

KIC 010356840

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})
010356840-01	OBS	No	400.372142	514.553198	347.7	16.394	7.5	7.4	0.83	6083	1.66	0.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010356840-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—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 010356840-01

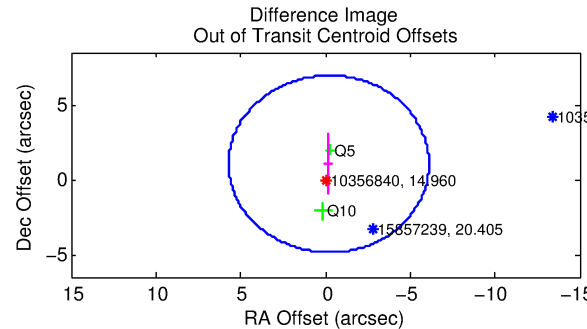
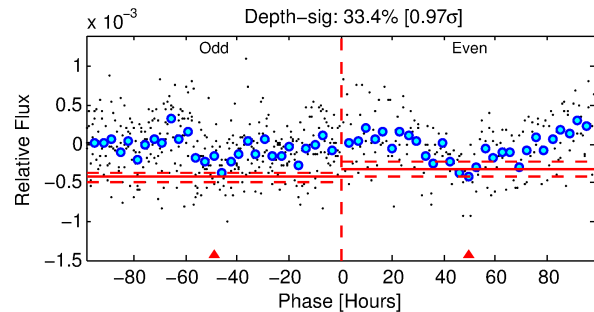
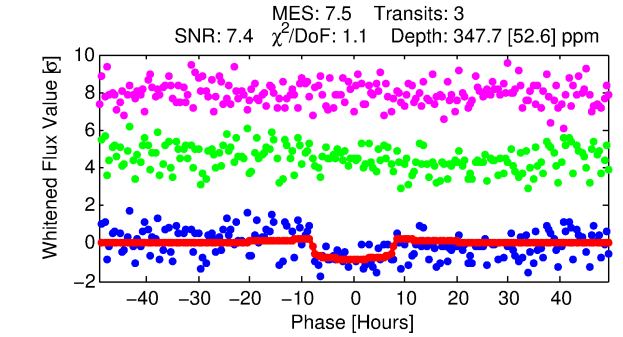
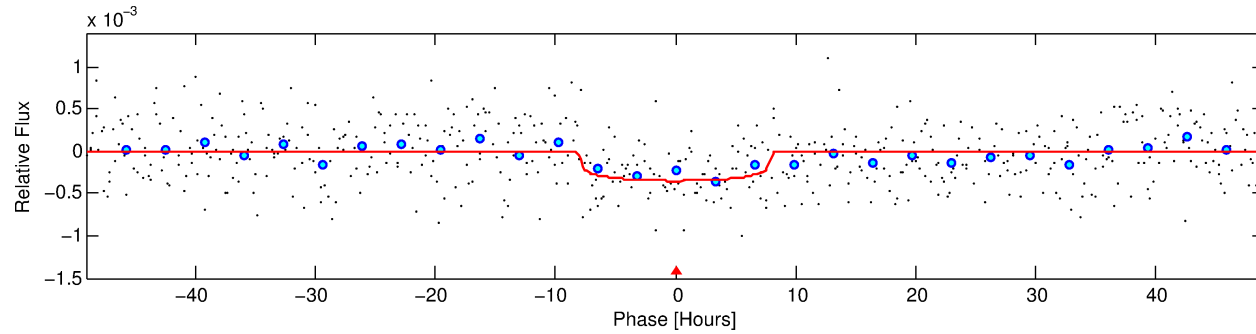
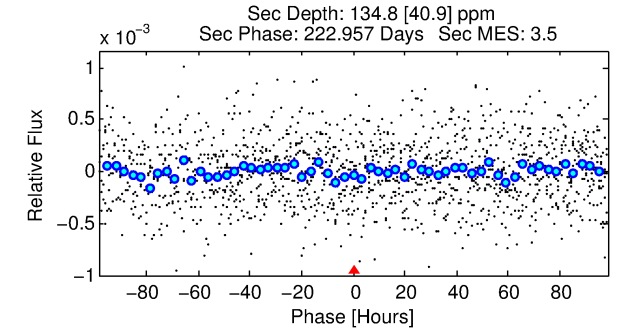
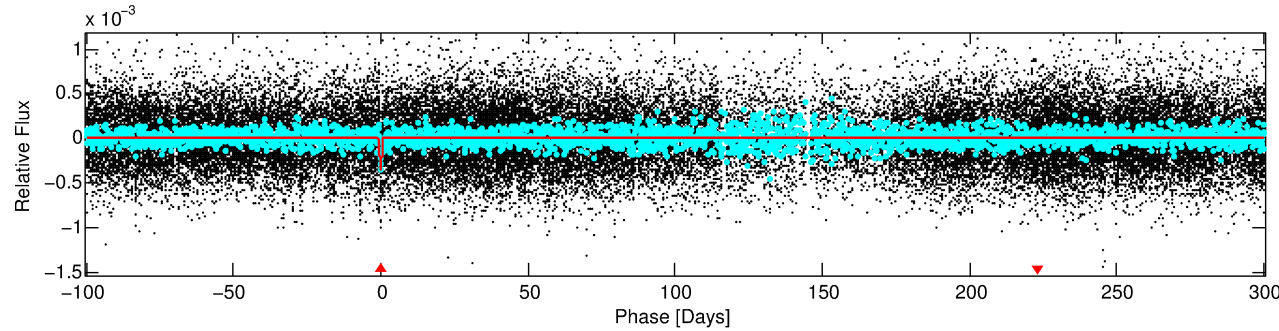
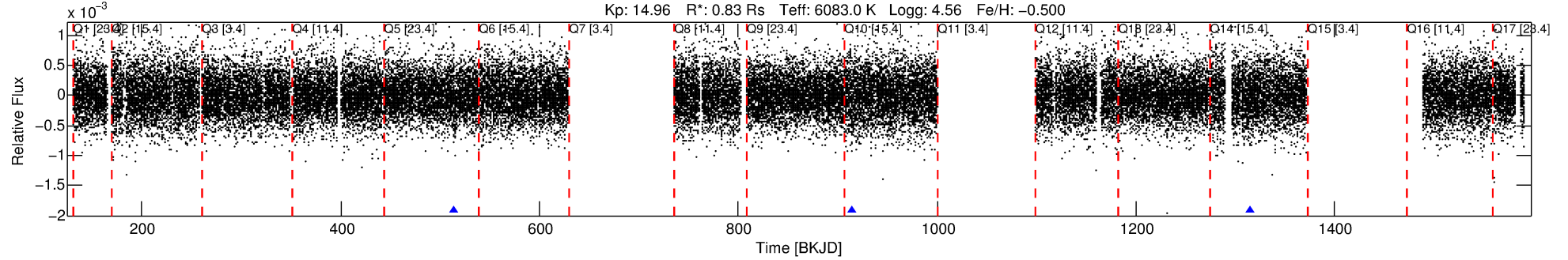
No Significant Match Found

DV One-Page Summary

KIC: 10356840 Candidate: 1 of 1 Period: 400.372 d

KOI: K05788 Corr: No Ephemeris Match

Kp: 14.96 R*: 0.83 Rs Teff: 6083.0 K Logg: 4.56 Fe/H: -0.500



DV Fit Results:

Period = 400.37214 [0.01856] d
Epoch = 514.5532 [0.0238] BKJD
Rp/R* = 0.0183 [0.0071]
a/R* = 138.32 [270.53]
b = 0.70 [1.45]
Seff = 0.79 [0.27]
Teff = 241 [20] K
Rp = 1.66 [0.78] Re
a = 1.0378 [0.2251] AU
Ag = 28847.39 [25648.02] [1.12σ]
Teffp = 4850 [1019] K [4.52σ]

