

KIC 006196431

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})
006196431-01	OBS	No	331.386901	306.912927	358.5	17.921	7.6	7.3	0.97	5973	2.36	1.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006196431-01	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.

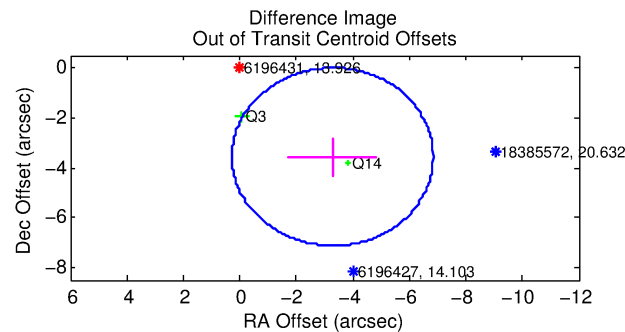
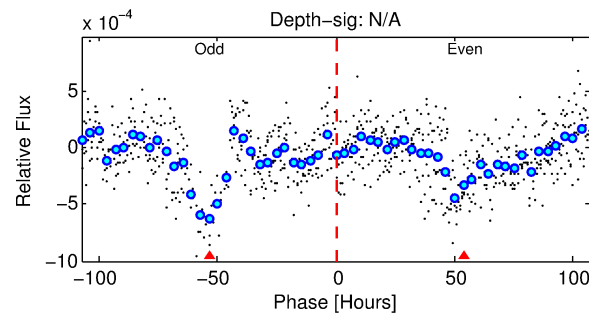
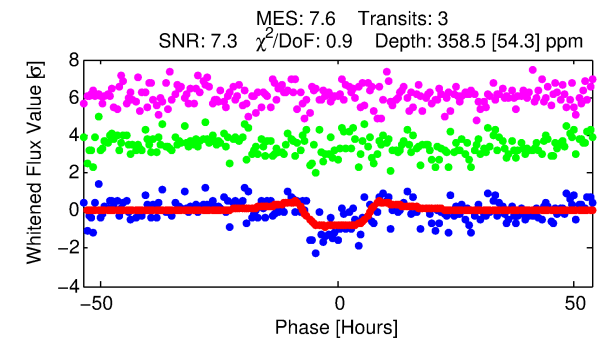
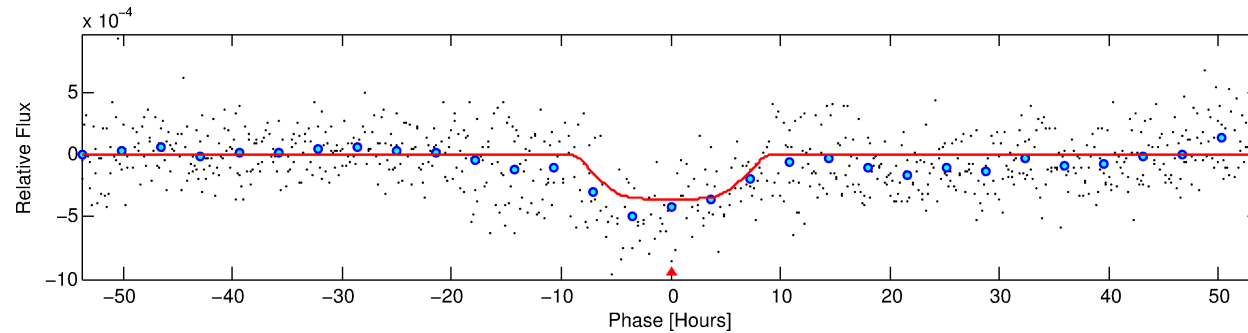
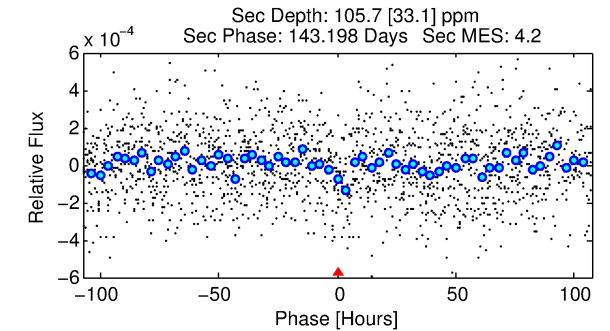
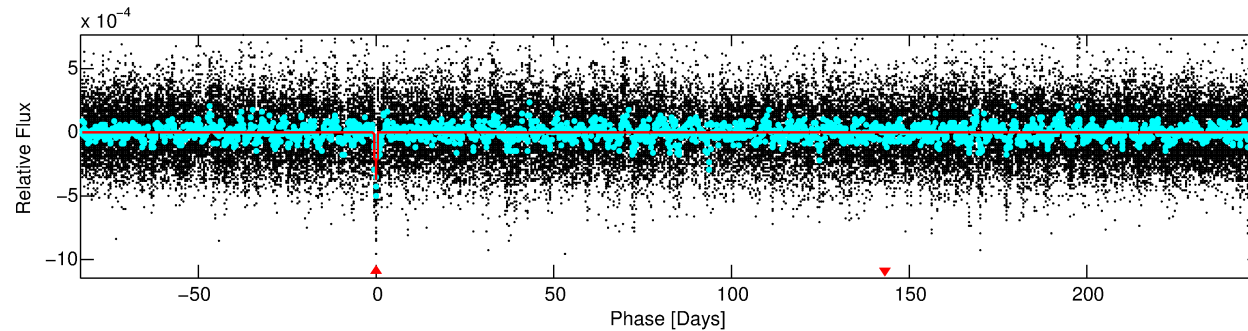
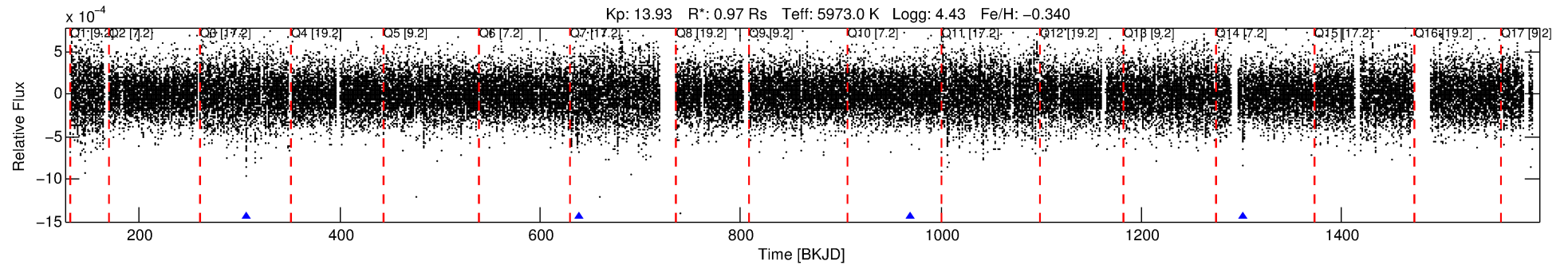
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006196431-01

No Significant Match Found

DV One-Page Summary

KIC: 6196431 Candidate: 1 of 1 Period: 331.387 d



DV Fit Results:

Period = 331.38690 [0.01532] d
Epoch = 306.9129 [0.0316] BKJD
Rp/R* = 0.0223 [0.0021]
a/R* = 48.01 [10.26]
b = 0.96 [0.02]
Seff = 1.29 [0.47]
Teff = 272 [25] K
Rp = 2.36 [0.69] Re
a = 0.9103 [0.2139] AU
Ag = 8665.54 [4343.68] [1.99σ]
Teffp = 4051 [390] K [9.68σ]

