

KIC 012169787

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})
012169787-01	OBS	No	318.387994	142.319933	399.3	6.155	11.3	7.6	0.68	4721	1.60	0.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012169787-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

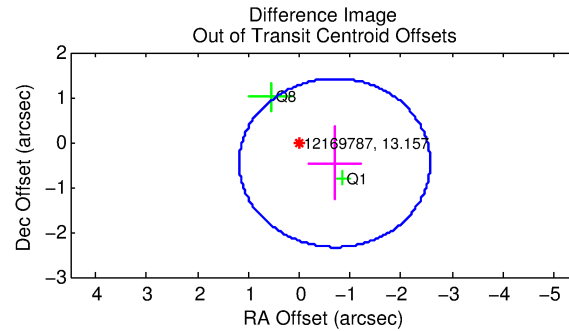
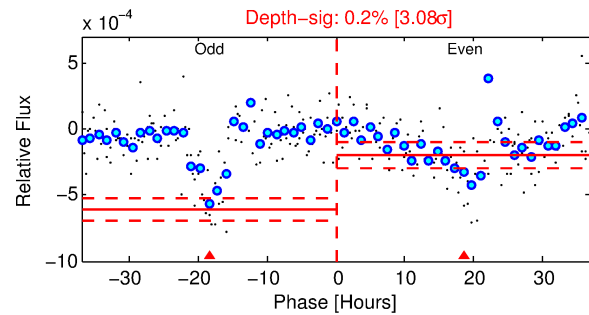
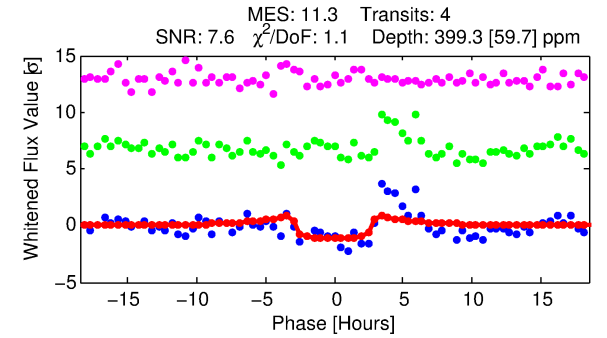
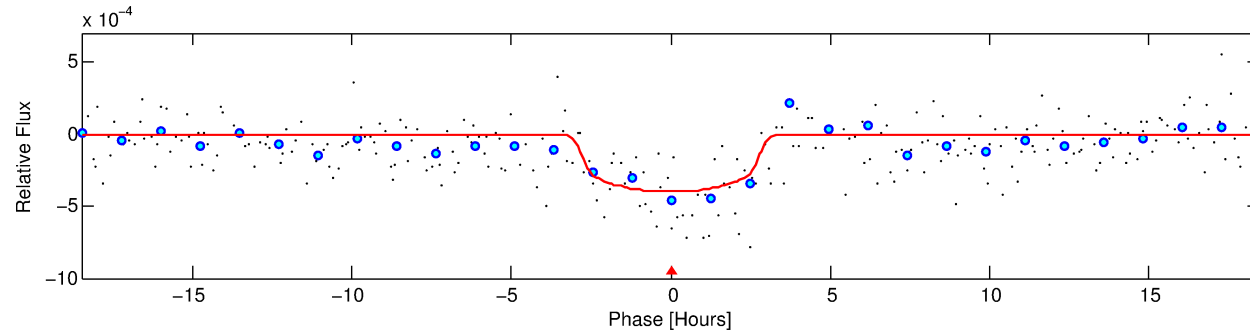
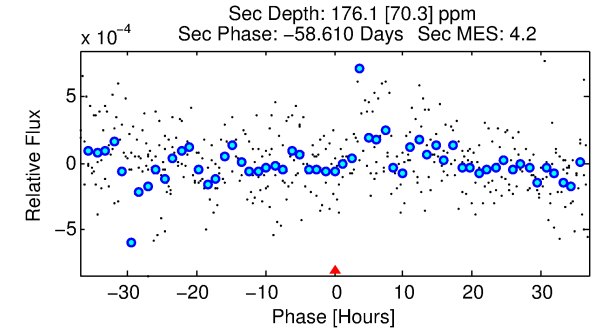
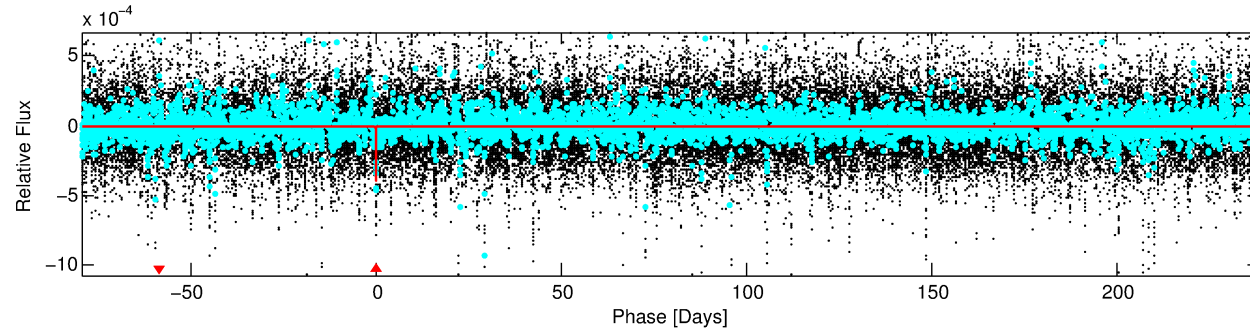
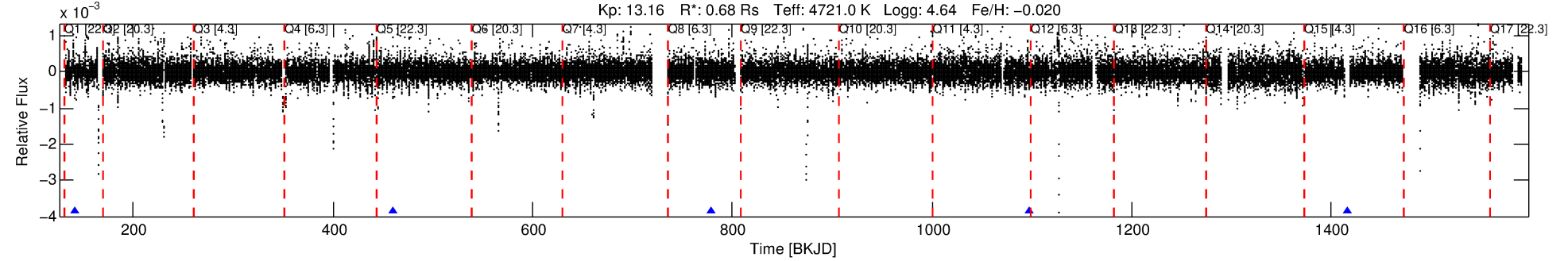
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012169787-01

No Significant Match Found

DV One-Page Summary

KIC: 12169787 Candidate: 1 of 1 Period: 318.388 d



DV Fit Results:

Period = 318.38799 [0.00533] d
Epoch = 142.3199 [0.0093] BKJD
Rp/R* = 0.0217 [0.0080]
a/R* = 214.71 [273.26]
b = 0.87 [0.38]
Seff = 0.30 [0.03]
Teq = 189 [5] K
Rp = 1.60 [0.60] Re
a = 0.8215 [0.0480] AU
Ag = 25387.90 [21371.47] [1.19σ]
Teffp = 3696 [777] K [4.51σ]

