

KIC 008748318

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})
008748318-01	OBS	No	377.050372	170.233679	655.0	36.989	9.2	7.8	0.72	4975	1.84	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008748318-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS

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

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

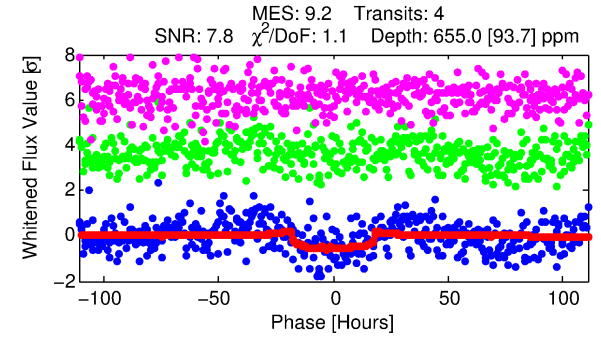
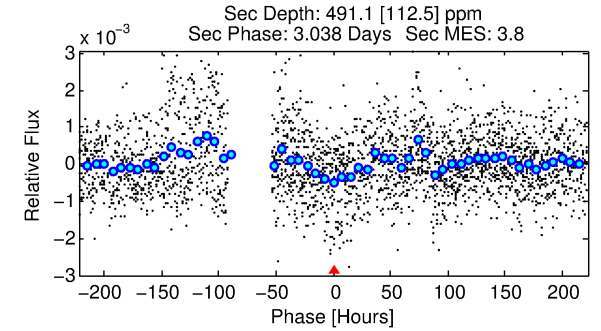
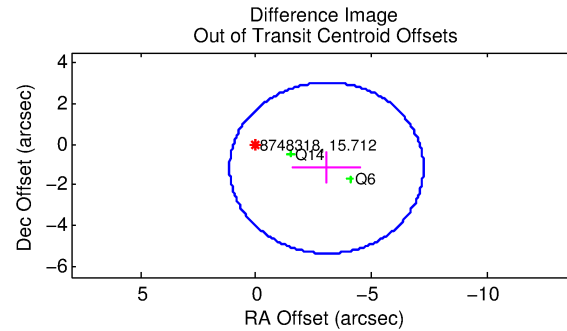
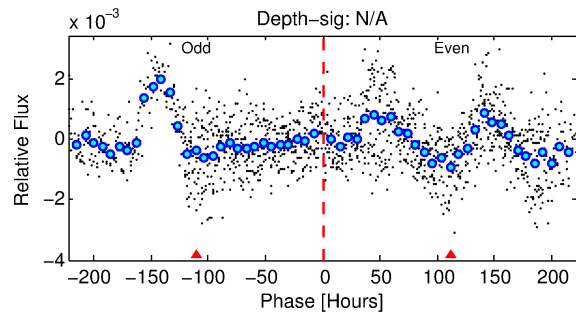
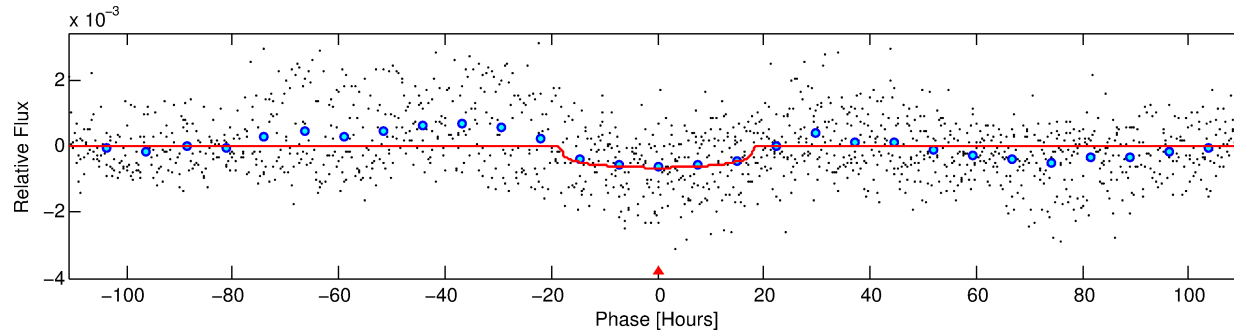
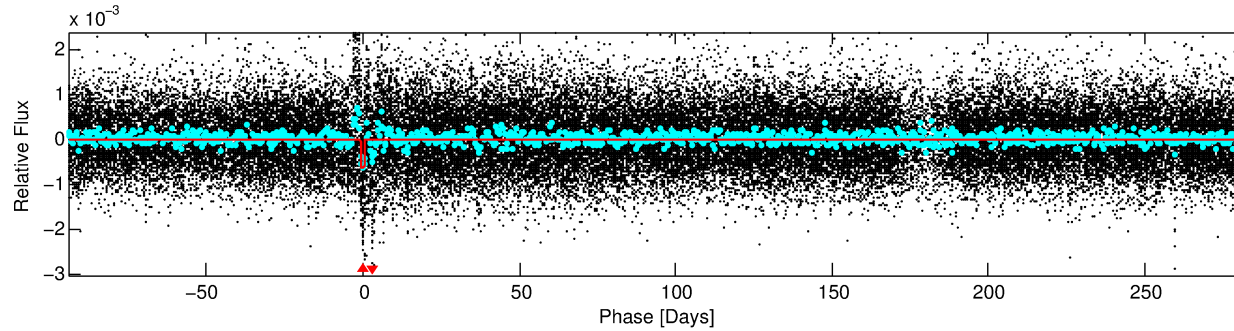
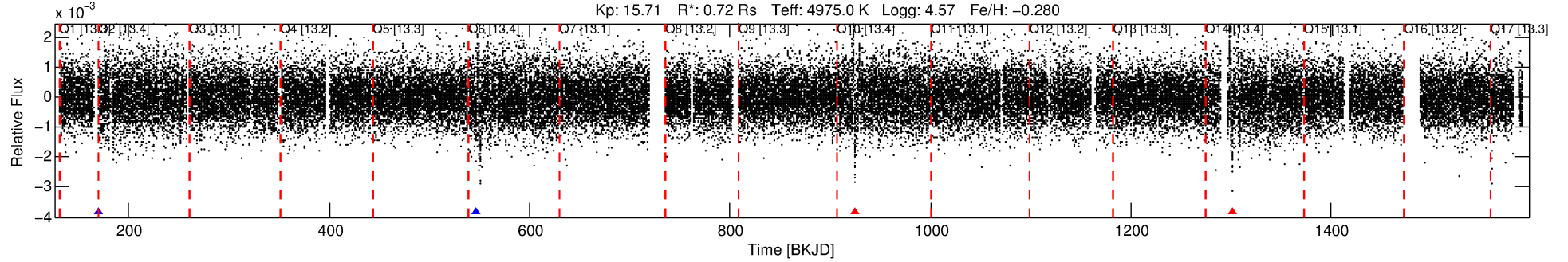
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008748318-01

No Significant Match Found

DV One-Page Summary

KIC: 8748318 Candidate: 1 of 1 Period: 377.050 d



DV Fit Results:

Period = 377.05037 [0.02799] d
Epoch = 170.2337 [0.0576] BKJD
Rp/R* = 0.0234 [0.0114]
a/R* = 72.76 [123.35]
b = 0.42 [3.38]
Seff = 0.35 [0.06]
Teq = 196 [8] K
Rp = 1.84 [0.91] Re
a = 0.9063 [0.0758] AU
Ag = 65727.89 [66176.65] [0.99σ]
Teffp = 4846 [1220] K [3.81σ]

