

KIC 007658229

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})
007658229-01	OBS	5409.01	36.182636	144.699803	9403.3	4.207	102.6	101.4	1.32	5696	22.12	38.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007658229-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

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

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

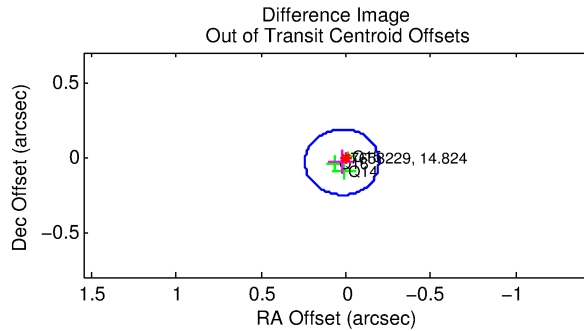
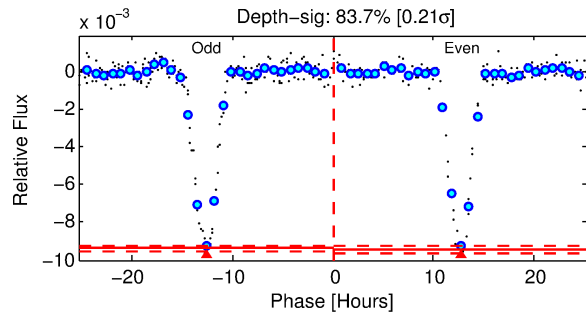
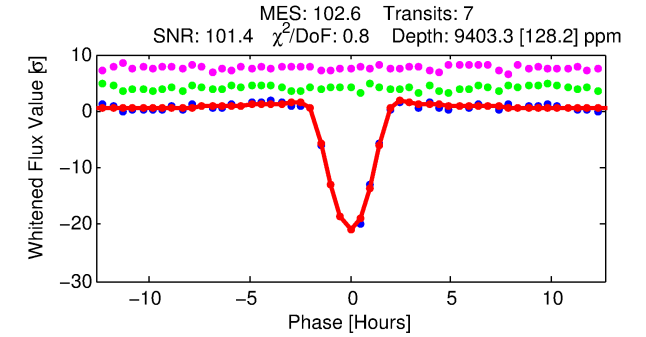
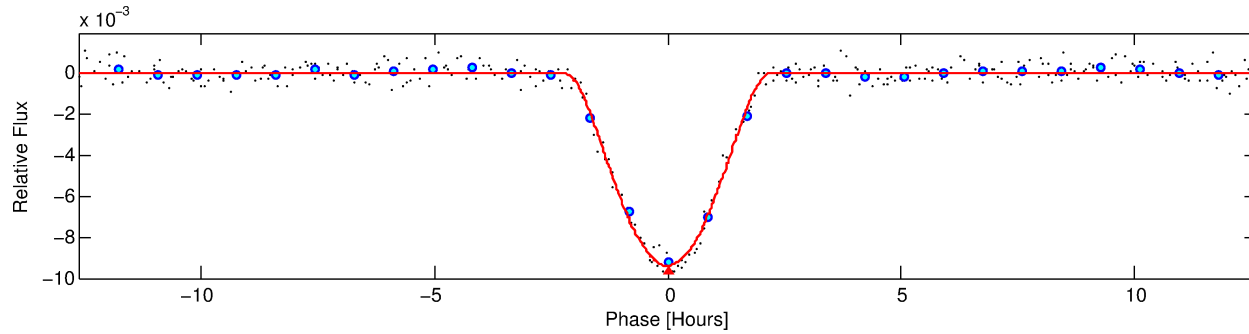
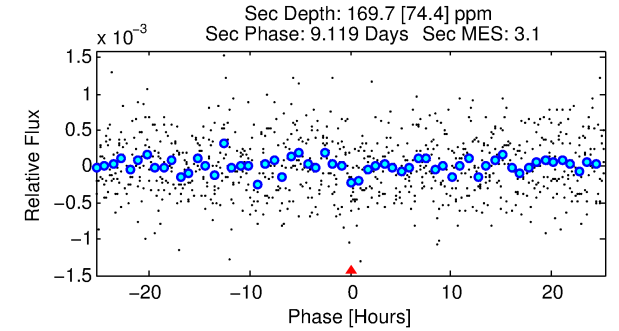
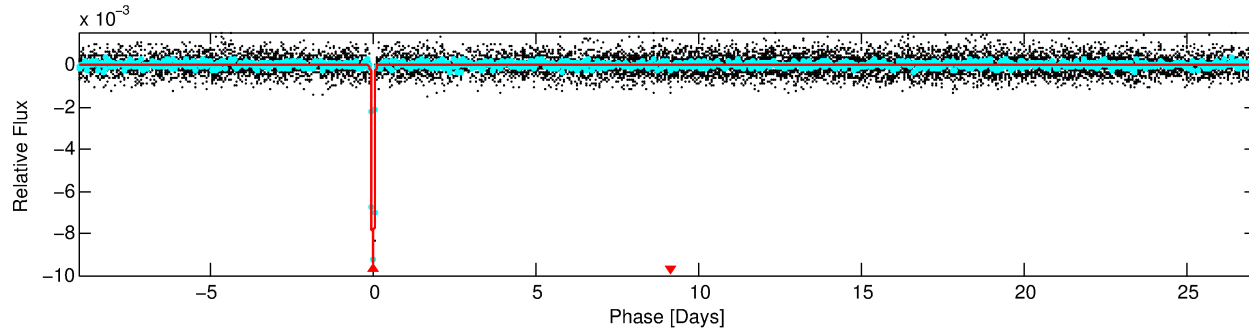
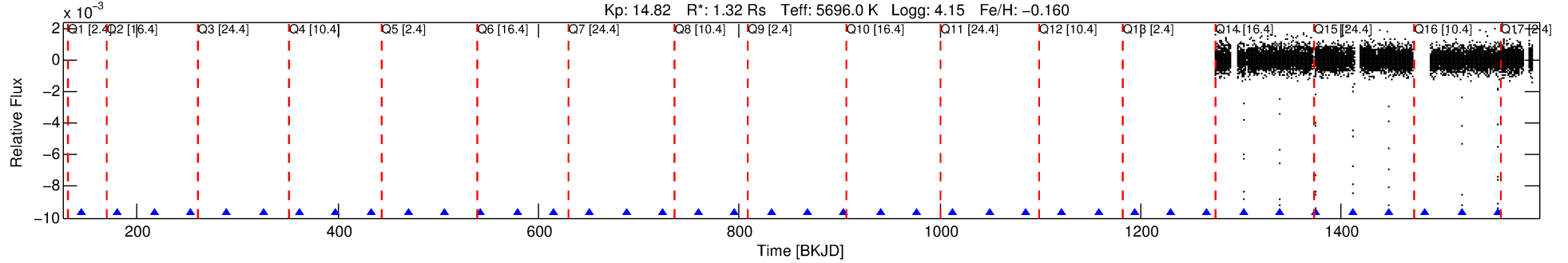
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007658229-01