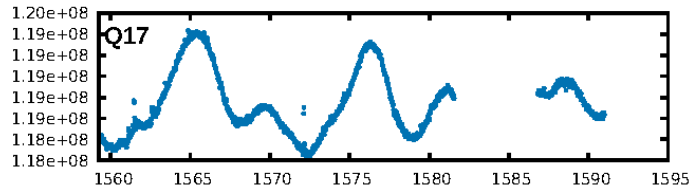
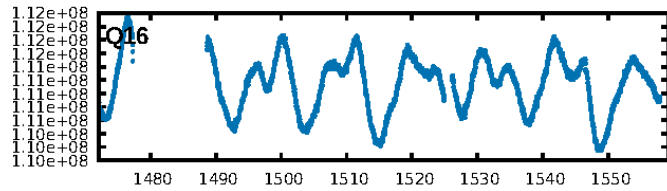
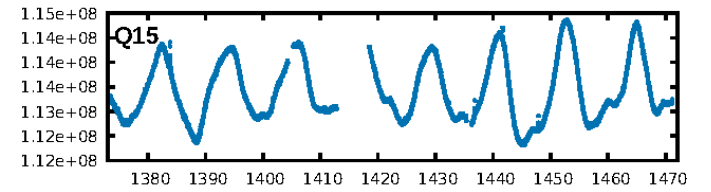
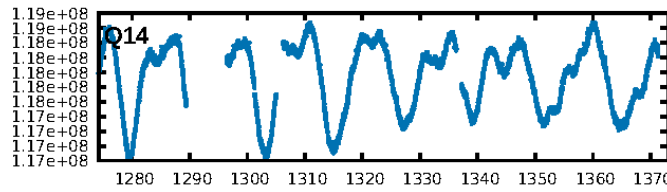
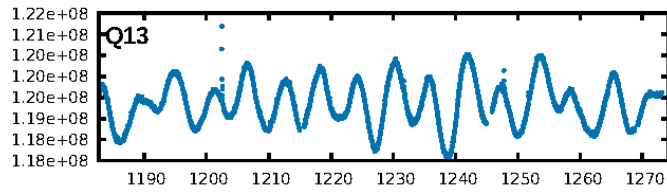
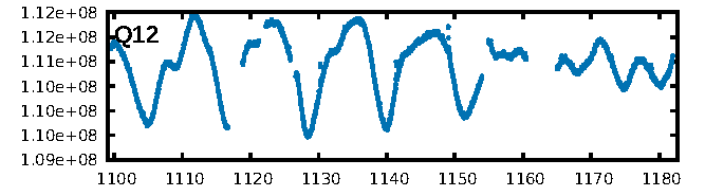
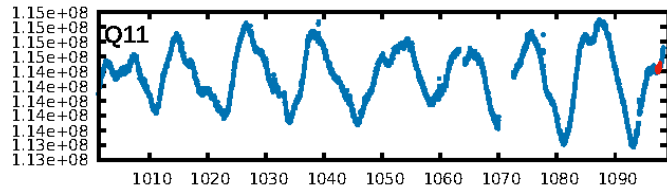
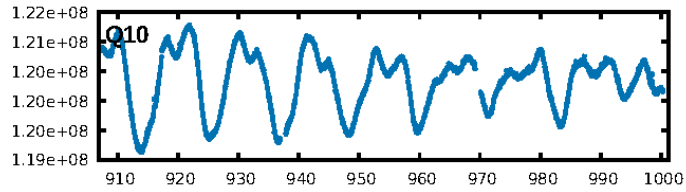
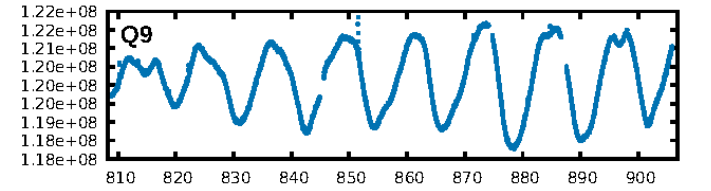
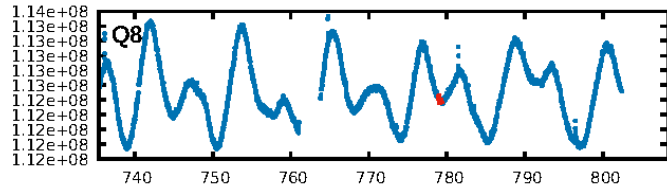
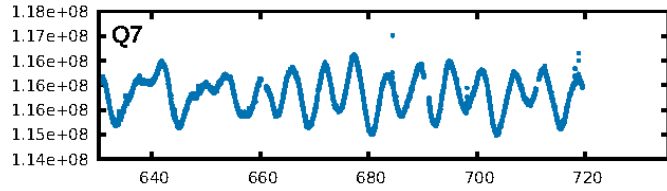
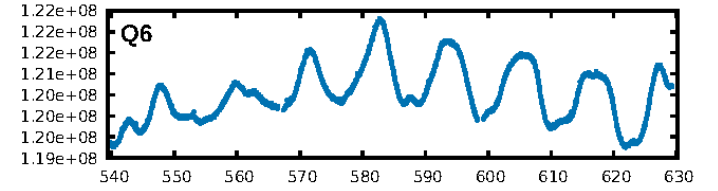
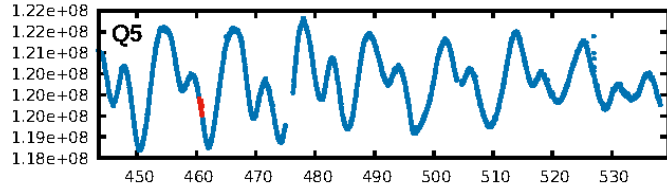
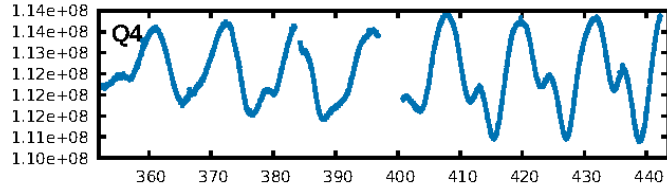
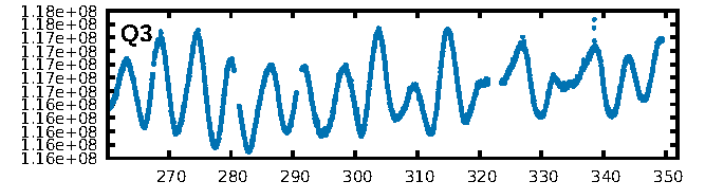
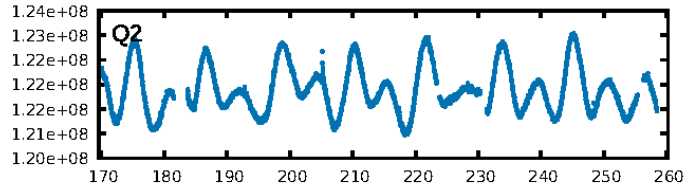
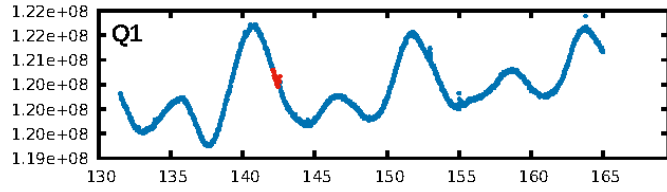
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 77.2%
Bootstrap-pfa: 5.33e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.1214
Centroid-sig: 99.5%
Centroid-so: 0.502 arcsec [0.52σ]
OotOffset-rm: 0.838 arcsec [1.34σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 0.693 arcsec [0.66σ]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

