

KIC 010063044

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})
010063044-01	OBS	7280.01	1.009674	131.586237	139555.7	3.948	9405.3	4309.6	2.24	7652	102.39	27638.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010063044-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_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.

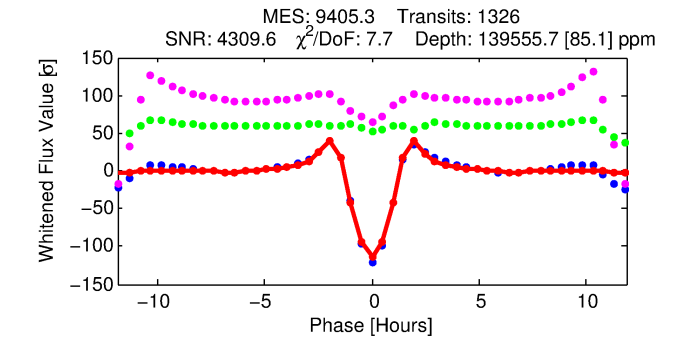
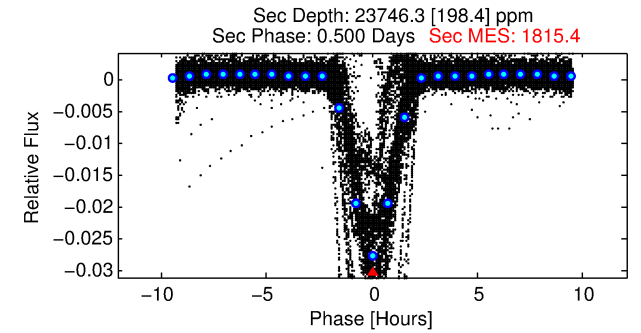
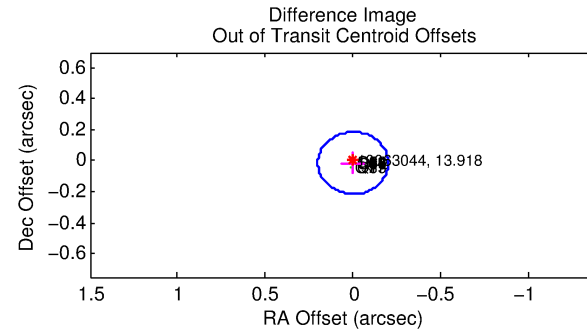
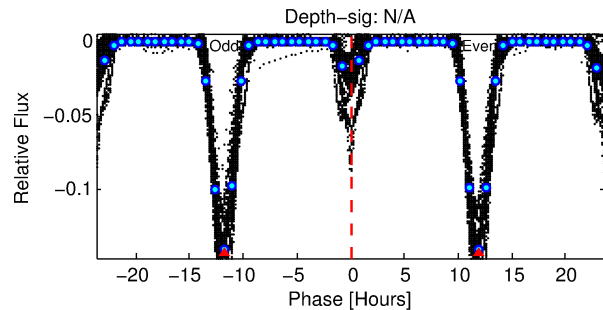
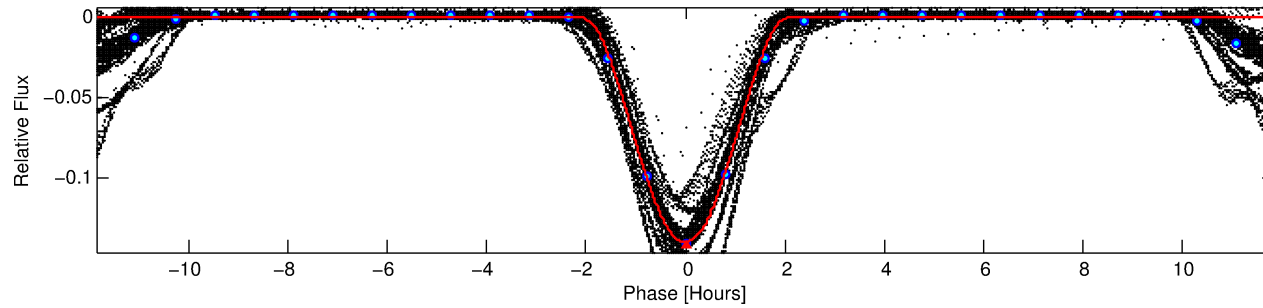
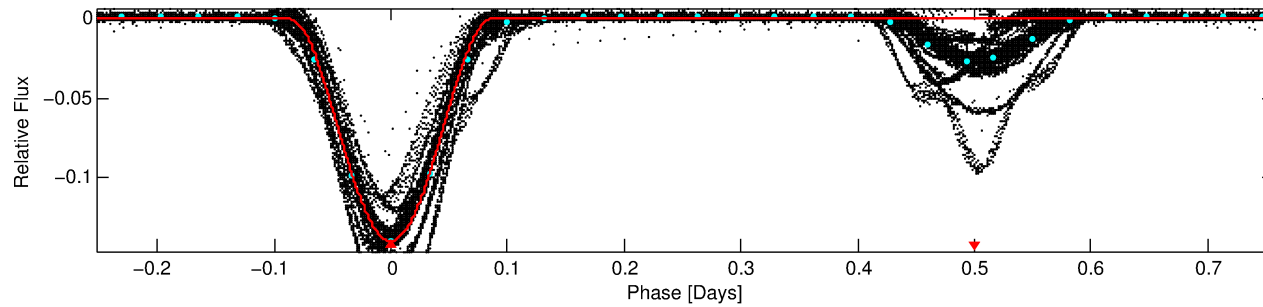
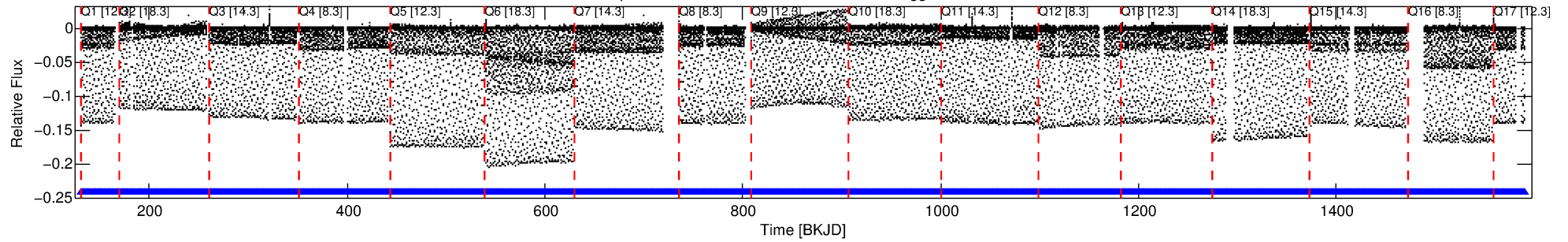
Ephemeris Match Information For 010063044-01

No Significant Match Found

DV One-Page Summary

KIC: 10063044 Candidate: 1 of 1 Period: 1.010 d
KOI: K07280.01 Corr: 0.950

Kp: 13.92 R*: 2.24 Rs Teff: 7652.0 K Logg: 3.97 Fe/H: -0.140



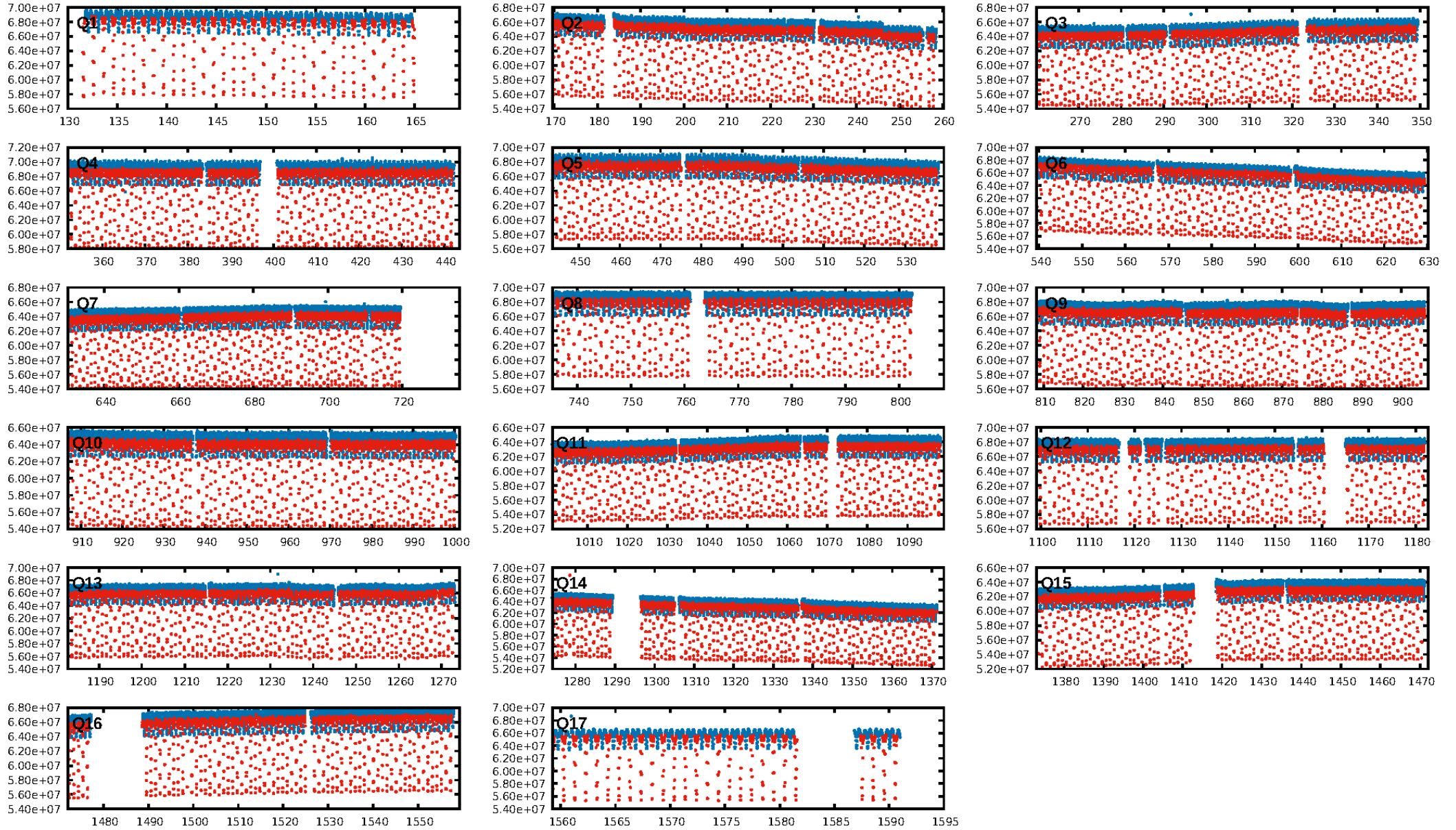
DV Fit Results:

Period = 1.00967 [0.00000] d
Epoch = 131.5862 [0.0000] BKJD
Rp/R* = 0.4185 [0.0017]
a/R* = 2.56 [0.00]
b = 0.76 [0.00]
Seff = 27638.19 [12461.81]
Teff = 3288 [371] K
Rp = 102.39 [33.30] Re
a = 0.0236 [0.0067] AU
Ag = 0.70 [0.29] [-1.04σ]
Teffp = 4643 [192] K [3.25σ]

