

KIC 006721603

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})
006721603-01	OBS	5321.01	215.613925	230.697568	136.4	11.177	7.8	7.7	1.57	6163	2.11	6.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006721603-01	OBS	PC	0.63	0	0	0	0	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.

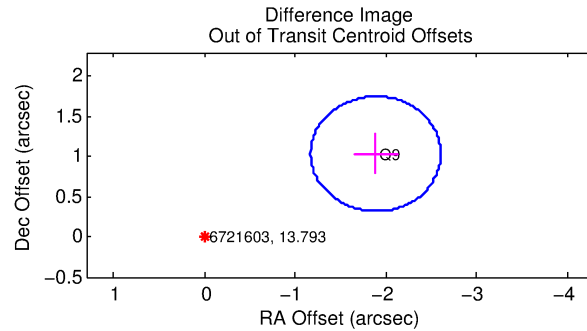
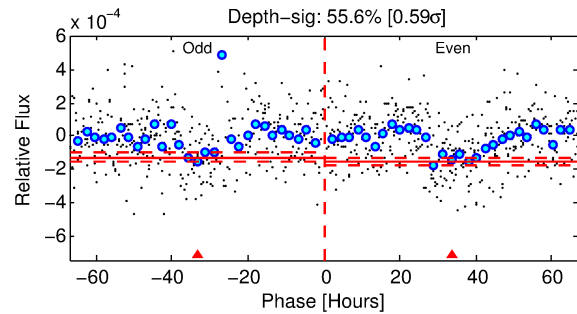
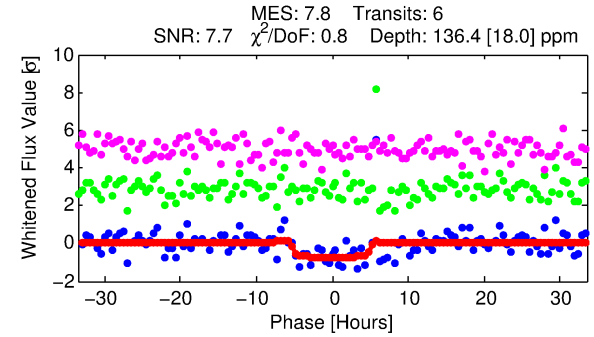
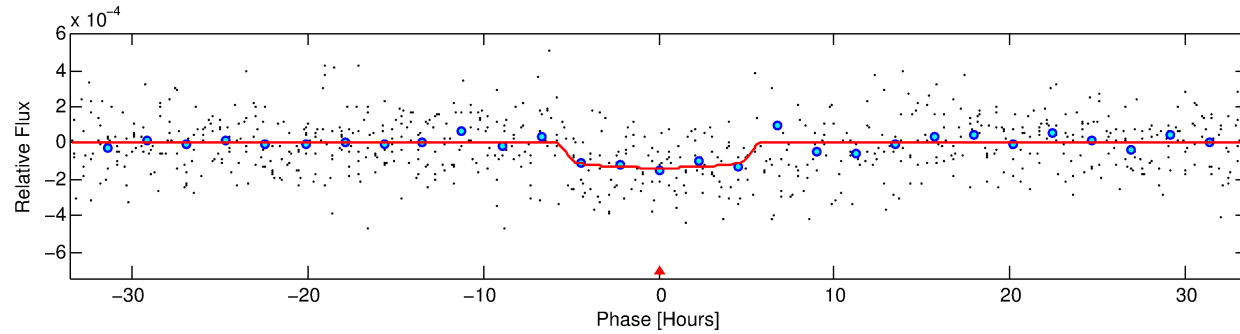
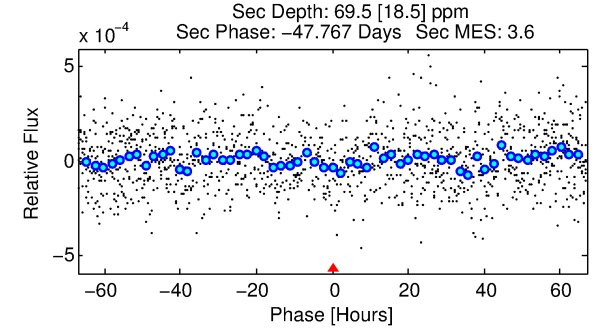
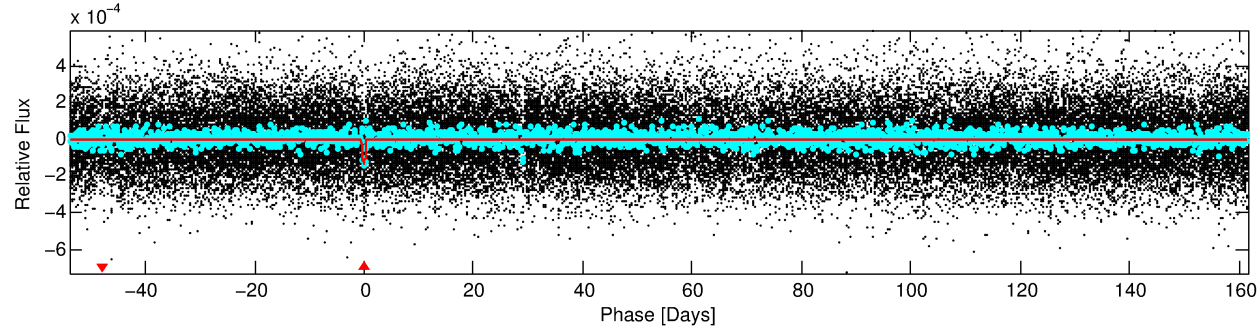
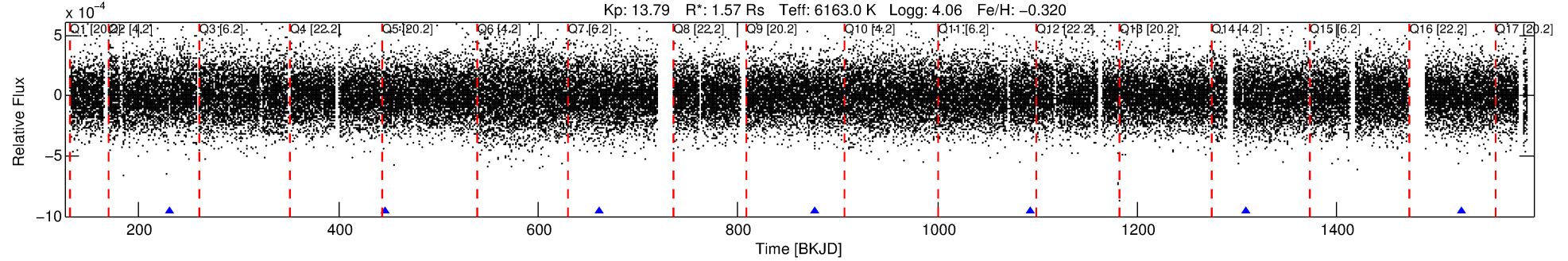
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006721603-01

No Significant Match Found

DV One-Page Summary

KIC: 6721603 Candidate: 1 of 1 Period: 215.614 d
KOI: K05321.01 Corr: 0.831



DV Fit Results:

Period = 215.61392 [0.00653] d
Epoch = 230.6976 [0.0259] BKJD
Rp/R* = 0.0123 [0.0039]
a/R* = 75.05 [123.20]
b = 0.87 [0.45]
Seff = 6.29 [3.83]
Teq = 404 [61] K
Rp = 2.11 [1.02] Re
a = 0.7107 [0.2596] AU
Ag = 4351.48 [3924.58] [1.11σ]
Teffp = 5071 [882] K [5.28σ]