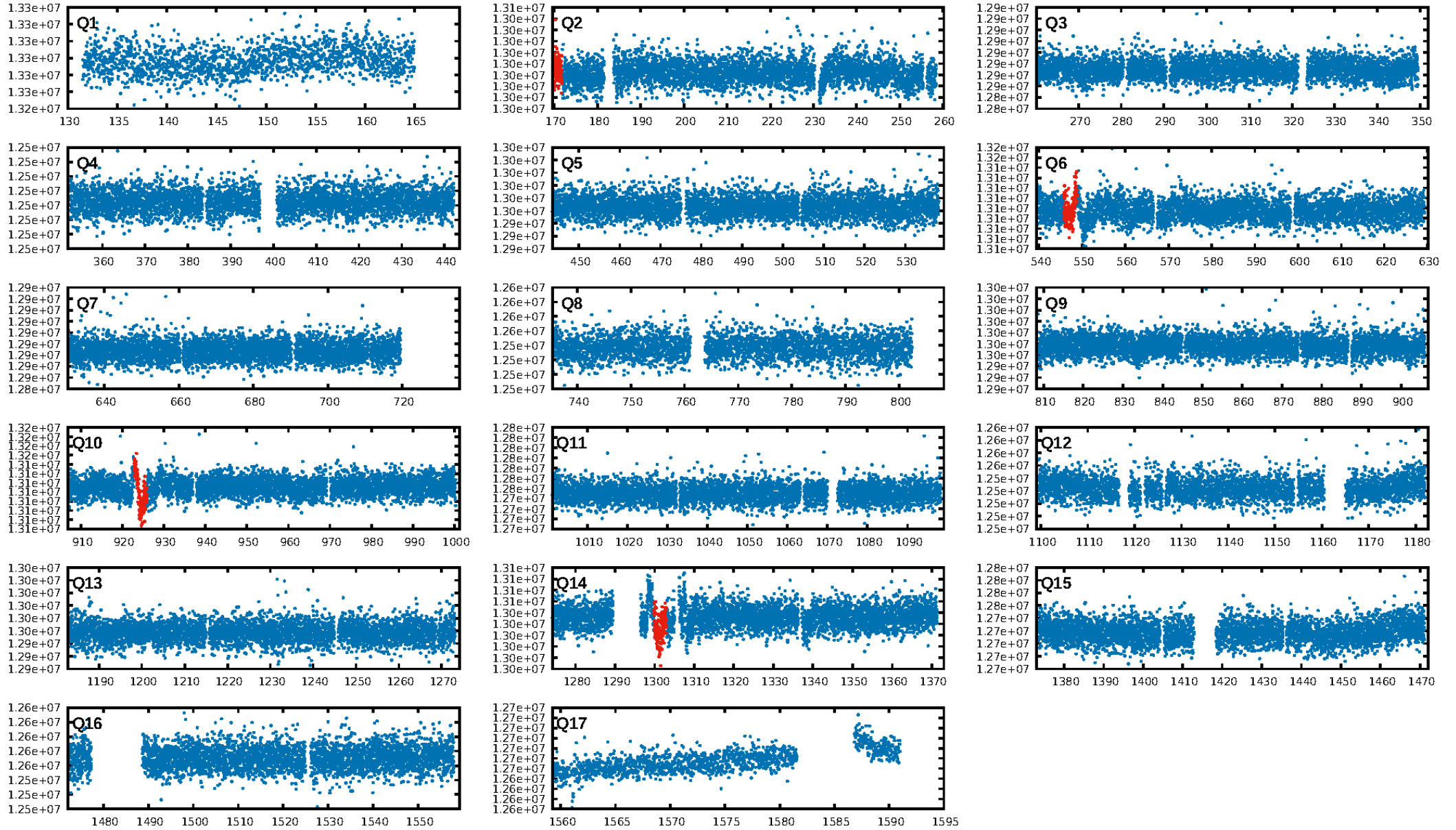
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 3.12e-12
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: 1.269
Centroid-sig: 0.7%
Centroid-so: 3.620 arcsec [2.01σ]
OotOffset-rm: 3.259 arcsec [2.33σ]
KicOffset-rm: 3.328 arcsec [2.43σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

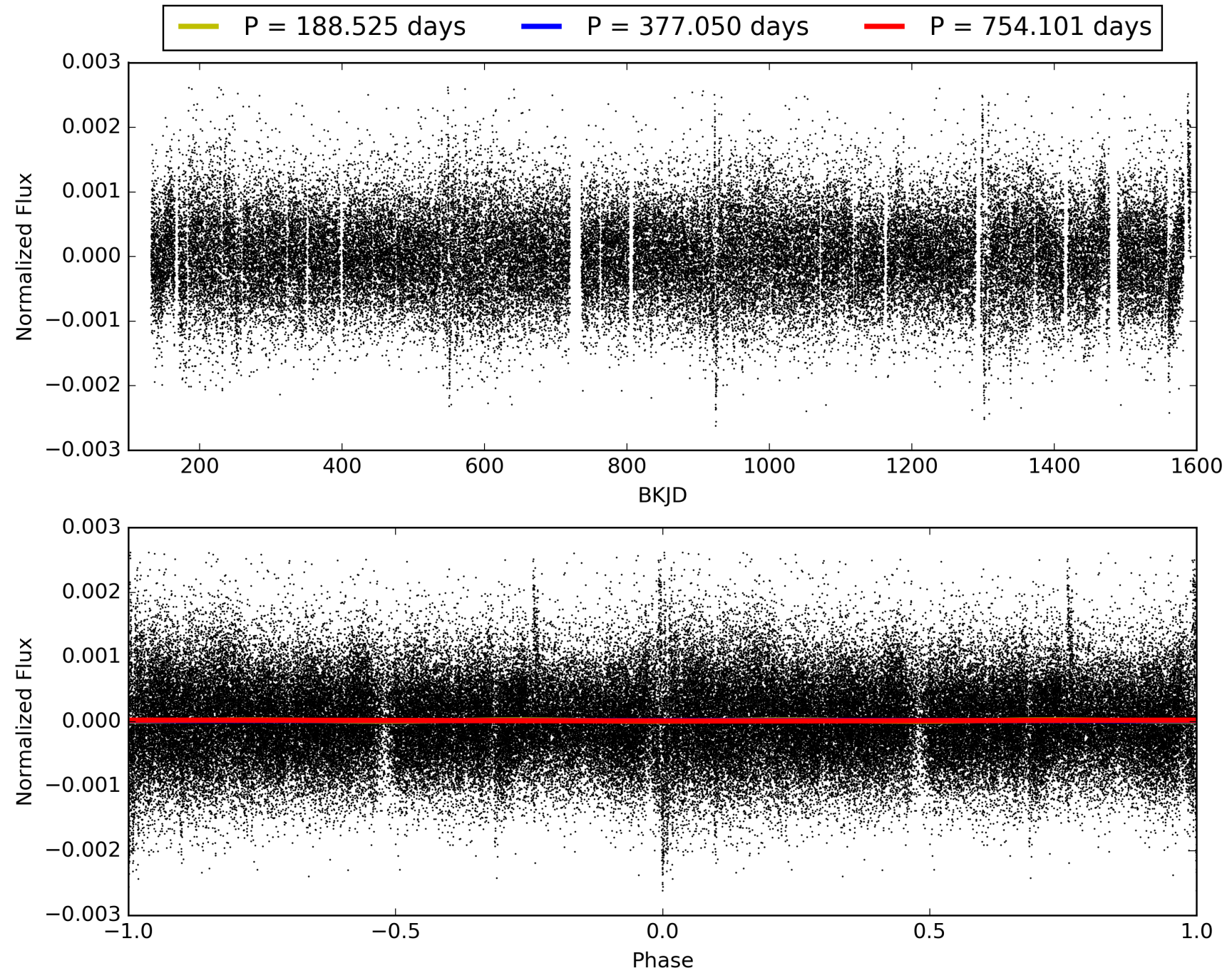
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:53:19 Z

