

KIC 009075882

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})
009075882-01	OBS	8175.01	367.014601	181.834543	882.8	15.784	8.5	8.4	0.86	5931	2.57	0.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009075882-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE--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.

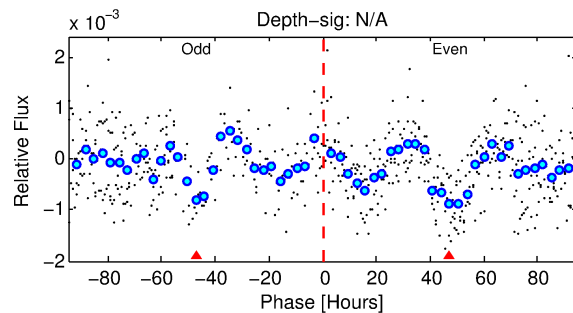
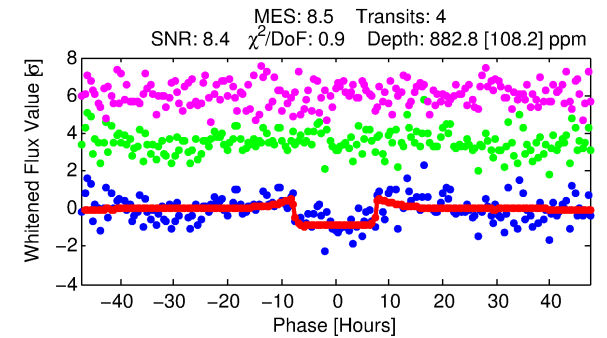
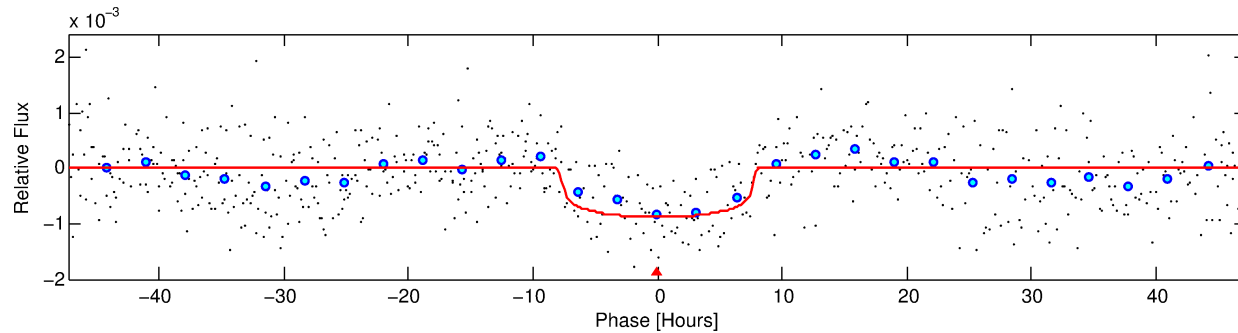
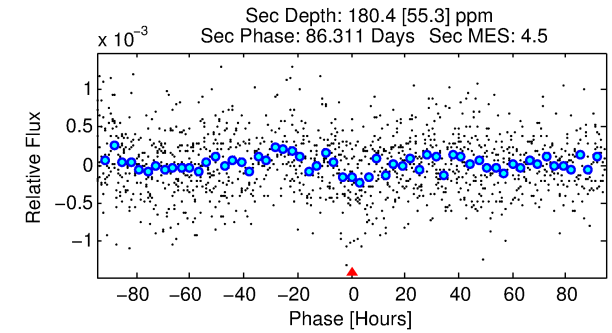
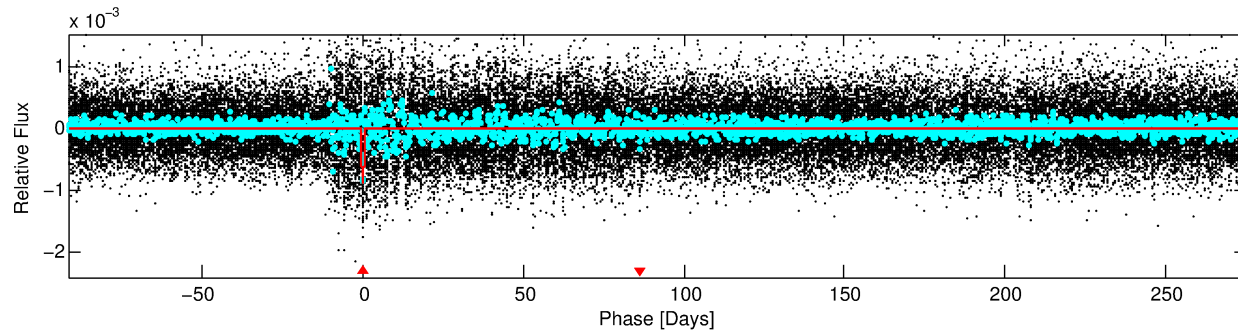
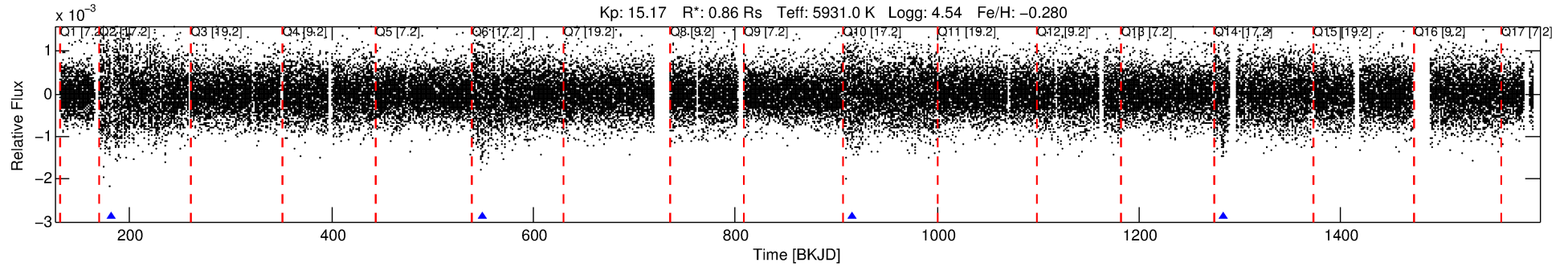
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009075882-01

No Significant Match Found

DV One-Page Summary

KIC: 9075882 Candidate: 1 of 1 Period: 367.015 d



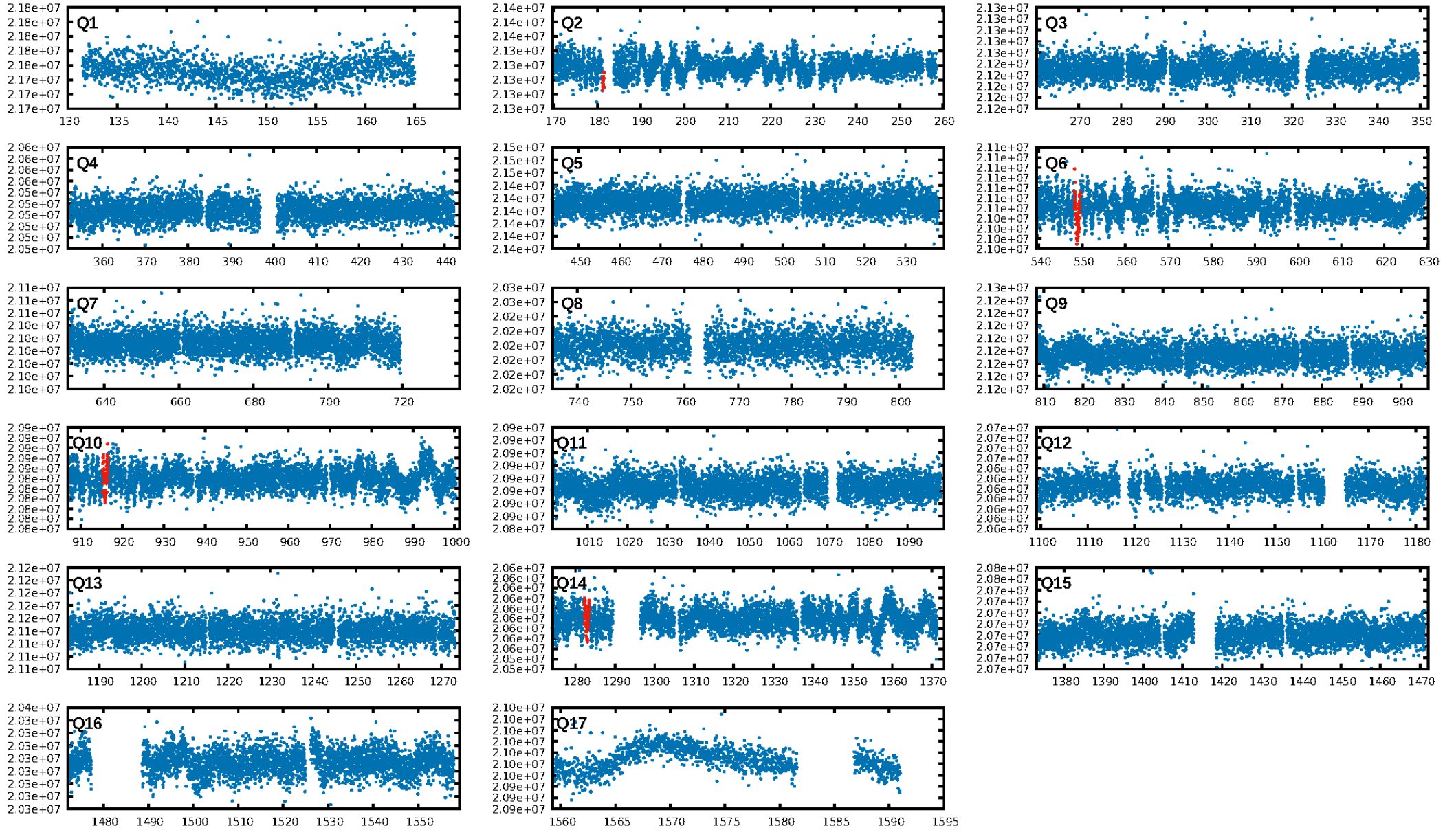
DV Fit Results:

Period = 367.01460 [0.00786] d
Epoch = 181.8345 [0.0173] BKJD
Rp/R* = 0.0273 [0.0136]
a/R* = 176.71 [412.57]
b = 0.26 [8.54]
Seff = 0.85 [0.31]
Teq = 245 [23] K
Rp = 2.57 [1.47] Re
a = 0.9874 [0.2374] AU
Ag = 14625.94 [16032.96] [0.91σ]
Teffp = 4159 [1087] K [3.60σ]

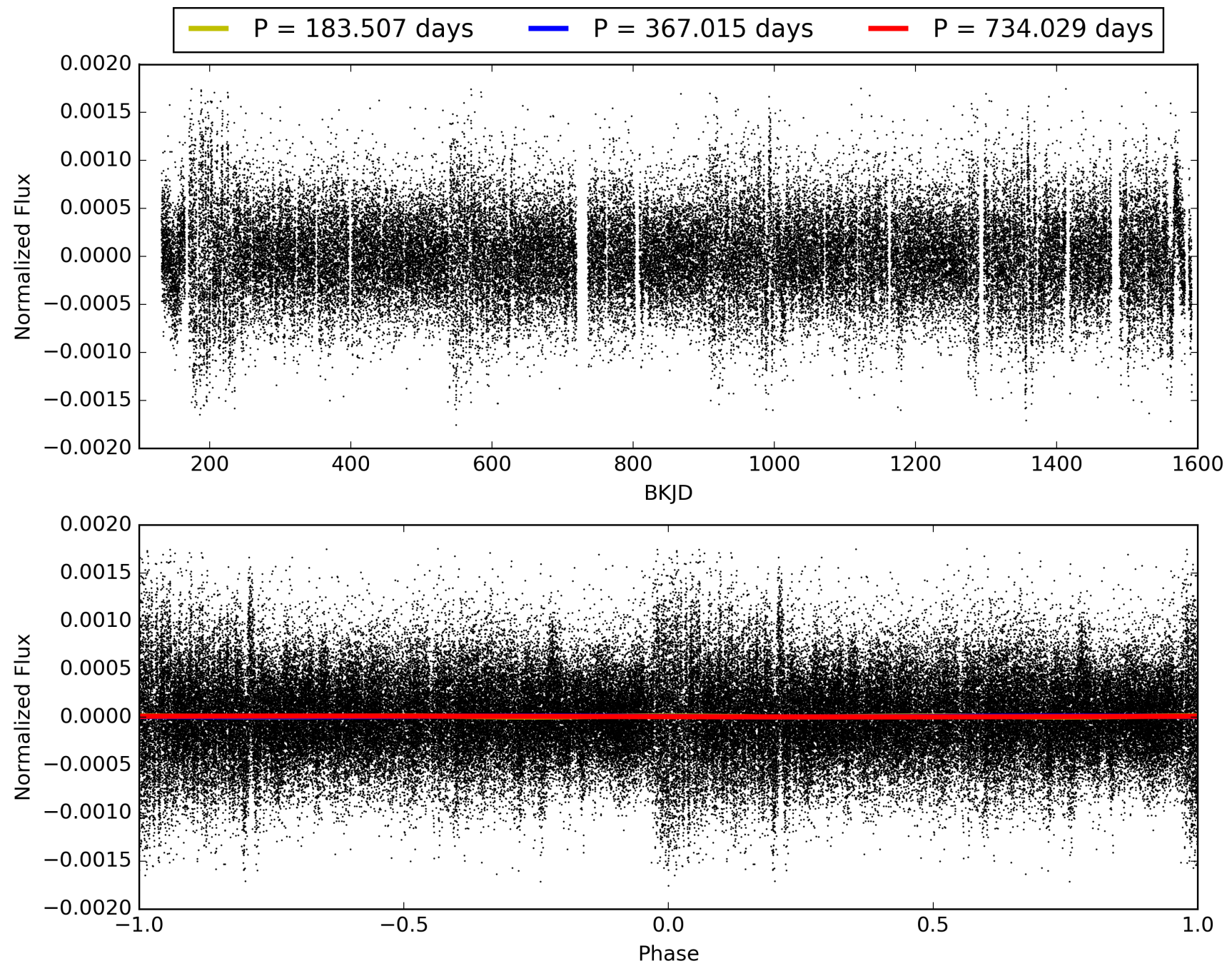
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 13.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.69e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.21
Centroid-sig: 64.1%
Centroid-so: 1.283 arcsec [0.55σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [2/2]

