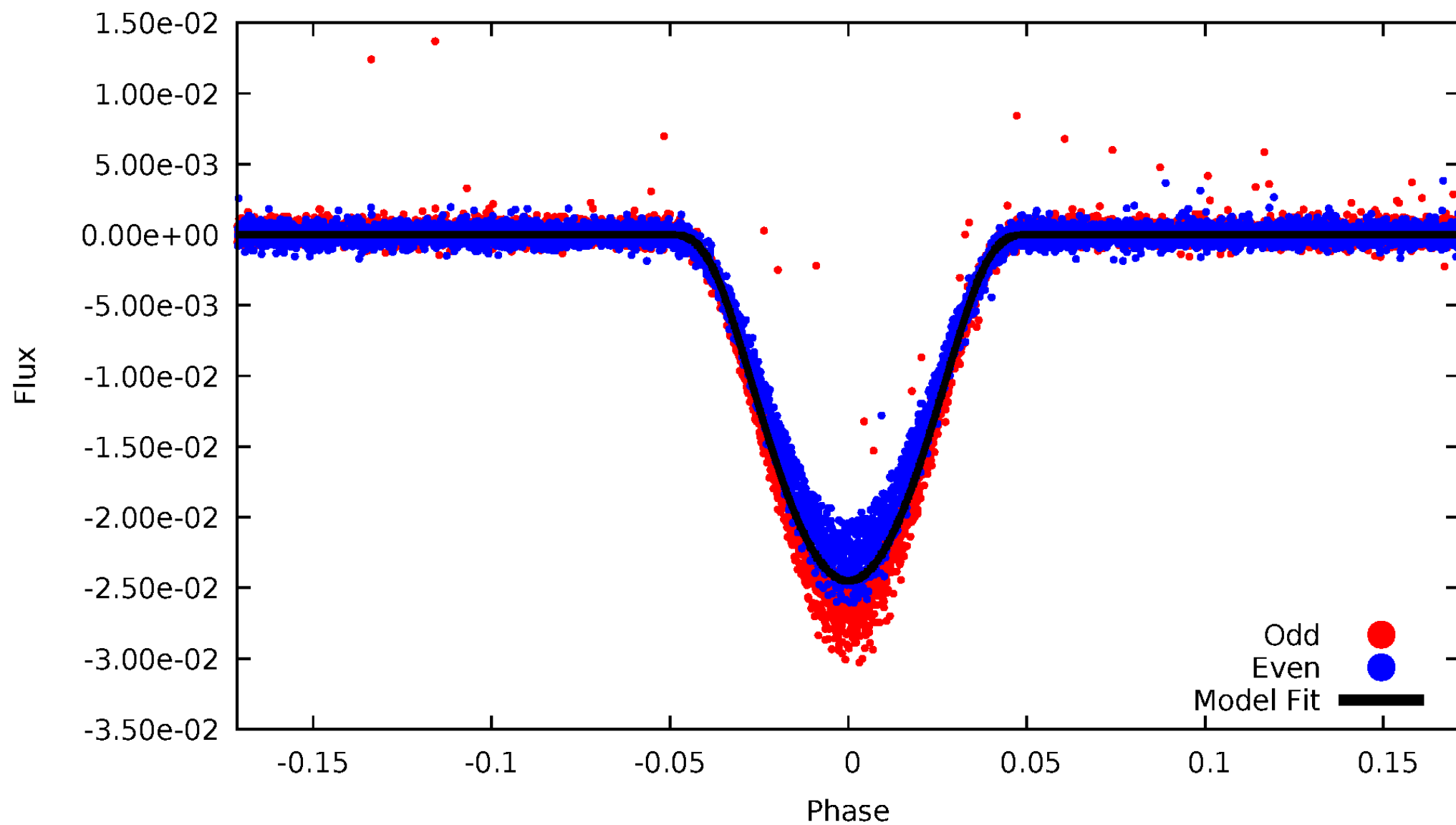


TCE 005024450-01



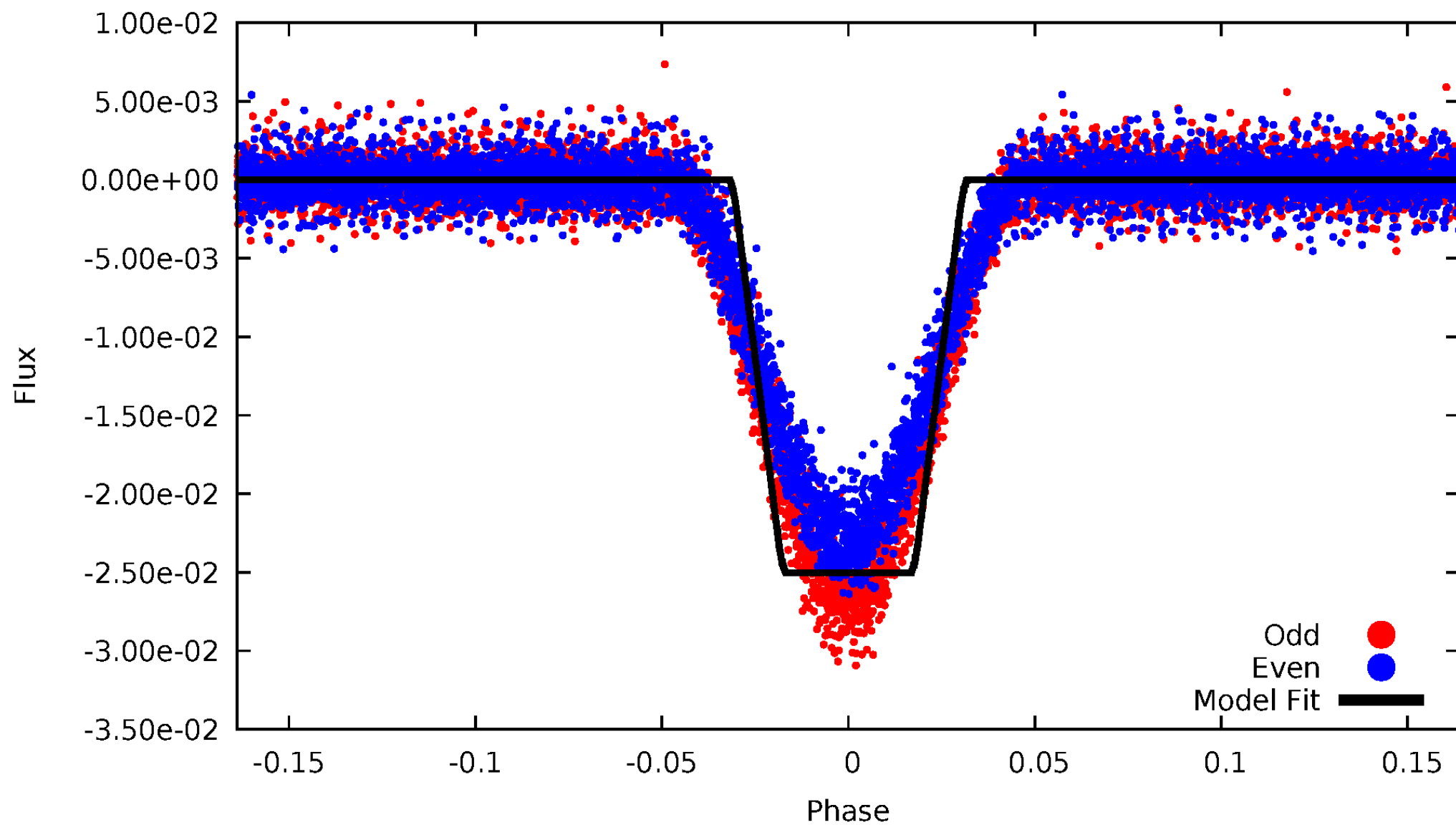
DV Odd/Even

TCE 005024450-01



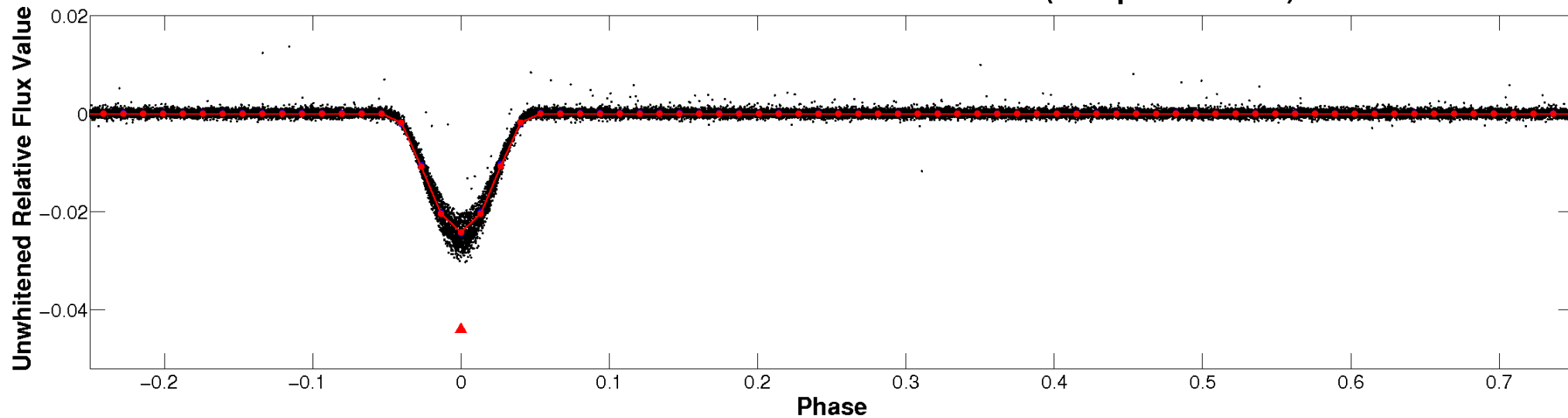
ALT Odd/Even

TCE 005024450-01

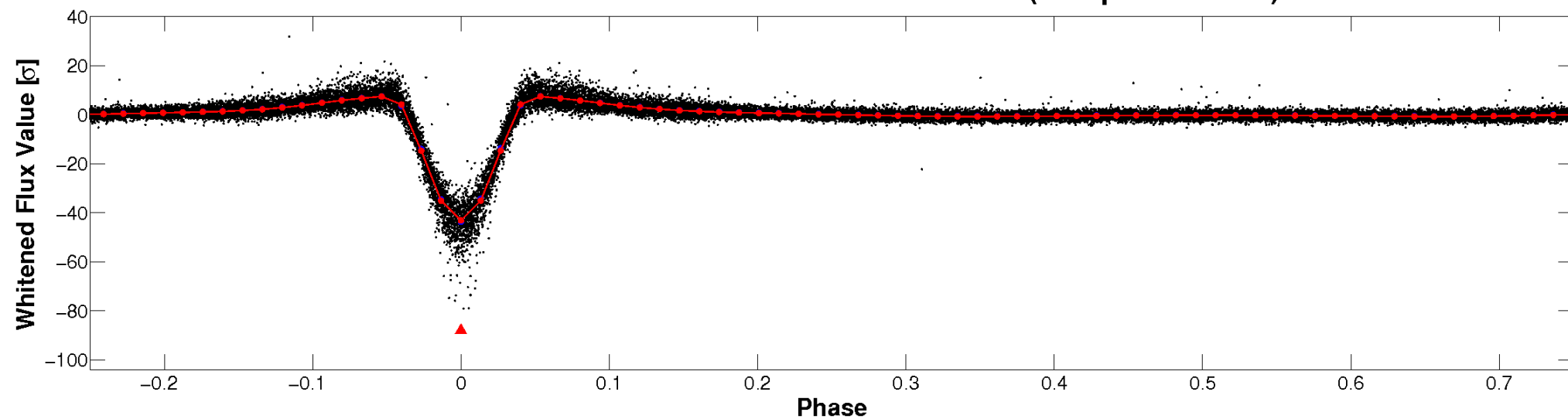


