

KIC 010861170

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})
010861170-01	OBS	No	435.687027	517.094191	548.4	6.933	9.0	5.3	0.95	6102	2.60	0.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010861170-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—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.

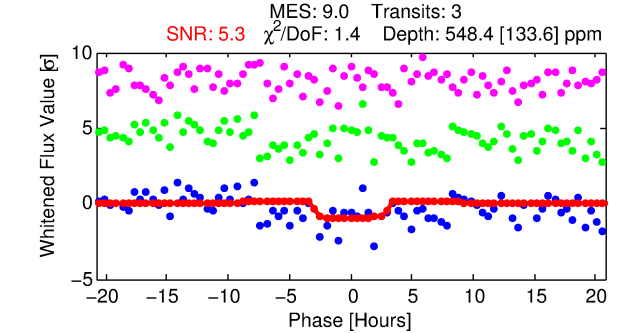
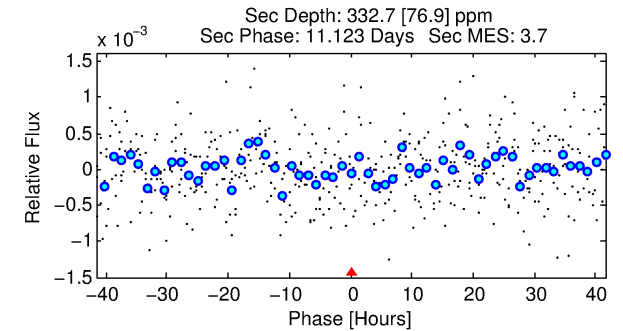
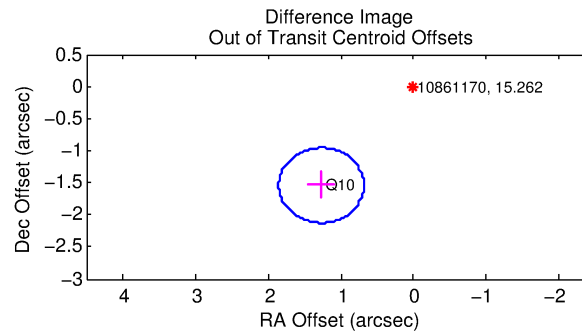
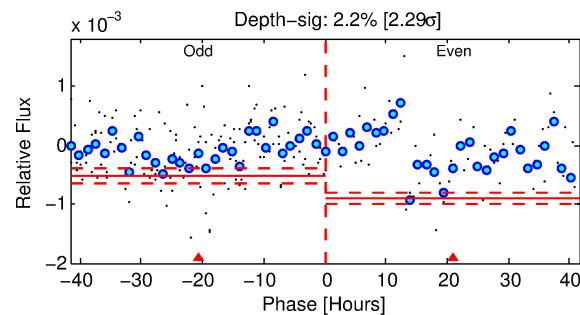
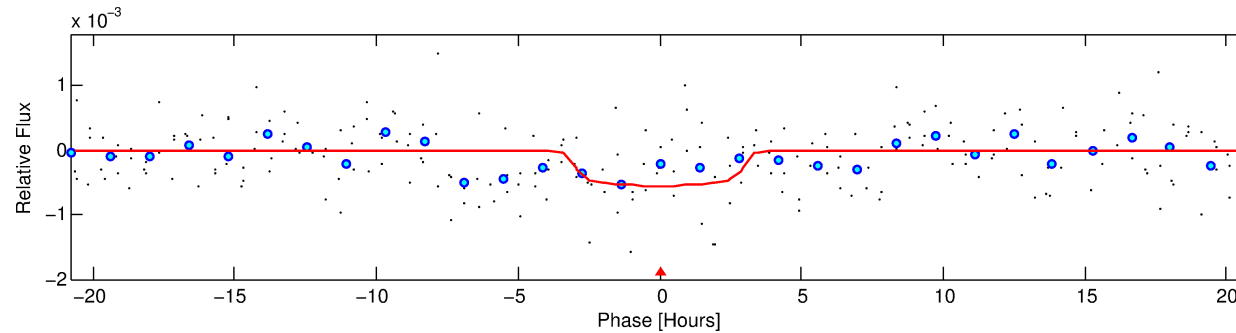
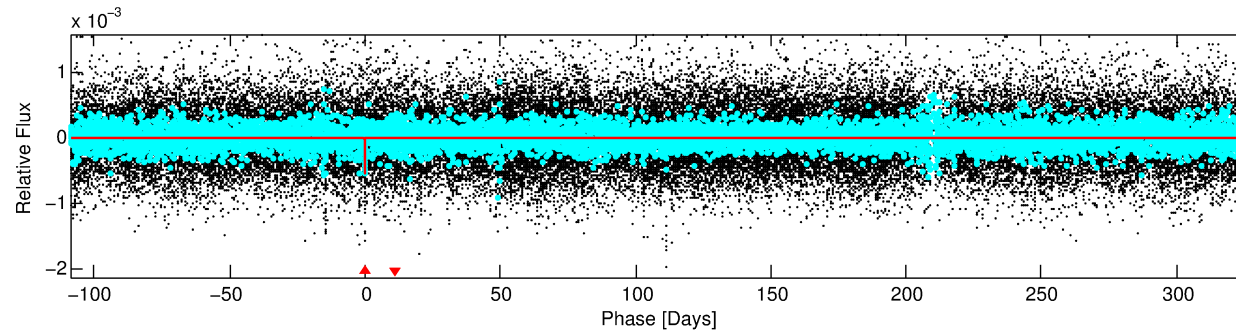
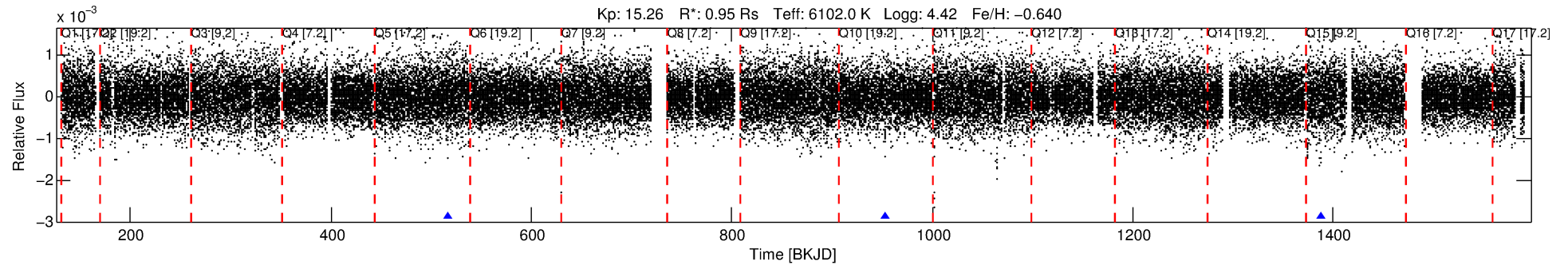
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010861170-01

No Significant Match Found

DV One-Page Summary

KIC: 10861170 Candidate: 1 of 1 Period: 435.687 d



DV Fit Results:

Period = 435.68703 [0.01965] d
Epoch = 517.0942 [0.0244] BKJD
Rp/R* = 0.0251 [0.0077]
a/R* = 236.03 [354.31]
b = 0.90 [0.32]
Seff = 0.98 [0.35]
Teq = 253 [23] K
Rp = 2.60 [1.03] Re
a = 1.0683 [0.2357] AU
Ag = 30972.90 [22782.36] [1.36 σ]
Teff = 5198 [870] K [5.68 σ]

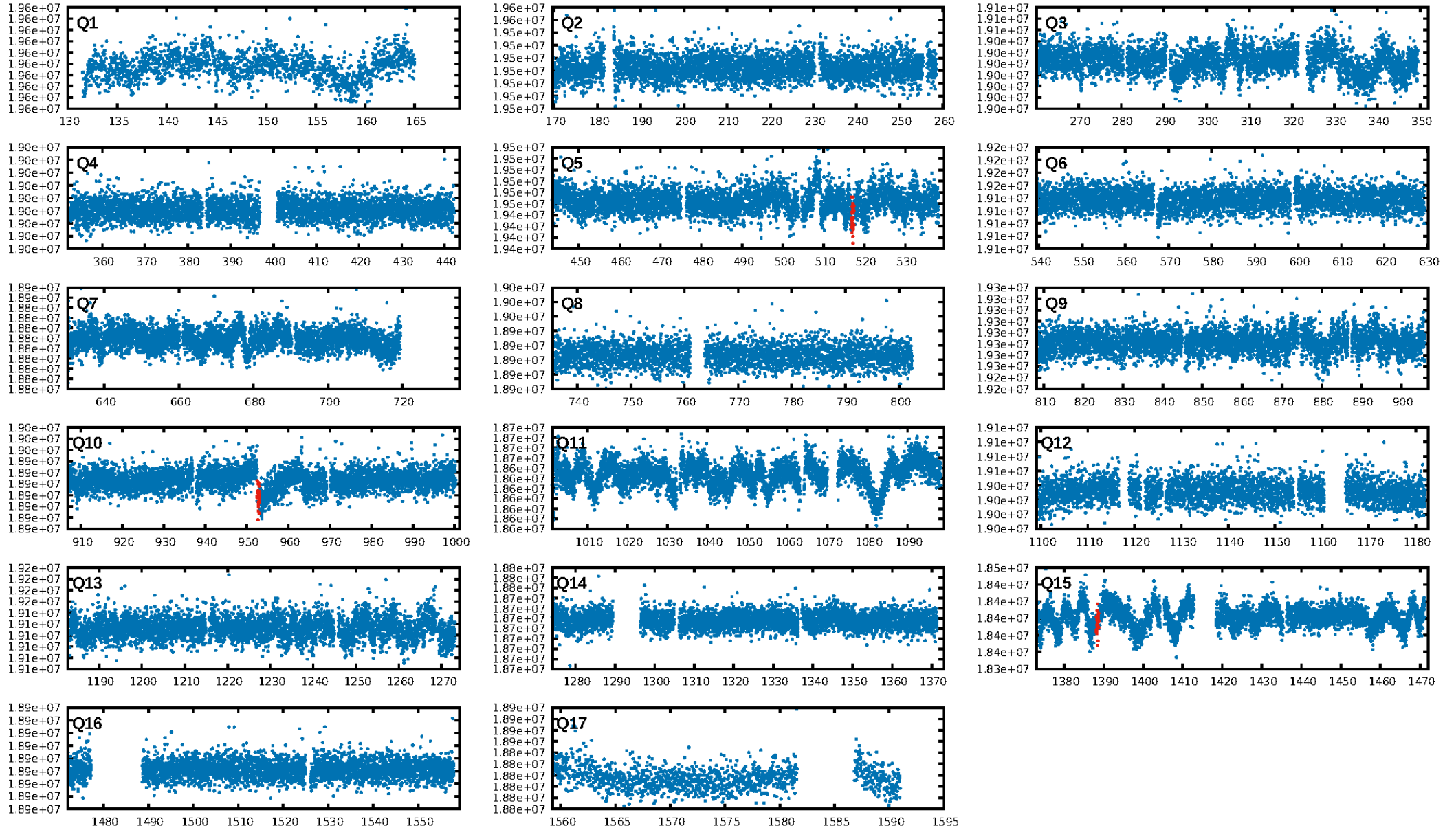
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.1%
ModelChiSquareGof-sig: 39.3%
Bootstrap-pfa: 2.67e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.3753
Centroid-sig: 14.8%
Centroid-so: 3.913 arcsec [1.48 σ]
OotOffset-rm: 1.996 arcsec [10.23 σ]
KicOffset-rm: 2.068 arcsec [10.61 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