No Significant Match Found

DV One-Page Summary

KIC: 7658229 Candidate: 1 of 1 Period: 36.183 d
KOI: K05409.01 Corr: 0.990



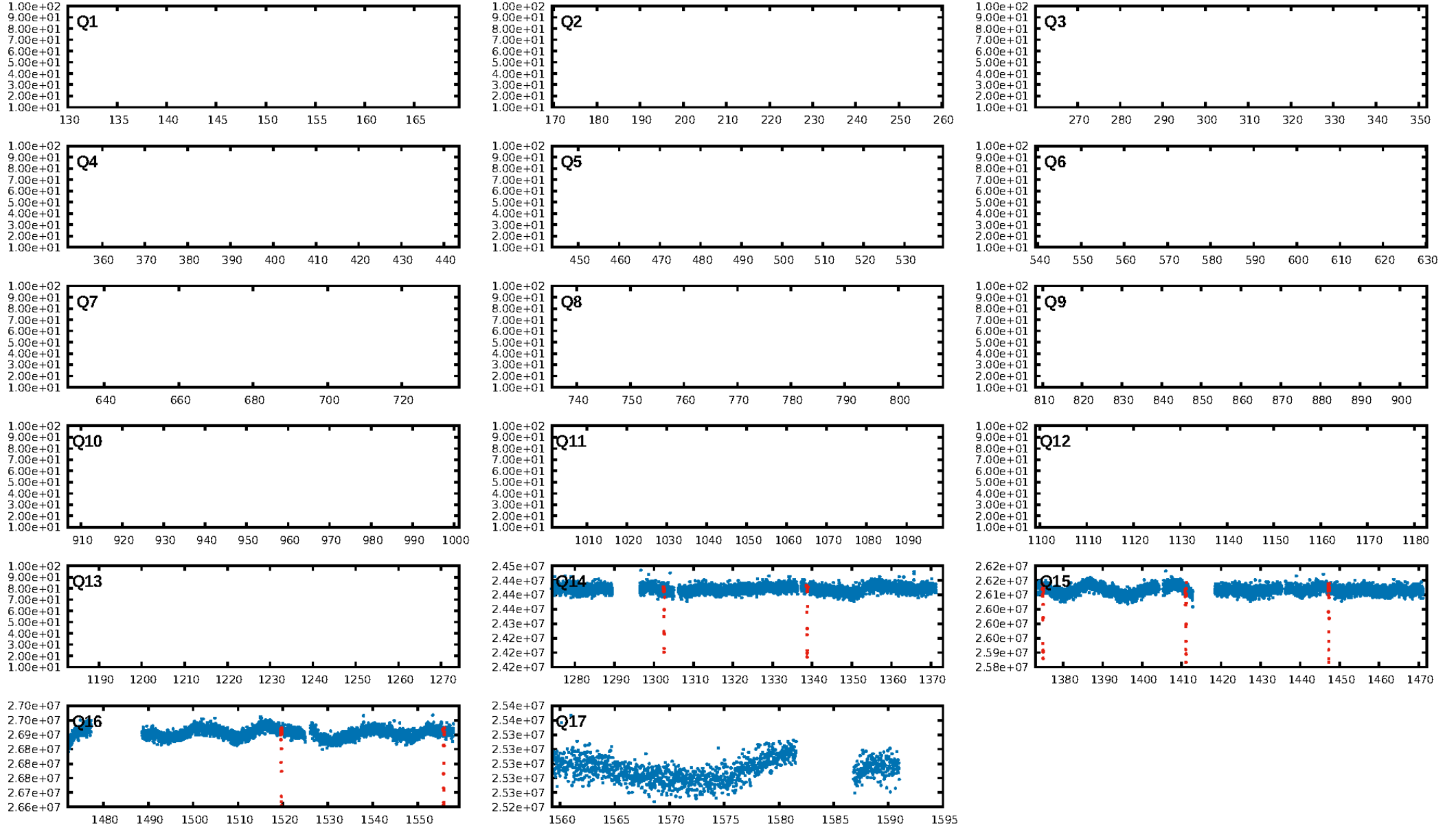
DV Fit Results:

Period = 36.18264 [0.00022] d
Epoch = 144.6998 [0.0077] BKJD
Rp/R* = 0.1535 [0.0644]
a/R* = 39.03 [2.71]
b = 0.99 [0.09]
Seff = 38.47 [21.58]
Teq = 635 [89] K
Rp = 22.13 [11.82] Re
a = 0.2068 [0.0689] AU
Ag = 8.16 [8.92] [0.80 σ]
Teffp = 1659 [396] K [2.52 σ]

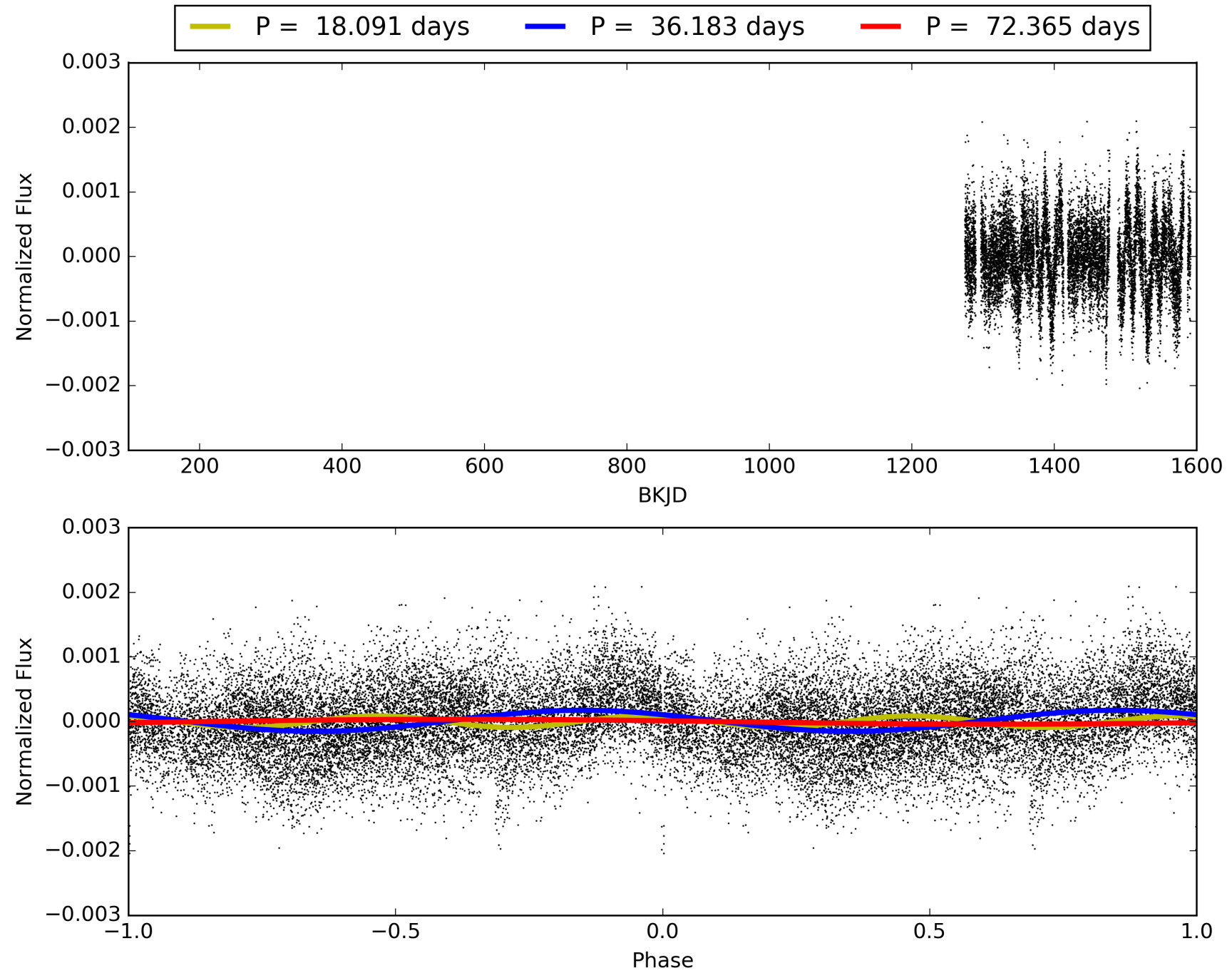
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 33.0%
ModelChiSquareGof-sig: 98.4%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 6.272
Centroid-sig: 36.1%
Centroid-so: 1.487 arcsec [11.41 σ]
OotOffset-rm: 0.042 arcsec [0.57 σ]
KicOffset-rm: 0.086 arcsec [0.94 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 007658229-01, PDC Light Curves