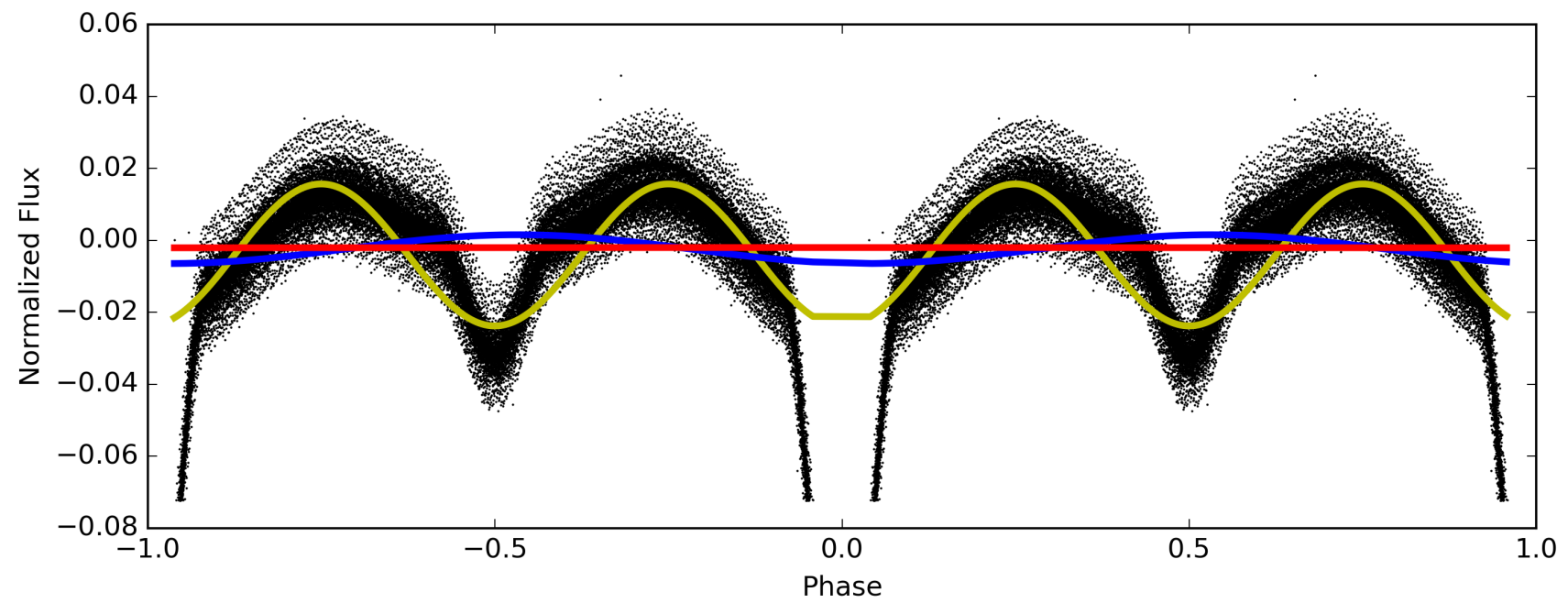
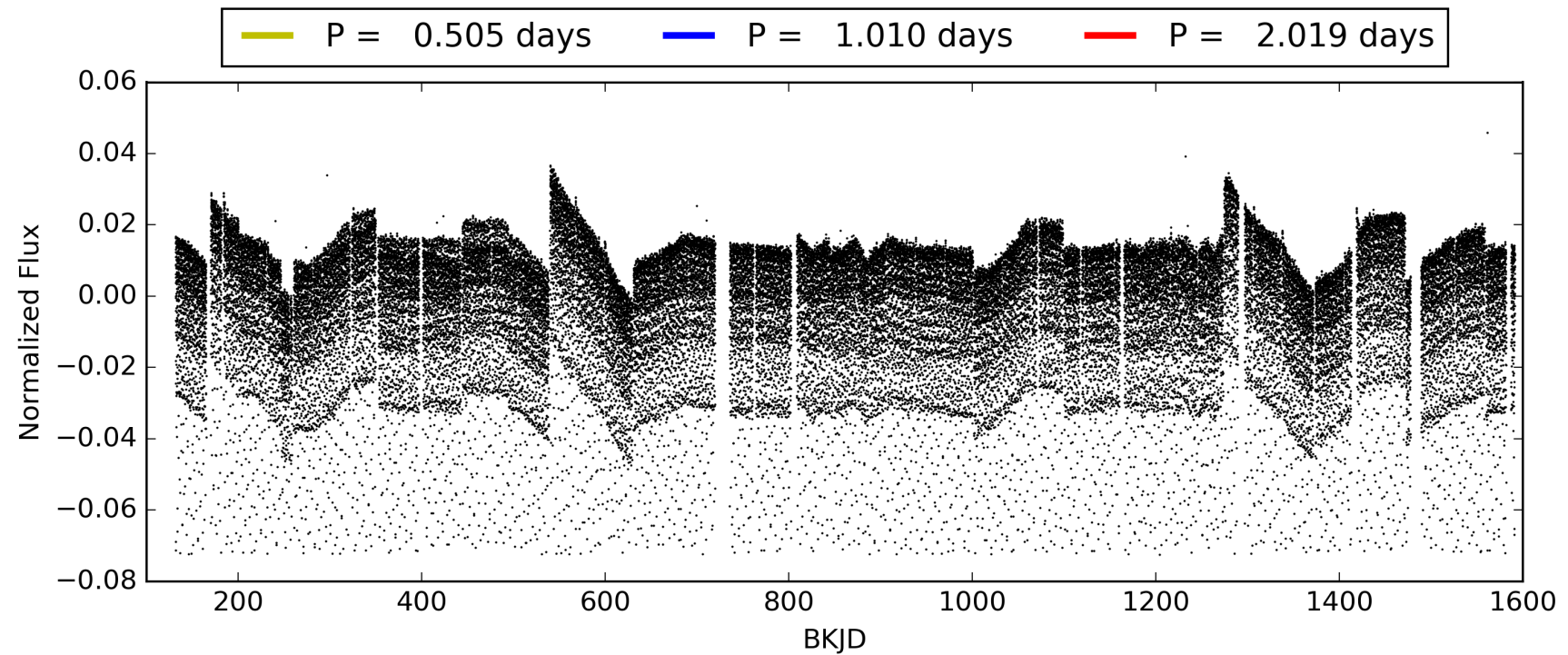
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1265/1265]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.136 arcsec [326.84σ]
OotOffset-rm: 0.015 arcsec [0.22σ]
KicOffset-rm: 0.070 arcsec [1.04σ]
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]

