

KIC 006621116

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})
006621116-01	OBS	1226.01	137.759619	173.164699	83865.6	9.230	1305.5	1065.0	1.45	5323	60.17	5.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006621116-01	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.

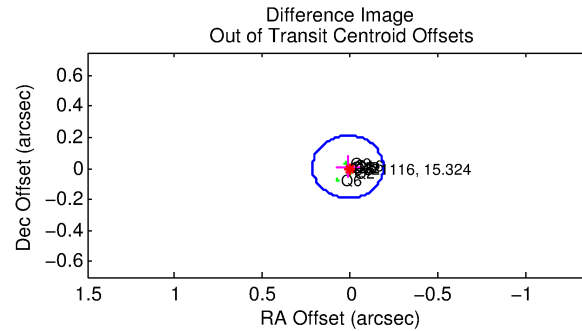
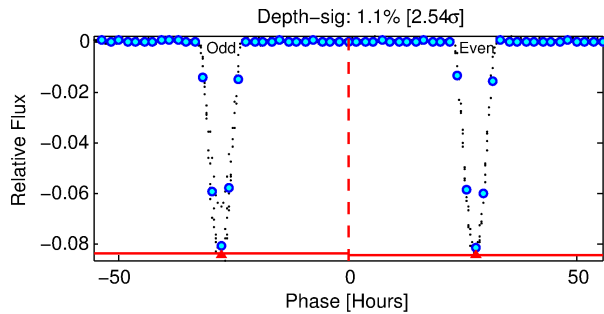
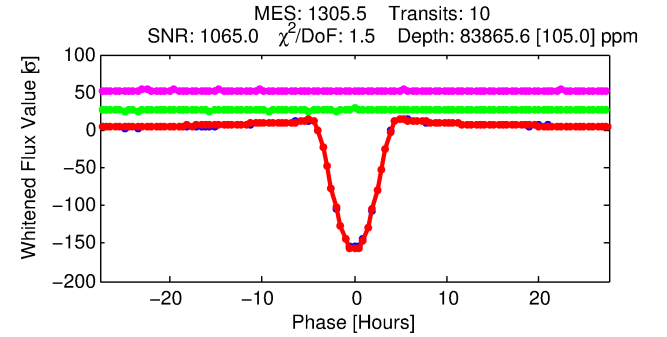
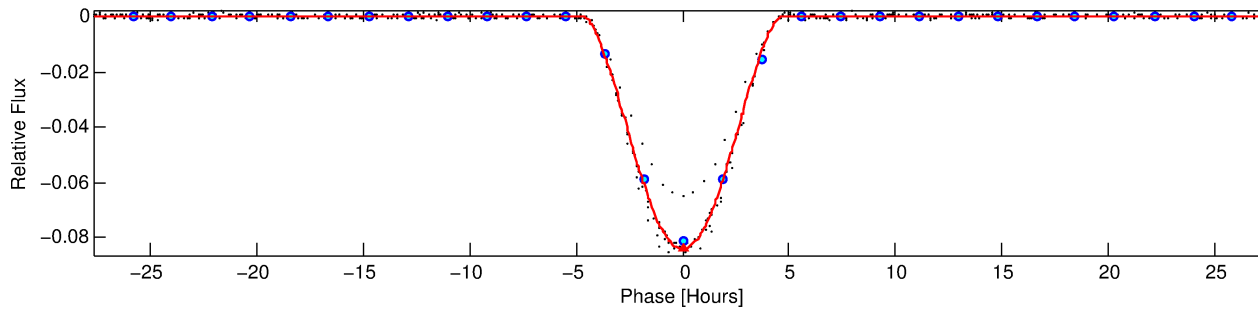
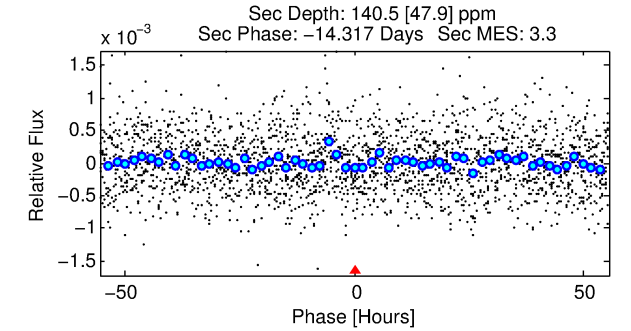
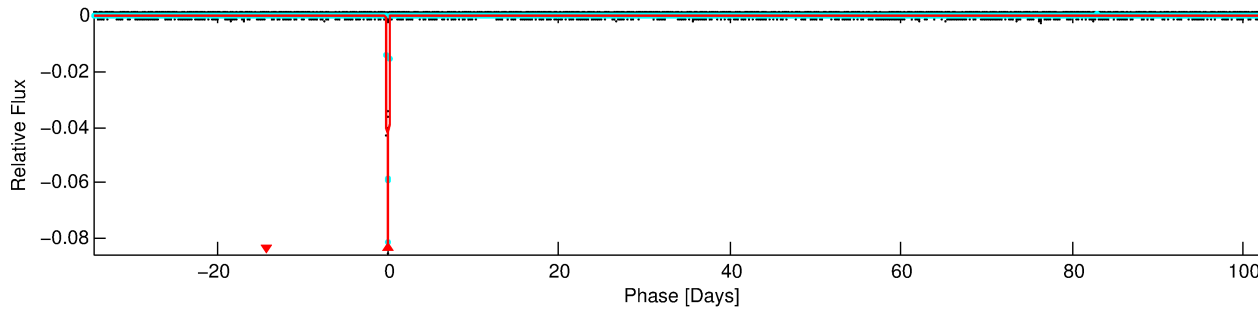
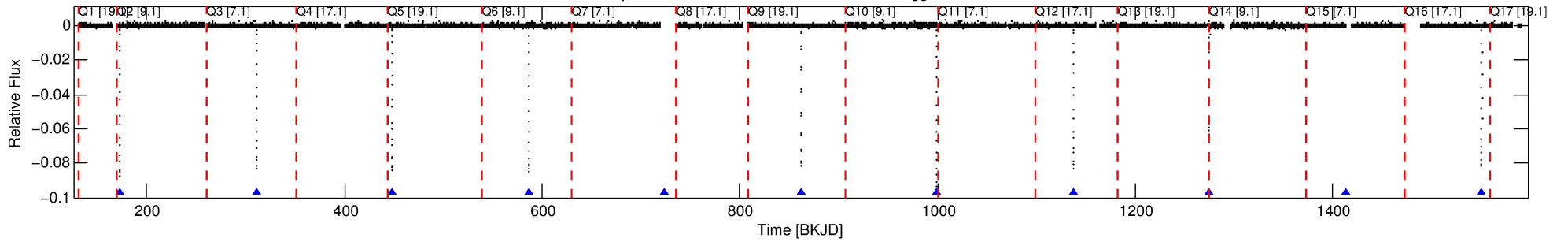
Ephemeris Match Information For 006621116-01

No Significant Match Found

DV One-Page Summary

KIC: 6621116 Candidate: 1 of 1 Period: 137.760 d
KOI: K01226.01 Corr: 0.997

Kp: 15.32 R*: 1.45 Rs Teff: 5323.0 K Logg: 4.08 Fe/H: 0.200



DV Fit Results:

Period = 137.75962 [0.00004] d
Epoch = 173.1647 [0.0002] BKJD
Rp/R* = 0.3797 [0.0279]
a/R* = 119.95 [0.18]
b = 0.89 [0.04]
Seff = 5.82 [3.66]
Teq = 396 [62] K
Rp = 60.17 [22.36] Re
a = 0.5106 [0.1926] AU
Ag = 5.56 [4.05] [1.13 sigma]
Teffp = 940 [88] K [5.03 sigma]