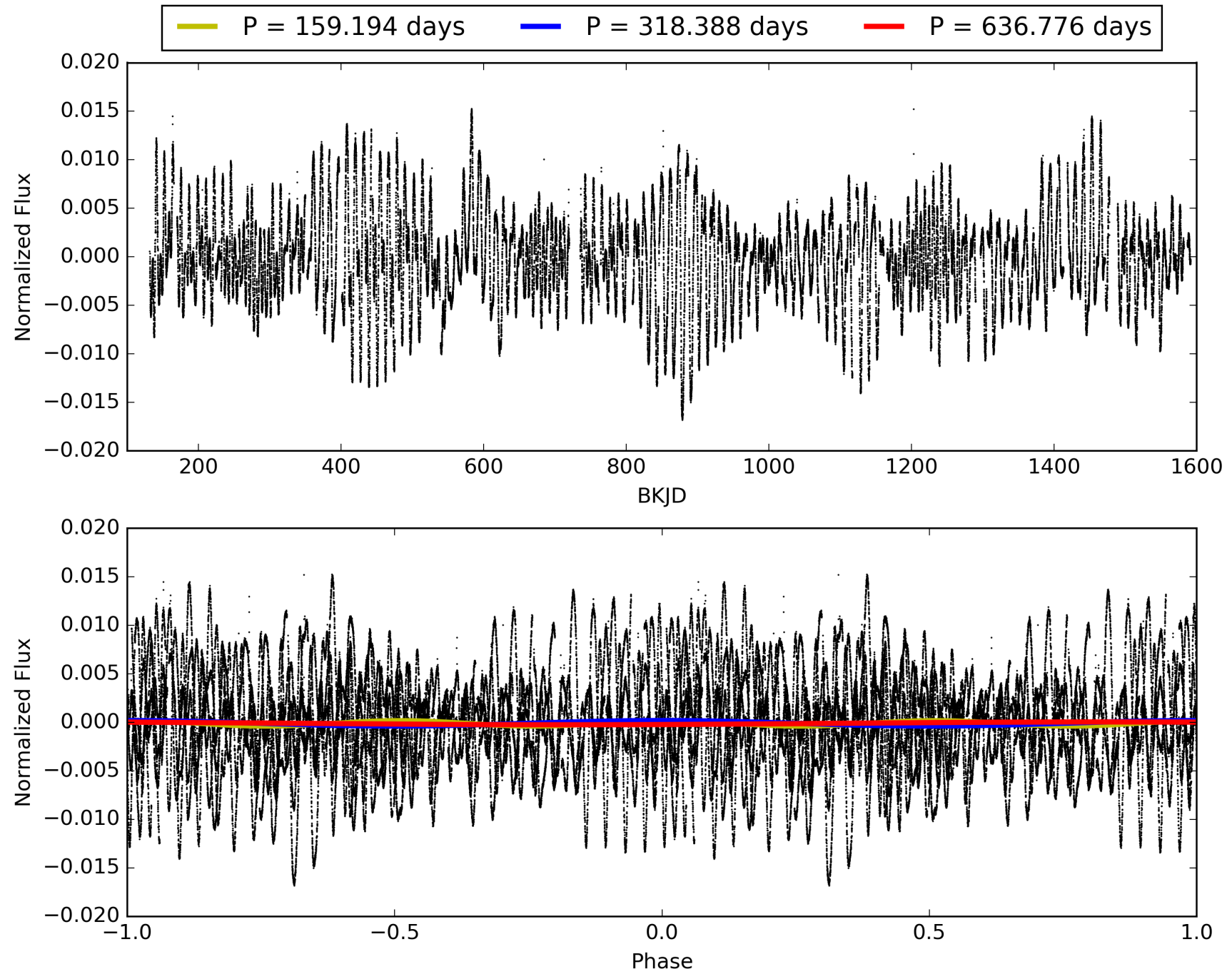
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:36:46 Z

