

KIC 008074181

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})
008074181-01	OBS	No	407.144821	456.282232	103.1	24.134	7.7	7.4	2.29	6043	2.45	4.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008074181-01	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.

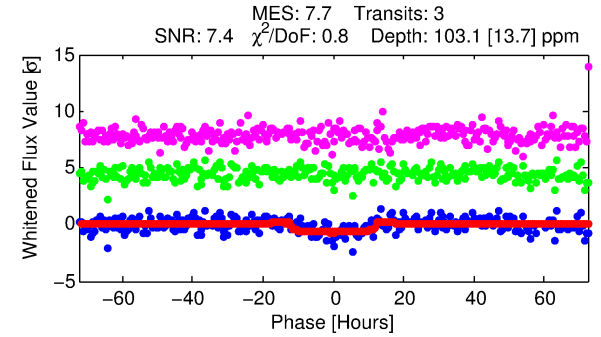
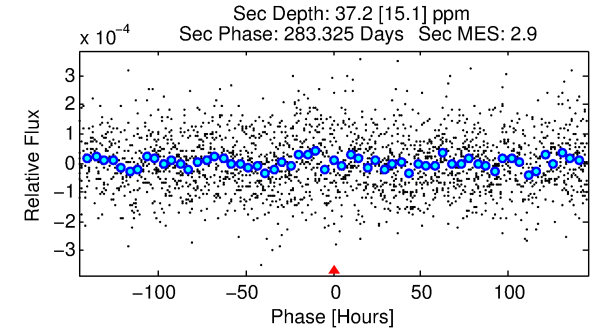
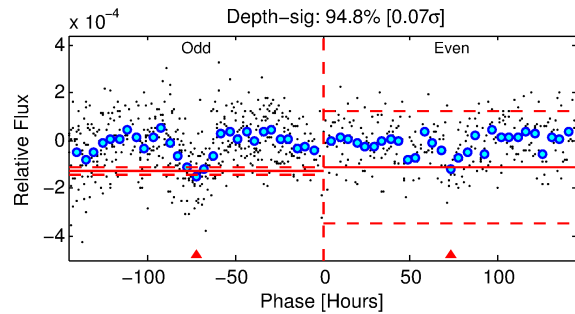
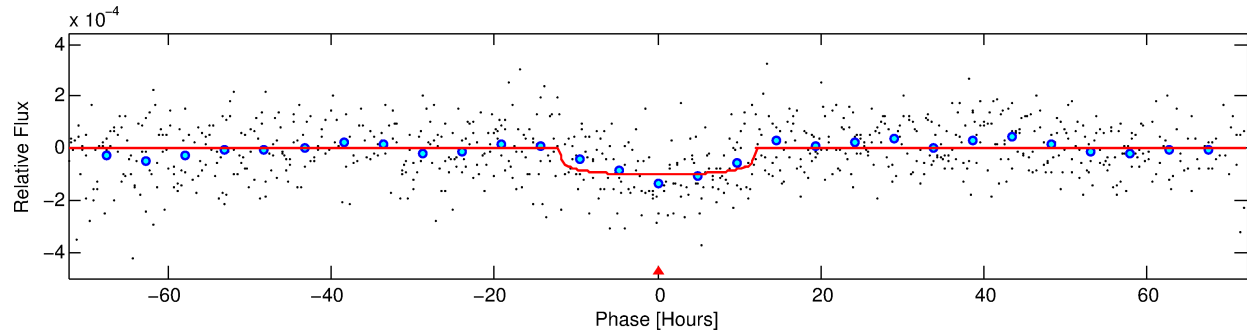
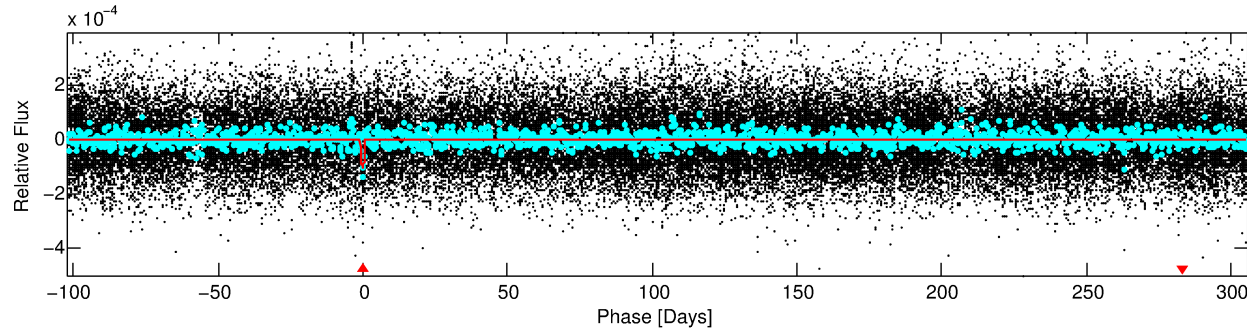
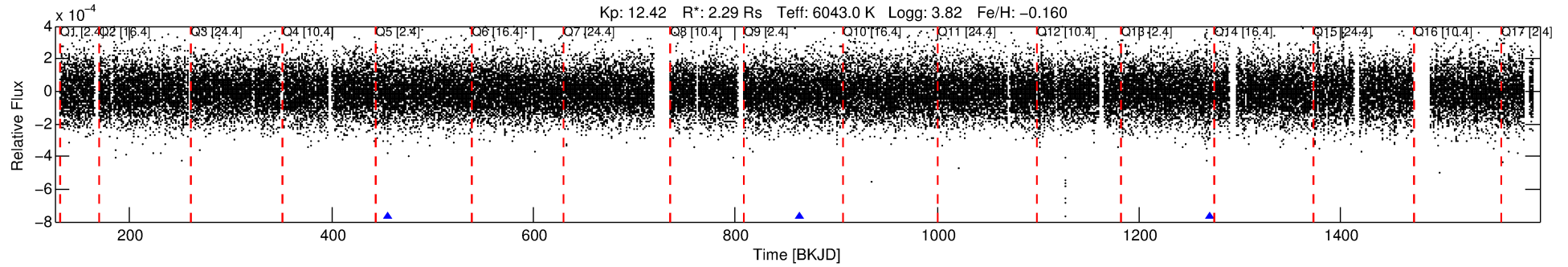
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008074181-01

No Significant Match Found

DV One-Page Summary

KIC: 8074181 Candidate: 1 of 1 Period: 407.145 d



DV Fit Results:

Period = 407.14482 [0.02009] d
Epoch = 456.2822 [0.0232] BKJD
Rp/R* = 0.0098 [0.0041]
a/R* = 100.65 [206.69]
b = 0.64 [1.90]
Seff = 4.65 [2.45]
Teq = 374 [49] K
Rp = 2.45 [1.32] Re
a = 1.1601 [0.3758] AU
Ag = 4597.88 [4890.34] [0.94σ]
Teffp = 4767 [1119] K [3.92σ]

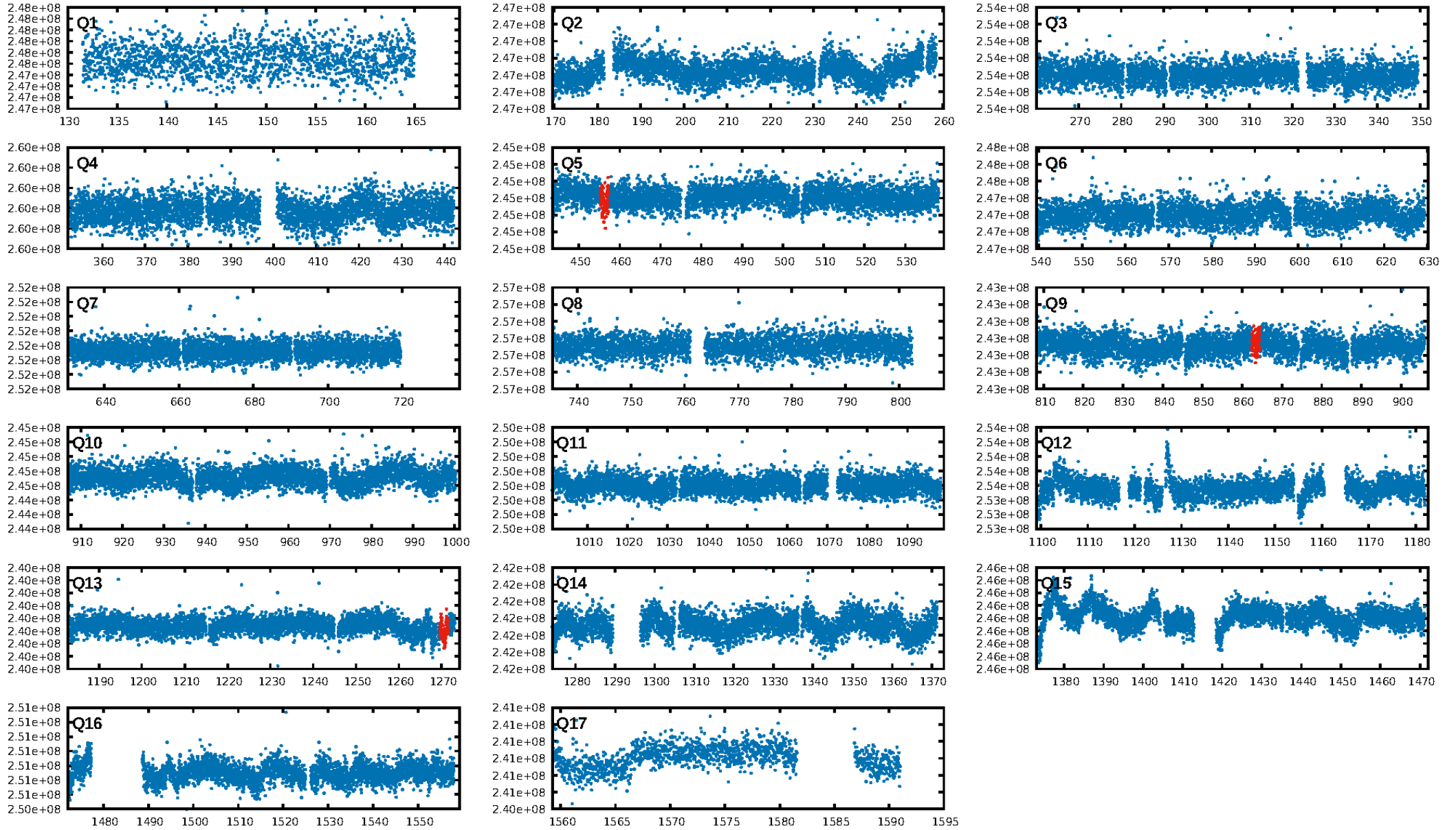
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 11.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.76e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.26
Centroid-sig: 28.5%
Centroid-so: 2.049 arcsec [1.02σ]
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]

