

KIC 008621731

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})
008621731-01	OBS	No	375.211794	138.177626	852.9	35.675	12.4	14.2	1.06	6200	3.55	1.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008621731-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—EPHEM_MATCH

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.

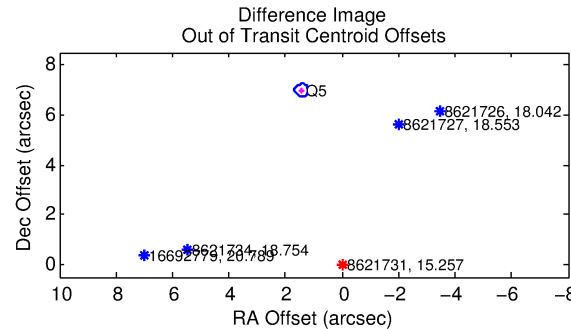
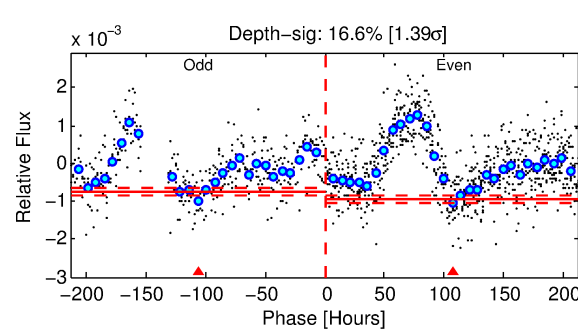
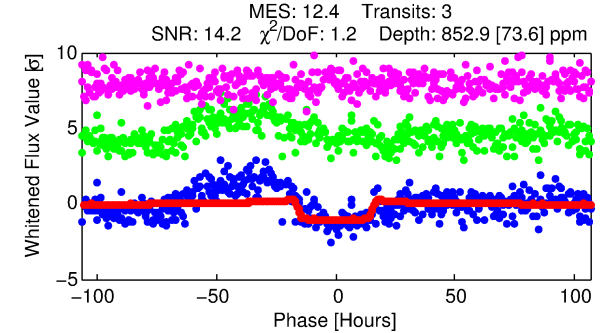
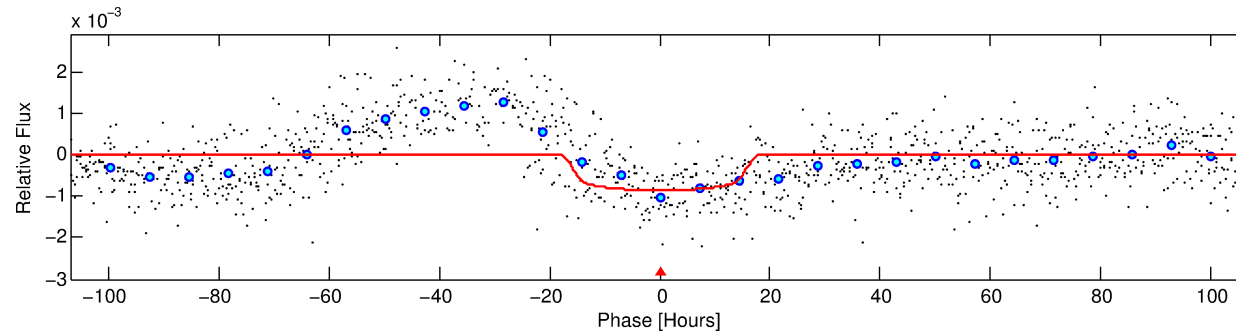
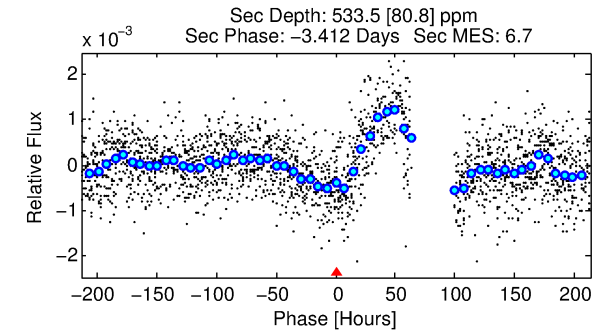
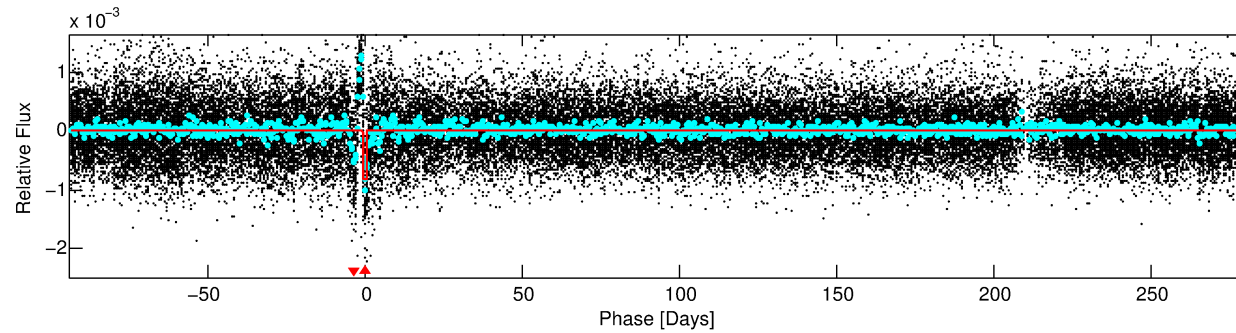
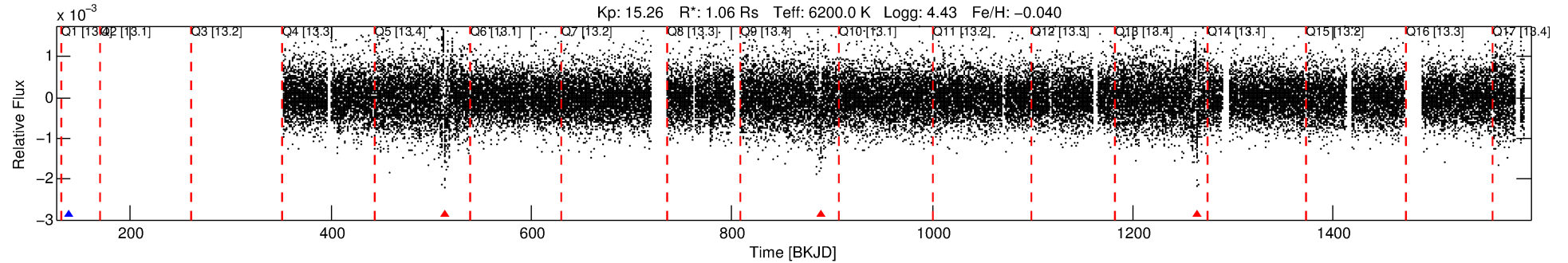
Ephemeris Match Information For 008621731-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (\prime)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008621731-01	8621731	008621528-01	8621528	1:1	225.8	-57	2	15.99	15.25	3.51	Col-Anomaly	1	4.61	1.40

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8621731 Candidate: 1 of 1 Period: 375.212 d



DV Fit Results:

Period = 375.21179 [0.02877] d
Epoch = 138.1776 [0.0631] BKJD
Rp/R* = 0.0306 [0.0025]
a/R* = 45.12 [15.11]
b = 0.86 [0.10]
Seff = 1.34 [0.60]
Teq = 274 [31] K
Rp = 3.55 [1.26] Re
a = 1.0553 [0.3030] AU
Ag = 25977.05 [12209.86] [2.13σ]
Teff = 5383 [375] K [13.57σ]