Non-Whitened Vs. Whitened Light Curve

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

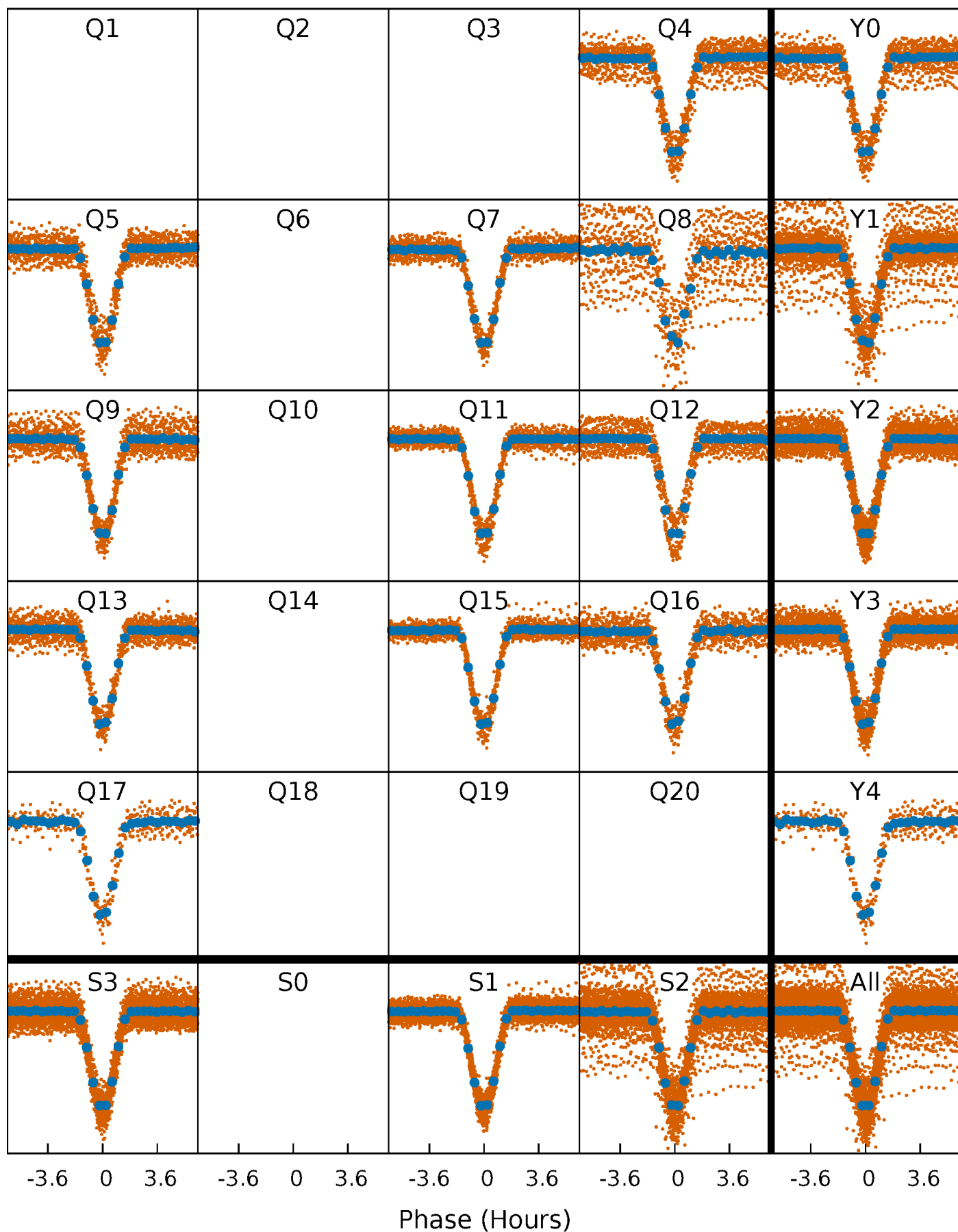


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



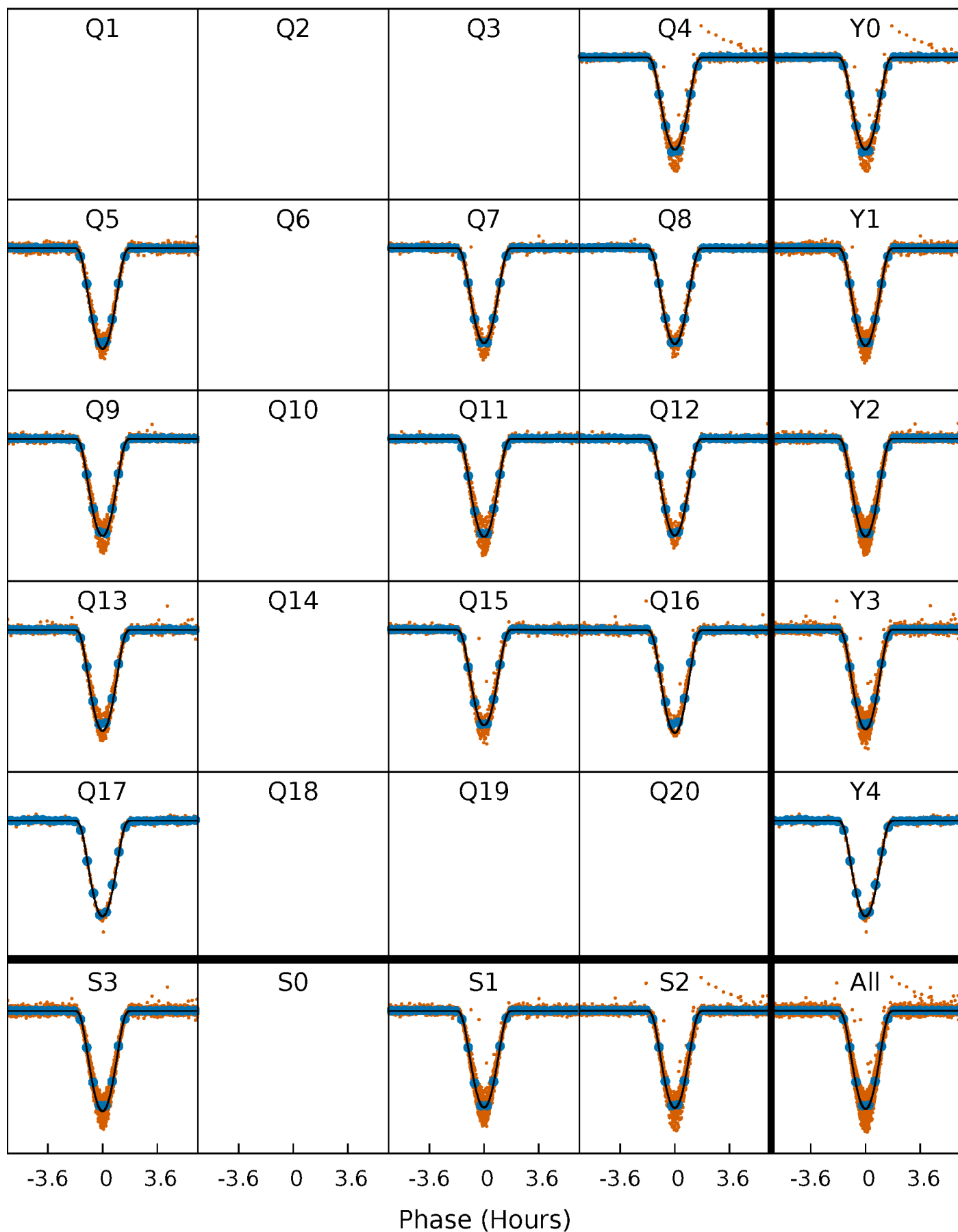
PDC Quarter-Phased Transit Curves

