

KIC 009532603

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})
009532603-01	OBS	5688.01	14.555567	132.860852	729.3	3.857	7.6	8.3	0.74	5176	3.51	29.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009532603-01	OBS	PC	0.89	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 009532603-01

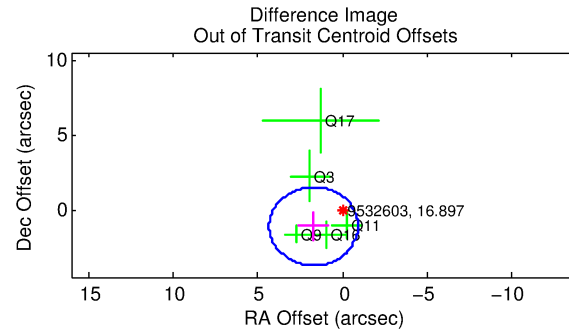
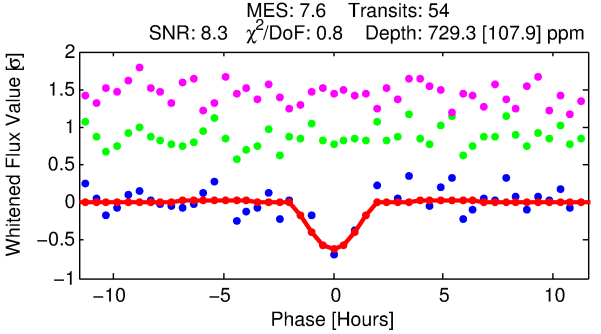
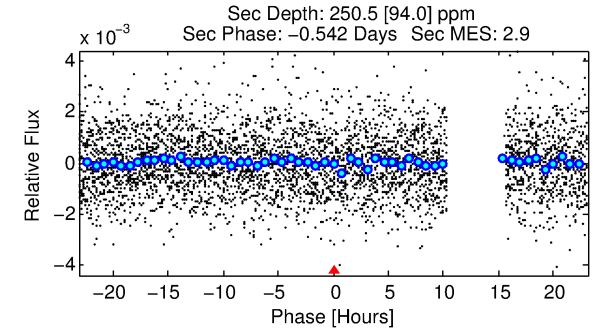
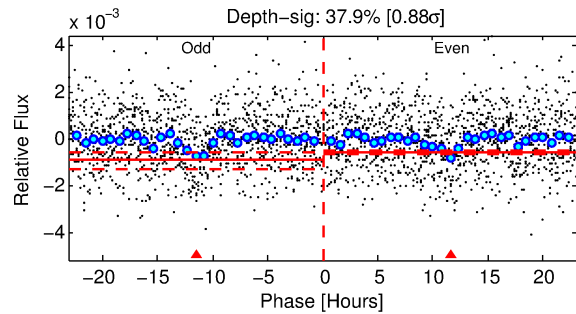
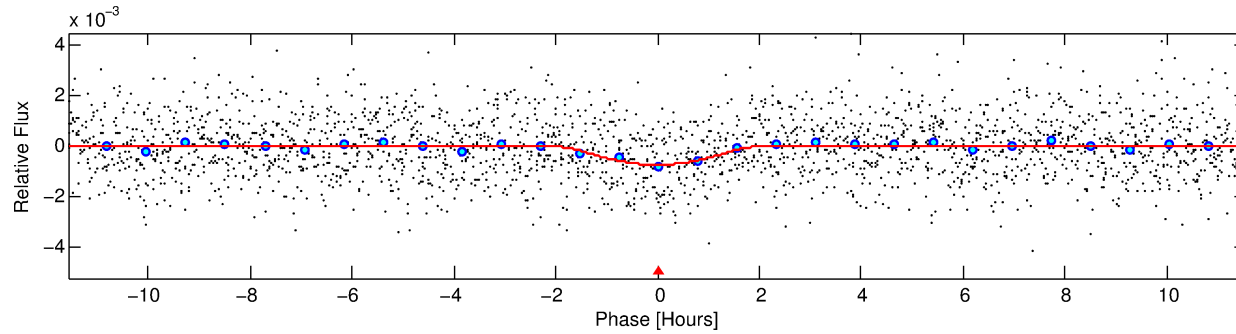
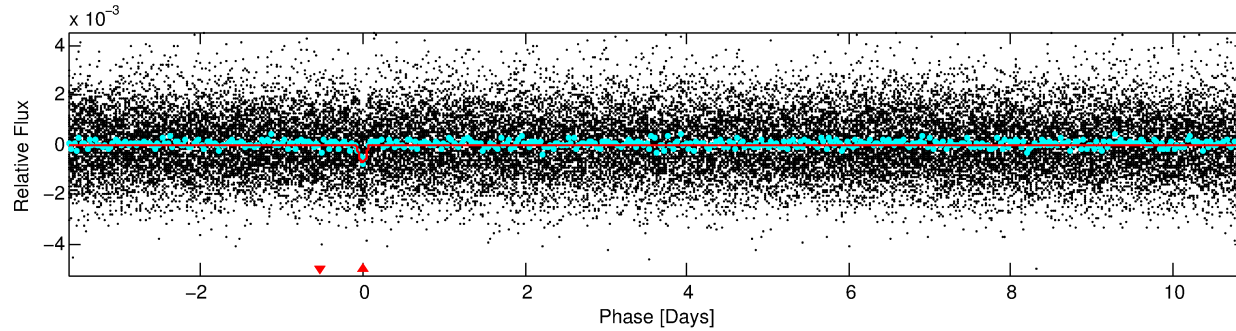
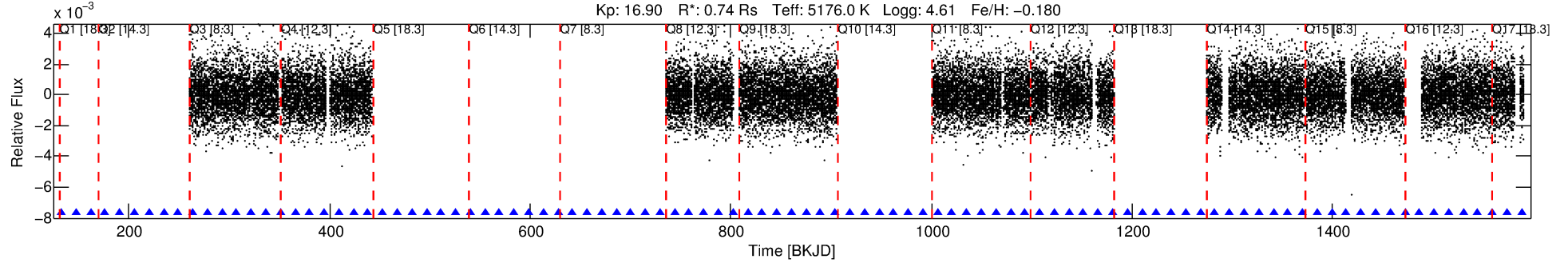
No Significant Match Found

DV One-Page Summary

KIC: 9532603 Candidate: 1 of 1 Period: 14.556 d

KOI: K05688 Corr: No Ephemeris Match

Kp: 16.90 R*: 0.74 Rs Teff: 5176.0 K Logg: 4.61 Fe/H: -0.180



DV Fit Results:

Period = 14.5557 [0.00021] d
Epoch = 132.8609 [0.0139] BKJD
Rp/R* = 0.0435 [0.1331]
a/R* = 9.63 [8.90]
b = 0.99 [0.22]
Seff = 29.53 [6.20]
Teq = 594 [31] K
Rp = 3.51 [10.73] Re
a = 0.1089 [0.0118] AU
Ag = 132.98 [815.06] [0.16σ]
Teffp = 3121 [4782] K [0.53σ]

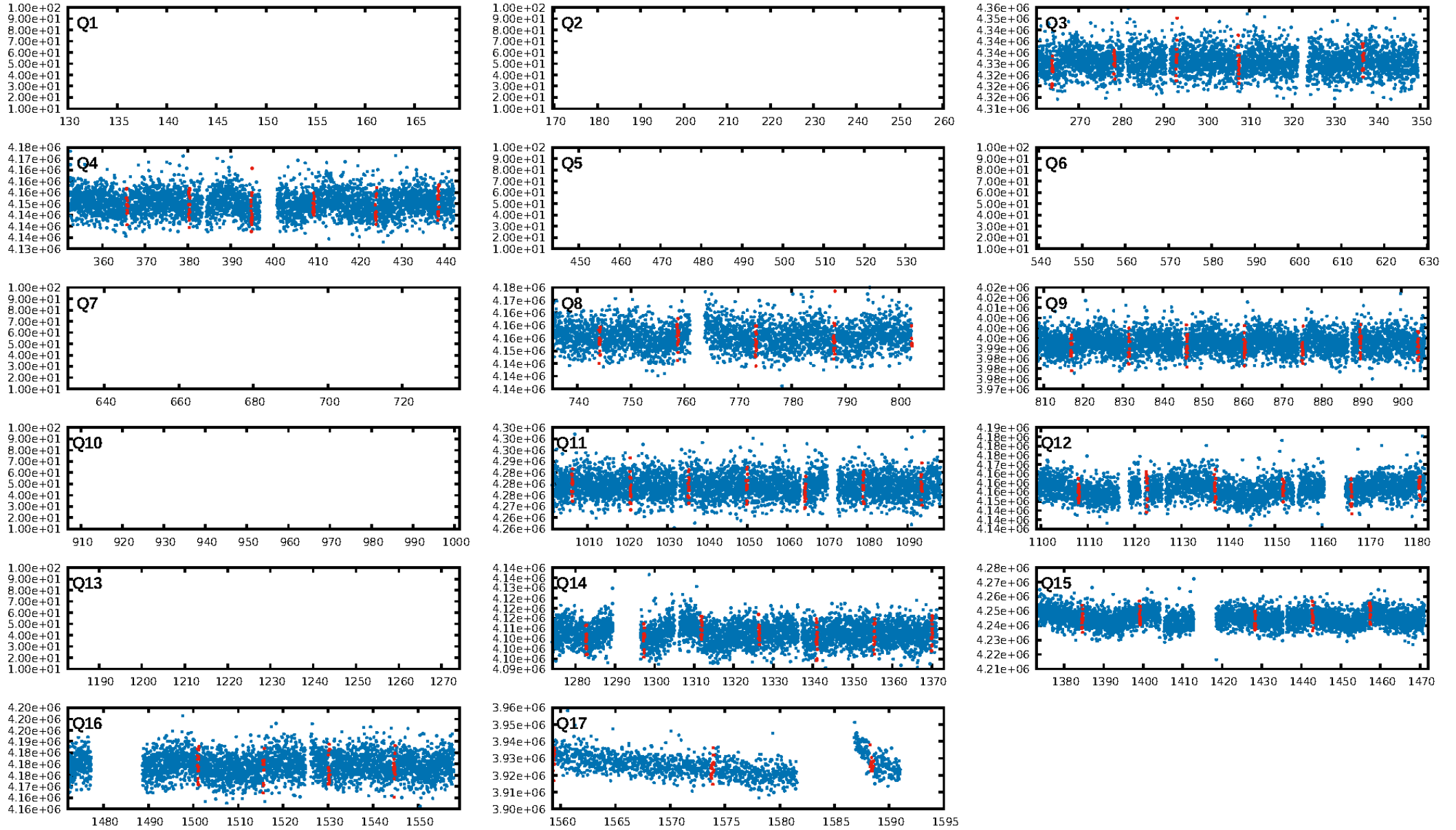
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.76e-14
RollingBand-fgt: 1.00 [51/51]
GhostDiagnostic-chr: 1.036
Centroid-sig: 21.8%
Centroid-so: 1.547 arcsec [0.88σ]
OotOffset-rm: 2.043 arcsec [2.34σ]
KicOffset-rm: 1.755 arcsec [1.63σ]
OotOffset-st: 0/2/1/2 [5]
KicOffset-st: 0/2/1/2 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 1.00 [10/10]

