

KIC 003663850

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})
003663850-01	OBS	8089.01	141.401796	208.237735	545.9	4.193	7.9	6.0	14.91	4936	39.05	189.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003663850-01	OBS	PC	0.36	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.

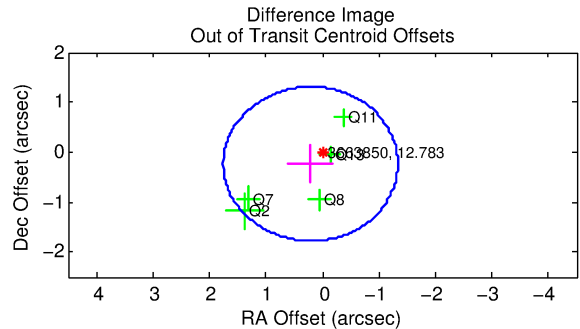
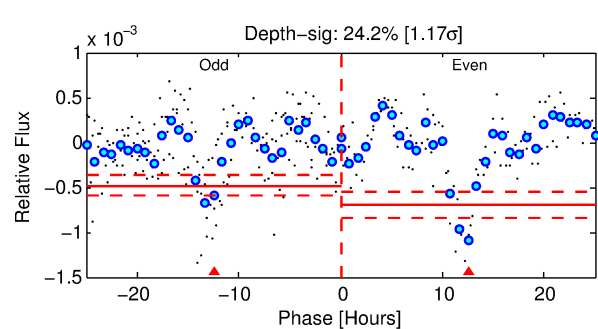
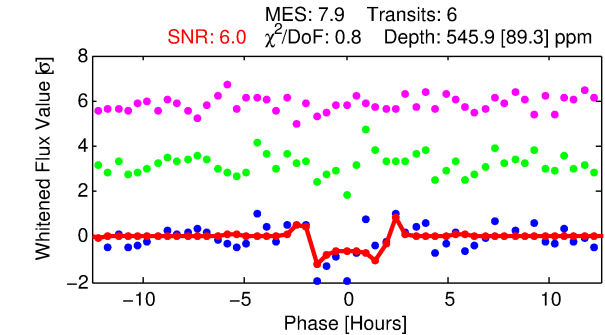
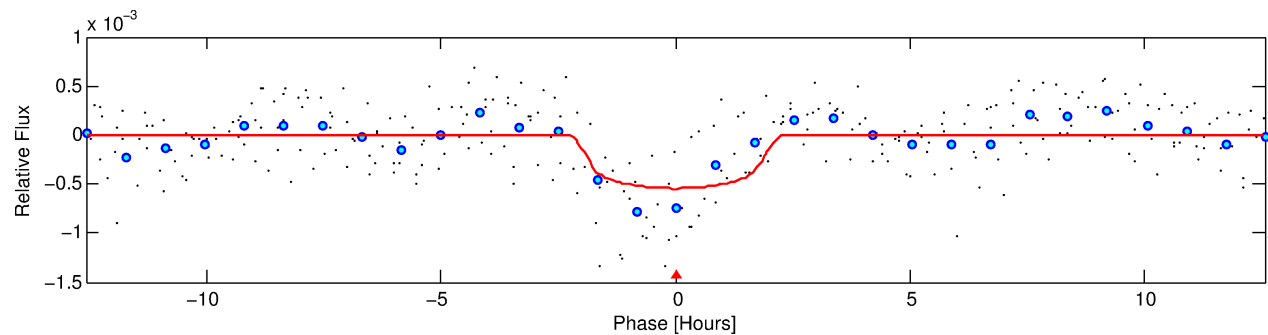
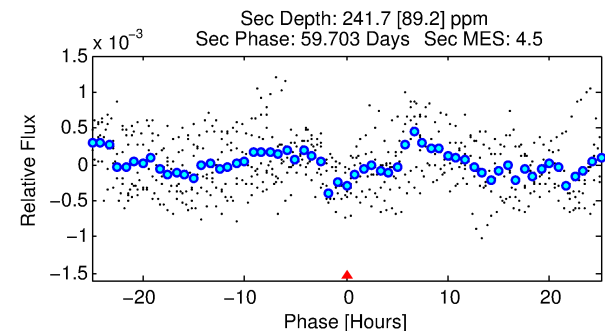
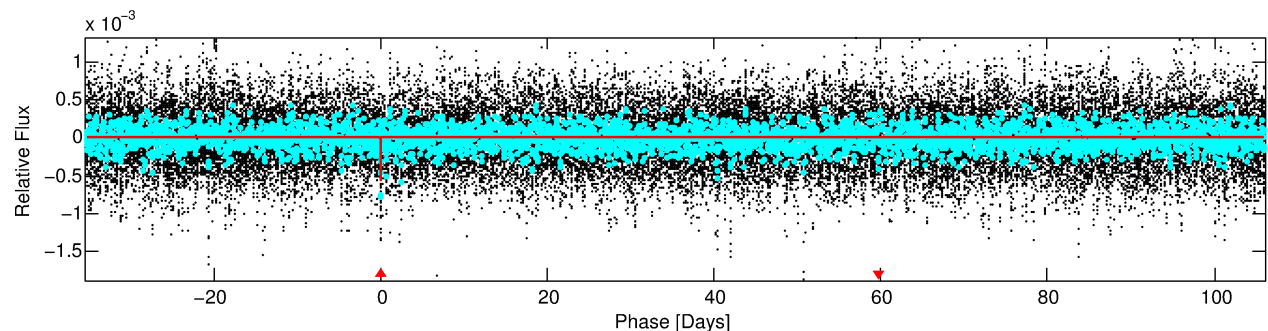
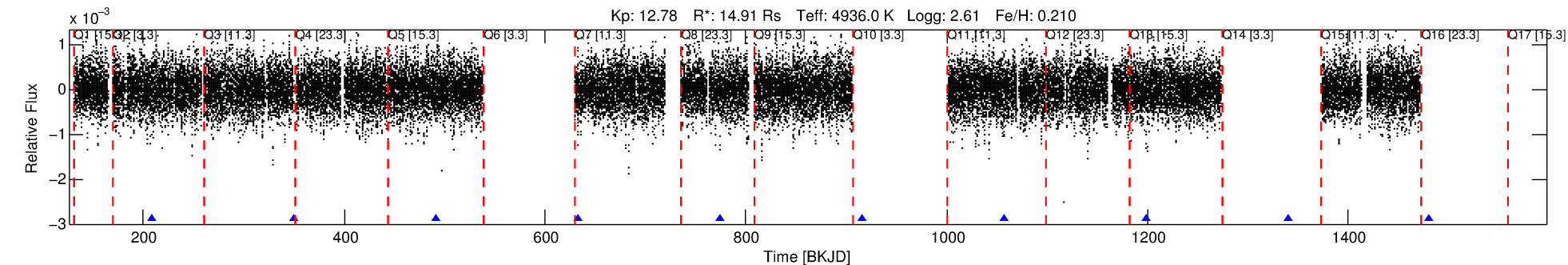
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003663850-01

No Significant Match Found

DV One-Page Summary

KIC: 3663850 Candidate: 1 of 1 Period: 141.402 d



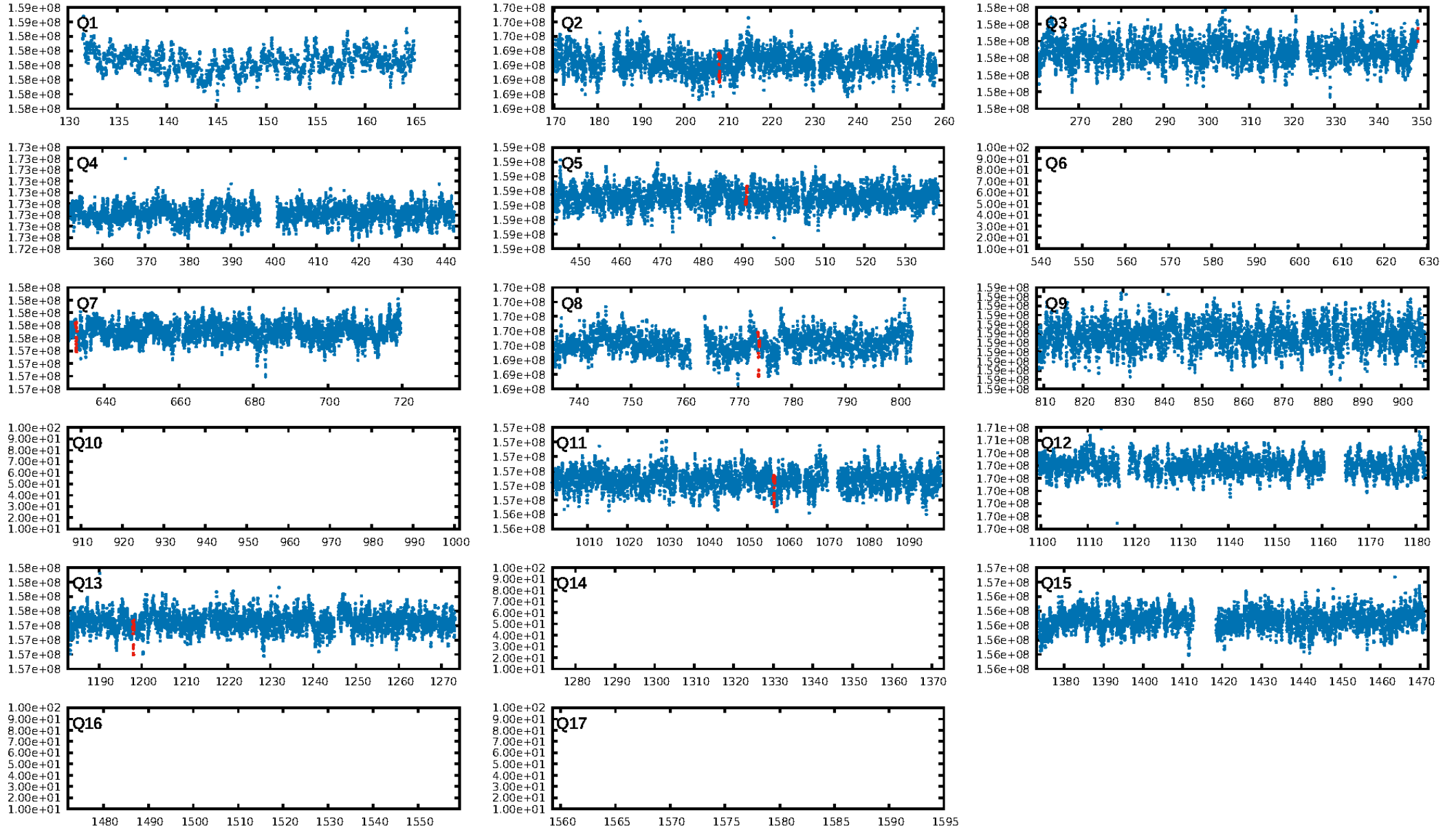
DV Fit Results:

