

KIC 009142225

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})
009142225-01	OBS	5623.01	583.756649	174.573474	307.3	15.517	7.2	7.1	1.44	6003	2.64	1.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009142225-01	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.

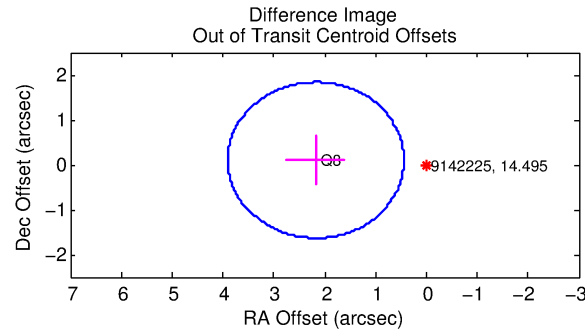
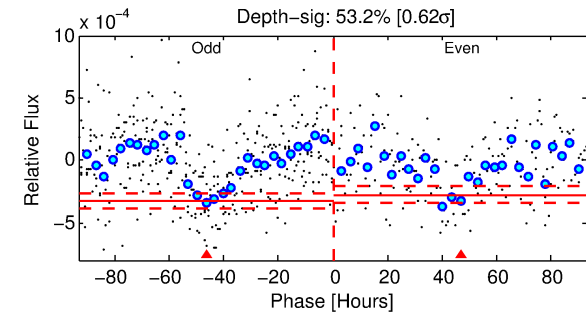
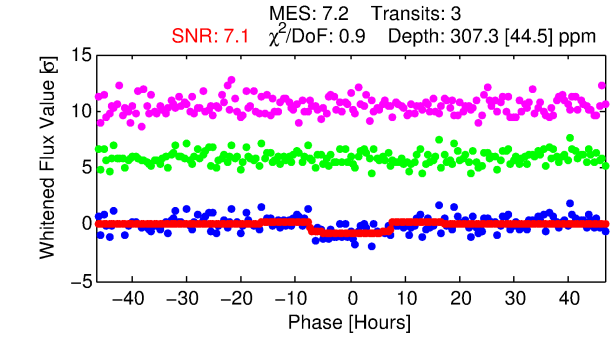
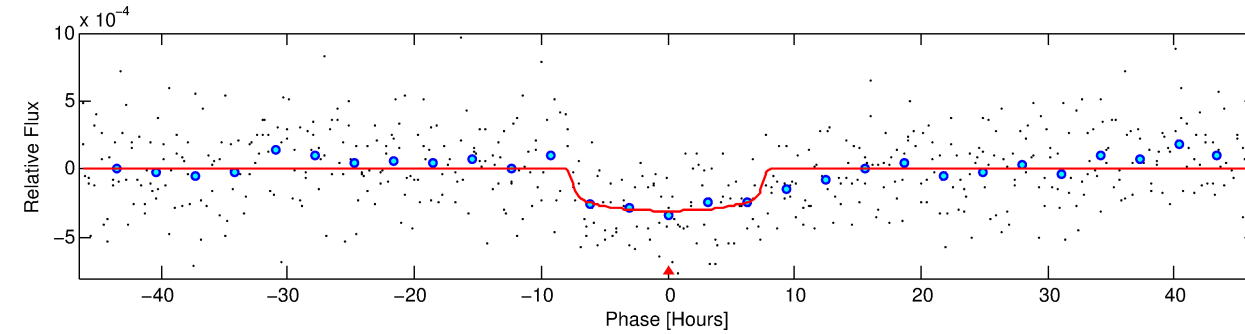
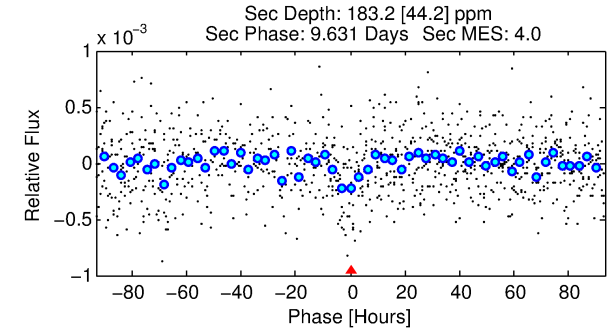
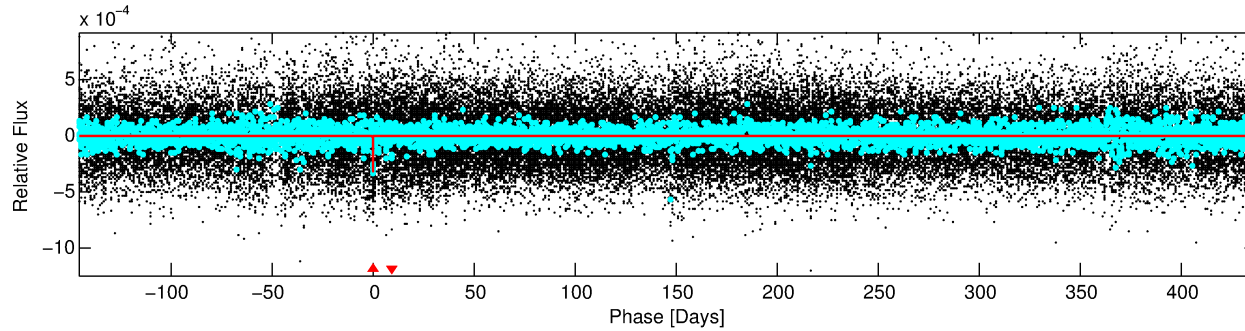
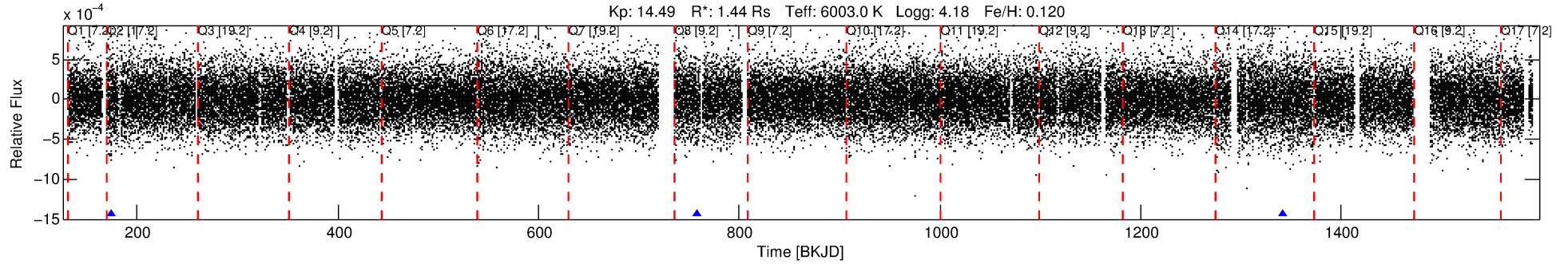
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009142225-01

No Significant Match Found

DV One-Page Summary

KIC: 9142225 Candidate: 1 of 1 Period: 583.757 d
KOI: K05623.01 Corr: 0.990



DV Fit Results:

Period = 583.75665 [0.01622] d
Epoch = 174.5735 [0.0214] BKJD
Rp/R* = 0.0168 [0.0100]
a/R* = 234.51 [645.78]
b = 0.61 [2.89]
Seff = 1.19 [0.34]
Teff = 266 [19] K
Rp = 2.64 [1.66] Re
a = 1.4272 [0.2552] AU
Ag = 29502.80 [36899.08] [0.80σ]
Teffp = 5394 [1645] K [3.12σ]

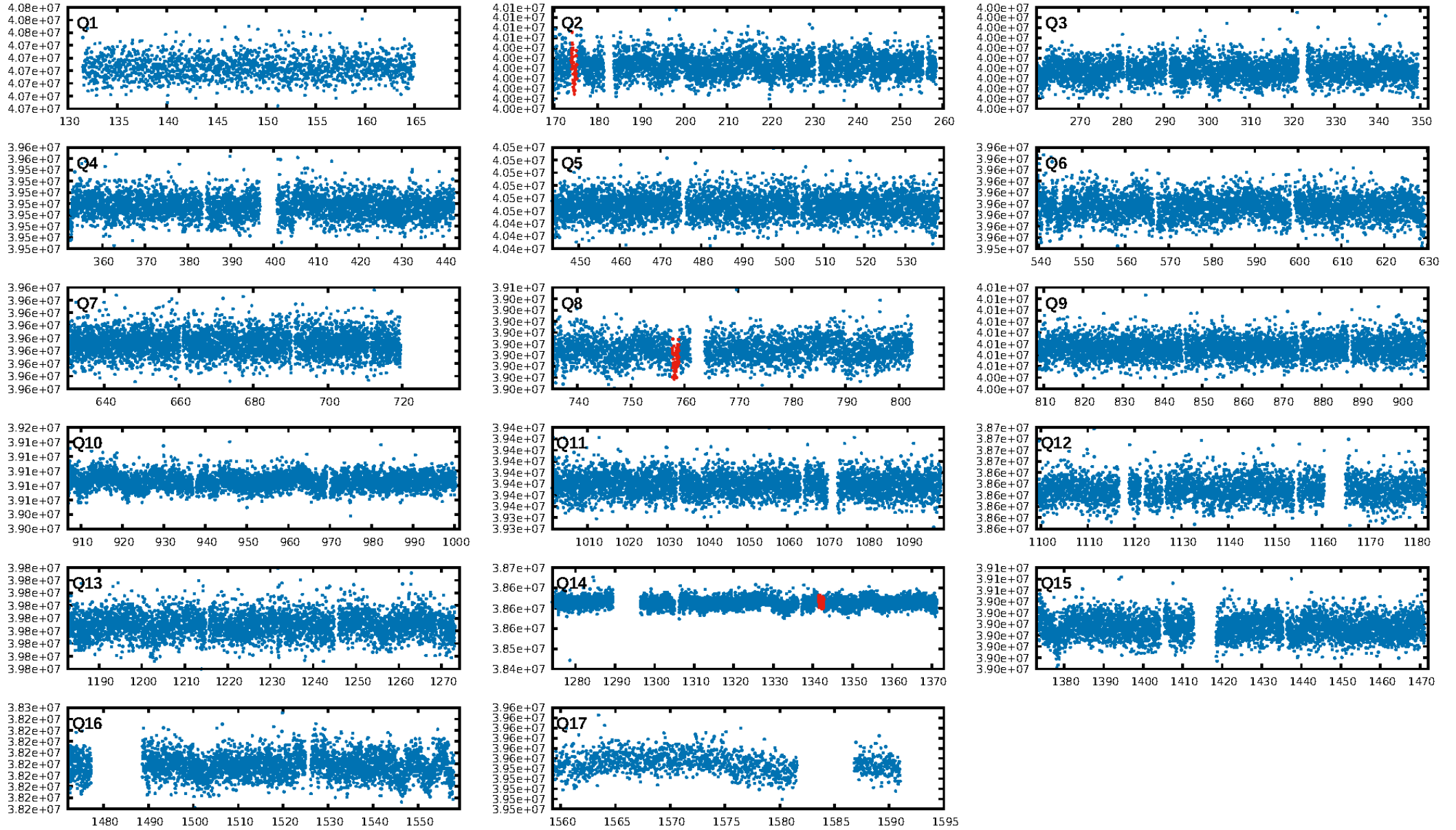
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 14.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.16e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8393
Centroid-sig: 11.8%
Centroid-so: 3.024 arcsec [1.37σ]
OotOffset-rm: 2.176 arcsec [3.76σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-rm: 2.201 arcsec [3.81σ]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