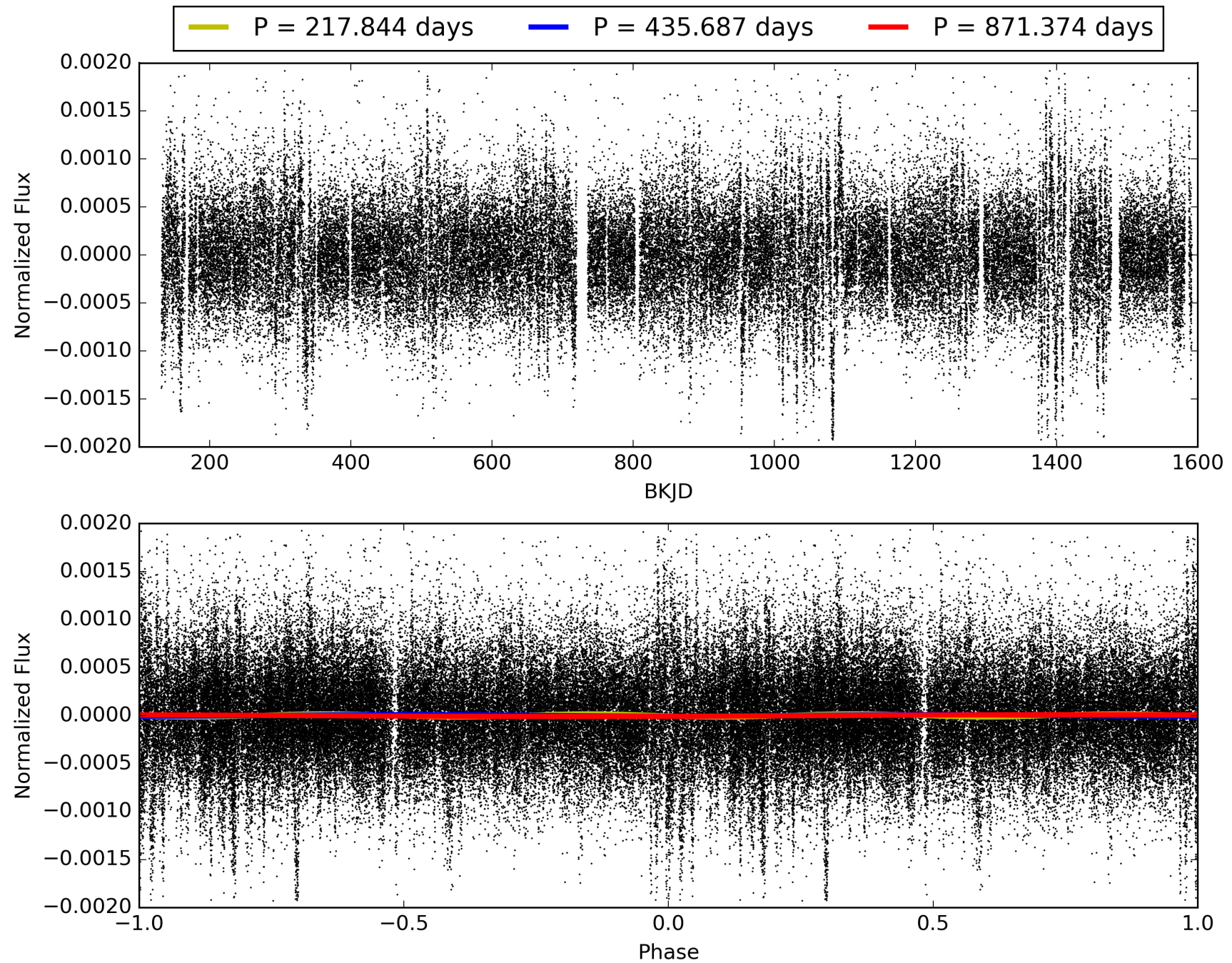
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:24:36 Z