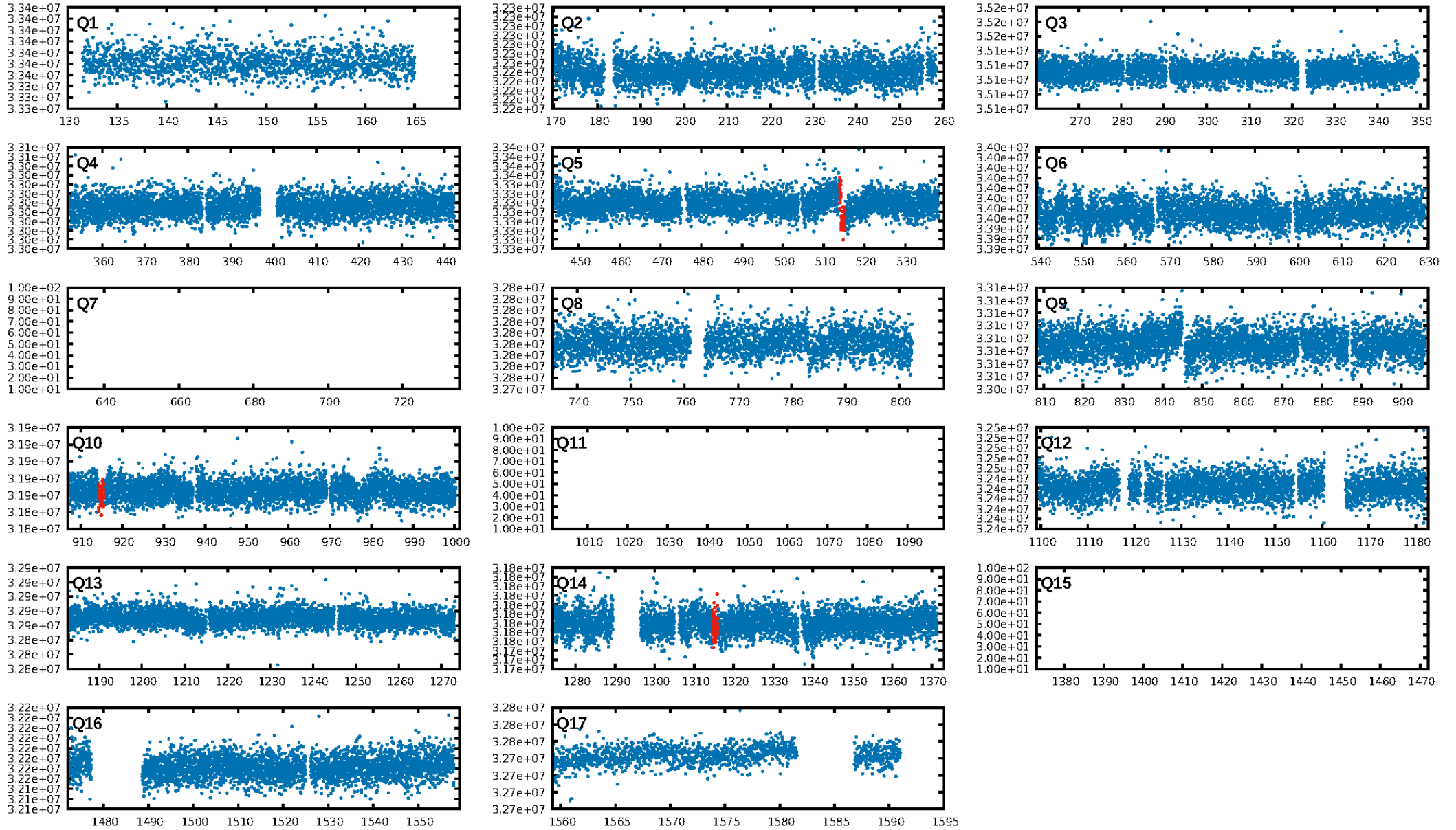
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 7.56e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 5.029
Centroid-sig: 35.5%
Centroid-so: 1.799 arcsec [1.00σ]
OotOffset-rm: 1.065 arcsec [0.54σ]
KicOffset-rm: 1.078 arcsec [0.59σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

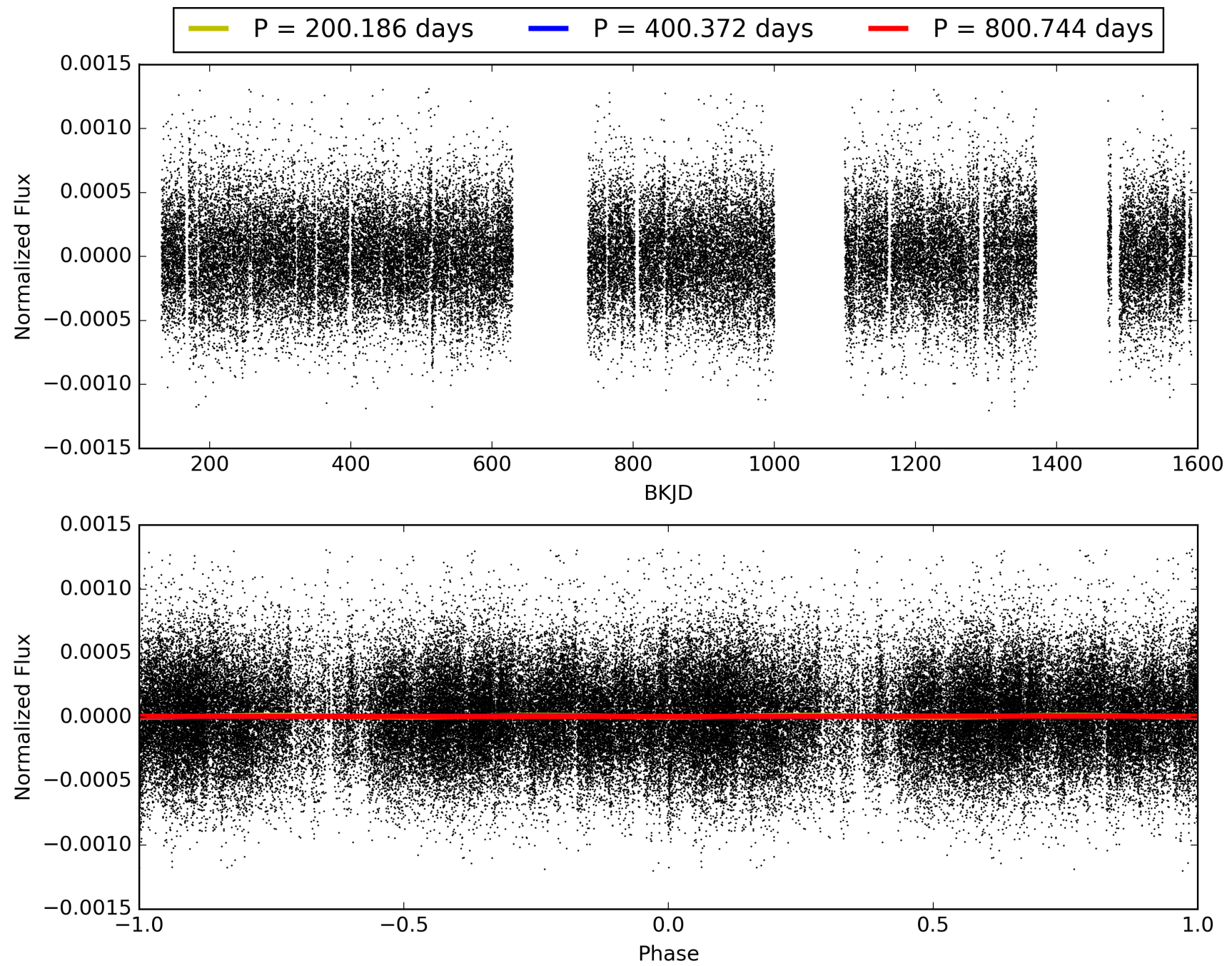
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:02:21 Z

