

KIC 009706296

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})
009706296-01	OBS	No	324.244925	447.662532	529.0	14.187	8.2	6.6	0.75	5409	1.76	0.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009706296-01	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

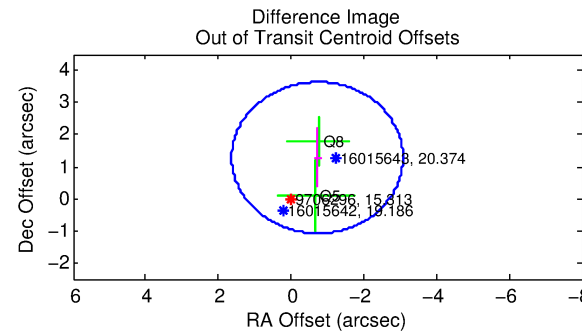
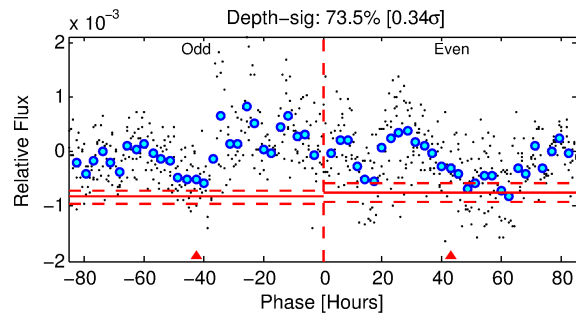
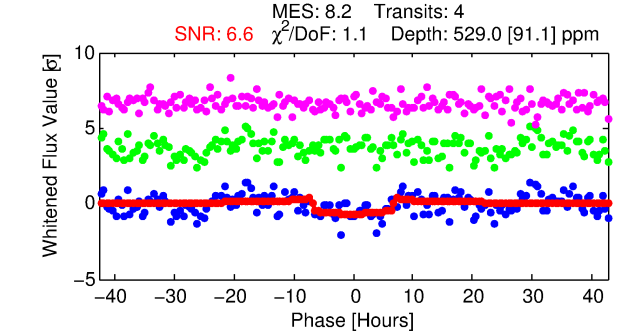
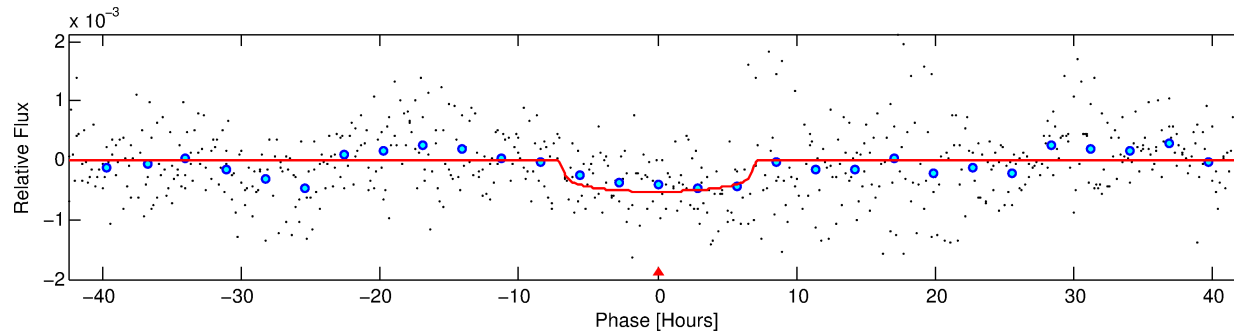
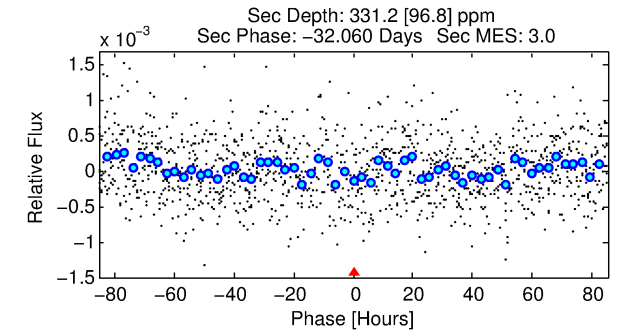
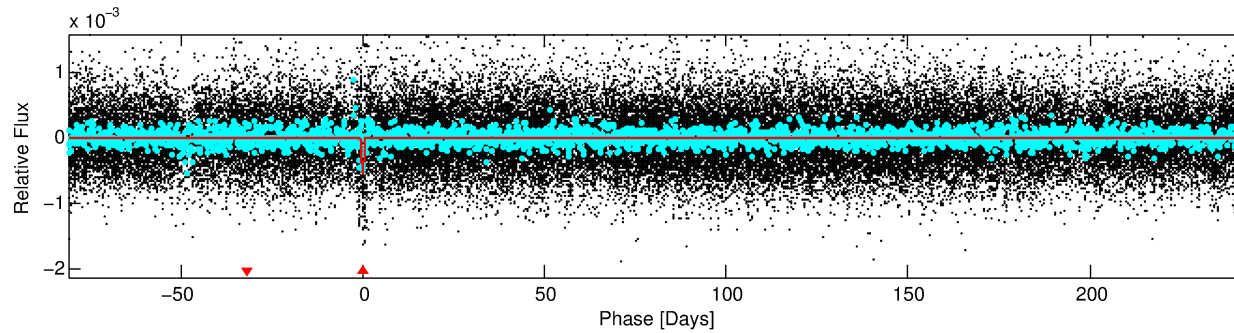
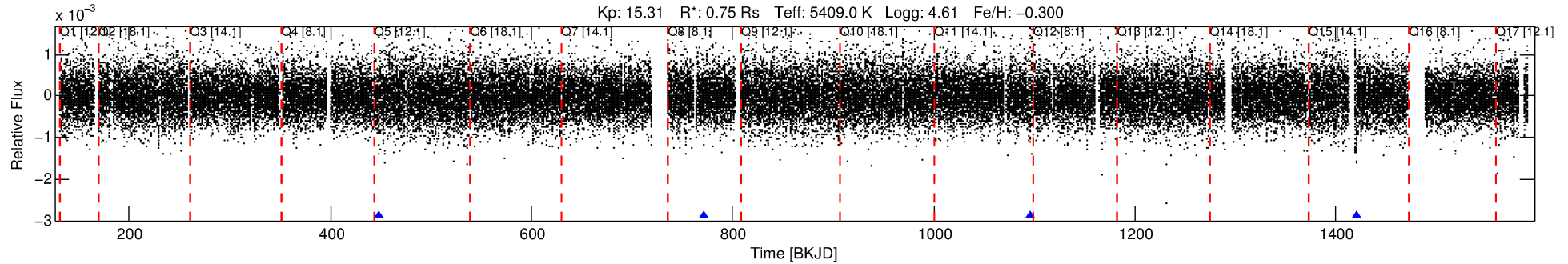
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009706296-01

No Significant Match Found

DV One-Page Summary

KIC: 9706296 Candidate: 1 of 1 Period: 324.245 d



DV Fit Results:

Period = 324.24492 [0.01373] d
Epoch = 447.6625 [0.0285] BKJD
Rp/R* = 0.0216 [0.0145]
a/R* = 150.40 [402.99]
b = 0.55 [3.44]
Seff = 0.57 [0.13]
Teq = 221 [13] K
Rp = 1.76 [1.22] Re
a = 0.8665 [0.1238] AU
Ag = 44100.03 [60965.88] [0.72σ]
Teffp = 4961 [1703] K [2.78σ]