Period = 141.40180 [0.00107] d
Epoch = 208.2377 [0.0048] BKJD
Rp/R* = 0.0240 [0.0091]
a/R* = 164.70 [218.23]
b = 0.80 [0.61]
Seff = 189.11 [19.35]
Teff = 946 [24] K
Rp = 39.05 [15.14] Re
a = 0.7905 [0.0465] AU
Ag = 54.51 [46.18] [1.16σ]
Teffp = 3972 [841] K [3.60σ]

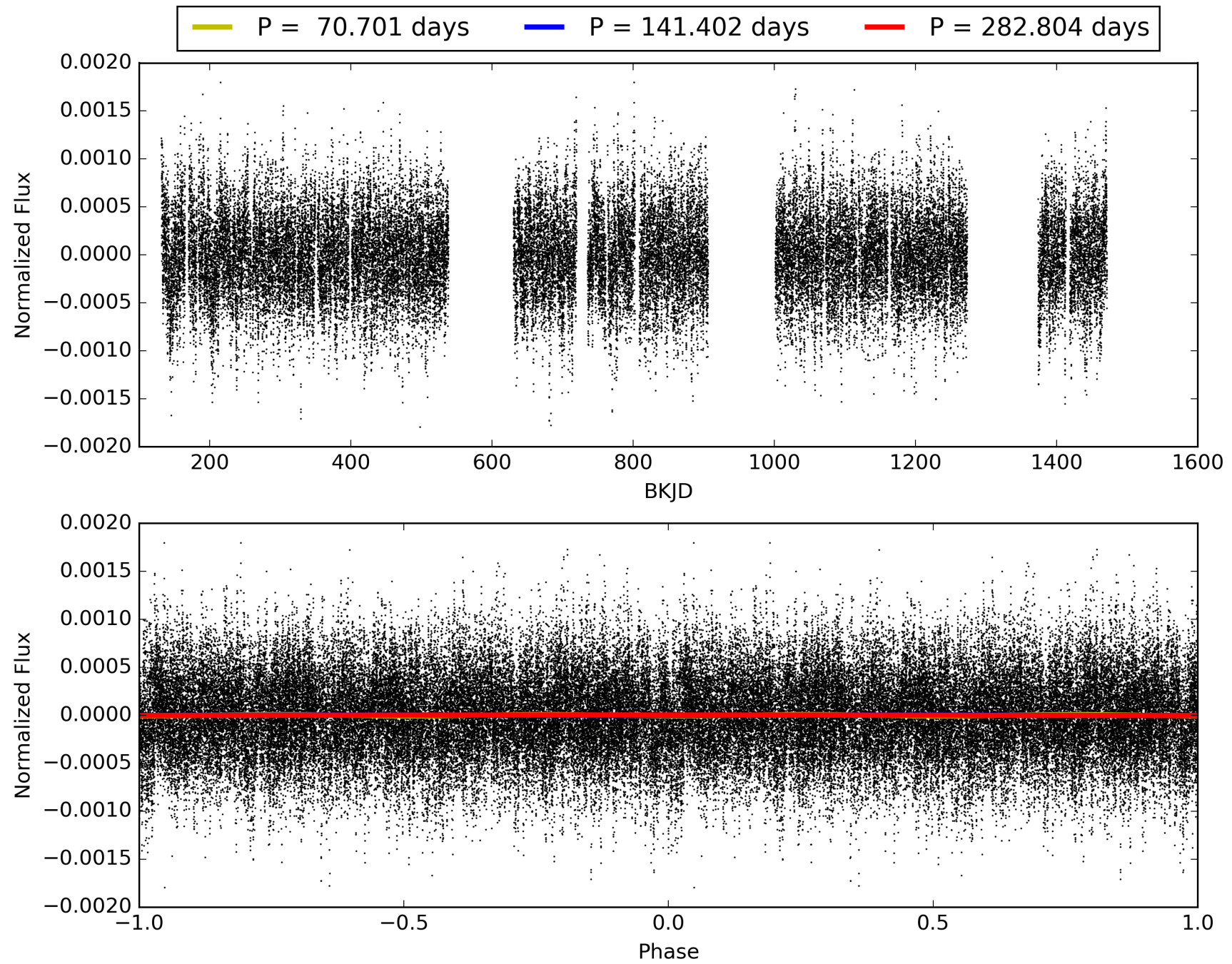
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 68.1%
ModelChiSquareGof-sig: 98.0%
Bootstrap-pfa: 2.95e-12
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.719
Centroid-sig: 0.0%
Centroid-so: 0.799 arcsec [1.00σ]
OotOffset-rm: 0.315 arcsec [0.61σ]
KicOffset-rm: 0.430 arcsec [1.02σ]
OotOffset-st: 1/2/1/1 [5]
KicOffset-st: 1/2/1/1 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [6/6]

