

KIC 008075618

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})
008075618-01	OBS	5471.01	8.780603	137.923845	89660.0	3.182	2200.6	1878.4	0.83	5487	36.43	85.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008075618-01	OBS	FP	0.00	0	1	0	0	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.

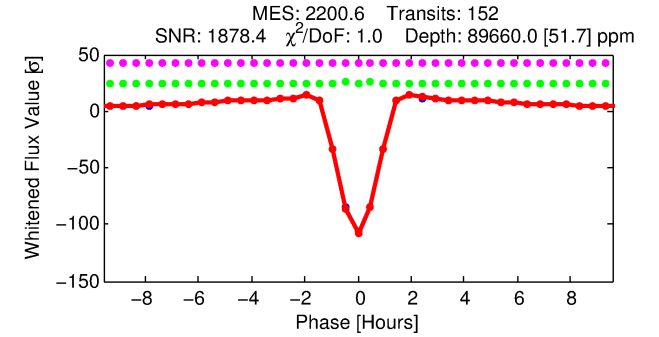
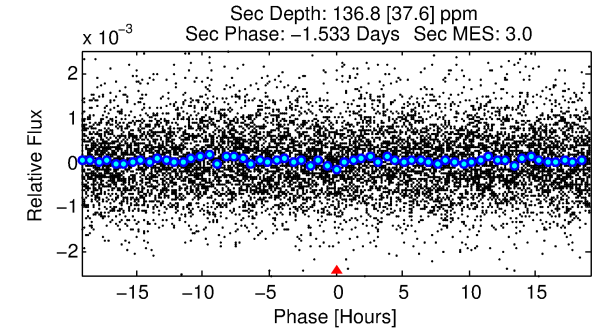
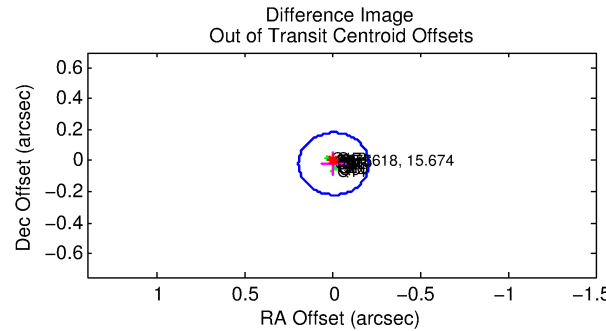
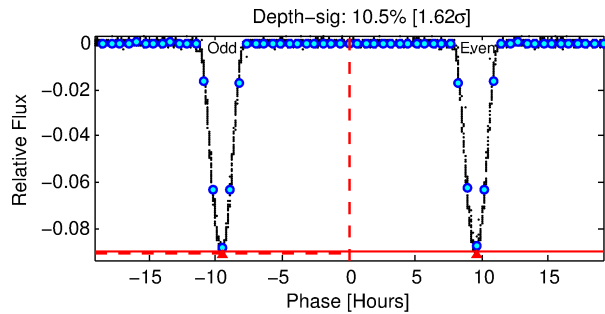
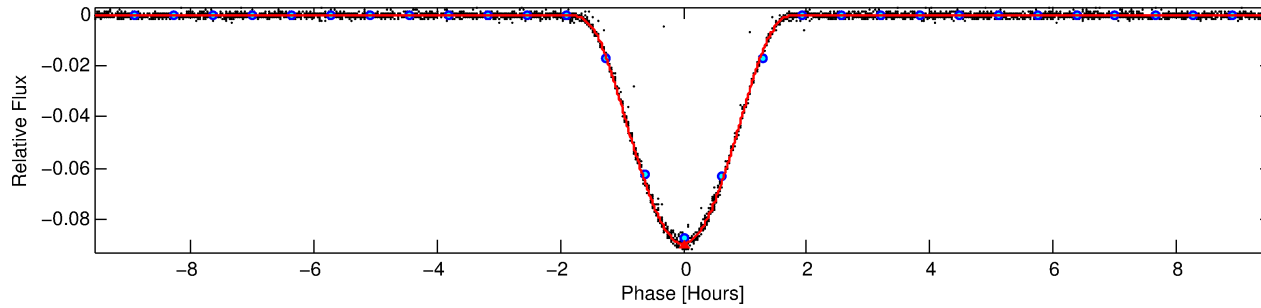
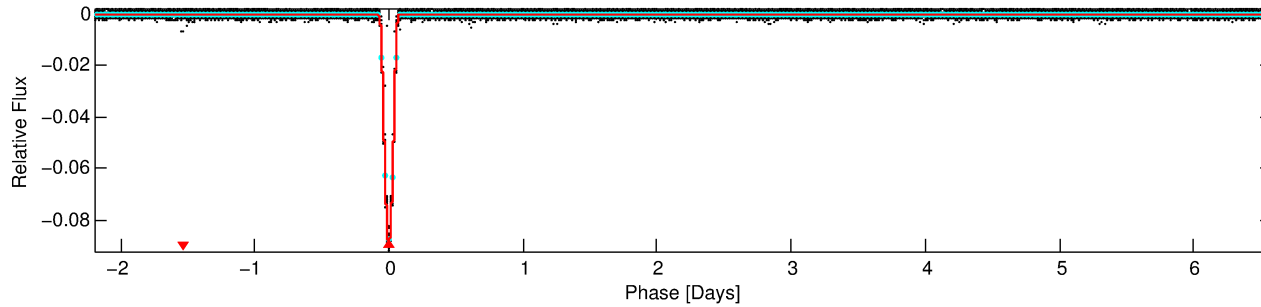
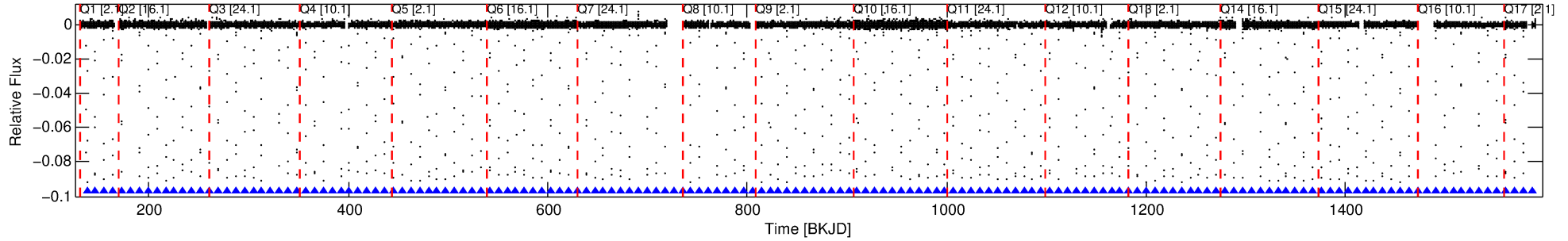
Ephemeris Match Information For 008075618-01

No Significant Match Found

DV One-Page Summary

KIC: 8075618 Candidate: 1 of 1 Period: 8.781 d
KOI: K05471.01 Corr: 0.999

Kp: 15.67 R*: 0.83 Rs Teff: 5487.0 K Logg: 4.56 Fe/H: 0.000



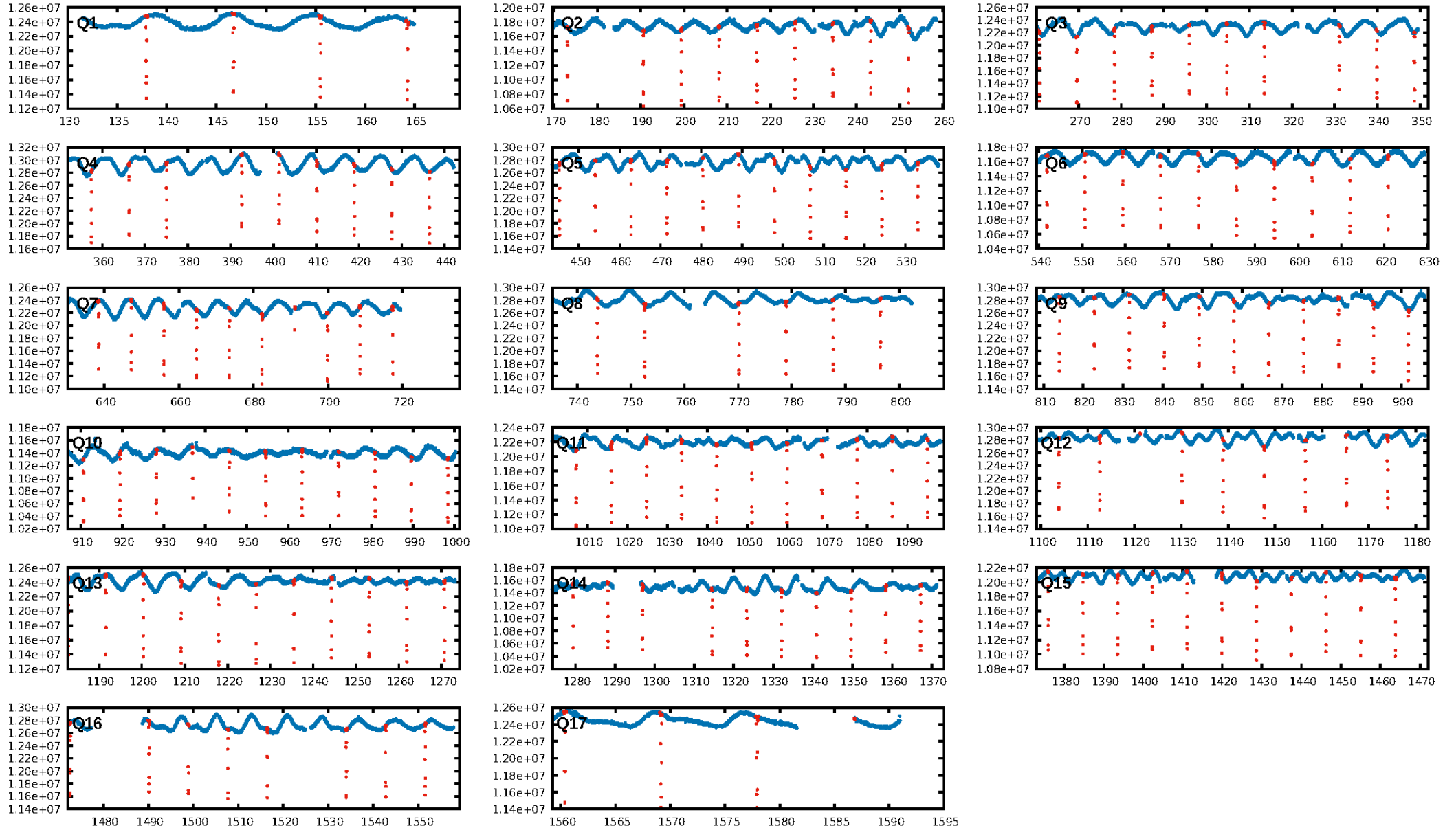
DV Fit Results:

Period = 8.78060 [0.00000] d
Epoch = 137.9238 [0.0000] BKJD
Rp/R* = 0.4012 [0.0164]
a/R* = 22.65 [0.02]
b = 0.90 [0.02]
Seff = 85.43 [25.93]
Teff = 775 [59] K
Rp = 36.43 [8.36] Re
a = 0.0811 [0.0155] AU
Ag = 0.37 [0.15] [-4.20σ]
Teffp = 937 [73] K [1.73σ]

