

KIC 012737160

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})
012737160-01	OBS	No	433.985865	394.461005	160.2	16.858	7.5	7.5	1.31	5825	1.82	1.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012737160-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

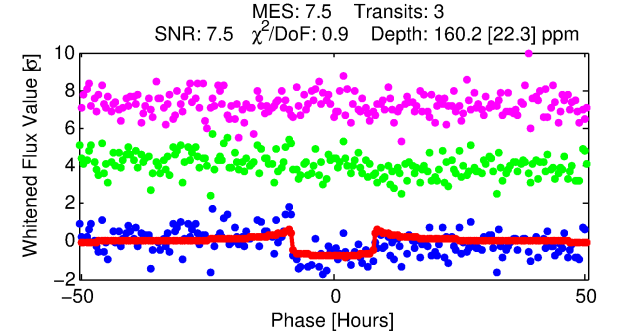
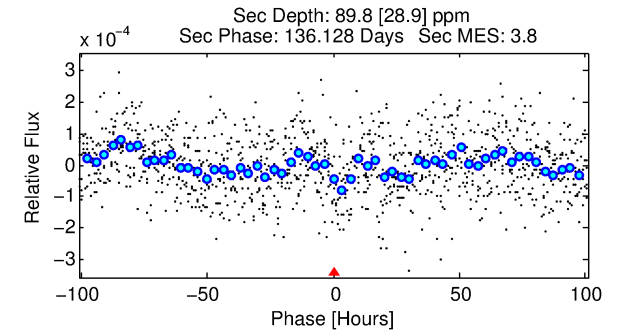
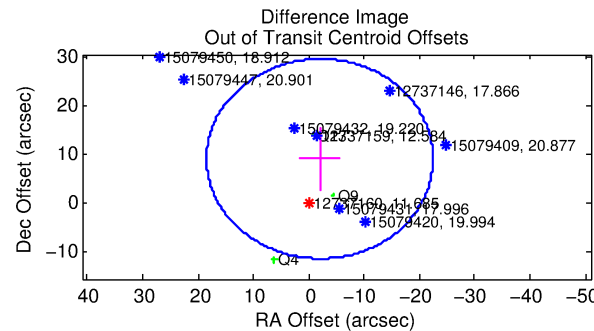
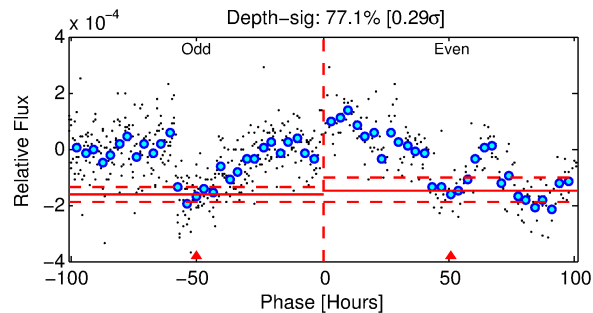
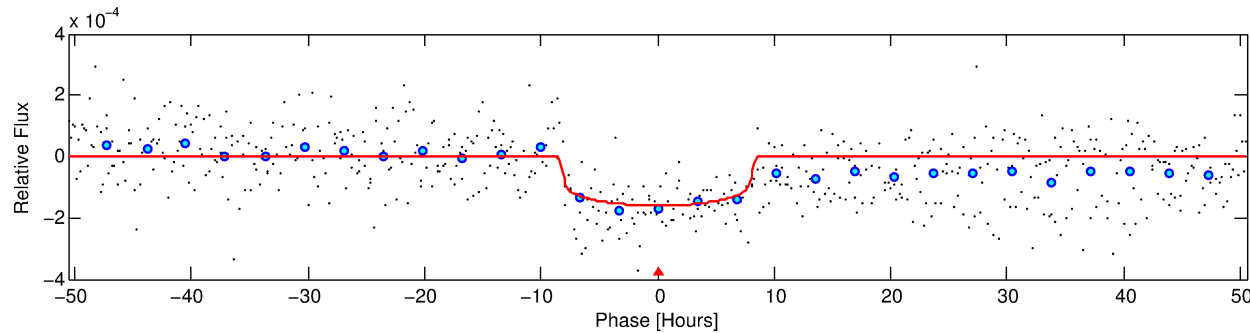
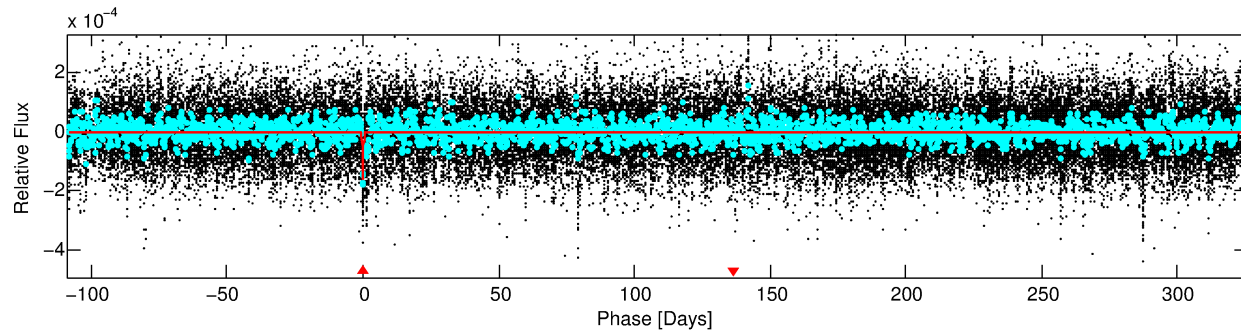
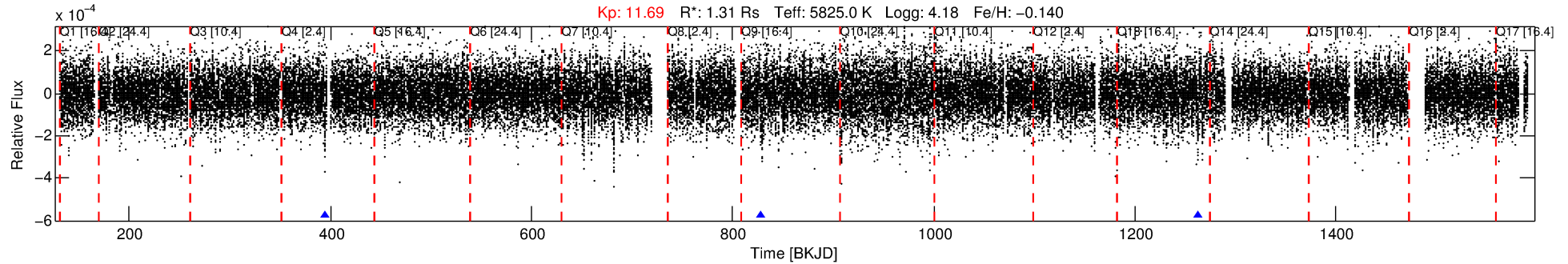
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012737160-01

No Significant Match Found

DV One-Page Summary

KIC: 12737160 Candidate: 1 of 1 Period: 433.986 d



DV Fit Results:

Period = 433.98587 [0.01071] d
Epoch = 394.4610 [0.0124] BKJD
Rp/R* = 0.0127 [0.0028]
a/R* = 129.31 [121.62]
b = 0.77 [0.50]
Seff = 1.46 [0.71]
Teq = 280 [34] K
Rp = 1.82 [0.65] Re
a = 1.1020 [0.3146] AU
Ag = 18140.84 [12922.18] [1.40 σ]
Teffp = 5033 [699] K [6.79 σ]

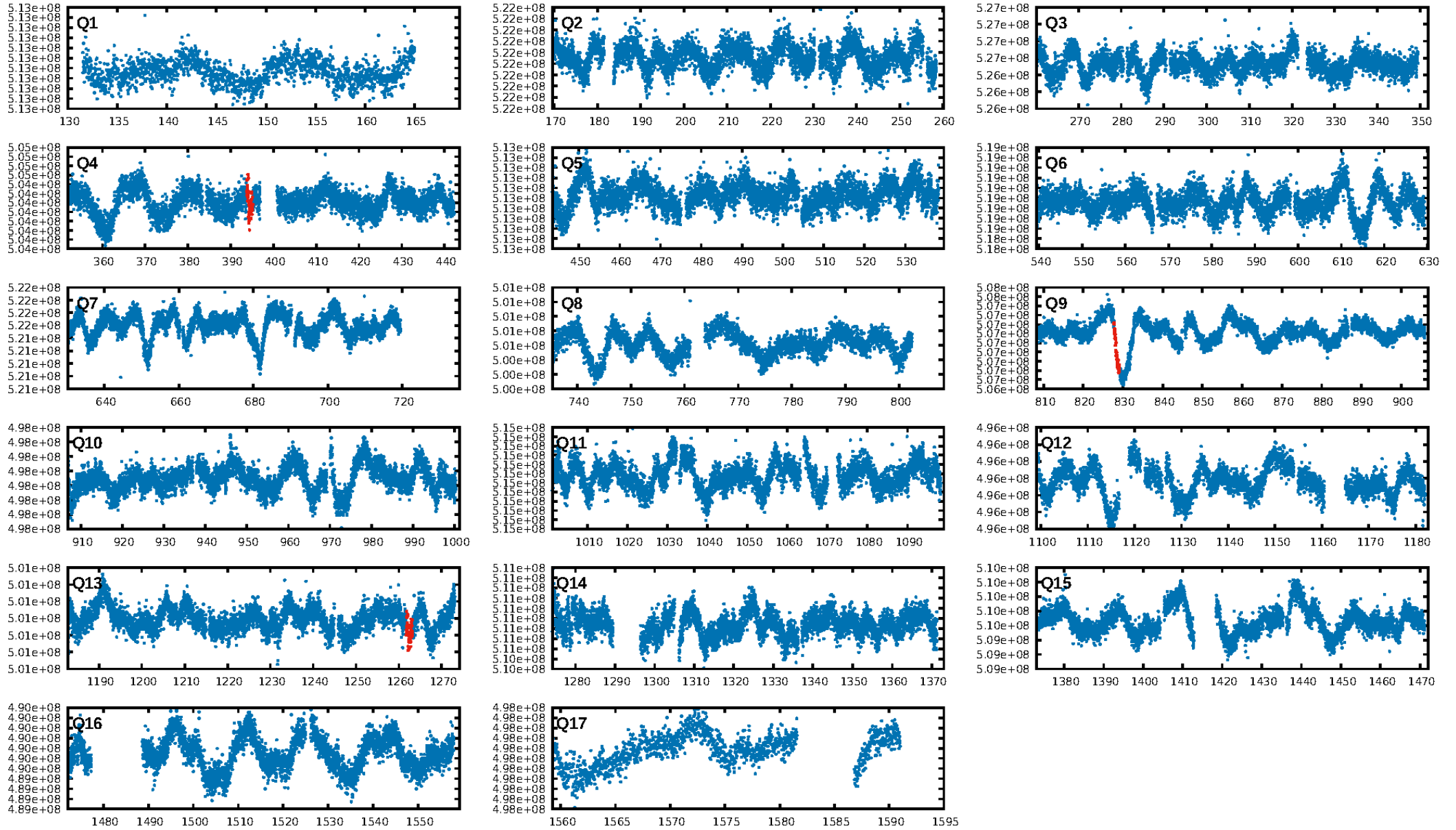
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 64.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.10e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 35.98
Centroid-sig: 0.6%
Centroid-so: 3.187 arcsec [1.64 σ]
OotOffset-rm: 9.321 arcsec [1.37 σ]
KicOffset-rm: 9.601 arcsec [1.36 σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

