

KIC 004450472

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})
004450472-01	OBS	No	490.394040	194.952496	240.0	9.783	7.8	7.7	0.91	5941	1.53	0.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004450472-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

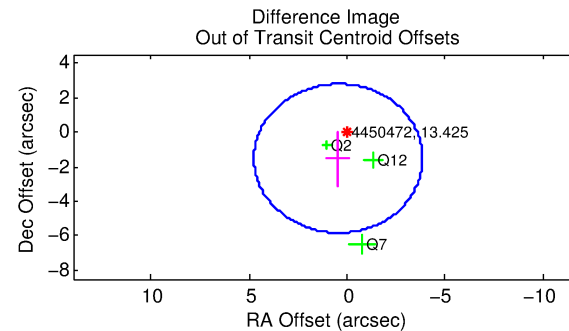
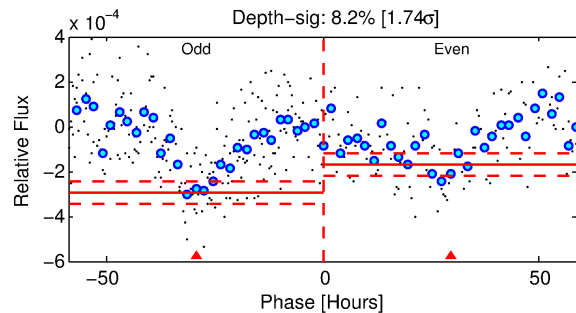
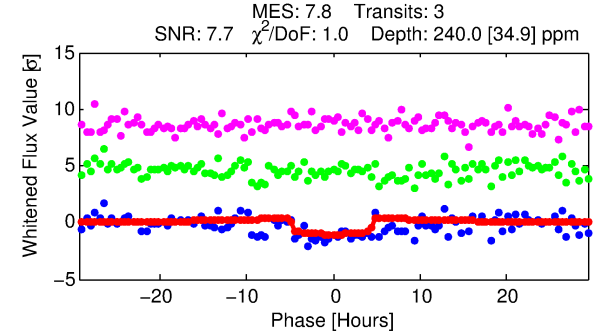
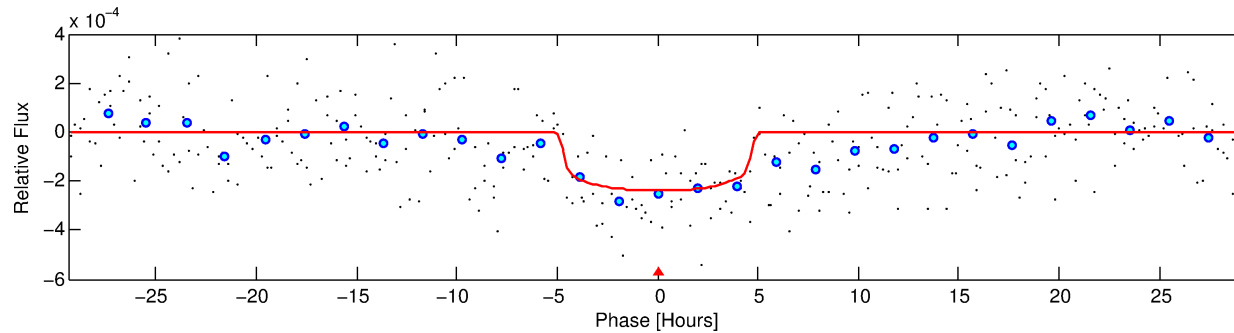
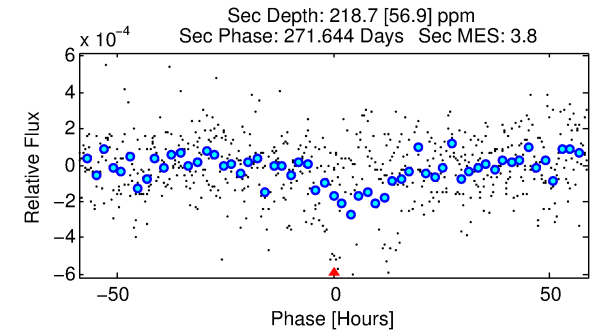
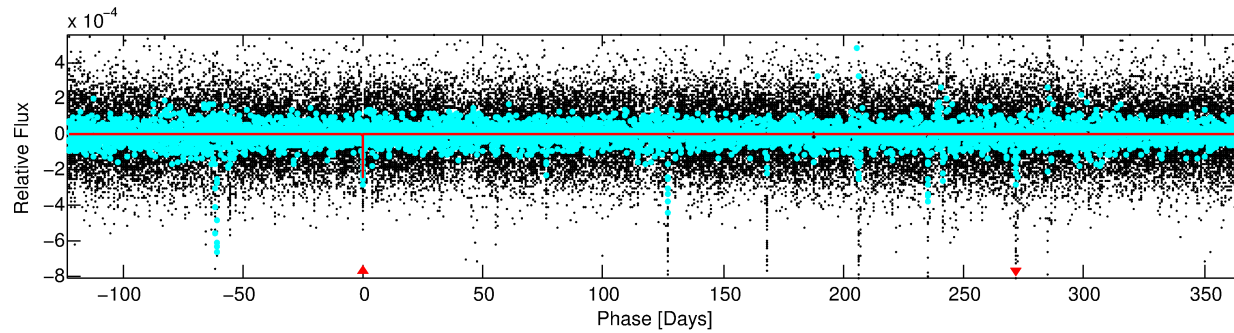
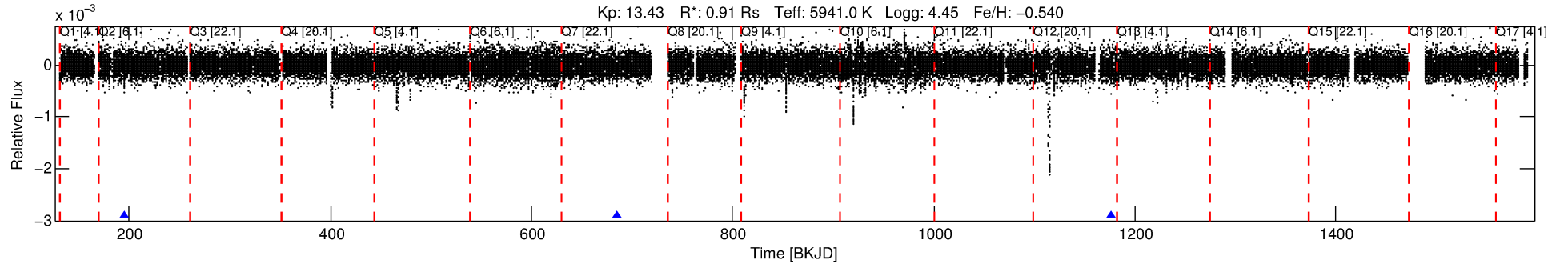
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004450472-01

No Significant Match Found

DV One-Page Summary

KIC: 4450472 Candidate: 1 of 1 Period: 490.394 d



DV Fit Results:

Period = 490.39404 [0.00990] d
Epoch = 194.9525 [0.0136] BKJD
Rp/R* = 0.0155 [0.0090]
a/R* = 255.51 [757.80]
b = 0.77 [1.61]
Seff = 0.70 [0.23]
Teq = 233 [20] K
Rp = 1.53 [0.98] Re
a = 1.1485 [0.2528] AU
Ag = 67506.56 [83456.02] [0.81σ]
Teffp = 5805 [1740] K [3.20σ]

