

KIC 009715939

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})
009715939-01	OBS	3690.01	12.893026	141.610692	15868.2	3.258	431.2	432.1	1.41	6387	27.08	241.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009715939-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

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.

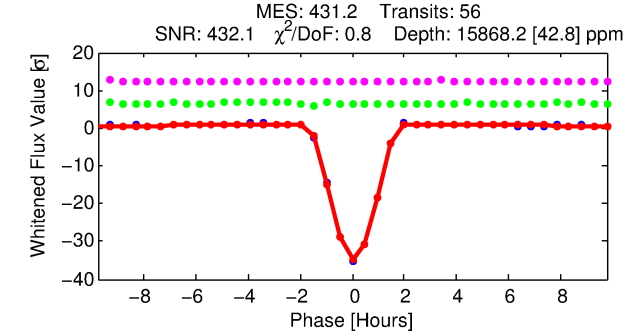
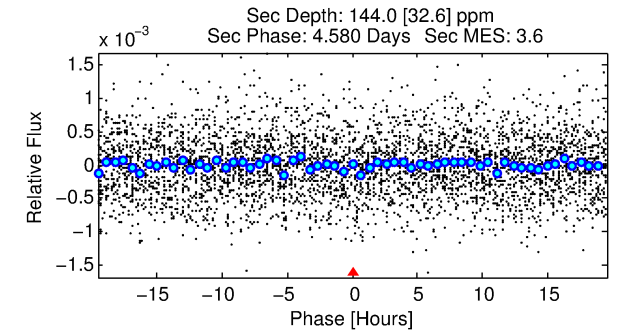
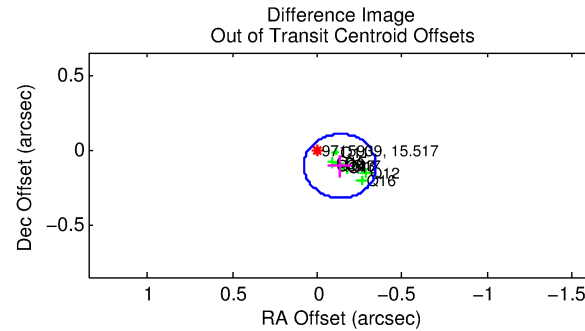
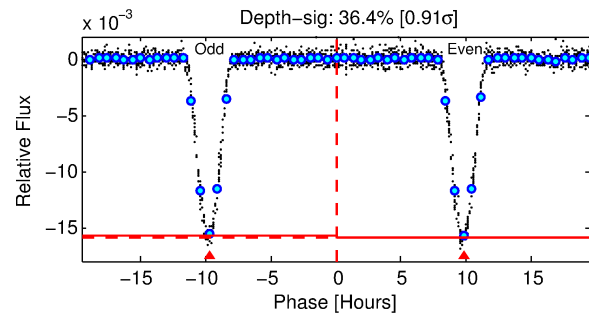
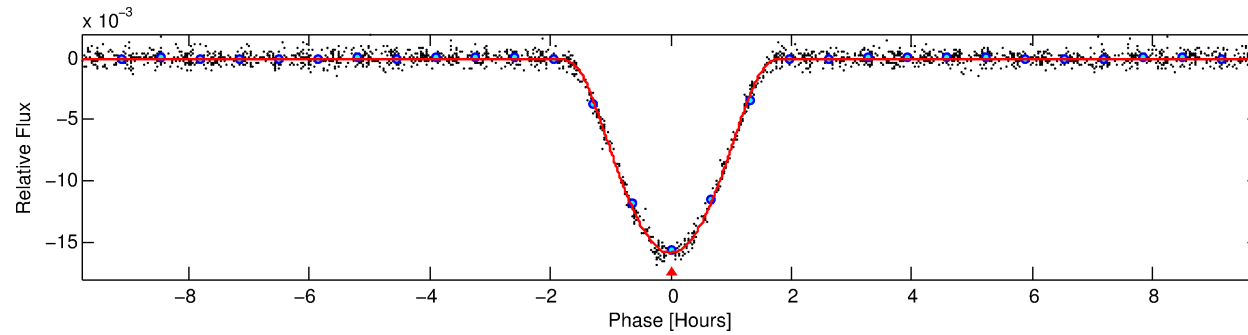
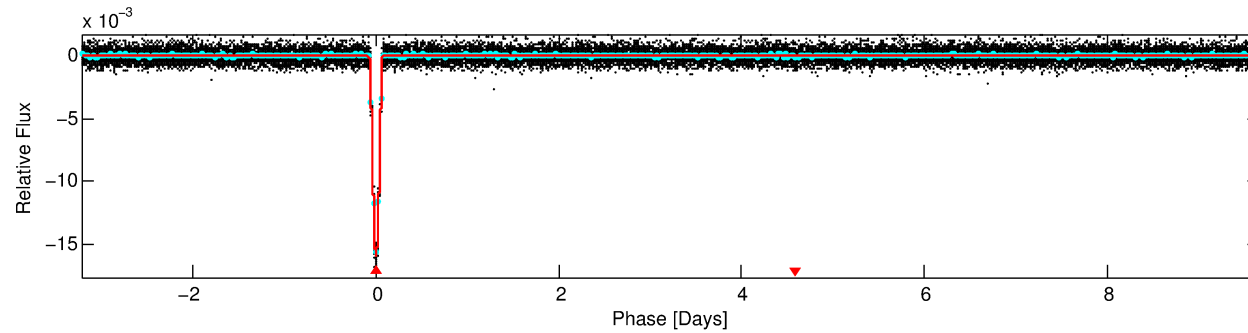
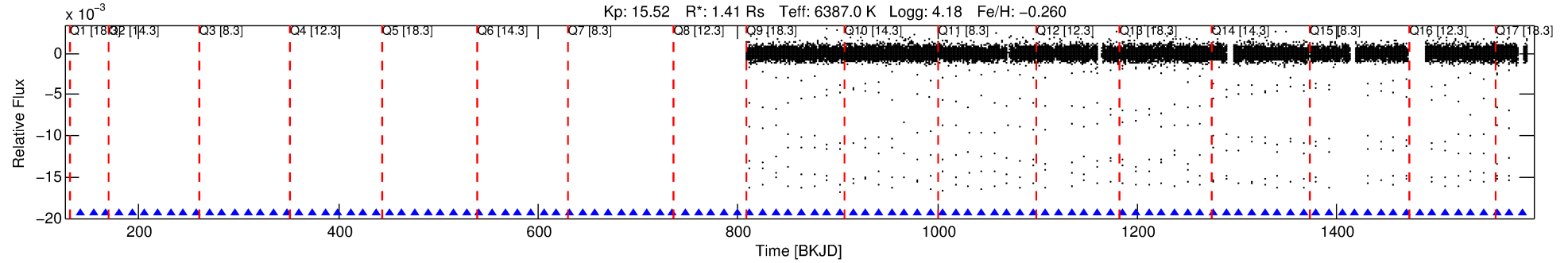
Ephemeris Match Information For 009715939-01

No Significant Match Found

DV One-Page Summary

KIC: 9715939 Candidate: 1 of 1 Period: 12.893 d

KOI: K03690.01 Corr: 0.994



DV Fit Results:

Period = 12.89303 [0.00001] d
Epoch = 141.6107 [0.0004] BKJD
Rp/R* = 0.1763 [0.0155]
a/R* = 20.55 [0.34]
b = 0.96 [0.02]
Seff = 241.00 [97.70]
Teq = 1005 [102] K
Rp = 27.08 [8.09] Re
a = 0.1107 [0.0278] AU
Ag = 1.32 [0.63] [0.51 σ]
Teffp = 1666 [133] K [3.94 σ]