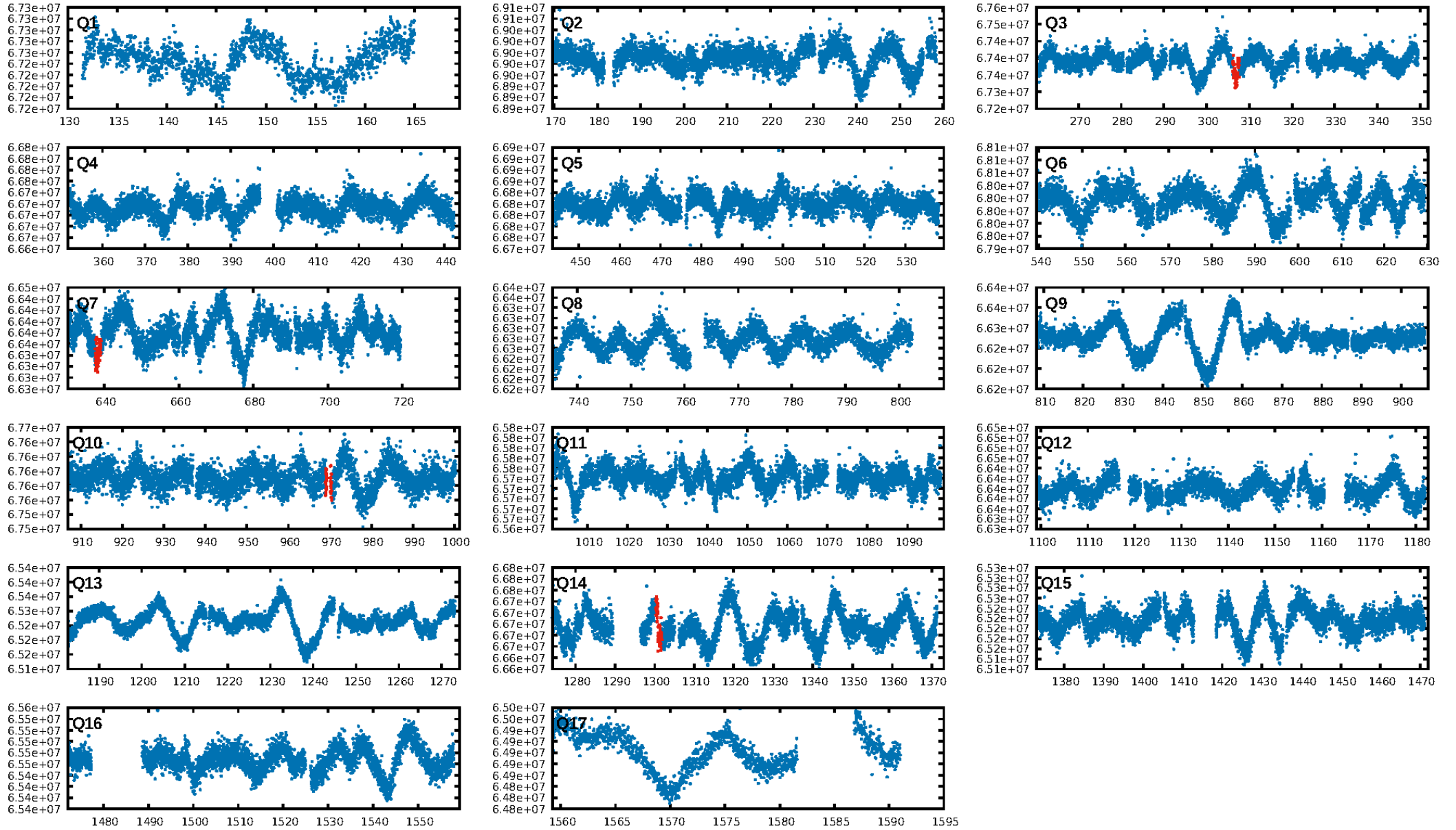
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.8%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 1.84e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7849
Centroid-sig: 0.8%
Centroid-so: 5.214 arcsec [3.77σ]
OotOffset-rm: 4.846 arcsec [4.08σ]
KicOffset-rm: 4.785 arcsec [3.11σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

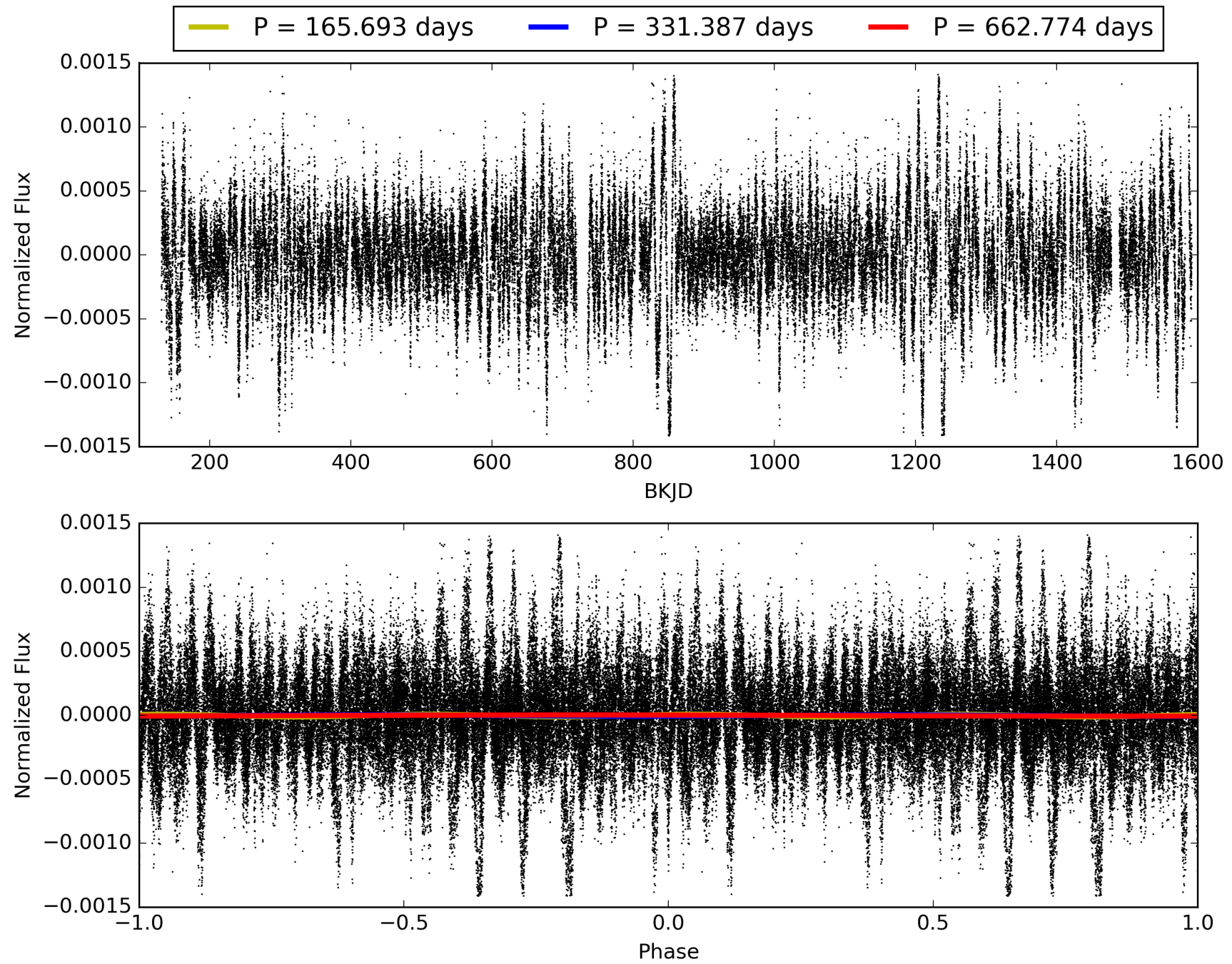
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:58:04 Z

