

KIC 006045223

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})
006045223-01	OBS	No	457.292397	168.397030	1170.3	16.628	10.2	11.5	1.08	6278	3.80	1.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006045223-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

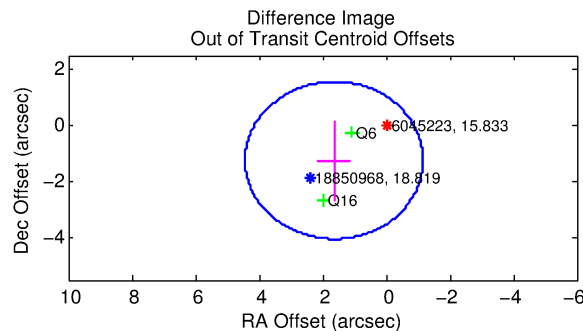
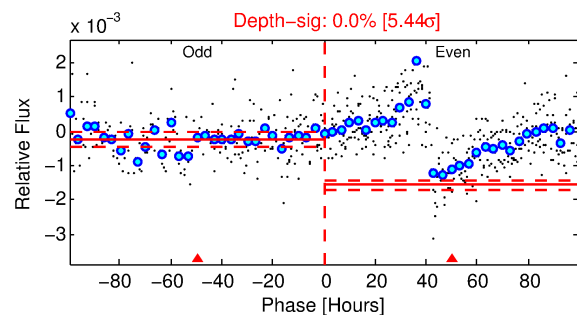
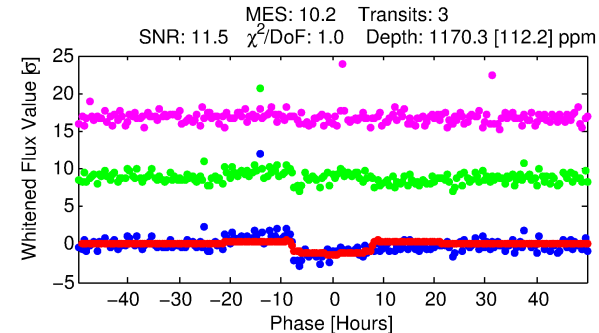
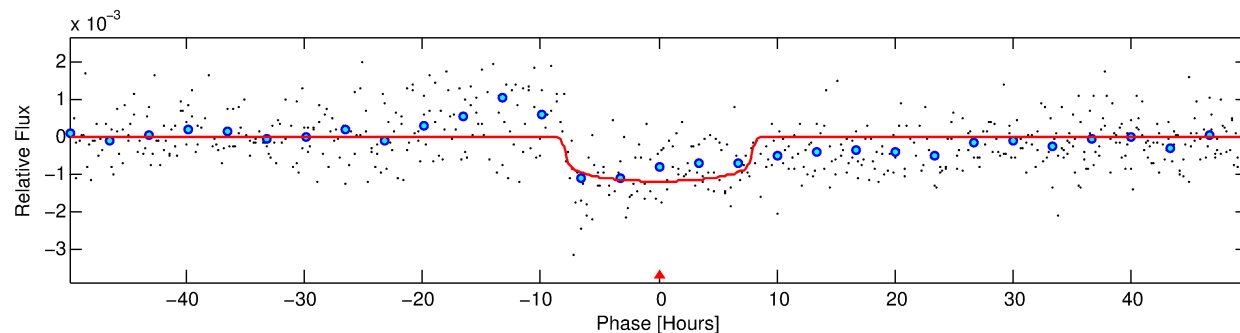
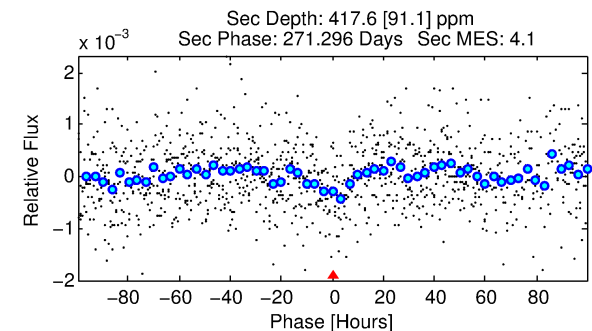
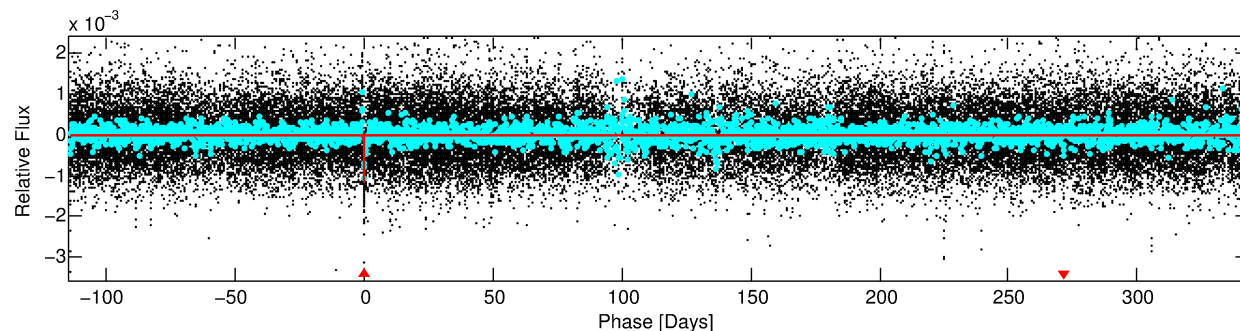
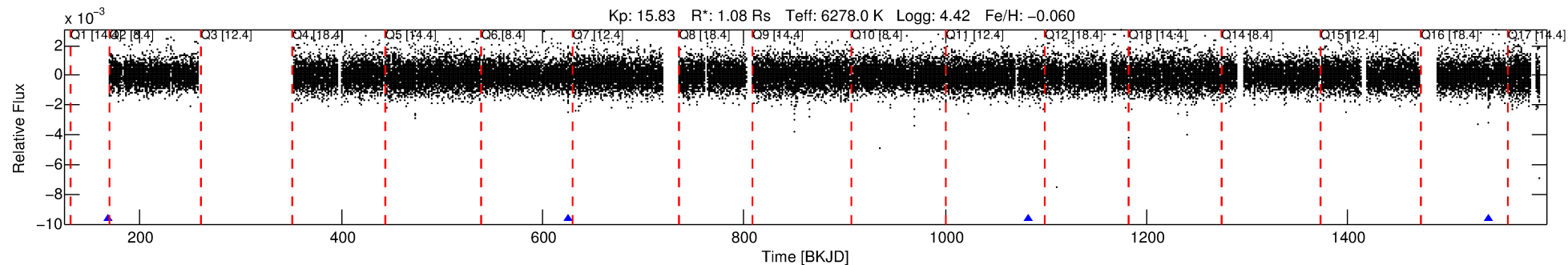
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006045223-01

No Significant Match Found

DV One-Page Summary

KIC: 6045223 Candidate: 1 of 1 Period: 457.292 d



DV Fit Results:

Period = 457.29240 [0.01130] d
Epoch = 168.3970 [0.0248] BKJD
Rp/R* = 0.0322 [0.0076]
a/R* = 190.83 [218.64]
b = 0.49 [1.79]
Seff = 1.11 [0.42]
Teq = 262 [25] K
Rp = 3.80 [1.43] Re
a = 1.2116 [0.2950] AU
Ag = 23328.85 [14600.47] [1.60 σ]
Teffp = 4999 [677] K [7.00 σ]

