

KIC 010014875

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})
010014875-01	OBS	7983.01	453.648613	296.614183	538.4	18.487	7.6	7.2	0.93	6060	2.29	0.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010014875-01	OBS	FP	0.03	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—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.

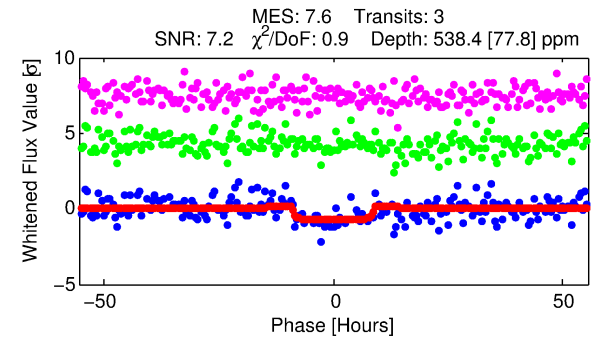
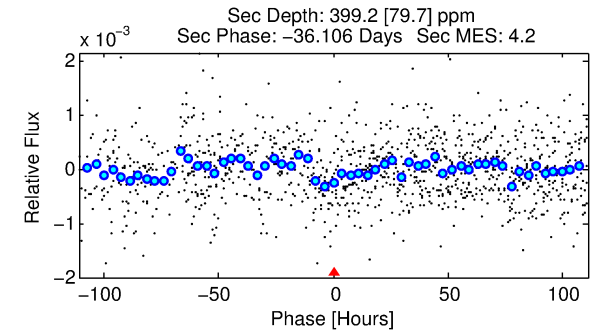
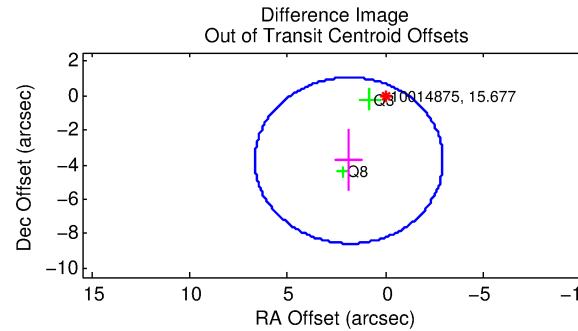
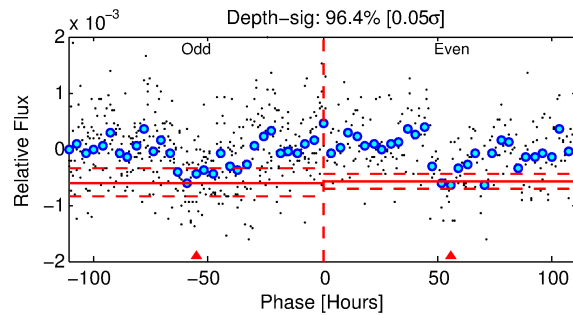
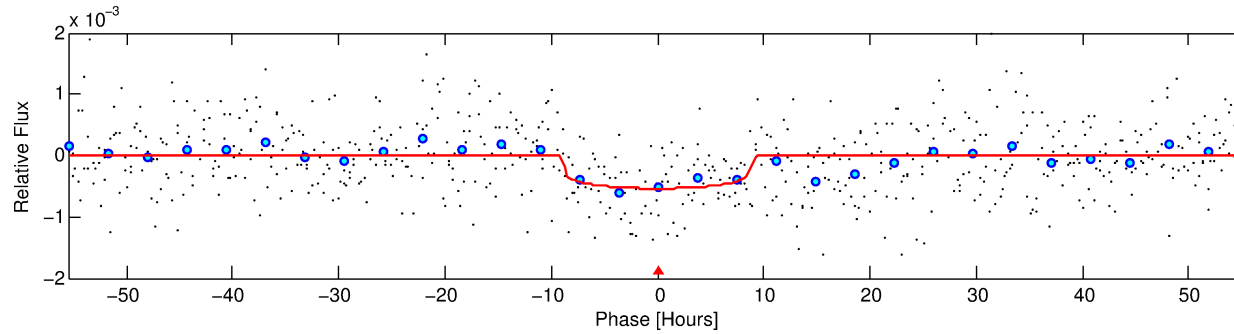
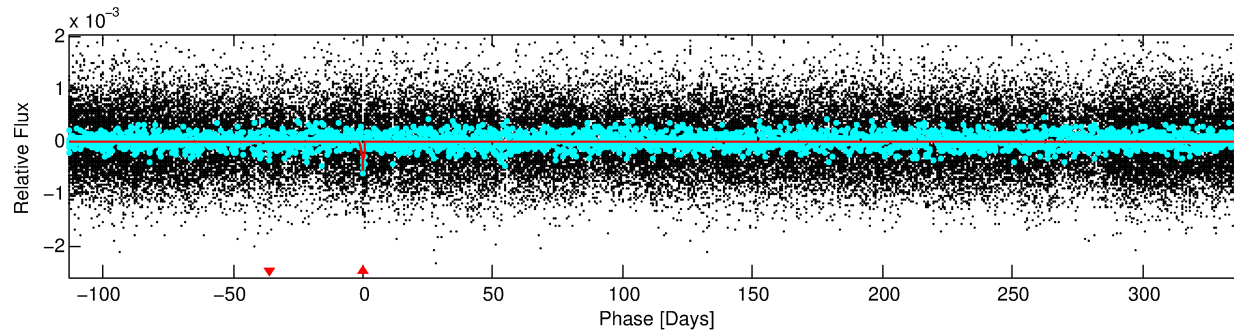
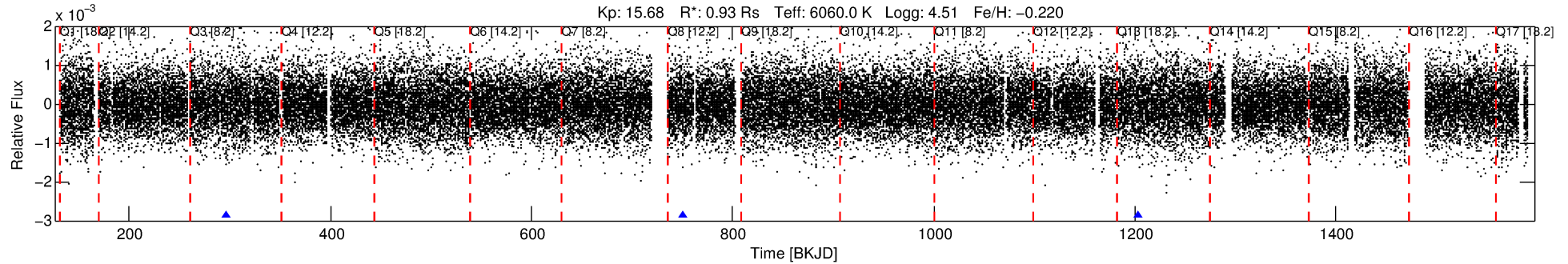
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010014875-01

No Significant Match Found

DV One-Page Summary

KIC: 10014875 Candidate: 1 of 1 Period: 453.649 d



DV Fit Results:

Period = 453.64861 [0.02228] d
Epoch = 296.6142 [0.0275] BKJD
Rp/R* = 0.0227 [0.0089]
a/R* = 141.36 [267.36]
b = 0.69 [1.44]
Seff = 0.77 [0.30]
Teq = 239 [23] K
Rp = 2.29 [1.13] Re
a = 1.1586 [0.2918] AU
Ag = 56312.15 [49985.67] [1.13 σ]
Teffp = 5689 [1165] K [4.68 σ]