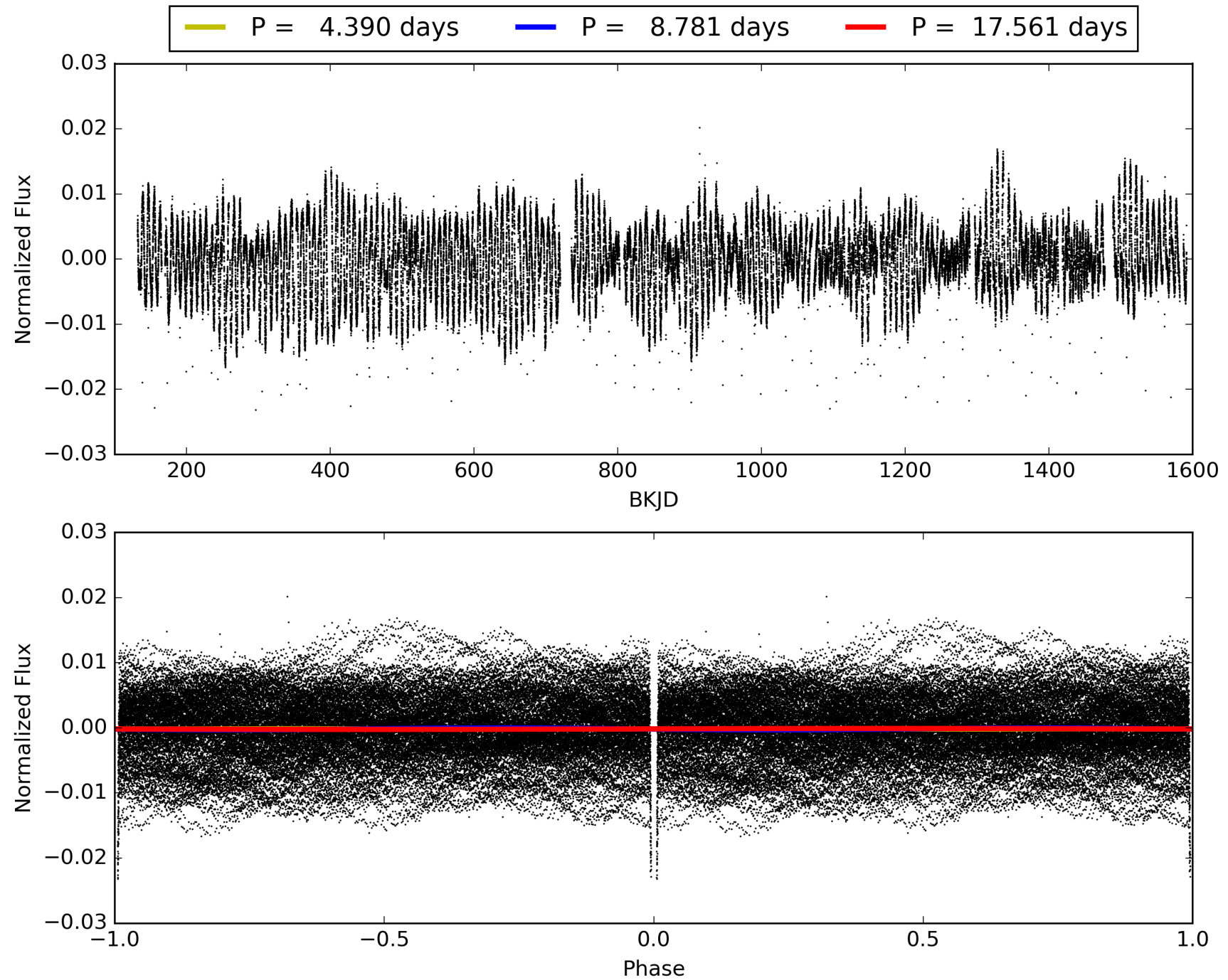
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [145/145]
GhostDiagnostic-chr: 2.291
Centroid-sig: 0.0%
Centroid-so: 0.542 arcsec [110.49σ]
OotOffset-rm: 0.020 arcsec [0.30σ]
KicOffset-rm: 0.147 arcsec [1.96σ]
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 008075618-01, PDC Light Curves

