

KIC 006716021

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})
006716021-01	OBS	2679.01	110.756093	144.800026	7745.6	6.552	93.9	98.5	2.67	6525	28.75	42.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006716021-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT

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

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

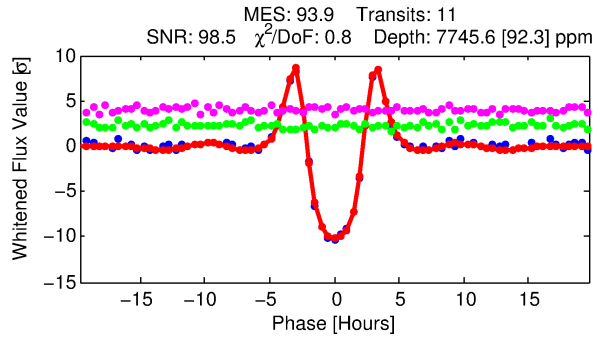
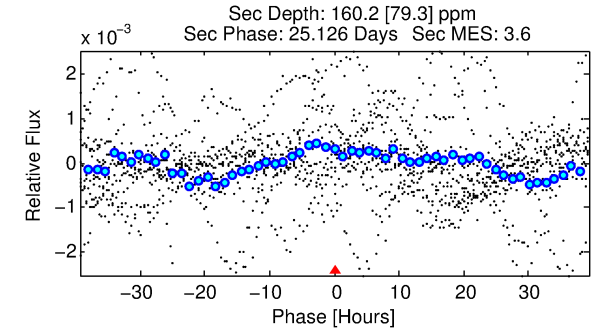
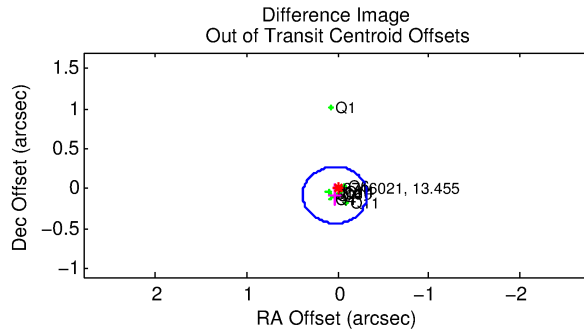
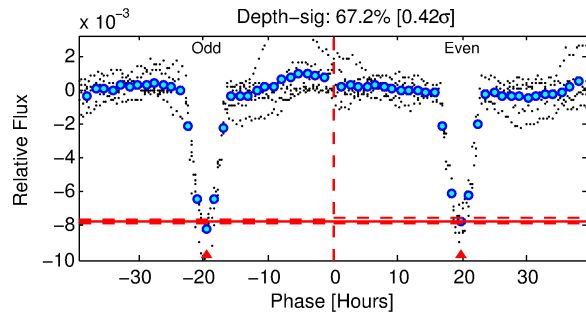
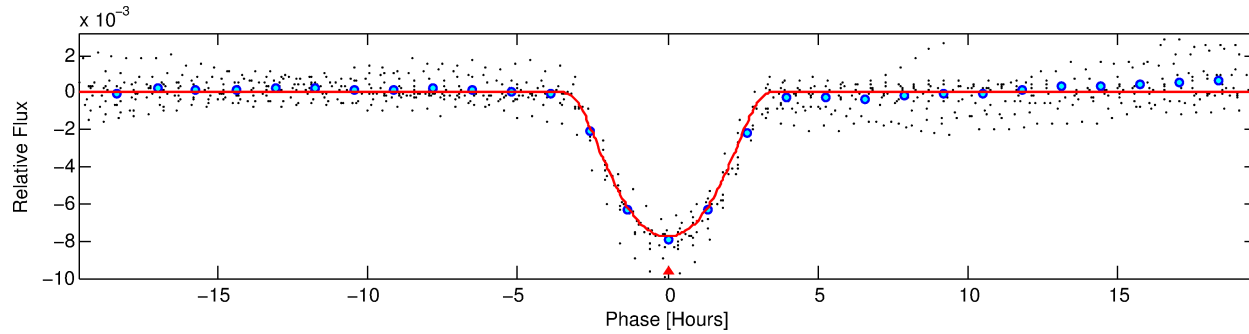
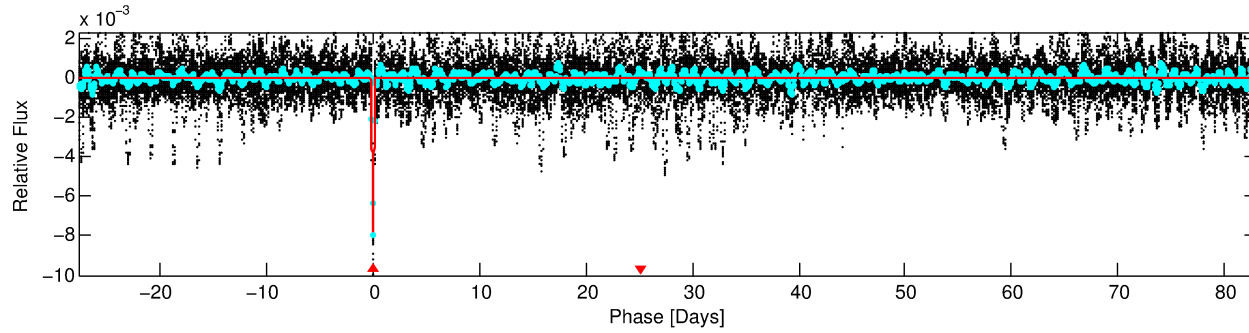
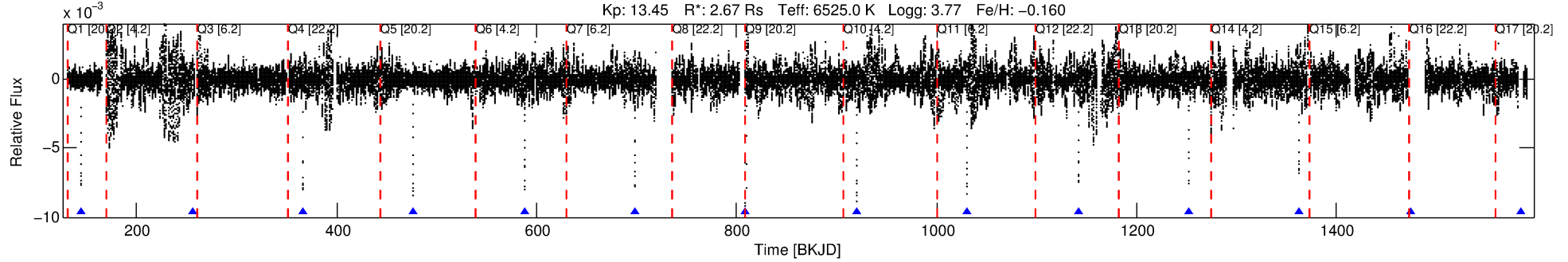
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006716021-01

No Significant Match Found

DV One-Page Summary

KIC: 6716021 Candidate: 1 of 1 Period: 110.756 d
KOI: K02679.01 Corr: 0.985



DV Fit Results:

Period = 110.75609 [0.00012] d
Epoch = 144.8000 [0.0008] BKJD
Rp/R* = 0.0988 [0.0015]
a/R* = 78.14 [0.71]
b = 0.92 [0.00]
Seff = 42.61 [23.75]
Teff = 651 [91] K
Rp = 28.75 [10.14] Re
a = 0.5209 [0.1770] AU
Ag = 28.94 [21.30] [1.31 σ]
Teffp = 2336 [298] K [5.41 σ]

