

KIC 004918309

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})
004918309-01	OBS	1582.01	186.436087	146.928158	3995.8	4.369	59.8	55.6	1.37	5393	8.47	3.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004918309-01	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.

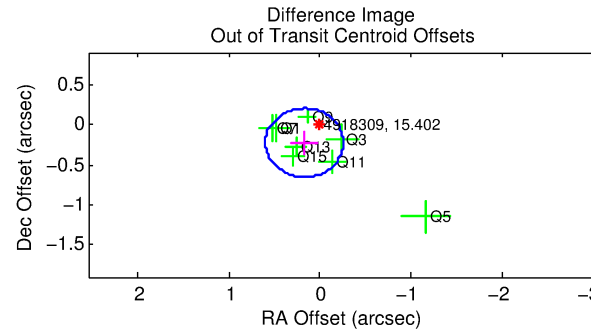
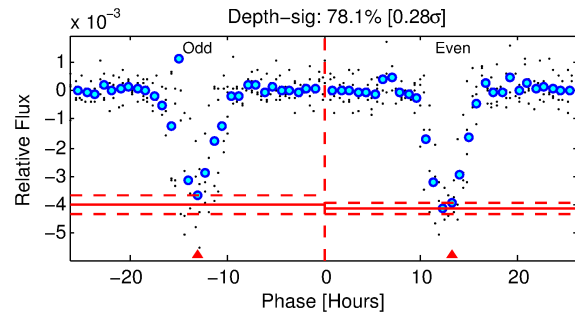
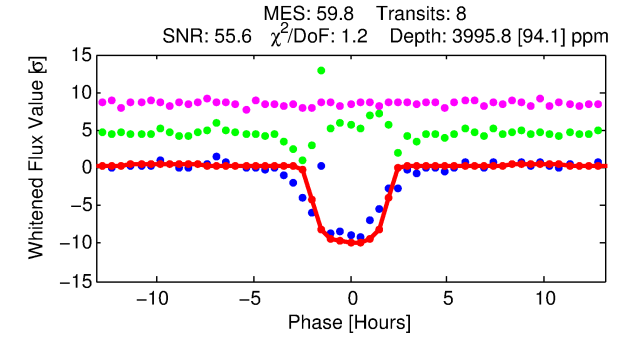
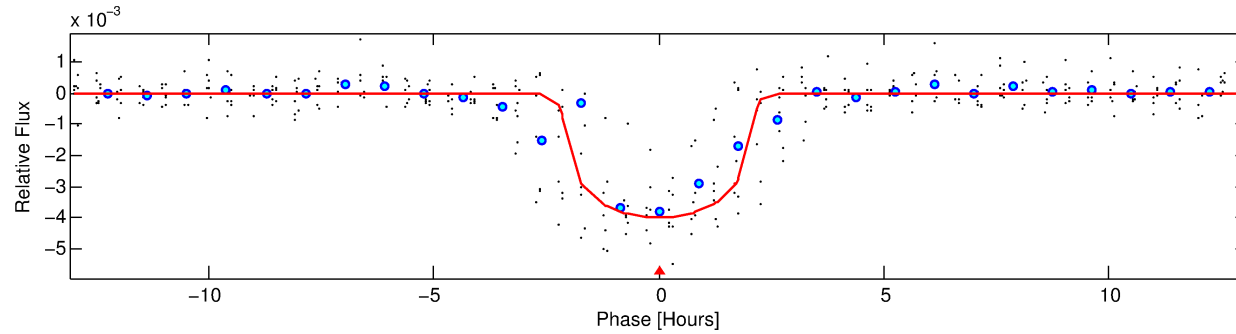
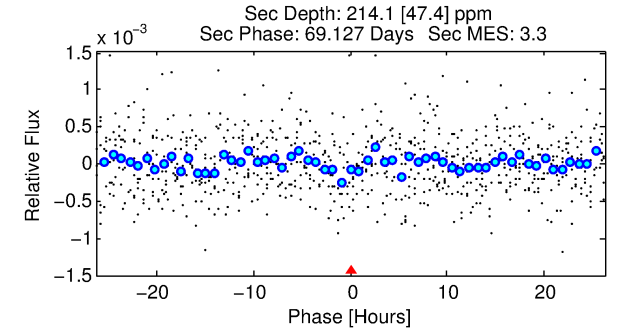
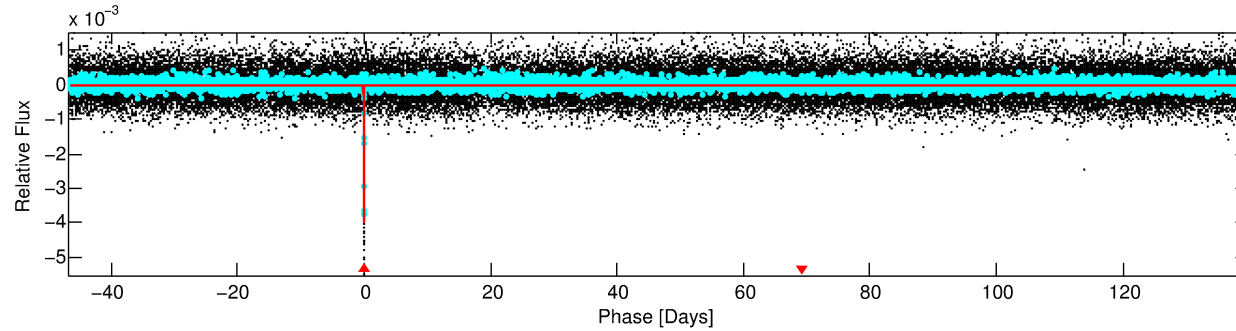
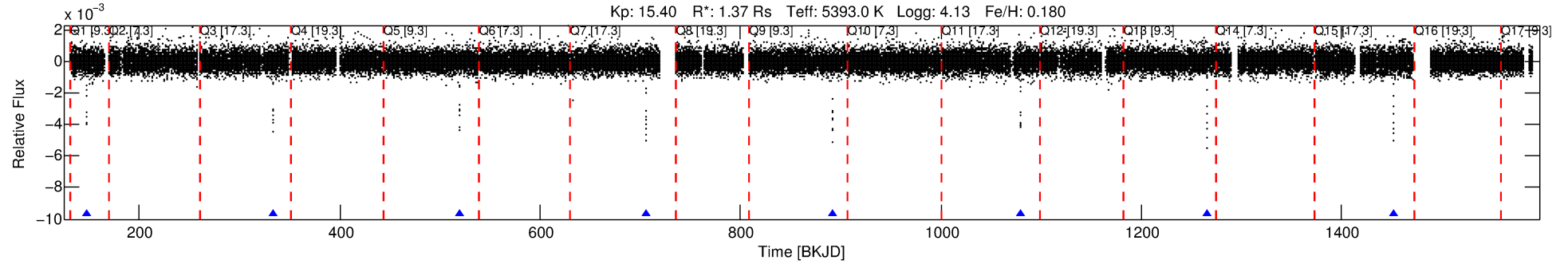
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004918309-01

No Significant Match Found

DV One-Page Summary

KIC: 4918309 Candidate: 1 of 1 Period: 186.436 d
KOI: K01582.01 Corr: 0.867



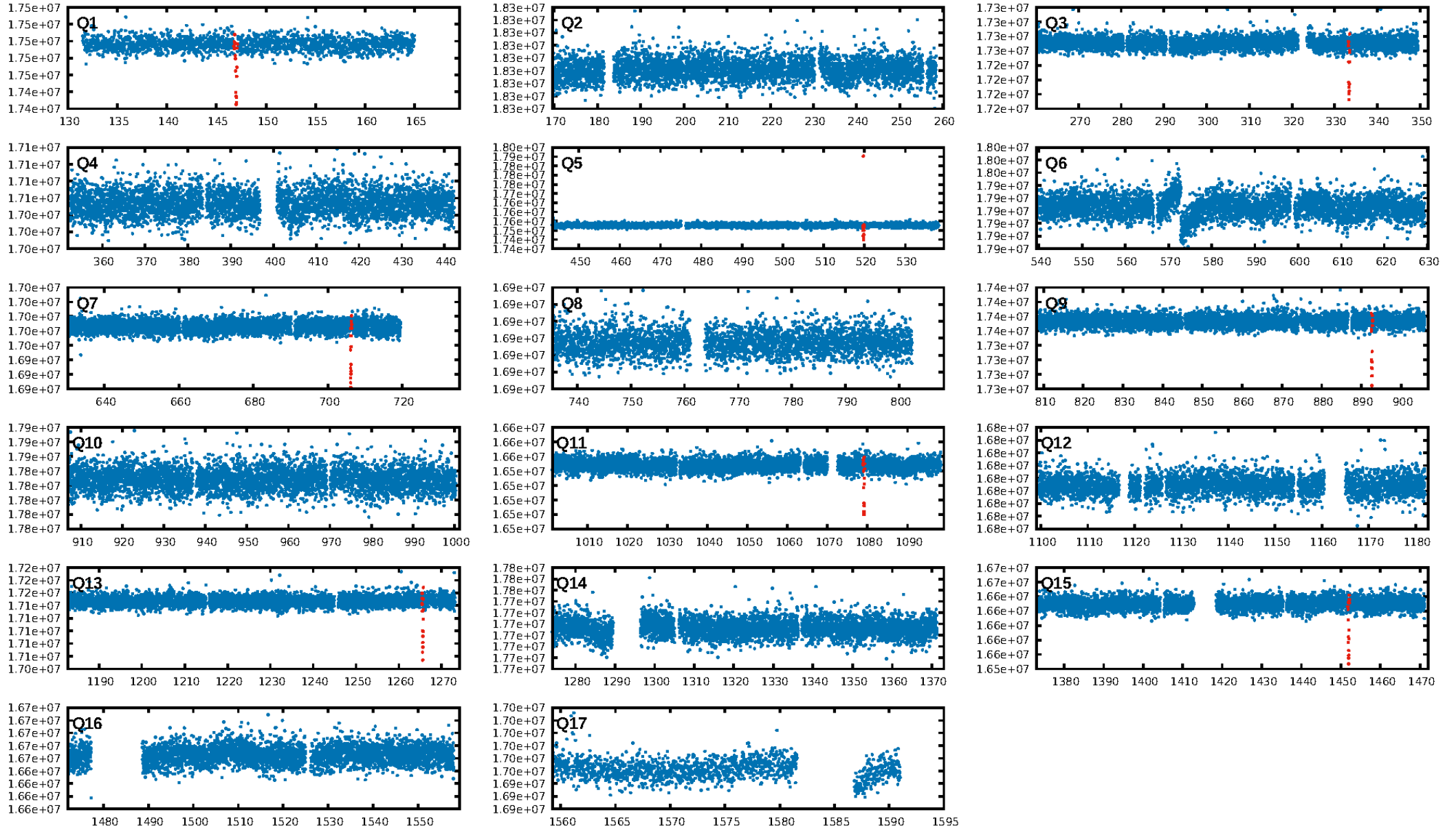
DV Fit Results:

Period = 186.43609 [0.00056] d
Epoch = 146.9282 [0.0022] BKJD
Rp/R* = 0.0567 [0.0184]
a/R* = 344.44 [415.98]
b = 0.01 [178.07]
Seff = 3.66 [1.75]
Teq = 353 [42] K
Rp = 8.47 [3.71] Re
a = 0.6231 [0.1817] AU
Ag = 637.42 [530.39] [1.20 σ]
Teffp = 2741 [471] K [5.05 σ]

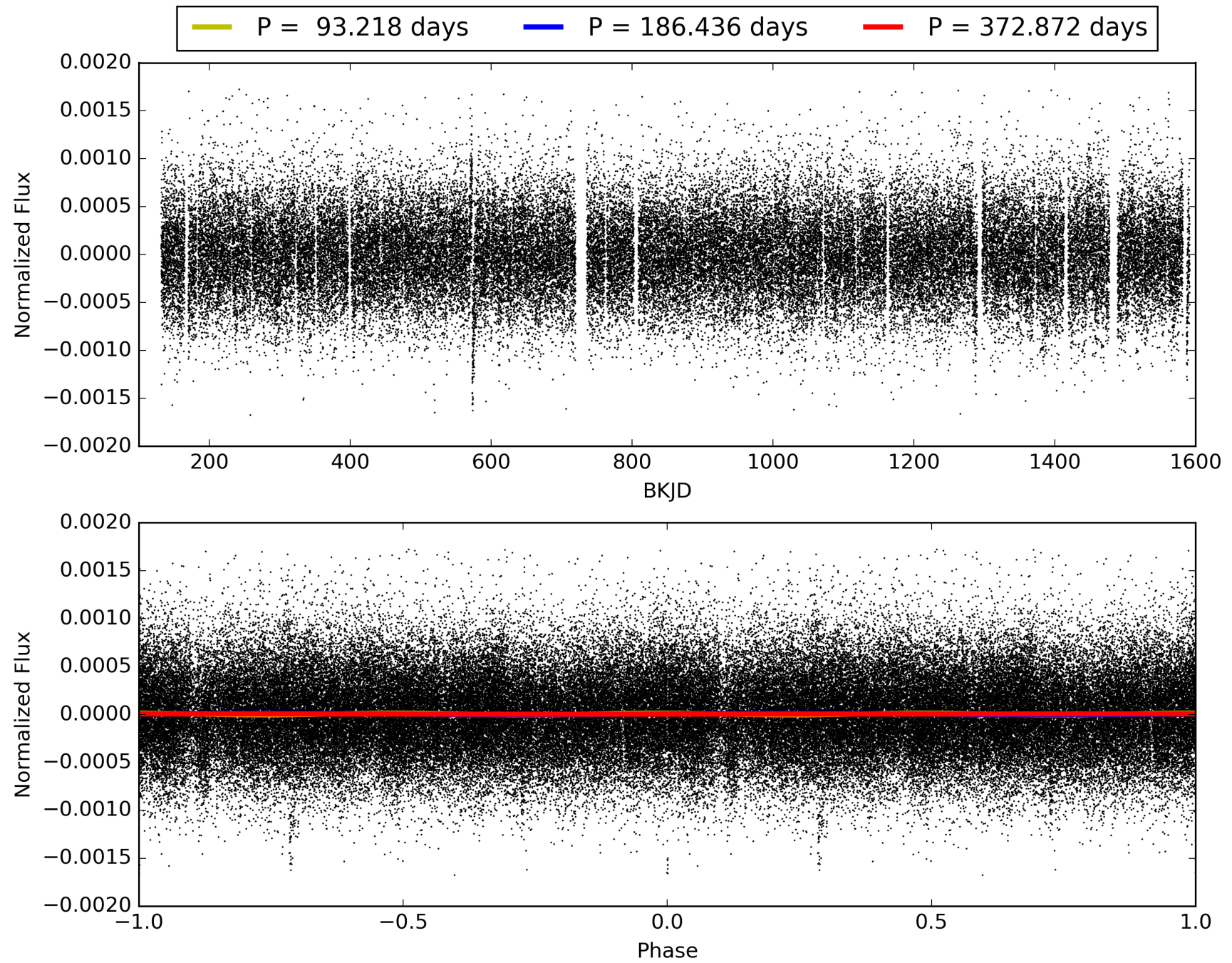
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 30.3%
ModelChiSquareGof-sig: 93.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 4.317
Centroid-sig: 0.0%
Centroid-so: 0.515 arcsec [2.54 σ]
OotOffset-rm: 0.285 arcsec [2.00 σ]
KicOffset-rm: 0.355 arcsec [2.40 σ]
OotOffset-st: 0/4/0/4 [8]
KicOffset-st: 0/4/0/4 [8]
DiffImageQuality-fgm: 0.88 [7/8]
DiffImageOverlap-fno: 1.00 [8/8]