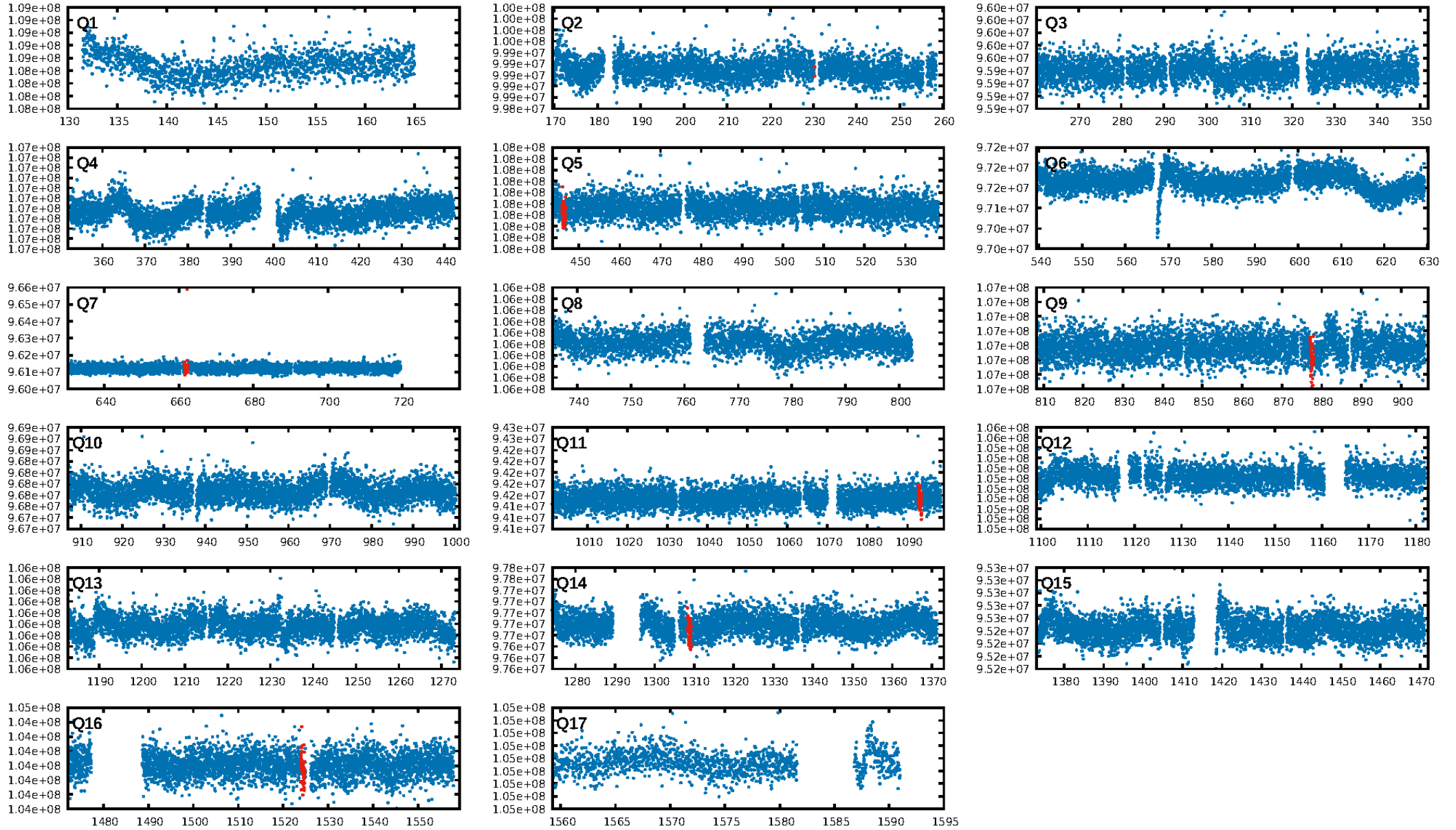
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 75.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.78e-10
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -1.304
Centroid-sig: 15.4%
Centroid-so: 2.080 arcsec [1.09σ]
OotOffset-rm: 2.151 arcsec [9.01σ]
KicOffset-rm: 2.253 arcsec [9.43σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

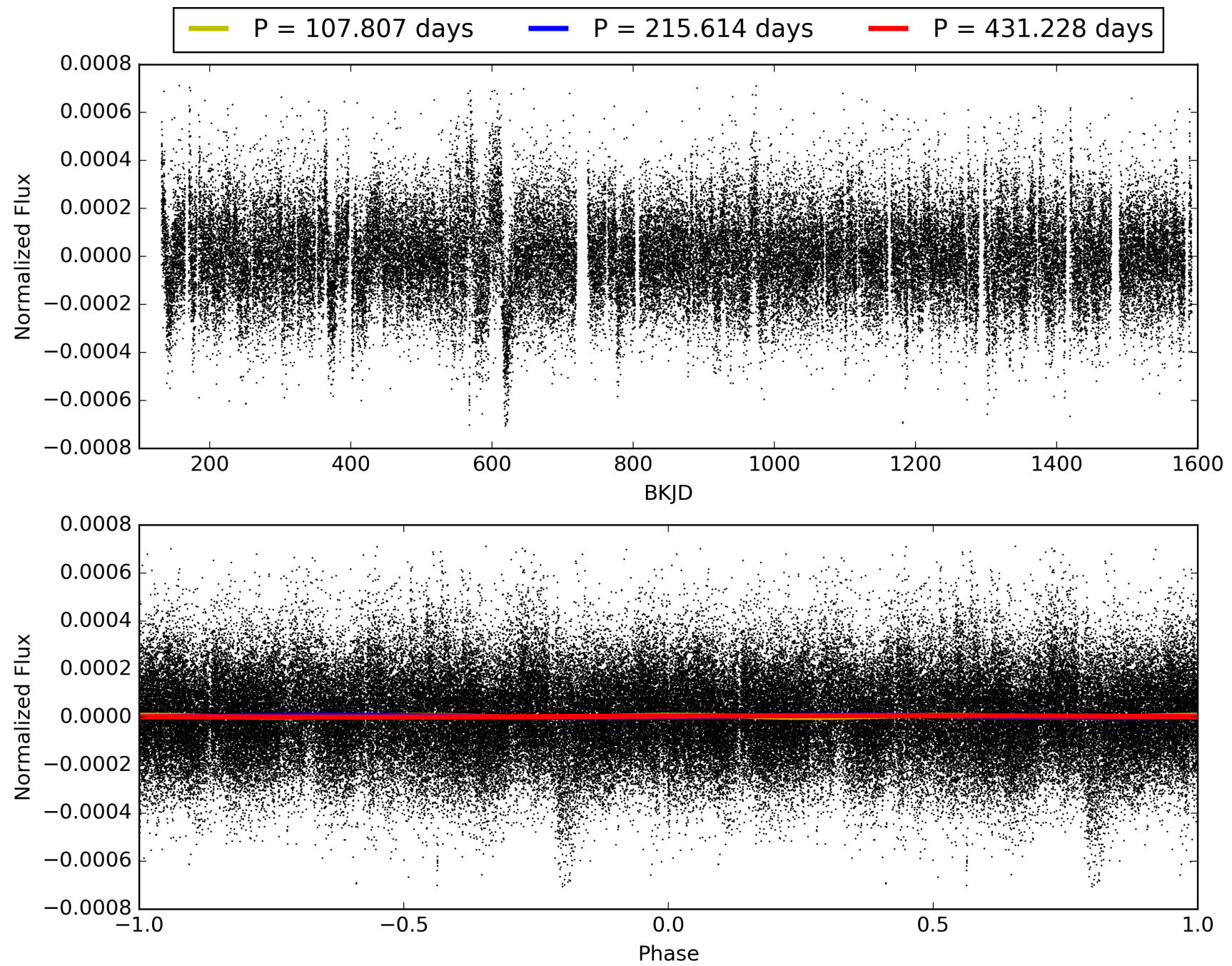
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:52:15 Z