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

TCE 010356840-01, PDC Light Curves

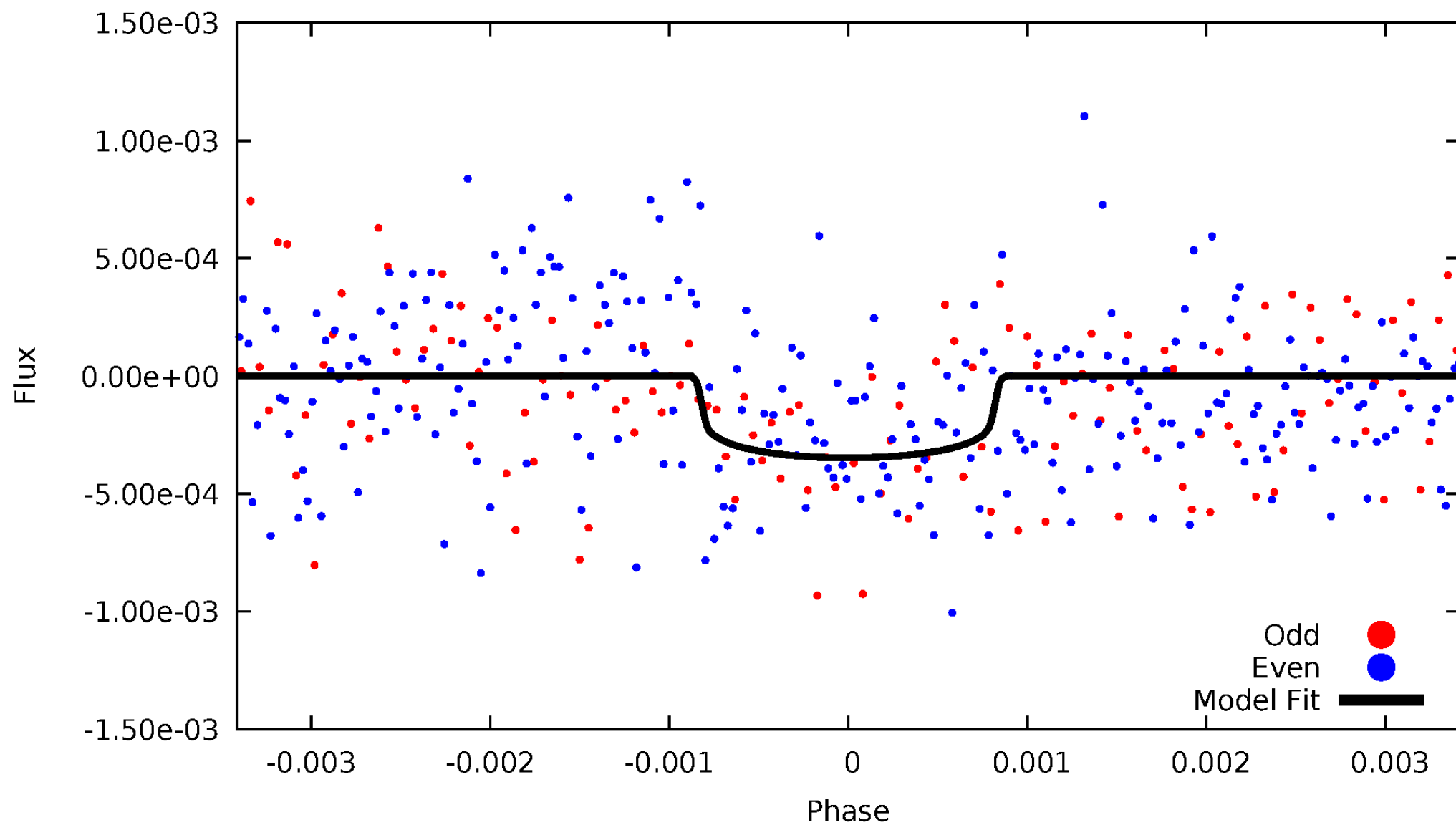


TCE 010356840-01



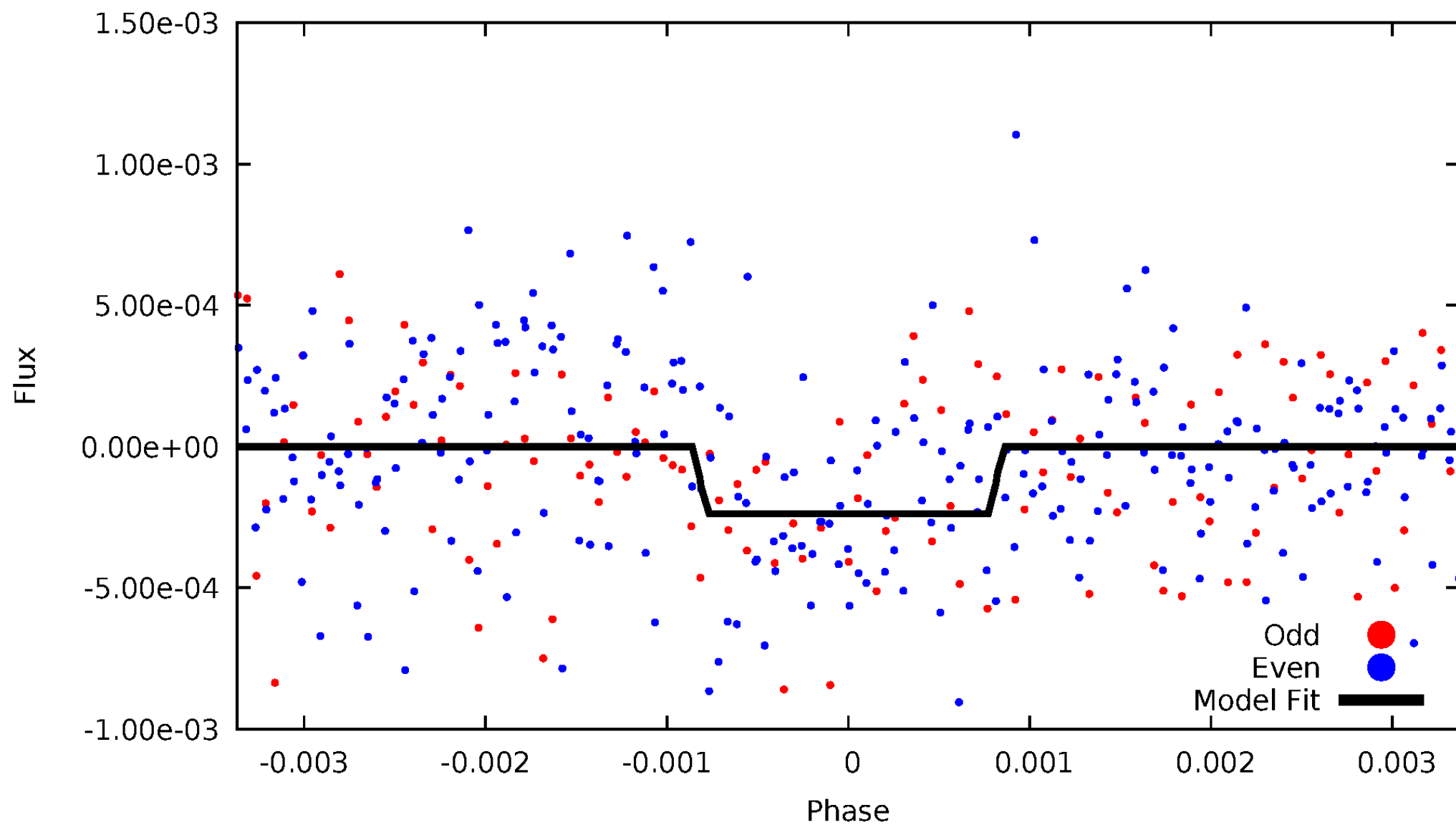
DV Odd/Even

TCE 010356840-01



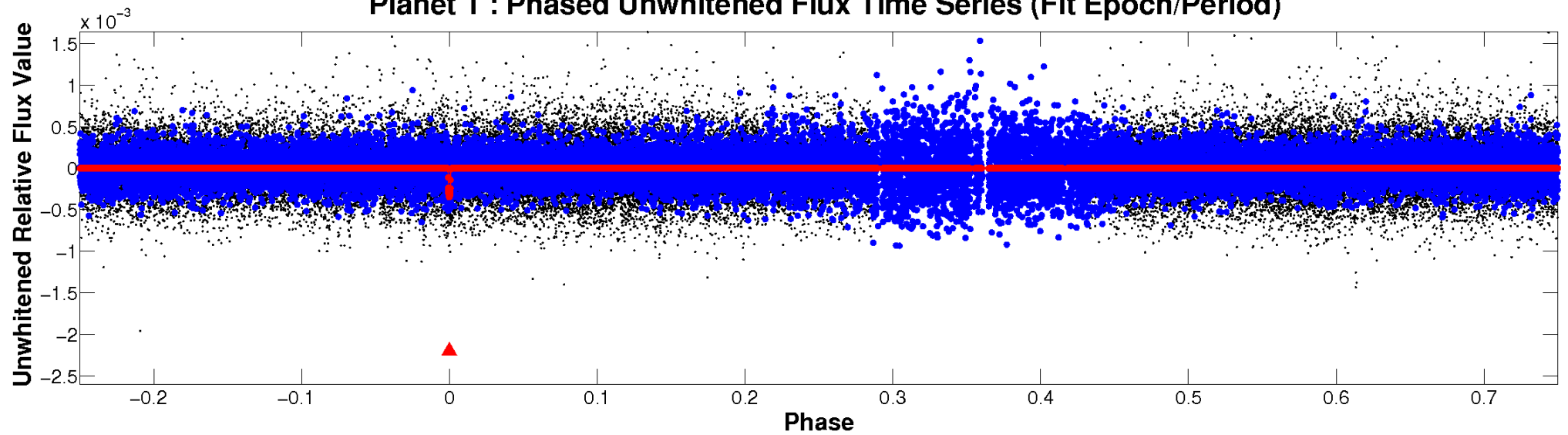
ALT Odd/Even

TCE 010356840-01

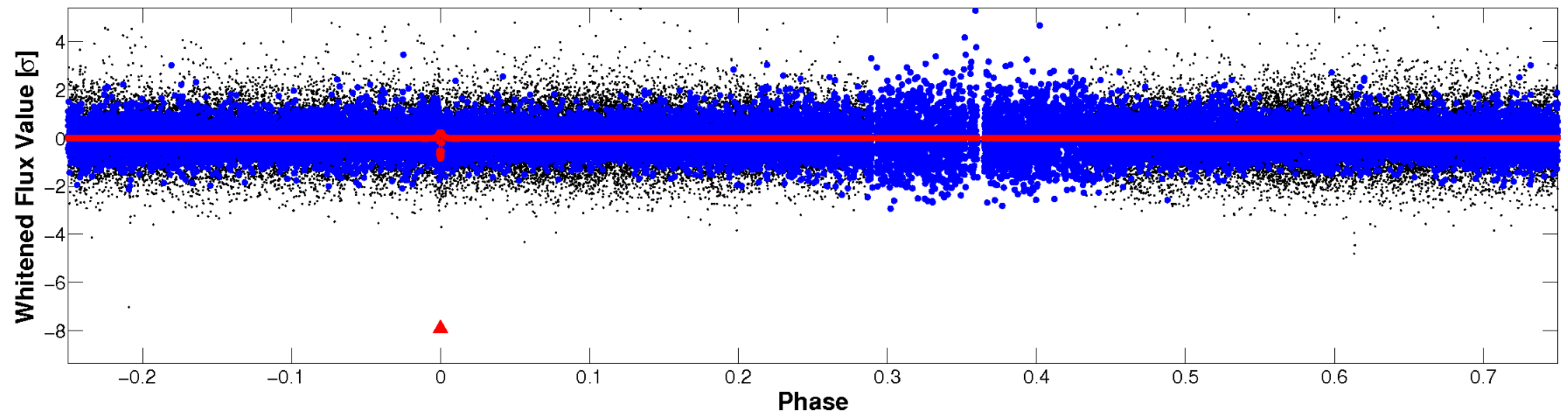


Non-Whitened Vs. Whitened Light Curve

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



