

KIC 005025999

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})
005025999-01	OBS	No	417.853019	189.258245	342.4	10.998	7.7	7.4	0.94	5893	1.88	0.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005025999-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

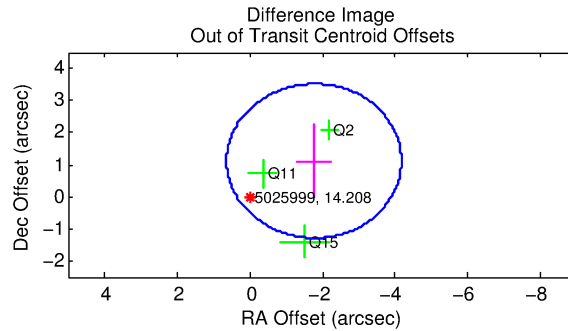
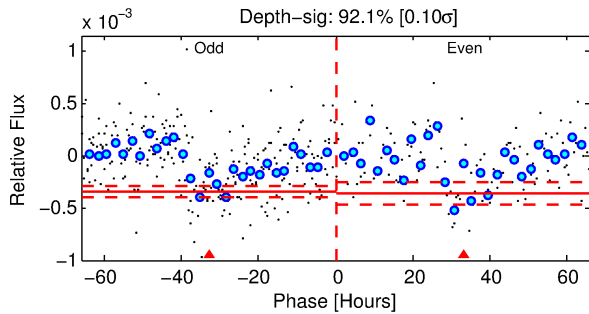
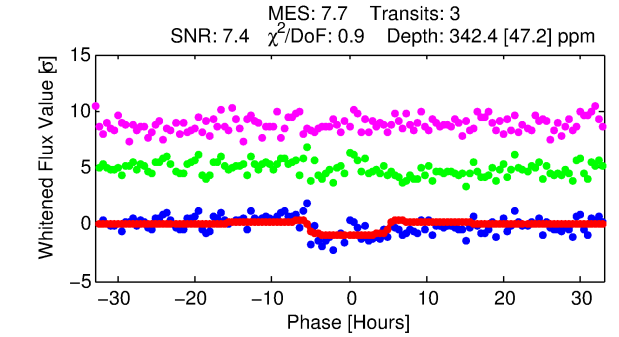
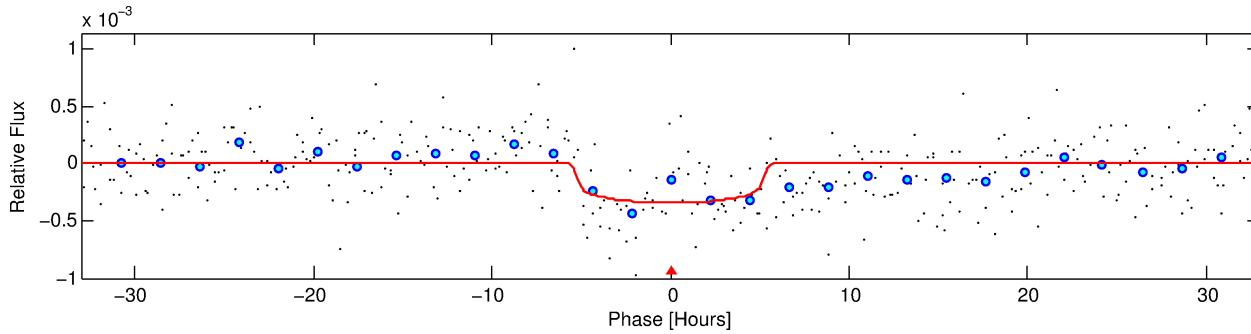
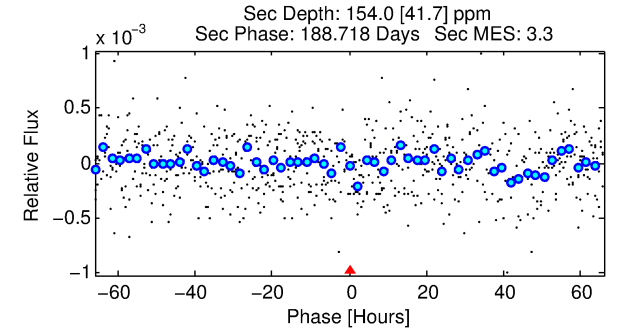
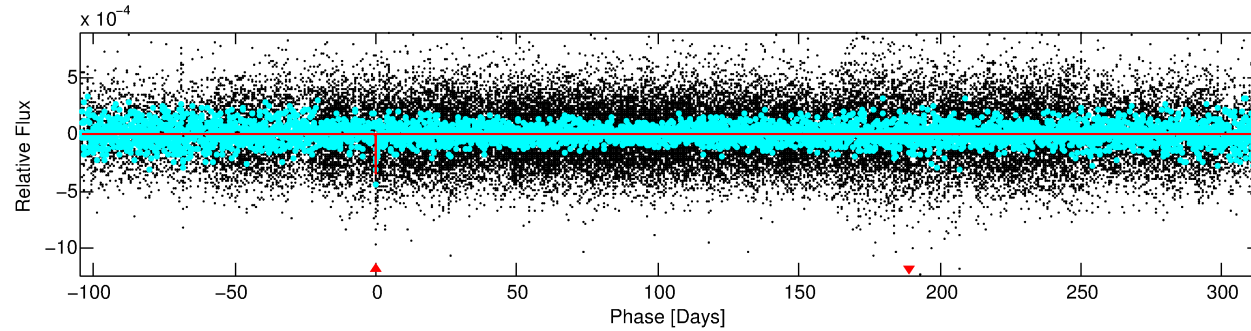
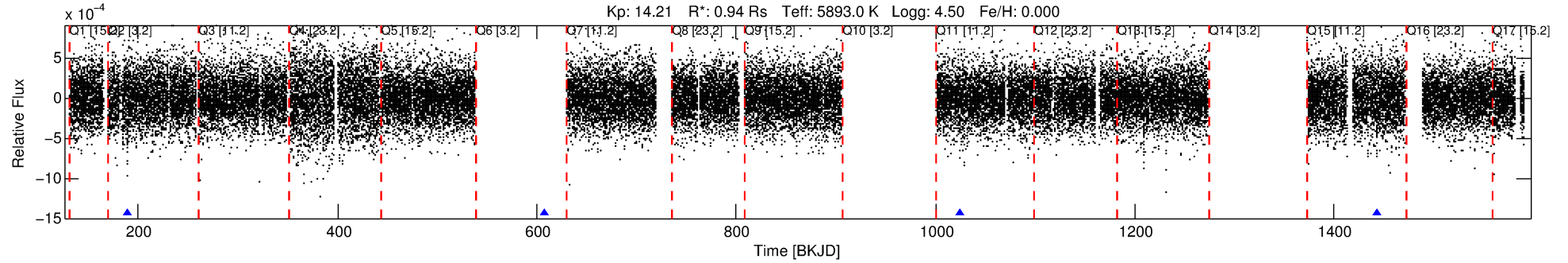
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005025999-01