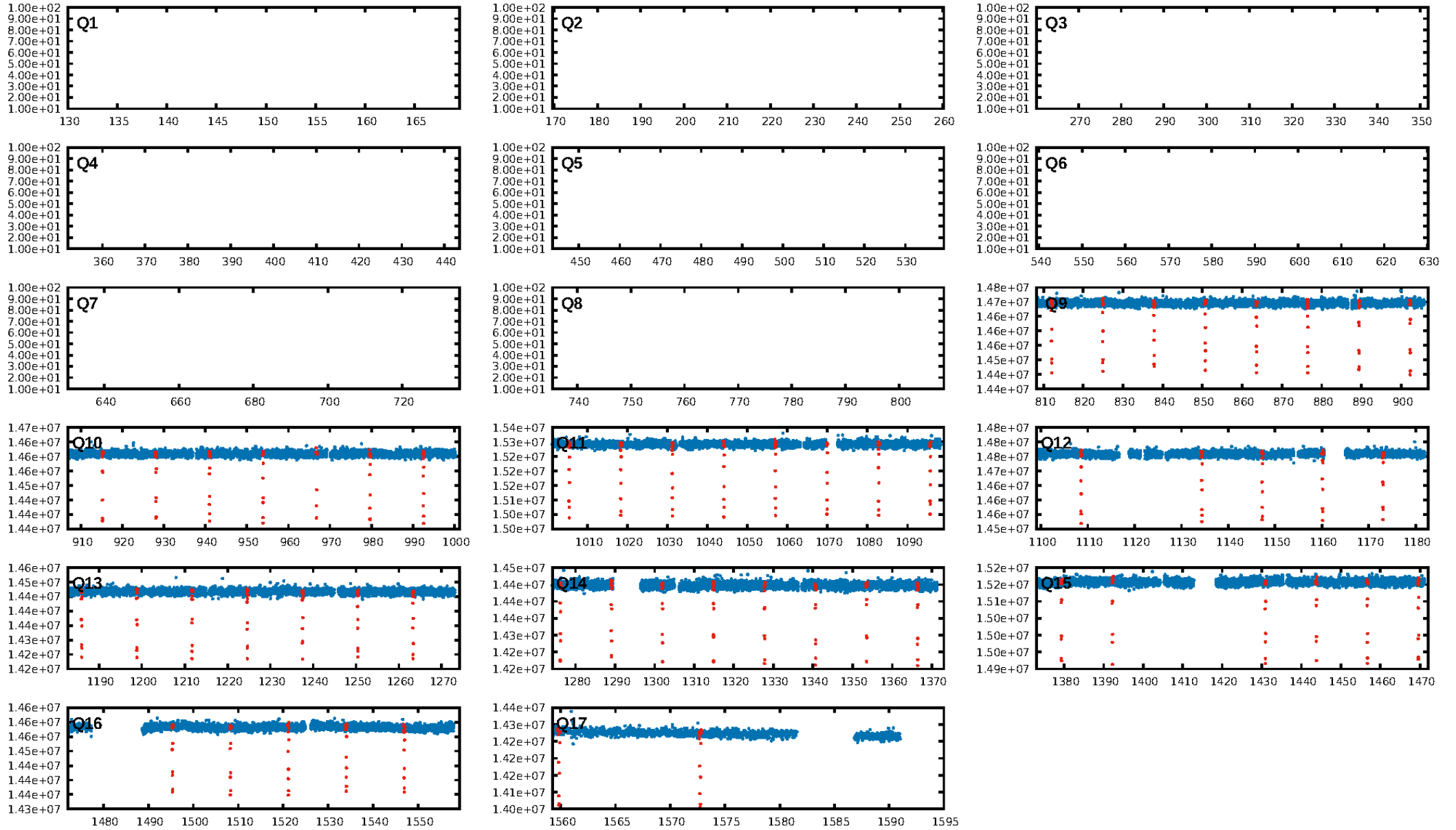
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 62.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [54/54]
GhostDiagnostic-chr: 5.566
Centroid-sig: 0.0%
Centroid-so: 0.400 arcsec [13.17 σ]
OotOffset-rm: 0.173 arcsec [2.43 σ]
KicOffset-rm: 0.036 arcsec [0.53 σ]
OotOffset-st: 2/2/2/3 [9]
KicOffset-st: 2/2/2/3 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

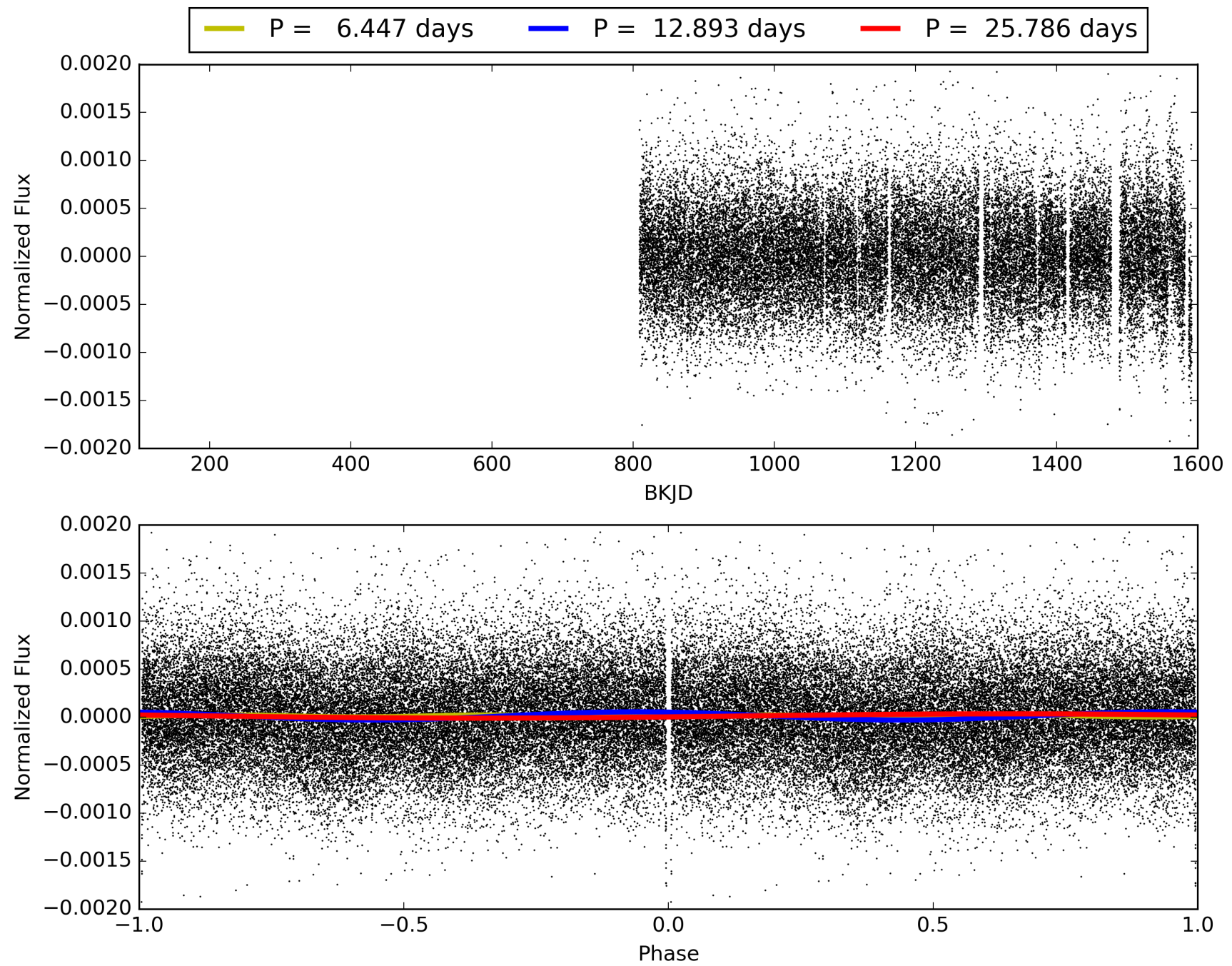
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:04:15 Z