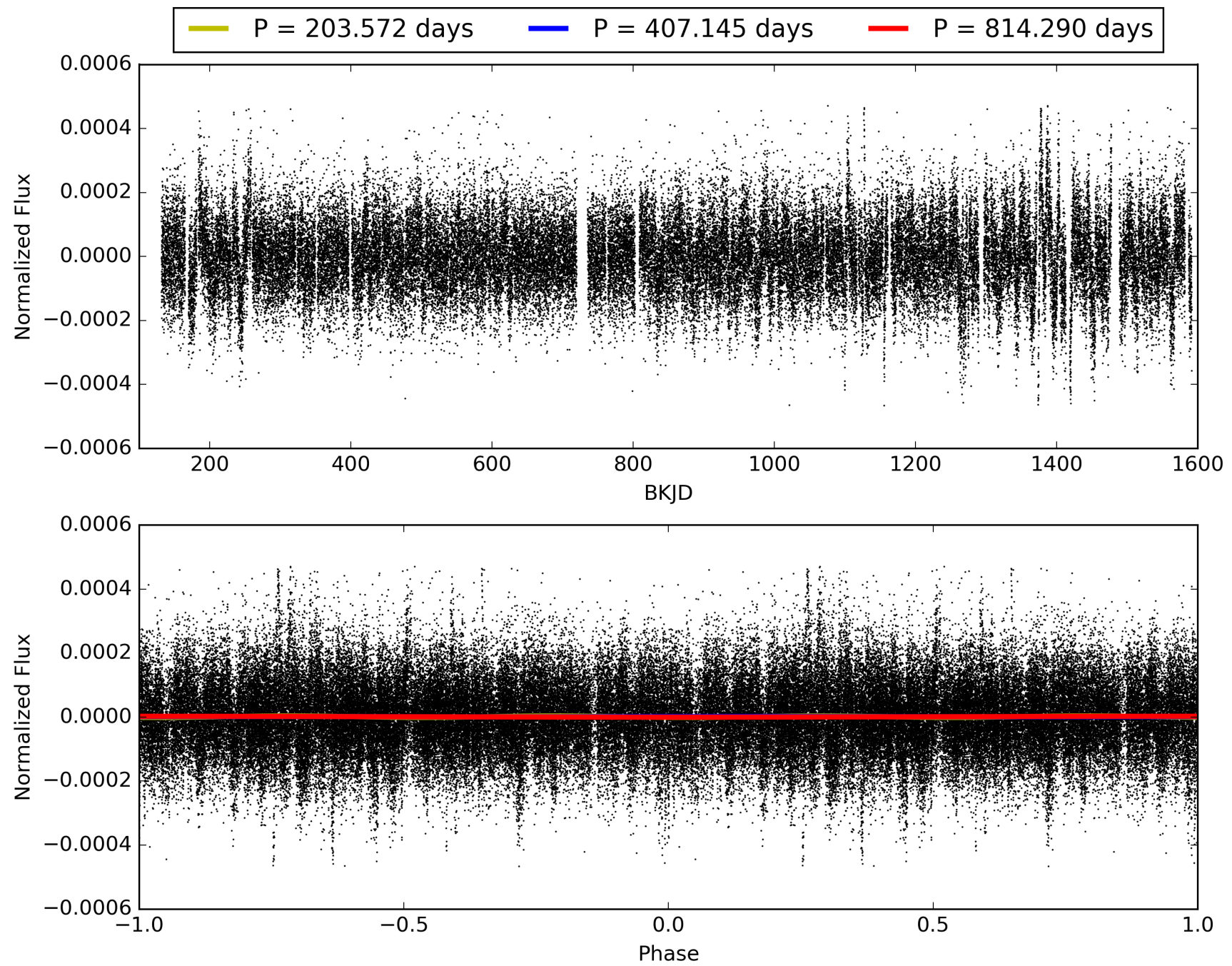
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:54:51 Z