TCE 004918309-01, PDC Light Curves

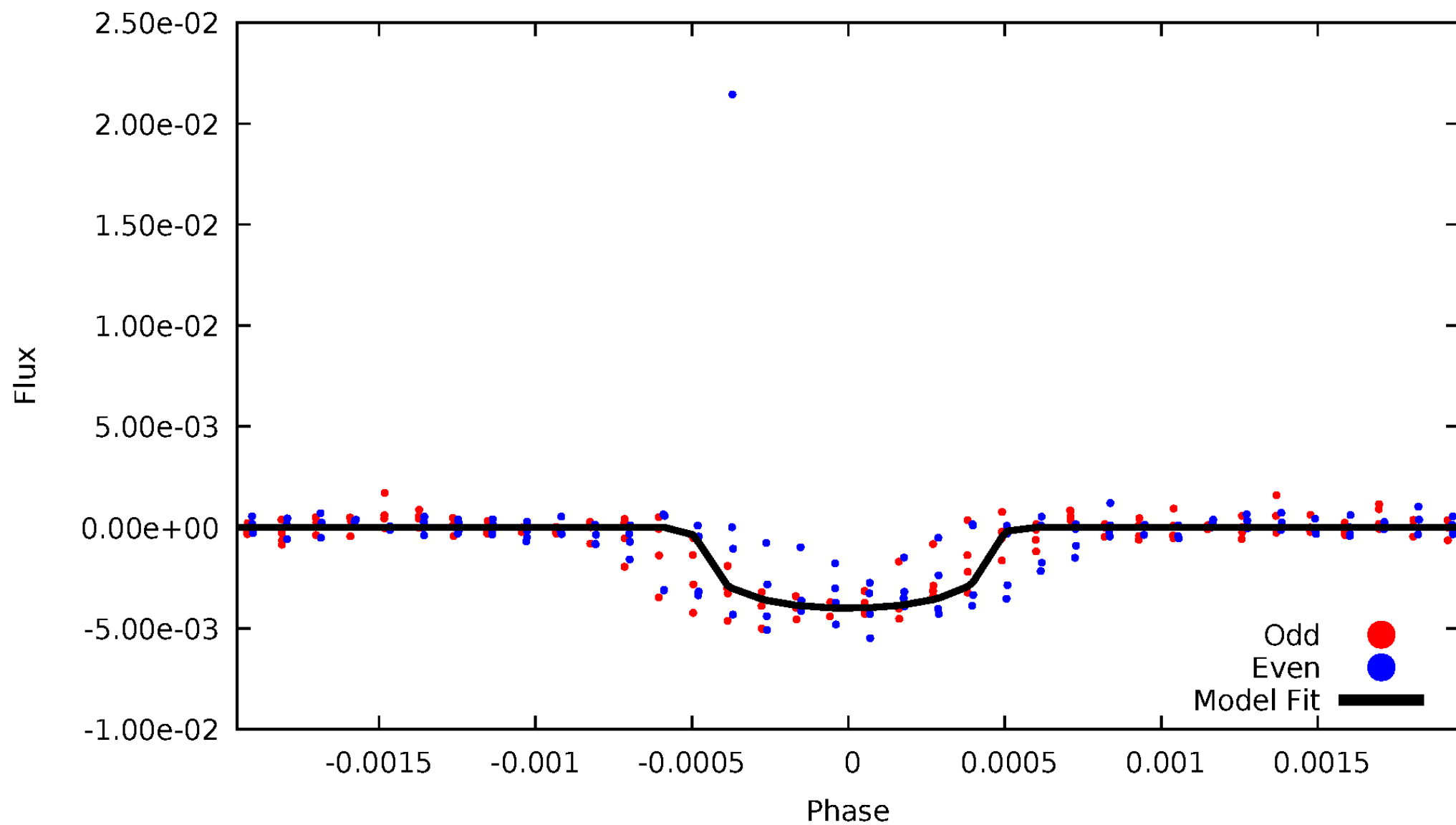


TCE 004918309-01



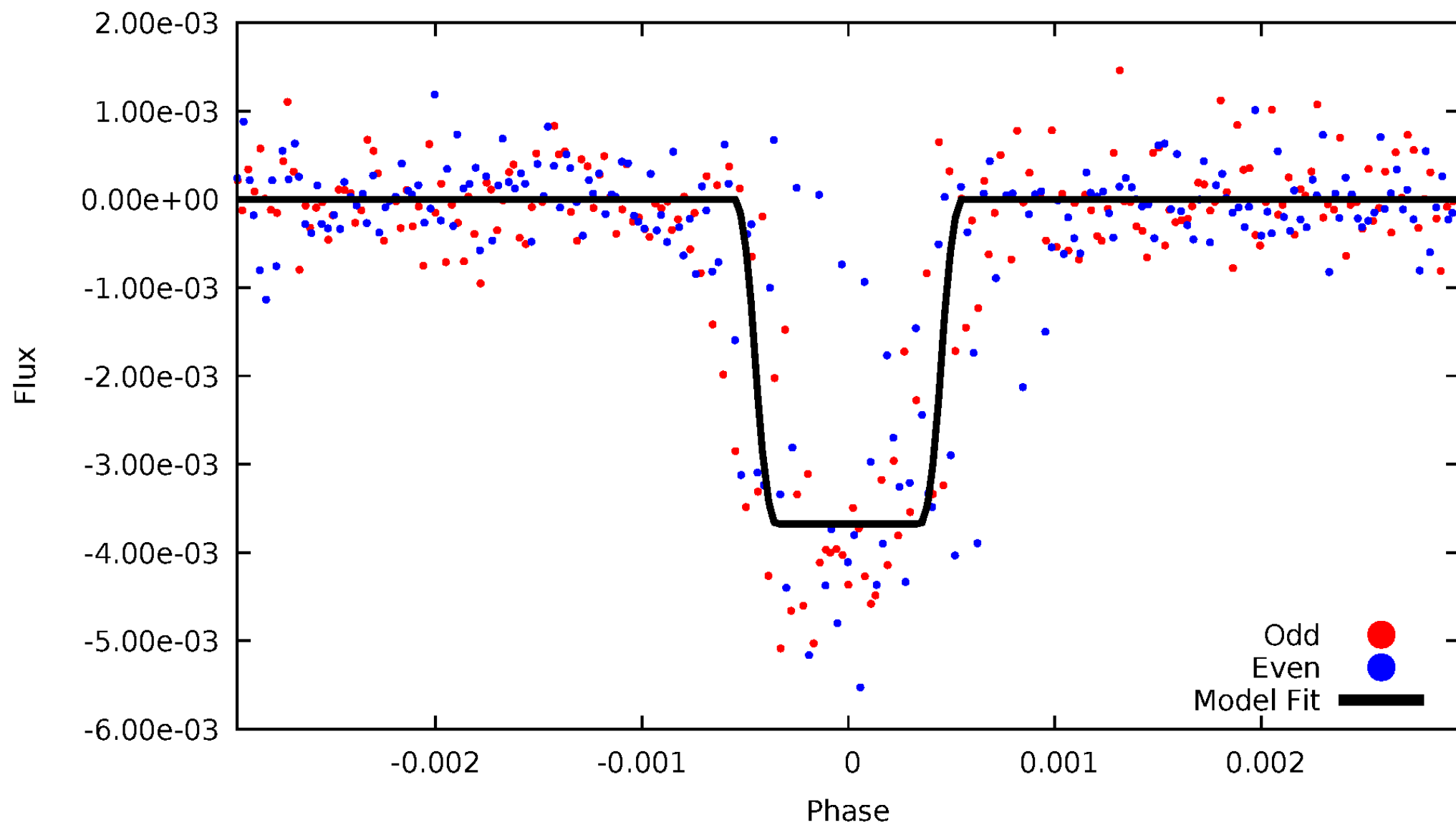
DV Odd/Even

TCE 004918309-01

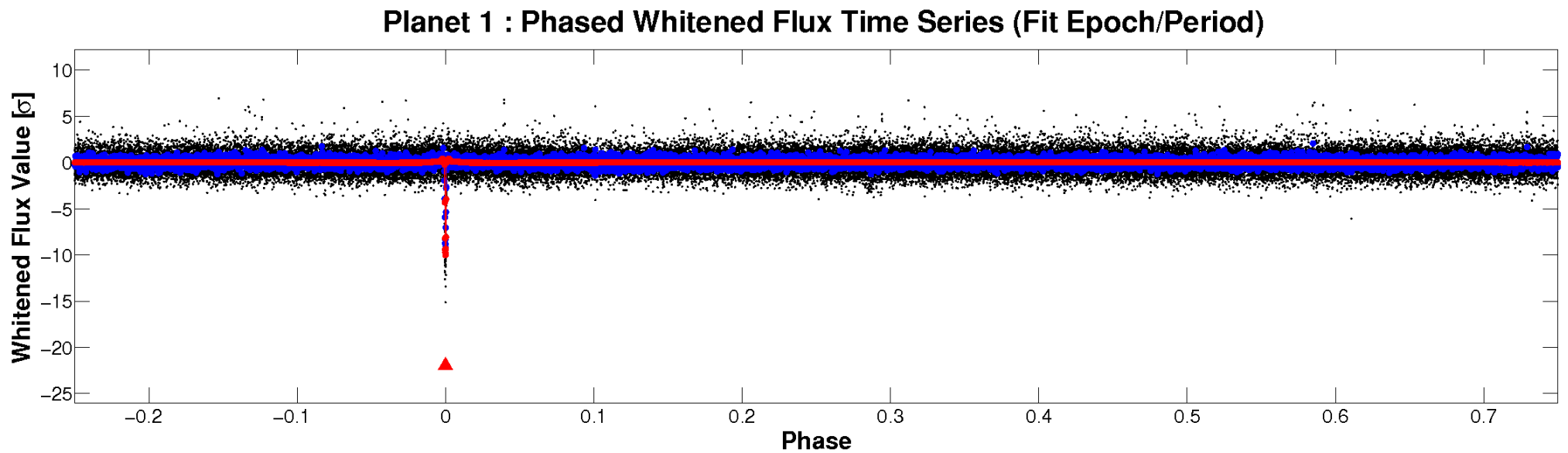
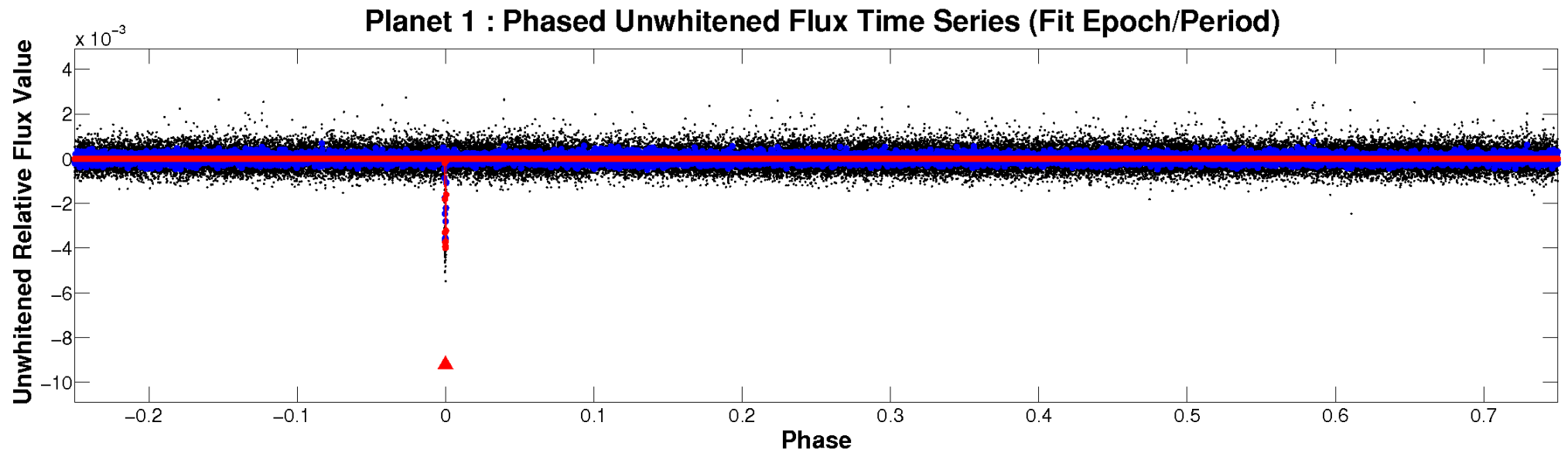


