

KIC 010281161

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})
010281161-01	OBS	No	310.406330	190.022642	487.8	4.795	8.0	6.8	5.92	5233	14.90	18.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010281161-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—CENT_SATURATED

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

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

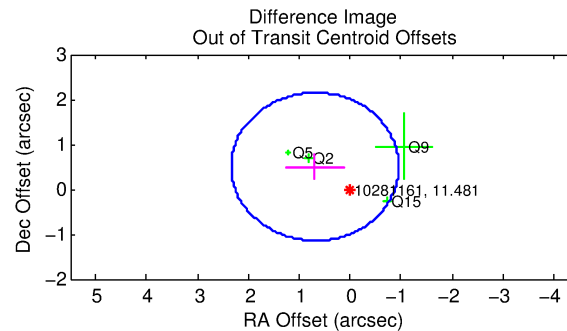
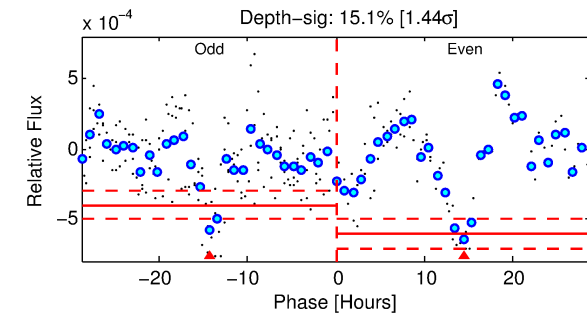
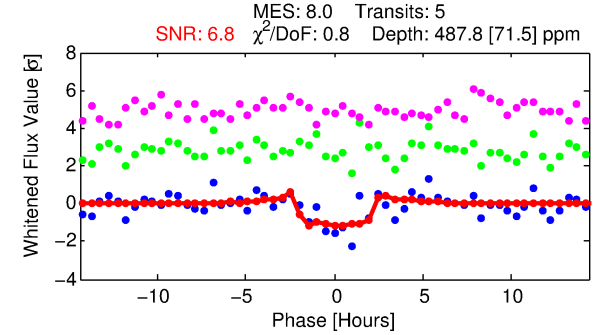
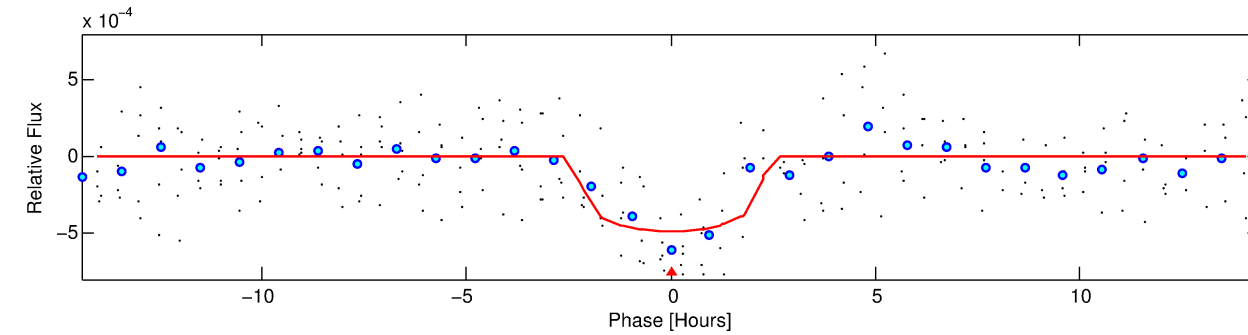
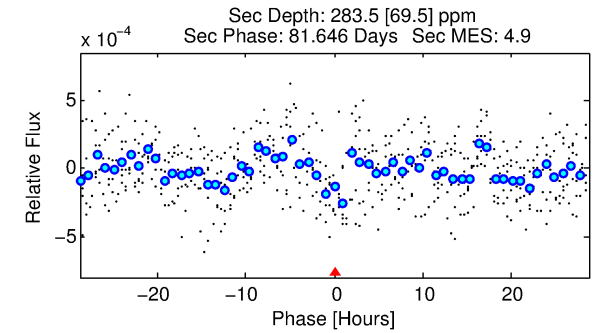
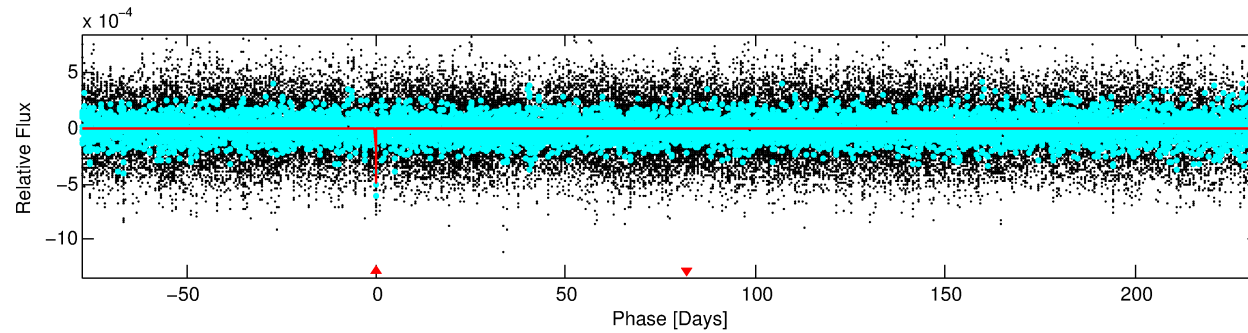
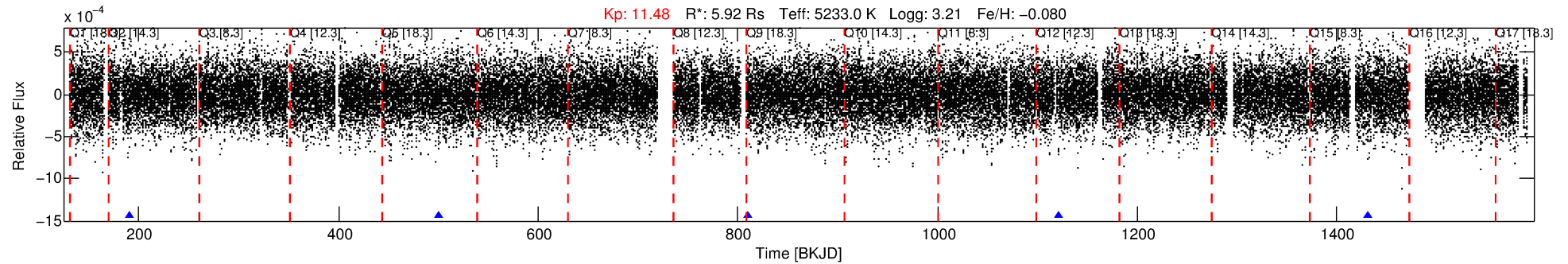
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010281161-01

No Significant Match Found

DV One-Page Summary

KIC: 10281161 Candidate: 1 of 1 Period: 310.406 d



DV Fit Results:

Period = 310.40633 [0.00198] d
Epoch = 190.0226 [0.0046] BKJD
Rp/R* = 0.0231 [0.0216]
a/R* = 292.42 [1135.31]
b = 0.83 [1.43]
Seff = 18.03 [9.59]
Teq = 525 [70] K
Rp = 14.90 [15.38] Re
a = 1.1423 [0.4075] AU
Ag = 916.02 [1792.59] [0.51σ]
Teffp = 4470 [2118] K [1.86σ]