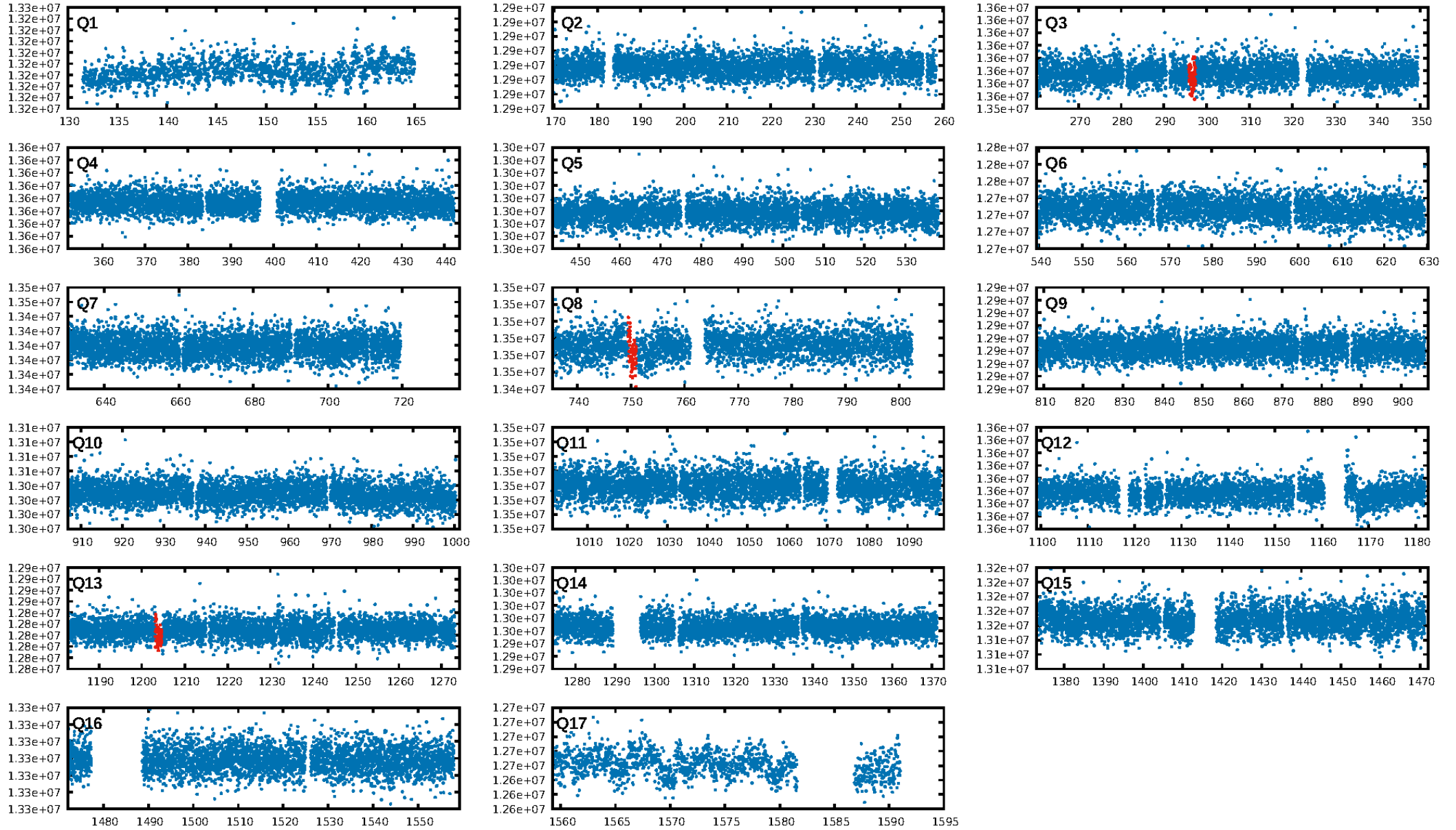
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.43e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7843
Centroid-sig: 85.1%
Centroid-so: 0.915 arcsec [0.42 σ]
OotOffset-rm: 4.196 arcsec [2.62 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 4.161 arcsec [2.08 σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

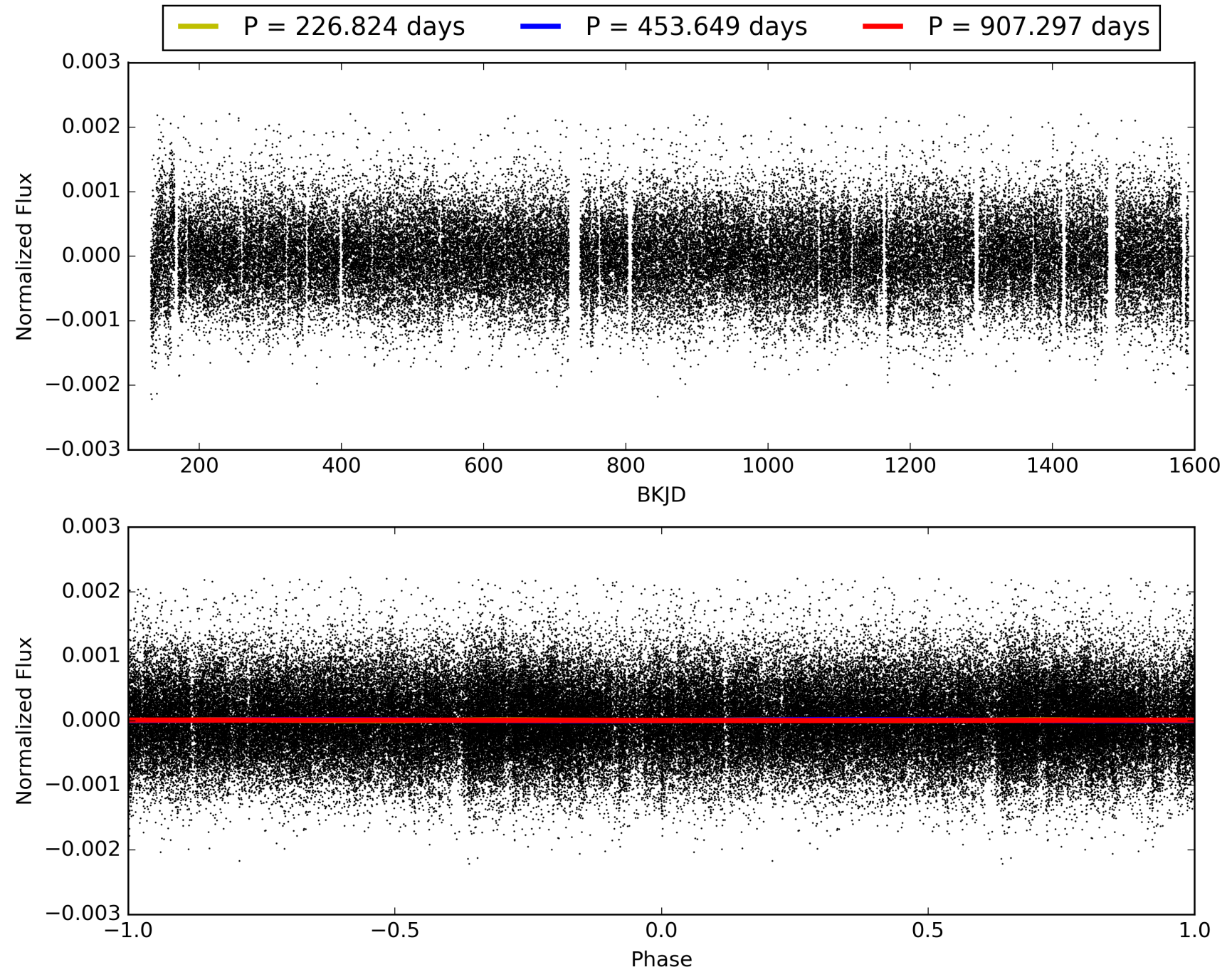
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:10:56 Z