TCE 003663850-01, PDC Light Curves

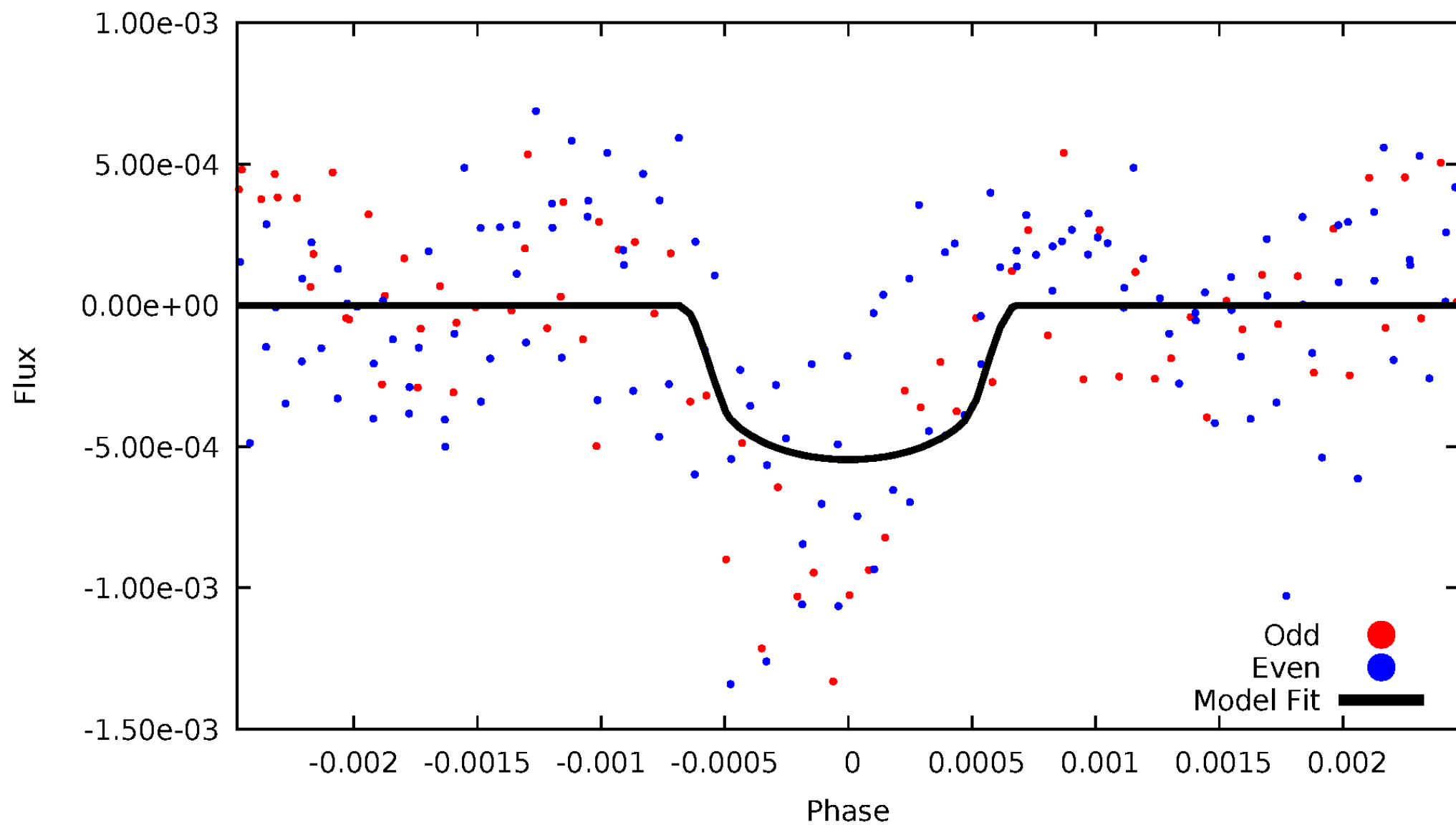


TCE 003663850-01



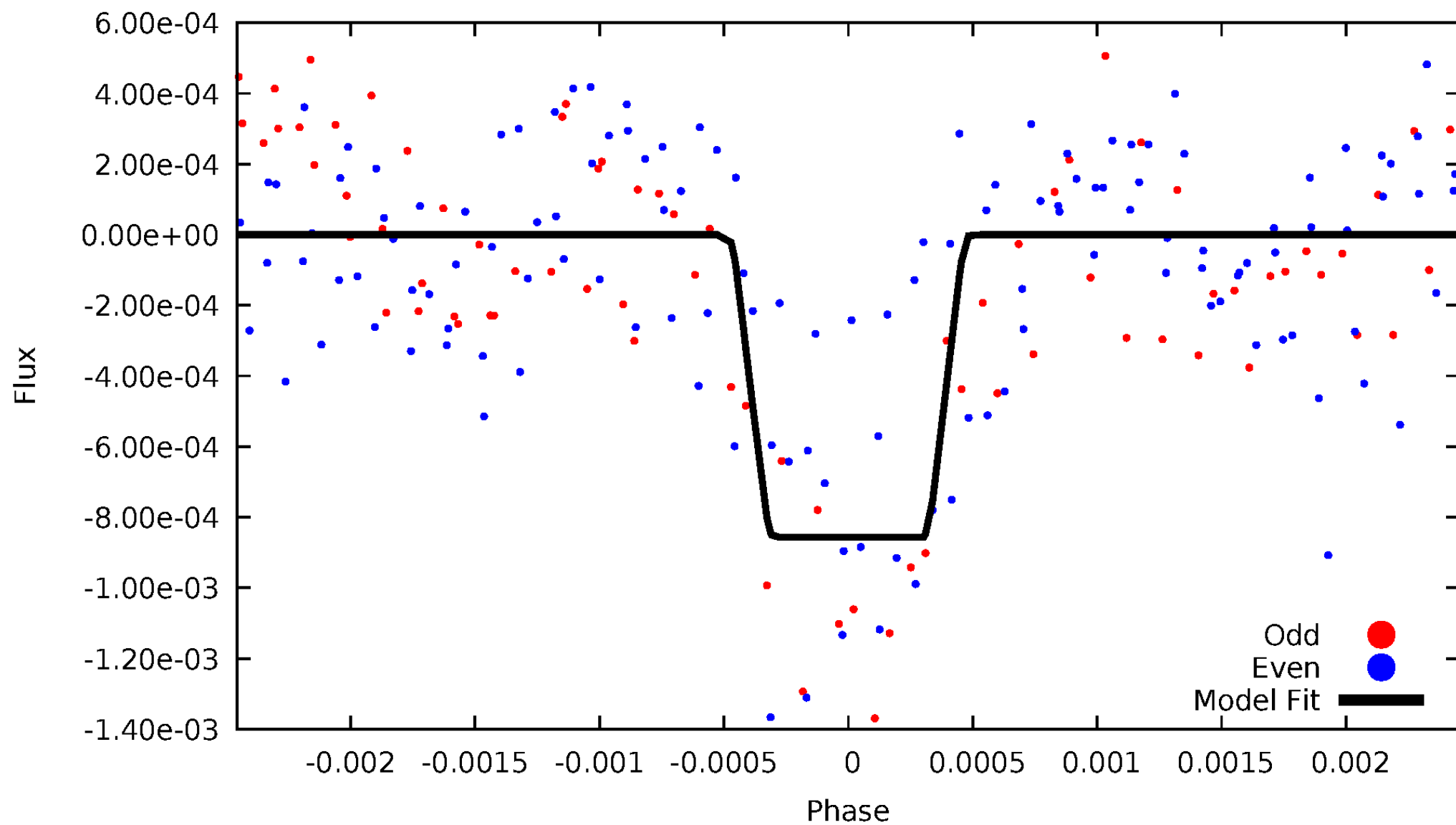
DV Odd/Even

TCE 003663850-01



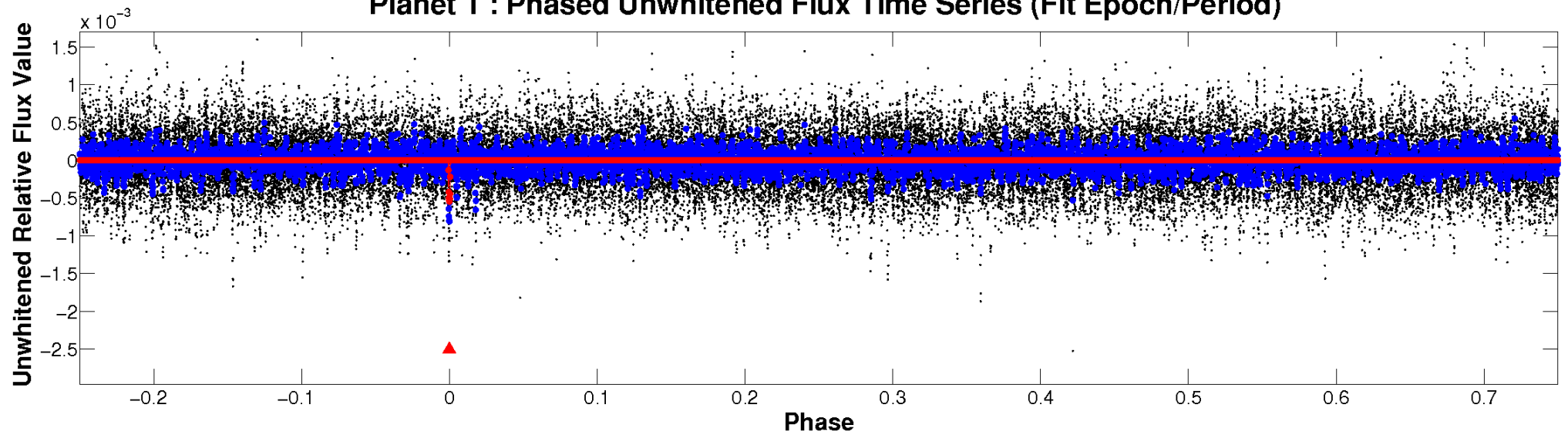
ALT Odd/Even

TCE 003663850-01

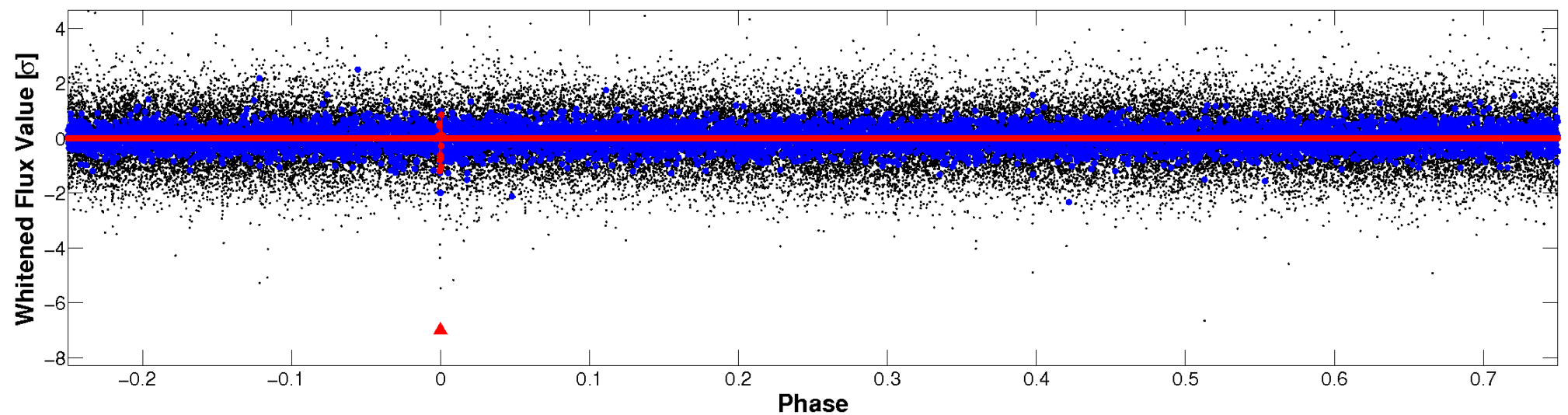


Non-Whitened Vs. Whitened Light Curve