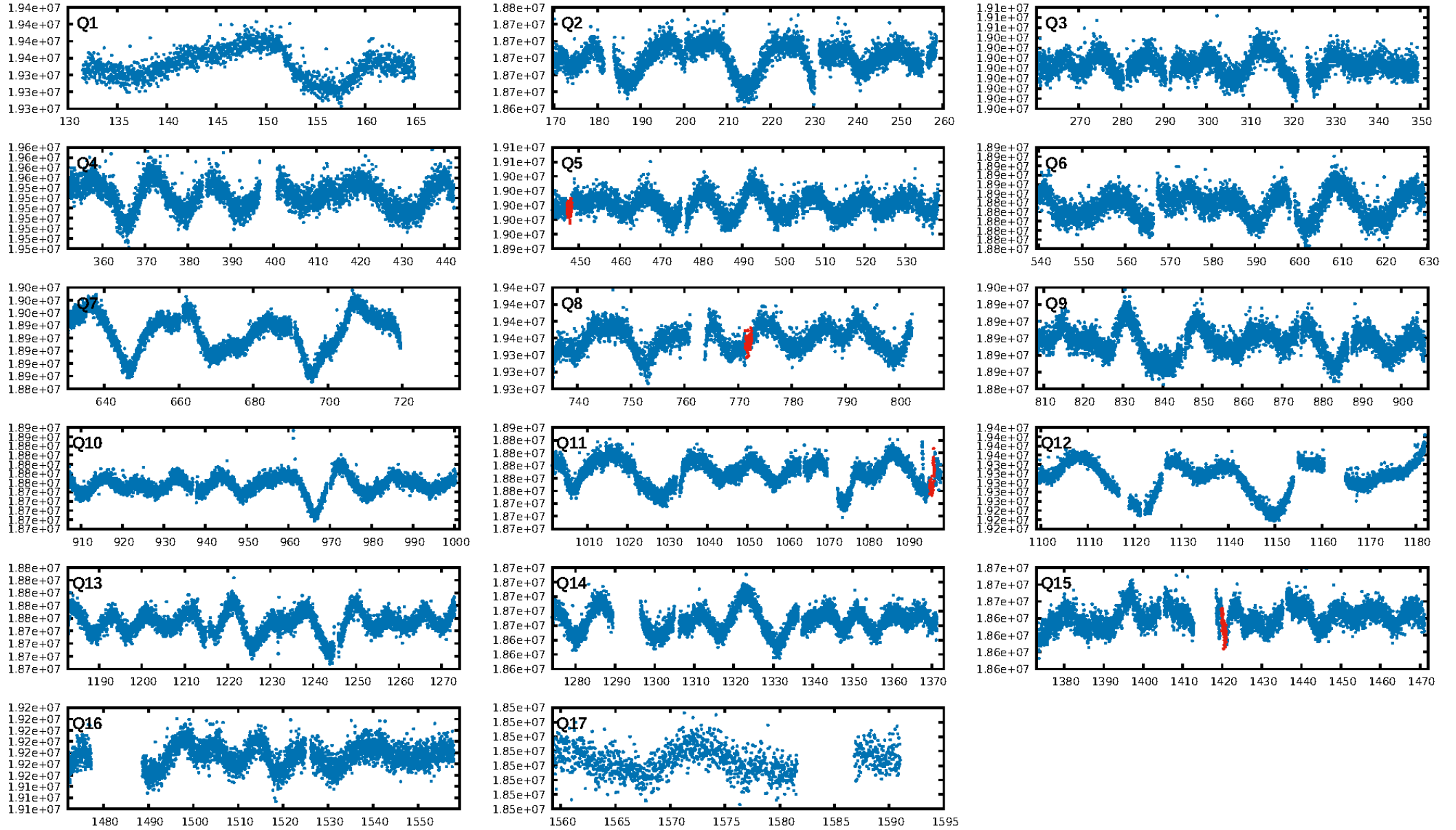
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.6%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: 1.89e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 5.557
Centroid-sig: 0.7%
Centroid-so: 2.676 arcsec [2.29σ]
OotOffset-rm: 1.470 arcsec [1.87σ]
KicOffset-rm: 1.439 arcsec [1.91σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

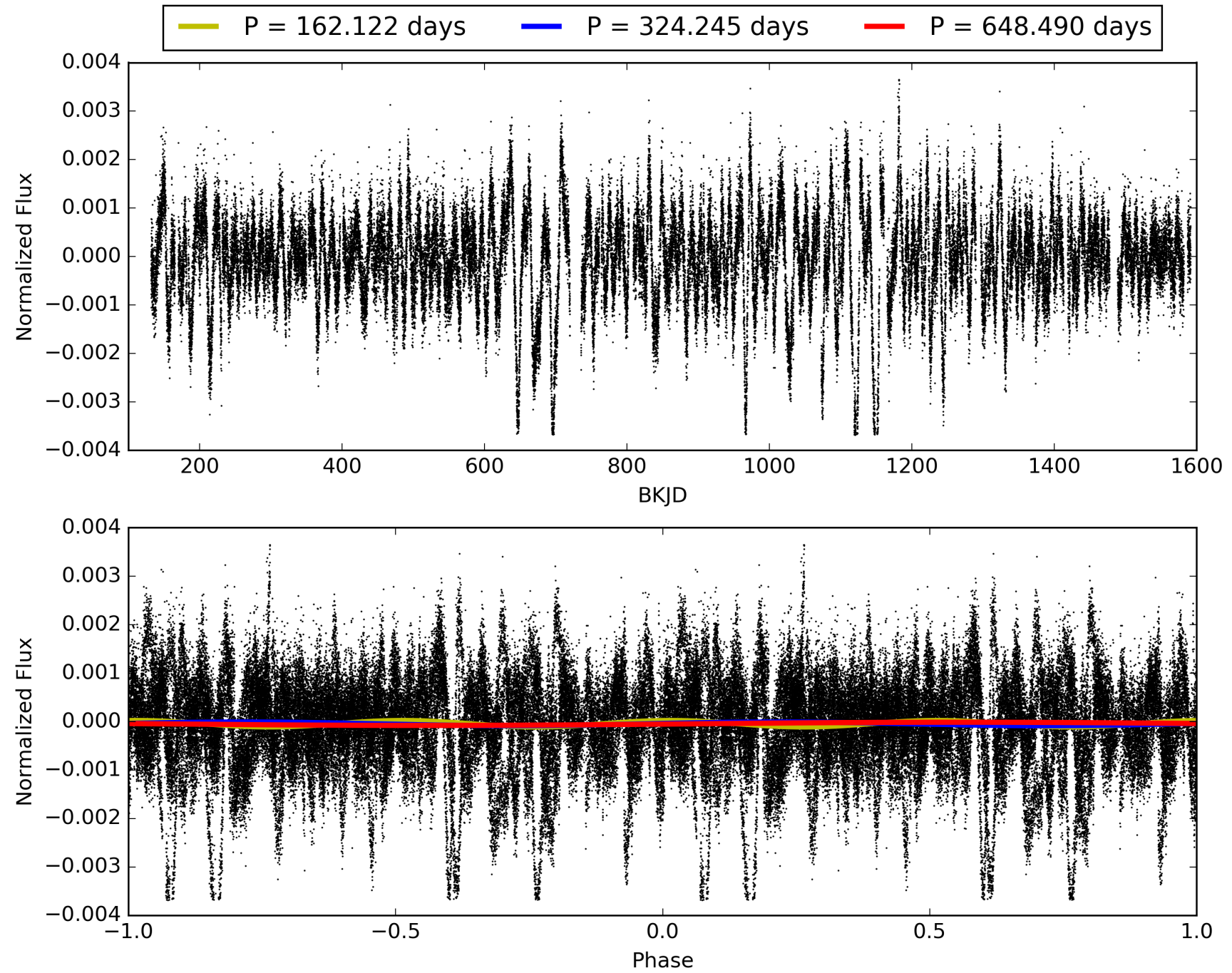
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:31:28 Z

