

KIC 009480874

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})
009480874-01	OBS	No	361.087977	257.323913	217.3	6.774	29.8	15.7	2.26	9082	3.62	18.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009480874-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

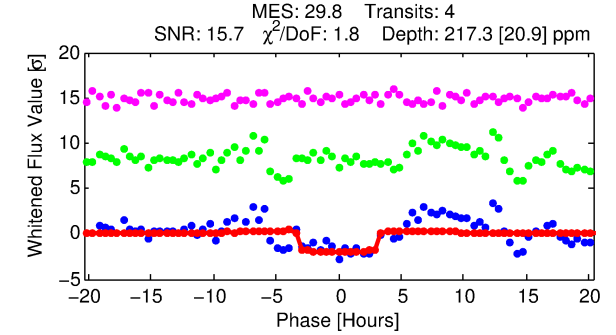
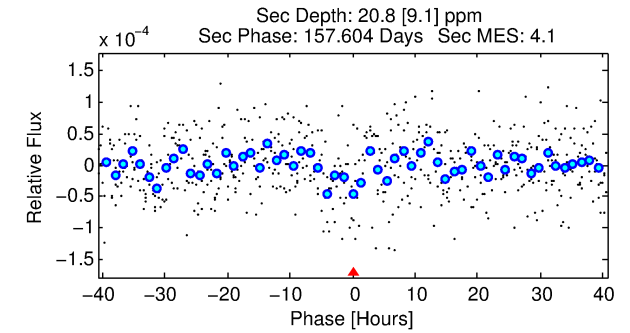
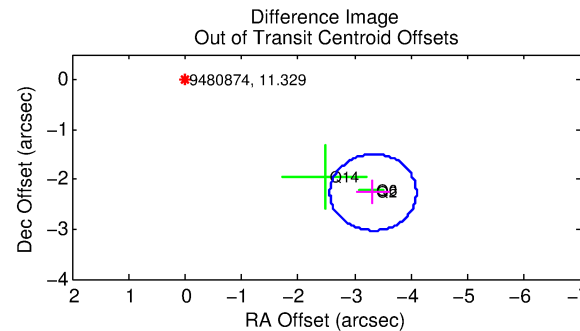
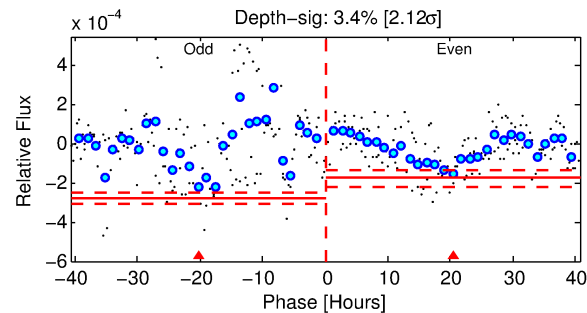
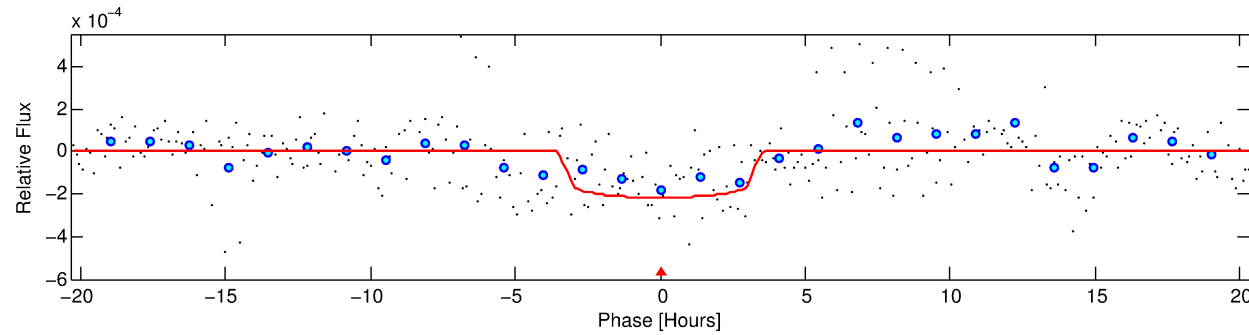
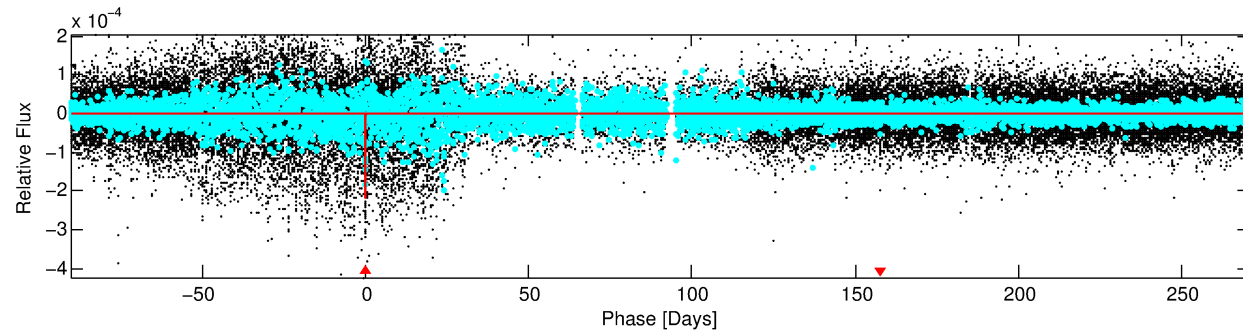
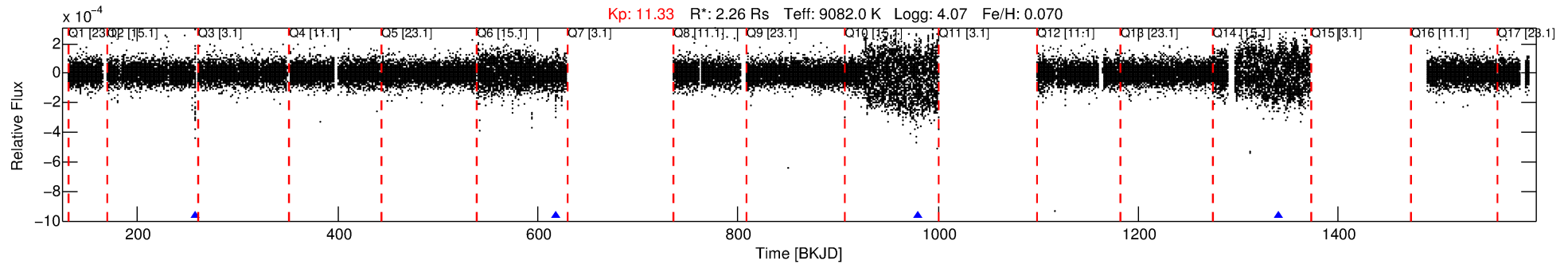
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009480874-01

No Significant Match Found

DV One-Page Summary

KIC: 9480874 Candidate: 1 of 1 Period: 361.088 d



DV Fit Results:

Period = 361.08798 [0.00470] d
Epoch = 257.3239 [0.0082] BKJD
Rp/R* = 0.0147 [0.0059]
a/R* = 275.04 [744.08]
b = 0.76 [1.54]
Seff = 18.64 [8.14]
Teq = 530 [58] K
Rp = 3.62 [1.94] Re
a = 1.2906 [0.3658] AU
Ag = 1455.75 [1446.96] [1.01 σ]
Teffp = 5060 [1181] K [3.83 σ]

