

KIC 004725764

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})
004725764-01	OBS	No	381.389441	155.313358	194.7	9.129	7.5	7.2	1.52	6313	2.43	2.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004725764-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

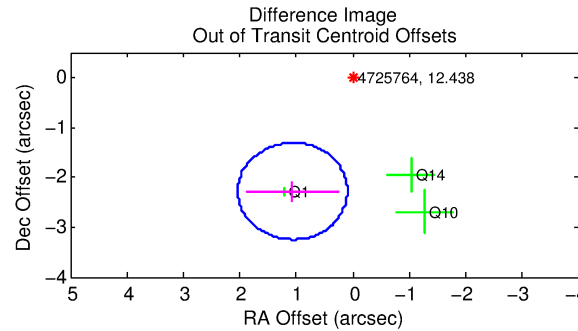
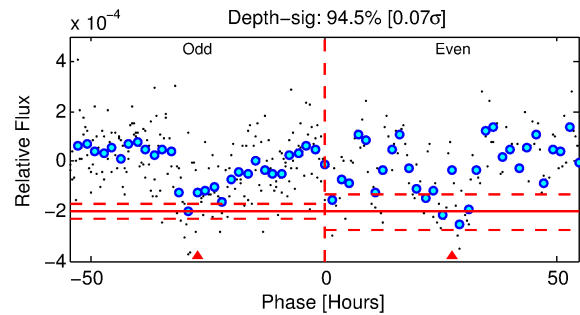
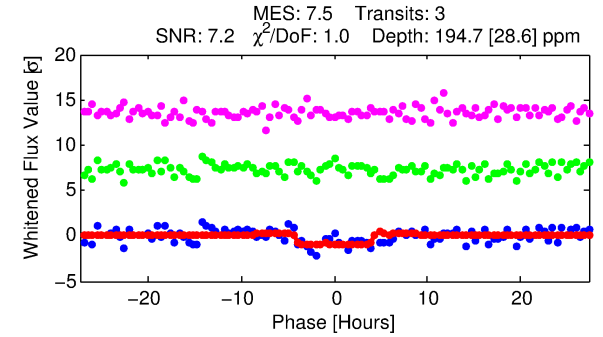
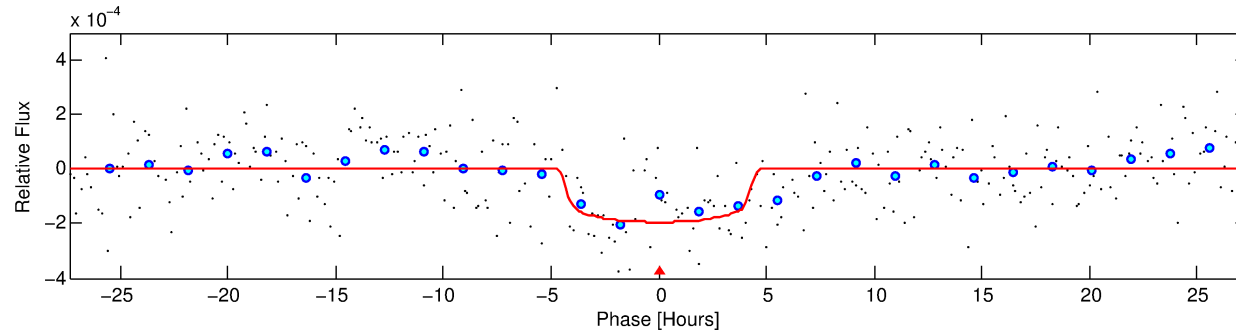
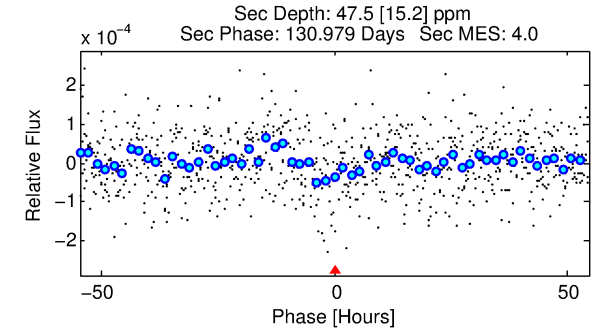
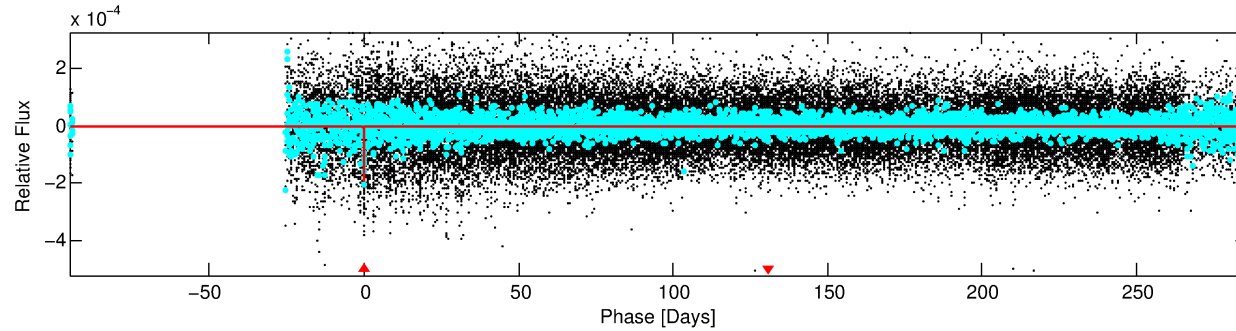
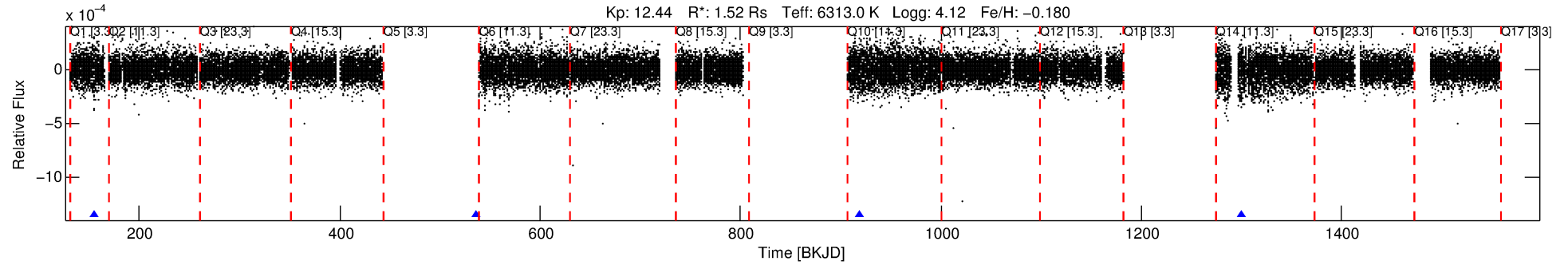
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004725764-01

No Significant Match Found

DV One-Page Summary

KIC: 4725764 Candidate: 1 of 1 Period: 381.389 d



DV Fit Results:

Period = 381.38944 [0.00655] d
Epoch = 155.3134 [0.0129] BKJD
Rp/R* = 0.0146 [0.0034]
a/R* = 168.66 [198.98]
b = 0.87 [0.34]
Seff = 2.89 [1.35]
Teq = 332 [39] K
Rp = 2.43 [0.90] Re
a = 1.0692 [0.2950] AU
Ag = 5066.53 [3617.44] [1.40σ]
Teffp = 4336 [633] K [6.31σ]