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

TCE 009715939-01, PDC Light Curves

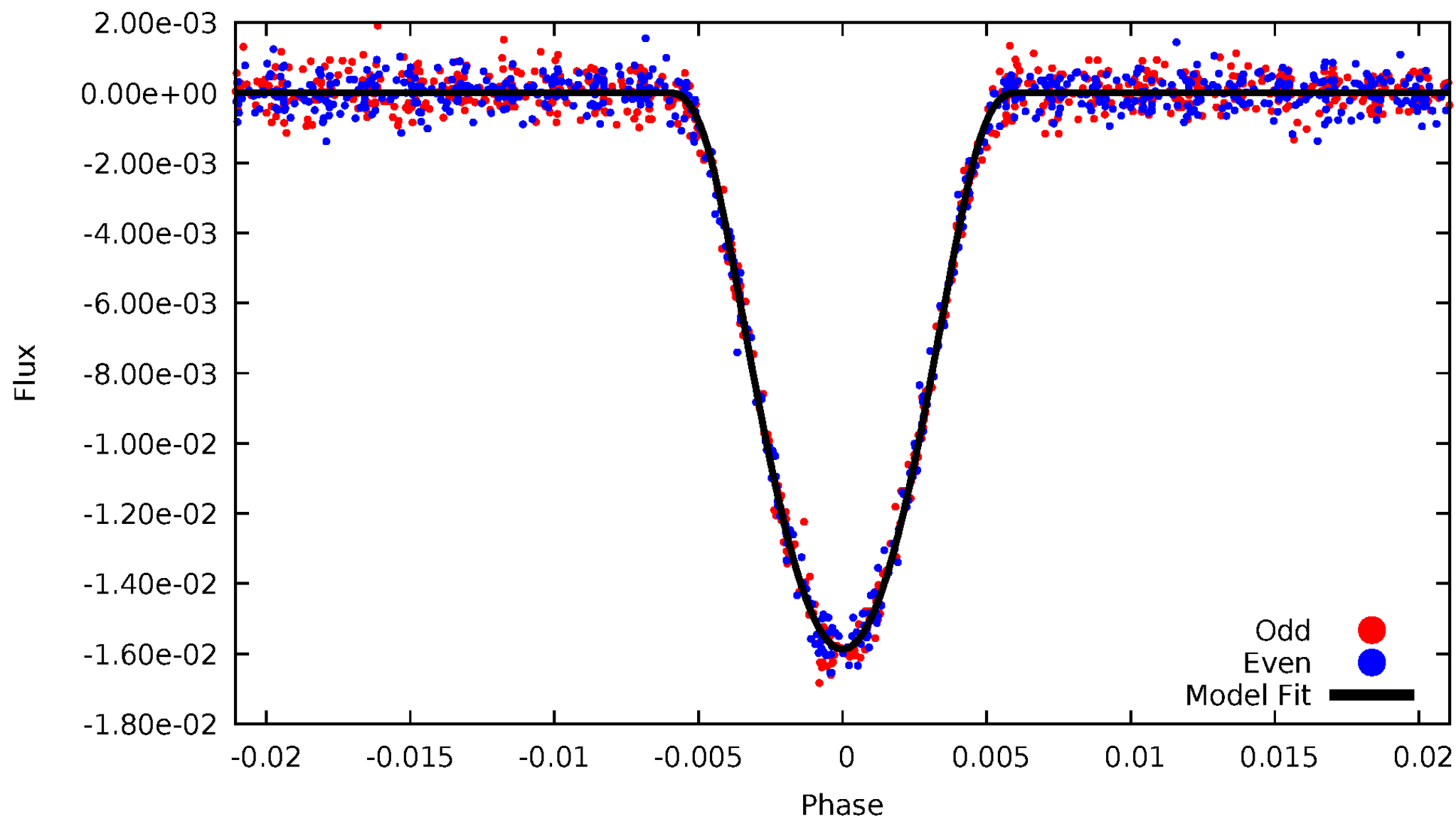


TCE 009715939-01



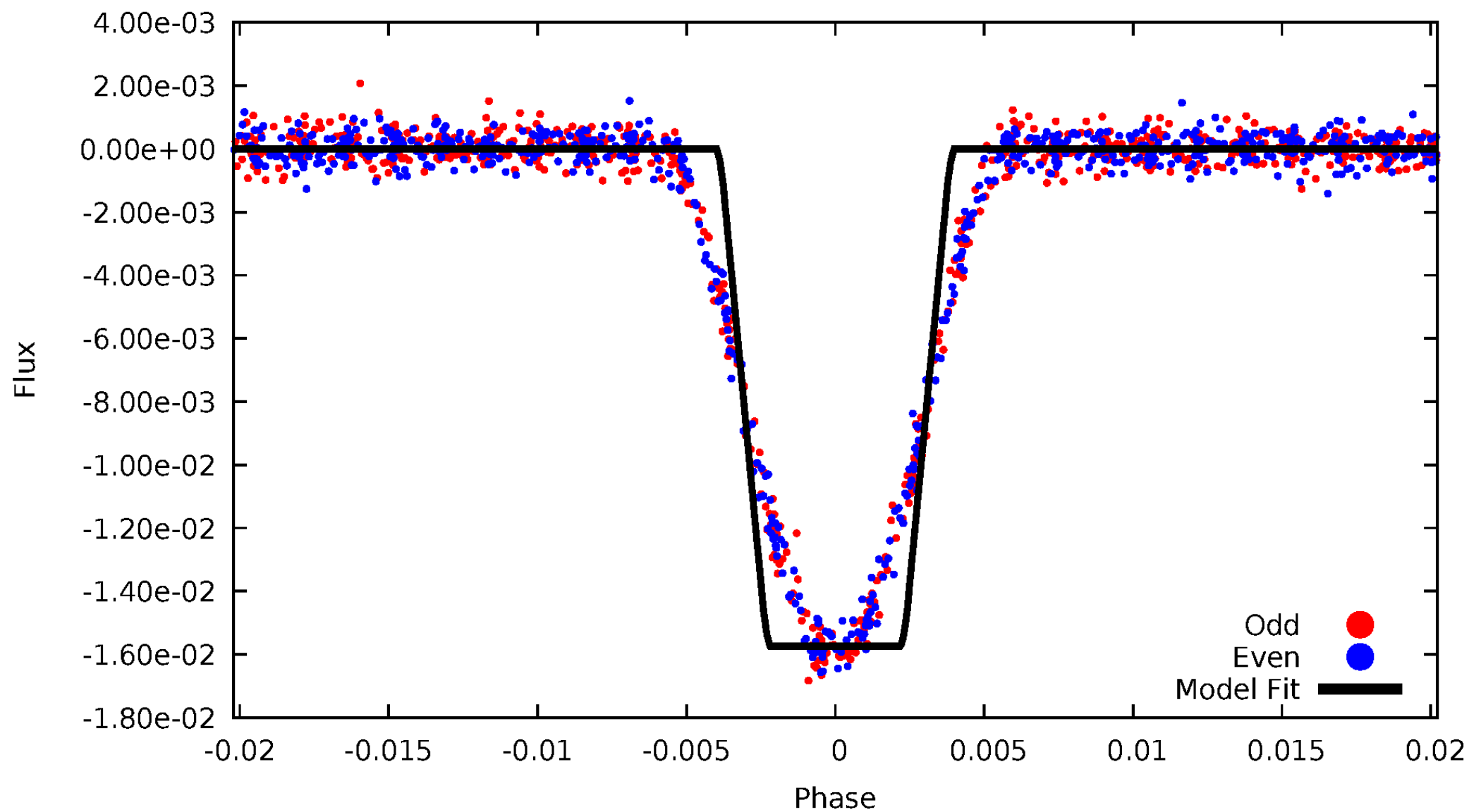
DV Odd/Even

TCE 009715939-01



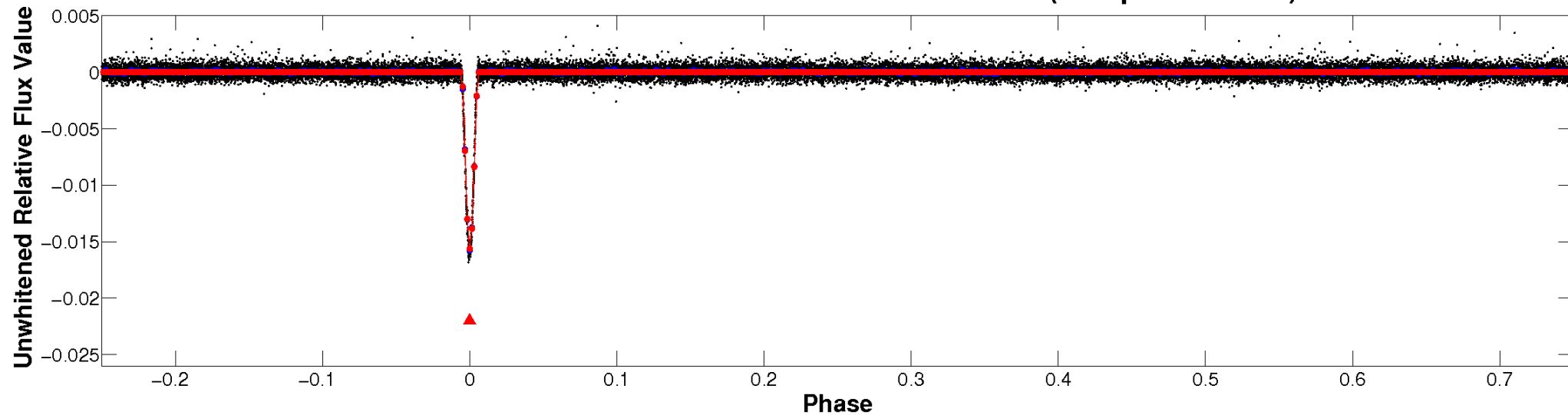
ALT Odd/Even

TCE 009715939-01

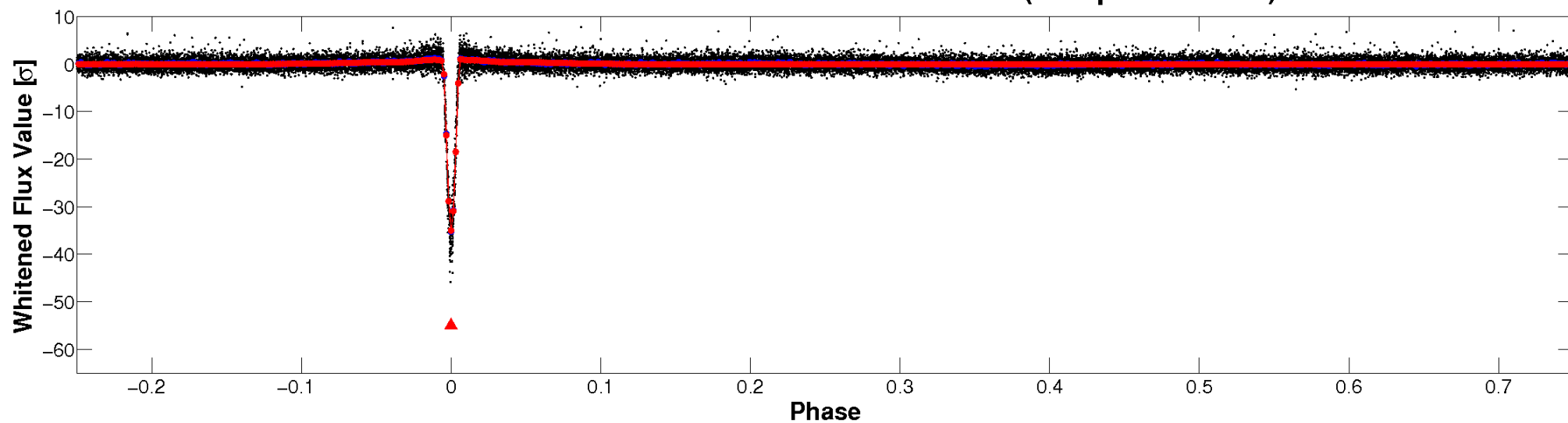