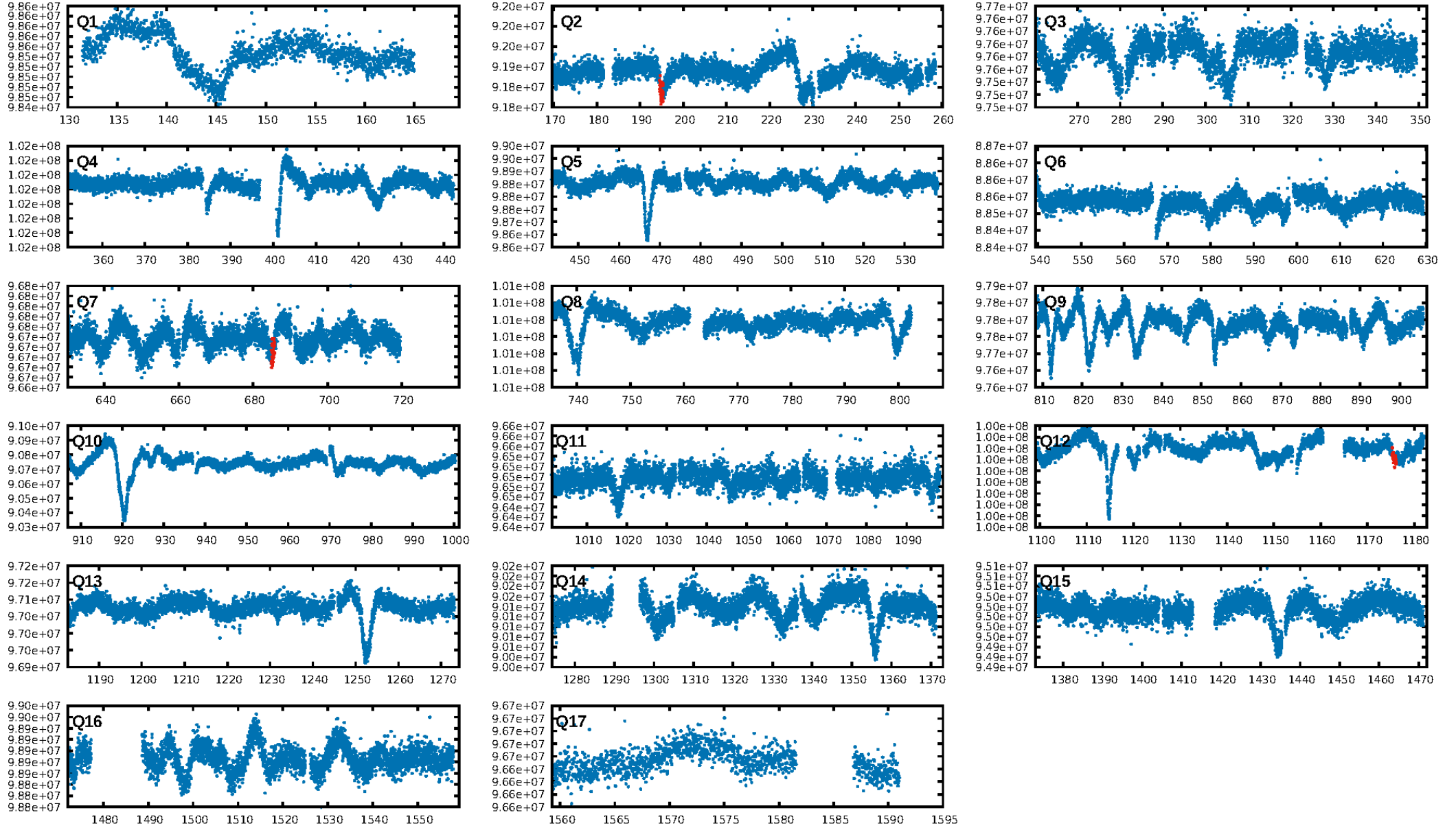
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.79e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.559
Centroid-sig: 1.5%
Centroid-so: 2.238 arcsec [1.44σ]
OotOffset-rm: 1.591 arcsec [1.11σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 1.579 arcsec [0.93σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

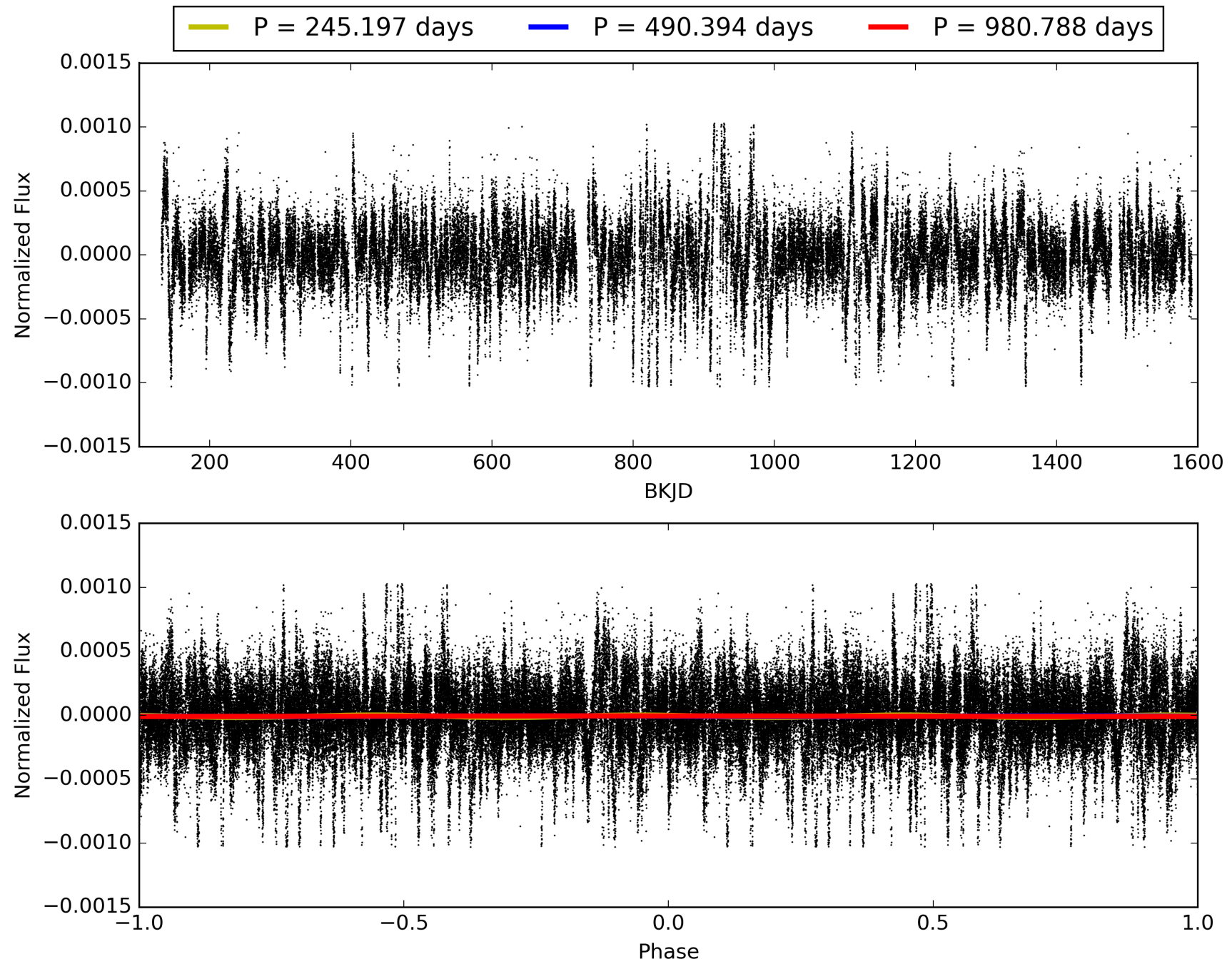
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:42:24 Z