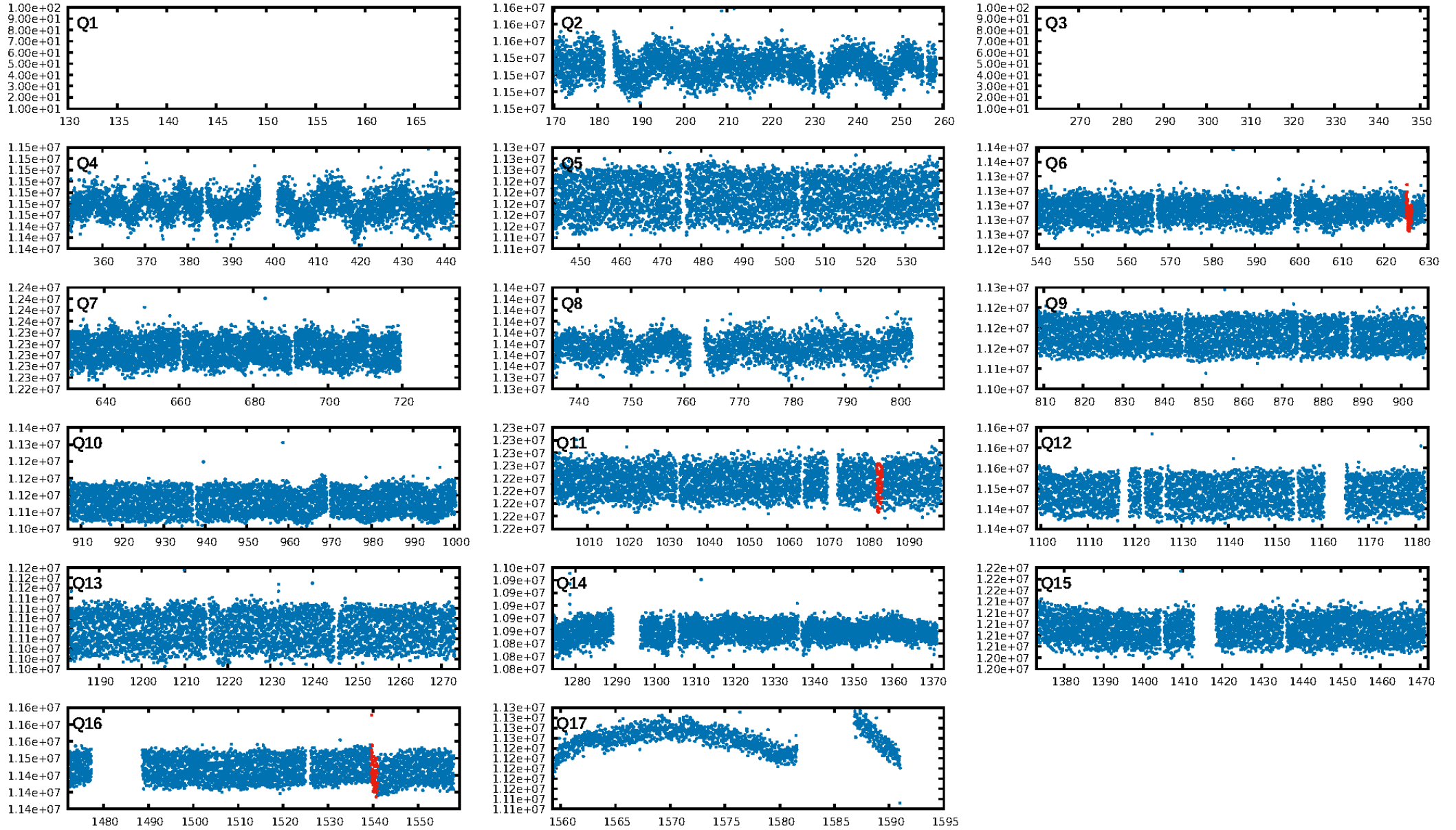
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: 1.71e-17
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 9.53
Centroid-sig: 24.5%
Centroid-so: 0.703 arcsec [0.98 σ]
OotOffset-rm: 2.059 arcsec [2.21 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-rm: 2.155 arcsec [2.42 σ]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

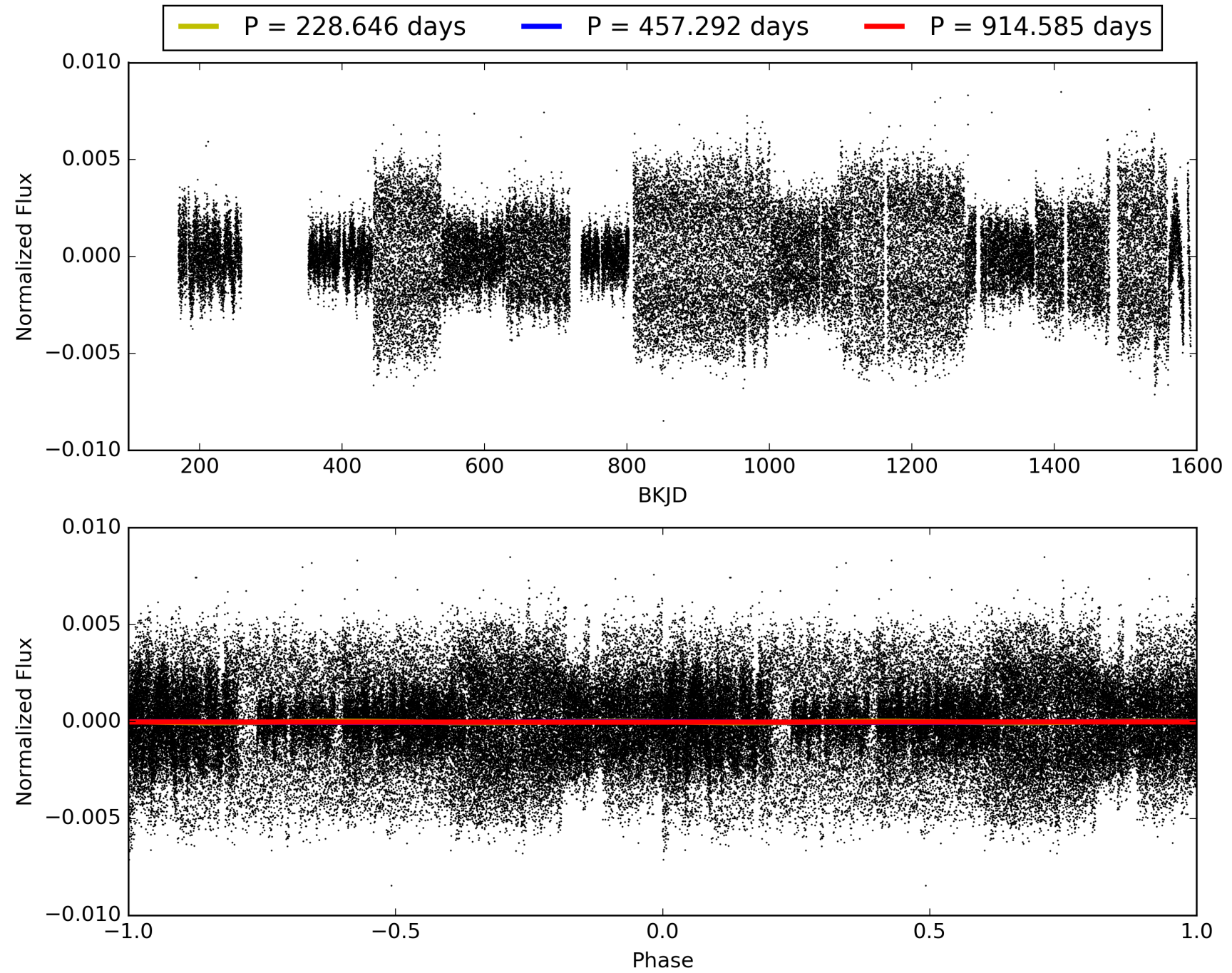
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:26:37 Z

