

KIC 009489482

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})
009489482-01	OBS	No	486.211543	410.174412	815.9	9.994	8.3	7.9	0.81	5314	2.31	0.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009489482-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

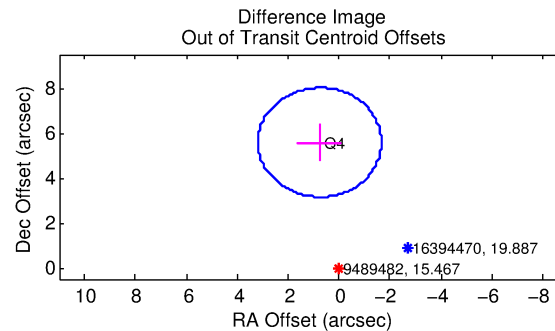
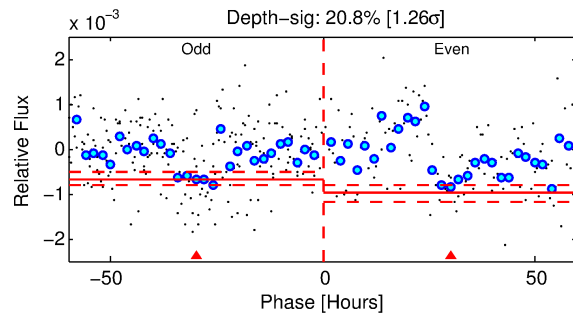
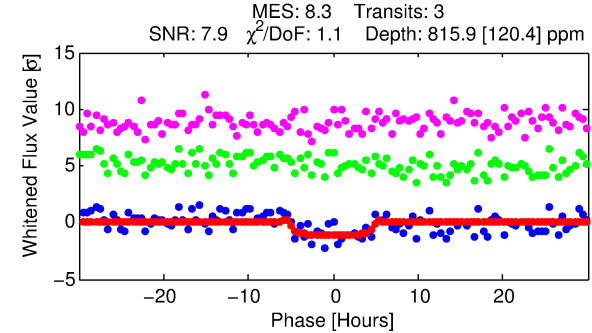
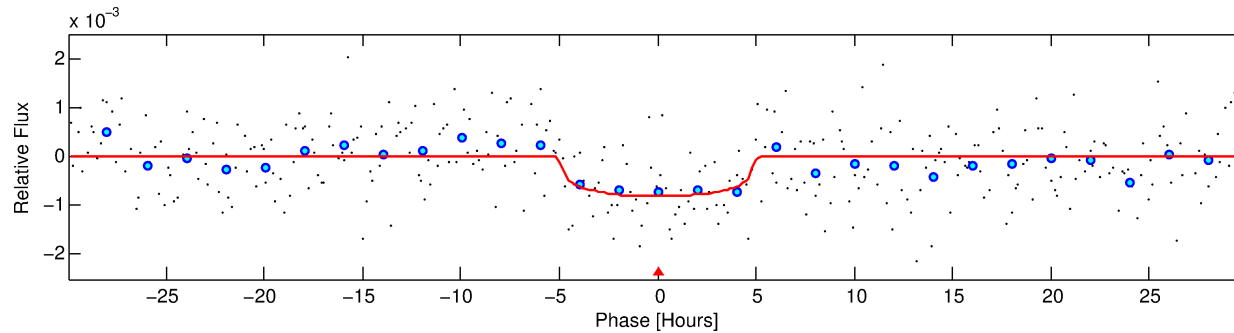
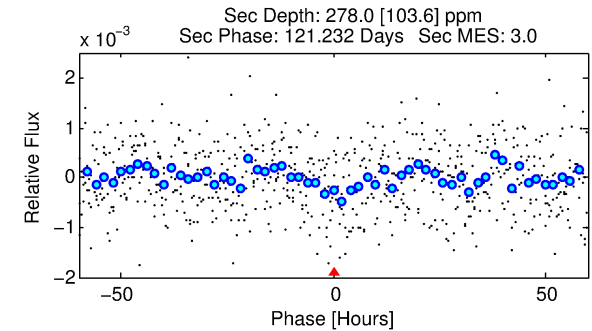
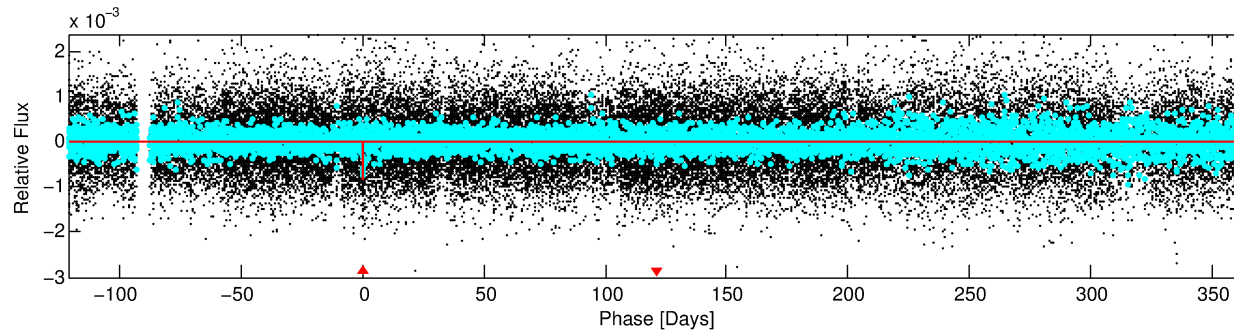
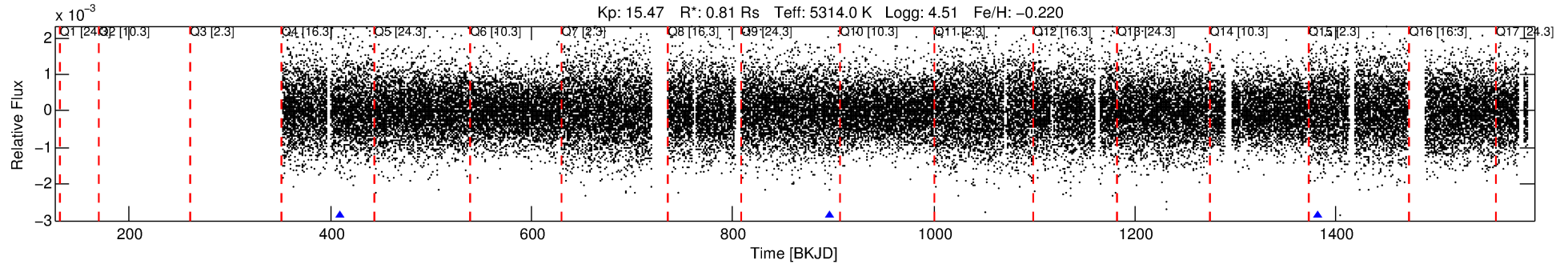
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009489482-01

No Significant Match Found

DV One-Page Summary

KIC: 9489482 Candidate: 1 of 1 Period: 486.212 d



DV Fit Results:

Period = 486.21154 [0.01583] d
Epoch = 410.1744 [0.0204] BKJD
Rp/R* = 0.0260 [0.0656]
a/R* = 361.72 [3550.67]
b = 0.32 [27.33]
Seff = 0.38 [0.09]
Teq = 200 [12] K
Rp = 2.31 [5.83] Re
a = 1.1117 [0.1416] AU
Ag = 35563.38 [180176.46] [0.20σ]
Teffp = 4257 [5390] K [0.75σ]