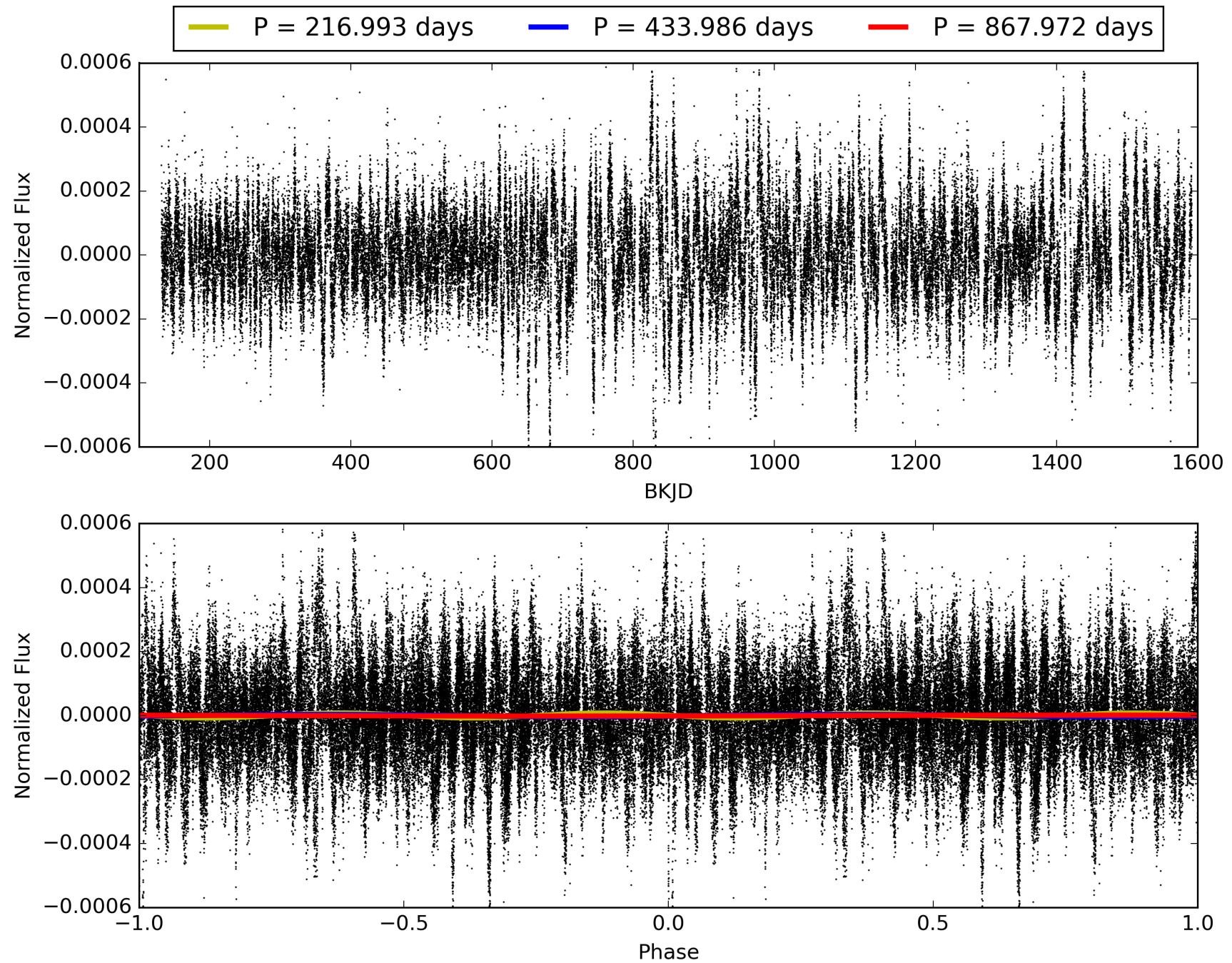
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:03:35 Z

