

KIC 002452977

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})
002452977-01	OBS	No	413.228734	327.730849	111.6	12.745	7.7	7.1	1.65	5360	1.90	1.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002452977-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

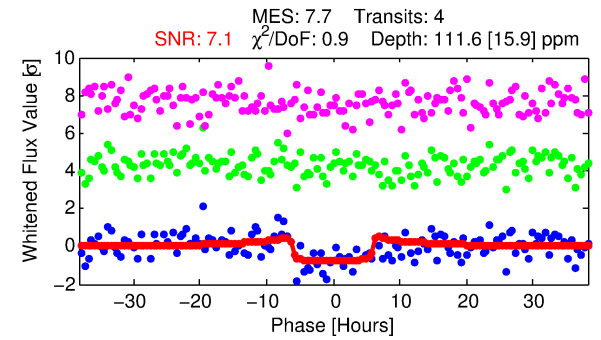
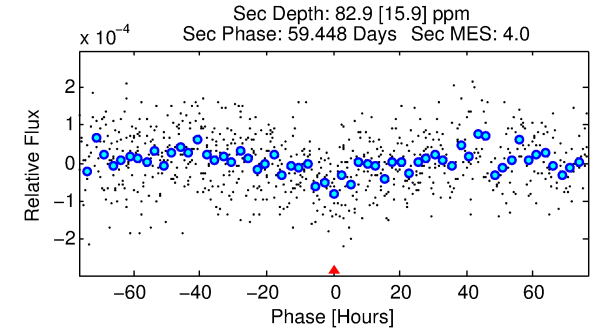
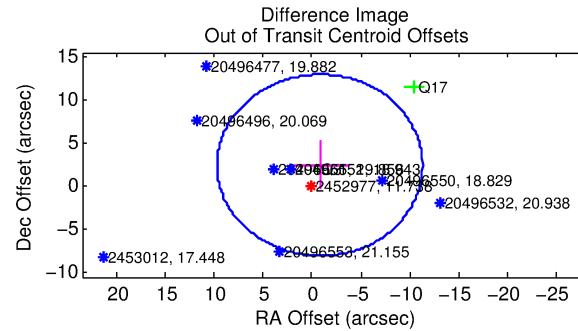
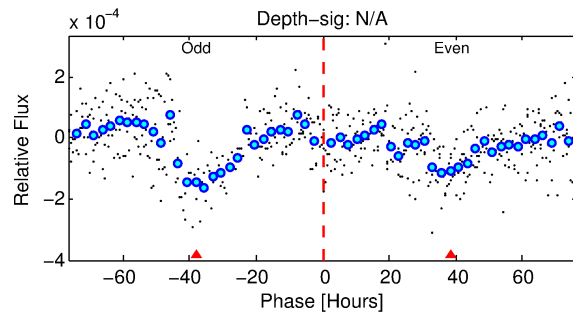
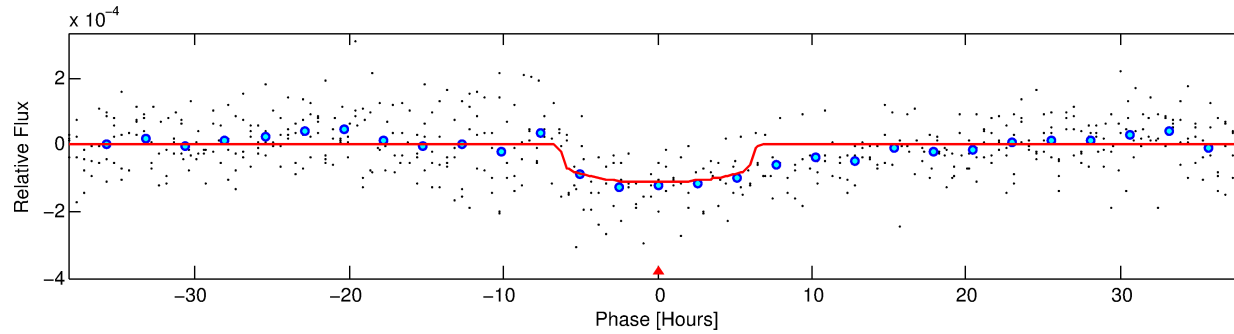
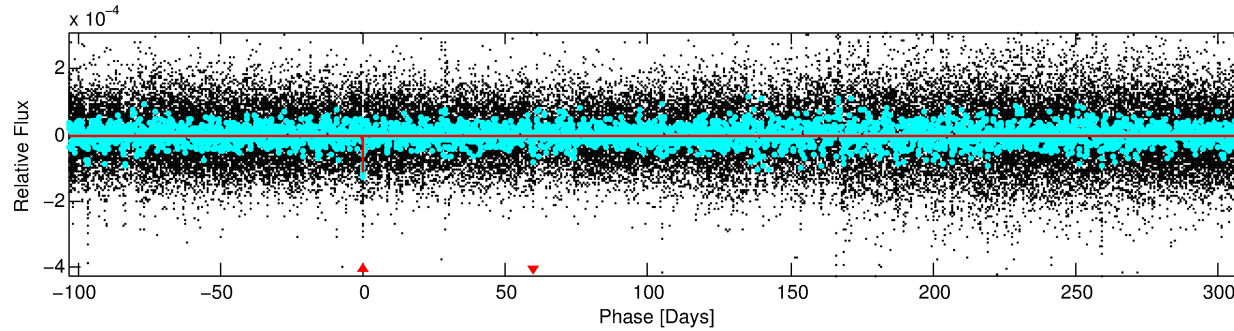
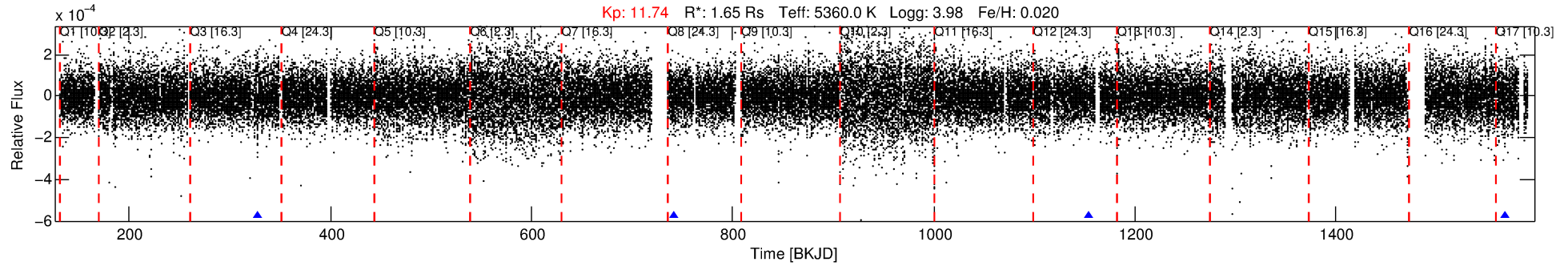
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002452977-01

No Significant Match Found

DV One-Page Summary

KIC: 2452977 Candidate: 1 of 1 Period: 413.229 d



DV Fit Results:

Period = 413.22873 [0.00807] d
 Epoch = 327.7308 [0.0160] BKJD
 Rp/R* = 0.0105 [0.0061]
 a/R* = 167.59 [387.53]
 b = 0.75 [1.36]
 Seff = 1.76 [1.11]
 Teq = 294 [46] K
 Rp = 1.90 [1.33] Re
 a = 1.0715 [0.4079] AU
 Ag = 14519.82 [19301.27] [0.75σ]
 Teffp = 4985 [1477] K [3.17σ]

