

KIC 009471300

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})
009471300-01	OBS	No	618.772277	270.034584	259.3	8.943	7.5	7.2	1.02	6053	1.81	0.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009471300-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—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.

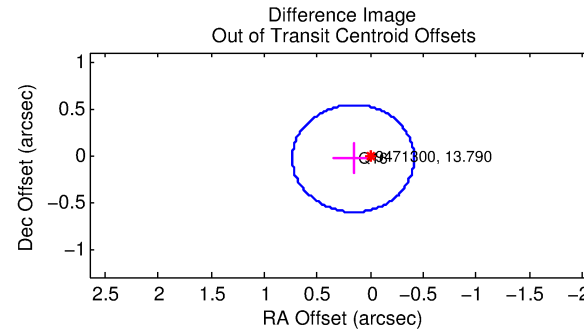
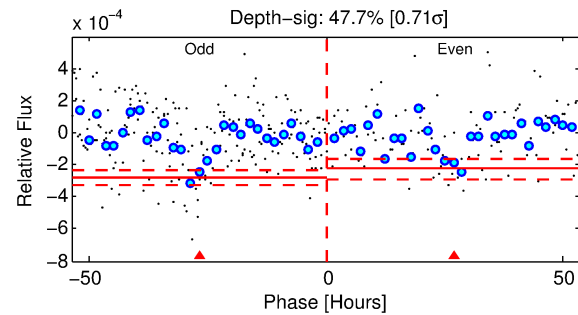
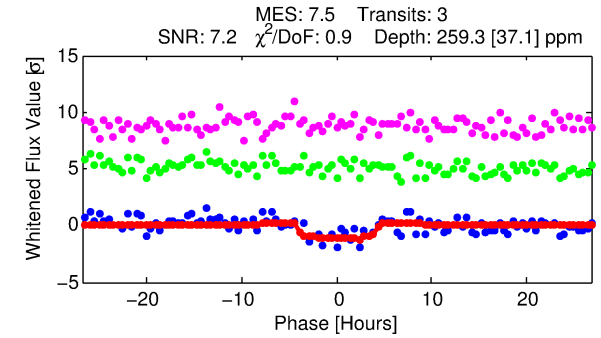
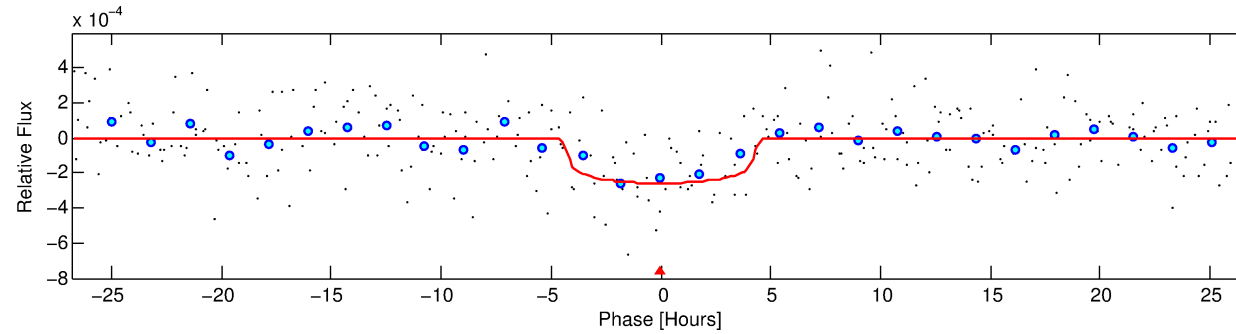
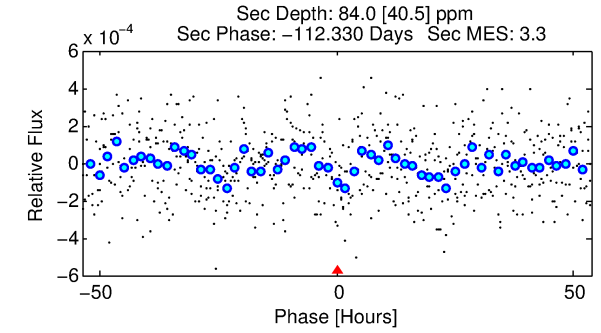
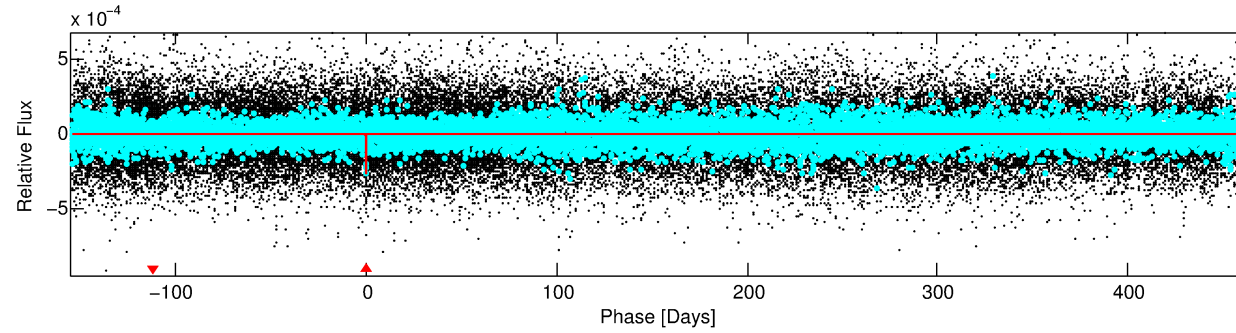
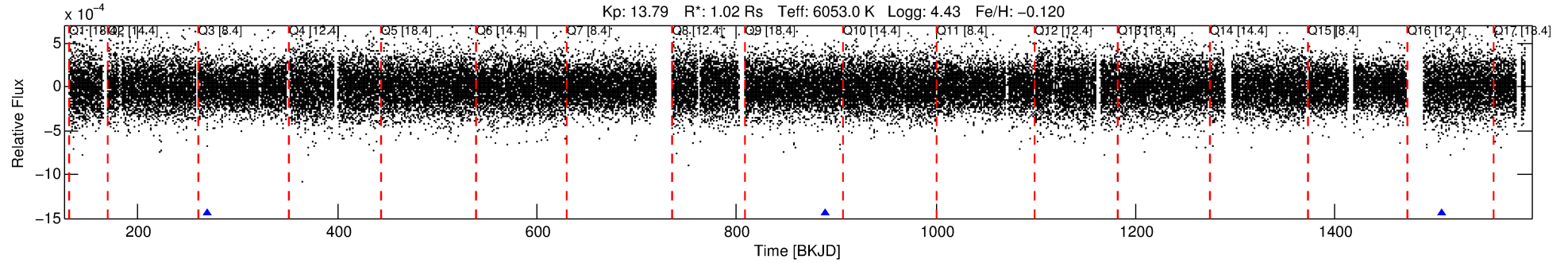
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009471300-01

No Significant Match Found

DV One-Page Summary

KIC: 9471300 Candidate: 1 of 1 Period: 618.772 d



DV Fit Results:

Period = 618.77228 [0.01159] d
Epoch = 270.0346 [0.0135] BKJD
Rp/R* = 0.0163 [0.0088]
a/R* = 333.47 [880.03]
b = 0.80 [1.22]
Seff = 0.61 [0.24]
Teq = 225 [23] K
Rp = 1.81 [1.14] Re
a = 1.4305 [0.3809] AU
Ag = 28740.07 [35626.92] [0.81σ]
Teffp = 4537 [1347] K [3.20σ]