TCE 010063044-01, PDC Light Curves

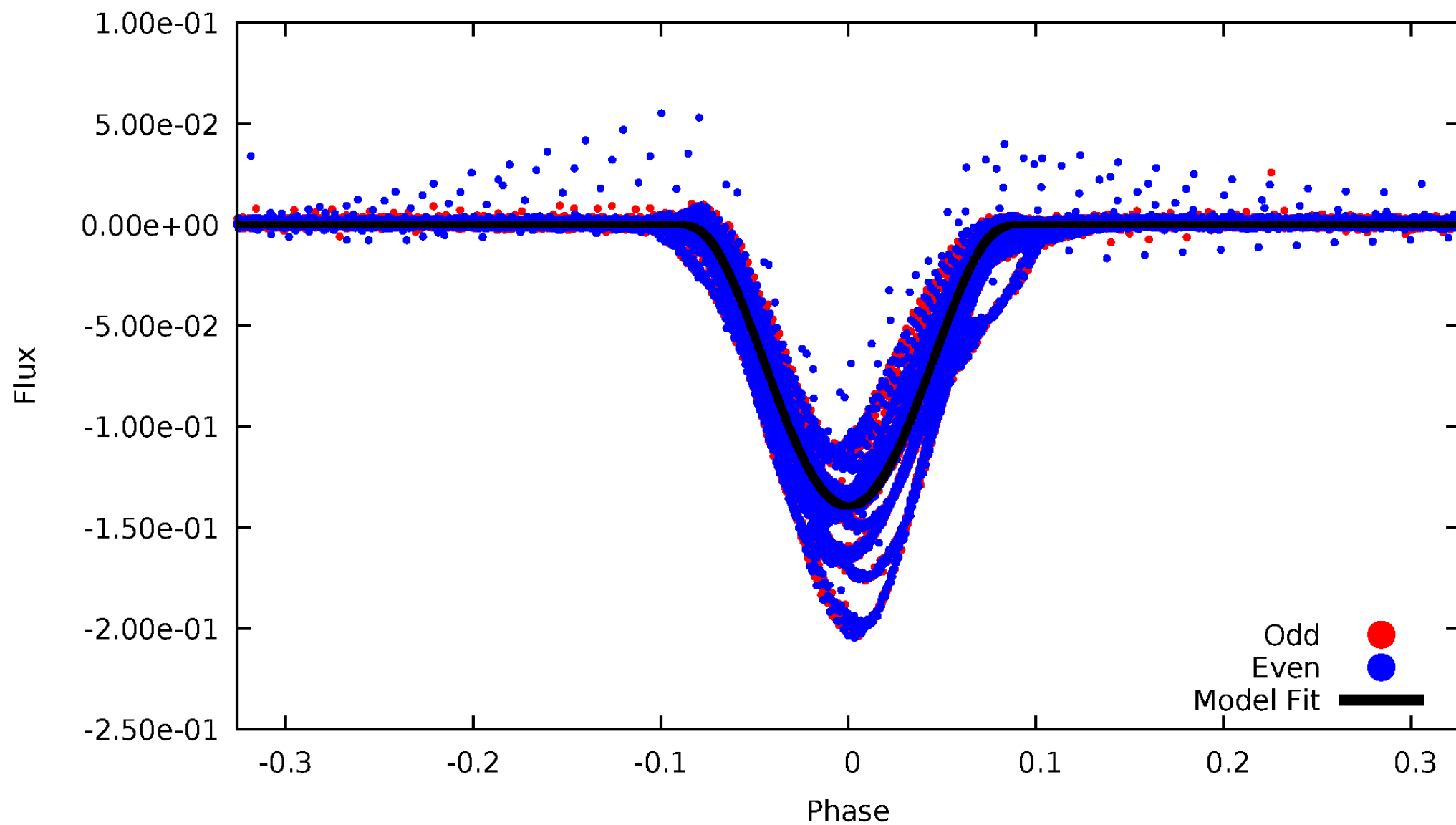


TCE 010063044-01



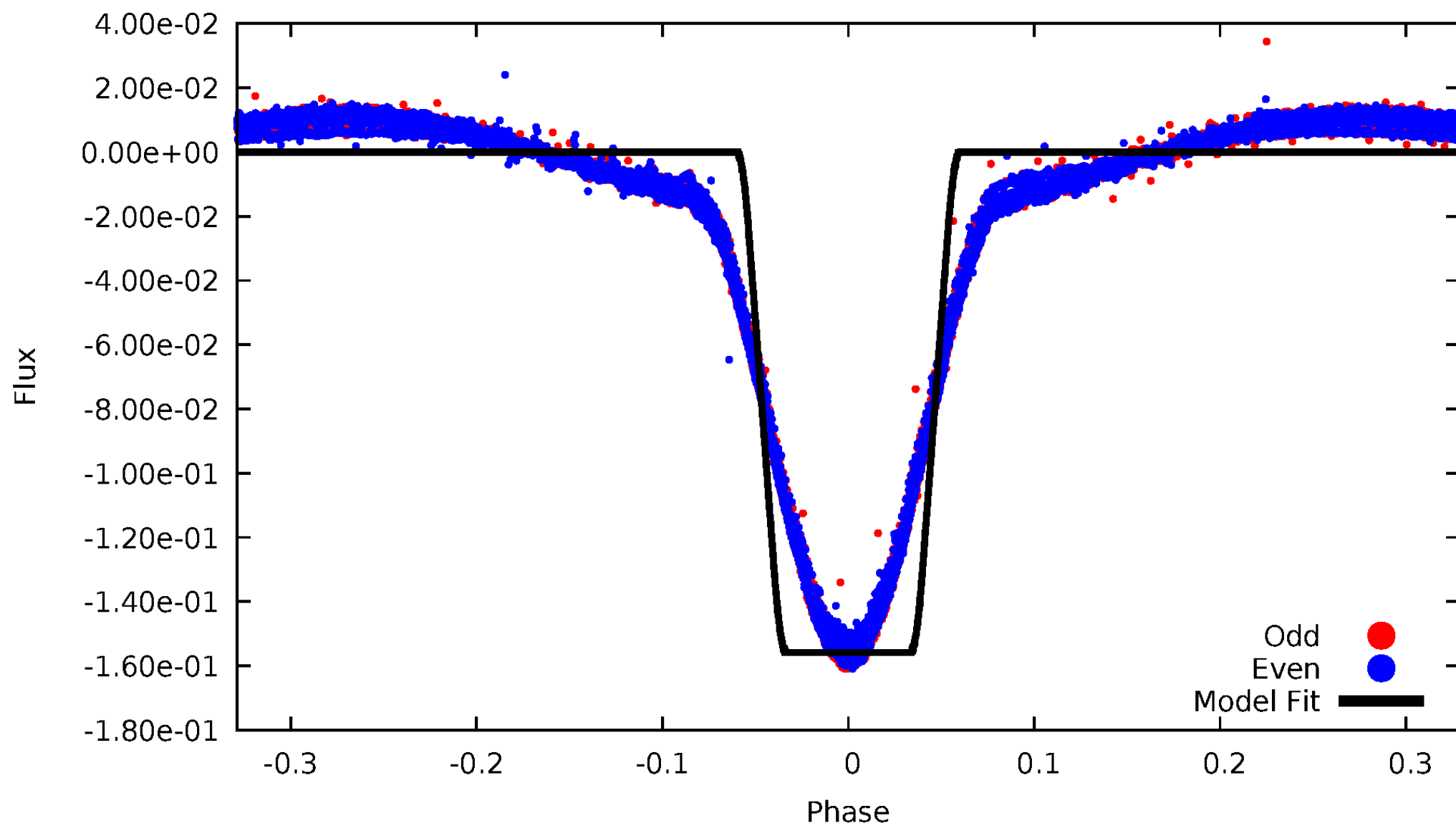
DV Odd/Even

TCE 010063044-01



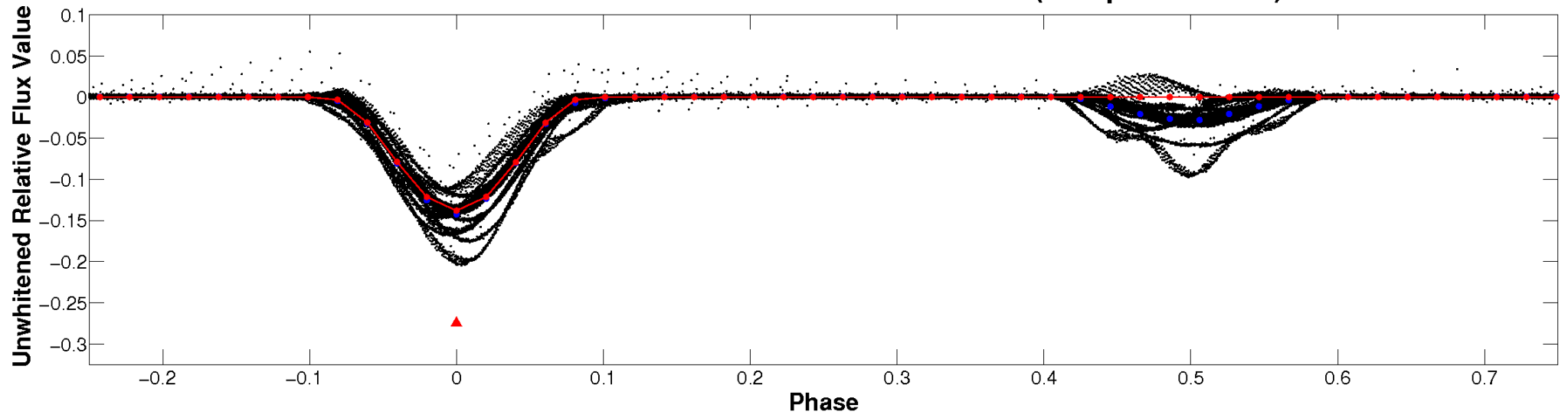
ALT Odd/Even

TCE 010063044-01

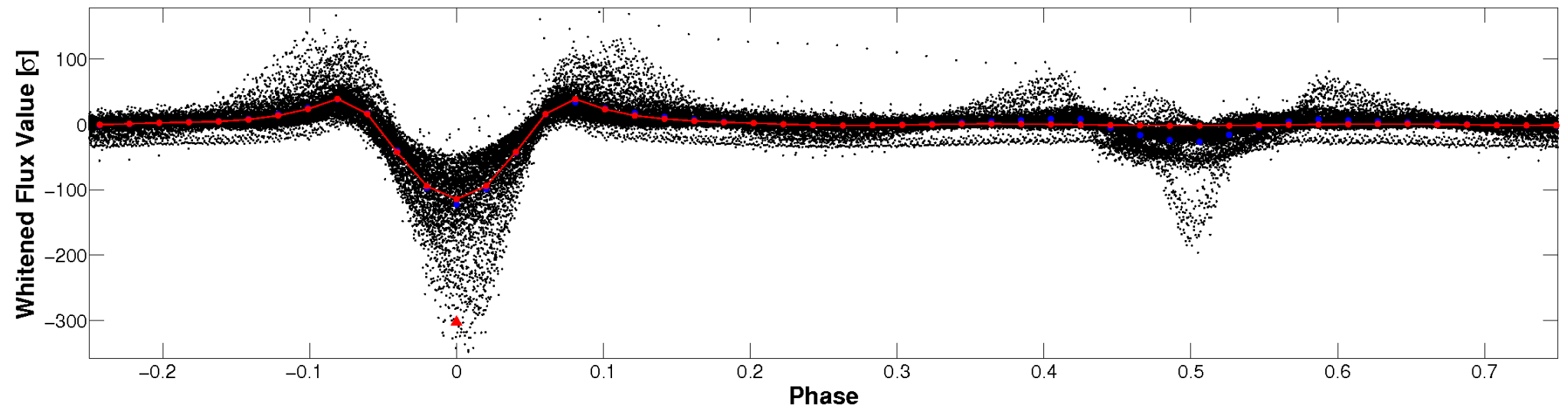


Non-Whitened Vs. Whitened Light Curve

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

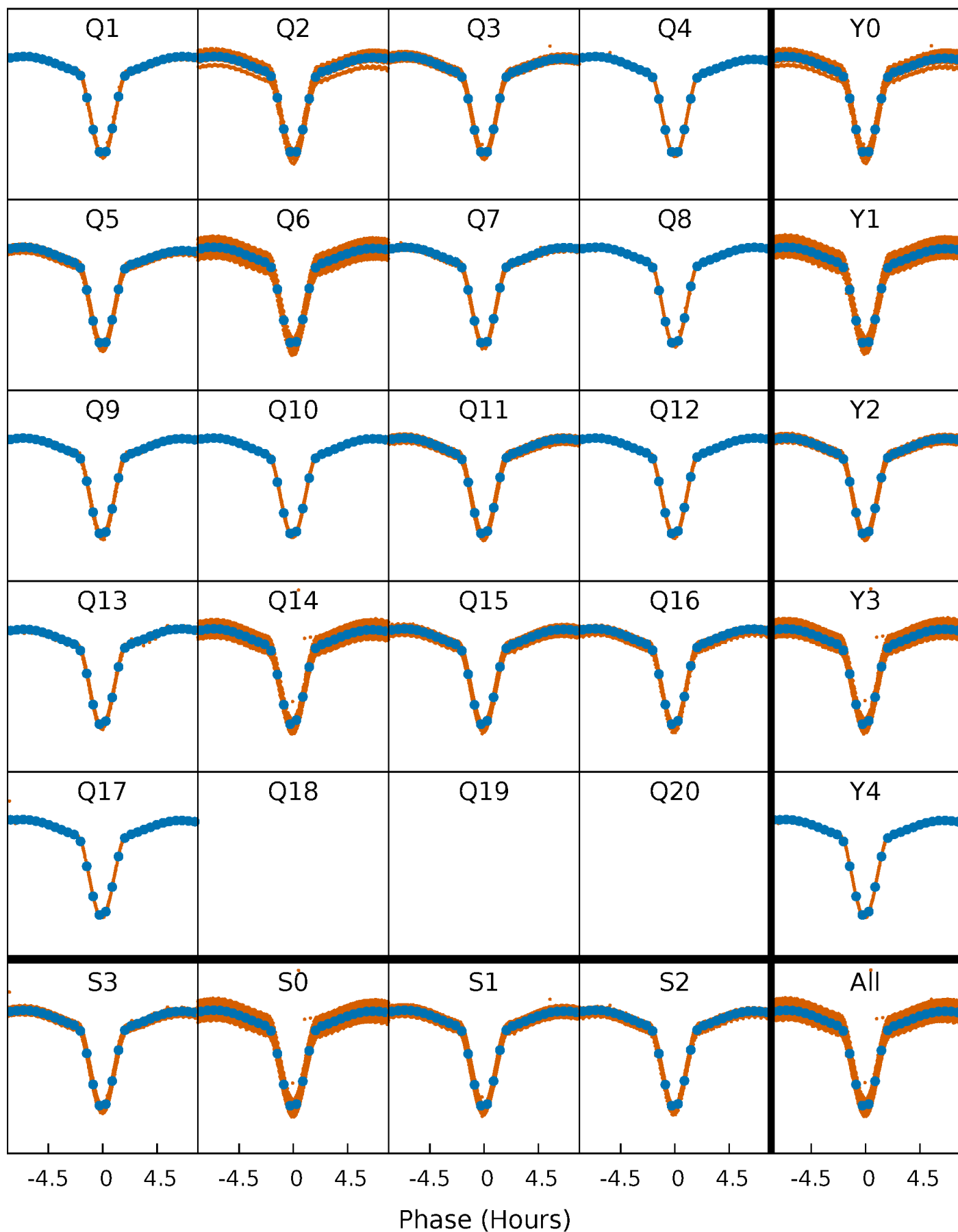


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



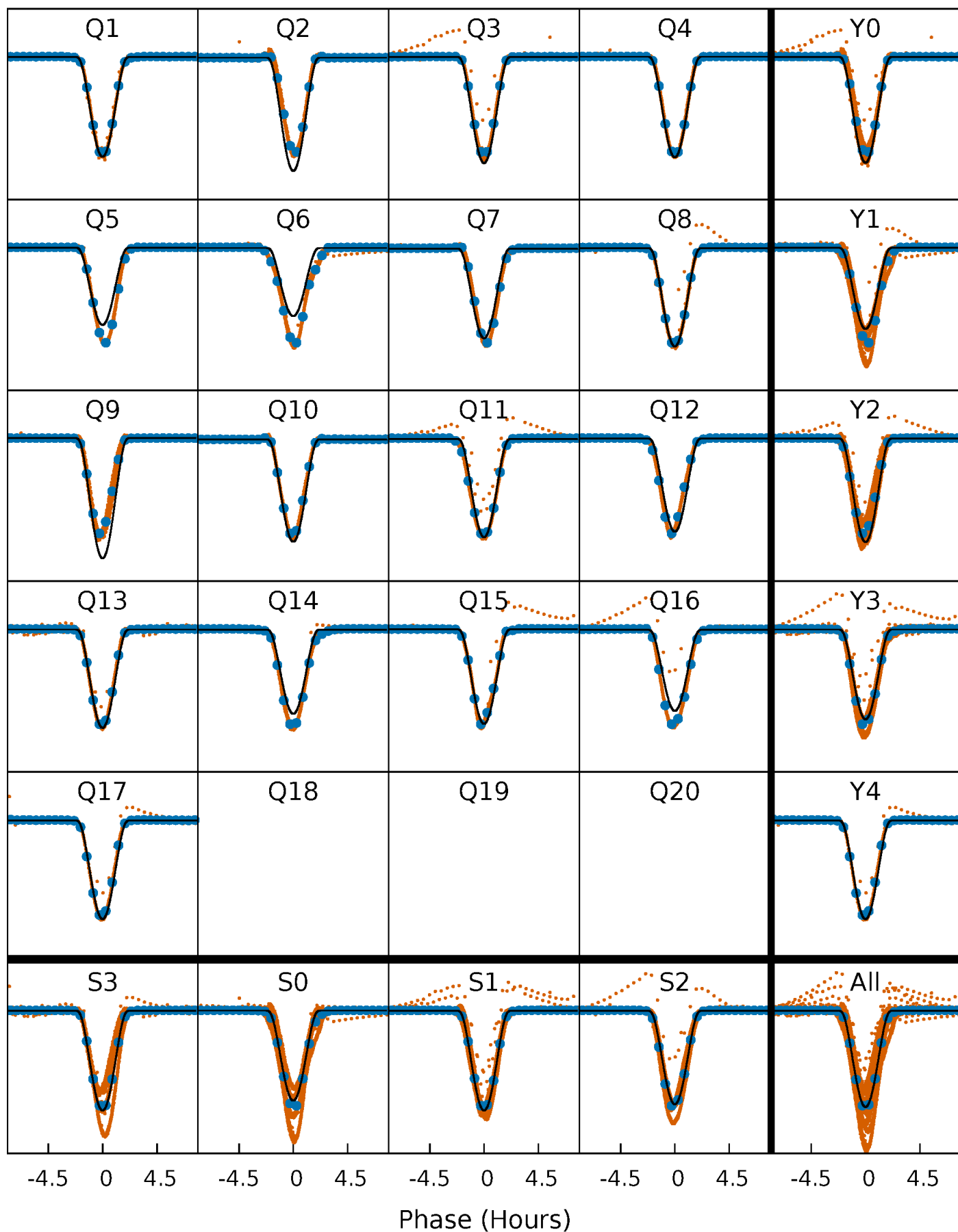
PDC Quarter-Phased Transit Curves

TCE 010063044-01 P= 1.009674 Days $T_0=131.586237$ (BKJD)