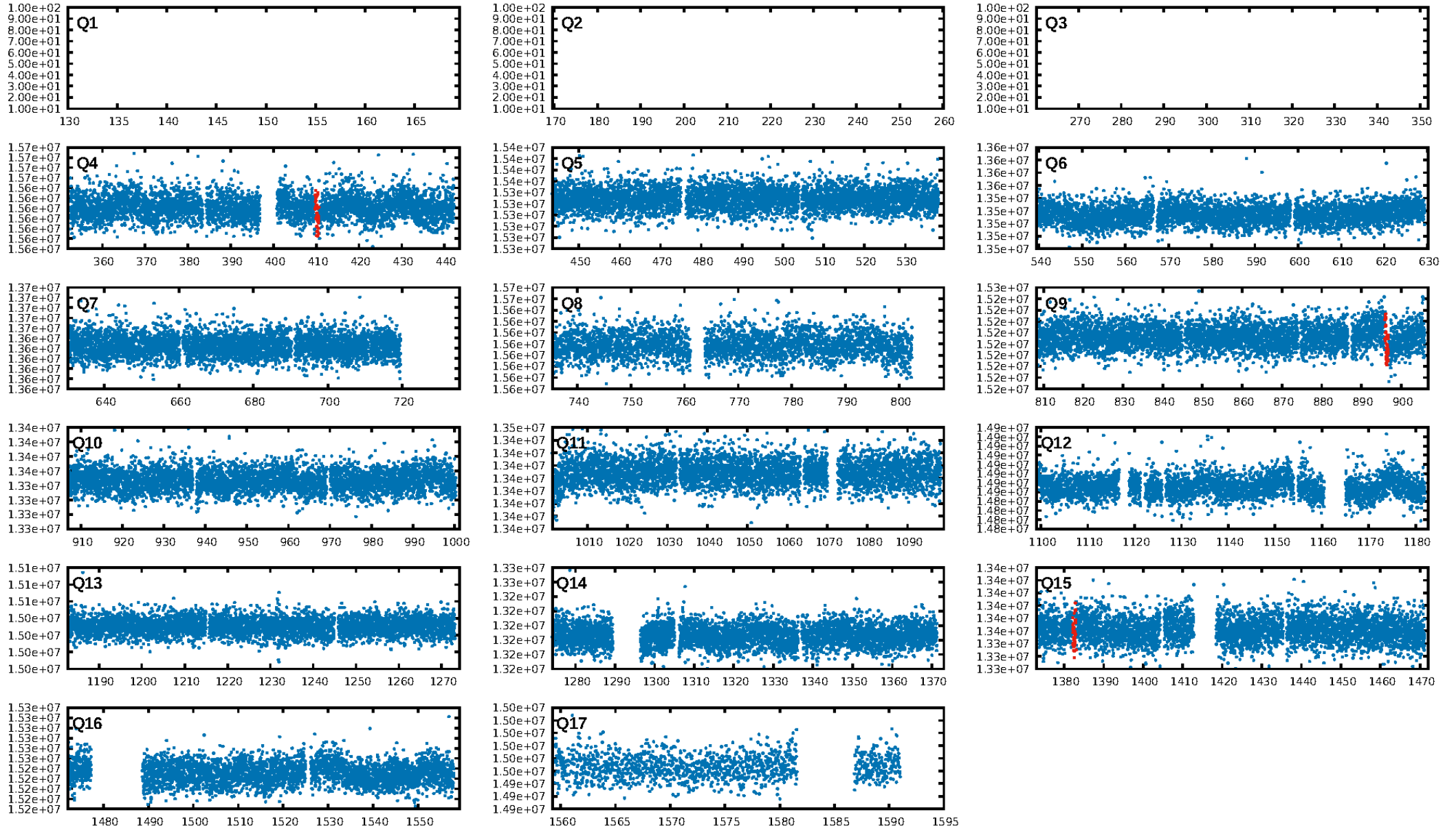
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 35.9%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: 7.44e-17
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.514
Centroid-sig: 1.1%
Centroid-so: 3.475 arcsec [1.69σ]
OotOffset-rm: 5.632 arcsec [6.95σ]
KicOffset-rm: 5.686 arcsec [7.02σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

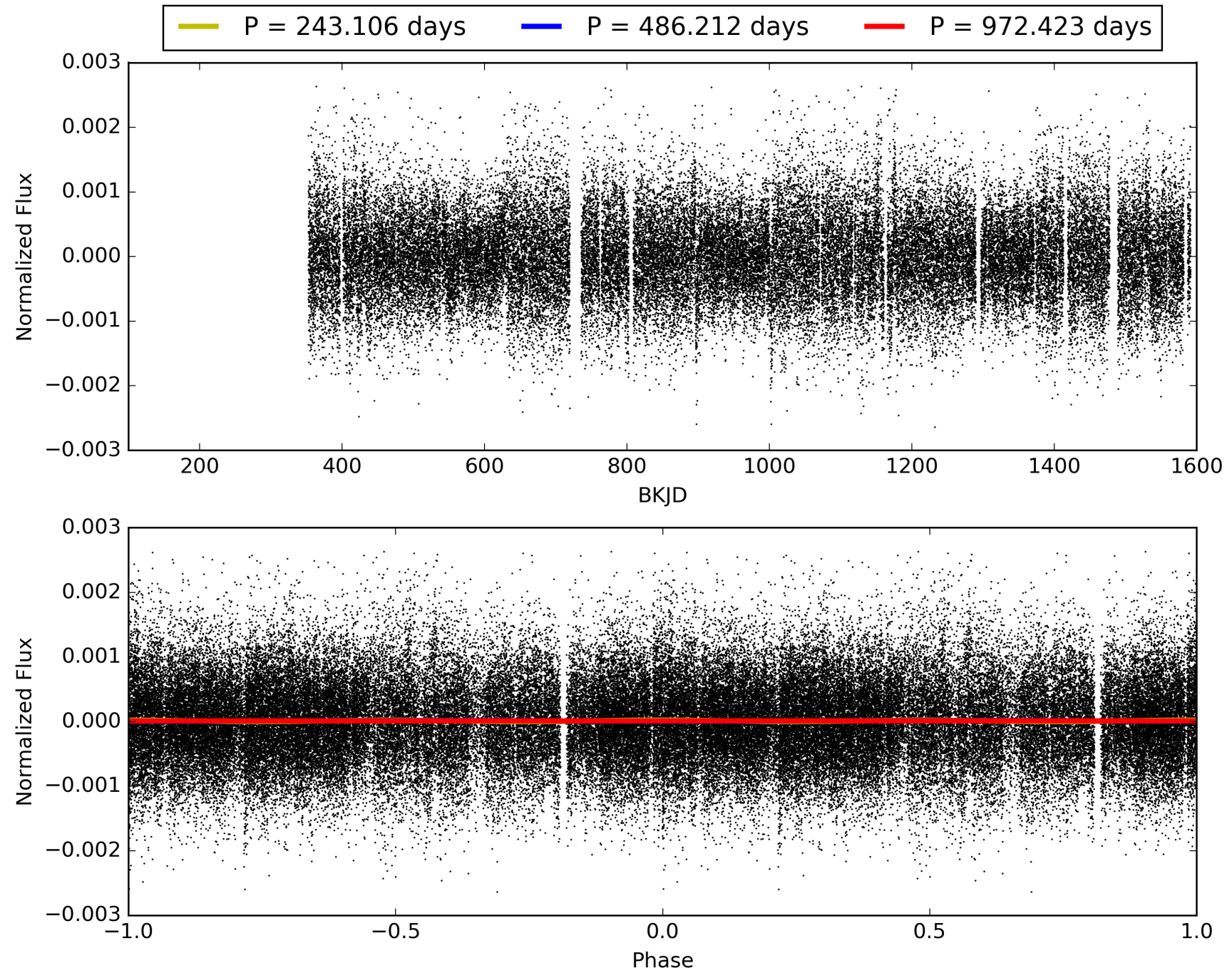
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:09:31 Z

