

KIC 009597411

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})
009597411-01	OBS	0424.01	1.575635	132.576802	25195.1	2.538	2786.8	2334.5	0.86	6202	17.89	1463.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009597411-01	OBS	FP	0.00	0	1	0	0	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.

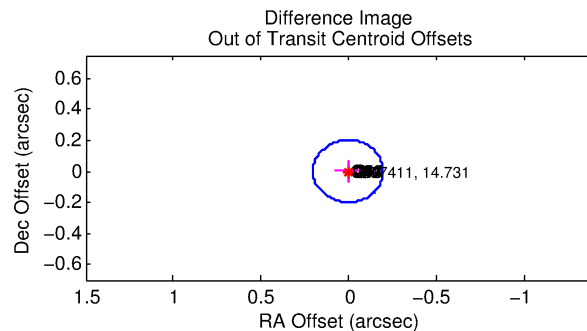
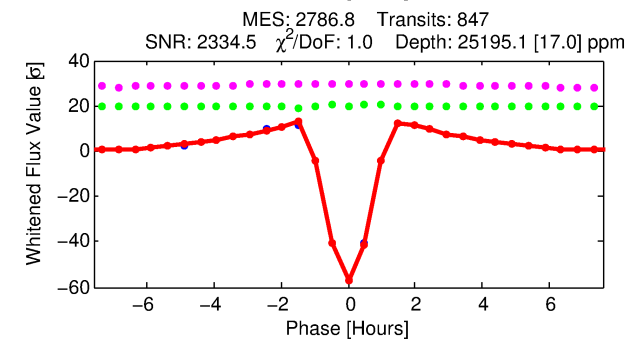
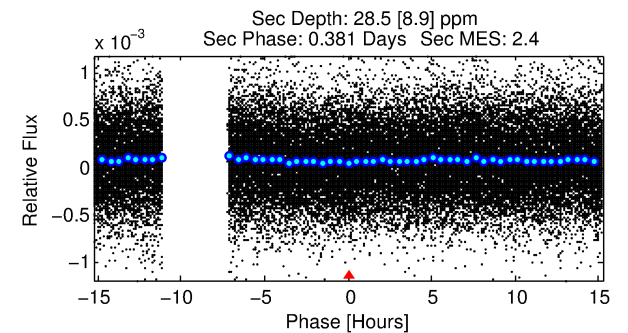
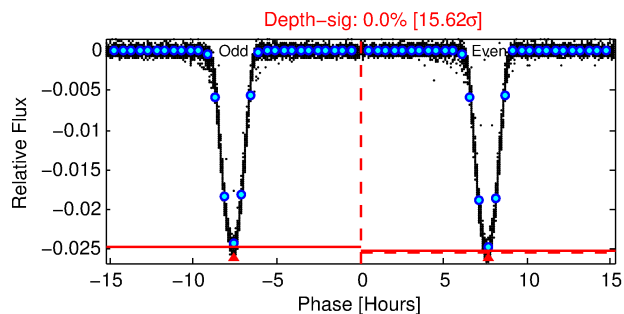
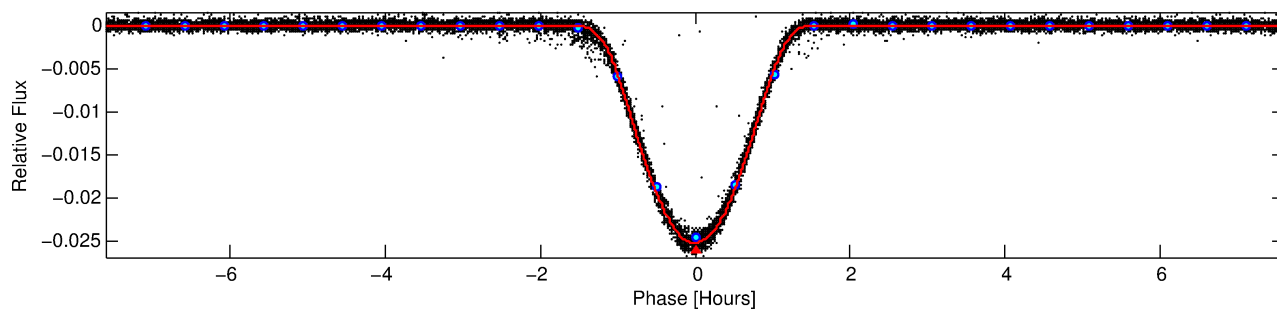
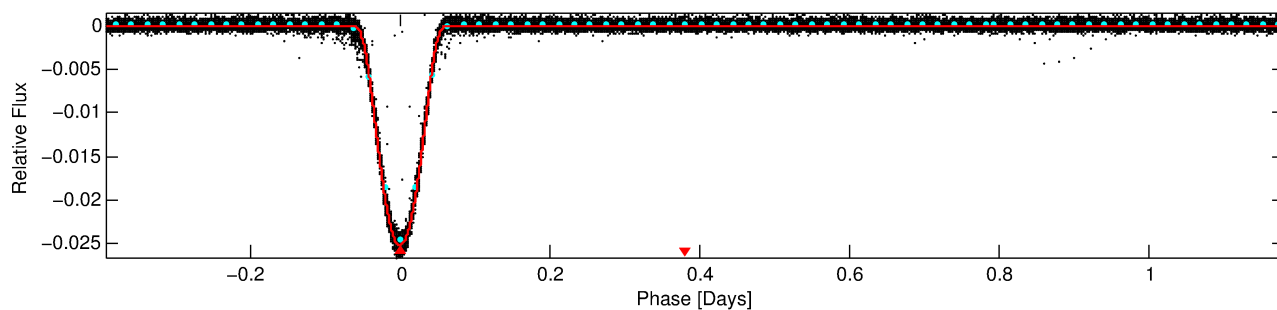
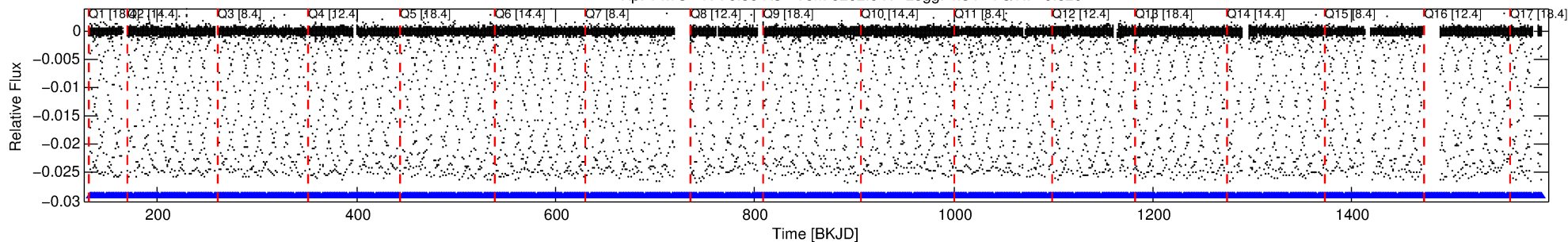
Ephemeris Match Information For 009597411-01

No Significant Match Found

DV One-Page Summary

KIC: 9597411 Candidate: 1 of 1 Period: 1.576 d
KOI: K00424.01 Corr: 0.992

Kp: 14.73 R*: 0.86 Rs Teff: 6202.0 K Logg: 4.54 Fe/H: -0.620



DV Fit Results:

Period = 1.57563 [0.00000] d
Epoch = 132.5768 [0.0000] BKJD
Rp/R* = 0.1911 [0.0013]
a/R* = 3.84 [0.01]
b = 0.90 [0.00]
Seff = 1463.54 [559.97]
Teq = 1577 [151] K
Rp = 17.89 [4.98] Re
a = 0.0258 [0.0062] AU
Ag = 0.03 [0.02] [-62.33σ]
Teff = 1037 [88] K [-3.10σ]

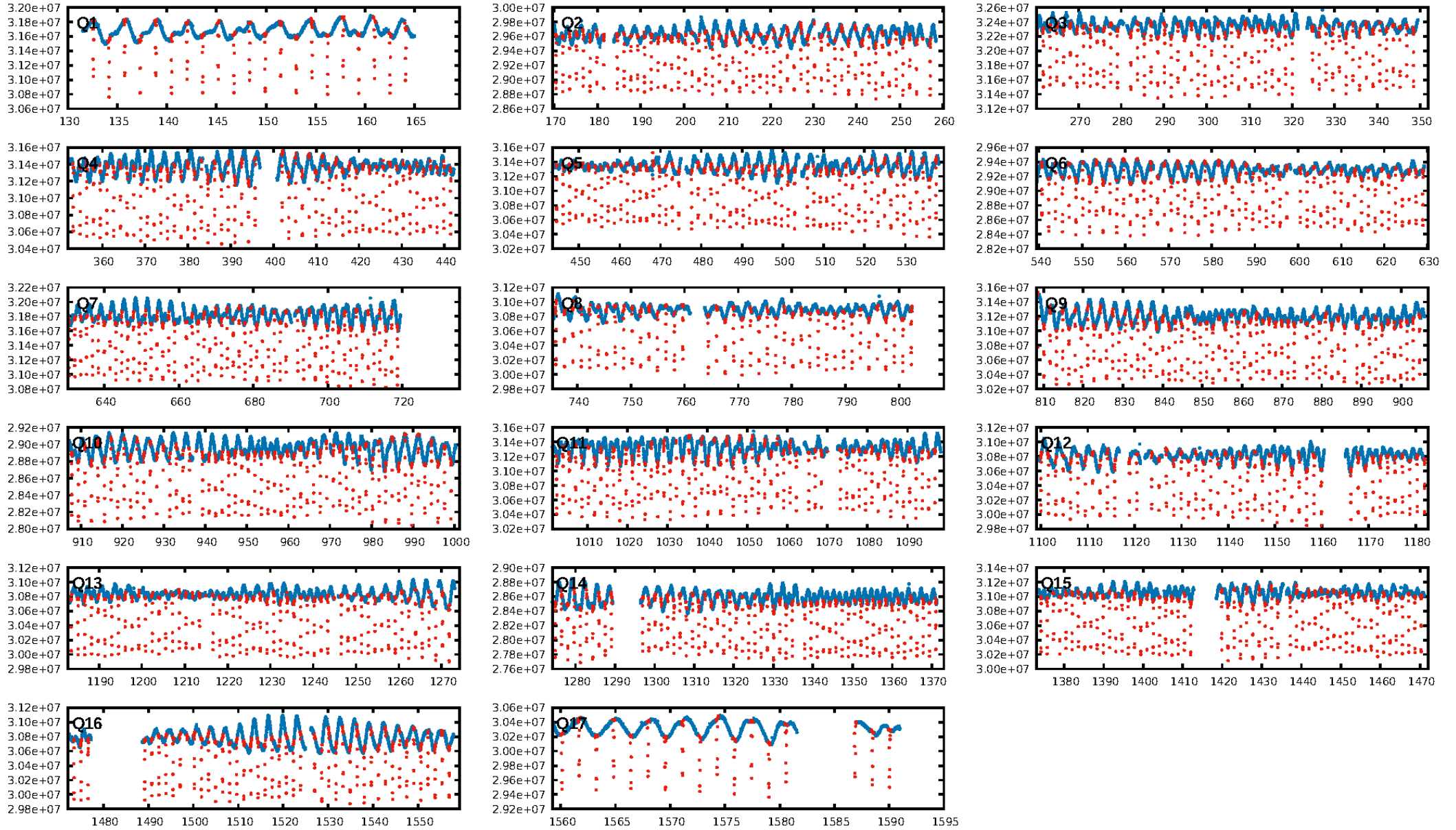
DV Diagnostic Results:

