

KIC 008621785

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})
008621785-01	OBS	No	340.678732	251.821095	30.1	4.266	11.5	1.4	72.26	3851	49.98	759.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008621785-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

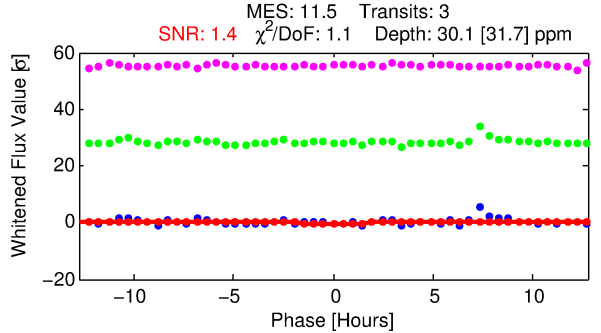
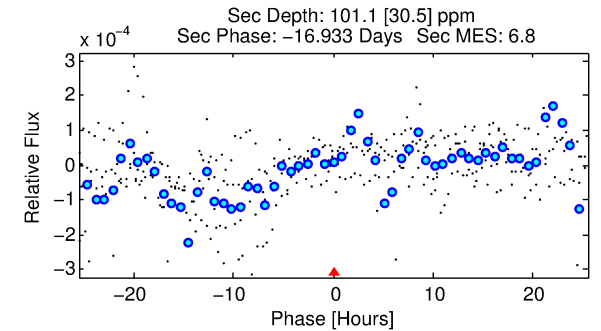
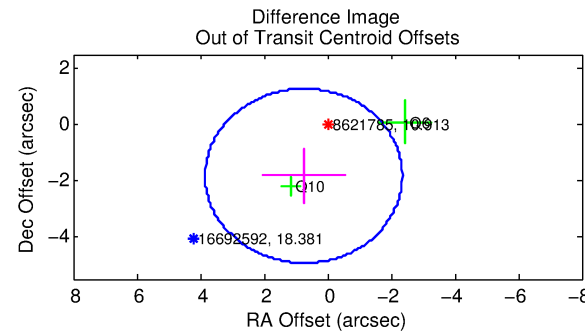
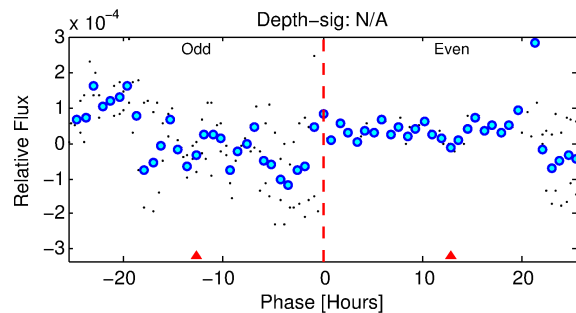
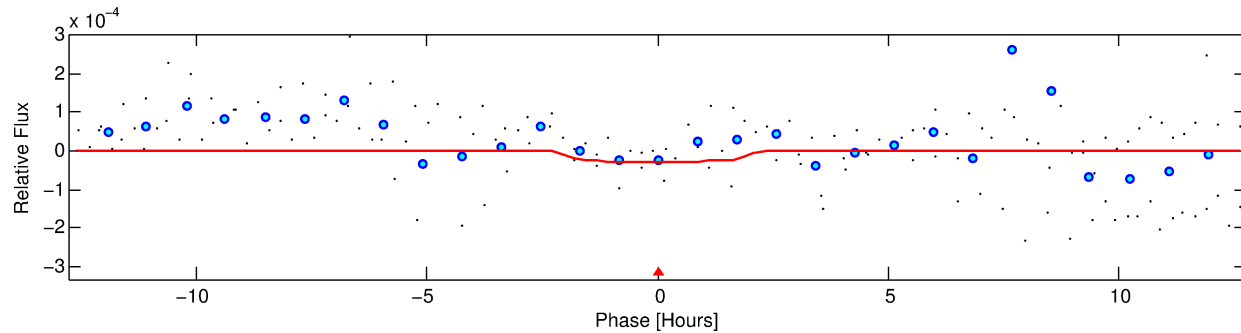
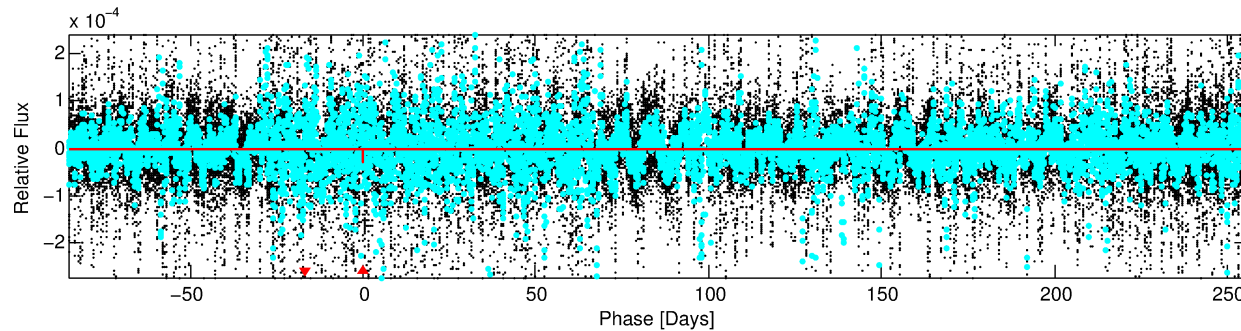
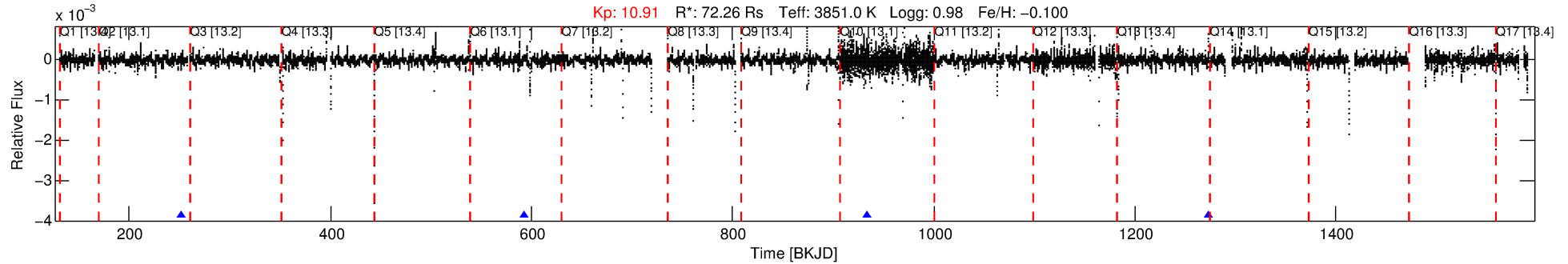
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008621785-01

No Significant Match Found

DV One-Page Summary

KIC: 8621785 Candidate: 1 of 1 Period: 340.679 d



DV Fit Results:

Period = 340.67873 [0.04734] d
Epoch = 251.8211 [0.0541] BKJD
 $R_p/R^* = 0.0063$ [0.0233]
 $a/R^* = 279.75$ [3416.55]
 $b = 0.90$ [2.74]
 $\text{Seff} = 759.74$ [141.63]
 $T_{\text{eq}} = 1339$ [62] K
 $R_p = 49.98$ [183.93] R_e
 $a = 1.1638$ [0.1697] AU
 $A_g = 30.16$ [221.82] [0.13σ]
 $T_{\text{eff}} = 4850$ [8918] K [0.39σ]

