

KIC 010396960

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})
010396960-01	OBS	No	332.530681	429.117941	95.1	12.193	7.2	6.3	1.84	6258	1.92	4.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010396960-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

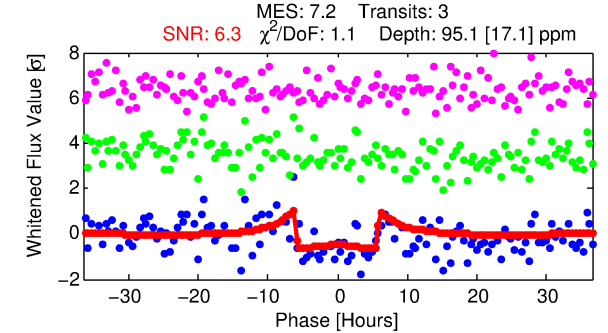
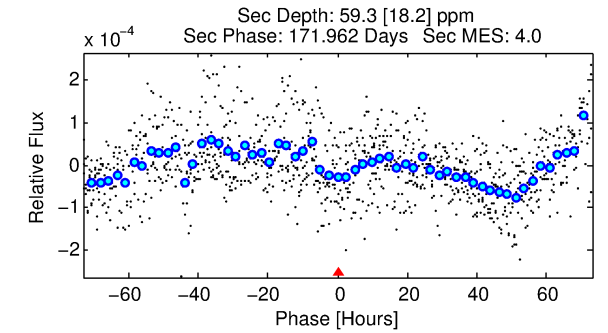
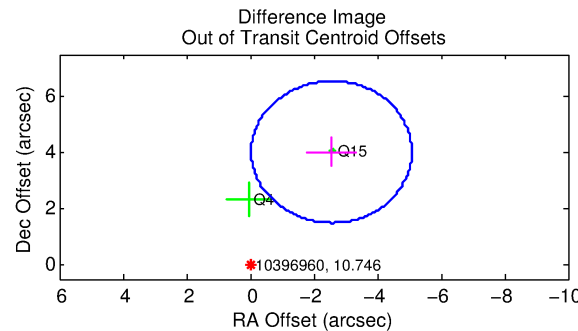
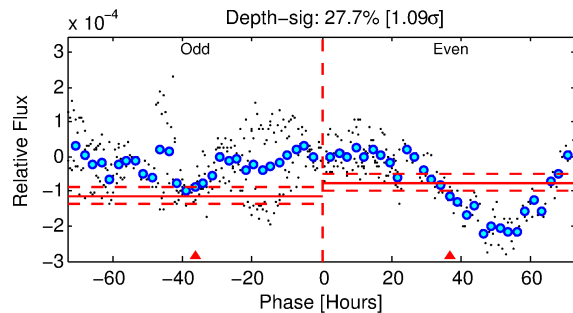
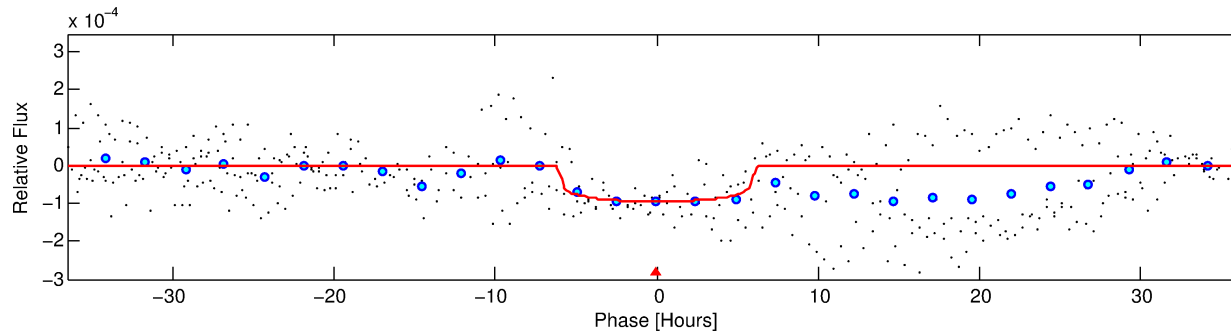
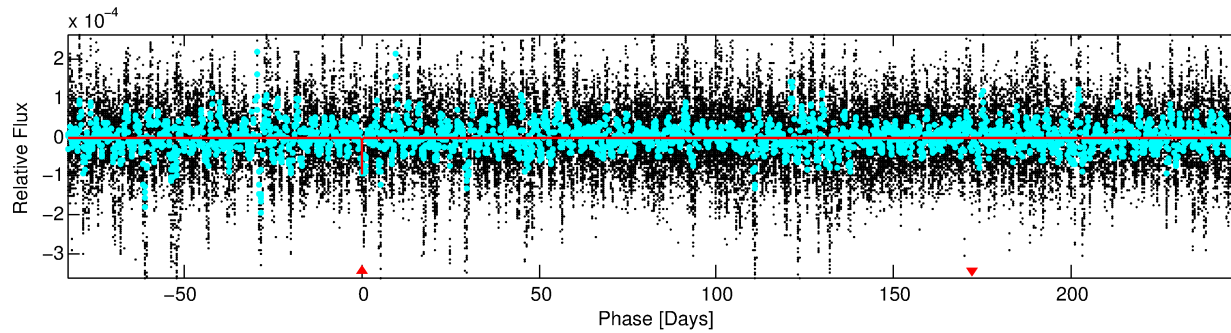
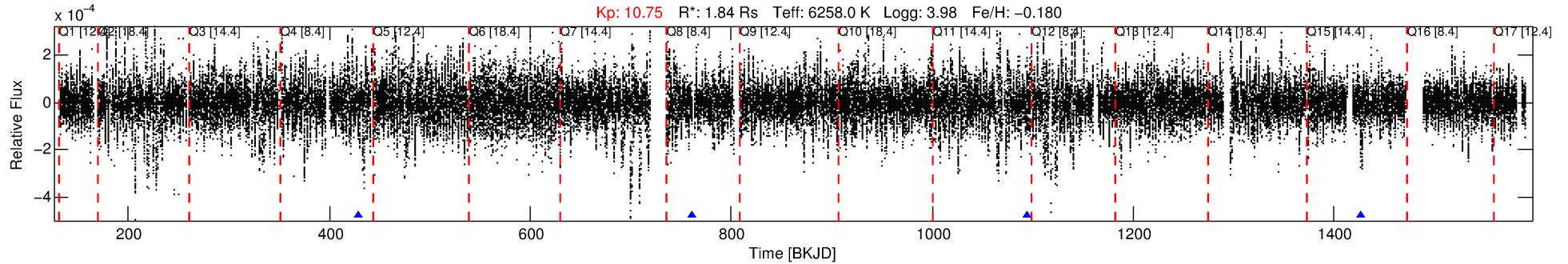
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010396960-01

No Significant Match Found

DV One-Page Summary

KIC: 10396960 Candidate: 1 of 1 Period: 332.531 d



DV Fit Results:

Period = 332.53068 [0.00515] d
Epoch = 429.1179 [0.0101] BKJD
 R_p/R^* = 0.0095 [0.0025]
 a/R^* = 153.81 [197.75]
 b = 0.69 [0.98]
 S_{eff} = 4.76 [3.00]
 T_{eq} = 377 [59] K
 R_p = 1.92 [0.92] R_e
 a = 0.9907 [0.3790] AU
 A_g = 8719.62 [7544.18] [1.16 σ]
 T_{eff} = 5626 [892] K [5.87 σ]