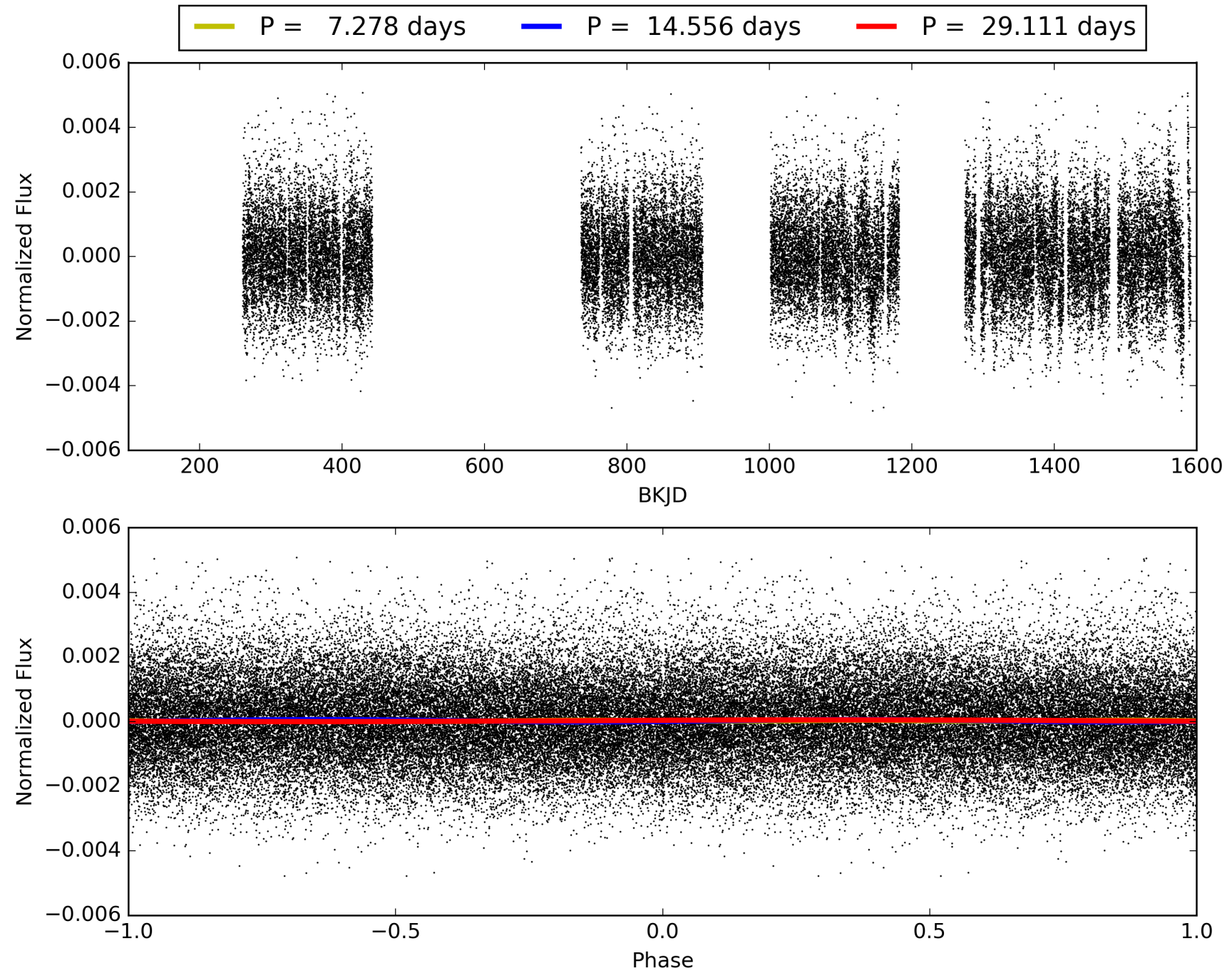
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:13:35 Z