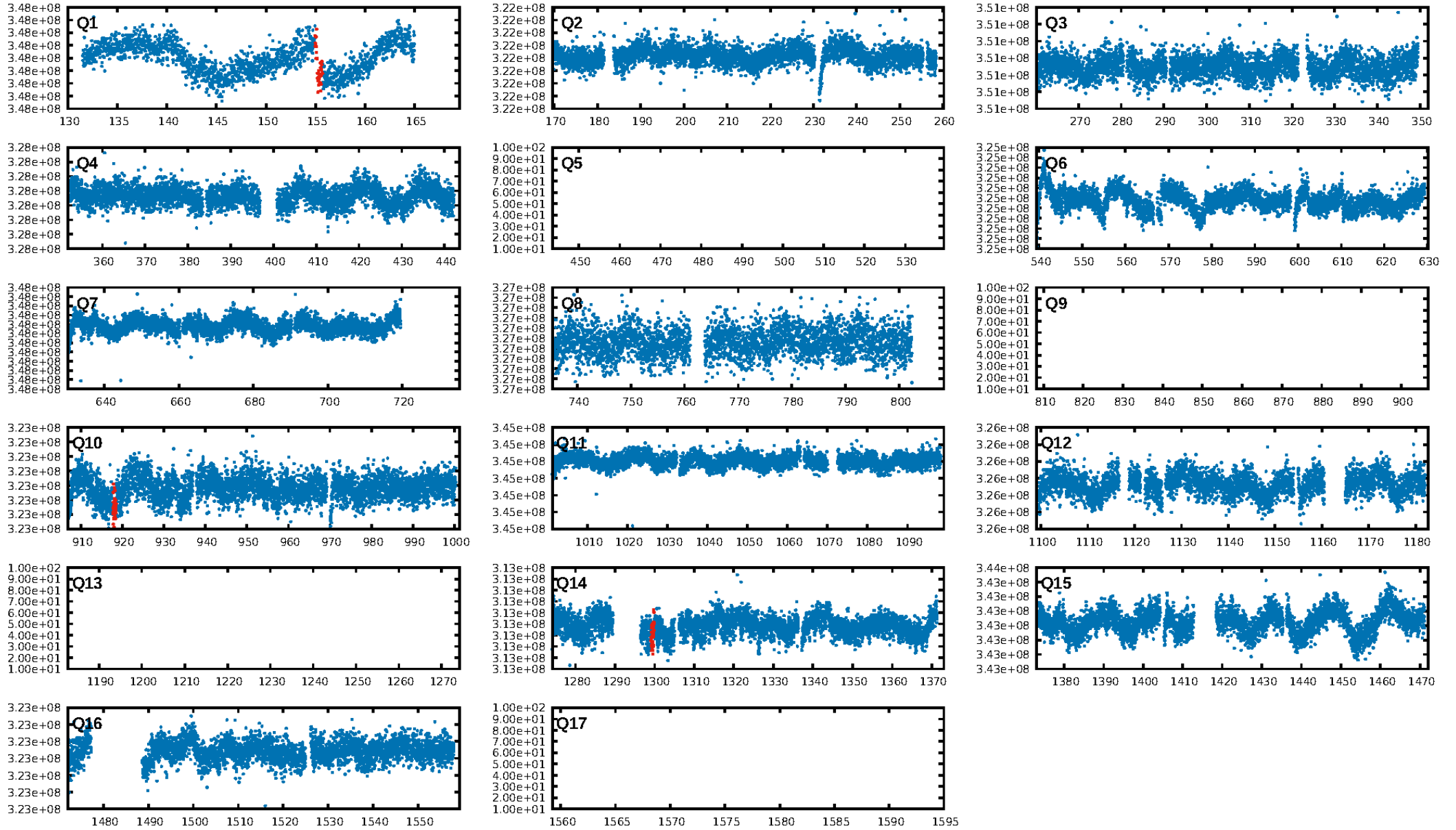
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 40.5%
ModelChiSquareGof-sig: 97.5%
Bootstrap-pfa: 1.69e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 2.486
Centroid-sig: 0.0%
Centroid-so: 3.545 arcsec [2.88σ]
OotOffset-rm: 2.518 arcsec [7.79σ]
KicOffset-rm: 2.702 arcsec [9.27σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

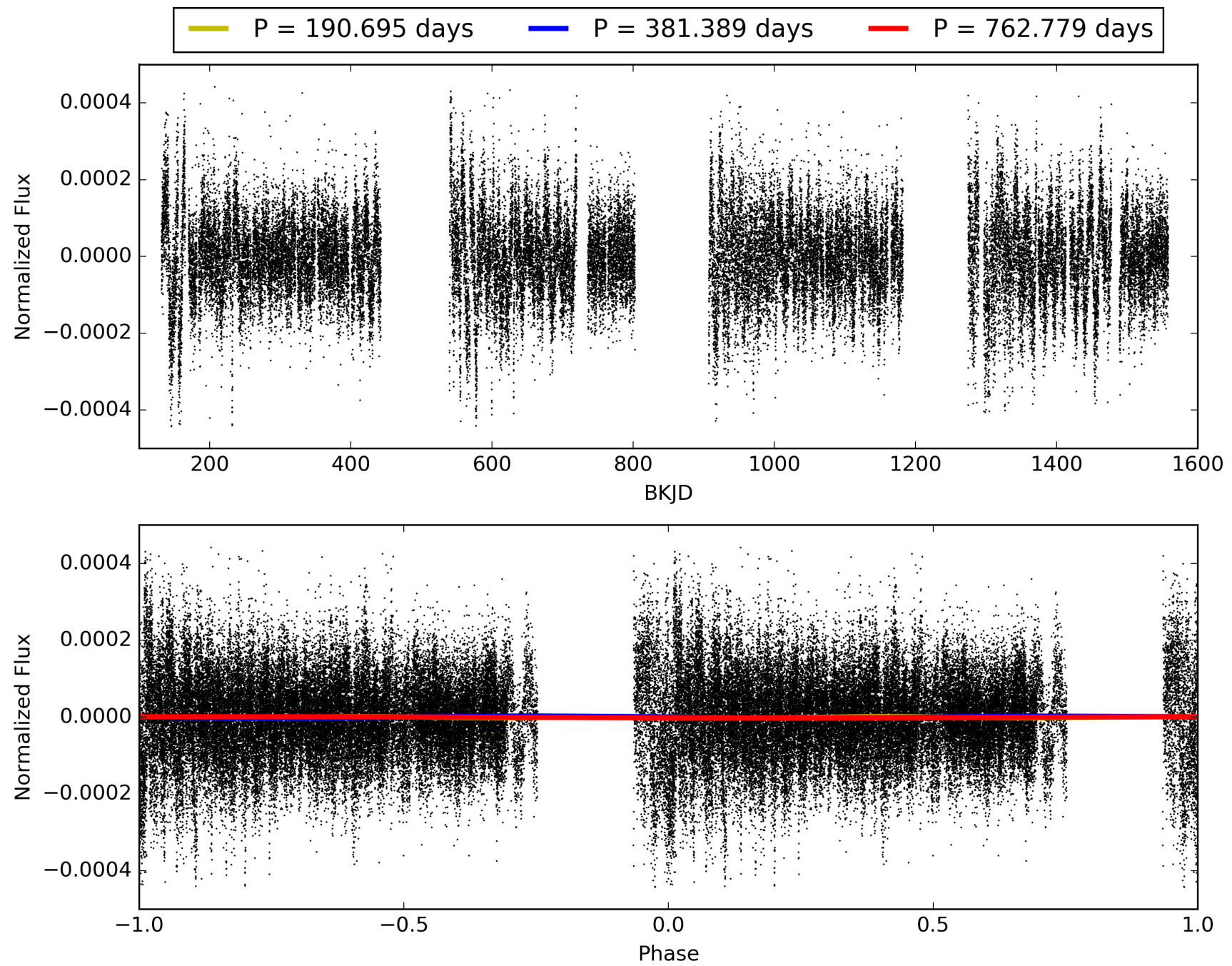
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:14:56 Z