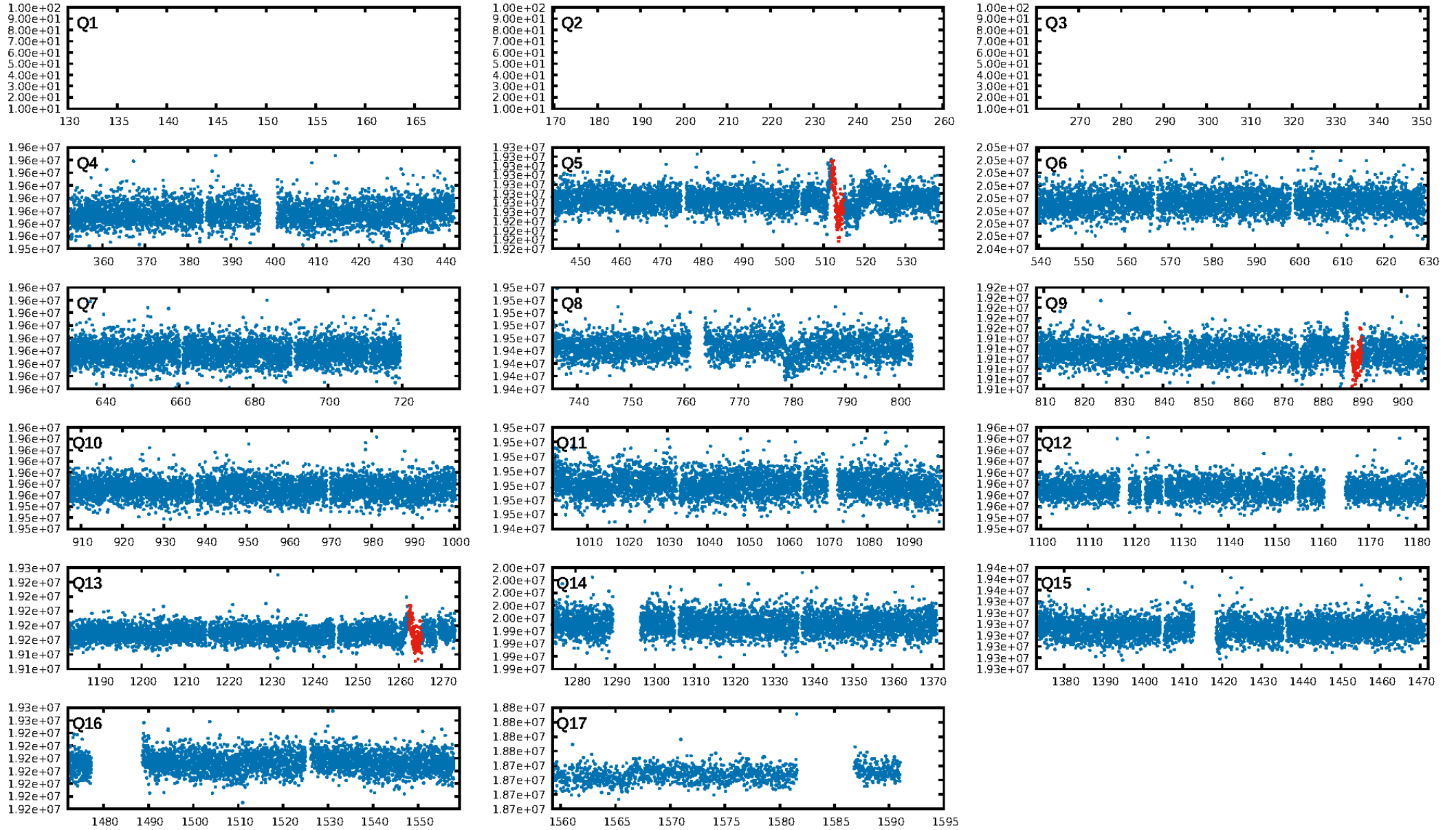
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.9%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 4.32e-23
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: 2.638
Centroid-sig: 0.0%
Centroid-so: 5.080 arcsec [4.36σ]
OotOffset-rm: 7.133 arcsec [86.12σ]
KicOffset-rm: 7.147 arcsec [86.29σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

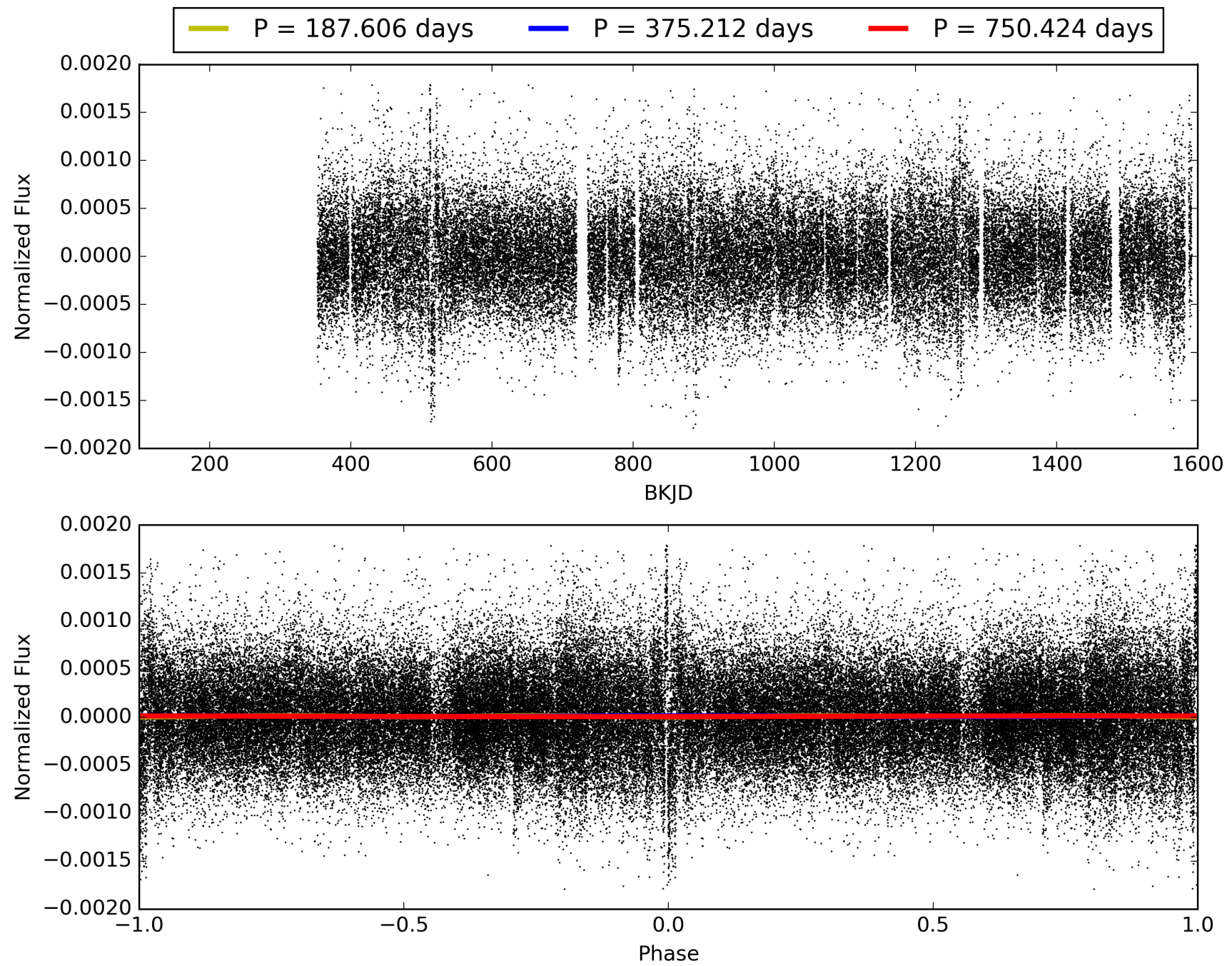
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:54:53 Z

