

KIC 010462897

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})
010462897-01	OBS	No	476.282838	380.553077	399.1	6.436	7.7	7.6	0.86	5764	1.87	0.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010462897-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

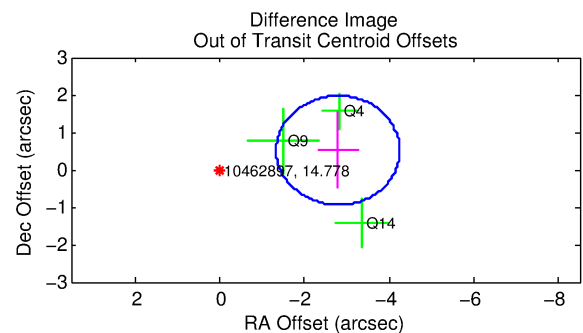
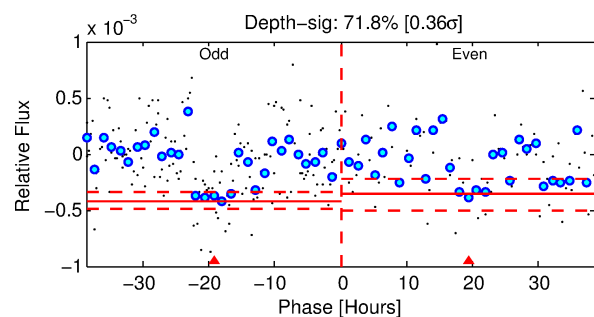
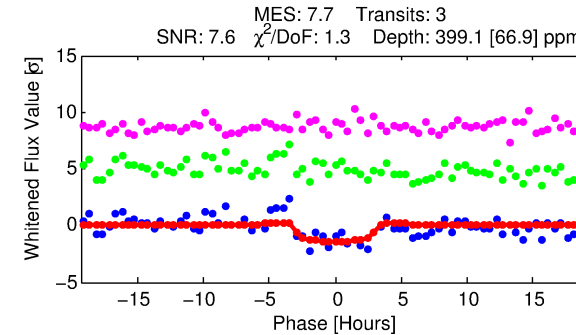
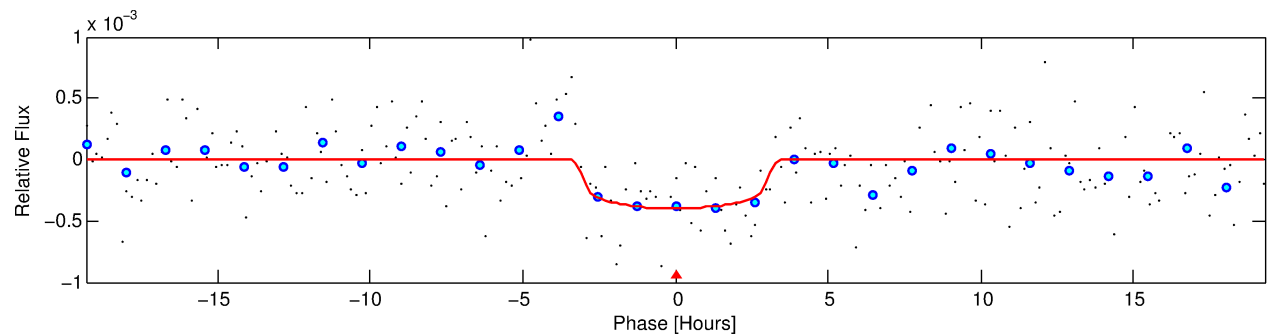
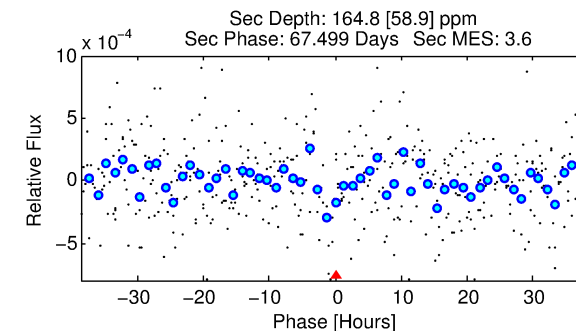
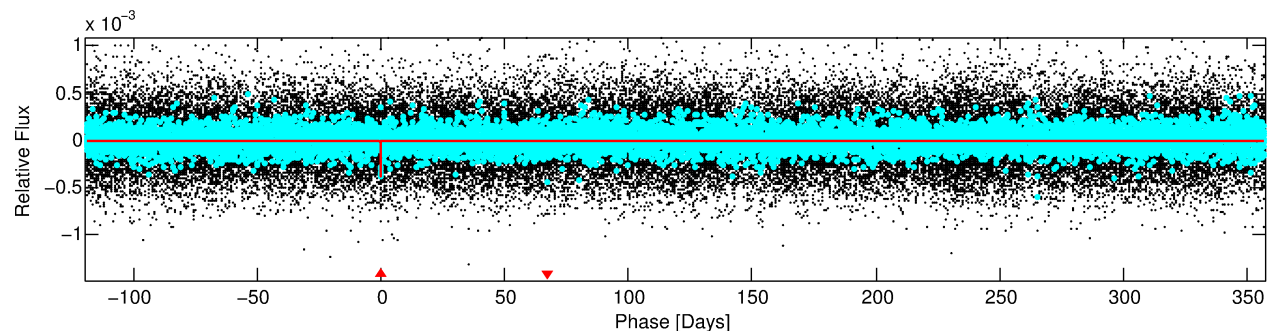
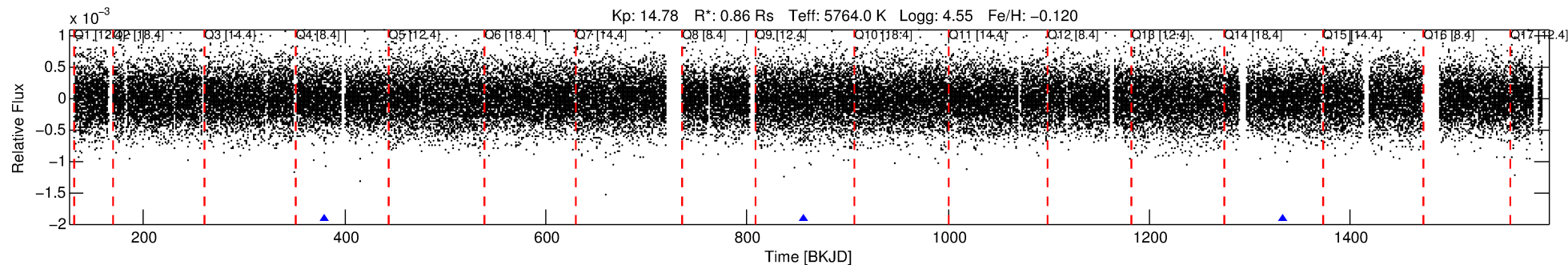
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010462897-01

No Significant Match Found

DV One-Page Summary

KIC: 10462897 Candidate: 1 of 1 Period: 476.283 d



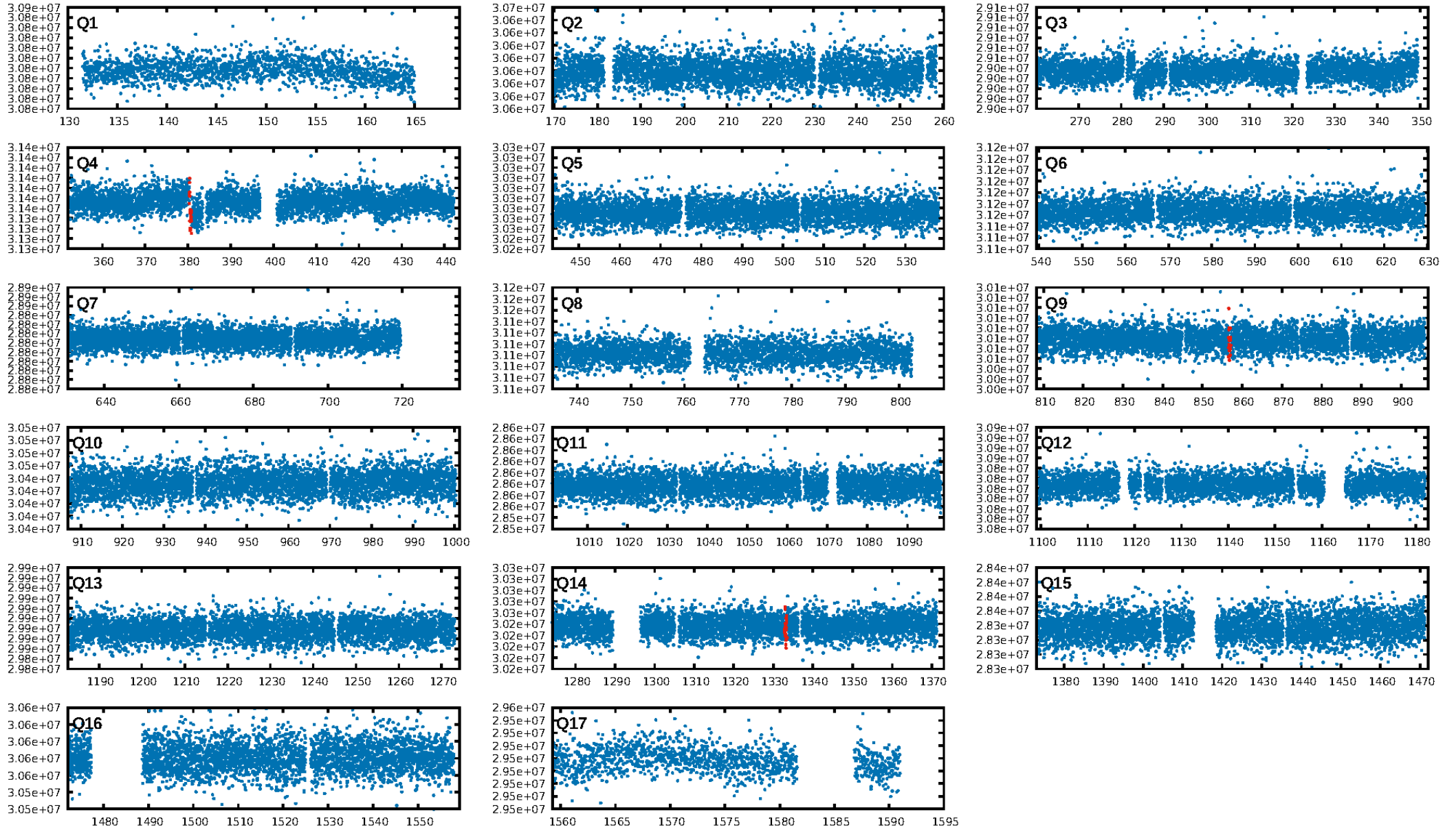
DV Fit Results:

Period = 476.28284 [0.01197] d
Epoch = 380.5531 [0.0157] BKJD
Rp/R* = 0.0198 [0.0247]
a/R* = 394.02 [2207.04]
b = 0.74 [3.40]
Seff = 0.53 [0.18]
Teff = 218 [19] K
Rp = 1.87 [2.38] Re
a = 1.1775 [0.2628] AU
Ag = 35995.67 [91404.83] [0.39 σ]
Teffp = 4636 [2923] K [1.51 σ]

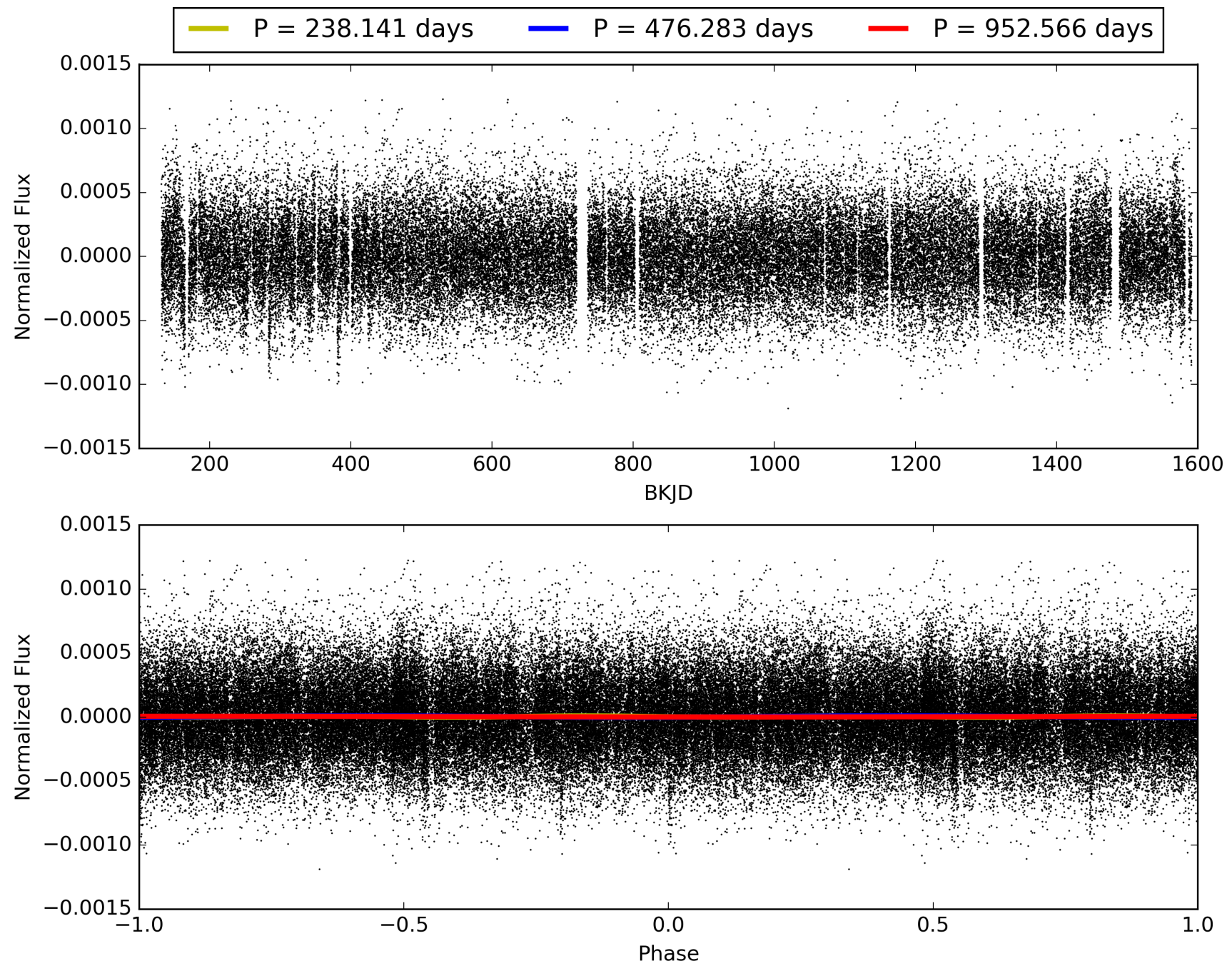
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 16.9%
ModelChiSquareGof-sig: 92.4%
Bootstrap-pfa: 2.24e-16
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.6638
Centroid-sig: 24.1%
Centroid-so: 2.164 arcsec [1.10 σ]
OotOffset-rm: 2.842 arcsec [5.85 σ]
KicOffset-rm: 2.854 arcsec [5.78 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 010462897-01, PDC Light Curves