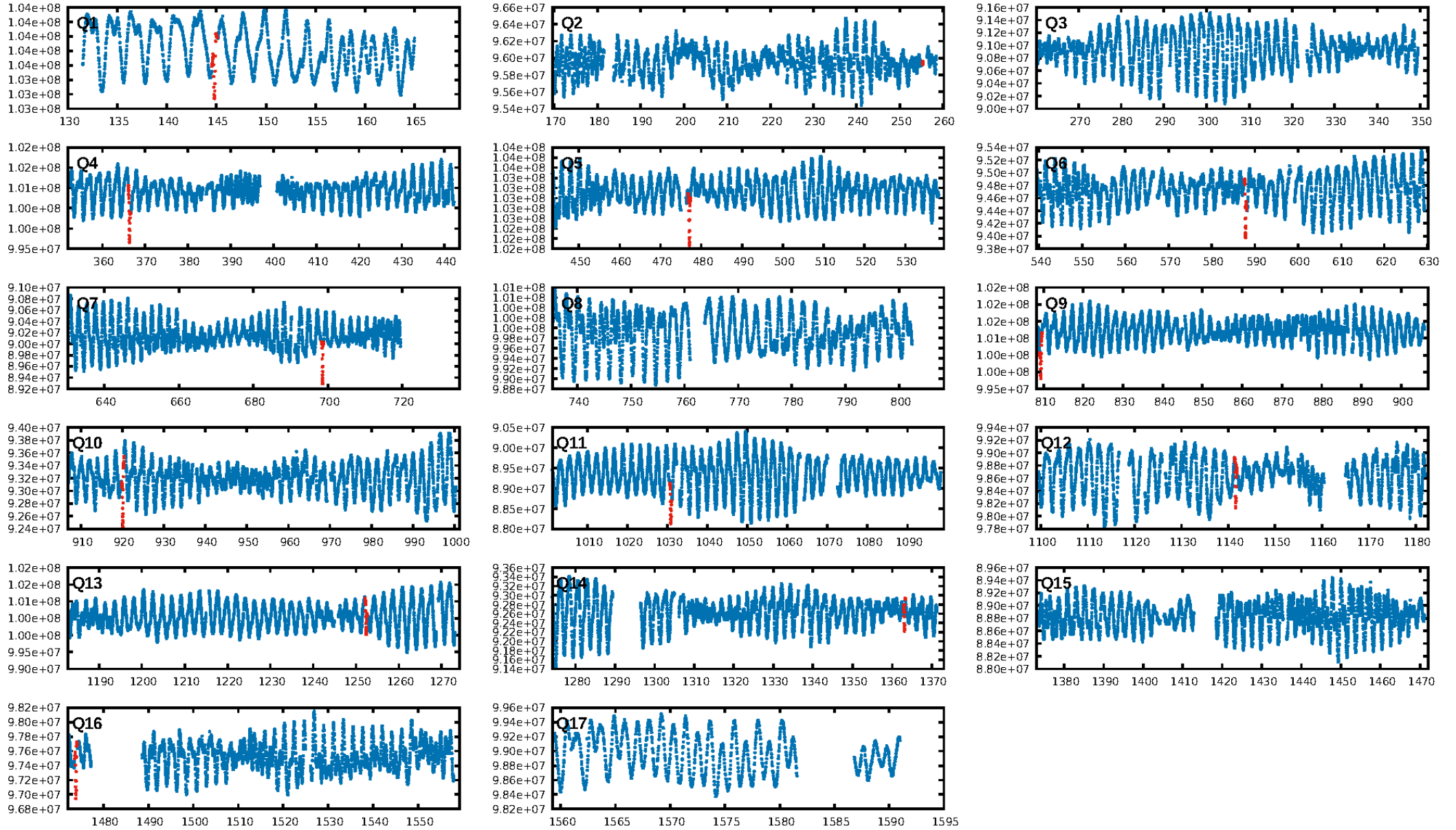
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 69.3%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: 2.594
Centroid-sig: 0.0%
Centroid-so: 0.140 arcsec [3.88 σ]
OotOffset-rm: 0.086 arcsec [0.73 σ]
KicOffset-rm: 0.088 arcsec [1.12 σ]
OotOffset-st: 3/2/2/2 [9]
KicOffset-st: 3/2/2/2 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

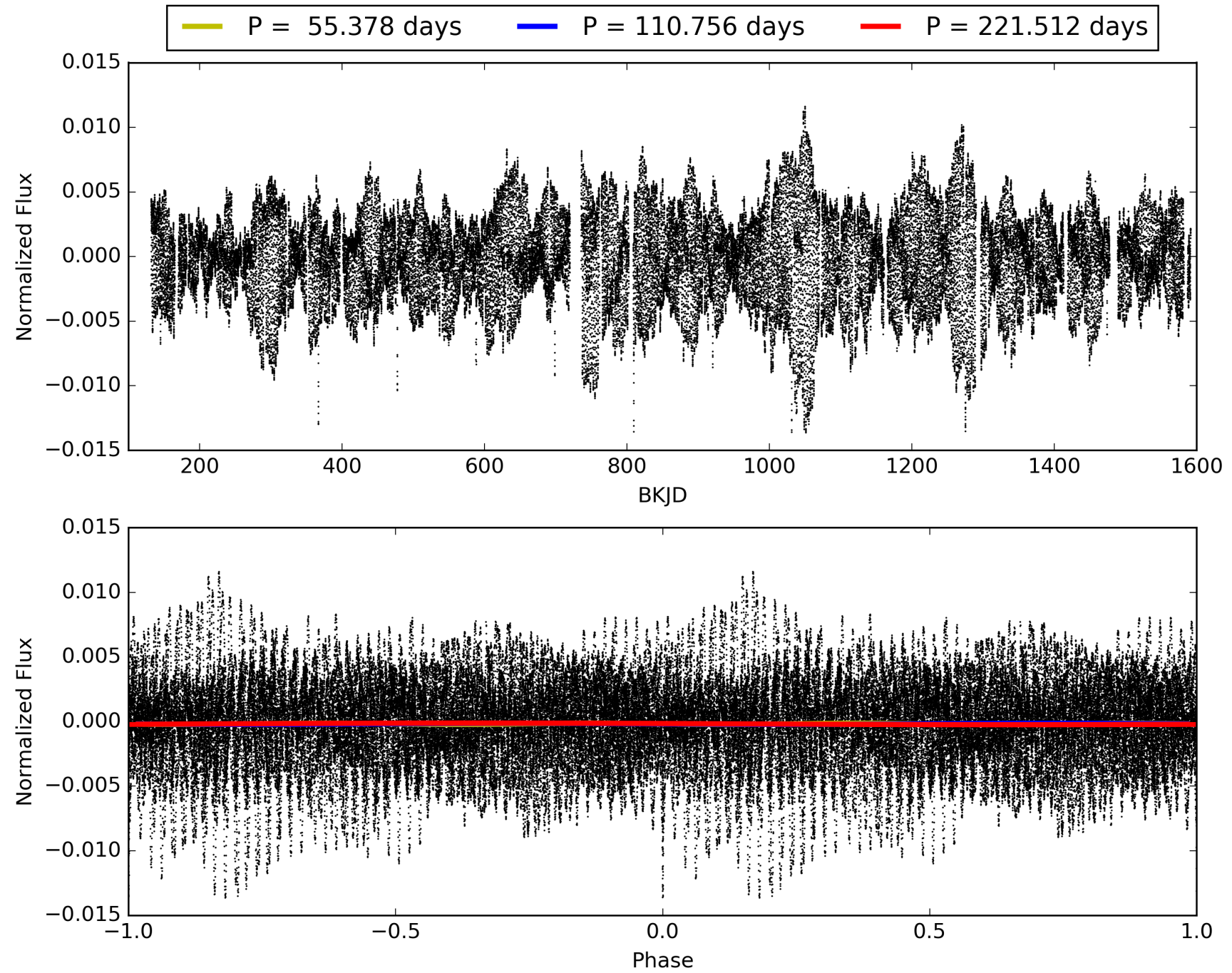
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:44:17 Z