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

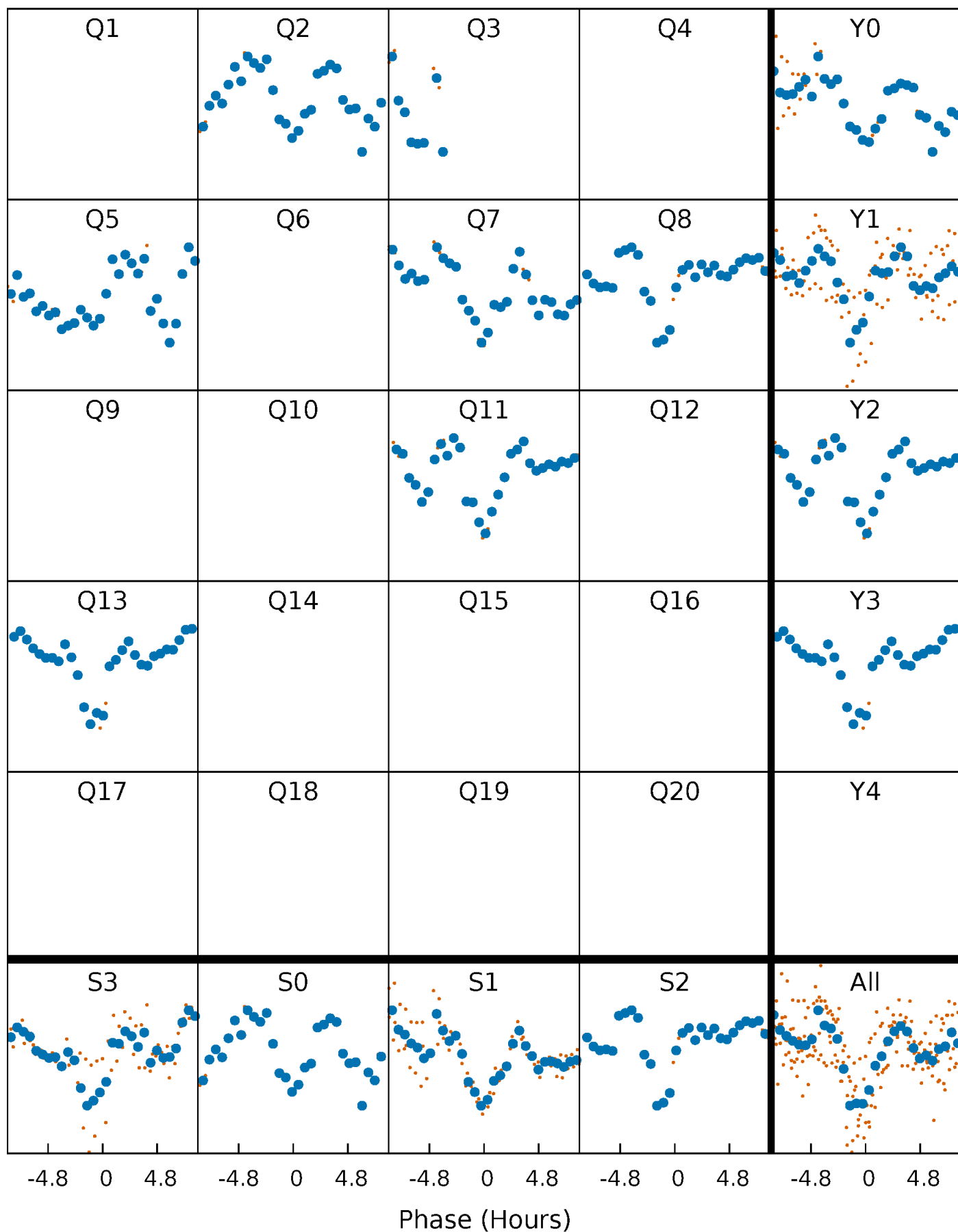


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



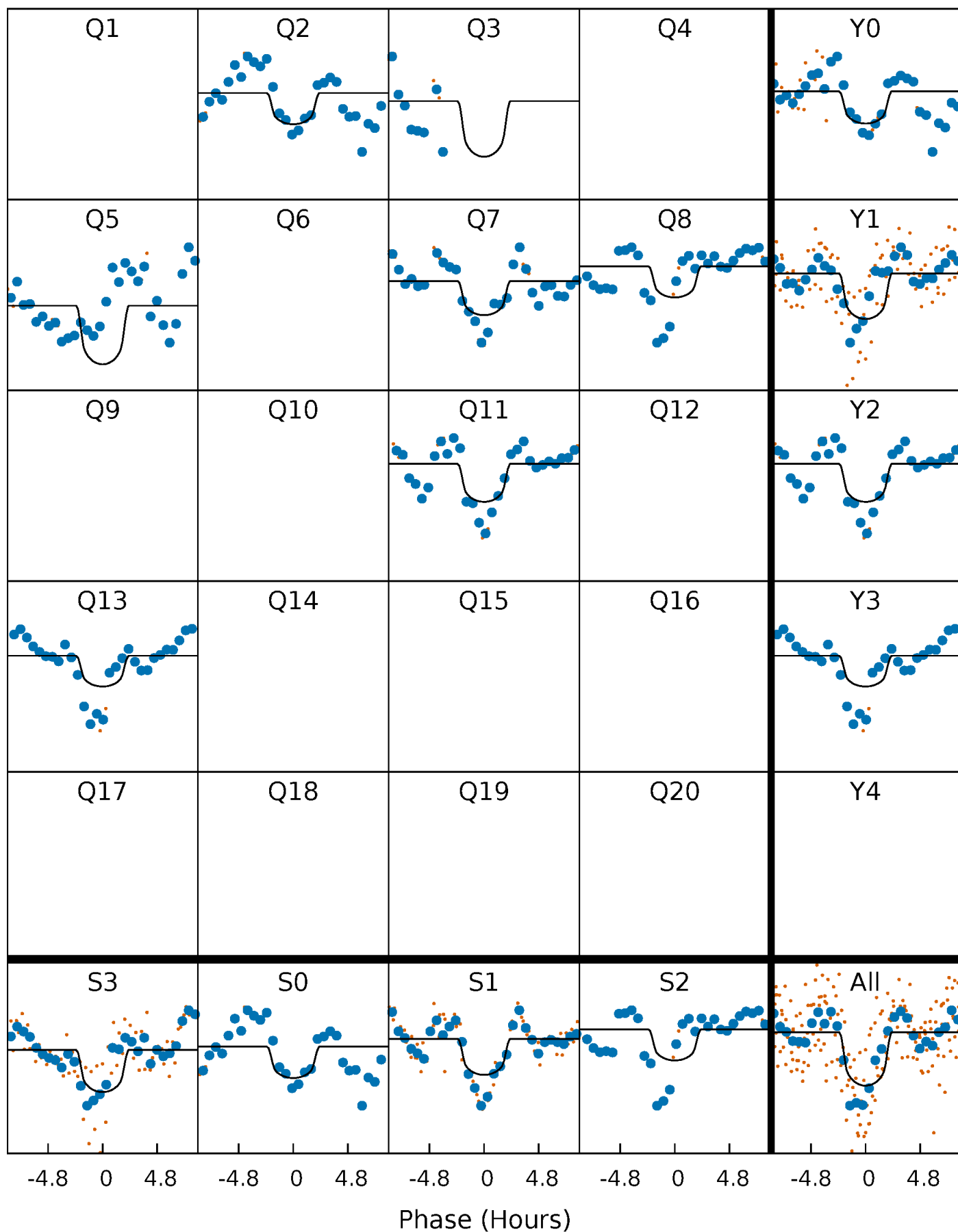
PDC Quarter-Phased Transit Curves

TCE 003663850-01 P=141.401796 Days $T_0=208.237735$ (BKJD)