Non-Whitened Vs. Whitened Light Curve

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

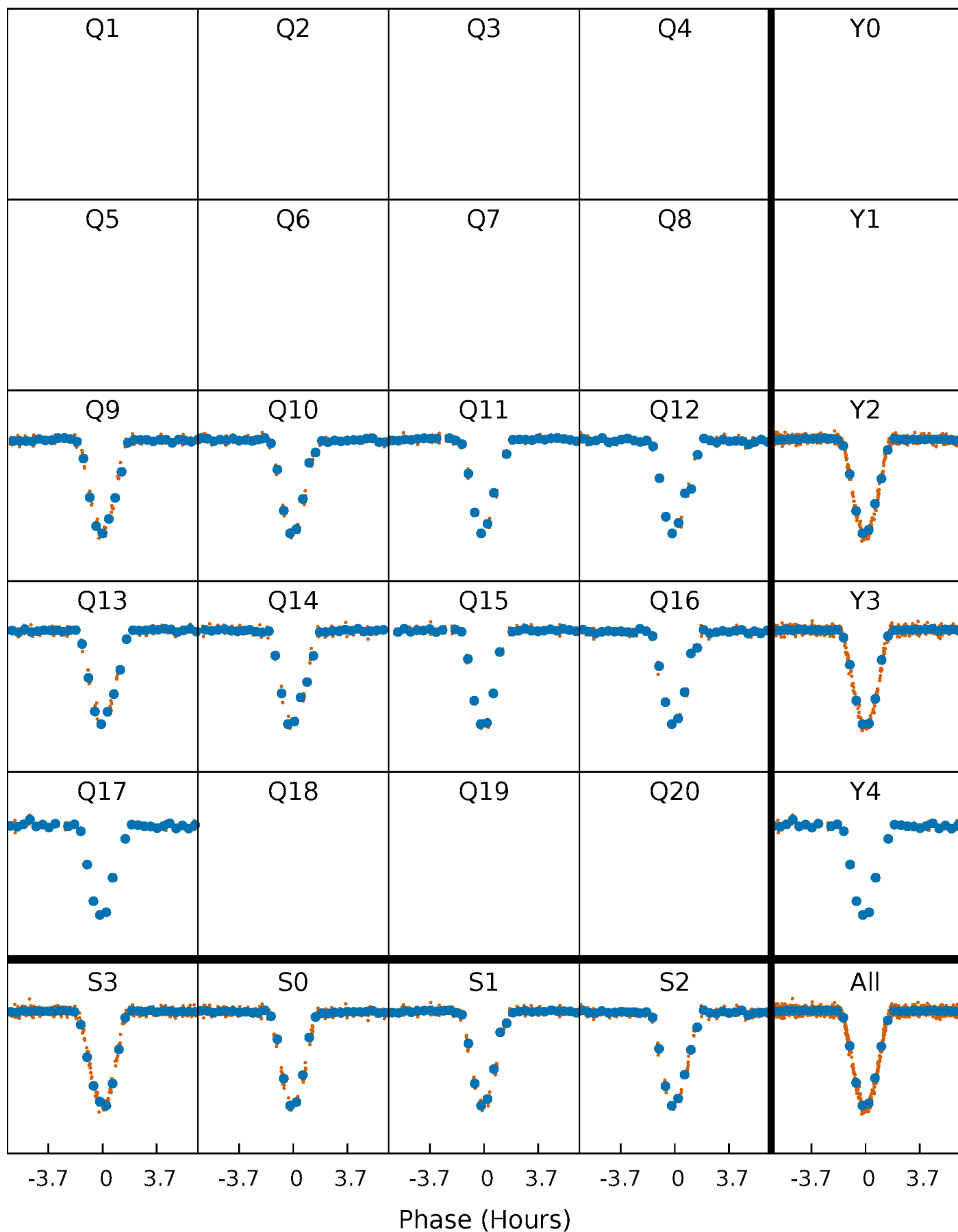


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



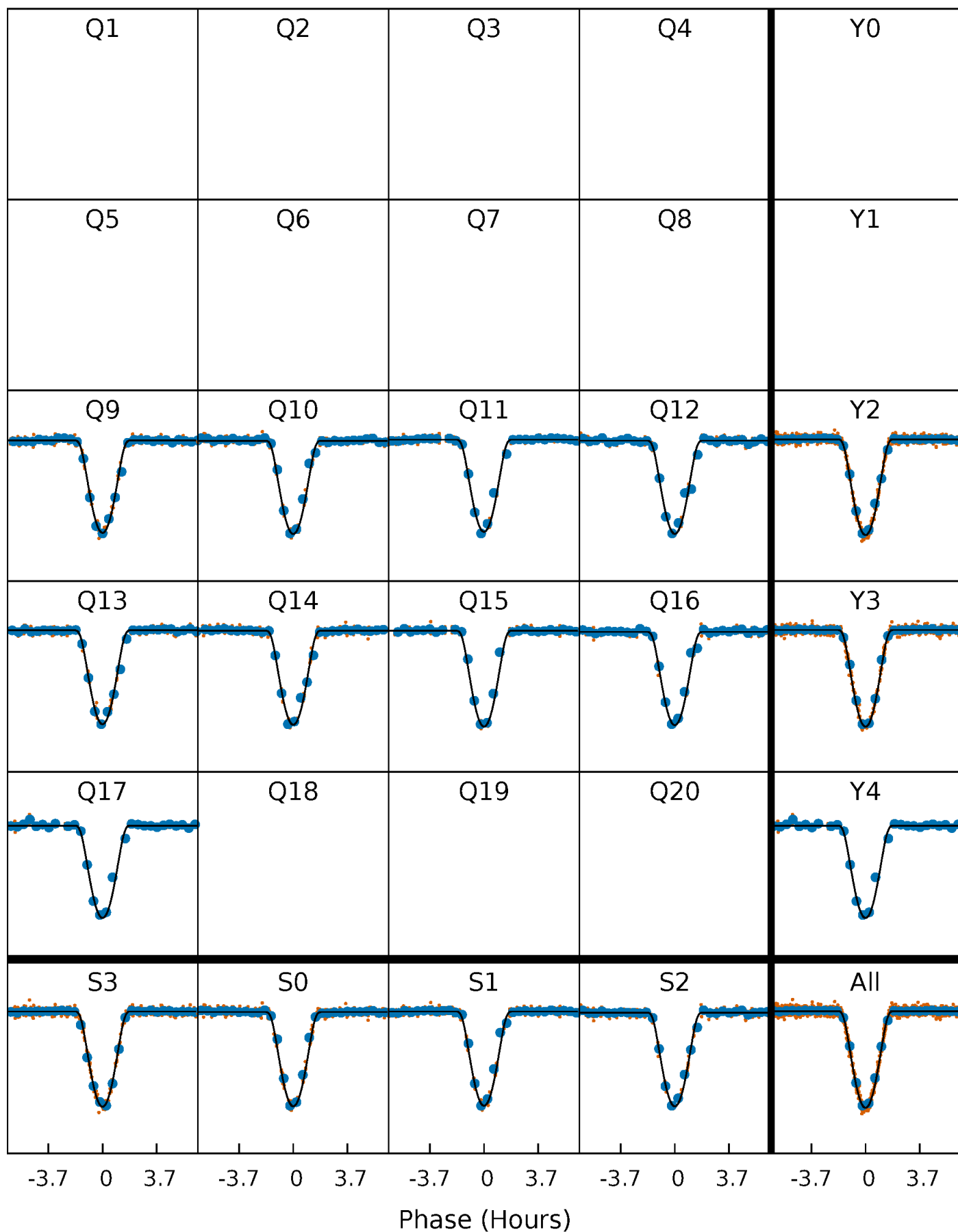
PDC Quarter-Phased Transit Curves

TCE 009715939-01 P= 12.893026 Days $T_0=141.610692$ (BKJD)