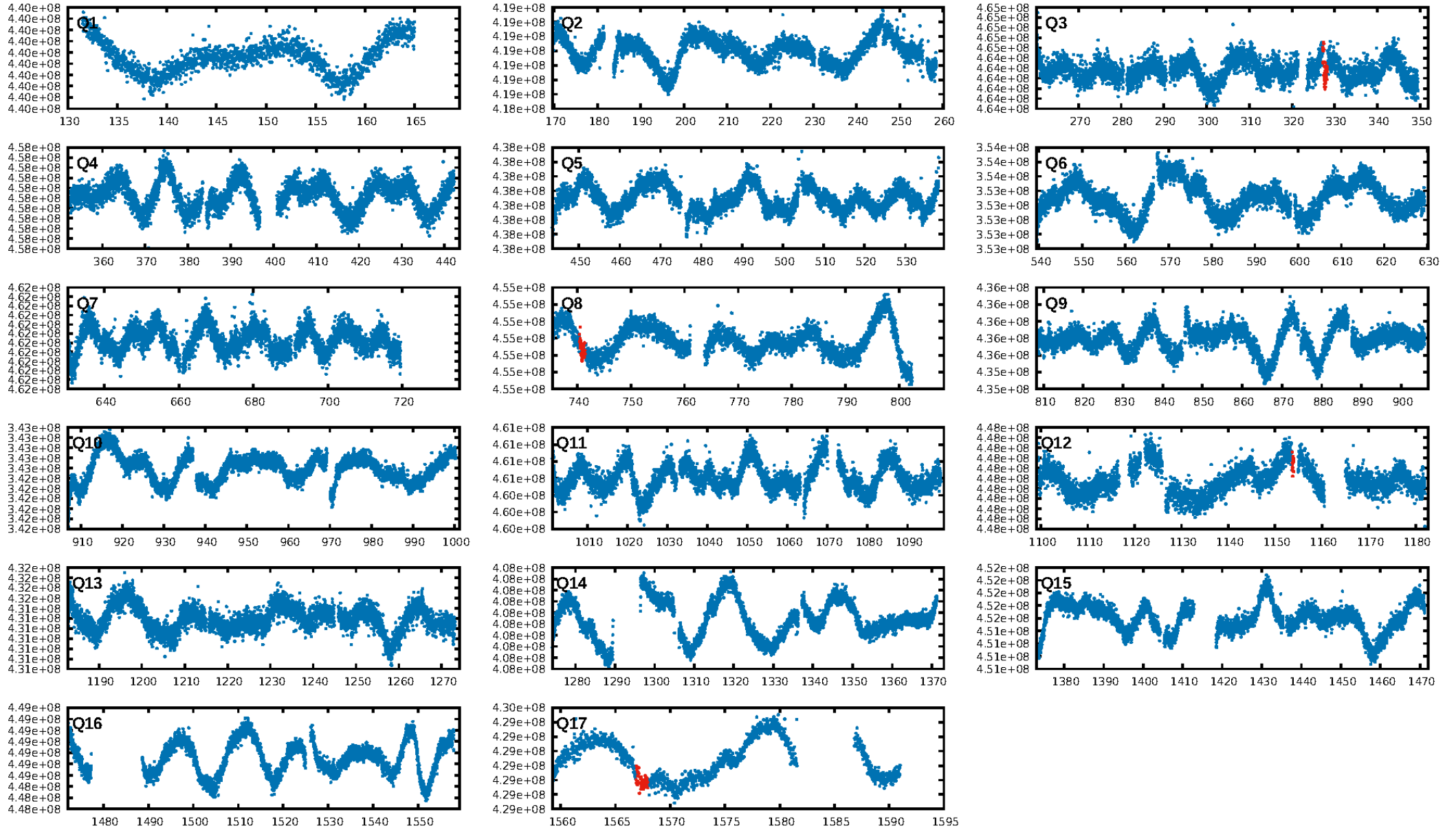
DV Diagnostic Results:

ShortPeriod-sig: N/A
 LongPeriod-sig: N/A
 ModelChiSquare2-sig: 17.2%
 ModelChiSquareGof-sig: 100.0%
 Bootstrap-pfa: 2.56e-12
 RollingBand-fgt: 1.00 [3/3]
 GhostDiagnostic-chr: -1.076
 Centroid-sig: 18.9%
 Centroid-so: 1.063 arcsec [0.70σ]
 OotOffset-rm: 2.565 arcsec [0.73σ]
 KicOffset-rm: 2.163 arcsec [0.67σ]
 OotOffset-st: 0/1/0/1 [2]
 KicOffset-st: 0/1/0/1 [2]
 DiffImageQuality-fgm: 0.00 [0/2]
 DiffImageOverlap-fno: 1.00 [3/3]

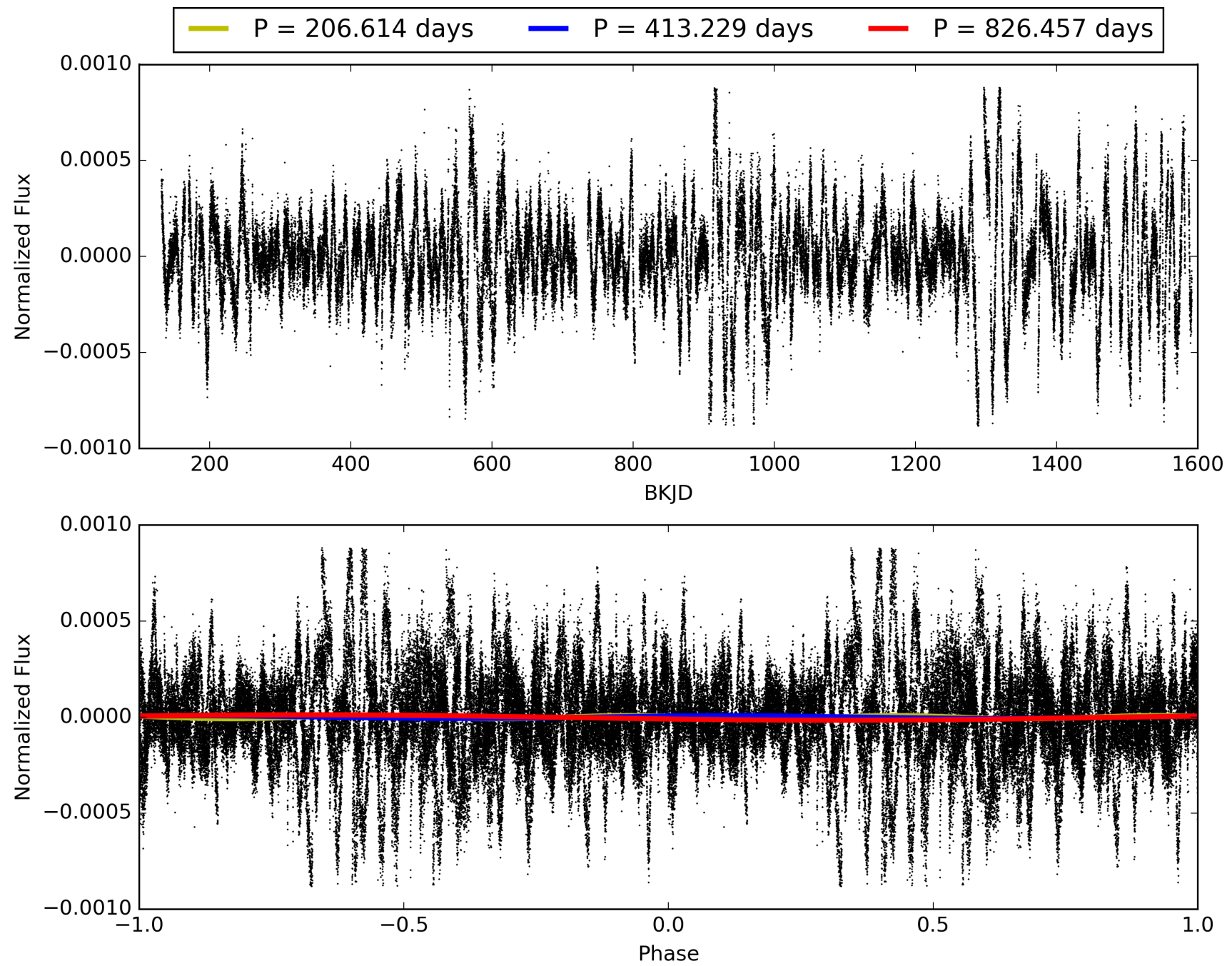
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:12:25 Z