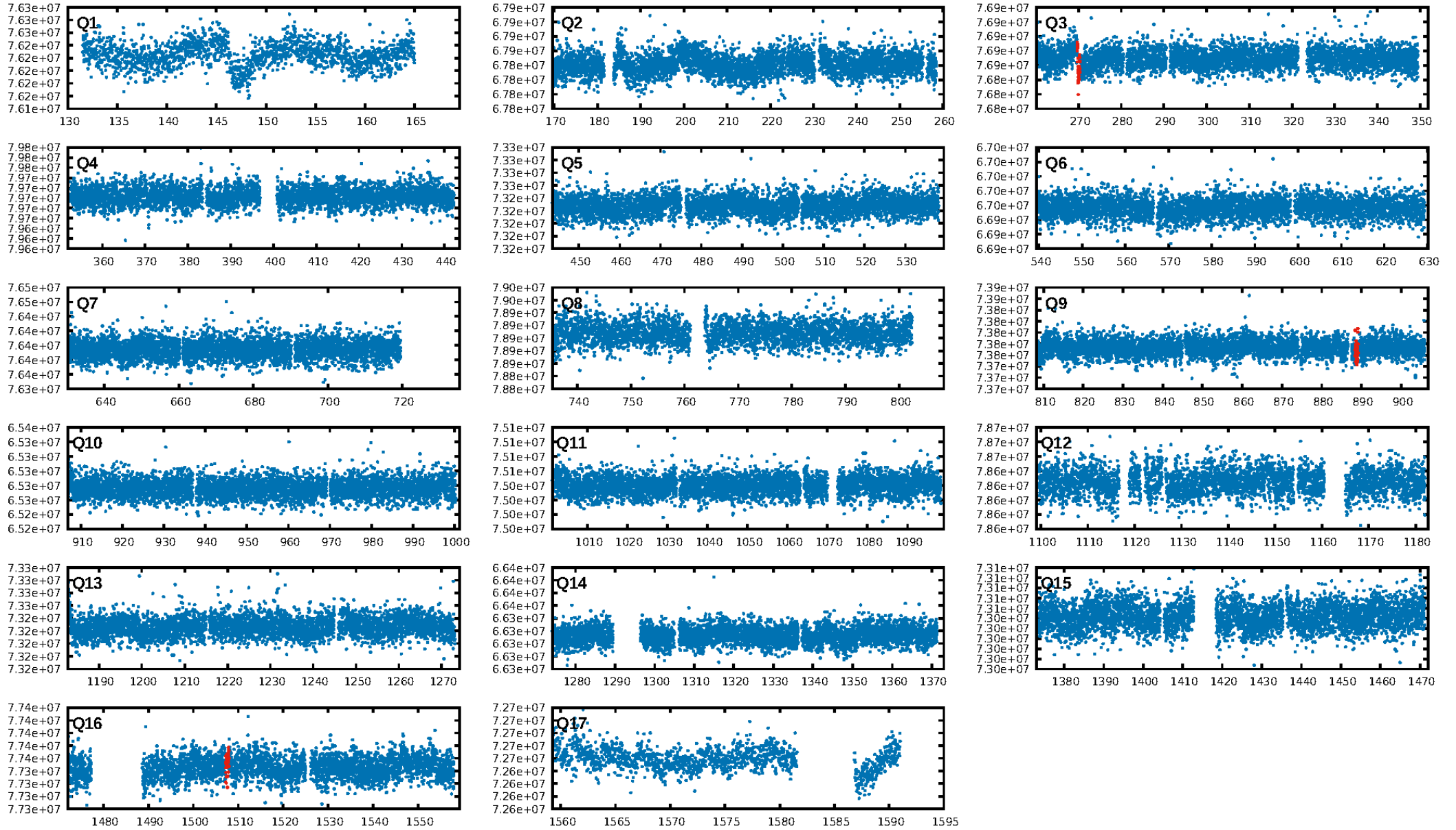
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.4%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 4.82e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 19.11
Centroid-sig: 22.1%
Centroid-so: 9.071 arcsec [1.85σ]
OotOffset-rm: 0.165 arcsec [0.86σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-rm: 5.386 arcsec [29.42σ]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

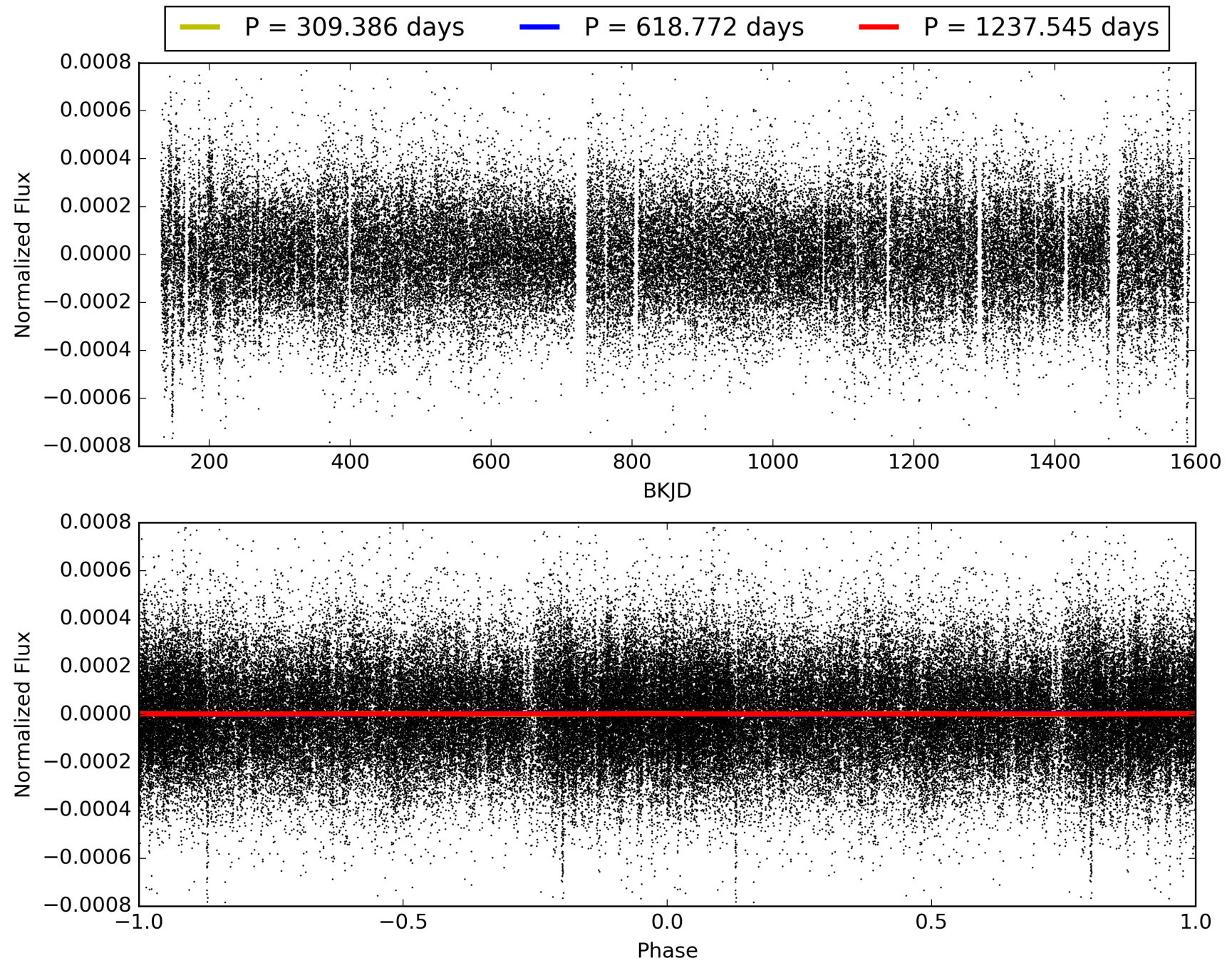
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:35:55 Z