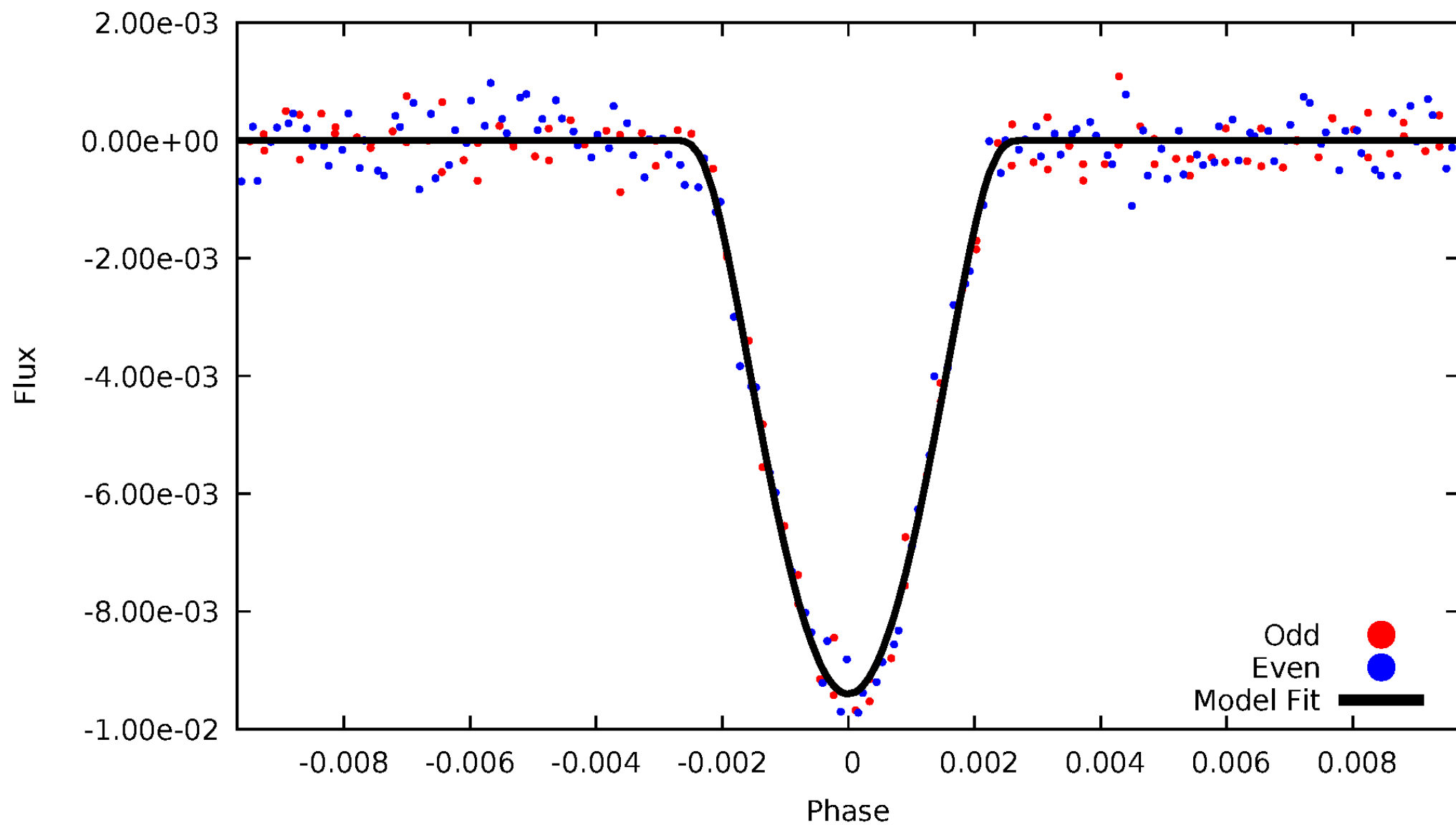


TCE 007658229-01



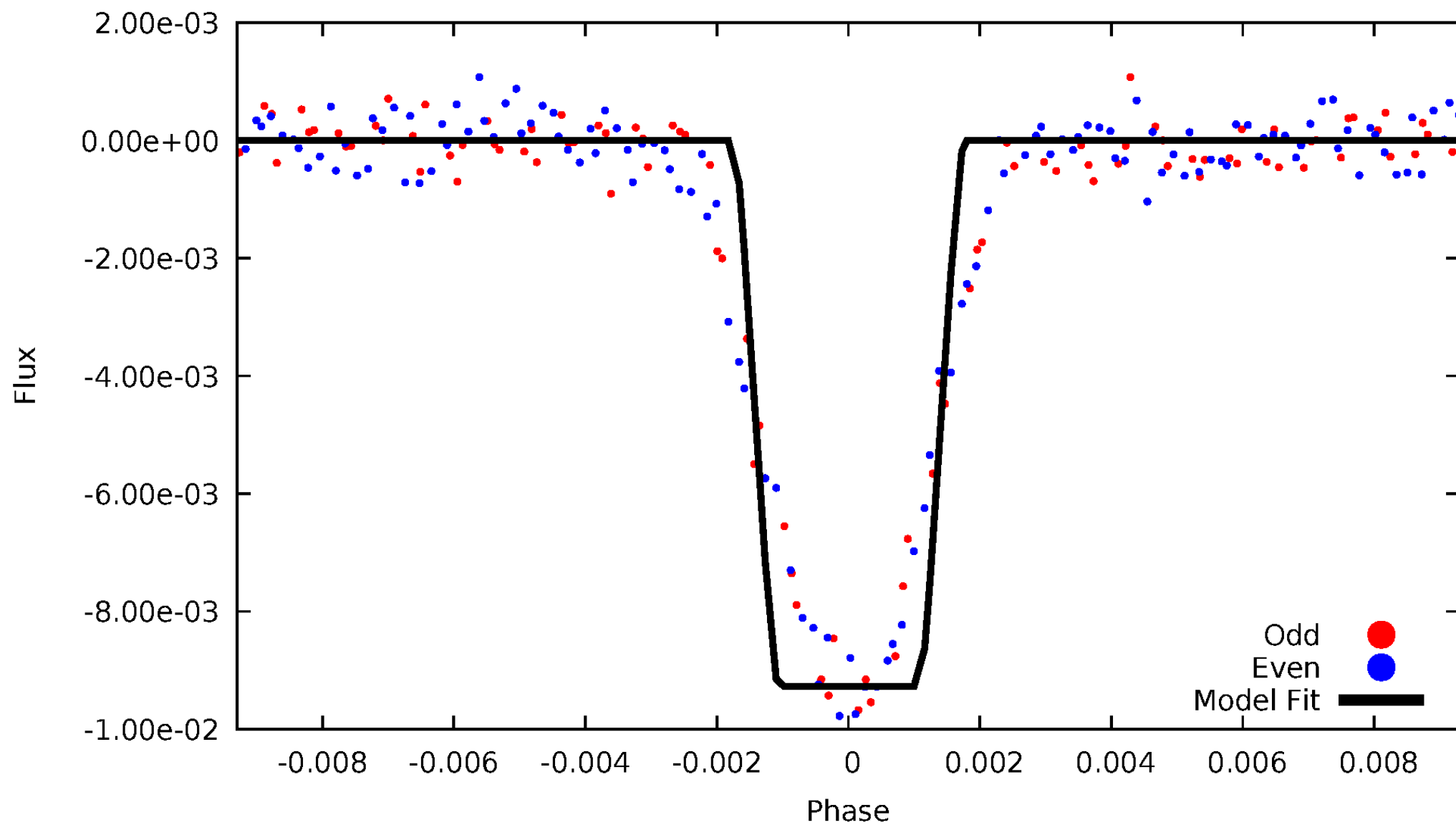
DV Odd/Even

TCE 007658229-01



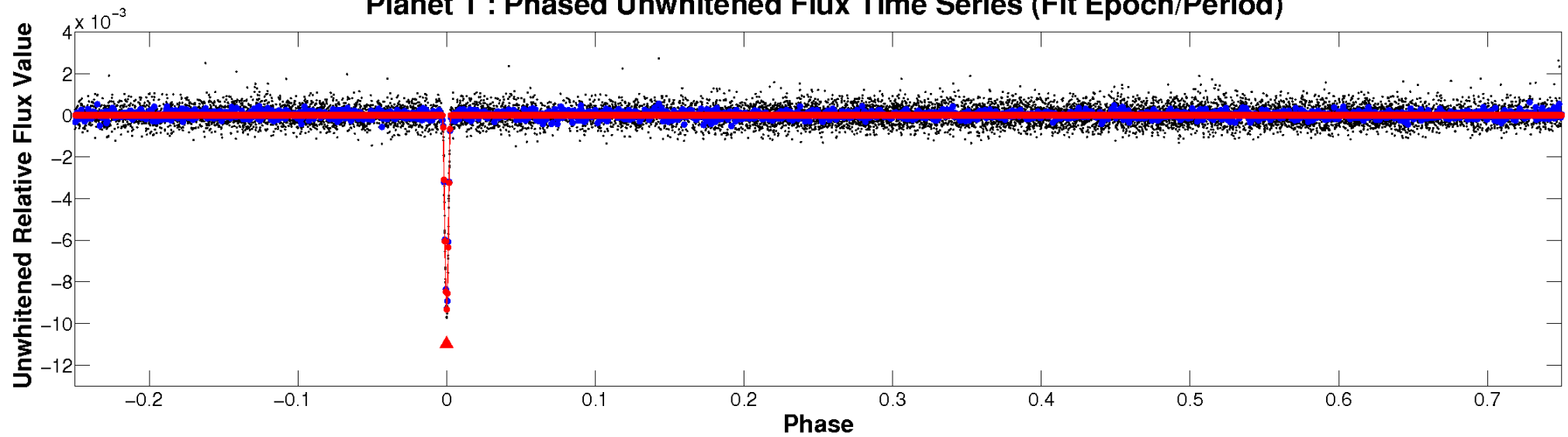
ALT Odd/Even