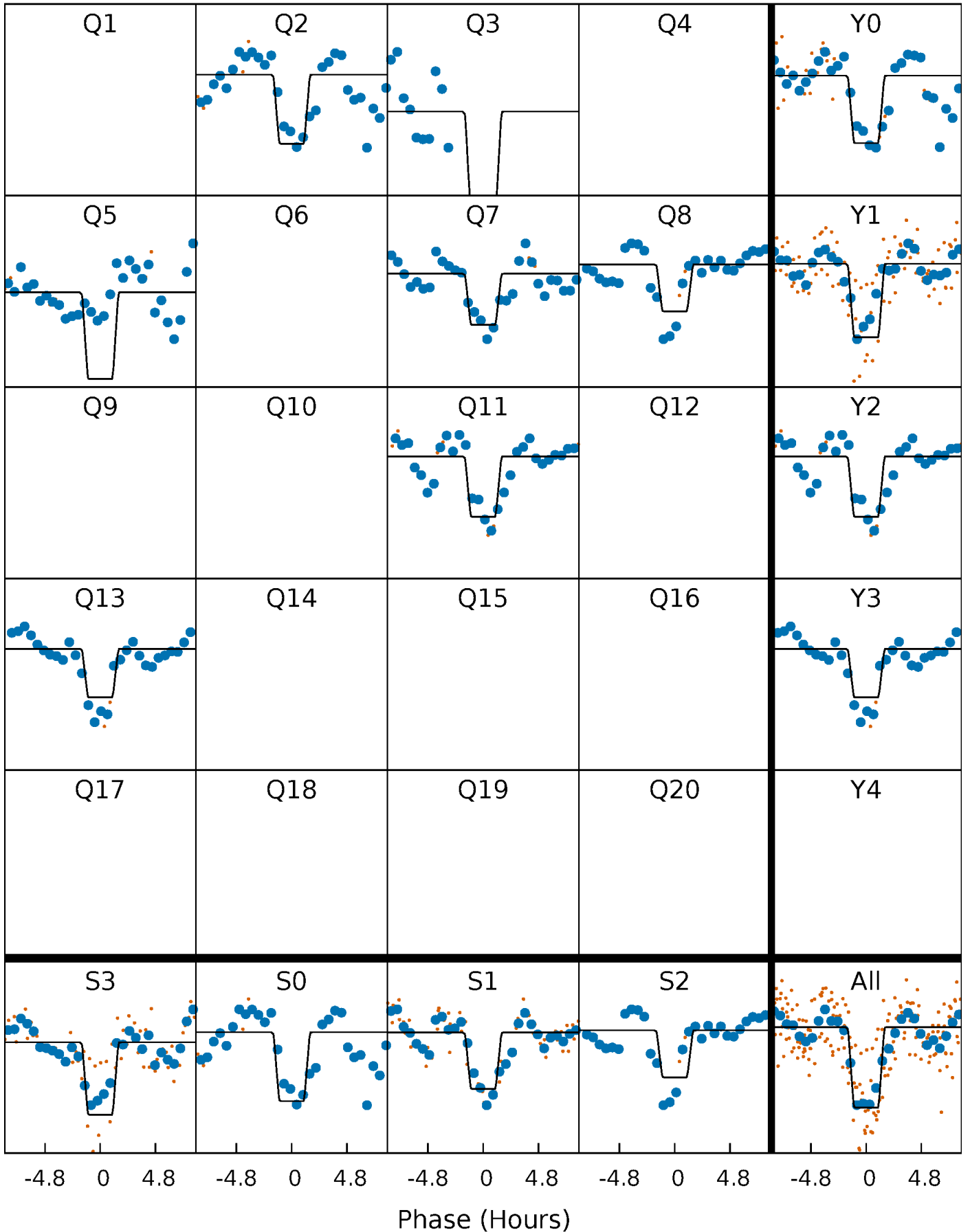
DV Quarter-Phased Transit Curves

TCE 003663850-01 P=141.401796 Days $T_0=208.237735$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

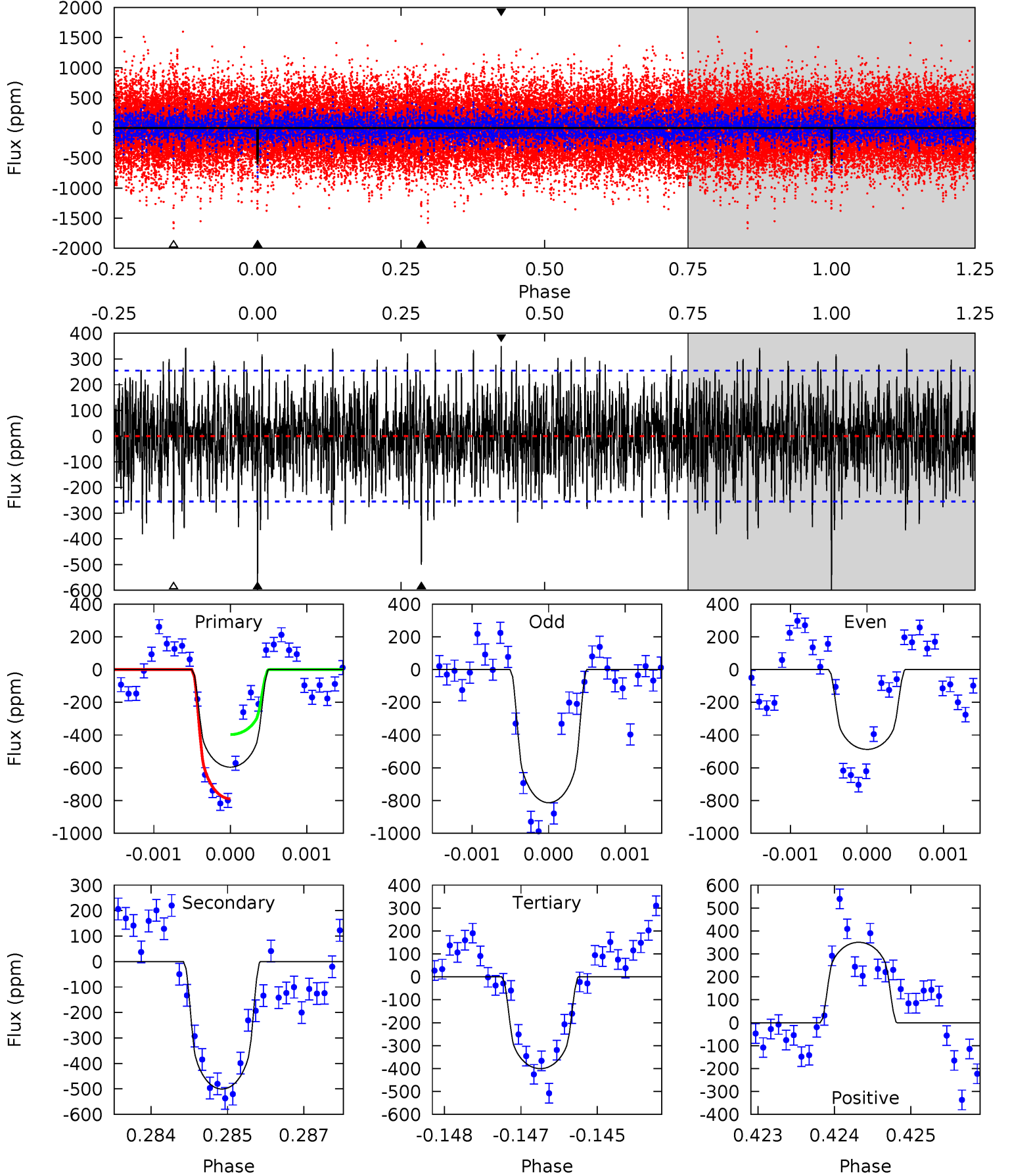
TCE 003663850-01 P=141.401589 Days $T_0=208.215482$ (BKJD)