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

TCE 002452977-01, PDC Light Curves

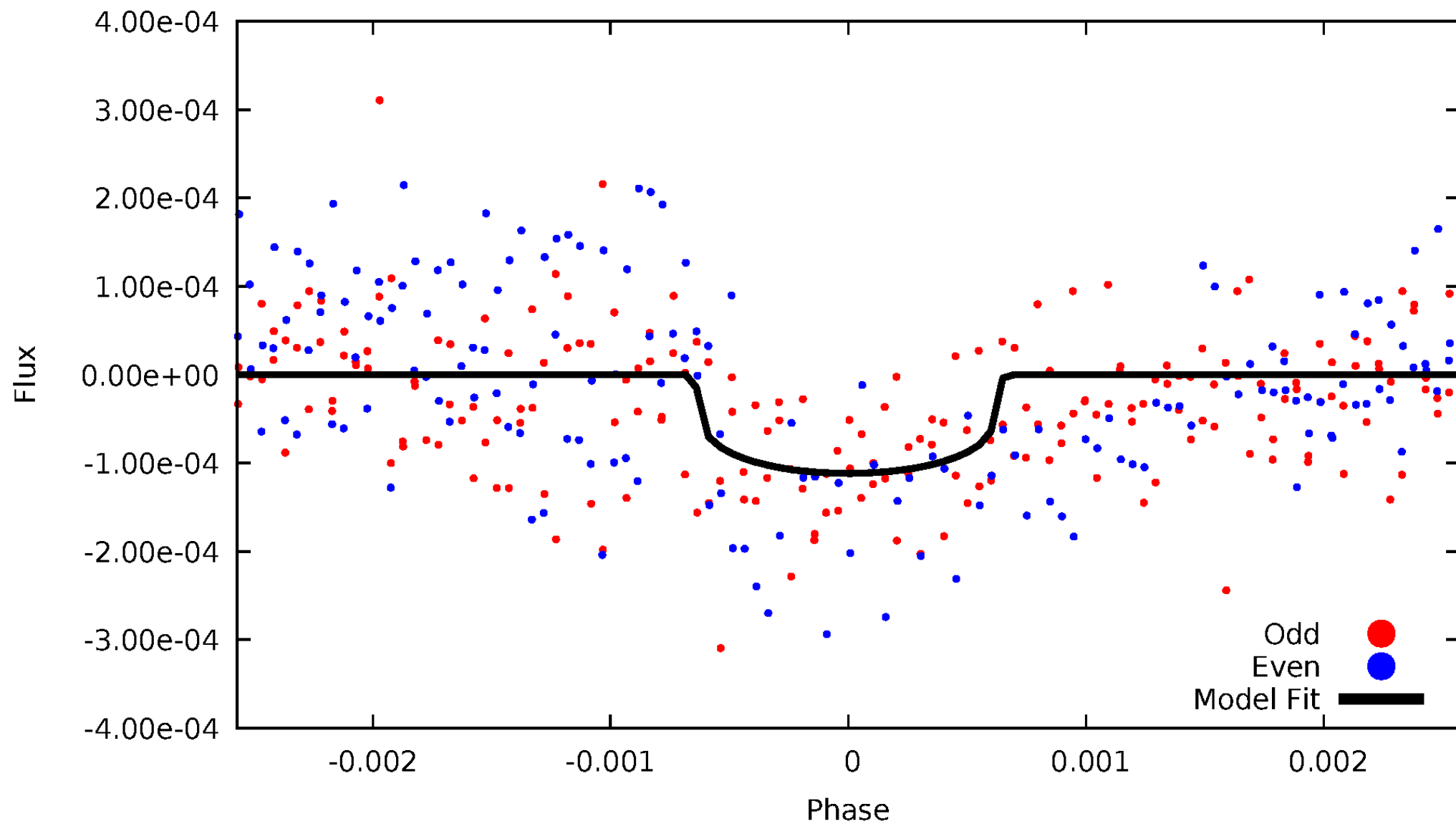


TCE 002452977-01



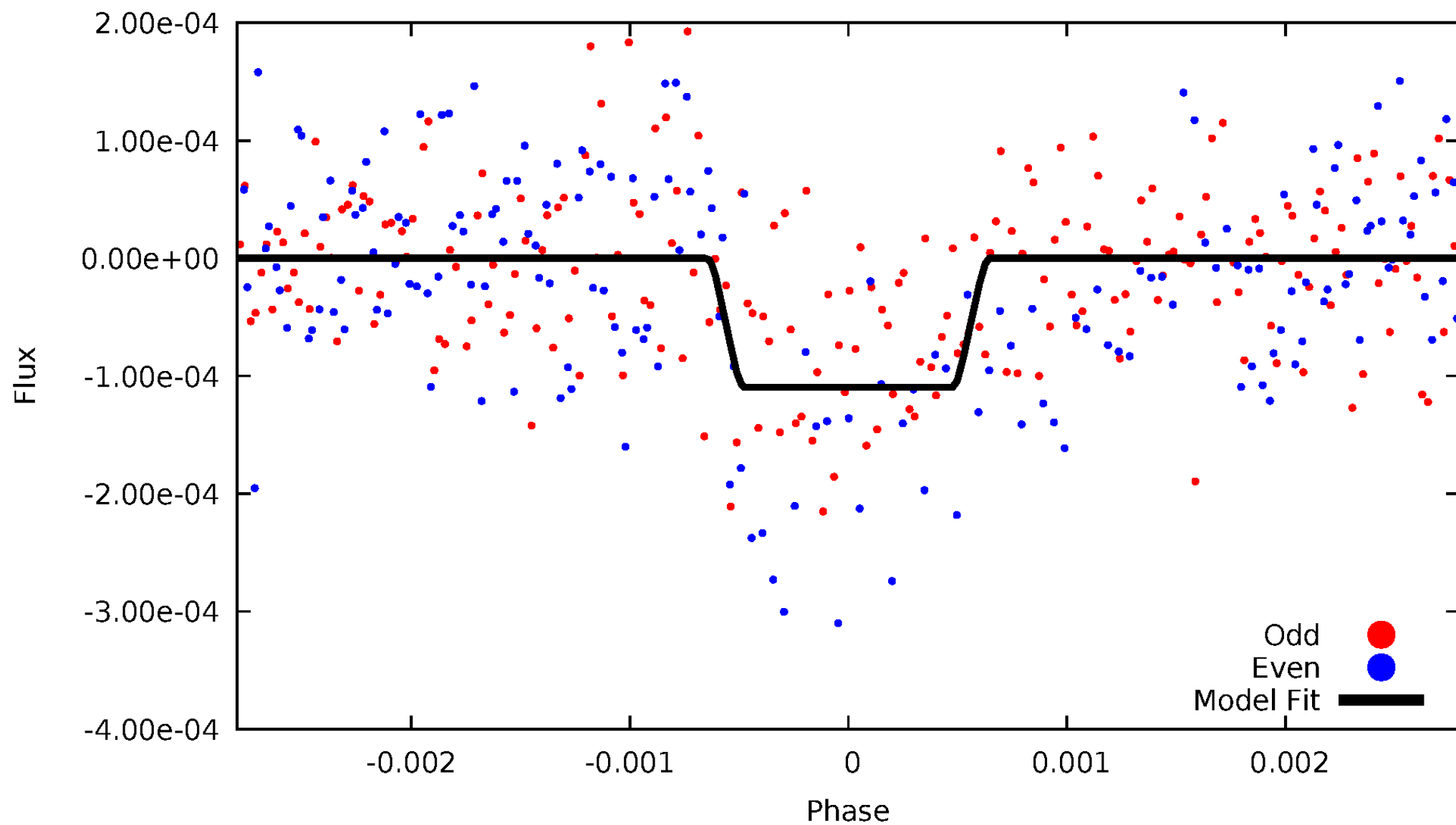
DV Odd/Even

TCE 002452977-01



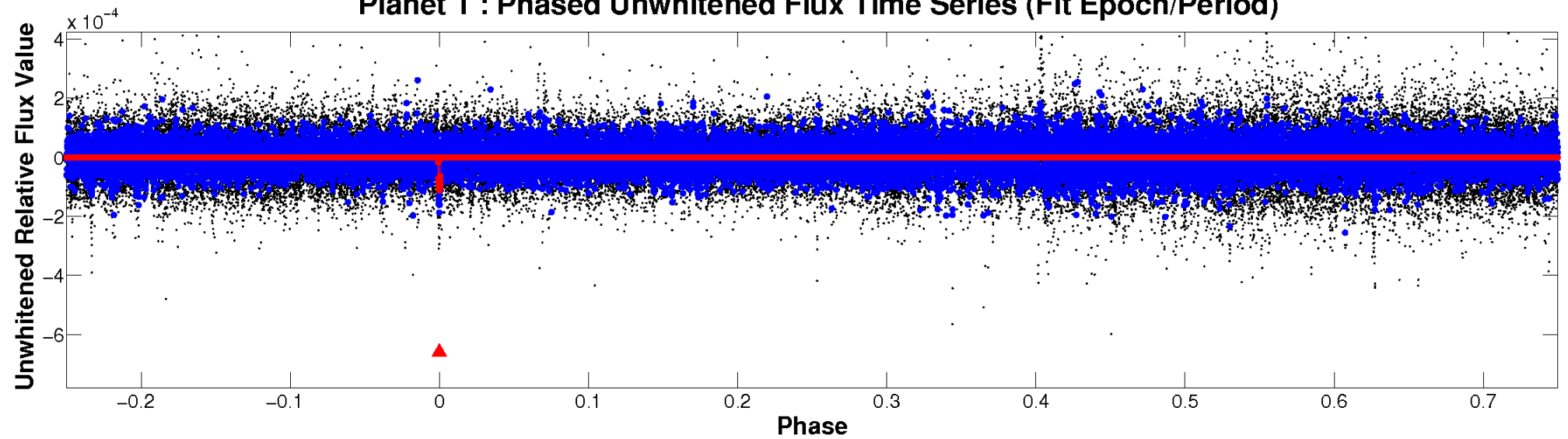
ALT Odd/Even