TCE 007658229-01

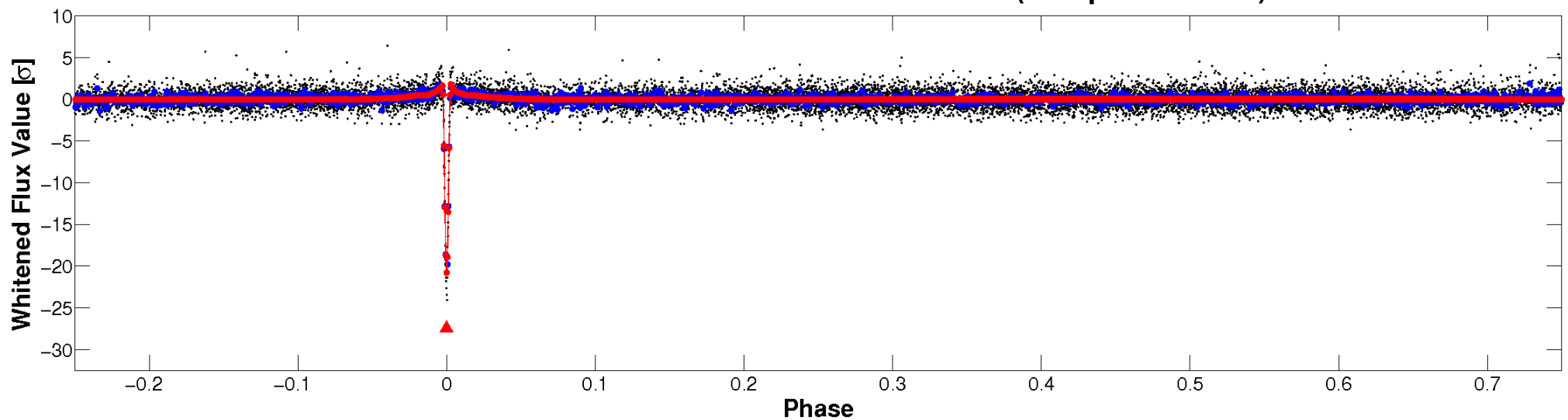


Non-Whitened Vs. Whitened Light Curve

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

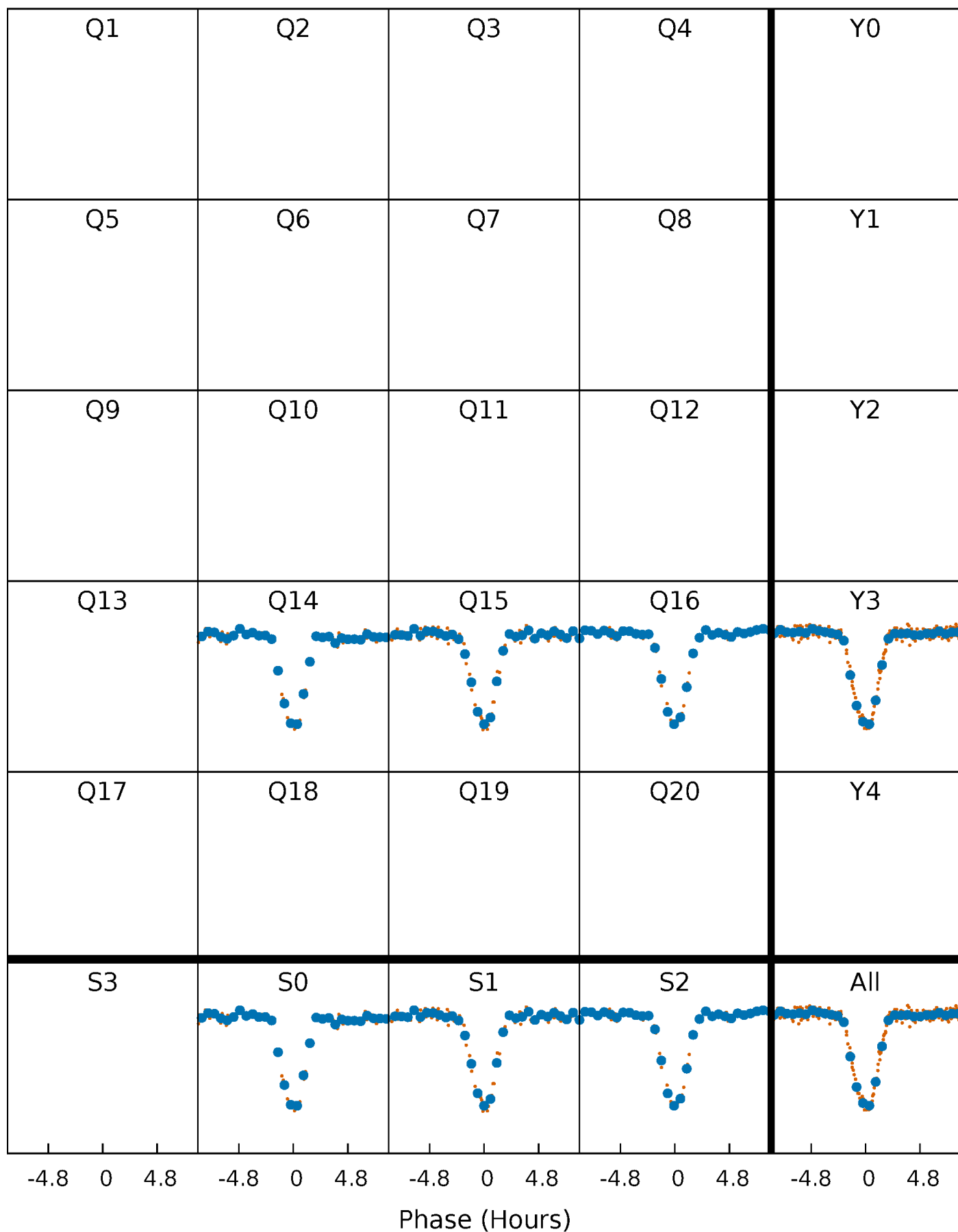