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 [809/809]
GhostDiagnostic-chr: 3.155
Centroid-sig: 0.0%
Centroid-so: 0.160 arcsec [42.27σ]
OotOffset-rm: 0.006 arcsec [0.10σ]
KicOffset-rm: 0.141 arcsec [2.07σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

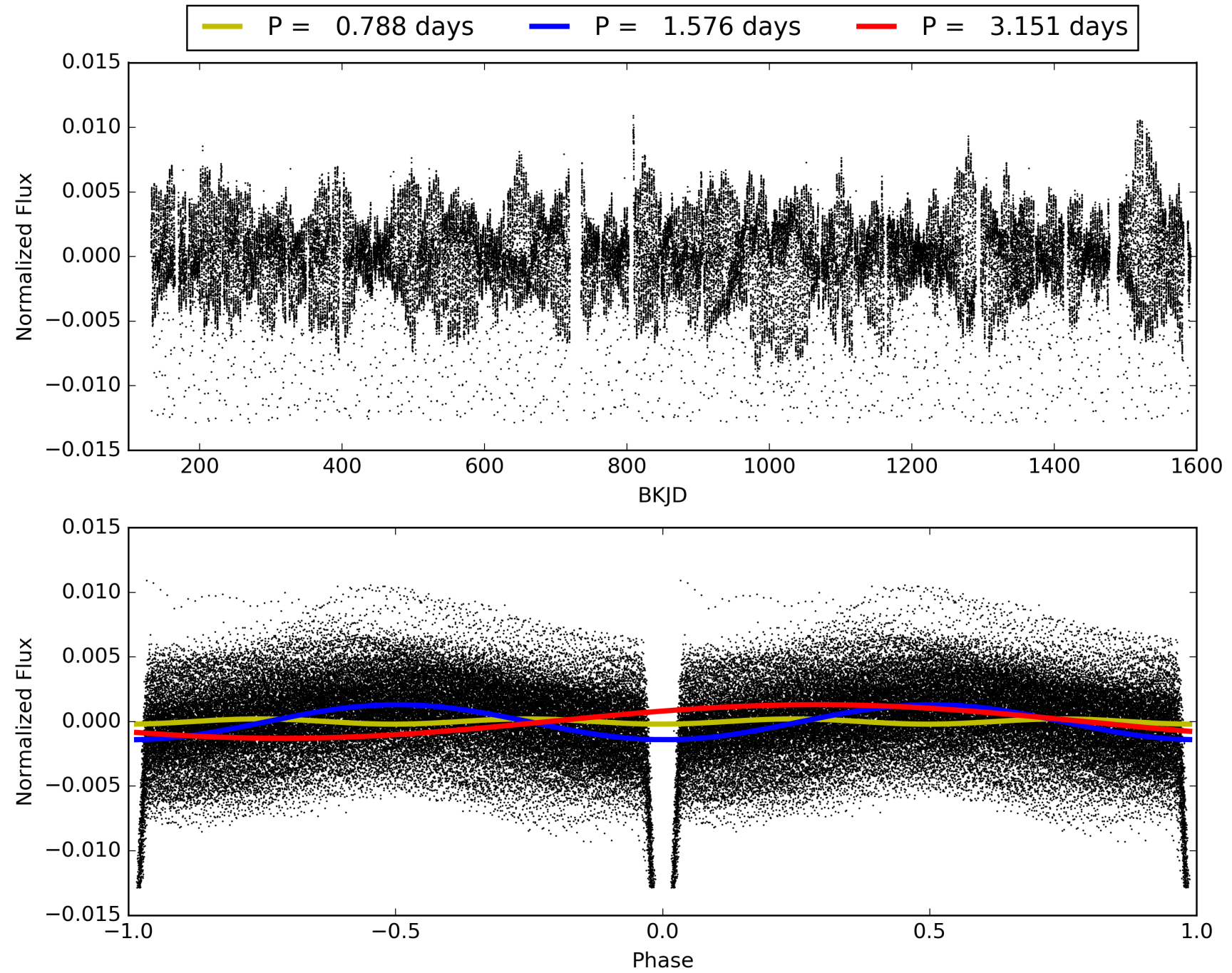
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:14:27 Z