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

TCE 010014875-01, PDC Light Curves

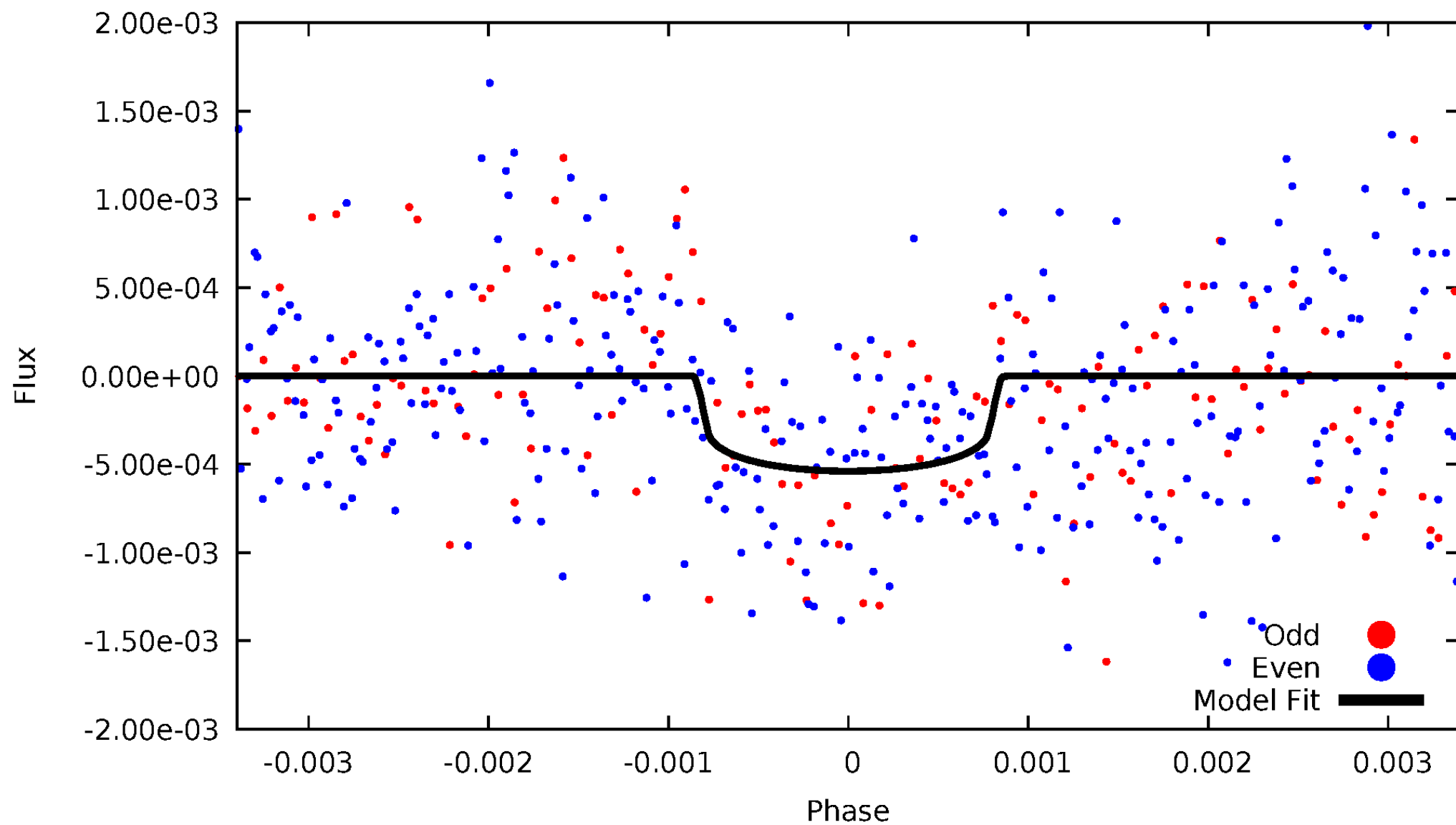


TCE 010014875-01



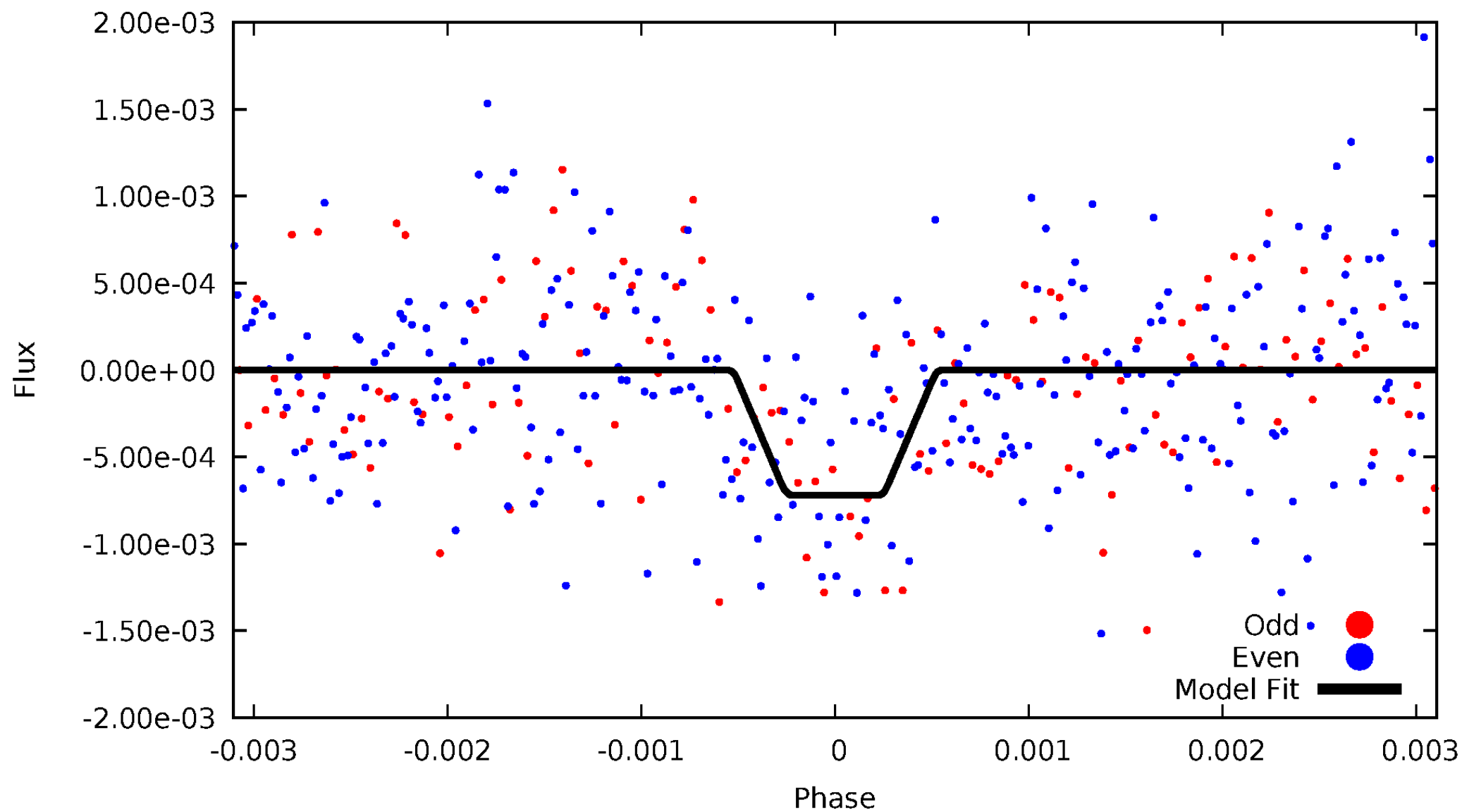
DV Odd/Even

TCE 010014875-01



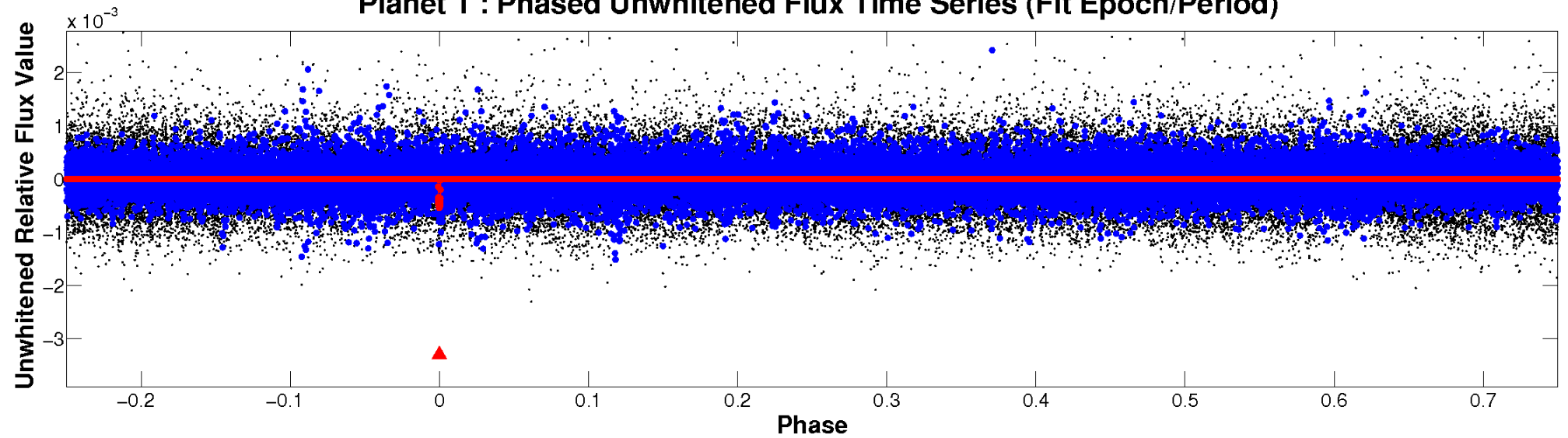
ALT Odd/Even

TCE 010014875-01