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

TCE 009532603-01, PDC Light Curves

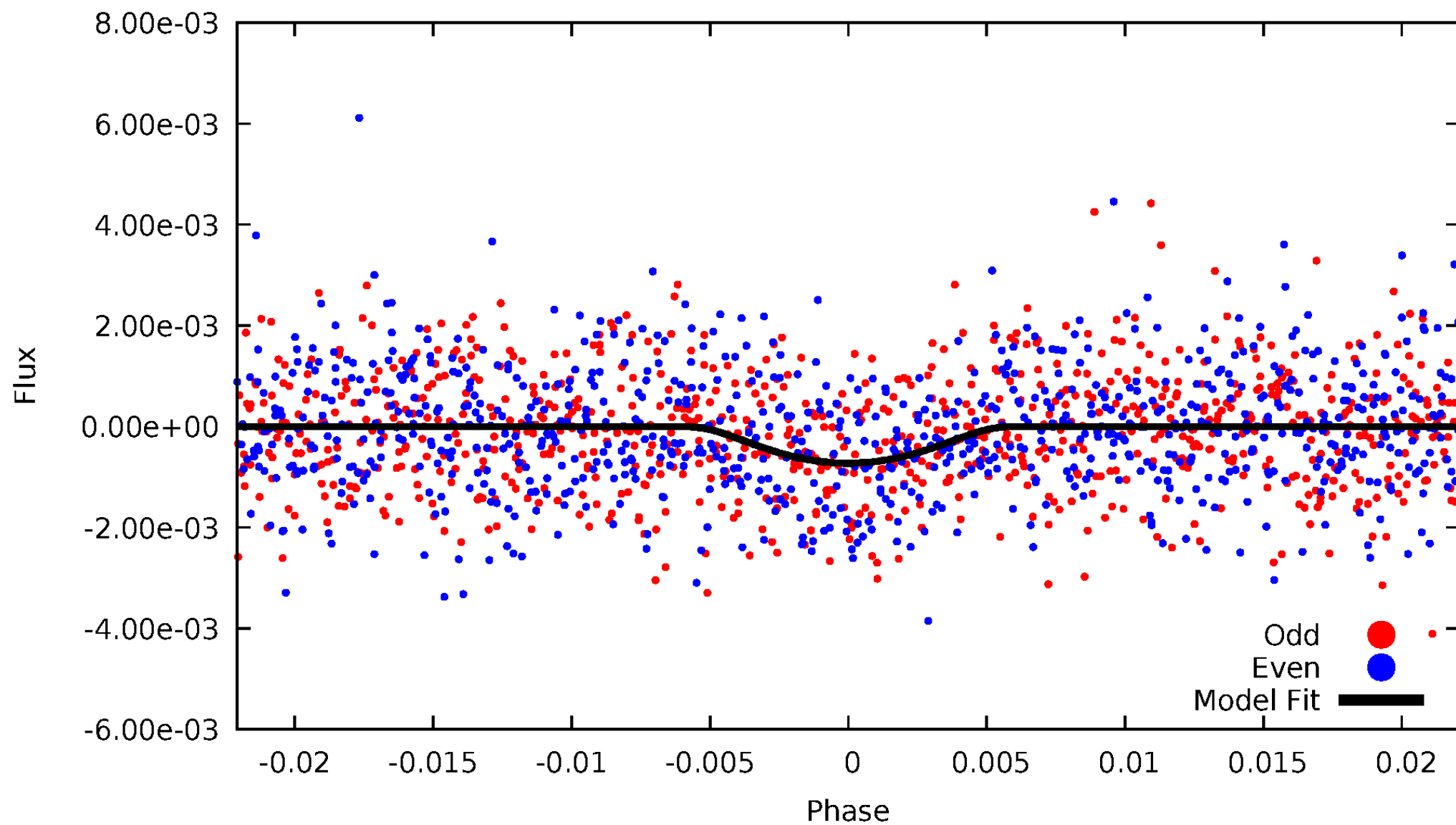


TCE 009532603-01



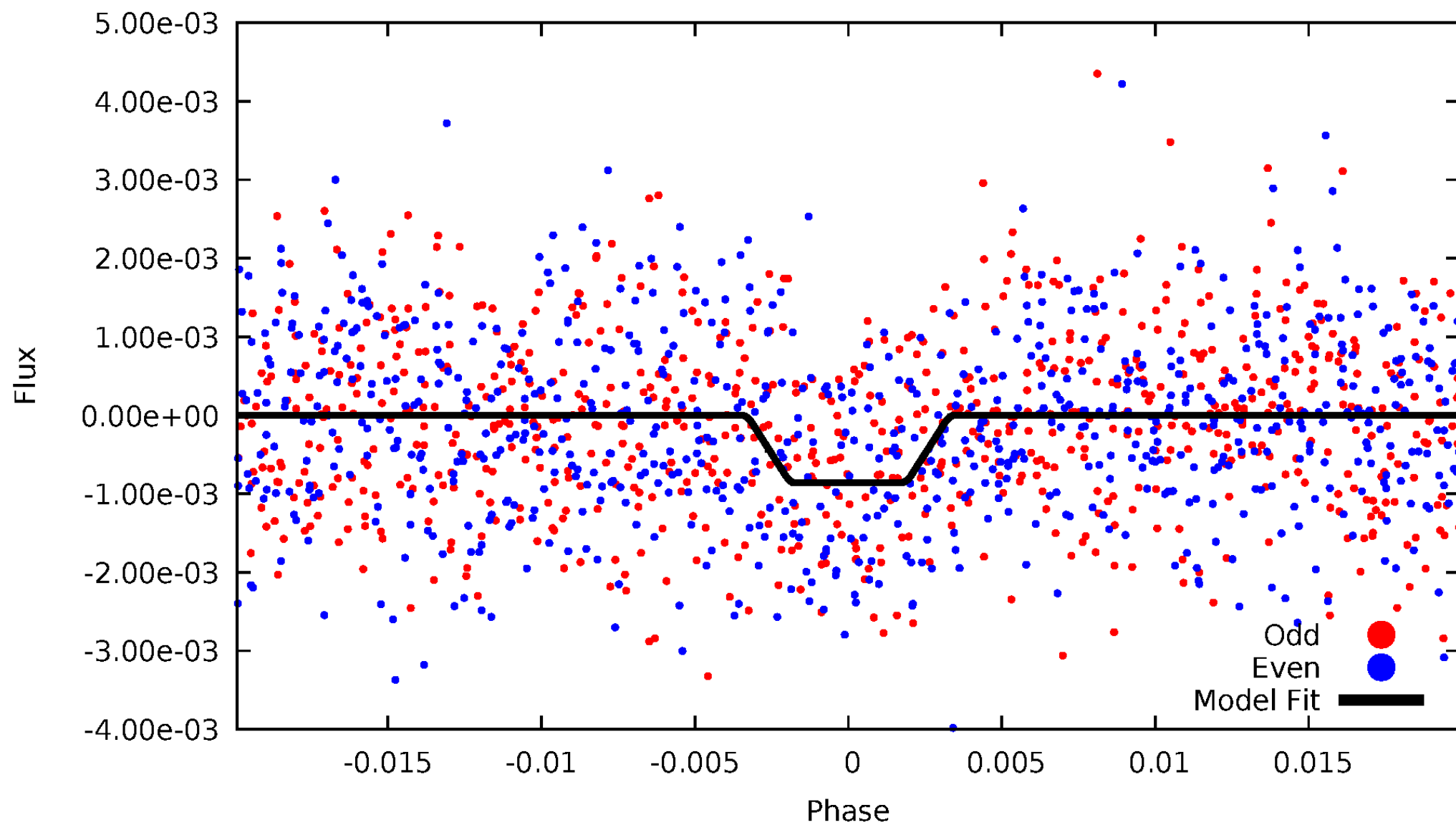
DV Odd/Even

TCE 009532603-01



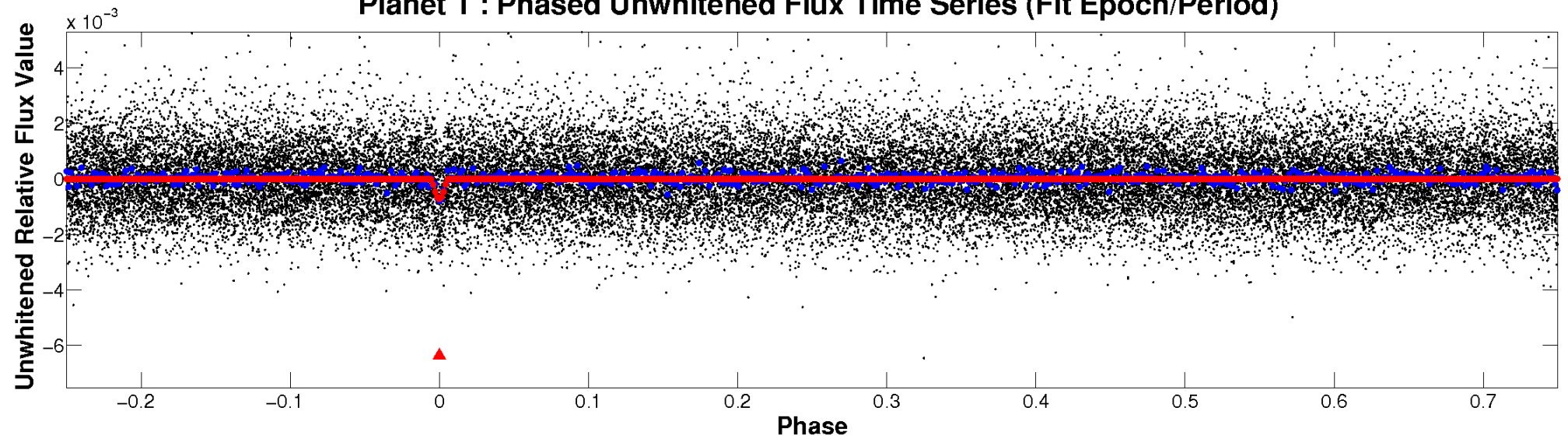
ALT Odd/Even

TCE 009532603-01

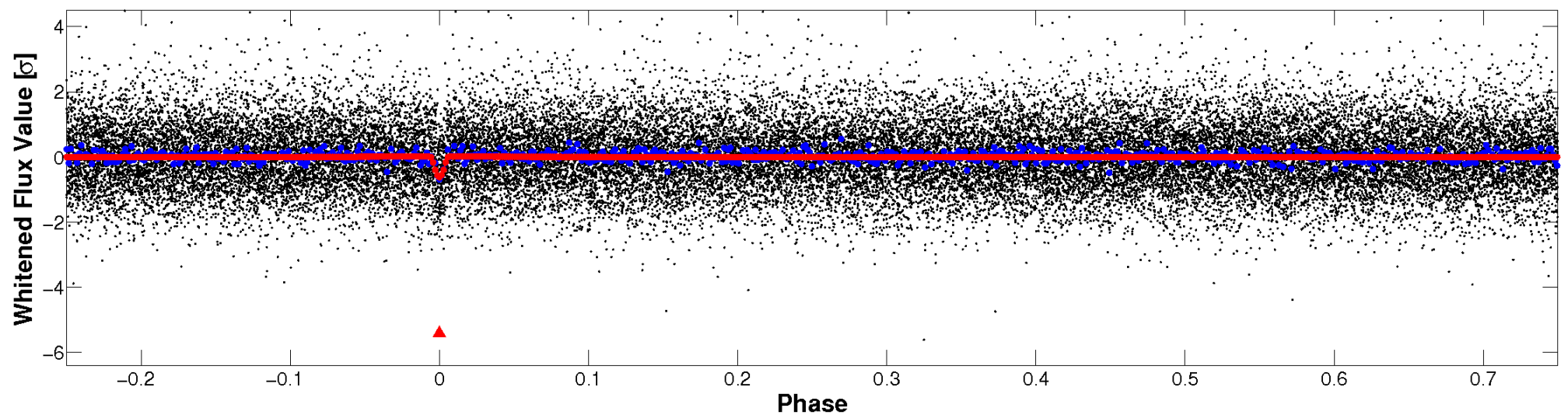


Non-Whitened Vs. Whitened Light Curve

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

