

KIC 009305831

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})
009305831-01	OBS	0204.01	3.246731	133.379494	6991.8	3.157	736.8	740.7	1.46	5763	12.89	1072.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009305831-01	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.

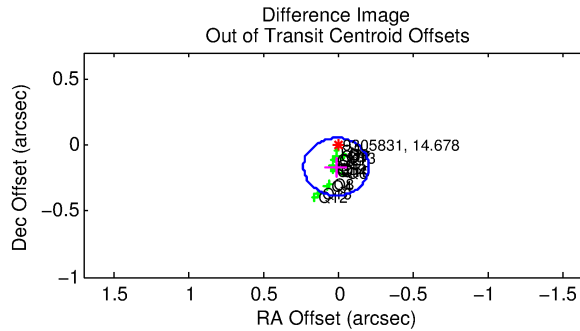
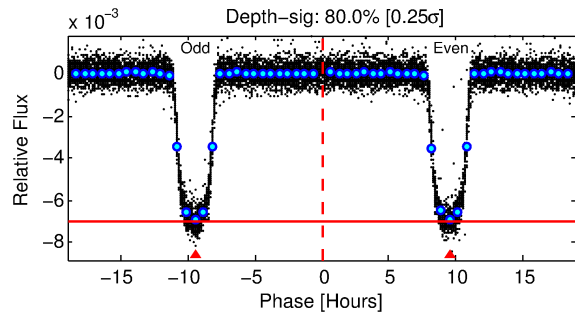
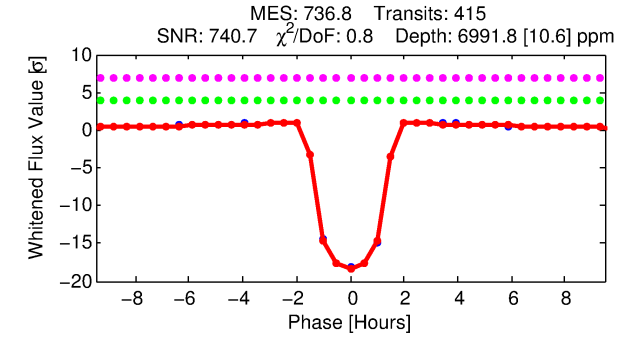
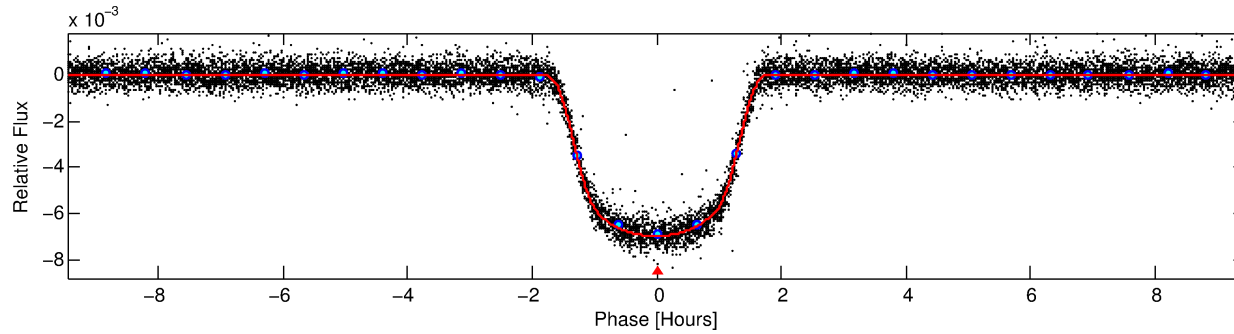
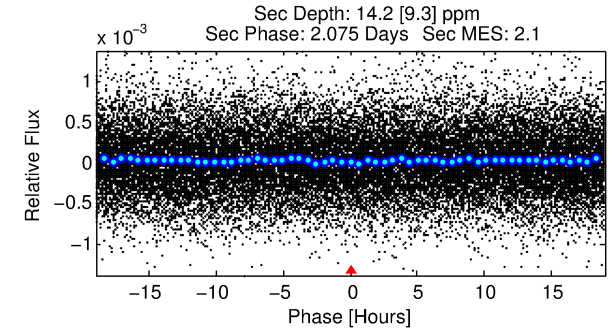
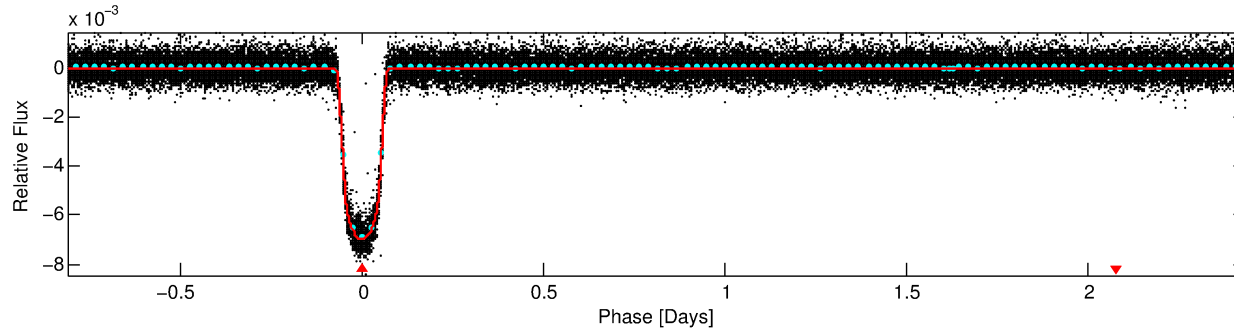
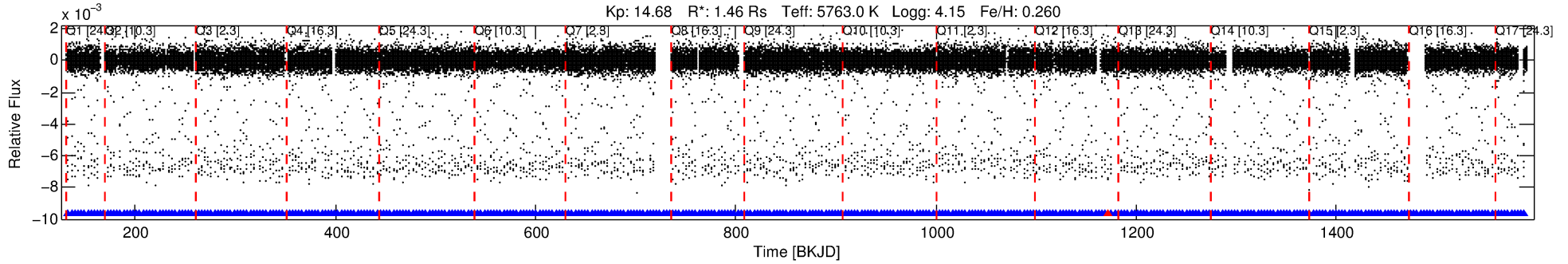
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009305831-01

No Significant Match Found

DV One-Page Summary

KIC: 9305831 Candidate: 1 of 1 Period: 3.247 d
KOI: K00204.01 Name: Kepler-44b Corr: 0.983



DV Fit Results:

Period = 3.24673 [0.00000] d
Epoch = 133.3795 [0.0001] BKJD
Rp/R* = 0.0811 [0.0004]
a/R* = 6.75 [0.12]
b = 0.66 [0.02]
Seff = 1072.84 [137.62]
Teff = 1459 [47] K
Rp = 12.89 [1.07] Re
a = 0.0442 [0.0031] AU
Ag = 0.09 [0.06] [-14.96 σ]
Teffp = 1242 [204] K [-1.04 σ]

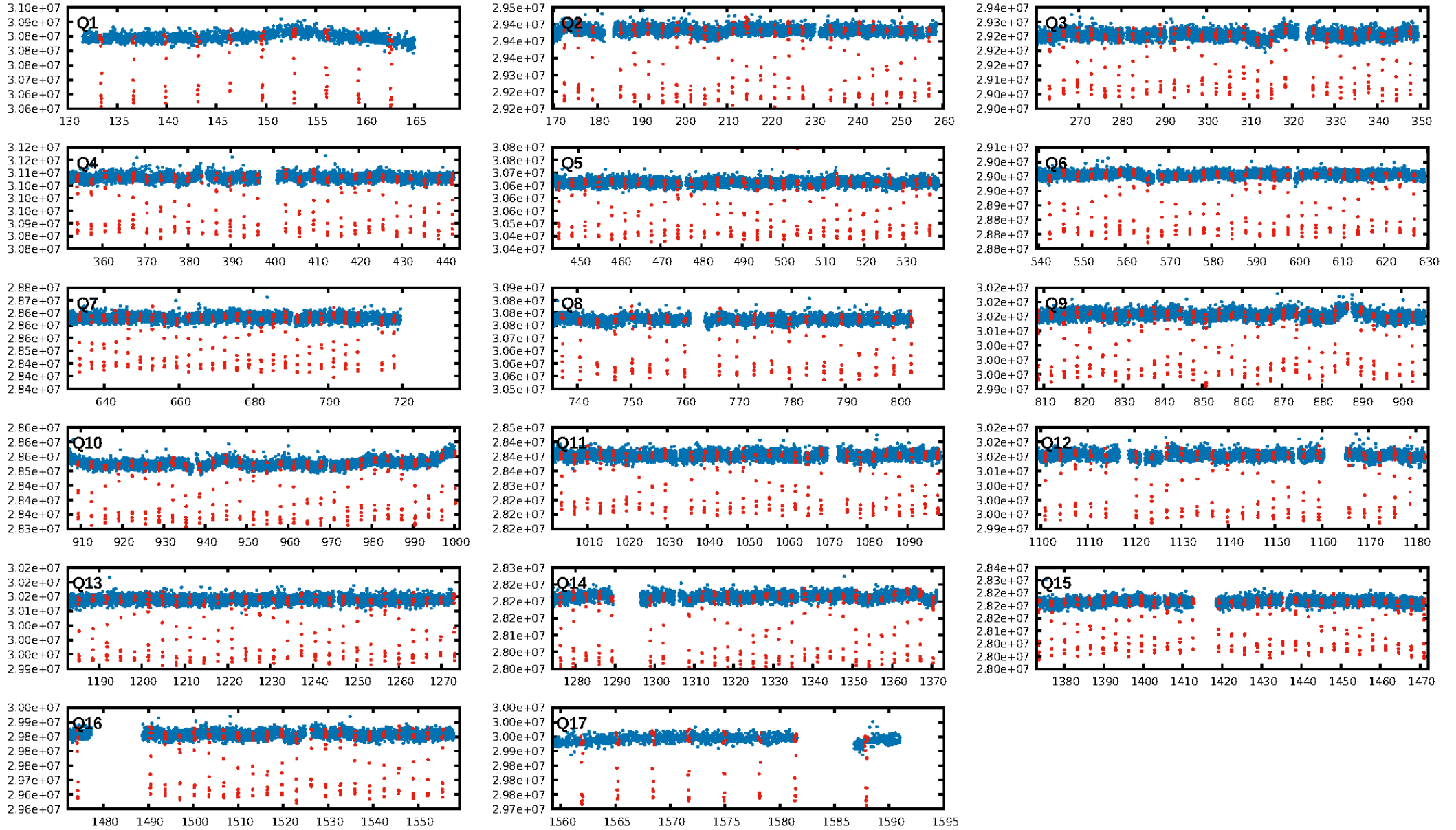
DV Diagnostic Results:

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 [396/397]
GhostDiagnostic-chr: 6.477
Centroid-sig: 0.0%
Centroid-so: 0.885 arcsec [47.56 σ]
OotOffset-rm: 0.166 arcsec [2.30 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.220 arcsec [3.18 σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

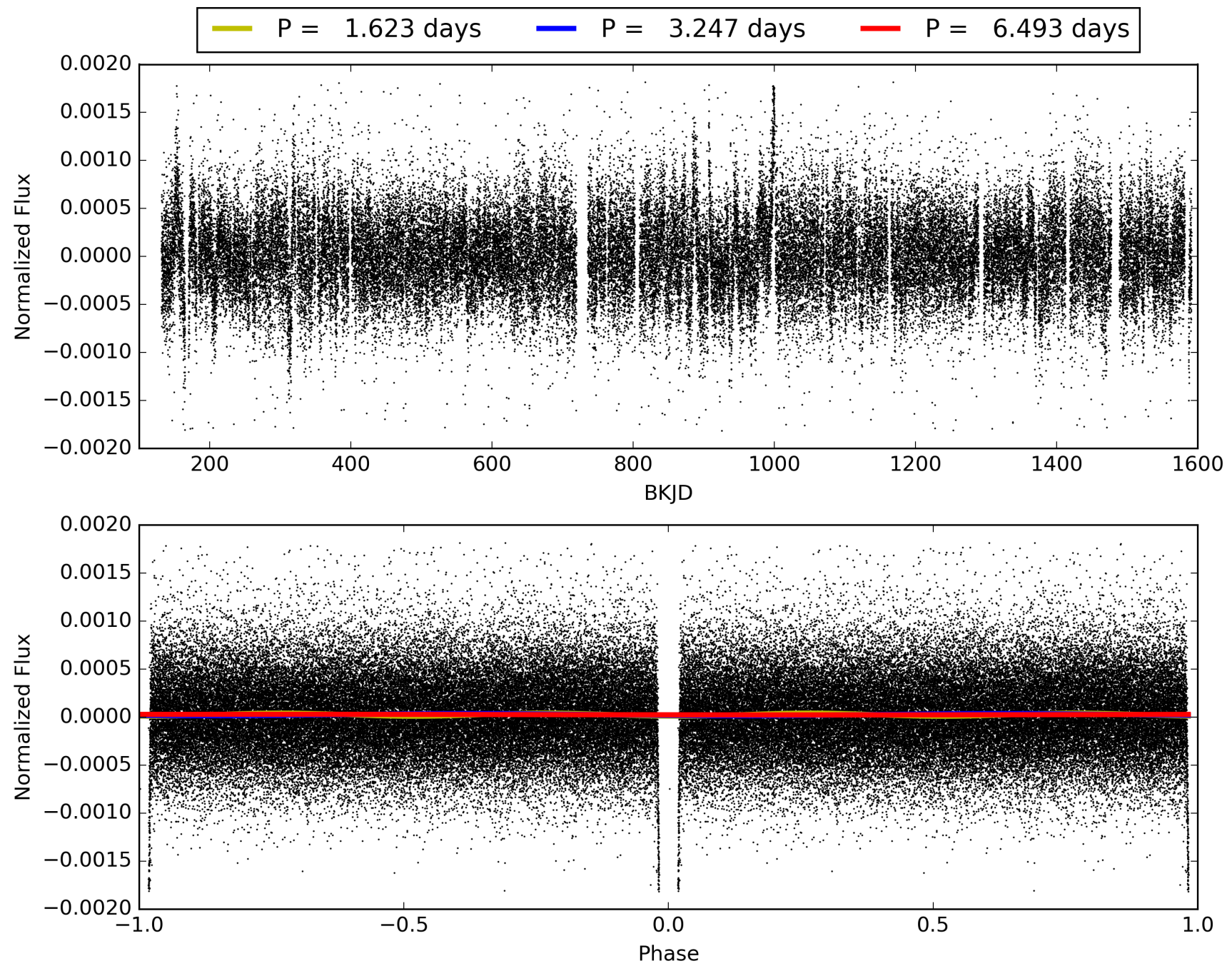
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:21:46 Z