TCE 005024450-01 P= 1.525926 Days $T_0=132.693774$ (BKJD)



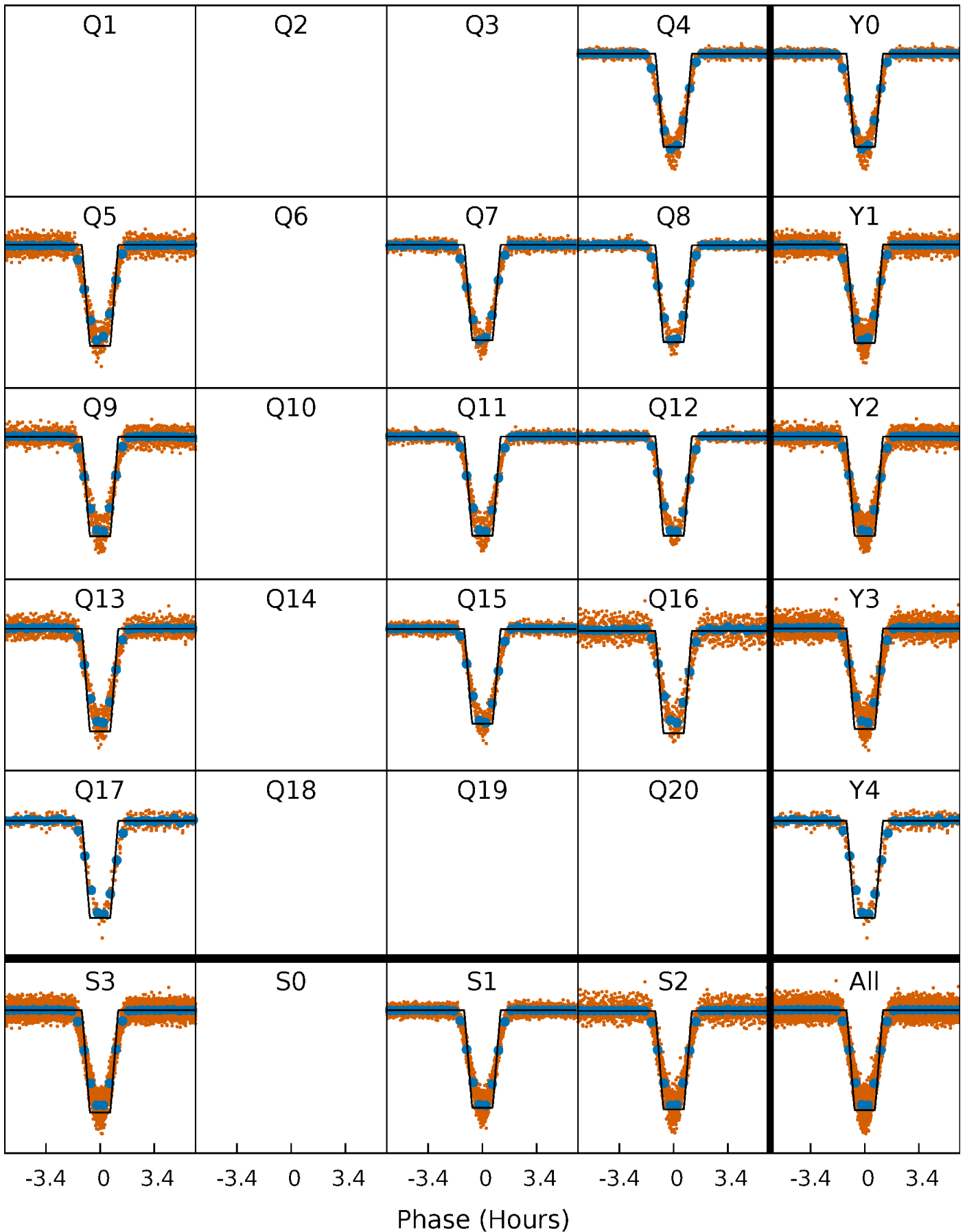
DV Quarter-Phased Transit Curves

TCE 005024450-01 P= 1.525926 Days $T_0=132.693774$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