ALT Odd/Even

TCE 004918309-01

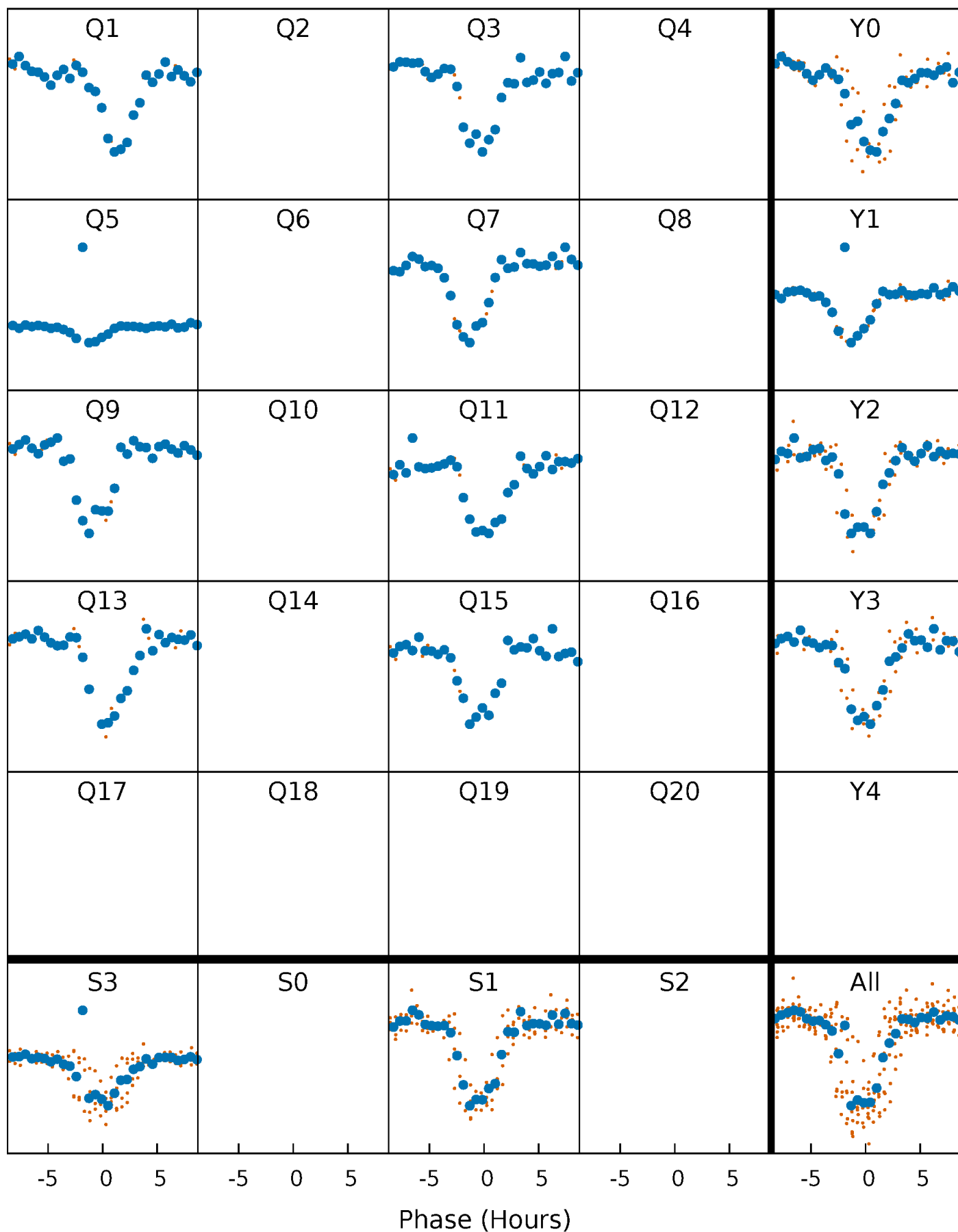


Non-Whitened Vs. Whitened Light Curve



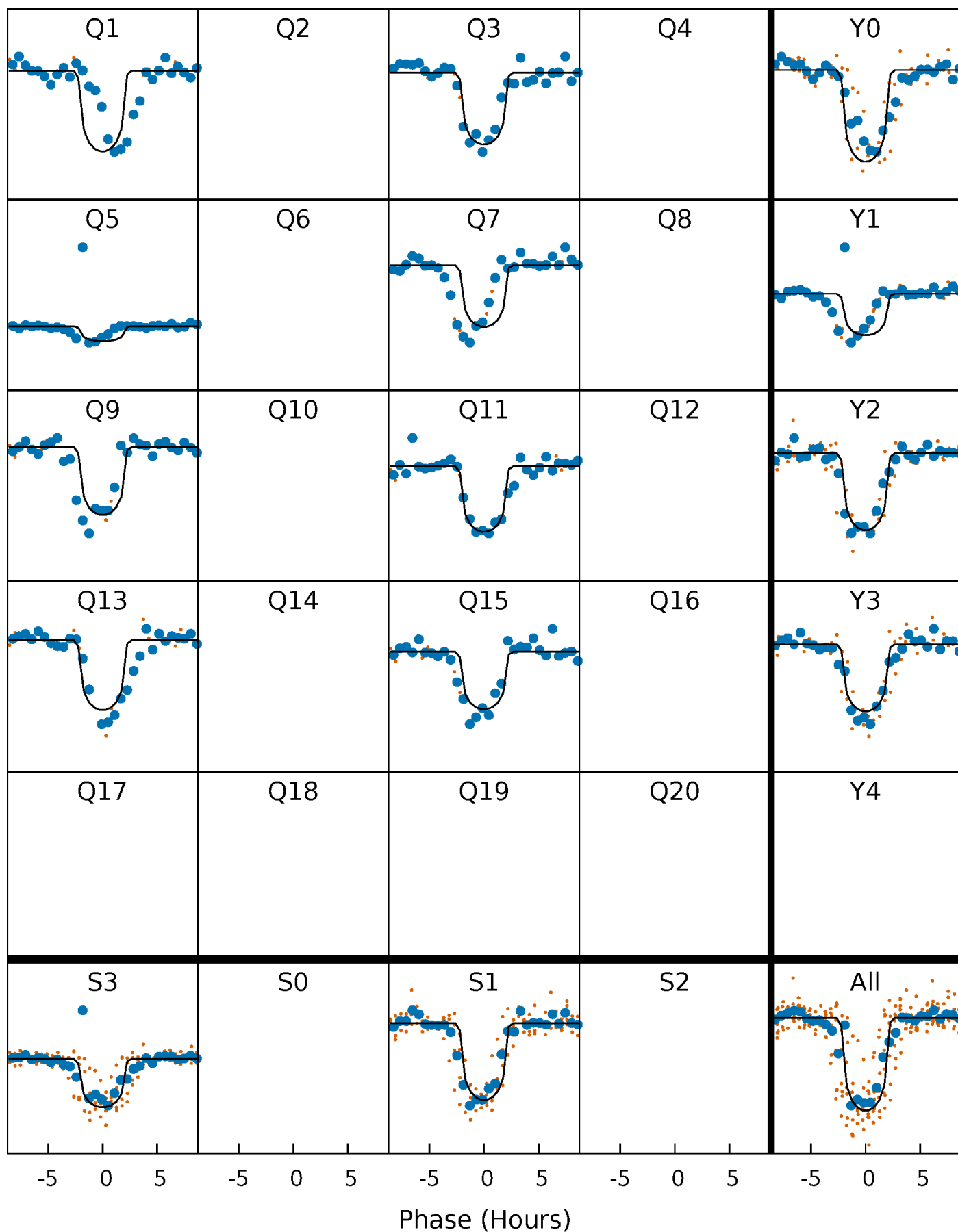
PDC Quarter-Phased Transit Curves

TCE 004918309-01 P=186.436087 Days $T_0=146.928158$ (BKJD)



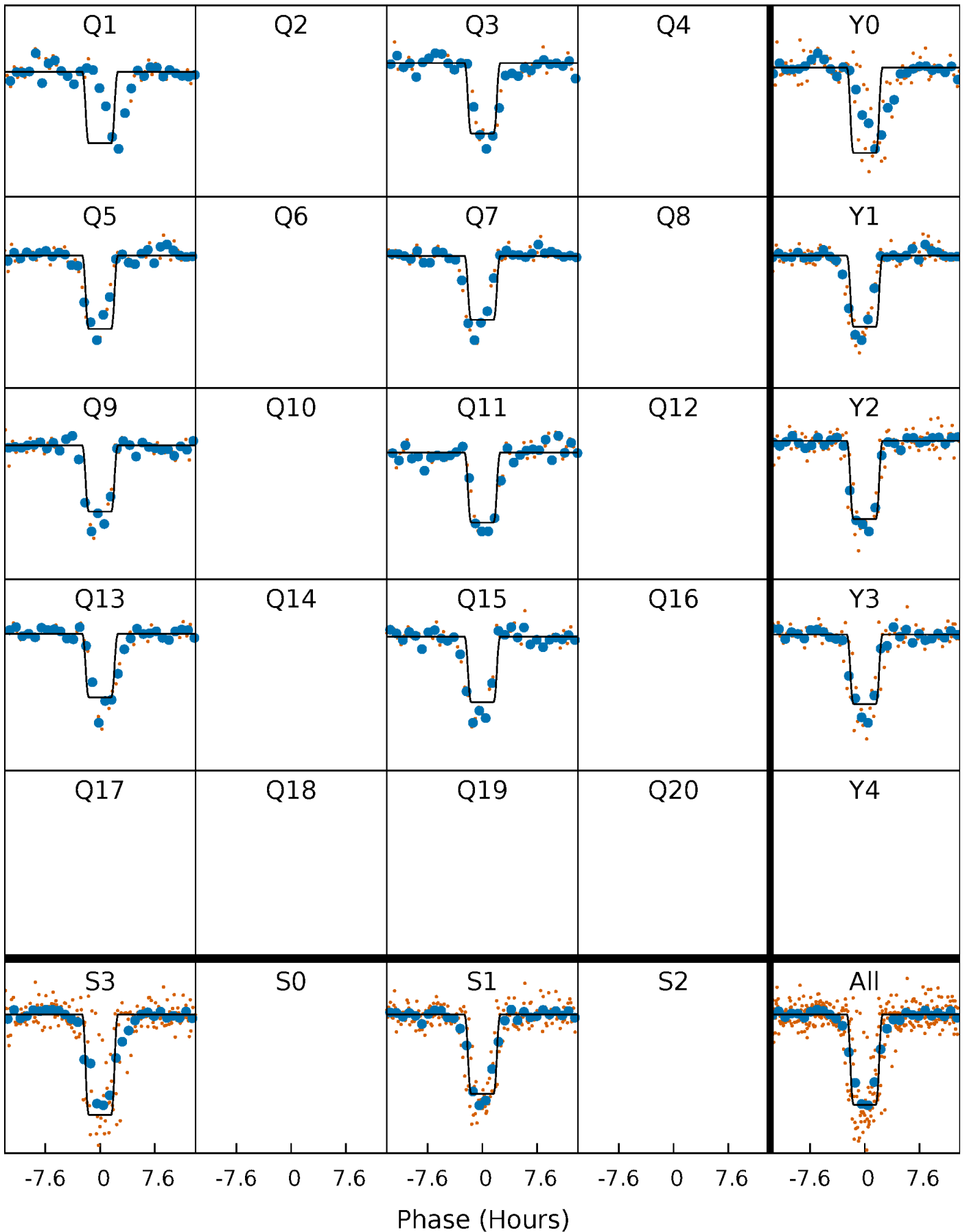
DV Quarter-Phased Transit Curves

TCE 004918309-01 P=186.436087 Days $T_0=146.928158$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