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

TCE 009305831-01, PDC Light Curves

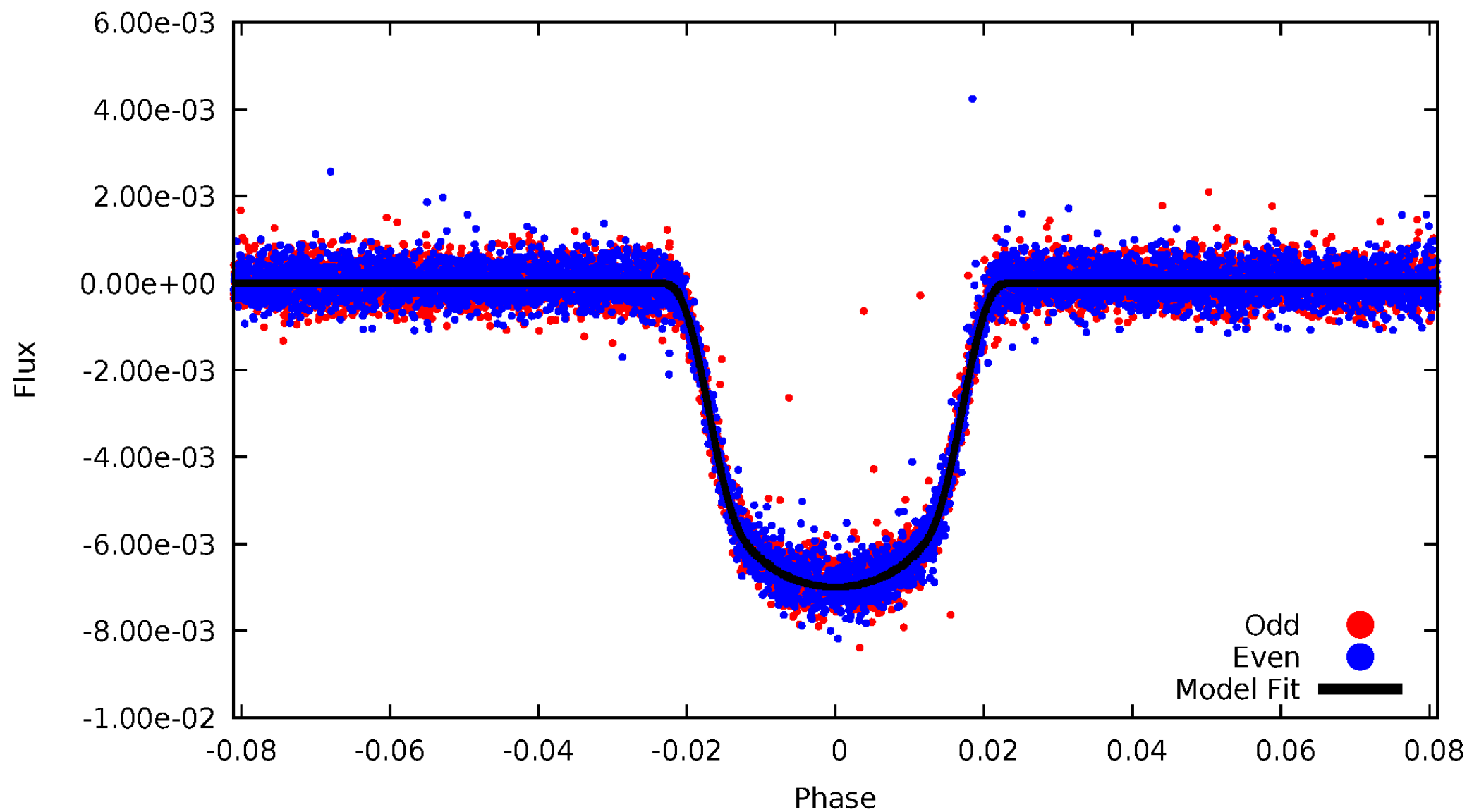


TCE 009305831-01



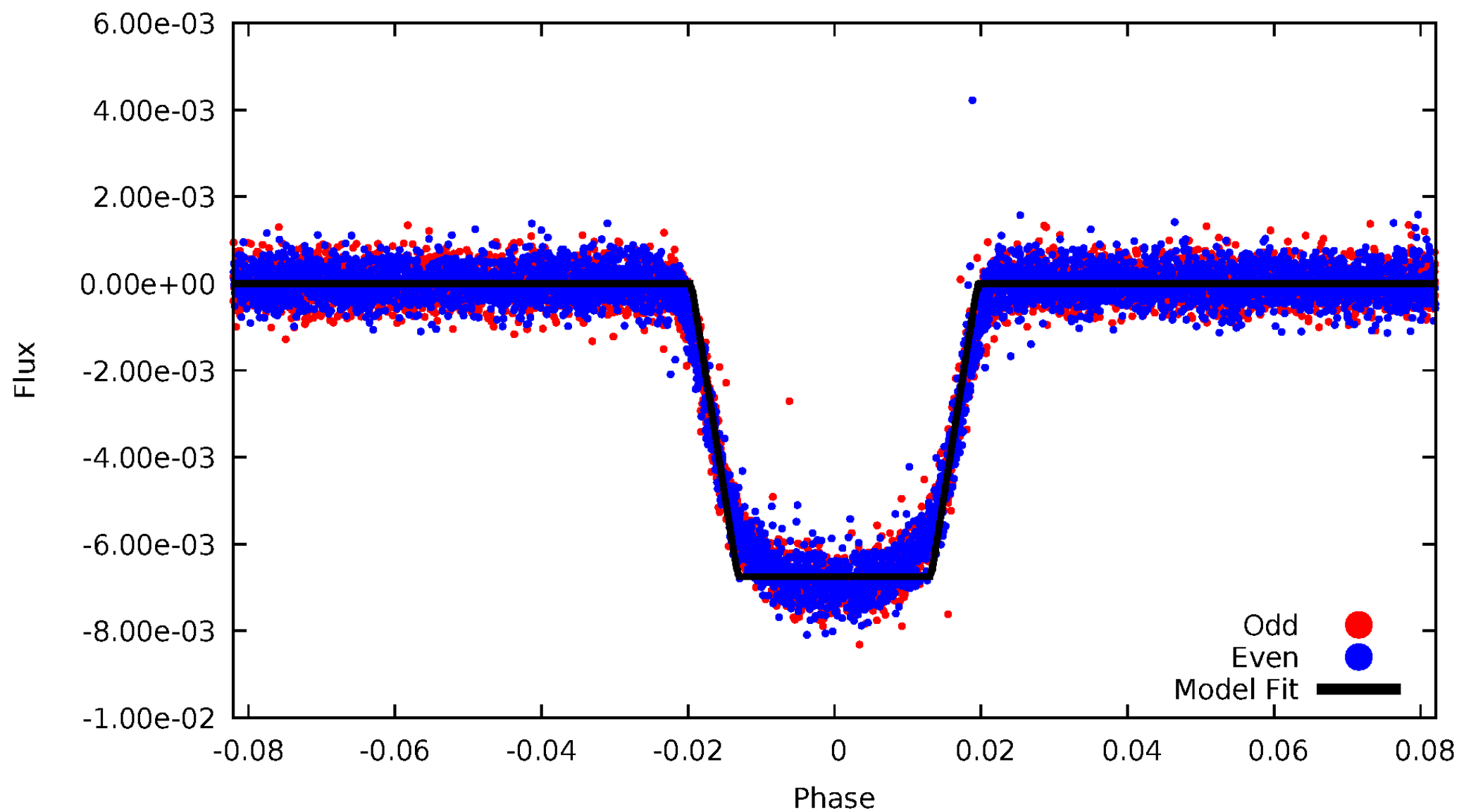
DV Odd/Even

TCE 009305831-01



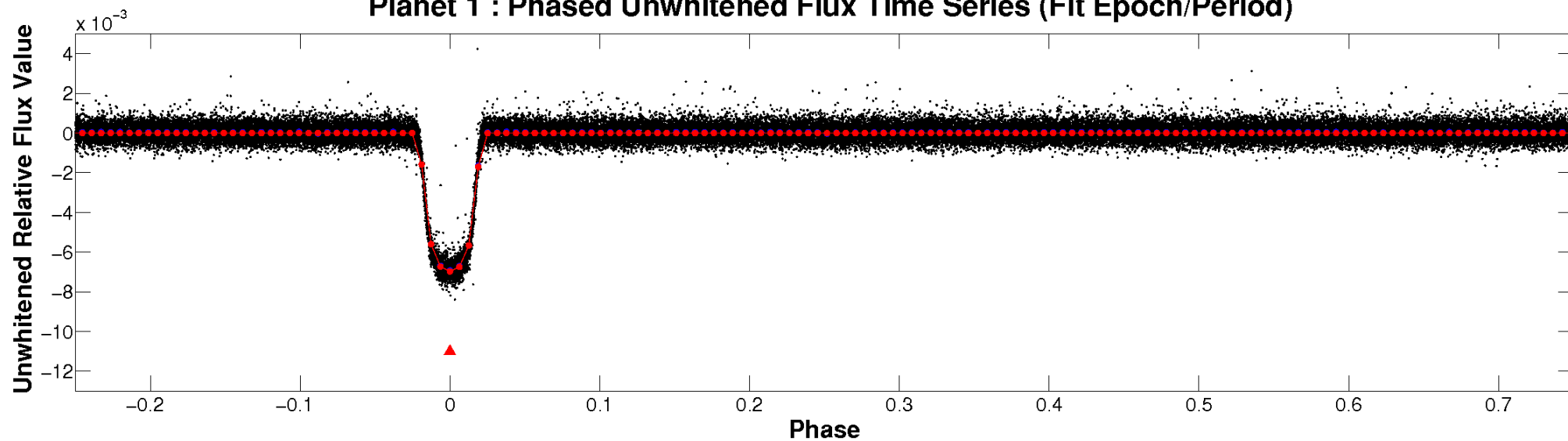
ALT Odd/Even

TCE 009305831-01

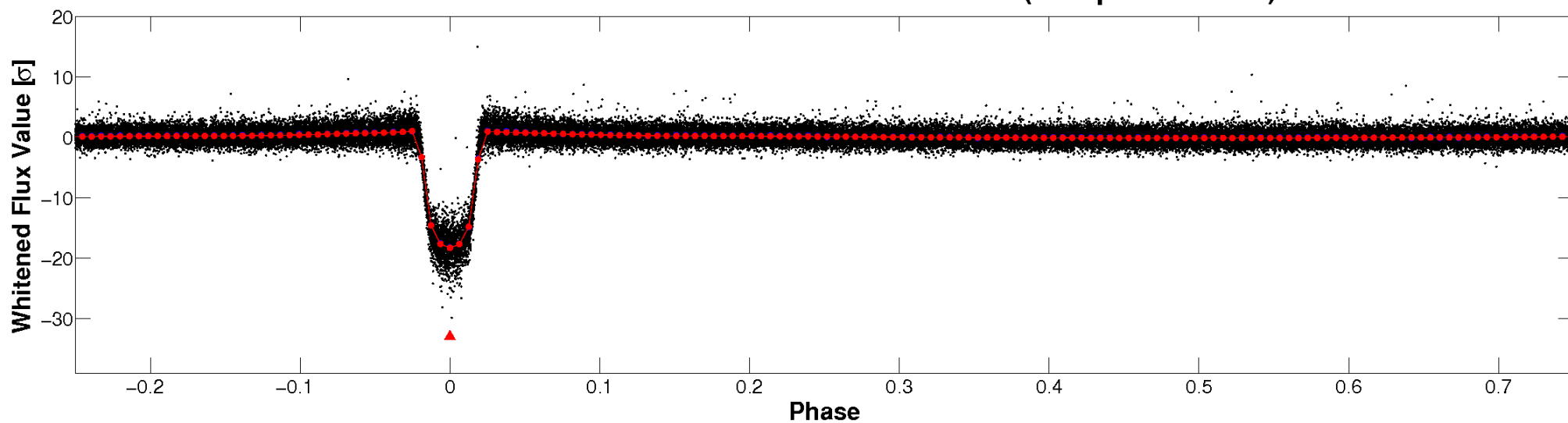


Non-Whitened Vs. Whitened Light Curve

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

