

KIC 009957627

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})
009957627-01	OBS	0592.01	39.752895	135.714000	550.5	6.209	31.5	33.3	1.01	6072	3.03	24.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009957627-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

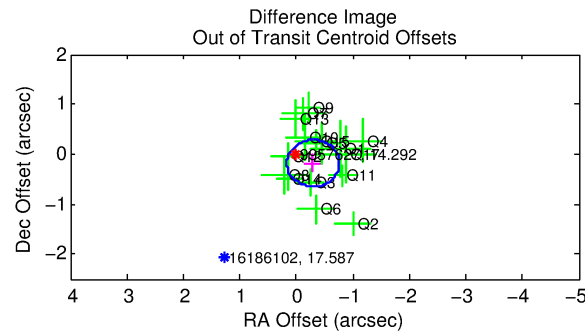
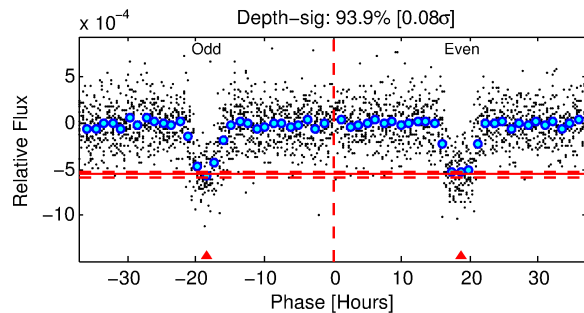
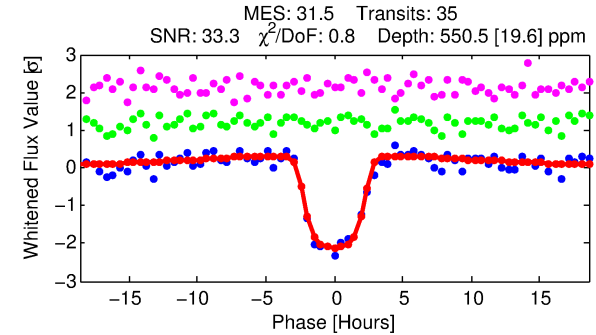
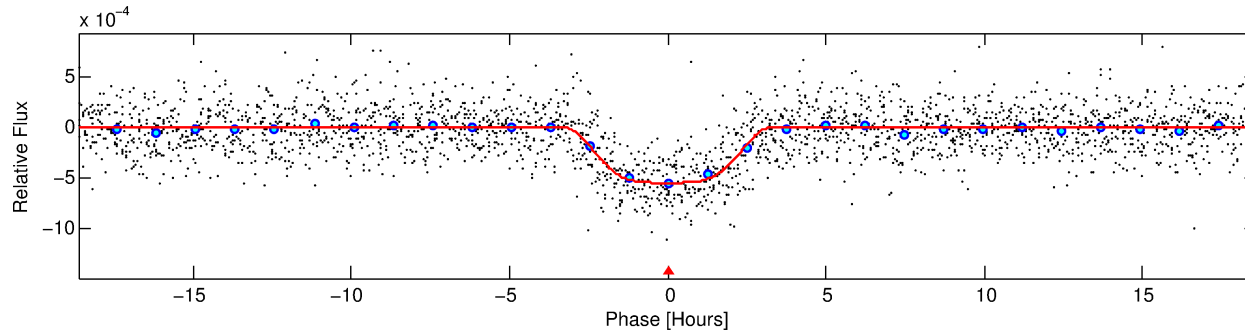
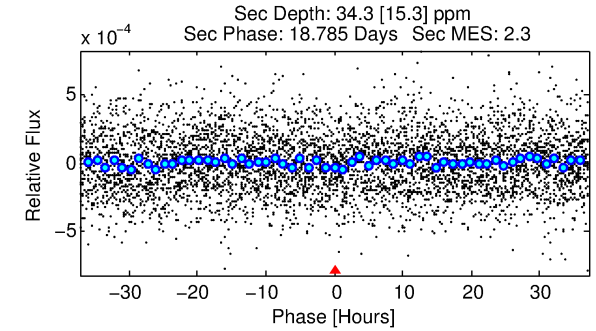
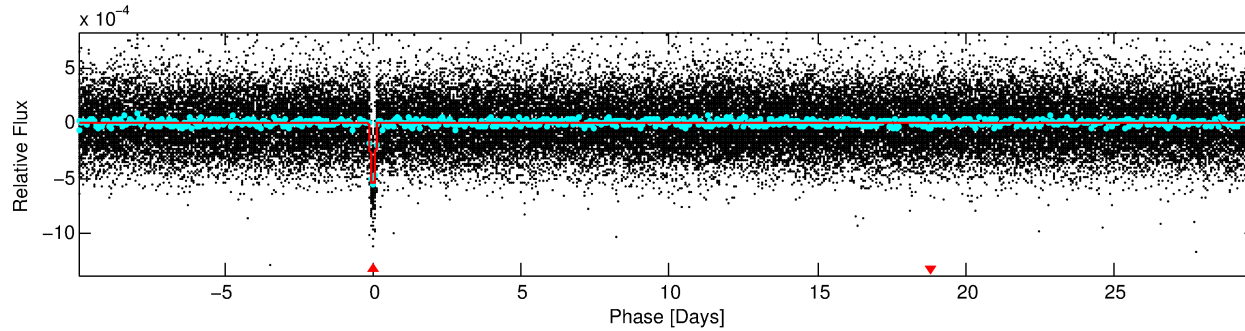
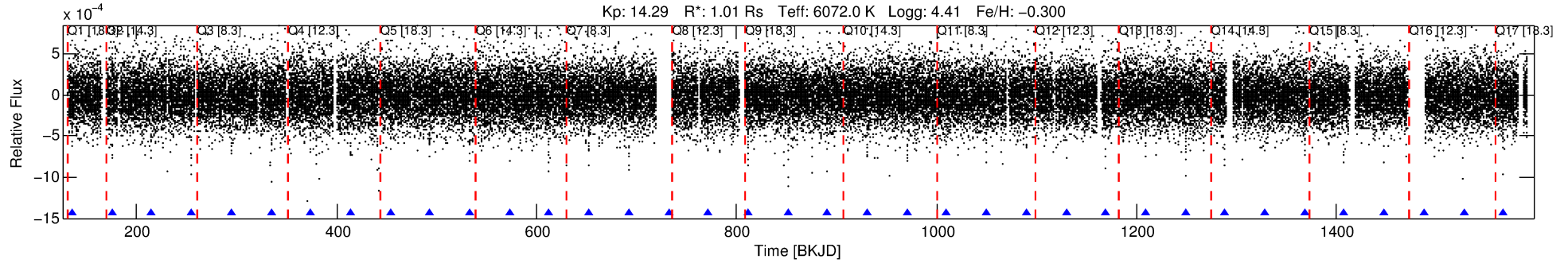
Ephemeris Match Information For 009957627-01

No Significant Match Found

DV One-Page Summary

KIC: 9957627 Candidate: 1 of 1 Period: 39.753 d

KOI: K00592.01 Corr: 0.933



DV Fit Results:

Period = 39.75290 [0.00018] d
Epoch = 135.7140 [0.0039] BKJD
Rp/R* = 0.0275 [0.0007]
a/R* = 17.71 [1.23]
b = 0.96 [0.01]
Seff = 24.58 [9.37]
Teq = 568 [54] K
Rp = 3.03 [0.93] Re
a = 0.2248 [0.0568] AU
Ag = 103.85 [59.83] [1.72σ]
Teffp = 2802 [325] K [6.78σ]

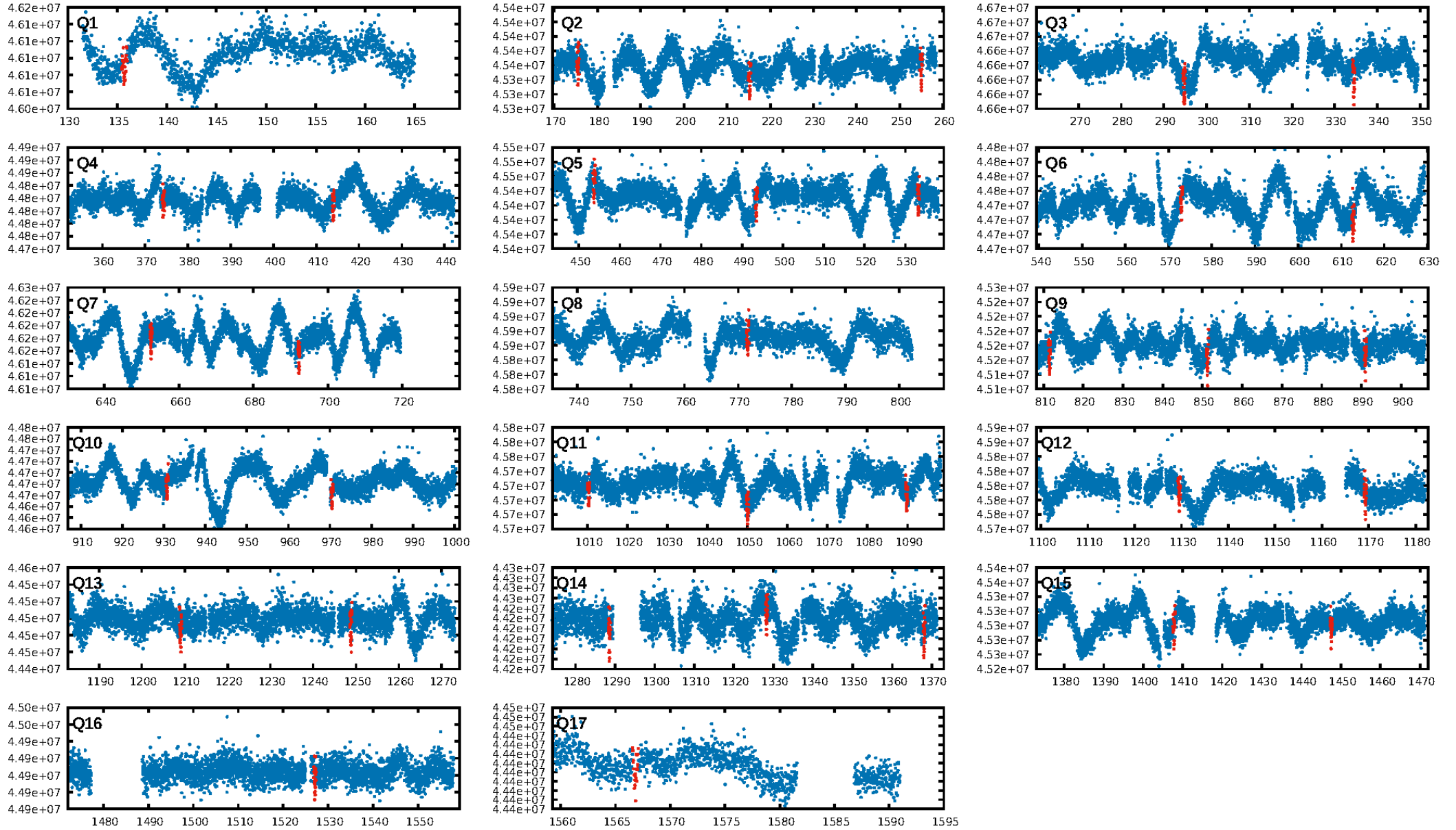
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 93.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.04e-209
RollingBand-fgt: 1.00 [33/33]
GhostDiagnostic-chr: 3.489
Centroid-sig: 57.1%
Centroid-so: 0.310 arcsec [0.74σ]
OotOffset-rm: 0.345 arcsec [2.22σ]
KicOffset-rm: 0.369 arcsec [1.97σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