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

TCE 008621731-01, PDC Light Curves

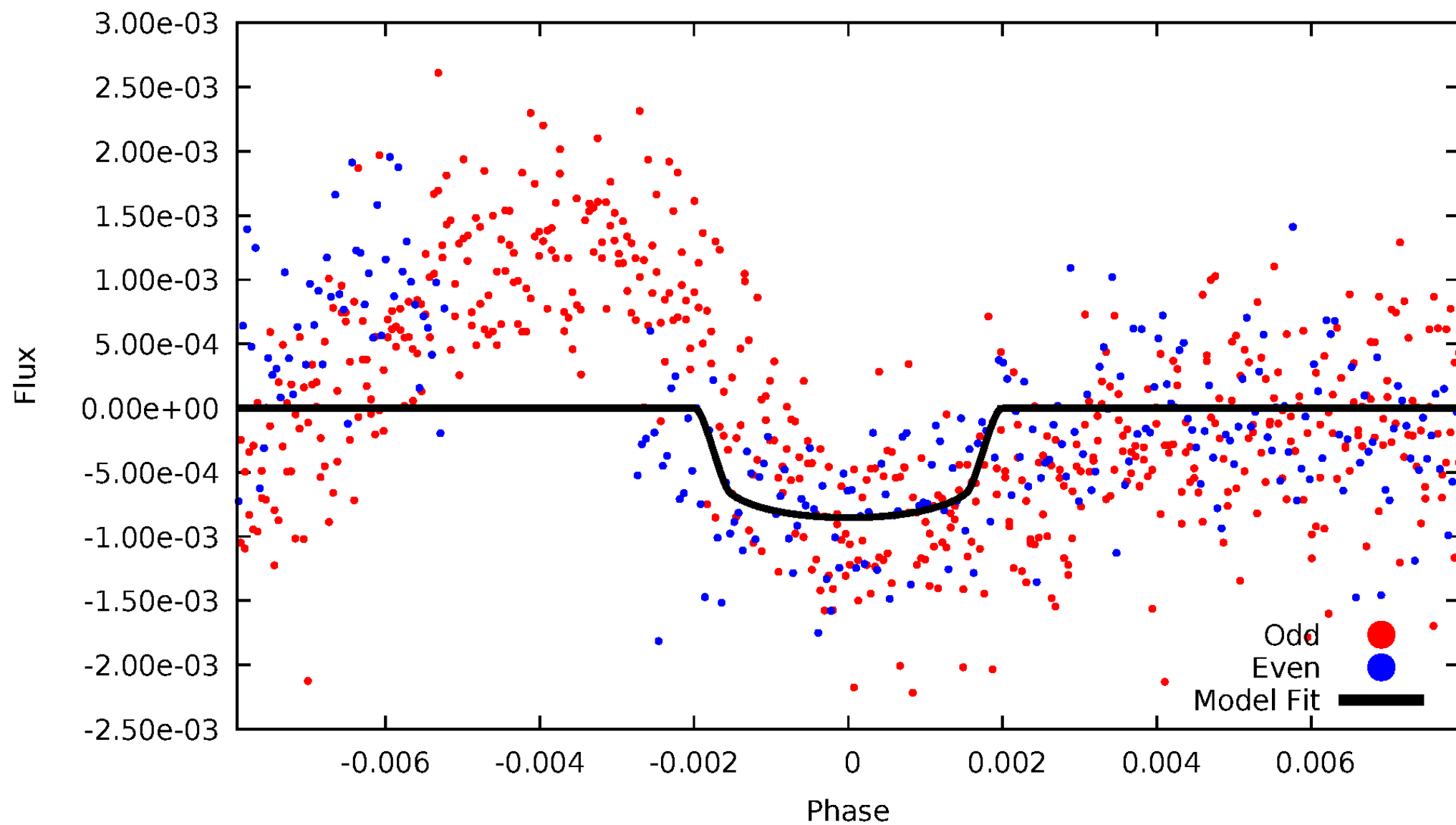


TCE 008621731-01



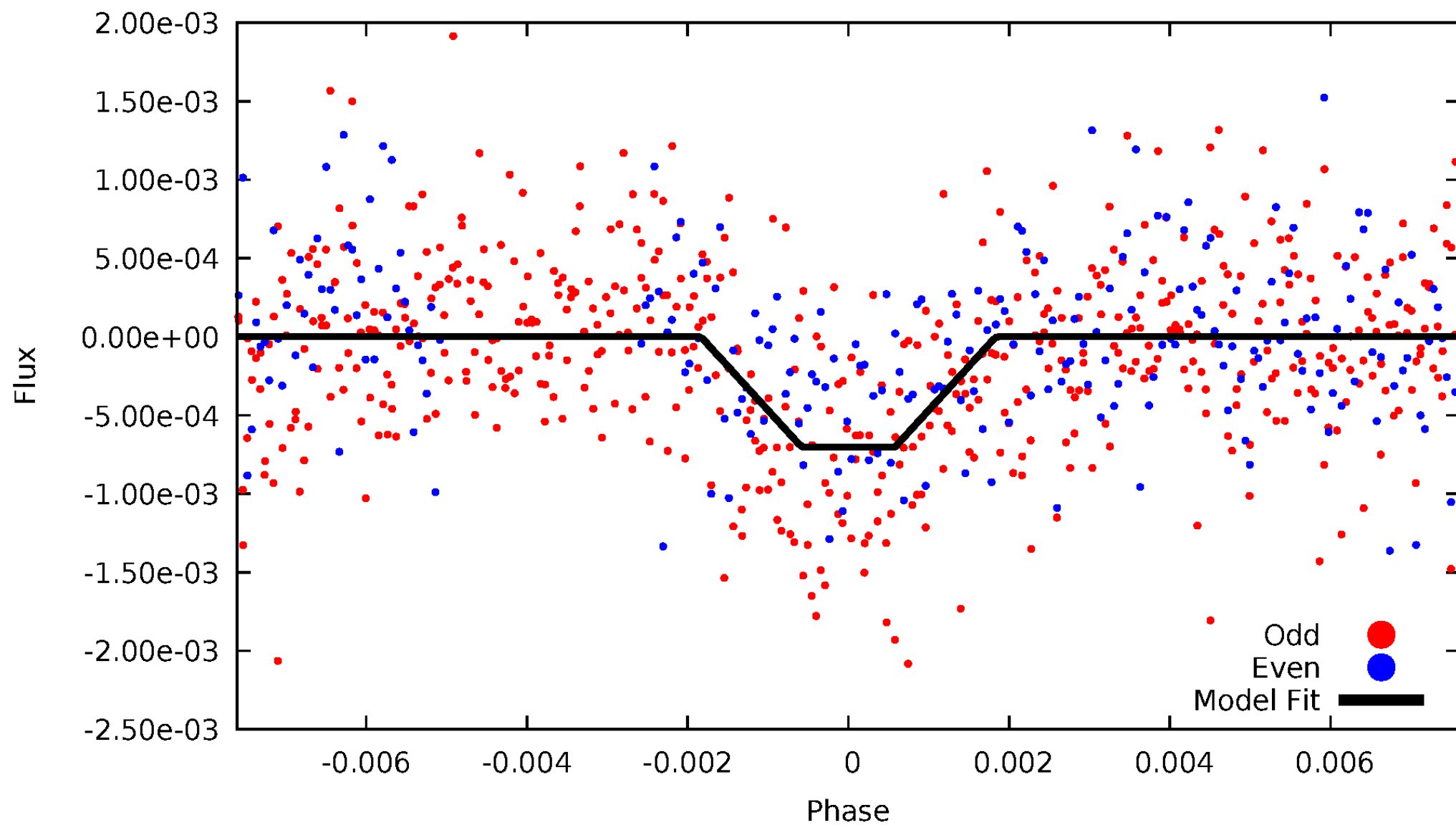
DV Odd/Even

TCE 008621731-01



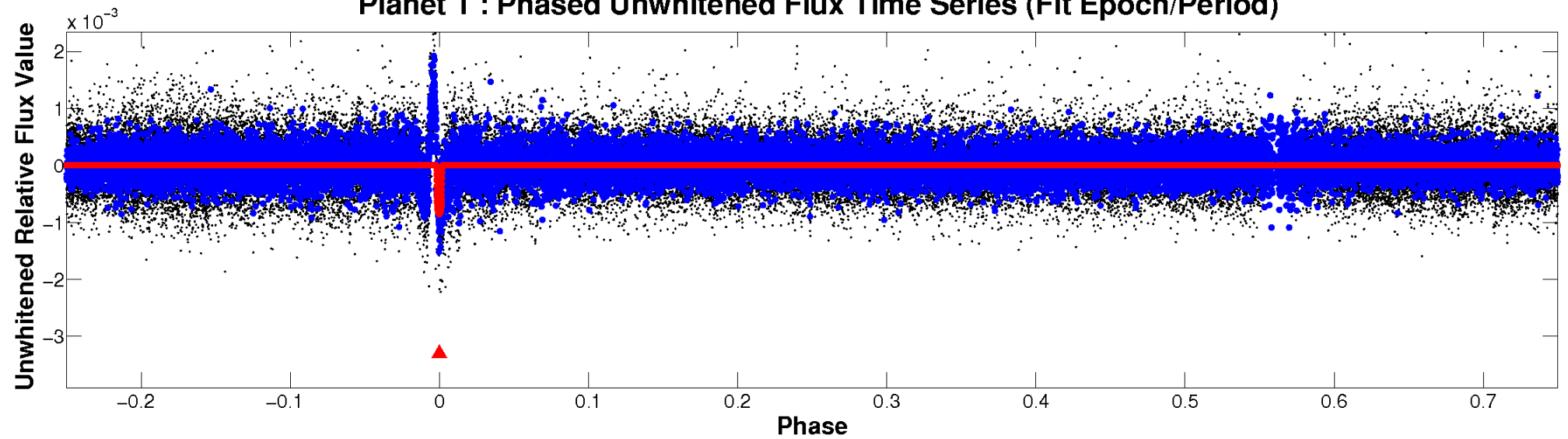
ALT Odd/Even