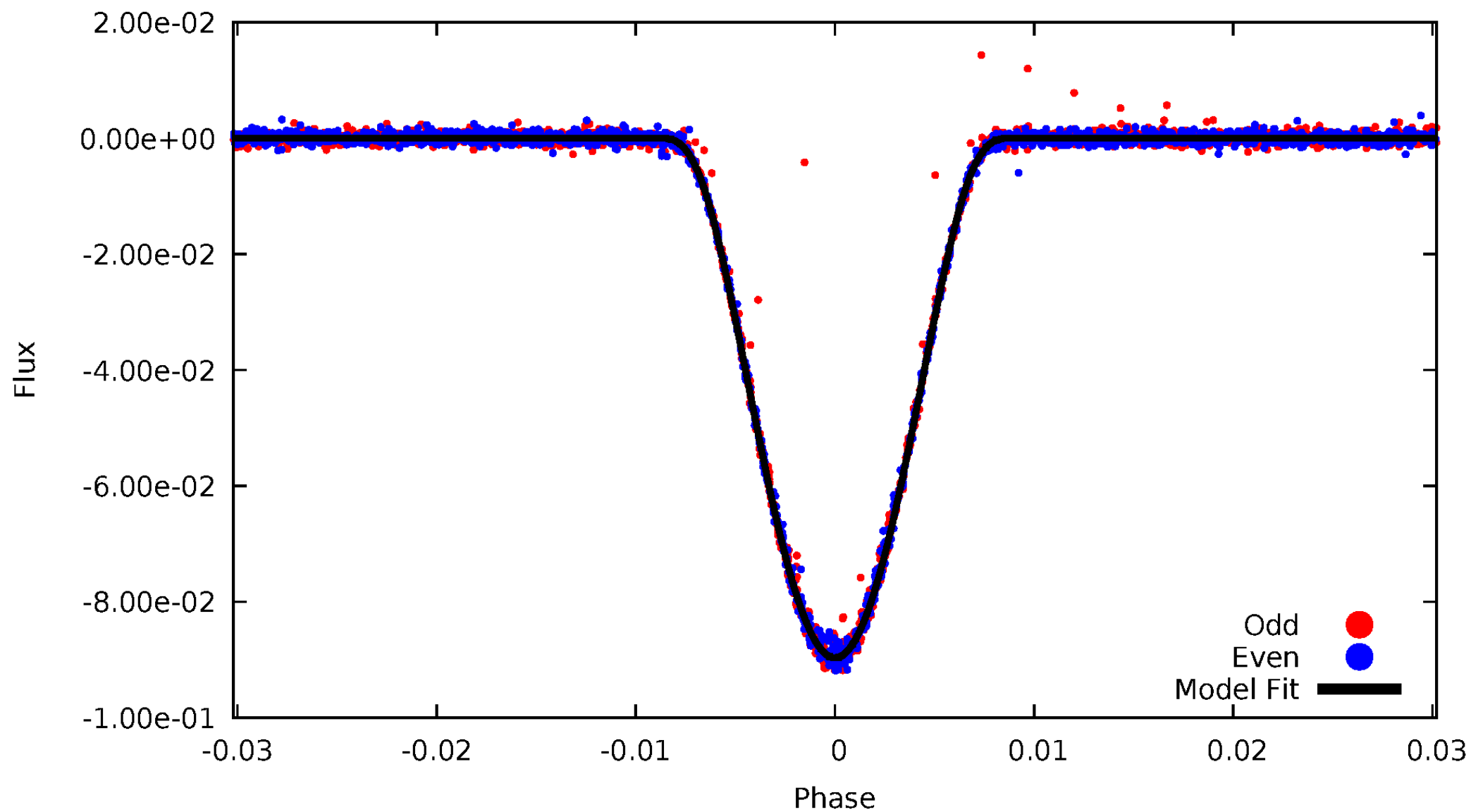


TCE 008075618-01



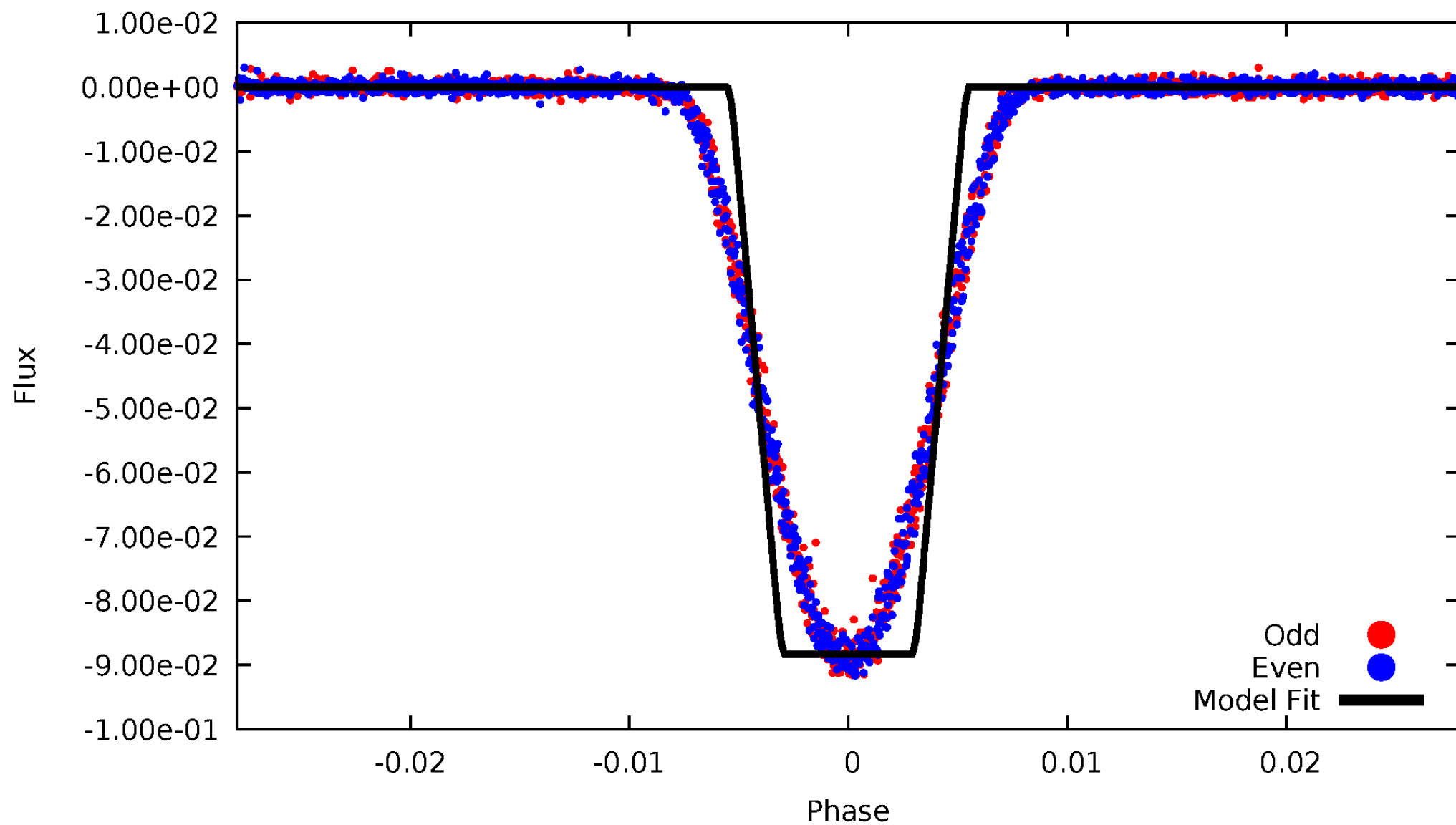
DV Odd/Even

TCE 008075618-01



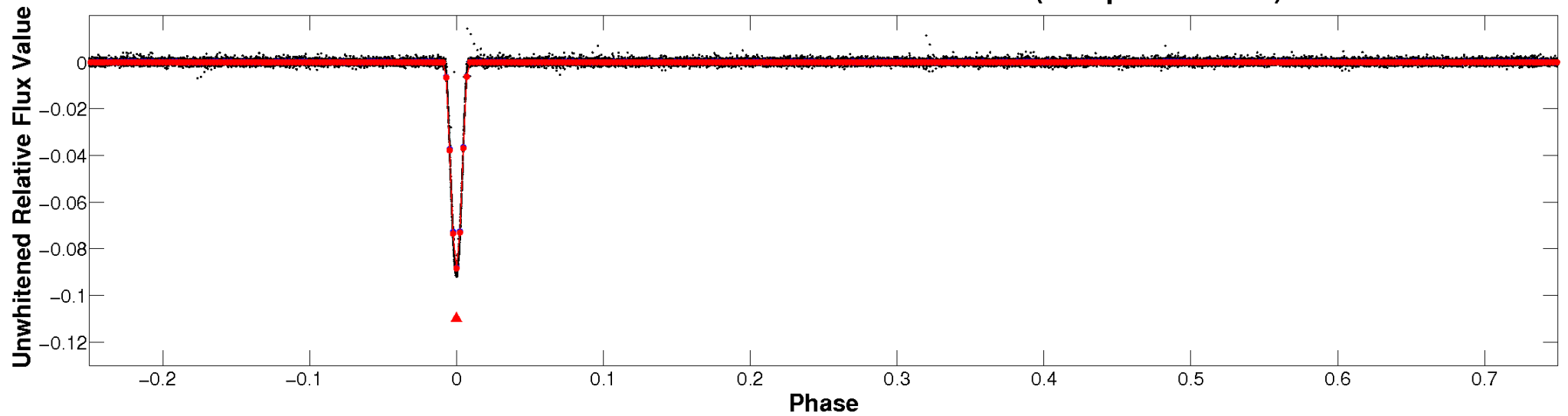
ALT Odd/Even

TCE 008075618-01

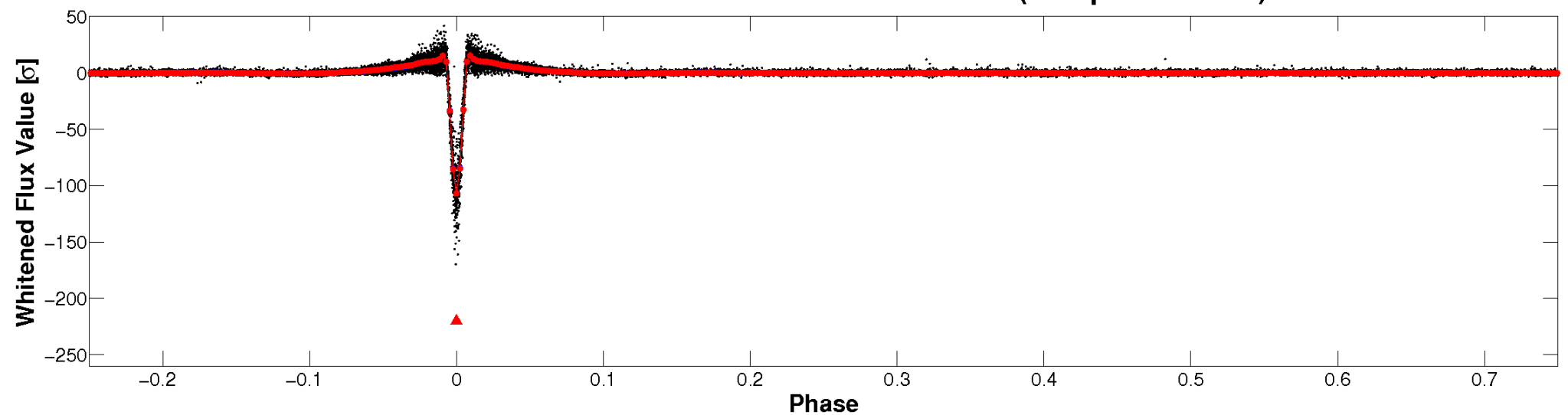


Non-Whitened Vs. Whitened Light Curve

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

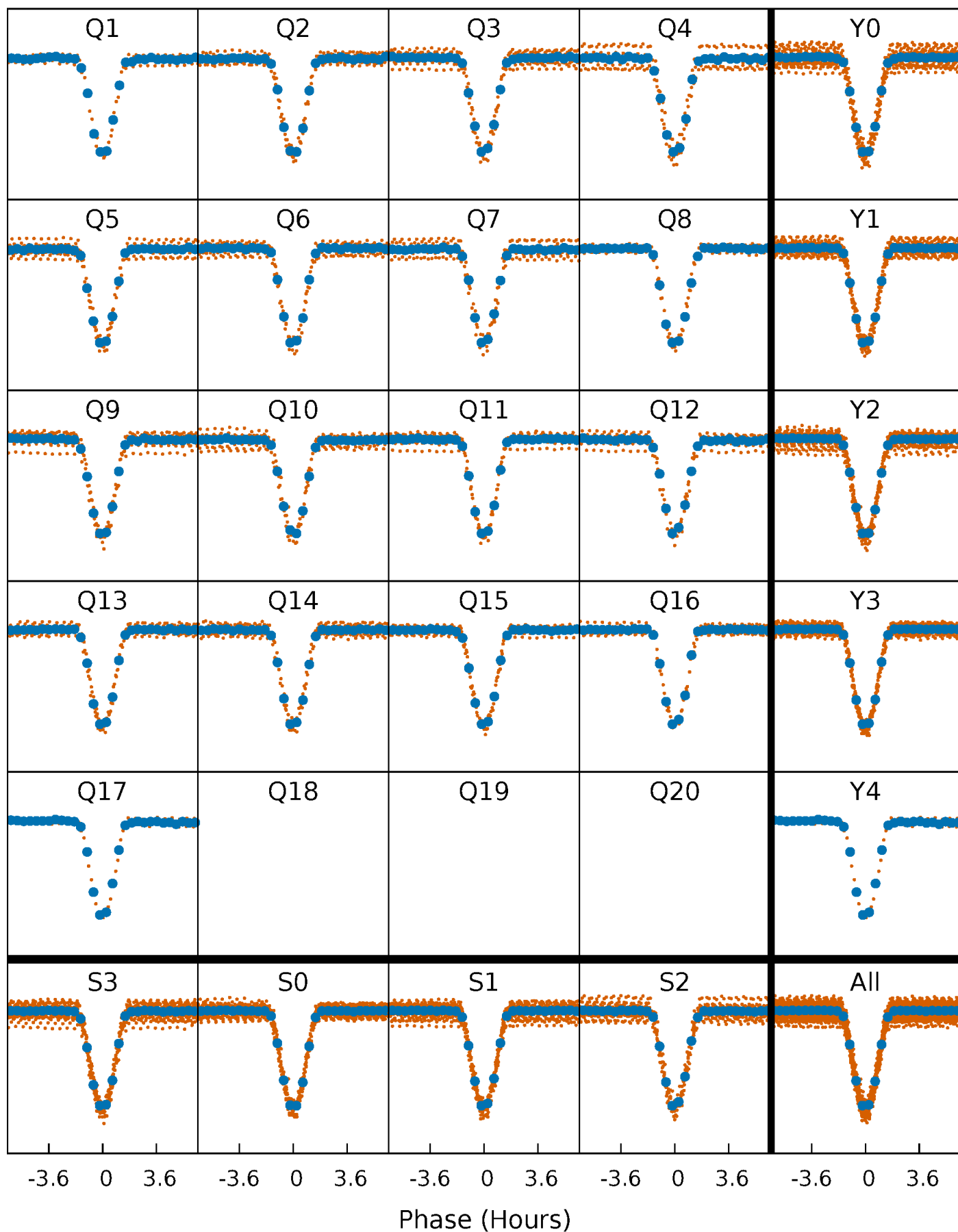


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



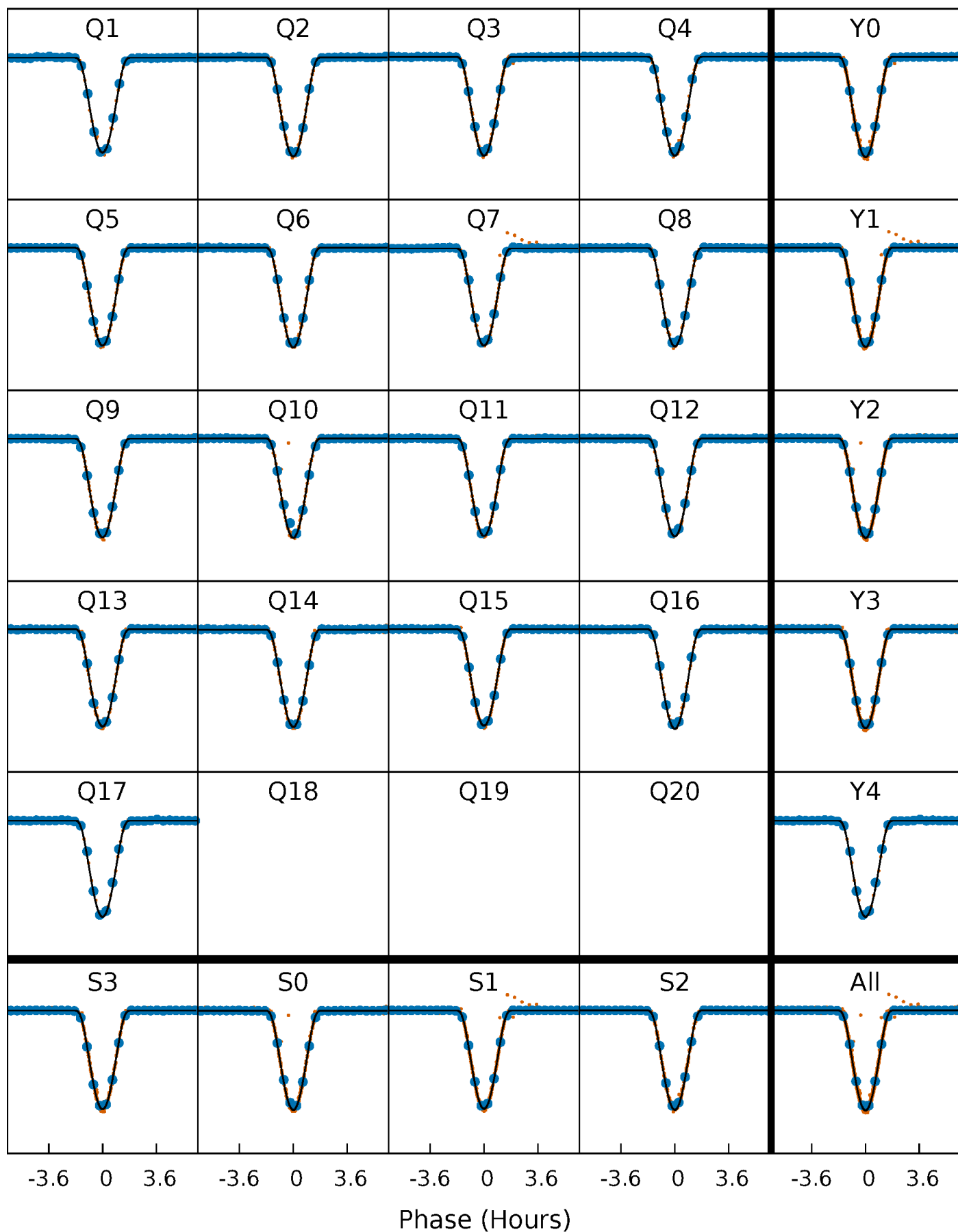
PDC Quarter-Phased Transit Curves

TCE 008075618-01 P= 8.780603 Days $T_0=137.923845$ (BKJD)