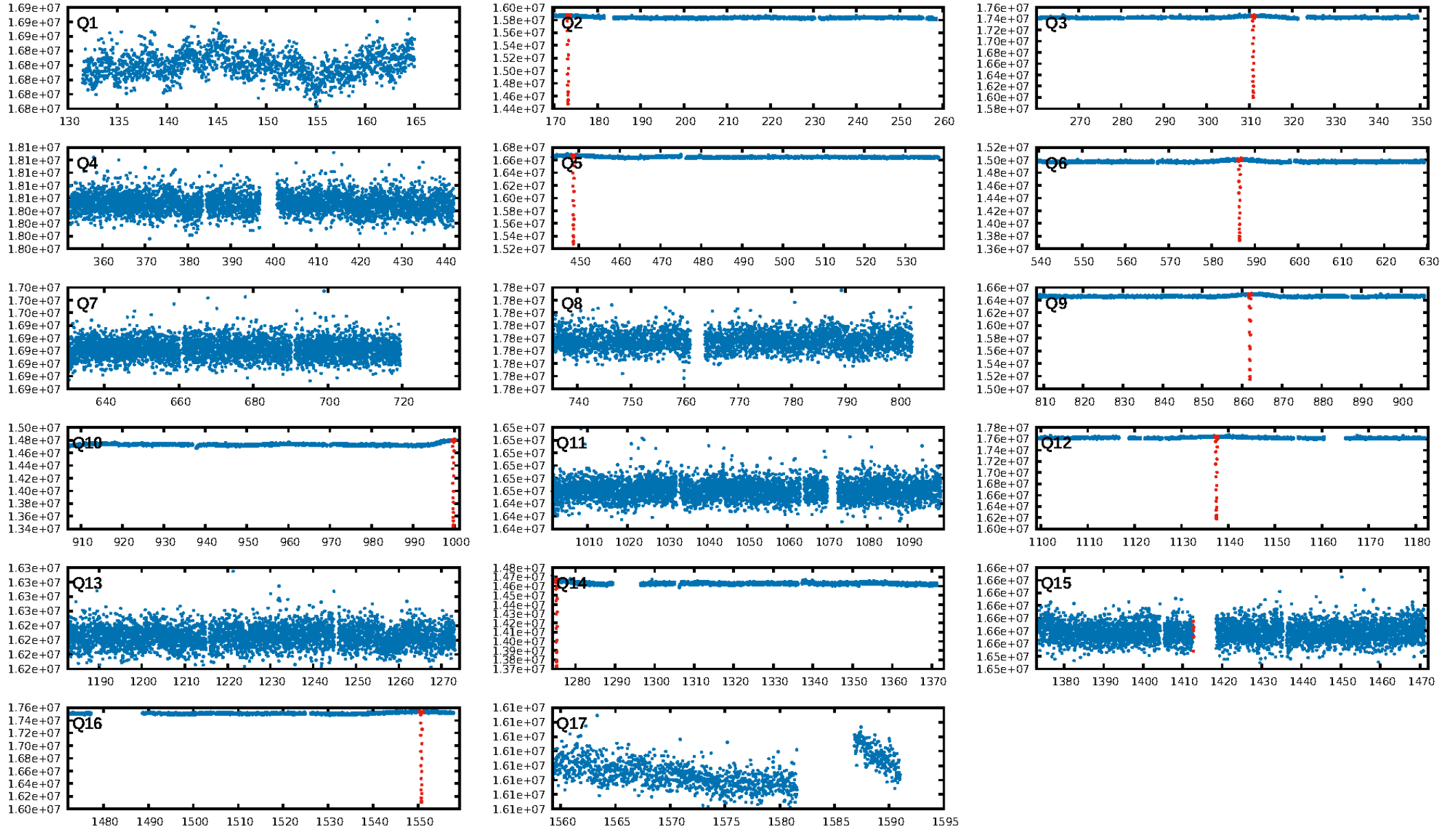
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 16.7%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: 2.583
Centroid-sig: 0.0%
Centroid-so: 0.421 arcsec [50.68 sigma]
OotOffset-rm: 0.017 arcsec [0.25 sigma]
KicOffset-rm: 0.309 arcsec [4.19 sigma]
OotOffset-st: 2/1/2/2 [7]
KicOffset-st: 2/1/2/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

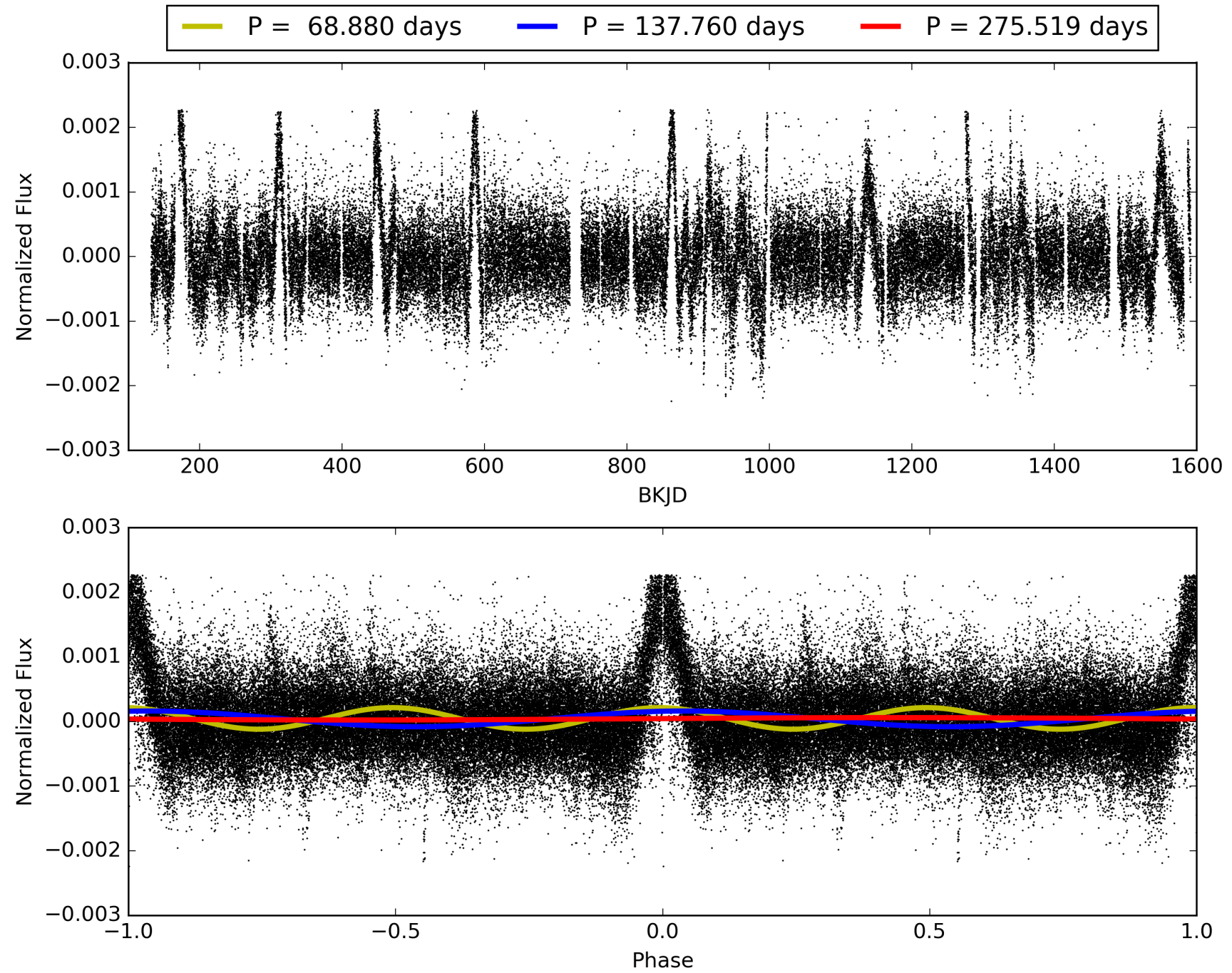
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:38:24 Z