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



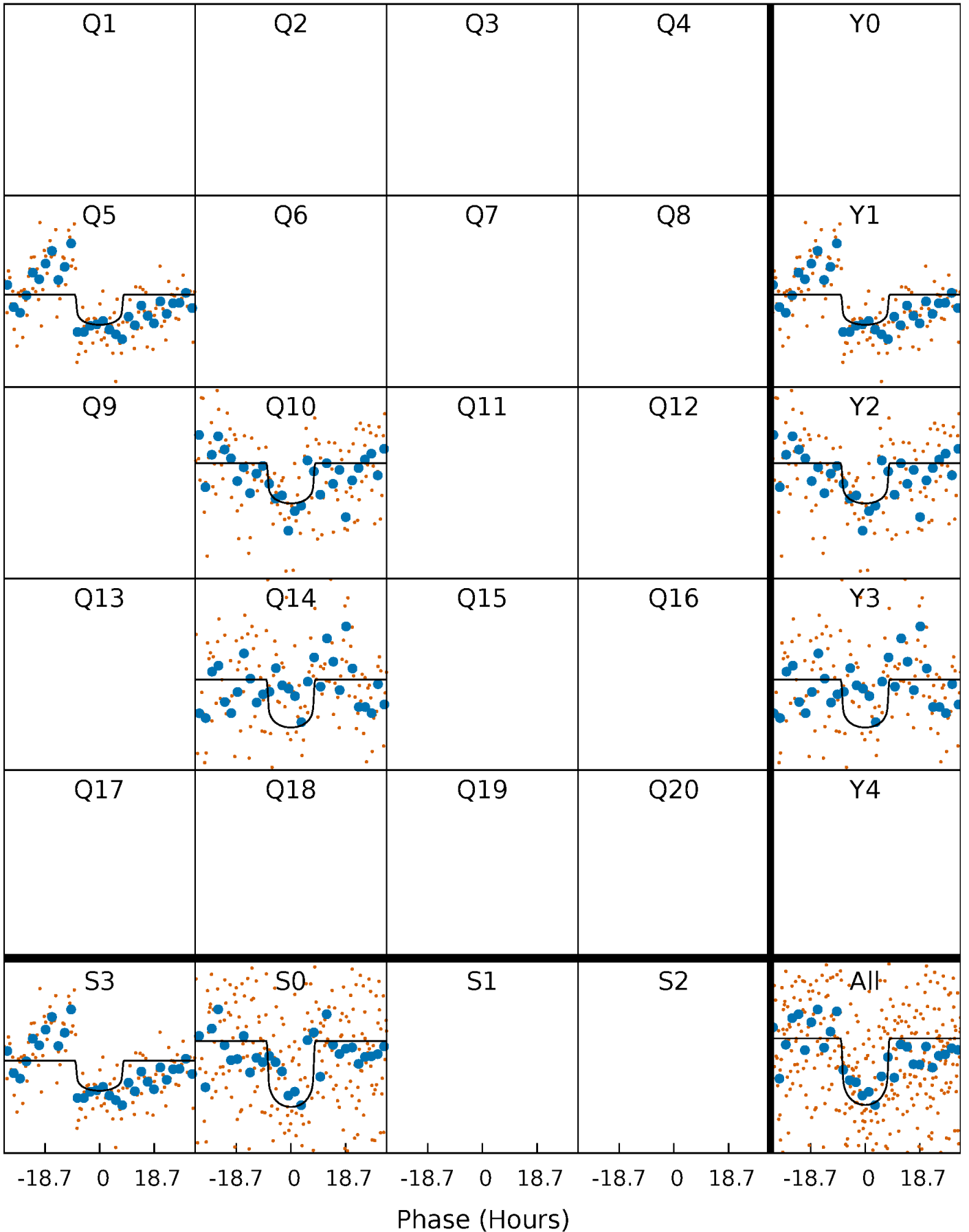
PDC Quarter-Phased Transit Curves

TCE 010356840-01 P=400.372141 Days $T_0=514.553198$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010356840-01 P=400.372141 Days $T_0=514.553198$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

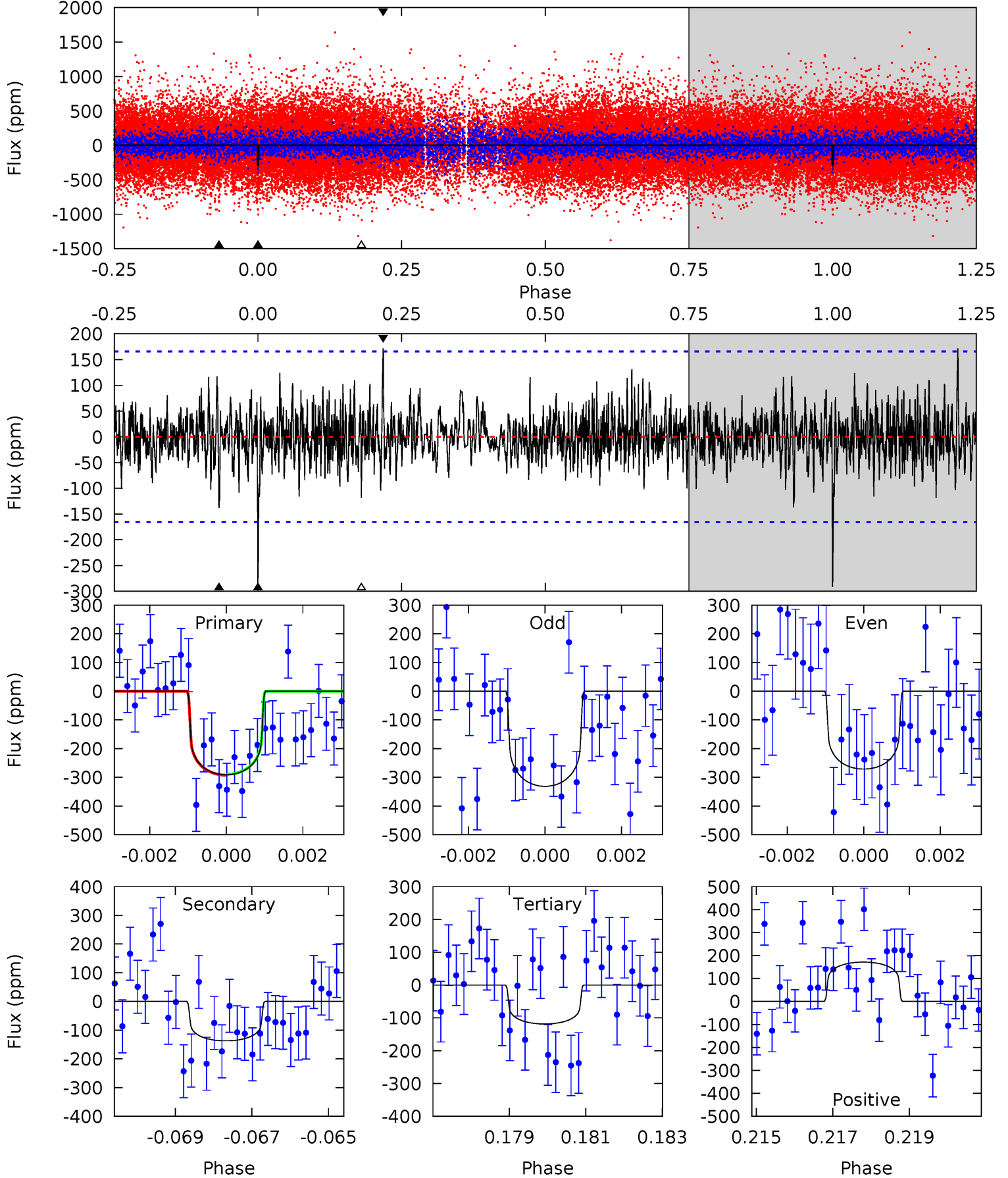
TCE 010356840-01 P=400.456909 Days $T_0=514.540993$ (BKJD)