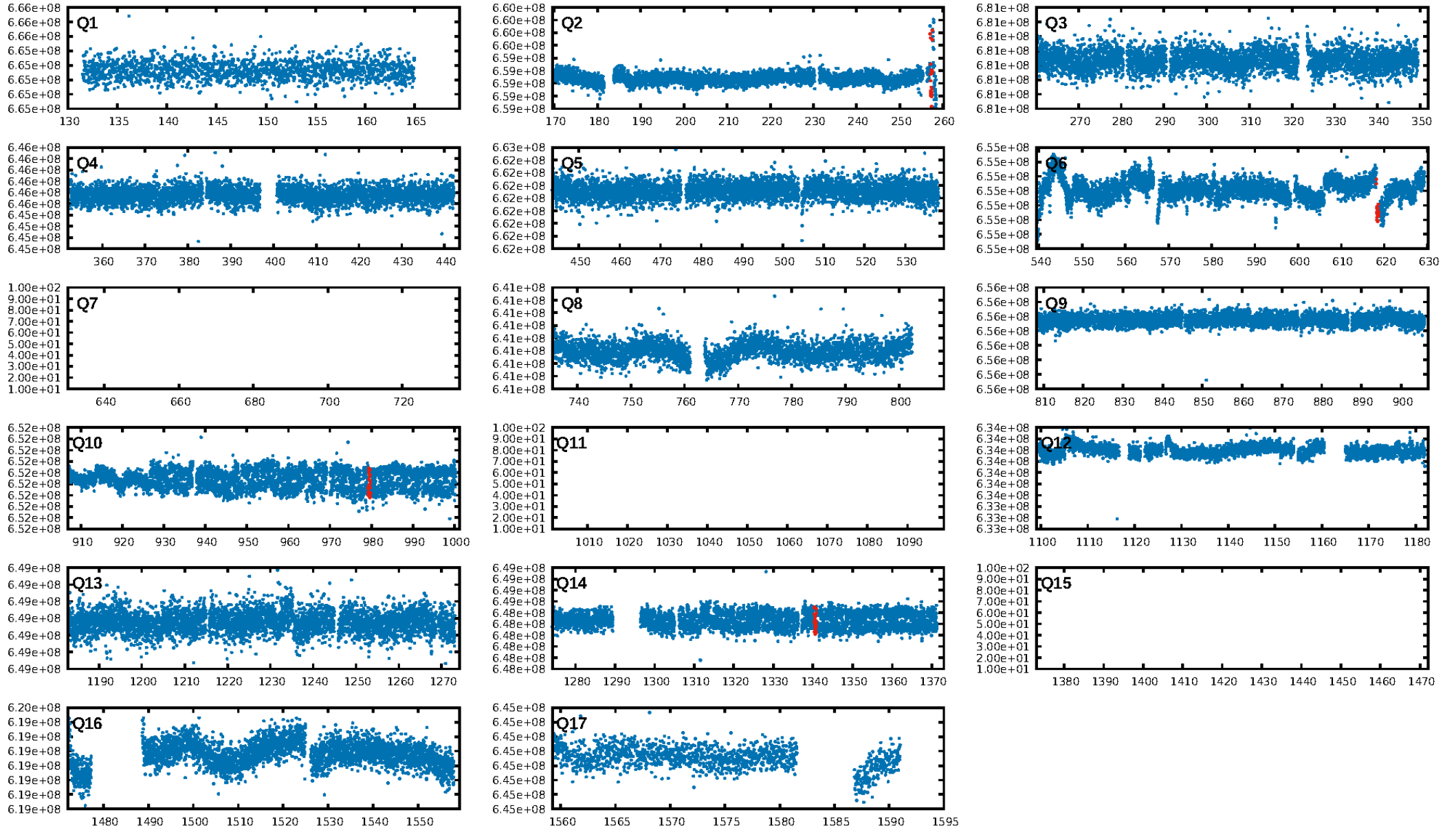
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.9%
Bootstrap-pfa: 1.18e-97
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.9435
Centroid-sig: 34.7%
Centroid-so: 1.580 arcsec [1.03 σ]
OotOffset-rm: 4.025 arcsec [15.81 σ]
KicOffset-rm: 4.024 arcsec [13.65 σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

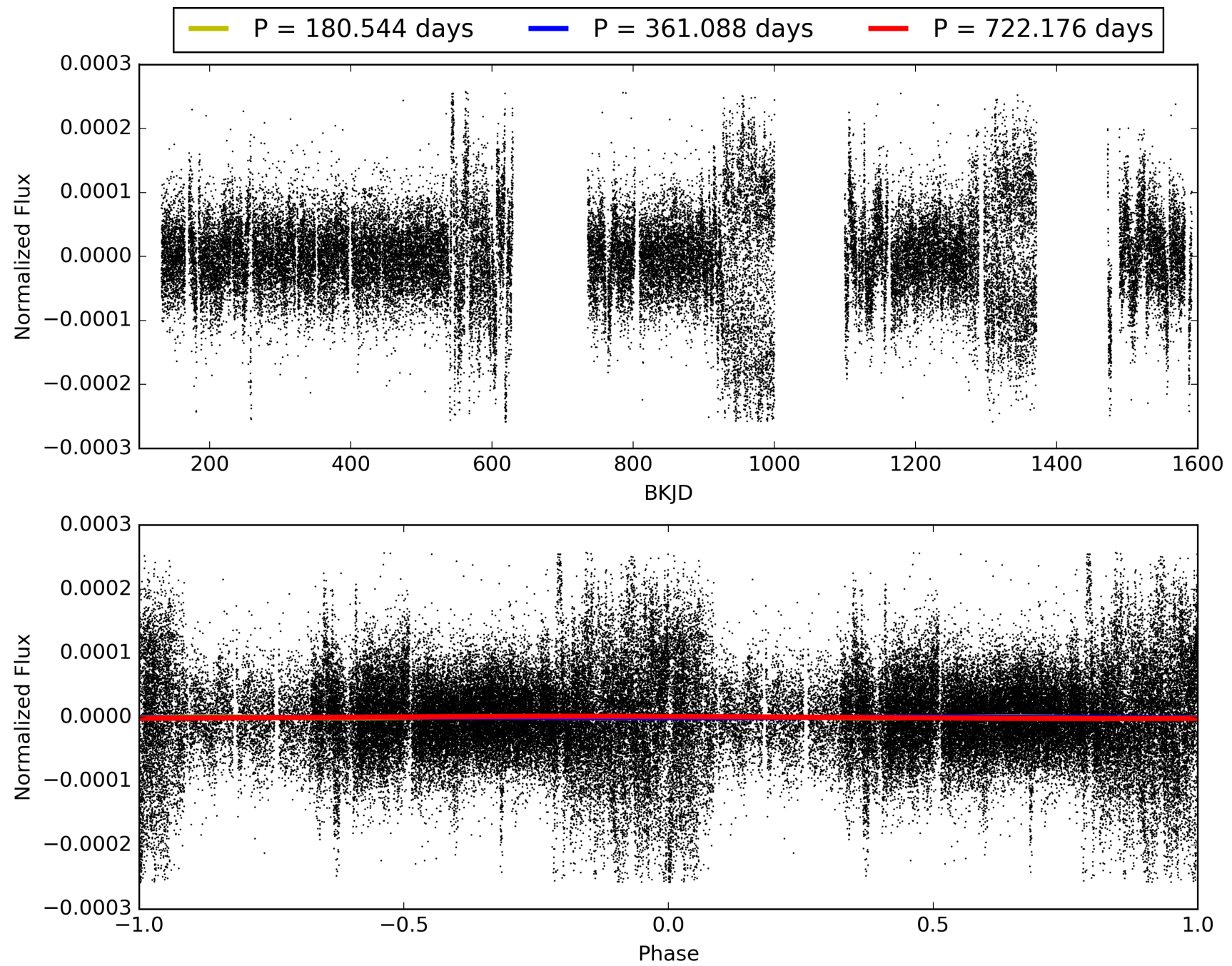
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:08:43 Z