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

TCE 008074181-01, PDC Light Curves

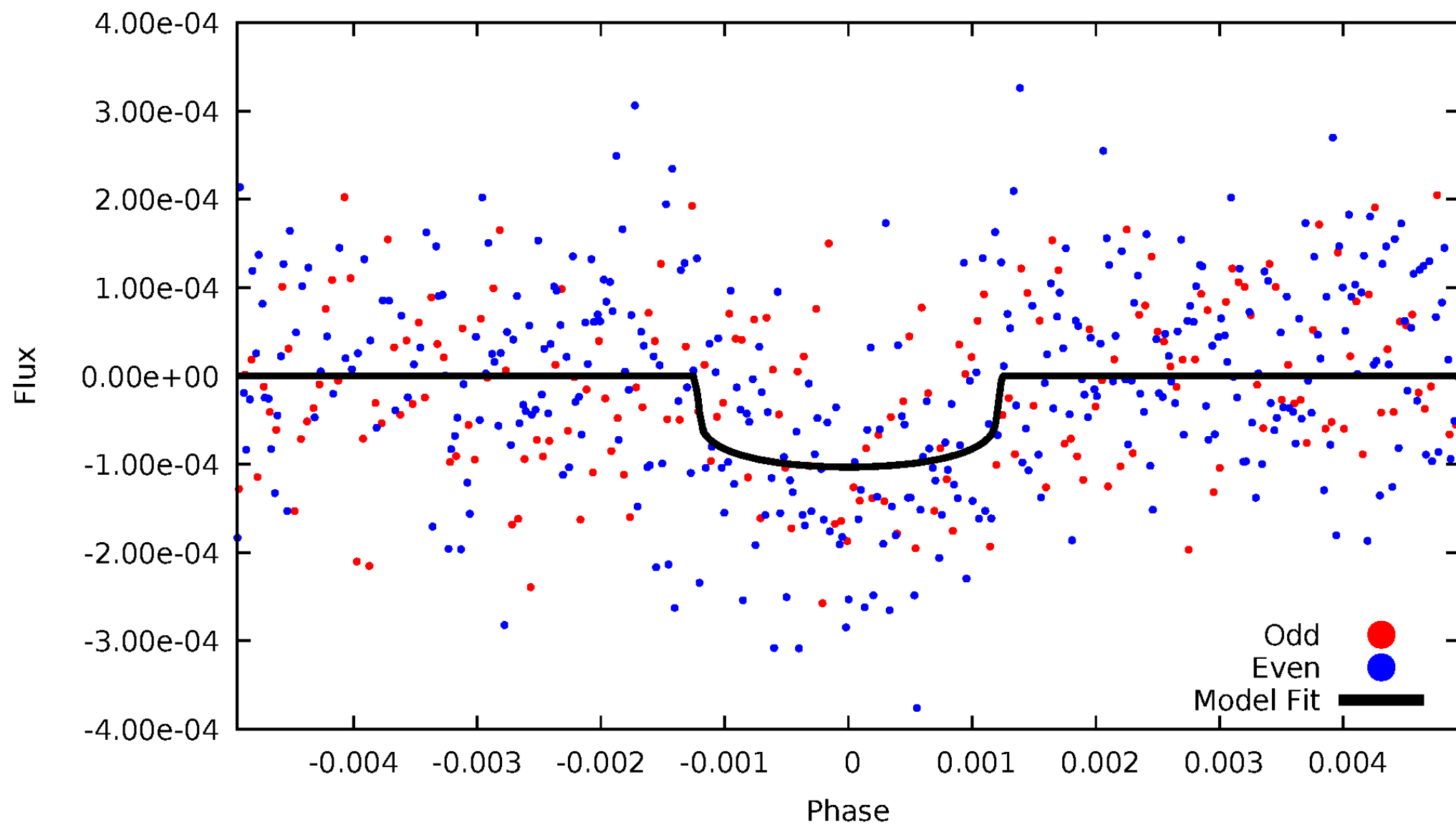


TCE 008074181-01



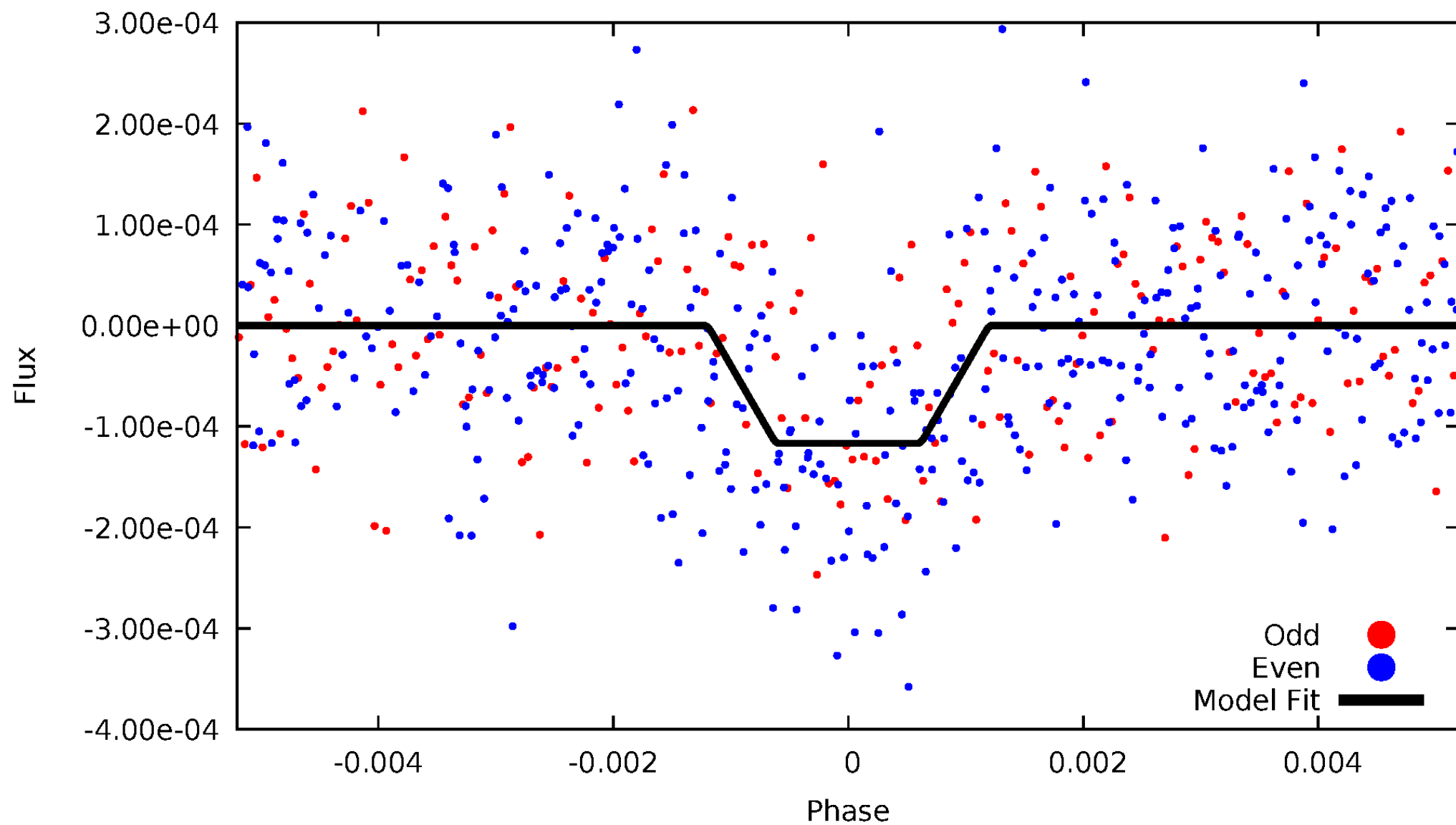
DV Odd/Even

TCE 008074181-01



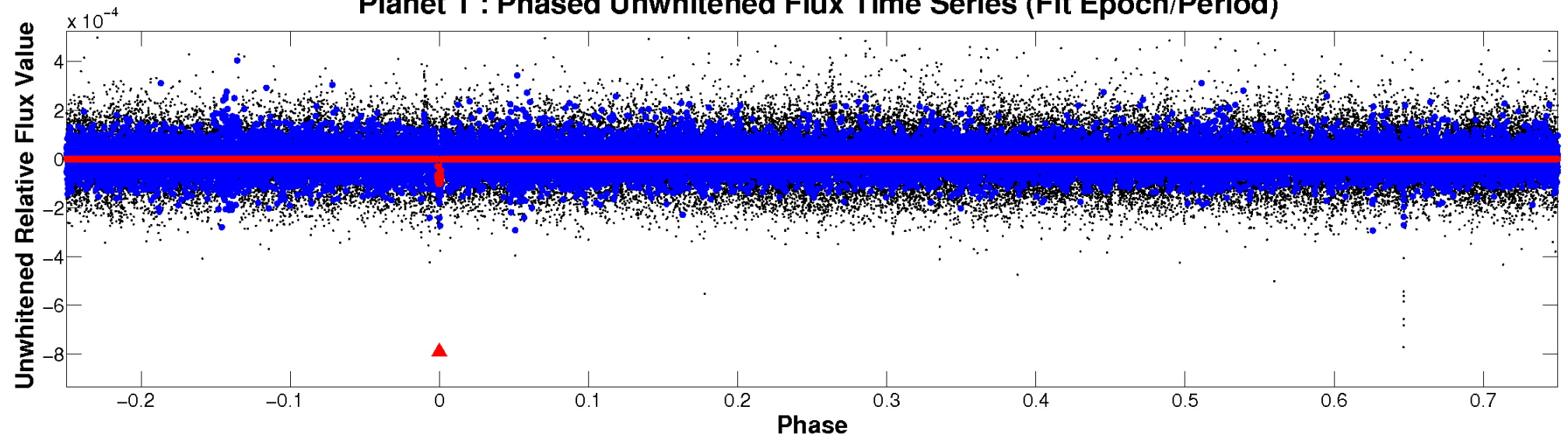
ALT Odd/Even

TCE 008074181-01

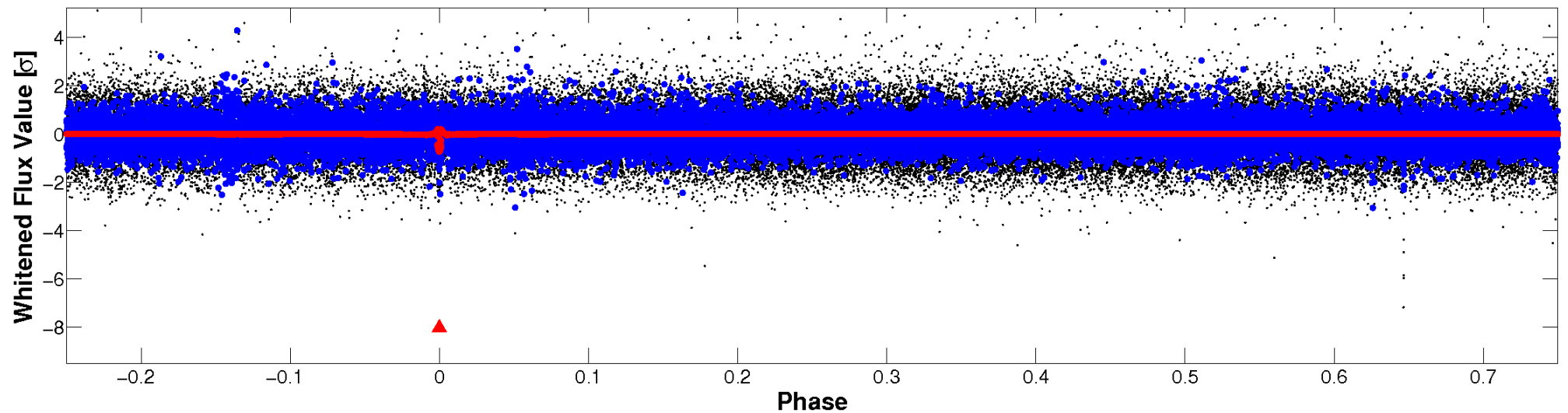


