

KIC 009703198

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})
009703198-01	OBS	0469.01	10.329070	133.291733	2329.5	1.560	106.6	114.2	1.05	6228	6.52	160.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009703198-01	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.

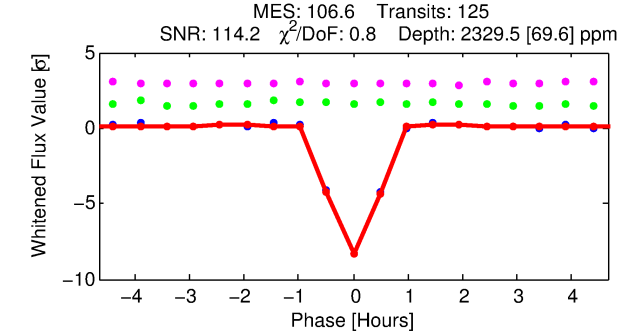
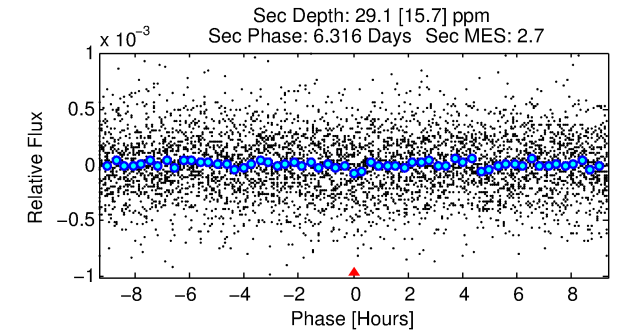
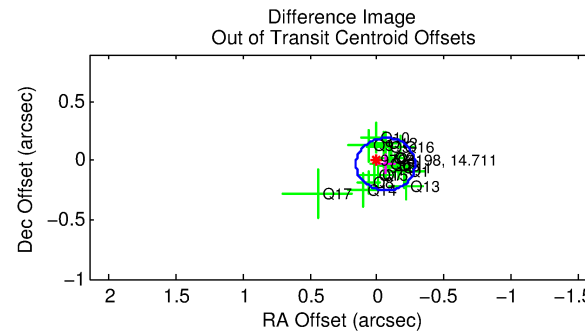
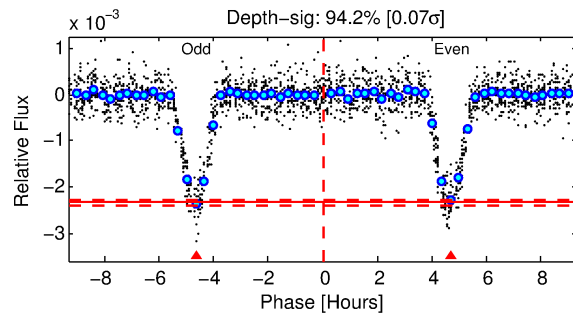
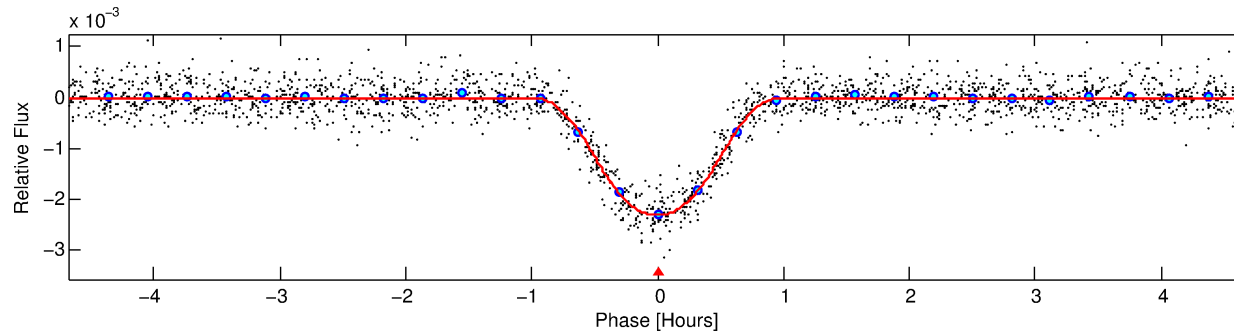
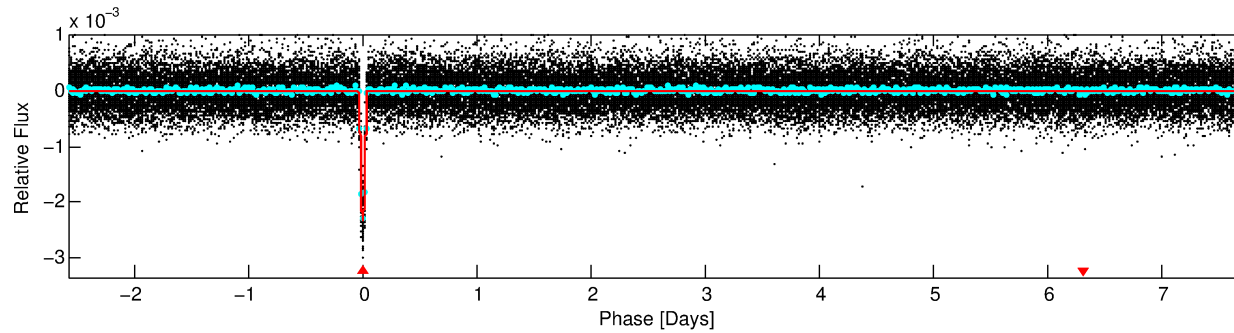
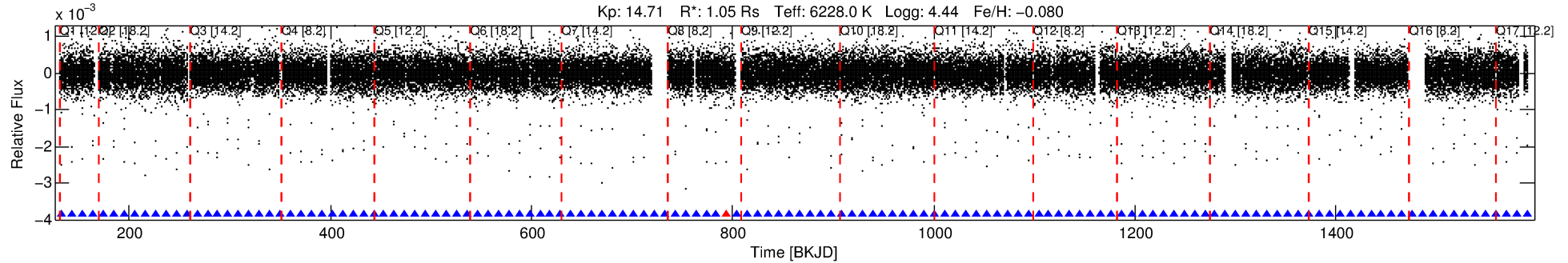
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009703198-01

No Significant Match Found

DV One-Page Summary

KIC: 9703198 Candidate: 1 of 1 Period: 10.329 d
KOI: K00469.01 Corr: 0.910



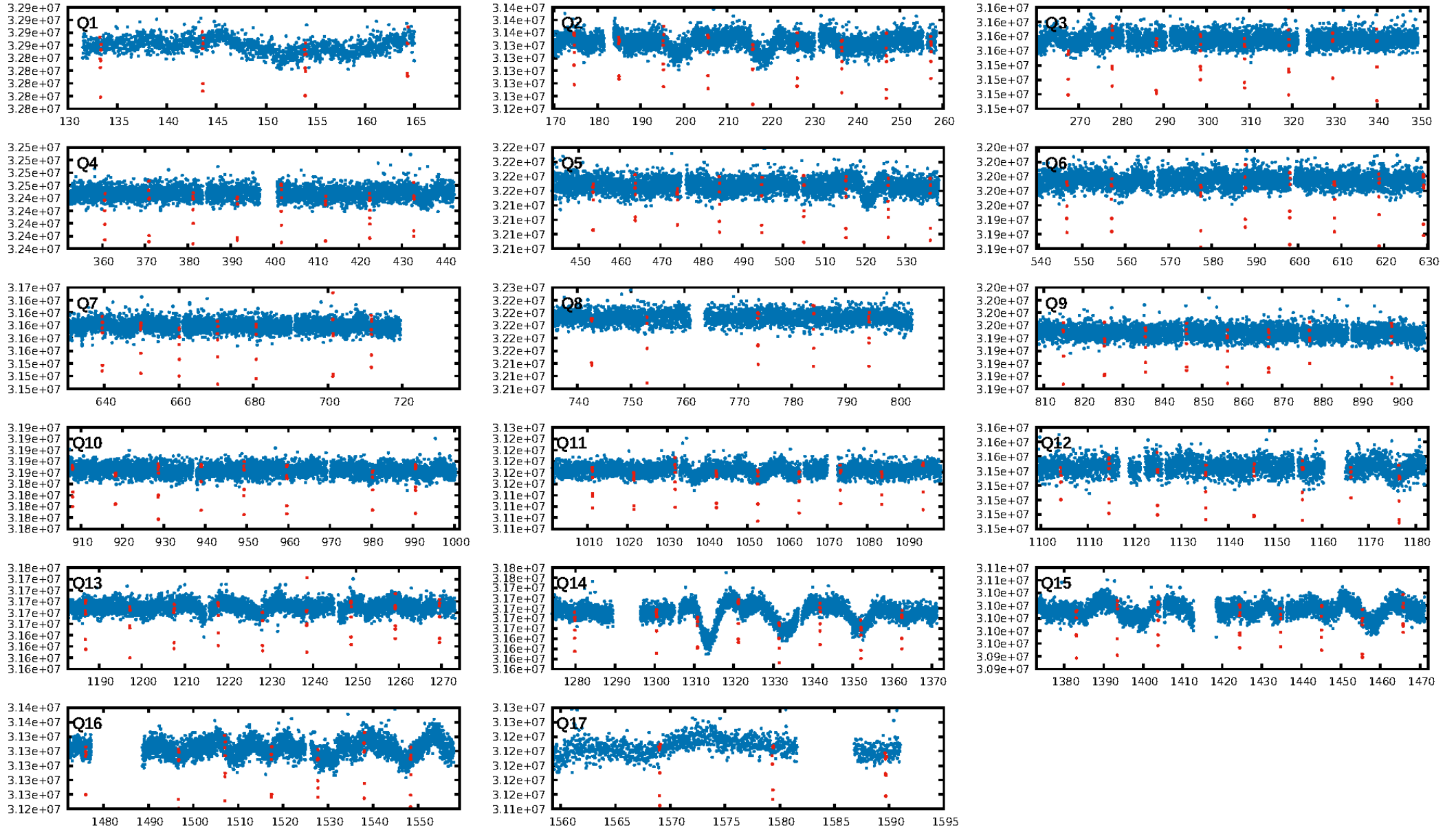
DV Fit Results:

Period = 10.32907 [0.00000] d
Epoch = 133.2917 [0.0003] BKJD
Rp/R* = 0.0569 [0.0036]
a/R* = 23.62 [1.36]
b = 0.95 [0.01]
Seff = 160.72 [61.52]
Teq = 908 [87] K
Rp = 6.52 [1.99] Re
a = 0.0961 [0.0239] AU
Ag = 3.48 [2.29] [1.08 σ]
Teffp = 1917 [273] K [3.53 σ]