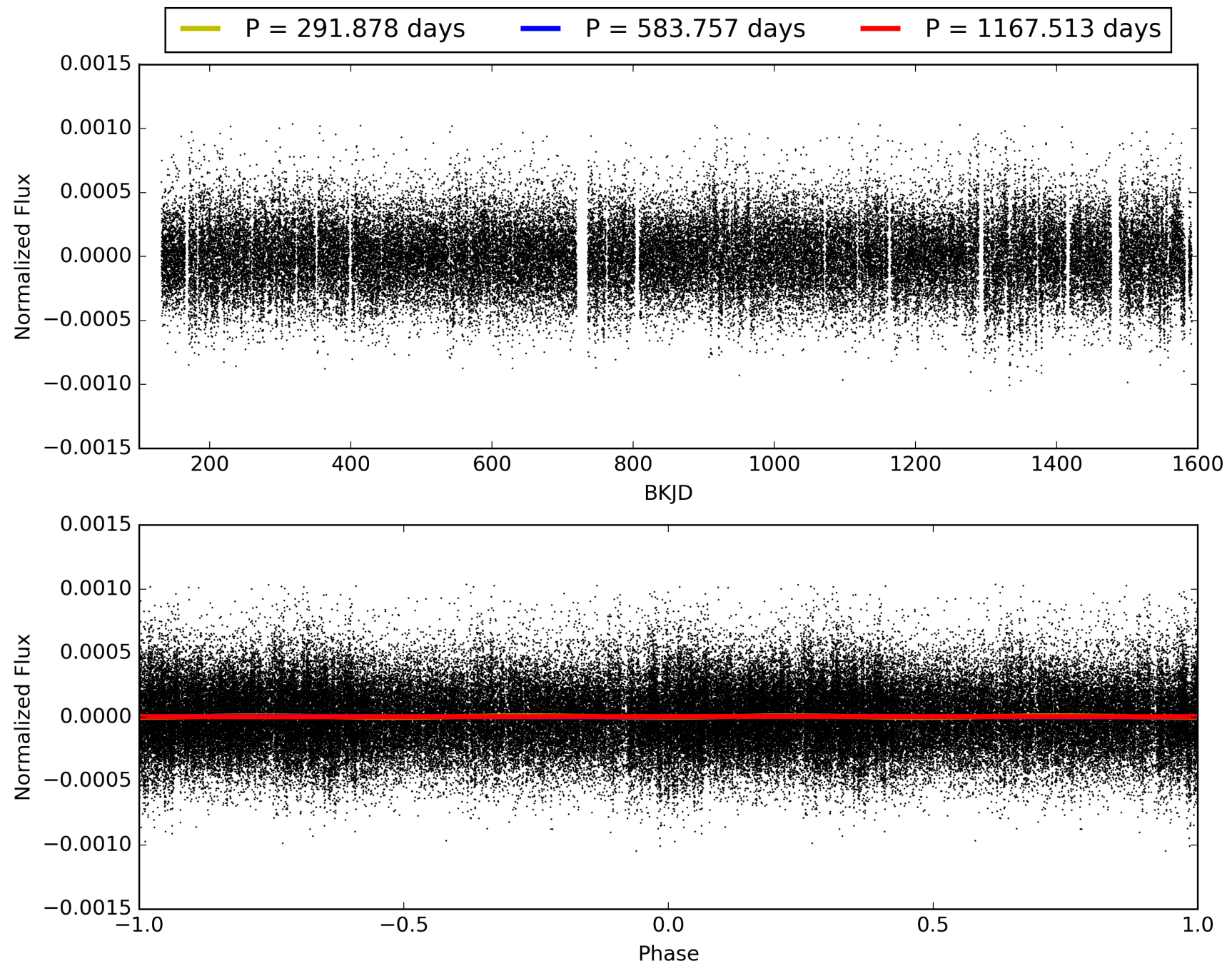
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:17:17 Z