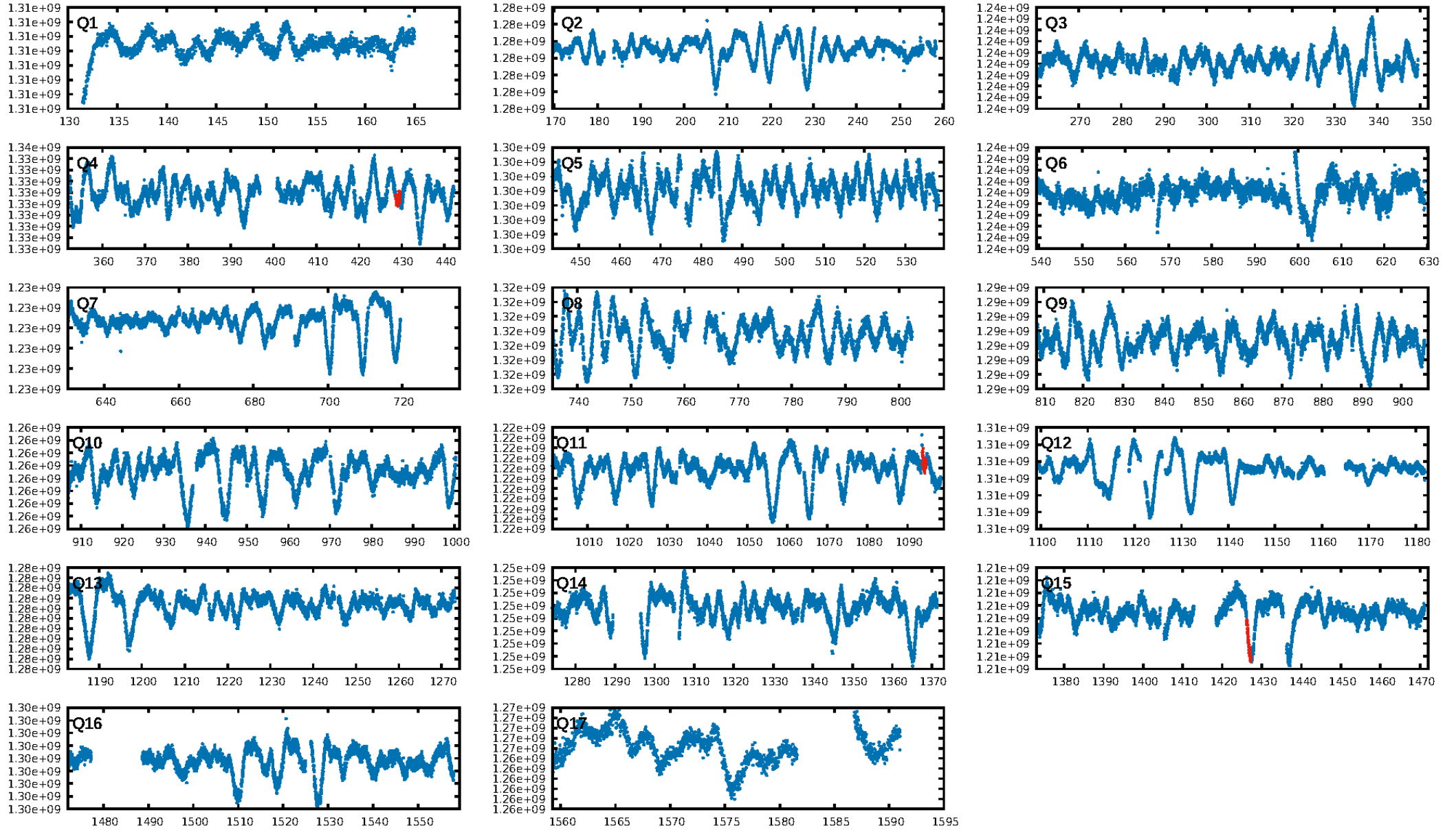
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 36.9%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 4.60e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.961
Centroid-sig: 77.8%
Centroid-so: 0.707 arcsec [0.55 σ]
OotOffset-rm: 4.767 arcsec [5.67 σ]
KicOffset-rm: 4.122 arcsec [12.89 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

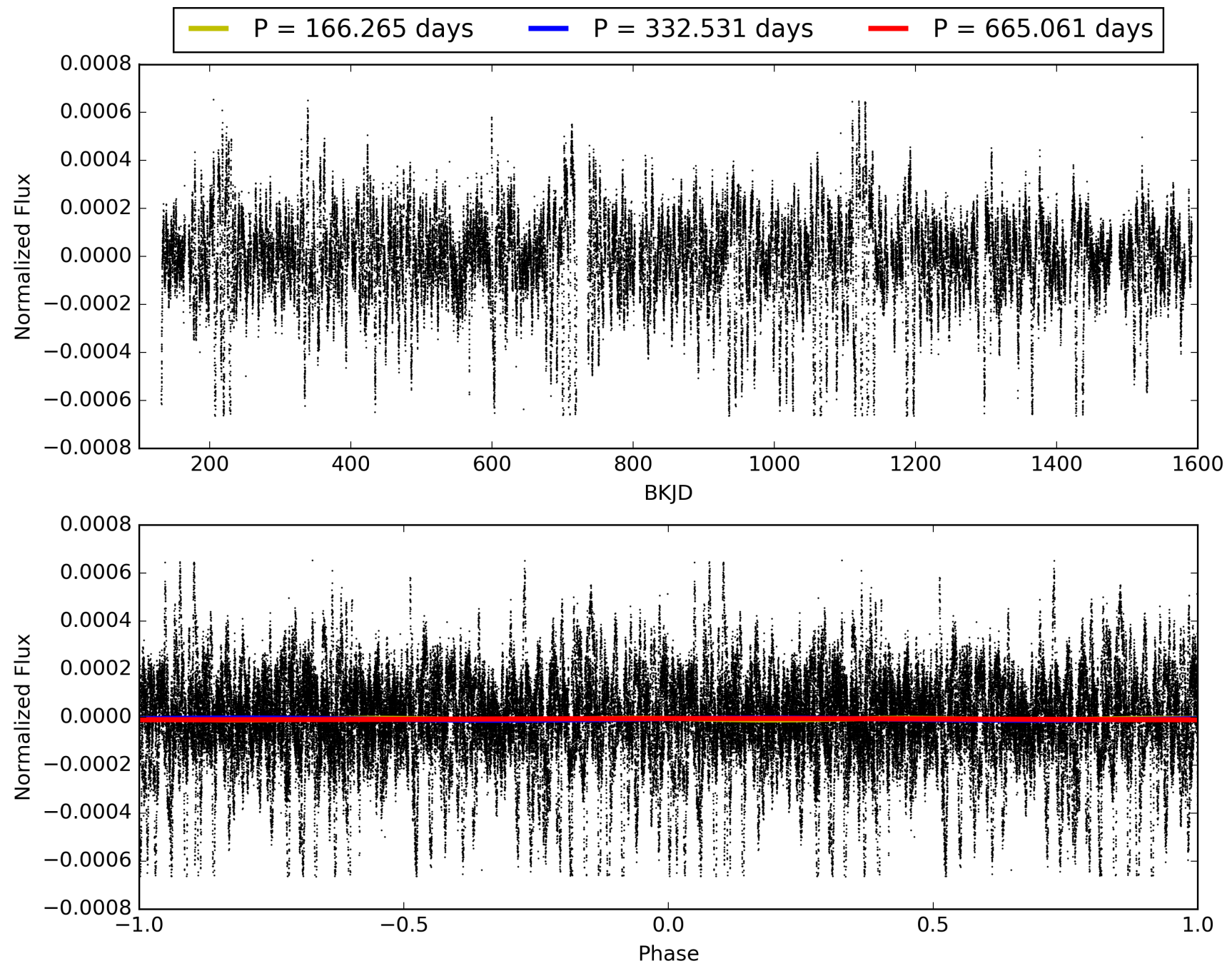
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:36:21 Z