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



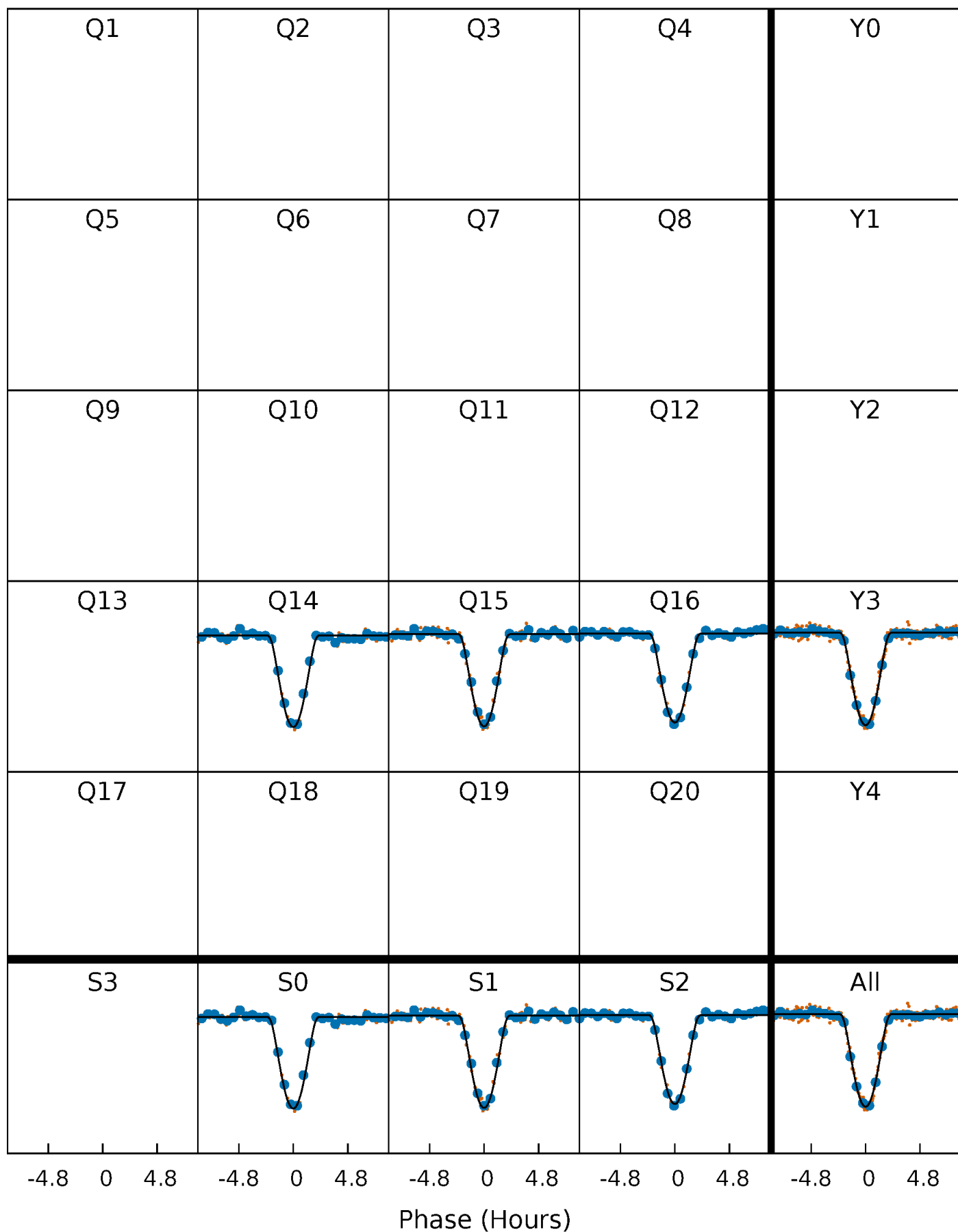
PDC Quarter-Phased Transit Curves

TCE 007658229-01 P= 36.182636 Days $T_0=144.699803$ (BKJD)