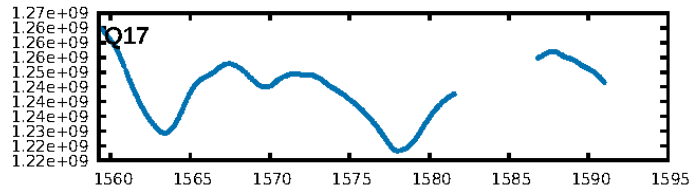
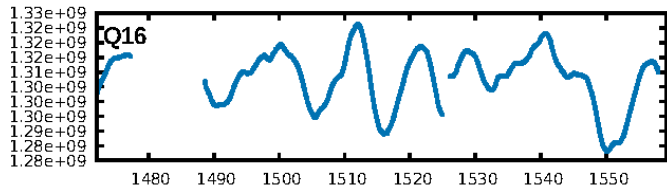
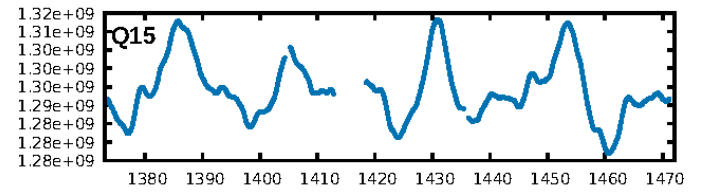
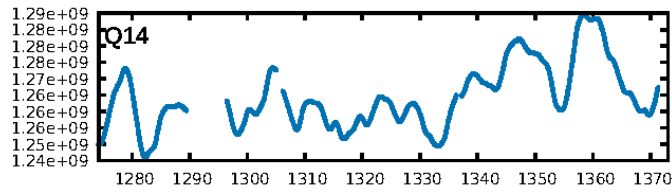
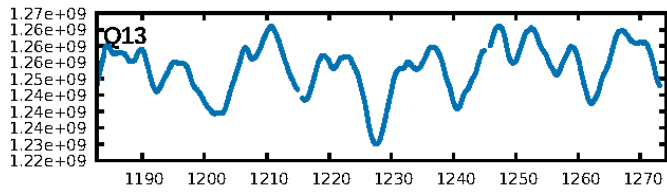
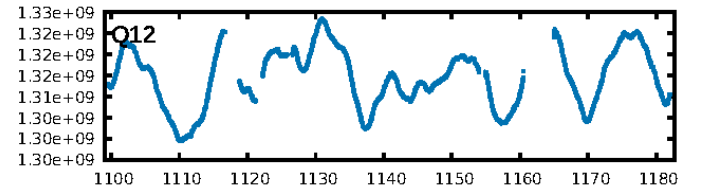
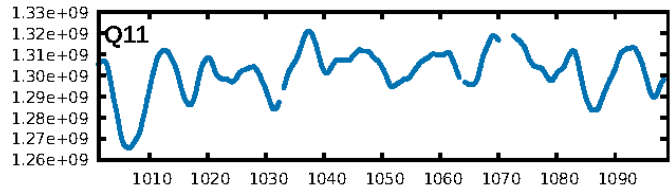
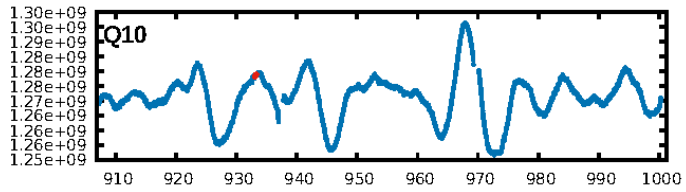
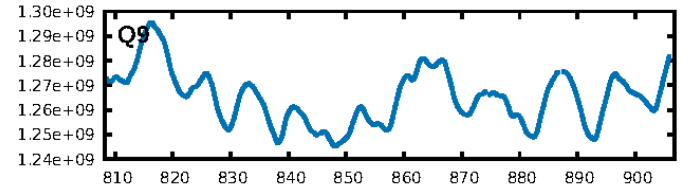
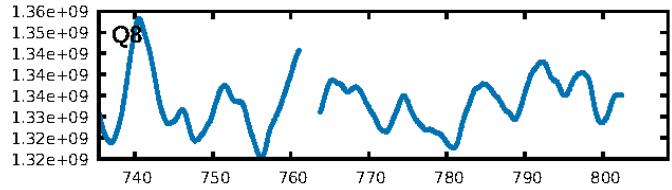
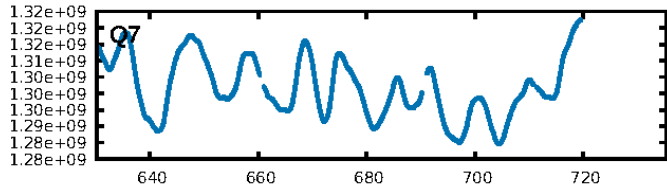
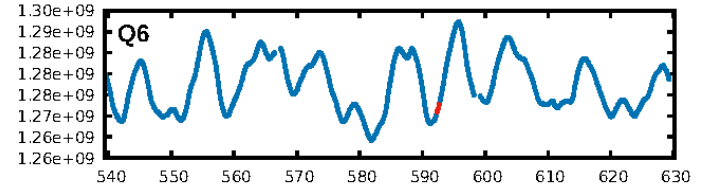
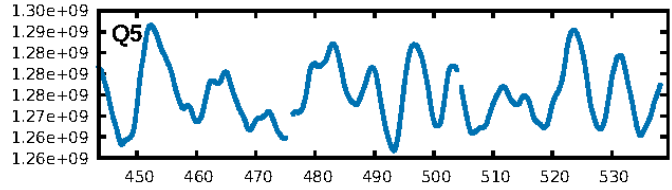
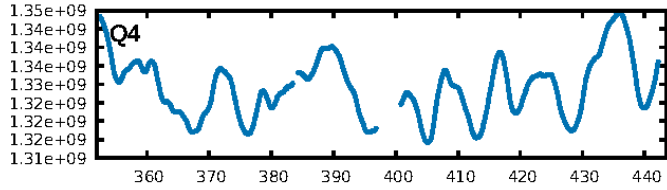
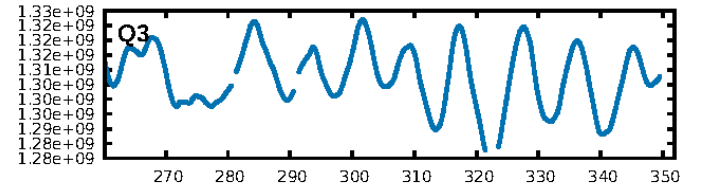
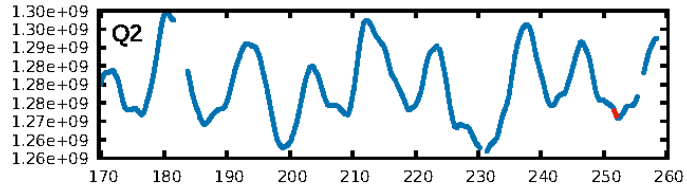
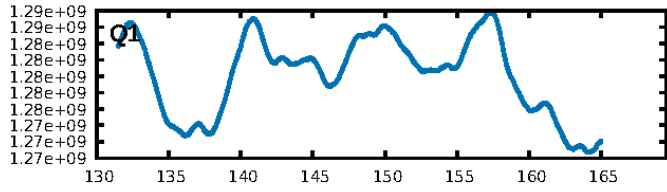
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 63.1%
ModelChiSquareGof-sig: 83.5%
Bootstrap-pfa: 6.11e-05
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.745
Centroid-sig: 64.9%
Centroid-so: 6.585 arcsec [0.43σ]
OotOffset-rm: 1.975 arcsec [1.91σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-rm: 2.115 arcsec [2.21σ]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

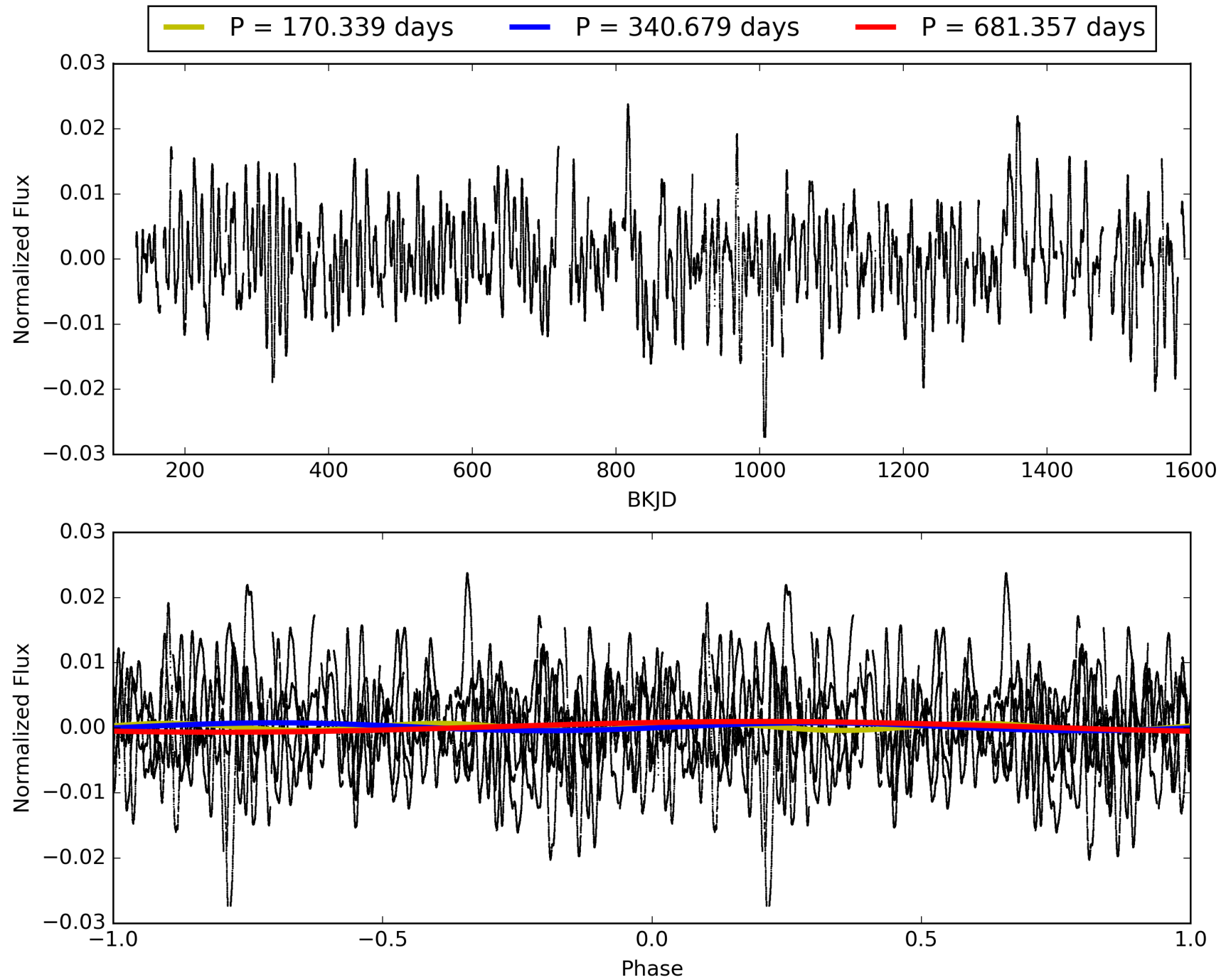
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:30:49 Z