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

TCE 009142225-01, PDC Light Curves

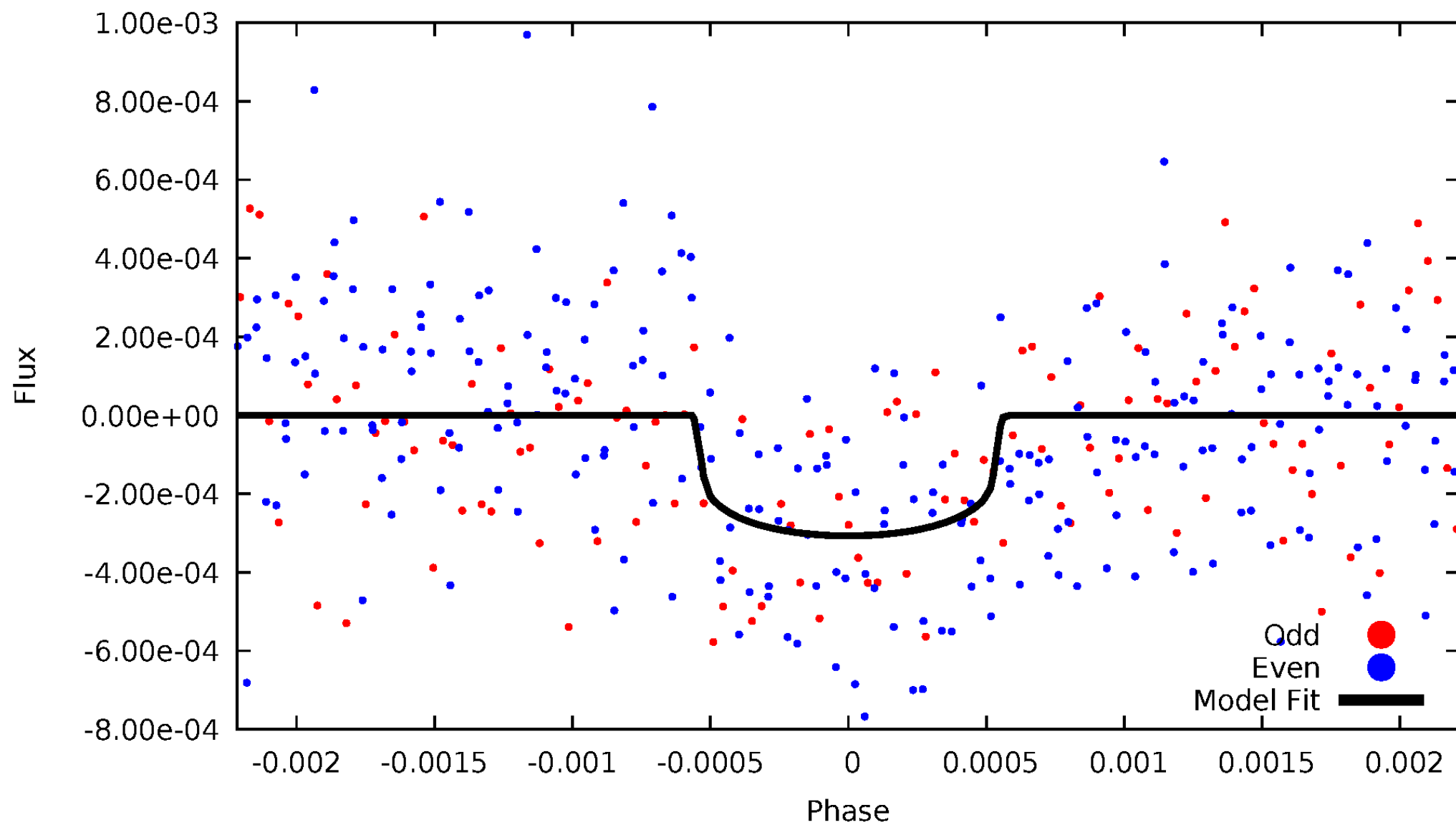


TCE 009142225-01



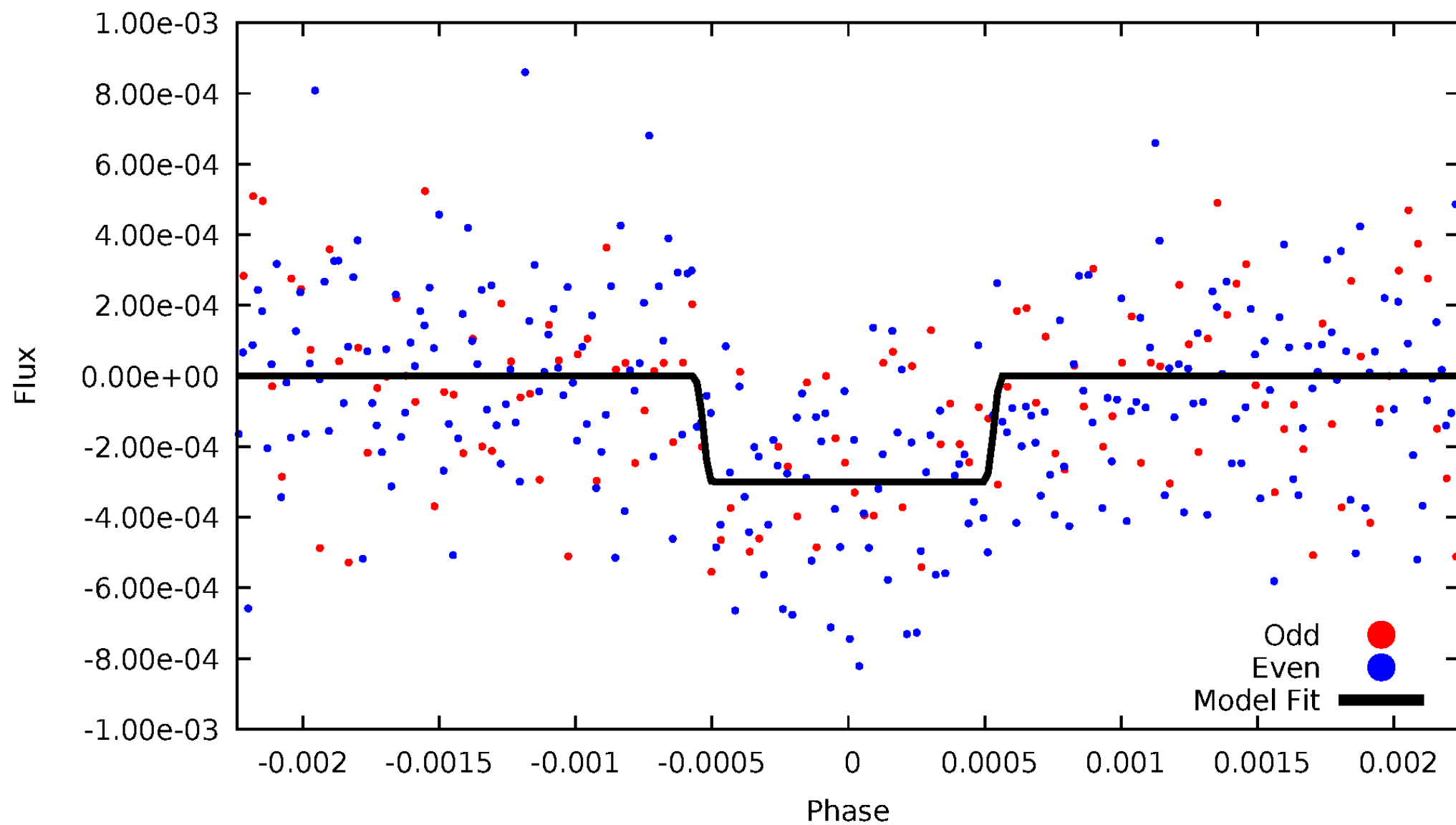
DV Odd/Even

TCE 009142225-01



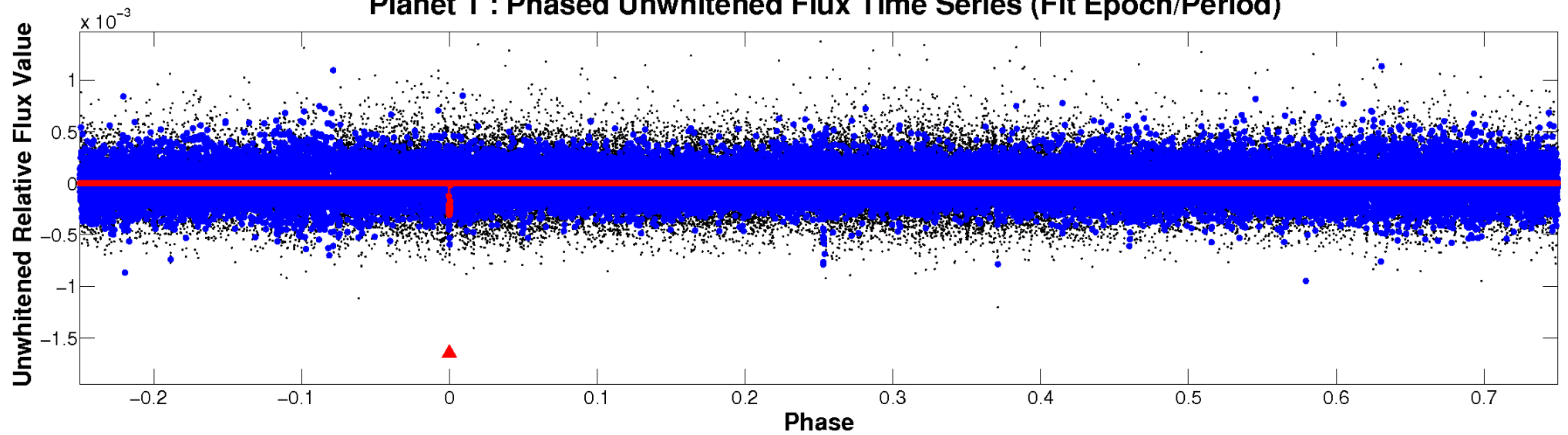
ALT Odd/Even

TCE 009142225-01

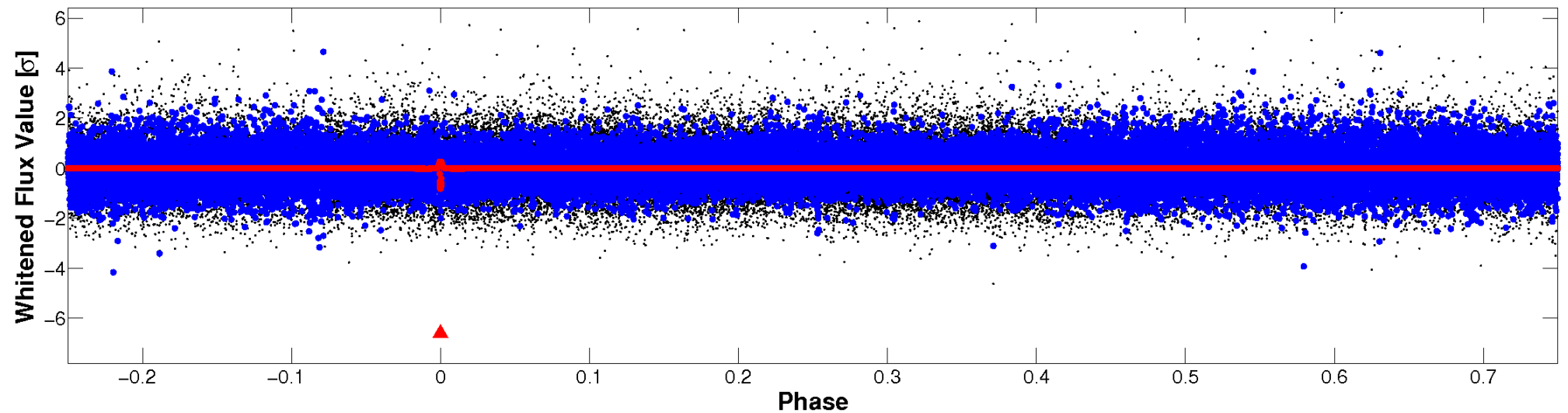


Non-Whitened Vs. Whitened Light Curve

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

