

KIC 010385851

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})
010385851-01	OBS	No	77.541453	144.359360	200.8	2.904	22.6	8.0	1.00	5780	1.50	7.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010385851-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_TER_DV—CENT_SATURATED

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

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

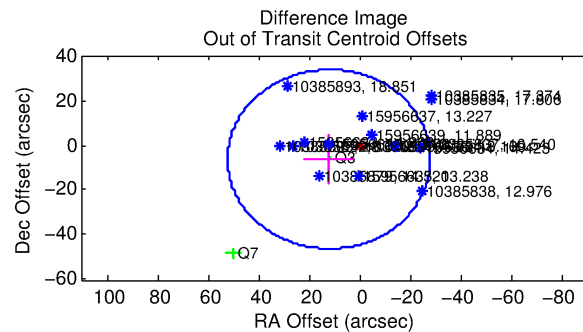
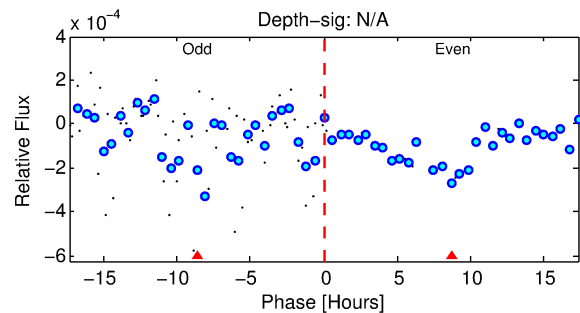
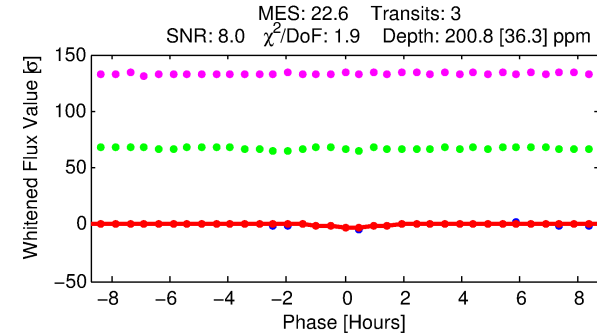
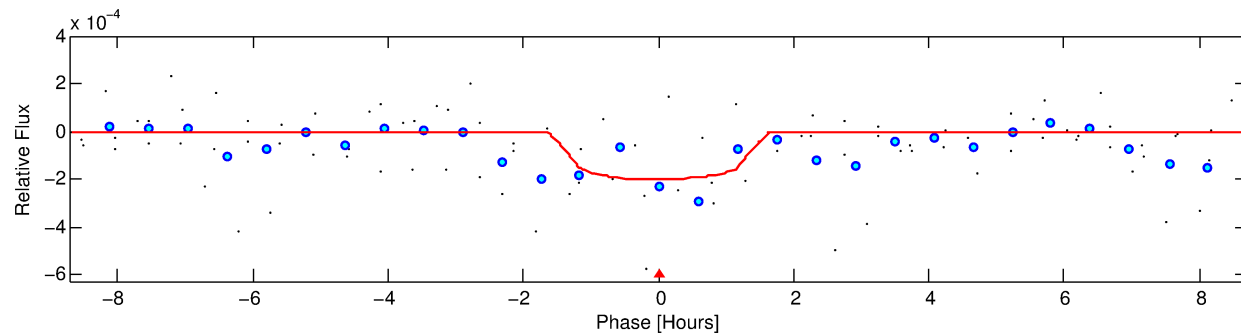
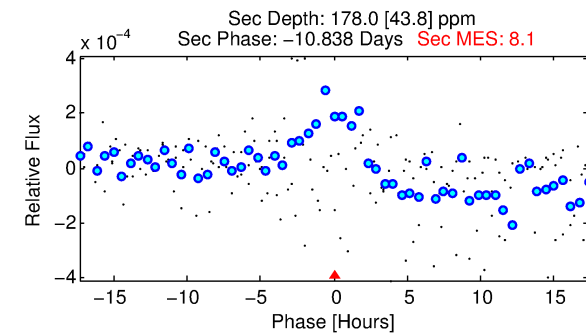
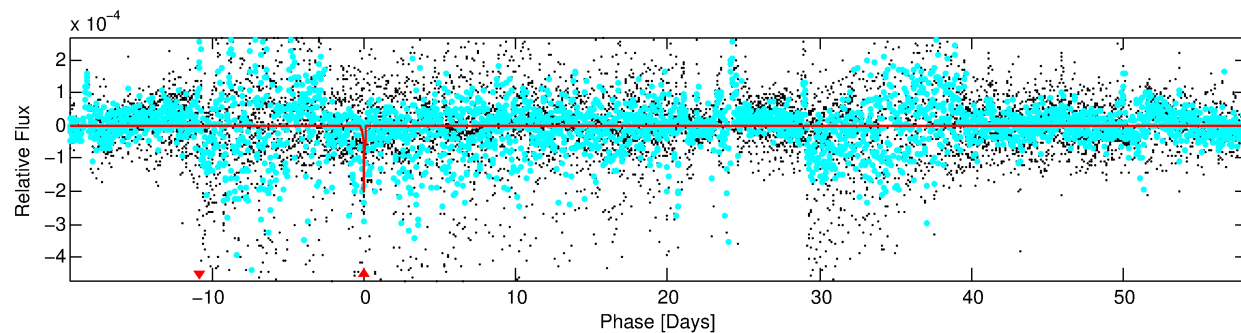
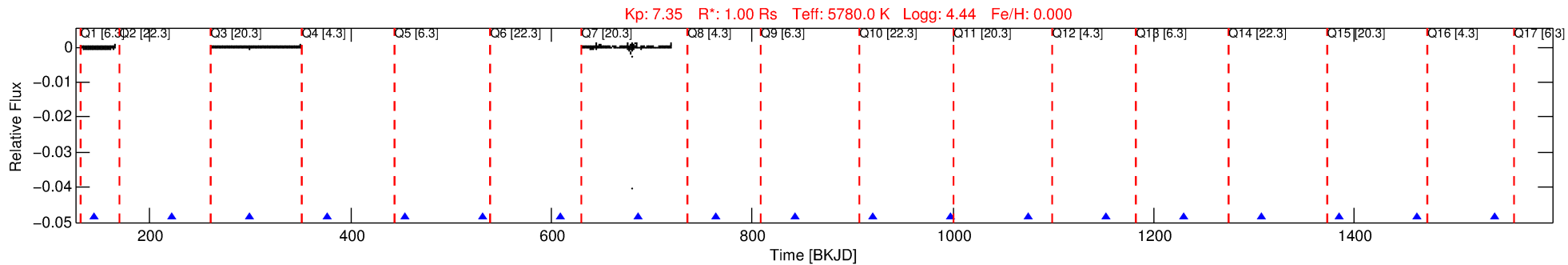
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010385851-01

No Significant Match Found

DV One-Page Summary

KIC: 10385851 Candidate: 1 of 1 Period: 77.541 d



DV Fit Results:

Period = 77.54145 [0.00181] d
 Epoch = 144.3594 [0.0105] BKJD
 Rp/R* = 0.0138 [0.0247]
 a/R* = 154.09 [1198.03]
 b = 0.68 [6.30]
 Seff = 7.89 [0.00]
 Teq = 427 [0] K
 Rp = 1.50 [2.69] Re
 a = 0.3559 [0.0000] AU
 Ag = 5488.23 [19705.70] [0.28σ]
 Tefp = 5688 [5105] K [1.03σ]

DV Diagnostic Results:

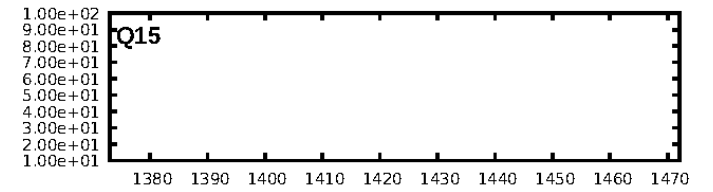
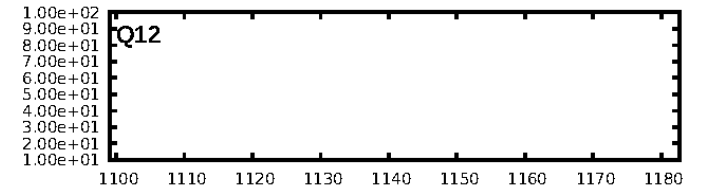
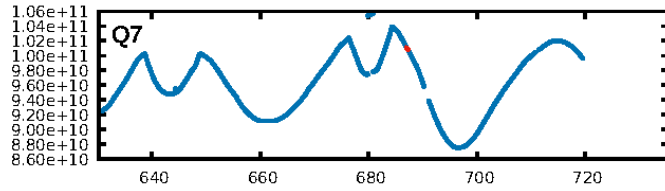
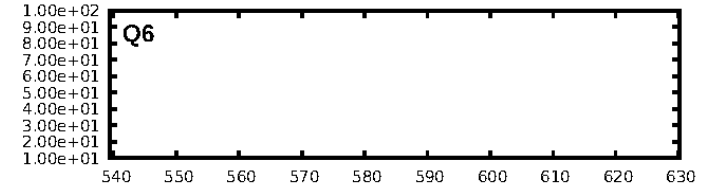
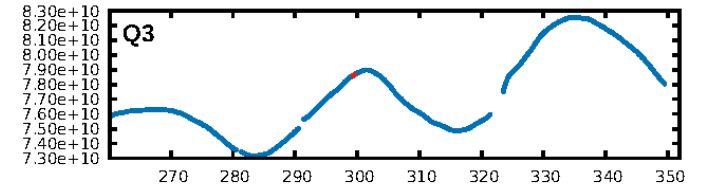
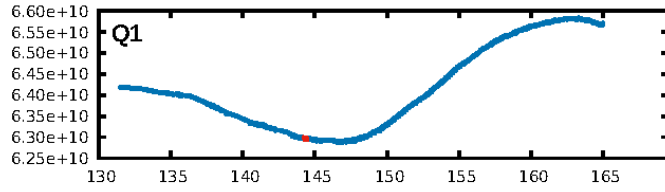
ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 28.7%
Bootstrap-pfa: 3.07e-17
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: N/A

Centroid-sig: 28.7%
Centroid-so: 44.098 arcsec [1.14σ]
OotOffset-rm: 13.950 arcsec [1.04σ]
KicOffset-rm: 13.408 arcsec [0.70σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

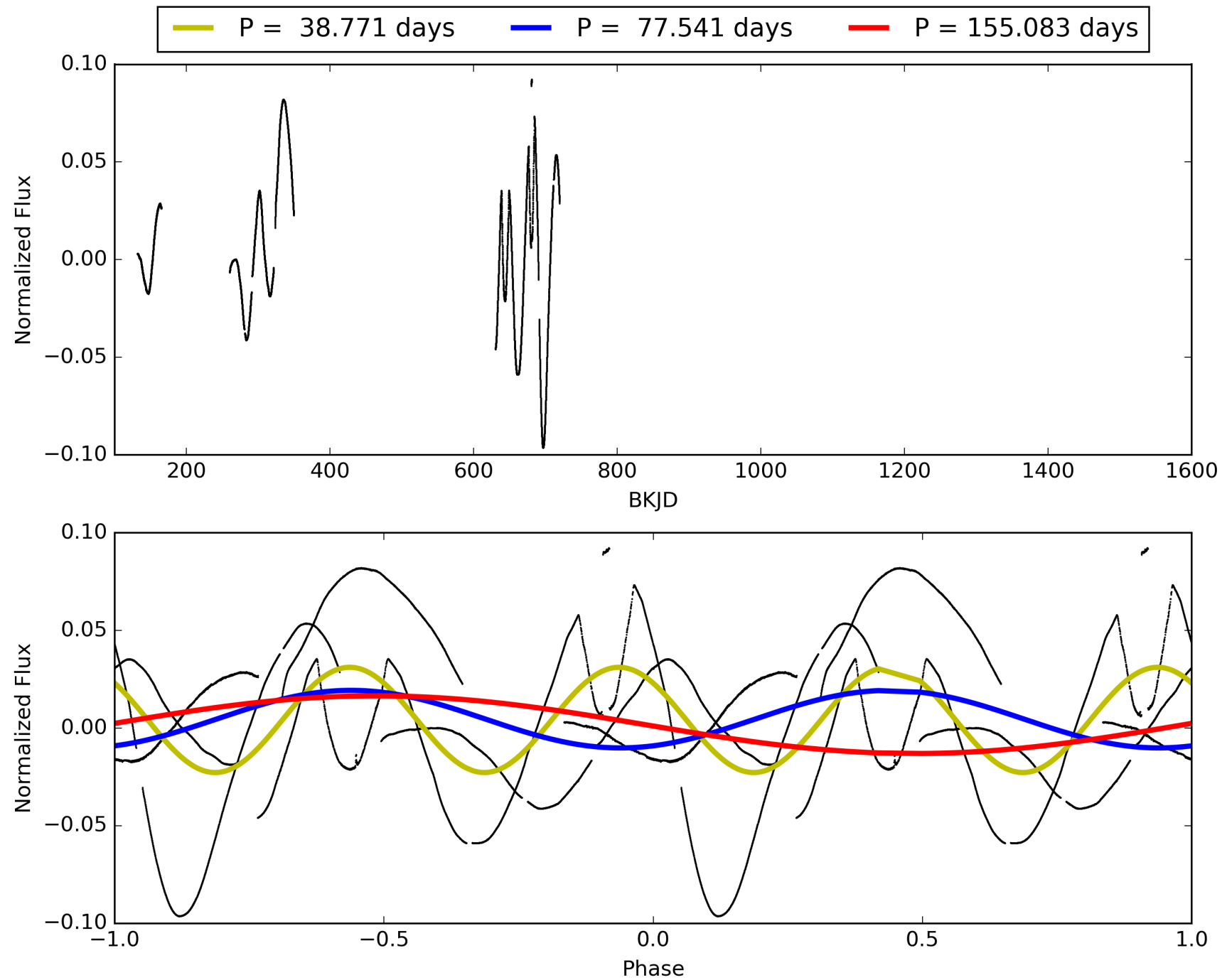
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:37:02 Z