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

TCE 004450472-01, PDC Light Curves

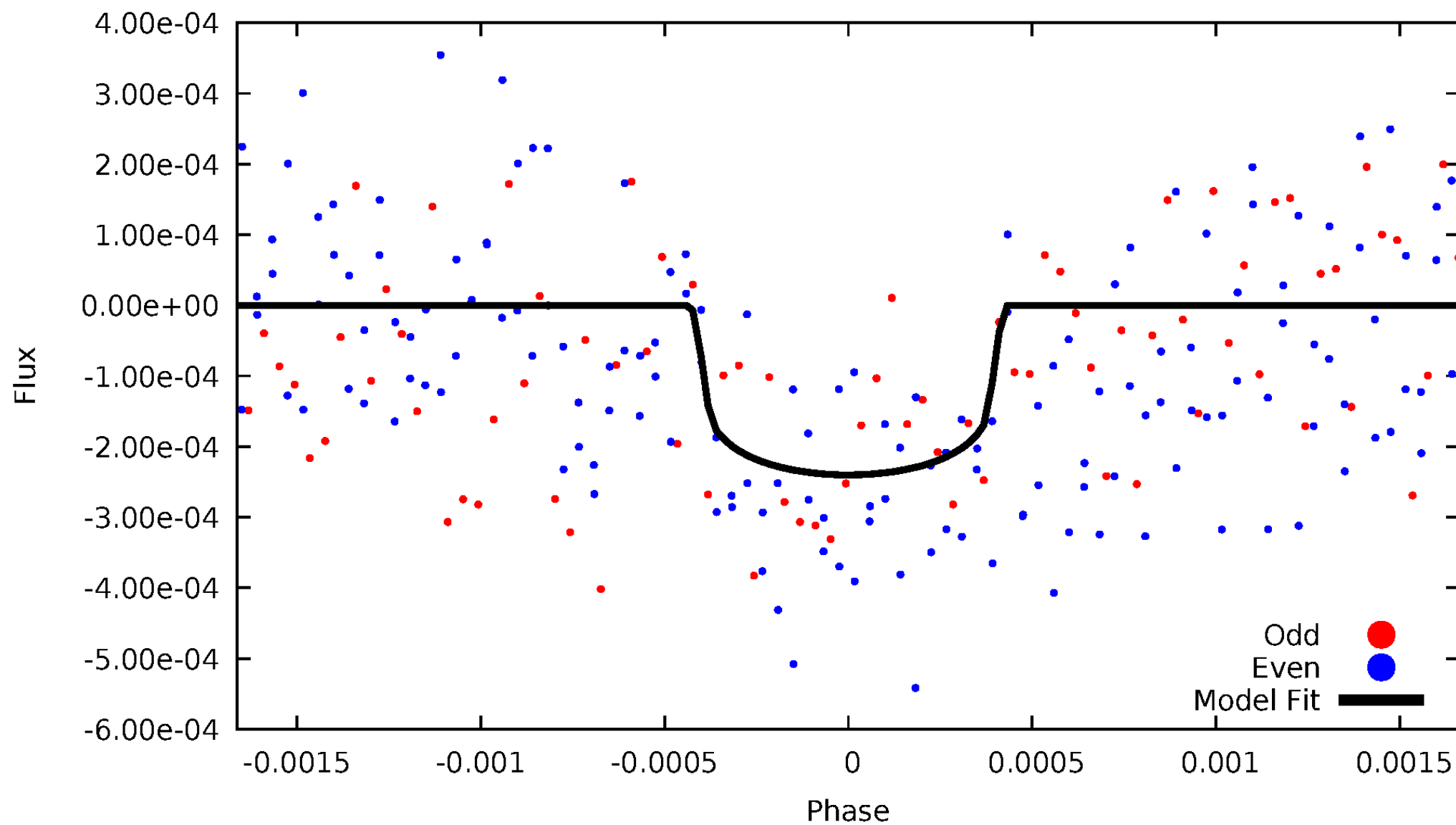


TCE 004450472-01



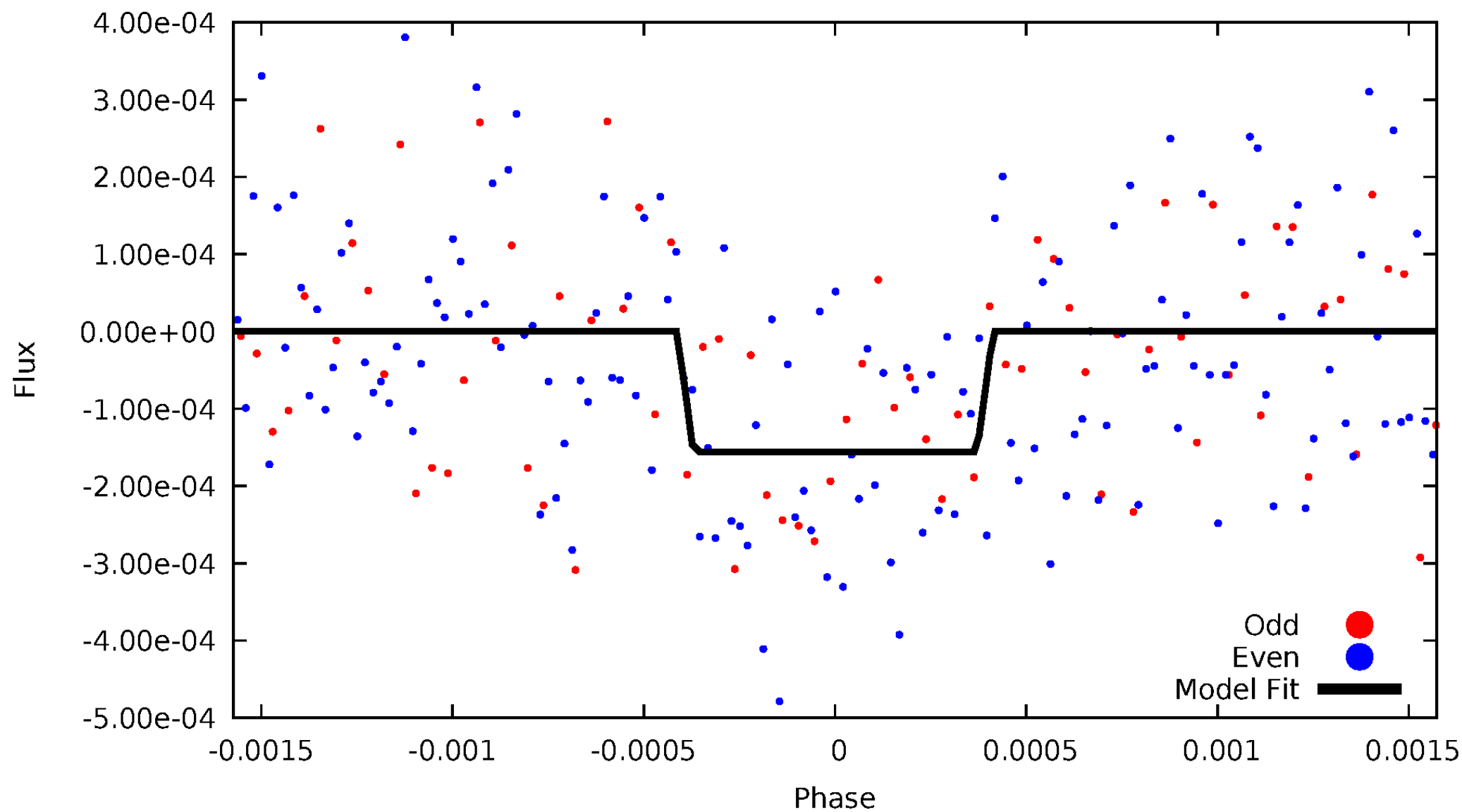
DV Odd/Even

TCE 004450472-01



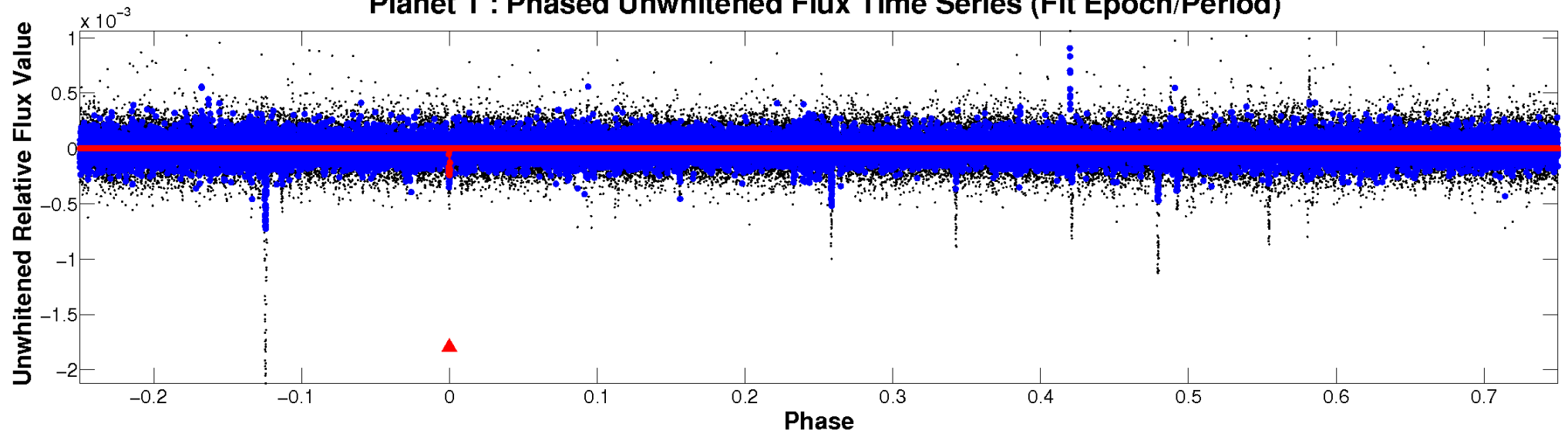
ALT Odd/Even

TCE 004450472-01

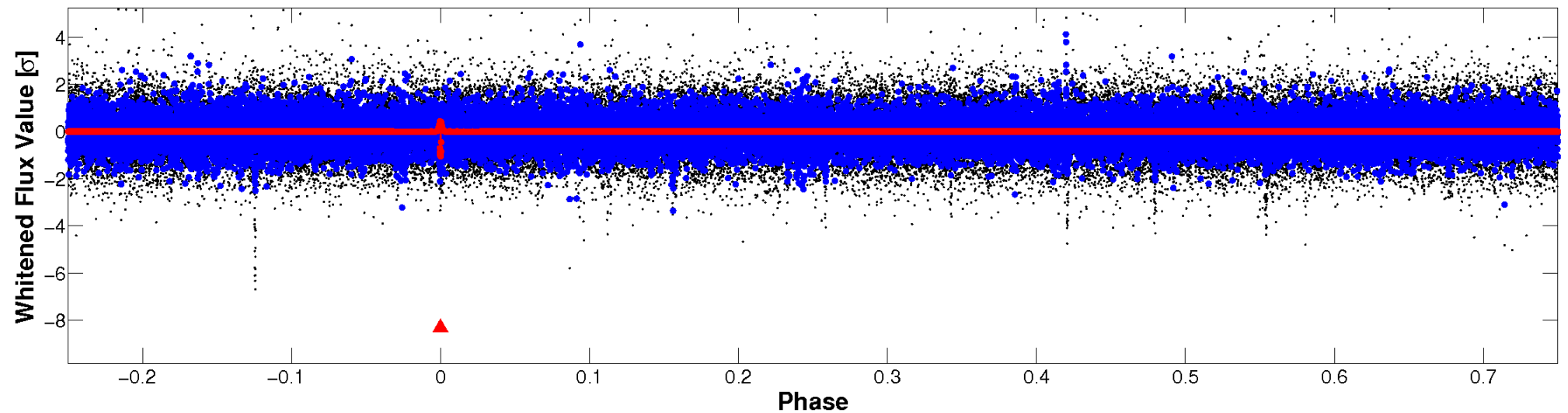


Non-Whitened Vs. Whitened Light Curve