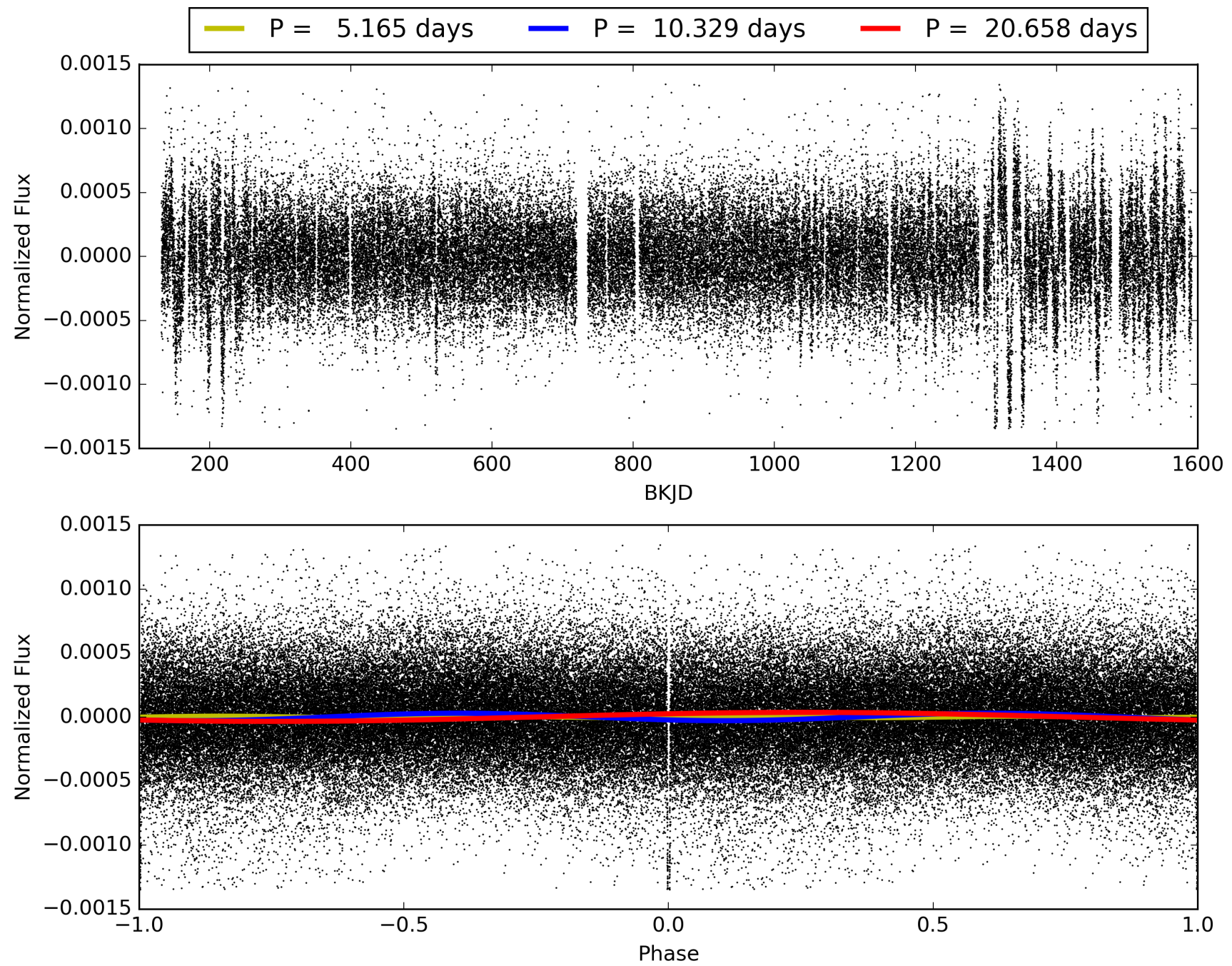
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [117/118]
GhostDiagnostic-chr: 6.659
Centroid-sig: 72.0%
Centroid-so: 0.174 arcsec [1.55 σ]
OotOffset-rm: 0.069 arcsec [0.94 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.266 arcsec [3.59 σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009703198-01, PDC Light Curves