TCE 008621731-01

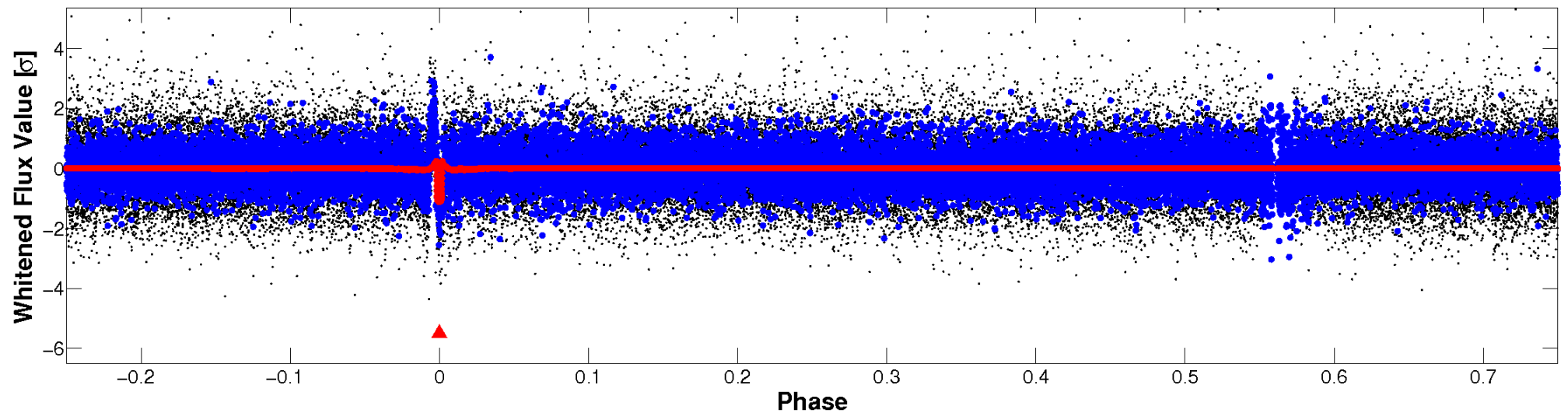


Non-Whitened Vs. Whitened Light Curve

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

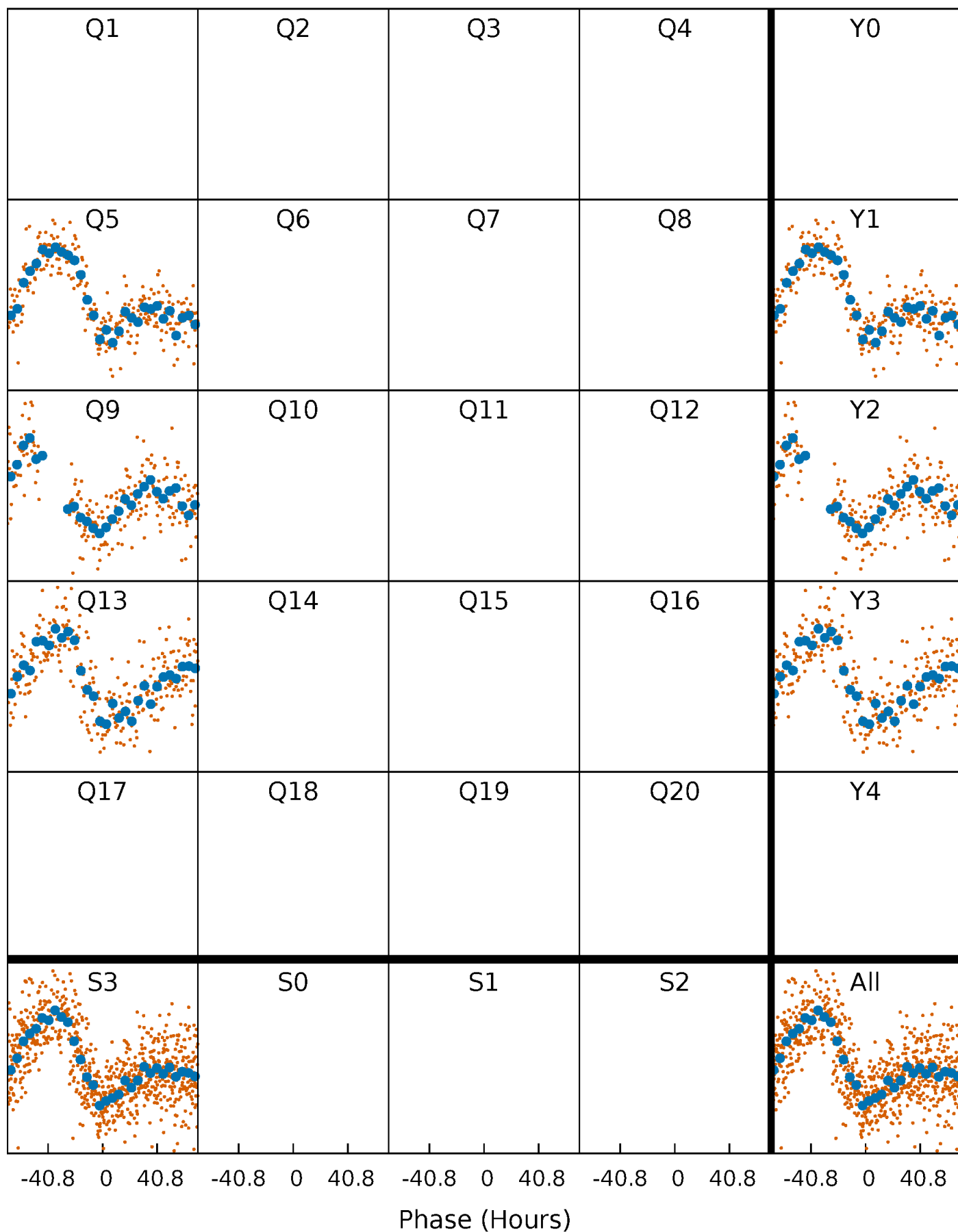


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



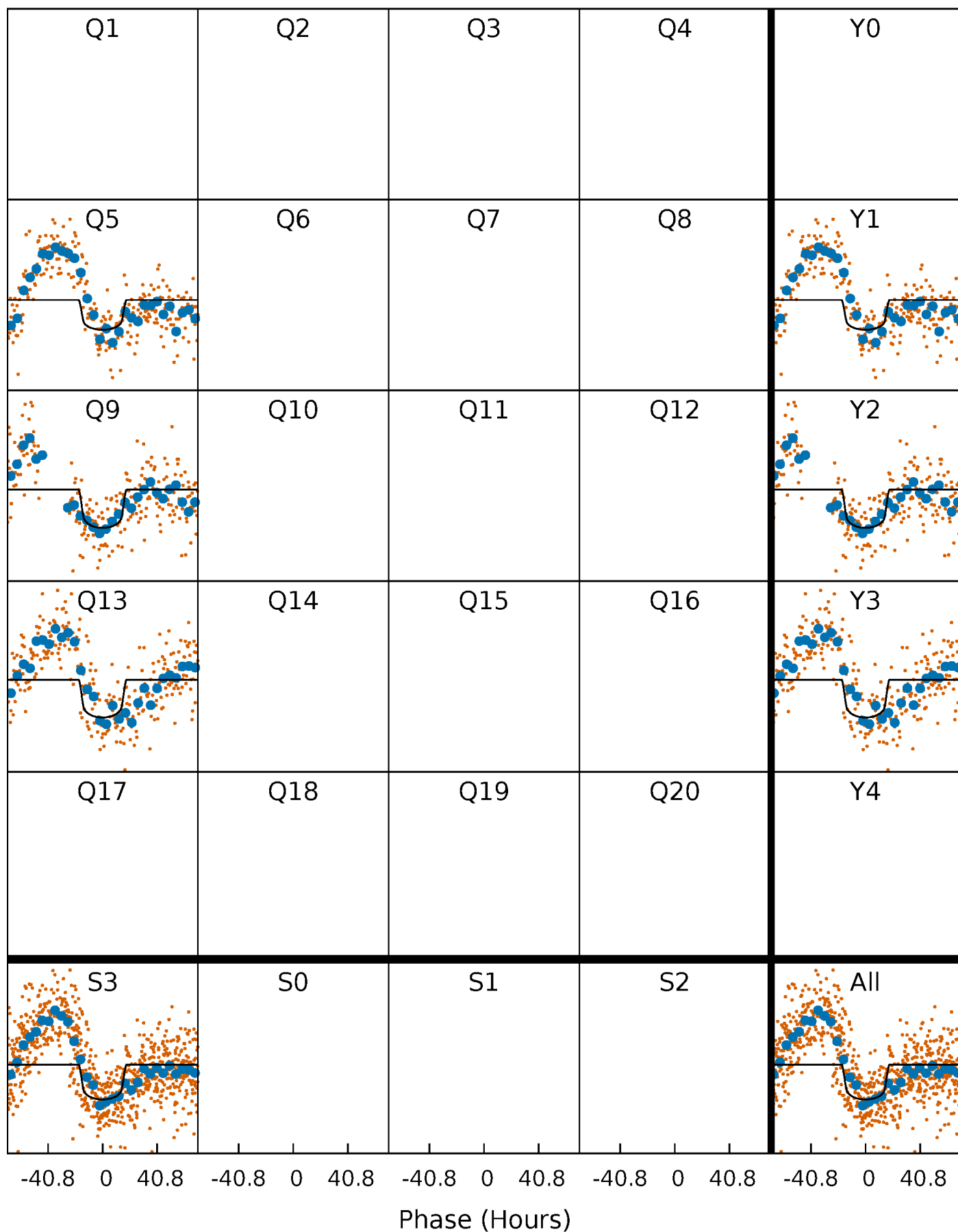
