

KIC 008381592

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})
008381592-01	OBS	7030.01	2.892082	133.196998	42770.0	3.613	3174.9	1870.2	0.92	5622	20.76	533.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008381592-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT

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.

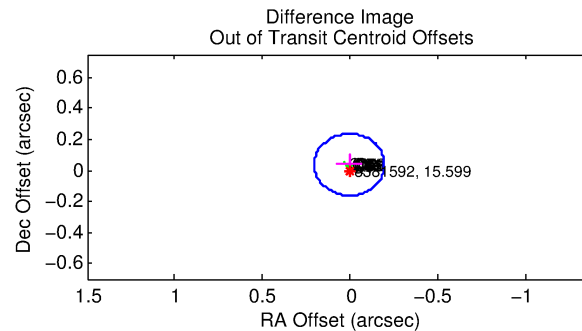
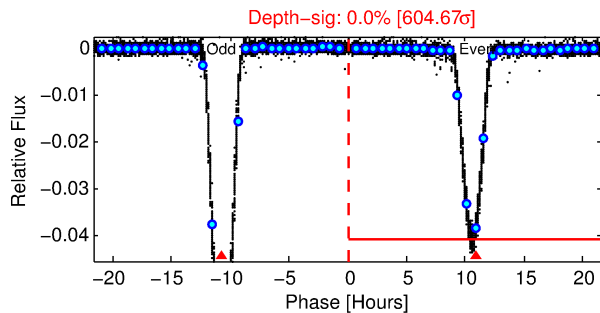
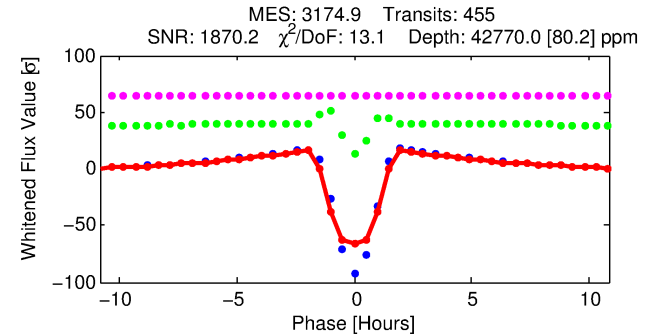
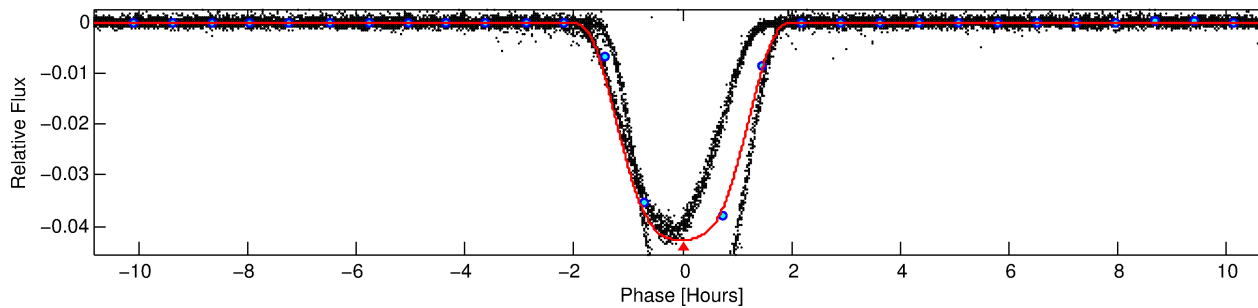
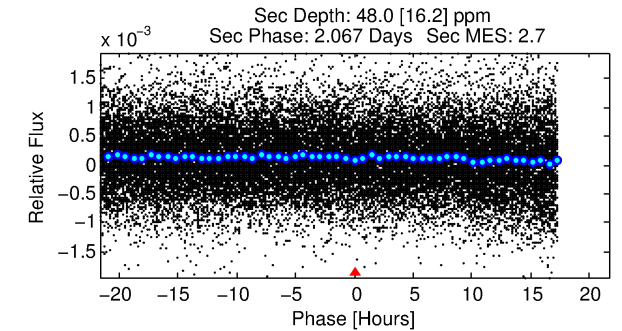
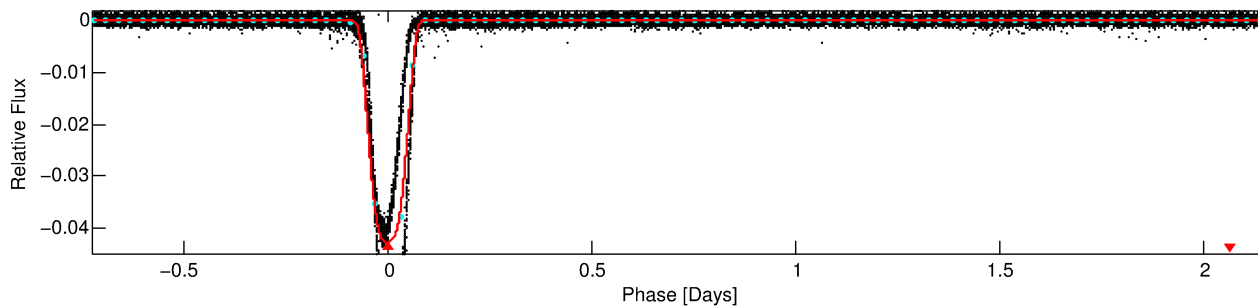
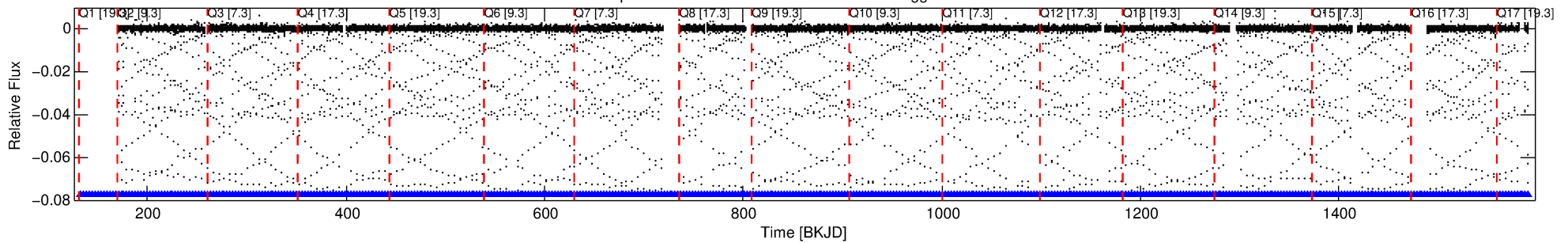
Ephemeris Match Information For 008381592-01

No Significant Match Found

DV One-Page Summary

KIC: 8381592 Candidate: 1 of 1 Period: 2.892 d
KOI: K07030.01 Corr: 0.950

Kp: 15.60 R*: 0.92 Rs Teff: 5622.0 K Logg: 4.44 Fe/H: -0.160



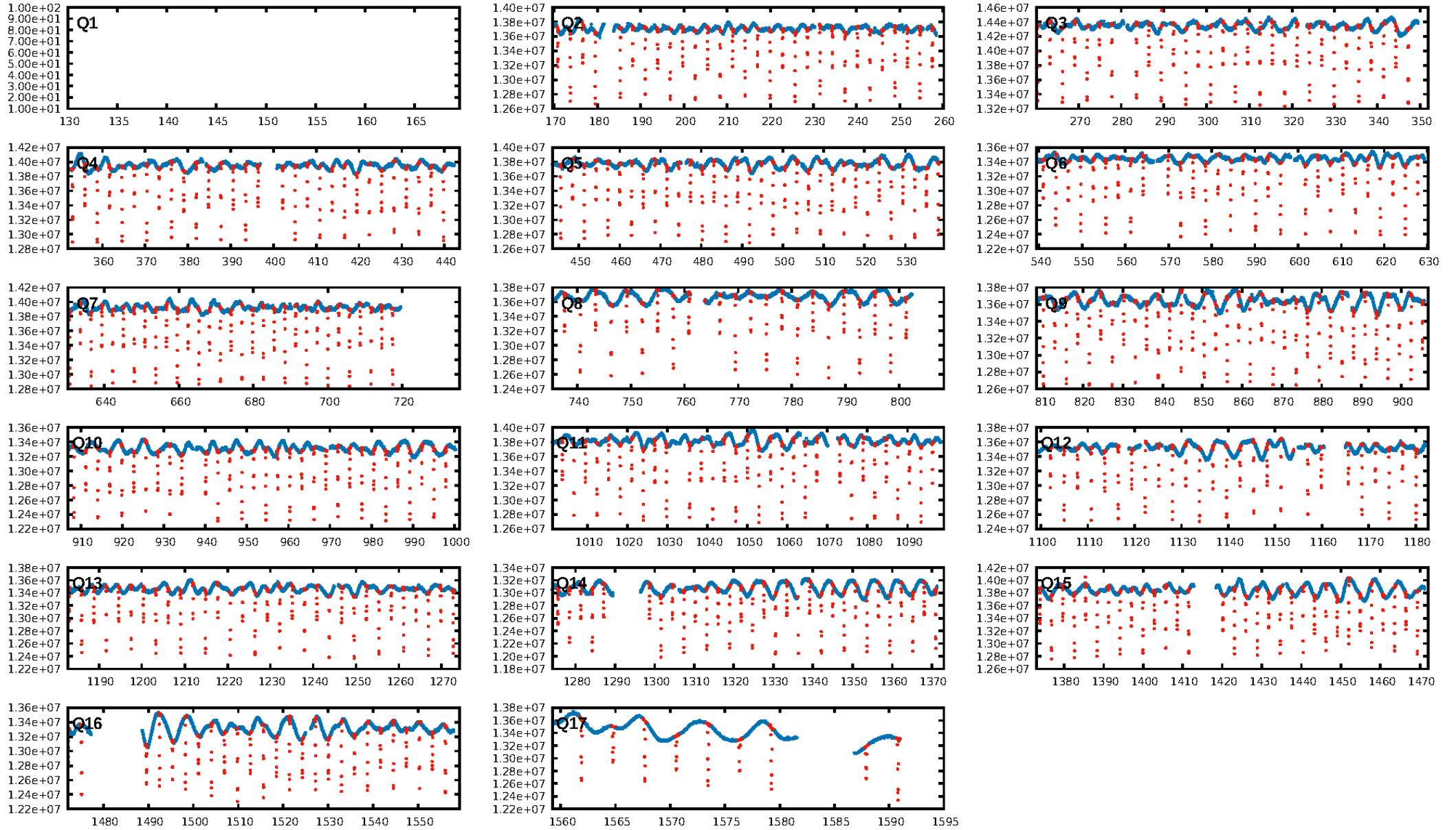
DV Fit Results:

Period = 2.89208 [0.00000] d
Epoch = 133.1970 [0.0001] BKJD
Rp/R* = 0.2059 [0.0003]
a/R* = 5.99 [0.02]
b = 0.72 [0.00]
Seff = 533.69 [184.40]
Teq = 1226 [106] K
Rp = 20.76 [5.71] Re
a = 0.0378 [0.0086] AU
Ag = 0.09 [0.04] [-22.20σ]
Teffp = 1032 [92] K [-1.38σ]

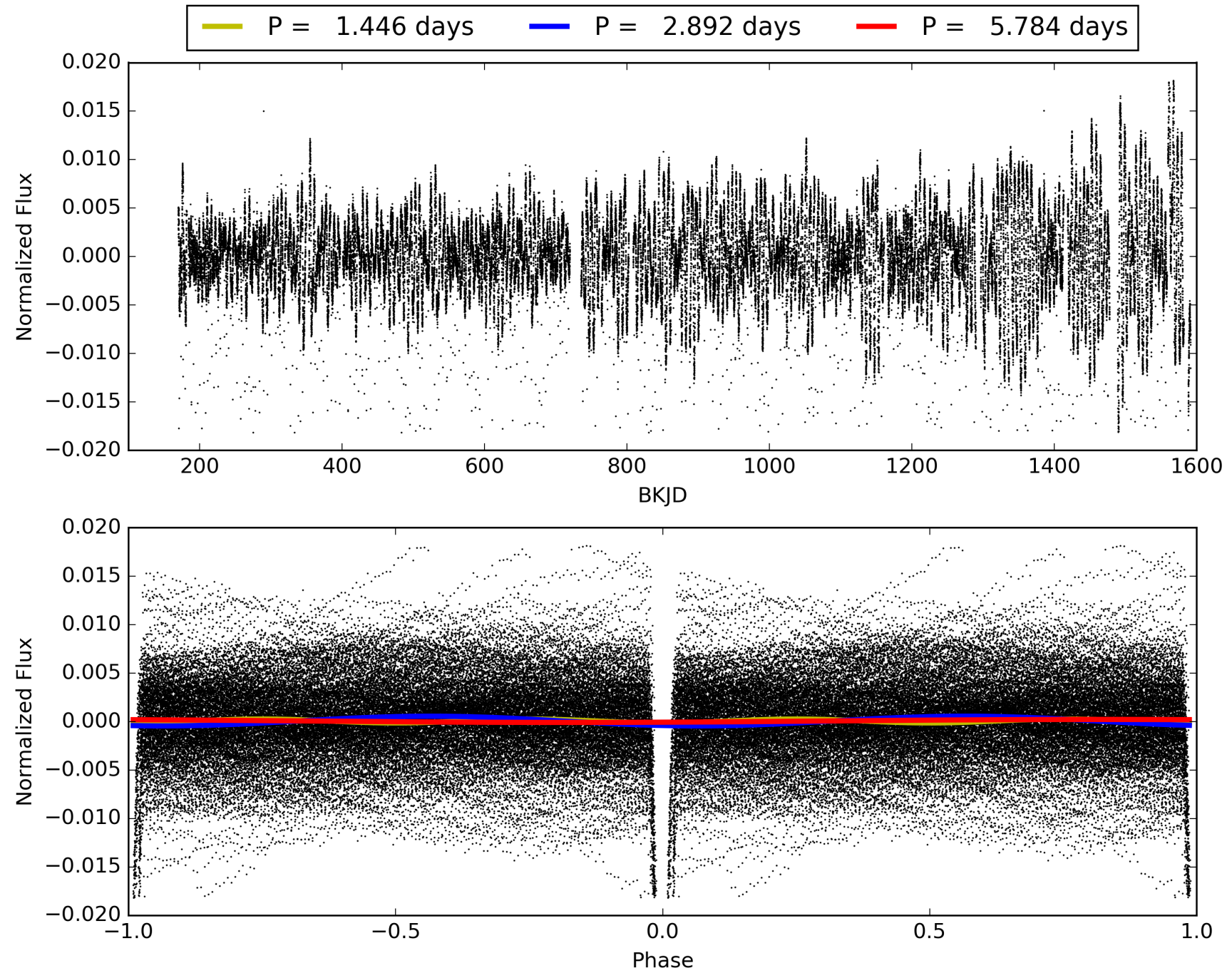
DV Diagnostic Results:

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 [446/446]
GhostDiagnostic-chr: 1.616
Centroid-sig: 0.0%
Centroid-so: 0.079 arcsec [20.47σ]
OotOffset-rm: 0.038 arcsec [0.57σ]
KicOffset-rm: 0.080 arcsec [1.17σ]
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]