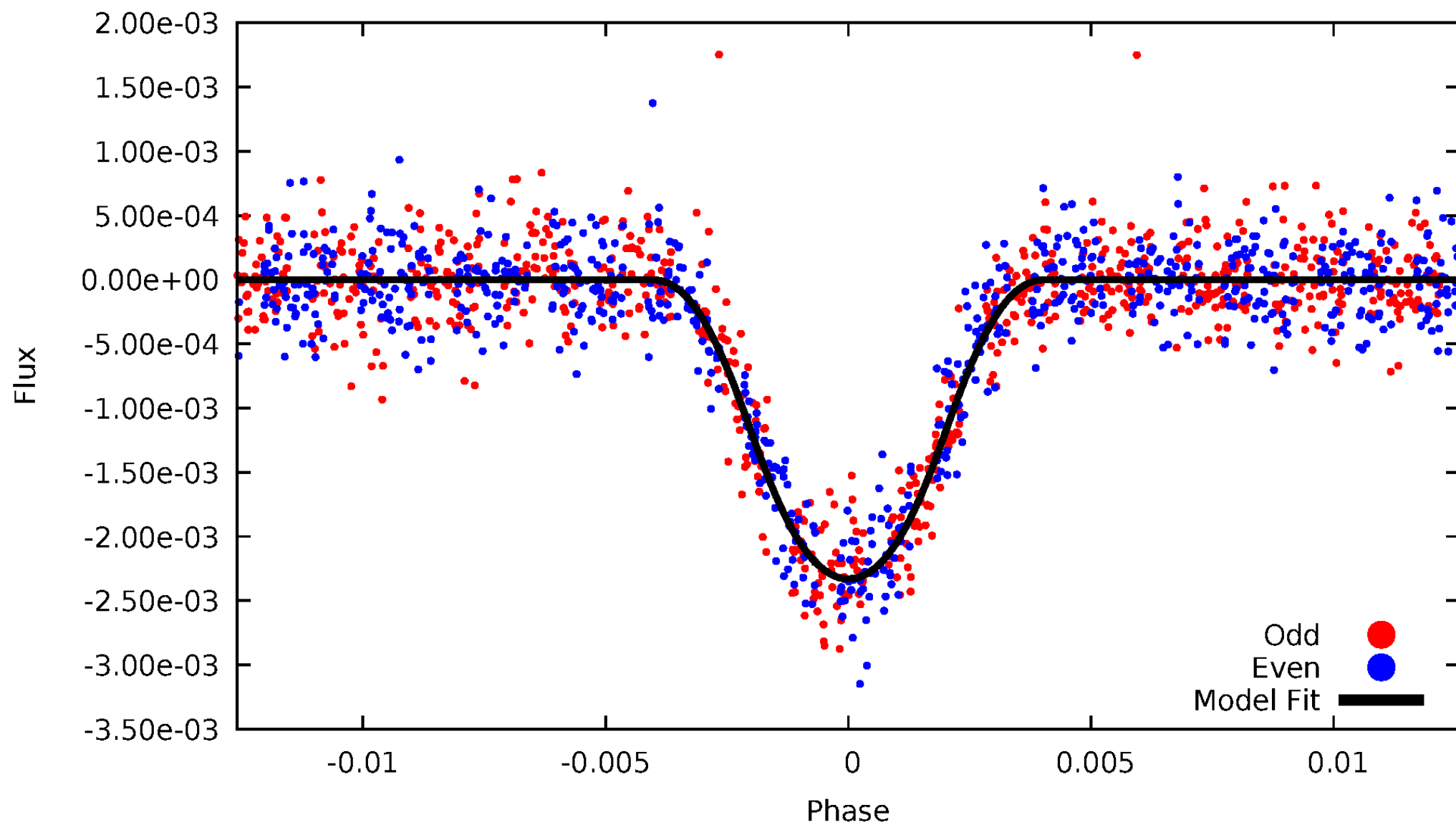


TCE 009703198-01



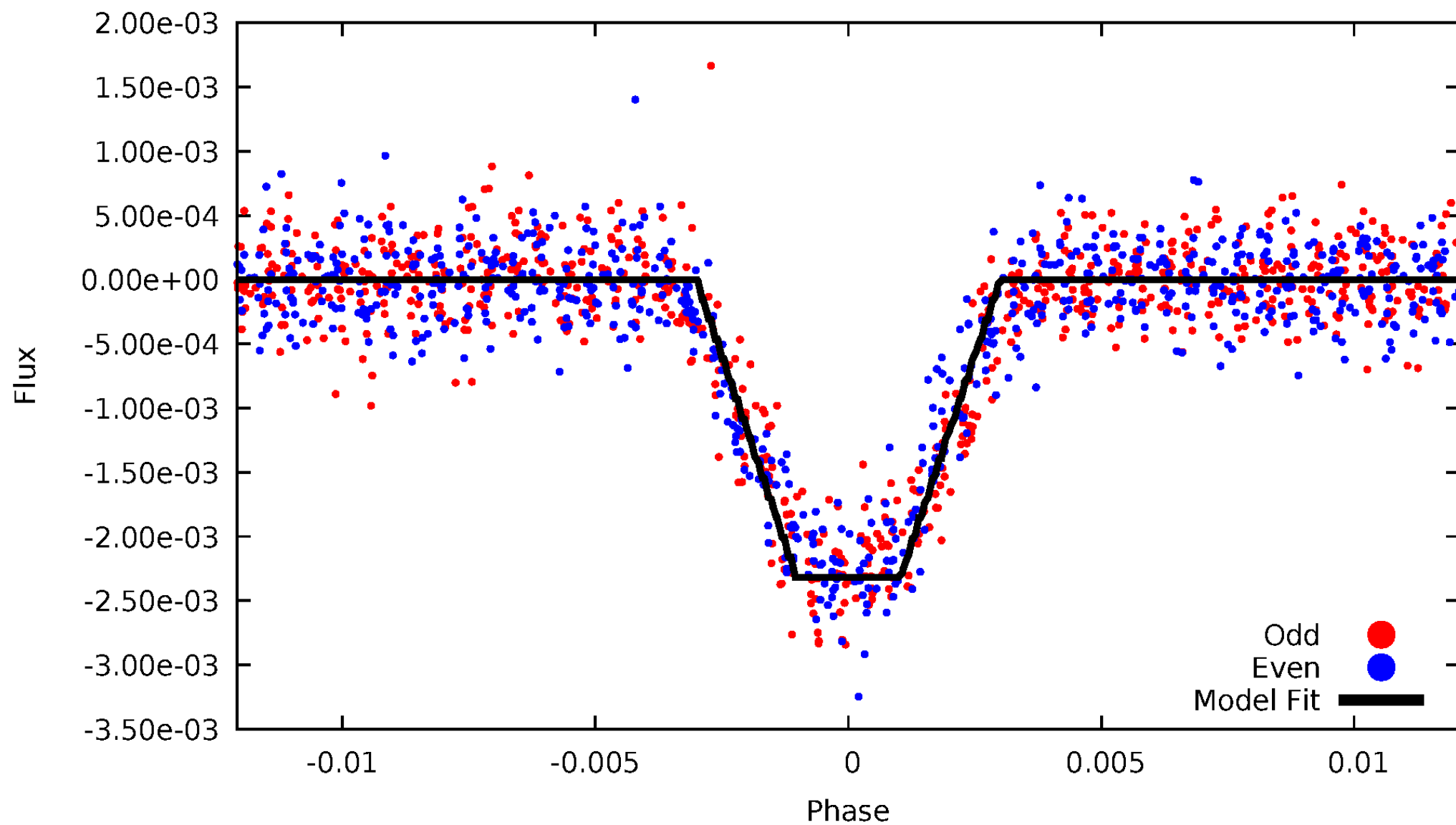
DV Odd/Even

TCE 009703198-01



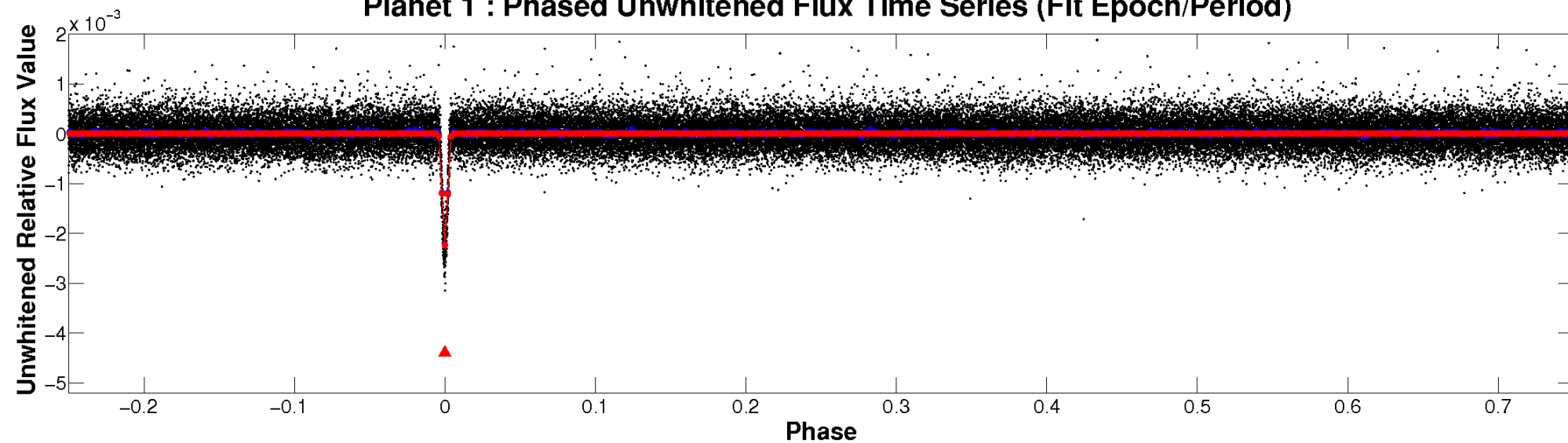
ALT Odd/Even

TCE 009703198-01

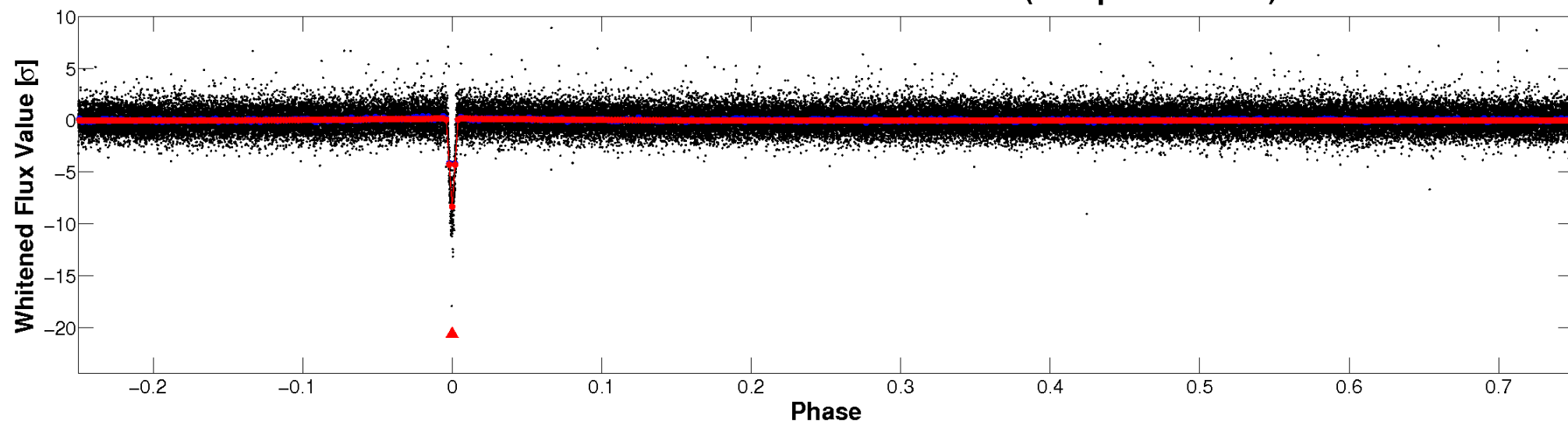


Non-Whitened Vs. Whitened Light Curve

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

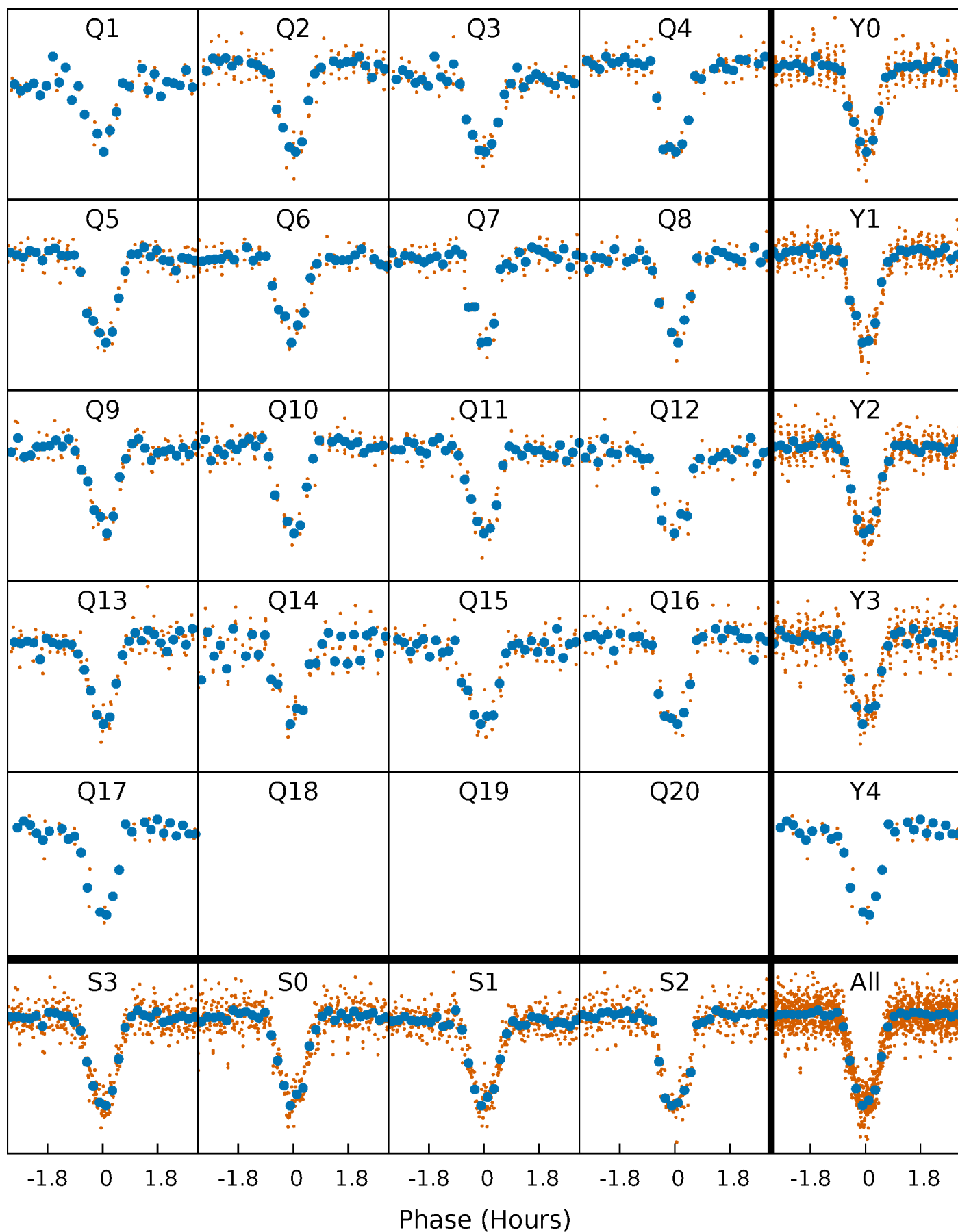


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



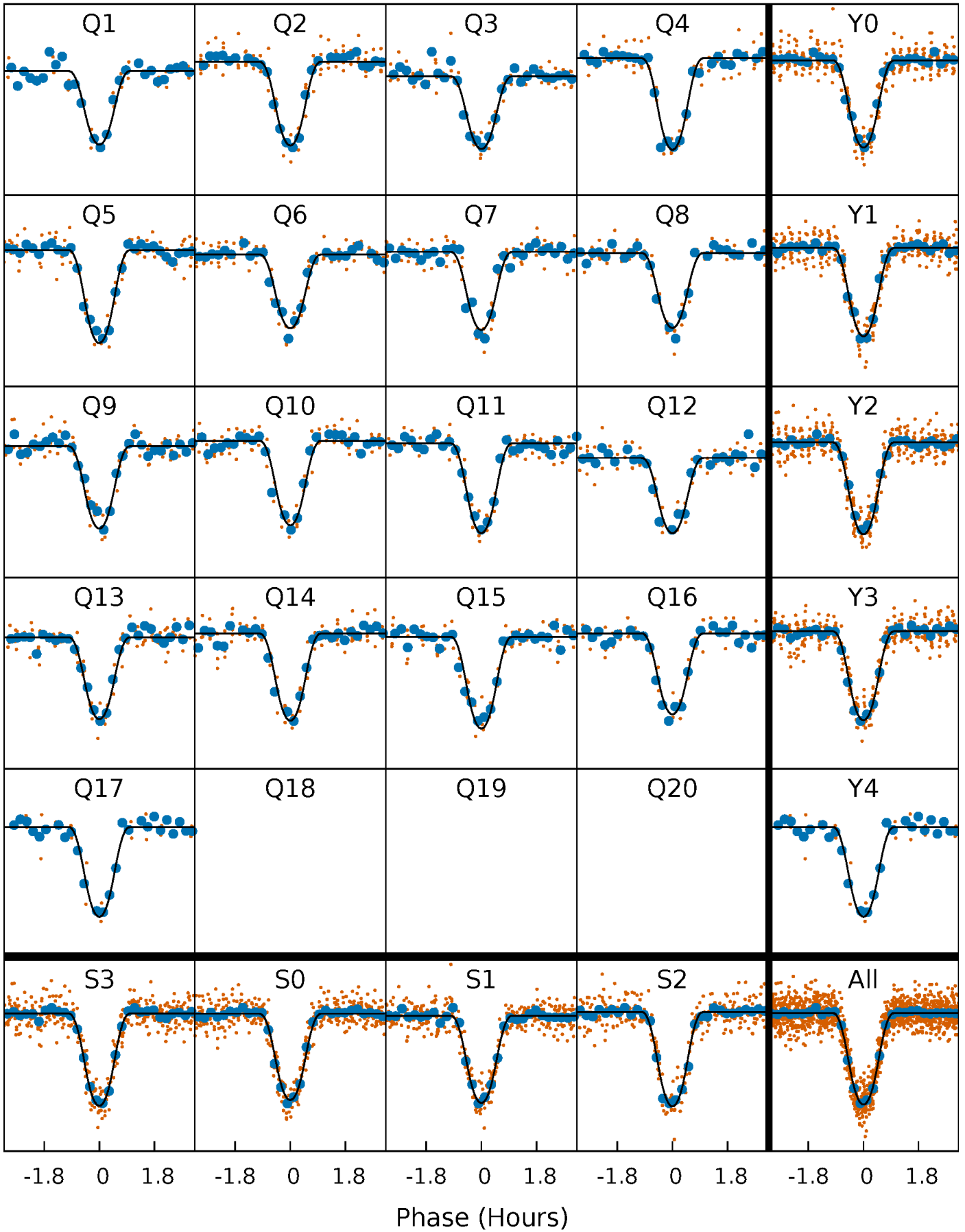
PDC Quarter-Phased Transit Curves

TCE 009703198-01 P= 10.329070 Days $T_0=133.291733$ (BKJD)