TCE 002452977-01

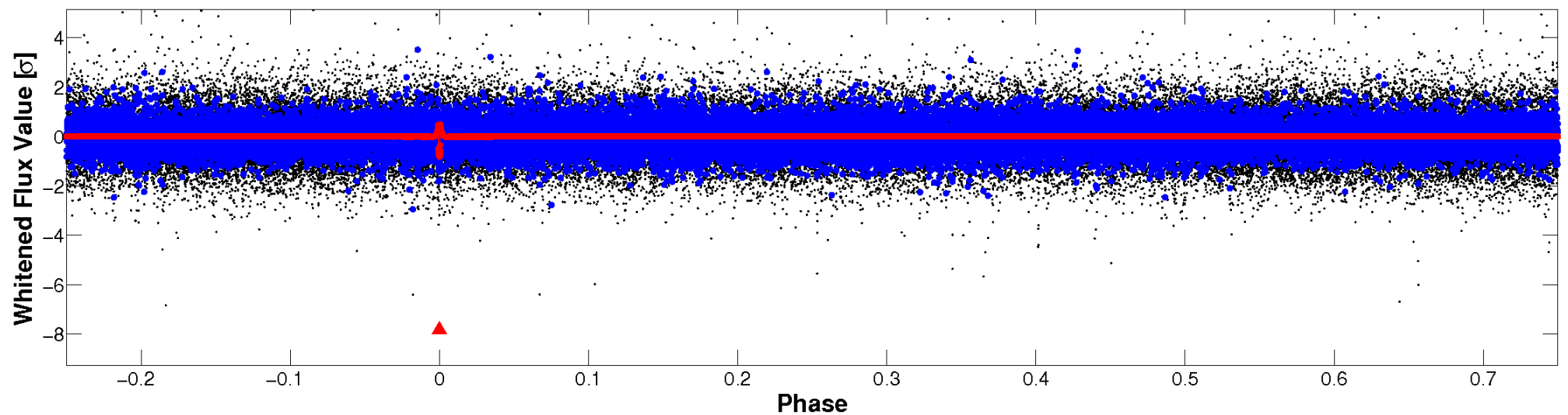


Non-Whitened Vs. Whitened Light Curve

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

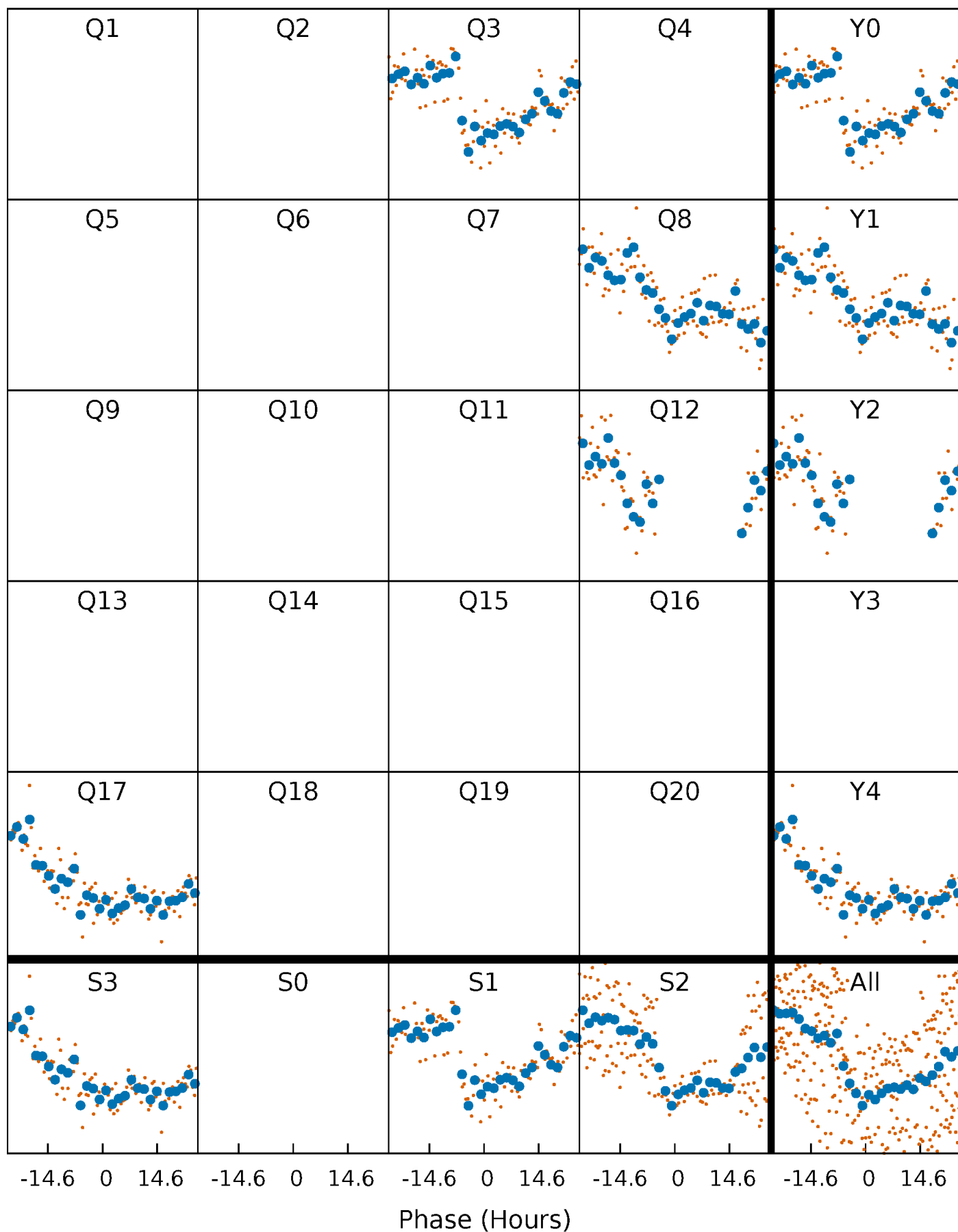


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



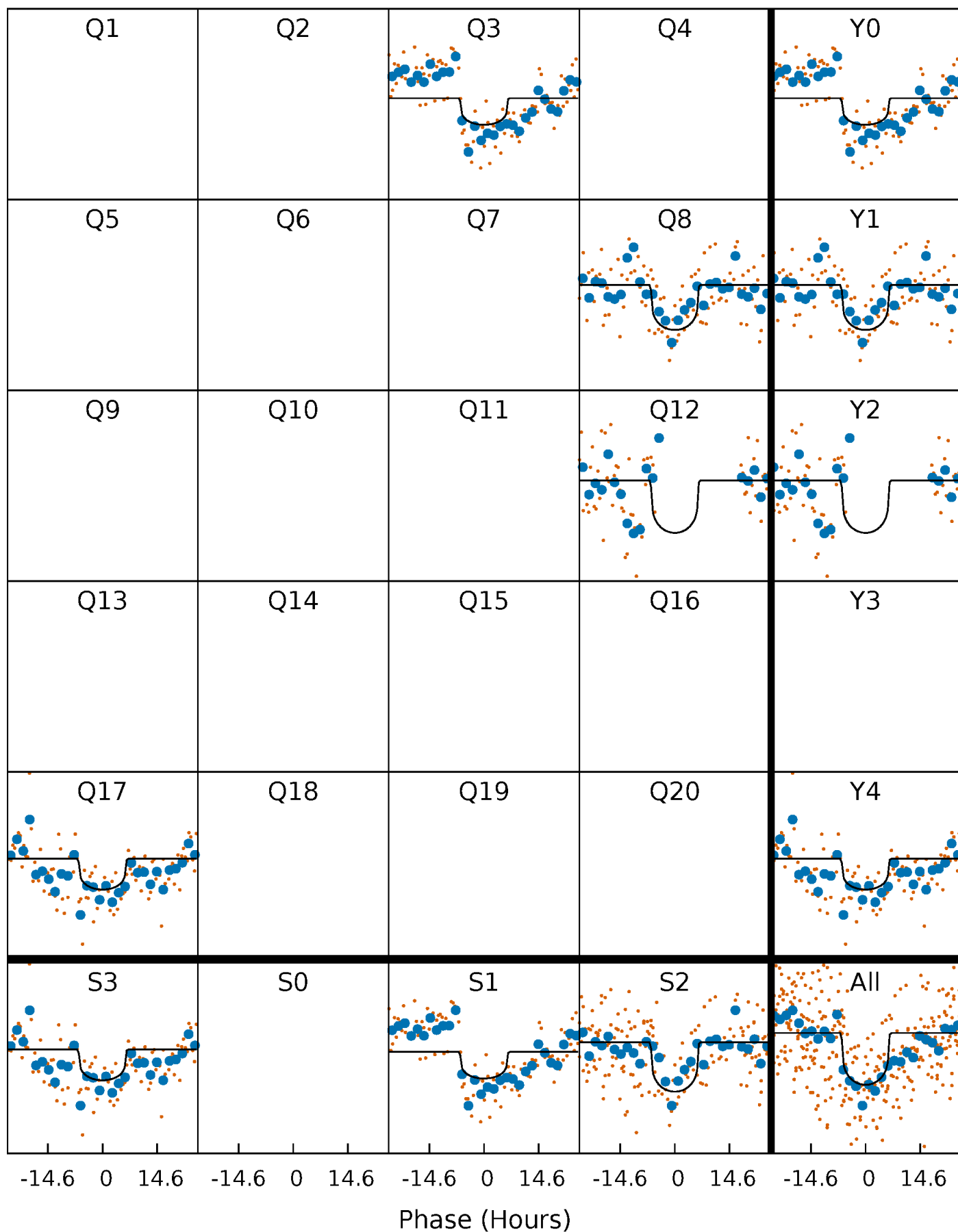
