

KIC 004740598

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})
004740598-01	OBS	No	433.118299	319.370431	208.6	12.951	13.4	5.6	0.84	5530	1.64	0.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004740598-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

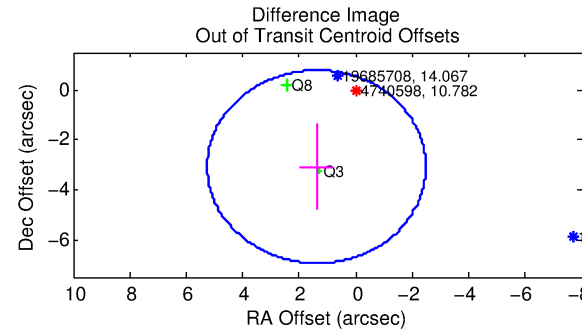
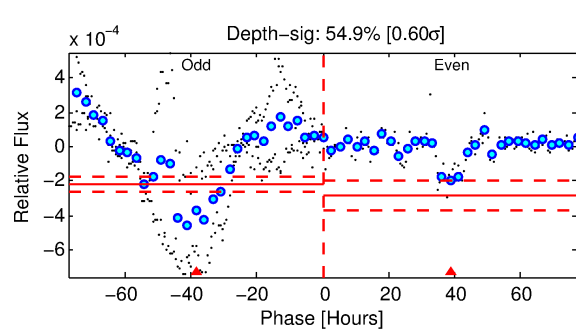
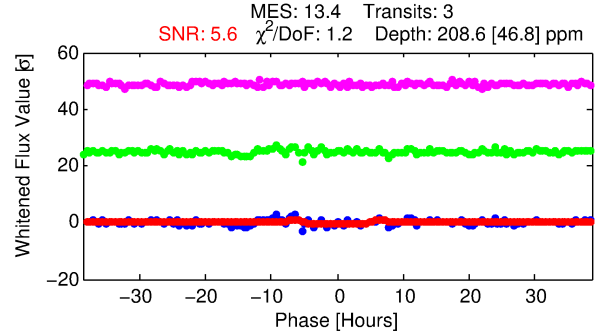
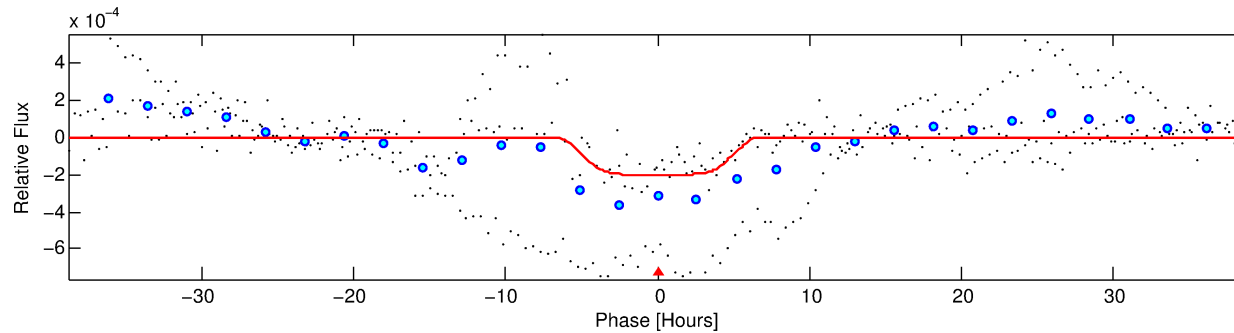
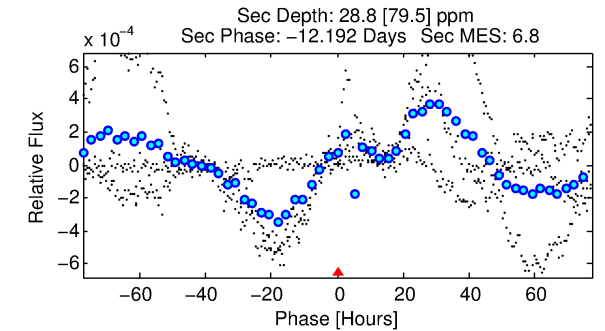
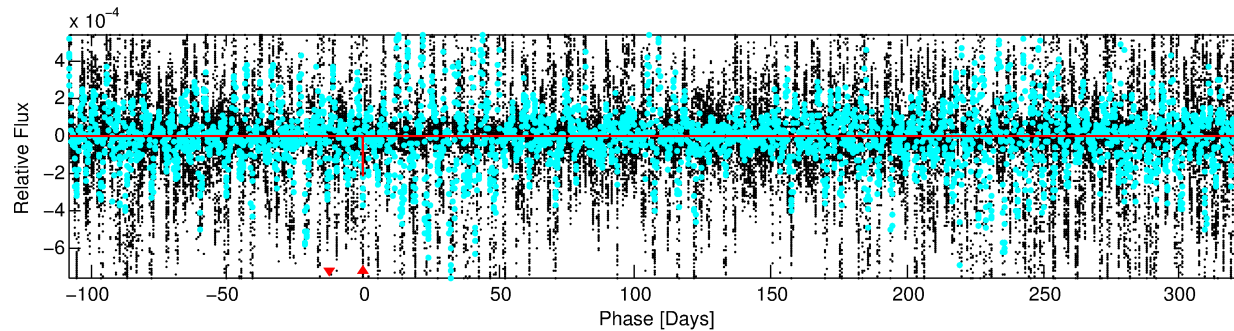
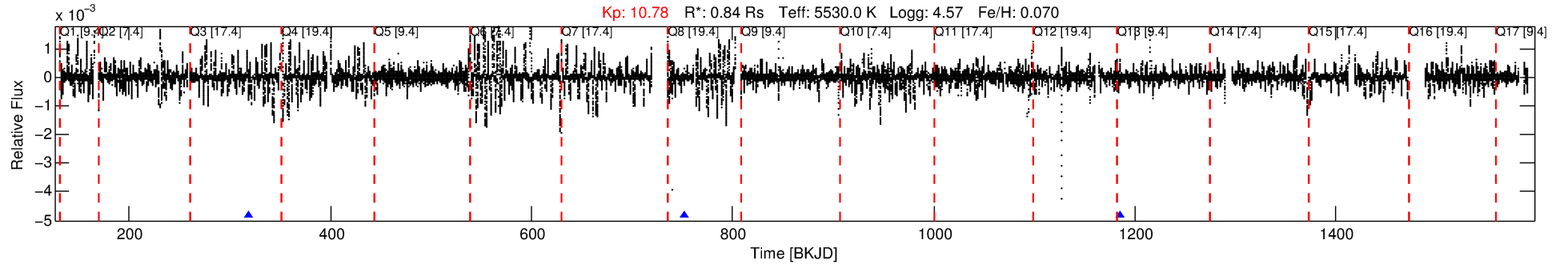
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004740598-01

No Significant Match Found

DV One-Page Summary

KIC: 4740598 Candidate: 1 of 1 Period: 433.118 d



DV Fit Results:

Period = 433.11830 [0.01587] d
Epoch = 319.3704 [0.0238] BKJD
Rp/R* = 0.0178 [0.0021]
a/R* = 80.14 [12.98]
b = 0.97 [0.01]
Seff = 0.49 [0.08]
Teq = 213 [9] K
Rp = 1.64 [0.27] Re
a = 1.1058 [0.1144] AU
Ag = 7213.81 [20047.27] [0.36σ]
Teff = 3039 [2108] K [1.34σ]

