

KIC 003958491

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})
003958491-01	OBS	No	0.530575	131.707355	87.4	1.752	8.3	6.9	1.35	6744	1.27	17000.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003958491-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—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.

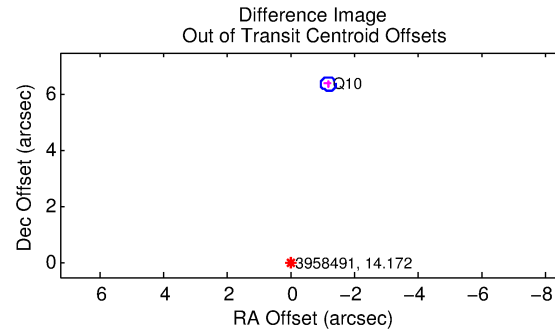
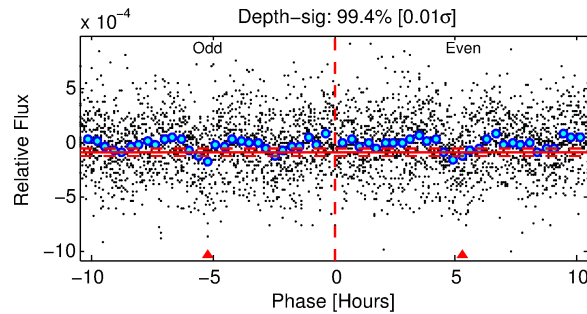
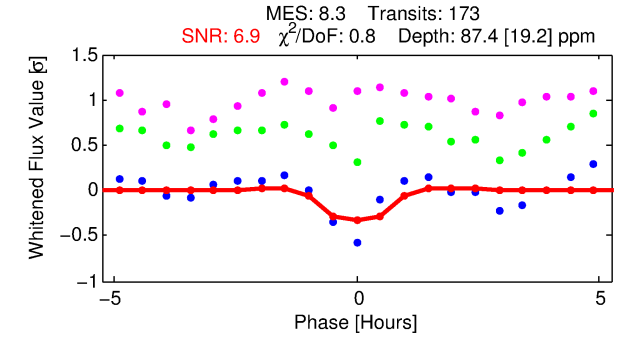
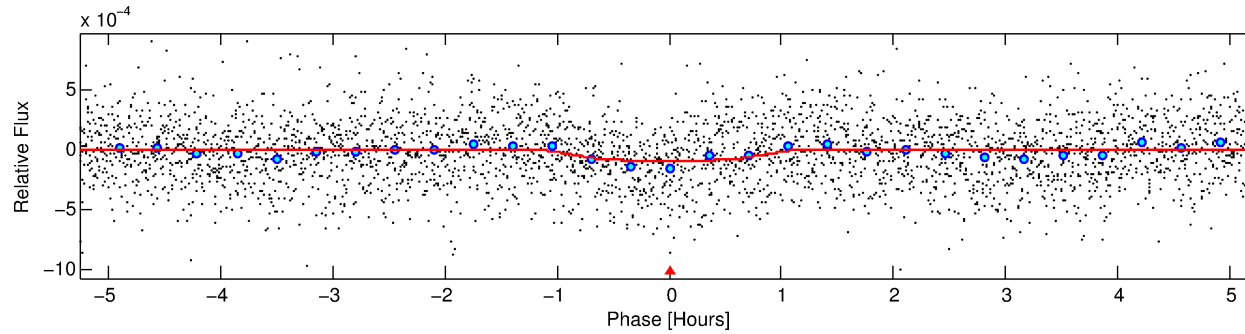
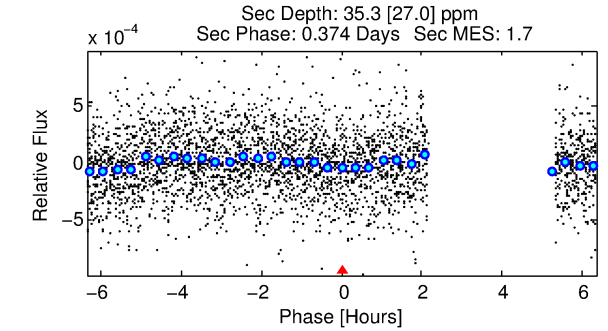
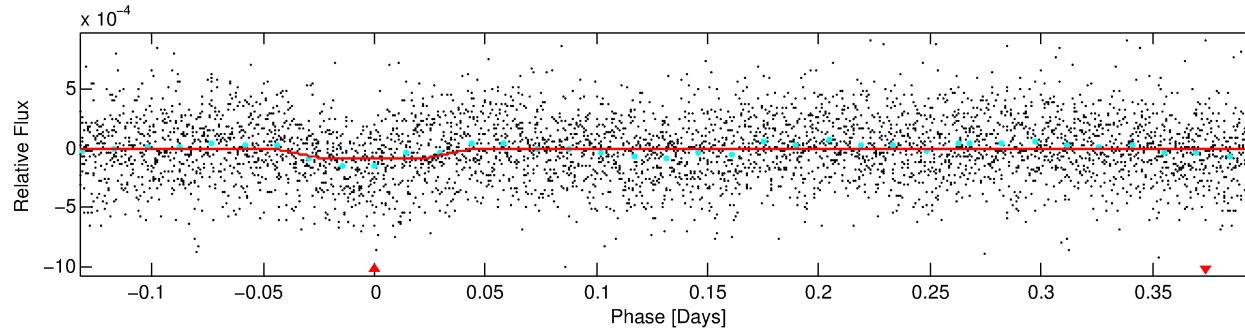
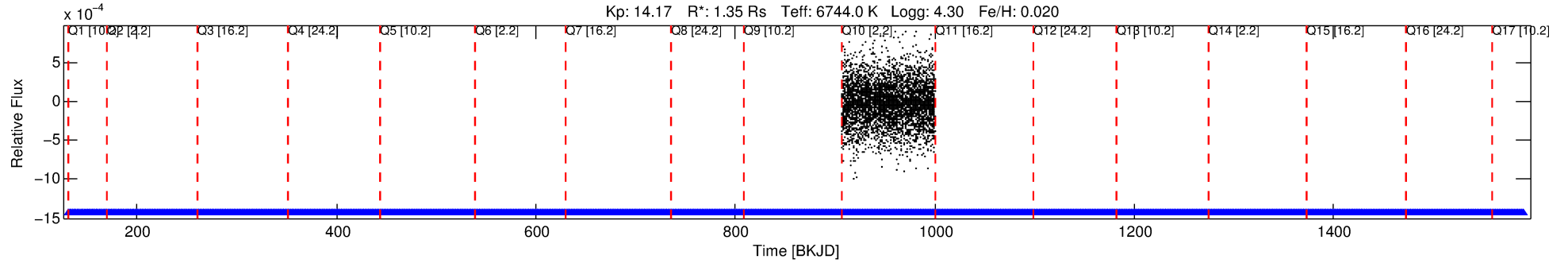
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003958491-01

