

KIC 008742270

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})
008742270-01	OBS	5567.01	397.395750	374.570748	29646.7	6.058	381.1	348.5	1.36	5544	36.38	1.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008742270-01	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.

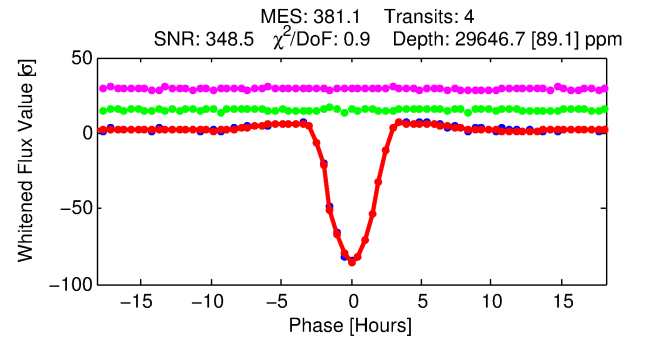
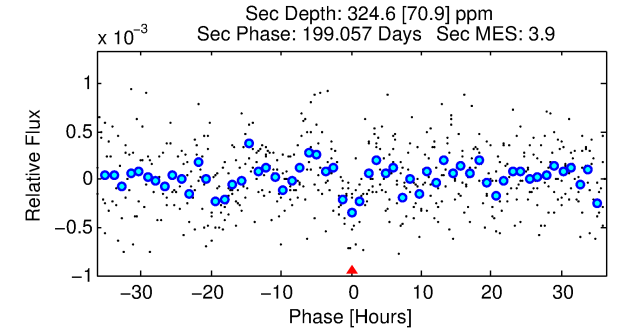
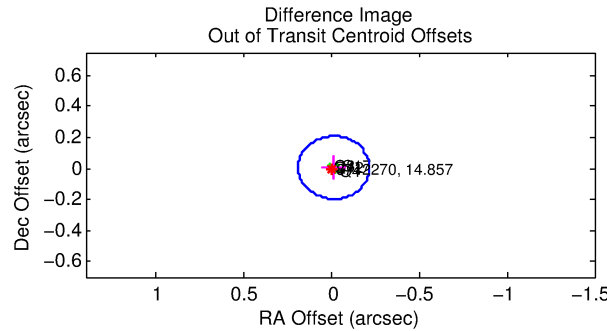
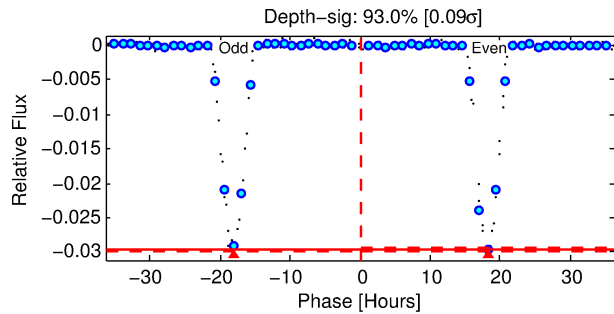
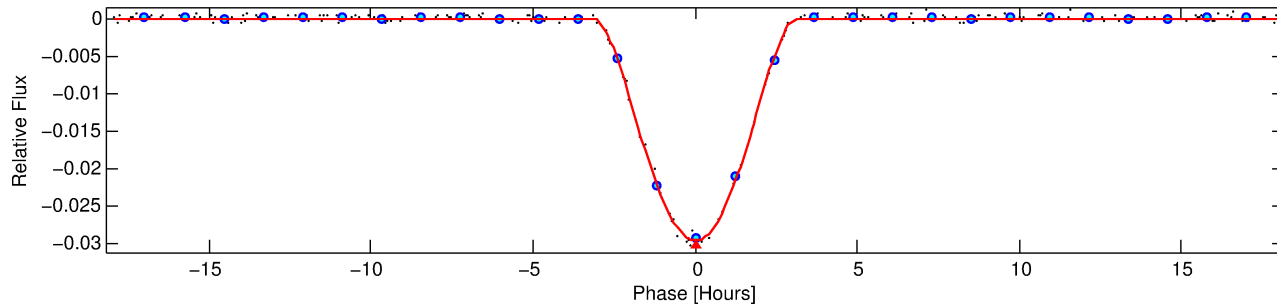
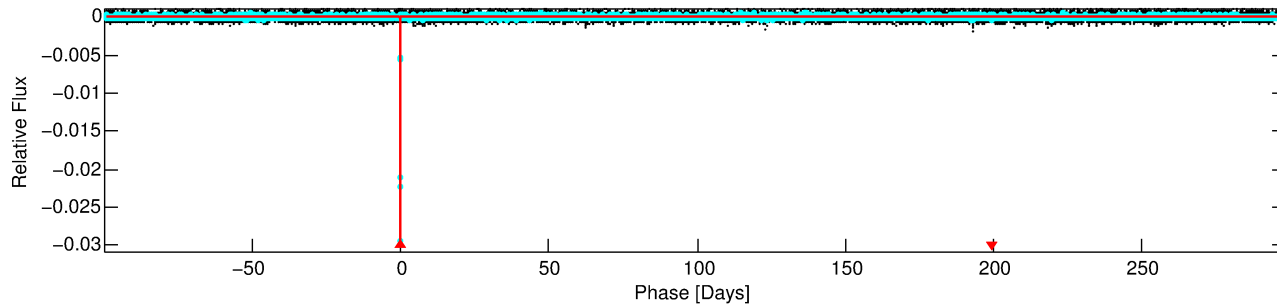
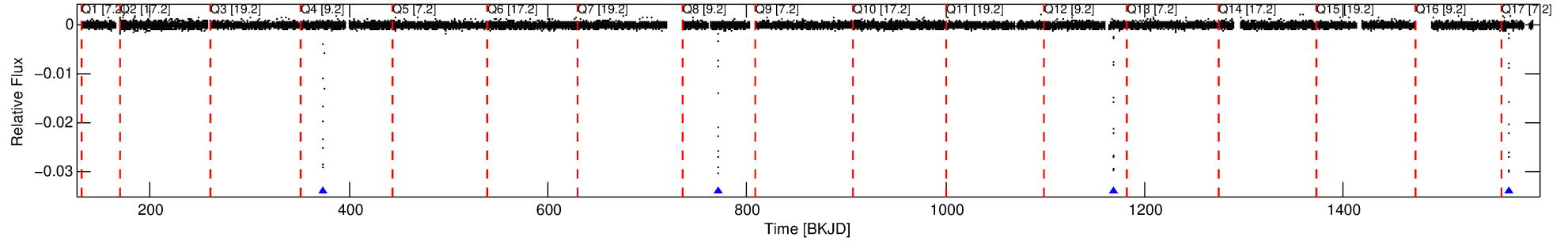
Ephemeris Match Information For 008742270-01

No Significant Match Found

DV One-Page Summary

KIC: 8742270 Candidate: 1 of 1 Period: 397.396 d
KOI: K05567.01 Corr: 1.000

Kp: 14.86 R*: 1.36 Rs Teff: 5544.0 K Logg: 4.15 Fe/H: 0.100



DV Fit Results:

Period = 397.39575 [0.00018] d
Epoch = 374.5707 [0.0003] BKJD
Rp/R* = 0.2448 [0.0296]
a/R* = 401.64 [5.31]
b = 0.95 [0.04]
Seff = 1.45 [0.54]
Teq = 280 [26] K
Rp = 36.38 [9.14] Re
a = 1.0390 [0.2307] AU
Ag = 145.66 [71.19] [2.03σ]
Teff = 1504 [125] K [9.61σ]