PDC Quarter-Phased Transit Curves

TCE 002452977-01 $P=413.228734$ Days $T_0=327.730849$ (BKJD)



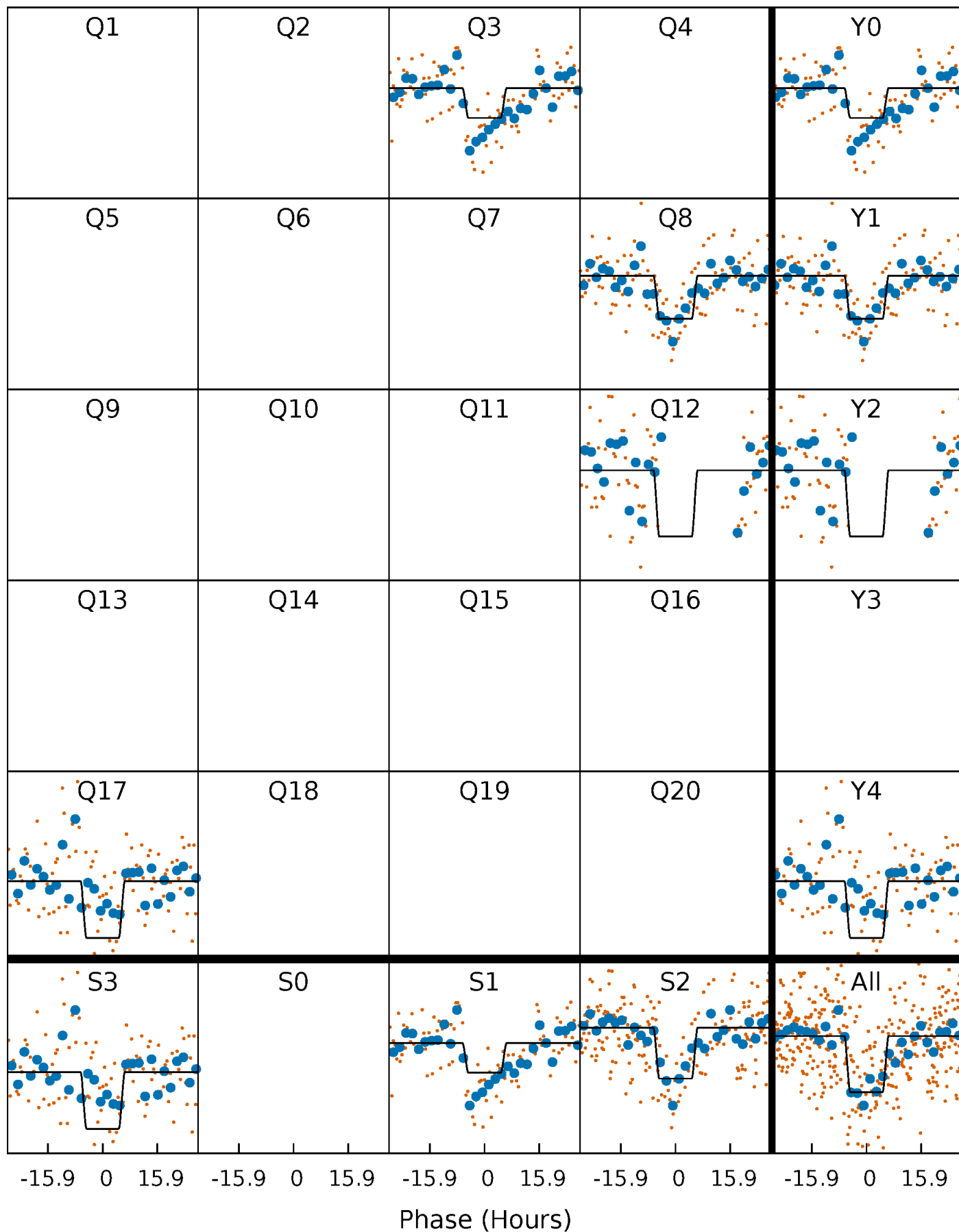
DV Quarter-Phased Transit Curves

TCE 002452977-01 $P=413.228734$ Days $T_0=327.730849$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