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

TCE 010396960-01, PDC Light Curves

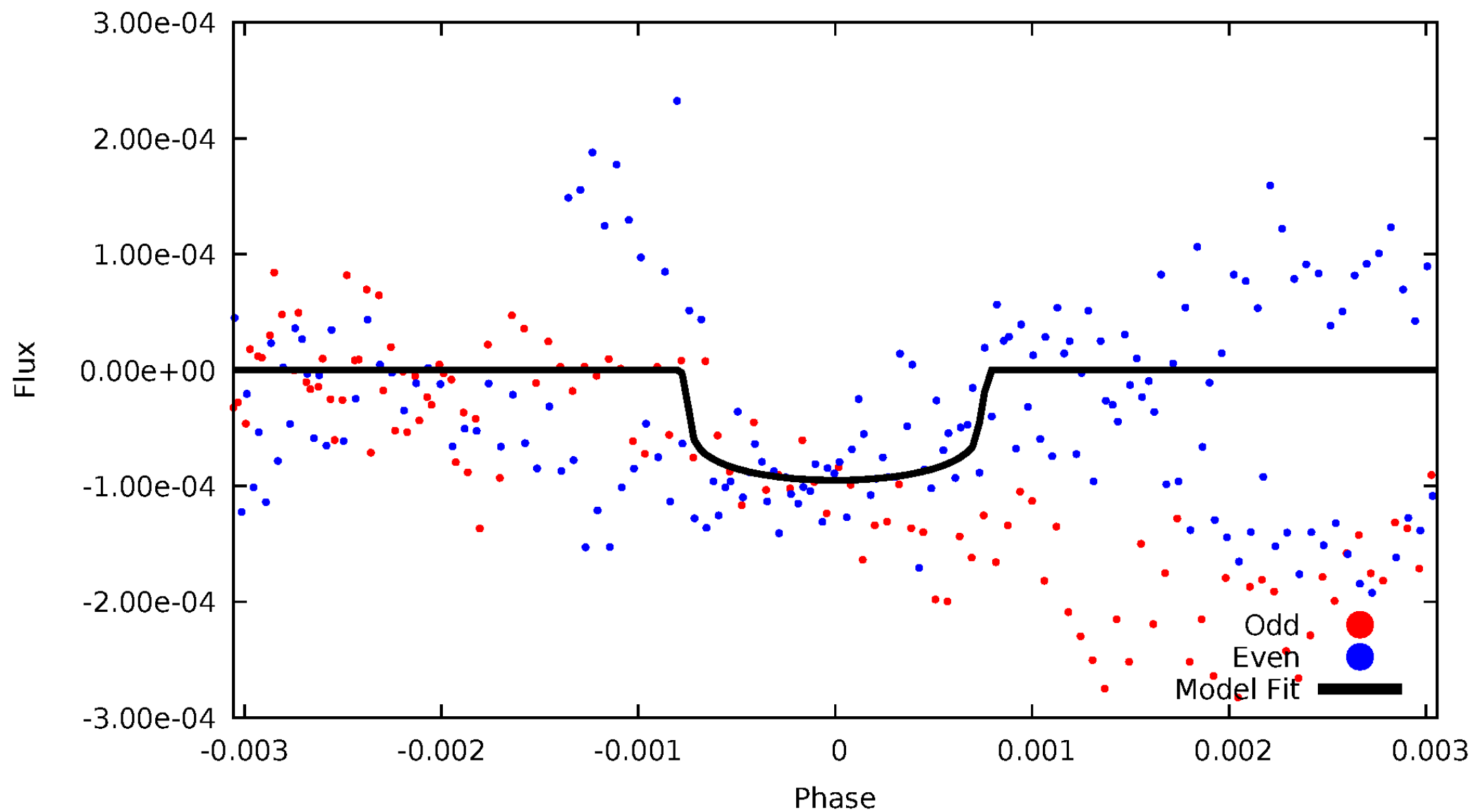


TCE 010396960-01