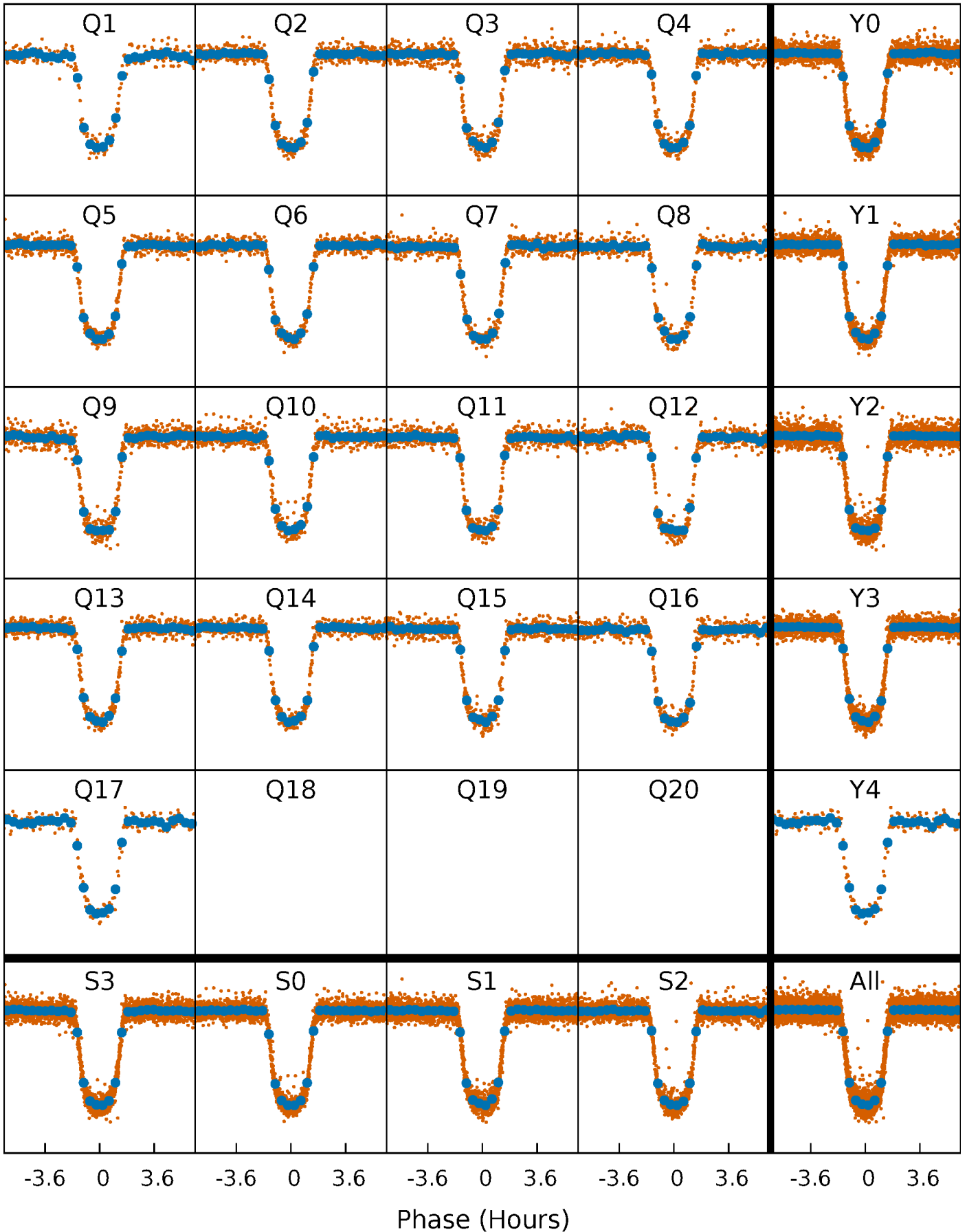


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



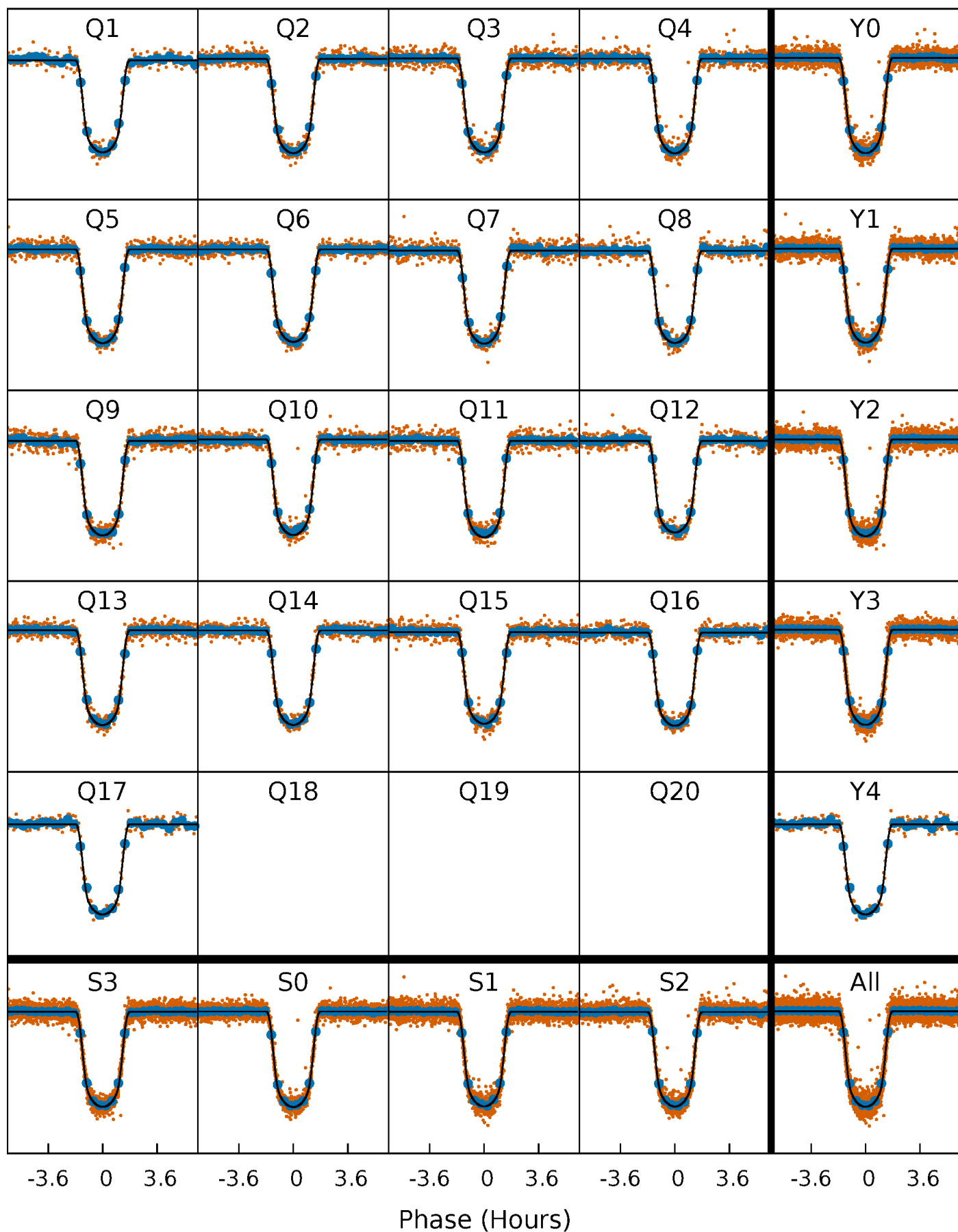
PDC Quarter-Phased Transit Curves

TCE 009305831-01 P= 3.246731 Days $T_0=133.379494$ (BKJD)



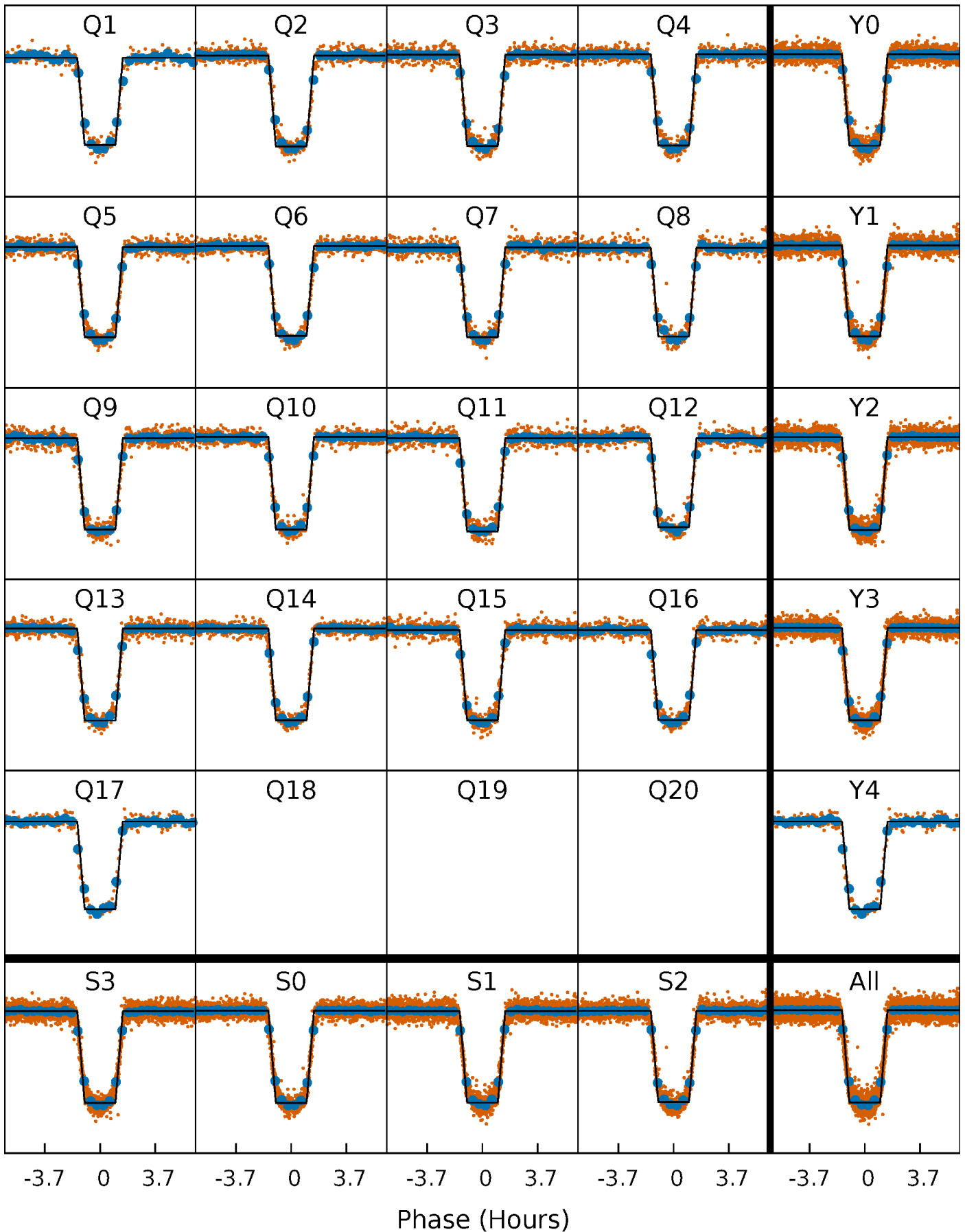
DV Quarter-Phased Transit Curves

TCE 009305831-01 P= 3.246731 Days $T_0=133.379494$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