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

TCE 004725764-01, PDC Light Curves

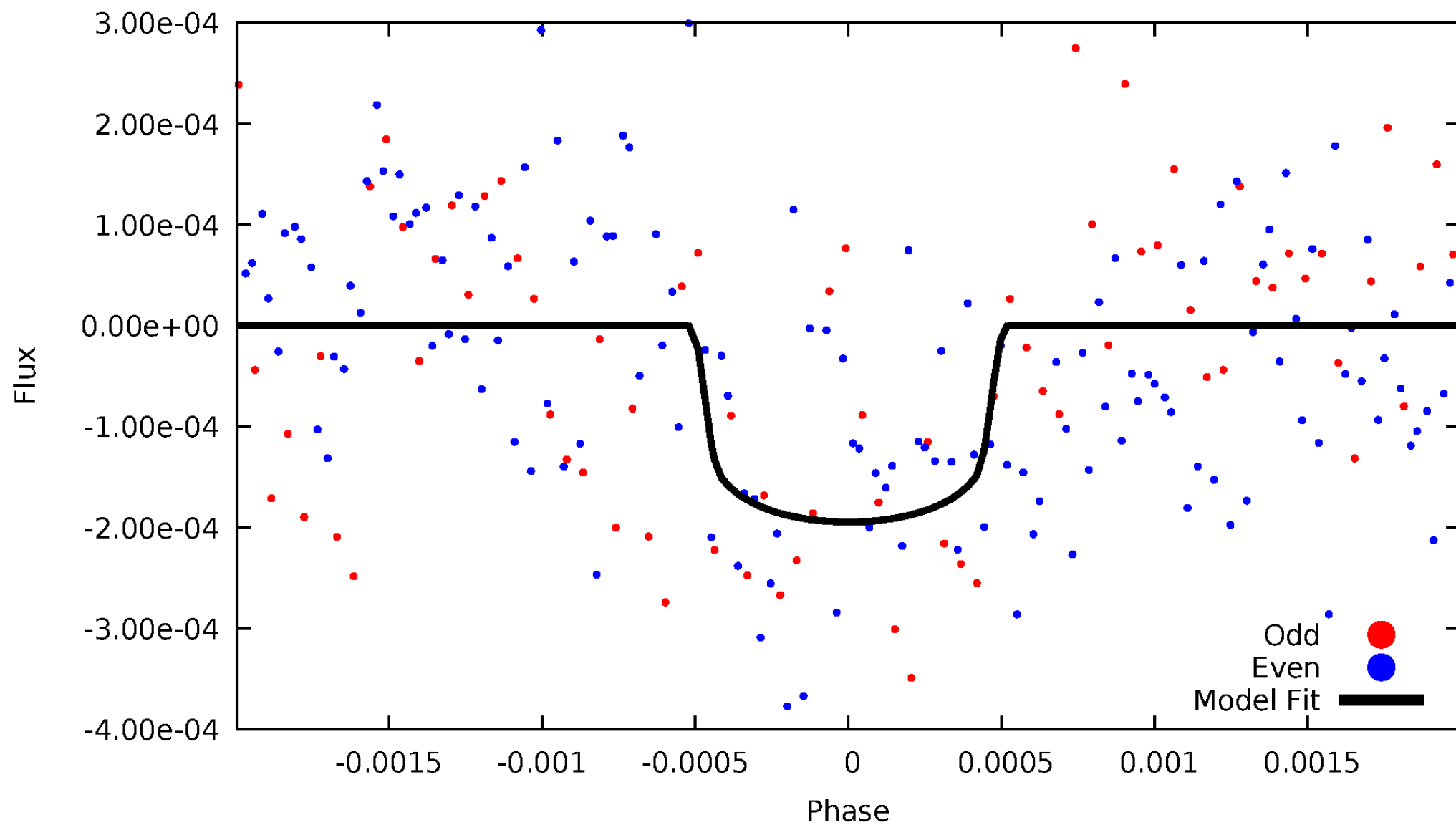


TCE 004725764-01