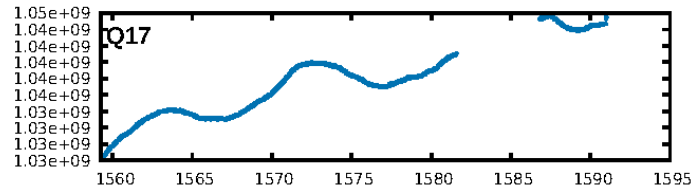
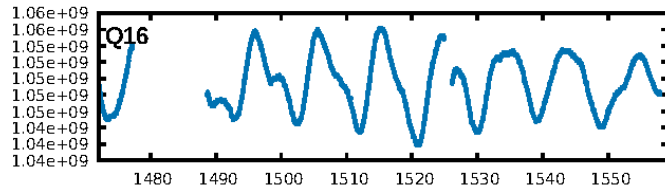
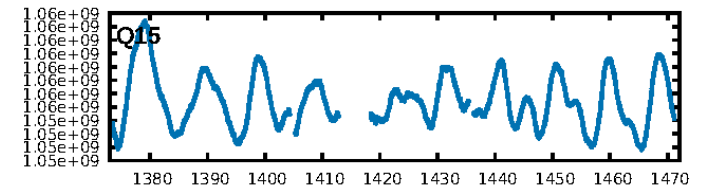
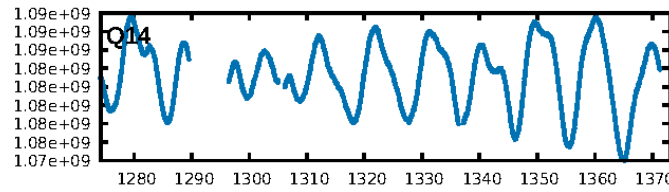
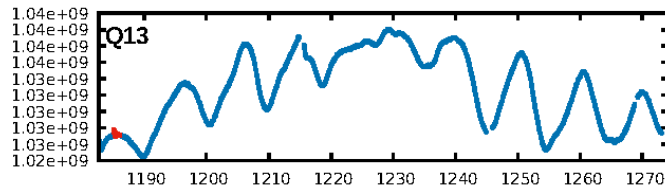
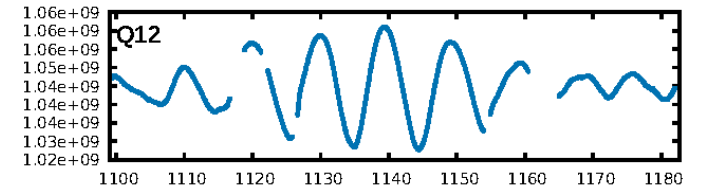
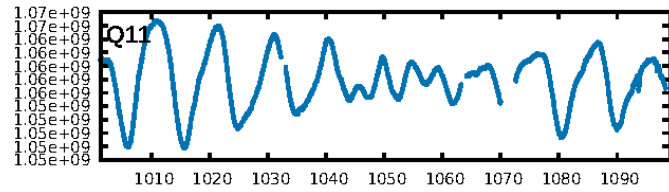
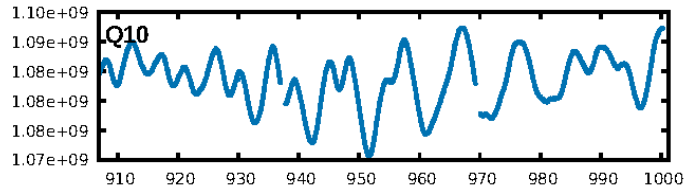
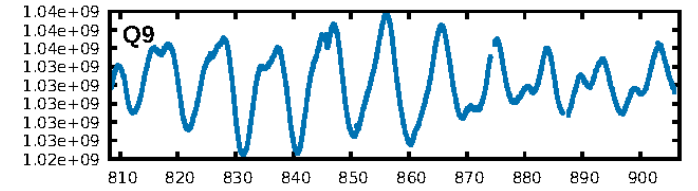
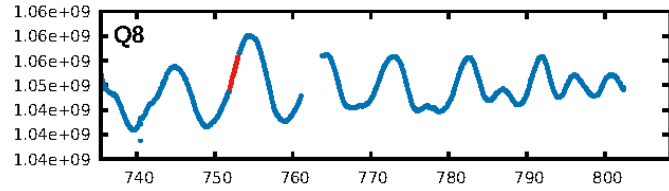
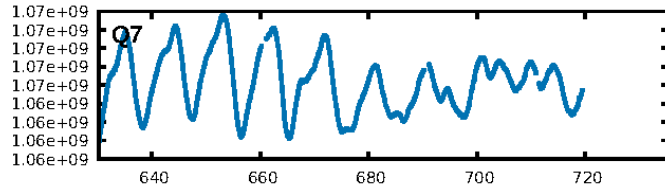
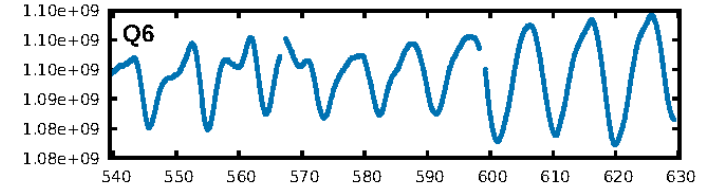
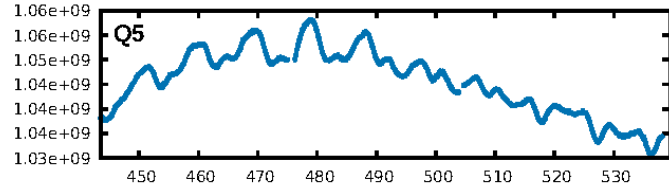
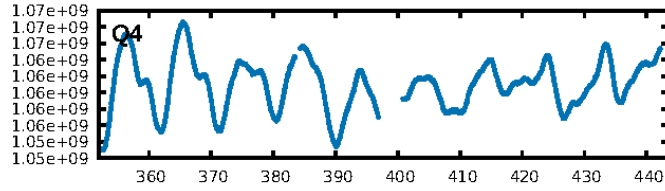
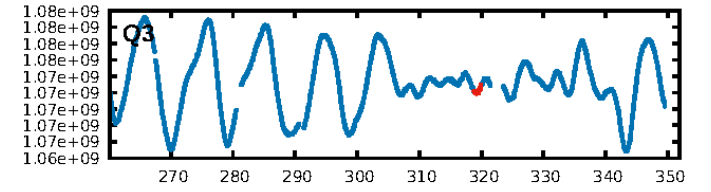
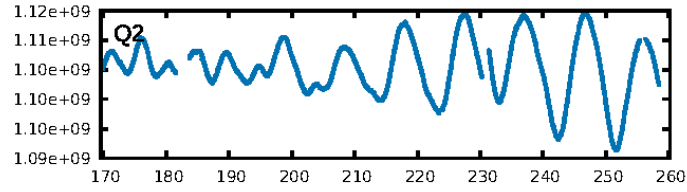
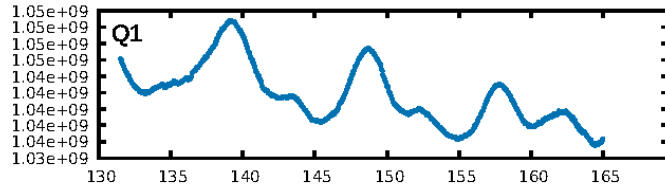
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 93.9%
ModelChiSquareGof-sig: 85.8%
Bootstrap-pfa: 4.67e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.119
Centroid-sig: 55.9%
Centroid-so: 2.361 arcsec [0.62σ]
OotOffset-rm: 3.381 arcsec [2.62σ]
KicOffset-rm: 2.789 arcsec [2.45σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

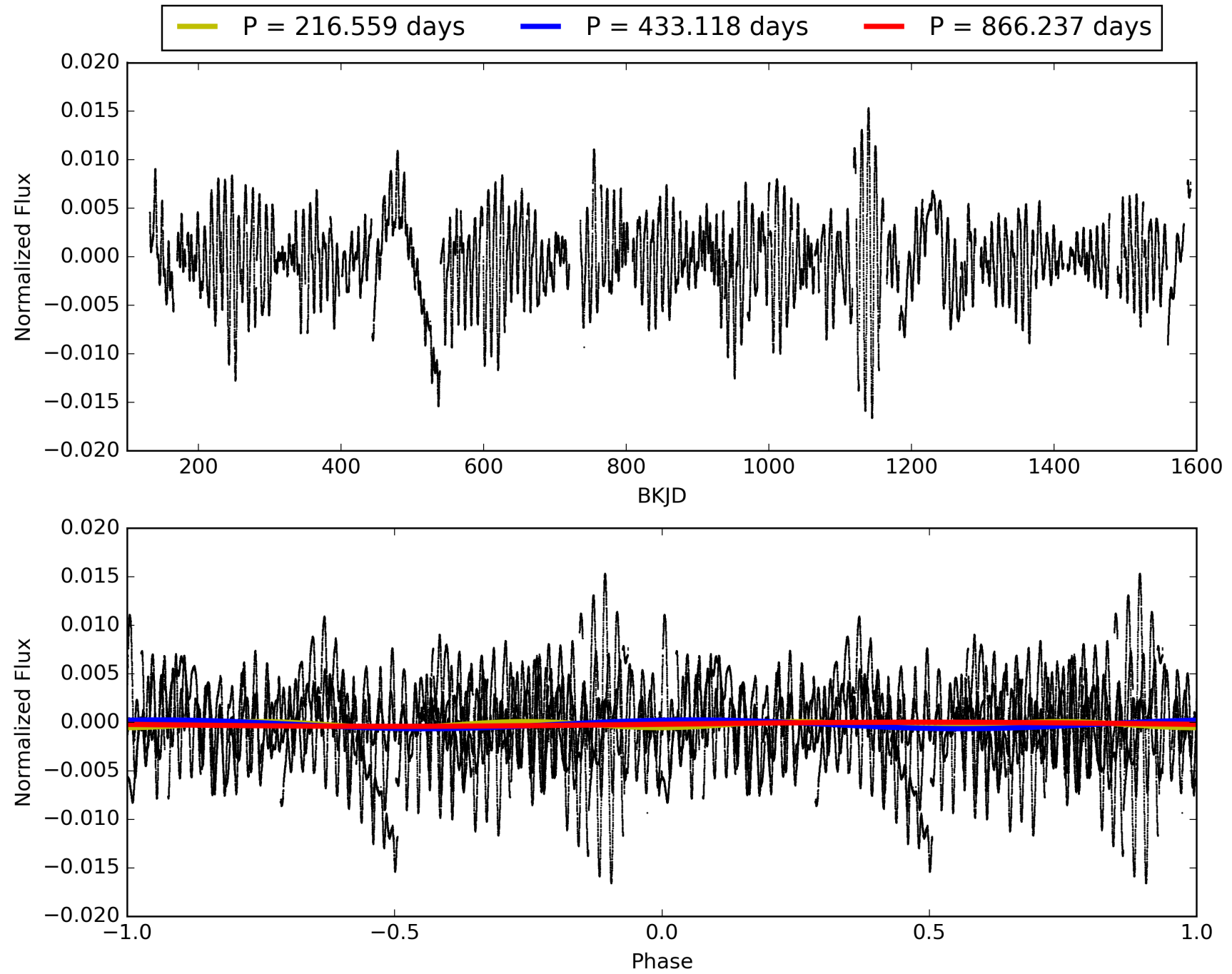
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:02:50 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004740598-01, PDC Light Curves