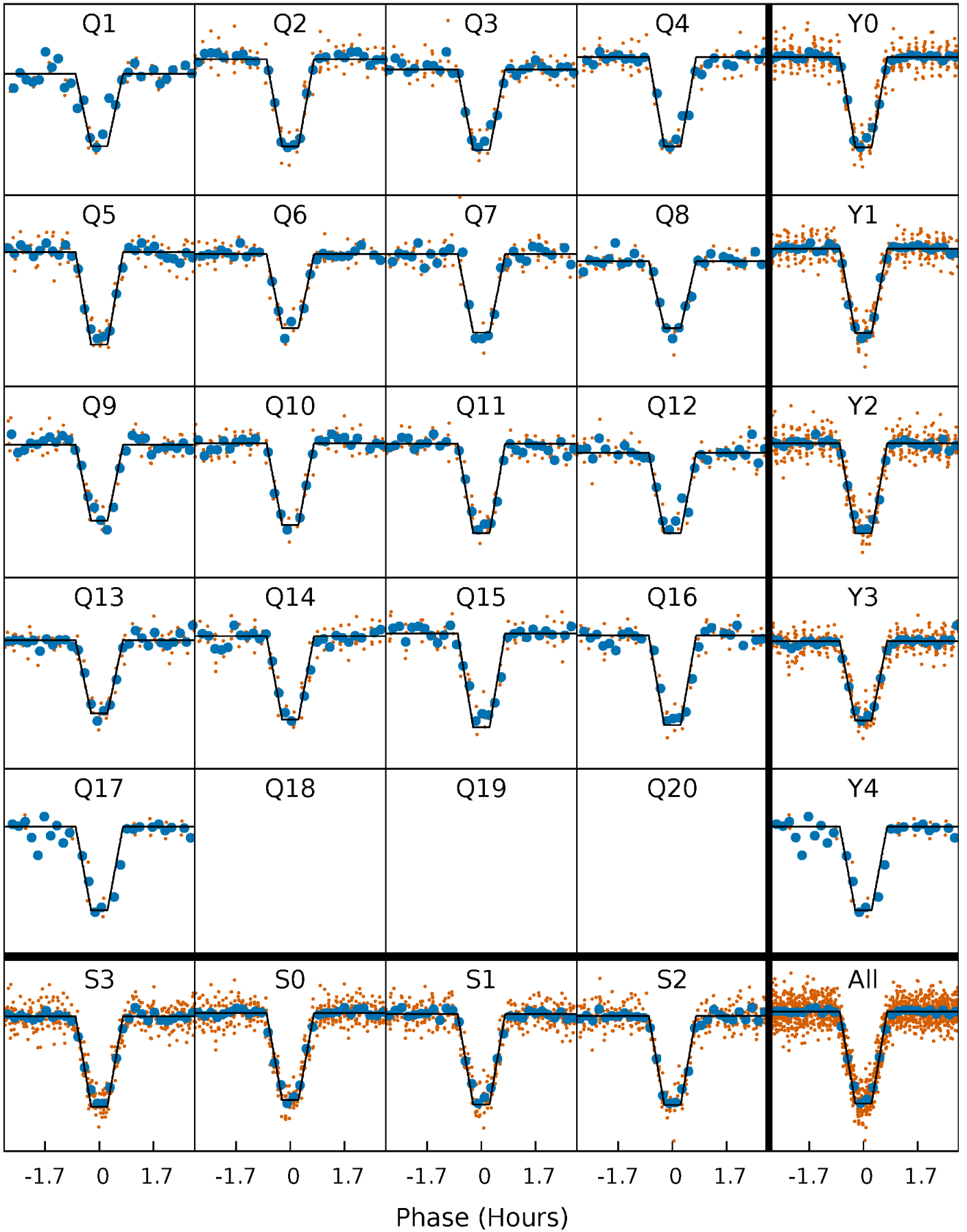
DV Quarter-Phased Transit Curves

TCE 009703198-01 P= 10.329070 Days $T_0=133.291733$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

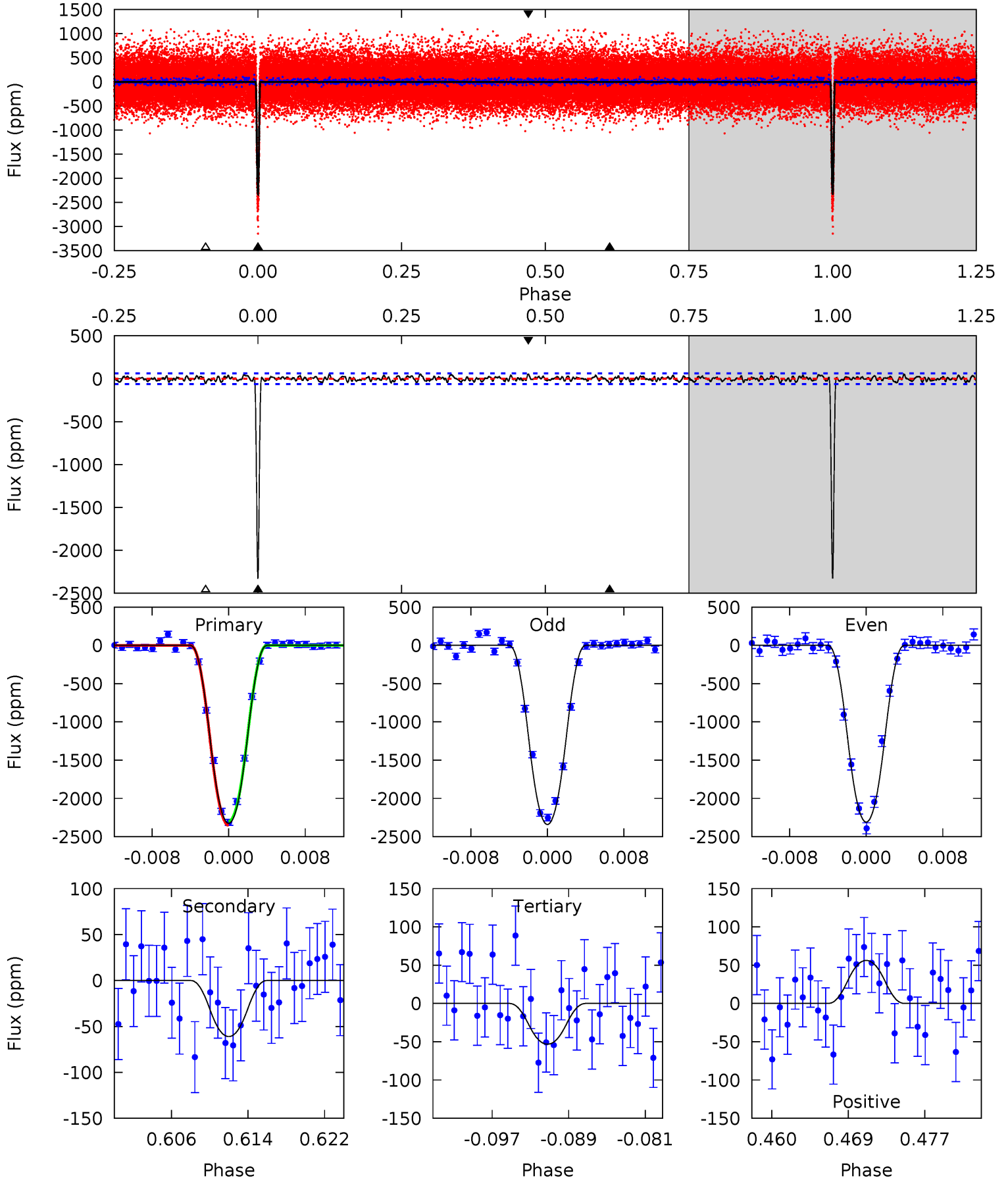
TCE 009703198-01 P= 10.329032 Days $T_0=133.294306$ (BKJD)



DV Model-Shift Uniqueness Test

009703198-01, P = 10.329070 Days, E = 122.962663 Days

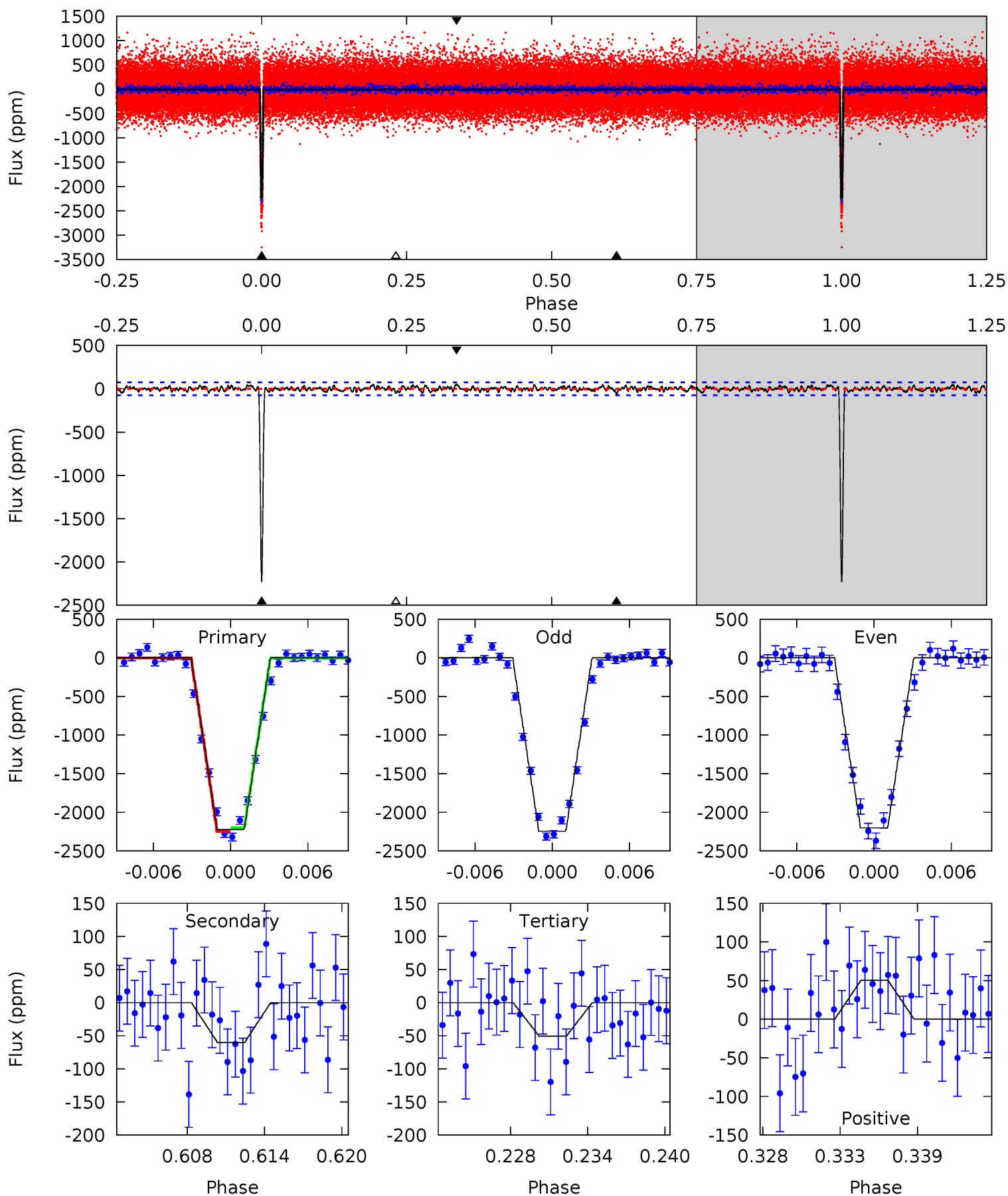
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
191.2	5.02	4.38	4.62	5.07	2.65	1.55	186.9	186.6	0.64	0.40	1.30	1.00	0.02	2.03