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

TCE 009489482-01, PDC Light Curves

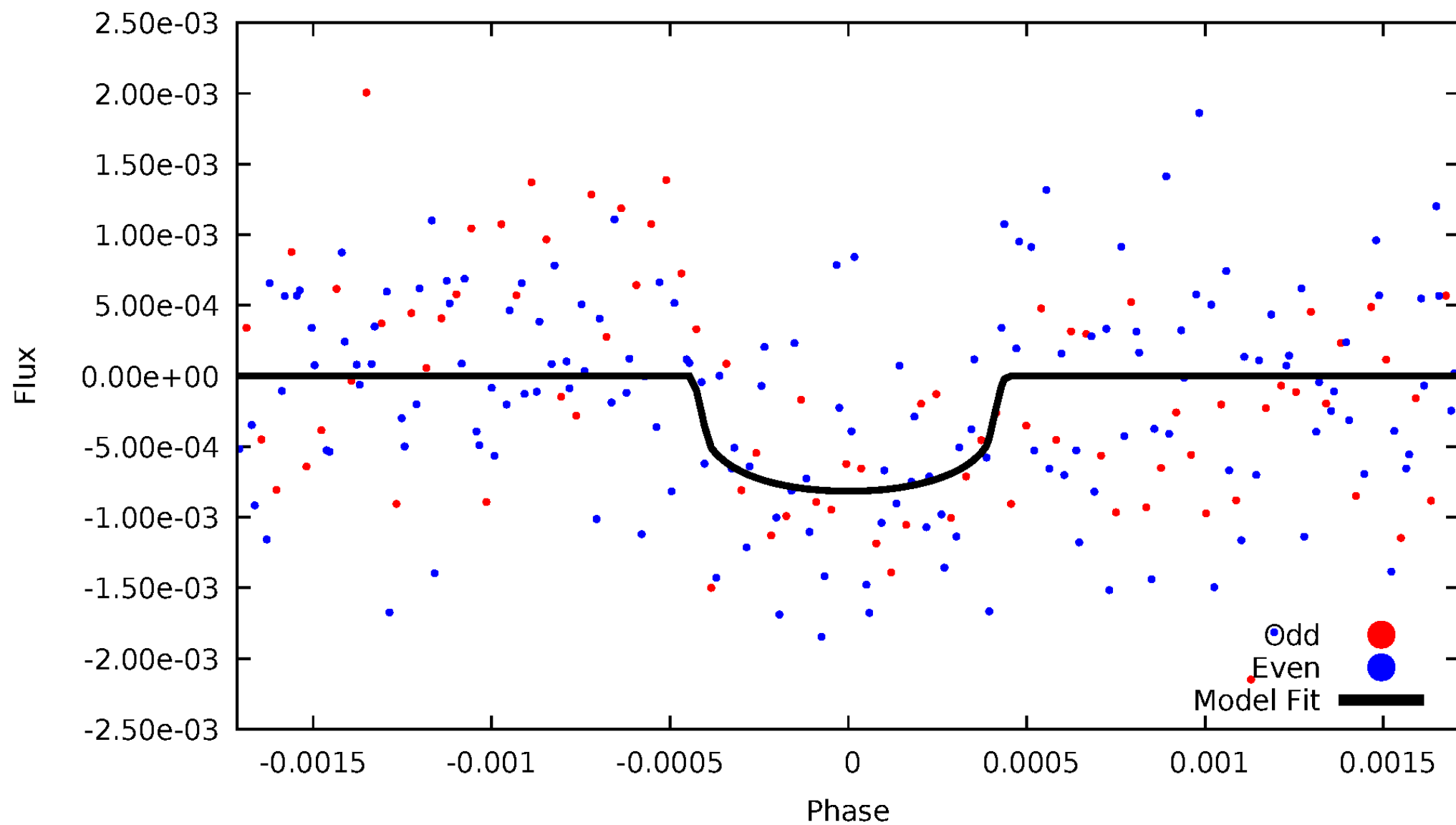


TCE 009489482-01



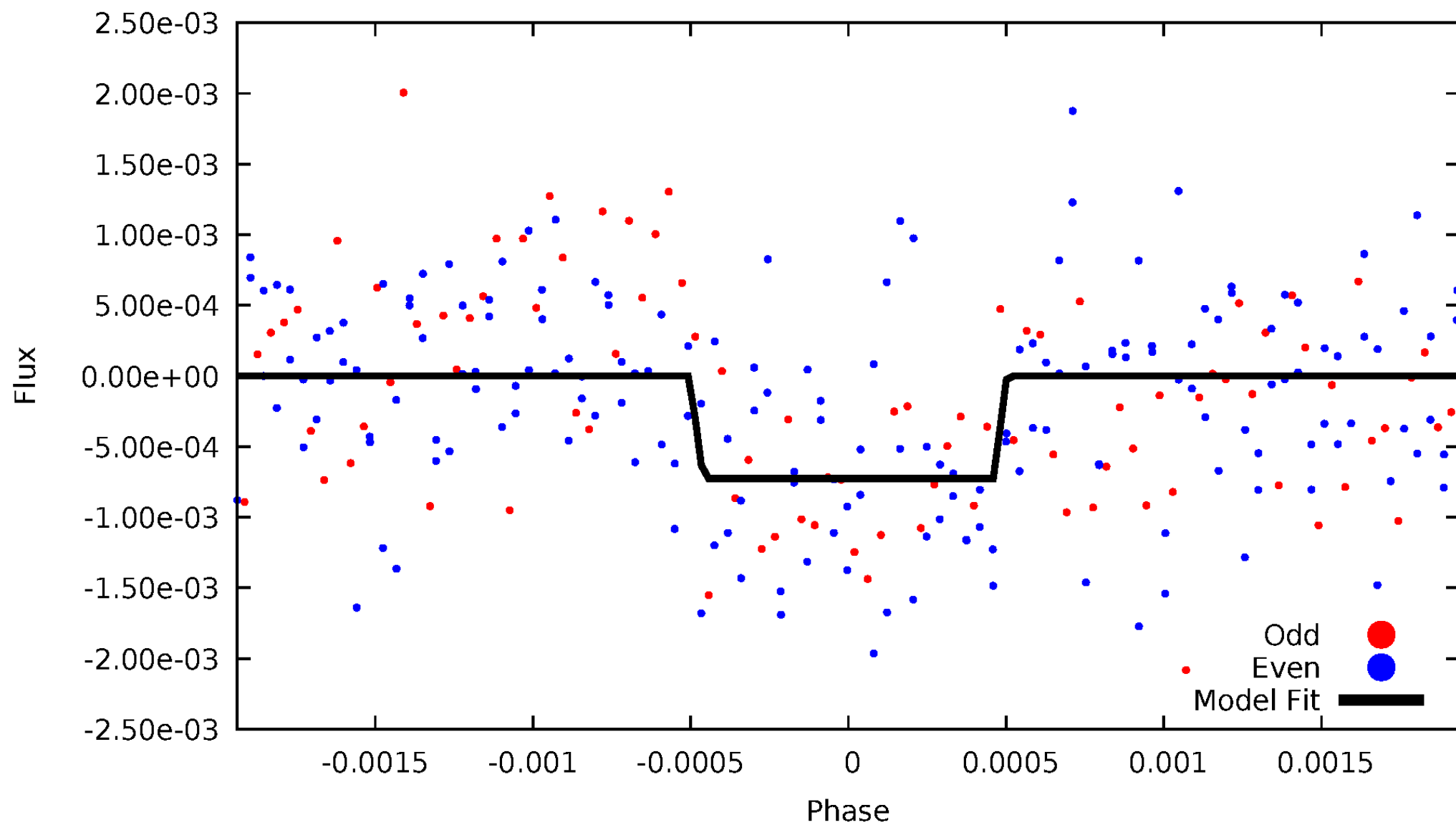
DV Odd/Even

TCE 009489482-01



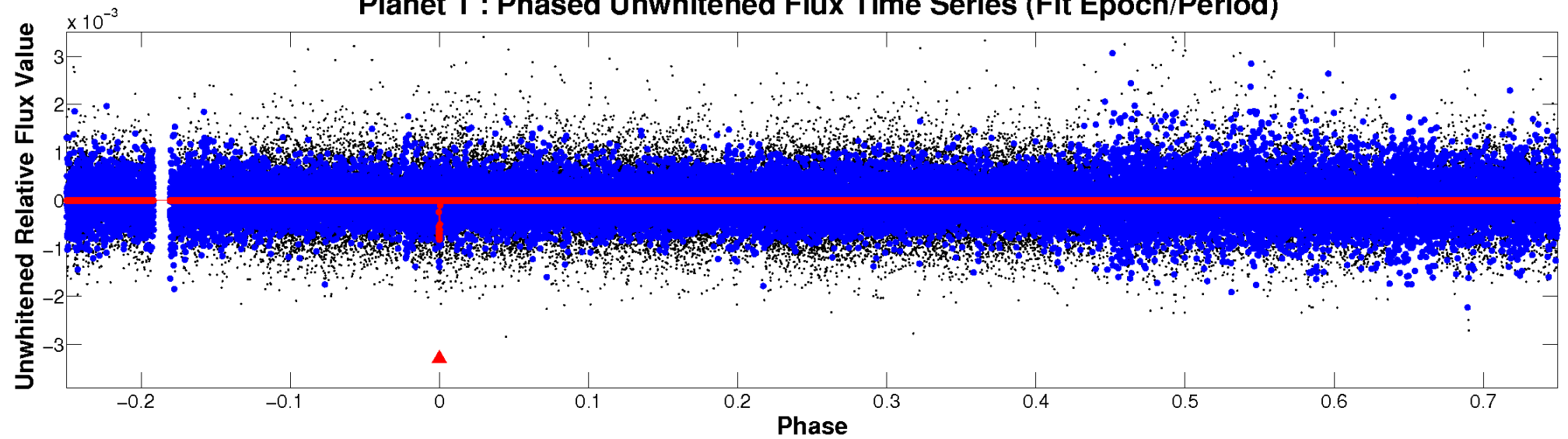
ALT Odd/Even

TCE 009489482-01

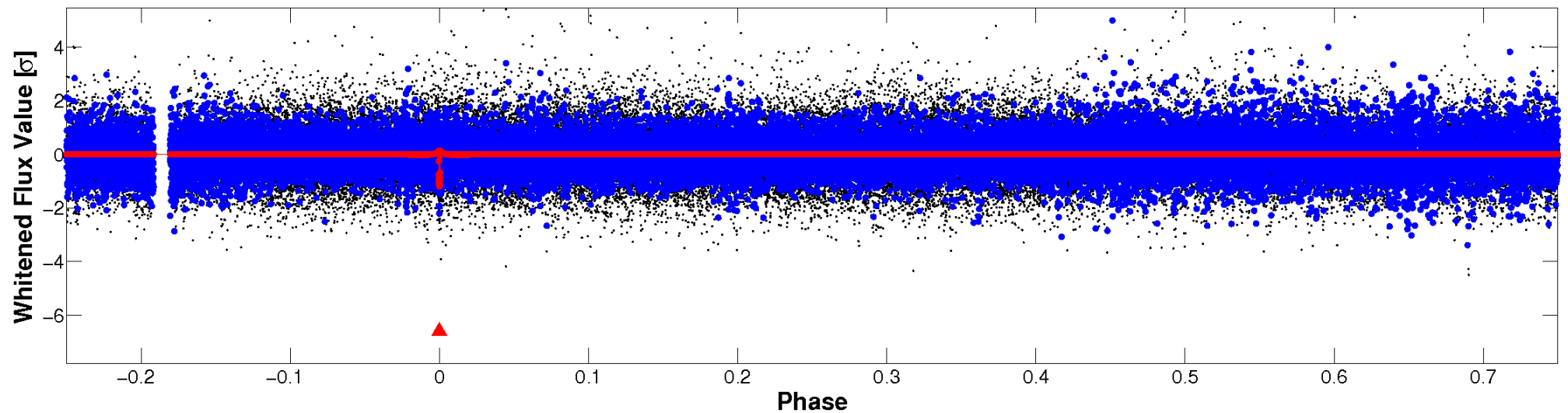


Non-Whitened Vs. Whitened Light Curve