No Significant Match Found

DV One-Page Summary

KIC: 3958491 Candidate: 1 of 1 Period: 0.531 d



DV Fit Results:

Period = 0.53058 [0.00001] d
Epoch = 131.7074 [0.0036] BKJD
Rp/R* = 0.0087 [0.0164]
a/R* = 2.40 [20.31]
b = 0.09 [115.64]
Seff = 17000.34 [7464.21]
Teq = 2912 [320] K
Rp = 1.28 [2.45] Re
a = 0.0141 [0.0040] AU
Ag = 2.37 [9.20] [0.15σ]
Teffp = 5588 [5390] K [0.50σ]

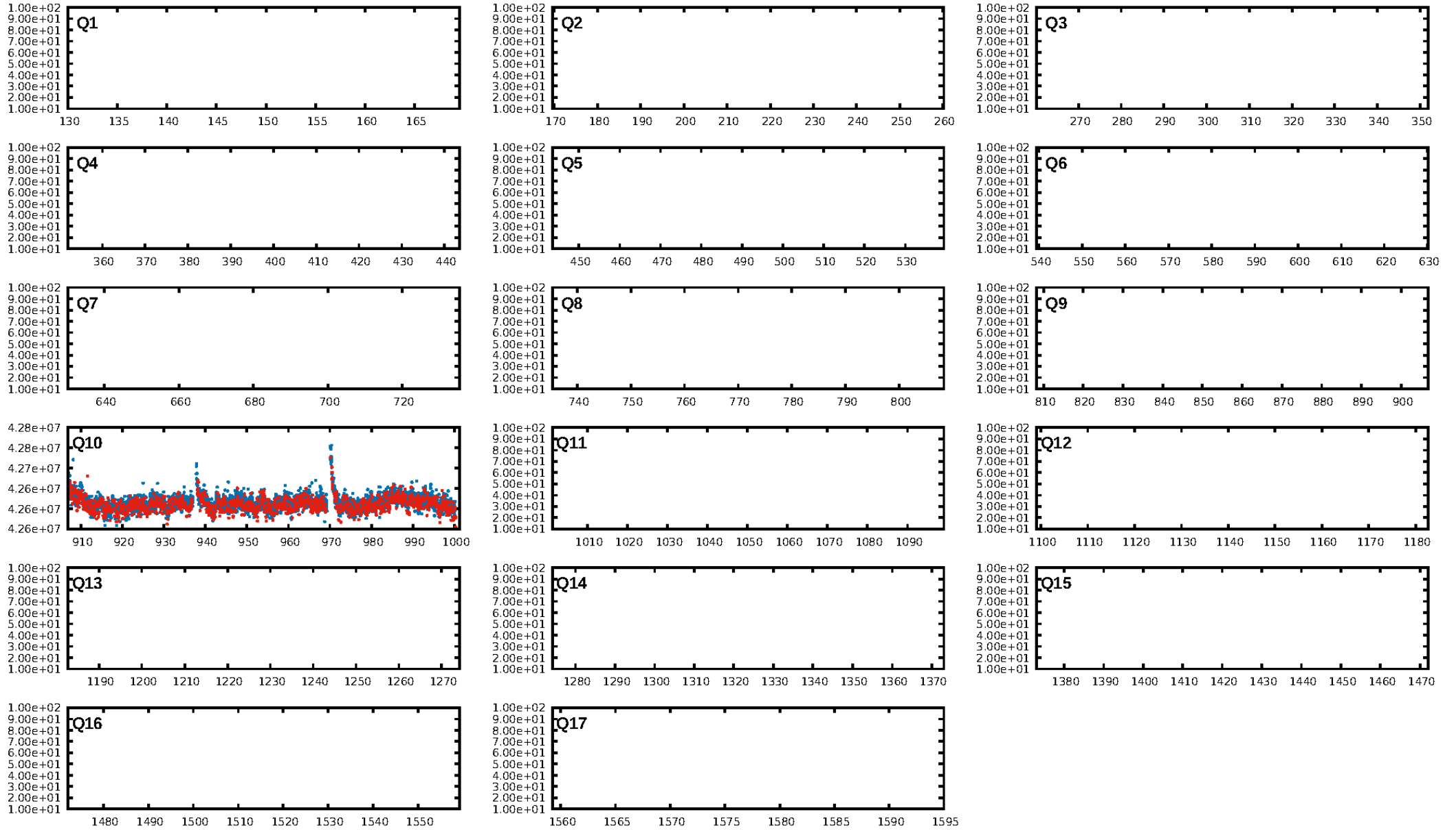
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.08e-23
RollingBand-fgt: 1.00 [173/173]
GhostDiagnostic-chr: -3.396
Centroid-sig: 0.0%
Centroid-so: 7.255 arcsec [3.86σ]
OotOffset-rm: 6.480 arcsec [81.58σ]
KicOffset-rm: 6.731 arcsec [84.72σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