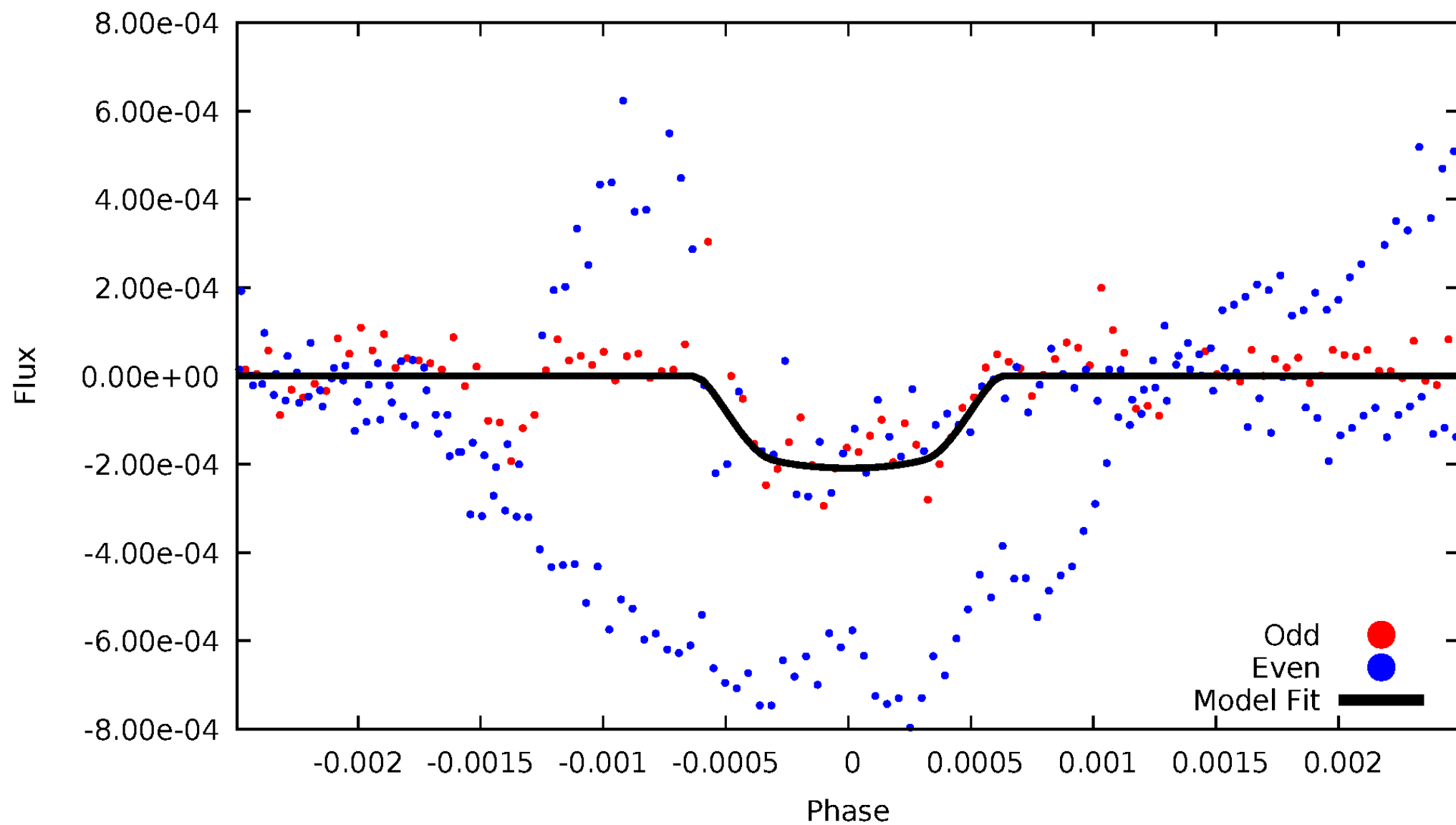


TCE 004740598-01



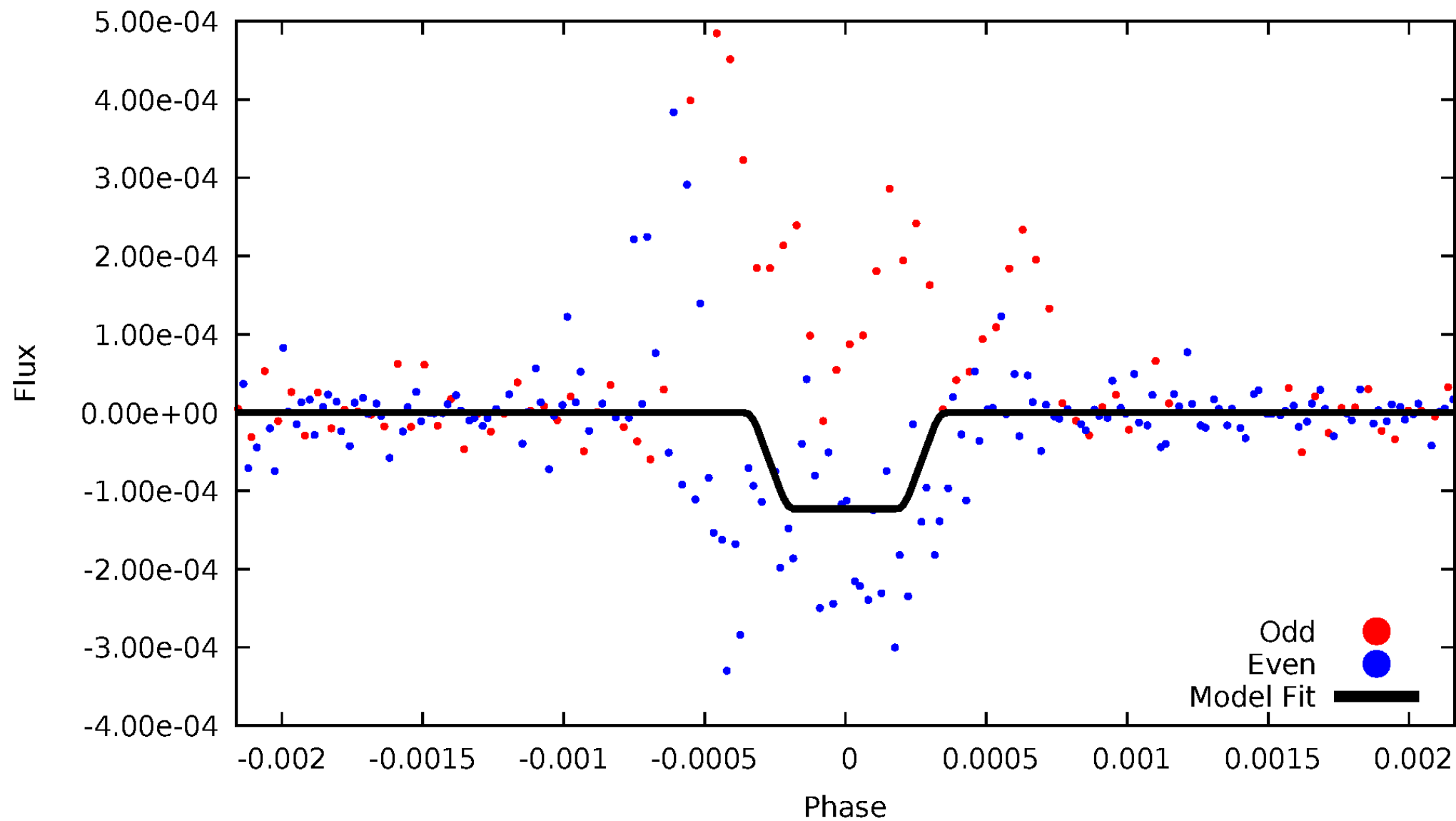
DV Odd/Even

TCE 004740598-01



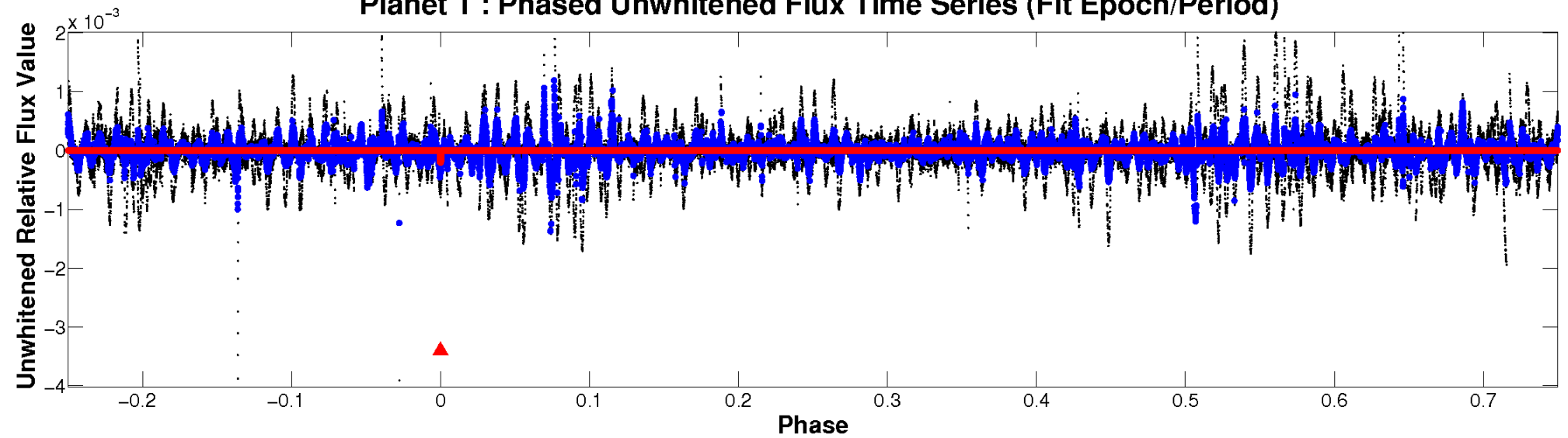
ALT Odd/Even

TCE 004740598-01

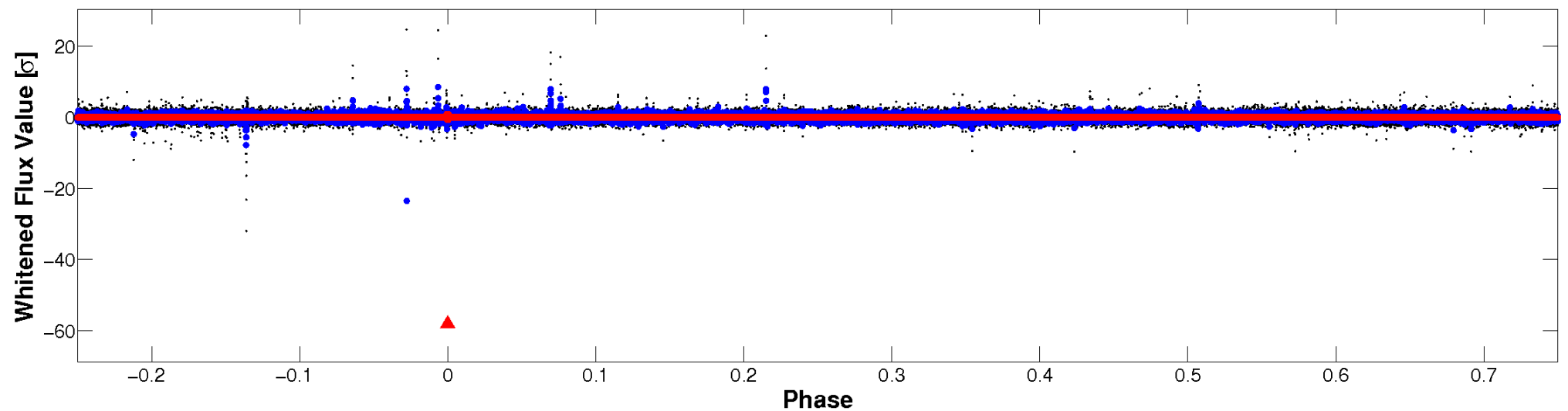