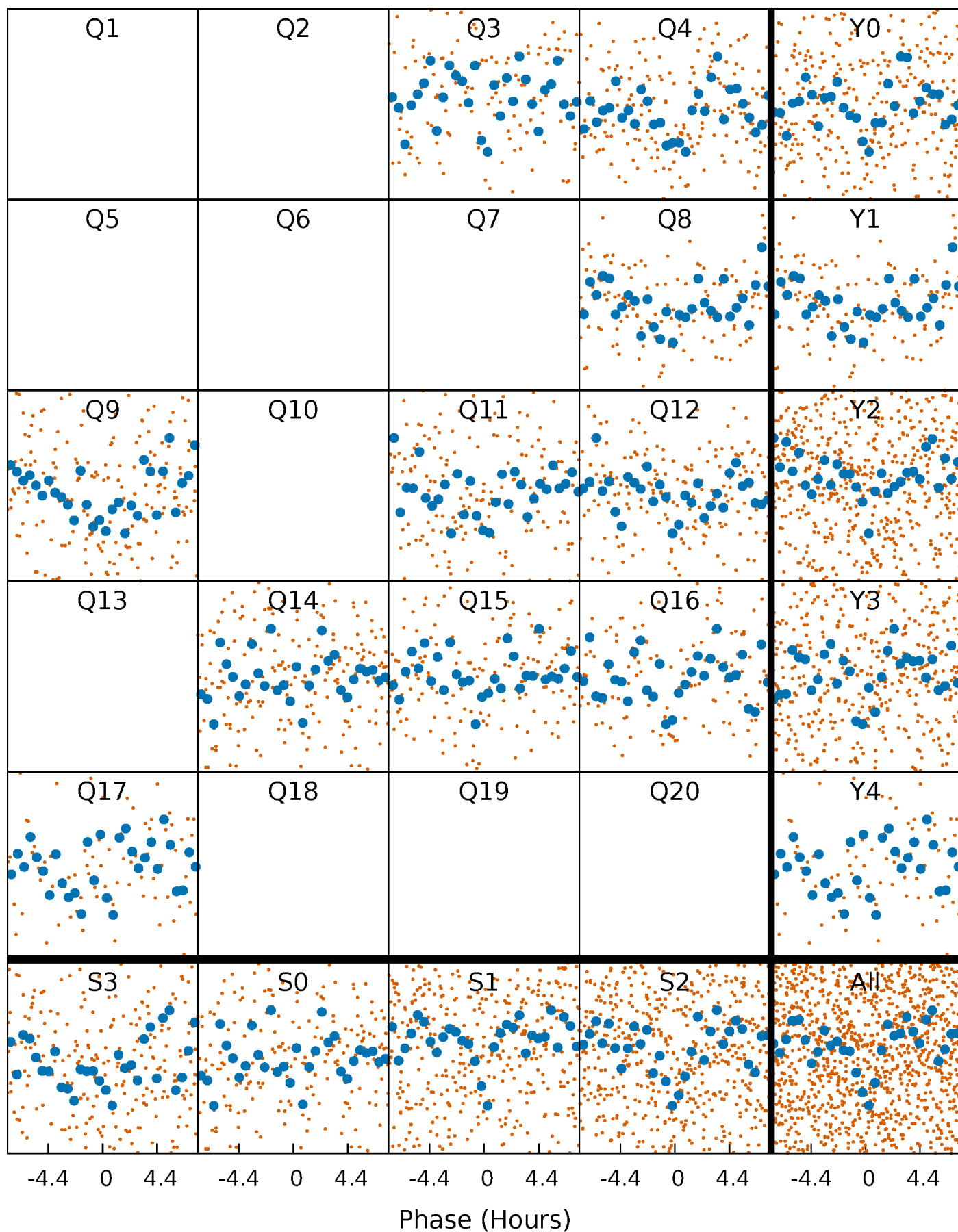


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



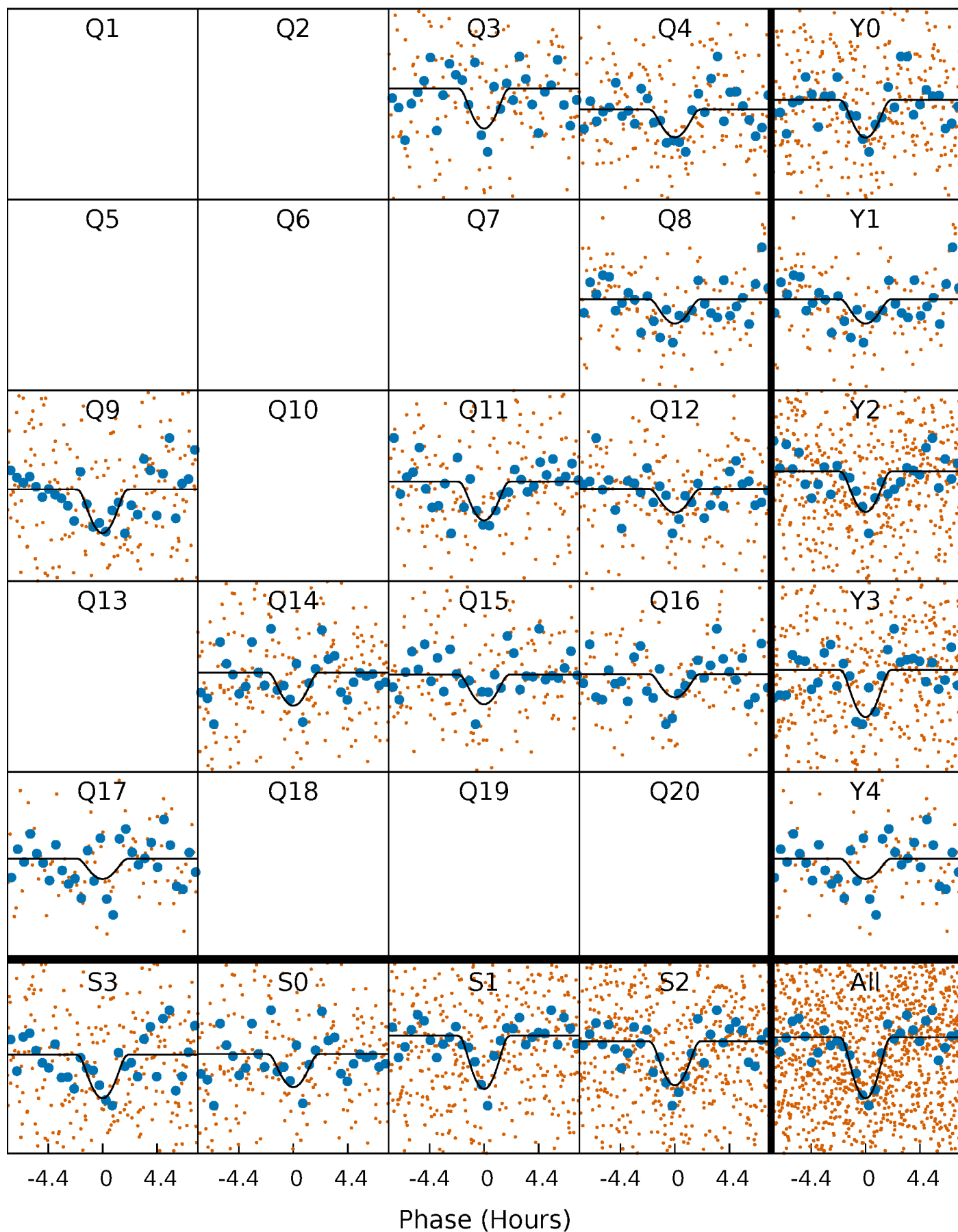
PDC Quarter-Phased Transit Curves

TCE 009532603-01 P= 14.555567 Days $T_0=132.860852$ (BKJD)



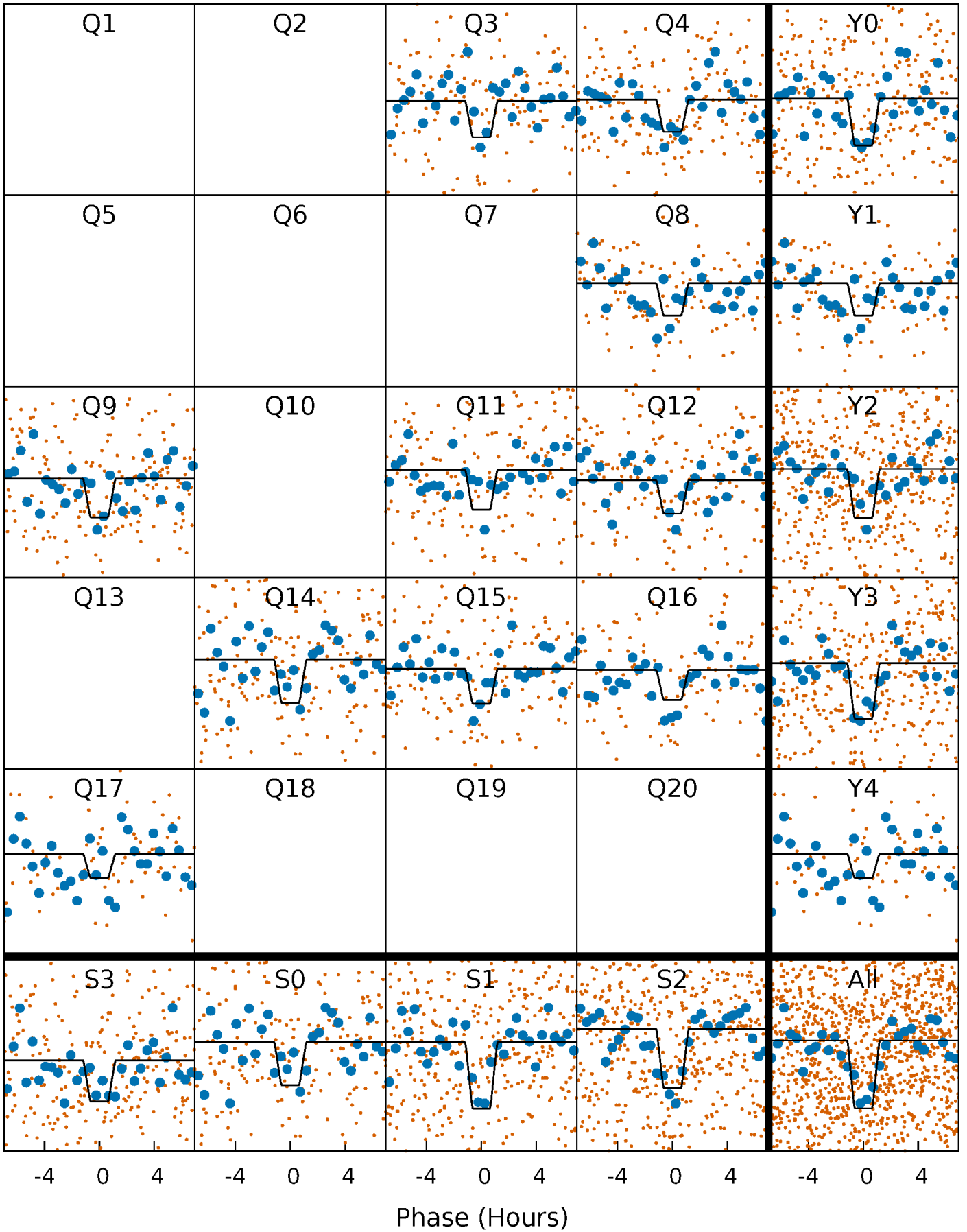
DV Quarter-Phased Transit Curves

TCE 009532603-01 P= 14.555567 Days $T_0=132.860852$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