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



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



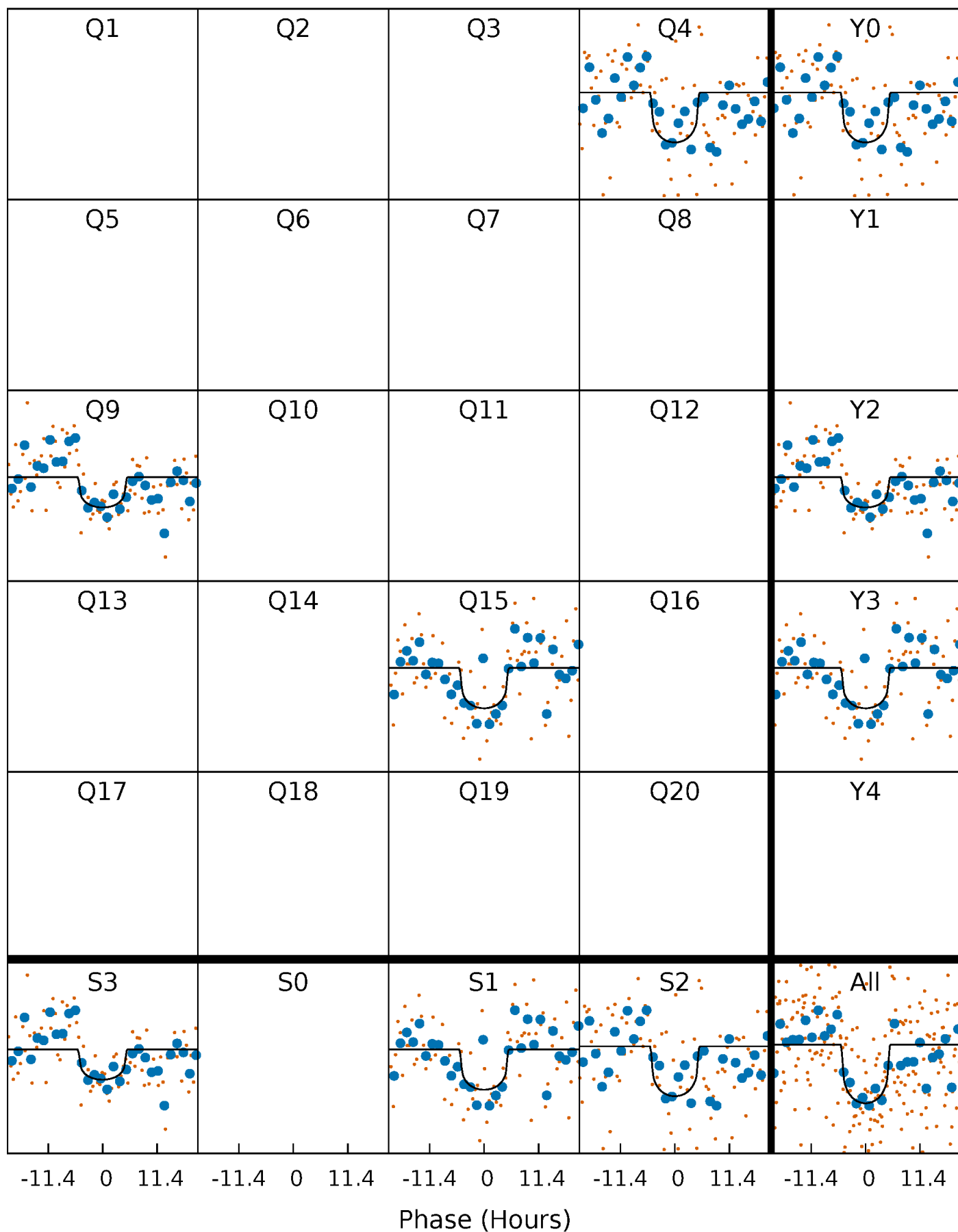
PDC Quarter-Phased Transit Curves

TCE 009489482-01 P=486.211543 Days $T_0=410.174412$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009489482-01 P=486.211543 Days $T_0=410.174412$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