Alt Model-Shift Uniqueness Test

009703198-01, P = 10.329032 Days, E = 122.965274 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
154.5	4.18	3.53	3.49	5.13	2.76	1.27	151.0	151.0	0.66	0.70	1.50	1.00	0.02	1.72



Stellar Parameters For KIC 009703198

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6228^{+168}_{-205}	$4.441^{+0.065}_{-0.195}$	$-0.080^{+0.250}_{-0.350}$	$1.049^{+0.313}_{-0.112}$	$1.107^{+0.145}_{-0.145}$	$1.351^{+0.362}_{-0.683}$
	+3%/-3%	+1%/-4%	+312%/-438%	+30%/-11%	+13%/-13%	+27%/-51%
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 009703198-01 / KOI 0469.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-61±12	$6.73^{+1.10}_{-0.72}$	1288^{+97}_{-62}	2958^{+109}_{-109}	$6.627^{+2.222}_{-1.941}$
Alt.	-60±14	$5.70^{+0.89}_{-0.65}$	1290^{+88}_{-60}	3095^{+134}_{-145}	$8.862^{+3.458}_{-2.761}$

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

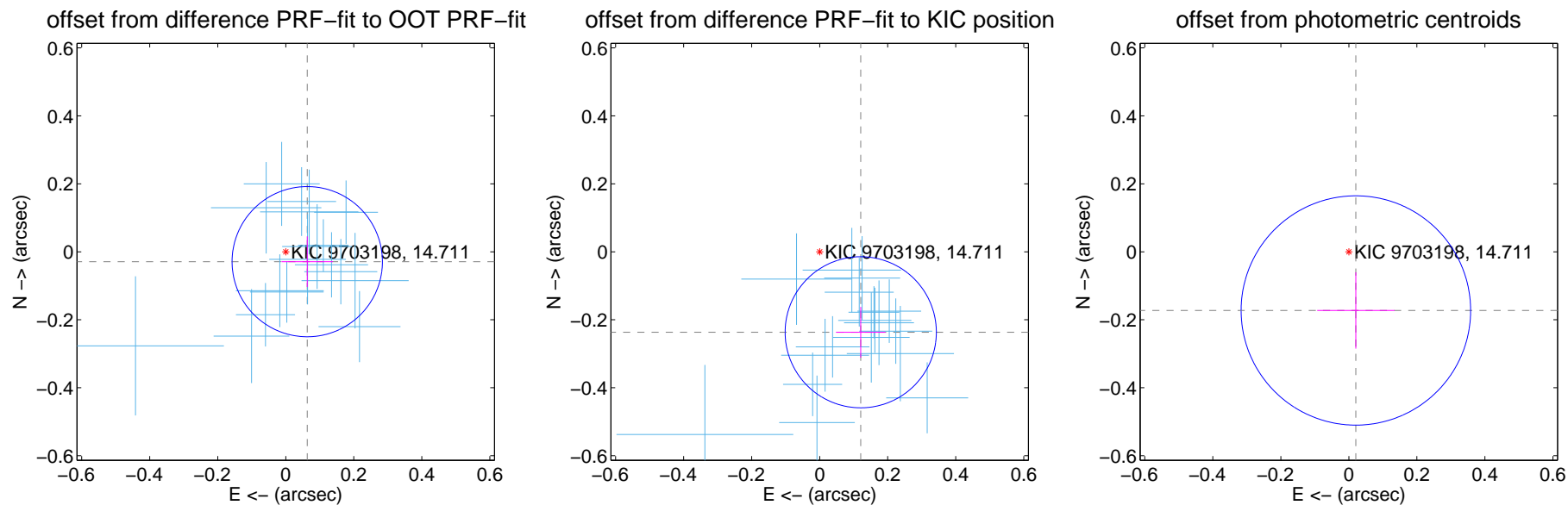
DV Centroid Data

Supplemental centroid analysis for 009703198-01. Kepler magnitude: 14.71. Transit SNR 114.24

There are 17 quarters with good PRF difference image offsets

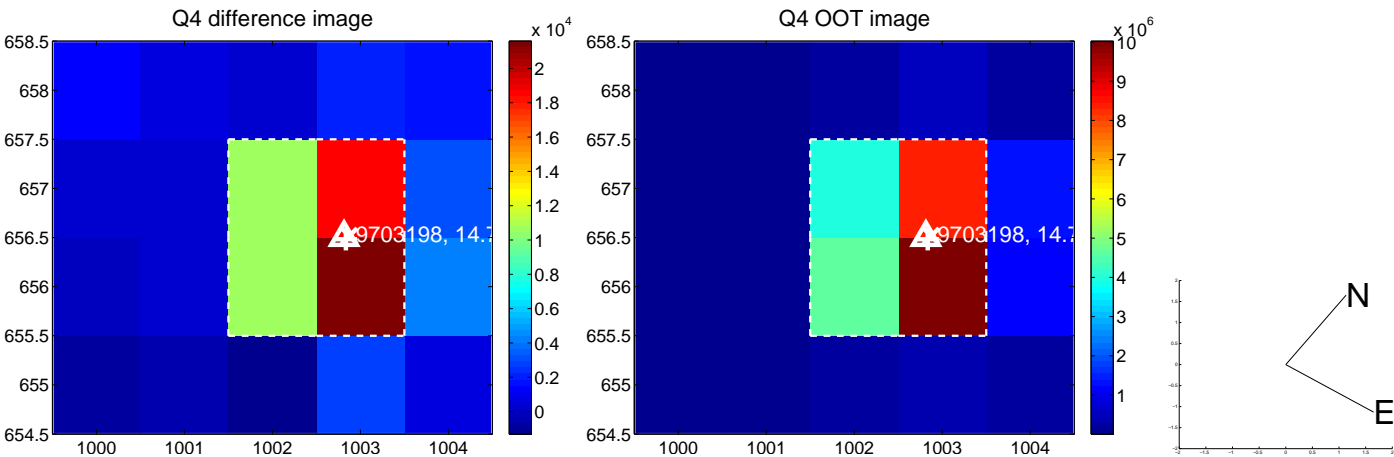
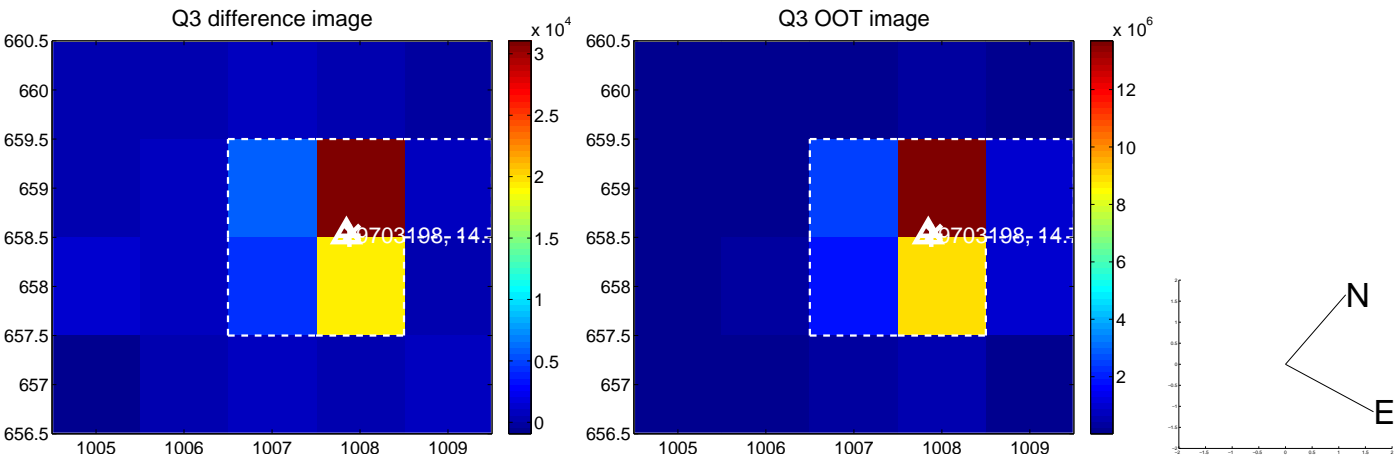
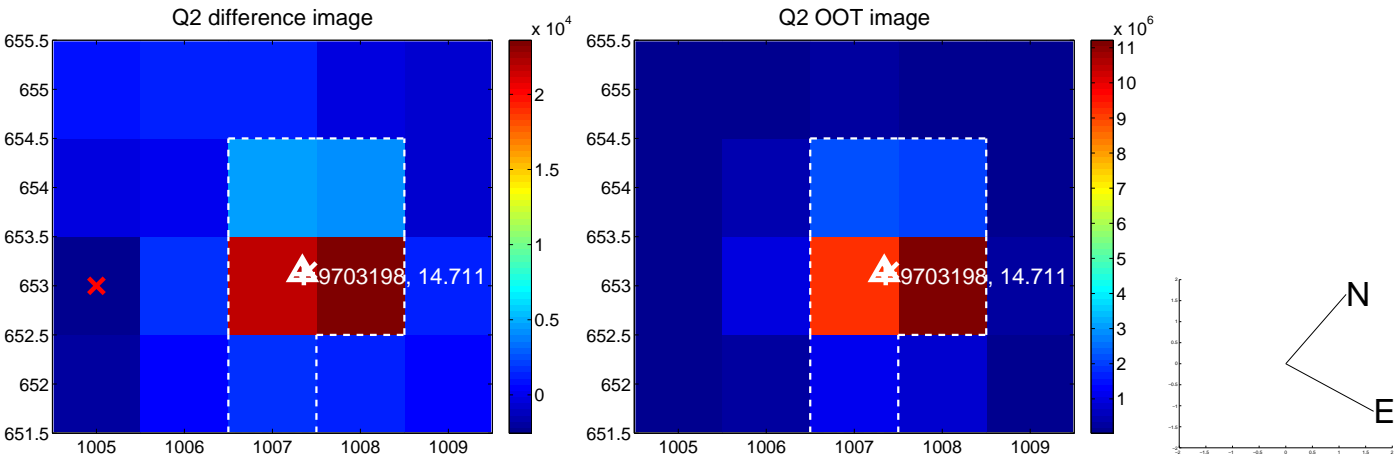
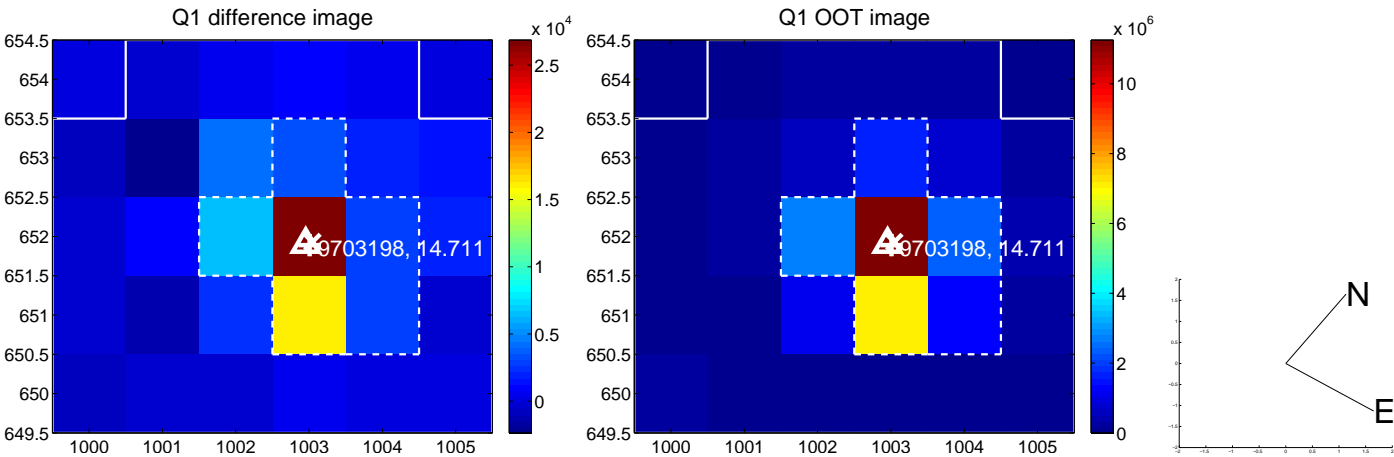
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.069 ± 0.074	0.94	-0.063 ± 0.076	-0.029 ± 0.075
PRF-fit source offset from KIC position	0.266 ± 0.074	3.59	-0.121 ± 0.072	-0.237 ± 0.075
photometric centroid source offset	0.17 ± 0.11	1.55	-0.02 ± 0.11	-0.17 ± 0.11