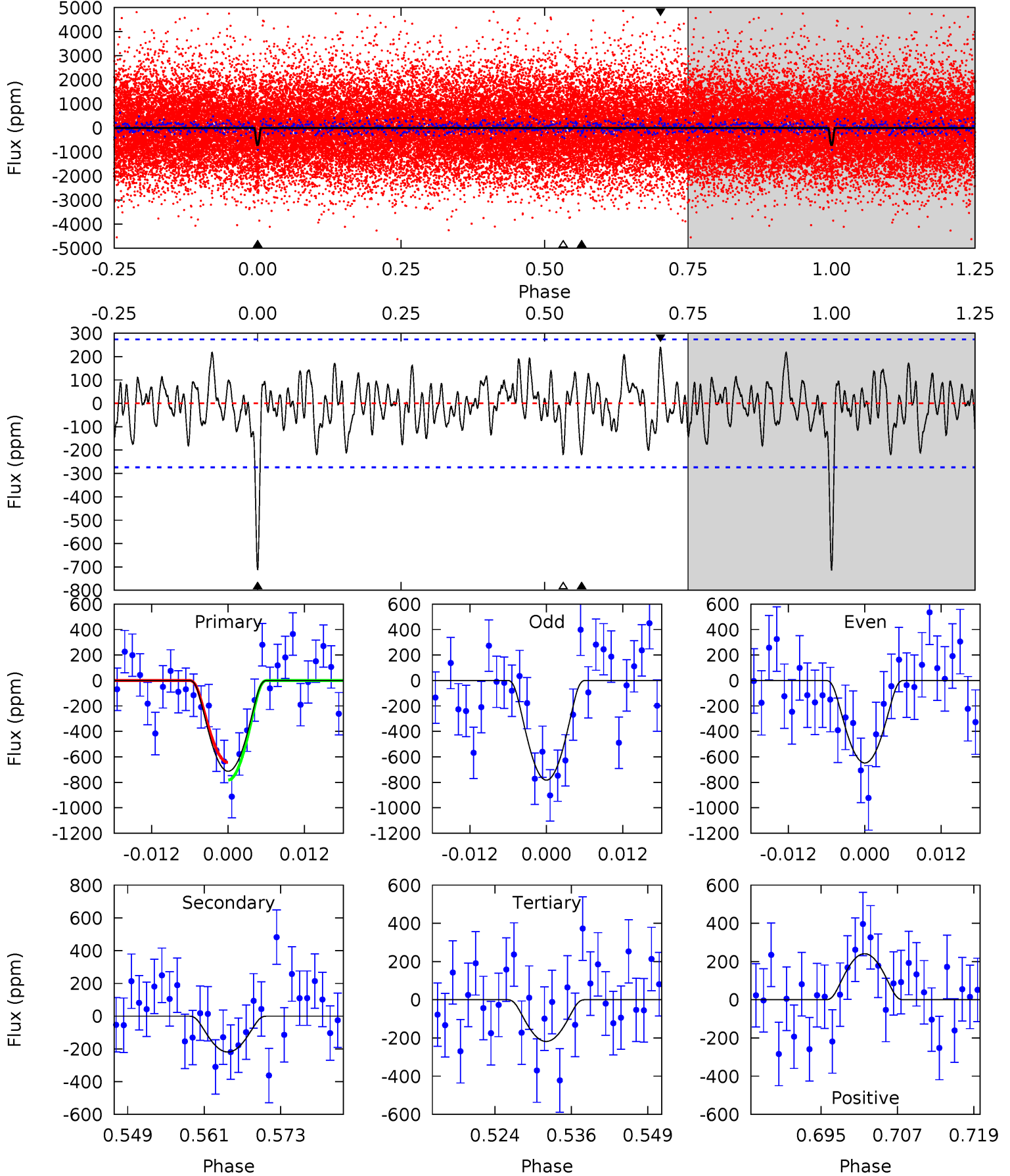
TCE 009532603-01 P= 14.555349 Days $T_0=132.874546$ (BKJD)



DV Model-Shift Uniqueness Test

009532603-01, $P = 14.555567$ Days, $E = 132.860852$ Days

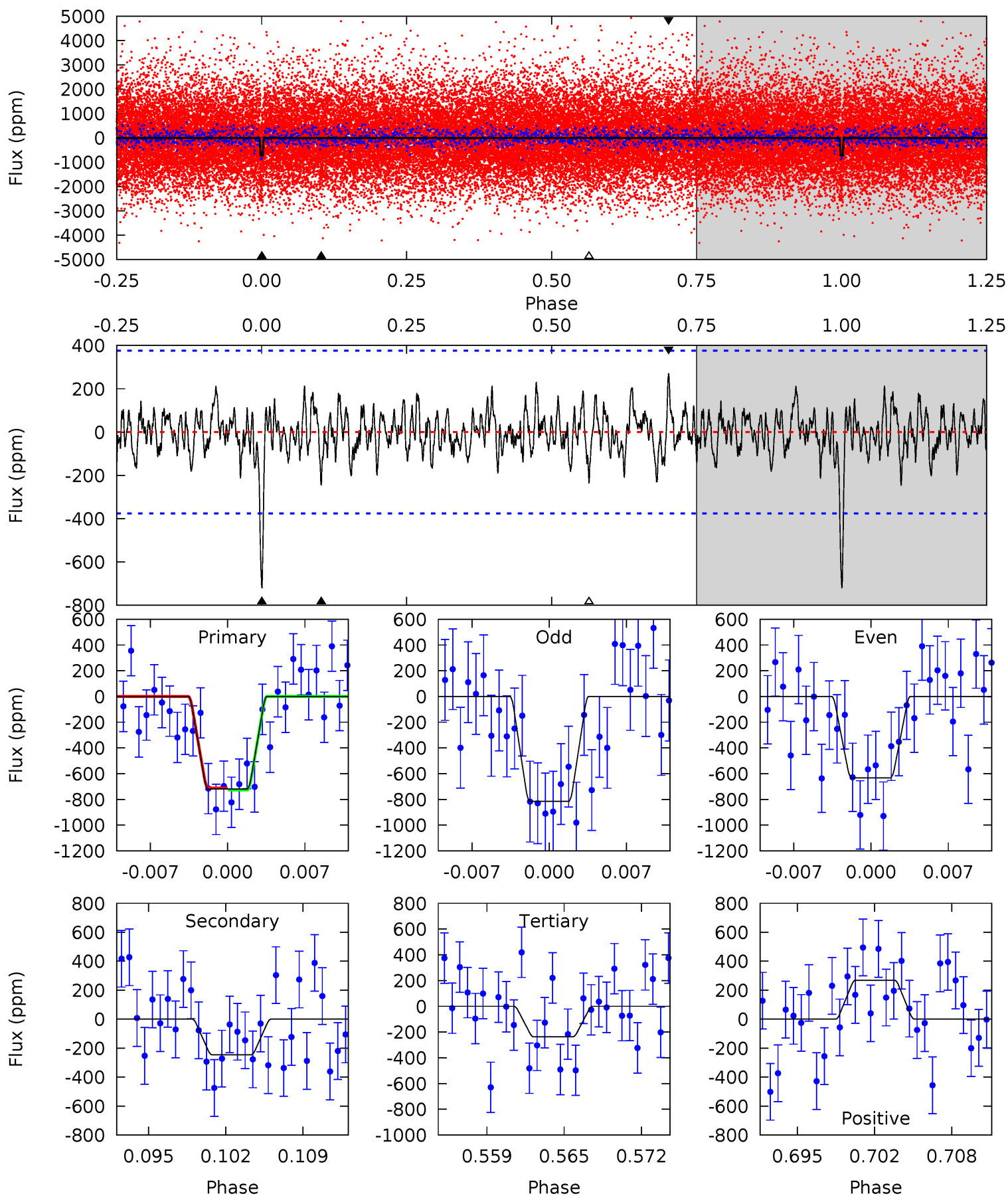
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	3.99	3.97	4.39	4.99	2.51	1.45	9.01	8.59	0.02	-0.40	1.23	1.12	0.25	1.26



Alt Model-Shift Uniqueness Test

009532603-01, P = 14.555349 Days, E = 132.874546 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.76	3.33	3.22	3.65	5.10	2.71	1.11	6.54	6.11	0.12	-0.32	1.24	0.97	0.27	0.11



Stellar Parameters For KIC 009532603

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5176^{+184}_{-184}	$4.612^{+0.033}_{-0.083}$	$-0.180^{+0.300}_{-0.300}$	$0.738^{+0.097}_{-0.065}$	$0.826^{+0.065}_{-0.106}$	$2.891^{+0.532}_{-0.778}$
	+4%/-4%	+1%/-2%	+167%/-167%	+13%/-9%	+8%/-13%	+18%/-27%
Source	KIC0	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 009532603-01 / KOI 5688.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-219 ± 55	$8.27^{+9.03}_{-5.62}$	837^{+34}_{-33}	2699^{+1204}_{-446}	20^{+190}_{-15}
Alt.	-246 ± 74	$8.84^{+9.04}_{-5.82}$	840^{+38}_{-32}	2689^{+1052}_{-418}	20^{+147}_{-15}

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

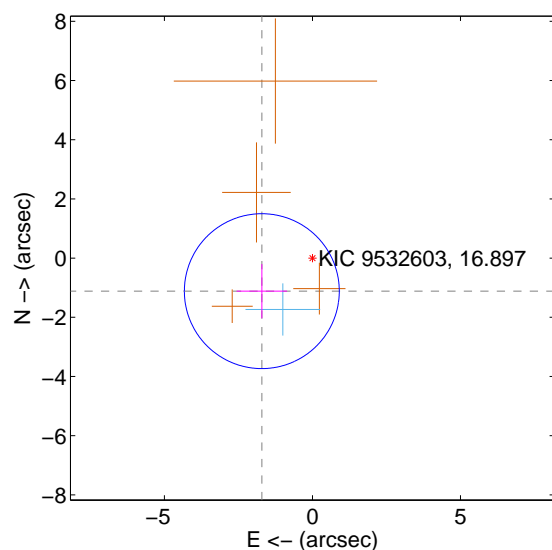
Supplemental centroid analysis for 009532603-01. Kepler magnitude: 16.90. Transit SNR 8.29

