

KIC 012215566

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})
012215566-01	OBS	No	367.345216	359.509867	667.9	11.664	11.6	12.5	154.44	3273	396.50	2230.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012215566-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—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.

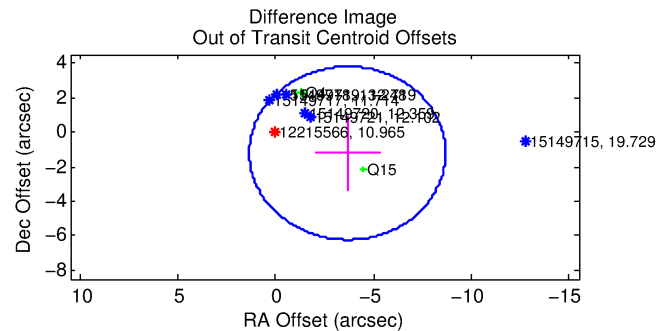
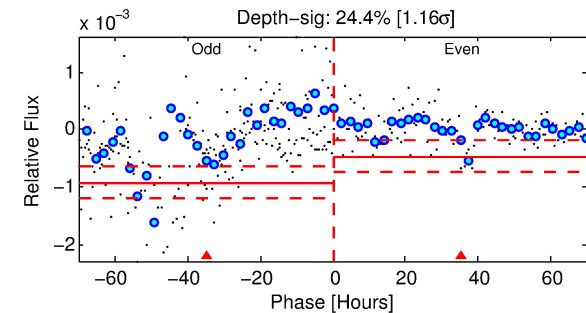
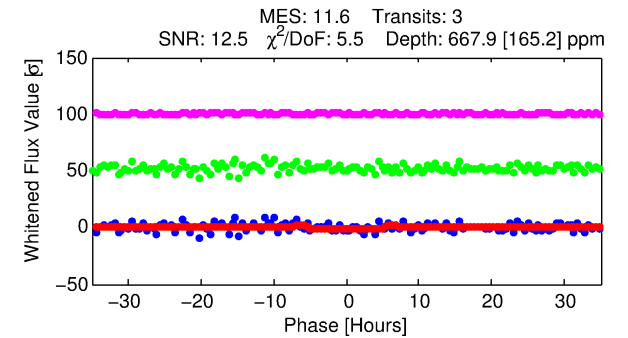
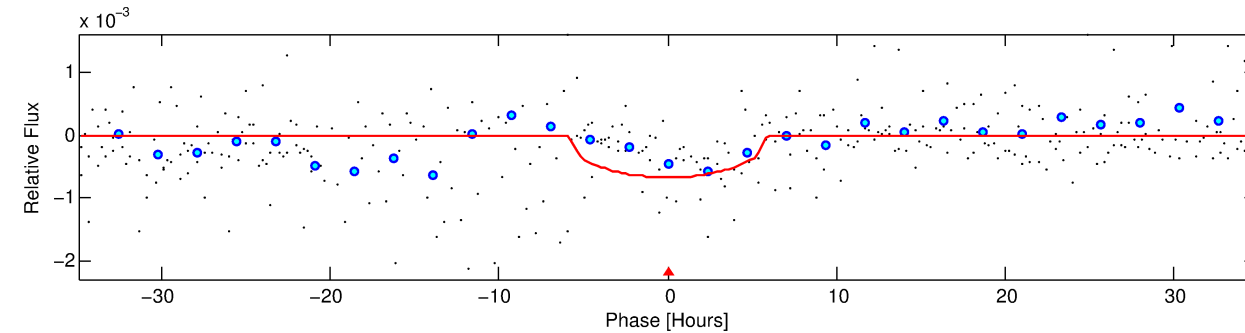
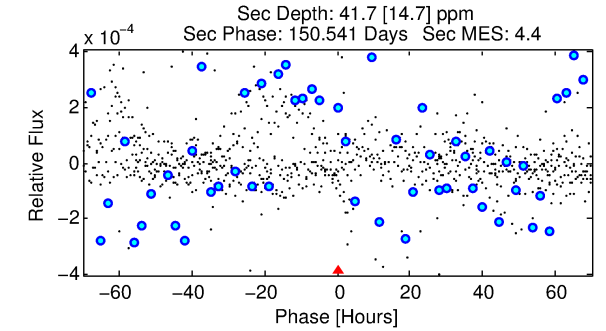
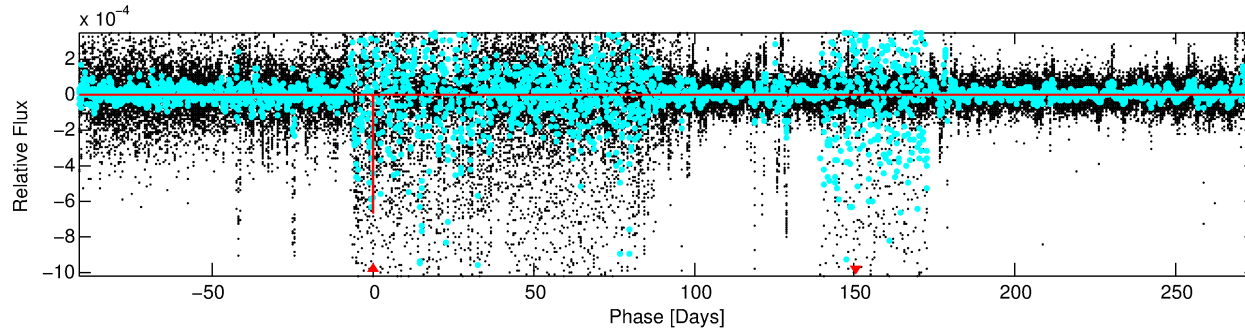
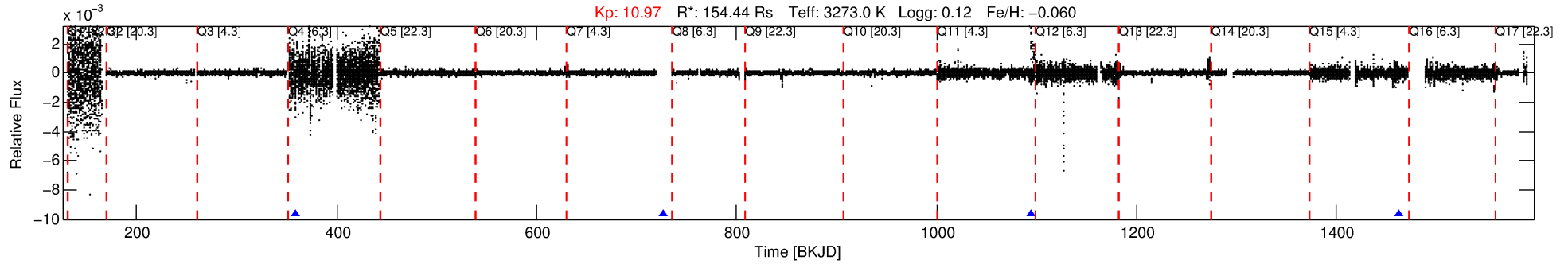
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012215566-01

No Significant Match Found

DV One-Page Summary

KIC: 12215566 Candidate: 1 of 1 Period: 367.345 d



DV Fit Results:

Period = 367.34522 [0.00866] d
Epoch = 359.5099 [0.0166] BKJD
Rp/R* = 0.0235 [0.0140]
a/R* = 209.71 [280.05]
b = 0.54 [1.82]
Seff = 2230.57 [800.74]
Teq = 1752 [157] K
Rp = 396.49 [246.81] Re
a = 1.0485 [0.2037] AU
Ag = 0.16 [0.21] [-4.07 σ]
Teffp = 1715 [537] K [-0.07 σ]