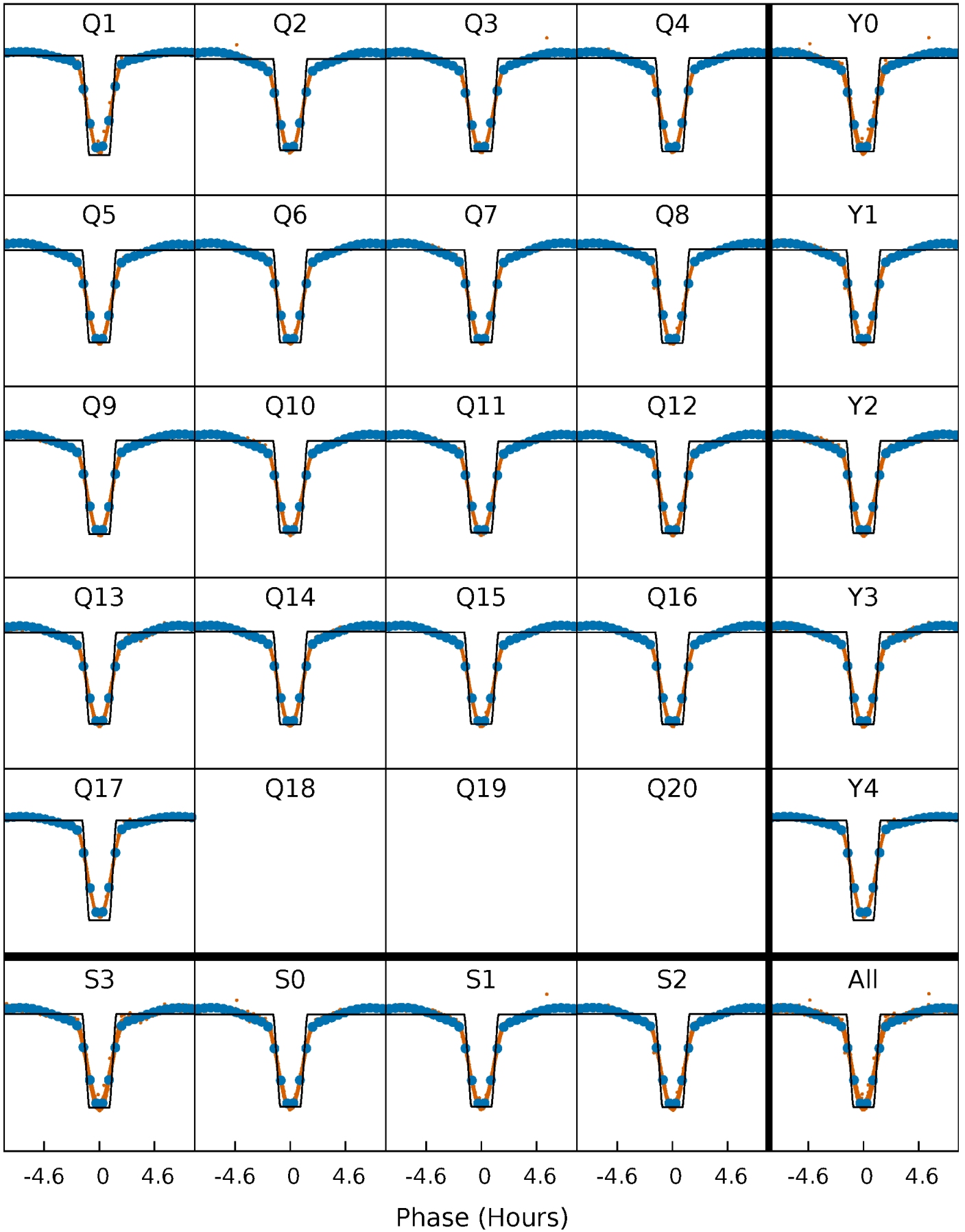
DV Quarter-Phased Transit Curves

TCE 010063044-01 P= 1.009674 Days $T_0=131.586237$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

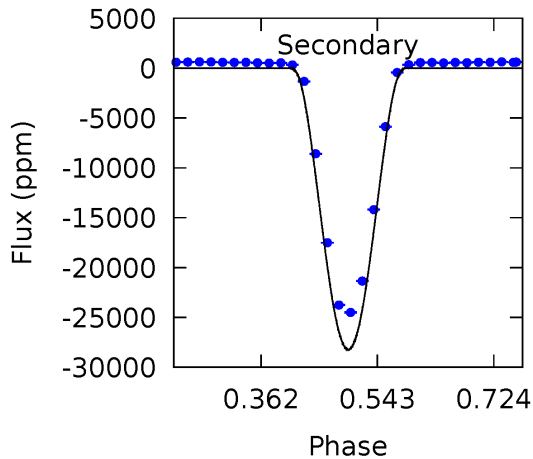
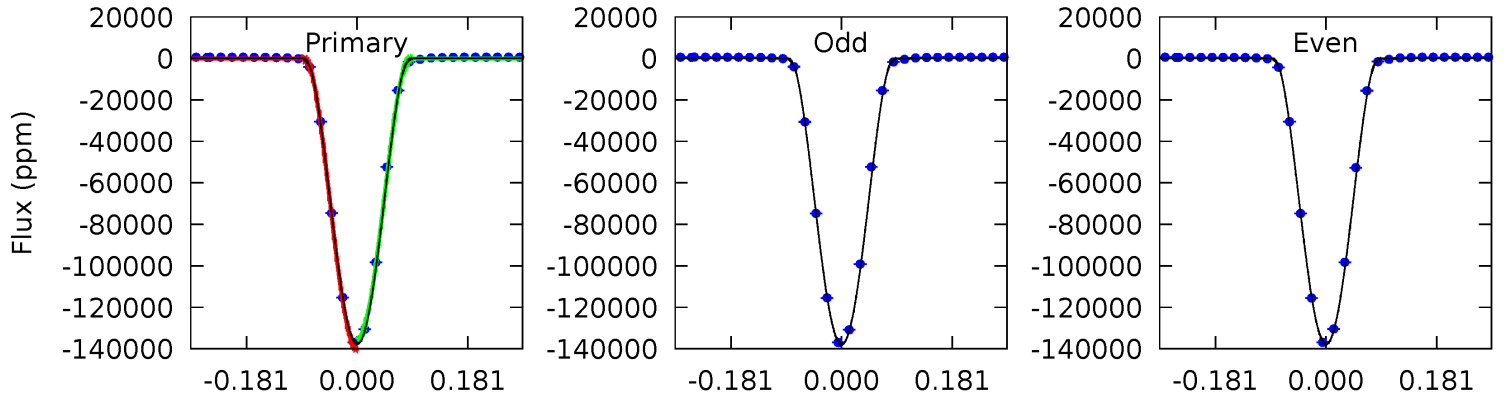
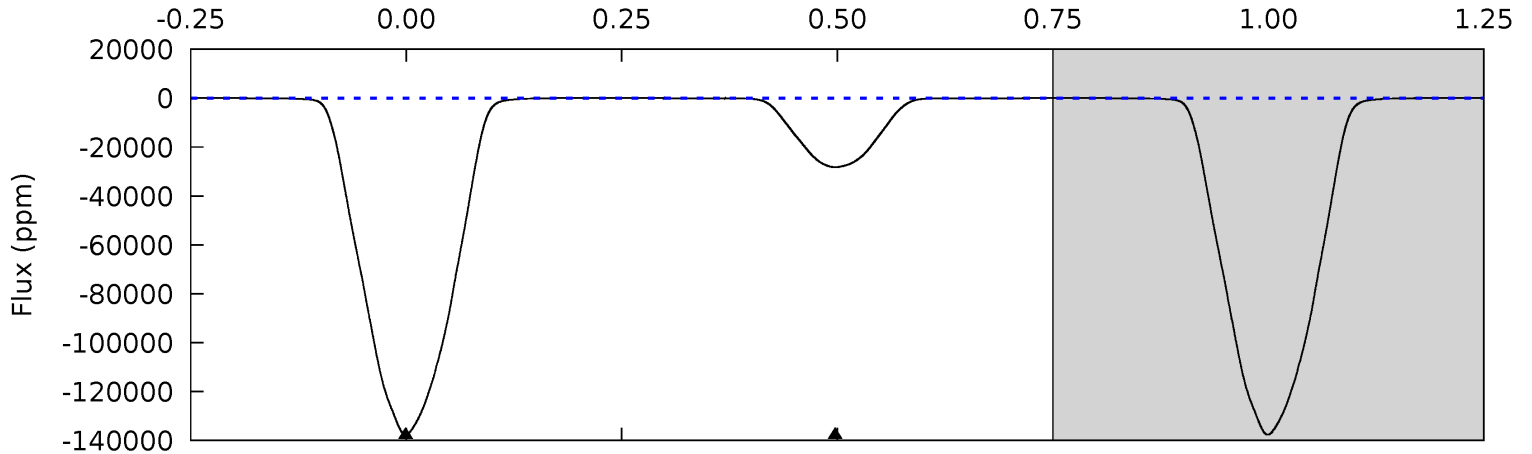
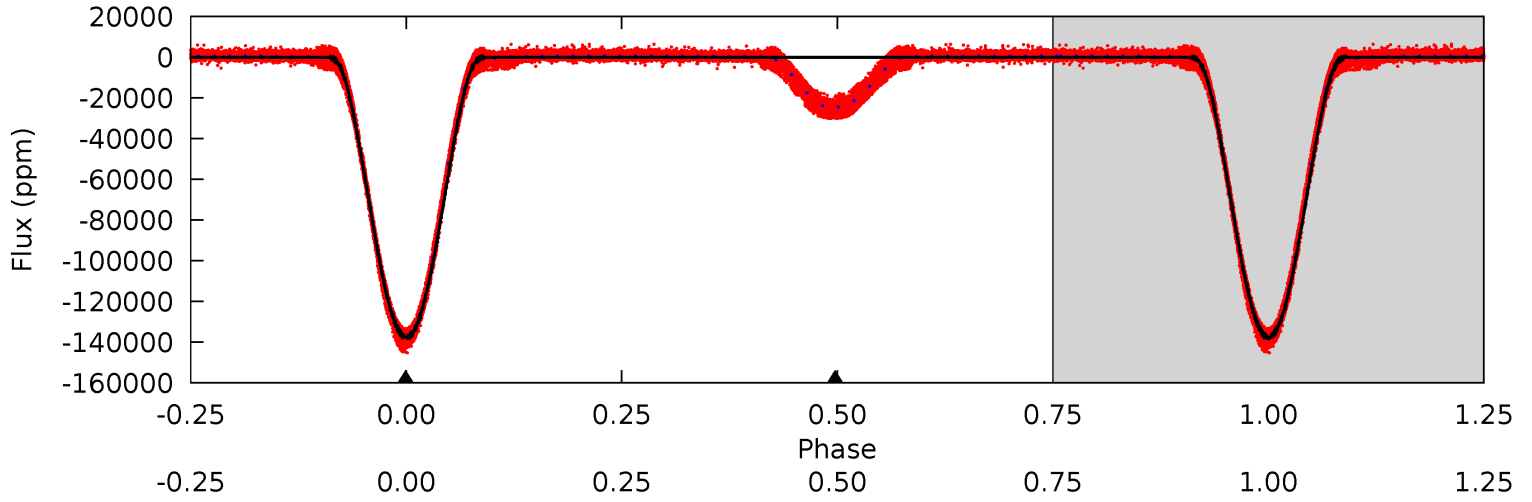
TCE 010063044-01 P= 1.009671 Days $T_0=131.587037$ (BKJD)