PDC Quarter-Phased Transit Curves

TCE 008621731-01 P=375.211794 Days $T_0=138.177626$ (BKJD)



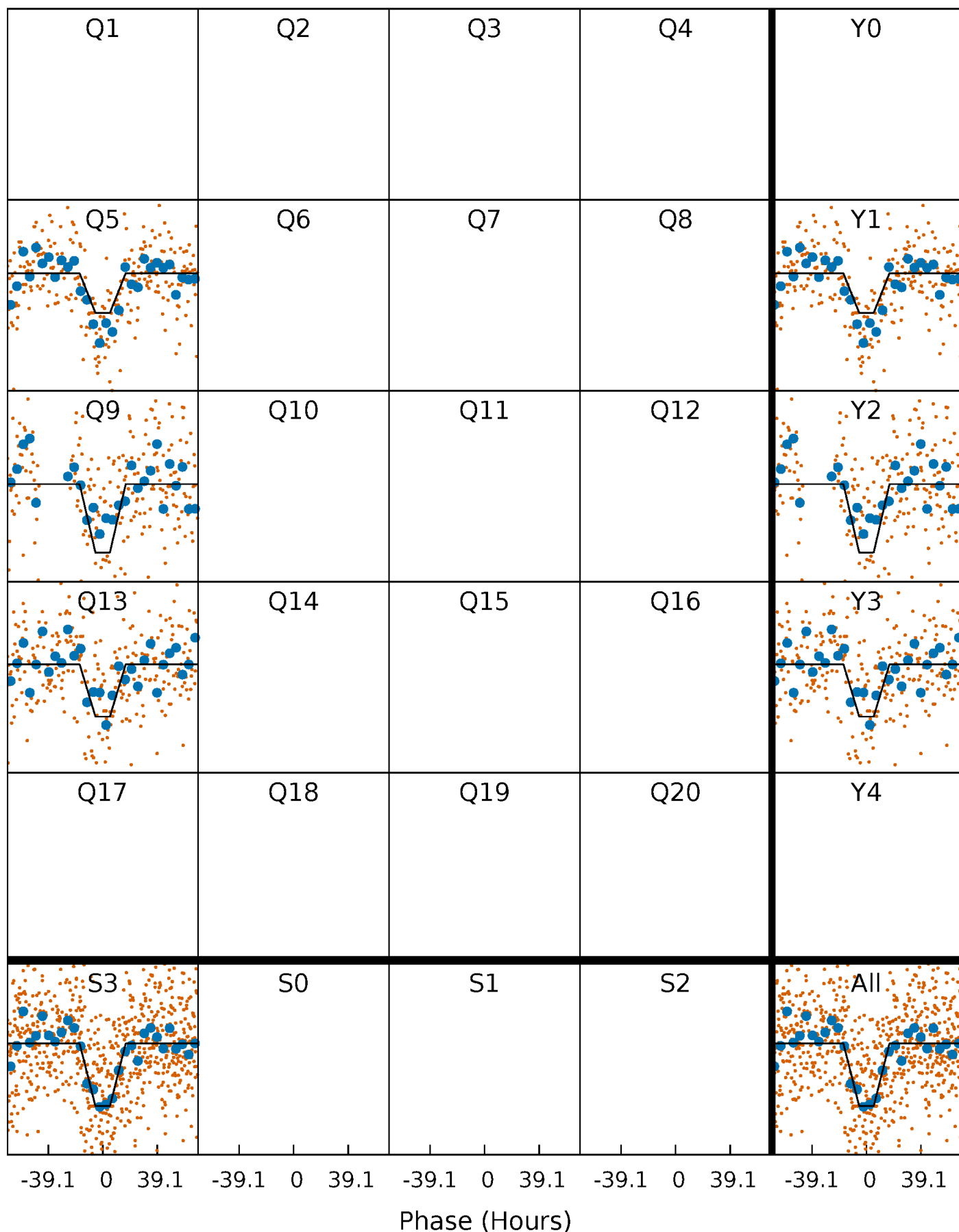
DV Quarter-Phased Transit Curves

TCE 008621731-01 P=375.211794 Days $T_0=138.177626$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

