

KIC 004035640

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})
004035640-01	OBS	1881.01	28.267352	140.924308	1172.6	4.729	35.8	37.9	0.89	5132	3.34	16.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004035640-01	OBS	PC	1.00	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 004035640-01

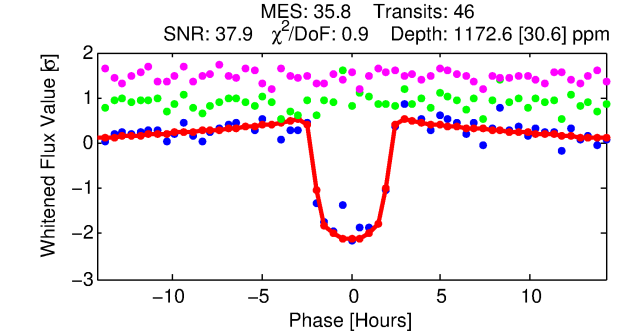
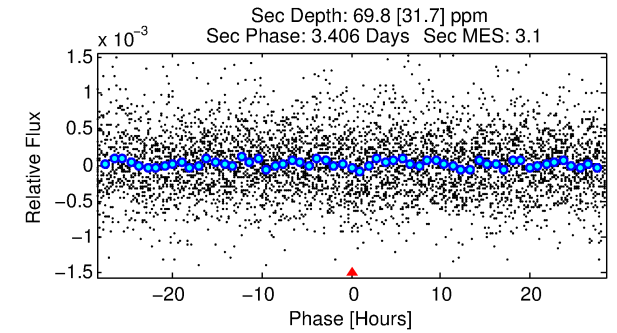
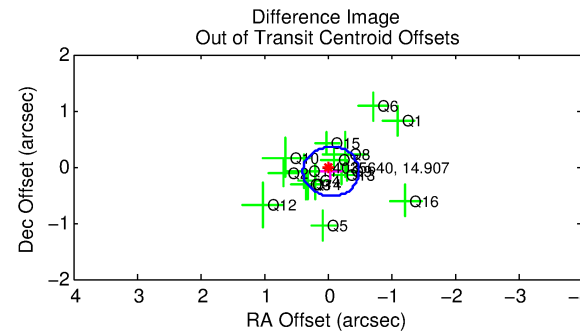
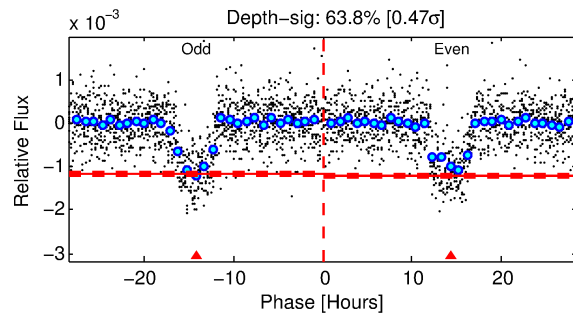
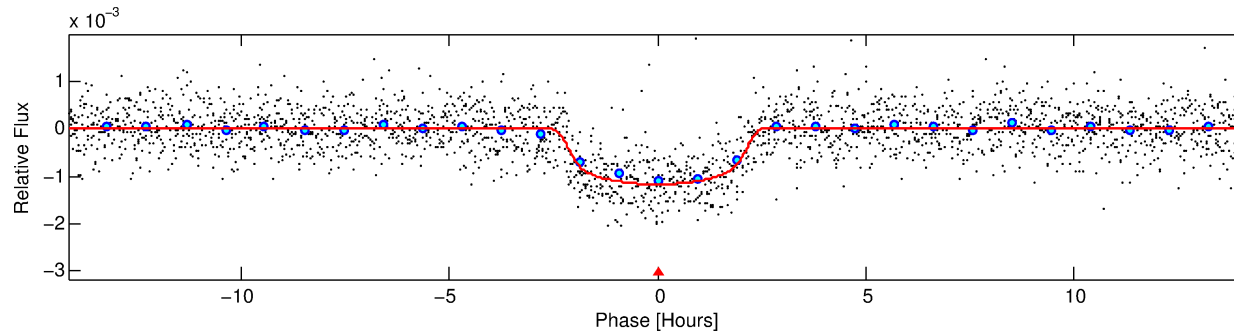
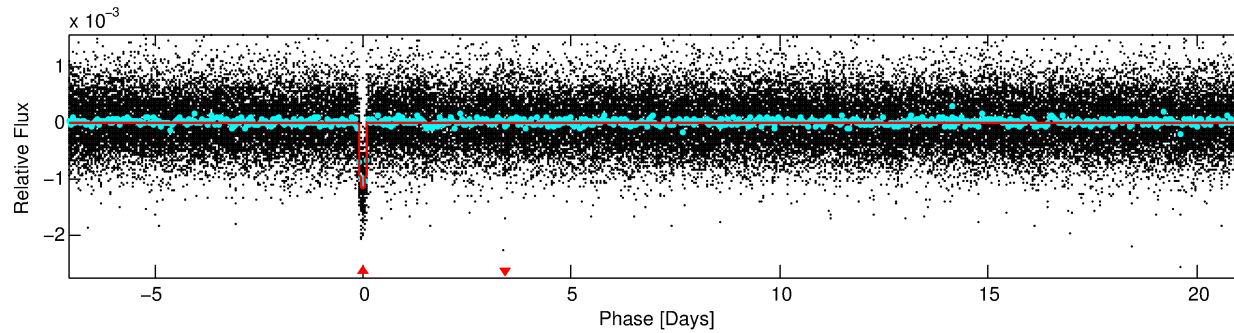
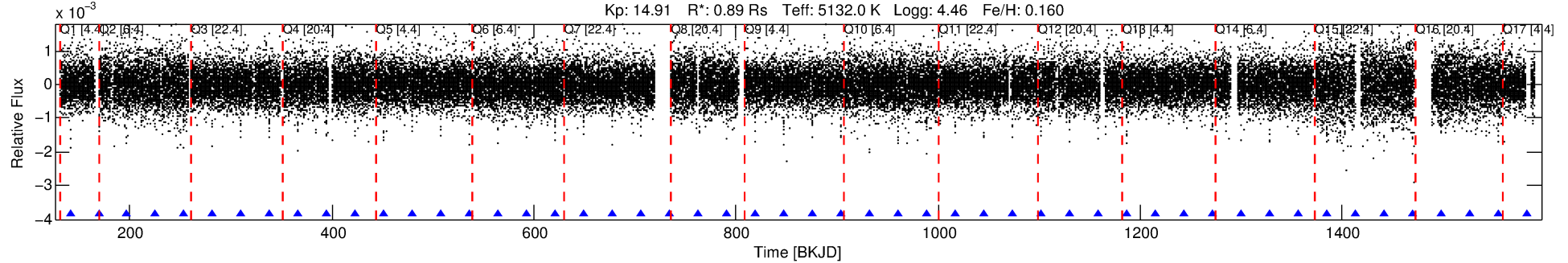
No Significant Match Found

DV One-Page Summary

KIC: 4035640 Candidate: 1 of 1 Period: 28.267 d

KOI: K01881.01 Corr: 0.983

Kp: 14.91 R*: 0.89 Rs Teff: 5132.0 K Logg: 4.46 Fe/H: 0.160



DV Fit Results:

Period = 28.26735 [0.00009] d
Epoch = 140.9243 [0.0023] BKJD
Rp/R* = 0.0345 [0.0049]
a/R* = 31.67 [16.02]
b = 0.77 [0.28]
Seff = 16.88 [2.63]
Teq = 517 [20] K
Rp = 3.34 [0.56] Re
a = 0.1700 [0.0147] AU
Ag = 99.71 [55.23] [1.79σ]
Teffp = 2525 [341] K [5.89σ]