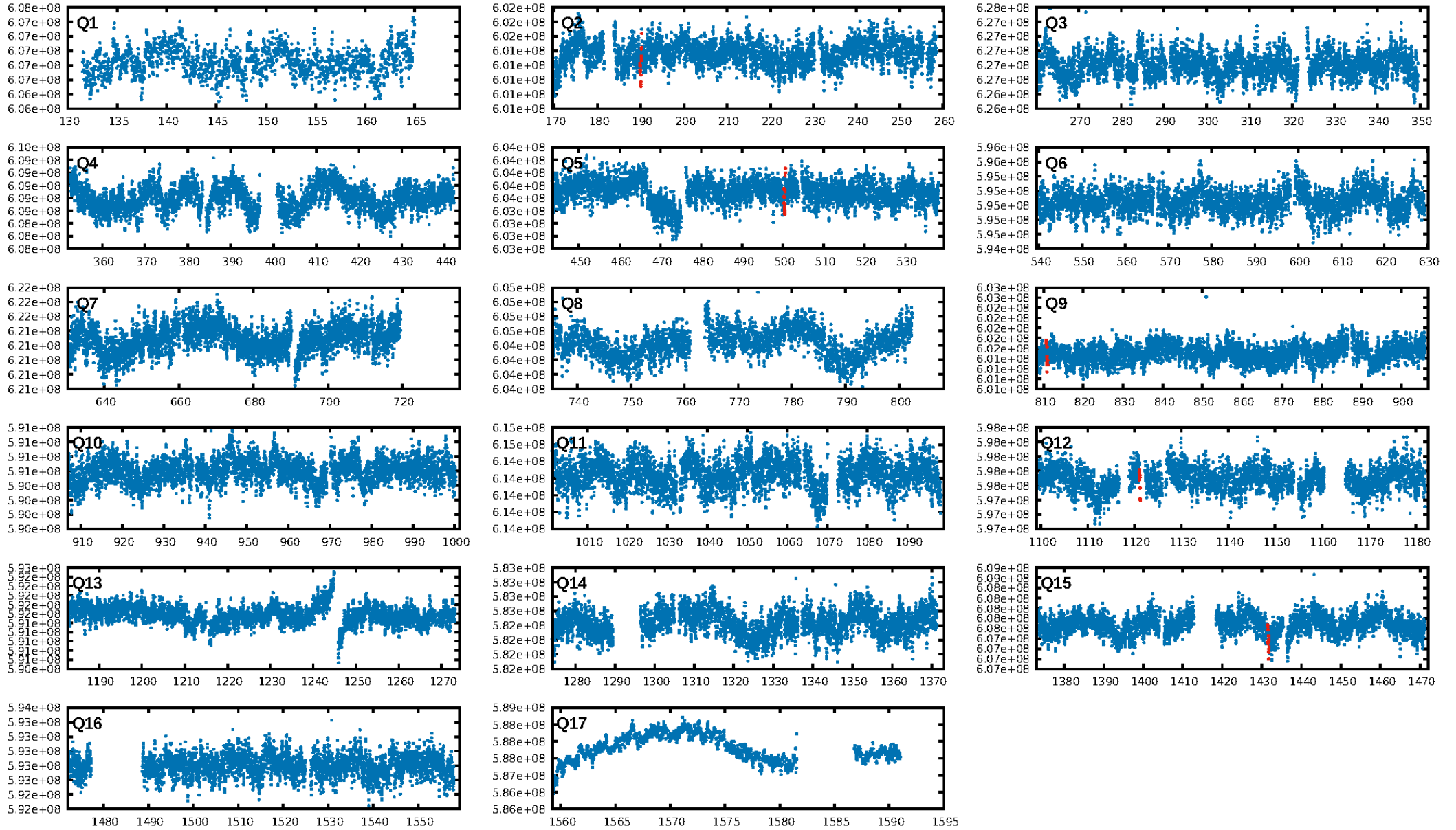
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 64.2%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 7.28e-13
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.728
Centroid-sig: 9.5%
Centroid-so: 0.556 arcsec [2.16σ]
OotOffset-rm: 0.851 arcsec [1.55σ]
KicOffset-rm: 0.842 arcsec [1.32σ]
OotOffset-st: 1/1/0/2 [4]
KicOffset-st: 1/1/0/2 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

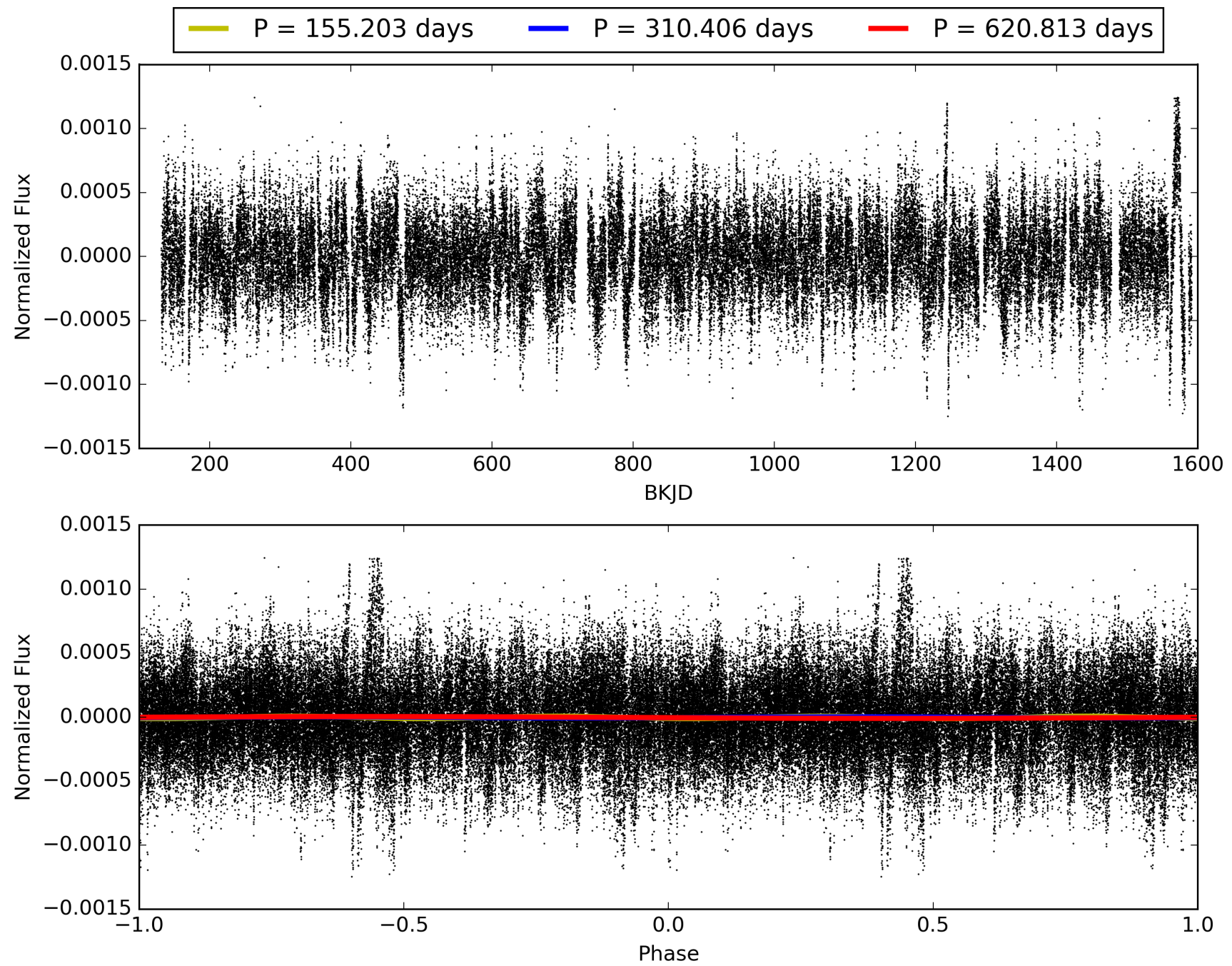
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:41:27 Z