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

TCE 006621116-01, PDC Light Curves

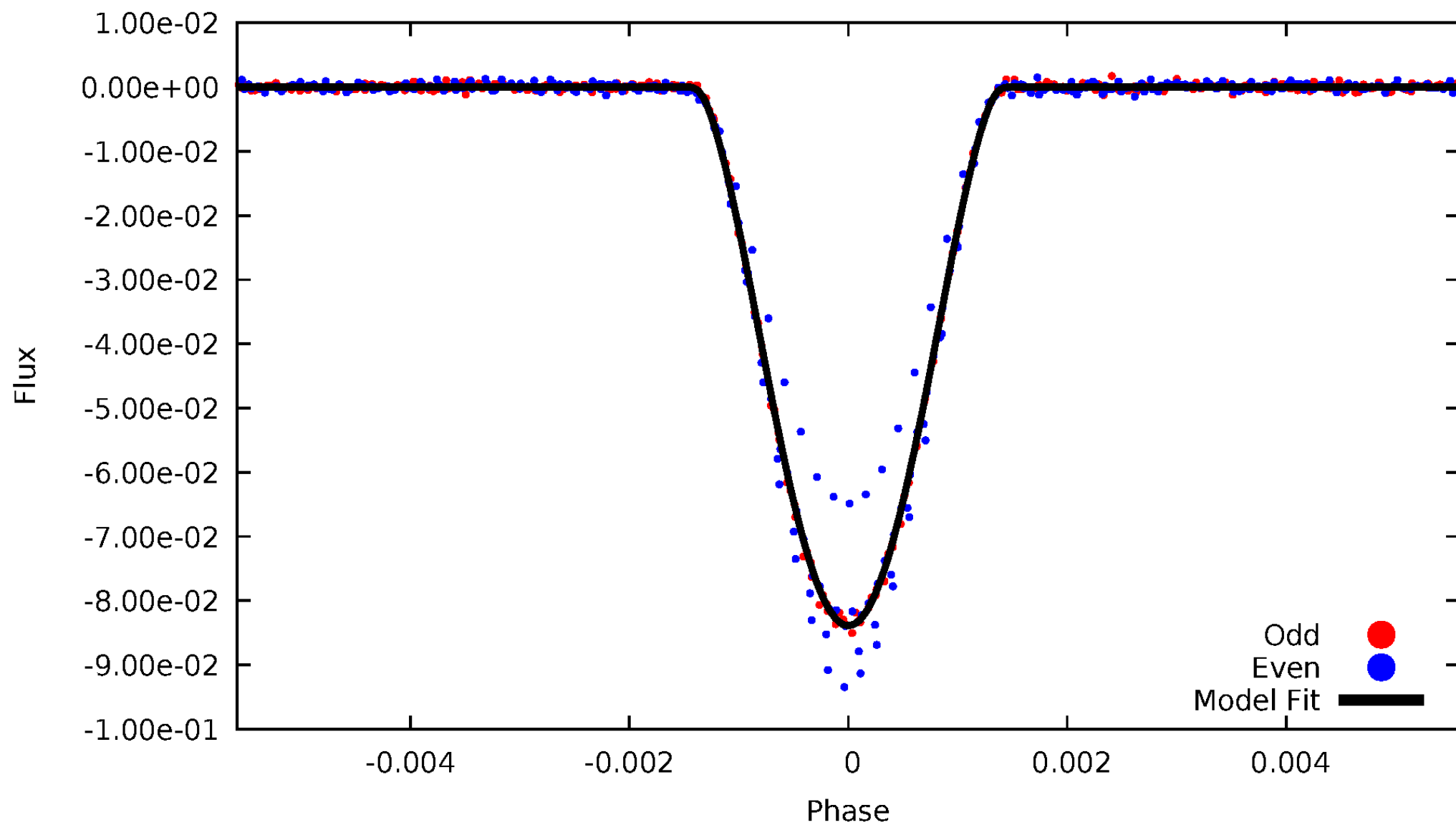


TCE 006621116-01



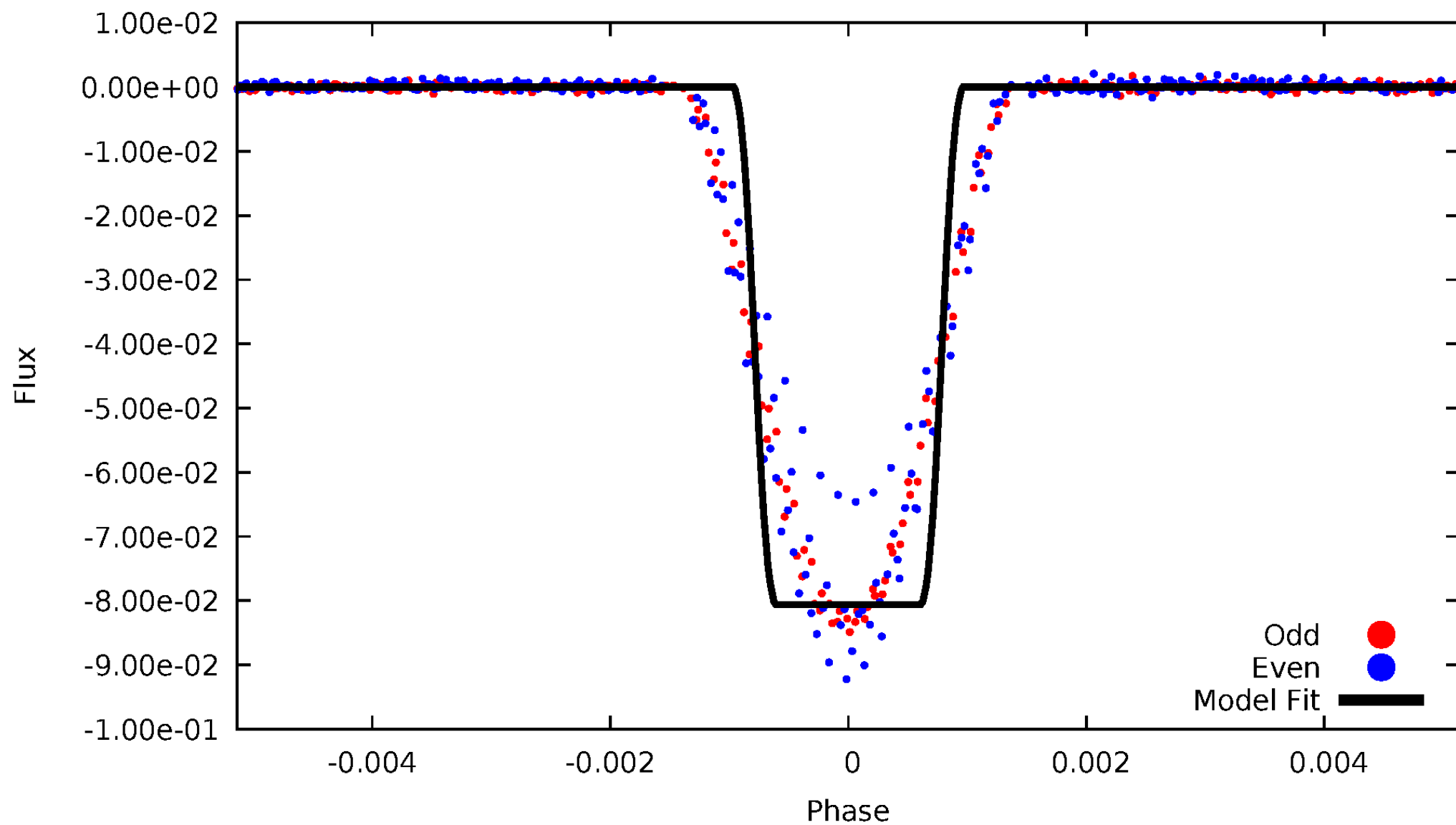
DV Odd/Even

TCE 006621116-01



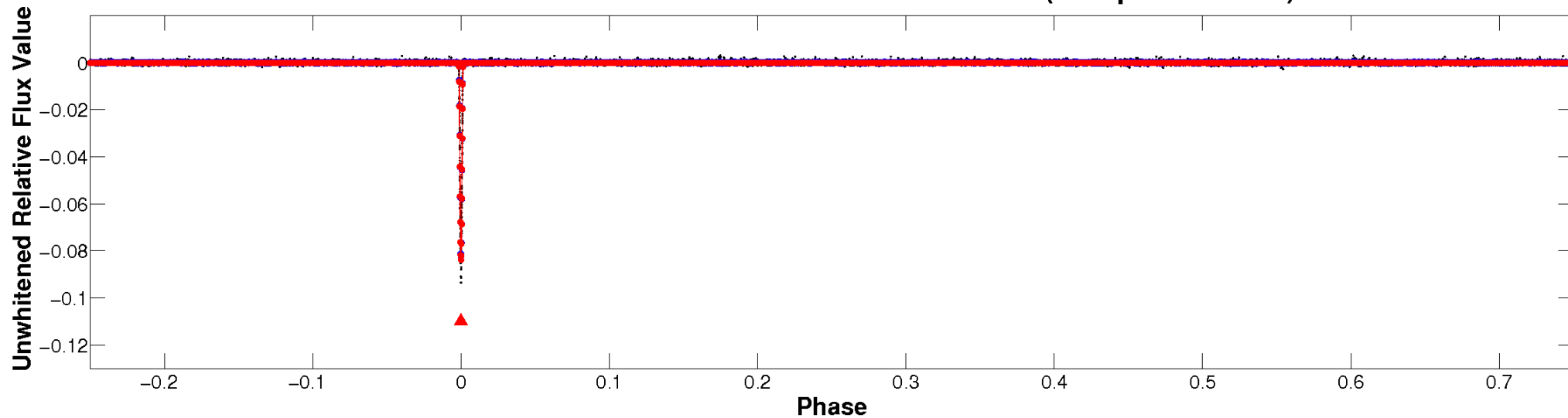
ALT Odd/Even

TCE 006621116-01

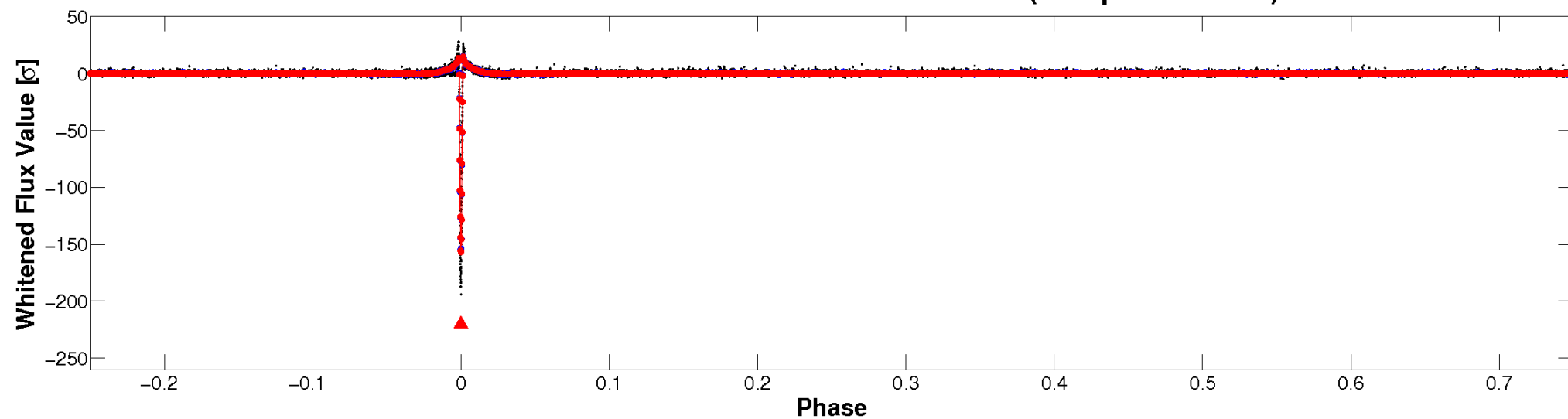