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

TCE 008621785-01, PDC Light Curves

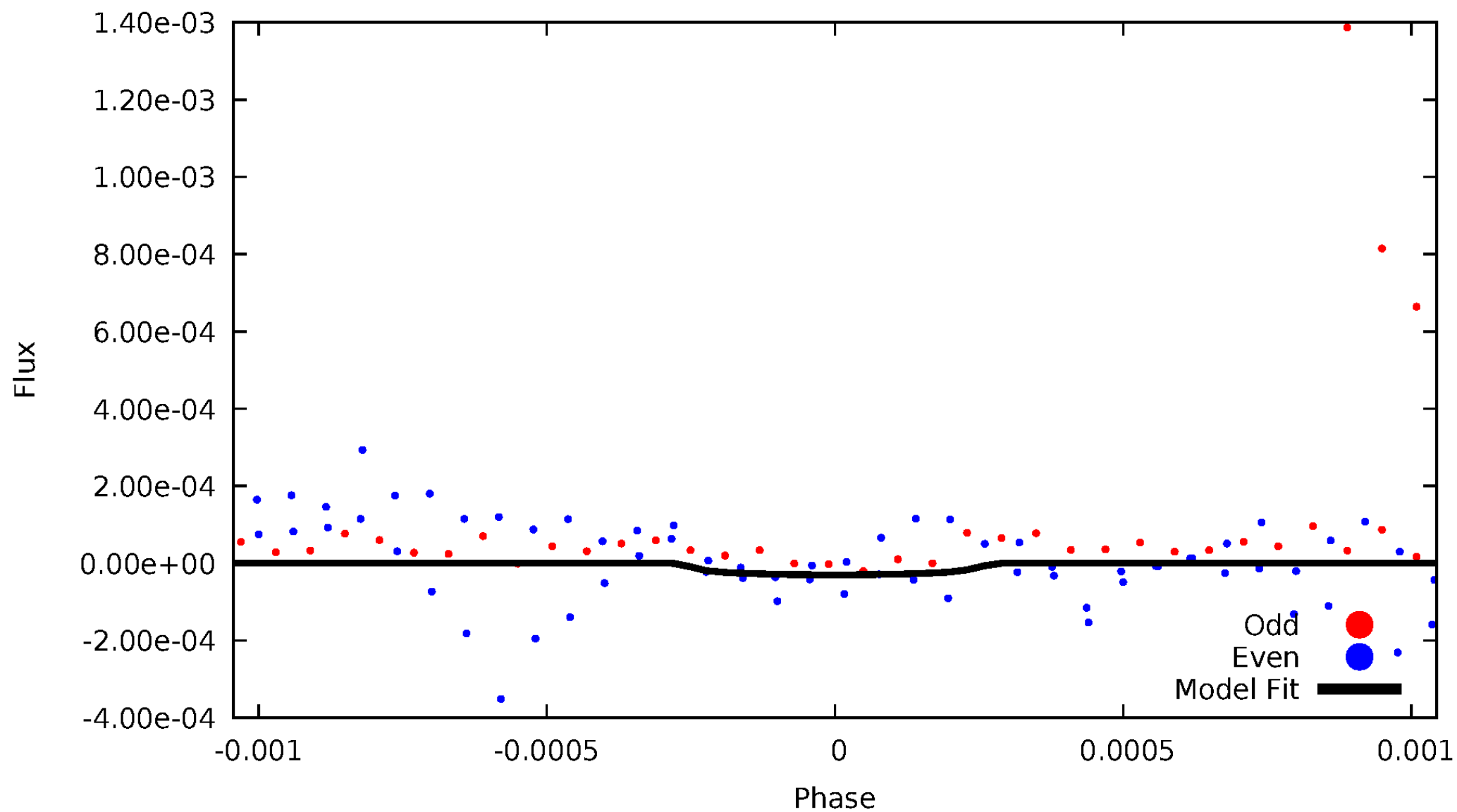


TCE 008621785-01



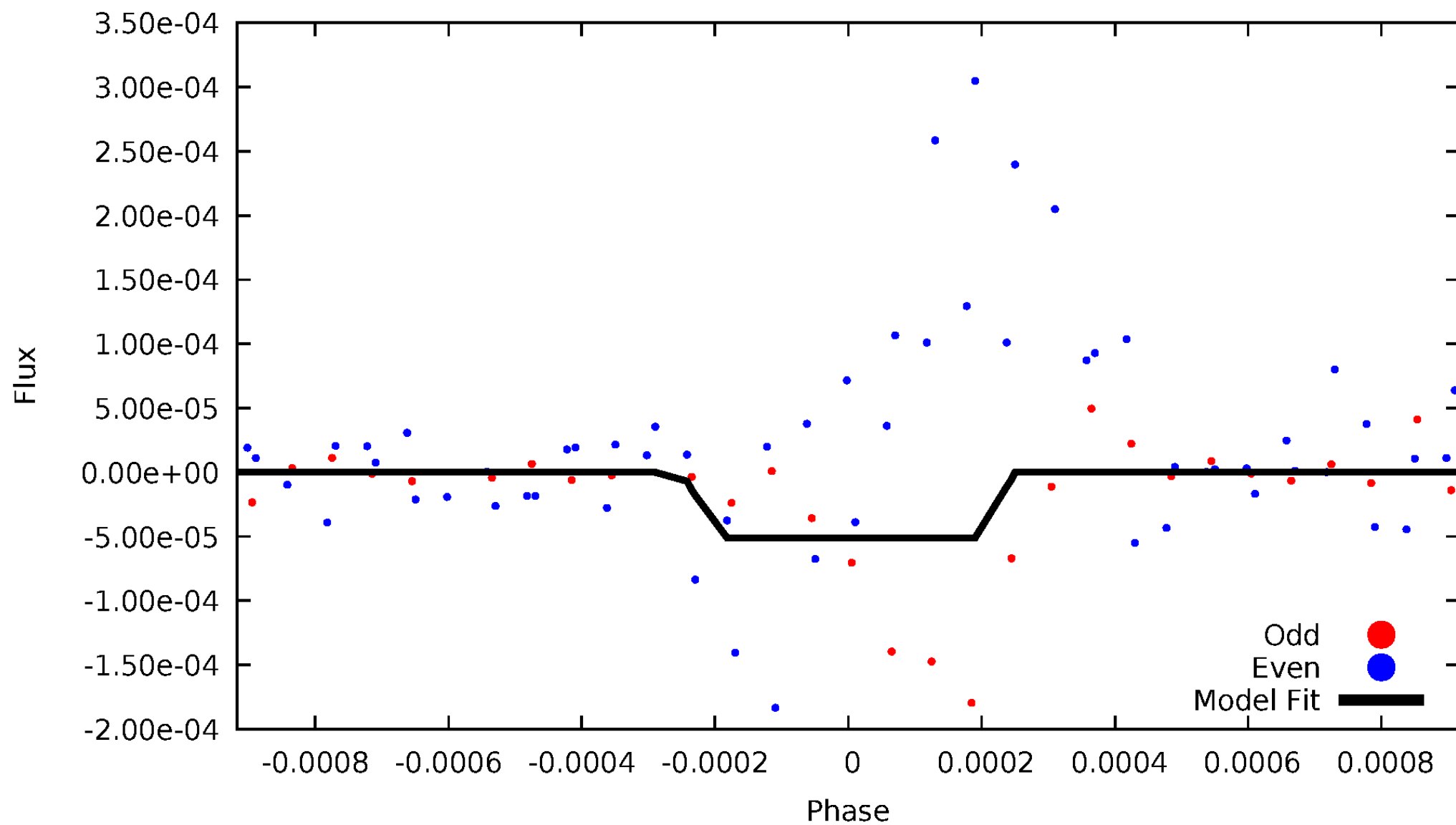
DV Odd/Even

TCE 008621785-01



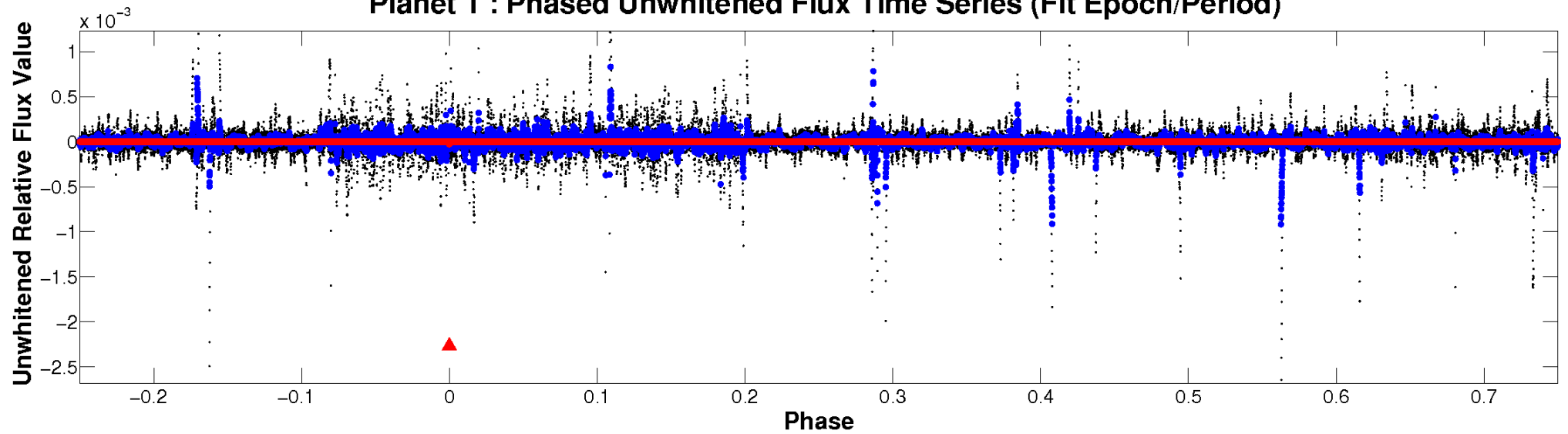
ALT Odd/Even

TCE 008621785-01