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

TCE 009471300-01, PDC Light Curves

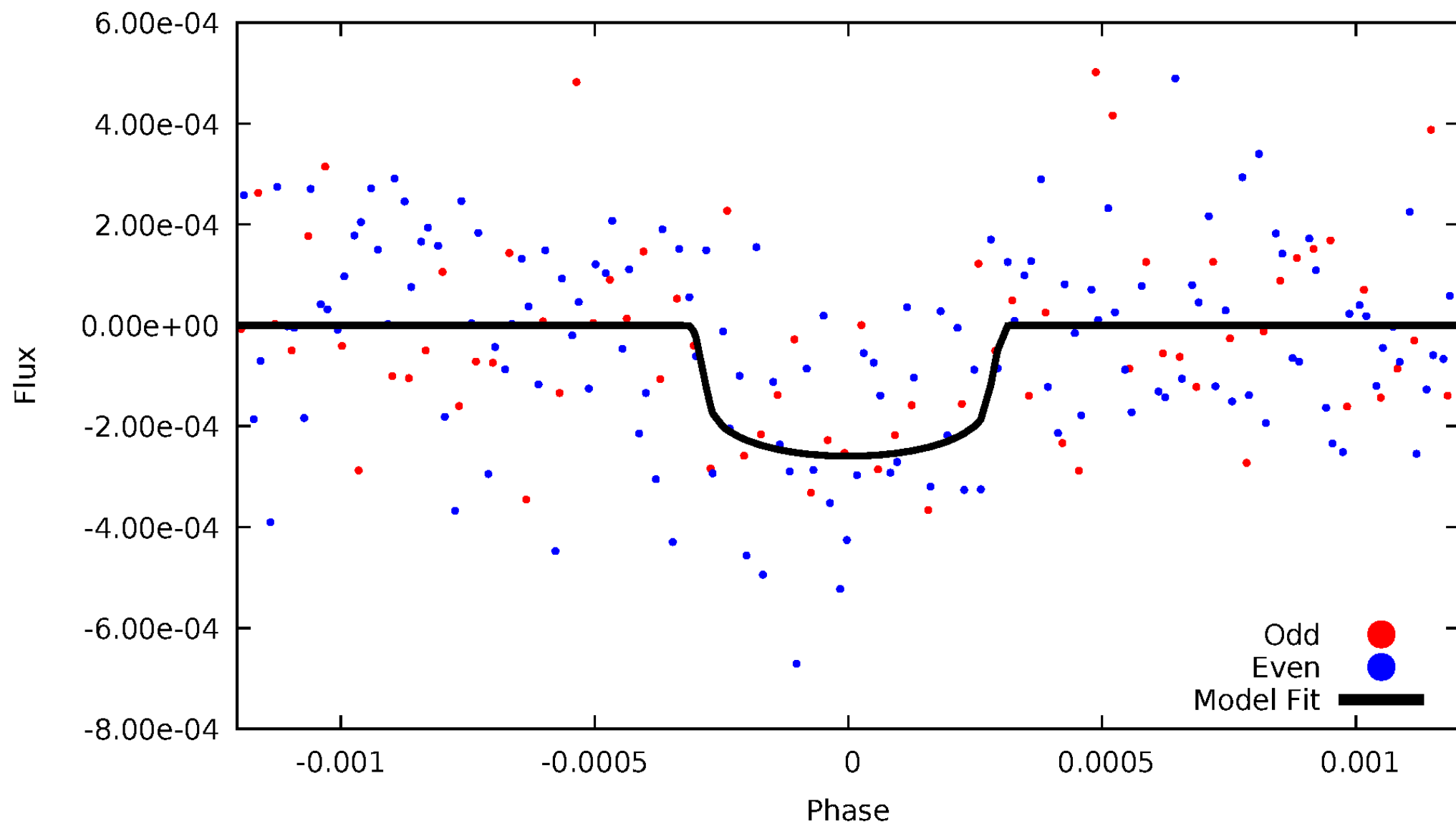


TCE 009471300-01



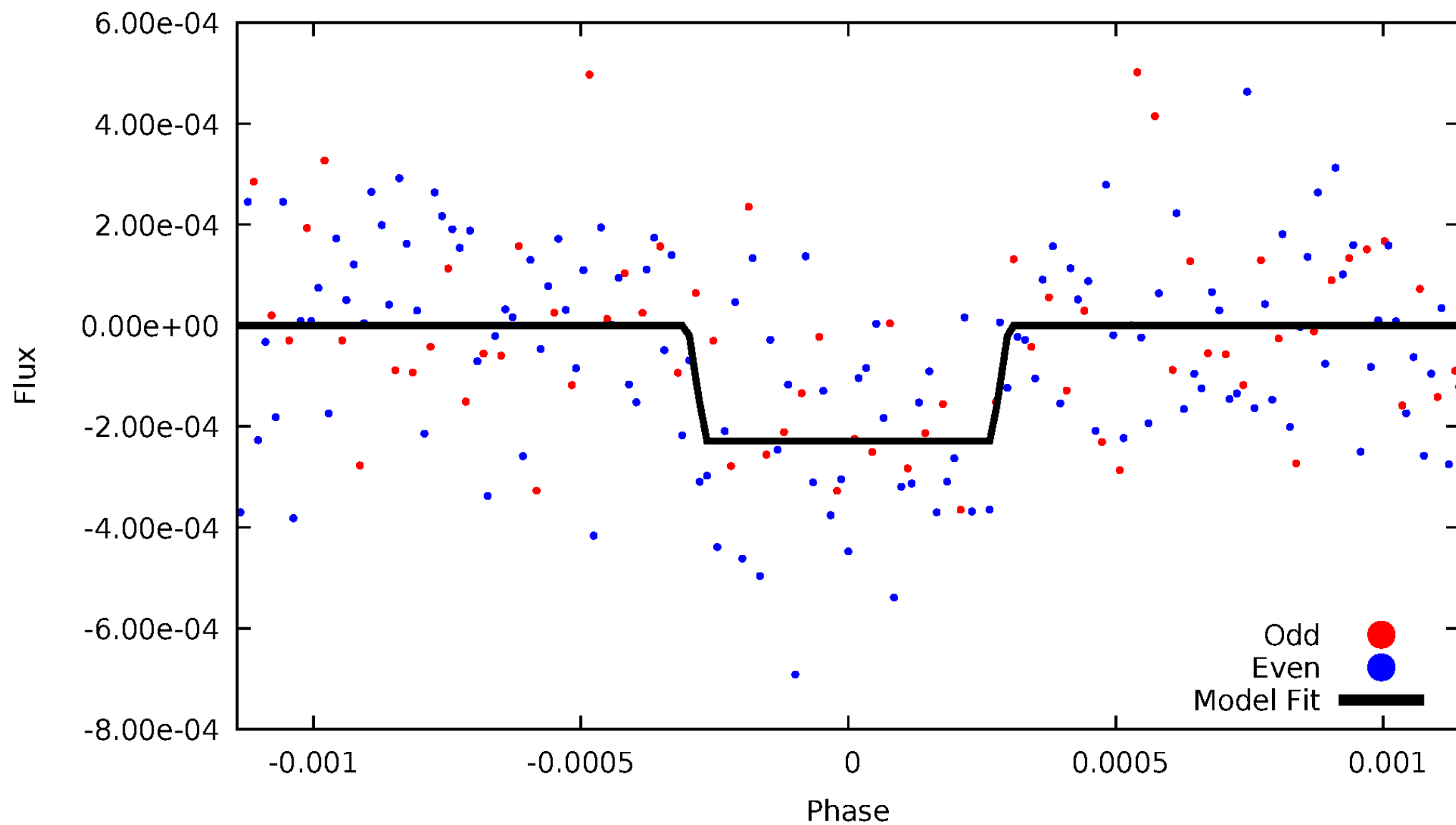
DV Odd/Even

TCE 009471300-01



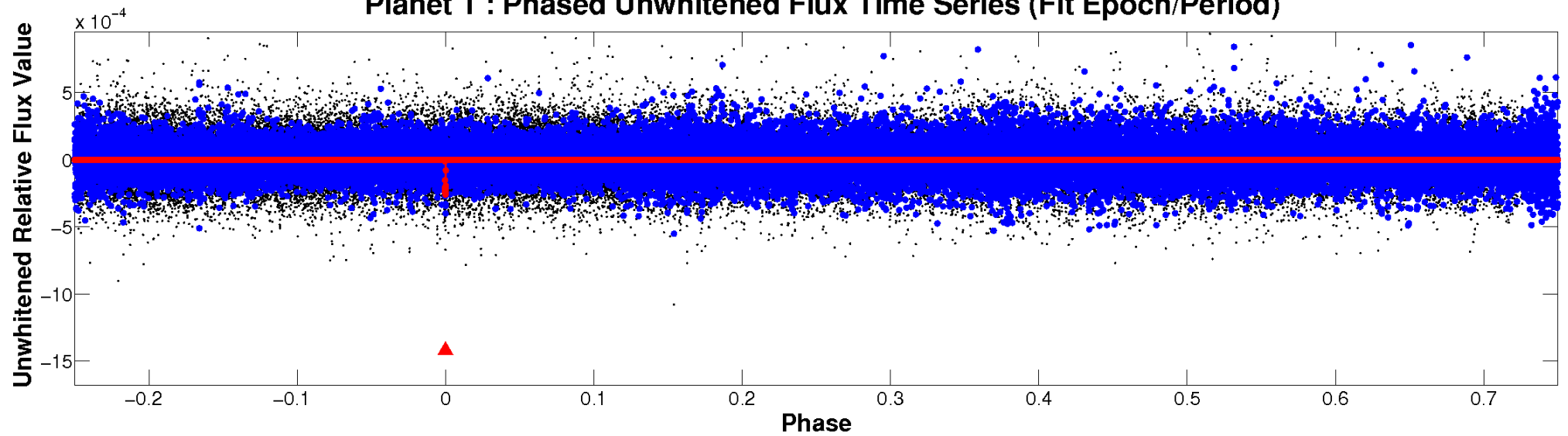
ALT Odd/Even

TCE 009471300-01

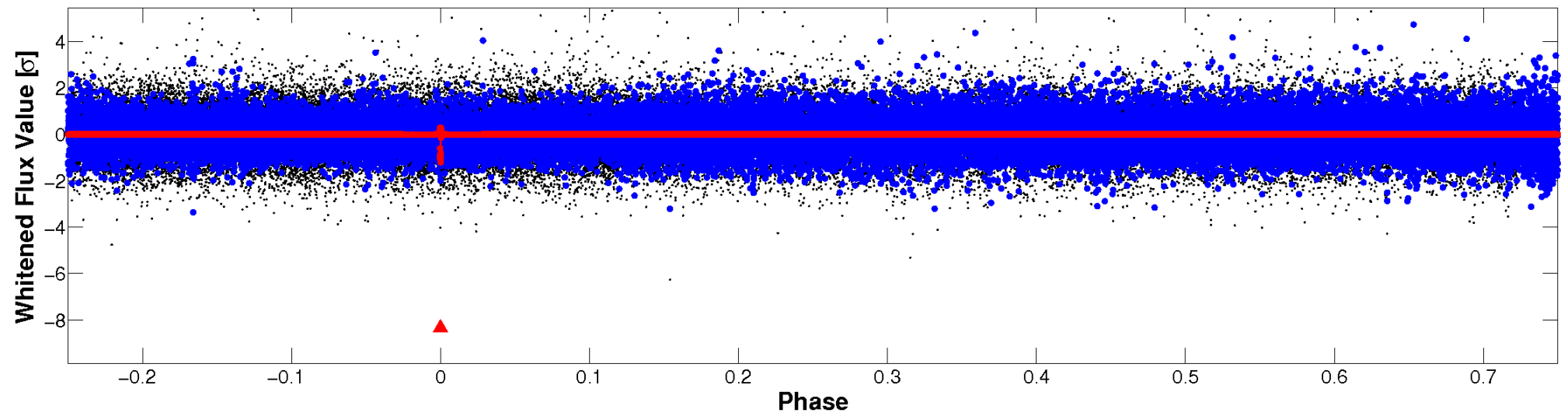


Non-Whitened Vs. Whitened Light Curve