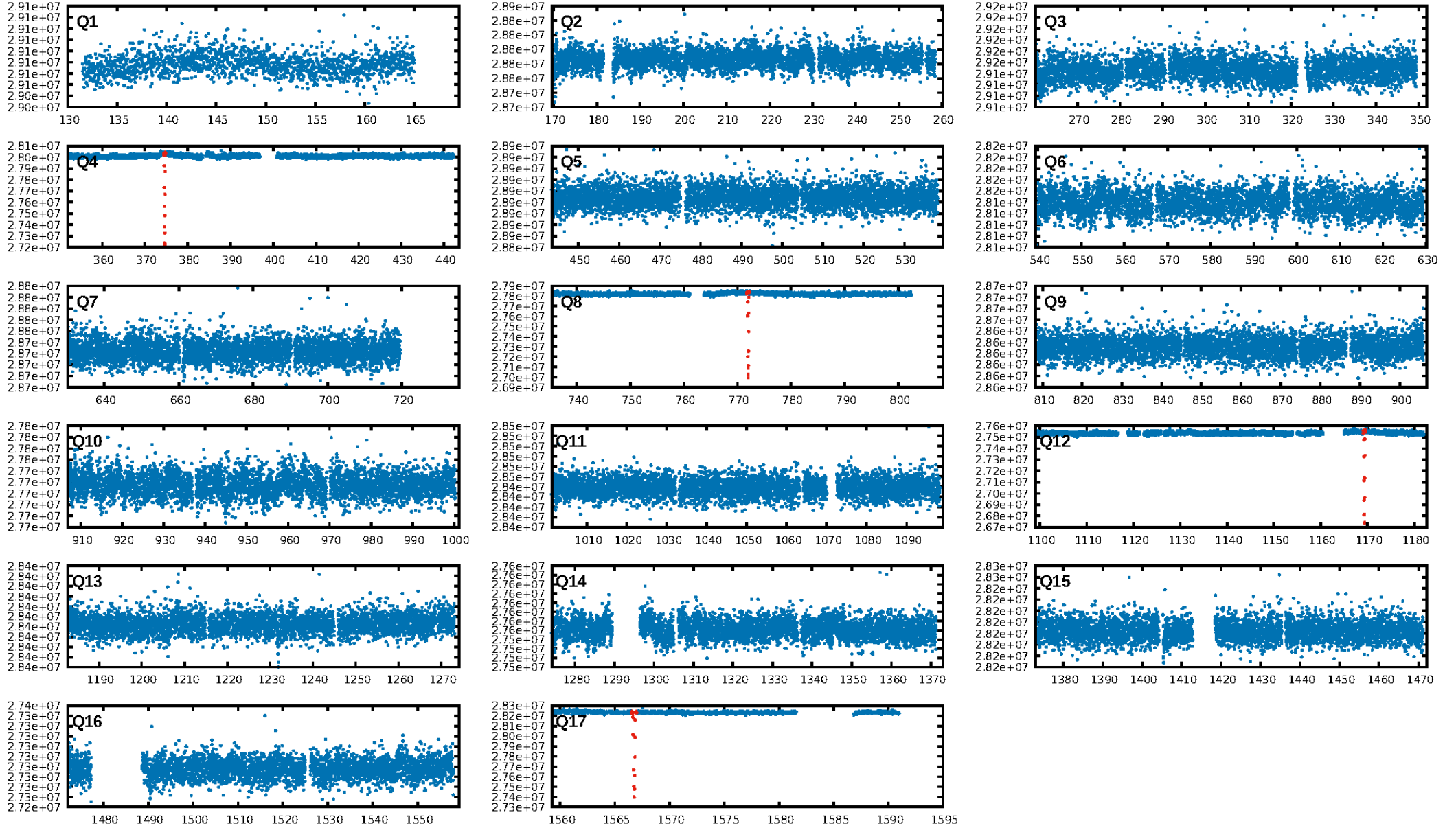
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.4%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.596
Centroid-sig: N/A
Centroid-so: 0.121 arcsec [3.14σ]
OotOffset-rm: 0.014 arcsec [0.21σ]
KicOffset-rm: 0.195 arcsec [2.86σ]
OotOffset-st: 0/0/3/1 [4]
KicOffset-st: 0/0/3/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

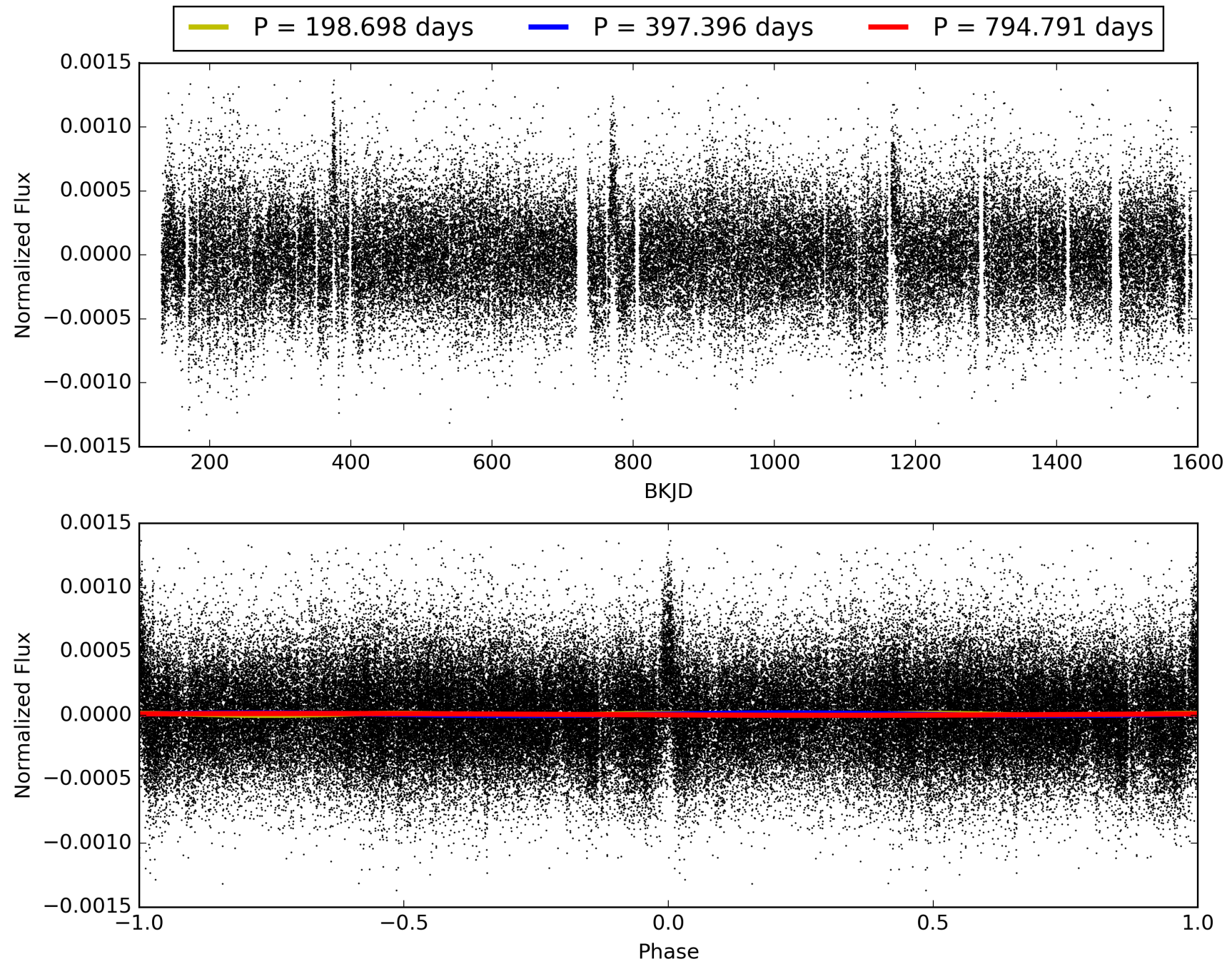
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:05:53 Z