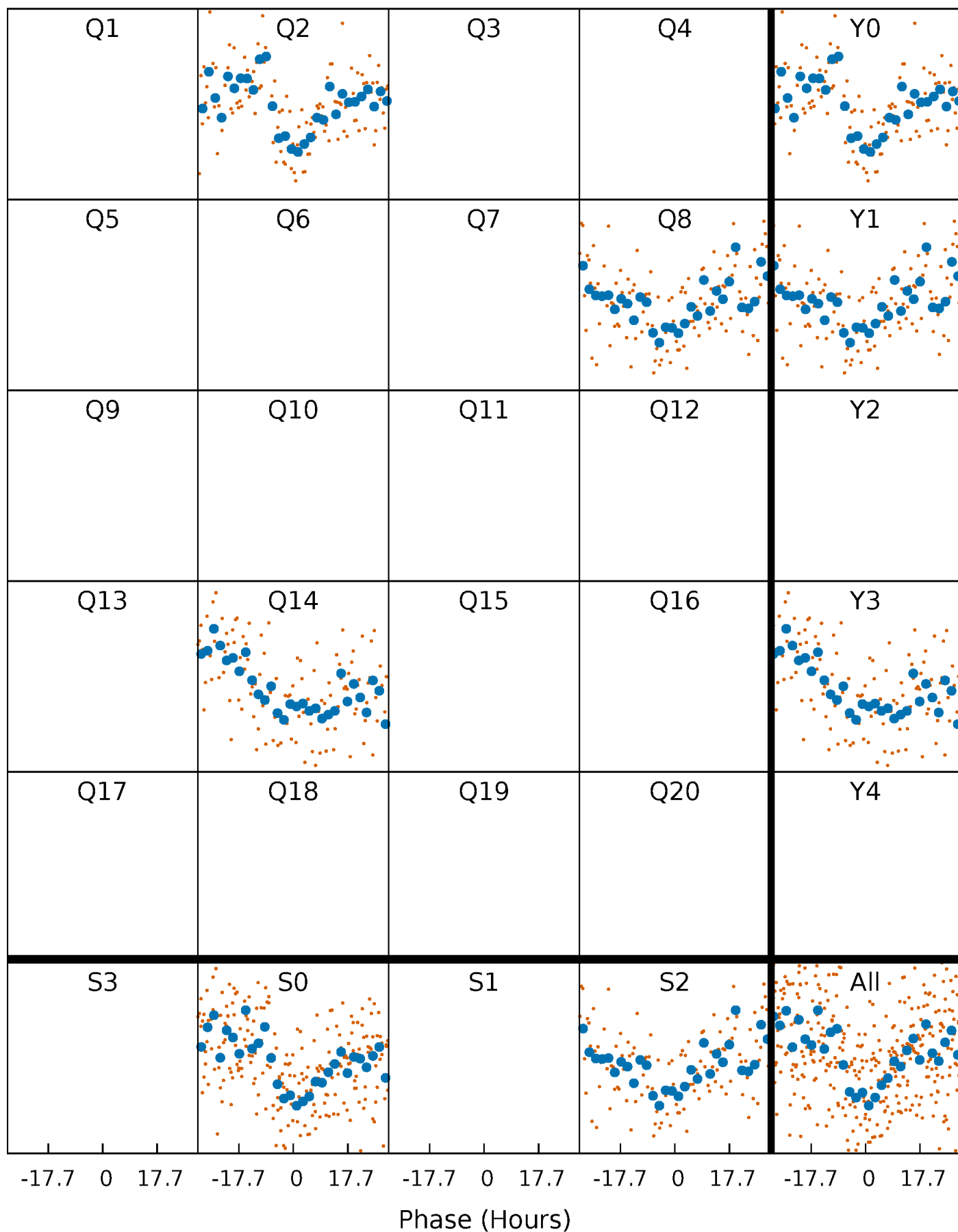


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



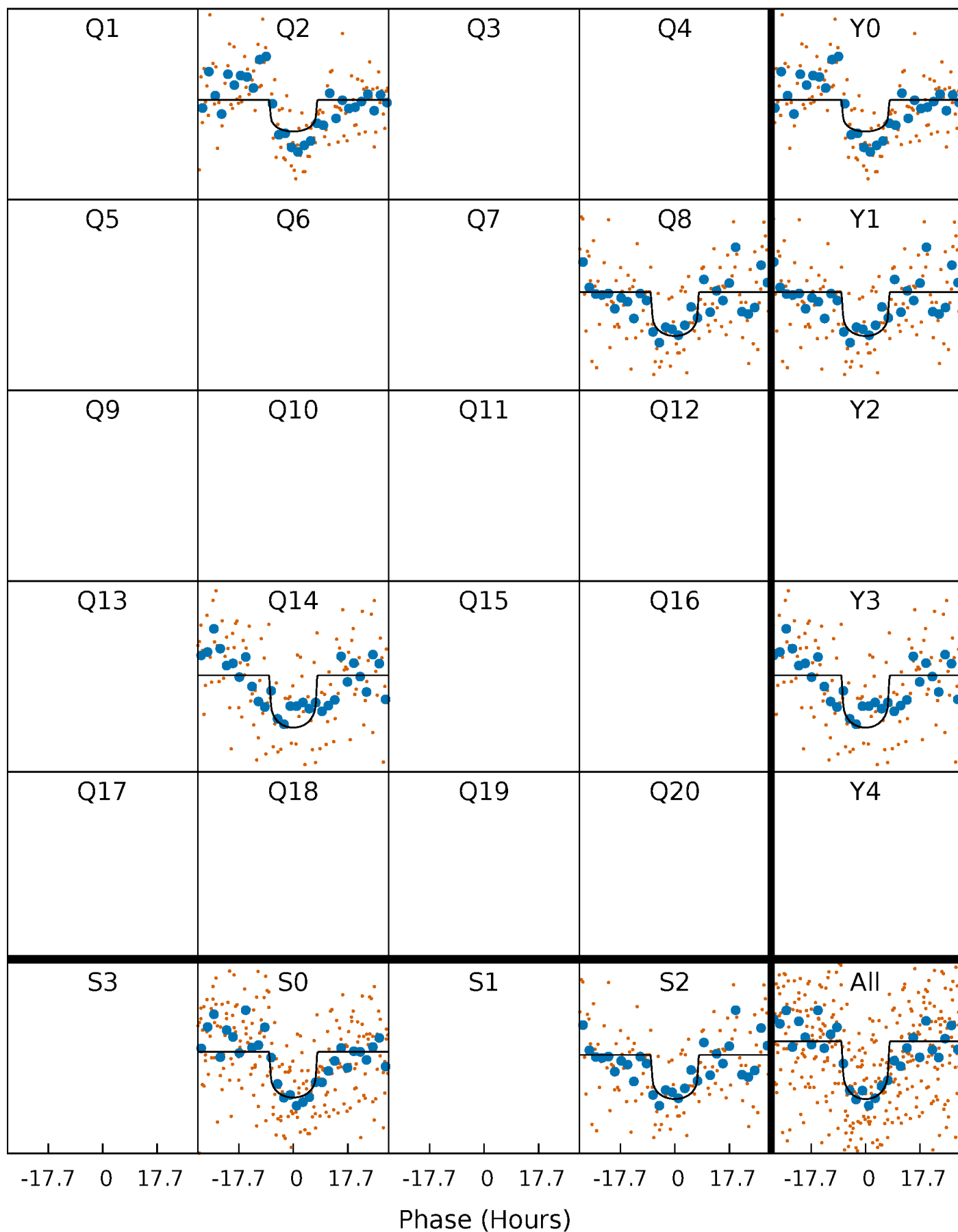
PDC Quarter-Phased Transit Curves

TCE 009142225-01 P=583.756649 Days $T_0=174.573474$ (BKJD)



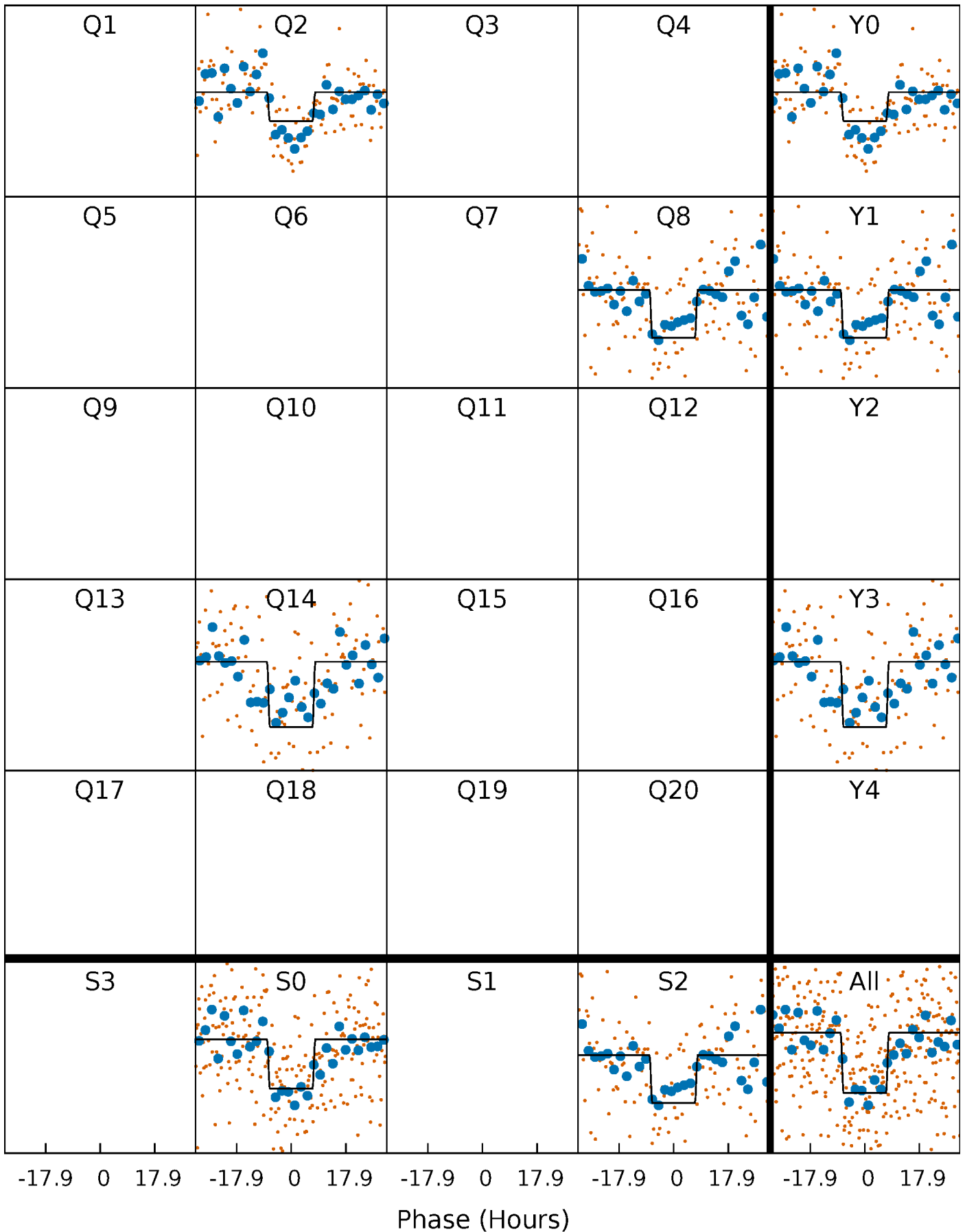
DV Quarter-Phased Transit Curves

TCE 009142225-01 P=583.756649 Days $T_0=174.573474$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

