

KIC 009782748

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})
009782748-01	OBS	4856.01	147.361833	174.851496	900.3	7.924	13.1	13.0	1.01	6046	3.24	3.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009782748-01	OBS	PC	0.92	0	0	0	0	CENT_KIC_POS

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.

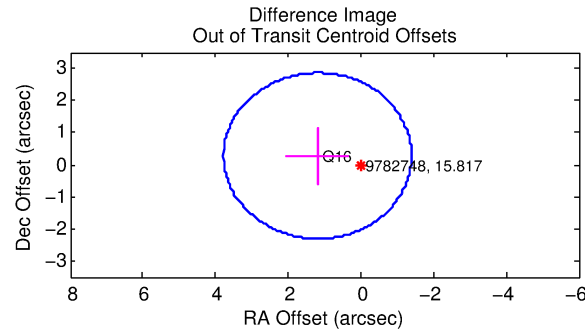
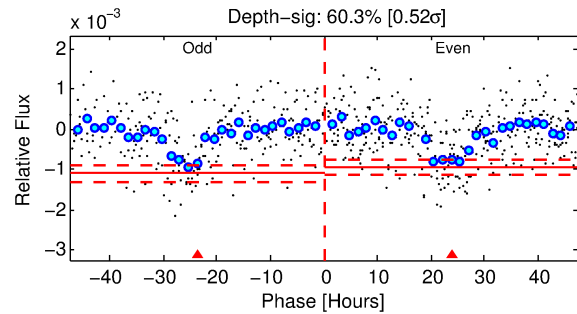
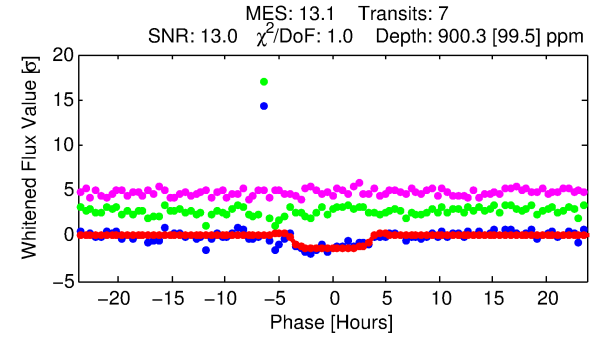
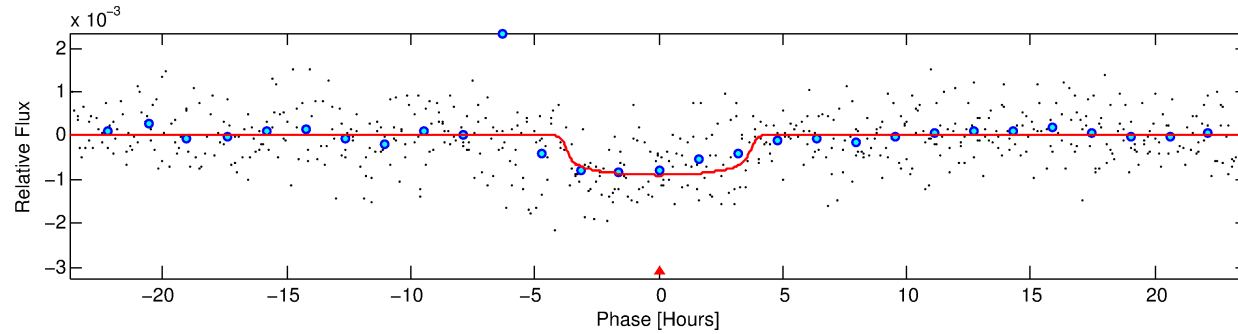
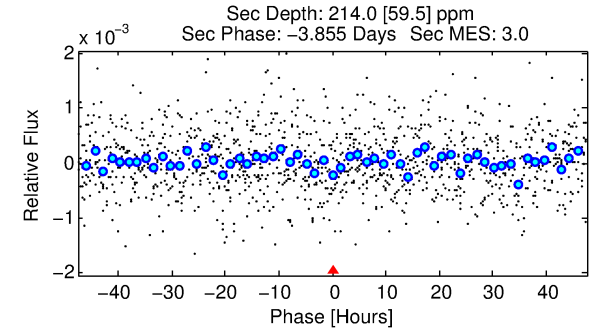
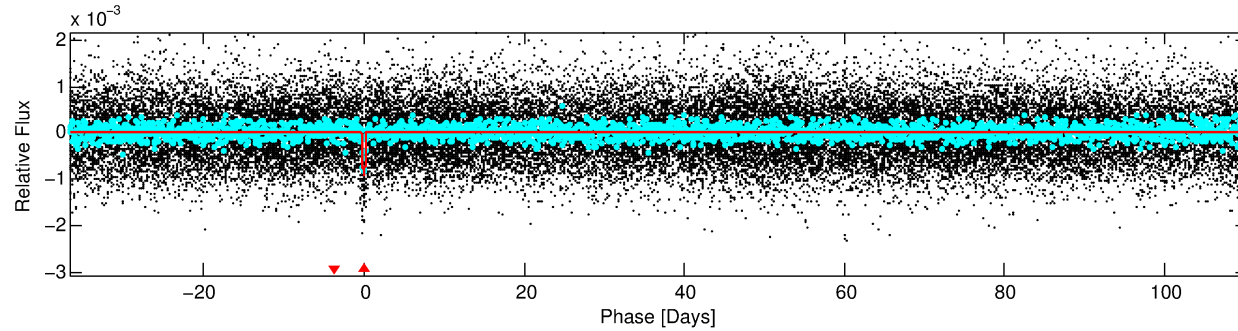
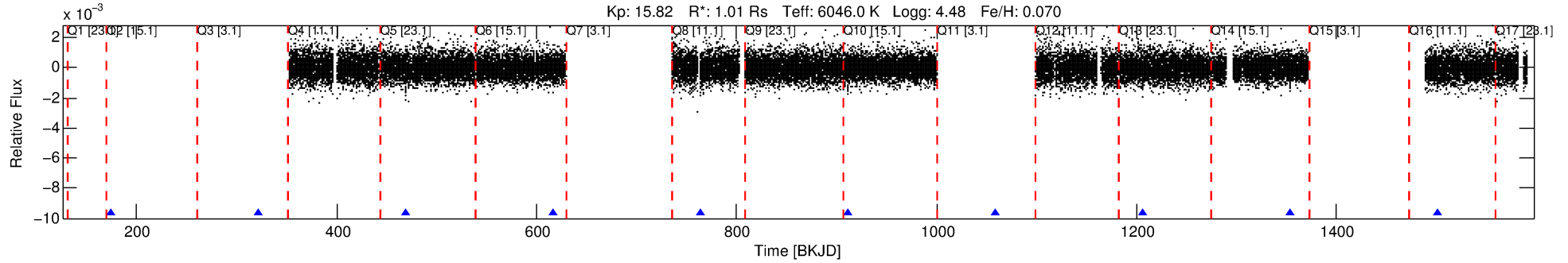
Ephemeris Match Information For 009782748-01

No Significant Match Found

DV One-Page Summary

KIC: 9782748 Candidate: 1 of 1 Period: 147.362 d

KOI: K04856.01 Corr: 0.762



DV Fit Results:

Period = 147.36183 [0.00324] d
Epoch = 174.8515 [0.0197] BKJD
Rp/R* = 0.0295 [0.0131]
a/R* = 105.78 [218.38]
b = 0.71 [1.45]
Seff = 3.79 [1.68]
Teq = 356 [39] K
Rp = 3.24 [1.79] Re
a = 0.5658 [0.1598] AU
Ag = 3592.82 [3657.33] [0.98σ]
Teffp = 4260 [1003] K [3.89σ]