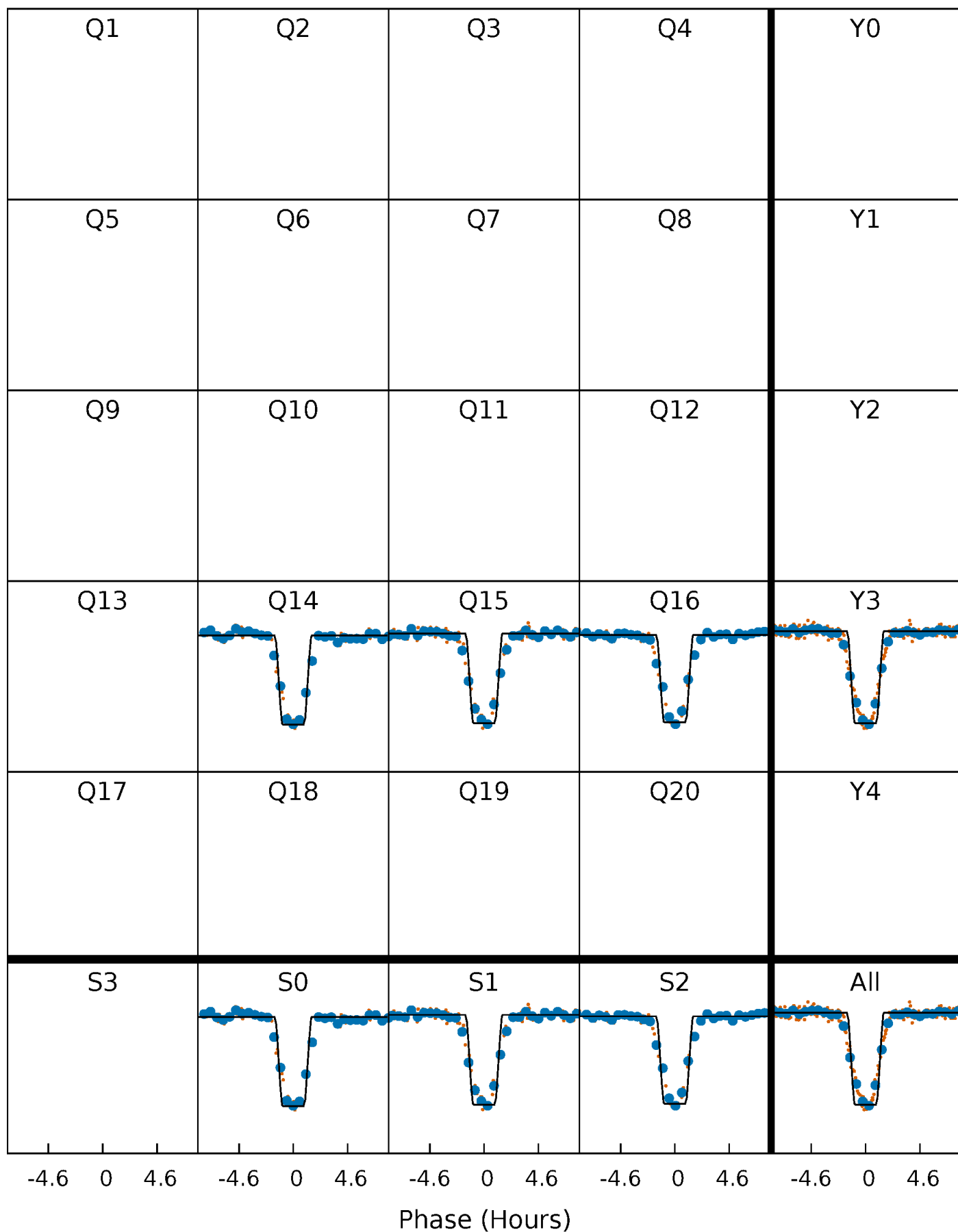
DV Quarter-Phased Transit Curves

TCE 007658229-01 P= 36.182636 Days $T_0=144.699803$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

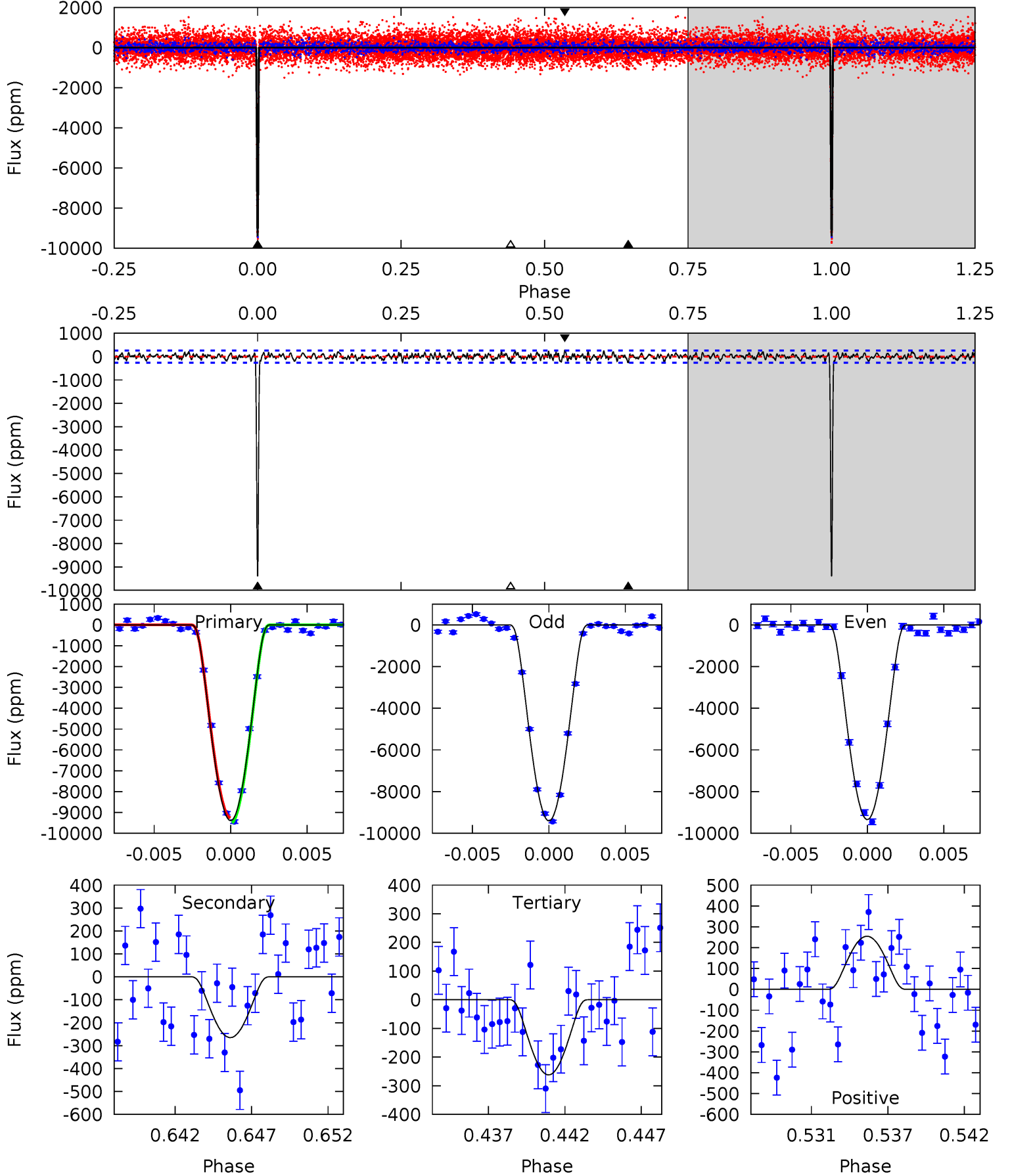
TCE 007658229-01 P= 36.183271 Days $T_0=144.677446$ (BKJD)



