

KIC 007831009

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})
007831009-01	OBS	No	369.623009	233.534964	636.6	15.776	7.9	7.9	0.88	5815	4.36	0.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007831009-01	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.

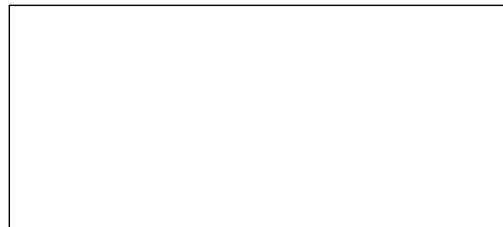
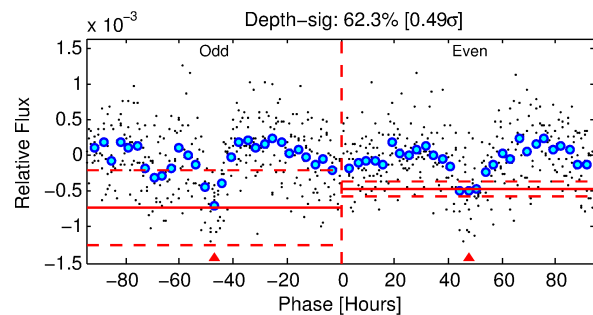
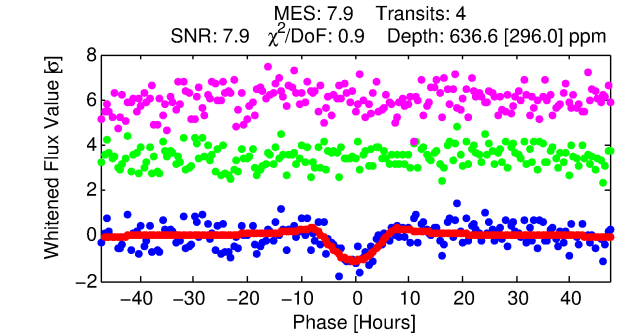
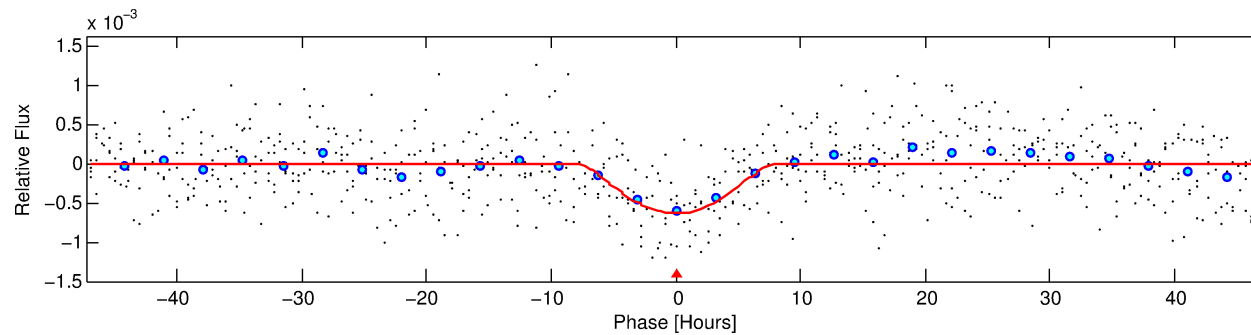
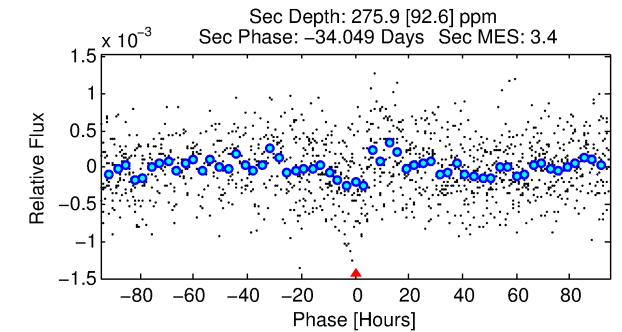
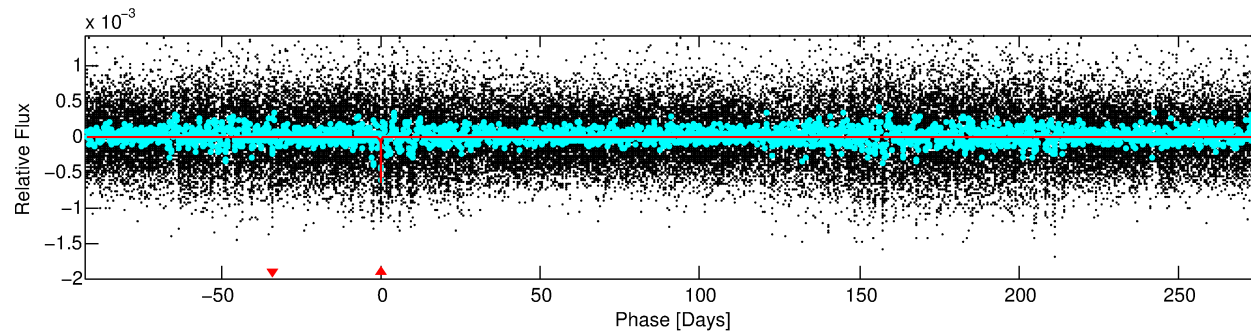
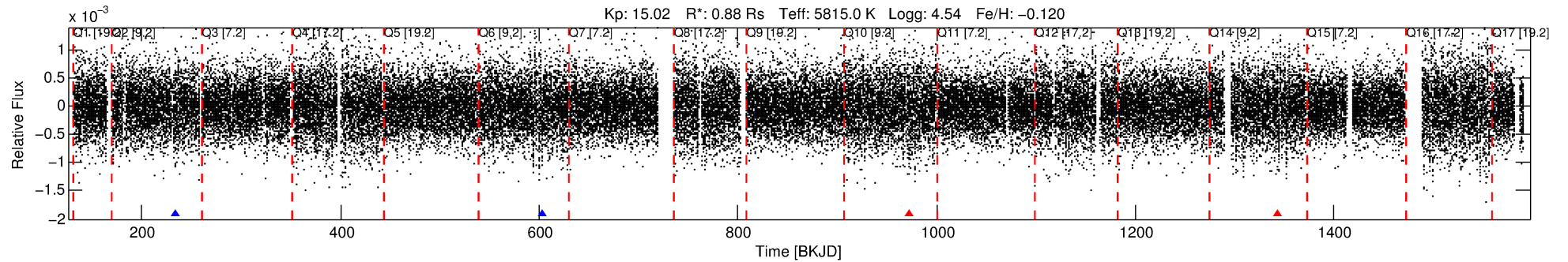
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007831009-01

No Significant Match Found

DV One-Page Summary

KIC: 7831009 Candidate: 1 of 1 Period: 369.623 d



DV Fit Results:

Period = 369.62301 [0.01711] d
Epoch = 233.5350 [0.0316] BKJD
Rp/R* = 0.0455 [0.1554]
a/R* = 54.67 [46.03]
b = 1.00 [0.21]
Seff = 0.79 [0.30]
Teq = 240 [22] K
Rp = 4.36 [14.92] Re
a = 0.9989 [0.2397] AU
Ag = 7974.45 [54563.84] [0.15σ]
Teffp = 3512 [6000] K [0.55σ]