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

TCE 008742270-01, PDC Light Curves

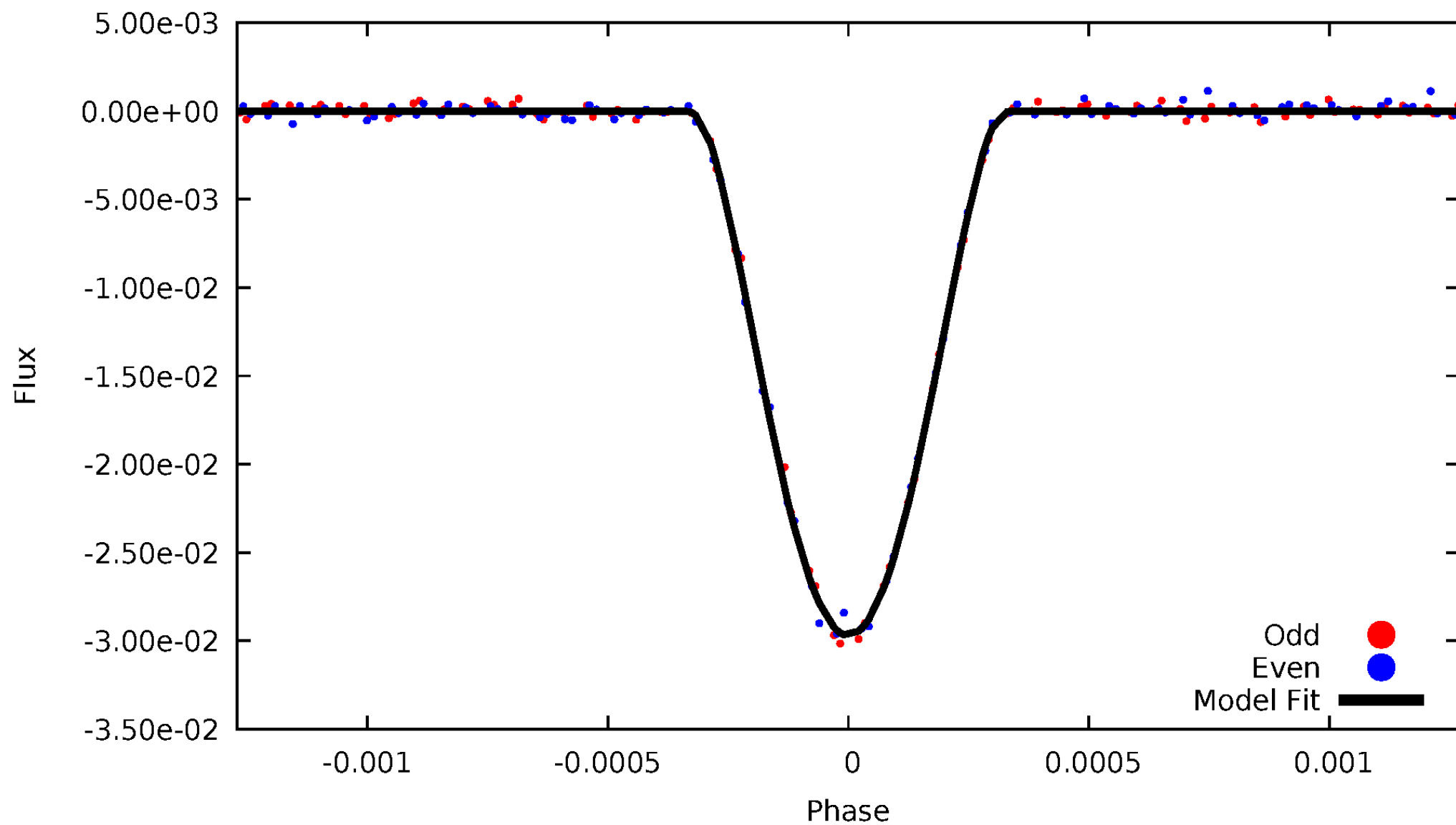


TCE 008742270-01



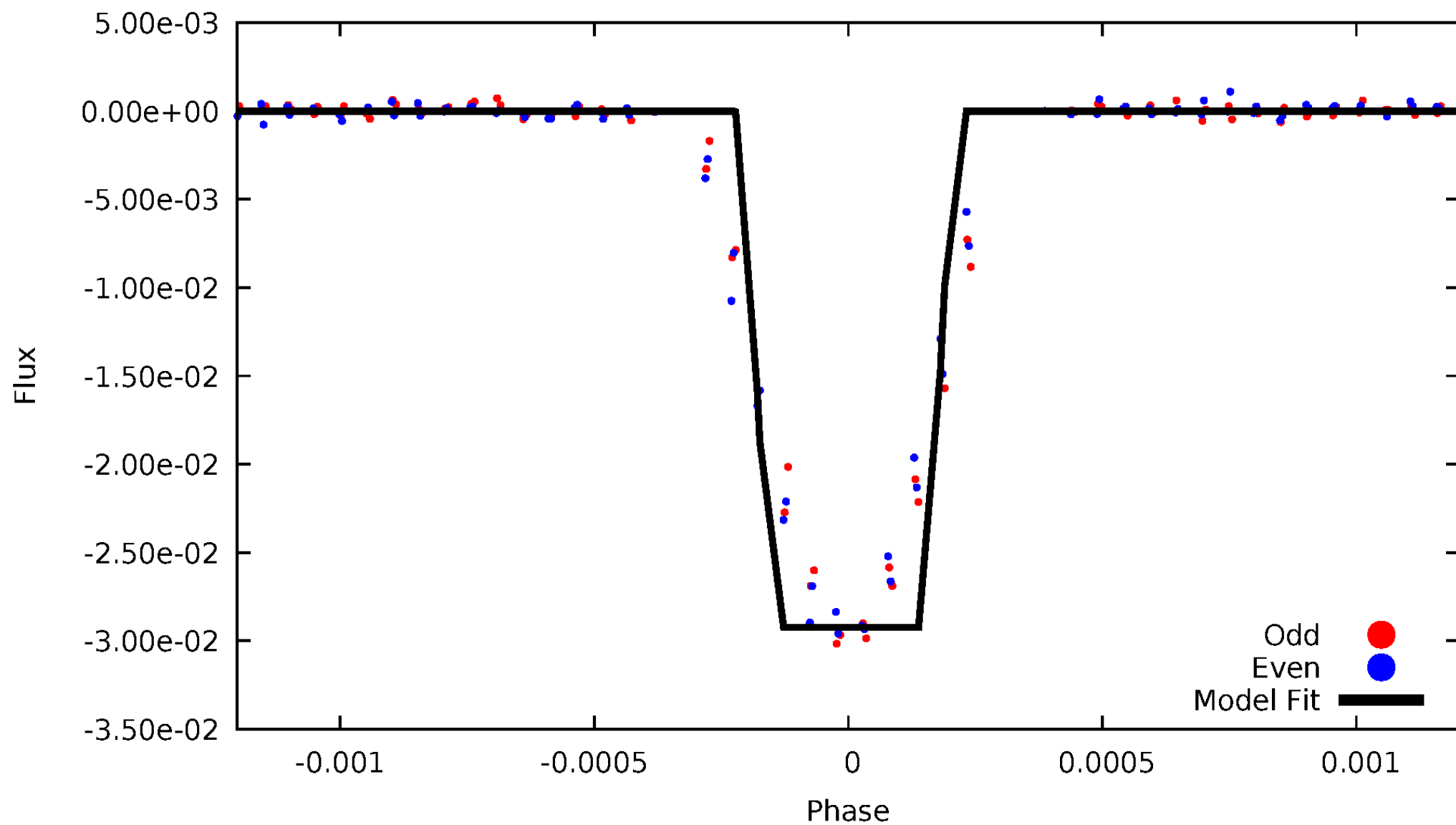
DV Odd/Even

TCE 008742270-01



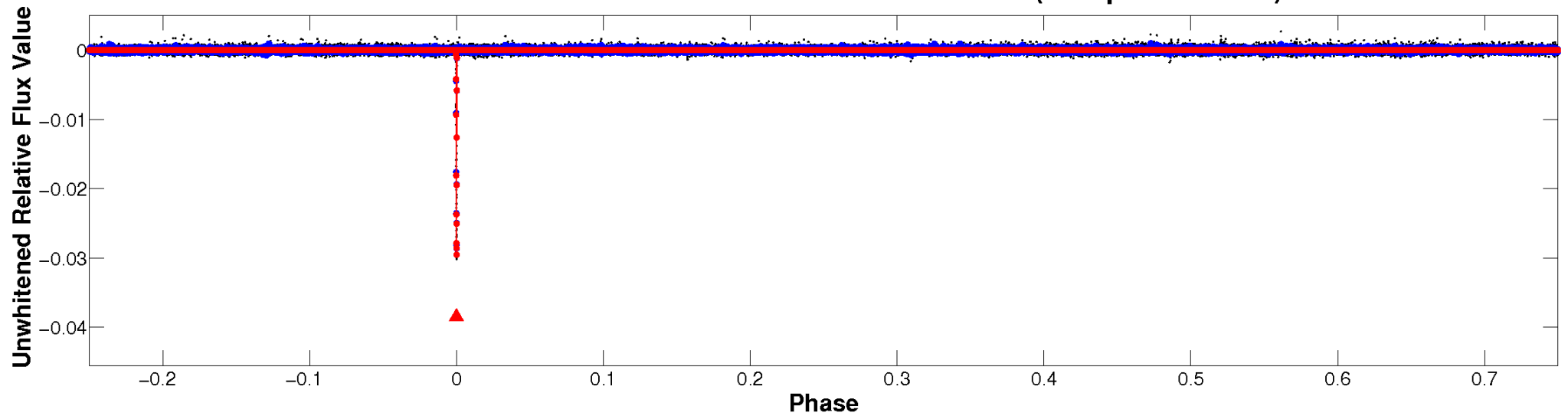
ALT Odd/Even

TCE 008742270-01

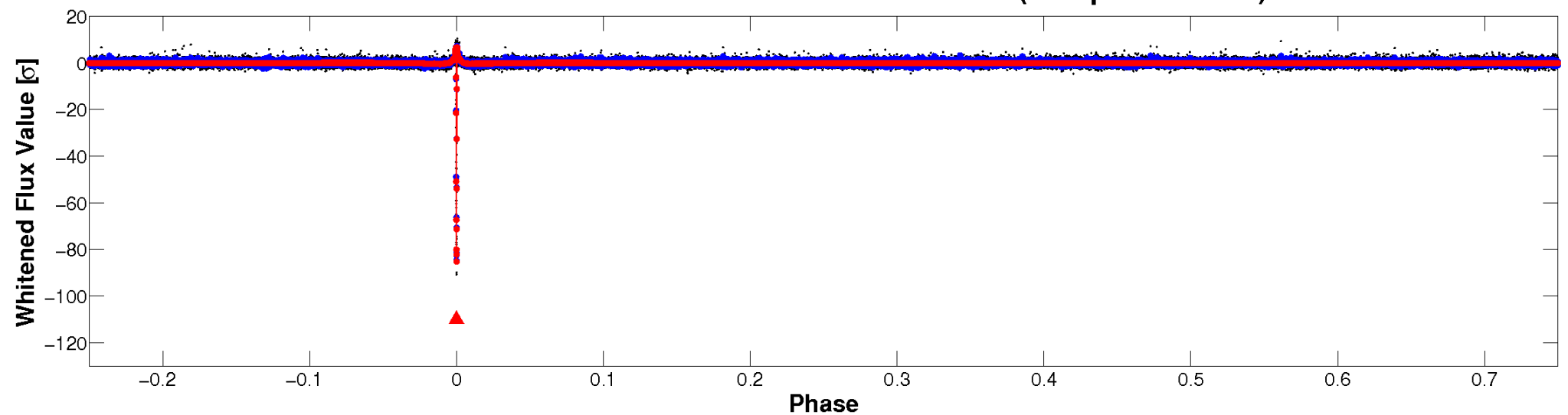