Non-Whitened Vs. Whitened Light Curve

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

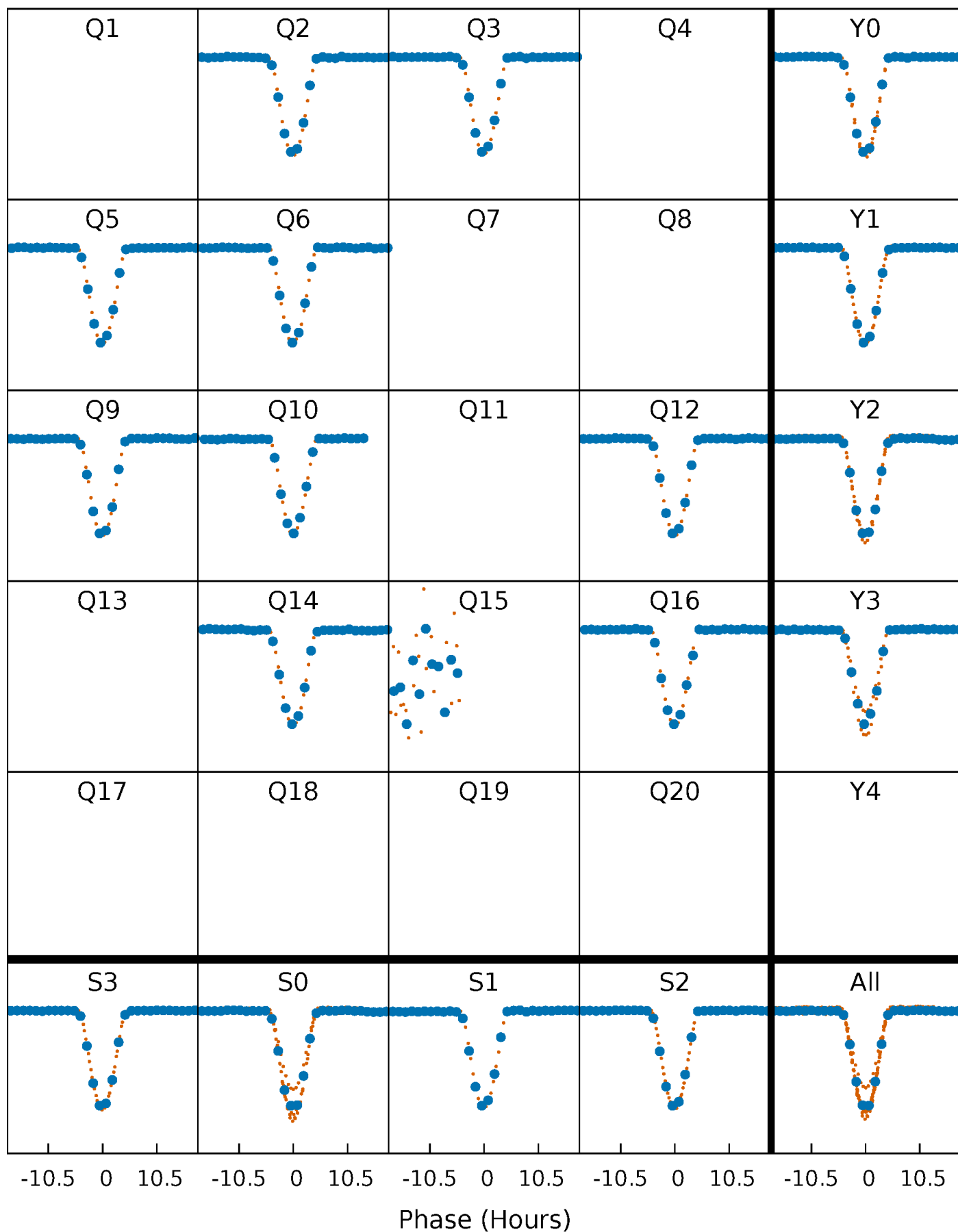


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



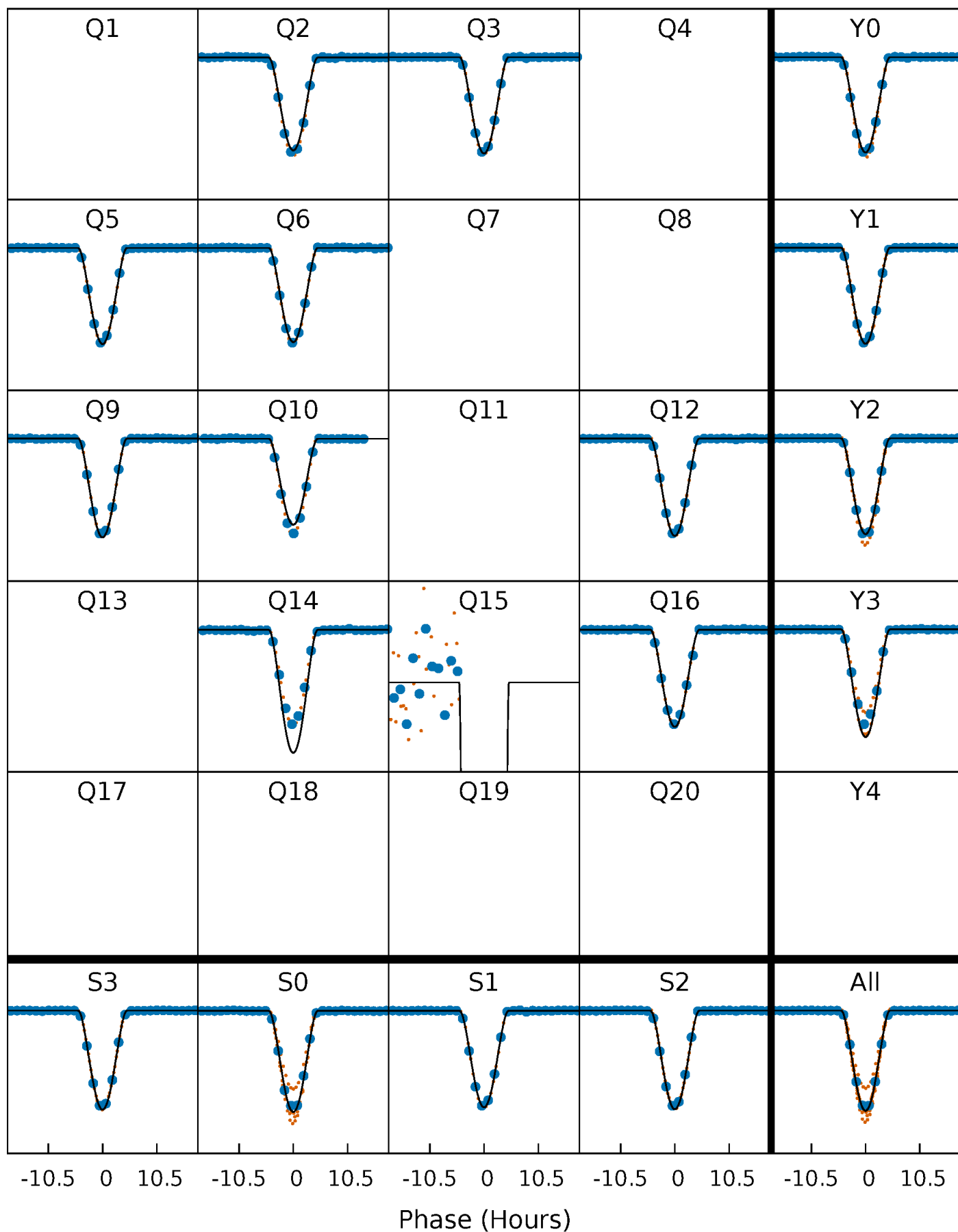
PDC Quarter-Phased Transit Curves

TCE 006621116-01 P=137.759619 Days $T_0=173.164699$ (BKJD)