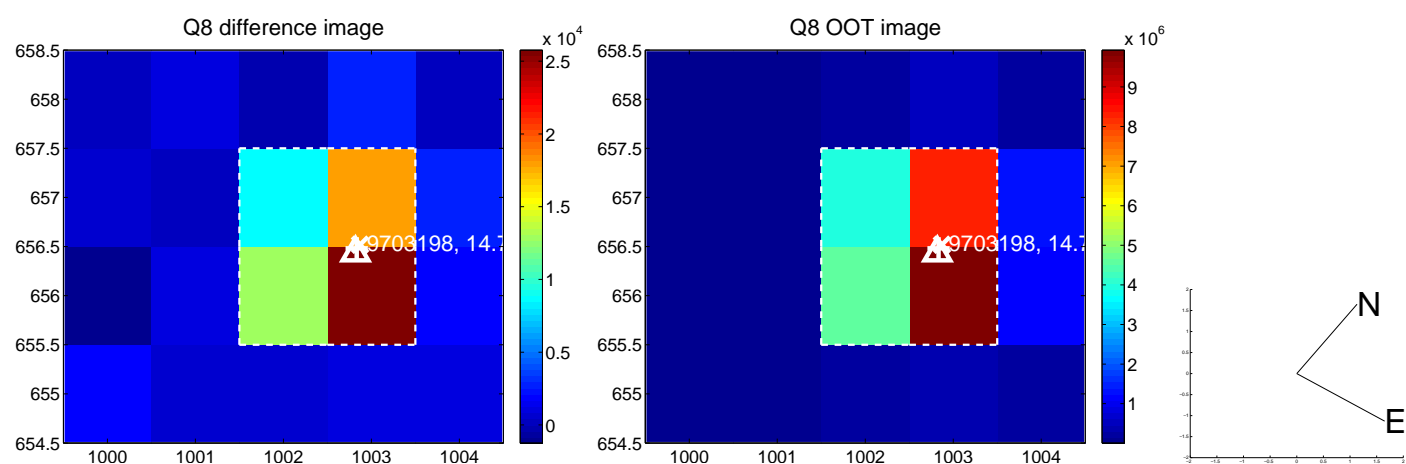
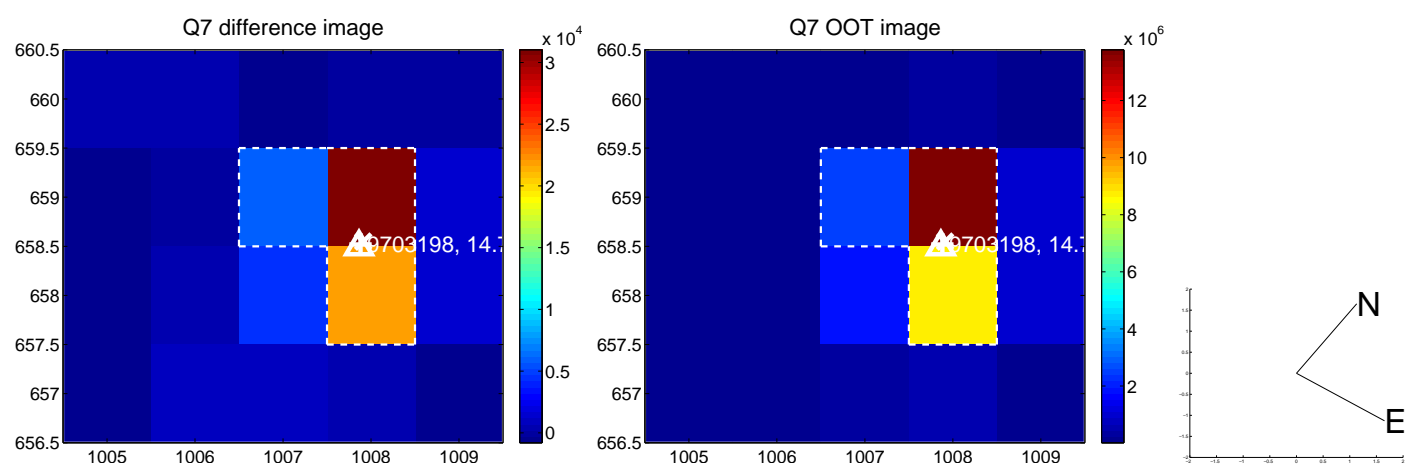
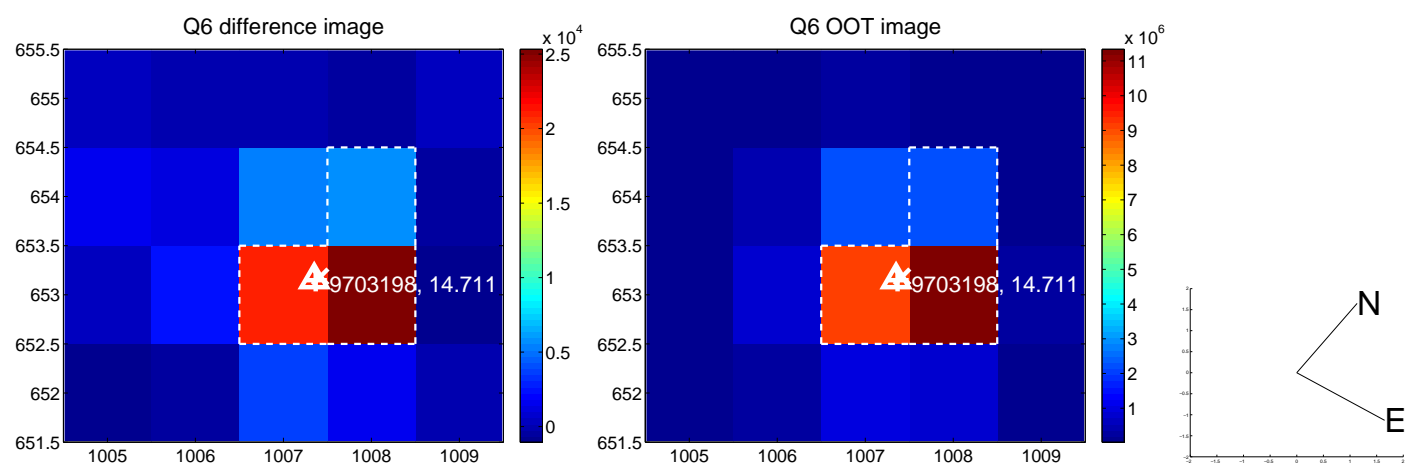
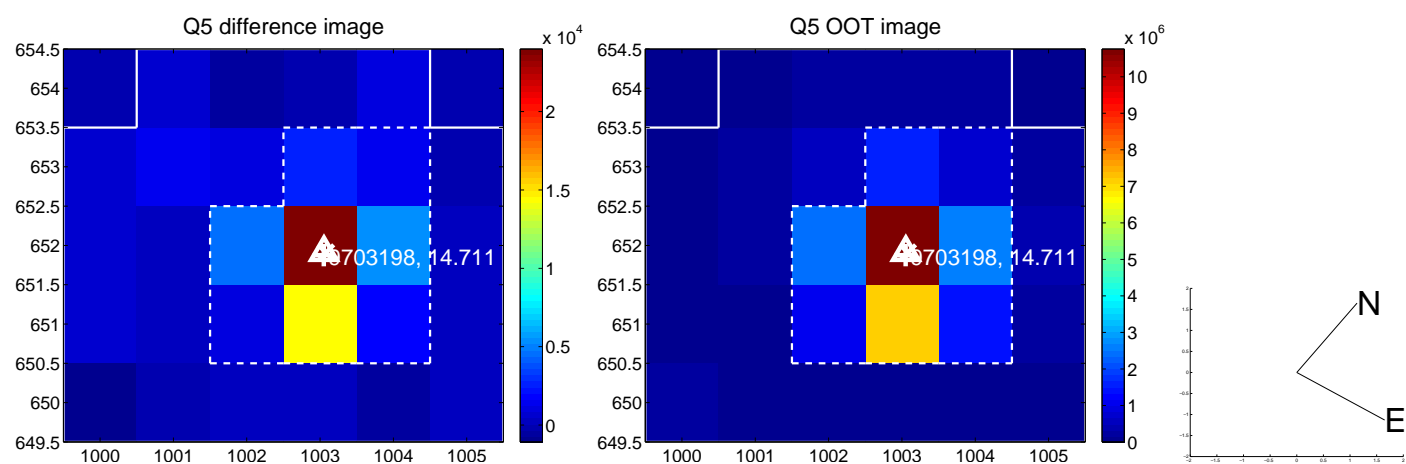