Non-Whitened Vs. Whitened Light Curve

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

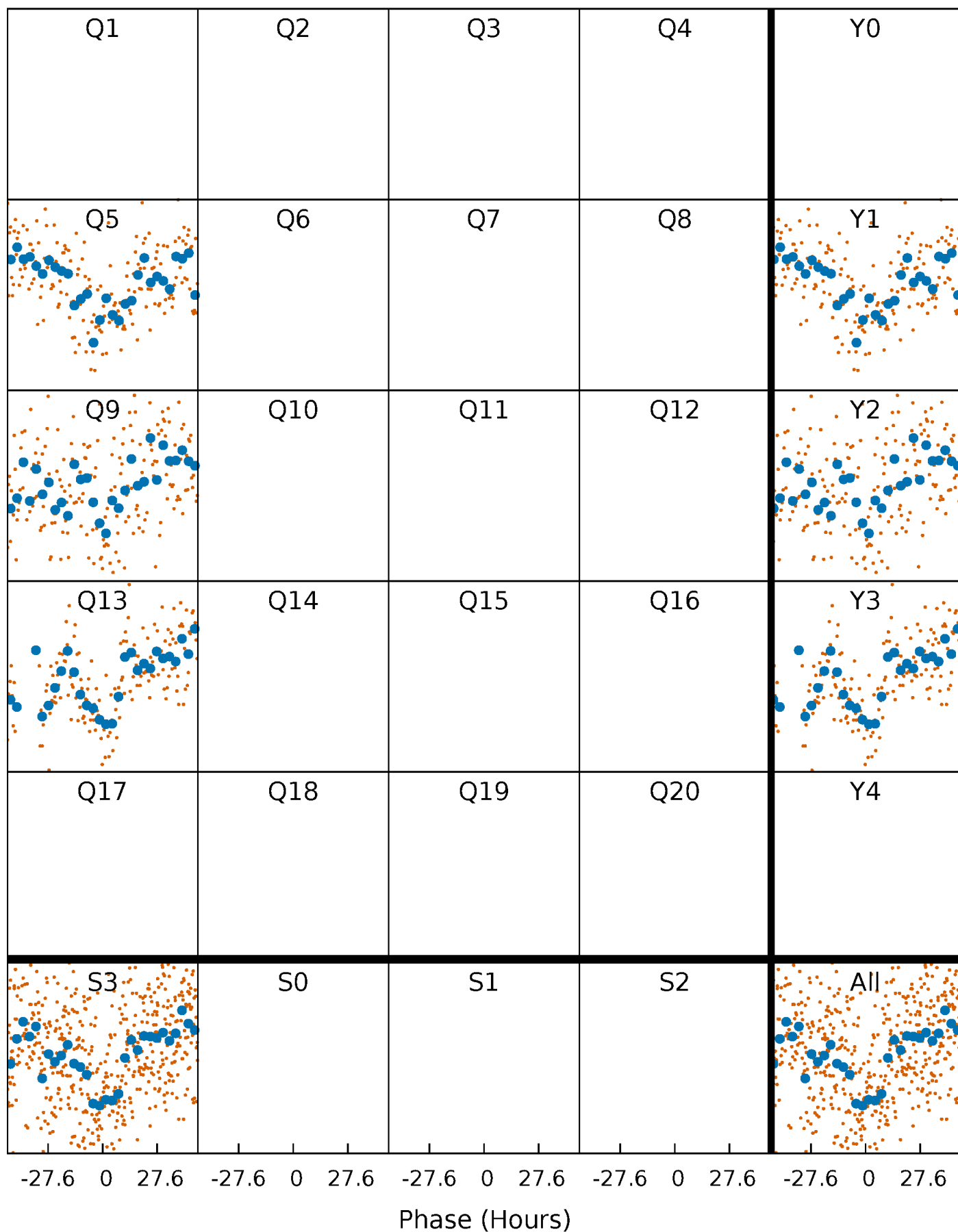


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



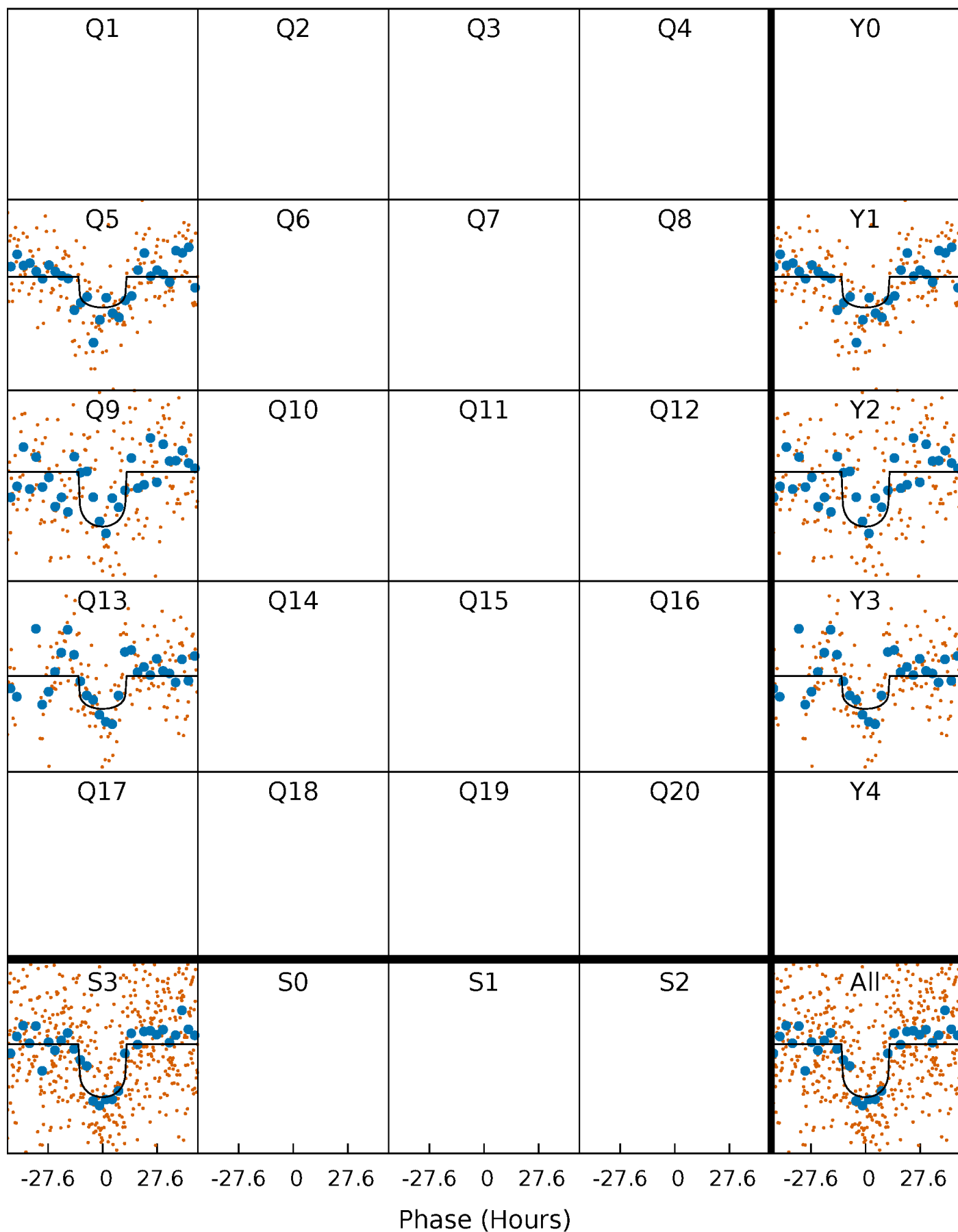
PDC Quarter-Phased Transit Curves

TCE 008074181-01 P=407.144821 Days $T_0=456.282233$ (BKJD)