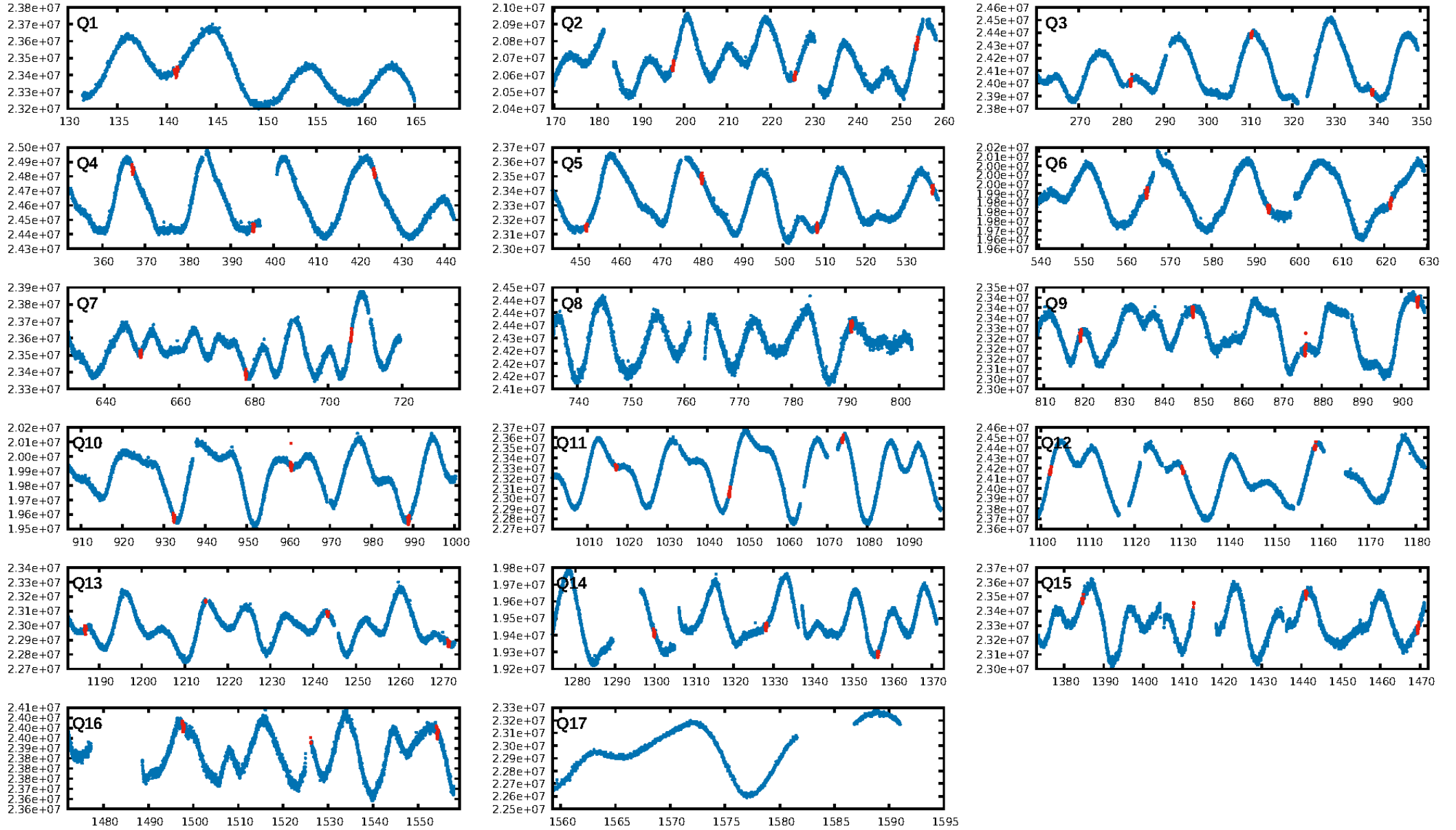
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.79e-248
RollingBand-fgt: 1.00 [45/45]
GhostDiagnostic-chr: 1.785
Centroid-sig: 23.3%
Centroid-so: 0.599 arcsec [2.14σ]
OotOffset-rm: 0.101 arcsec [0.69σ]
KicOffset-rm: 0.220 arcsec [1.43σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

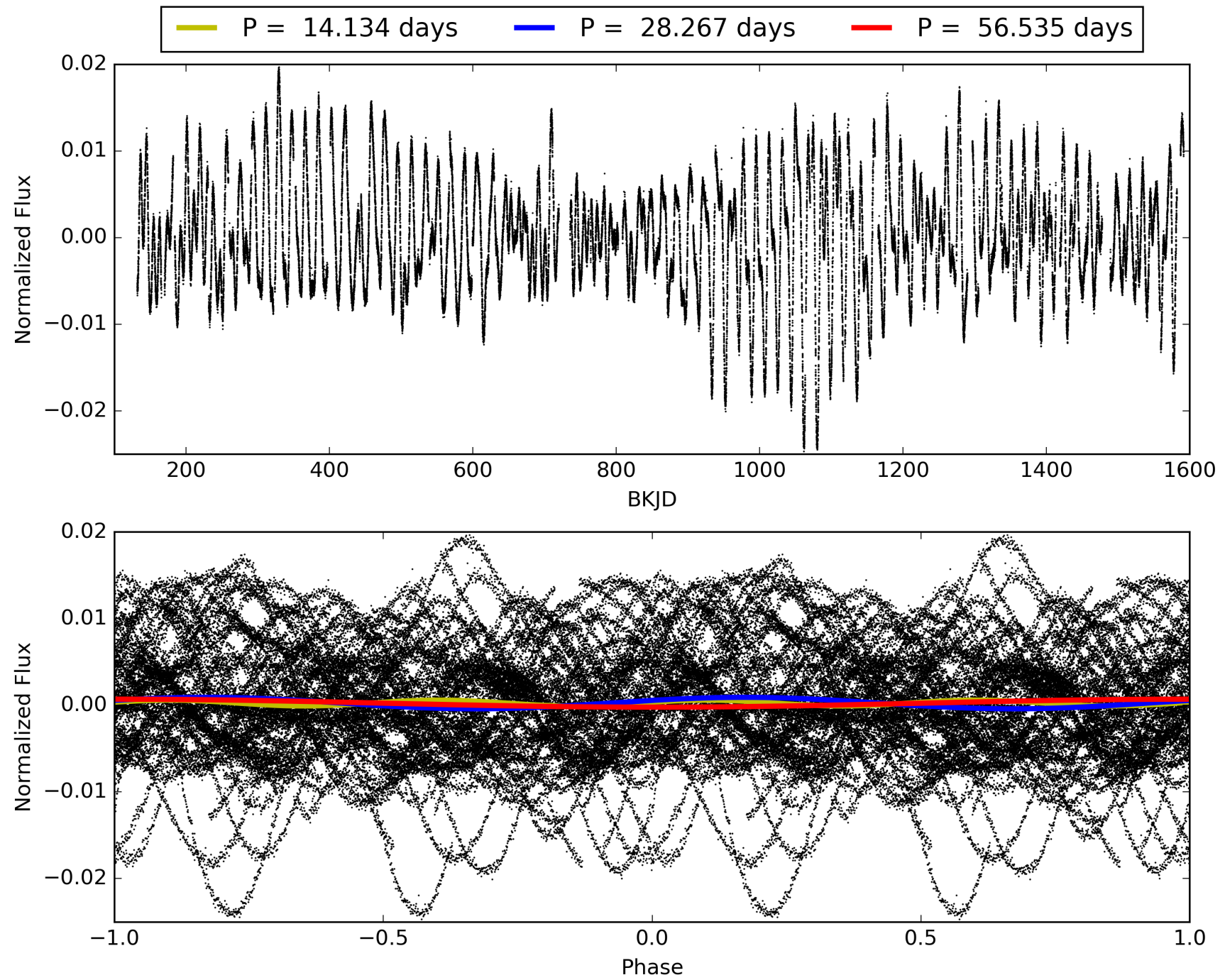
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:22:16 Z