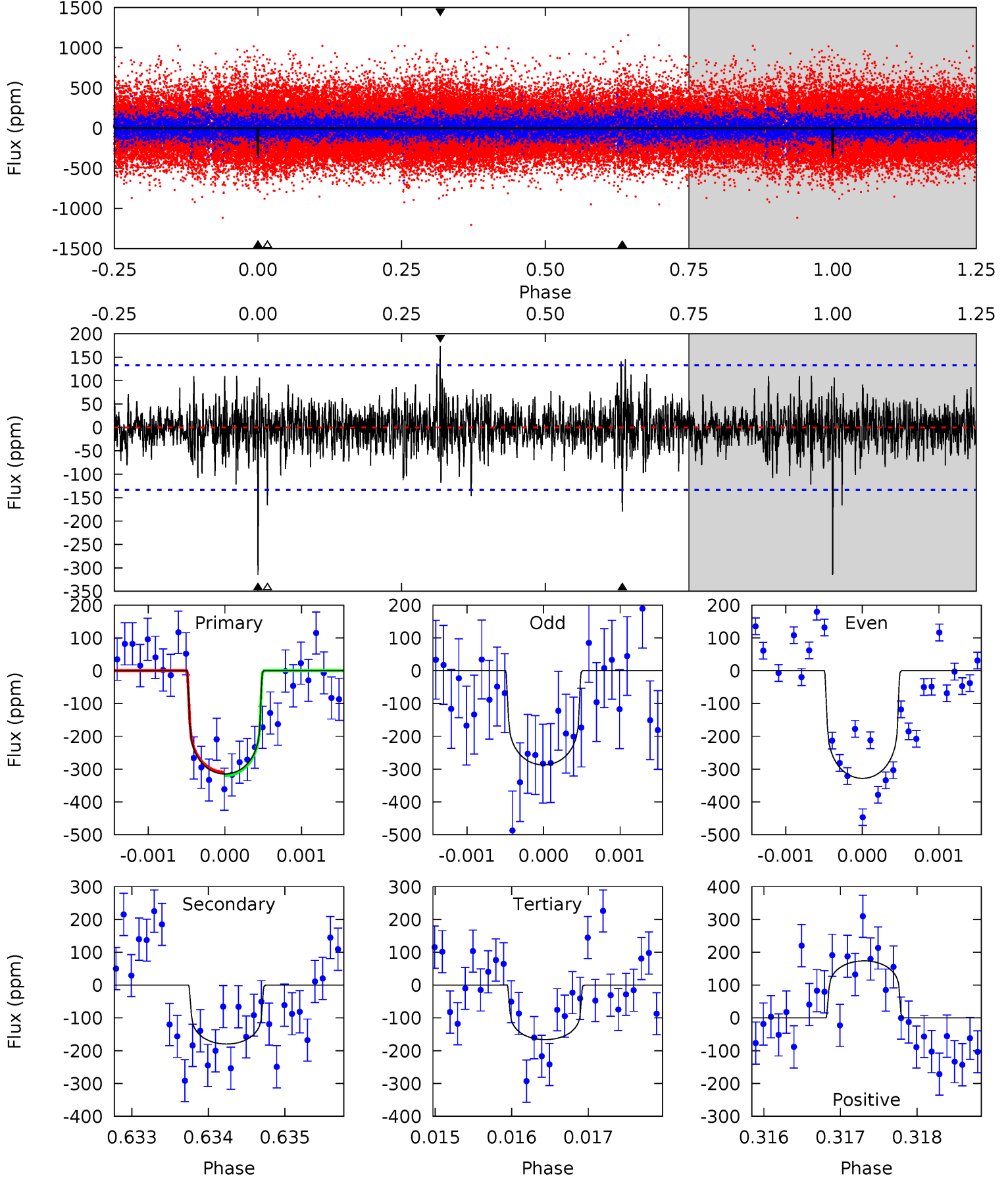
TCE 009142225-01 P=583.752753 Days $T_0=174.584708$ (BKJD)



DV Model-Shift Uniqueness Test

009142225-01, P = 583.756649 Days, E = 174.573474 Days

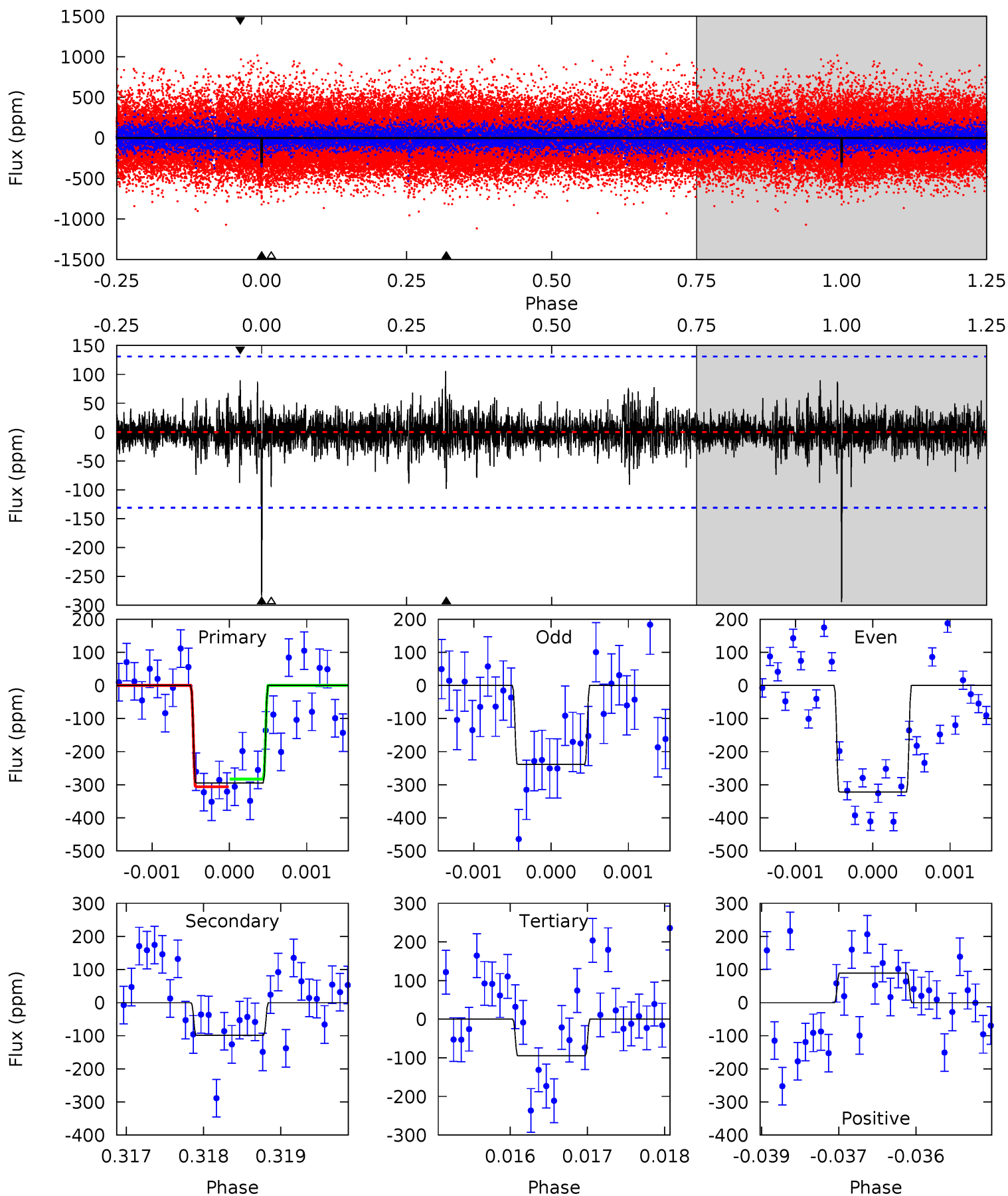
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	7.32	6.77	7.07	5.43	3.25	1.37	6.05	5.75	0.54	0.25	0.79	1.09	0.36	0.23



Alt Model-Shift Uniqueness Test

009142225-01, P = 583.752753 Days, E = 174.584708 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	4.08	3.94	3.71	5.43	3.25	0.82	8.28	8.51	0.15	0.38	1.65	1.23	0.26	0.48



Stellar Parameters For KIC 009142225

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6003^{+80}_{-80}	$4.176^{+0.162}_{-0.108}$	$0.120^{+0.150}_{-0.150}$	$1.442^{+0.253}_{-0.278}$	$1.139^{+0.106}_{-0.096}$	$0.535^{+0.436}_{-0.176}$
	+1%/-1%	+4%/-3%	+125%/-125%	+18%/-19%	+9%/-8%	+82%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 009142225-01 / KOI 5623.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-180 ± 25	$2.72^{+1.41}_{-1.44}$	370^{+16}_{-19}	5306^{+2382}_{-893}	27657^{+90967}_{-16188}
Alt.	-98 ± 24	$2.74^{+1.59}_{-1.38}$	371^{+17}_{-20}	4632^{+1798}_{-732}	14651^{+46067}_{-9032}

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

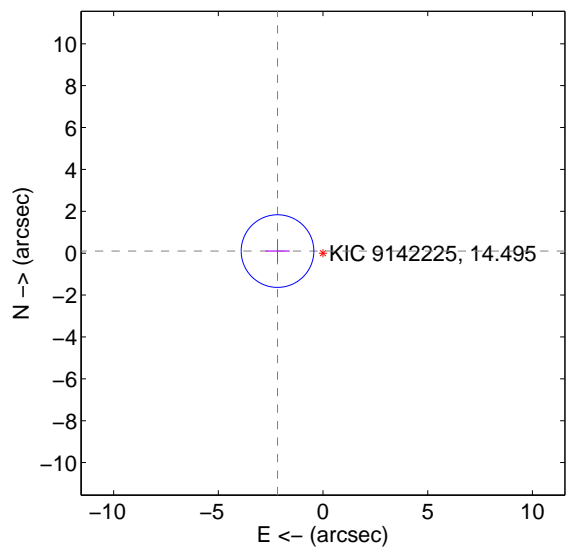
Supplemental centroid analysis for 009142225-01. Kepler magnitude: 14.49. Transit SNR 7.06