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

TCE 006721603-01, PDC Light Curves

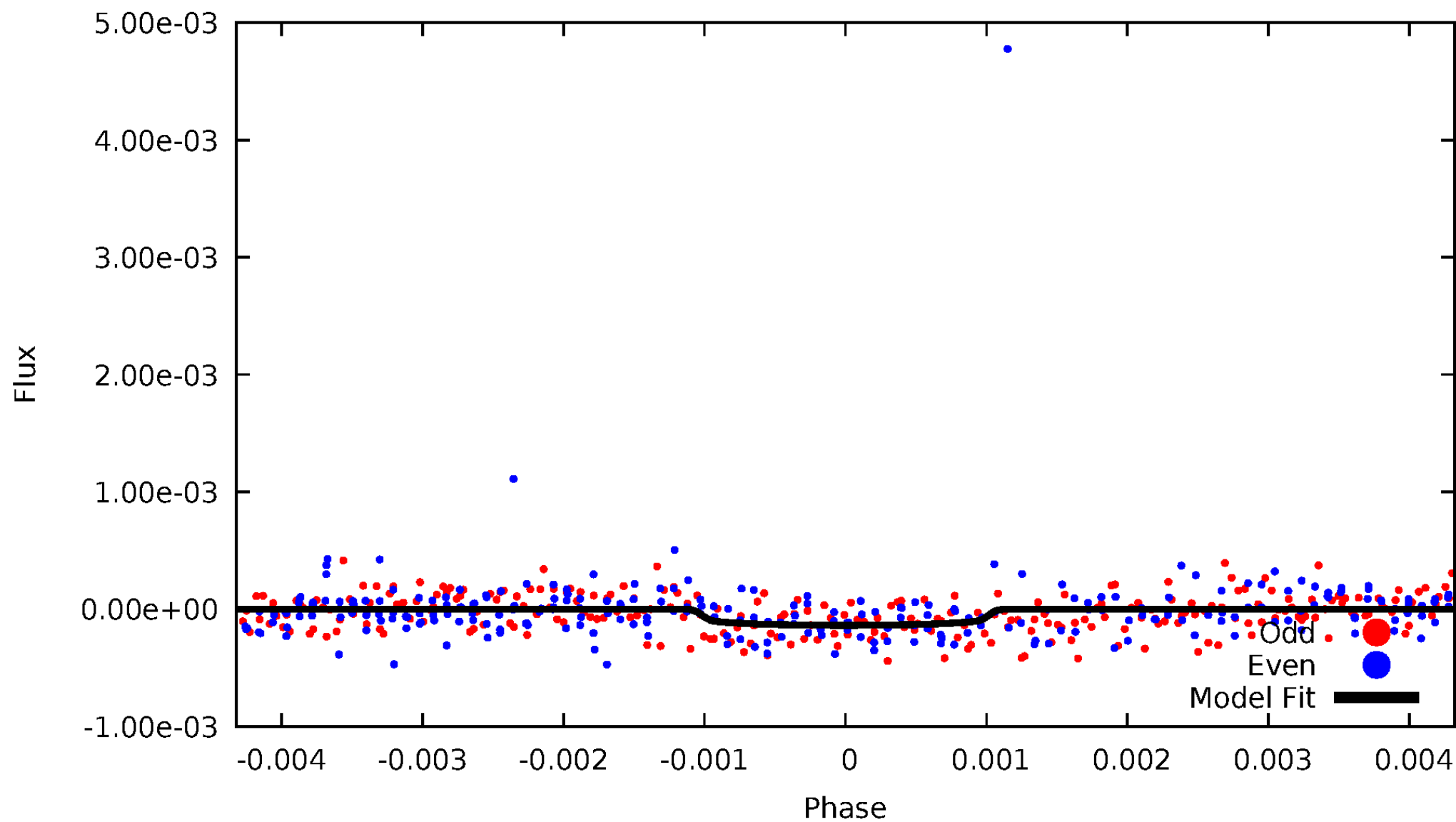


TCE 006721603-01



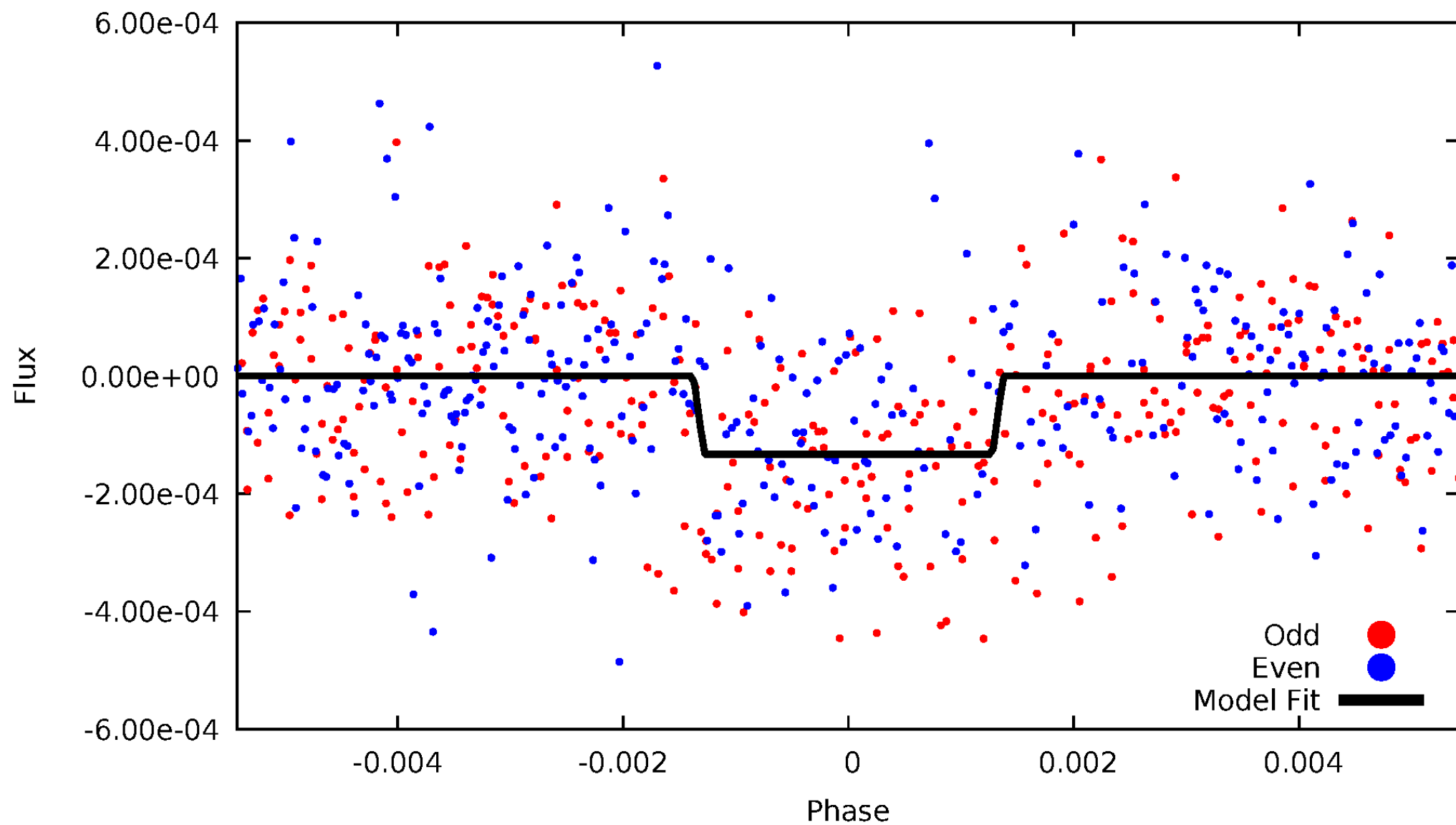
DV Odd/Even

TCE 006721603-01

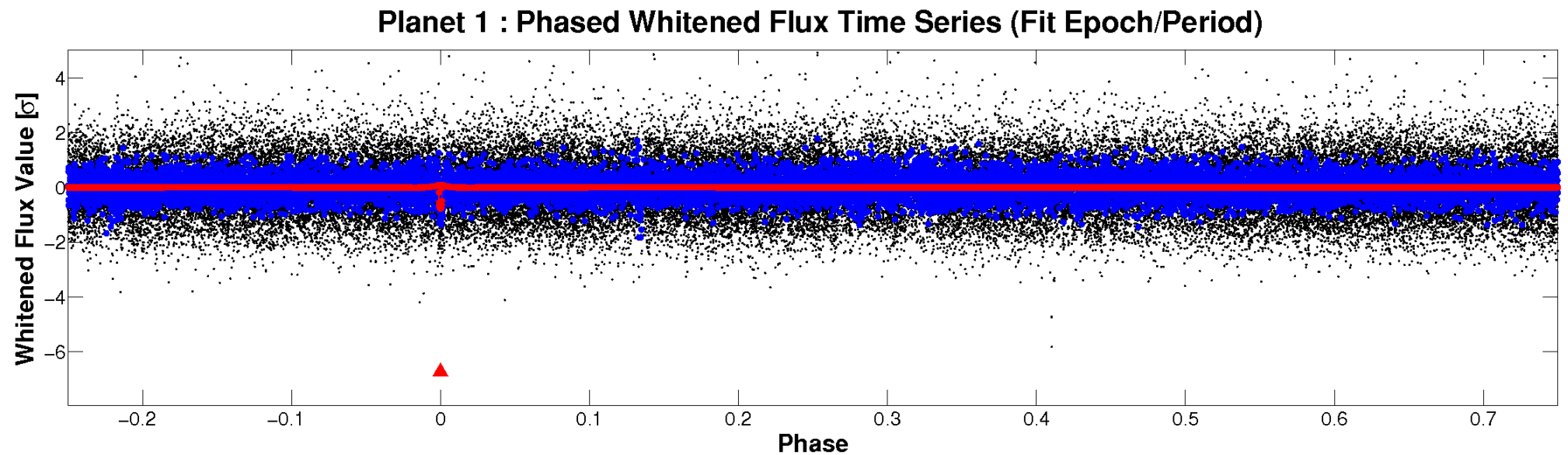
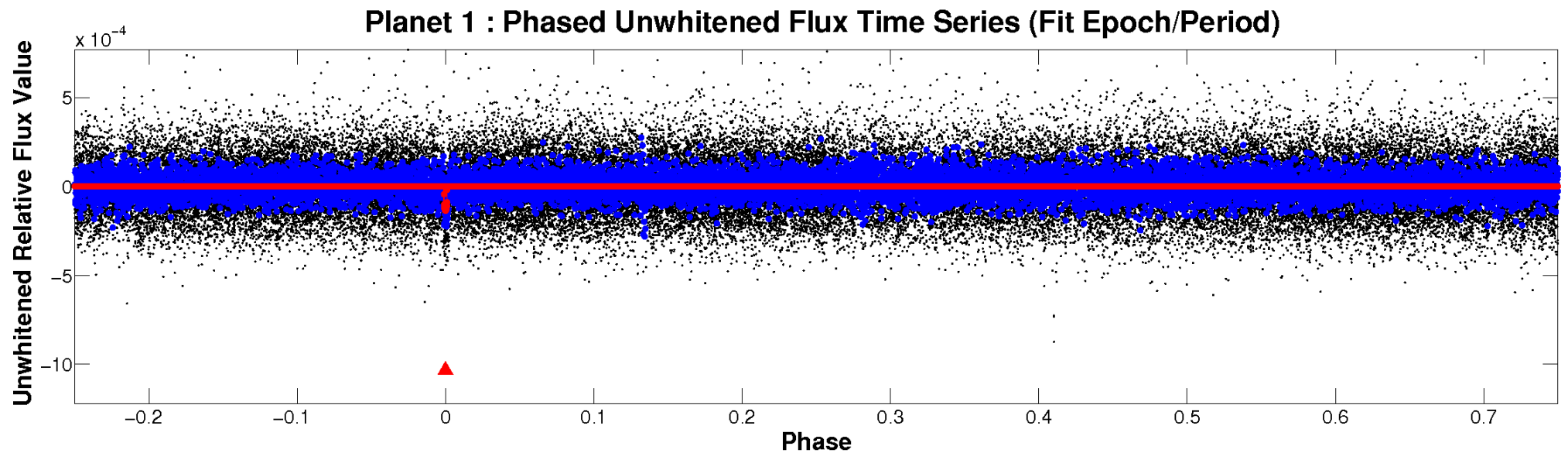