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

TCE 012169787-01, PDC Light Curves

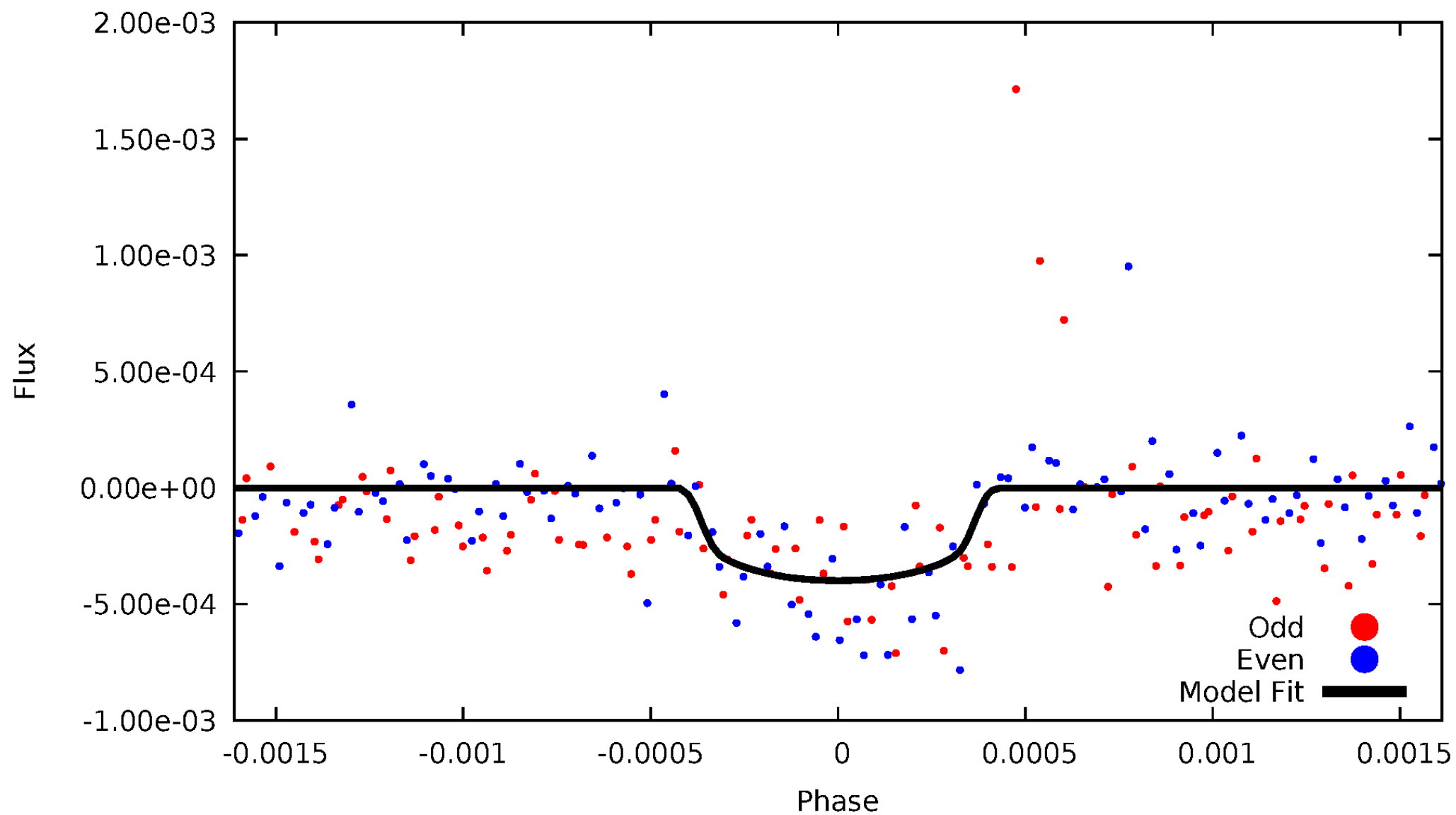


TCE 012169787-01



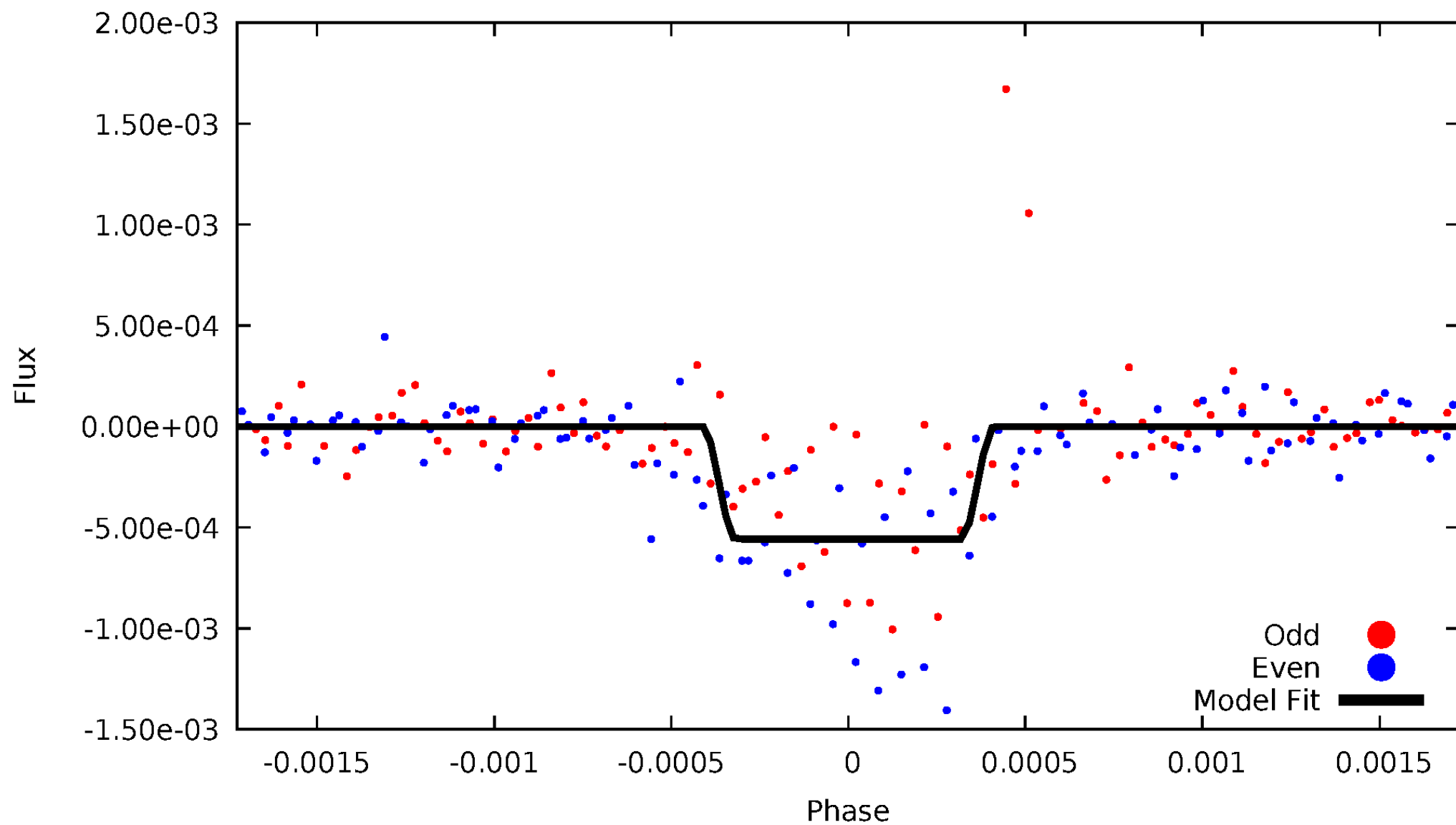
DV Odd/Even

TCE 012169787-01



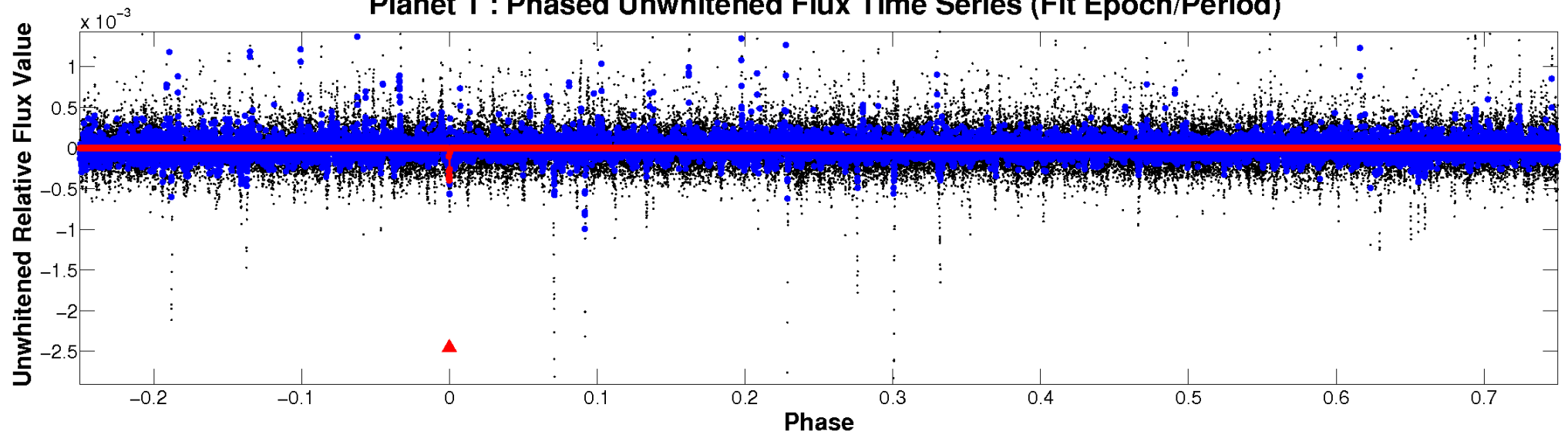
ALT Odd/Even

TCE 012169787-01

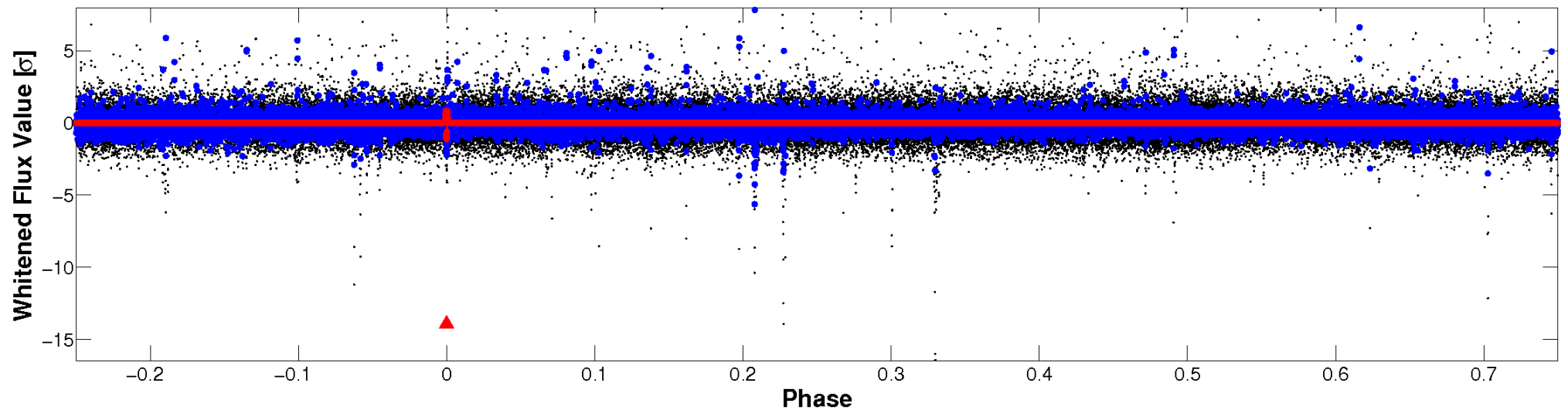


Non-Whitened Vs. Whitened Light Curve