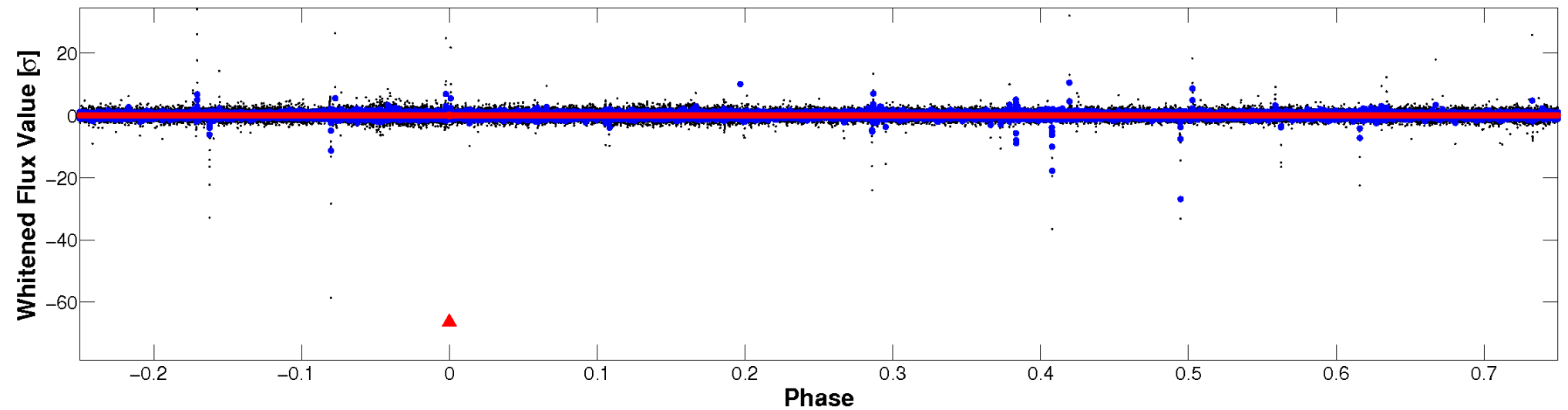


Non-Whitened Vs. Whitened Light Curve

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

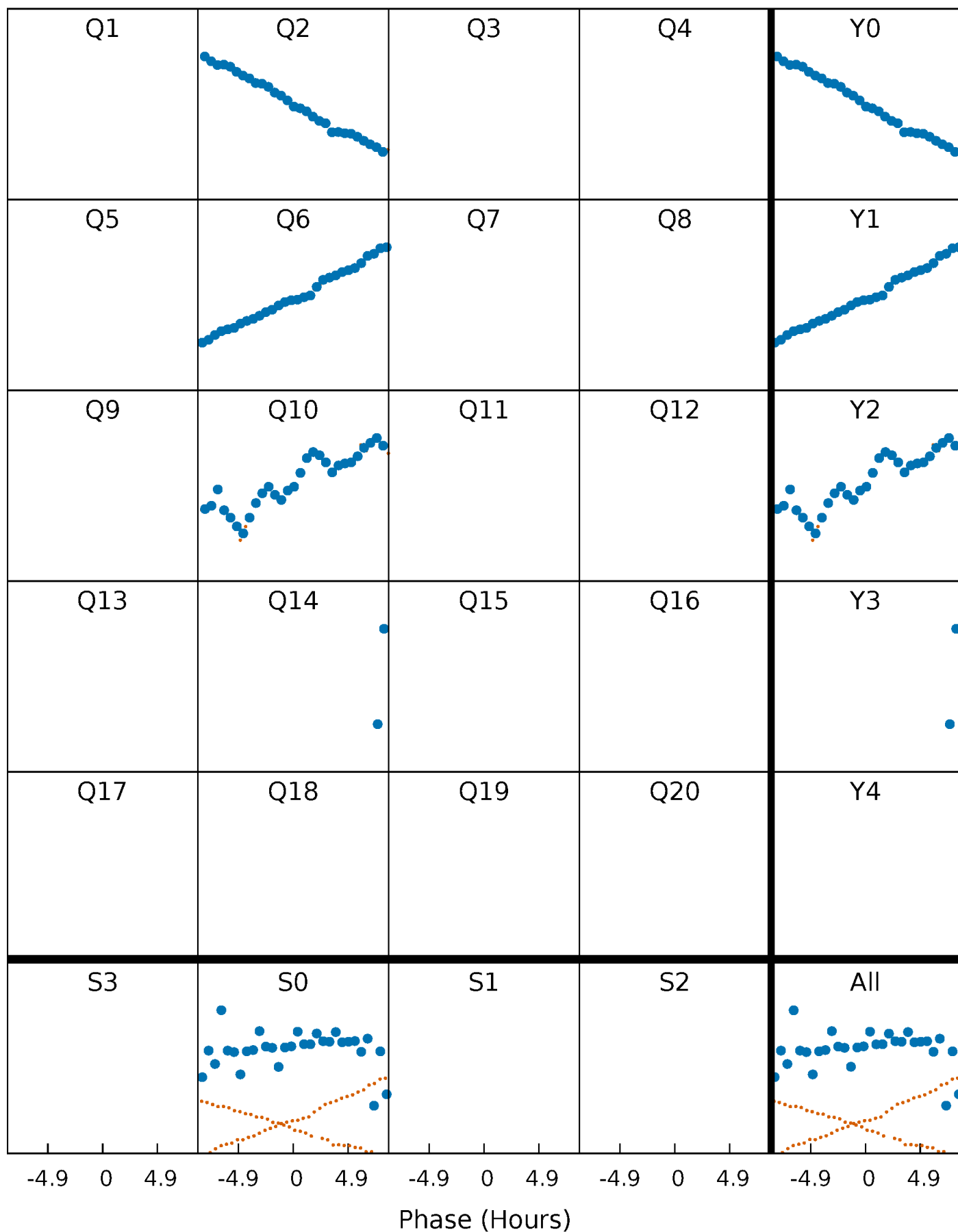


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



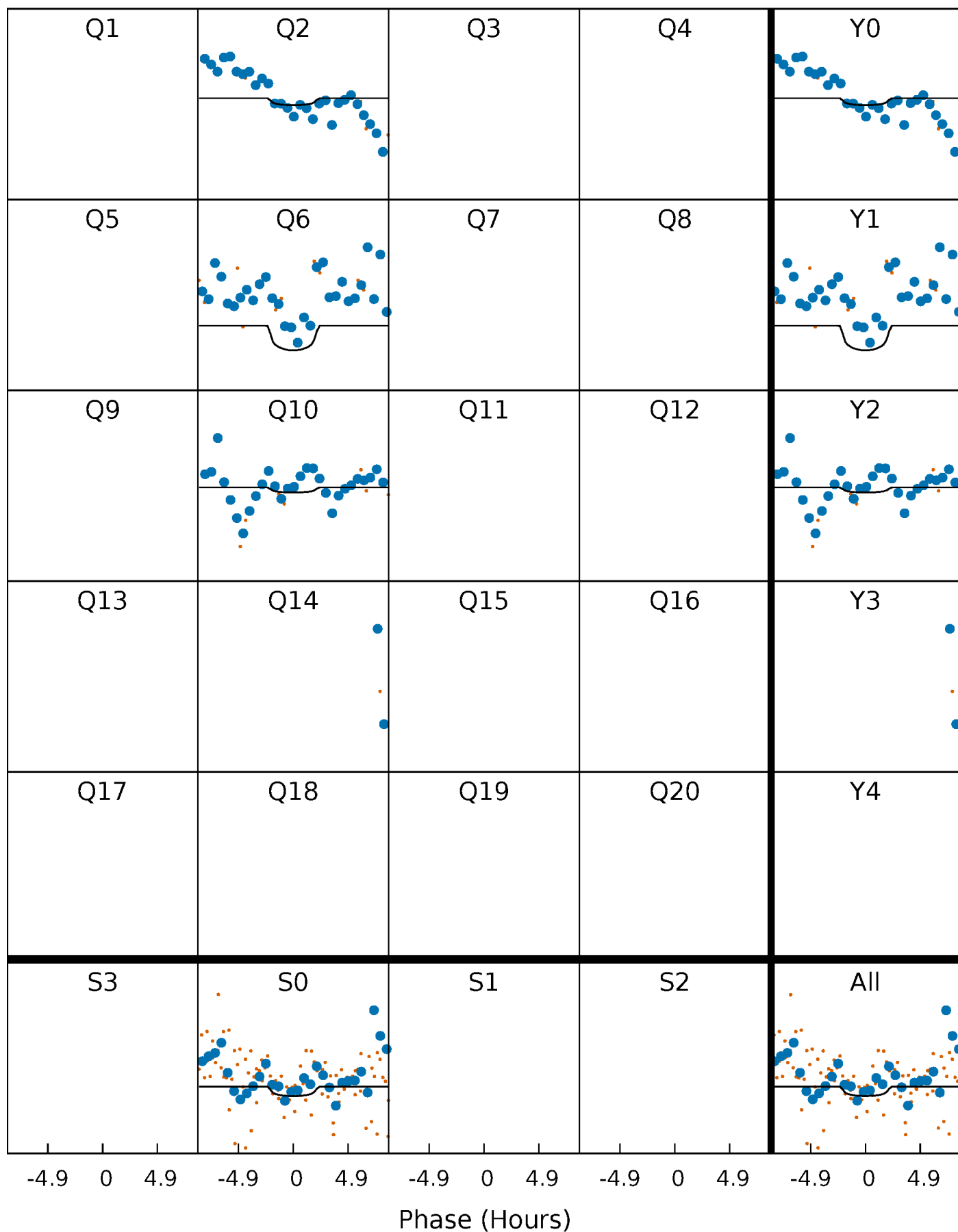
PDC Quarter-Phased Transit Curves