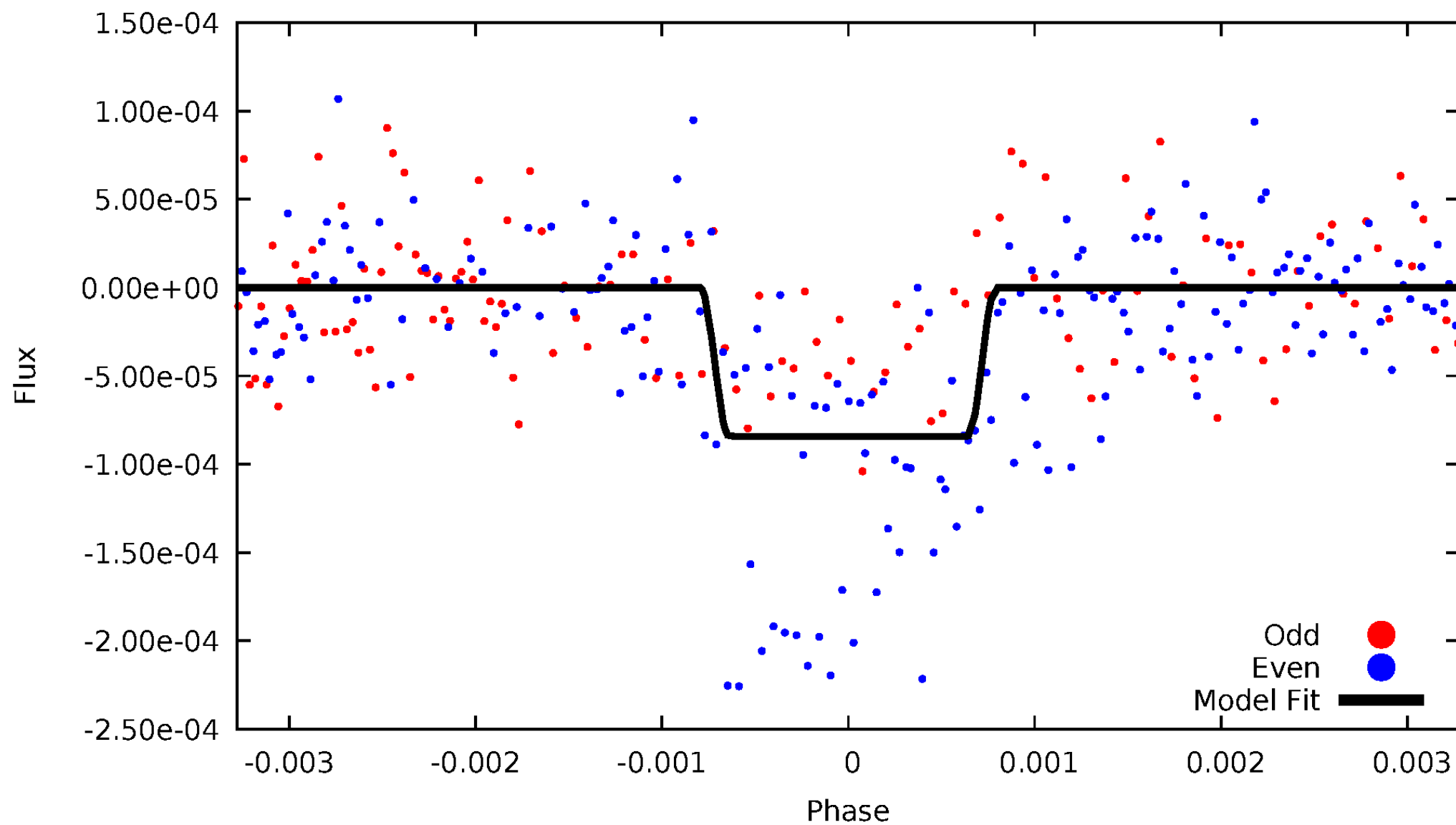
DV Odd/Even

TCE 010396960-01

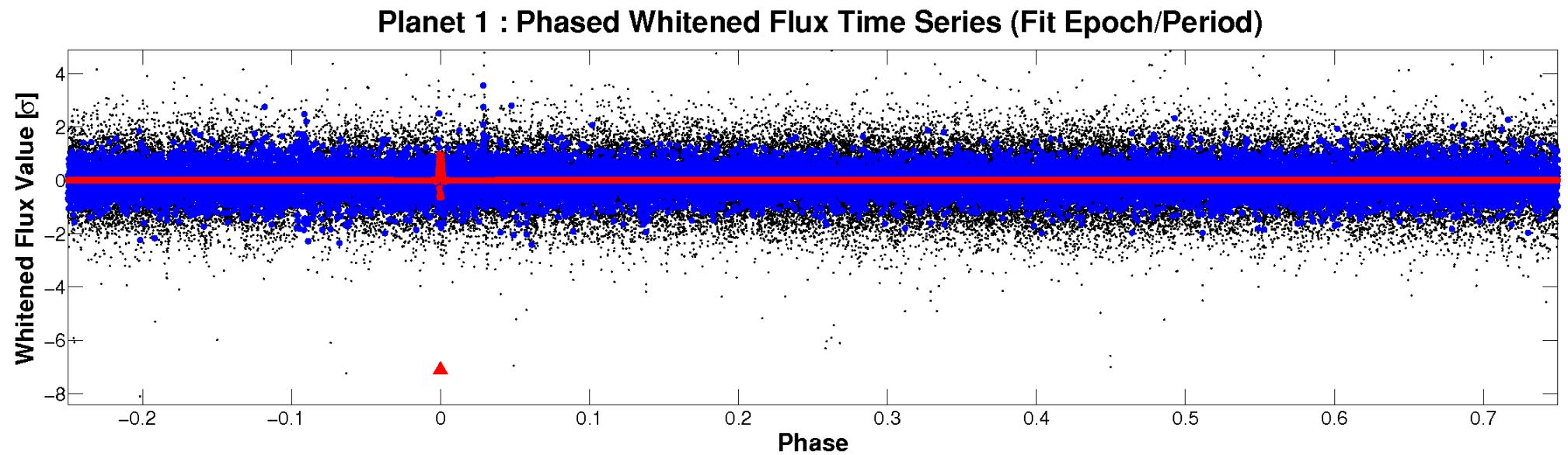
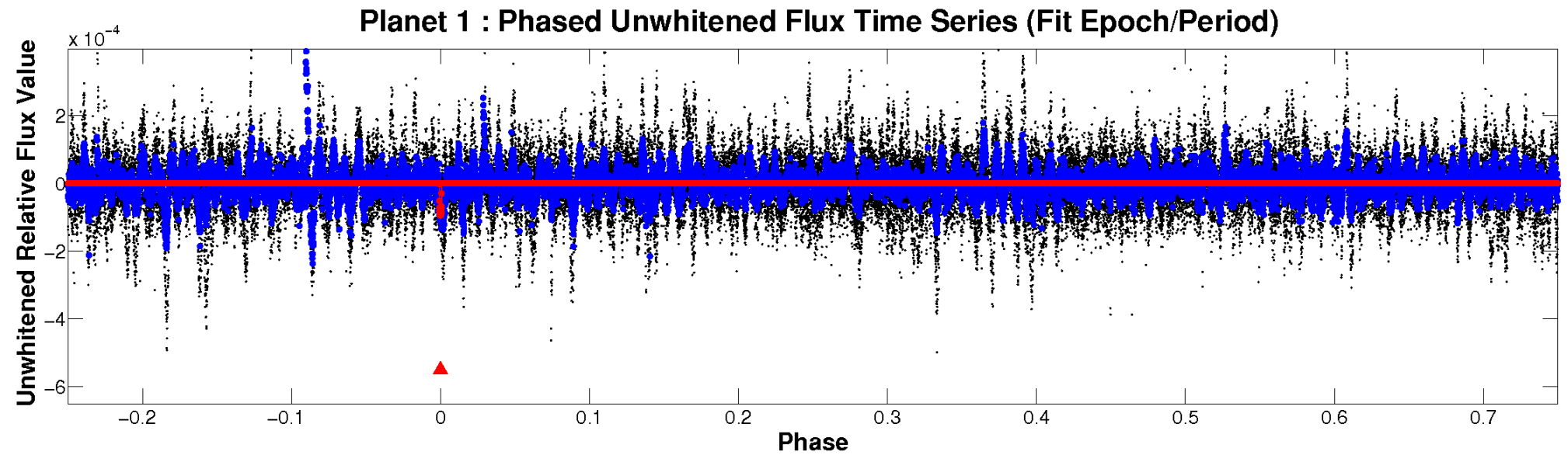