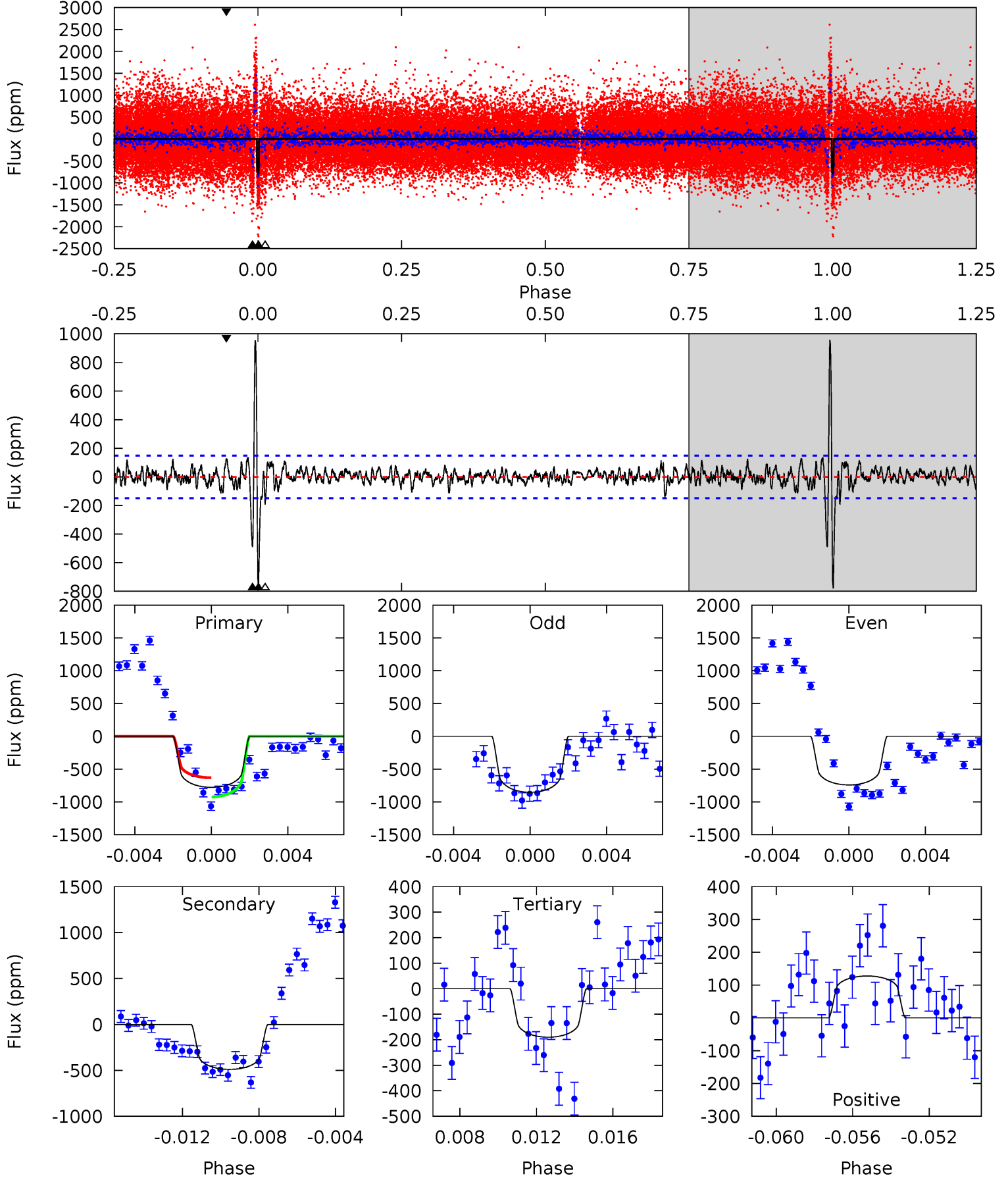
TCE 008621731-01 P=375.119295 Days $T_0=138.304408$ (BKJD)



DV Model-Shift Uniqueness Test

008621731-01, P = 375.211794 Days, E = 138.177626 Days

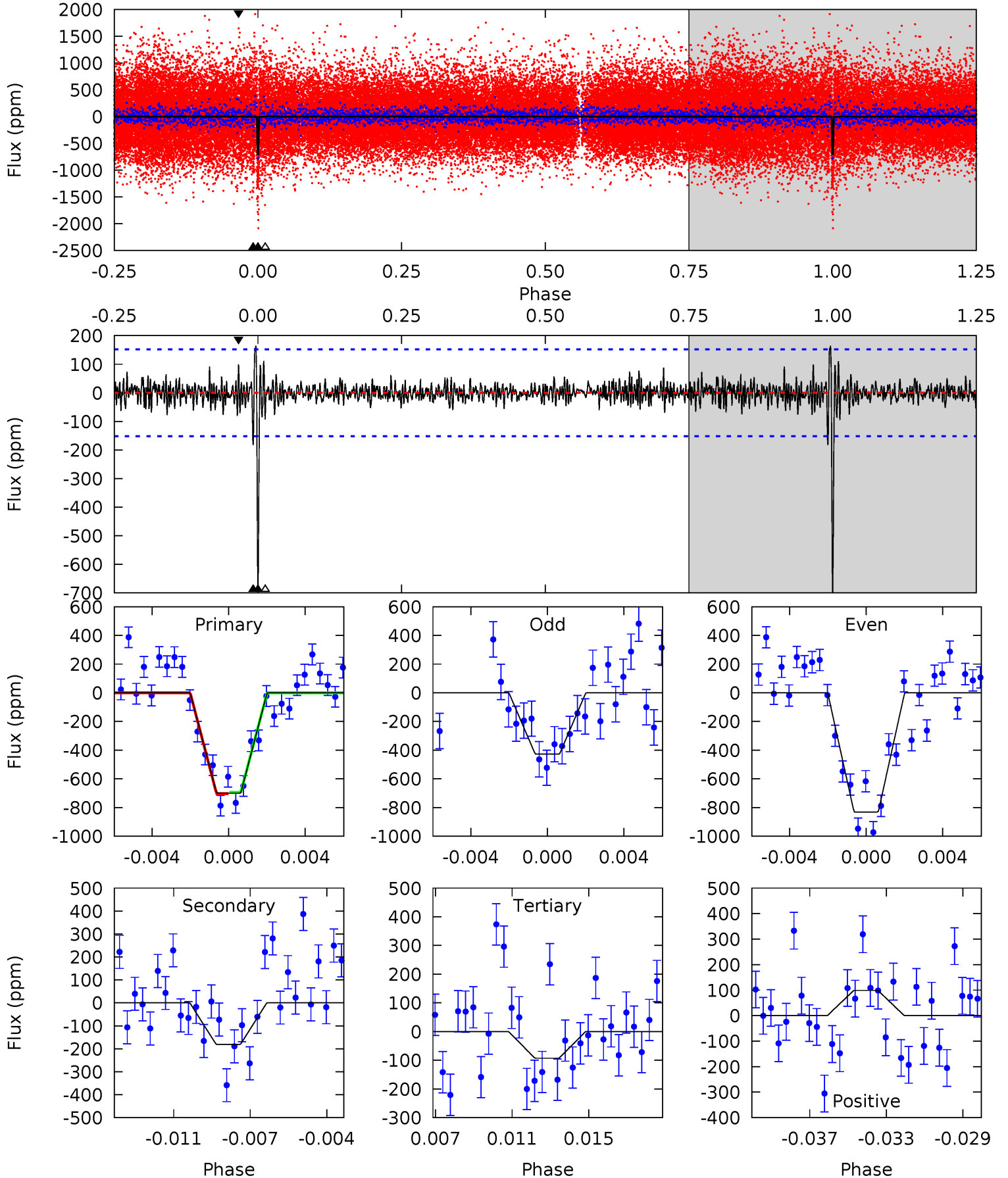
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.1	17.1	6.62	4.44	5.20	2.88	1.93	20.5	22.7	10.4	12.6	1.86	1.04	0.55	5.09



Alt Model-Shift Uniqueness Test

008621731-01, P = 375.119295 Days, E = 138.304408 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	6.21	3.18	3.39	5.22	2.91	0.84	20.8	20.6	3.03	2.82	6.48	1.28	0.19	0.14