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

TCE 006716021-01, PDC Light Curves

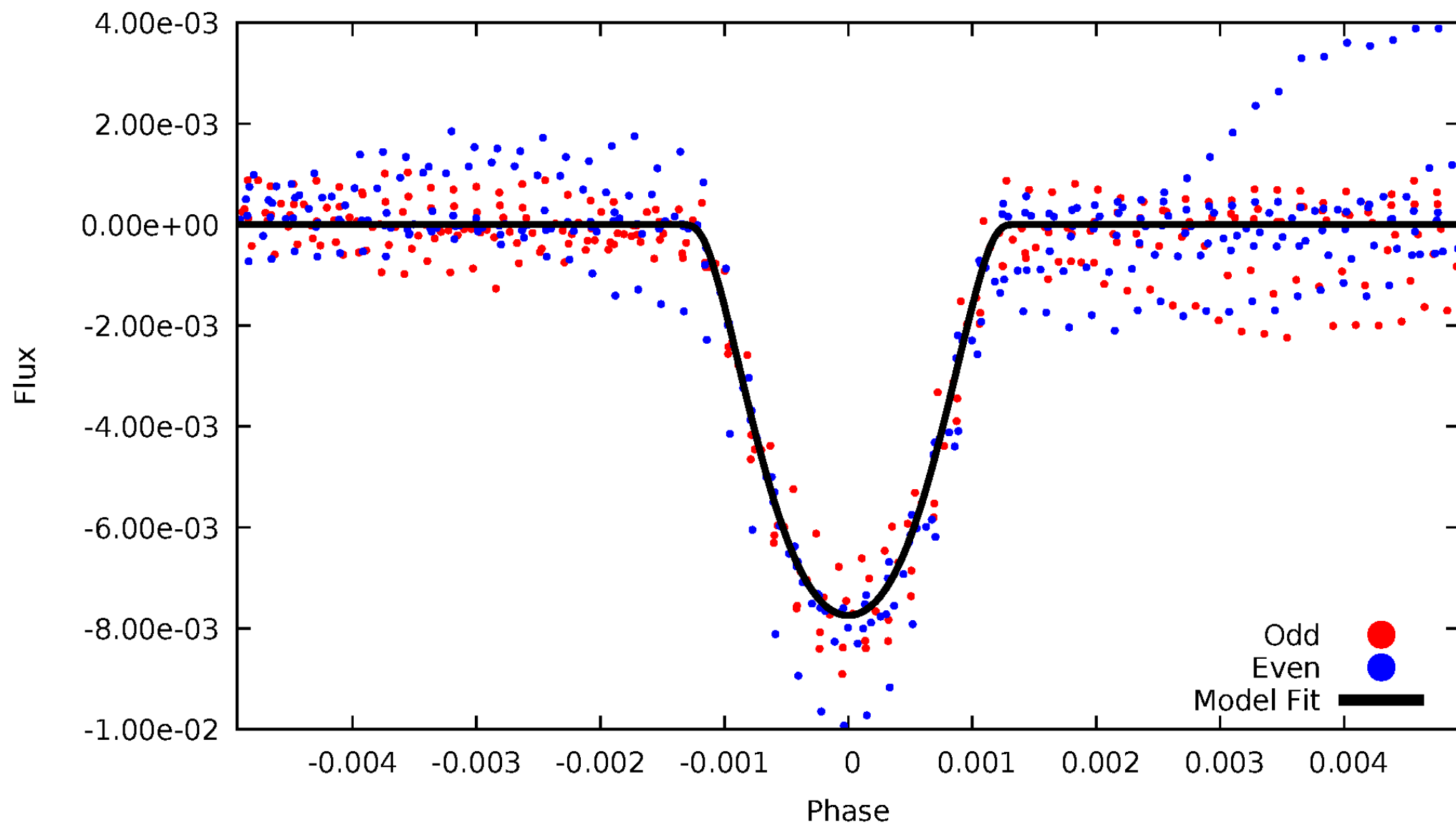


TCE 006716021-01



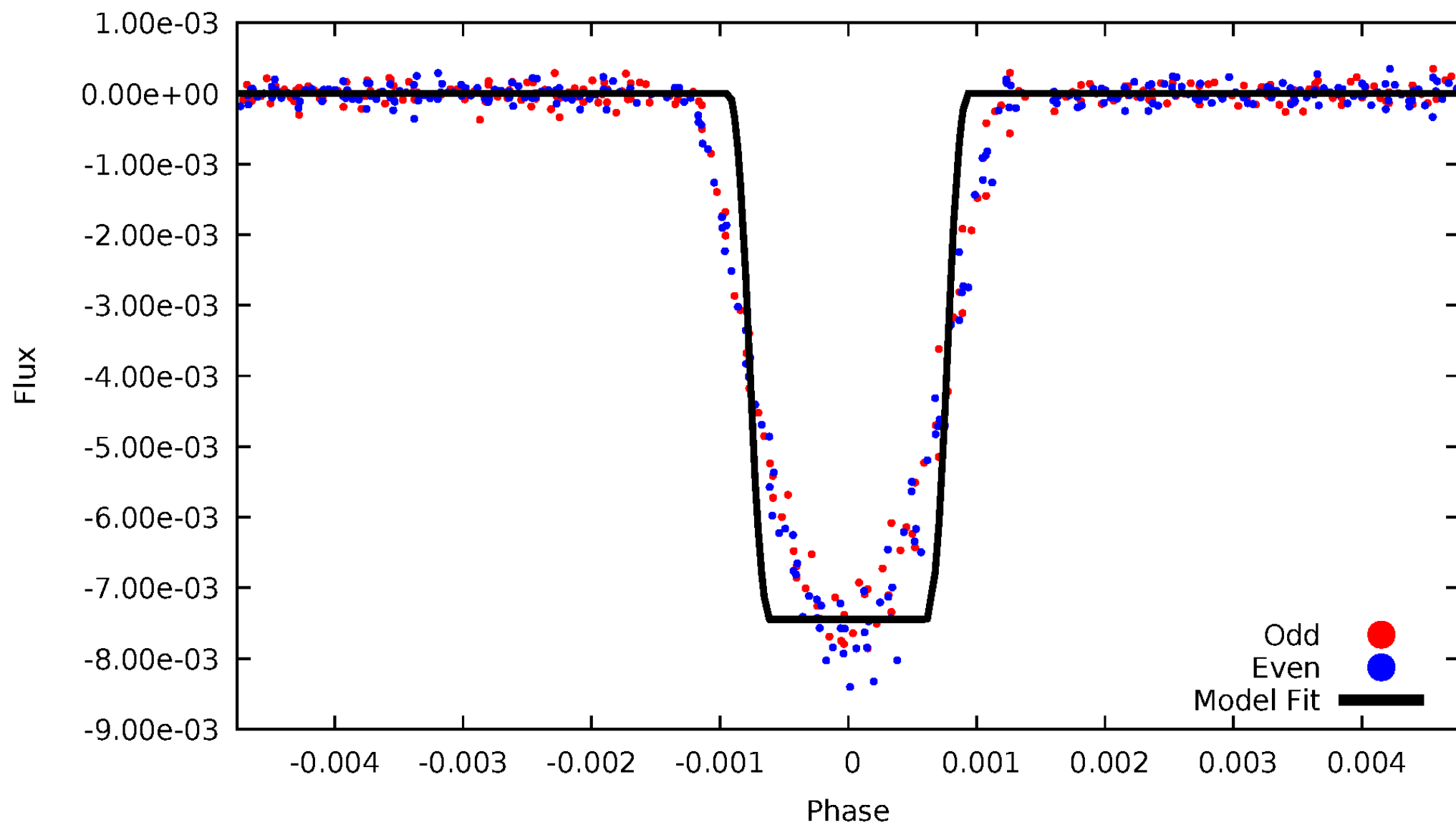
DV Odd/Even

TCE 006716021-01

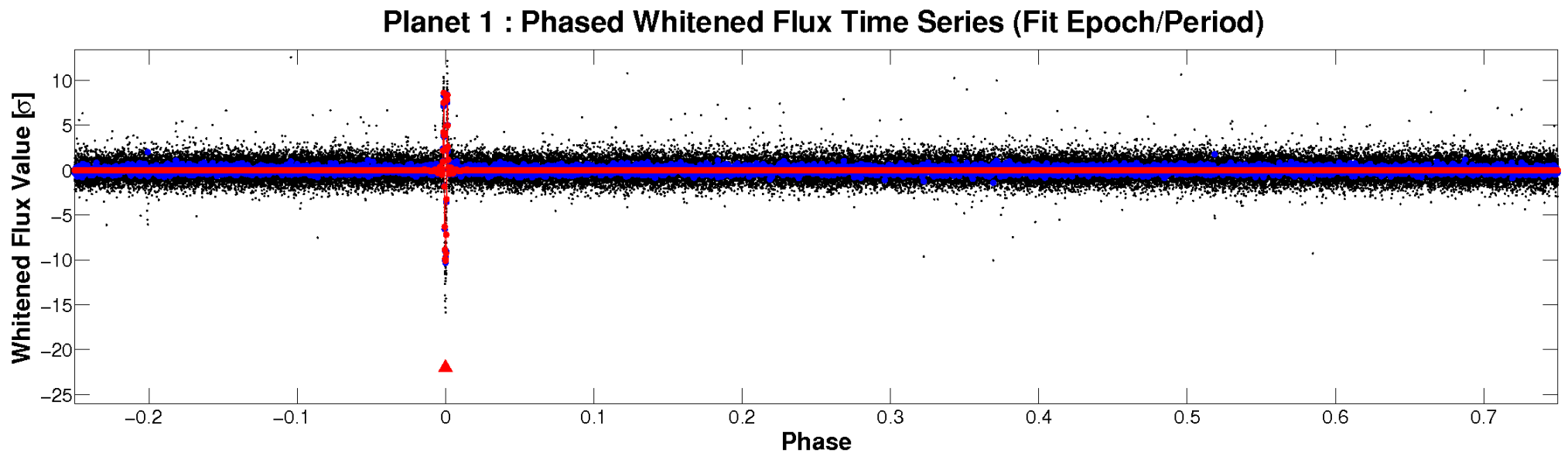
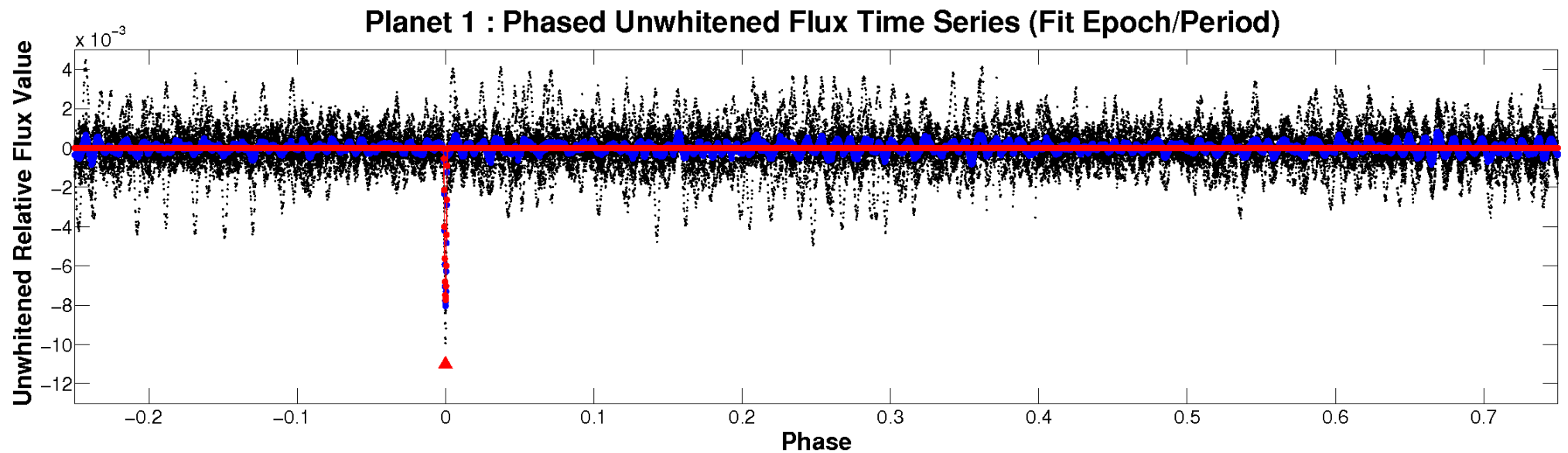