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

TCE 010281161-01, PDC Light Curves

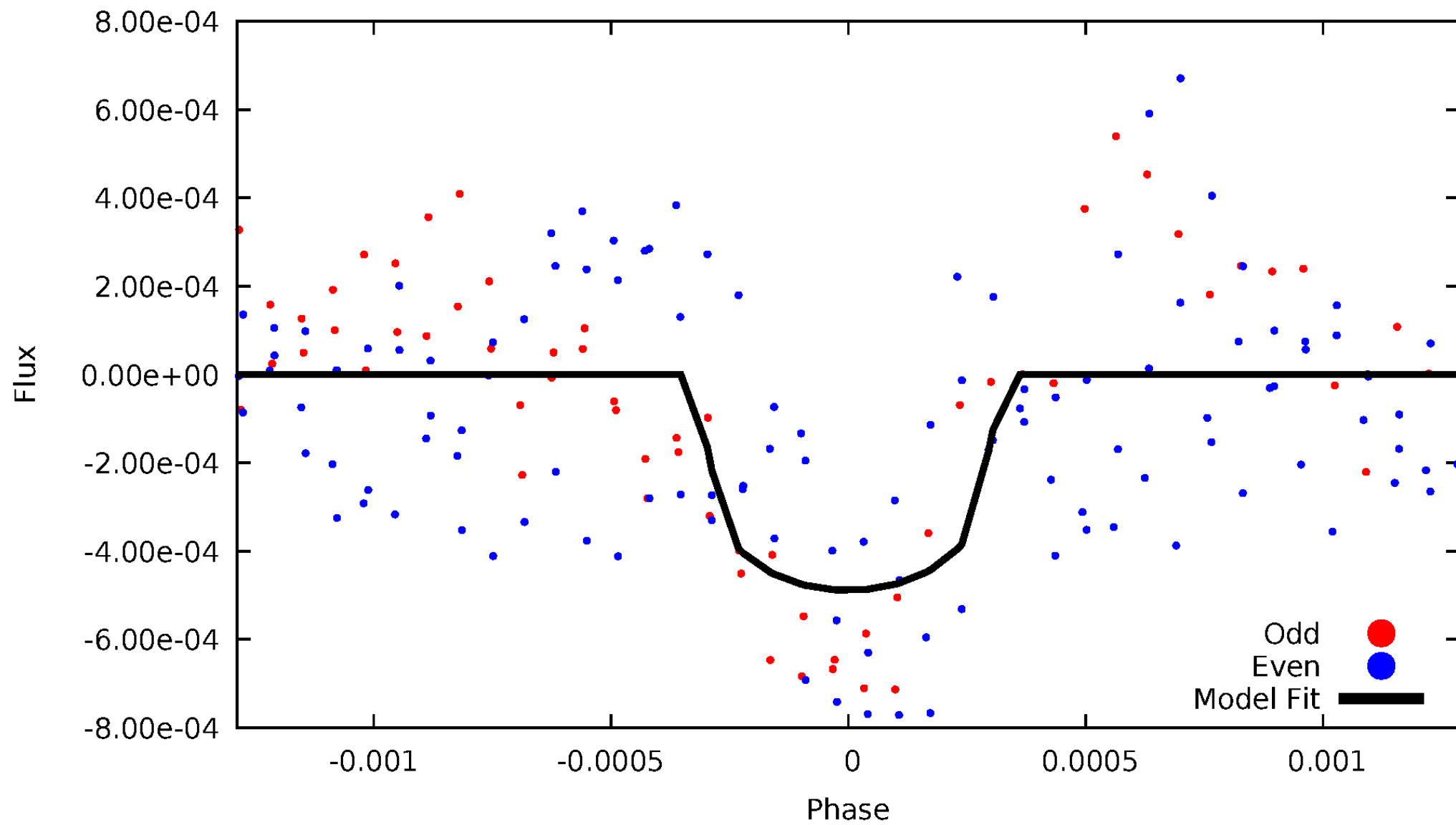


TCE 010281161-01



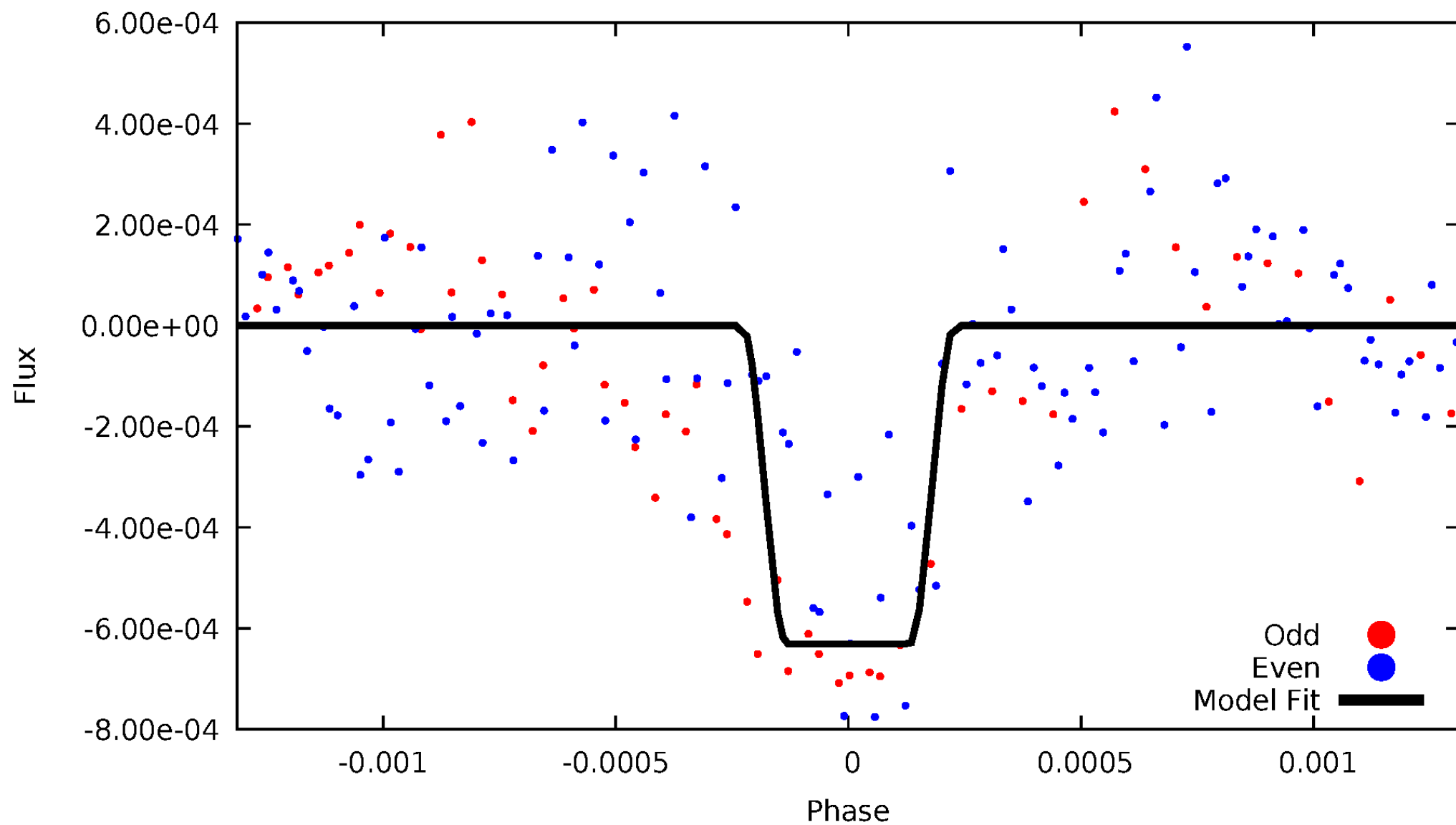
DV Odd/Even

TCE 010281161-01



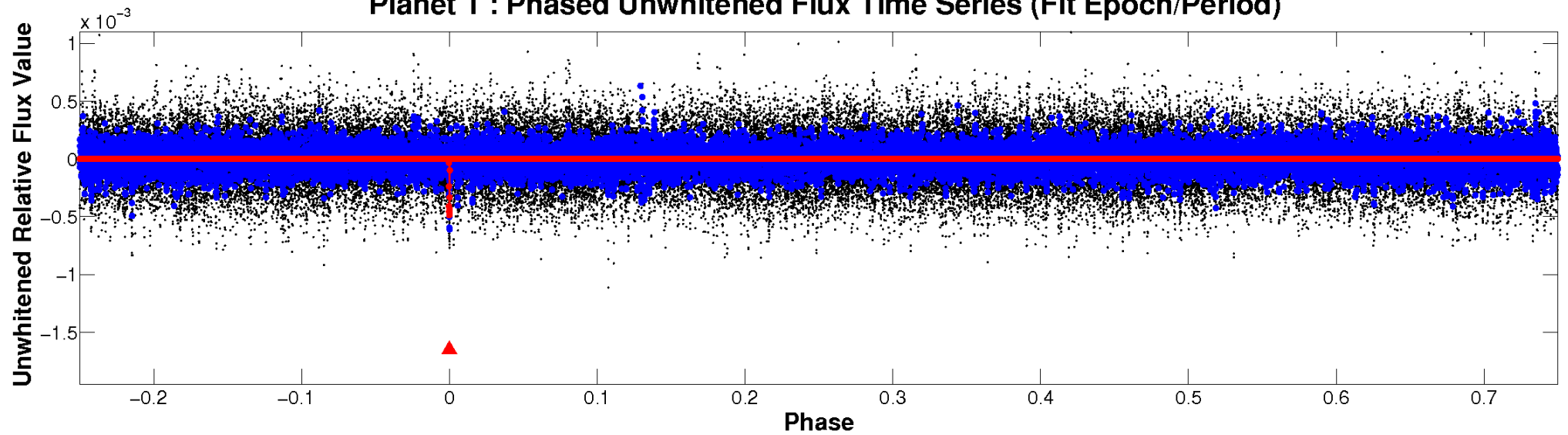
ALT Odd/Even