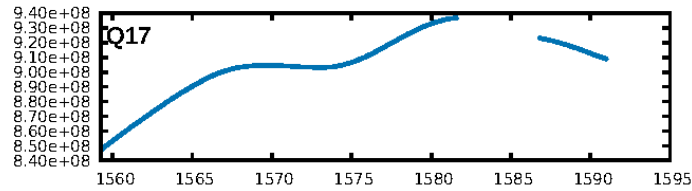
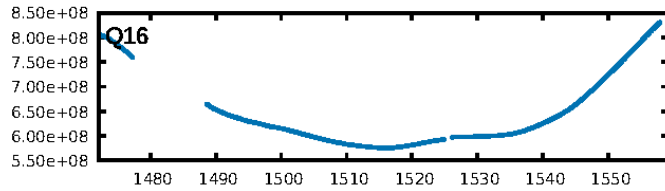
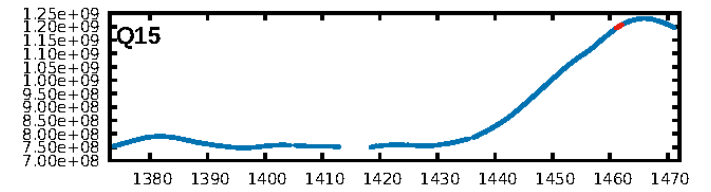
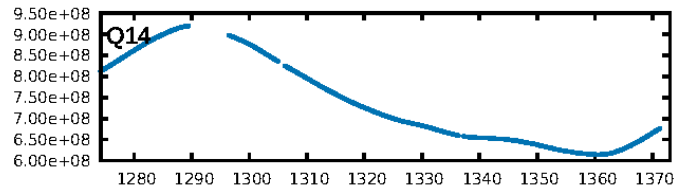
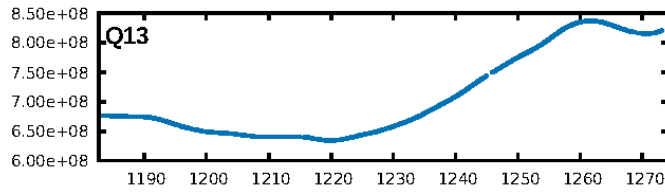
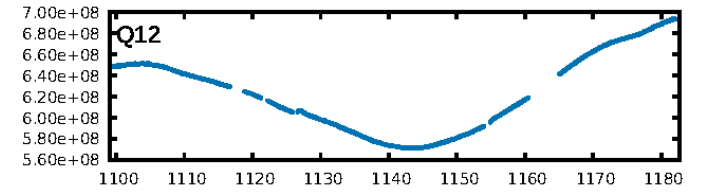
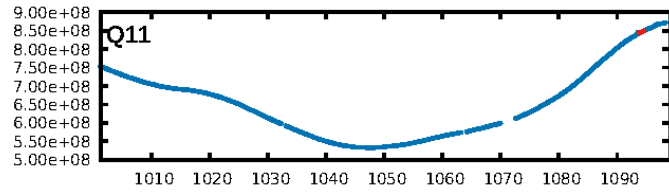
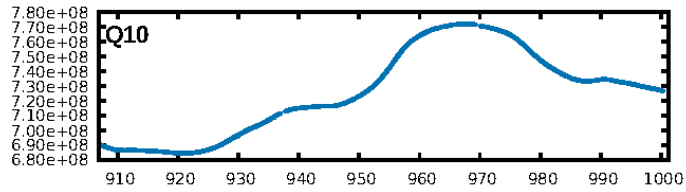
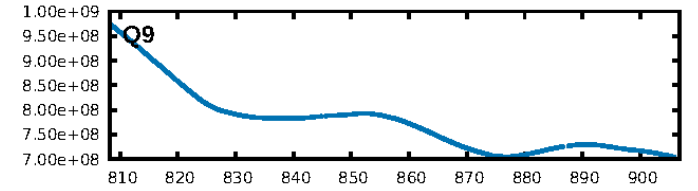
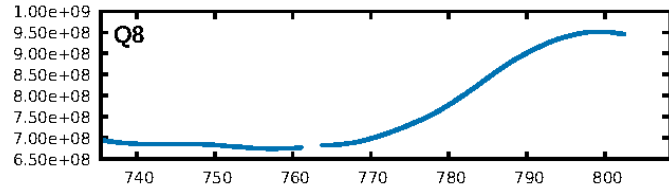
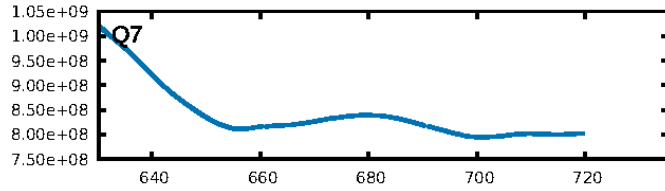
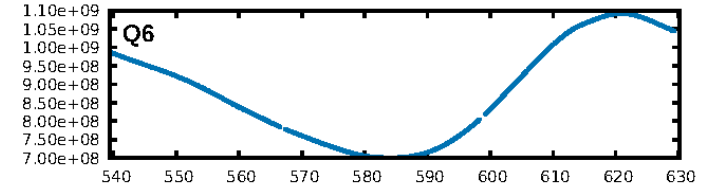
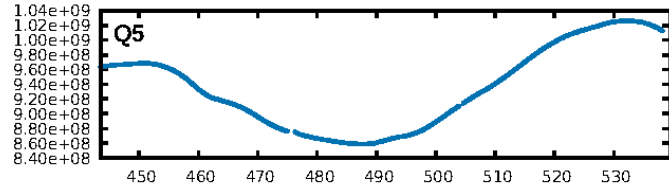
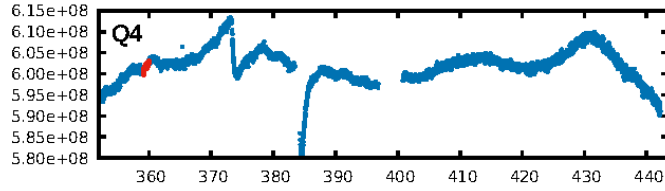
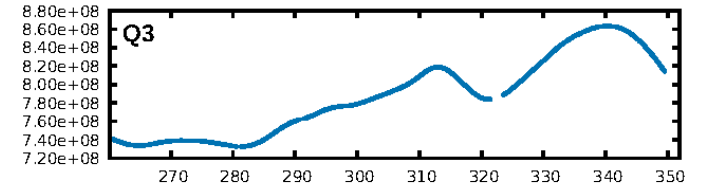
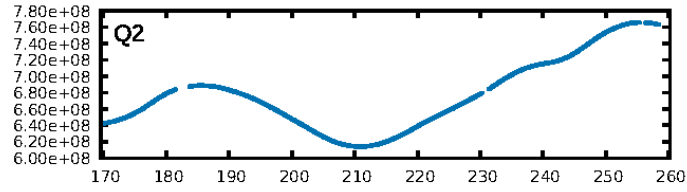
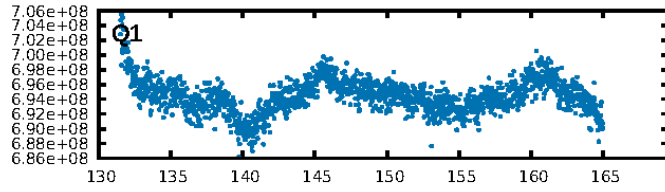
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 9.83e-04
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 8.037
Centroid-sig: 53.3%
Centroid-so: 0.886 arcsec [2.32 σ]
OotOffset-rm: 3.863 arcsec [2.31 σ]
KicOffset-rm: 3.495 arcsec [2.14 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

