

KIC 007970162

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})
007970162-01	OBS	No	369.737135	232.493520	520.9	25.962	8.0	9.9	0.86	6071	2.46	0.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007970162-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

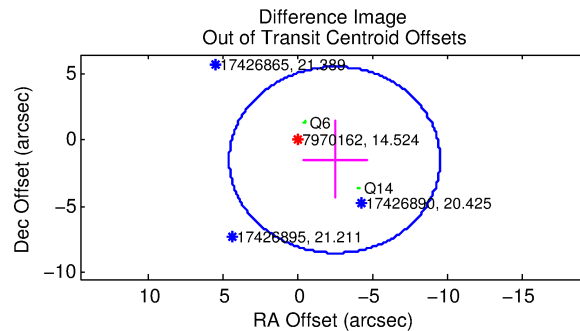
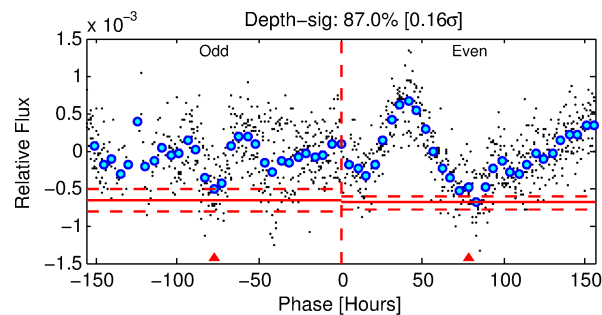
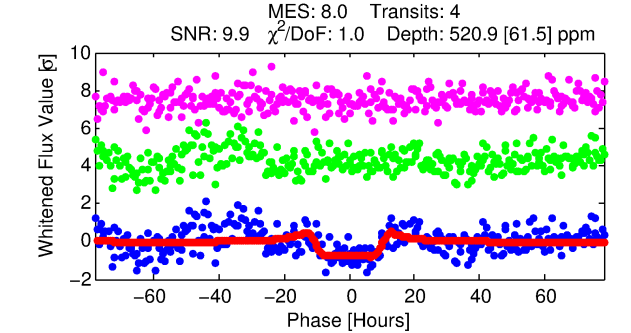
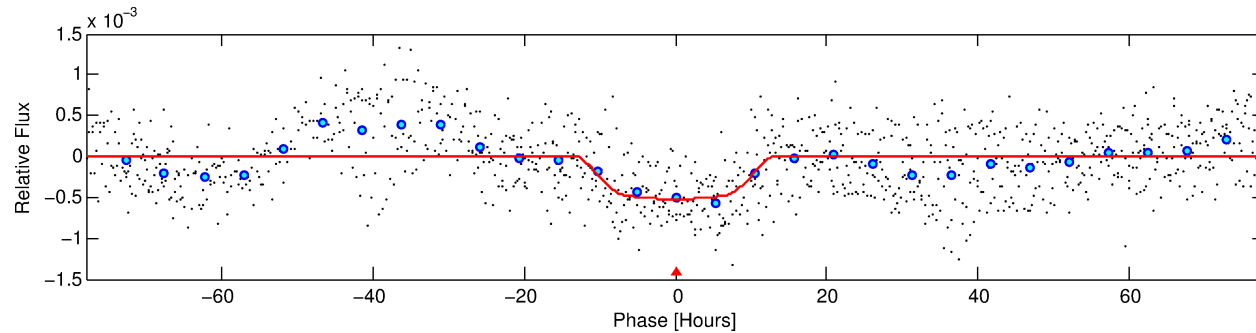
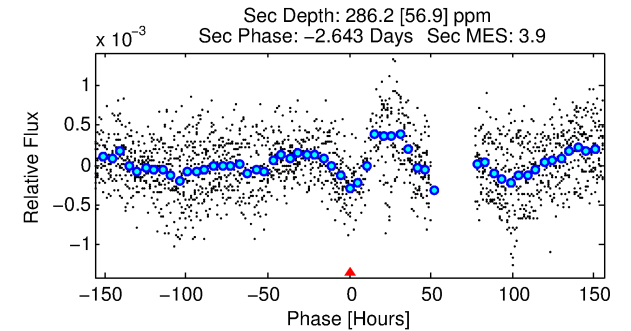
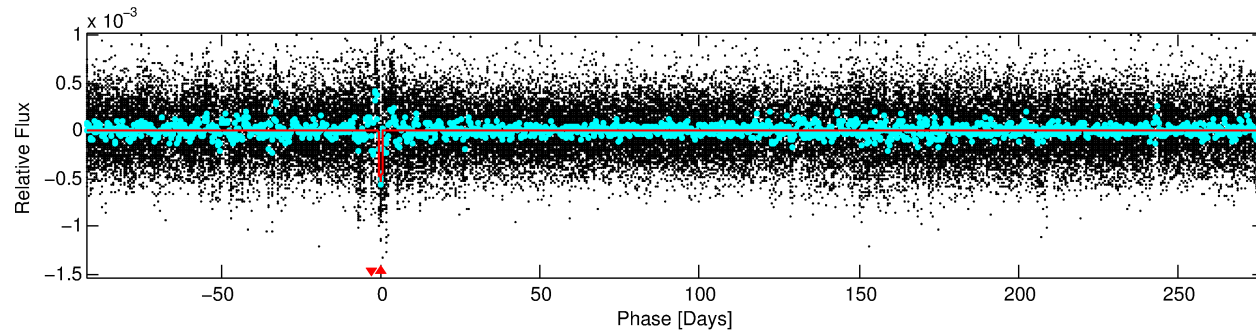
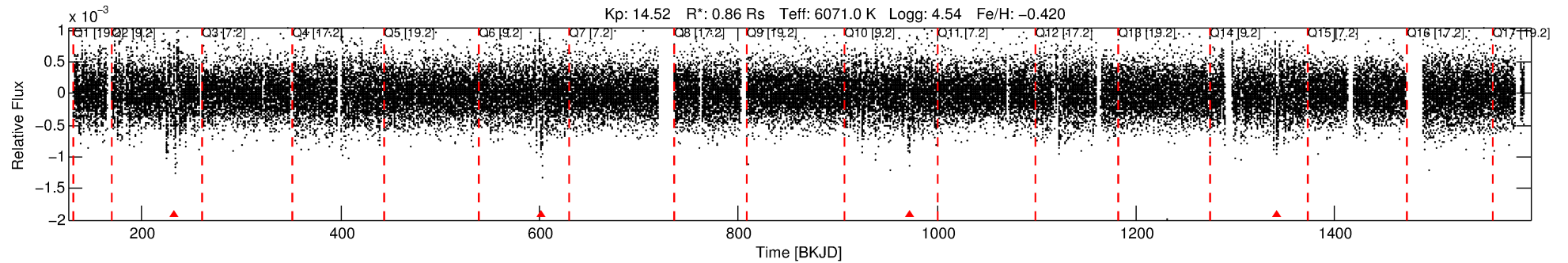
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007970162-01