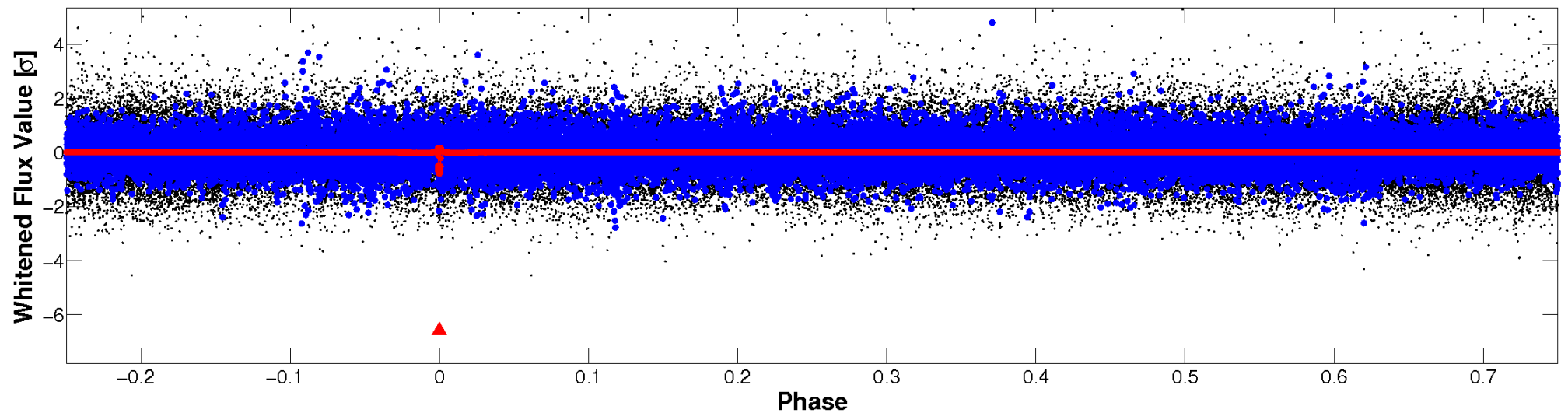


Non-Whitened Vs. Whitened Light Curve

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

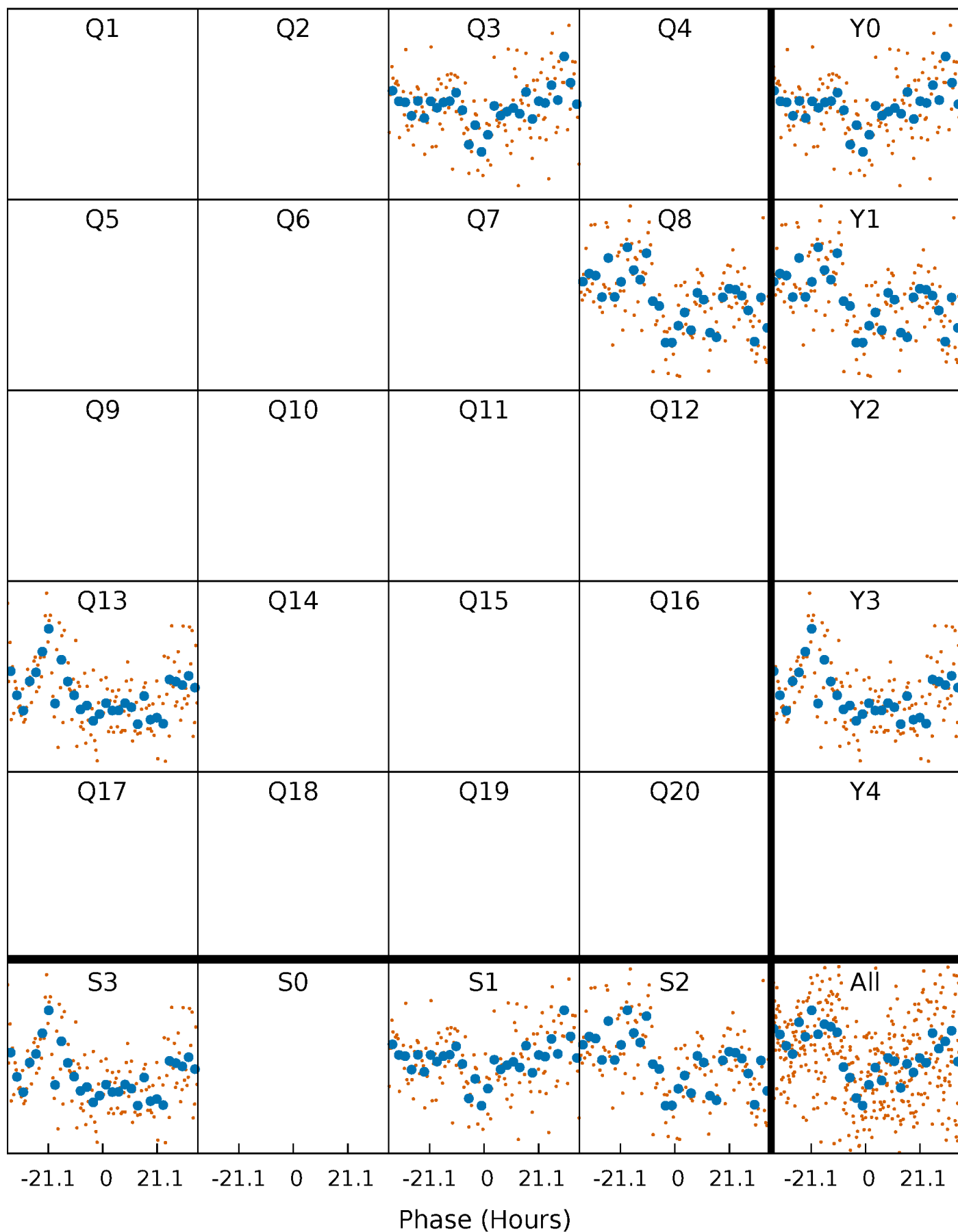


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 010014875-01 P=453.648613 Days $T_0=296.614183$ (BKJD)