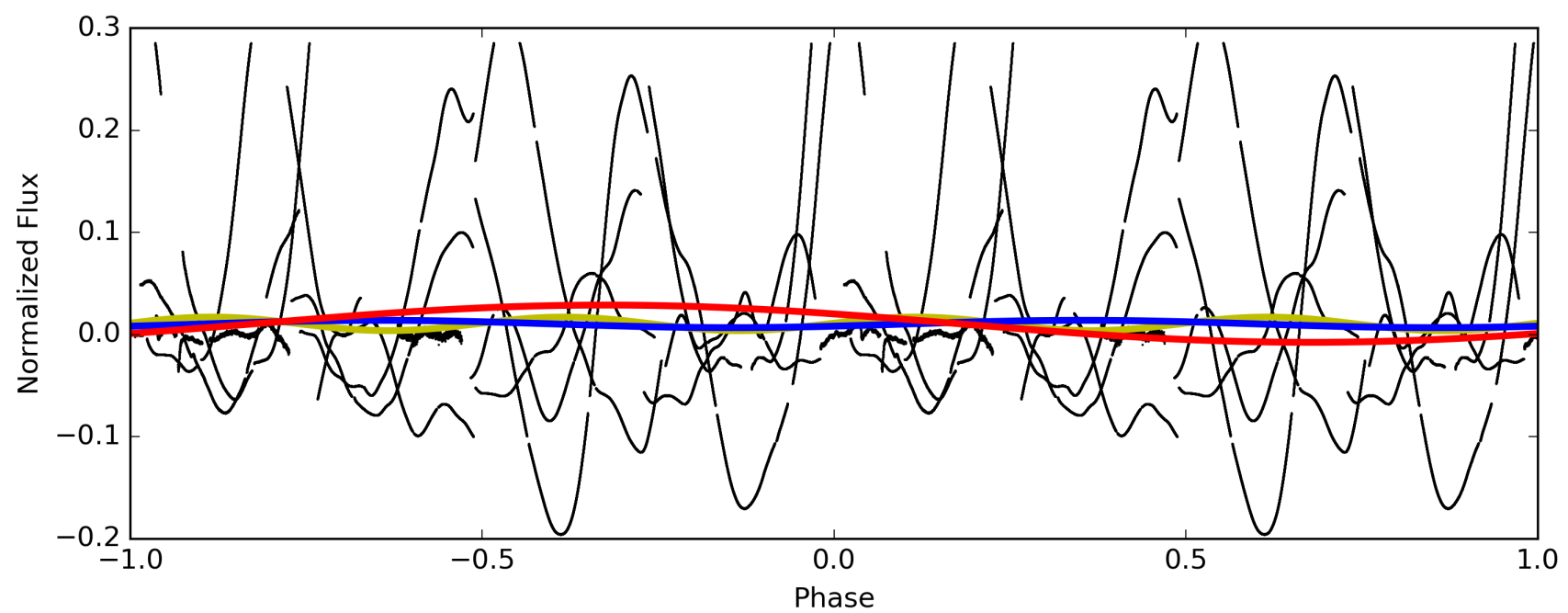
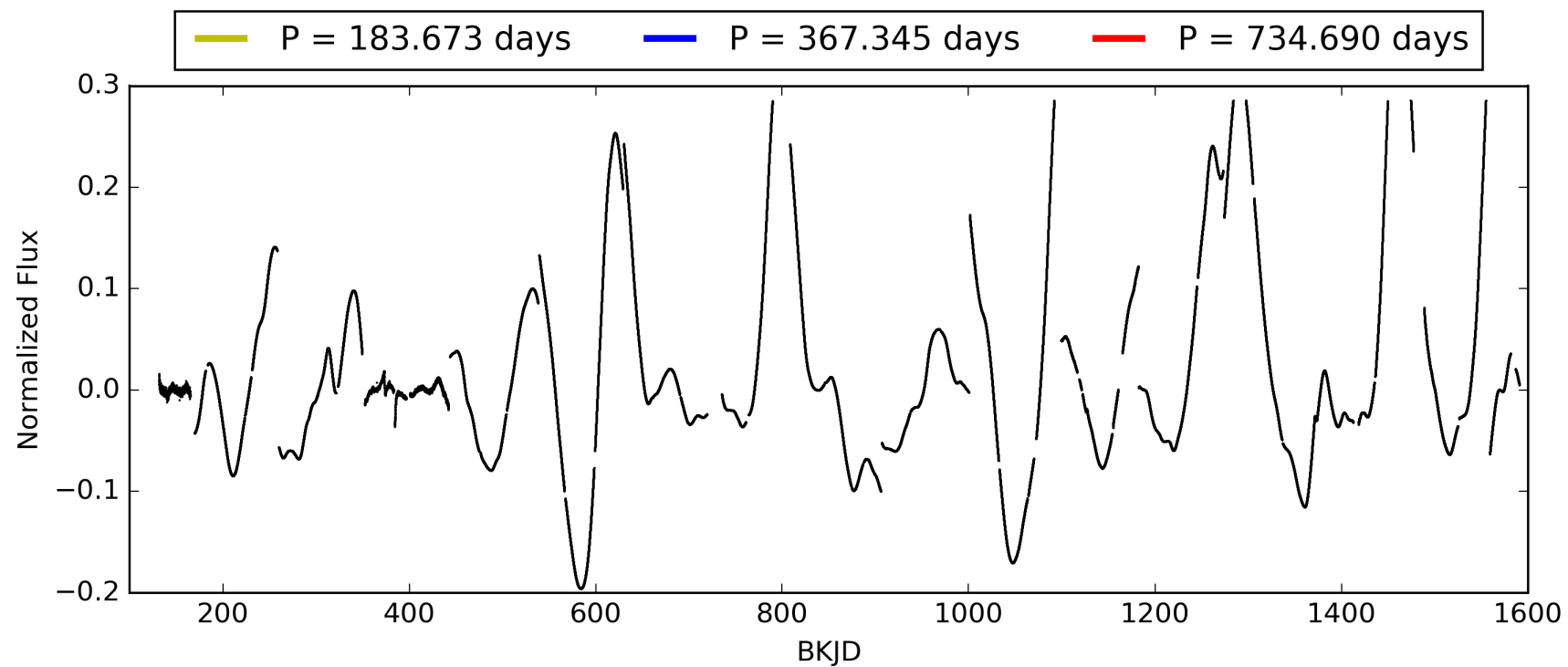
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:42:04 Z