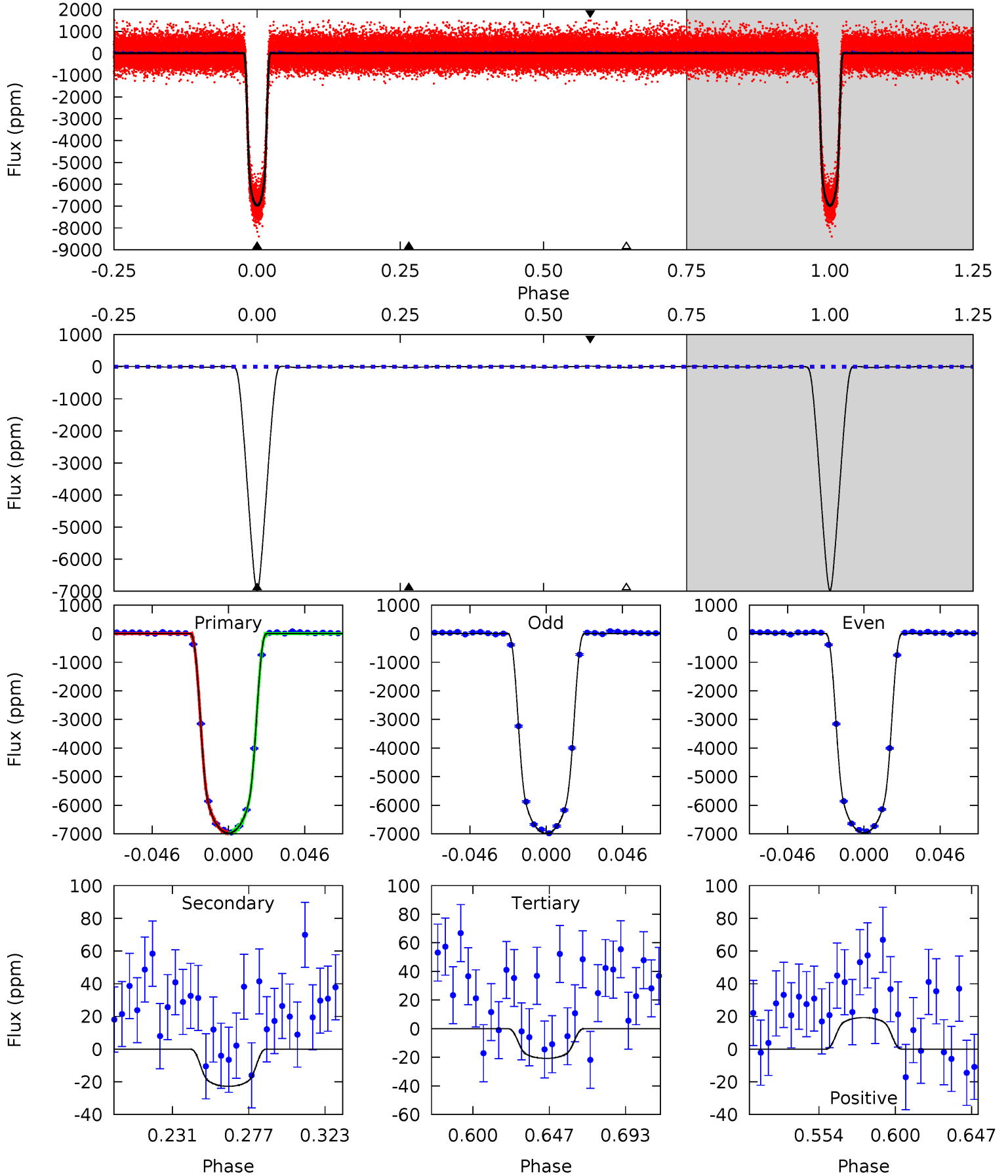
TCE 009305831-01 P= 3.246742 Days $T_0=133.376975$ (BKJD)



DV Model-Shift Uniqueness Test

009305831-01, P = 3.246731 Days, E = 130.132763 Days

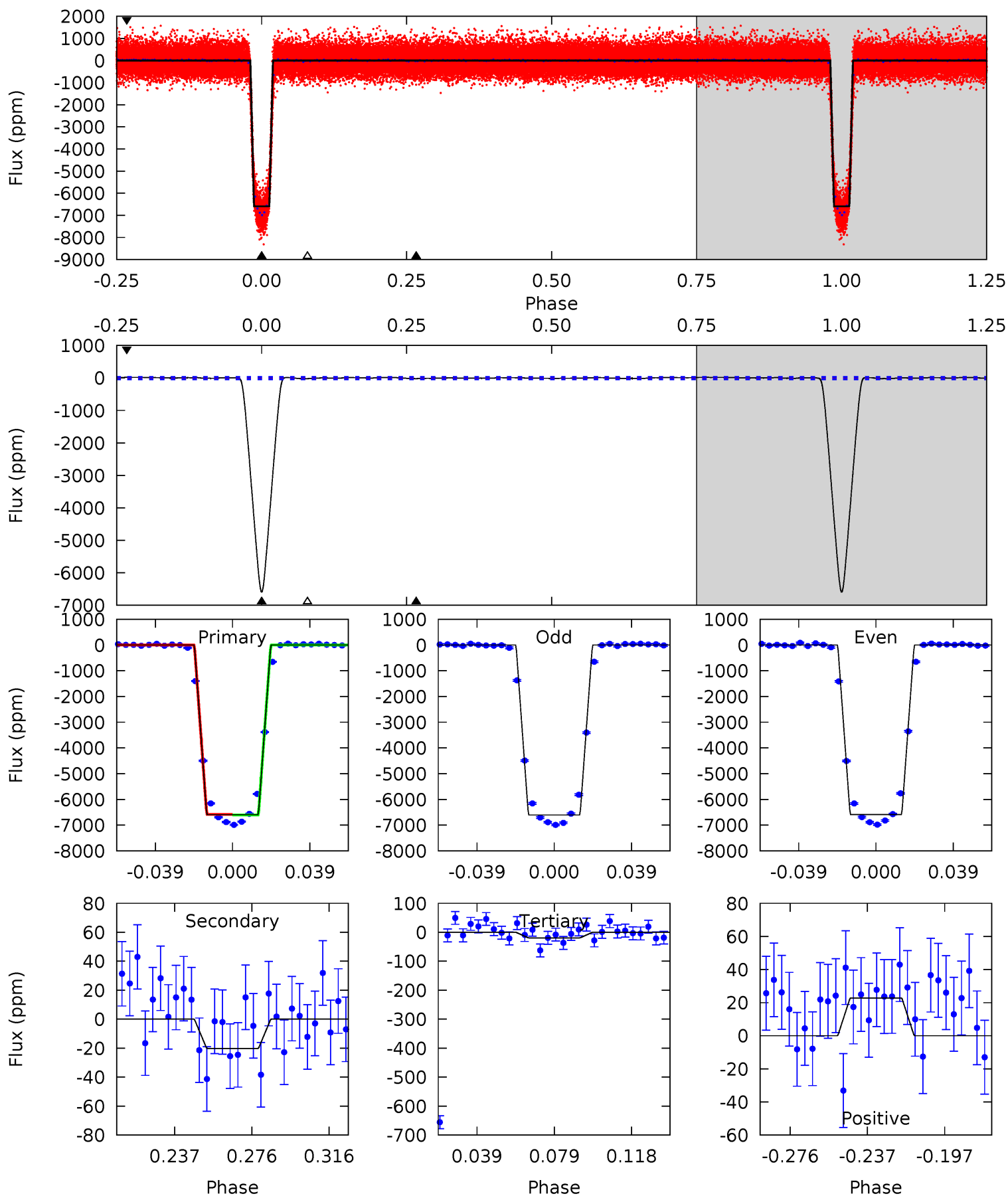
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1035	3.38	3.09	2.86	4.72	1.99	1.34	1032	1032	0.29	0.52	1.32	1.00	0.00	1.40



Alt Model-Shift Uniqueness Test

009305831-01, P = 3.246742 Days, E = 130.130233 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
906.0	2.78	2.67	3.13	4.76	2.06	1.29	903.3	902.8	0.12	-0.35	1.05	1.00	0.00	1.64



Stellar Parameters For KIC 009305831

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5763^{+103}_{-114}	$4.150^{+0.055}_{-0.044}$	$0.260^{+0.150}_{-0.150}$	$1.457^{+0.121}_{-0.109}$	$1.093^{+0.124}_{-0.076}$	$0.498^{+0.108}_{-0.081}$
	+2%/-2%	+1%/-1%	+58%/-58%	+8%/-7%	+11%/-7%	+22%/-16%
Source	SPE42	TRA42	SPE42	DSEP		

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

Secondary Eclipse Parameters for KIC 009305831-01 / KOI 0204.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-23 ± 7	$12.84^{+0.69}_{-0.56}$	2029^{+59}_{-51}	-2320^{+104}_{-72}	$0.150^{+0.042}_{-0.044}$
Alt.	-20 ± 7	$13.06^{+0.71}_{-0.57}$	2035^{+55}_{-55}	-2350^{+95}_{-82}	$0.130^{+0.046}_{-0.049}$

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

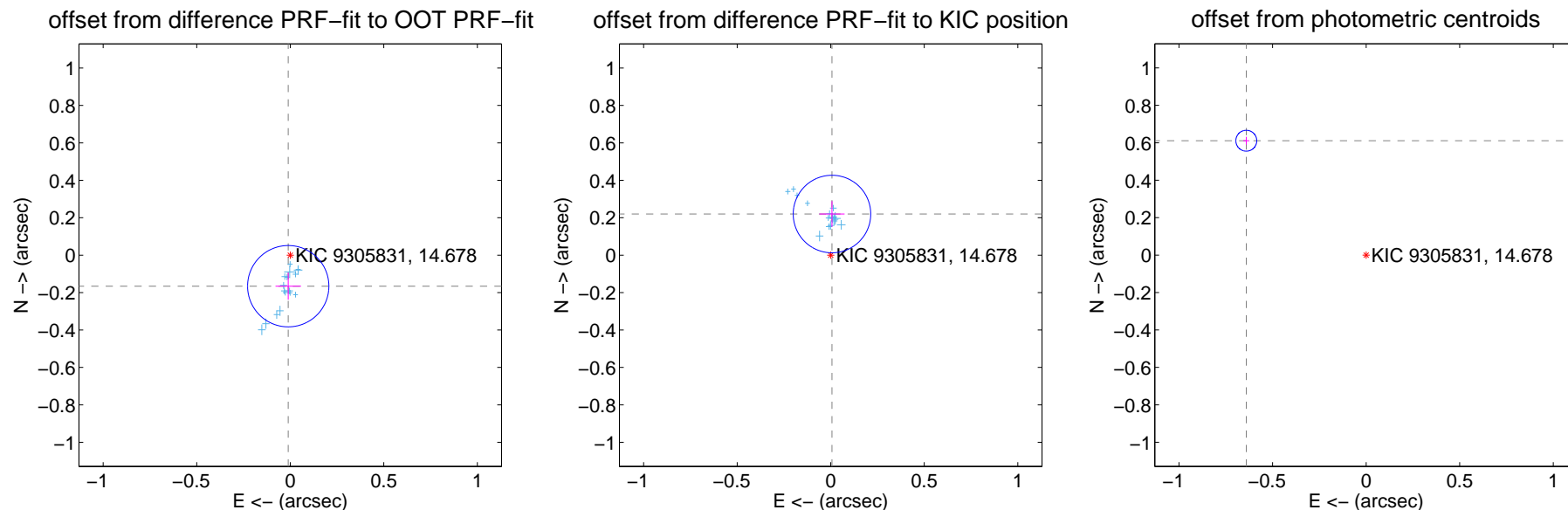
DV Centroid Data

Supplemental centroid analysis for 009305831-01. Kepler magnitude: 14.68. Transit SNR 740.73