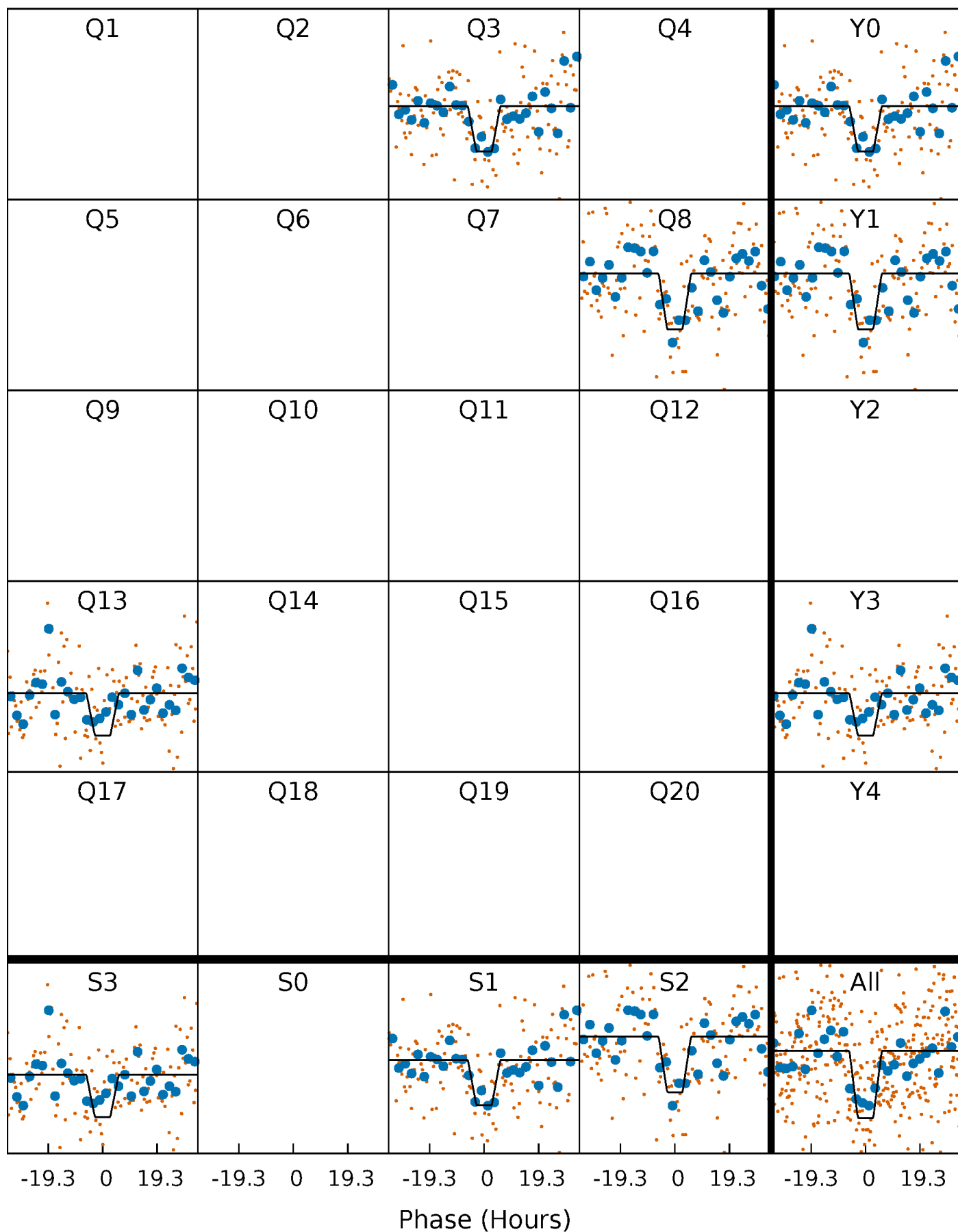
DV Quarter-Phased Transit Curves

TCE 010014875-01 P=453.648613 Days $T_0=296.614183$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

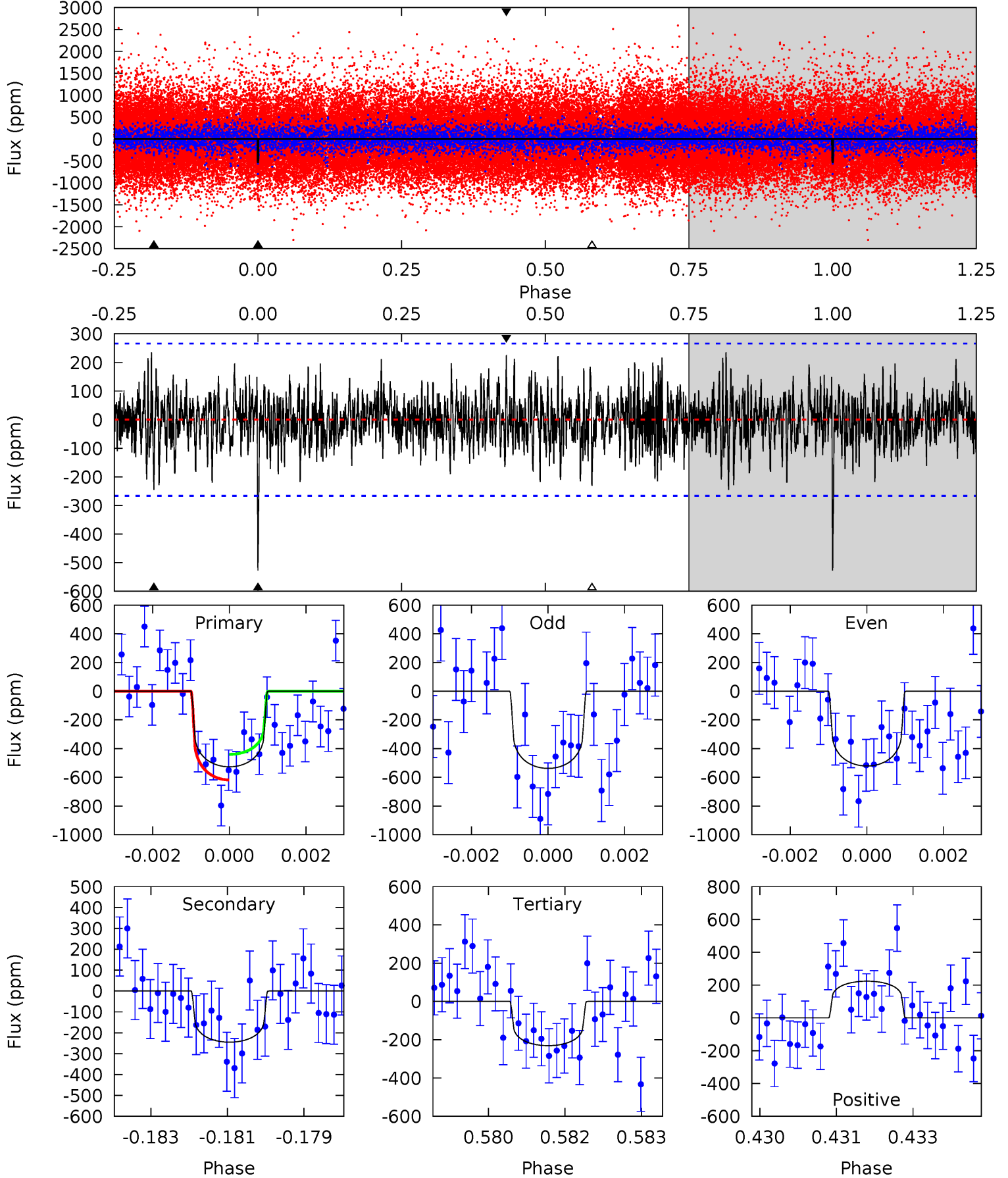
TCE 010014875-01 P=453.638654 Days $T_0=296.544188$ (BKJD)