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

TCE 009597411-01, PDC Light Curves

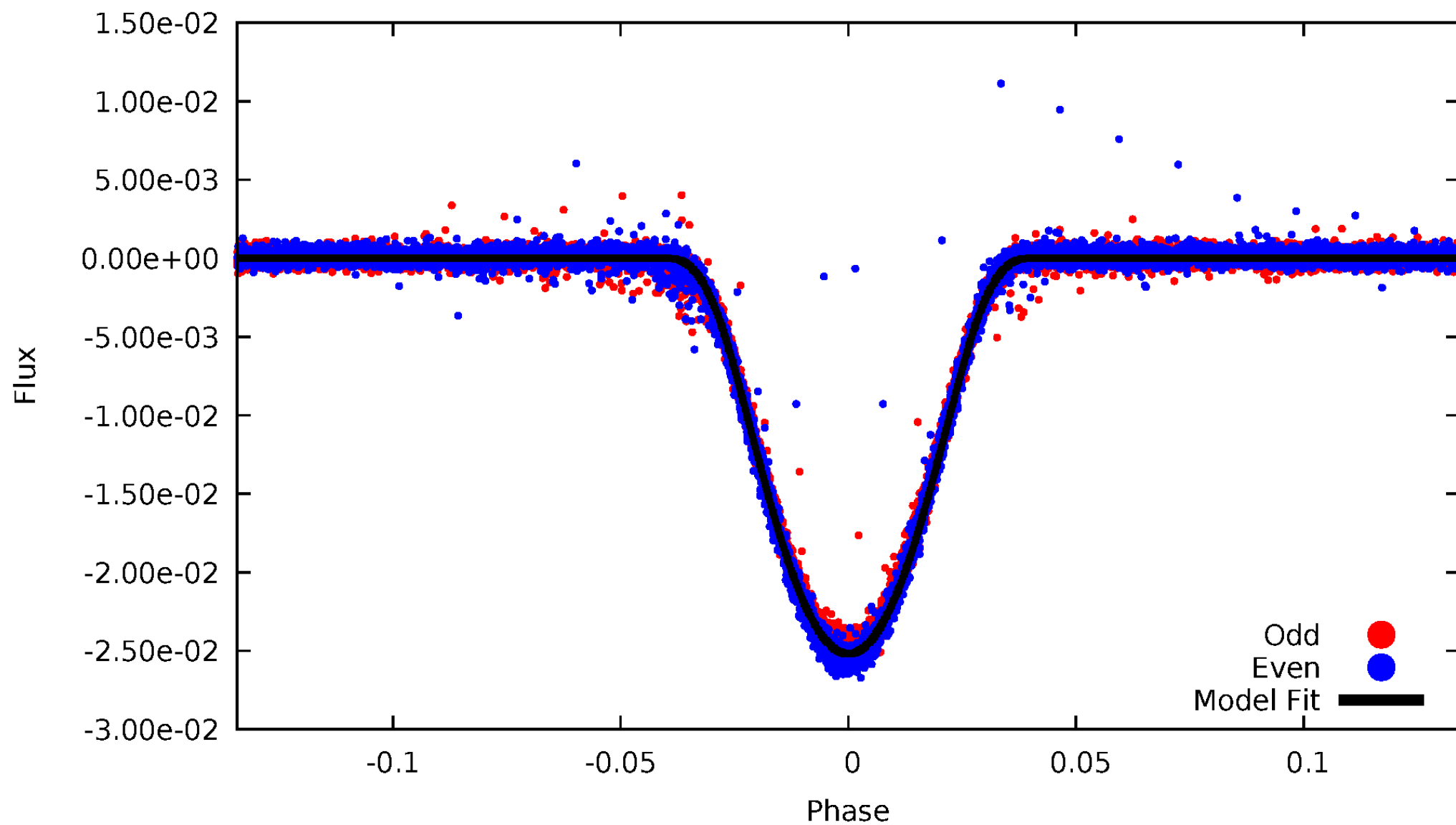


TCE 009597411-01



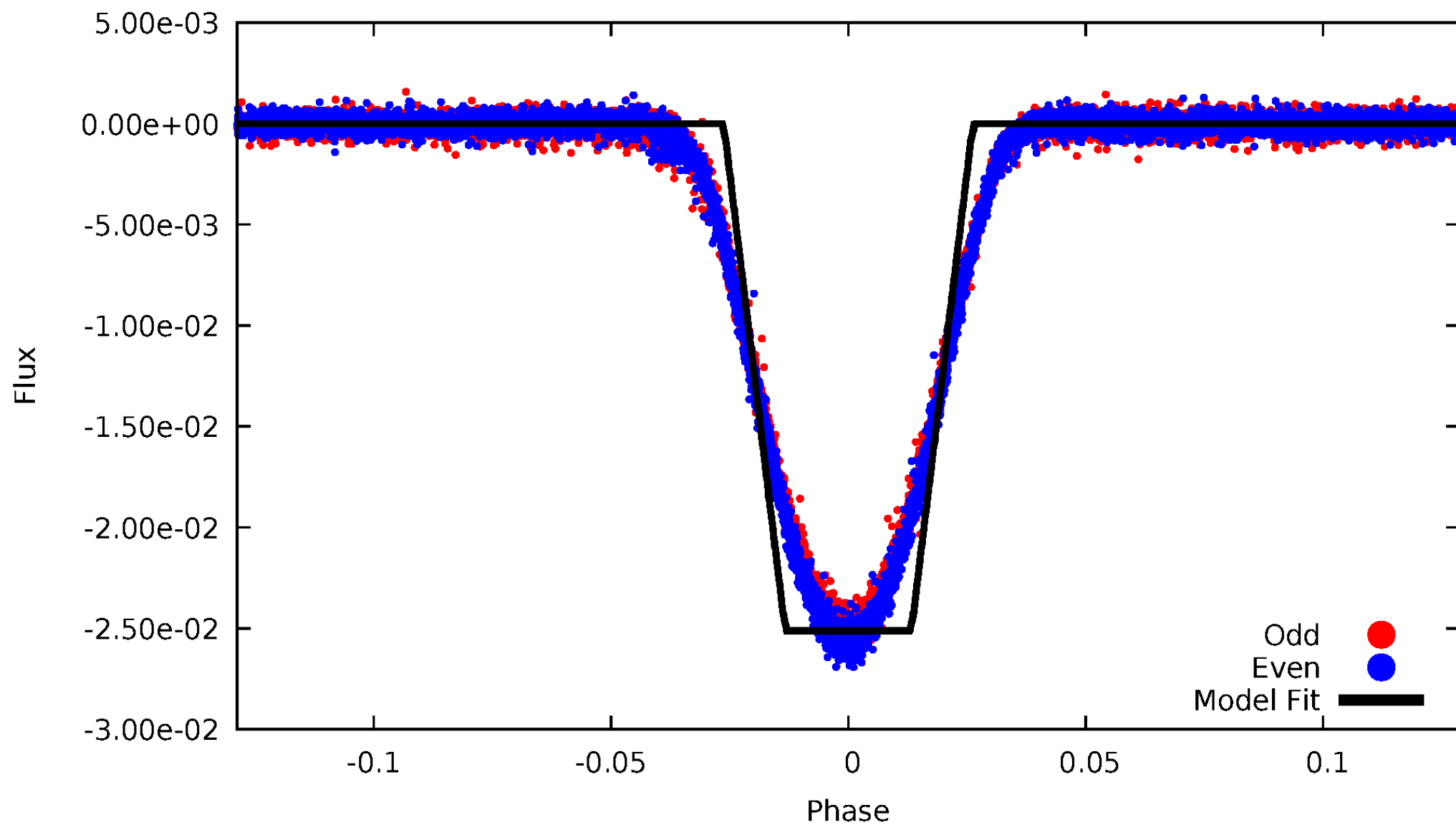
DV Odd/Even

TCE 009597411-01



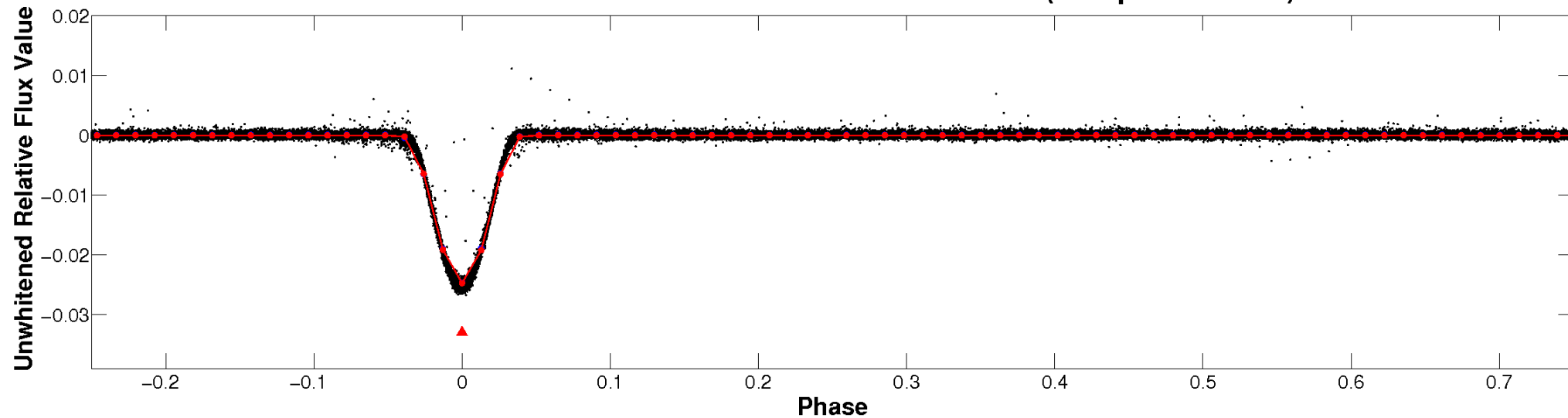
ALT Odd/Even

TCE 009597411-01

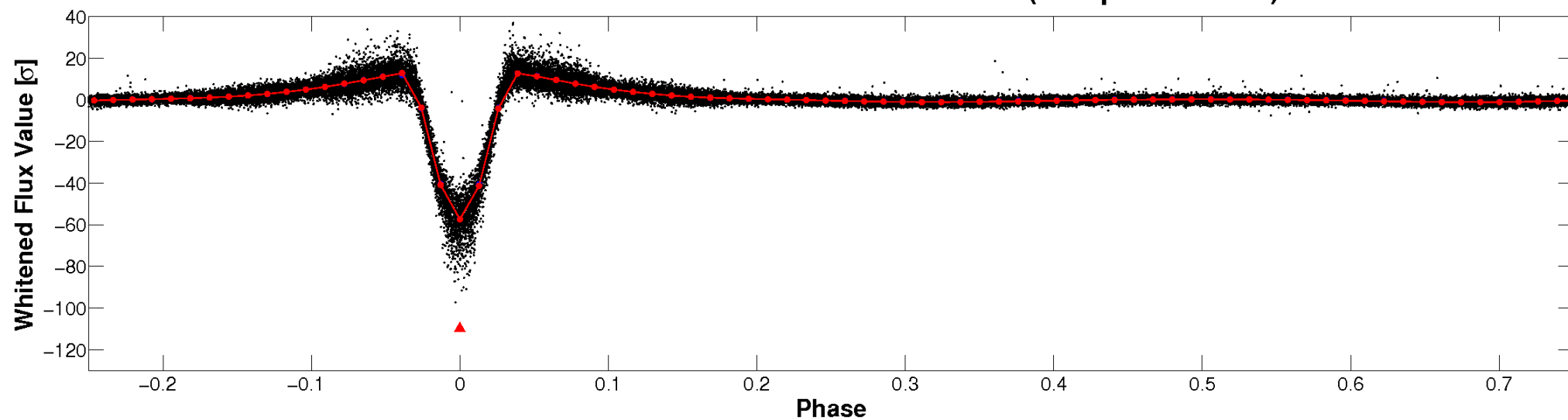


Non-Whitened Vs. Whitened Light Curve

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

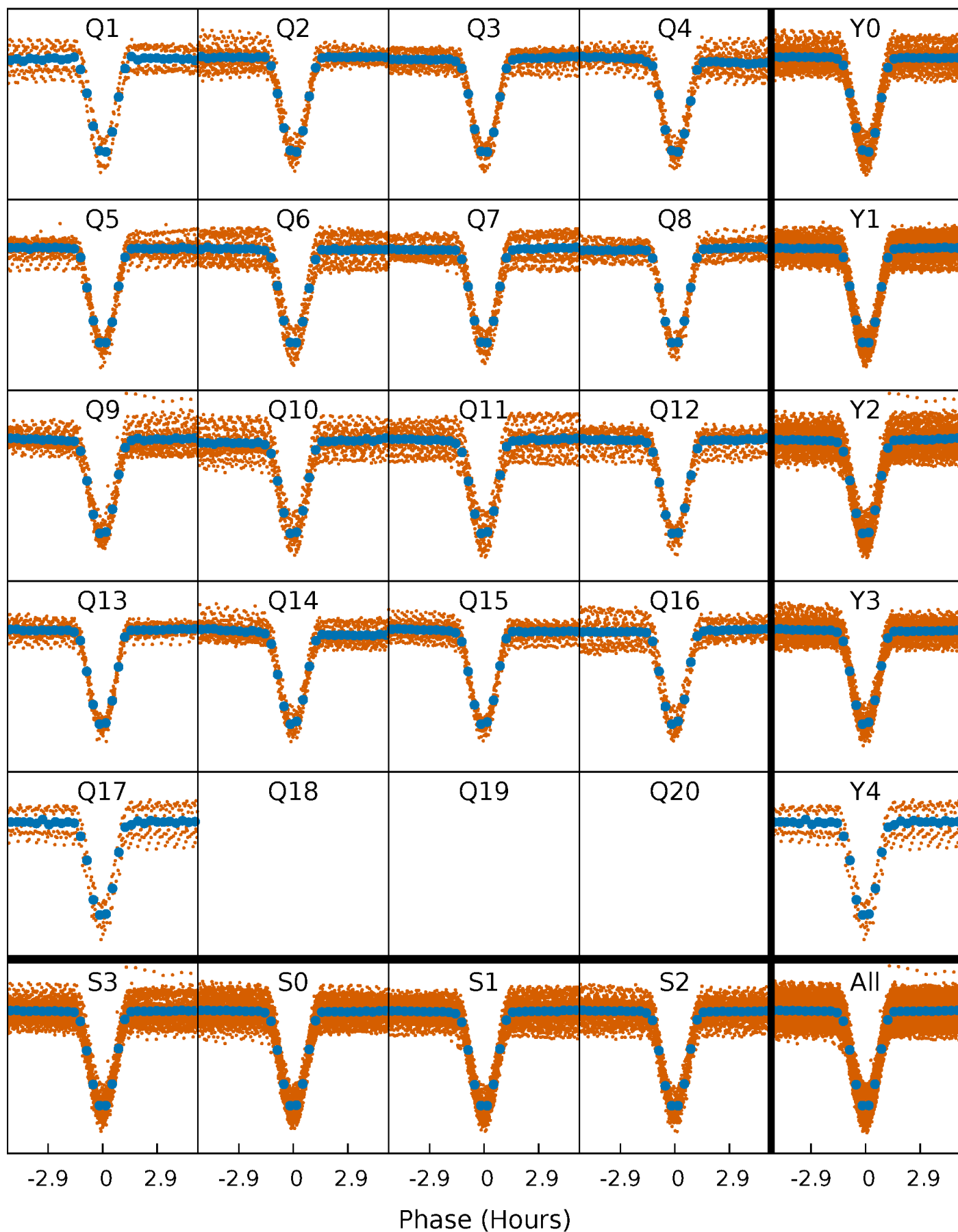