ALT Odd/Even

TCE 010396960-01



Non-Whitened Vs. Whitened Light Curve



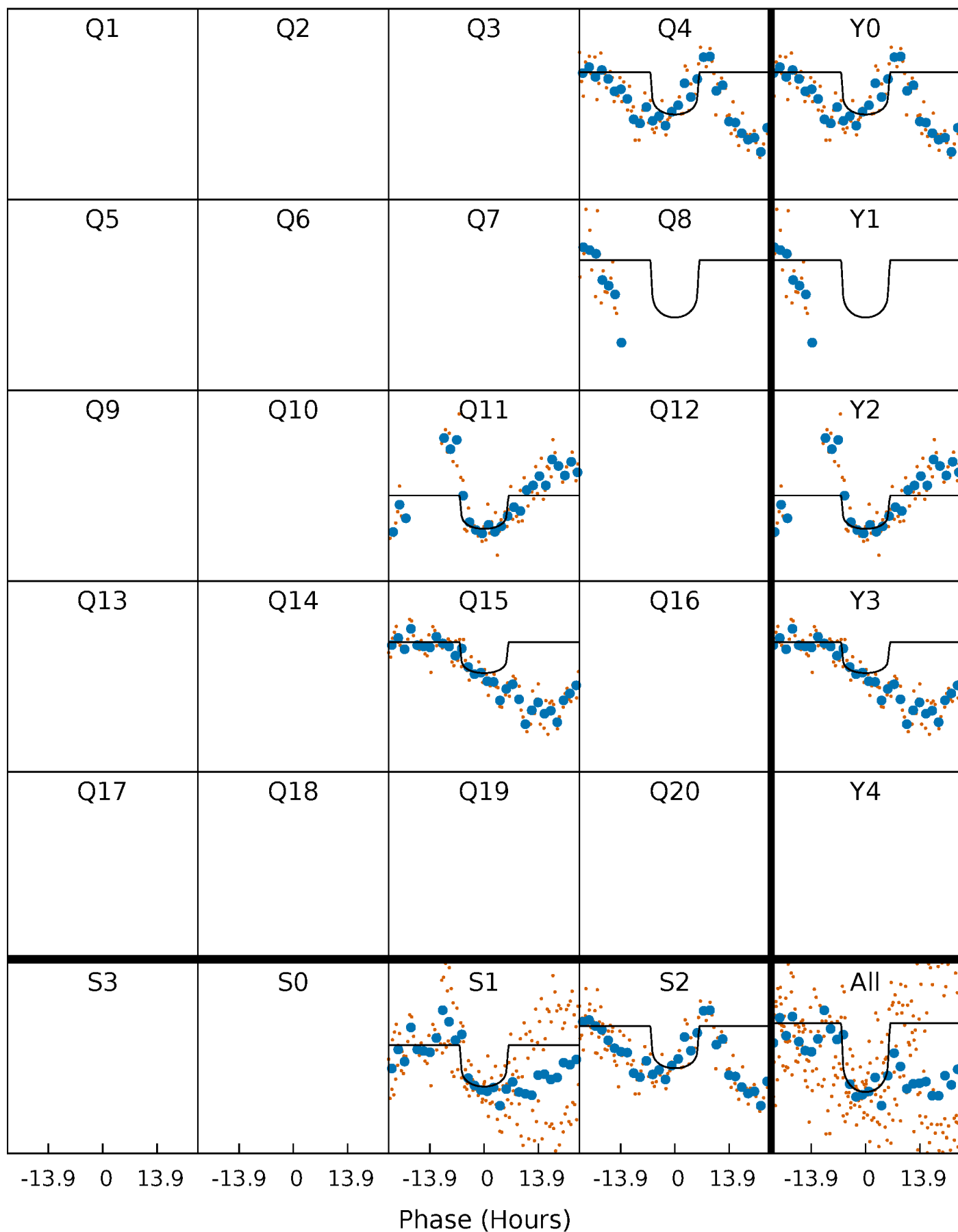
PDC Quarter-Phased Transit Curves

TCE 010396960-01 P=332.530681 Days $T_0=429.117941$ (BKJD)



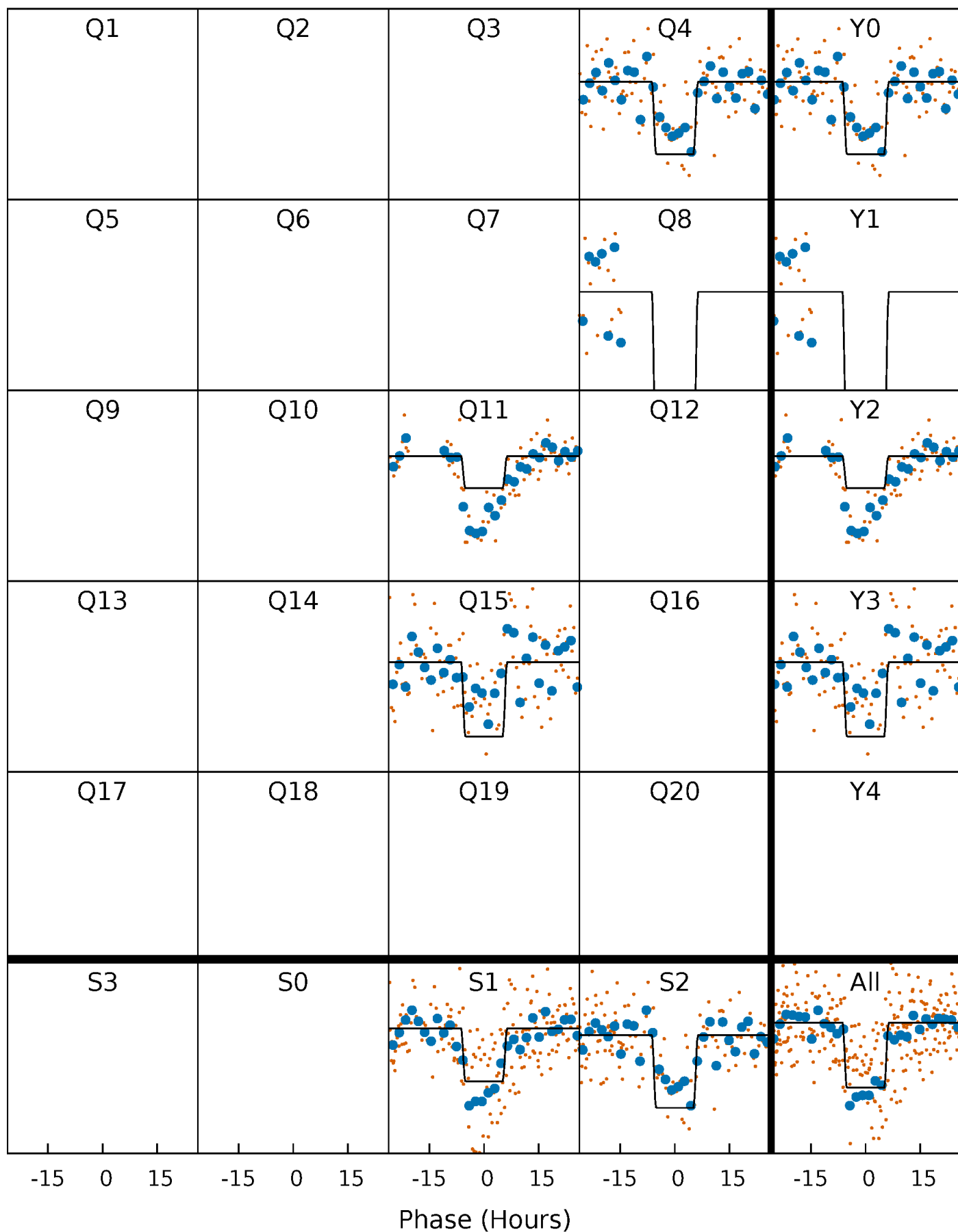
DV Quarter-Phased Transit Curves

TCE 010396960-01 P=332.530681 Days $T_0=429.117941$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