There are 1 quarters with good PRF difference image offsets

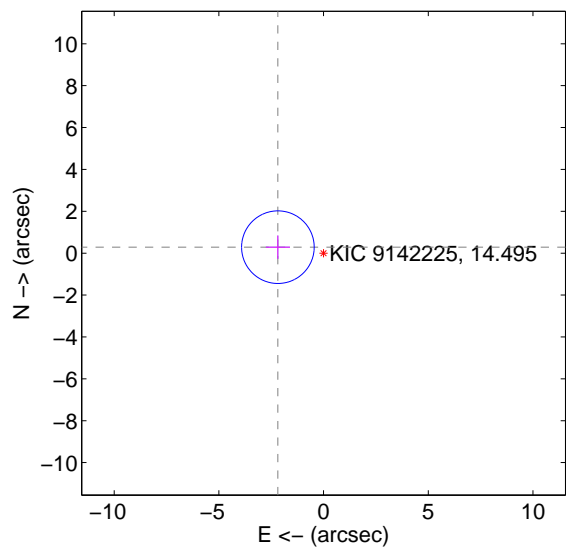
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.176 ± 0.578	3.76	2.174 ± 0.578	0.100 ± 0.557
PRF-fit source offset from KIC position	2.201 ± 0.578	3.81	2.182 ± 0.578	0.287 ± 0.557
photometric centroid source offset	3.02 ± 2.20	1.37	2.63 ± 2.15	-1.49 ± 2.35

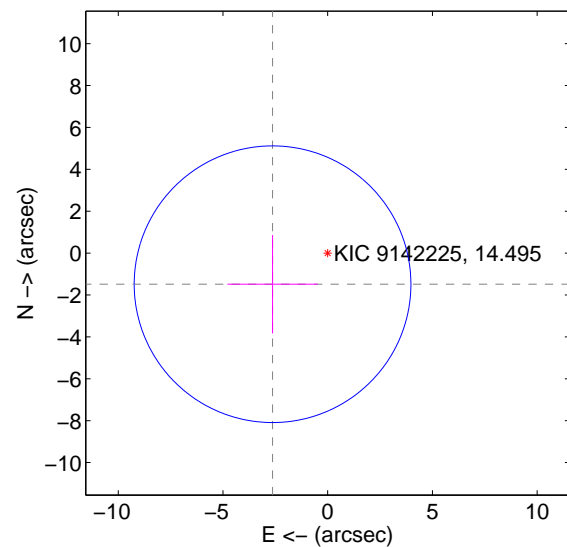
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

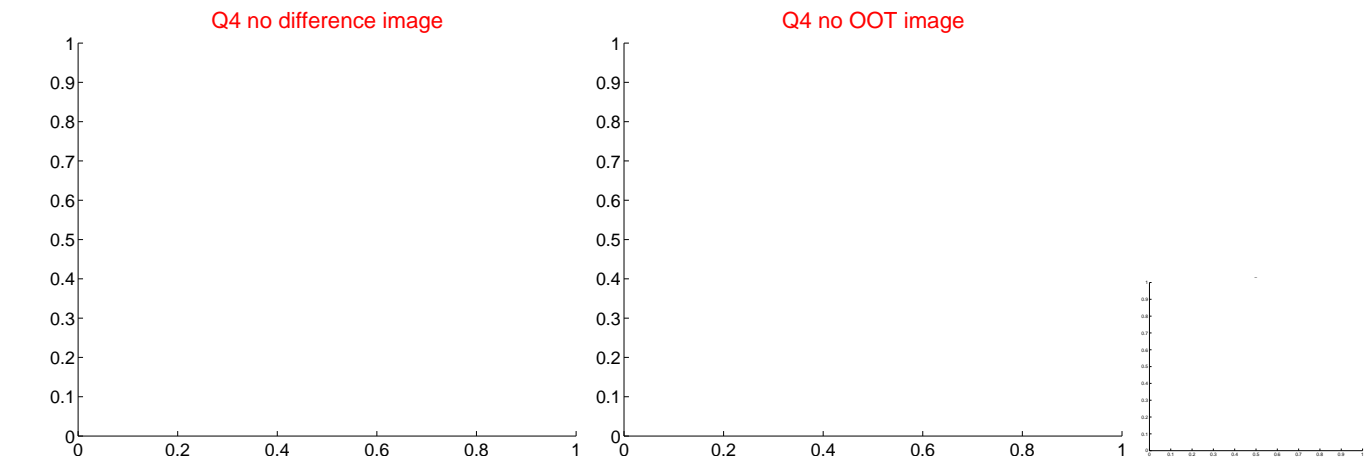
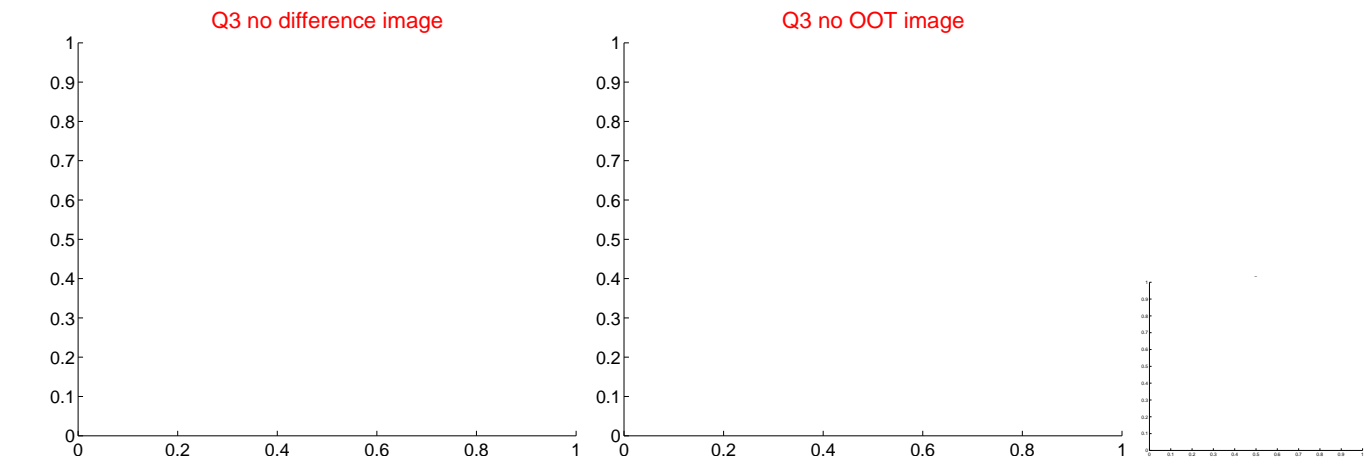
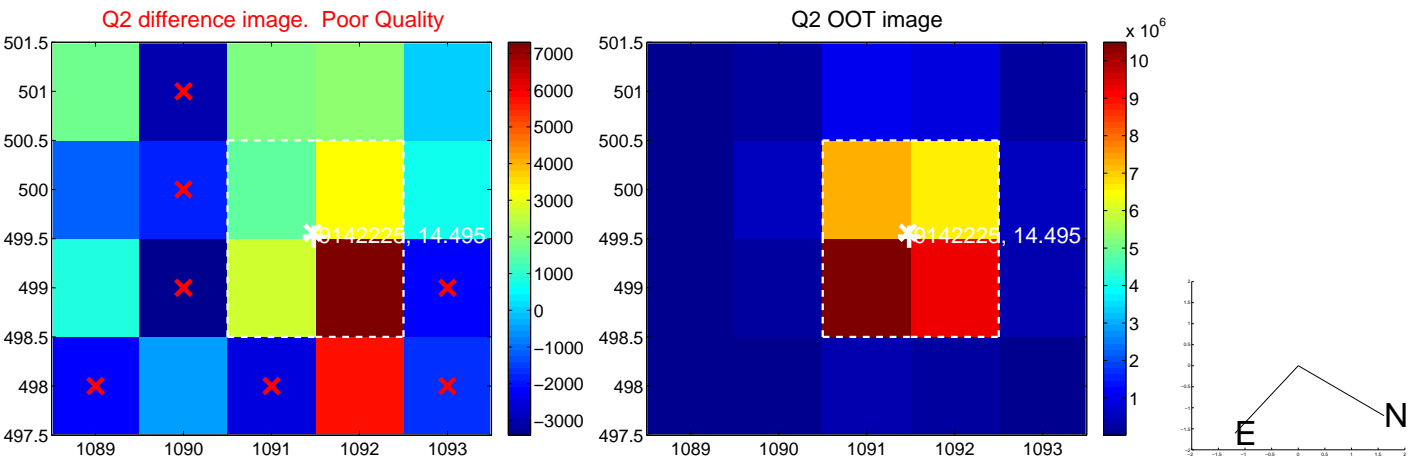
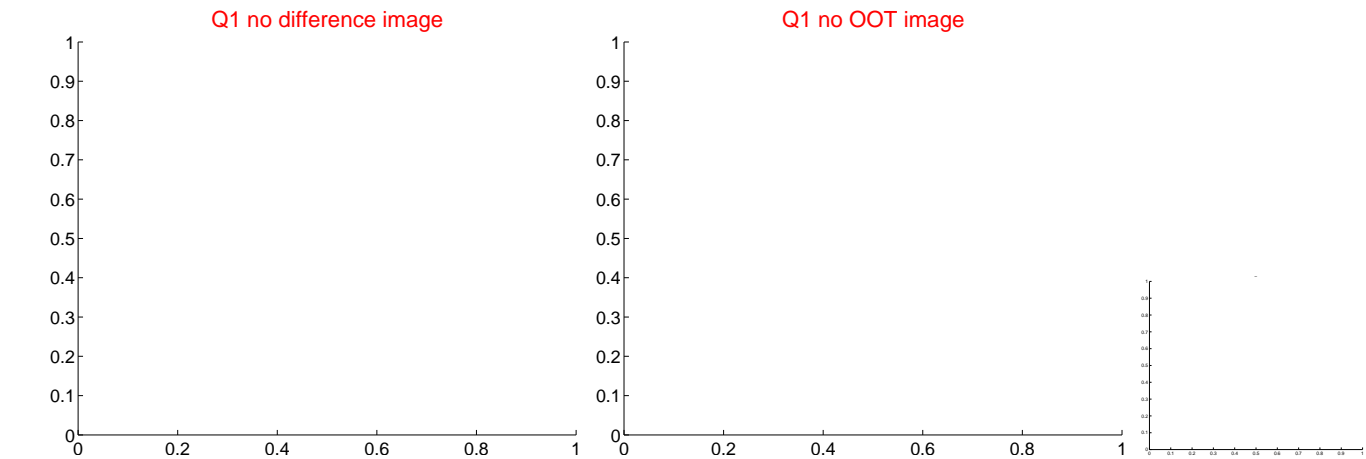