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

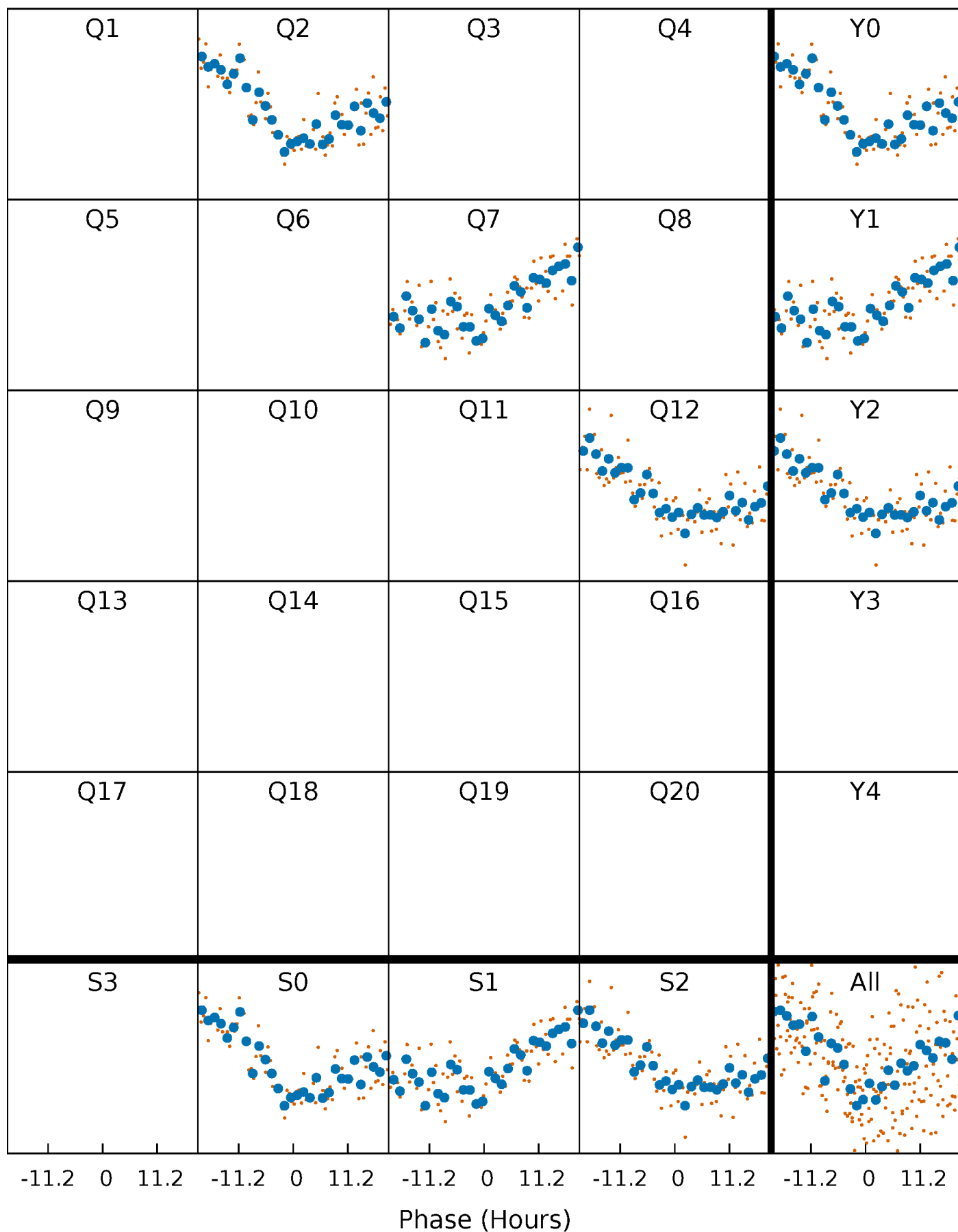


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 004450472-01 P=490.394040 Days $T_0=194.952496$ (BKJD)



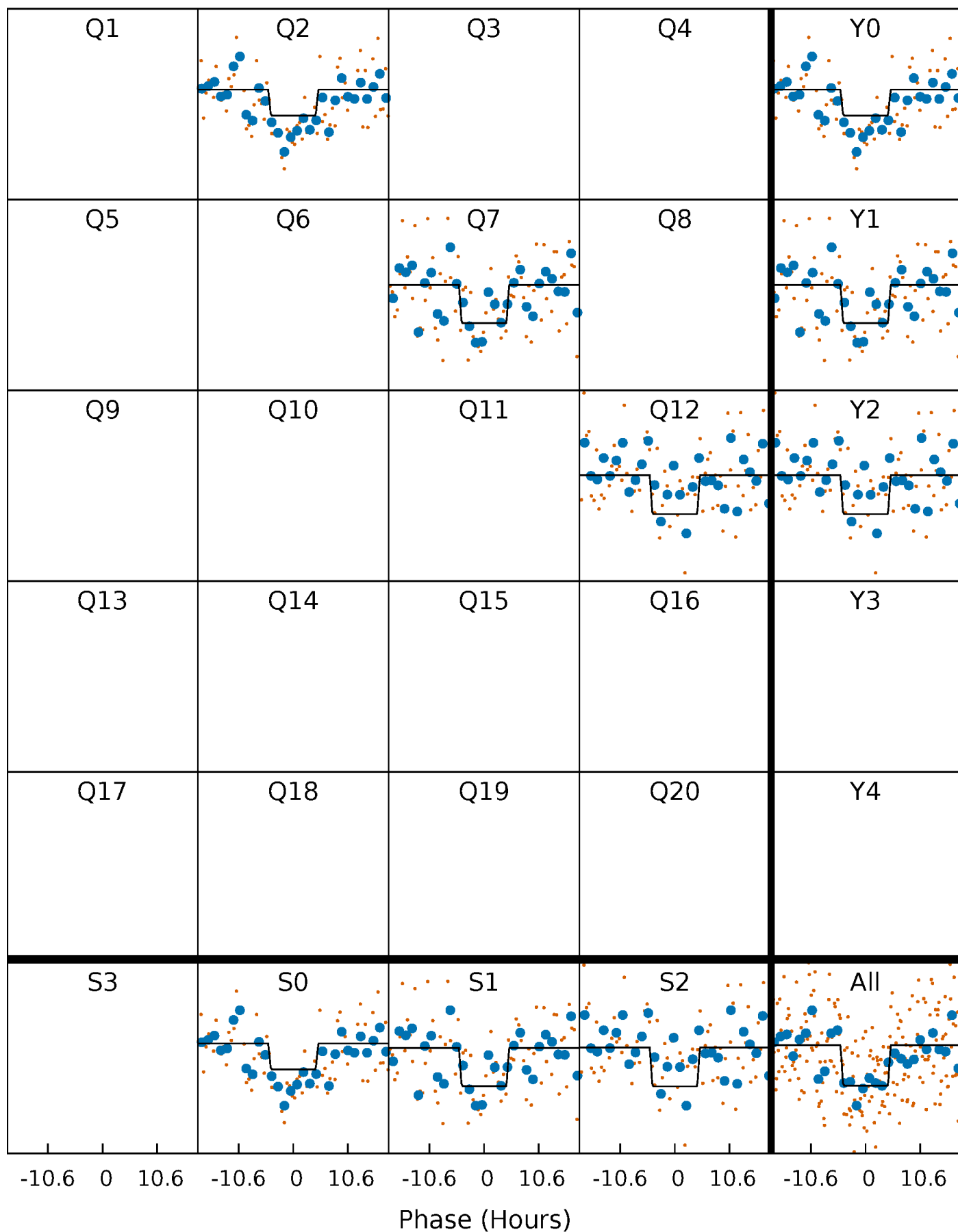
DV Quarter-Phased Transit Curves

TCE 004450472-01 P=490.394040 Days $T_0=194.952496$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