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

TCE 012737160-01, PDC Light Curves

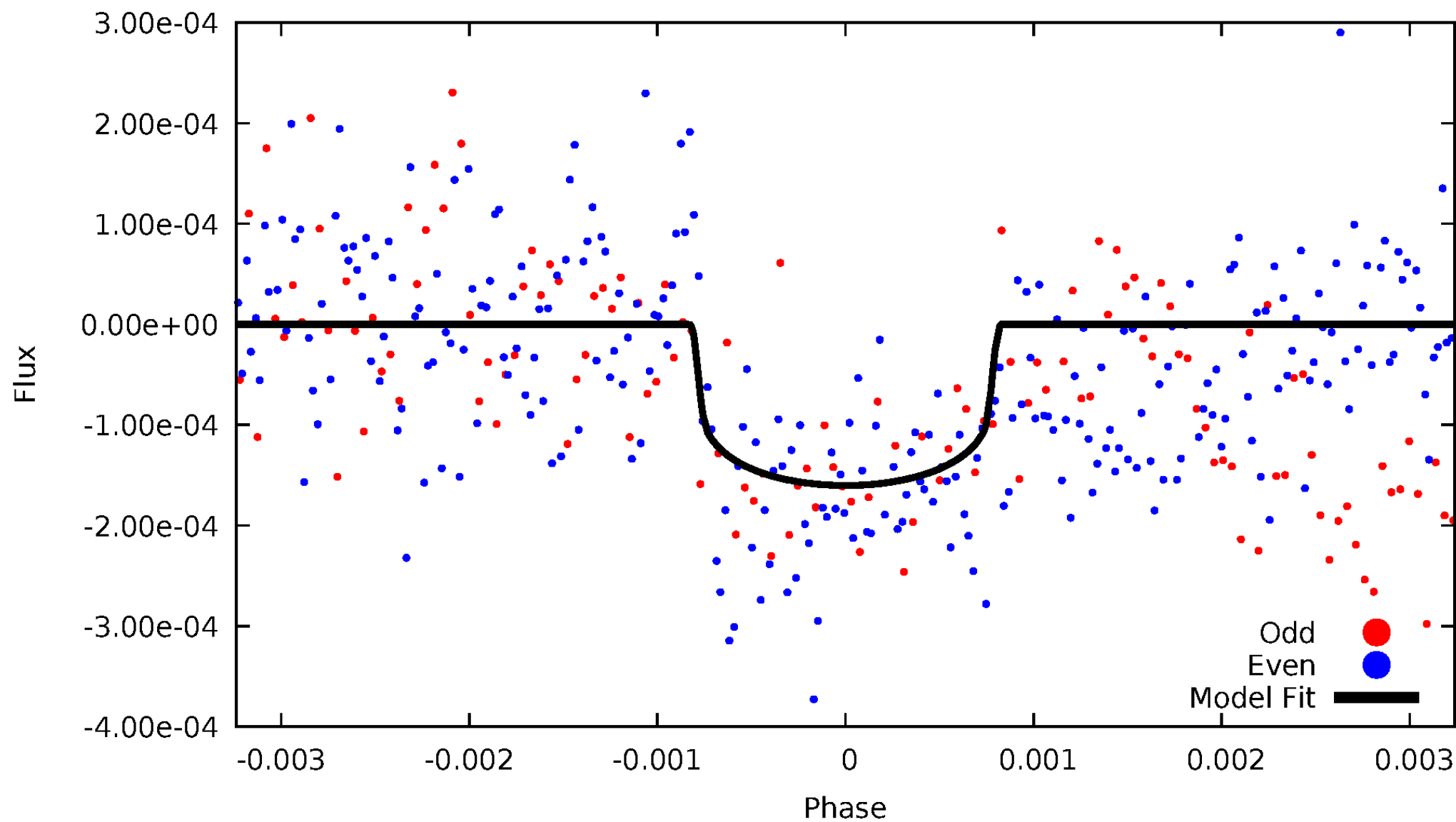


TCE 012737160-01



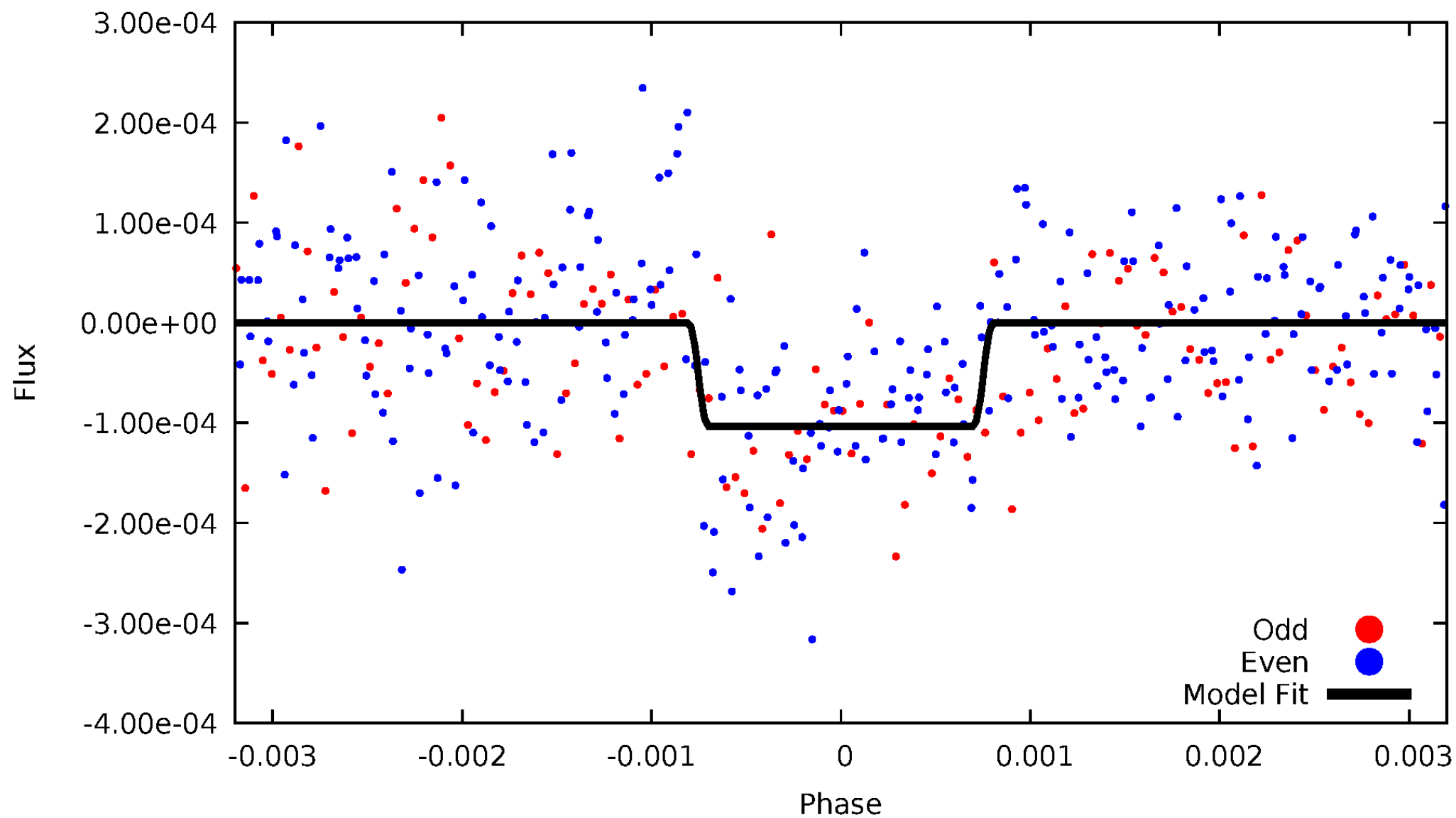
DV Odd/Even

TCE 012737160-01



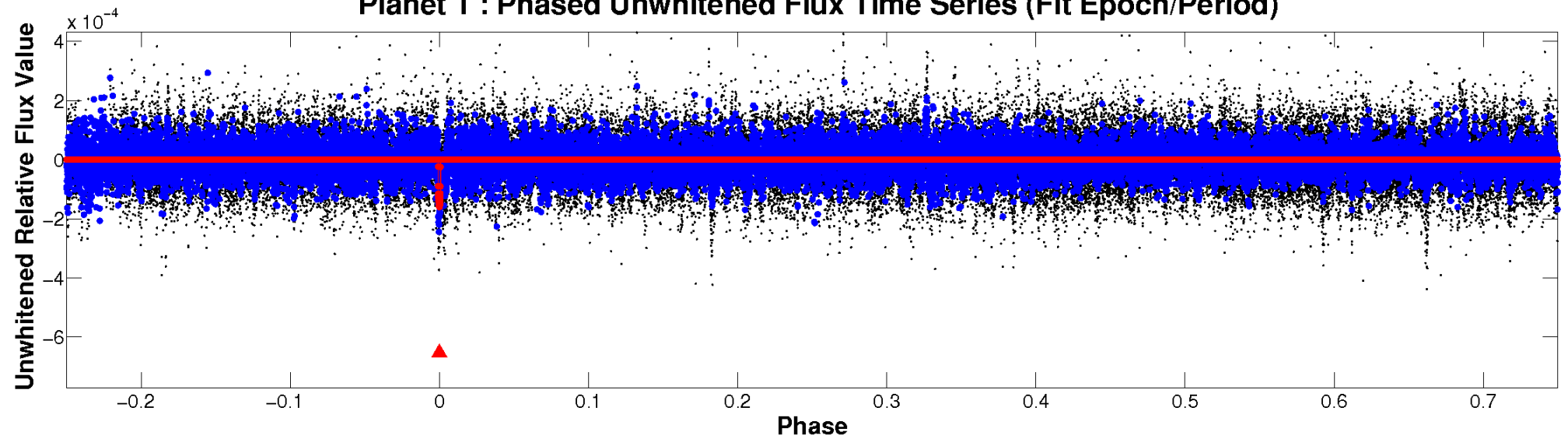
ALT Odd/Even

TCE 012737160-01

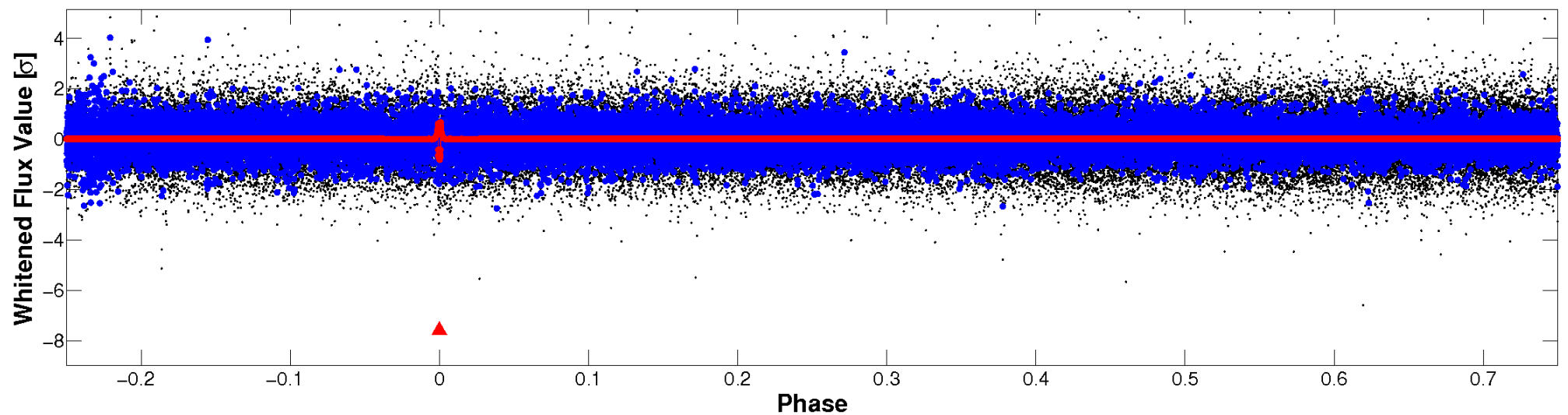


Non-Whitened Vs. Whitened Light Curve

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

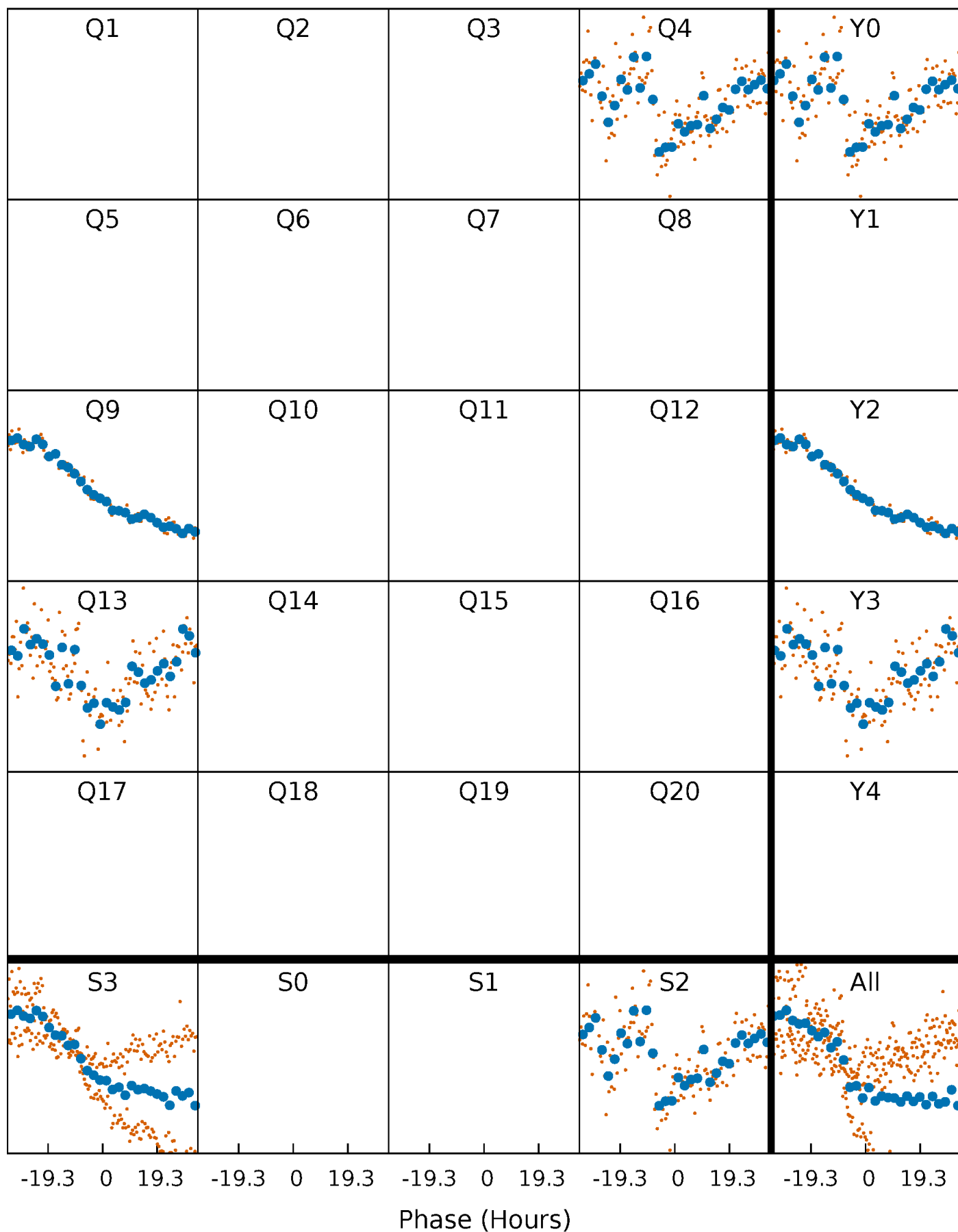