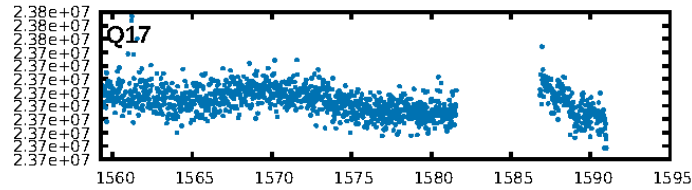
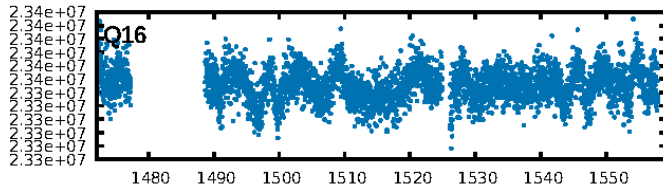
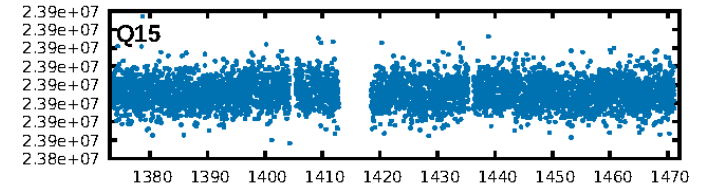
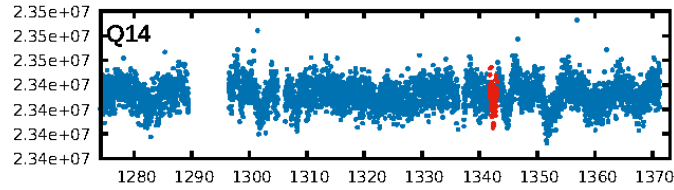
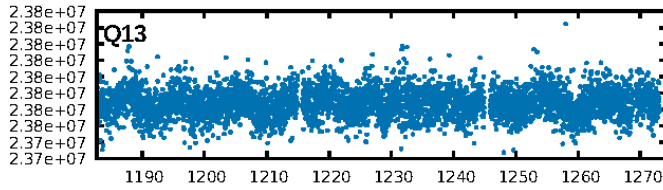
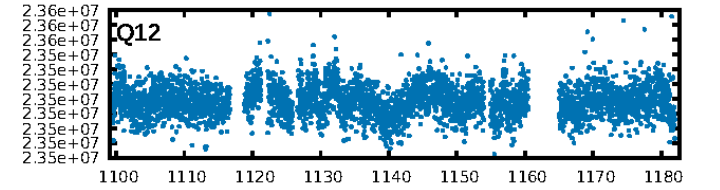
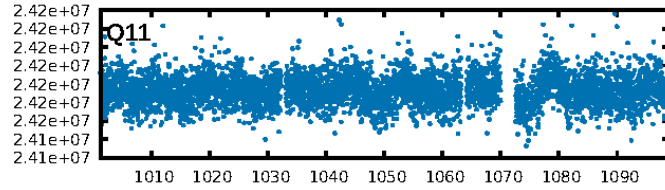
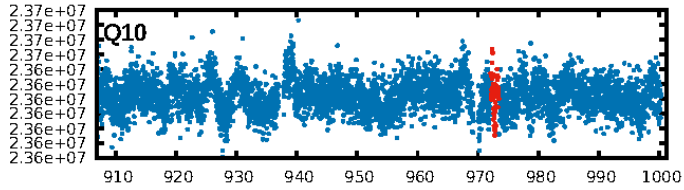
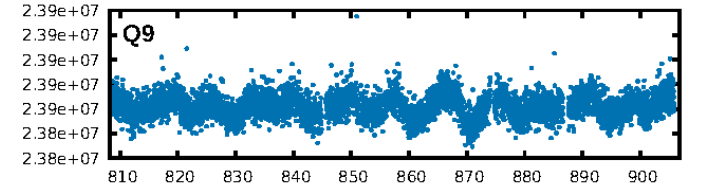
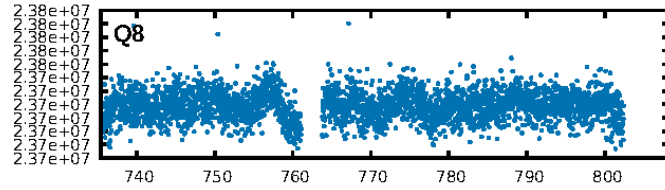
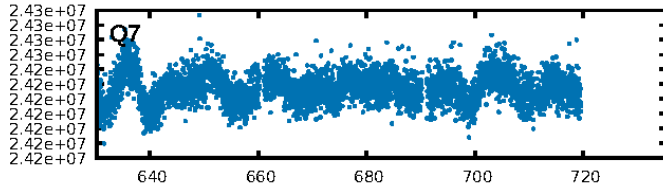
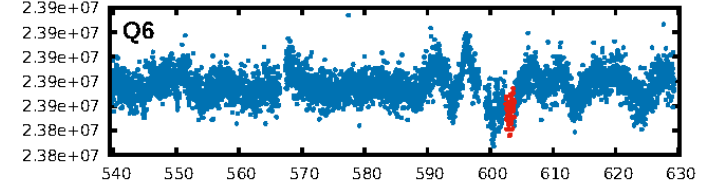
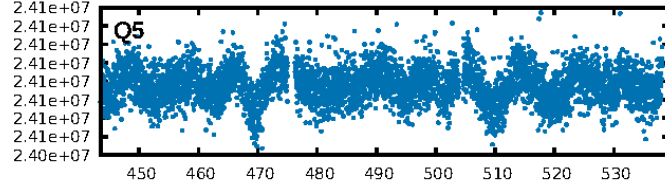
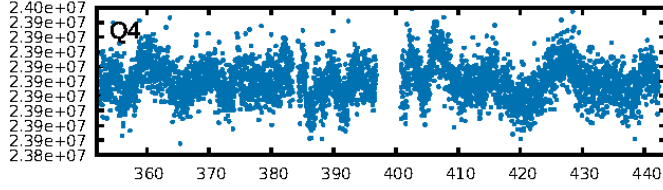
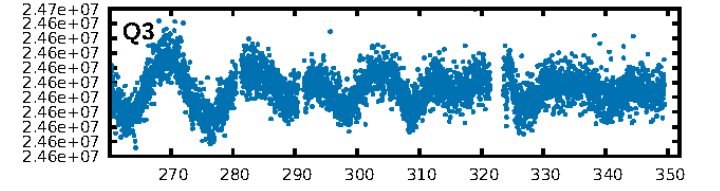
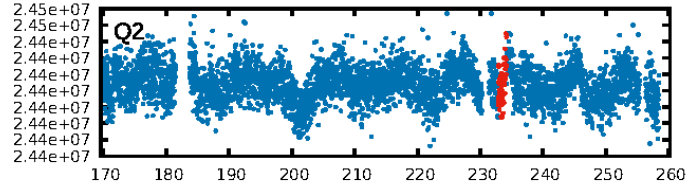
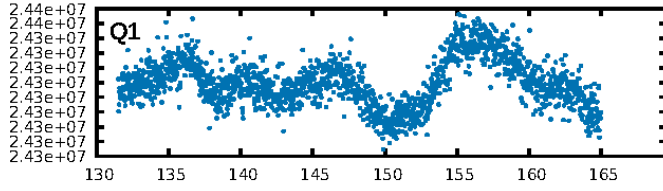
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 38.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.70e-09
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: -1.923
Centroid-sig: 0.0%
Centroid-so: 7.569 arcsec [3.07σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [4/4]

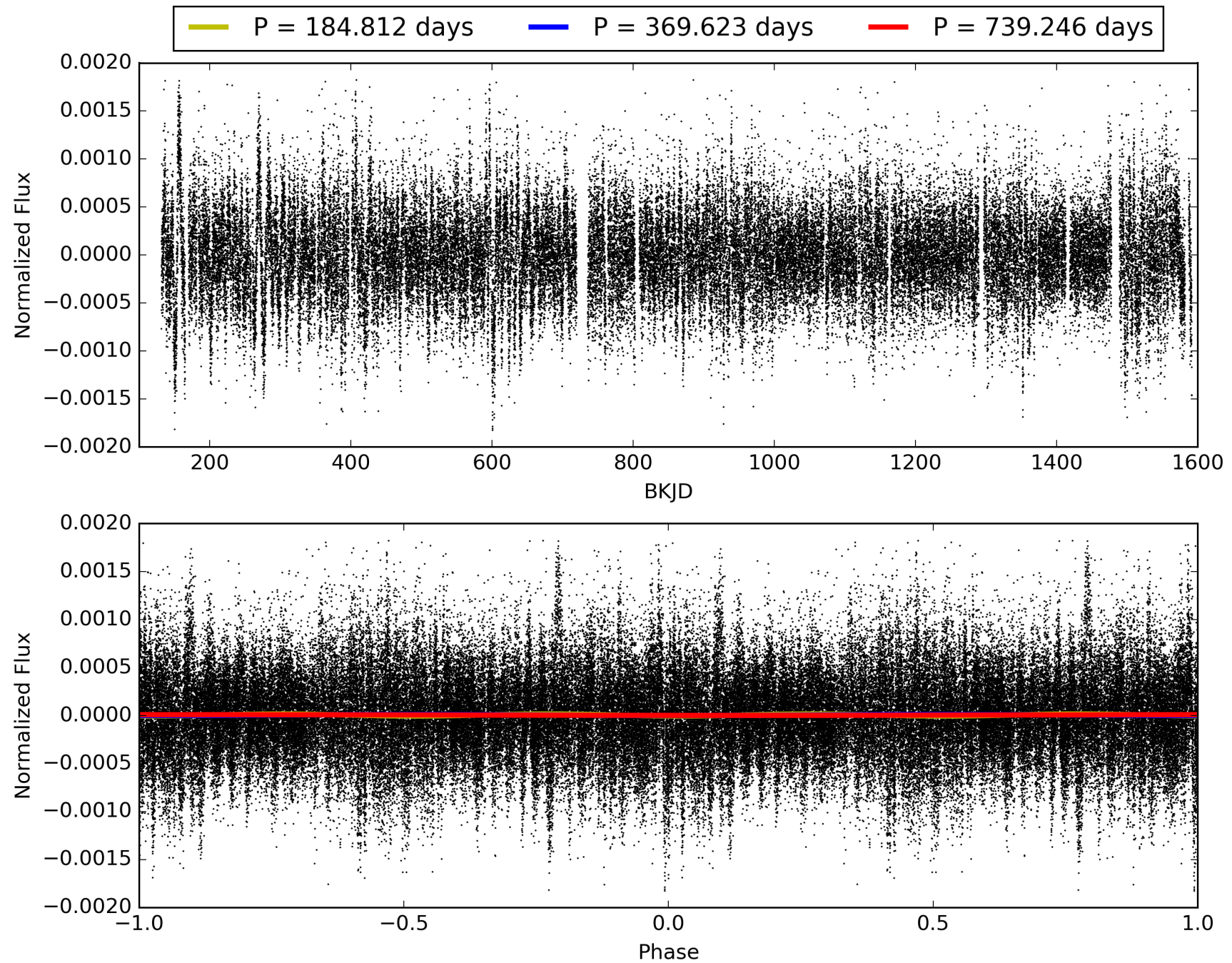
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:40:14 Z

