

KIC 006210228

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})
006210228-01	OBS	No	514.866694	532.699050	354.8	9.300	7.9	7.3	1.39	6013	2.80	1.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006210228-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

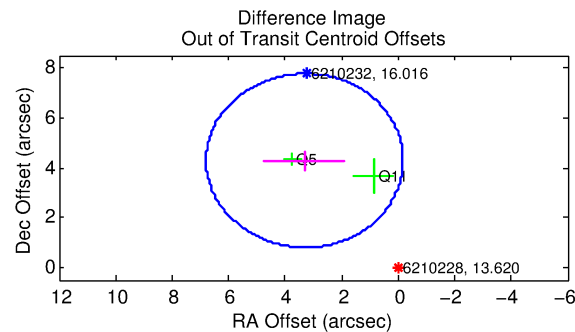
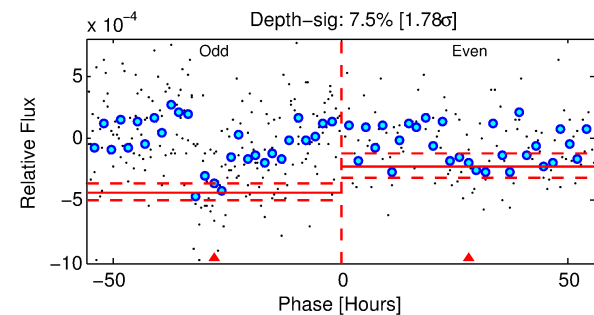
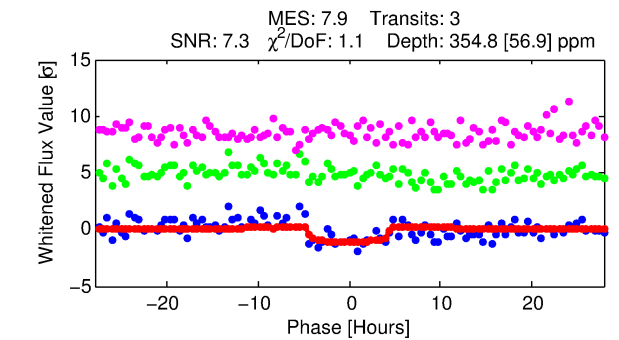
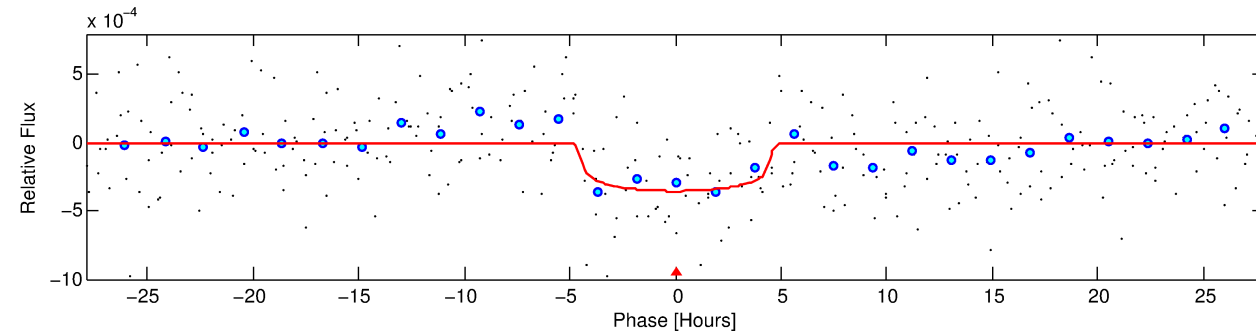
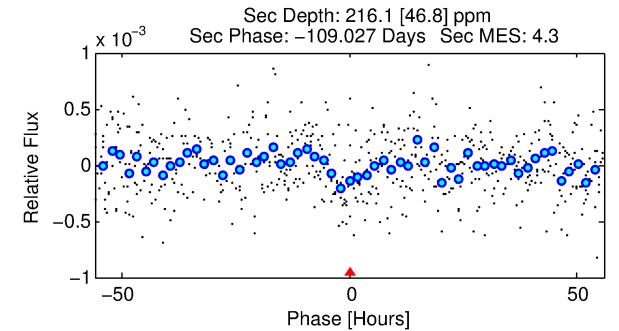
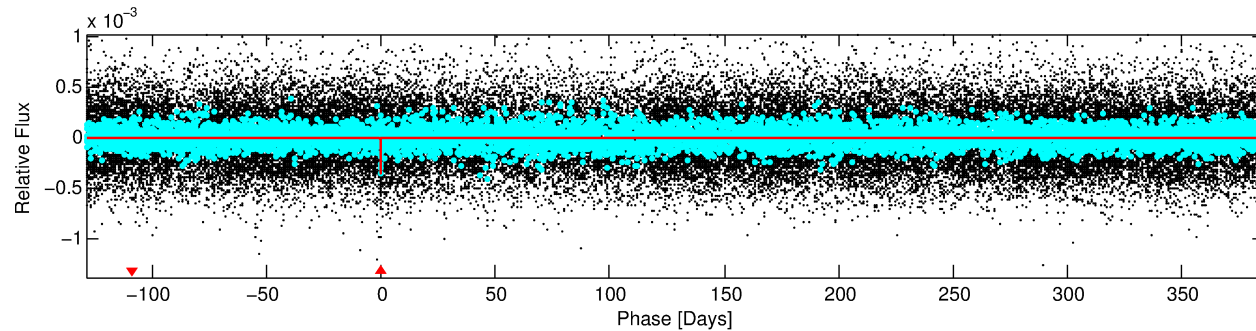
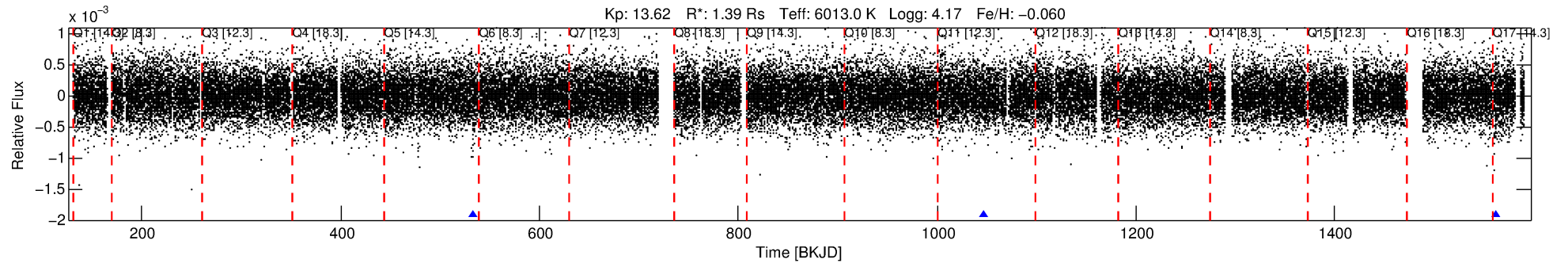
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006210228-01

No Significant Match Found

DV One-Page Summary

KIC: 6210228 Candidate: 1 of 1 Period: 514.867 d



DV Fit Results:

Period = 514.86669 [0.01442] d
Epoch = 532.6990 [0.0202] BKJD
Rp/R* = 0.0185 [0.0212]
a/R* = 310.81 [1718.08]
b = 0.71 [3.98]
Seff = 1.38 [0.63]
Teff = 277 [31] K
Rp = 2.80 [3.31] Re
a = 1.2789 [0.3420] AU
Ag = 24778.99 [58062.75] [0.43 σ]
Teffp = 5365 [3097] K [1.64 σ]

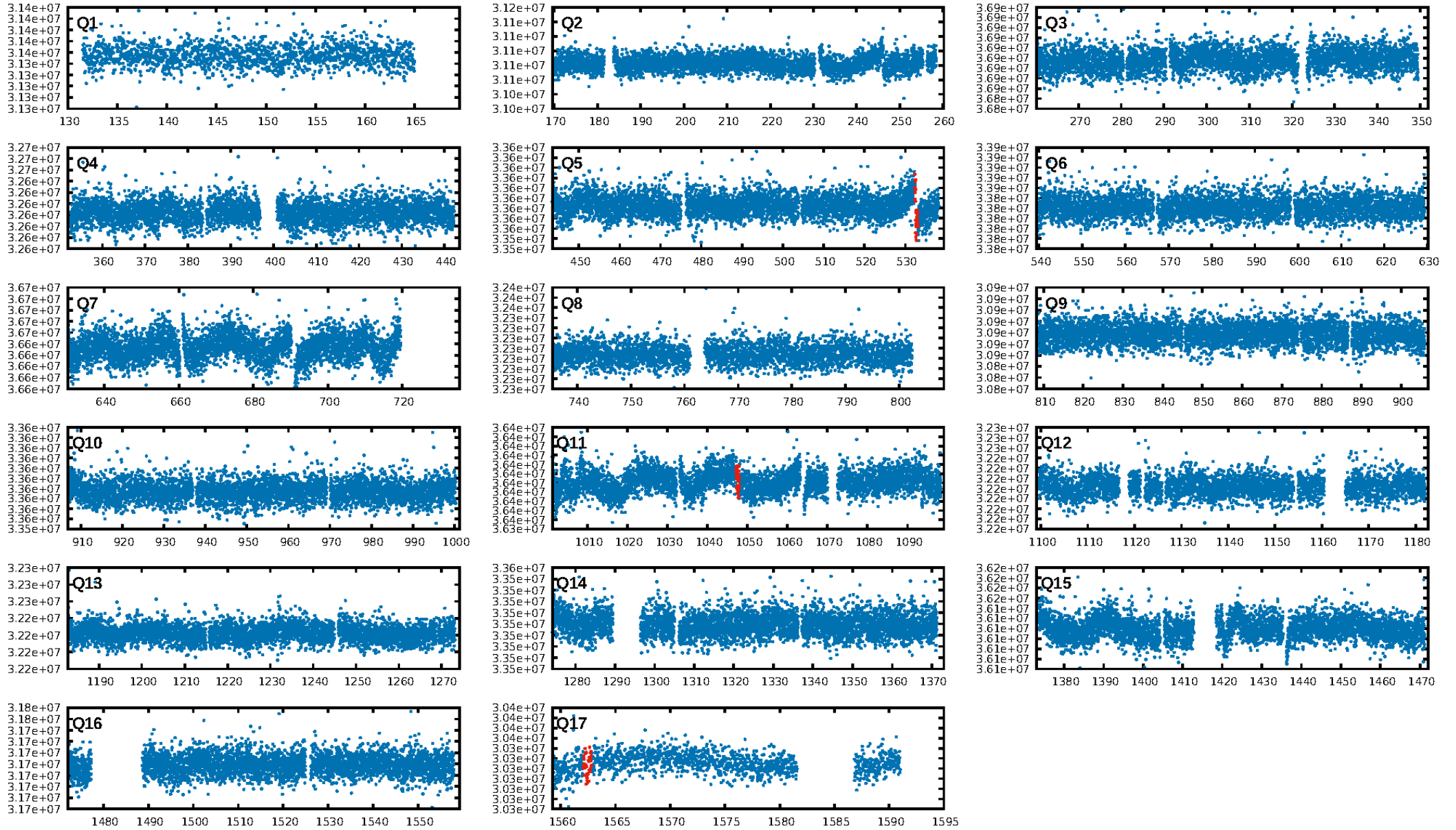
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.2%
ModelChiSquareGof-sig: 96.2%
Bootstrap-pfa: 2.95e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 5.611
Centroid-sig: 36.8%
Centroid-so: 0.578 arcsec [0.43 σ]
OotOffset-rm: 5.413 arcsec [4.66 σ]
KicOffset-rm: 2.986 arcsec [5.79 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

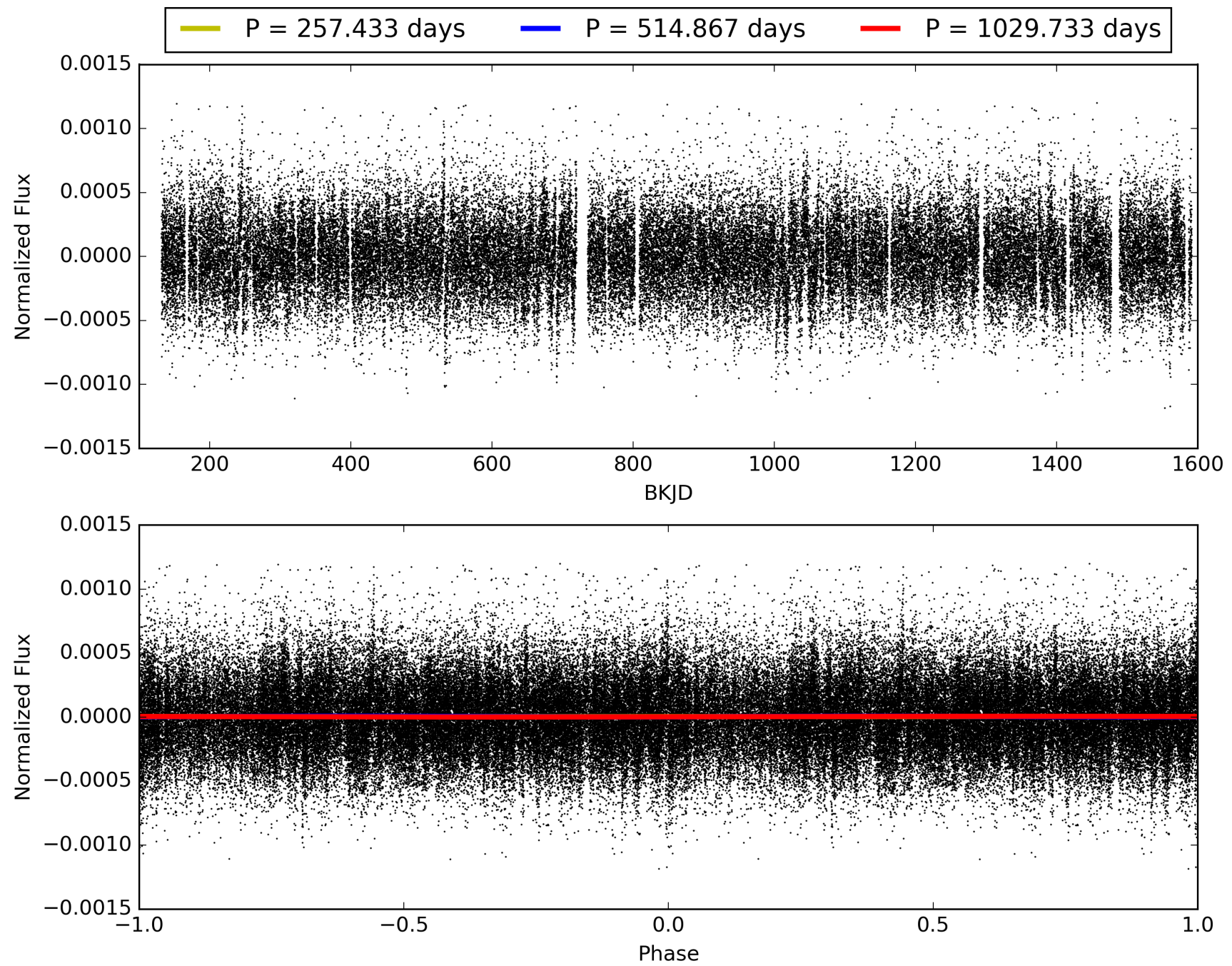
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:02:27 Z