No Significant Match Found

DV One-Page Summary

KIC: 7970162 Candidate: 1 of 1 Period: 369.737 d



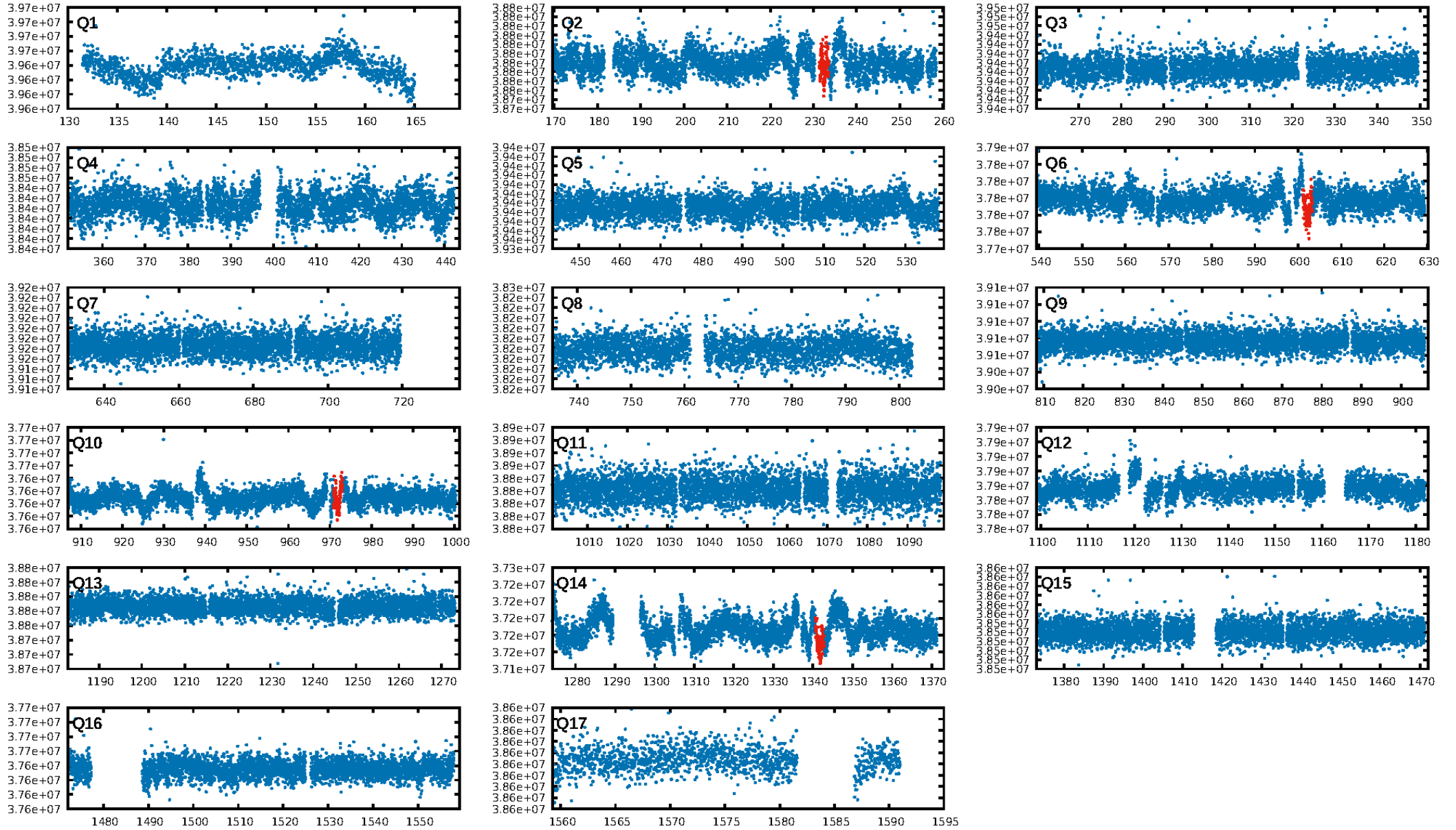
DV Fit Results:

Period = 369.73714 [0.01826] d
Epoch = 232.4935 [0.0350] BKJD
Rp/R* = 0.0261 [0.0019]
a/R* = 42.18 [6.71]
b = 0.95 [0.02]
Seff = 0.93 [0.37]
Teff = 250 [25] K
Rp = 2.46 [0.76] Re
a = 0.9908 [0.2556] AU
Ag = 25521.96 [11601.27] [2.20 σ]
Teffp = 4890 [334] K [13.87 σ]

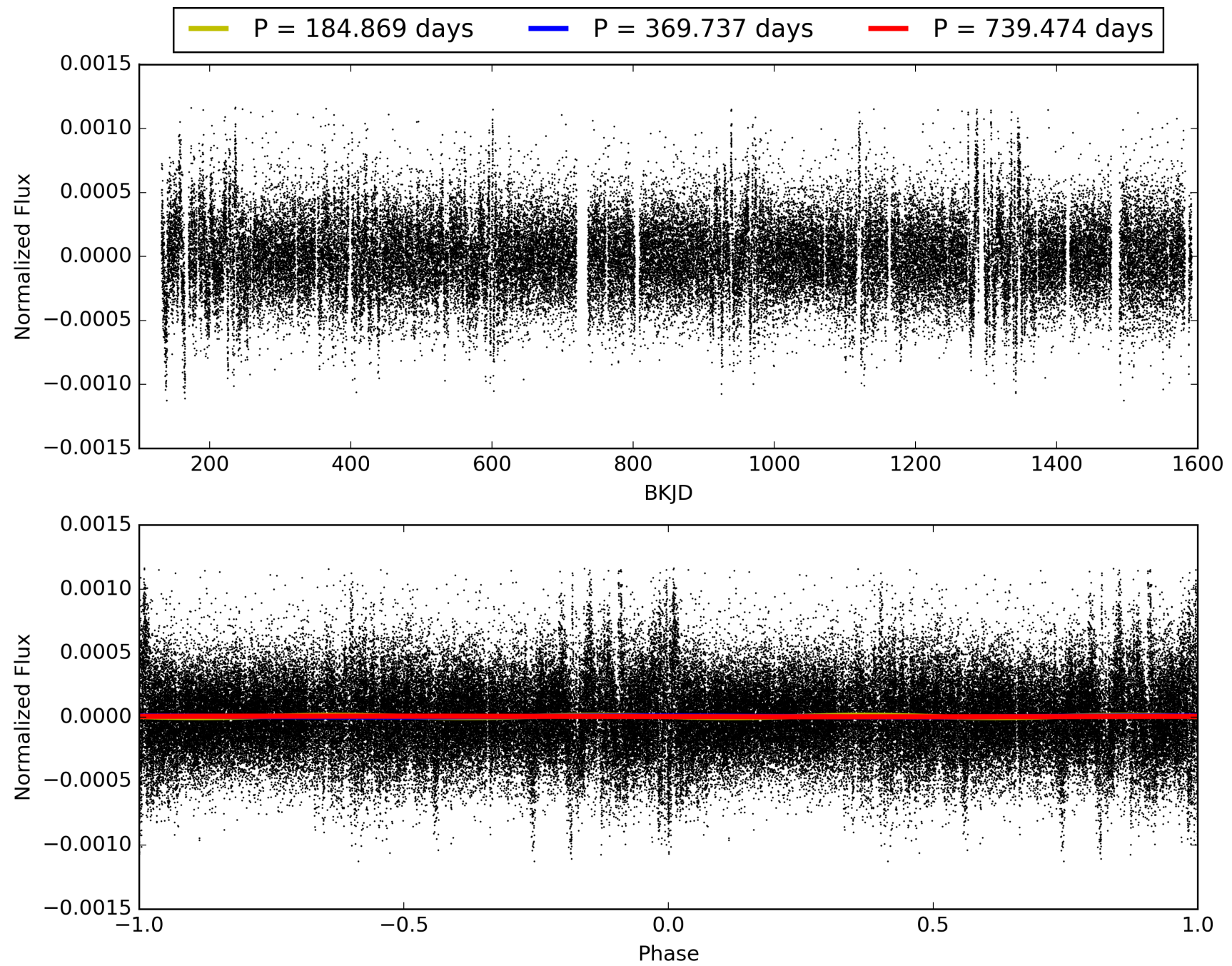
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 78.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.08e-11
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: -0.05791
Centroid-sig: 96.0%
Centroid-so: 0.493 arcsec [0.20 σ]
OotOffset-rm: 2.933 arcsec [1.25 σ]
KicOffset-rm: 3.165 arcsec [1.32 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 007970162-01, PDC Light Curves