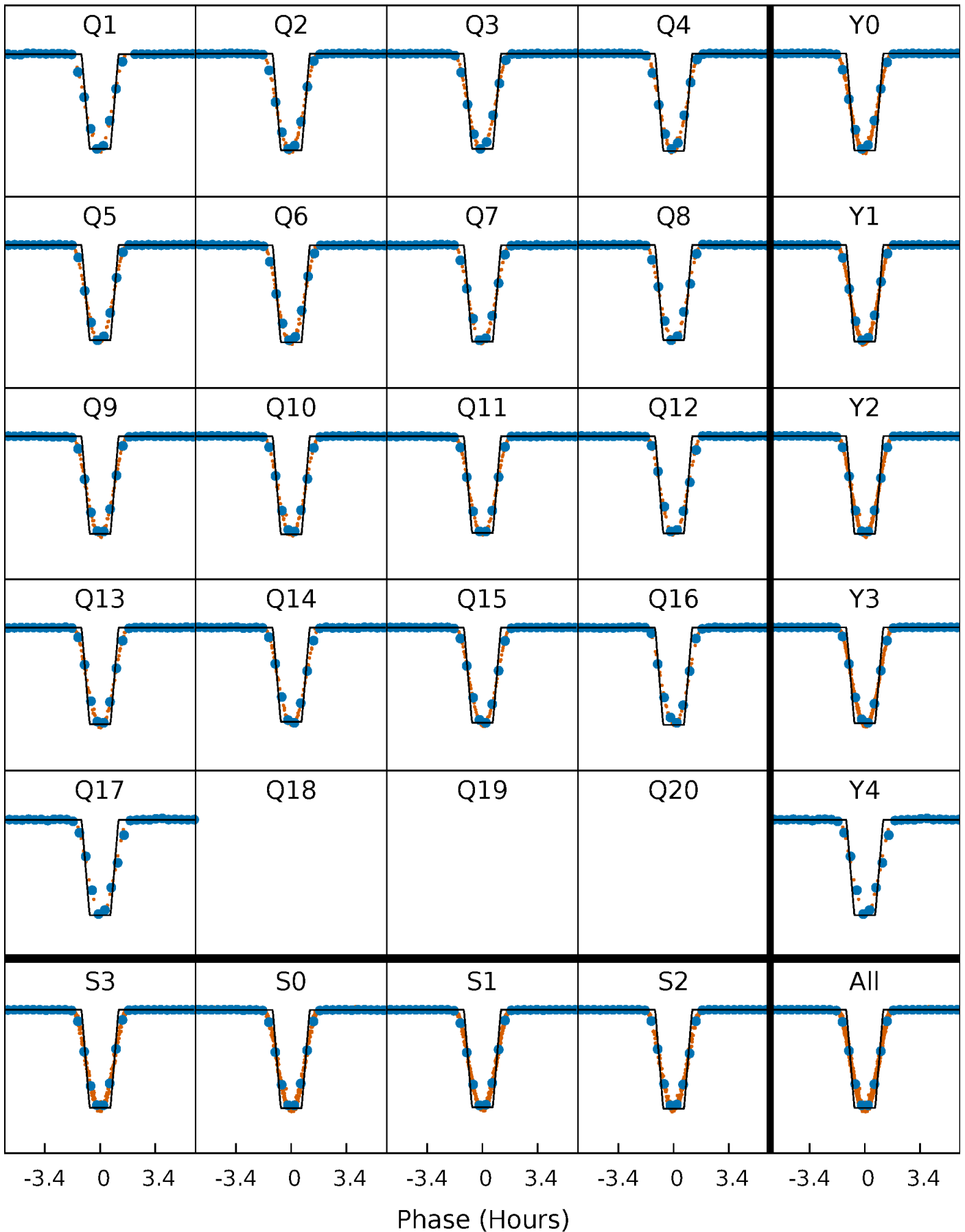
DV Quarter-Phased Transit Curves

TCE 008075618-01 P= 8.780603 Days $T_0=137.923845$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

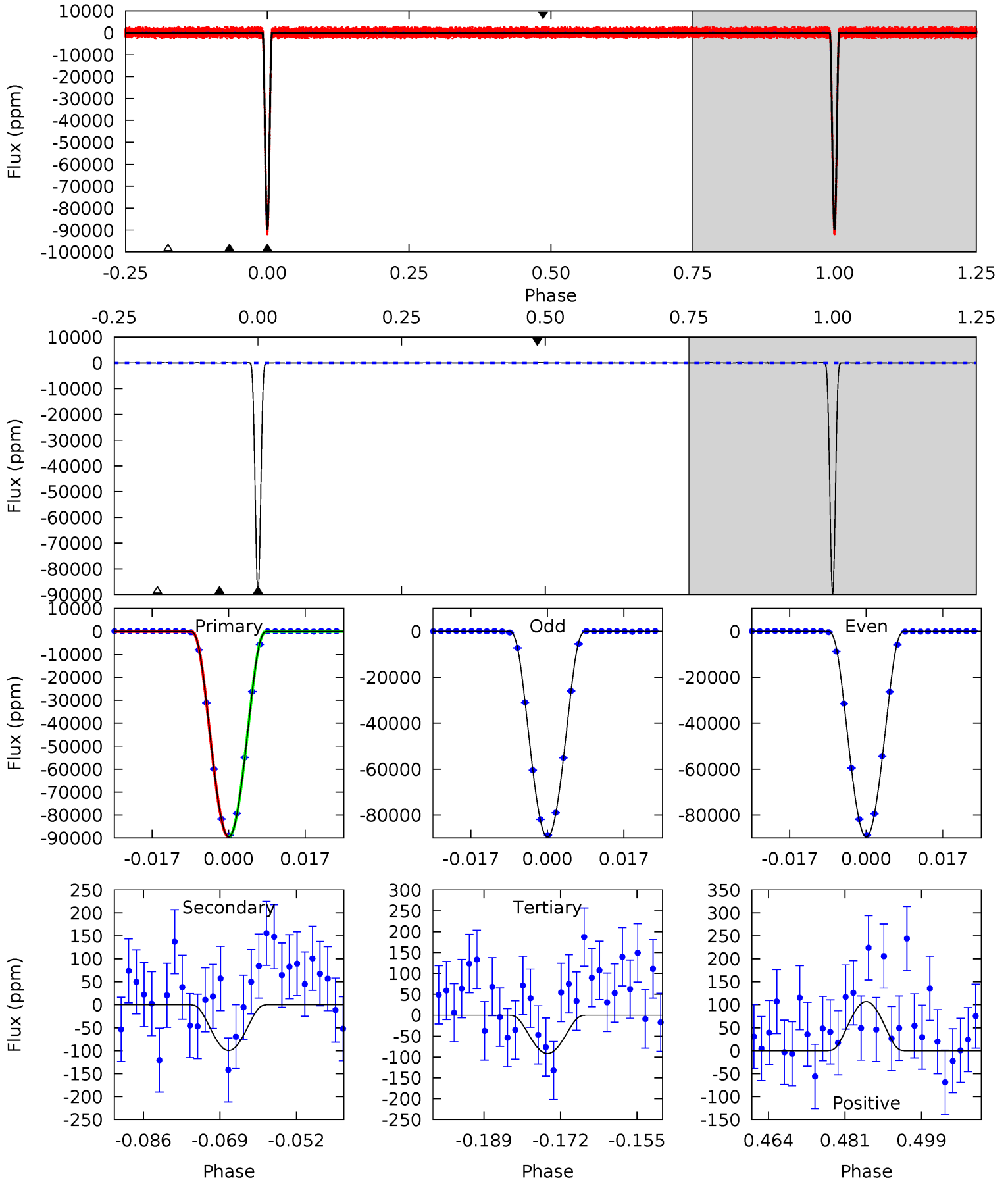
TCE 008075618-01 P= 8.780569 Days $T_0=137.926612$ (BKJD)



DV Model-Shift Uniqueness Test

008075618-01, P = 8.780603 Days, E = 129.143242 Days

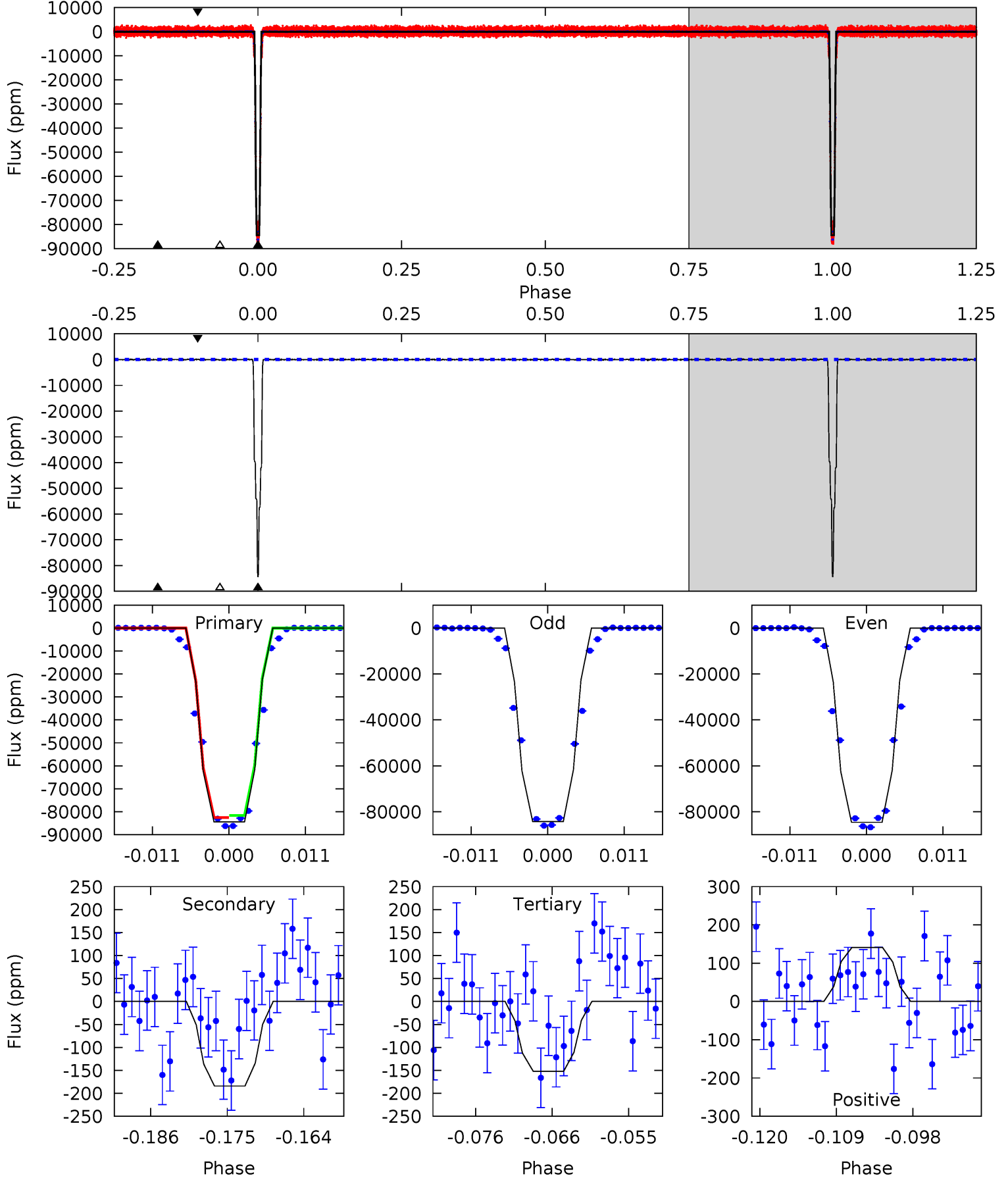
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4230	4.70	4.34	5.05	4.92	2.38	1.64	4226	4225	0.36	-0.34	0.53	0.99	0.00	2.10