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

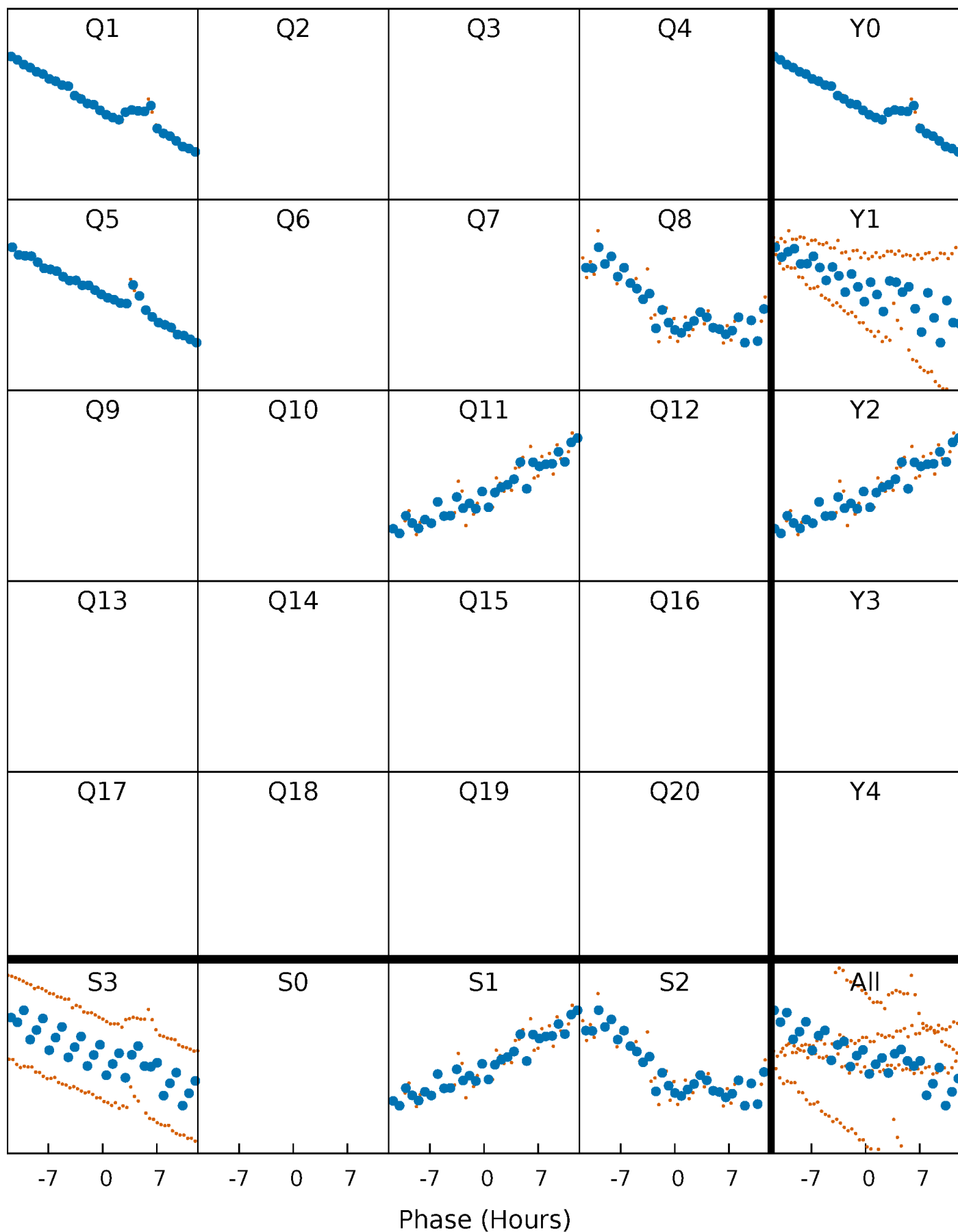


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 012169787-01 $P=318.387994$ Days $T_0=142.319933$ (BKJD)



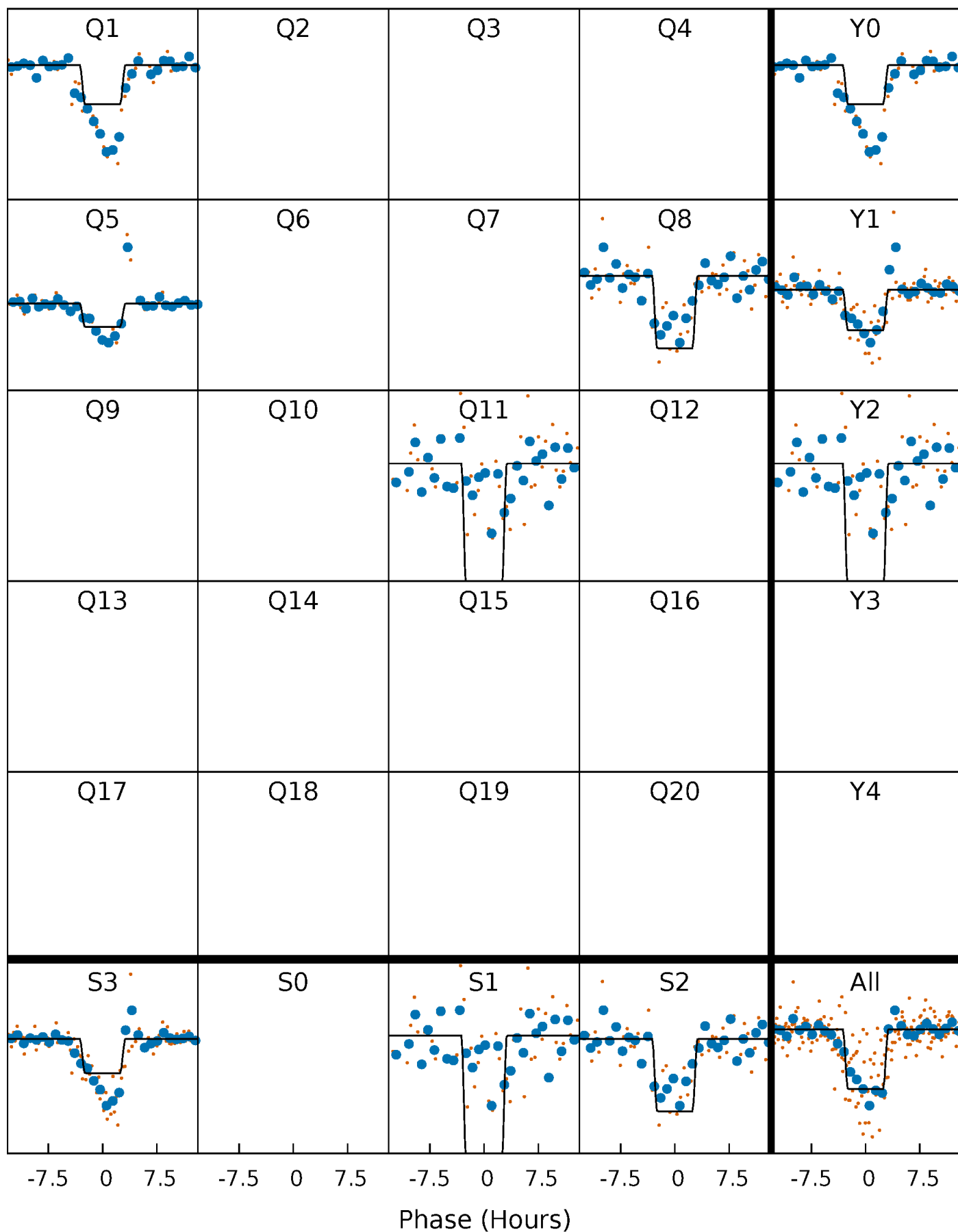
DV Quarter-Phased Transit Curves

TCE 012169787-01 P=318.387994 Days $T_0=142.319933$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