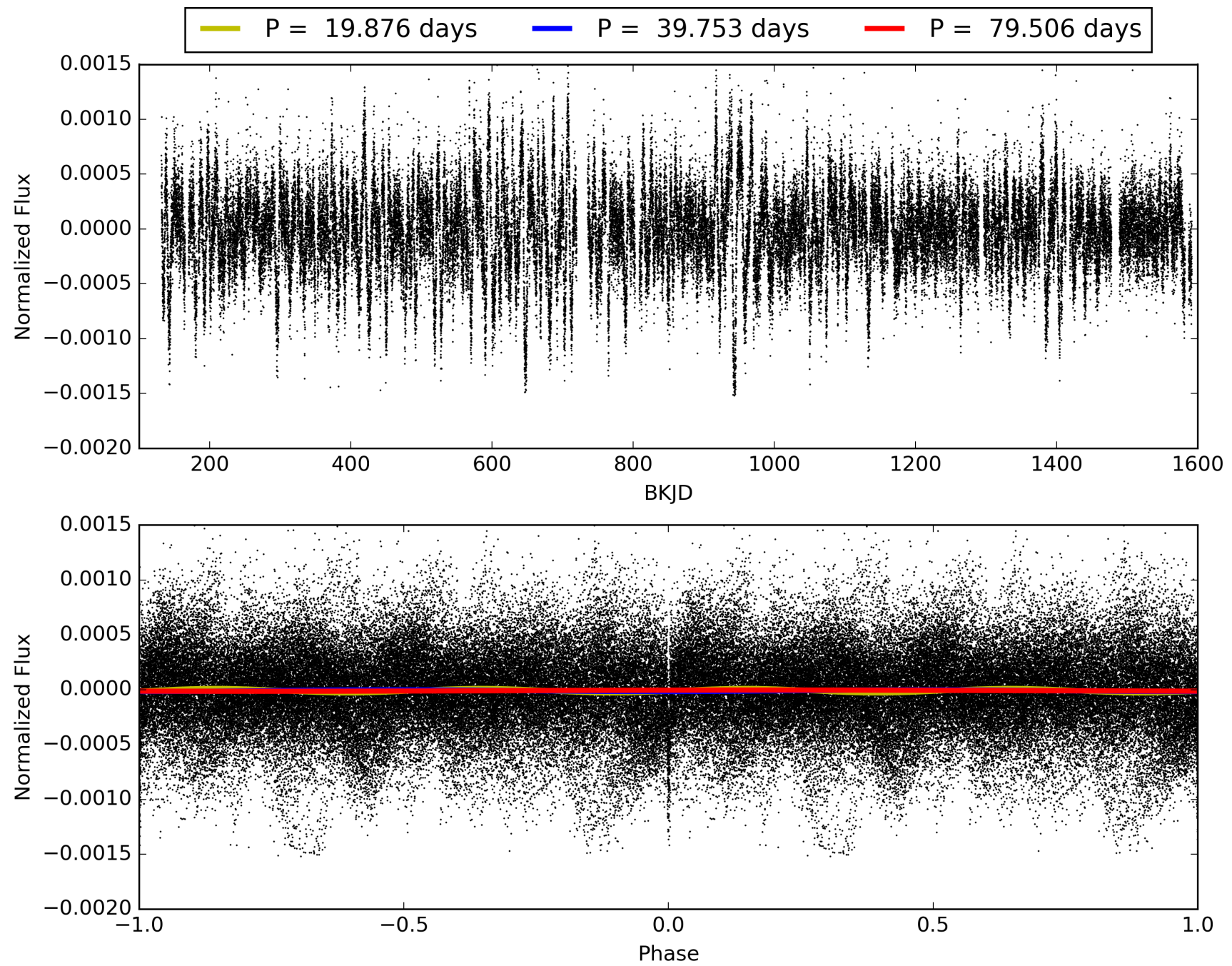
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:20:59 Z