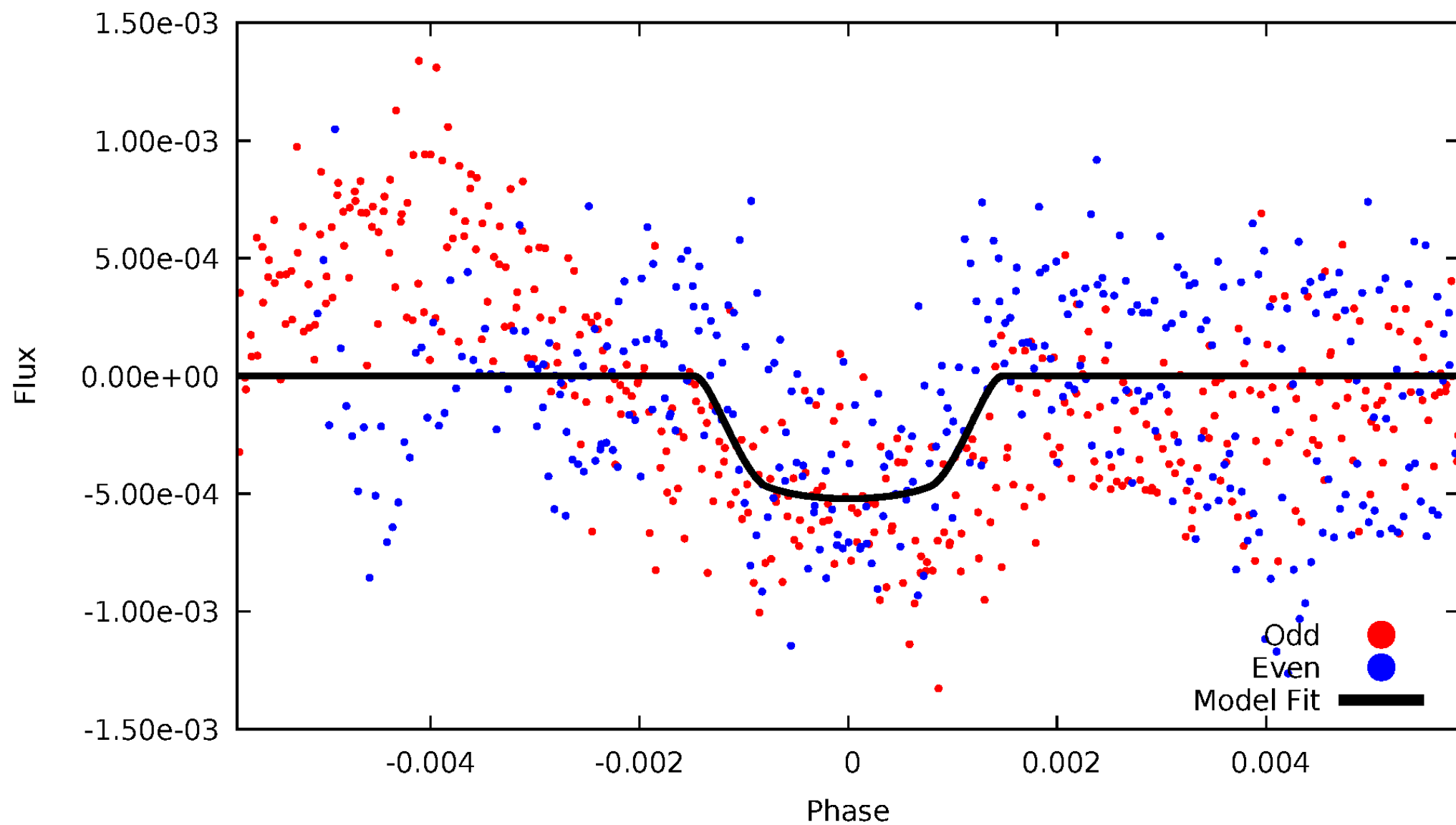


TCE 007970162-01



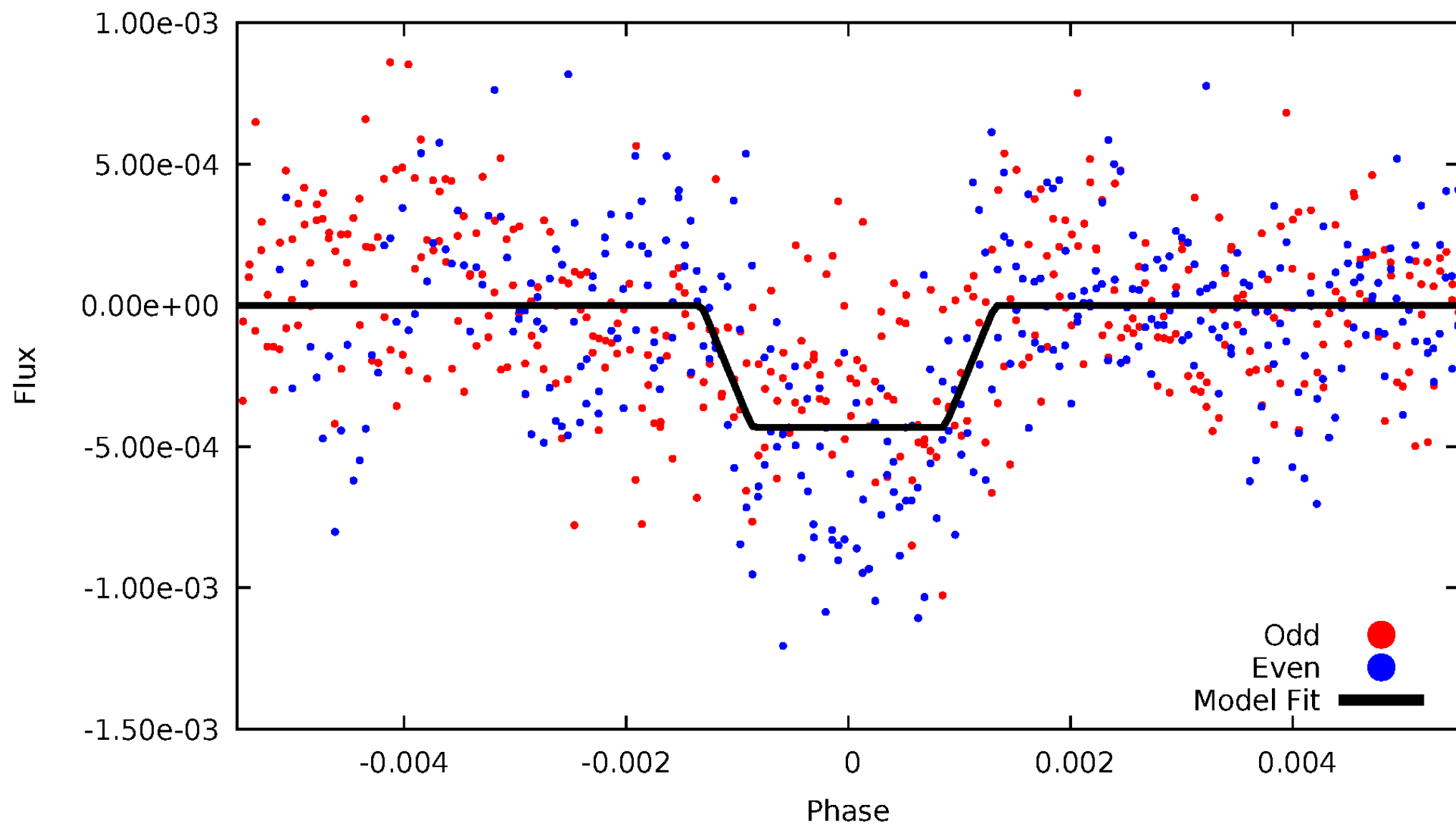
DV Odd/Even

TCE 007970162-01

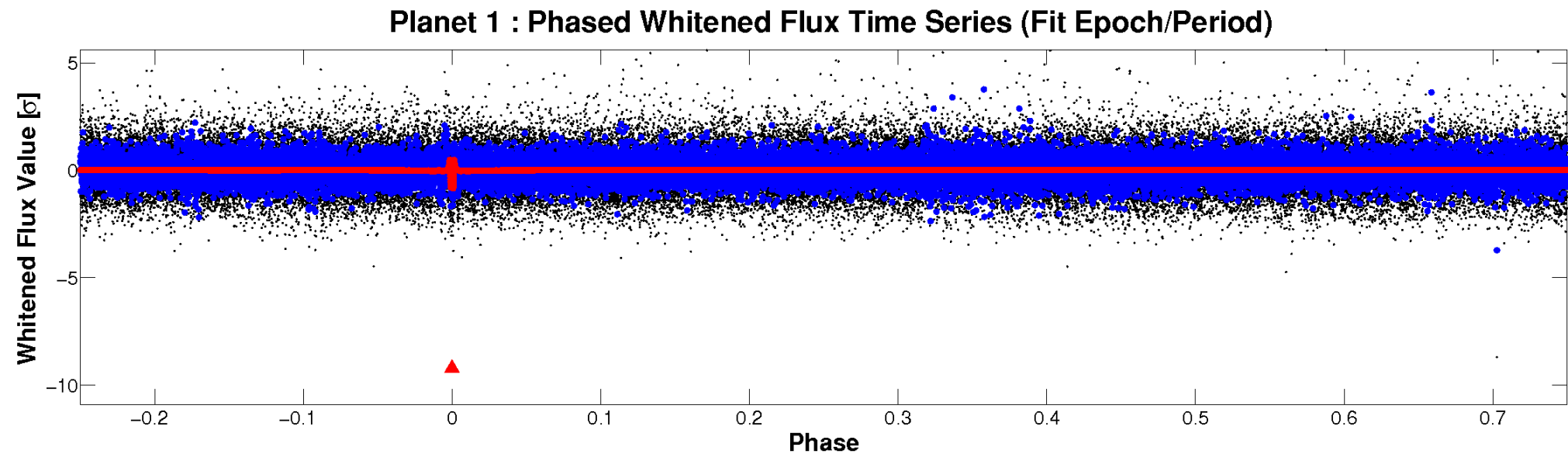
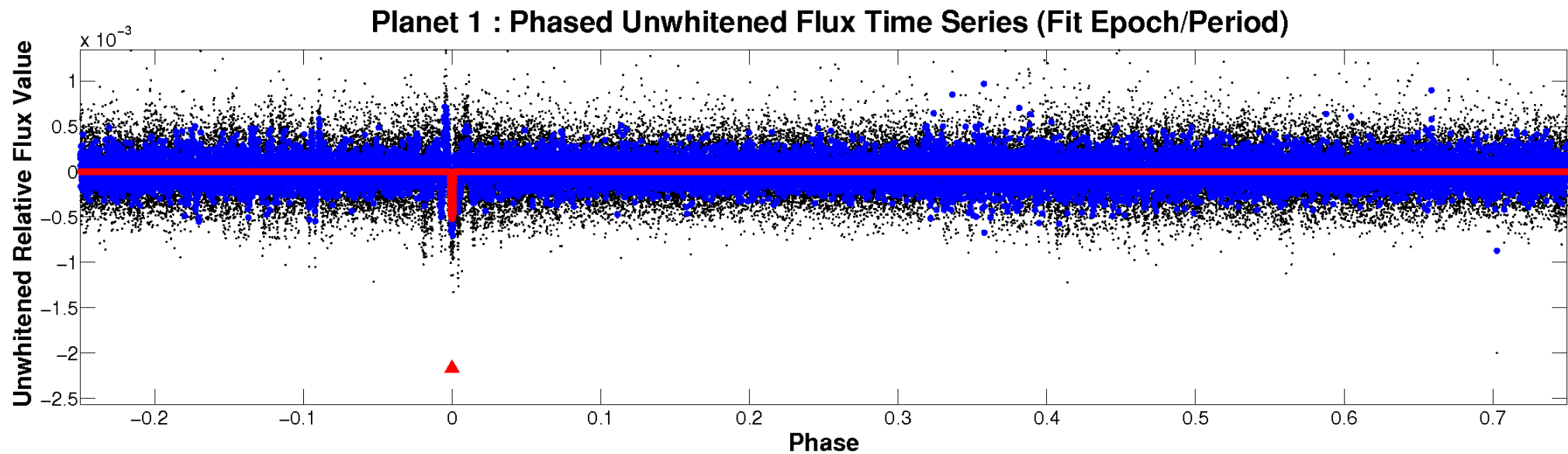