TCE 008381592-01, PDC Light Curves

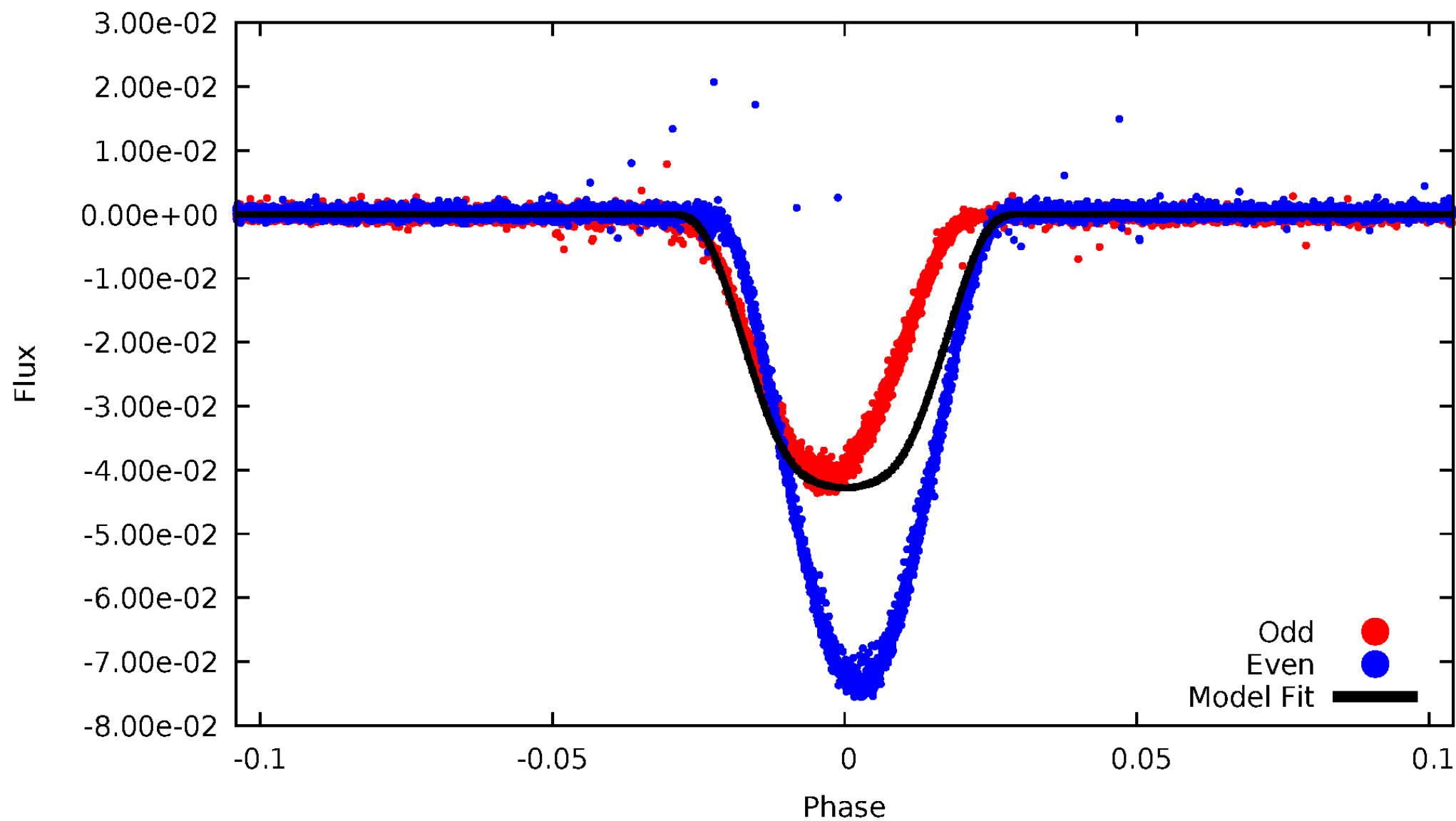


TCE 008381592-01



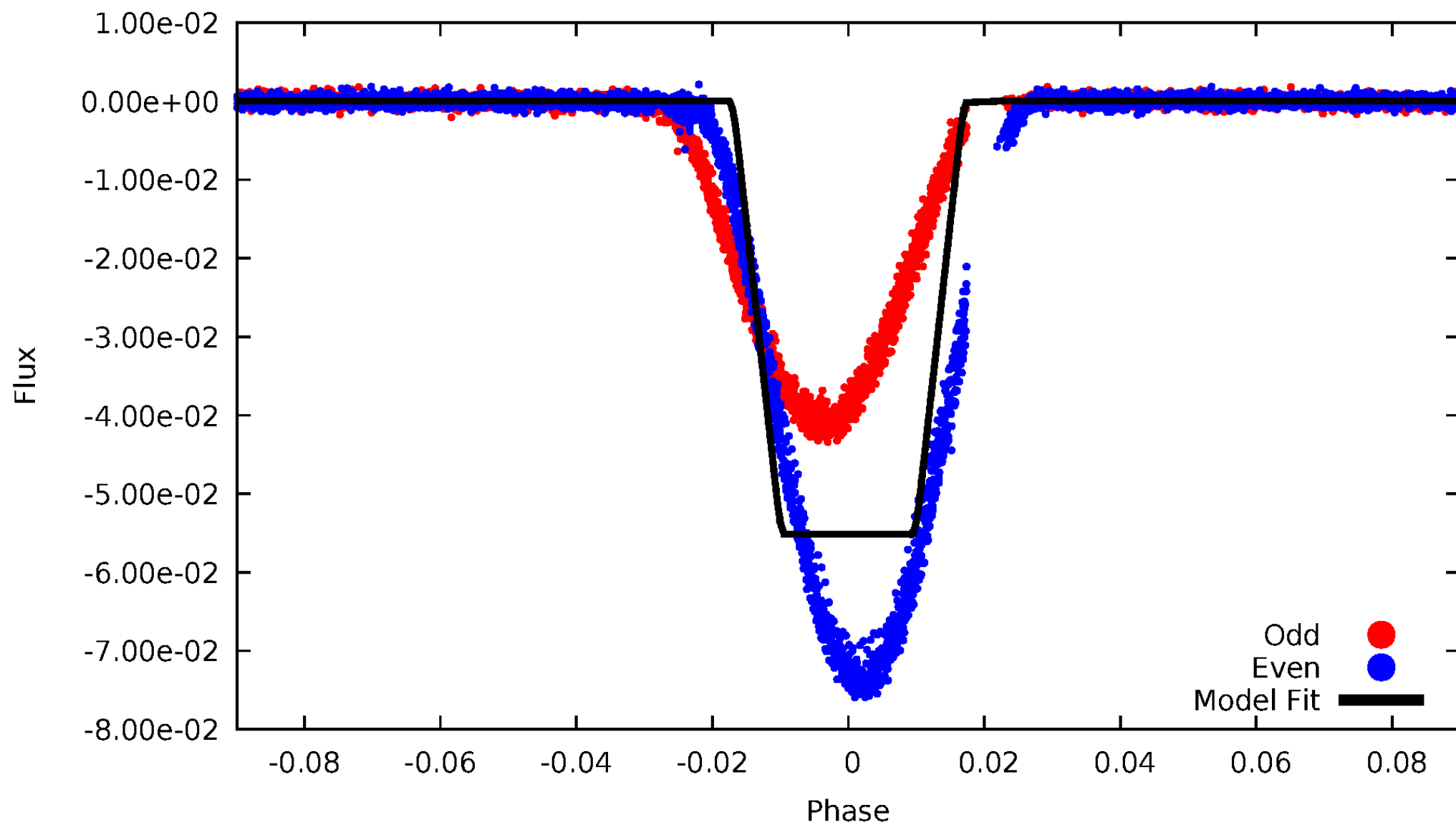
DV Odd/Even

TCE 008381592-01



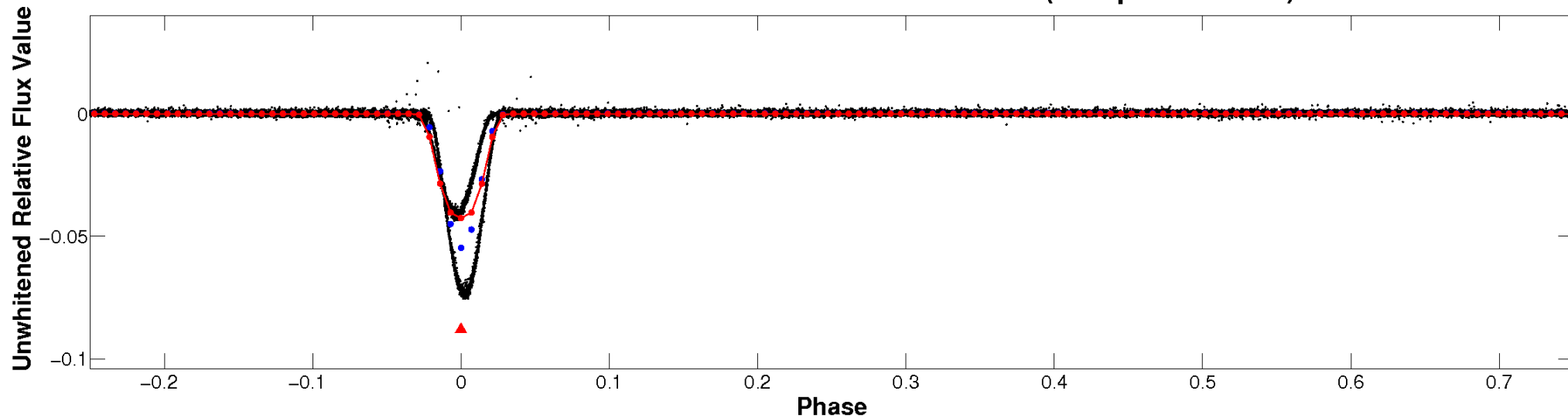
ALT Odd/Even

TCE 008381592-01

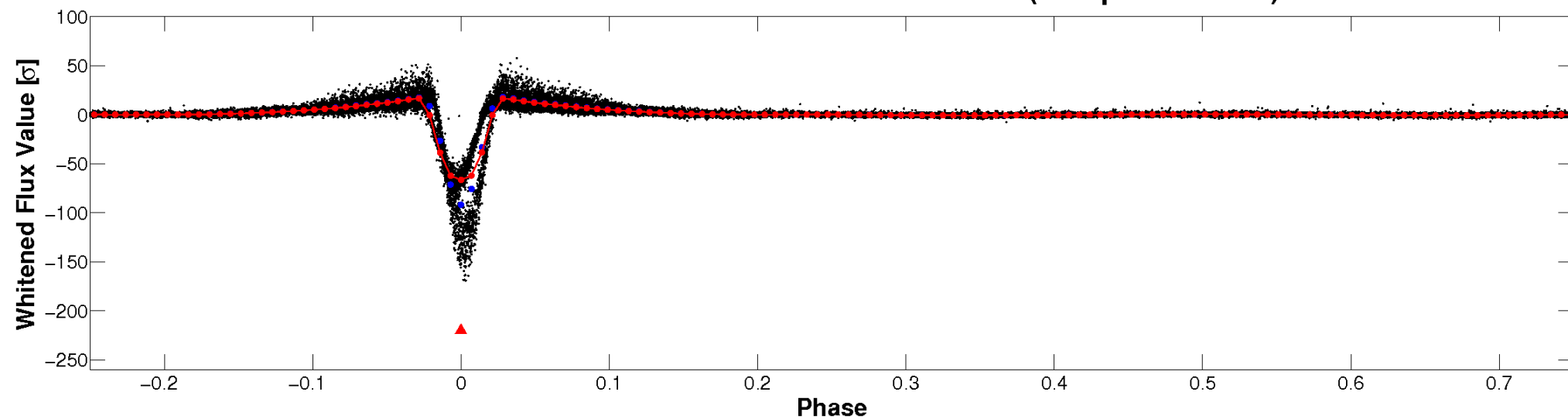


Non-Whitened Vs. Whitened Light Curve

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

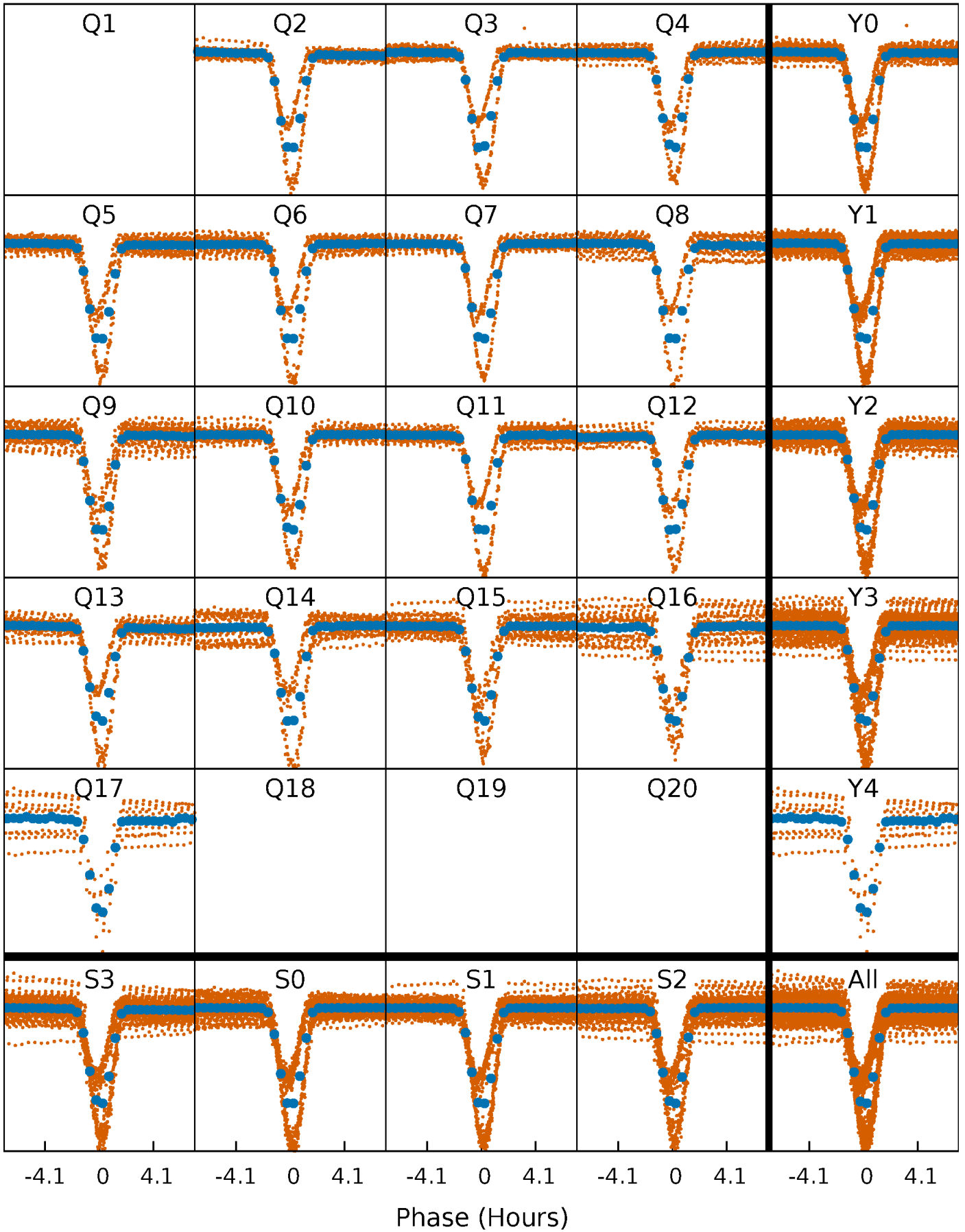