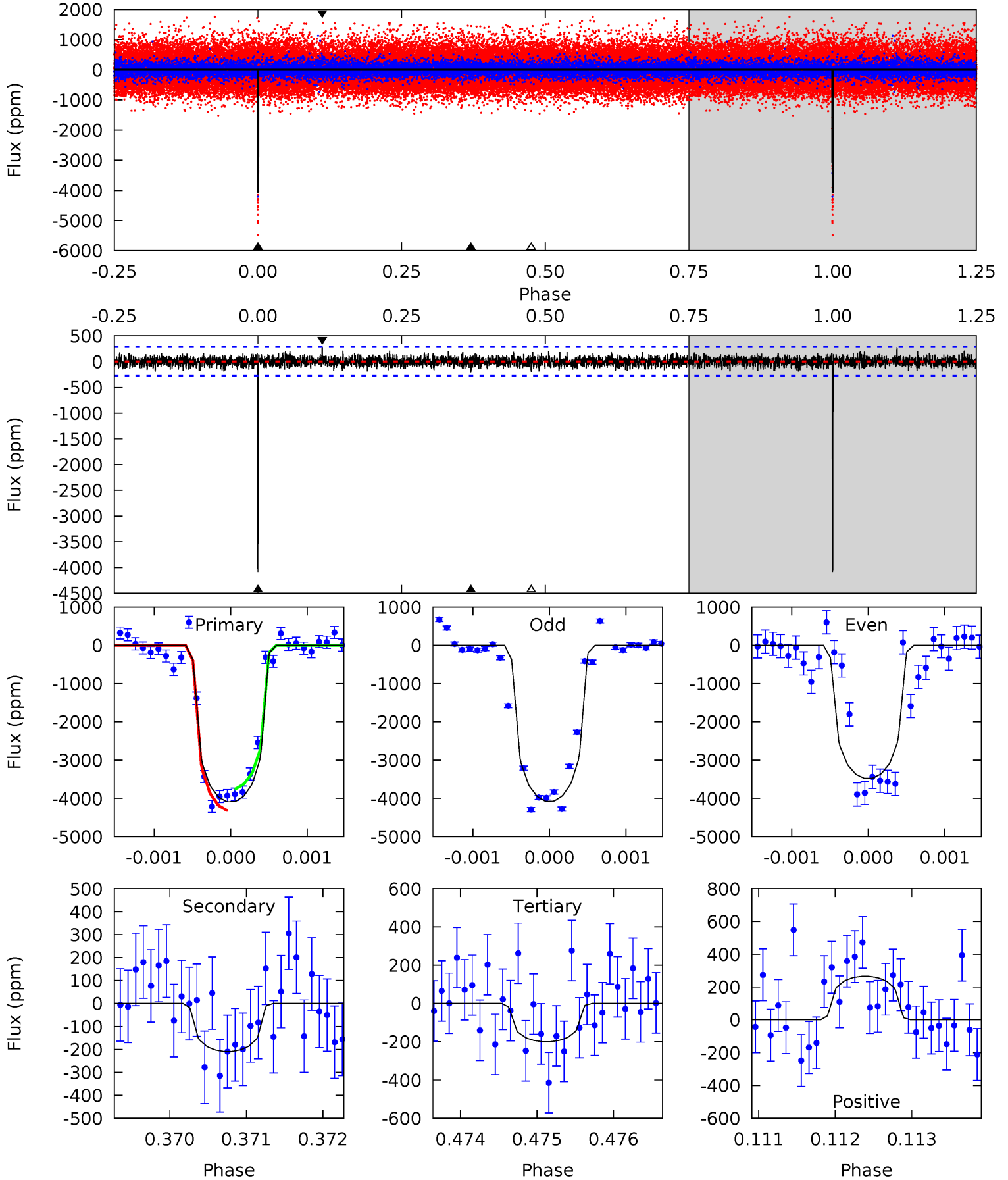
TCE 004918309-01 P=186.443620 Days $T_0=146.885231$ (BKJD)



DV Model-Shift Uniqueness Test

004918309-01, P = 186.436087 Days, E = 146.928158 Days

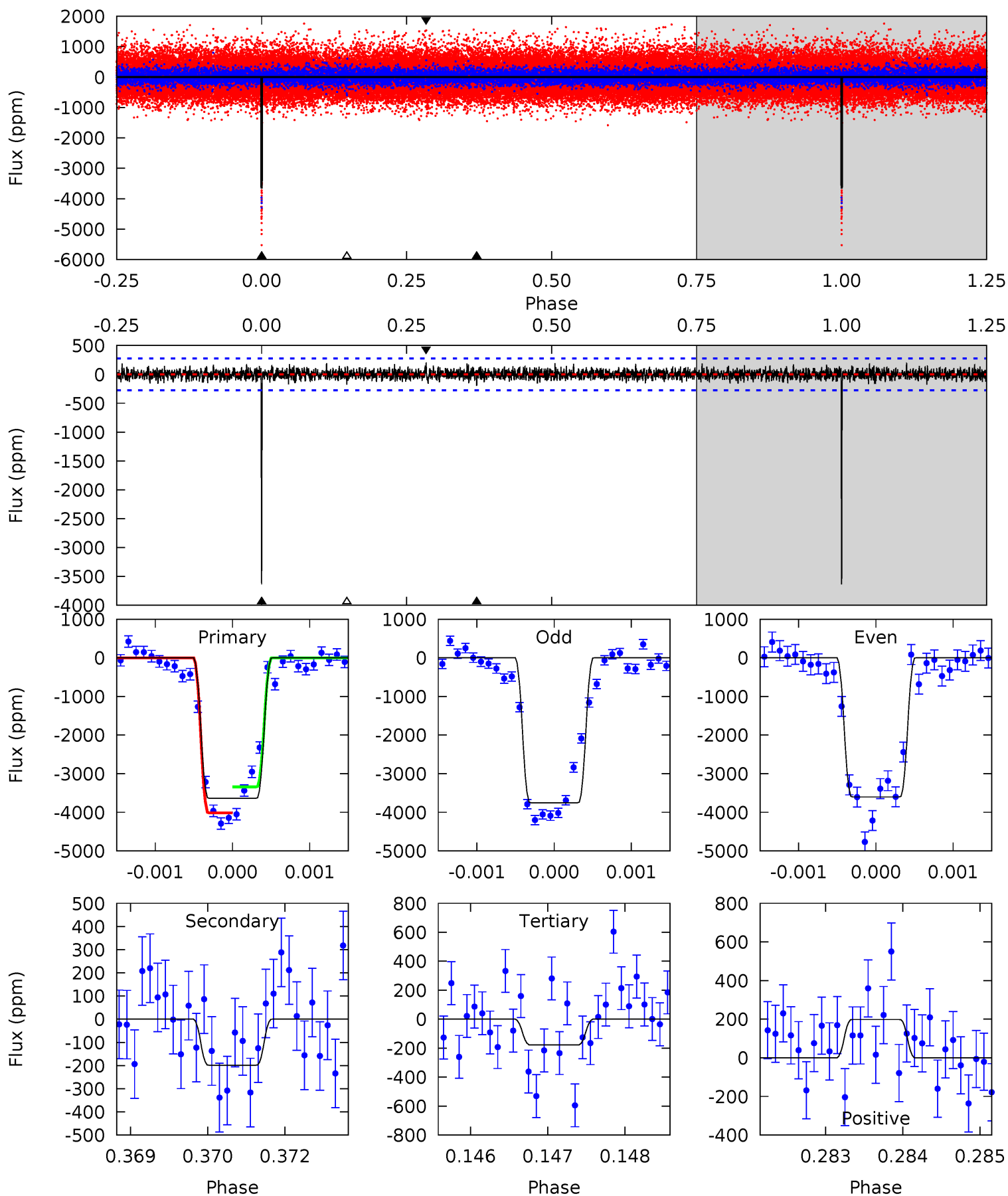
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
79.0	4.05	3.86	5.13	5.45	3.29	1.17	75.2	73.9	0.19	-1.09	5.66	0.85	0.06	5.30



Alt Model-Shift Uniqueness Test

004918309-01, $P = 186.443620$ Days, $E = 146.885231$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
71.7	3.92	3.50	3.91	5.44	3.26	1.04	68.2	67.8	0.42	0.01	1.48	0.91	0.05	6.53



Stellar Parameters For KIC 004918309

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5393^{+80}_{-64}	$4.132^{+0.280}_{-0.120}$	$0.180^{+0.150}_{-0.100}$	$1.370^{+0.218}_{-0.405}$	$0.926^{+0.053}_{-0.048}$	$0.507^{+0.867}_{-0.178}$
	+1%/-1%	+7%/-3%	+83%/-56%	+16%/-30%	+6%/-5%	+171%/-35%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004918309-01 / KOI 1582.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-209 ± 52	$8.16^{+3.03}_{-2.72}$	491^{+24}_{-38}	3248^{+447}_{-259}	647^{+823}_{-300}
Alt.	-199 ± 51	$8.57^{+3.13}_{-2.68}$	492^{+24}_{-40}	3188^{+434}_{-265}	566^{+708}_{-278}