DV Model-Shift Uniqueness Test

010063044-01, P = 1.009674 Days, E = 130.576563 Days

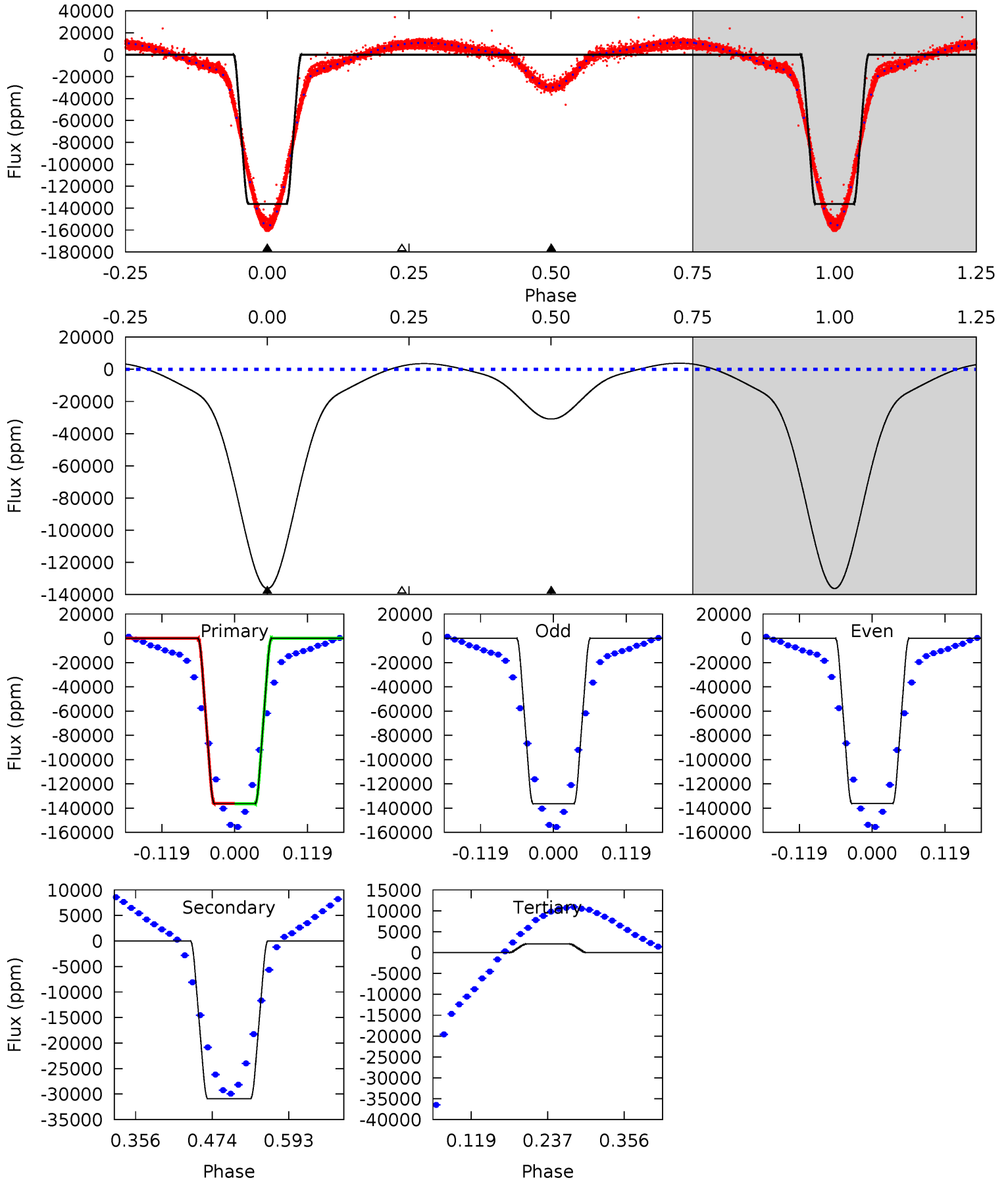
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9444	1937	0	0	4.44	1.34	1.22	9444	9444	1937	1937	5.50	1.04	0.00	159.2



Alt Model-Shift Uniqueness Test

010063044-01, P = 1.009671 Days, E = 130.577366 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1521	344.9	-22.8	0	4.53	1.56	61.3	1544	1521	367.7	344.9	0.70	1.00	0.03	1.46



Stellar Parameters For KIC 010063044

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7652^{+211}_{-316}	$3.974^{+0.234}_{-0.136}$	$-0.140^{+0.200}_{-0.350}$	$2.242^{+0.486}_{-0.729}$	$1.723^{+0.184}_{-0.341}$	$0.215^{+0.337}_{-0.086}$
	+3%/-4%	+6%/-3%	+143%/-250%	+22%/-33%	+11%/-20%	+157%/-40%
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 010063044-01 / KOI 7280.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-28230 ± 15	$100.60^{+12.98}_{-17.13}$	4522^{+324}_{-348}	4485^{+159}_{-153}	$0.873^{+0.334}_{-0.172}$
Alt.	-30892 ± 90	$96.14^{+11.48}_{-16.26}$	4543^{+286}_{-393}	4766^{+135}_{-163}	$1.064^{+0.402}_{-0.195}$

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 $A_{obs} \gg 1.0$

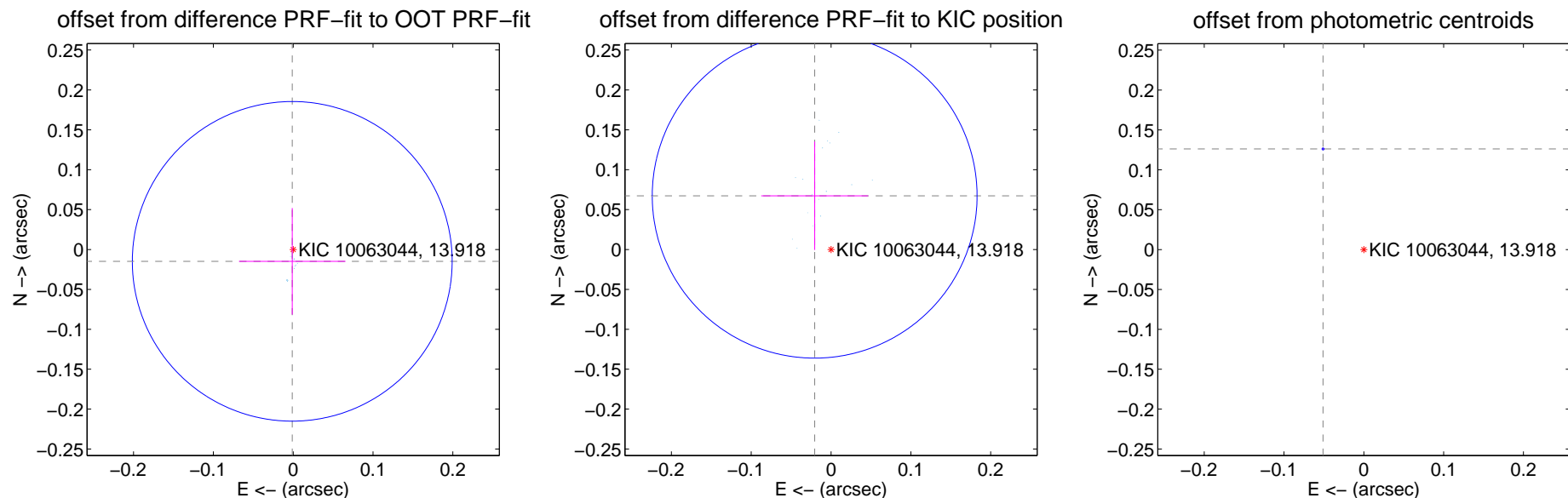
DV Centroid Data

Supplemental centroid analysis for 010063044-01. Kepler magnitude: 13.92. Transit SNR 4309.60