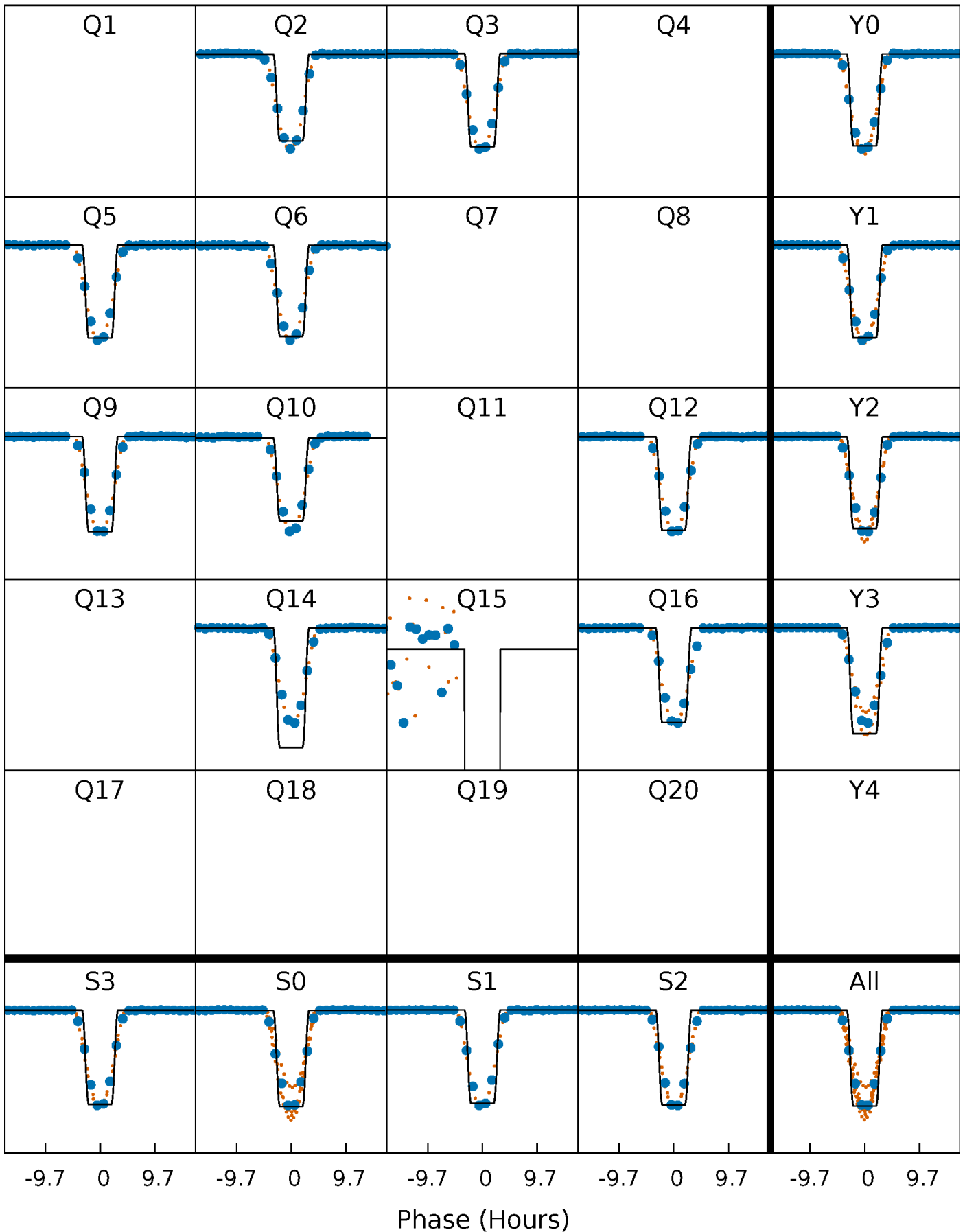
DV Quarter-Phased Transit Curves

TCE 006621116-01 P=137.759619 Days $T_0=173.164699$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

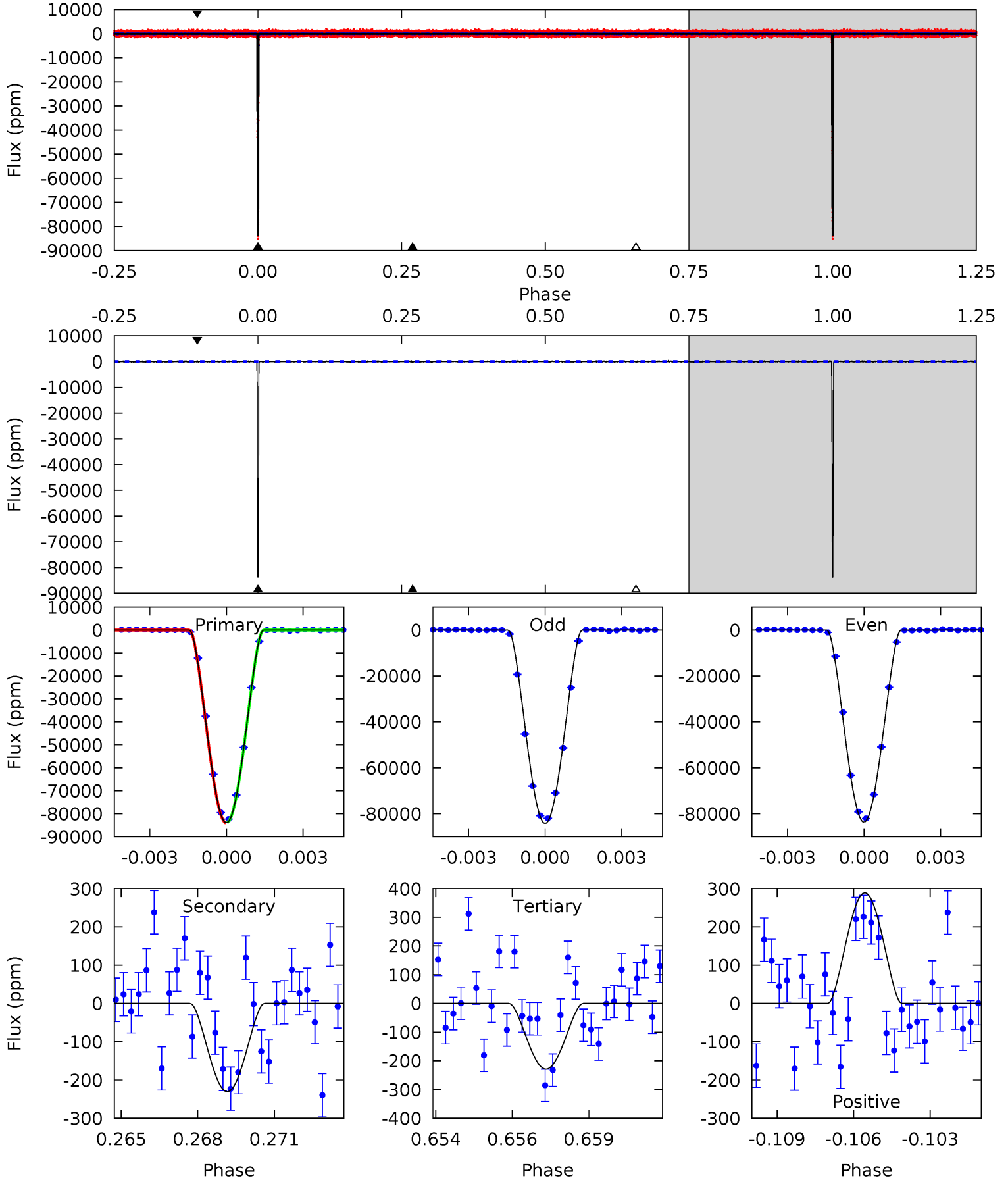
TCE 006621116-01 P=137.757630 Days $T_0=173.173538$ (BKJD)