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

TCE 007831009-01, PDC Light Curves

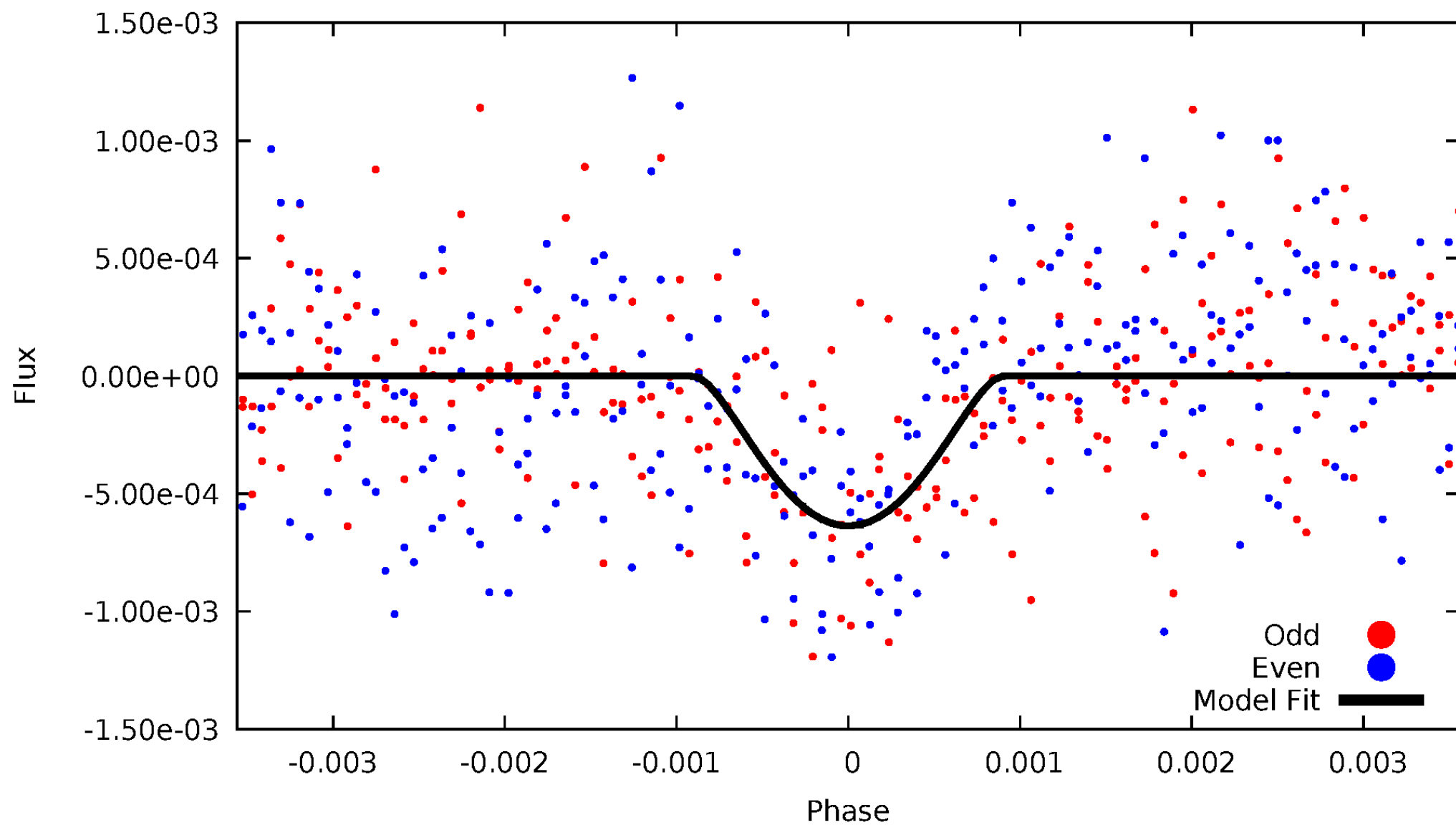


TCE 007831009-01



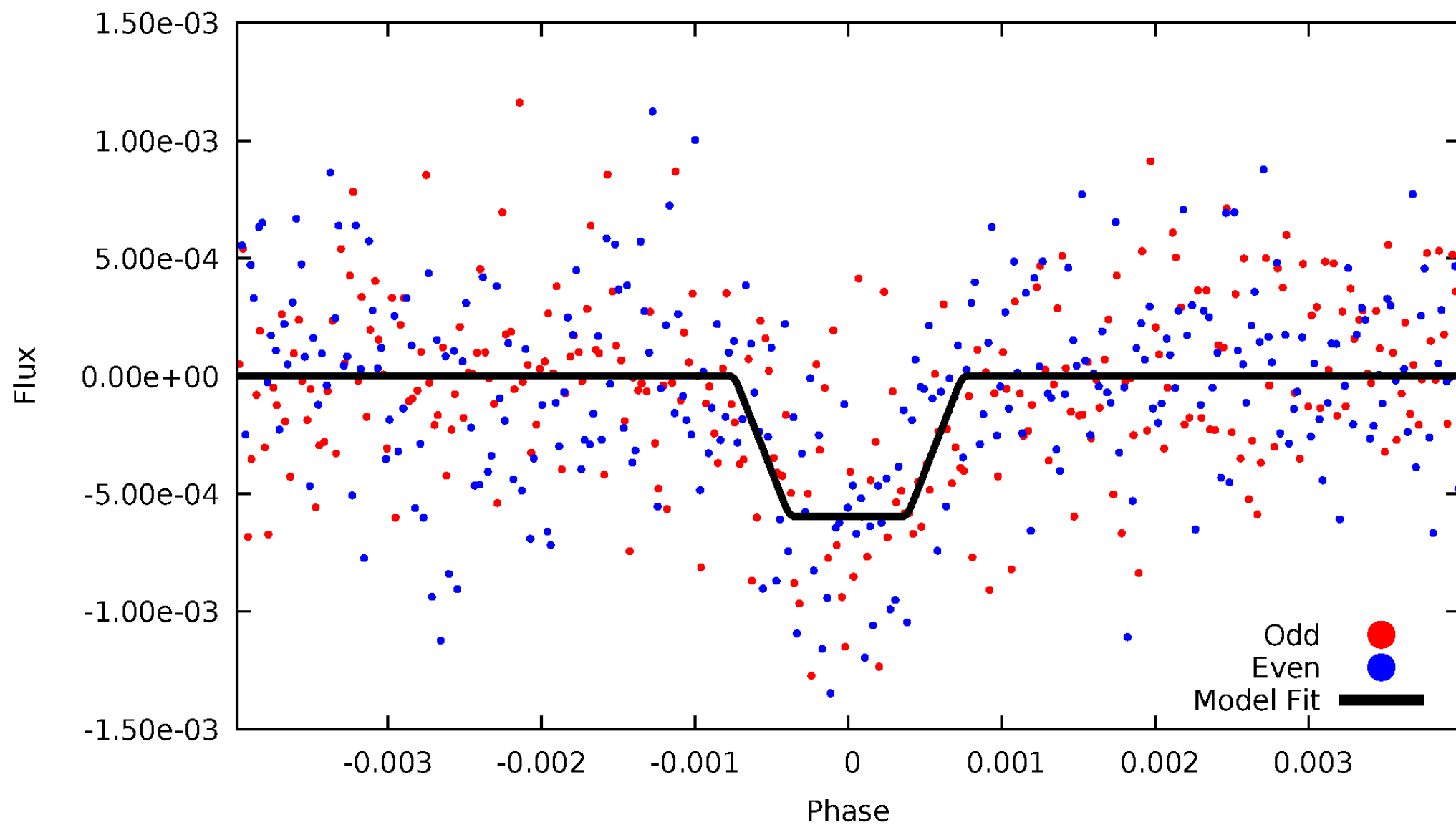
DV Odd/Even

TCE 007831009-01



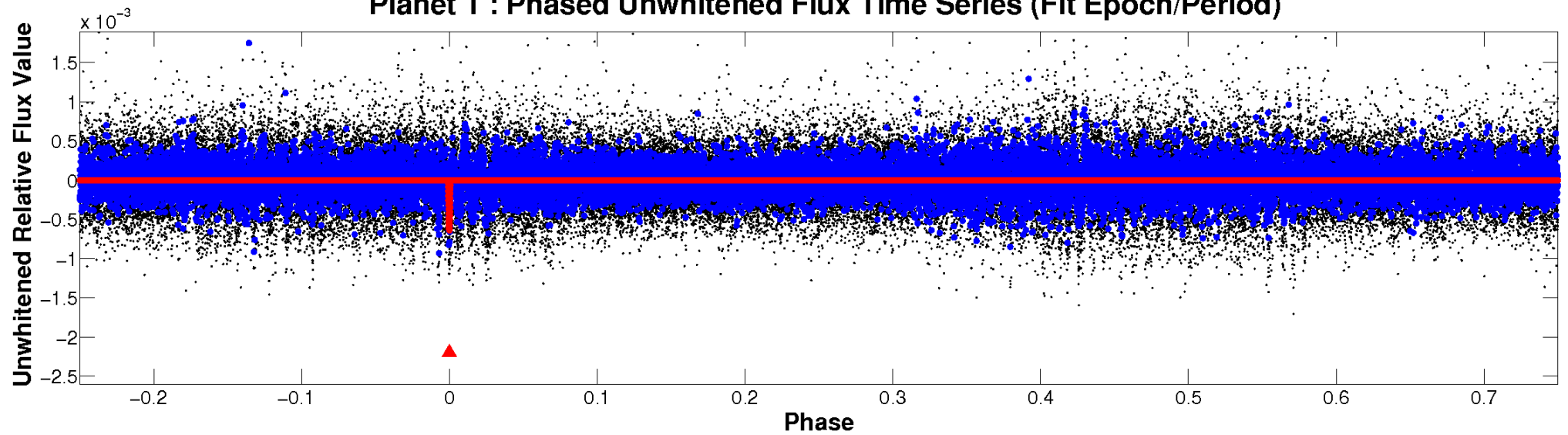
ALT Odd/Even

TCE 007831009-01

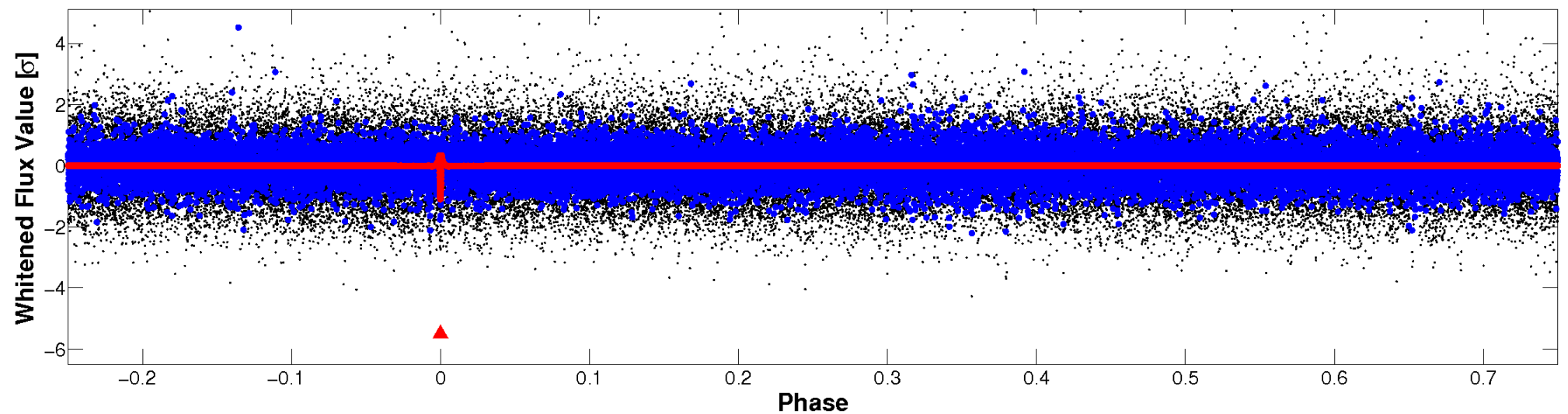