ALT Odd/Even

TCE 007970162-01

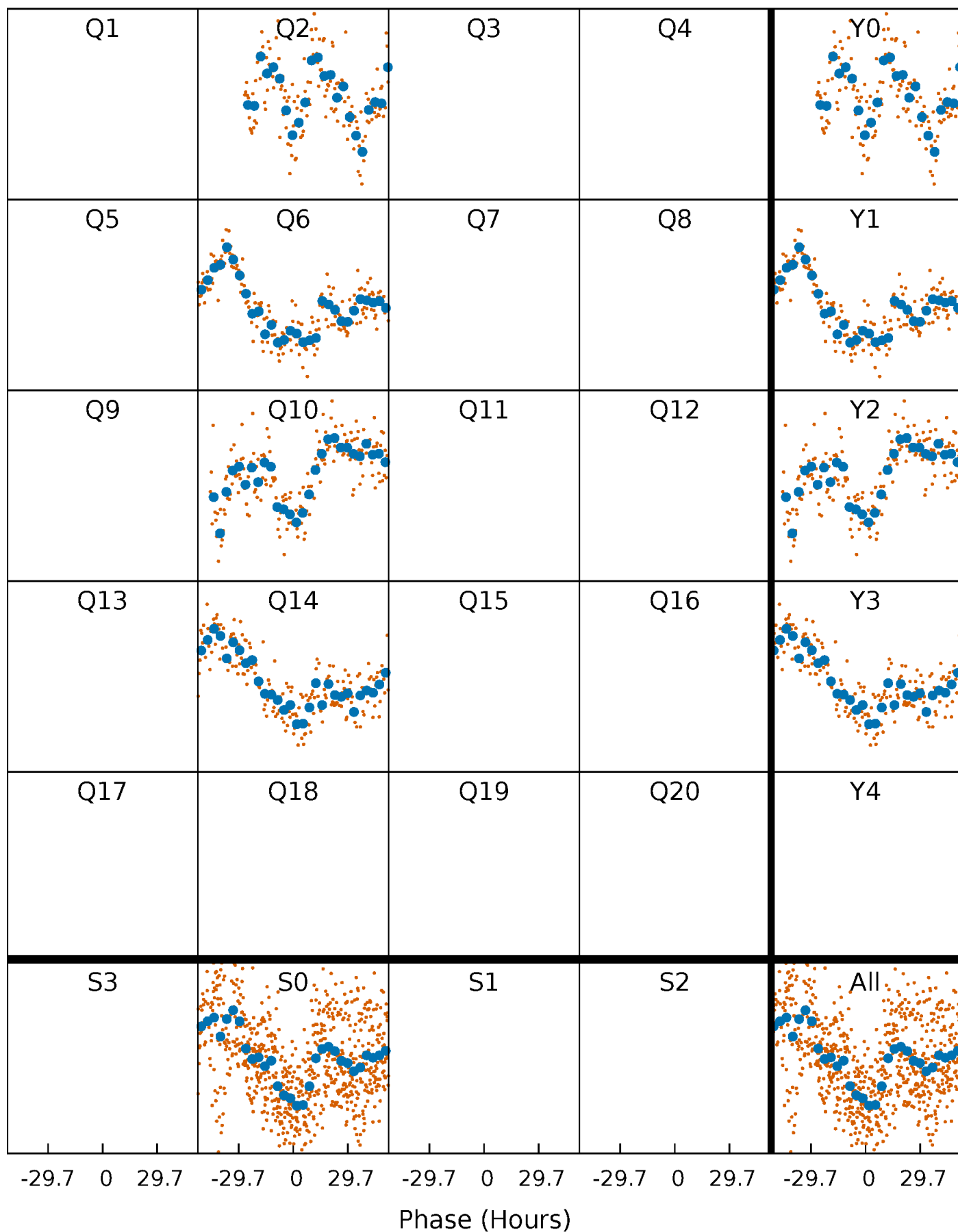


Non-Whitened Vs. Whitened Light Curve



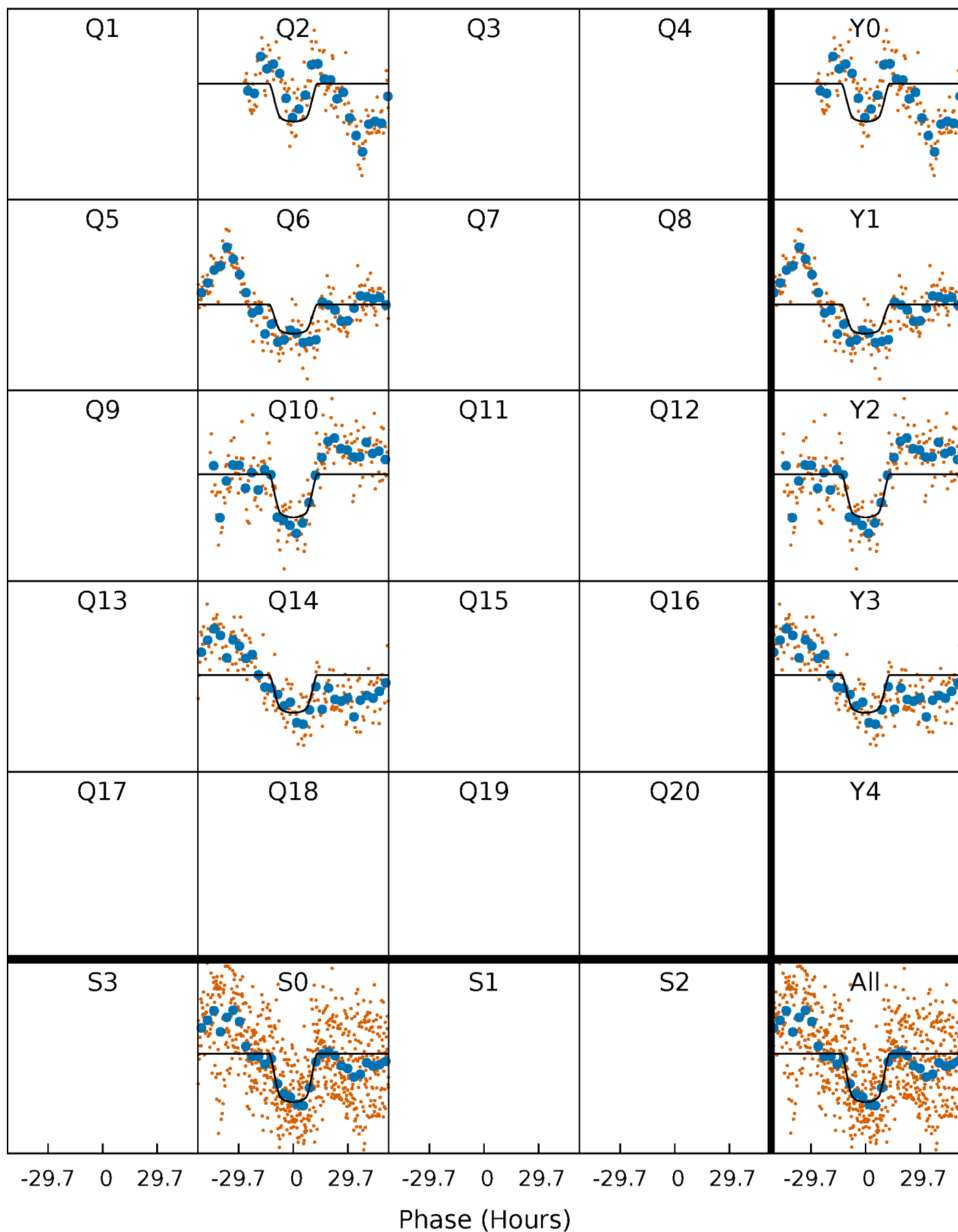
PDC Quarter-Phased Transit Curves

TCE 007970162-01 P=369.737135 Days $T_0=232.493520$ (BKJD)