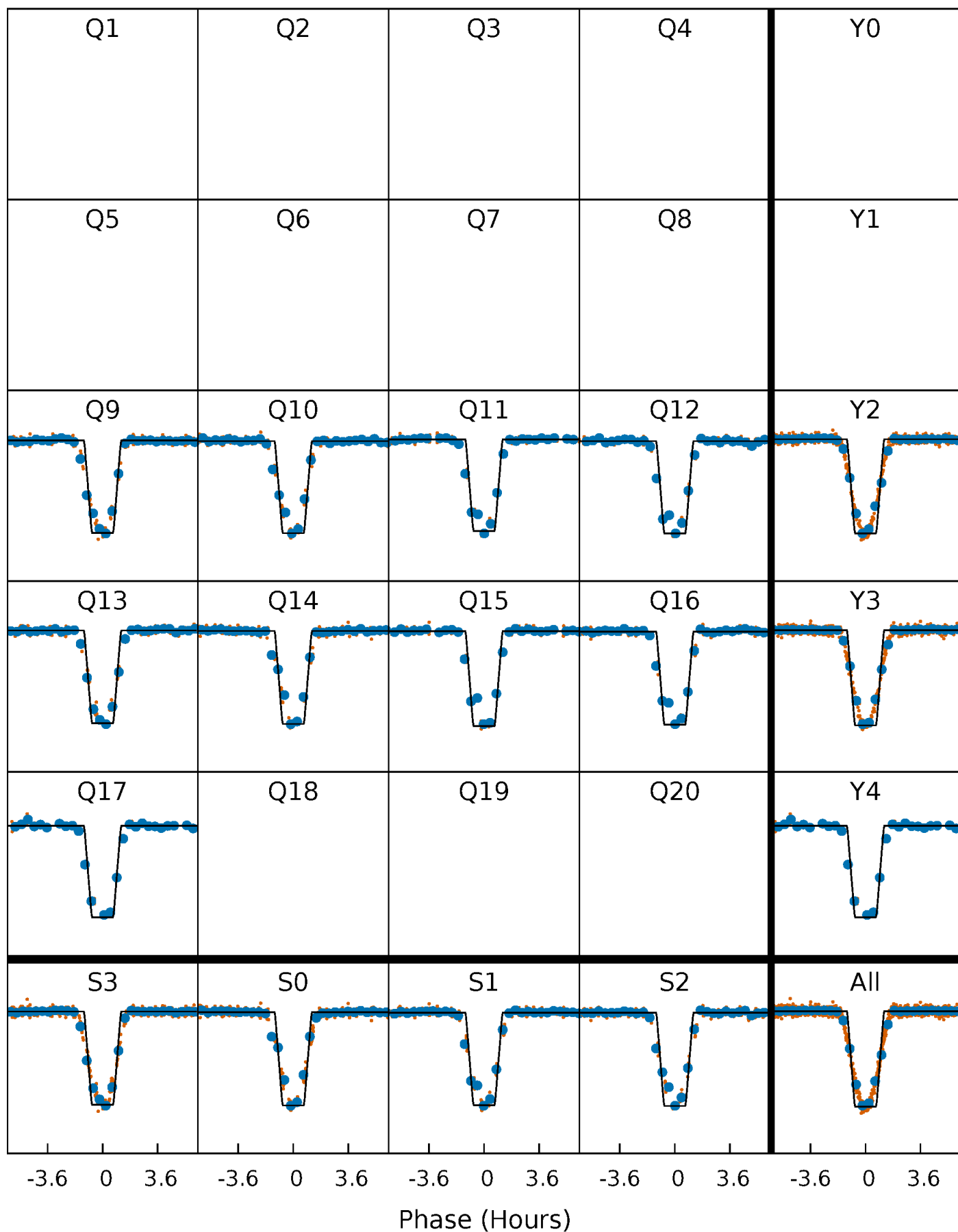
DV Quarter-Phased Transit Curves

TCE 009715939-01 P= 12.893026 Days $T_0=141.610692$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

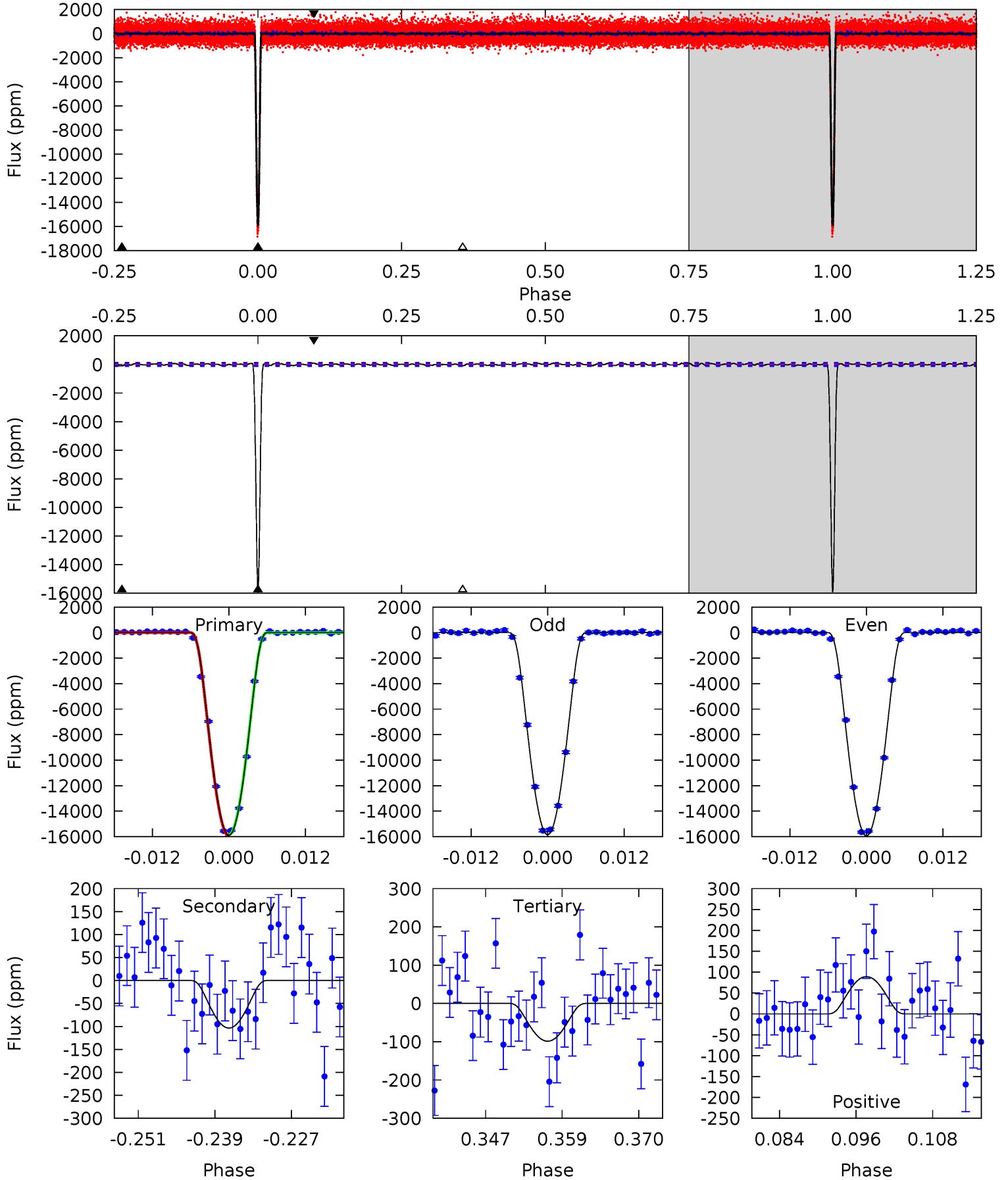
TCE 009715939-01 P= 12.892958 Days $T_0=141.616037$ (BKJD)