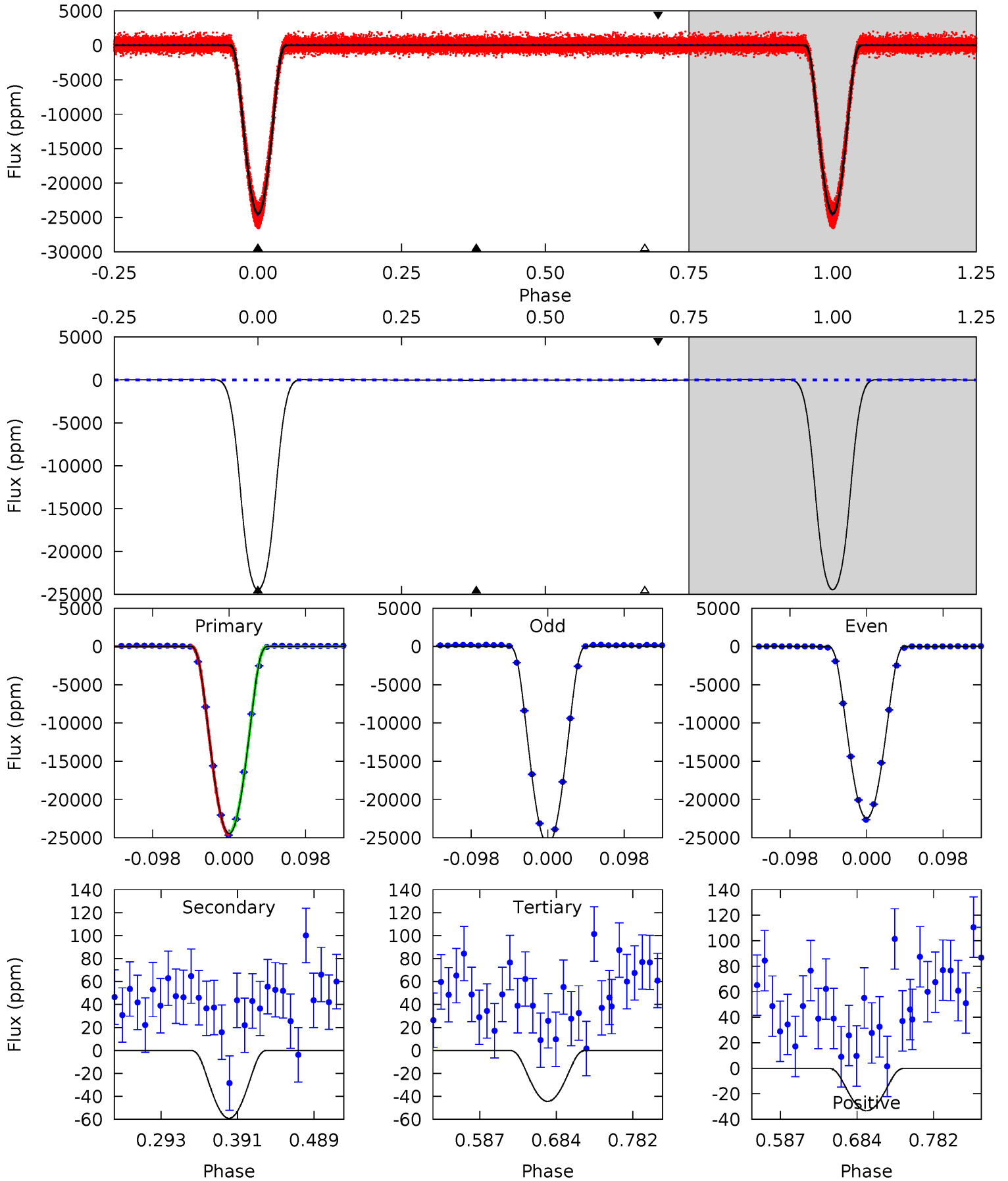
TCE 005024450-01 P= 1.525917 Days $T_0=132.698174$ (BKJD)



DV Model-Shift Uniqueness Test

005024450-01, P = 1.525926 Days, E = 132.693774 Days

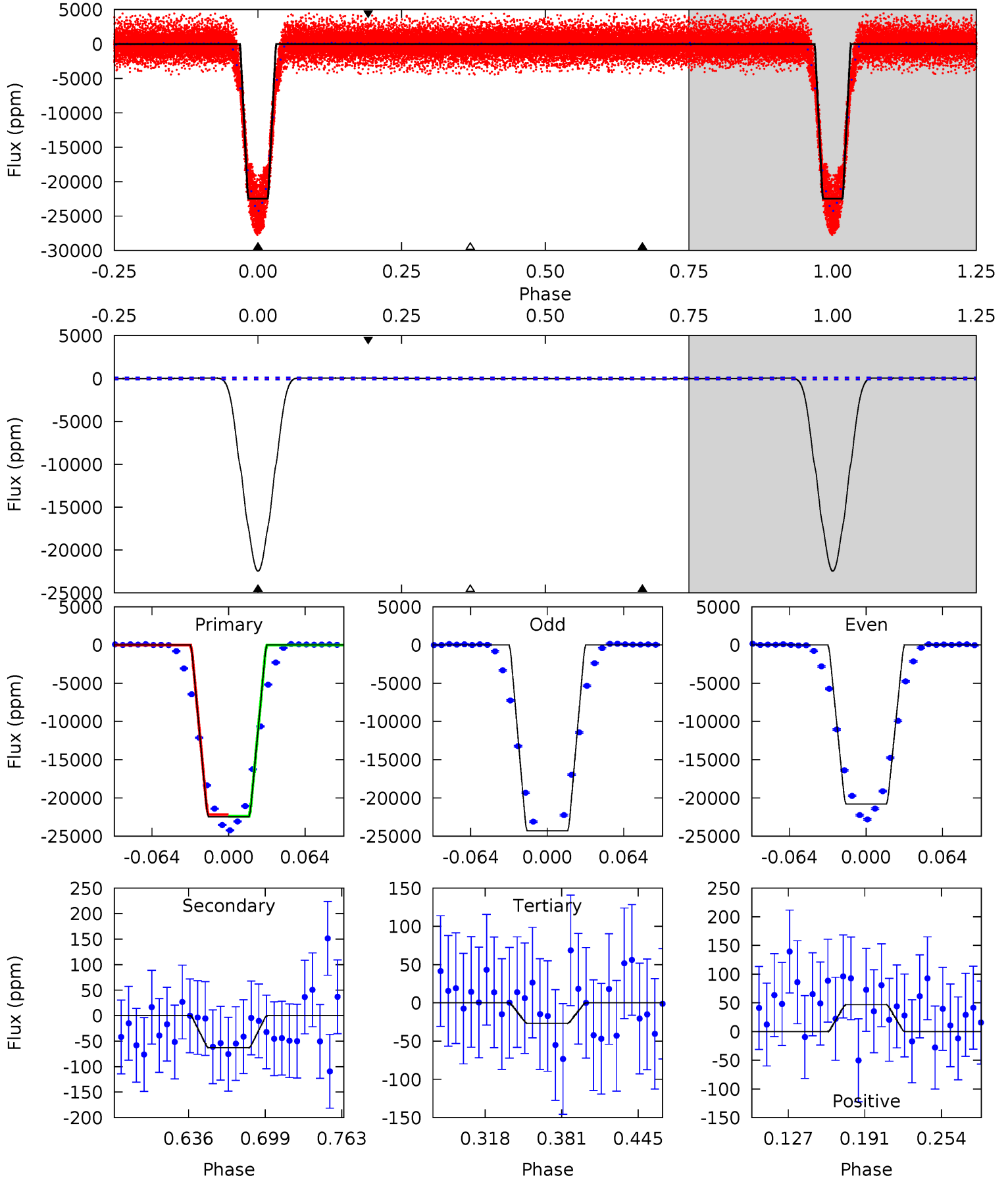
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3011	7.28	5.46	-4.11	4.57	1.66	3.62	3005	3015	1.81	11.4	223.6	0.99	0.00	14.6



Alt Model-Shift Uniqueness Test

005024450-01, P = 1.525917 Days, E = 132.698174 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
906.8	2.54	1.08	1.89	4.66	1.86	1.14	905.8	905.0	1.47	0.65	72.5	1.00	0.00	4.09



Stellar Parameters For KIC 005024450

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6203^{+194}_{-259}	$4.427^{+0.072}_{-0.217}$	$-0.060^{+0.250}_{-0.300}$	$1.060^{+0.366}_{-0.147}$	$1.091^{+0.168}_{-0.153}$	$1.291^{+0.400}_{-0.715}$
	+3%/-4%	+2%/-5%	+417%/-500%	+35%/-14%	+15%/-14%	+31%/-55%
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 005024450-01 / KOI 1544.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-59 ± 8	$24.56^{+4.46}_{-2.40}$	2453^{+195}_{-142}	-2718^{+88}_{-124}	$0.037^{+0.010}_{-0.010}$
Alt.	-63 ± 25	$18.57^{+3.92}_{-1.69}$	2441^{+208}_{-137}	-2666^{+104}_{-146}	$0.066^{+0.036}_{-0.030}$