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

TCE 006210228-01, PDC Light Curves

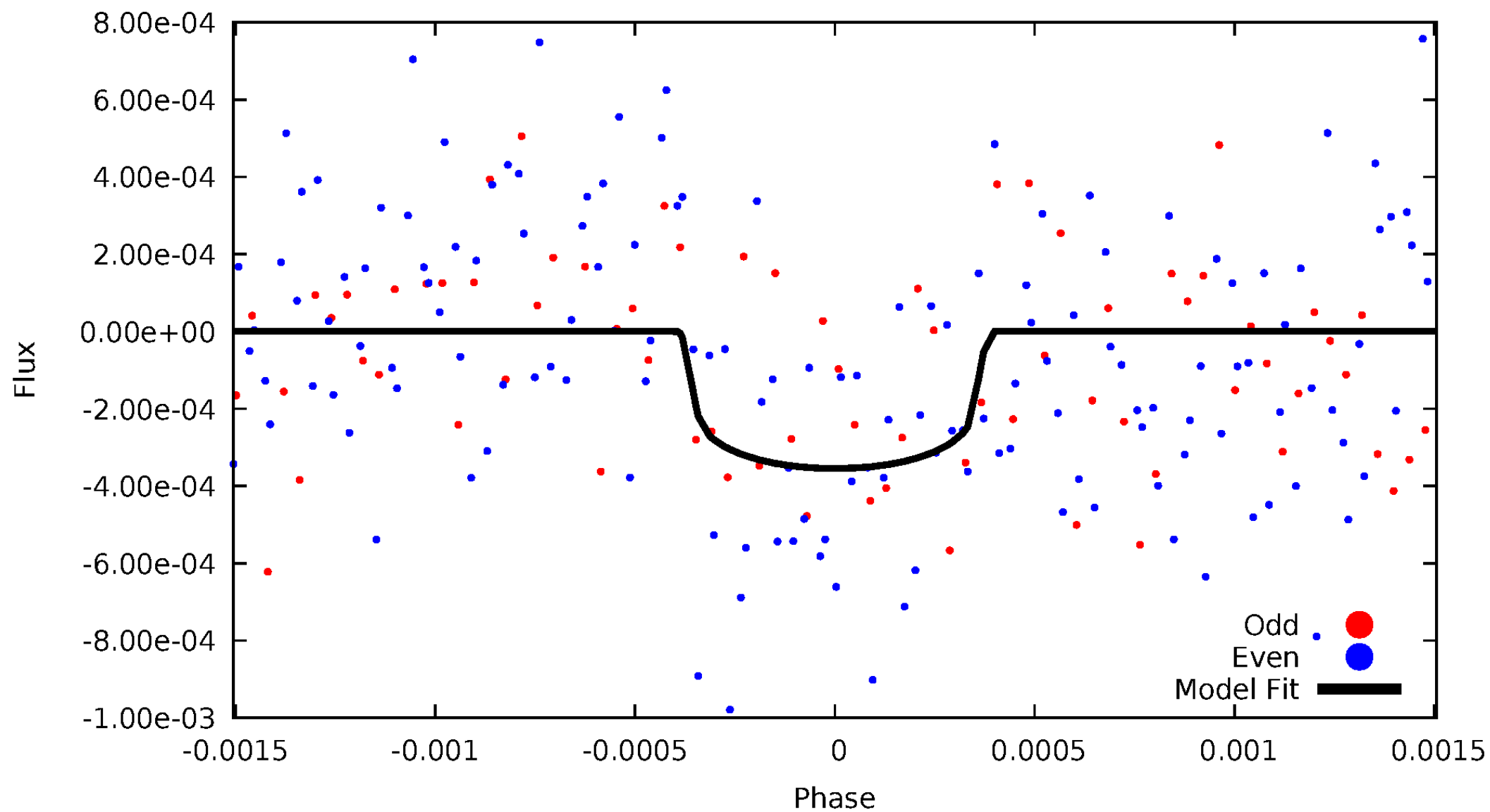


TCE 006210228-01



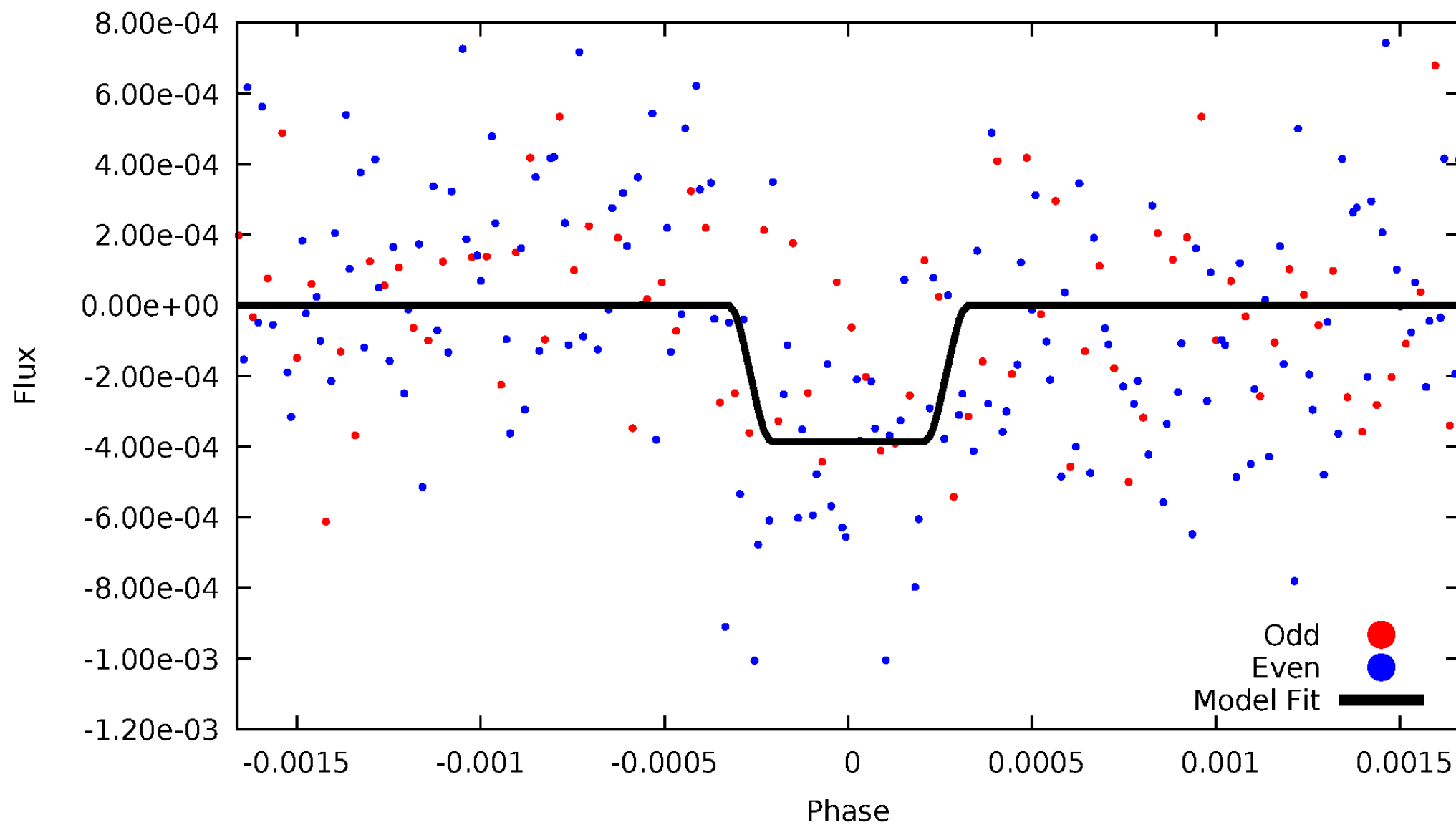
DV Odd/Even

TCE 006210228-01



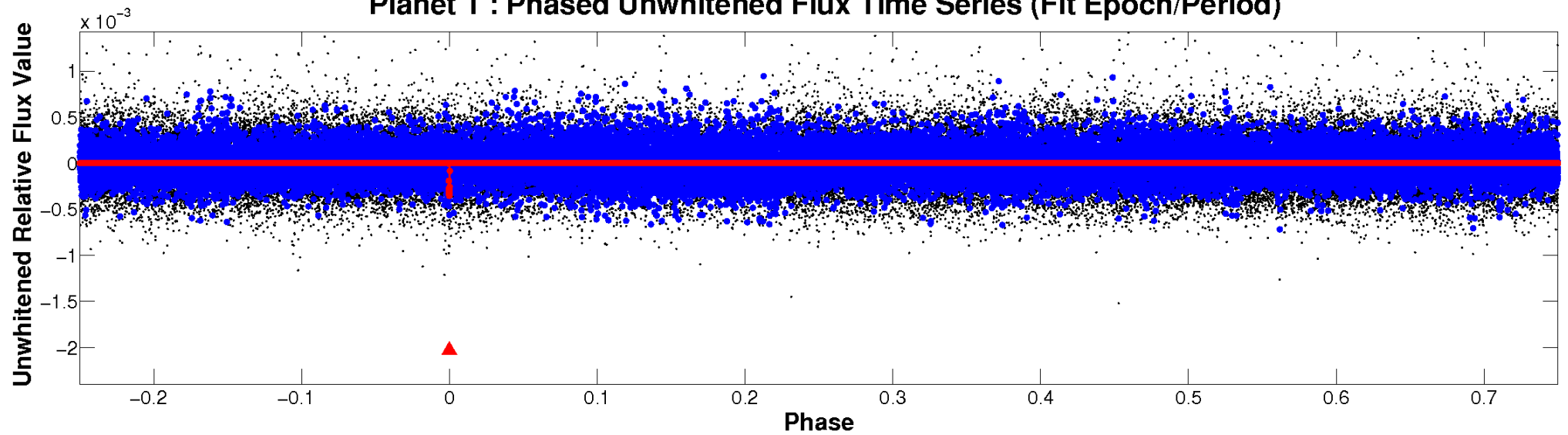