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

TCE 006045223-01, PDC Light Curves

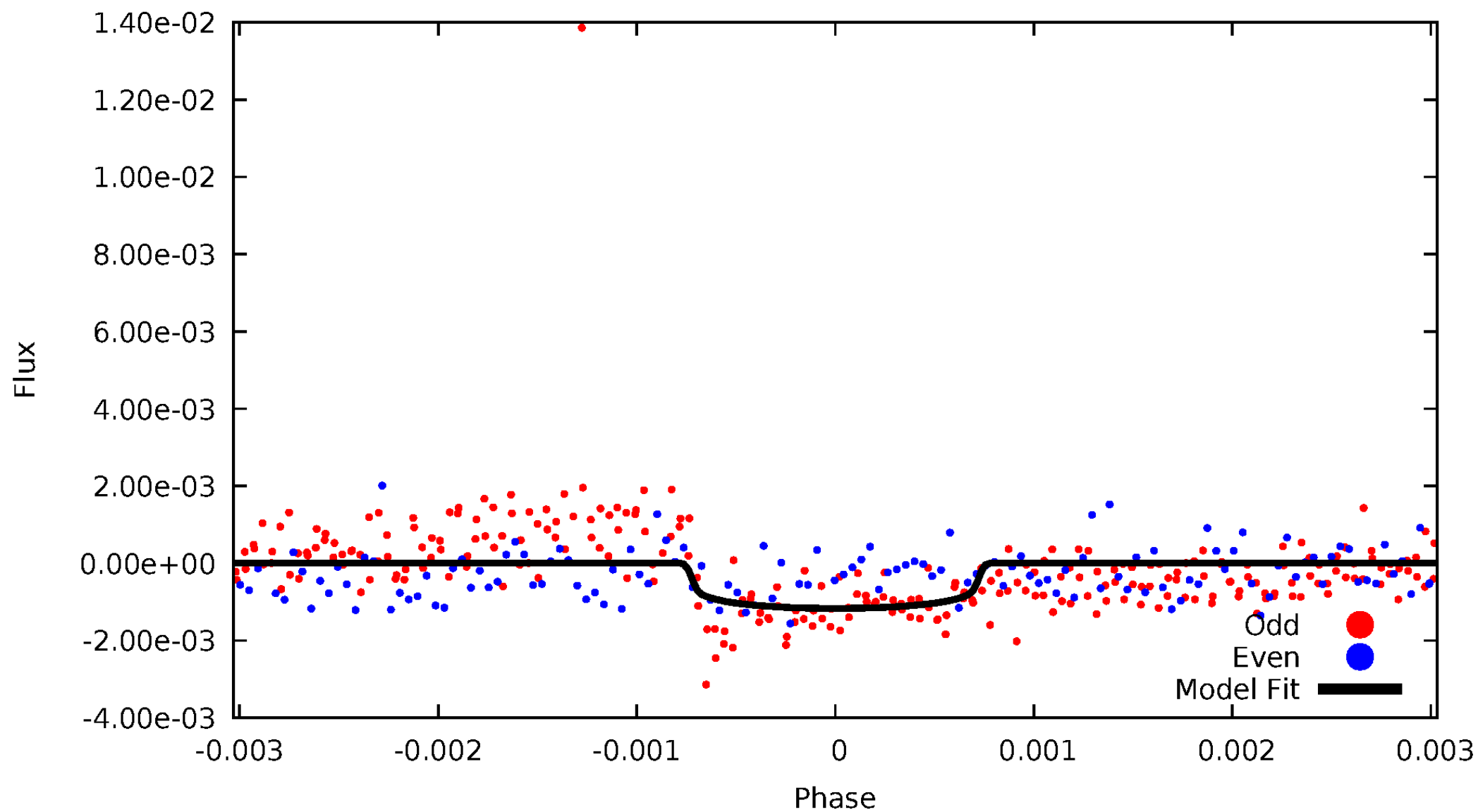


TCE 006045223-01



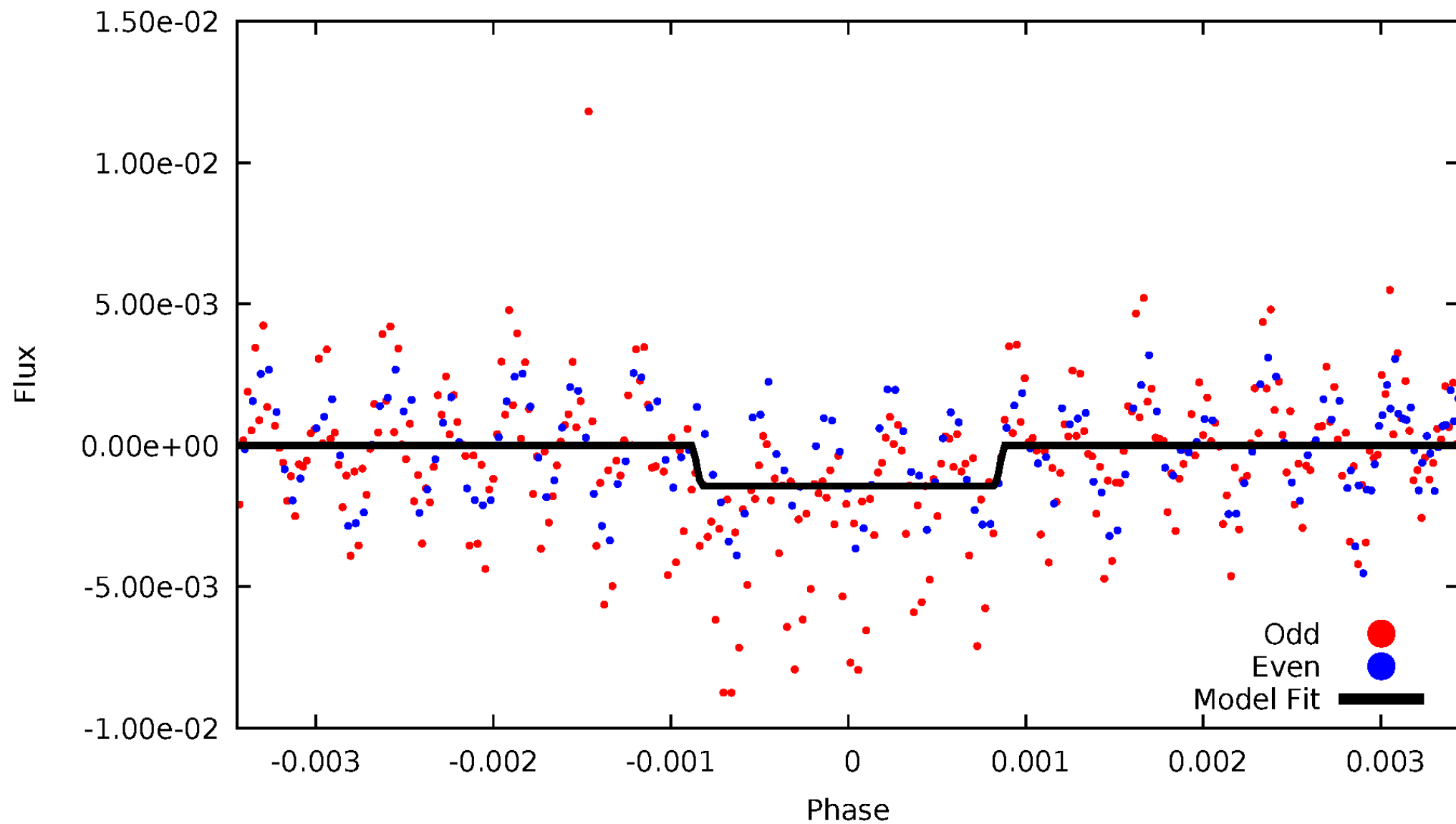
DV Odd/Even

TCE 006045223-01

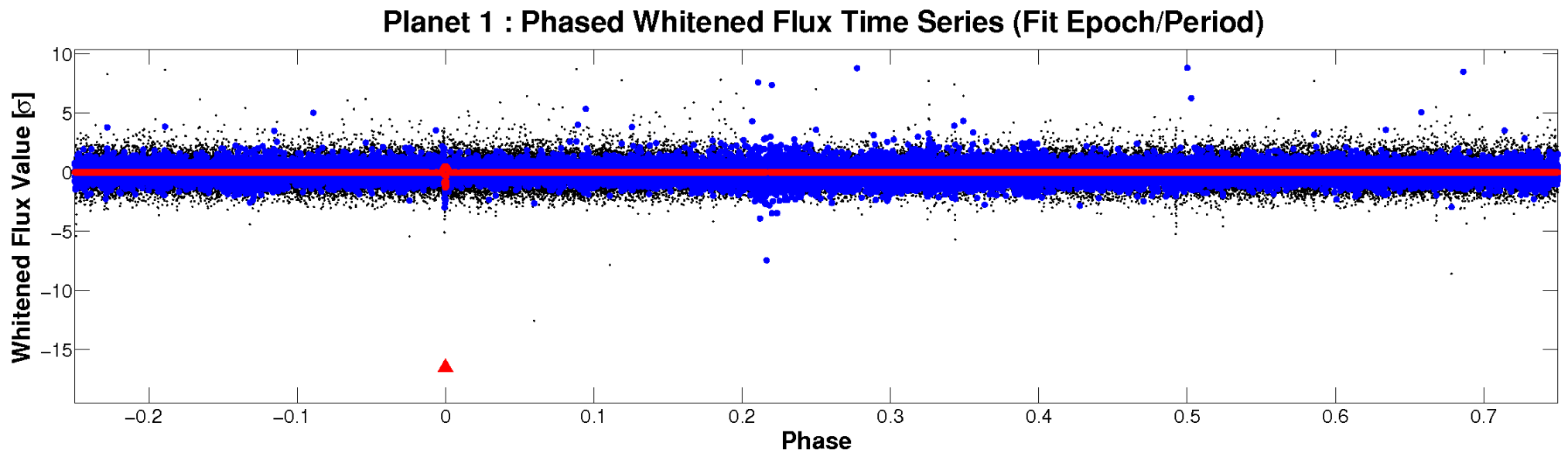
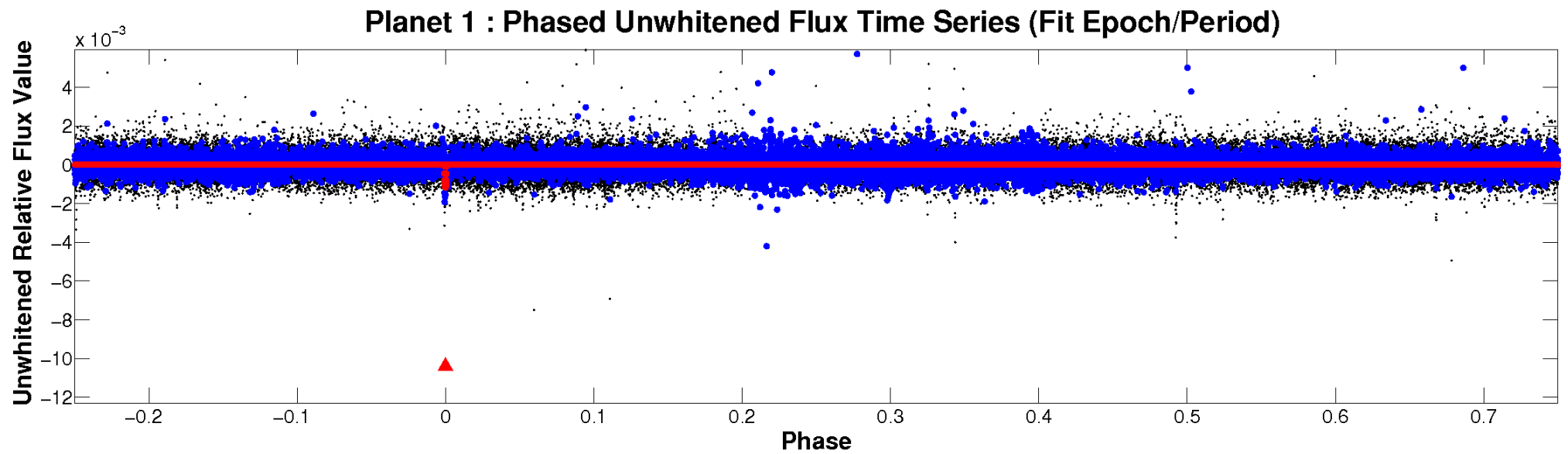