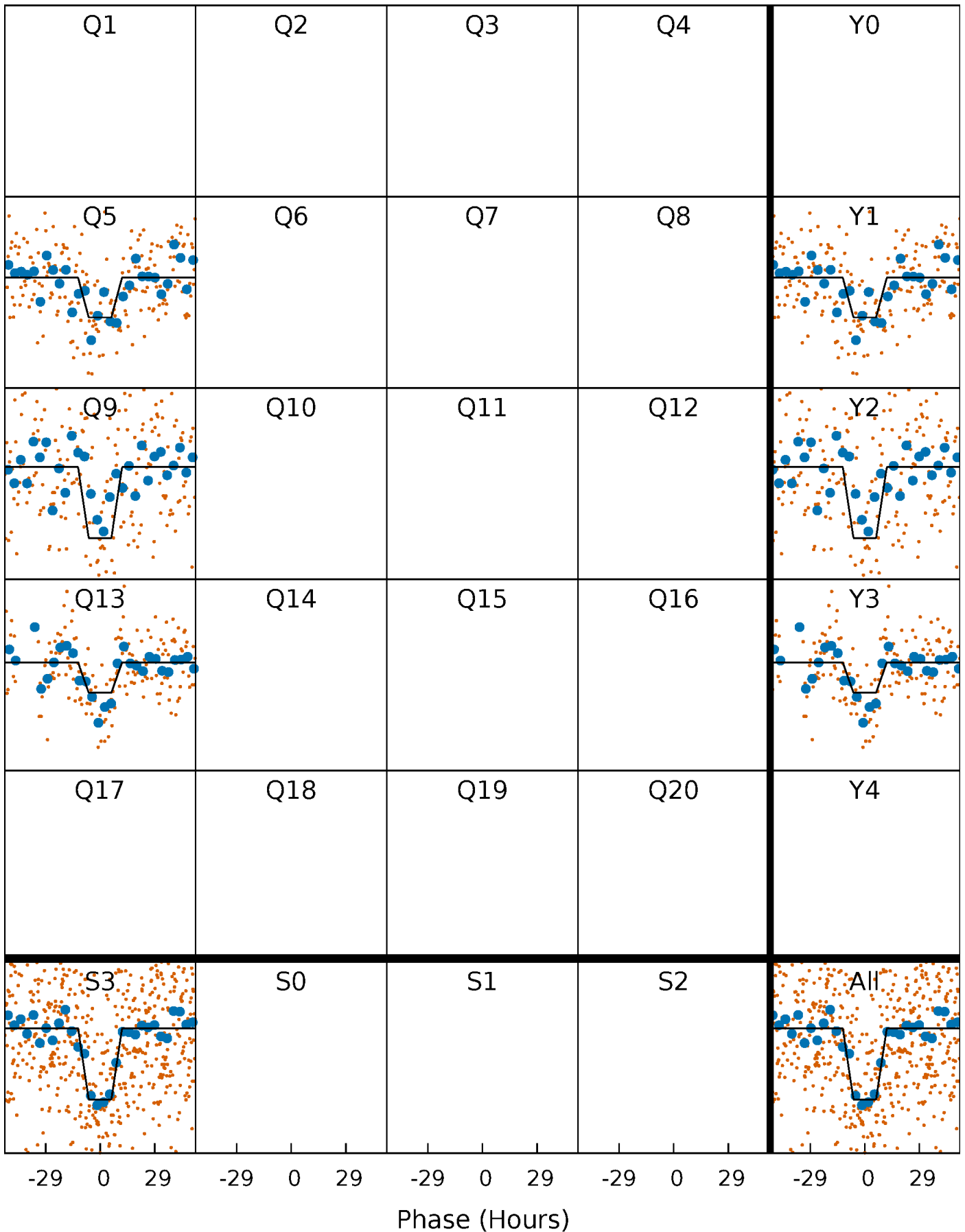
DV Quarter-Phased Transit Curves

TCE 008074181-01 P=407.144821 Days $T_0=456.282233$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

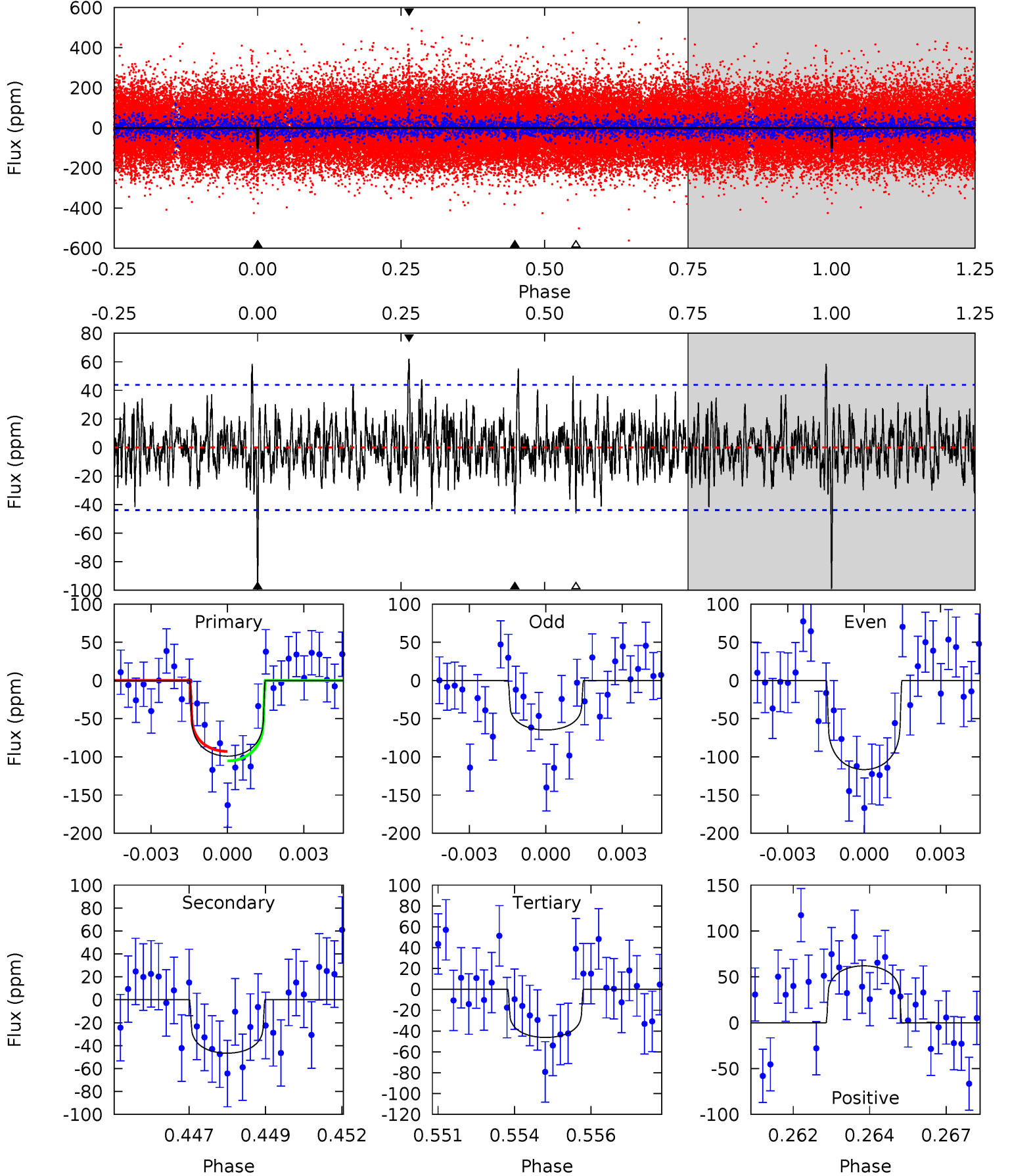
TCE 008074181-01 P=407.152305 Days $T_0=456.298364$ (BKJD)



DV Model-Shift Uniqueness Test

008074181-01, P = 407.144821 Days, E = 49.137412 Days

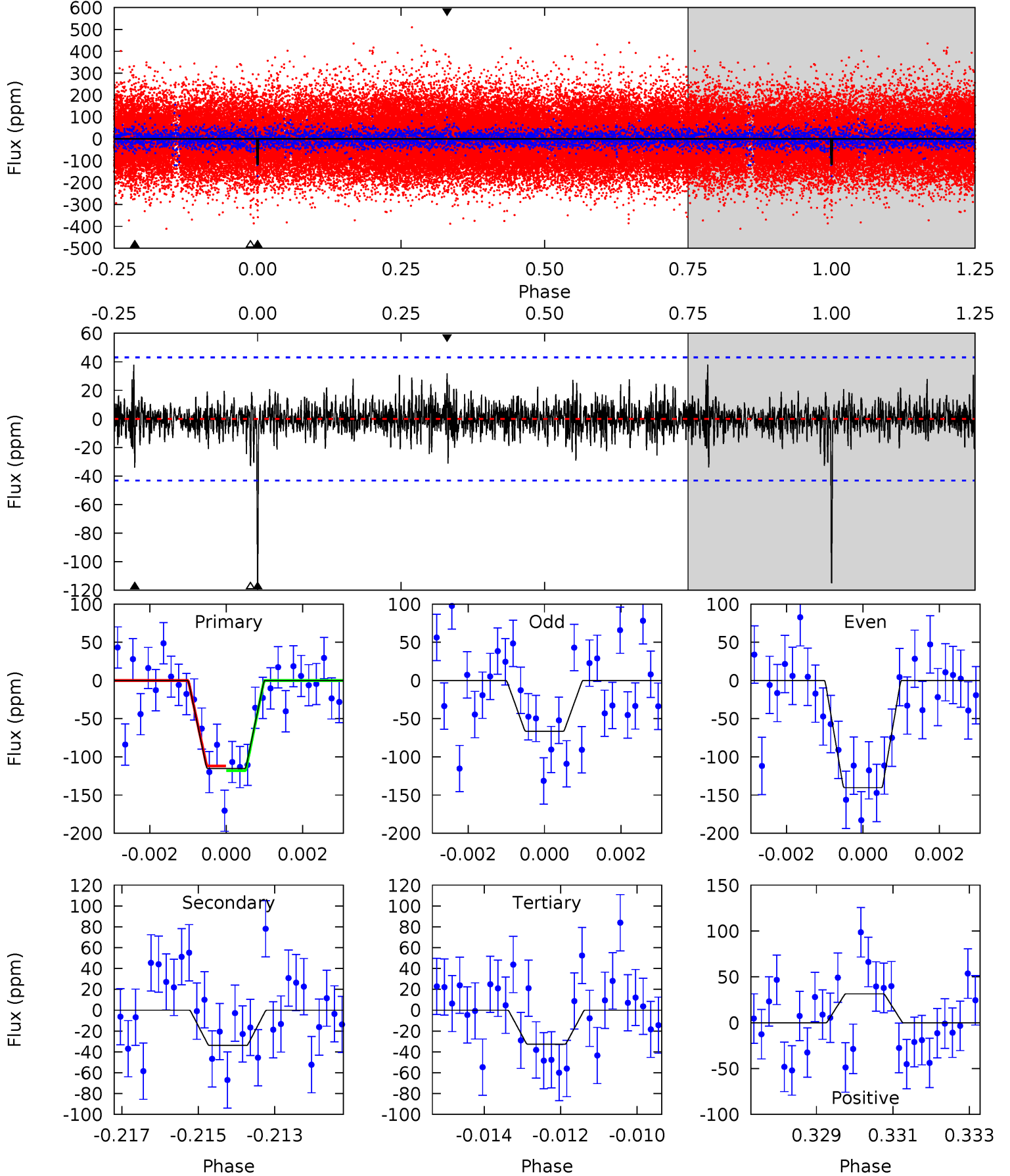
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	5.62	5.57	7.47	5.28	3.02	1.75	6.37	4.46	0.05	-1.85	2.96	1.04	0.38	0.75