ALT Odd/Even

TCE 006210228-01

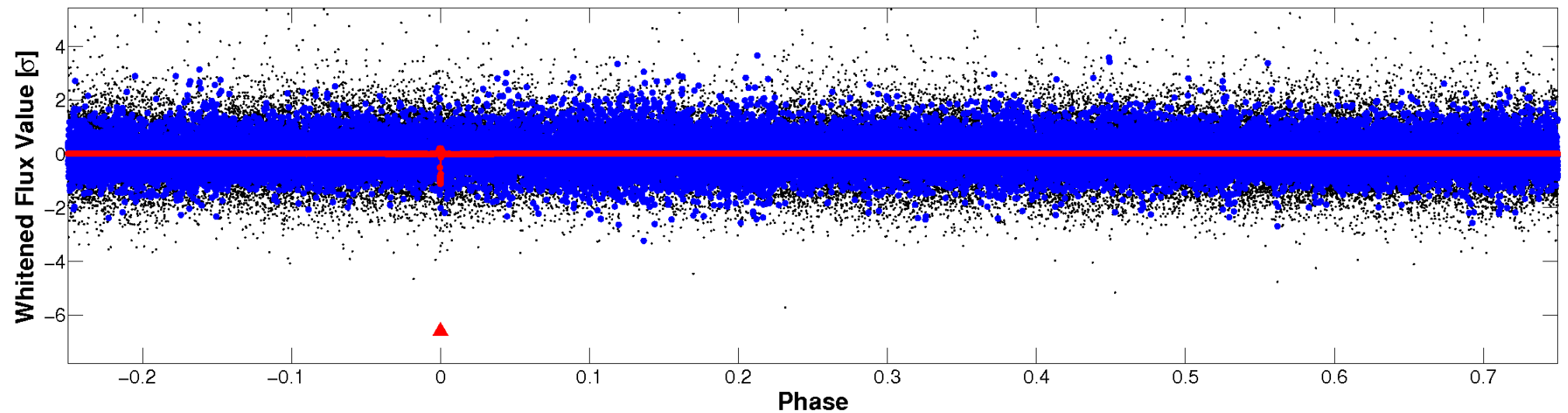


Non-Whitened Vs. Whitened Light Curve

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

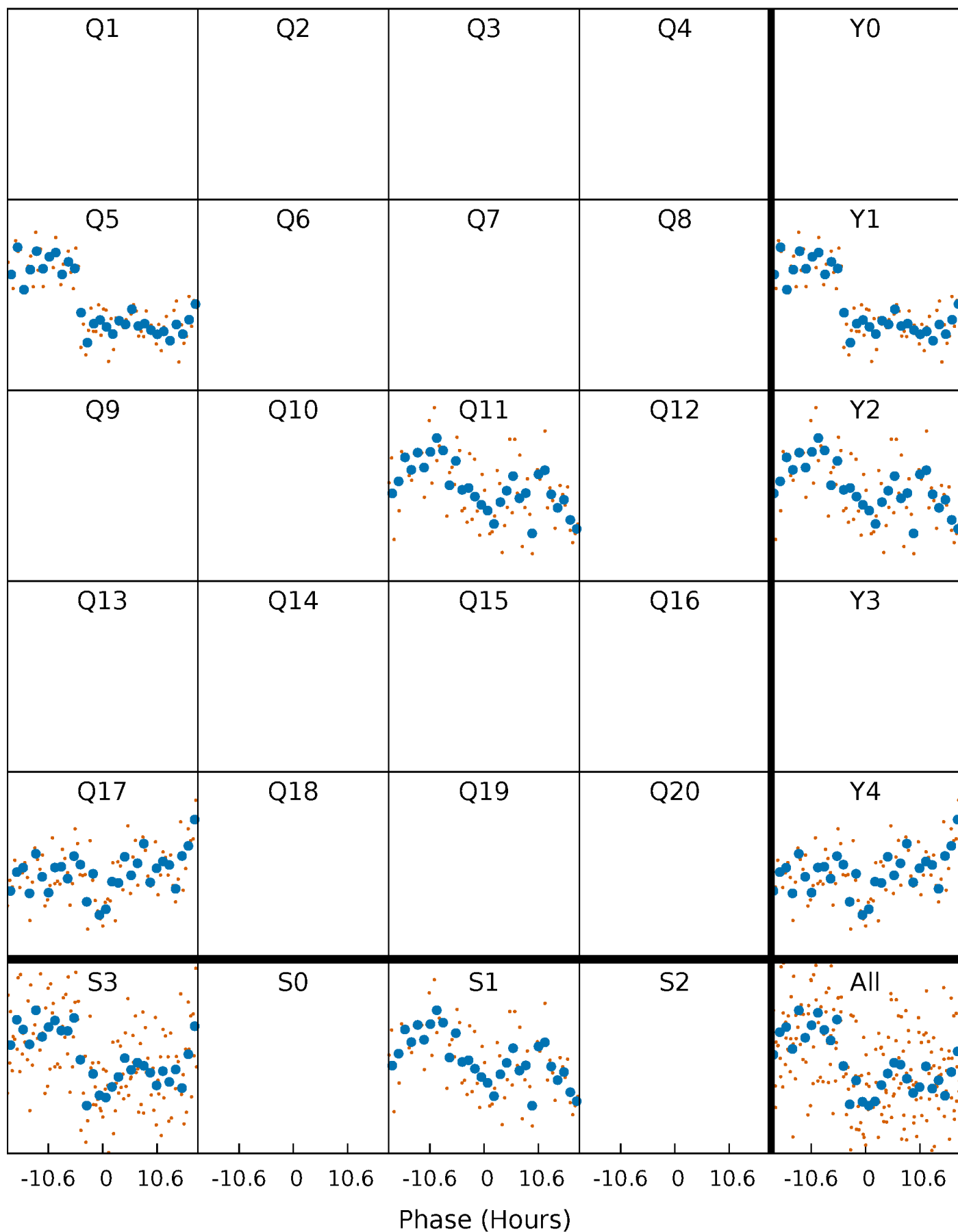