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

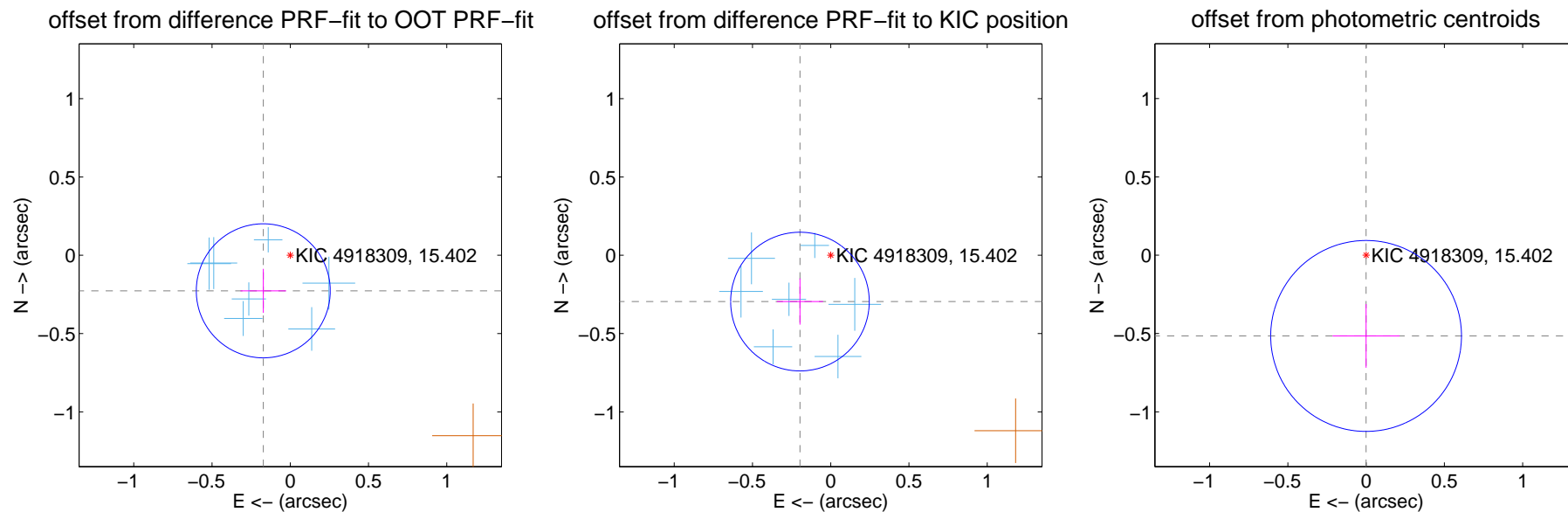
DV Centroid Data

Supplemental centroid analysis for 004918309-01. Kepler magnitude: 15.40. Transit SNR 55.60

There are 7 quarters with good PRF difference image offsets

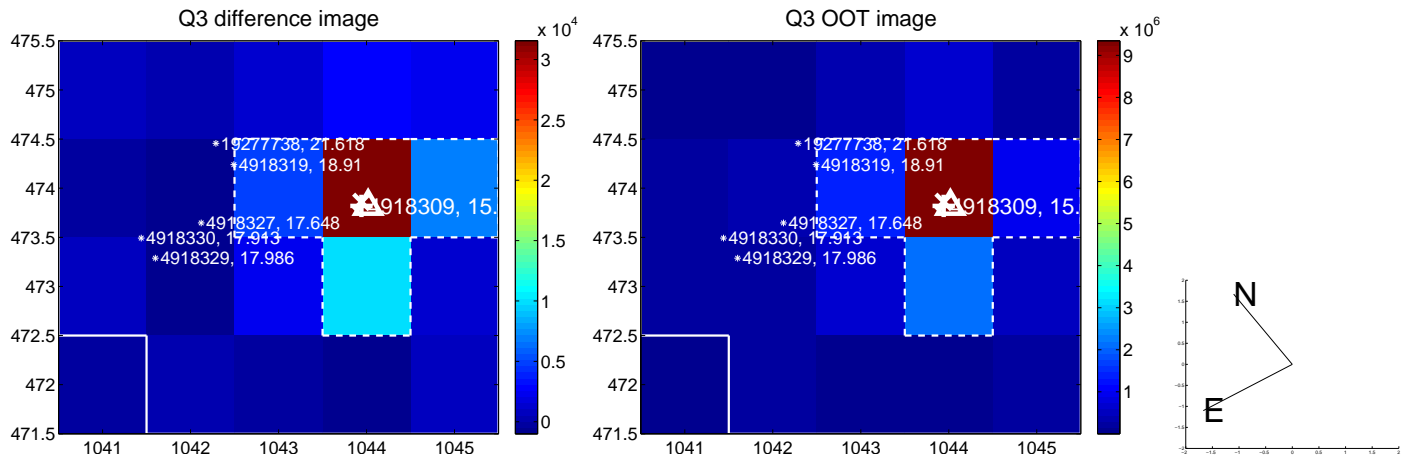
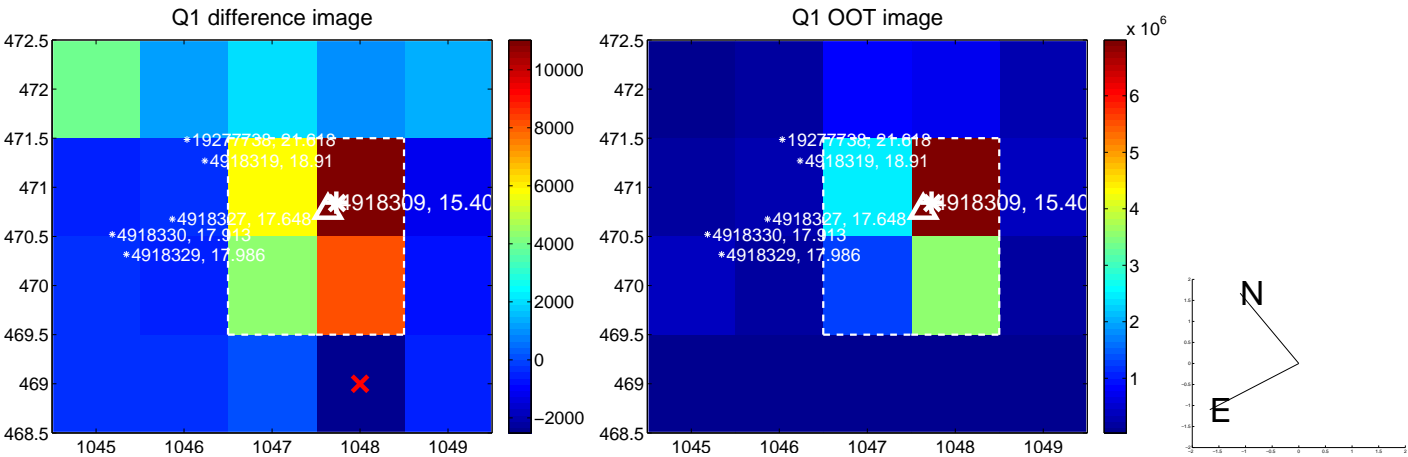
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.285 ± 0.143	2.00	0.172 ± 0.146	-0.227 ± 0.141
PRF-fit source offset from KIC position	0.355 ± 0.148	2.40	0.197 ± 0.148	-0.296 ± 0.148
photometric centroid source offset	0.52 ± 0.20	2.54	0.00 ± 0.21	-0.52 ± 0.20