TCE 009075882-01, PDC Light Curves

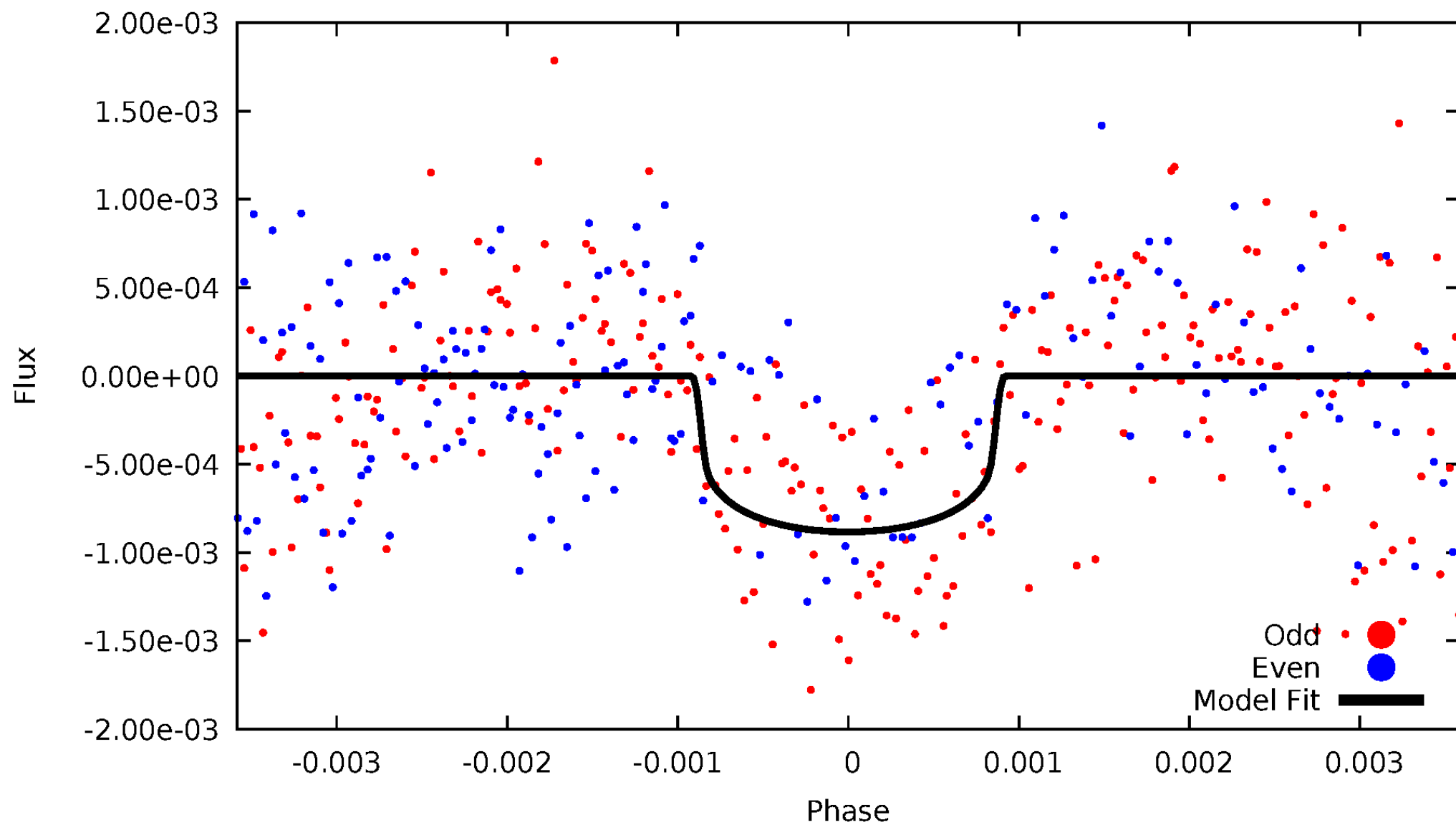


TCE 009075882-01



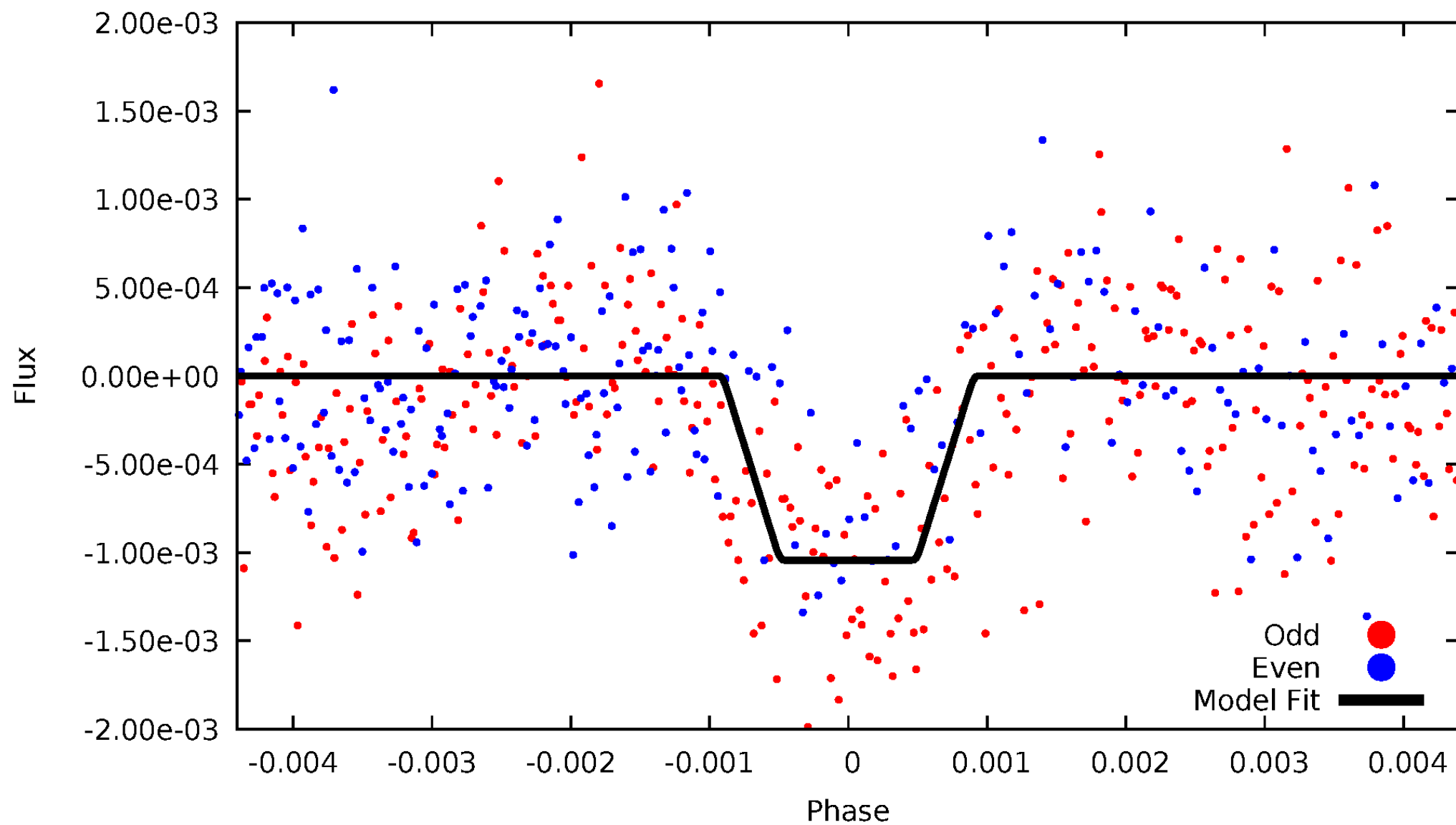
DV Odd/Even

TCE 009075882-01



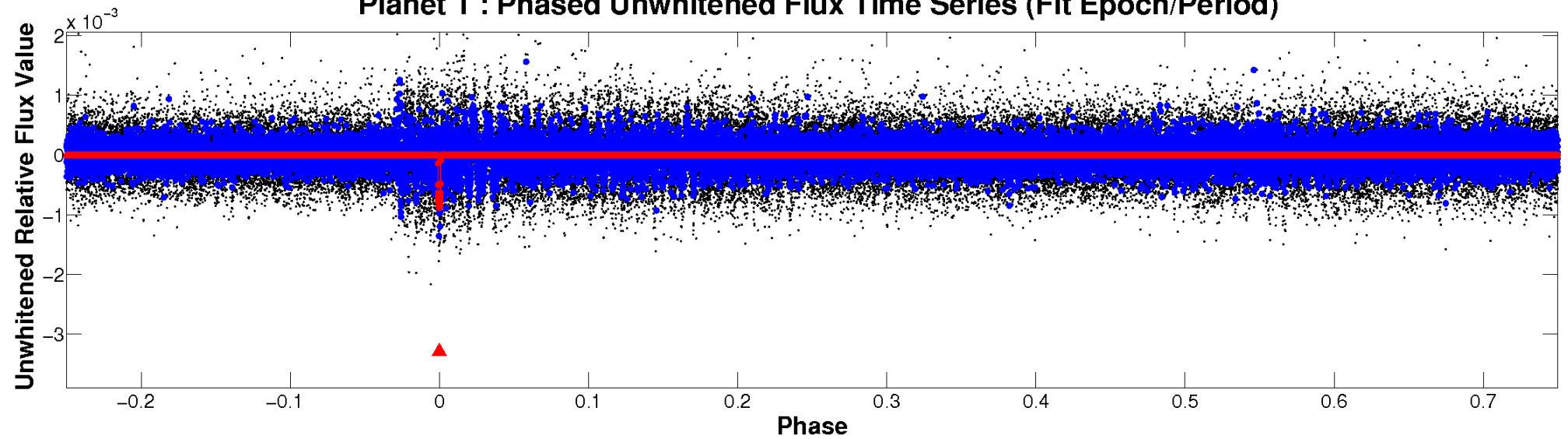
ALT Odd/Even

TCE 009075882-01

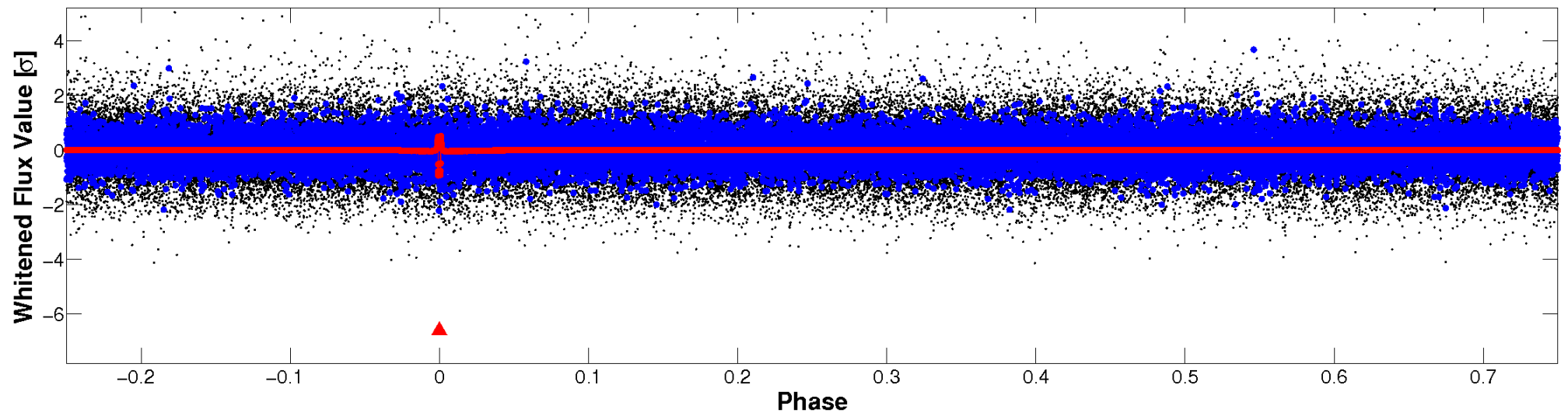


Non-Whitened Vs. Whitened Light Curve