TCE 008621785-01 P=340.678732 Days $T_0=251.821095$ (BKJD)



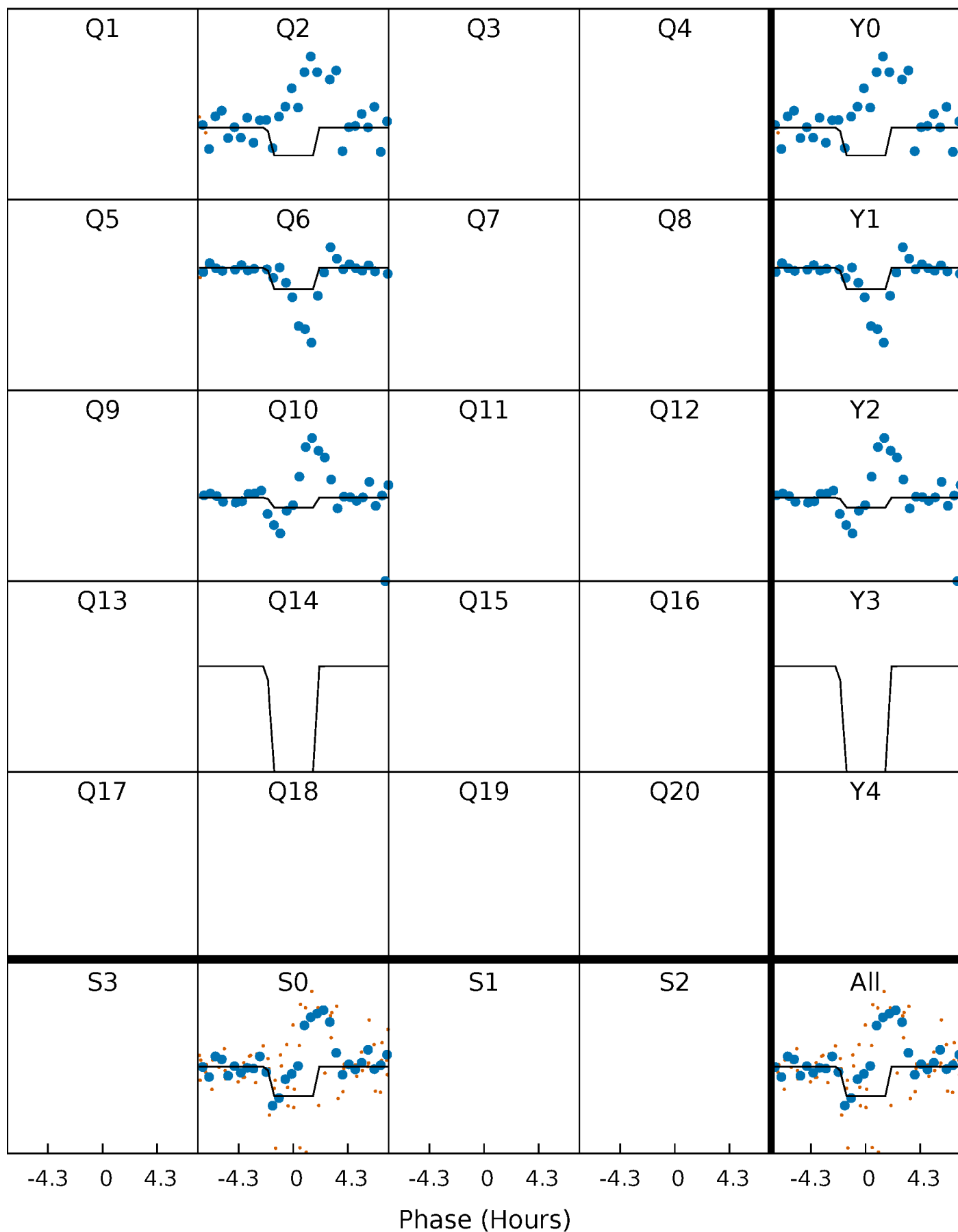
DV Quarter-Phased Transit Curves

TCE 008621785-01 P=340.678732 Days $T_0=251.821095$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

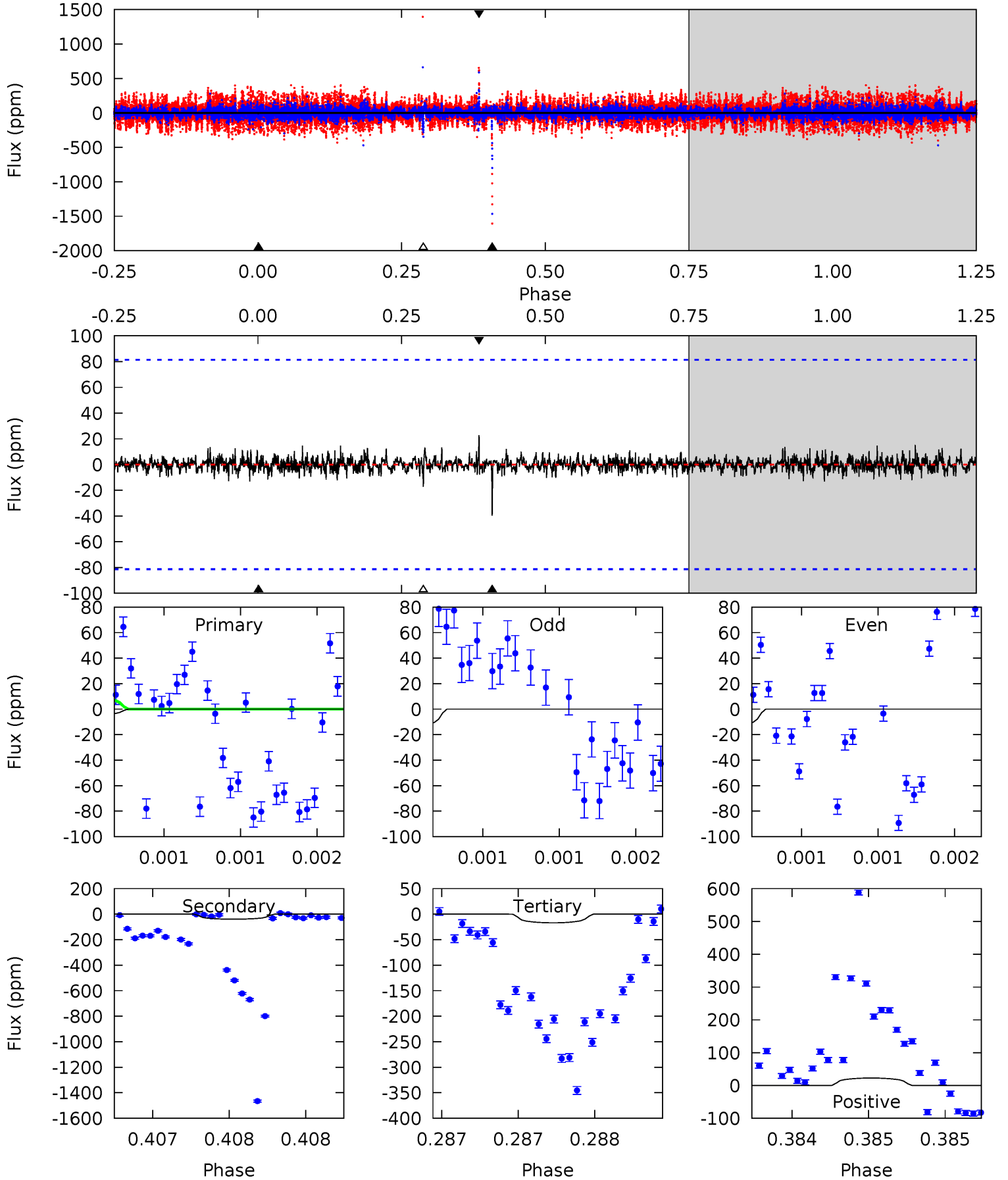
TCE 008621785-01 P=340.687408 Days $T_0=251.807093$ (BKJD)