Non-Whitened Vs. Whitened Light Curve

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

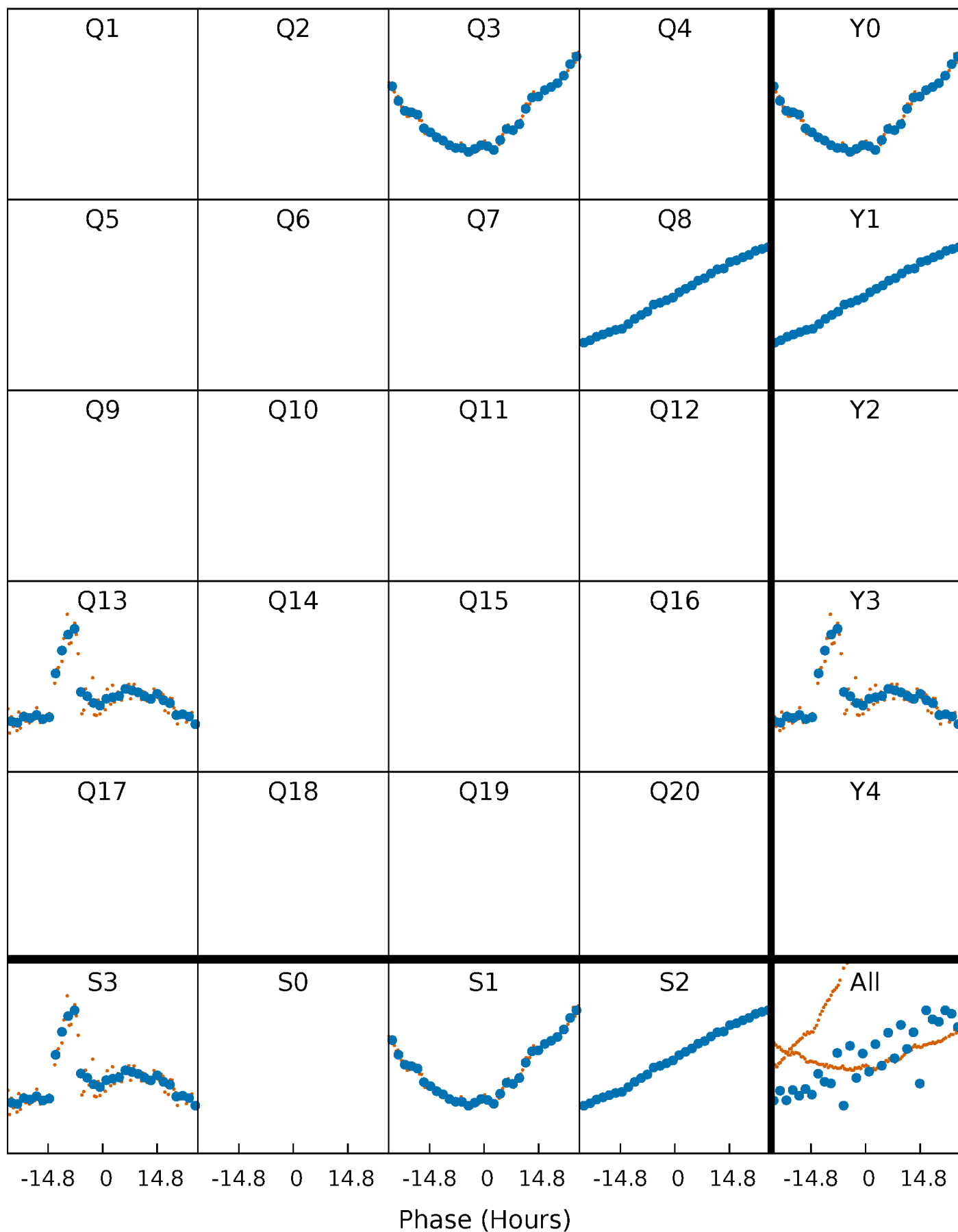


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



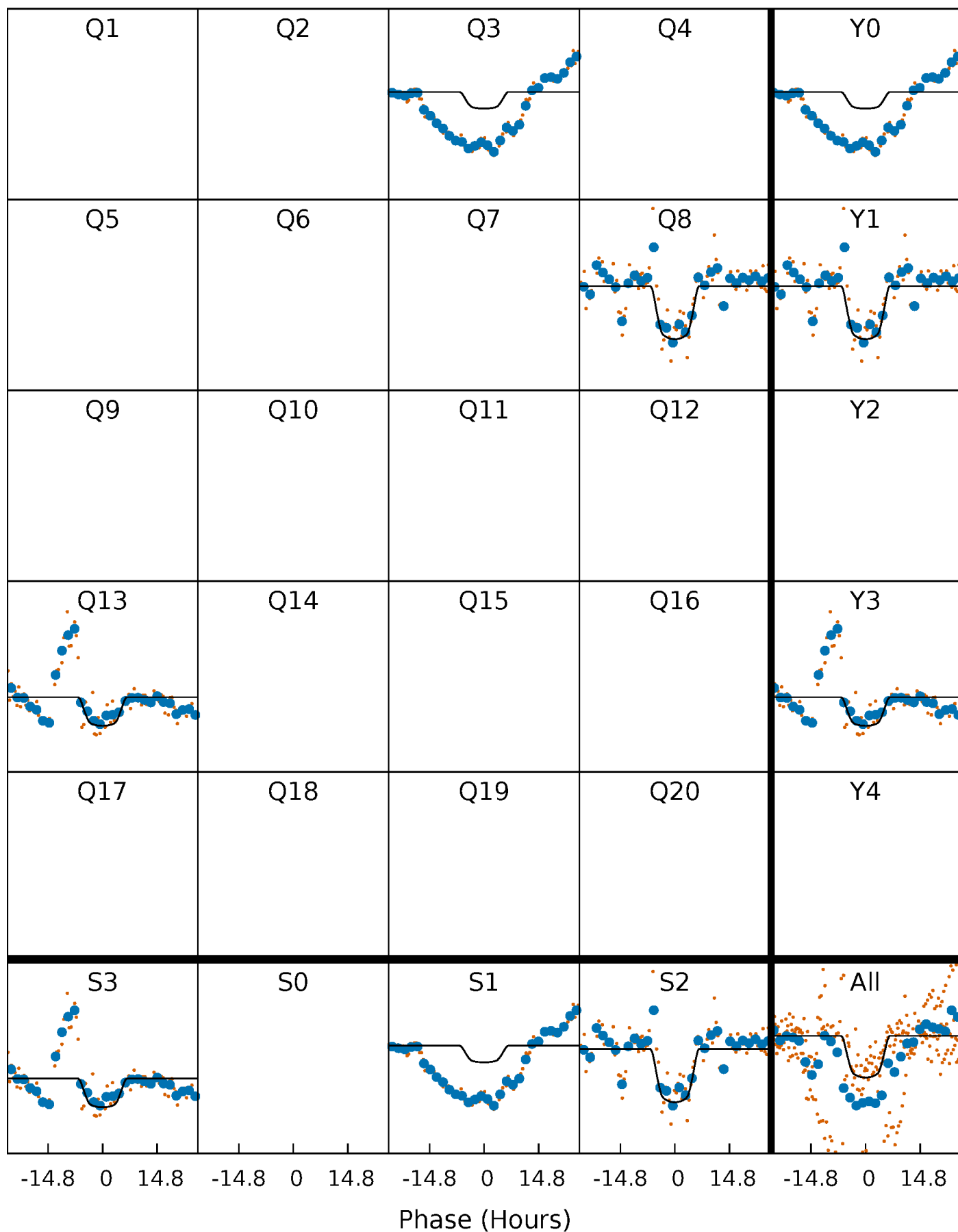
PDC Quarter-Phased Transit Curves