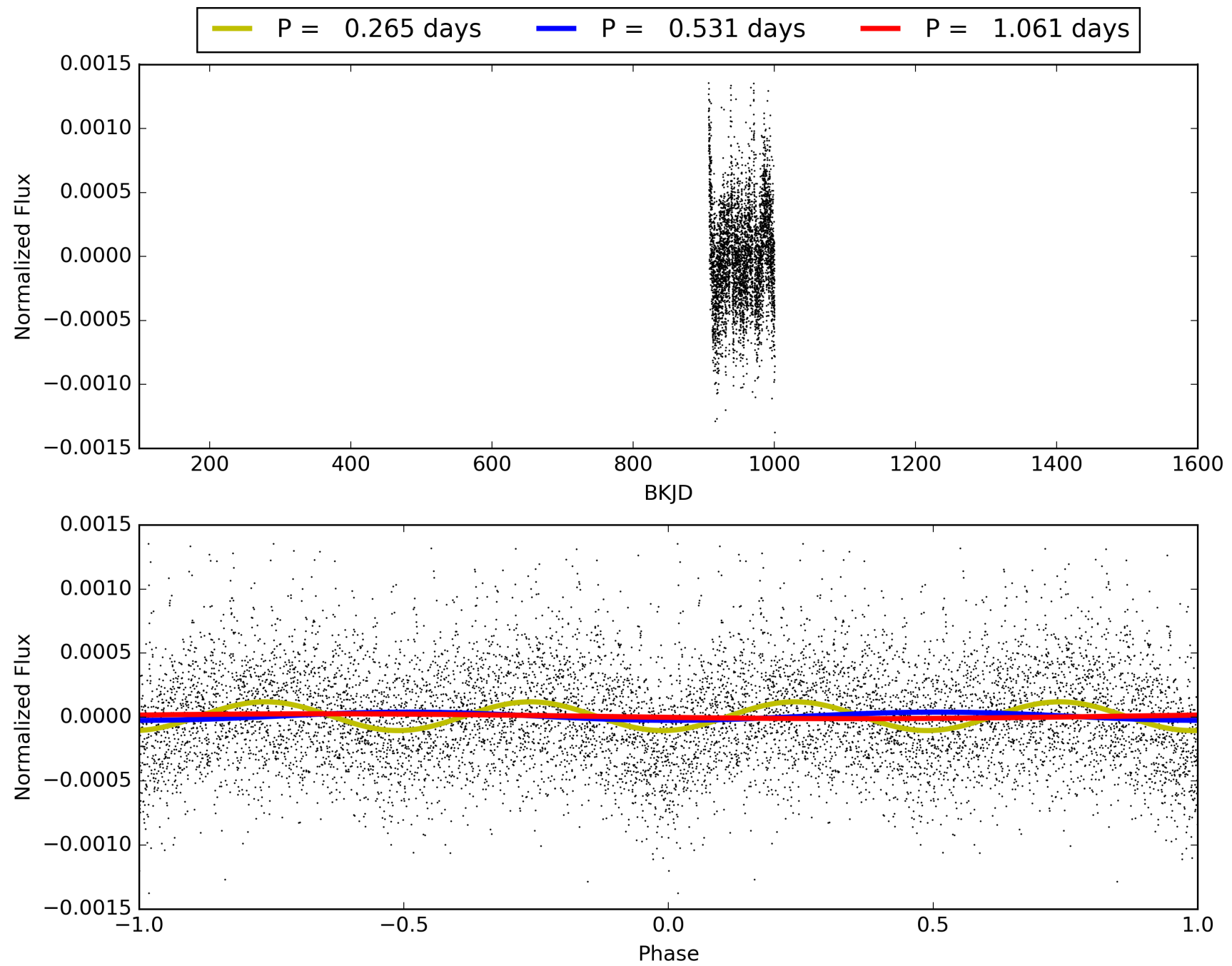
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:21:13 Z