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 006210228-01 P=514.866694 Days $T_0=532.699050$ (BKJD)



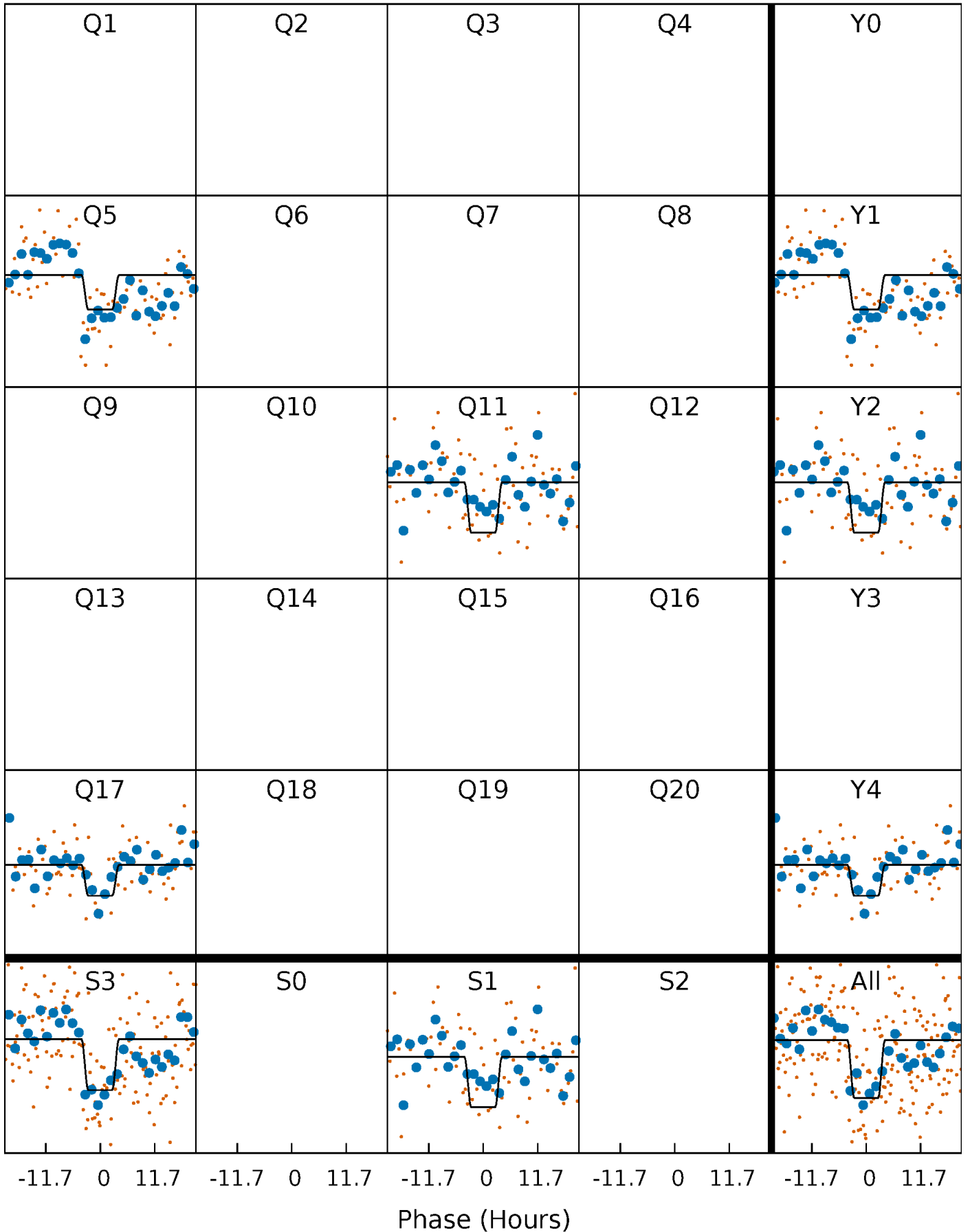
DV Quarter-Phased Transit Curves

TCE 006210228-01 P=514.866694 Days $T_0=532.699050$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