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

TCE 006196431-01, PDC Light Curves

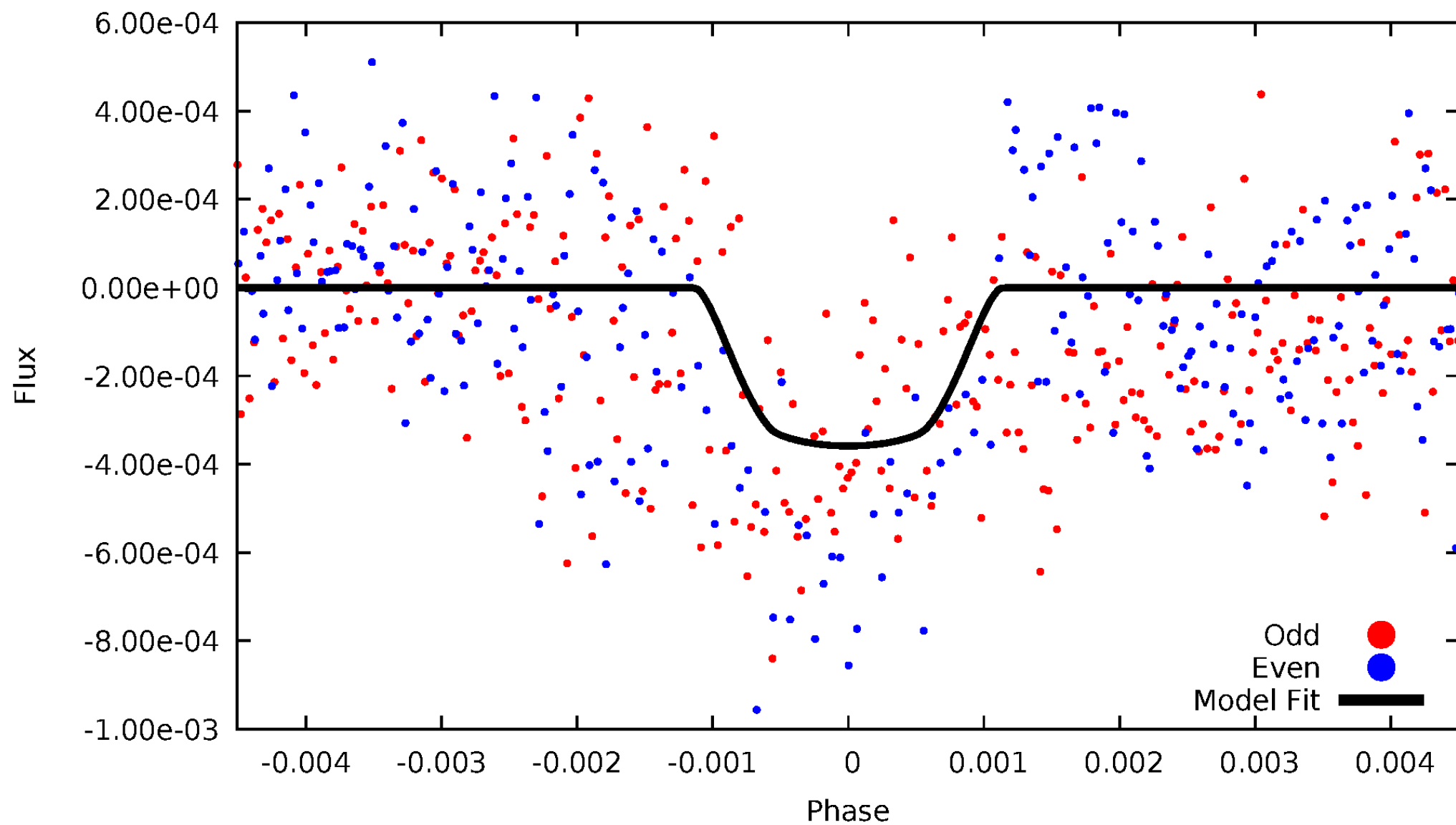


TCE 006196431-01



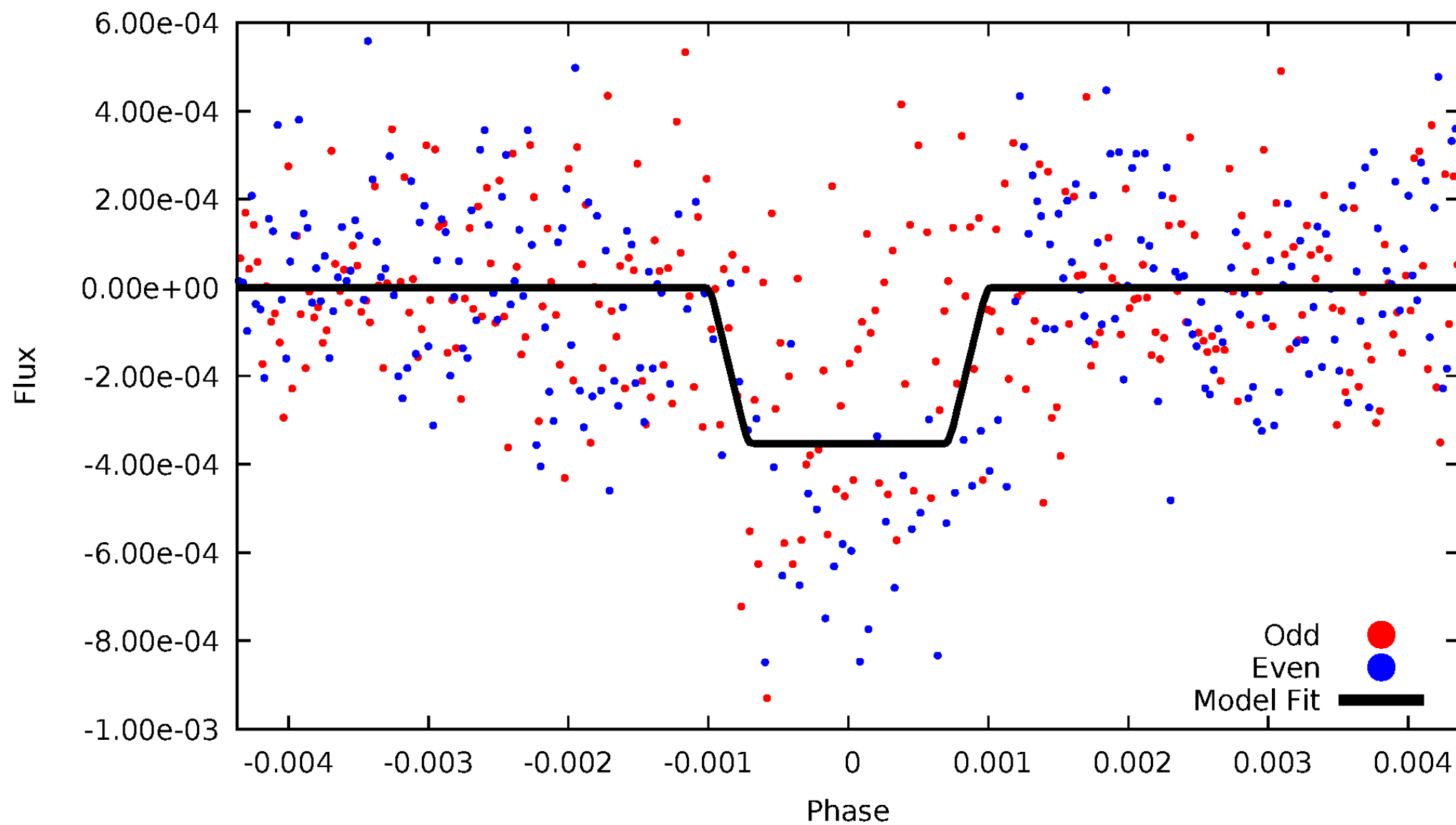
DV Odd/Even

TCE 006196431-01



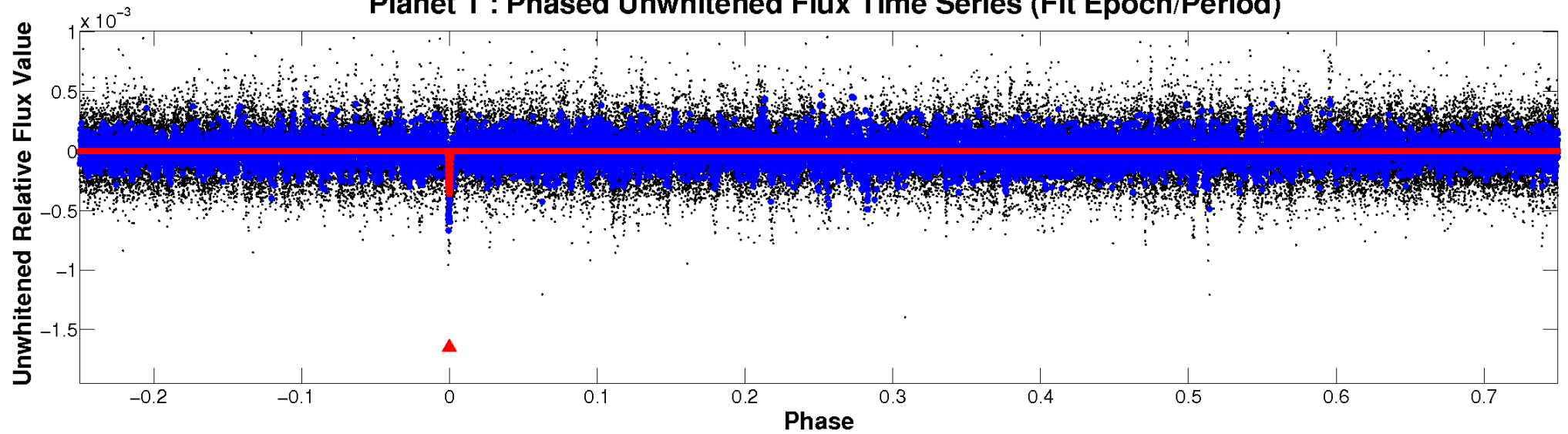
ALT Odd/Even

TCE 006196431-01

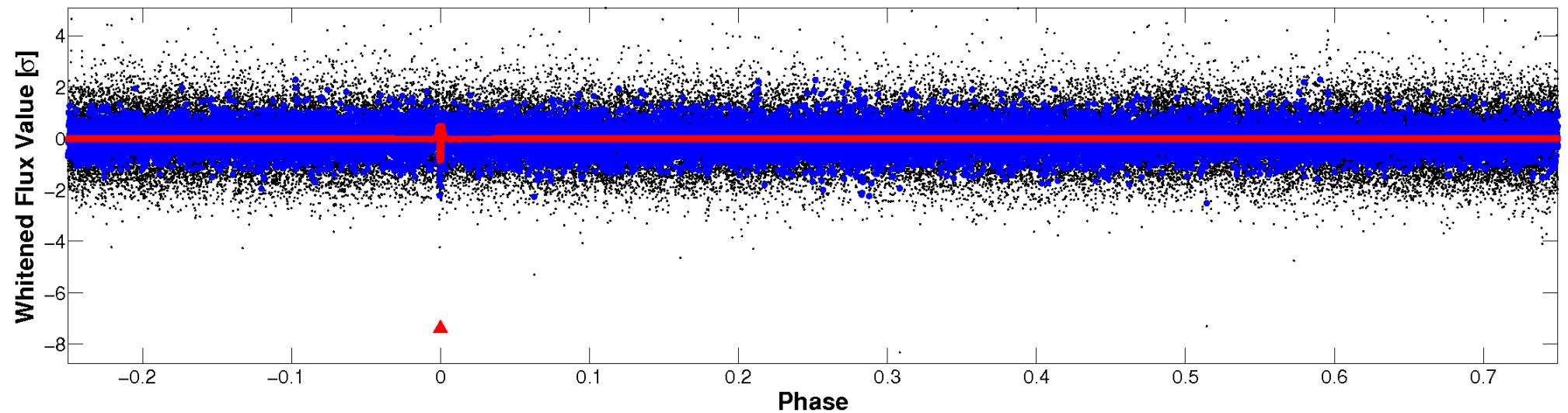


Non-Whitened Vs. Whitened Light Curve