TCE 004740598-01 P=433.118299 Days $T_0=319.370431$ (BKJD)



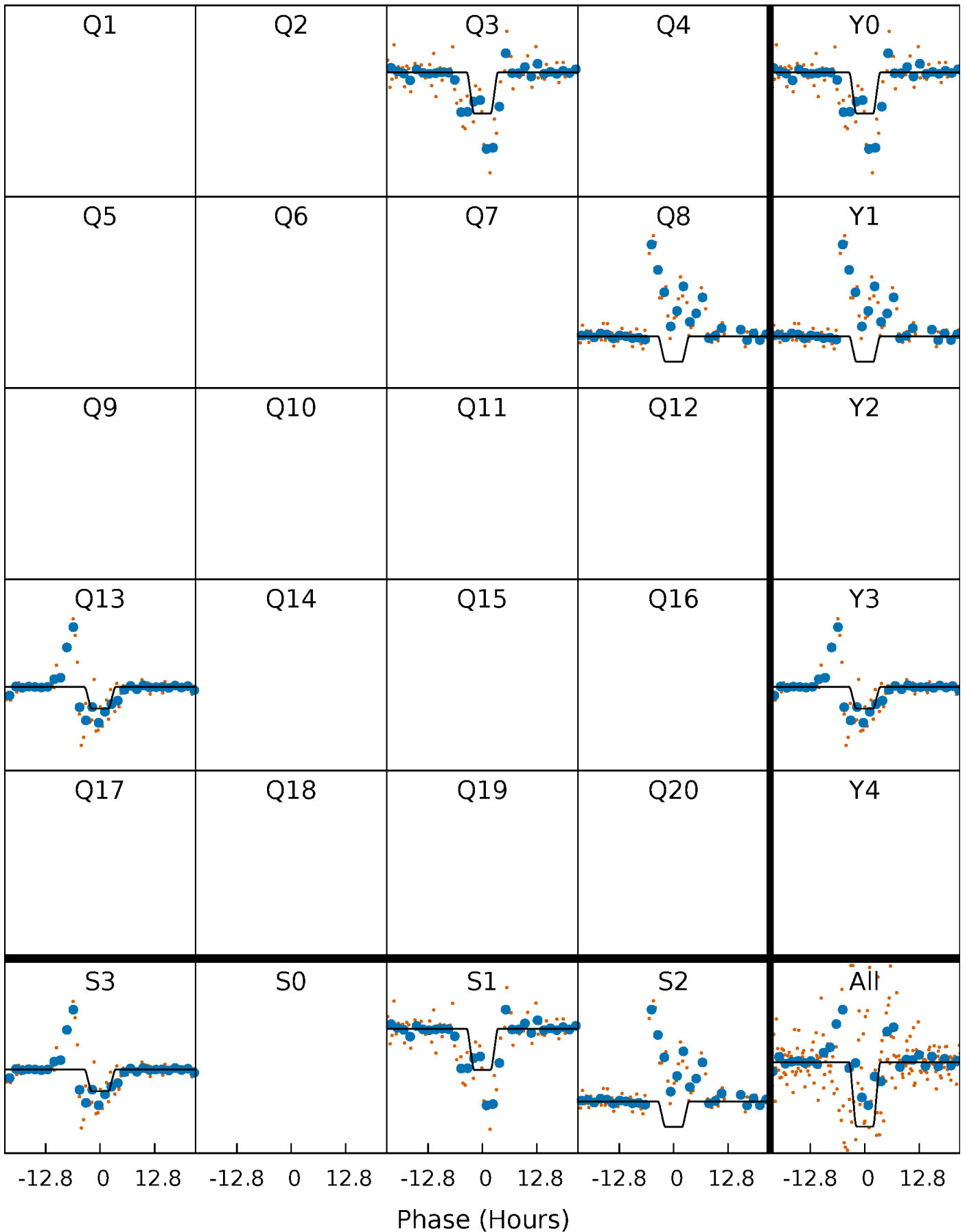
DV Quarter-Phased Transit Curves

TCE 004740598-01 $P=433.118299$ Days $T_0=319.370431$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