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

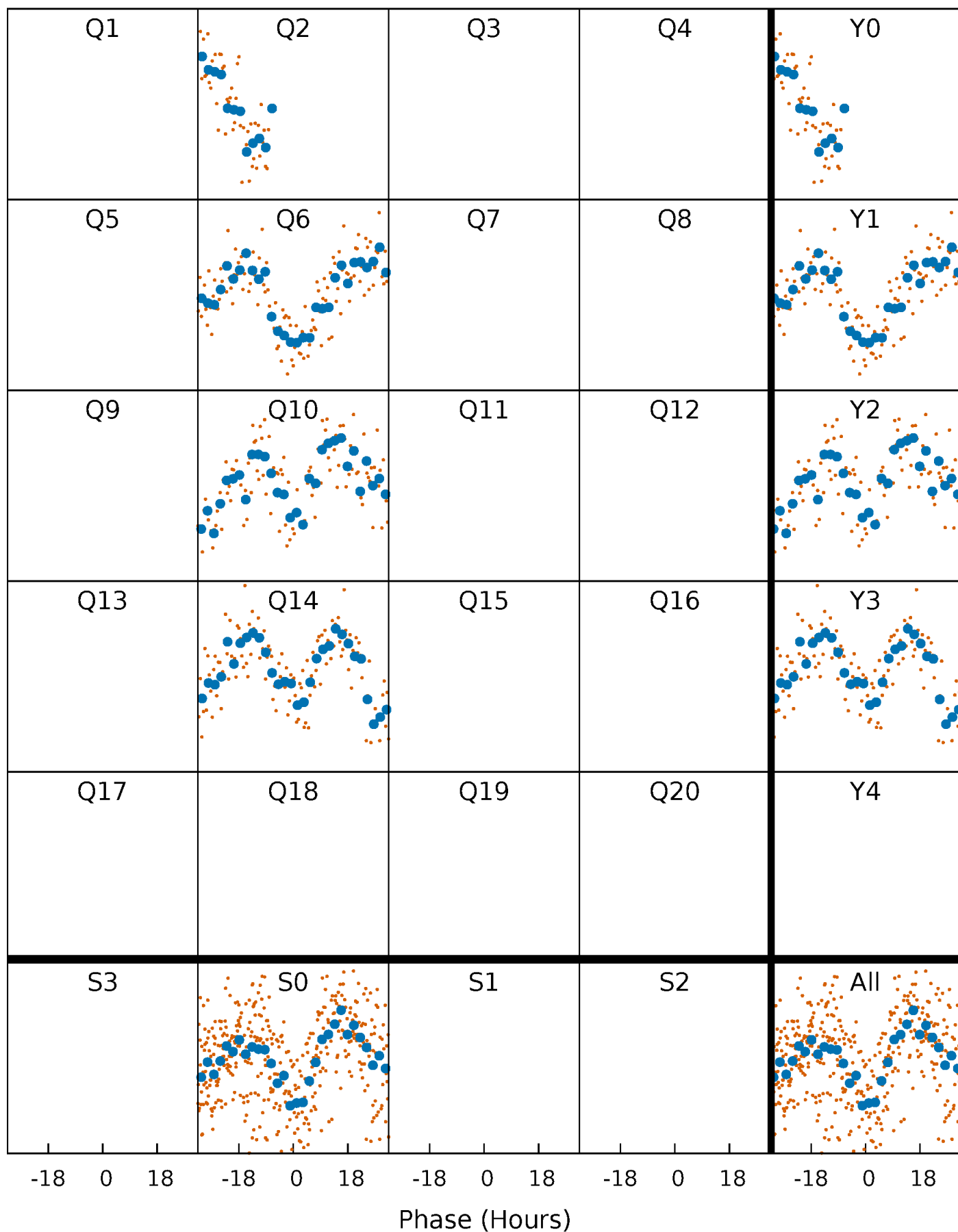


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



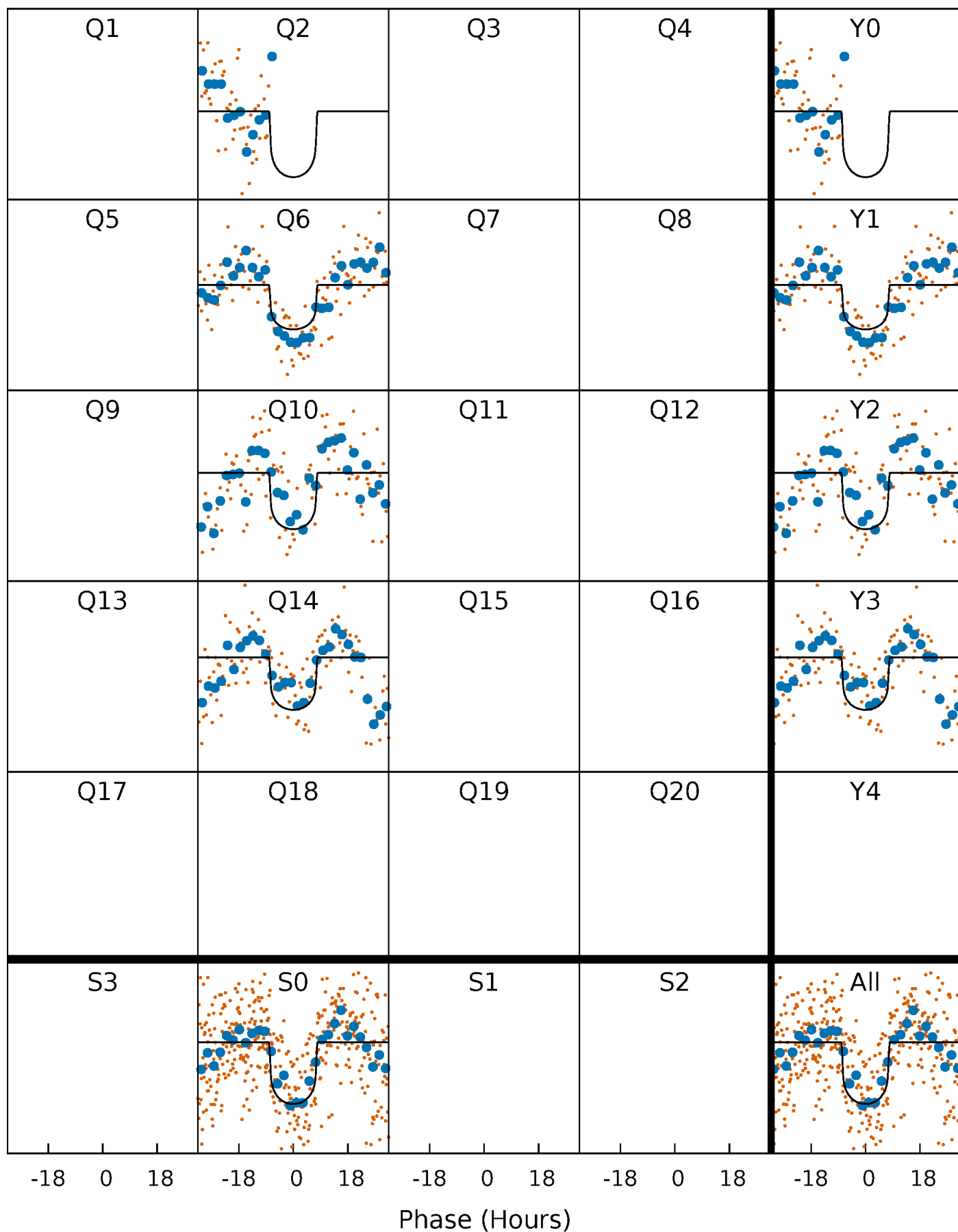
PDC Quarter-Phased Transit Curves

TCE 009075882-01 P=367.014601 Days $T_0=181.834543$ (BKJD)