TCE 010281161-01

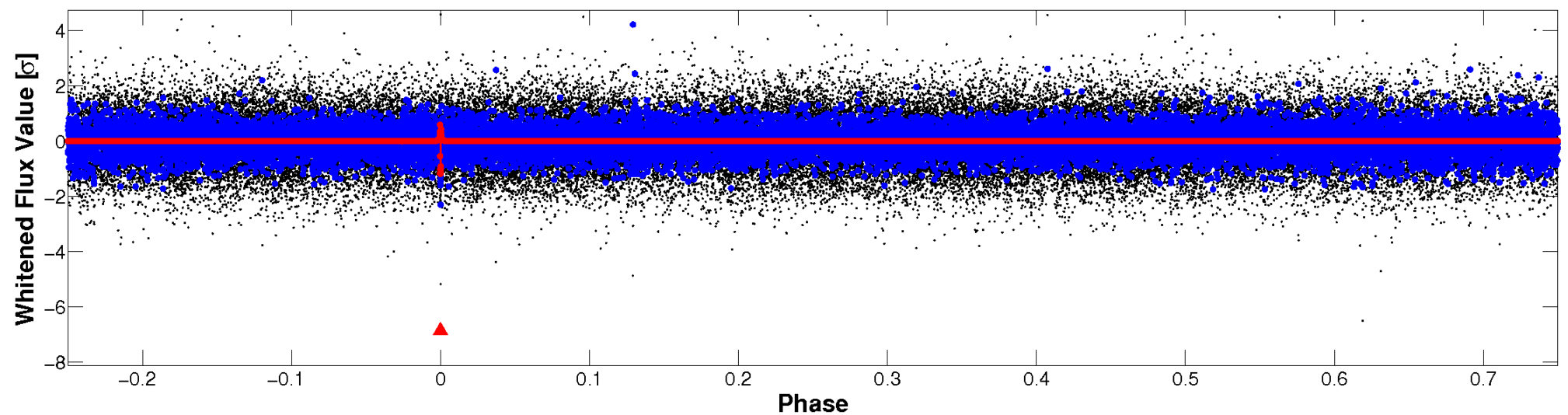


Non-Whitened Vs. Whitened Light Curve

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

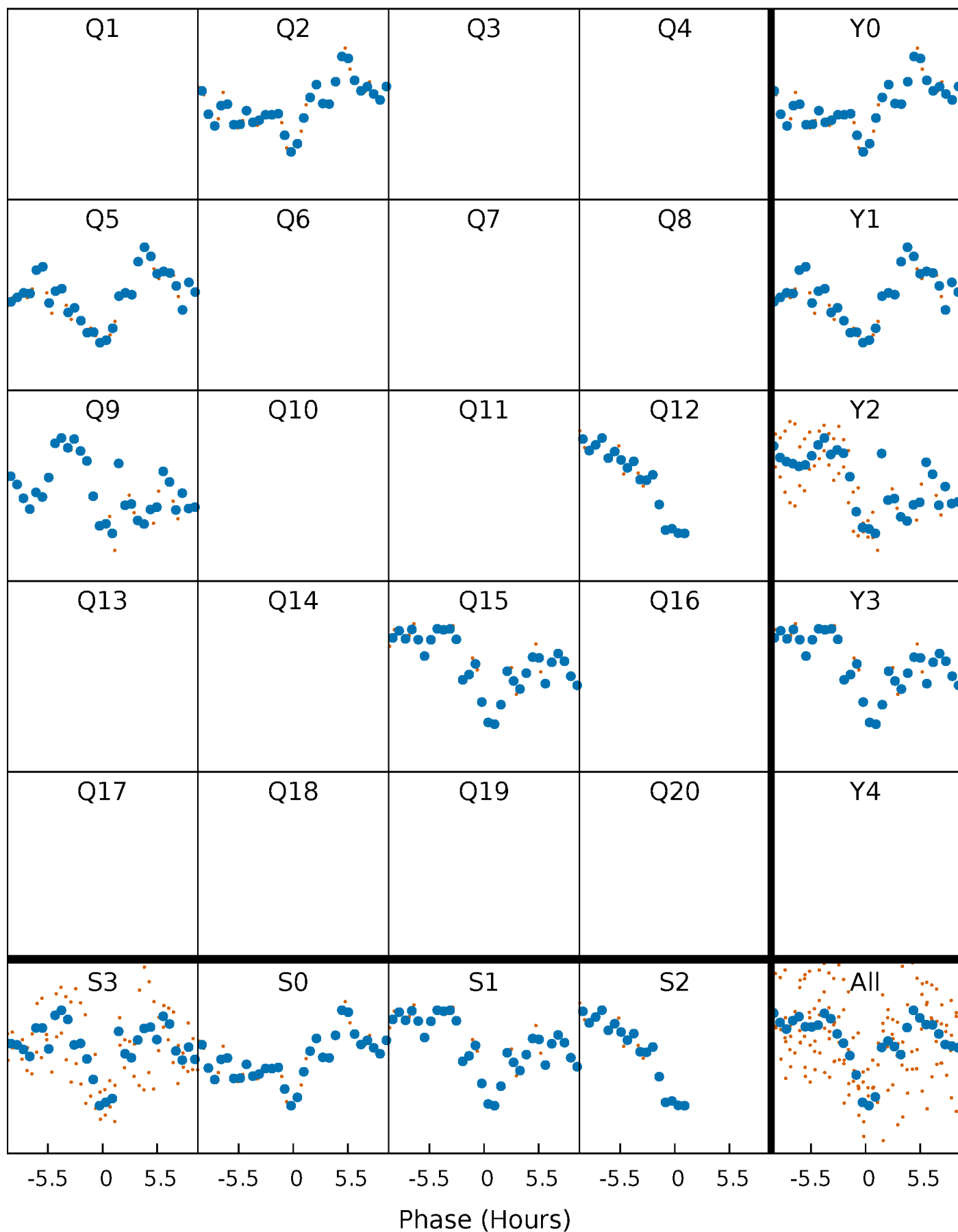


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



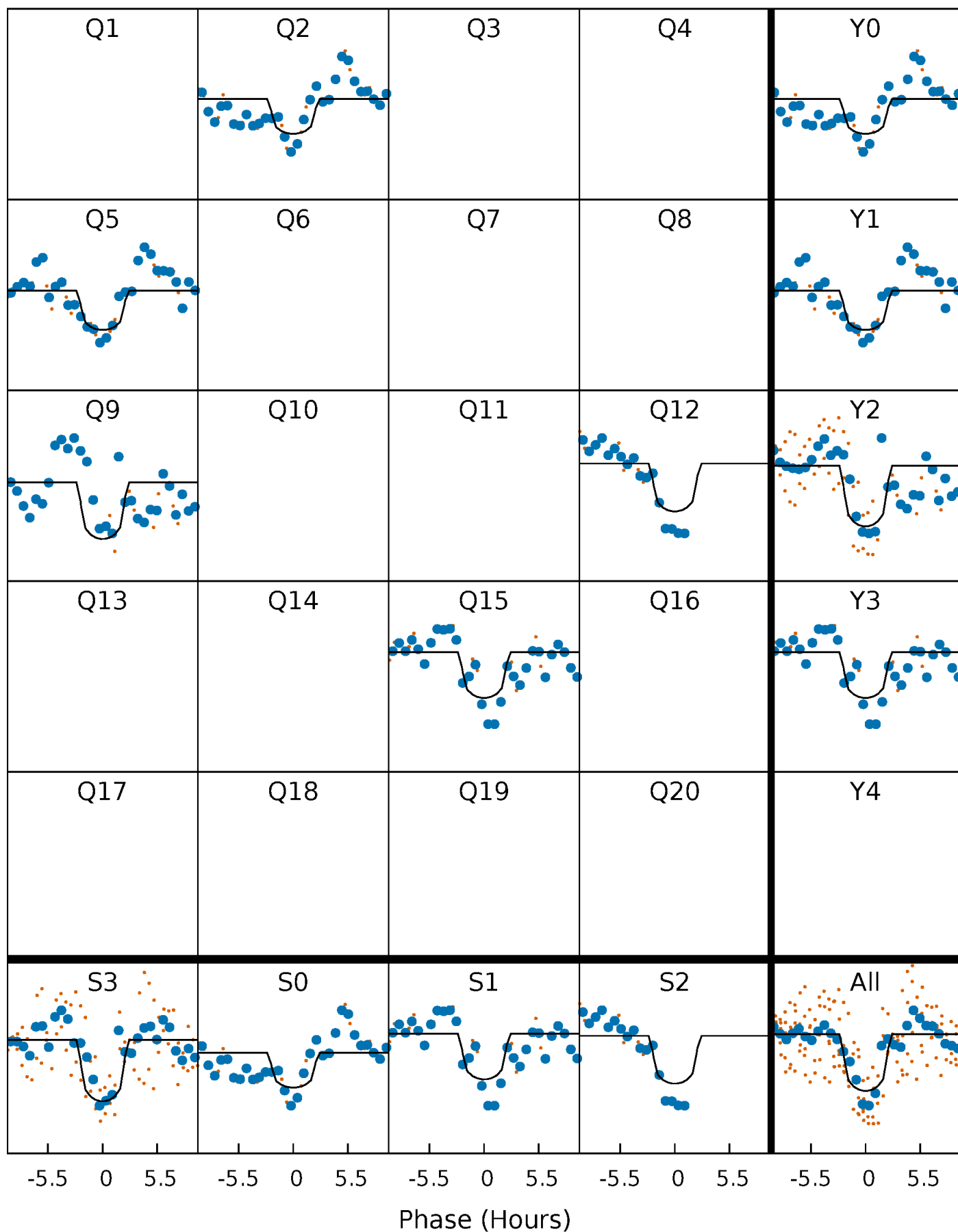