No Significant Match Found

DV One-Page Summary

KIC: 5025999 Candidate: 1 of 1 Period: 417.853 d



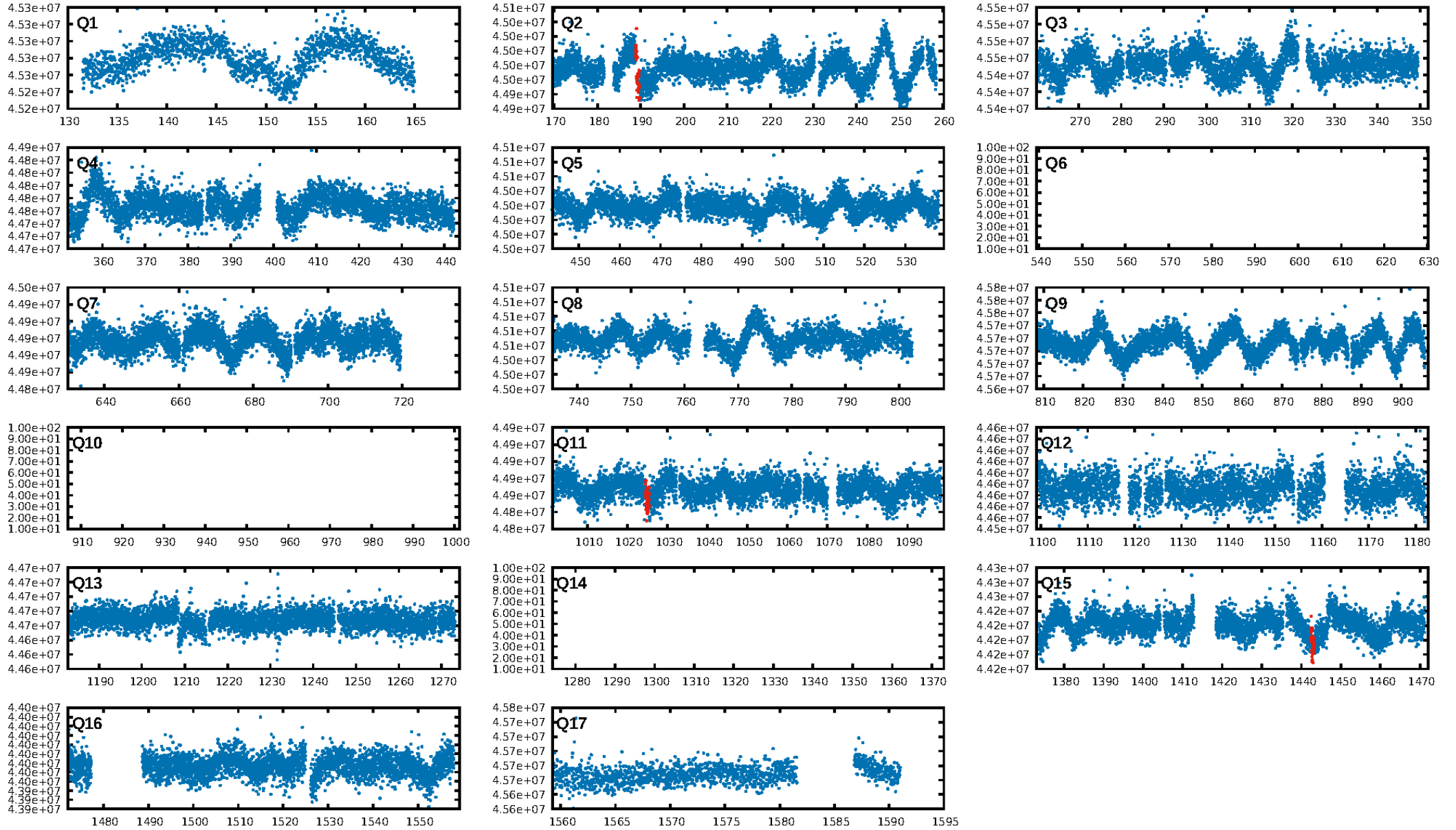
DV Fit Results:

Period = 417.85302 [0.00934] d
Epoch = 189.2582 [0.0193] BKJD
Rp/R* = 0.0183 [0.0091]
a/R* = 202.77 [452.20]
b = 0.74 [1.37]
Seff = 0.78 [0.30]
Teff = 240 [23] K
Rp = 1.88 [1.07] Re
a = 1.1060 [0.2676] AU
Ag = 29190.13 [31761.44] [0.92 σ]
Teffp = 4846 [1253] K [3.68 σ]

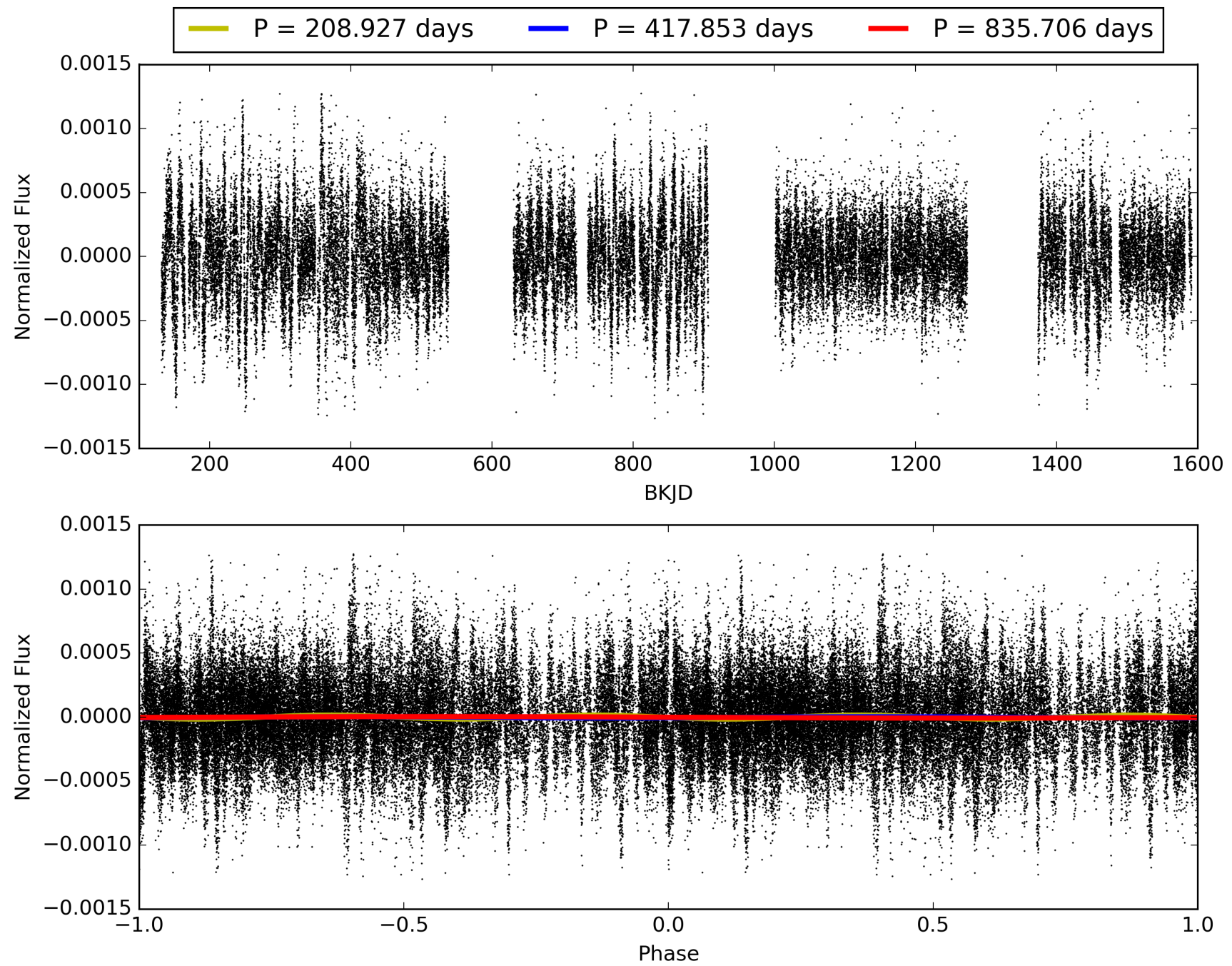
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 31.8%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 2.75e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 32.52
Centroid-sig: 4.7%
Centroid-so: 2.270 arcsec [1.49 σ]
OotOffset-rm: 2.092 arcsec [2.61 σ]
KicOffset-rm: 2.156 arcsec [2.58 σ]
OotOffset-st: 1/2/0/0 [3]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 005025999-01, PDC Light Curves