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



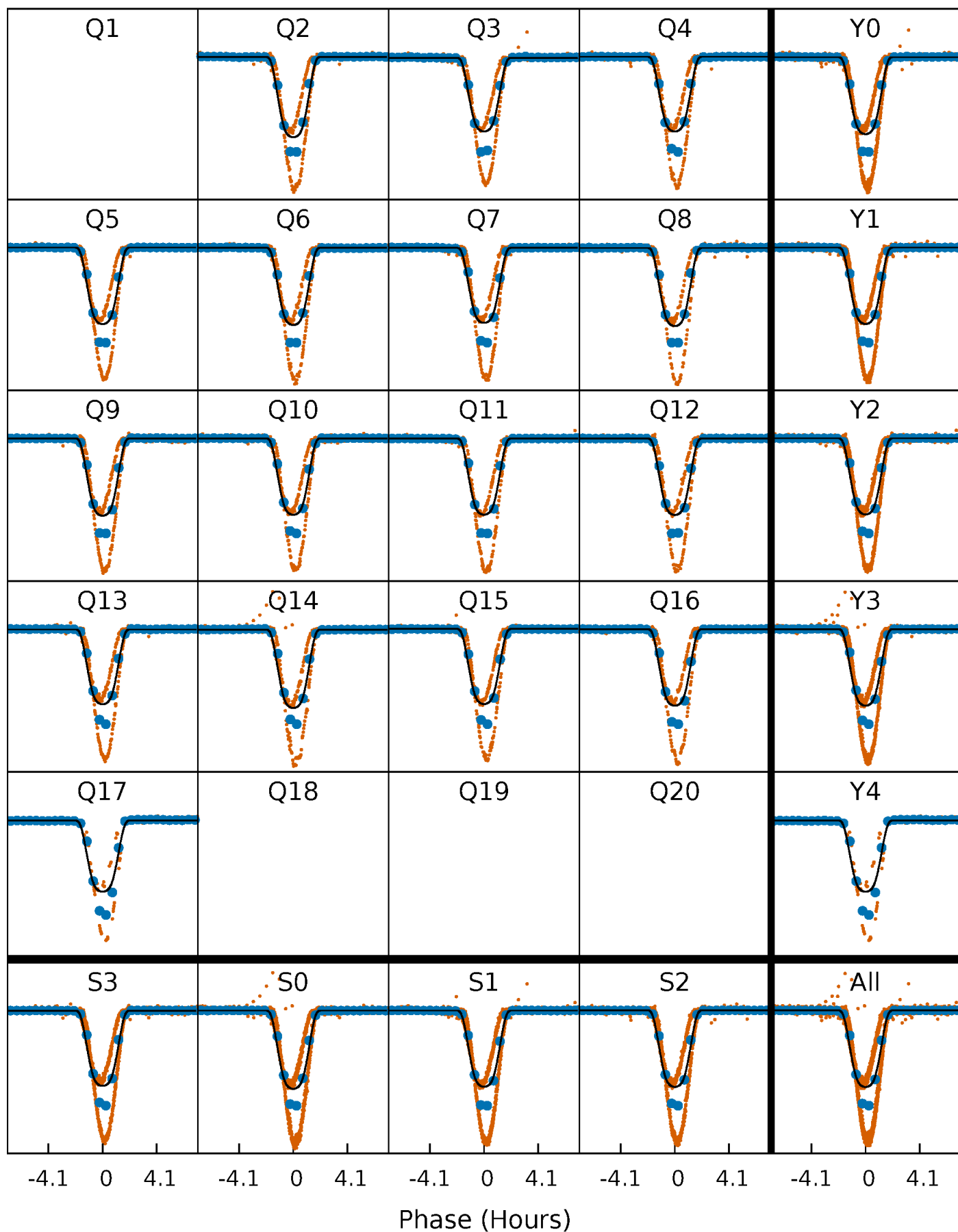
PDC Quarter-Phased Transit Curves

TCE 008381592-01 P= 2.892082 Days $T_0=133.196998$ (BKJD)



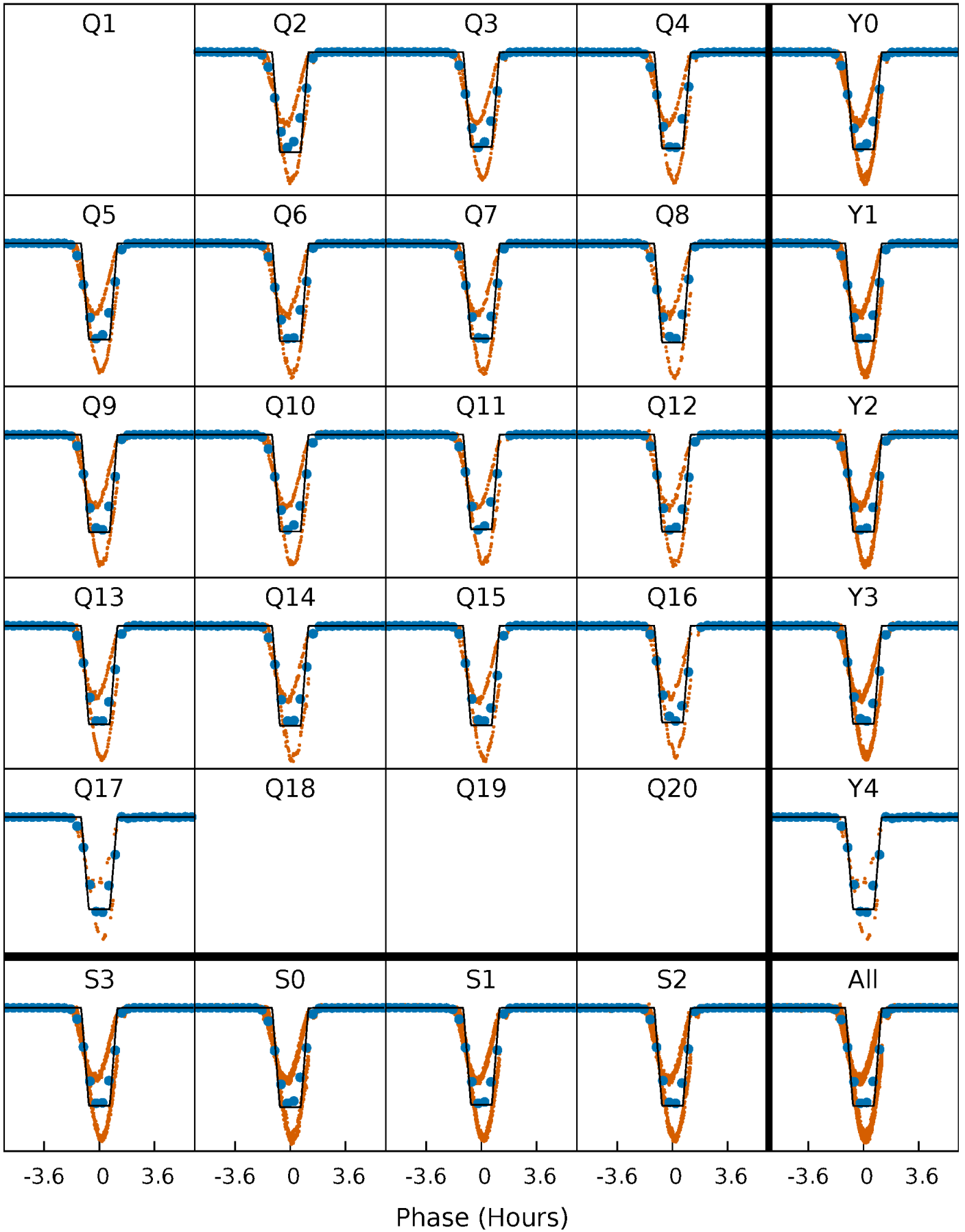
DV Quarter-Phased Transit Curves

TCE 008381592-01 P= 2.892082 Days $T_0=133.196998$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

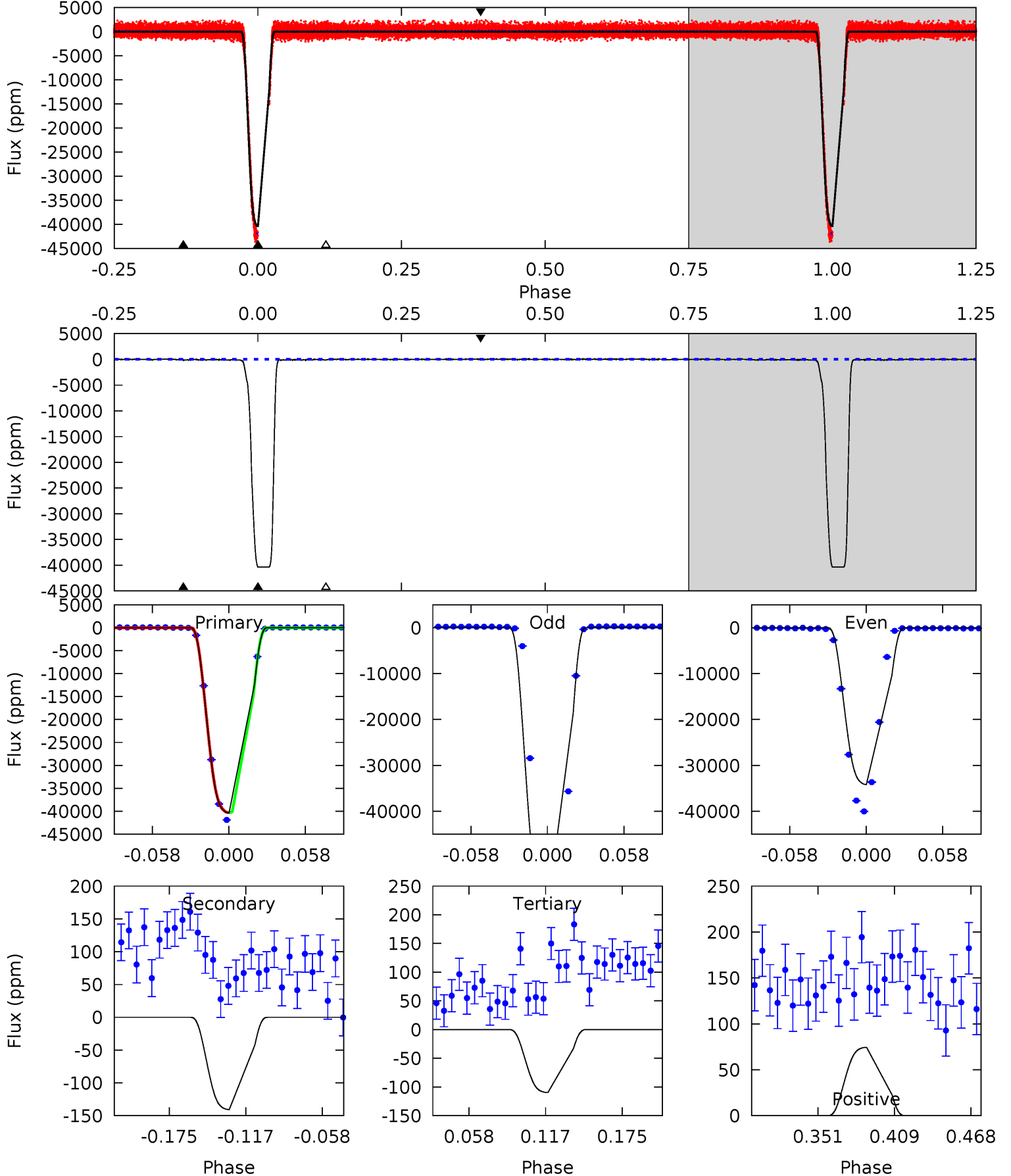
TCE 008381592-01 P= 2.892077 Days $T_0=133.199767$ (BKJD)