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

TCE 009706296-01, PDC Light Curves

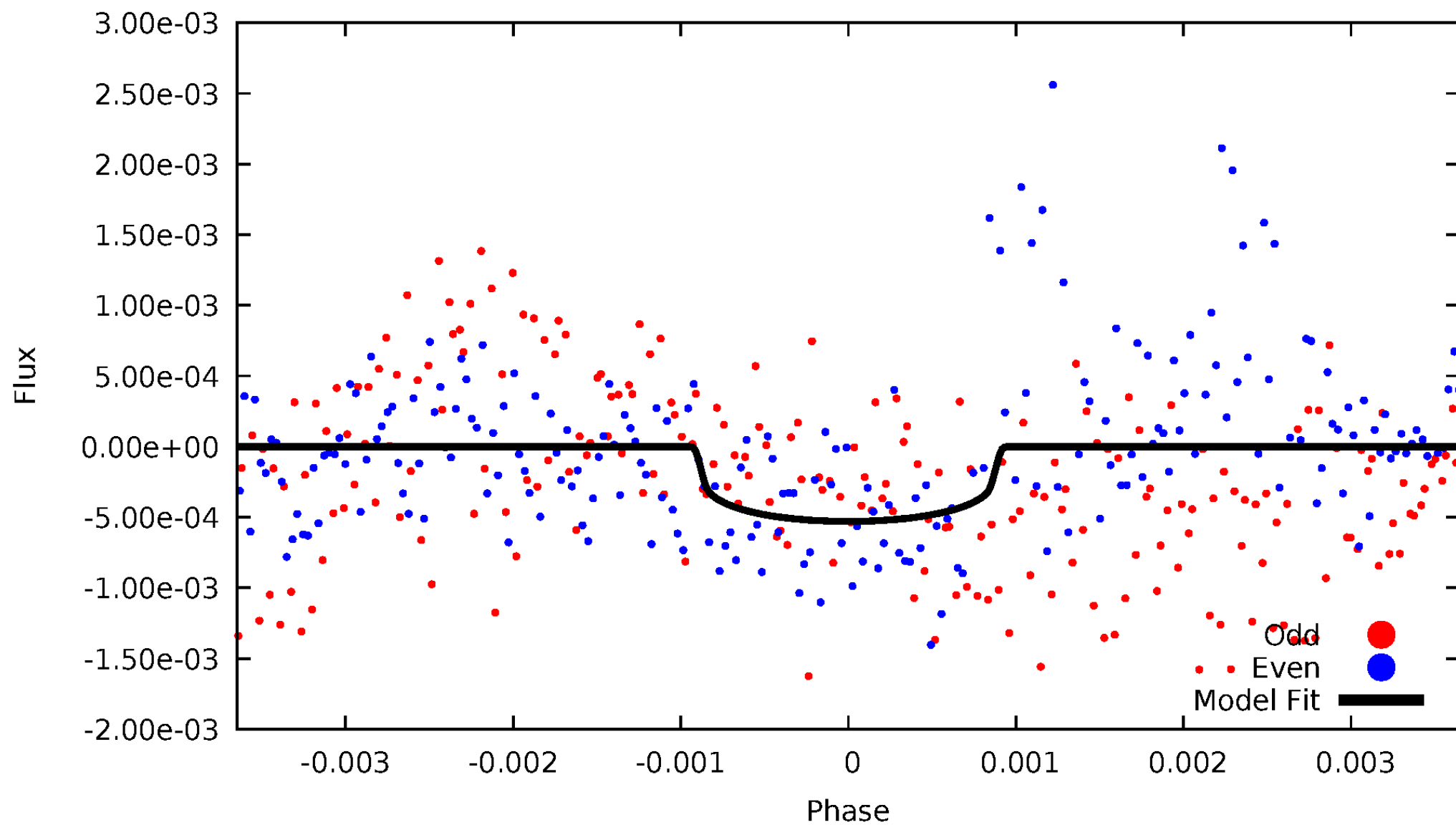


TCE 009706296-01



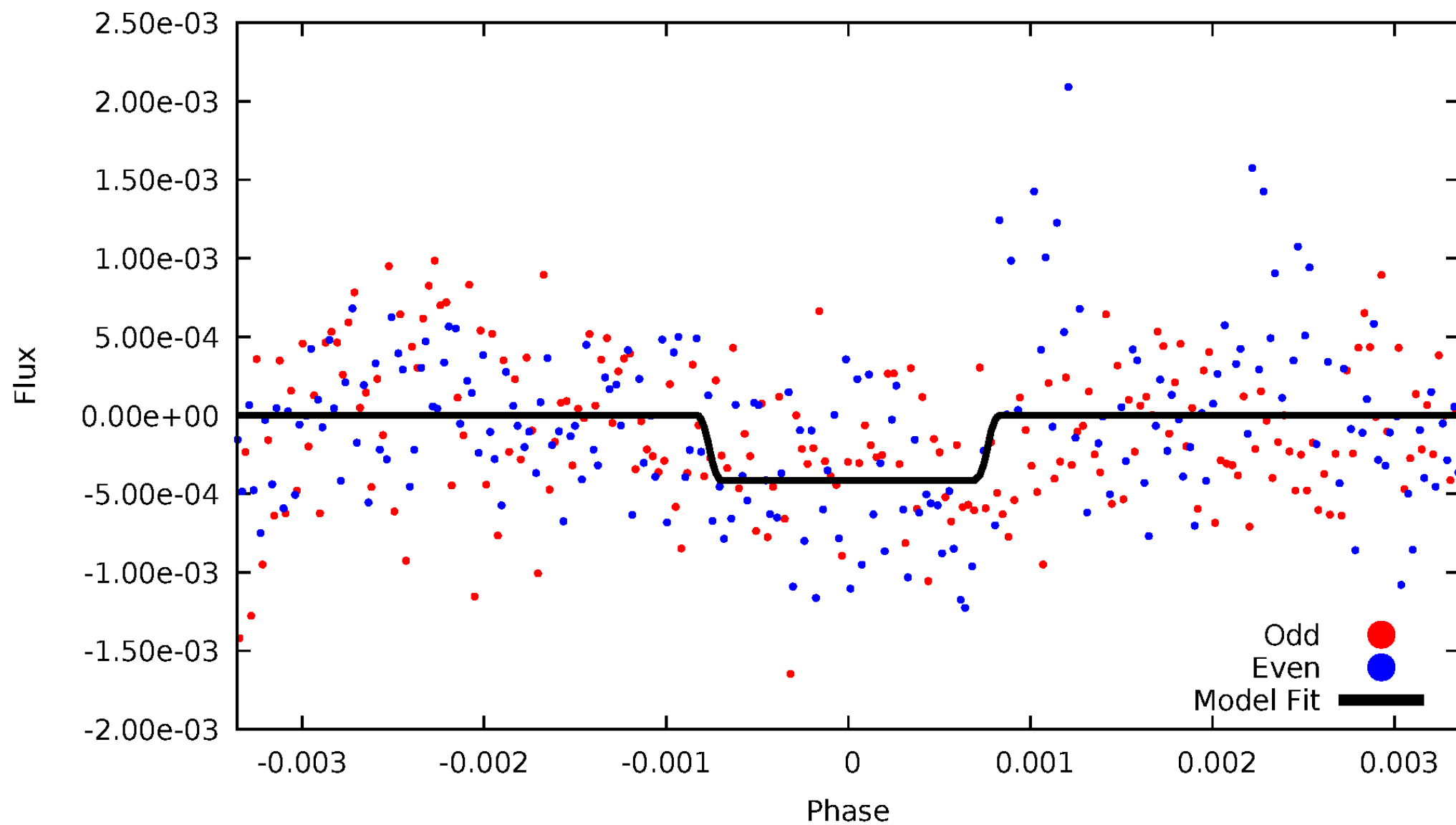
DV Odd/Even

TCE 009706296-01



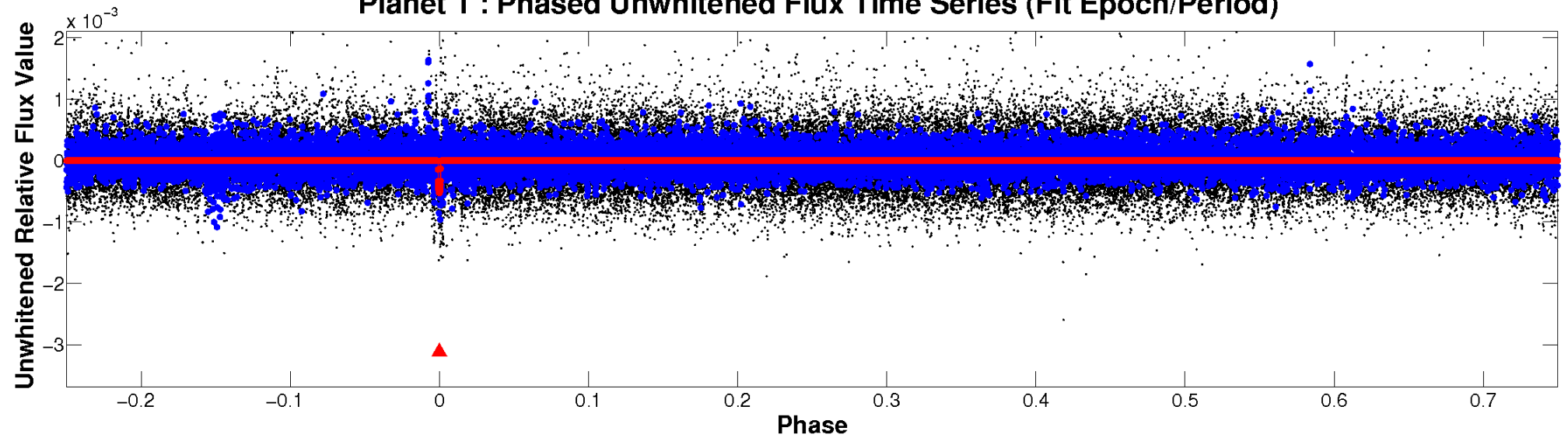
ALT Odd/Even

TCE 009706296-01

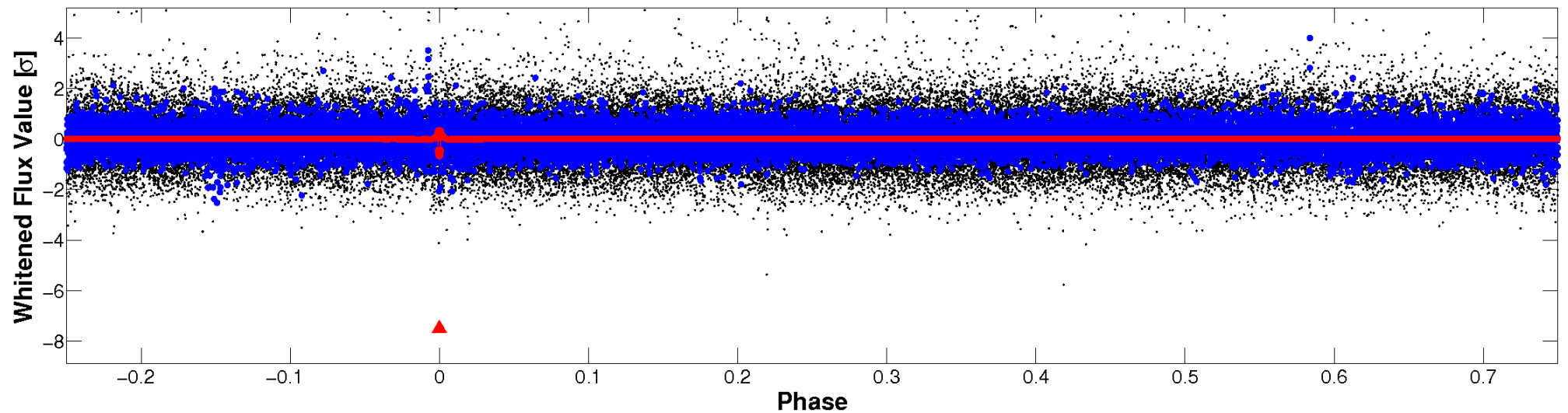


Non-Whitened Vs. Whitened Light Curve