Non-Whitened Vs. Whitened Light Curve

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

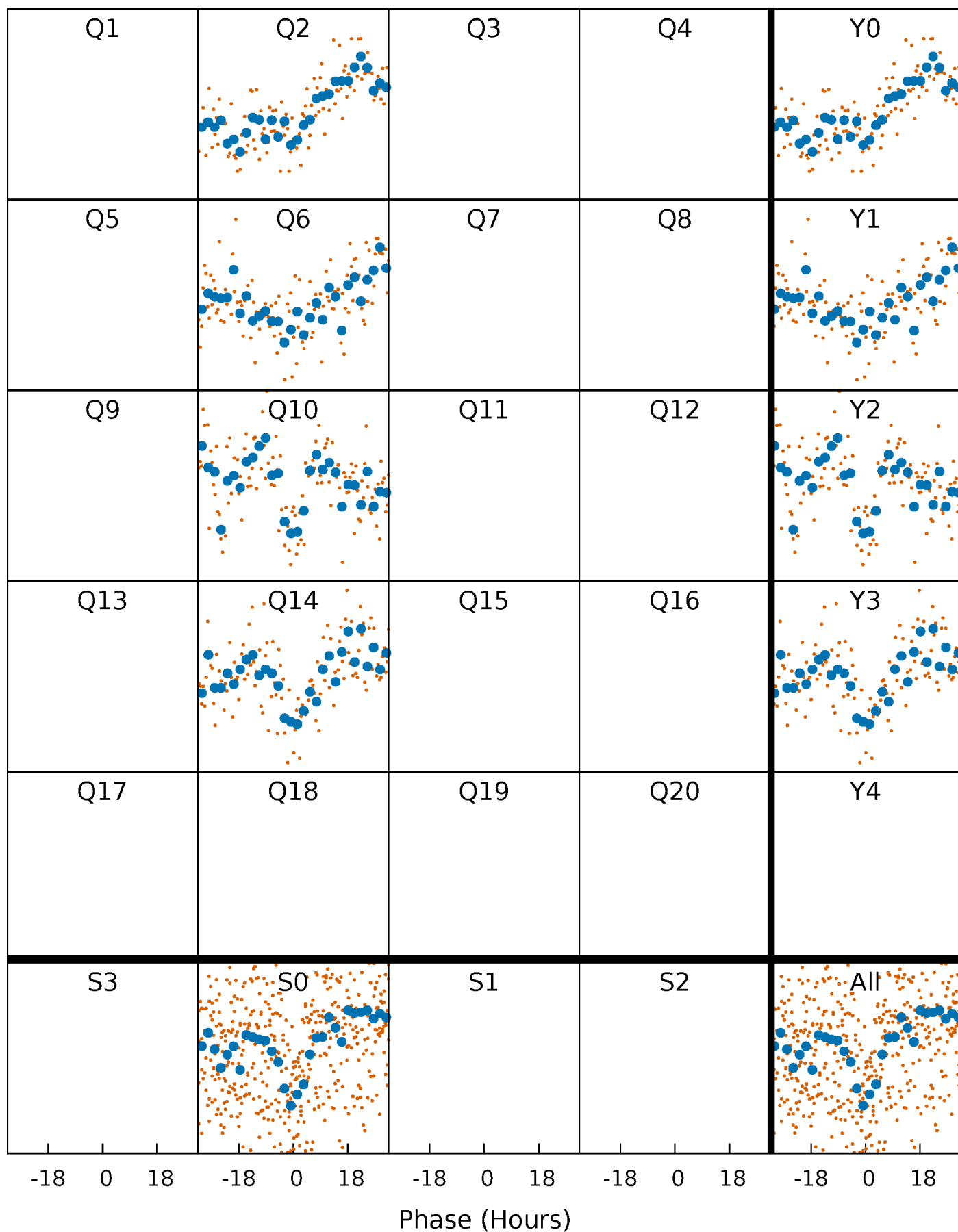


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



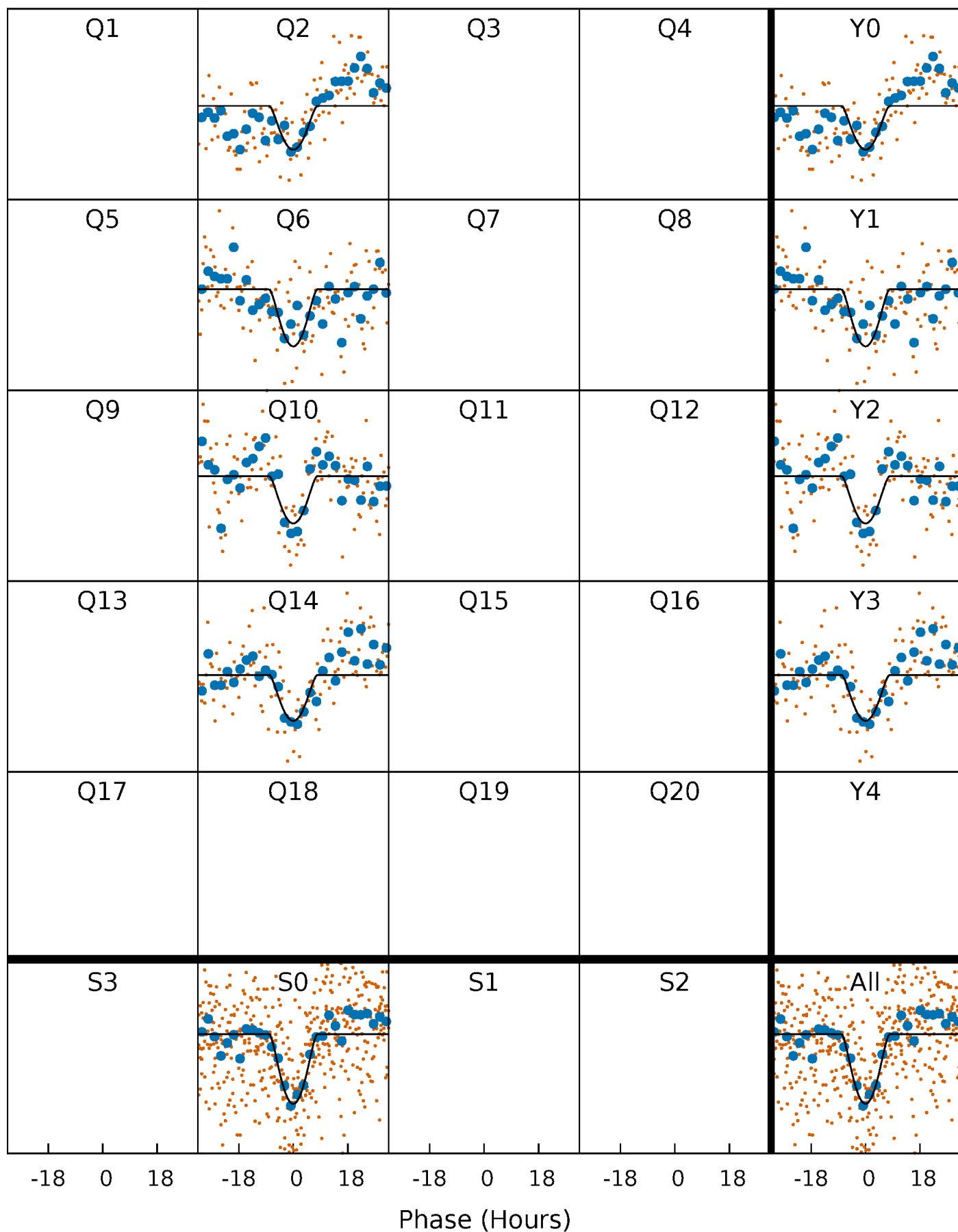
PDC Quarter-Phased Transit Curves

TCE 007831009-01 P=369.623009 Days $T_0=233.534964$ (BKJD)