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

TCE 012215566-01, PDC Light Curves

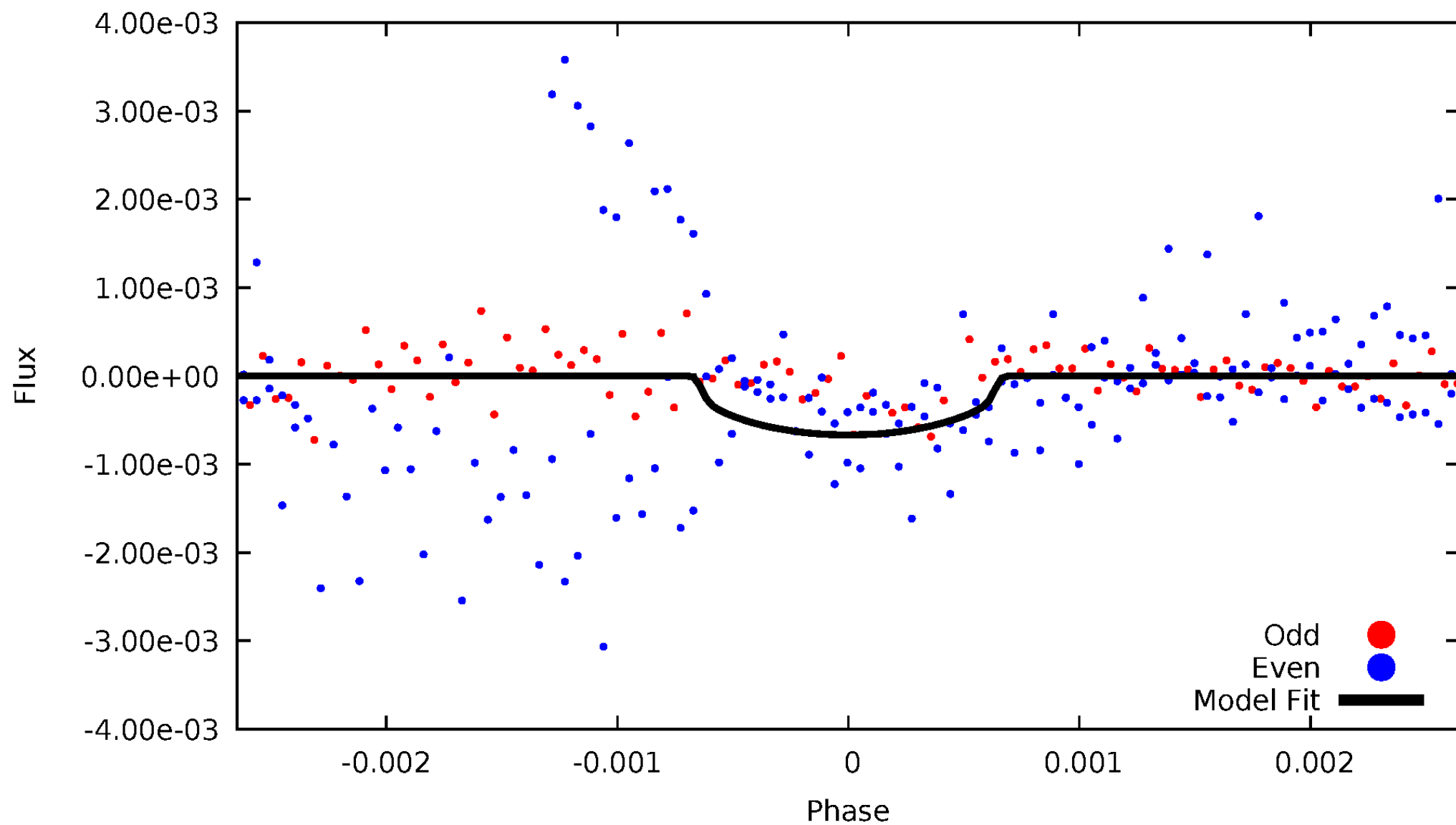


TCE 012215566-01



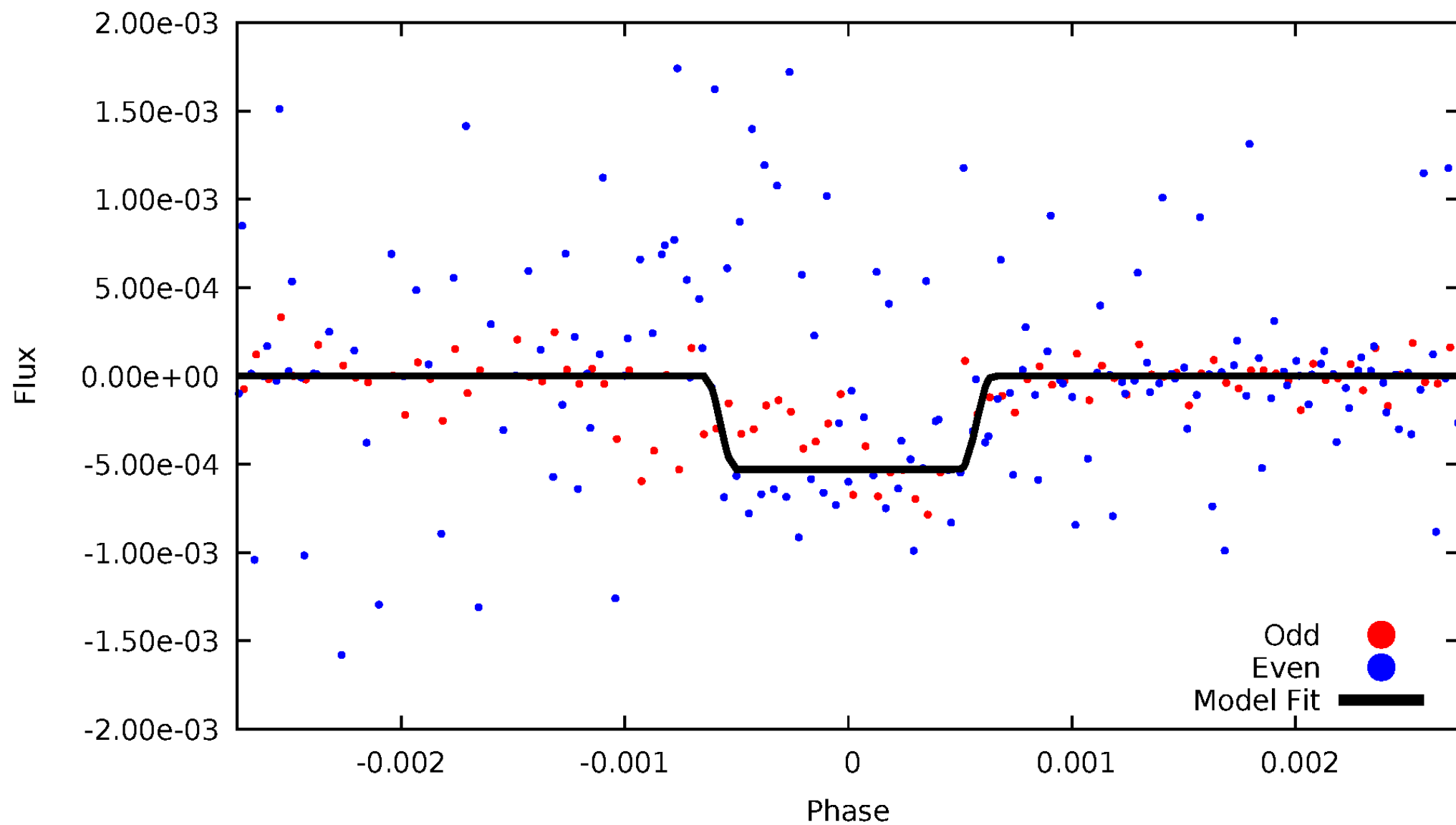
DV Odd/Even

TCE 012215566-01



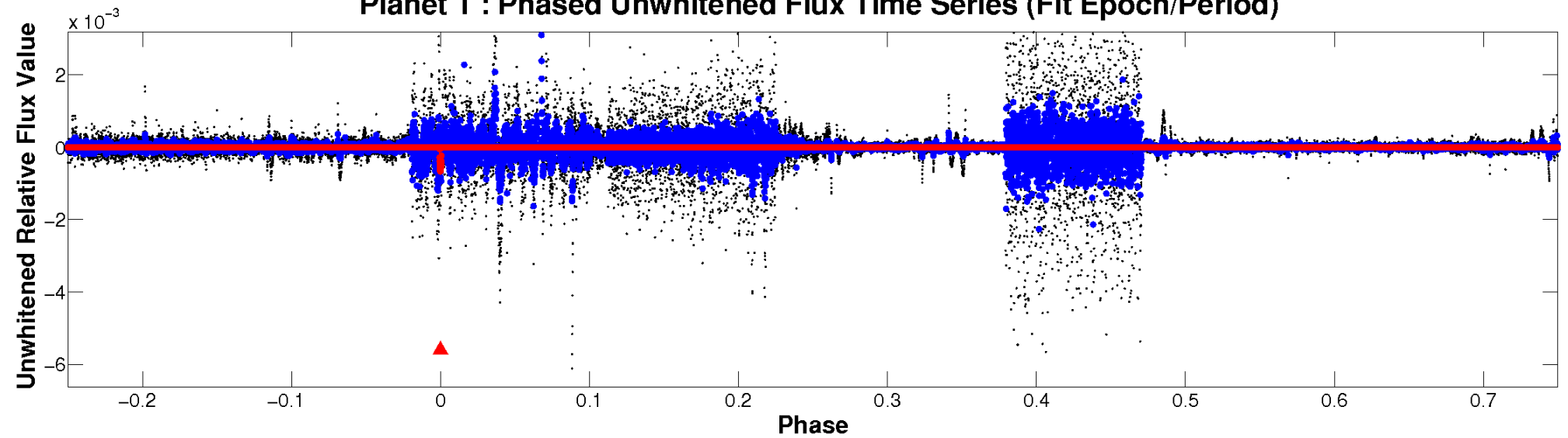
ALT Odd/Even

TCE 012215566-01

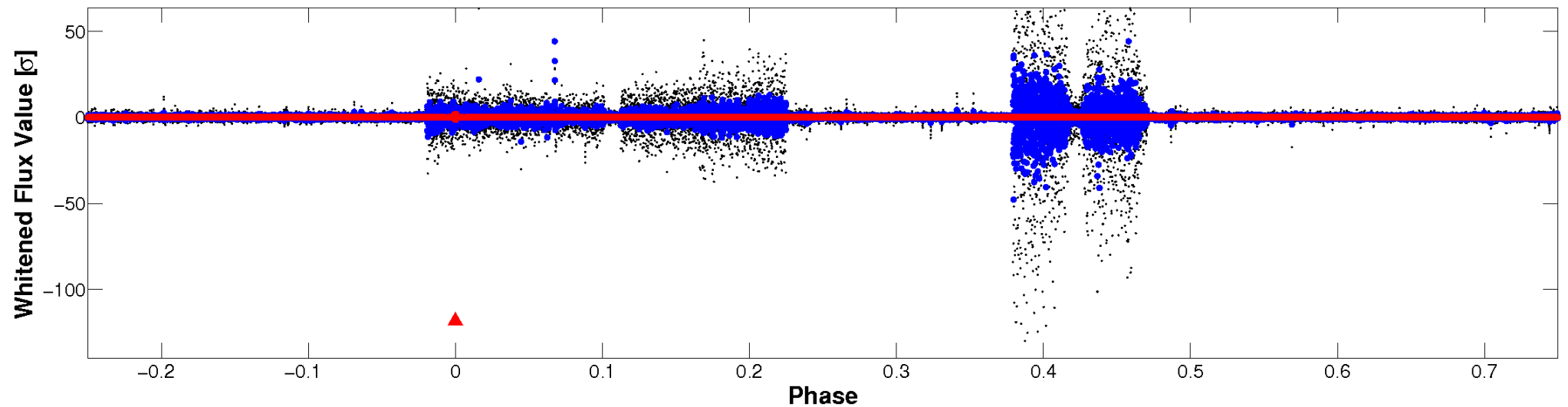


Non-Whitened Vs. Whitened Light Curve