DV Model-Shift Uniqueness Test

008381592-01, P = 2.892082 Days, E = 133.196998 Days

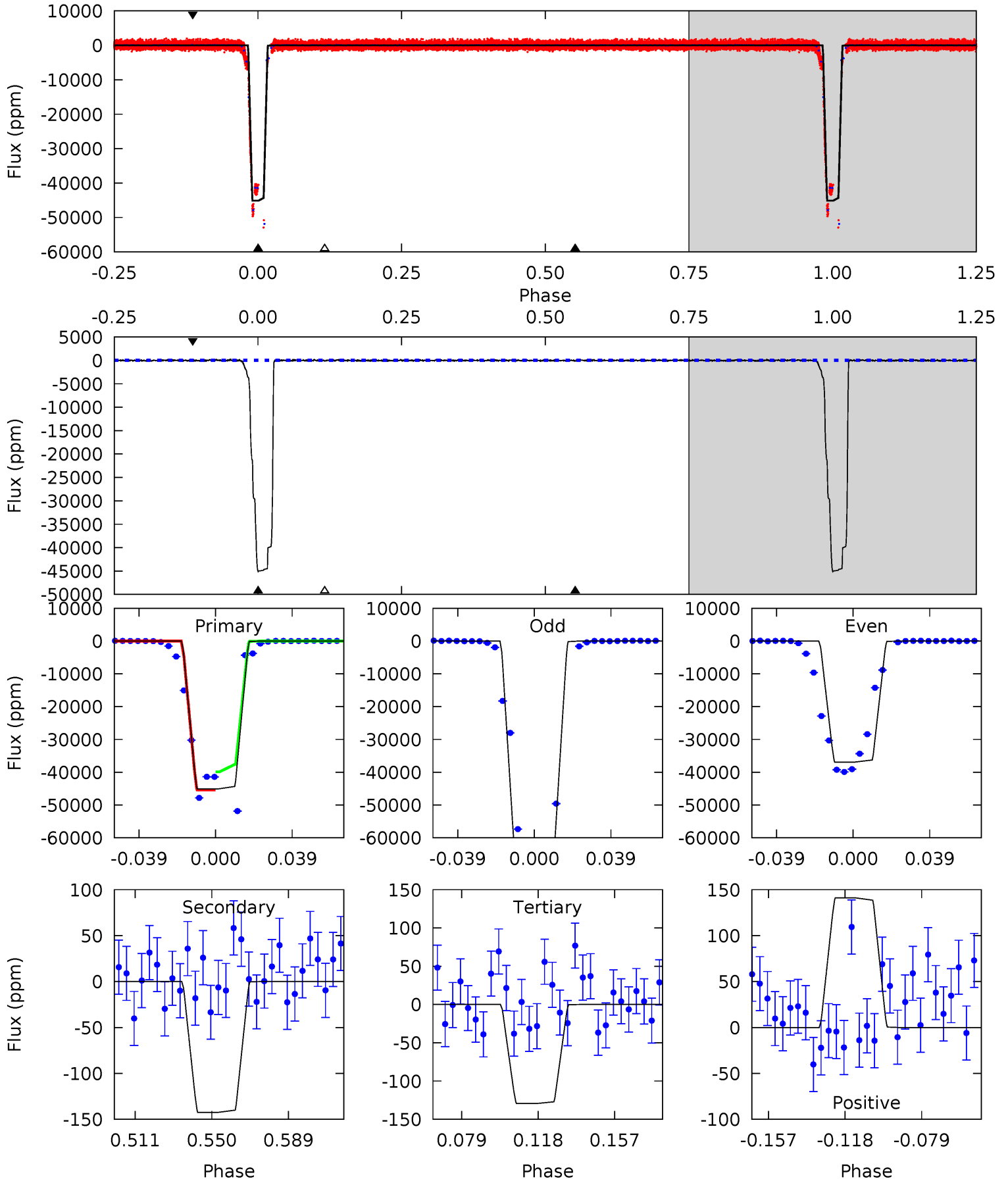
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2737	9.54	7.44	5.04	4.68	1.89	2.45	2730	2732	2.10	4.50	1415	1.28	0.00	0



Alt Model-Shift Uniqueness Test

008381592-01, P = 2.892077 Days, E = 133.199767 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1477	4.66	4.24	4.62	4.76	2.06	1.32	1473	1473	0.43	0.05	893.1	1.26	0.00	0



Stellar Parameters For KIC 008381592

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5622^{+169}_{-169}	$4.443^{+0.101}_{-0.174}$	$-0.160^{+0.300}_{-0.300}$	$0.924^{+0.254}_{-0.127}$	$0.864^{+0.114}_{-0.076}$	$1.544^{+0.683}_{-0.724}$
	+3%/-3%	+2%/-4%	+188%/-188%	+27%/-14%	+13%/-9%	+44%/-47%
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 008381592-01 / KOI 7030.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-141 ± 15	$20.88^{+3.03}_{-1.64}$	1732^{+117}_{-92}	-1931^{+3385}_{-195}	$0.248^{+0.054}_{-0.055}$
Alt.	-142 ± 31	$24.04^{+3.71}_{-1.94}$	1734^{+117}_{-92}	-2090^{+182}_{-136}	$0.186^{+0.060}_{-0.054}$

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 $A_{obs} \gg 1.0$

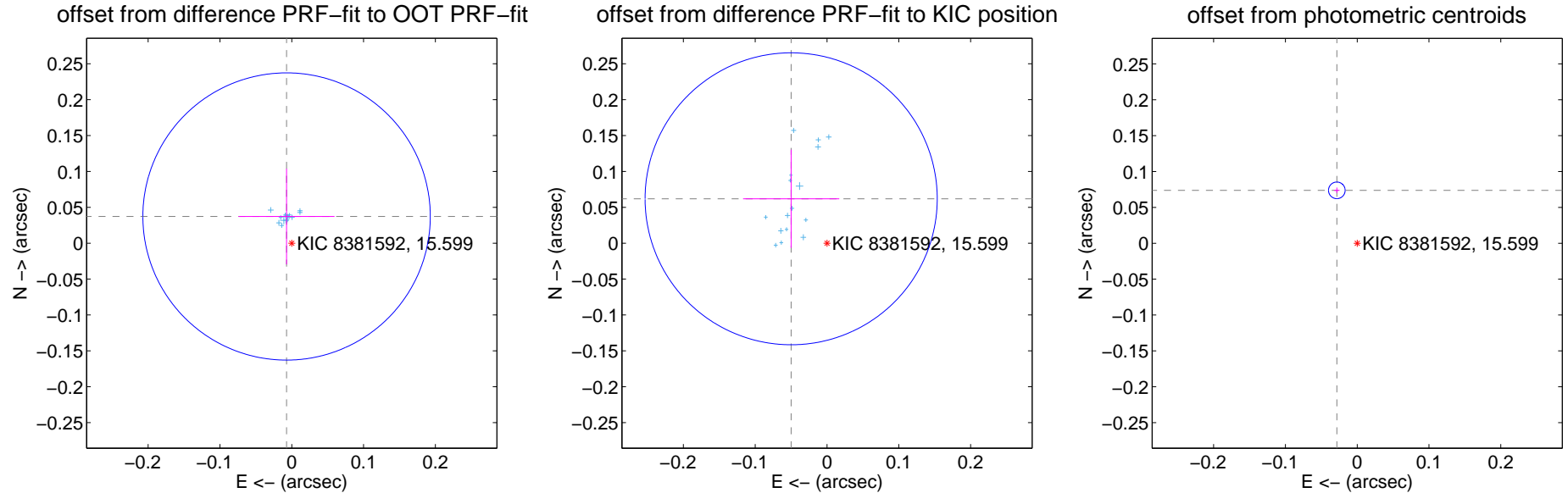
DV Centroid Data

Supplemental centroid analysis for 008381592-01. Kepler magnitude: 15.60. Transit SNR 1870.21

There are 16 quarters with good PRF difference image offsets

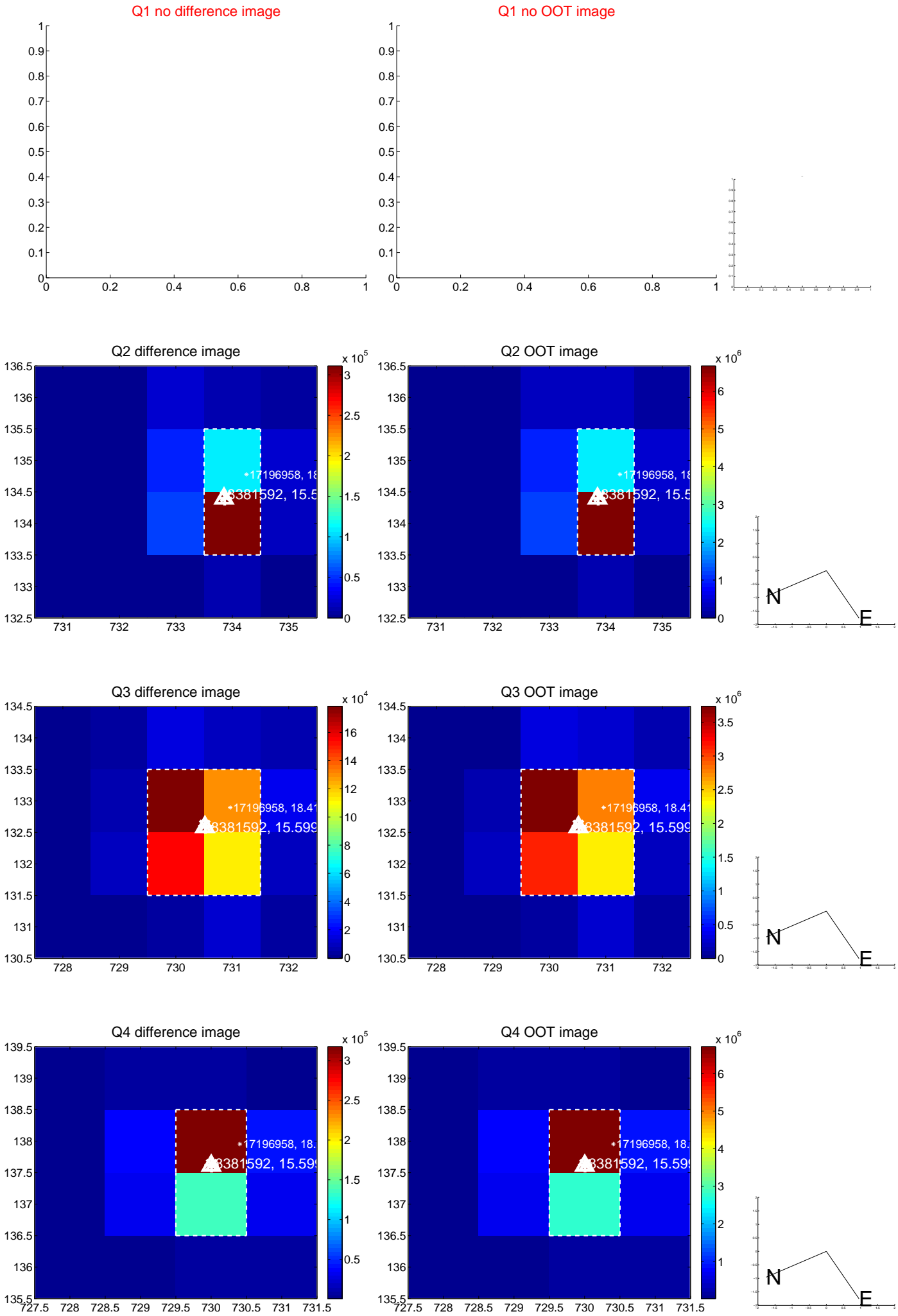
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.038 ± 0.067	0.57	0.007 ± 0.067	0.037 ± 0.067
PRF-fit source offset from KIC position	0.080 ± 0.068	1.17	0.050 ± 0.067	0.062 ± 0.068
photometric centroid source offset	0.08 ± 0.00	20.47	0.03 ± 0.00	0.07 ± 0.00