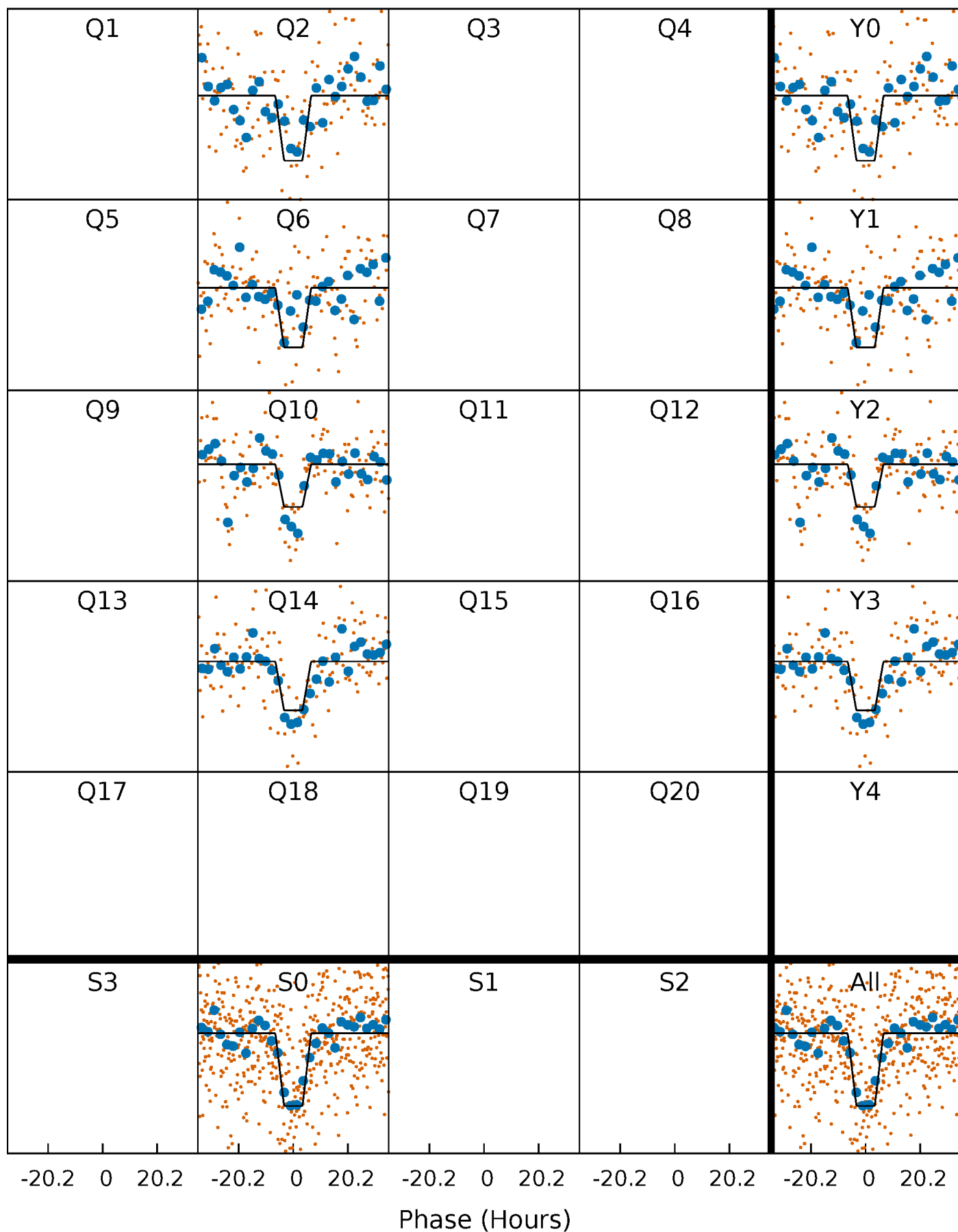
DV Quarter-Phased Transit Curves

TCE 007831009-01 P=369.623009 Days $T_0=233.534964$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

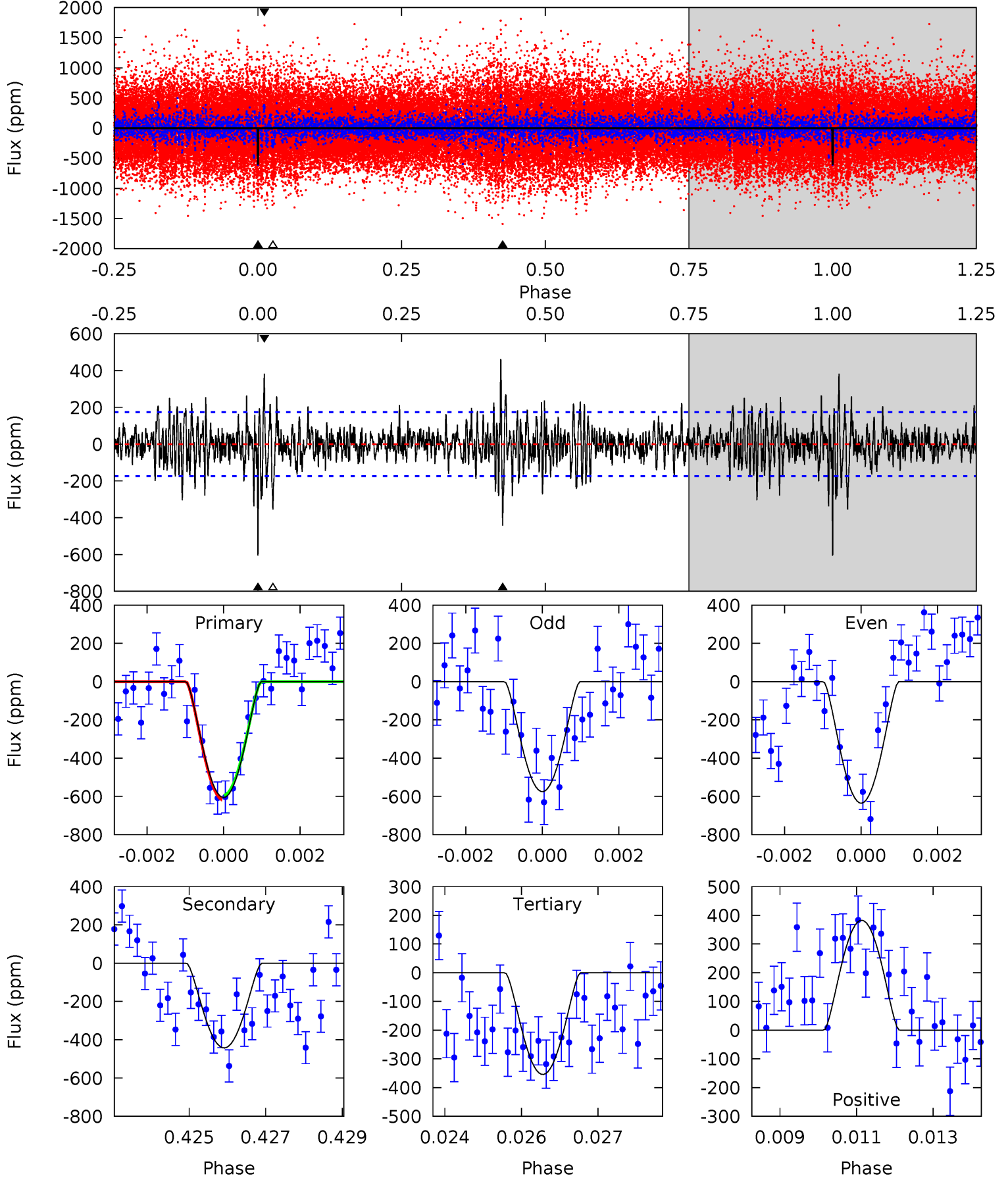
TCE 007831009-01 P=369.629478 Days $T_0=233.528652$ (BKJD)



DV Model-Shift Uniqueness Test

007831009-01, P = 369.623009 Days, E = 233.534964 Days

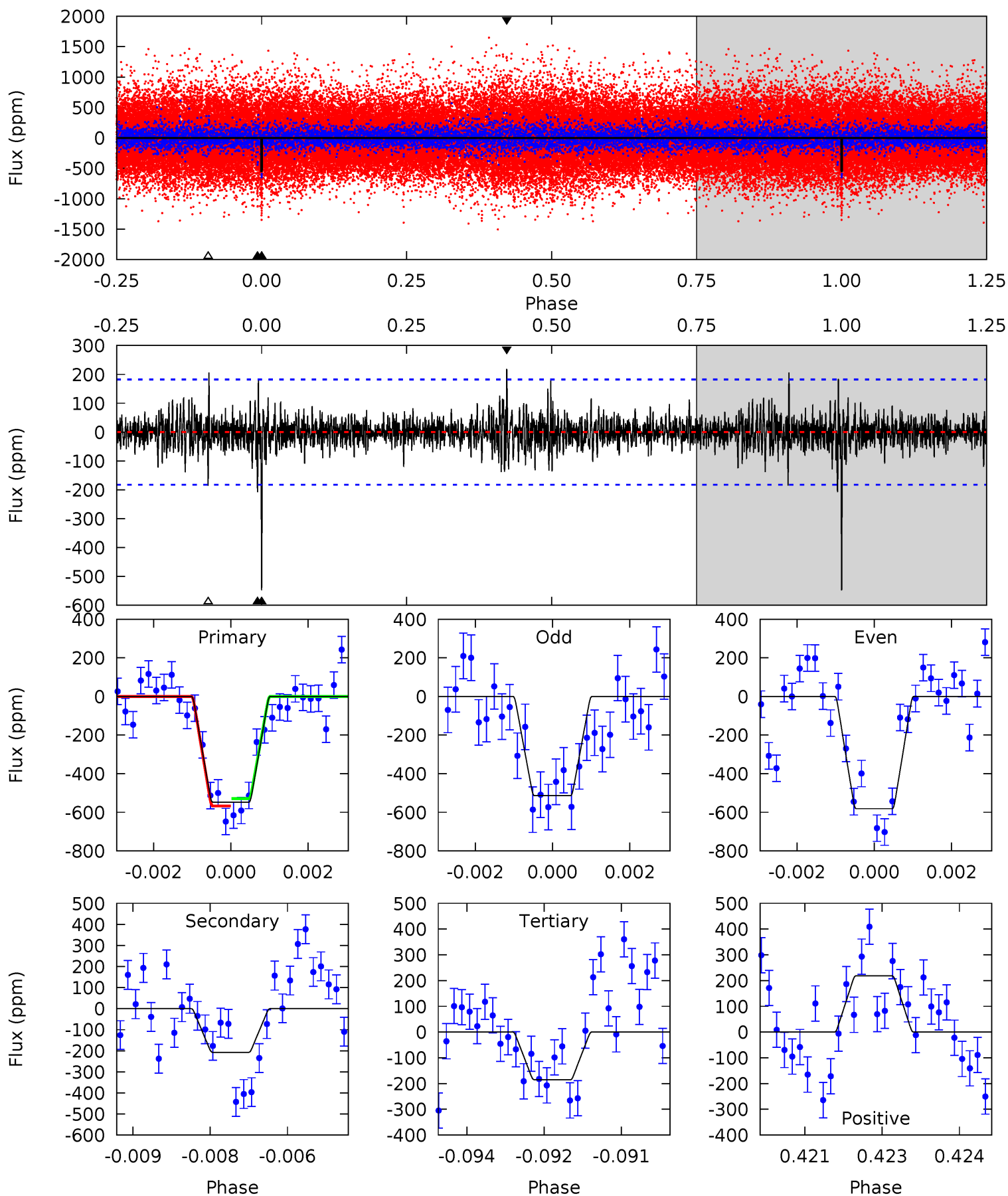
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	13.6	10.9	11.7	5.34	3.12	2.59	7.71	6.84	2.72	1.85	0.93	0.95	0.43	0.38



Alt Model-Shift Uniqueness Test

007831009-01, P = 369.629478 Days, E = 233.528652 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	6.12	5.46	6.44	5.38	3.17	1.16	10.7	9.72	0.65	-0.33	1.01	0.98	0.29	0.56