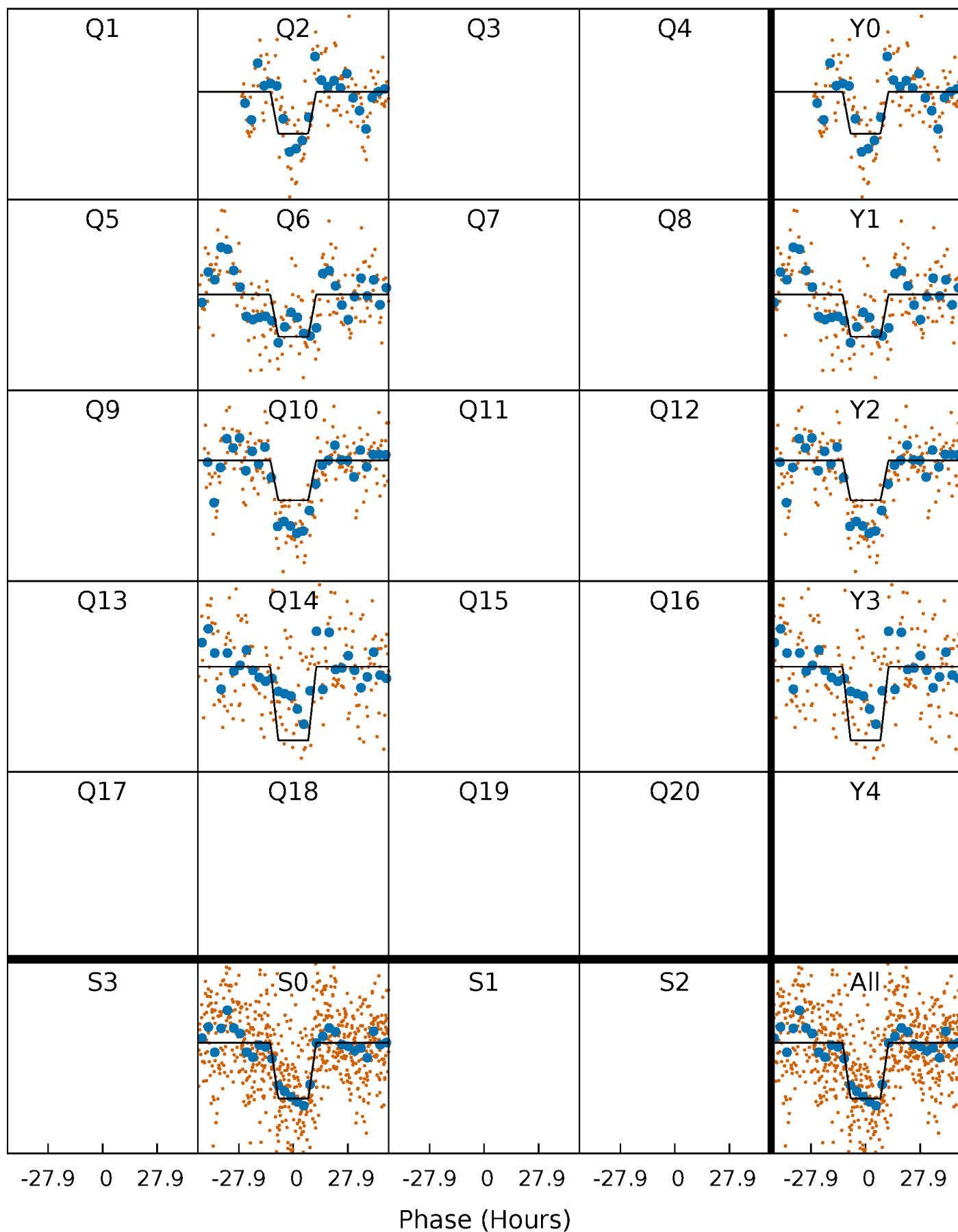
DV Quarter-Phased Transit Curves

TCE 007970162-01 P=369.737135 Days $T_0=232.493520$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

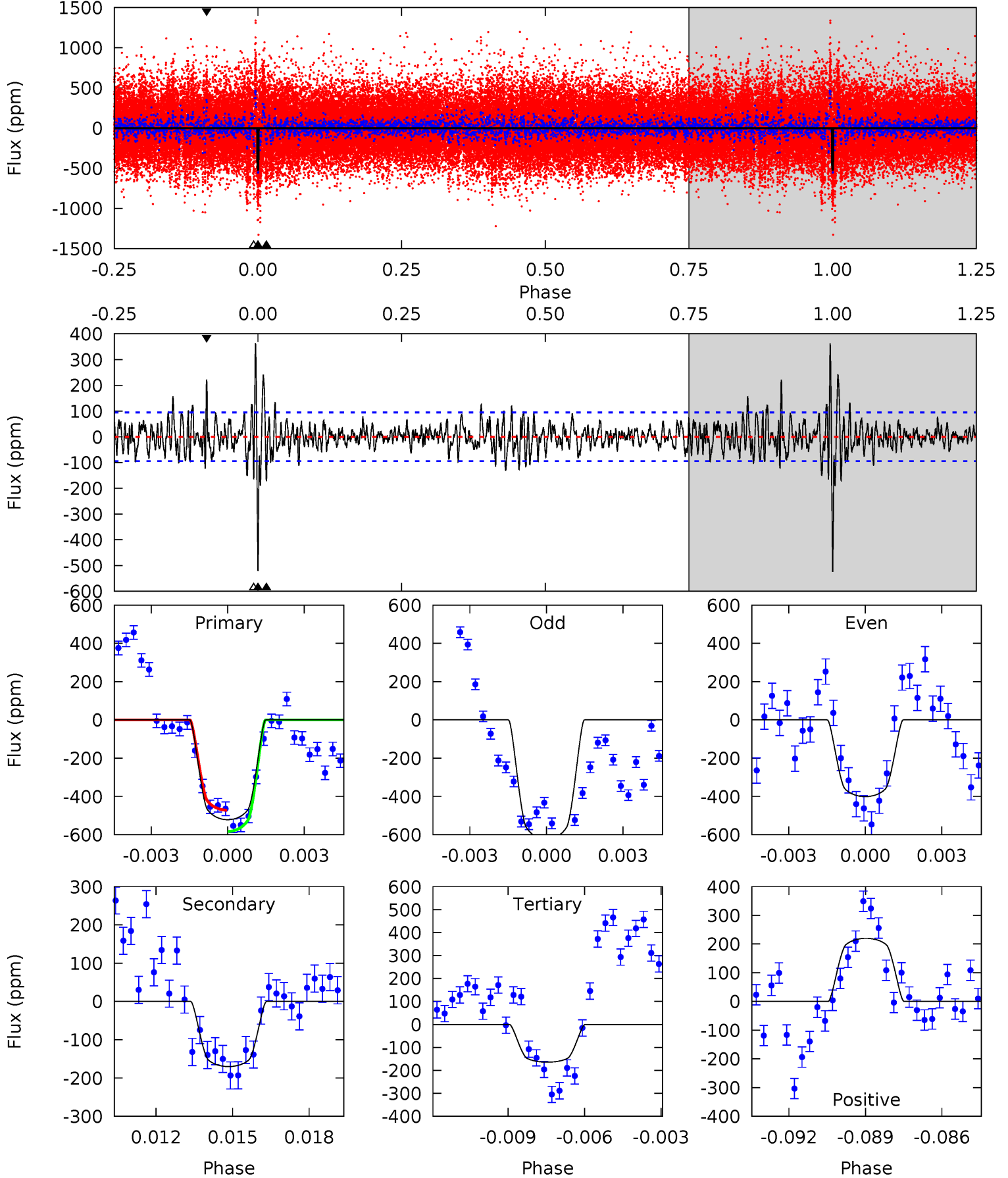
TCE 007970162-01 P=369.745268 Days $T_0=232.490763$ (BKJD)