DV Model-Shift Uniqueness Test

010014875-01, P = 453.648613 Days, E = 296.614183 Days

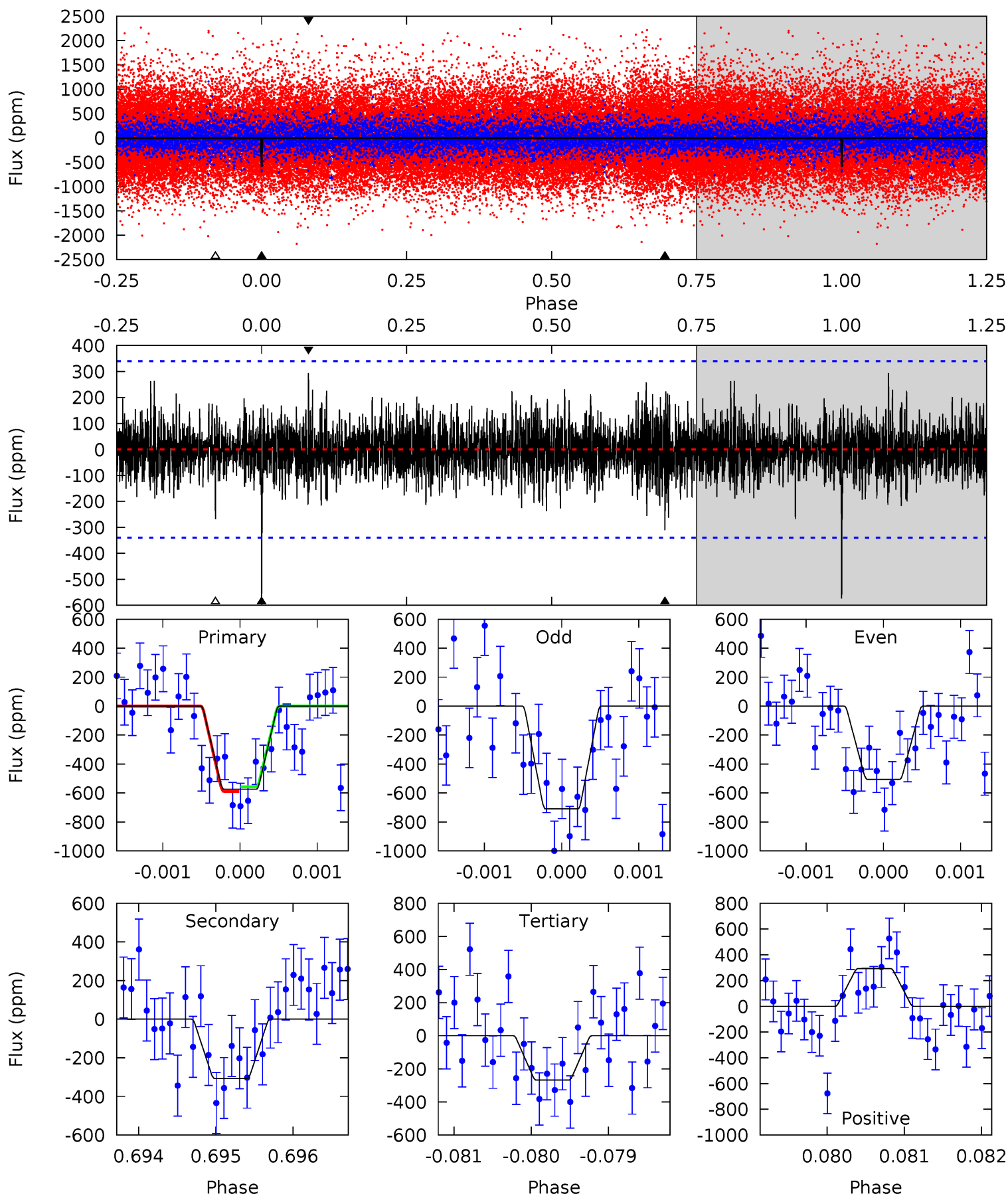
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	4.93	4.64	4.50	5.35	3.13	1.42	5.95	6.10	0.28	0.43	0.16	0.98	0.31	1.79



Alt Model-Shift Uniqueness Test

010014875-01, P = 453.638654 Days, E = 296.544188 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.18	4.92	4.29	4.69	5.44	3.27	1.21	4.89	4.49	0.63	0.23	1.56	0.85	0.34	0.26



Stellar Parameters For KIC 010014875

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6060^{+181}_{-199}	$4.509^{+0.050}_{-0.200}$	$-0.220^{+0.300}_{-0.300}$	$0.925^{+0.277}_{-0.092}$	$1.008^{+0.130}_{-0.130}$	$1.795^{+0.365}_{-0.900}$
	+3%/-3%	+1%/-4%	+136%/-136%	+30%/-10%	+13%/-13%	+20%/-50%
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 010014875-01 / KOI 7983.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-245 ± 50	$2.42^{+1.00}_{-0.89}$	341^{+24}_{-17}	5072^{+1222}_{-678}	29465^{+46424}_{-14800}
Alt.	-308 ± 62	$2.84^{+1.06}_{-1.02}$	341^{+23}_{-16}	4968^{+1148}_{-619}	28134^{+37911}_{-15010}

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 $A_{obs} \gg 1.0$

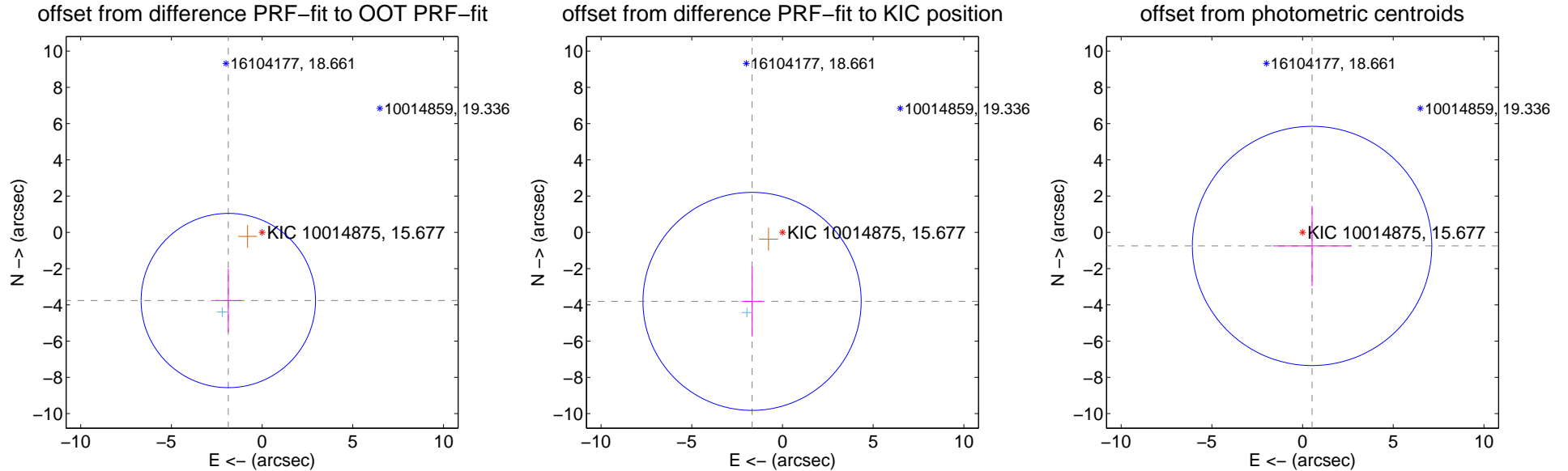
DV Centroid Data

Supplemental centroid analysis for 010014875-01. Kepler magnitude: 15.68. Transit SNR 7.20

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.196 ± 1.602	2.62	1.861 ± 0.699	-3.761 ± 1.754
PRF-fit source offset from KIC position	4.161 ± 2.005	2.08	1.676 ± 0.574	-3.808 ± 1.939
photometric centroid source offset	0.91 ± 2.20	0.42	-0.52 ± 2.17	-0.75 ± 2.21



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



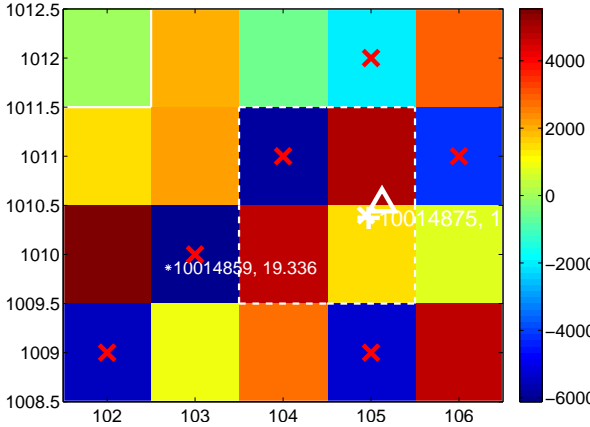
Q2 no difference image



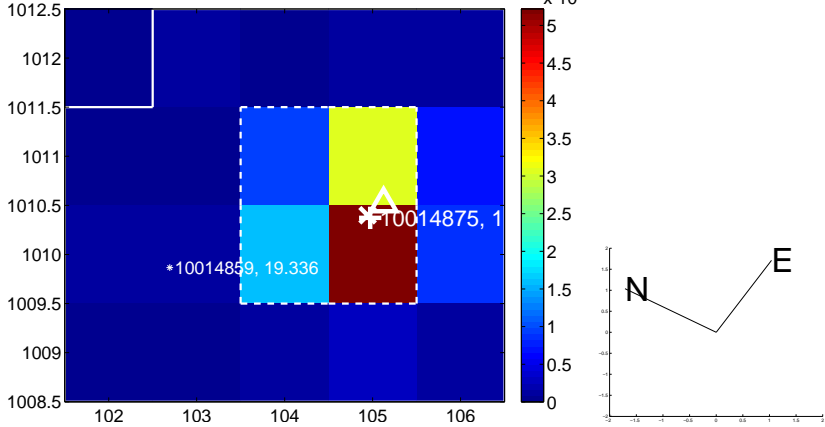
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