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

TCE 010385851-01, PDC Light Curves

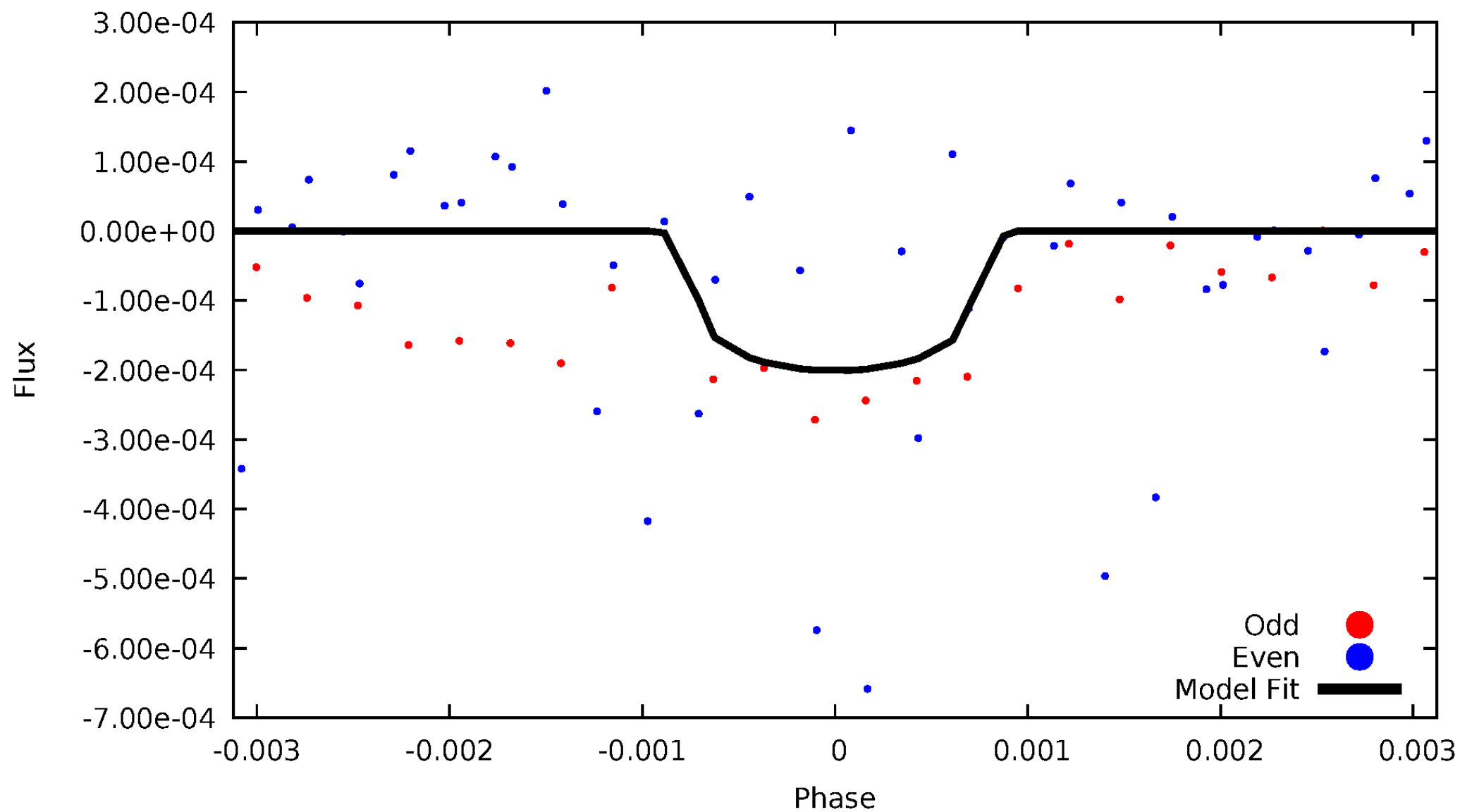


TCE 010385851-01



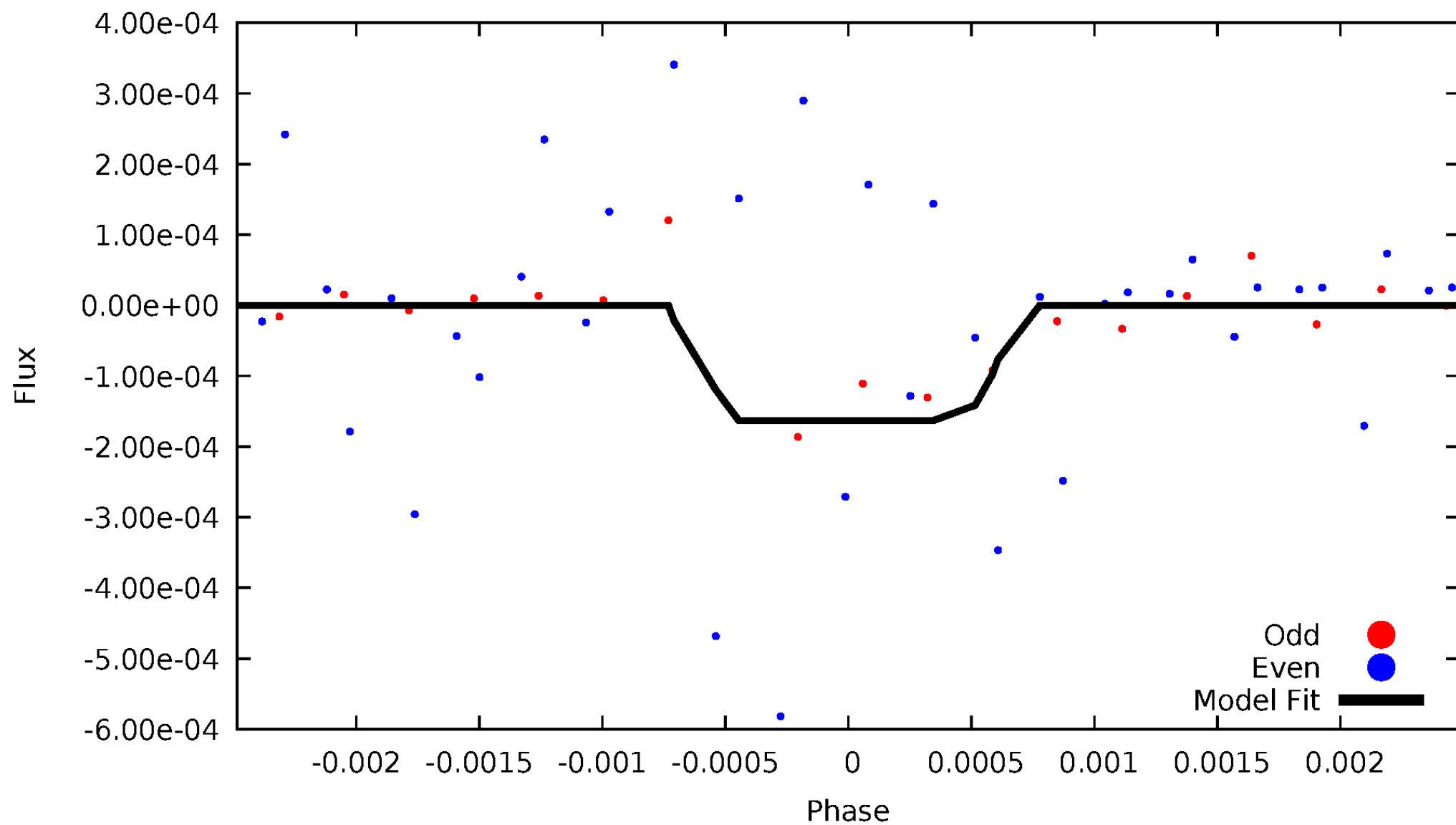
DV Odd/Even

TCE 010385851-01



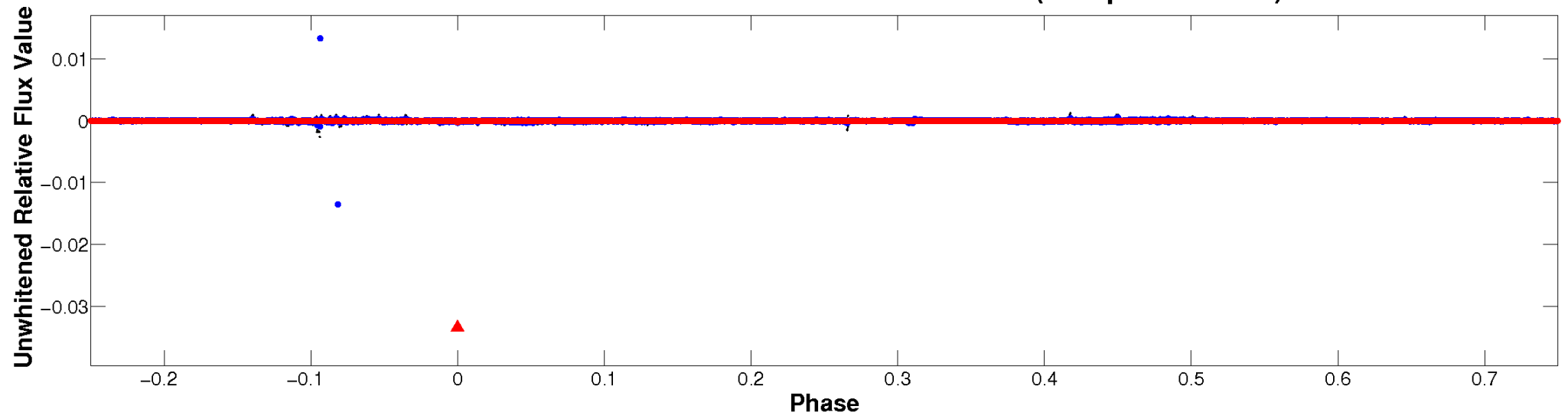
ALT Odd/Even

TCE 010385851-01