ALT Odd/Even

TCE 006721603-01

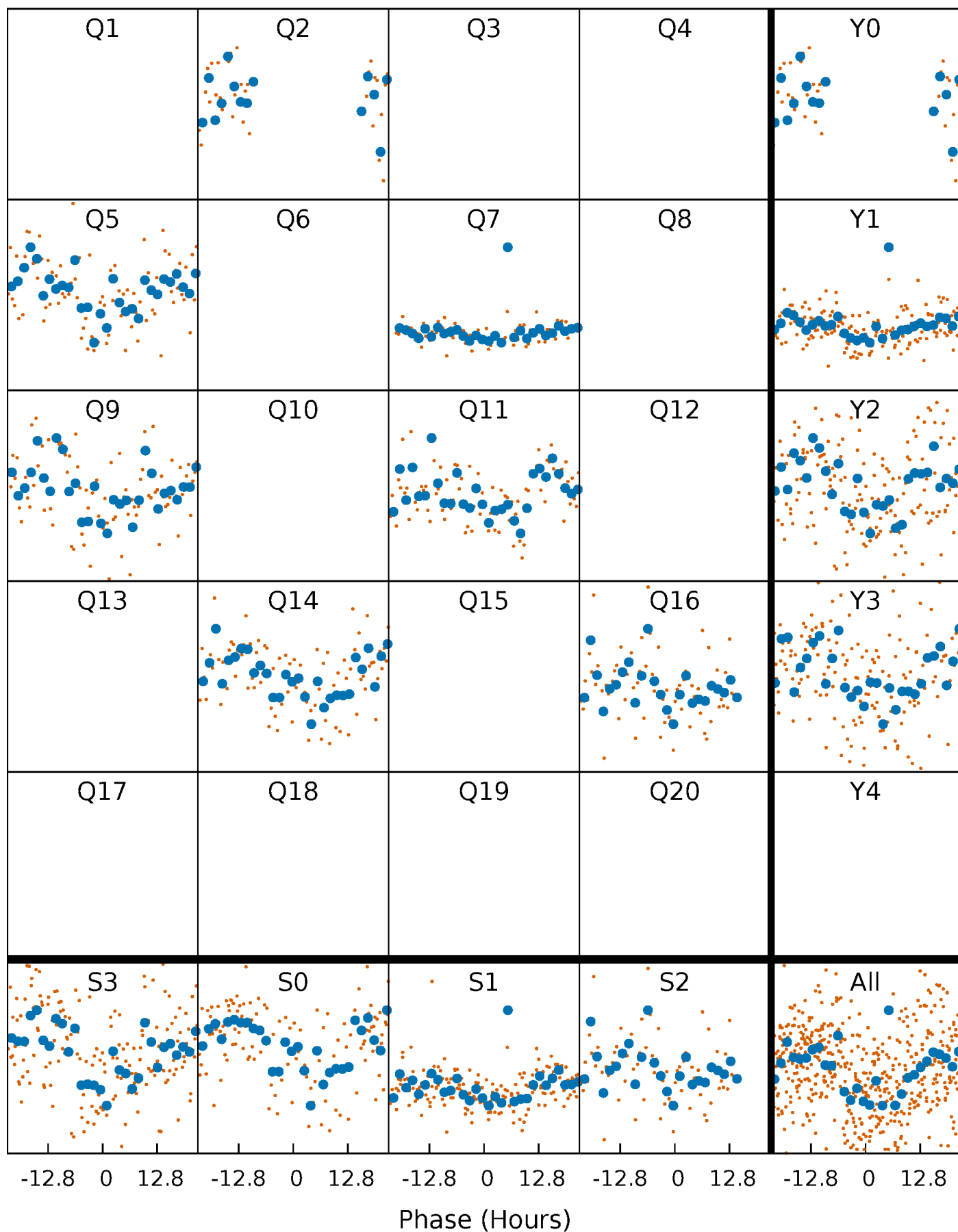


Non-Whitened Vs. Whitened Light Curve



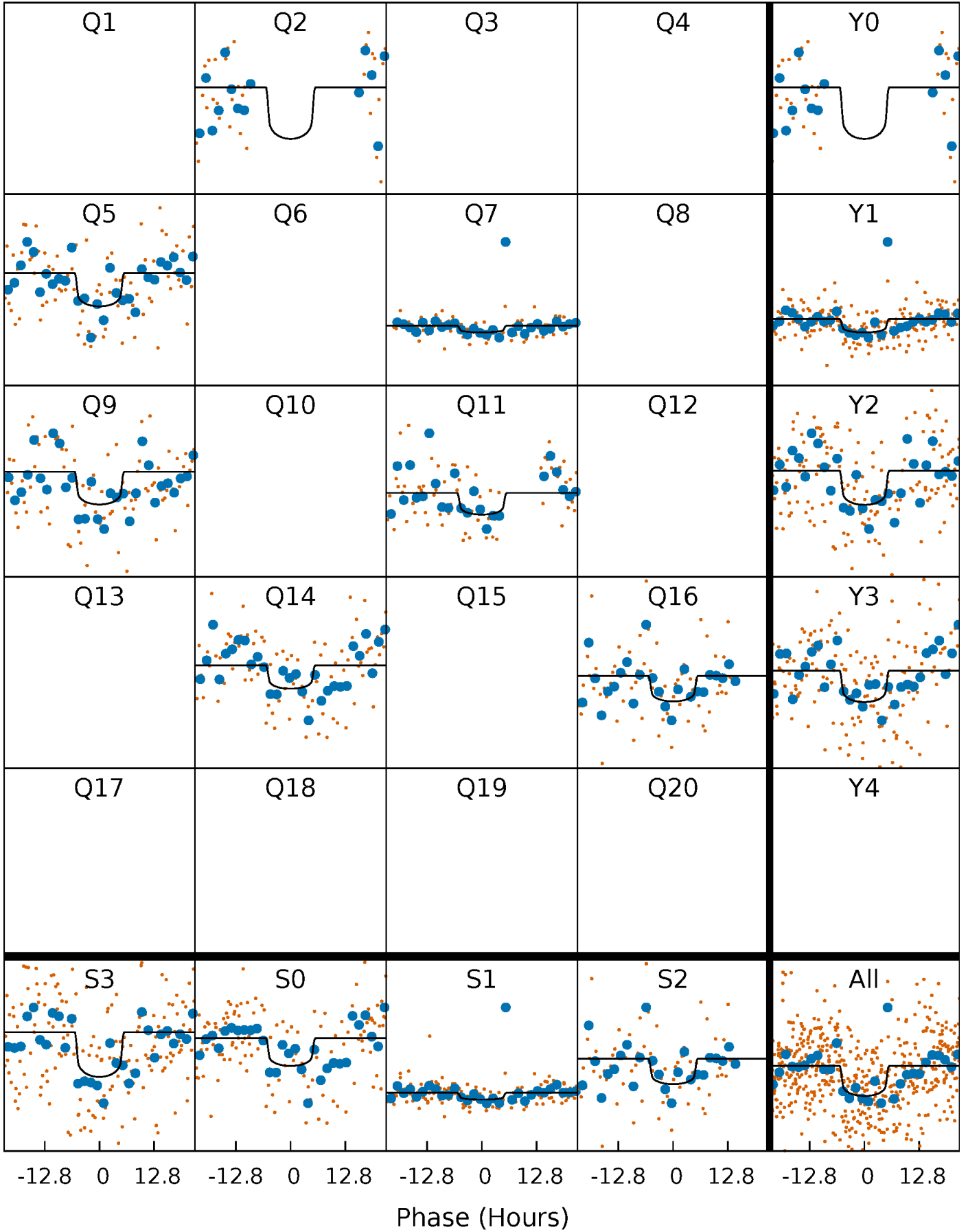
PDC Quarter-Phased Transit Curves

TCE 006721603-01 P=215.613925 Days $T_0=230.697568$ (BKJD)