DV Model-Shift Uniqueness Test

003663850-01, $P = 141.401796$ Days, $E = 66.835939$ Days

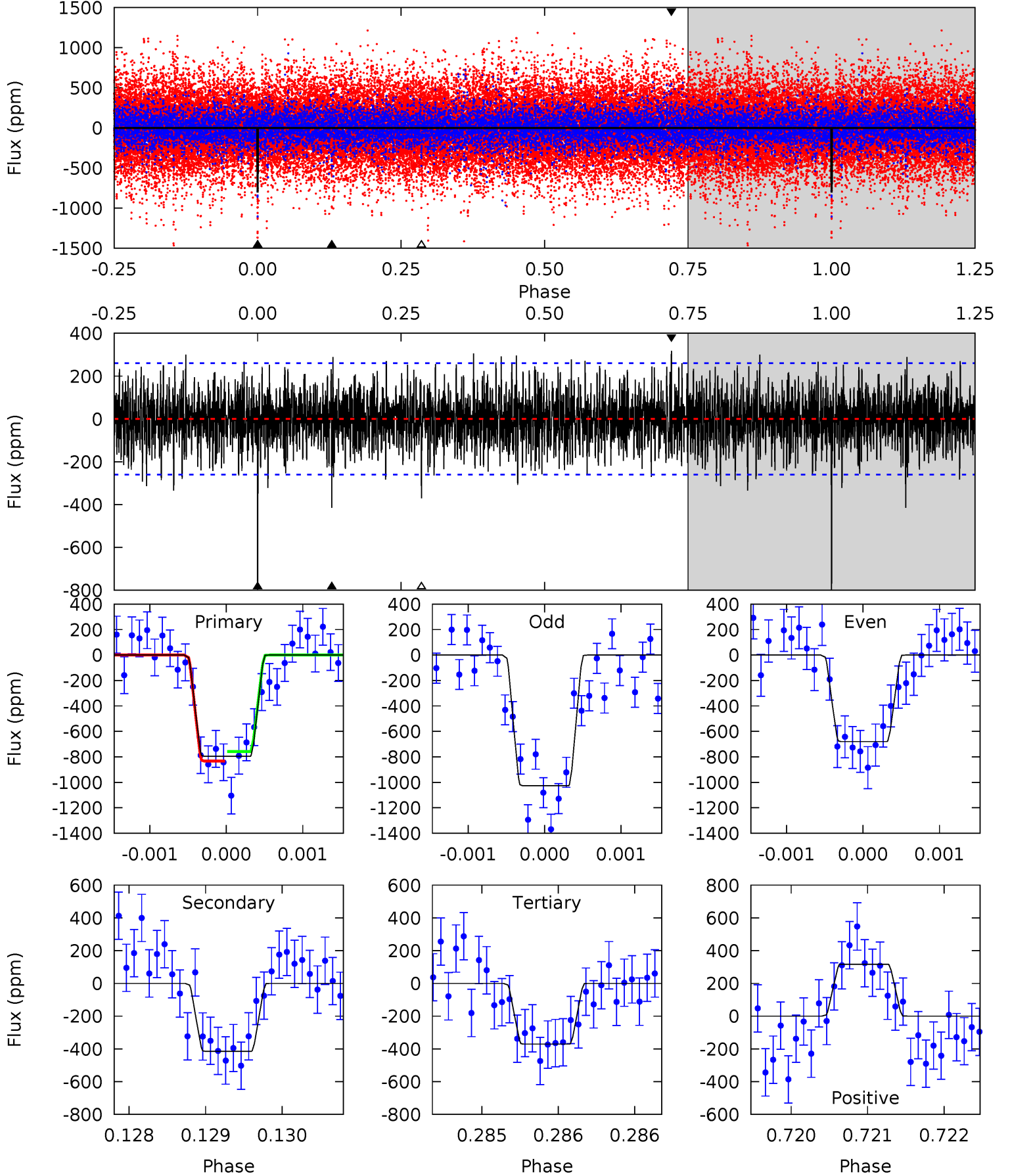
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	10.6	8.48	7.43	5.40	3.20	2.45	4.15	5.20	2.12	3.17	3.24	0.90	0.37	4.15



Alt Model-Shift Uniqueness Test

003663850-01, $P = 141.401589$ Days, $E = 66.813893$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	8.71	7.78	6.66	5.46	3.30	2.05	8.91	10.0	0.93	2.05	3.42	0.91	0.29	0.78



Stellar Parameters For KIC 003663850

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4936^{+88}_{-74}	$2.609^{+0.033}_{-0.027}$	$0.210^{+0.050}_{-0.150}$	$14.907^{+0.445}_{-1.186}$	$3.295^{+0.177}_{-0.354}$	$0.001^{+0.000}_{-0.000}$
	+2%/-1%	+1%/-1%	+24%/-71%	+3%/-8%	+5%/-11%	+18%/-8%
Source	SPE74	AST9	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 003663850-01 / KOI 8089.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-501 ± 47	$38.83^{+15.24}_{-14.06}$	1320^{+26}_{-26}	4792^{+1061}_{-584}	113^{+168}_{-54}
Alt.	-415 ± 48	$47.84^{+15.51}_{-14.82}$	1321^{+28}_{-28}	4266^{+684}_{-404}	63^{+69}_{-27}

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

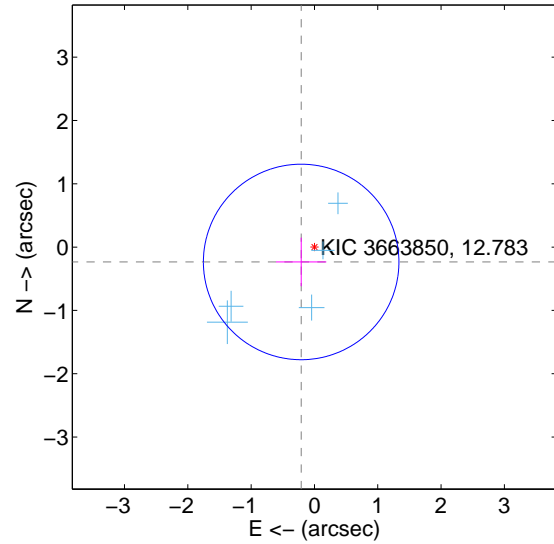
Supplemental centroid analysis for 003663850-01. Kepler magnitude: 12.78. Transit SNR 6.01

There are 5 quarters with good PRF difference image offsets

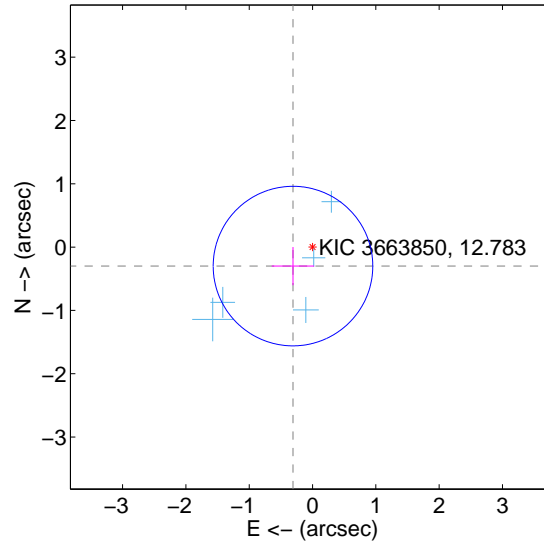
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.315 ± 0.515	0.61	0.210 ± 0.396	-0.235 ± 0.383
PRF-fit source offset from KIC position	0.430 ± 0.420	1.02	0.309 ± 0.335	-0.300 ± 0.301
photometric centroid source offset	0.80 ± 0.80	1.00	0.36 ± 0.44	-0.72 ± 0.86

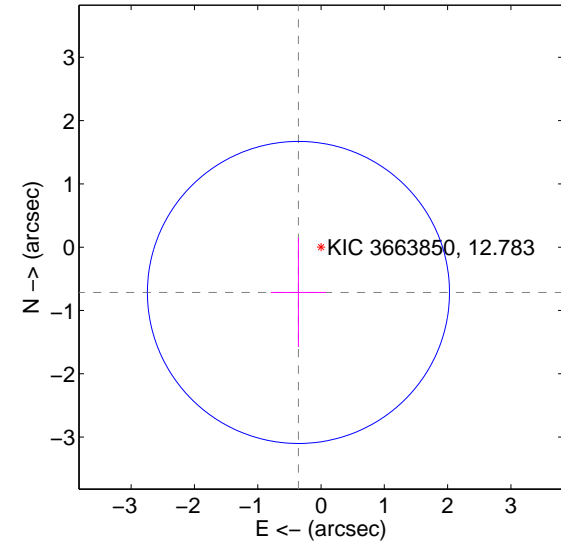
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