There are 17 quarters with good PRF difference image offsets

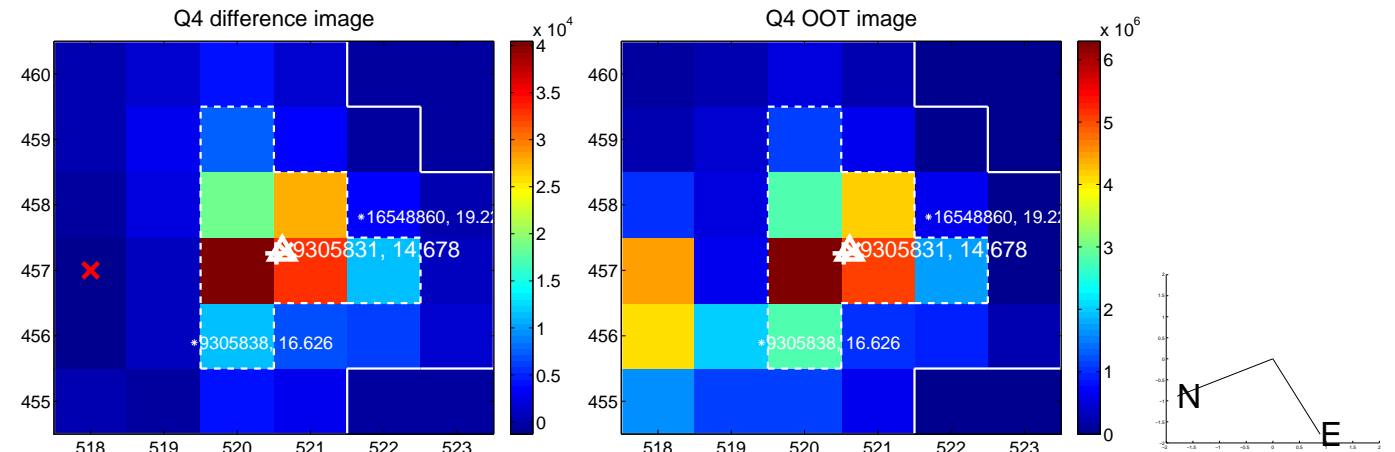
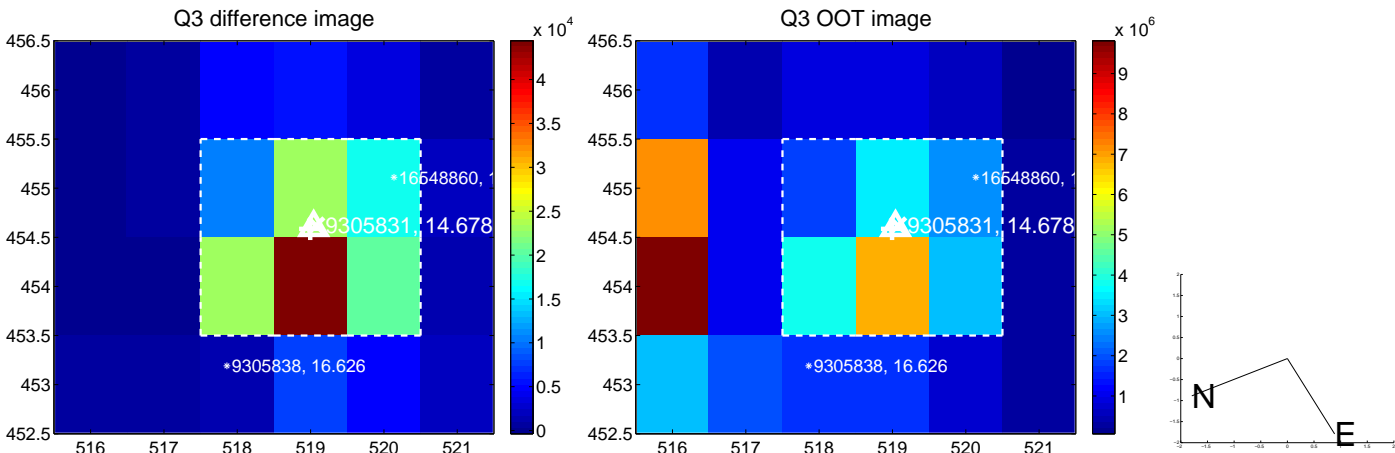
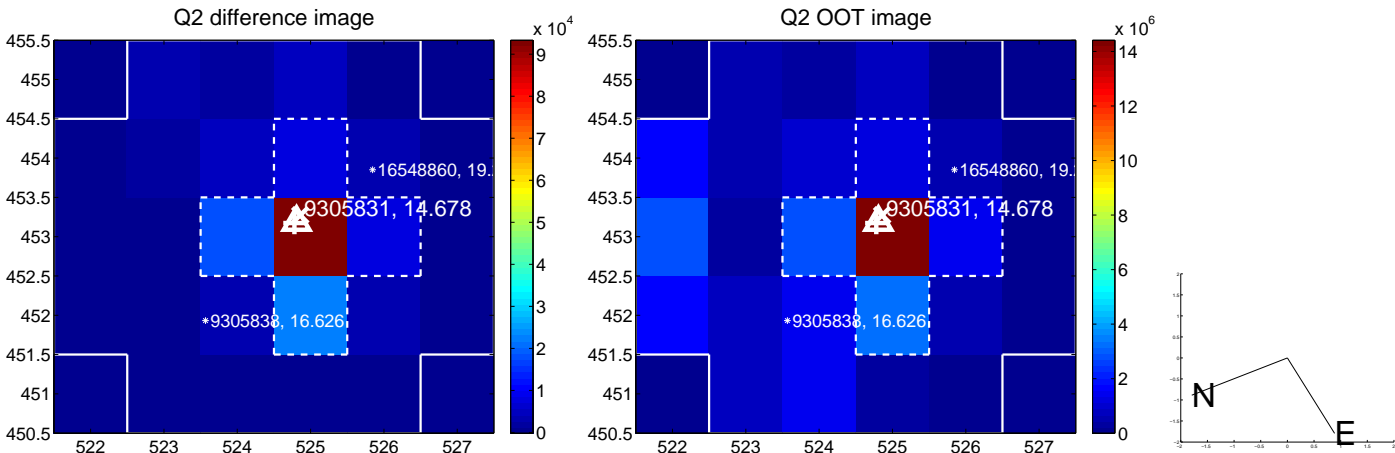
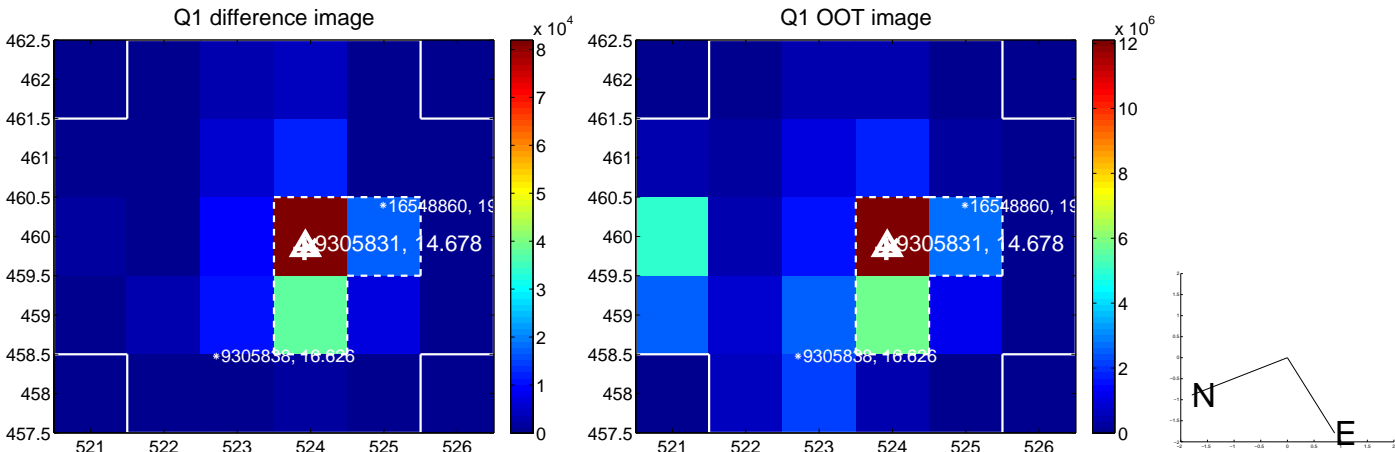
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.166 ± 0.072	2.30	0.011 ± 0.068	-0.166 ± 0.072
PRF-fit source offset from KIC position	0.220 ± 0.069	3.18	-0.007 ± 0.067	0.220 ± 0.069
photometric centroid source offset	0.89 ± 0.02	47.56	0.64 ± 0.02	0.61 ± 0.02