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

TCE 009957627-01, PDC Light Curves

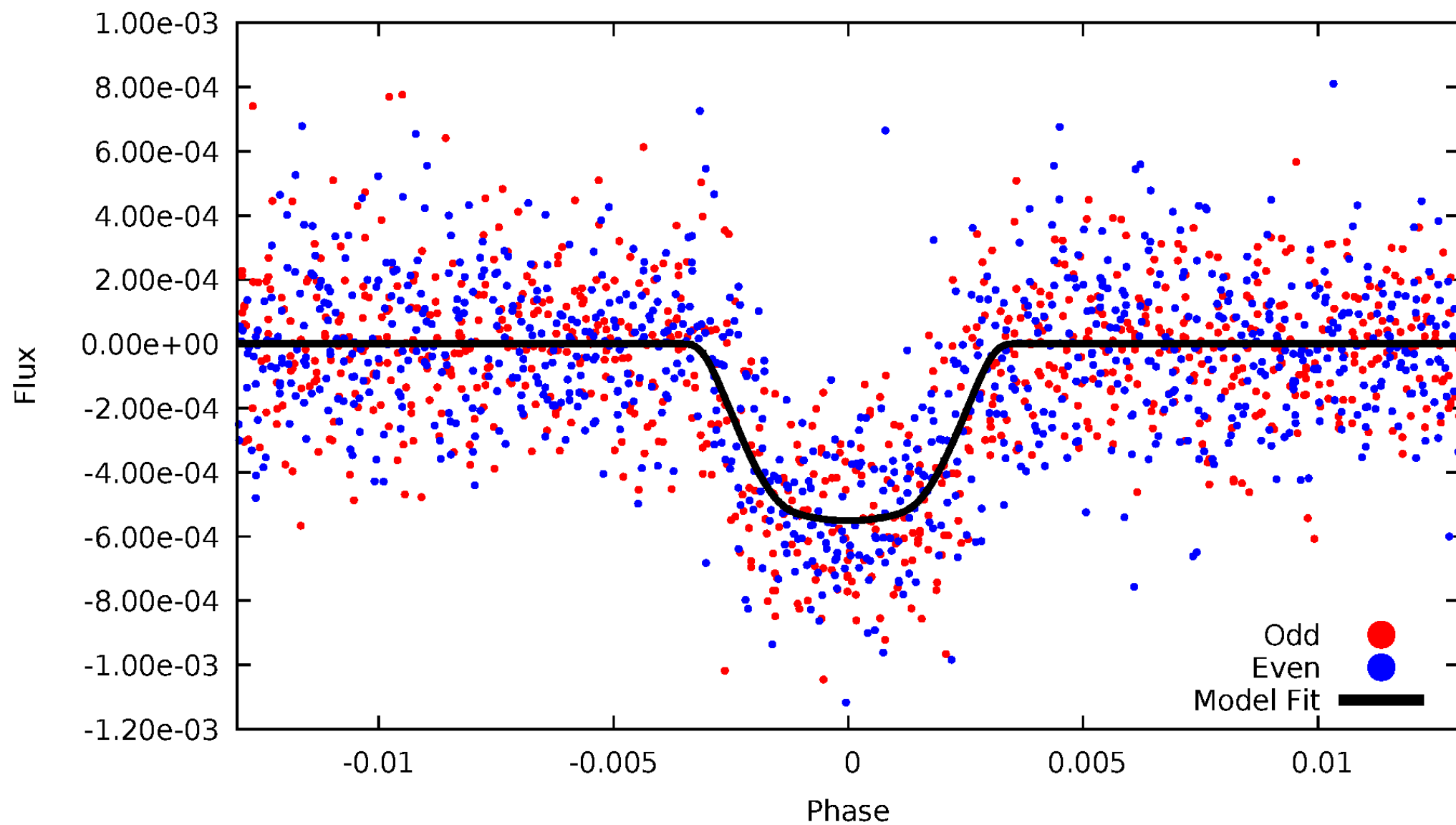


TCE 009957627-01



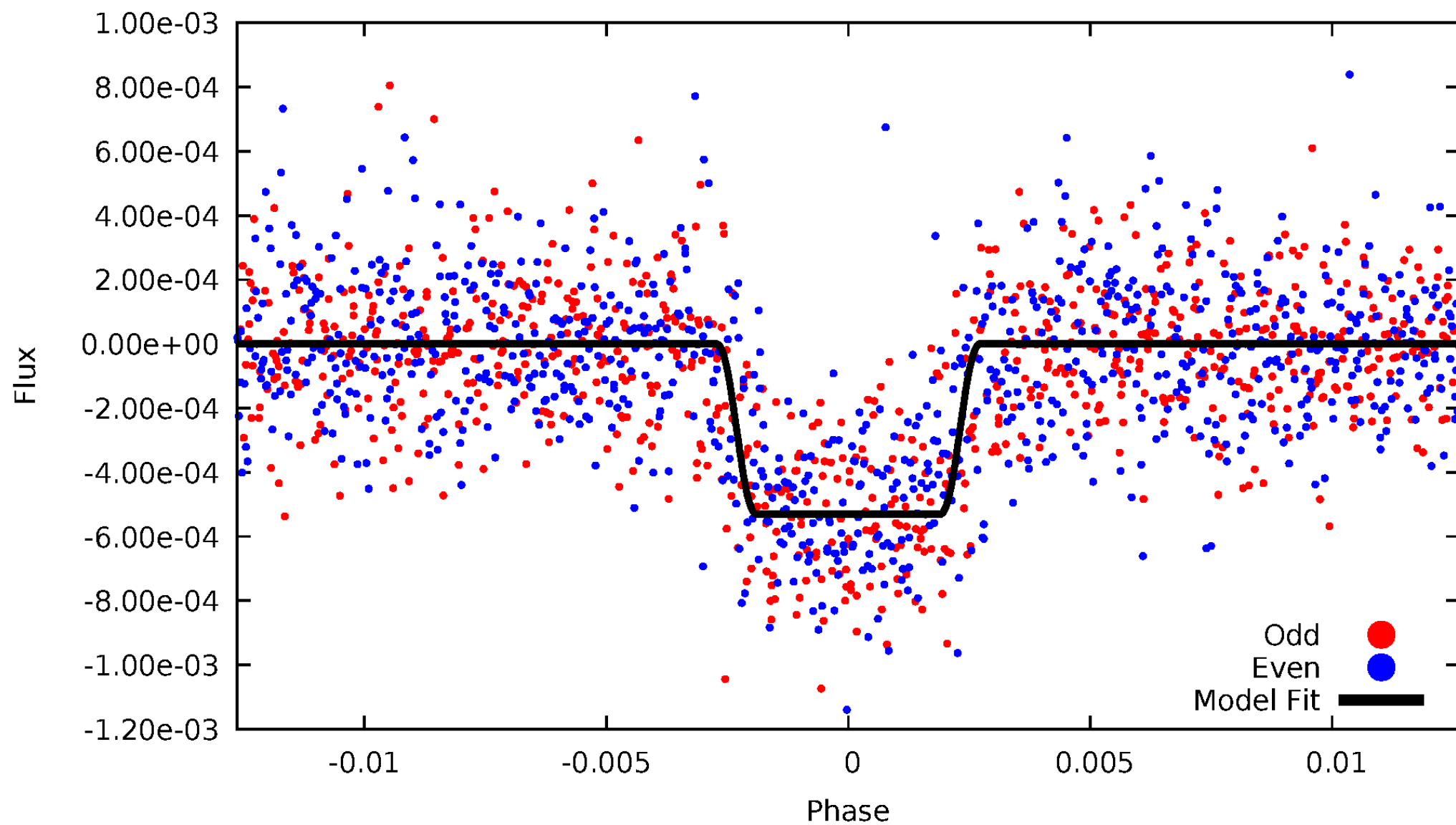
DV Odd/Even

TCE 009957627-01

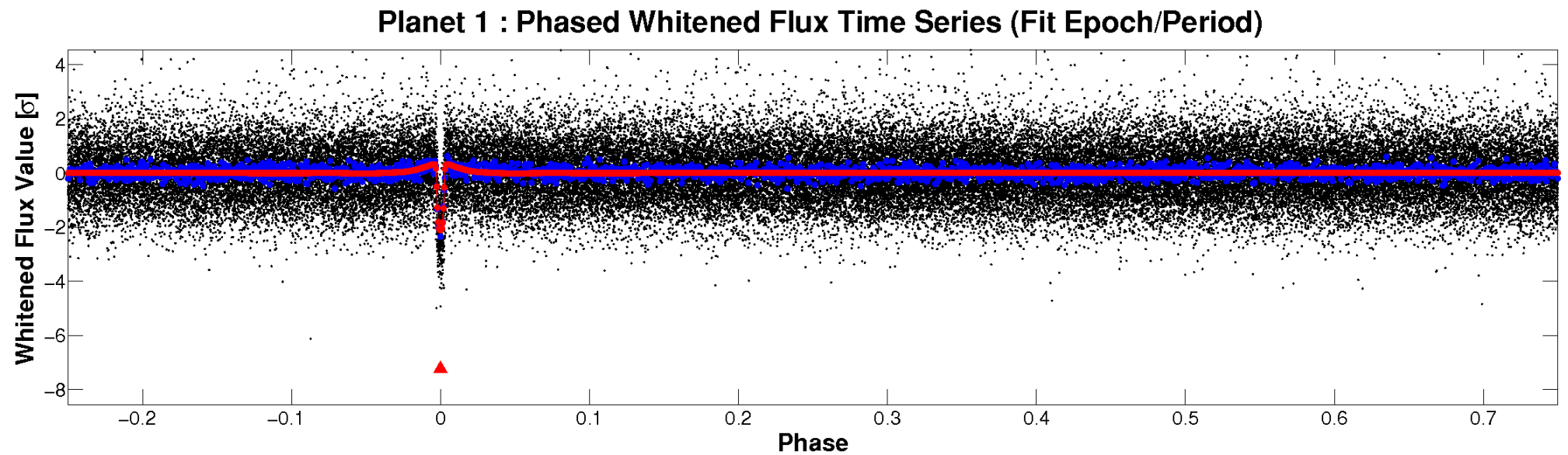
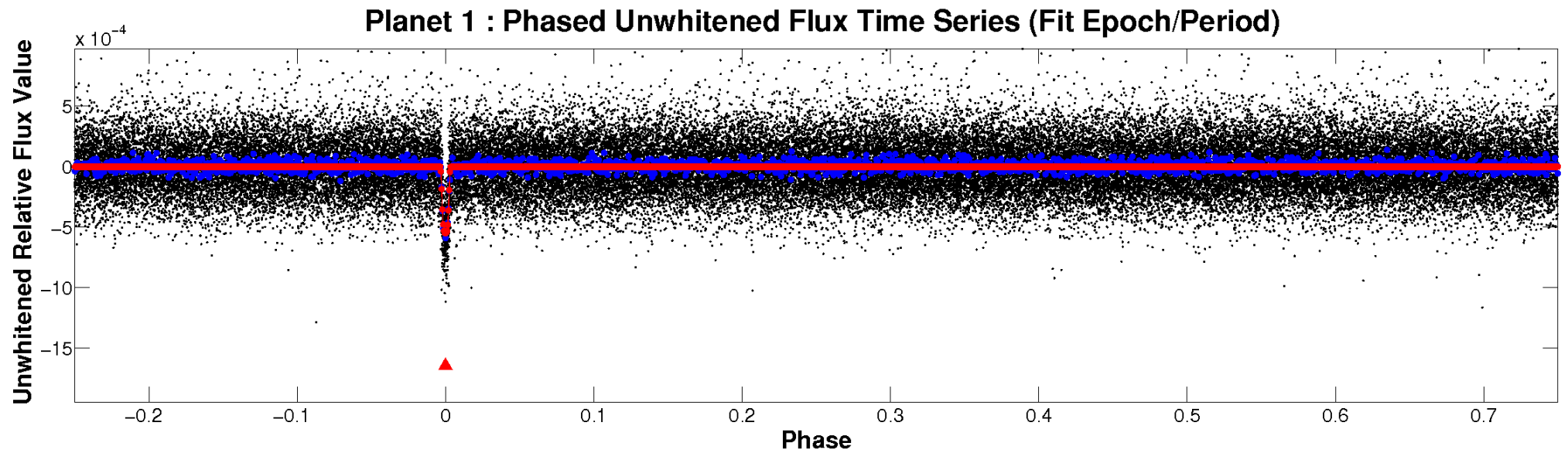