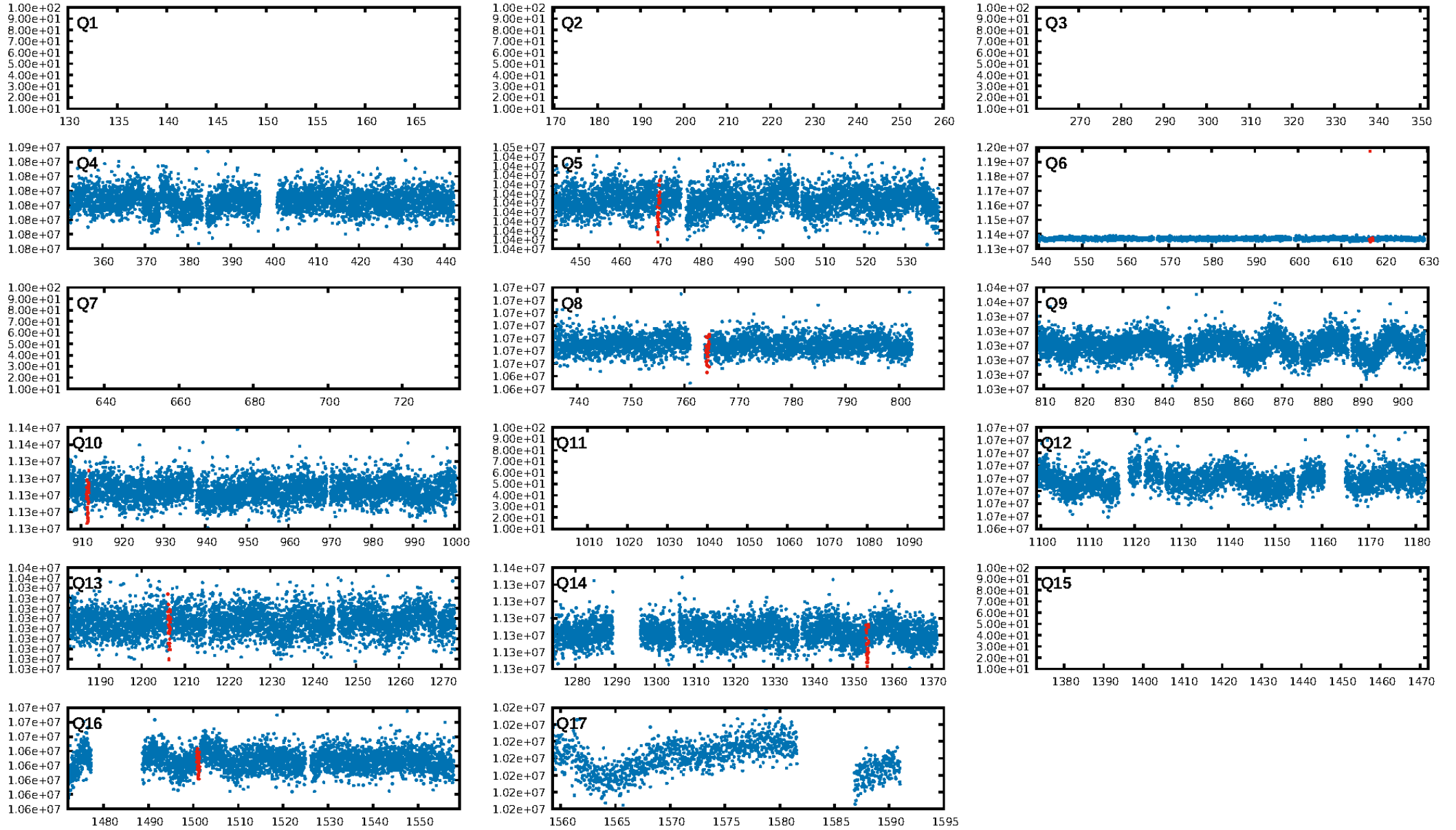
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 24.5%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: 1.57e-36
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 4.876
Centroid-sig: 21.0%
Centroid-so: 2.624 arcsec [2.64σ]
OotOffset-rm: 1.227 arcsec [1.42σ]
KicOffset-rm: 2.631 arcsec [1.45σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [5/5]

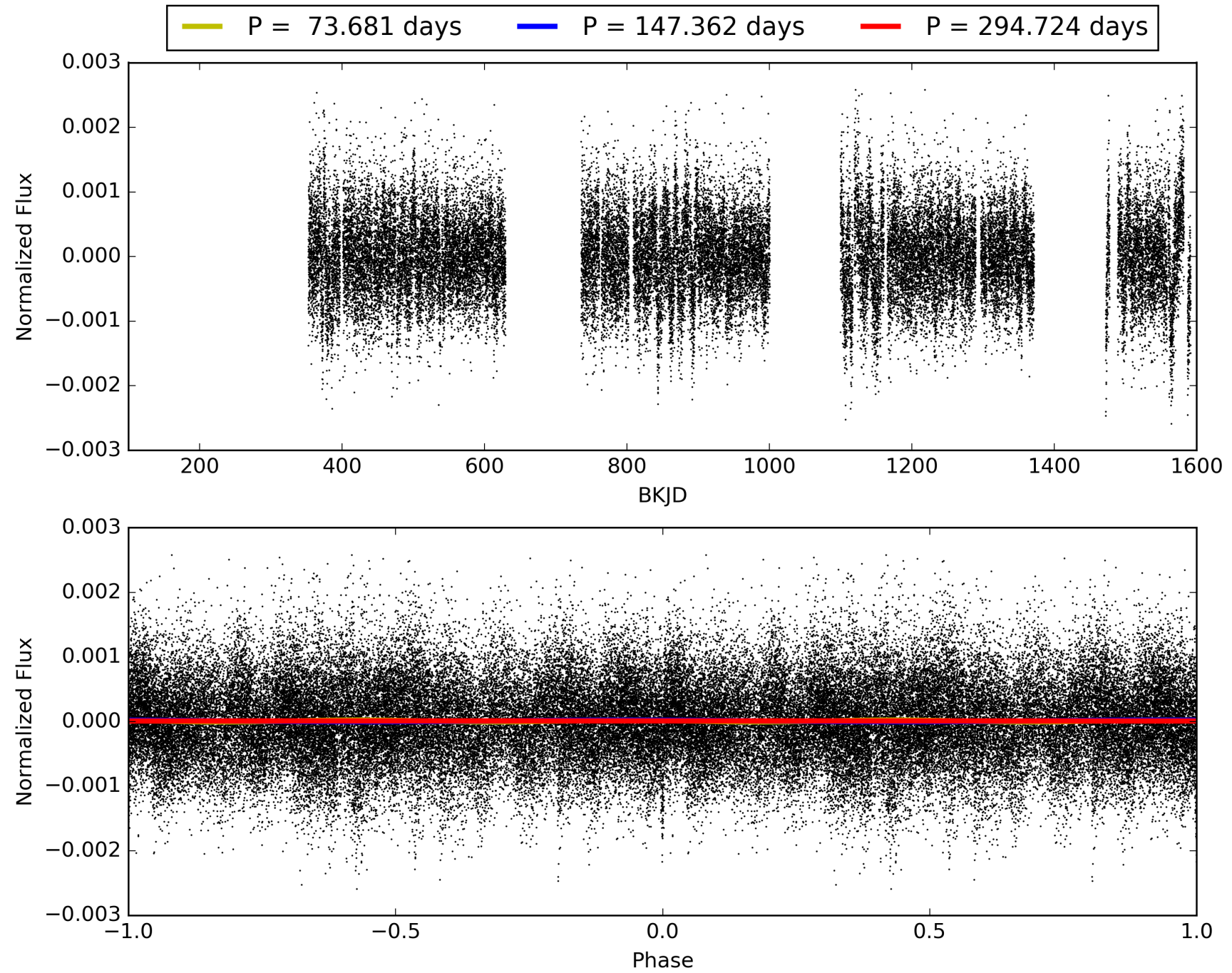
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:08:28 Z