DV Model-Shift Uniqueness Test

007970162-01, P = 369.737135 Days, E = 232.493520 Days

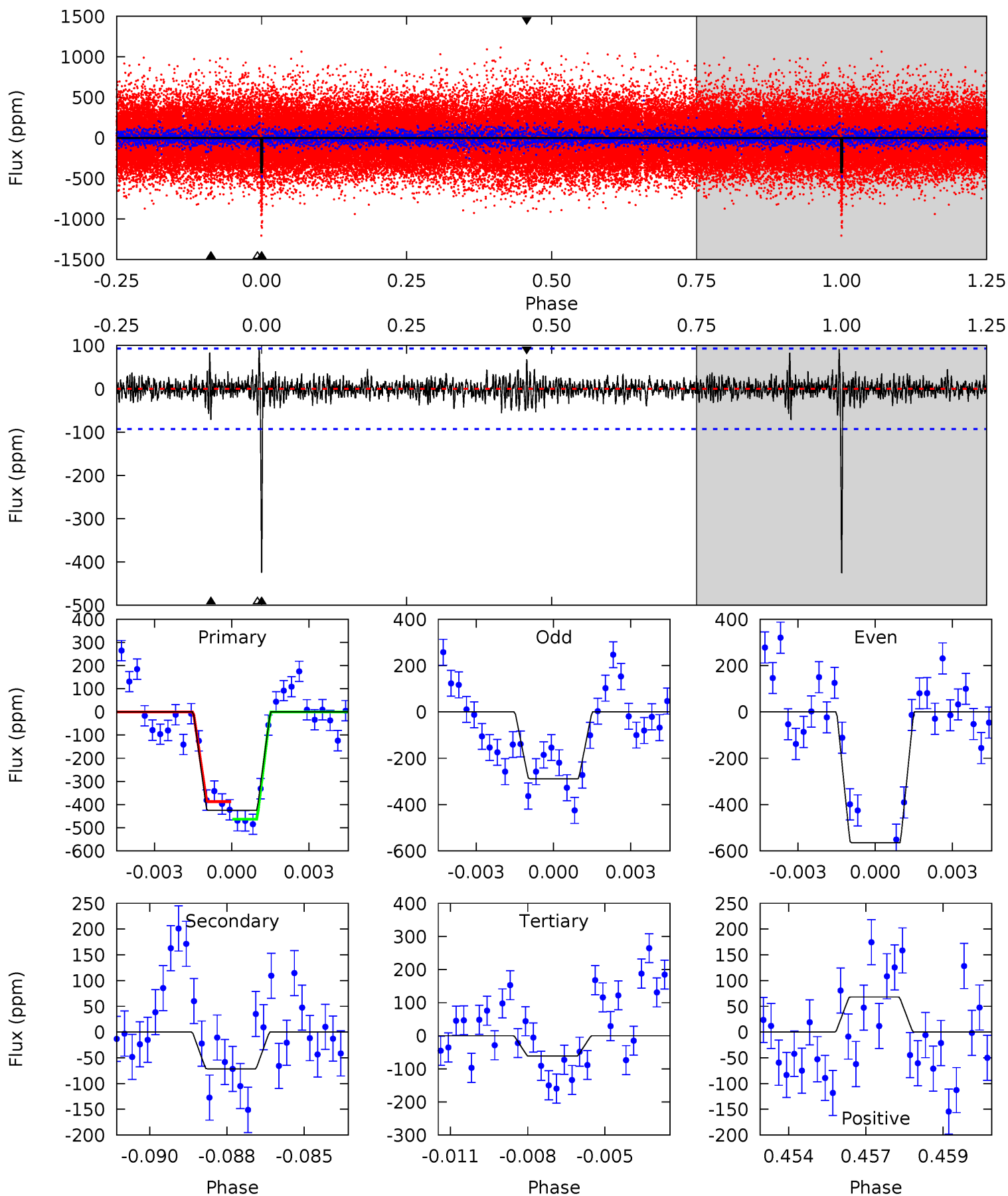
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.0	9.46	9.14	12.2	5.25	2.97	2.63	19.9	16.8	0.32	-2.77	6.25	0.86	0.41	3.09



Alt Model-Shift Uniqueness Test

007970162-01, P = 369.745268 Days, E = 232.490763 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	4.05	3.48	3.86	5.28	3.01	0.87	20.6	20.2	0.57	0.19	7.85	1.12	0.18	2.15



Stellar Parameters For KIC 007970162

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6071^{+165}_{-183}	$4.541^{+0.037}_{-0.213}$	$-0.420^{+0.300}_{-0.300}$	$0.865^{+0.259}_{-0.069}$	$0.947^{+0.106}_{-0.118}$	$2.062^{+0.417}_{-1.075}$
	+3%/-3%	+1%/-5%	+71%/-71%	+30%/-8%	+11%/-12%	+20%/-52%
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 007970162-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-170 ± 18	$2.54^{+0.44}_{-0.27}$	358^{+27}_{-17}	4486^{+171}_{-179}	13713^{+3217}_{-3688}
Alt.	-71 ± 18	$2.05^{+0.35}_{-0.24}$	359^{+27}_{-17}	4145^{+222}_{-248}	8878^{+3368}_{-3060}

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 $A_{\text{obs}} \gg 1.0$

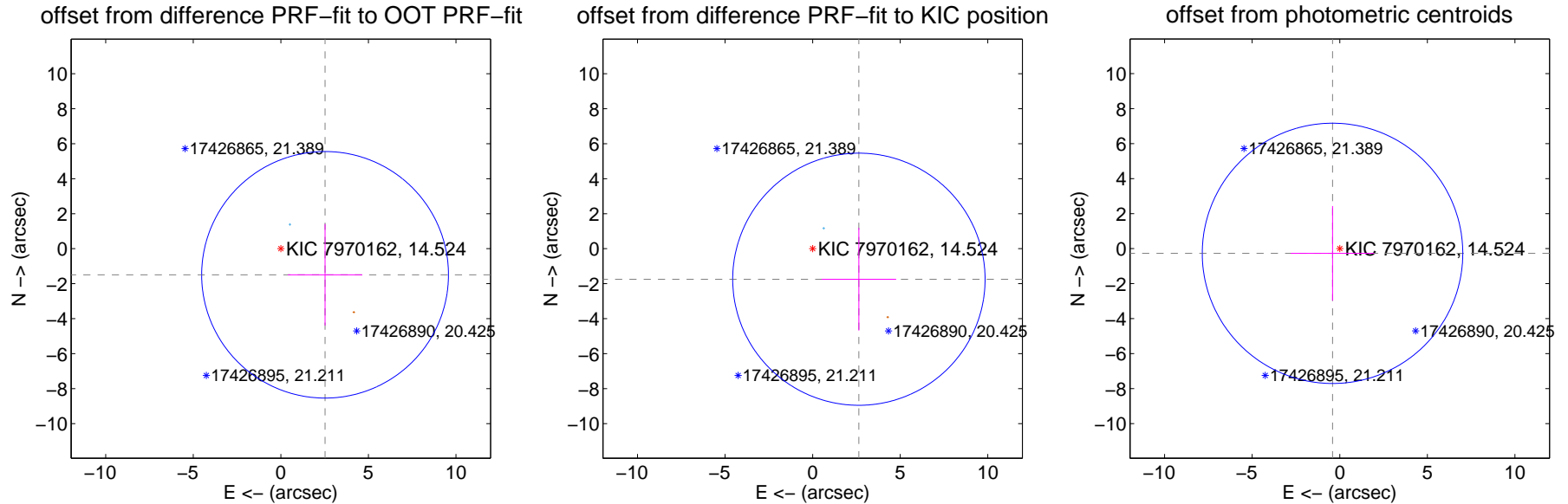
DV Centroid Data

Supplemental centroid analysis for 007970162-01. Kepler magnitude: 14.52. Transit SNR 9.86