DV Model-Shift Uniqueness Test

010356840-01, P = 400.372141 Days, E = 114.181057 Days

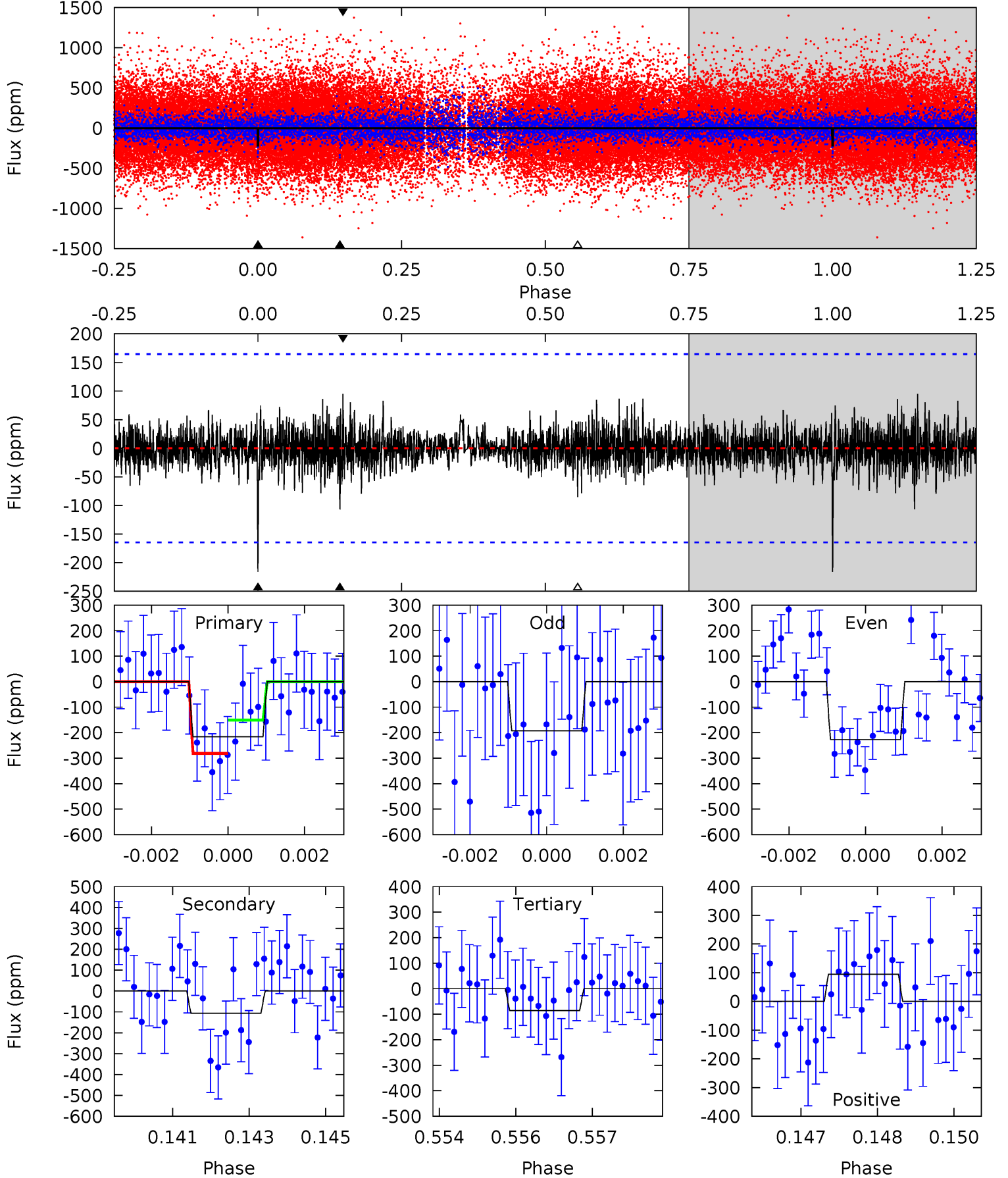
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.40	4.43	3.83	5.54	5.35	3.13	1.19	5.57	3.87	0.60	-1.11	0.91	0.89	0.37	0.05



Alt Model-Shift Uniqueness Test

010356840-01, P = 400.456909 Days, E = 114.084084 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.02	3.47	2.78	3.10	5.36	3.14	0.75	4.24	3.92	0.70	0.38	0.53	1.13	0.31	2.12



Stellar Parameters For KIC 010356840

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6083^{+165}_{-183}	$4.563^{+0.030}_{-0.170}$	$-0.500^{+0.300}_{-0.250}$	$0.835^{+0.217}_{-0.058}$	$0.933^{+0.097}_{-0.108}$	$2.258^{+0.386}_{-1.061}$
	+3%/-3%	+1%/-4%	+60%/-50%	+26%/-7%	+10%/-12%	+17%/-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 010356840-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-137 ± 31	$1.76^{+0.71}_{-0.67}$	344^{+21}_{-16}	4938^{+1185}_{-651}	25979^{+41300}_{-13410}
Alt.	-107 ± 31	$1.48^{+0.73}_{-0.70}$	344^{+20}_{-13}	5070^{+1624}_{-782}	28365^{+70650}_{-16873}

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

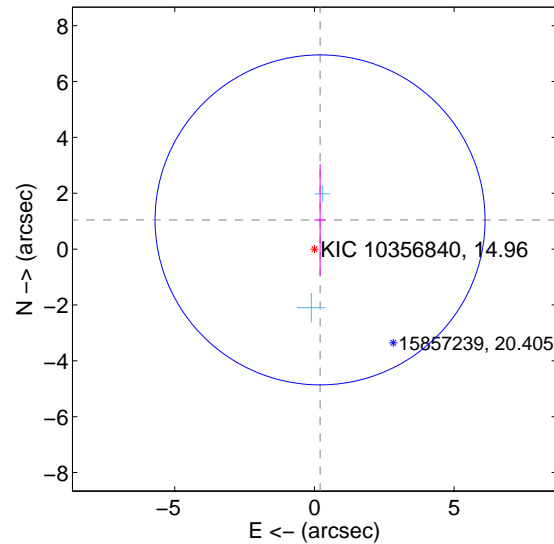
Supplemental centroid analysis for 010356840-01. Kepler magnitude: 14.96. Transit SNR 7.43

There are 2 quarters with good PRF difference image offsets

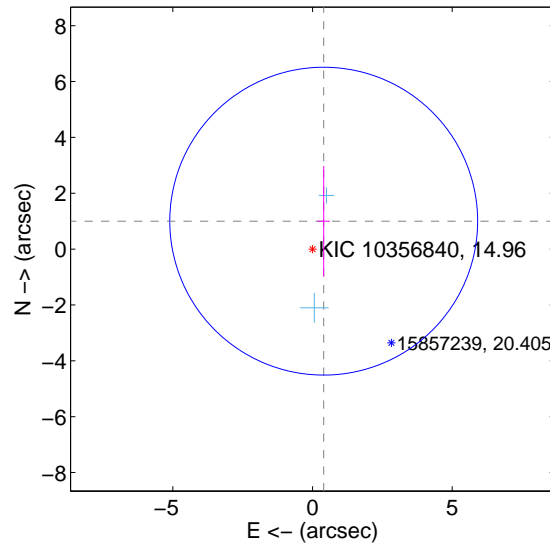
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.065 ± 1.969	0.54	-0.201 ± 0.208	1.046 ± 2.005
PRF-fit source offset from KIC position	1.078 ± 1.837	0.59	-0.401 ± 0.221	1.000 ± 1.977
photometric centroid source offset	1.80 ± 1.81	1.00	-1.30 ± 1.62	-1.24 ± 1.99

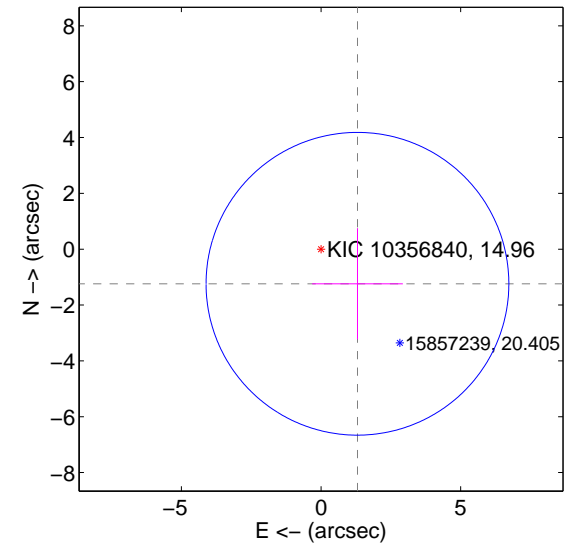
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