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

TCE 009782748-01, PDC Light Curves

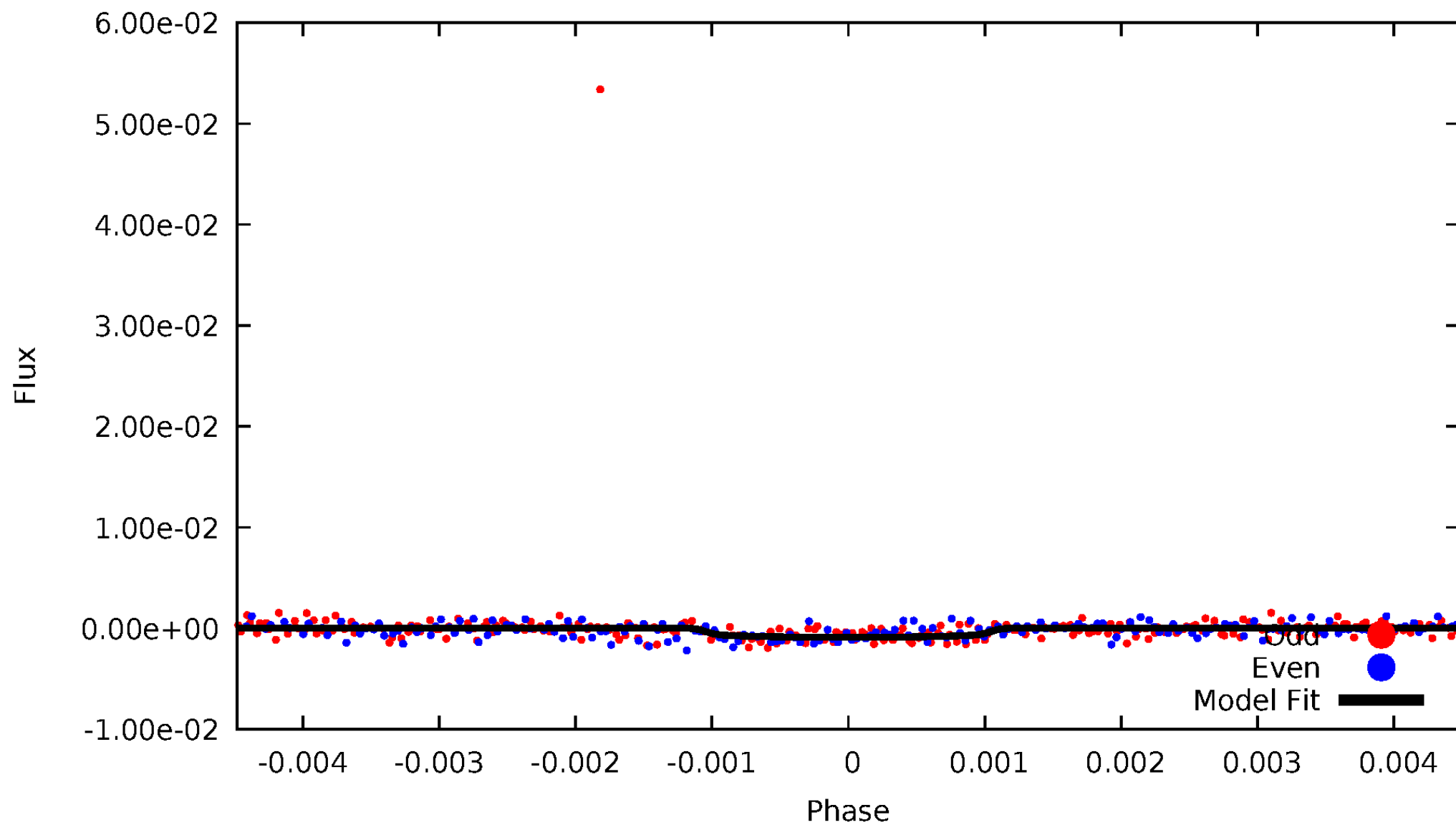


TCE 009782748-01



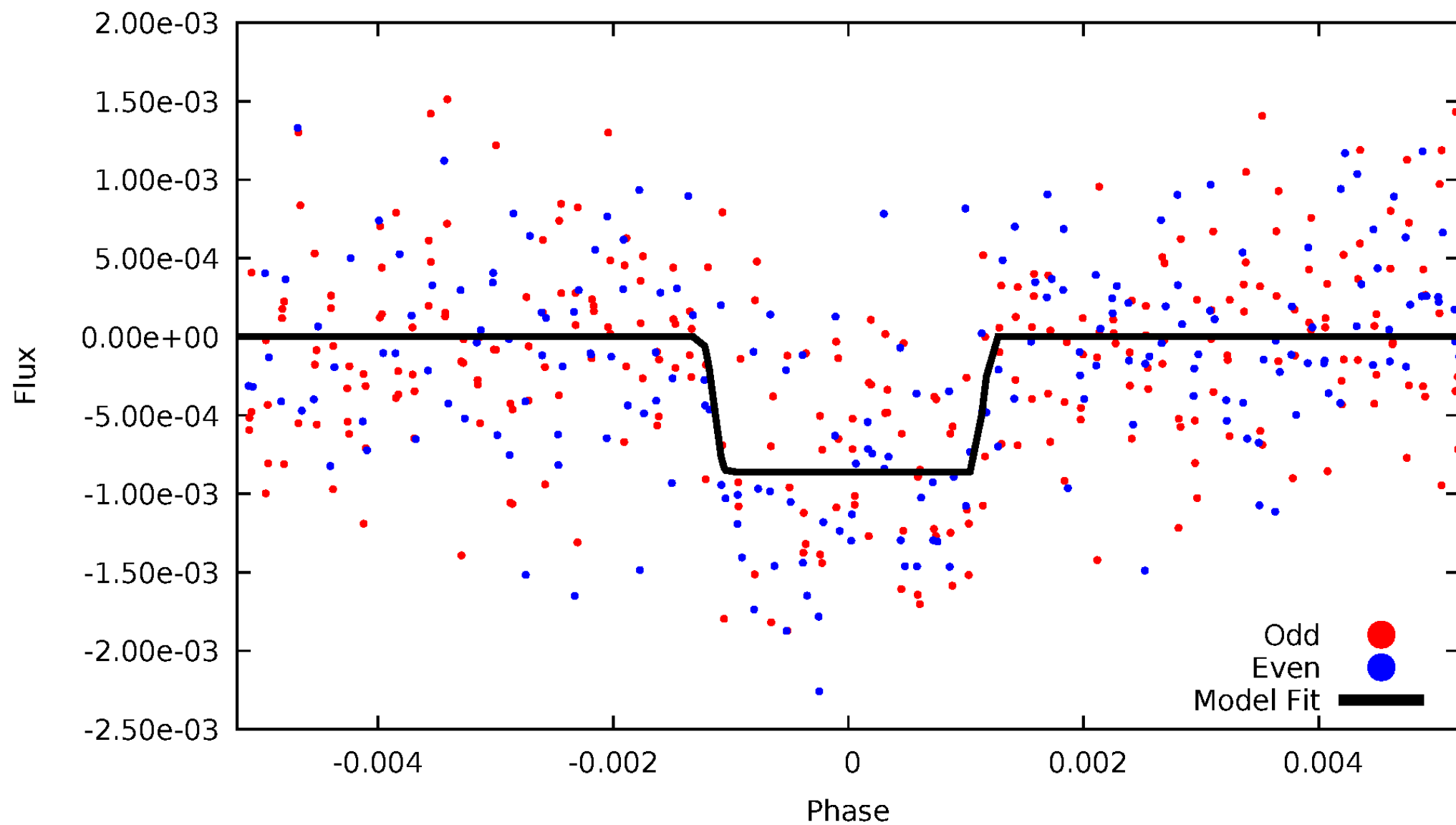
DV Odd/Even

TCE 009782748-01

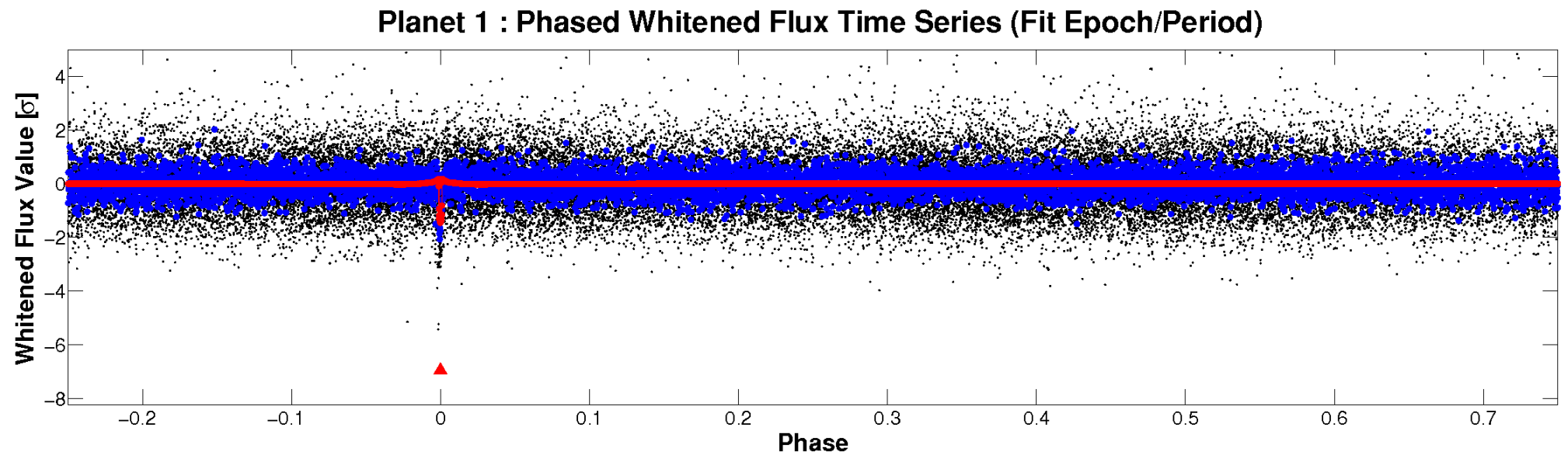
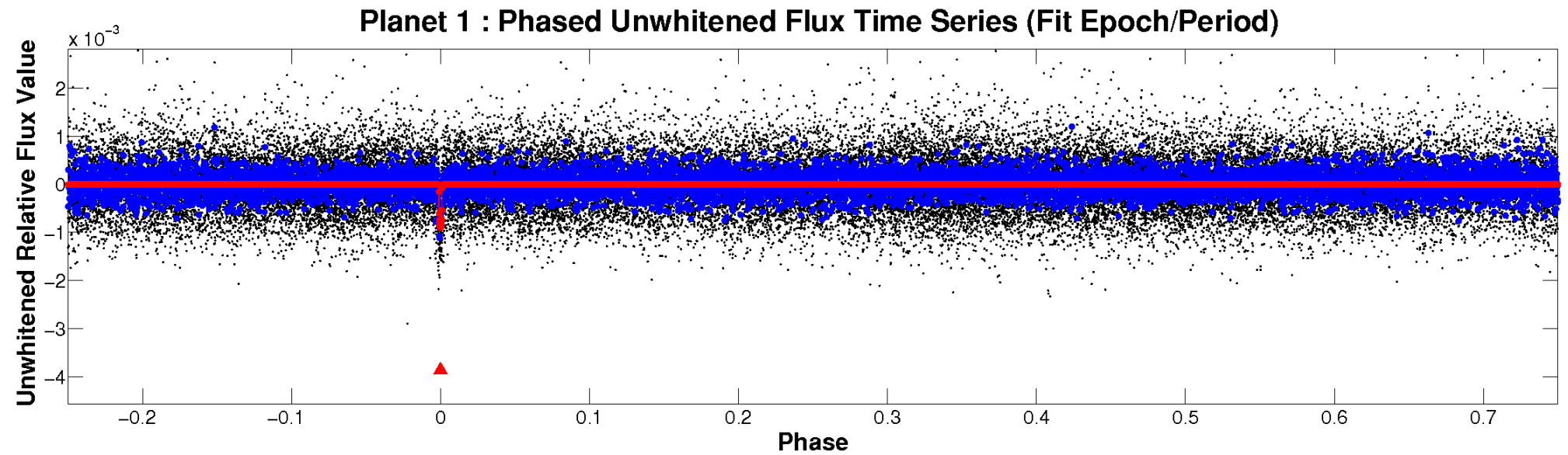