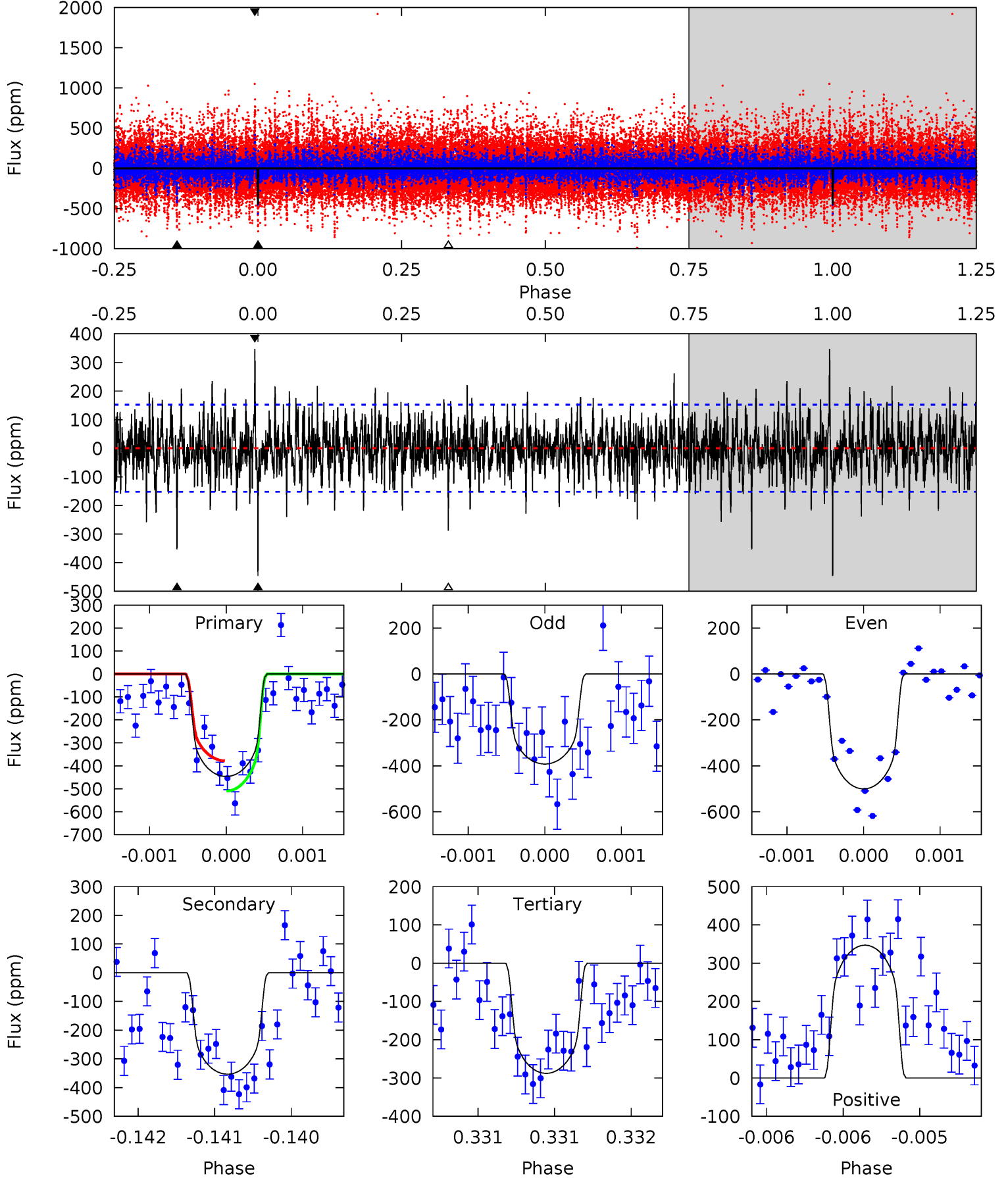
TCE 012169787-01 P=318.382110 Days $T_0=142.335168$ (BKJD)



DV Model-Shift Uniqueness Test

012169787-01, P = 318.387994 Days, E = 142.319933 Days

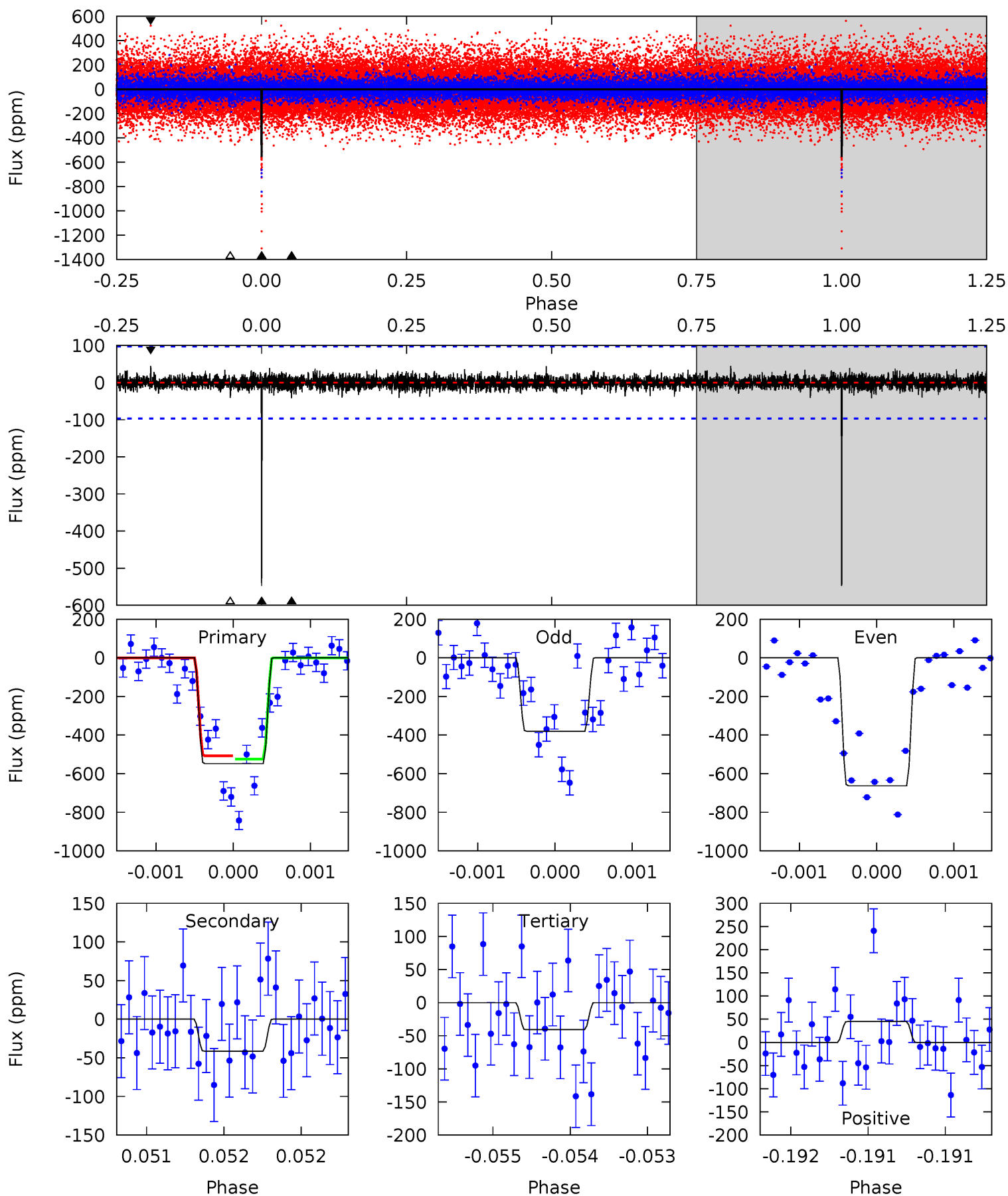
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	12.7	10.4	12.5	5.49	3.35	2.41	5.72	3.59	2.36	0.22	1.81	1.02	0.44	2.38