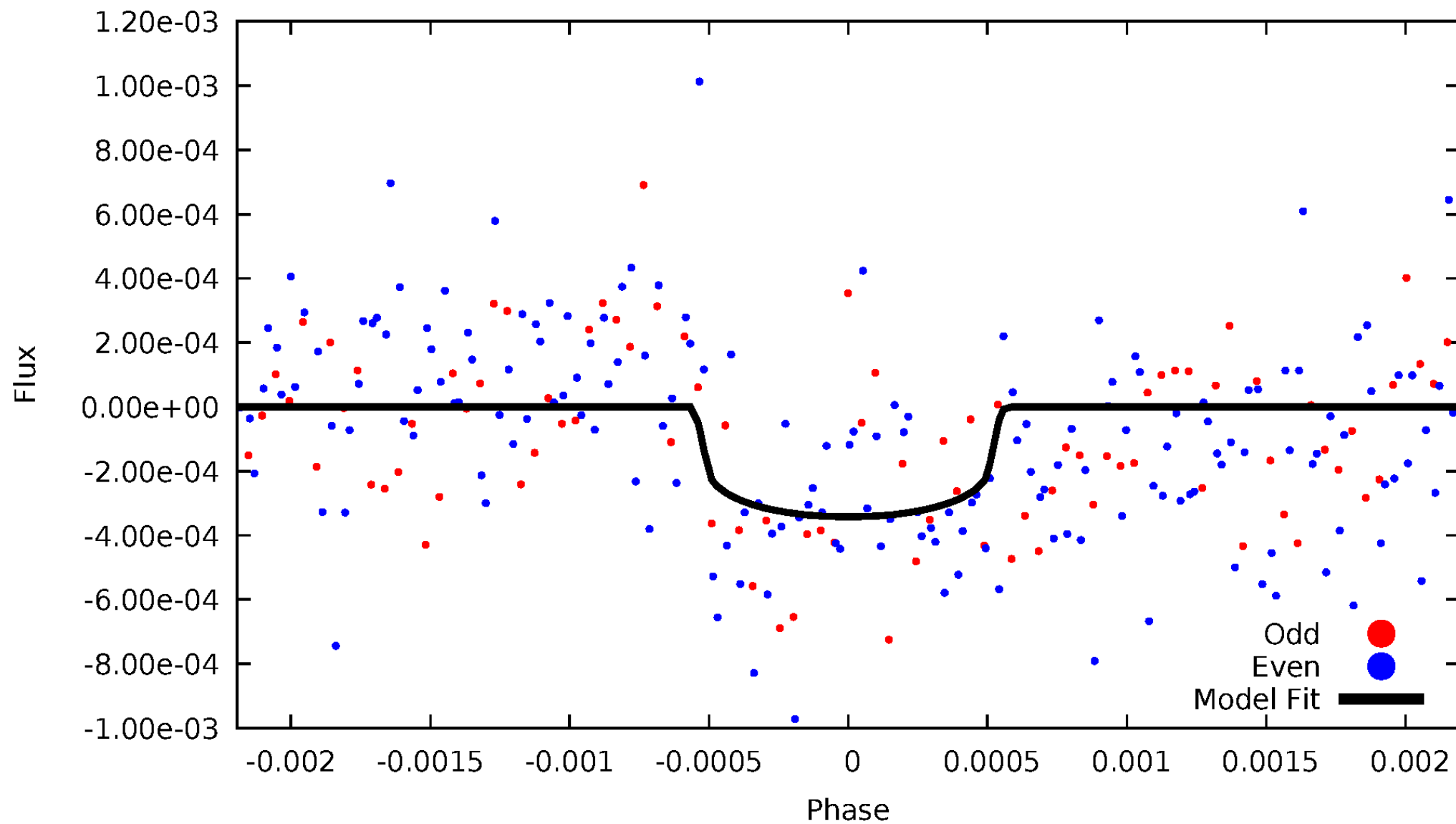


TCE 005025999-01



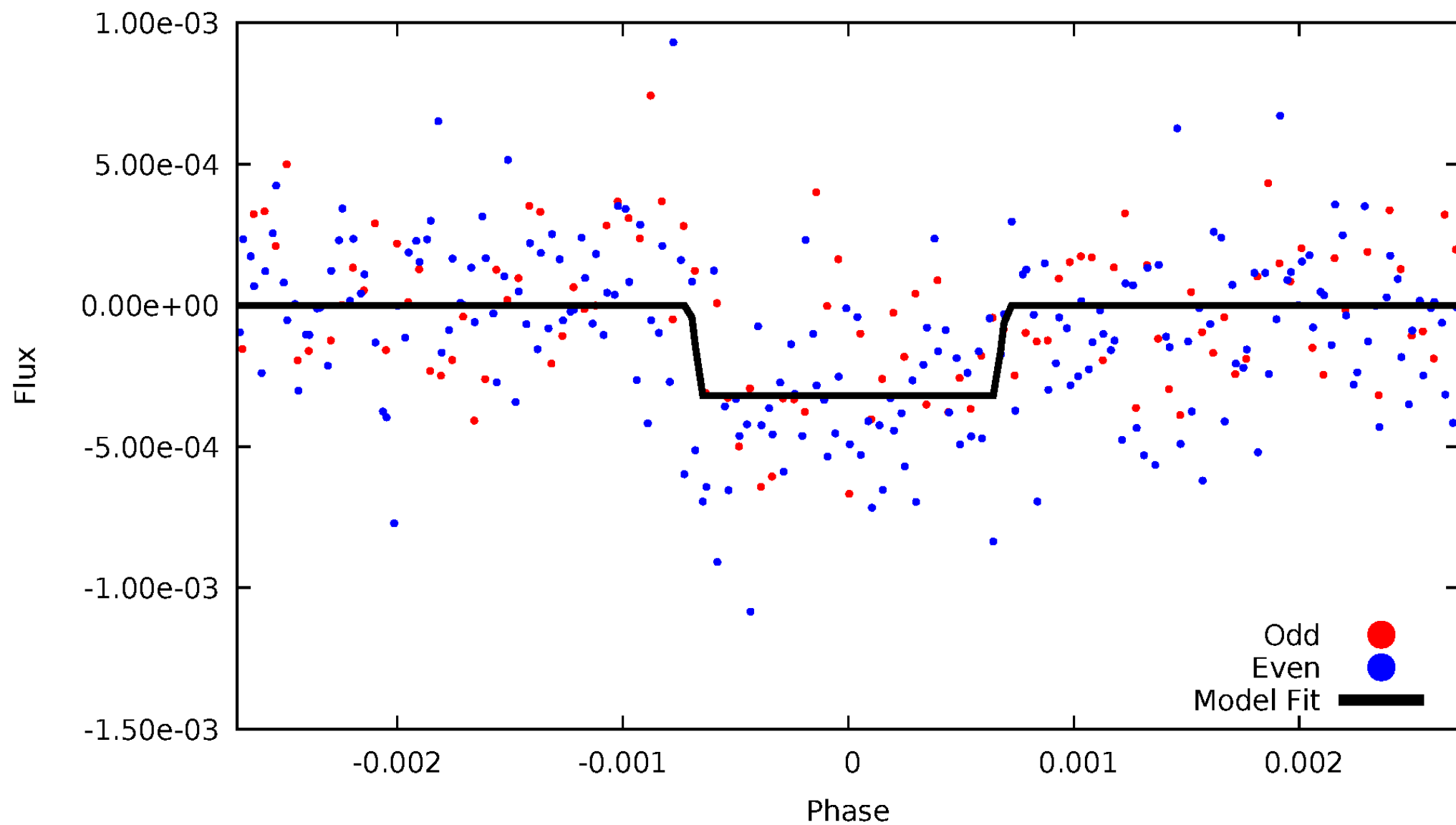
DV Odd/Even

TCE 005025999-01



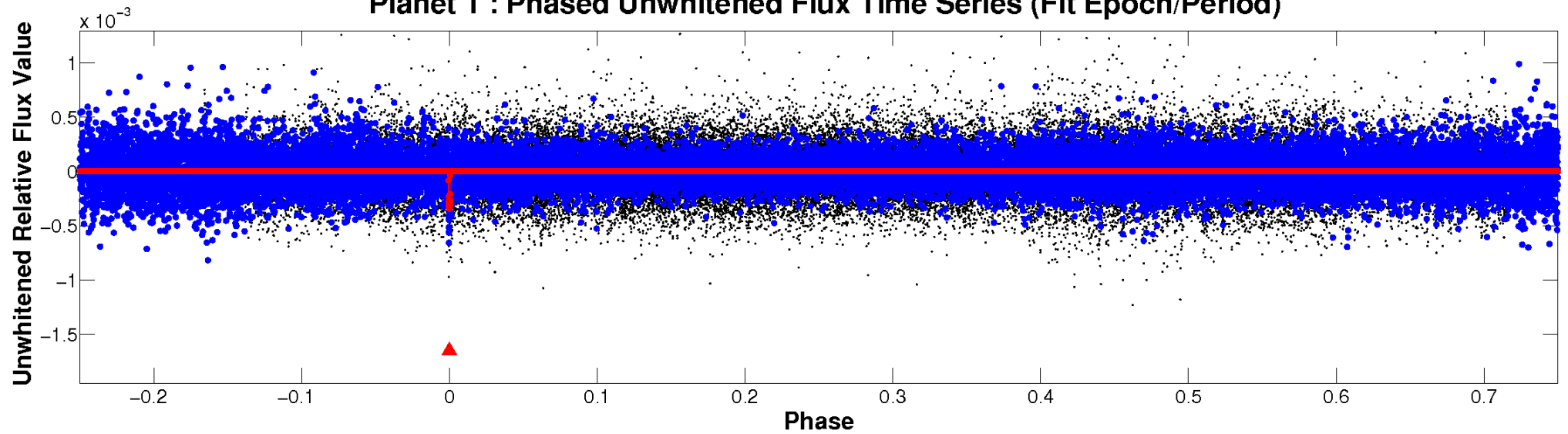
ALT Odd/Even

TCE 005025999-01

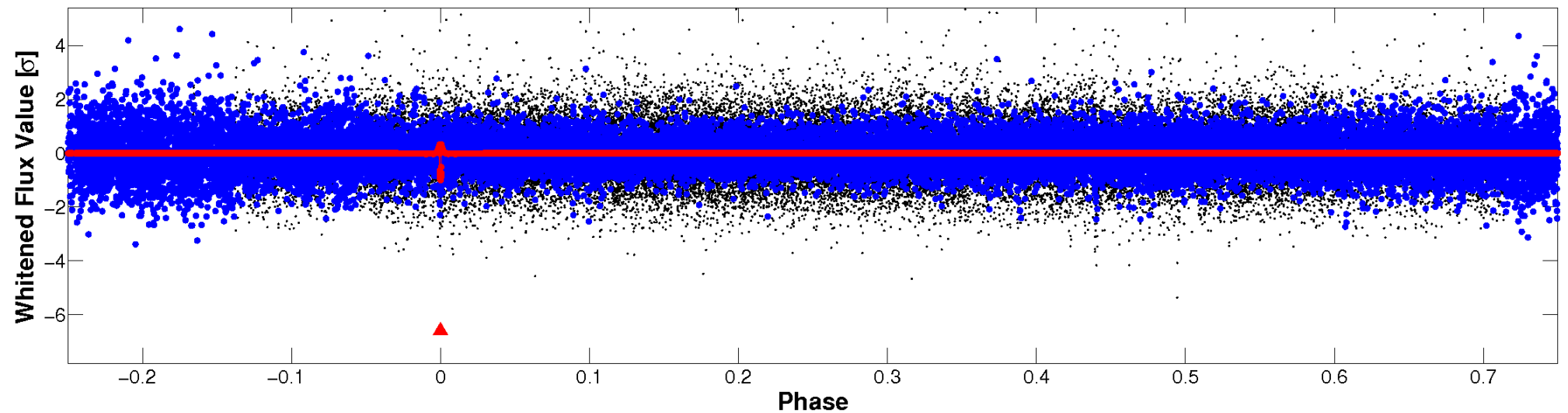