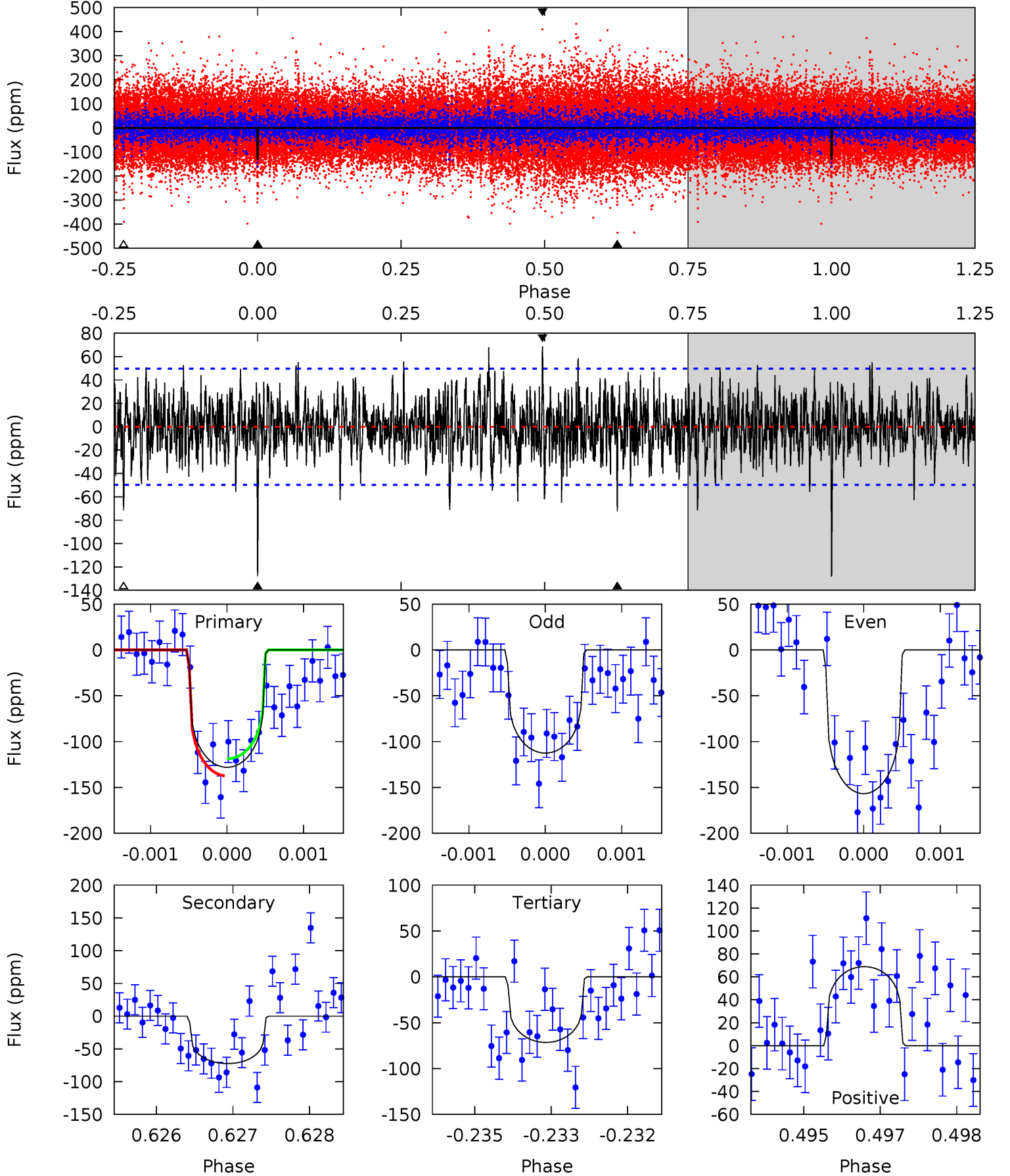
TCE 002452977-01 $P=413.234695$ Days $T_0=327.713204$ (BKJD)



DV Model-Shift Uniqueness Test

002452977-01, $P = 413.228734$ Days, $E = 327.730849$ Days

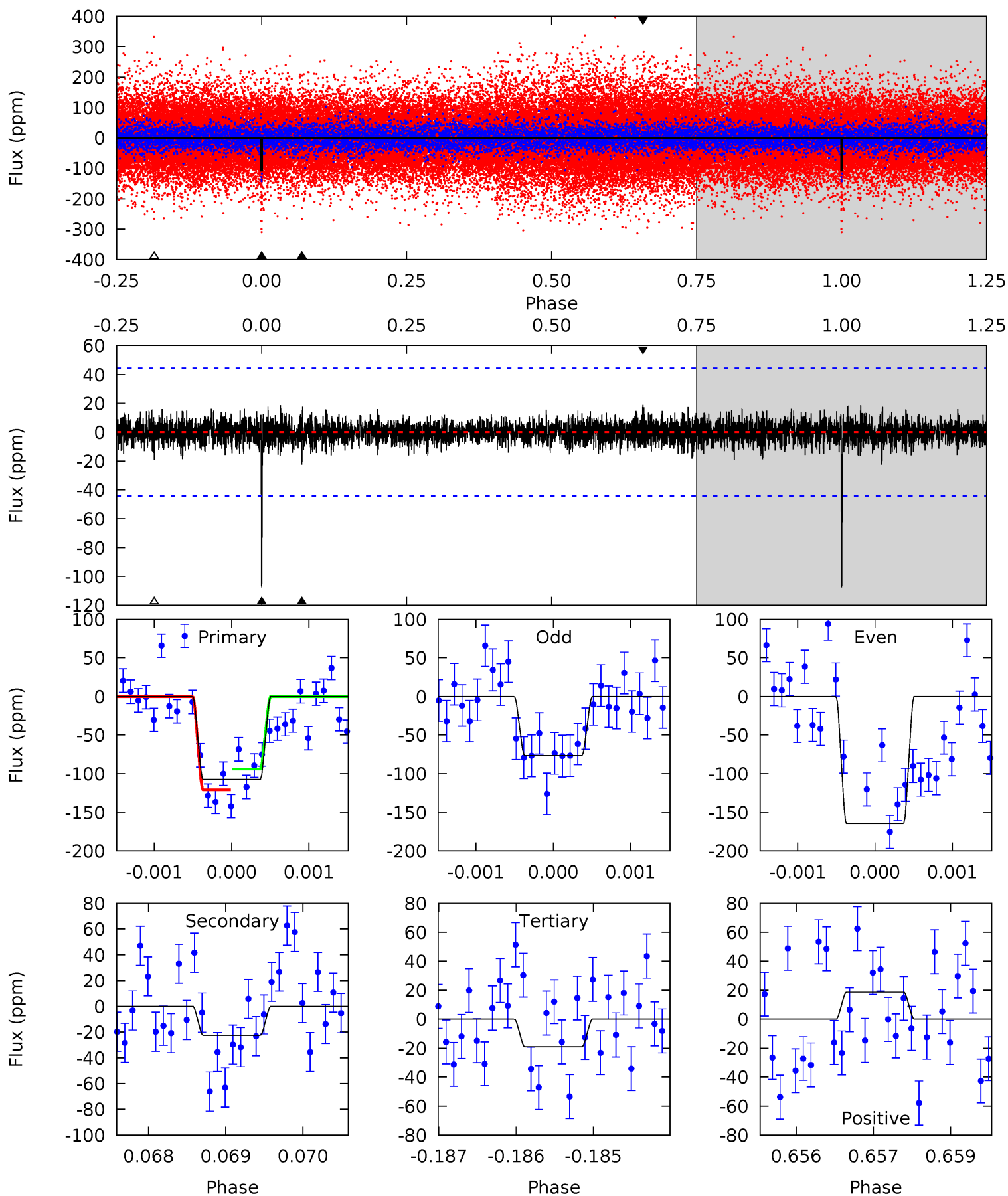
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	7.88	7.78	7.49	5.41	3.22	2.00	6.15	6.44	0.10	0.39	2.30	0.81	0.35	1.01



Alt Model-Shift Uniqueness Test

002452977-01, P = 413.234695 Days, E = 327.713204 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	2.74	2.32	2.28	5.41	3.22	0.64	10.8	10.8	0.42	0.46	5.20	1.09	0.15	1.64



Stellar Parameters For KIC 002452977

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5360^{+176}_{-128}	$3.984^{+0.364}_{-0.156}$	$0.020^{+0.300}_{-0.200}$	$1.653^{+0.395}_{-0.641}$	$0.960^{+0.123}_{-0.076}$	$0.299^{+0.814}_{-0.131}$
	+3%/-2%	+9%/-4%	+1500%/-1000%	+24%/-39%	+13%/-8%	+272%/-44%
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 002452977-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-72 ± 9	$1.85^{+1.14}_{-0.98}$	409^{+29}_{-44}	4868^{+2119}_{-751}	13547^{+48511}_{-8380}
Alt.	-22 ± 8	$1.89^{+1.18}_{-1.06}$	408^{+30}_{-43}	3857^{+1336}_{-560}	3936^{+16280}_{-2551}