Alt Model-Shift Uniqueness Test

012169787-01, P = 318.382110 Days, E = 142.335168 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.1	2.34	2.31	2.55	5.49	3.35	0.54	28.7	28.5	0.03	-0.21	8.47	1.04	0.08	0.47



Stellar Parameters For KIC 012169787

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4721^{+84}_{-75}	$4.637^{+0.010}_{-0.045}$	$-0.020^{+0.150}_{-0.150}$	$0.679^{+0.048}_{-0.021}$	$0.757^{+0.030}_{-0.049}$	$3.413^{+0.178}_{-0.627}$
	+2%/-2%	+0%/-1%	+750%/-750%	+7%/-3%	+4%/-6%	+5%/-18%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 012169787-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-353 ± 28	$1.65^{+0.67}_{-0.59}$	267^{+7}_{-5}	4456^{+876}_{-526}	48032^{+70204}_{-23353}
Alt.	-41 ± 18	$1.81^{+0.57}_{-0.57}$	267^{+6}_{-5}	3022^{+425}_{-317}	4468^{+6483}_{-2388}

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

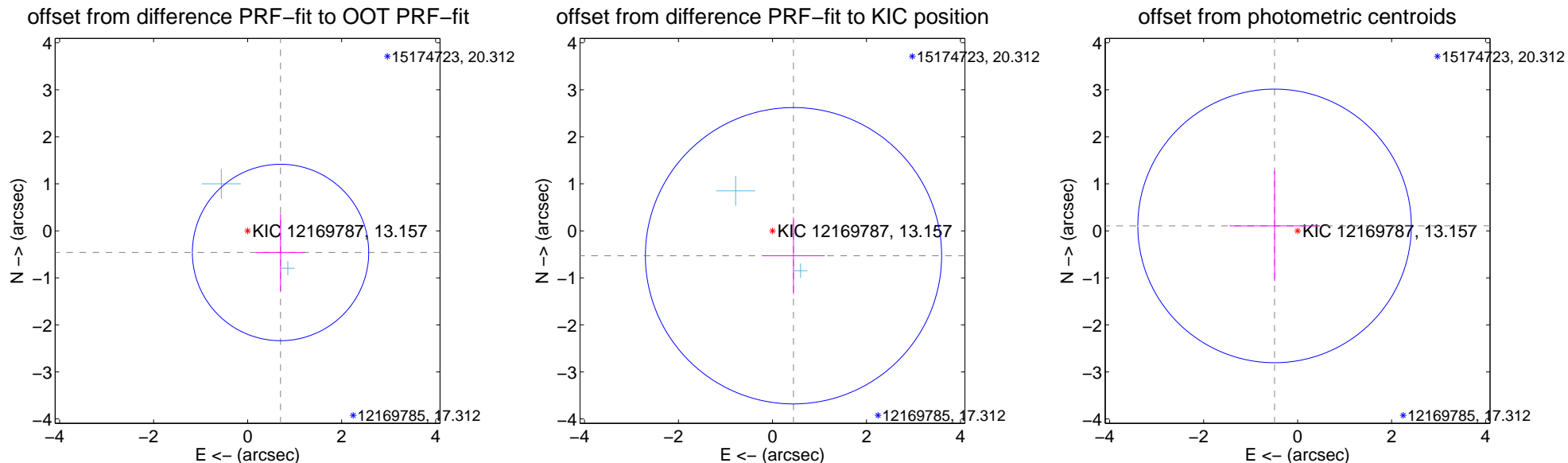
DV Centroid Data

Supplemental centroid analysis for 012169787-01. Kepler magnitude: 13.16. Transit SNR 7.58

There are 2 quarters with good PRF difference image offsets

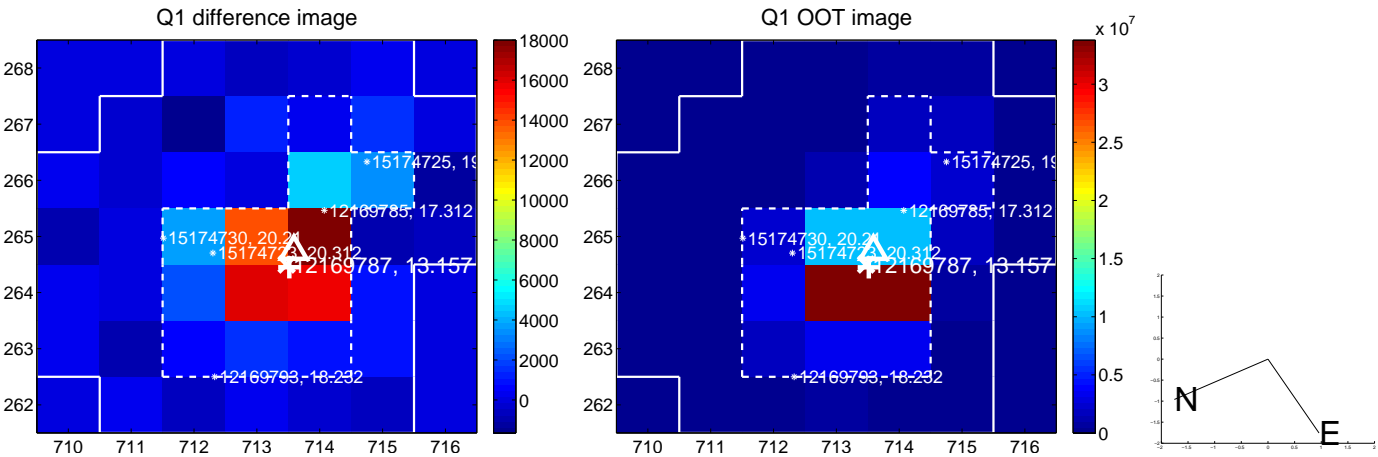
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.838 ± 0.625	1.34	-0.701 ± 0.519	-0.460 ± 0.821
PRF-fit source offset from KIC position	0.693 ± 1.050	0.66	-0.447 ± 0.665	-0.530 ± 0.816
photometric centroid source offset	0.50 ± 0.97	0.52	0.49 ± 0.96	0.10 ± 1.17