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

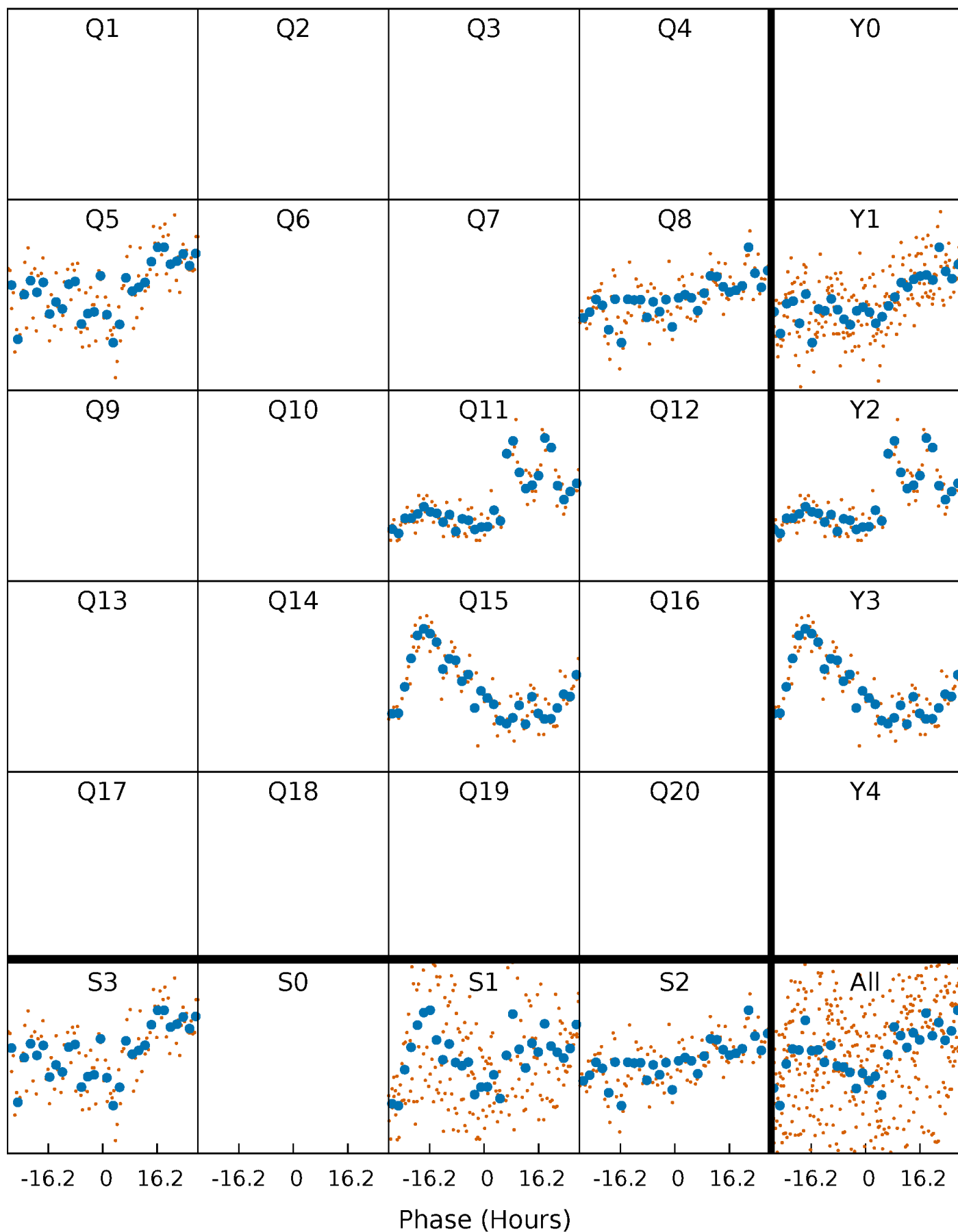


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



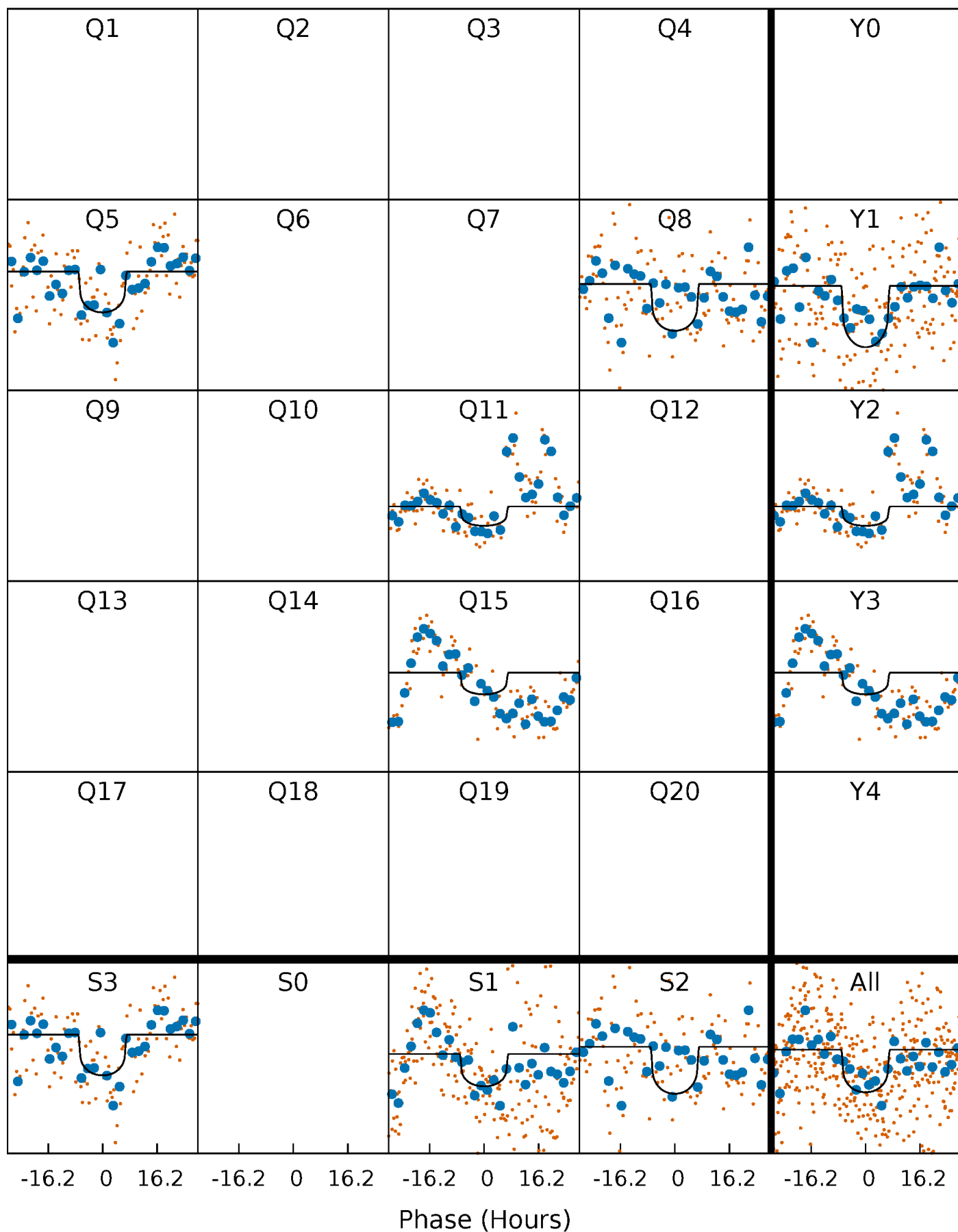
PDC Quarter-Phased Transit Curves

TCE 009706296-01 $P=324.244925$ Days $T_0=447.662532$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009706296-01 $P=324.244925$ Days $T_0=447.662532$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