ALT Odd/Even

TCE 006045223-01

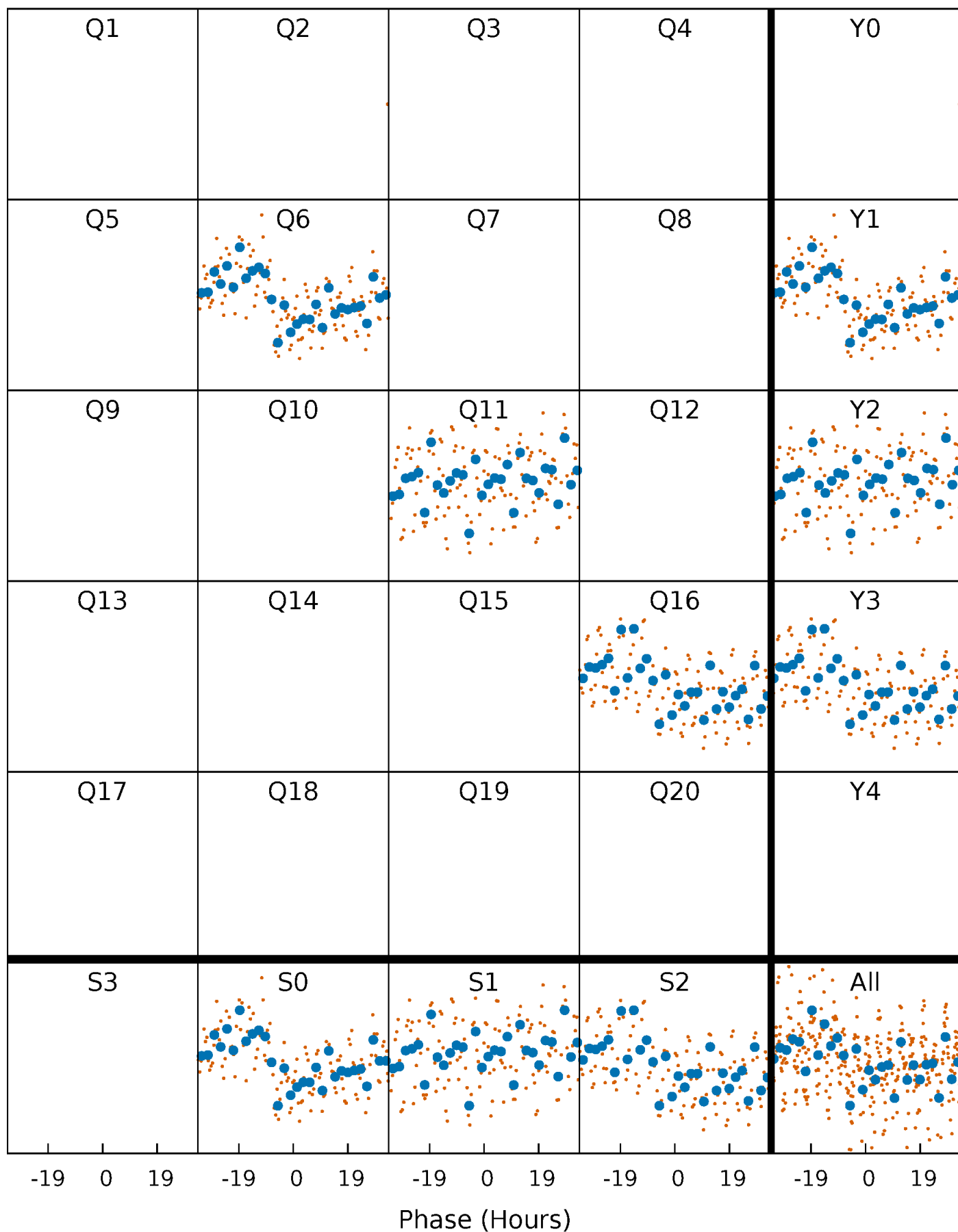


Non-Whitened Vs. Whitened Light Curve



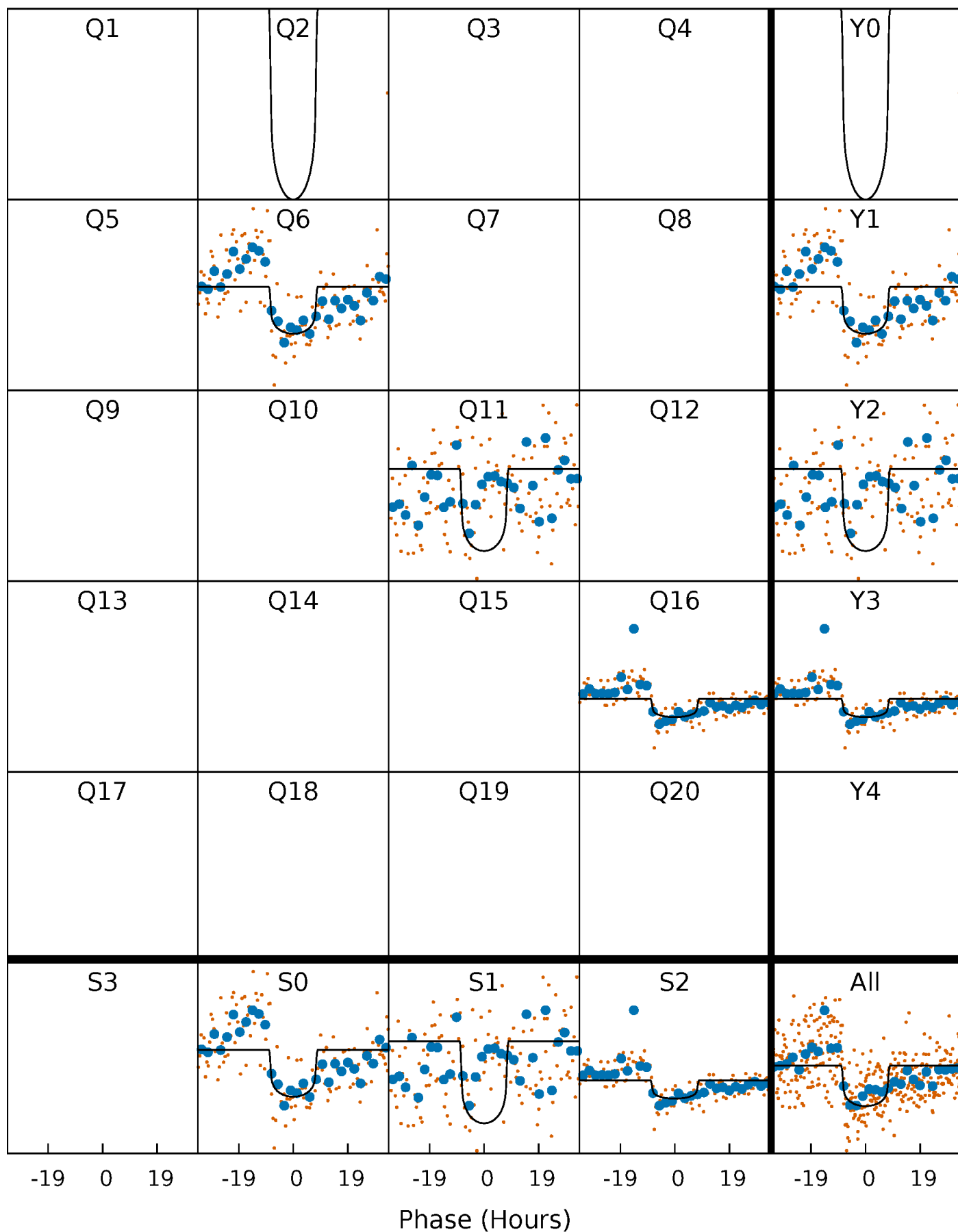
PDC Quarter-Phased Transit Curves

TCE 006045223-01 P=457.292397 Days $T_0=168.397030$ (BKJD)



