

KIC 005802809

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})
005802809-01	OBS	No	696.984080	153.917380	403.4	9.108	8.3	7.2	1.18	6131	2.50	0.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005802809-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

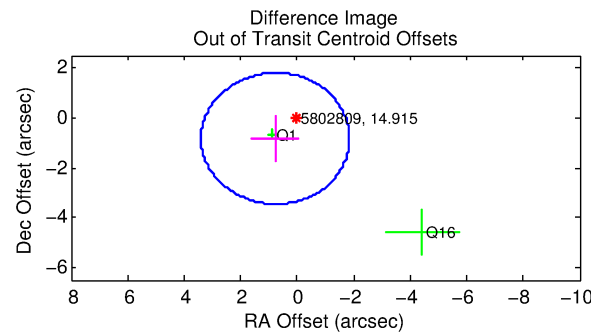
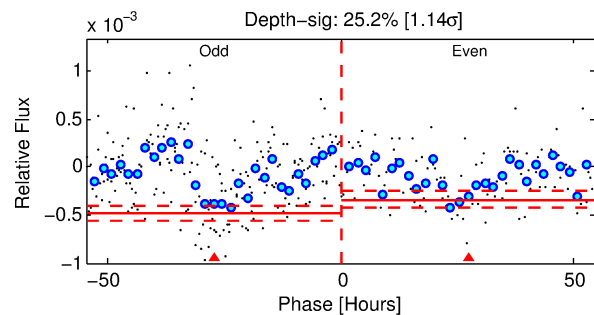
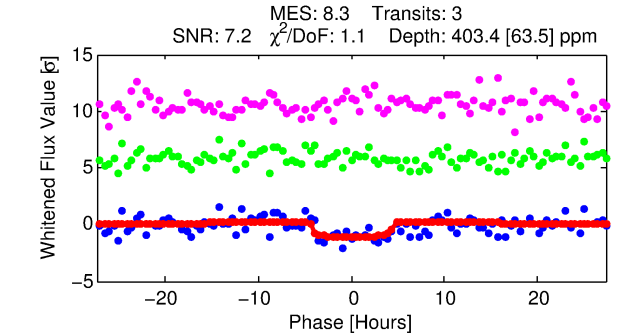
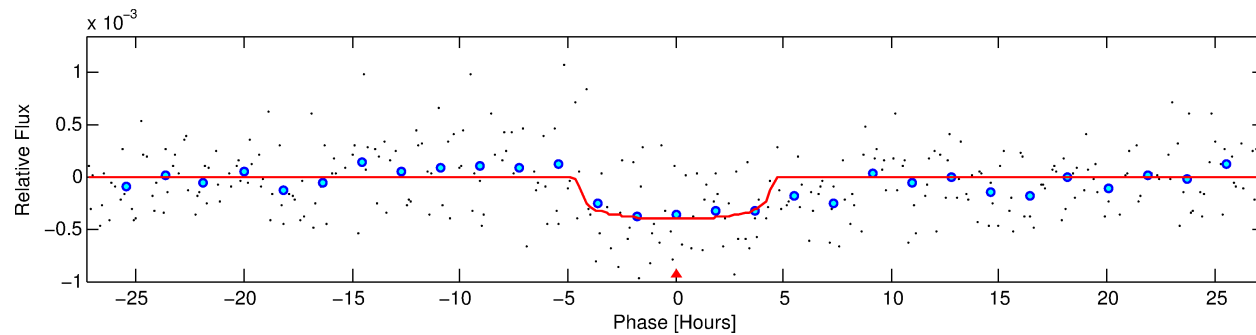
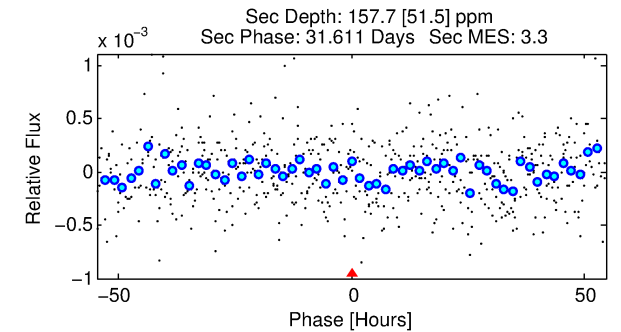
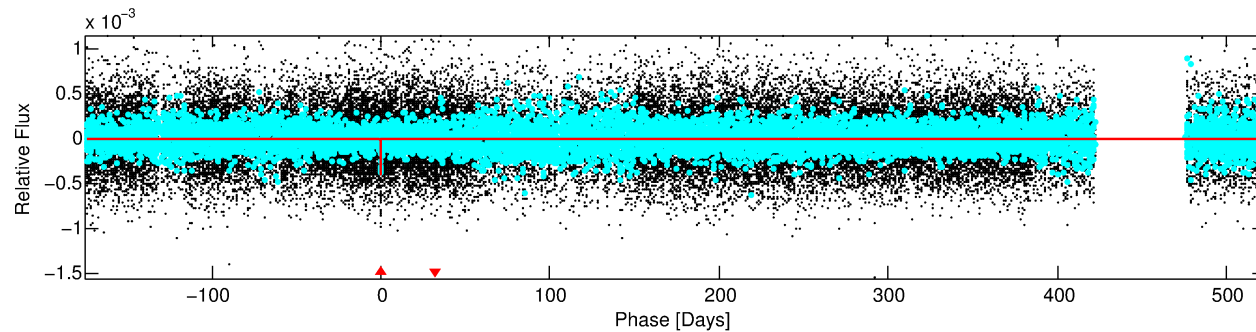
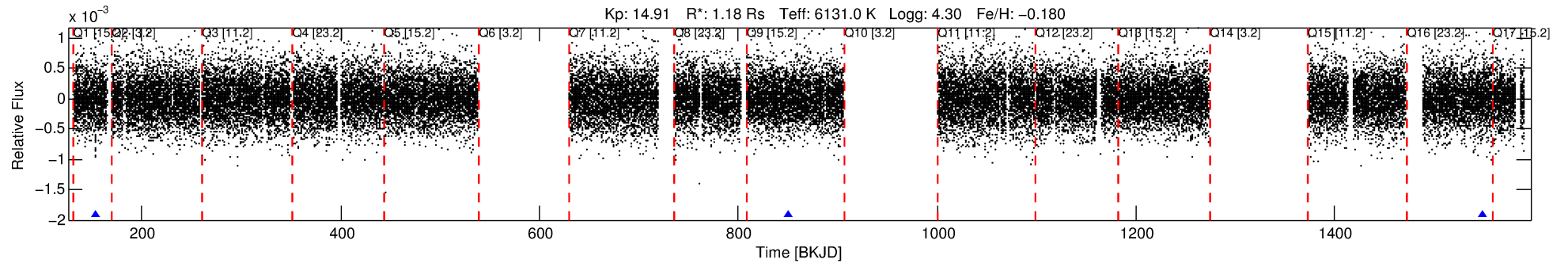
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005802809-01