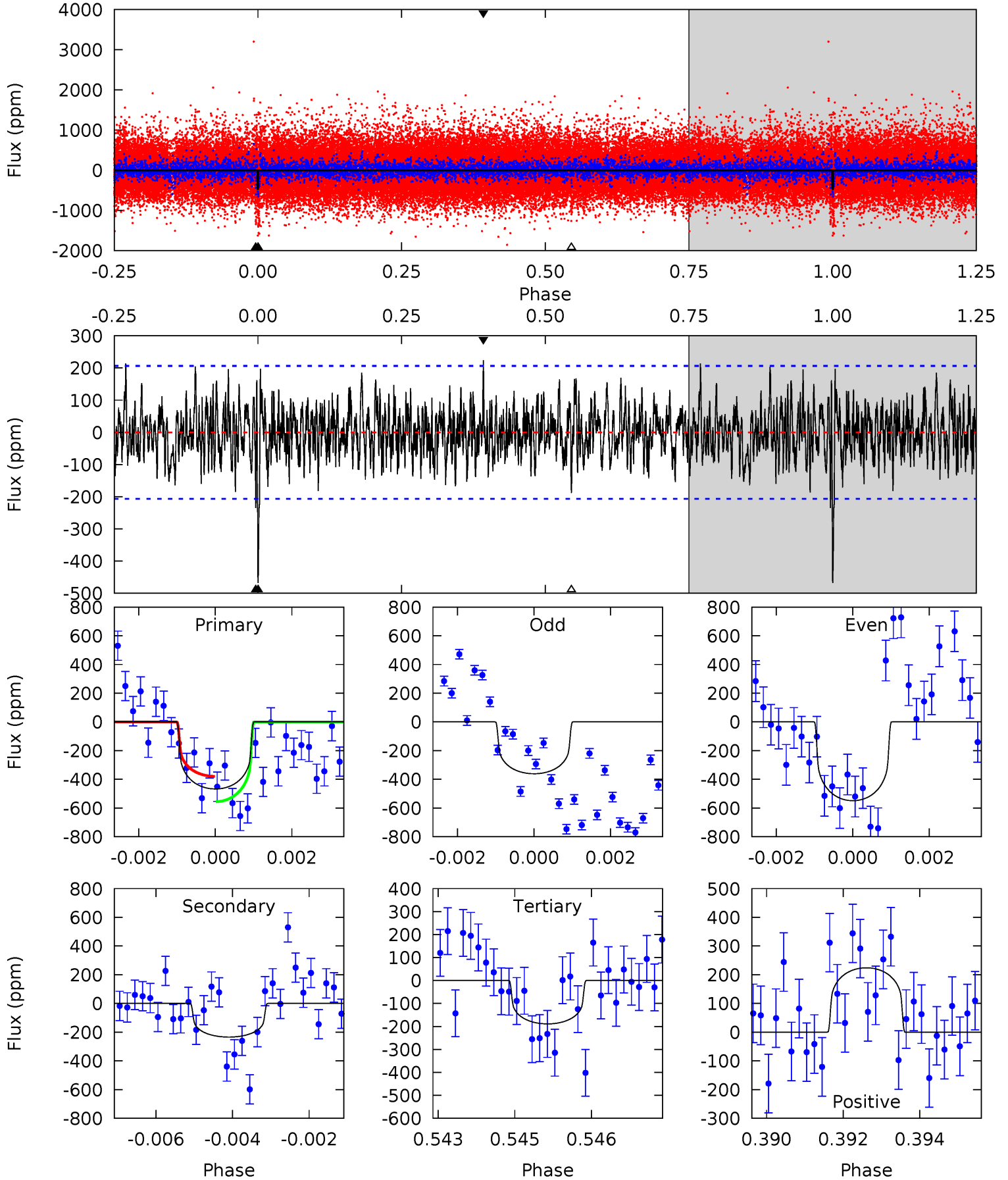
TCE 009706296-01 $P=324.266975$ Days $T_0=447.622318$ (BKJD)



DV Model-Shift Uniqueness Test

009706296-01, P = 324.244925 Days, E = 123.417607 Days

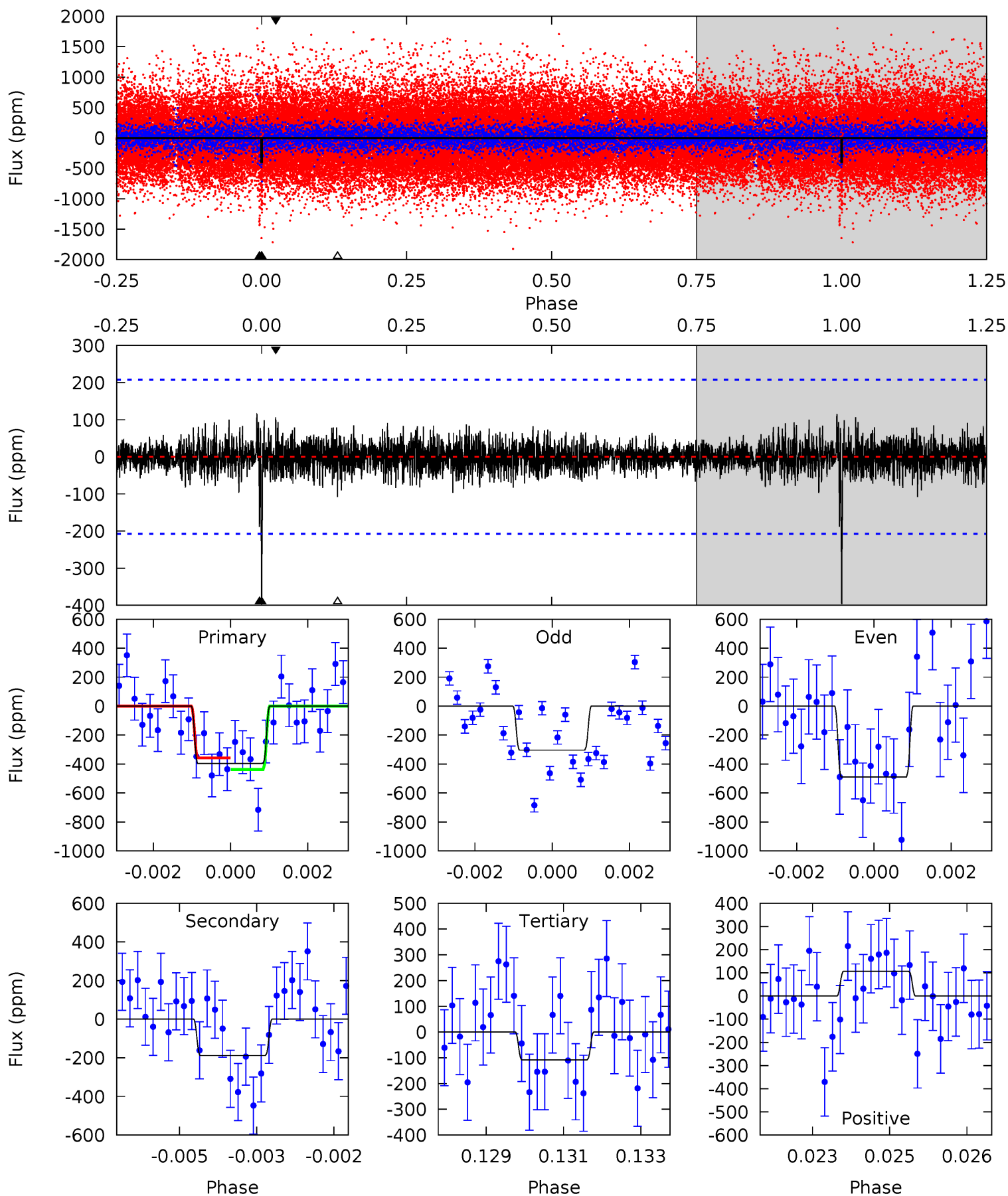
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	6.06	4.89	5.80	5.34	3.11	1.64	7.21	6.30	1.17	0.26	2.44	0.85	0.32	2.29