DV Model-Shift Uniqueness Test

009715939-01, P = 12.893026 Days, E = 141.610692 Days

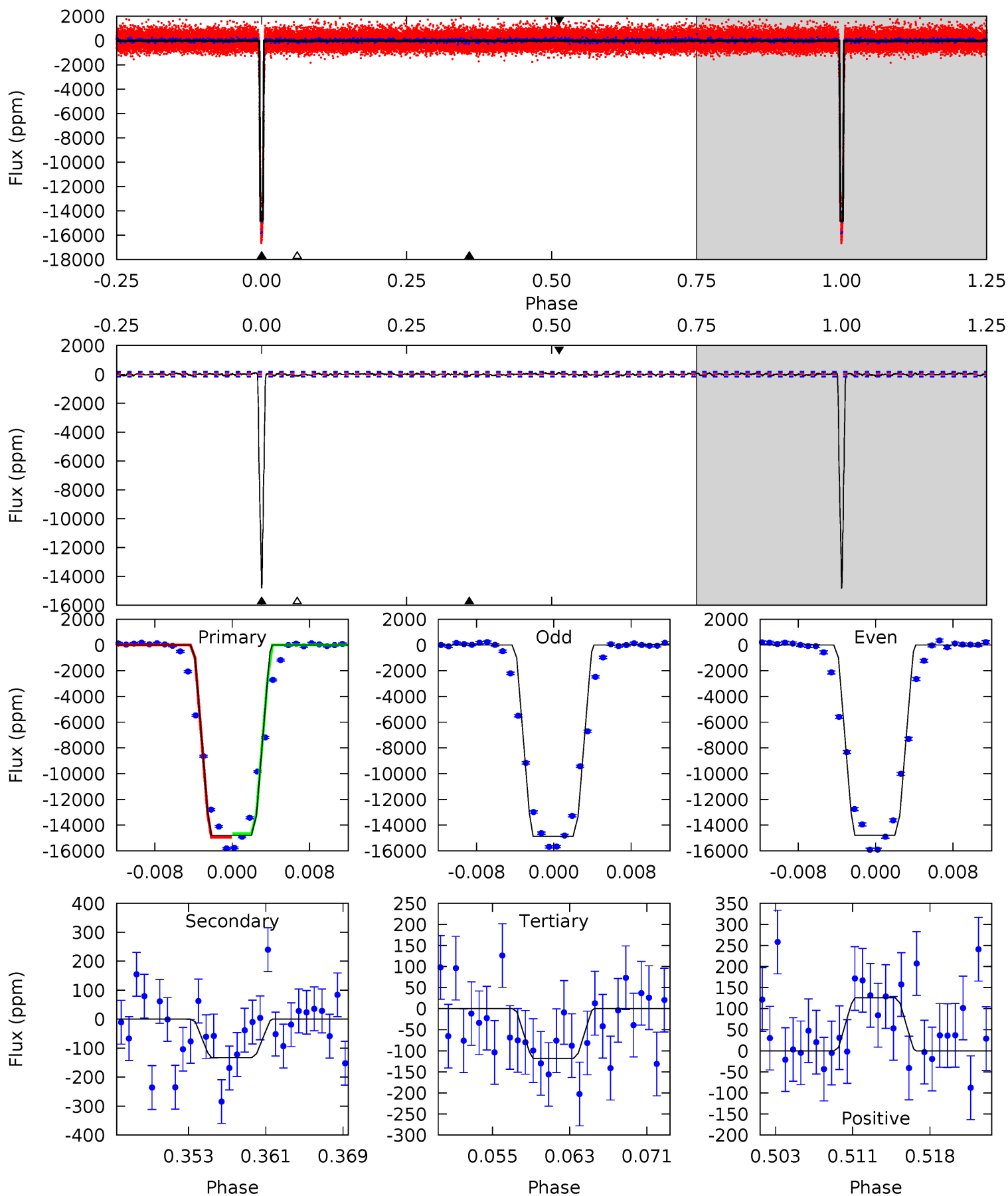
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
736.5	4.80	4.57	4.14	4.99	2.51	1.65	731.9	732.4	0.23	0.66	2.18	1.00	0.01	2.59



Alt Model-Shift Uniqueness Test

009715939-01, P = 12.892958 Days, E = 141.616037 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
470.0	4.22	3.76	4.01	5.07	2.66	1.30	466.2	466.0	0.47	0.21	1.23	1.00	0.01	4.49



Stellar Parameters For KIC 009715939

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6387^{+181}_{-227}	$4.178^{+0.214}_{-0.175}$	$-0.260^{+0.250}_{-0.300}$	$1.408^{+0.402}_{-0.329}$	$1.086^{+0.177}_{-0.145}$	$0.548^{+0.656}_{-0.261}$
	+3%/-4%	+5%/-4%	+96%/-115%	+29%/-23%	+16%/-13%	+120%/-48%
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 009715939-01 / KOI 3690.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-104 ± 22	$26.95^{+4.94}_{-4.34}$	1394^{+103}_{-104}	2313^{+111}_{-133}	$0.963^{+0.461}_{-0.314}$
Alt.	-133 ± 31	$18.99^{+3.85}_{-3.32}$	1386^{+109}_{-101}	2663^{+139}_{-143}	$2.500^{+1.231}_{-0.930}$

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

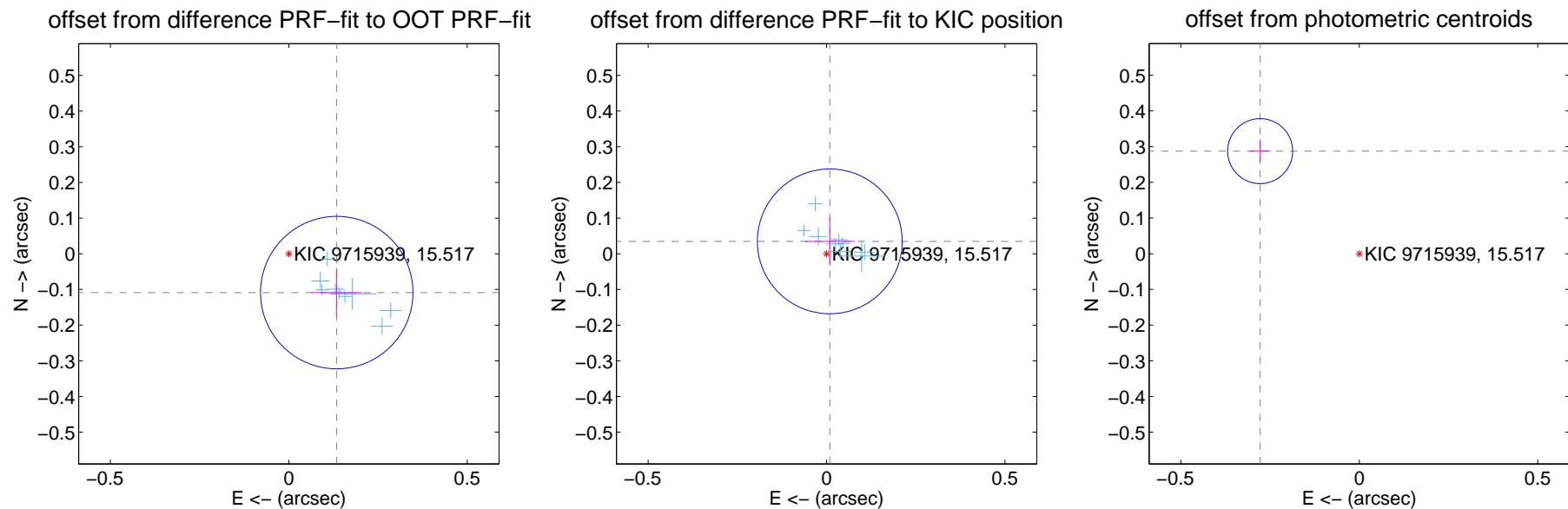
DV Centroid Data

Supplemental centroid analysis for 009715939-01. Kepler magnitude: 15.52. Transit SNR 432.12

There are 9 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.173 ± 0.071	2.43	-0.134 ± 0.070	-0.109 ± 0.069
PRF-fit source offset from KIC position	0.036 ± 0.068	0.53	-0.009 ± 0.070	0.035 ± 0.067
photometric centroid source offset	0.40 ± 0.03	13.17	0.28 ± 0.03	0.29 ± 0.03



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.