There are 17 quarters with good PRF difference image offsets

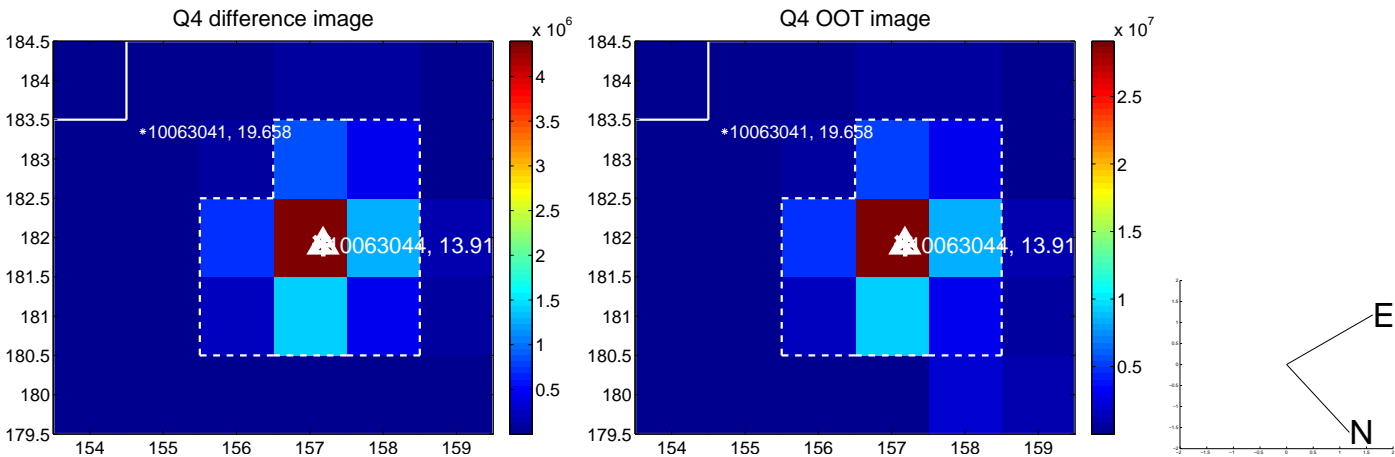
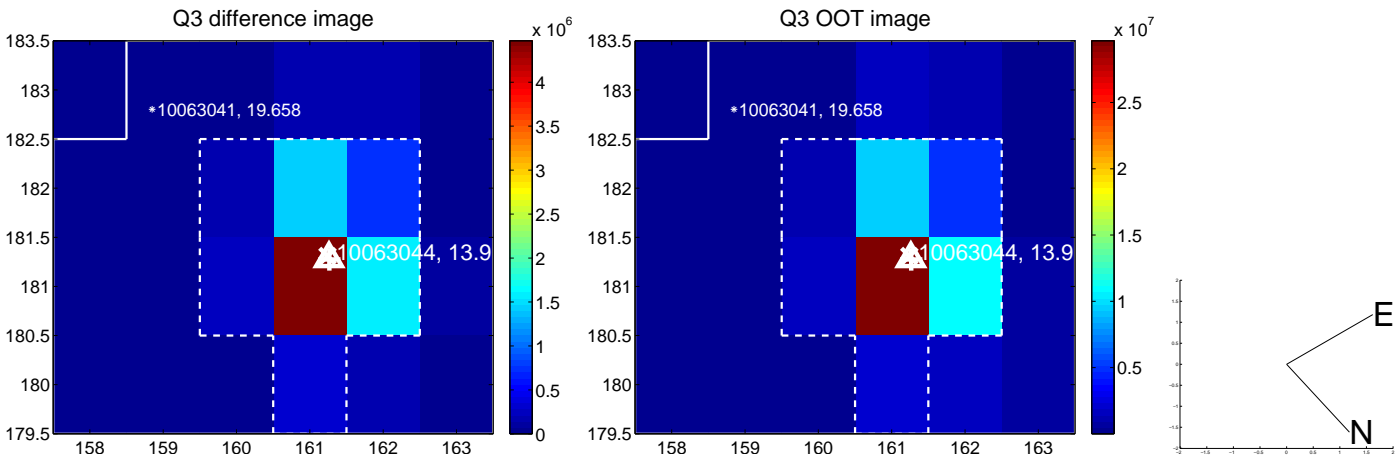
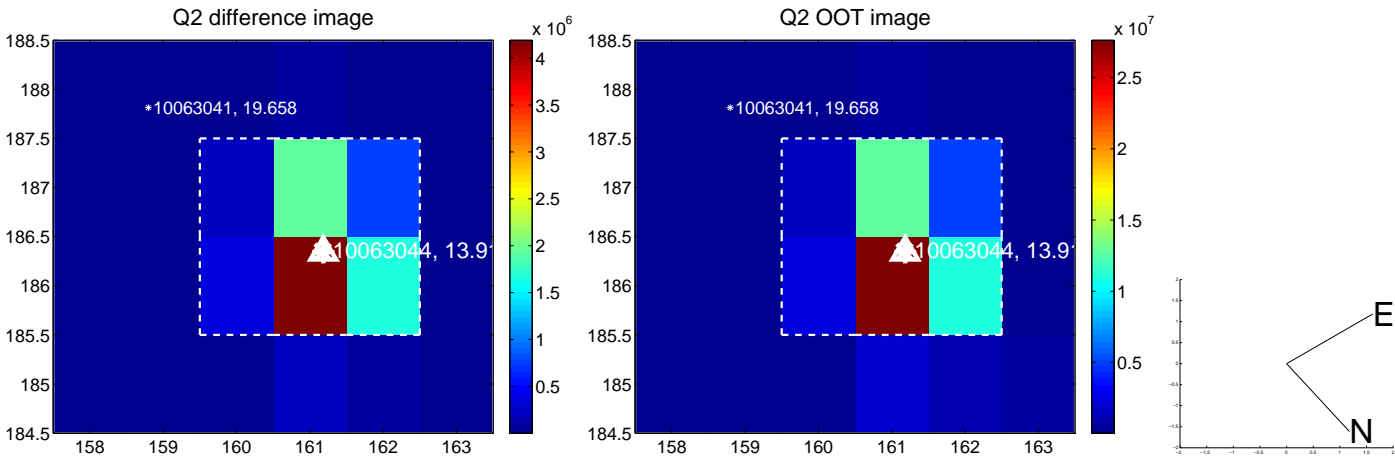
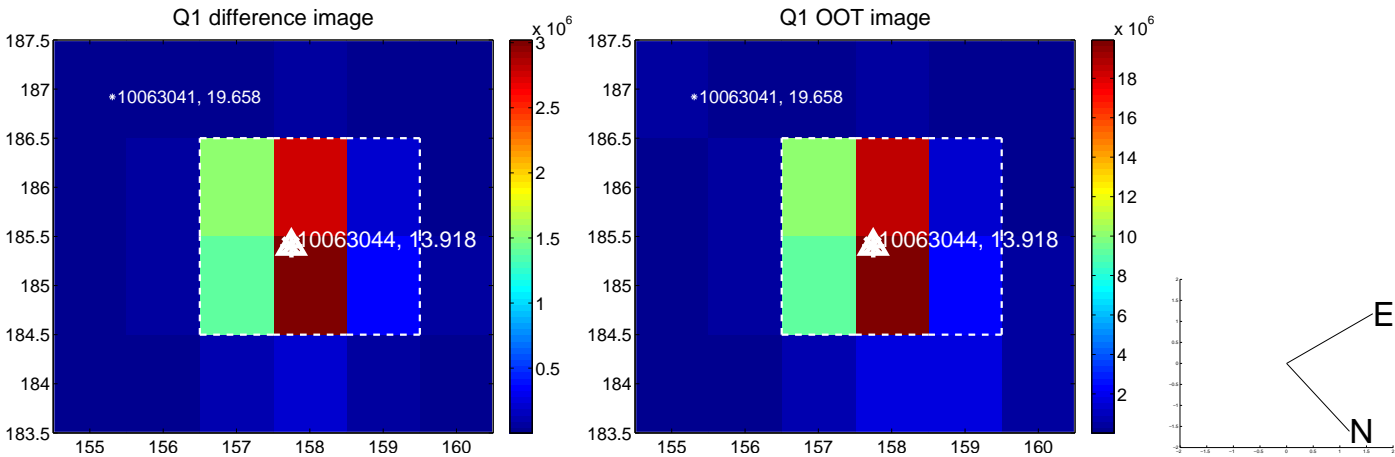
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.015 ± 0.067	0.22	0.001 ± 0.067	-0.015 ± 0.067
PRF-fit source offset from KIC position	0.070 ± 0.068	1.04	0.021 ± 0.067	0.067 ± 0.068
photometric centroid source offset	0.14 ± 0.00	326.84	0.05 ± 0.00	0.13 ± 0.00

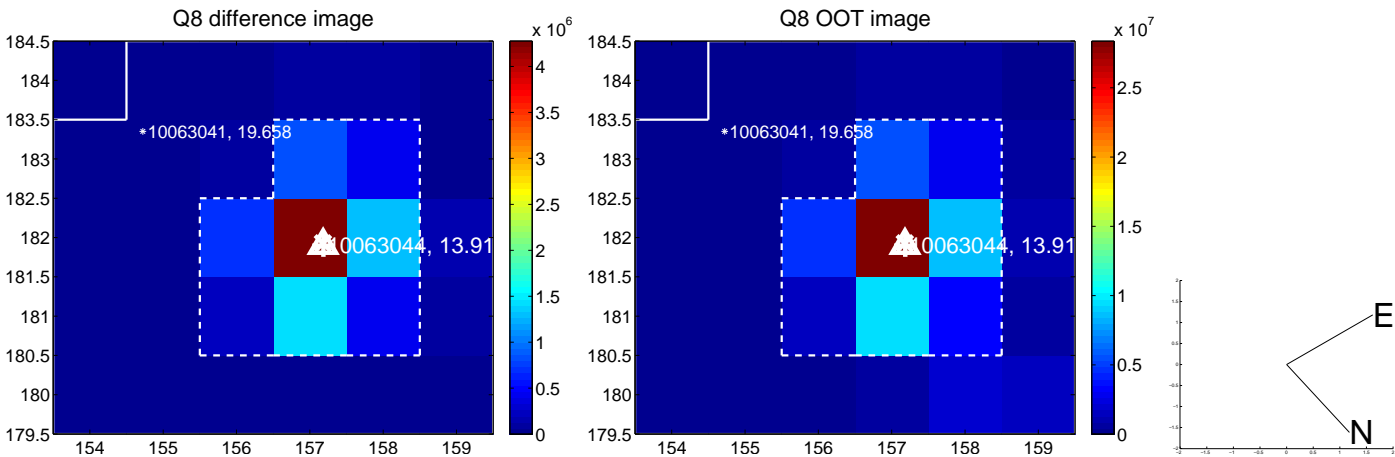
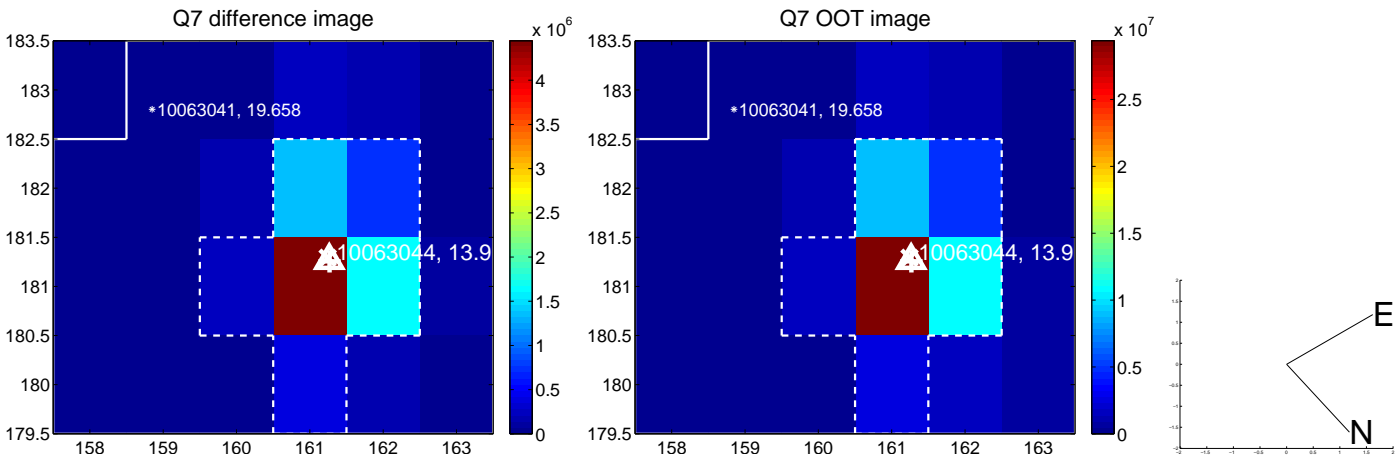
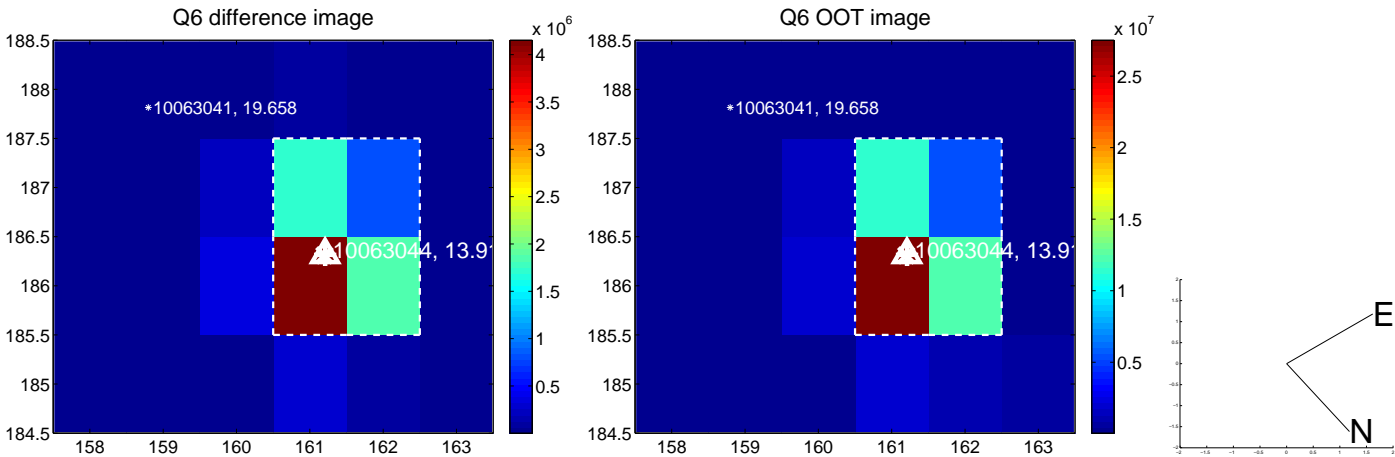
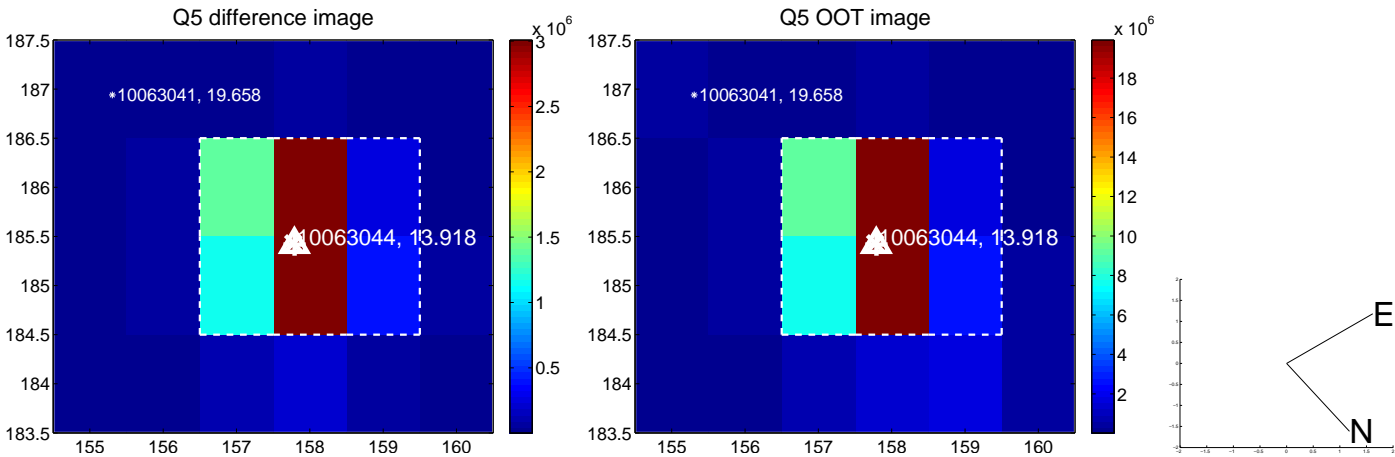