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

TCE 003958491-01, PDC Light Curves

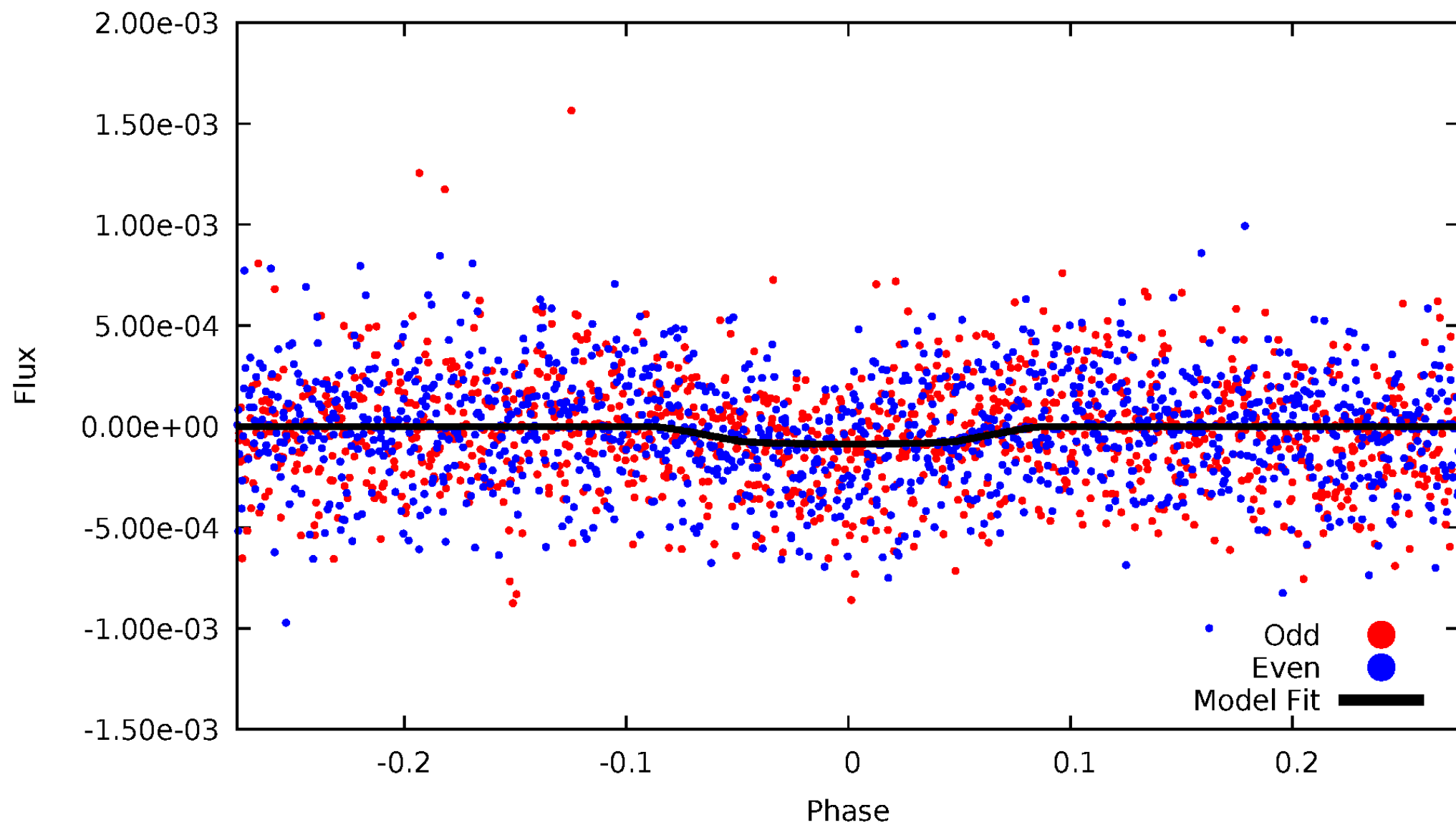


TCE 003958491-01



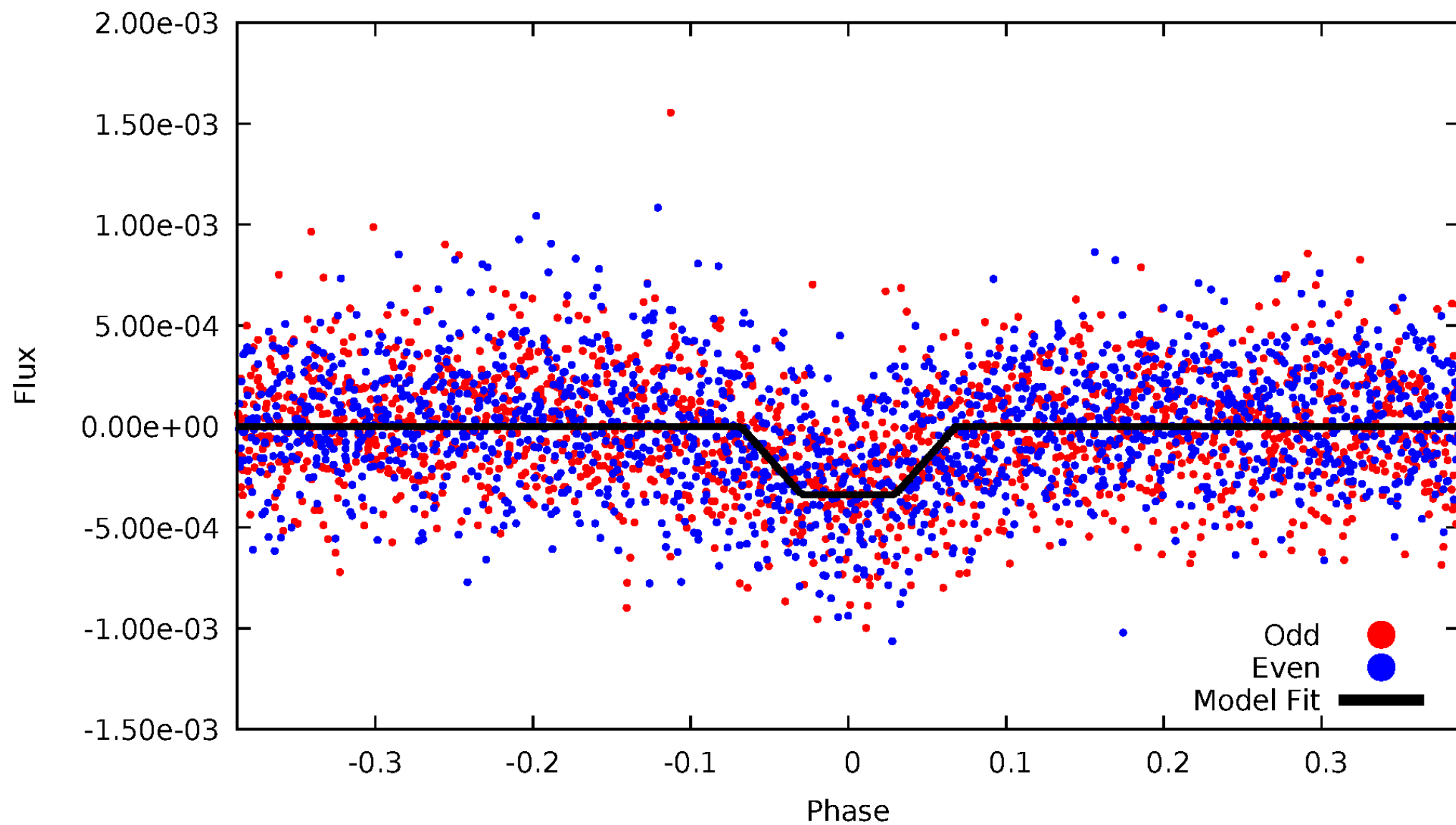
DV Odd/Even

TCE 003958491-01



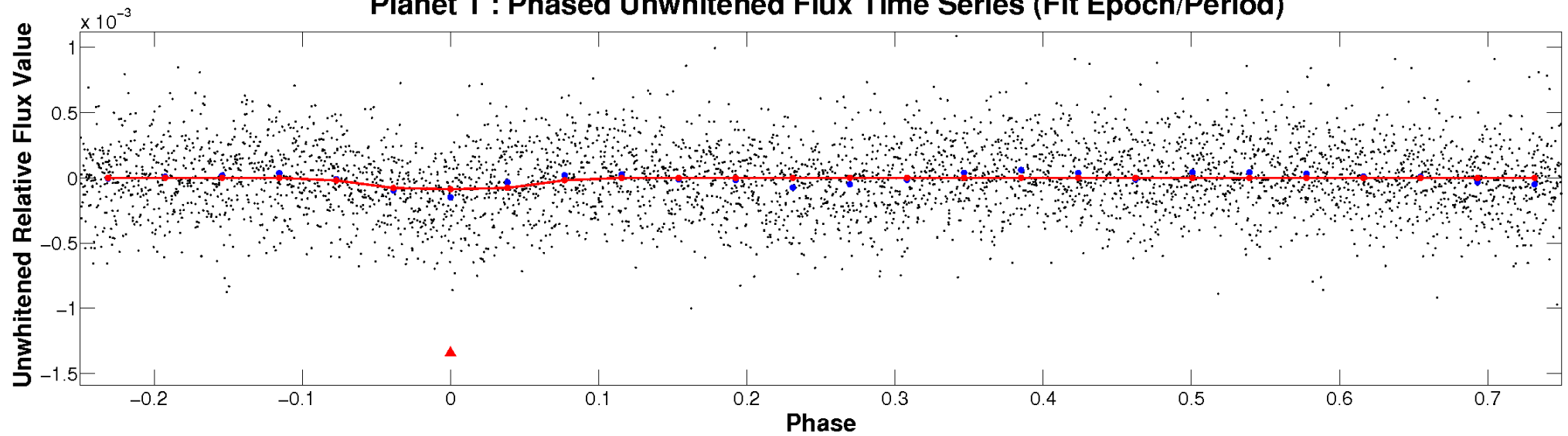
ALT Odd/Even

TCE 003958491-01

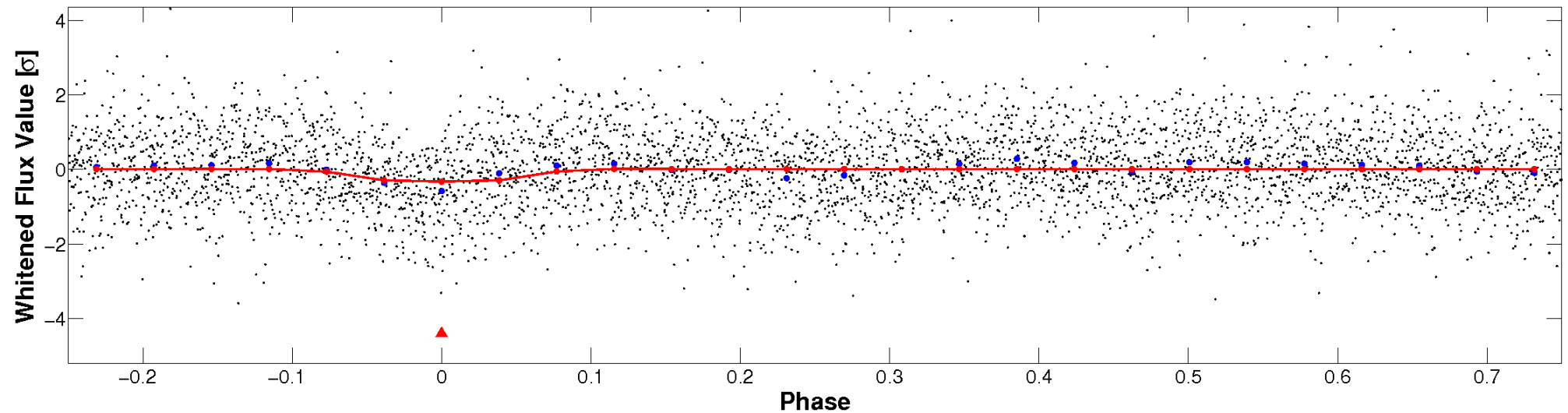


Non-Whitened Vs. Whitened Light Curve