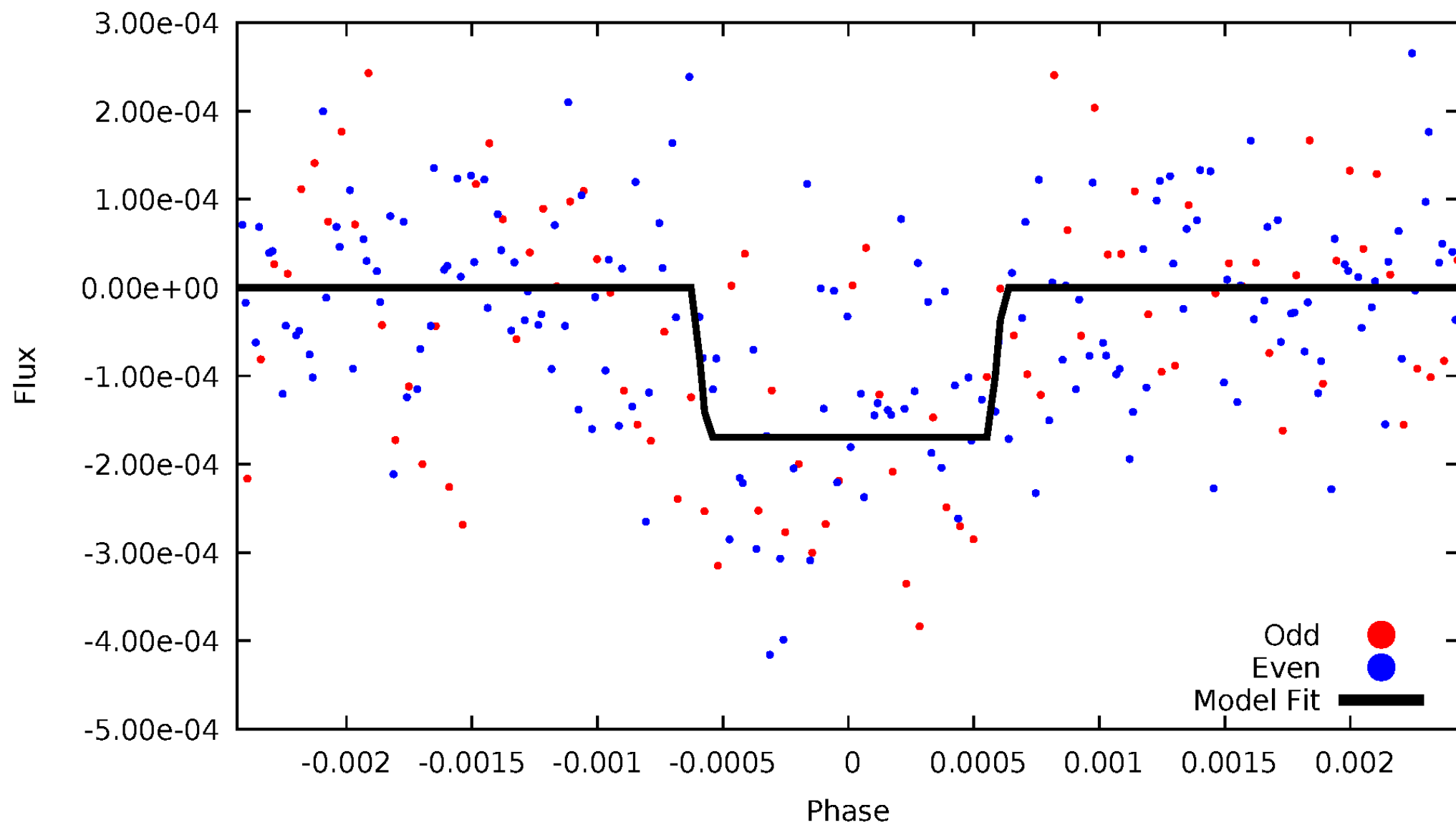
DV Odd/Even

TCE 004725764-01

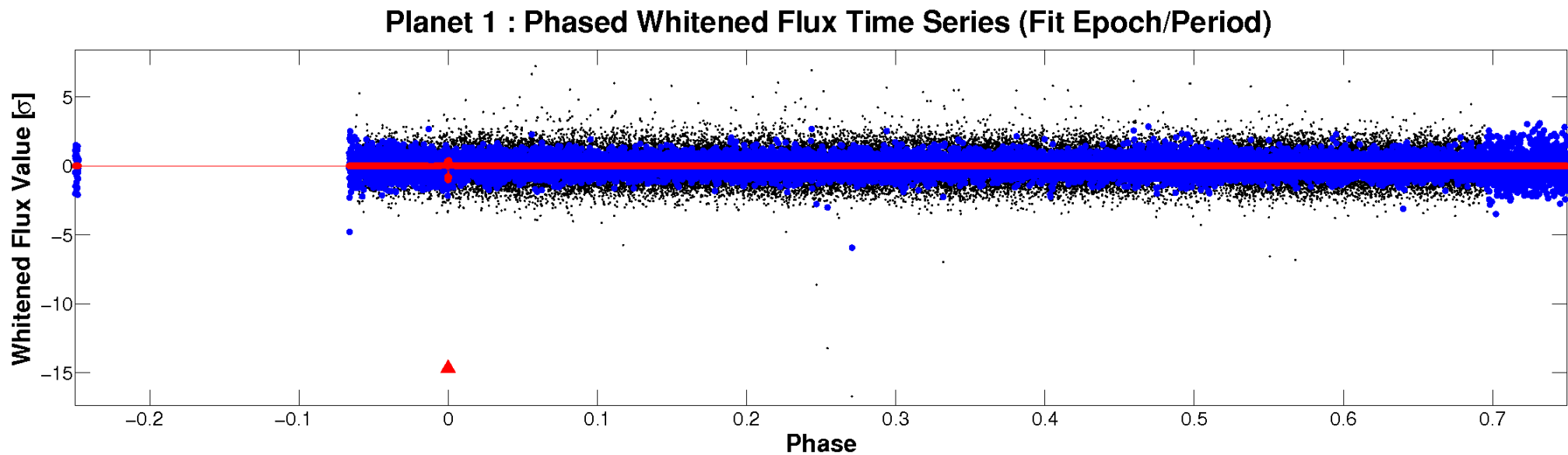
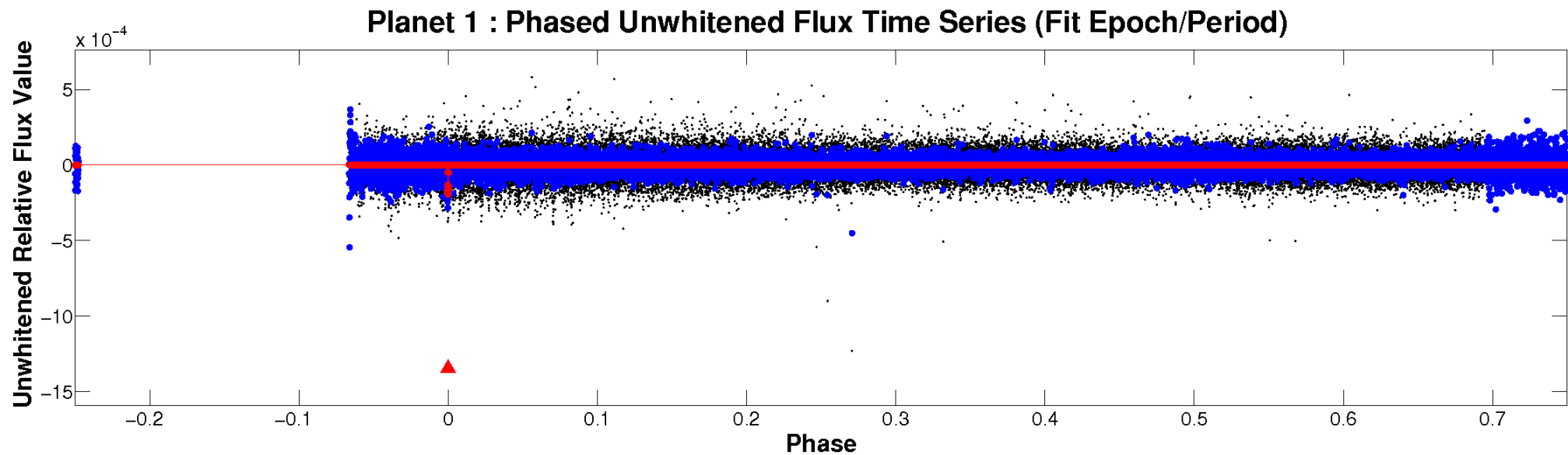