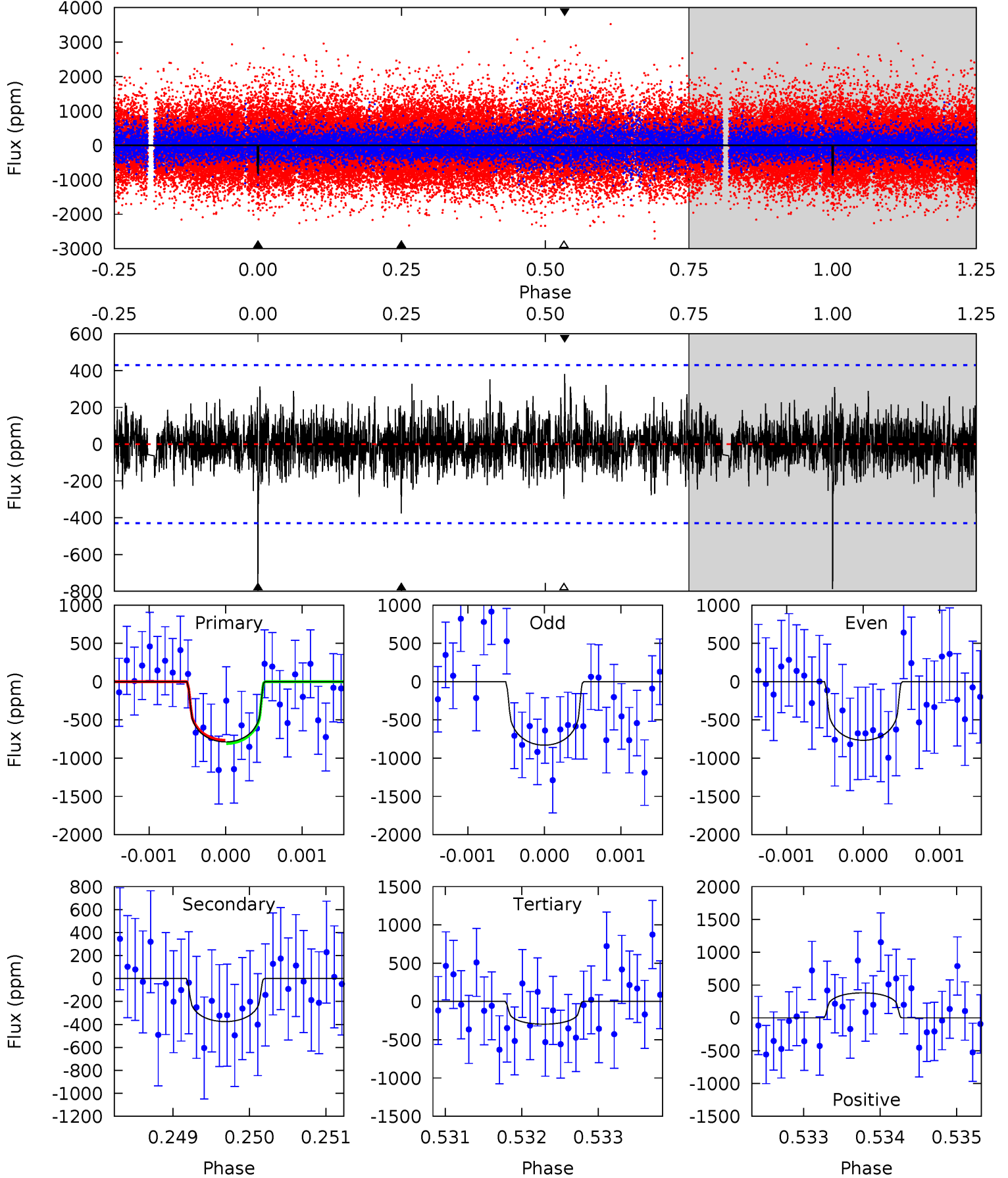
TCE 009489482-01 P=486.107581 Days $T_0=410.306895$ (BKJD)



DV Model-Shift Uniqueness Test

009489482-01, $P = 486.211543$ Days, $E = 410.174412$ Days

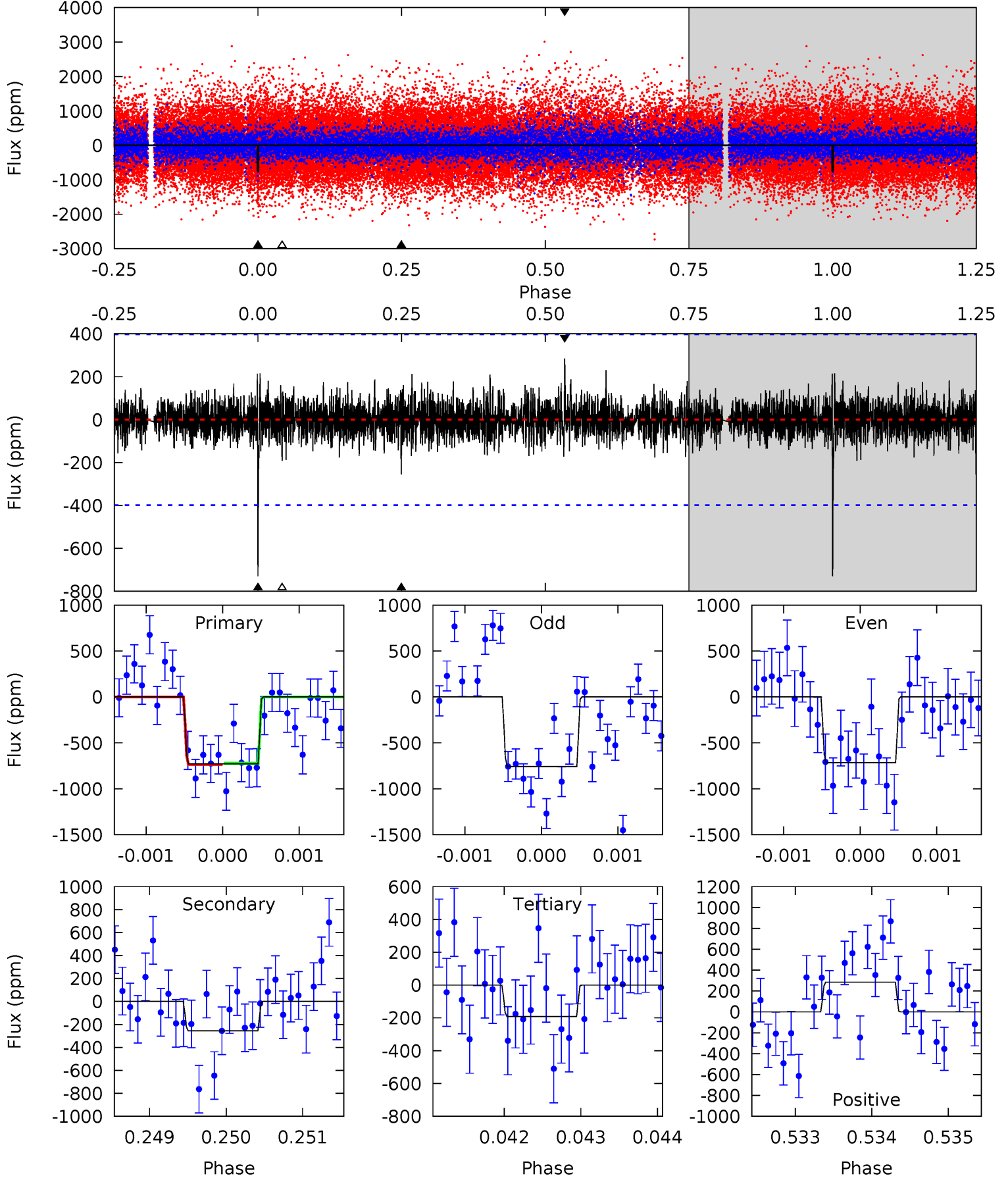
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	4.78	3.78	4.85	5.47	3.33	1.10	6.25	5.18	1.00	-0.07	0.38	0.95	0.33	0.28



Alt Model-Shift Uniqueness Test

009489482-01, P = 486.107581 Days, E = 410.306895 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.98	3.50	2.63	3.90	5.45	3.29	0.77	7.35	6.08	0.87	-0.40	0.28	0.96	0.28	0.10



Stellar Parameters For KIC 009489482

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5314^{+204}_{-185}	$4.507^{+0.095}_{-0.104}$	$-0.220^{+0.300}_{-0.300}$	$0.813^{+0.121}_{-0.099}$	$0.774^{+0.104}_{-0.061}$	$2.031^{+0.746}_{-0.646}$
	+4%/-3%	+2%/-2%	+136%/-136%	+15%/-12%	+13%/-8%	+37%/-32%
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 009489482-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-375 ± 79	$4.63^{+4.70}_{-3.22}$	281^{+15}_{-14}	3661^{+2131}_{-715}	$11989^{+120447}_{-9028}$
Alt.	-256 ± 73	$4.91^{+5.24}_{-3.19}$	280^{+15}_{-13}	3361^{+1545}_{-615}	7278^{+52357}_{-5621}

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

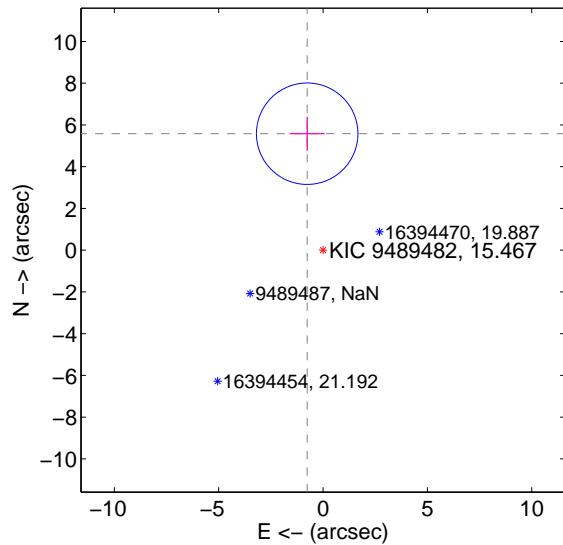
Supplemental centroid analysis for 009489482-01. Kepler magnitude: 15.47. Transit SNR 7.92