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



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



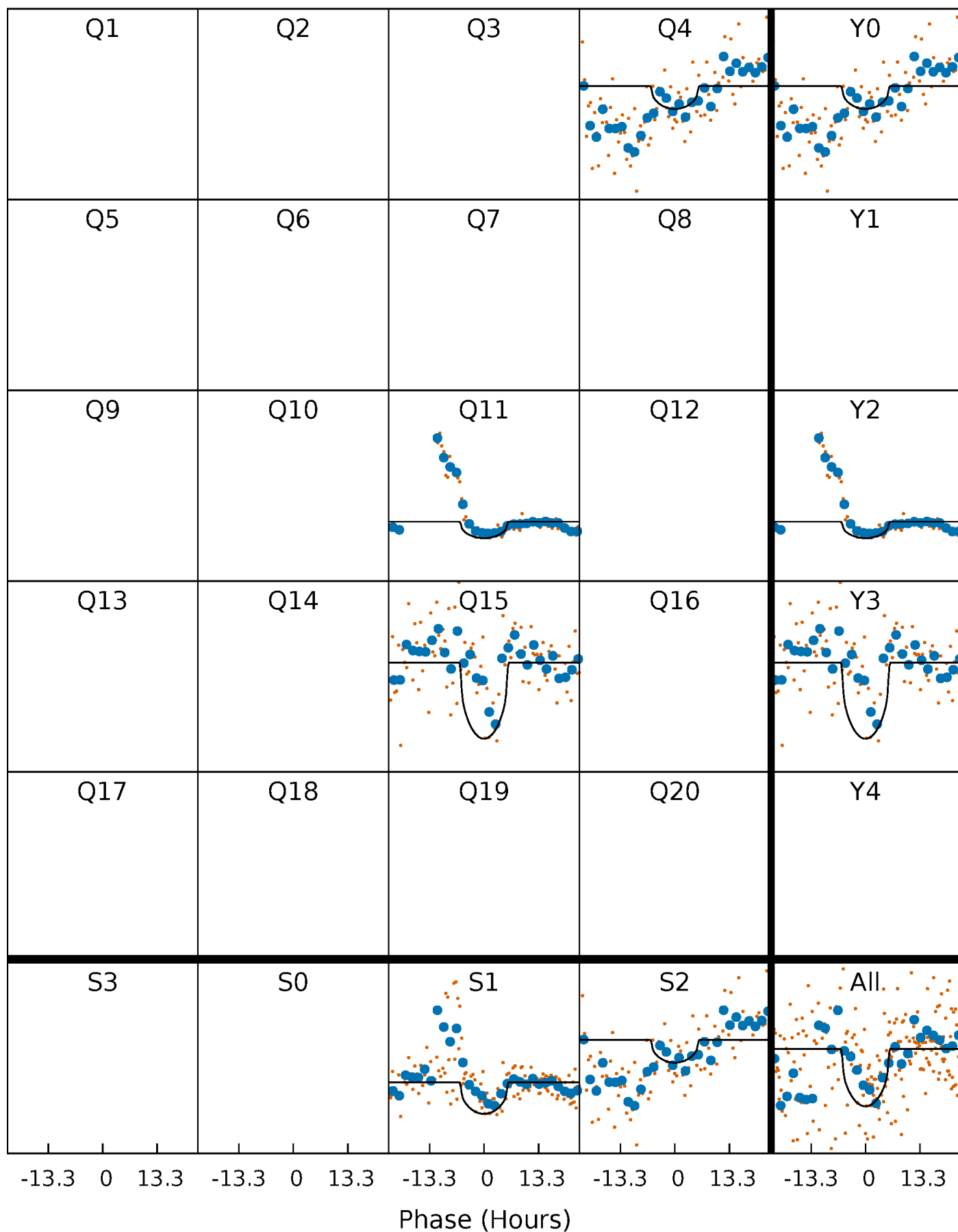
PDC Quarter-Phased Transit Curves

TCE 012215566-01 P=367.345216 Days $T_0=359.509867$ (BKJD)



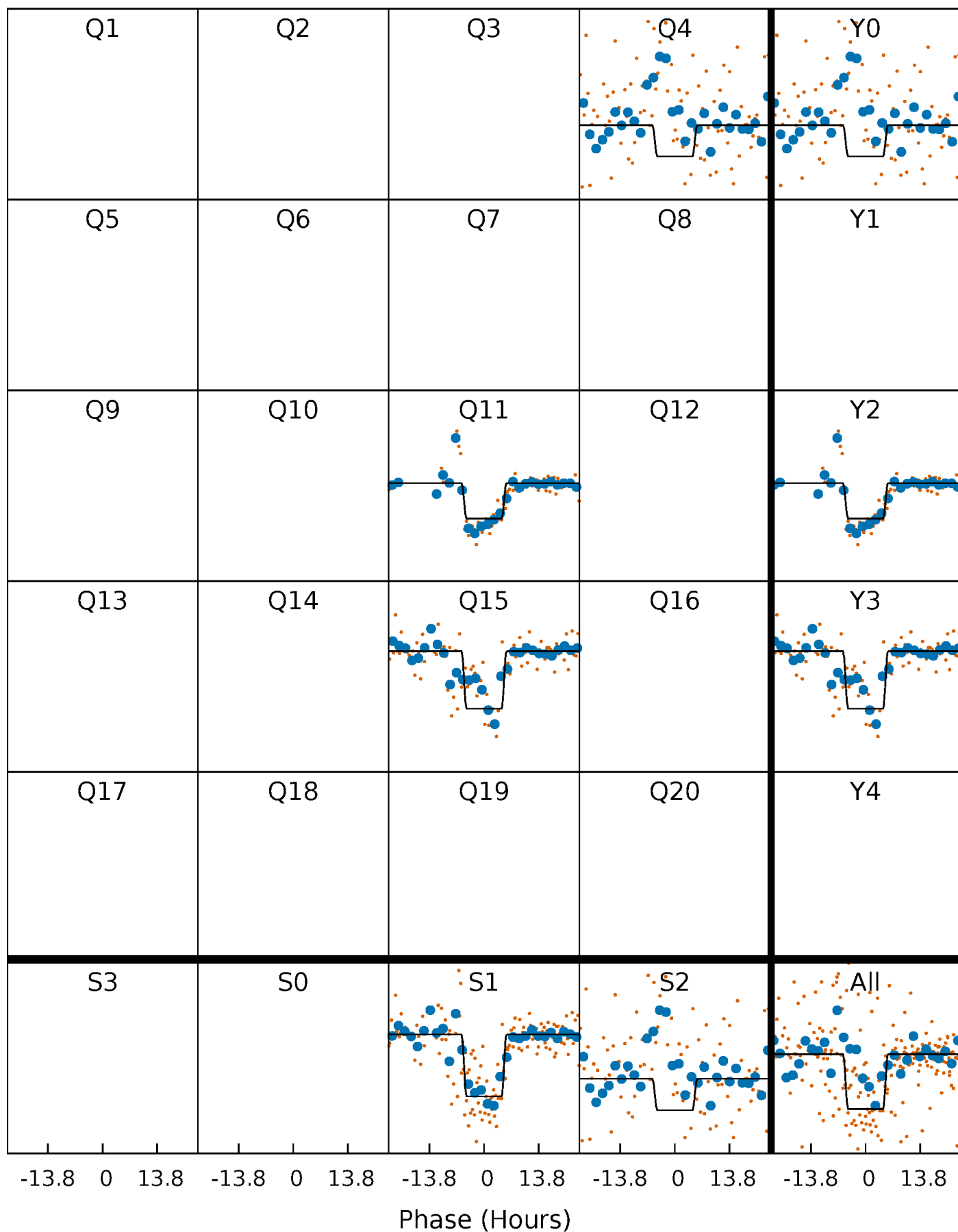
DV Quarter-Phased Transit Curves

TCE 012215566-01 P=367.345216 Days $T_0=359.509867$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