offset from photometric centroids

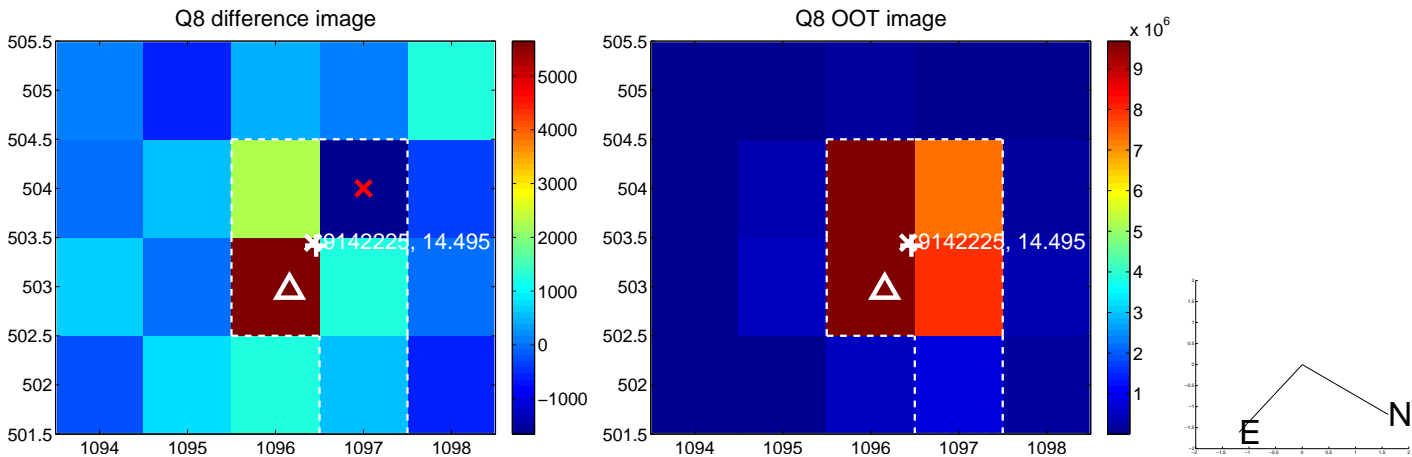
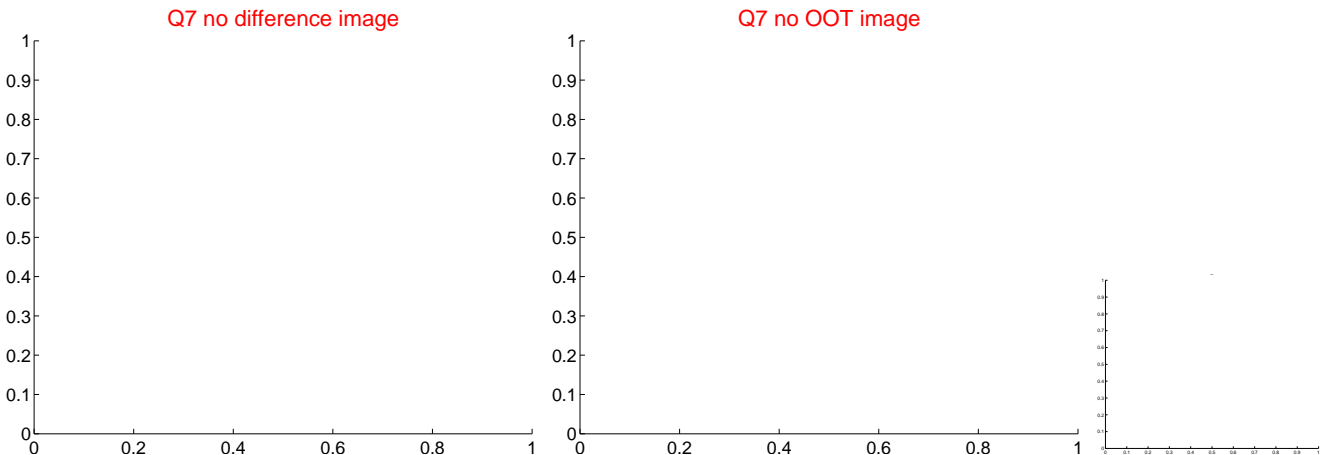
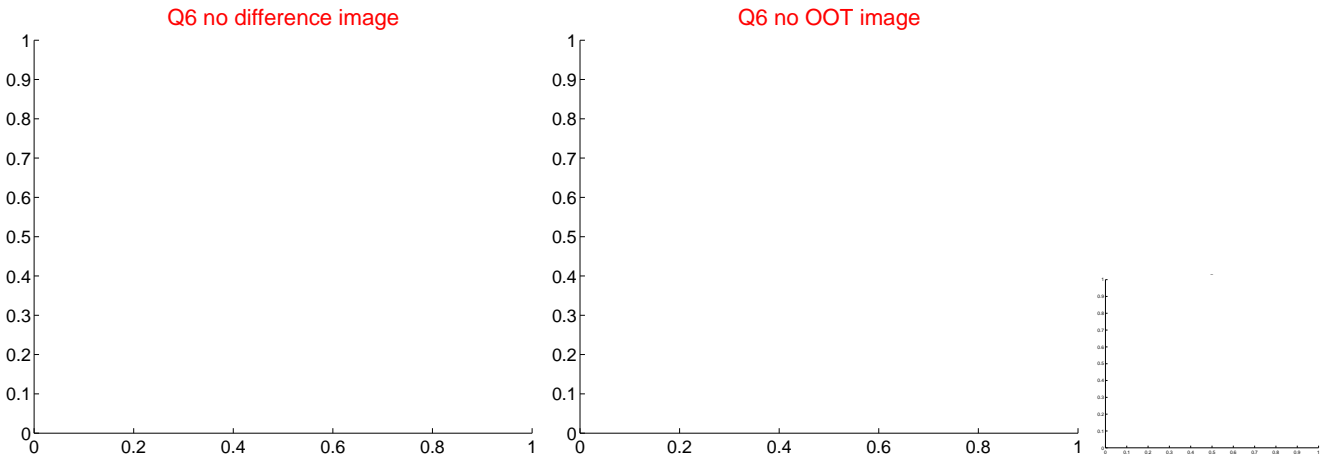
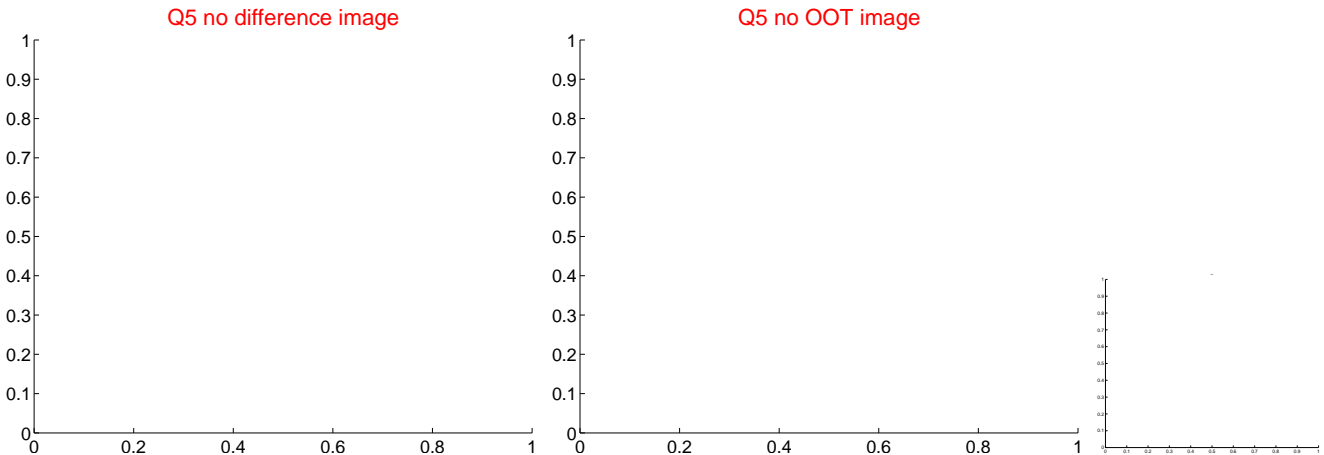