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

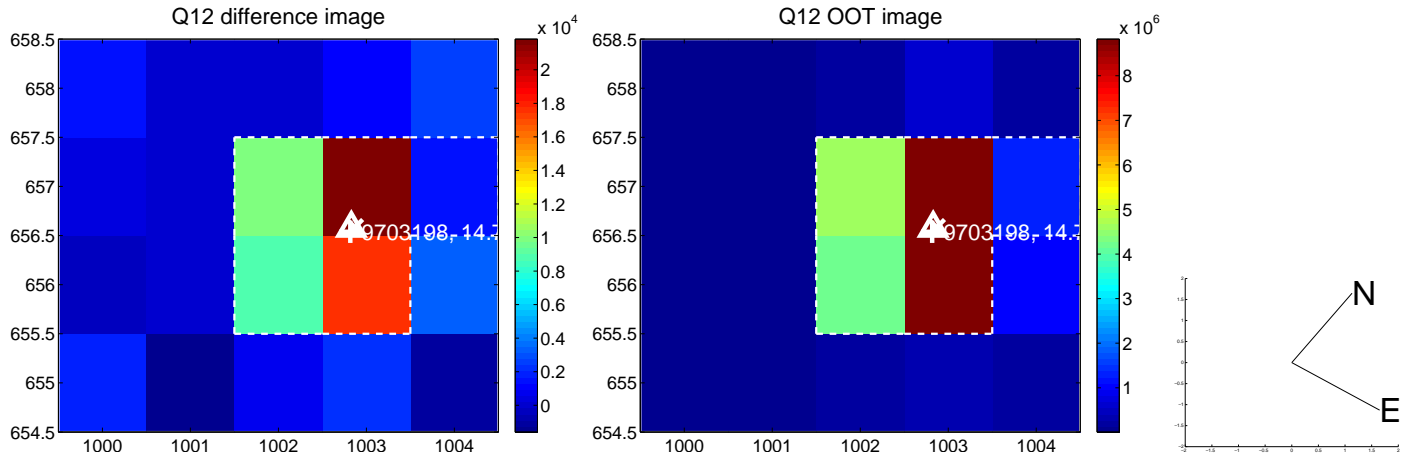
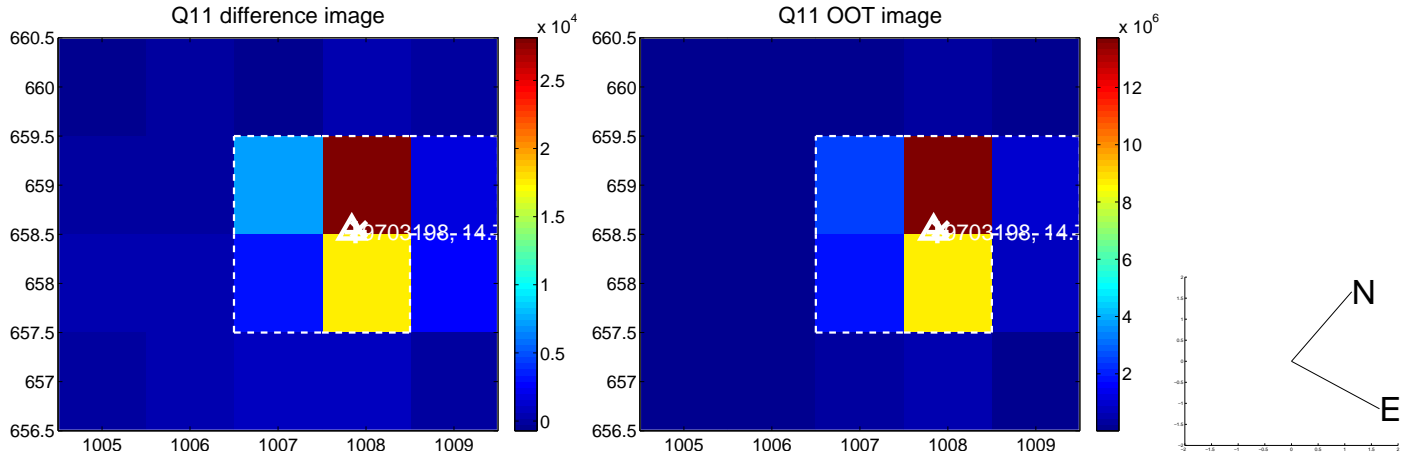
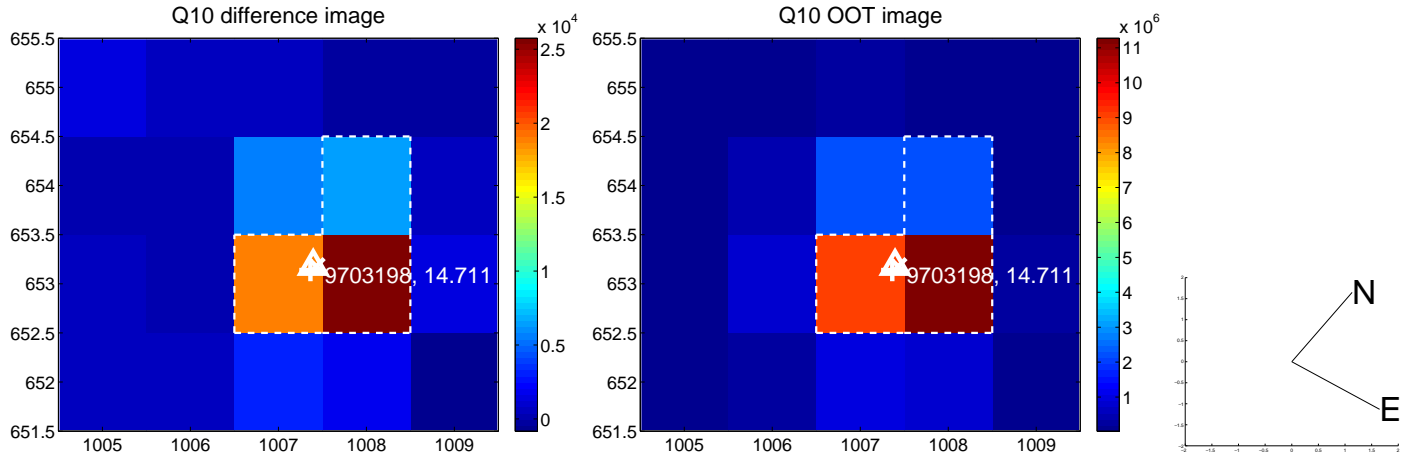
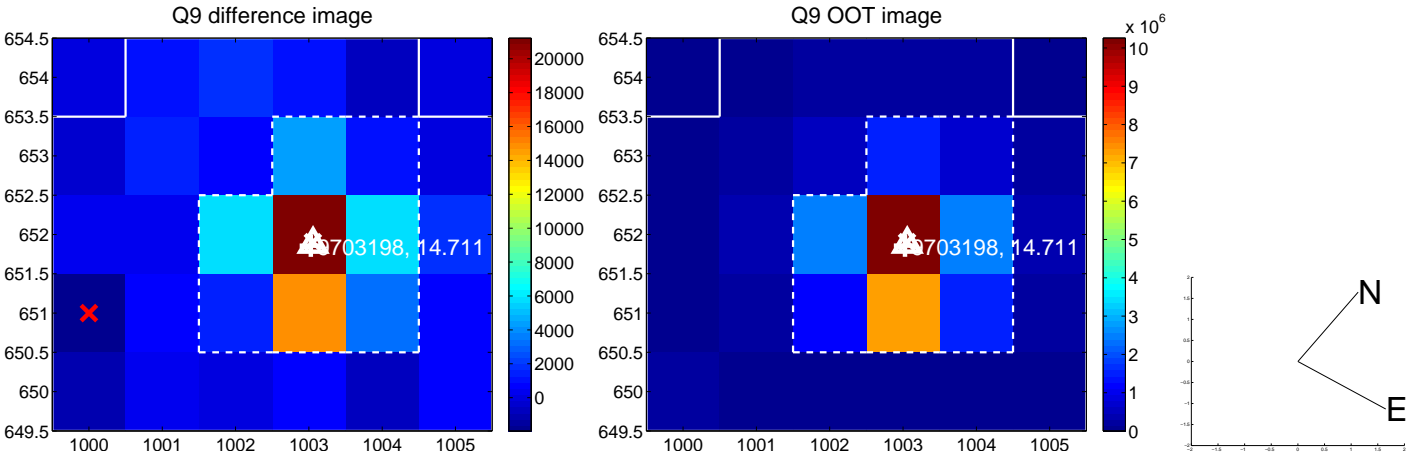
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