Non-Whitened Vs. Whitened Light Curve

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

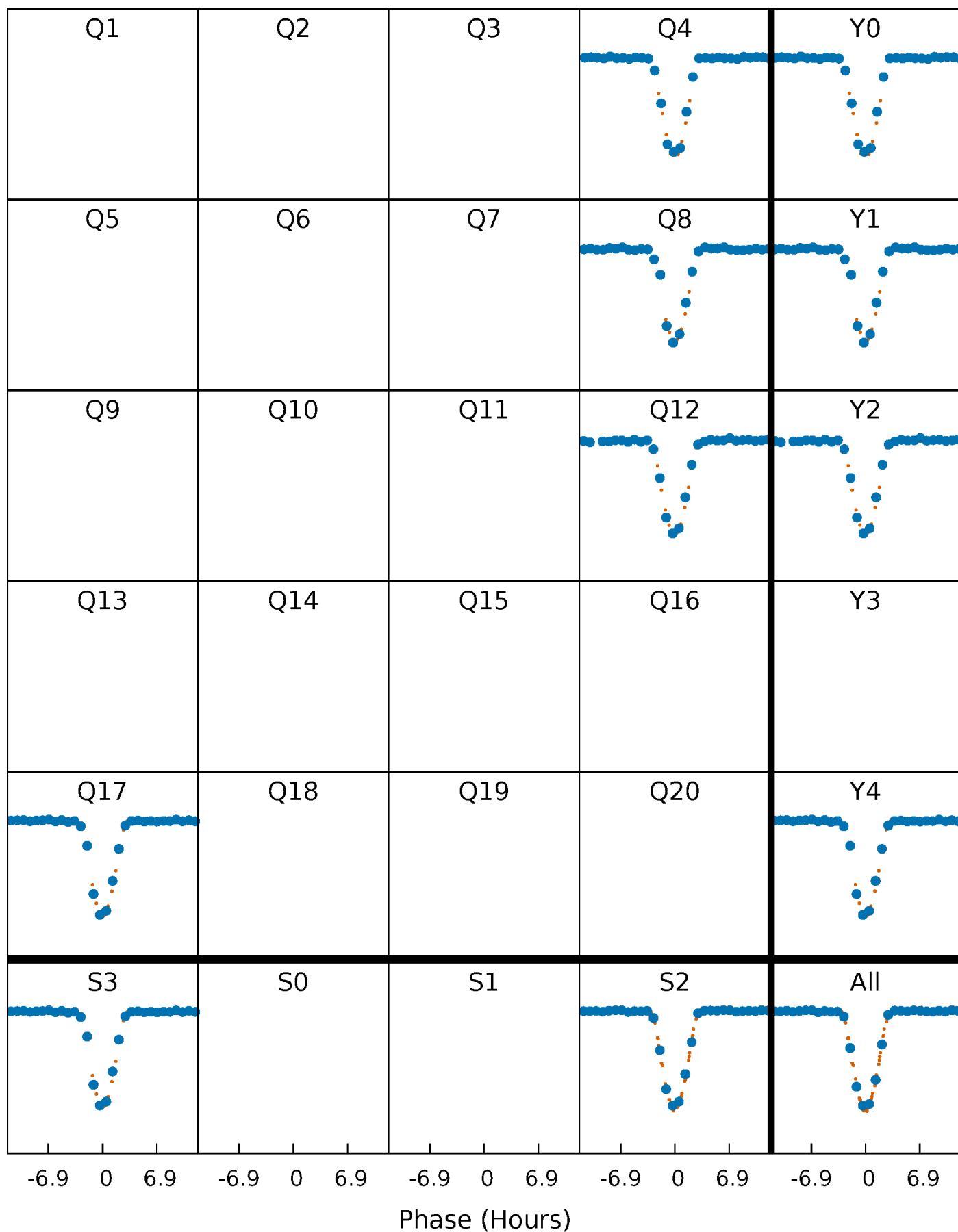


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



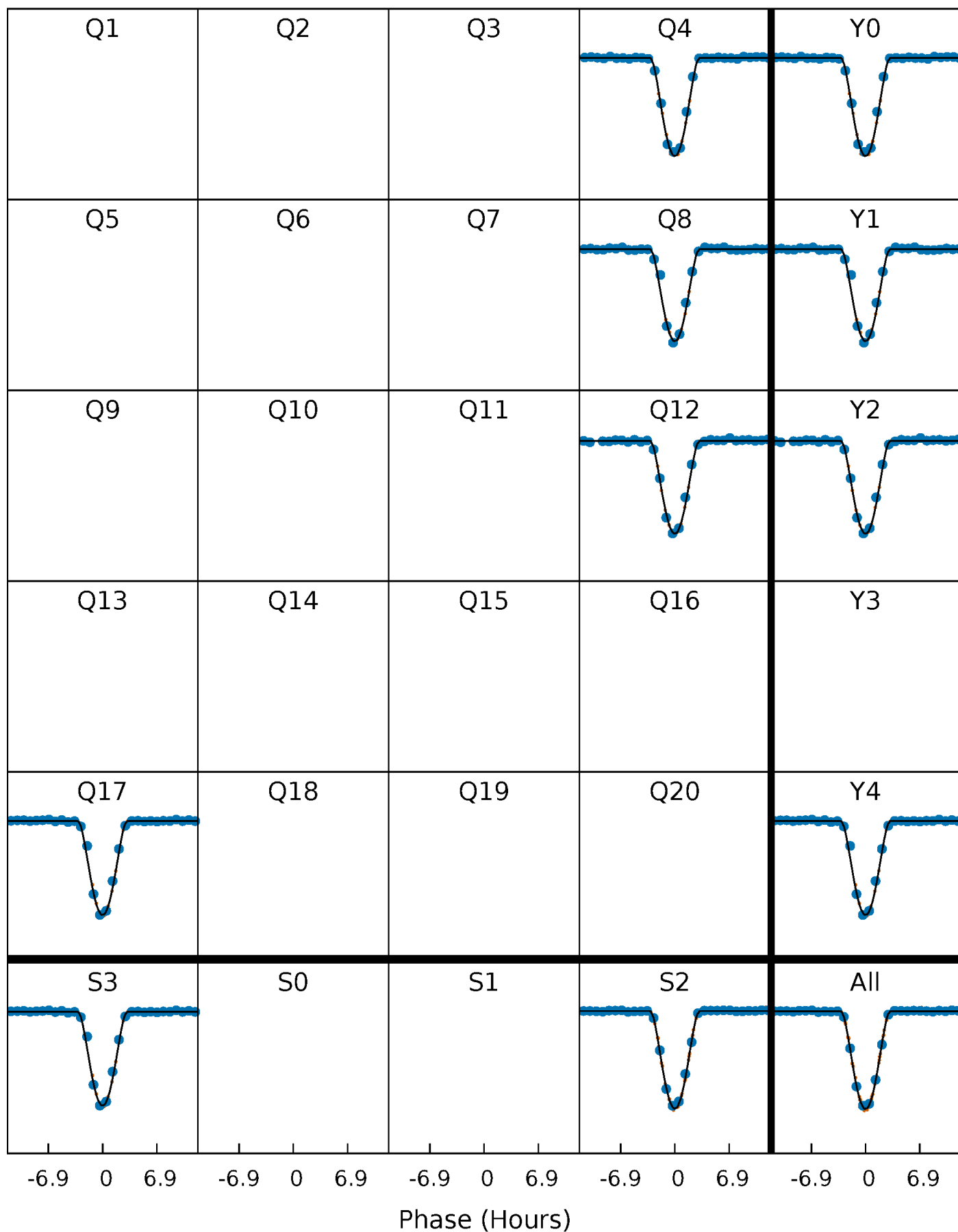
PDC Quarter-Phased Transit Curves

TCE 008742270-01 P=397.395750 Days $T_0=374.570748$ (BKJD)