No Significant Match Found

DV One-Page Summary

KIC: 5802809 Candidate: 1 of 1 Period: 696.984 d



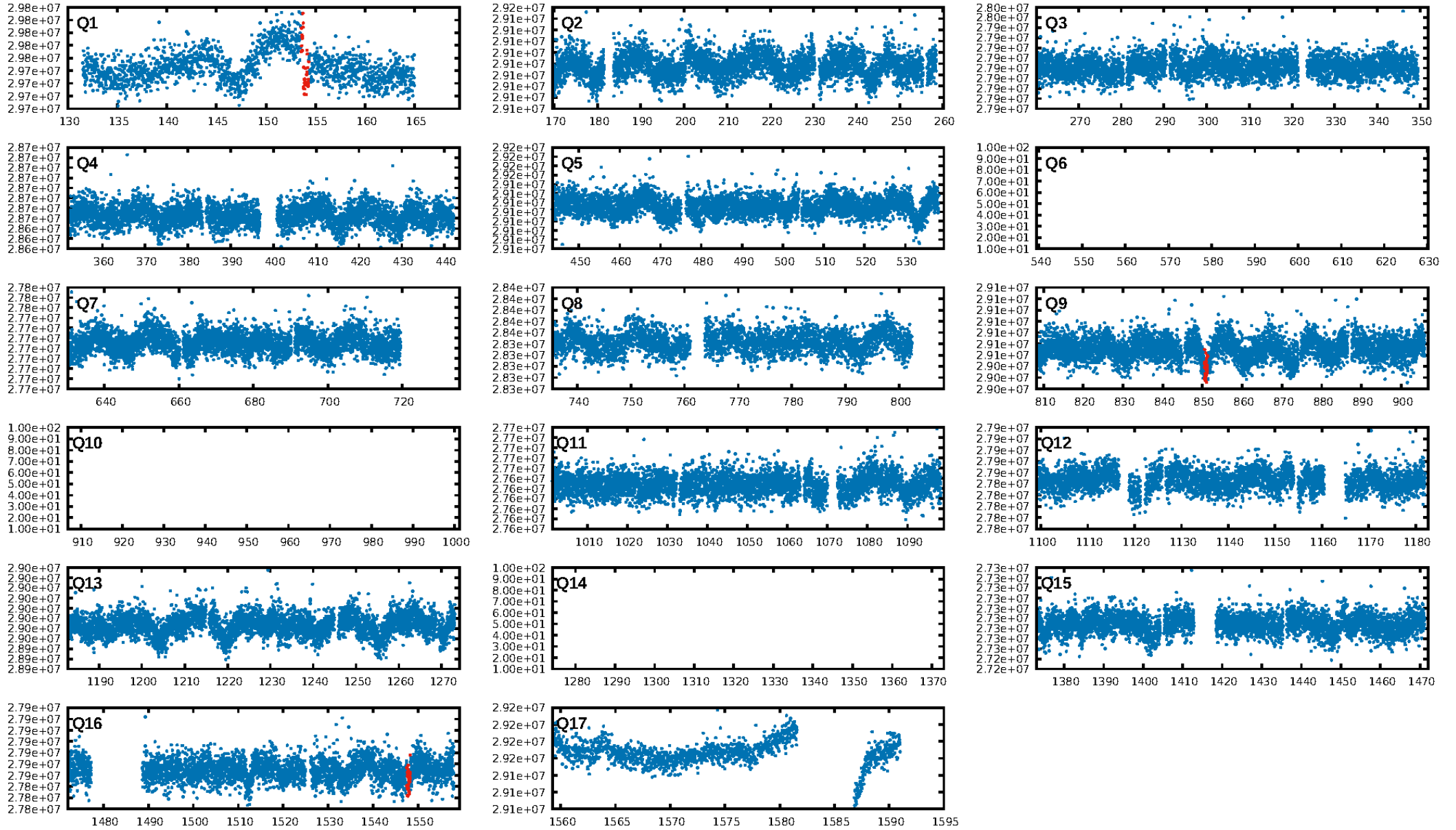
DV Fit Results:

Period = 696.98408 [0.01323] d
Epoch = 153.9174 [0.0190] BKJD
Rp/R* = 0.0195 [0.0155]
a/R* = 450.83 [1781.71]
b = 0.67 [3.31]
Seff = 0.73 [0.29]
Teq = 236 [23] K
Rp = 2.50 [2.12] Re
a = 1.5445 [0.3845] AU
Ag = 33009.33 [54679.30] [0.60 σ]
Teffp = 4919 [2000] K [2.34 σ]

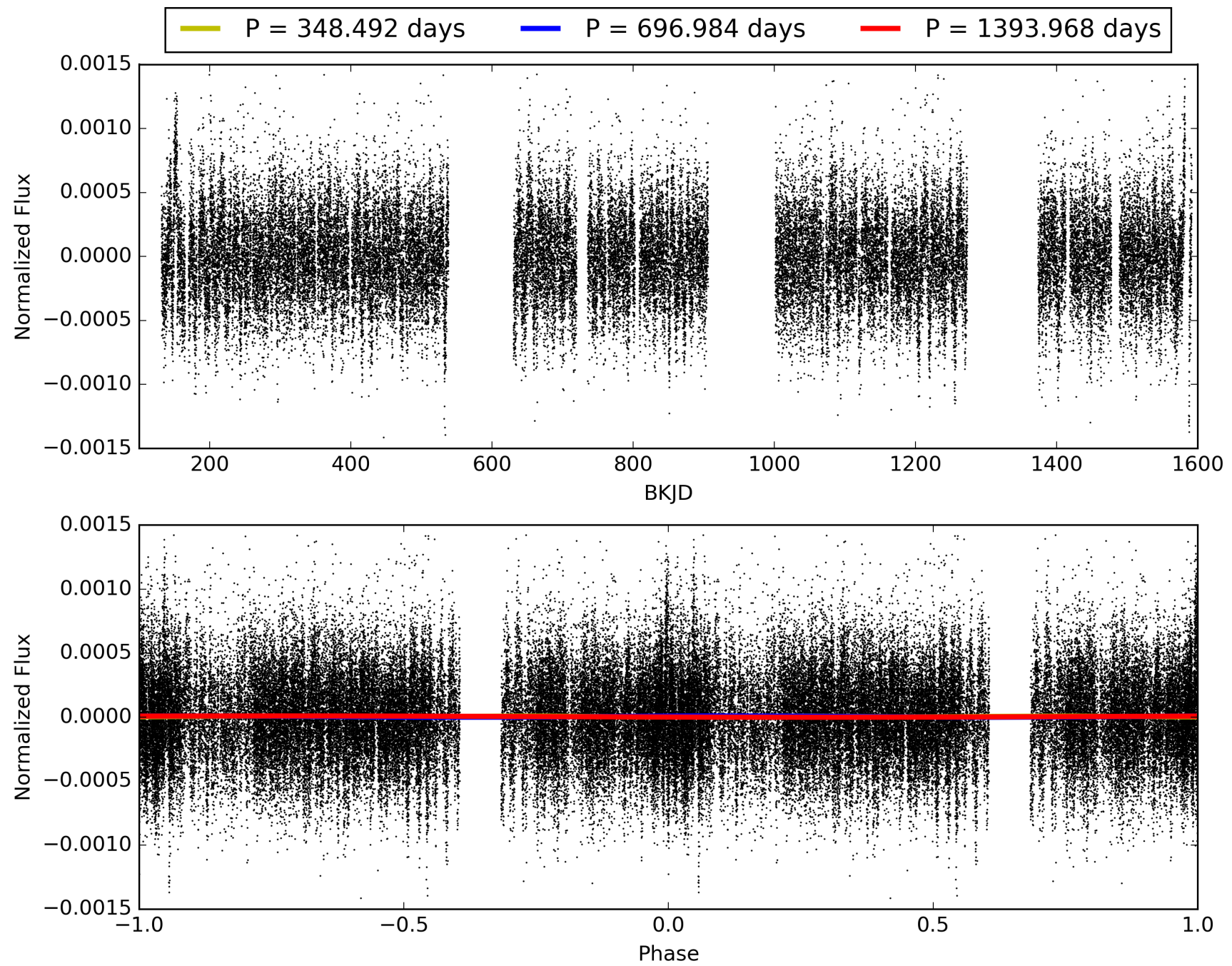
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 56.9%
Bootstrap-pfa: 2.00e-15
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.1213
Centroid-sig: 2.3%
Centroid-so: 2.441 arcsec [1.54 σ]
OotOffset-rm: 1.136 arcsec [1.30 σ]
KicOffset-rm: 1.214 arcsec [1.40 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 005802809-01, PDC Light Curves