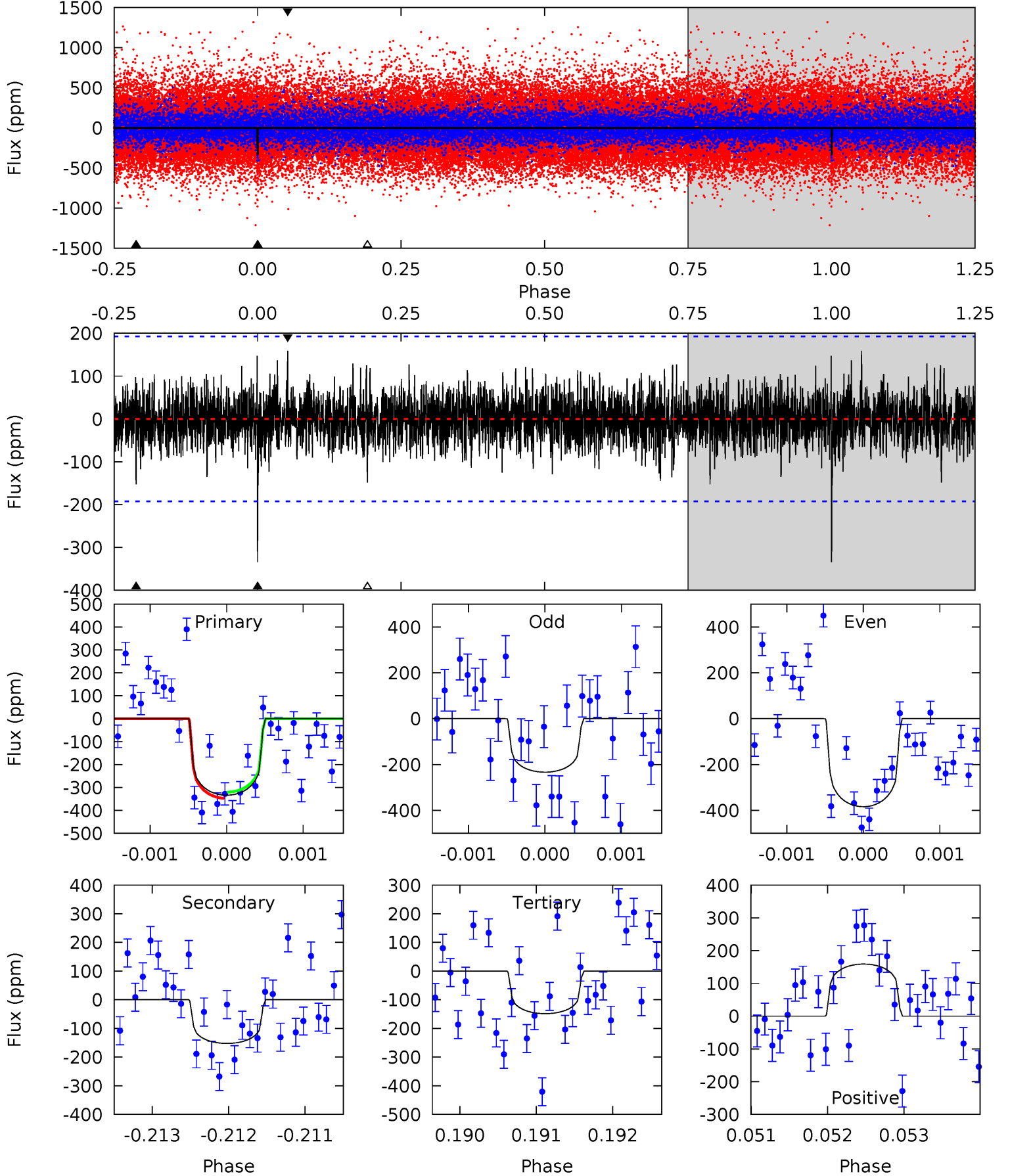
TCE 006210228-01 P=514.871223 Days $T_0=532.695069$ (BKJD)



DV Model-Shift Uniqueness Test

006210228-01, P = 514.866694 Days, E = 17.832356 Days

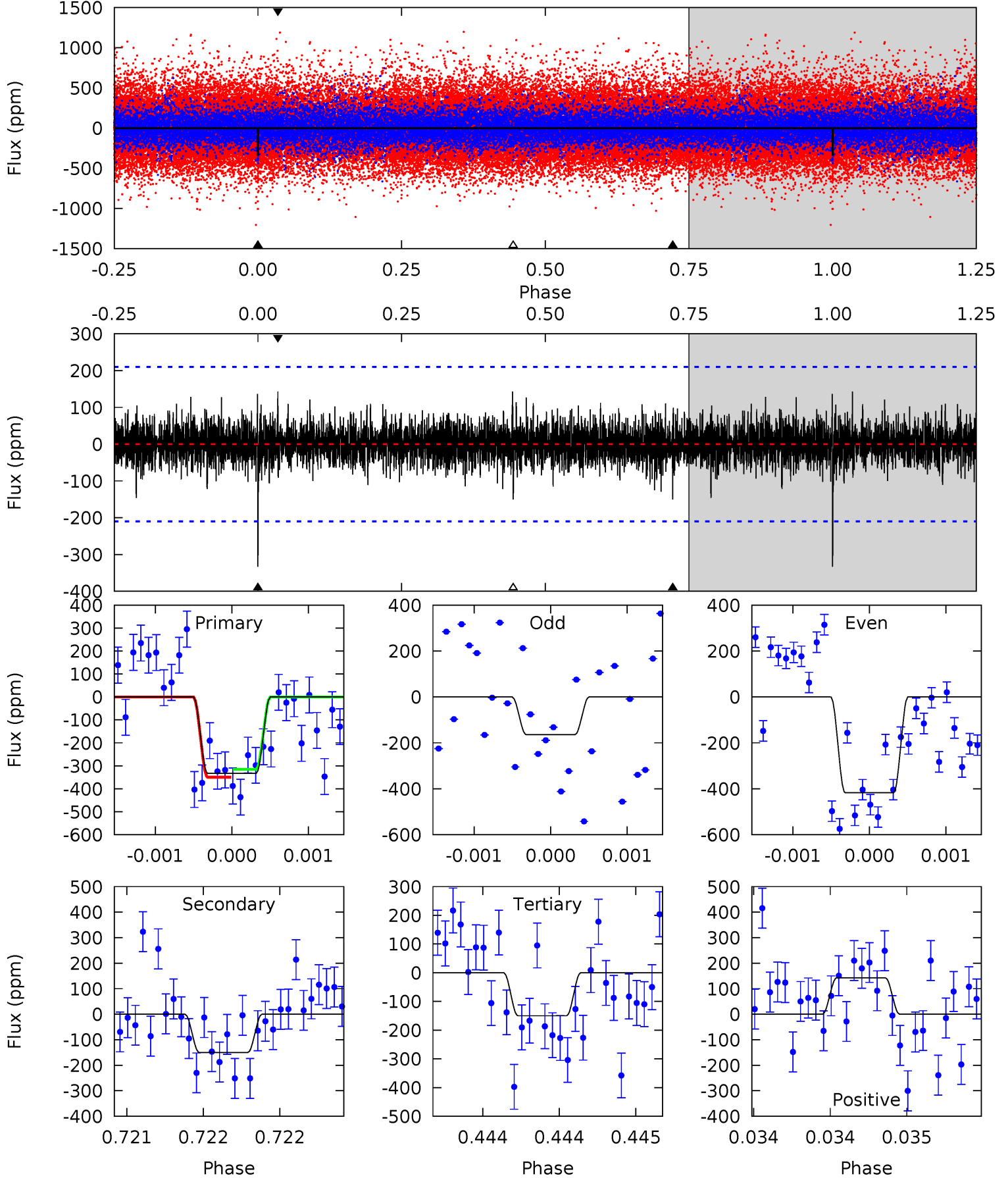
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.53	4.35	4.24	4.54	5.49	3.36	1.16	5.29	4.99	0.11	-0.19	2.01	1.16	0.32	0.39