ALT Odd/Even

TCE 009957627-01

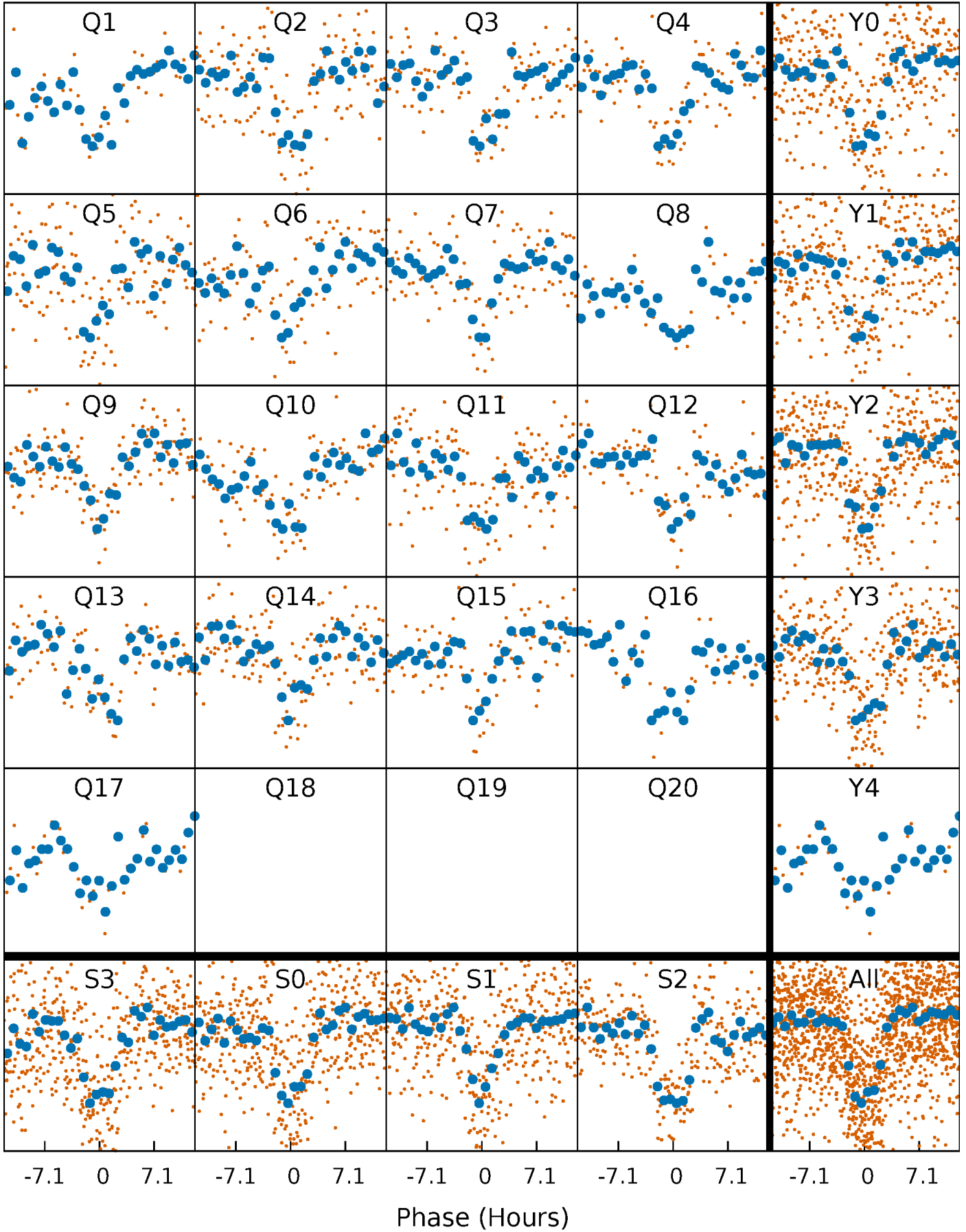


Non-Whitened Vs. Whitened Light Curve



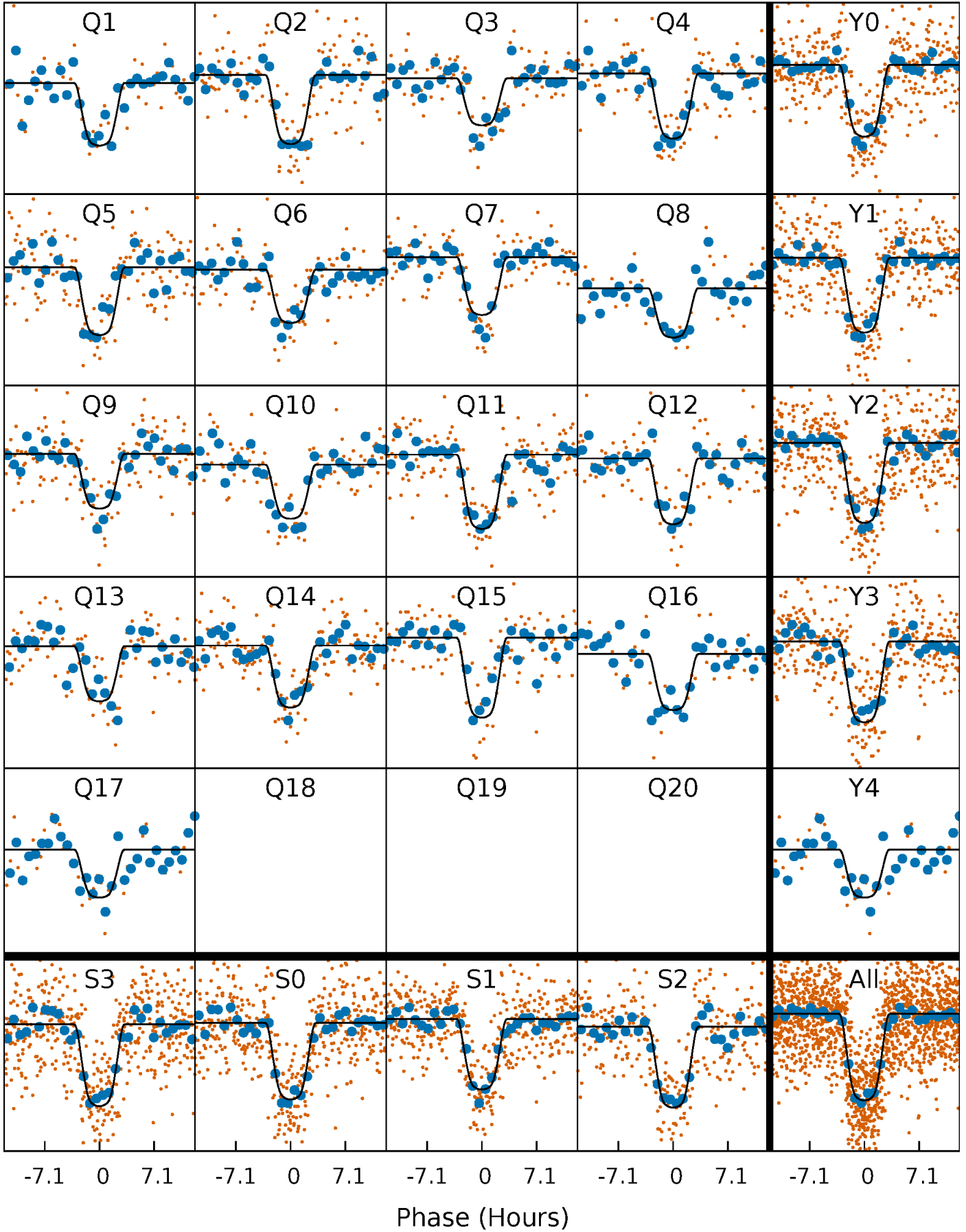
PDC Quarter-Phased Transit Curves

TCE 009957627-01 P= 39.752895 Days $T_0=135.714000$ (BKJD)



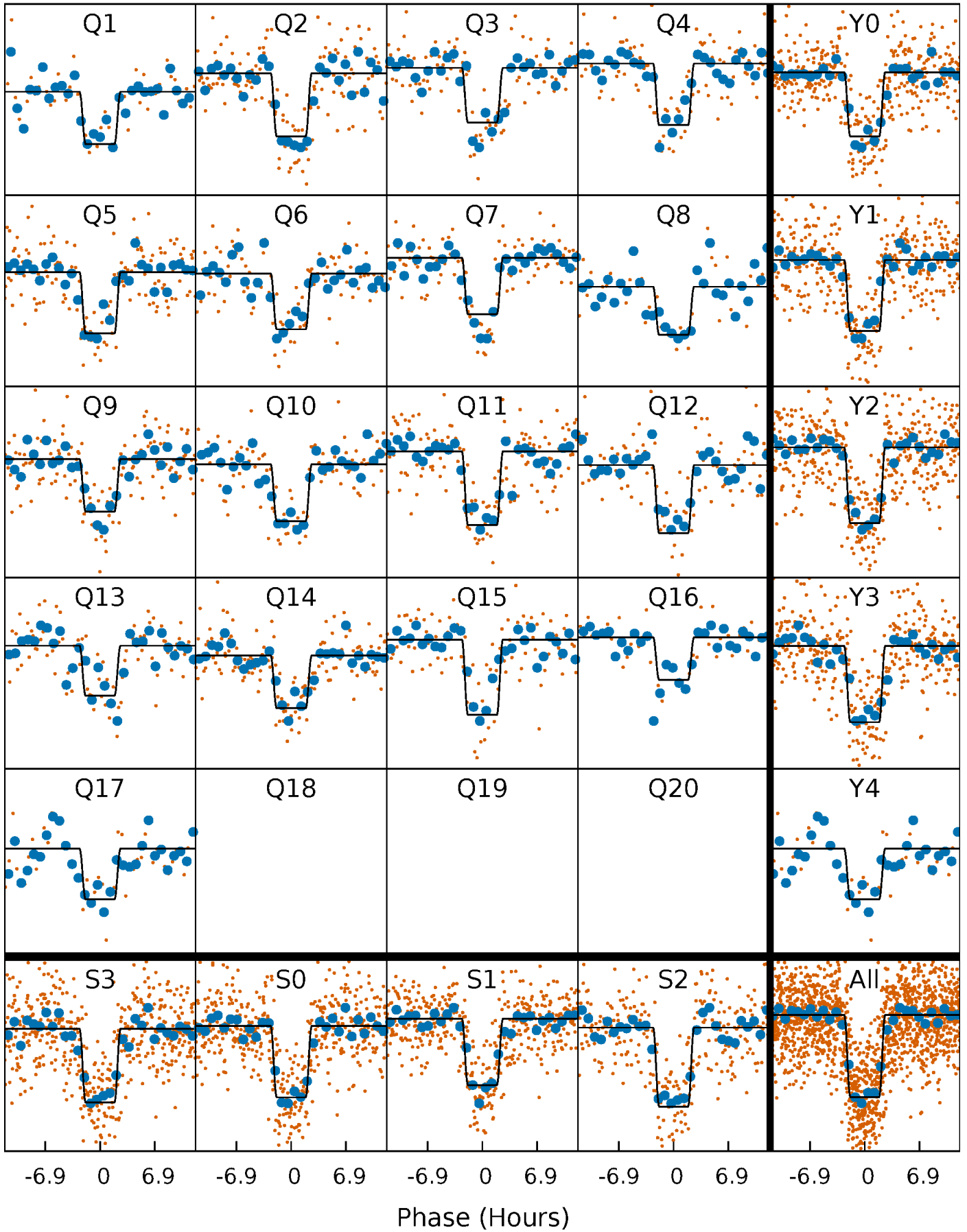
DV Quarter-Phased Transit Curves

TCE 009957627-01 P= 39.752895 Days $T_0=135.714000$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

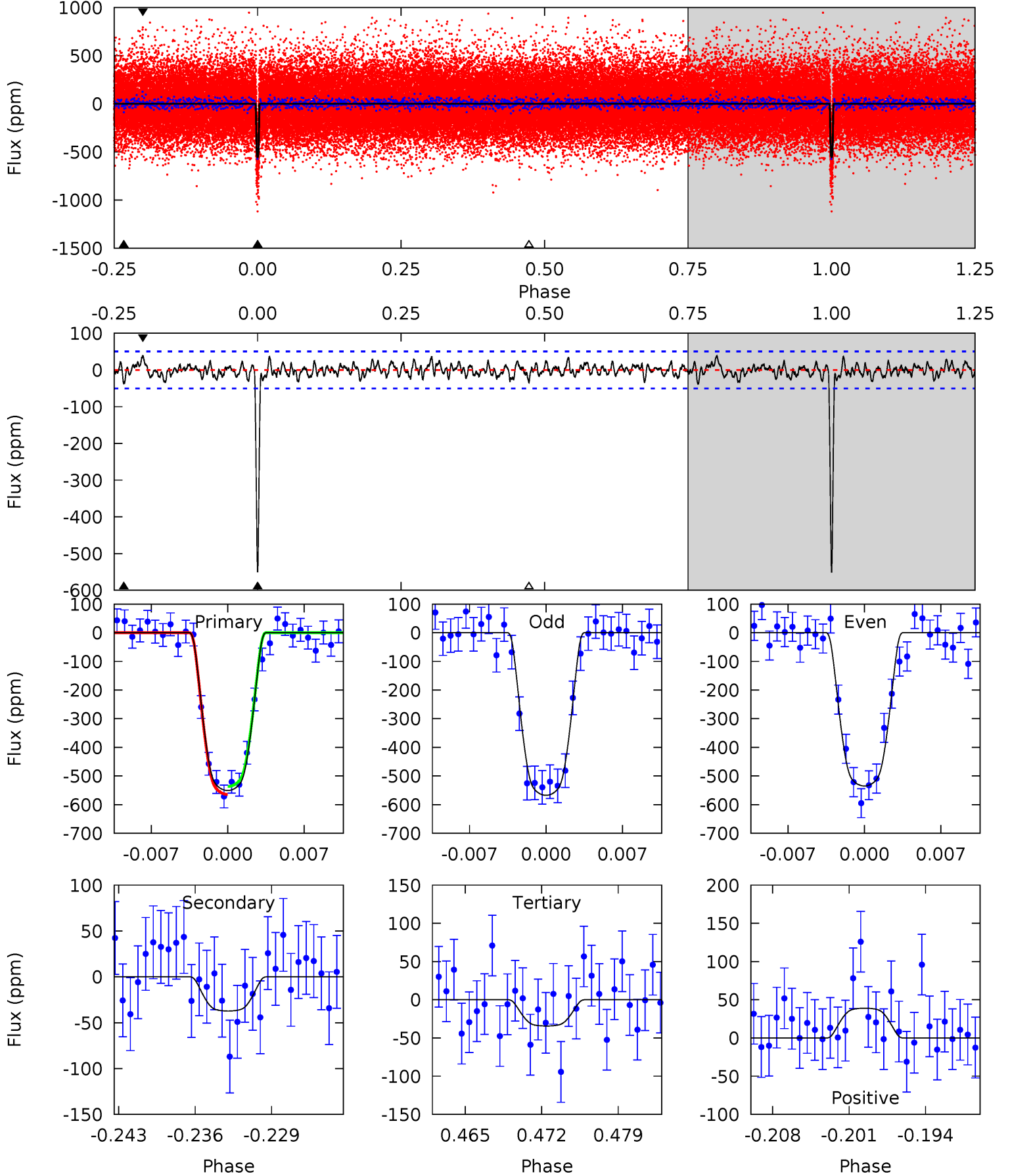
TCE 009957627-01 P= 39.752740 Days $T_0=135.716032$ (BKJD)