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

TCE 009480874-01, PDC Light Curves

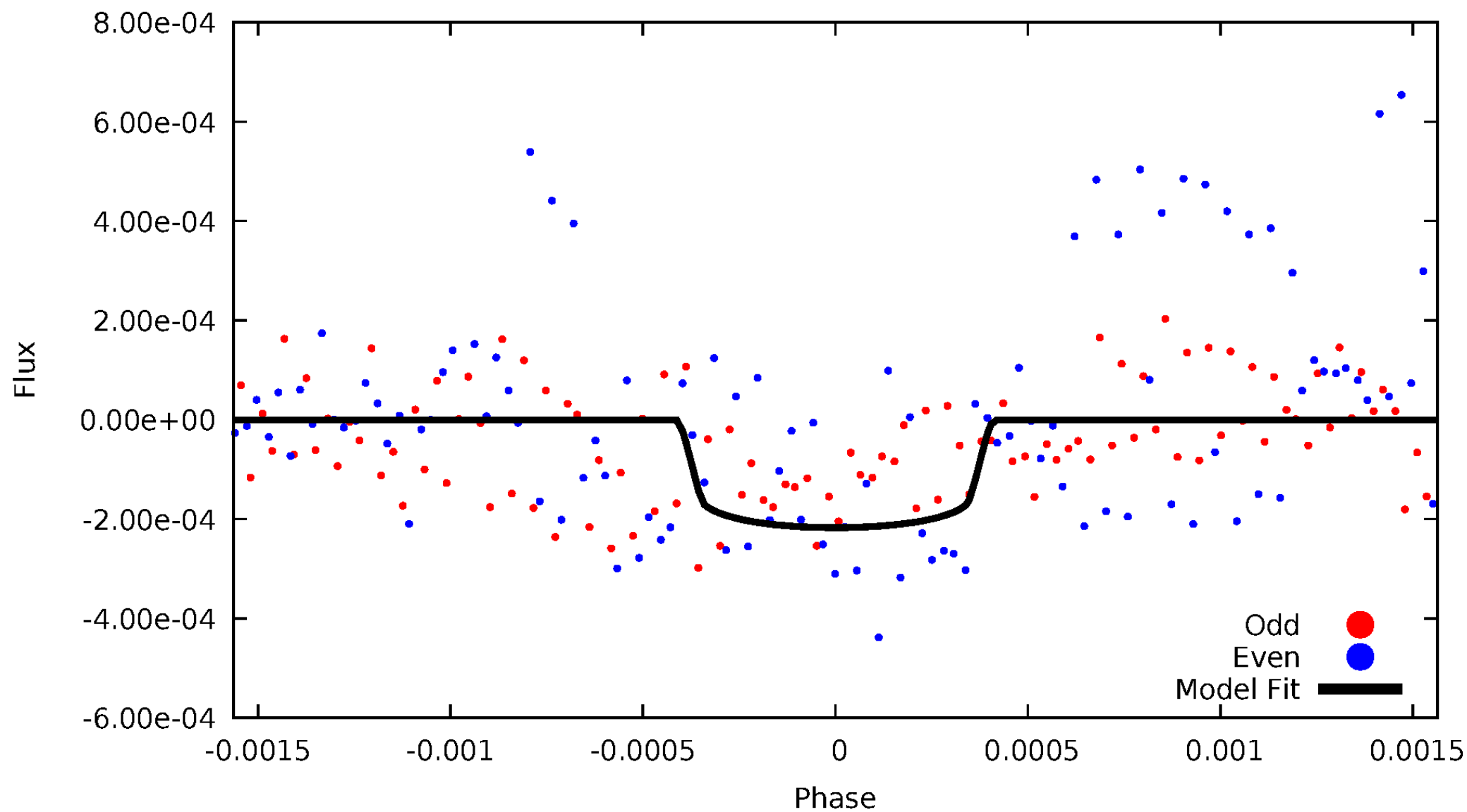


TCE 009480874-01



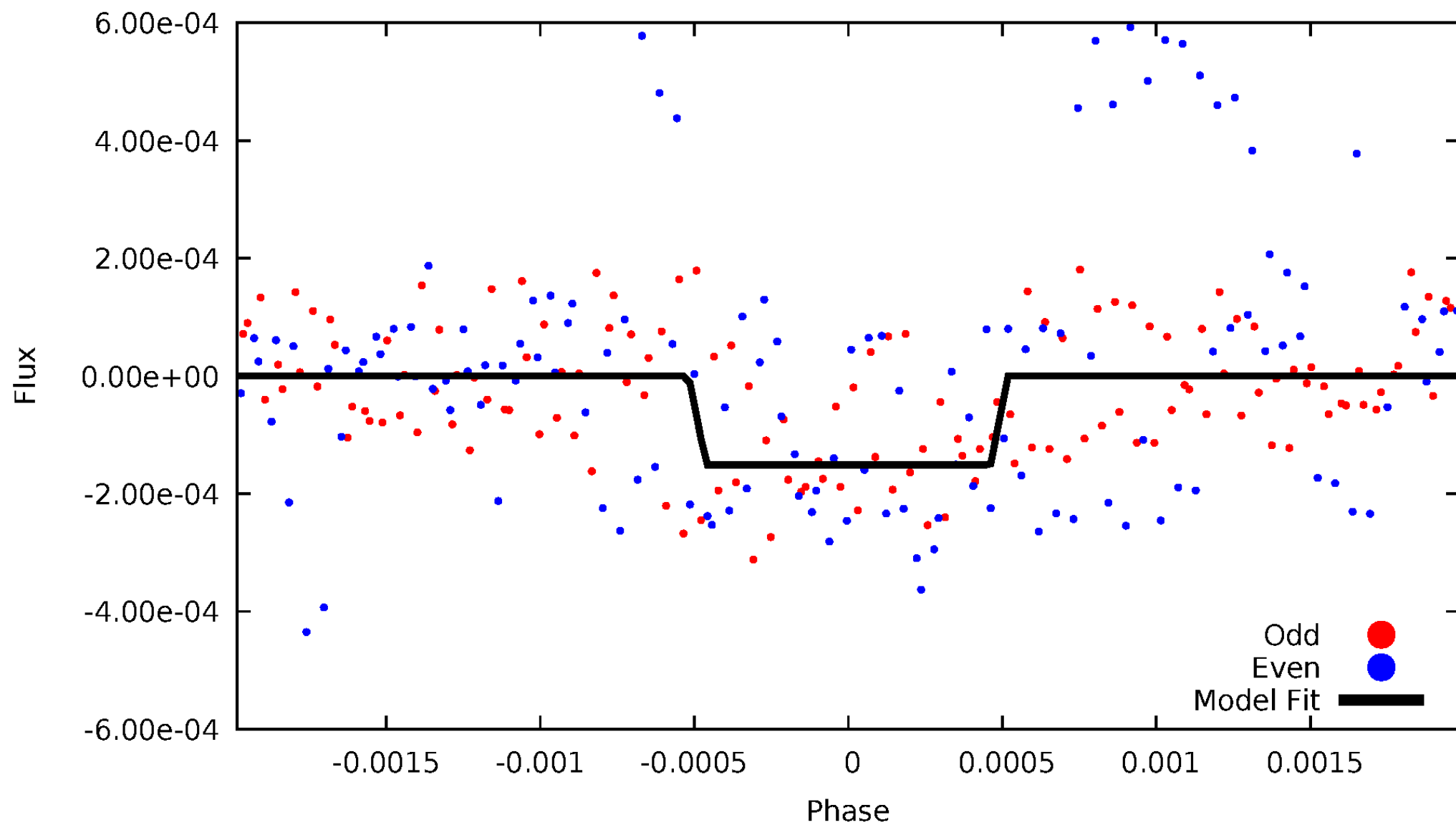
DV Odd/Even

TCE 009480874-01



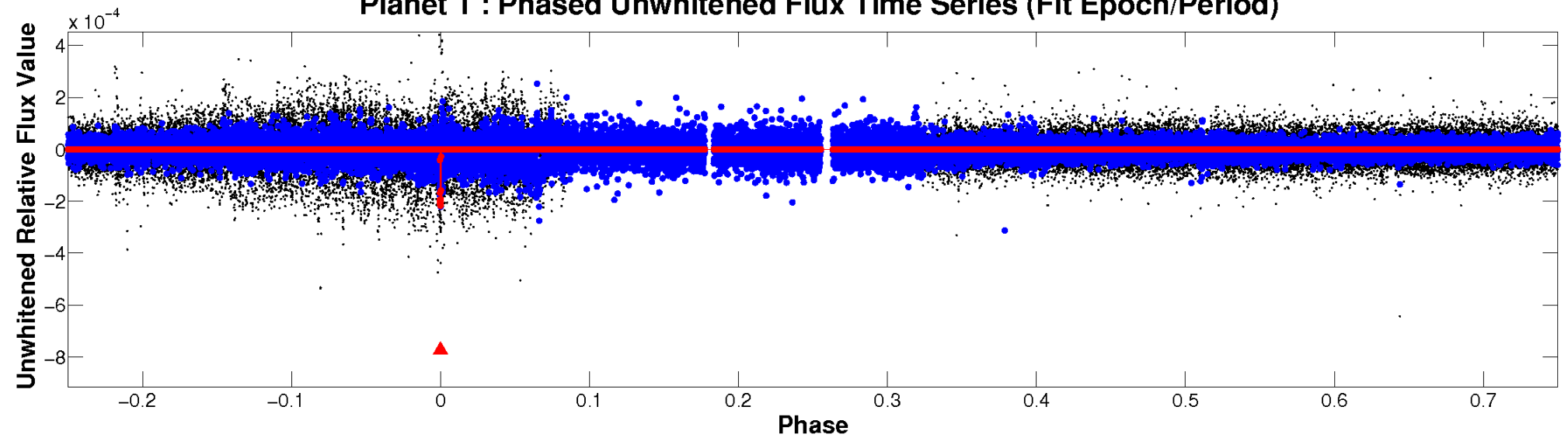
ALT Odd/Even

TCE 009480874-01

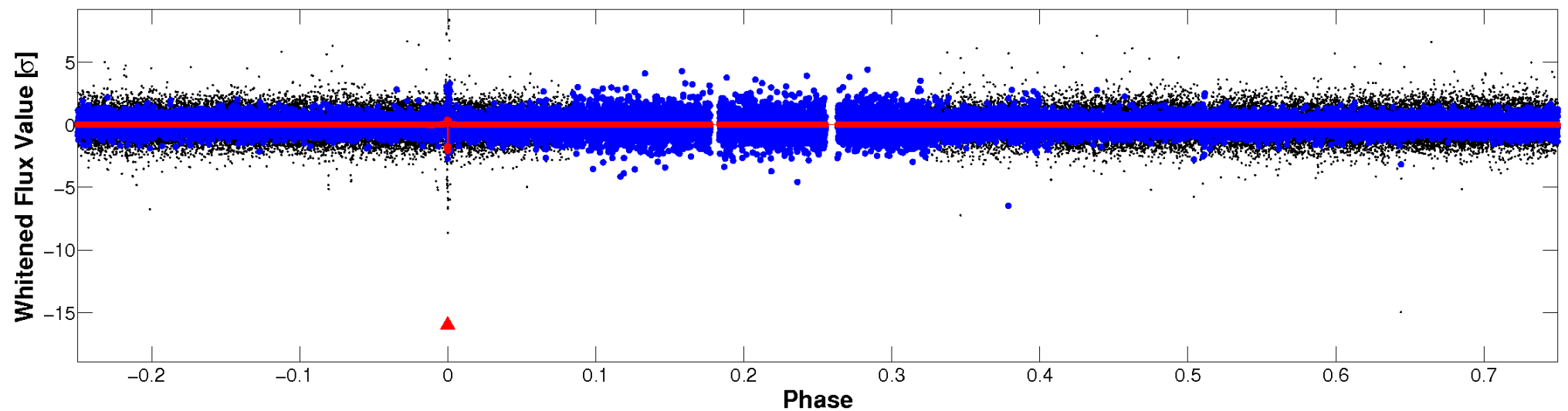


Non-Whitened Vs. Whitened Light Curve