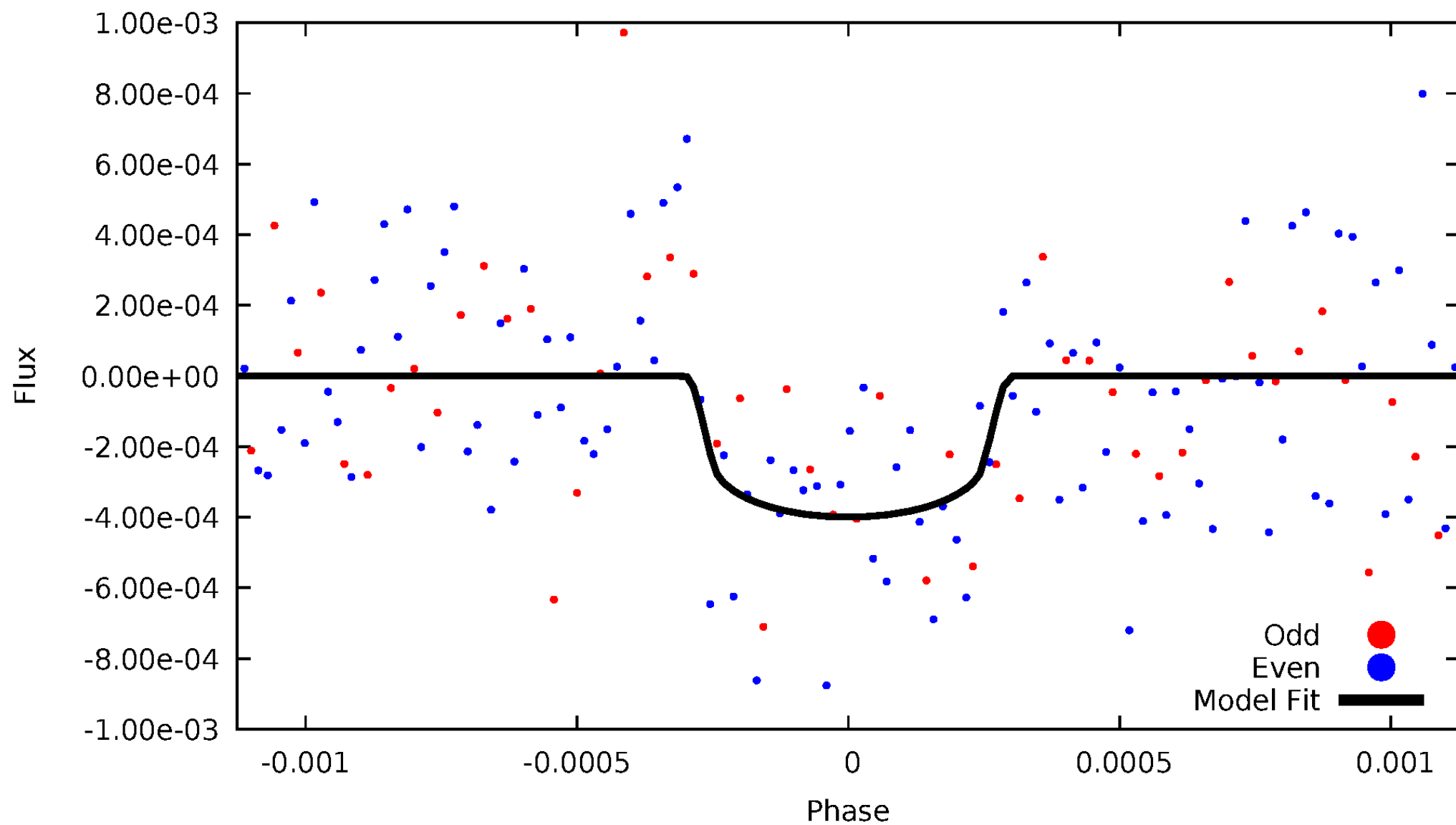


TCE 010462897-01



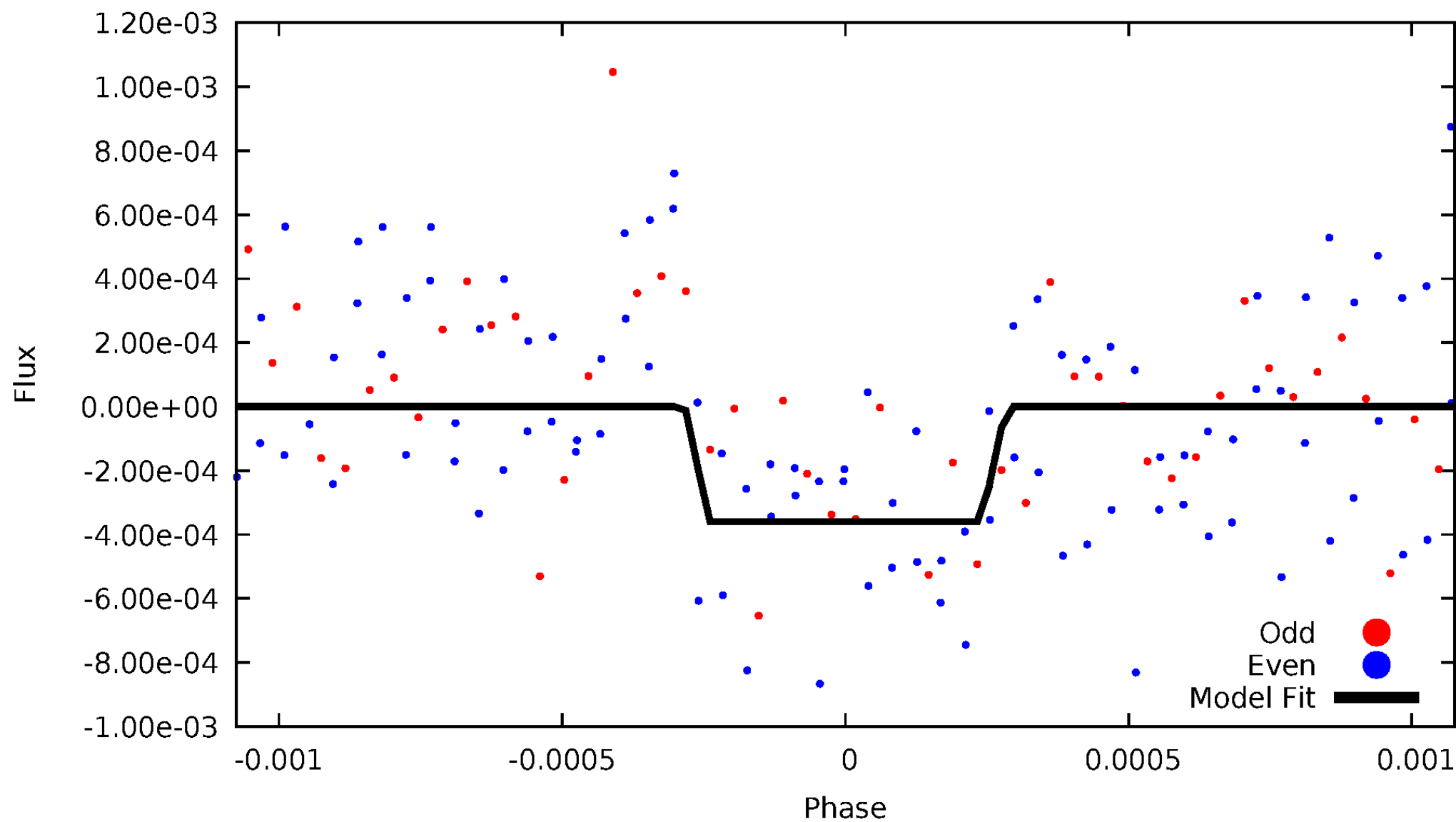
DV Odd/Even

TCE 010462897-01



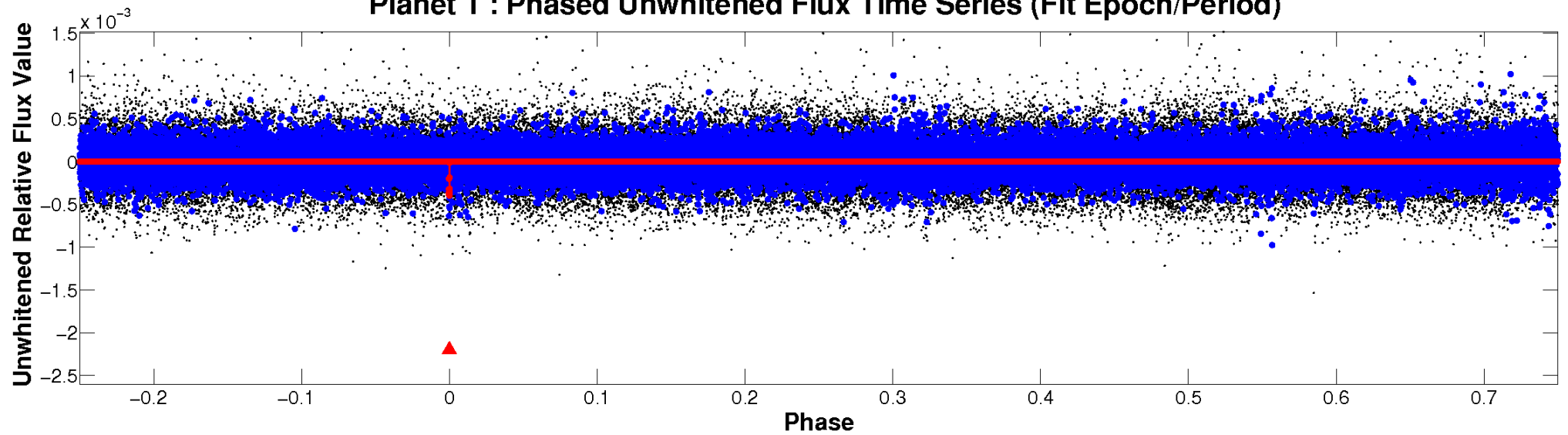
ALT Odd/Even

TCE 010462897-01

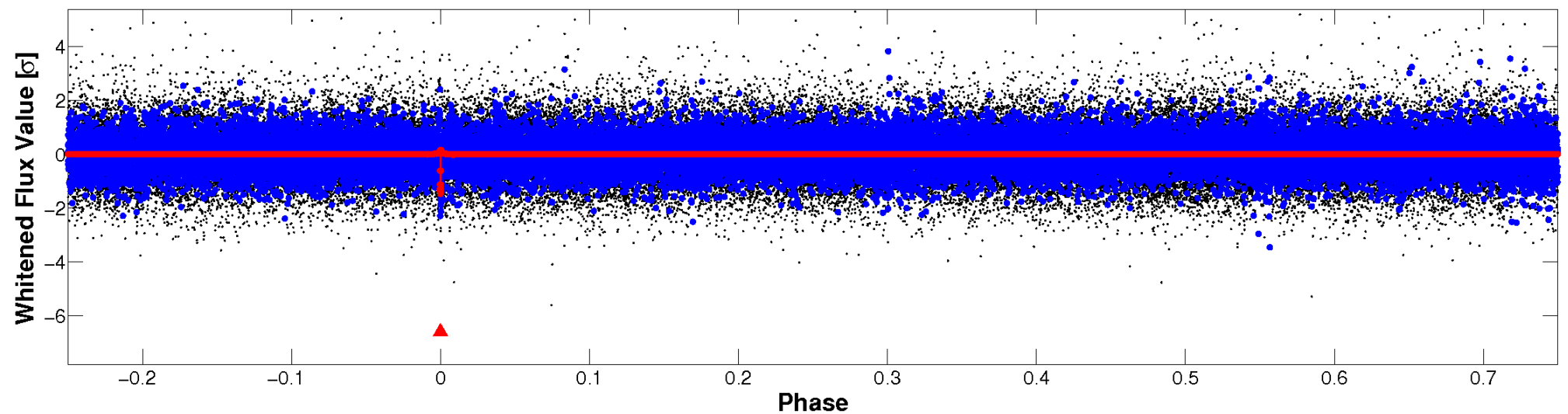


Non-Whitened Vs. Whitened Light Curve