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 $A_{obs} \gg 1.0$

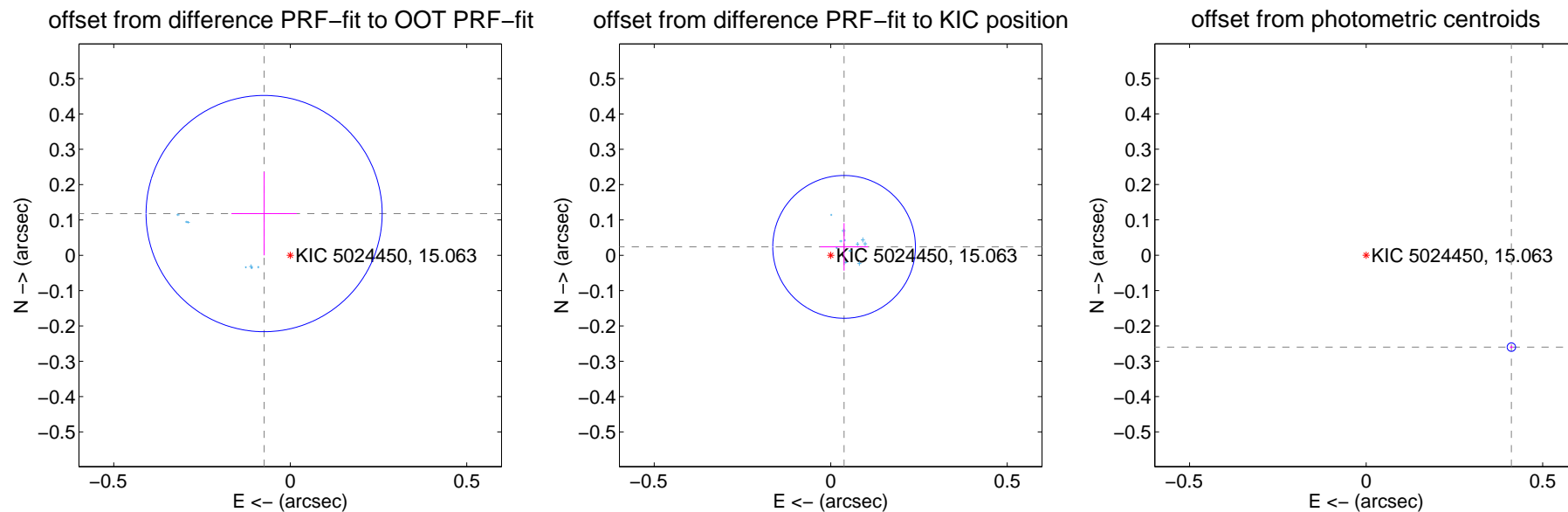
DV Centroid Data

Supplemental centroid analysis for 005024450-01. Kepler magnitude: 15.06. Transit SNR 1254.60

There are 11 quarters with good PRF difference image offsets

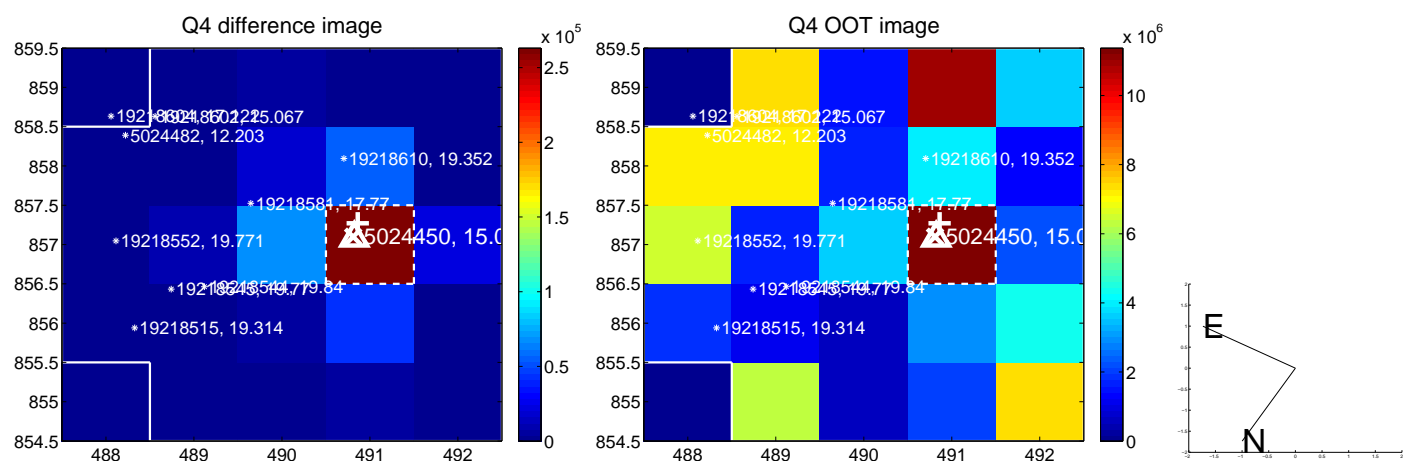
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.139 ± 0.111	1.25	0.074 ± 0.092	0.118 ± 0.118
PRF-fit source offset from KIC position	0.045 ± 0.067	0.66	-0.038 ± 0.067	0.024 ± 0.067
photometric centroid source offset	0.49 ± 0.00	121.99	-0.41 ± 0.00	-0.26 ± 0.00