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

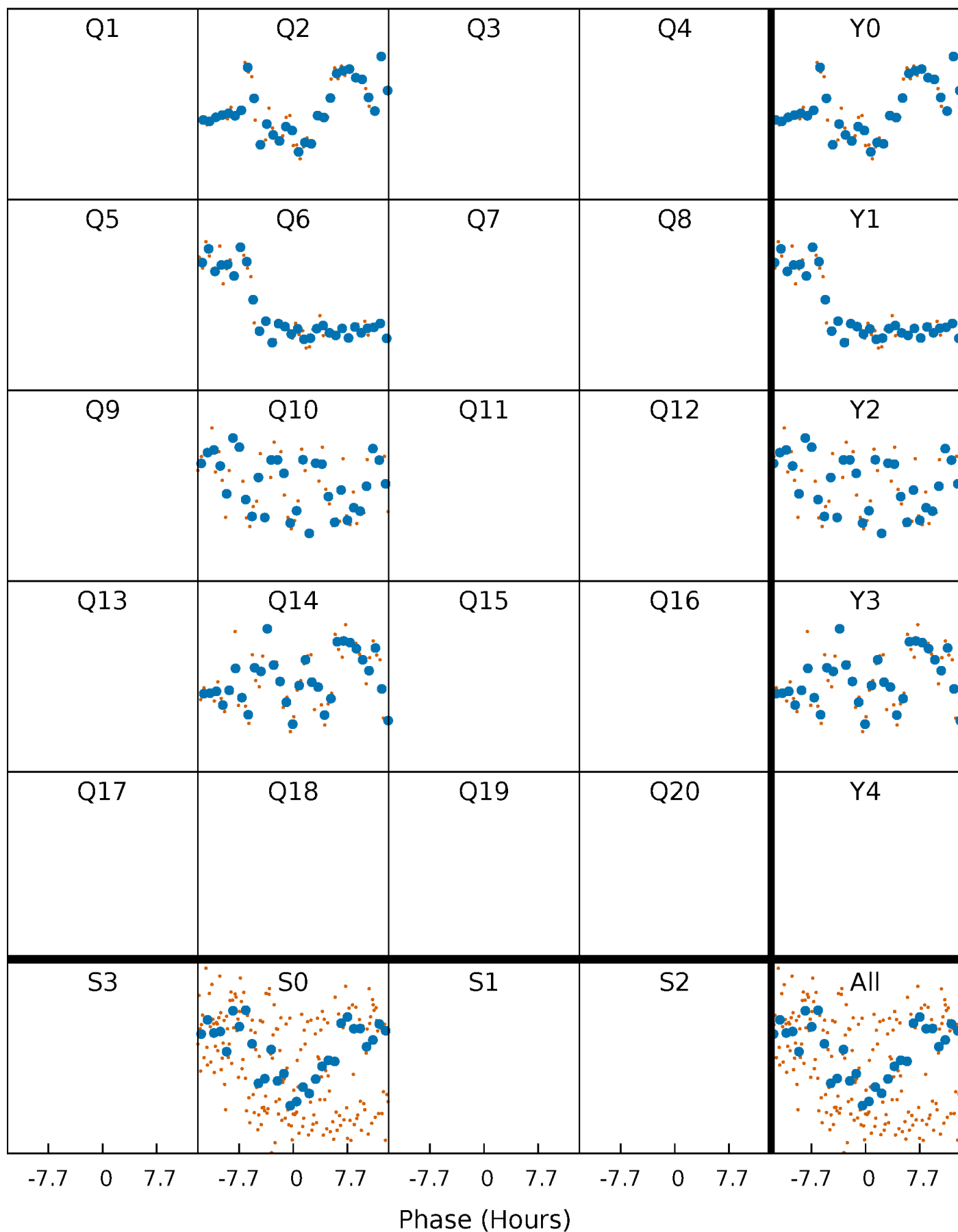


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 009480874-01 P=361.087977 Days $T_0=257.323913$ (BKJD)



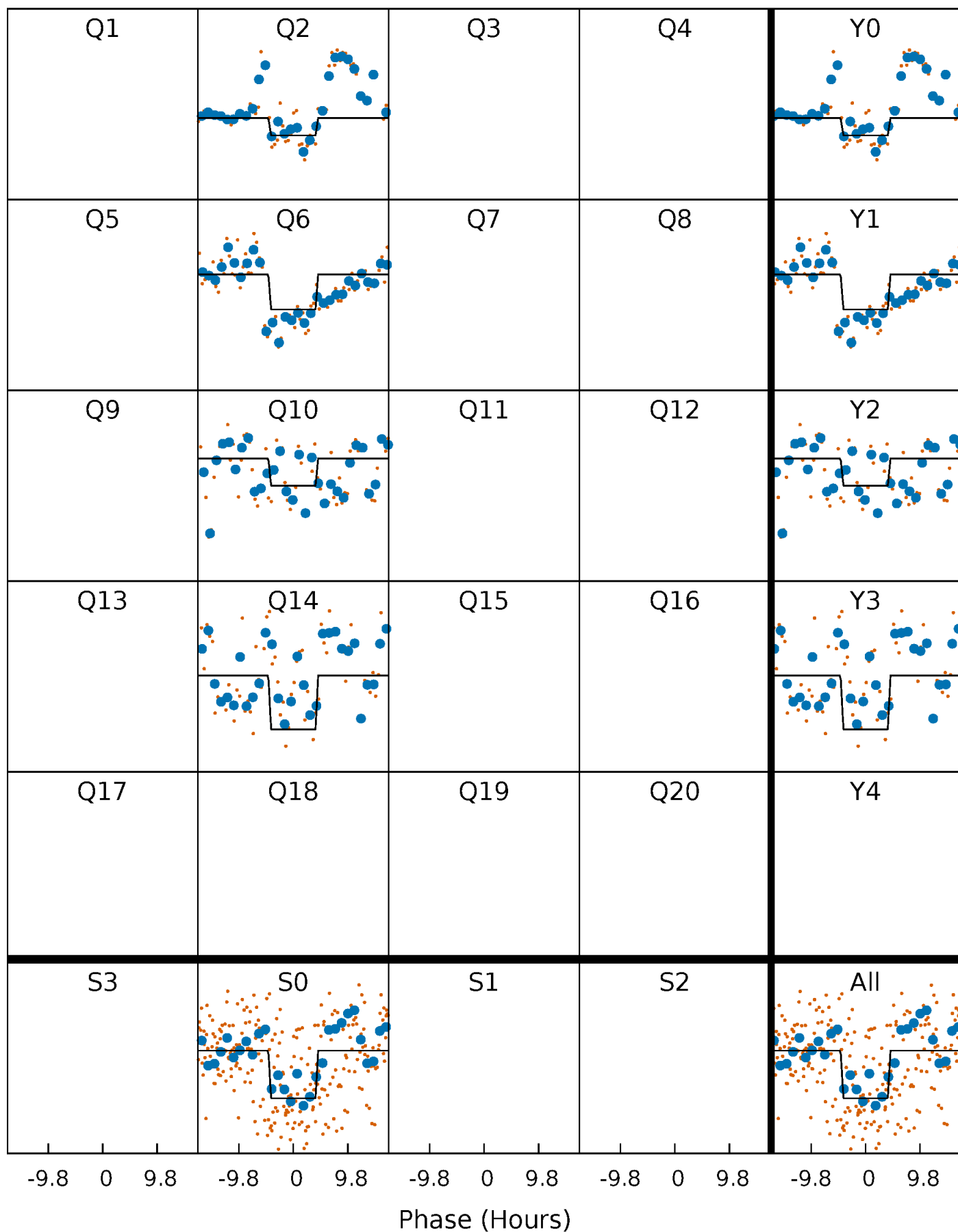
DV Quarter-Phased Transit Curves

TCE 009480874-01 P=361.087977 Days $T_0=257.323913$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