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

TCE 010861170-01, PDC Light Curves

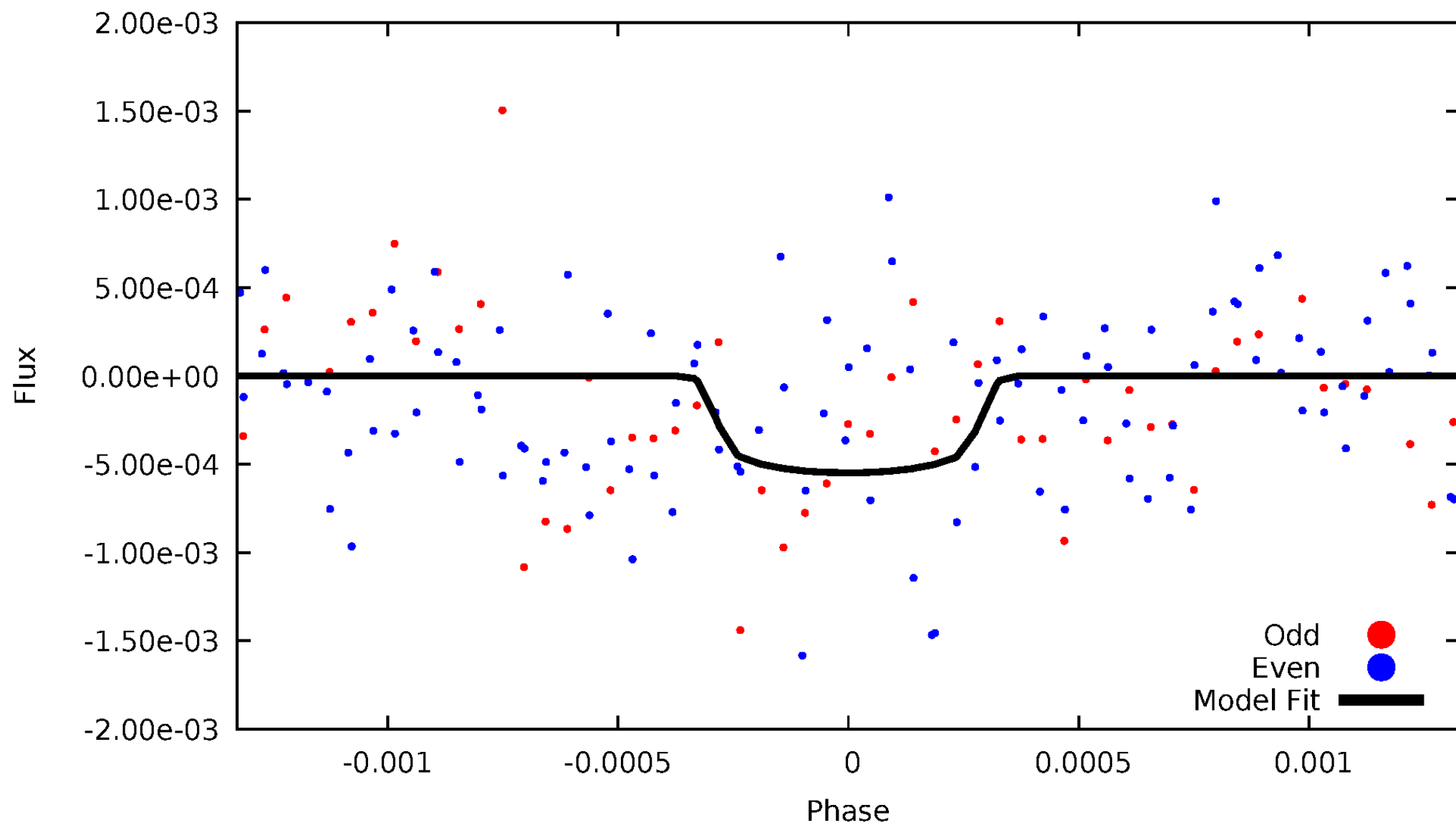


TCE 010861170-01



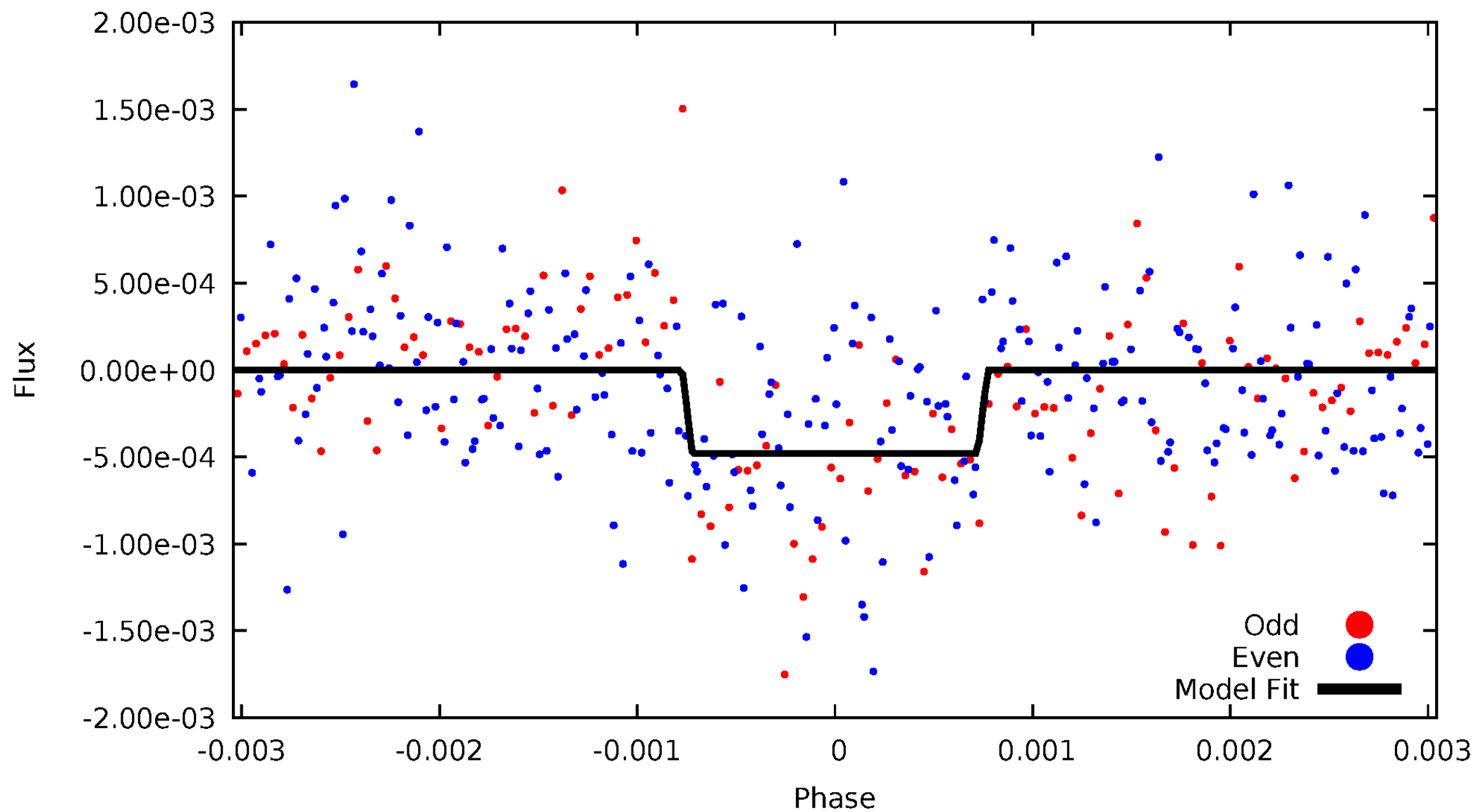
DV Odd/Even

TCE 010861170-01



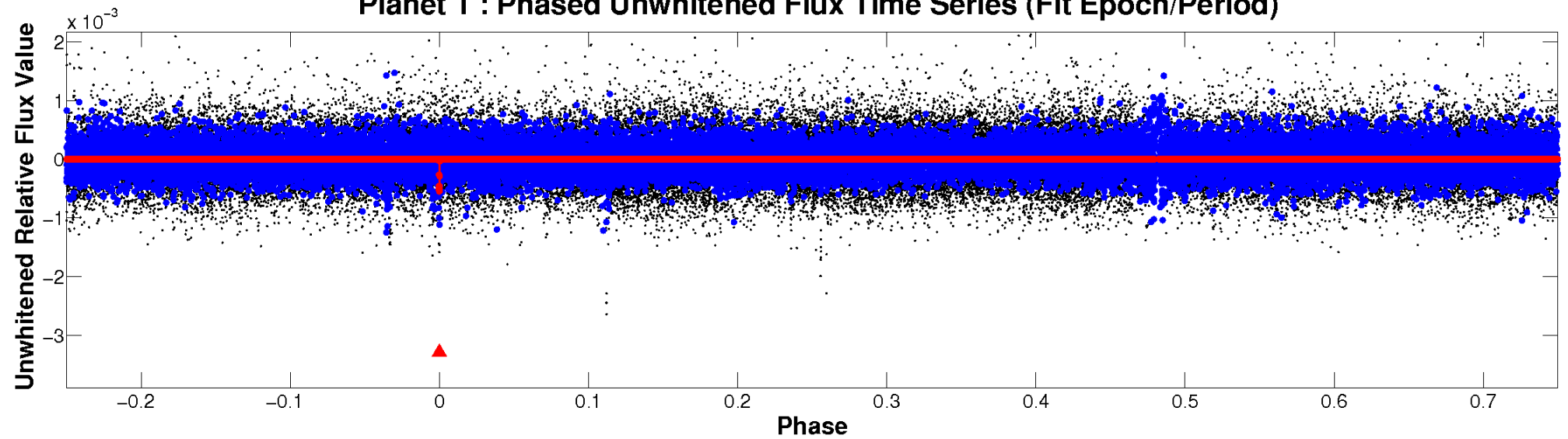
ALT Odd/Even

TCE 010861170-01

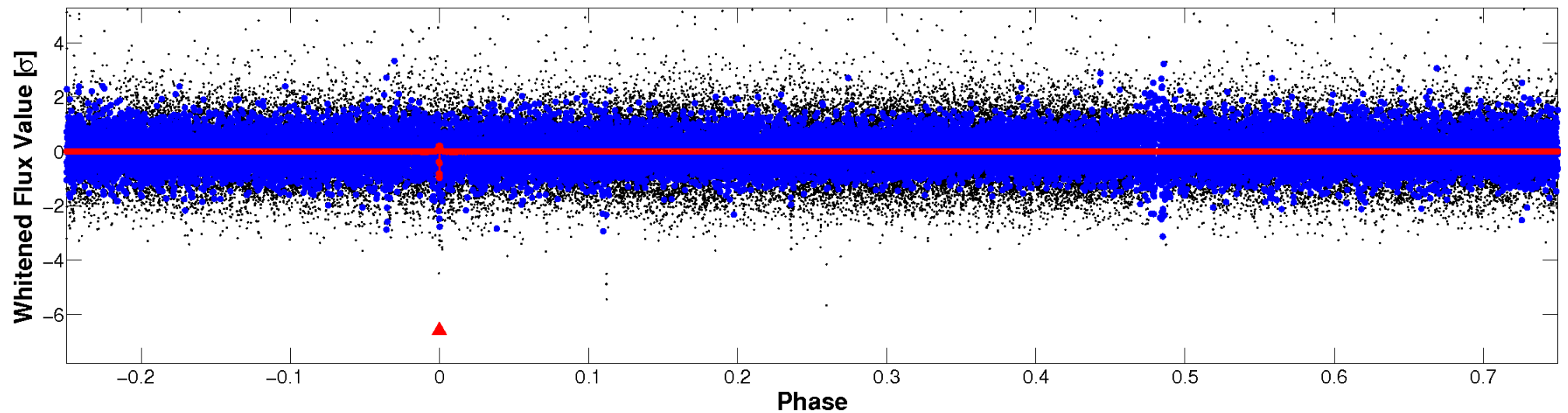


Non-Whitened Vs. Whitened Light Curve

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

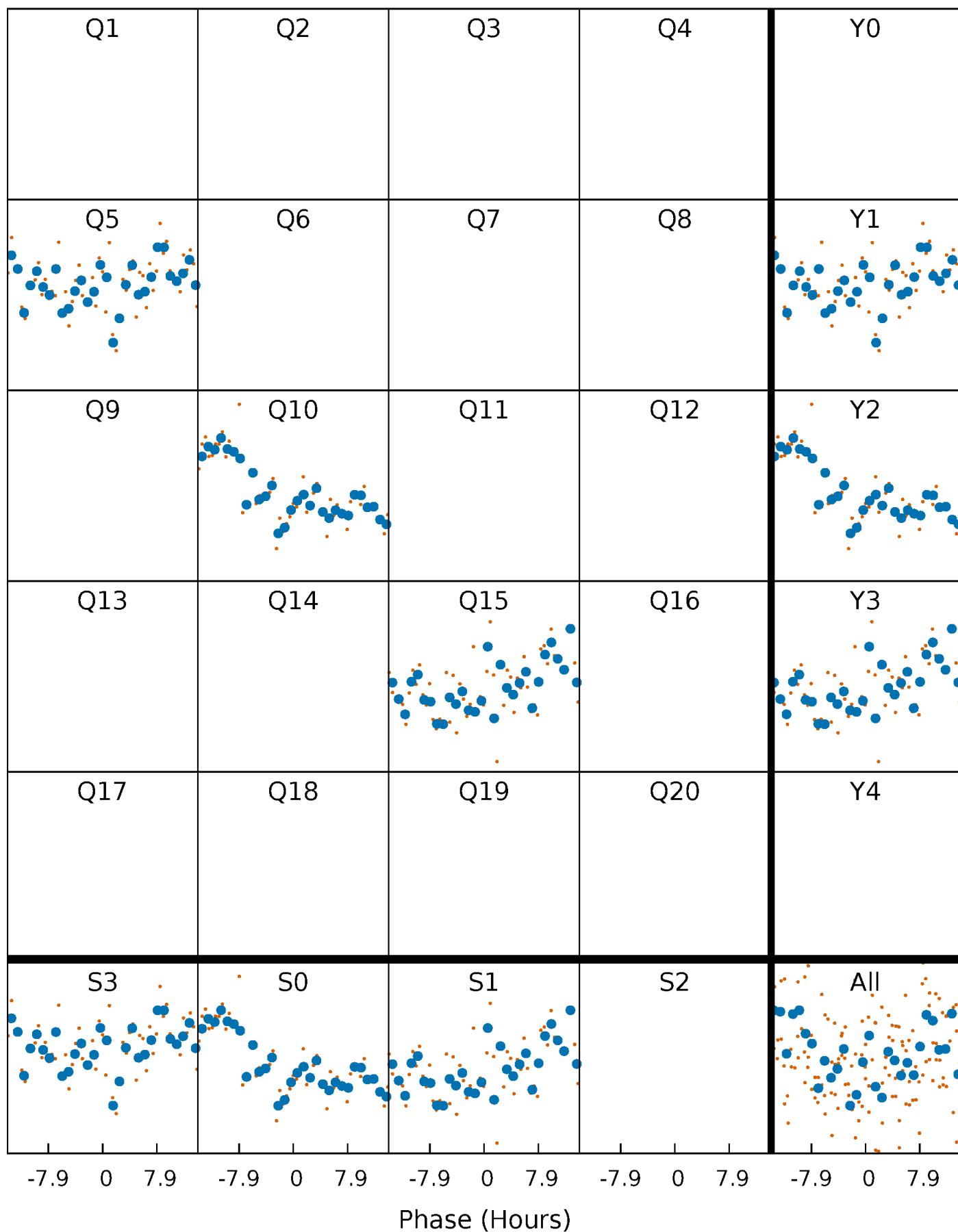