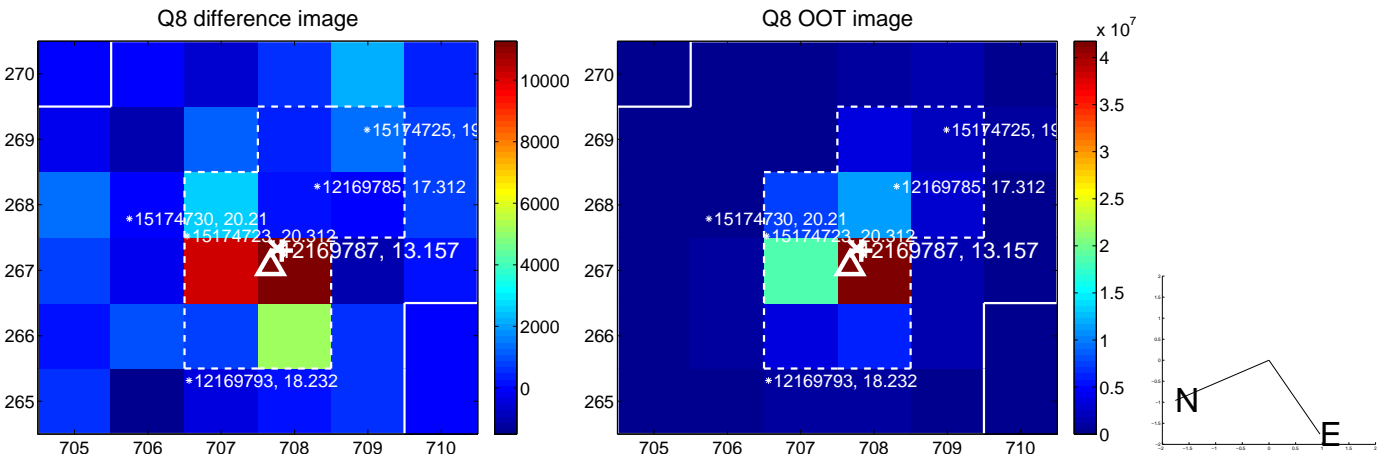
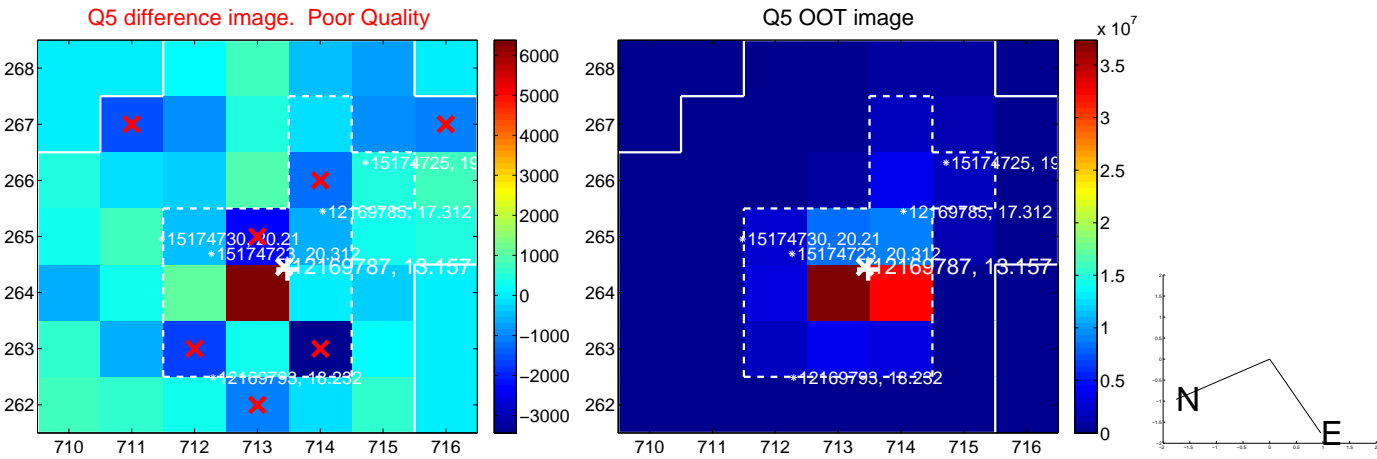


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



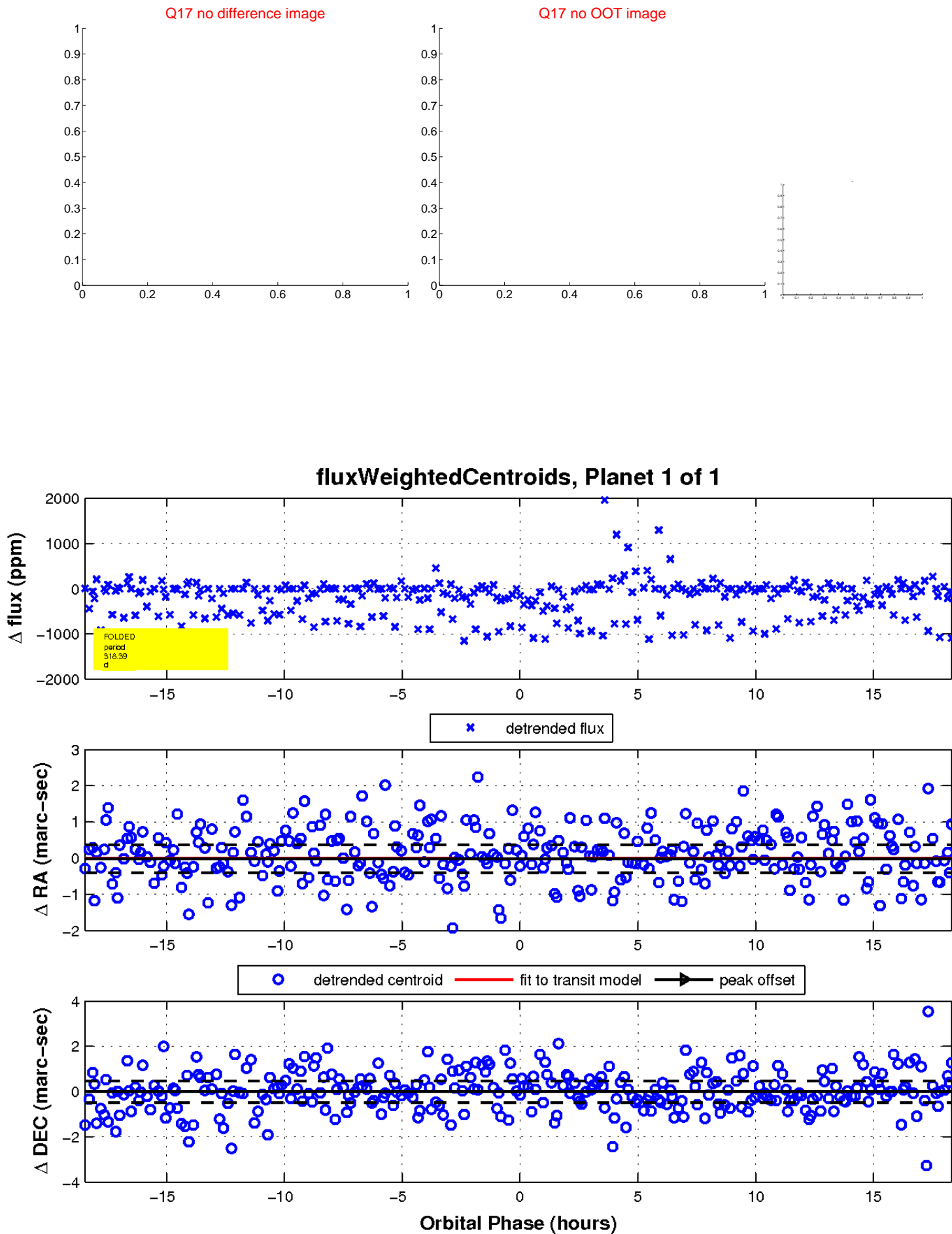
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