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

TCE 008748318-01, PDC Light Curves

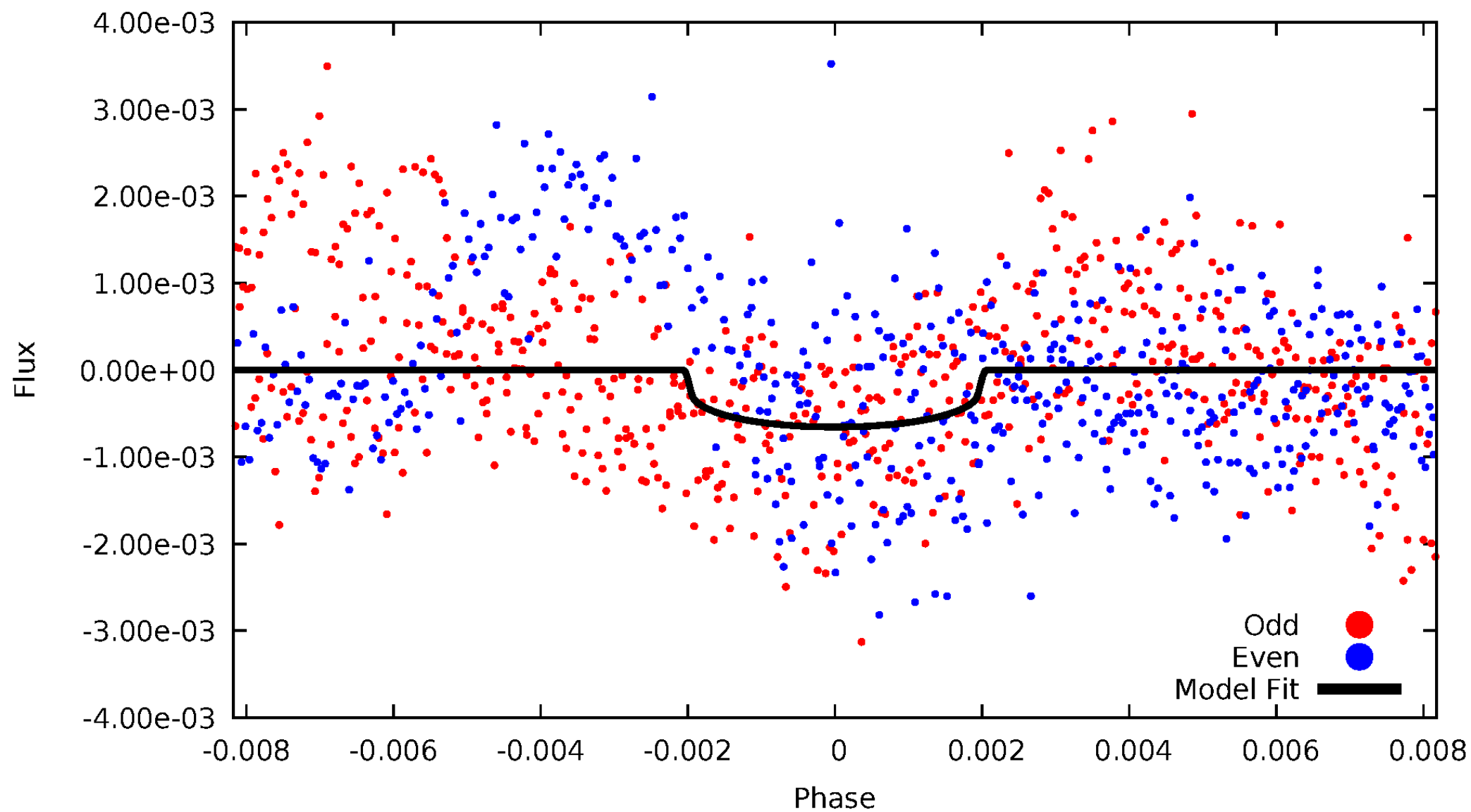


TCE 008748318-01



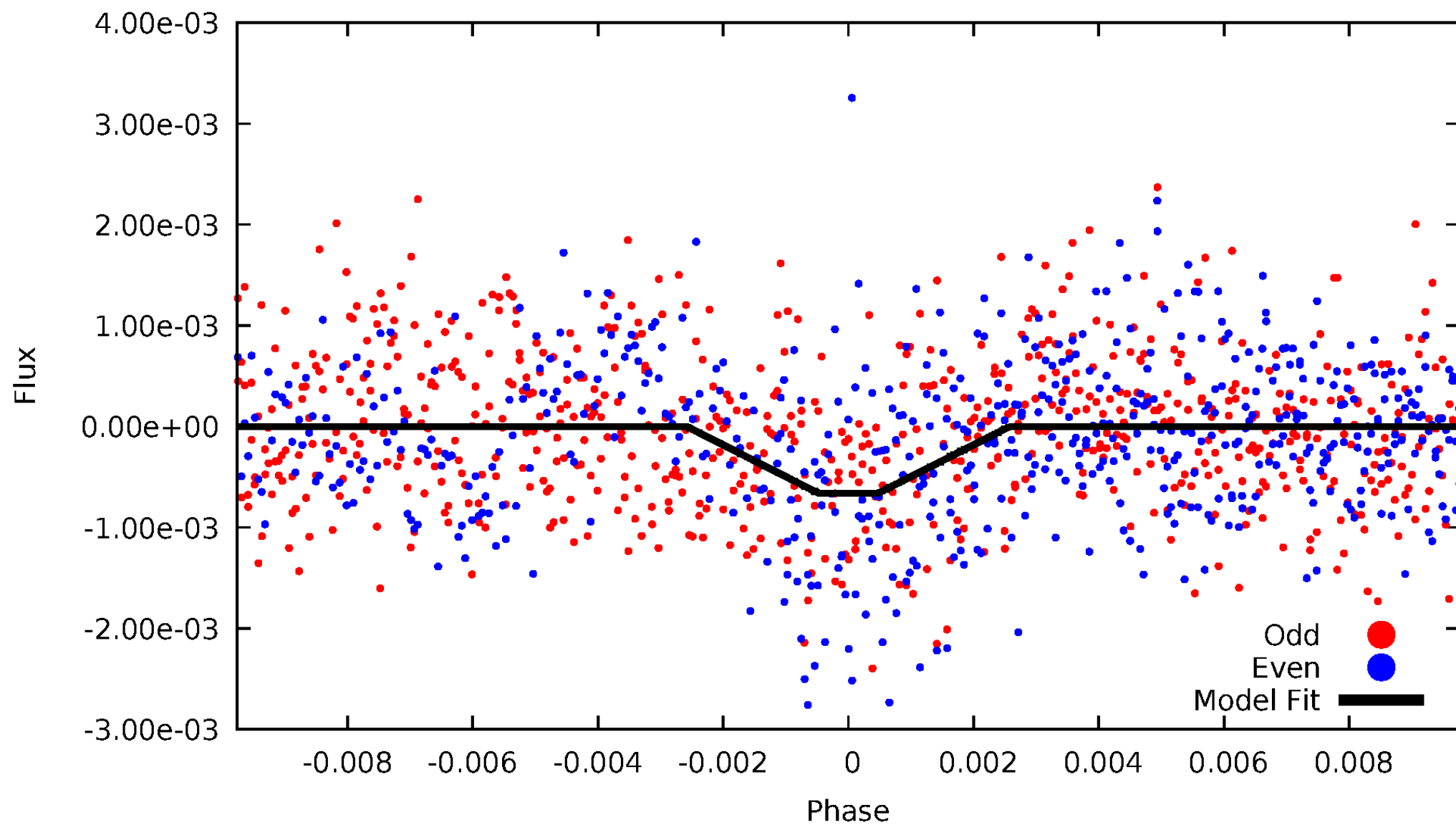
DV Odd/Even

TCE 008748318-01



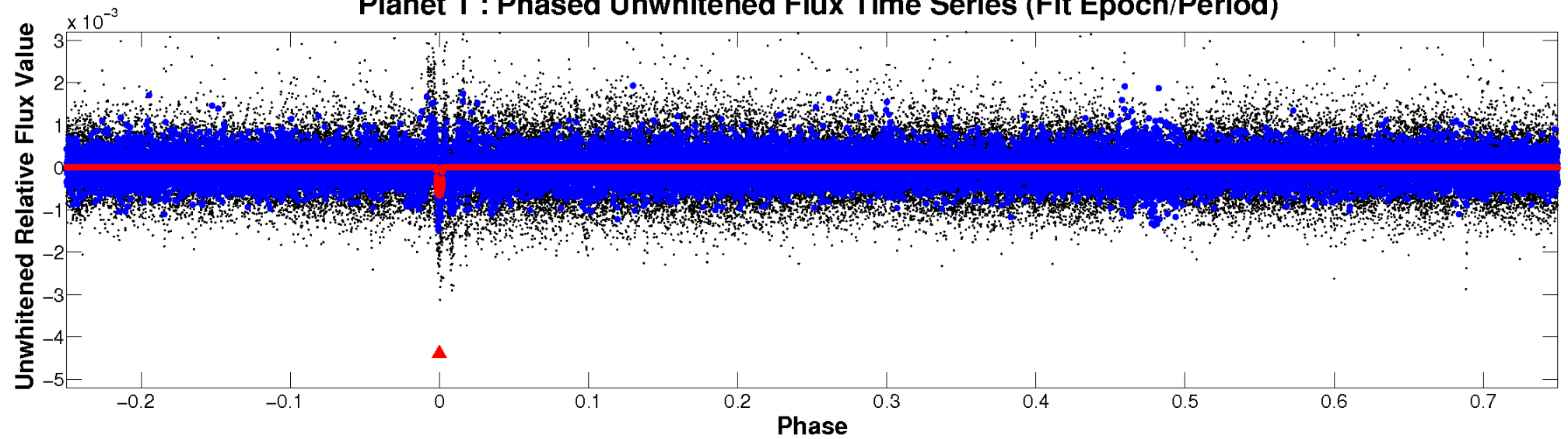
ALT Odd/Even

TCE 008748318-01