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

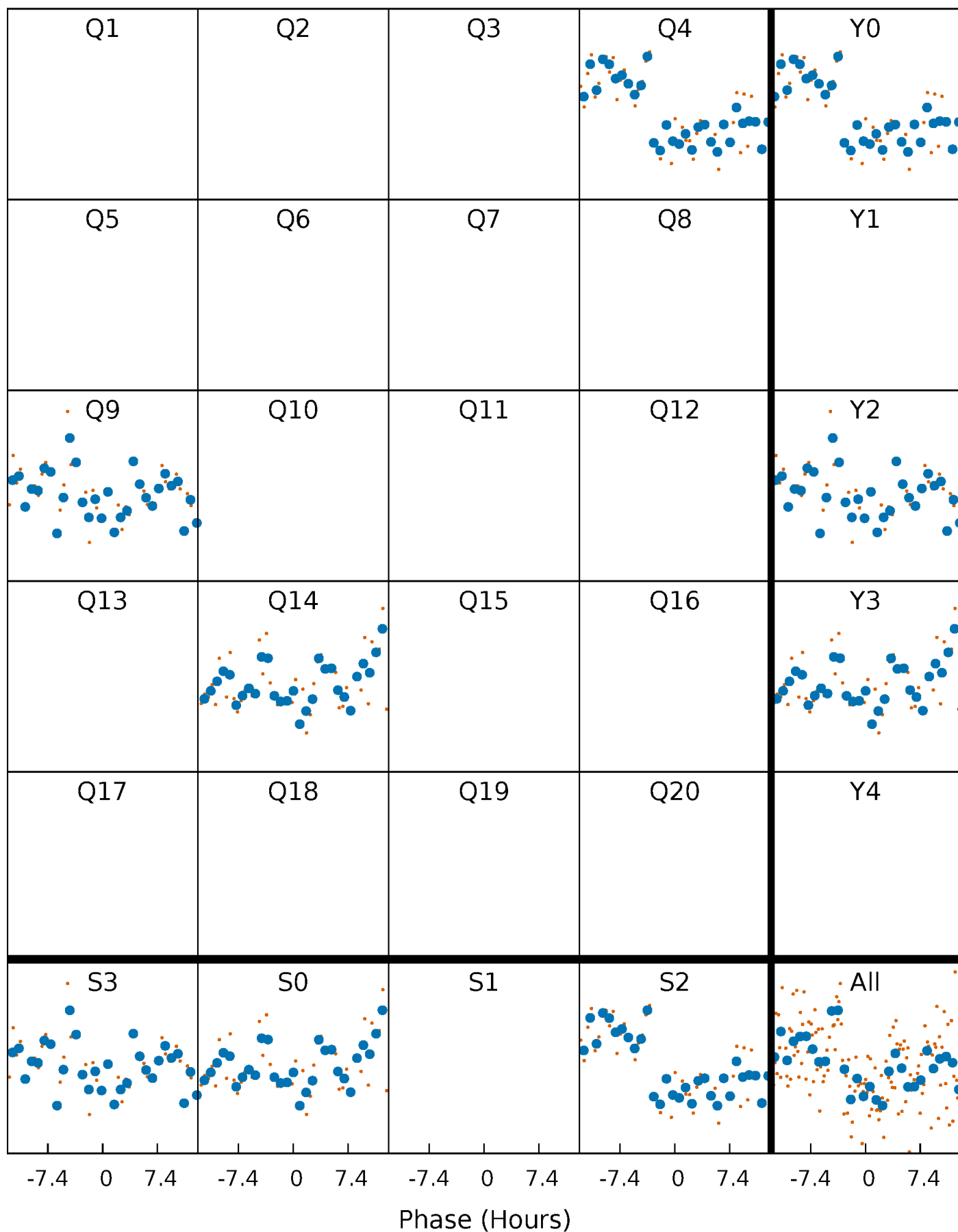


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



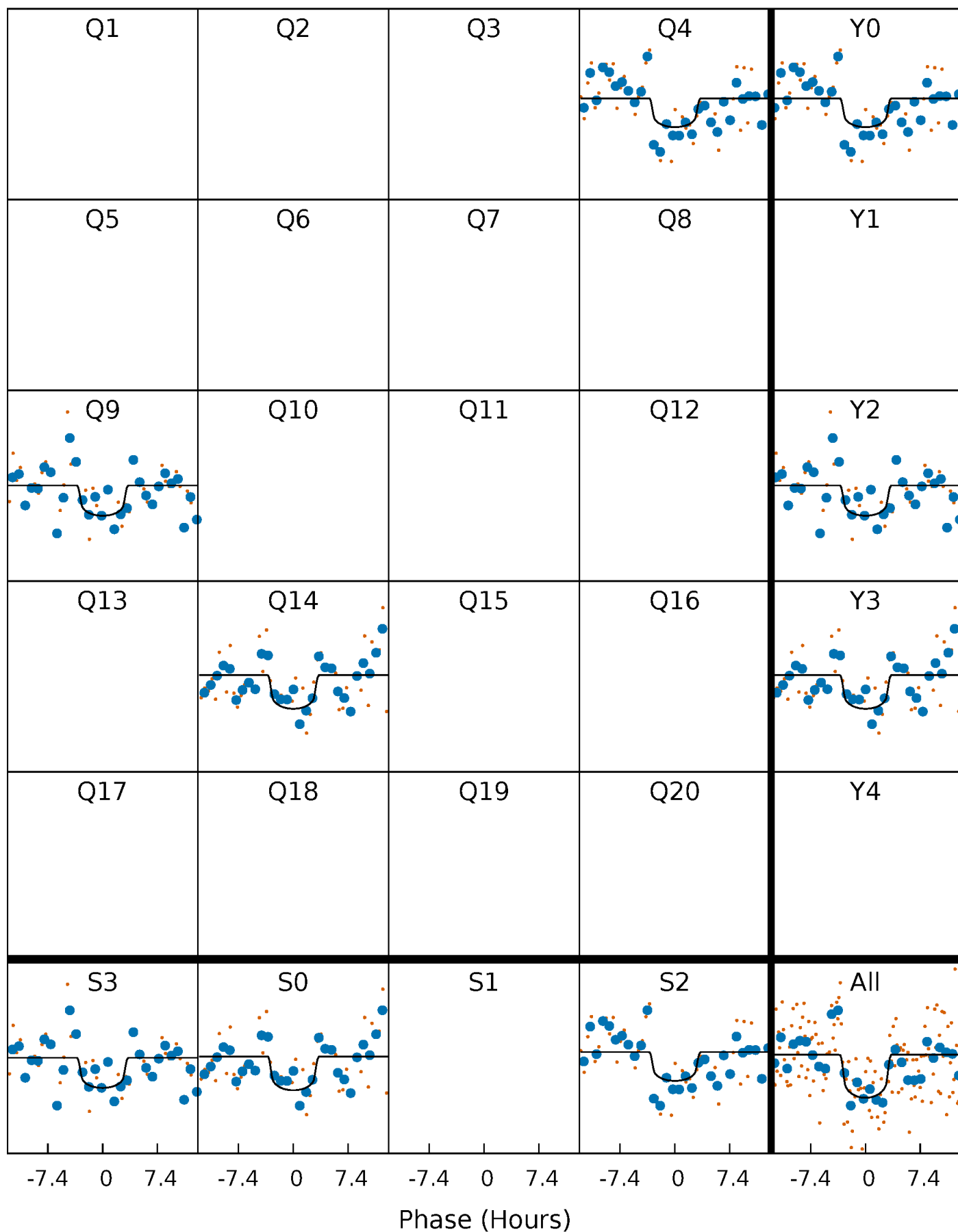
PDC Quarter-Phased Transit Curves

TCE 010462897-01 P=476.282838 Days $T_0=380.553077$ (BKJD)