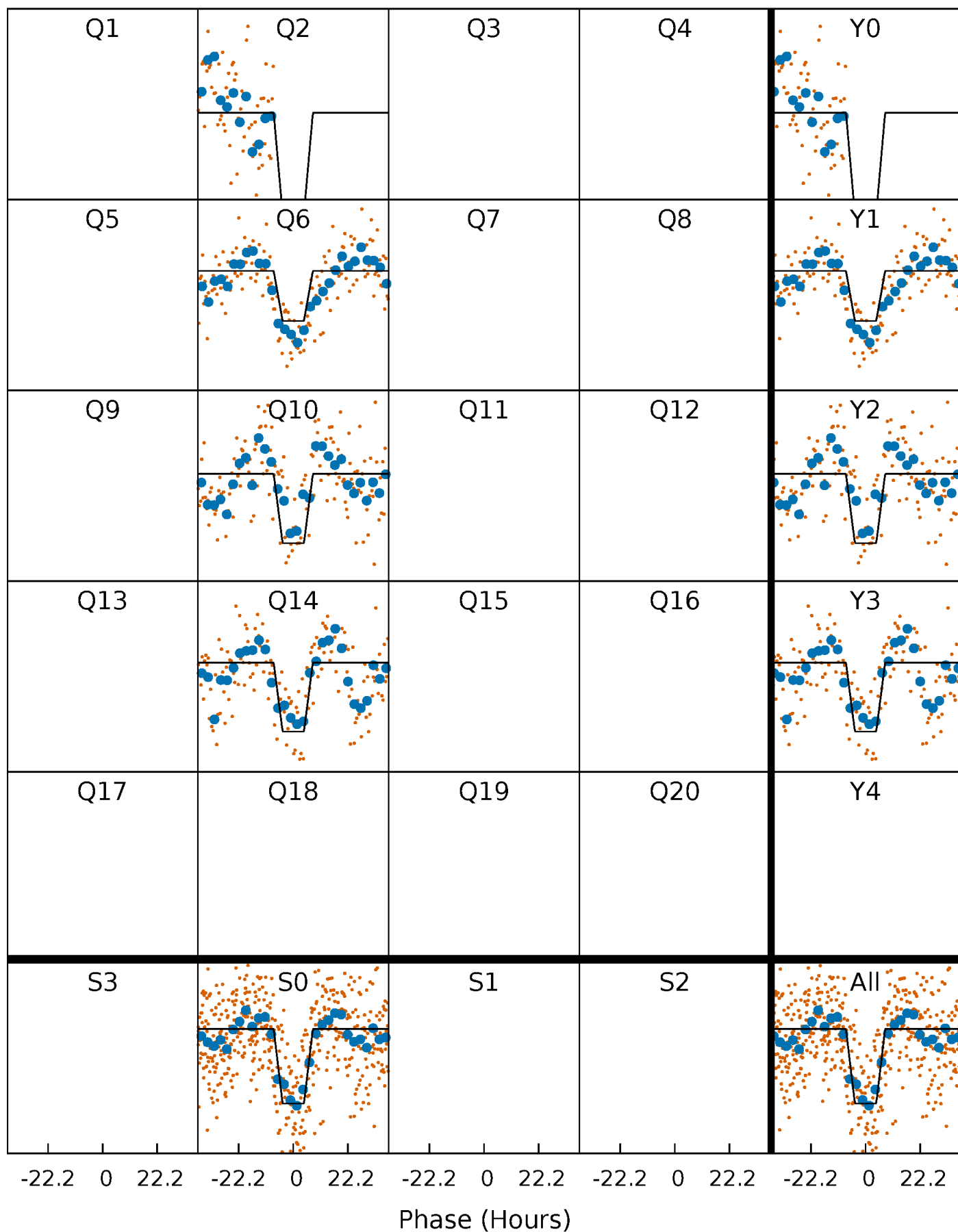
DV Quarter-Phased Transit Curves

TCE 009075882-01 P=367.014601 Days $T_0=181.834543$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

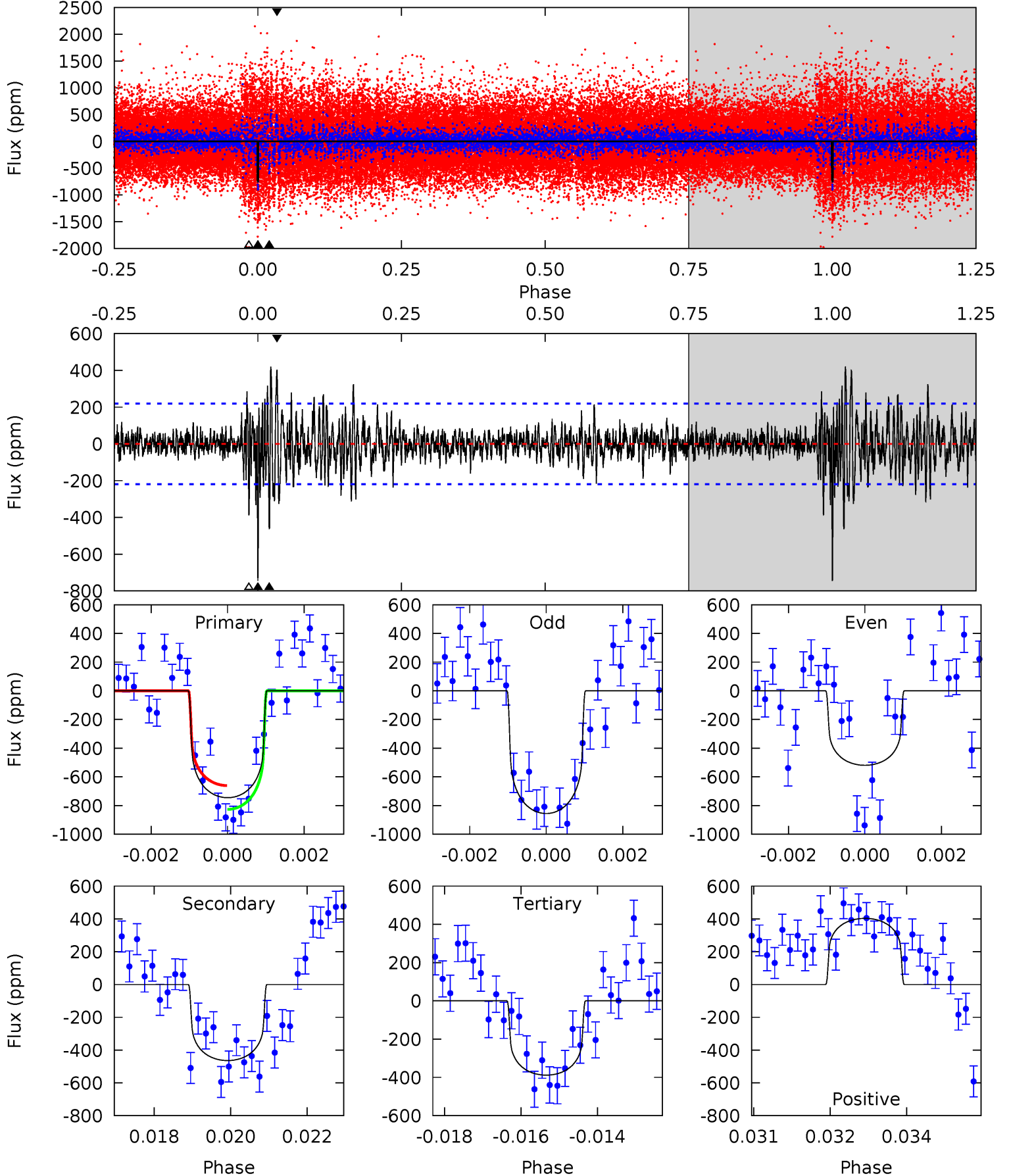
TCE 009075882-01 P=367.020794 Days $T_0=181.854371$ (BKJD)



DV Model-Shift Uniqueness Test

009075882-01, P = 367.014601 Days, E = 181.834543 Days

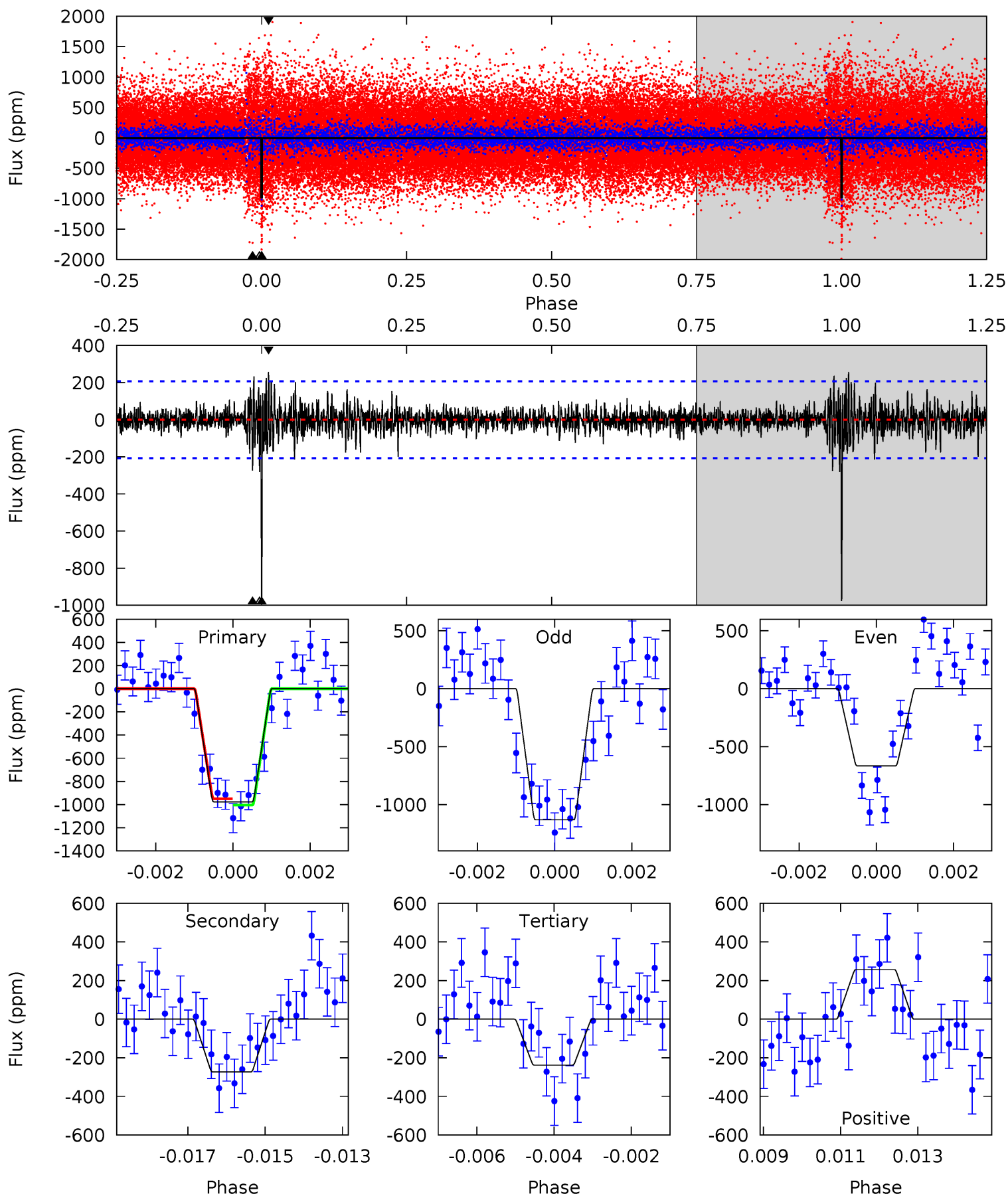
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	11.3	9.47	9.84	5.35	3.12	1.93	8.71	8.35	1.85	1.48	3.85	1.26	0.36	2.02