Stellar Parameters For KIC 007831009

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5815^{+140}_{-175}	$4.540^{+0.046}_{-0.196}$	$-0.120^{+0.300}_{-0.300}$	$0.877^{+0.246}_{-0.082}$	$0.973^{+0.104}_{-0.116}$	$2.032^{+0.391}_{-1.029}$
	+2%/-3%	+1%/-4%	+250%/-250%	+28%/-9%	+11%/-12%	+19%/-51%
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 007831009-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-443 ± 33	$12.49^{+13.33}_{-8.59}$	343^{+23}_{-15}	3071^{+1412}_{-543}	1551^{+14451}_{-1199}
Alt.	-207 ± 34	$11.82^{+11.41}_{-8.27}$	343^{+23}_{-16}	2792^{+1255}_{-455}	799^{+8229}_{-604}

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 007831009-01. Kepler magnitude: 15.02. Transit SNR 7.95

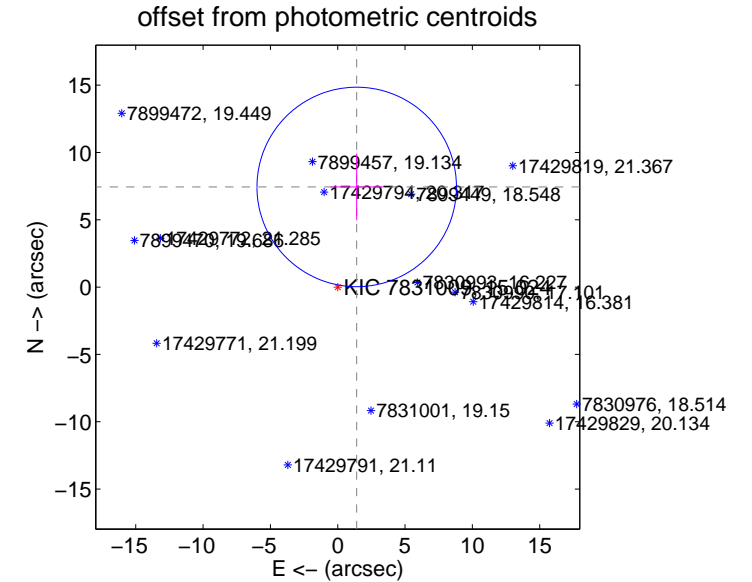
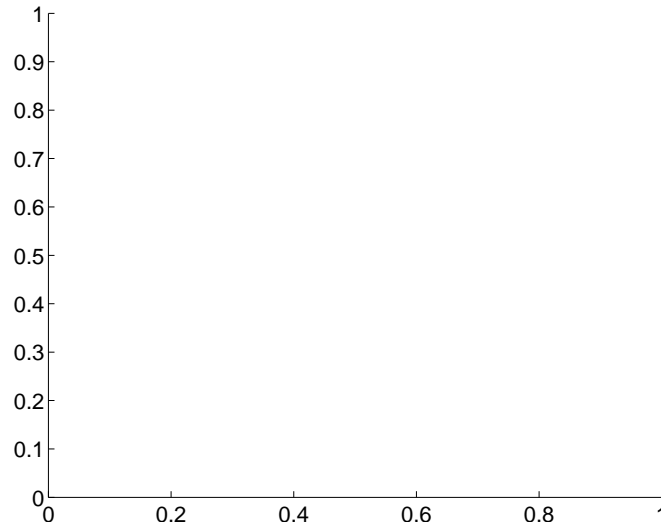
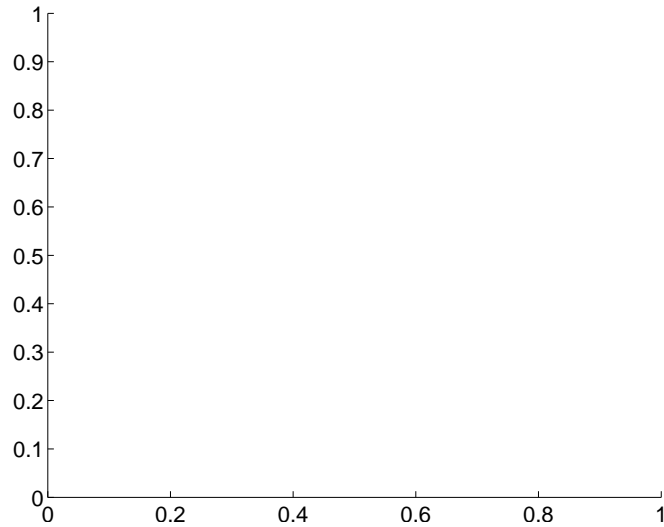
There are 0 quarters with good PRF difference image offsets

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	7.57 ± 2.47	3.07	-1.41 ± 1.94	7.44 ± 2.49