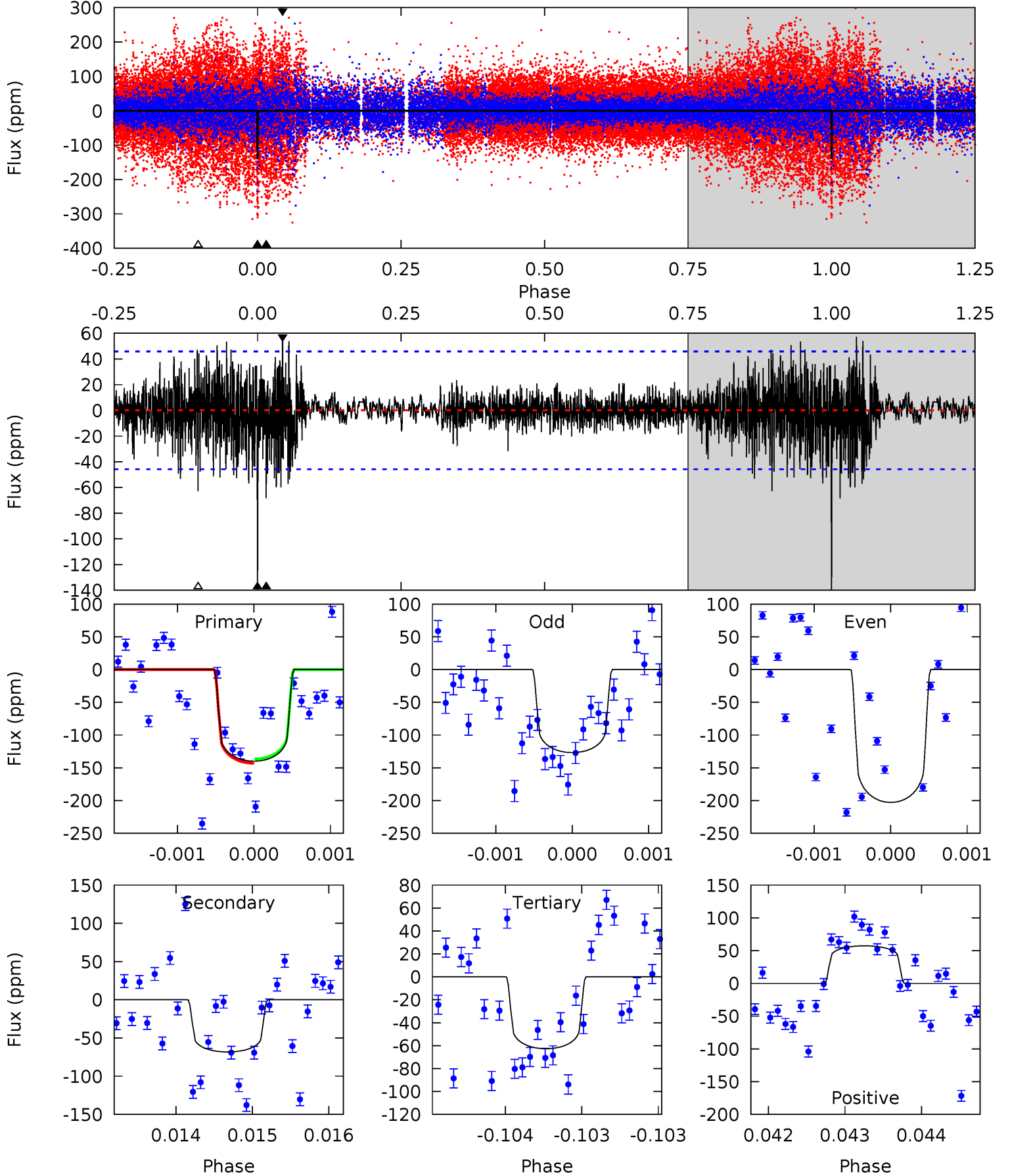
TCE 009480874-01 P=361.115495 Days $T_0=257.279237$ (BKJD)



DV Model-Shift Uniqueness Test

009480874-01, P = 361.087977 Days, E = 257.323913 Days

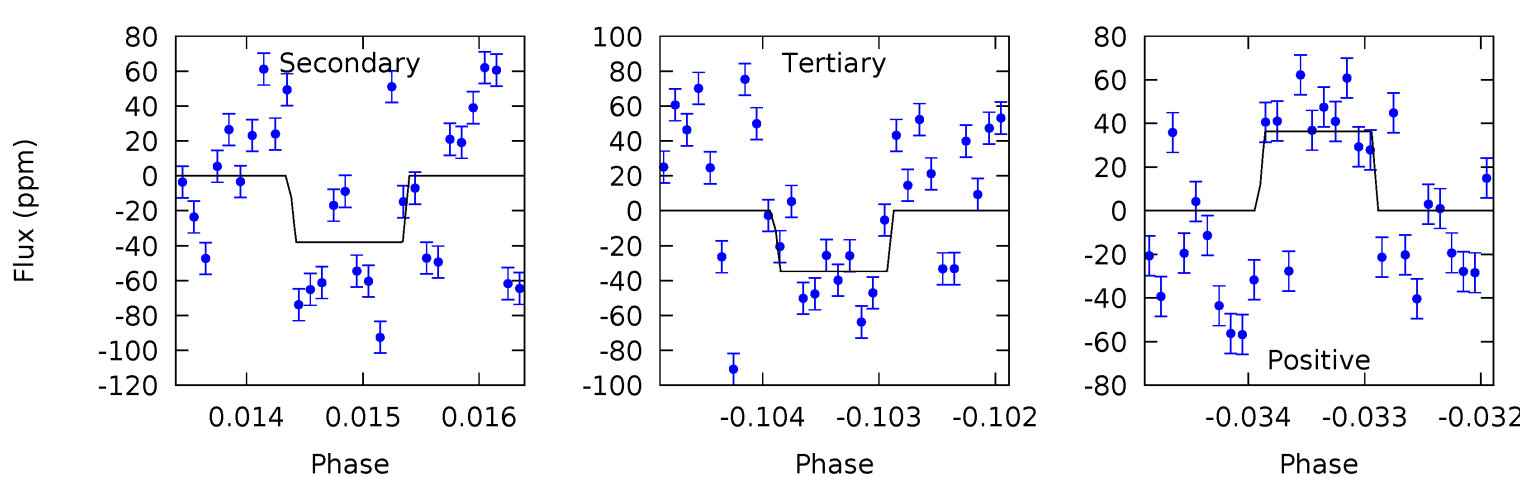
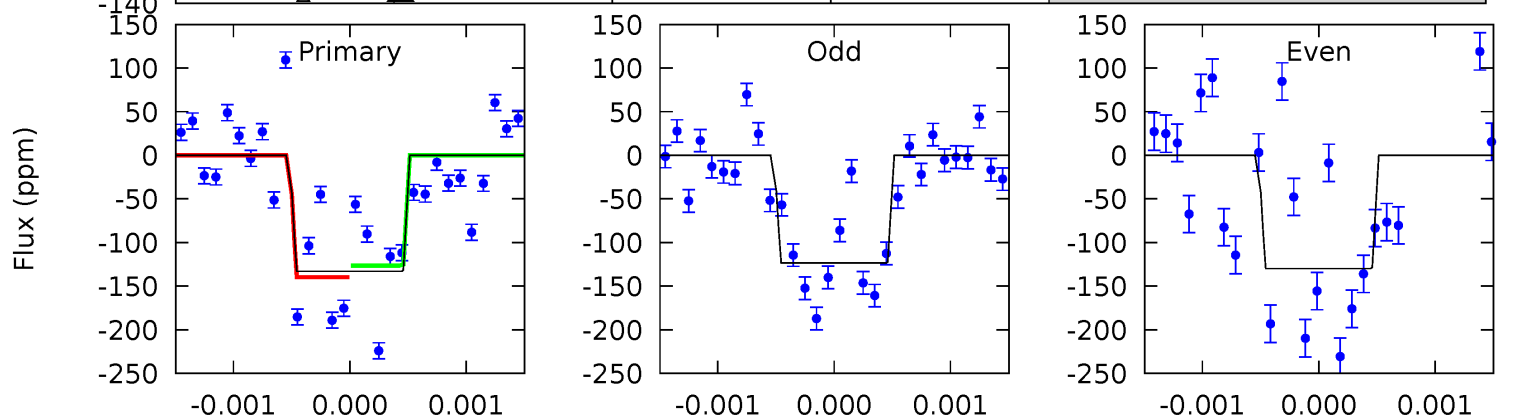
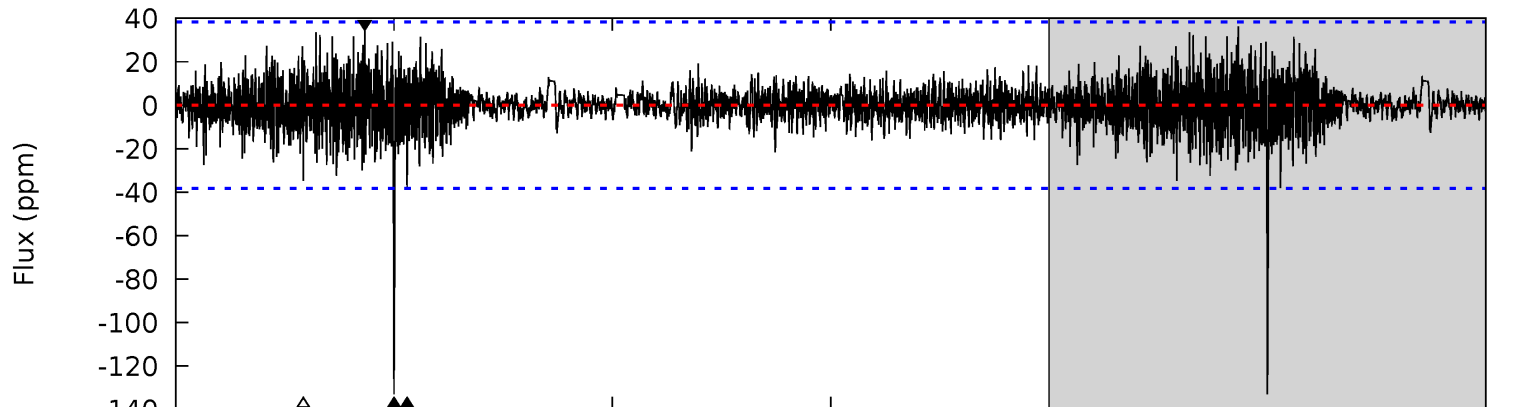
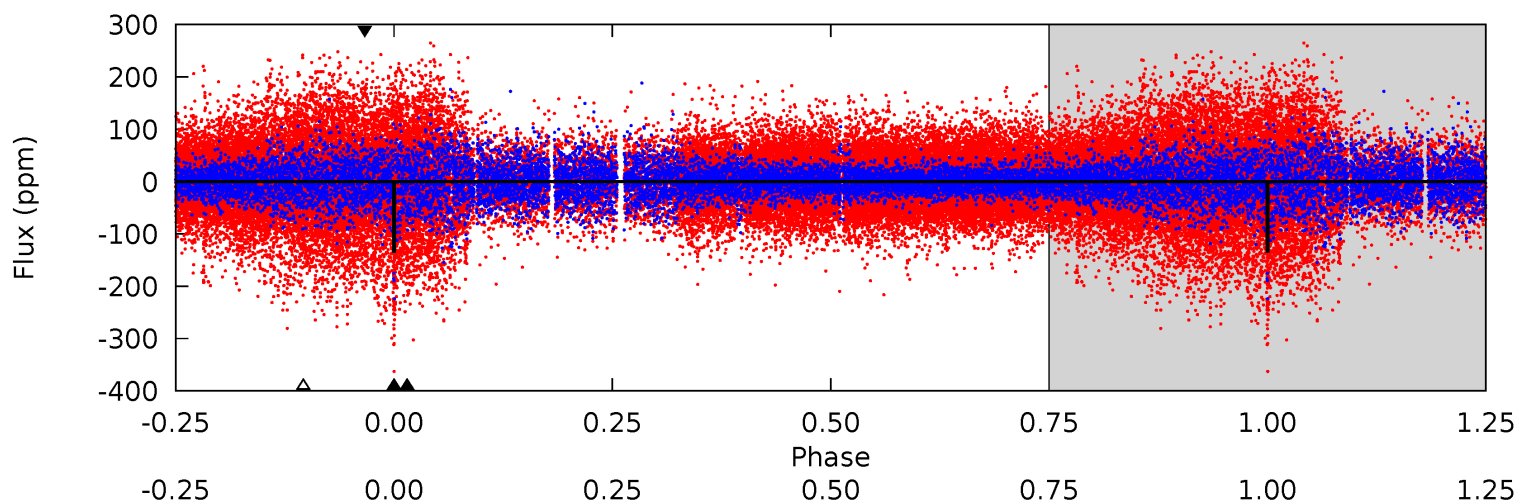
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	8.19	7.52	6.87	5.49	3.35	1.54	9.26	9.91	0.67	1.32	4.51	1.17	0.29	0.39