Alt Model-Shift Uniqueness Test

009075882-01, P = 367.020794 Days, E = 181.854371 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.2	7.05	6.14	6.63	5.34	3.11	1.22	19.1	18.6	0.91	0.42	5.64	1.14	0.21	0.70



Stellar Parameters For KIC 009075882

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5931^{+161}_{-178}	$4.545^{+0.036}_{-0.192}$	$-0.280^{+0.300}_{-0.300}$	$0.863^{+0.246}_{-0.077}$	$0.953^{+0.109}_{-0.119}$	$2.087^{+0.391}_{-0.983}$
	+3%/-3%	+1%/-4%	+107%/-107%	+29%/-9%	+11%/-12%	+19%/-47%
Source	PHO1	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 009075882-01 / KOI 8175.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-464 ± 41	$2.74^{+1.40}_{-1.30}$	349^{+23}_{-14}	5287^{+1985}_{-868}	31932^{+89233}_{-18045}
Alt.	-273 ± 39	$3.27^{+1.36}_{-1.32}$	350^{+23}_{-16}	4378^{+1042}_{-483}	12997^{+25672}_{-6331}

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

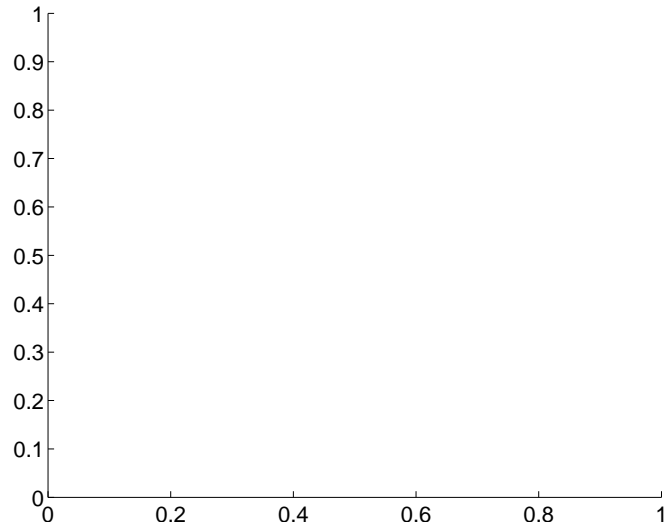
Supplemental centroid analysis for 009075882-01. Kepler magnitude: 15.17. Transit SNR 8.44

There are 0 quarters with good PRF difference image offsets

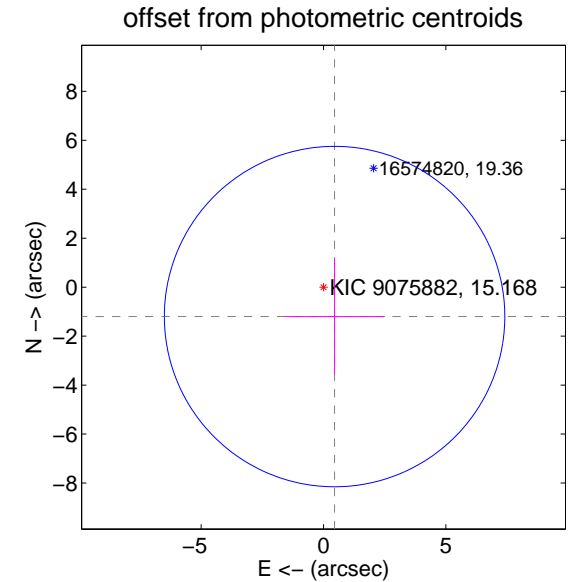
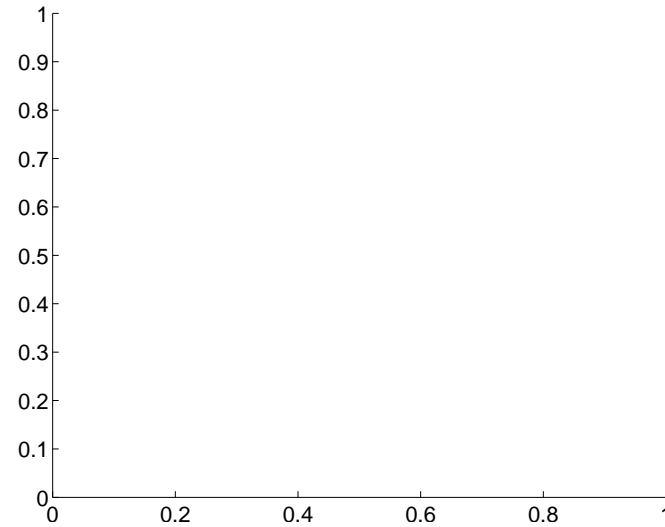
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	1.28 ± 2.32	0.55	-0.45 ± 2.05	-1.20 ± 2.35