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

TCE 004035640-01, PDC Light Curves

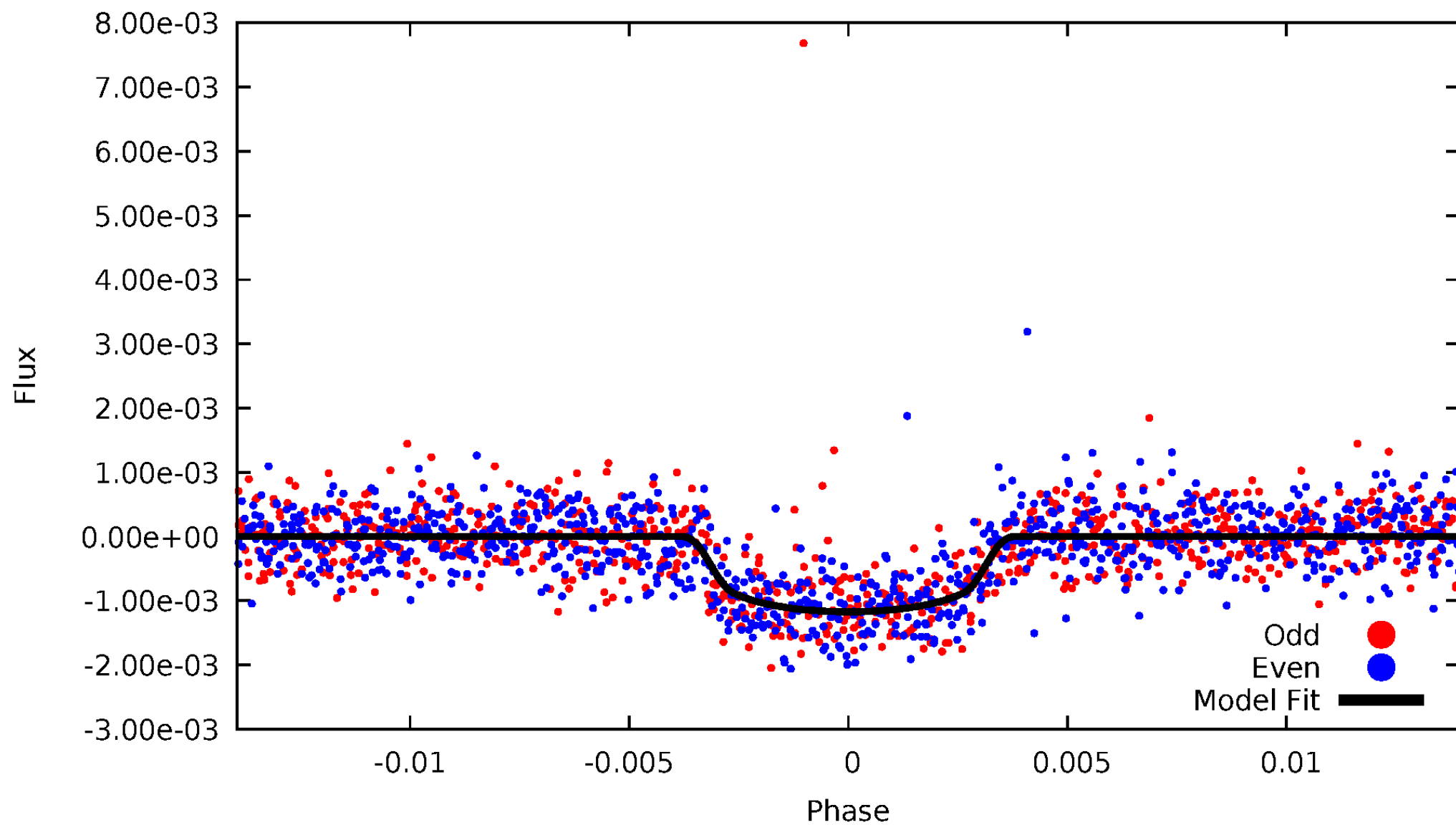


TCE 004035640-01



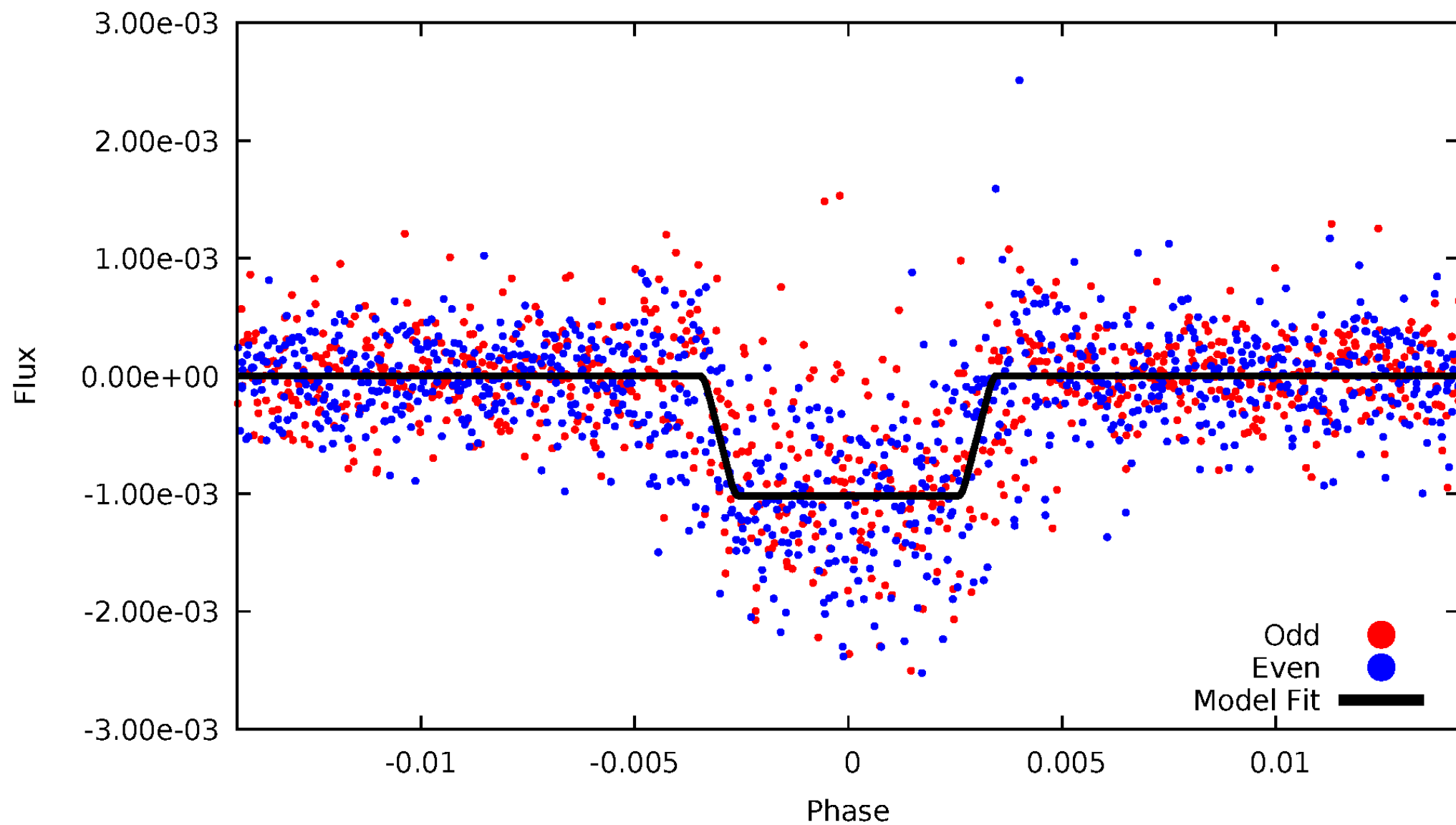
DV Odd/Even

TCE 004035640-01



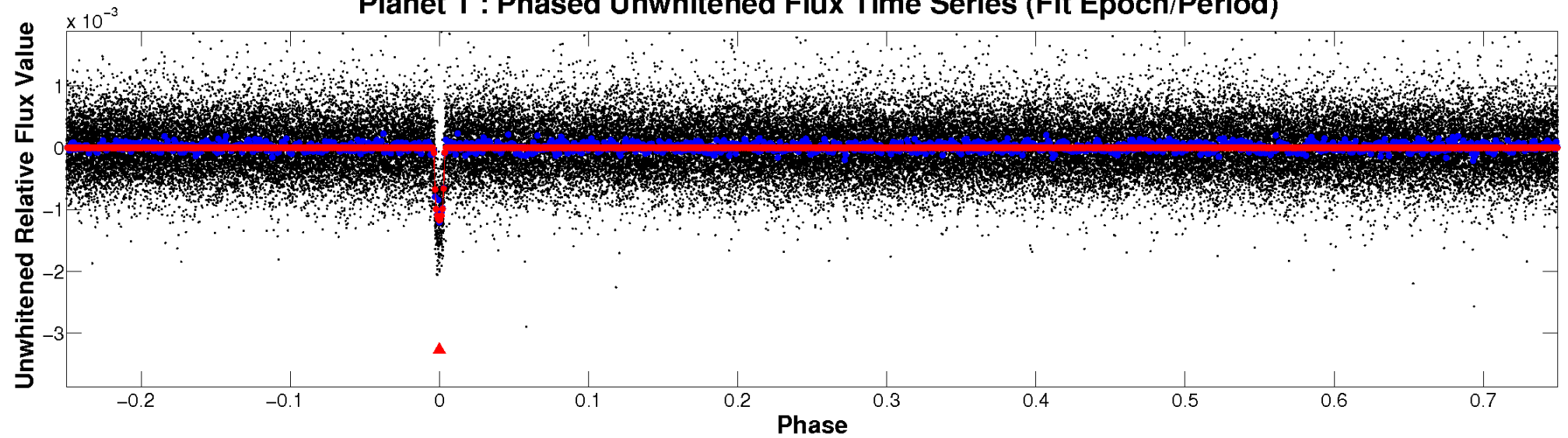
ALT Odd/Even

TCE 004035640-01

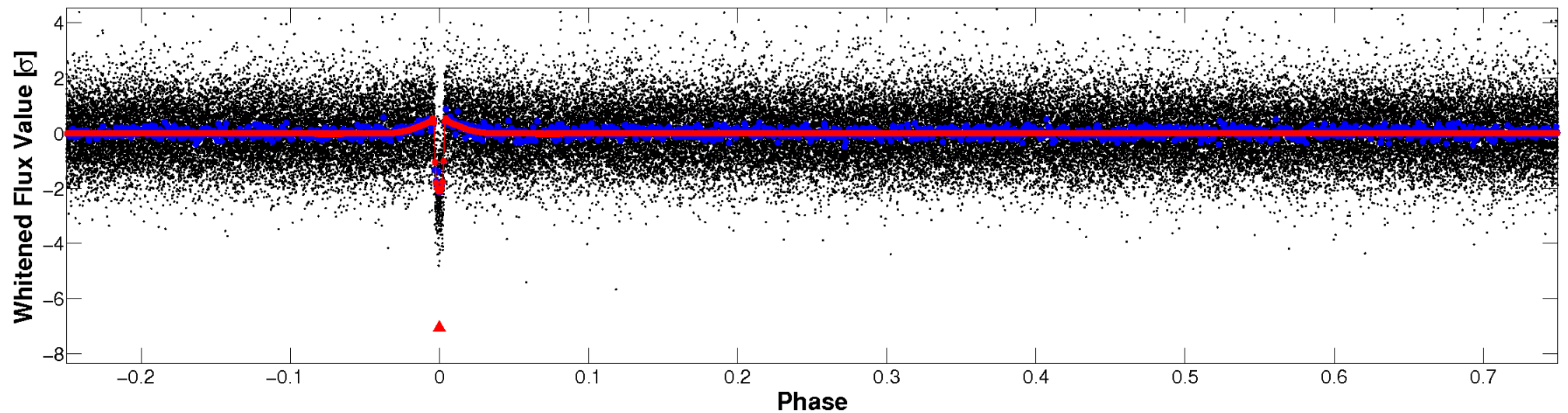


Non-Whitened Vs. Whitened Light Curve

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