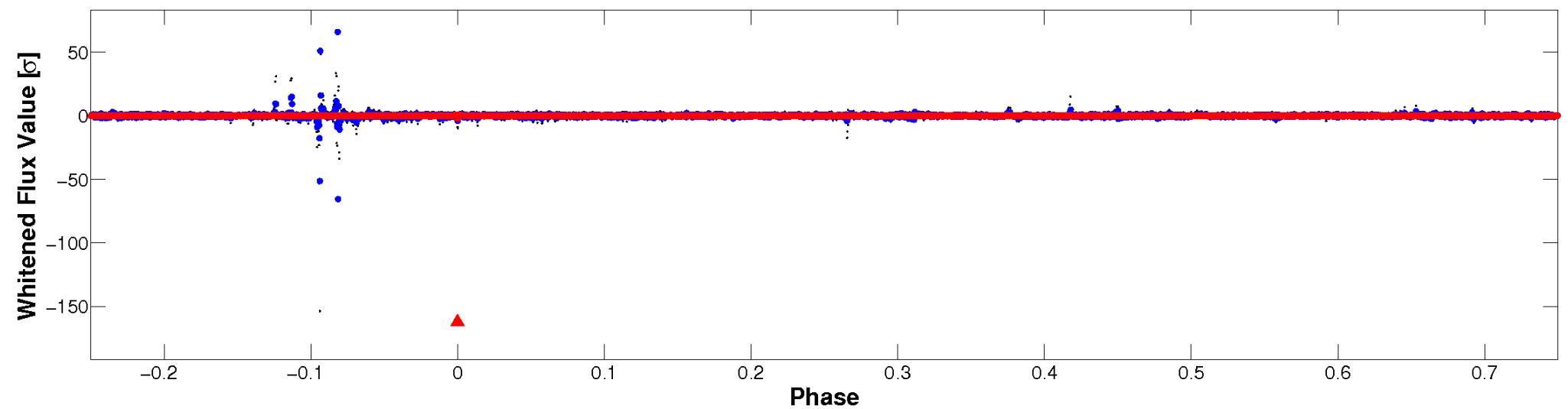


Non-Whitened Vs. Whitened Light Curve

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

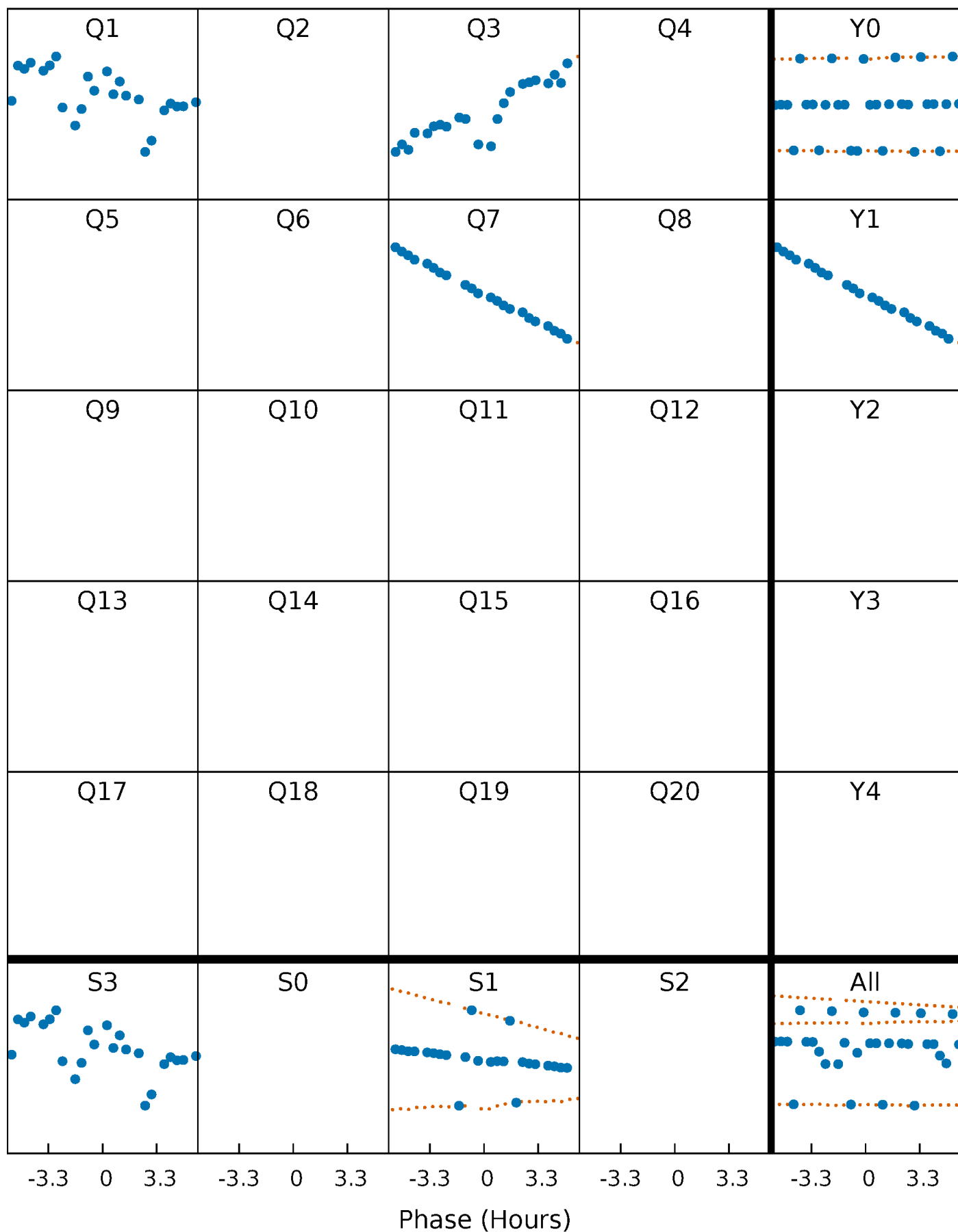


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



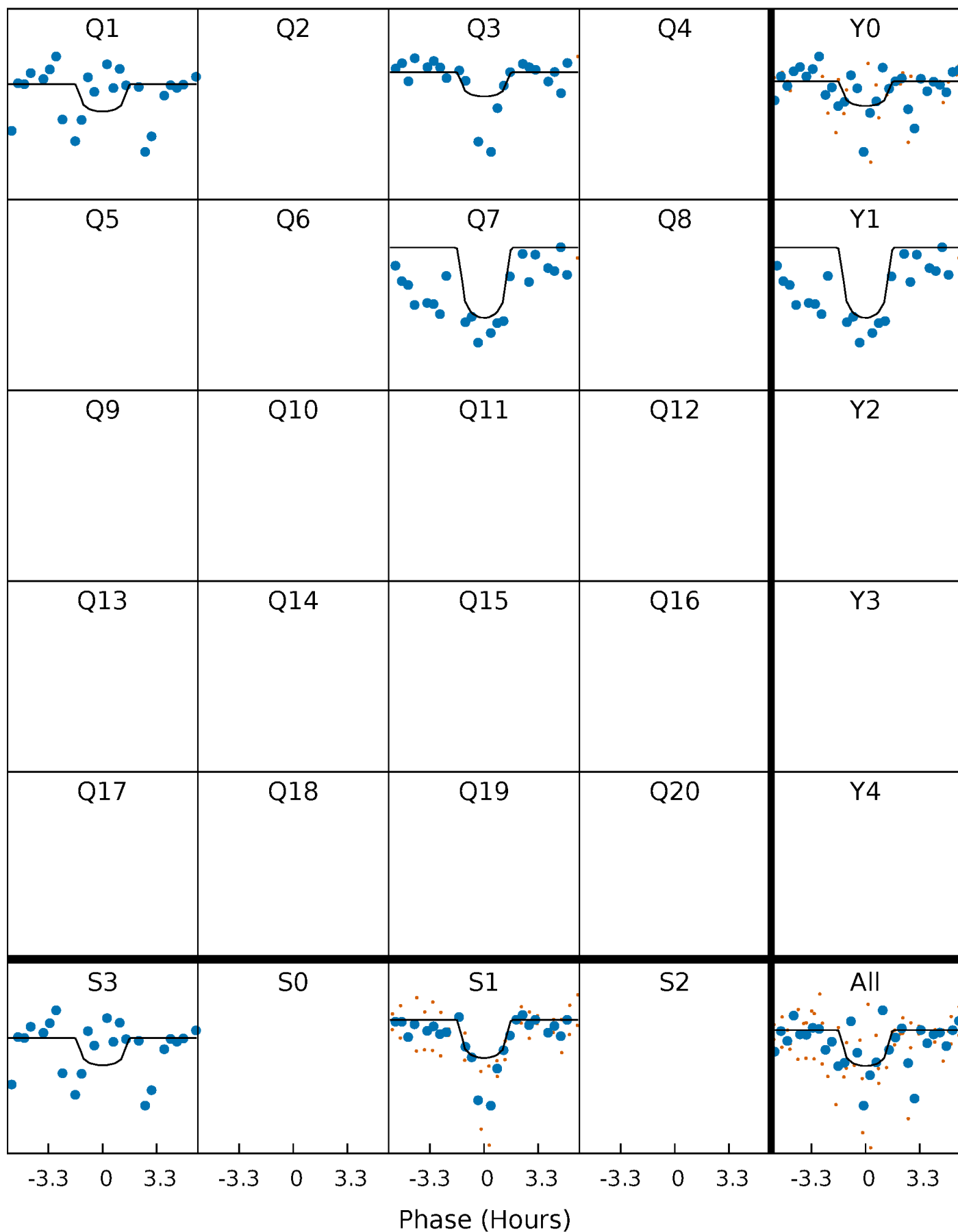
PDC Quarter-Phased Transit Curves