DV Model-Shift Uniqueness Test

006621116-01, P = 137.759619 Days, E = 35.405080 Days

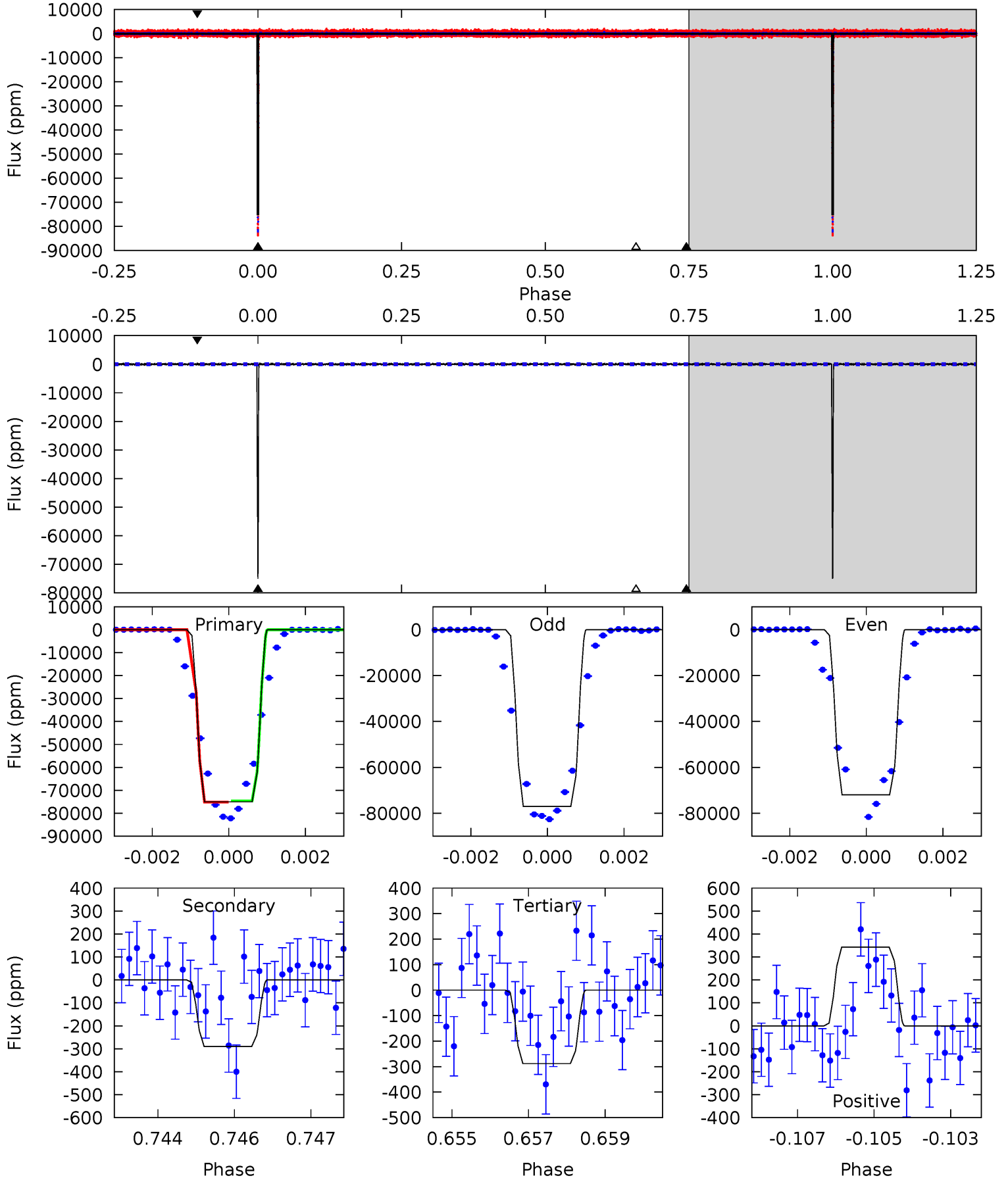
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2193	6.02	5.97	7.54	5.26	2.97	1.87	2187	2186	0.05	-1.52	7.81	1.00	0.00	2.07



Alt Model-Shift Uniqueness Test

006621116-01, P = 137.757630 Days, E = 35.415908 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1141	4.42	4.38	5.21	5.33	3.10	1.19	1136	1135	0.03	-0.79	38.5	0.99	0.01	3.79



Stellar Parameters For KIC 006621116

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5323^{+79}_{-79}	$4.085^{+0.376}_{-0.094}$	$0.200^{+0.150}_{-0.150}$	$1.452^{+0.227}_{-0.529}$	$0.934^{+0.036}_{-0.063}$	$0.430^{+1.210}_{-0.120}$
	+1%/-1%	+9%/-2%	+75%/-75%	+16%/-36%	+4%/-7%	+281%/-28%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 006621116-01 / KOI 1226.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-230 ± 38	$57.10^{+8.48}_{-10.47}$	544^{+28}_{-50}	2042^{+51}_{-51}	10^{+5}_{-3}
Alt.	-290 ± 66	$42.79^{+6.83}_{-8.50}$	544^{+28}_{-55}	2227^{+81}_{-85}	23^{+15}_{-7}

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

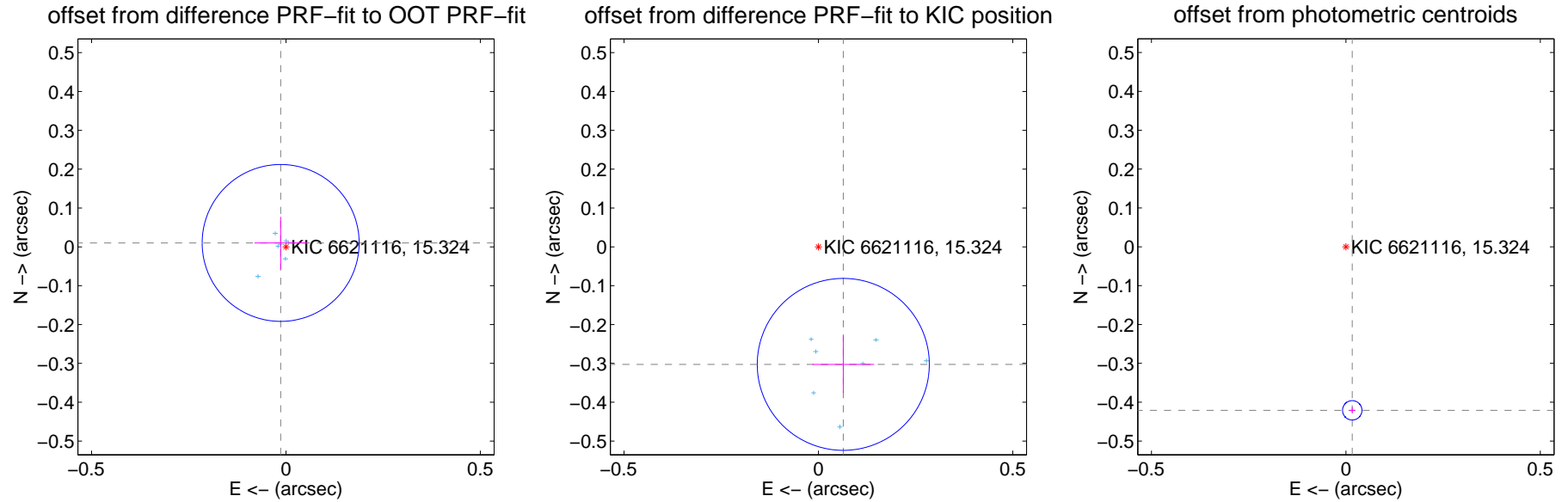
DV Centroid Data

Supplemental centroid analysis for 006621116-01. Kepler magnitude: 15.32. Transit SNR 1064.95

There are 7 quarters with good PRF difference image offsets

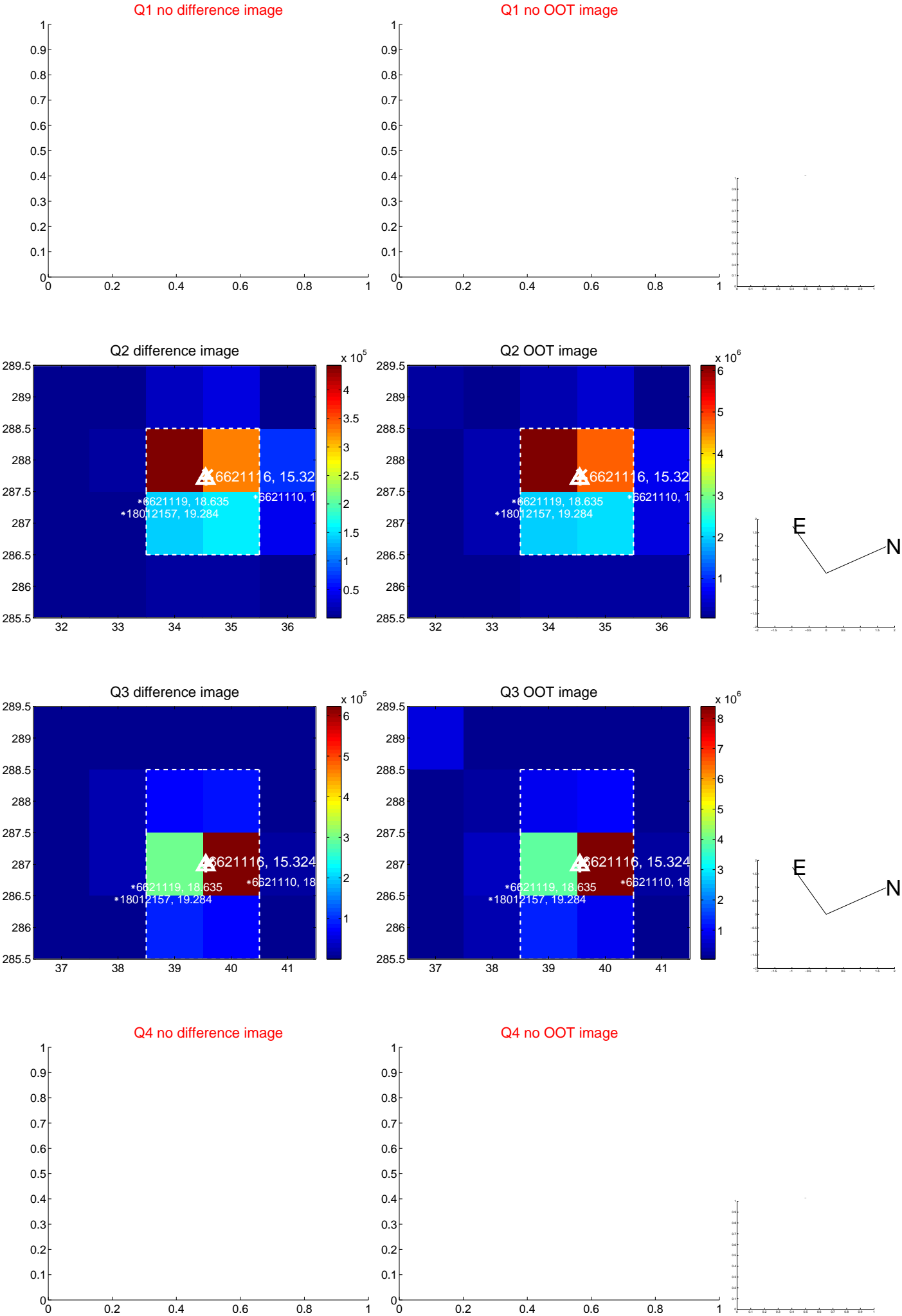
The direct PRF centroid is offset from the target star catalog position by about 0.48 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.017 ± 0.067	0.25	0.014 ± 0.067	0.010 ± 0.067
PRF-fit source offset from KIC position	0.309 ± 0.074	4.19	-0.064 ± 0.079	-0.303 ± 0.074
photometric centroid source offset	0.42 ± 0.01	50.68	-0.02 ± 0.01	-0.42 ± 0.01