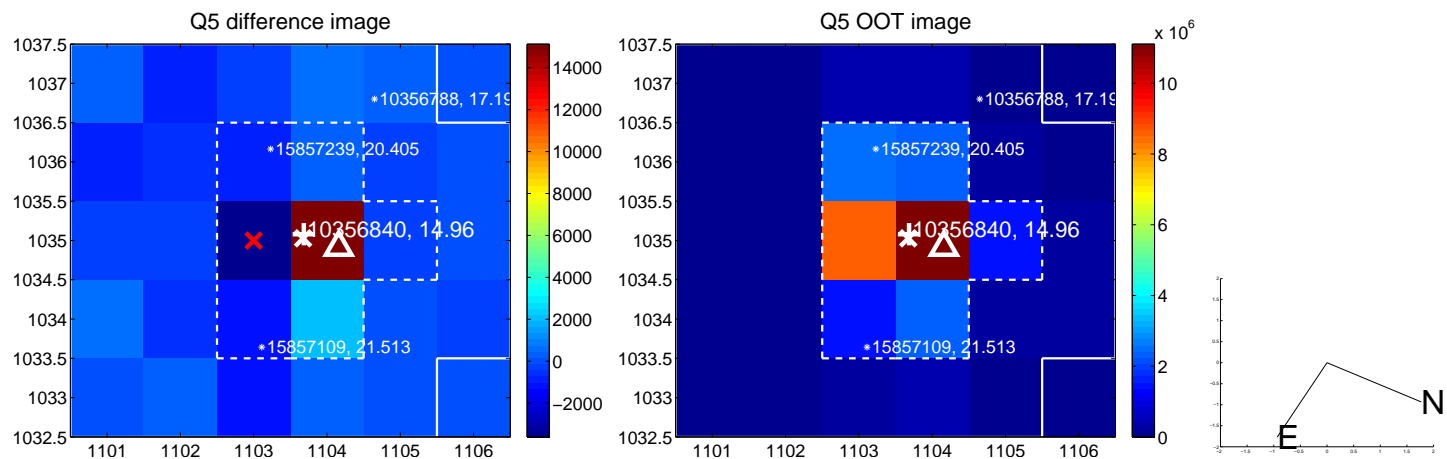


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

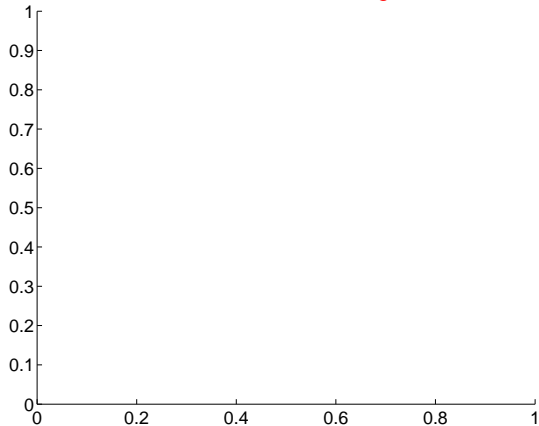
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



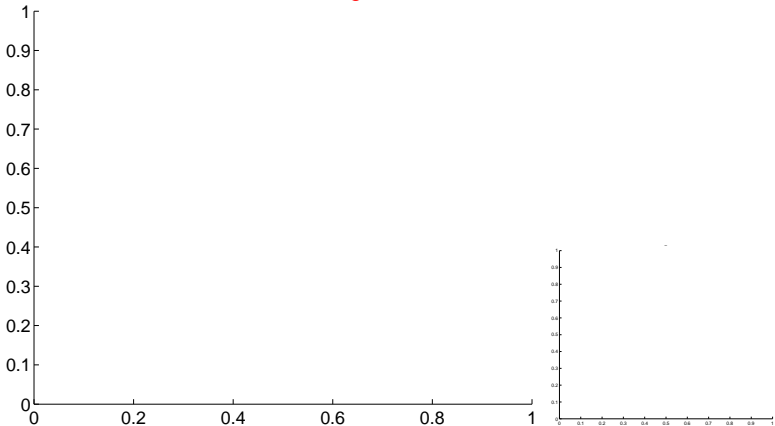
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