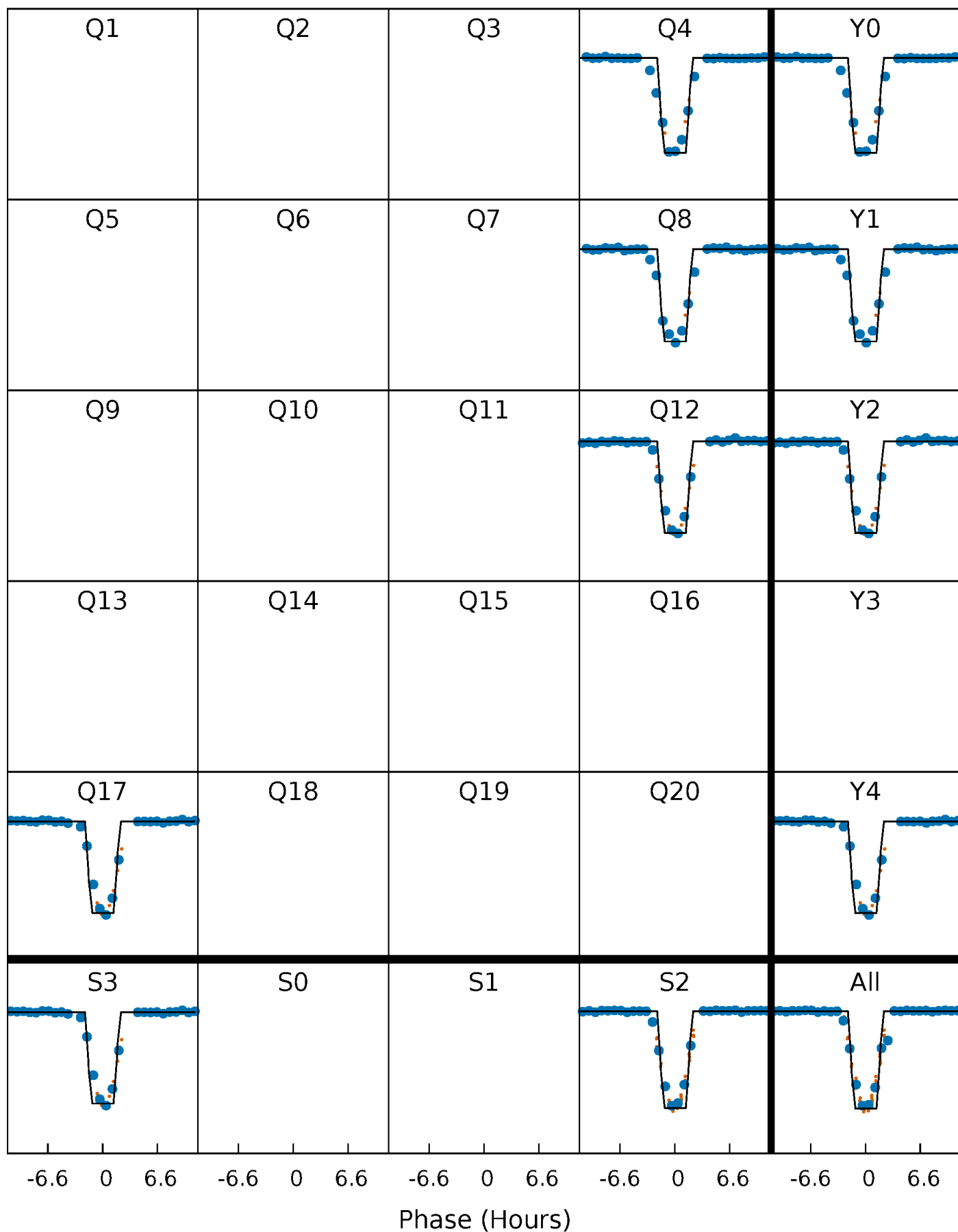
DV Quarter-Phased Transit Curves

TCE 008742270-01 P=397.395750 Days $T_0=374.570748$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

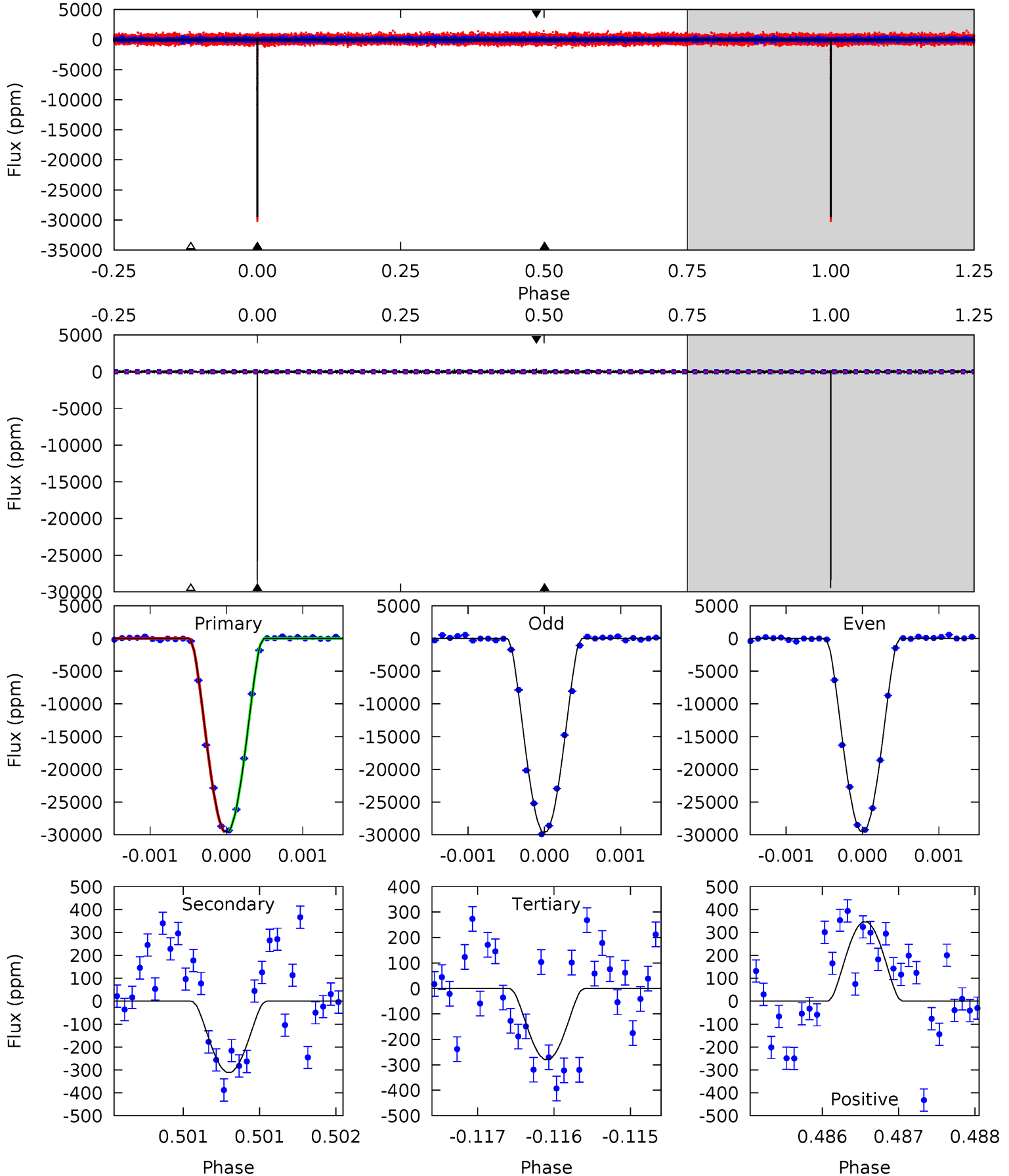
TCE 008742270-01 P=397.391875 Days $T_0=374.576930$ (BKJD)