Alt Model-Shift Uniqueness Test

008075618-01, P = 8.780569 Days, E = 129.146043 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1867	4.07	3.36	3.12	5.01	2.55	1.06	1864	1864	0.71	0.95	3.35	1.00	0.00	0



Stellar Parameters For KIC 008075618

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5487^{+164}_{-164}	$4.563^{+0.036}_{-0.153}$	$0.000^{+0.250}_{-0.300}$	$0.832^{+0.188}_{-0.075}$	$0.924^{+0.073}_{-0.101}$	$2.264^{+0.446}_{-0.993}$
	+3%/-3%	+1%/-3%	+inf%/-inf%	+23%/-9%	+8%/-11%	+20%/-44%
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 008075618-01 / KOI 5471.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-100 ± 21	$37.44^{+4.49}_{-3.08}$	1103^{+62}_{-46}	-1644^{+3131}_{-138}	$0.243^{+0.076}_{-0.063}$
Alt.	-184 ± 45	$27.87^{+3.26}_{-2.55}$	1104^{+59}_{-47}	2035^{+88}_{-108}	$0.835^{+0.292}_{-0.237}$

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

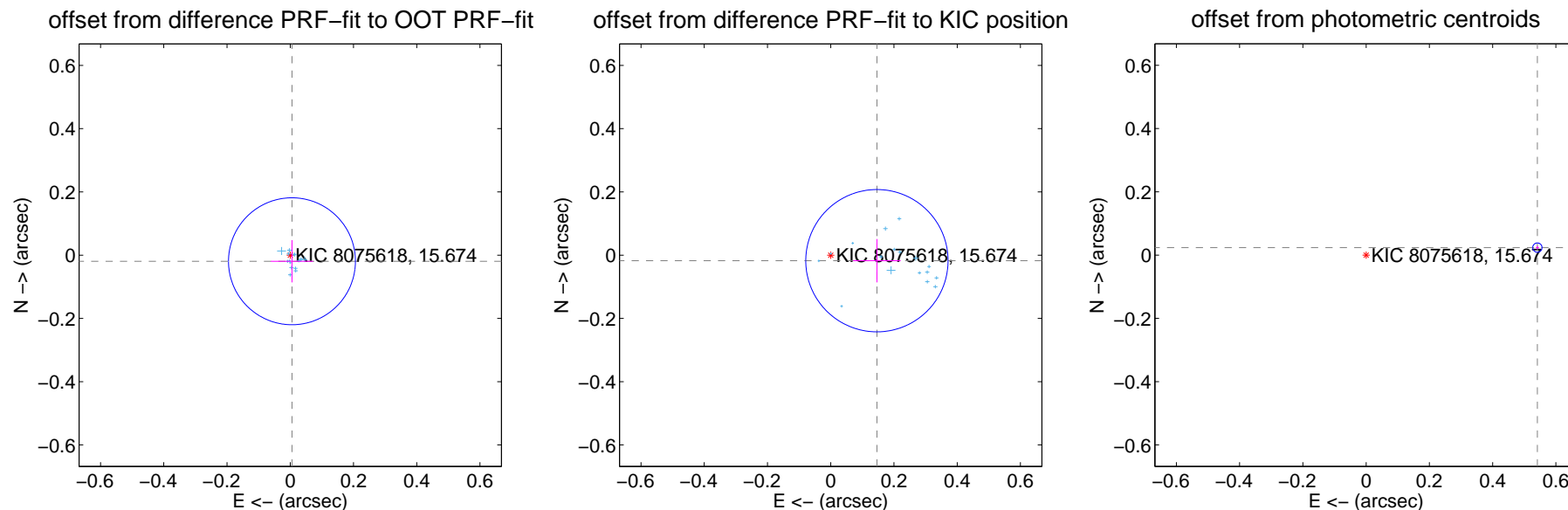
DV Centroid Data

Supplemental centroid analysis for 008075618-01. Kepler magnitude: 15.67. Transit SNR 1878.40

There are 17 quarters with good PRF difference image offsets

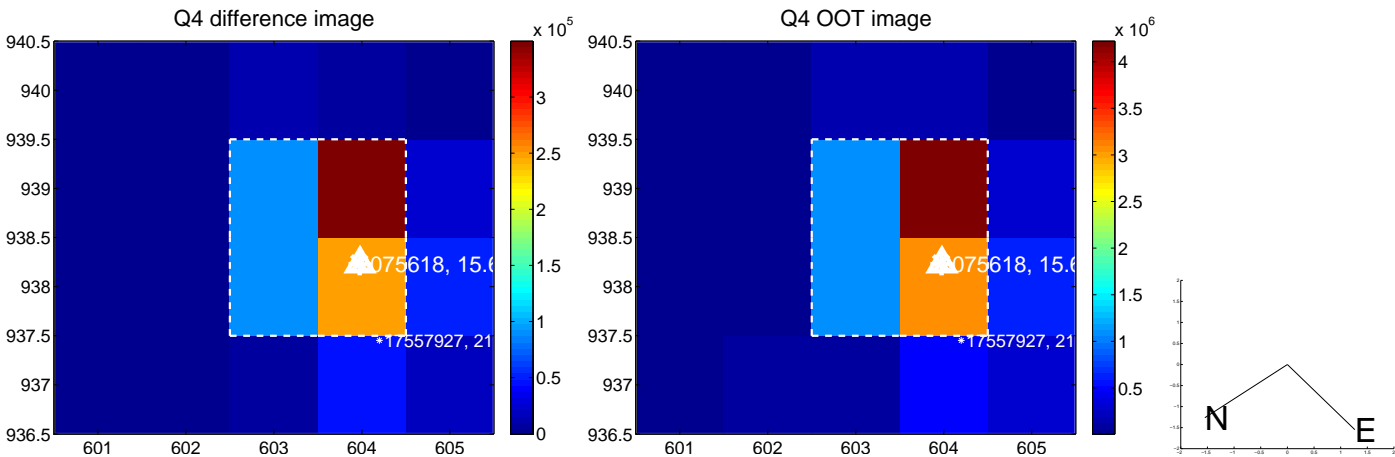
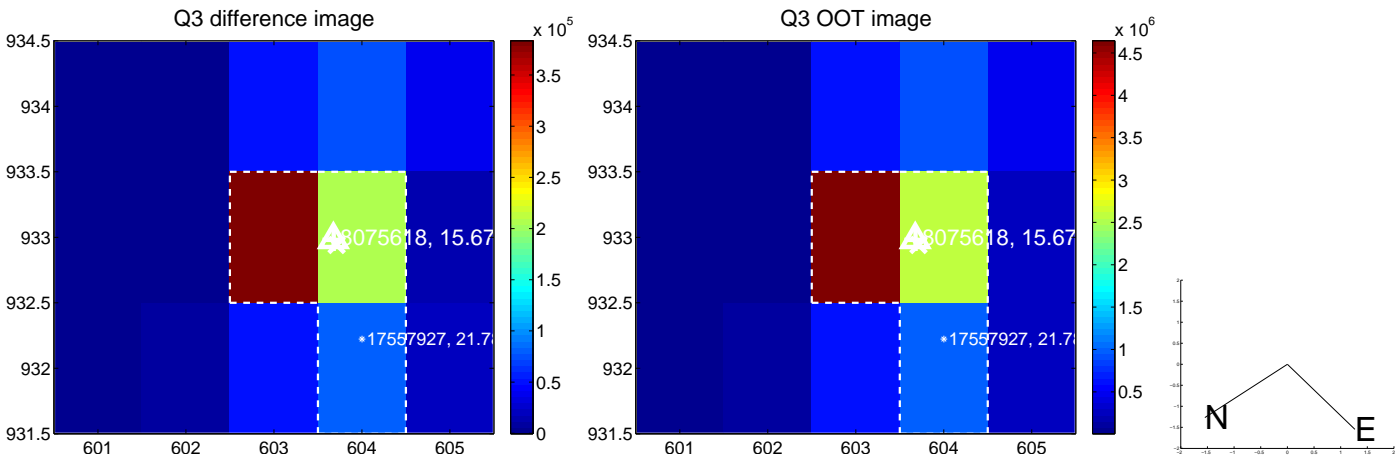
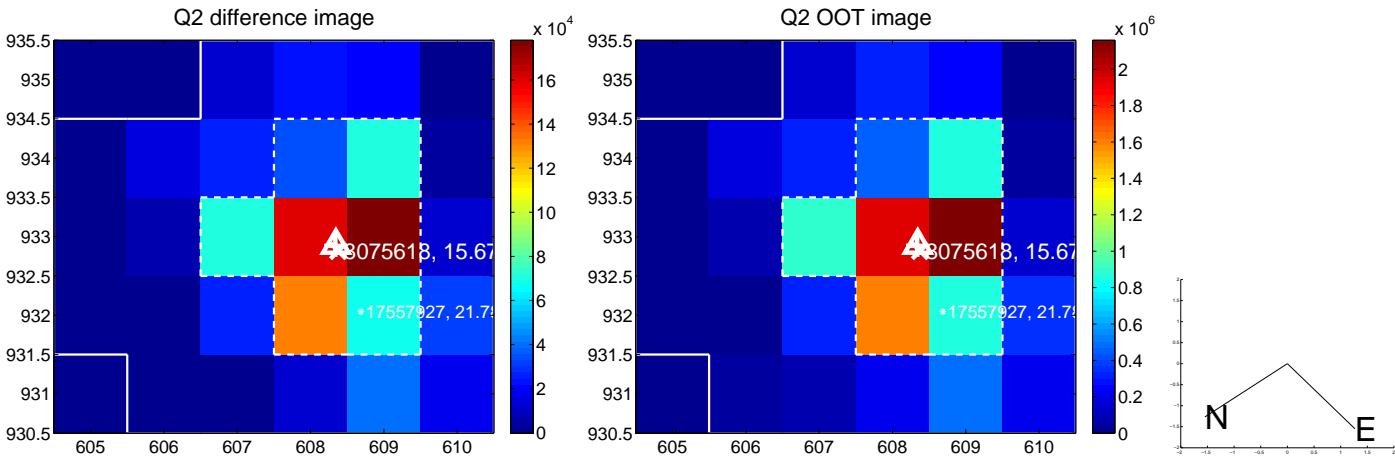
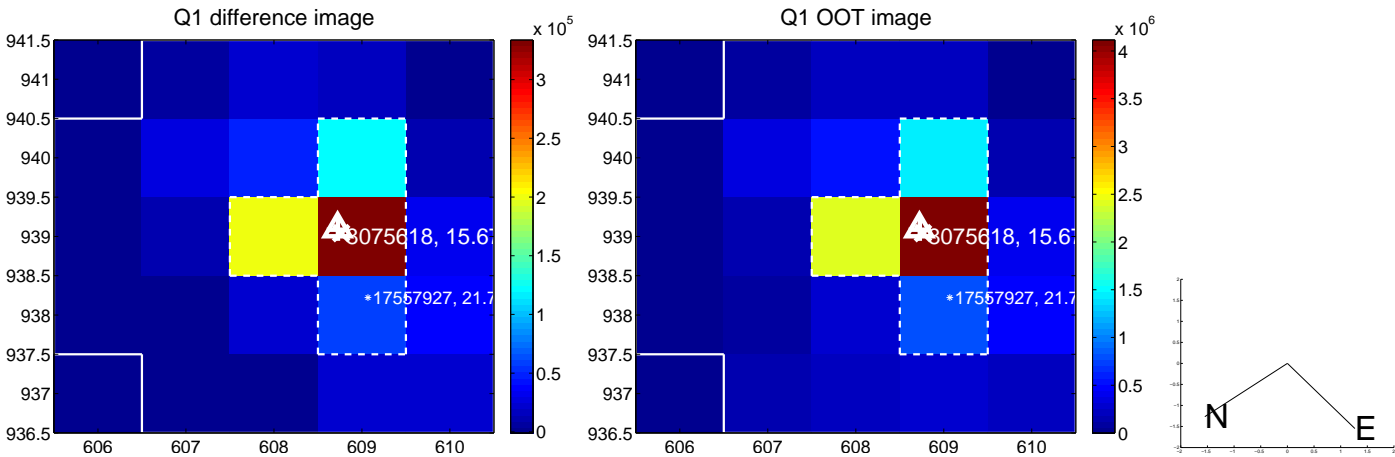
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.020 ± 0.067	0.30	-0.005 ± 0.067	-0.019 ± 0.067
PRF-fit source offset from KIC position	0.147 ± 0.075	1.96	-0.146 ± 0.075	-0.018 ± 0.069
photometric centroid source offset	0.54 ± 0.00	110.49	-0.54 ± 0.00	0.02 ± 0.01