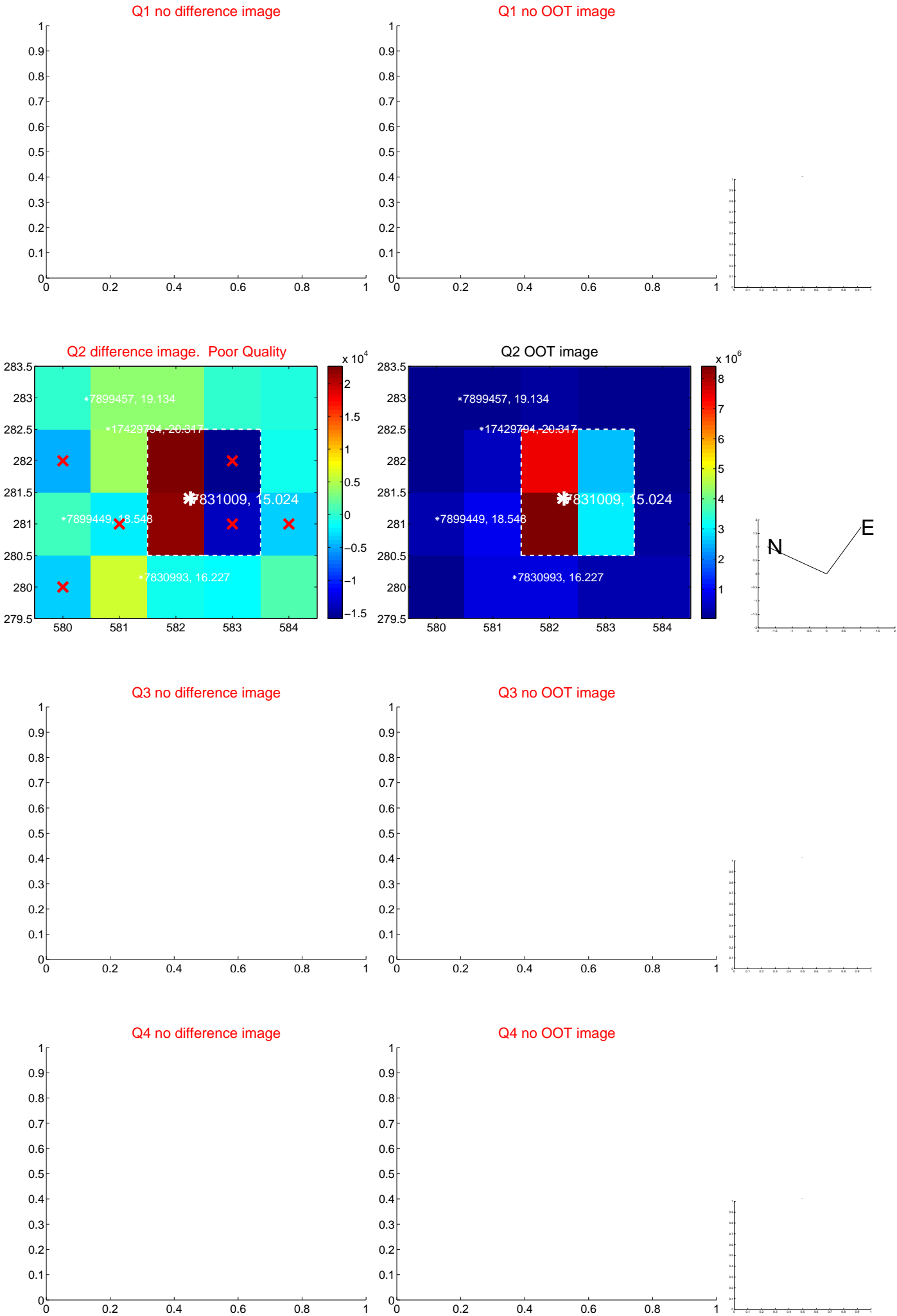
There is no PRF-fit offset from OOT-fit

There is no PRF-fit offset from KIC

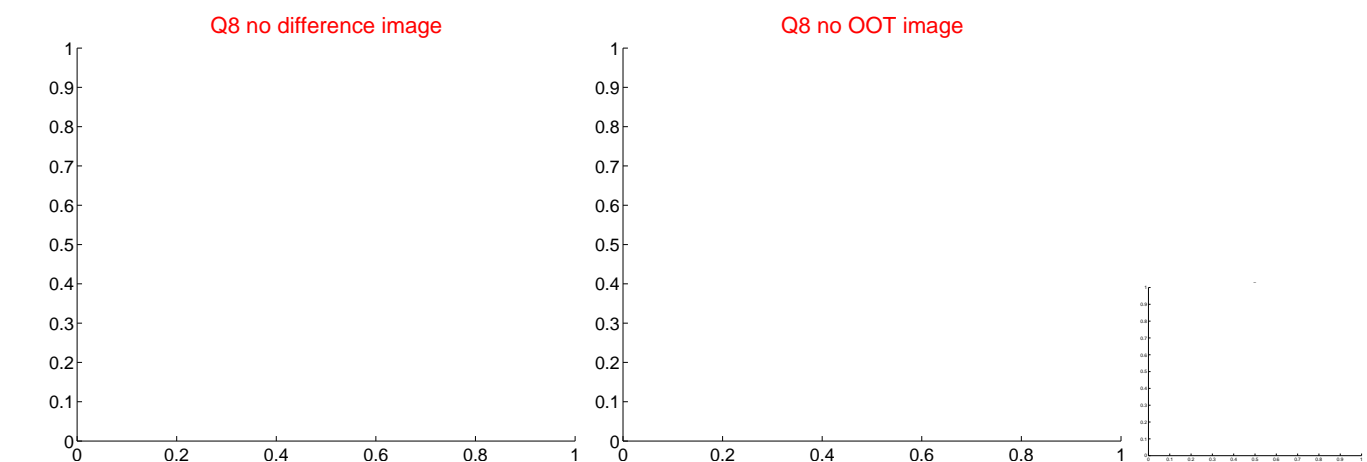
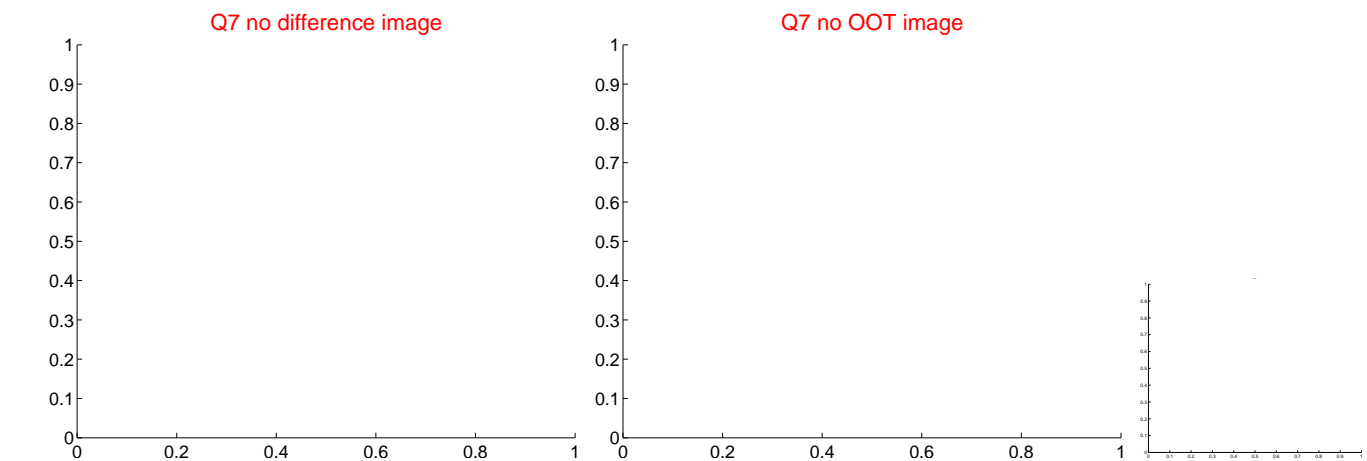
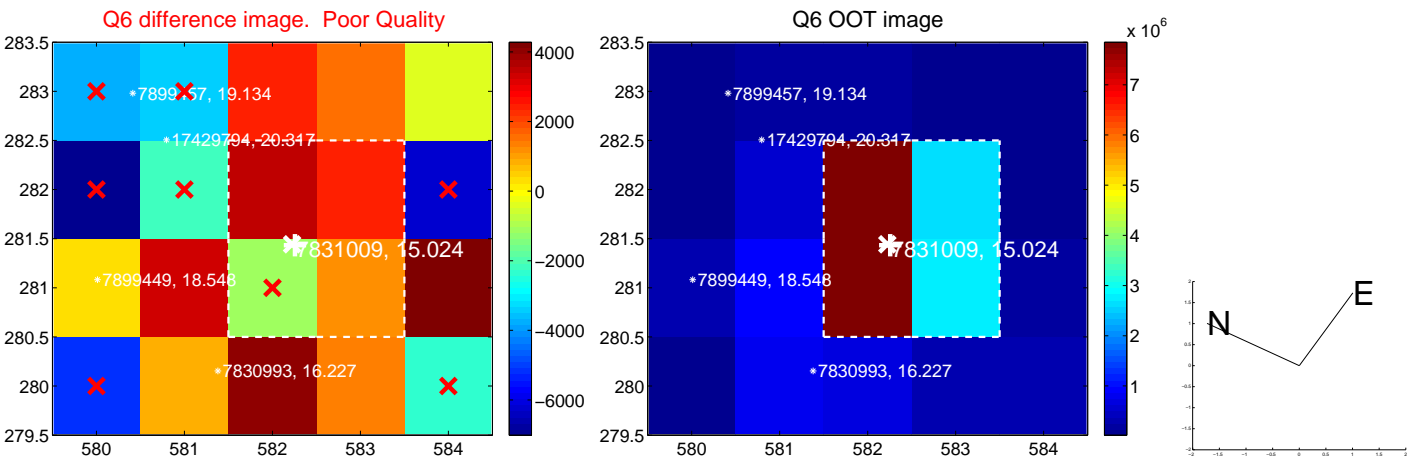
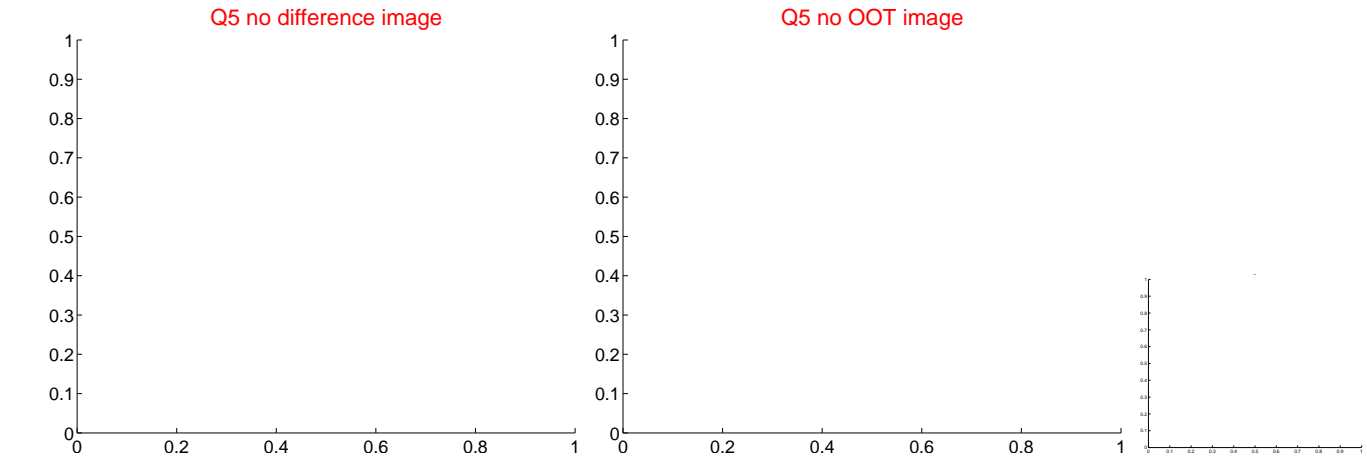


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

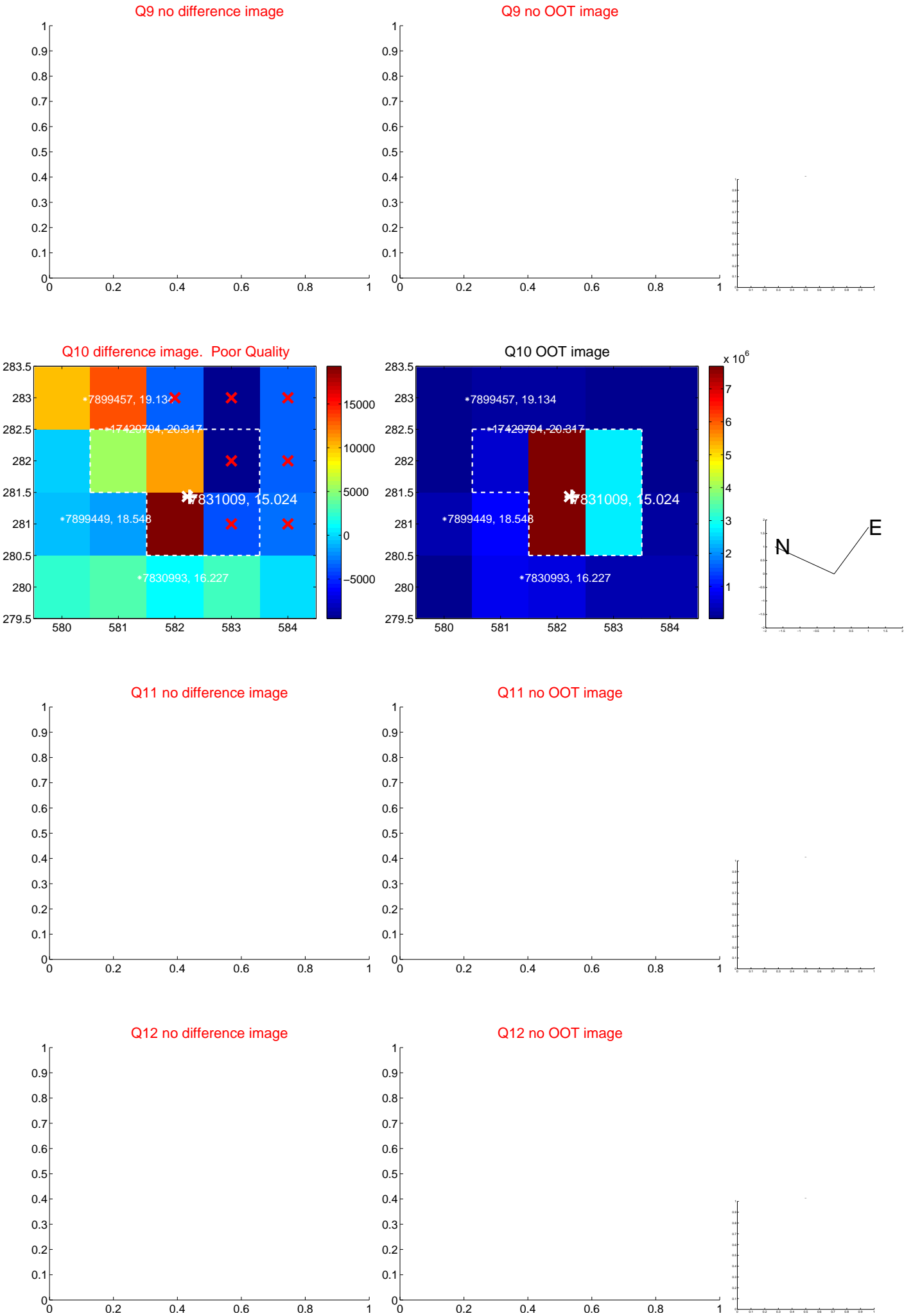
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