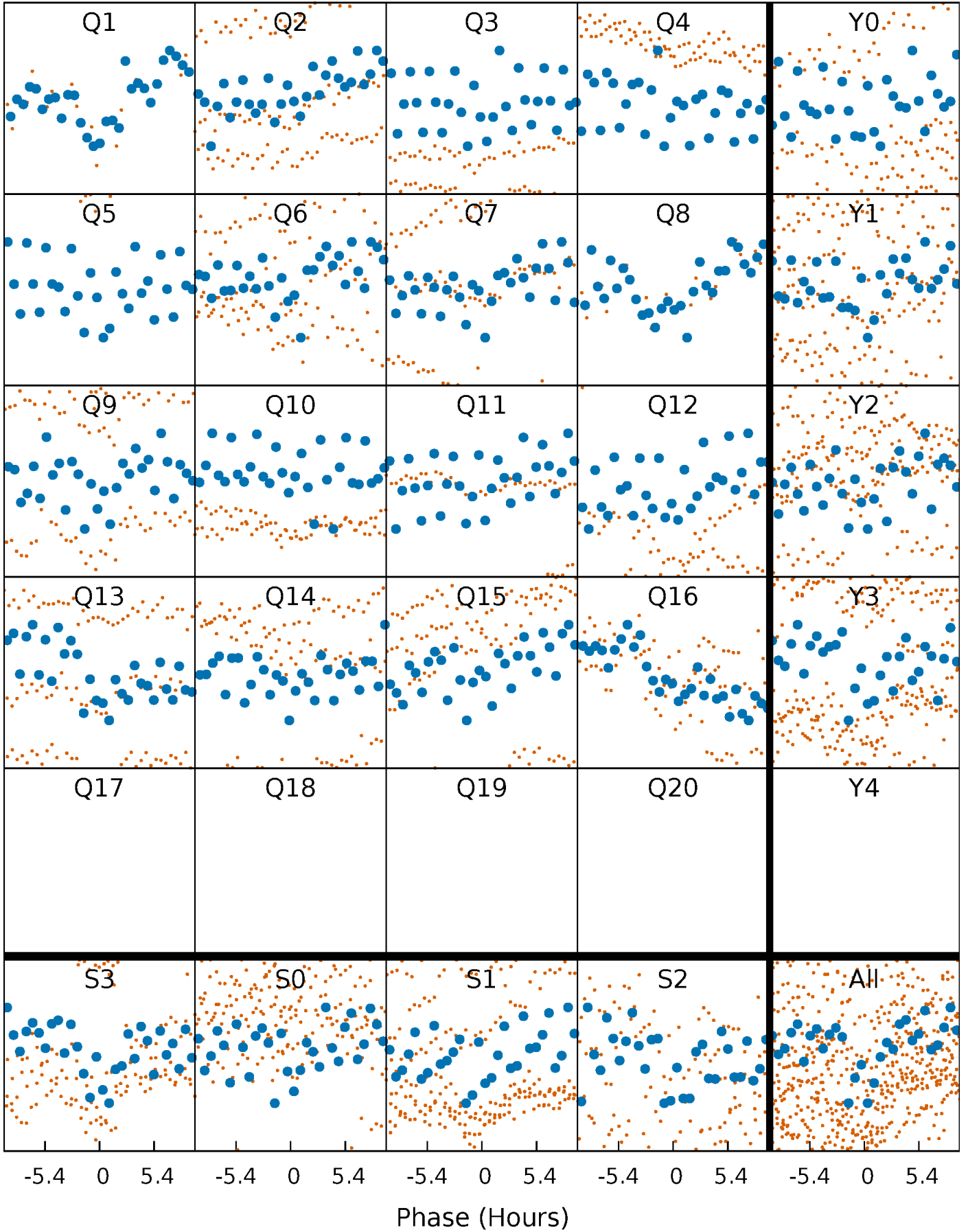


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



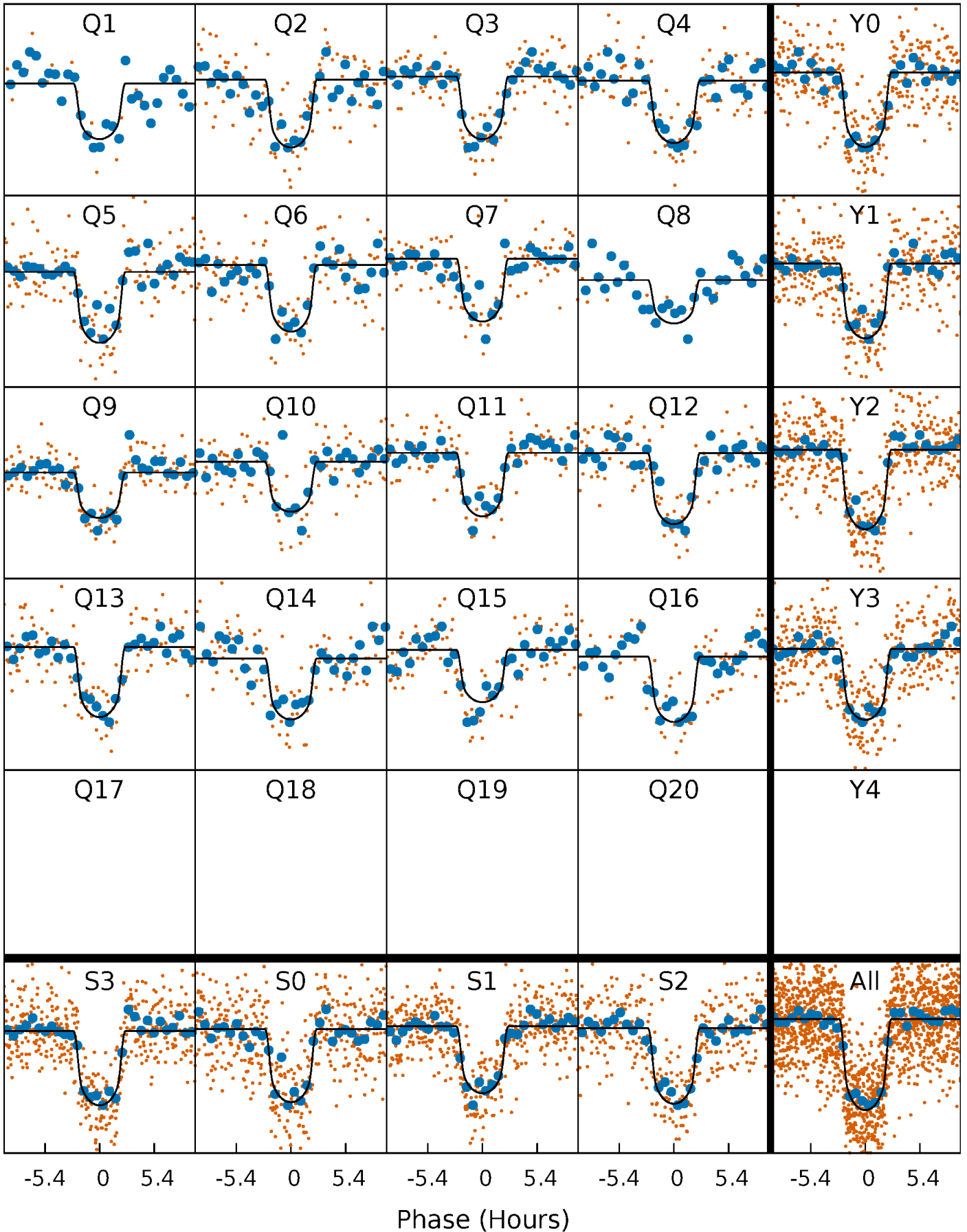
PDC Quarter-Phased Transit Curves

TCE 004035640-01 P= 28.267352 Days $T_0=140.924308$ (BKJD)



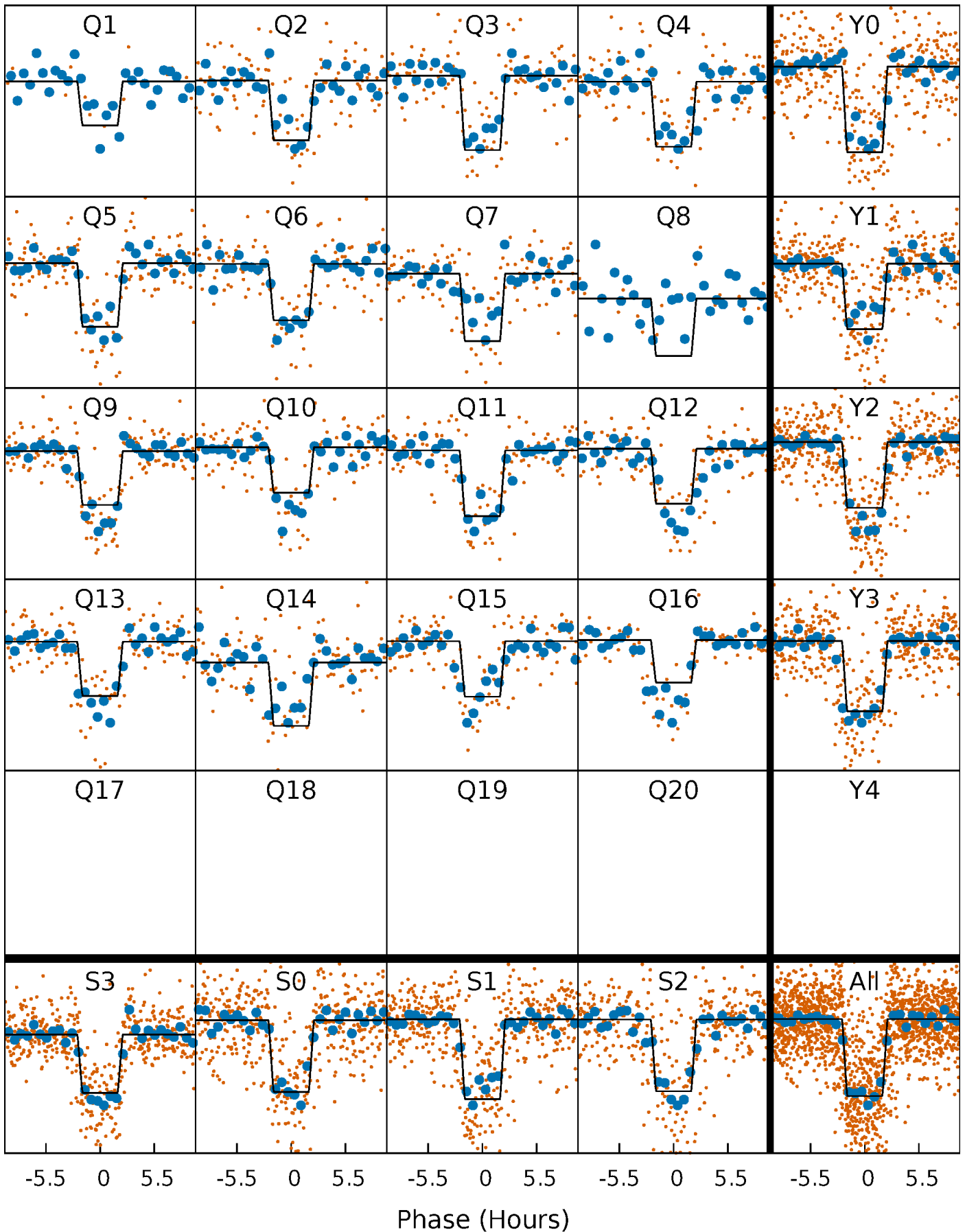
DV Quarter-Phased Transit Curves

TCE 004035640-01 P= 28.267352 Days $T_0=140.924308$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