Non-Whitened Vs. Whitened Light Curve

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



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



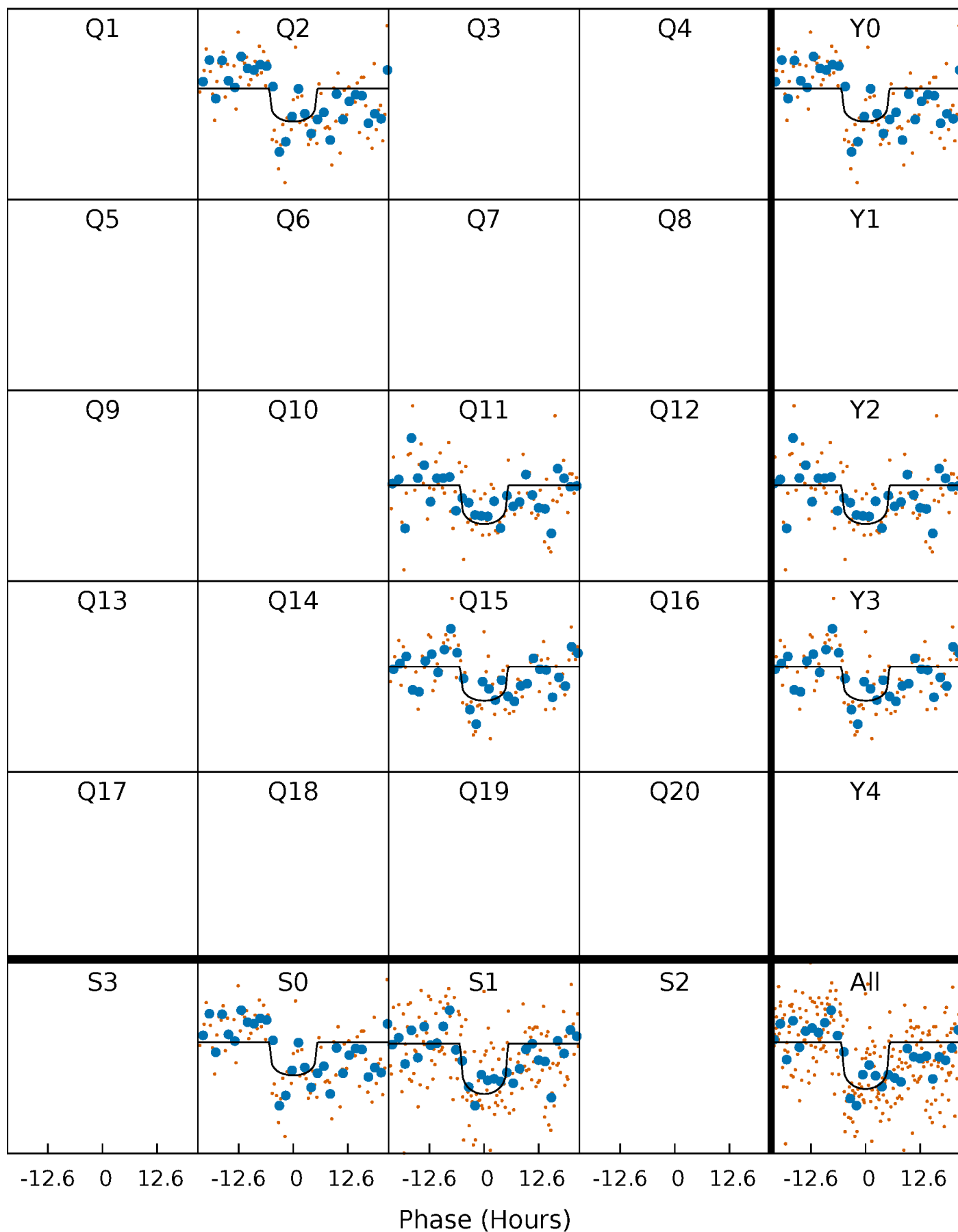
PDC Quarter-Phased Transit Curves