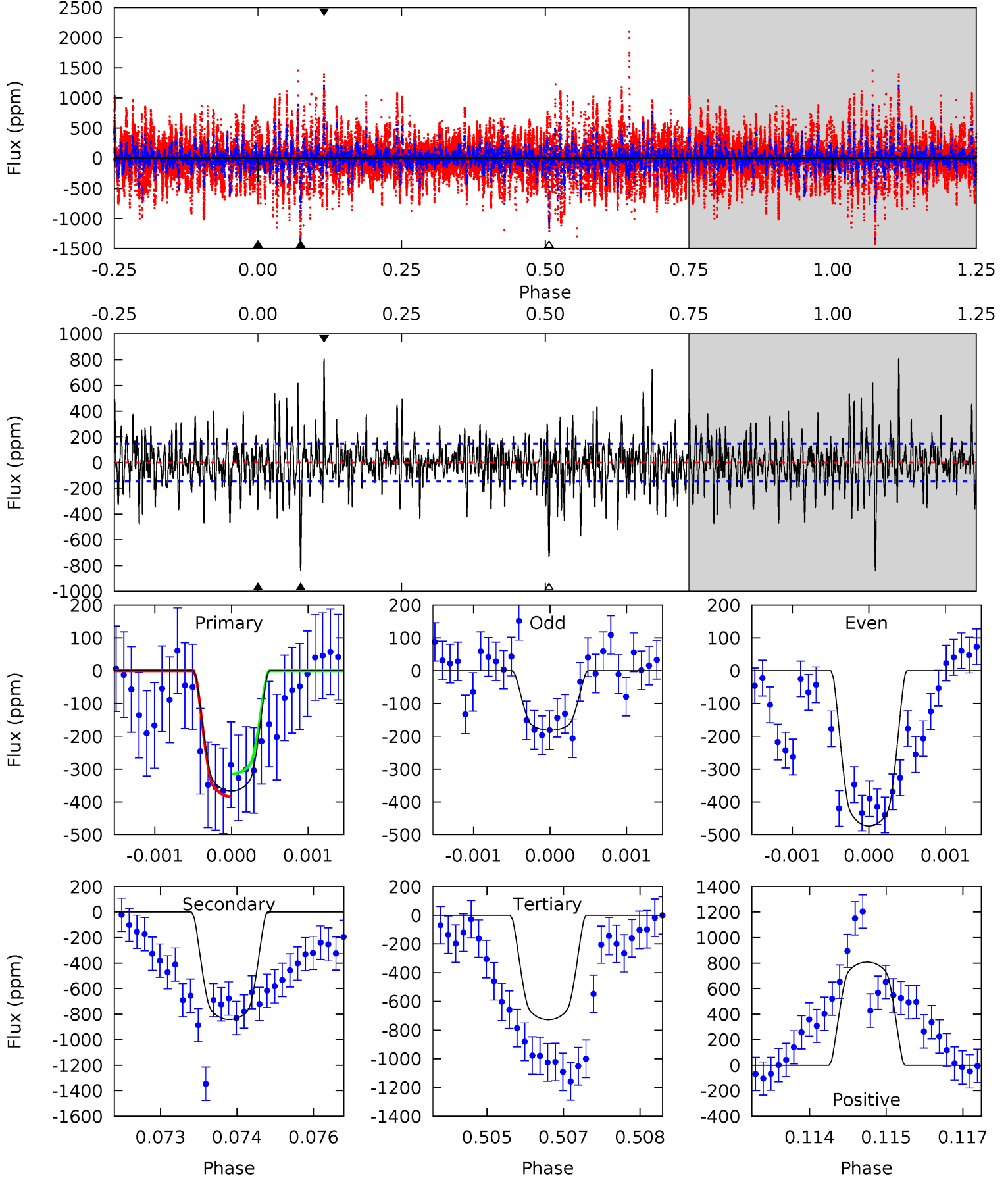
TCE 004740598-01 P=433.075682 Days $T_0=319.403629$ (BKJD)



DV Model-Shift Uniqueness Test

004740598-01, P = 433.118299 Days, E = 319.370431 Days

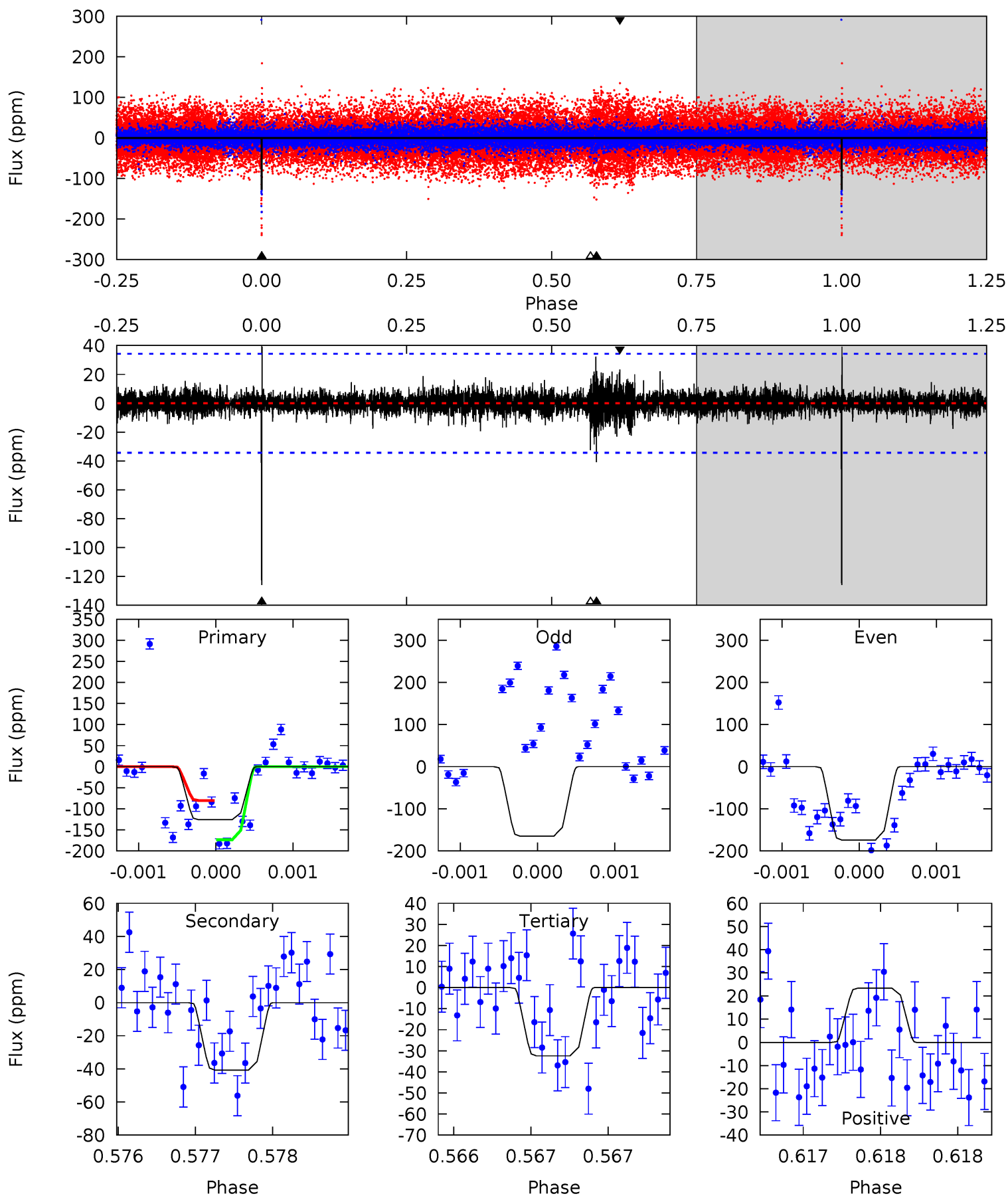
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	30.9	26.7	29.7	5.41	3.22	5.41	-13.2	-16.2	4.21	1.23	3.56	2.05	0.49	1.28



Alt Model-Shift Uniqueness Test

004740598-01, P = 433.075682 Days, E = 319.403629 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	6.56	5.22	3.77	5.52	3.39	0.73	15.0	16.5	1.34	2.79	0.93	0.35	0.24	7.55



Stellar Parameters For KIC 004740598

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5530^{+74}_{-82}	$4.567^{+0.011}_{-0.094}$	$0.070^{+0.150}_{-0.150}$	$0.845^{+0.094}_{-0.035}$	$0.961^{+0.034}_{-0.078}$	$2.244^{+0.183}_{-0.604}$
	+1%/-1%	+0%/-2%	+214%/-214%	+11%/-4%	+4%/-8%	+8%/-27%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004740598-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-842 ± 27	$1.67^{+0.21}_{-0.23}$	302^{+9}_{-6}	7096^{+594}_{-441}	198472^{+64920}_{-41557}
Alt.	-41 ± 6	$1.03^{+0.22}_{-0.20}$	302^{+9}_{-7}	4406^{+417}_{-326}	24837^{+14477}_{-8549}