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



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



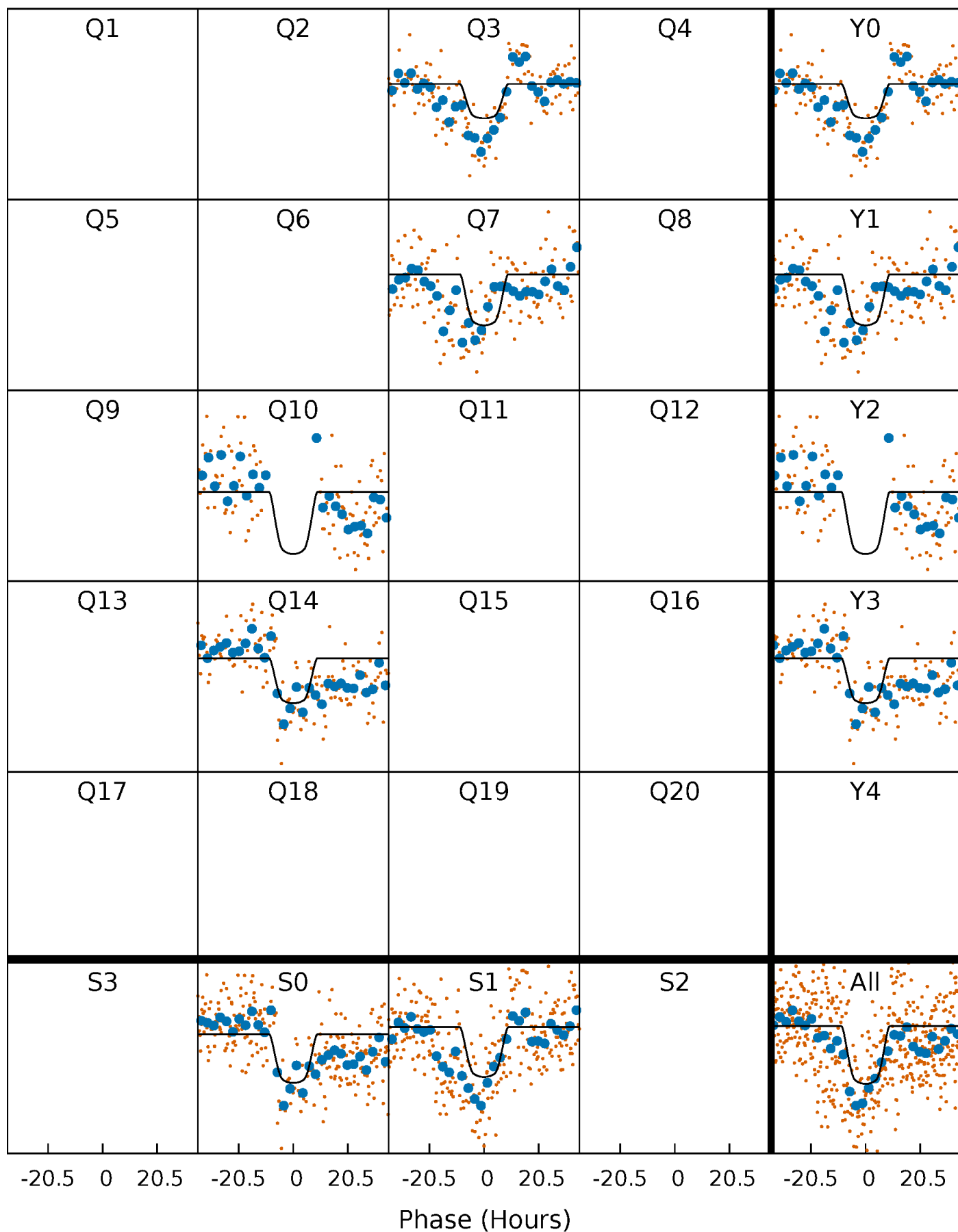
PDC Quarter-Phased Transit Curves

TCE 006196431-01 P=331.386901 Days $T_0=306.912927$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006196431-01 P=331.386901 Days $T_0=306.912927$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