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



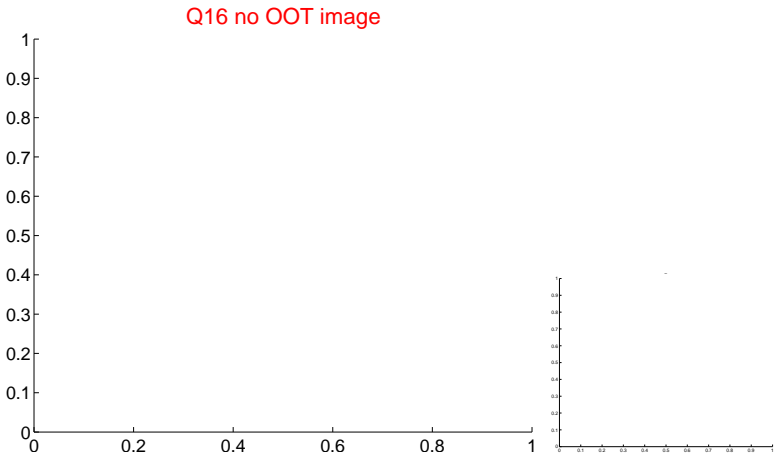
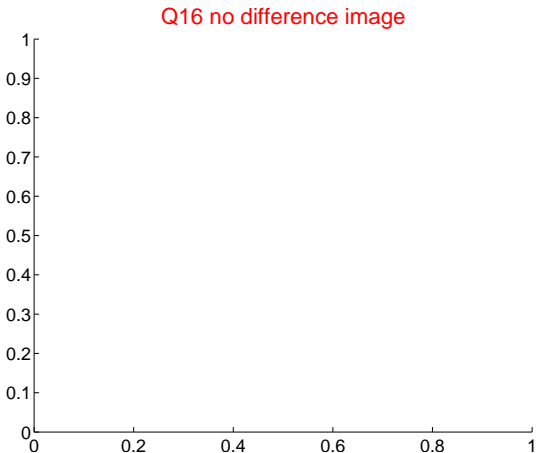
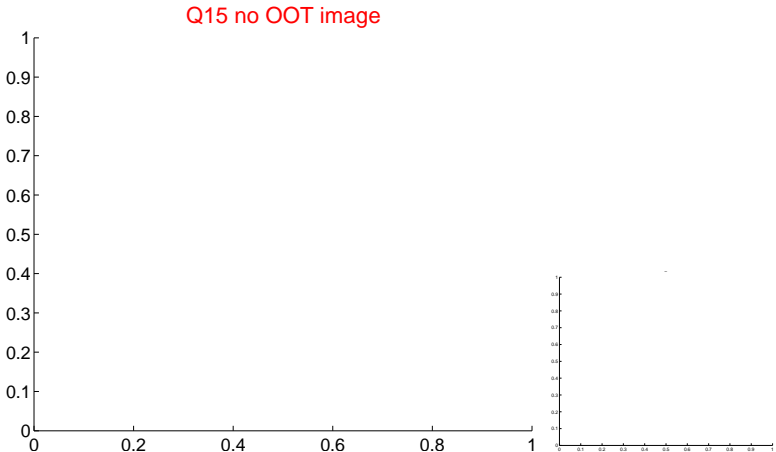
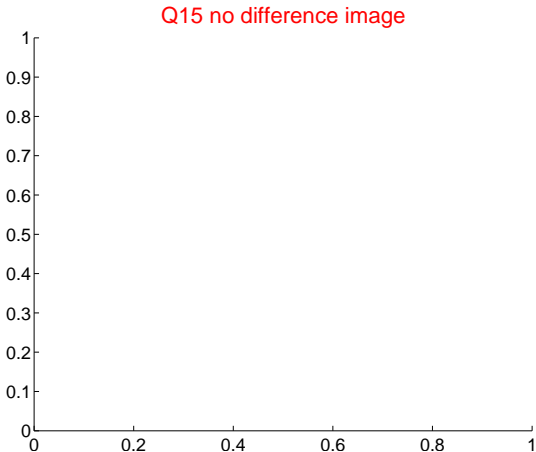
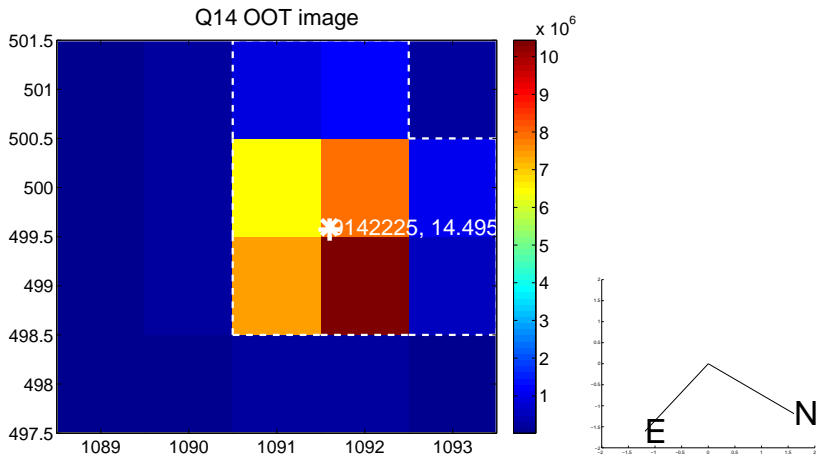
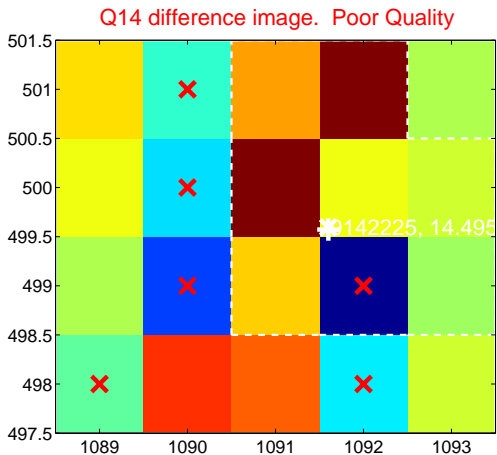
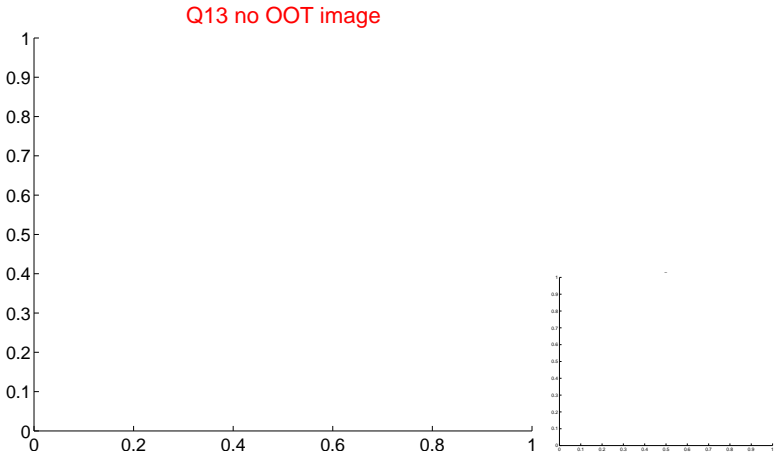
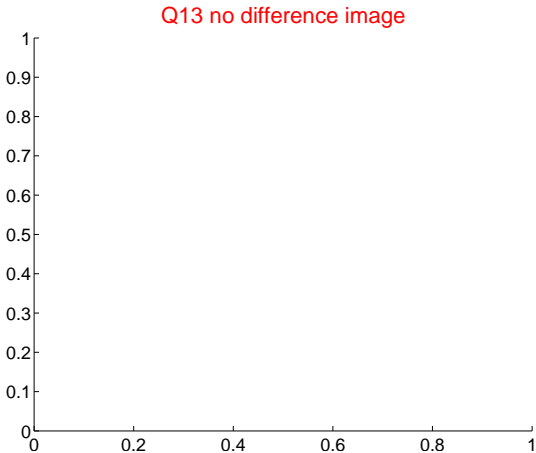
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



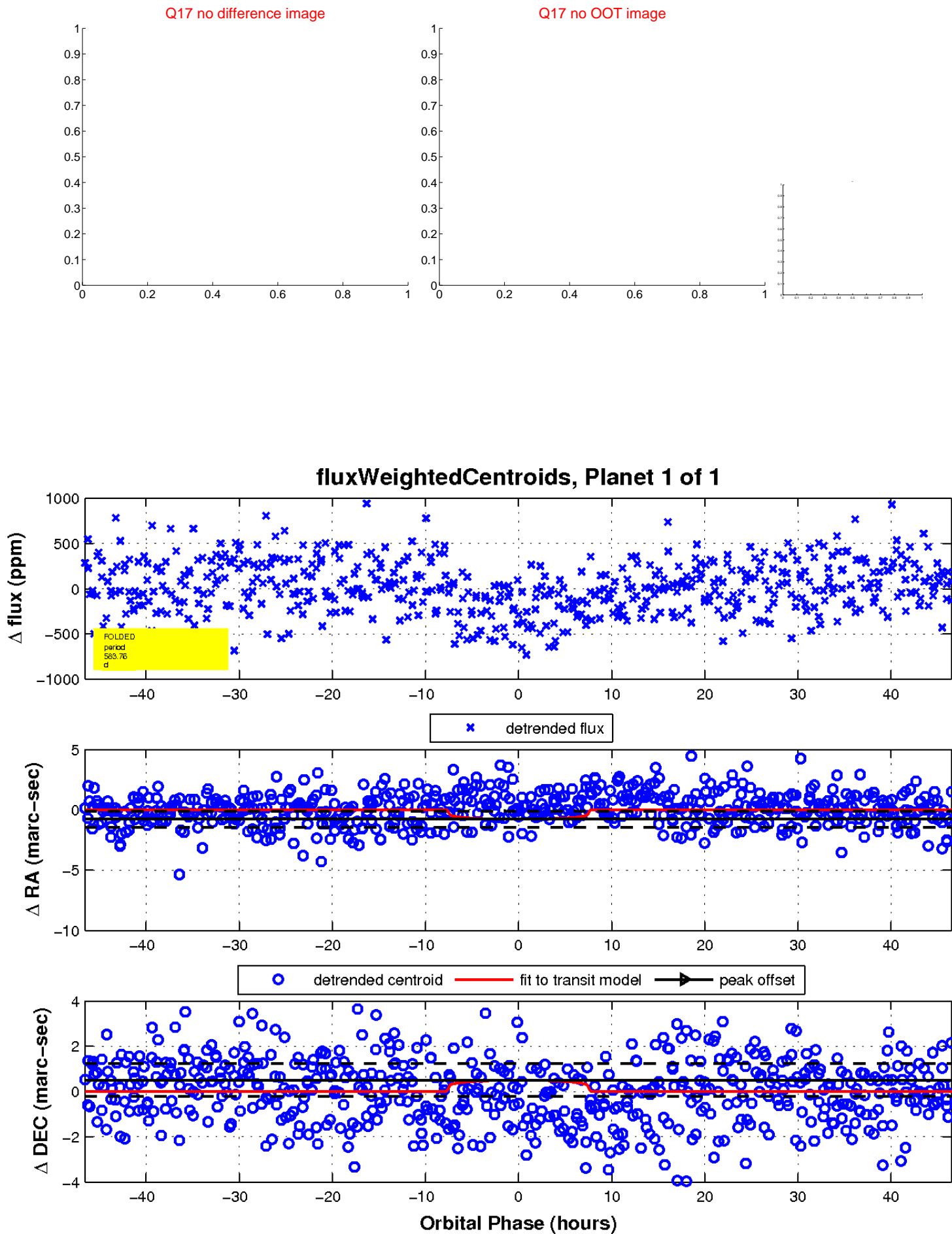
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