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

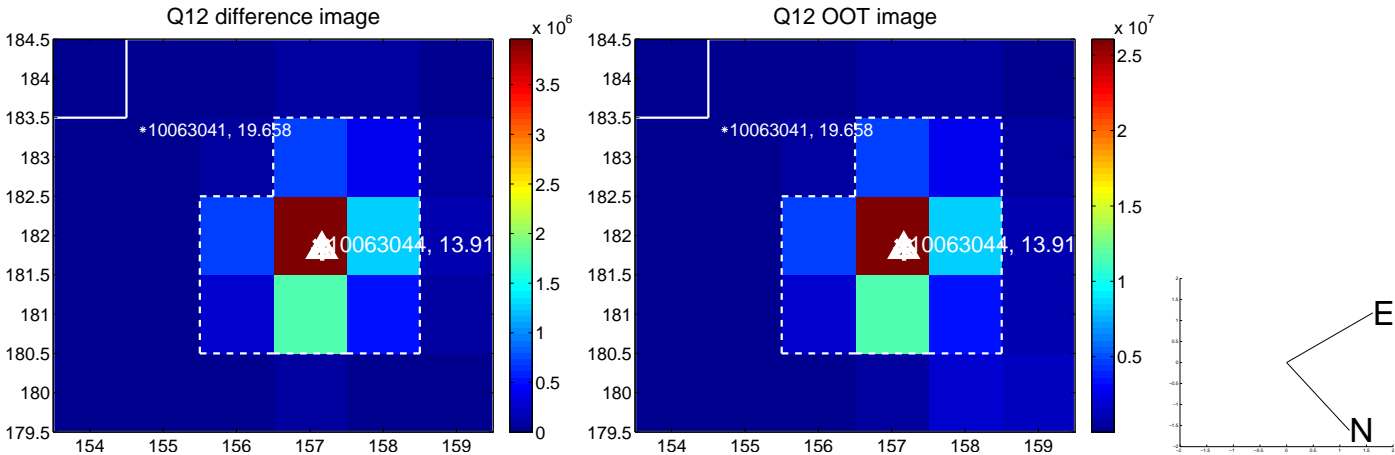
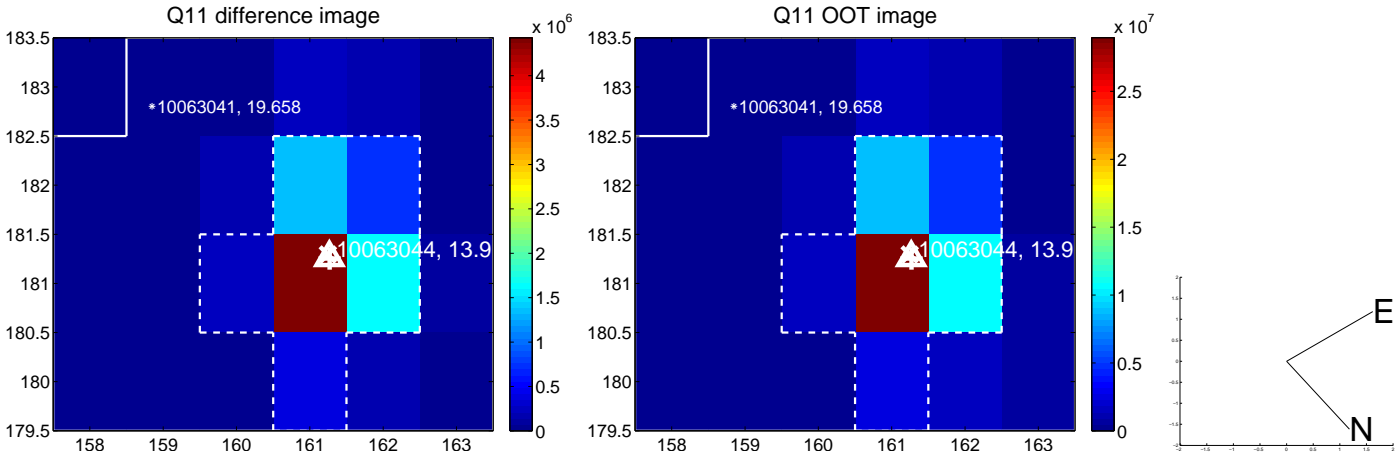
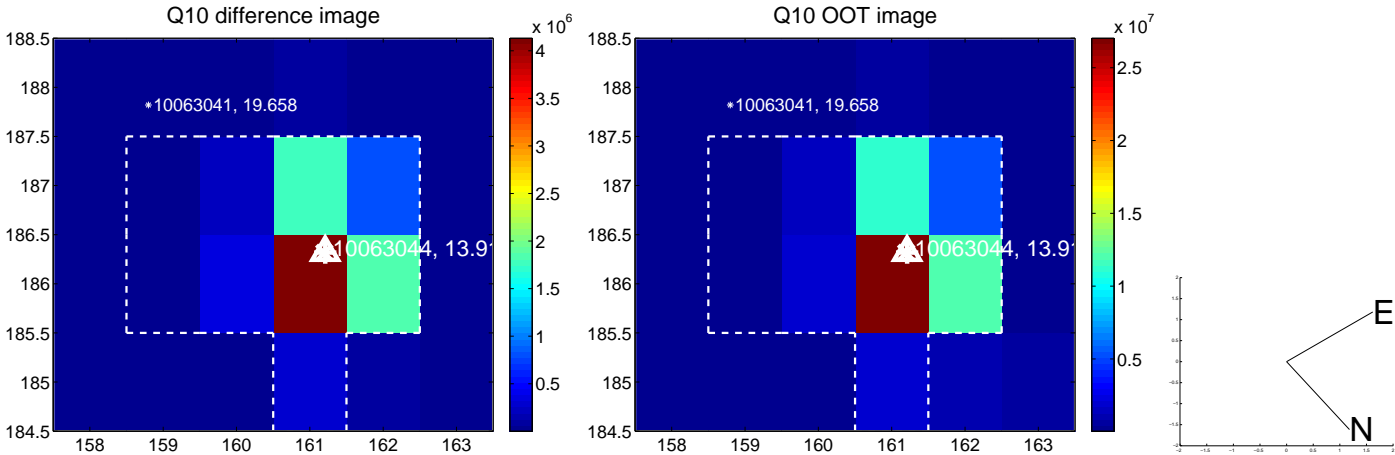
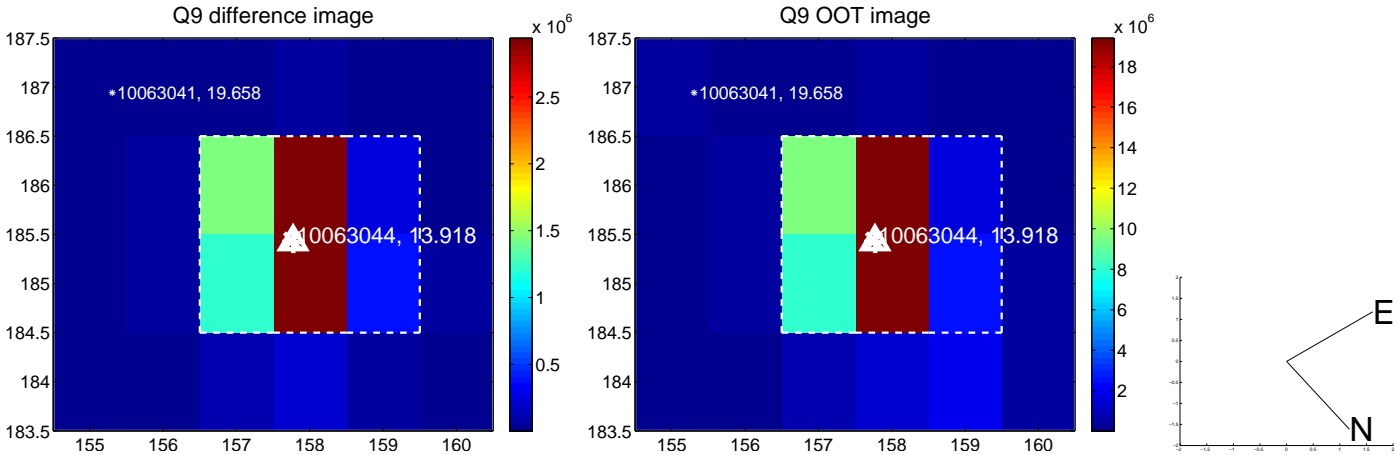
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