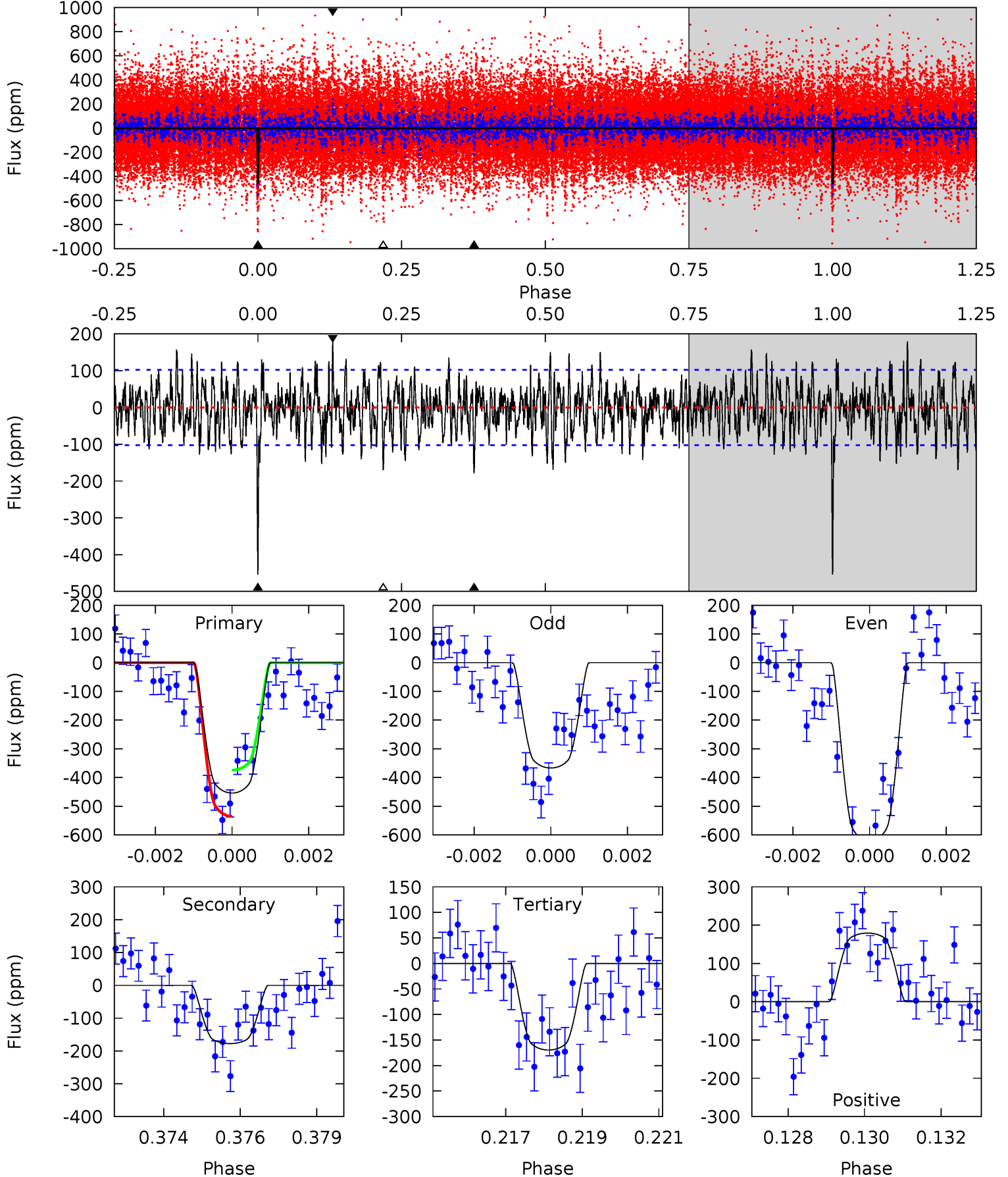
TCE 006196431-01 P=331.398287 Days $T_0=306.885972$ (BKJD)



DV Model-Shift Uniqueness Test

006196431-01, P = 331.386901 Days, E = 306.912927 Days

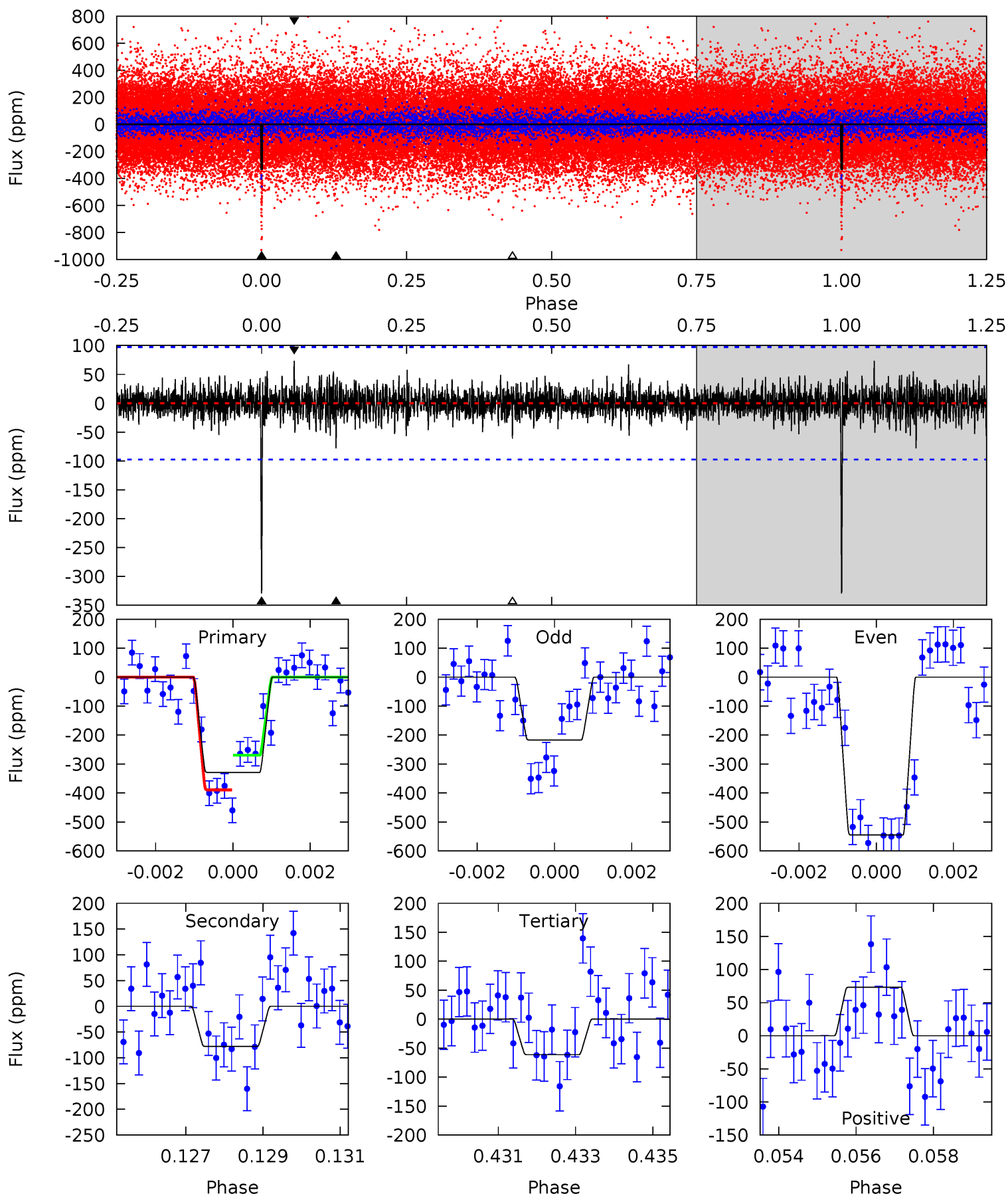
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	9.19	8.78	9.29	5.30	3.05	2.73	14.7	14.2	0.41	-0.09	6.28	1.08	0.28	4.17