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



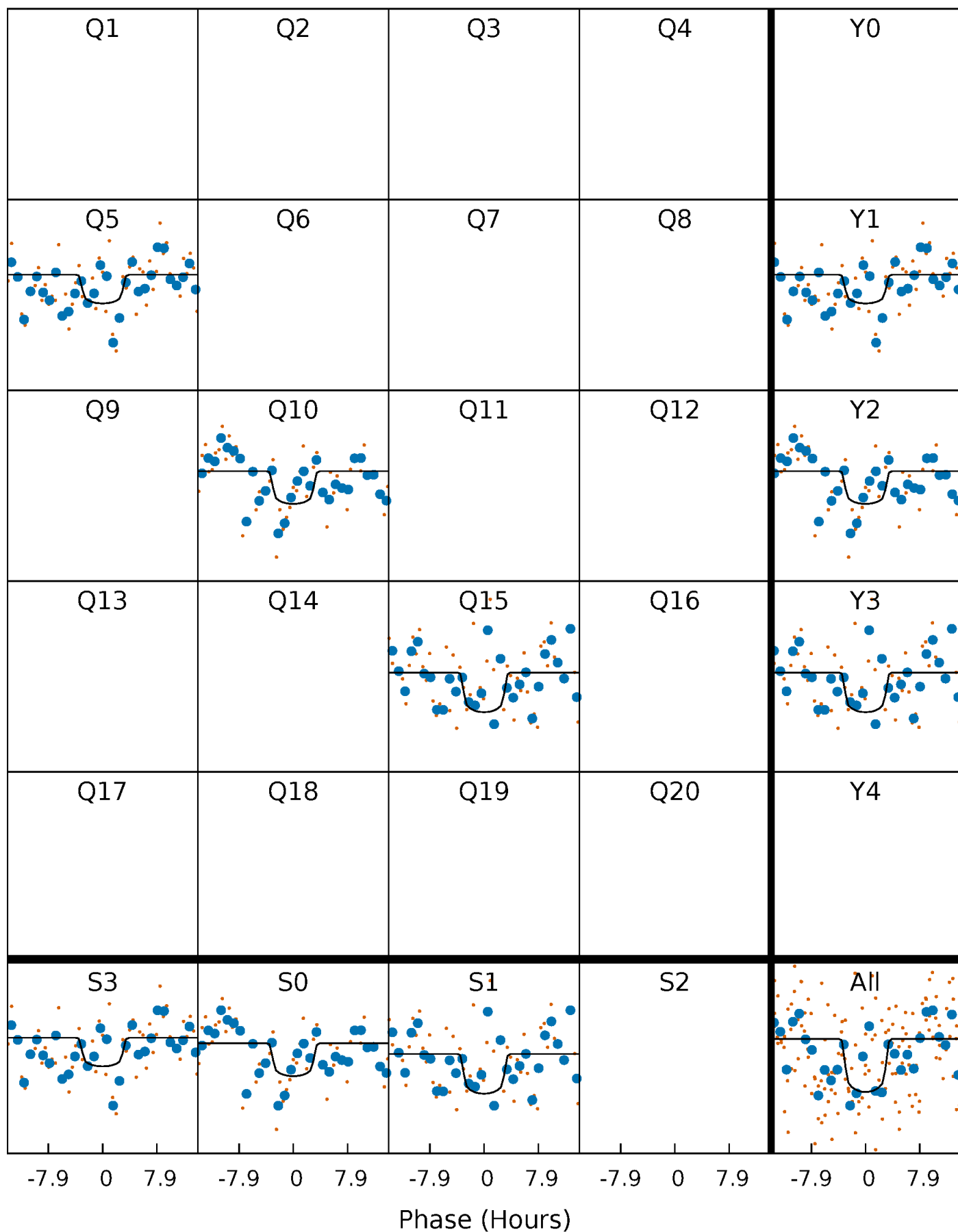
PDC Quarter-Phased Transit Curves

TCE 010861170-01 P=435.687027 Days $T_0=517.094191$ (BKJD)



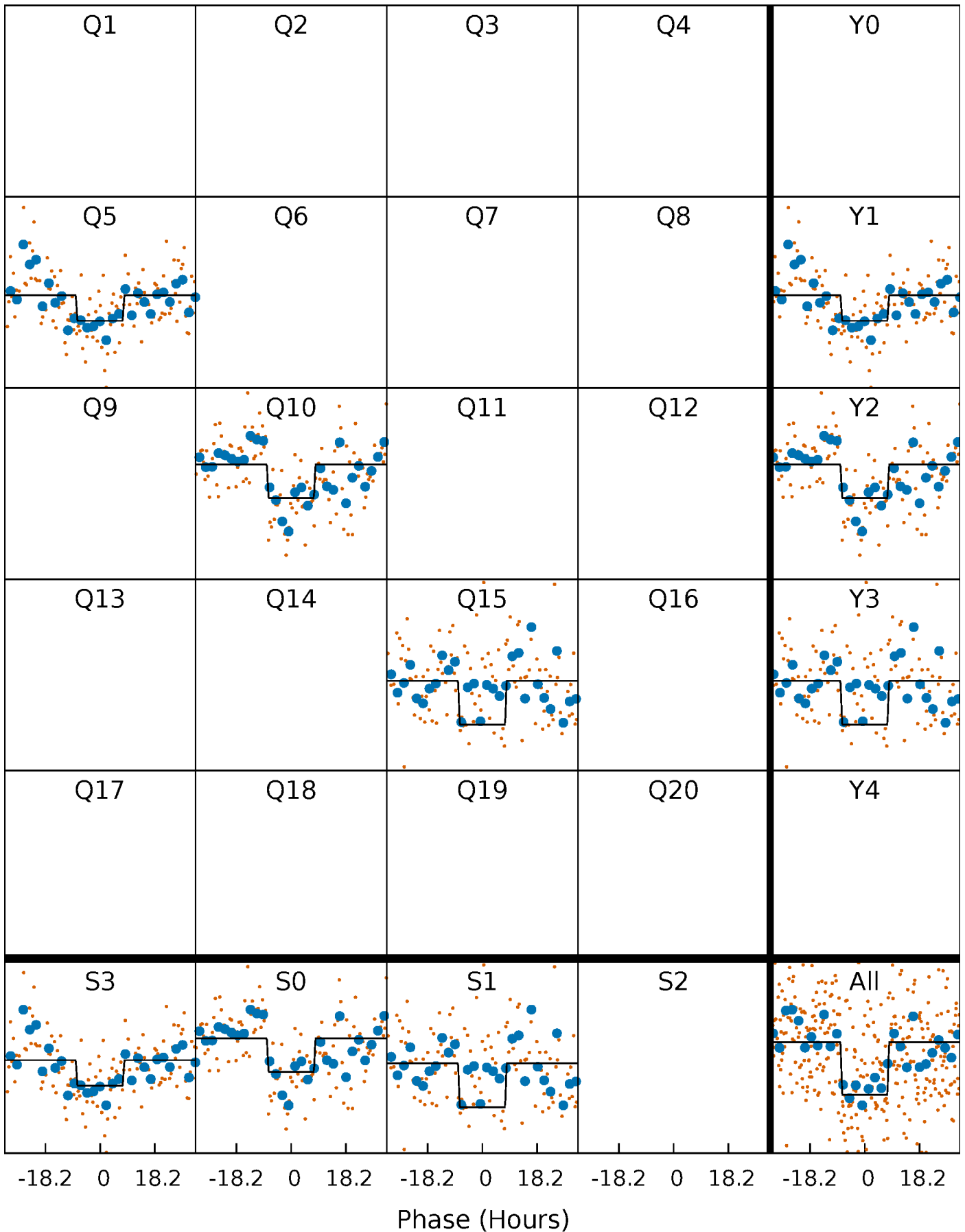
DV Quarter-Phased Transit Curves

TCE 010861170-01 P=435.687027 Days $T_0=517.094191$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

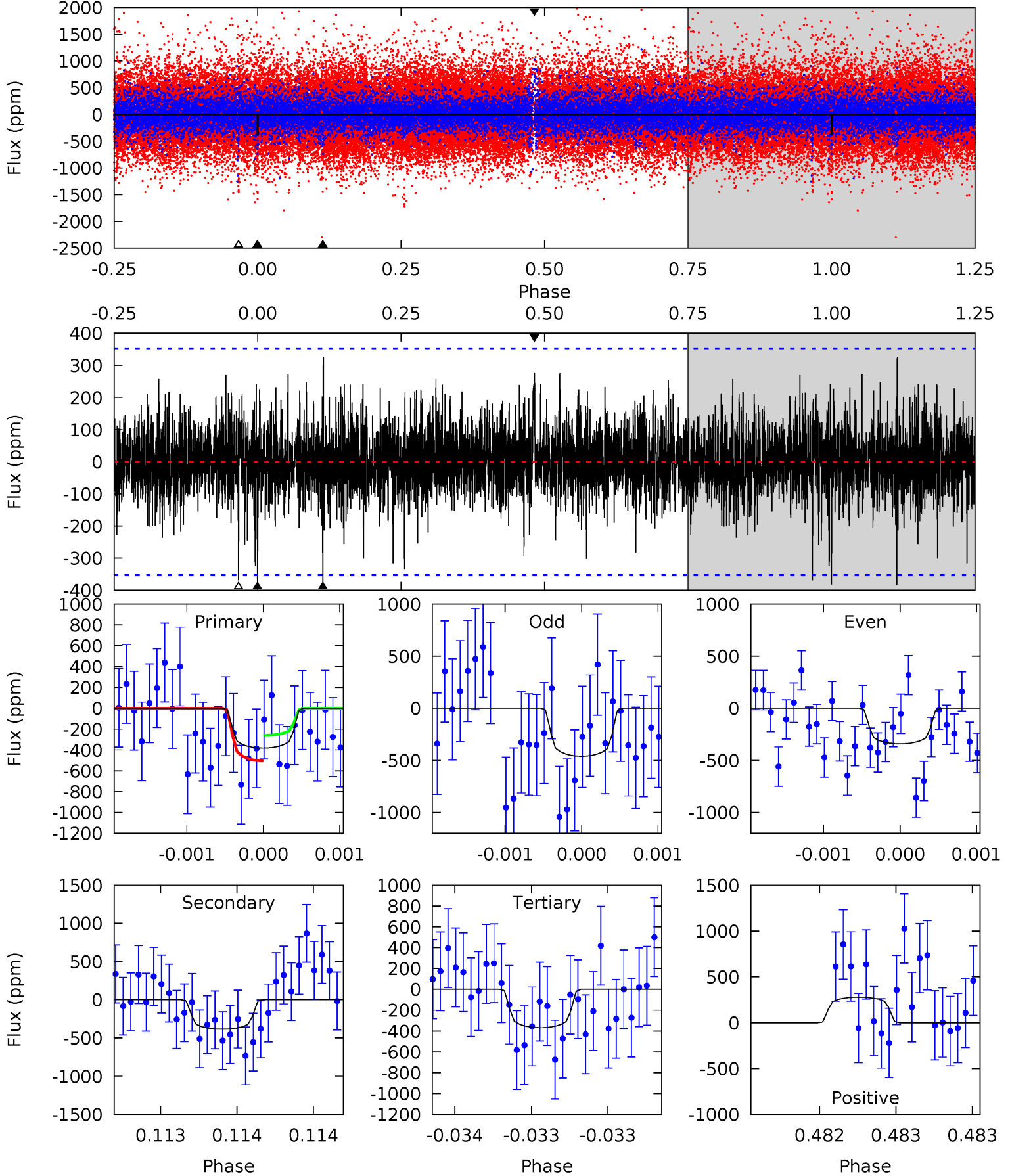
TCE 010861170-01 P=435.697989 Days $T_0=517.091537$ (BKJD)