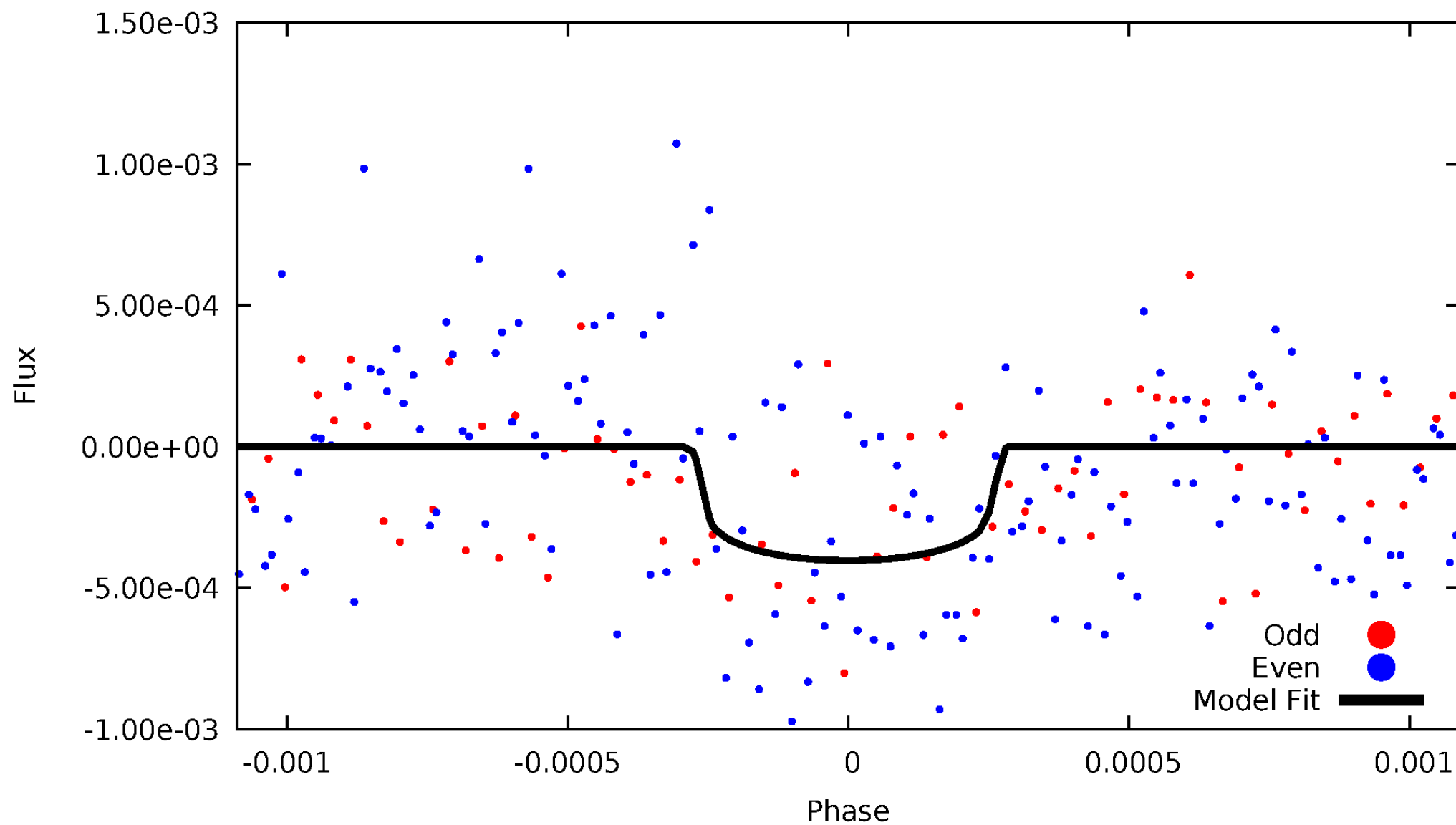


TCE 005802809-01



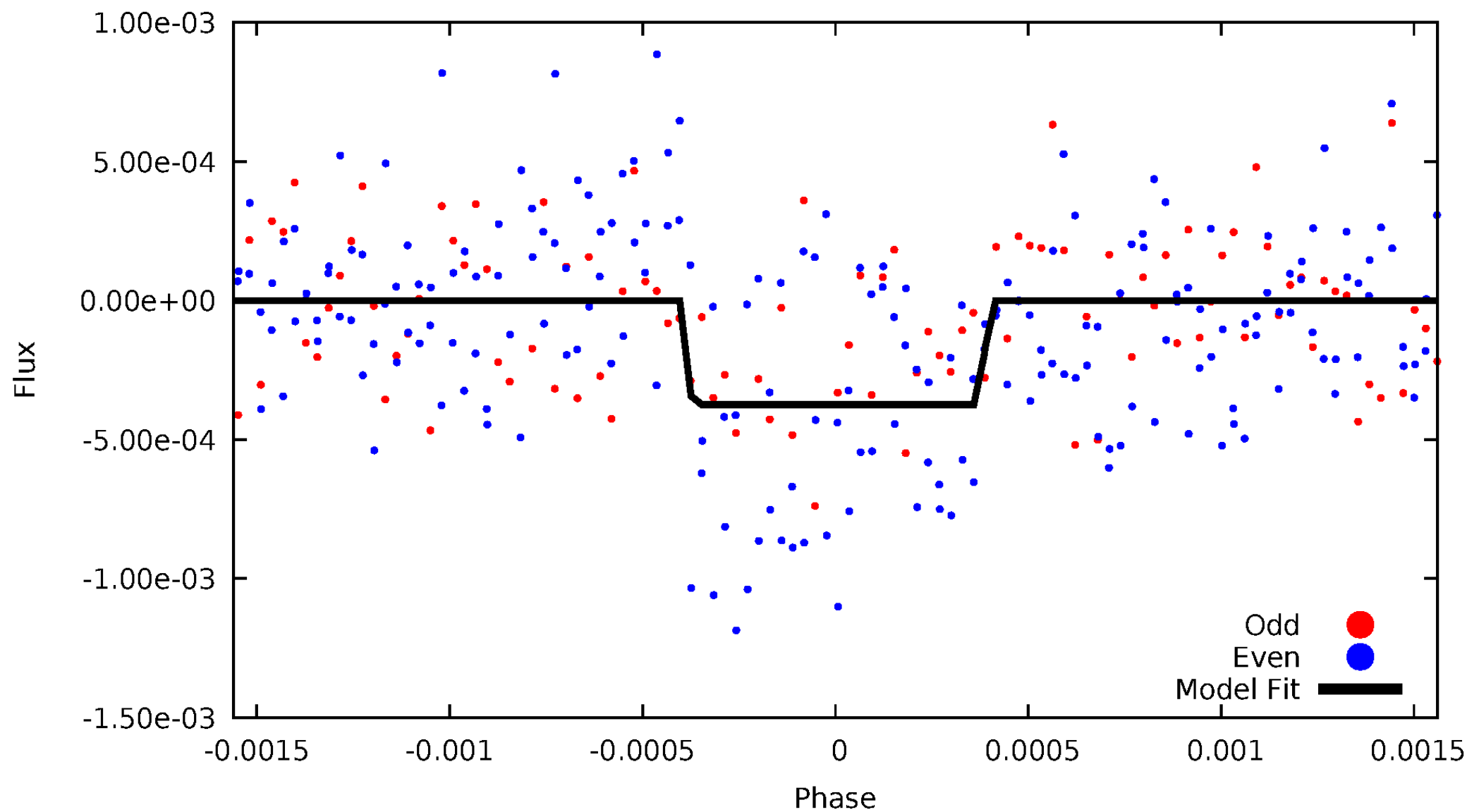