TCE 010385851-01 P= 77.541453 Days $T_0=144.359360$ (BKJD)



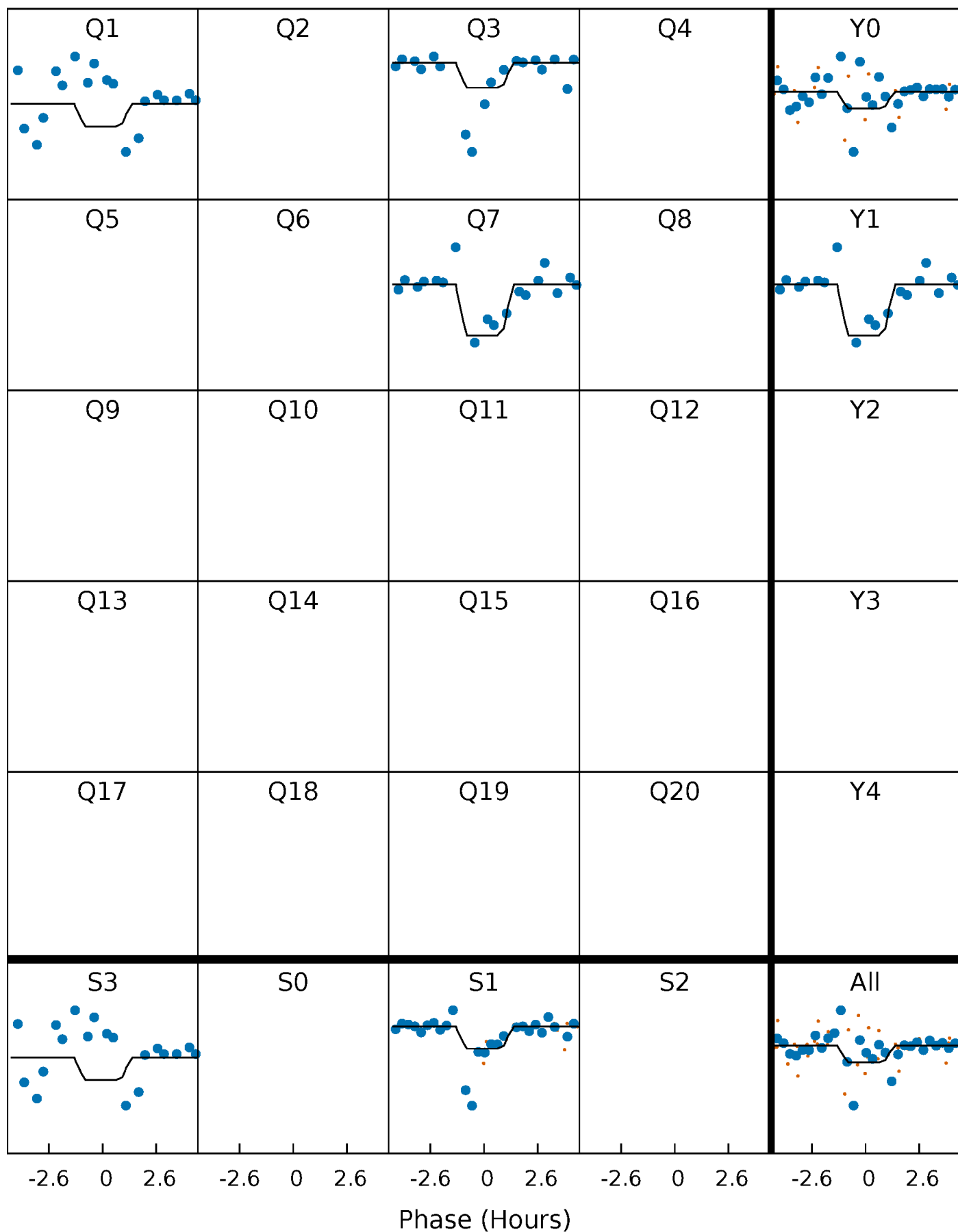
DV Quarter-Phased Transit Curves

TCE 010385851-01 P= 77.541453 Days $T_0=144.359360$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

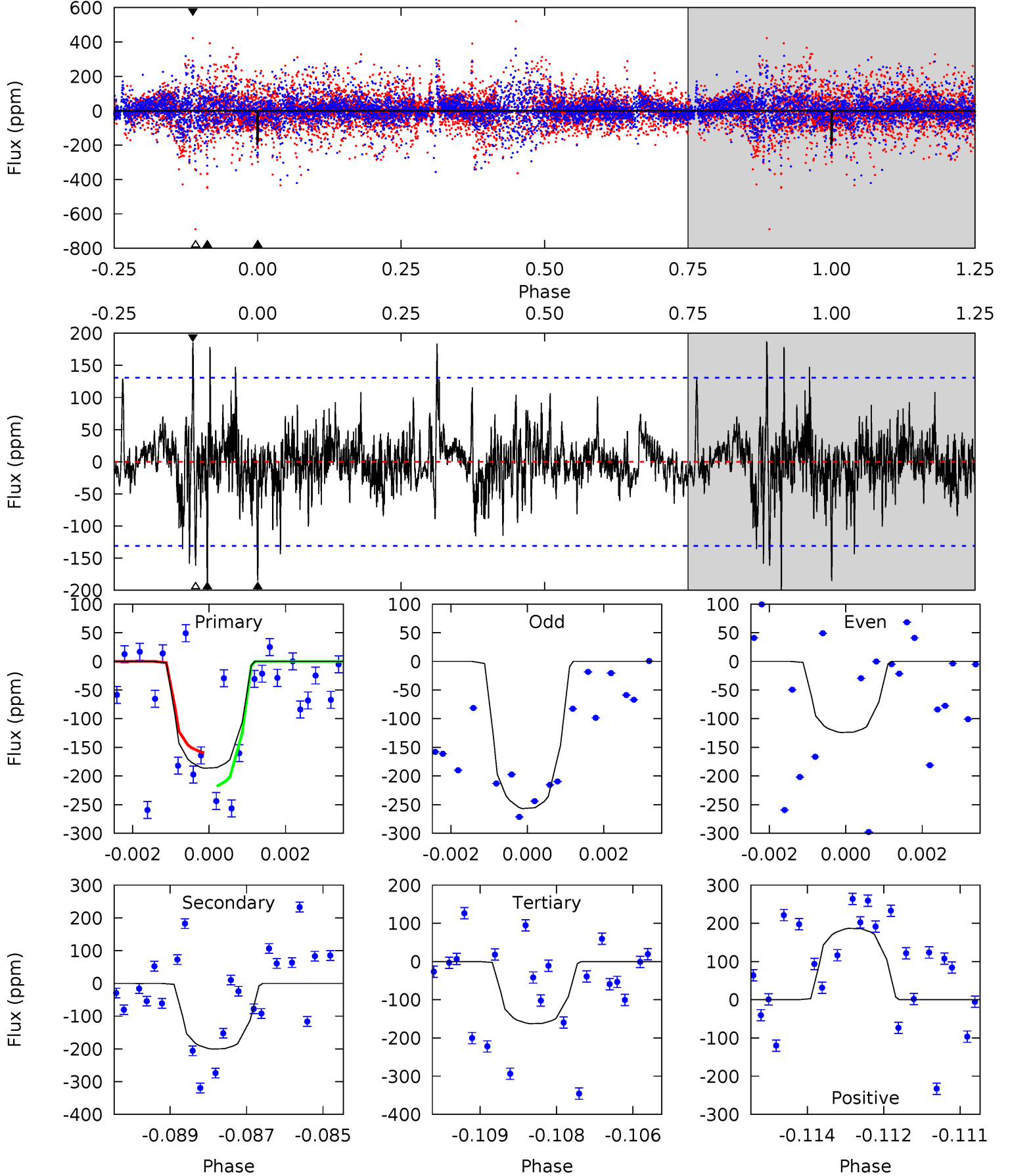
TCE 010385851-01 $P = 77.527964$ Days $T_0 = 144.420715$ (BKJD)