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



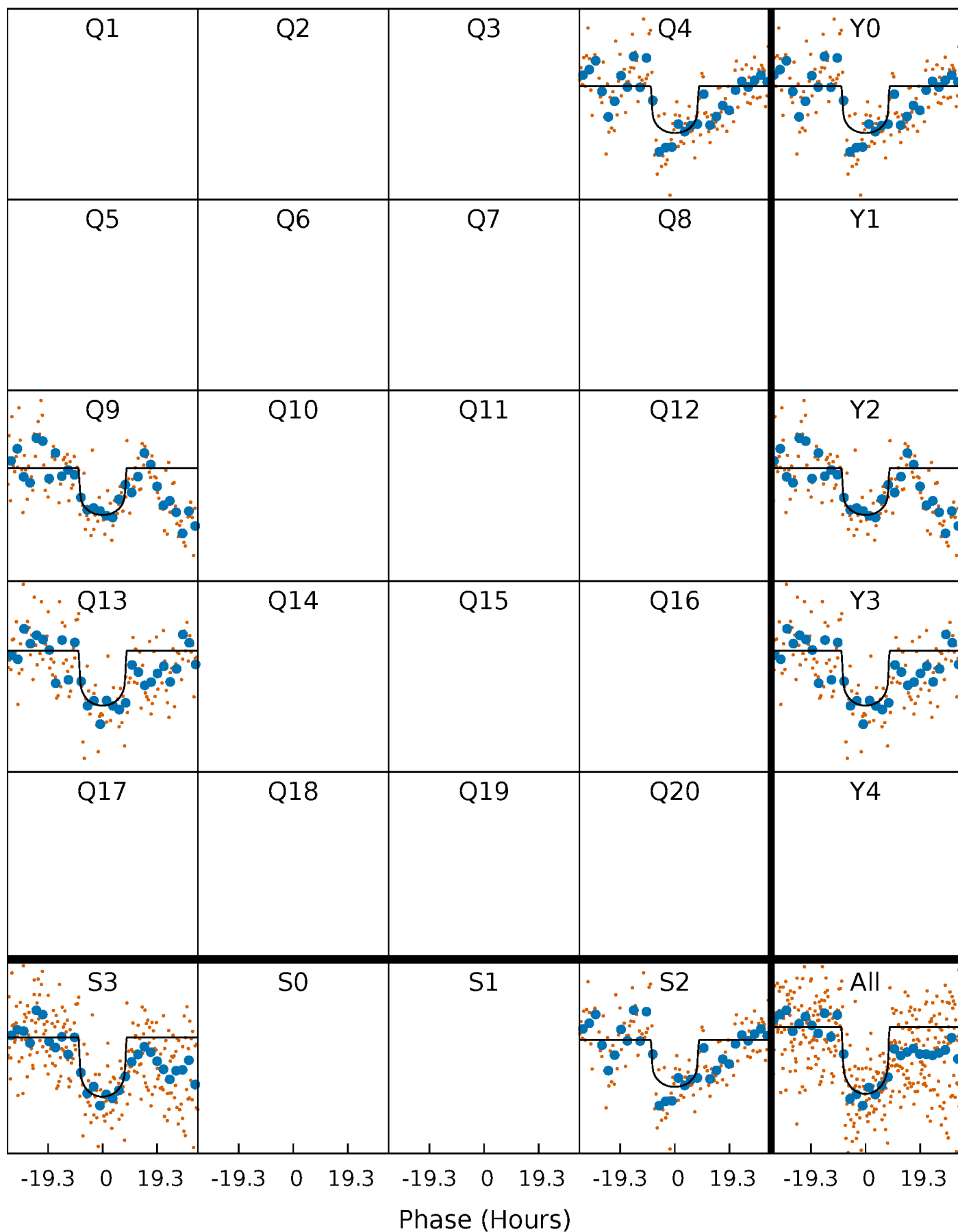
PDC Quarter-Phased Transit Curves

TCE 012737160-01 P=433.985865 Days $T_0=394.461005$ (BKJD)



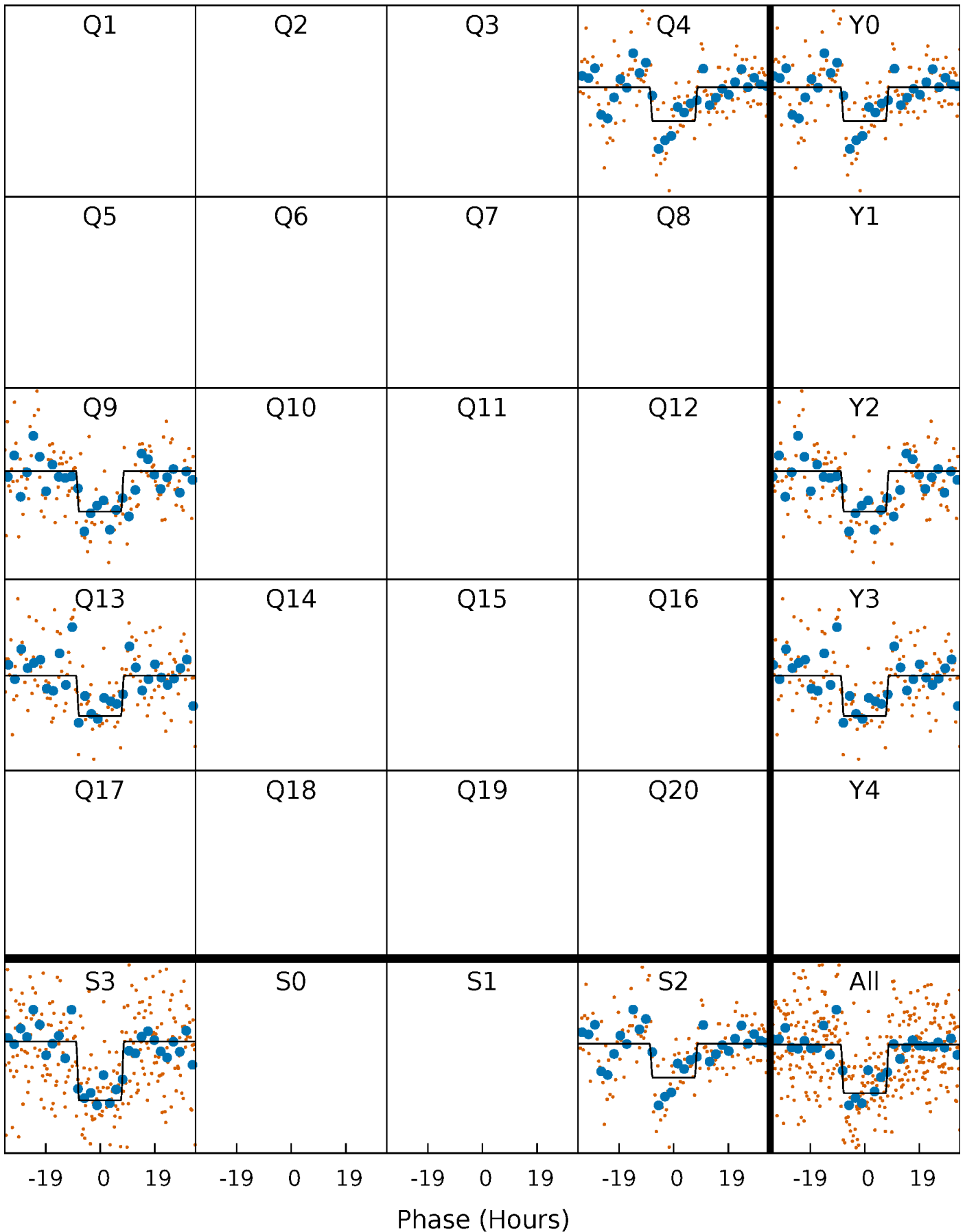
DV Quarter-Phased Transit Curves

TCE 012737160-01 $P=433.985865$ Days $T_0=394.461005$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

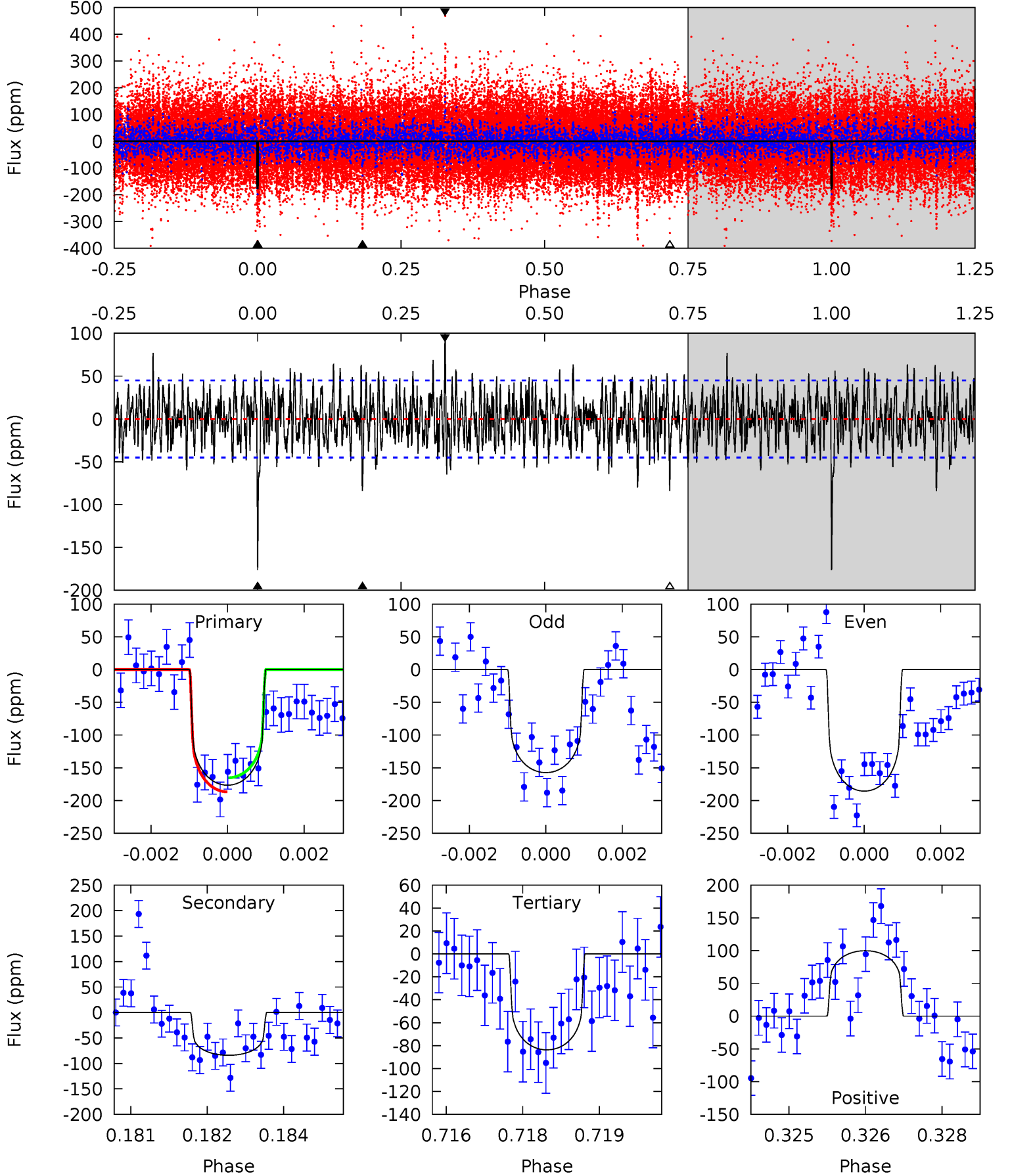
TCE 012737160-01 P=434.002003 Days $T_0=394.454124$ (BKJD)