Alt Model-Shift Uniqueness Test

008074181-01, P = 407.152305 Days, E = 49.146059 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	4.15	4.01	3.87	5.29	3.03	1.01	10.1	10.3	0.14	0.28	4.28	0.96	0.25	0.37



Stellar Parameters For KIC 008074181

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6043^{+183}_{-152}	$3.818^{+0.300}_{-0.100}$	$-0.160^{+0.300}_{-0.250}$	$2.288^{+0.421}_{-0.782}$	$1.256^{+0.216}_{-0.240}$	$0.148^{+0.322}_{-0.048}$
	+3%/-3%	+8%/-3%	+188%/-156%	+18%/-34%	+17%/-19%	+218%/-32%
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 008074181-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-47 ± 8	$2.31^{+1.08}_{-0.98}$	515^{+32}_{-47}	5141^{+1393}_{-702}	6718^{+12355}_{-3726}
Alt.	-34 ± 8	$2.57^{+1.13}_{-0.94}$	516^{+35}_{-44}	4586^{+950}_{-560}	3889^{+5821}_{-2116}

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

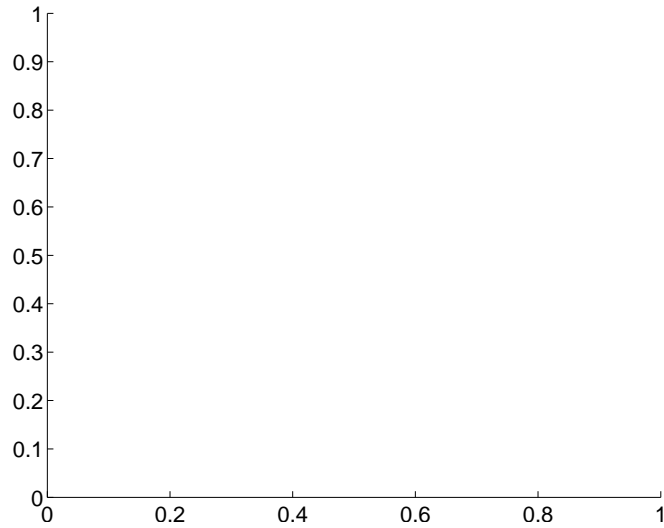
Supplemental centroid analysis for 008074181-01. Kepler magnitude: 12.42. Transit SNR 7.42

There are 0 quarters with good PRF difference image offsets

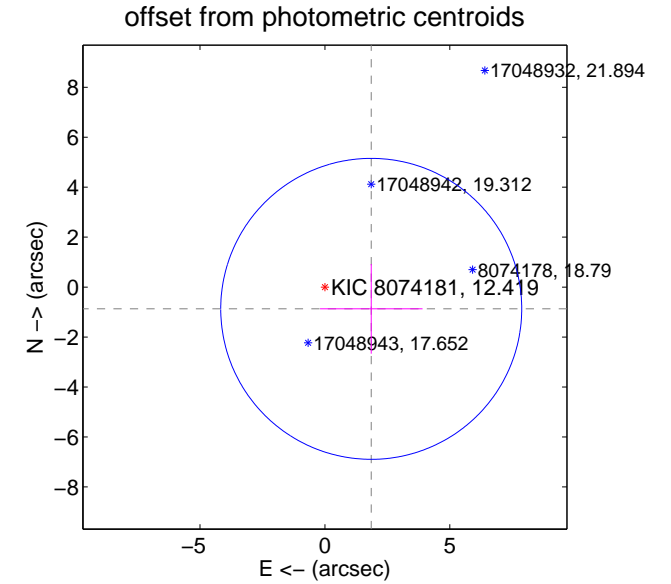
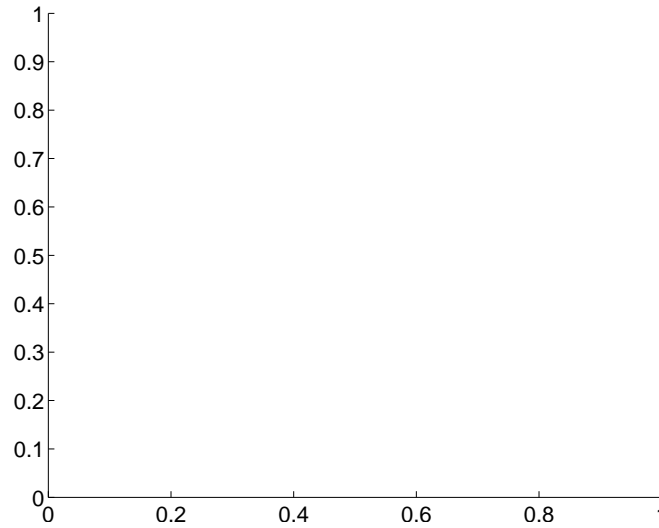
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	2.05 ± 2.01	1.02	-1.85 ± 2.05	-0.87 ± 1.80