There are 1 quarters with good PRF difference image offsets

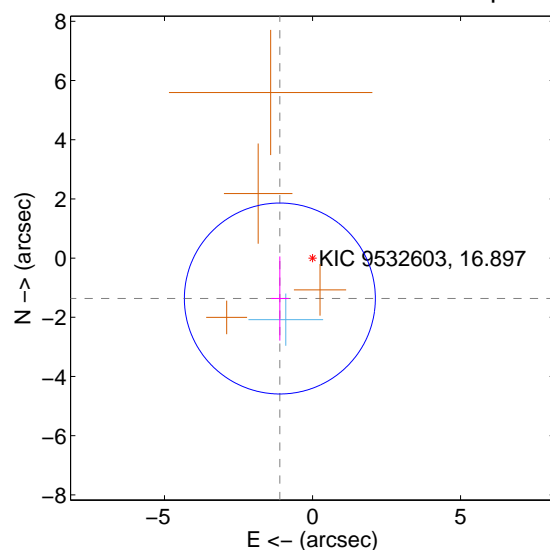
The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.043 ± 0.872	2.34	1.710 ± 0.853	-1.117 ± 0.915
PRF-fit source offset from KIC position	1.755 ± 1.075	1.63	1.103 ± 0.296	-1.365 ± 1.423
photometric centroid source offset	1.55 ± 1.76	0.88	-1.21 ± 1.60	0.97 ± 1.98

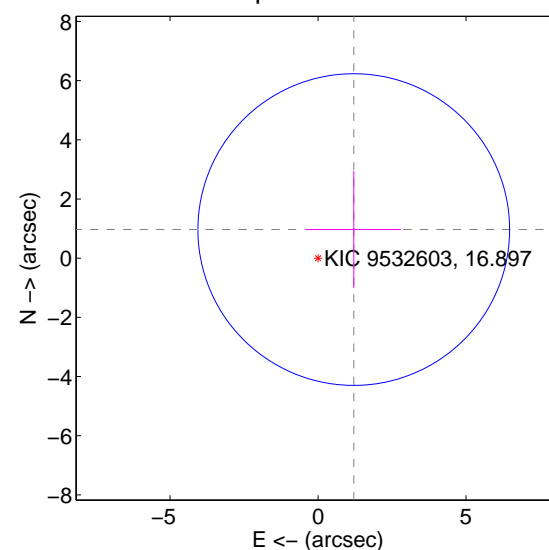
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

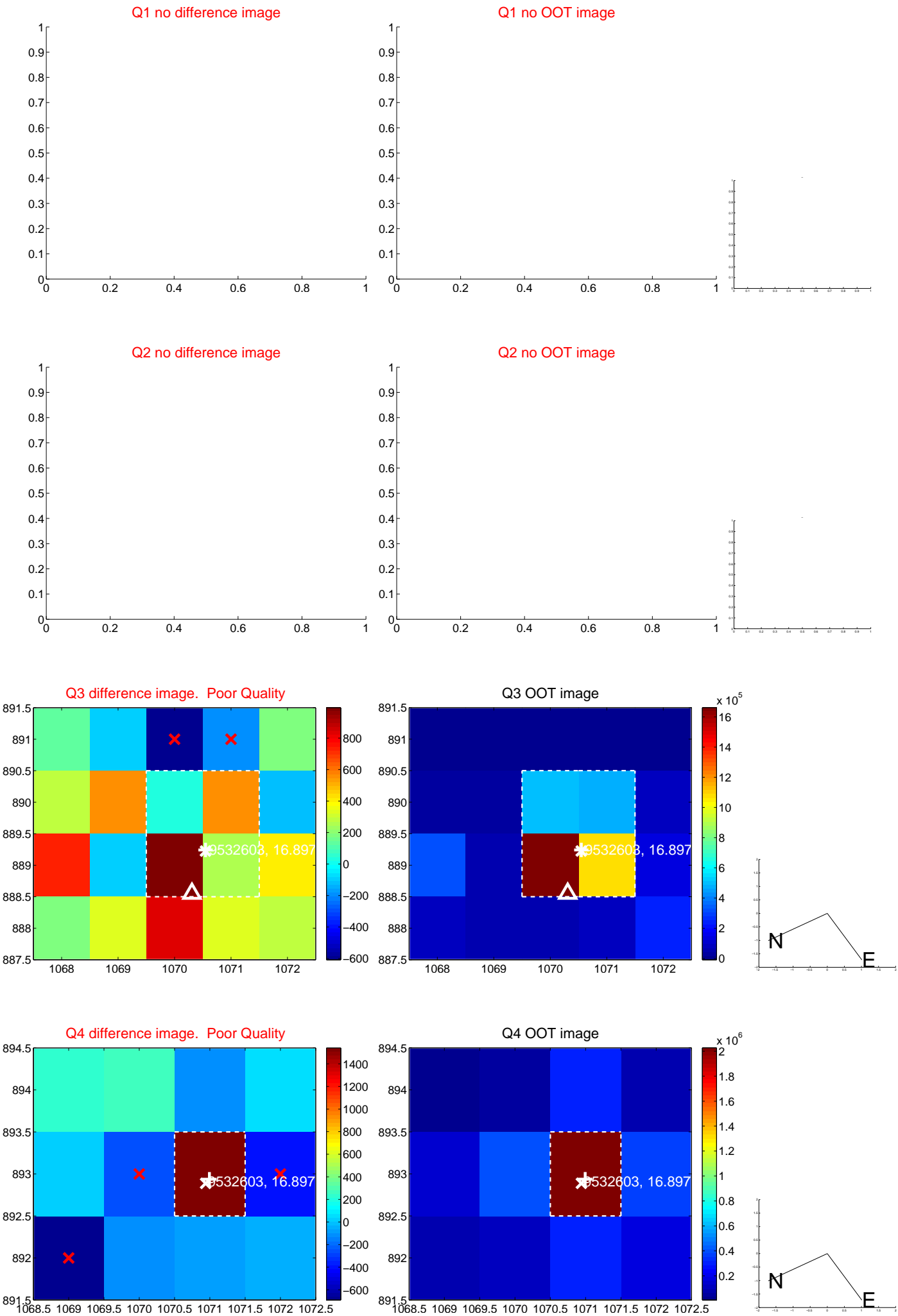


offset from photometric centroids

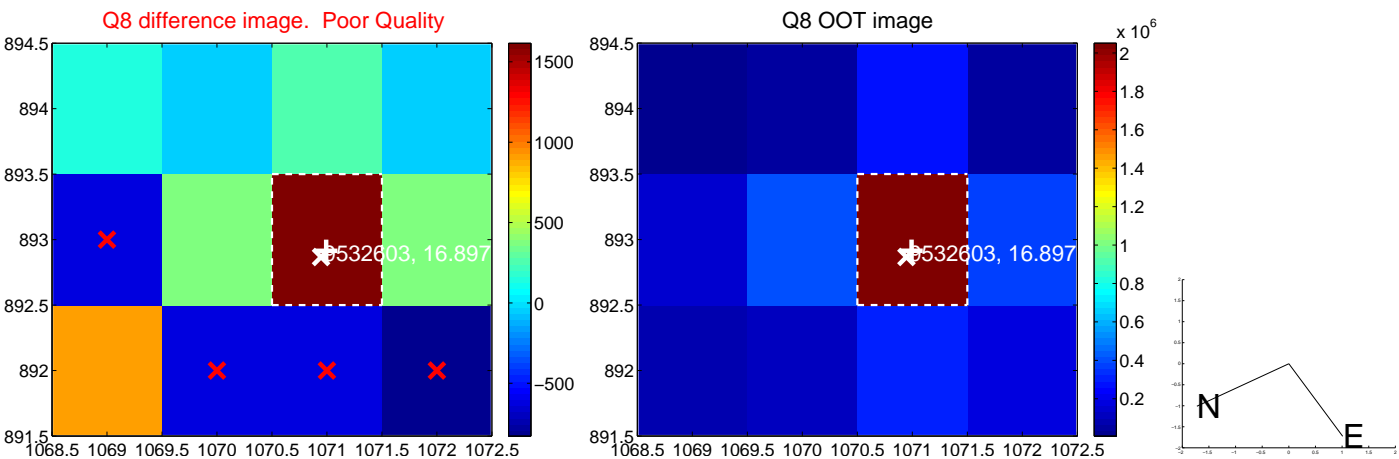
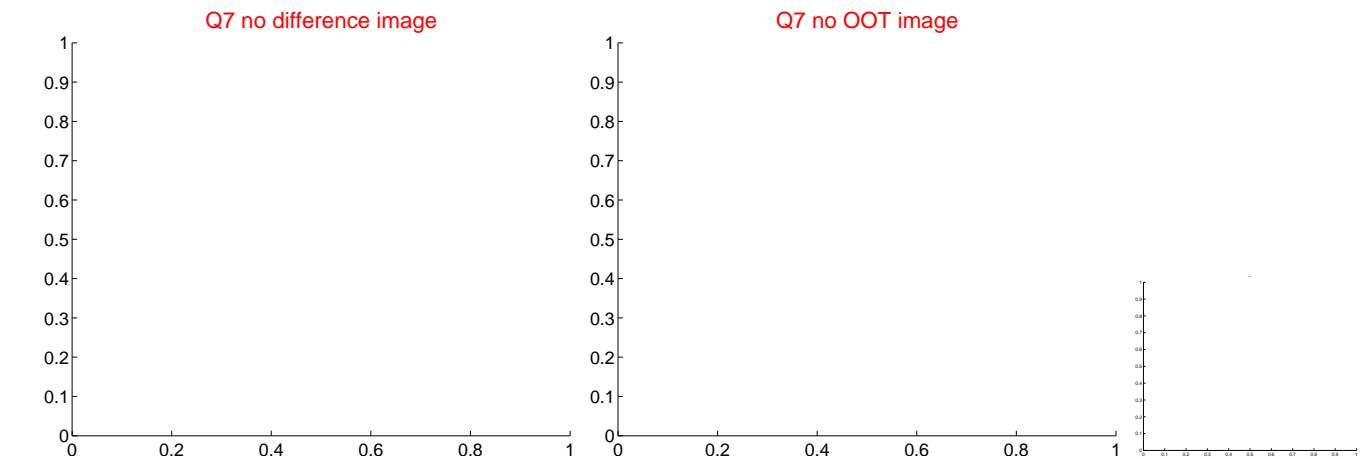
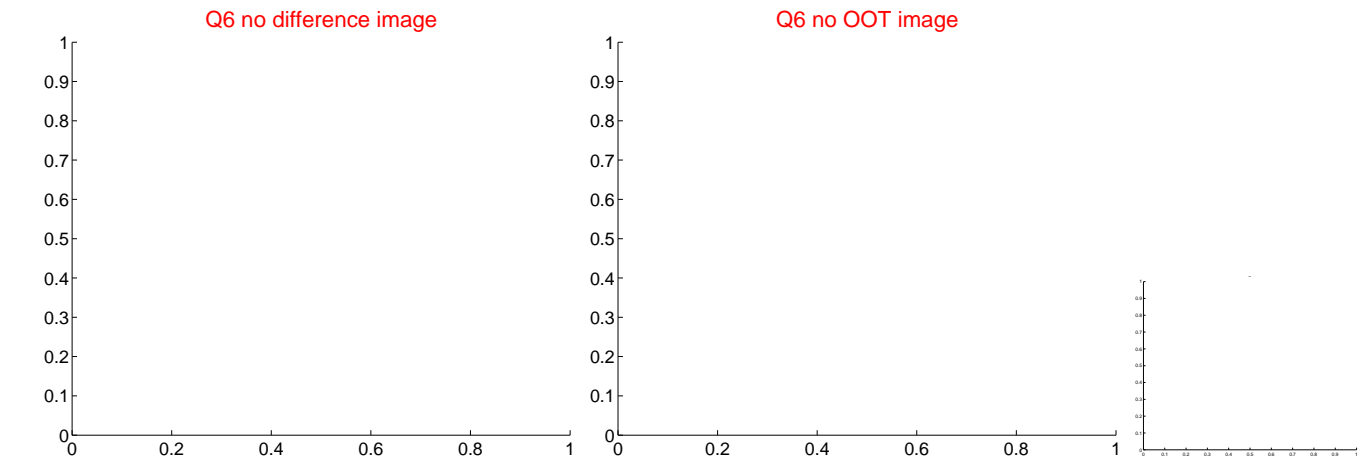
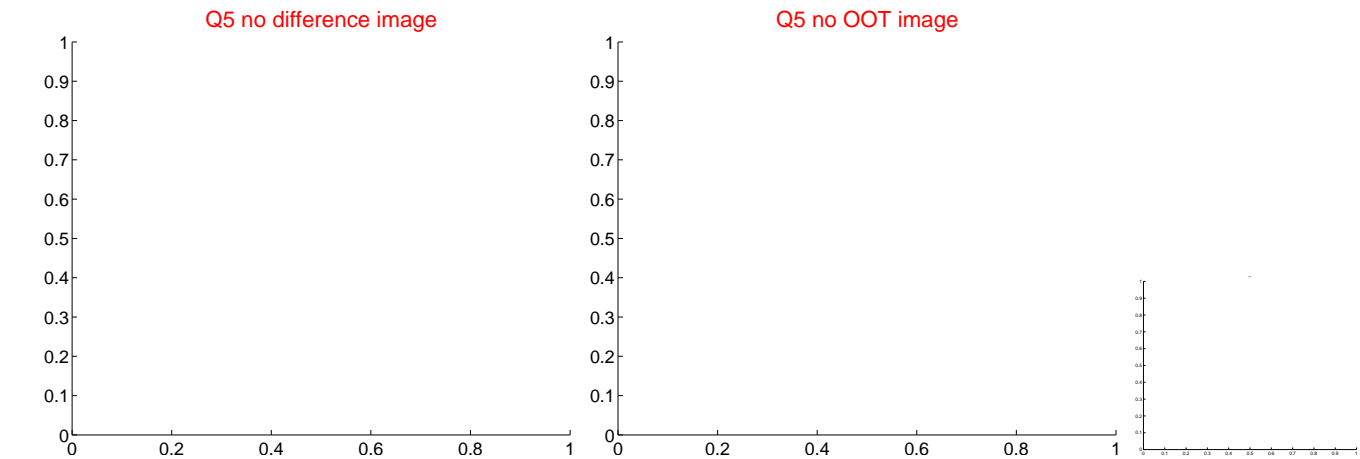