PDC Quarter-Phased Transit Curves

TCE 010281161-01 P=310.406330 Days $T_0=190.022642$ (BKJD)



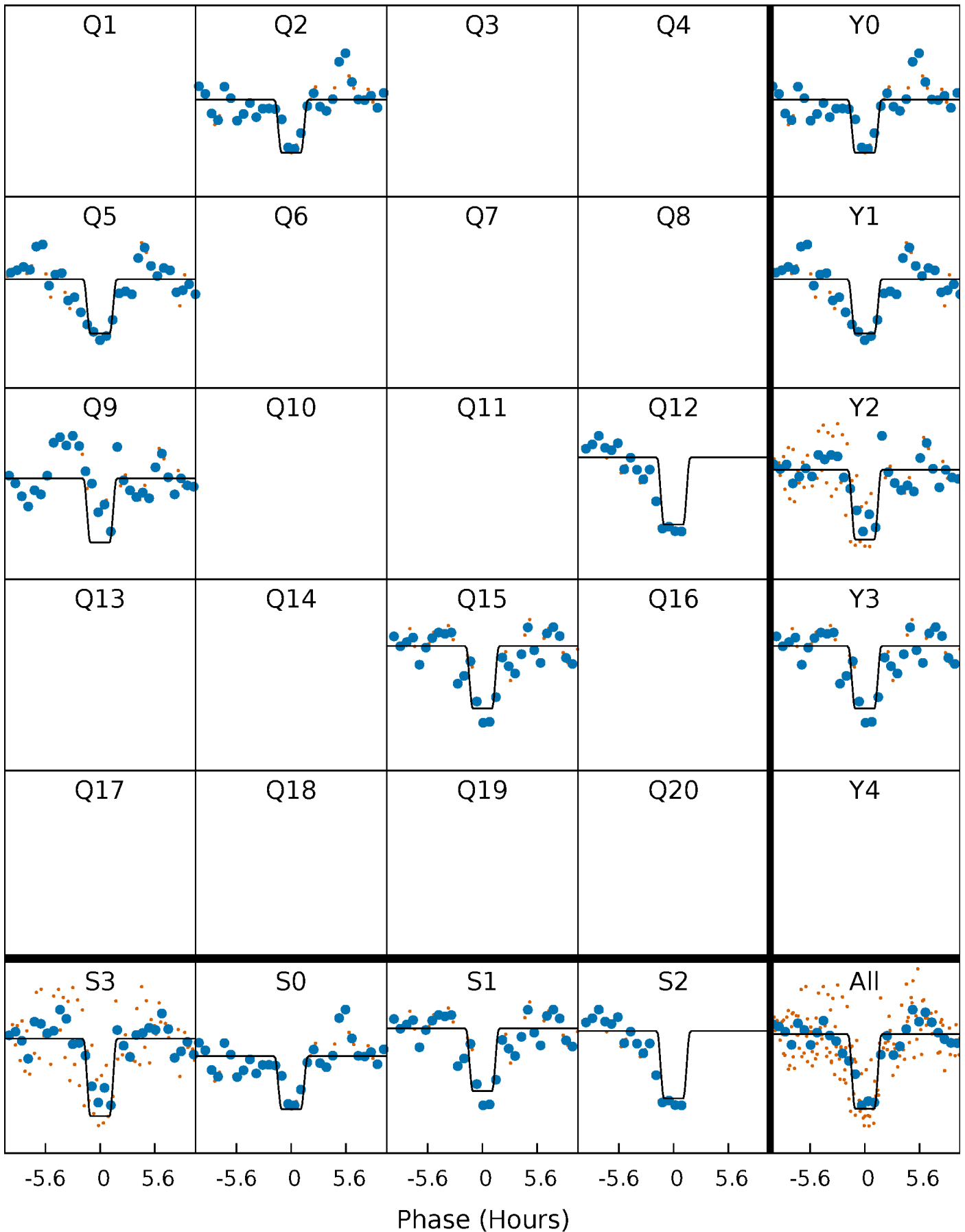
DV Quarter-Phased Transit Curves

TCE 010281161-01 P=310.406330 Days $T_0=190.022642$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