ALT Odd/Even

TCE 009782748-01

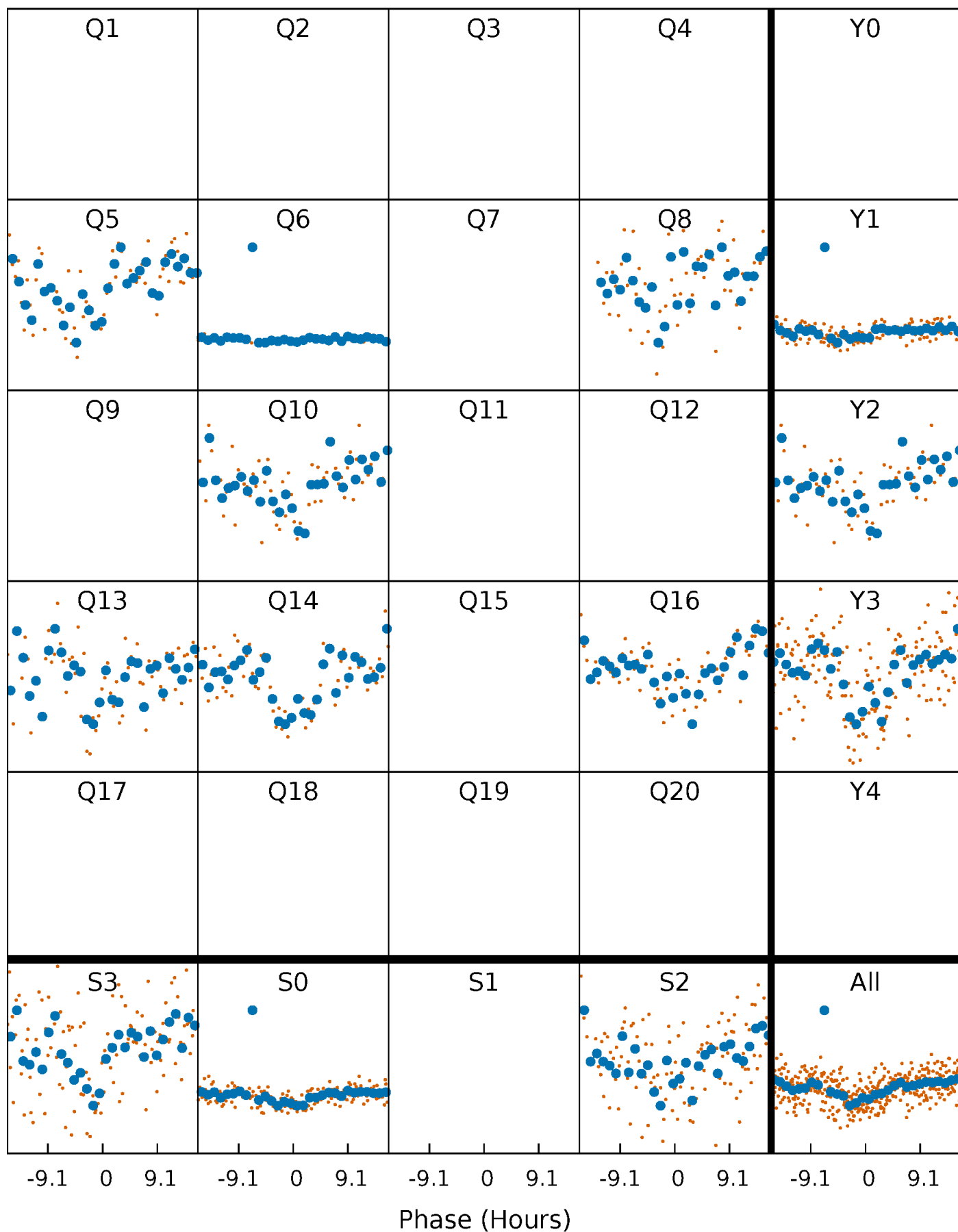


Non-Whitened Vs. Whitened Light Curve



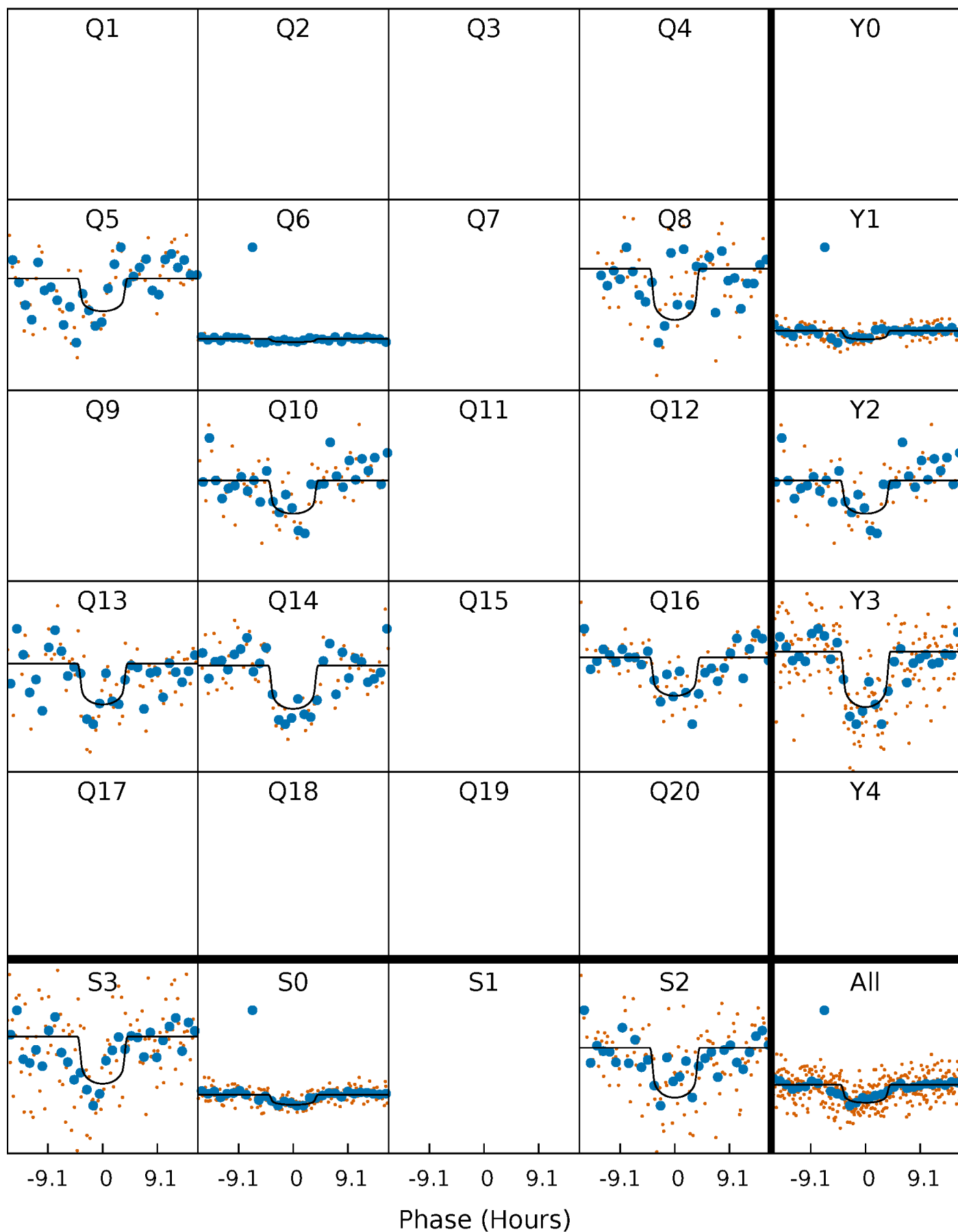
PDC Quarter-Phased Transit Curves

TCE 009782748-01 P=147.361833 Days $T_0=174.851496$ (BKJD)