ALT Odd/Even

TCE 006716021-01

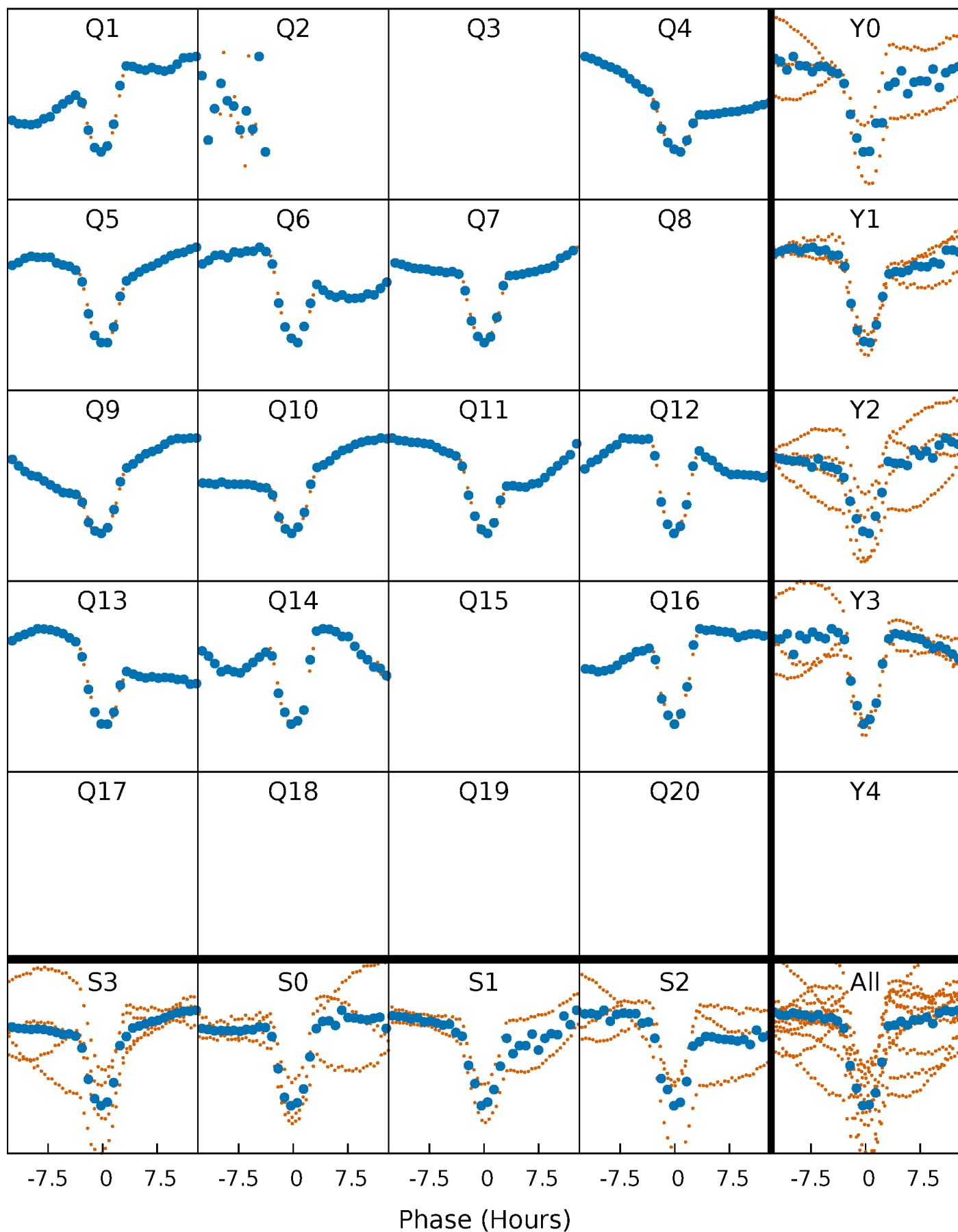


Non-Whitened Vs. Whitened Light Curve



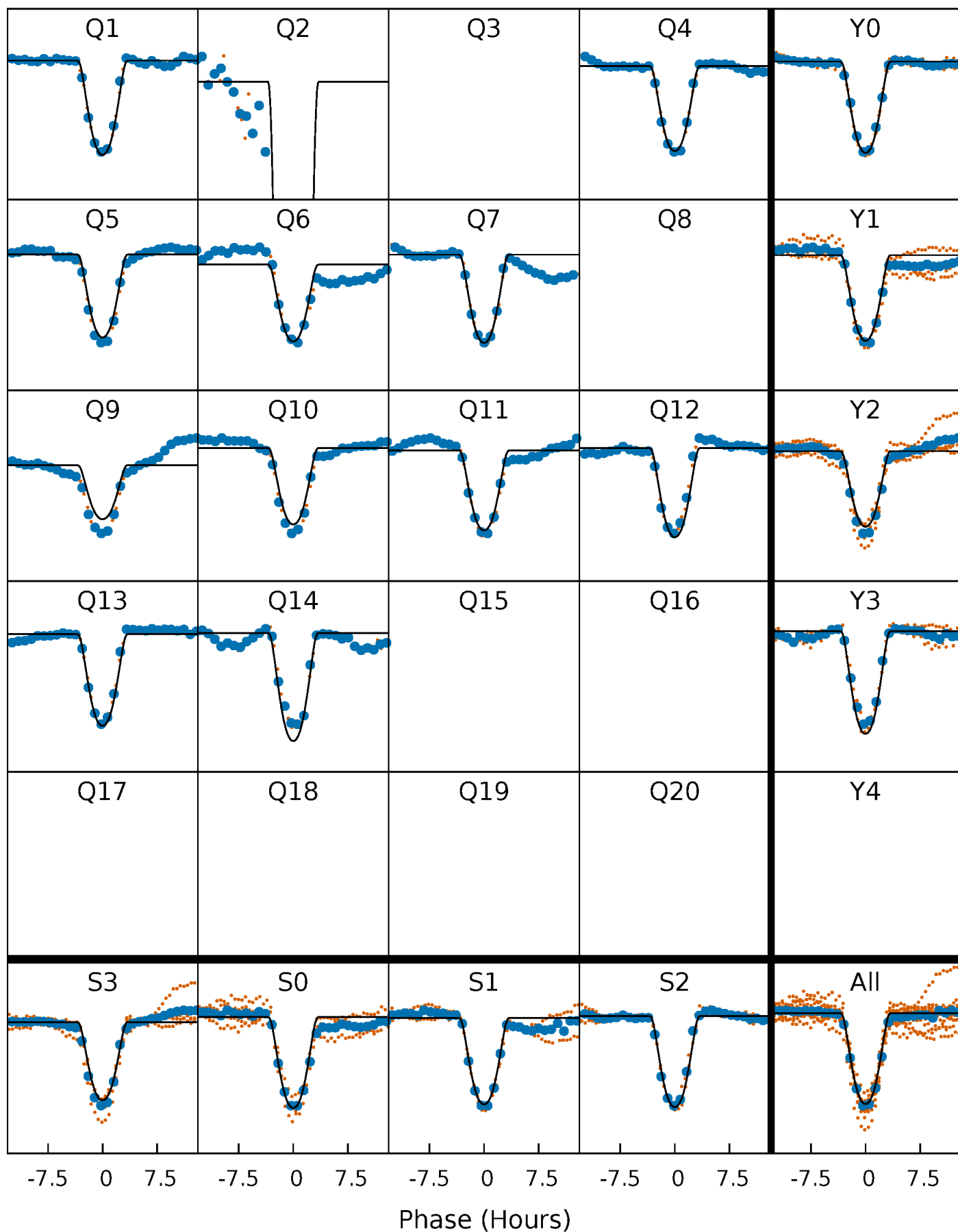
PDC Quarter-Phased Transit Curves

TCE 006716021-01 P=110.756094 Days $T_0=144.800026$ (BKJD)