DV Model-Shift Uniqueness Test

009957627-01, P = 39.752895 Days, E = 95.961105 Days

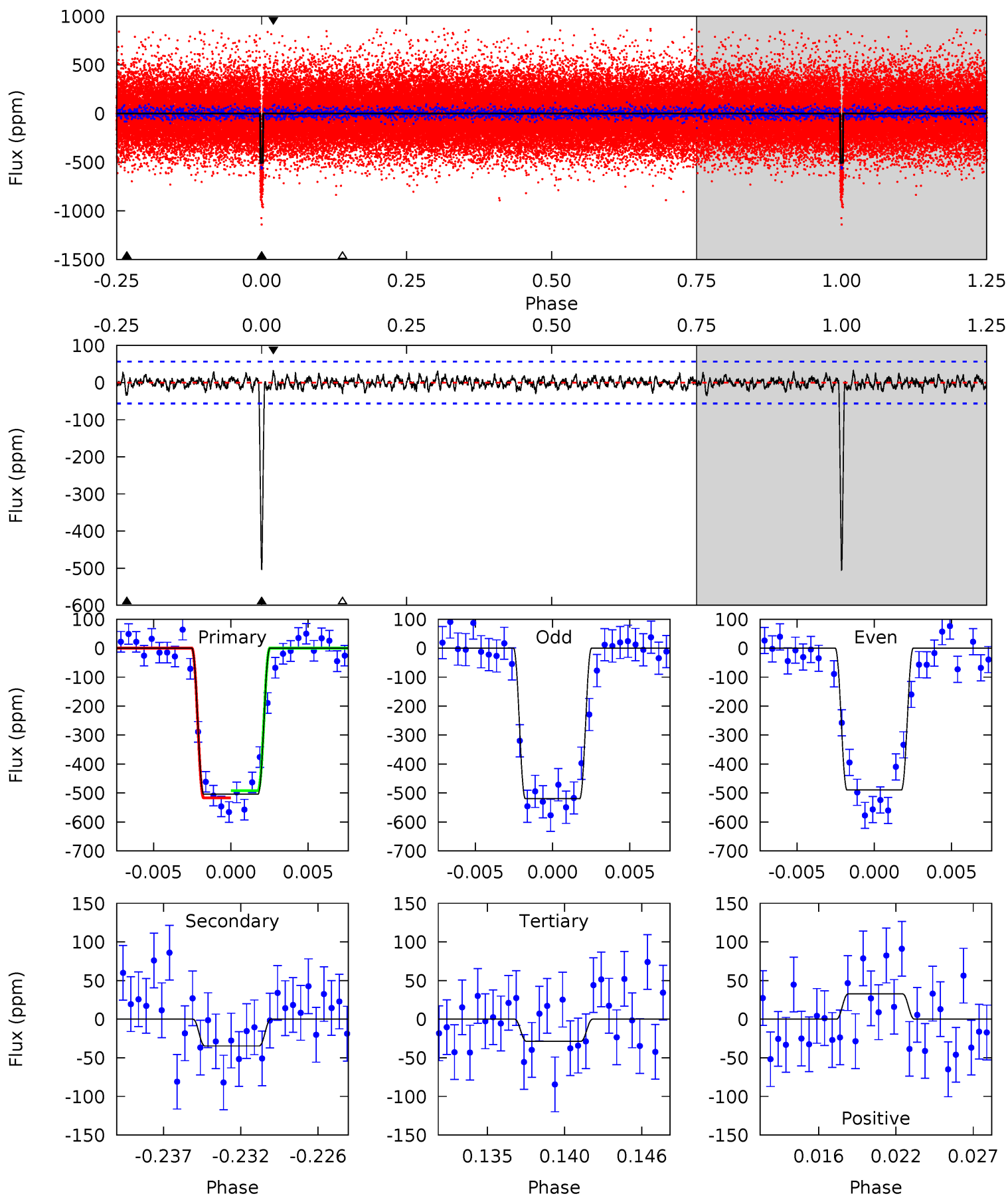
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.8	3.78	3.48	3.94	5.10	2.70	1.29	52.3	51.8	0.30	-0.17	1.66	1.00	0.07	1.41



Alt Model-Shift Uniqueness Test

009957627-01, P = 39.752740 Days, E = 95.963292 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.0	3.16	2.62	2.98	5.14	2.78	0.92	43.4	43.0	0.54	0.18	1.36	0.98	0.06	1.15



Stellar Parameters For KIC 009957627

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6072^{+182}_{-182}	$4.411^{+0.105}_{-0.195}$	$-0.300^{+0.300}_{-0.300}$	$1.010^{+0.308}_{-0.132}$	$0.960^{+0.142}_{-0.103}$	$1.311^{+0.626}_{-0.679}$
	+3%/-3%	+2%/-4%	+100%/-100%	+30%/-13%	+15%/-11%	+48%/-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 009957627-01 / KOI 0592.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-37 ± 10	$3.05^{+0.53}_{-0.25}$	799^{+60}_{-43}	3384^{+147}_{-166}	107^{+40}_{-37}
Alt.	-35 ± 11	$2.56^{+0.44}_{-0.23}$	798^{+61}_{-40}	3519^{+186}_{-220}	137^{+61}_{-52}

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 $A_{obs} \gg 1.0$

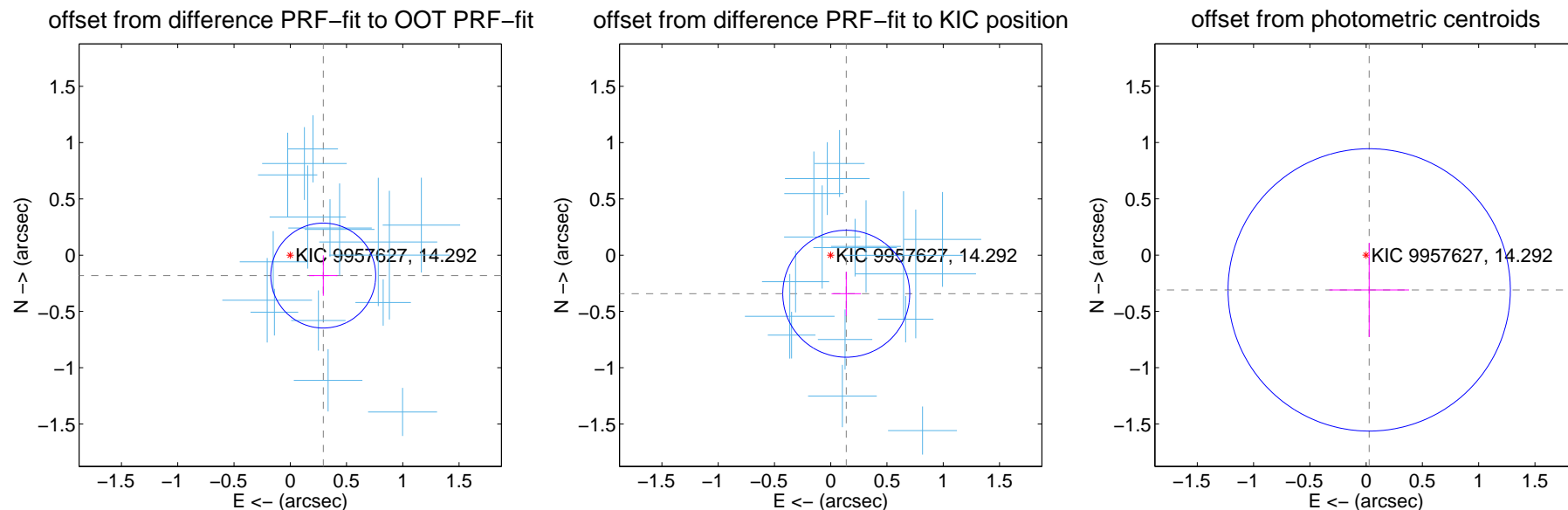
DV Centroid Data

Supplemental centroid analysis for 009957627-01. Kepler magnitude: 14.29. Transit SNR 33.34