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

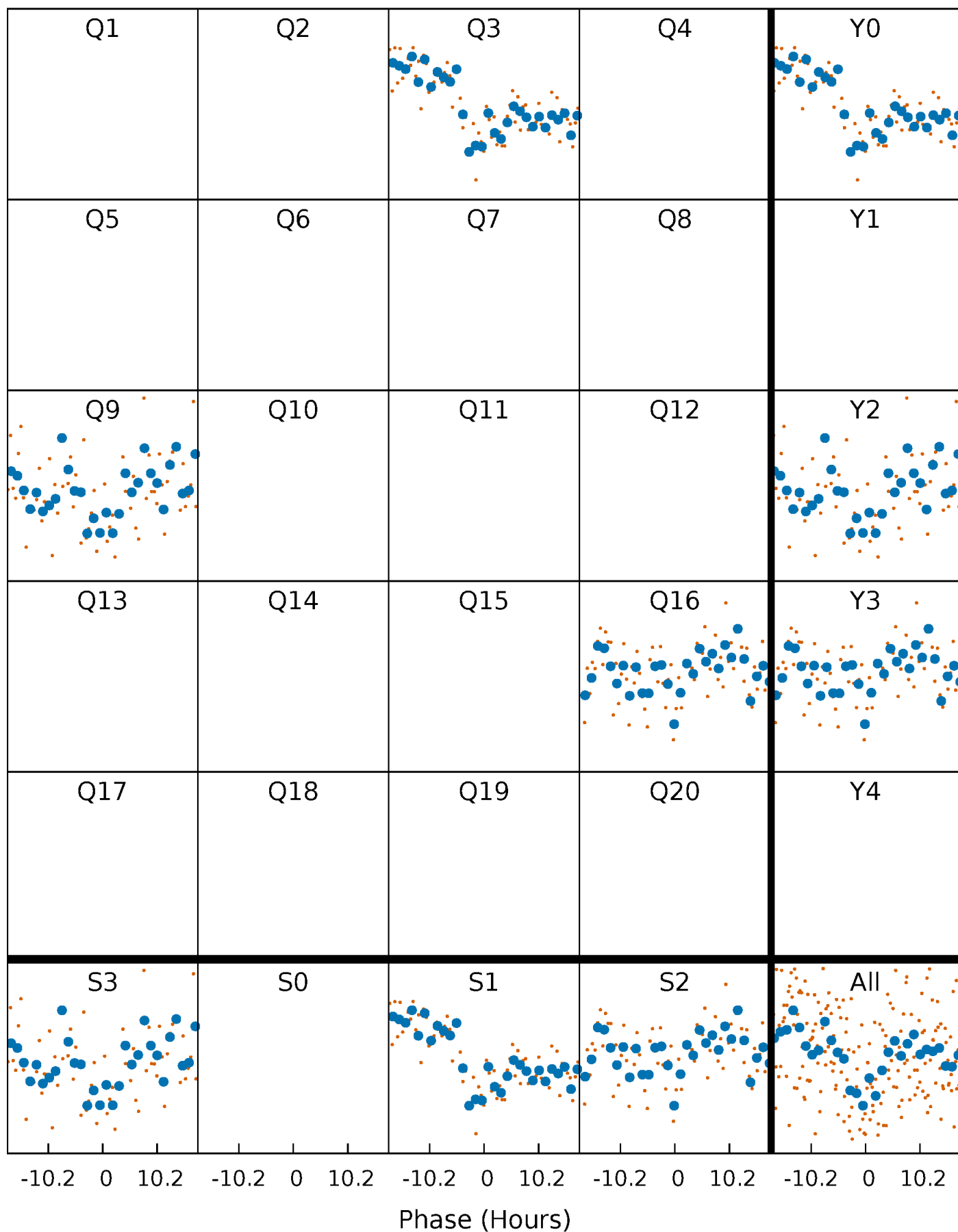


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



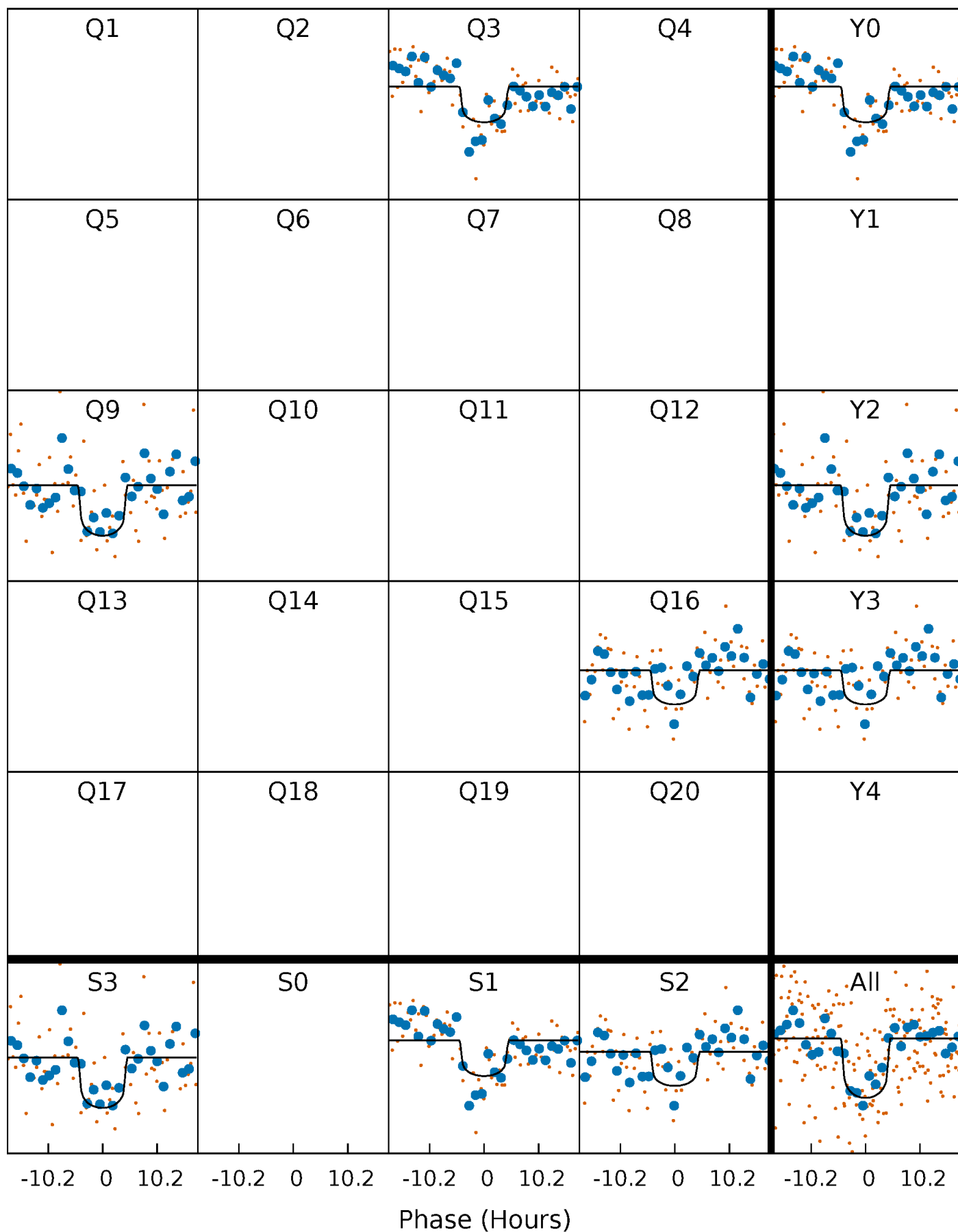
PDC Quarter-Phased Transit Curves

TCE 009471300-01 P=618.772277 Days $T_0=270.034584$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009471300-01 $P=618.772277$ Days $T_0=270.034584$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