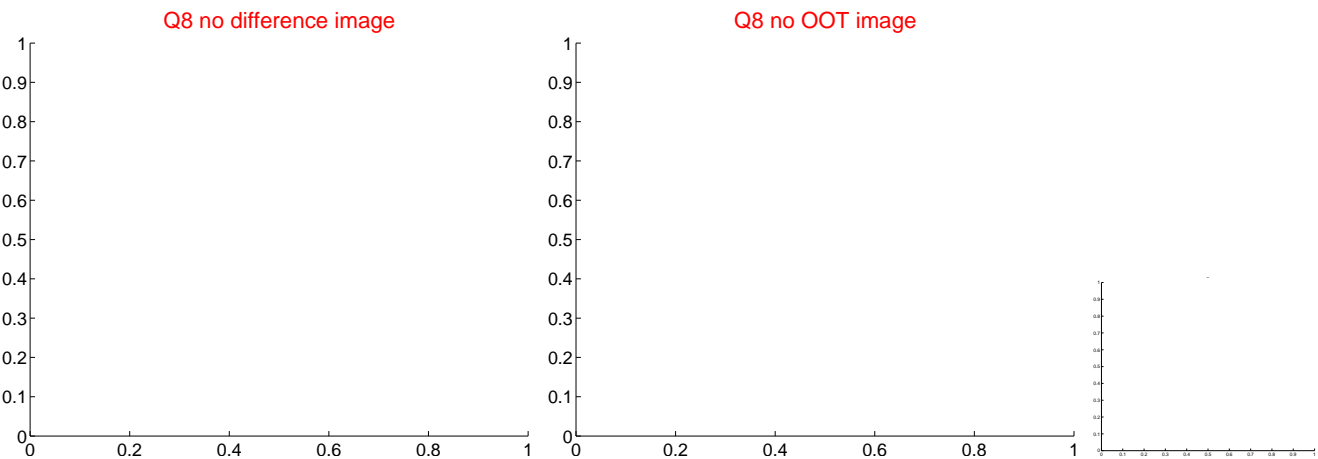
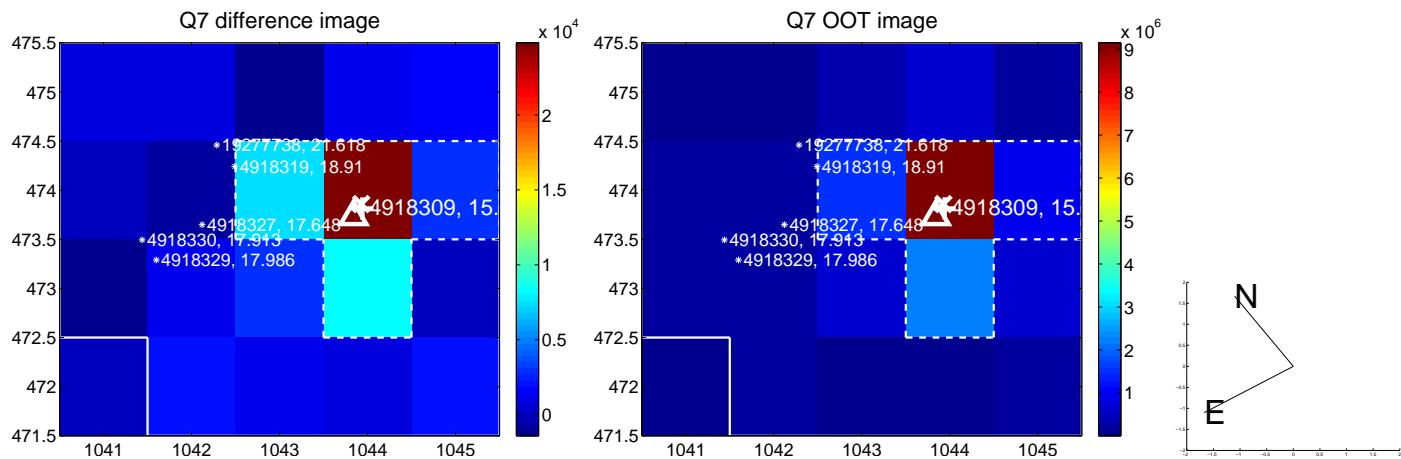
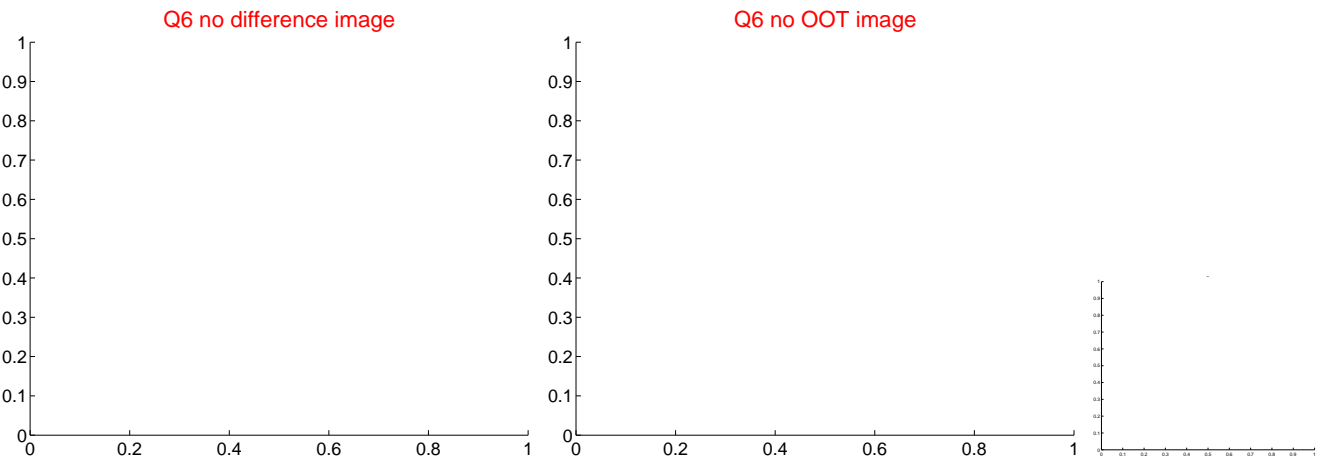
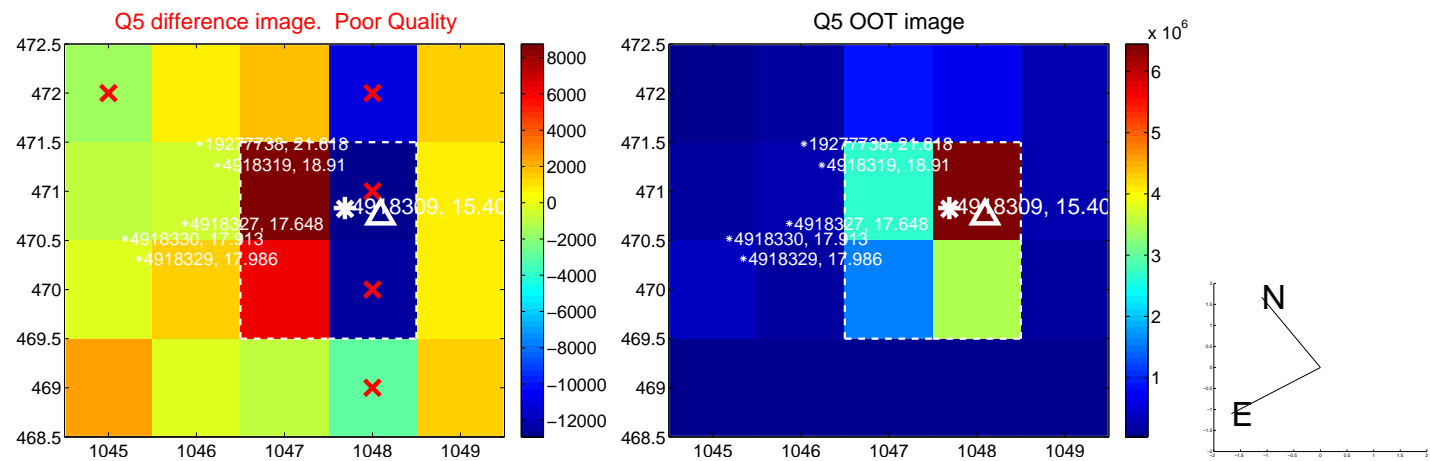


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

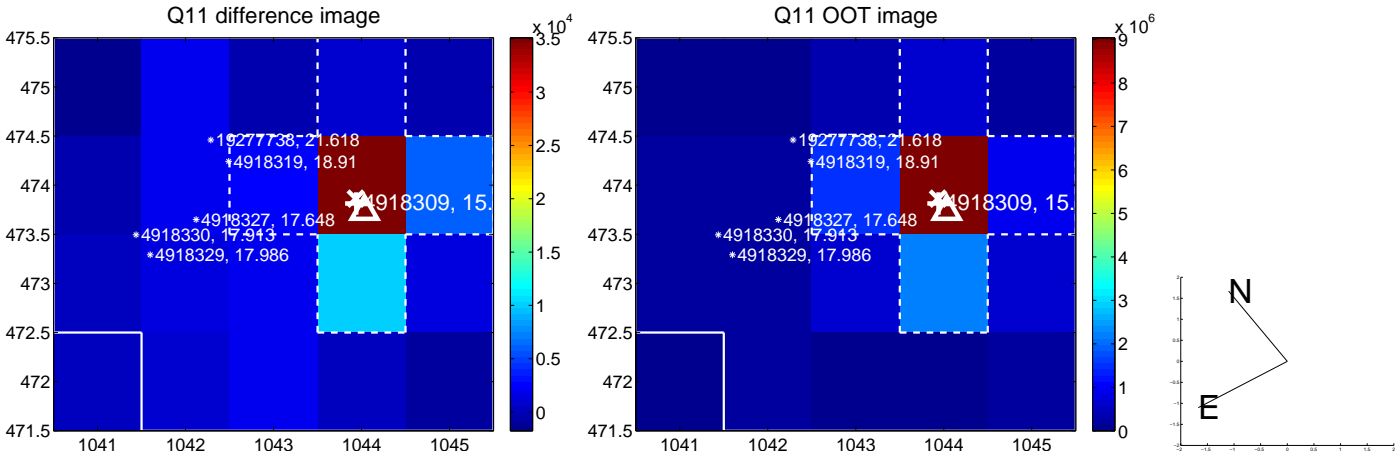
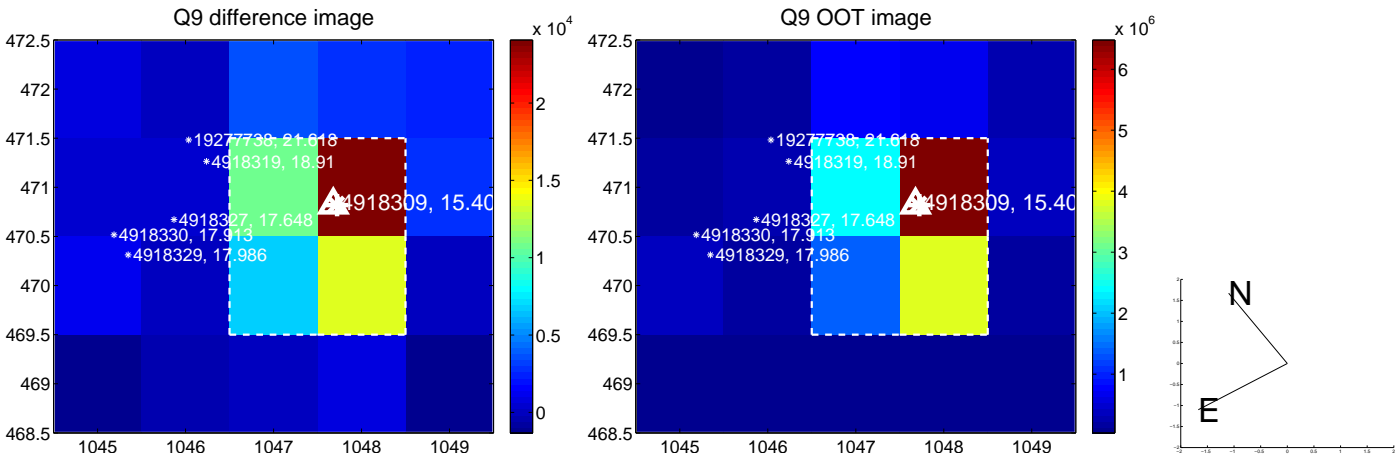
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