DV Model-Shift Uniqueness Test

010861170-01, $P = 435.687027$ Days, $E = 81.407164$ Days

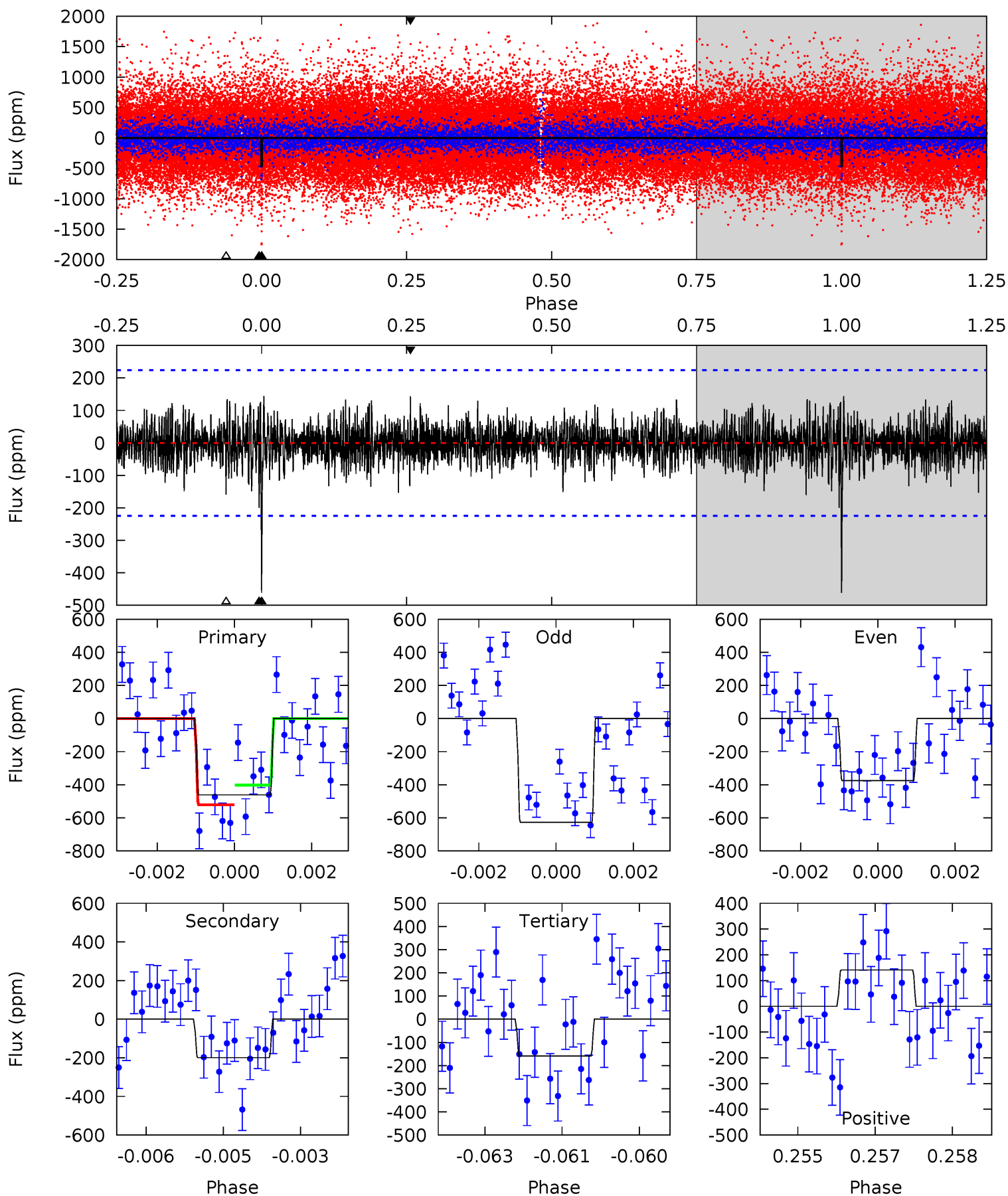
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.97	6.01	5.76	4.34	5.52	3.39	1.22	0.21	1.63	0.25	1.67	0.88	0.87	0.46	1.92



Alt Model-Shift Uniqueness Test

010861170-01, $P = 435.697989$ Days, $E = 81.393548$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	4.78	3.80	3.39	5.38	3.17	1.00	7.26	7.68	0.98	1.39	2.85	0.82	0.24	1.43



Stellar Parameters For KIC 010861170

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6102^{+164}_{-200}	$4.418^{+0.124}_{-0.186}$	$-0.640^{+0.300}_{-0.300}$	$0.947^{+0.239}_{-0.140}$	$0.856^{+0.099}_{-0.072}$	$1.419^{+0.757}_{-0.668}$
	+3%/-3%	+3%/-4%	+47%/-47%	+25%/-15%	+12%/-8%	+53%/-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 010861170-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-385 ± 64	$2.67^{+0.81}_{-0.87}$	354^{+26}_{-18}	5387^{+1211}_{-632}	34412^{+42447}_{-15338}
Alt.	-199 ± 42	$2.31^{+0.86}_{-0.85}$	355^{+24}_{-18}	4937^{+1274}_{-585}	23173^{+38278}_{-11389}

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

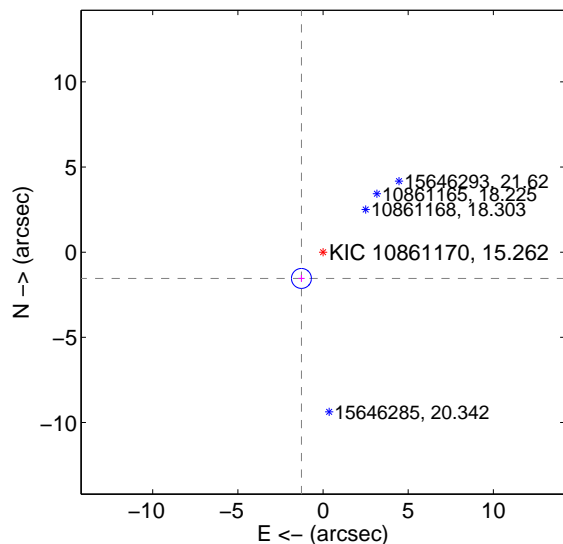
Supplemental centroid analysis for 010861170-01. Kepler magnitude: 15.26. Transit SNR 5.35

There are 1 quarters with good PRF difference image offsets

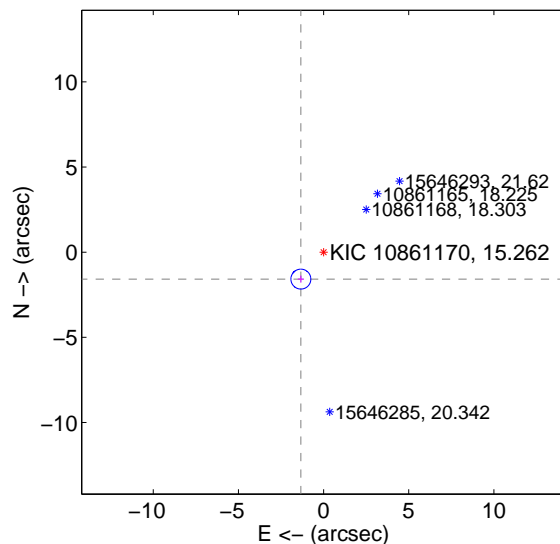
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.996 ± 0.195	10.23	1.268 ± 0.181	-1.541 ± 0.204
PRF-fit source offset from KIC position	2.068 ± 0.195	10.61	1.333 ± 0.181	-1.581 ± 0.204
photometric centroid source offset	3.91 ± 2.64	1.48	3.77 ± 2.64	1.06 ± 2.68

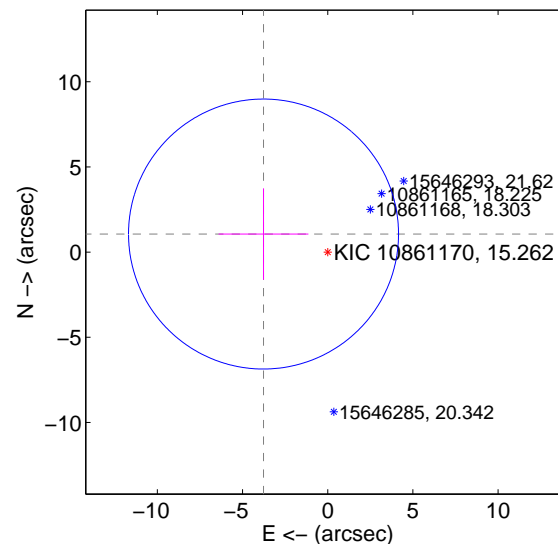
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