TCE 005025999-01 P=417.853019 Days $T_0=189.258245$ (BKJD)



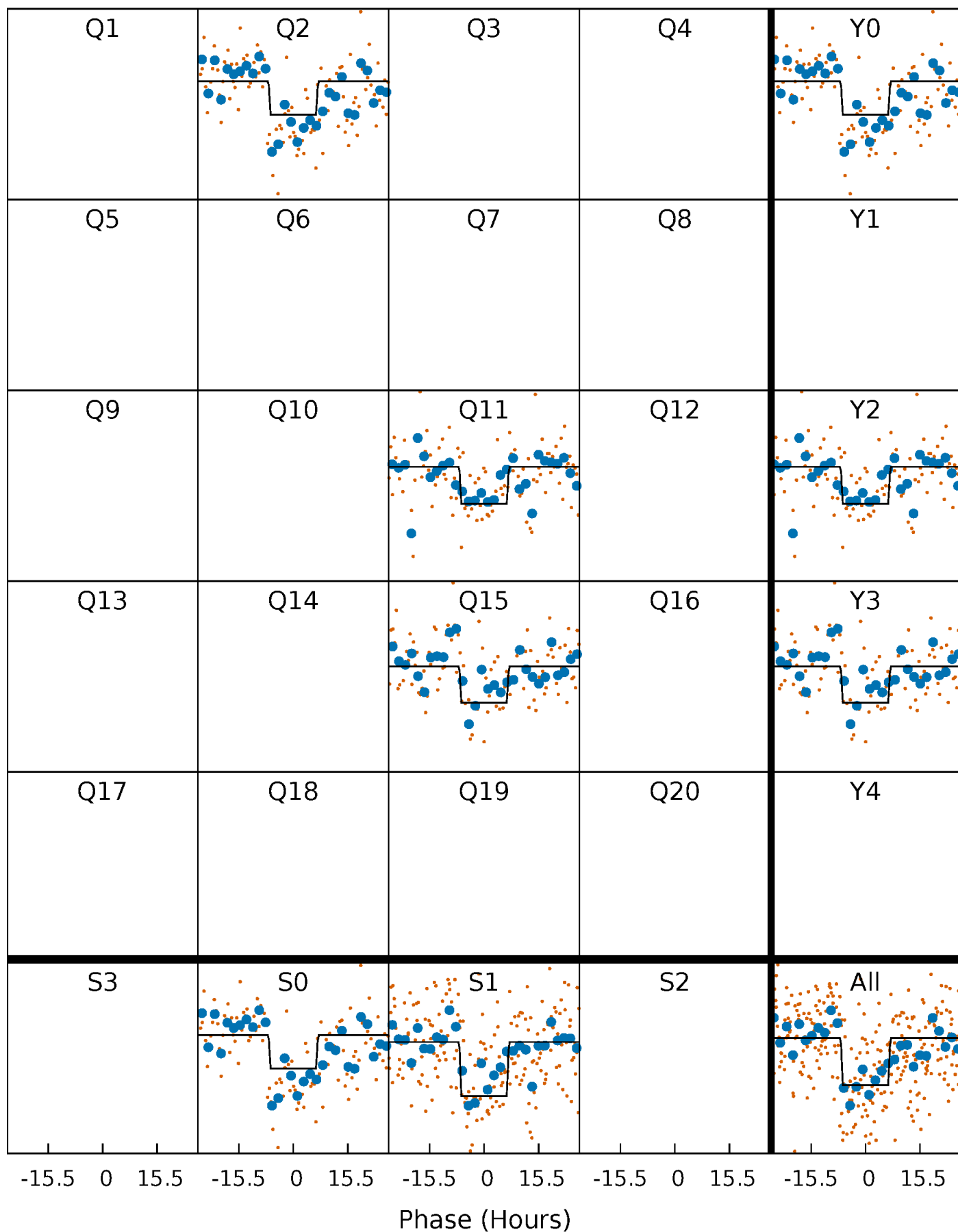
DV Quarter-Phased Transit Curves

TCE 005025999-01 P=417.853019 Days $T_0=189.258245$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