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.933 ± 2.348	1.25	-2.525 ± 2.123	-1.492 ± 2.899
PRF-fit source offset from KIC position	3.165 ± 2.401	1.32	-2.640 ± 2.127	-1.746 ± 2.935
photometric centroid source offset	0.49 ± 2.48	0.20	0.41 ± 2.38	-0.27 ± 2.70

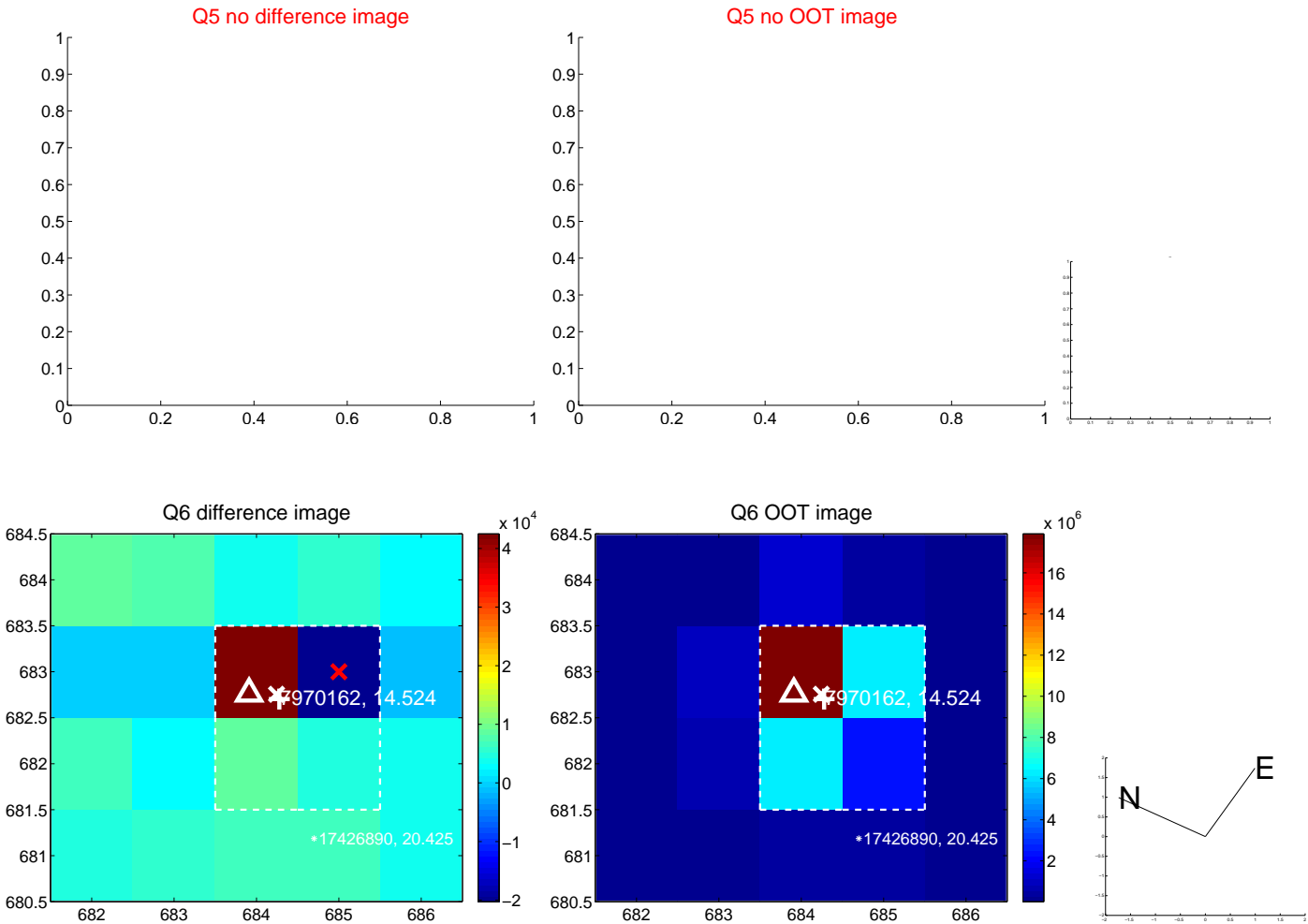