There are 0 quarters with good PRF difference image offsets

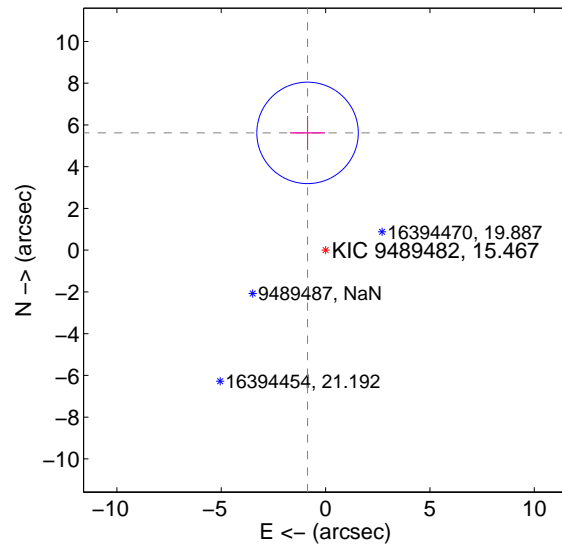
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.632 \pm 0.810	6.95	0.760 \pm 0.835	5.580 \pm 0.810
PRF-fit source offset from KIC position	5.686 \pm 0.810	7.02	0.864 \pm 0.835	5.620 \pm 0.810
photometric centroid source offset	3.48 \pm 2.06	1.69	1.38 \pm 1.92	-3.19 \pm 2.09

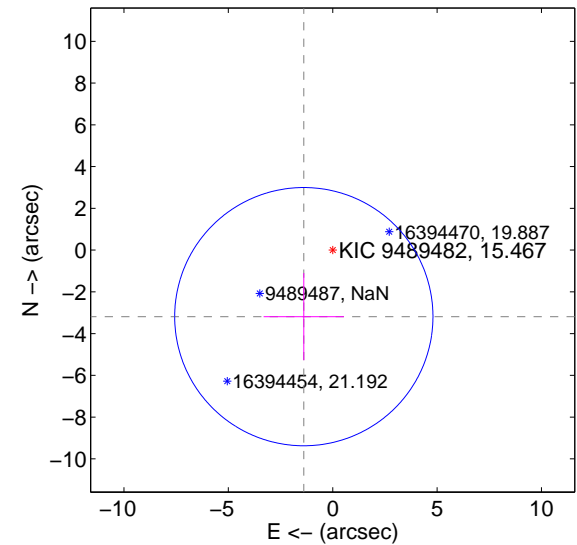
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