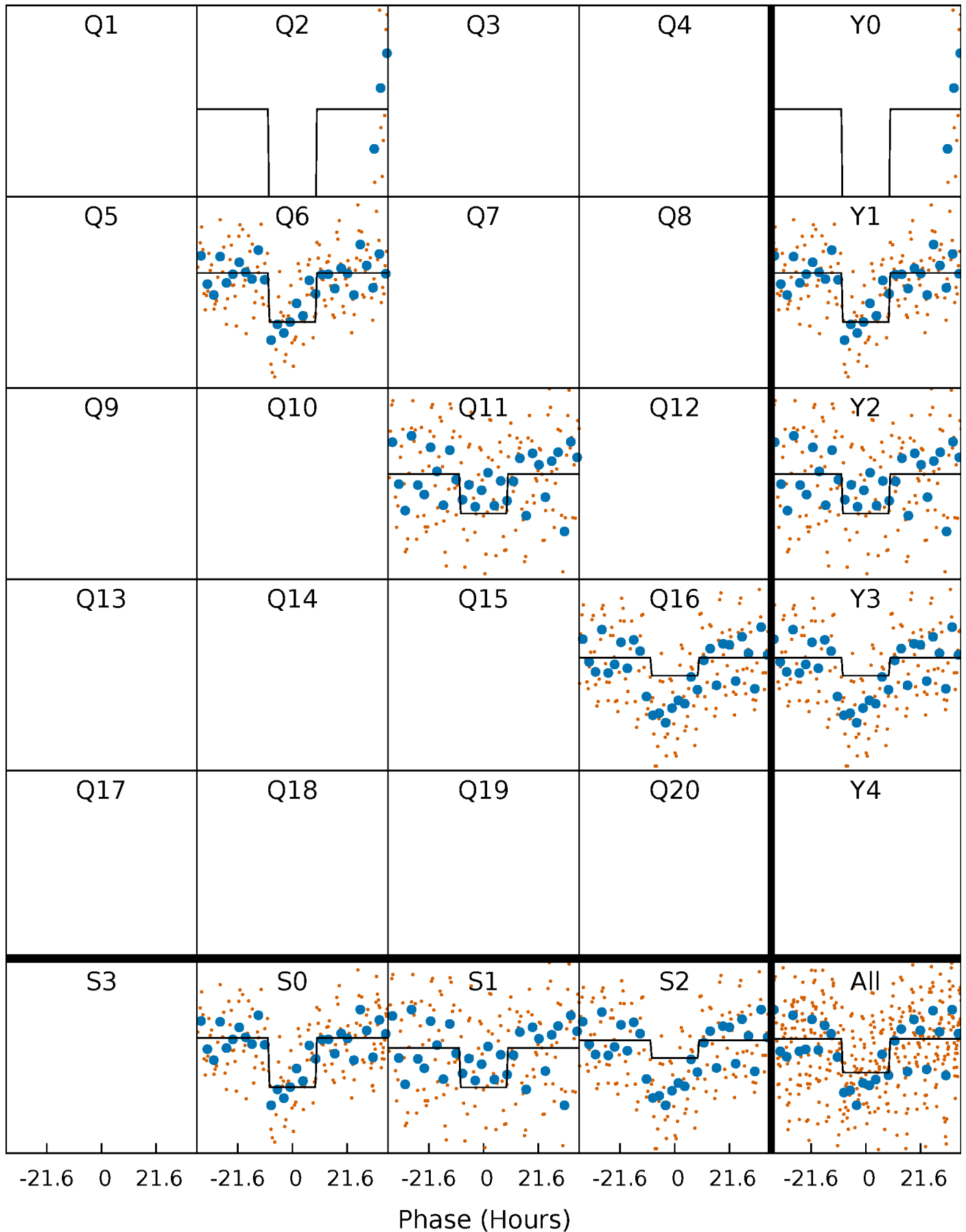
DV Quarter-Phased Transit Curves

TCE 006045223-01 P=457.292397 Days $T_0=168.397030$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

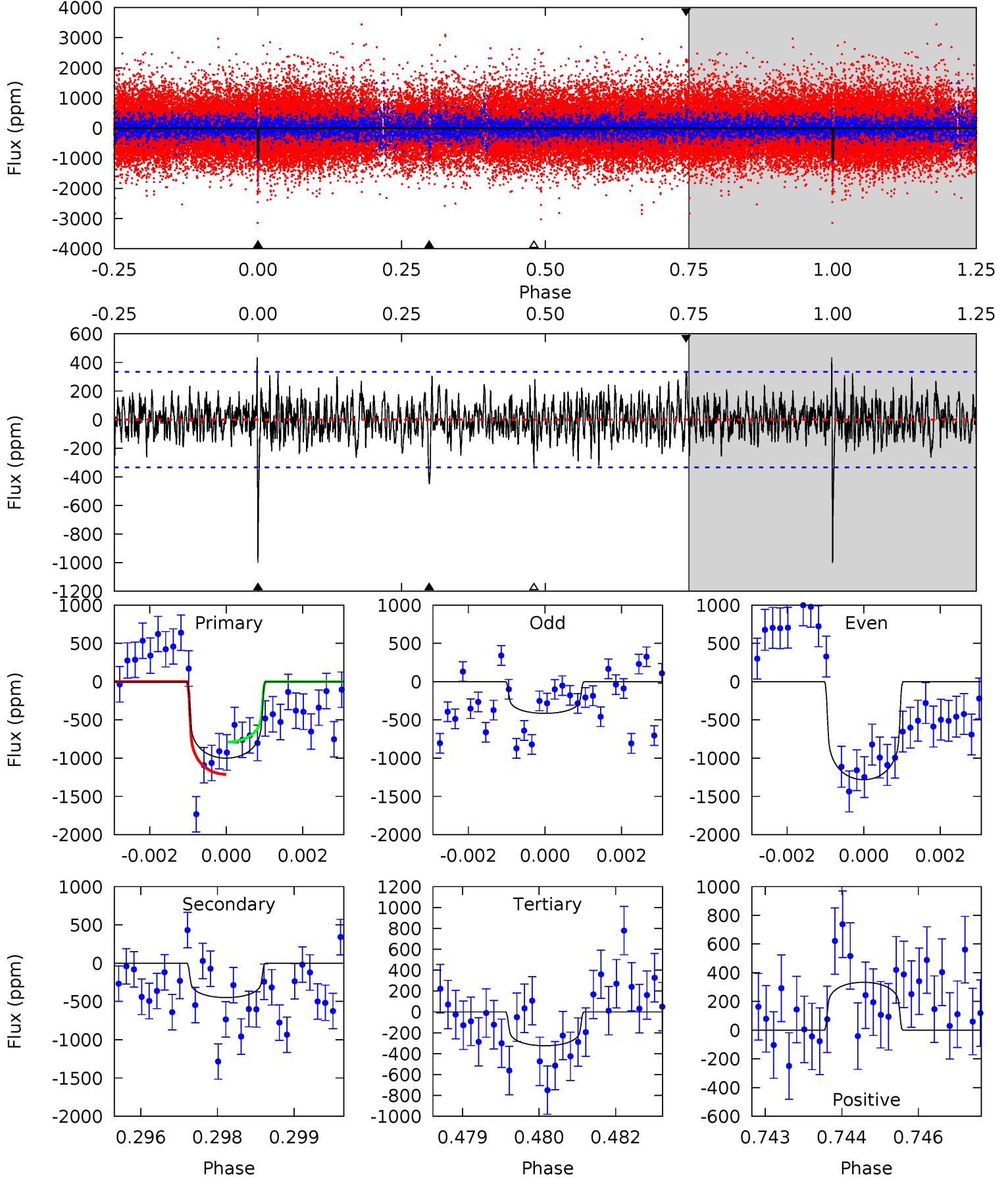
TCE 006045223-01 P=457.296262 Days $T_0=168.471141$ (BKJD)