ALT Odd/Even

TCE 004725764-01

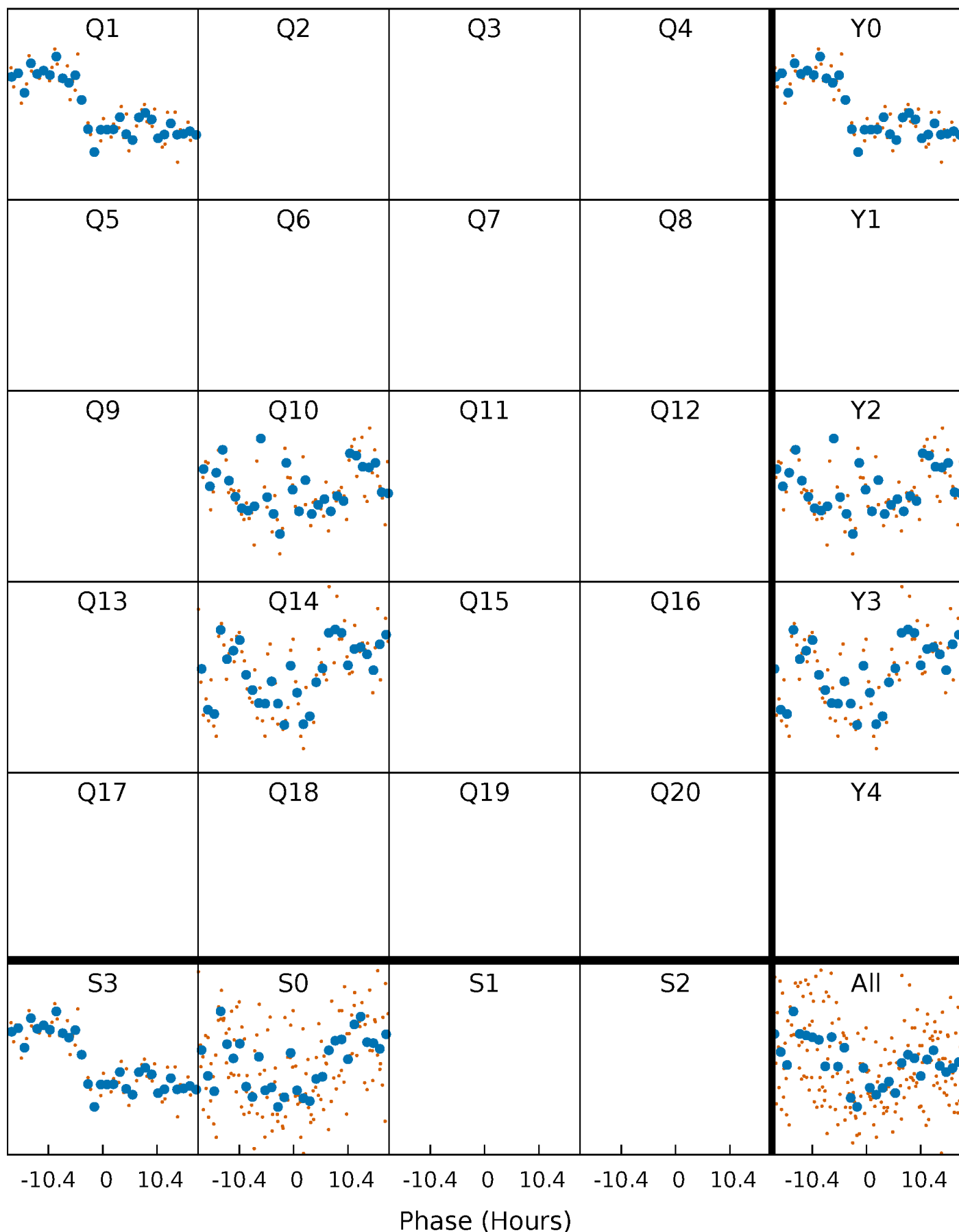


Non-Whitened Vs. Whitened Light Curve



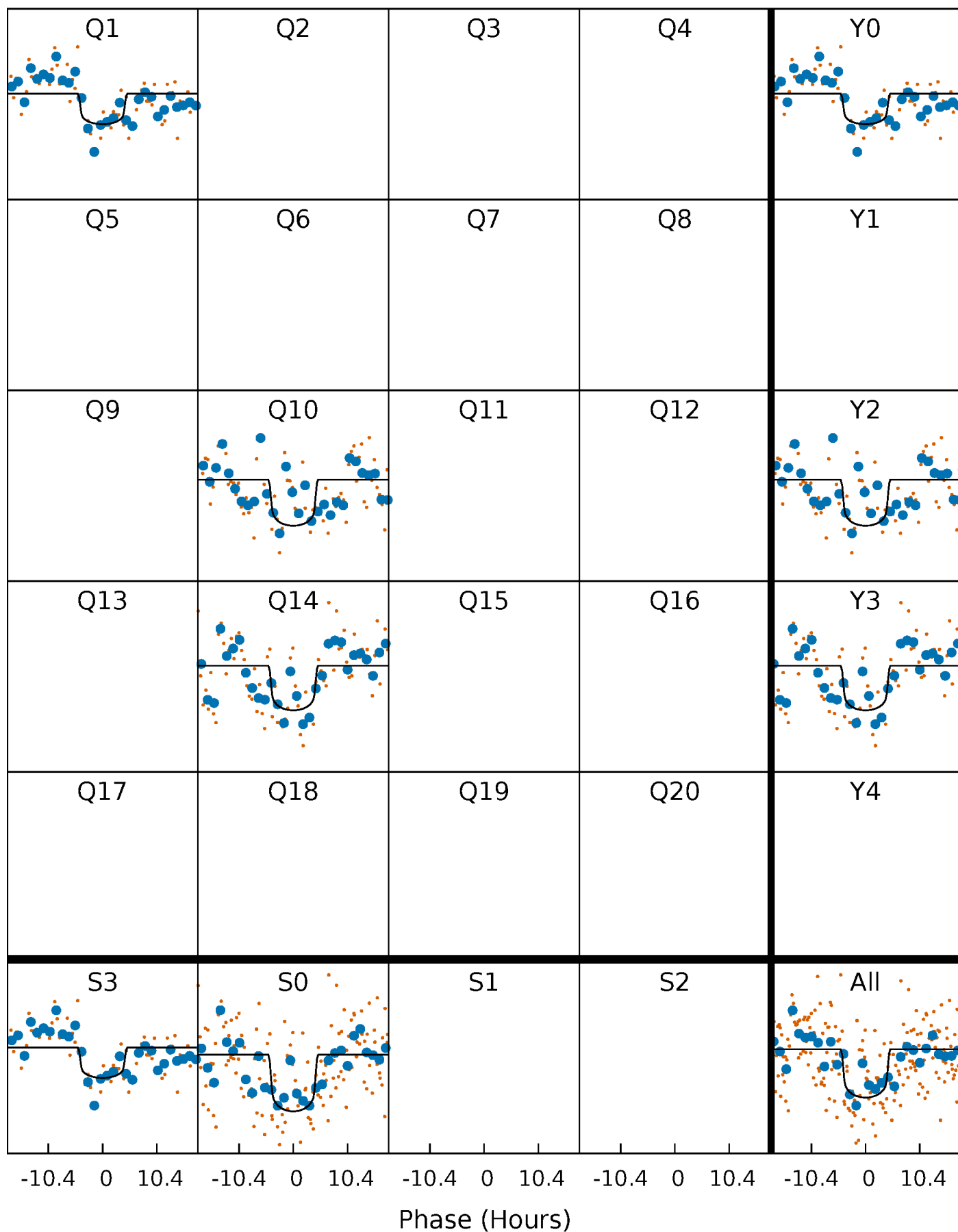
PDC Quarter-Phased Transit Curves

TCE 004725764-01 P=381.389441 Days $T_0=155.313358$ (BKJD)



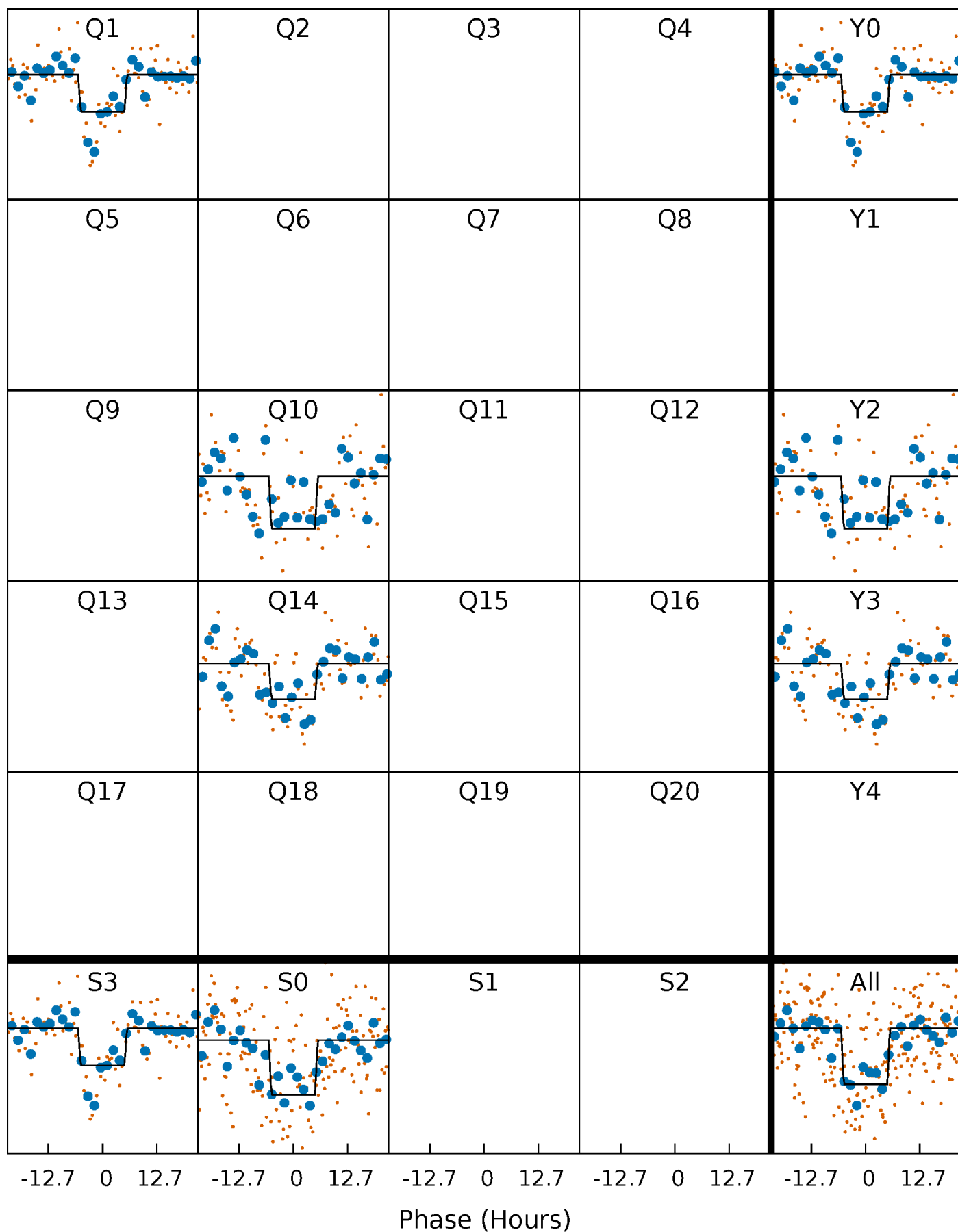
DV Quarter-Phased Transit Curves

TCE 004725764-01 P=381.389441 Days $T_0=155.313358$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