Q4 no OOT image



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

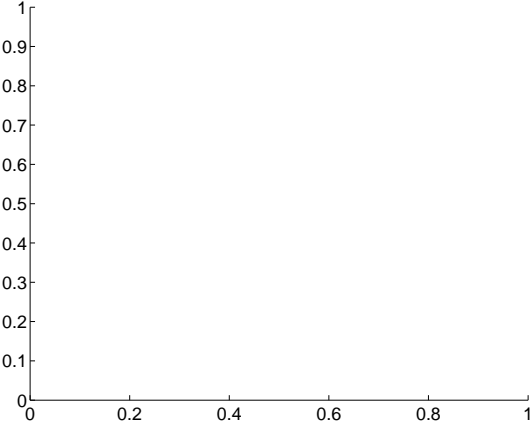
Q5 no difference image



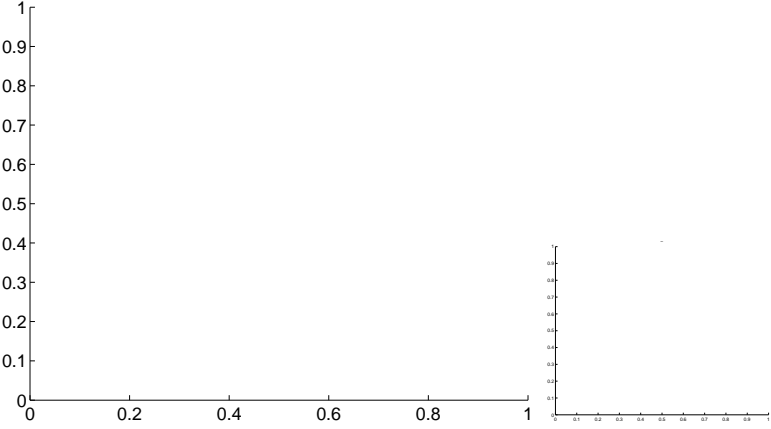
Q5 no OOT image



Q6 no difference image



Q6 no OOT image



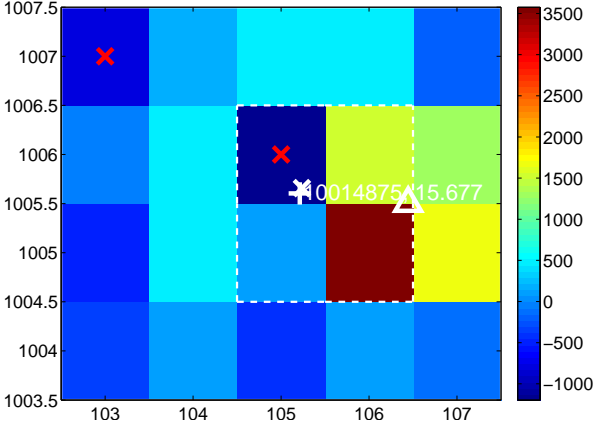
Q7 no difference image



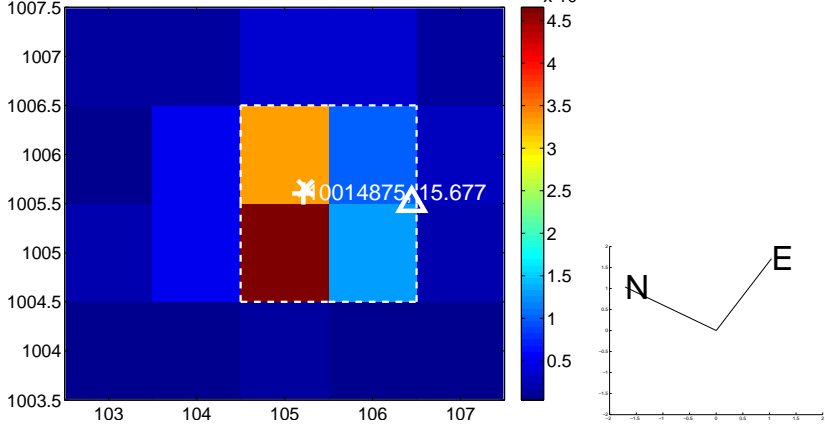