Stellar Parameters For KIC 008621731

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6200^{+194}_{-259}	$4.433^{+0.070}_{-0.224}$	$-0.040^{+0.250}_{-0.300}$	$1.061^{+0.366}_{-0.147}$	$1.111^{+0.164}_{-0.164}$	$1.311^{+0.400}_{-0.722}$
	+3%/-4%	+2%/-5%	+625%/-750%	+34%/-14%	+15%/-15%	+30%/-55%
Source	KIC0	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 008621731-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-489 ± 29	$3.71^{+0.70}_{-0.53}$	391^{+34}_{-24}	5308^{+280}_{-270}	21232^{+6710}_{-5551}
Alt.	-181 ± 29	$3.18^{+0.69}_{-0.43}$	392^{+34}_{-22}	4579^{+279}_{-264}	10480^{+4207}_{-3382}

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

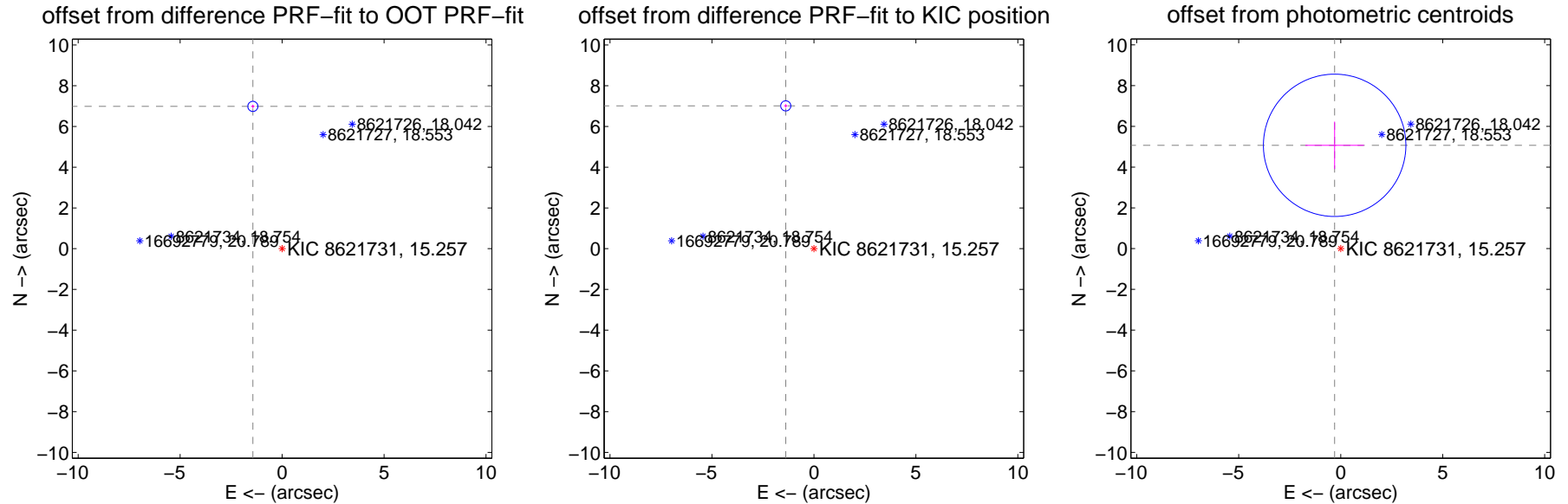
DV Centroid Data

Supplemental centroid analysis for 008621731-01. Kepler magnitude: 15.26. Transit SNR 14.22

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.133 ± 0.083	86.12	1.435 ± 0.084	6.987 ± 0.083
PRF-fit source offset from KIC position	7.147 ± 0.083	86.29	1.381 ± 0.084	7.012 ± 0.083
photometric centroid source offset	5.08 ± 1.16	4.36	0.30 ± 1.44	5.07 ± 1.16