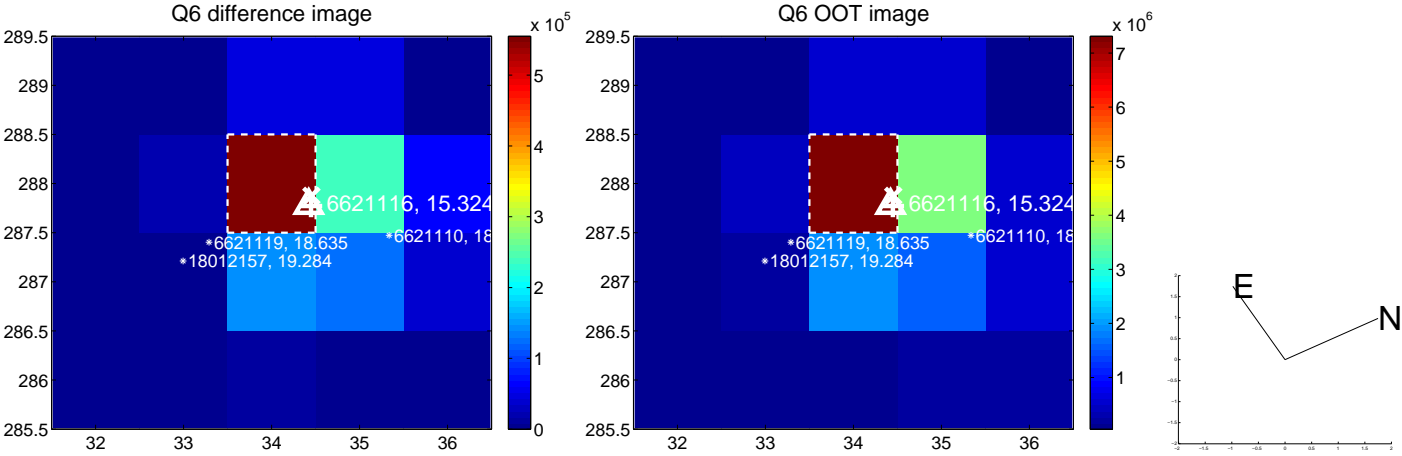
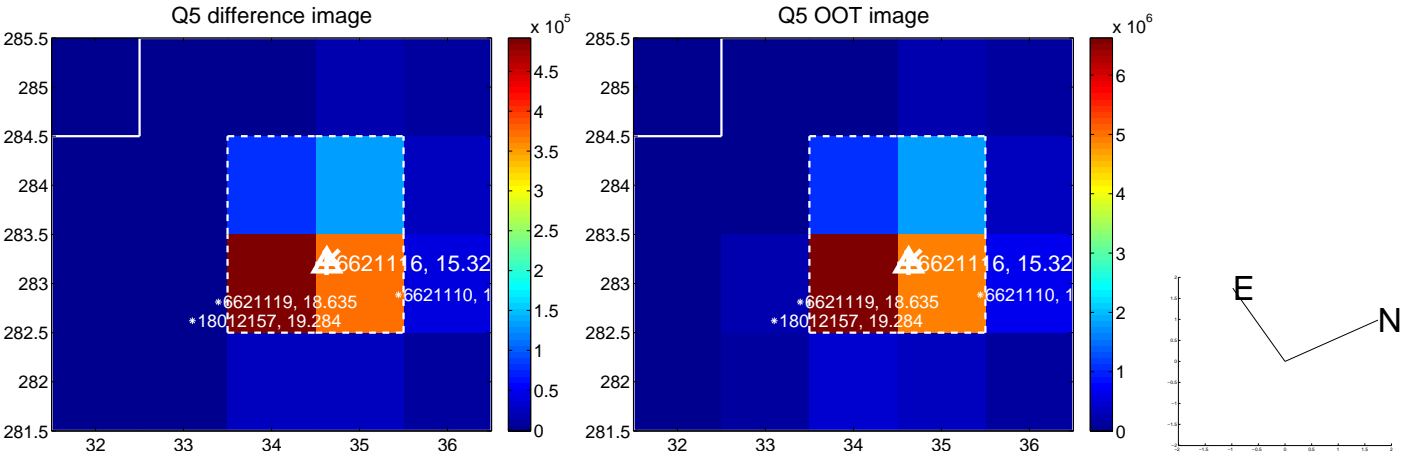


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

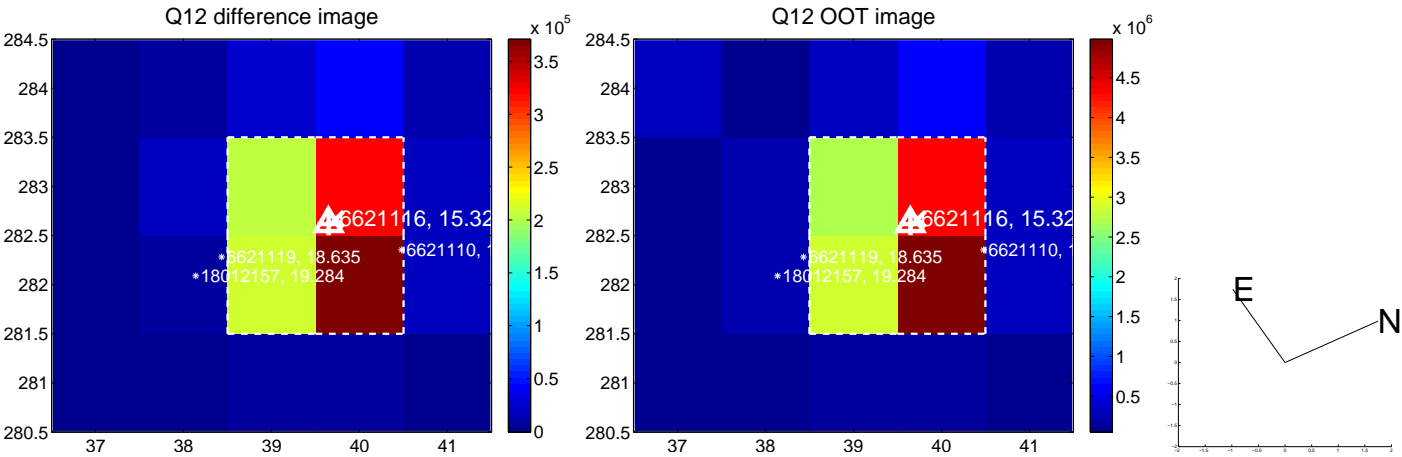
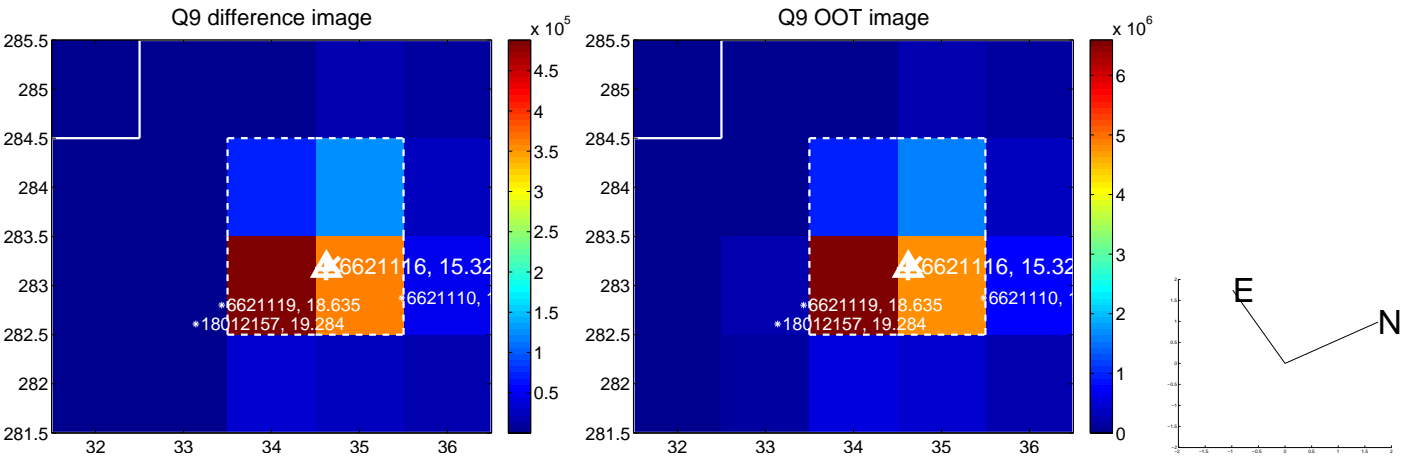
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