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



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



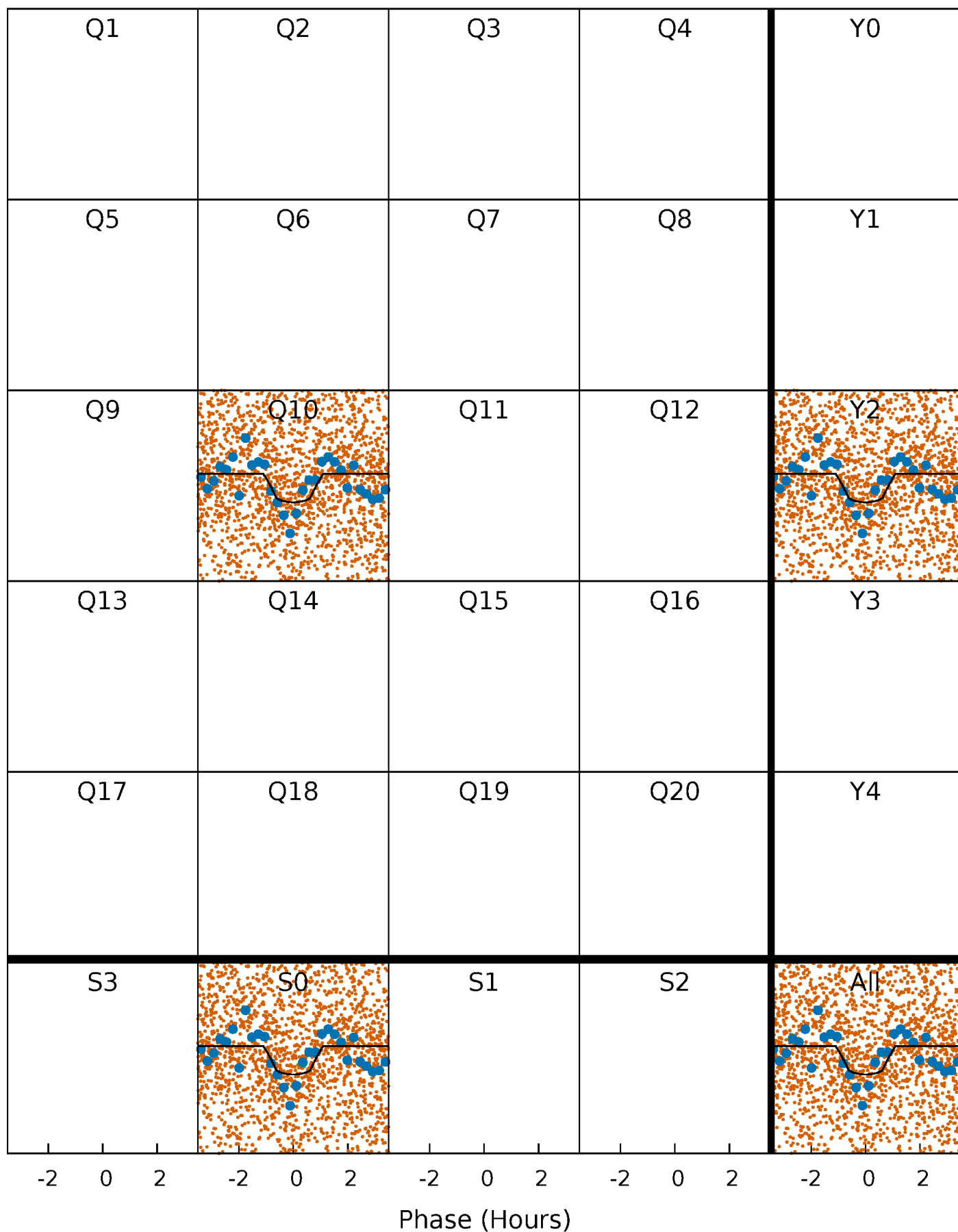
PDC Quarter-Phased Transit Curves

TCE 003958491-01 P= 0.530575 Days $T_0=131.707355$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003958491-01 P= 0.530575 Days $T_0=131.707355$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