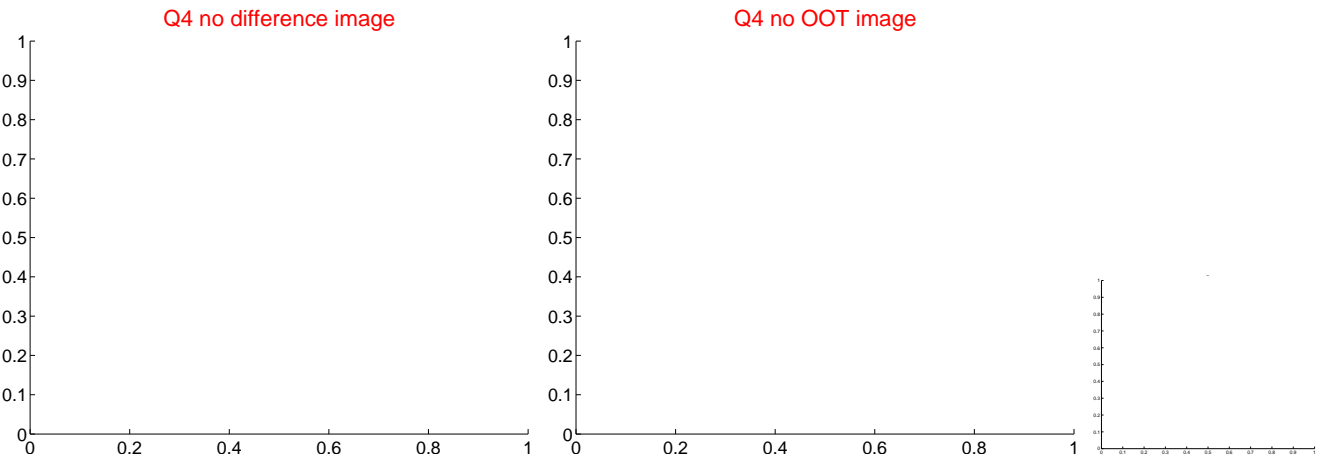
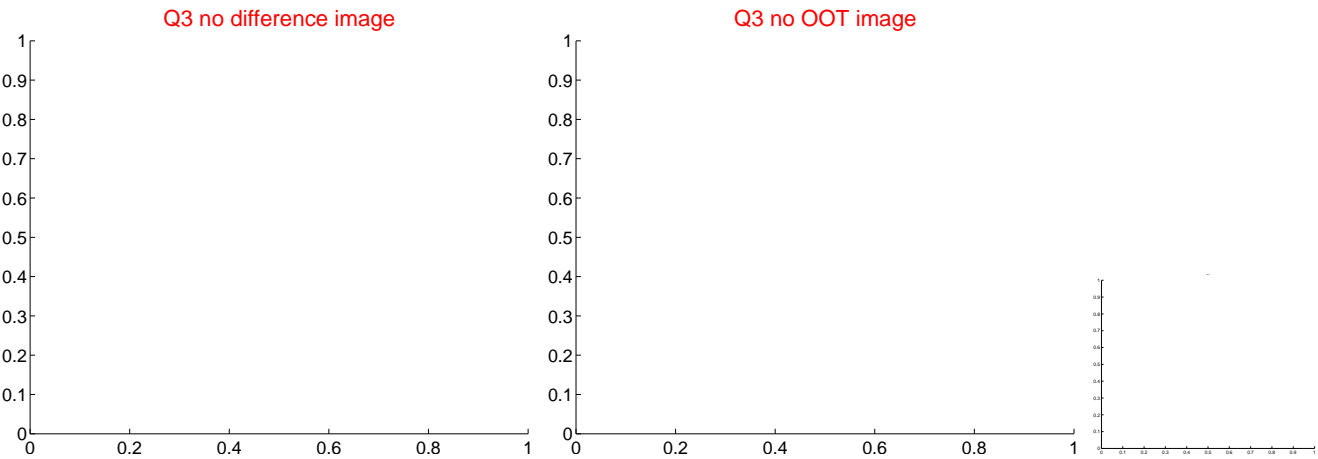
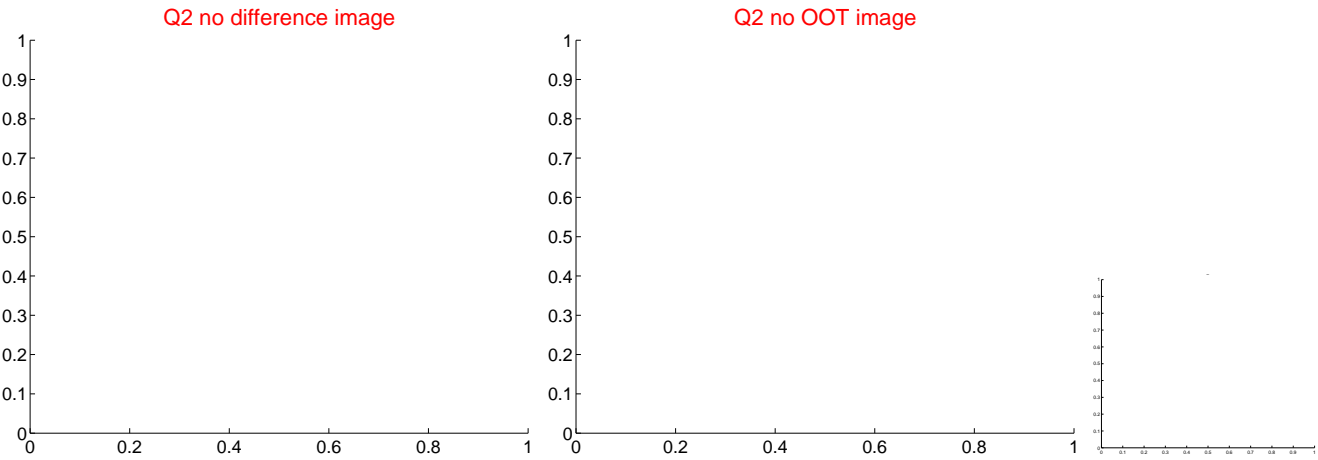
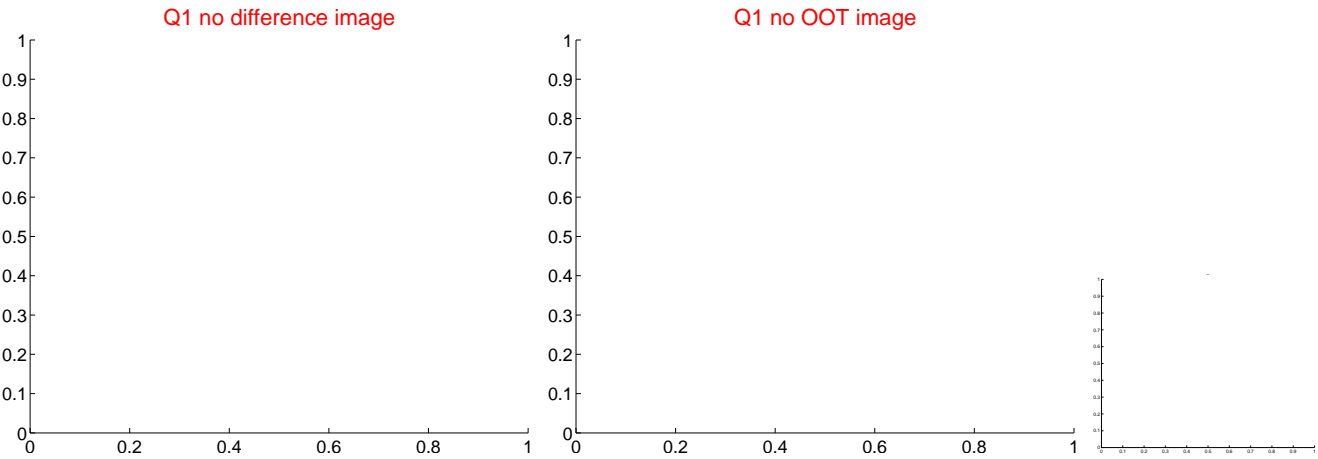