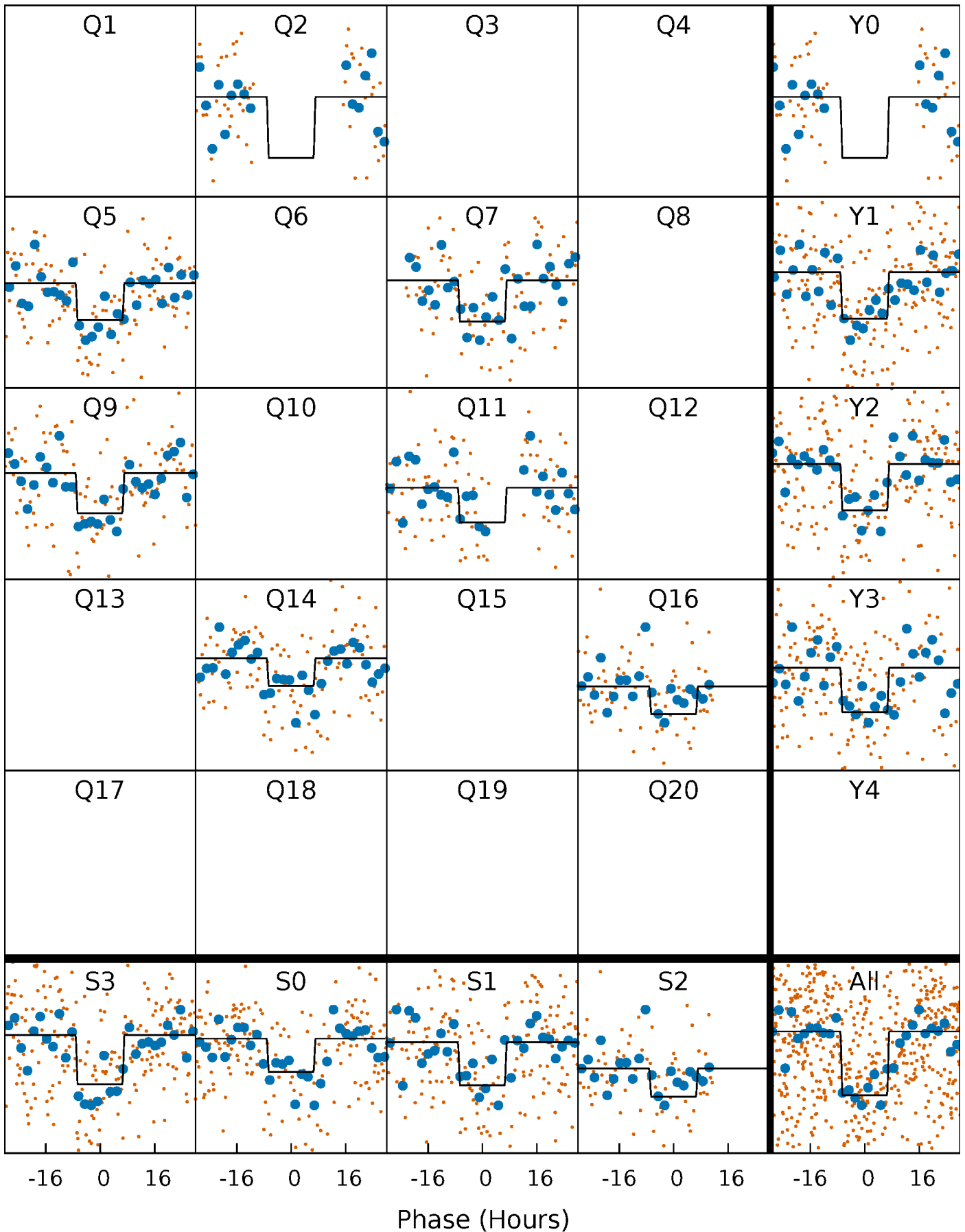
DV Quarter-Phased Transit Curves

TCE 006721603-01 P=215.613925 Days $T_0=230.697568$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

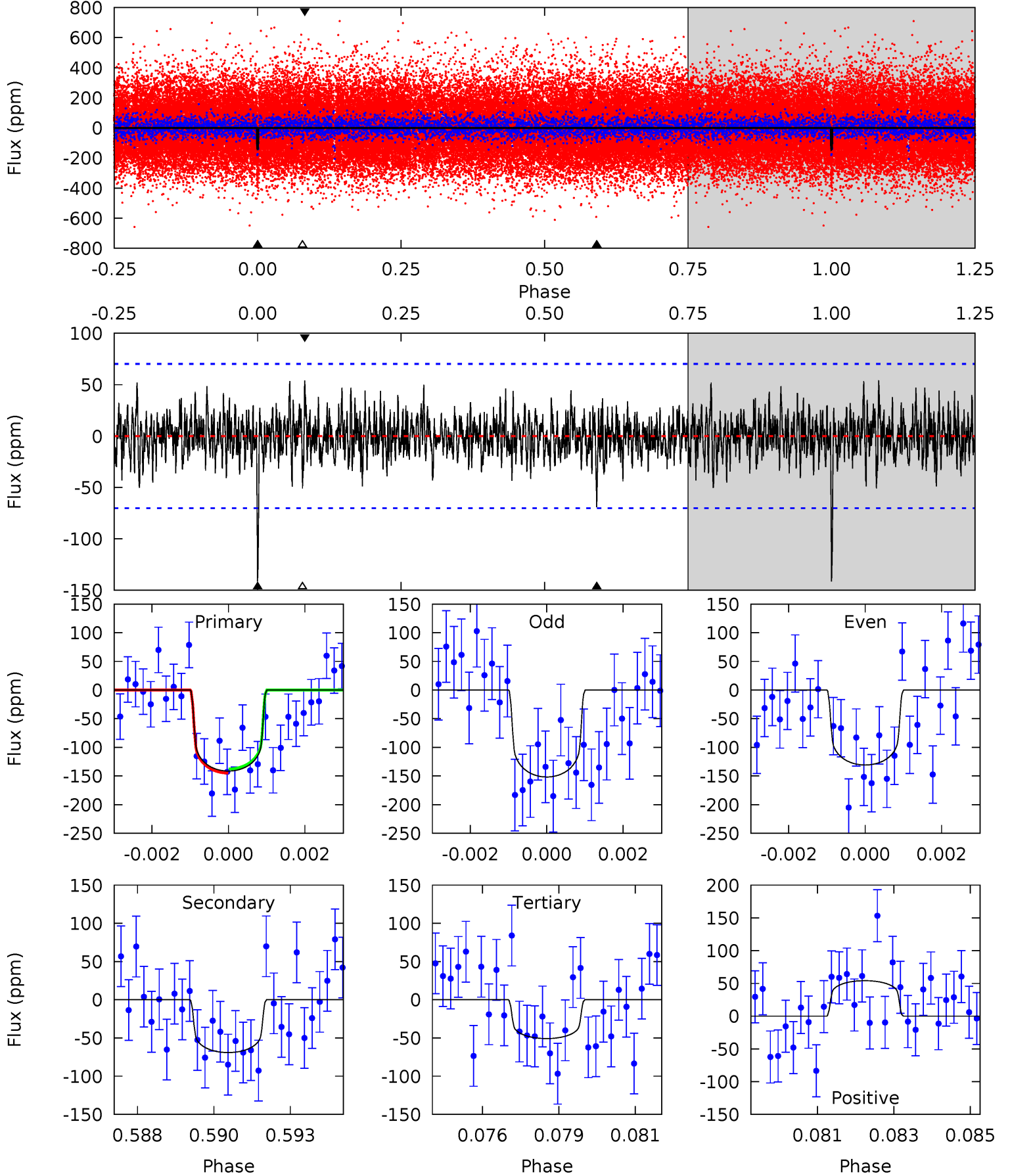
TCE 006721603-01 P=215.621736 Days $T_0=230.755446$ (BKJD)