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



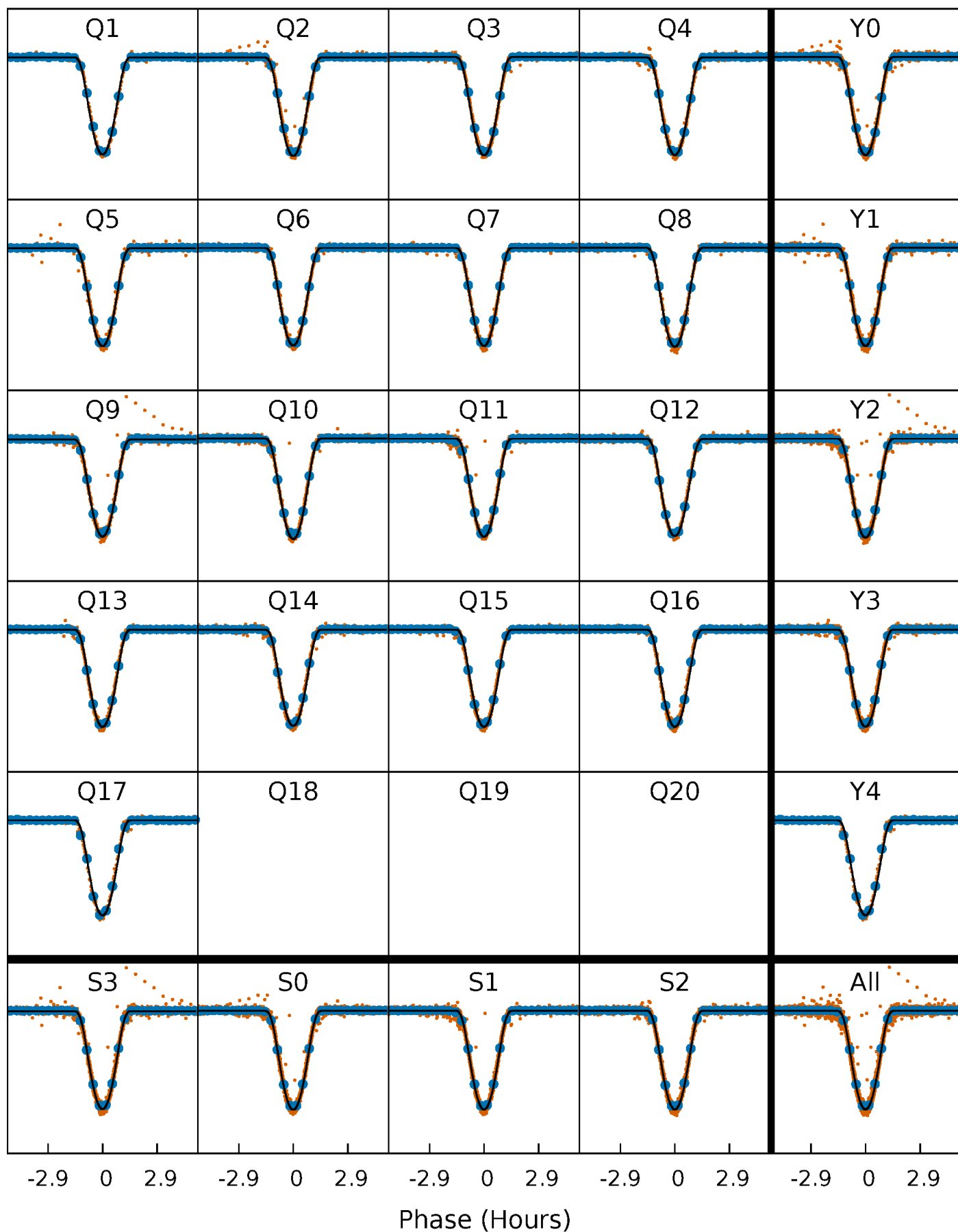
PDC Quarter-Phased Transit Curves

TCE 009597411-01 P= 1.575635 Days $T_0=132.576802$ (BKJD)



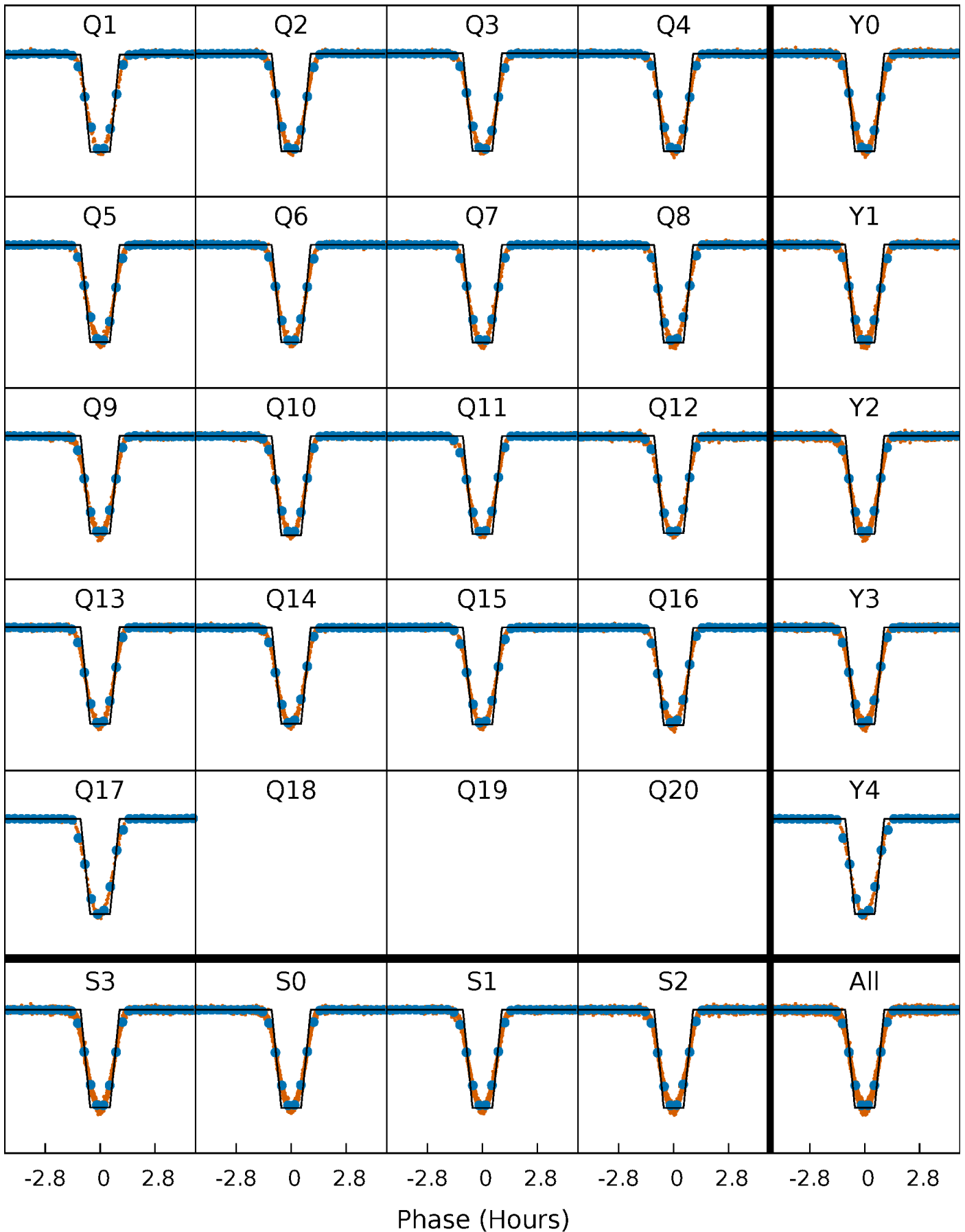
DV Quarter-Phased Transit Curves

TCE 009597411-01 P= 1.575635 Days $T_0=132.576802$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

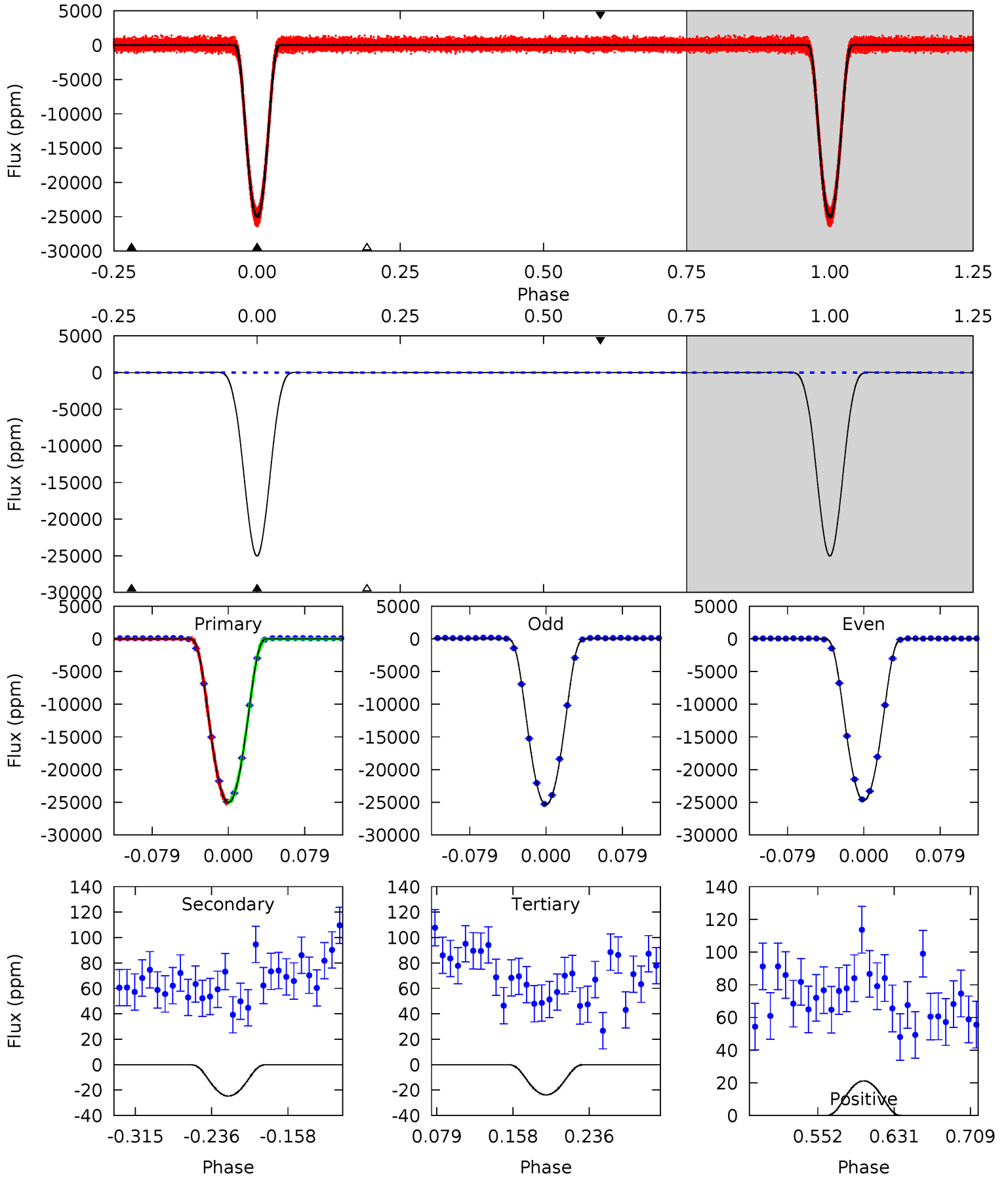
TCE 009597411-01 P= 1.575634 Days $T_0=132.576981$ (BKJD)