Alt Model-Shift Uniqueness Test

006196431-01, P = 331.398287 Days, E = 306.885972 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	4.26	3.34	4.00	5.33	3.09	0.88	14.6	14.0	0.91	0.25	8.59	0.77	0.18	3.26



Stellar Parameters For KIC 006196431

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5973^{+162}_{-180}	$4.429^{+0.101}_{-0.188}$	$-0.340^{+0.300}_{-0.300}$	$0.967^{+0.269}_{-0.145}$	$0.915^{+0.118}_{-0.097}$	$1.427^{+0.627}_{-0.695}$
	+3%/-3%	+2%/-4%	+88%/-88%	+28%/-15%	+13%/-11%	+44%/-49%
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 006196431-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-178 ± 19	$2.41^{+0.41}_{-0.33}$	382^{+28}_{-18}	4745^{+223}_{-235}	13791^{+4640}_{-3547}
Alt.	-78 ± 18	$2.04^{+0.35}_{-0.30}$	384^{+26}_{-20}	4315^{+301}_{-262}	8378^{+3874}_{-2755}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

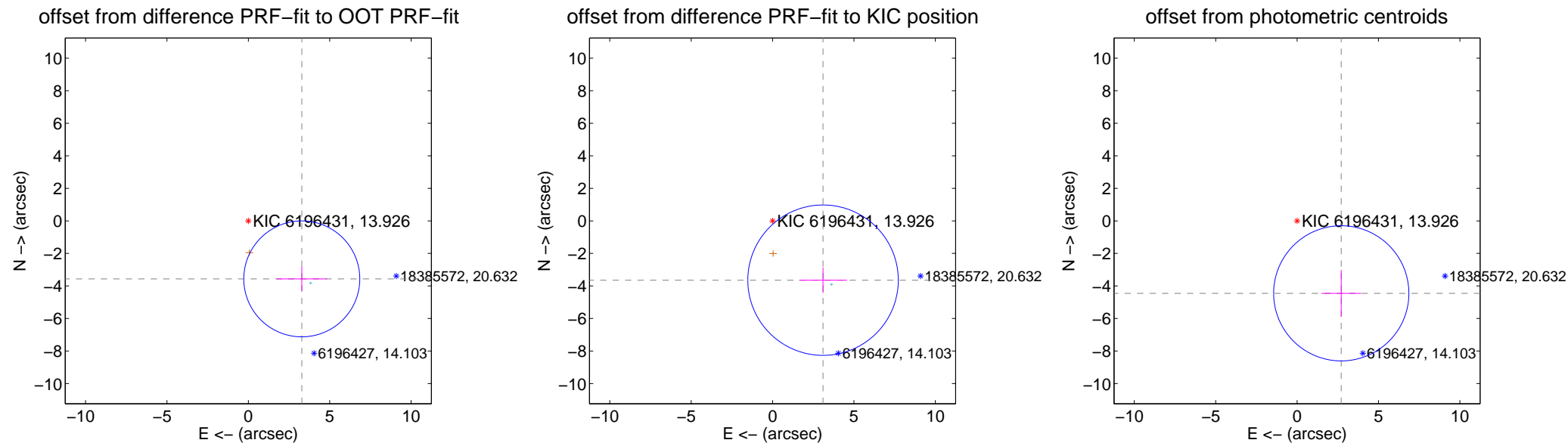
DV Centroid Data

Supplemental centroid analysis for 006196431-01. Kepler magnitude: 13.93. Transit SNR 7.33

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.846 ± 1.187	4.08	-3.283 ± 1.550	-3.565 ± 0.755
PRF-fit source offset from KIC position	4.785 ± 1.540	3.11	-3.101 ± 1.466	-3.644 ± 0.777
photometric centroid source offset	5.21 ± 1.38	3.77	-2.71 ± 1.22	-4.45 ± 1.44



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.

Q1 no difference image



Q1 no OOT image



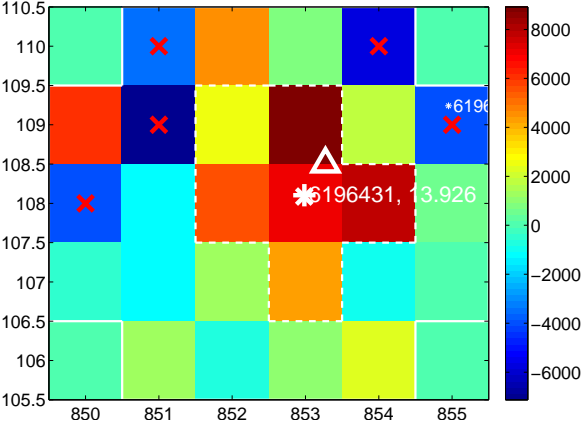
Q2 no difference image



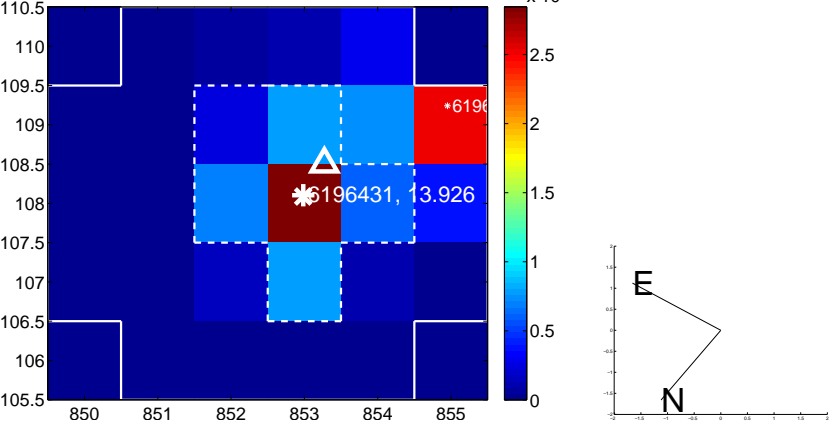
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