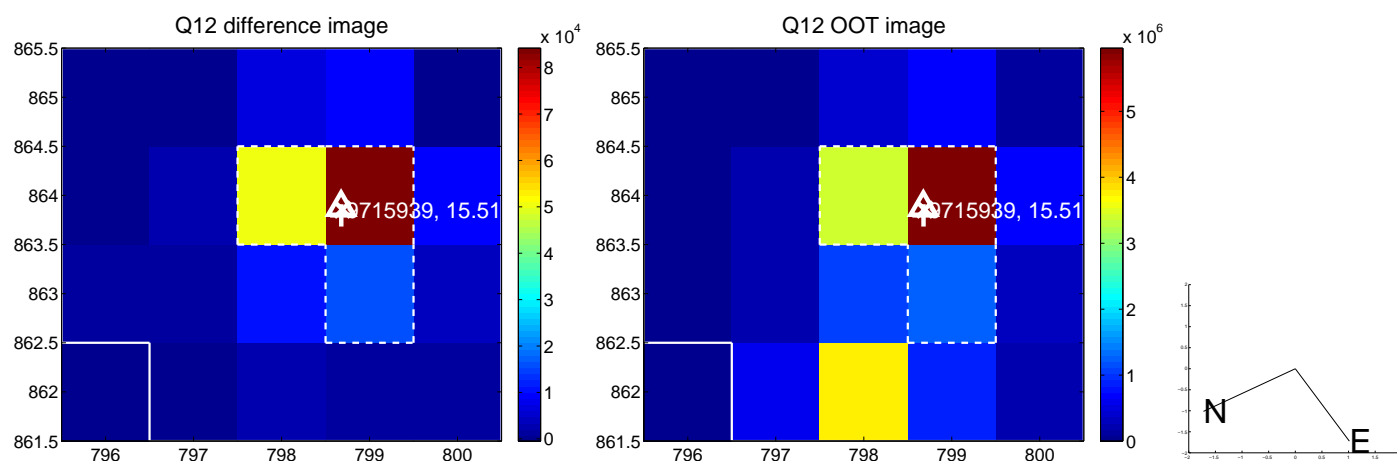
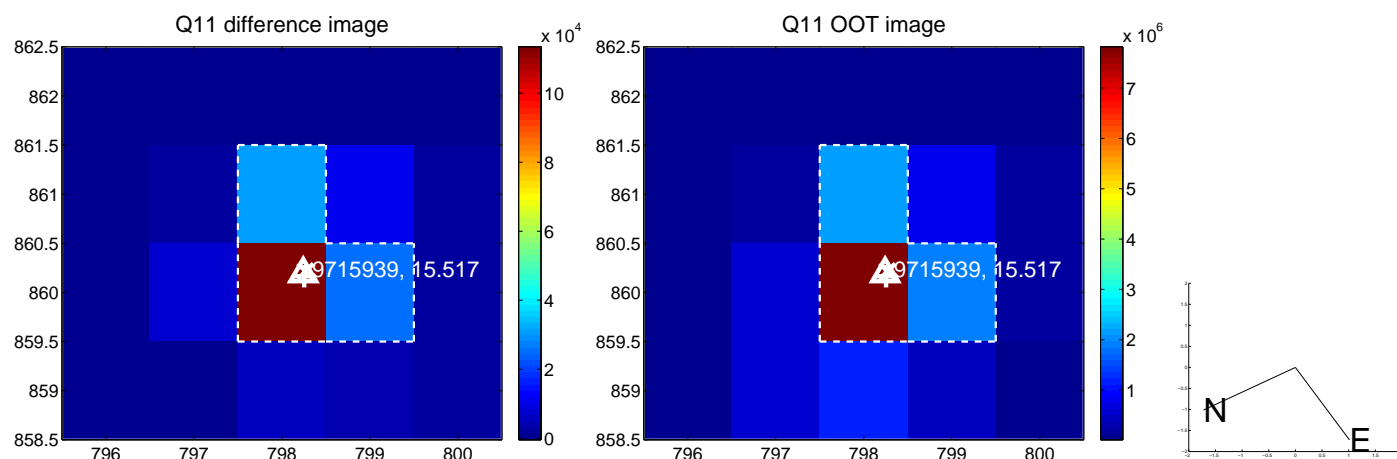
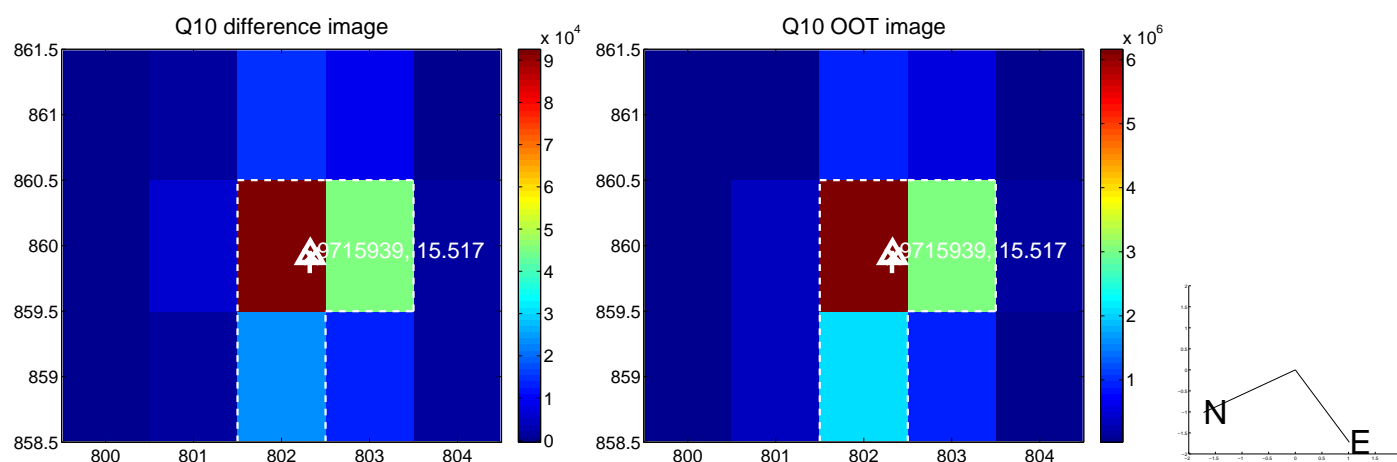
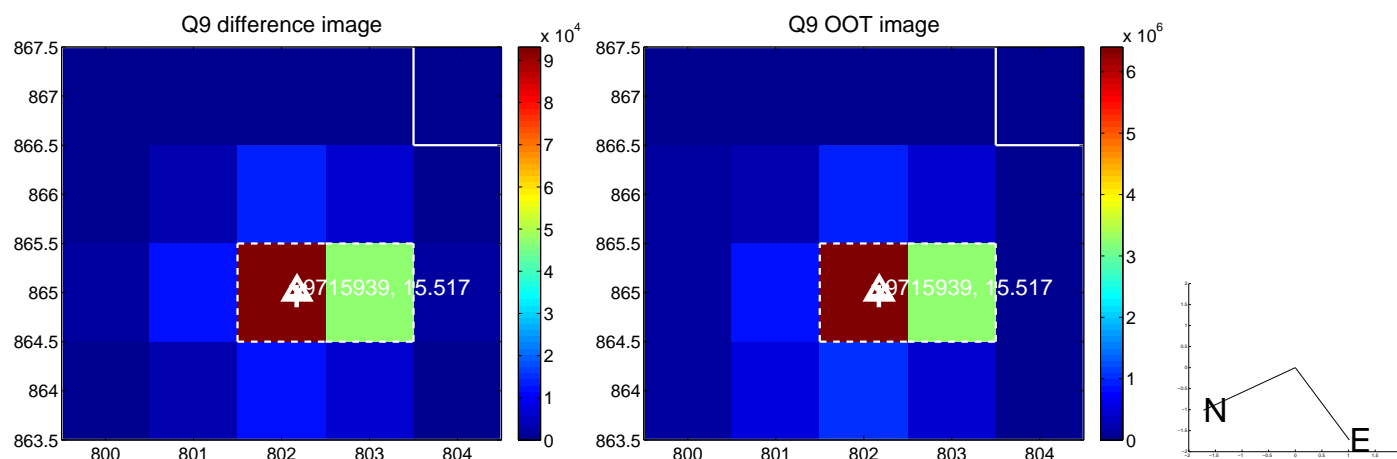
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