Alt Model-Shift Uniqueness Test

006210228-01, P = 514.871223 Days, E = 17.823846 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.75	3.94	3.94	3.75	5.53	3.41	0.96	4.81	5.00	0.00	0.19	3.13	1.08	0.30	0.45



Stellar Parameters For KIC 006210228

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6013^{+190}_{-232}	$4.174^{+0.252}_{-0.168}$	$-0.060^{+0.300}_{-0.300}$	$1.390^{+0.385}_{-0.385}$	$1.053^{+0.172}_{-0.140}$	$0.552^{+0.745}_{-0.282}$
	+3%/-4%	+6%/-4%	+500%/-500%	+28%/-28%	+16%/-13%	+135%/-51%
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 006210228-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-152 ± 35	$3.57^{+2.79}_{-2.26}$	382^{+31}_{-30}	4462^{+2580}_{-880}	10473^{+73918}_{-7372}
Alt.	-150 ± 38	$3.39^{+3.07}_{-2.17}$	381^{+30}_{-31}	4539^{+2616}_{-972}	11007^{+78835}_{-7786}

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 $A_{\text{obs}} \gg 1.0$

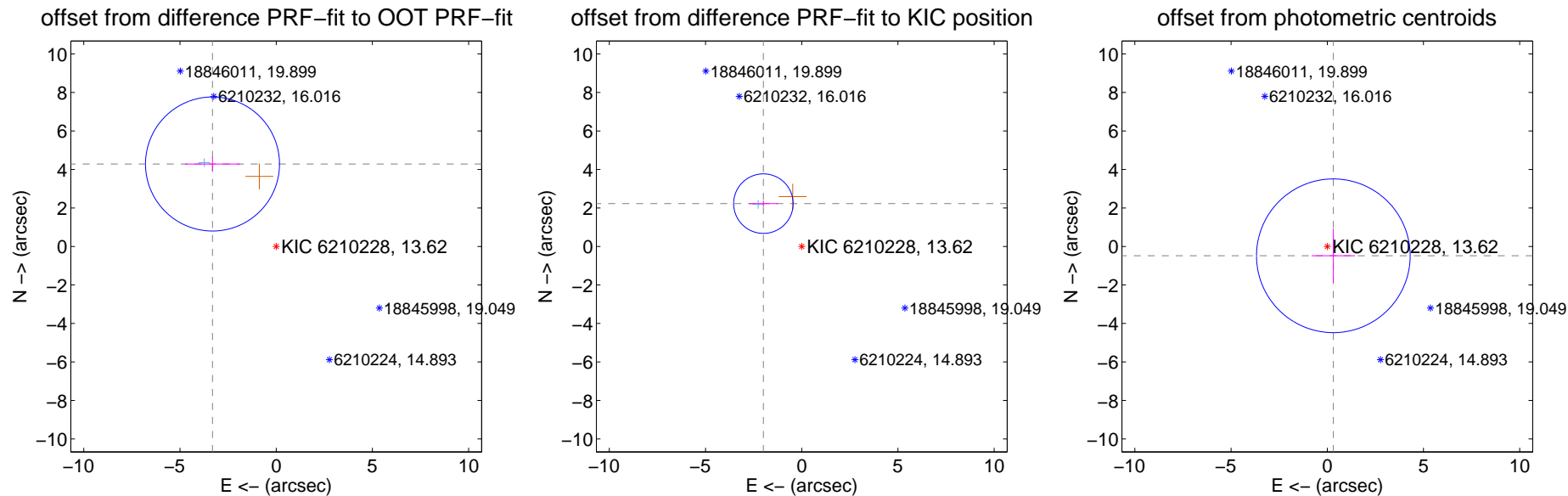
DV Centroid Data

Supplemental centroid analysis for 006210228-01. Kepler magnitude: 13.62. Transit SNR 7.27

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.413 ± 1.161	4.66	3.310 ± 1.432	4.283 ± 0.365
PRF-fit source offset from KIC position	2.986 ± 0.515	5.79	1.992 ± 0.752	2.224 ± 0.157
photometric centroid source offset	0.58 ± 1.33	0.43	-0.32 ± 1.13	-0.48 ± 1.41