Alt Model-Shift Uniqueness Test

009706296-01, P = 324.266975 Days, E = 123.355343 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	4.86	2.79	2.75	5.36	3.15	0.70	7.46	7.49	2.07	2.11	2.41	1.09	0.22	1.03



Stellar Parameters For KIC 009706296

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5409^{+159}_{-143}	$4.609^{+0.035}_{-0.105}$	$-0.300^{+0.300}_{-0.300}$	$0.746^{+0.132}_{-0.057}$	$0.835^{+0.078}_{-0.096}$	$2.836^{+0.443}_{-0.949}$
	+3%/-3%	+1%/-2%	+100%/-100%	+18%/-8%	+9%/-11%	+16%/-33%
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 009706296-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-234 ± 39	$1.92^{+1.15}_{-1.16}$	314^{+14}_{-12}	4615^{+2501}_{-794}	$26480^{+140375}_{-16480}$
Alt.	-188 ± 39	$1.87^{+1.15}_{-1.03}$	314^{+15}_{-11}	4395^{+1852}_{-706}	21655^{+82638}_{-13691}

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

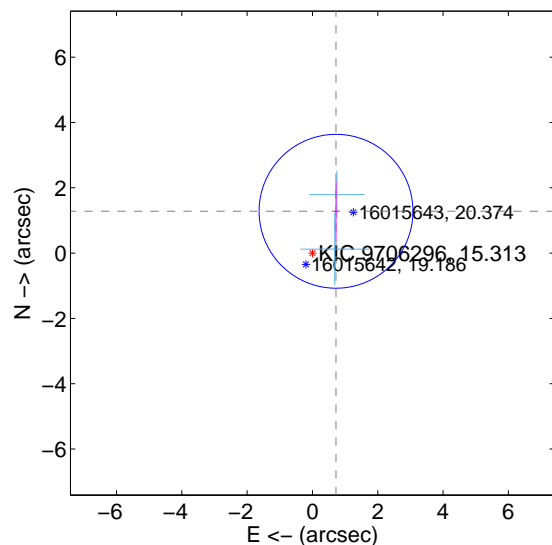
Supplemental centroid analysis for 009706296-01. Kepler magnitude: 15.31. Transit SNR 6.59

There are 2 quarters with good PRF difference image offsets

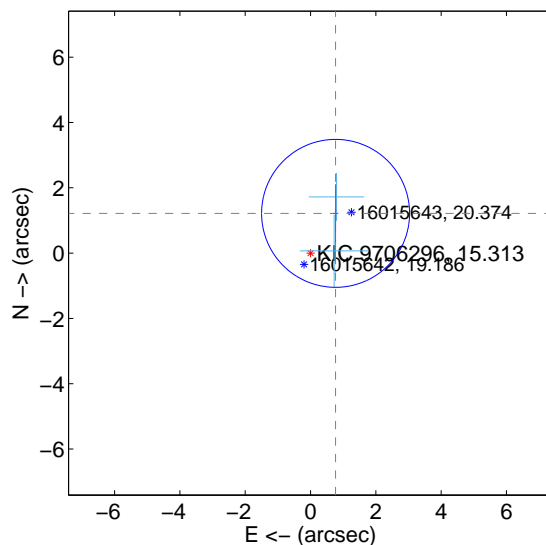
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.470 ± 0.785	1.87	-0.722 ± 0.076	1.281 ± 0.900
PRF-fit source offset from KIC position	1.439 ± 0.755	1.91	-0.767 ± 0.079	1.217 ± 0.891
photometric centroid source offset	2.68 ± 1.17	2.29	-2.25 ± 1.19	-1.45 ± 1.10

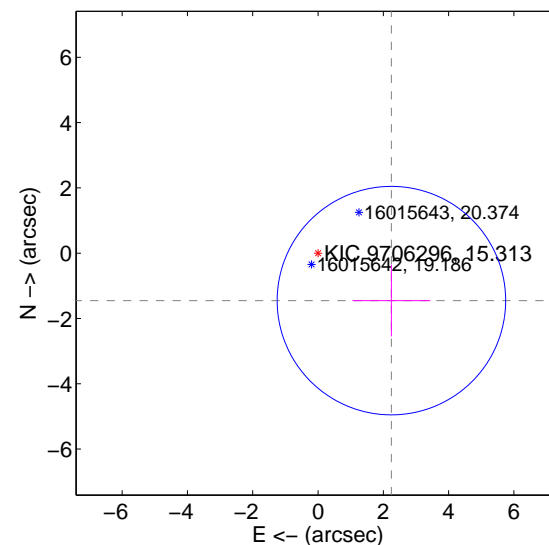
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