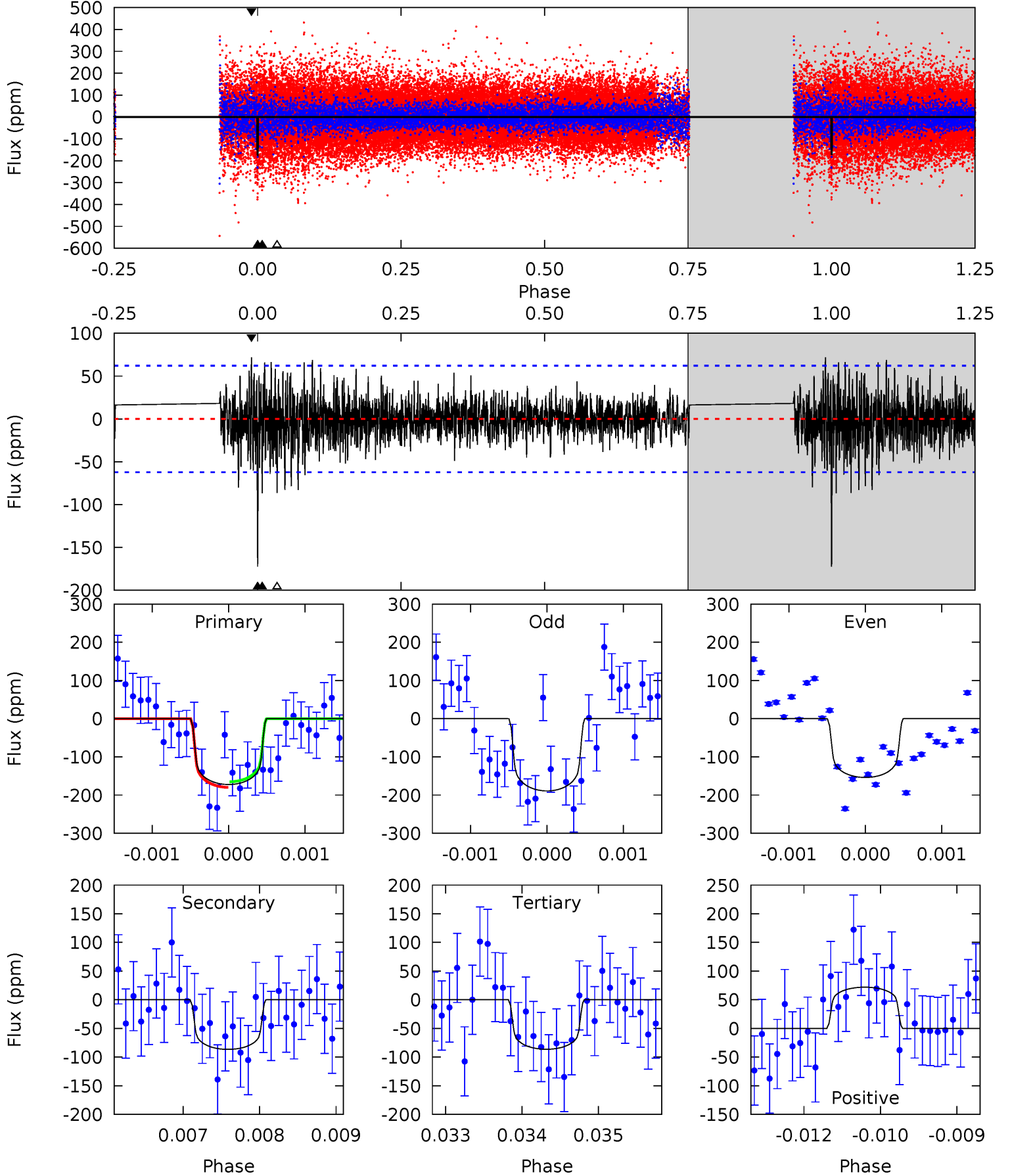
TCE 004725764-01 P=381.365153 Days $T_0=155.356387$ (BKJD)



DV Model-Shift Uniqueness Test

004725764-01, P = 381.389441 Days, E = 155.313358 Days

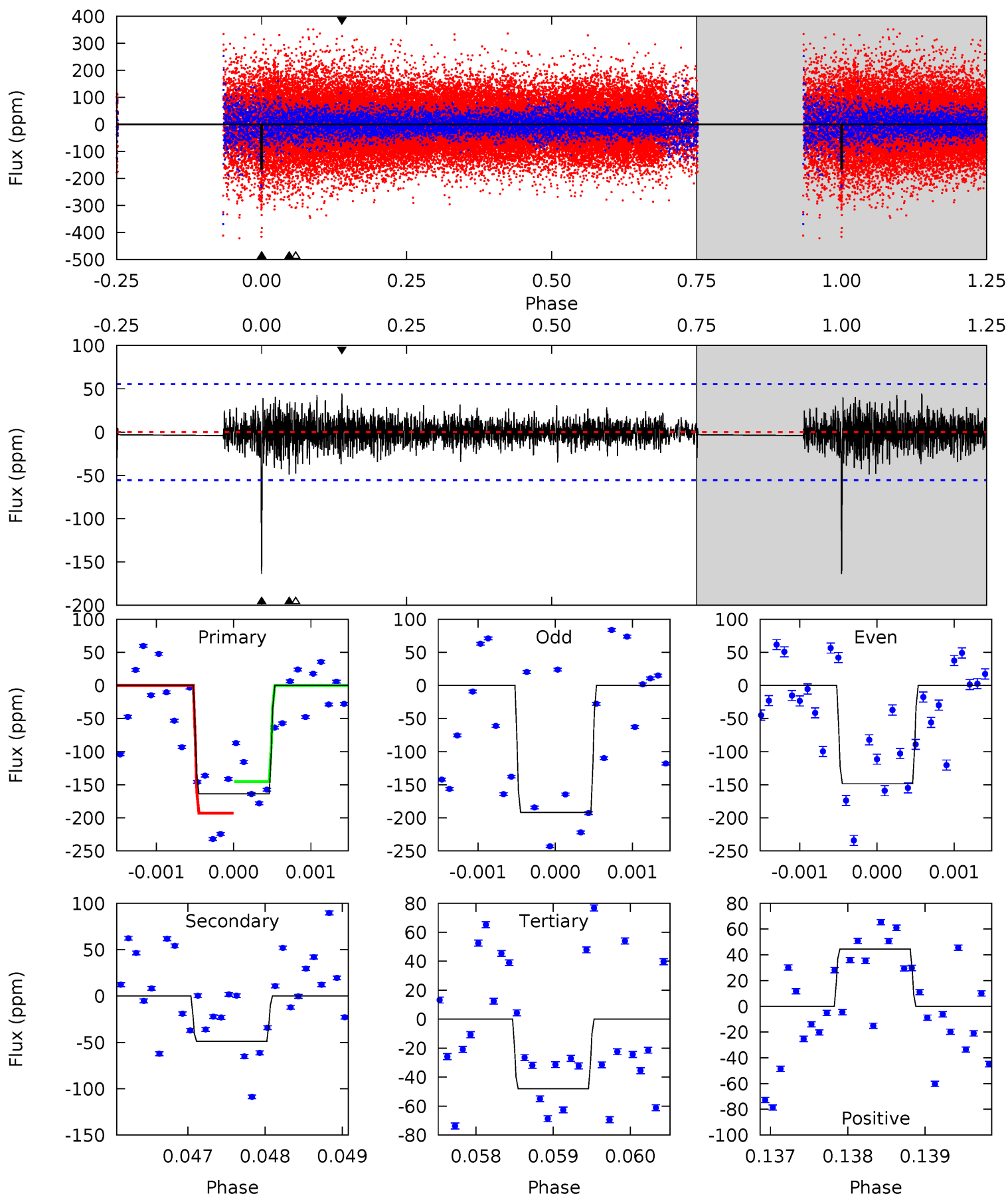
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	7.58	7.56	6.30	5.44	3.28	1.59	7.52	8.79	0.02	1.28	1.46	0.88	0.29	0.64