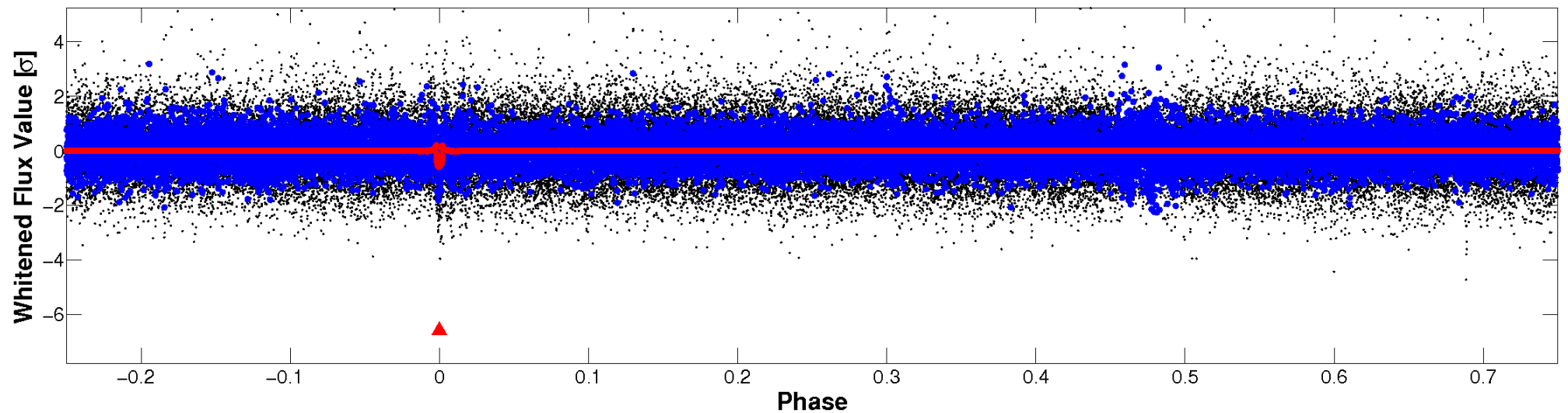


Non-Whitened Vs. Whitened Light Curve

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

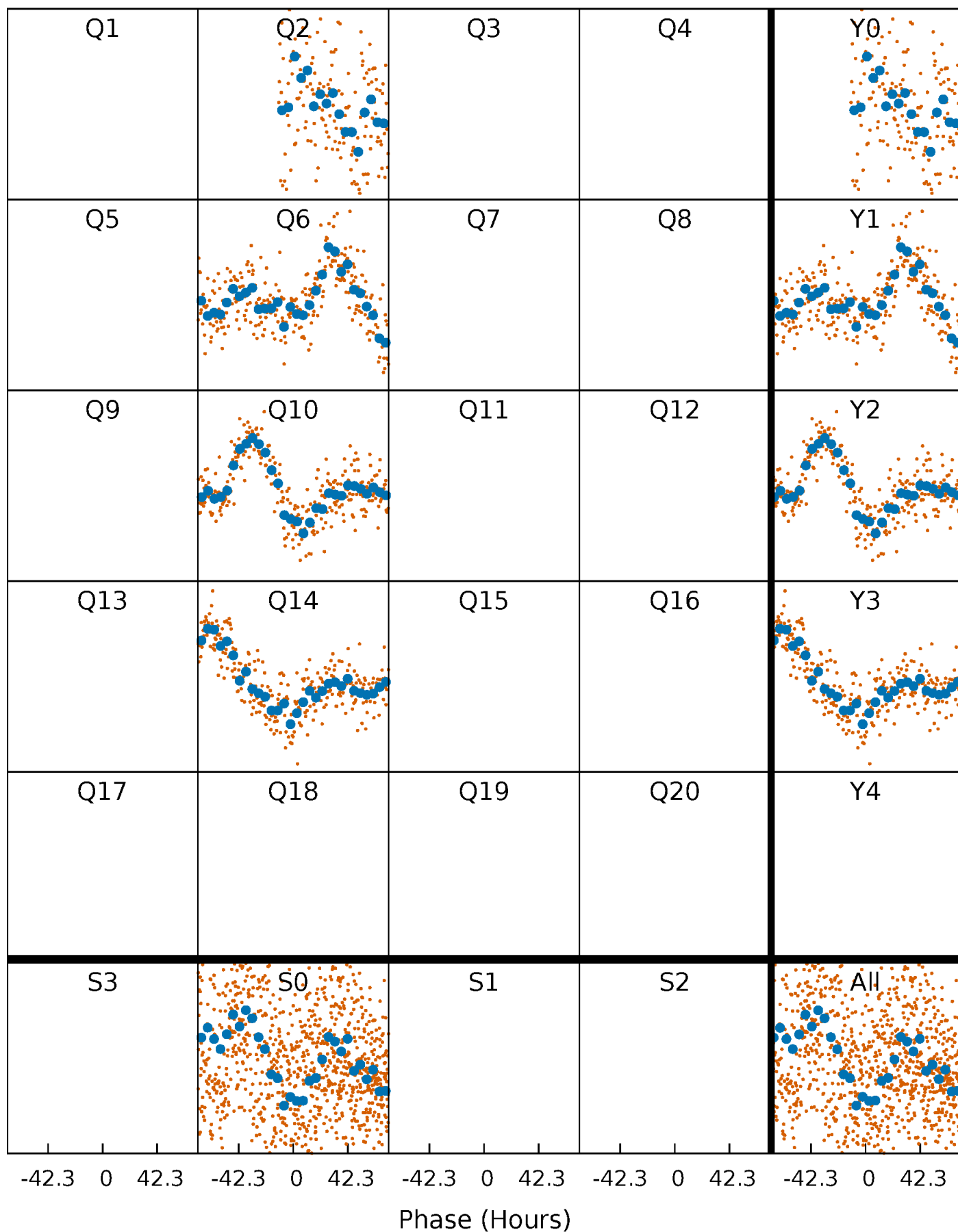


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



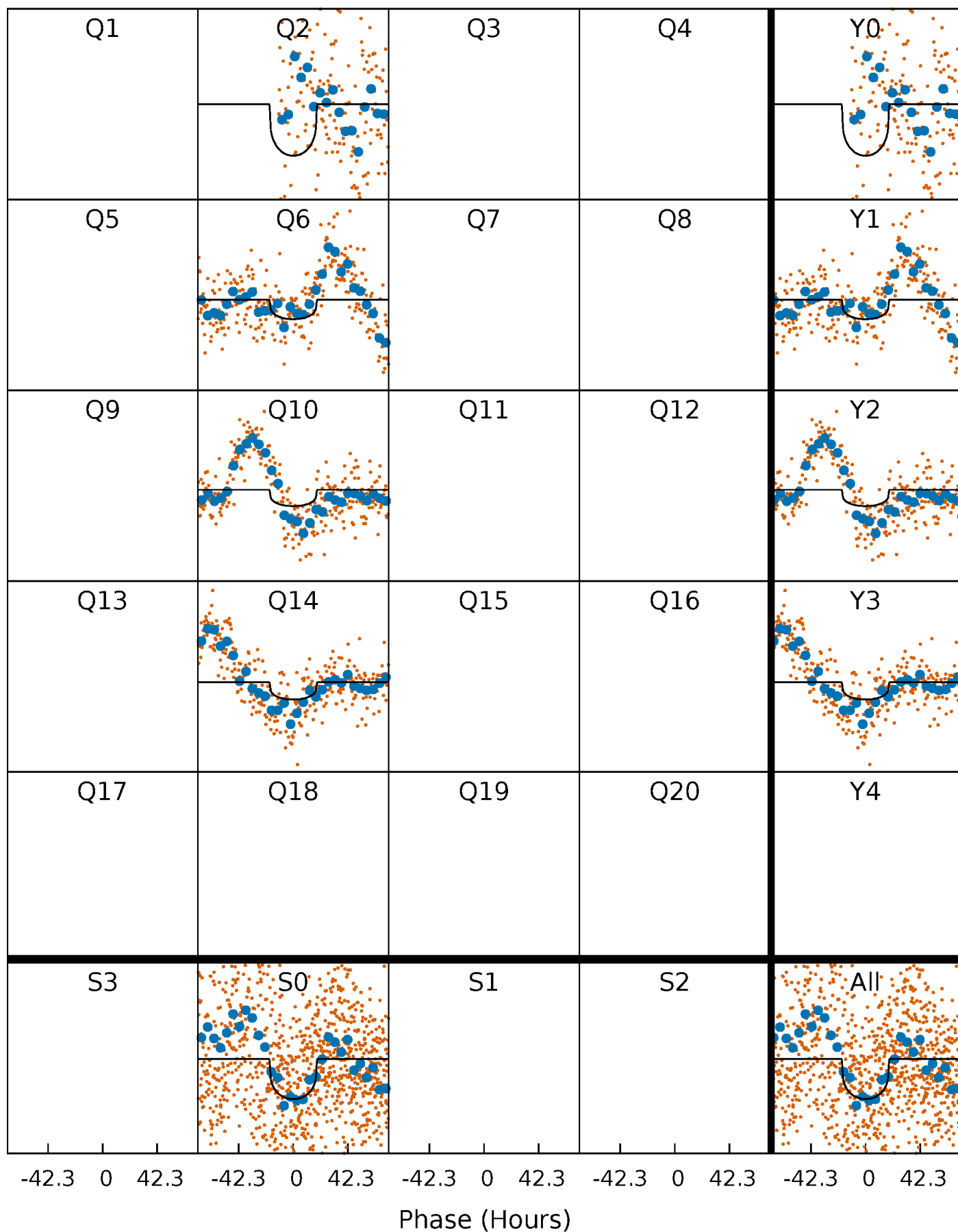
PDC Quarter-Phased Transit Curves