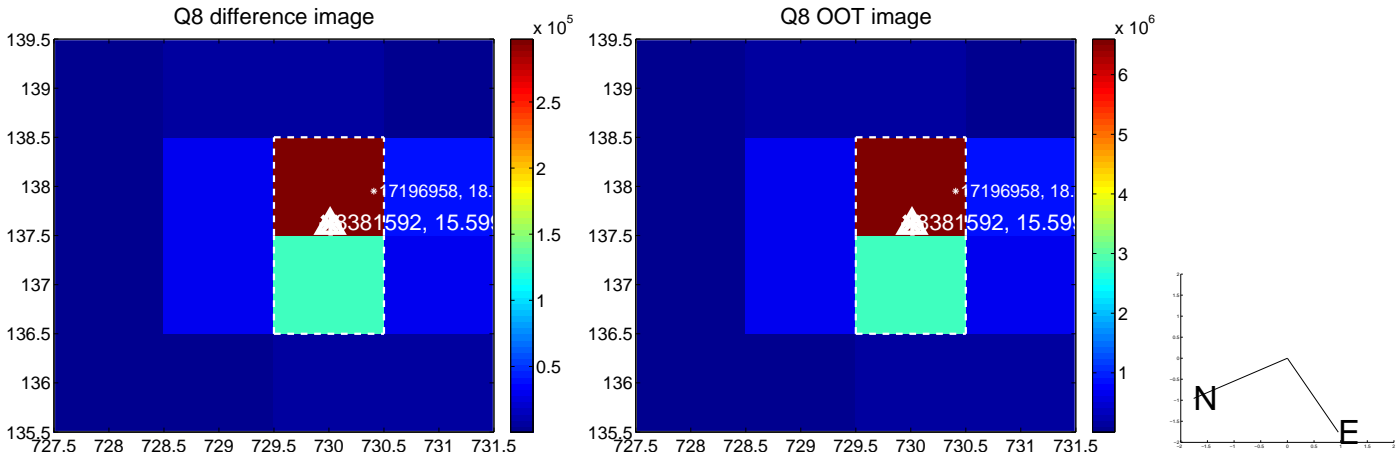
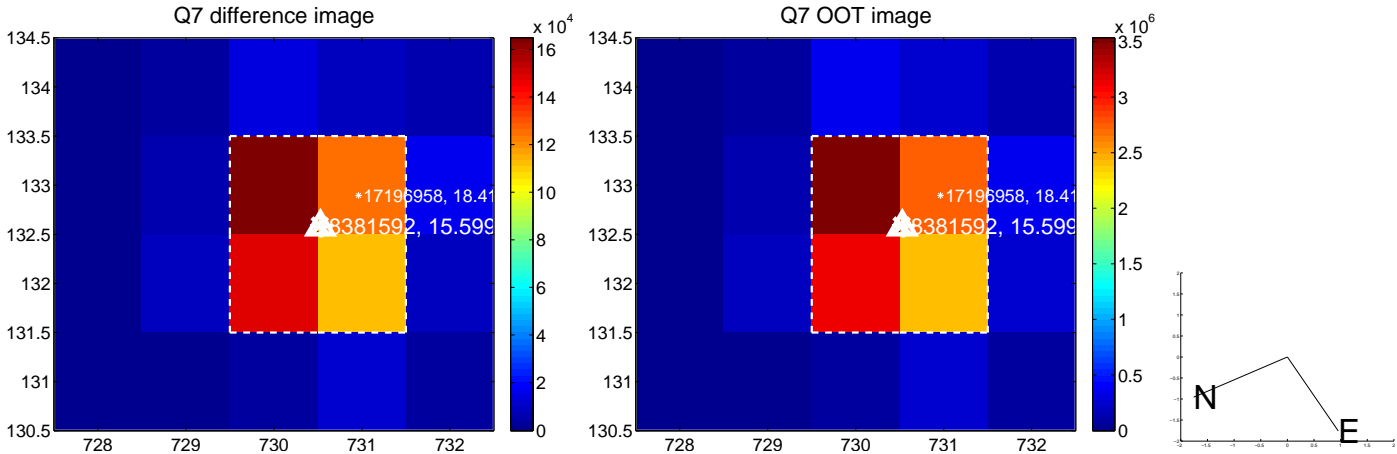
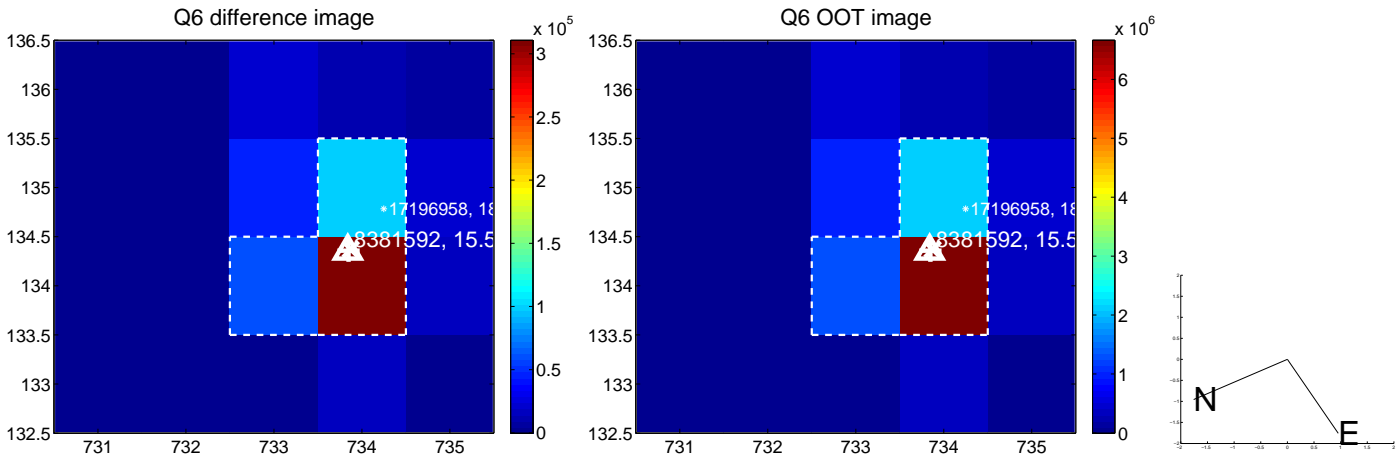
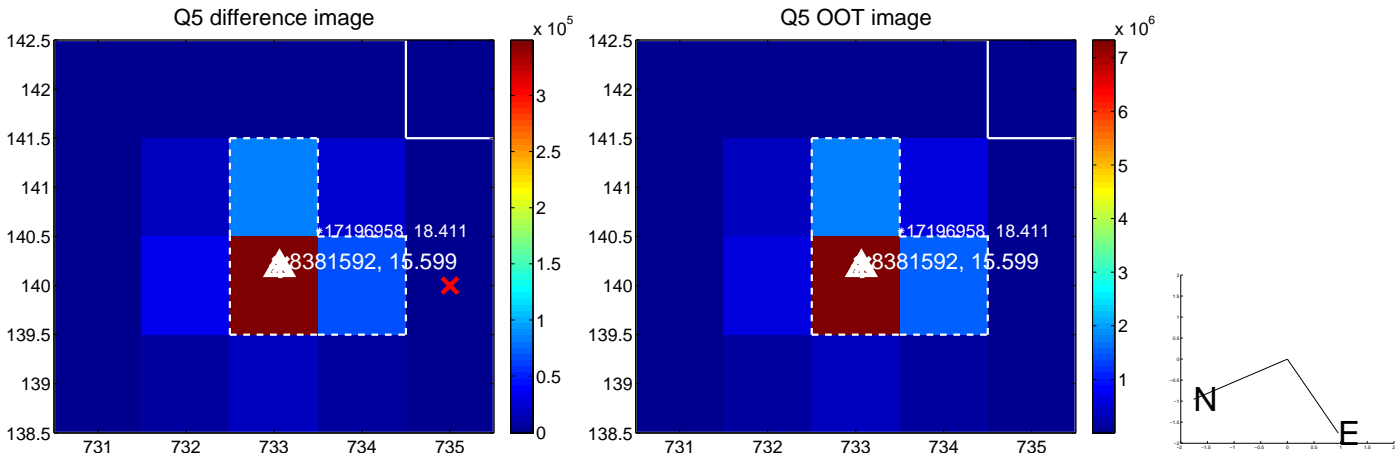