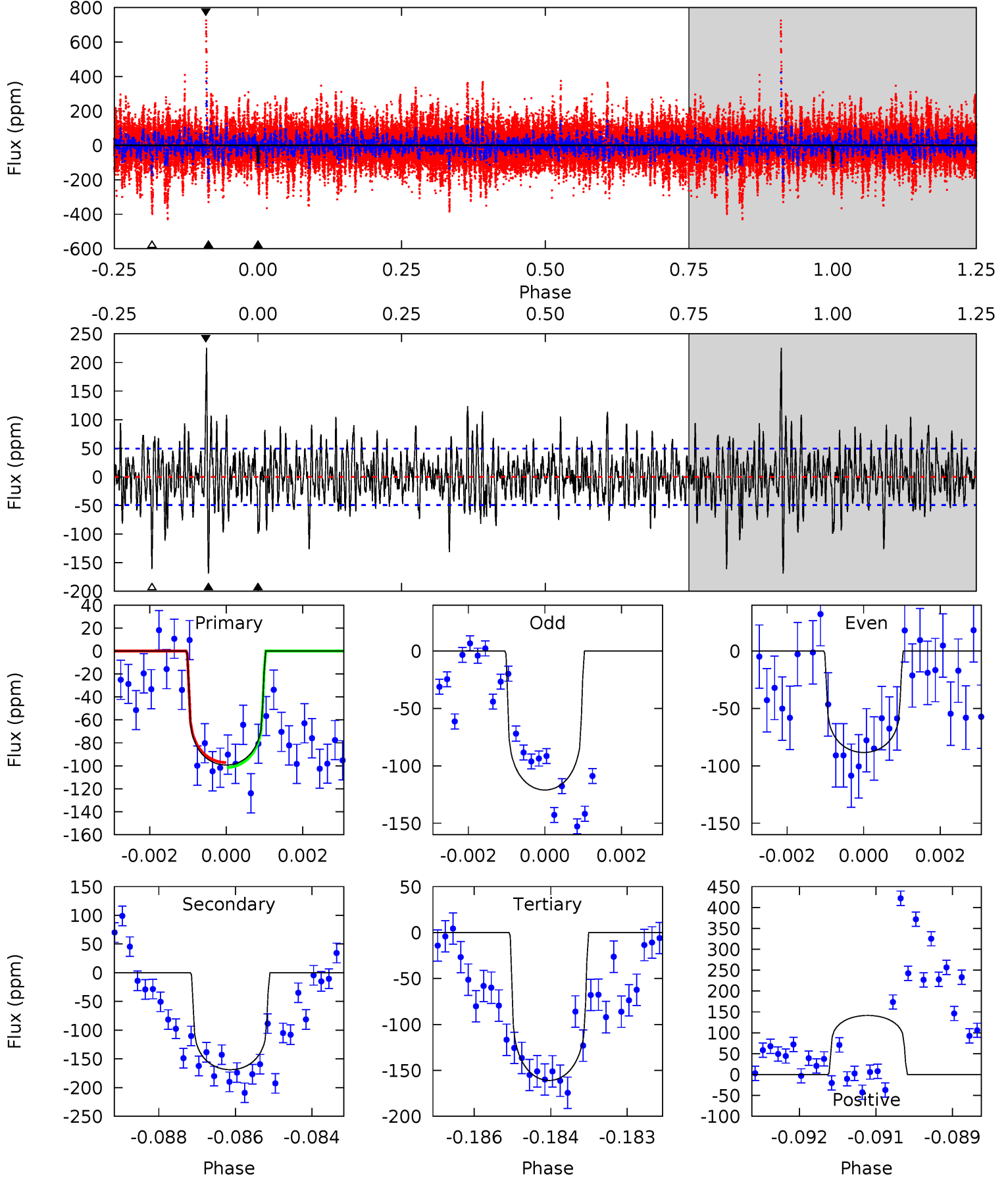
TCE 010396960-01 P=332.542567 Days $T_0=429.103821$ (BKJD)



DV Model-Shift Uniqueness Test

010396960-01, P = 332.530681 Days, E = 96.587260 Days

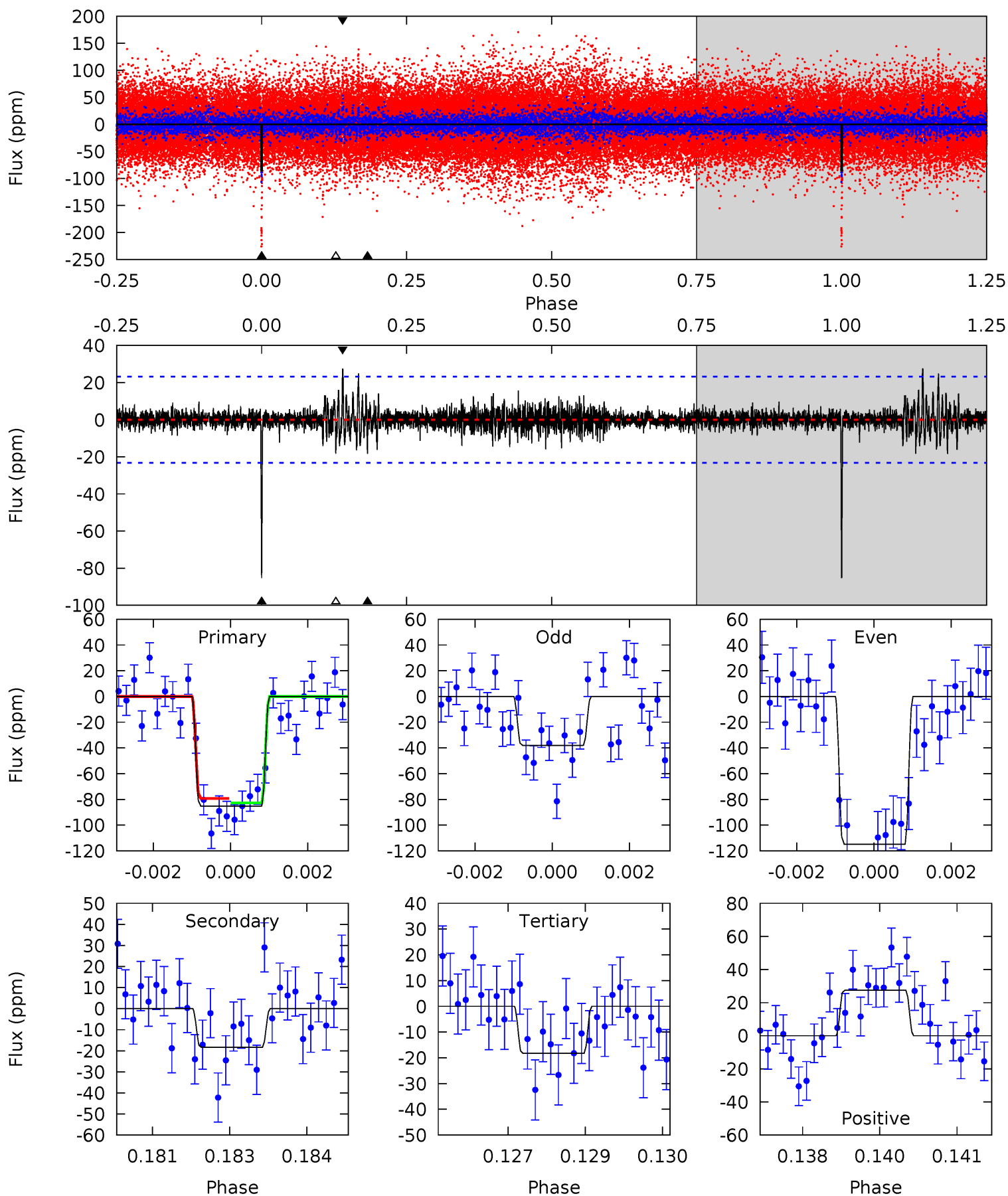
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	18.4	17.6	15.4	5.37	3.17	3.89	-6.72	-4.60	0.86	2.99	1.69	1.08	0.57	0.24