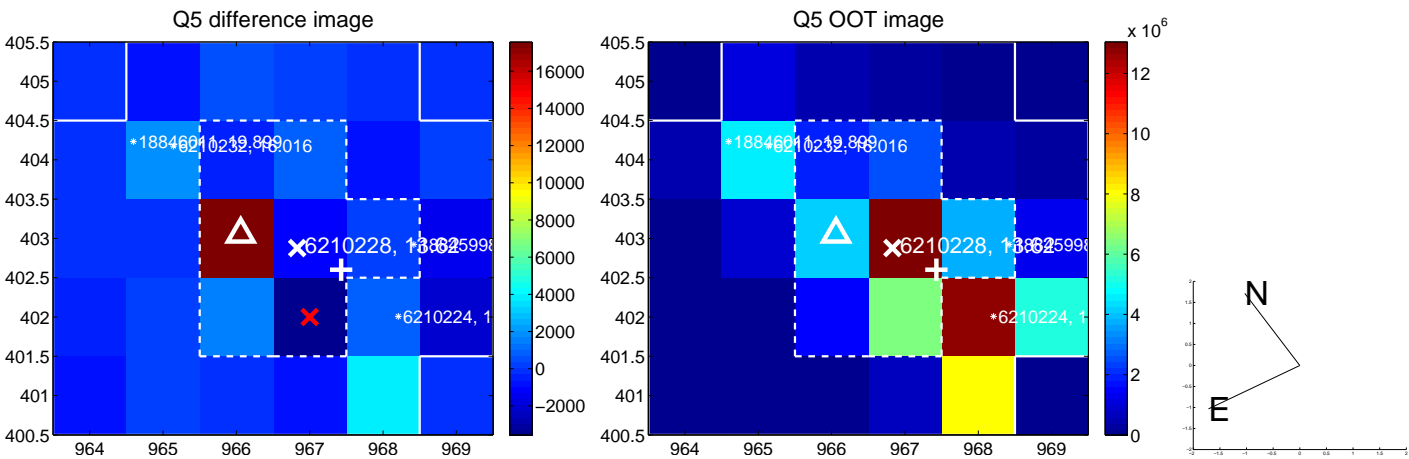


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

Q9 no difference image



Q9 no OOT image



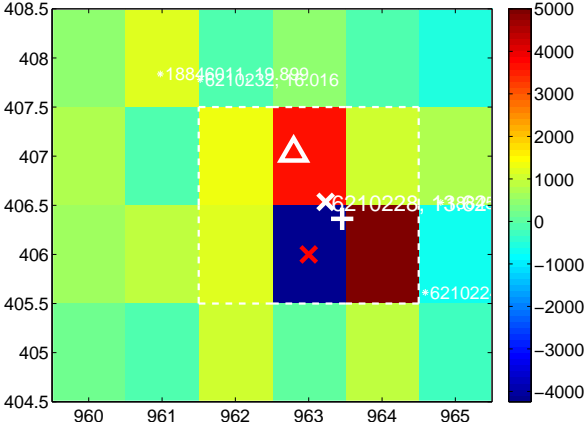
Q10 no difference image



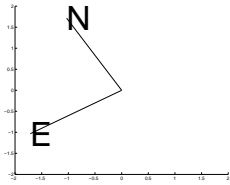
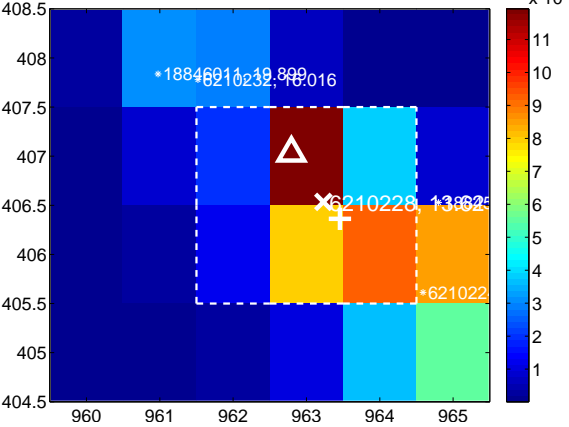
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



Q12 no difference image



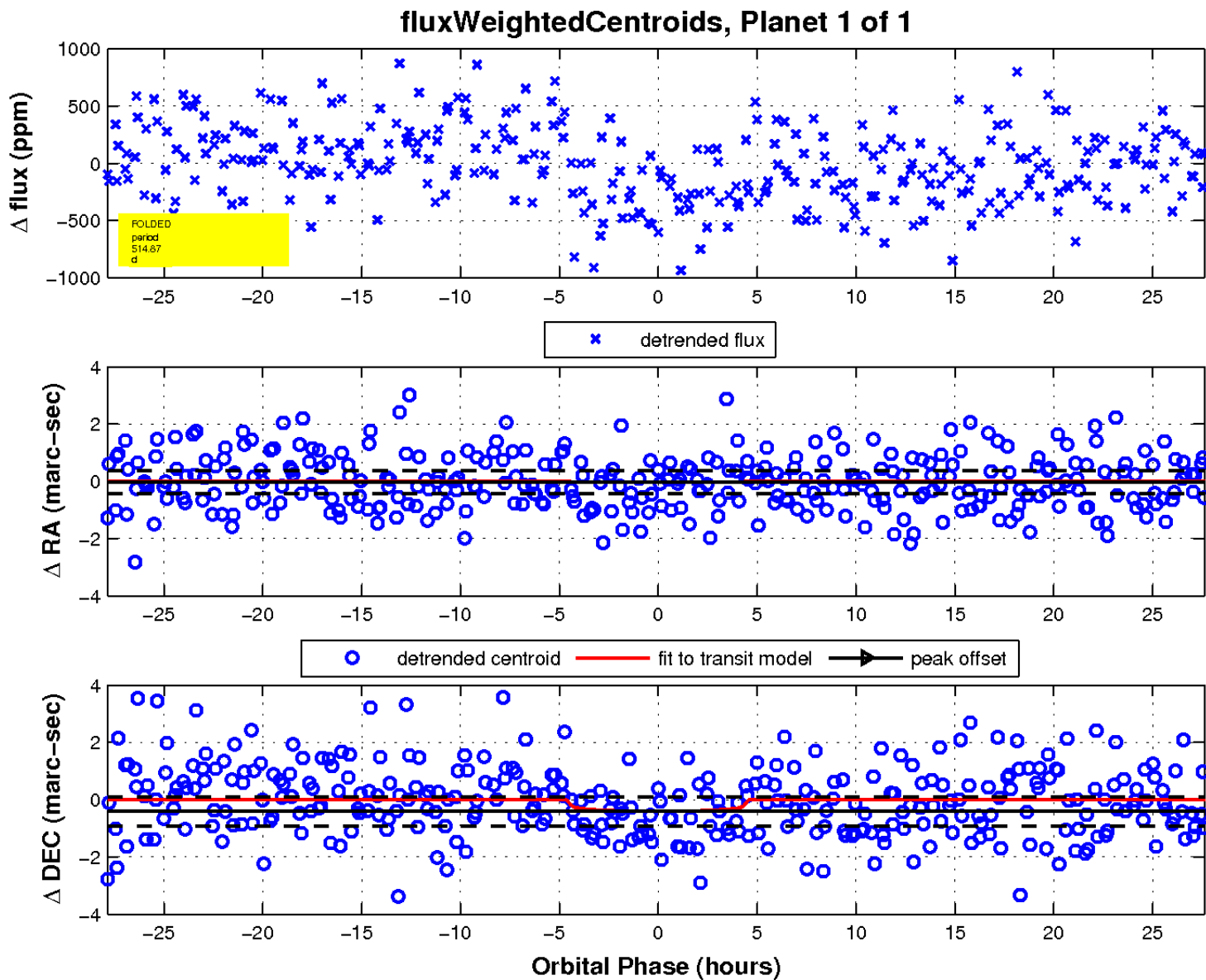
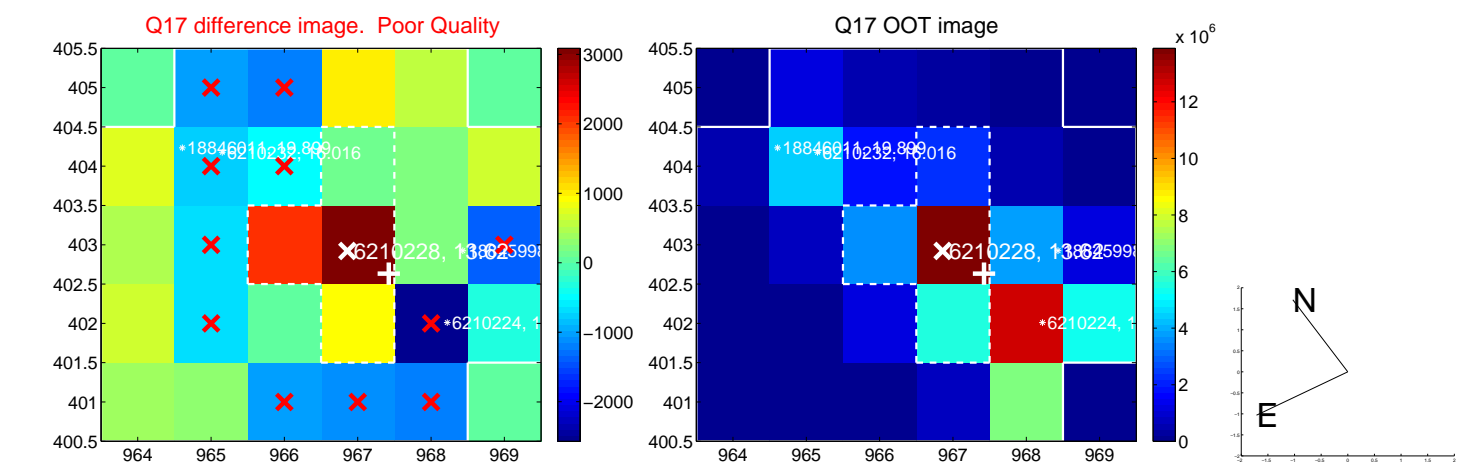
Q12 no OOT image



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.



UKIRT Image

Declination