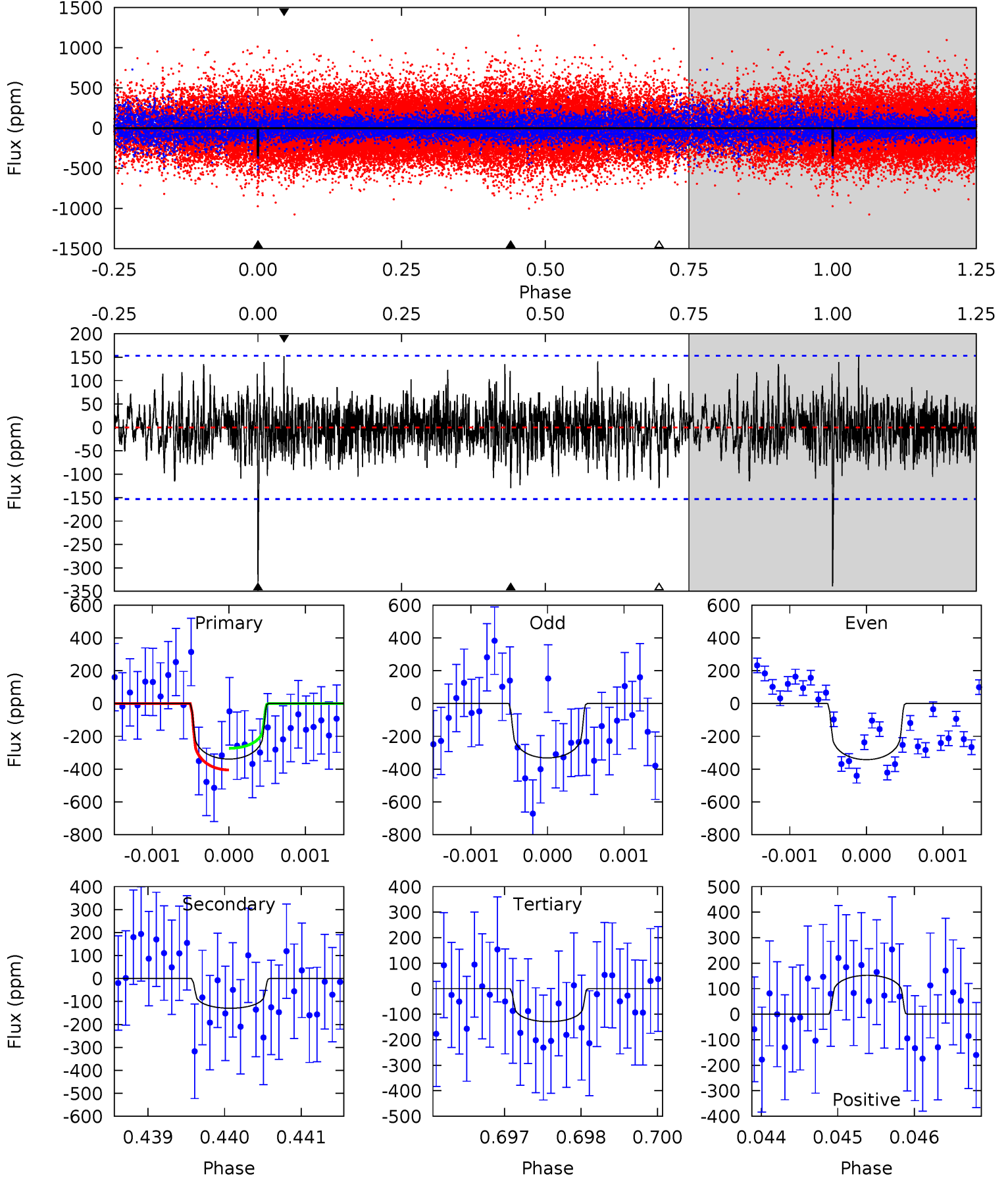
TCE 005025999-01 P=417.839057 Days $T_0=189.359255$ (BKJD)



DV Model-Shift Uniqueness Test

005025999-01, P = 417.853019 Days, E = 189.258245 Days

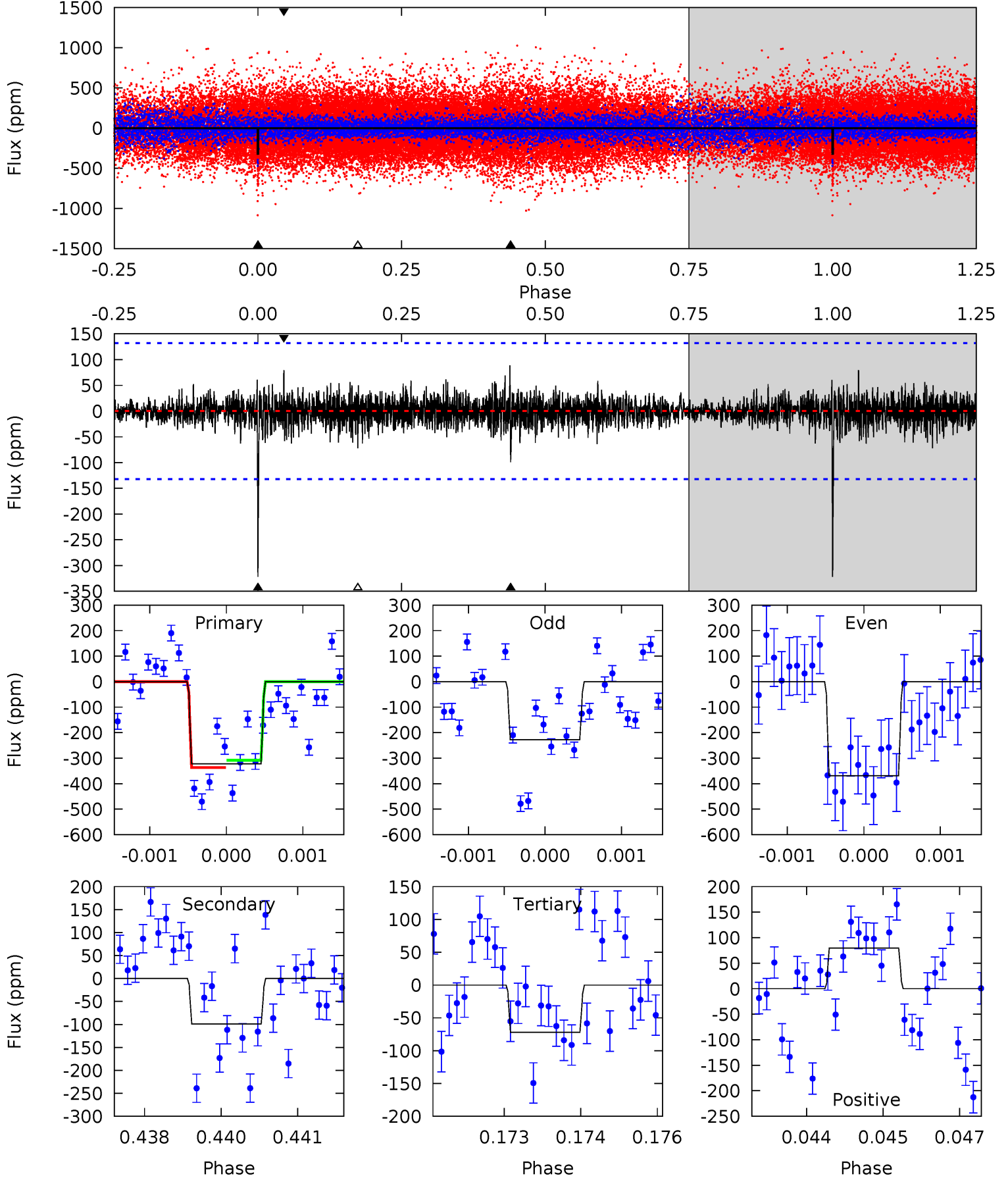
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	4.60	4.59	5.41	5.43	3.26	1.32	7.44	6.62	0.01	-0.81	0.17	1.02	0.31	2.33



Alt Model-Shift Uniqueness Test

005025999-01, P = 417.839057 Days, E = 189.359255 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	4.05	2.94	3.24	5.39	3.19	0.75	10.2	9.90	1.10	0.81	2.74	1.35	0.22	0.58