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 $A_{obs} \gg 1.0$

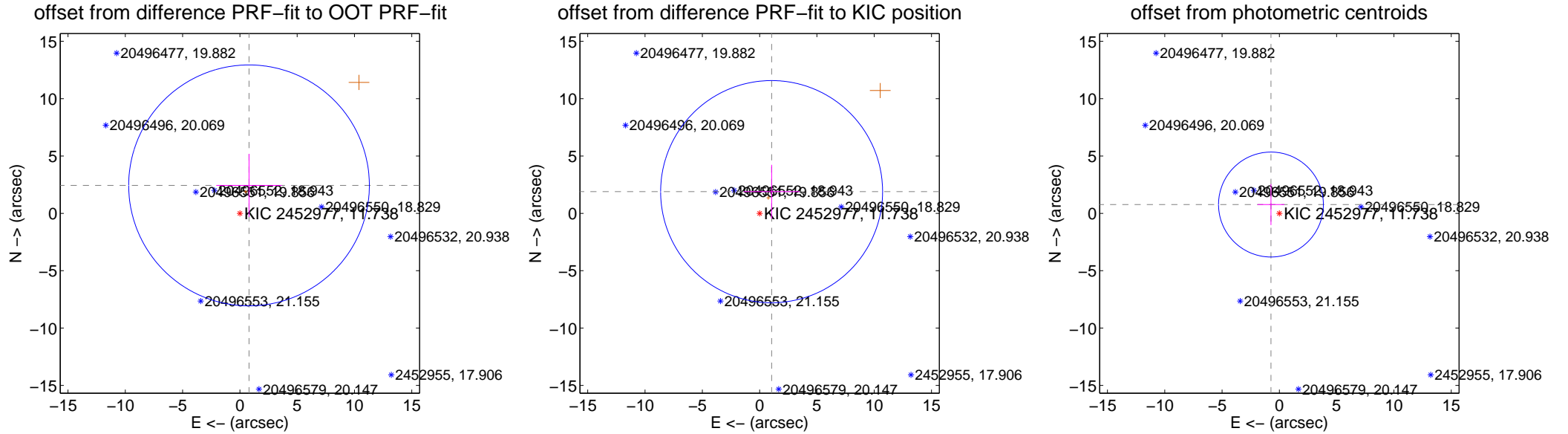
DV Centroid Data

Supplemental centroid analysis for 002452977-01. **Kepler magnitude: 11.74.** Transit SNR 7.08

There are 0 quarters with good PRF difference image offsets

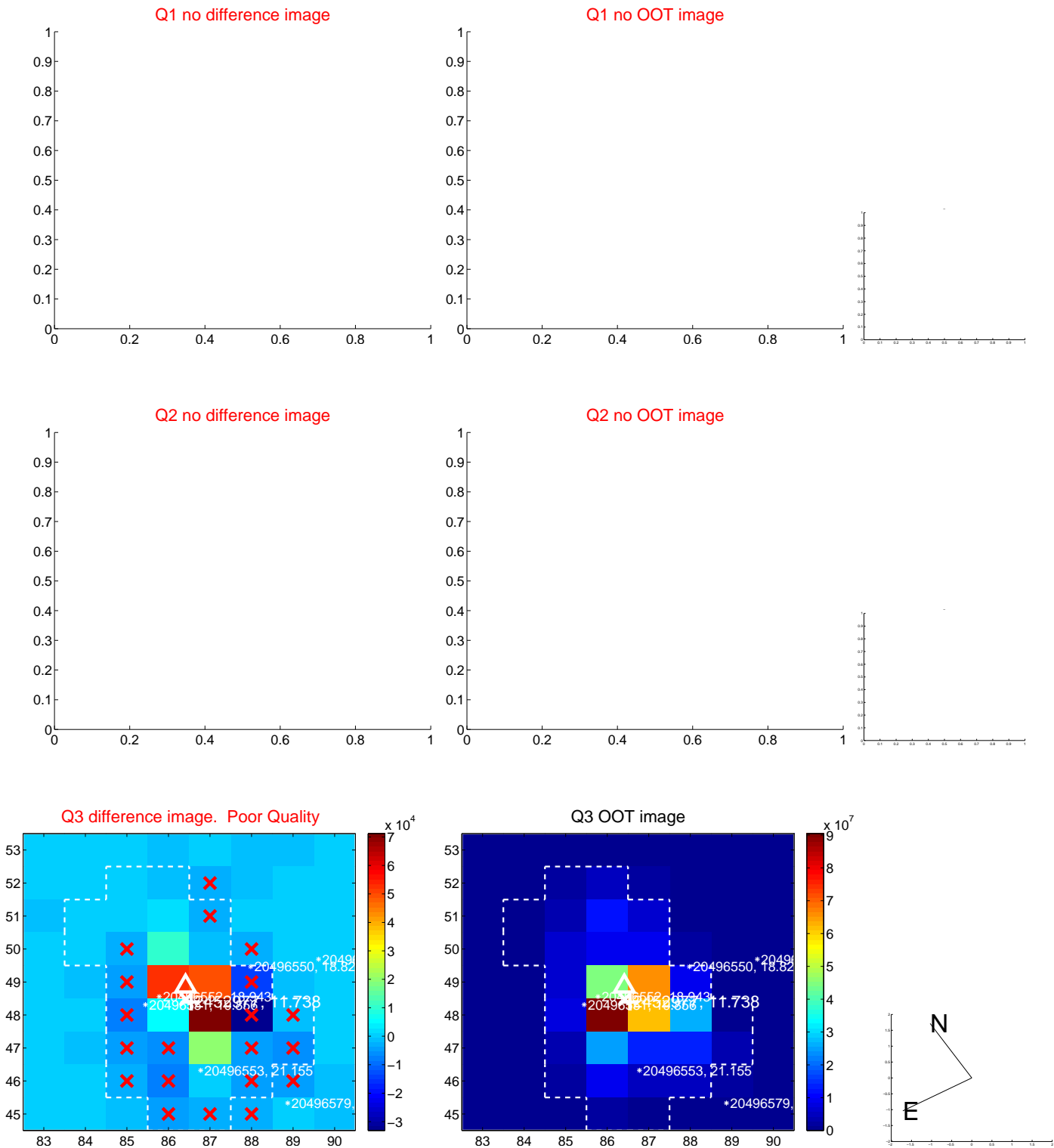
The direct PRF centroid is offset from the target star catalog position by about 0.72 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.565 ± 3.500	0.73	-0.797 ± 2.855	2.438 ± 2.750
PRF-fit source offset from KIC position	2.163 ± 3.228	0.67	-1.047 ± 2.442	1.893 ± 2.339
photometric centroid source offset	1.06 ± 1.52	0.70	0.73 ± 1.17	0.77 ± 1.79