DV Model-Shift Uniqueness Test

008621785-01, $P = 340.678732$ Days, $E = 251.821095$ Days

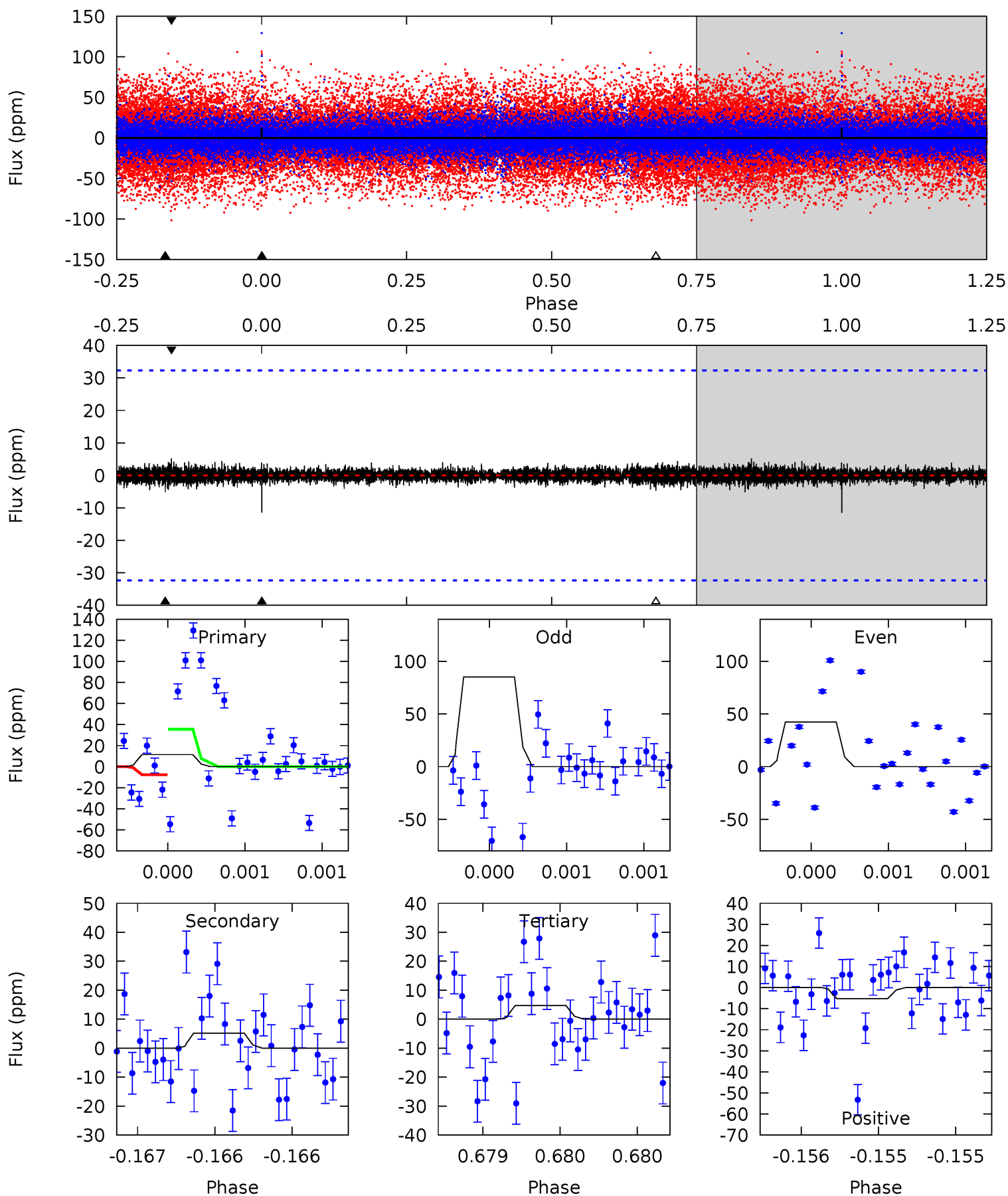
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.30	2.72	1.17	1.55	5.56	3.46	0.23	-0.86	-1.24	1.55	1.17	0.01	-0.33	0.36	0.30



Alt Model-Shift Uniqueness Test

008621785-01, P = 340.687408 Days, E = 251.807093 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.97	0.88	0.81	0.90	5.56	3.46	0.18	1.16	1.06	0.07	-0.02	4.52	-0.02	0.31	2.40



Stellar Parameters For KIC 008621785

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3851^{+86}_{-105}	$0.978^{+0.030}_{-0.030}$	$-0.100^{+0.200}_{-0.250}$	$72.261^{+2.601}_{-15.608}$	$1.811^{+0.036}_{-0.688}$	$0.000^{+0.000}_{-0.000}$
	+2%/-3%	+3%/-3%	+200%/-250%	+4%/-22%	+2%/-38%	+30%/-8%
Source	PHO54	AST54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008621785-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-40 ± 15	$147.35^{+149.16}_{-99.76}$	1875^{+48}_{-57}	2650^{+1251}_{-4333}	$1.214^{+12.290}_{-0.930}$
Alt.	-5 ± 6	$148.05^{+151.62}_{-103.70}$	1875^{+48}_{-56}	-2154^{+4893}_{-176}	$0.125^{+1.514}_{-0.134}$

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

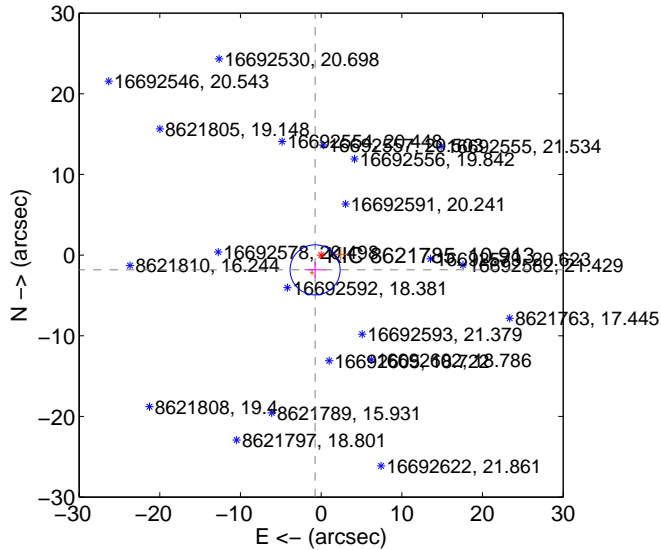
Supplemental centroid analysis for 008621785-01. **Kepler magnitude: 10.91.** Transit SNR 1.41

There are 0 quarters with good PRF difference image offsets

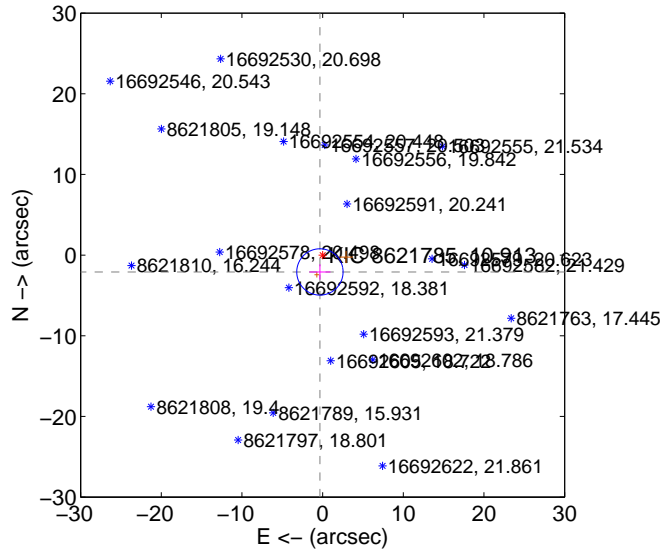
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.975 ± 1.034	1.91	0.748 ± 1.287	-1.828 ± 0.985
PRF-fit source offset from KIC position	2.115 ± 0.957	2.21	0.335 ± 1.310	-2.088 ± 0.946
photometric centroid source offset	6.58 ± 15.49	0.43	5.03 ± 17.36	-4.26 ± 12.41