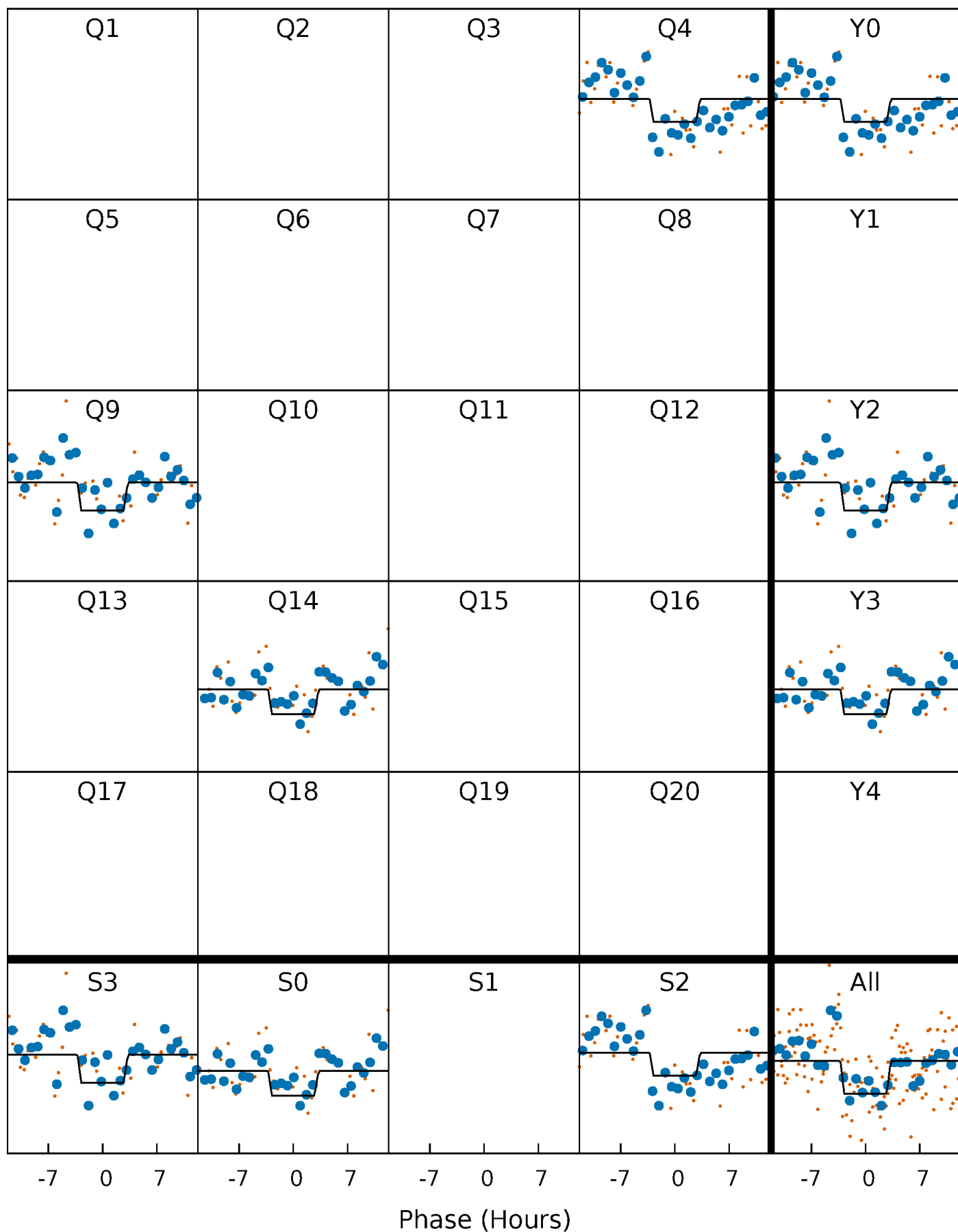
DV Quarter-Phased Transit Curves

TCE 010462897-01 $P=476.282838$ Days $T_0=380.553077$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

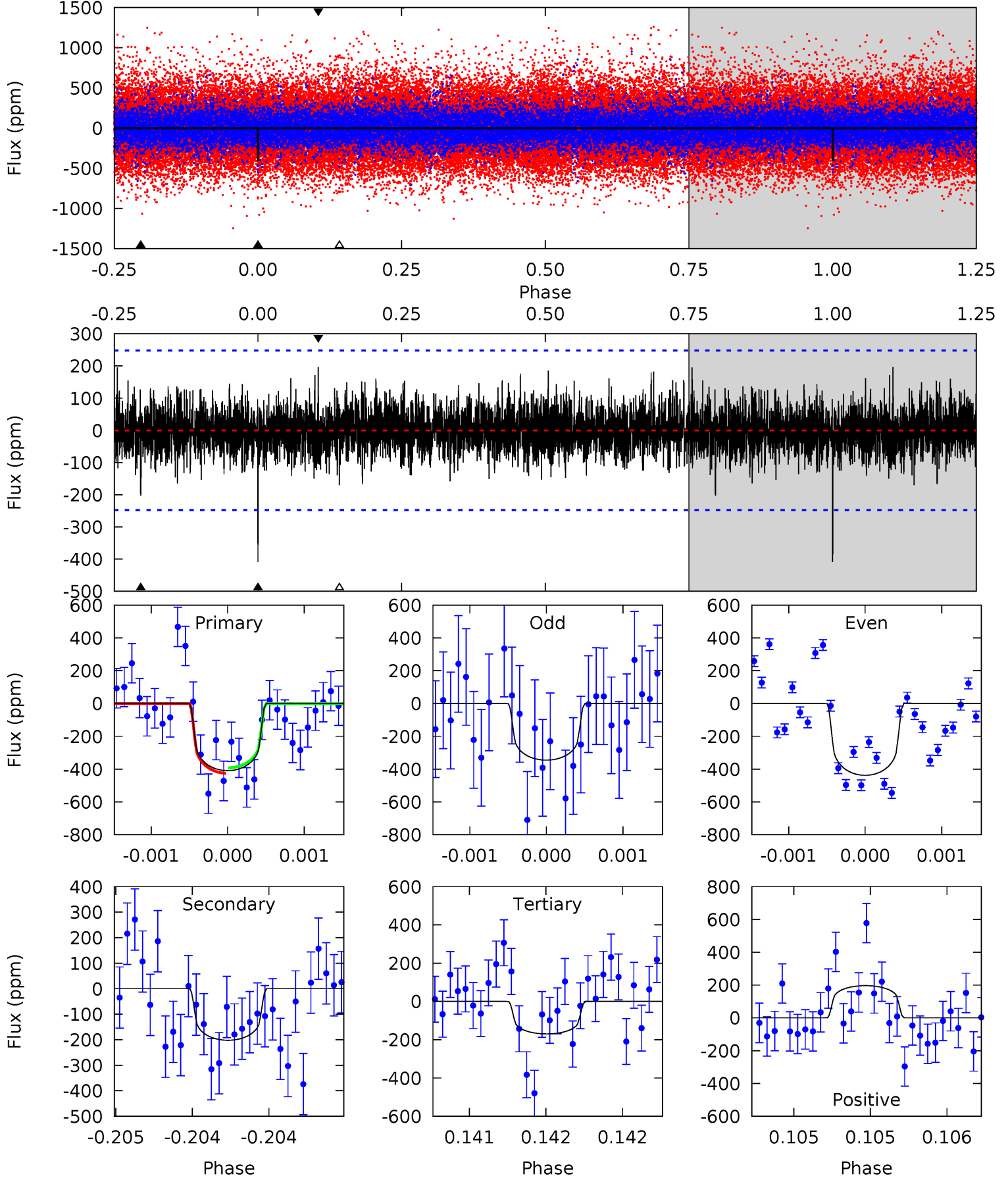
TCE 010462897-01 $P=476.279039$ Days $T_0=380.555393$ (BKJD)