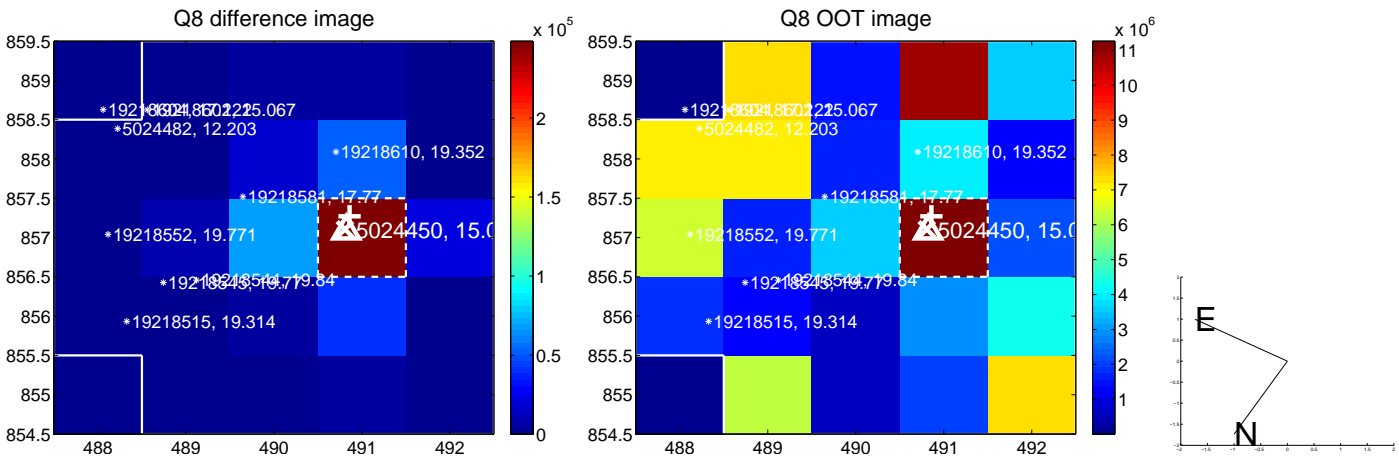
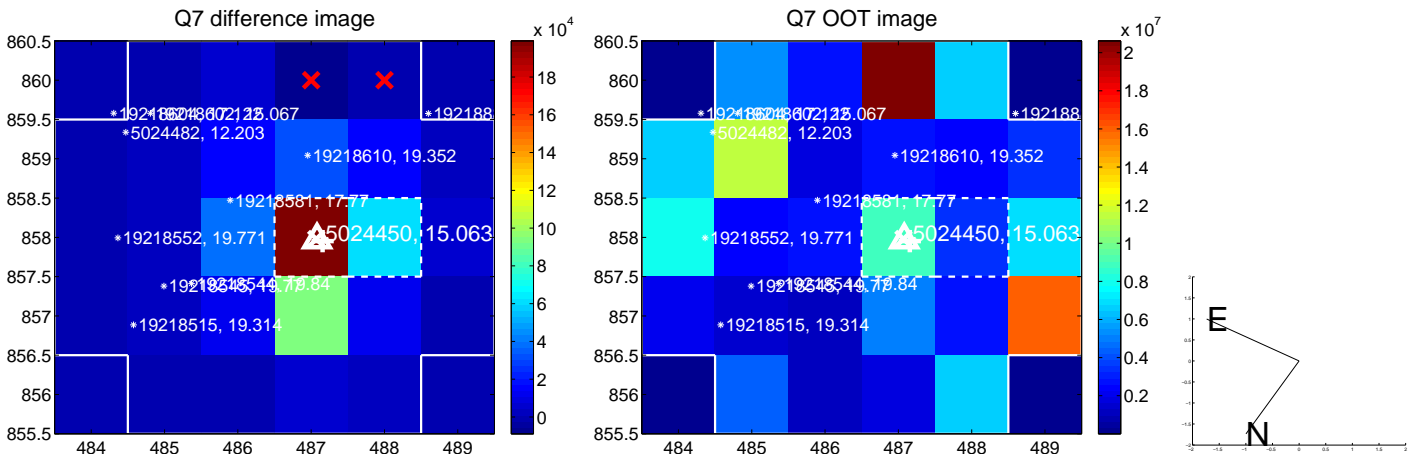
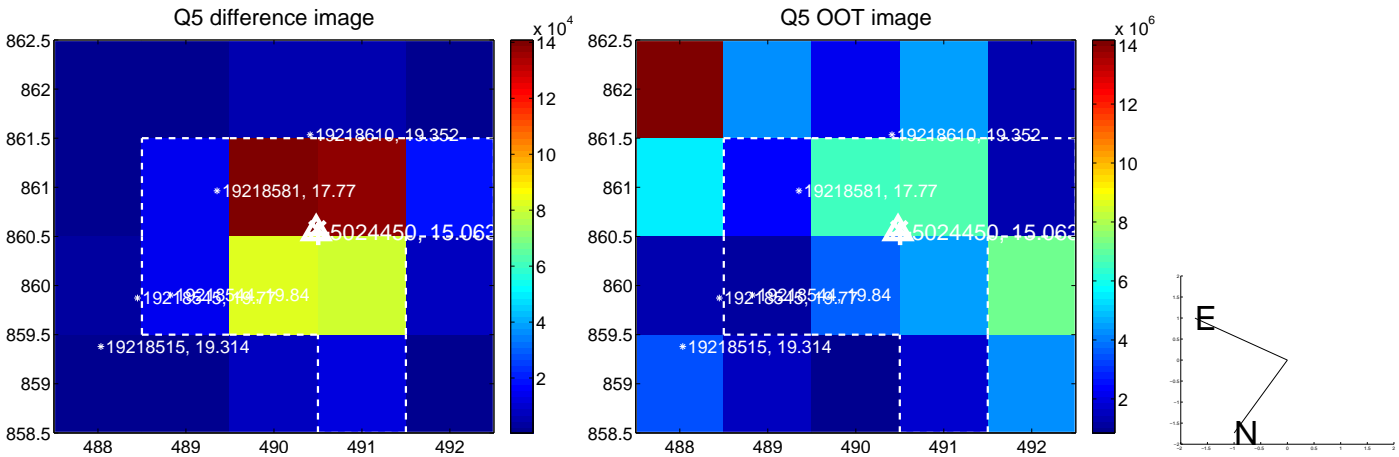


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

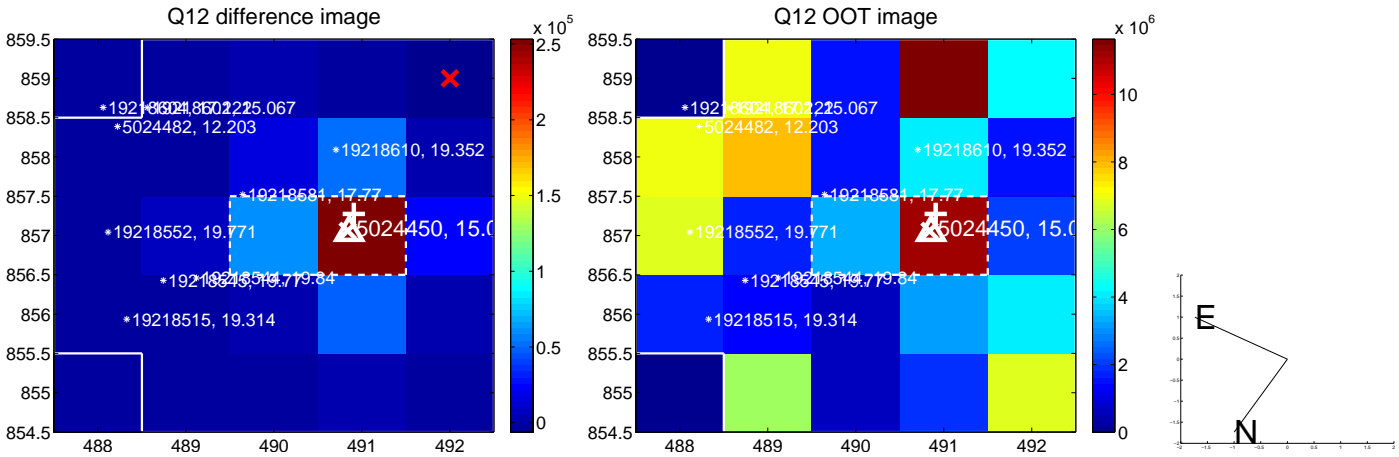
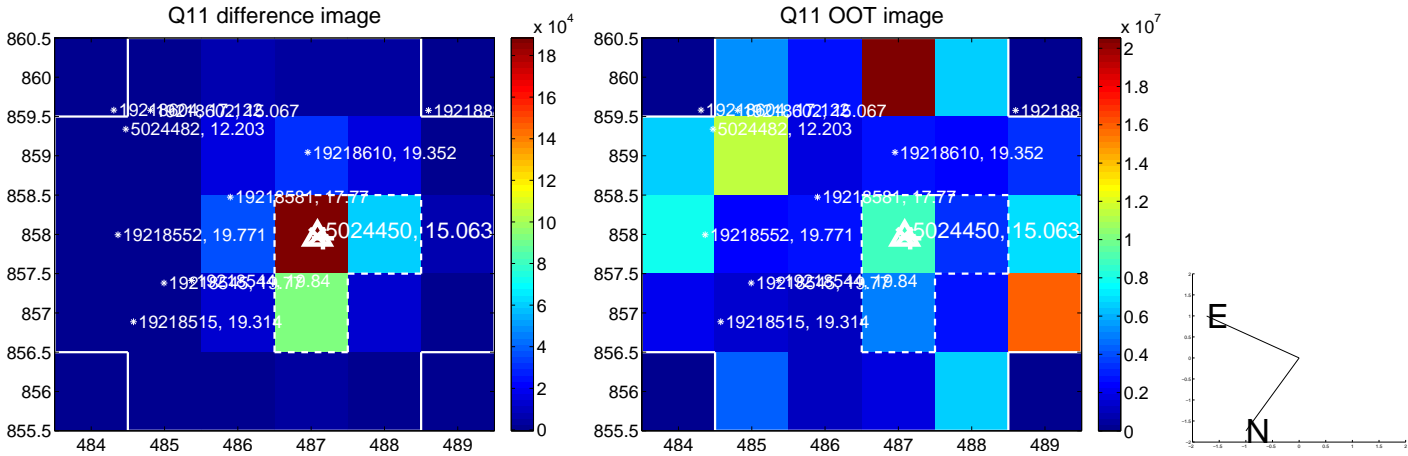
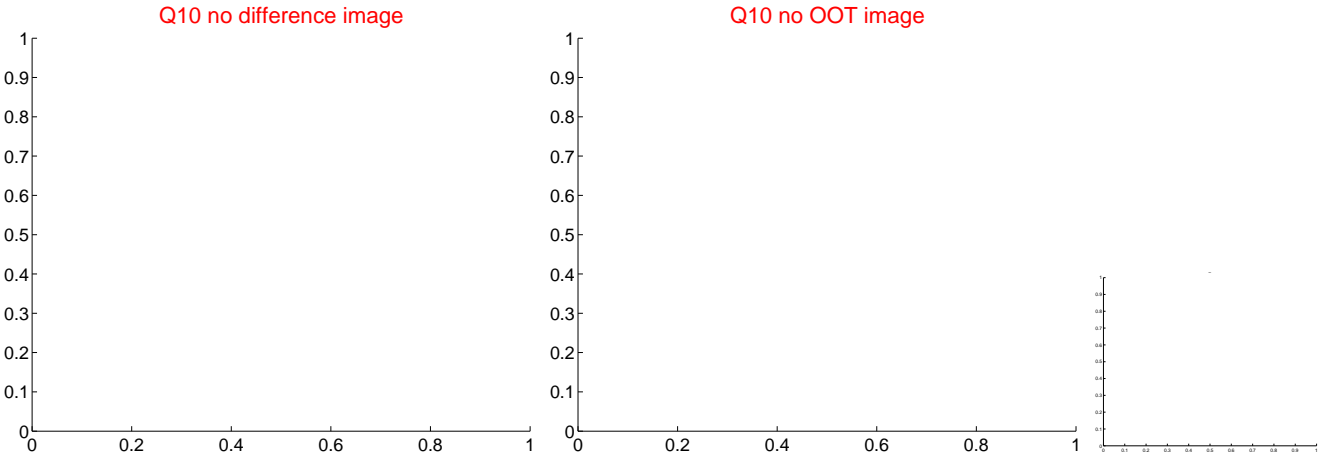
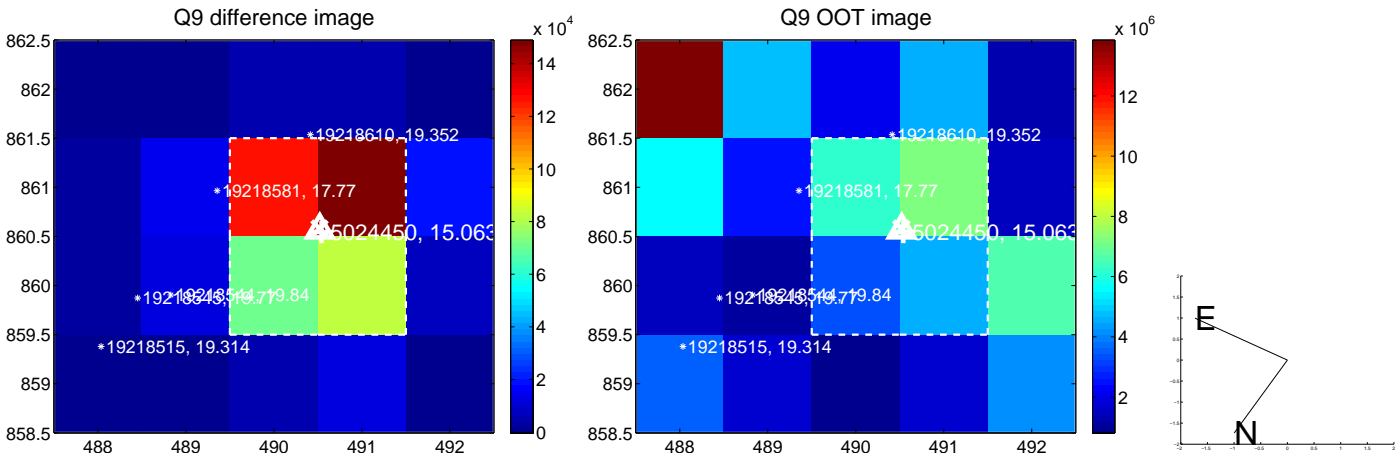
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