Q4 no OOT image

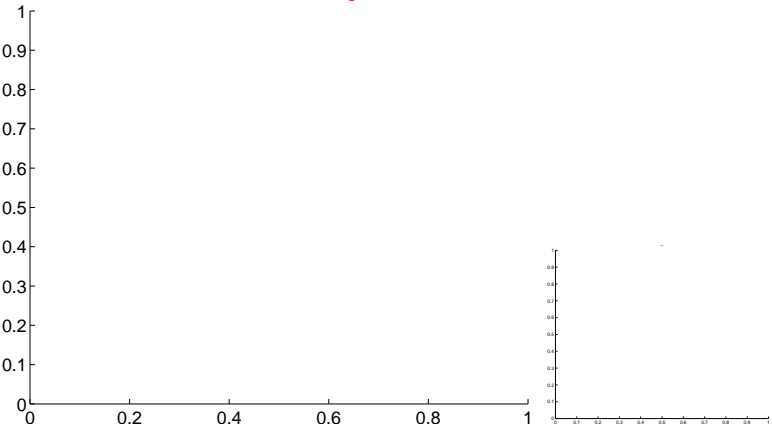


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

Q5 no difference image



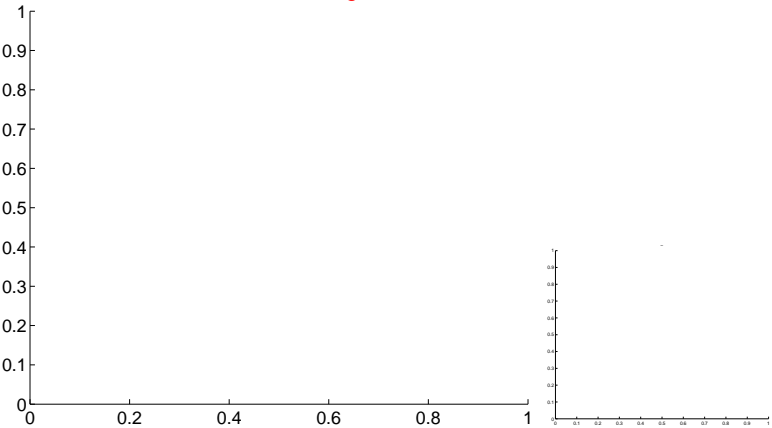
Q5 no OOT image



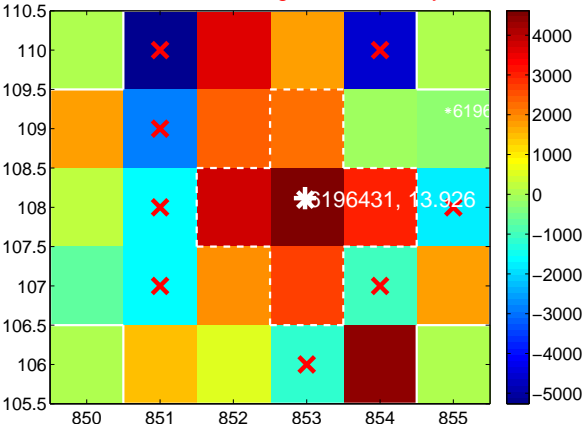
Q6 no difference image



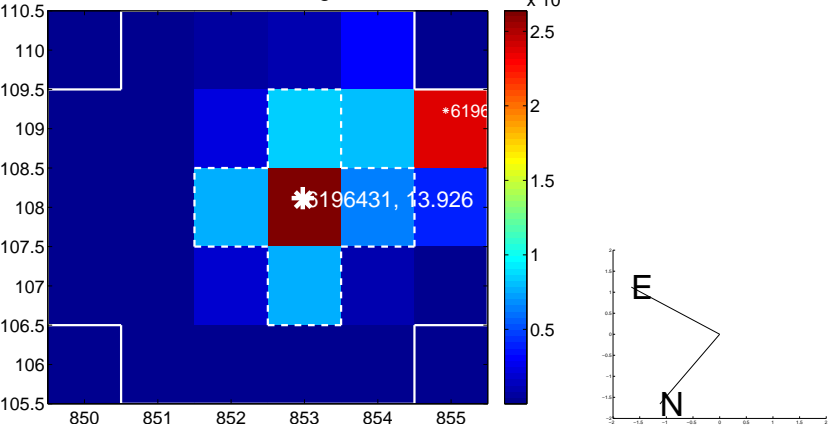
Q6 no OOT image



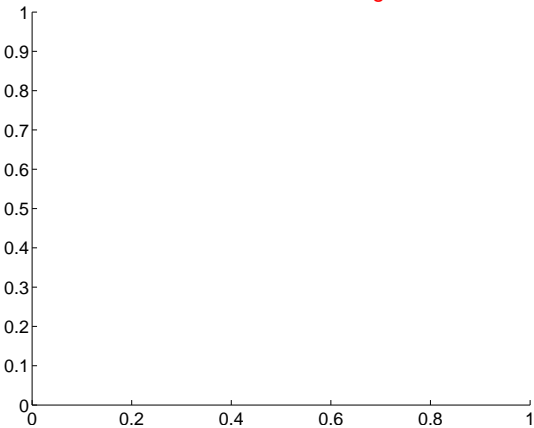