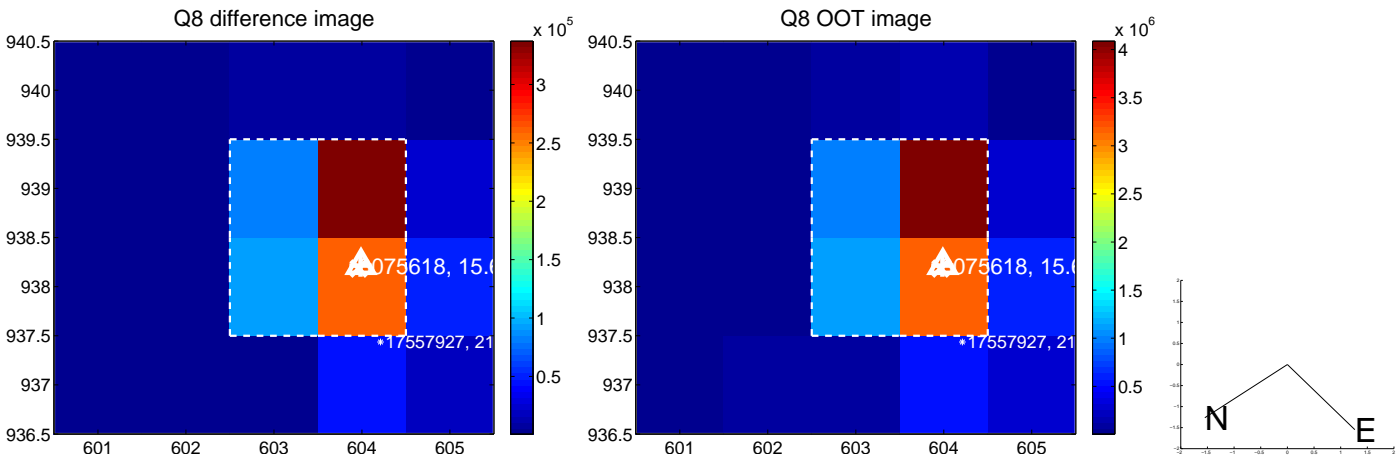
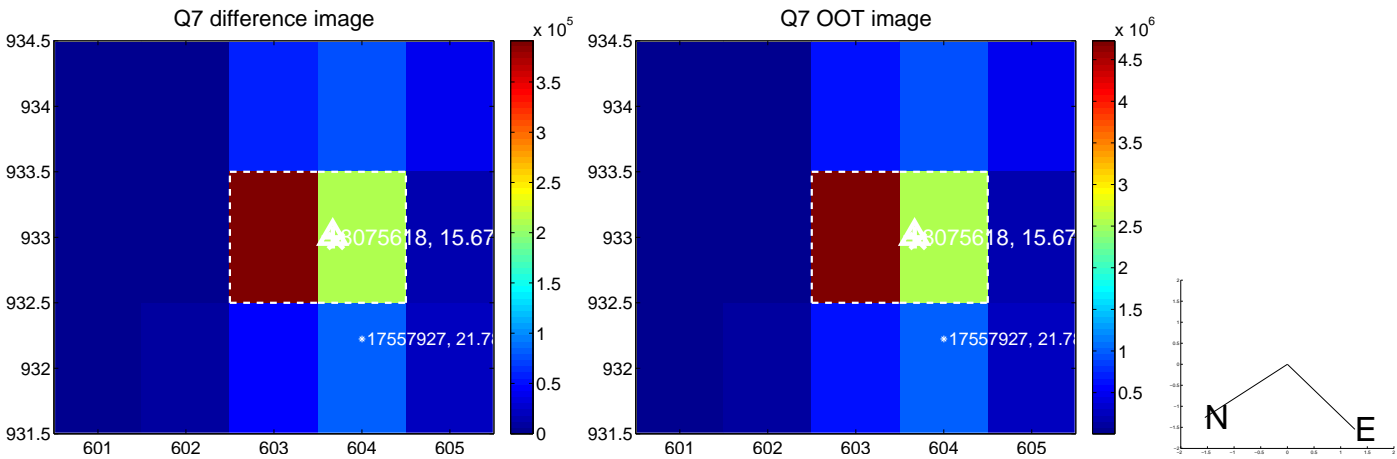
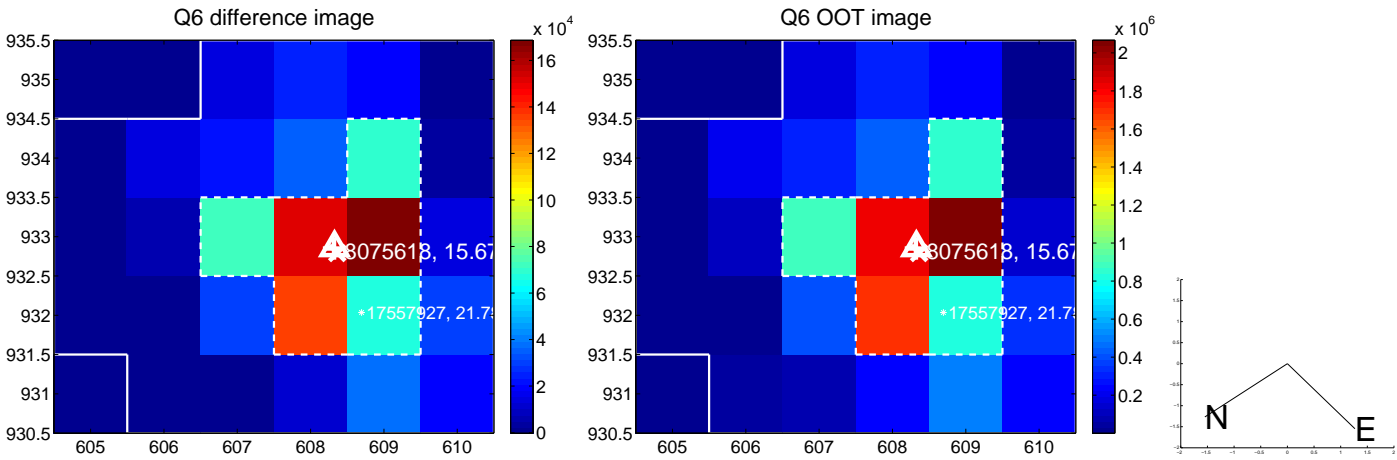
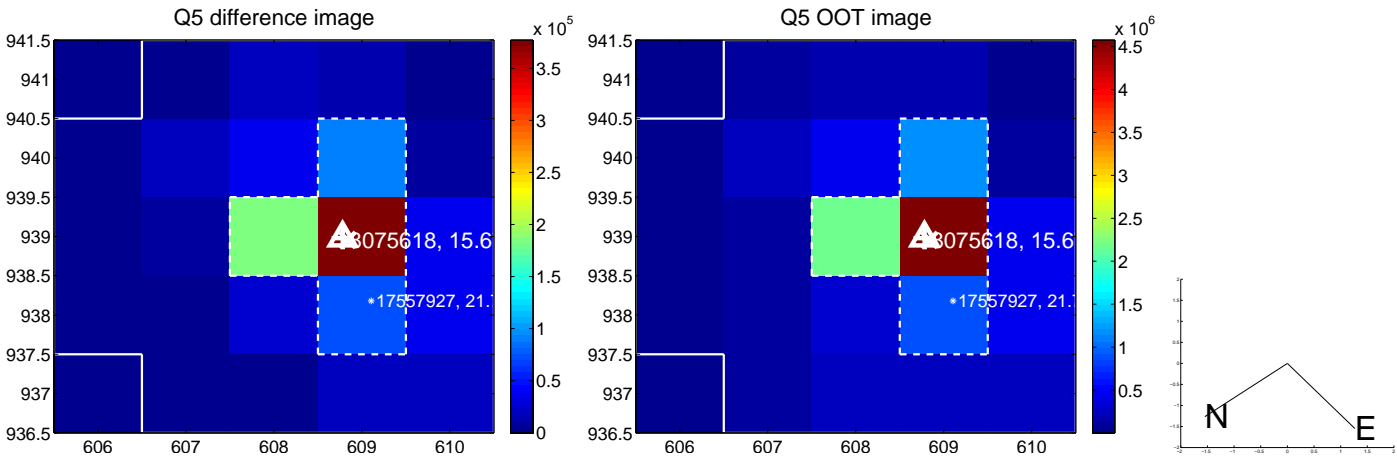