offset from photometric centroids

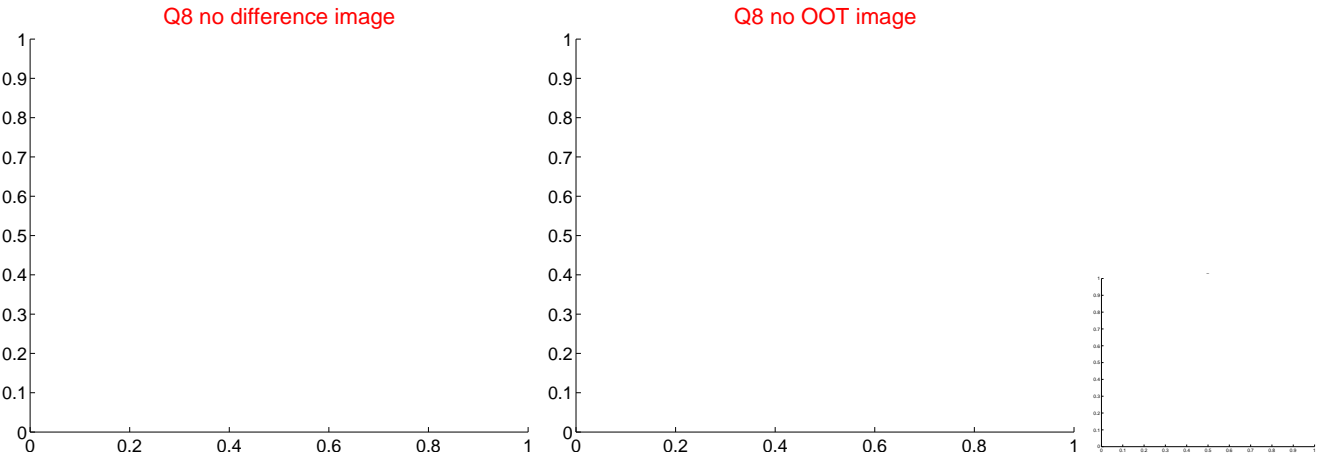
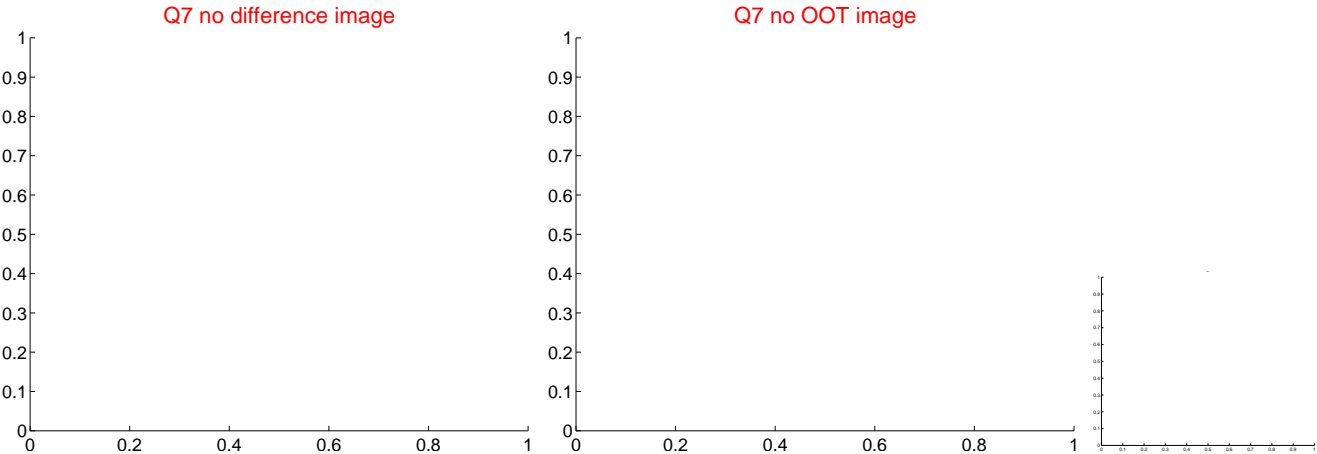
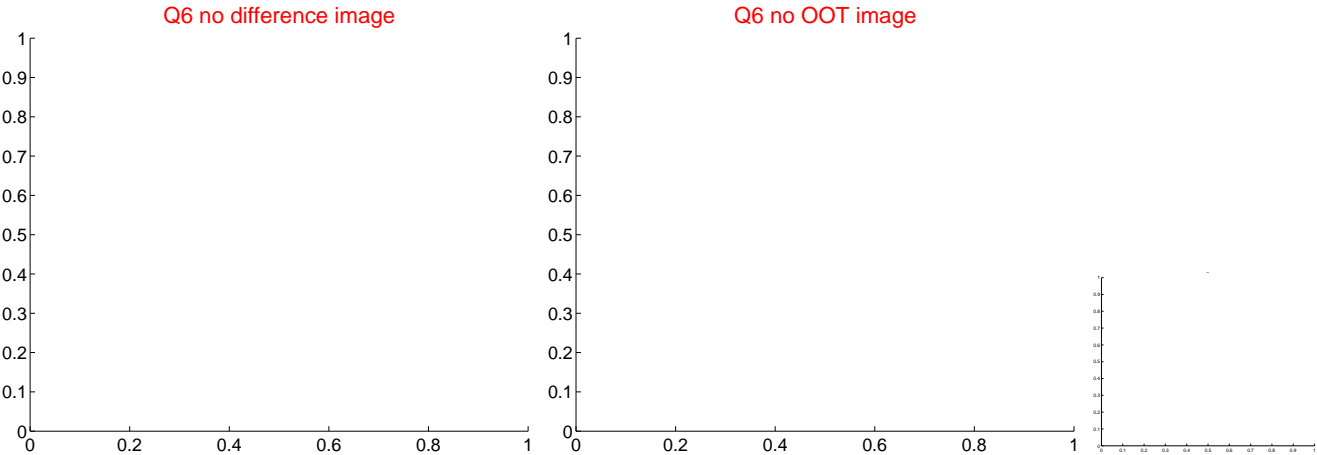
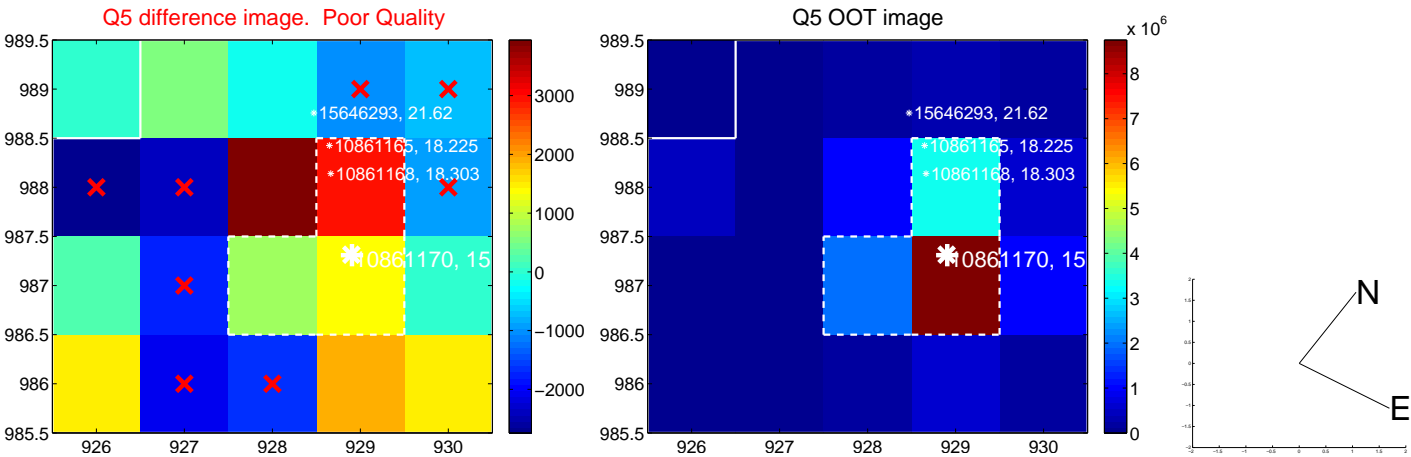


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

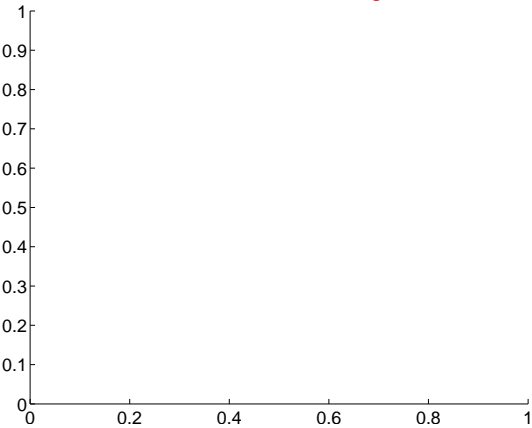


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

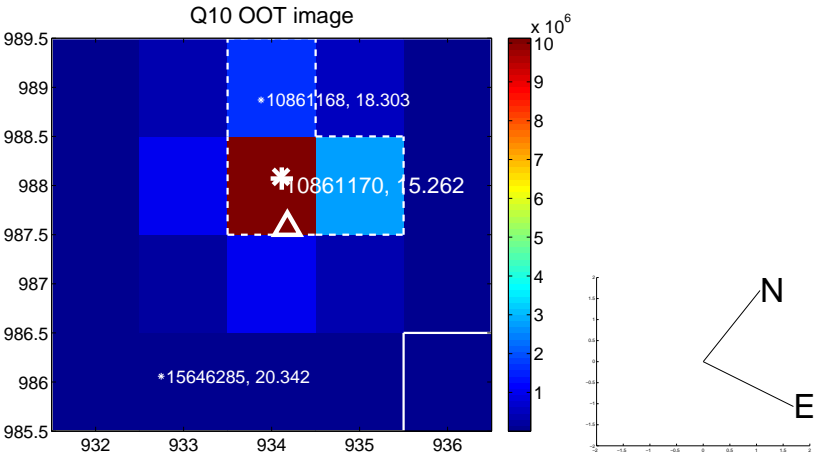
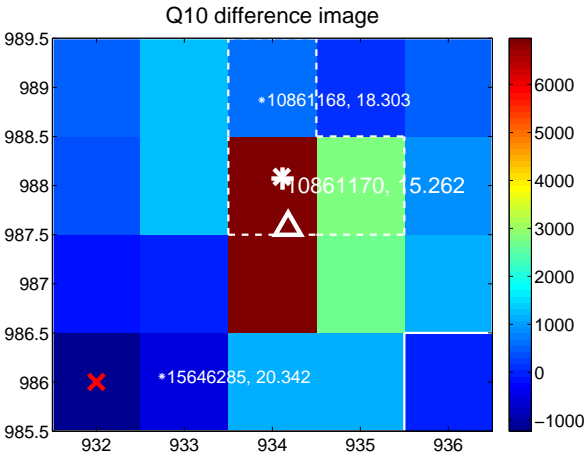
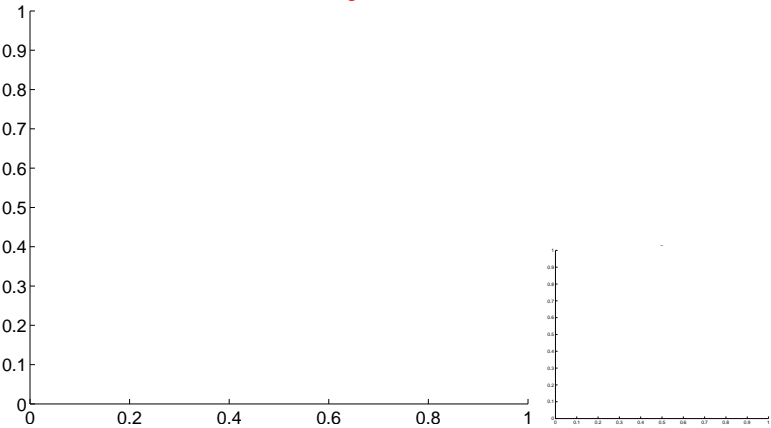