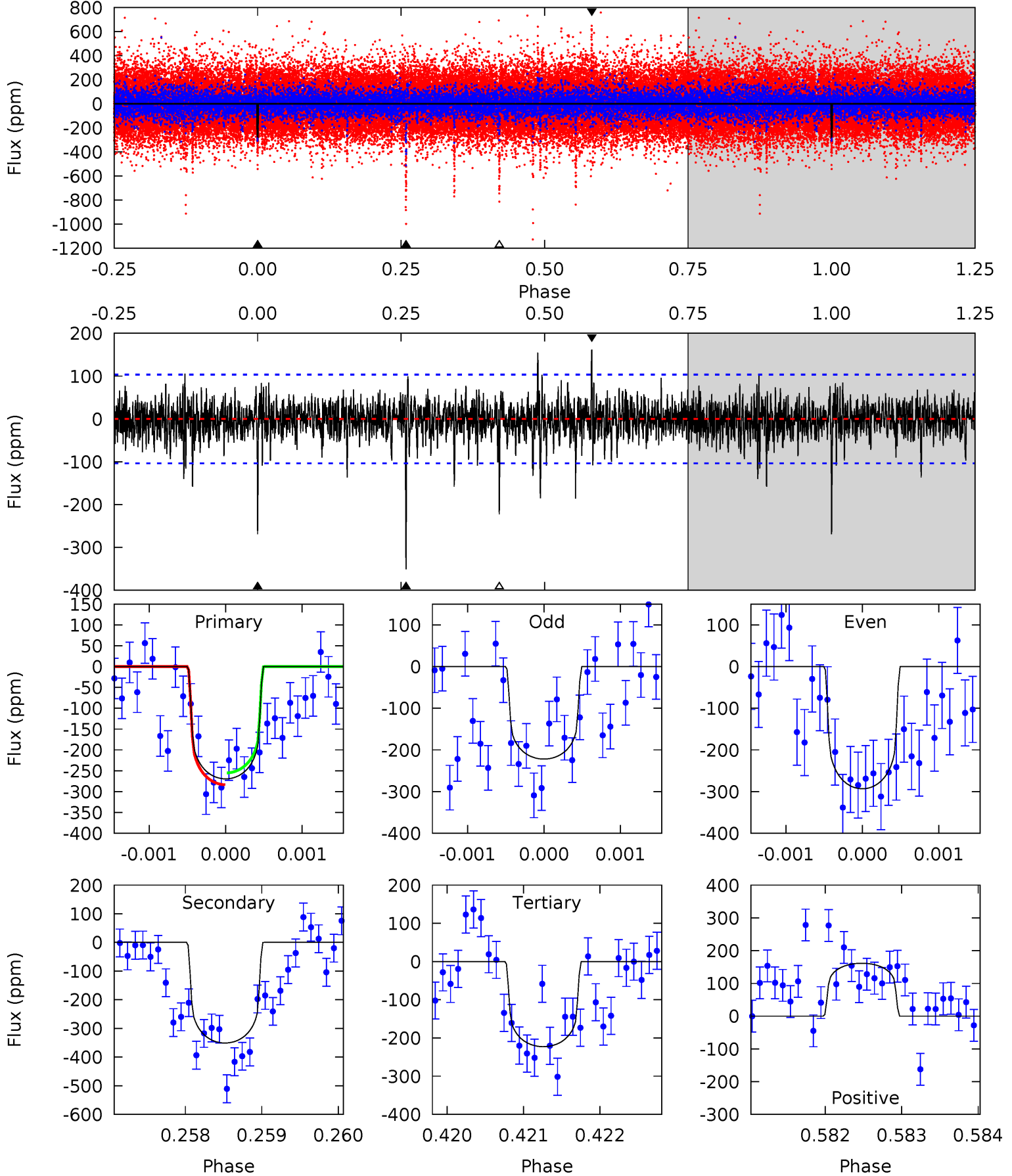
TCE 004450472-01 P=490.398629 Days $T_0=194.950454$ (BKJD)



DV Model-Shift Uniqueness Test

004450472-01, P = 490.394040 Days, E = 194.952496 Days

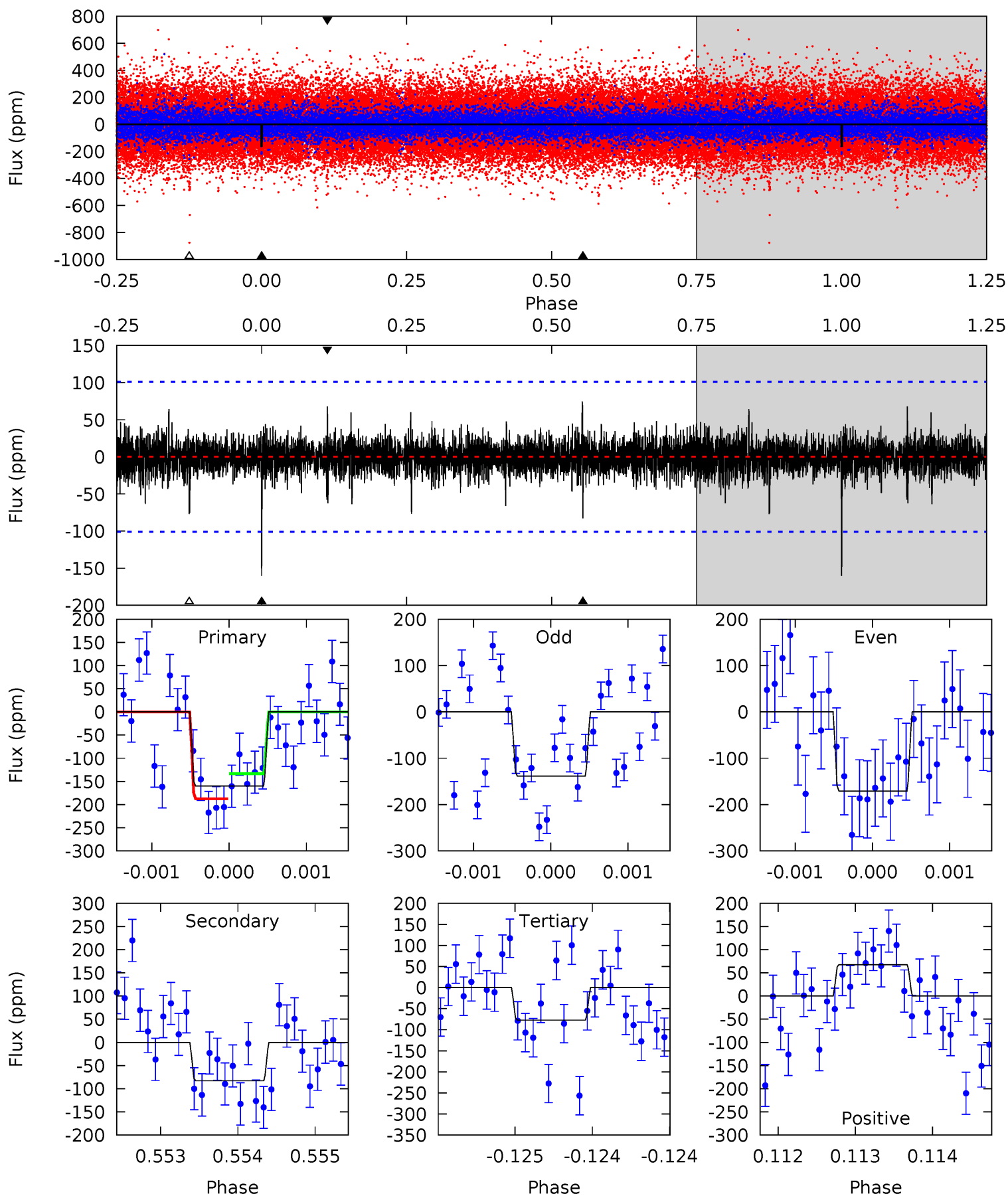
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	18.6	11.8	8.55	5.48	3.33	1.76	2.47	5.71	6.78	10.0	1.73	1.12	0.32	0.75