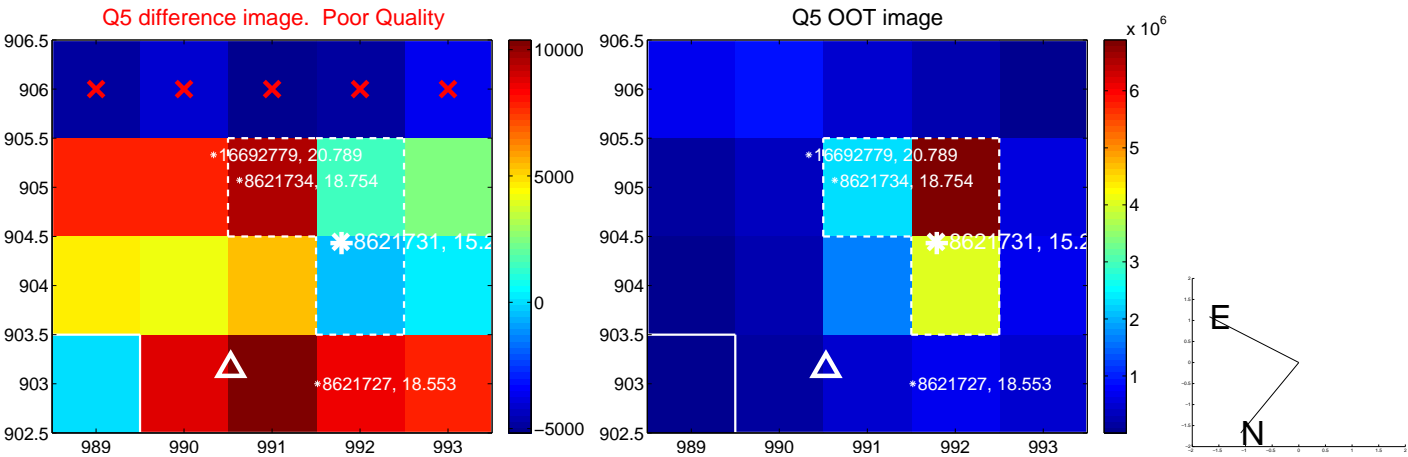


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



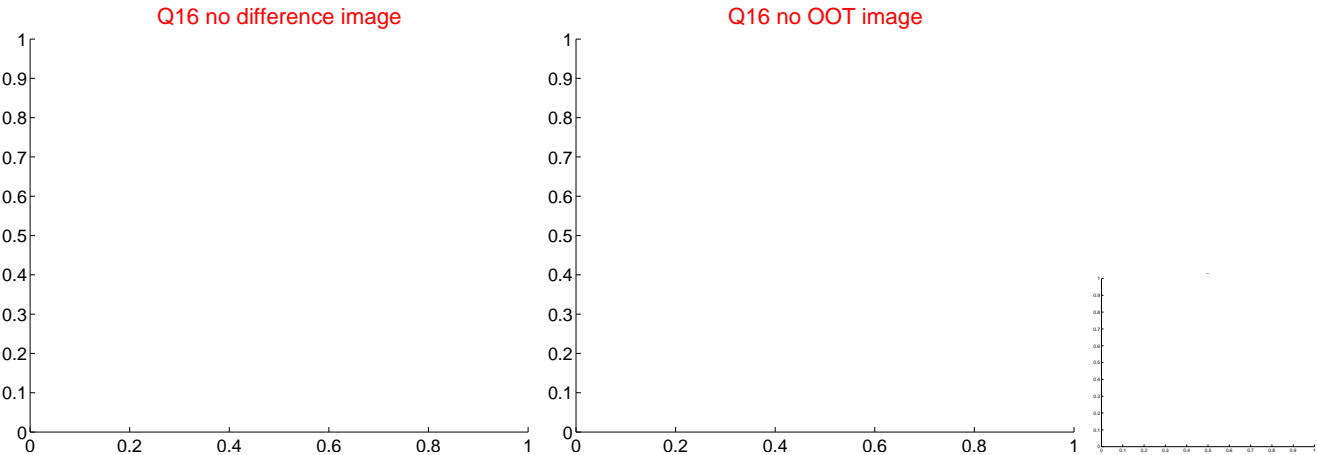
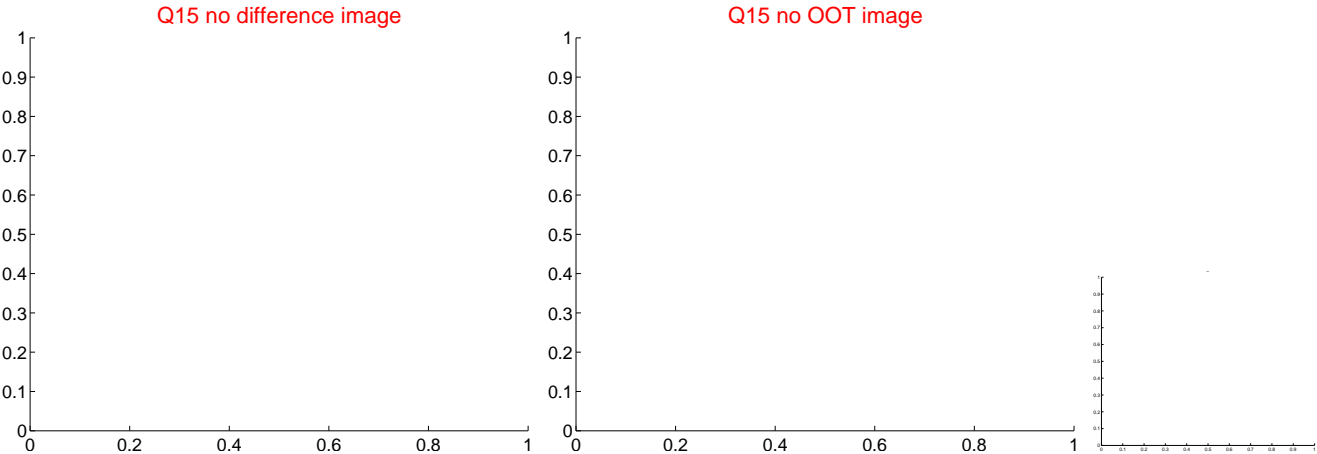
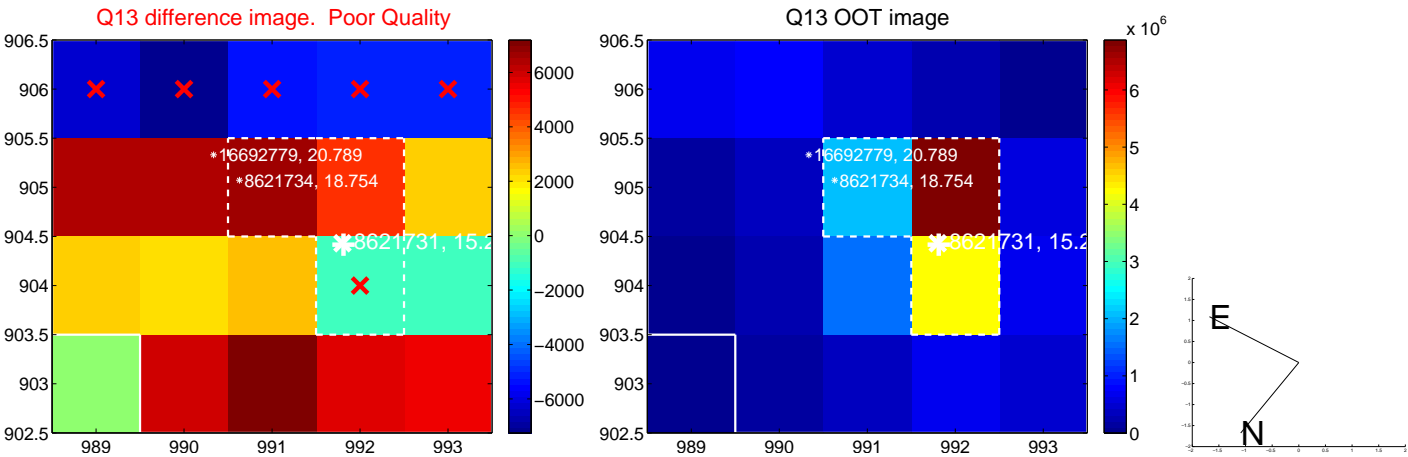
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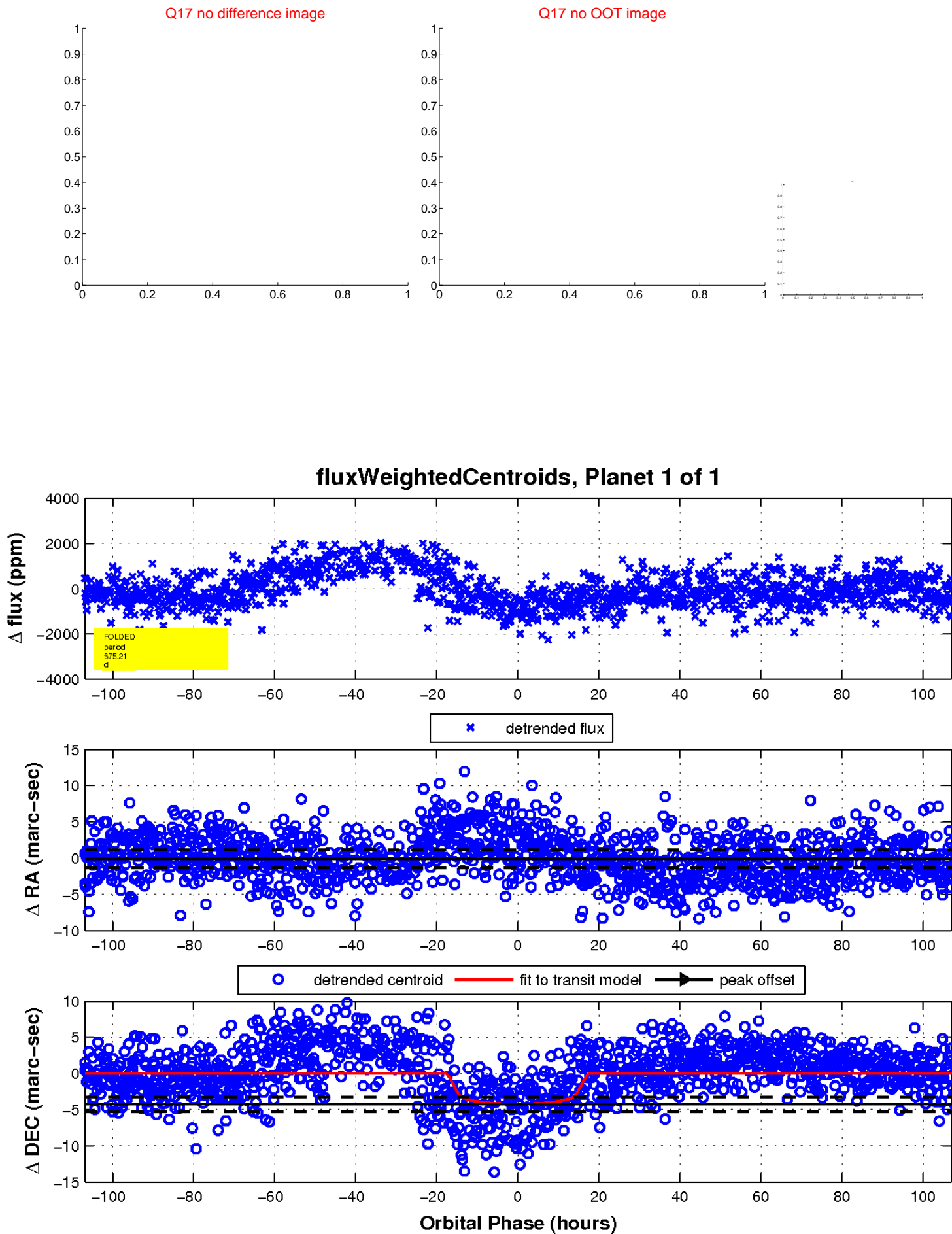
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UKIRT Image

Declination