DV Model-Shift Uniqueness Test

006045223-01, P = 457.292397 Days, E = 168.397030 Days

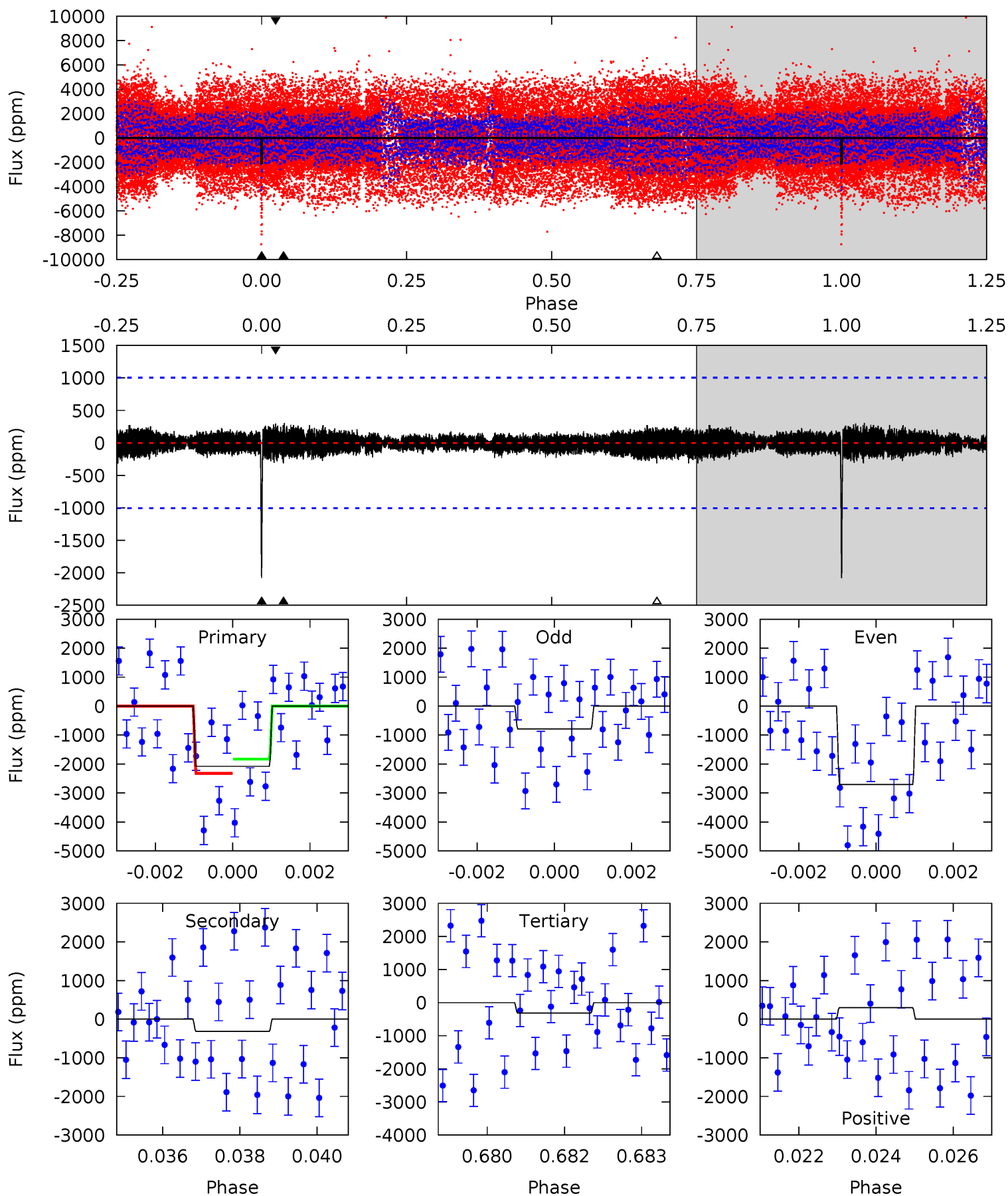
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	7.22	5.21	5.36	5.38	3.17	1.58	10.9	10.7	2.01	1.86	6.56	0.82	0.30	3.39



Alt Model-Shift Uniqueness Test

006045223-01, P = 457.296262 Days, E = 168.471141 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	1.68	1.67	1.58	5.35	3.13	0.48	9.40	9.49	0.01	0.10	4.63	1.54	0.13	1.30



Stellar Parameters For KIC 006045223

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6278^{+174}_{-239}	$4.425^{+0.062}_{-0.188}$	$-0.060^{+0.250}_{-0.300}$	$1.081^{+0.318}_{-0.127}$	$1.132^{+0.141}_{-0.157}$	$1.264^{+0.416}_{-0.614}$
	+3%/-4%	+1%/-4%	+417%/-500%	+29%/-12%	+12%/-14%	+33%/-49%
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 006045223-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-449 ± 62	$3.97^{+1.12}_{-1.08}$	371^{+26}_{-18}	5134^{+696}_{-494}	22668^{+19039}_{-9288}
Alt.	-315 ± 188	$4.57^{+1.18}_{-0.95}$	372^{+25}_{-19}	4436^{+677}_{-700}	11202^{+11371}_{-7082}

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 $A_{obs} \gg 1.0$

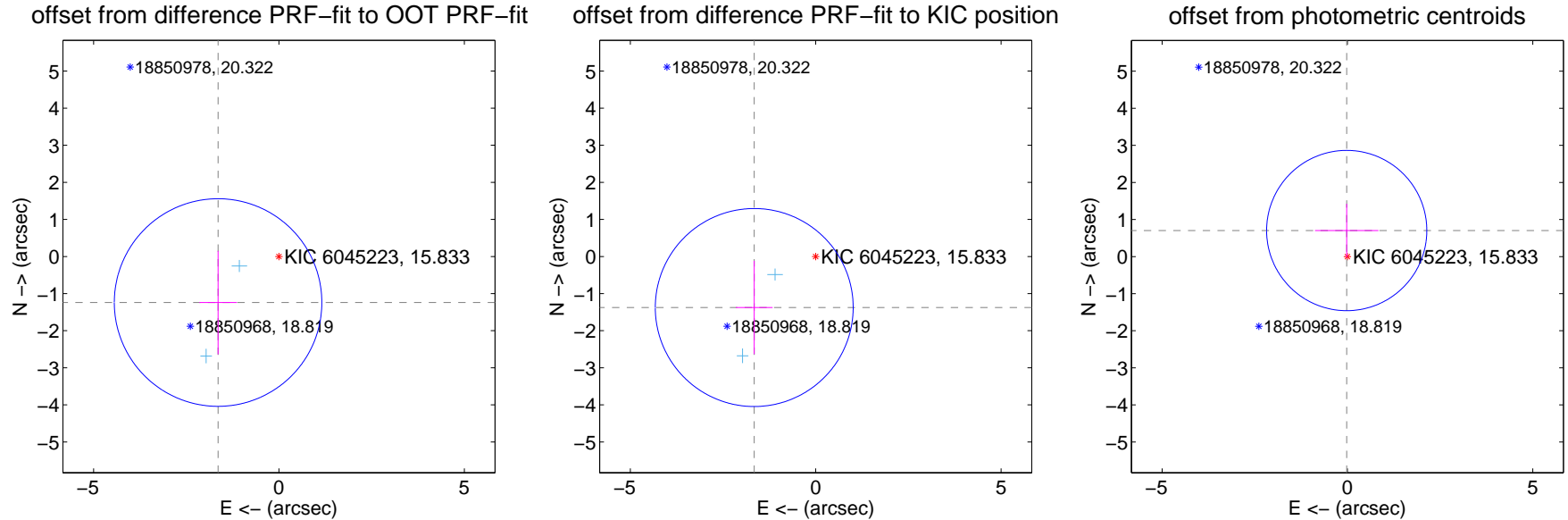
DV Centroid Data

Supplemental centroid analysis for 006045223-01. Kepler magnitude: 15.83. Transit SNR 11.52