Alt Model-Shift Uniqueness Test

004450472-01, P = 490.398629 Days, E = 194.950454 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.71	4.51	4.20	3.68	5.49	3.35	0.84	4.51	5.03	0.31	0.83	0.85	1.16	0.32	1.47



Stellar Parameters For KIC 004450472

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5941^{+159}_{-159}	$4.447^{+0.101}_{-0.174}$	$-0.540^{+0.300}_{-0.300}$	$0.907^{+0.238}_{-0.119}$	$0.839^{+0.105}_{-0.061}$	$1.583^{+0.697}_{-0.738}$
	+3%/-3%	+2%/-4%	+56%/-56%	+26%/-13%	+13%/-7%	+44%/-47%
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 004450472-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-351 ± 19	$1.60^{+0.89}_{-0.91}$	328^{+20}_{-16}	6468^{+4565}_{-1258}	$98764^{+439114}_{-57650}$
Alt.	-83 ± 18	$1.32^{+0.91}_{-0.78}$	328^{+23}_{-17}	5095^{+2921}_{-977}	$35931^{+181856}_{-24263}$

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 $A_{obs} \gg 1.0$

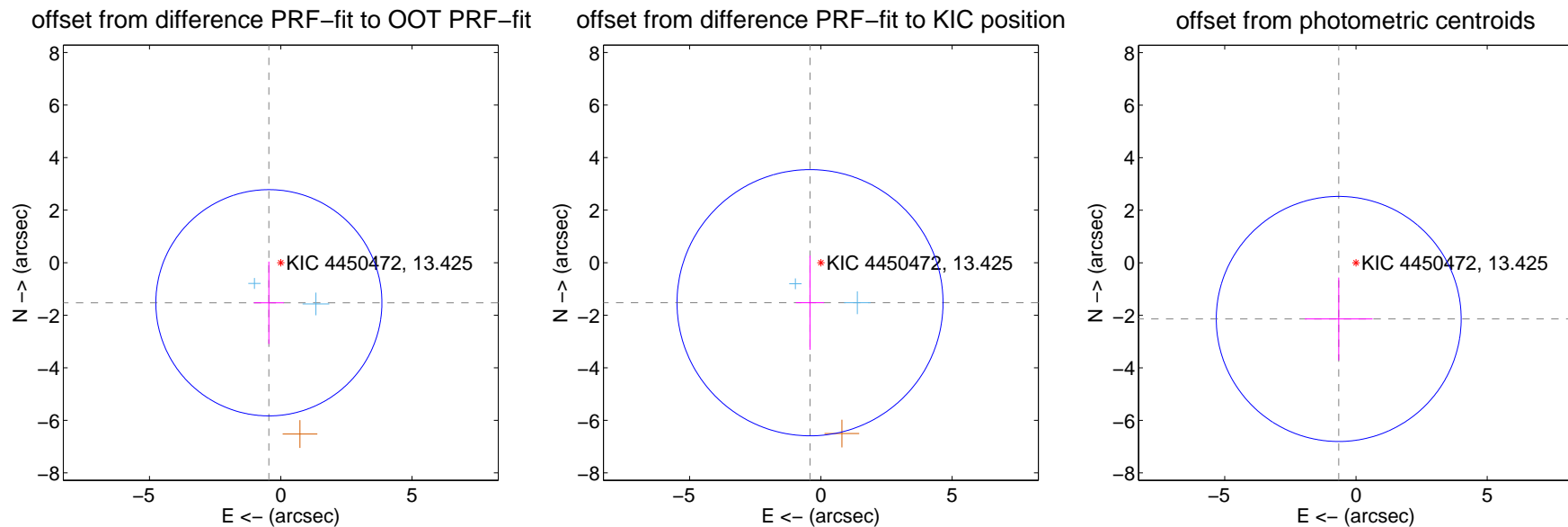
DV Centroid Data

Supplemental centroid analysis for 004450472-01. Kepler magnitude: 13.43. Transit SNR 7.68