DV Odd/Even

TCE 005802809-01

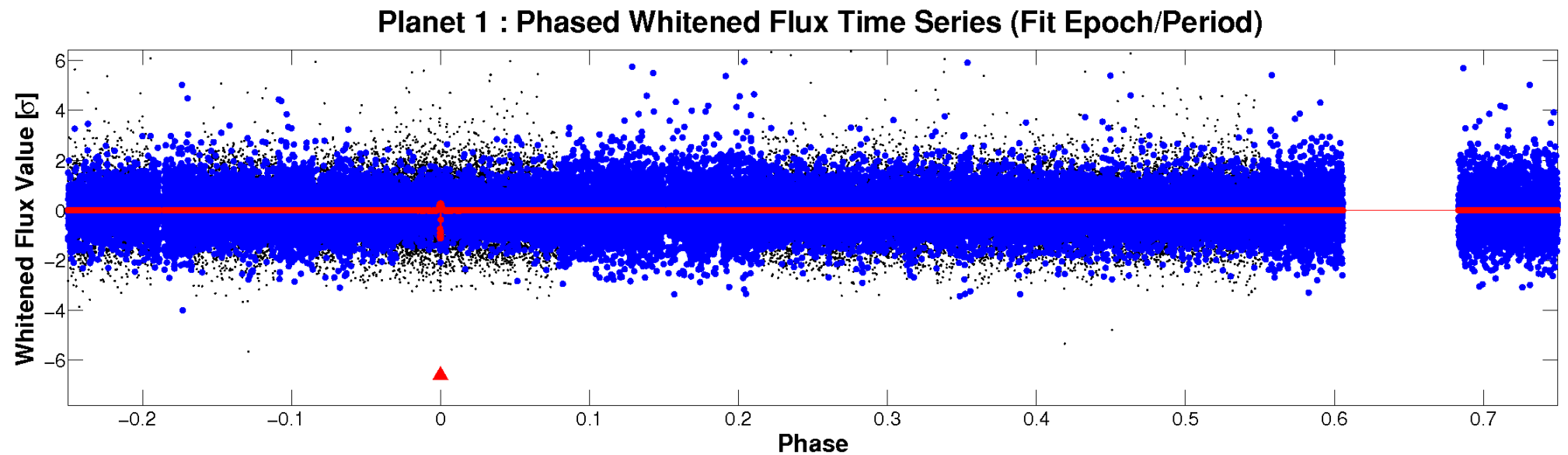
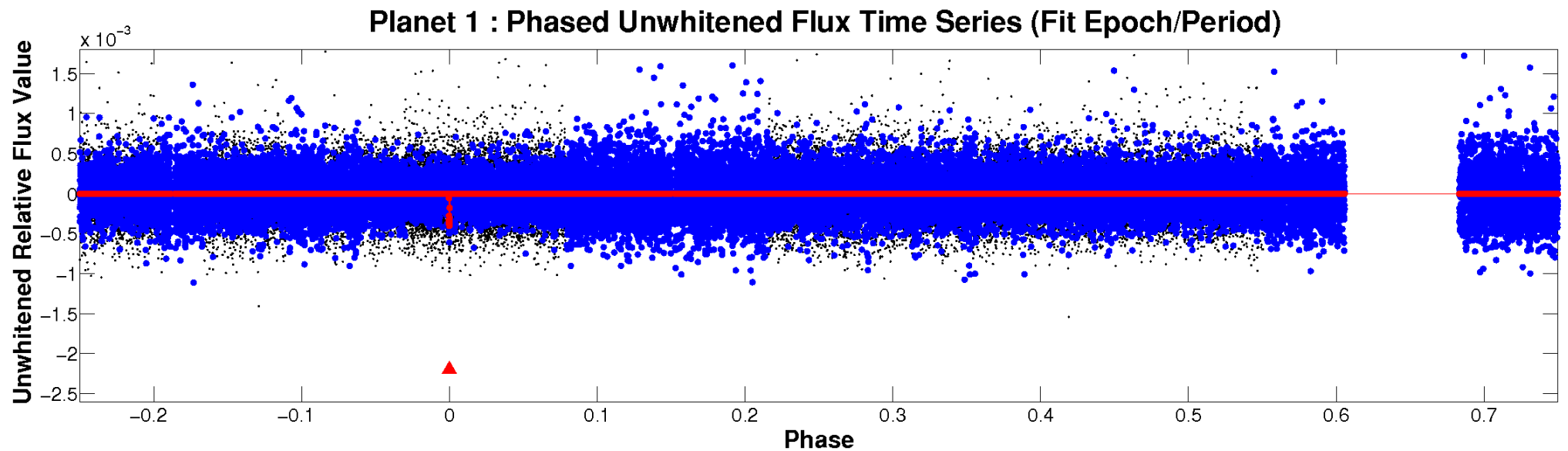