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.059 ± 0.933	2.21	1.643 ± 0.507	-1.241 ± 1.395
PRF-fit source offset from KIC position	2.155 ± 0.890	2.42	1.659 ± 0.496	-1.375 ± 1.259
photometric centroid source offset	0.70 ± 0.72	0.98	0.02 ± 0.86	0.70 ± 0.72

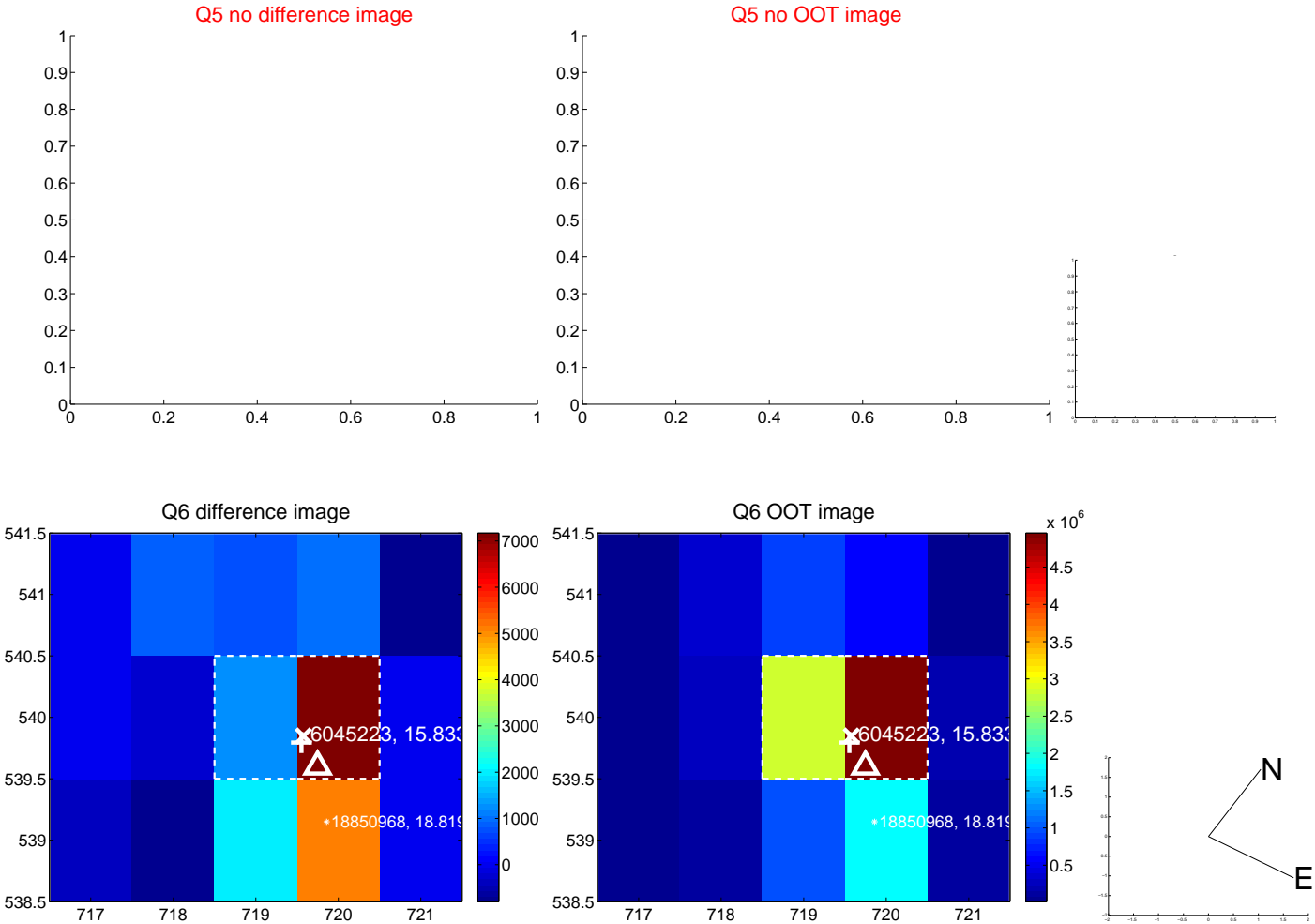


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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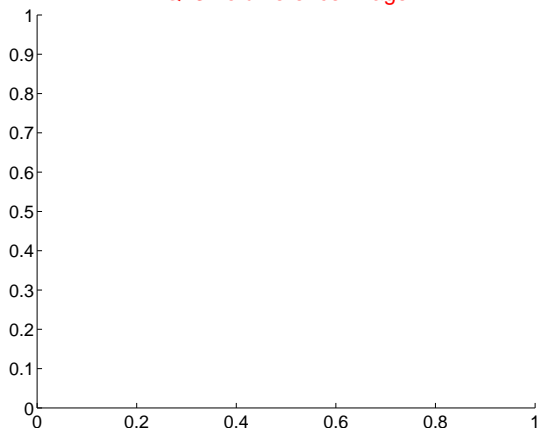