DV Model-Shift Uniqueness Test

006721603-01, P = 215.613925 Days, E = 15.083643 Days

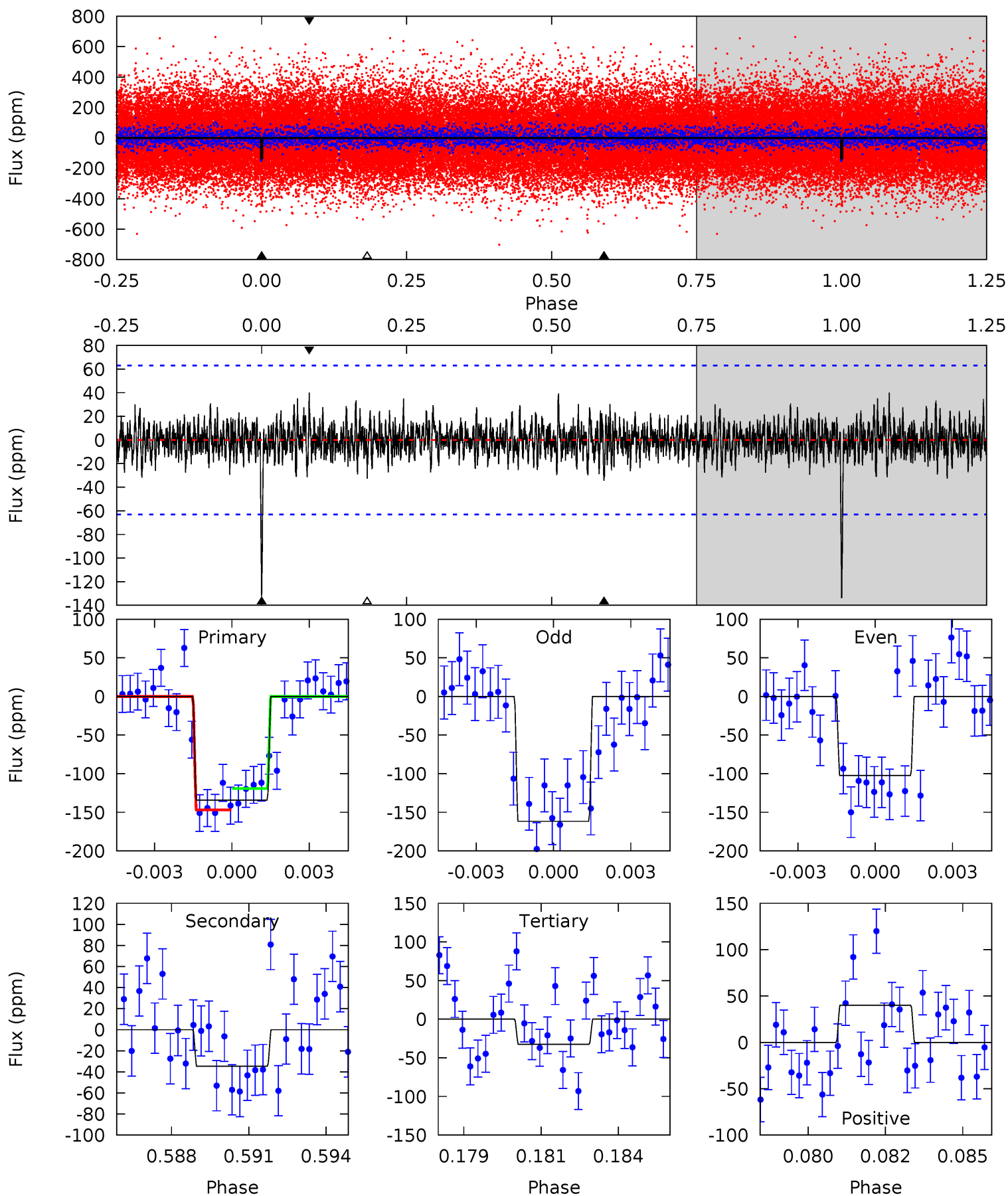
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	5.22	3.84	4.09	5.31	3.06	1.20	6.85	6.60	1.39	1.13	0.79	0.98	0.28	0.27



Alt Model-Shift Uniqueness Test

006721603-01, P = 215.621736 Days, E = 15.133710 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	2.89	2.72	3.34	5.27	2.99	0.86	8.48	7.86	0.17	-0.45	2.48	0.95	0.23	1.15



Stellar Parameters For KIC 006721603

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6163^{+219}_{-219}	$4.060^{+0.350}_{-0.150}$	$-0.320^{+0.300}_{-0.300}$	$1.568^{+0.388}_{-0.582}$	$1.030^{+0.169}_{-0.154}$	$0.376^{+0.990}_{-0.162}$
	+4%/-4%	+9%/-4%	+94%/-94%	+25%/-37%	+16%/-15%	+263%/-43%
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 006721603-01 / KOI 5321.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-69 ± 13	$1.96^{+0.75}_{-0.68}$	554^{+47}_{-53}	5188^{+1001}_{-640}	4907^{+7103}_{-2379}
Alt.	-35 ± 12	$1.87^{+0.73}_{-0.72}$	555^{+45}_{-53}	4587^{+864}_{-600}	2746^{+4557}_{-1481}

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

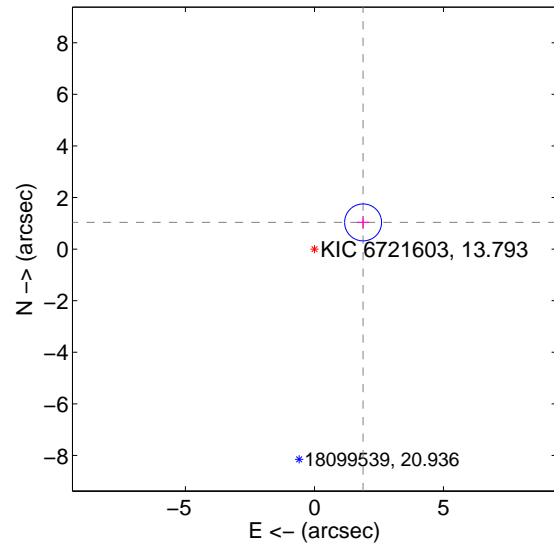
Supplemental centroid analysis for 006721603-01. Kepler magnitude: 13.79. Transit SNR 7.75

There are 0 quarters with good PRF difference image offsets

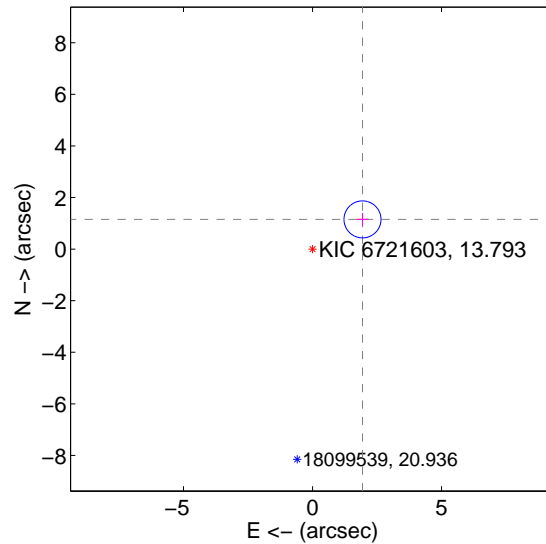
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.151 ± 0.239	9.01	-1.886 ± 0.236	1.035 ± 0.248
PRF-fit source offset from KIC position	2.253 ± 0.239	9.43	-1.937 ± 0.236	1.152 ± 0.248
photometric centroid source offset	2.08 ± 1.91	1.09	0.66 ± 2.07	1.97 ± 1.89

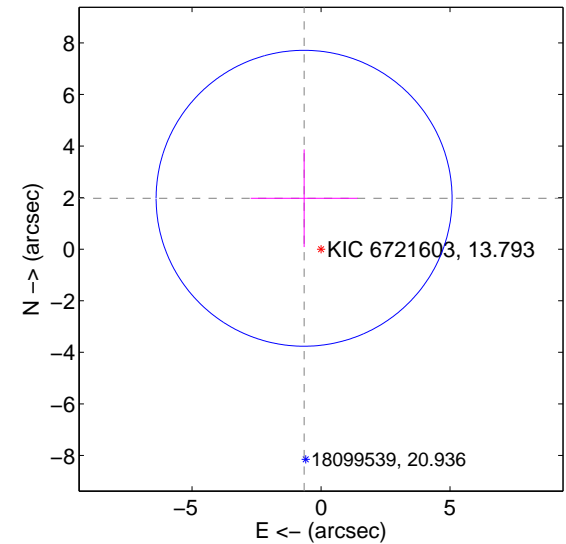
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