ALT Odd/Even

TCE 005802809-01

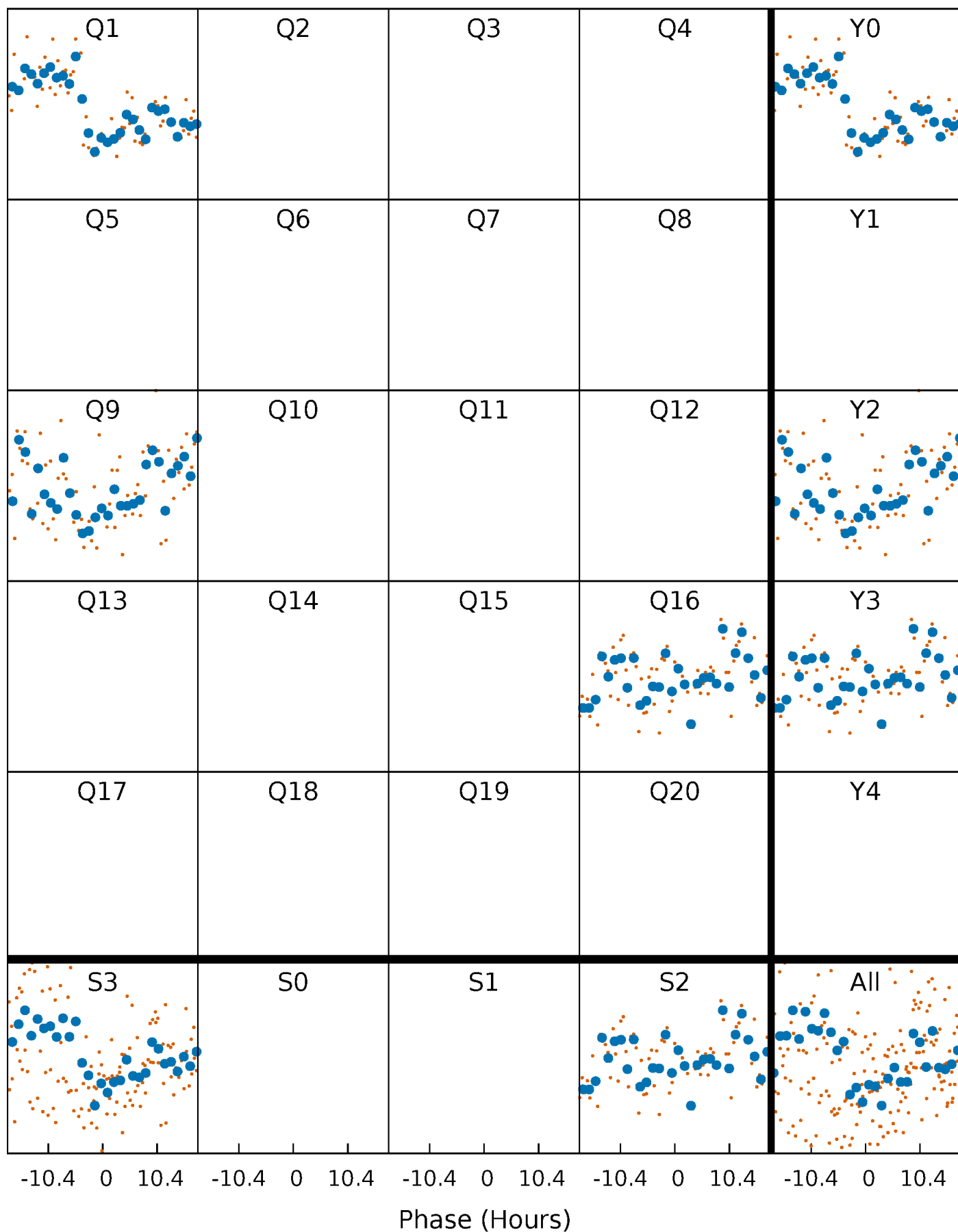


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 005802809-01 P=696.984080 Days $T_0=153.917380$ (BKJD)



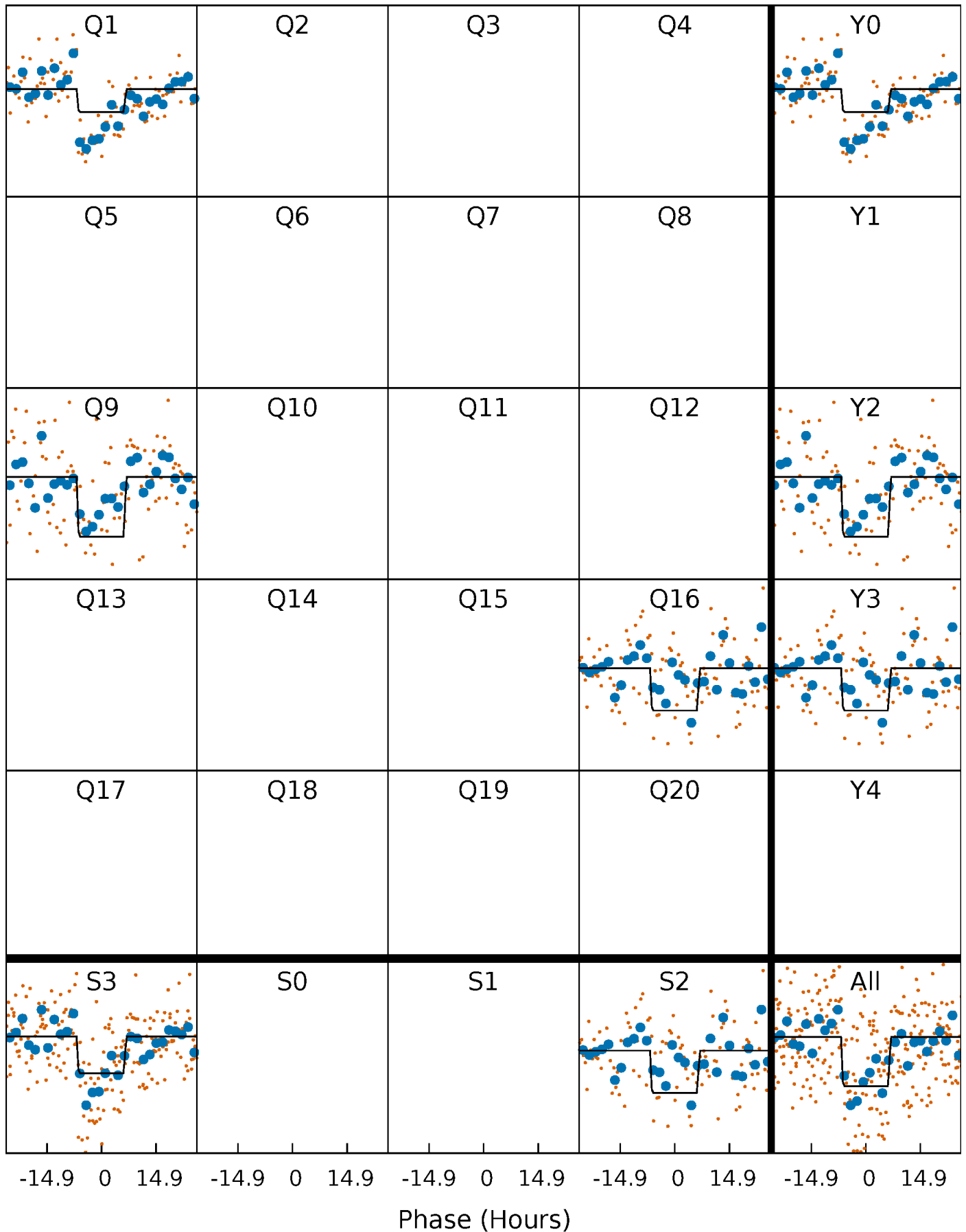
DV Quarter-Phased Transit Curves

TCE 005802809-01 P=696.984080 Days $T_0=153.917380$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