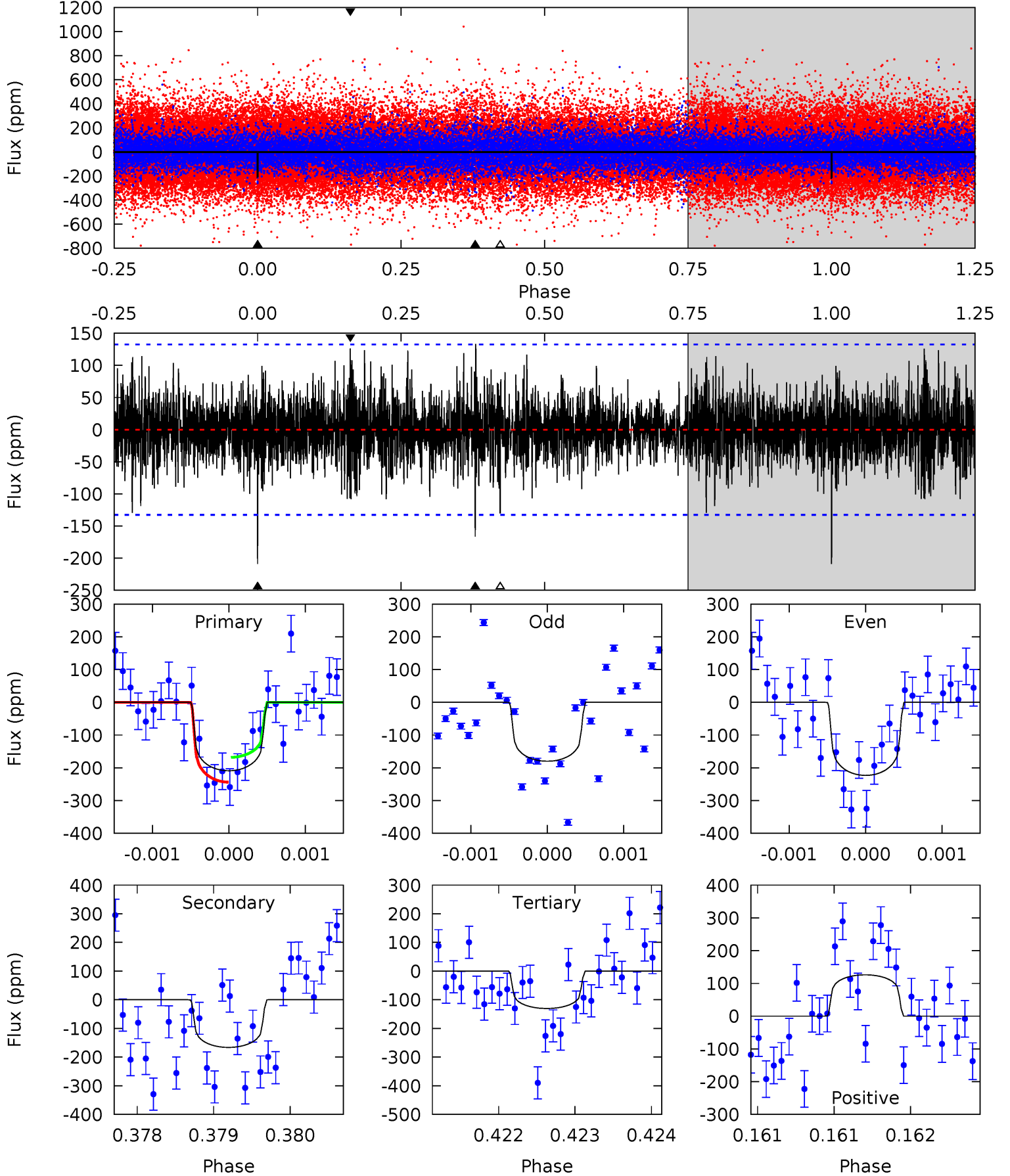
TCE 009471300-01 P=618.741819 Days $T_0=270.032785$ (BKJD)



DV Model-Shift Uniqueness Test

009471300-01, P = 618.772277 Days, E = 270.034584 Days

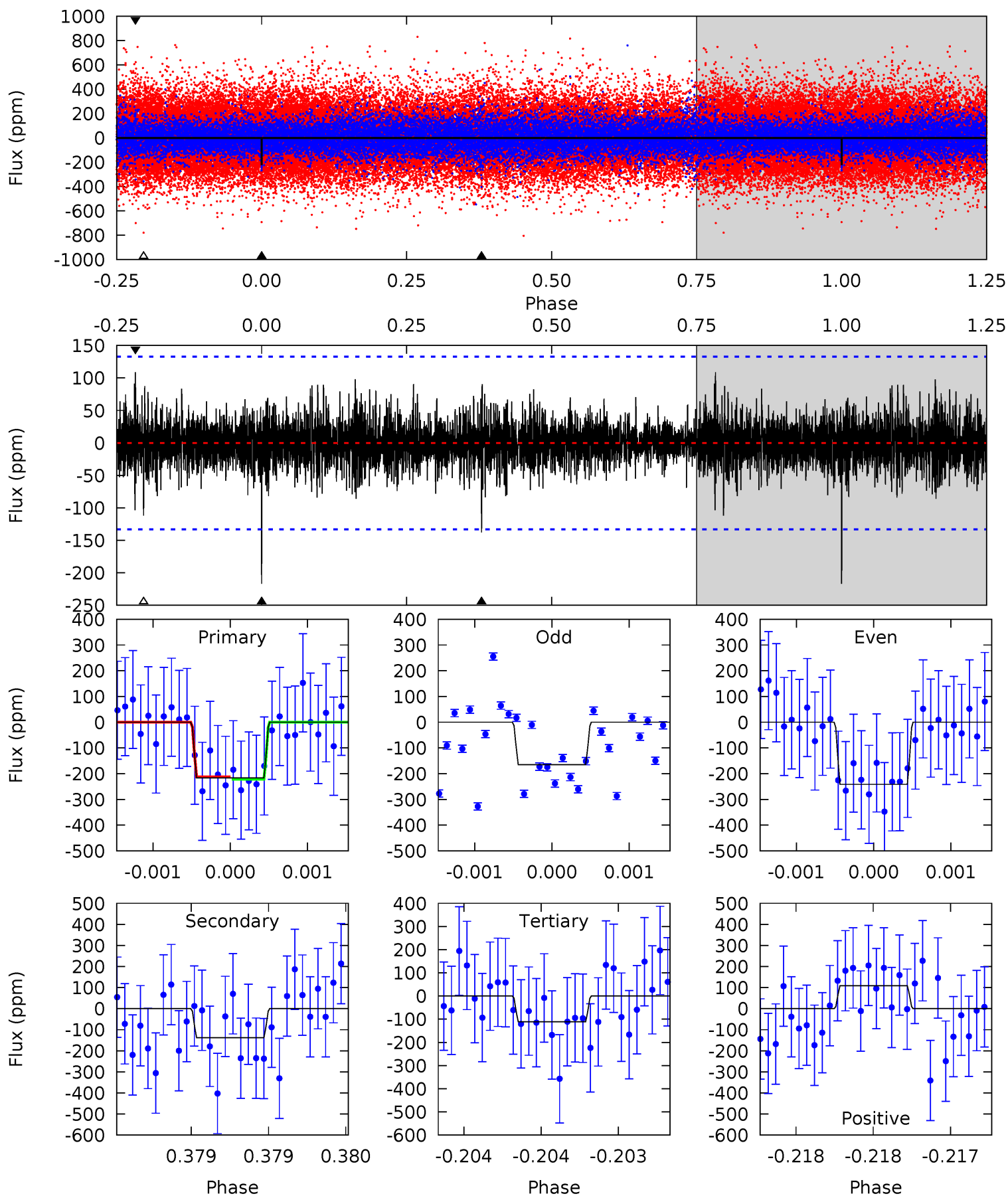
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.72	6.93	5.44	5.26	5.53	3.42	1.39	3.28	3.46	1.49	1.67	0.86	1.15	0.39	1.58