DV Model-Shift Uniqueness Test

008742270-01, P = 397.395750 Days, E = 374.570748 Days

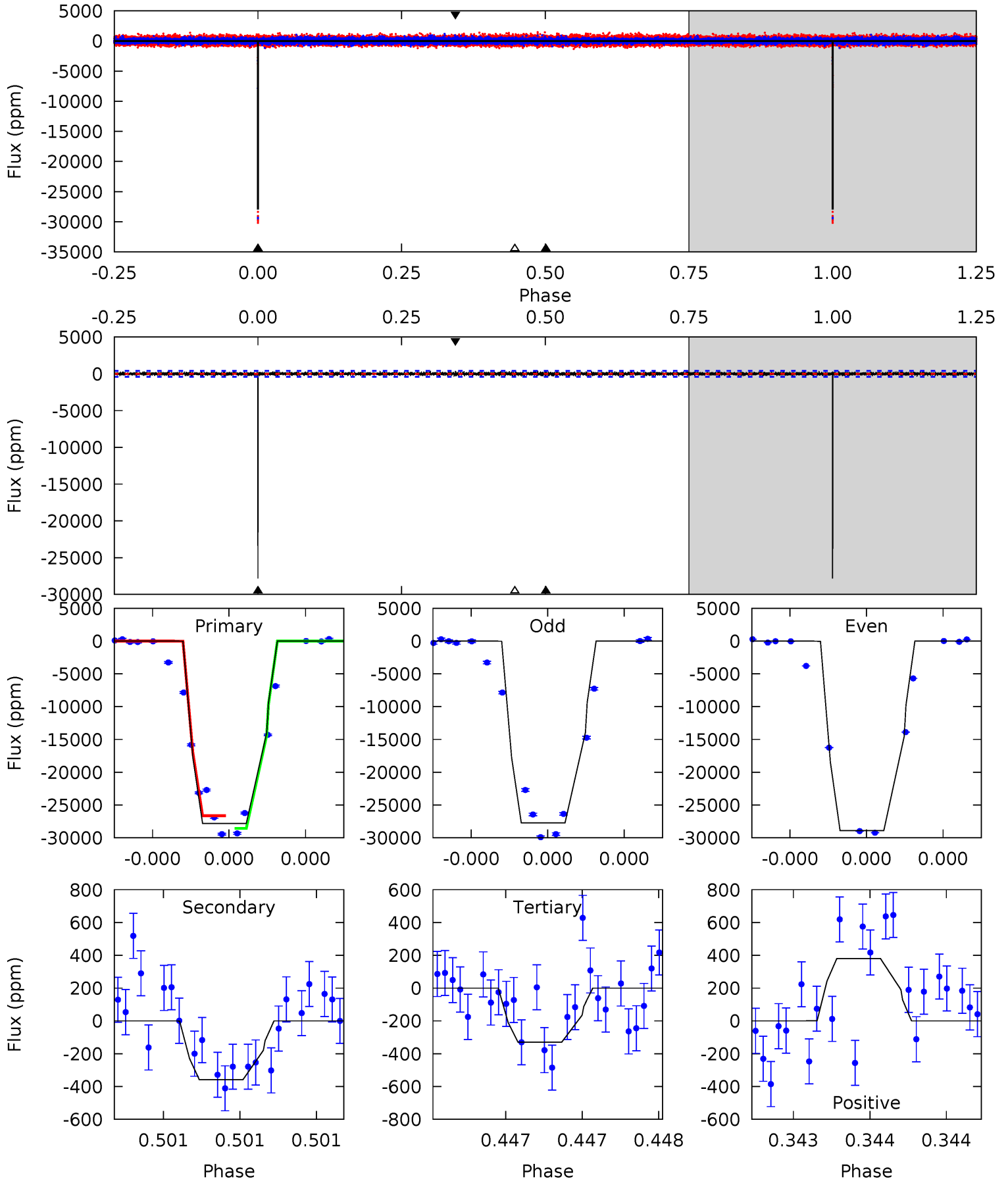
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
674.9	7.10	6.39	7.91	5.52	3.40	1.61	668.5	667.0	0.71	-0.80	1.25	1.00	0.01	0



Alt Model-Shift Uniqueness Test

008742270-01, P = 397.391875 Days, E = 374.576930 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
388.0	5.00	4.60	5.30	5.63	3.56	1.31	383.4	382.7	0.40	-0.30	8.11	1.00	0.01	12.6



Stellar Parameters For KIC 008742270

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5544^{+83}_{-72}	$4.146^{+0.217}_{-0.093}$	$0.100^{+0.150}_{-0.100}$	$1.362^{+0.218}_{-0.300}$	$0.946^{+0.071}_{-0.051}$	$0.527^{+0.577}_{-0.174}$
	+1%/-1%	+5%/-2%	+150%/-100%	+16%/-22%	+8%/-5%	+109%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 008742270-01 / KOI 5567.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-310 ± 44	$35.56^{+5.99}_{-5.69}$	390^{+17}_{-27}	2376^{+89}_{-71}	147^{+65}_{-43}
Alt.	-358 ± 72	$24.53^{+5.48}_{-4.78}$	388^{+17}_{-23}	2636^{+158}_{-130}	347^{+220}_{-123}

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

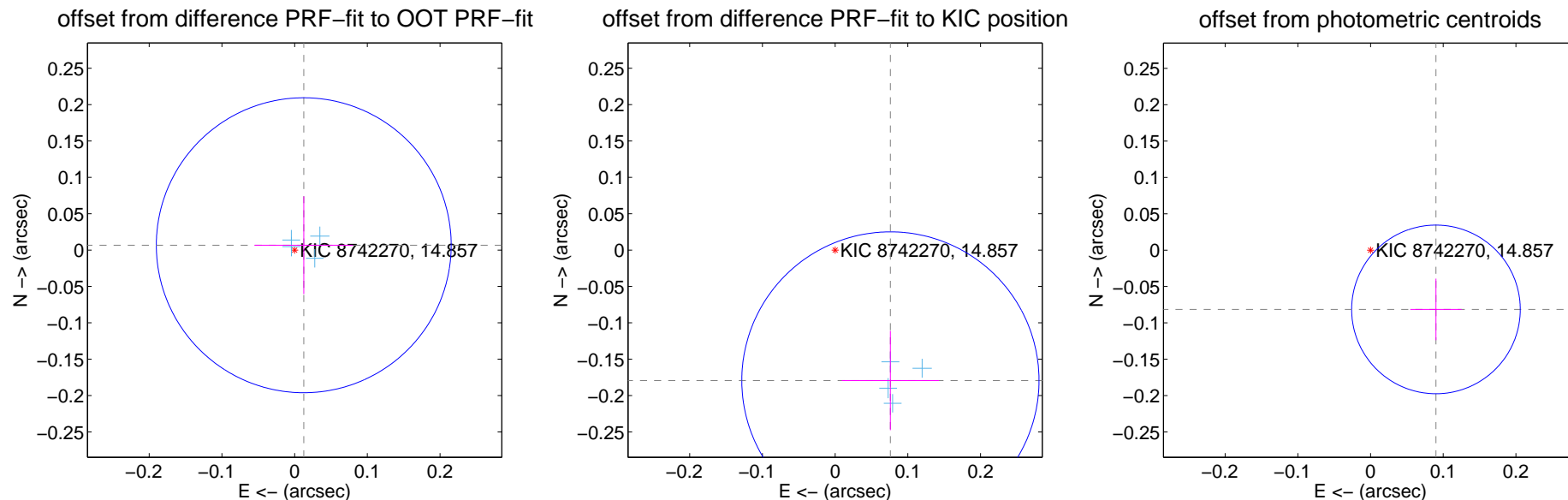
DV Centroid Data

Supplemental centroid analysis for 008742270-01. Kepler magnitude: 14.86. Transit SNR 348.46