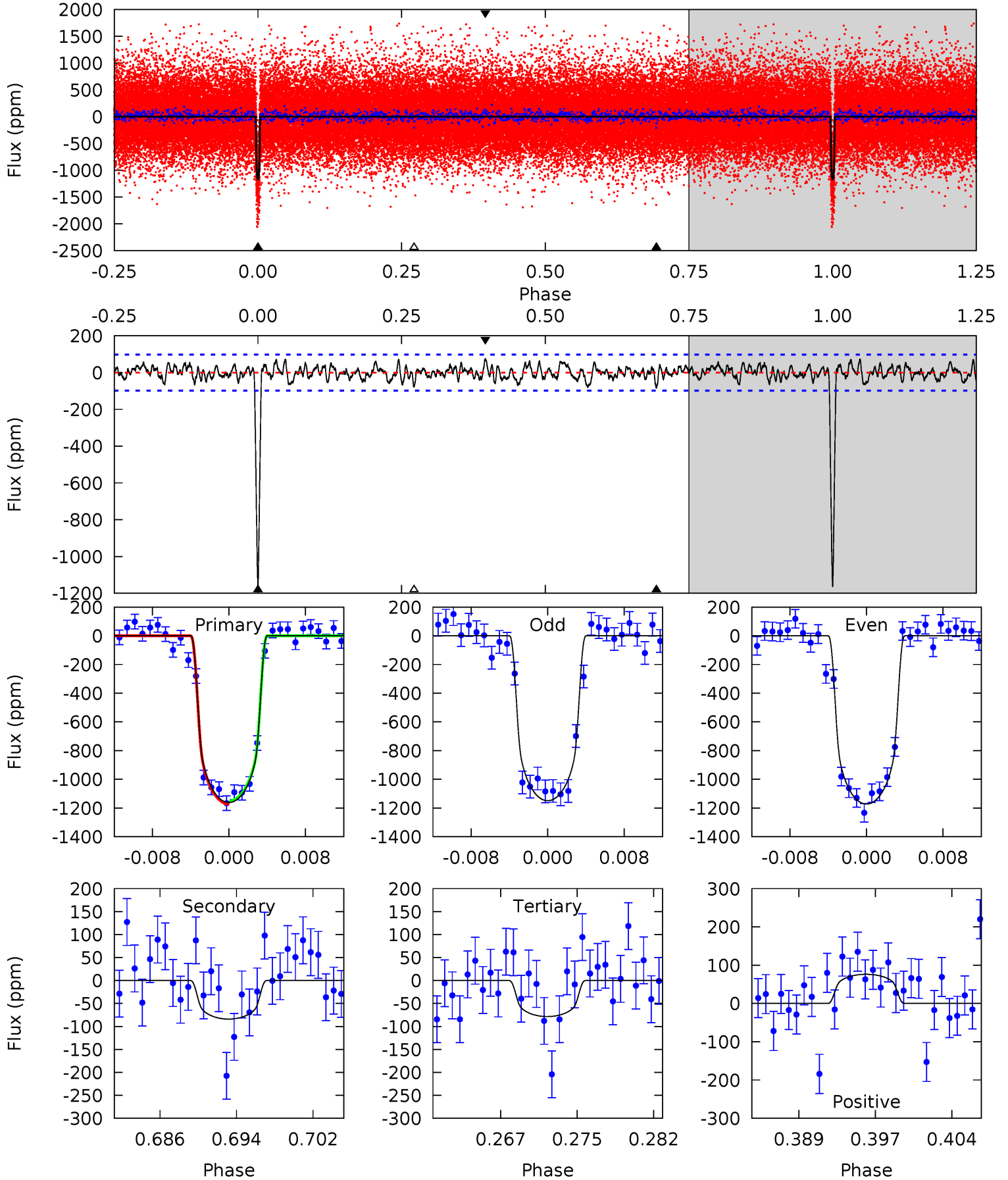
TCE 004035640-01 P= 28.267798 Days $T_0=140.914877$ (BKJD)



DV Model-Shift Uniqueness Test

004035640-01, P = 28.267352 Days, E = 112.656956 Days

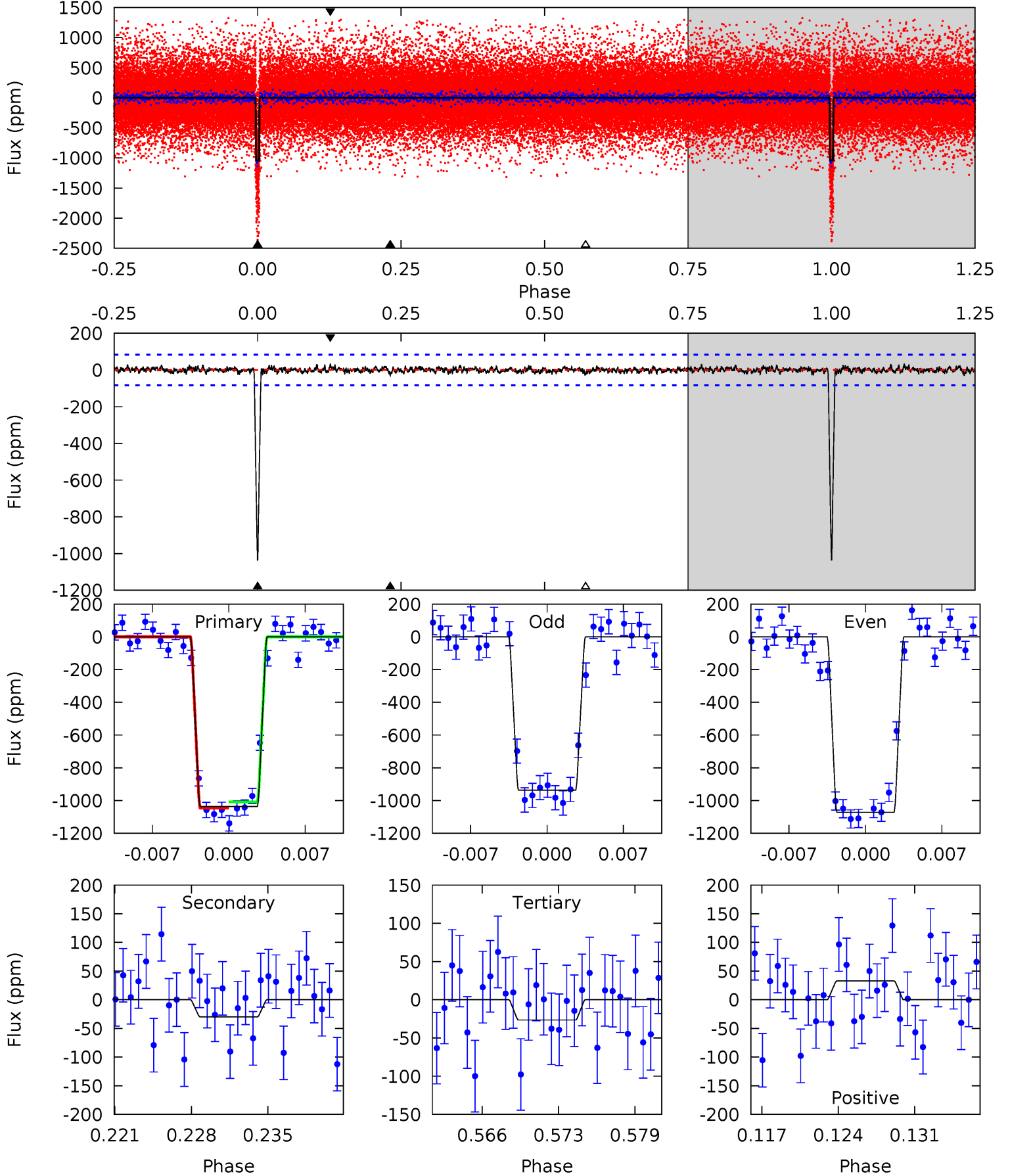
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
60.3	4.36	4.07	3.95	5.08	2.67	1.46	56.2	56.3	0.28	0.40	0.60	0.96	0.06	0.56



Alt Model-Shift Uniqueness Test

004035640-01, P = 28.267798 Days, E = 112.647079 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.5	1.84	1.62	2.02	5.10	2.70	0.55	61.9	61.5	0.21	-0.18	4.12	0.99	0.03	1.17