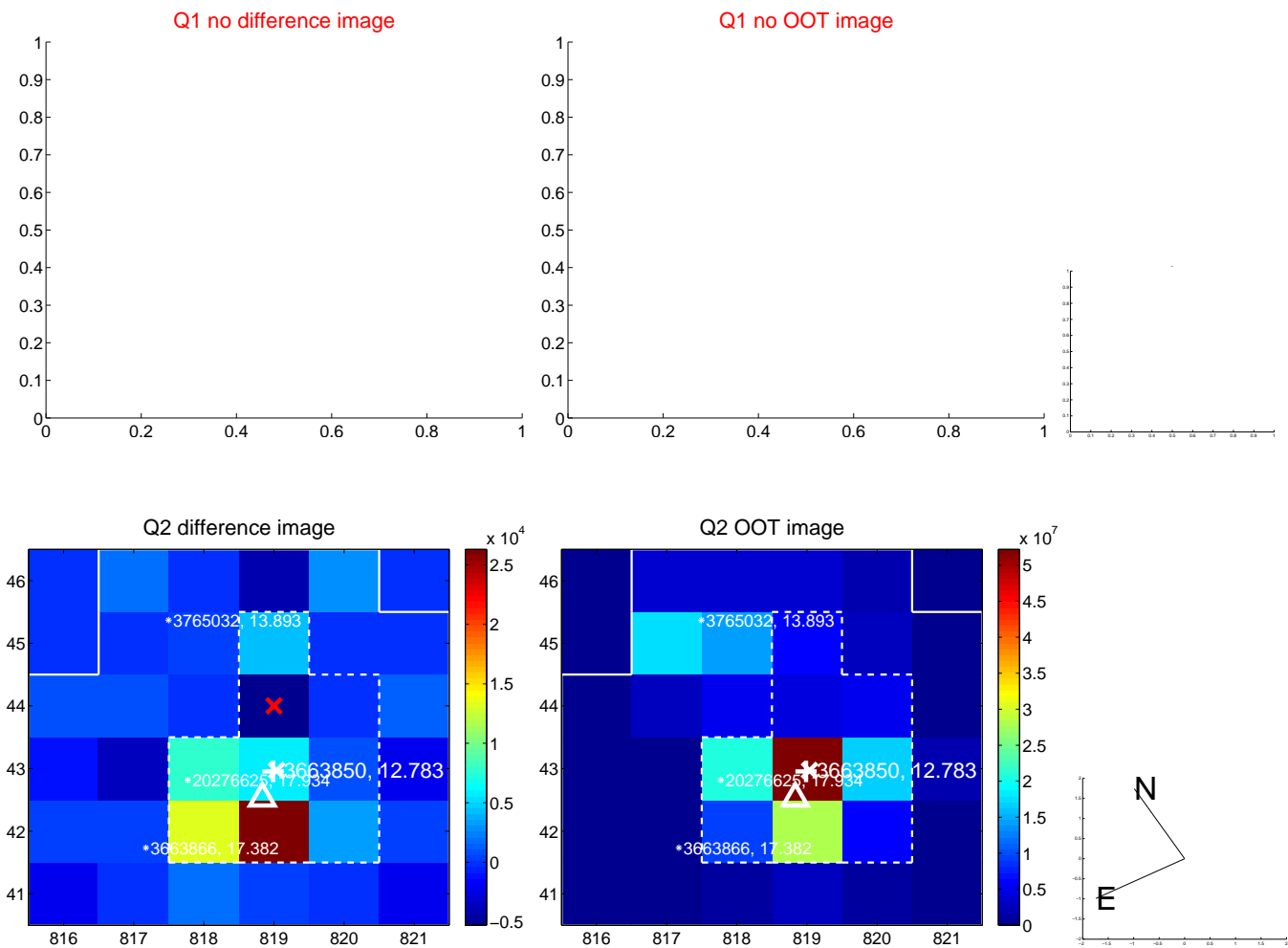


offset from photometric centroids

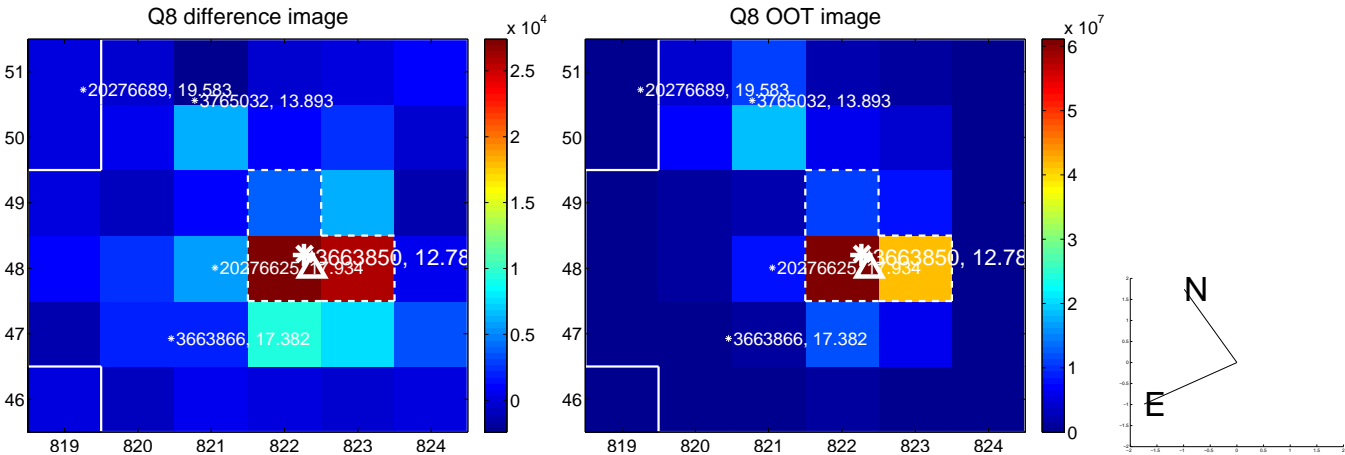
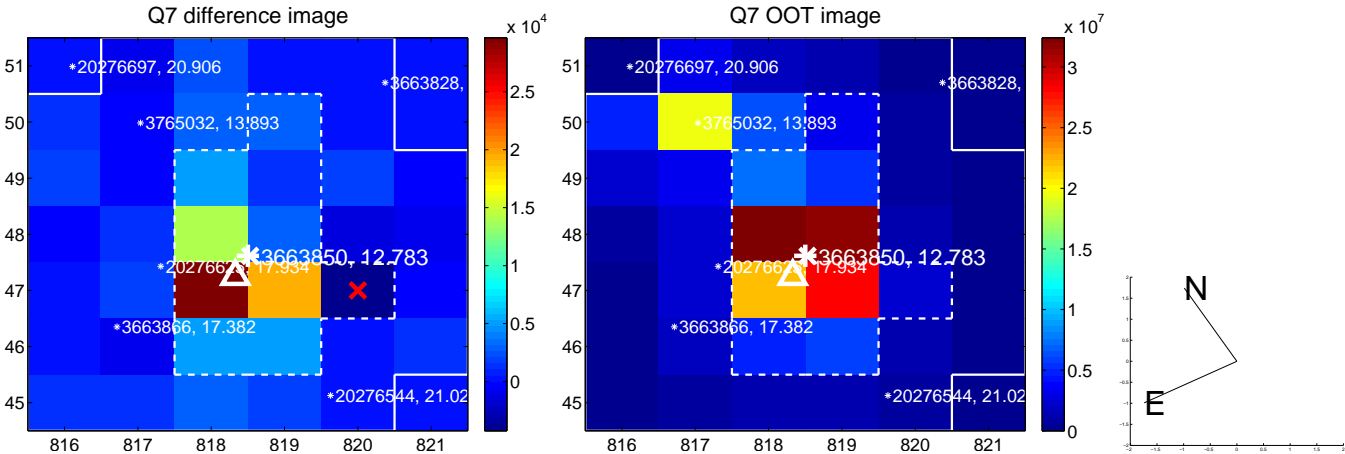
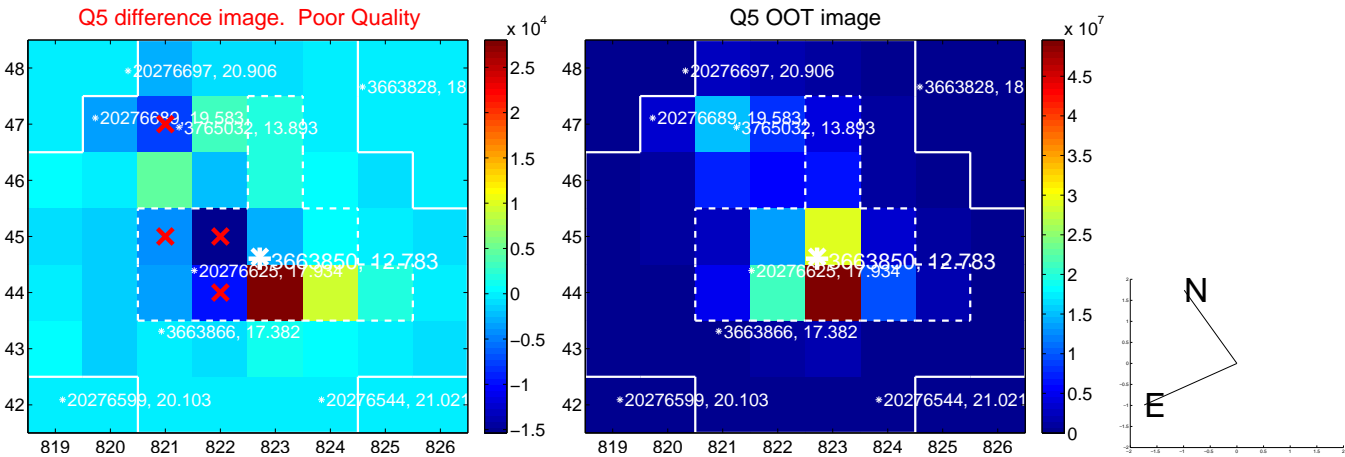