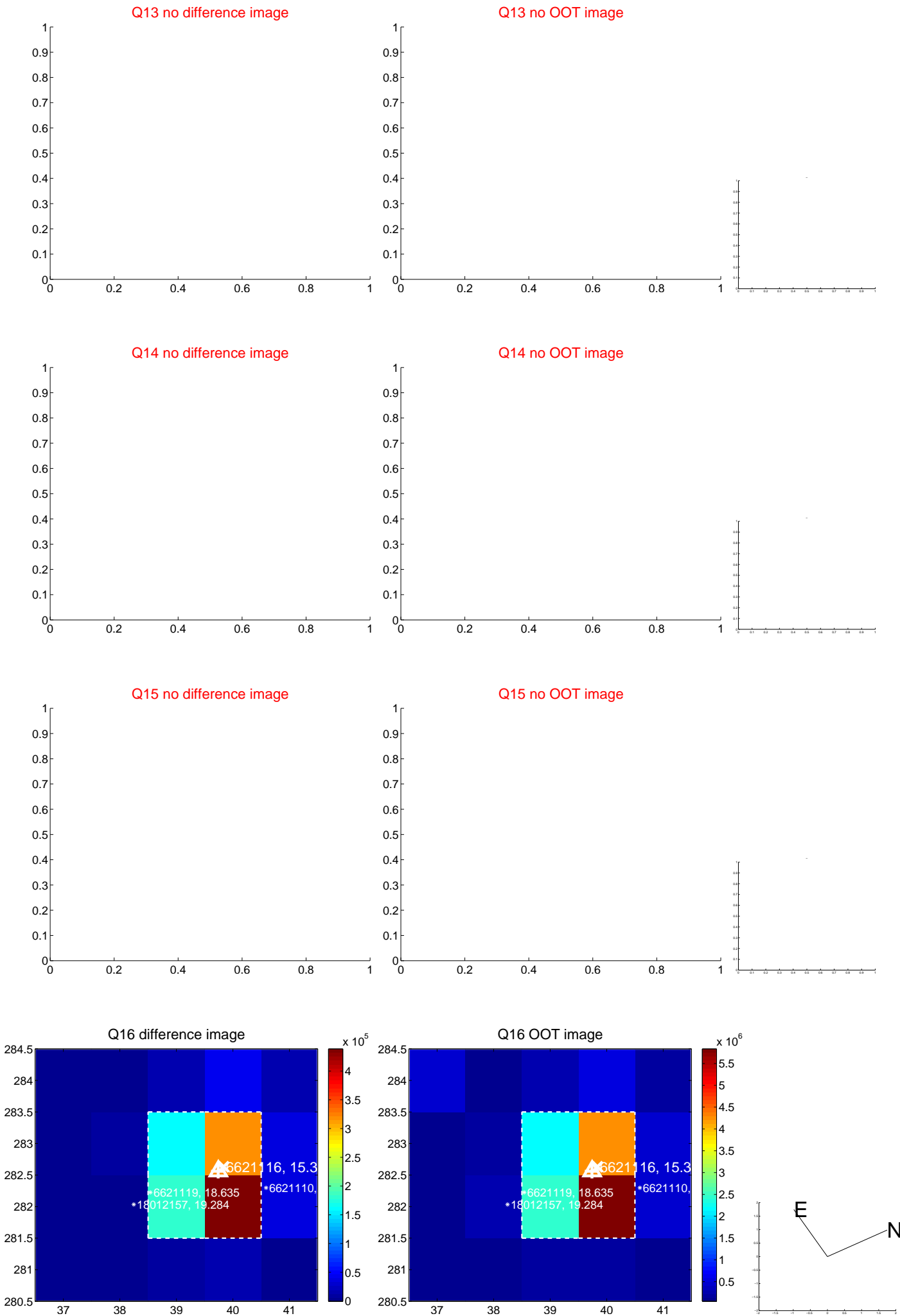
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



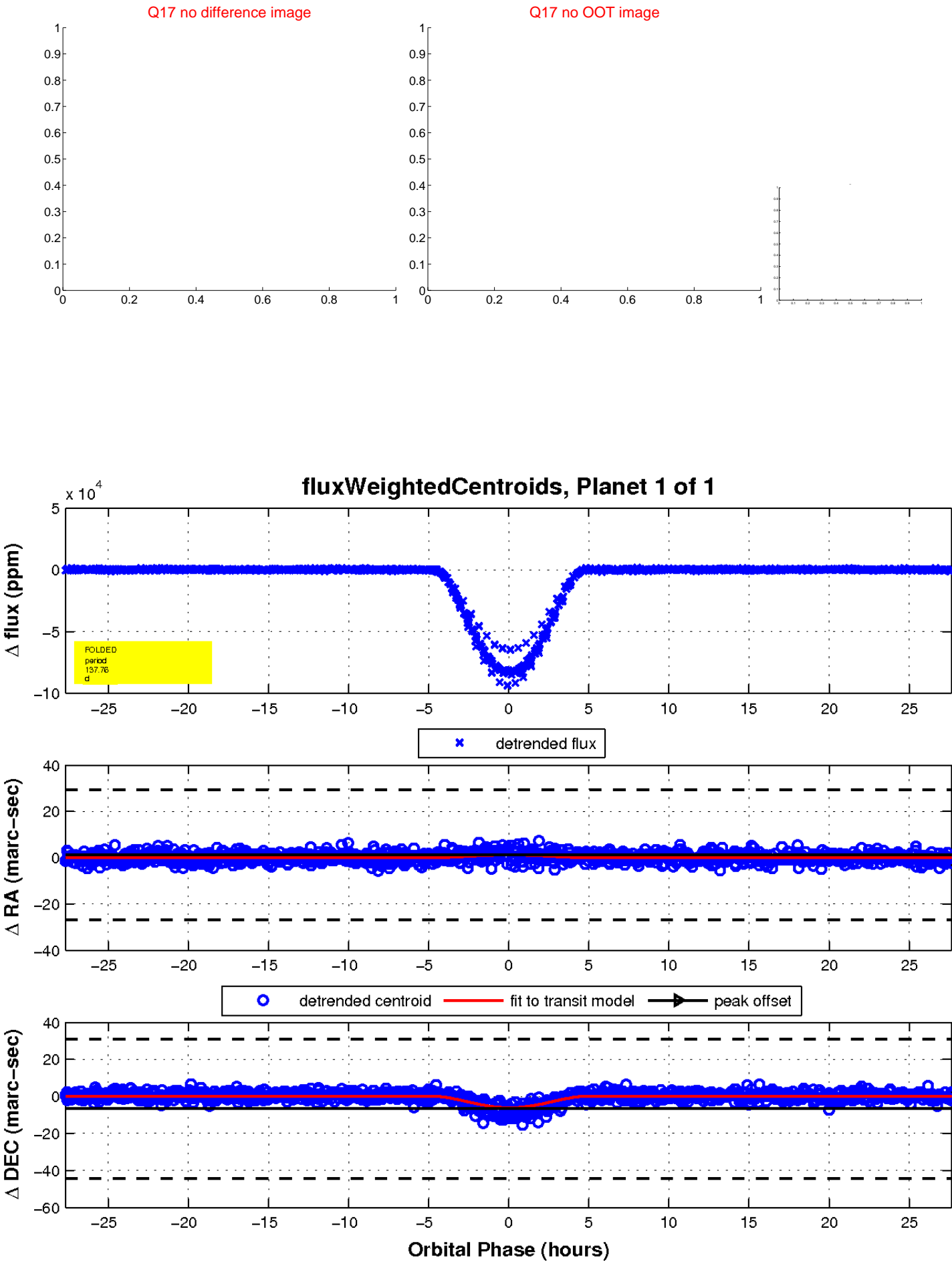
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white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