Stellar Parameters For KIC 004035640

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5132^{+84}_{-76}	$4.457^{+0.084}_{-0.039}$	$0.160^{+0.150}_{-0.150}$	$0.886^{+0.049}_{-0.077}$	$0.820^{+0.057}_{-0.029}$	$1.660^{+0.591}_{-0.234}$
	+2%/-1%	+2%/-1%	+94%/-94%	+6%/-9%	+7%/-4%	+36%/-14%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004035640-01 / KOI 1881.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-84 ± 19	$3.30^{+0.53}_{-0.47}$	720^{+15}_{-19}	3194^{+195}_{-172}	119^{+61}_{-36}
Alt.	-30 ± 16	$3.09^{+0.52}_{-0.50}$	719^{+18}_{-20}	2818^{+226}_{-309}	49^{+37}_{-28}

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

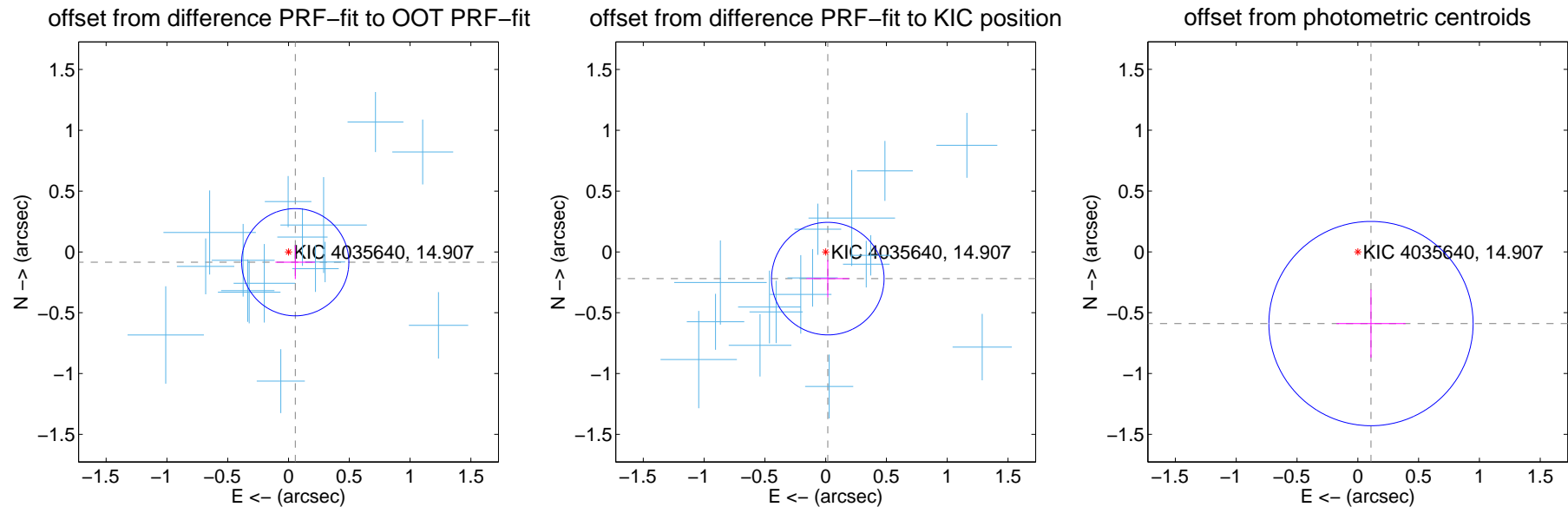
DV Centroid Data

Supplemental centroid analysis for 004035640-01. Kepler magnitude: 14.91. Transit SNR 37.87

There are 16 quarters with good PRF difference image offsets

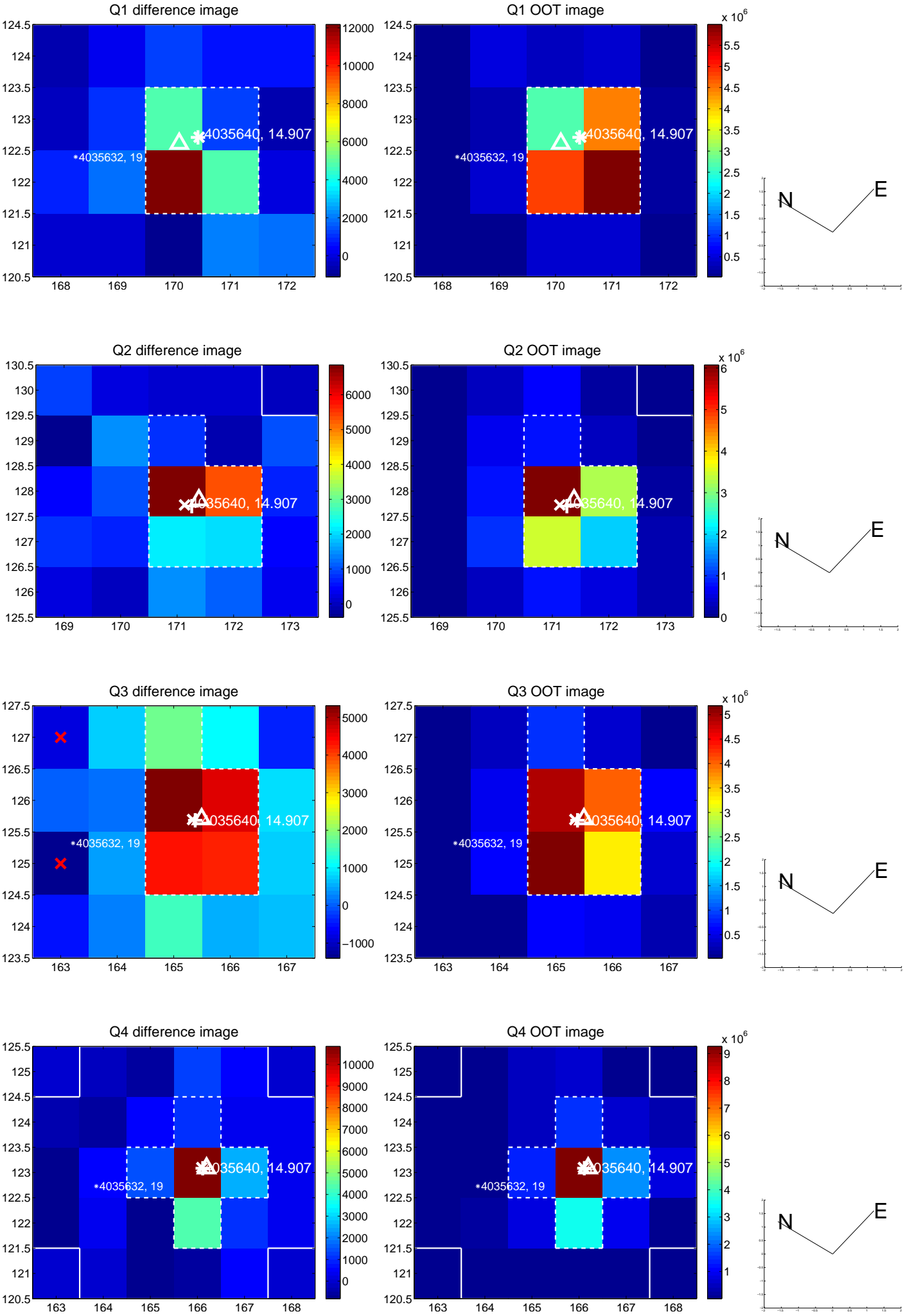
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.101 ± 0.147	0.69	-0.056 ± 0.163	-0.085 ± 0.139
PRF-fit source offset from KIC position	0.220 ± 0.154	1.43	-0.018 ± 0.176	-0.220 ± 0.154
photometric centroid source offset	0.60 ± 0.28	2.14	-0.11 ± 0.28	-0.59 ± 0.28