Q7 difference image. Poor Quality



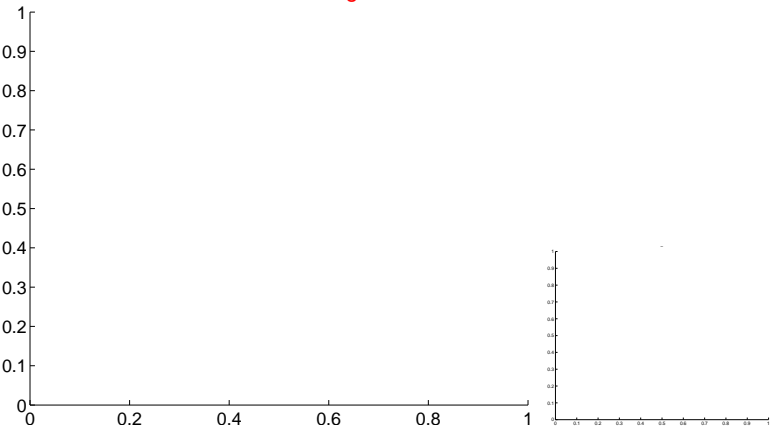
Q7 OOT image



Q8 no difference image



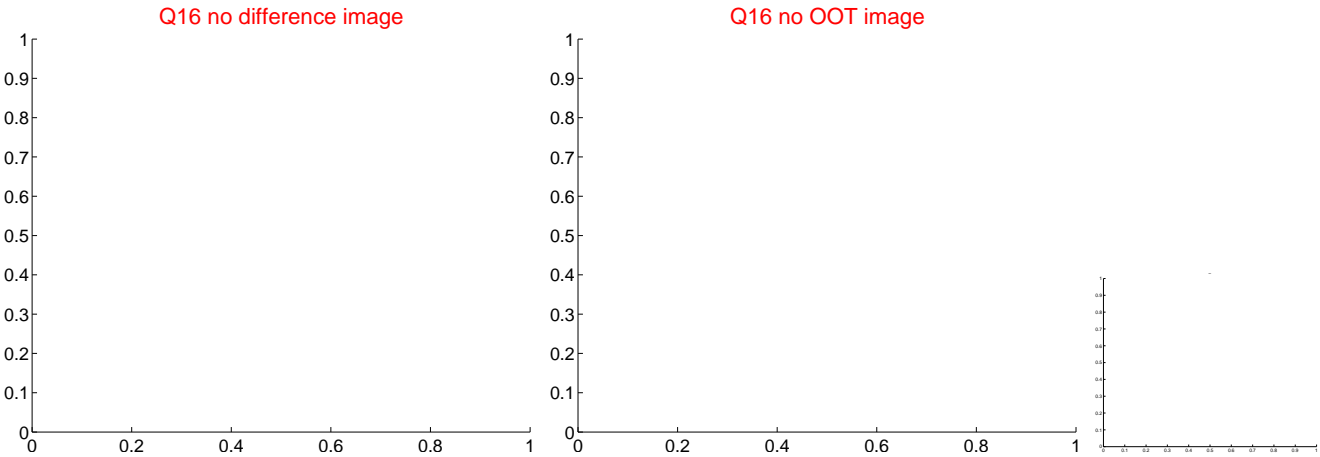
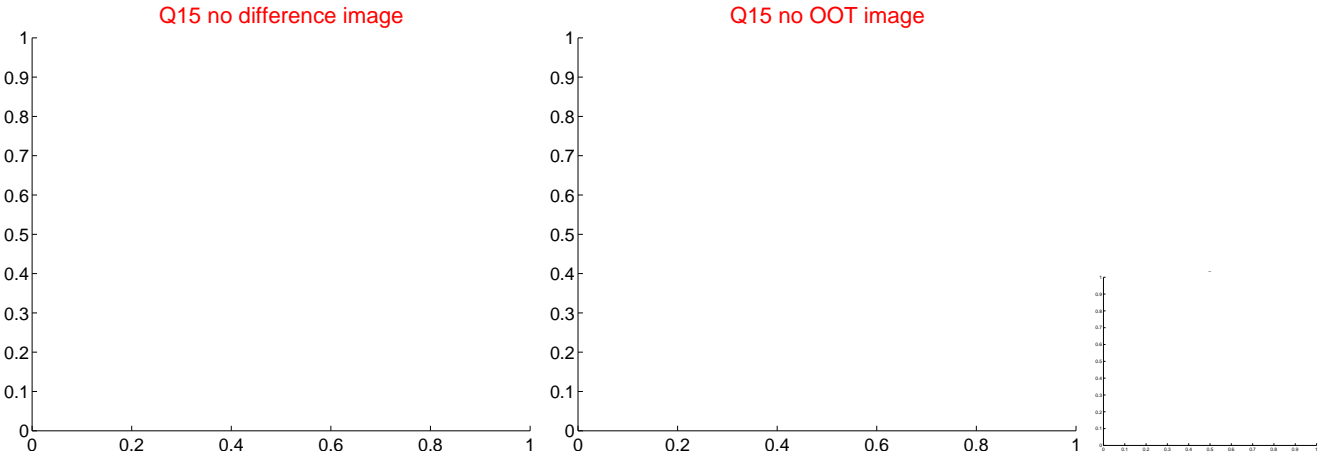
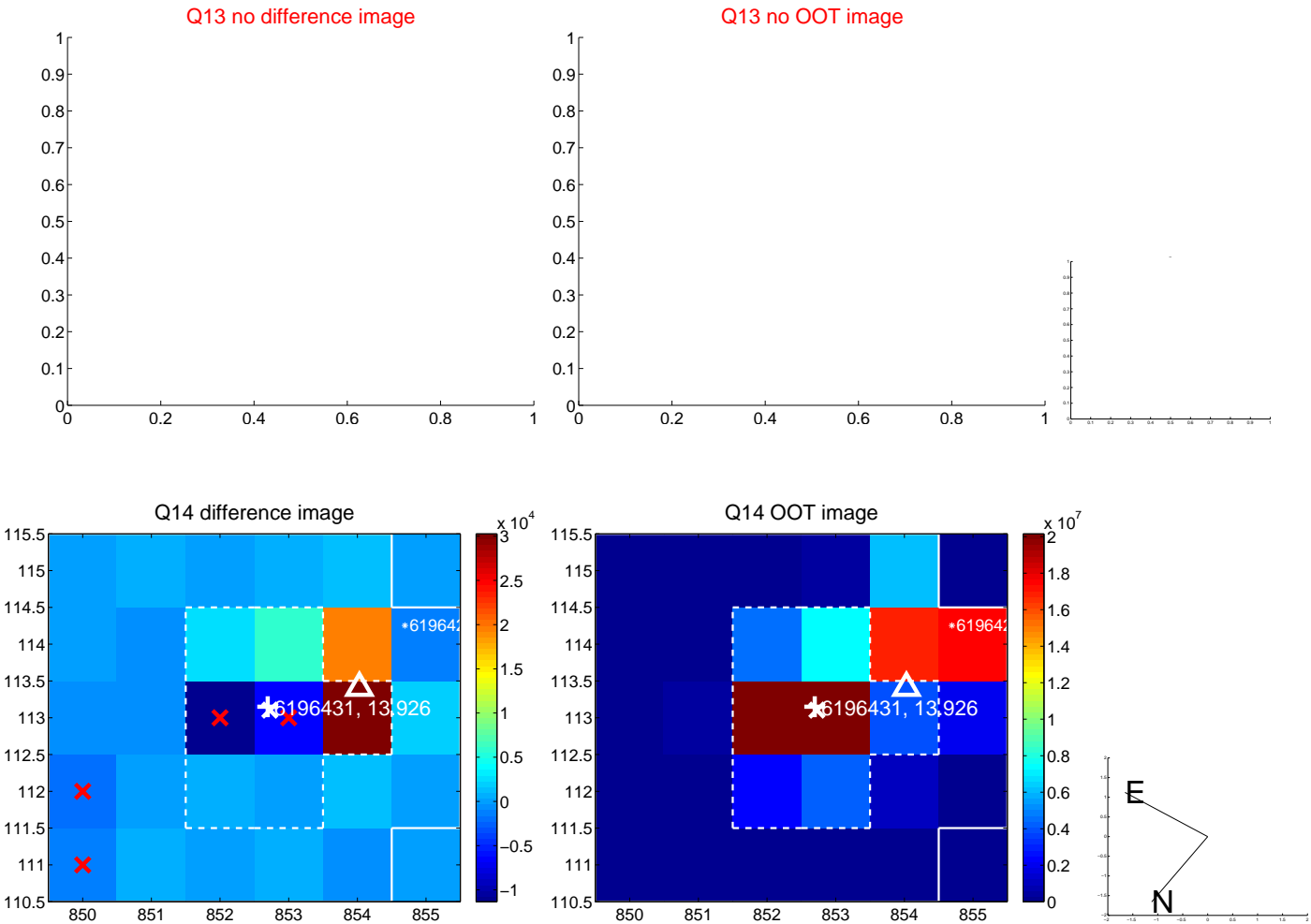
Q8 no OOT image



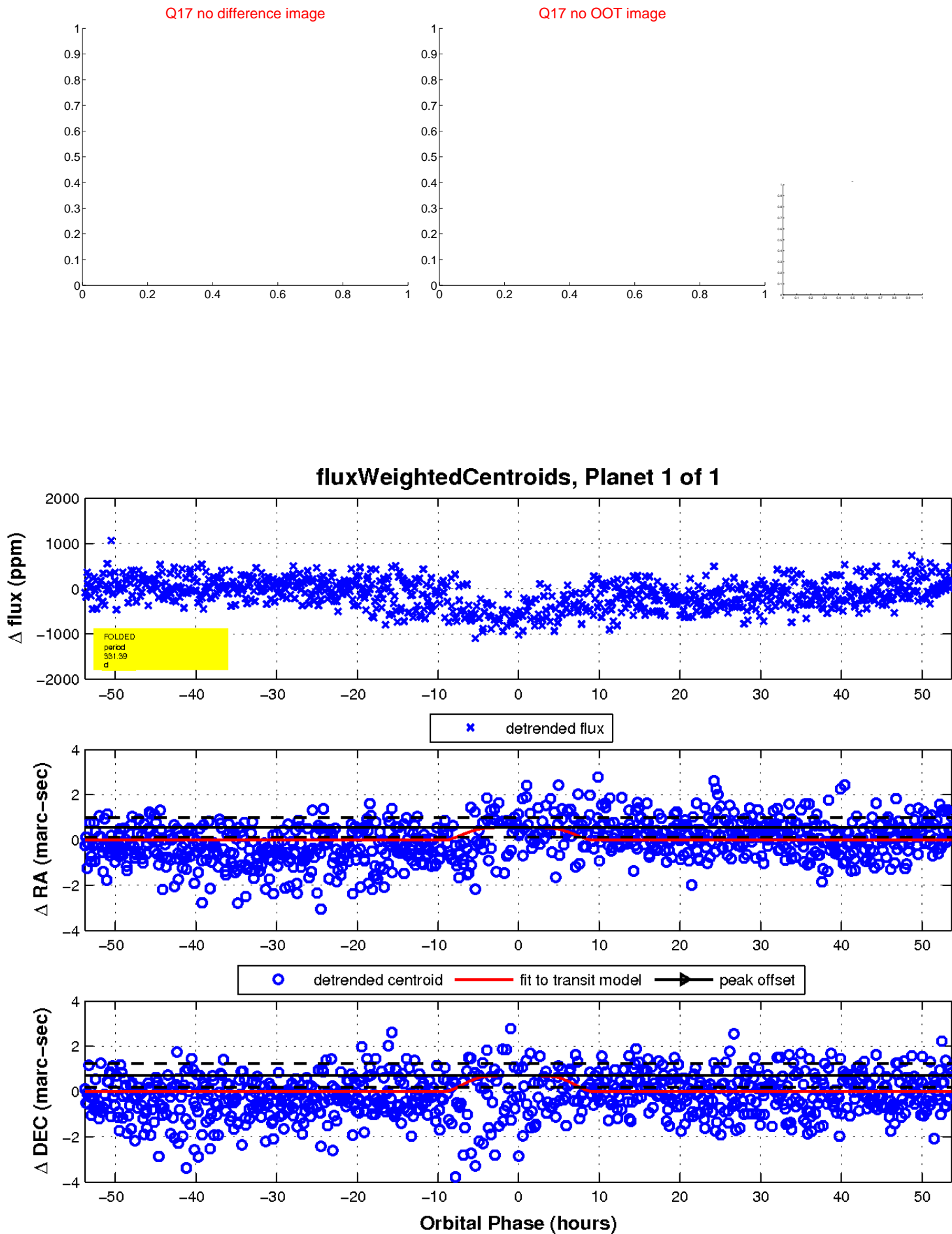
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