DV Model-Shift Uniqueness Test

012737160-01, $P = 433.985865$ Days, $E = 394.461005$ Days

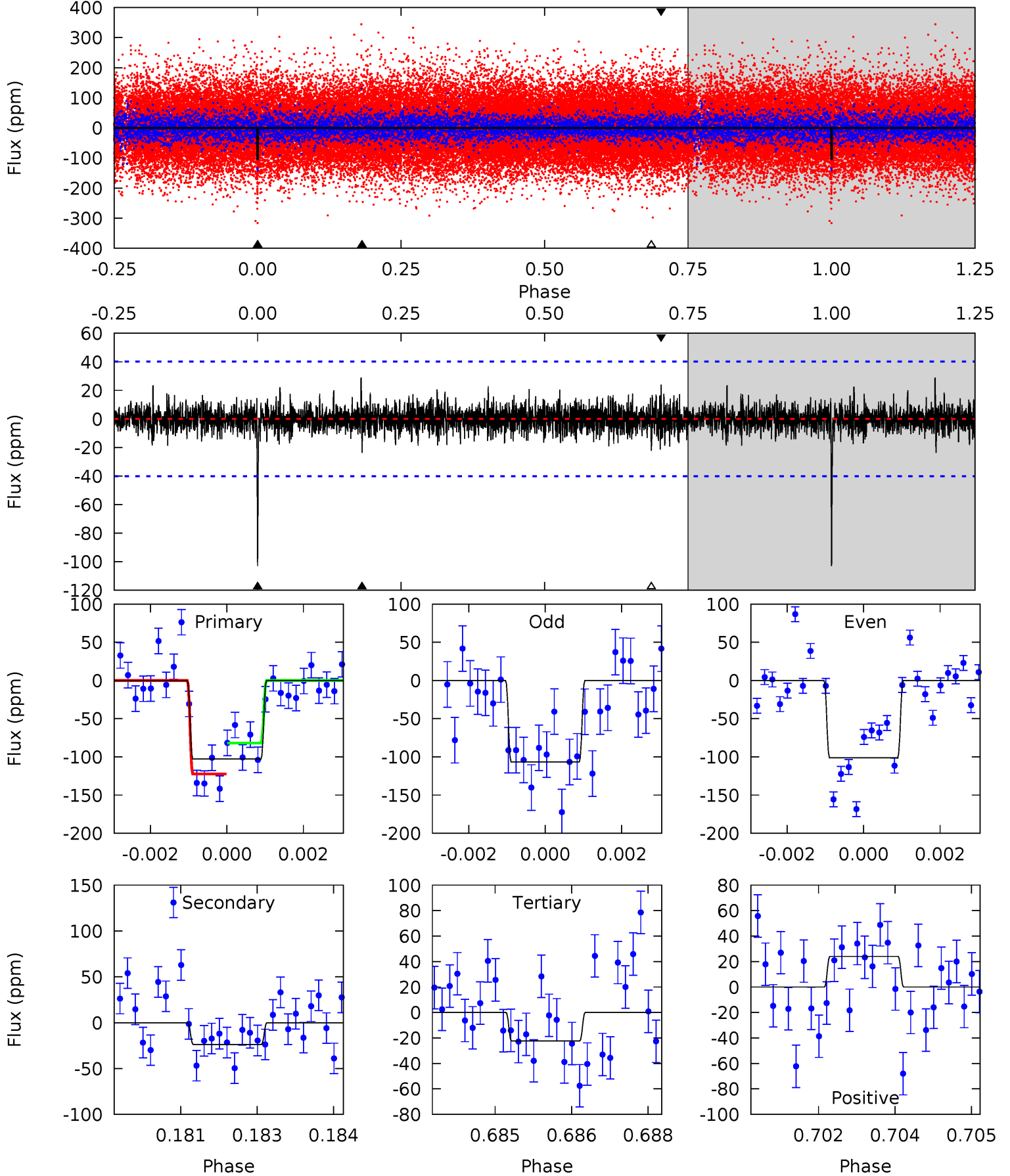
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.0	10.0	9.96	11.9	5.36	3.15	2.85	11.1	9.12	0.04	-1.89	1.54	0.96	0.36	1.27



Alt Model-Shift Uniqueness Test

012737160-01, P = 434.002003 Days, E = 394.454124 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	3.16	2.98	3.21	5.37	3.16	0.80	10.8	10.5	0.18	-0.04	0.34	0.96	0.22	2.70



Stellar Parameters For KIC 012737160

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5825^{+176}_{-193}	$4.178^{+0.276}_{-0.161}$	$-0.140^{+0.300}_{-0.300}$	$1.313^{+0.377}_{-0.377}$	$0.947^{+0.140}_{-0.102}$	$0.589^{+0.979}_{-0.282}$
	+3%/-3%	+7%/-4%	+214%/-214%	+29%/-29%	+15%/-11%	+166%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 012737160-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-84 ± 8	$1.80^{+0.49}_{-0.49}$	389^{+30}_{-33}	5016^{+631}_{-391}	17553^{+16213}_{-6736}
Alt.	-24 ± 7	$1.42^{+0.45}_{-0.41}$	386^{+30}_{-30}	4249^{+579}_{-461}	7825^{+8549}_{-4037}

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 $A_{obs} \gg 1.0$

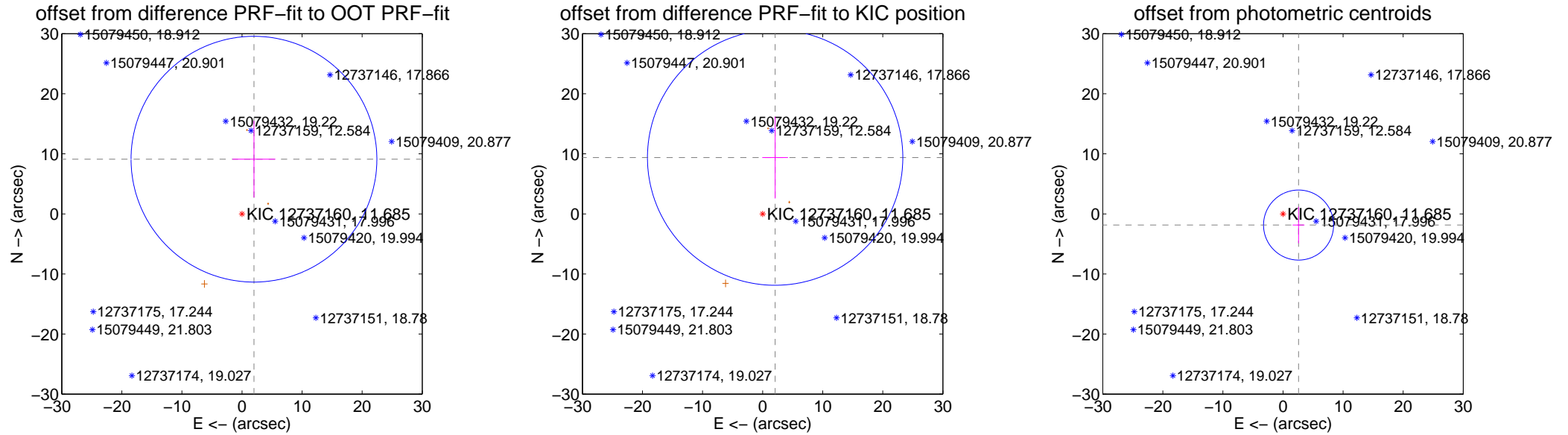
DV Centroid Data

Supplemental centroid analysis for 012737160-01. **Kepler magnitude: 11.69.** Transit SNR 7.52