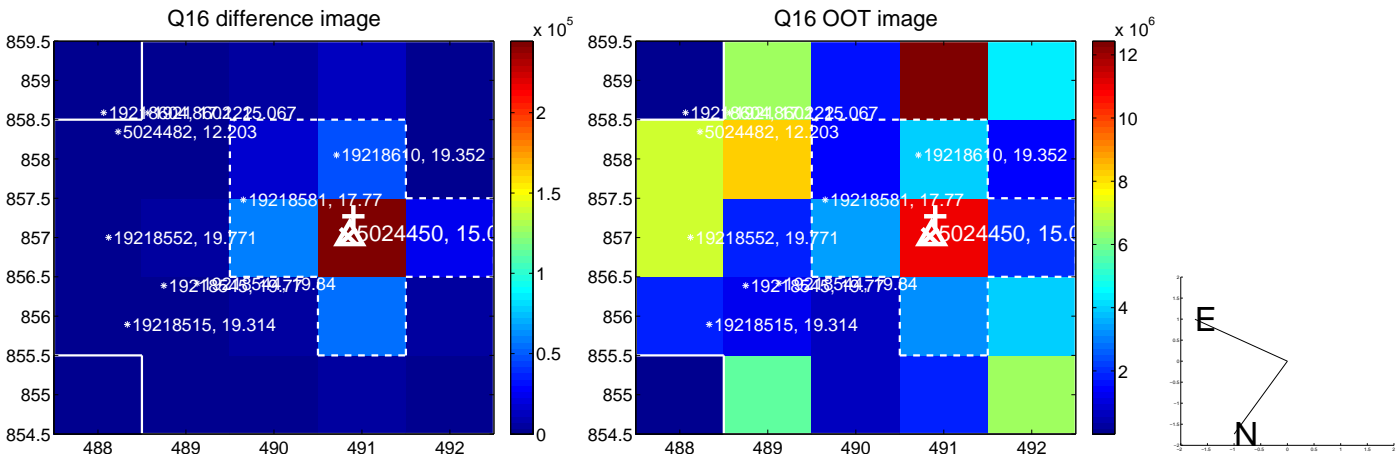
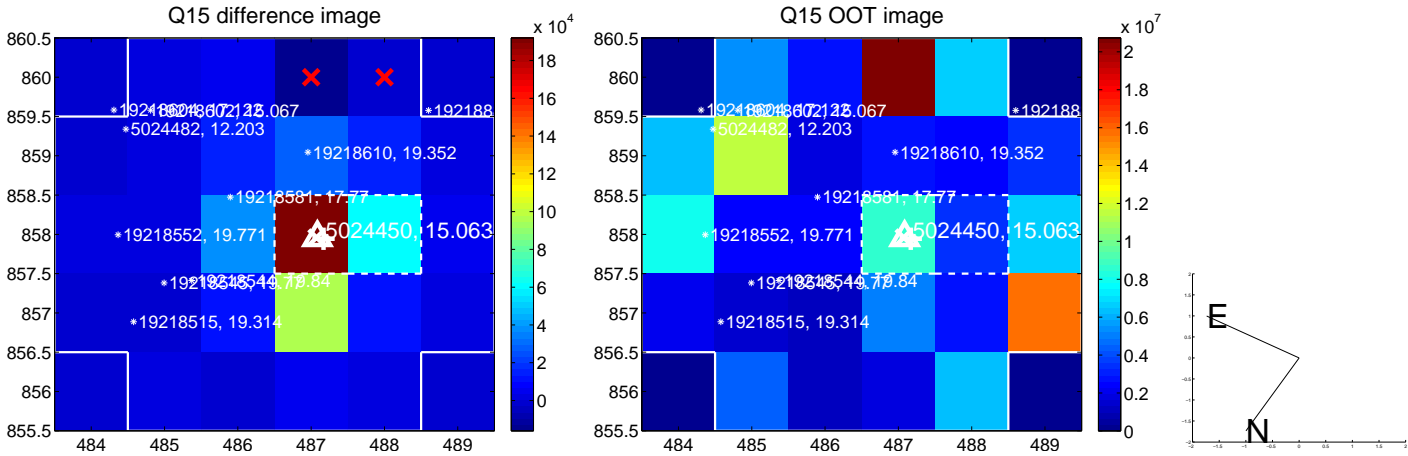
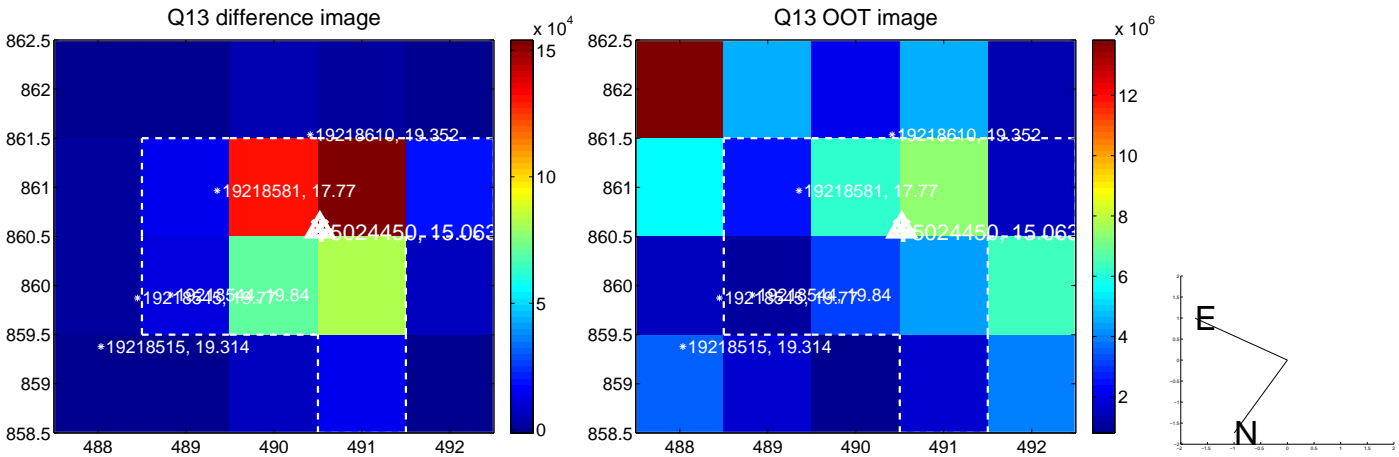
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