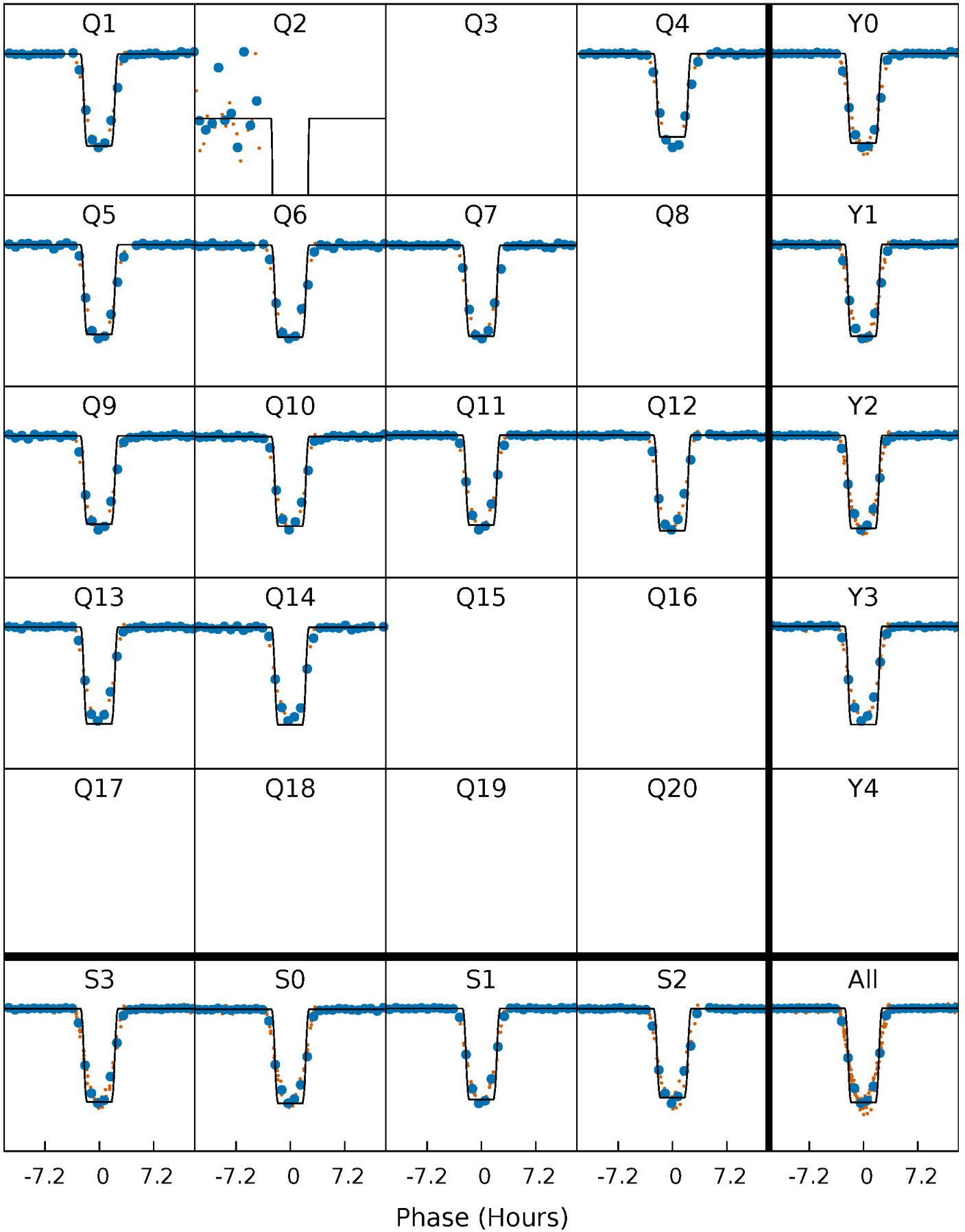
DV Quarter-Phased Transit Curves

TCE 006716021-01 P=110.756094 Days $T_0=144.800026$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

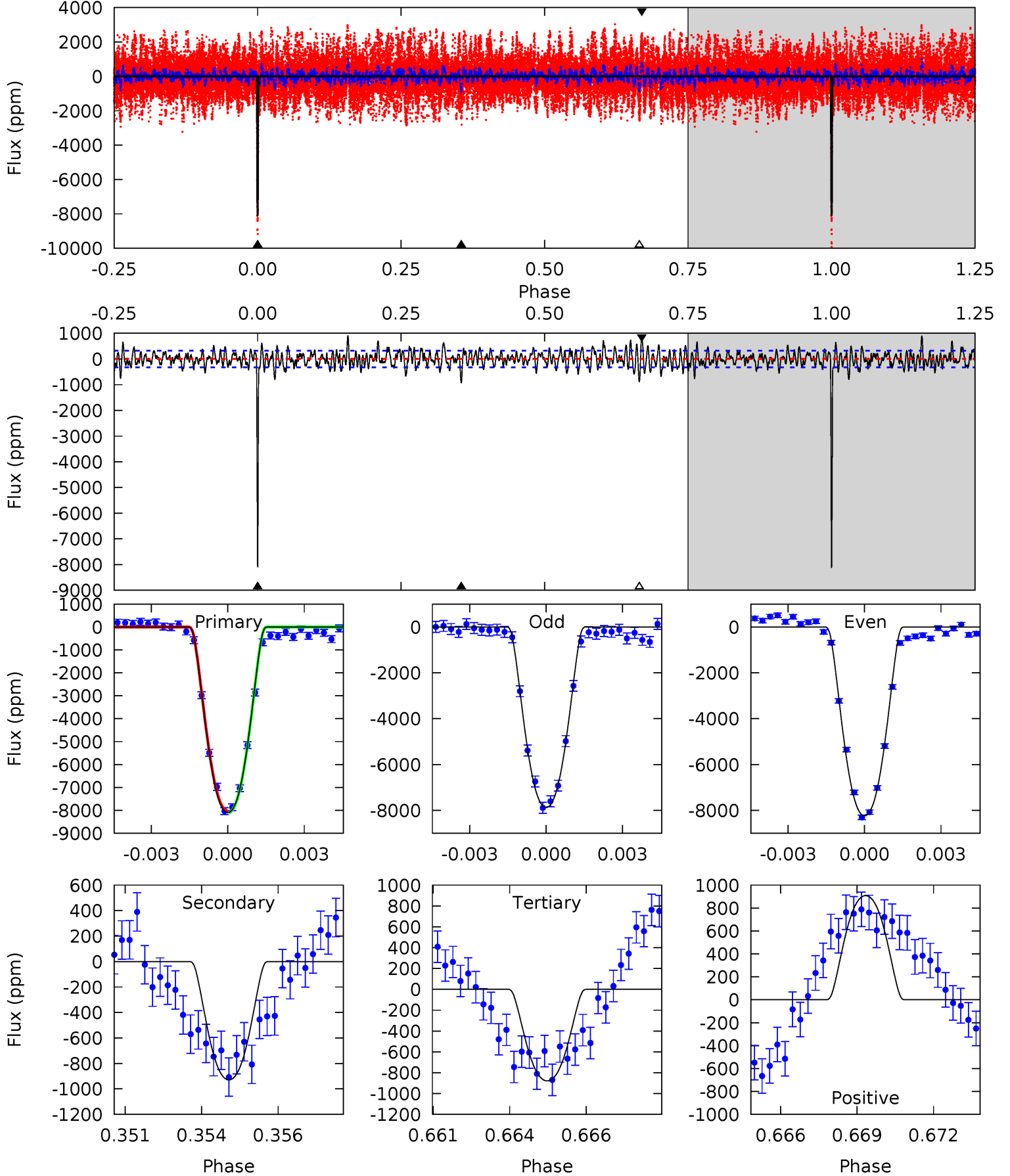
TCE 006716021-01 P=110.756588 Days $T_0=144.797425$ (BKJD)



DV Model-Shift Uniqueness Test

006716021-01, $P = 110.756094$ Days, $E = 34.043932$ Days

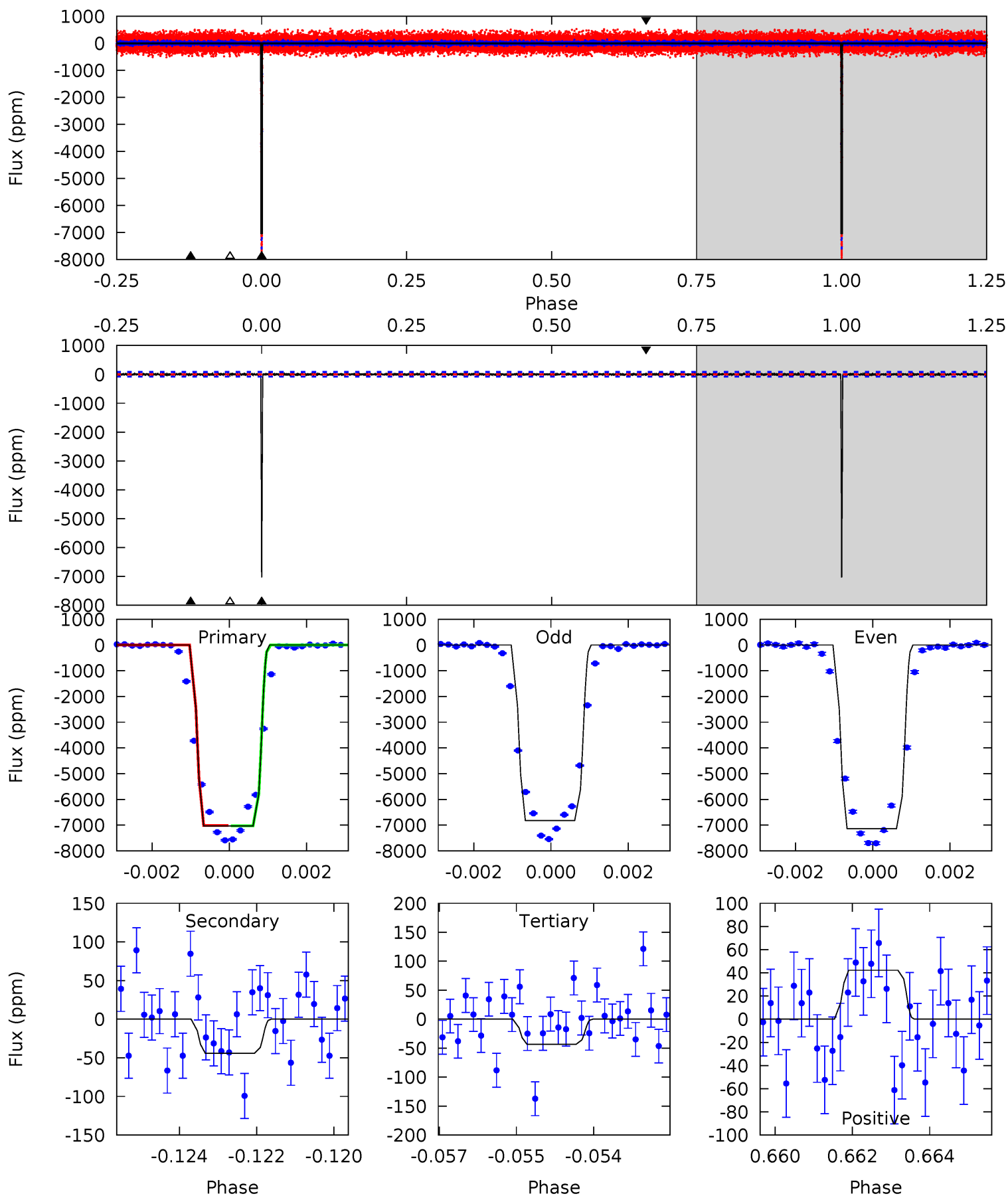
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
133.0	15.3	14.4	14.9	5.28	3.01	4.21	118.6	118.1	0.84	0.35	2.99	1.02	0.10	0.58