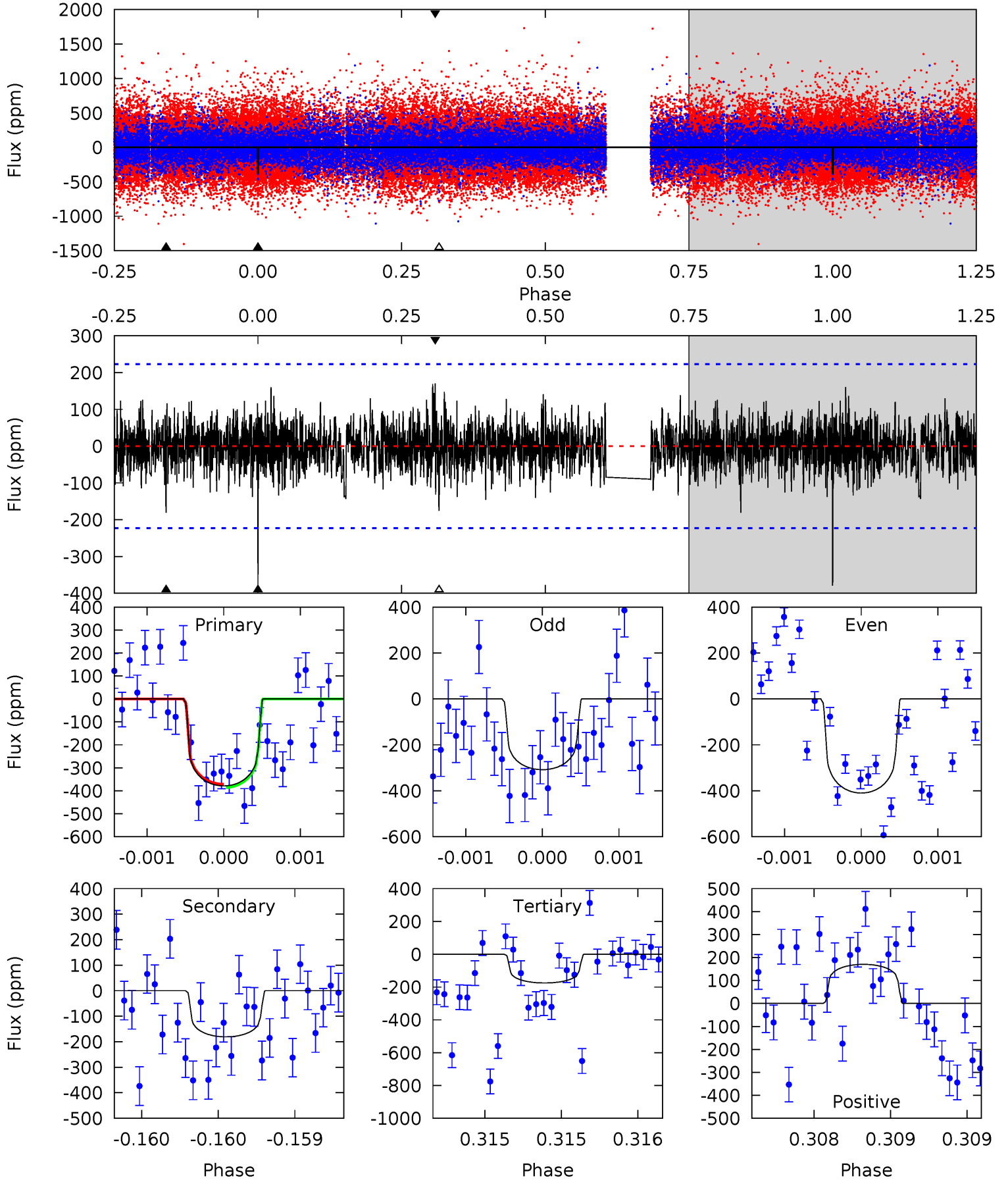
TCE 005802809-01 P=696.906997 Days $T_0=154.026252$ (BKJD)



DV Model-Shift Uniqueness Test

005802809-01, P = 696.984080 Days, E = 153.917380 Days

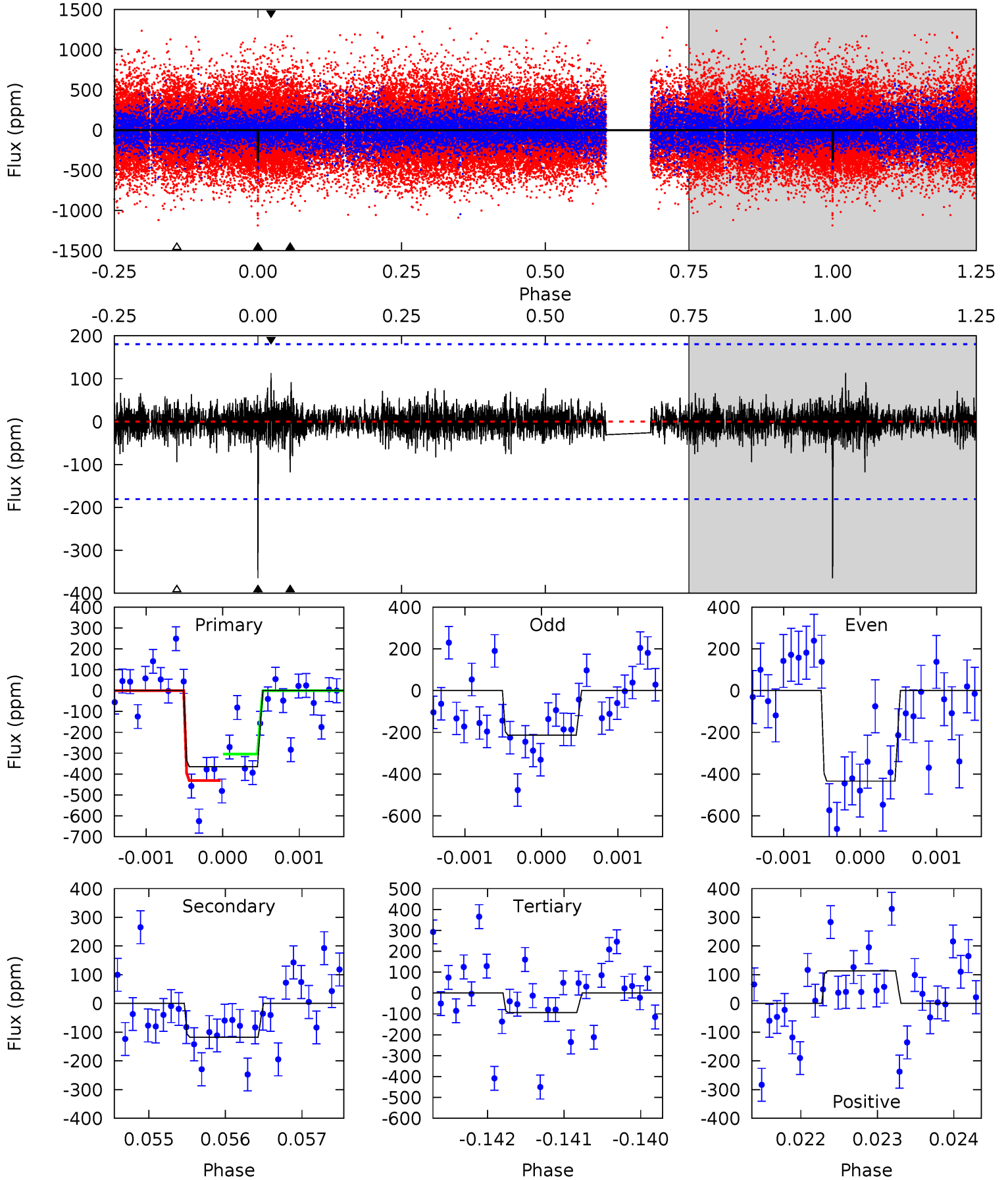
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.44	4.51	4.37	4.25	5.55	3.45	1.10	5.08	5.20	0.14	0.26	1.16	1.22	0.31	0.18



Alt Model-Shift Uniqueness Test

005802809-01, P = 696.906997 Days, E = 154.026252 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	3.58	2.86	3.45	5.49	3.36	0.66	8.23	7.64	0.72	0.12	3.14	1.68	0.24	1.93



Stellar Parameters For KIC 005802809

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6131^{+217}_{-266}	$4.302^{+0.158}_{-0.193}$	$-0.180^{+0.300}_{-0.300}$	$1.176^{+0.353}_{-0.236}$	$1.011^{+0.168}_{-0.126}$	$0.876^{+0.653}_{-0.426}$
	+4%/-4%	+4%/-4%	+167%/-167%	+30%/-20%	+17%/-12%	+74%/-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 005802809-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-181 ± 40	$2.98^{+1.82}_{-1.73}$	333^{+26}_{-26}	4829^{+2370}_{-827}	$27106^{+118838}_{-17257}$
Alt.	-118 ± 33	$2.83^{+2.06}_{-1.71}$	329^{+26}_{-23}	4473^{+2312}_{-838}	$19250^{+103987}_{-13447}$