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

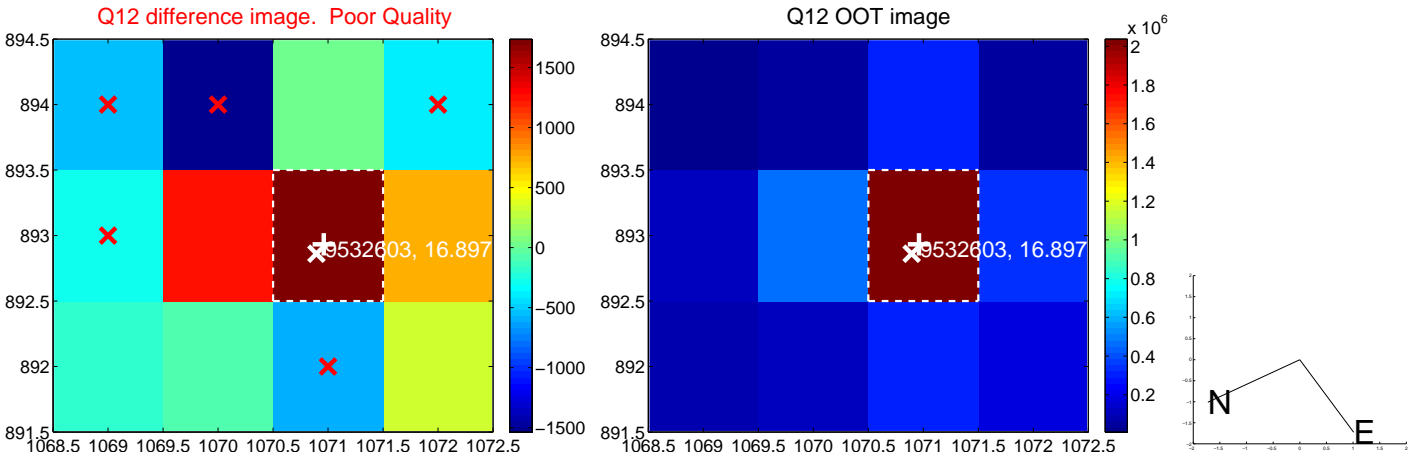
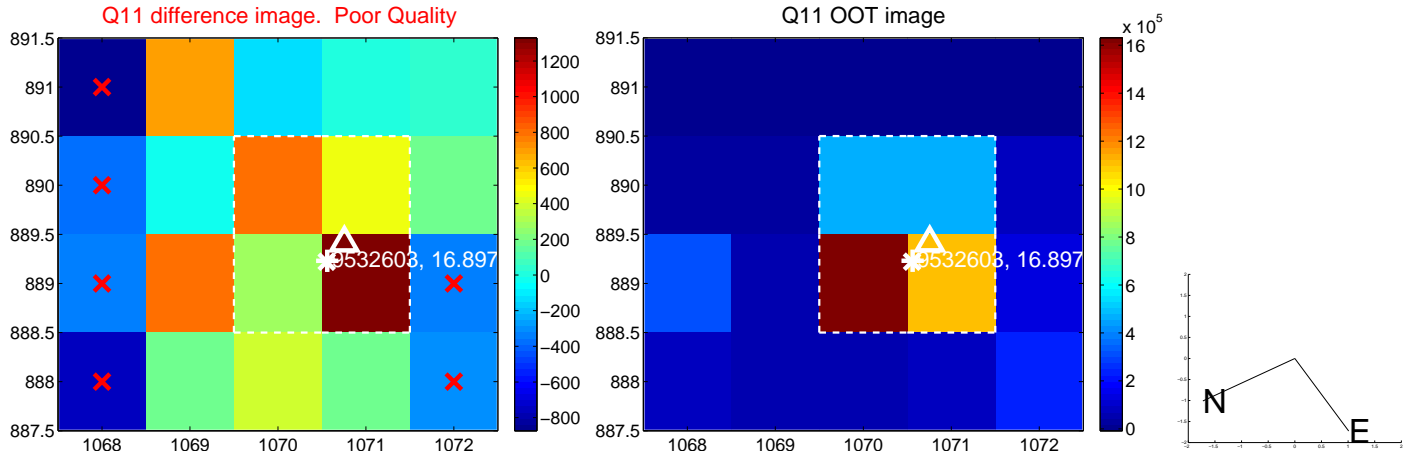
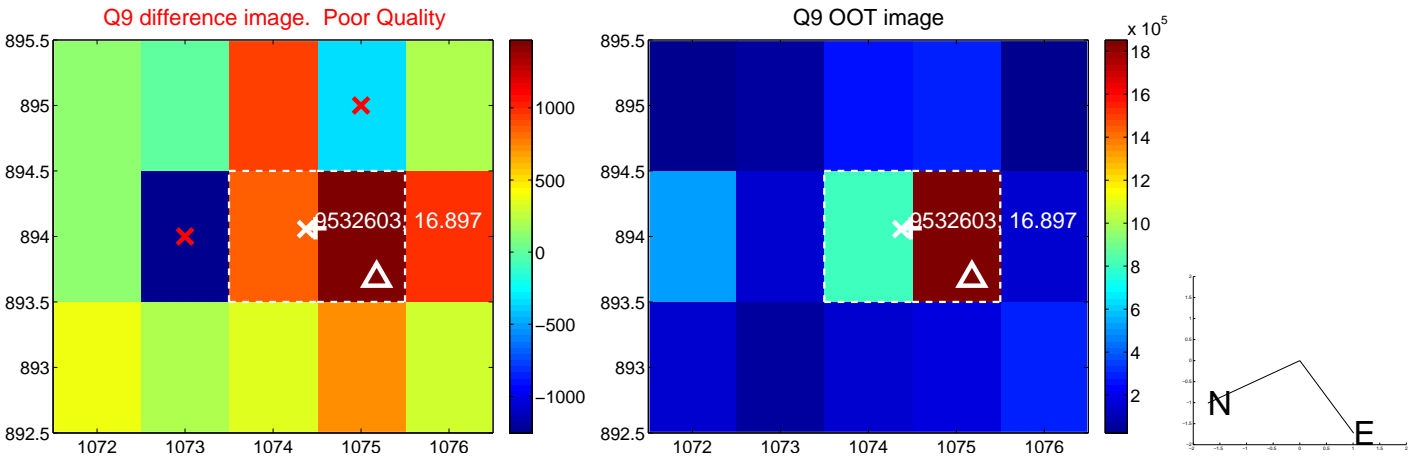
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