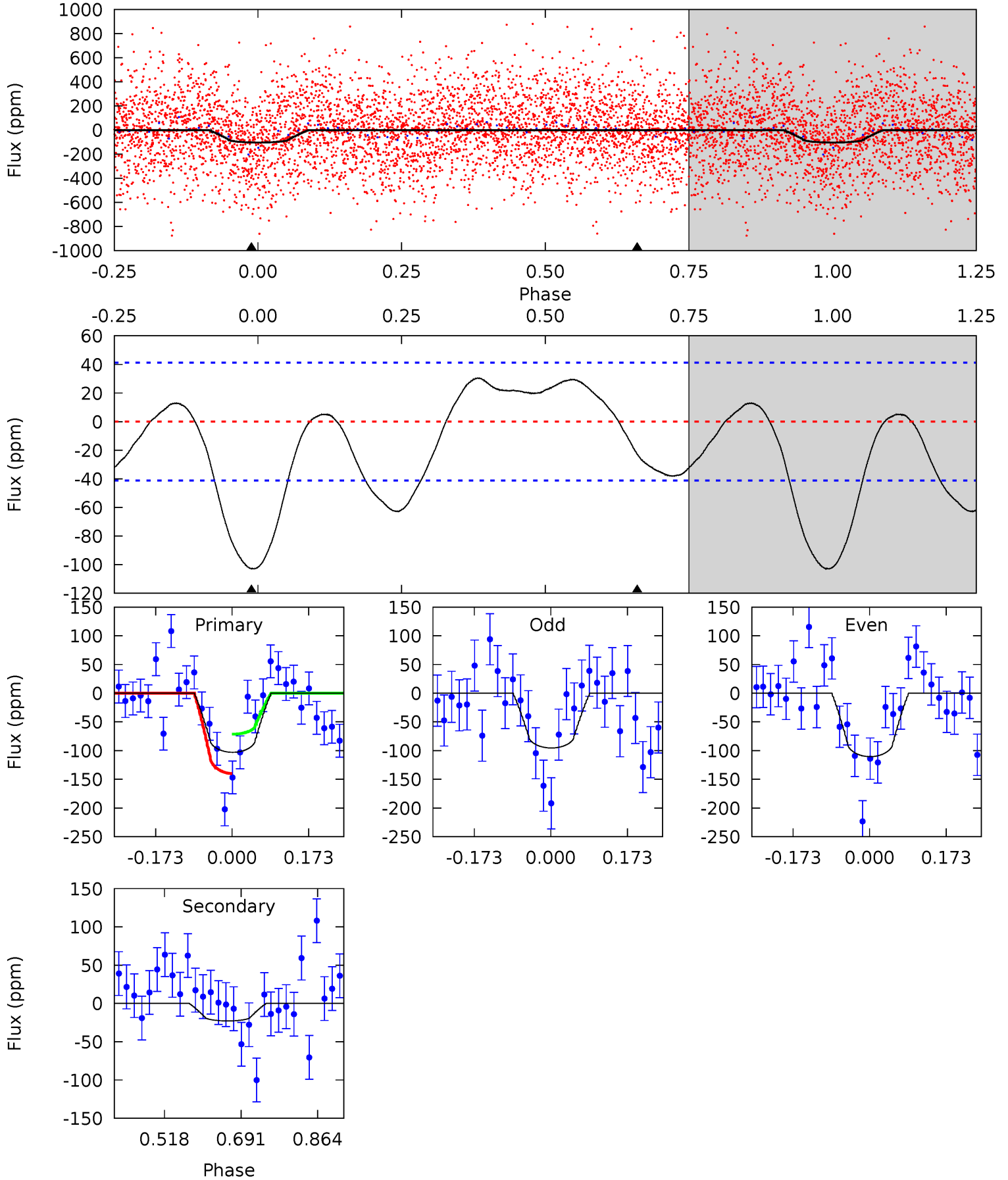
TCE 003958491-01 P= 0.530582 Days $T_0=131.690719$ (BKJD)



DV Model-Shift Uniqueness Test

003958491-01, P = 0.530575 Days, E = 131.707355 Days

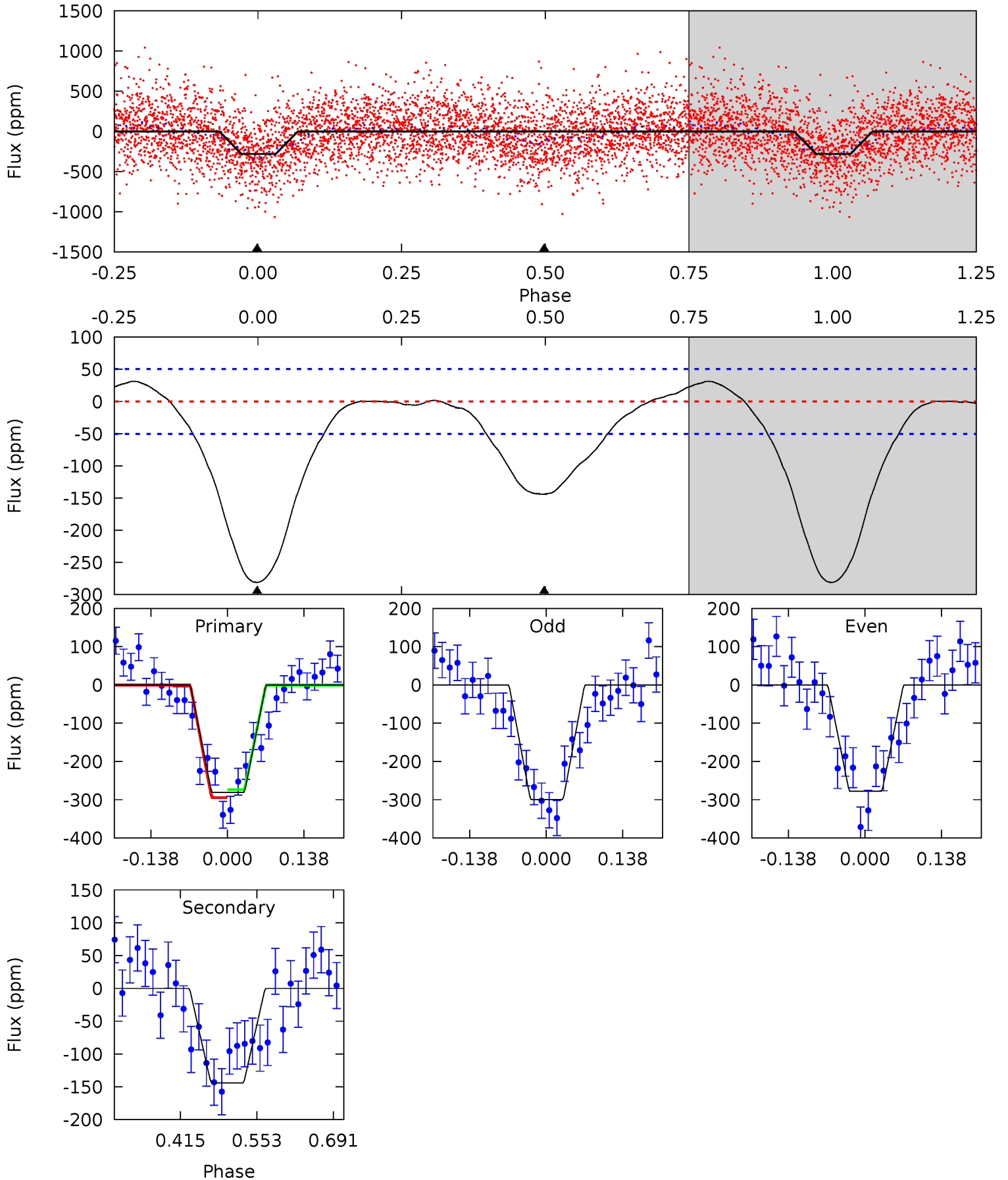
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	2.46	0	0	4.45	1.36	3.73	11.1	11.1	2.46	2.46	0.82	1.01	0.23	3.54