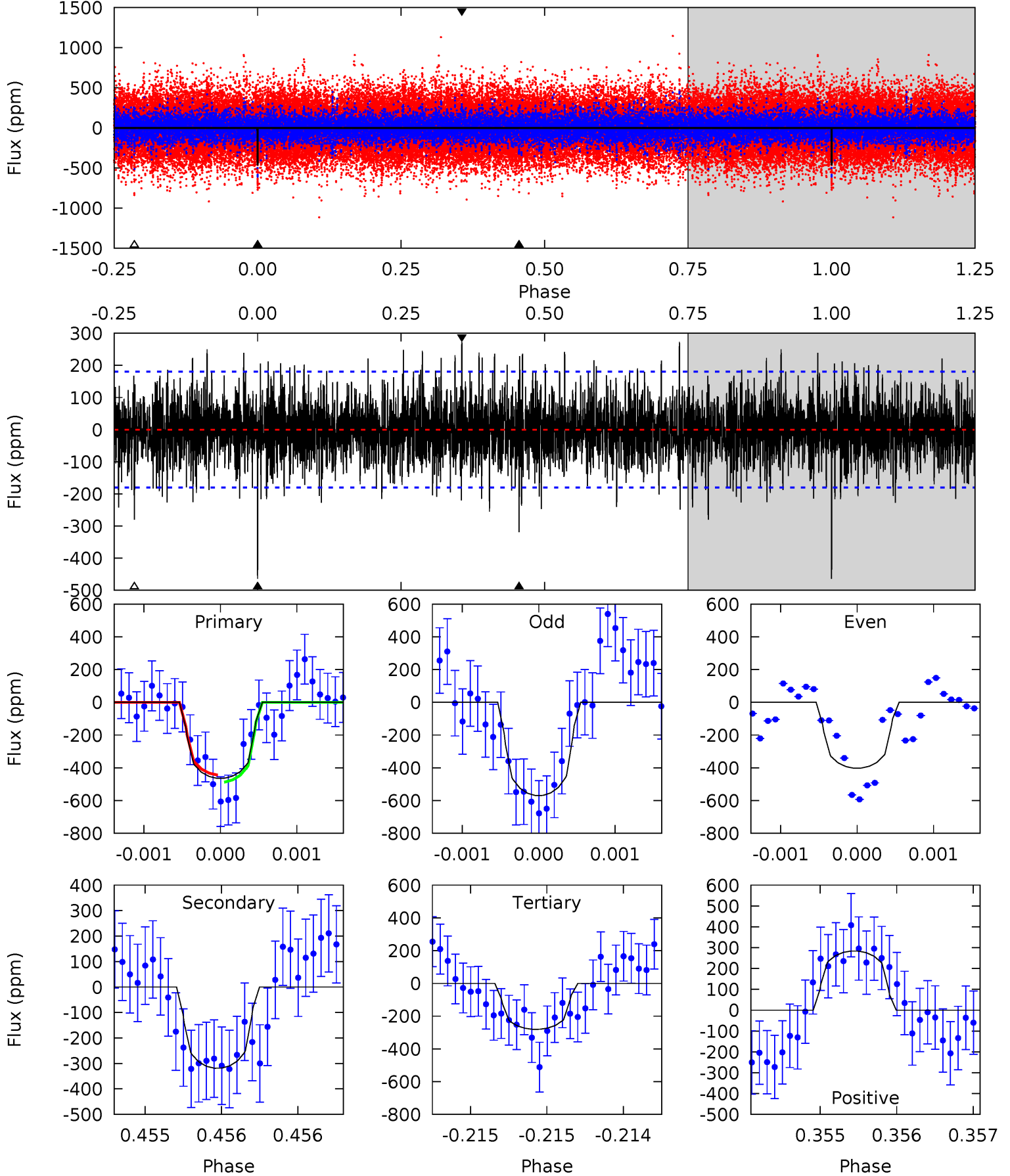
TCE 010281161-01 P=310.412400 Days $T_0=190.013932$ (BKJD)



DV Model-Shift Uniqueness Test

010281161-01, P = 310.406330 Days, E = 190.022642 Days

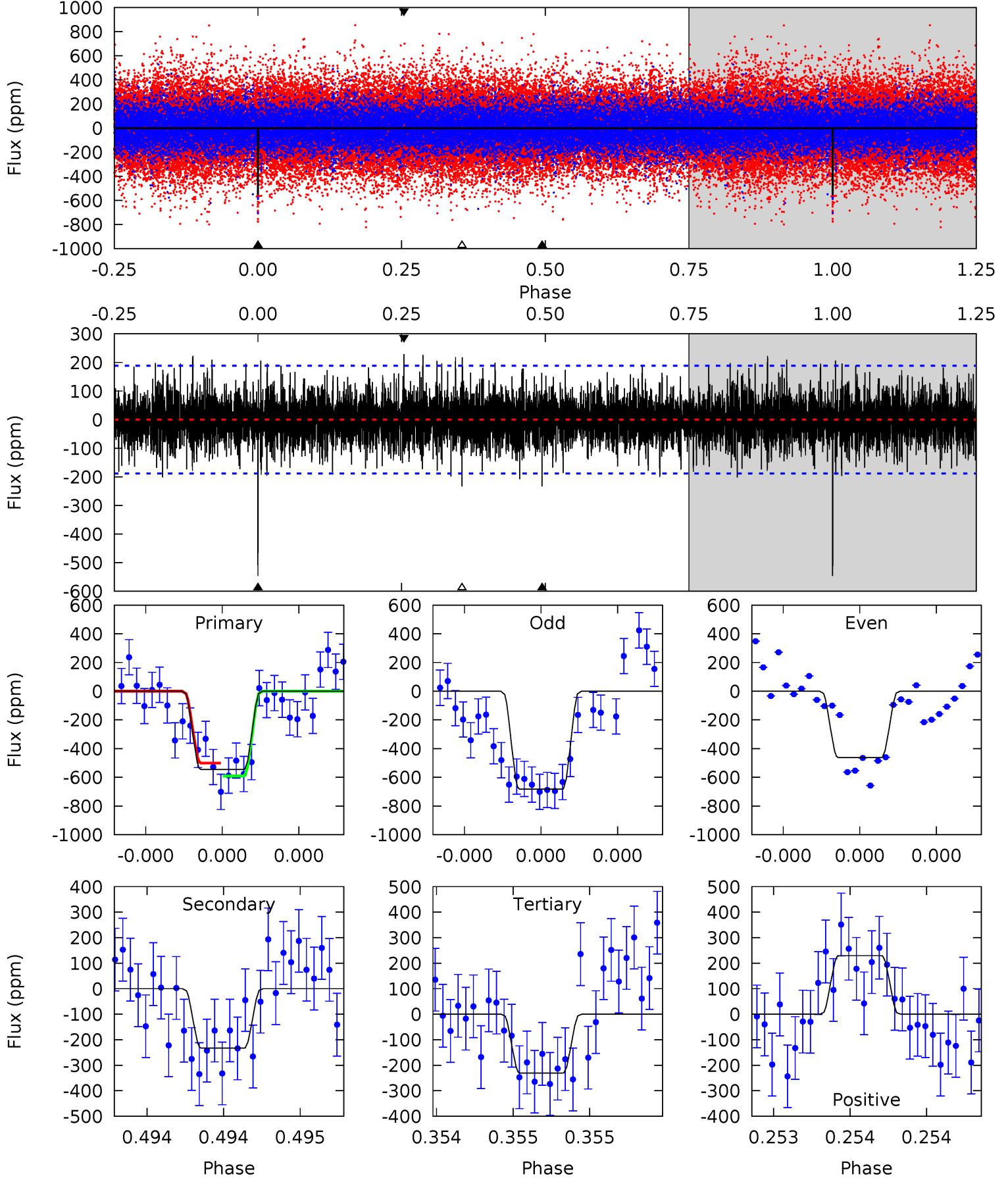
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	9.75	8.59	8.69	5.53	3.41	2.23	5.63	5.53	1.17	1.06	2.47	0.96	0.38	0.67



Alt Model-Shift Uniqueness Test

010281161-01, P = 310.412400 Days, E = 190.013932 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	6.92	6.85	6.81	5.59	3.50	1.78	9.34	9.38	0.07	0.11	3.11	0.86	0.30	1.34



Stellar Parameters For KIC 010281161

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5233^{+93}_{-201}	$3.208^{+0.273}_{-0.136}$	$-0.080^{+0.200}_{-0.400}$	$5.918^{+0.854}_{-2.563}$	$2.062^{+0.109}_{-0.983}$	$0.014^{+0.031}_{-0.005}$
	+2%/-4%	+9%/-4%	+250%/-500%	+14%/-43%	+5%/-48%	+223%/-33%
Source	PHO1	FLK73	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 010281161-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-319 ± 33	$16.27^{+13.69}_{-9.53}$	726^{+42}_{-64}	4384^{+2093}_{-803}	813^{+3895}_{-568}
Alt.	-233 ± 34	$16.64^{+13.57}_{-10.52}$	724^{+44}_{-67}	4150^{+2049}_{-790}	598^{+3386}_{-423}