Q7 no OOT image



Q8 difference image



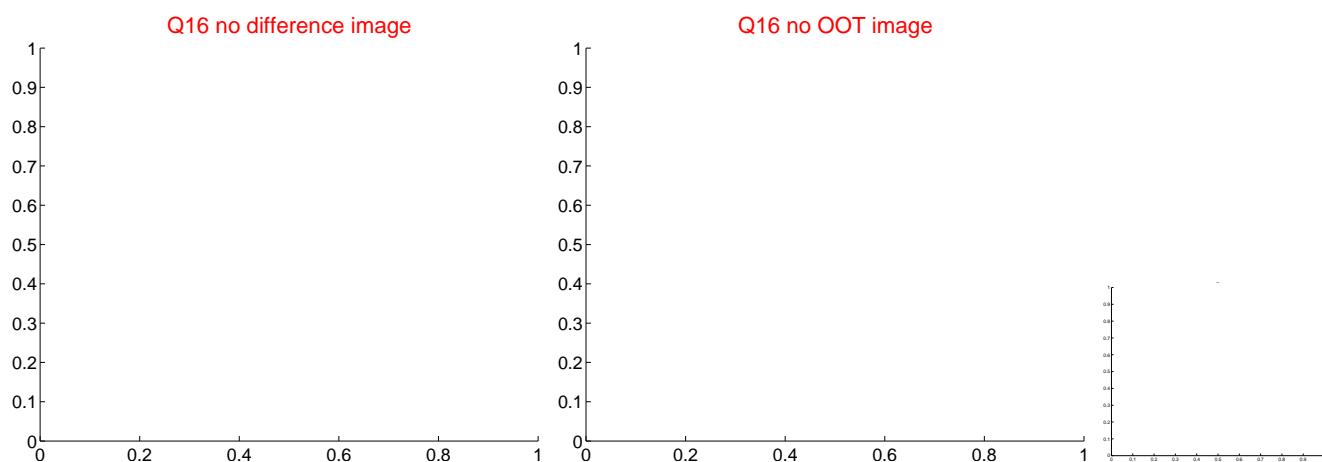
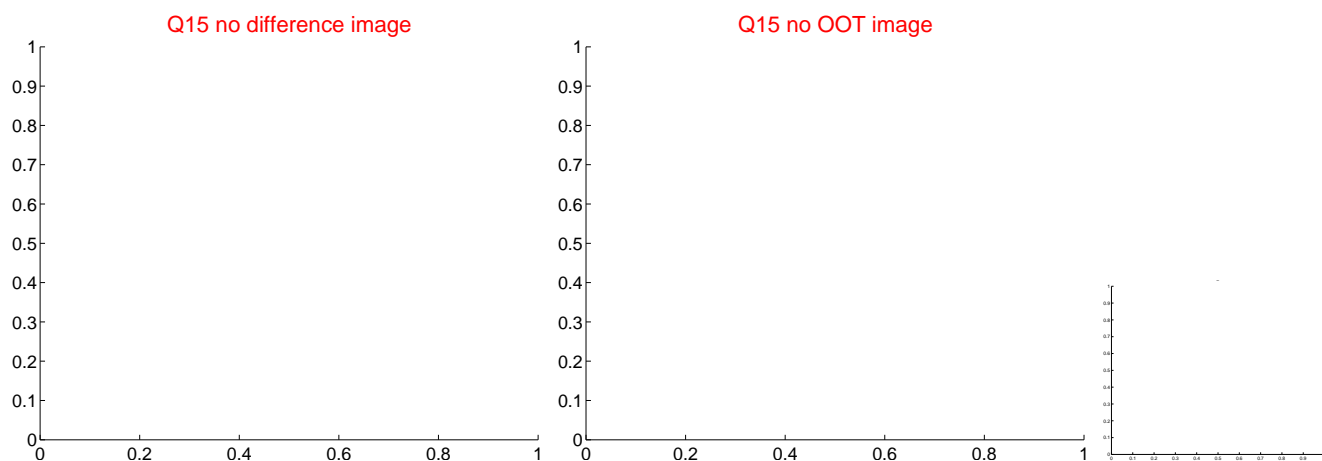
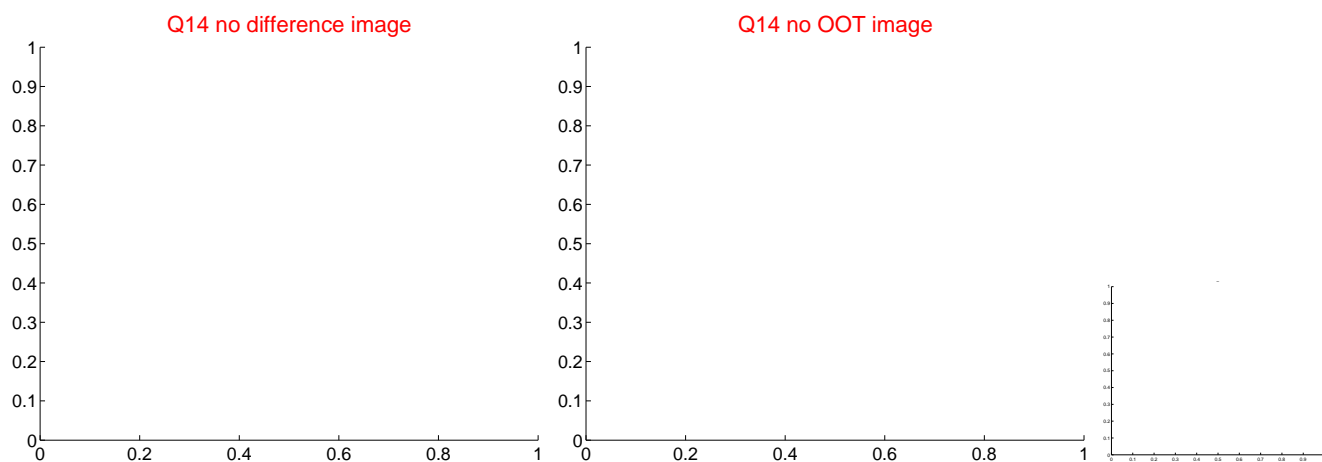
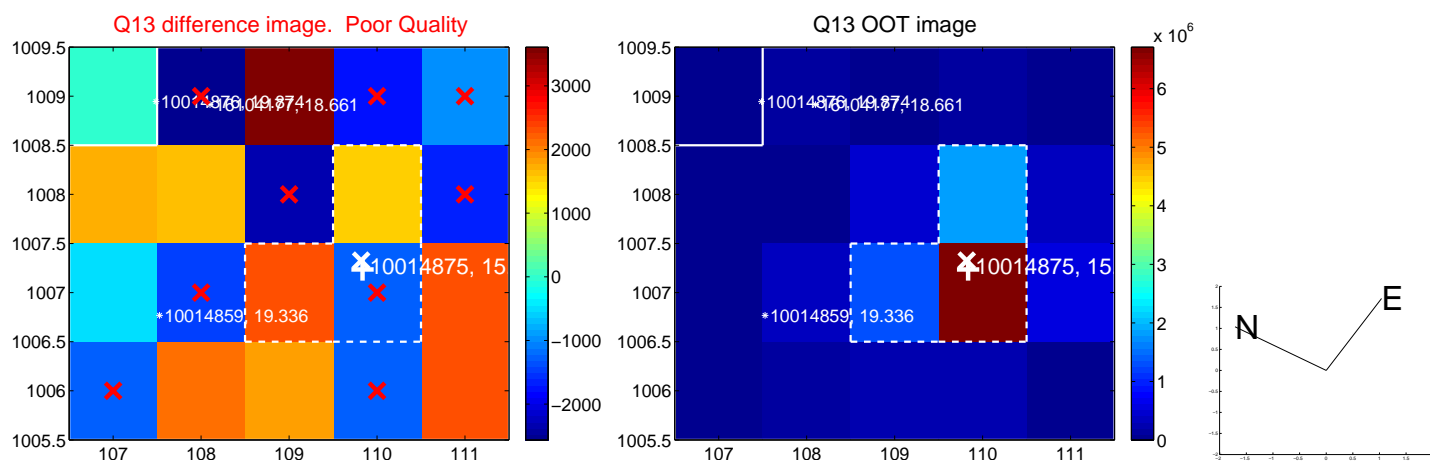
Q8 OOT image



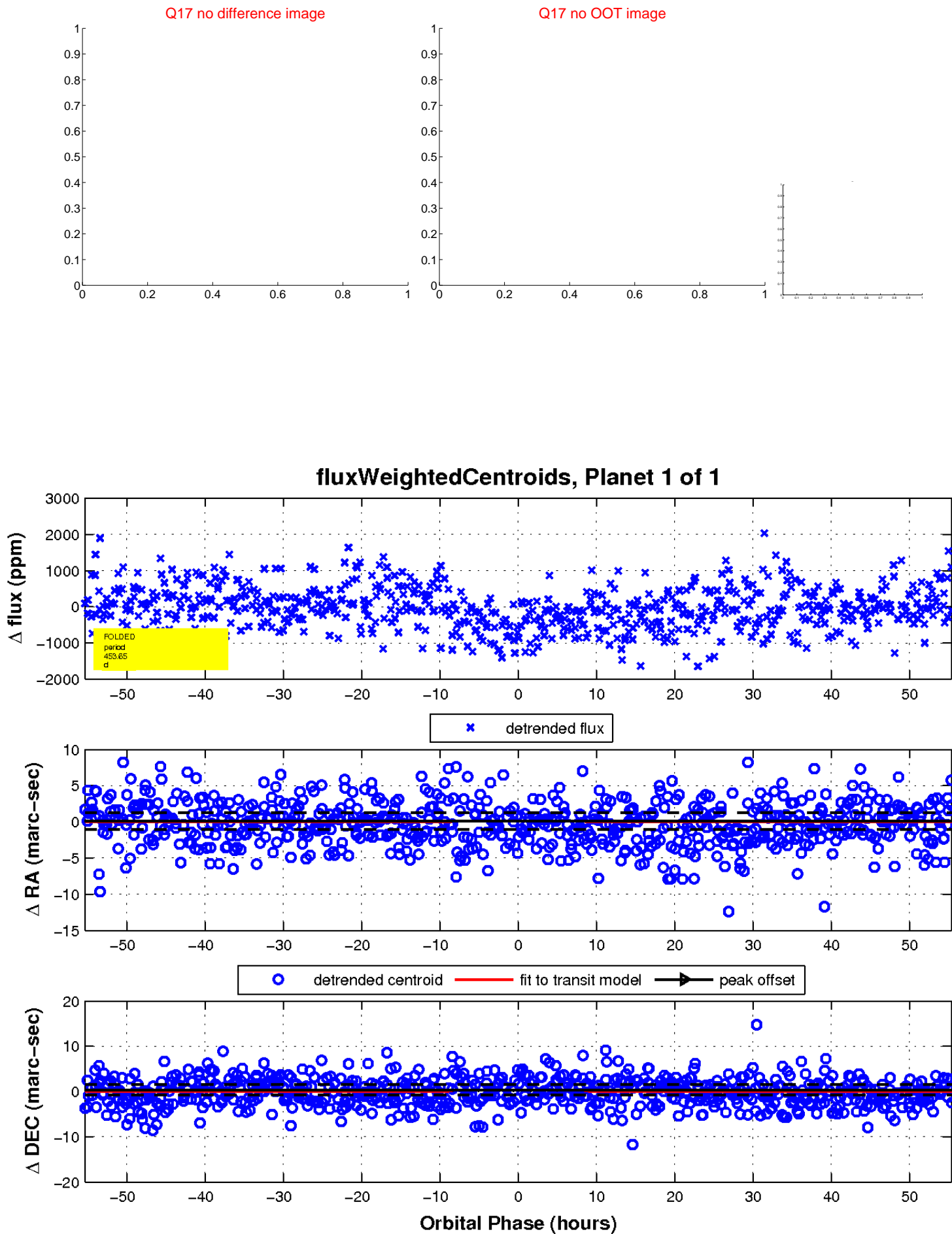
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