Alt Model-Shift Uniqueness Test

009471300-01, P = 618.741819 Days, E = 270.032785 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.02	5.73	4.65	4.53	5.54	3.43	1.05	4.37	4.49	1.08	1.20	1.51	1.29	0.33	0.19



Stellar Parameters For KIC 009471300

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6053^{+162}_{-198}	$4.430^{+0.072}_{-0.203}$	$-0.120^{+0.250}_{-0.300}$	$1.019^{+0.330}_{-0.132}$	$1.016^{+0.153}_{-0.126}$	$1.354^{+0.496}_{-0.702}$
	+3%/-3%	+2%/-5%	+208%/-250%	+32%/-13%	+15%/-12%	+37%/-52%
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 009471300-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-166 ± 24	$1.95^{+1.08}_{-0.94}$	320^{+21}_{-17}	5322^{+2017}_{-859}	$48163^{+132215}_{-28170}$
Alt.	-137 ± 24	$1.83^{+1.01}_{-0.99}$	320^{+24}_{-16}	5254^{+2592}_{-867}	$44865^{+167725}_{-25836}$

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 $A_{obs} \gg 1.0$

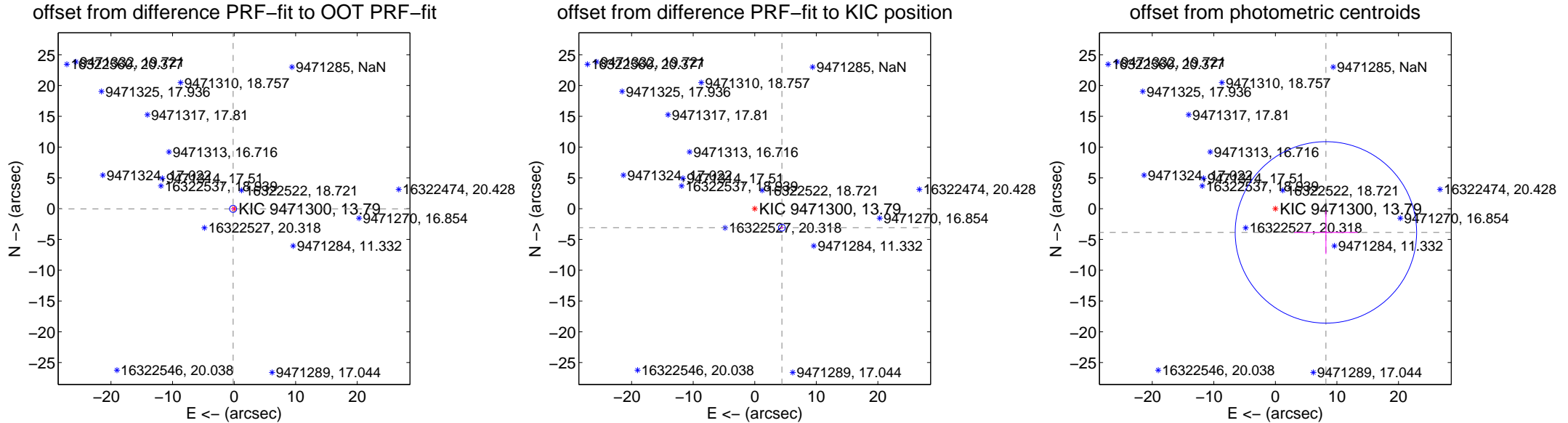
DV Centroid Data

Supplemental centroid analysis for 009471300-01. Kepler magnitude: 13.79. Transit SNR 7.25

There are 1 quarters with good PRF difference image offsets

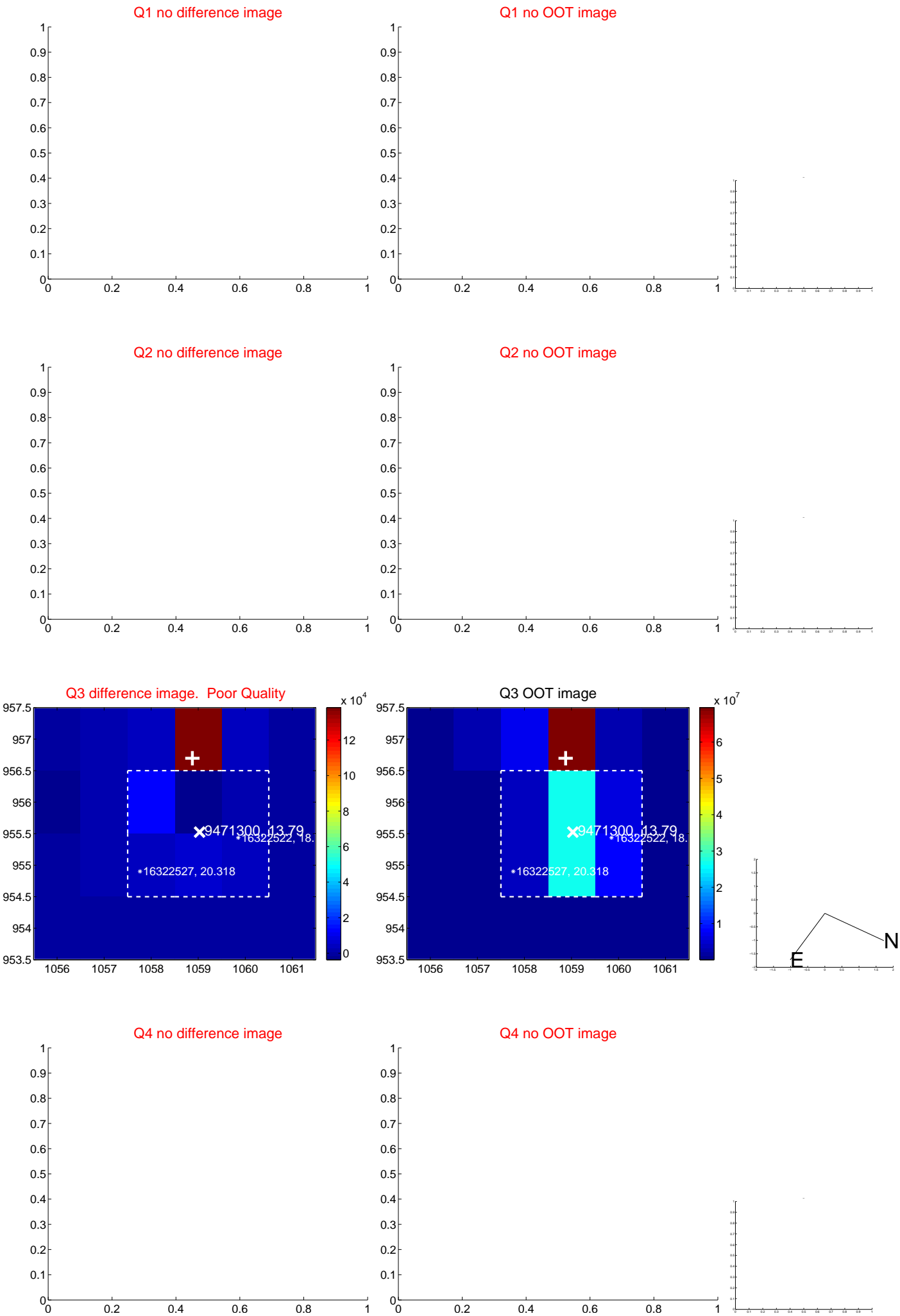
The OOT PRF centroid is offset from the target star catalog position by about 5.50 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.165 ± 0.191	0.86	0.162 ± 0.192	-0.034 ± 0.163
PRF-fit source offset from KIC position	5.386 ± 0.183	29.42	-4.415 ± 0.192	-3.085 ± 0.163
photometric centroid source offset	9.07 ± 4.91	1.85	-8.21 ± 5.17	-3.86 ± 3.52



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.