Alt Model-Shift Uniqueness Test

009480874-01, $P = 361.115495$ Days, $E = 257.279237$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	5.40	4.94	5.16	5.45	3.29	1.06	14.0	13.8	0.45	0.24	0.45	0.98	0.21	0.91



Stellar Parameters For KIC 009480874

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9082^{+291}_{-436}	$4.073^{+0.136}_{-0.204}$	$0.070^{+0.200}_{-0.600}$	$2.257^{+0.800}_{-0.533}$	$2.195^{+0.399}_{-0.531}$	$0.269^{+0.198}_{-0.144}$
	+3%/-5%	+3%/-5%	+286%/-857%	+35%/-24%	+18%/-24%	+74%/-54%
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 009480874-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-68 ± 8	$3.71^{+1.73}_{-1.45}$	747^{+67}_{-55}	6395^{+2051}_{-1004}	4346^{+7401}_{-2244}
Alt.	-38 ± 7	$3.05^{+1.73}_{-1.48}$	747^{+60}_{-52}	6075^{+2638}_{-1104}	3597^{+9945}_{-2180}

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

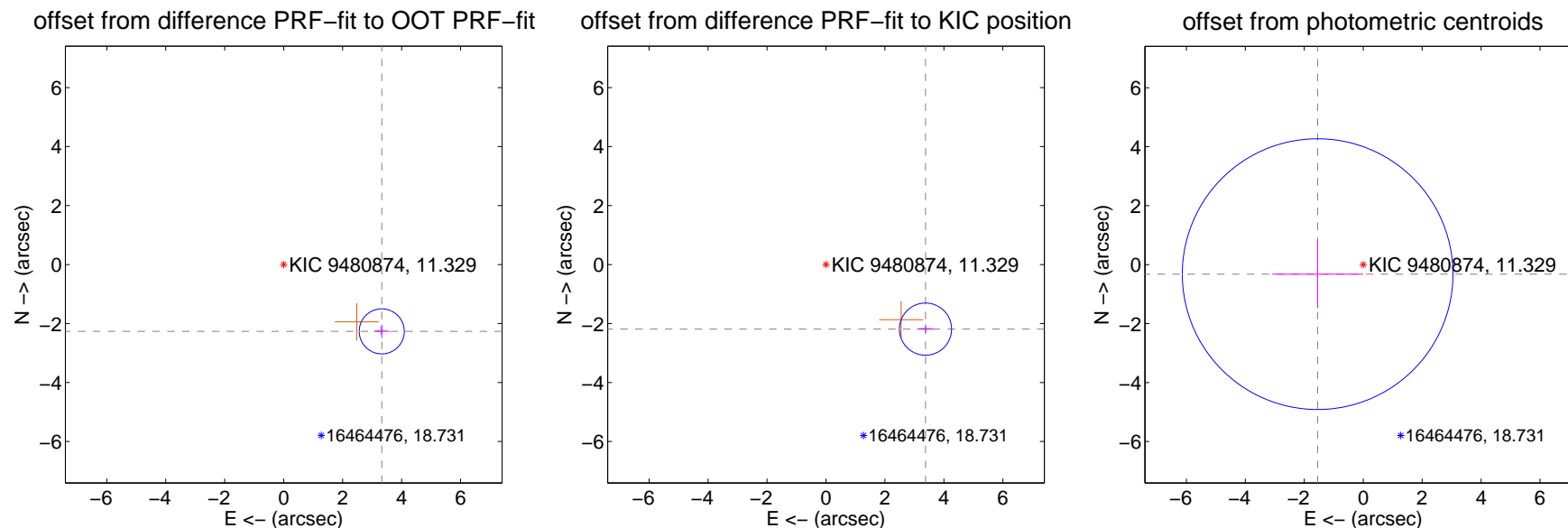
DV Centroid Data

Supplemental centroid analysis for 009480874-01. **Kepler magnitude: 11.33.** Transit SNR 15.69