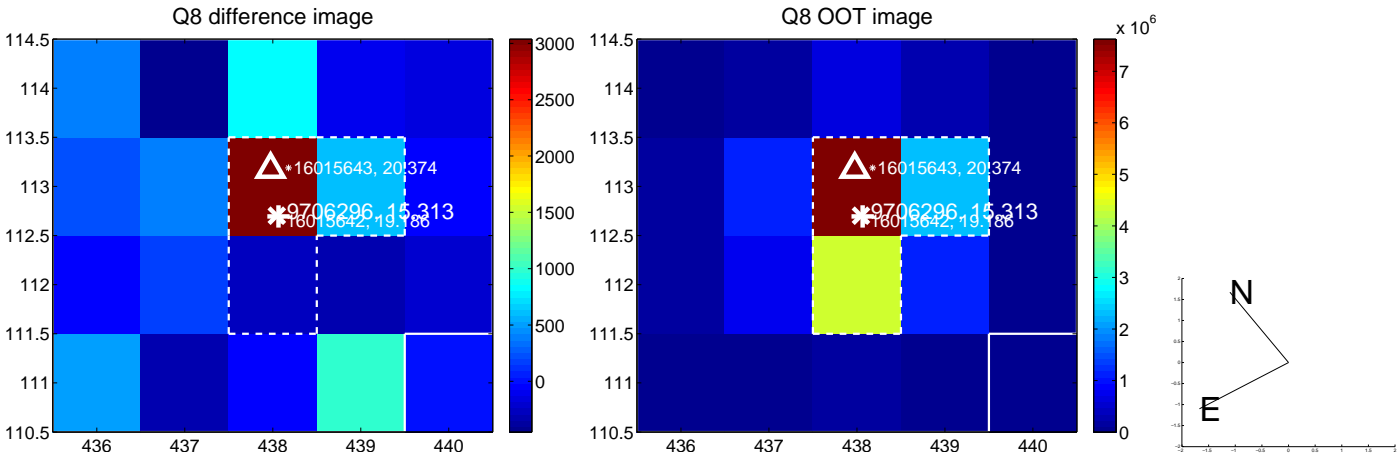
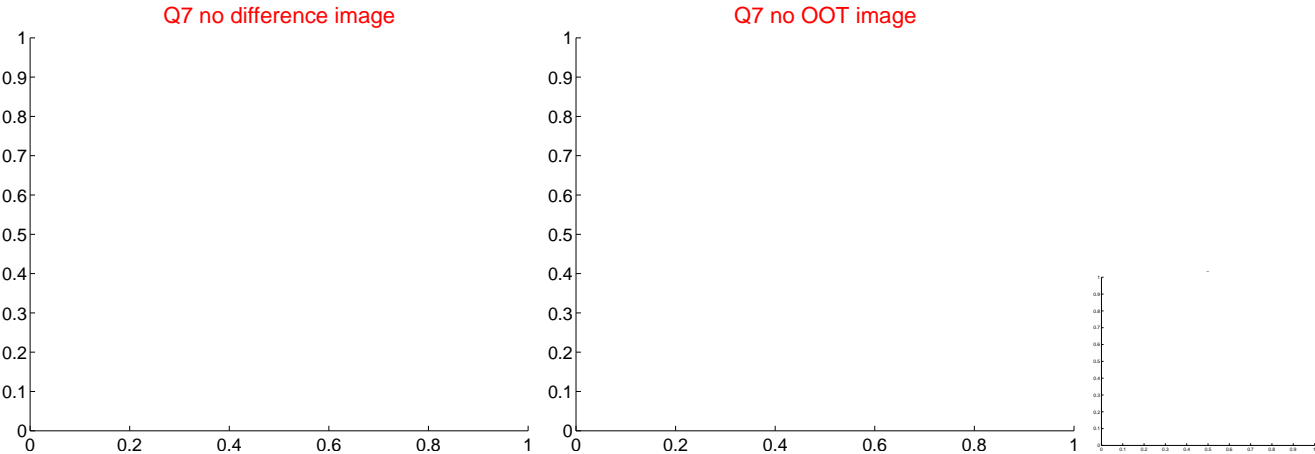
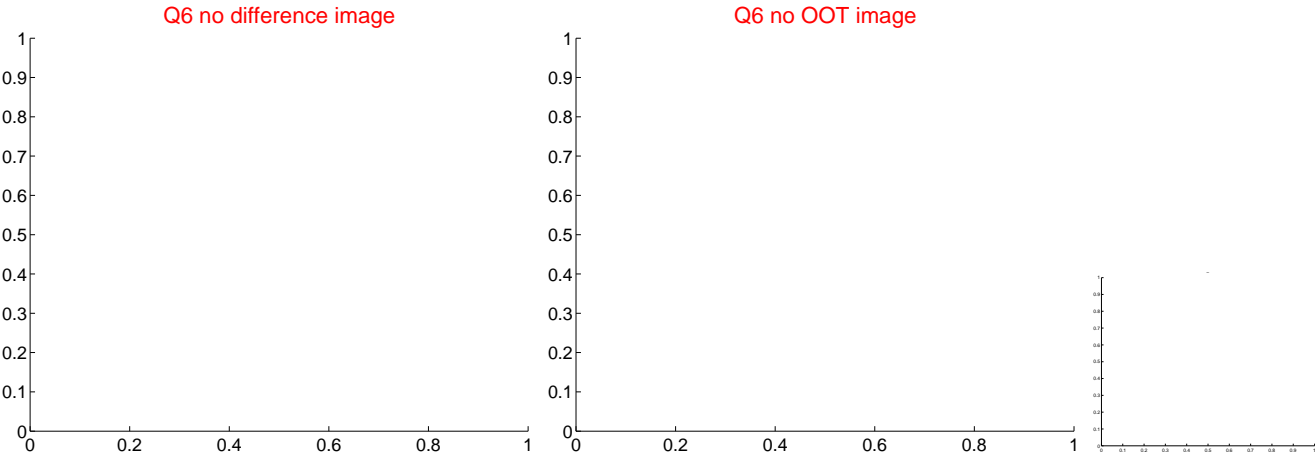
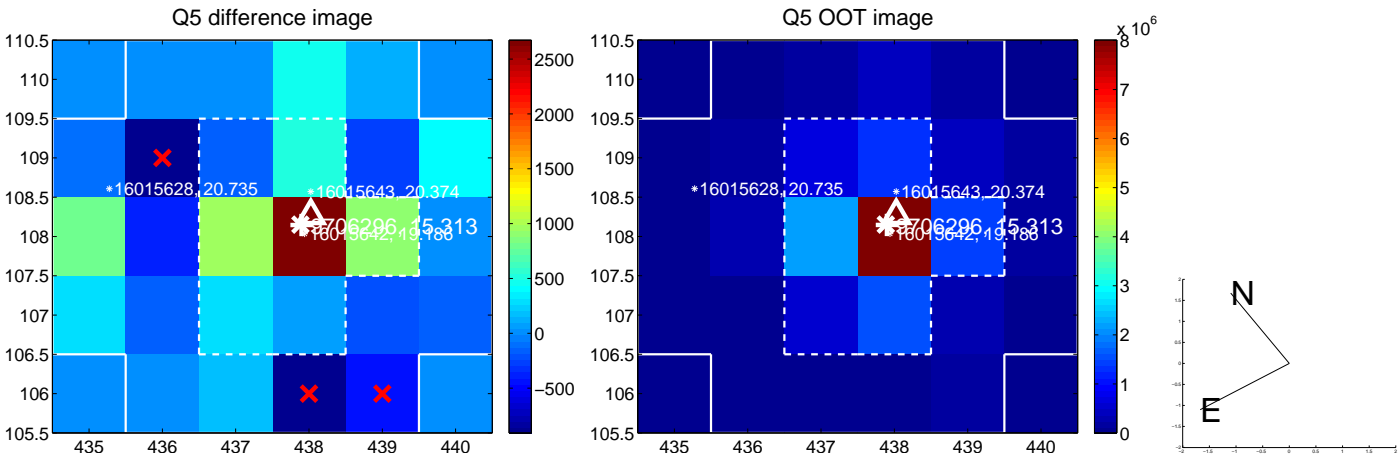