DV Model-Shift Uniqueness Test

010385851-01, P = 77.541453 Days, E = 66.817907 Days

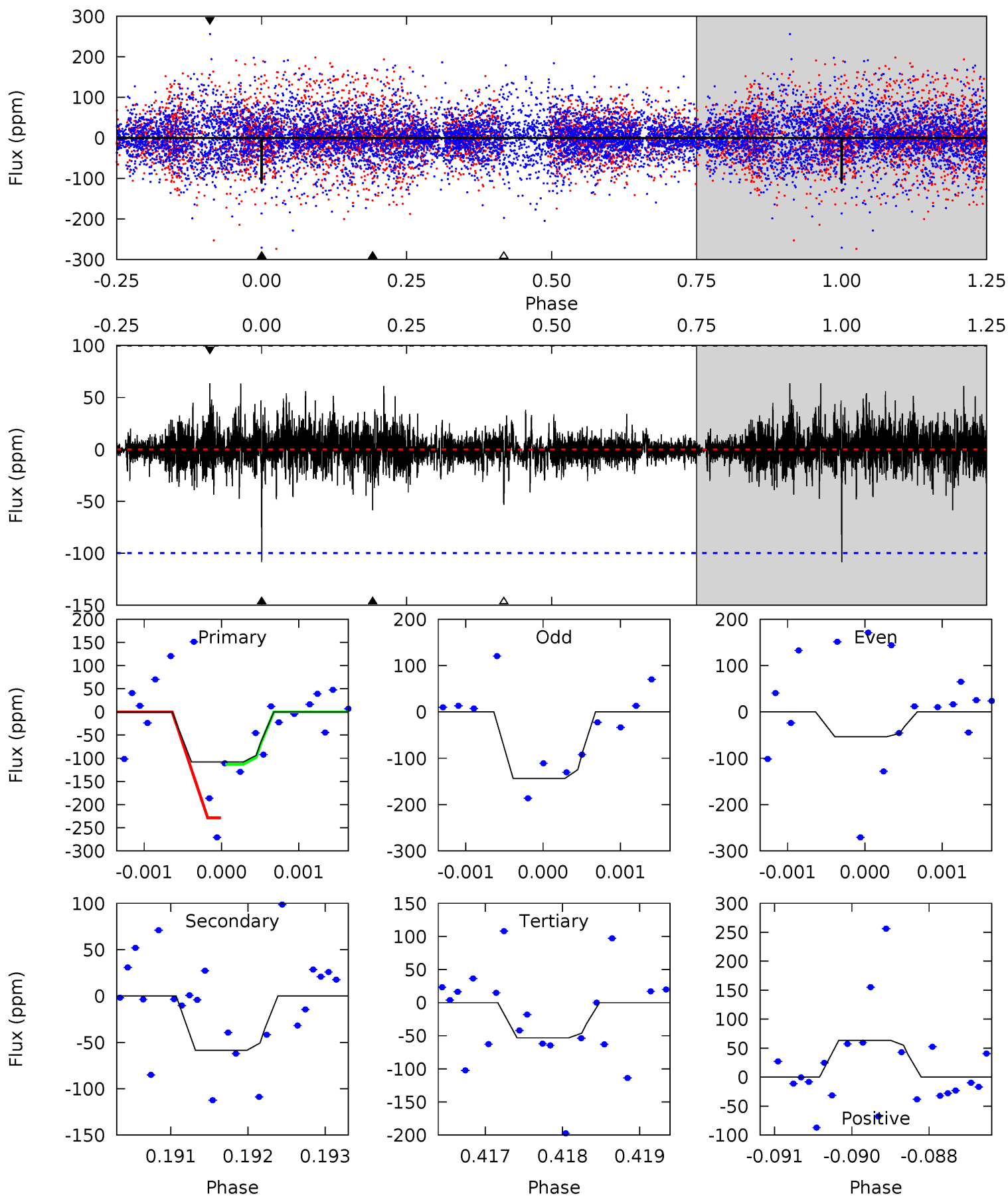
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.60	8.18	6.63	7.62	5.37	3.16	1.41	0.98	-0.01	1.55	0.56	2.29	0.88	0.48	0



Alt Model-Shift Uniqueness Test

010385851-01, P = 77.527964 Days, E = 66.892751 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.89	3.18	2.89	3.46	5.43	3.25	0.64	3.00	2.43	0.28	-0.28	0.26	0.72	0.37	2.76



Stellar Parameters For KIC 010385851

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 010385851-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-199 ± 24	$2.61^{+2.25}_{-1.69}$	598^{+28}_{-27}	4555^{+3209}_{-888}	2033^{+15080}_{-1444}
Alt.	-58 ± 18	$2.20^{+2.30}_{-1.52}$	597^{+28}_{-28}	3846^{+2472}_{-757}	794^{+7908}_{-600}

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 $A_{obs} \gg 1.0$

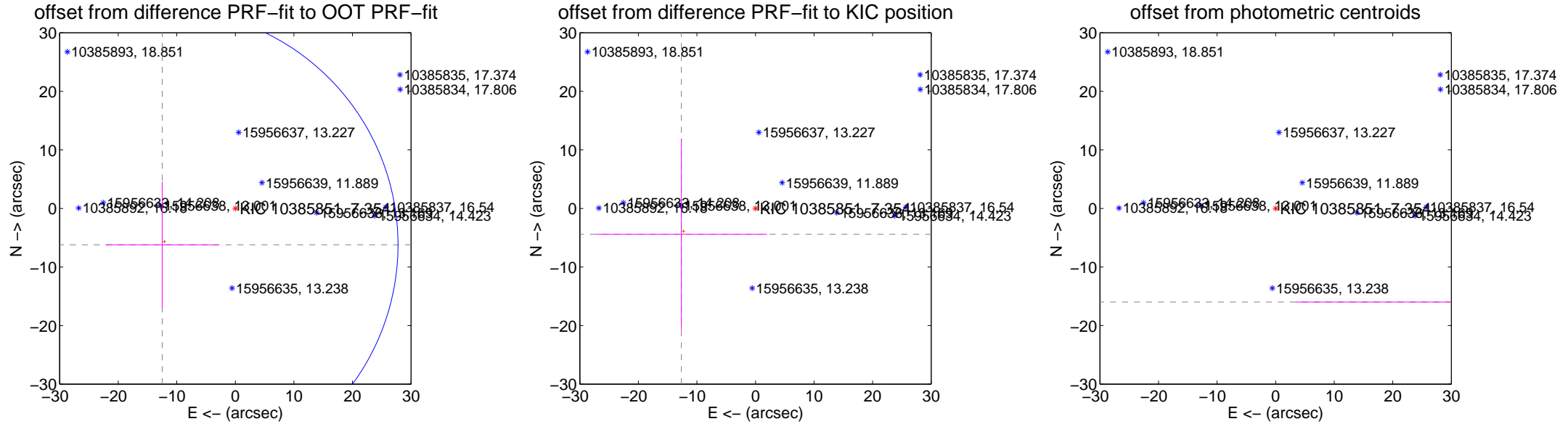
DV Centroid Data

Supplemental centroid analysis for 010385851-01. **Kepler magnitude: 7.35.** Transit SNR 7.98