DV Model-Shift Uniqueness Test

007658229-01, $P = 36.182636$ Days, $E = 144.699803$ Days

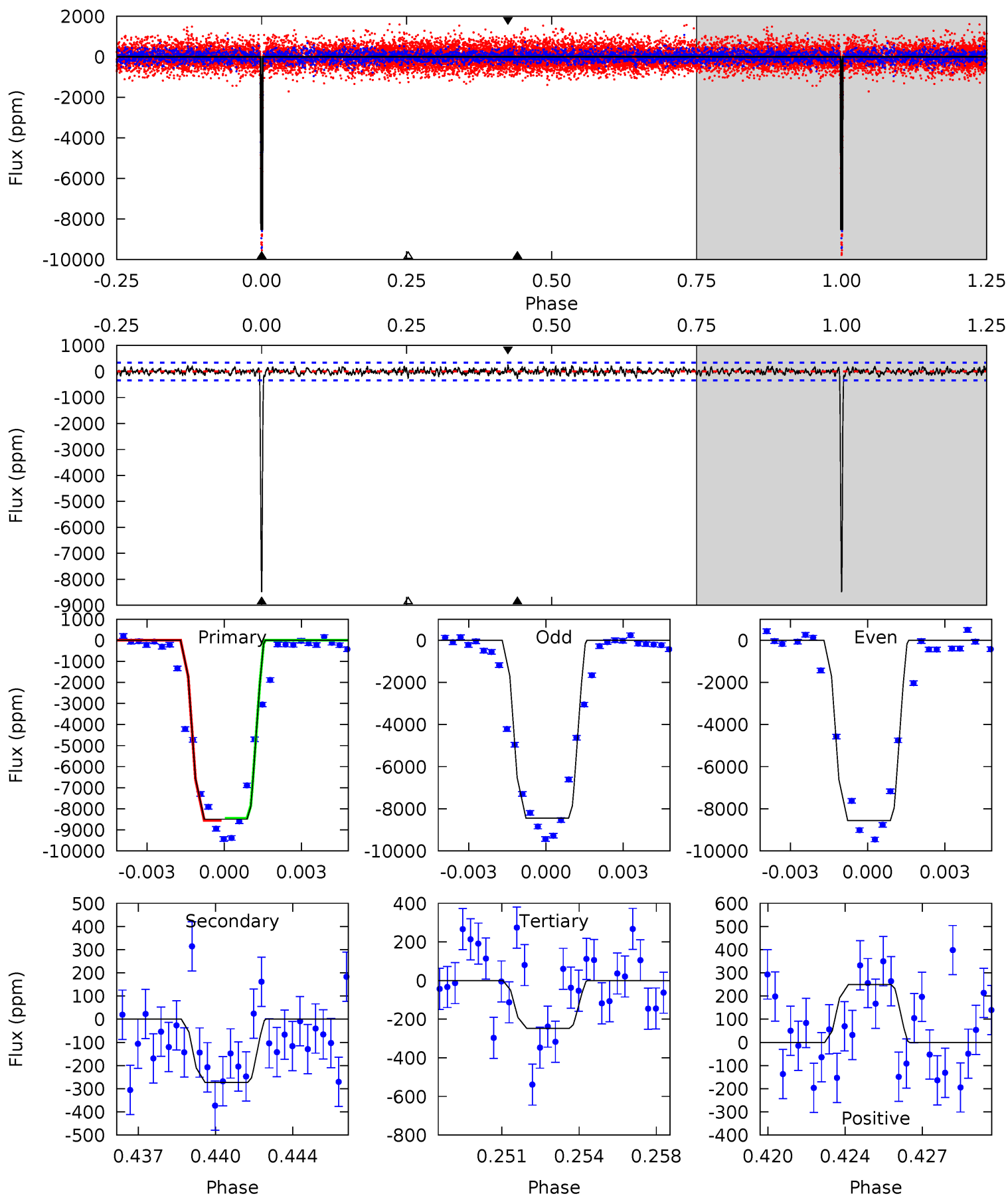
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
185.7	5.24	5.18	5.03	5.15	2.79	1.63	180.5	180.6	0.06	0.21	0.59	1.00	0.03	2.45



Alt Model-Shift Uniqueness Test

007658229-01, $P = 36.183271$ Days, $E = 144.677446$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
130.2	4.17	3.79	3.82	5.23	2.93	1.15	126.4	126.3	0.39	0.35	0.89	0.99	0.03	0.82



Stellar Parameters For KIC 007658229

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5696^{+186}_{-169}	$4.151^{+0.325}_{-0.175}$	$-0.160^{+0.300}_{-0.250}$	$1.321^{+0.357}_{-0.437}$	$0.901^{+0.125}_{-0.091}$	$0.551^{+1.178}_{-0.248}$
	+3%/-3%	+8%/-4%	+188%/-156%	+27%/-33%	+14%/-10%	+214%/-45%
Source	KIC0	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 007658229-01 / KOI 5409.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-265 ± 51	$21.51^{+10.52}_{-10.28}$	881^{+71}_{-77}	2639^{+475}_{-232}	14^{+38}_{-8}
Alt.	-272 ± 65	$14.37^{+9.02}_{-8.35}$	885^{+68}_{-88}	2949^{+900}_{-360}	31^{+152}_{-20}

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

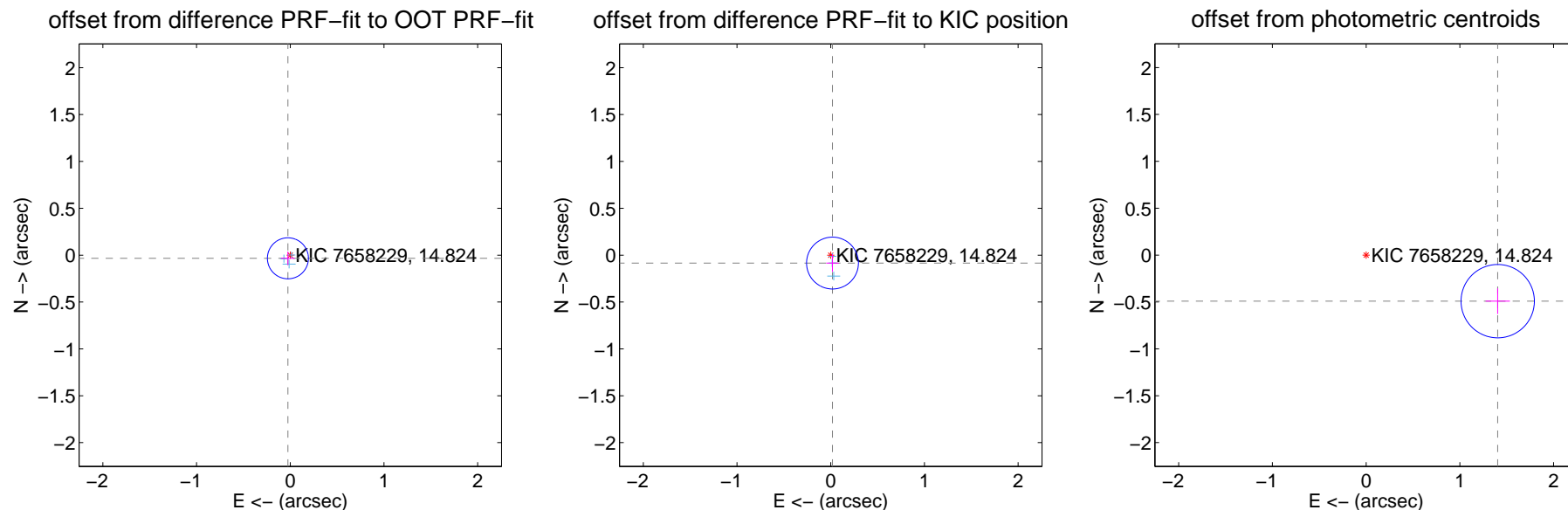
DV Centroid Data

Supplemental centroid analysis for 007658229-01. Kepler magnitude: 14.82. Transit SNR 101.36

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.042 ± 0.073	0.57	0.025 ± 0.073	-0.034 ± 0.073
PRF-fit source offset from KIC position	0.086 ± 0.092	0.94	-0.019 ± 0.067	-0.084 ± 0.093
photometric centroid source offset	1.49 ± 0.13	11.41	-1.40 ± 0.13	-0.49 ± 0.14



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.