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



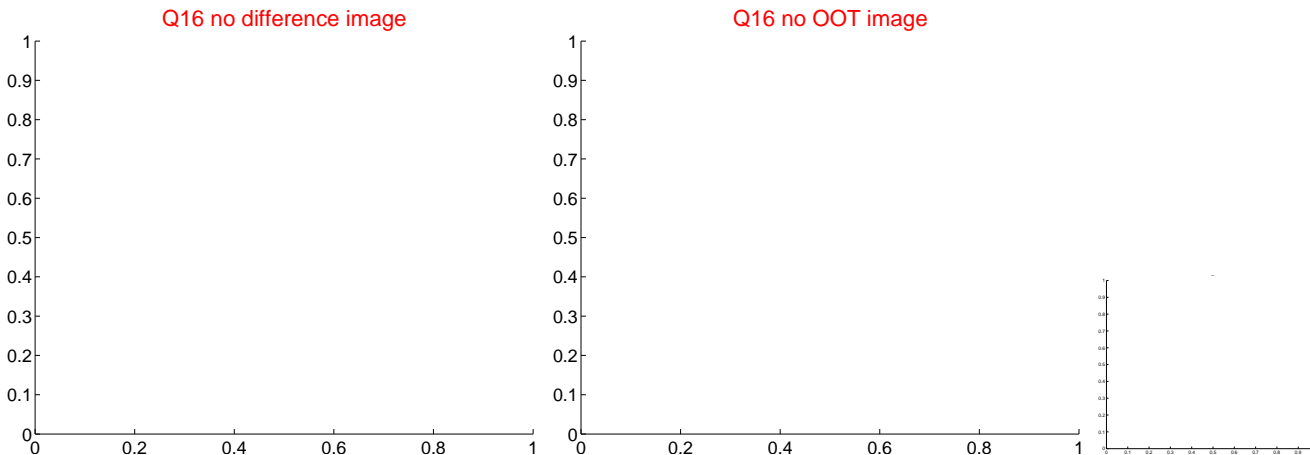
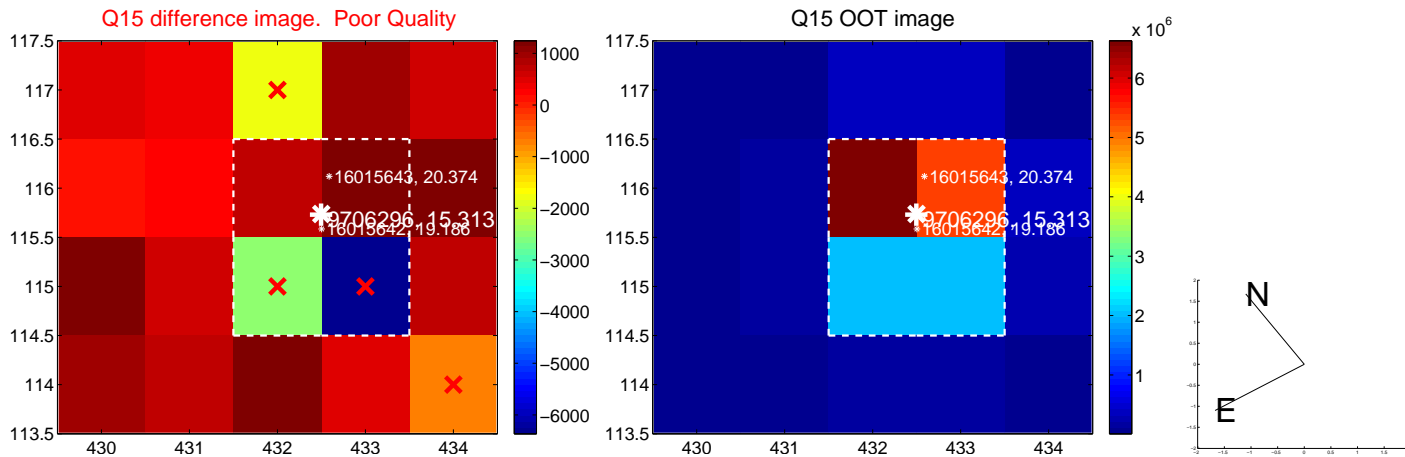
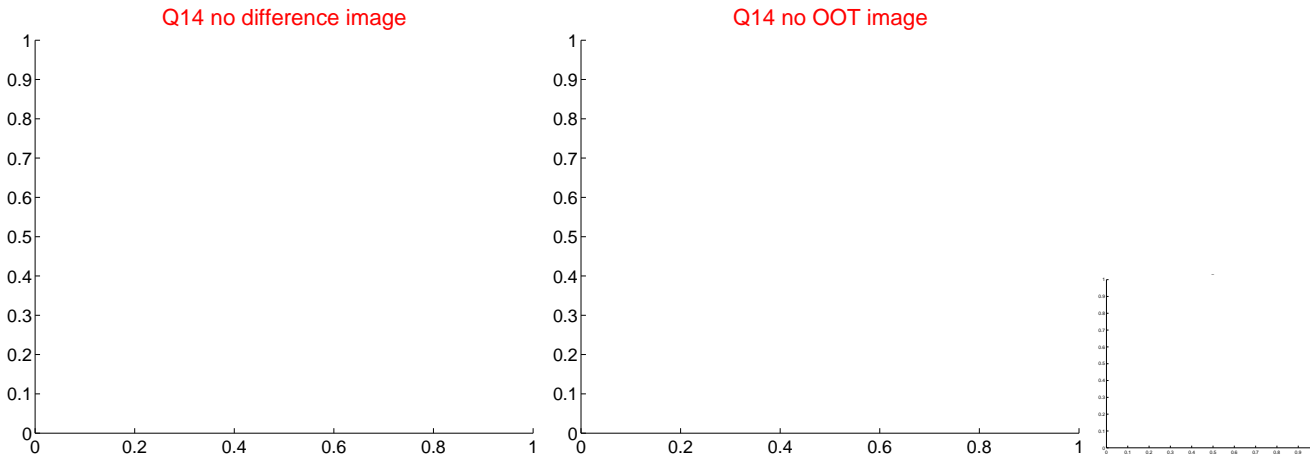
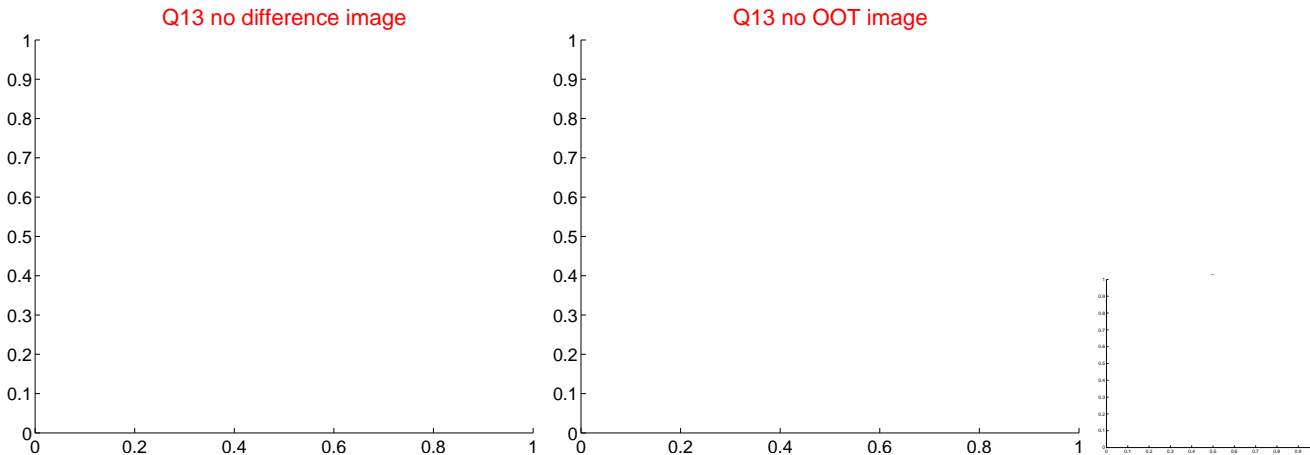
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



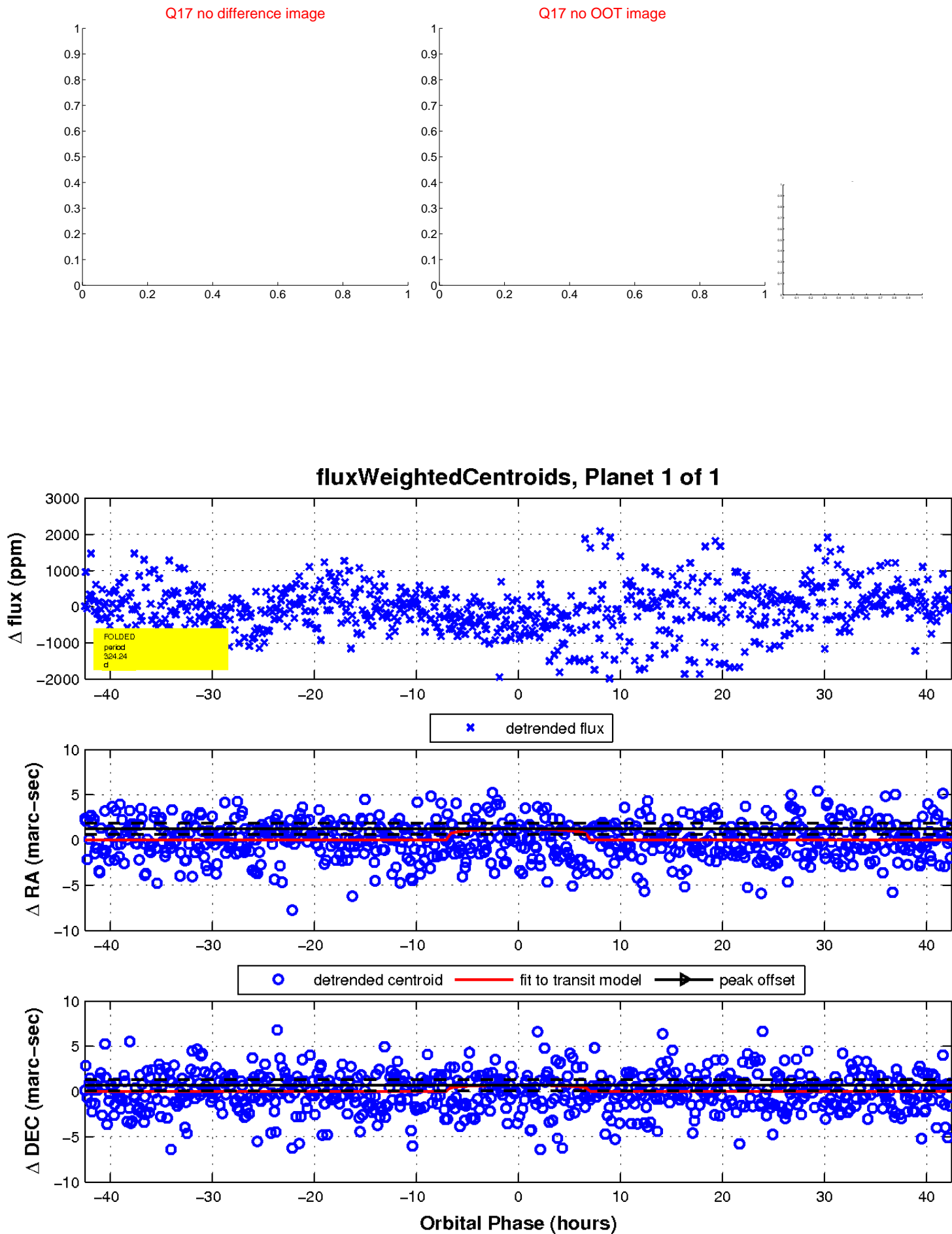
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UKIRT Image

Declination