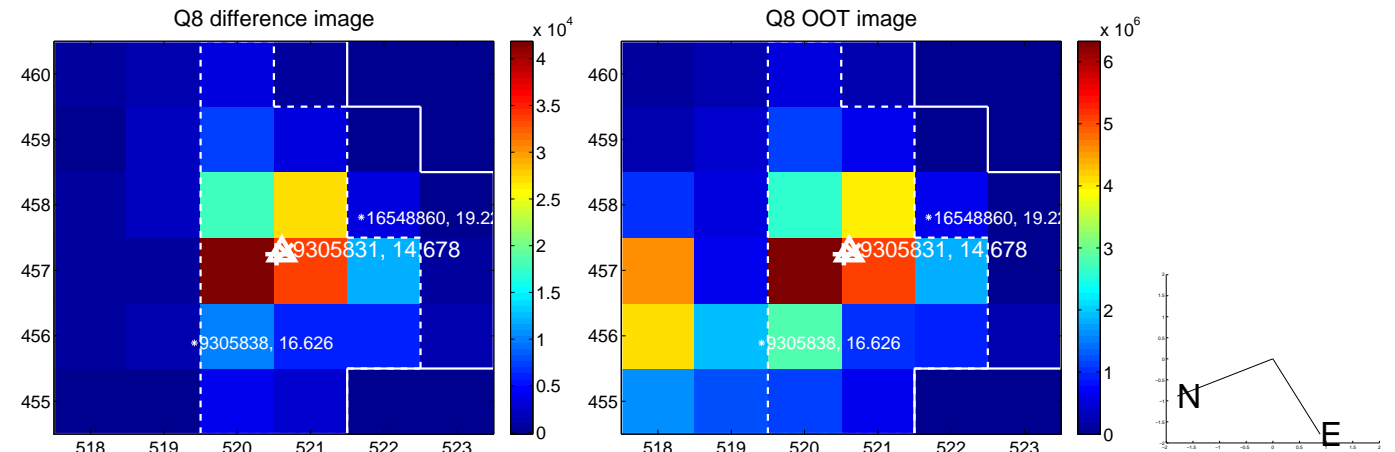
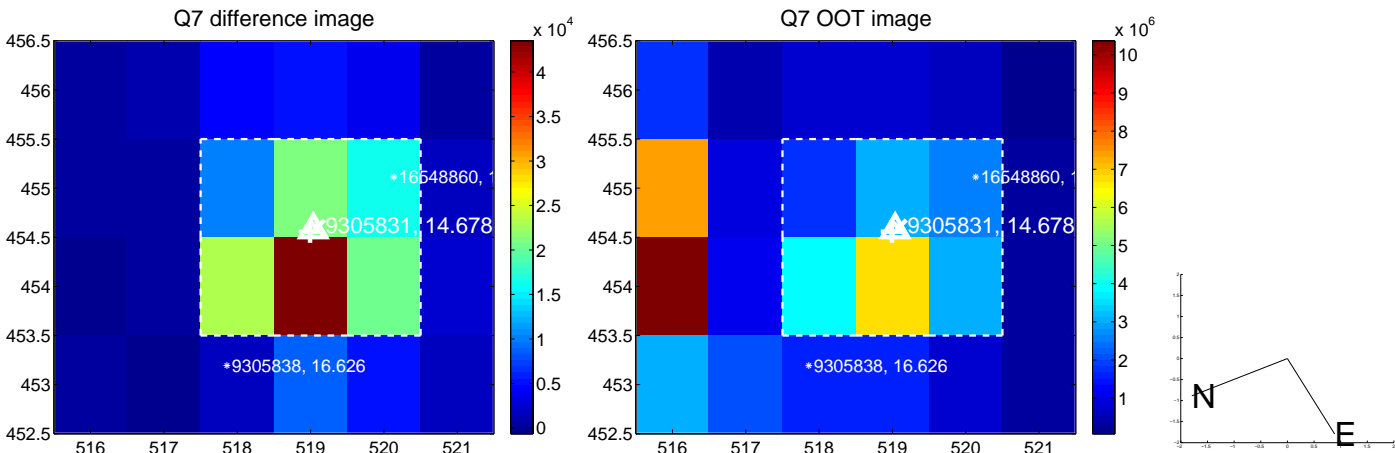
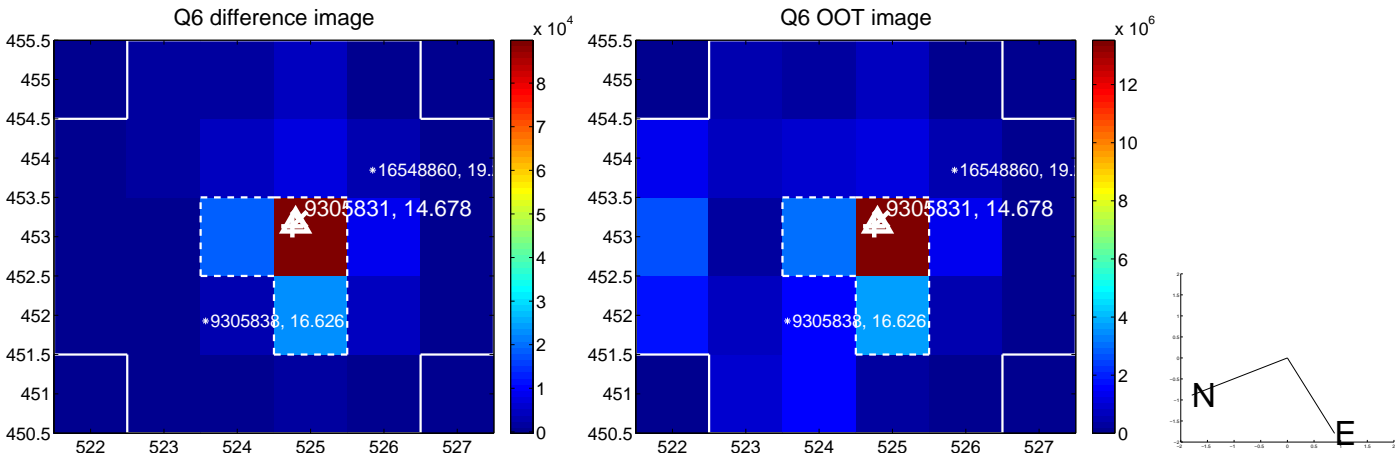
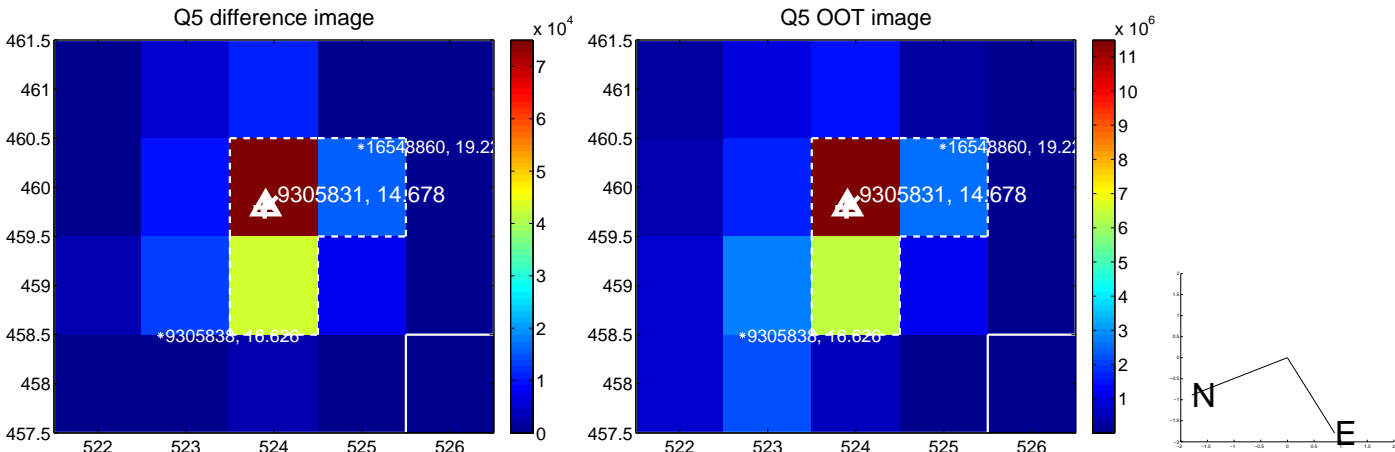