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 $A_{obs} \gg 1.0$

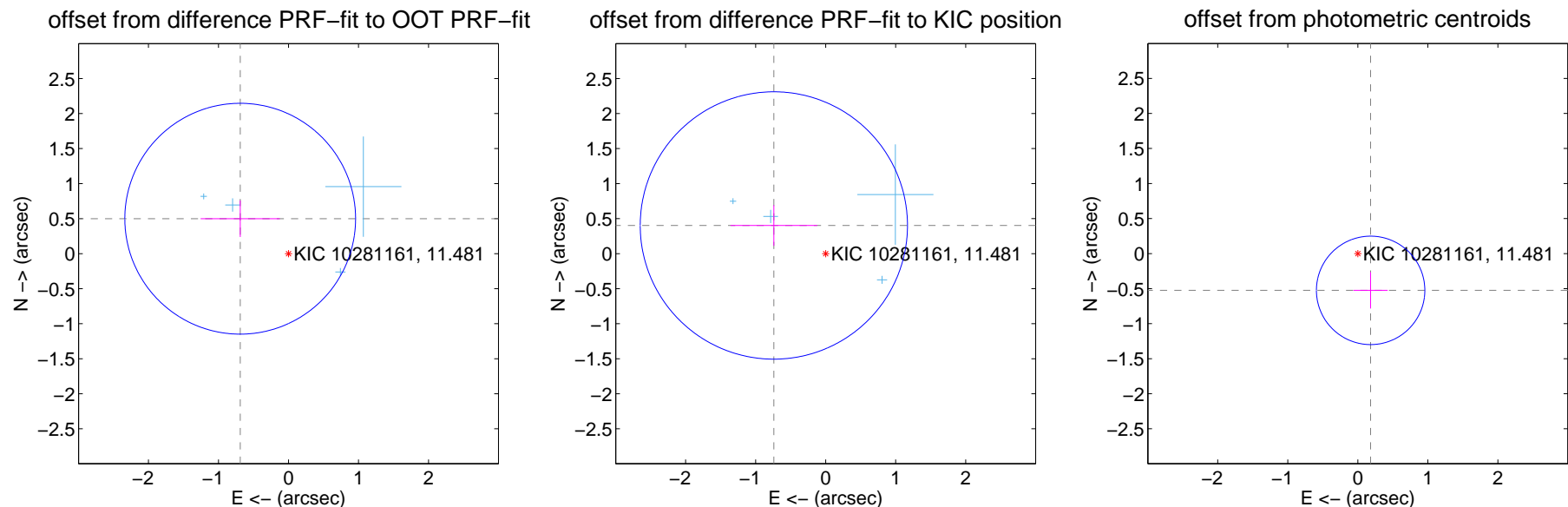
DV Centroid Data

Supplemental centroid analysis for 010281161-01. **Kepler magnitude: 11.48.** Transit SNR 6.84

There are 4 quarters with good PRF difference image offsets

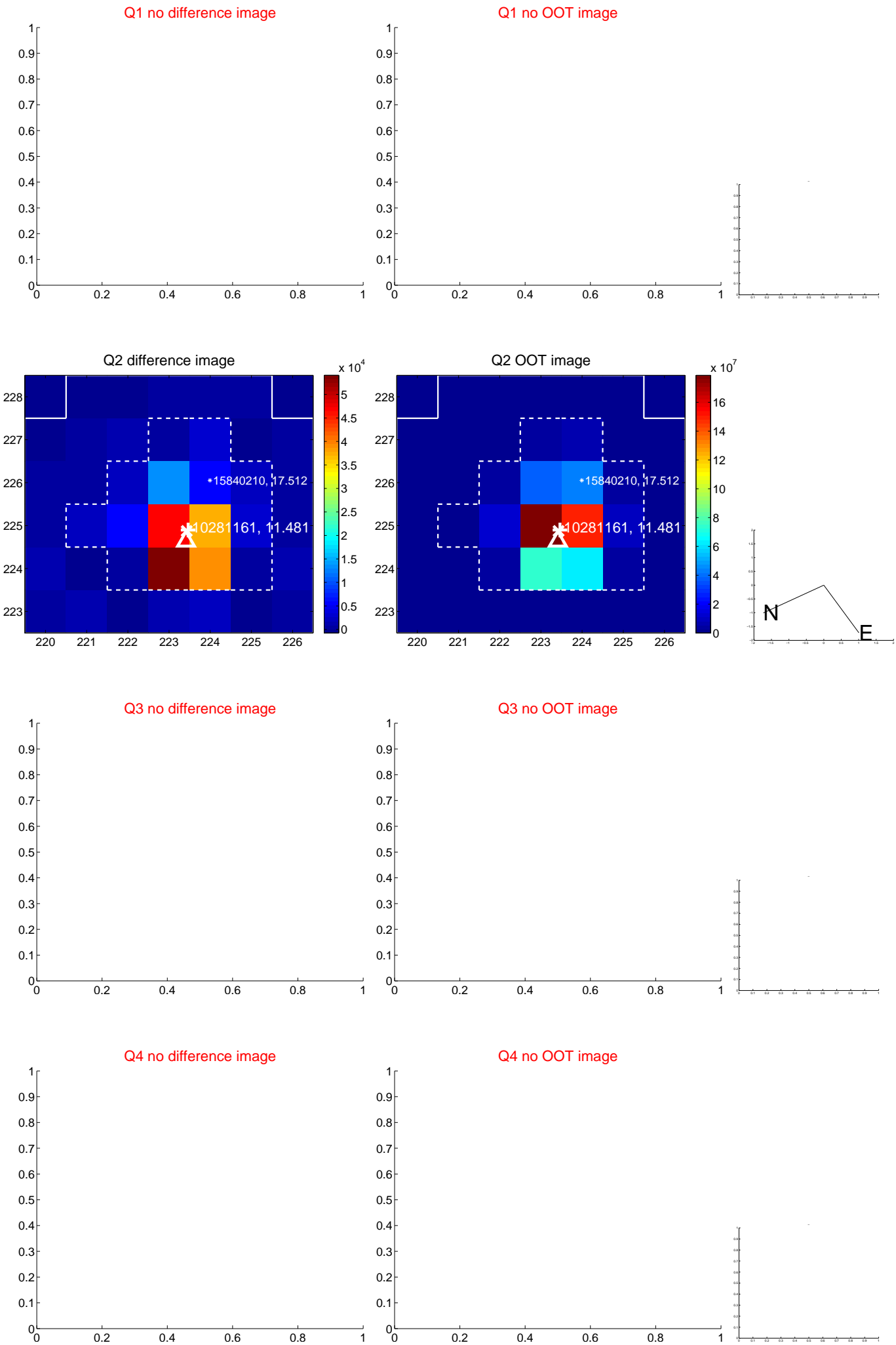
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.851 ± 0.549	1.55	0.690 ± 0.565	0.499 ± 0.261
PRF-fit source offset from KIC position	0.842 ± 0.636	1.32	0.740 ± 0.619	0.402 ± 0.289
photometric centroid source offset	0.56 ± 0.26	2.16	-0.18 ± 0.24	-0.52 ± 0.26