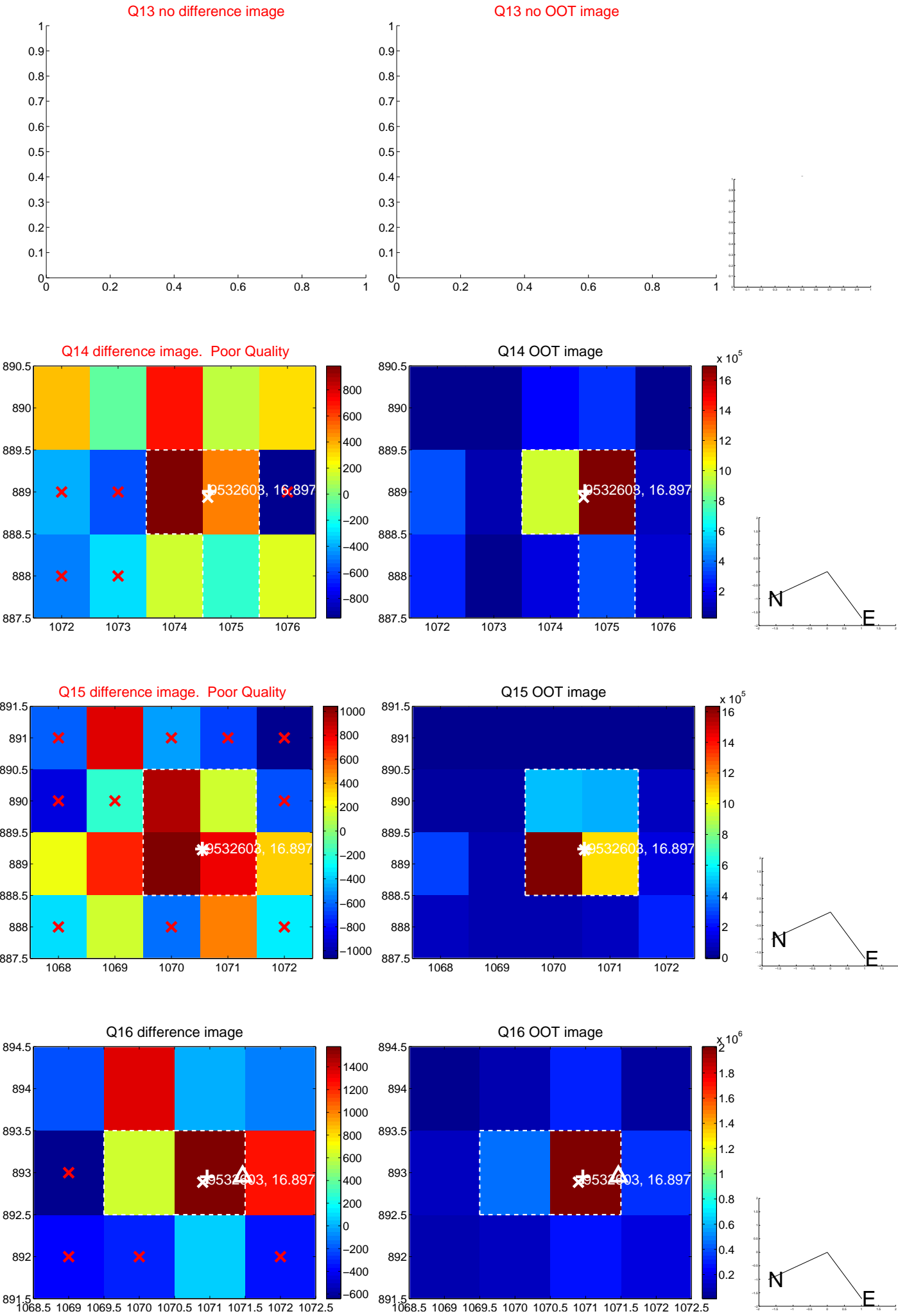
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



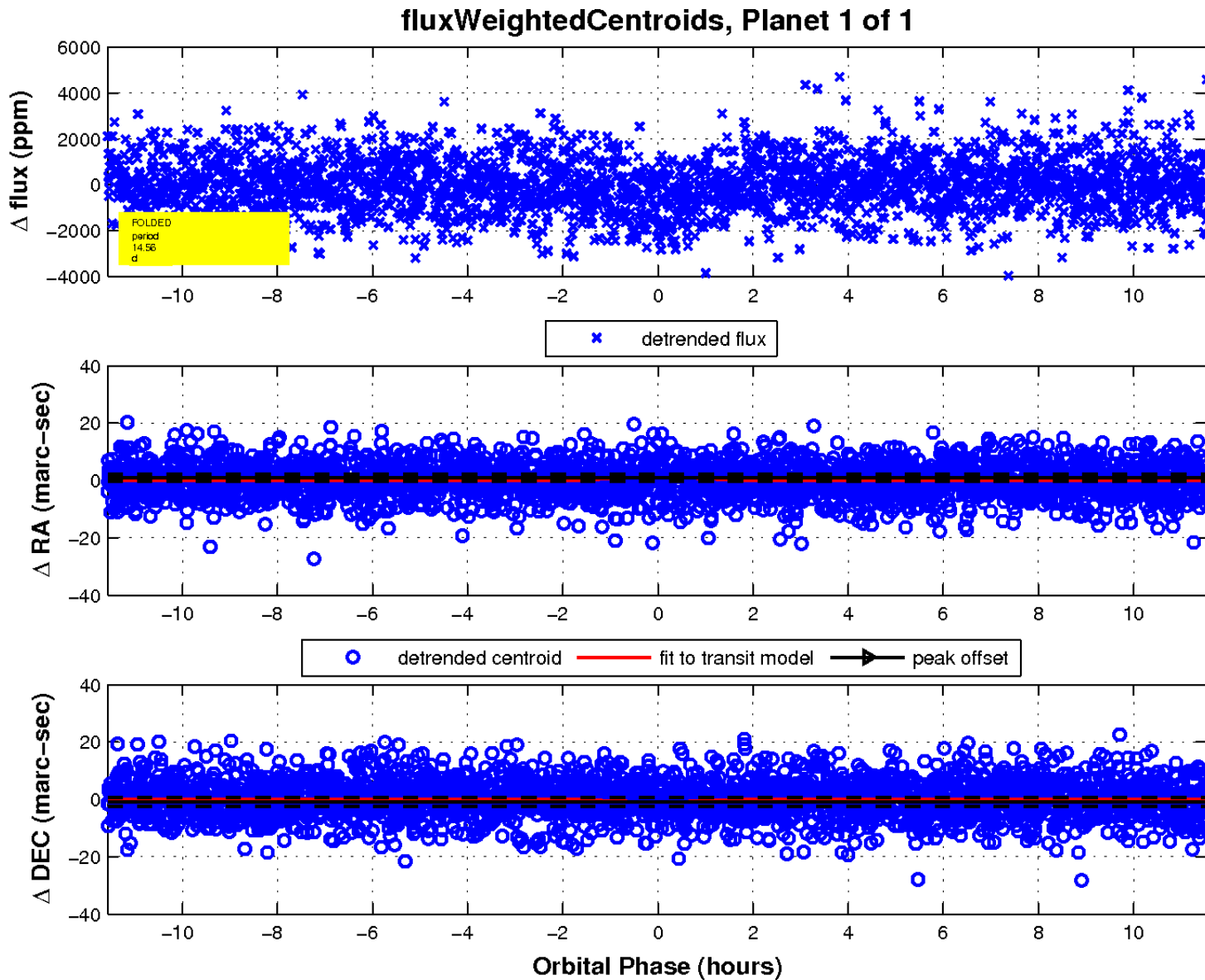
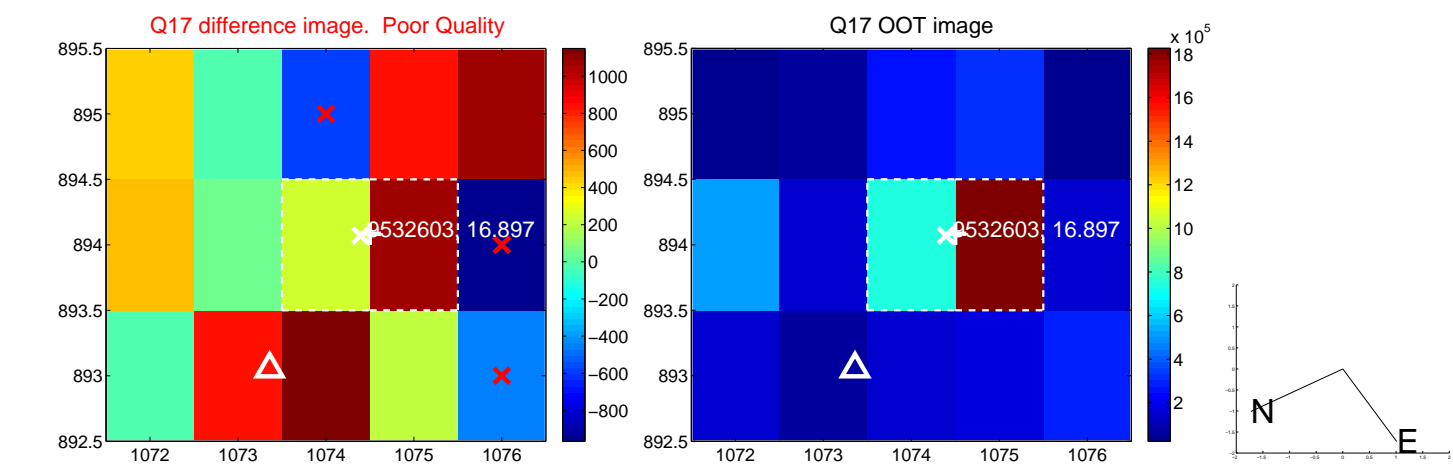
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