There are 16 quarters with good PRF difference image offsets

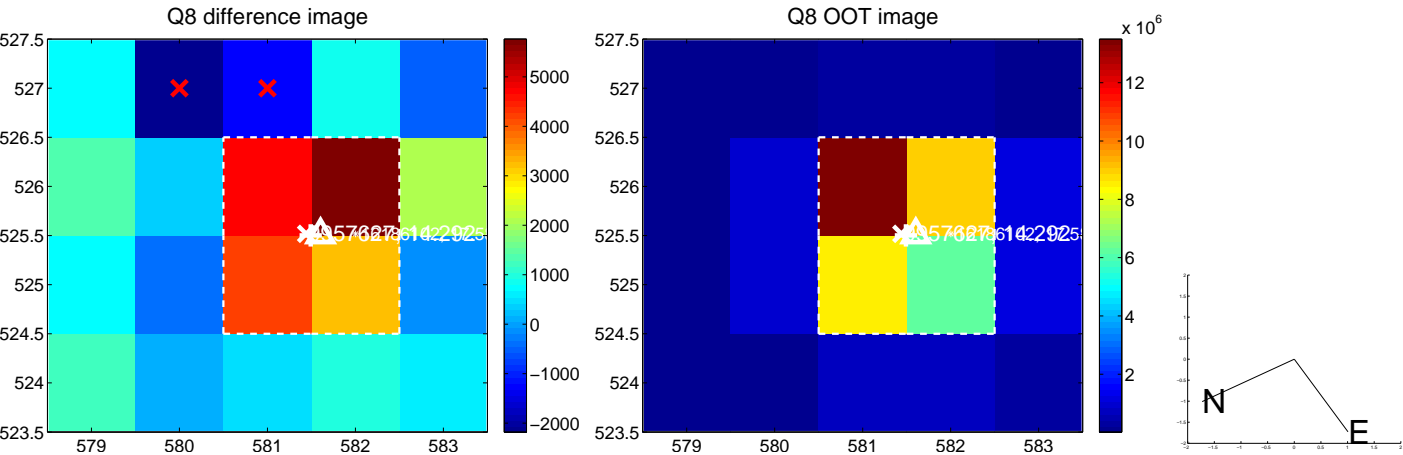
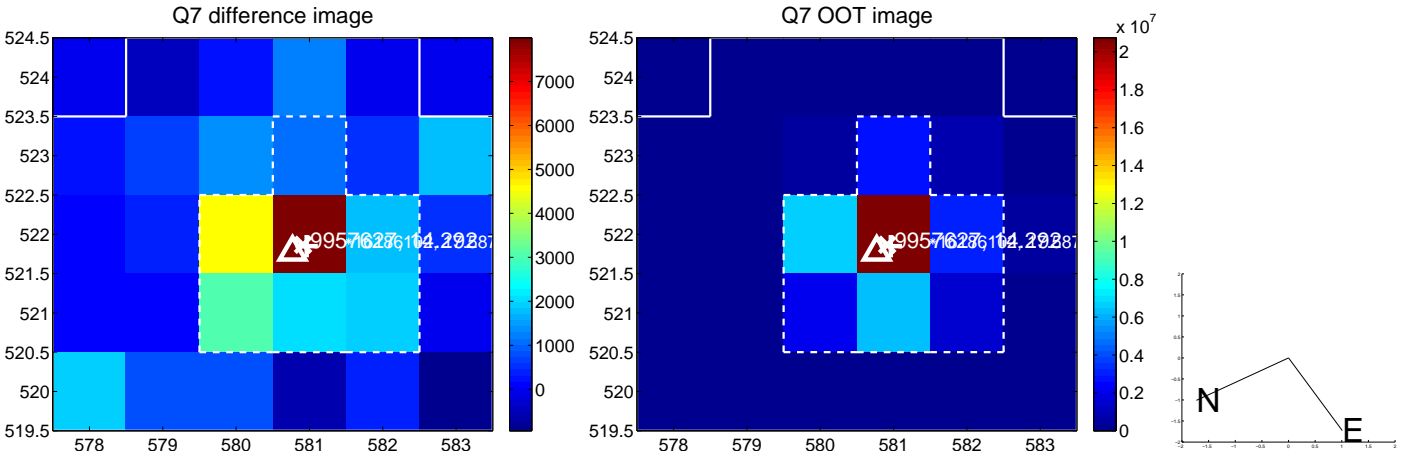
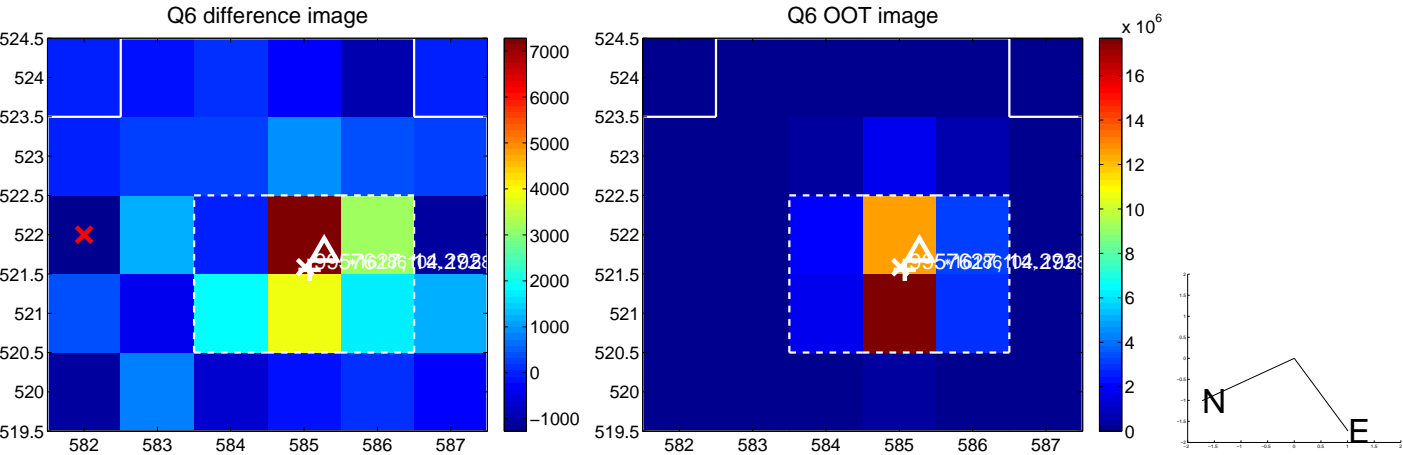
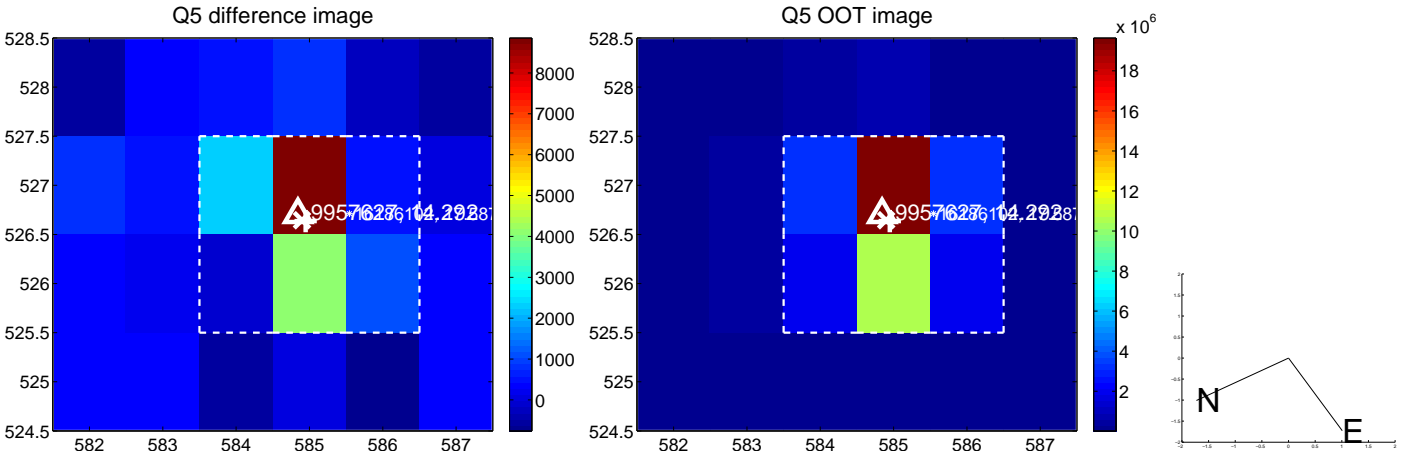
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.345 ± 0.155	2.22	-0.293 ± 0.125	-0.181 ± 0.180
PRF-fit source offset from KIC position	0.369 ± 0.188	1.97	-0.138 ± 0.131	-0.343 ± 0.196
photometric centroid source offset	0.31 ± 0.42	0.74	-0.03 ± 0.35	-0.31 ± 0.42