DV Model-Shift Uniqueness Test

010462897-01, P = 476.282838 Days, E = 380.553077 Days

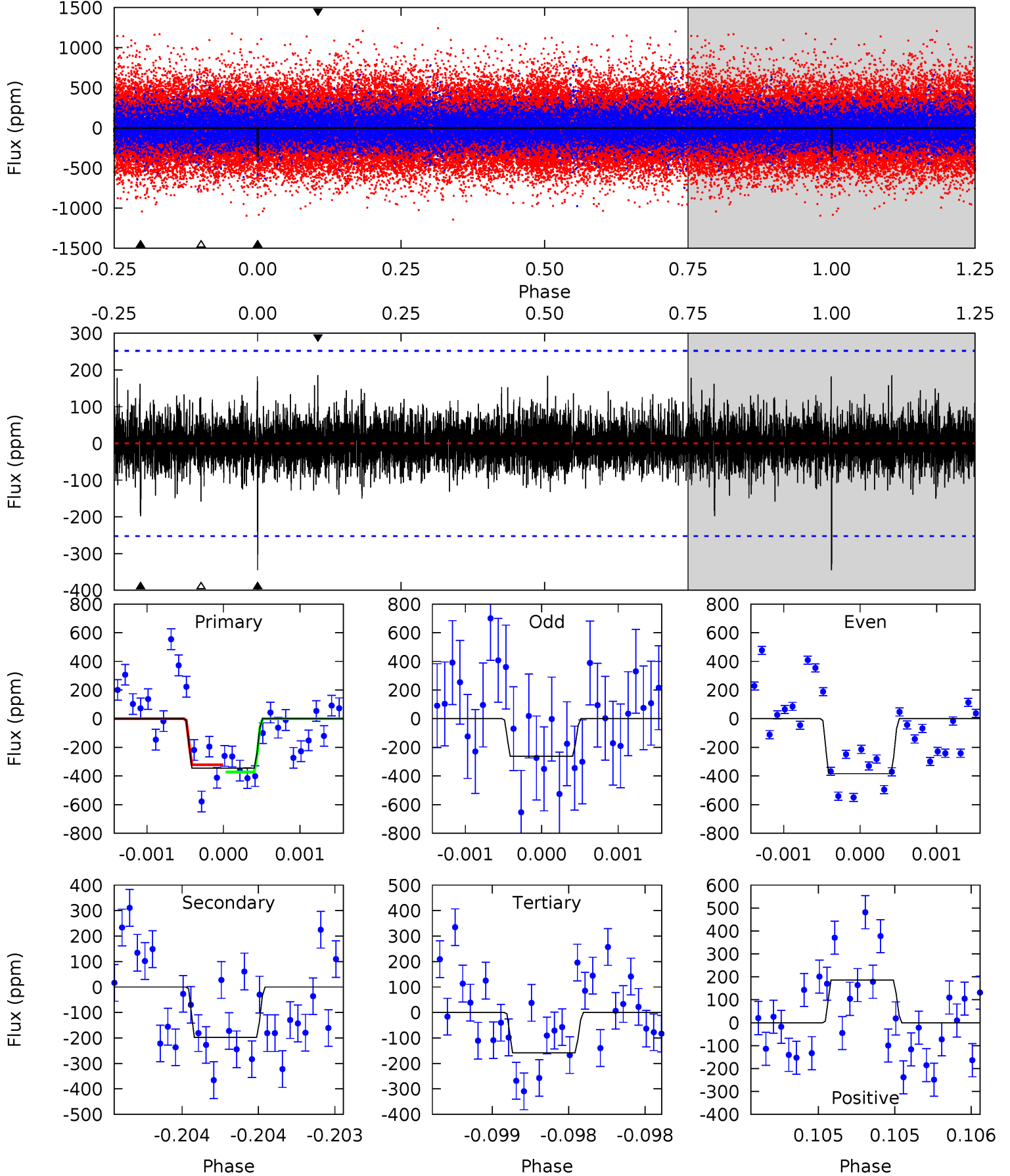
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.15	4.52	3.79	4.39	5.54	3.43	1.11	5.36	4.76	0.72	0.13	0.97	1.18	0.32	0.37



Alt Model-Shift Uniqueness Test

010462897-01, P = 476.279039 Days, E = 380.555393 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.59	4.35	3.49	4.08	5.55	3.44	0.94	4.10	3.50	0.86	0.26	1.25	1.31	0.35	0.55



Stellar Parameters For KIC 010462897

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5764^{+156}_{-173}	$4.548^{+0.033}_{-0.176}$	$-0.120^{+0.300}_{-0.300}$	$0.863^{+0.230}_{-0.077}$	$0.959^{+0.102}_{-0.114}$	$2.100^{+0.369}_{-1.003}$
	+3%/-3%	+1%/-4%	+250%/-250%	+27%/-9%	+11%/-12%	+18%/-48%
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 010462897-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-202 ± 45	$2.69^{+2.23}_{-1.74}$	311^{+19}_{-13}	4379^{+2526}_{-863}	$21082^{+148045}_{-15123}$
Alt.	-198 ± 46	$2.54^{+2.27}_{-1.65}$	311^{+19}_{-13}	4451^{+2798}_{-945}	$22495^{+164067}_{-16514}$

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

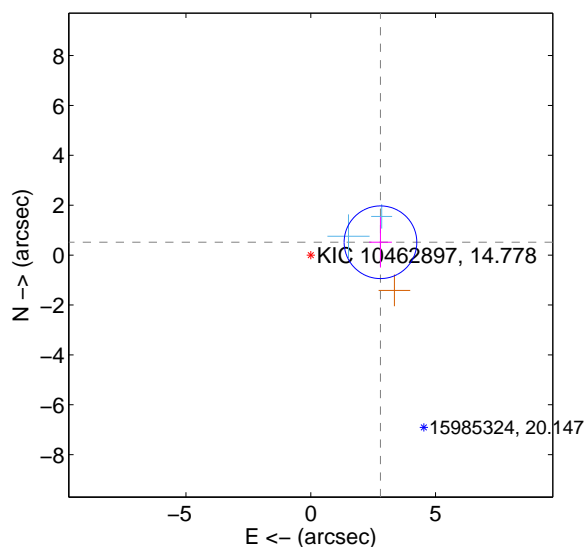
Supplemental centroid analysis for 010462897-01. Kepler magnitude: 14.78. Transit SNR 7.57

There are 2 quarters with good PRF difference image offsets

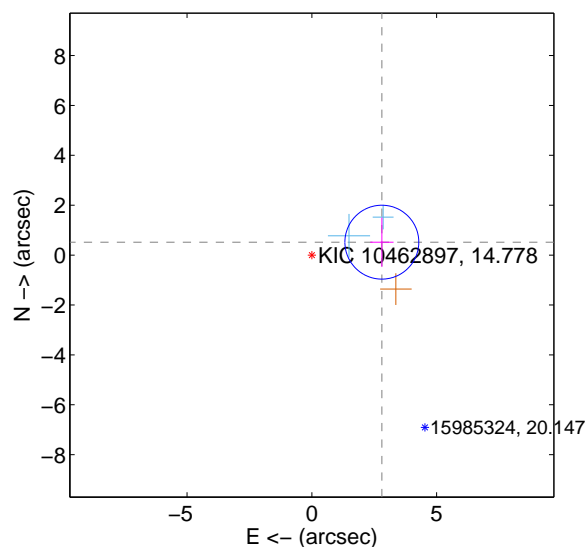
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.842 ± 0.485	5.85	-2.795 ± 0.457	0.515 ± 1.014
PRF-fit source offset from KIC position	2.854 ± 0.494	5.78	-2.806 ± 0.468	0.518 ± 0.987
photometric centroid source offset	2.16 ± 1.97	1.10	-1.91 ± 2.00	1.01 ± 1.87

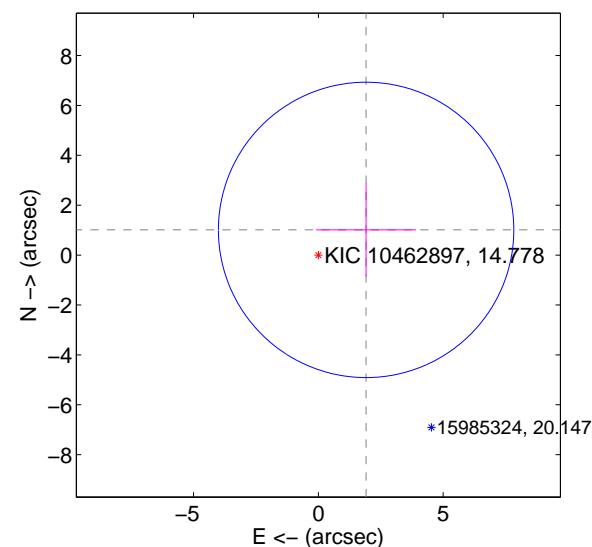
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