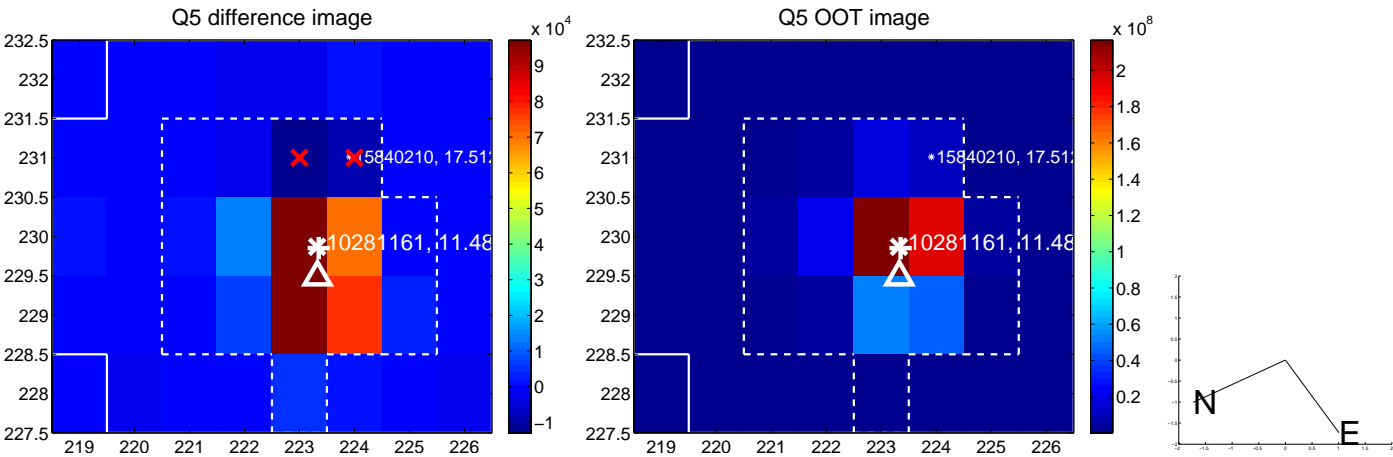


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

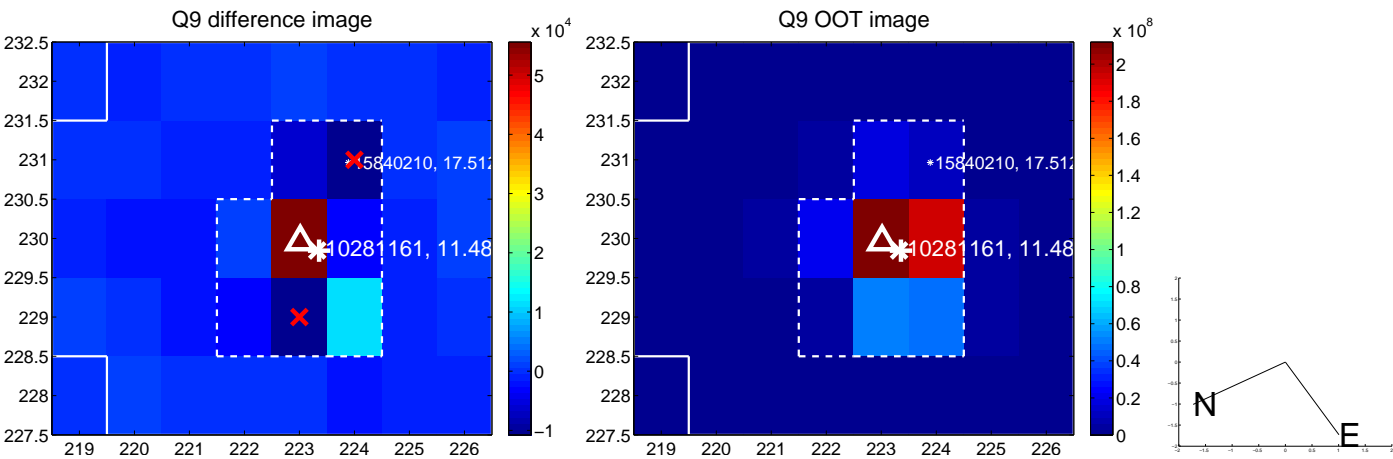
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



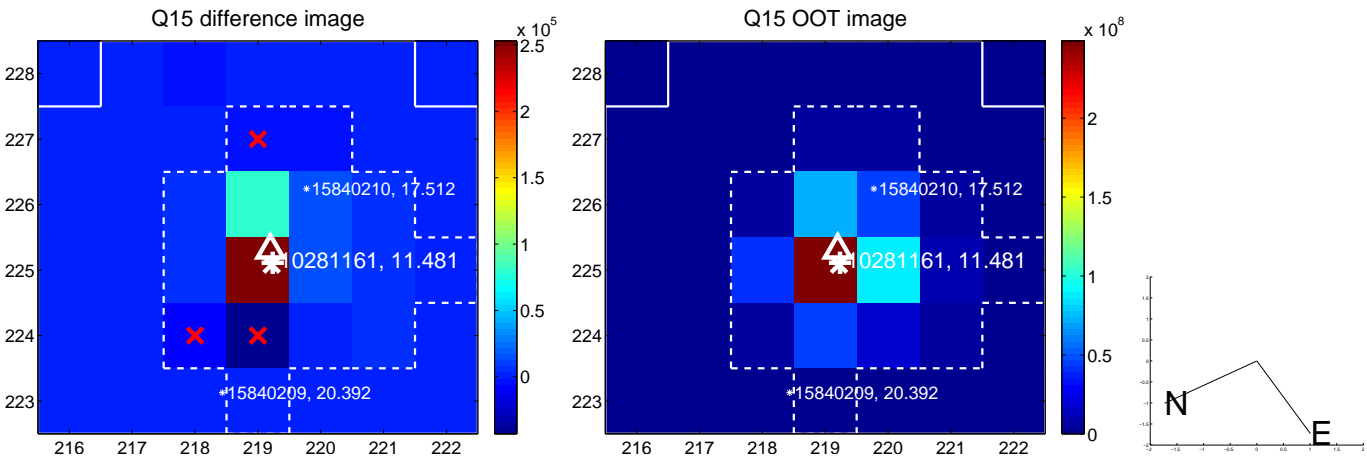
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



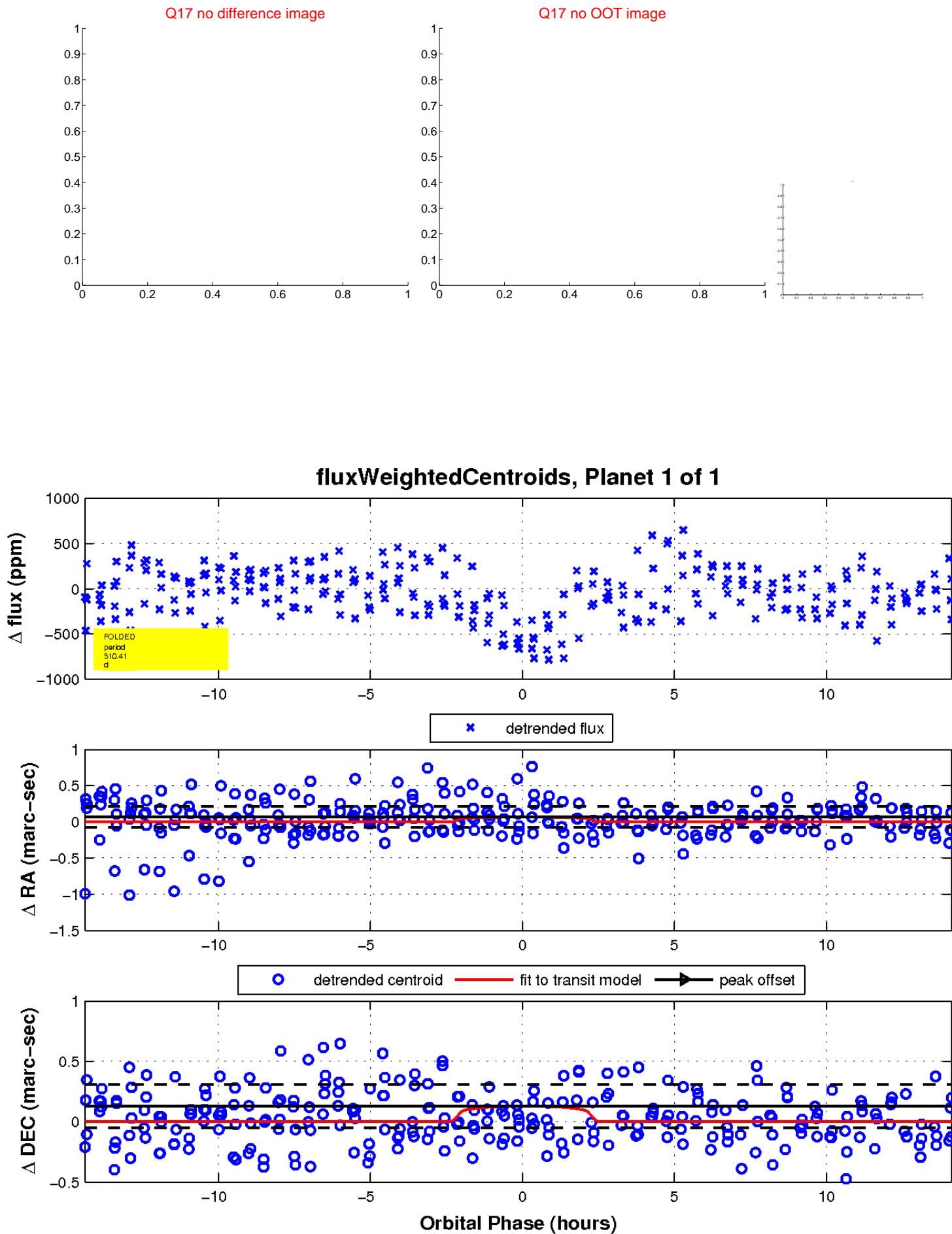
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