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

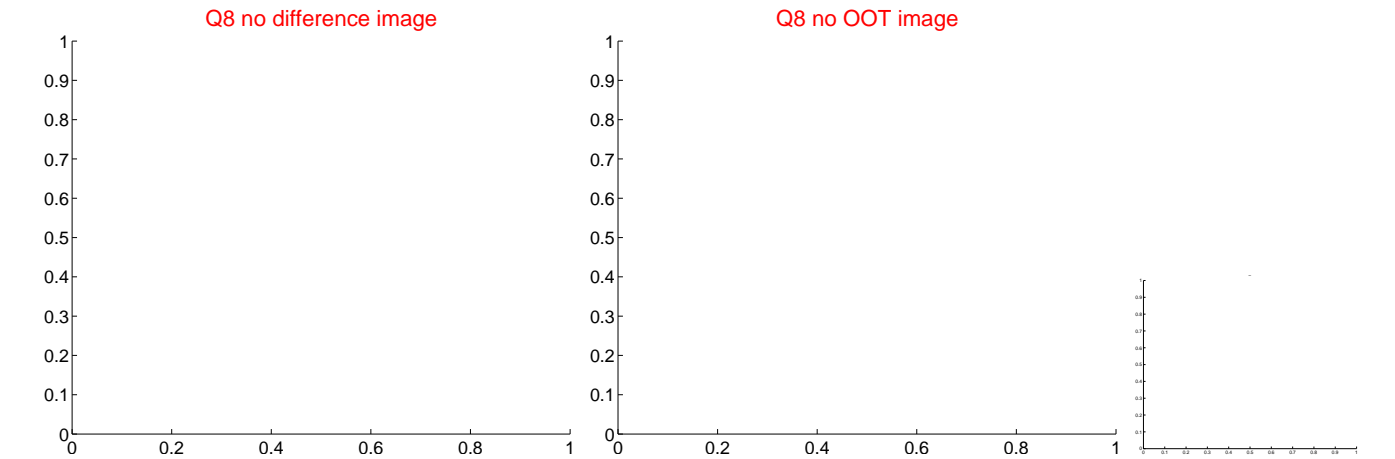
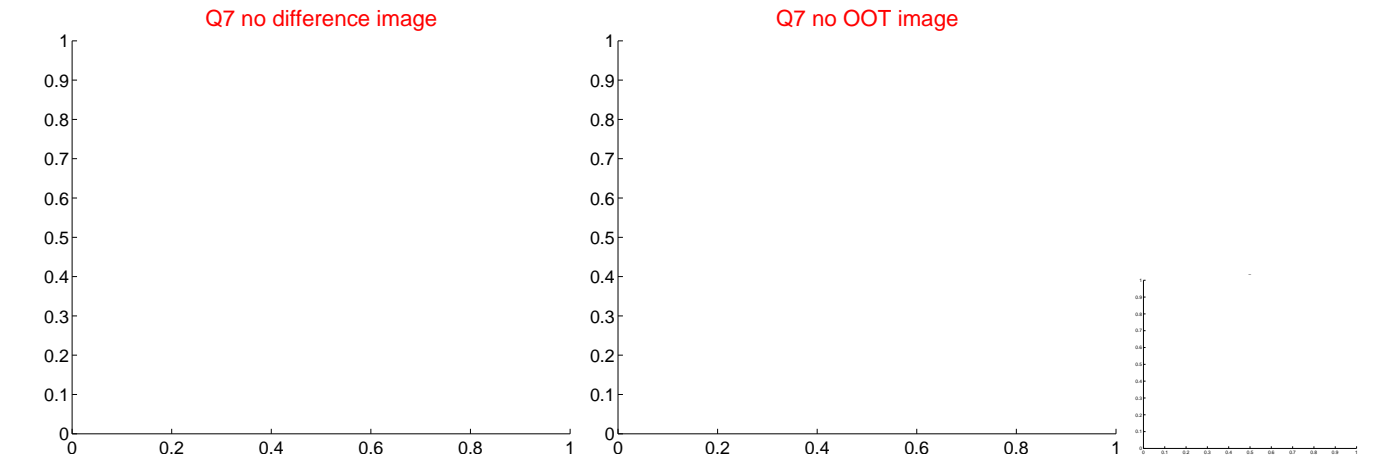
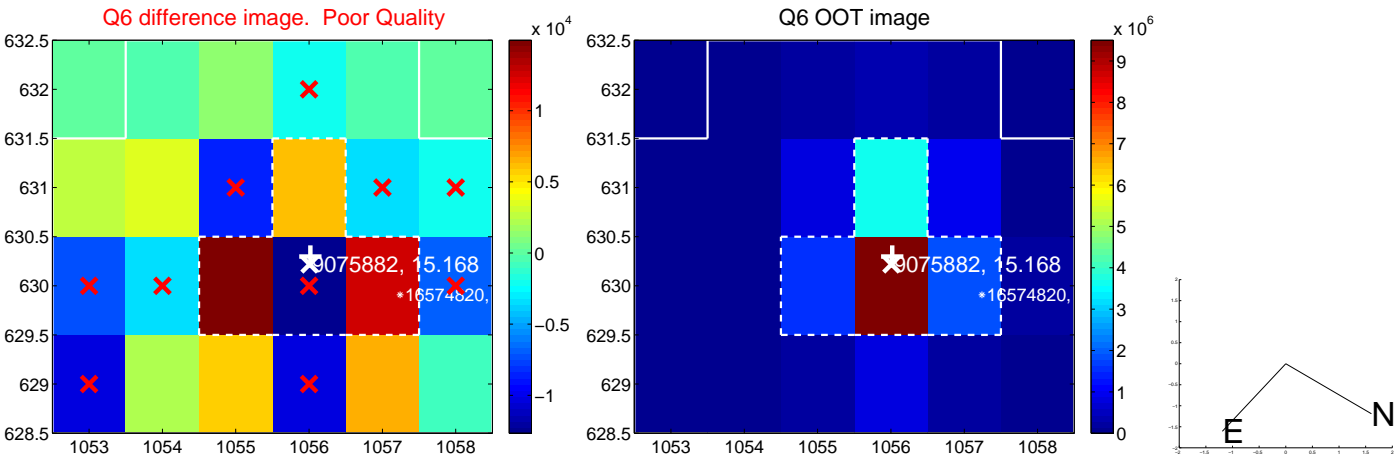
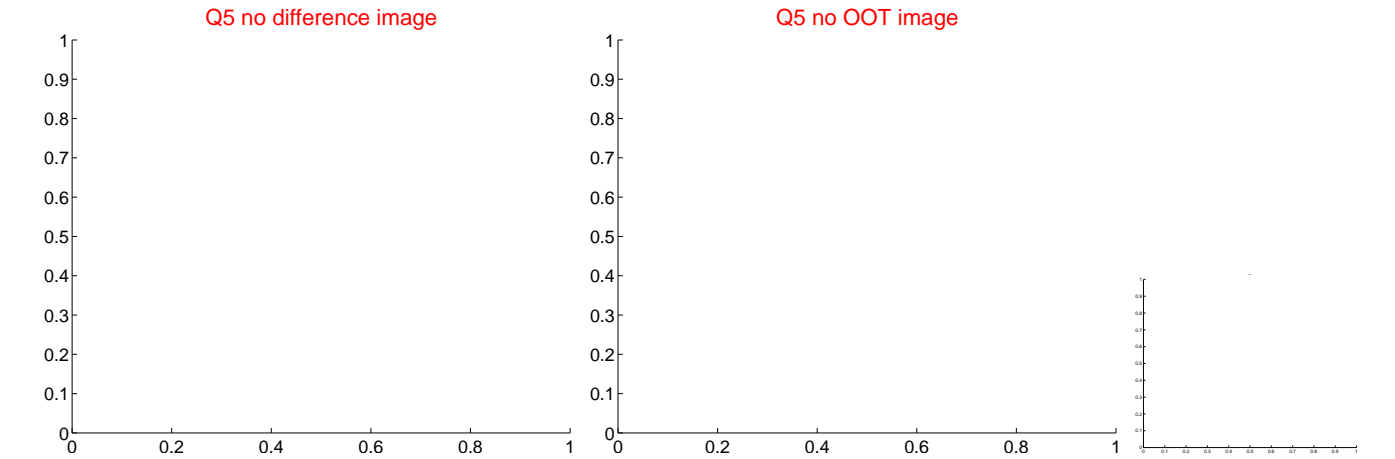