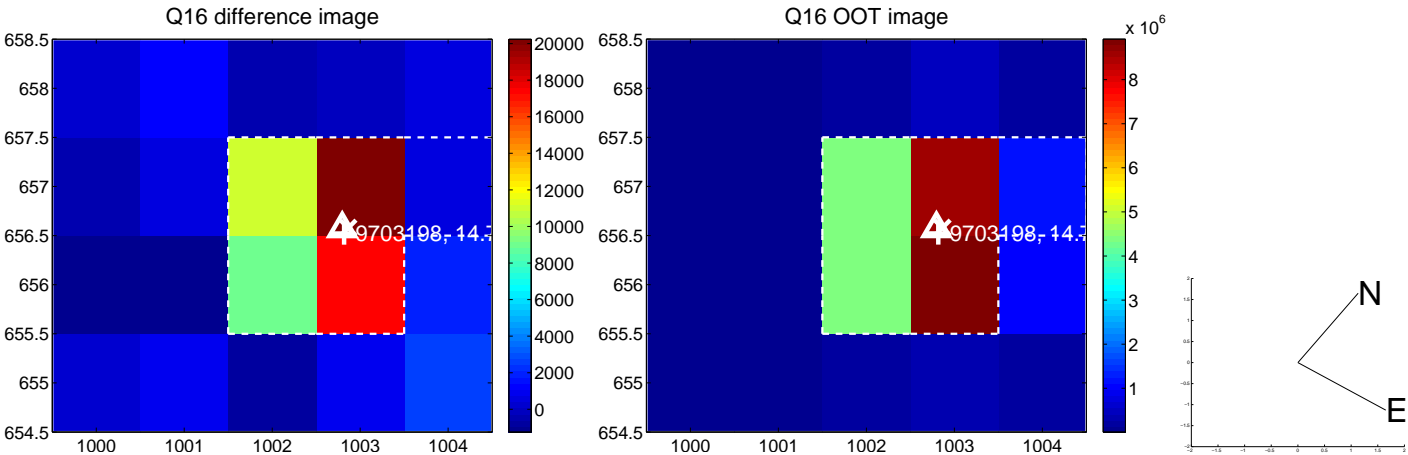
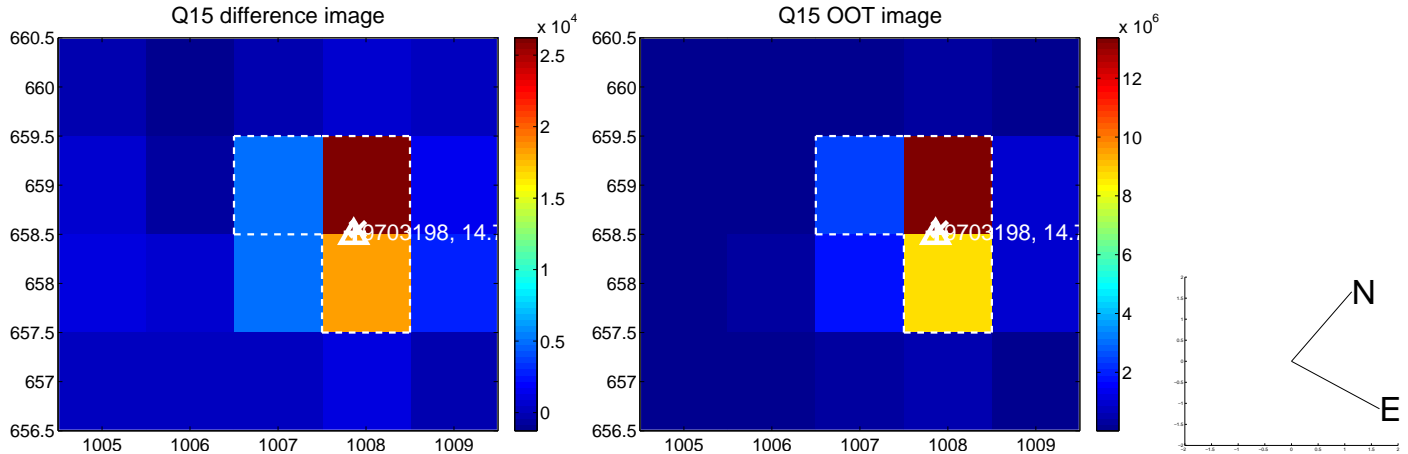
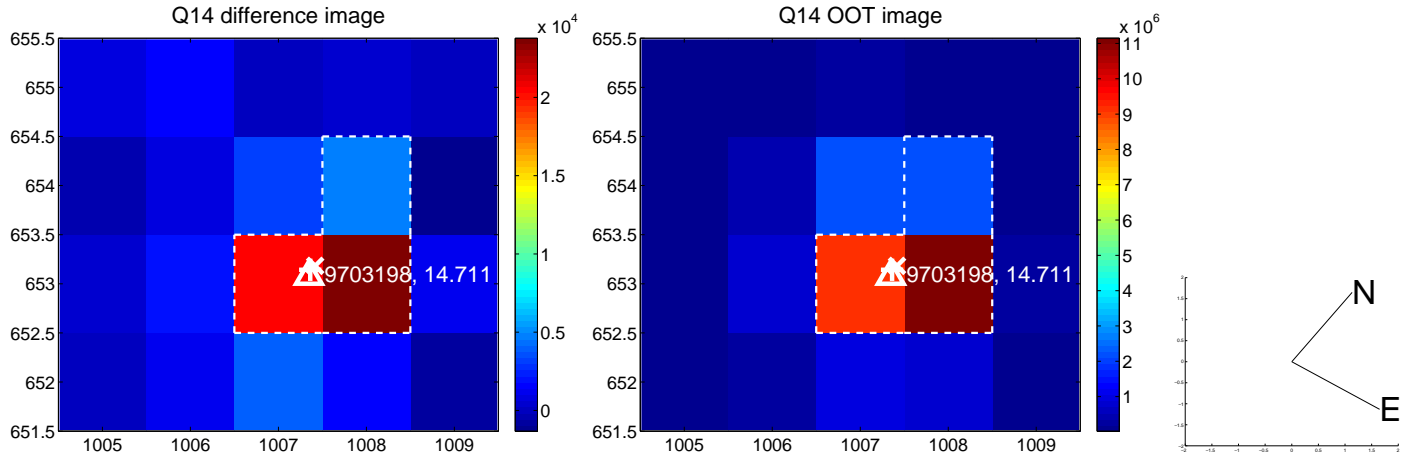
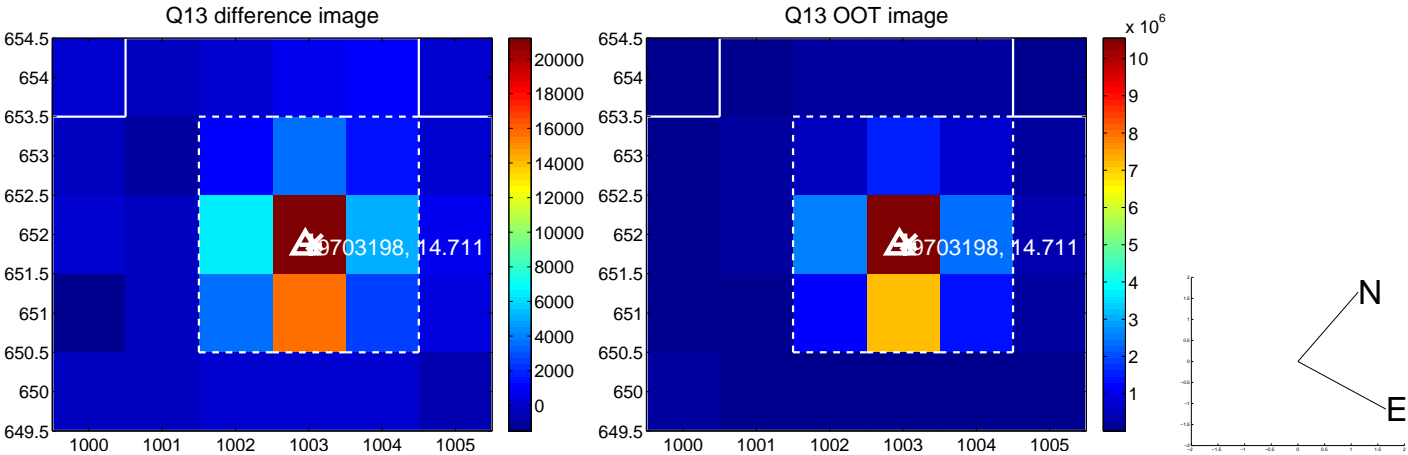
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



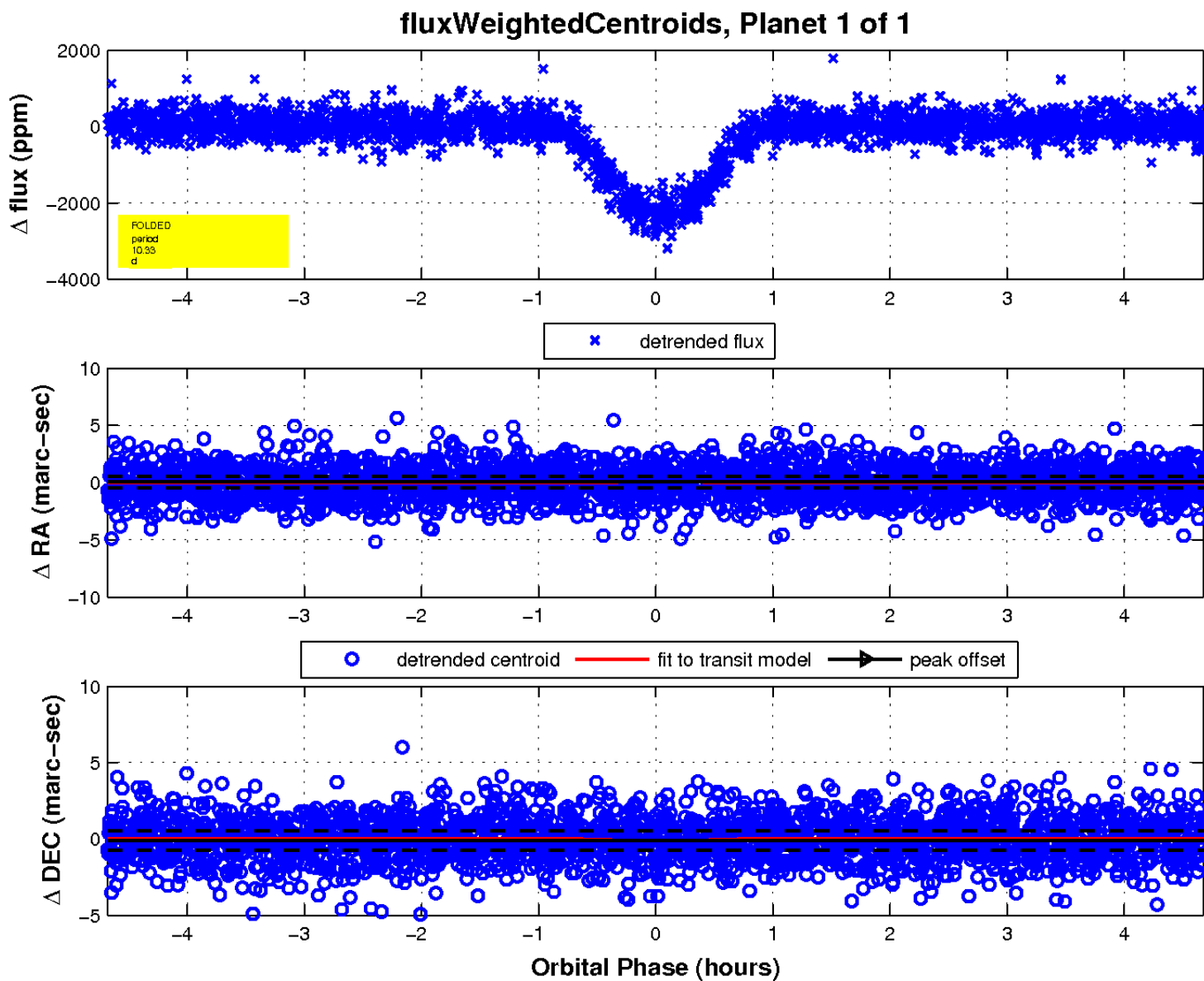
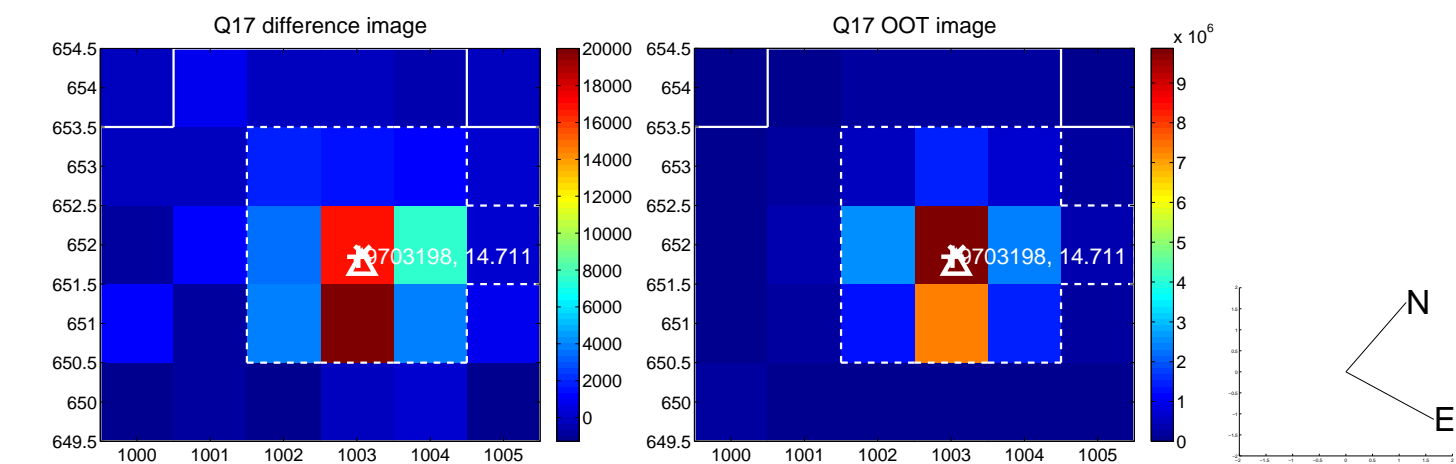
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UKIRT Image

Declination