Alt Model-Shift Uniqueness Test

004725764-01, P = 381.365153 Days, E = 155.356387 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	4.77	4.70	4.35	5.42	3.24	1.05	11.3	11.7	0.07	0.42	2.00	0.85	0.21	2.30



Stellar Parameters For KIC 004725764

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6313^{+181}_{-250}	$4.122^{+0.258}_{-0.172}$	$-0.180^{+0.250}_{-0.300}$	$1.523^{+0.439}_{-0.439}$	$1.119^{+0.192}_{-0.157}$	$0.446^{+0.702}_{-0.212}$
	+3%/-4%	+6%/-4%	+139%/-167%	+29%/-29%	+17%/-14%	+157%/-48%
Source	PHO54	PHO54	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 004725764-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-87 ± 11	$2.39^{+0.74}_{-0.65}$	461^{+38}_{-39}	5071^{+694}_{-471}	9371^{+8198}_{-3898}
Alt.	-49 ± 10	$2.12^{+0.69}_{-0.62}$	461^{+35}_{-35}	4747^{+715}_{-463}	6743^{+7564}_{-3000}

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

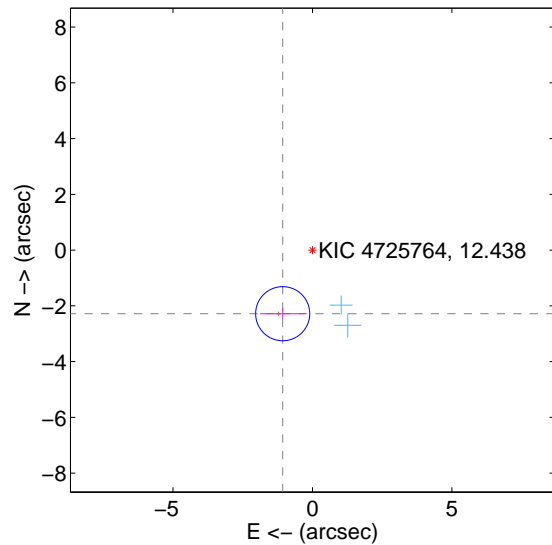
Supplemental centroid analysis for 004725764-01. Kepler magnitude: 12.44. Transit SNR 7.22

There are 2 quarters with good PRF difference image offsets

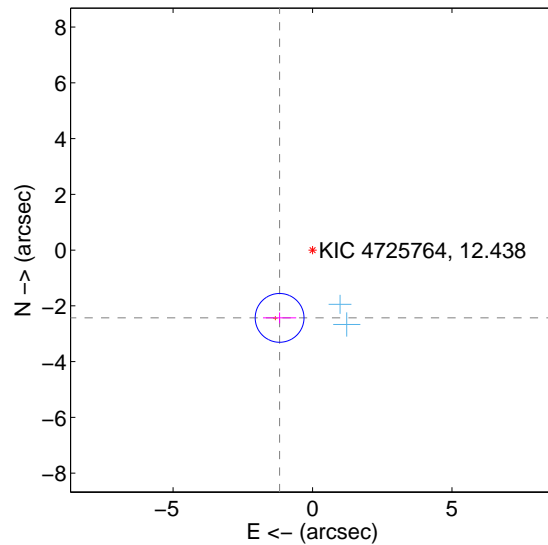
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.518 ± 0.323	7.79	1.067 ± 0.806	-2.281 ± 0.192
PRF-fit source offset from KIC position	2.702 ± 0.292	9.27	1.181 ± 0.596	-2.431 ± 0.196
photometric centroid source offset	3.55 ± 1.23	2.88	1.60 ± 1.33	3.16 ± 1.20

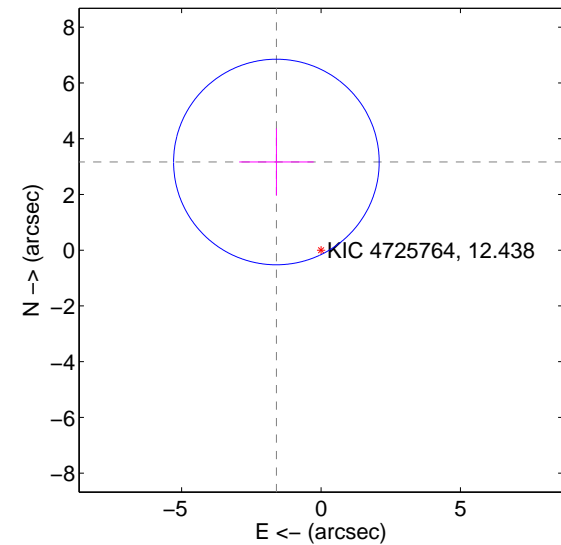
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

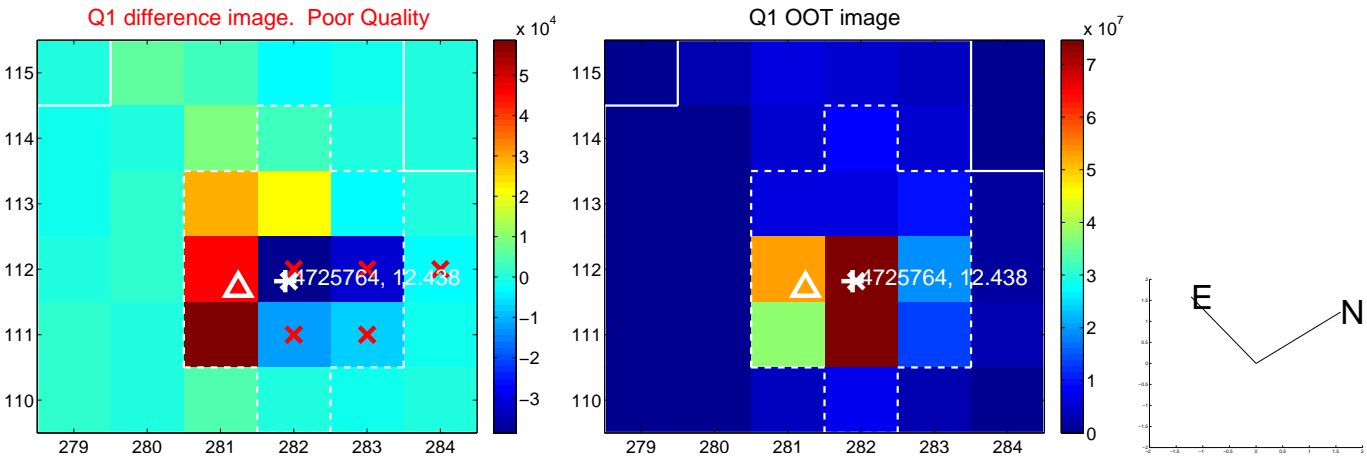


offset from photometric centroids



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.