Stellar Parameters For KIC 005025999

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5893^{+158}_{-176}	$4.505^{+0.050}_{-0.200}$	$0.000^{+0.250}_{-0.300}$	$0.941^{+0.264}_{-0.094}$	$1.033^{+0.115}_{-0.140}$	$1.748^{+0.445}_{-0.856}$
	+3%/-3%	+1%/-4%	+inf%/-inf%	+28%/-10%	+11%/-14%	+25%/-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 005025999-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-130 ± 28	$2.02^{+0.97}_{-0.90}$	340^{+25}_{-16}	4656^{+1418}_{-622}	20203^{+48440}_{-11358}
Alt.	-99 ± 25	$1.90^{+0.98}_{-0.88}$	342^{+23}_{-16}	4560^{+1270}_{-681}	17710^{+39859}_{-10344}

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

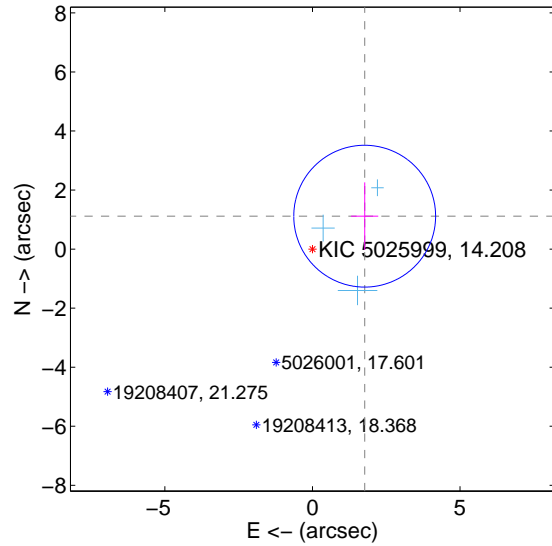
Supplemental centroid analysis for 005025999-01. Kepler magnitude: 14.21. Transit SNR 7.38

There are 3 quarters with good PRF difference image offsets

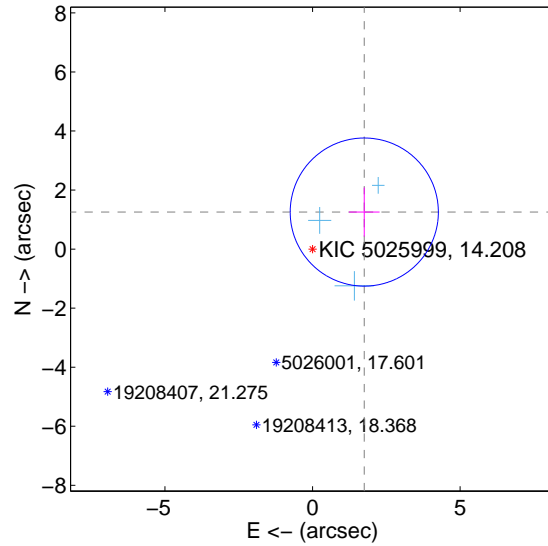
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.092 ± 0.801	2.61	-1.770 ± 0.460	1.115 ± 1.146
PRF-fit source offset from KIC position	2.156 ± 0.836	2.58	-1.753 ± 0.520	1.255 ± 0.832
photometric centroid source offset	2.27 ± 1.52	1.49	-2.20 ± 1.52	-0.54 ± 1.48

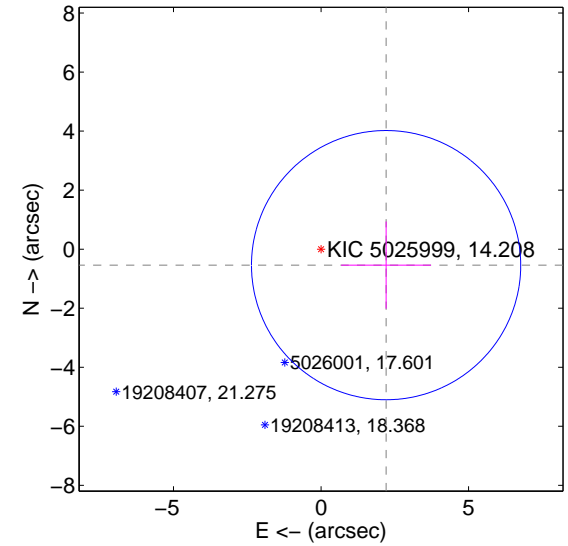
offset from difference PRF-fit to OOT PRF-fit



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.

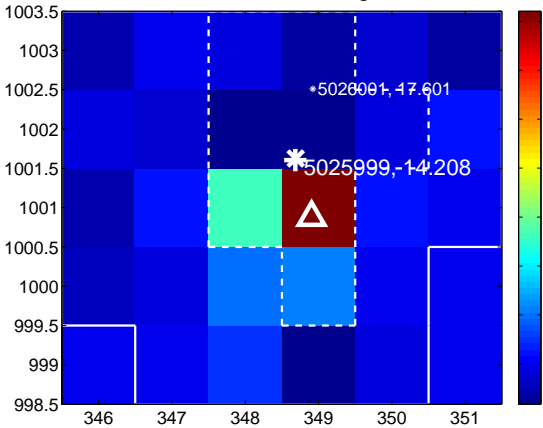
Q1 no difference image



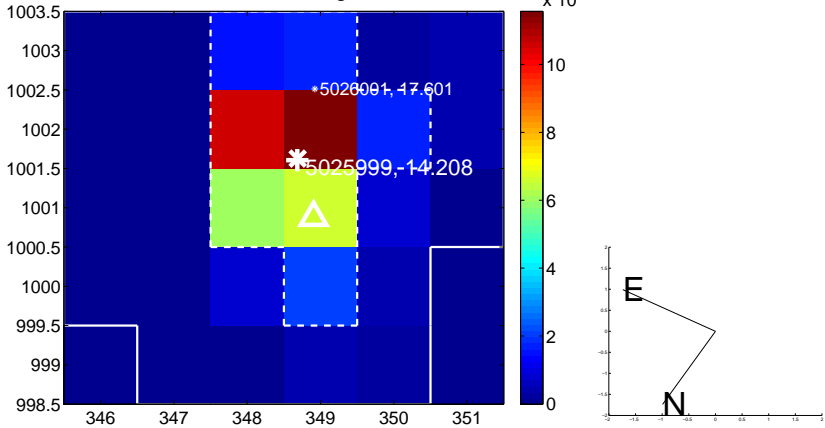
Q1 no OOT image



Q2 difference image



Q2 OOT image



Q3 no difference image



Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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.