DV Model-Shift Uniqueness Test

009597411-01, P = 1.575635 Days, E = 131.001167 Days

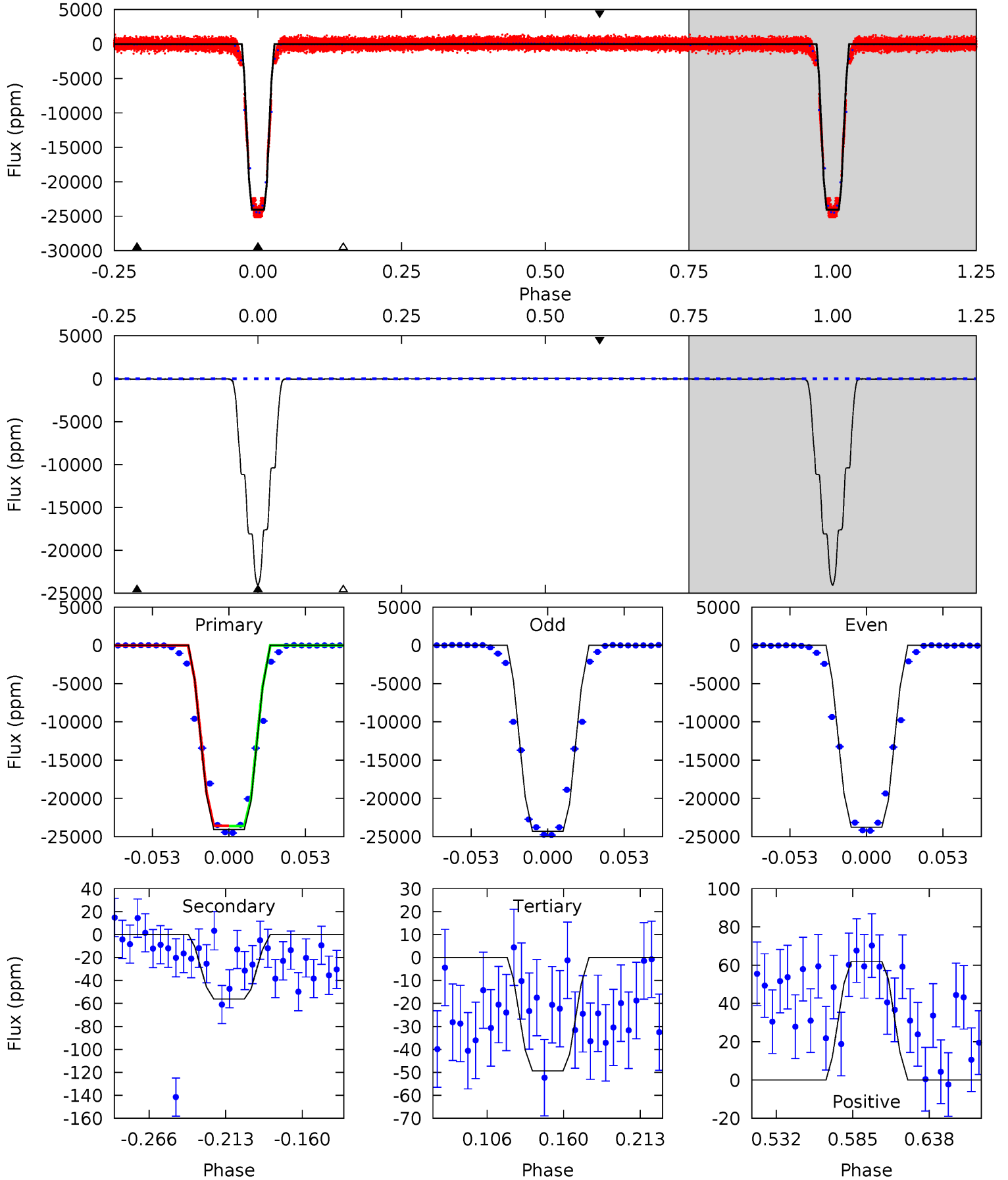
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5263	5.19	5.01	4.45	4.61	1.76	2.90	5258	5259	0.18	0.74	67.7	1.00	0.00	11.0



Alt Model-Shift Uniqueness Test

009597411-01, P = 1.575634 Days, E = 131.001347 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2903	6.77	5.96	7.48	4.70	1.93	4.15	2897	2896	0.81	-0.70	31.8	1.00	0.00	0



Stellar Parameters For KIC 009597411

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6202^{+187}_{-206}	$4.537^{+0.050}_{-0.200}$	$-0.620^{+0.300}_{-0.300}$	$0.858^{+0.239}_{-0.080}$	$0.923^{+0.094}_{-0.105}$	$2.059^{+0.408}_{-1.063}$
	+3%/-3%	+1%/-4%	+48%/-48%	+28%/-9%	+10%/-11%	+20%/-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 009597411-01 / KOI 0424.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-25 ± 5	$18.31^{+3.02}_{-1.35}$	2244^{+177}_{-109}	-2612^{+66}_{-113}	$0.026^{+0.007}_{-0.007}$
Alt.	-56 ± 8	$15.07^{+2.49}_{-1.01}$	2243^{+143}_{-100}	-2529^{+73}_{-111}	$0.083^{+0.021}_{-0.020}$

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

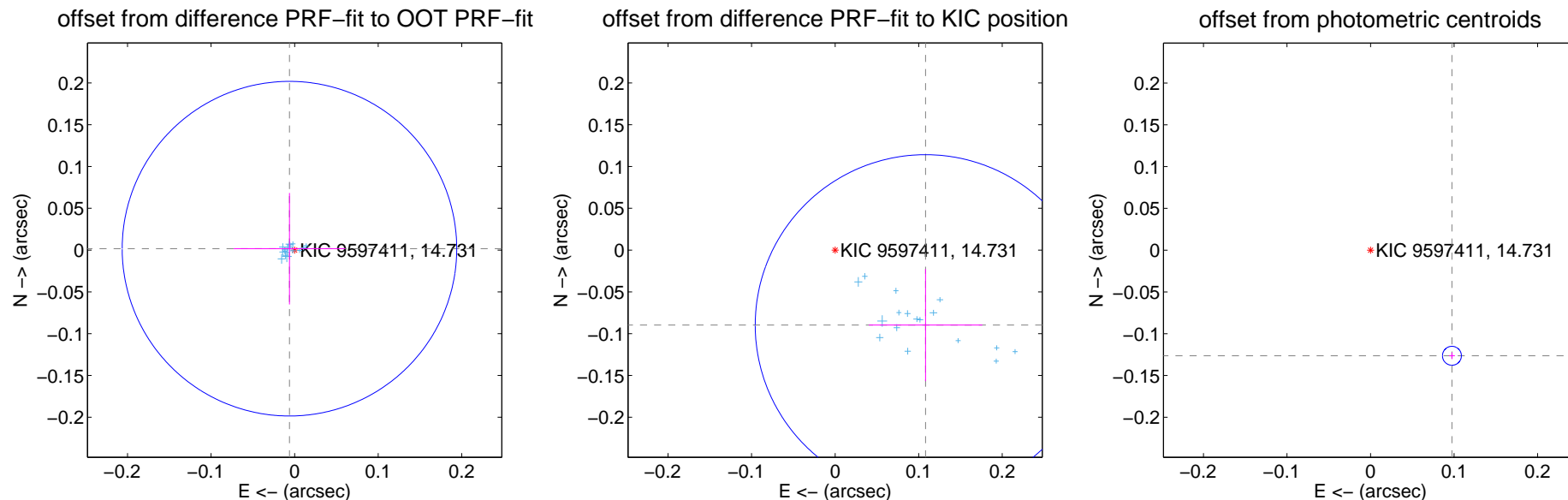
DV Centroid Data

Supplemental centroid analysis for 009597411-01. Kepler magnitude: 14.73. Transit SNR 2334.51