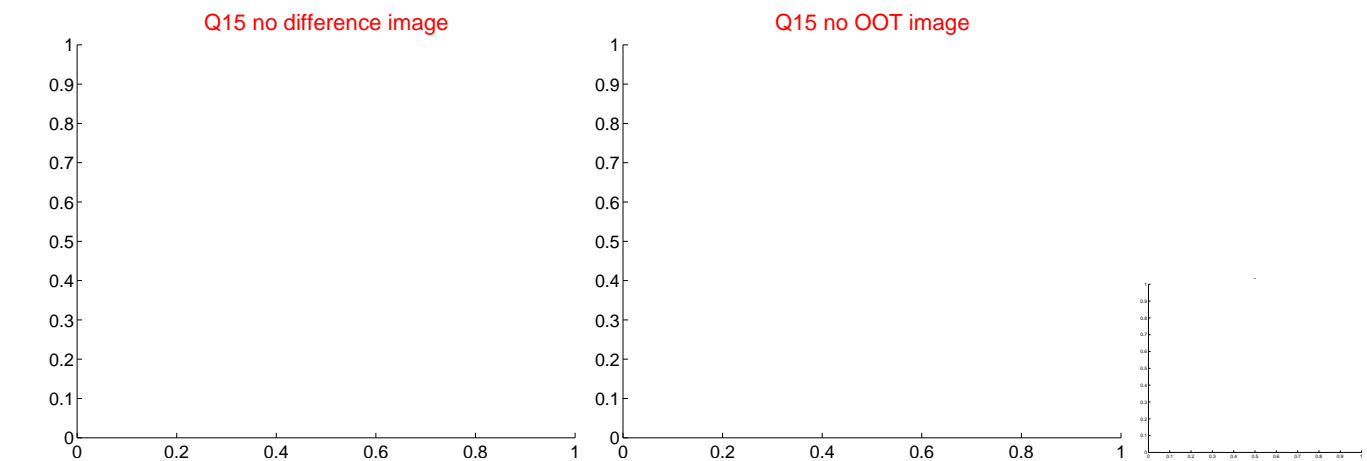
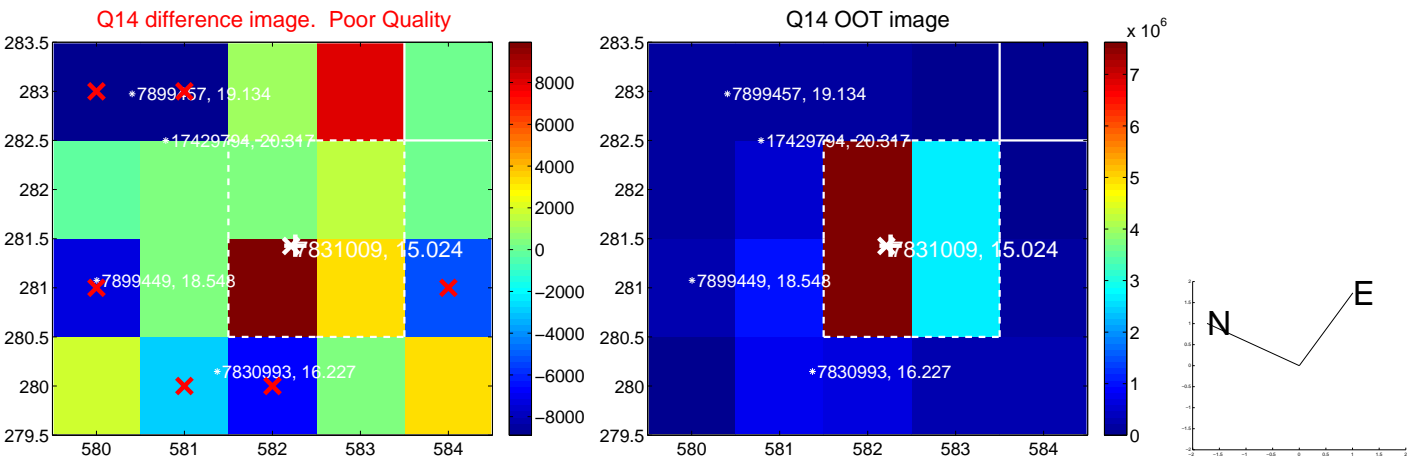
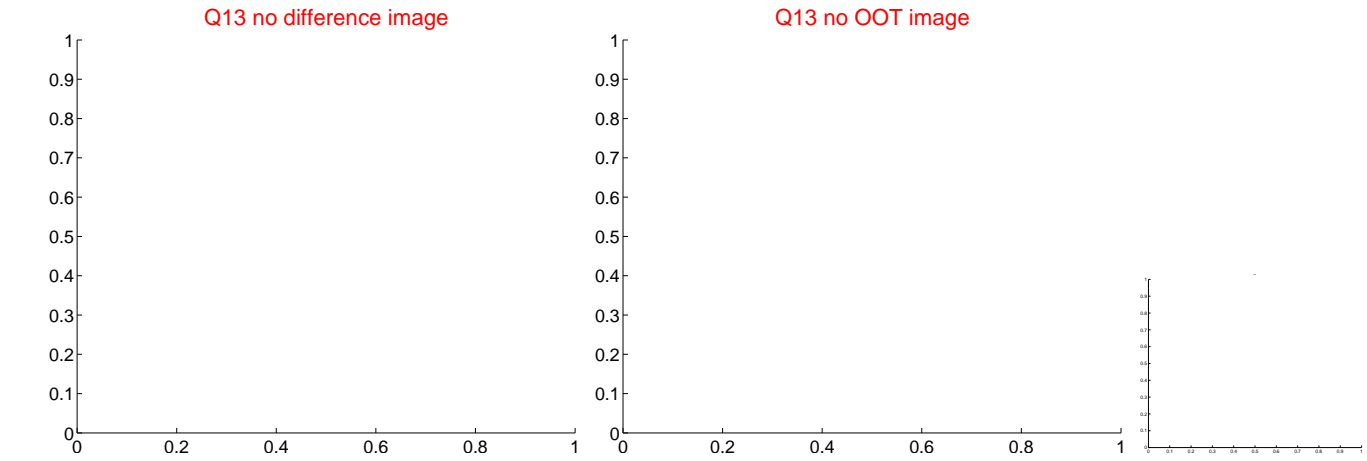
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



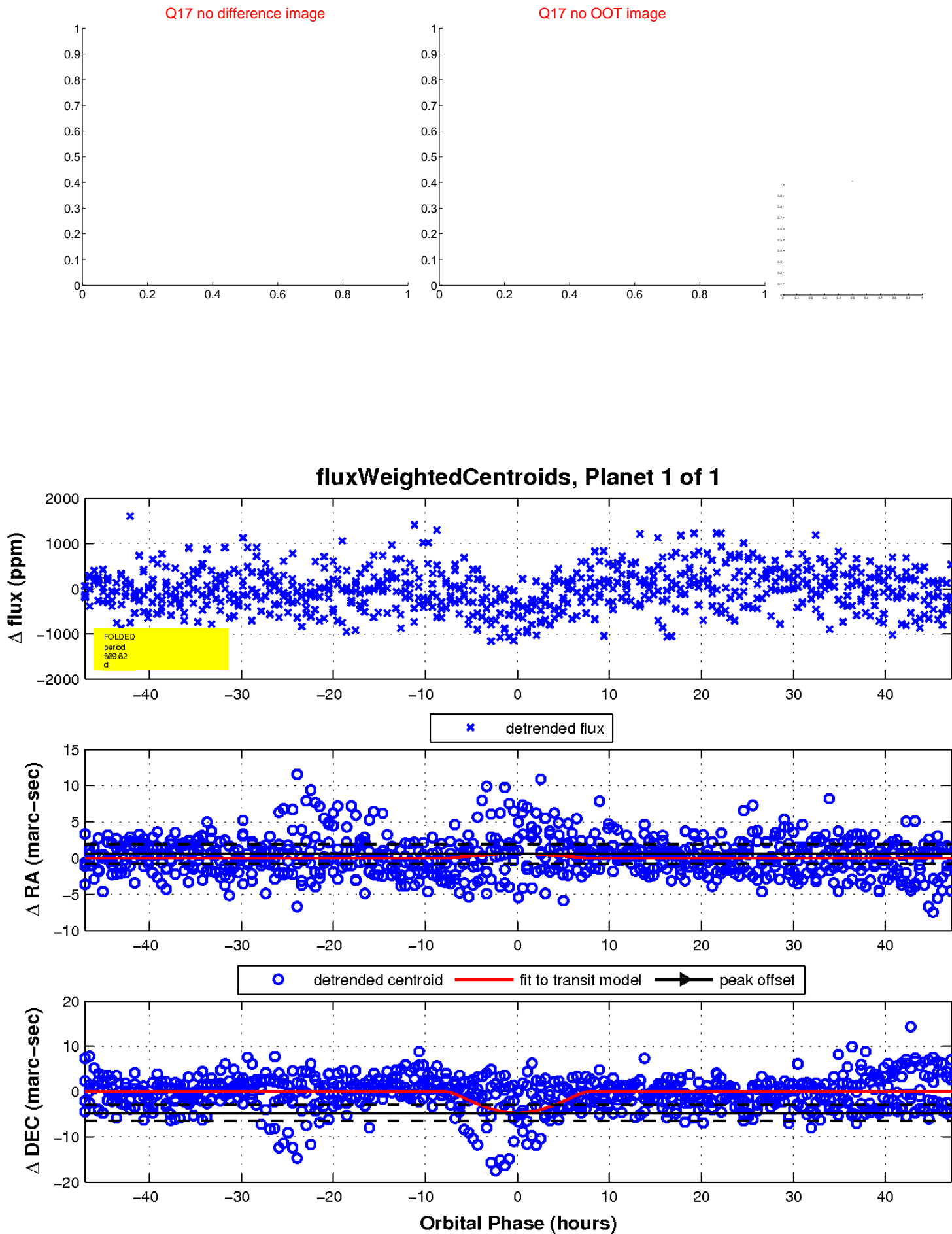
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