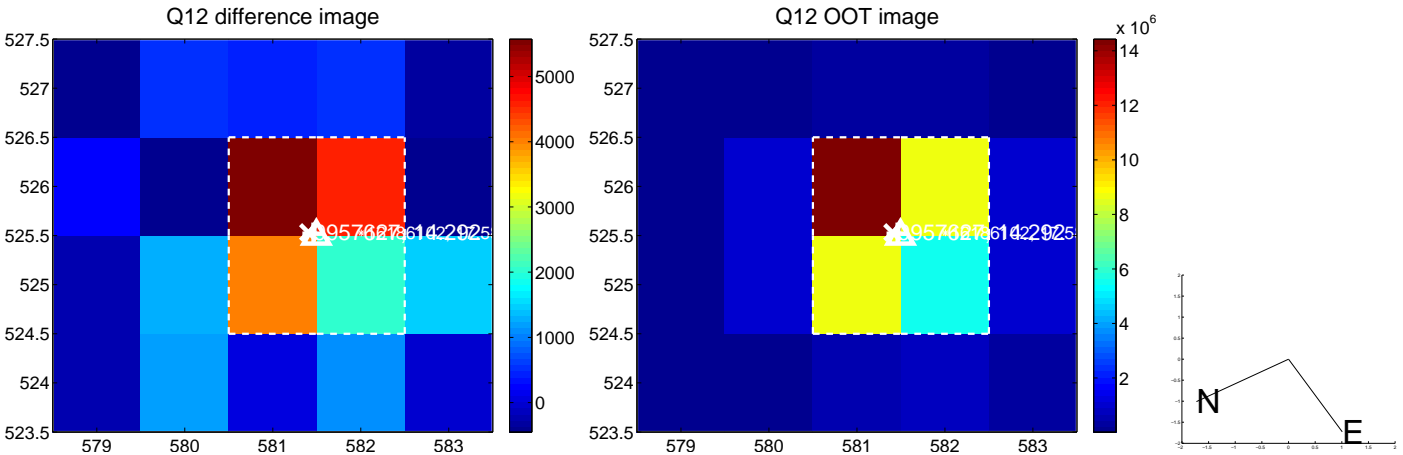
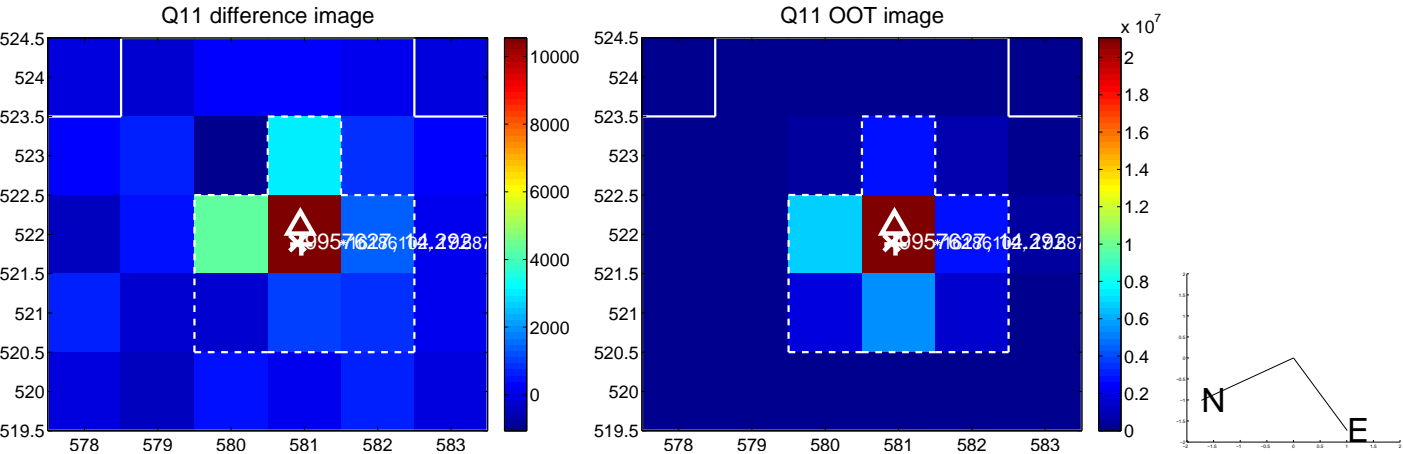
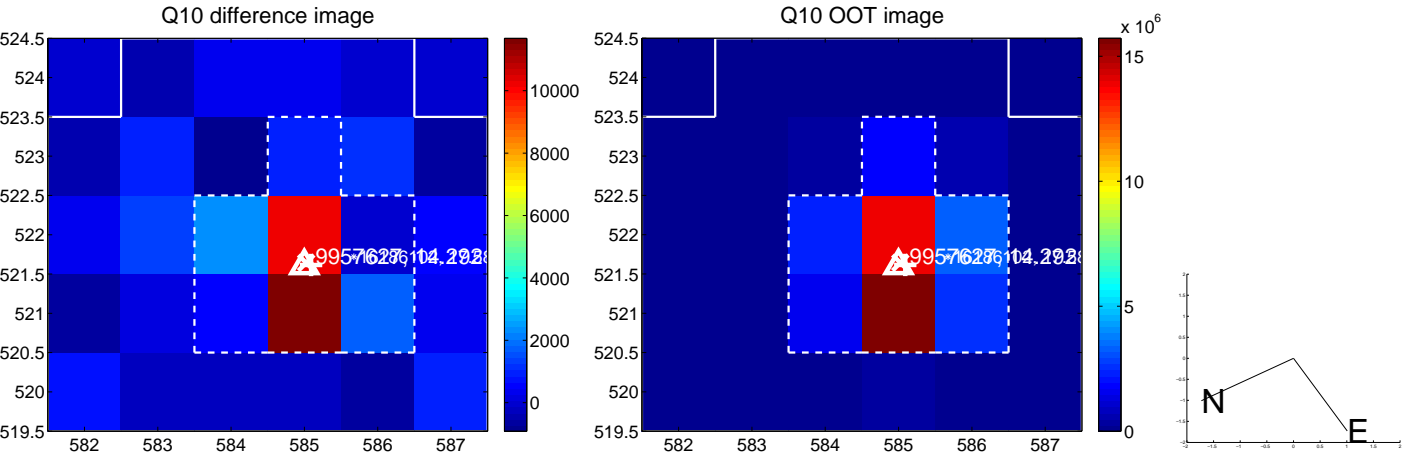
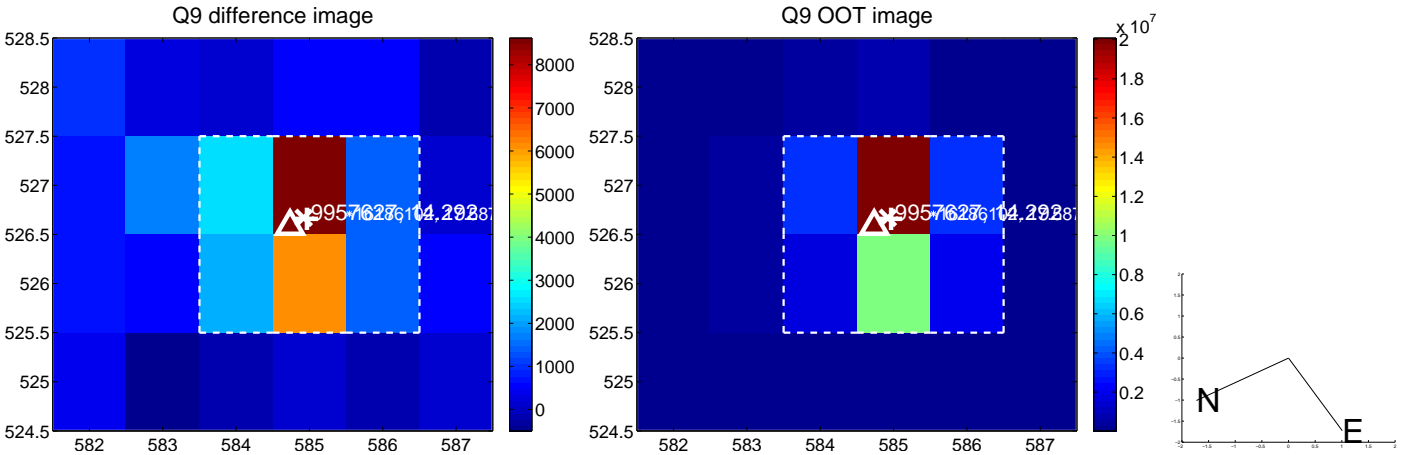