There are 0 quarters with good PRF difference image offsets

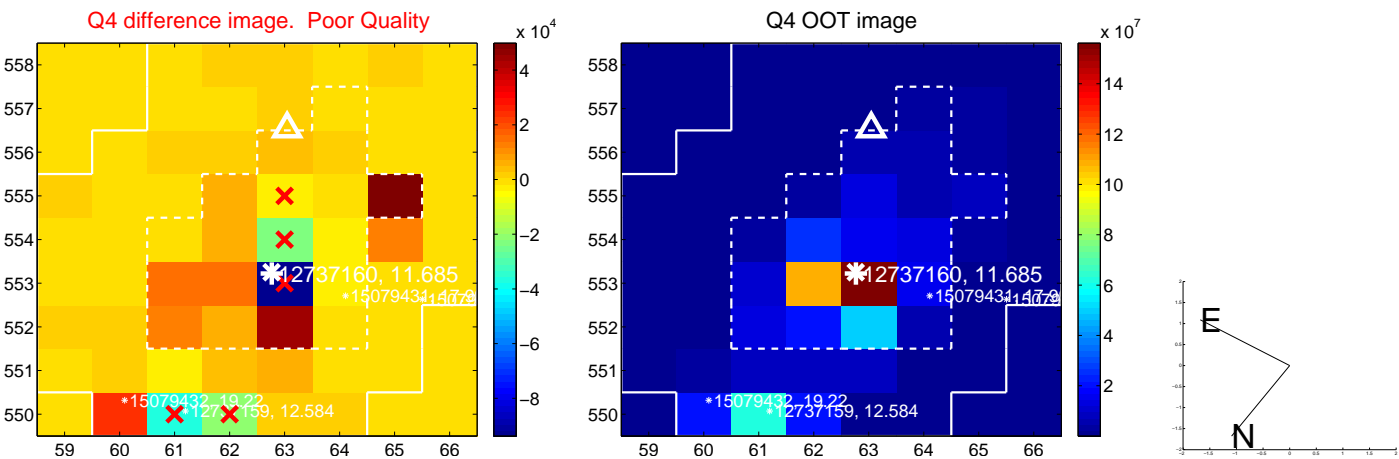
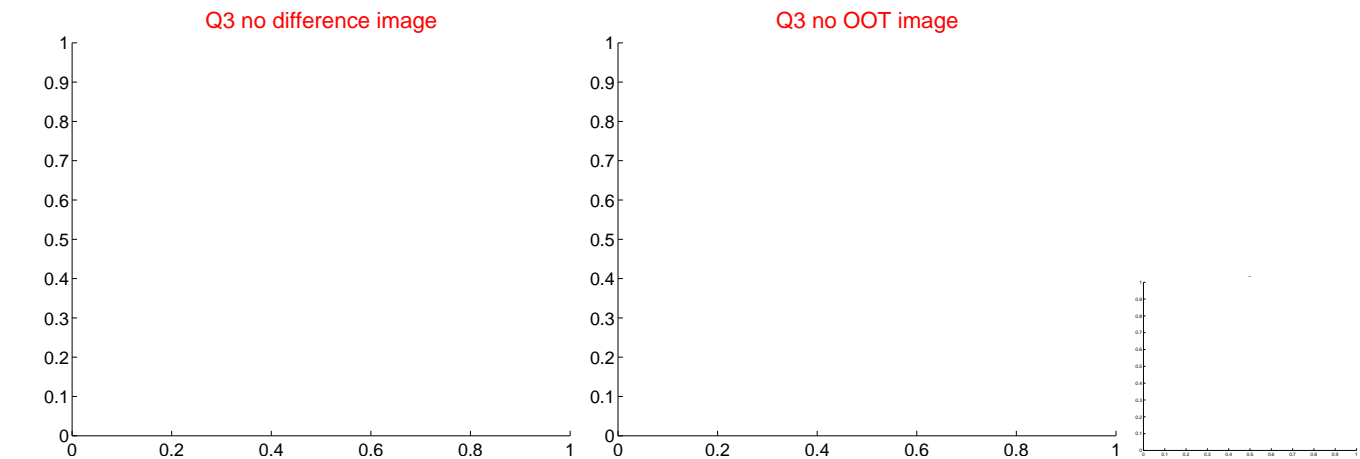
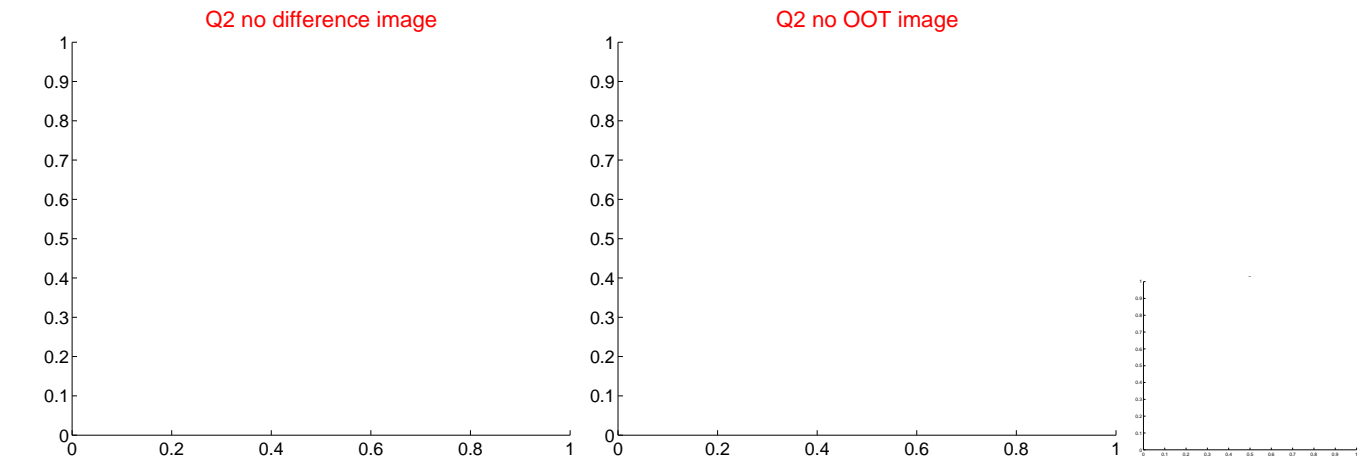
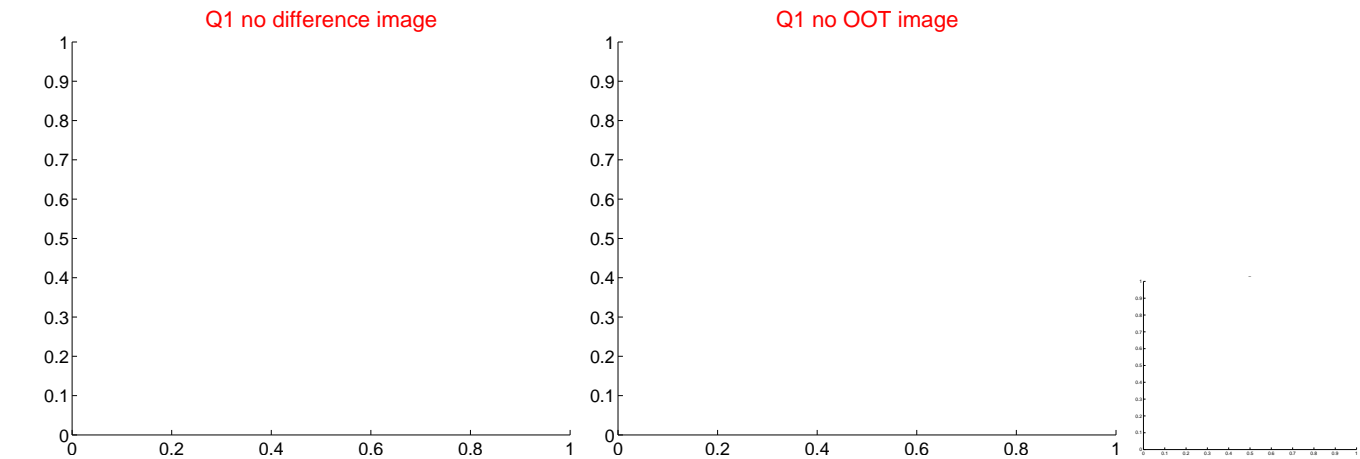
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.321 ± 6.819	1.37	-1.991 ± 3.571	9.106 ± 6.388
PRF-fit source offset from KIC position	9.601 ± 7.084	1.36	-2.080 ± 2.139	9.373 ± 6.811
photometric centroid source offset	3.19 ± 1.94	1.64	-2.59 ± 0.98	-1.86 ± 3.04

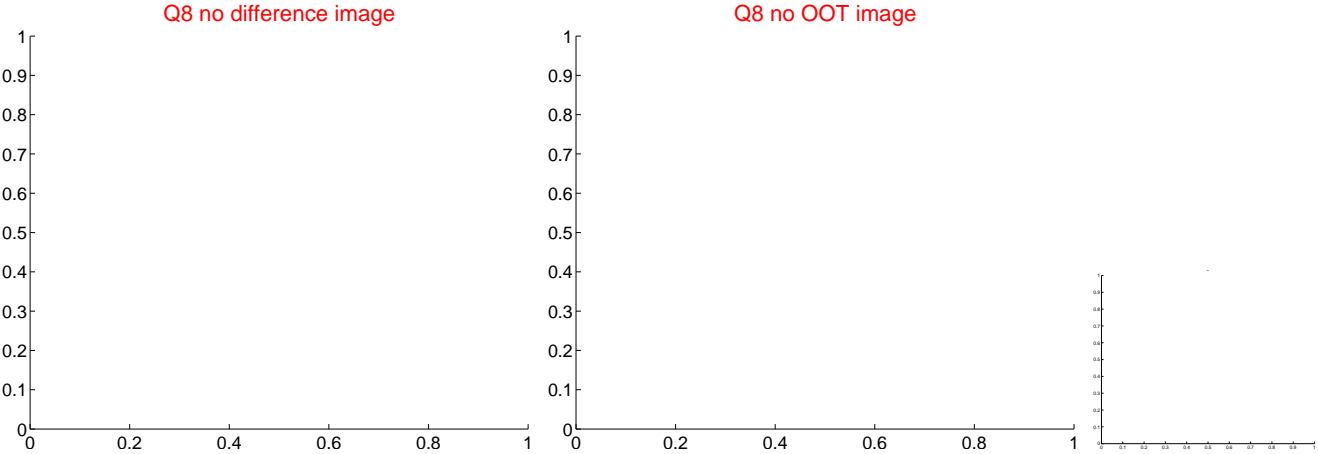
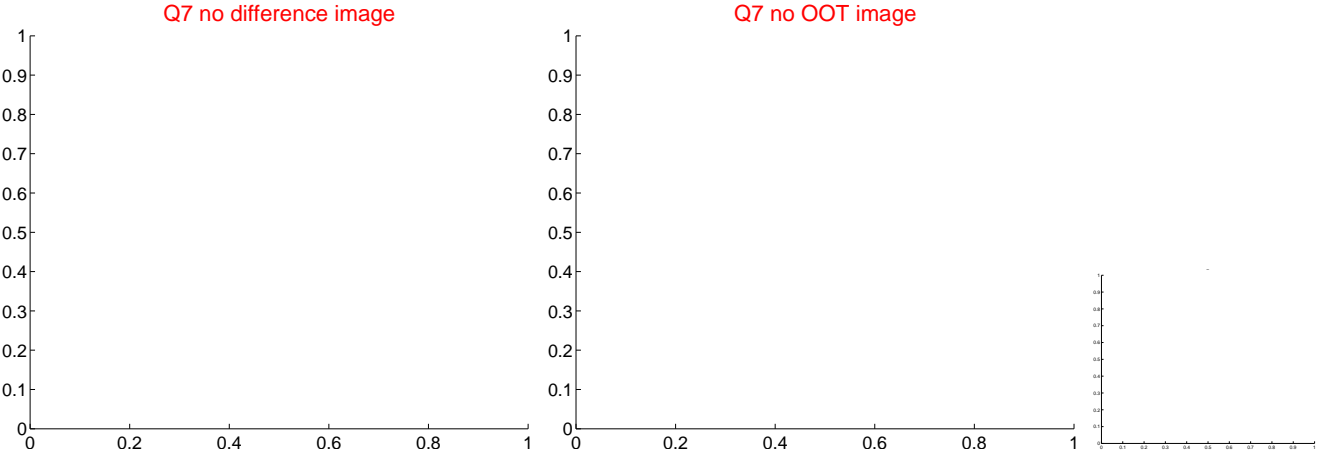
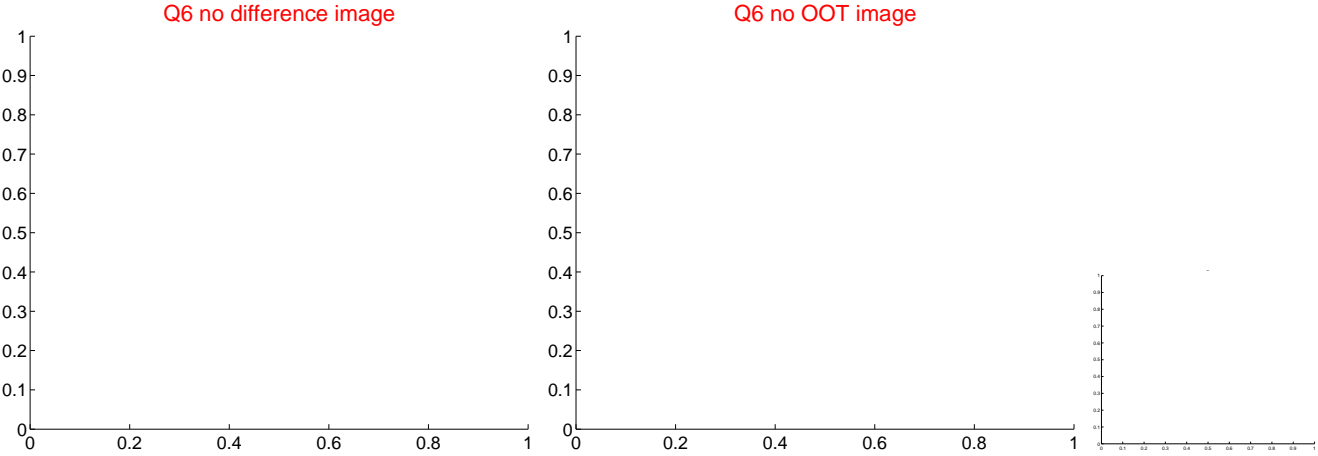
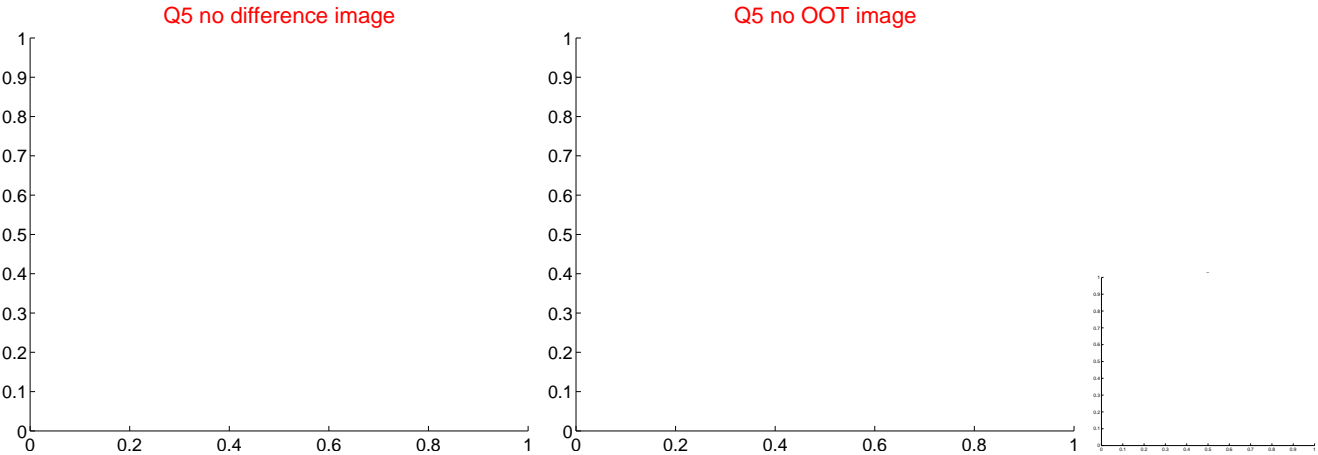