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

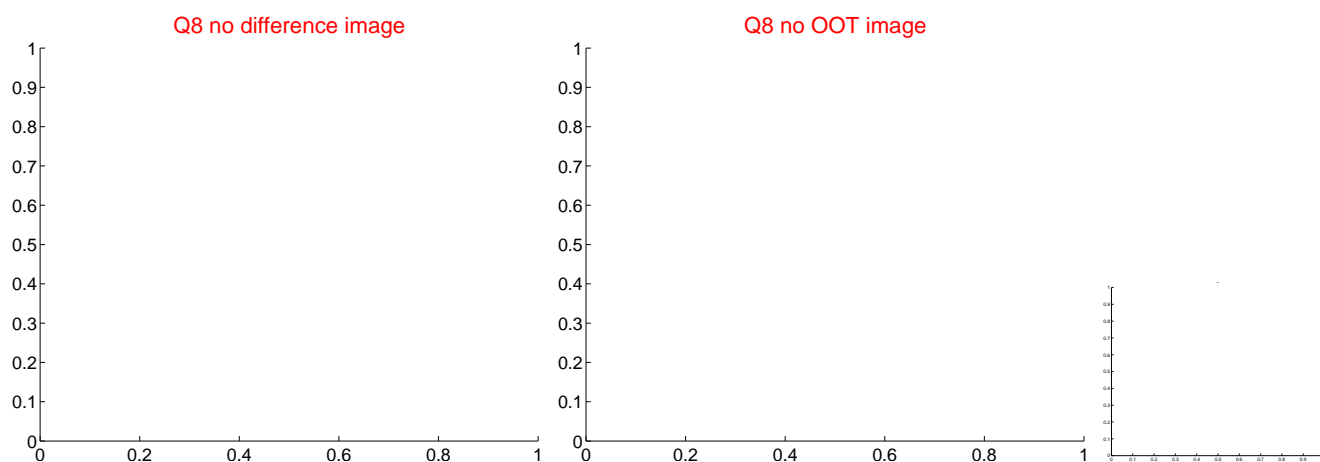
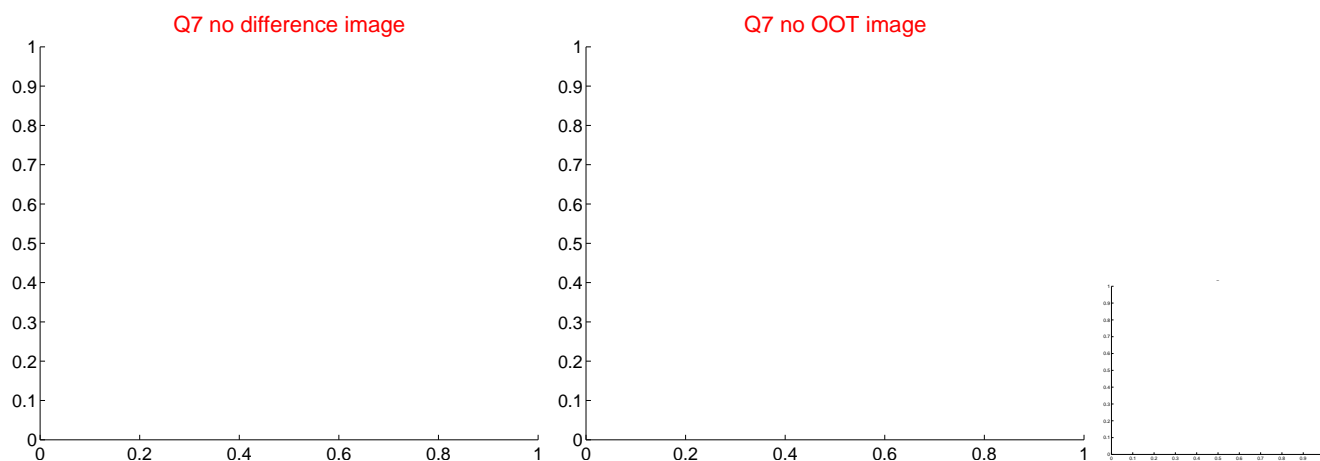
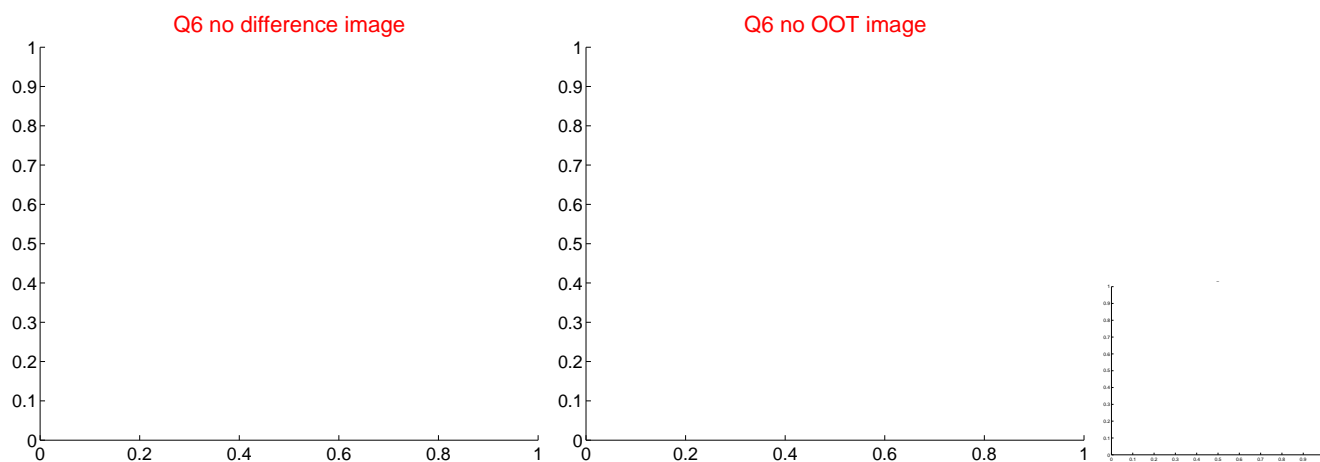
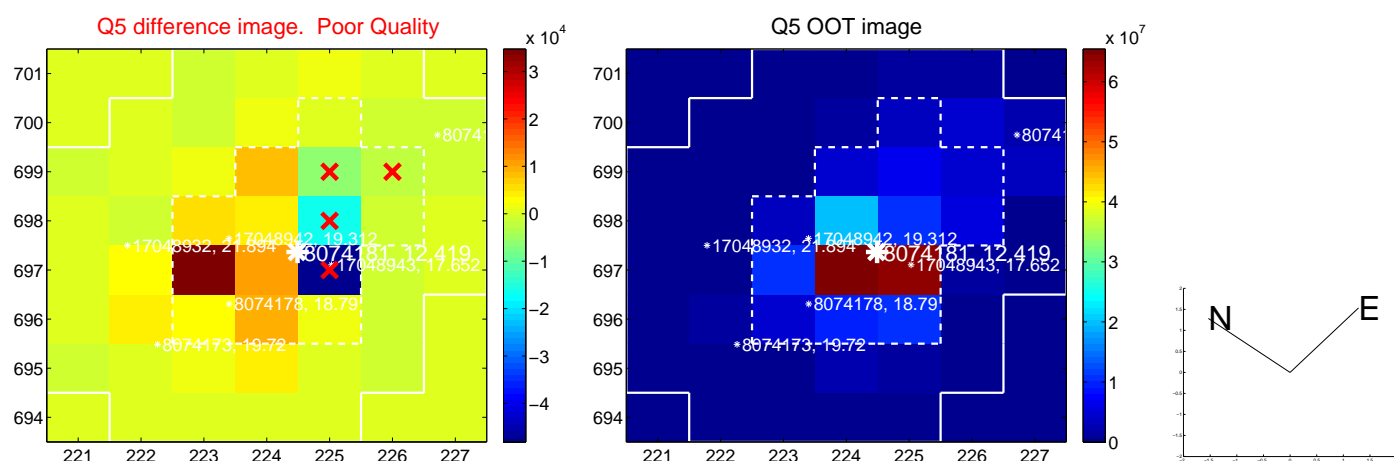