There are 2 quarters with good PRF difference image offsets

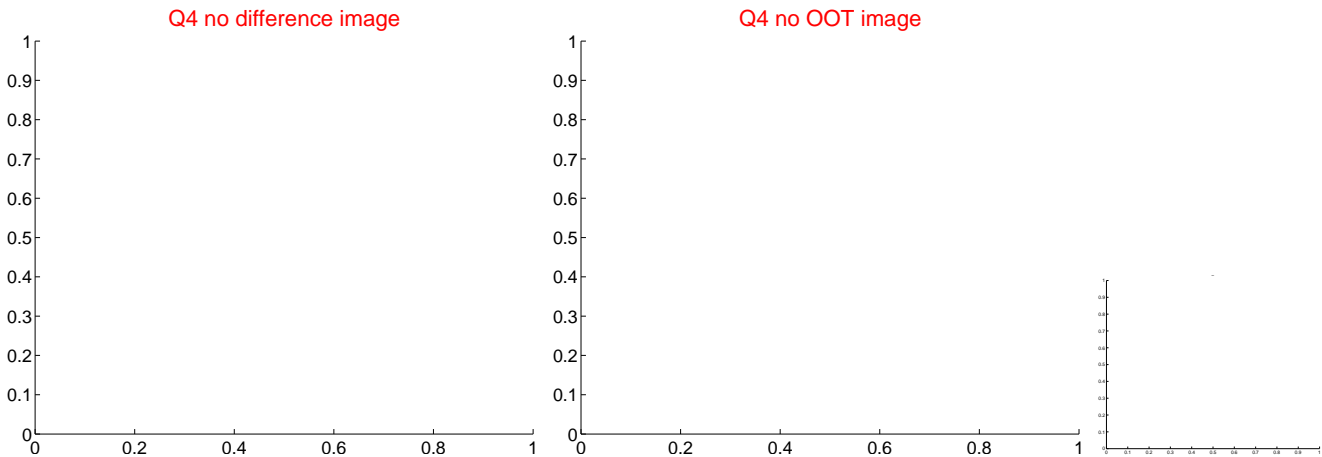
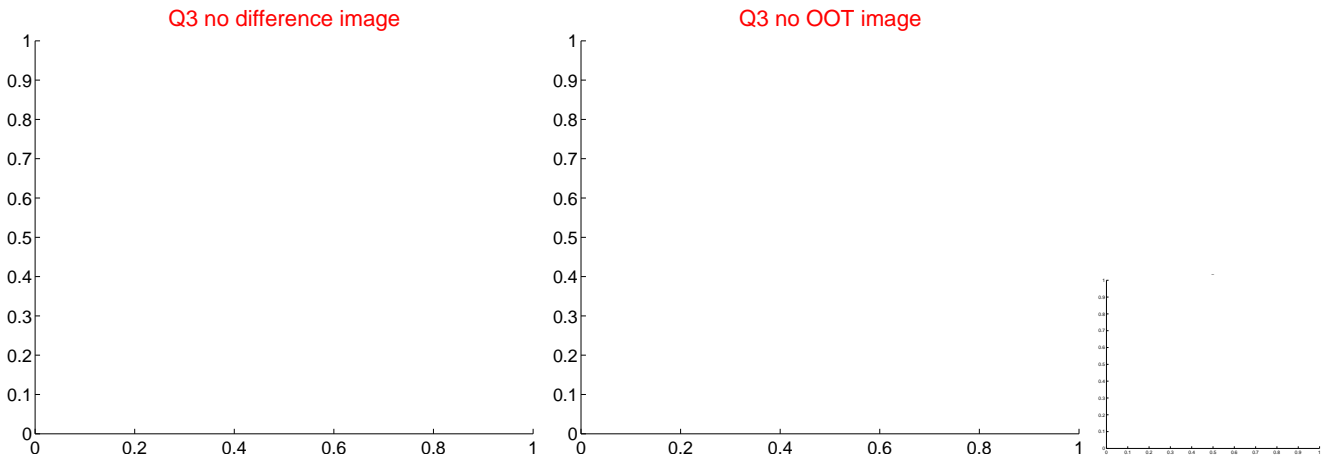
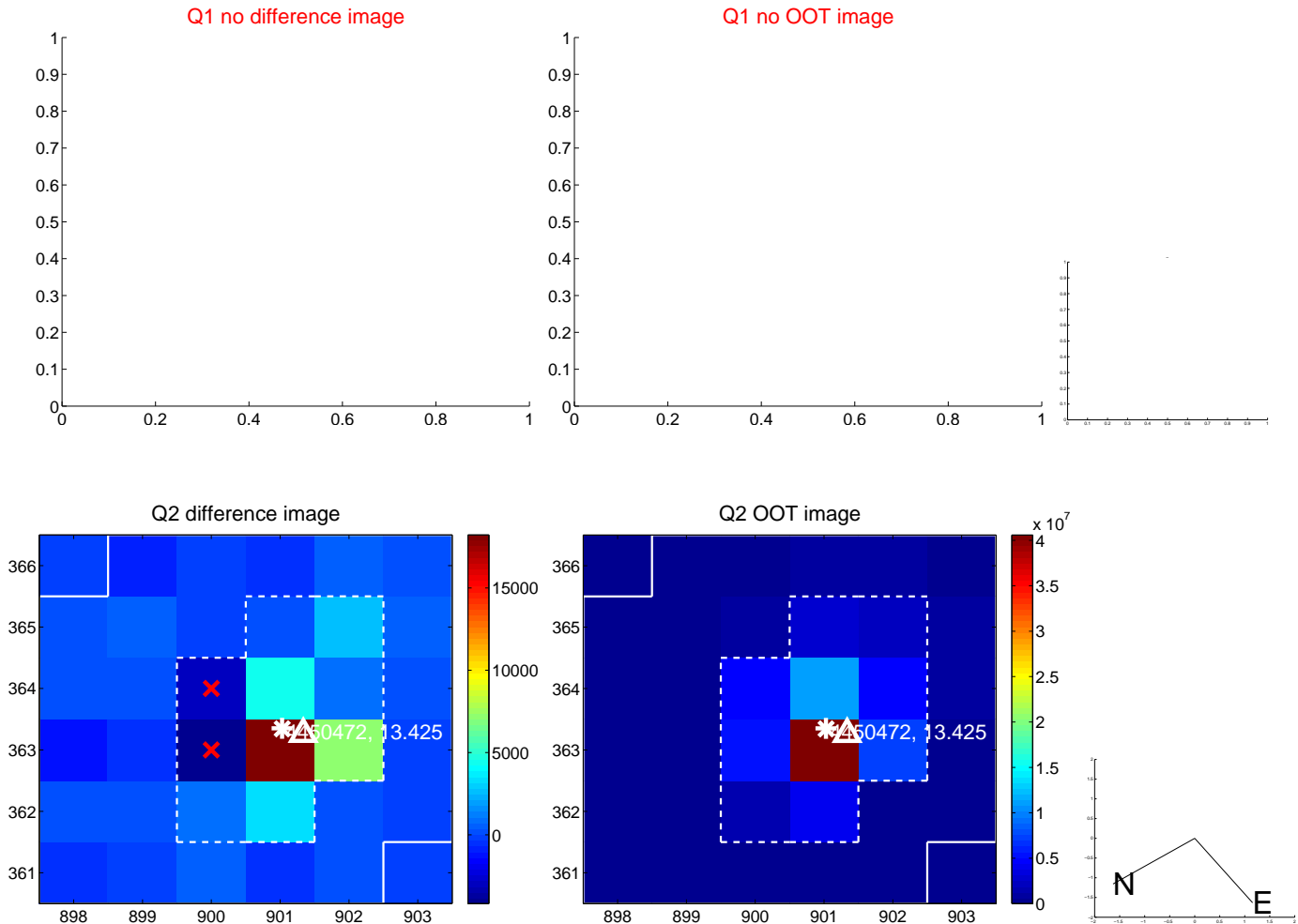
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.591 ± 1.436	1.11	0.452 ± 0.572	-1.526 ± 1.566
PRF-fit source offset from KIC position	1.579 ± 1.689	0.93	0.413 ± 0.538	-1.524 ± 1.793
photometric centroid source offset	2.24 ± 1.56	1.44	0.66 ± 1.29	-2.14 ± 1.58



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.