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

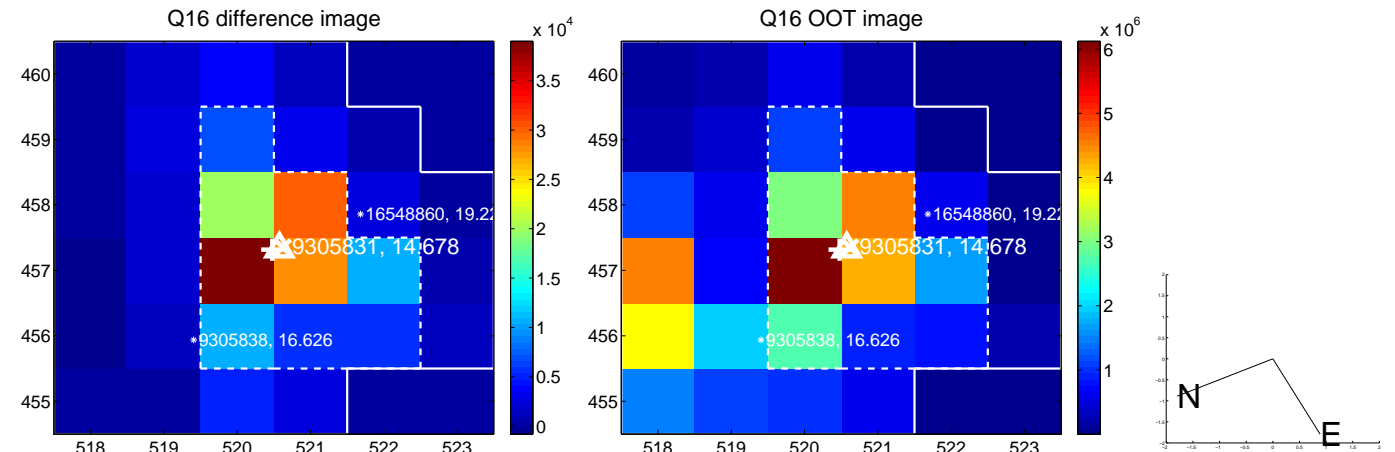
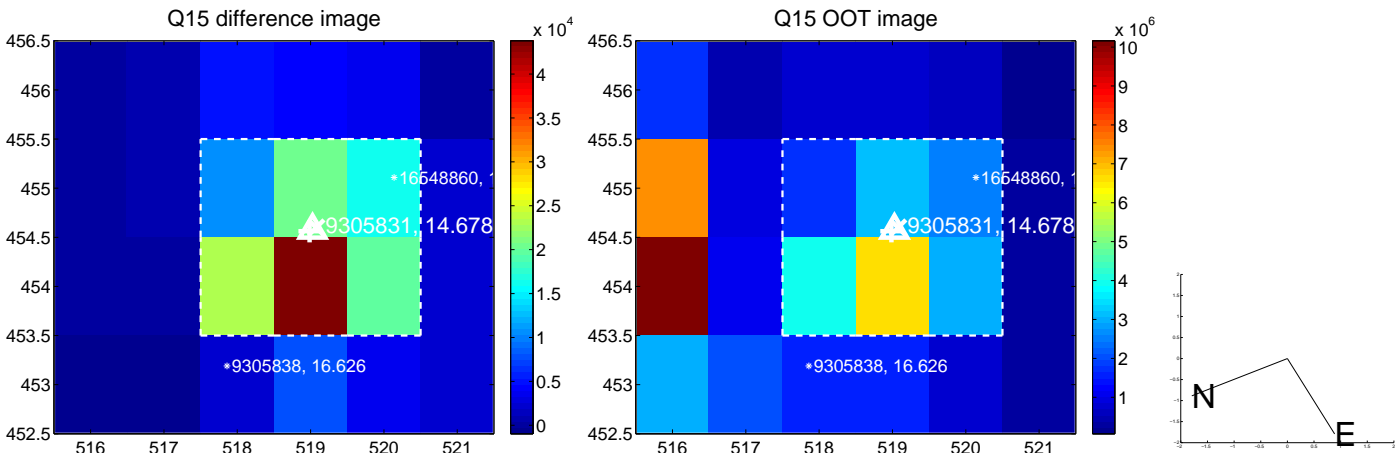
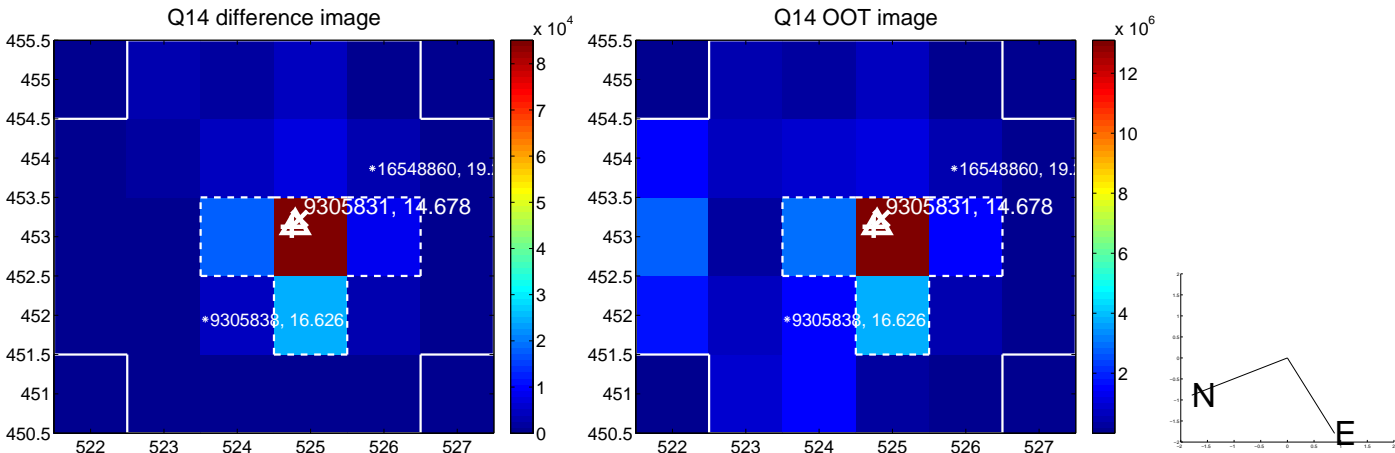
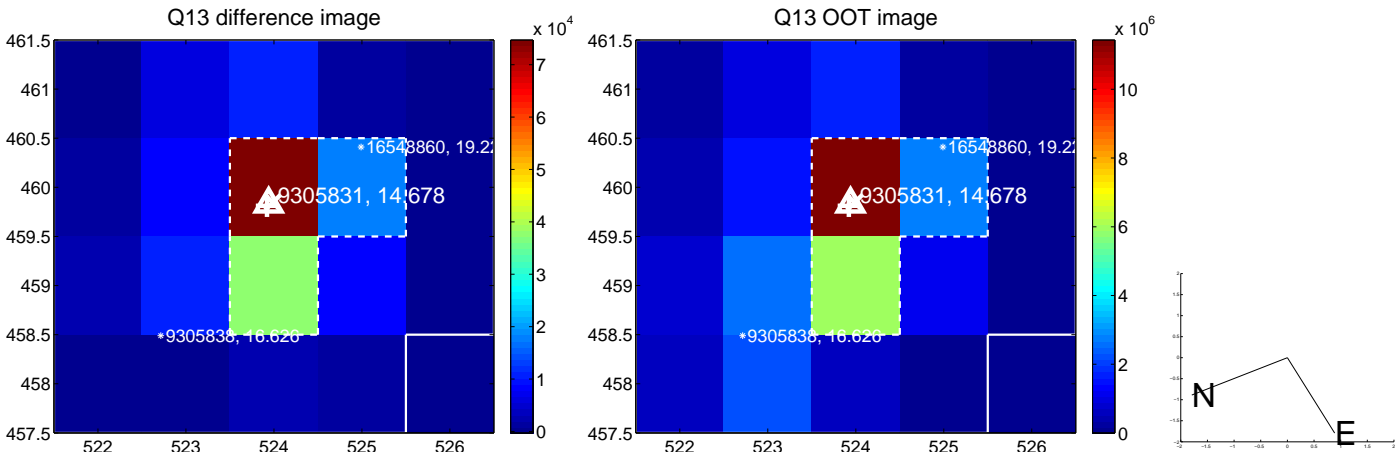
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



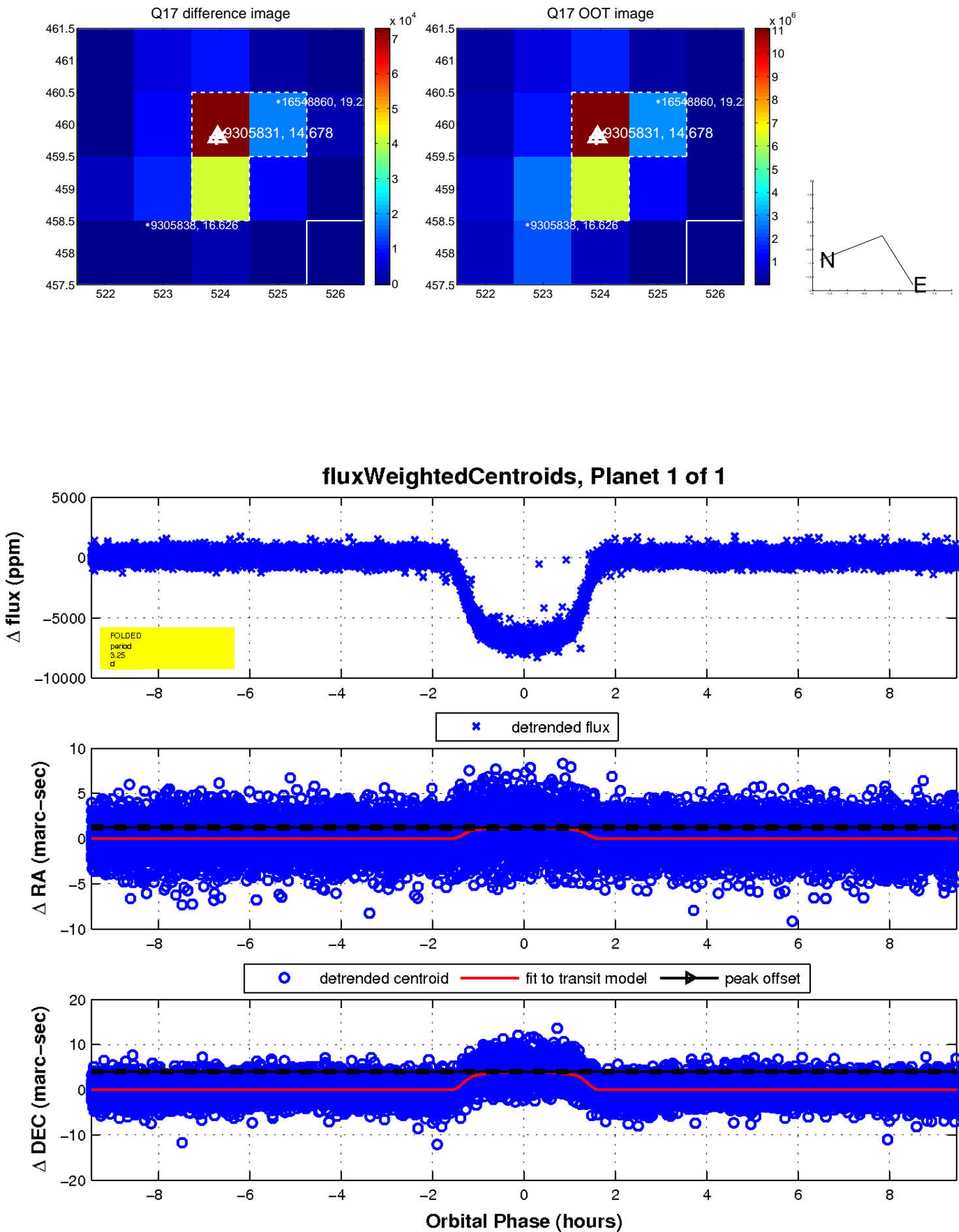
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