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

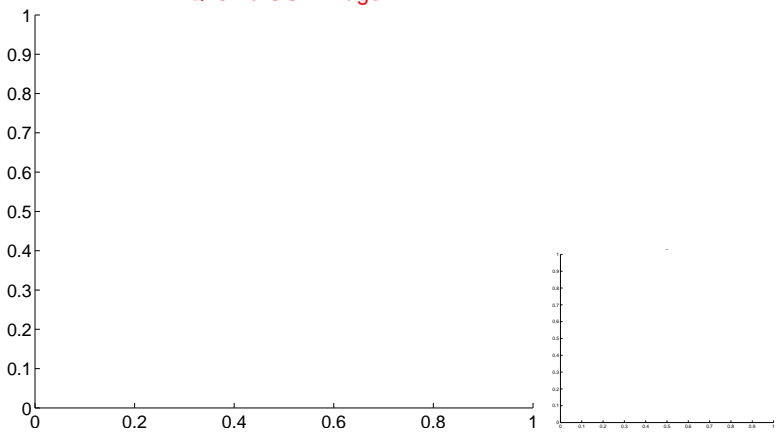


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

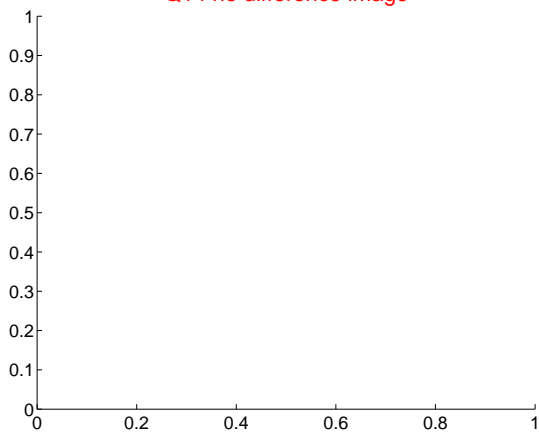
Q13 no difference image



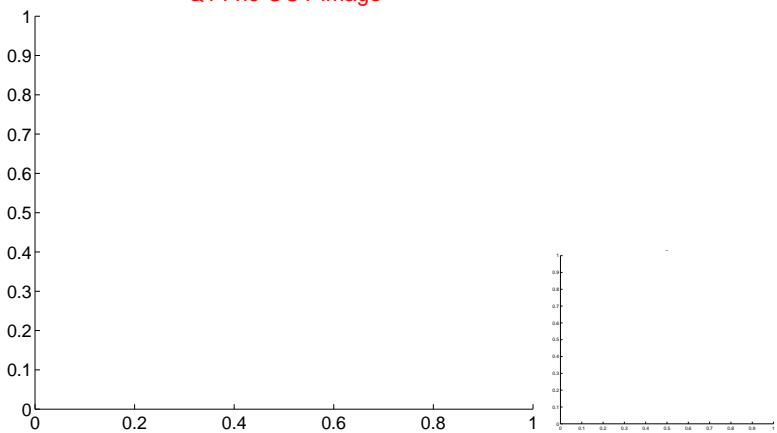
Q13 no OOT image



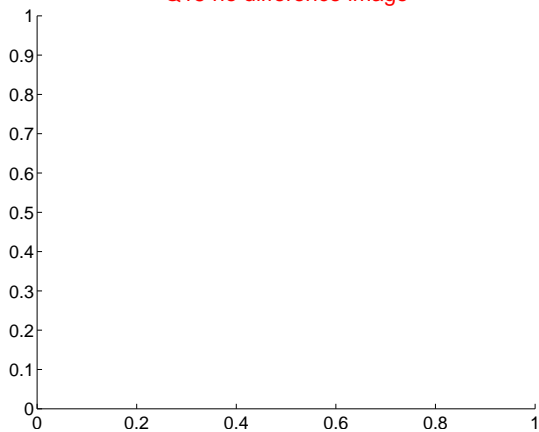
Q14 no difference image



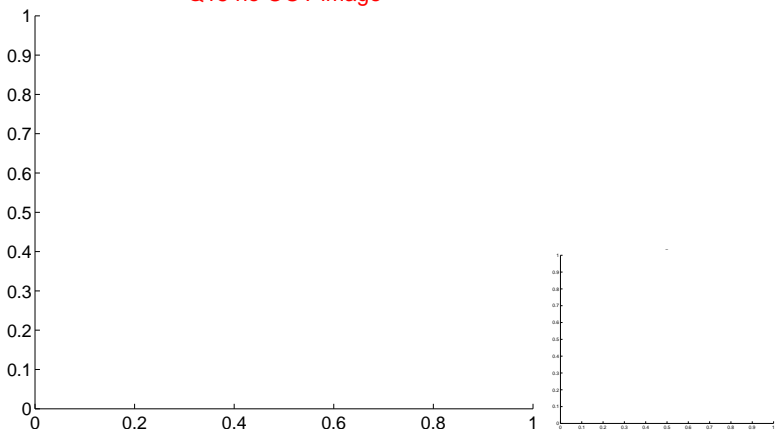
Q14 no OOT image



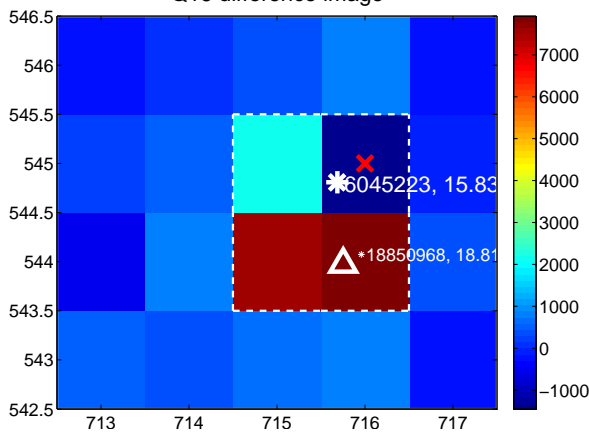
Q15 no difference image



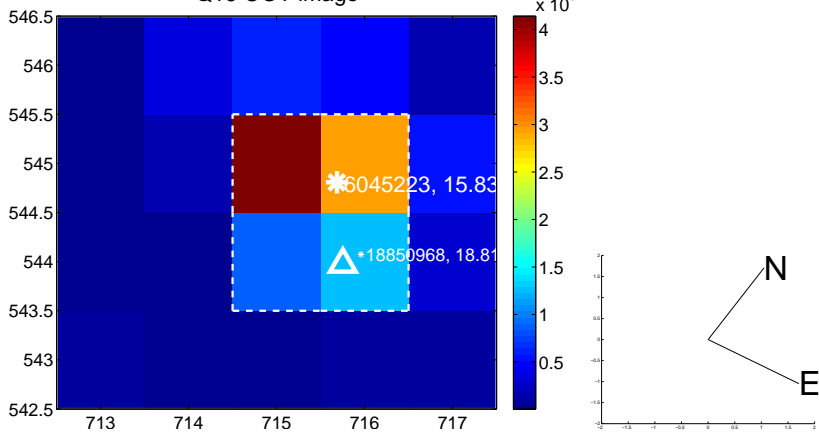
Q15 no OOT image



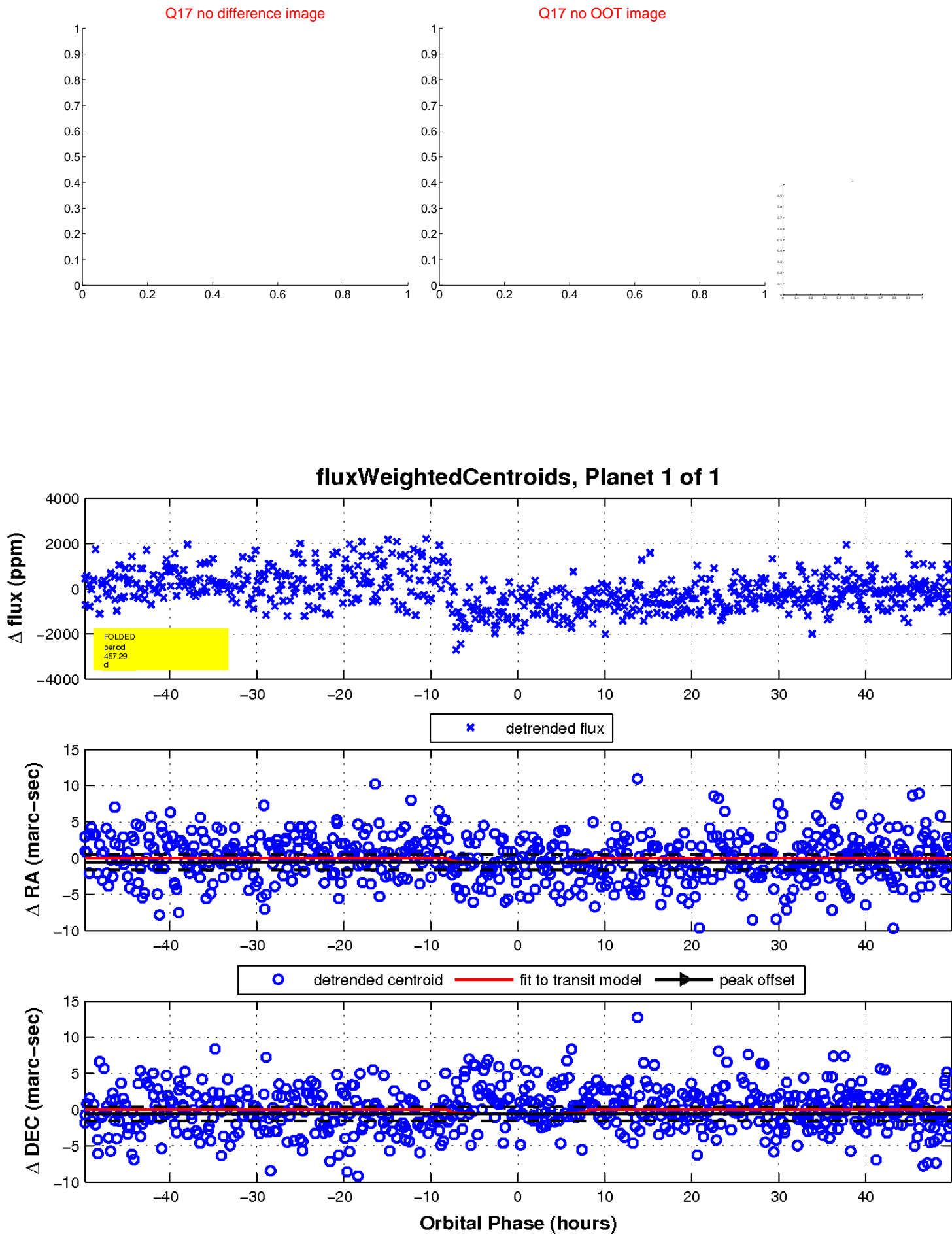
Q16 difference image



Q16 OOT image



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



UKIRT Image

Declination