There are 2 quarters with good PRF difference image offsets

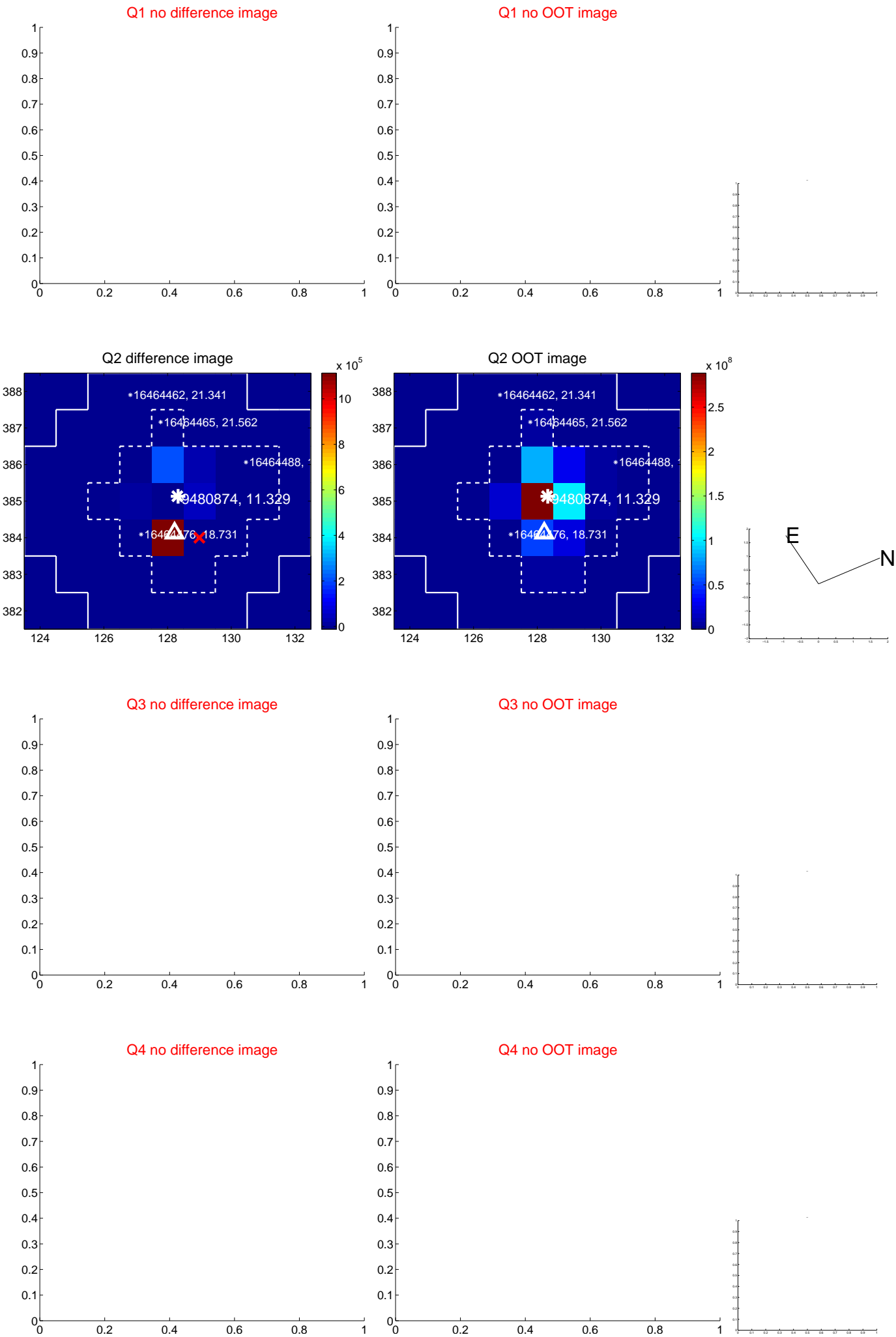
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.025 ± 0.255	15.81	-3.326 ± 0.266	-2.266 ± 0.227
PRF-fit source offset from KIC position	4.024 ± 0.295	13.65	-3.376 ± 0.284	-2.190 ± 0.123
photometric centroid source offset	1.58 ± 1.53	1.03	1.55 ± 1.54	-0.32 ± 1.15



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.