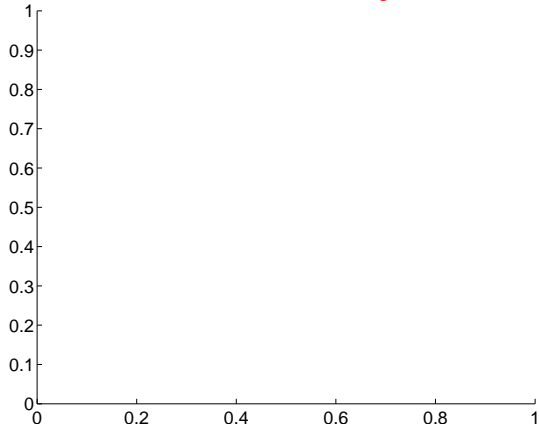
Q6 no difference image



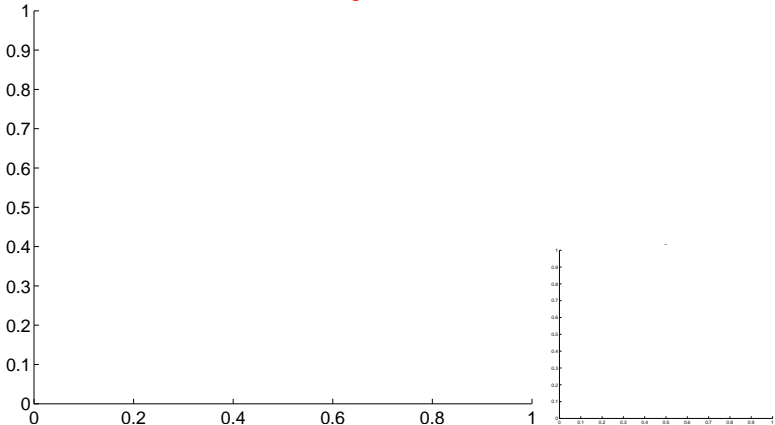
Q6 no OOT image



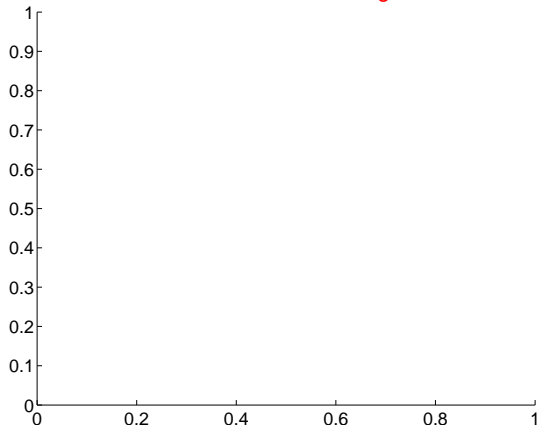
Q7 no difference image



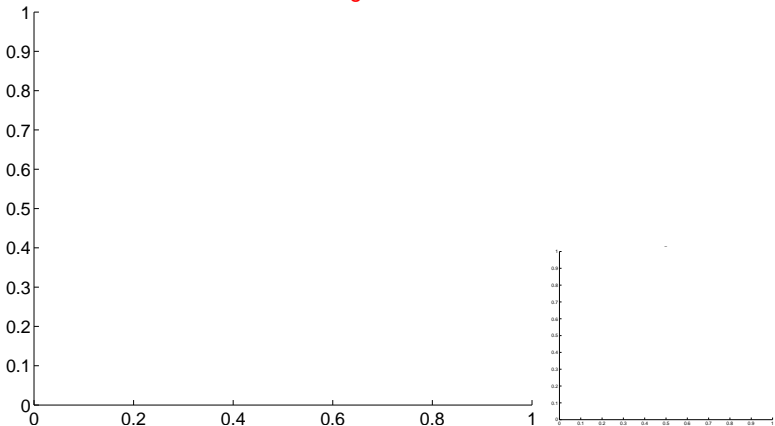
Q7 no OOT image



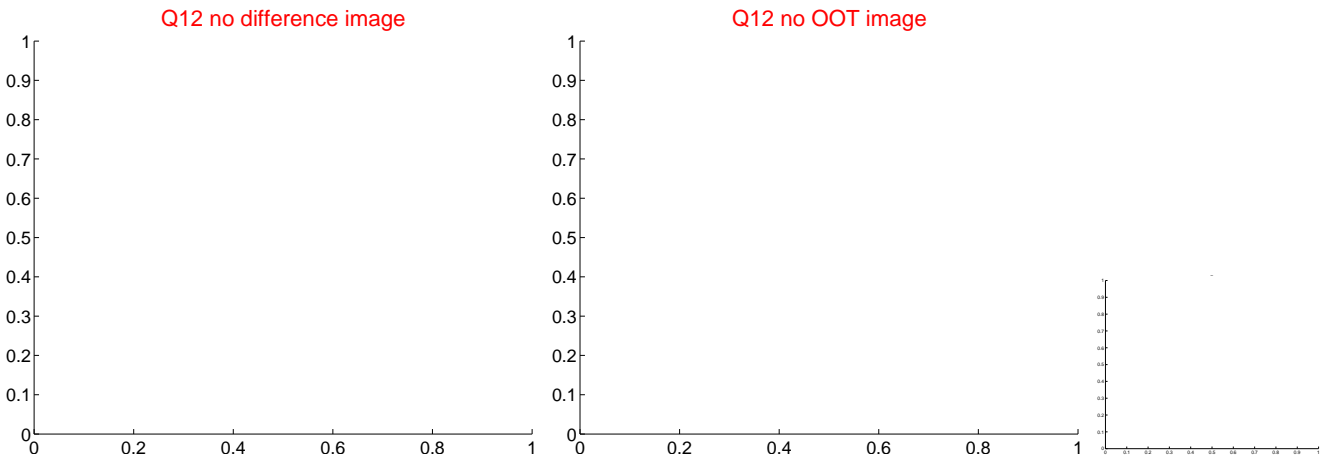
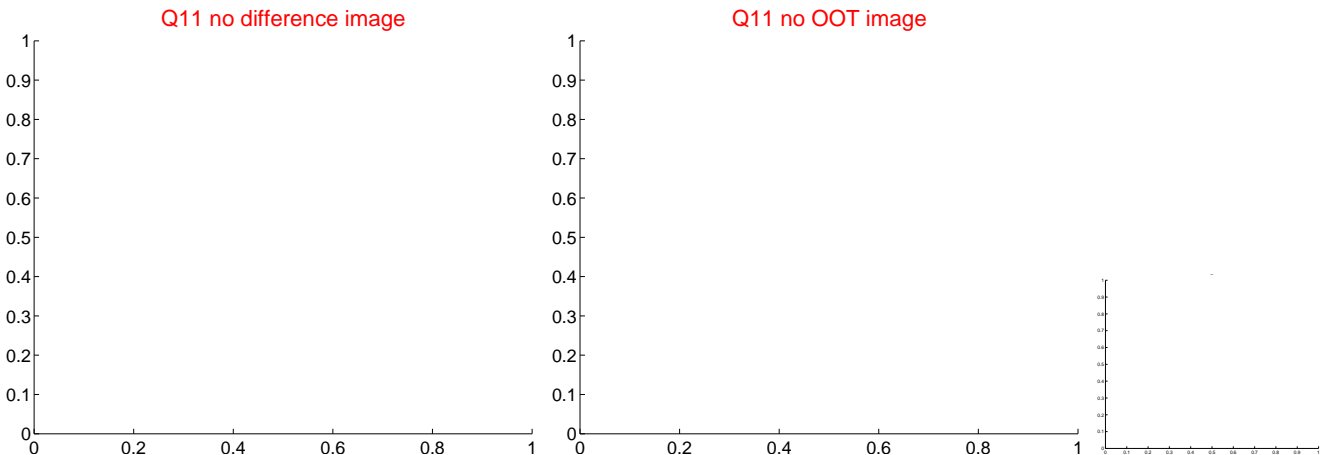
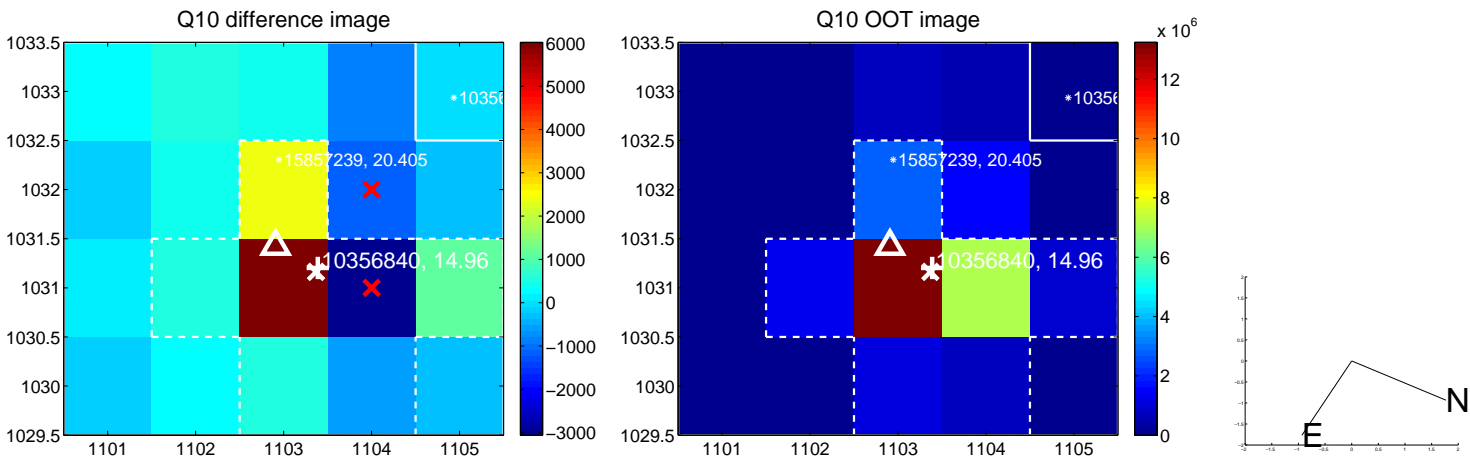
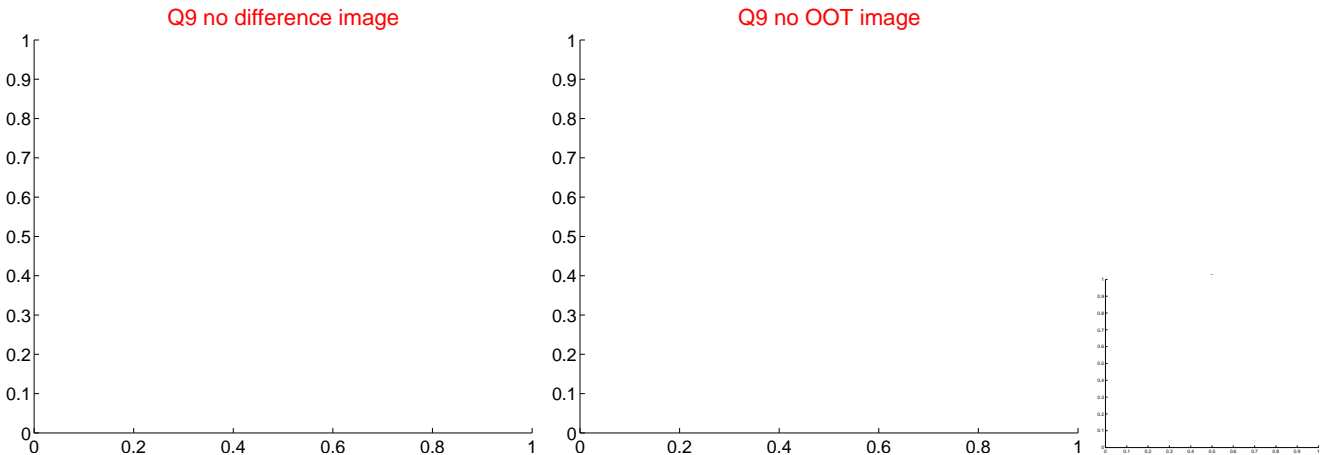
Q8 no difference image