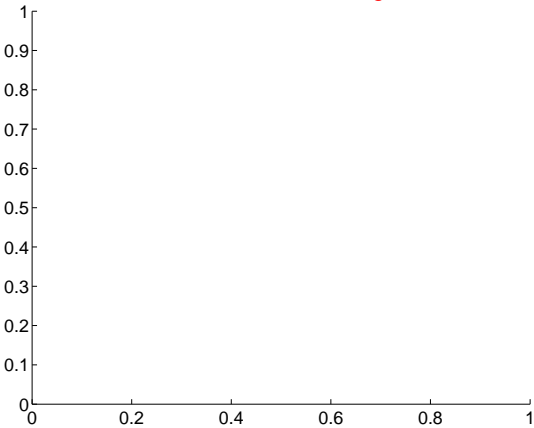
Q5 no difference image



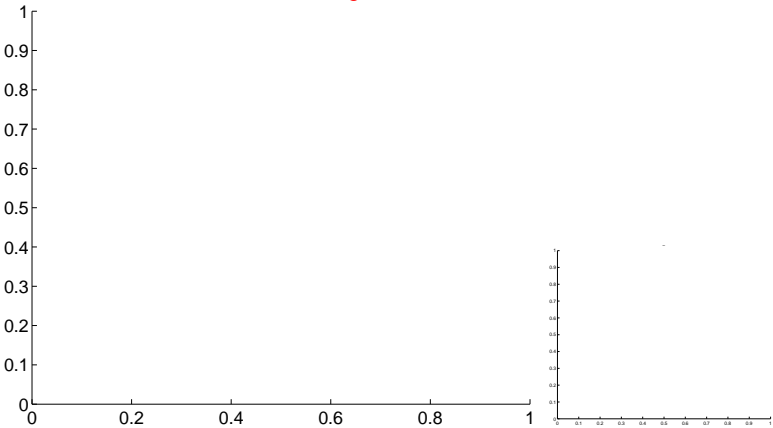
Q5 no OOT image



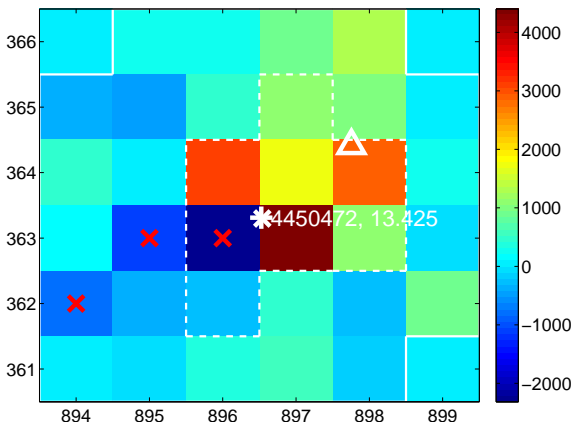
Q6 no difference image



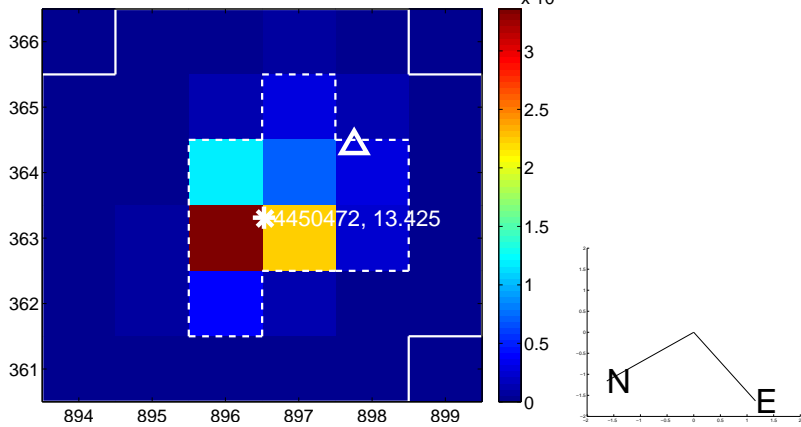
Q6 no OOT image



Q7 difference image. Poor Quality



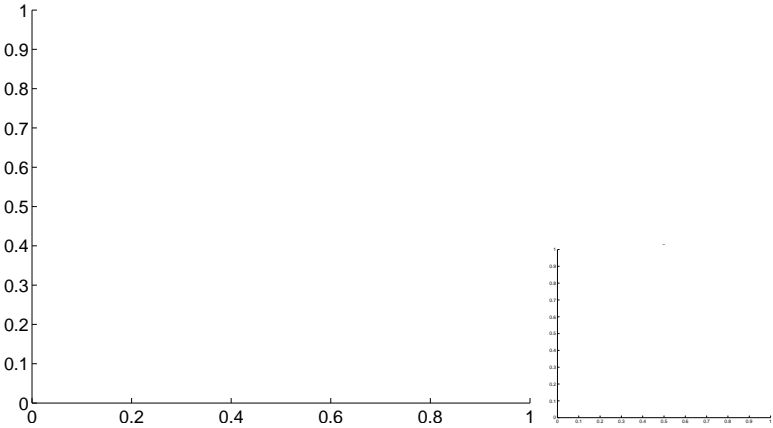
Q7 OOT image



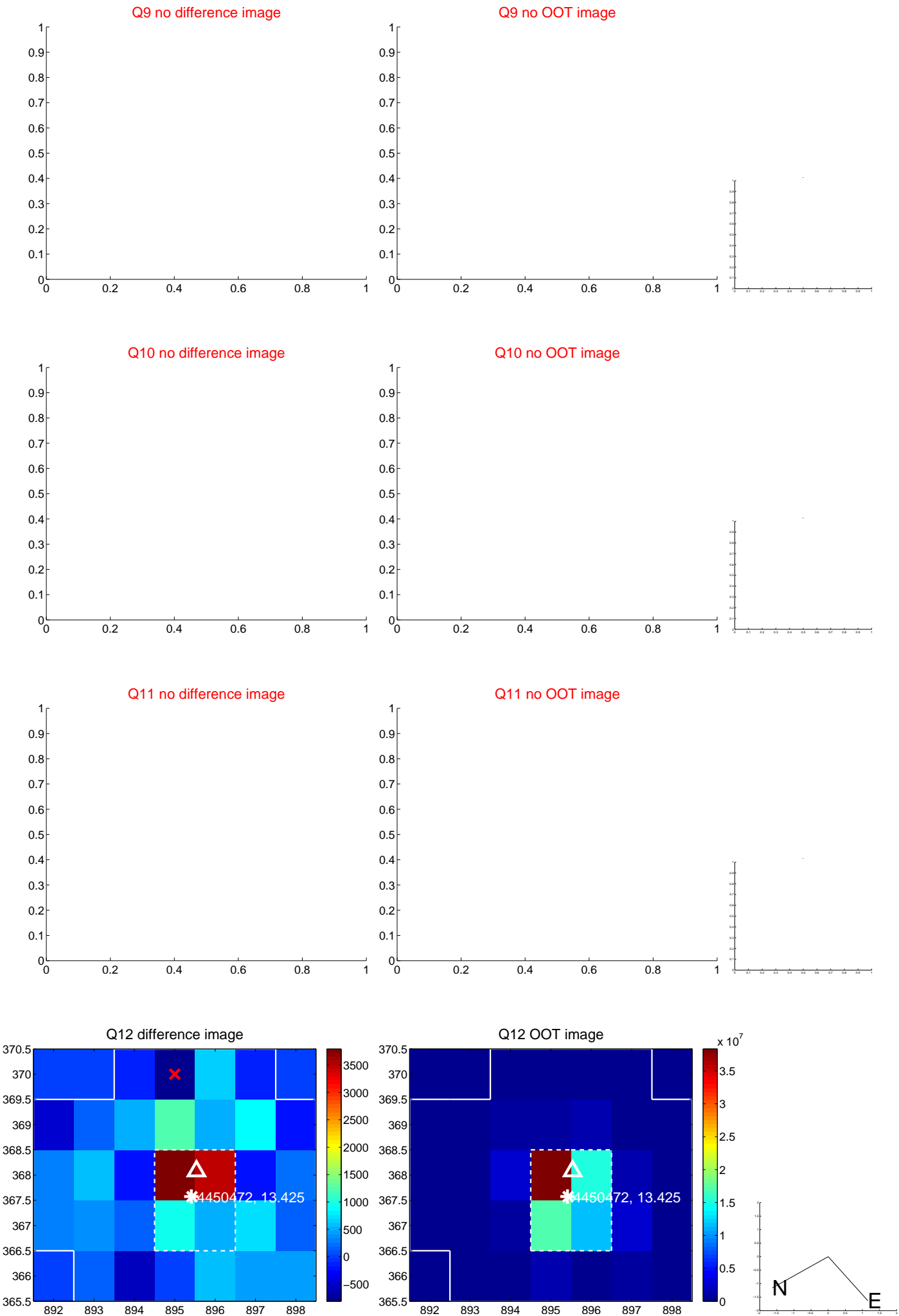
Q8 no difference image



Q8 no OOT image



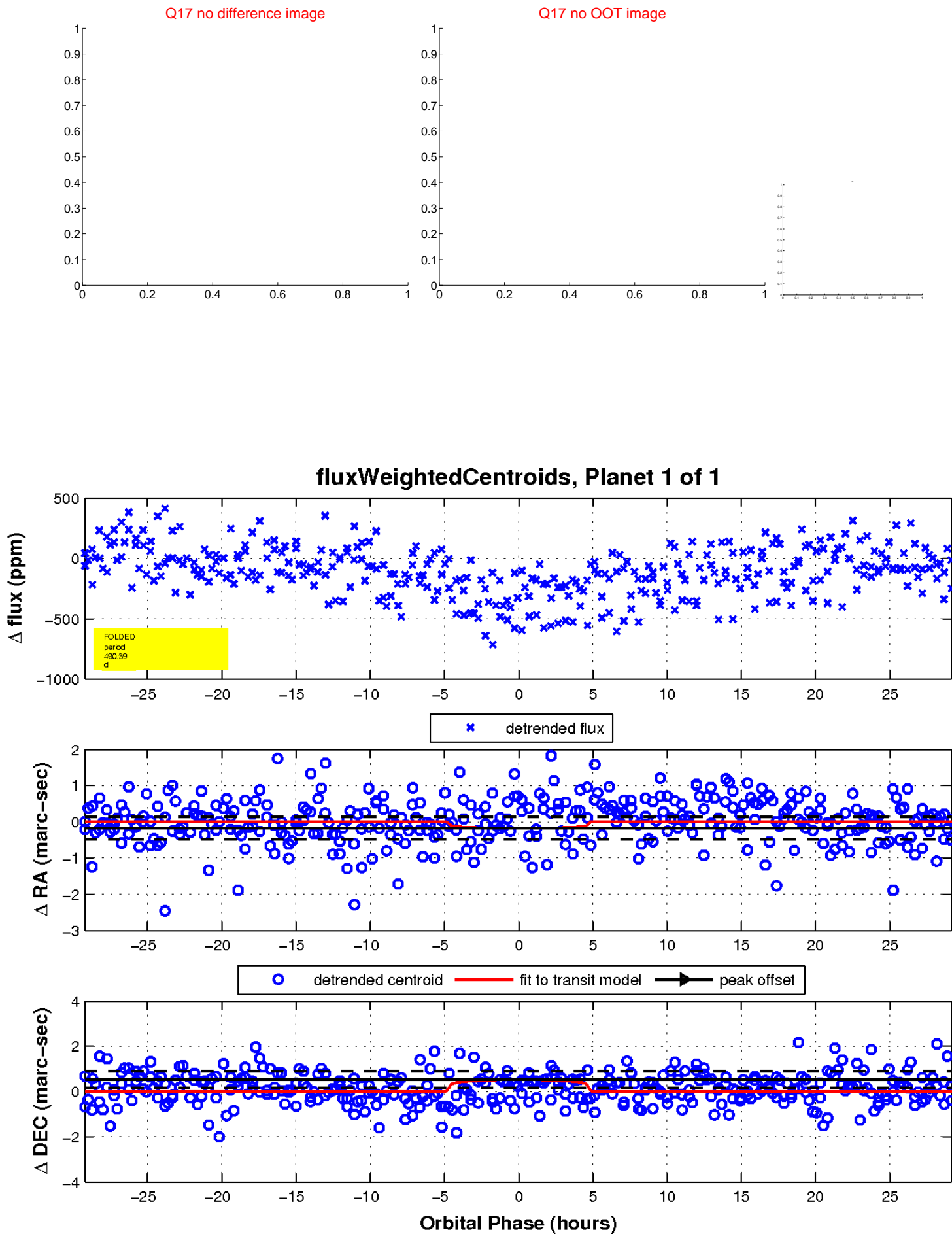
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \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