There are 17 quarters with good PRF difference image offsets

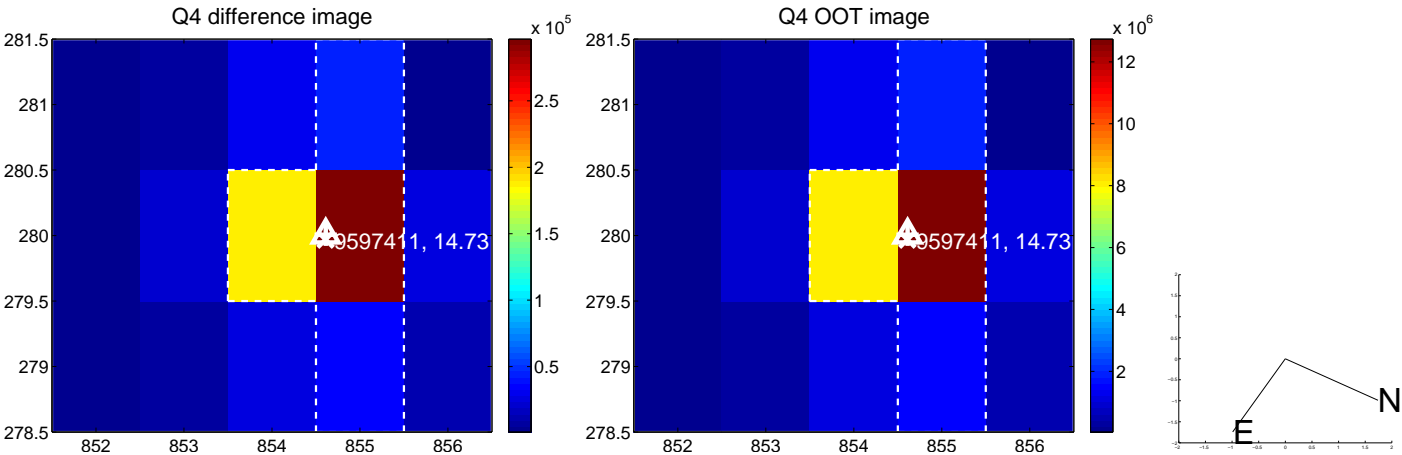
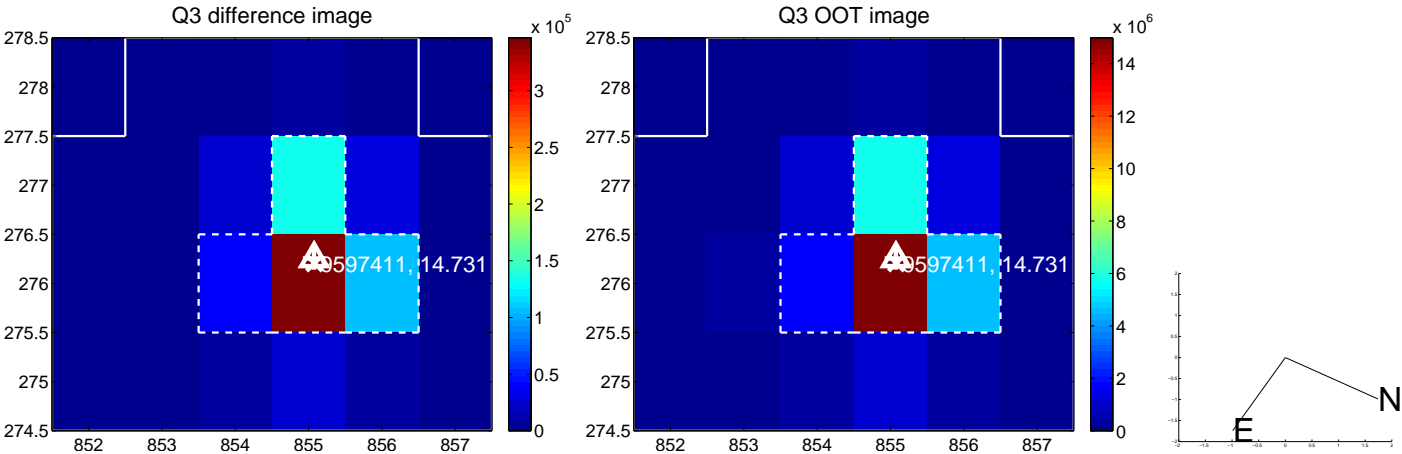
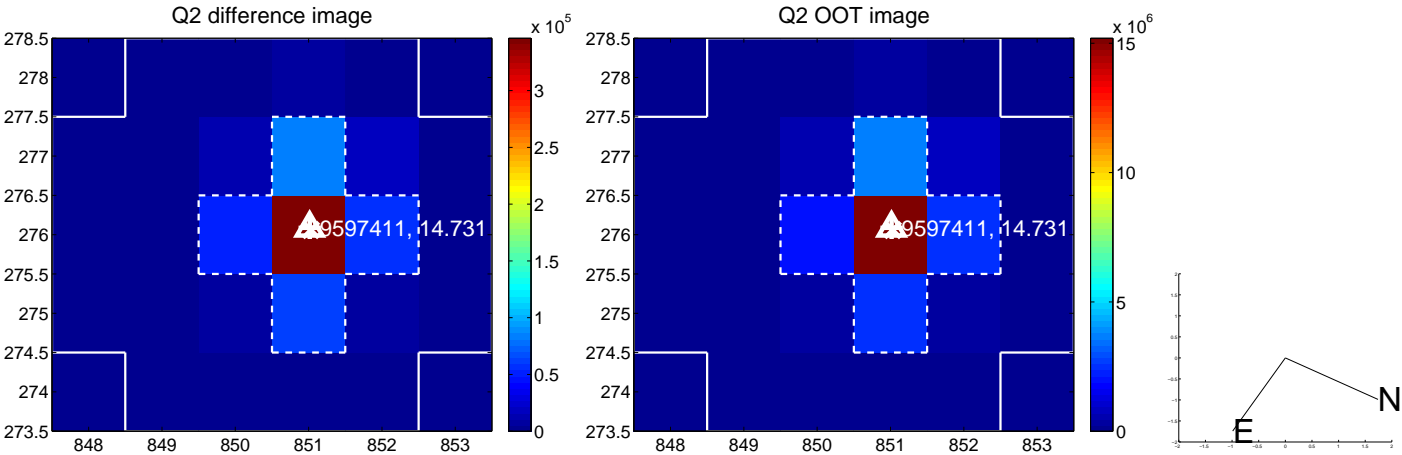
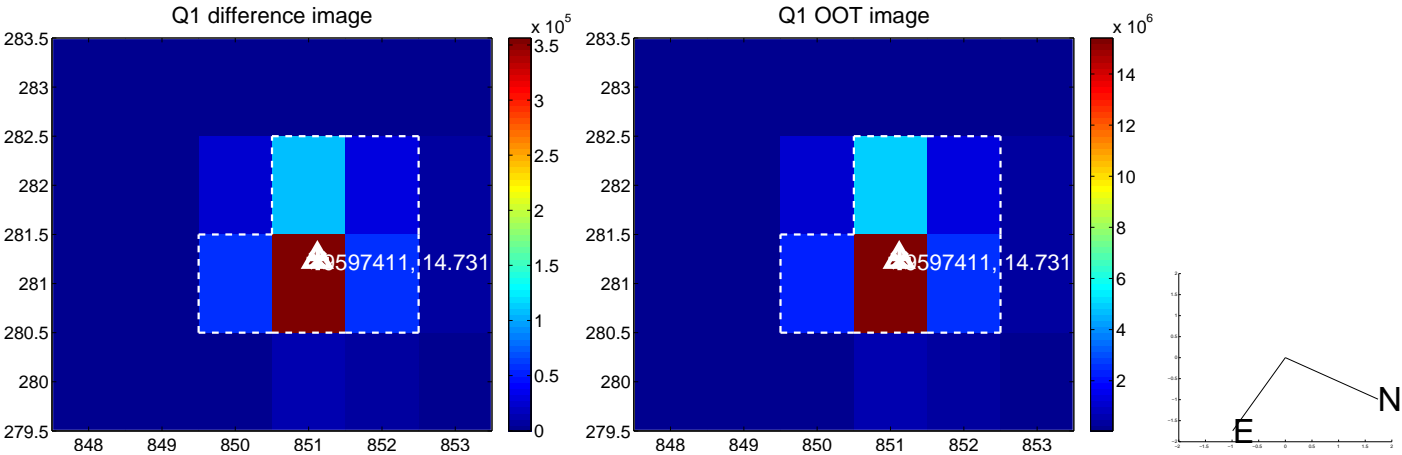
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.006 ± 0.067	0.10	0.006 ± 0.067	0.002 ± 0.067
PRF-fit source offset from KIC position	0.141 ± 0.068	2.07	-0.108 ± 0.068	-0.090 ± 0.067
photometric centroid source offset	0.16 ± 0.00	42.27	-0.10 ± 0.00	-0.13 ± 0.00