Alt Model-Shift Uniqueness Test

010396960-01, $P = 332.542567$ Days, $E = 96.561254$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	4.25	4.23	6.36	5.37	3.16	0.90	15.5	13.4	0.02	-2.11	8.52	1.54	0.24	0.41



Stellar Parameters For KIC 010396960

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6258^{+181}_{-249}	$3.976^{+0.357}_{-0.153}$	$-0.180^{+0.300}_{-0.300}$	$1.843^{+0.492}_{-0.738}$	$1.172^{+0.189}_{-0.208}$	$0.264^{+0.805}_{-0.110}$
	+3%/-4%	+9%/-4%	+167%/-167%	+27%/-40%	+16%/-18%	+306%/-42%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010396960-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-169 ± 9	$1.82^{+0.68}_{-0.60}$	517^{+44}_{-56}	7358^{+1687}_{-956}	27446^{+33976}_{-12282}
Alt.	-18 ± 4	$1.76^{+0.61}_{-0.59}$	517^{+41}_{-52}	4434^{+709}_{-433}	3191^{+3929}_{-1526}

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

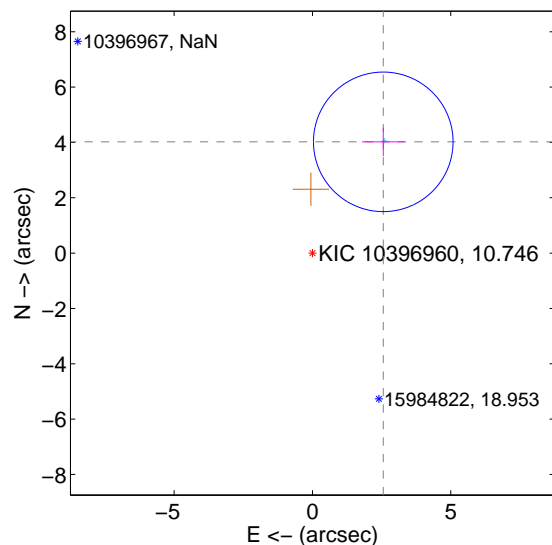
Supplemental centroid analysis for 010396960-01. **Kepler magnitude: 10.75.** Transit SNR 6.27

There are 1 quarters with good PRF difference image offsets

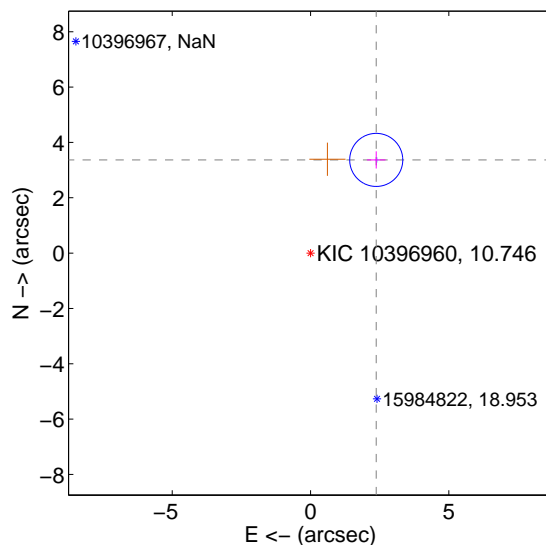
The direct PRF centroid is offset from the target star catalog position by about 0.72 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.767 \pm 0.841	5.67	-2.560 \pm 0.767	4.022 \pm 0.511
PRF-fit source offset from KIC position	4.122 \pm 0.320	12.89	-2.375 \pm 0.336	3.369 \pm 0.311
photometric centroid source offset	0.71 \pm 1.28	0.55	-0.29 \pm 1.03	0.64 \pm 1.33

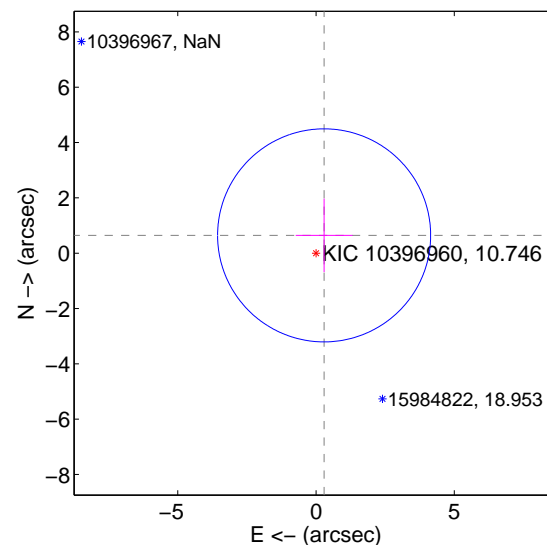
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