There are 0 quarters with good PRF difference image offsets

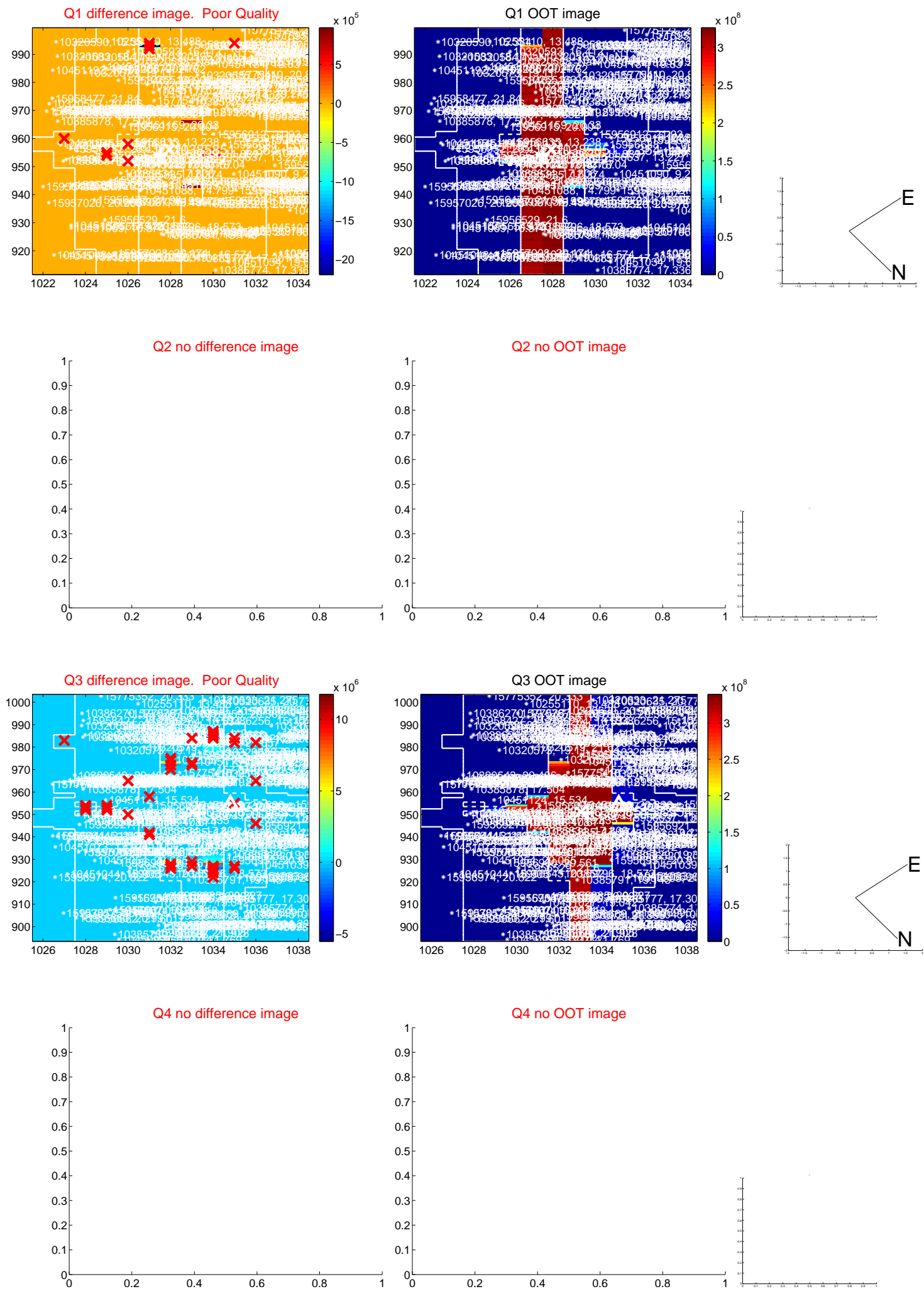
The OOT PRF centroid is offset from the target star catalog position by about 5.37 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	13.950 ± 13.422	1.04	12.491 ± 9.638	-6.211 ± 10.763
PRF-fit source offset from KIC position	13.408 ± 19.200	0.70	12.664 ± 14.638	-4.407 ± 16.357
photometric centroid source offset	44.10 ± 38.64	1.14	-41.11 ± 37.69	-15.98 ± 44.42



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.