Alt Model-Shift Uniqueness Test

006716021-01, P = 110.756588 Days, E = 34.040837 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
457.7	2.88	2.81	2.75	5.34	3.11	0.73	454.9	455.0	0.06	0.13	10.7	1.00	0.01	0.28



Stellar Parameters For KIC 006716021

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6525^{+176}_{-195}	$3.772^{+0.320}_{-0.080}$	$-0.160^{+0.300}_{-0.250}$	$2.668^{+0.434}_{-0.940}$	$1.536^{+0.192}_{-0.357}$	$0.114^{+0.262}_{-0.035}$
	+3%/-3%	+8%/-2%	+188%/-156%	+16%/-35%	+12%/-23%	+230%/-31%
Source	PHO1	FLK73	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 006716021-01 / KOI 2679.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-929 ± 61	$27.91^{+3.06}_{-5.79}$	887^{+53}_{-82}	3950^{+90}_{-93}	183^{+86}_{-36}
Alt.	-44 ± 15	$24.50^{+2.59}_{-4.78}$	886^{+52}_{-73}	2608^{+109}_{-149}	11^{+7}_{-4}

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 $A_{obs} \gg 1.0$

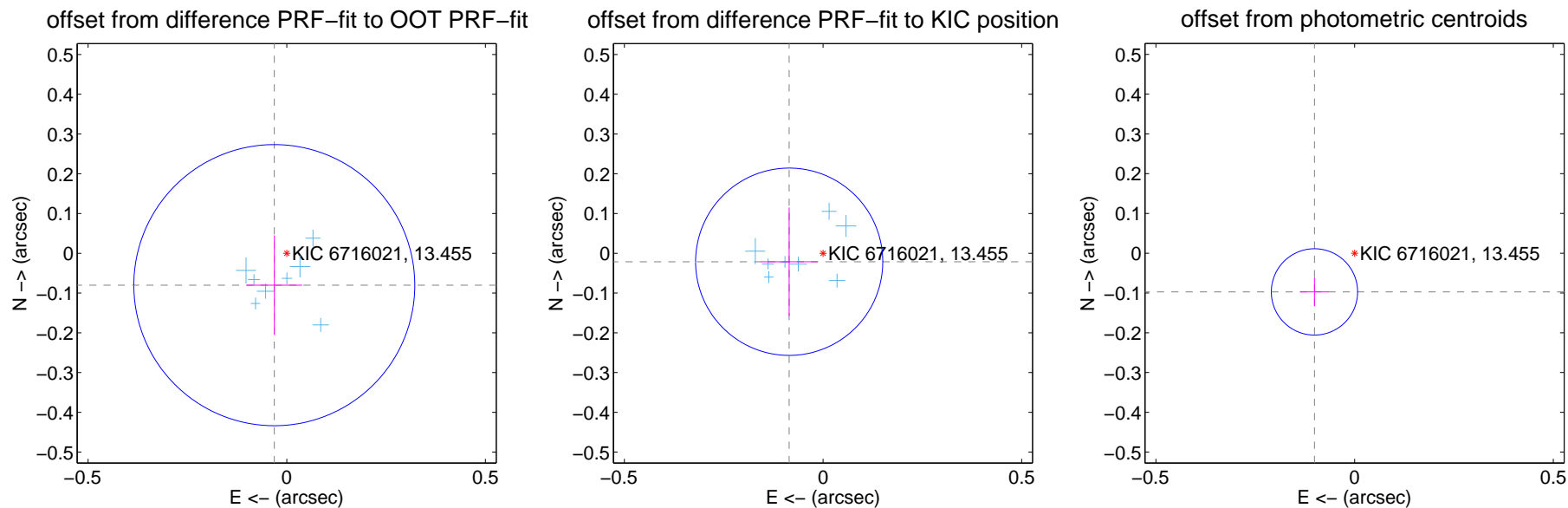
DV Centroid Data

Supplemental centroid analysis for 006716021-01. Kepler magnitude: 13.46. Transit SNR 98.46

There are 9 quarters with good PRF difference image offsets

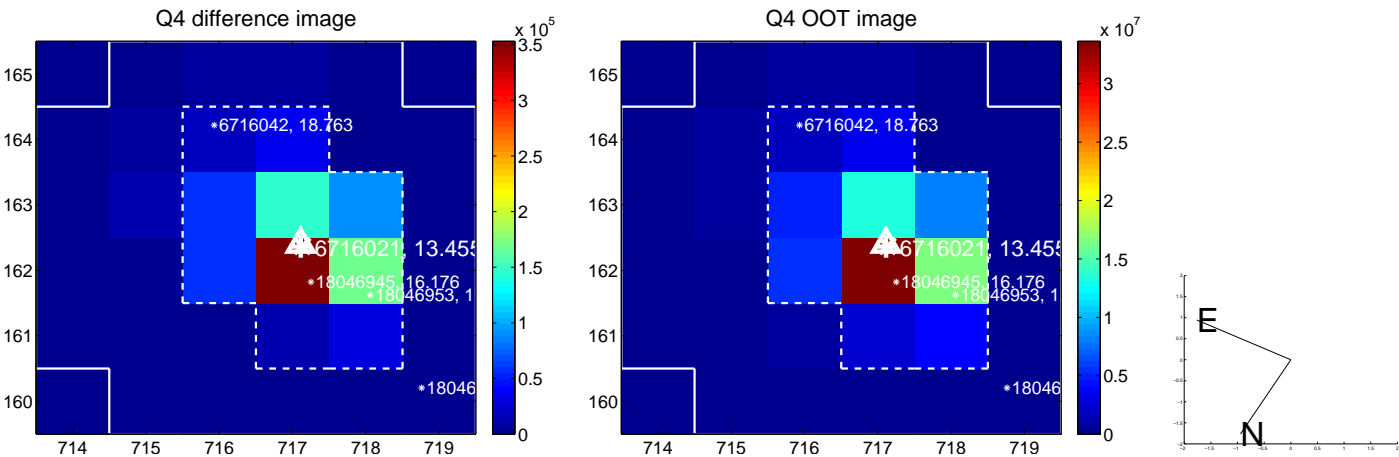
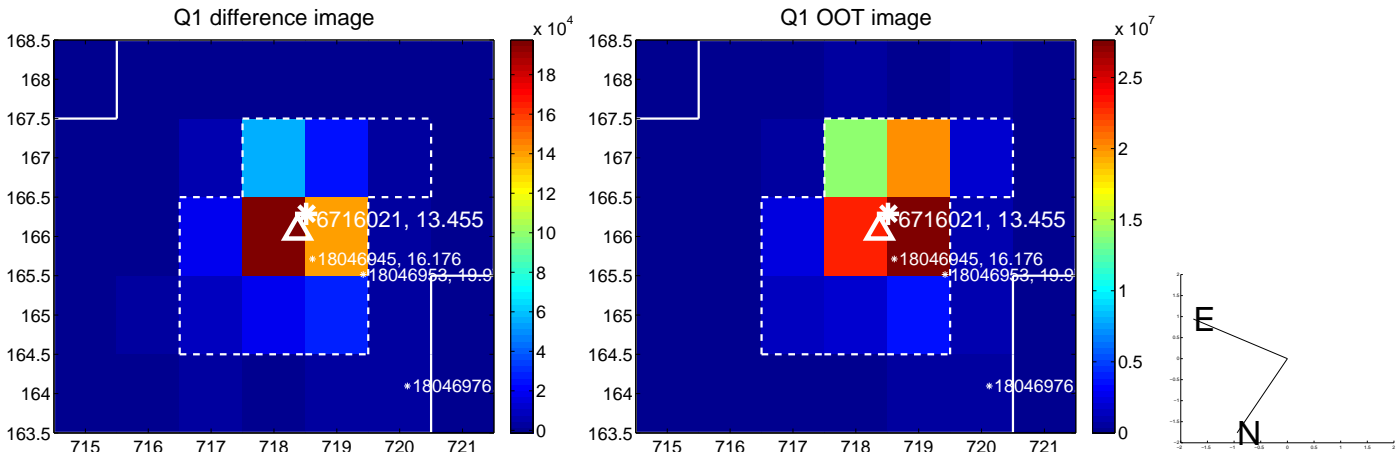
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.086 ± 0.118	0.73	0.031 ± 0.070	-0.080 ± 0.125
PRF-fit source offset from KIC position	0.088 ± 0.079	1.12	0.085 ± 0.071	-0.021 ± 0.136
photometric centroid source offset	0.14 ± 0.04	3.88	0.10 ± 0.04	-0.10 ± 0.04