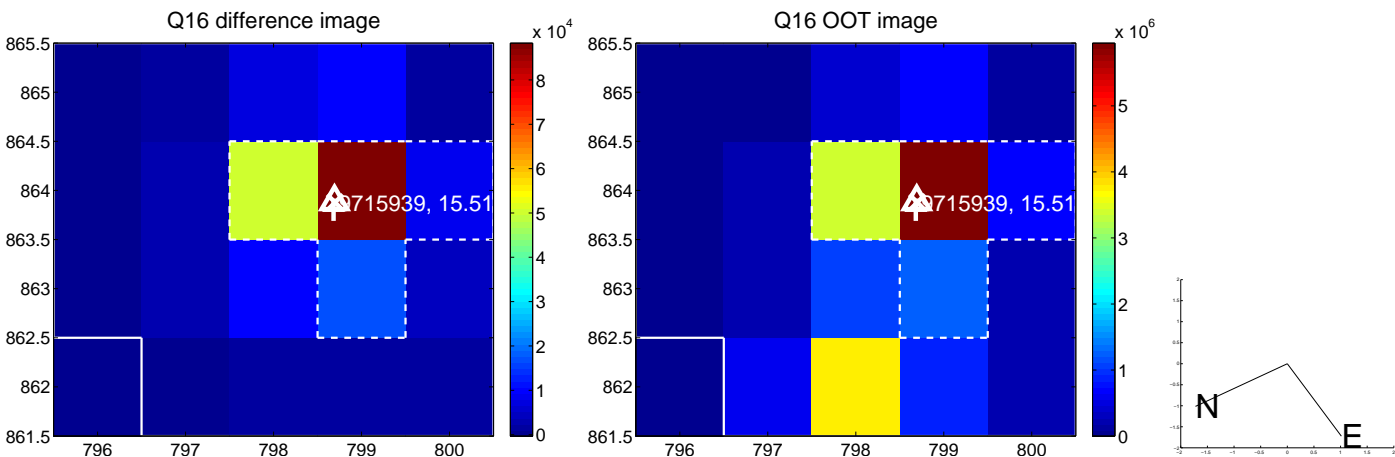
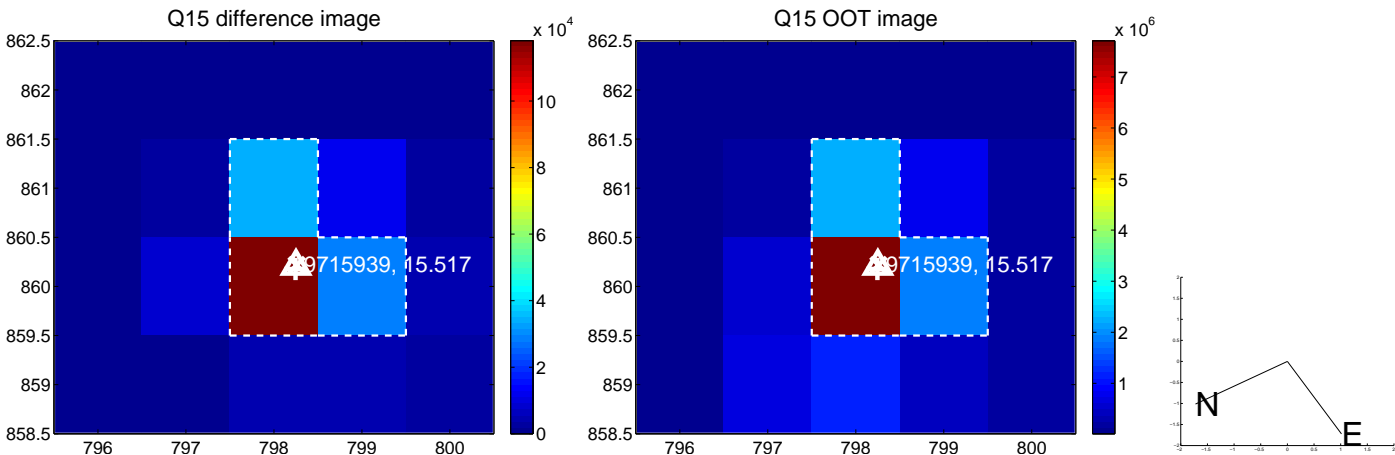
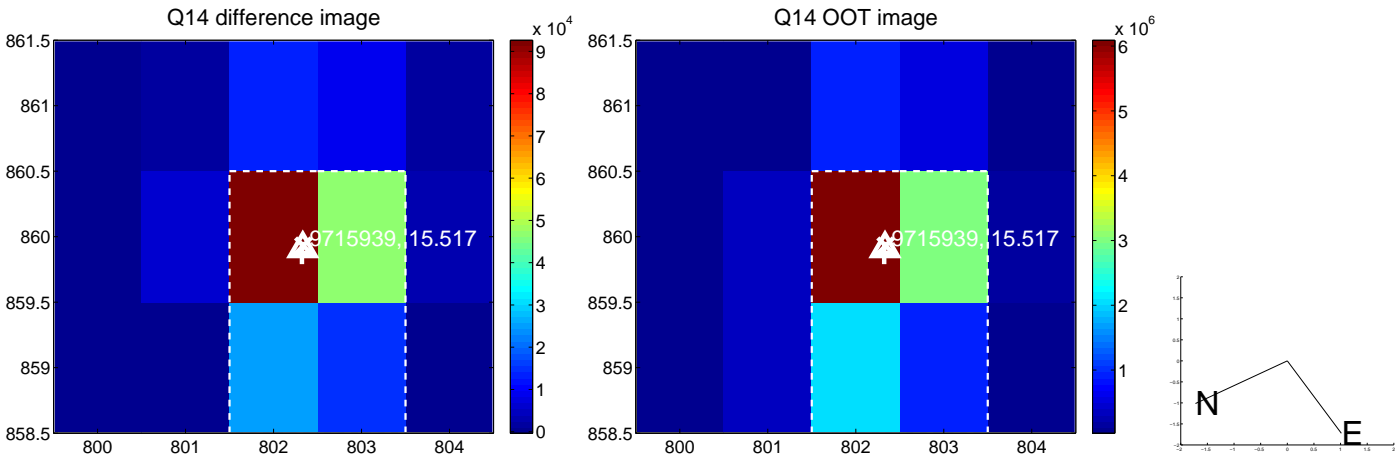
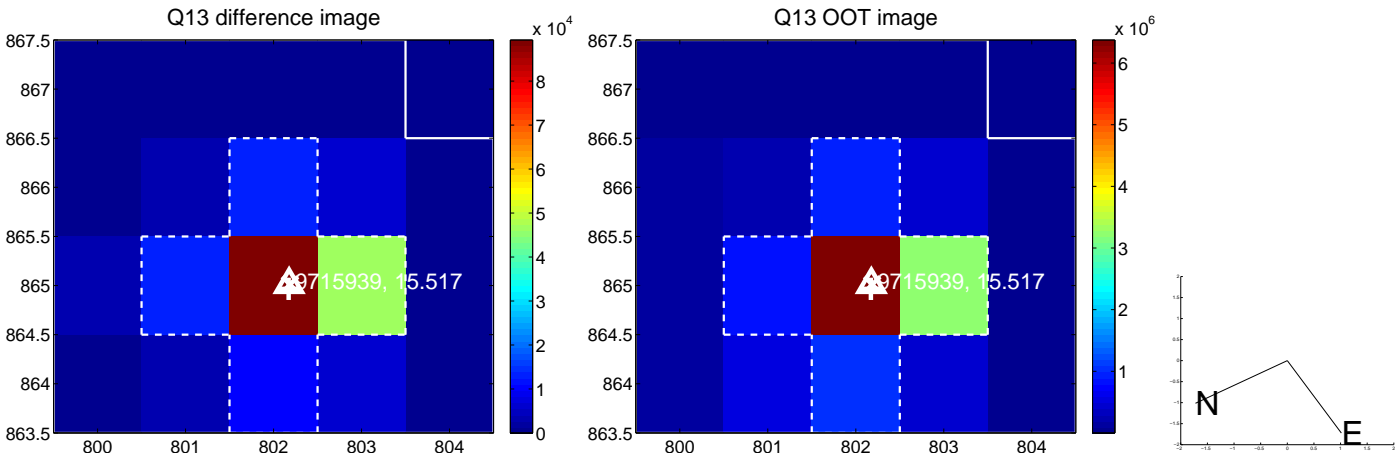
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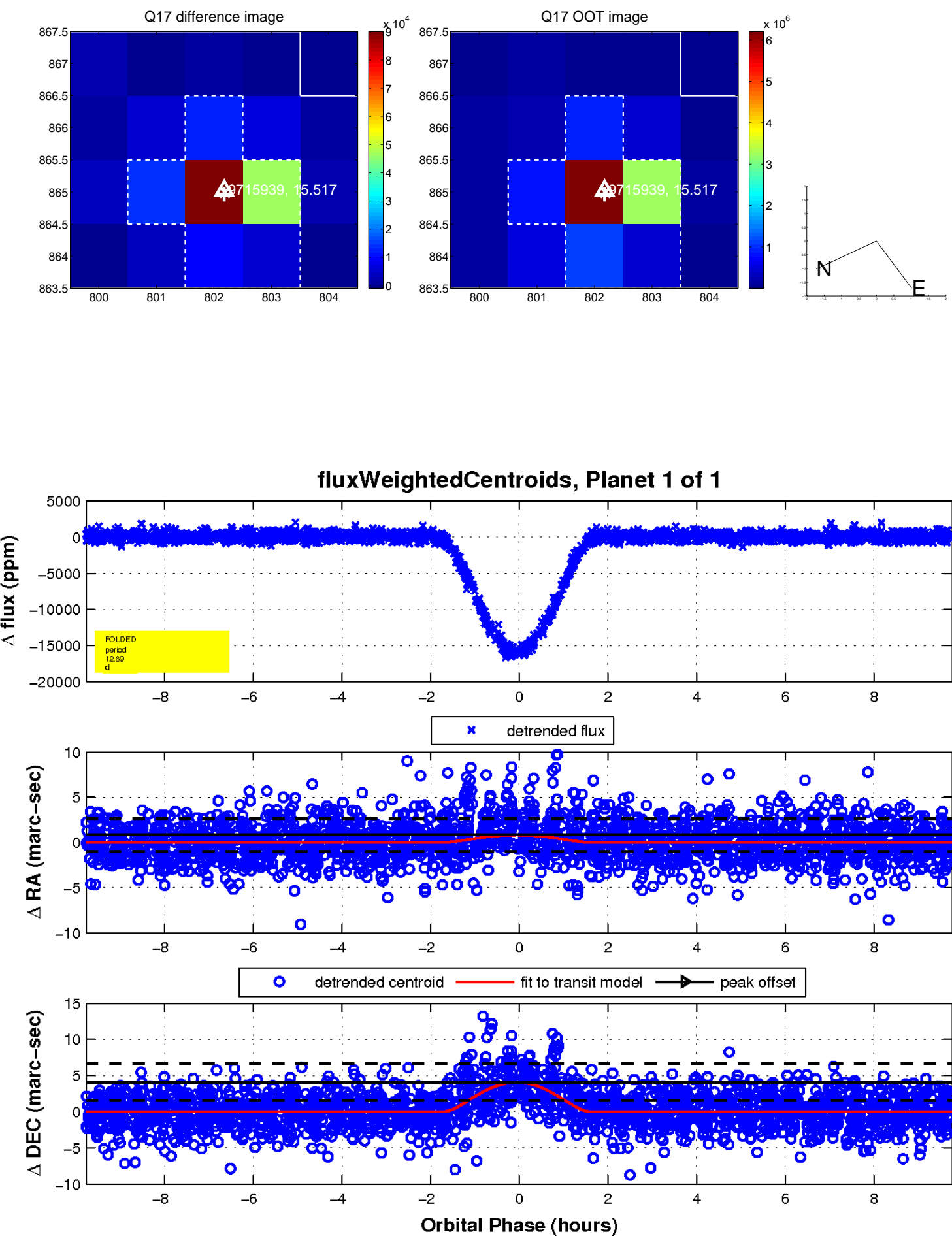
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UKIRT Image

Declination