TCE 008748318-01 P=377.050372 Days $T_0=170.233679$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008748318-01 P=377.050372 Days $T_0=170.233679$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

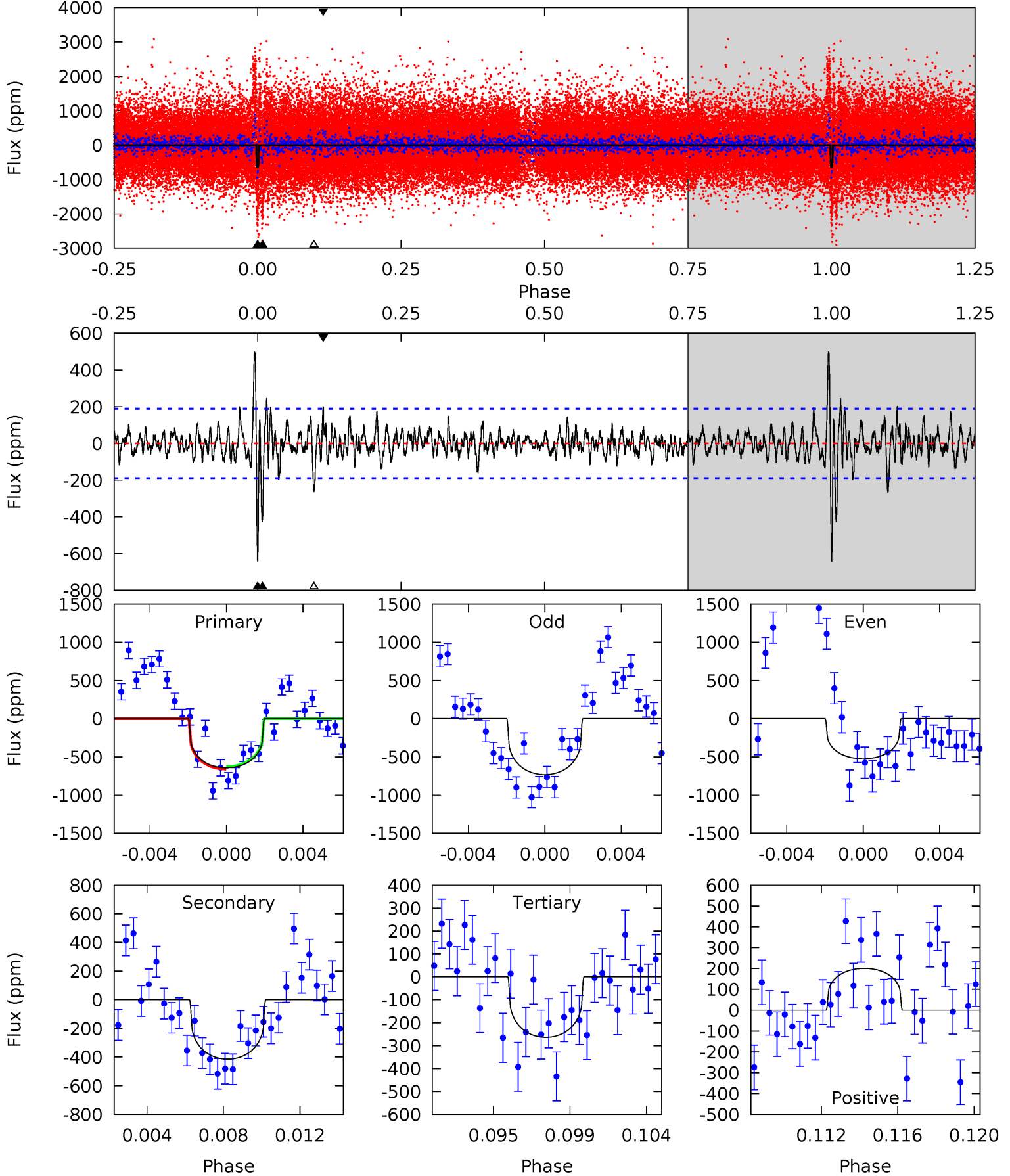
TCE 008748318-01 P=377.060483 Days $T_0=170.193815$ (BKJD)