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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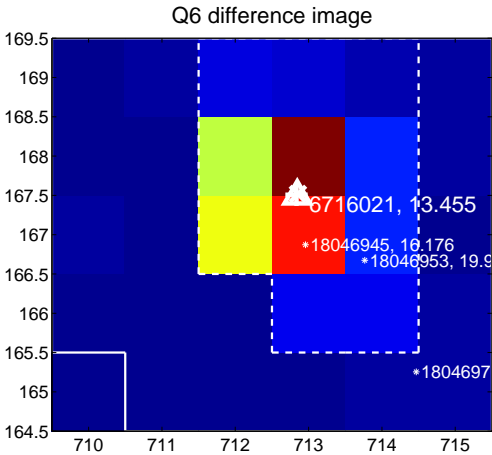
Q5 no difference image



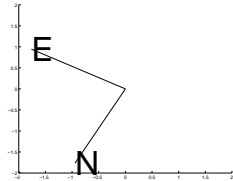
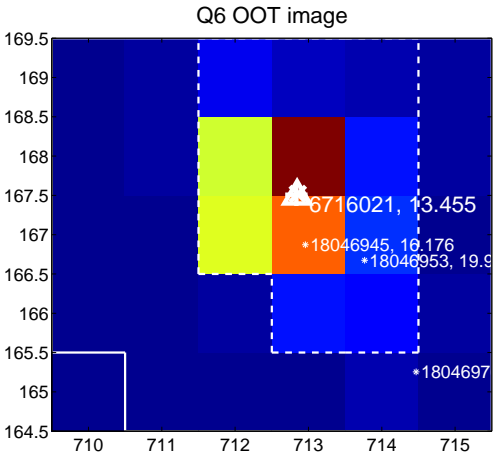
Q5 no OOT image



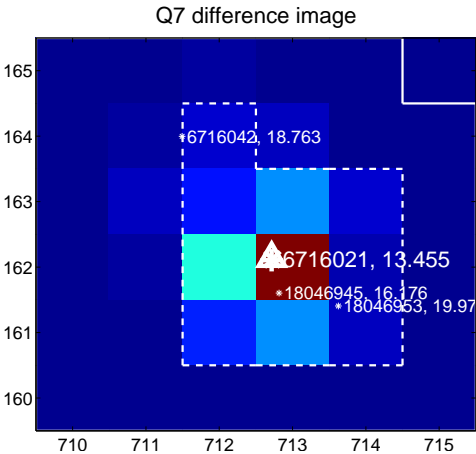
Q6 difference image



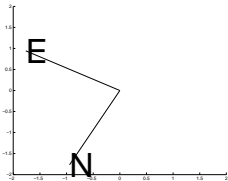
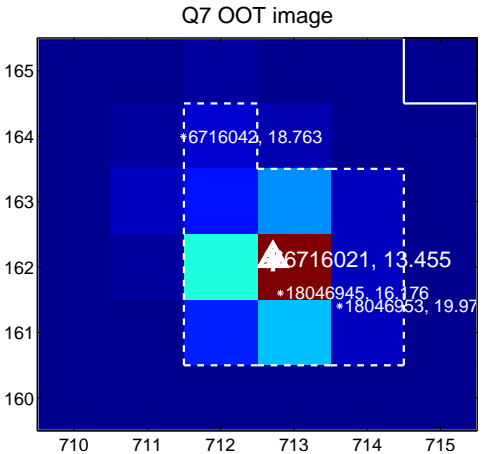
Q6 OOT image