Alt Model-Shift Uniqueness Test

003958491-01, P = 0.530582 Days, E = 131.690719 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	12.9	0	0	4.50	1.48	1.15	25.1	25.1	12.9	12.9	0.96	0.95	0.10	0.95



Stellar Parameters For KIC 003958491

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6744^{+189}_{-283}	$4.300^{+0.072}_{-0.217}$	$0.020^{+0.250}_{-0.350}$	$1.350^{+0.469}_{-0.201}$	$1.331^{+0.204}_{-0.204}$	$0.762^{+0.295}_{-0.404}$
	+3%/-4%	+2%/-5%	+1250%/-1750%	+35%/-15%	+15%/-15%	+39%/-53%
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 003958491-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-23 ± 9	$2.30^{+2.28}_{-1.47}$	4151^{+313}_{-248}	3268^{+2810}_{-6821}	$0.432^{+3.071}_{-0.334}$
Alt.	-144 ± 11	$3.18^{+2.33}_{-2.01}$	4139^{+303}_{-232}	4905^{+3759}_{-1273}	$1.553^{+9.308}_{-1.028}$

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 $A_{obs} \gg 1.0$

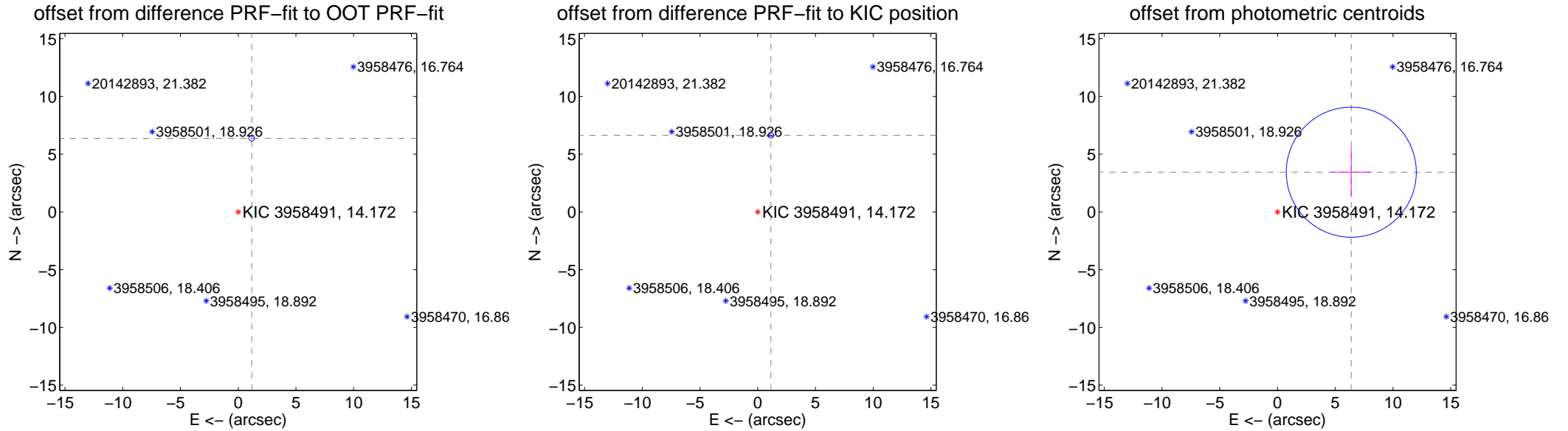
DV Centroid Data

Supplemental centroid analysis for 003958491-01. Kepler magnitude: 14.17. Transit SNR 6.86

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.480 ± 0.079	81.58	-1.174 ± 0.076	6.373 ± 0.080
PRF-fit source offset from KIC position	6.731 ± 0.079	84.72	-1.139 ± 0.076	6.634 ± 0.080
photometric centroid source offset	7.26 ± 1.88	3.86	-6.39 ± 1.79	3.44 ± 2.16



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.