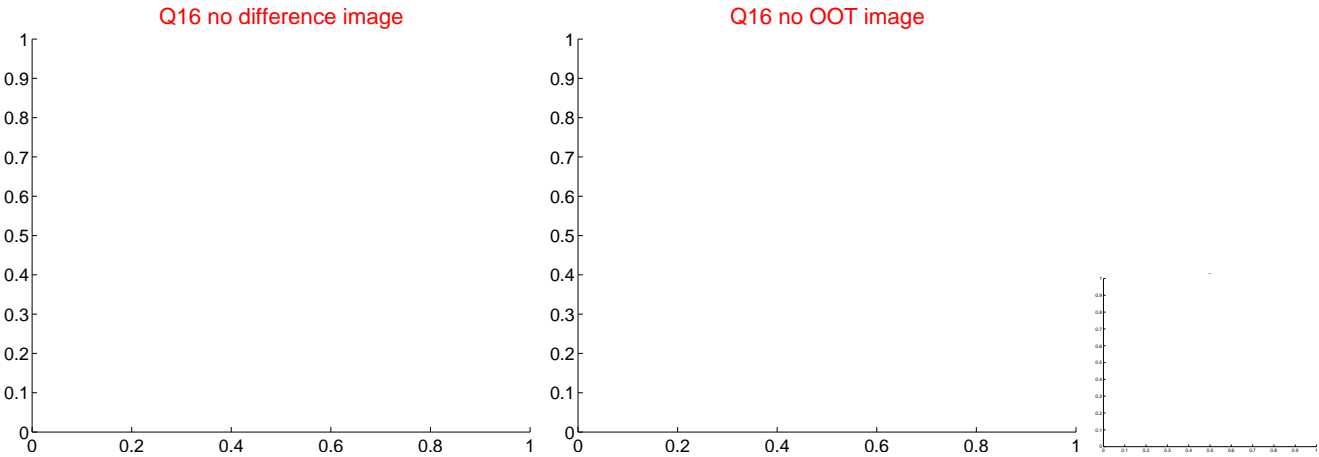
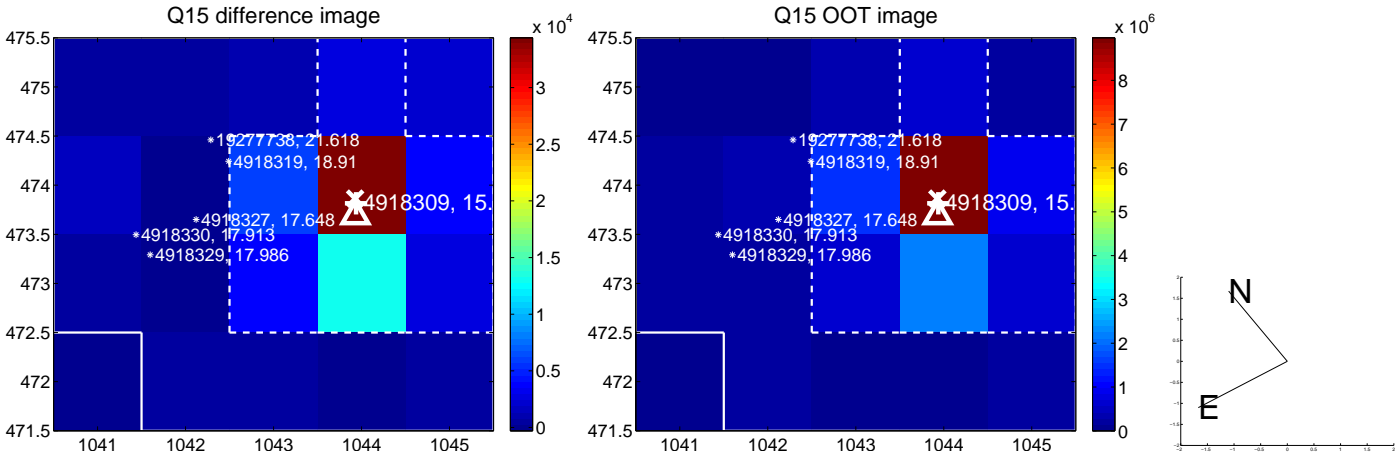
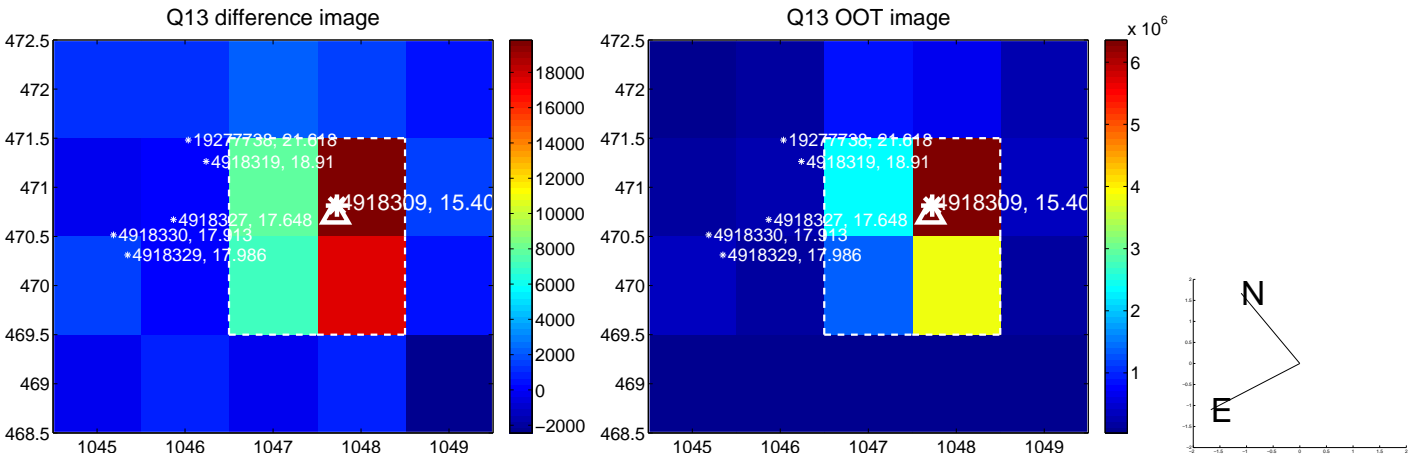
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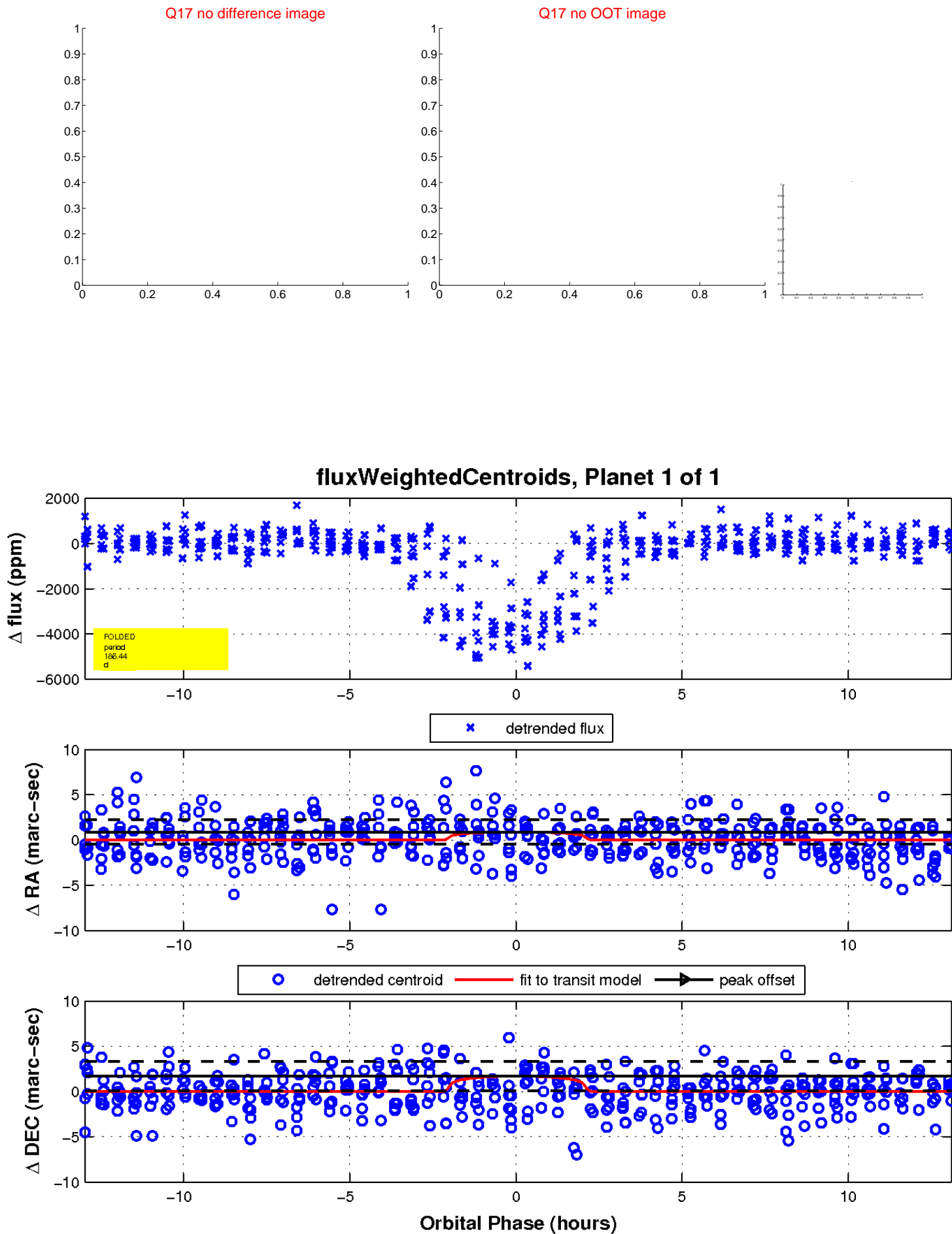
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UKIRT Image

Declination