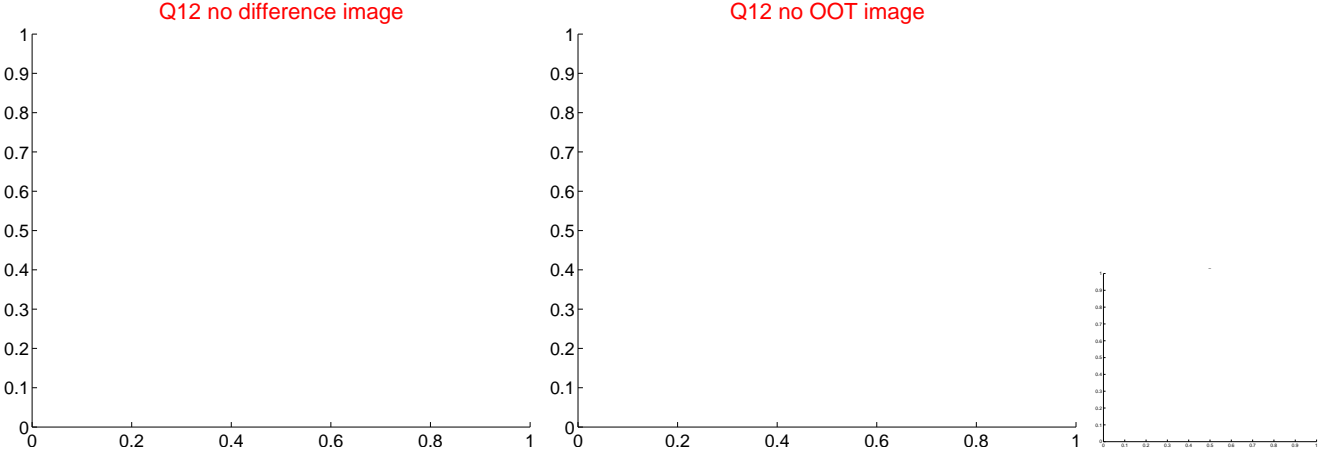
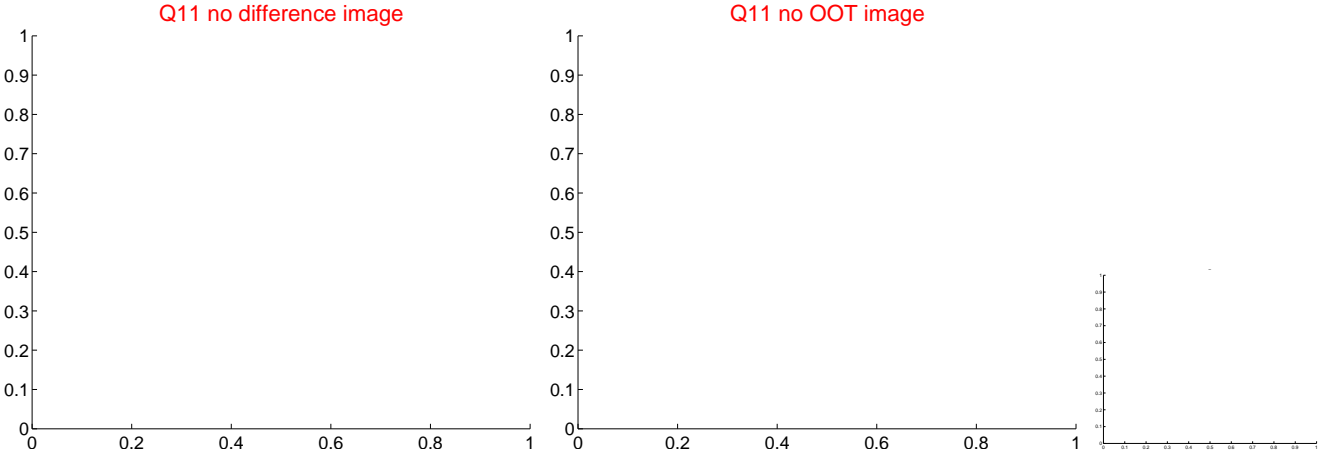
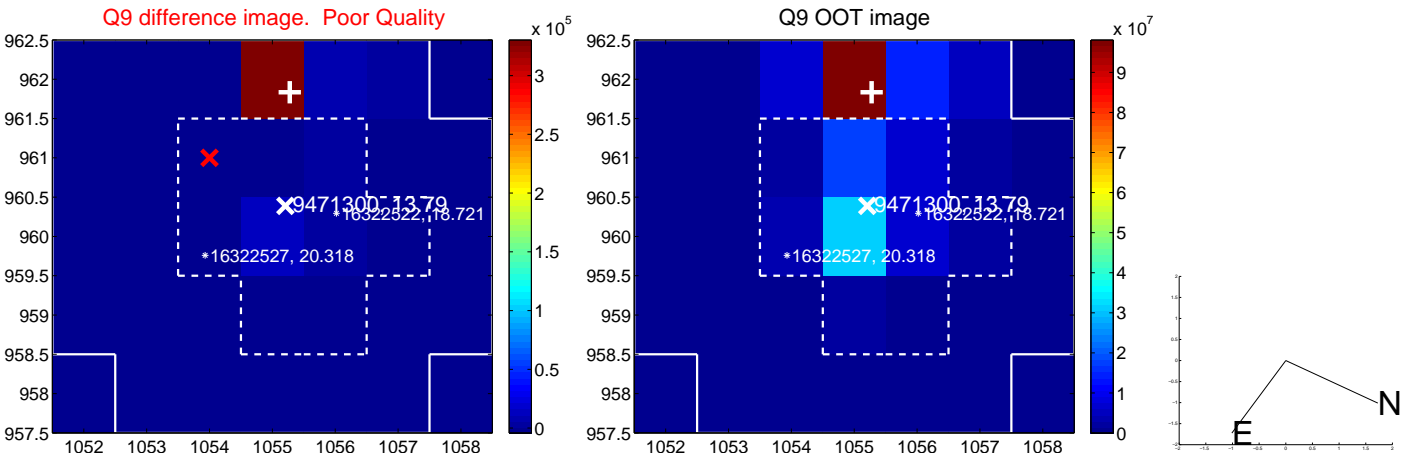
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