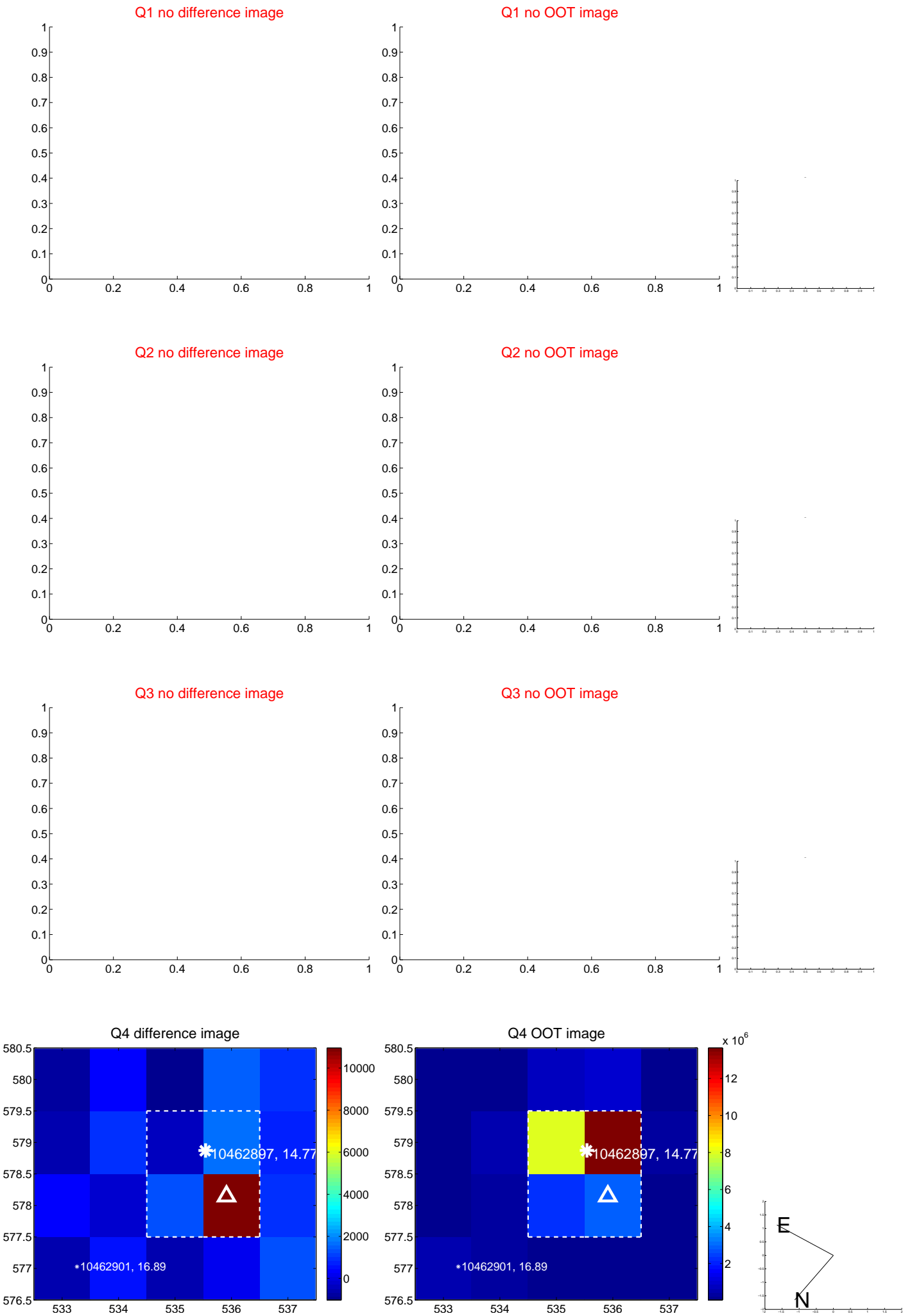


offset from photometric centroids

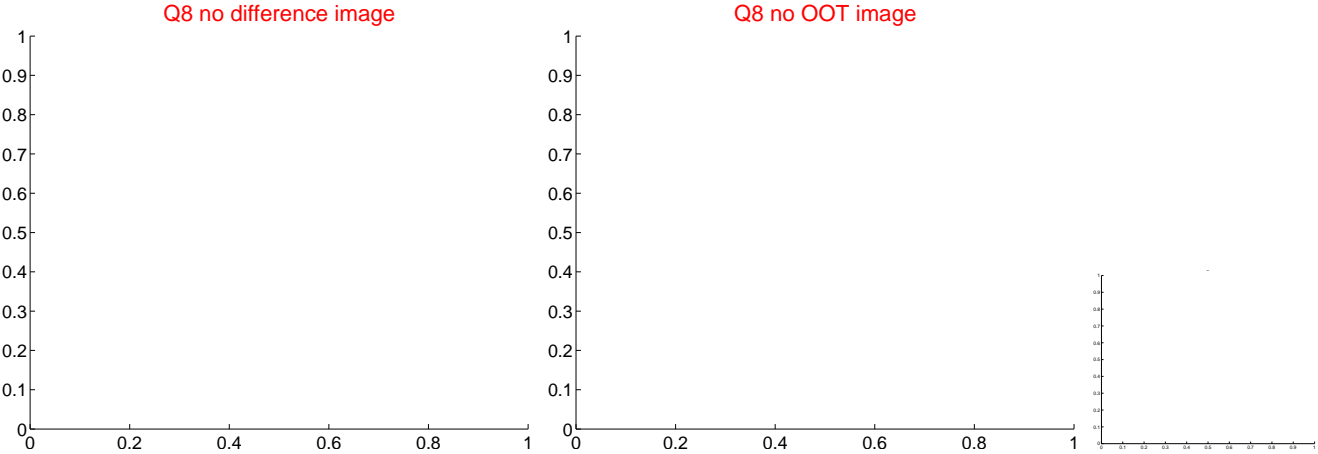


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

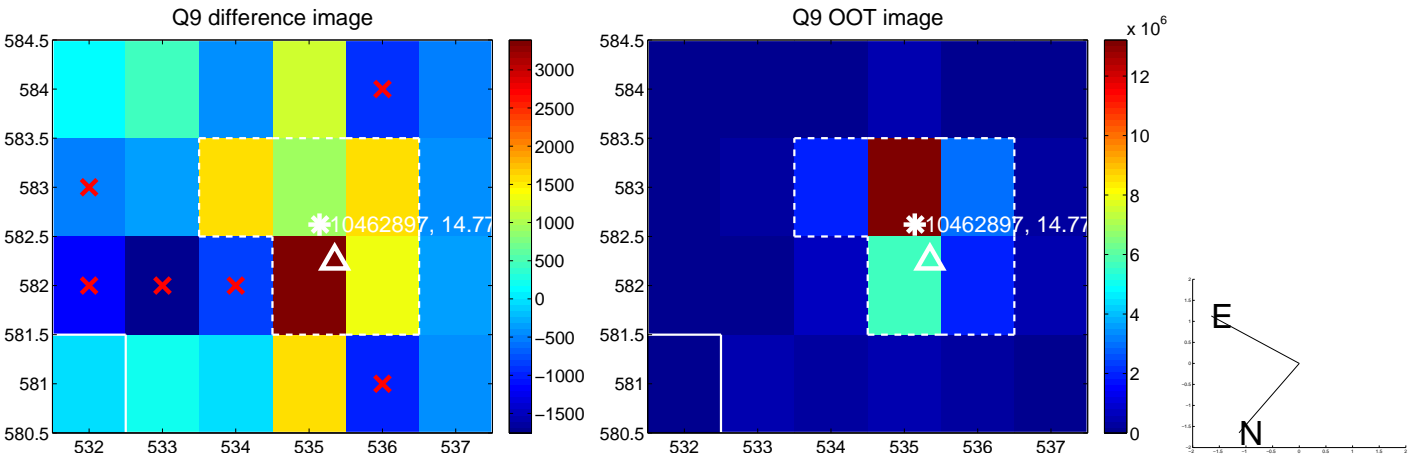
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