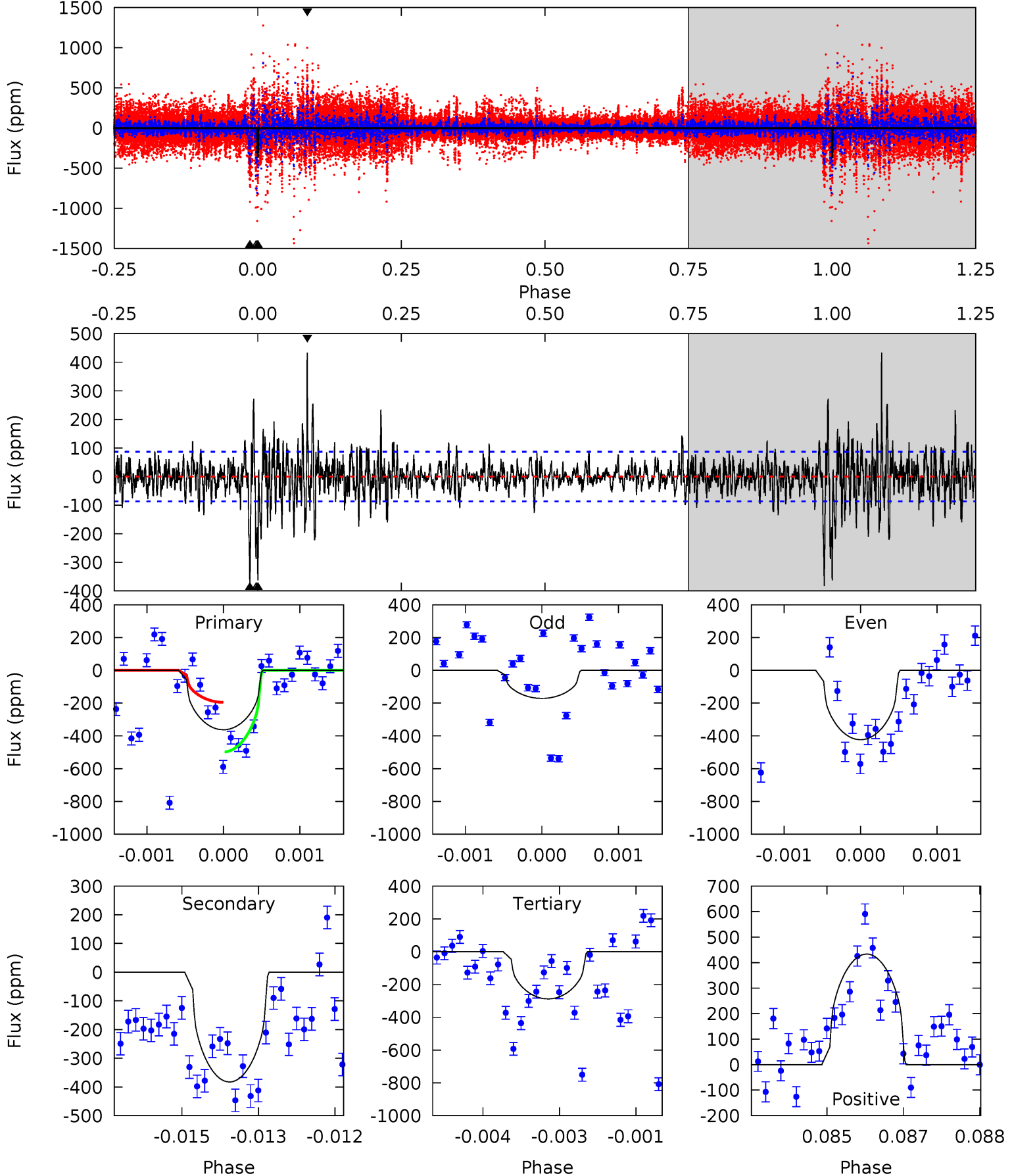
TCE 012215566-01 P=367.347731 Days $T_0=359.503224$ (BKJD)



DV Model-Shift Uniqueness Test

012215566-01, P = 367.345216 Days, E = 359.509867 Days

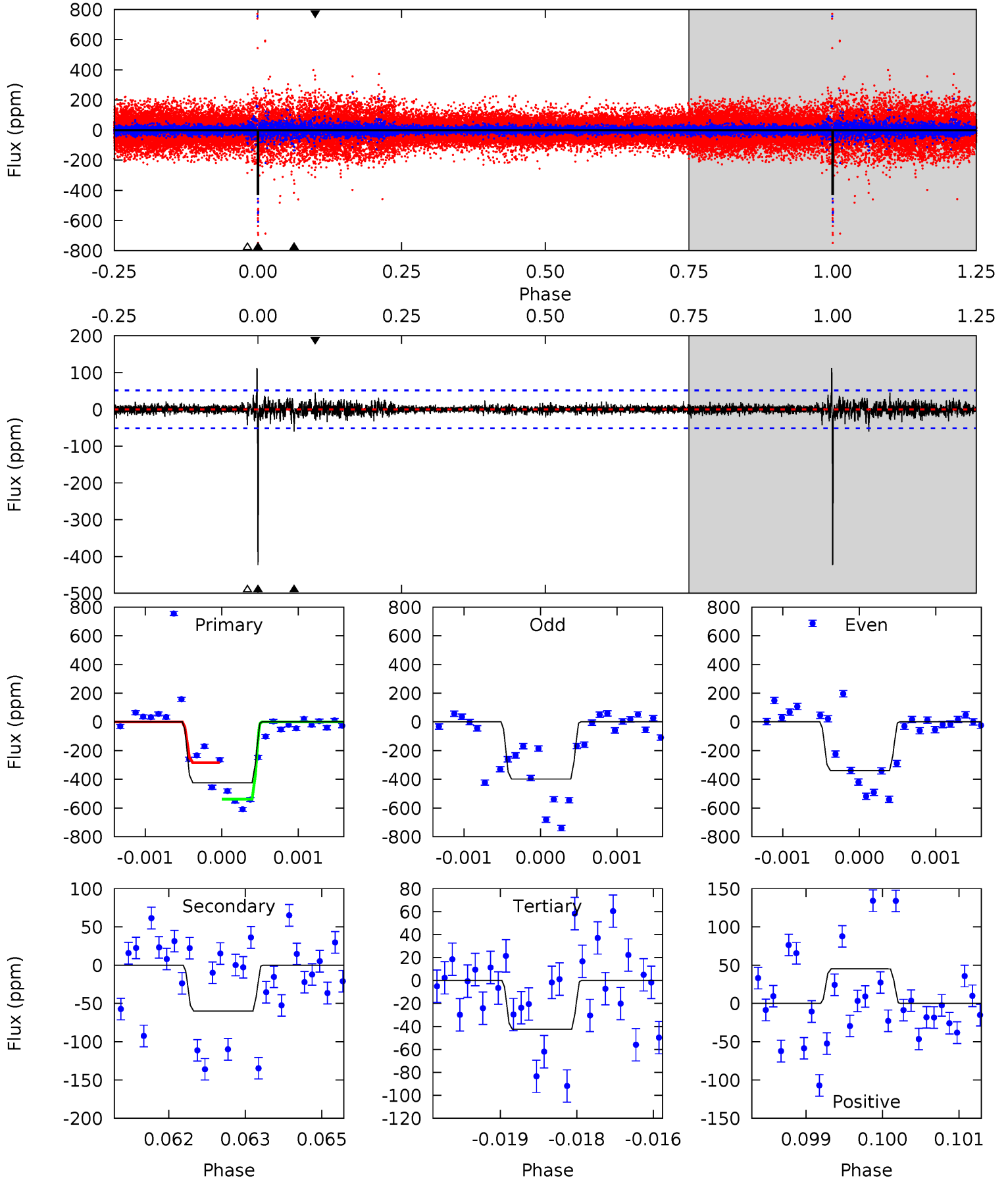
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	23.9	18.0	27.0	5.40	3.21	2.94	4.67	-4.41	5.91	-3.17	5.35	1.12	0.53	8.63



Alt Model-Shift Uniqueness Test

012215566-01, P = 367.347731 Days, E = 359.503224 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.5	6.29	4.46	4.73	5.41	3.22	0.69	40.0	39.7	1.83	1.55	2.50	0.49	0.21	13.2



Stellar Parameters For KIC 012215566

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3273^{+117}_{-78}	$0.117^{+0.200}_{-0.050}$	$-0.060^{+0.250}_{-0.150}$	$154.438^{+9.192}_{-27.576}$	$1.138^{+0.189}_{-0.155}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+171%/-43%	+417%/-250%	+6%/-18%	+17%/-14%	+88%/-15%
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 012215566-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-383 ± 16	$390.63^{+223.77}_{-206.96}$	2411^{+106}_{-118}	2988^{+912}_{-471}	$1.546^{+5.486}_{-0.903}$
Alt.	-60 ± 10	$388.27^{+228.90}_{-194.89}$	2422^{+100}_{-135}	-2087^{+4855}_{-306}	$0.241^{+0.716}_{-0.143}$

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 $A_{obs} \gg 1.0$

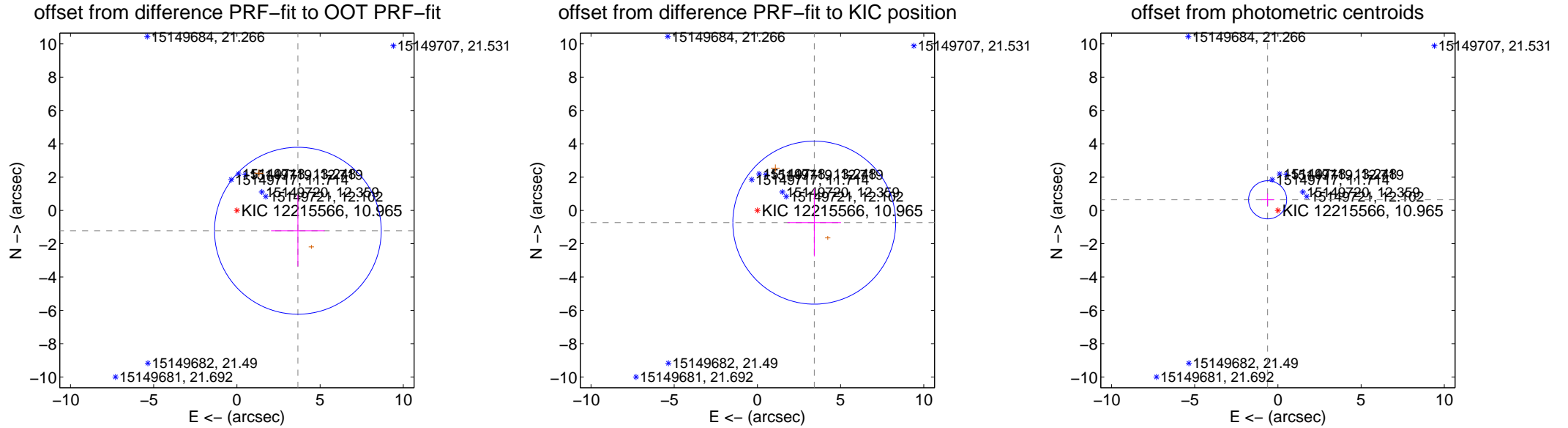
DV Centroid Data

Supplemental centroid analysis for 012215566-01. **Kepler magnitude: 10.96.** Transit SNR 12.48