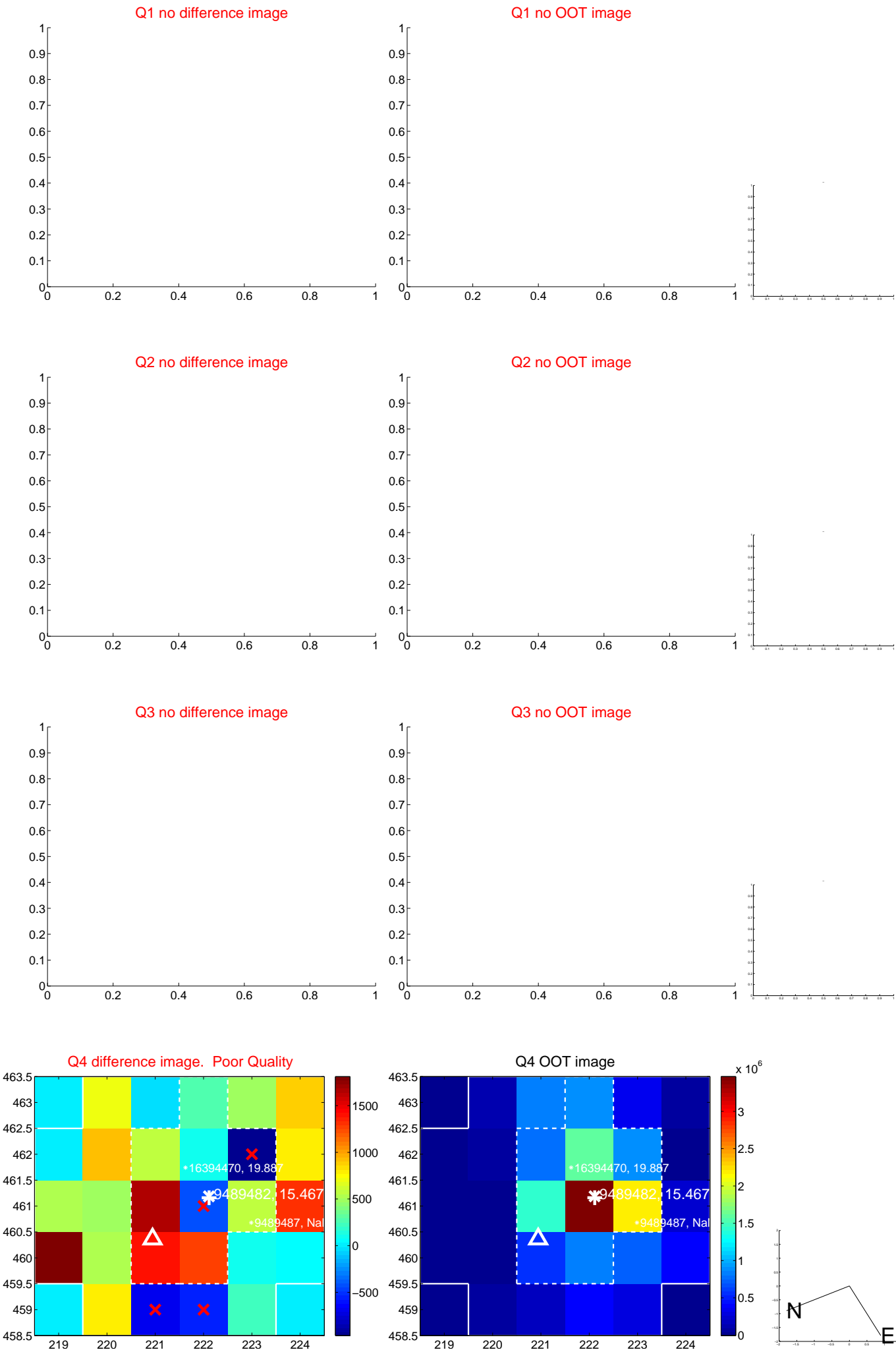


offset from photometric centroids

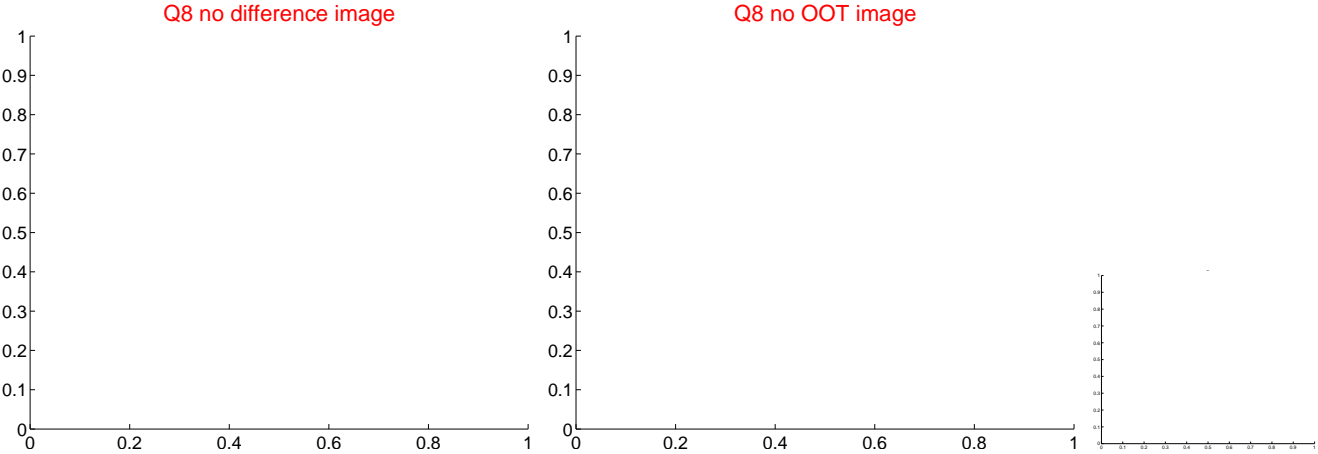


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

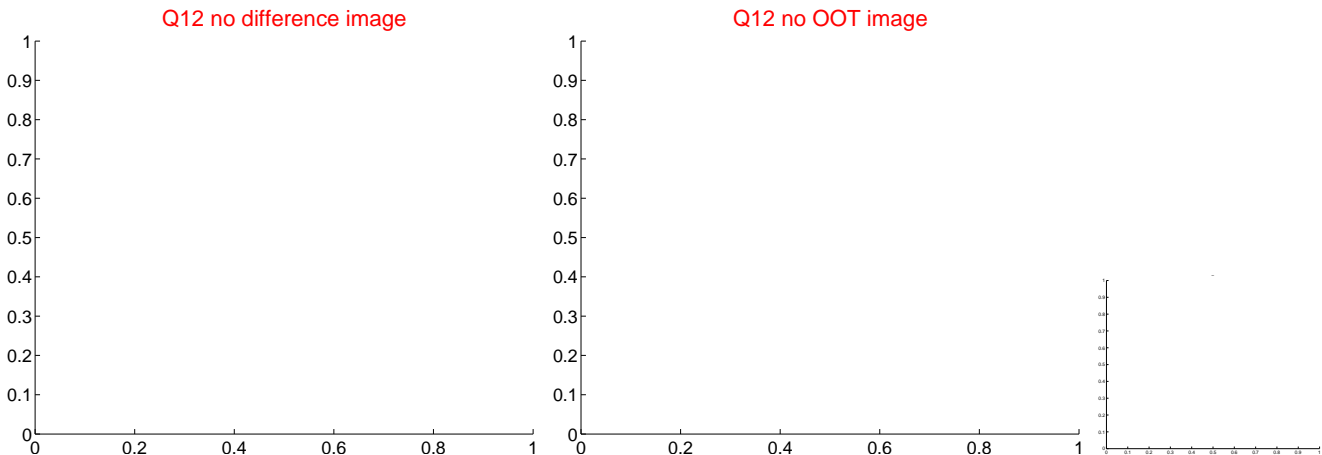
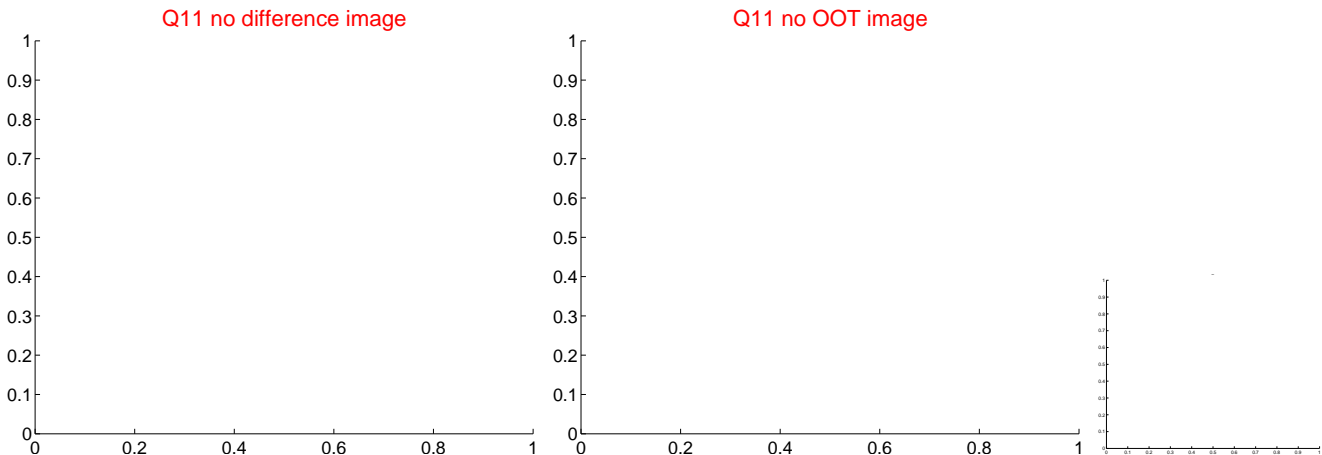
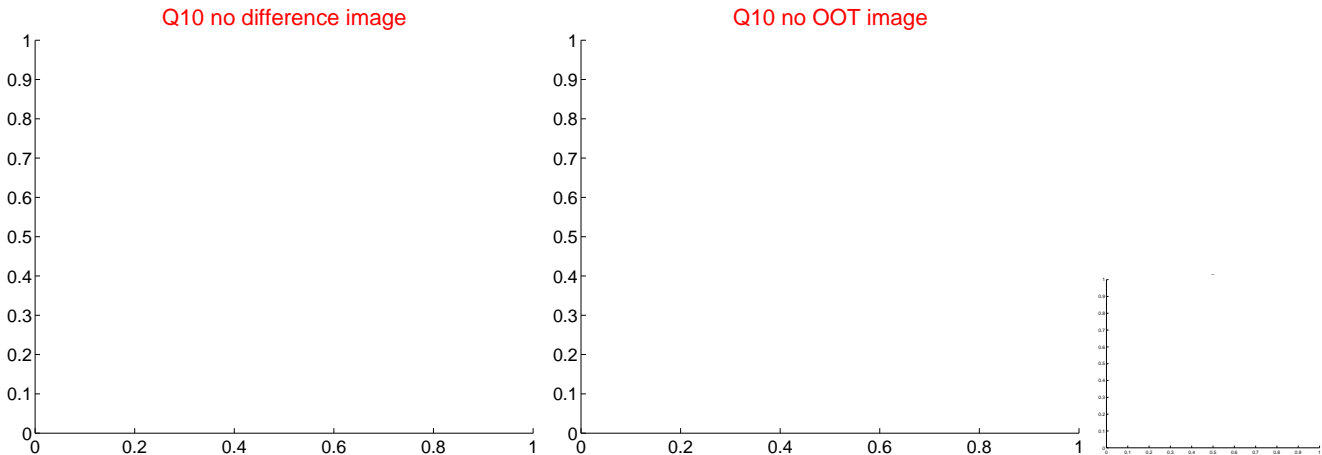
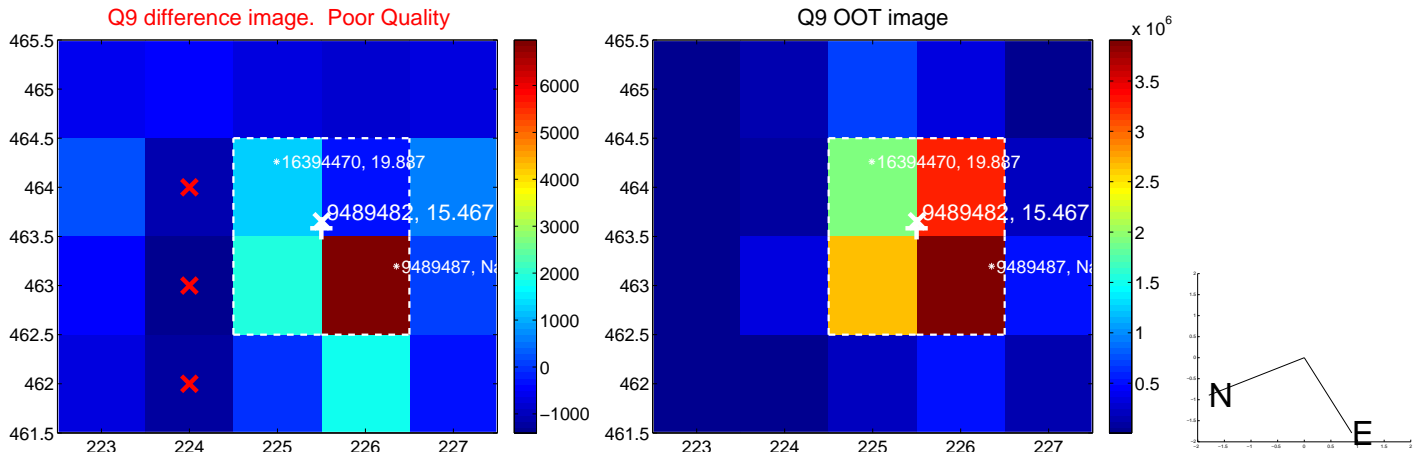
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