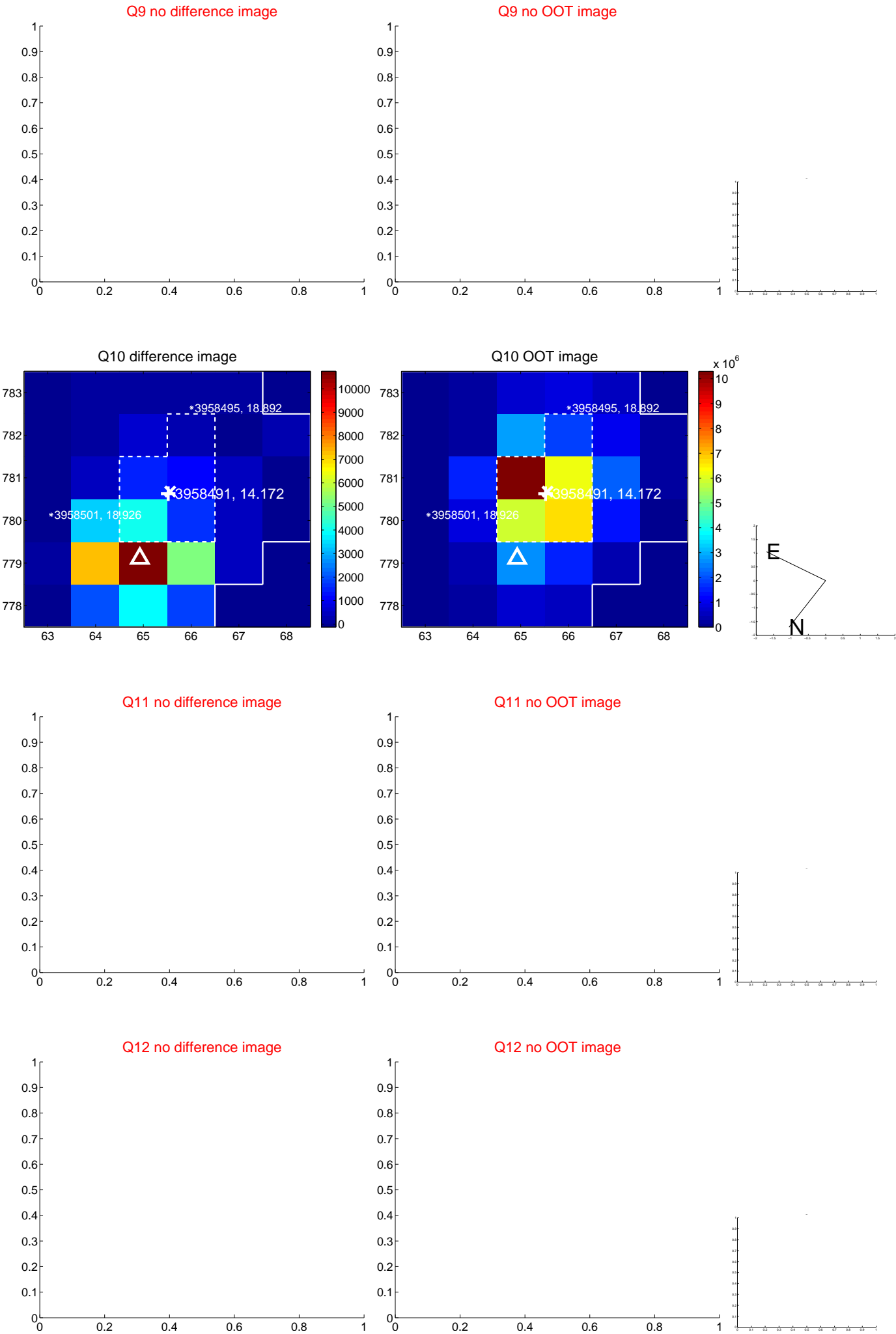
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



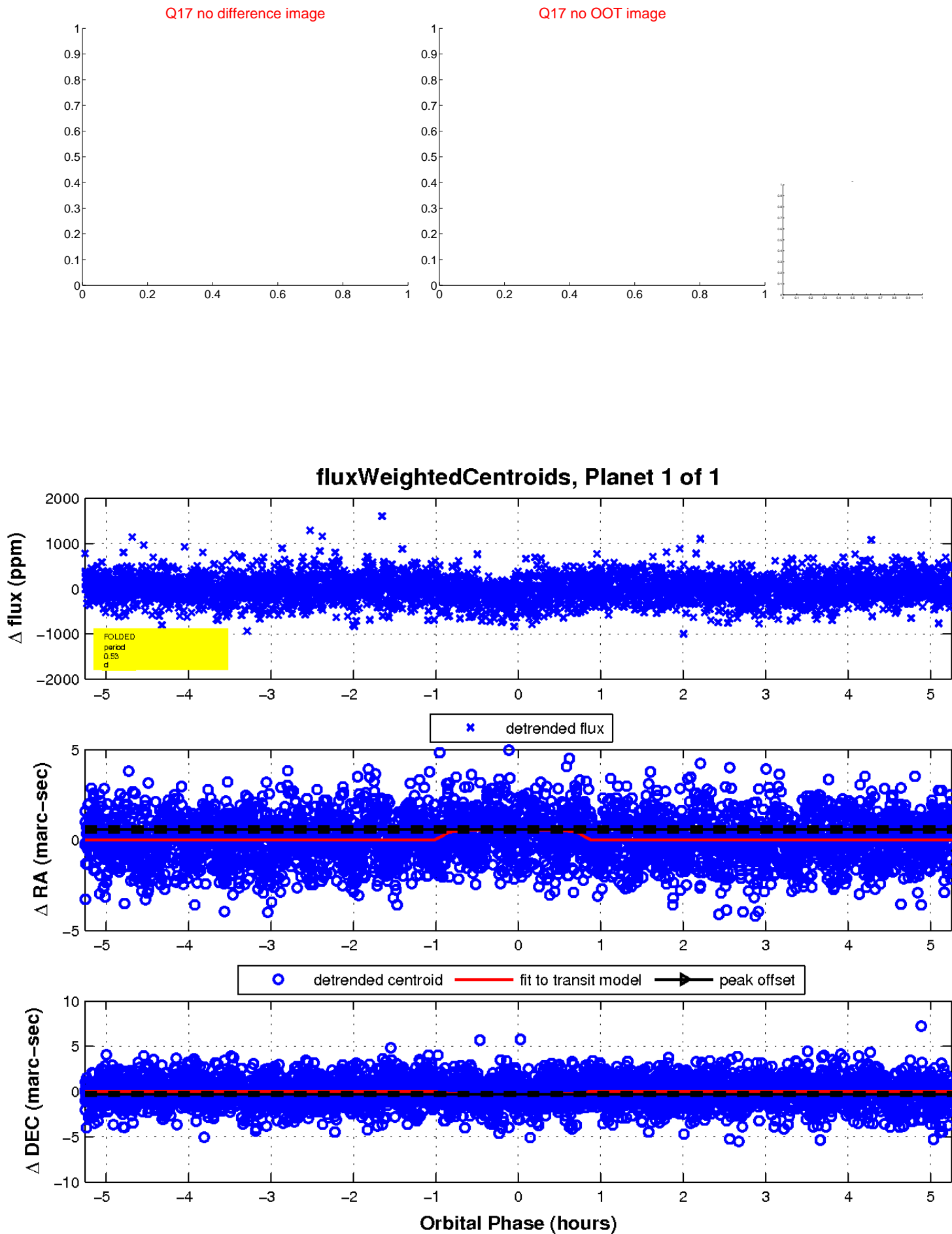
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