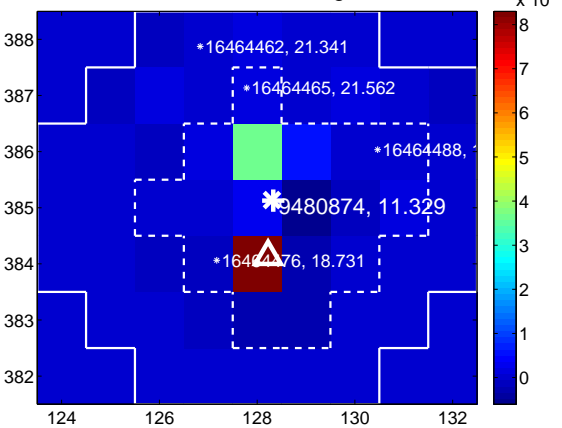
Q5 no difference image



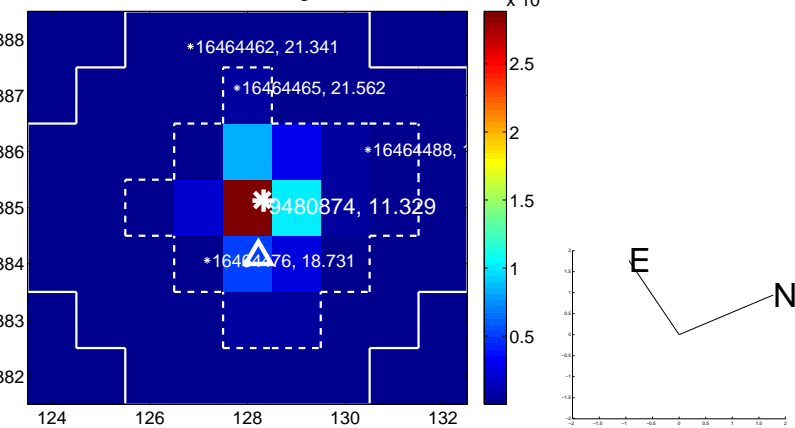
Q5 no OOT image



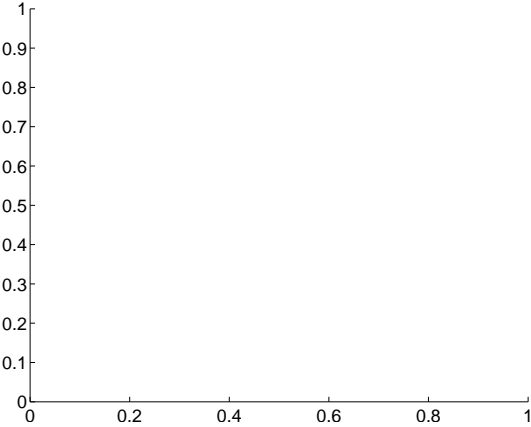
Q6 difference image



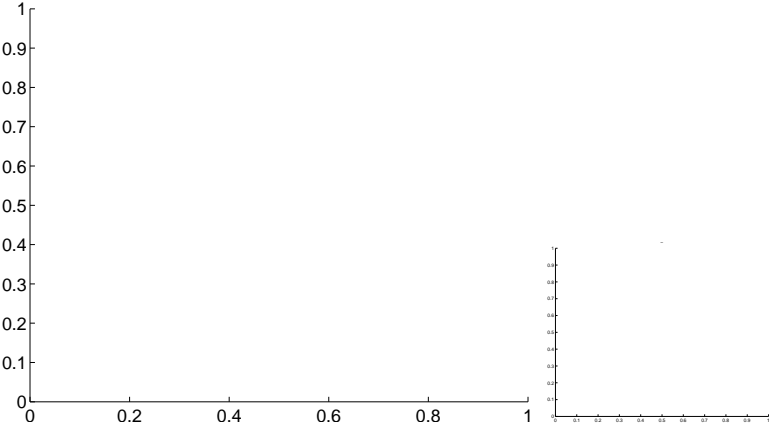
Q6 OOT image



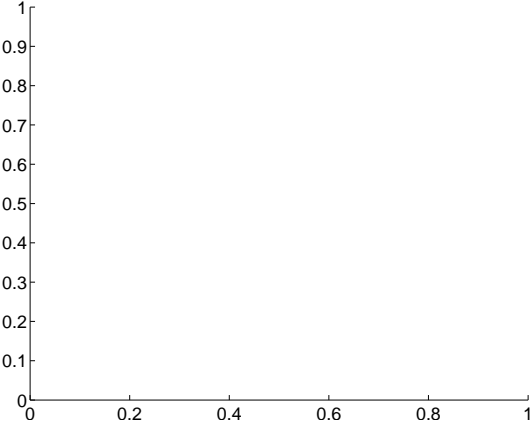
Q7 no difference image



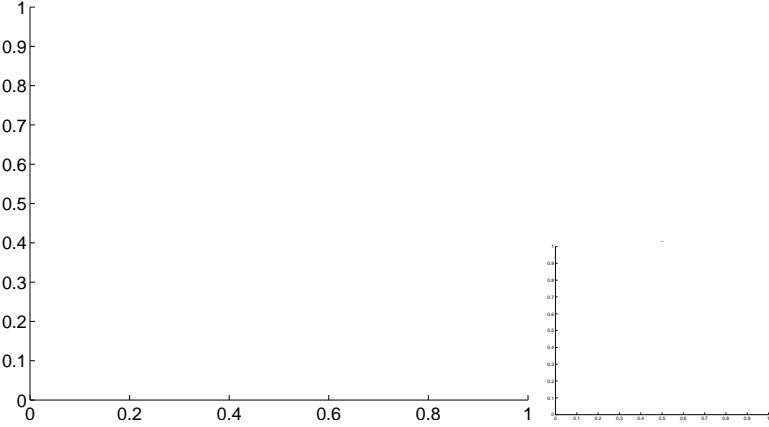
Q7 no OOT image



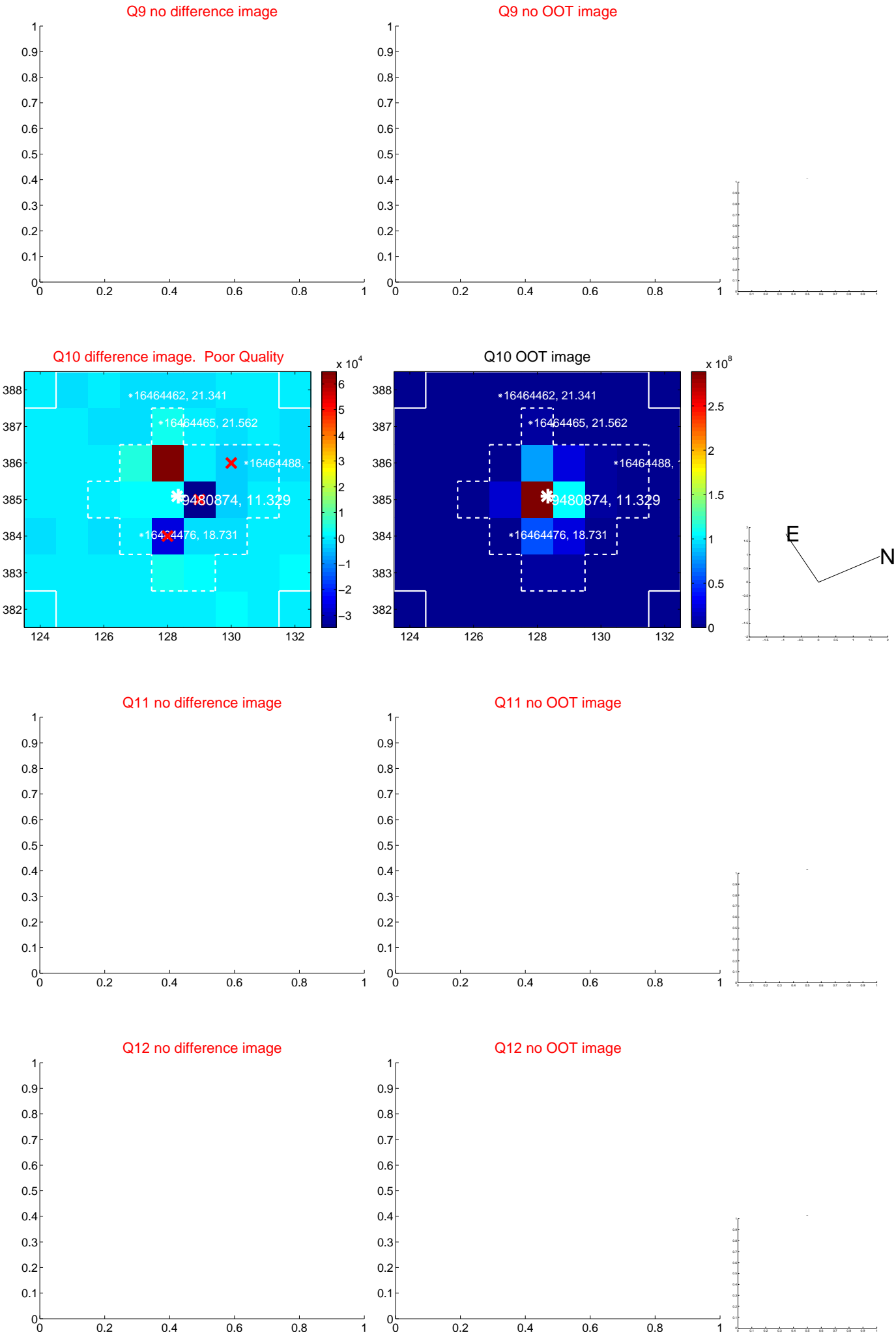
Q8 no difference image



Q8 no OOT image



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



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

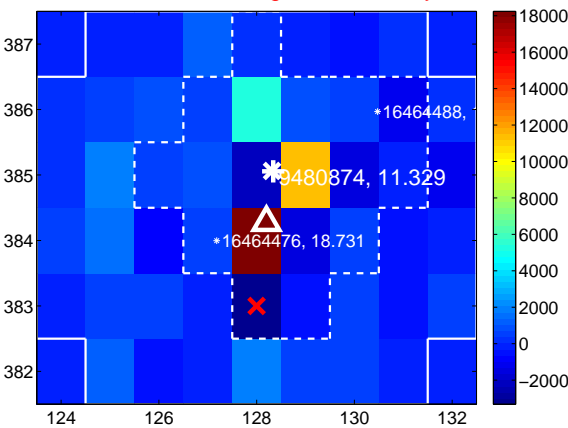
Q13 no difference image



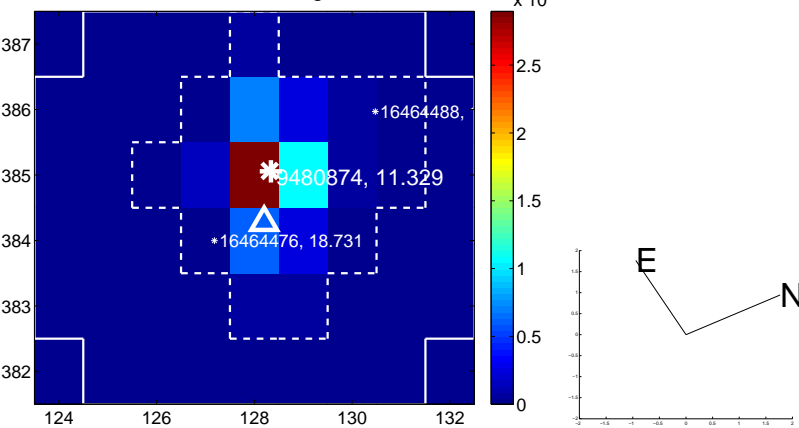
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



Q15 no difference image



Q15 no OOT image



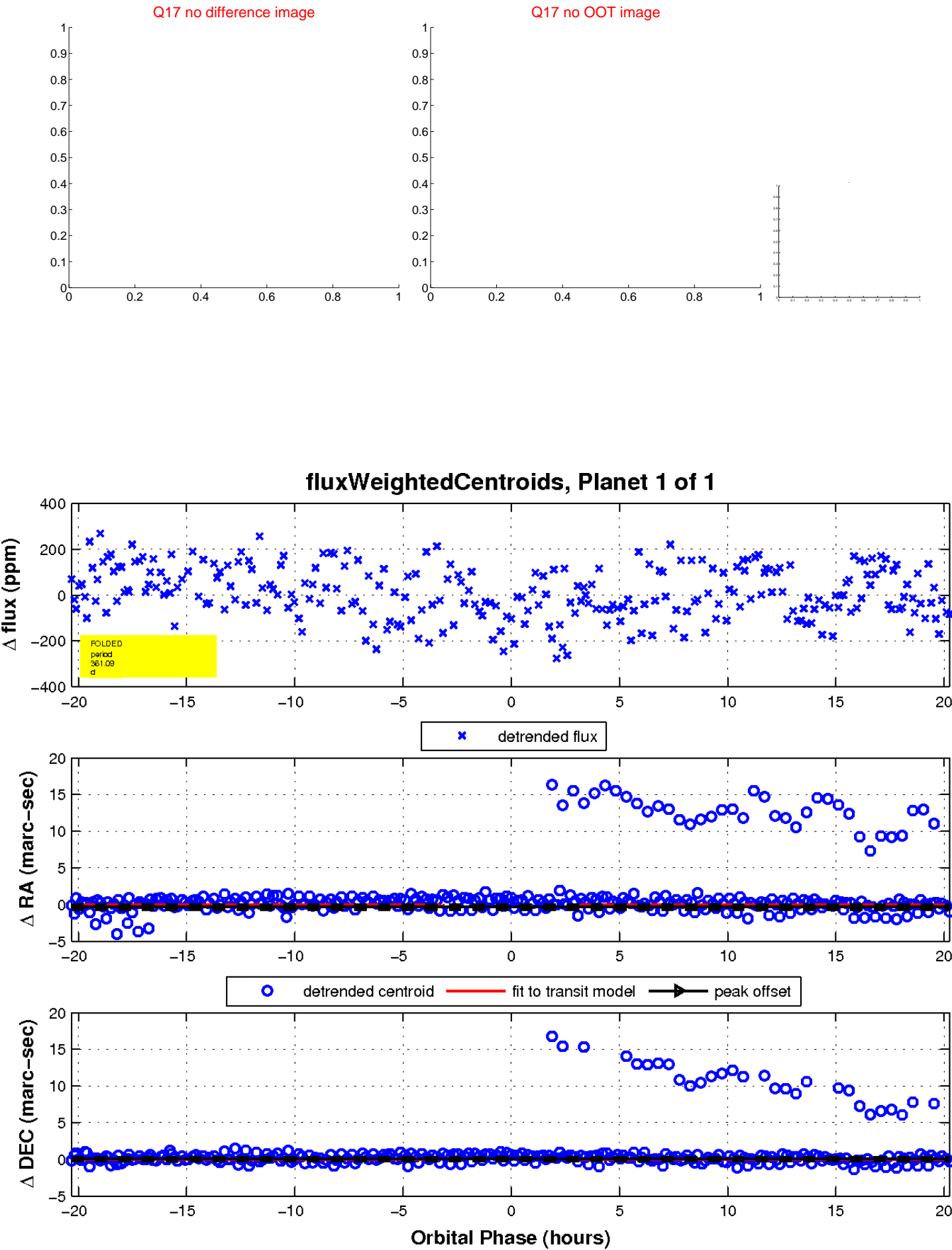
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