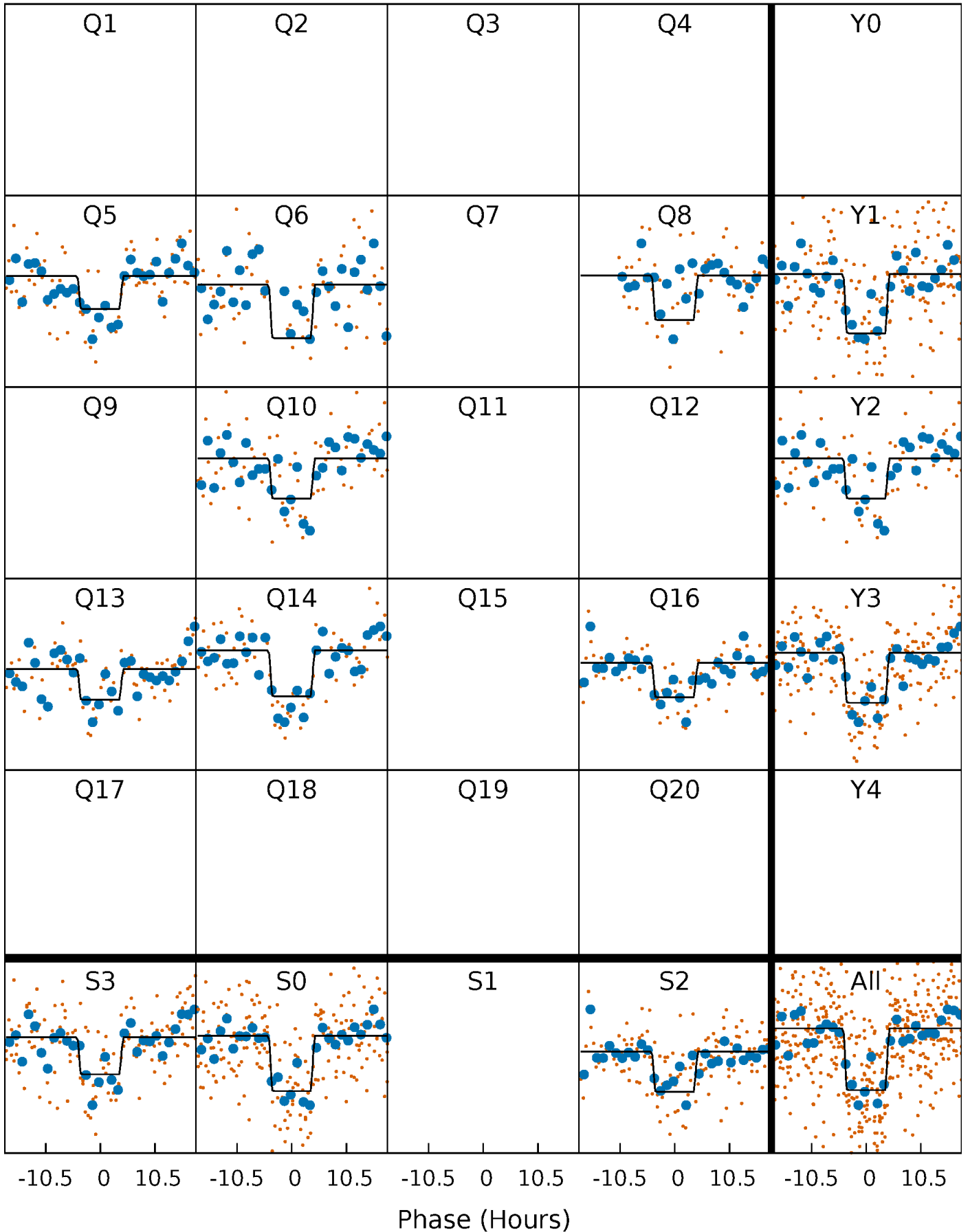
DV Quarter-Phased Transit Curves

TCE 009782748-01 P=147.361833 Days $T_0=174.851496$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

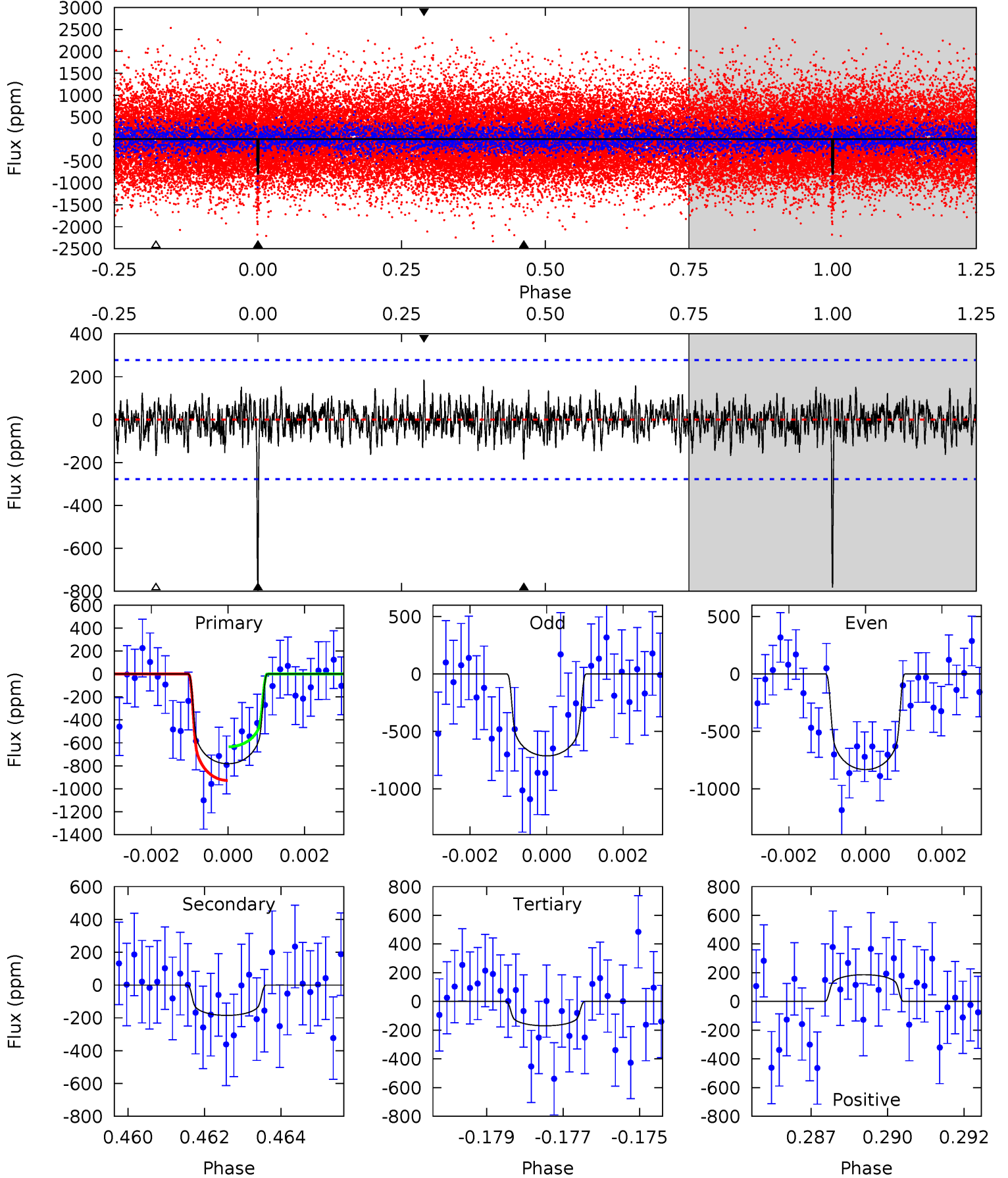
TCE 009782748-01 P=147.387268 Days $T_0=174.662562$ (BKJD)