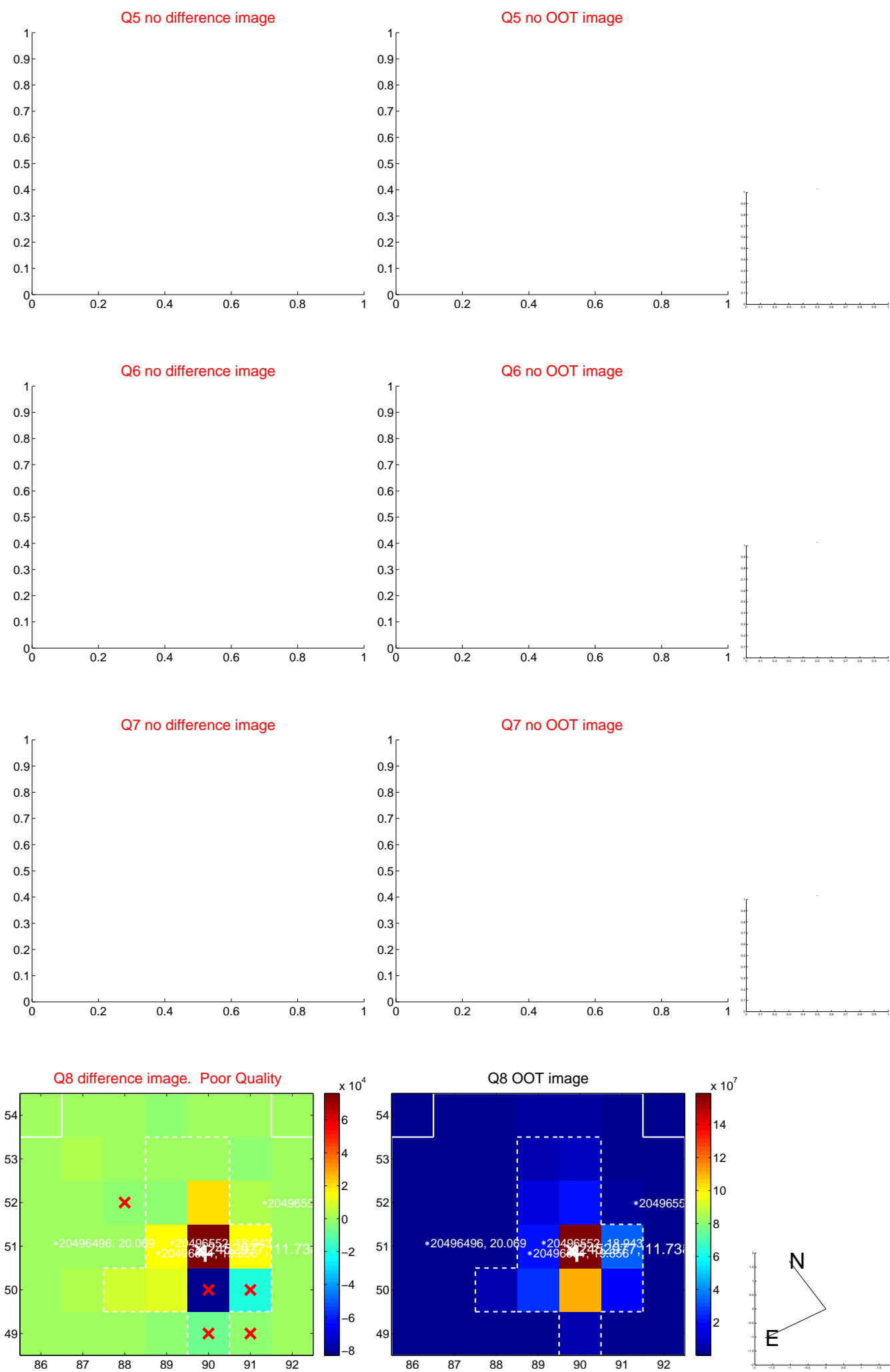


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



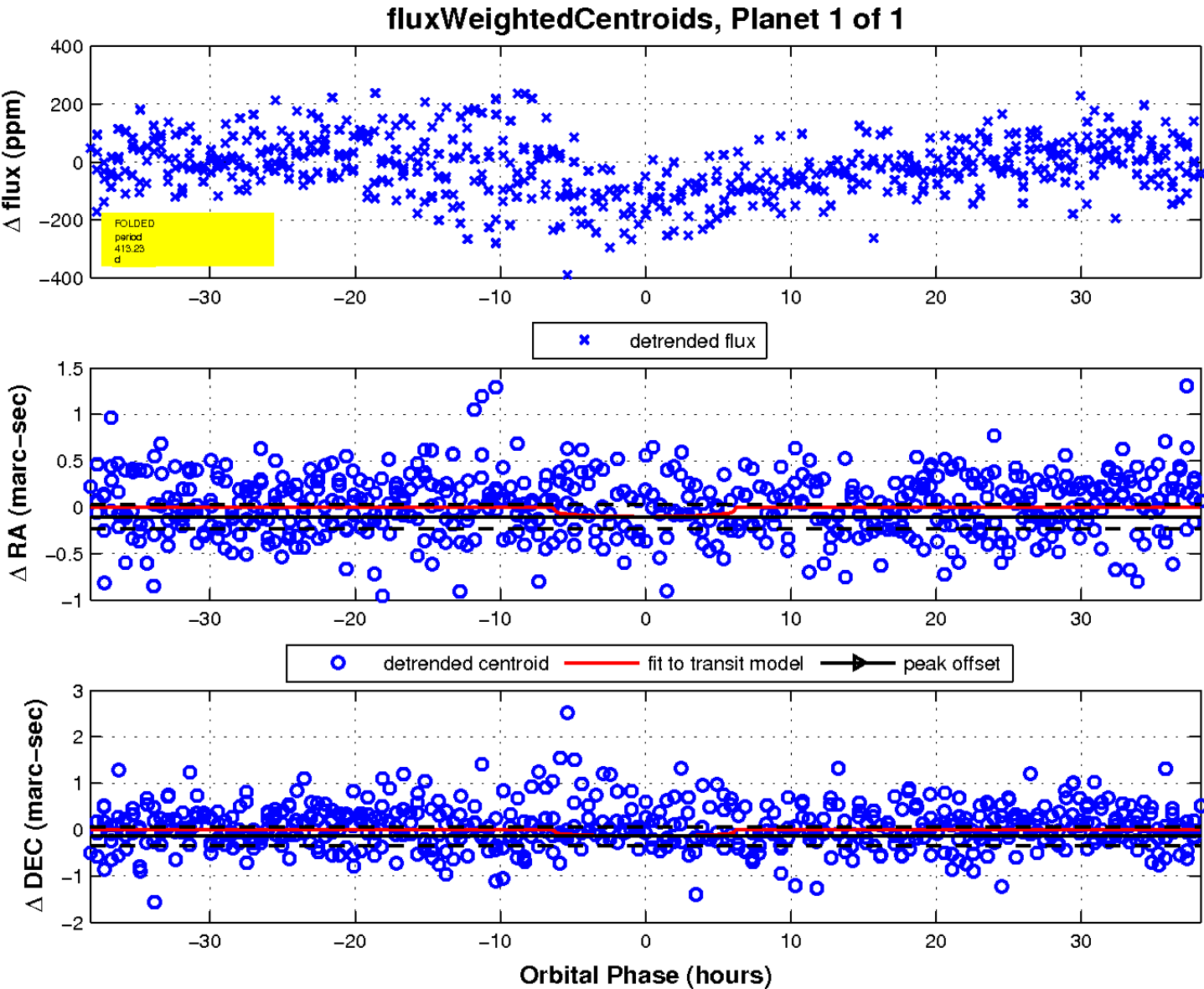
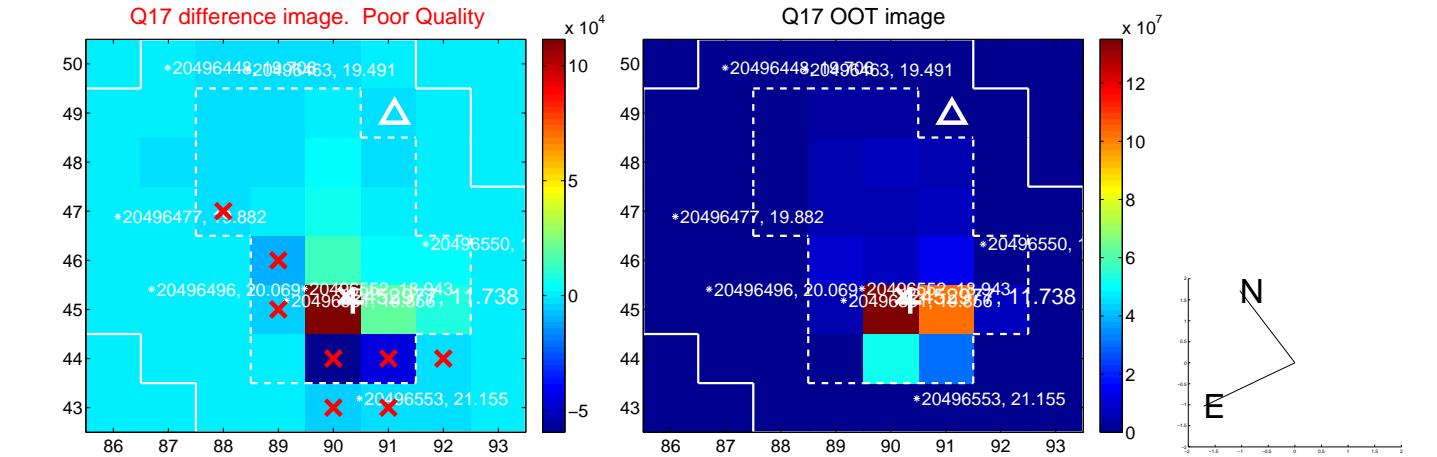
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UKIRT Image