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

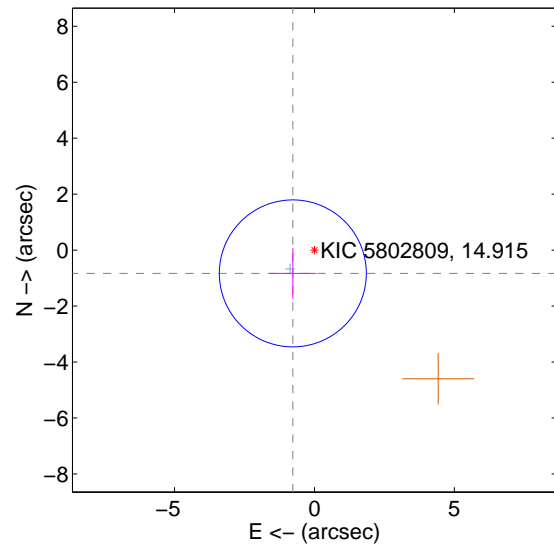
Supplemental centroid analysis for 005802809-01. Kepler magnitude: 14.91. Transit SNR 7.23

There are 1 quarters with good PRF difference image offsets

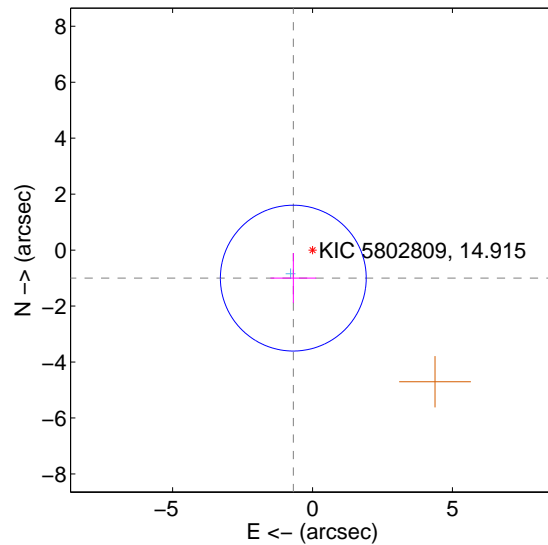
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.136 ± 0.876	1.30	0.772 ± 0.838	-0.833 ± 0.906
PRF-fit source offset from KIC position	1.214 ± 0.869	1.40	0.687 ± 0.817	-1.001 ± 0.892
photometric centroid source offset	2.44 ± 1.59	1.54	-1.33 ± 1.71	2.05 ± 1.54

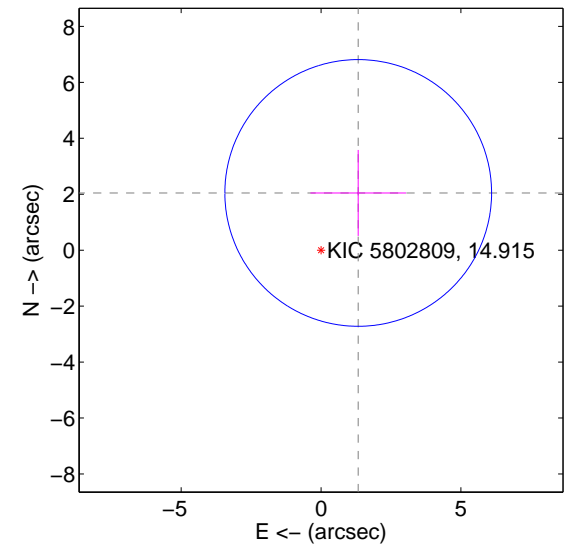
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

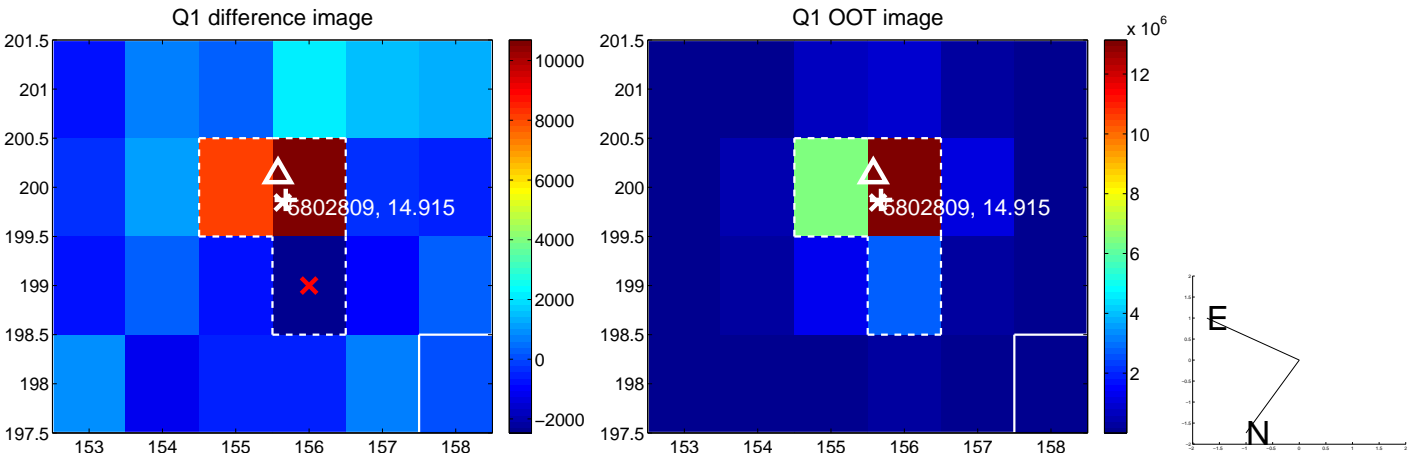


offset from photometric centroids



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.

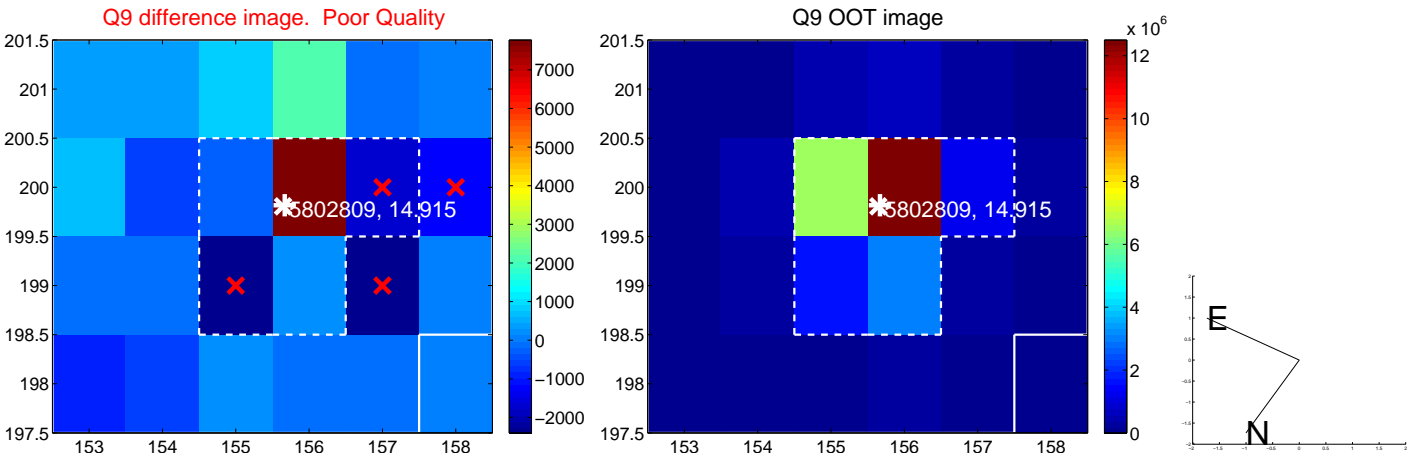
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