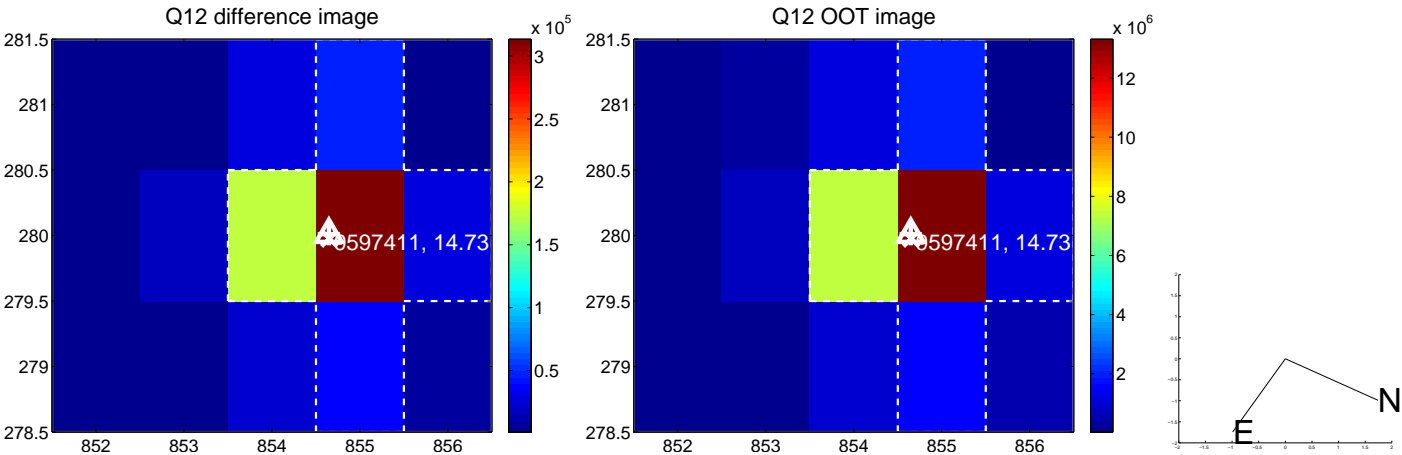
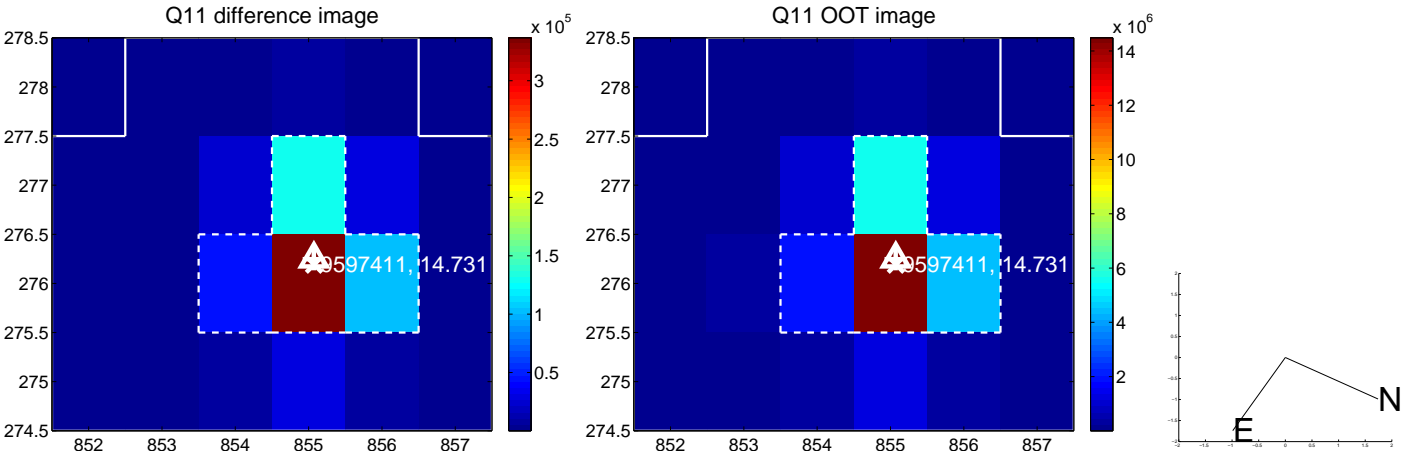
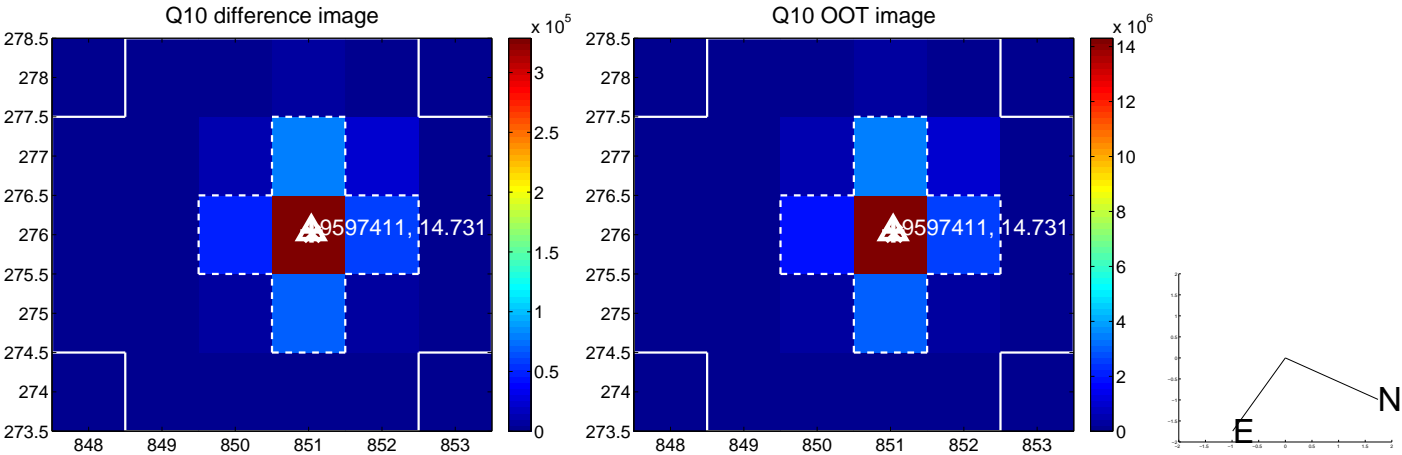
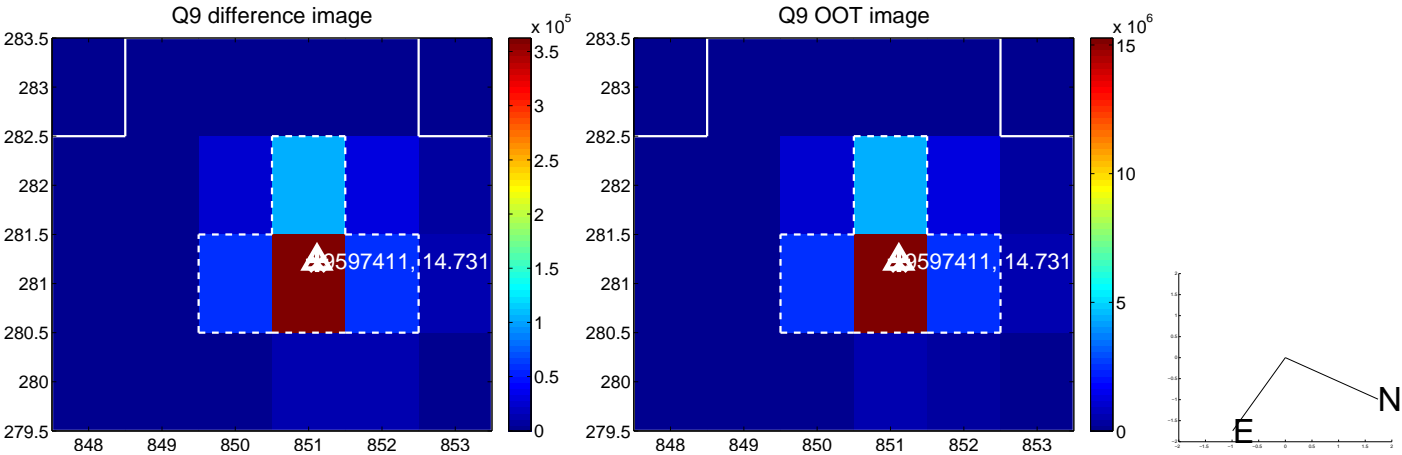