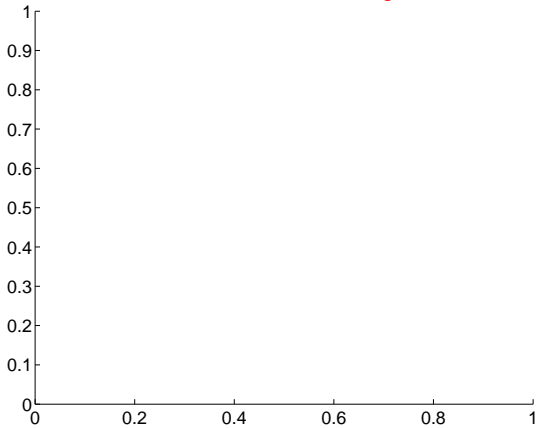
Q13 no difference image



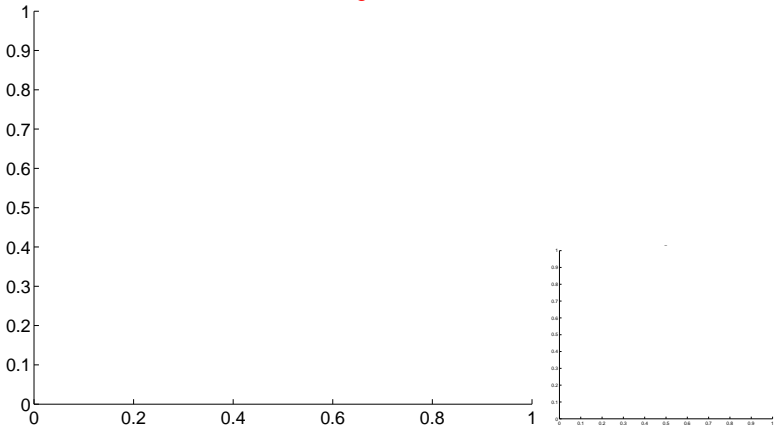
Q13 no OOT image



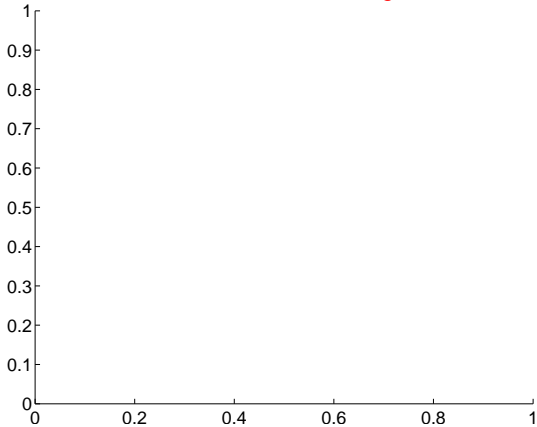
Q14 no difference image



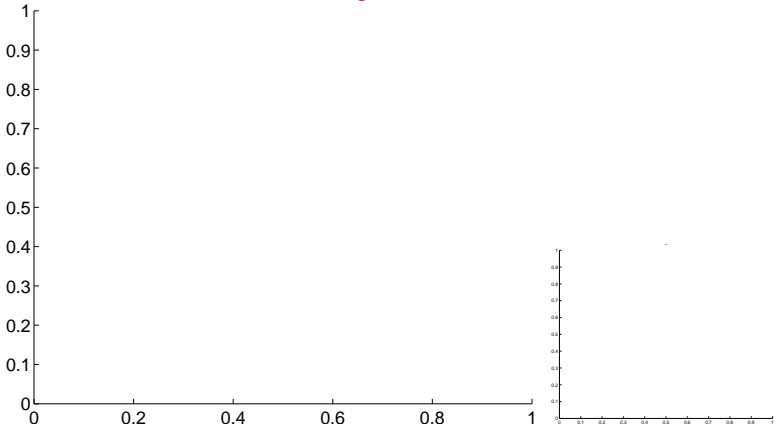
Q14 no OOT image



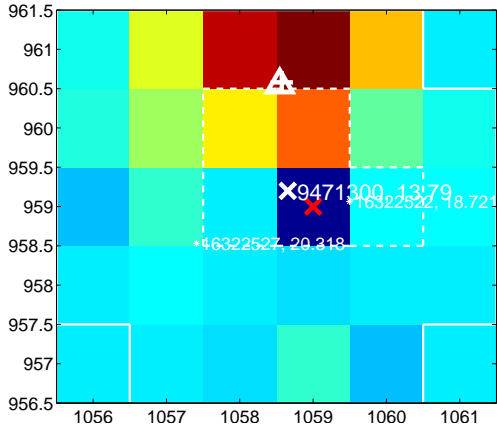
Q15 no difference image



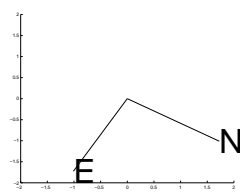
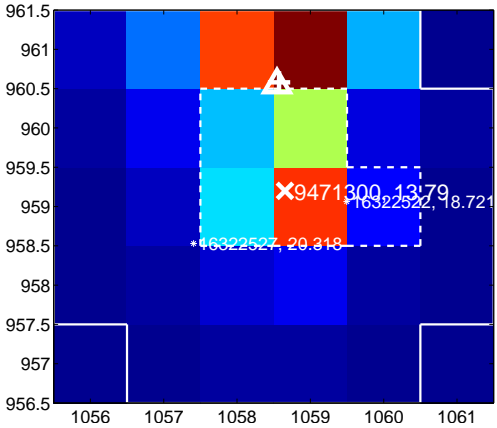
Q15 no OOT image



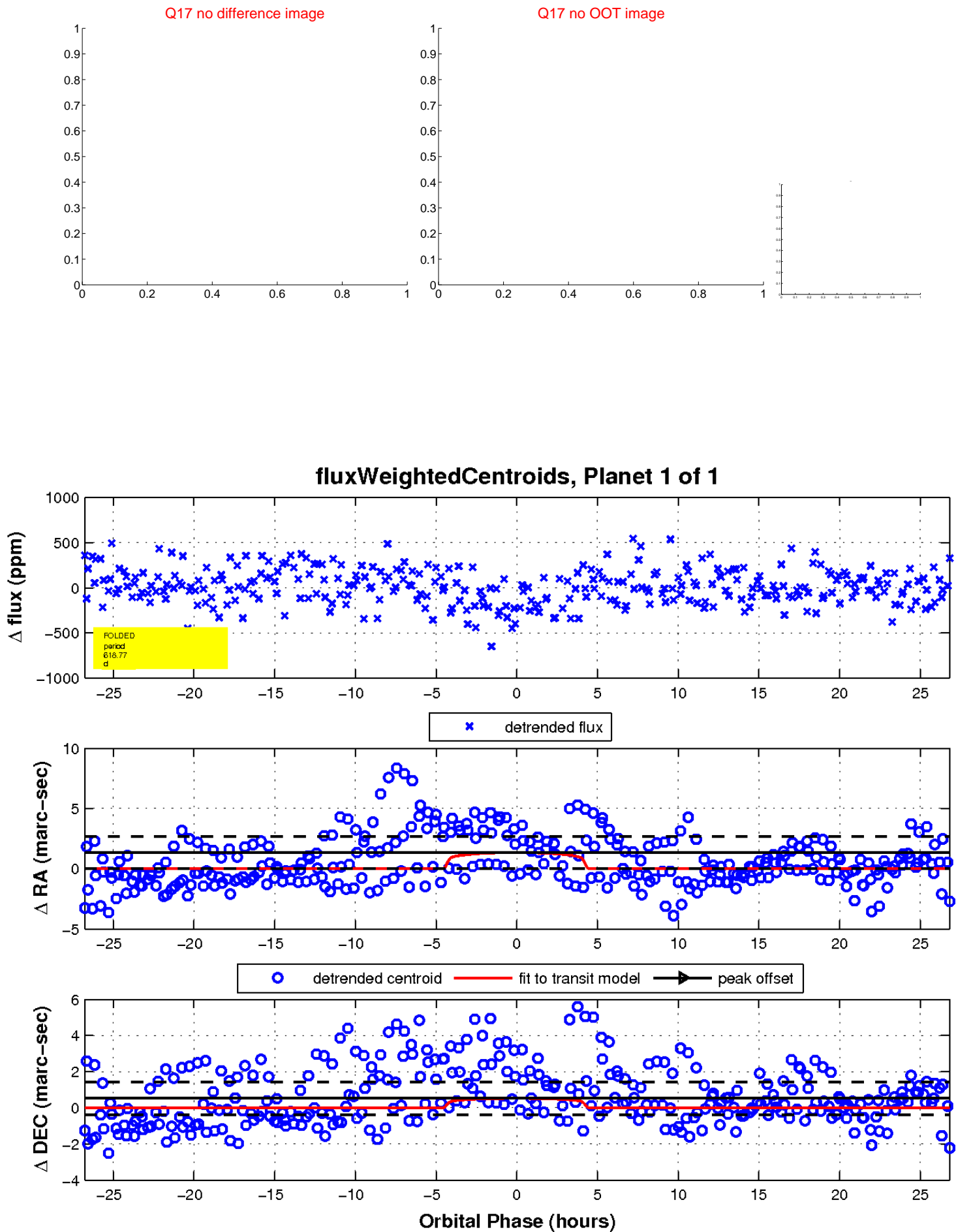
Q16 difference image



Q16 OOT image



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



UKIRT Image

Declination