There are 0 quarters with good PRF difference image offsets

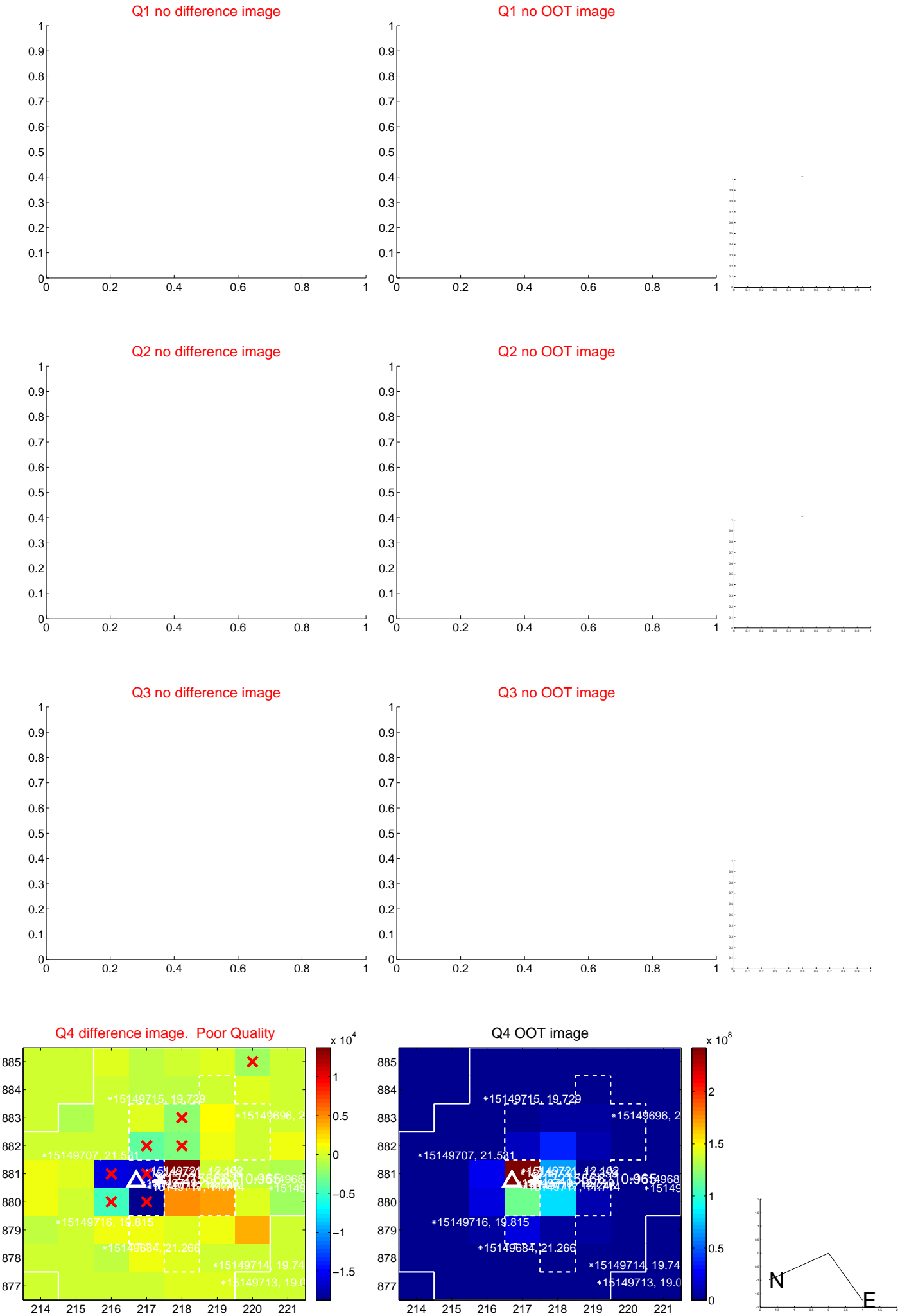
The direct PRF centroid is offset from the target star catalog position by about 0.59 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.863 ± 1.670	2.31	-3.664 ± 1.610	-1.221 ± 2.140
PRF-fit source offset from KIC position	3.495 ± 1.631	2.14	-3.417 ± 1.611	-0.735 ± 2.025
photometric centroid source offset	0.89 ± 0.38	2.32	0.62 ± 0.39	0.64 ± 0.38



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.