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

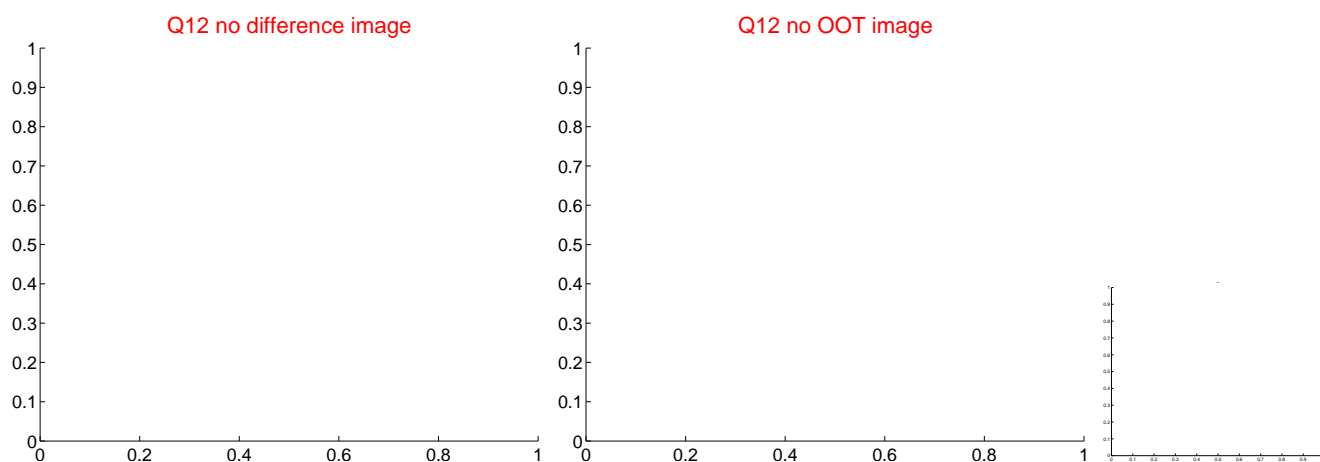
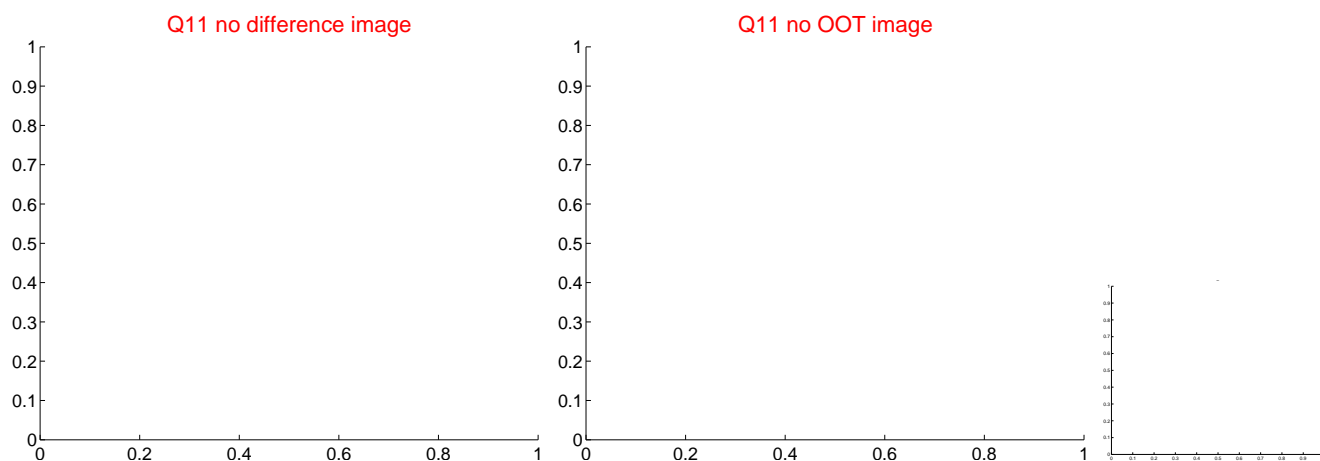
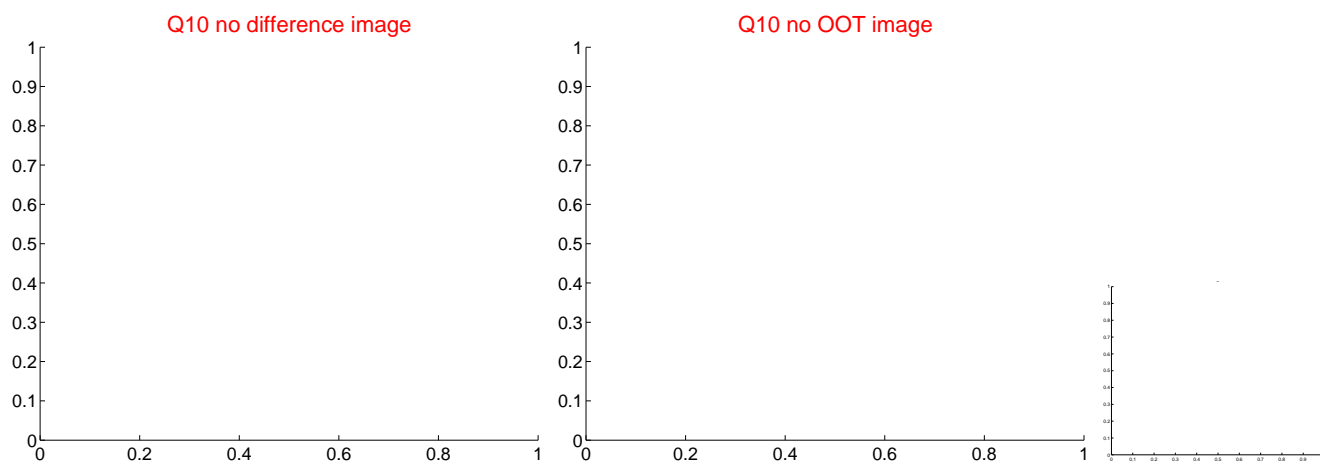
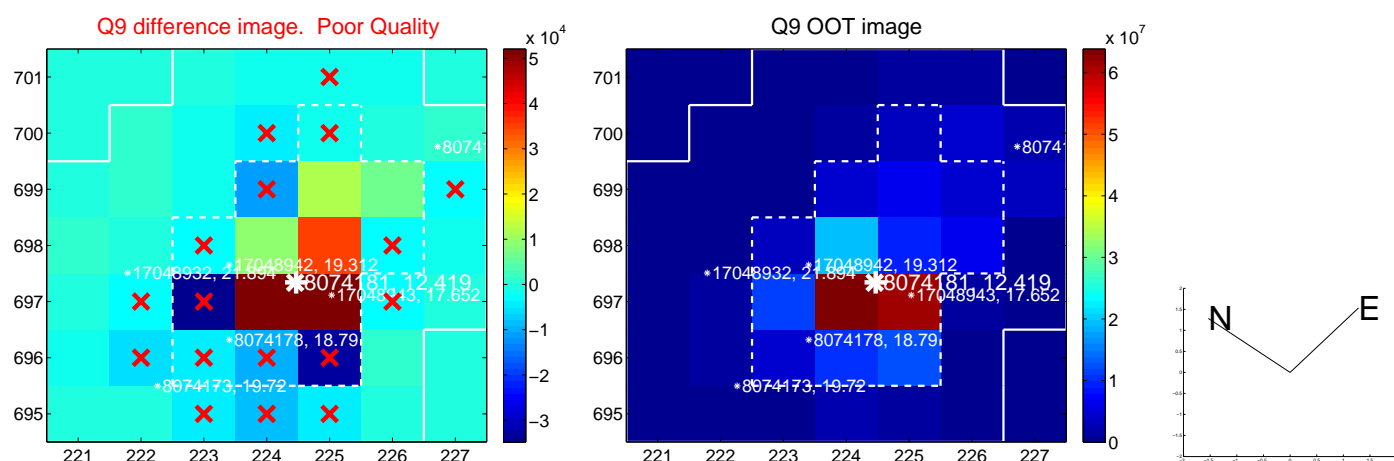
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



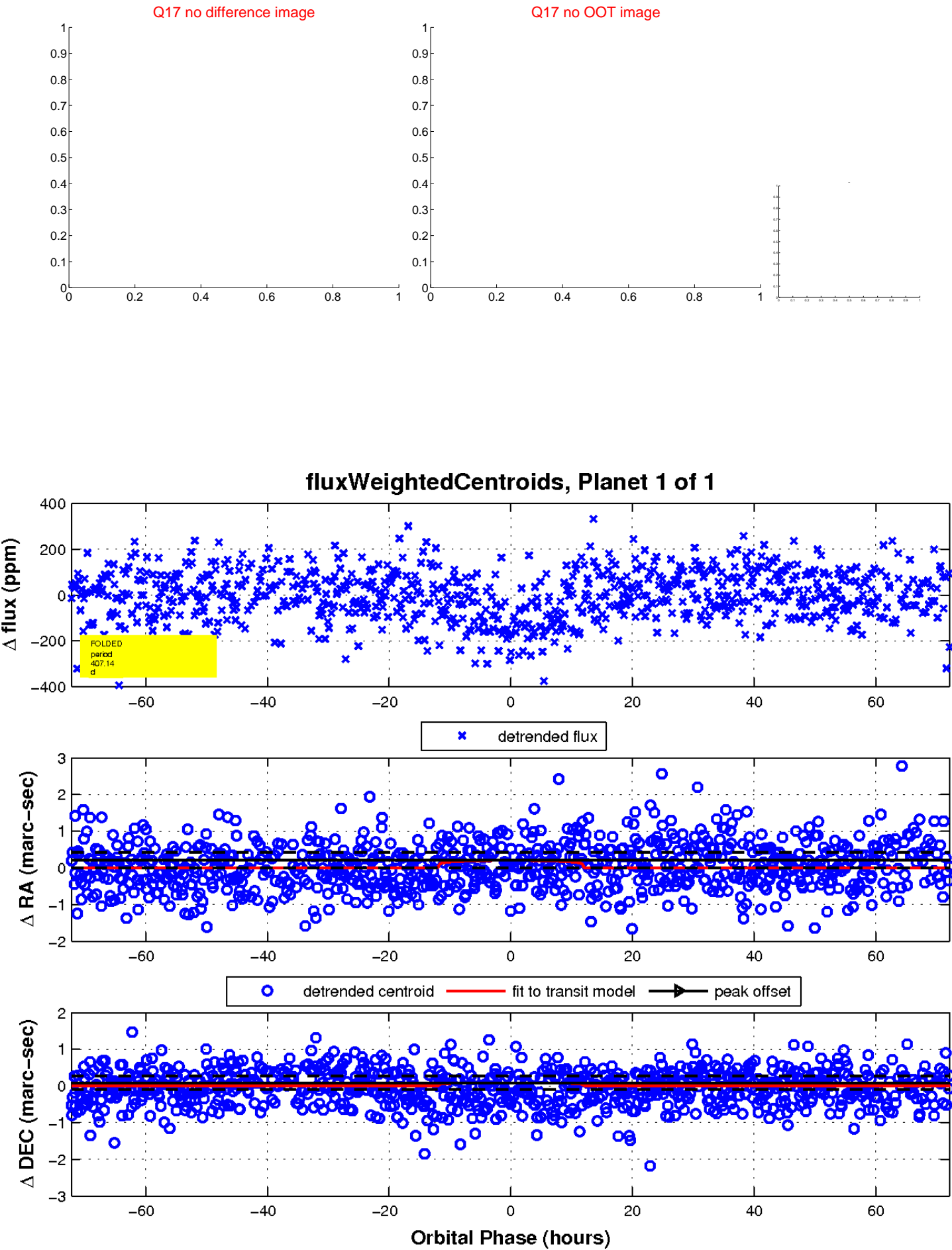
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