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

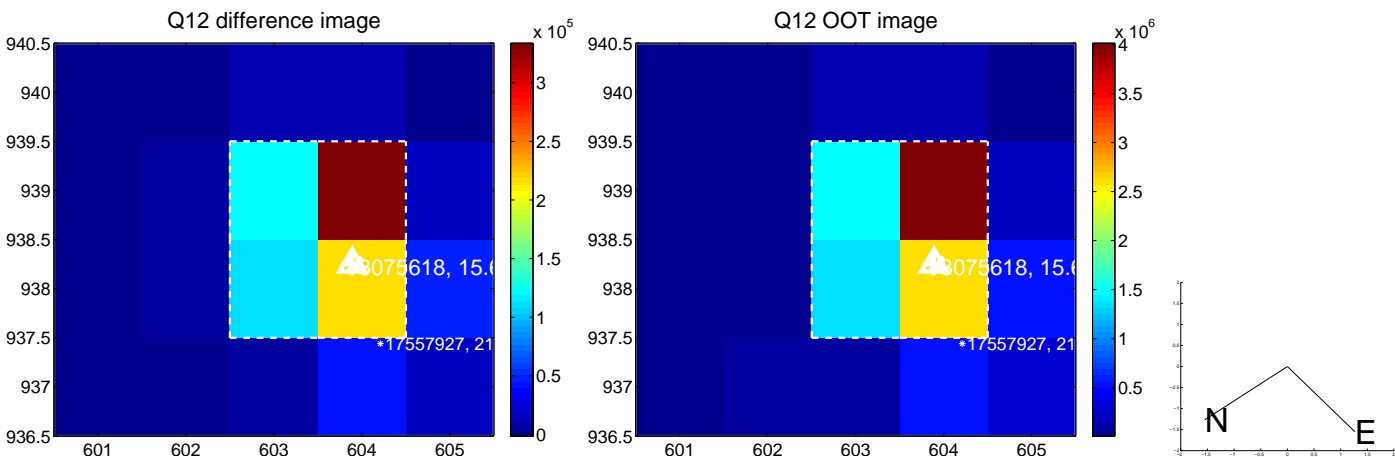
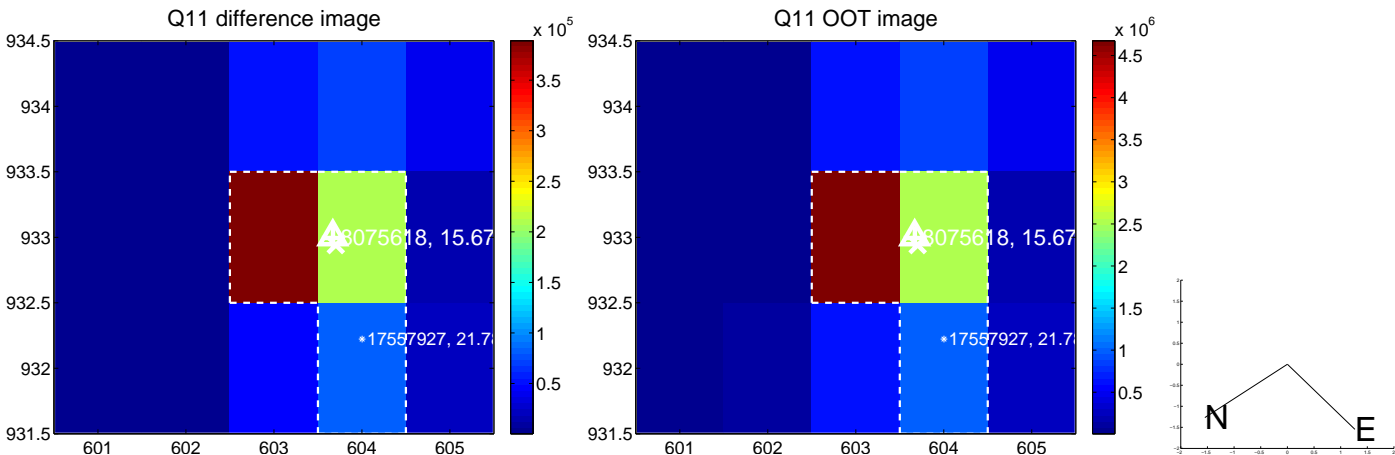
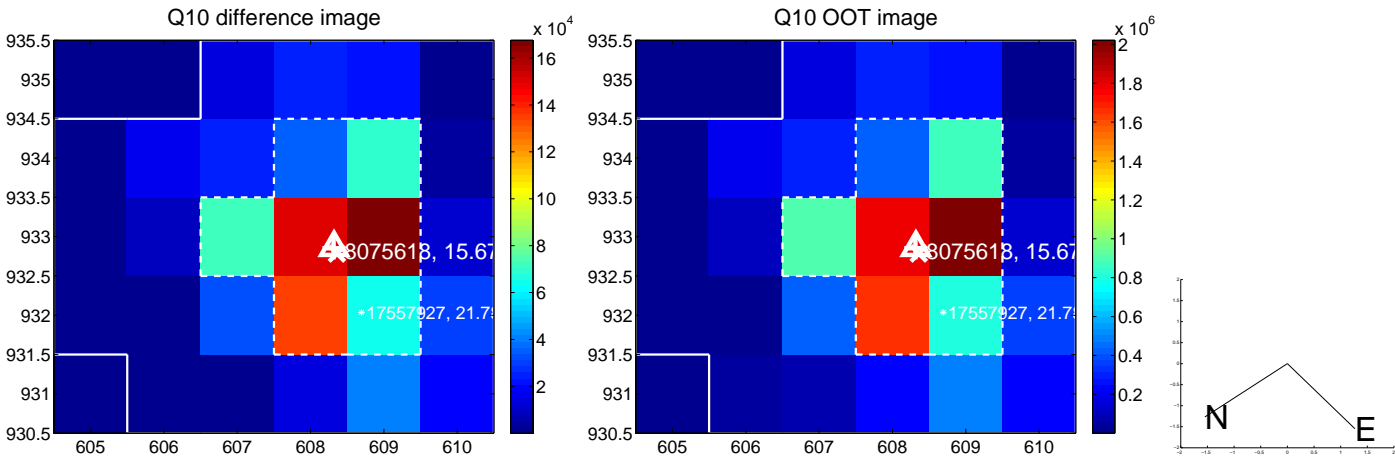
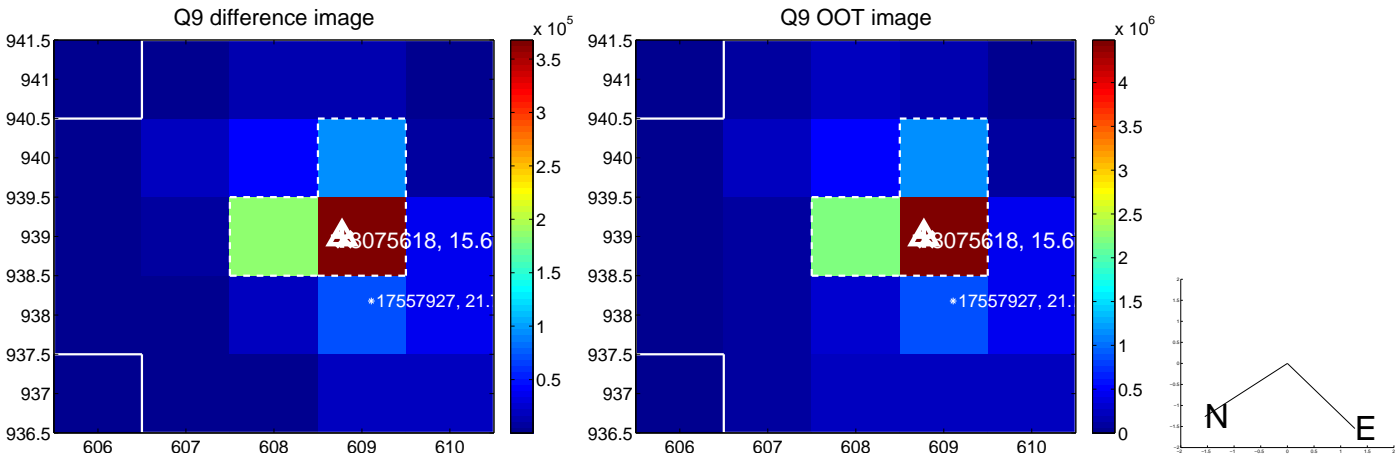
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