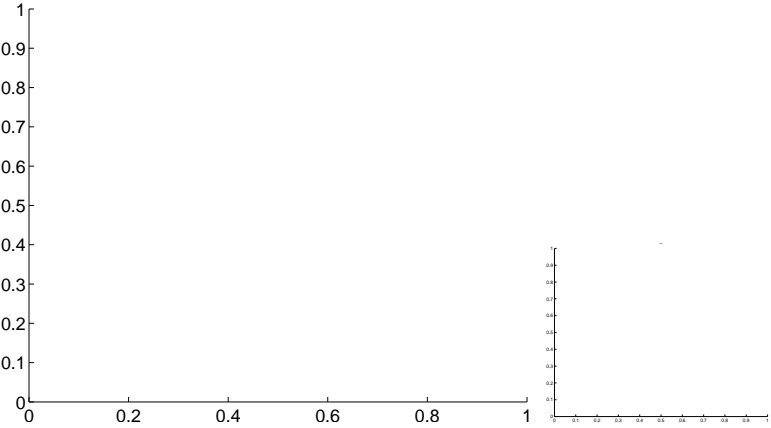


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

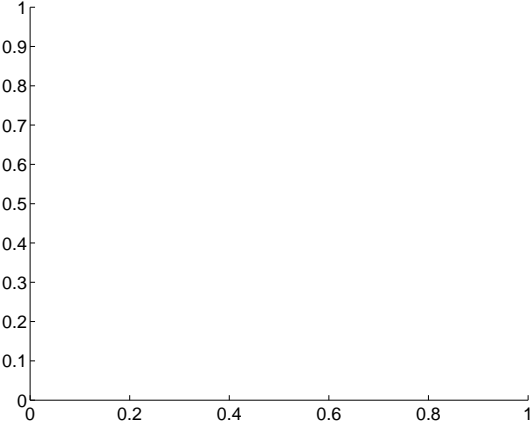
Q5 no difference image



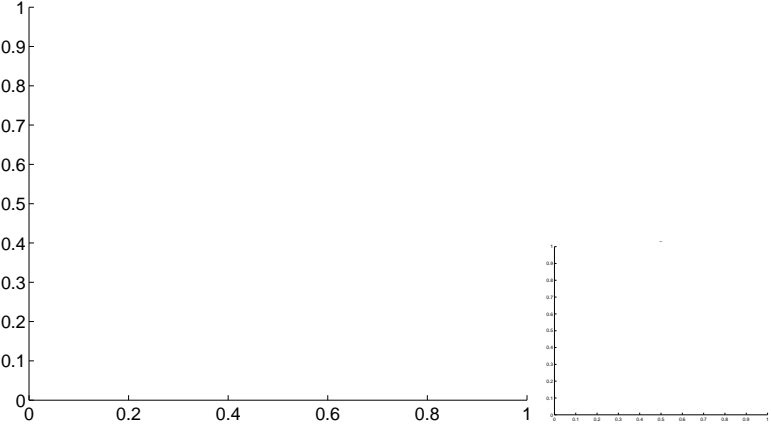
Q5 no OOT image



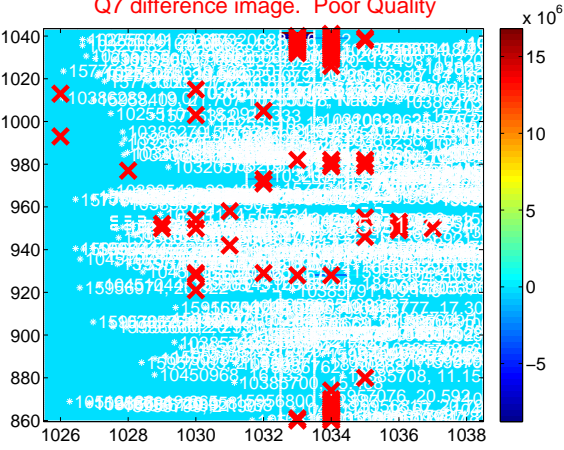
Q6 no difference image



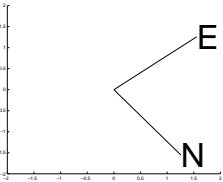
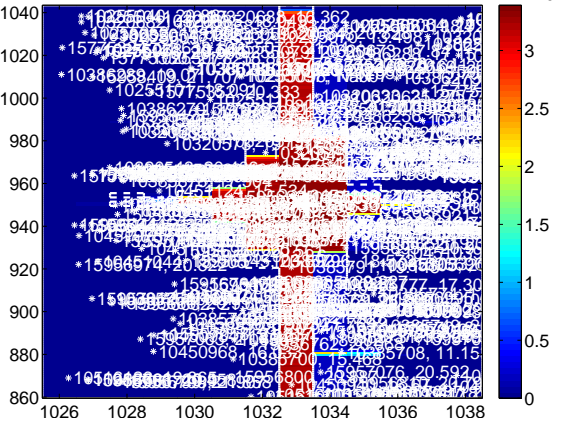
Q6 no OOT image



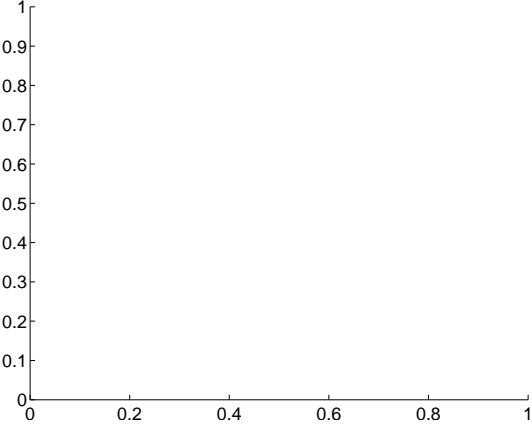
Q7 difference image. Poor Quality



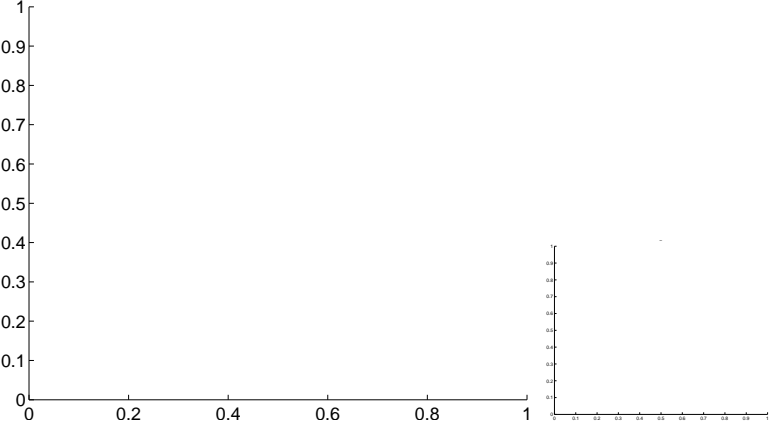
Q7 OOT image



Q8 no difference image



Q8 no OOT image



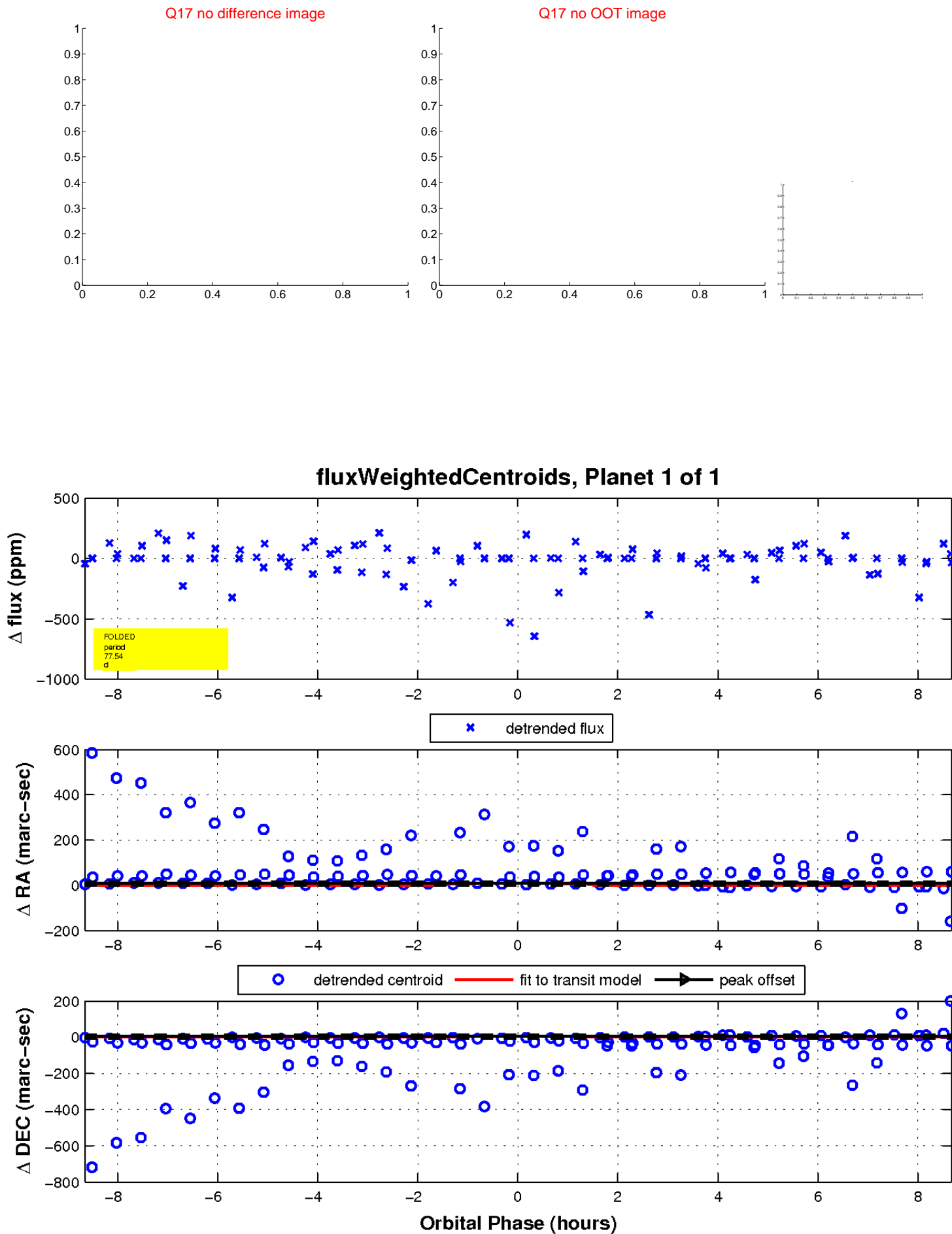
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