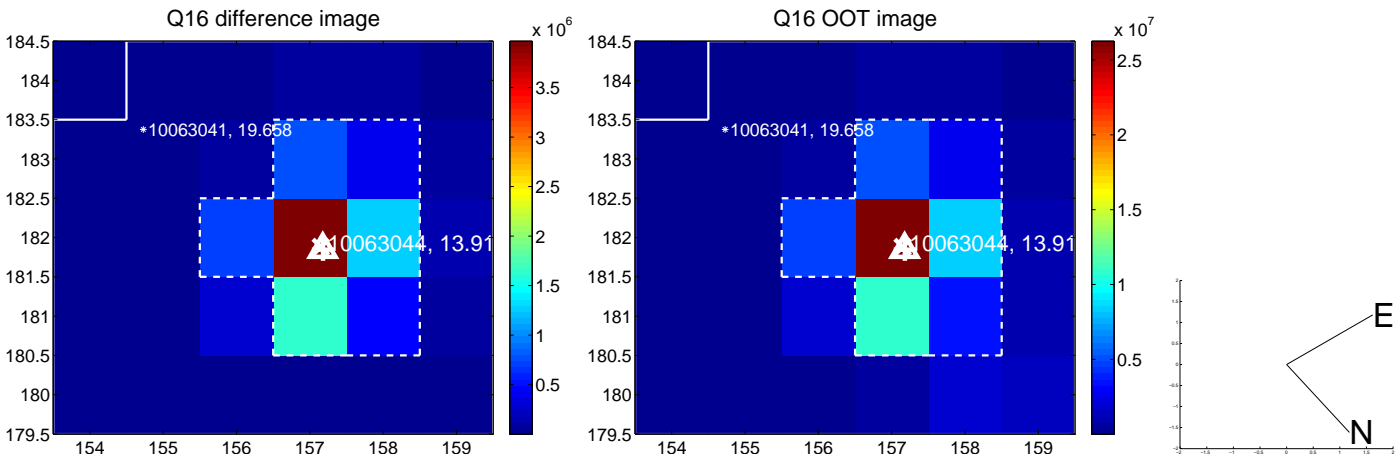
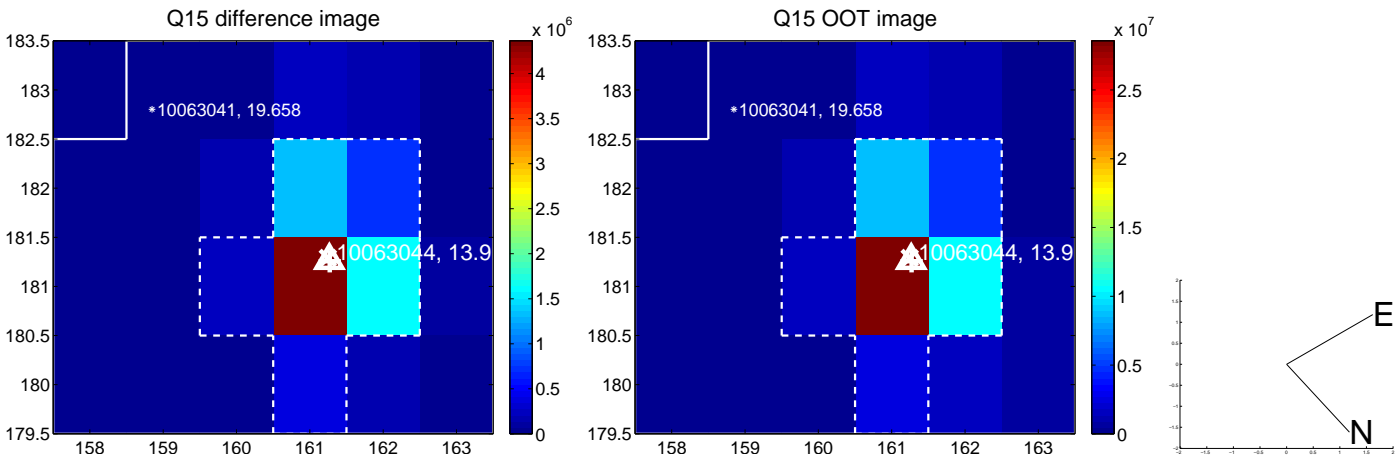
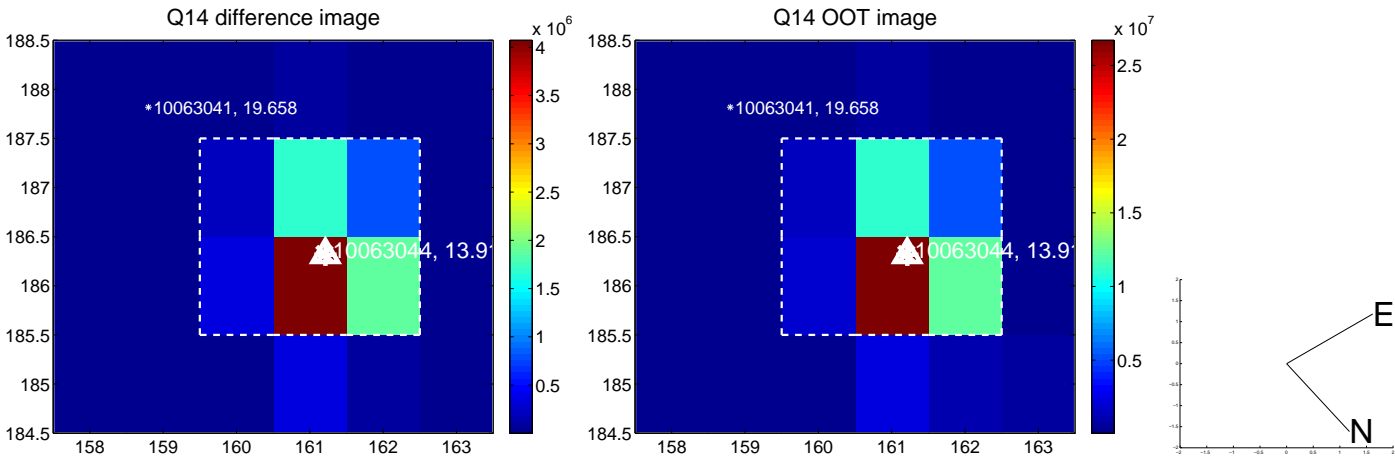
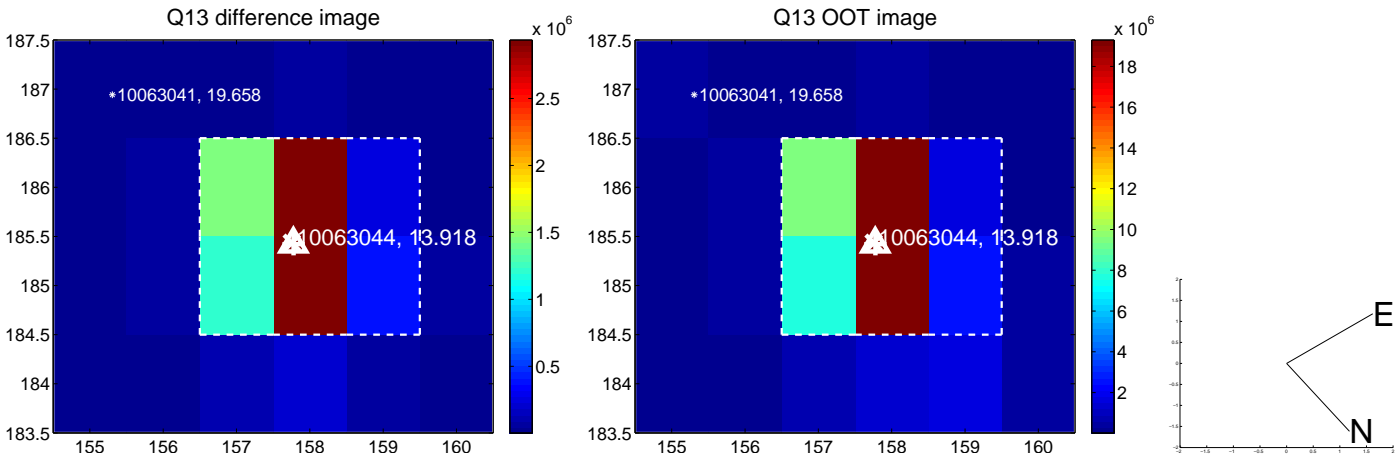
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



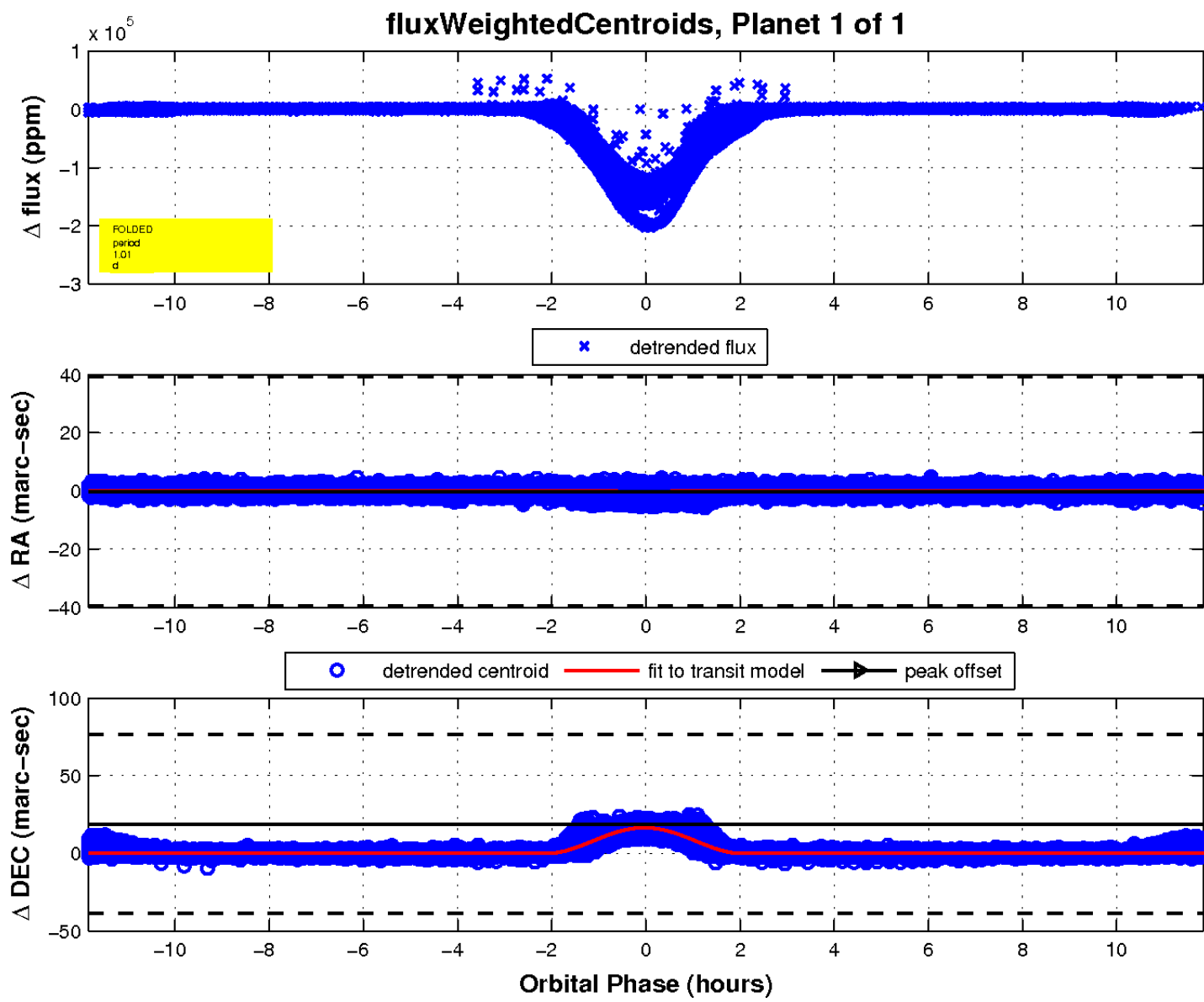
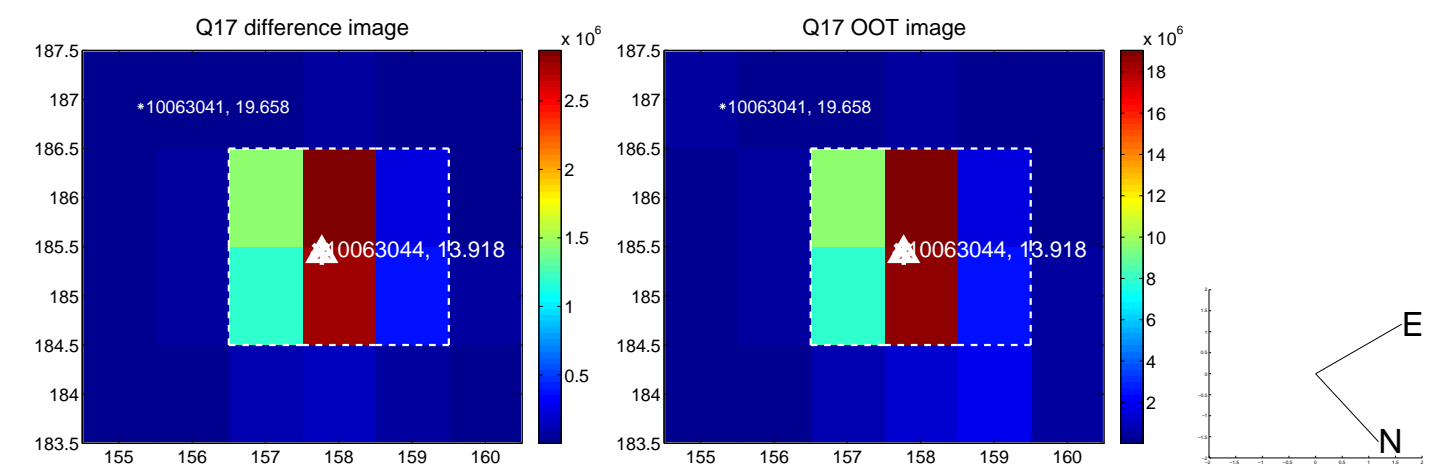
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UKIRT Image

Declination