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

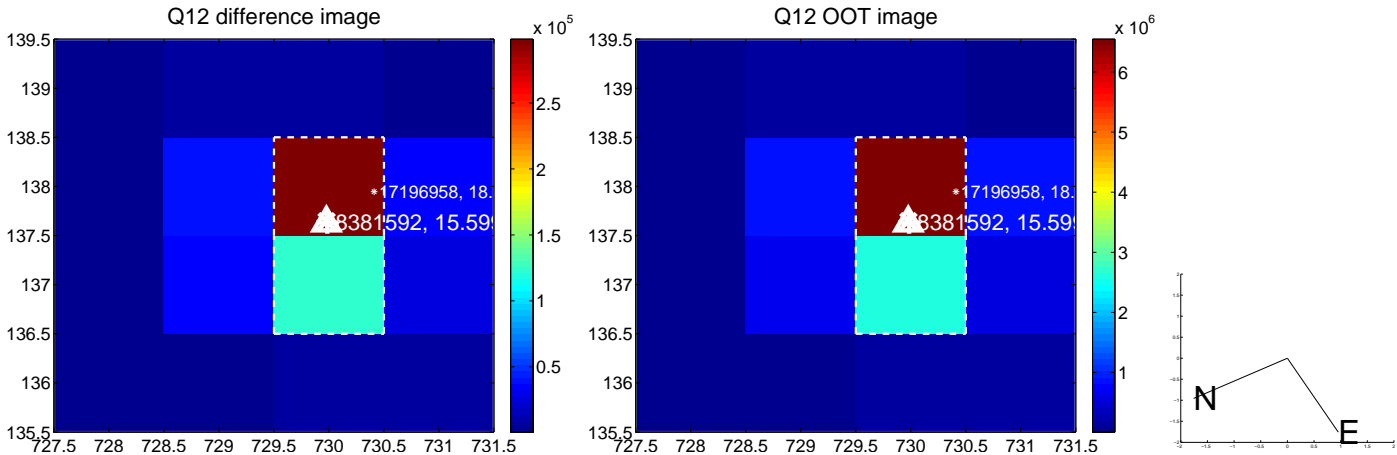
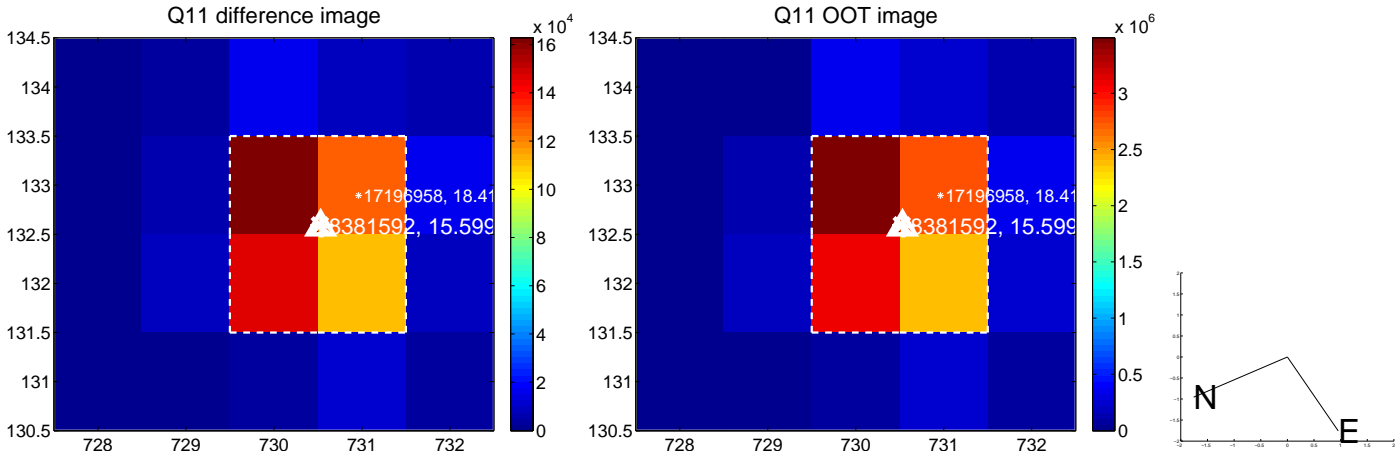
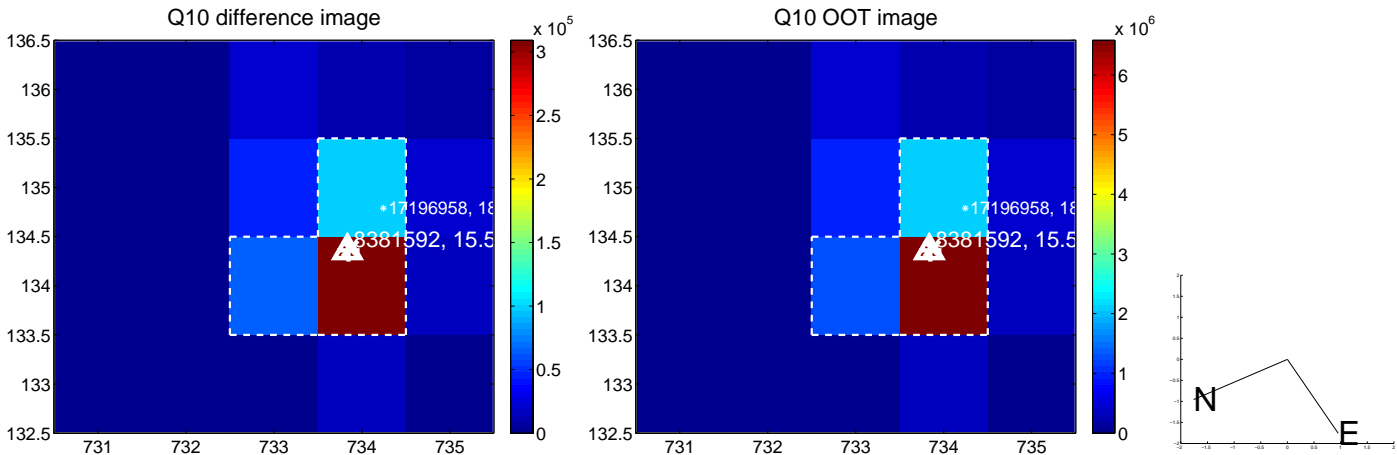
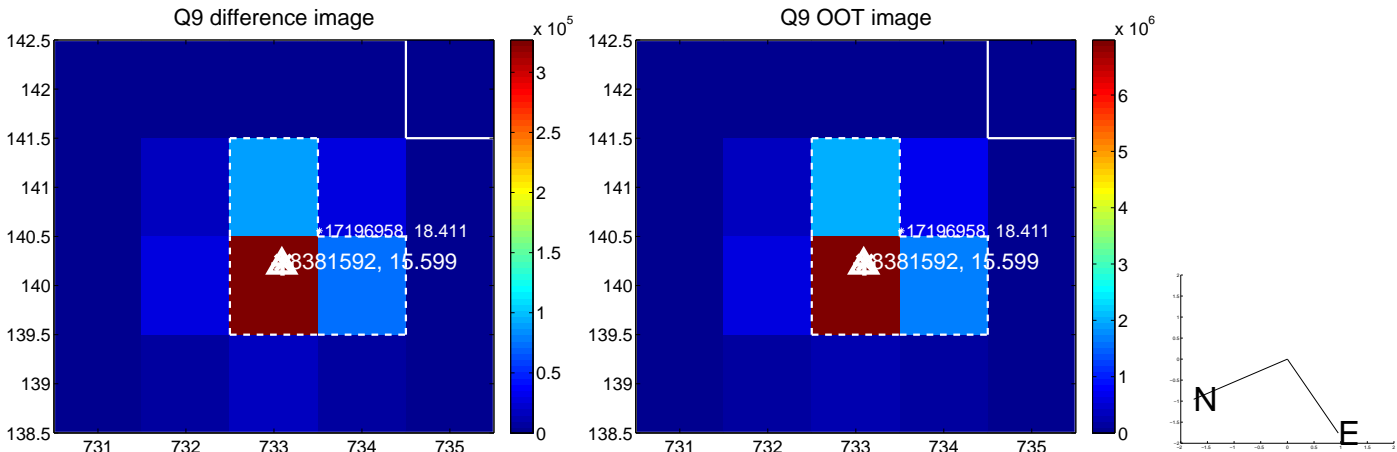
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