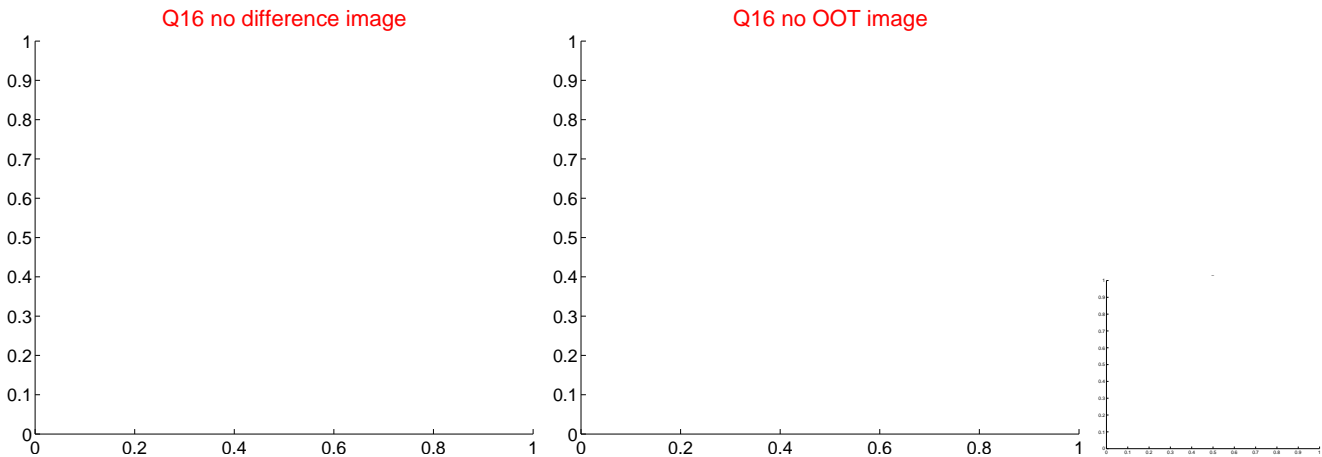
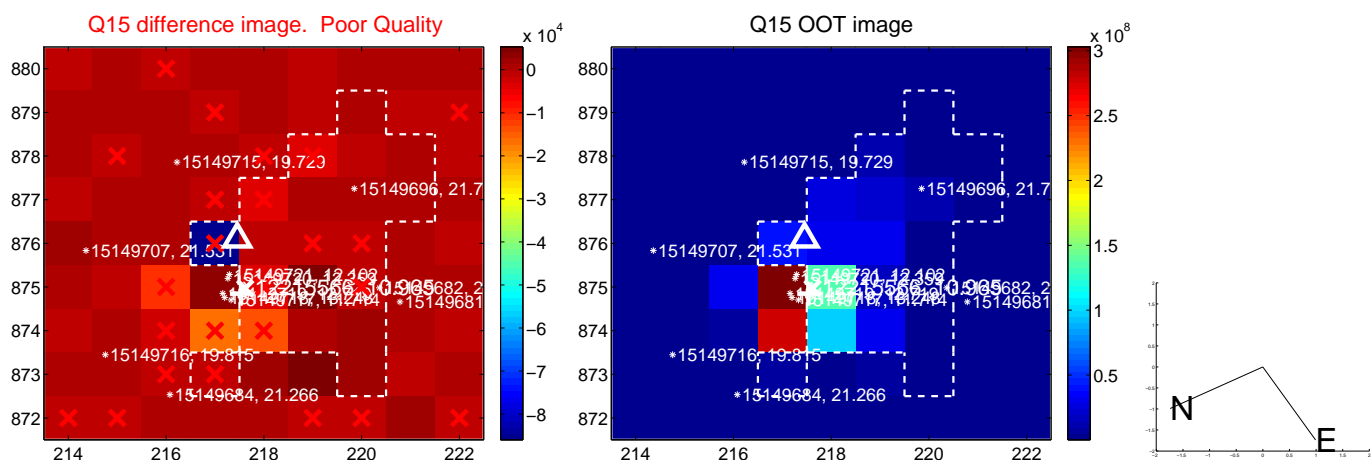
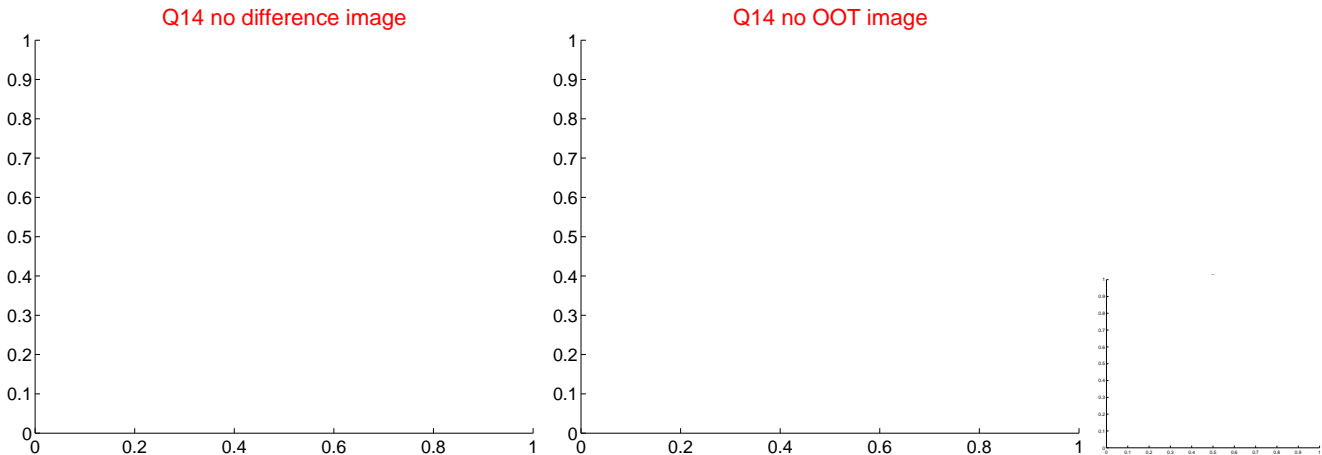
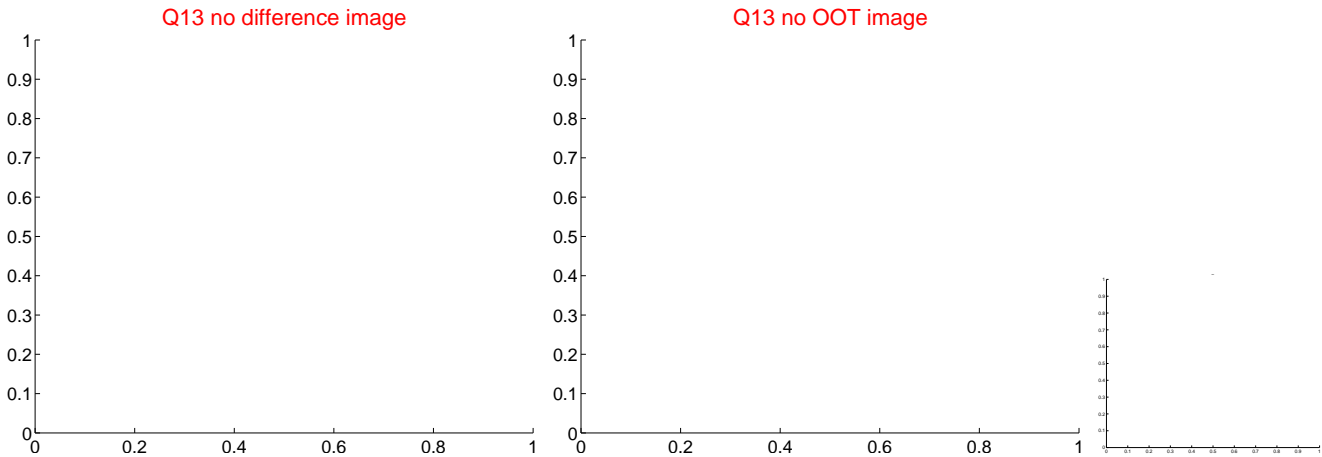
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



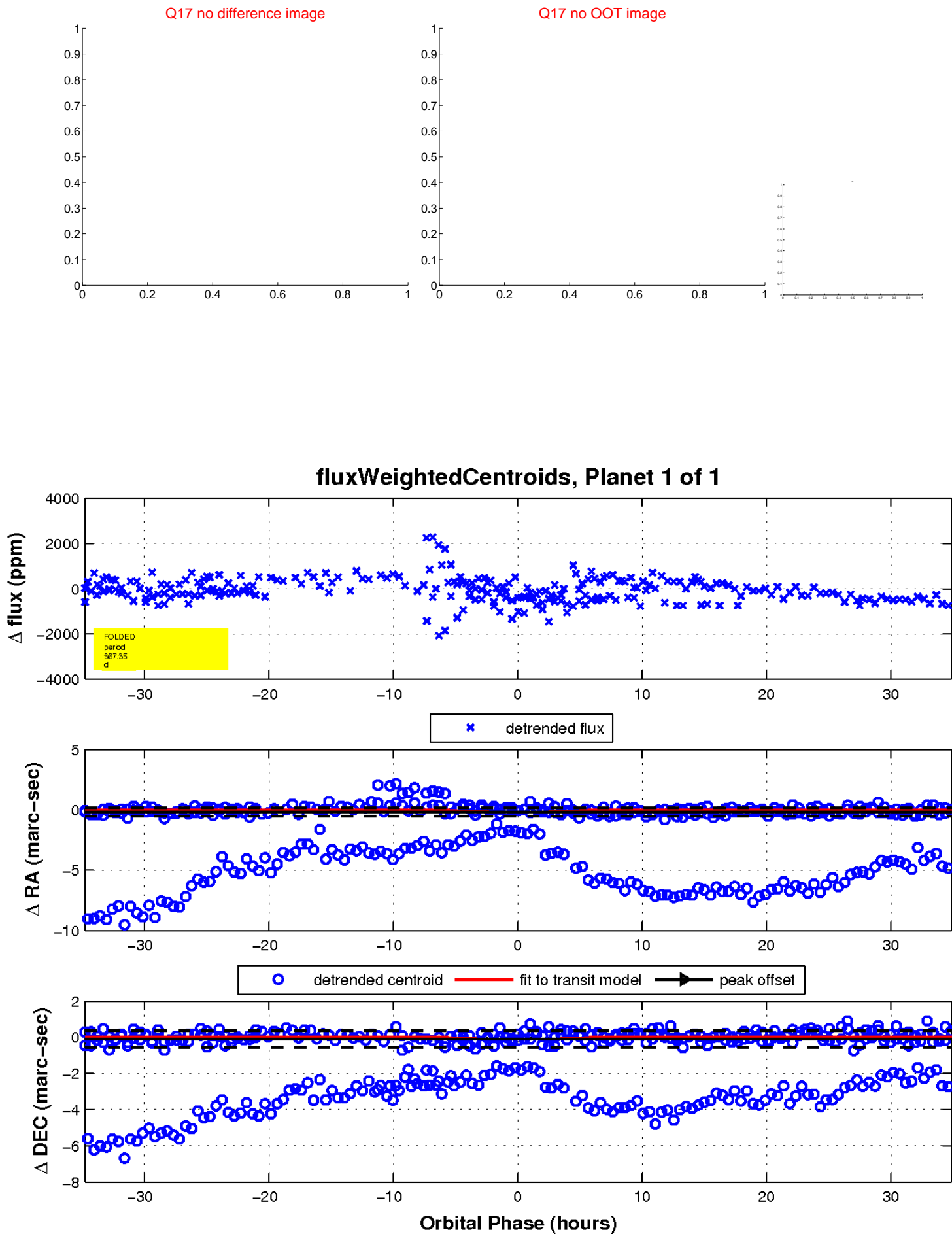
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