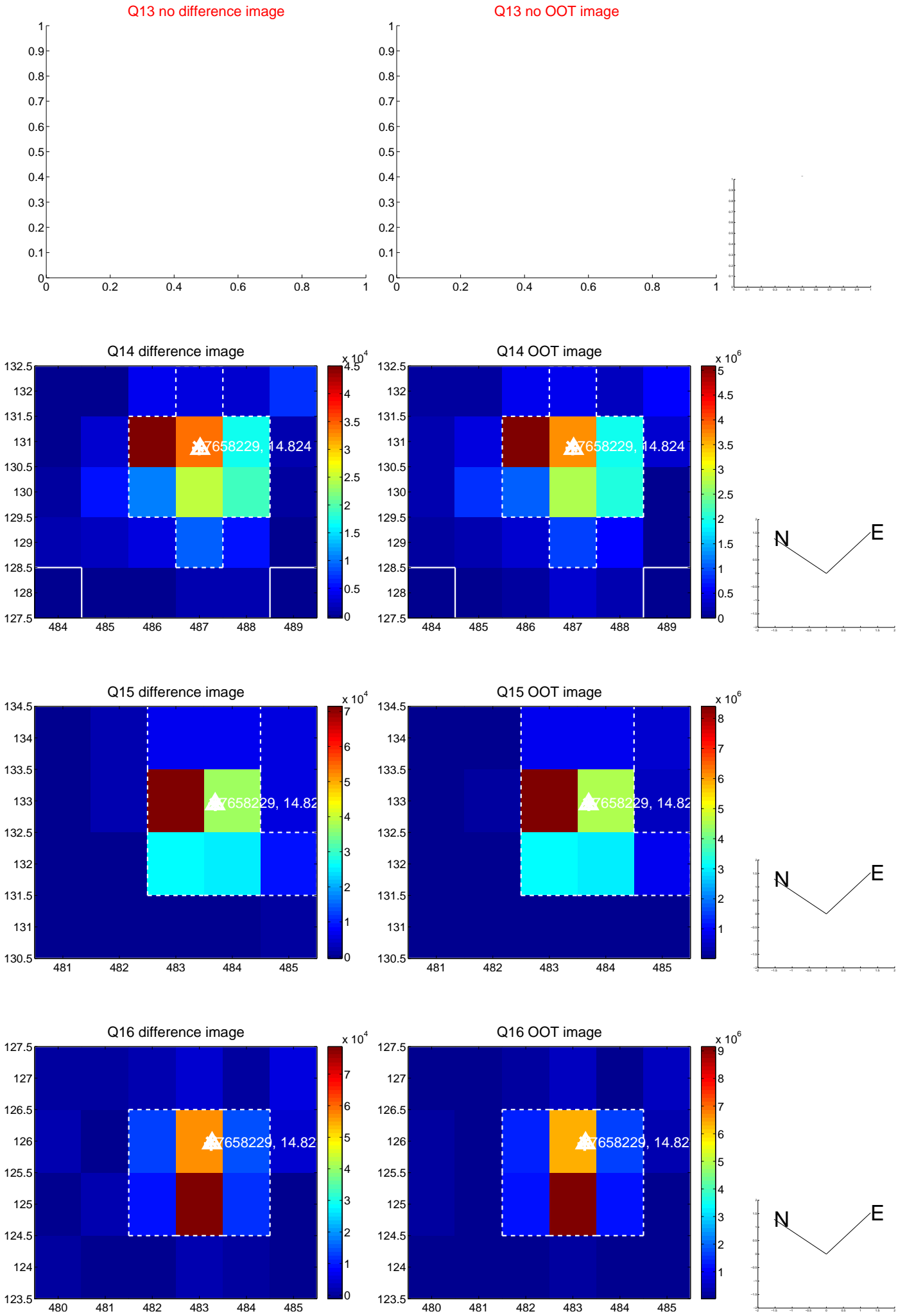
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



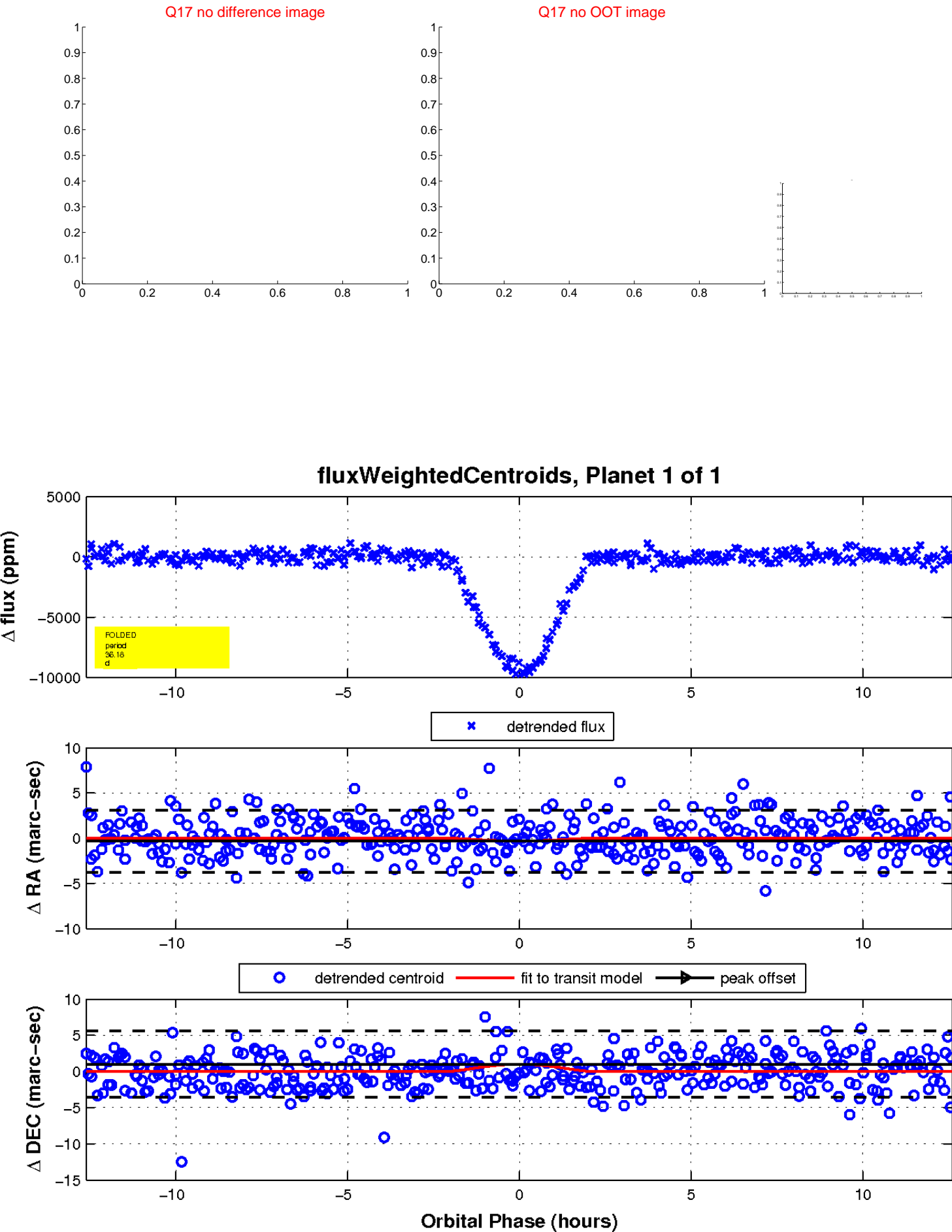
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