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 $A_{obs} \gg 1.0$

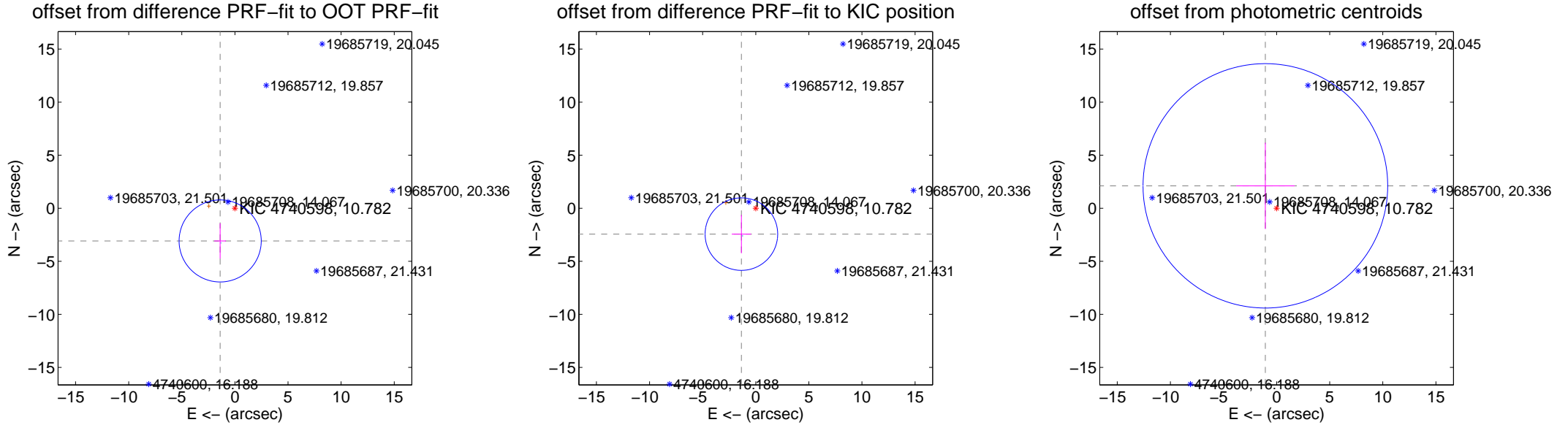
DV Centroid Data

Supplemental centroid analysis for 004740598-01. **Kepler magnitude: 10.78.** Transit SNR 5.57

There are 1 quarters with good PRF difference image offsets

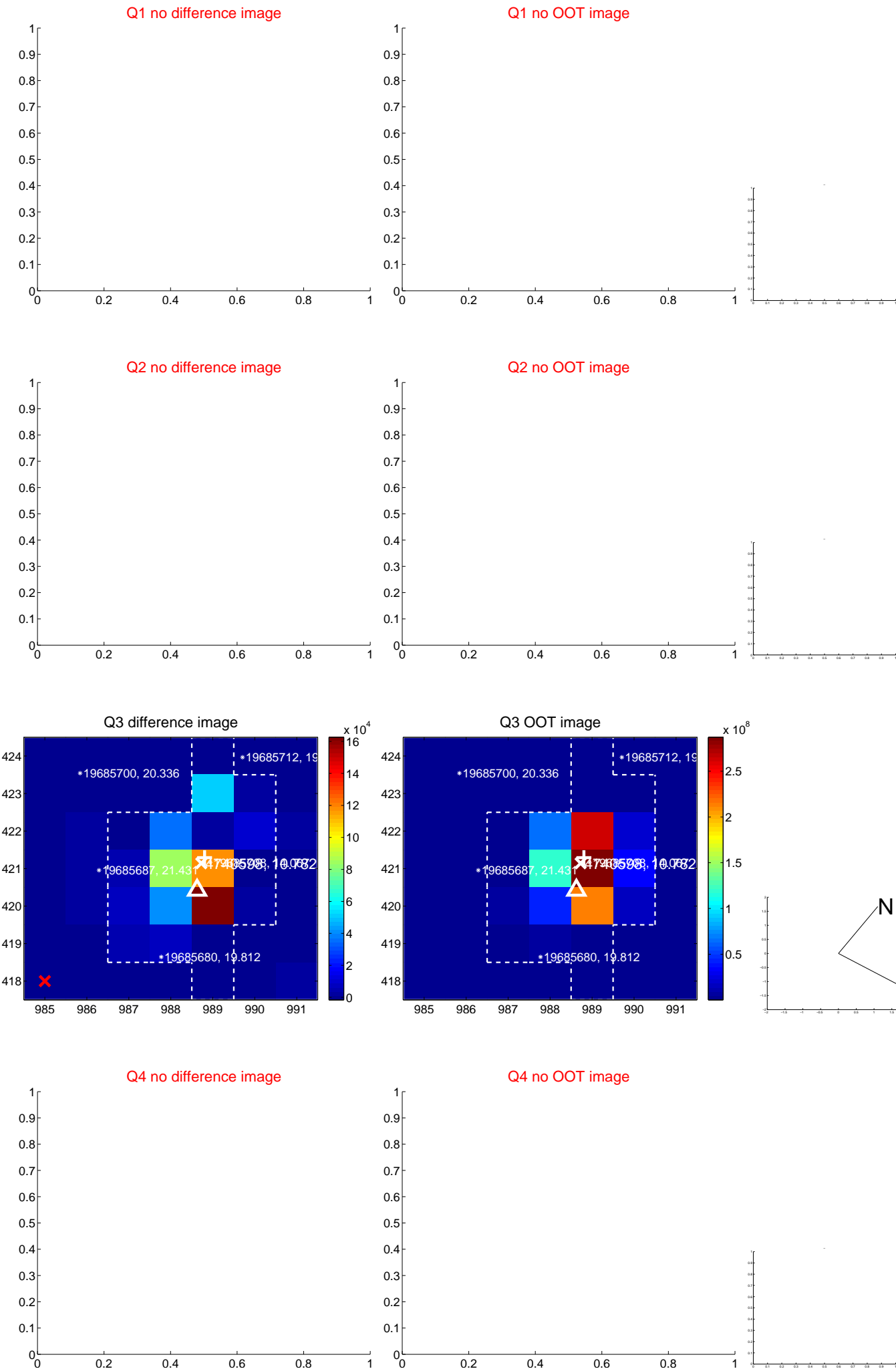
The direct PRF centroid is offset from the target star catalog position by about 0.48 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.381 ± 1.289	2.62	1.389 ± 0.551	-3.083 ± 1.660
PRF-fit source offset from KIC position	2.789 ± 1.139	2.45	1.351 ± 0.911	-2.440 ± 1.804
photometric centroid source offset	2.36 ± 3.84	0.62	1.06 ± 2.75	2.11 ± 4.07