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

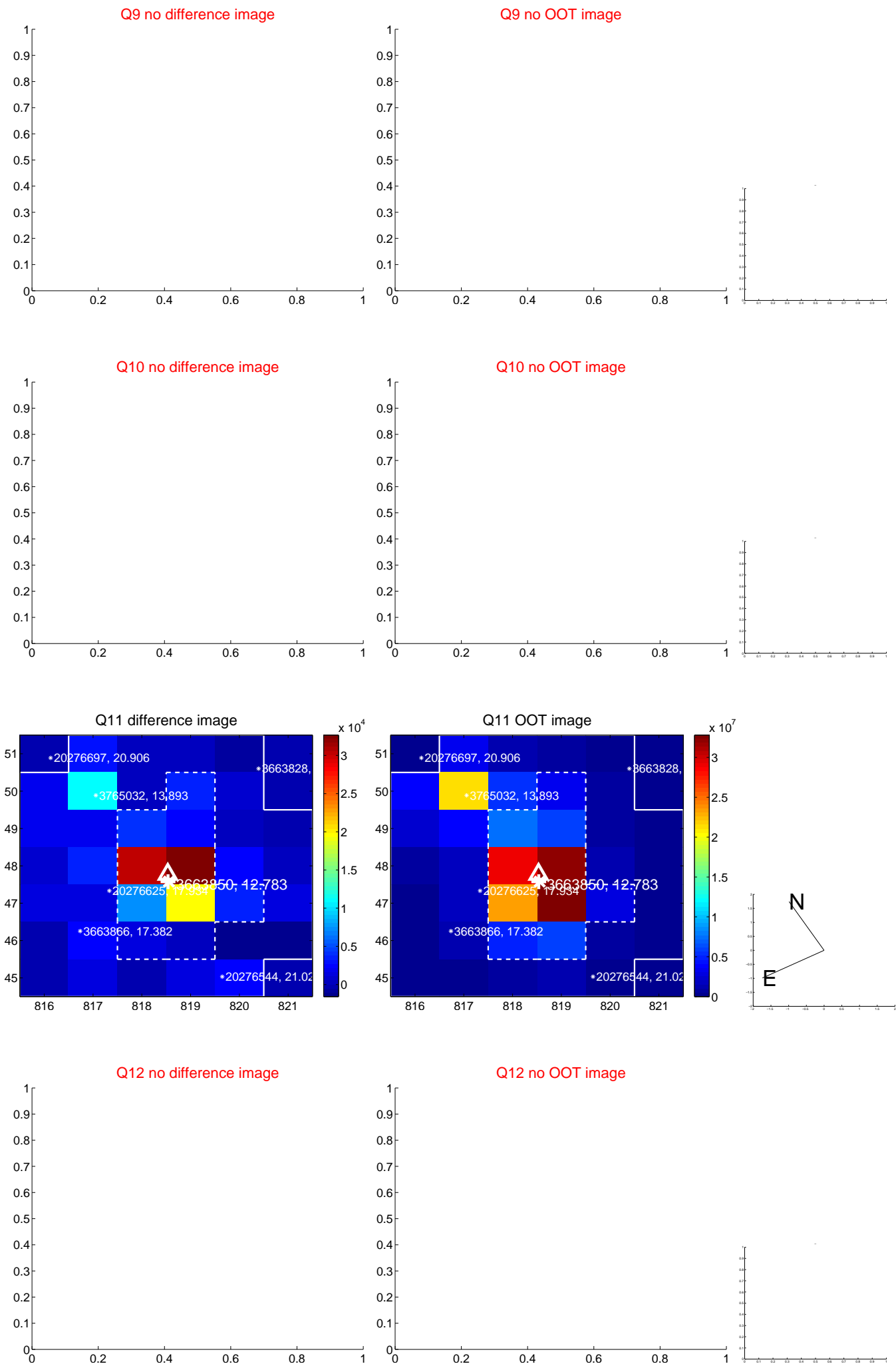
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



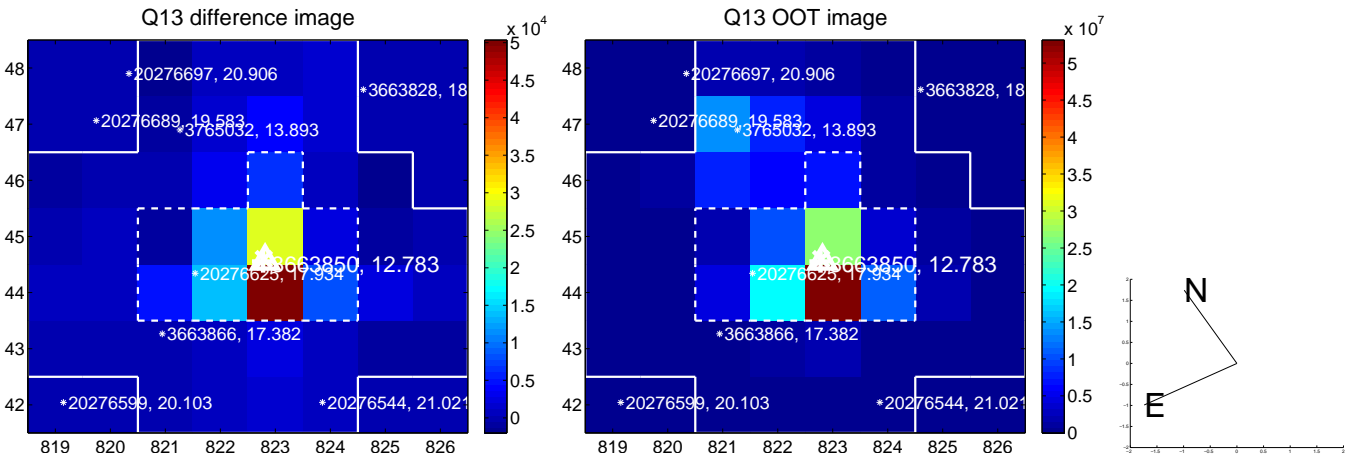
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



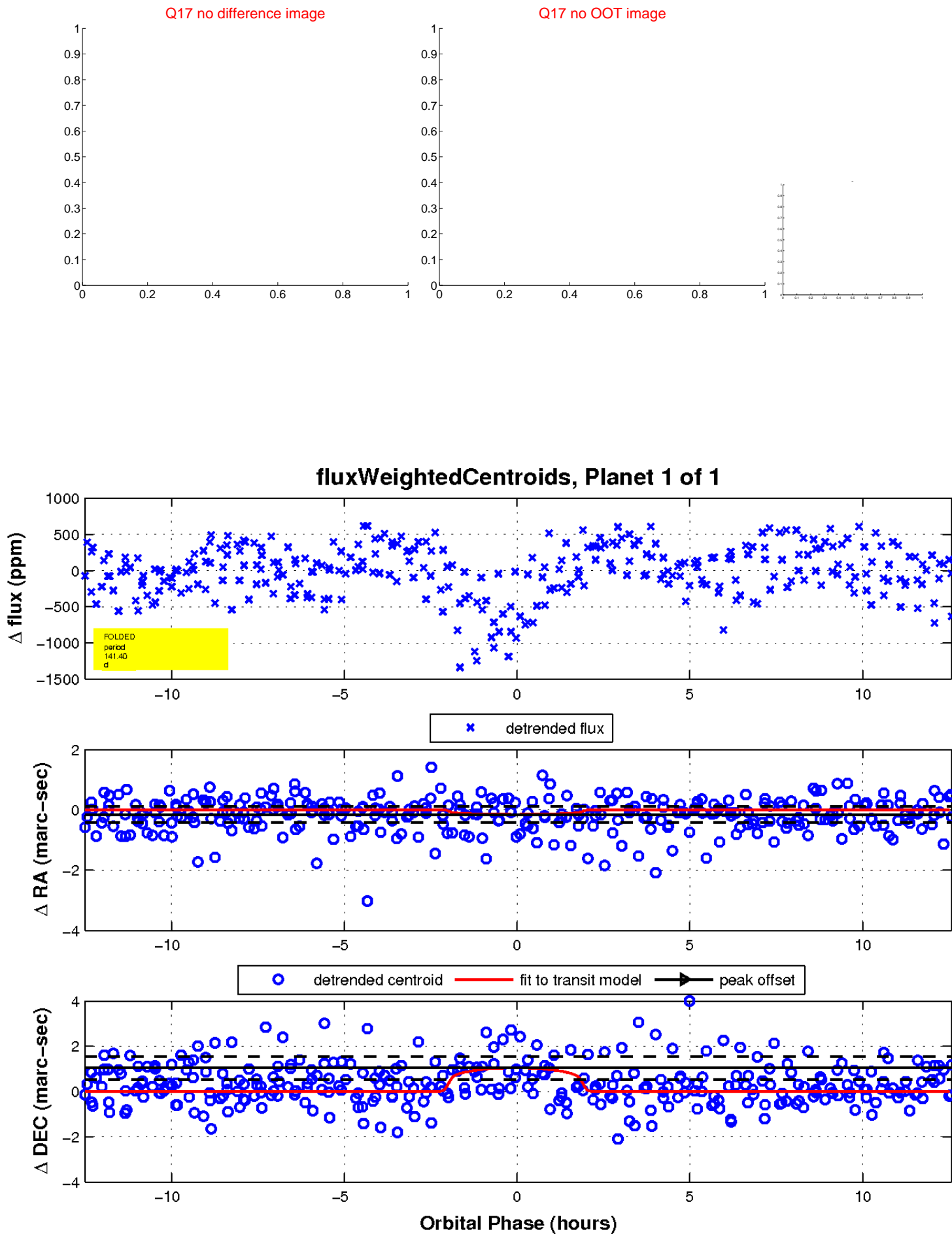
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