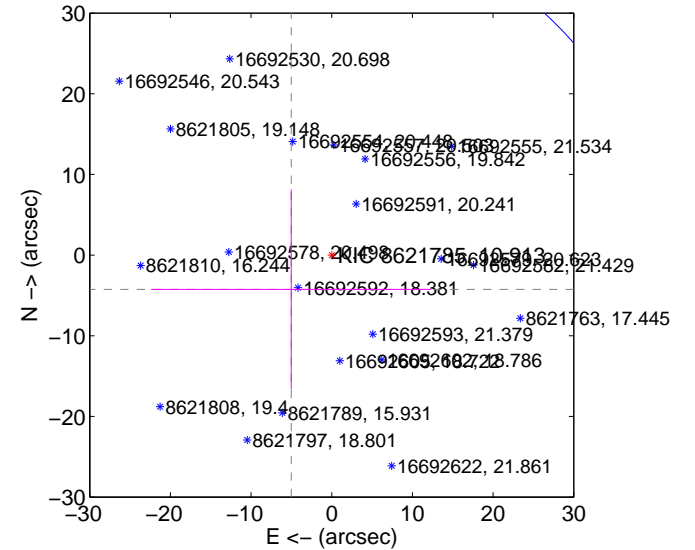
offset from difference PRF-fit to OOT PRF-fit



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.

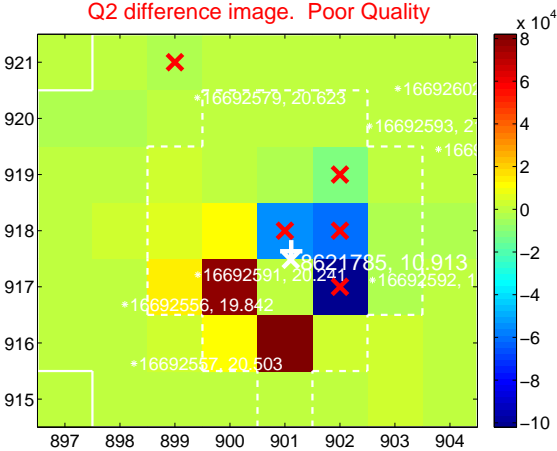
Q1 no difference image



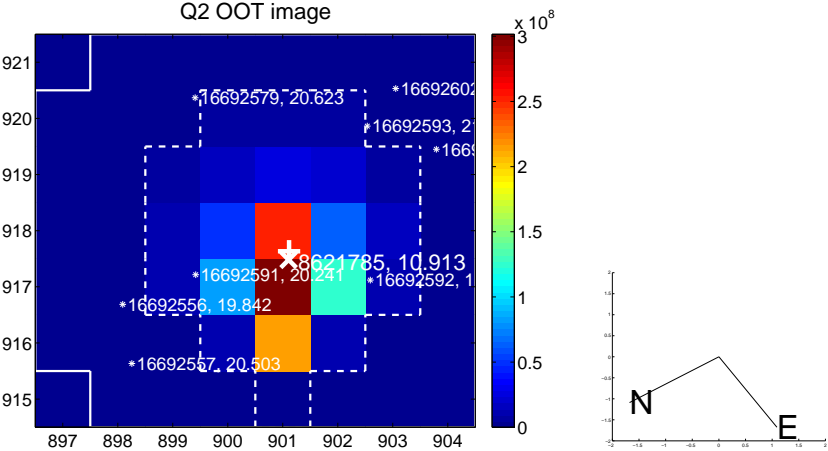
Q1 no OOT image



Q2 difference image. Poor Quality



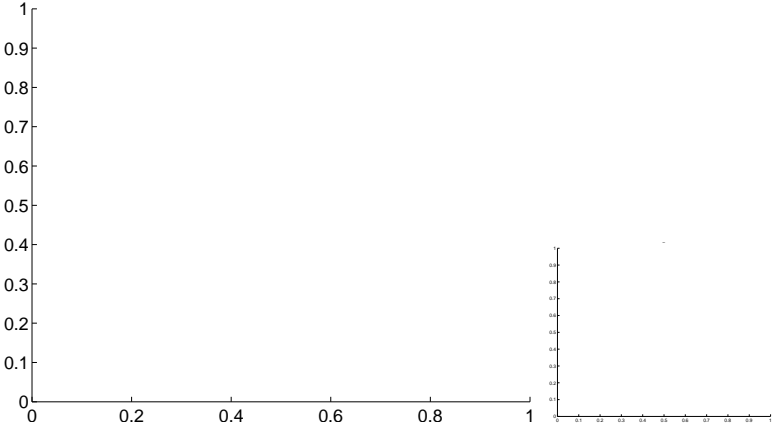
Q2 OOT image



Q3 no difference image



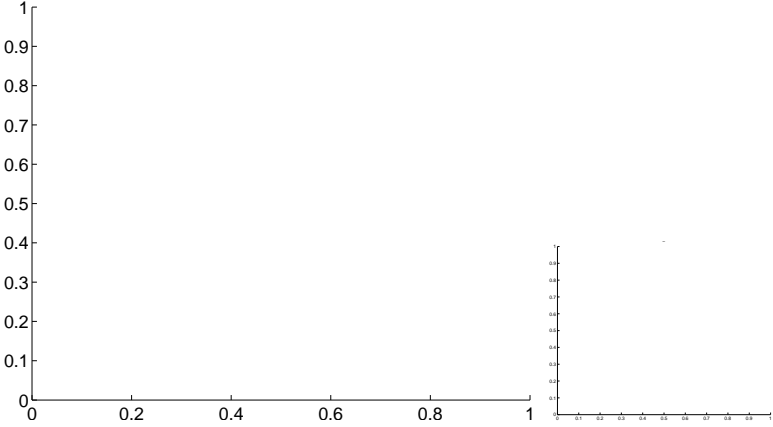
Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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

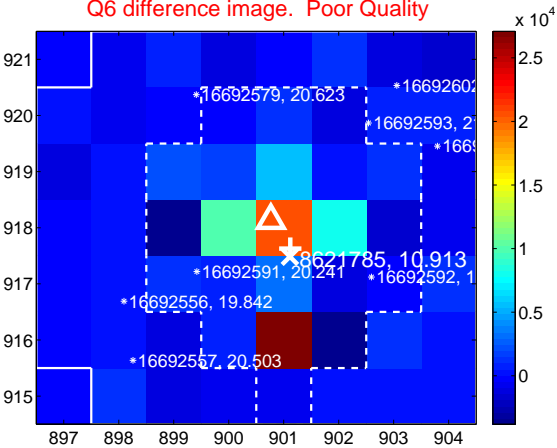
Q5 no difference image



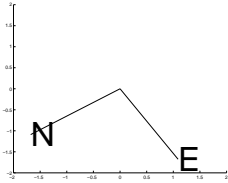
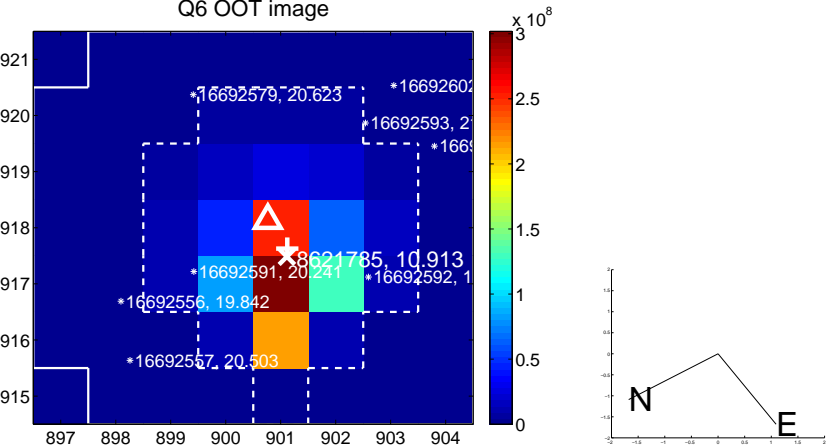
Q5 no OOT image