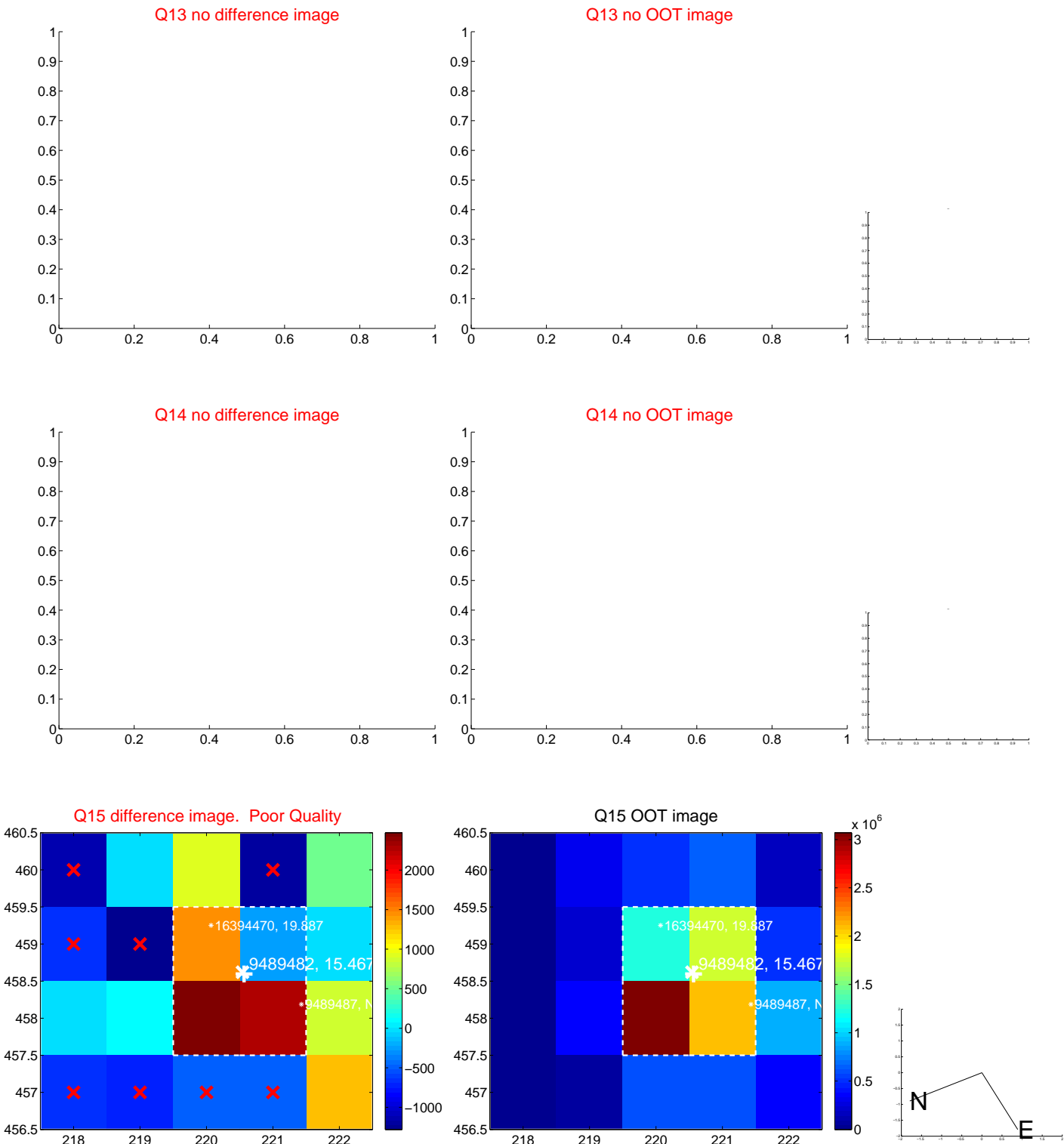
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



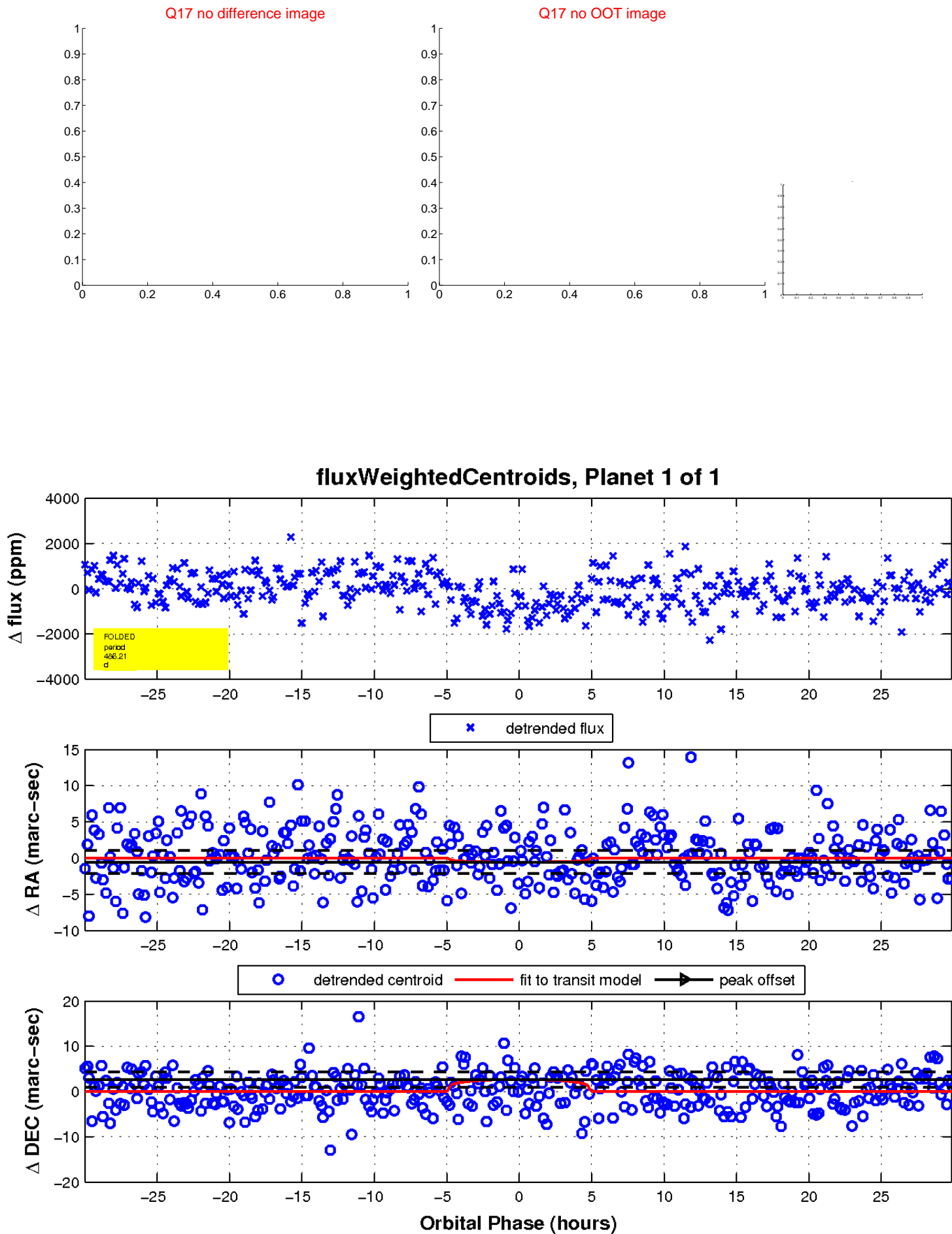
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