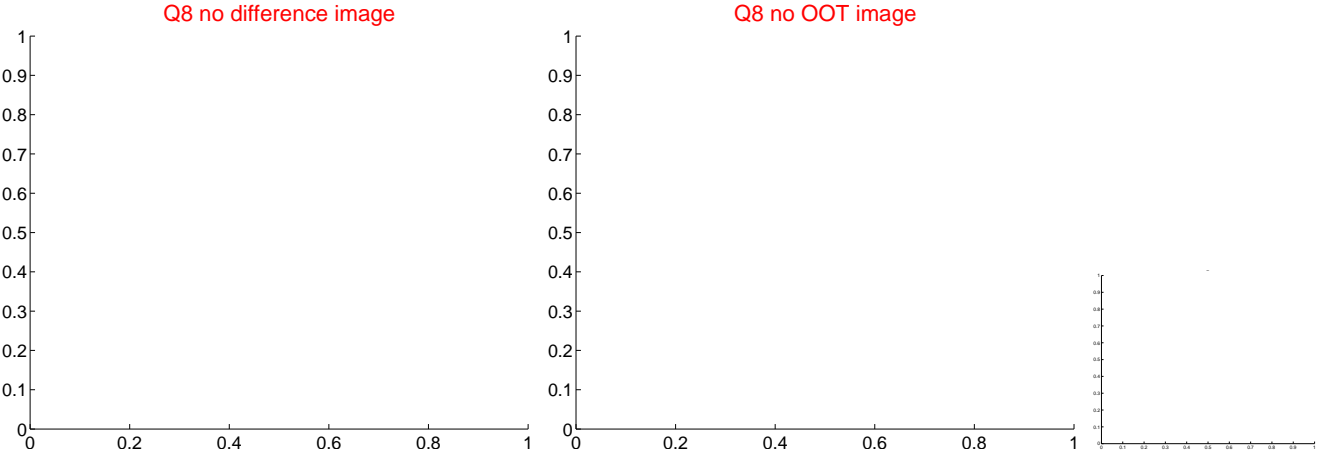
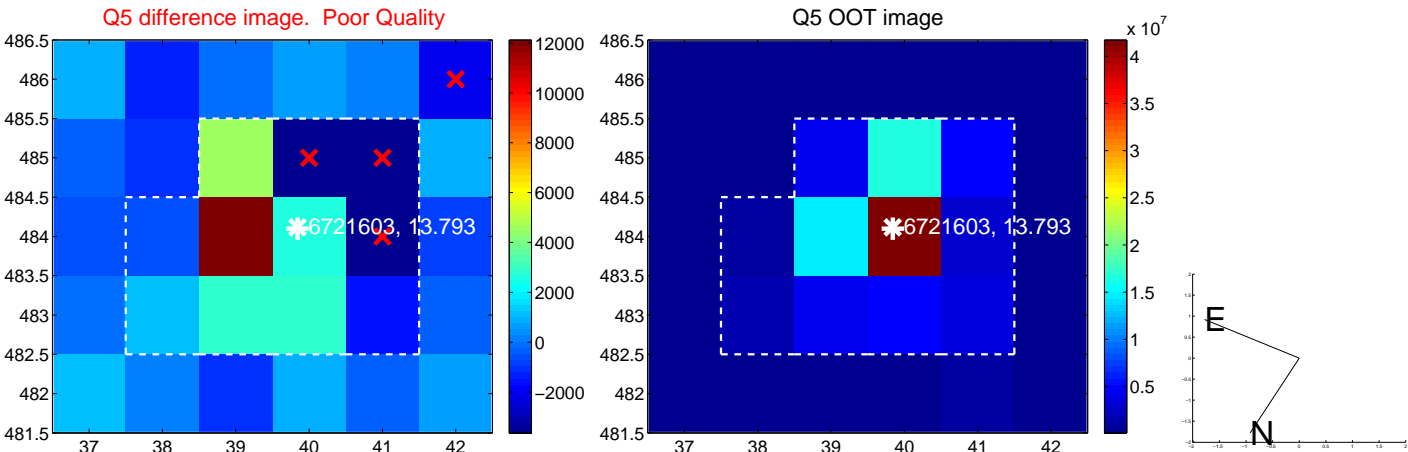


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

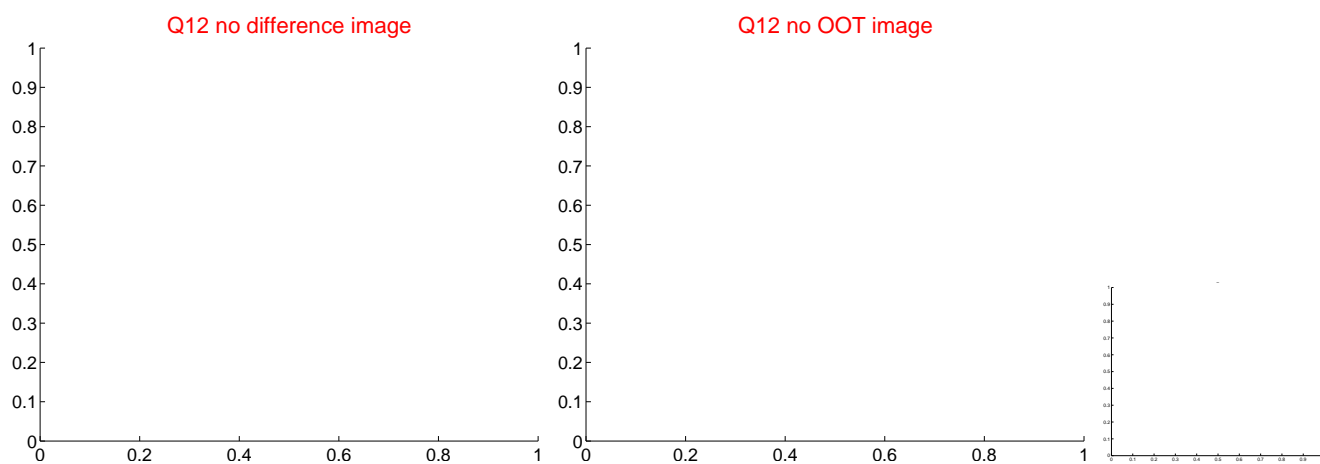
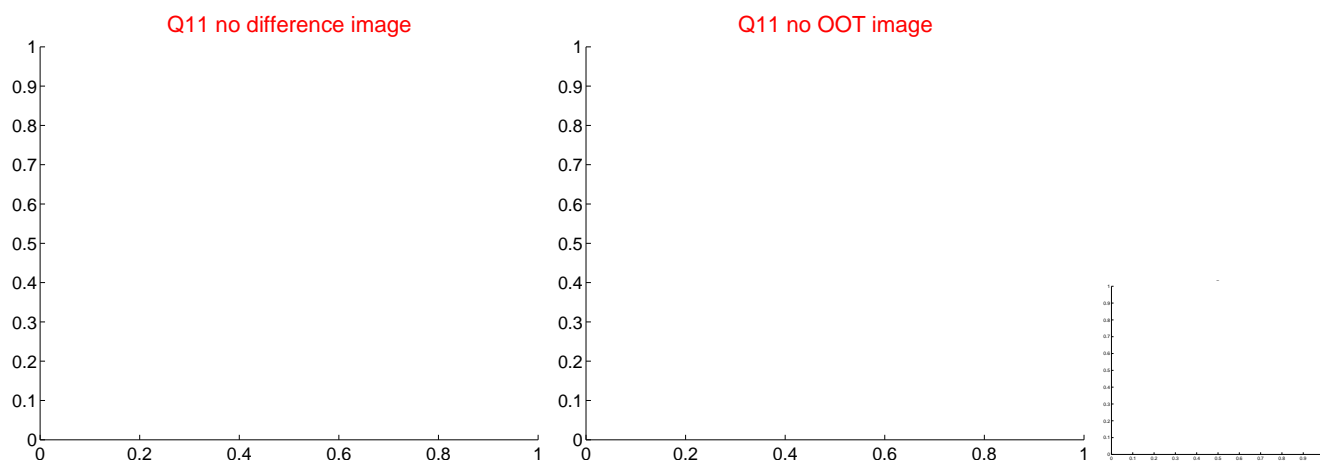
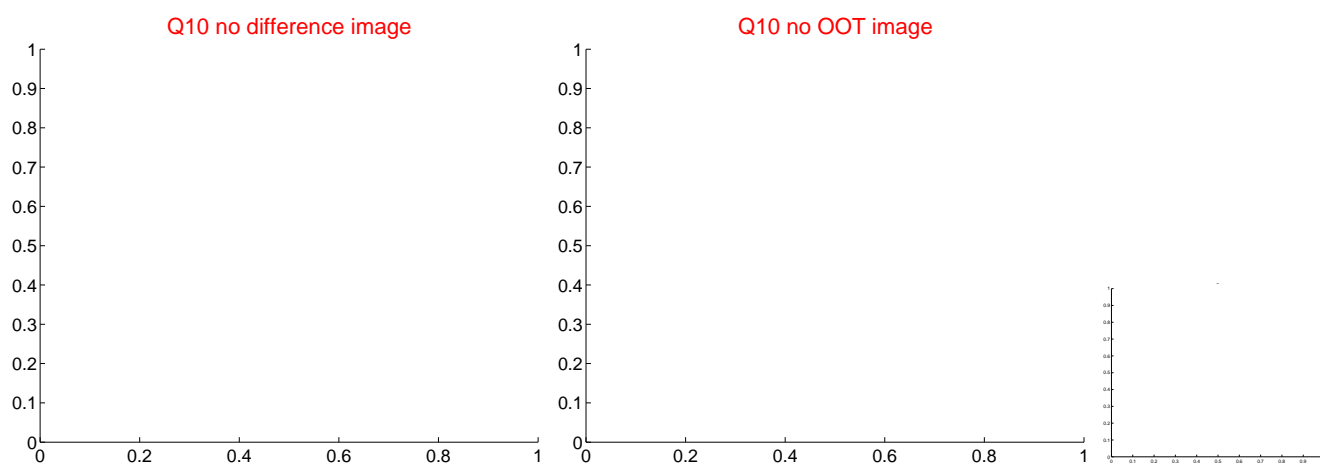
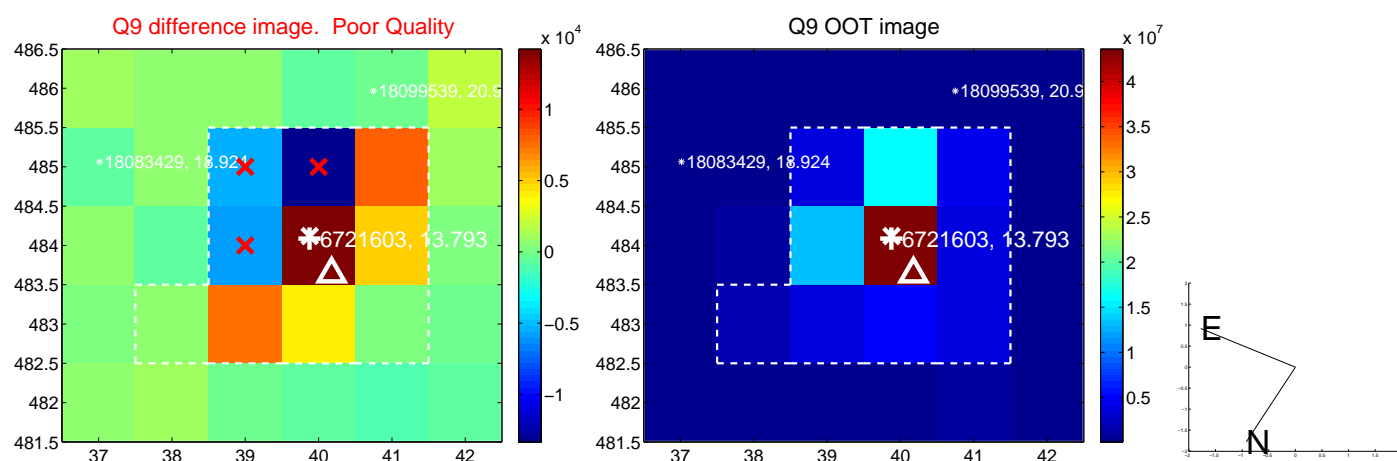
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