DV Model-Shift Uniqueness Test

009782748-01, P = 147.361833 Days, E = 174.851496 Days

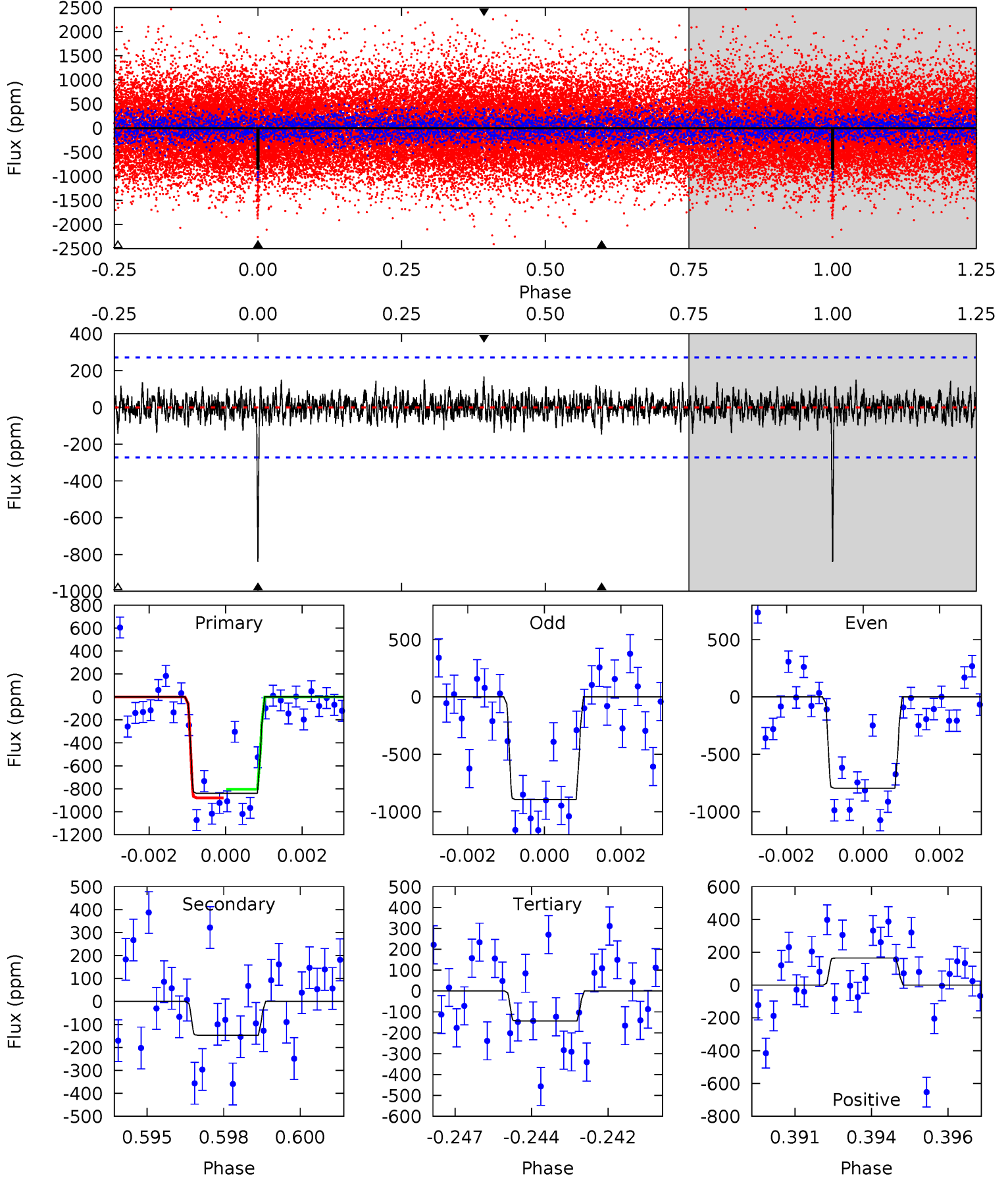
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	3.53	3.24	3.56	5.30	3.05	1.03	11.7	11.4	0.30	-0.03	1.13	0.87	0.19	2.81



Alt Model-Shift Uniqueness Test

009782748-01, P = 147.387268 Days, E = 174.662562 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	2.86	2.78	3.20	5.29	3.02	0.85	13.6	13.1	0.07	-0.35	0.96	0.93	0.16	0.73



Stellar Parameters For KIC 009782748

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6046^{+190}_{-232}	$4.478^{+0.040}_{-0.229}$	$0.070^{+0.250}_{-0.300}$	$1.007^{+0.334}_{-0.111}$	$1.111^{+0.138}_{-0.152}$	$1.532^{+0.340}_{-0.841}$
	+3%/-4%	+1%/-5%	+357%/-429%	+33%/-11%	+12%/-14%	+22%/-55%
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 009782748-01 / KOI 4856.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-185 ± 52	$3.44^{+1.61}_{-1.54}$	513^{+37}_{-28}	4318^{+1301}_{-585}	2645^{+6447}_{-1523}
Alt.	-147 ± 51	$3.52^{+1.49}_{-1.53}$	511^{+40}_{-28}	4100^{+1062}_{-539}	1972^{+4473}_{-1123}

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

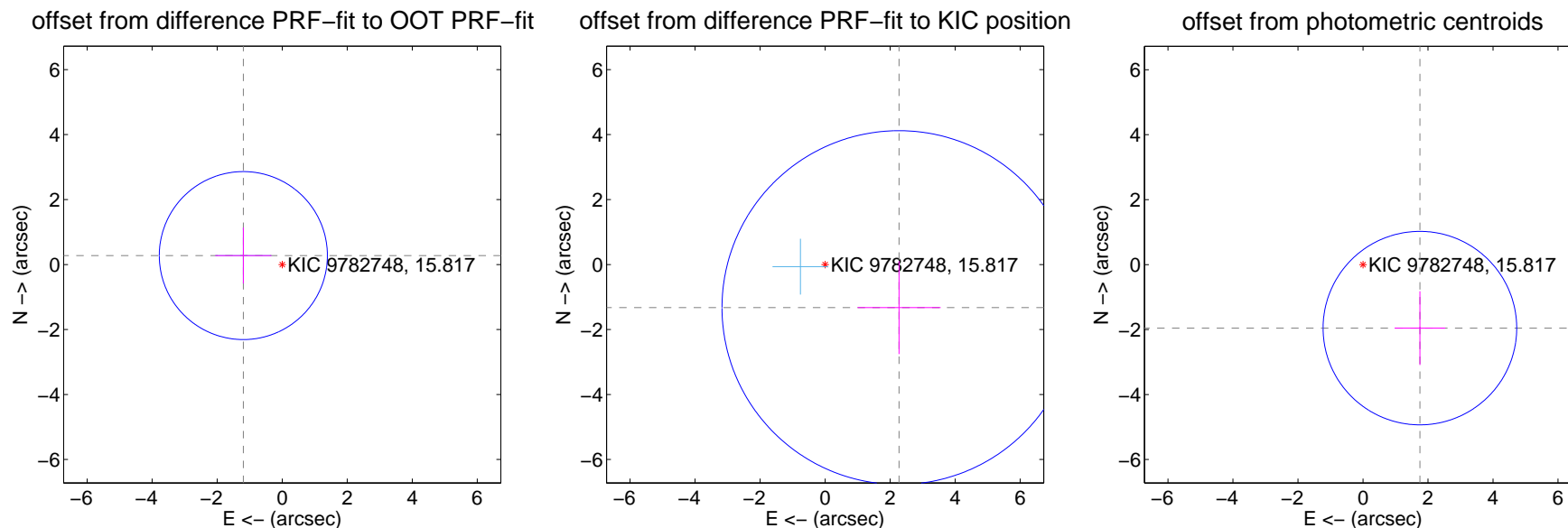
DV Centroid Data

Supplemental centroid analysis for 009782748-01. Kepler magnitude: 15.82. Transit SNR 12.98

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.55 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.227 ± 0.862	1.42	1.195 ± 0.862	0.276 ± 0.861
PRF-fit source offset from KIC position	2.631 ± 1.815	1.45	-2.273 ± 1.277	-1.325 ± 1.432
photometric centroid source offset	2.62 ± 0.99	2.64	-1.75 ± 0.78	-1.95 ± 1.14