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

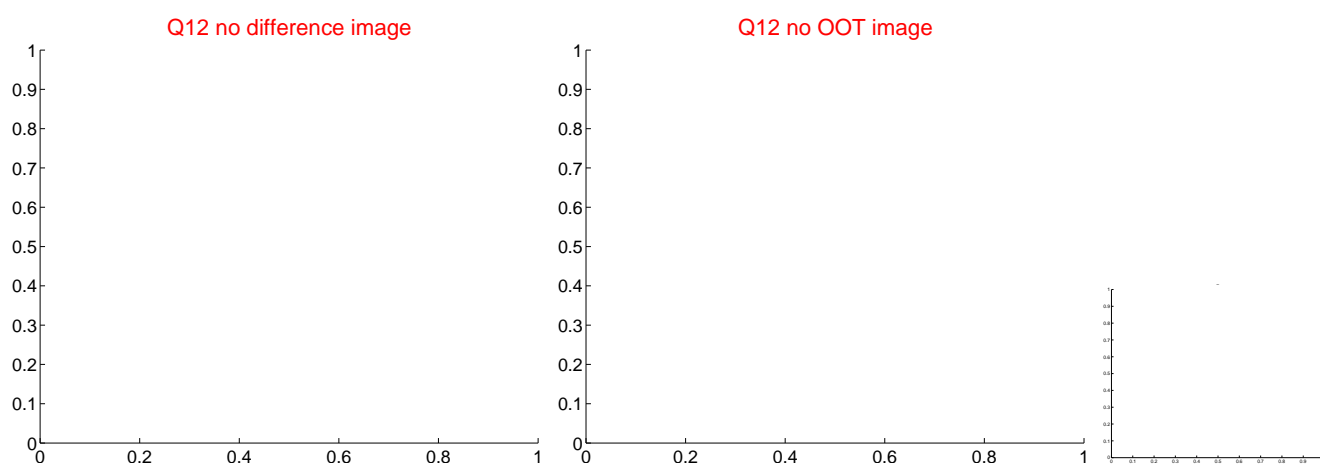
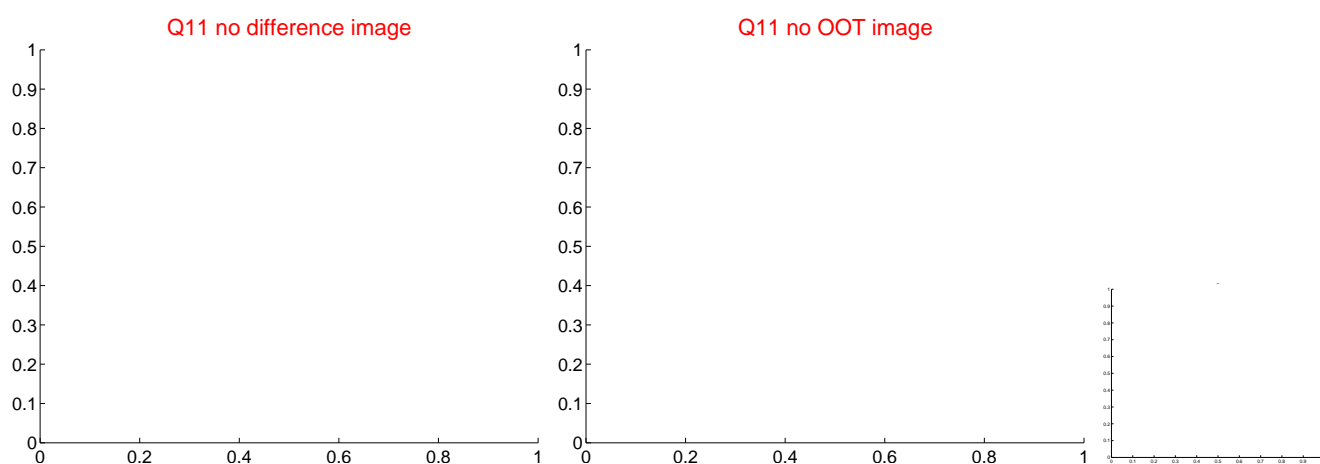
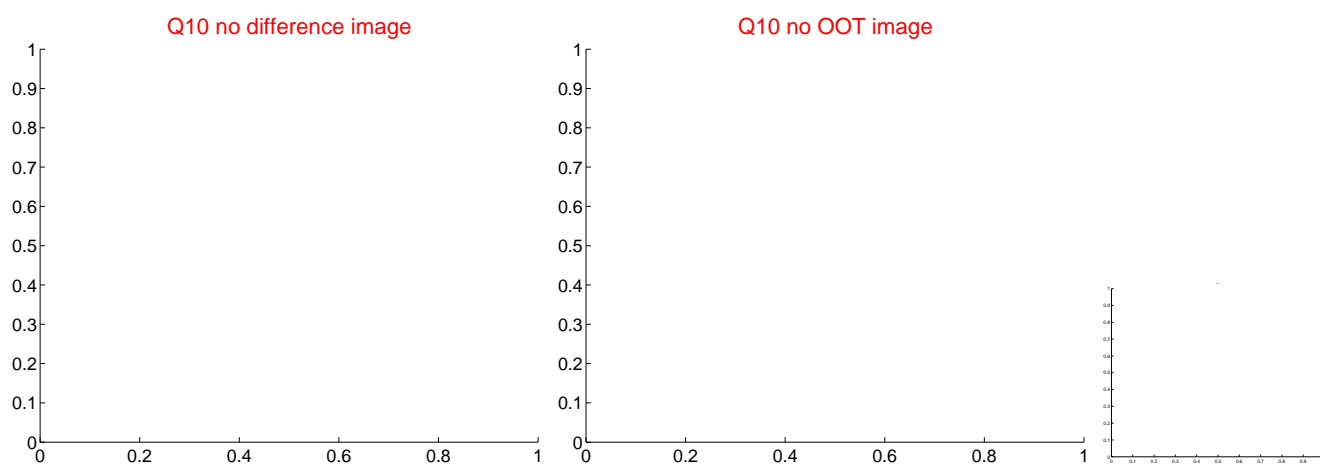
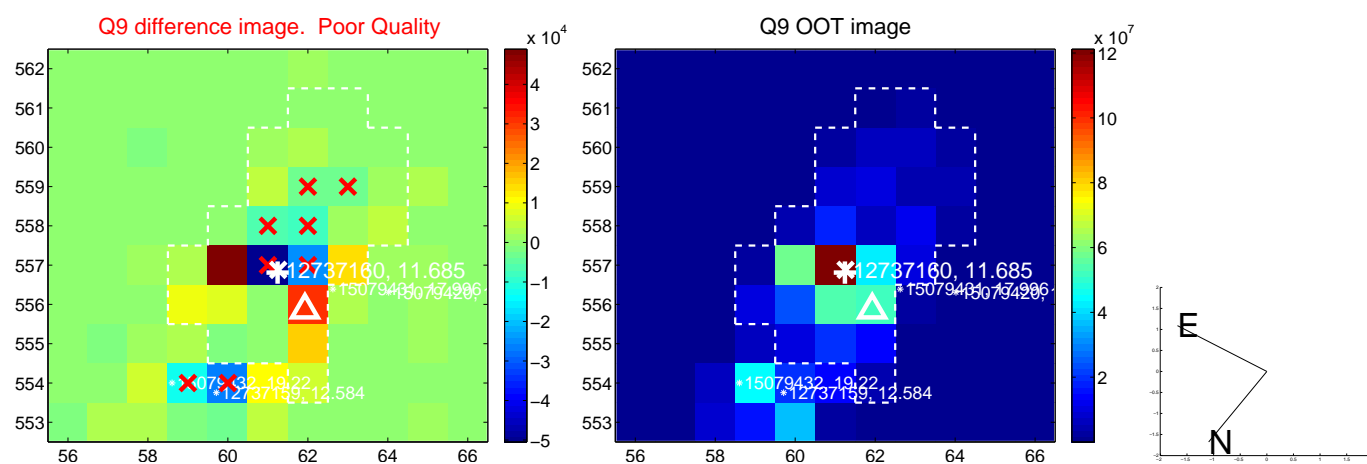
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