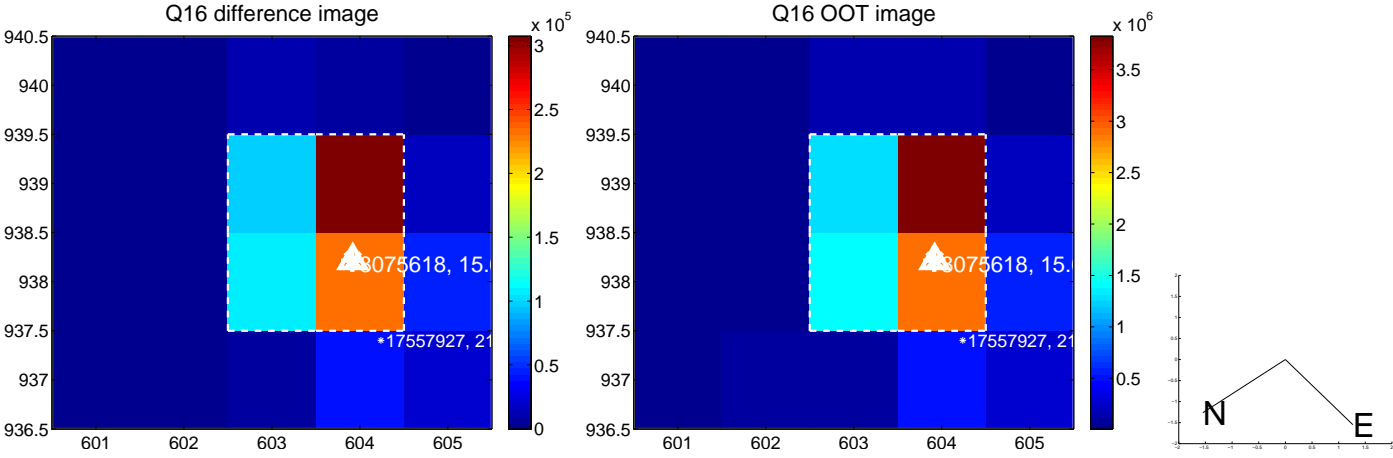
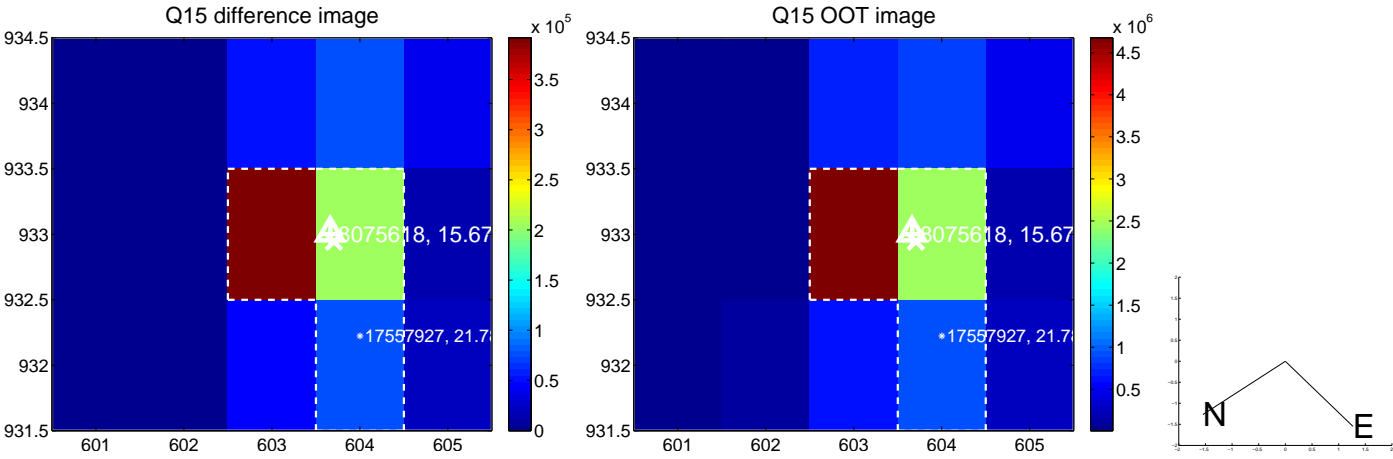
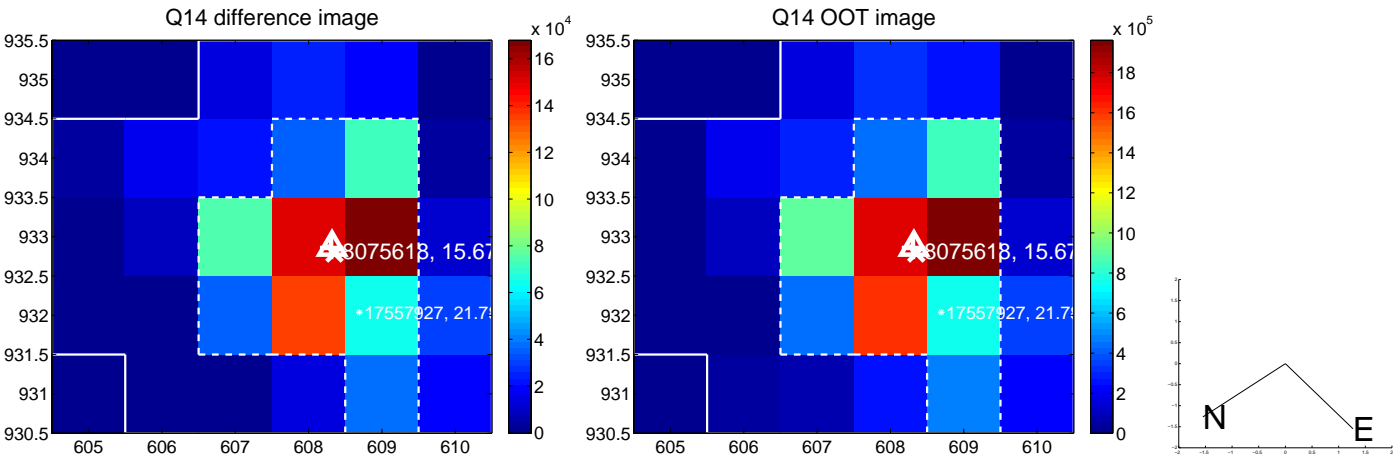
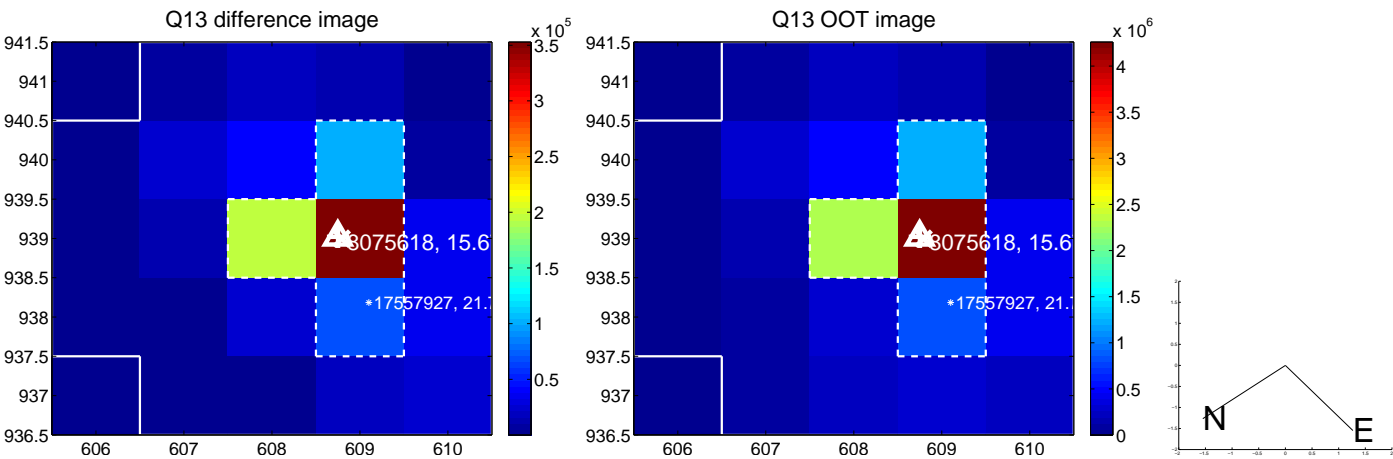
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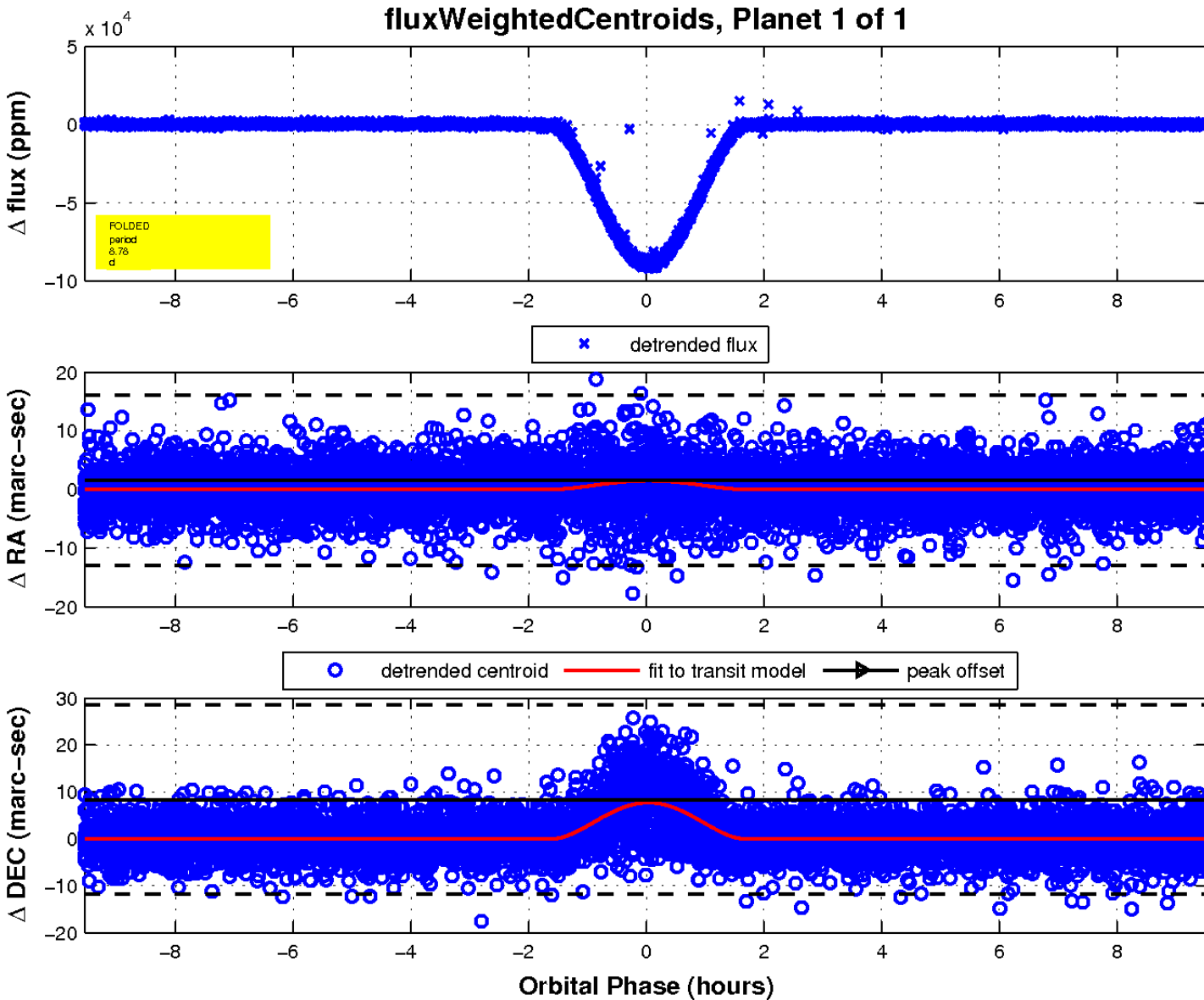
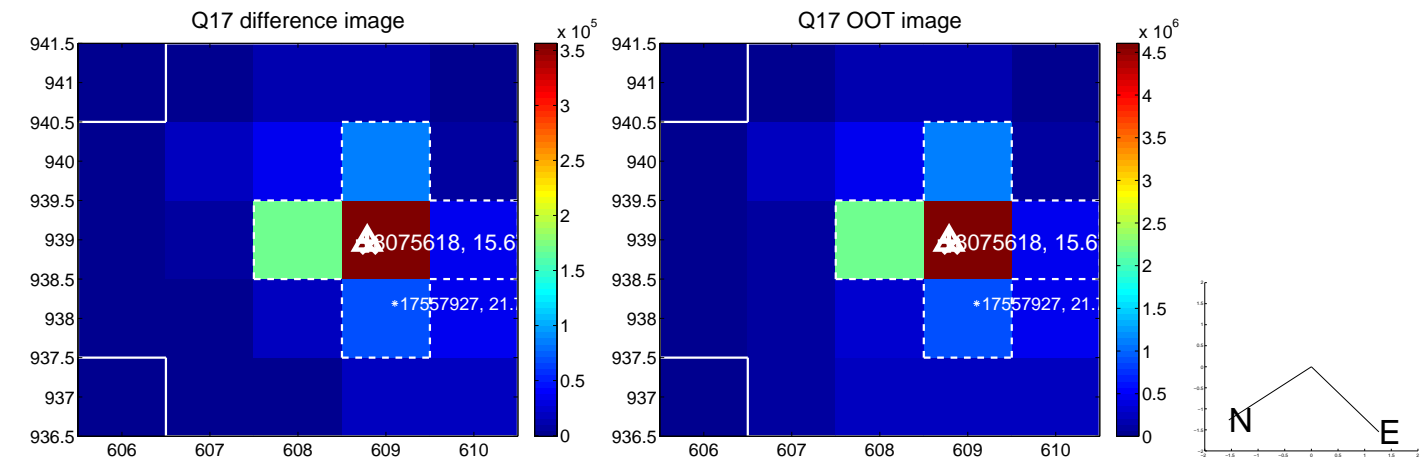
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