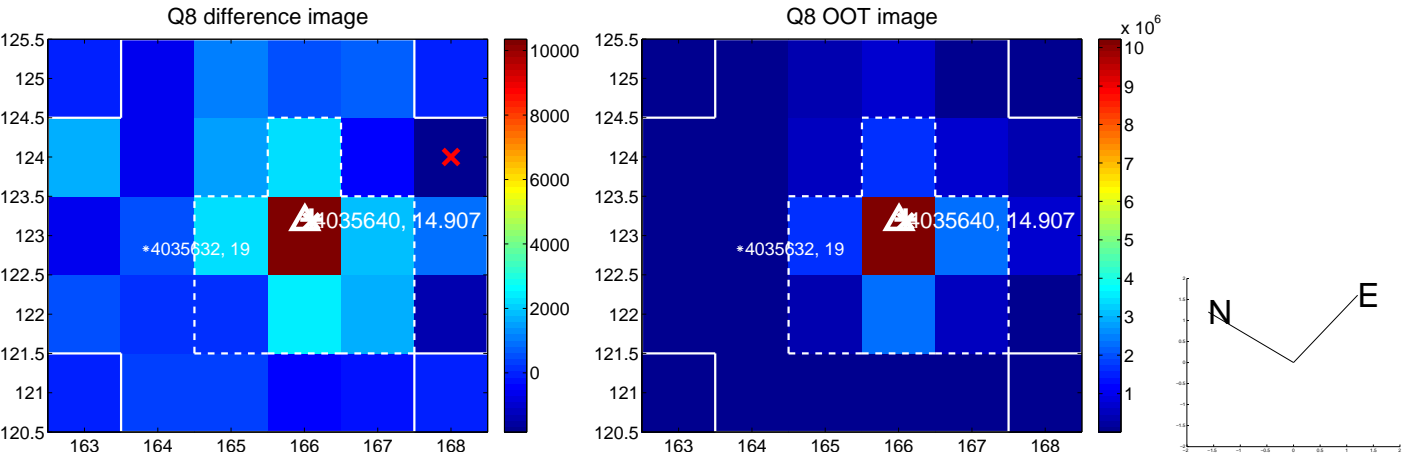
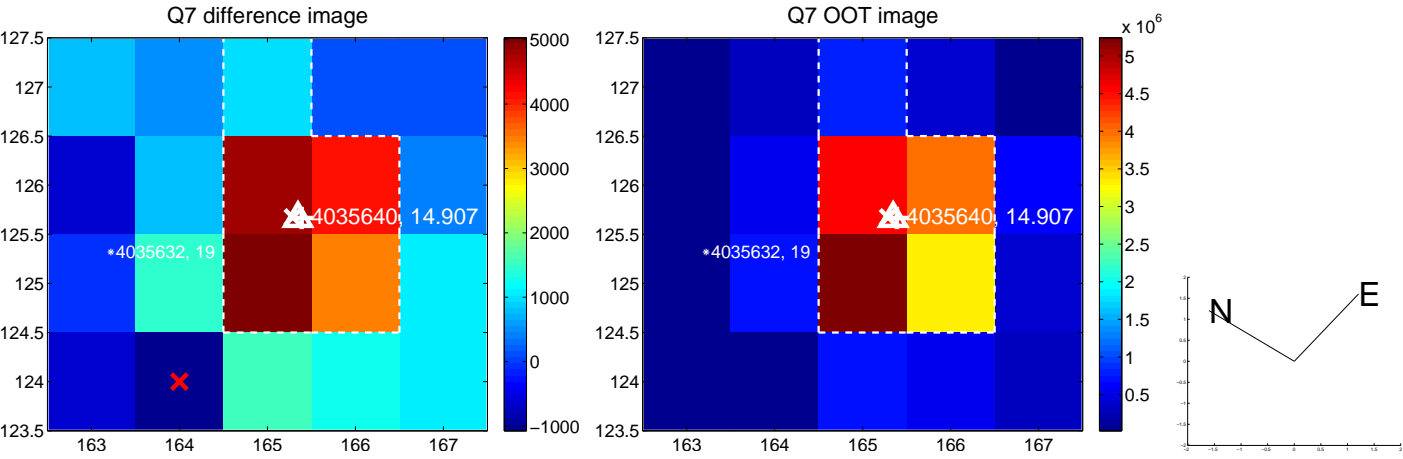
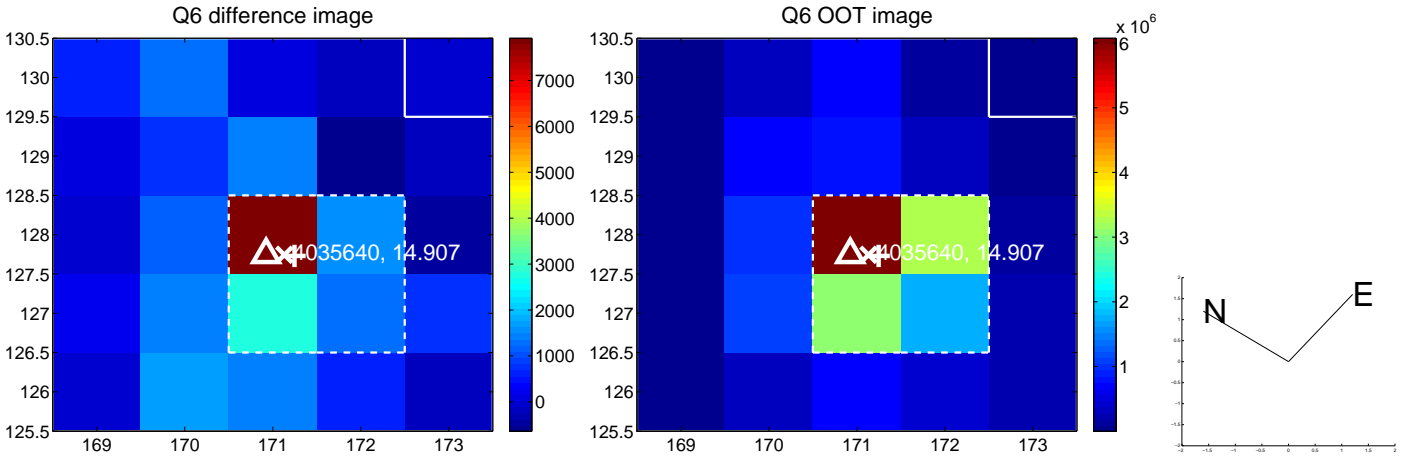
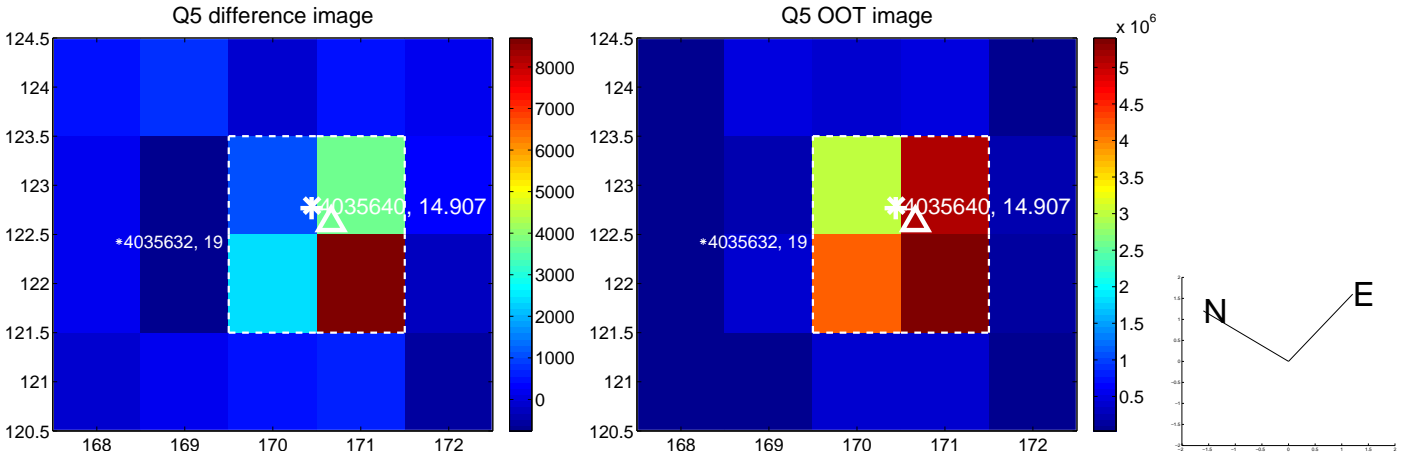