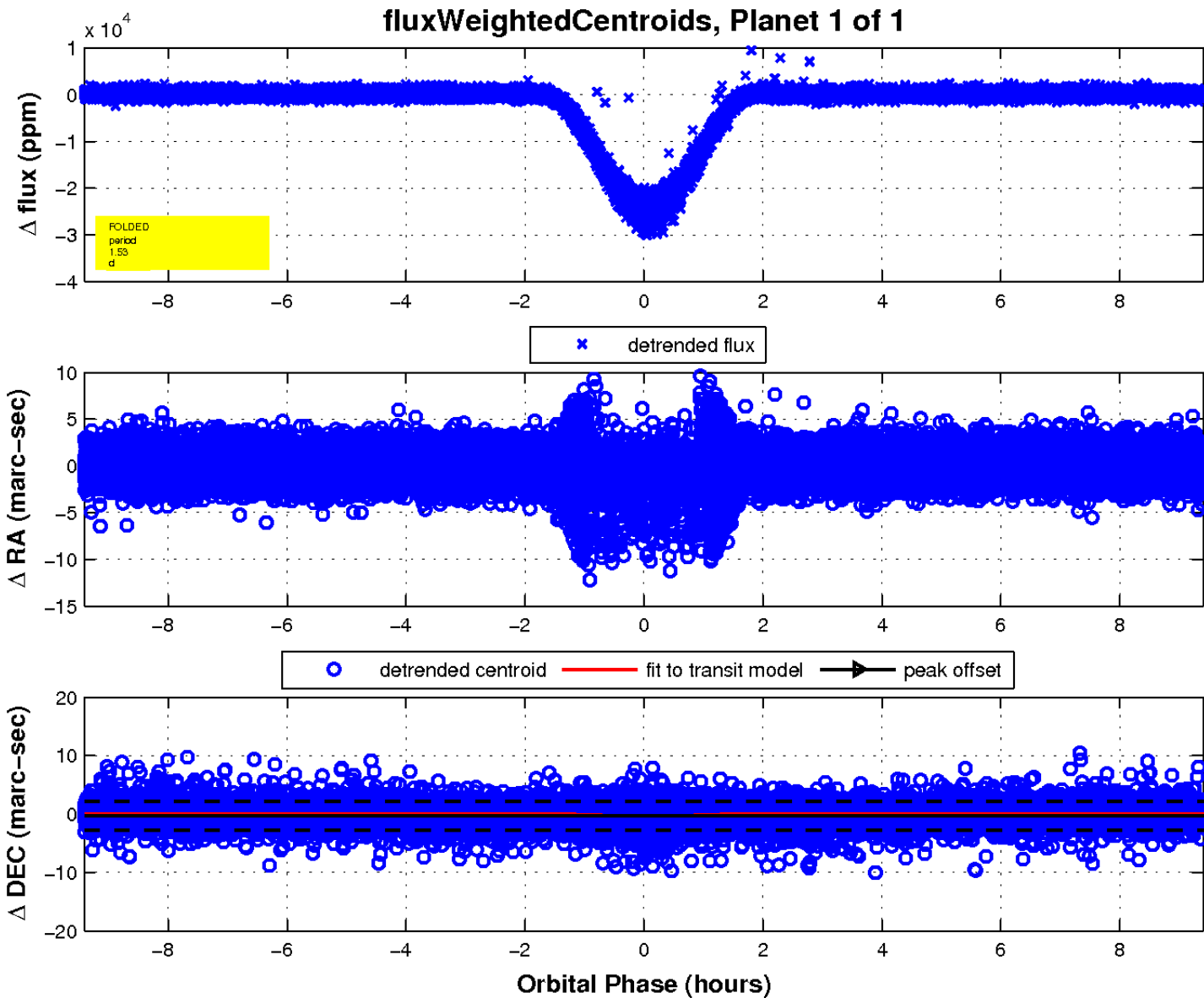
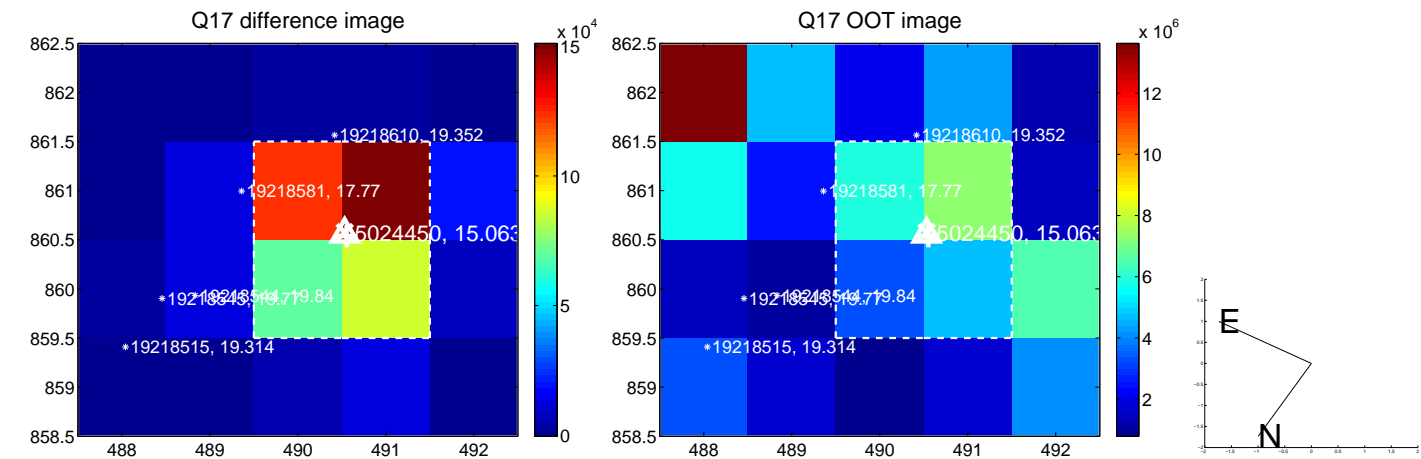
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