There are 4 quarters with good PRF difference image offsets

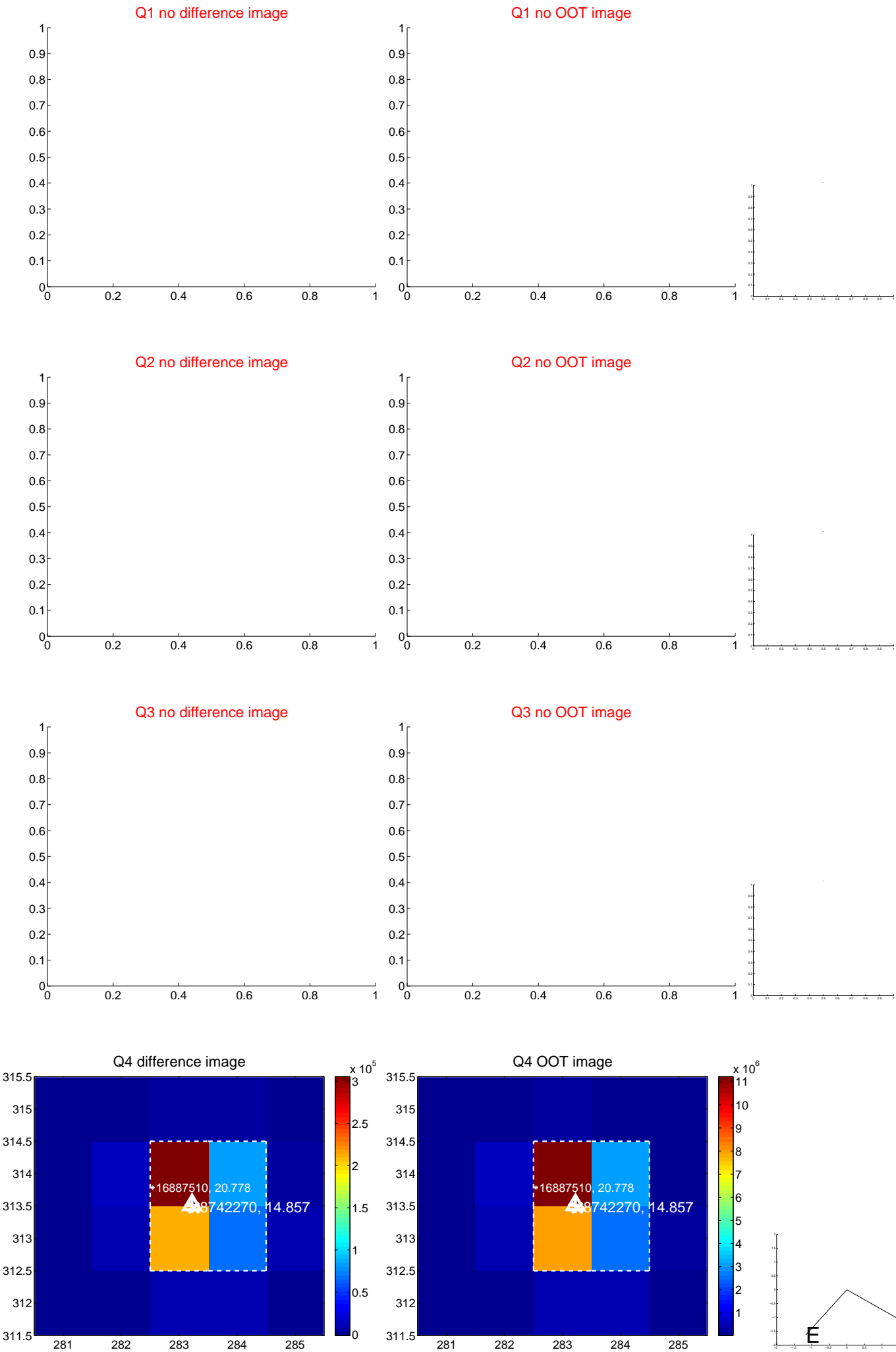
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.014 ± 0.068	0.21	-0.013 ± 0.068	0.007 ± 0.067
PRF-fit source offset from KIC position	0.195 ± 0.068	2.86	-0.076 ± 0.067	-0.179 ± 0.068
photometric centroid source offset	0.12 ± 0.04	3.14	-0.09 ± 0.04	-0.08 ± 0.04