DV Model-Shift Uniqueness Test

008748318-01, P = 377.050372 Days, E = 170.233679 Days

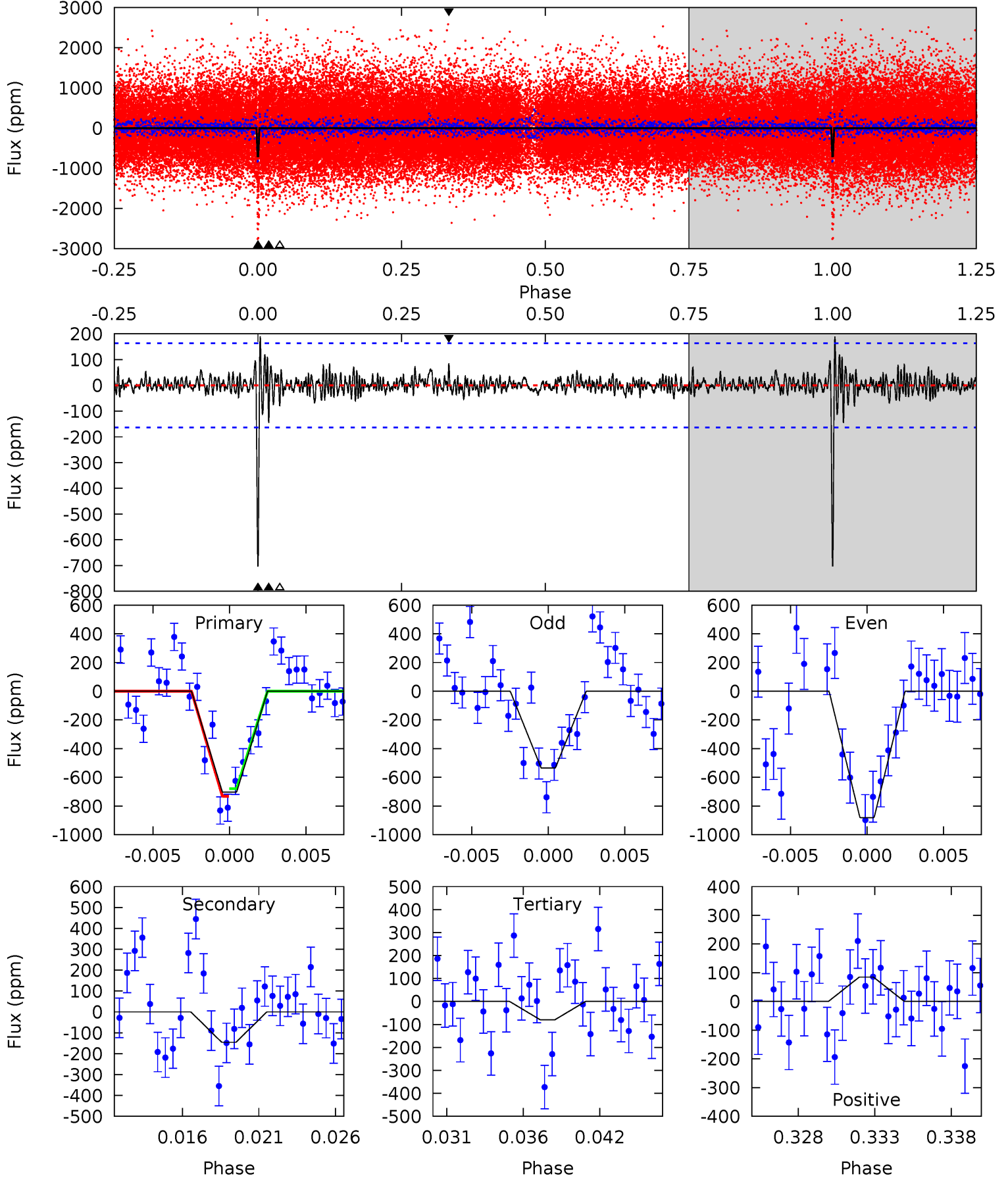
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	11.4	7.26	5.52	5.19	2.87	1.70	10.4	12.2	4.14	5.88	2.85	0.80	0.44	0.42



Alt Model-Shift Uniqueness Test

008748318-01, P = 377.060483 Days, E = 170.193815 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	4.59	2.53	2.67	5.15	2.79	0.75	19.6	19.5	2.06	1.92	5.44	1.24	0.21	0.83



Stellar Parameters For KIC 008748318

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4975^{+151}_{-136}	$4.566^{+0.066}_{-0.044}$	$-0.280^{+0.300}_{-0.300}$	$0.721^{+0.072}_{-0.072}$	$0.699^{+0.093}_{-0.050}$	$2.624^{+0.791}_{-0.423}$
	+3%/-3%	+1%/-1%	+107%/-107%	+10%/-10%	+13%/-7%	+30%/-16%
Source	PHO1	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 008748318-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-415 ± 36	$1.83^{+0.86}_{-0.83}$	273^{+10}_{-10}	4676^{+1548}_{-594}	$56576^{+134016}_{-30277}$
Alt.	-146 ± 32	$2.01^{+0.91}_{-0.94}$	273^{+10}_{-9}	3757^{+1000}_{-481}	16056^{+45164}_{-8924}

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

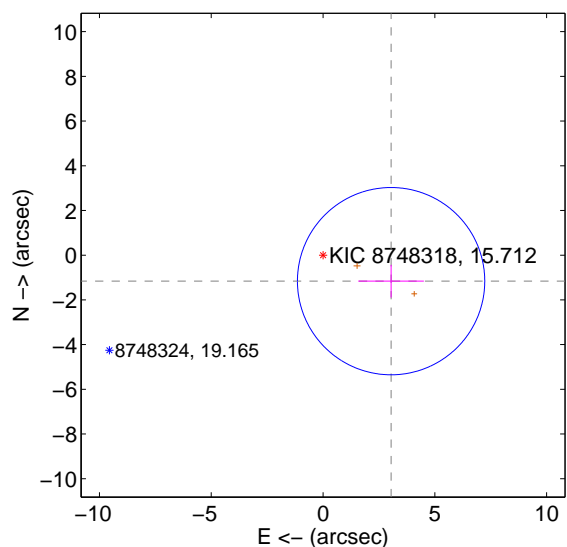
Supplemental centroid analysis for 008748318-01. Kepler magnitude: 15.71. Transit SNR 7.76

There are 0 quarters with good PRF difference image offsets

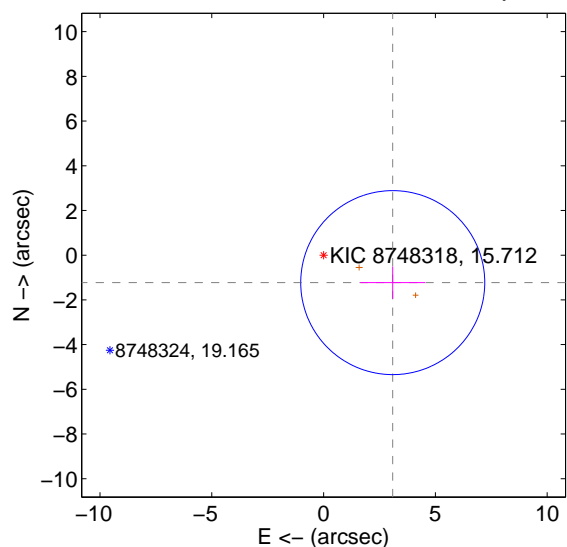
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.259 ± 1.396	2.33	-3.044 ± 1.469	-1.163 ± 0.730
PRF-fit source offset from KIC position	3.328 ± 1.372	2.43	-3.094 ± 1.448	-1.228 ± 0.724
photometric centroid source offset	3.62 ± 1.80	2.01	0.21 ± 1.88	3.61 ± 1.80