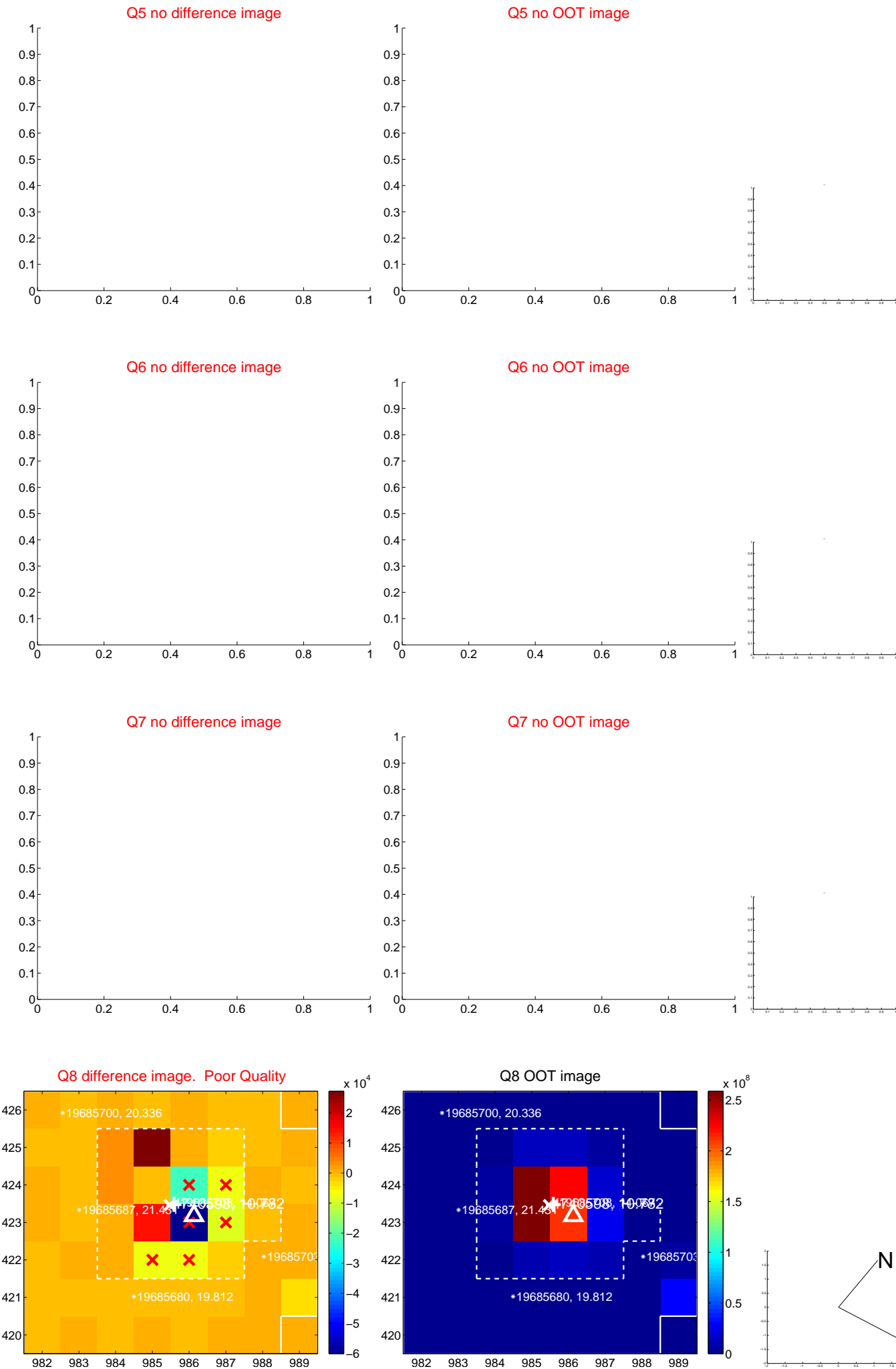


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

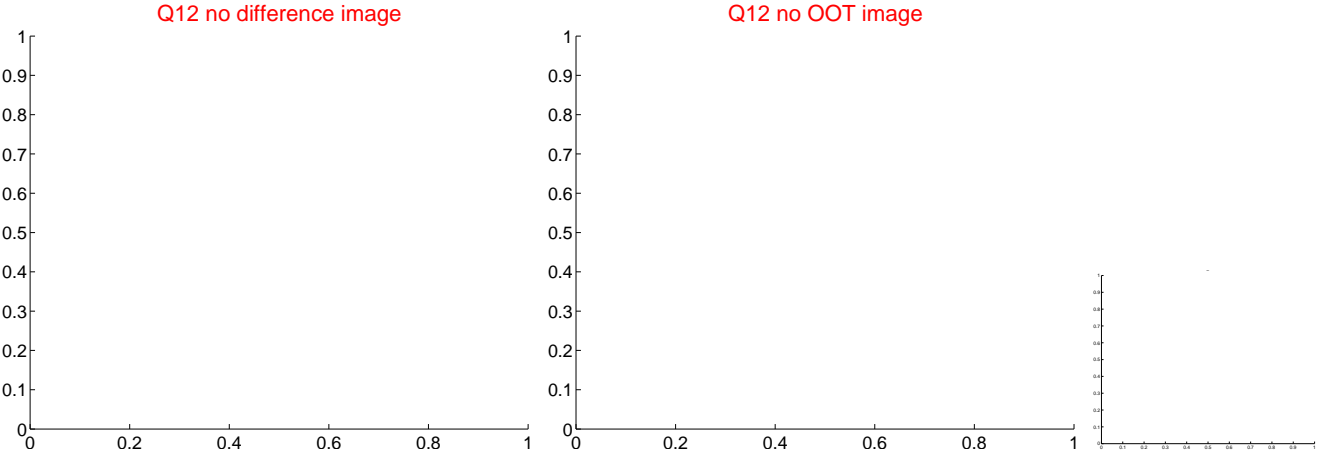
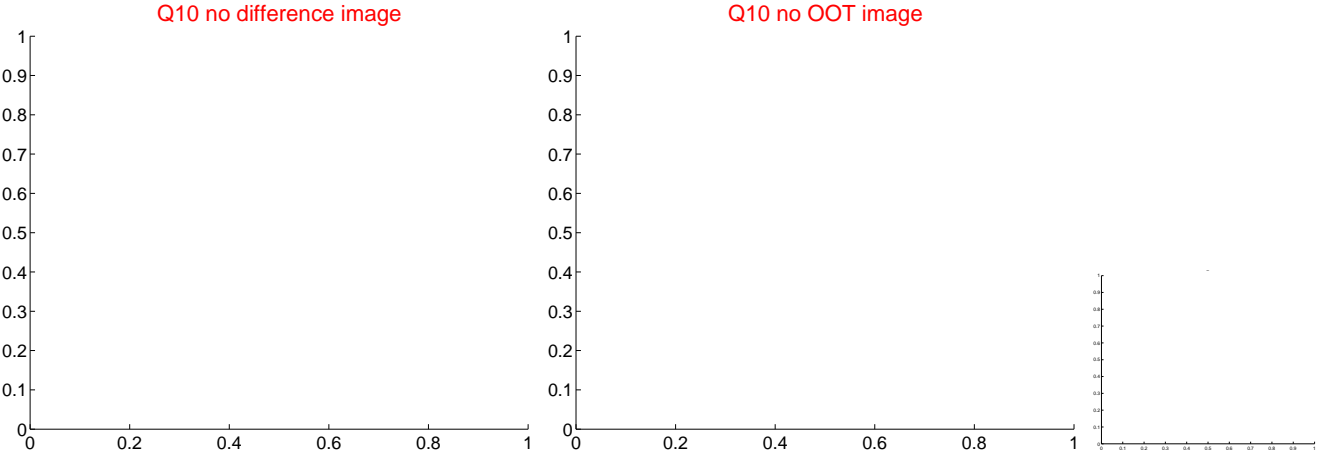
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



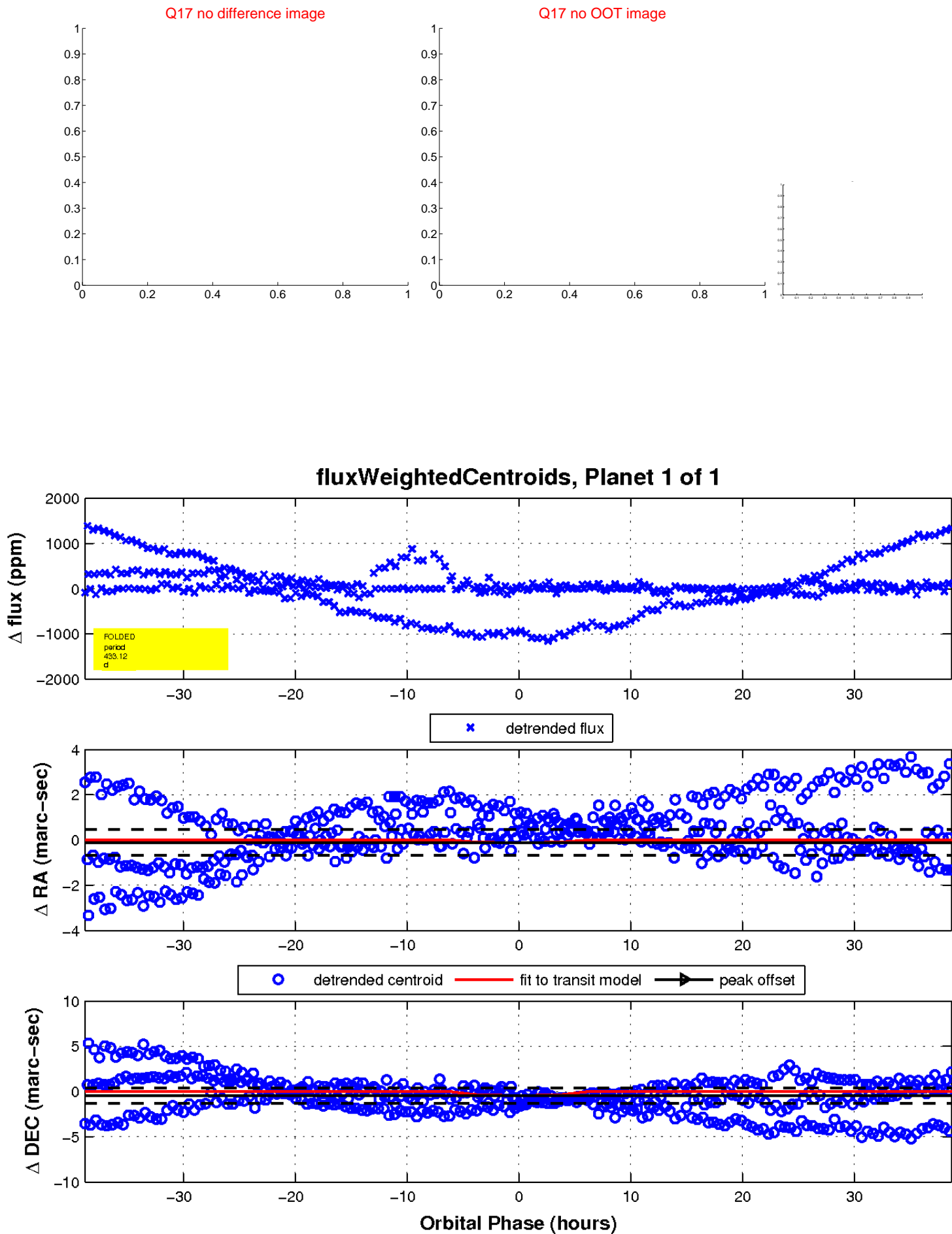
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