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



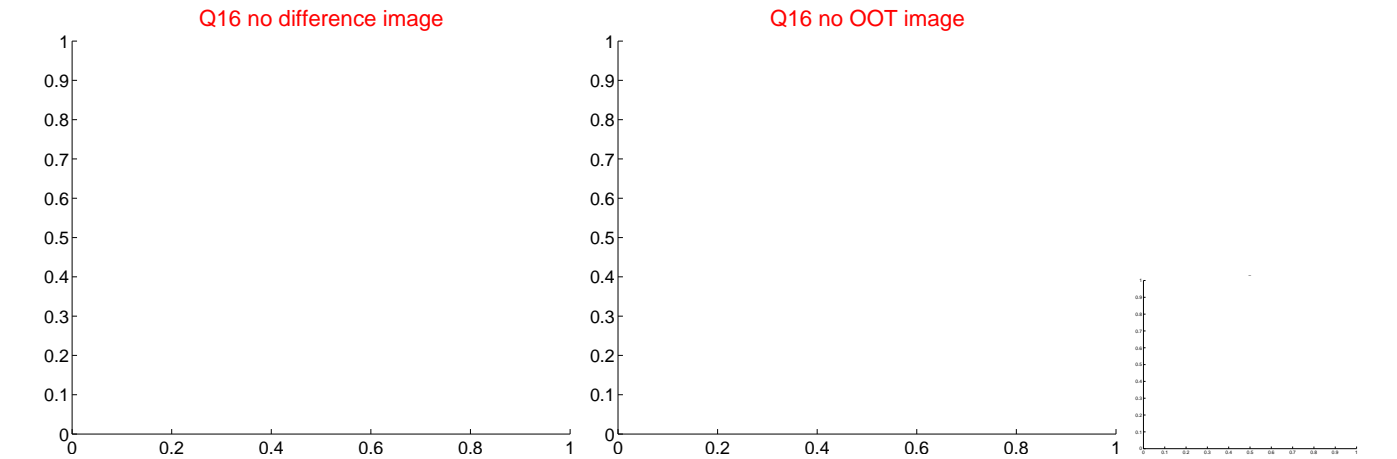
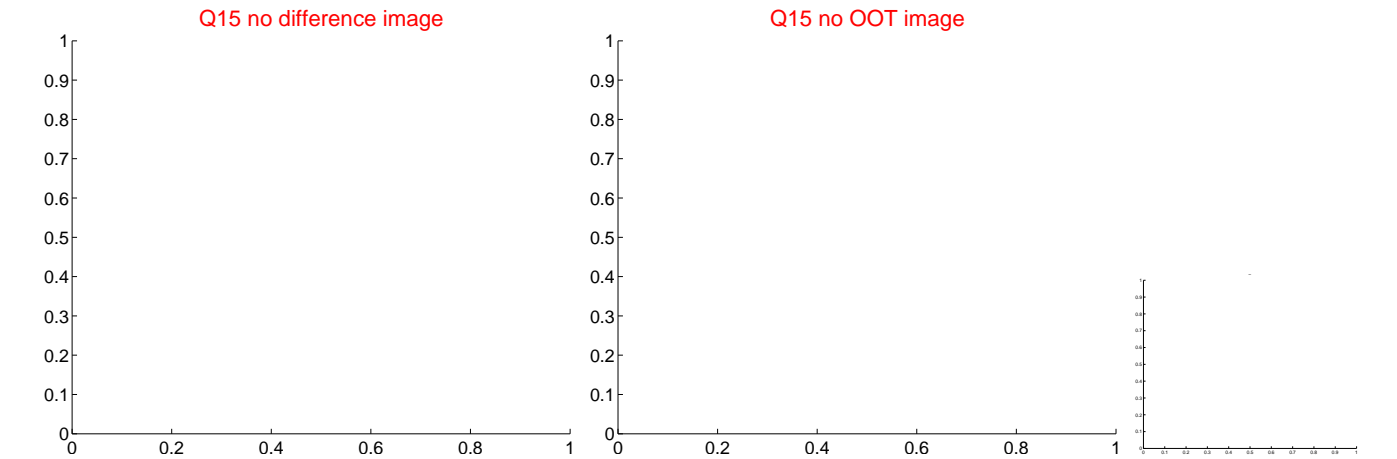
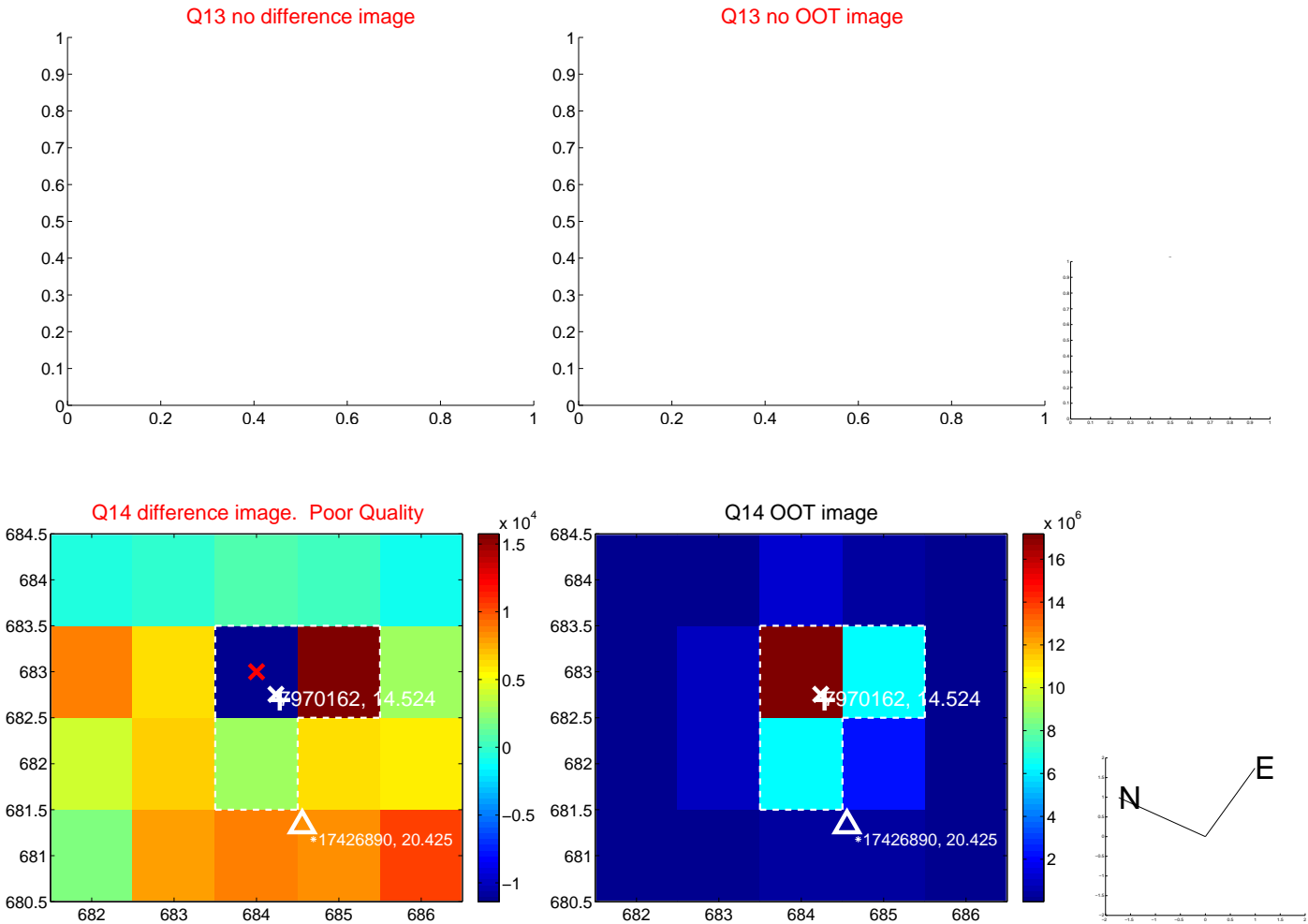
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



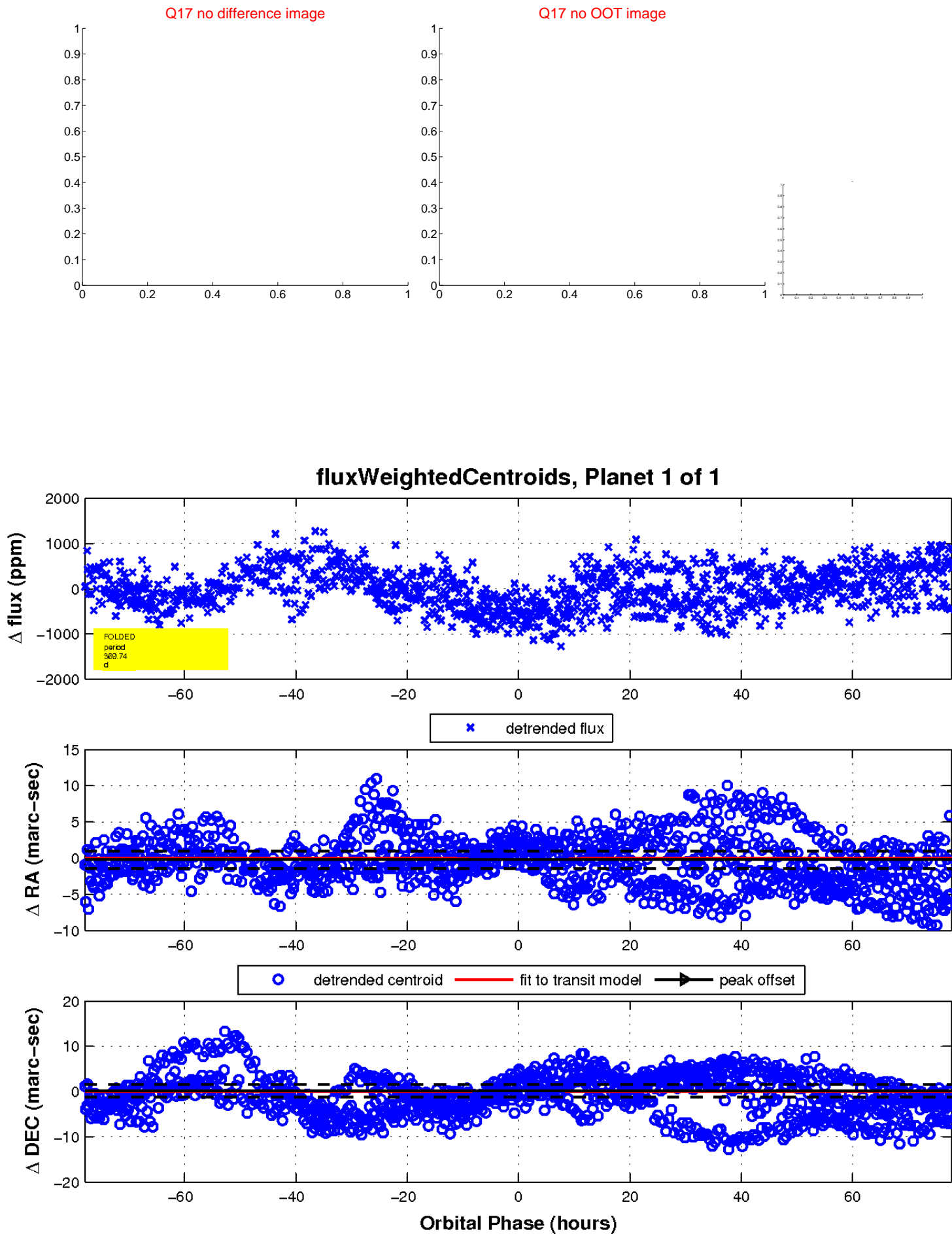
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