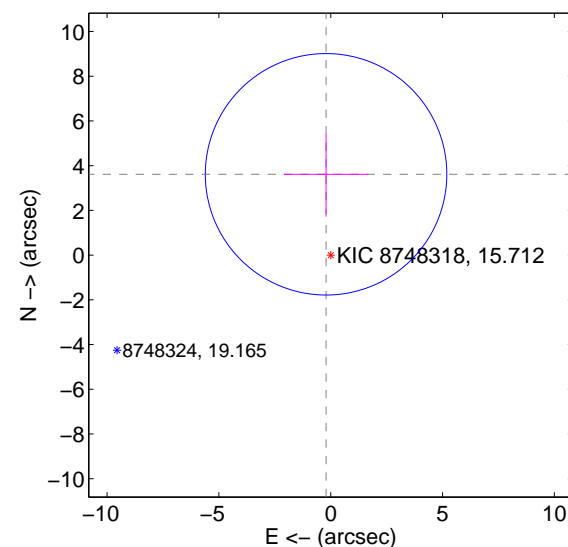
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

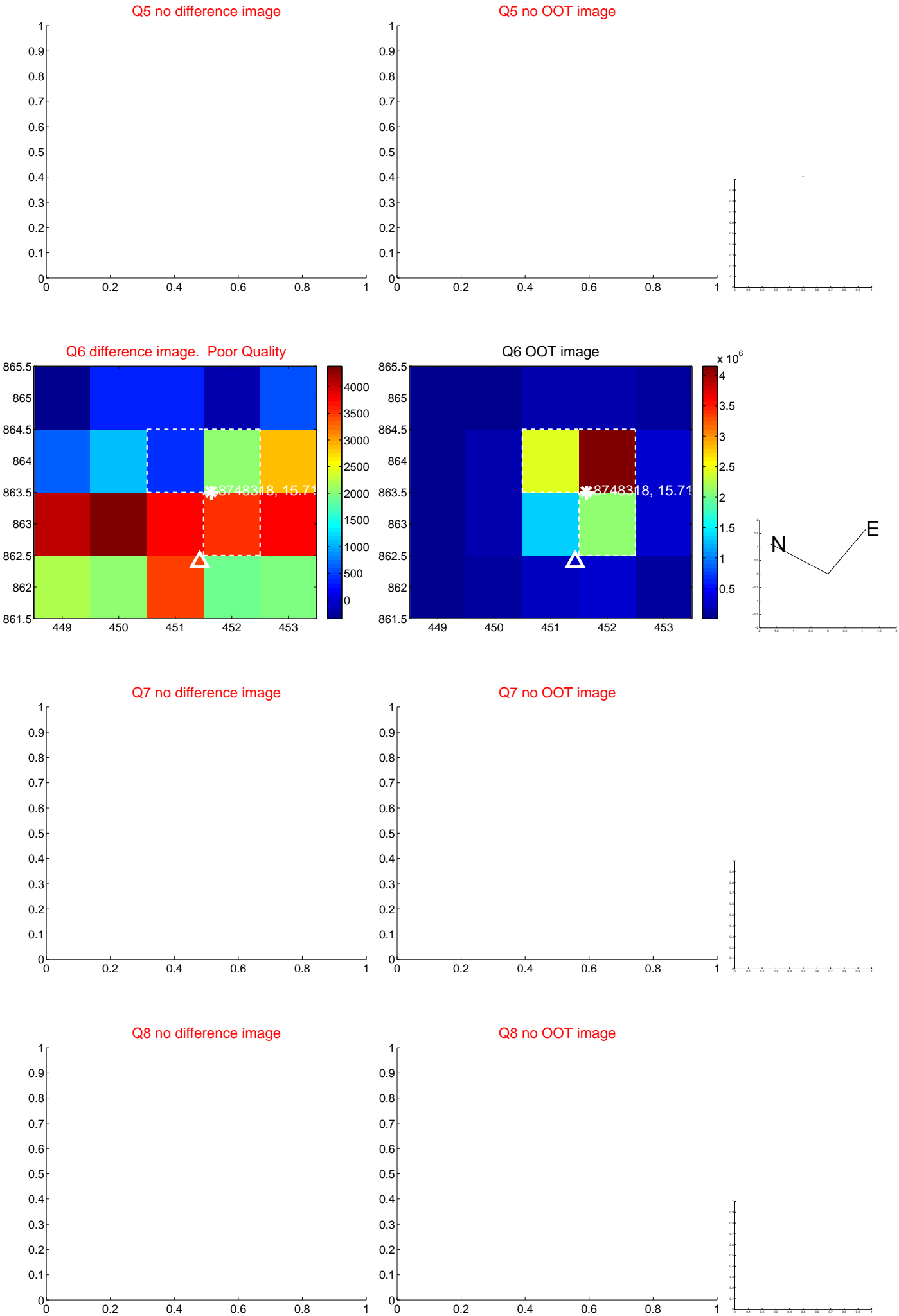


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

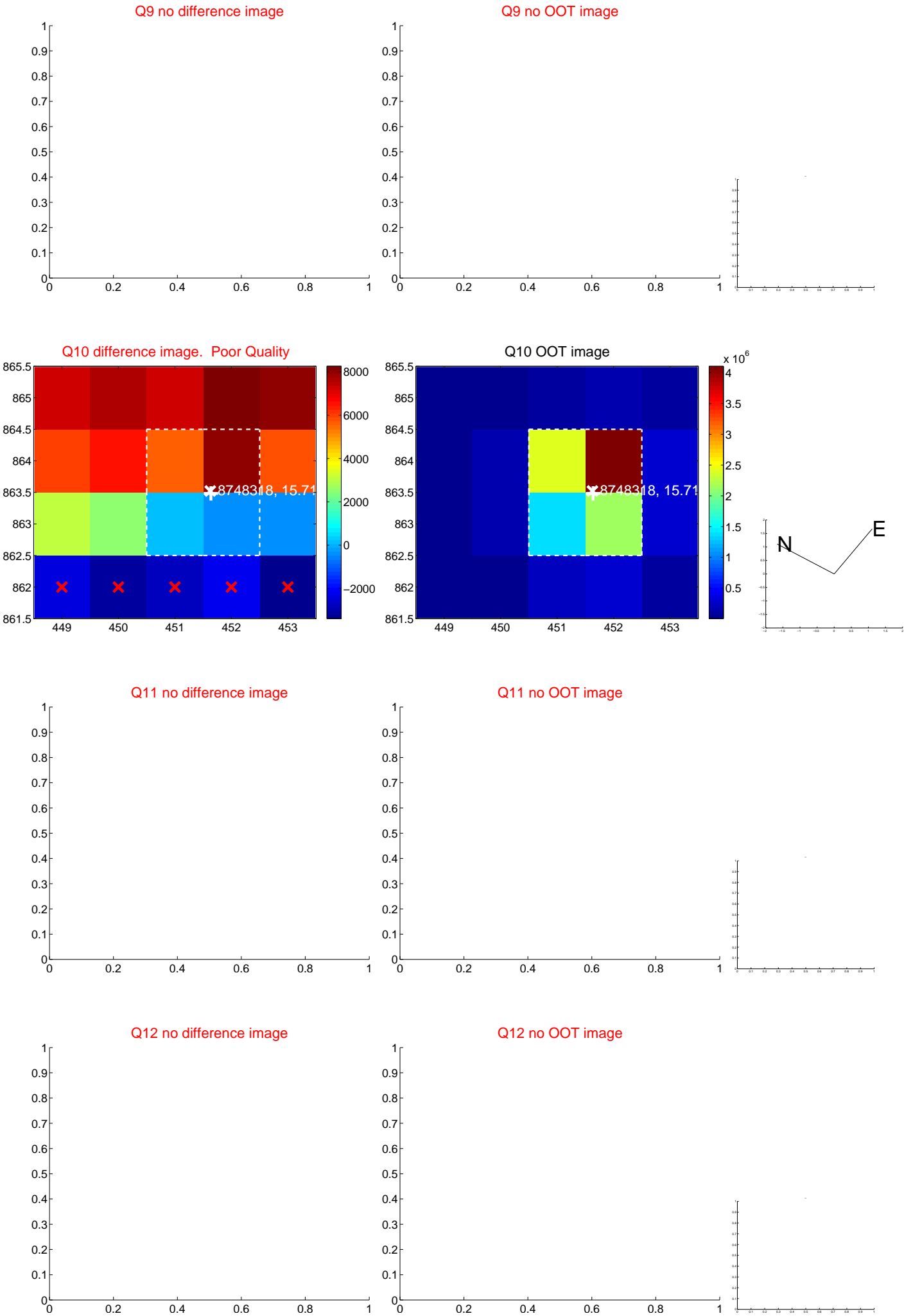
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