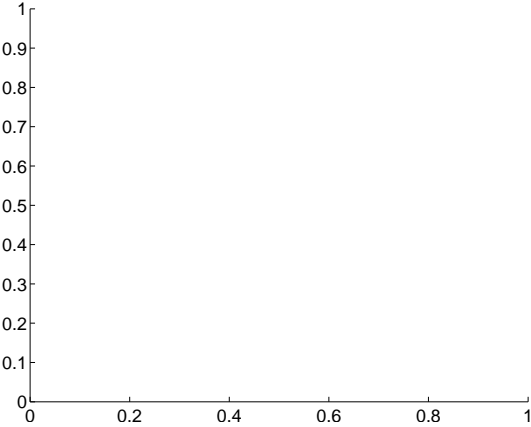
Q6 difference image. Poor Quality



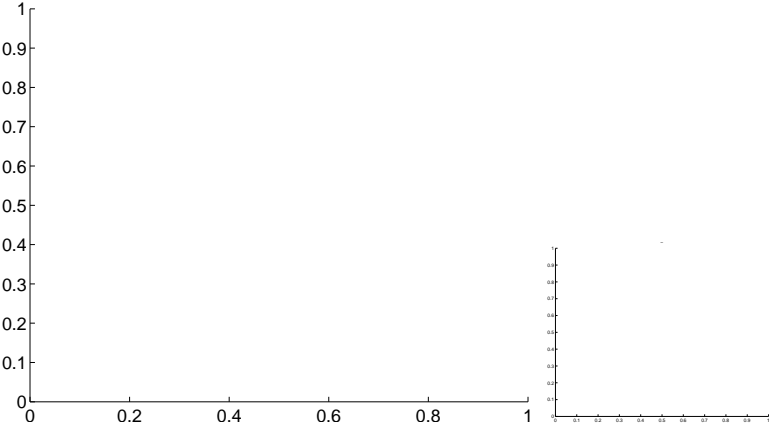
Q6 OOT image



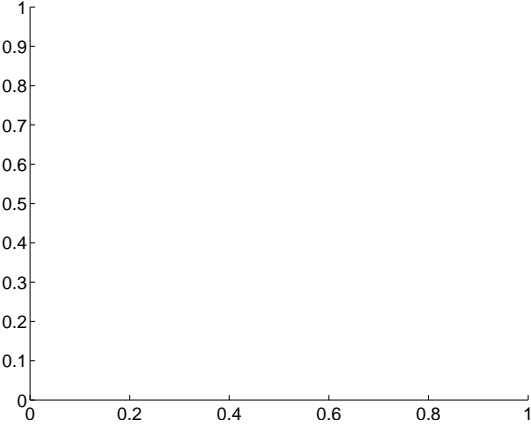
Q7 no difference image



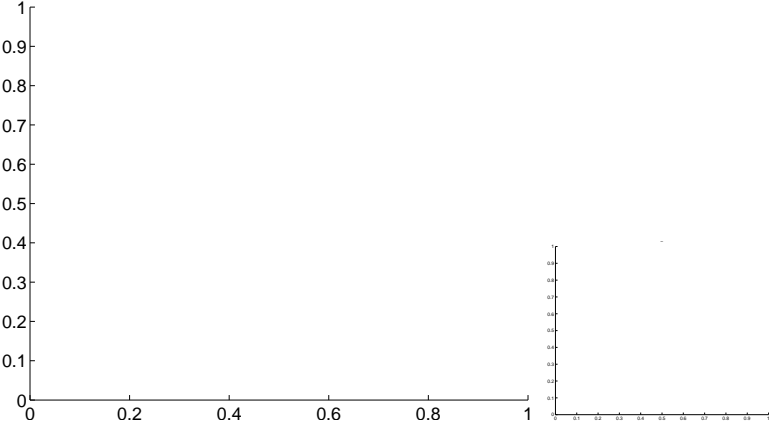
Q7 no OOT image



Q8 no difference image



Q8 no OOT image



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

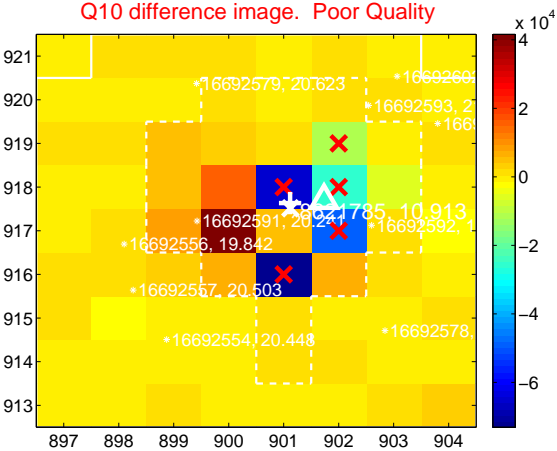
Q9 no difference image



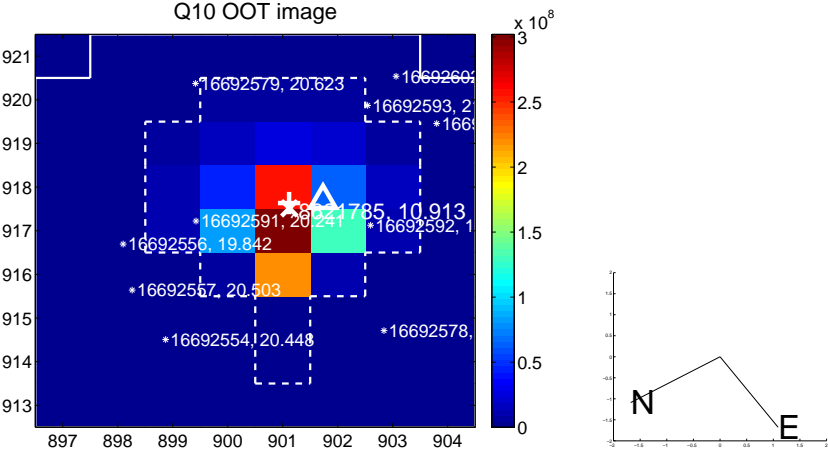
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



Q11 no difference image



Q11 no OOT image



Q12 no difference image



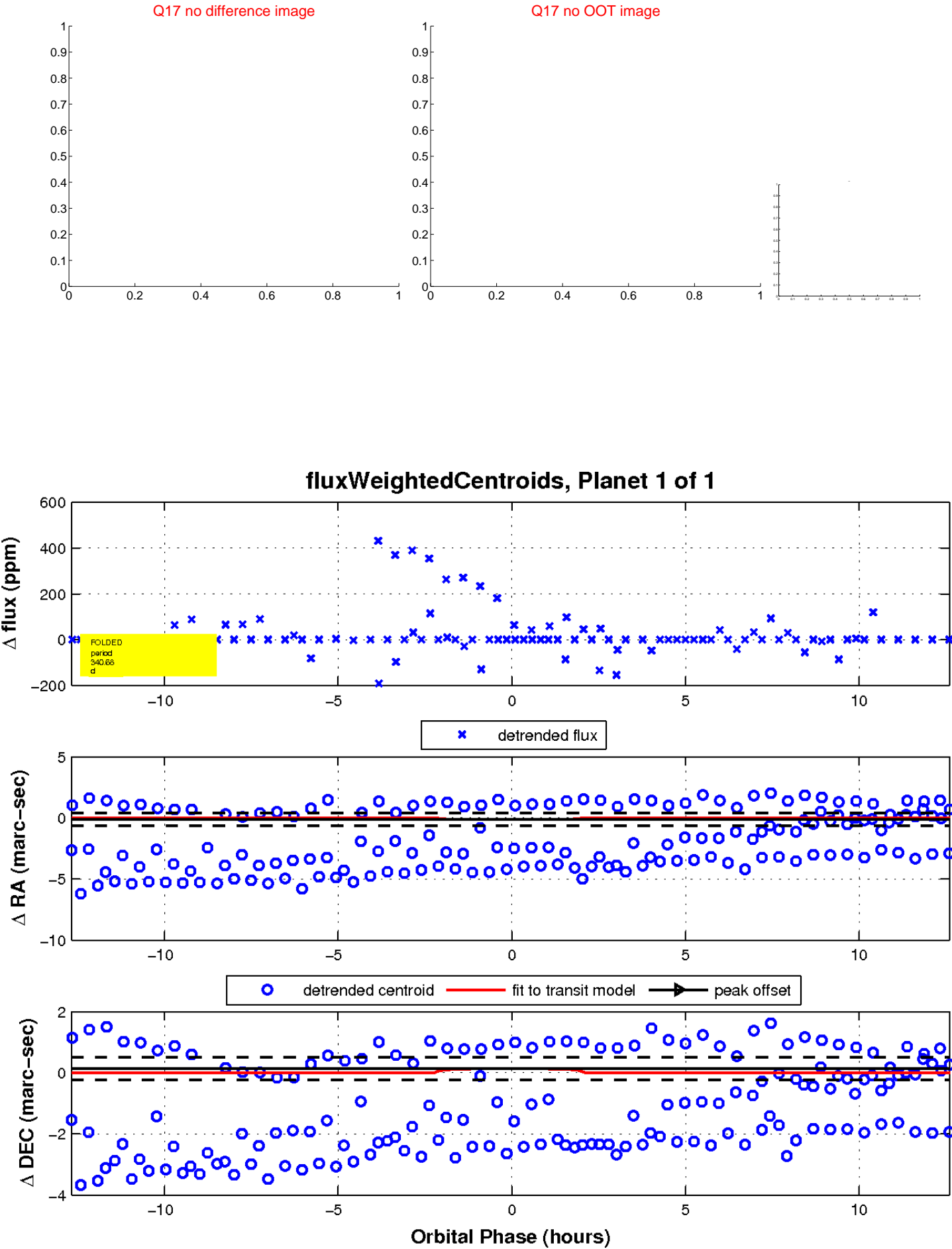
Q12 no OOT image



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.



UKIRT Image