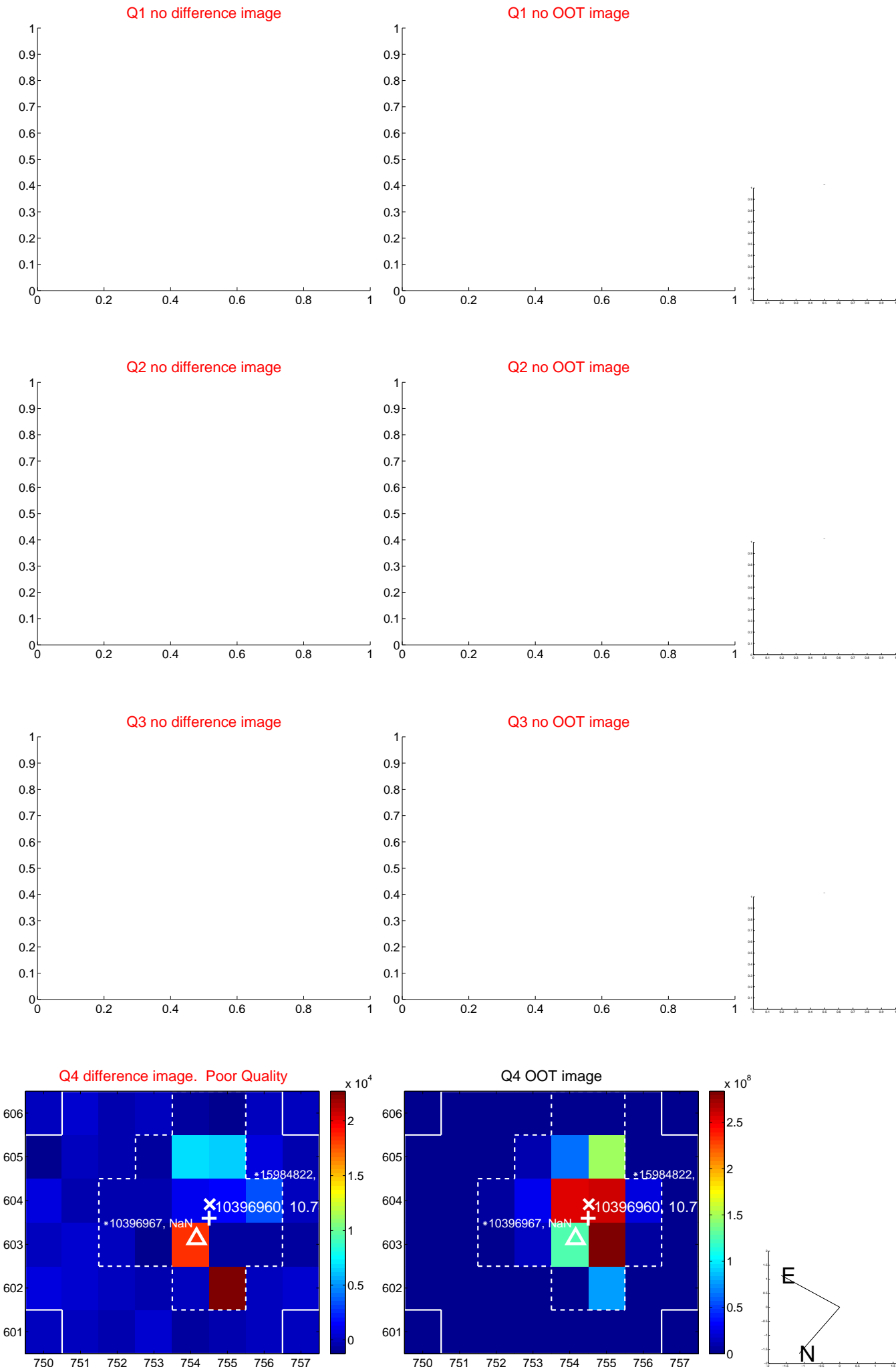


offset from photometric centroids



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.



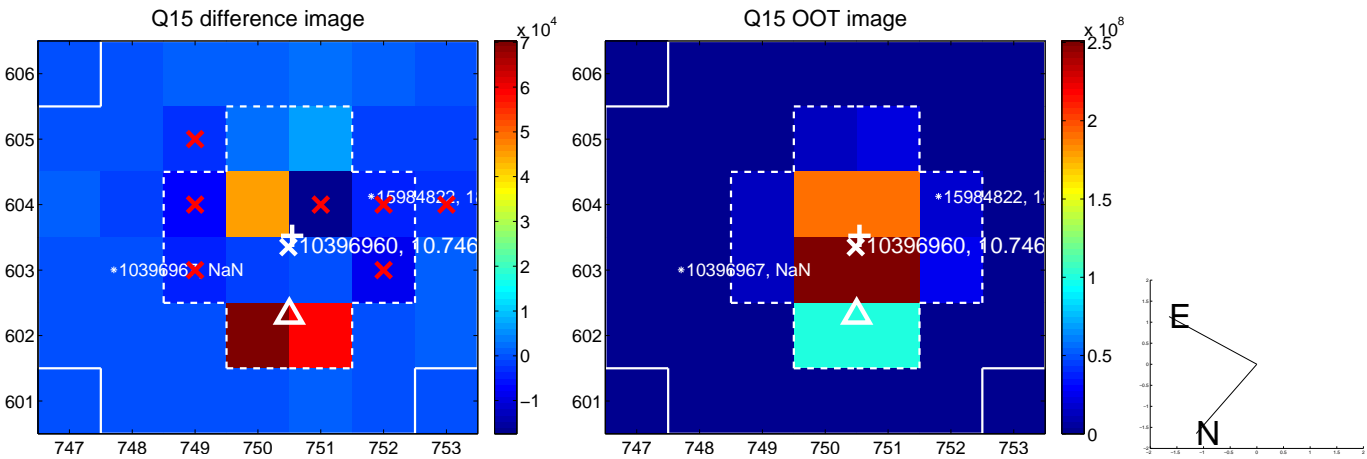
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



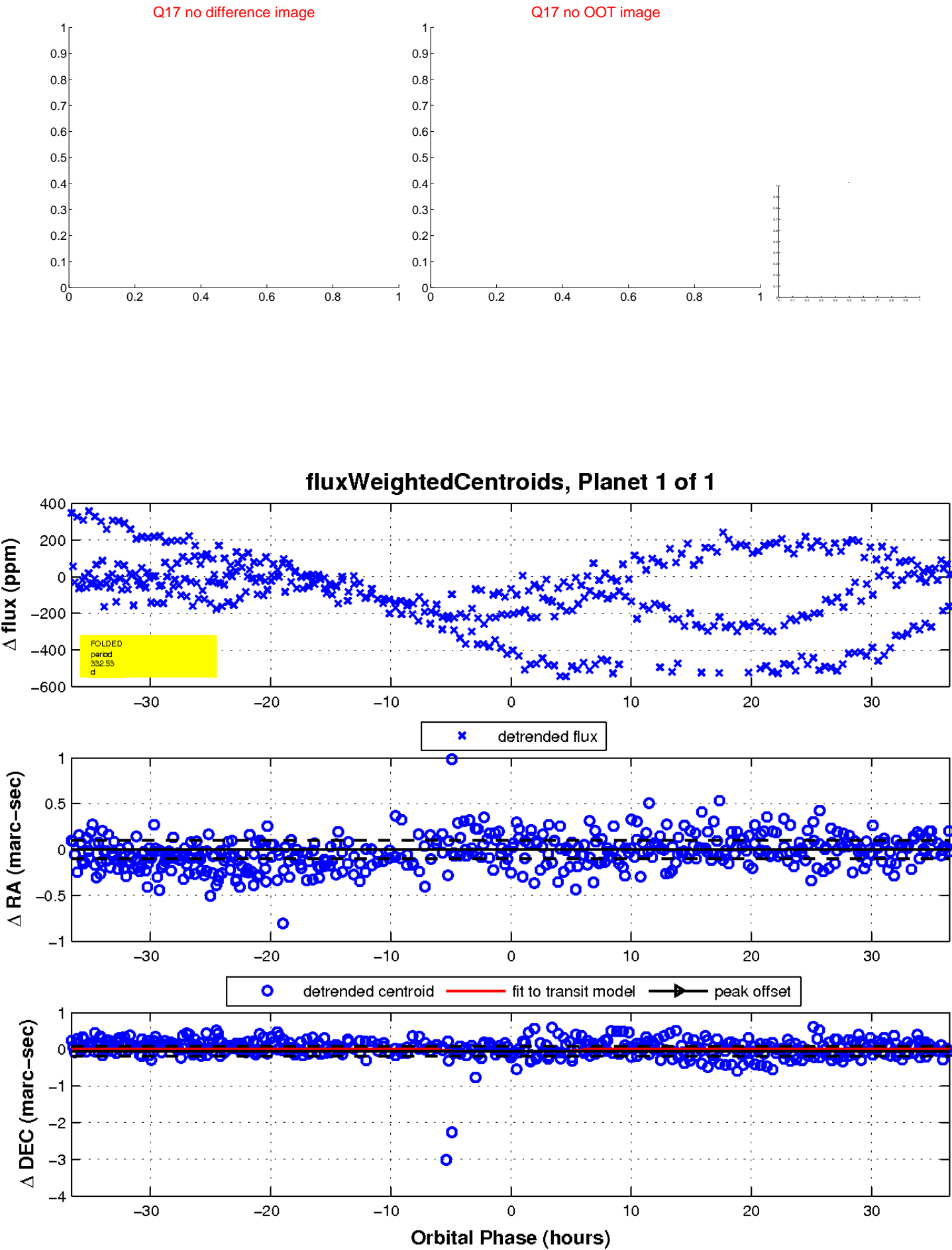
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