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

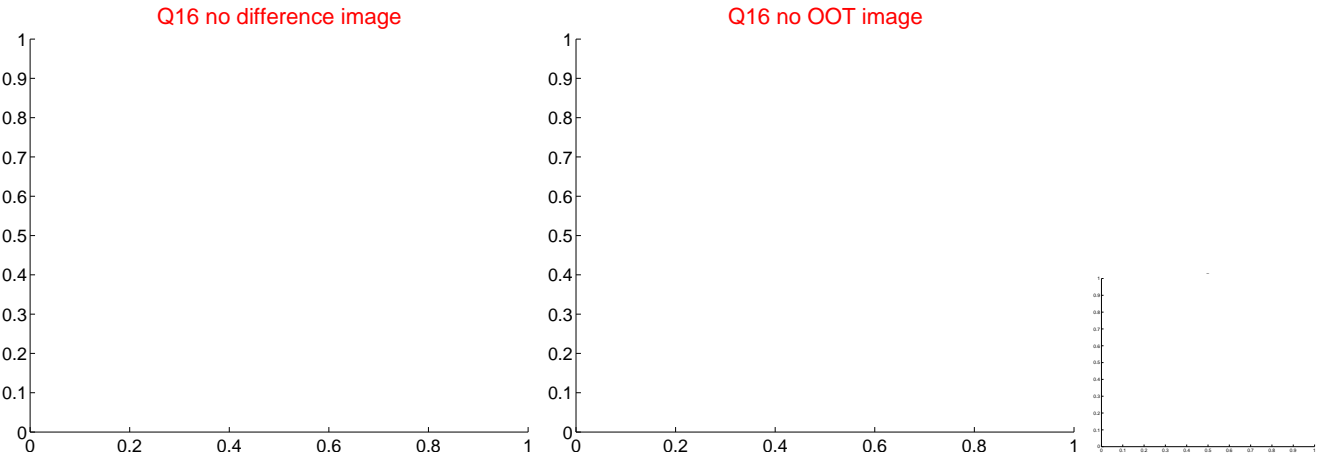
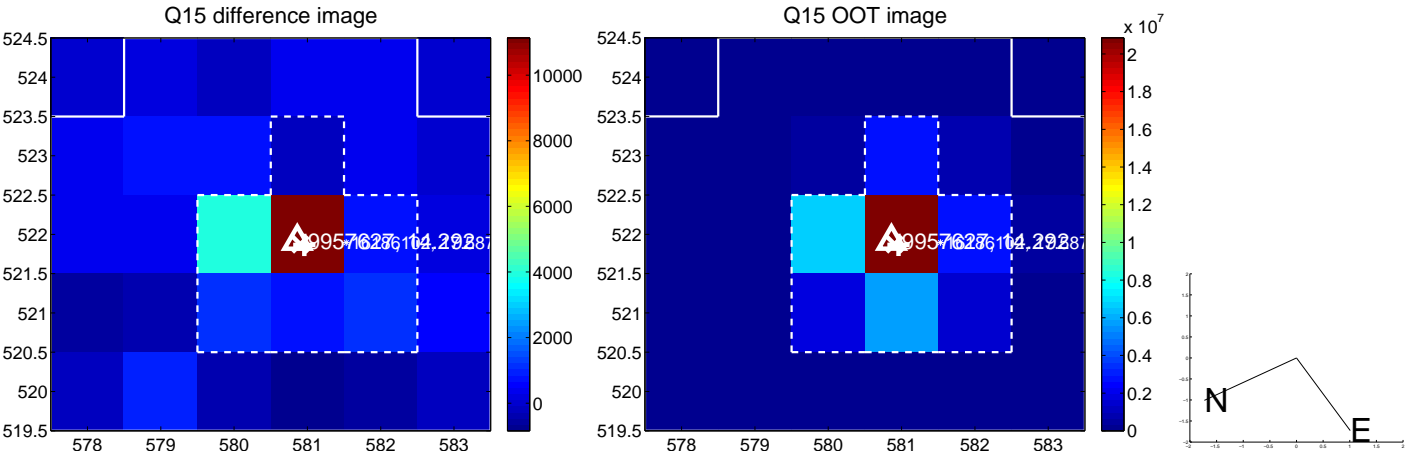
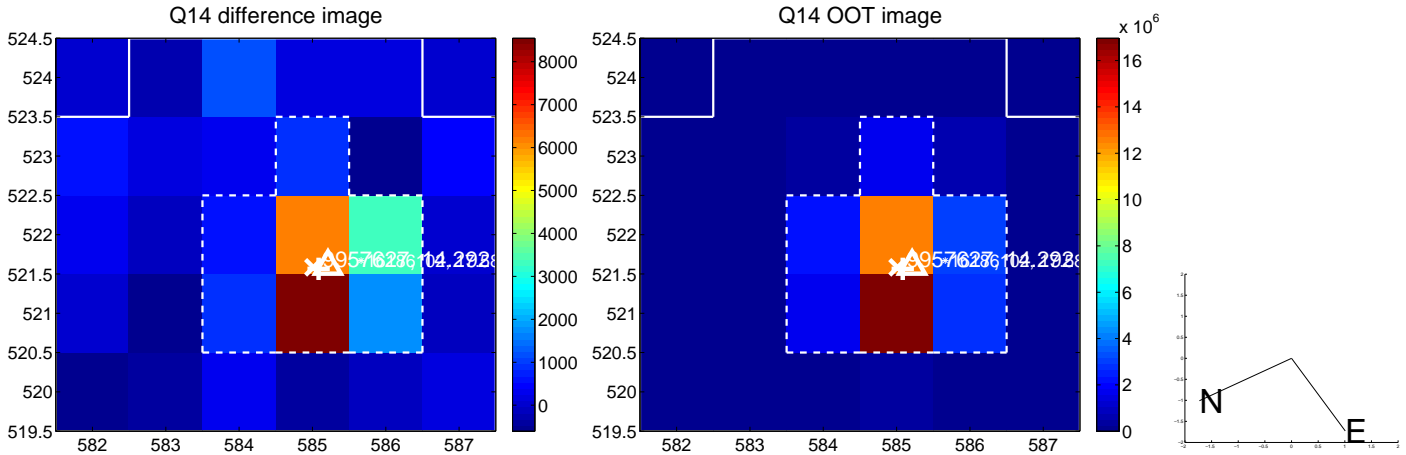
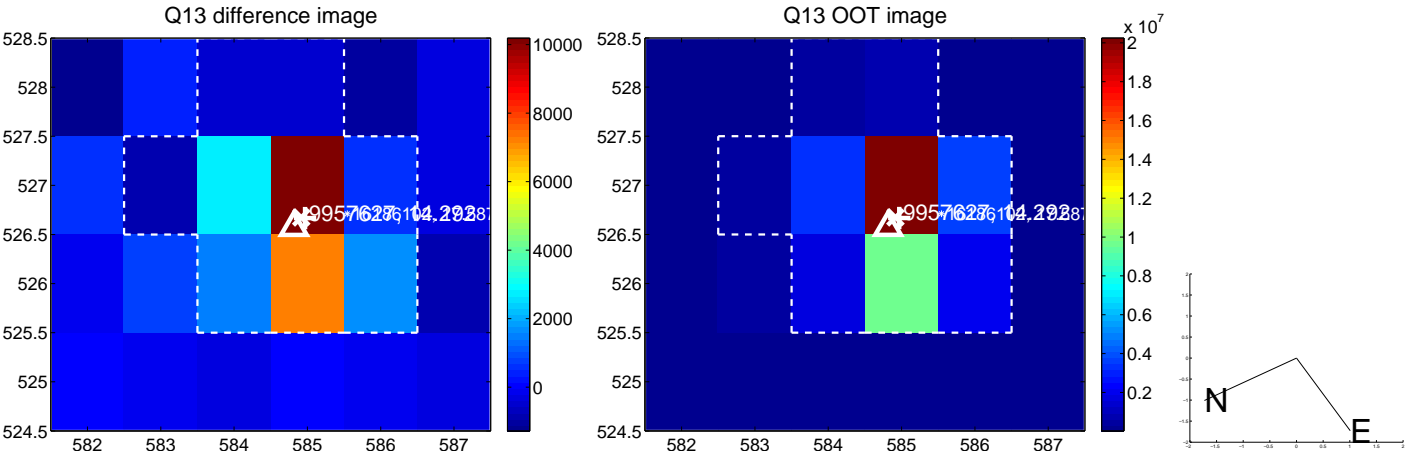
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



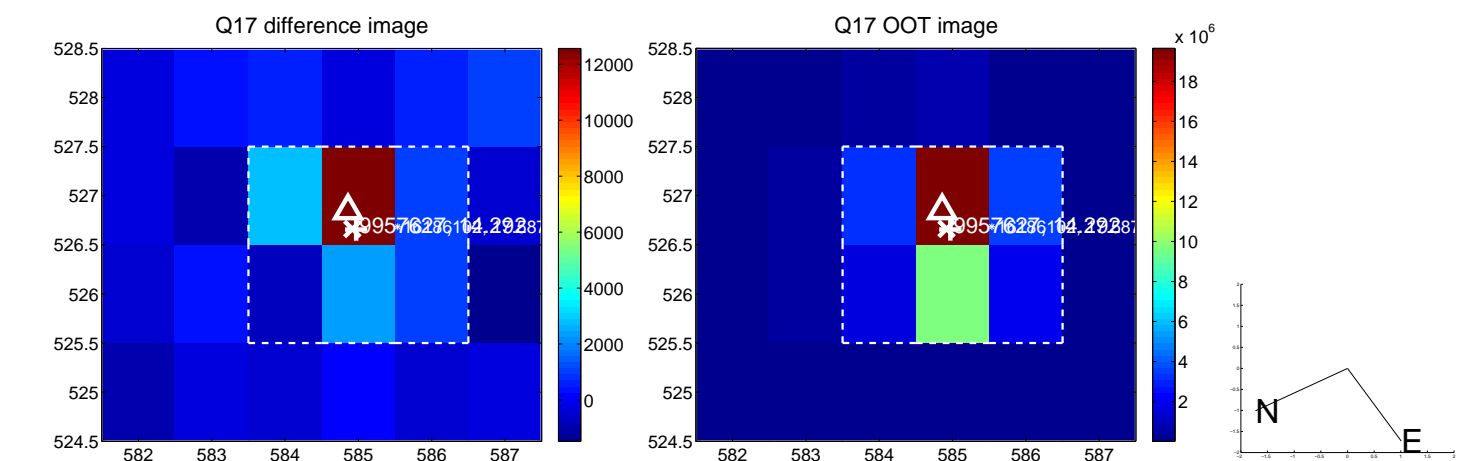
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



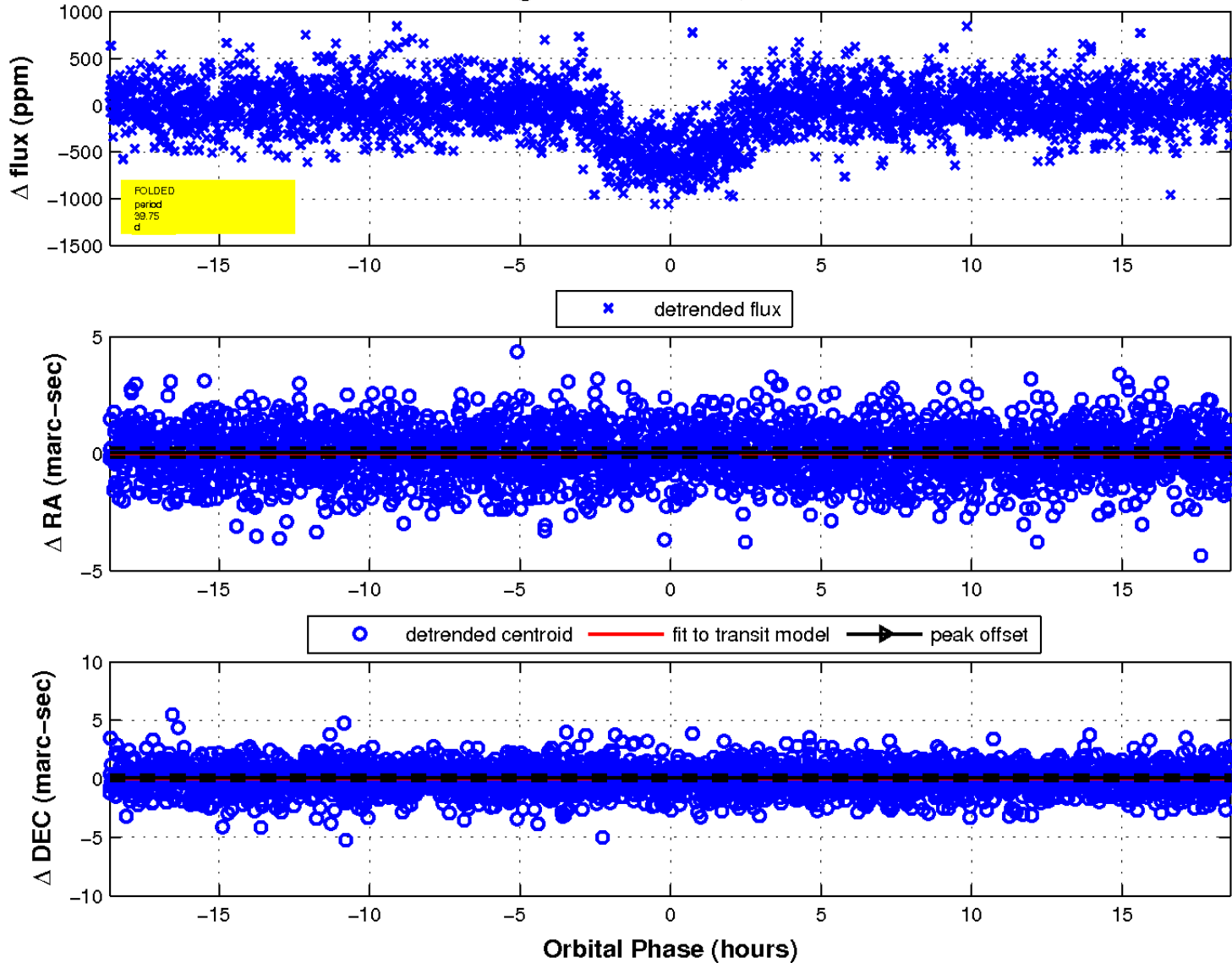
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