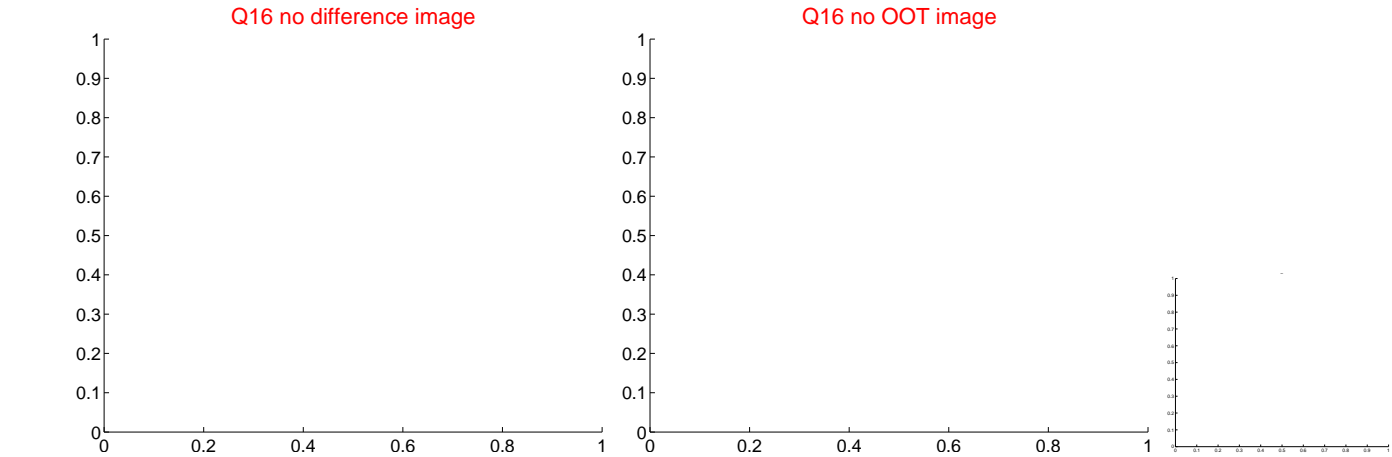
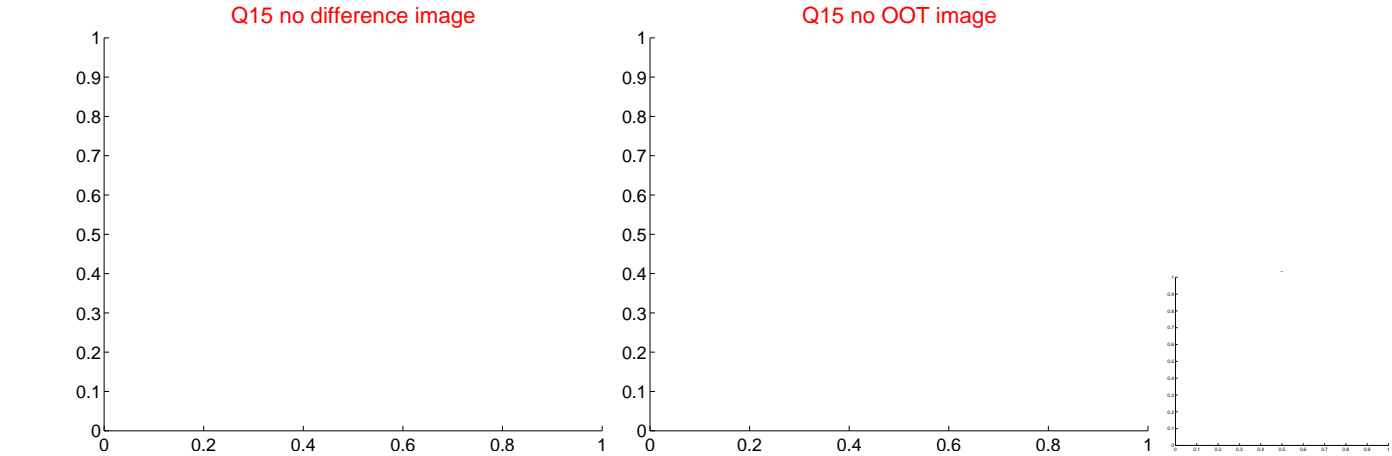
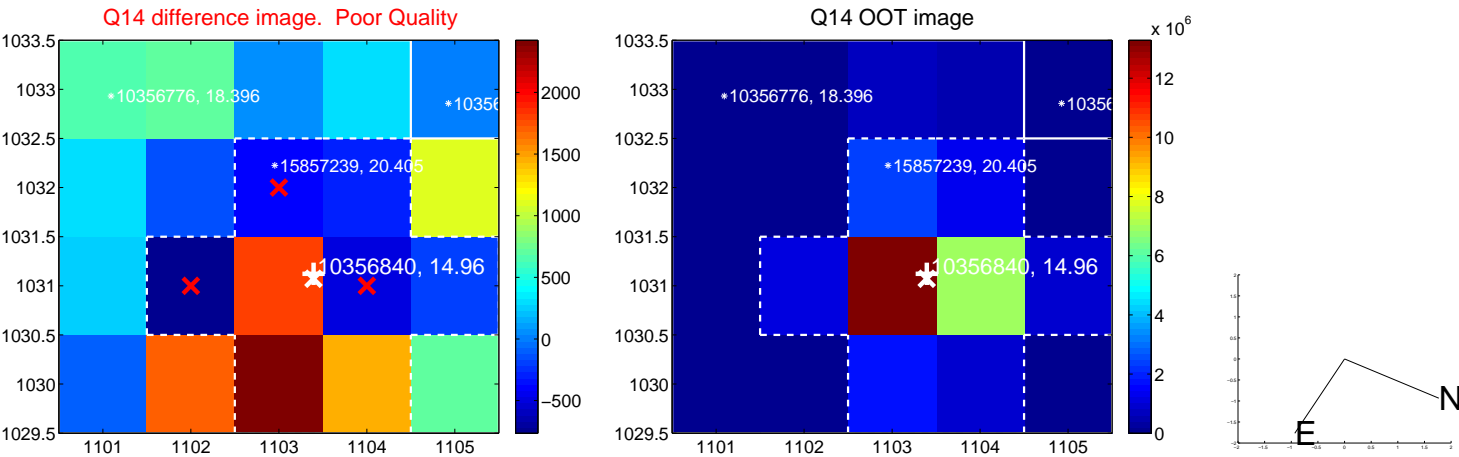
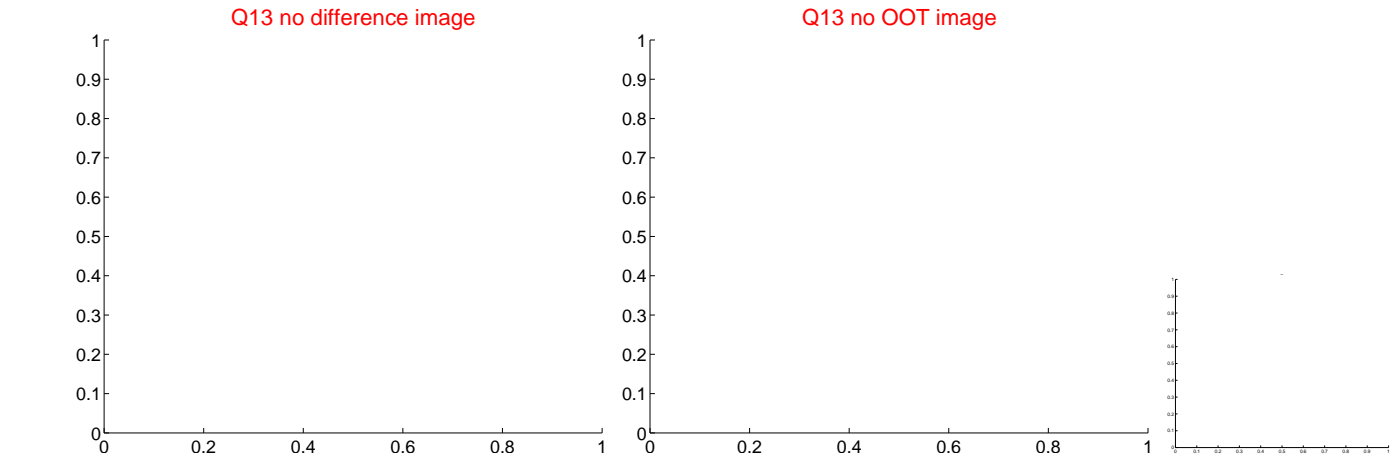
Q8 no OOT image



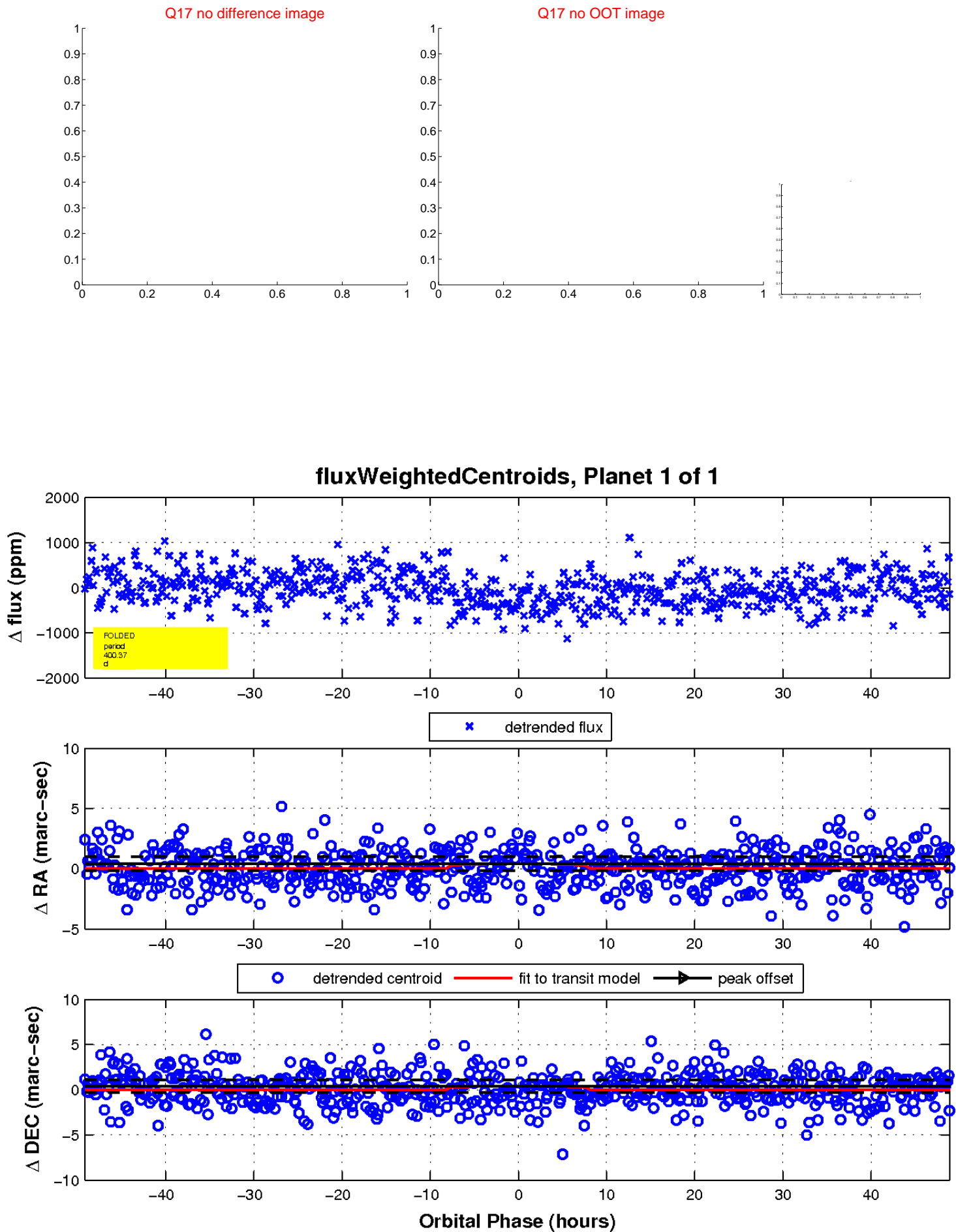
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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UKIRT Image

Declination