Q9 no difference image



Q9 no OOT image



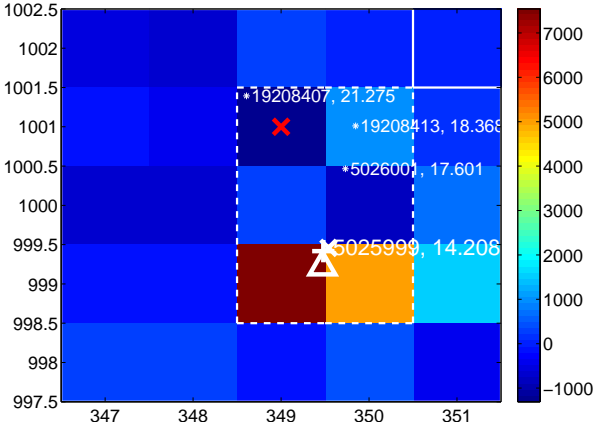
Q10 no difference image



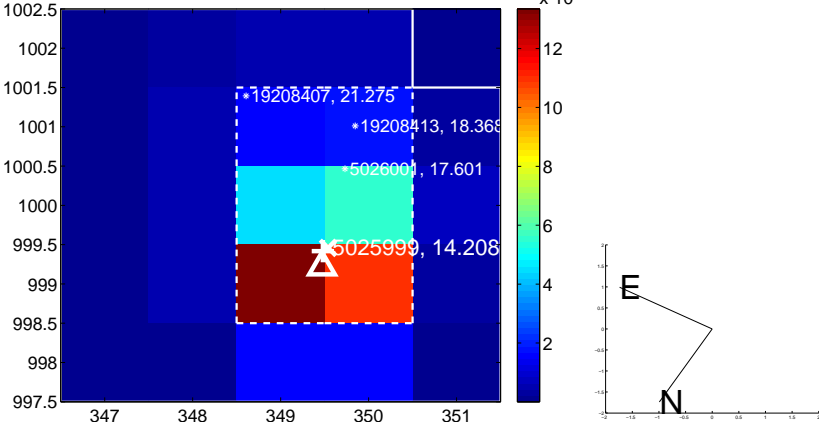
Q10 no OOT image



Q11 difference image



Q11 OOT image



Q12 no difference image



Q12 no OOT image



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

Q13 no difference image



Q13 no OOT image



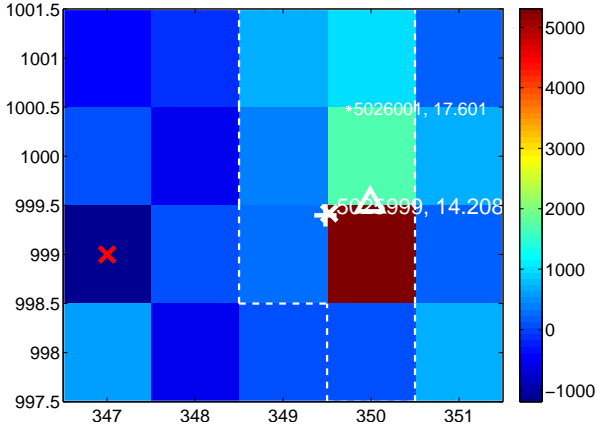
Q14 no difference image



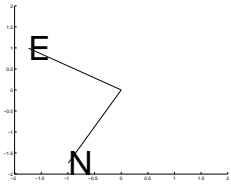
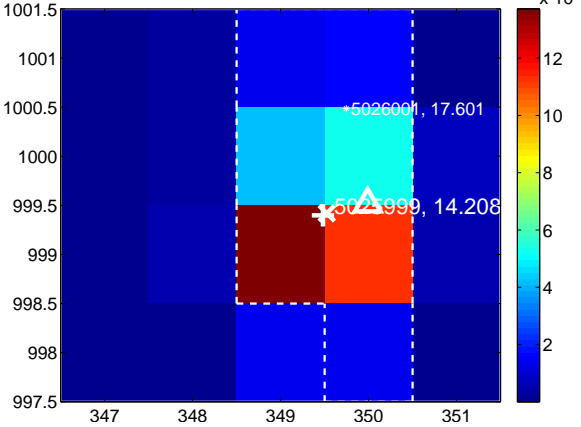
Q14 no OOT image



Q15 difference image



Q15 OOT image



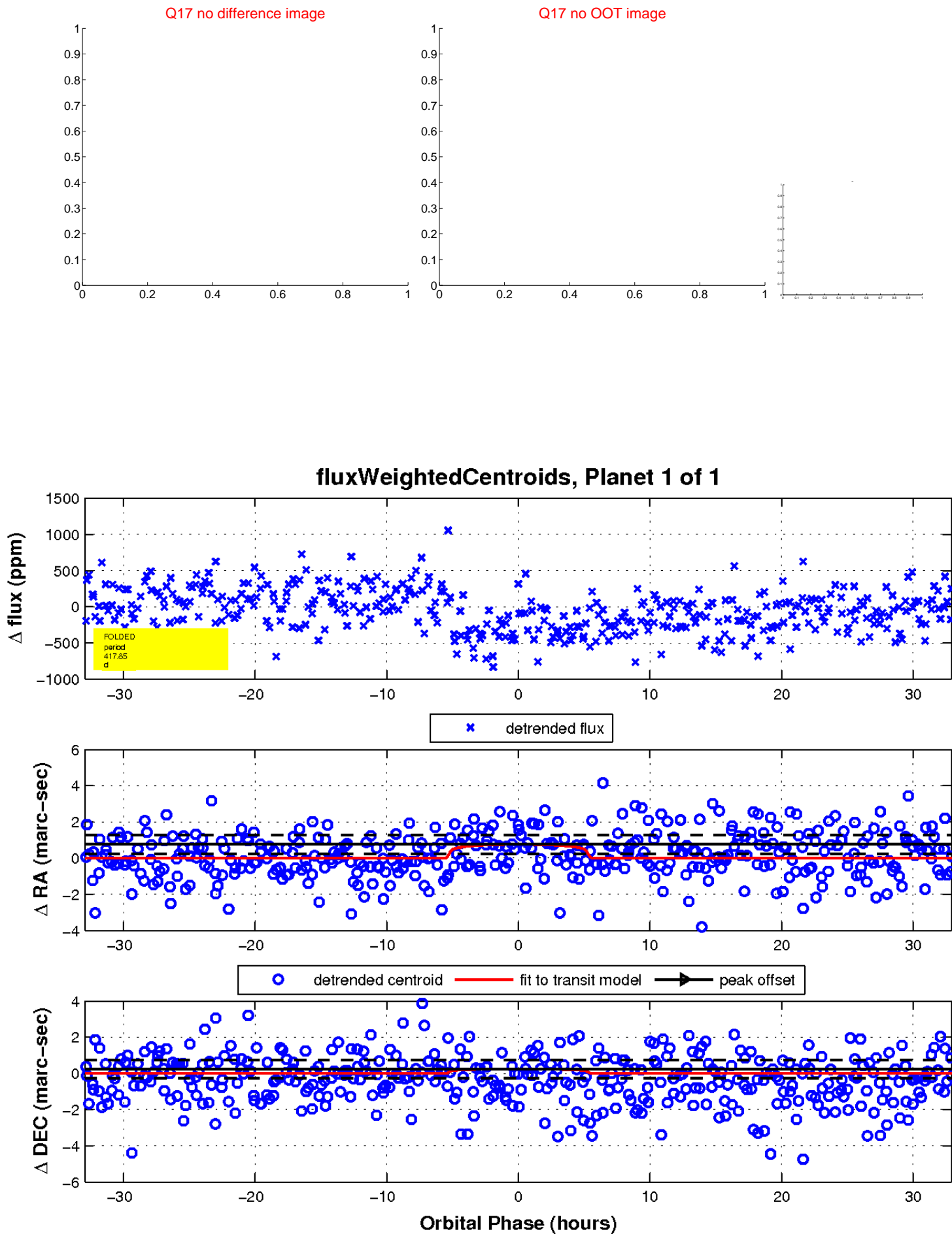
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