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

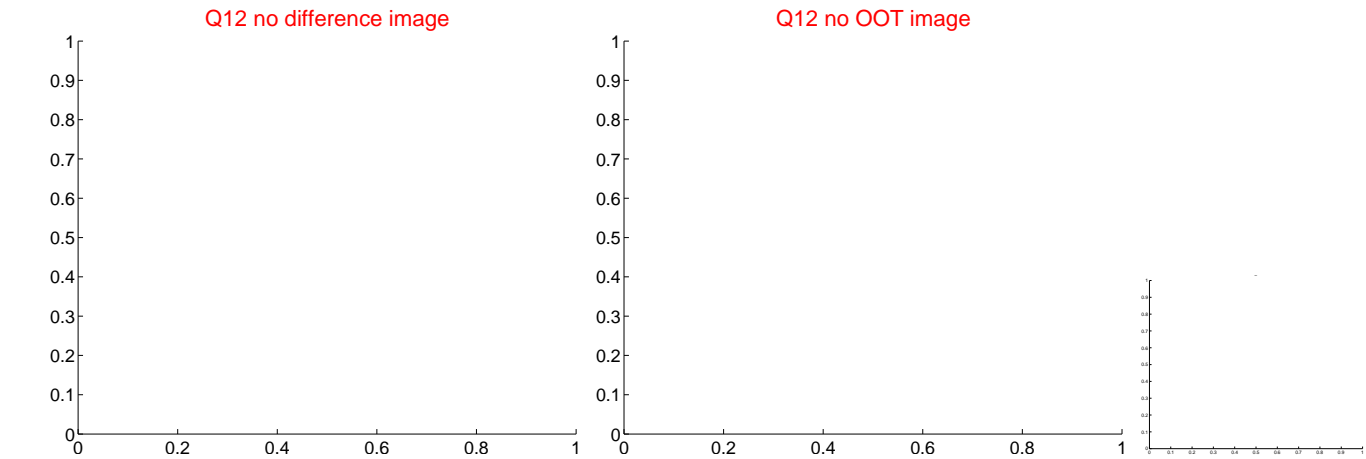
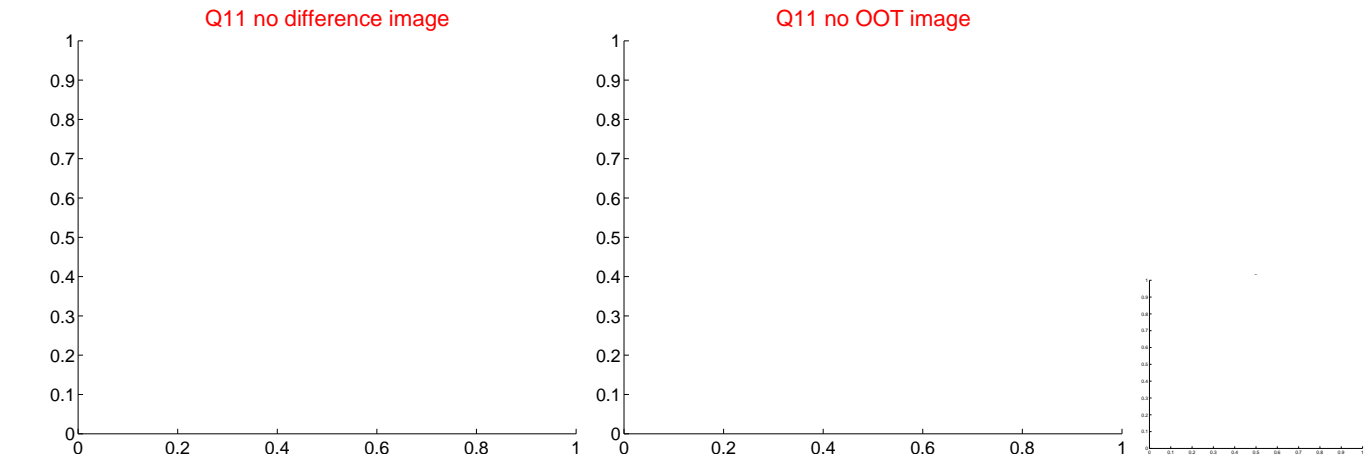
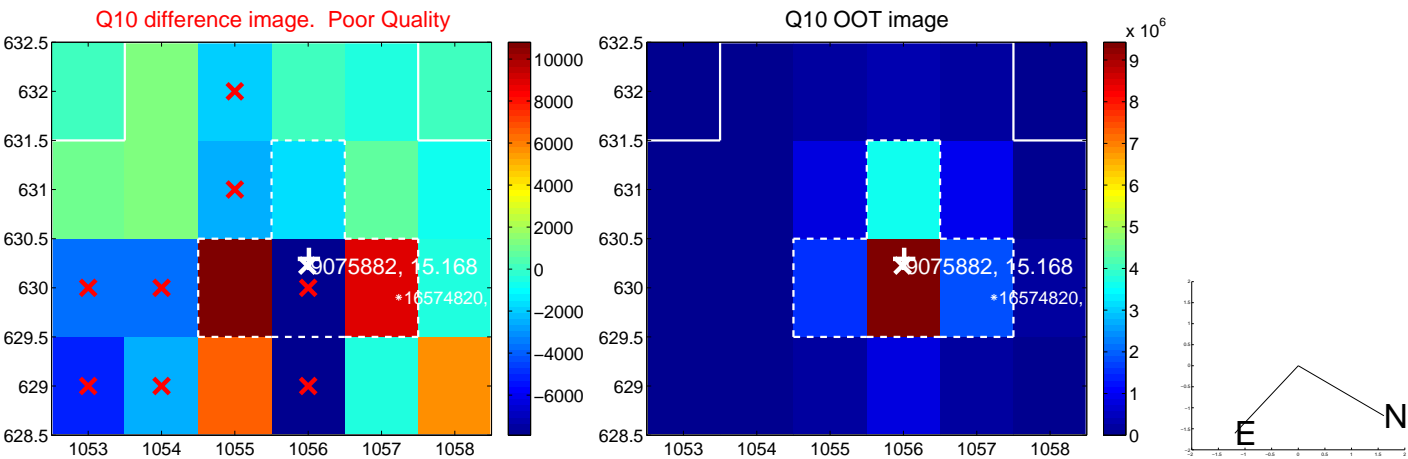
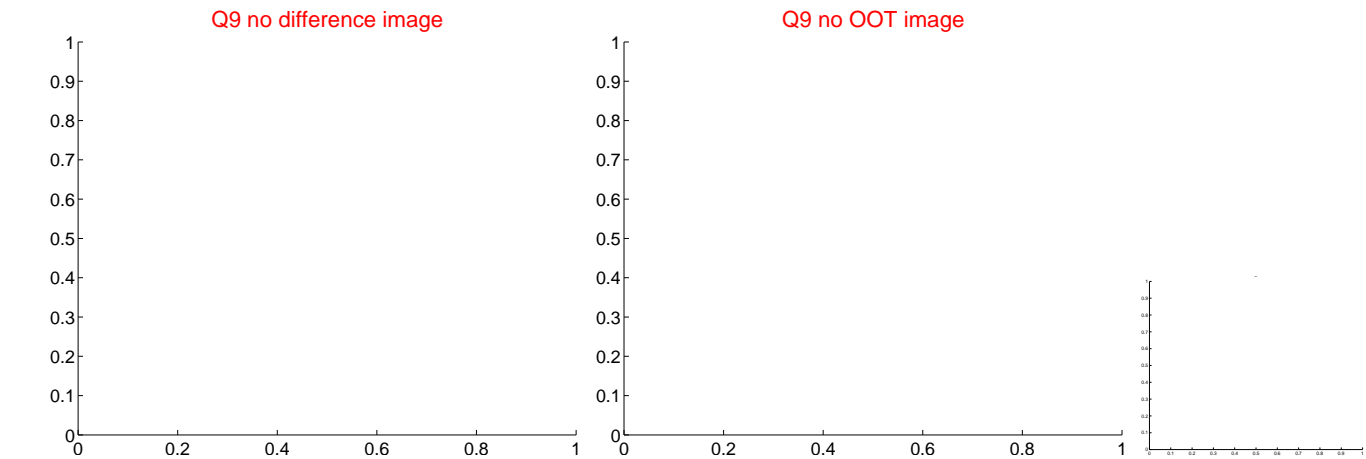
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



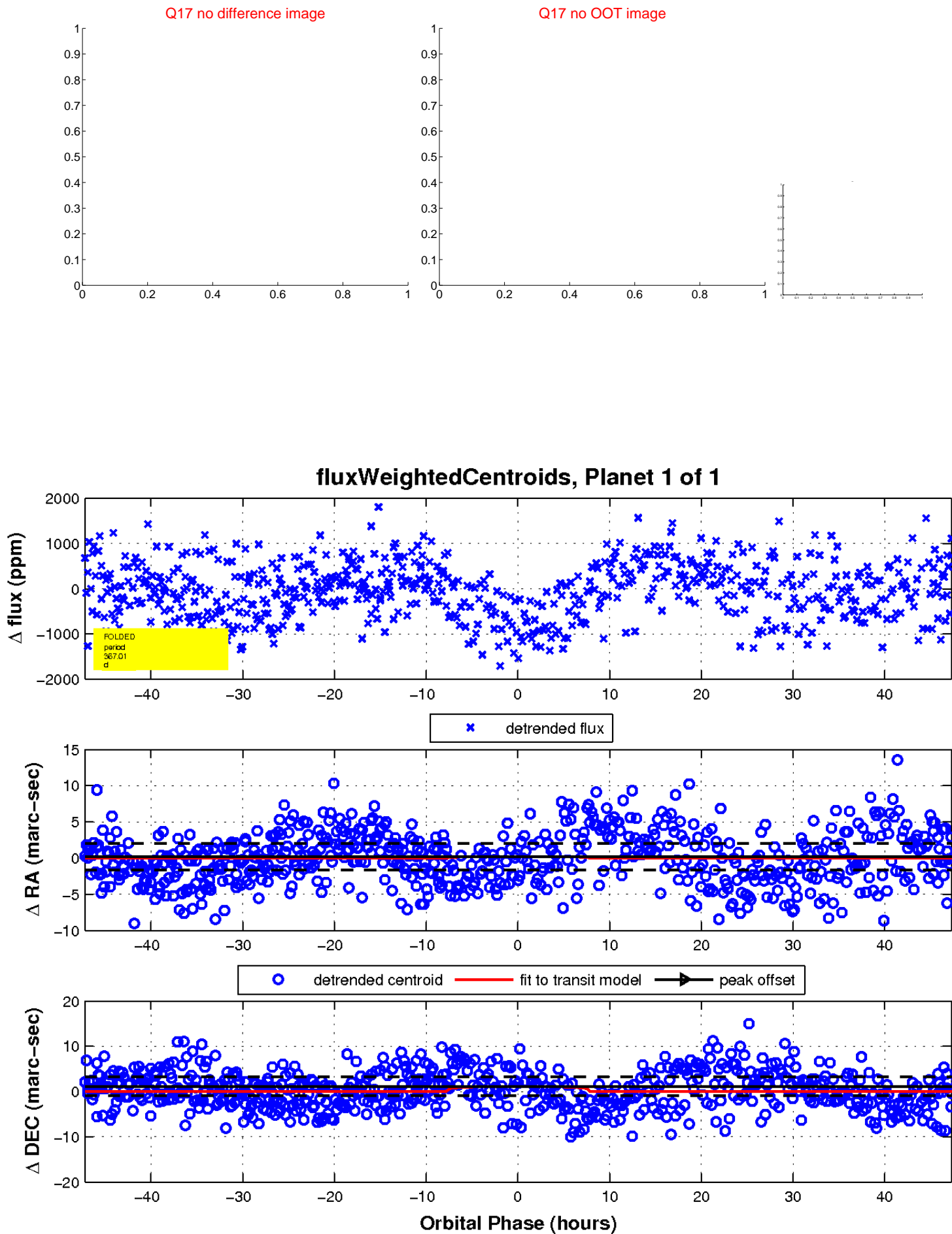
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UKIRT Image