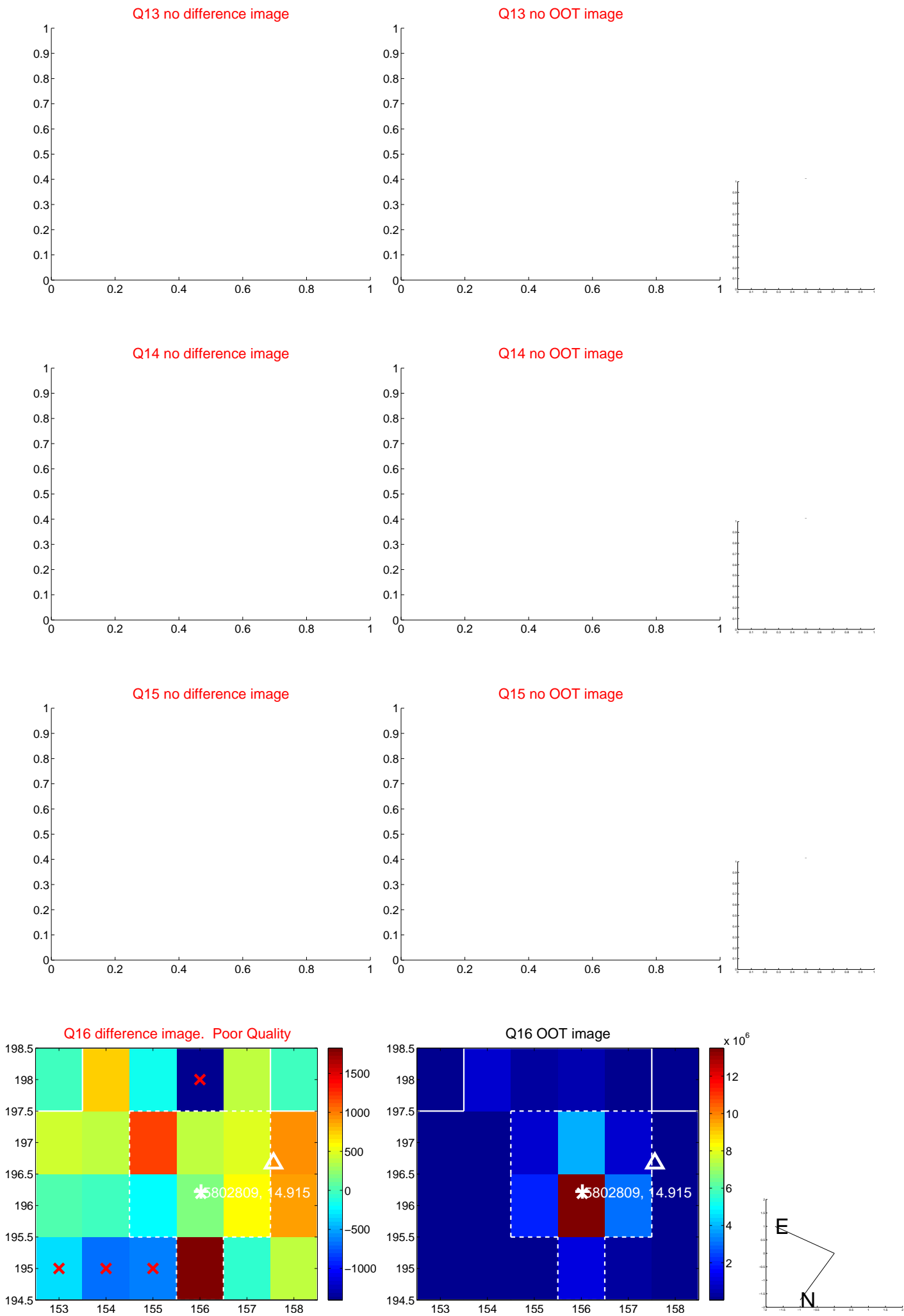
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



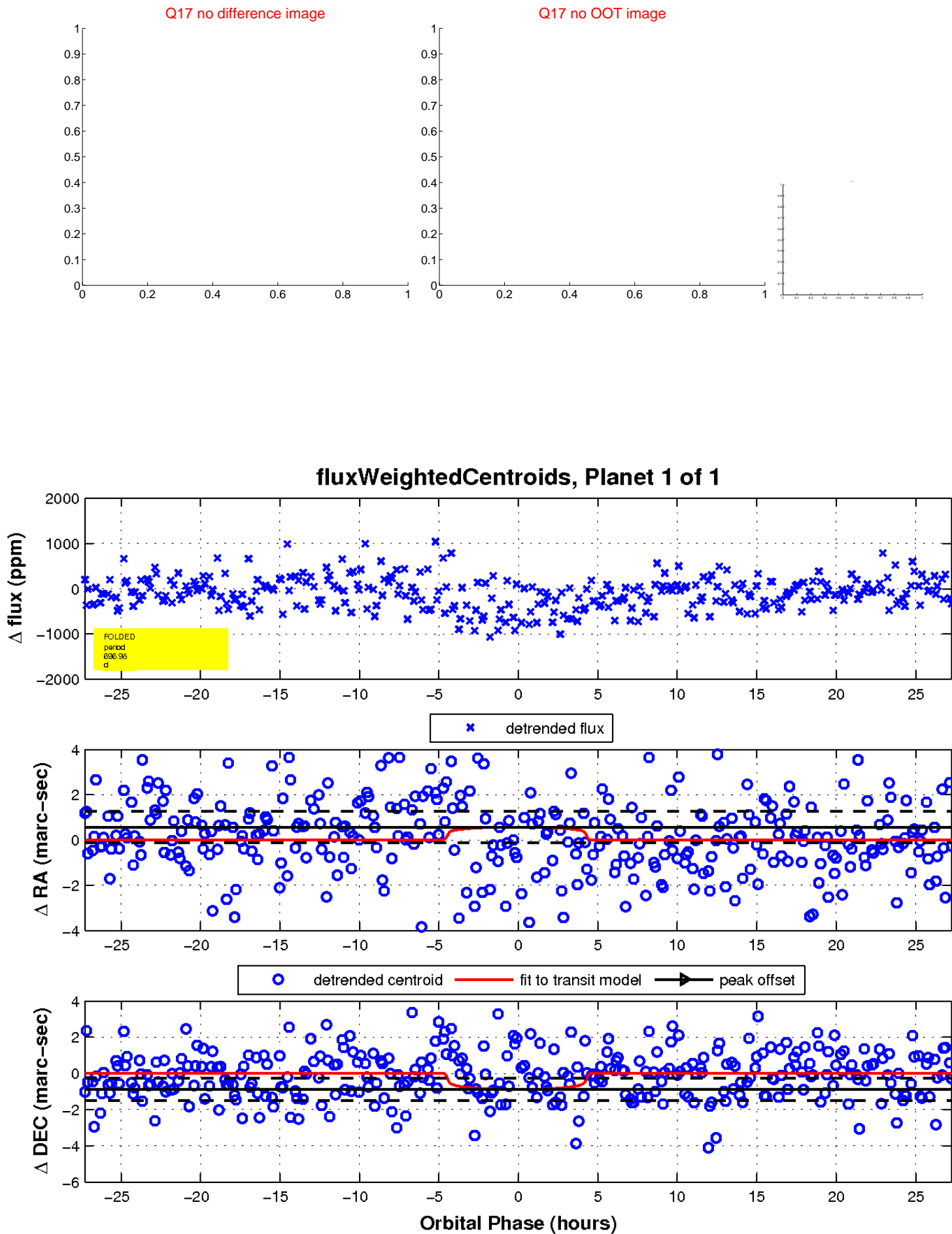
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white ×: 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.



UKIRT Image

Declination