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

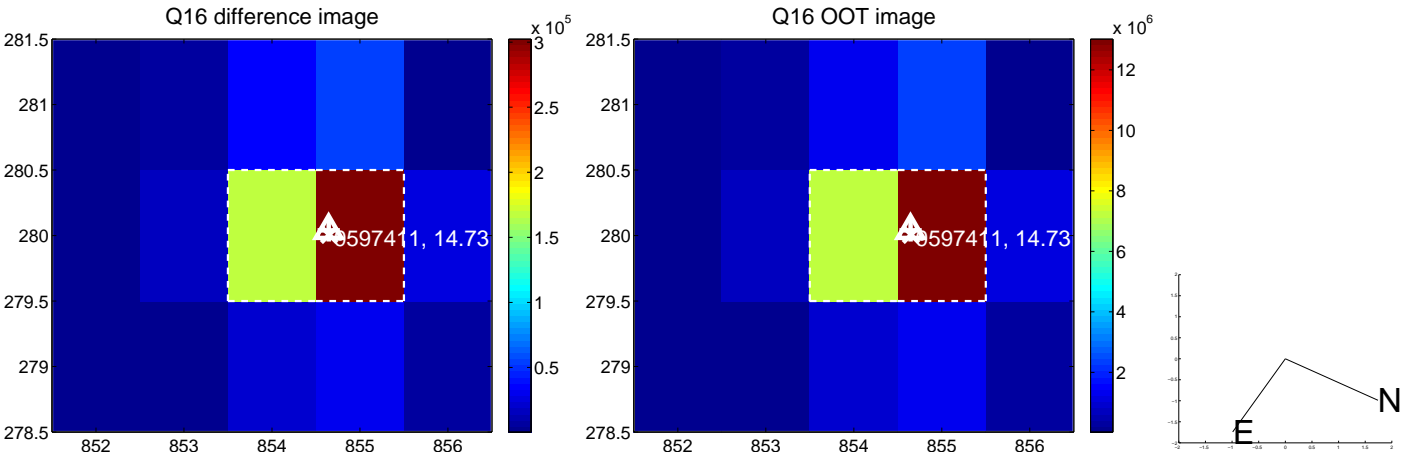
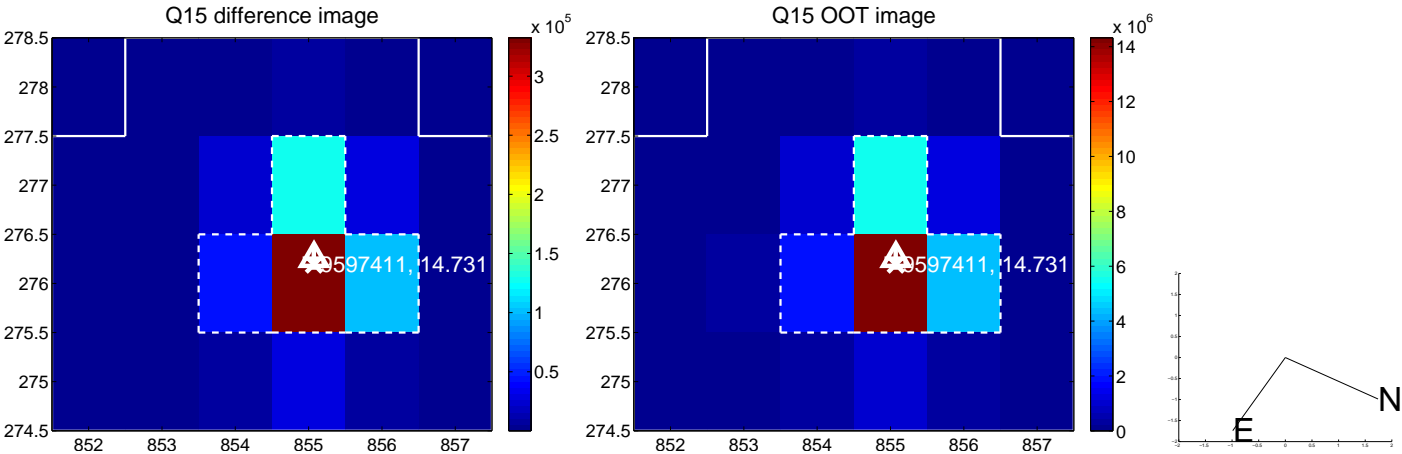
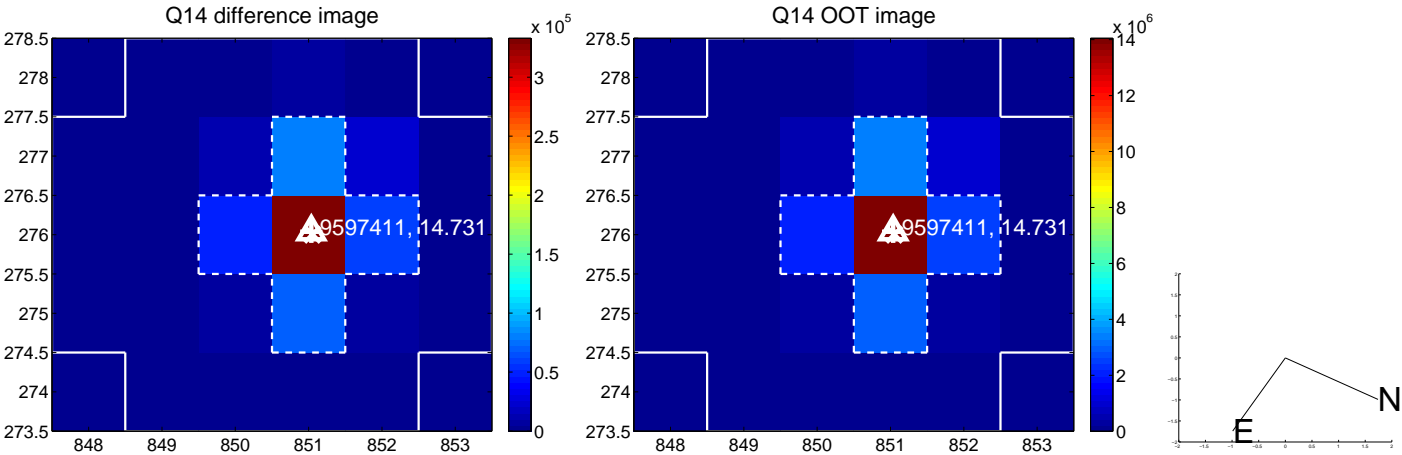
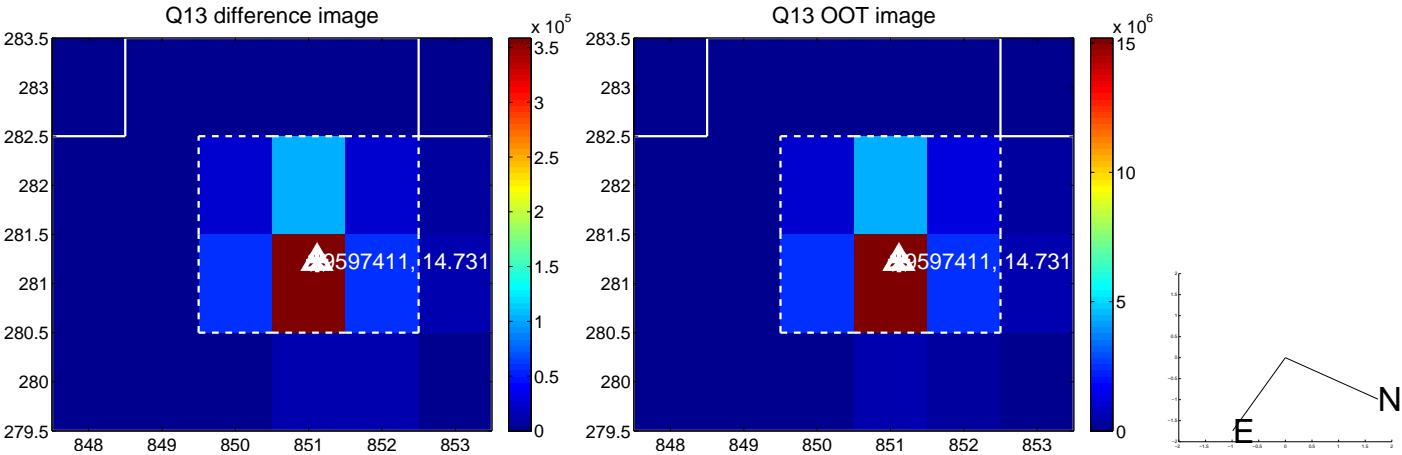
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



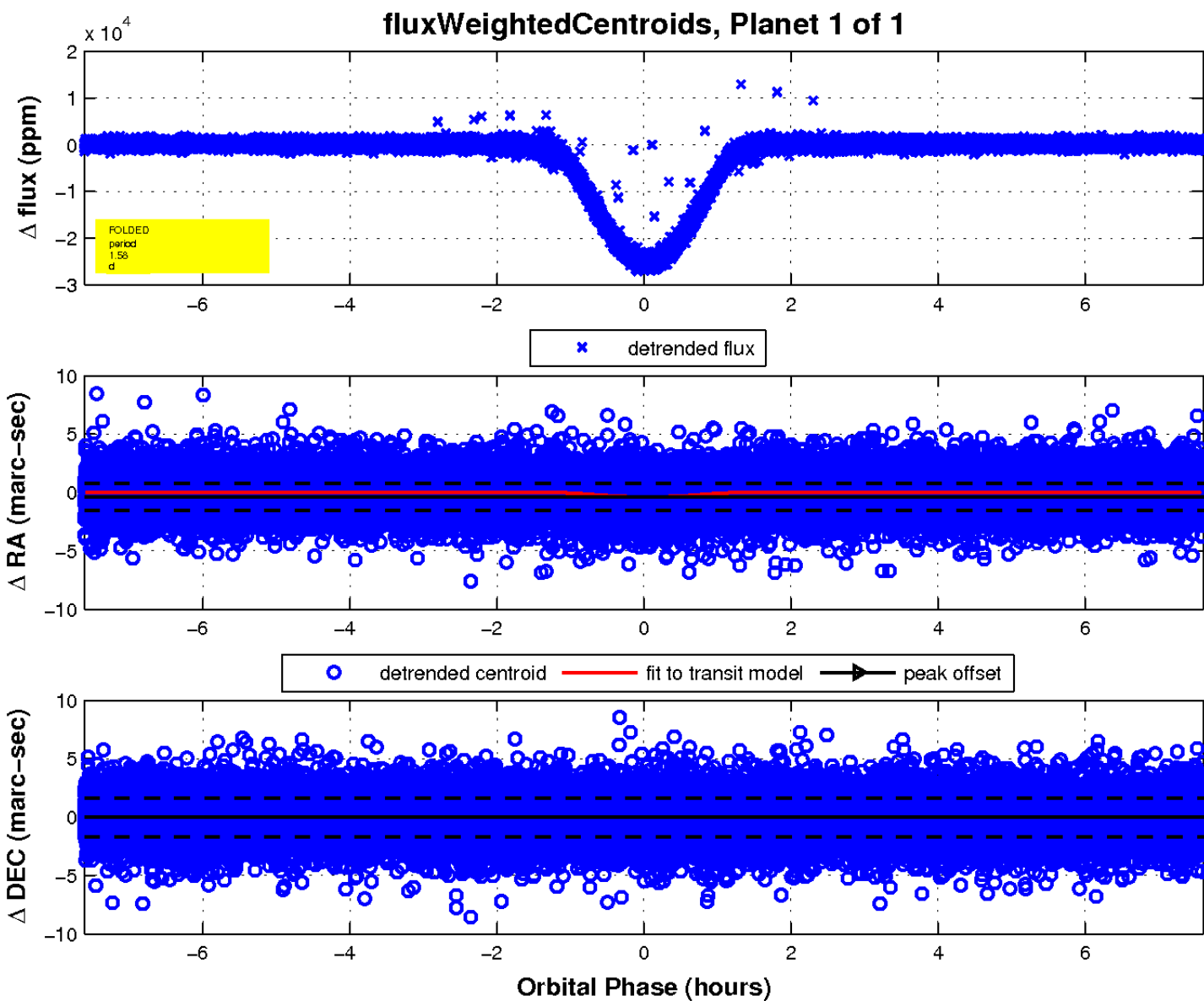
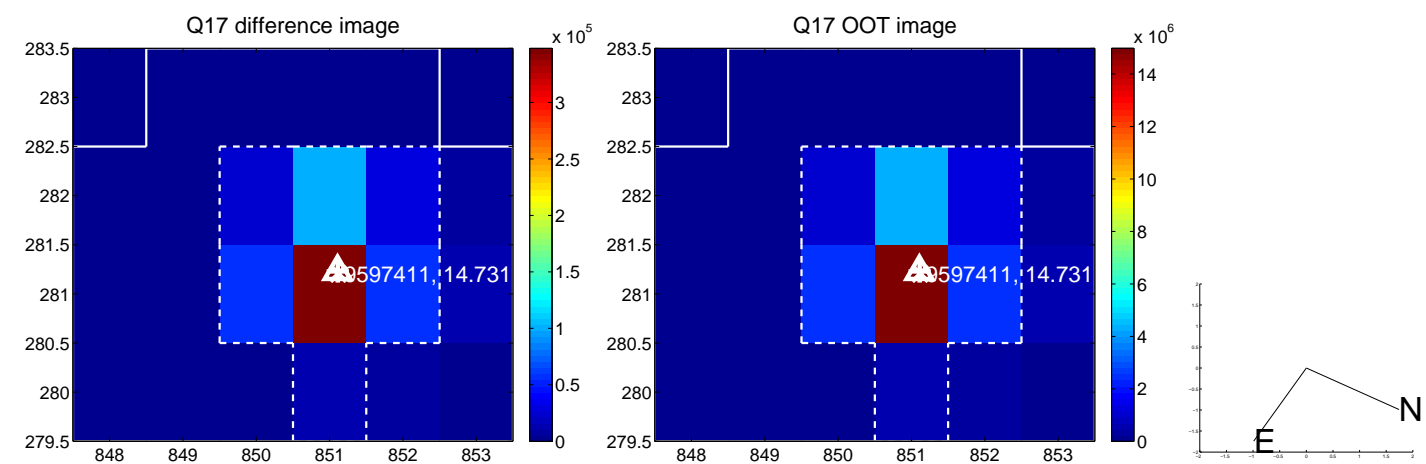
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