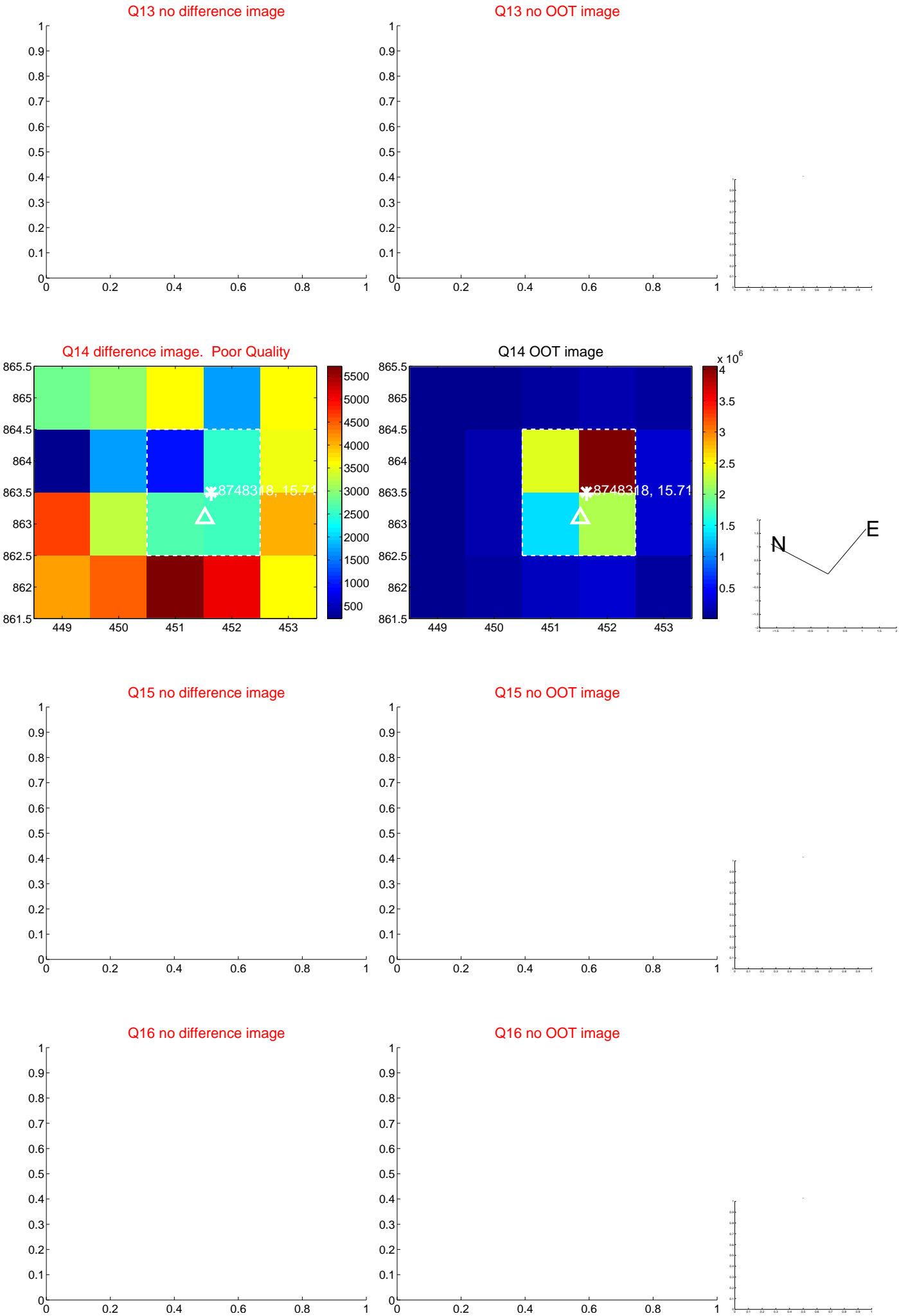
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



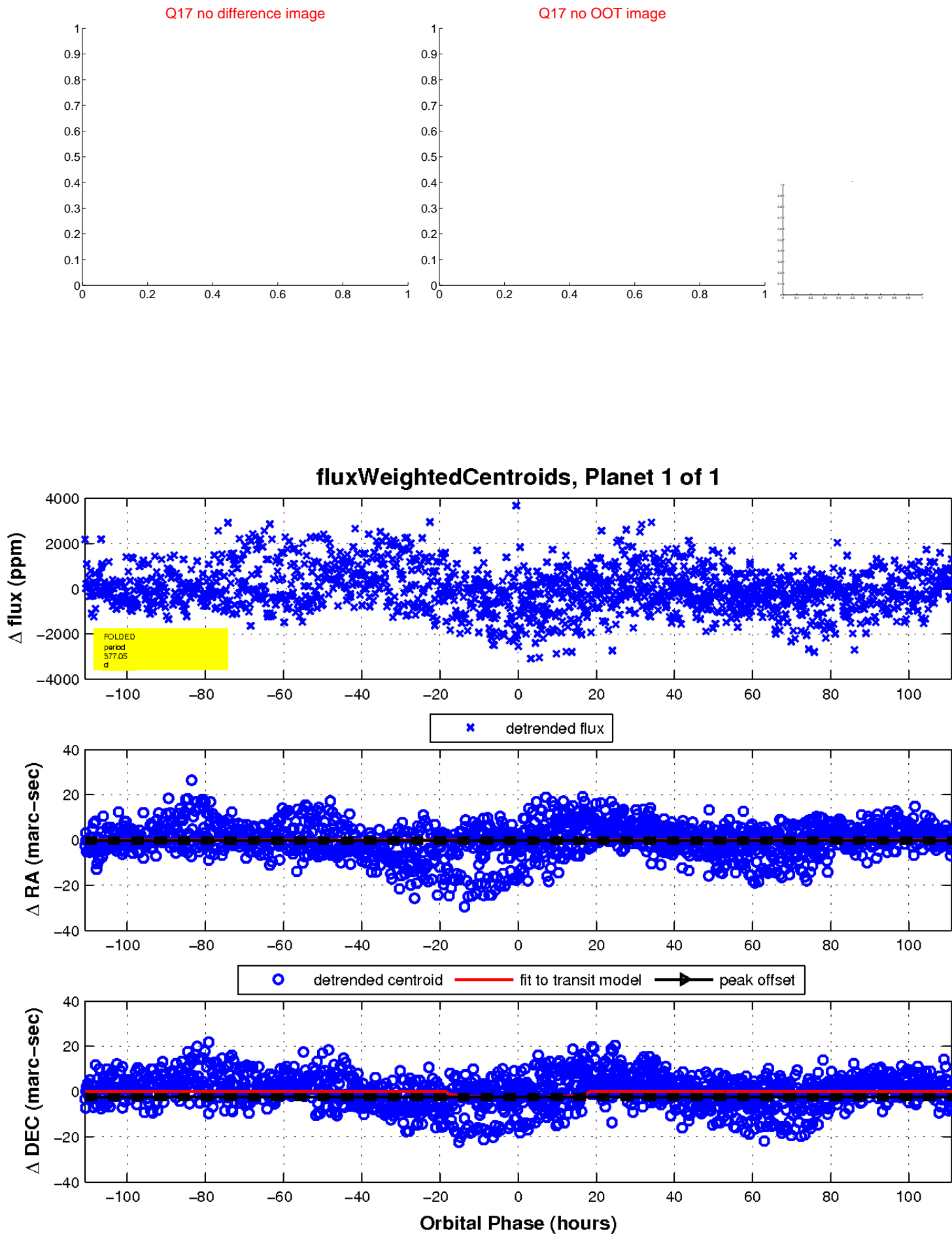
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