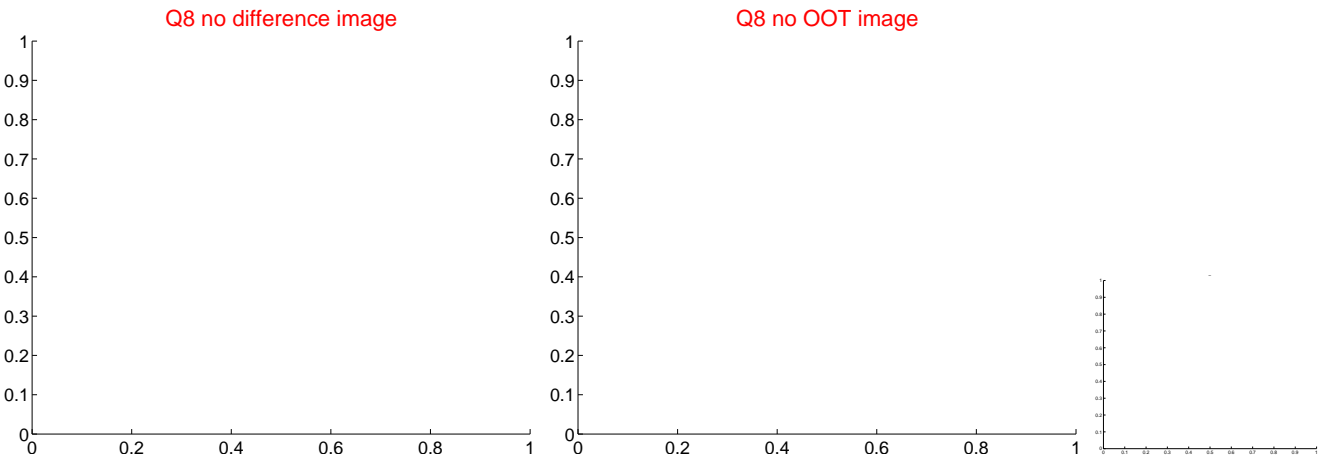
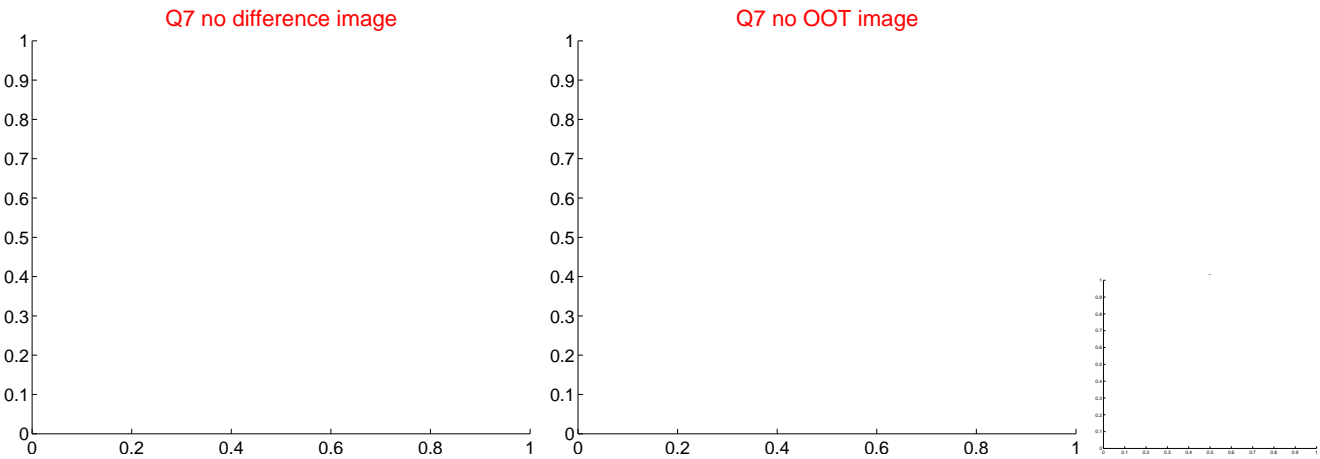
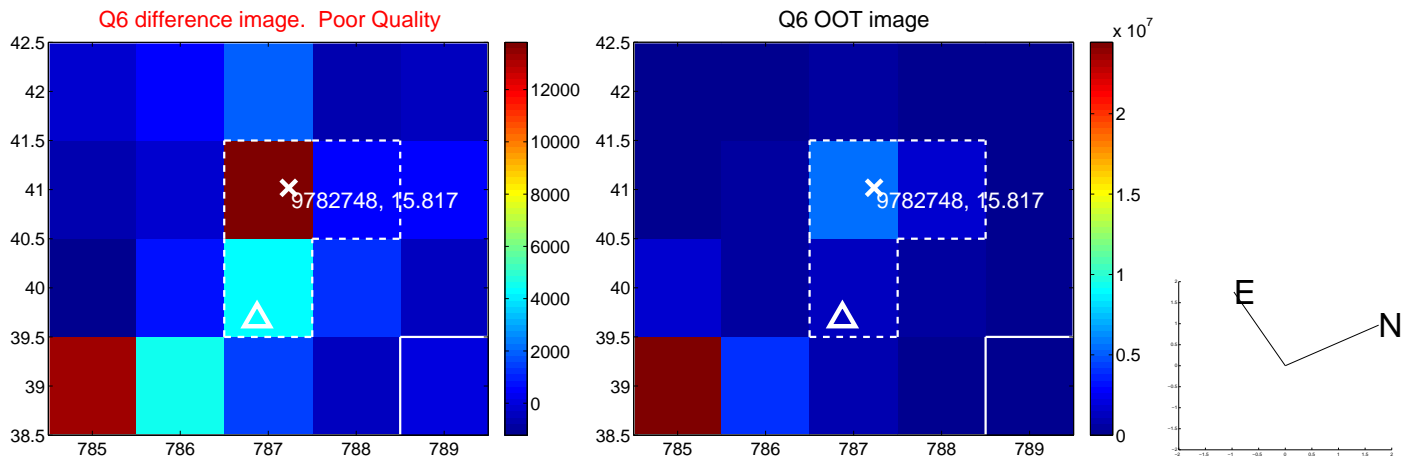
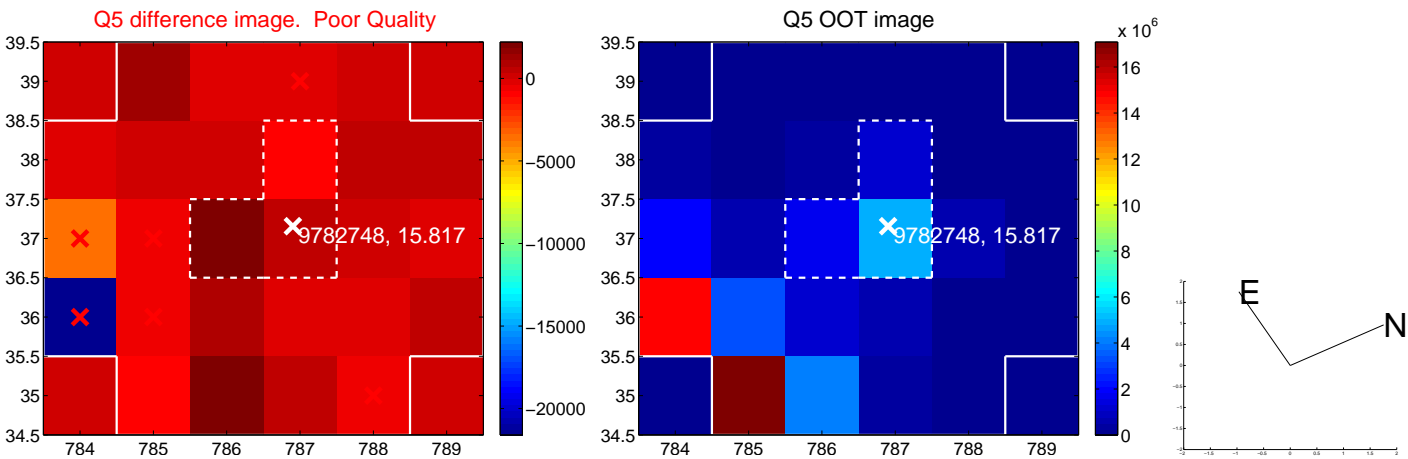


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

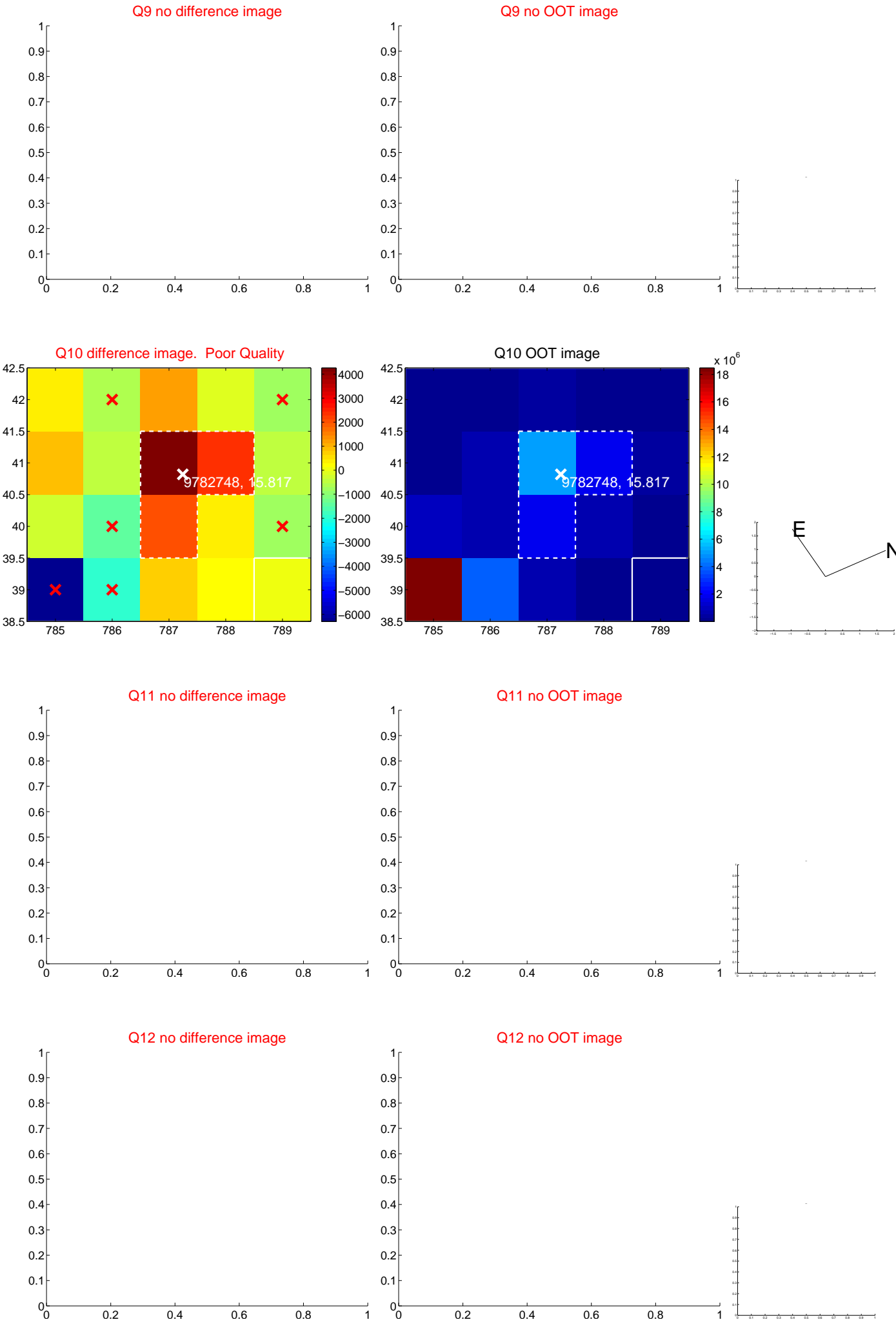
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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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.