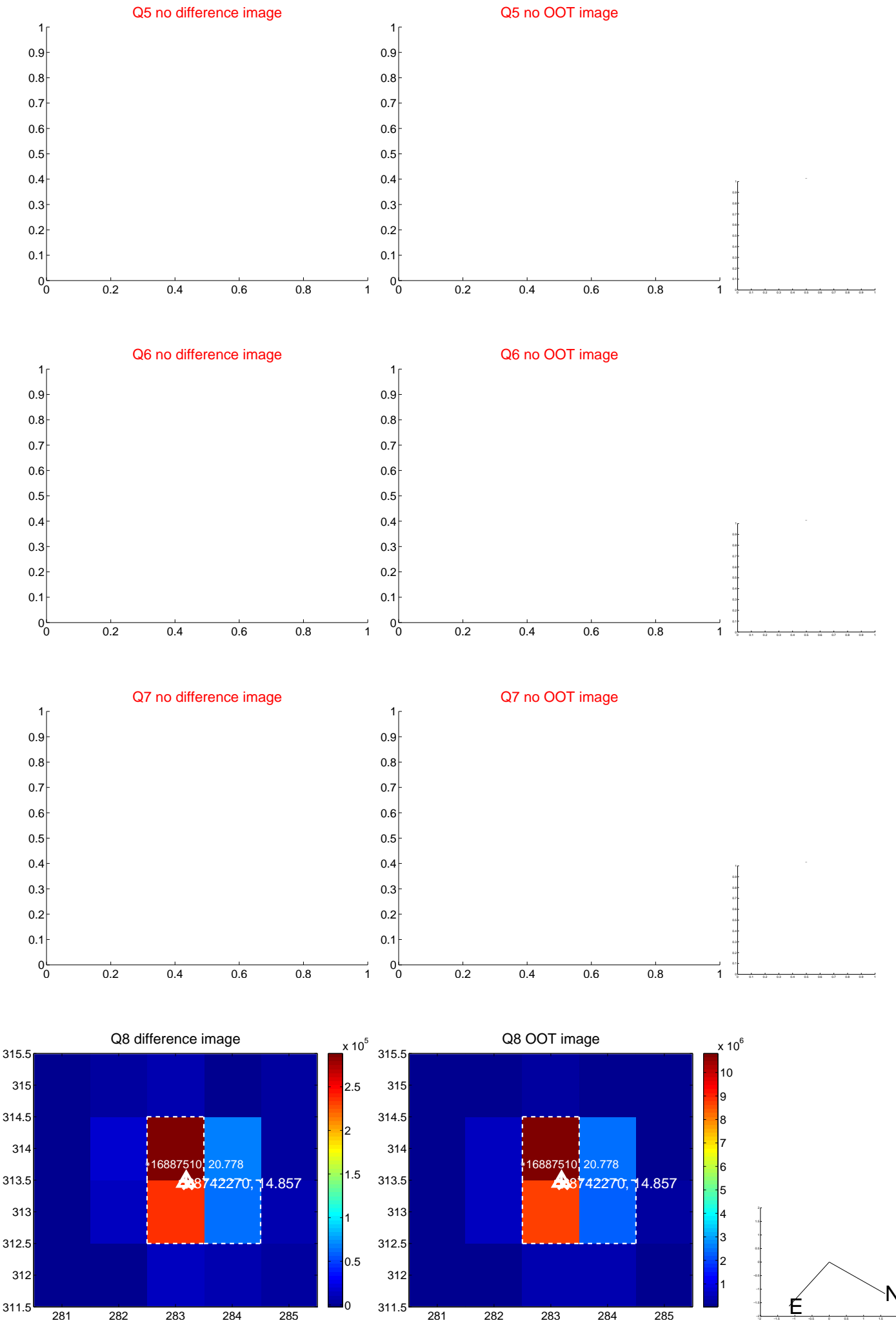


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

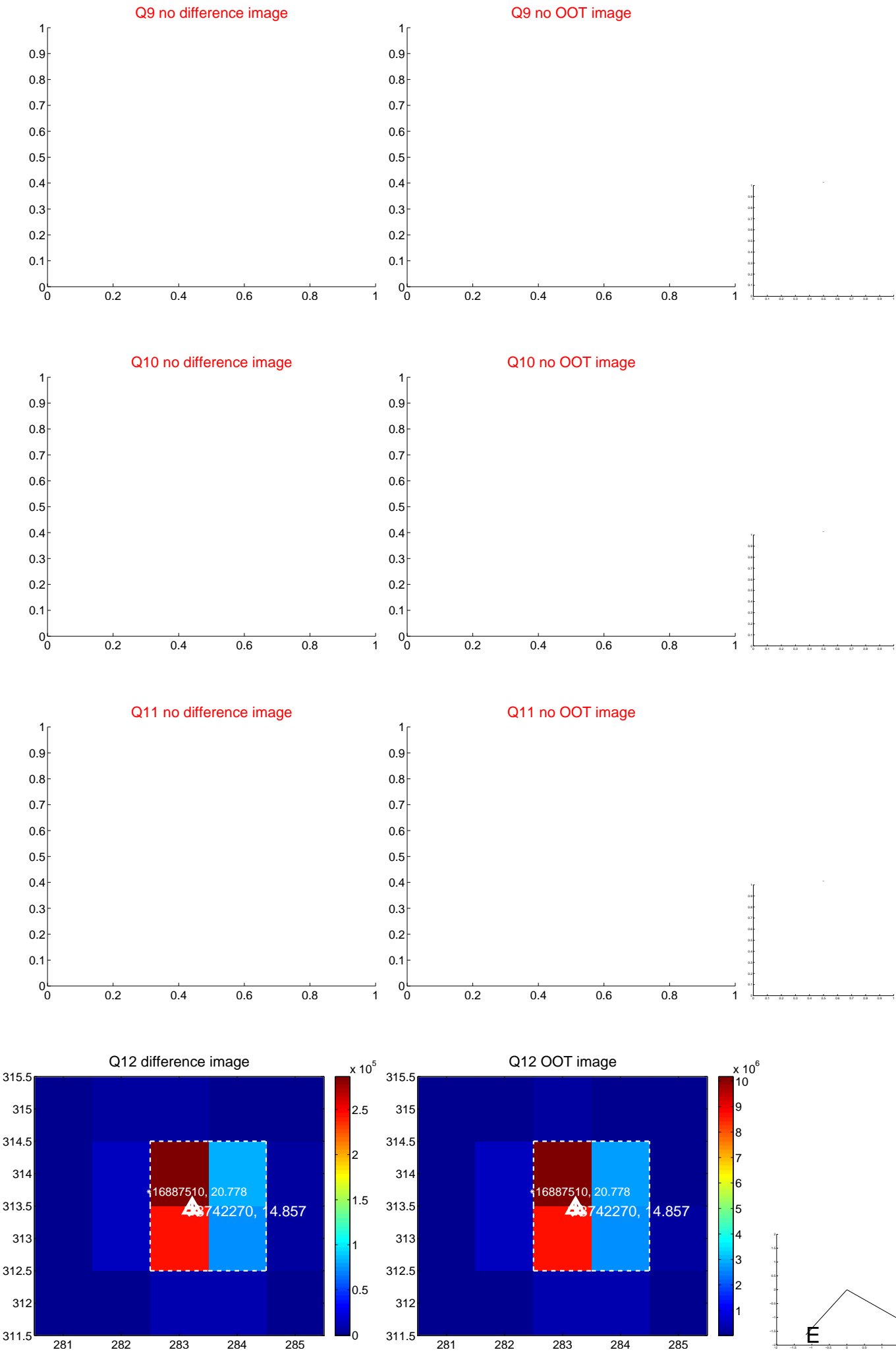
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



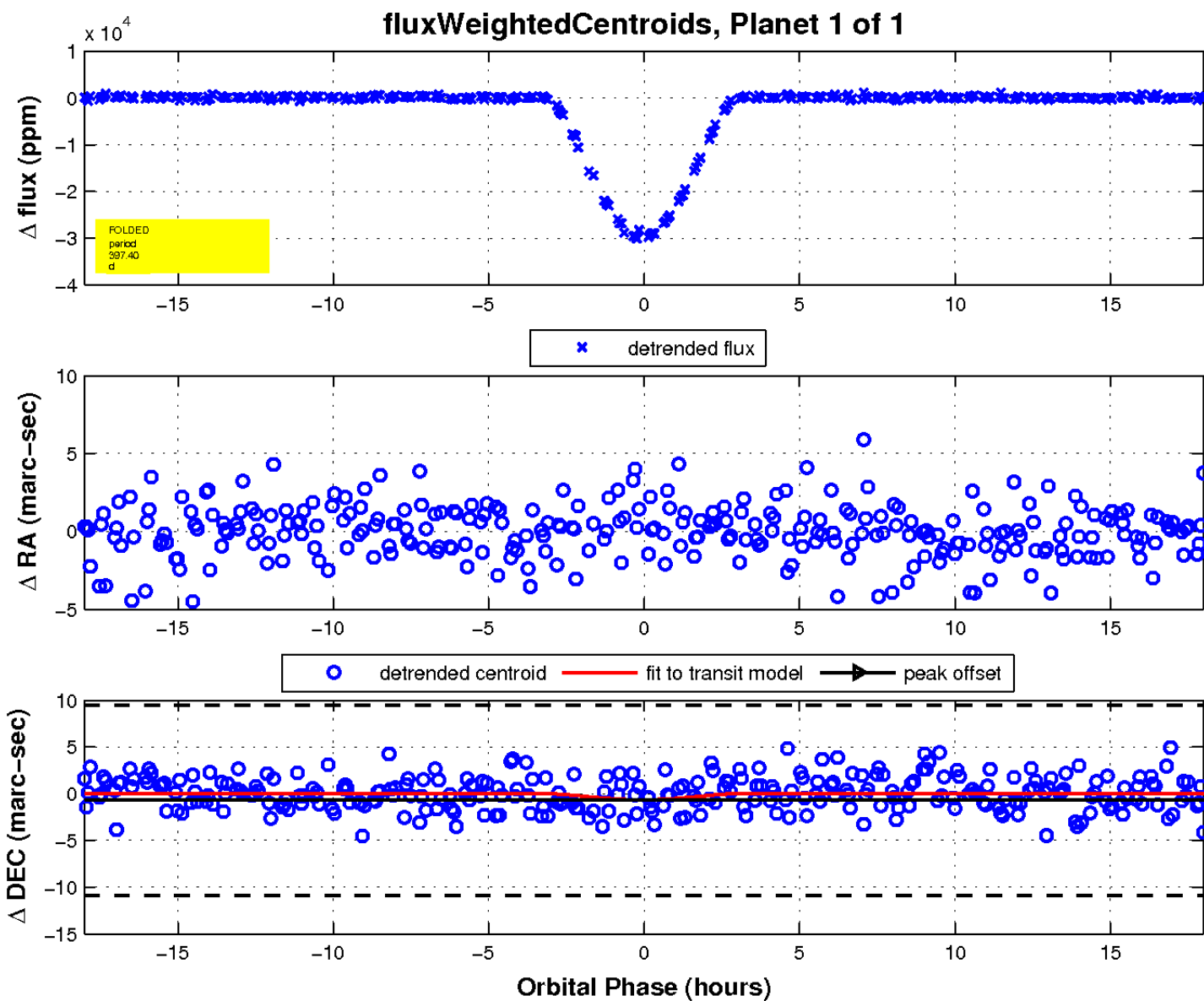
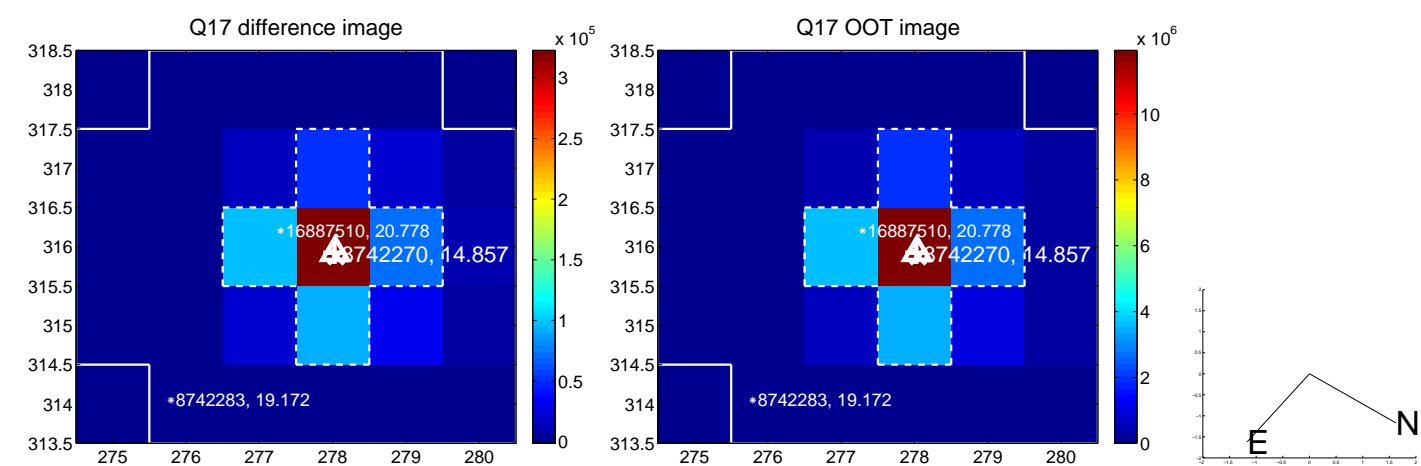
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