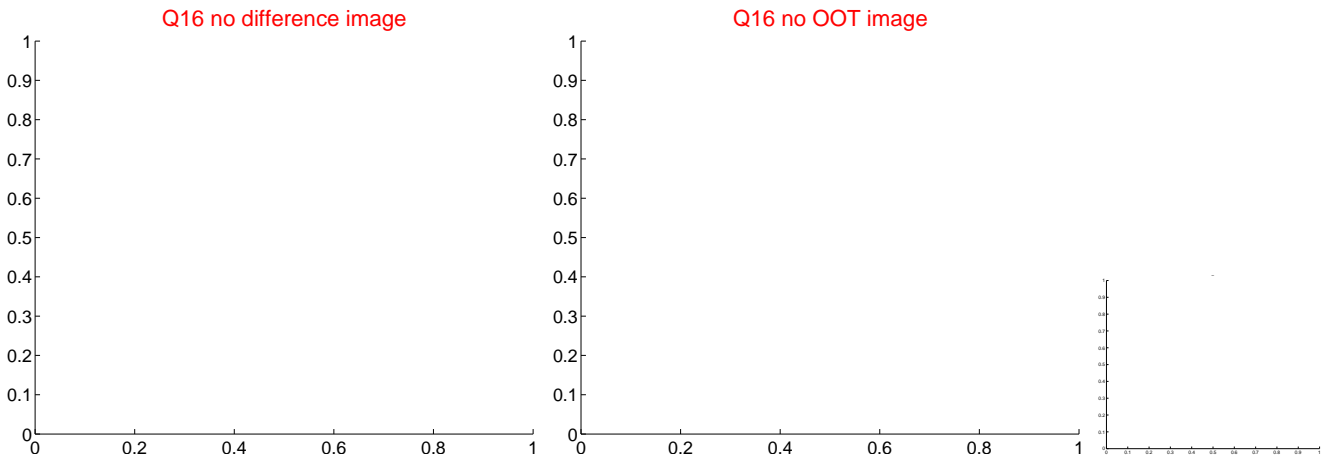
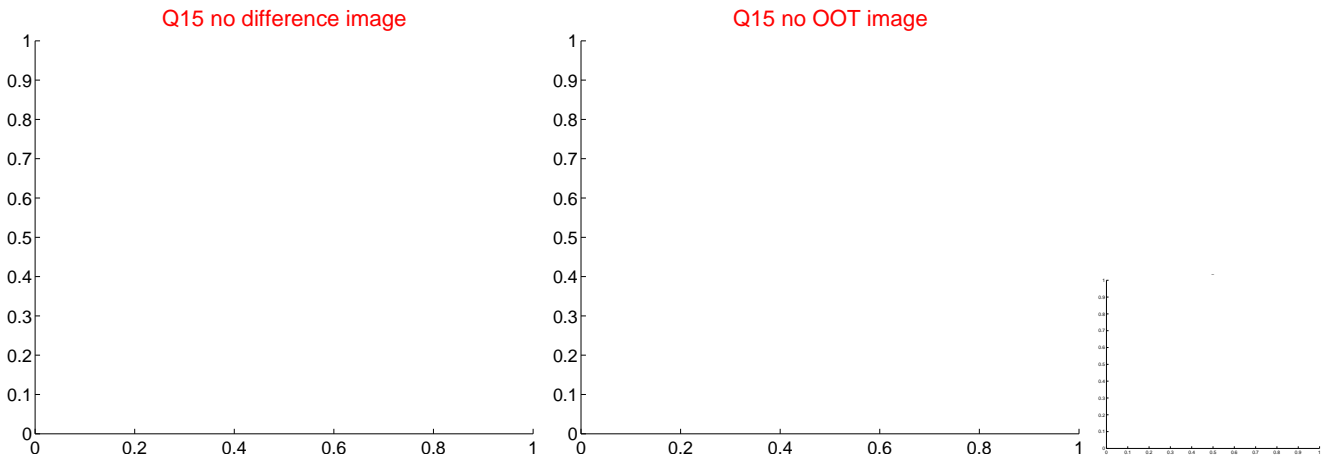
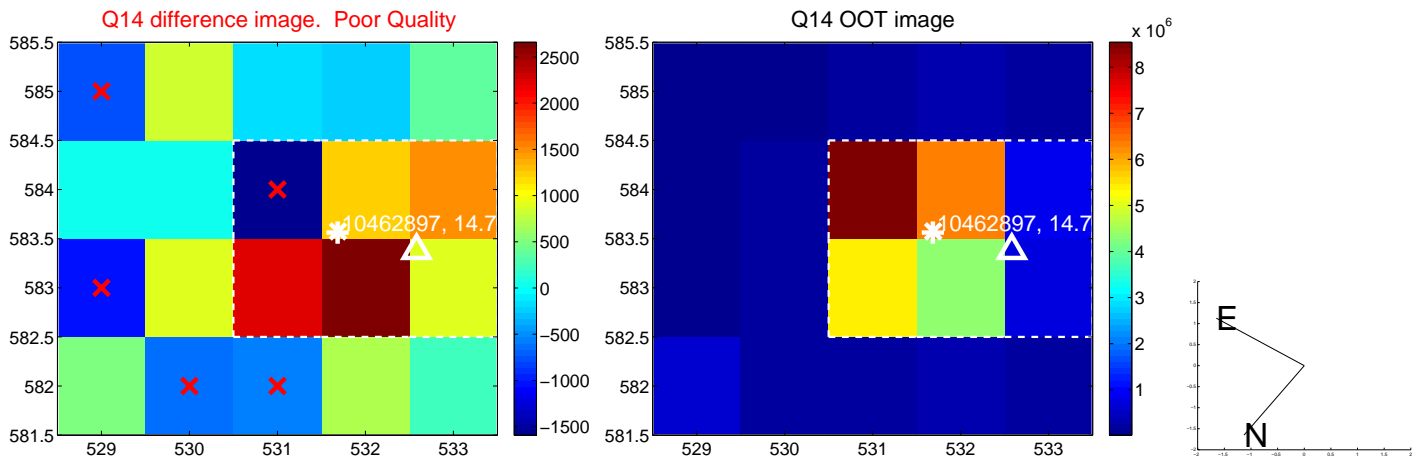
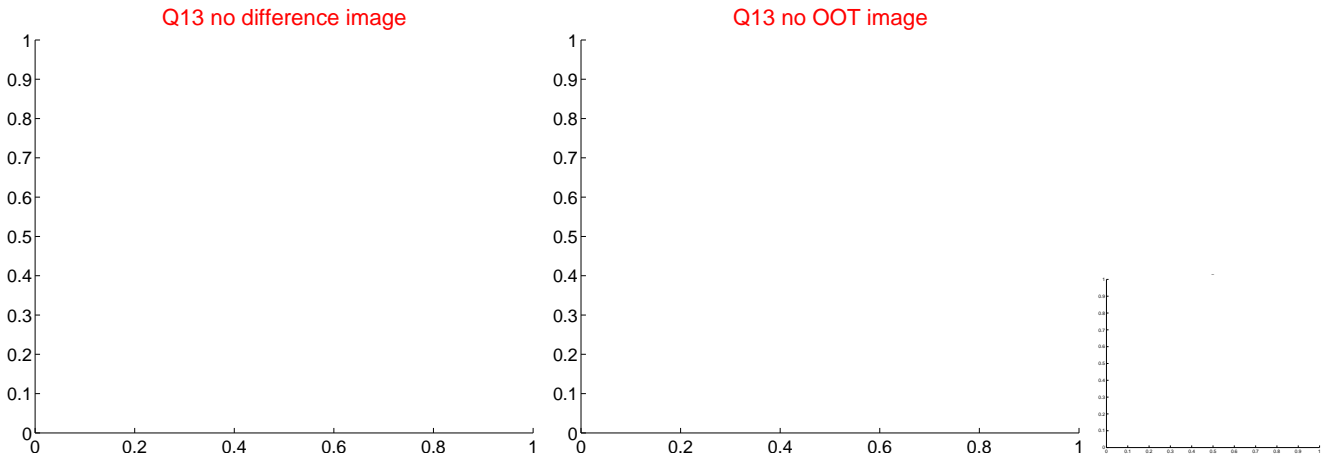
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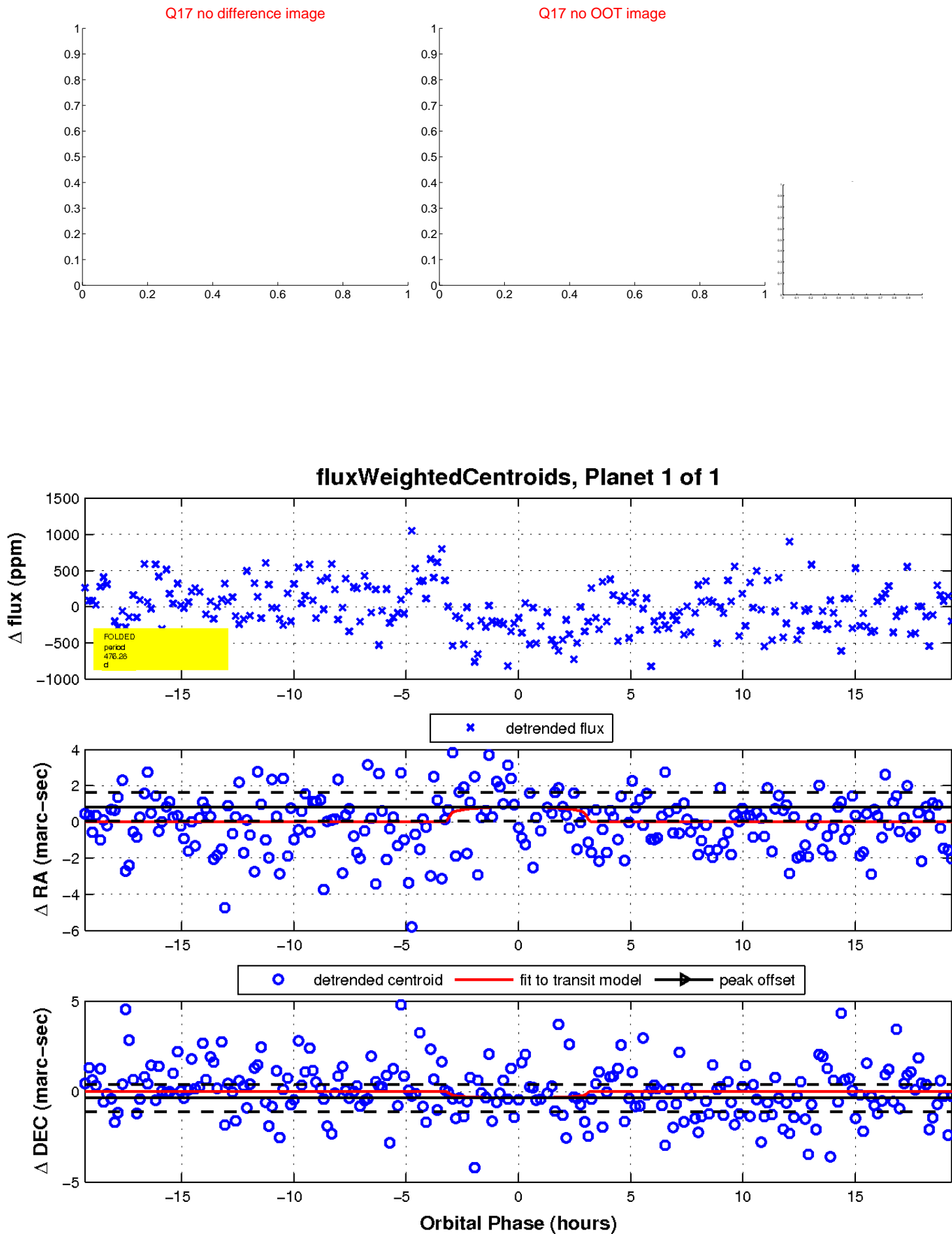
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UKIRT Image

Declination