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

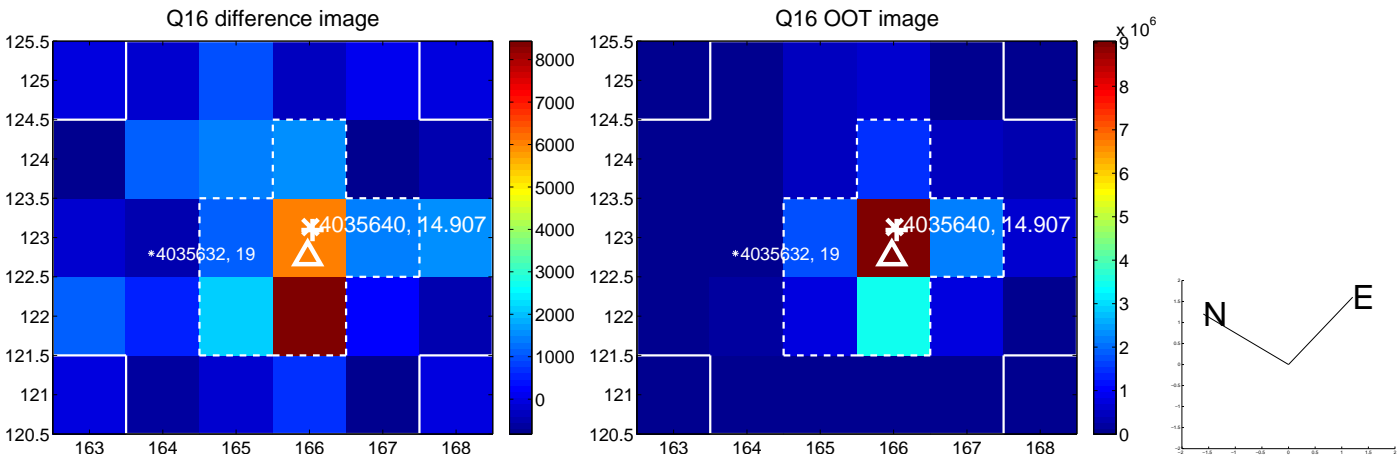
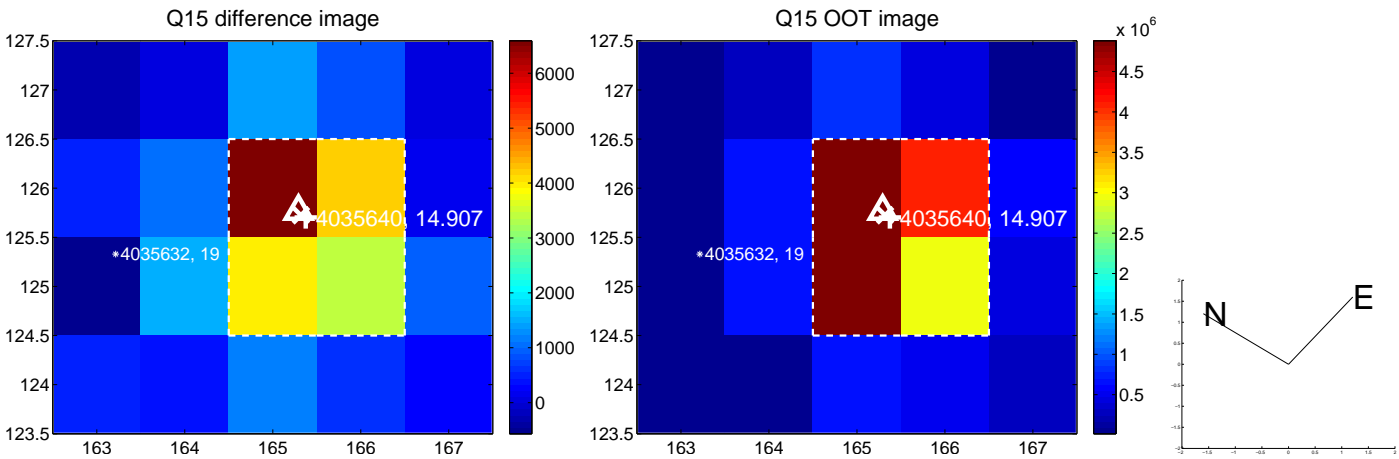
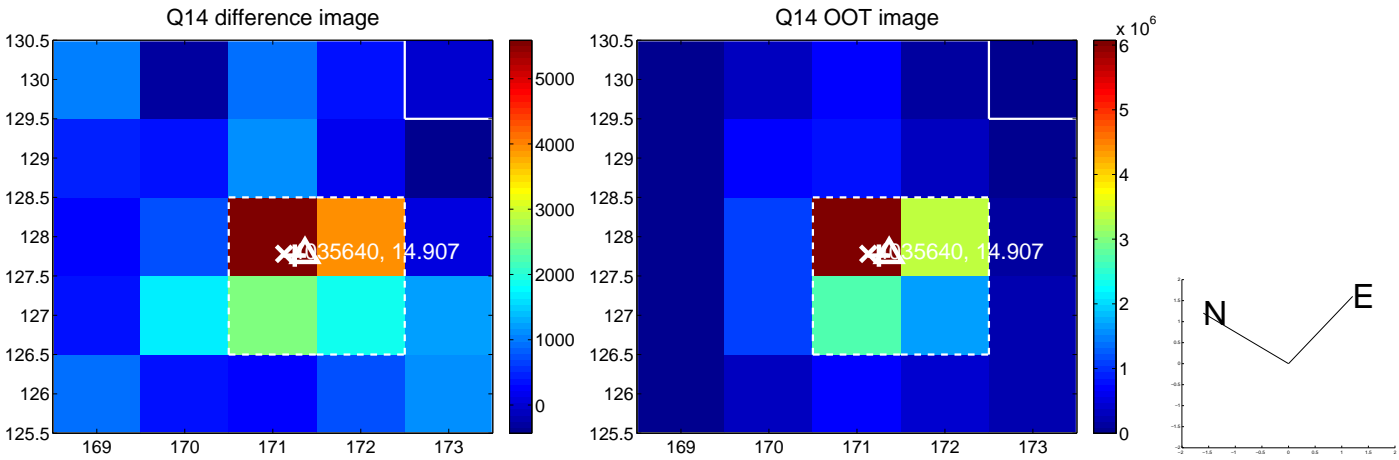
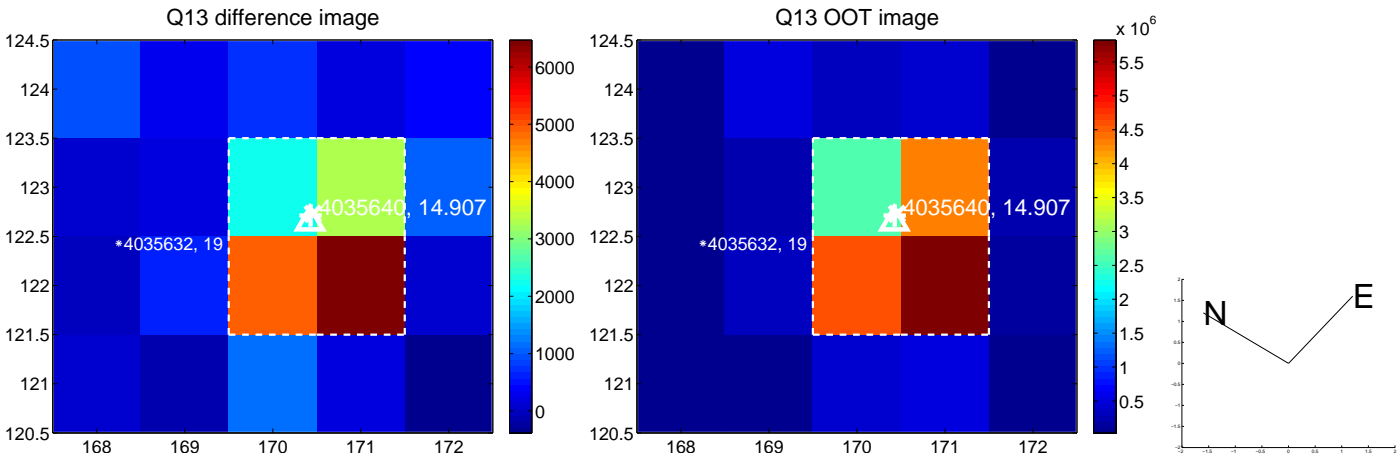
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



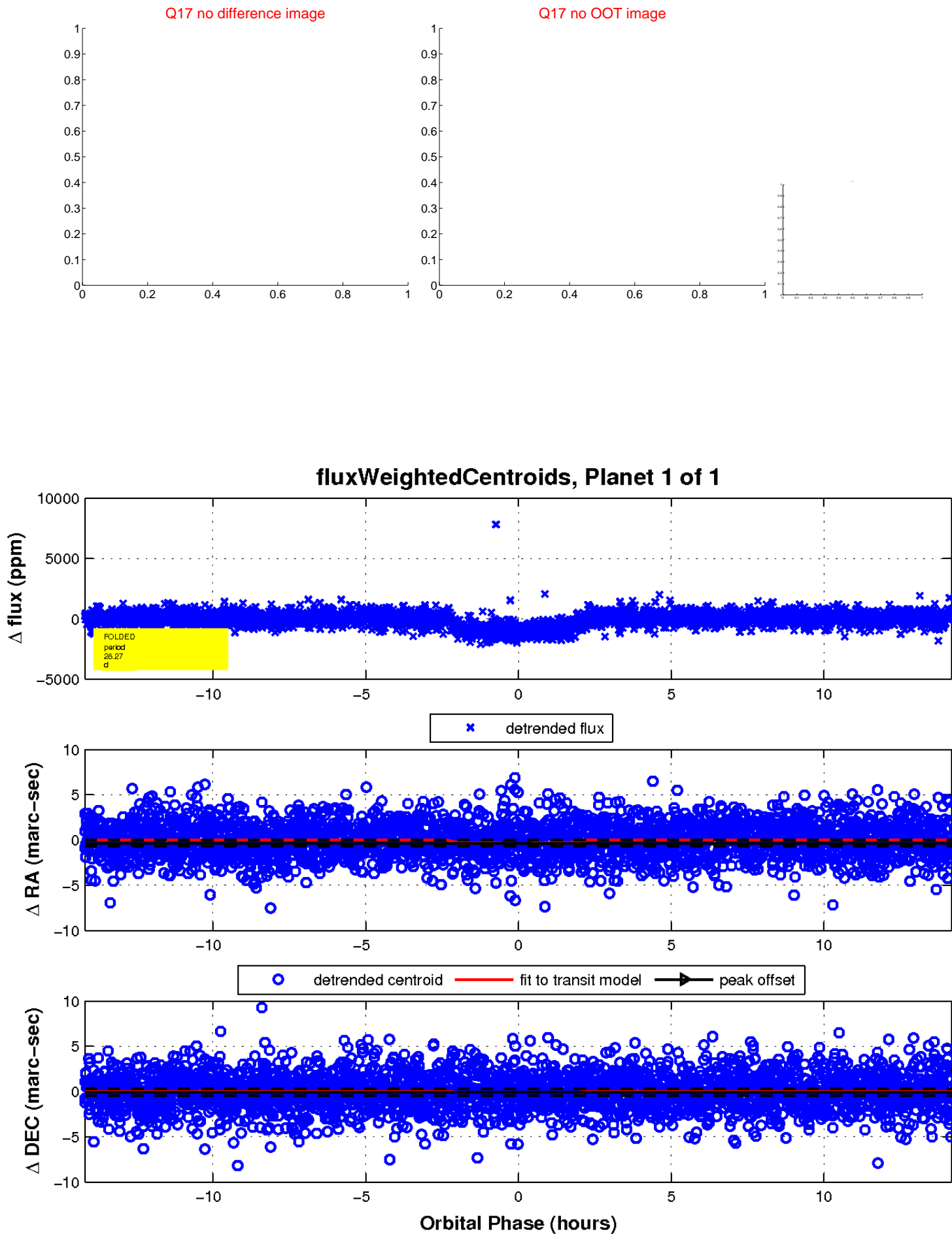
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