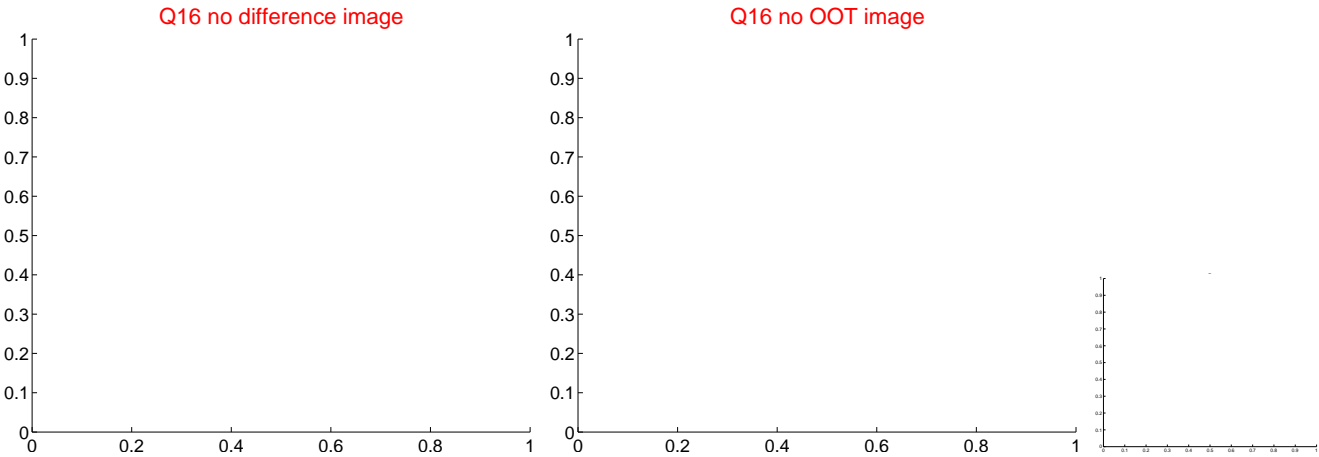
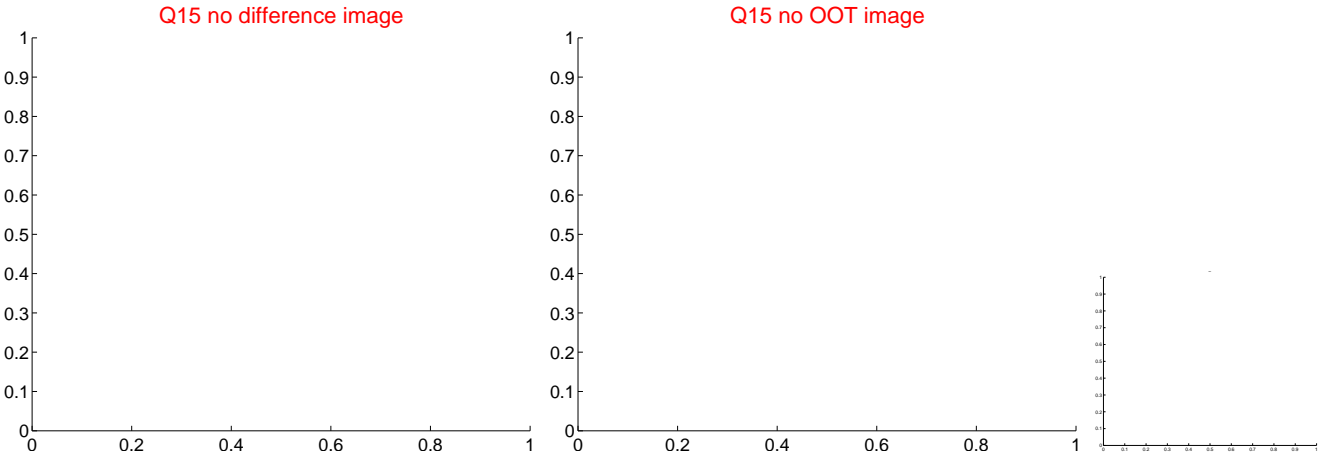
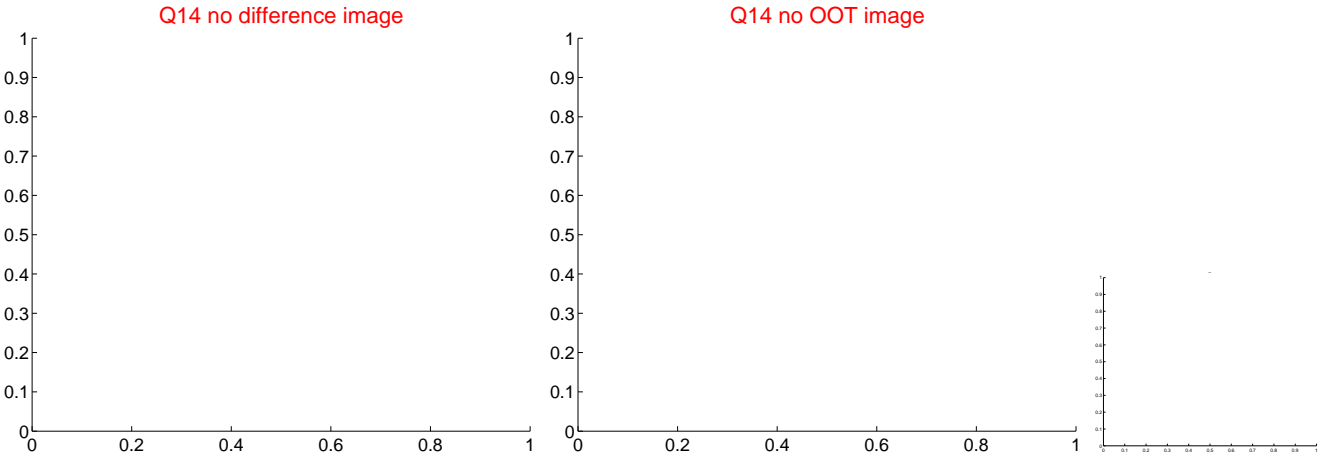
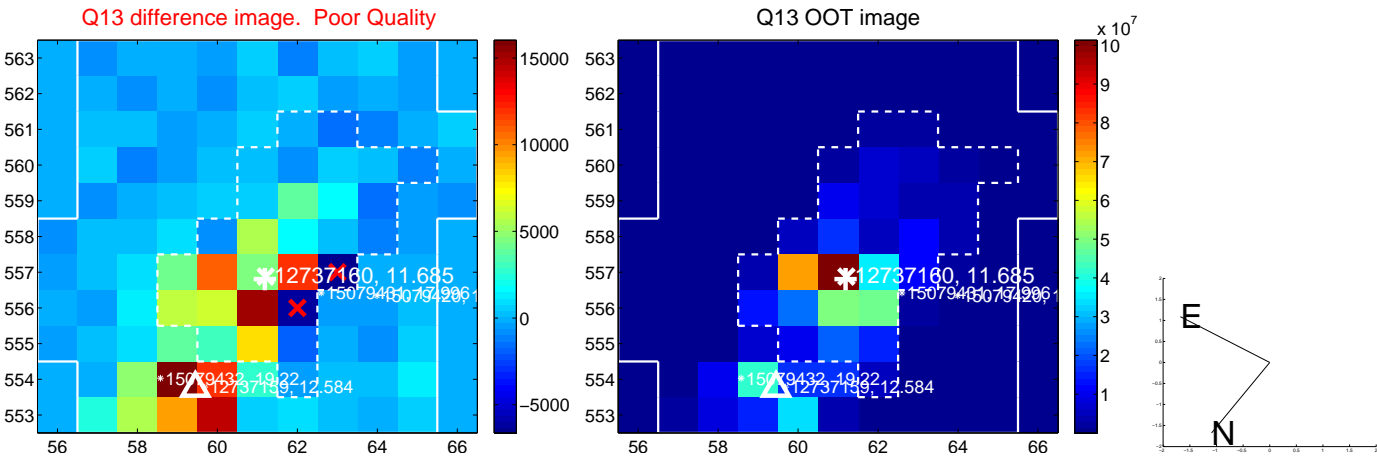
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



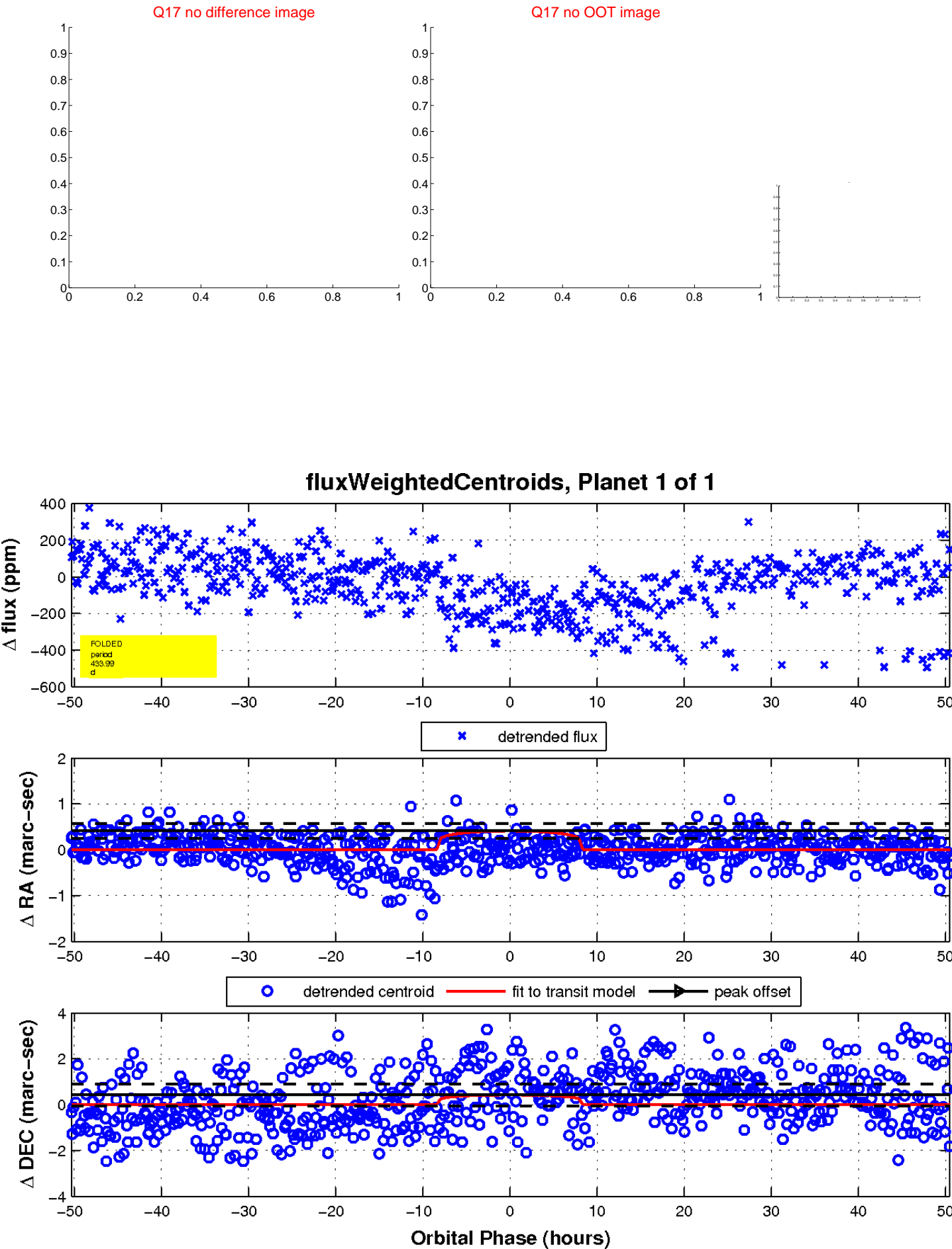
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UKIRT Image

Declination