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

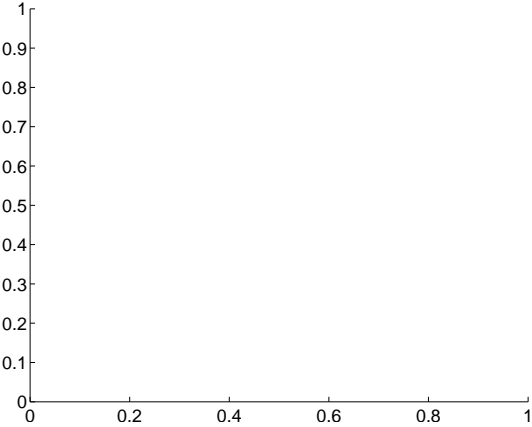
Q9 no difference image



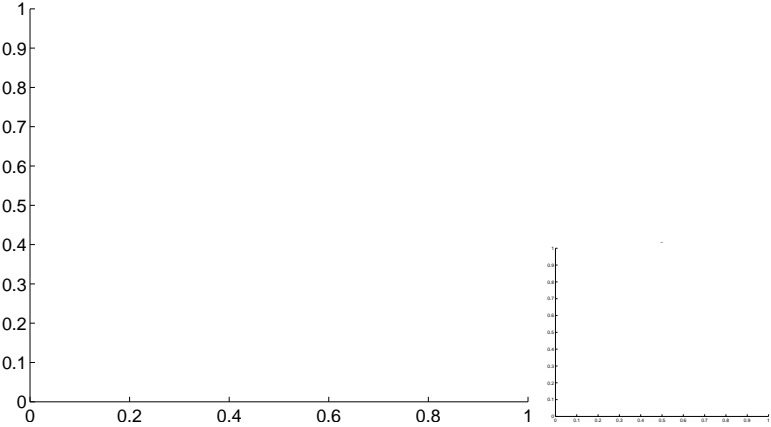
Q9 no OOT image



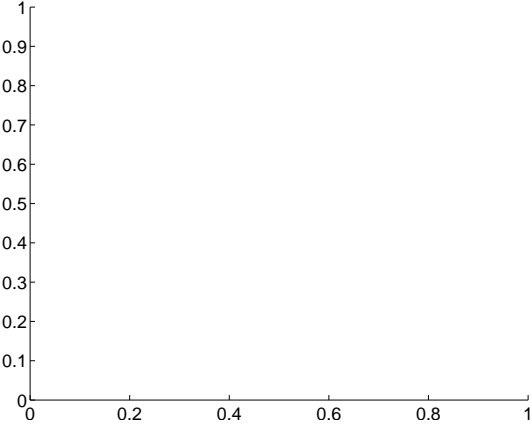
Q11 no difference image



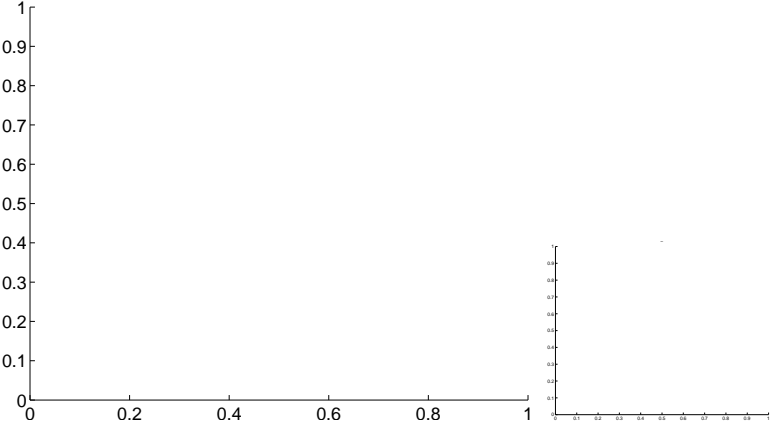
Q11 no OOT image



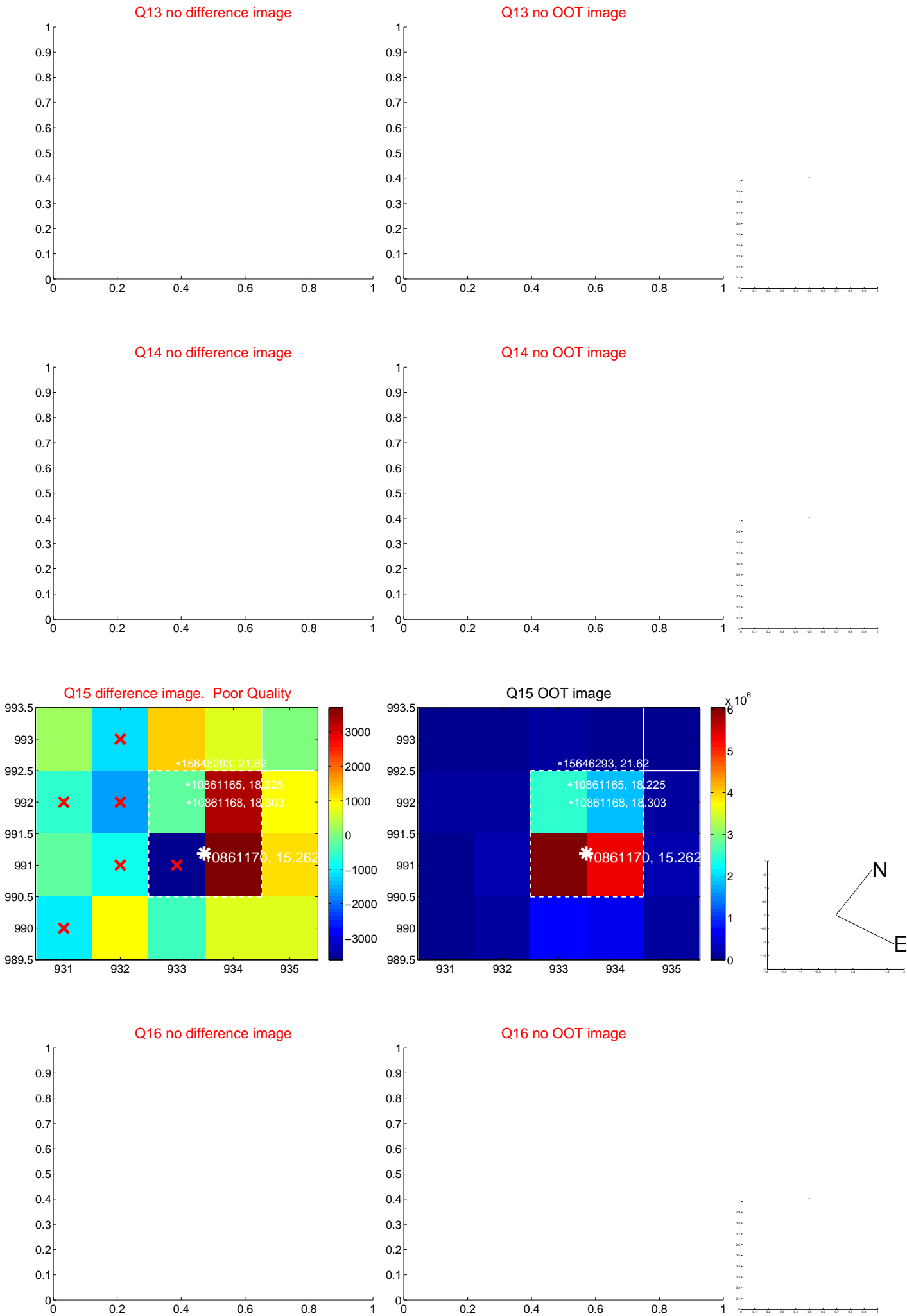
Q12 no difference image



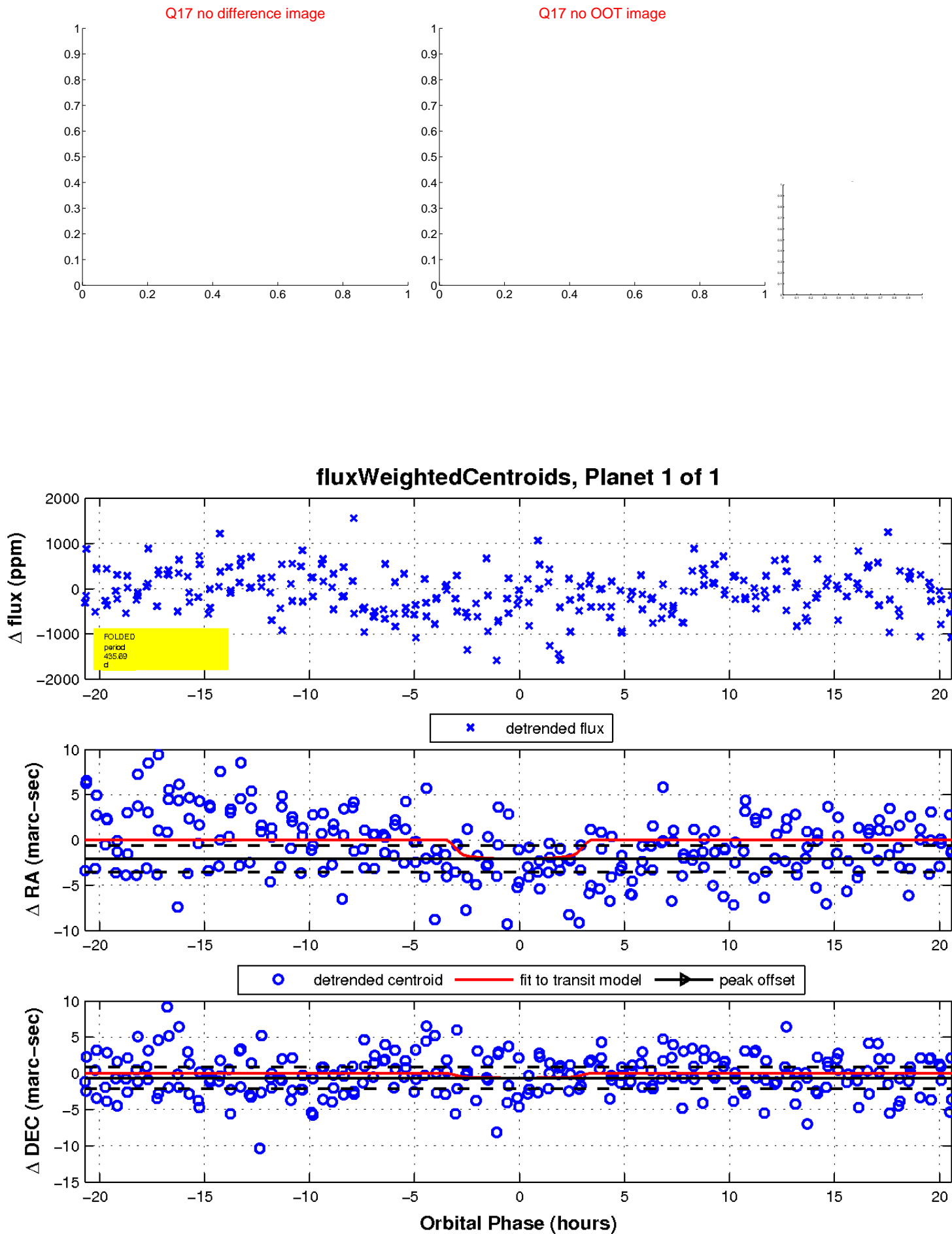
Q12 no OOT image



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