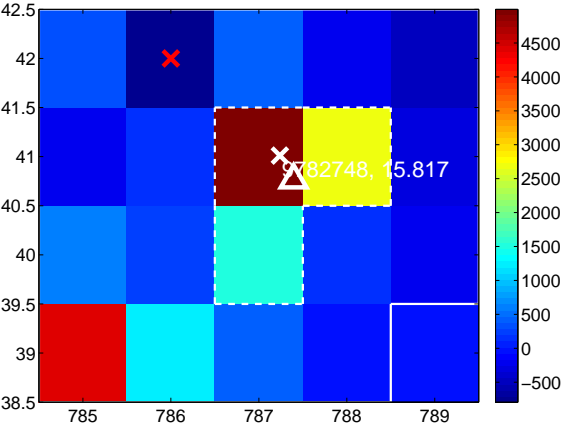
Q13 no difference image



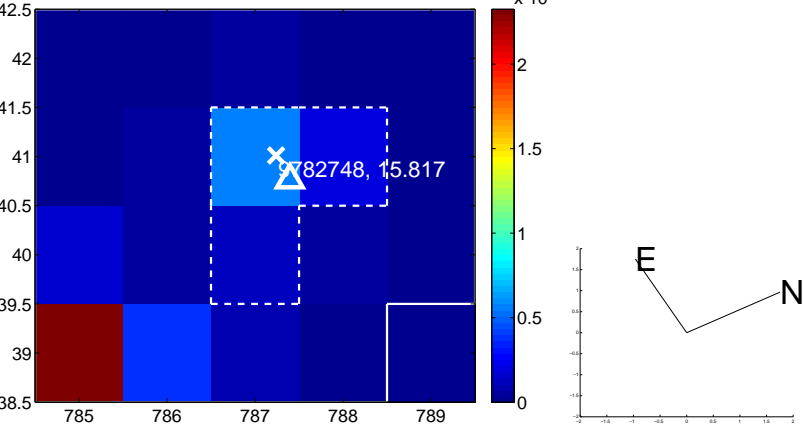
Q13 no OOT image



Q14 difference image



Q14 OOT image



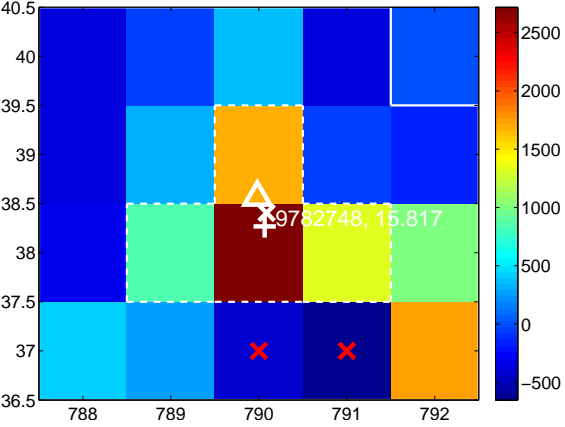
Q15 no difference image



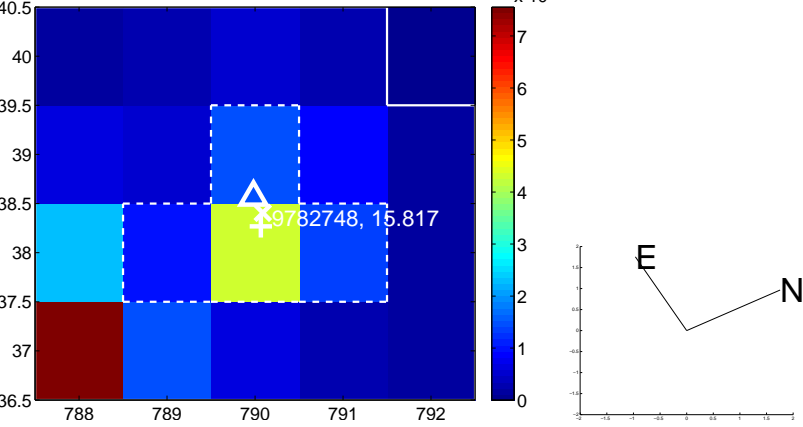
Q15 no OOT image



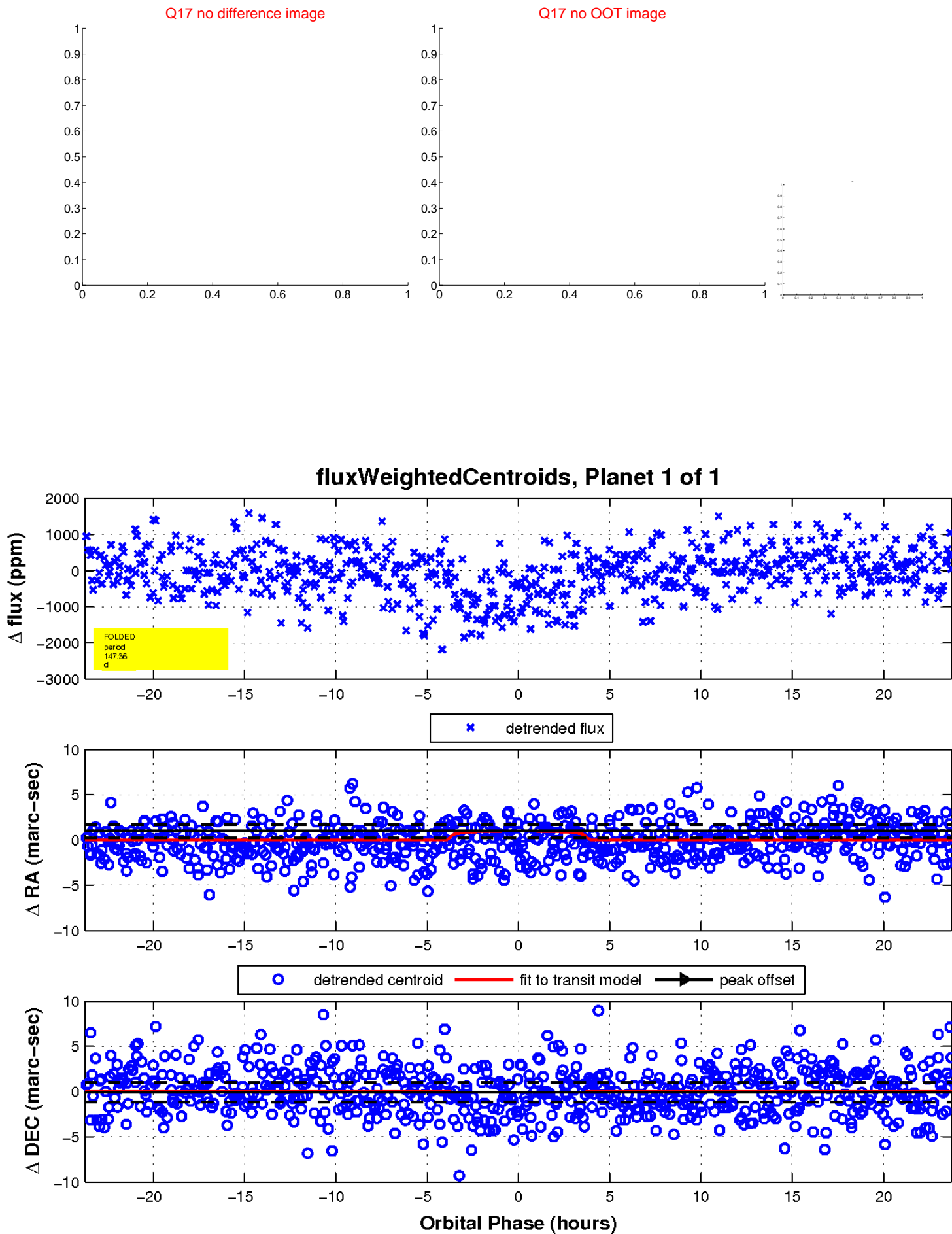
Q16 difference image



Q16 OOT image



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



UKIRT Image

Declination