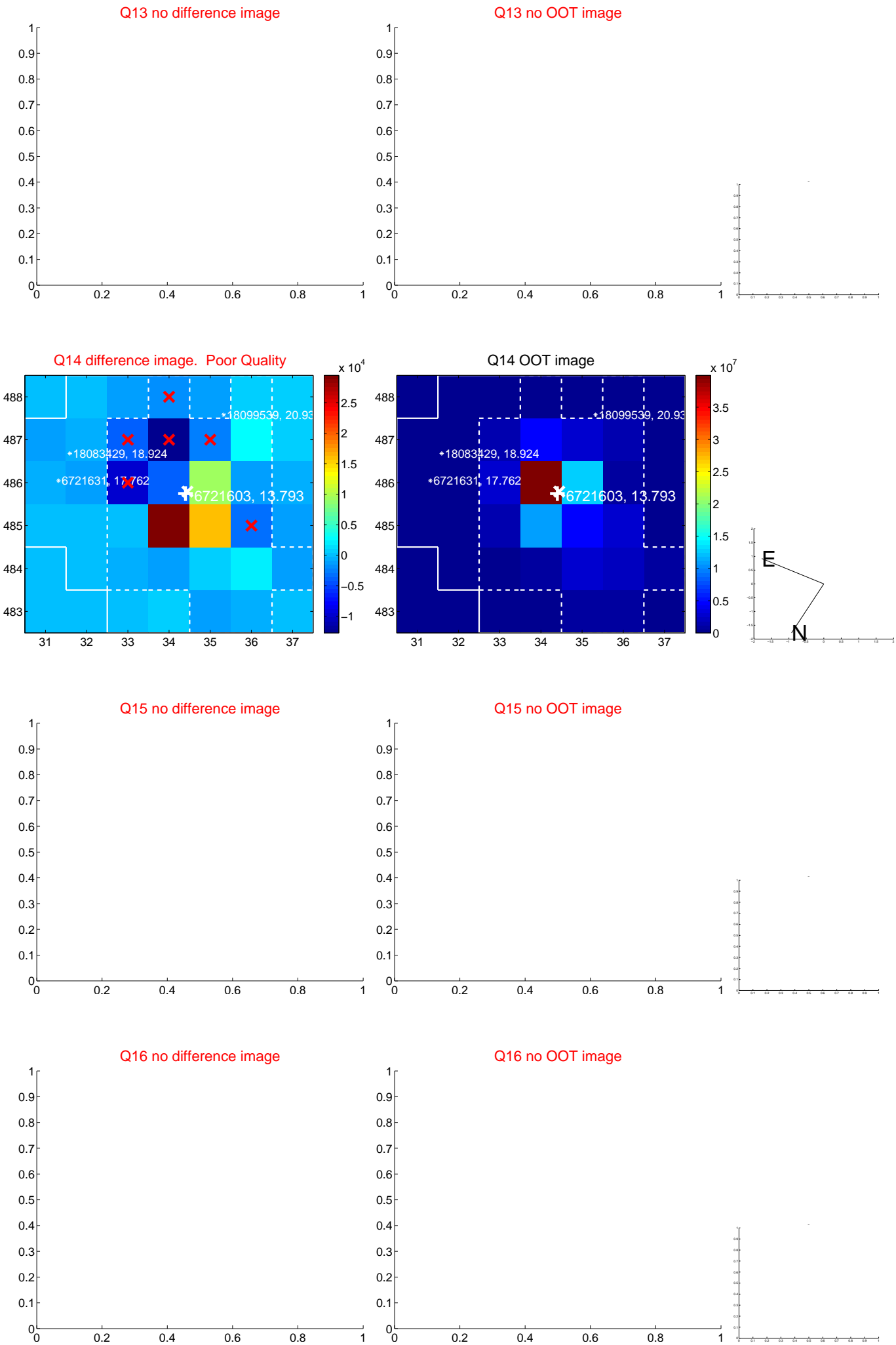
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



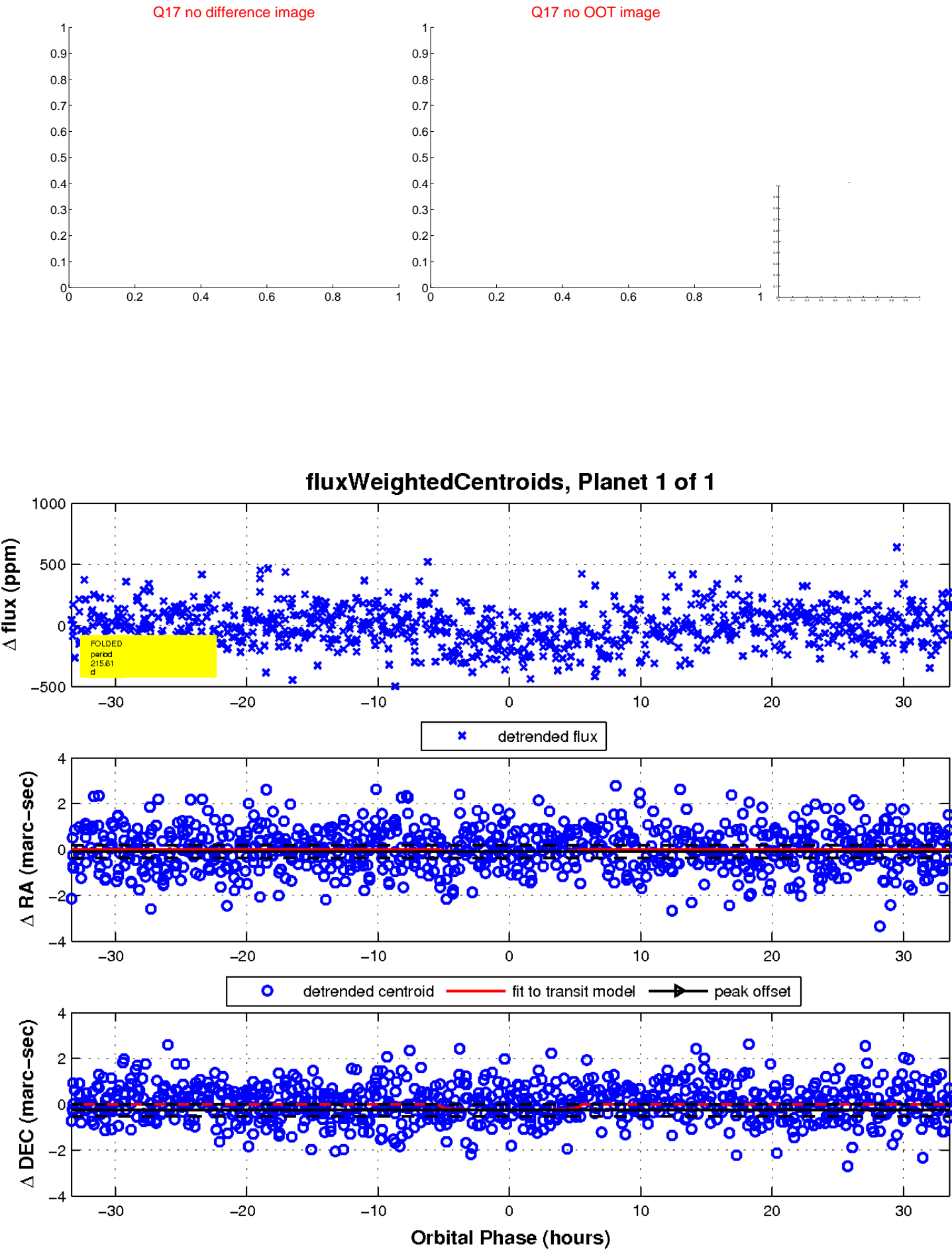
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