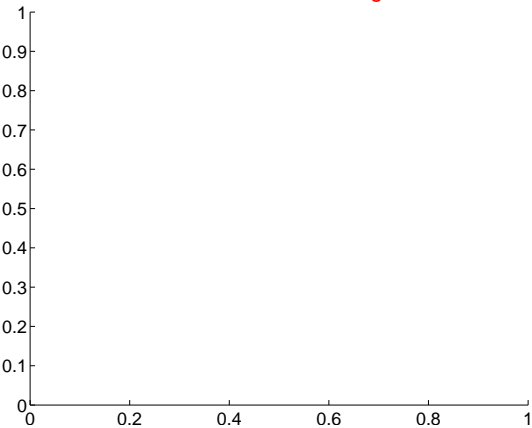
Q7 difference image



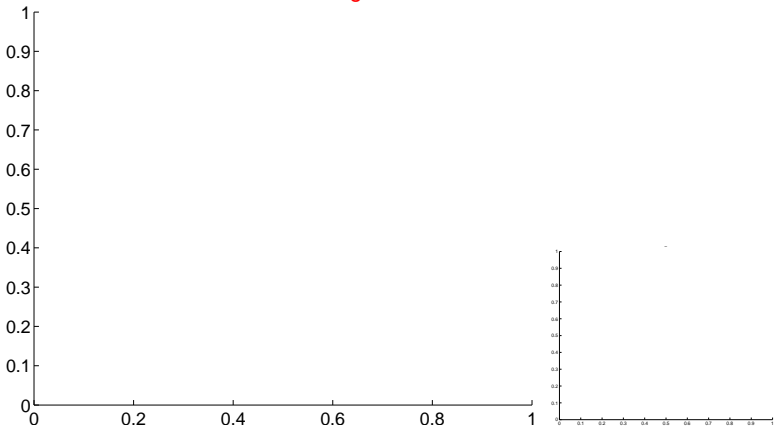
Q7 OOT image



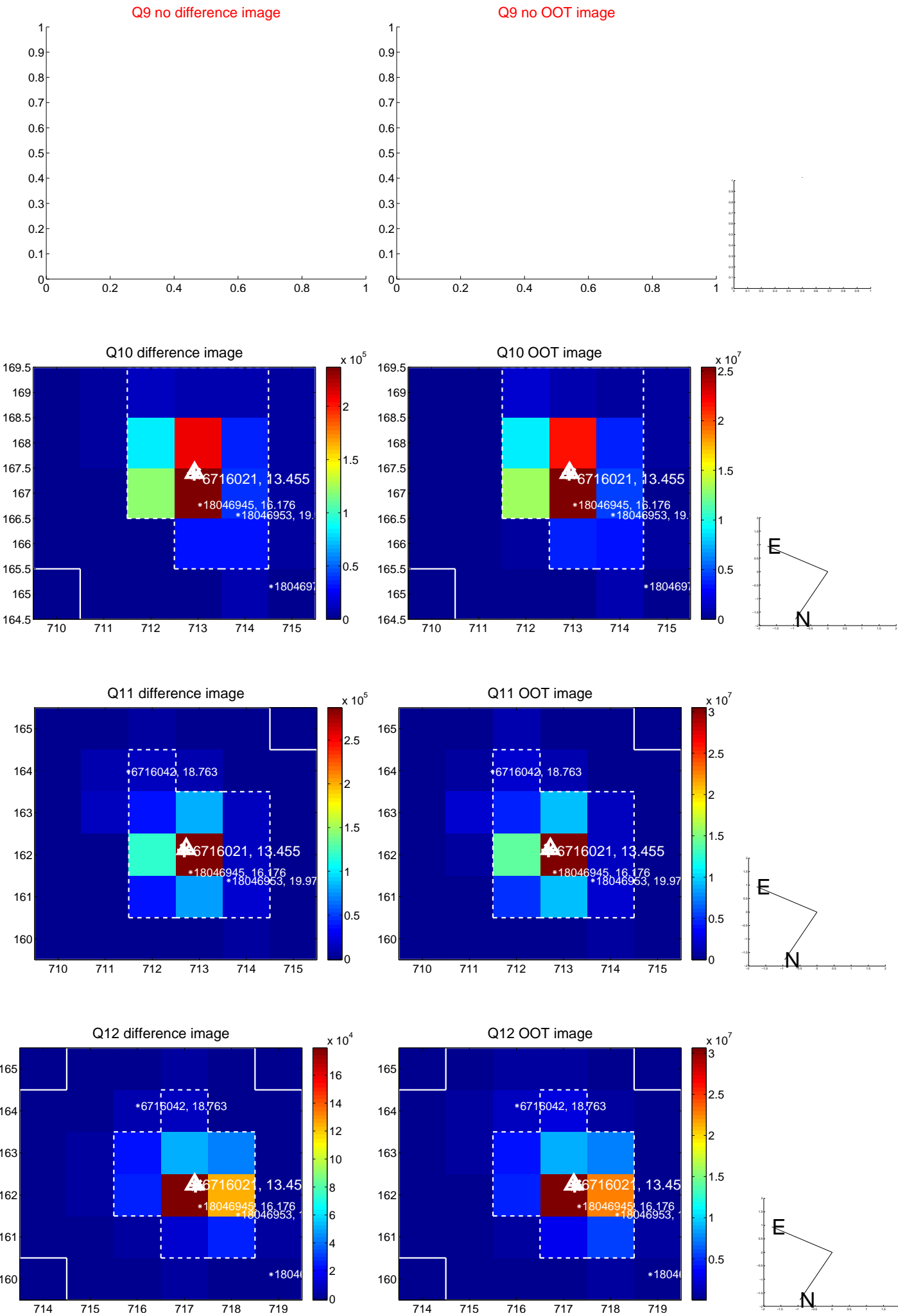
Q8 no difference image



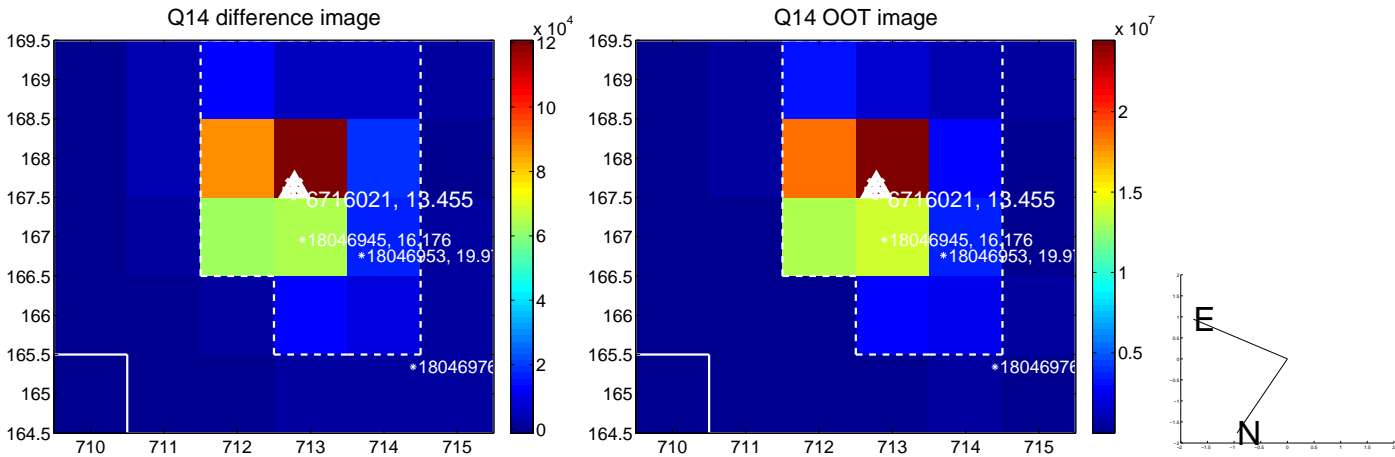
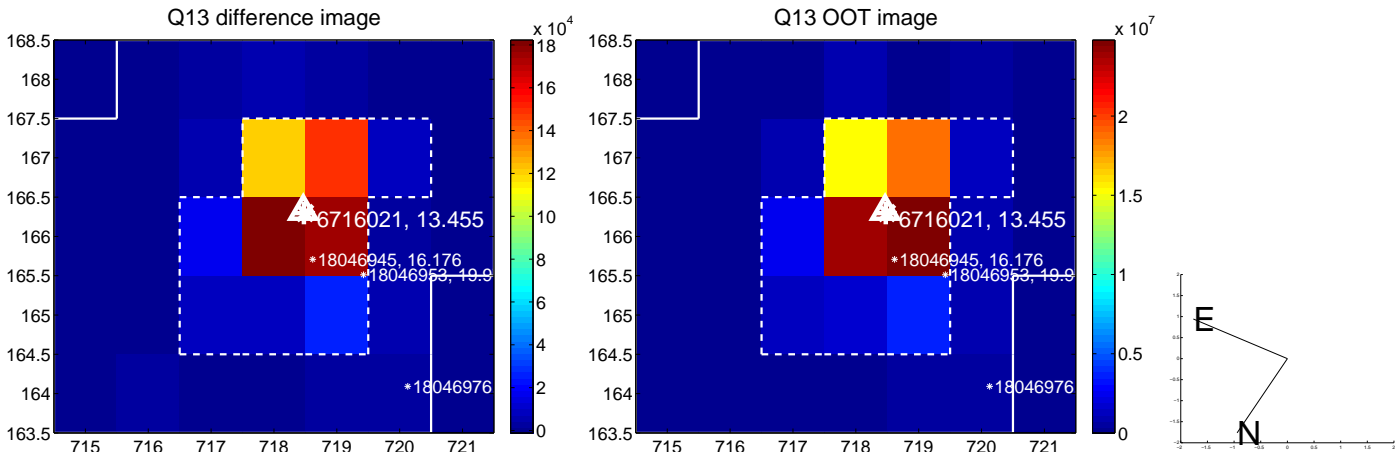
Q8 no OOT image



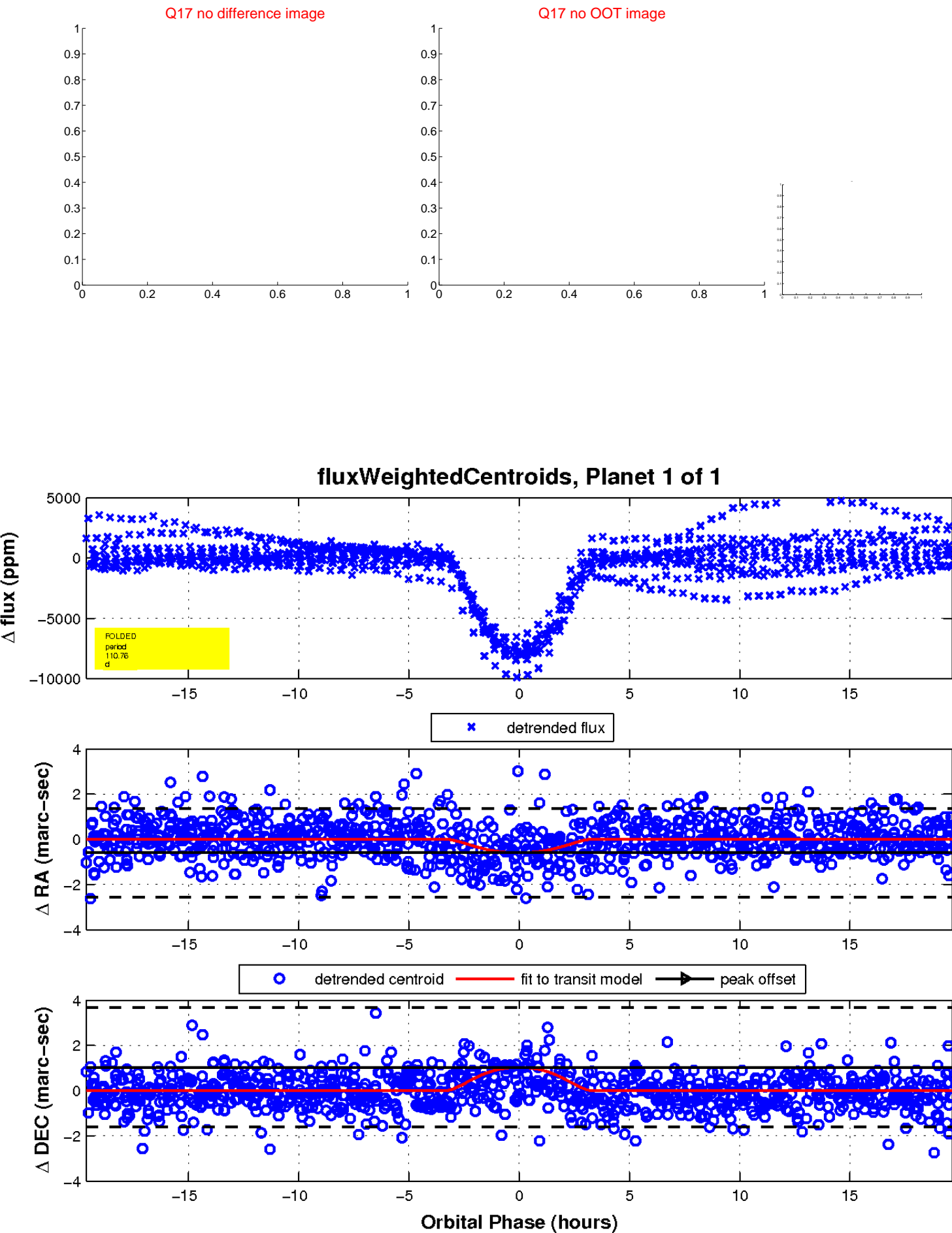
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