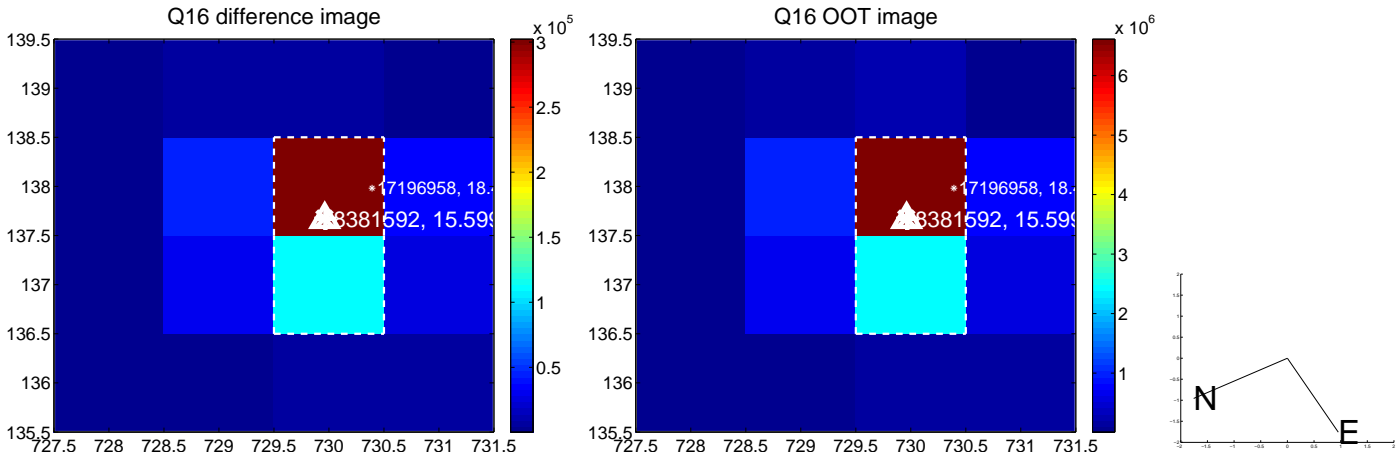
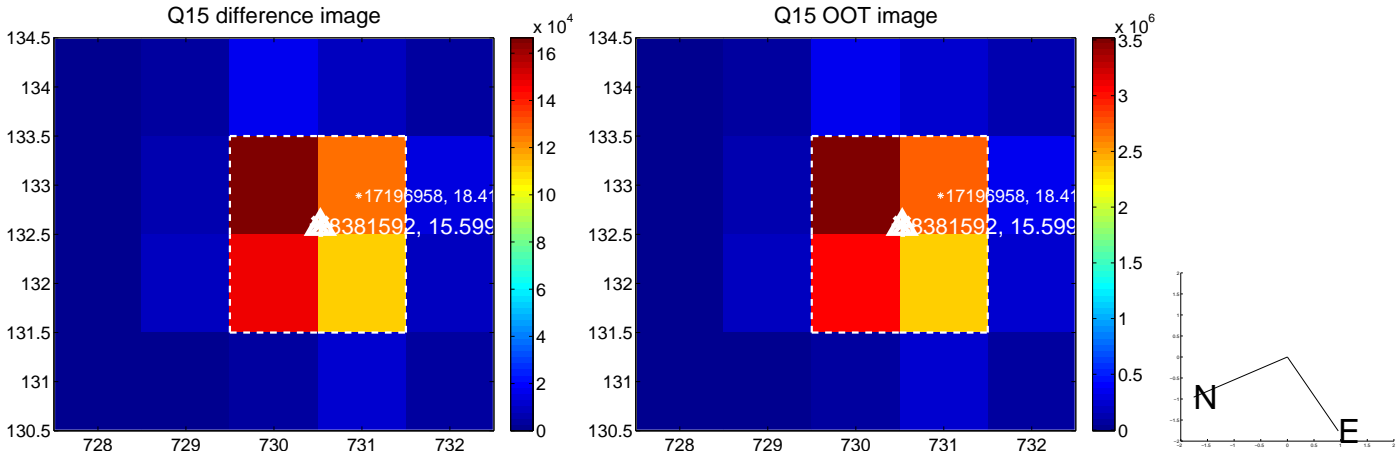
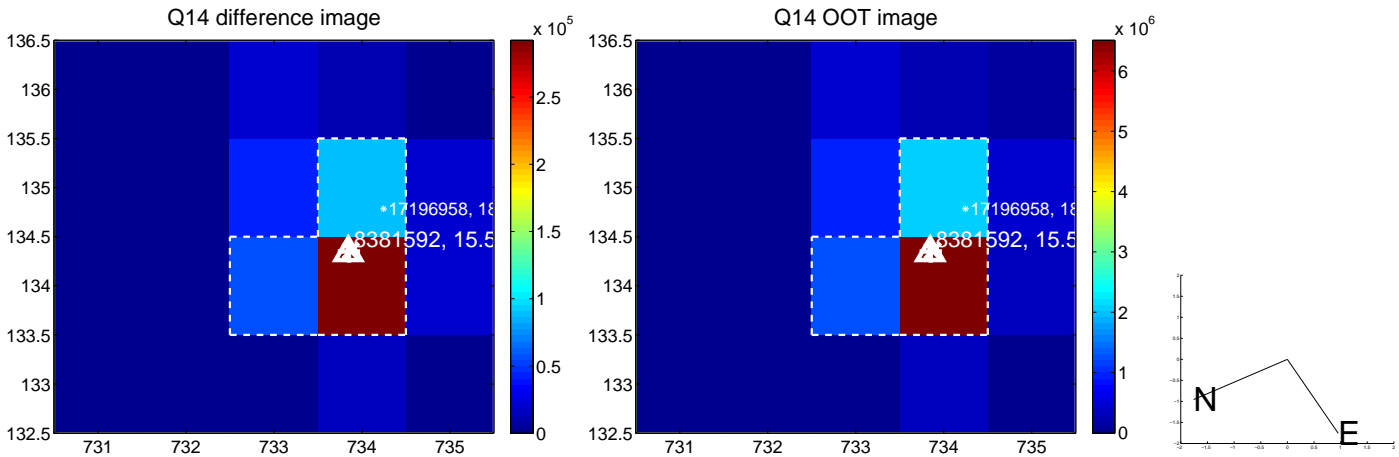
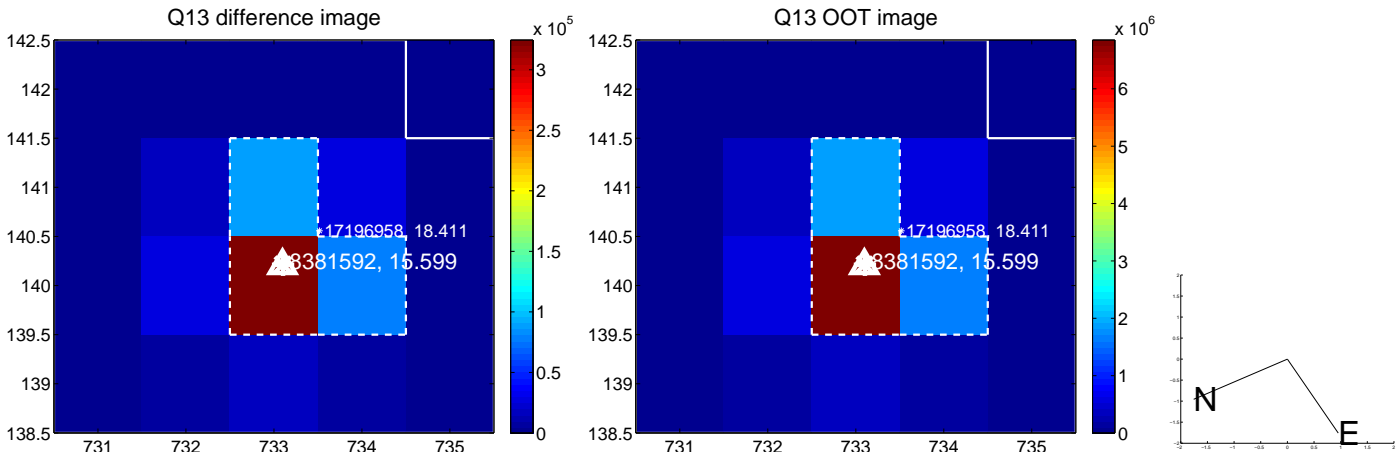
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



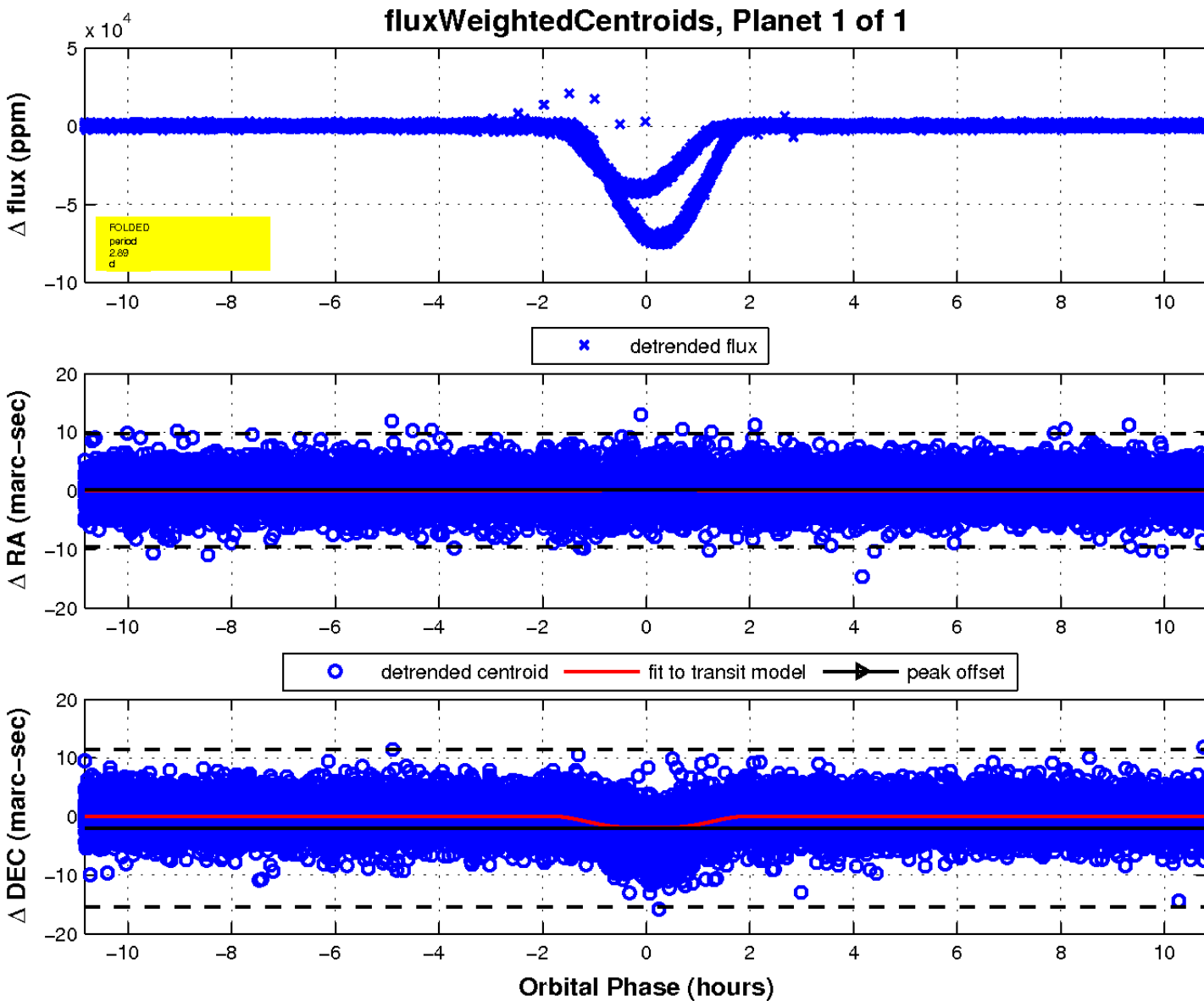
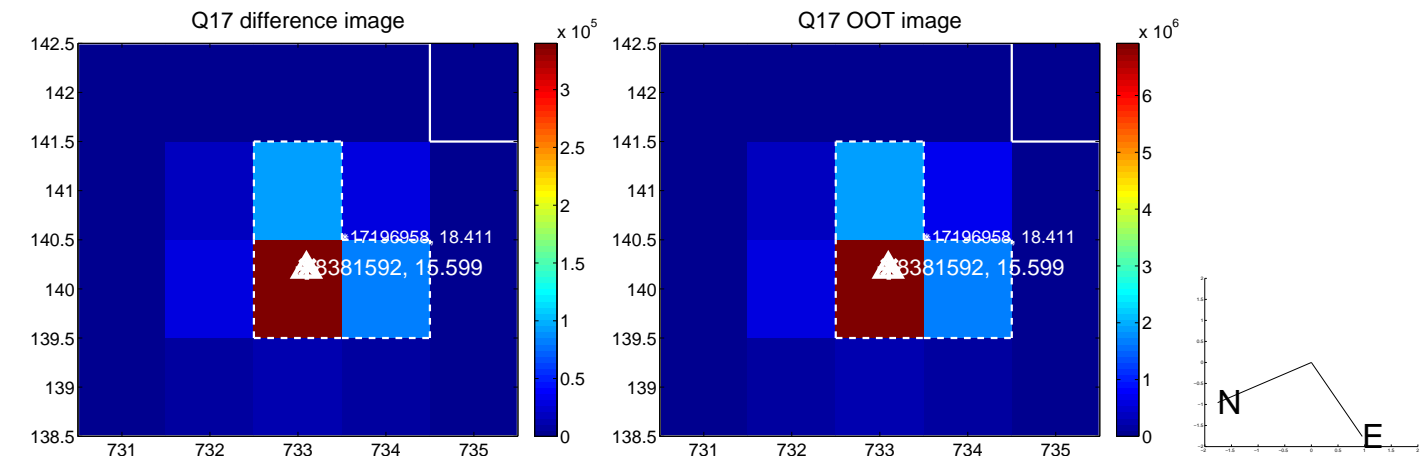
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