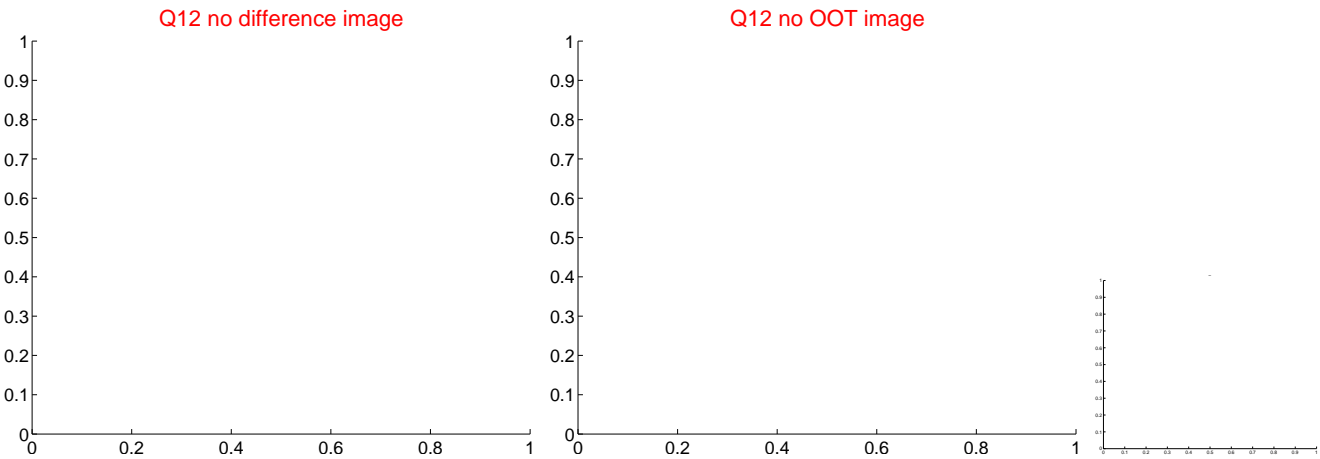
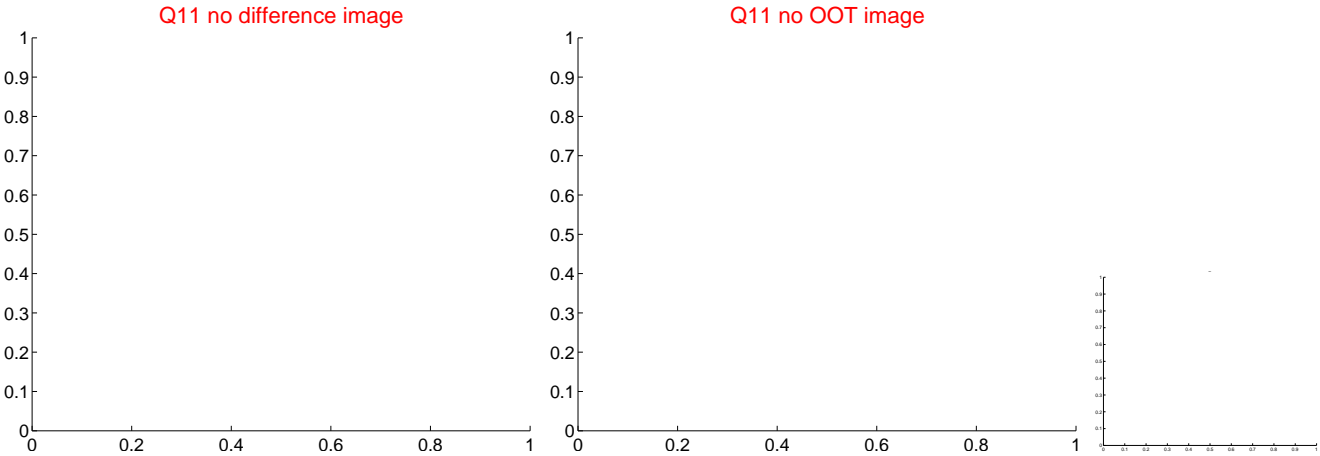
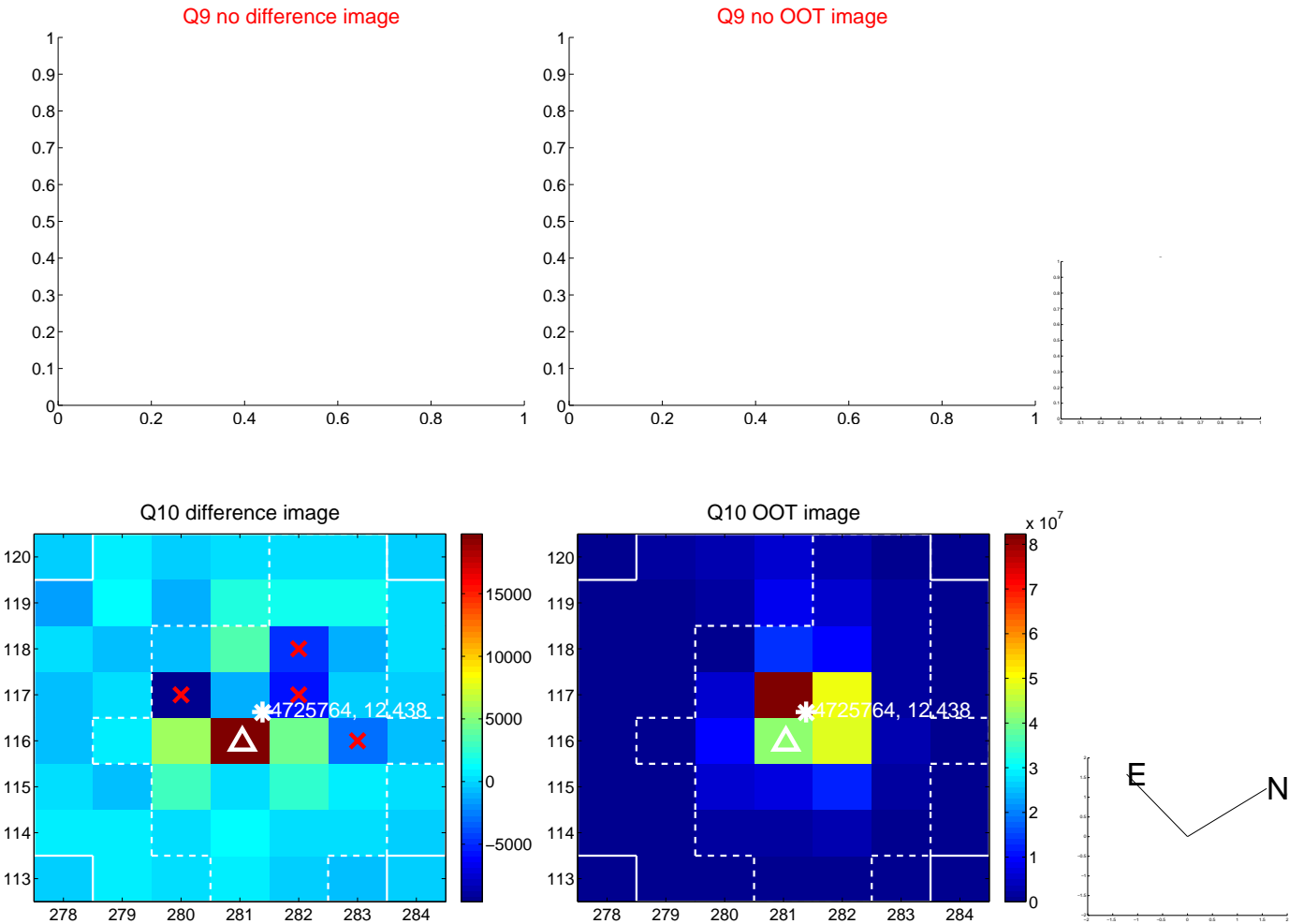
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



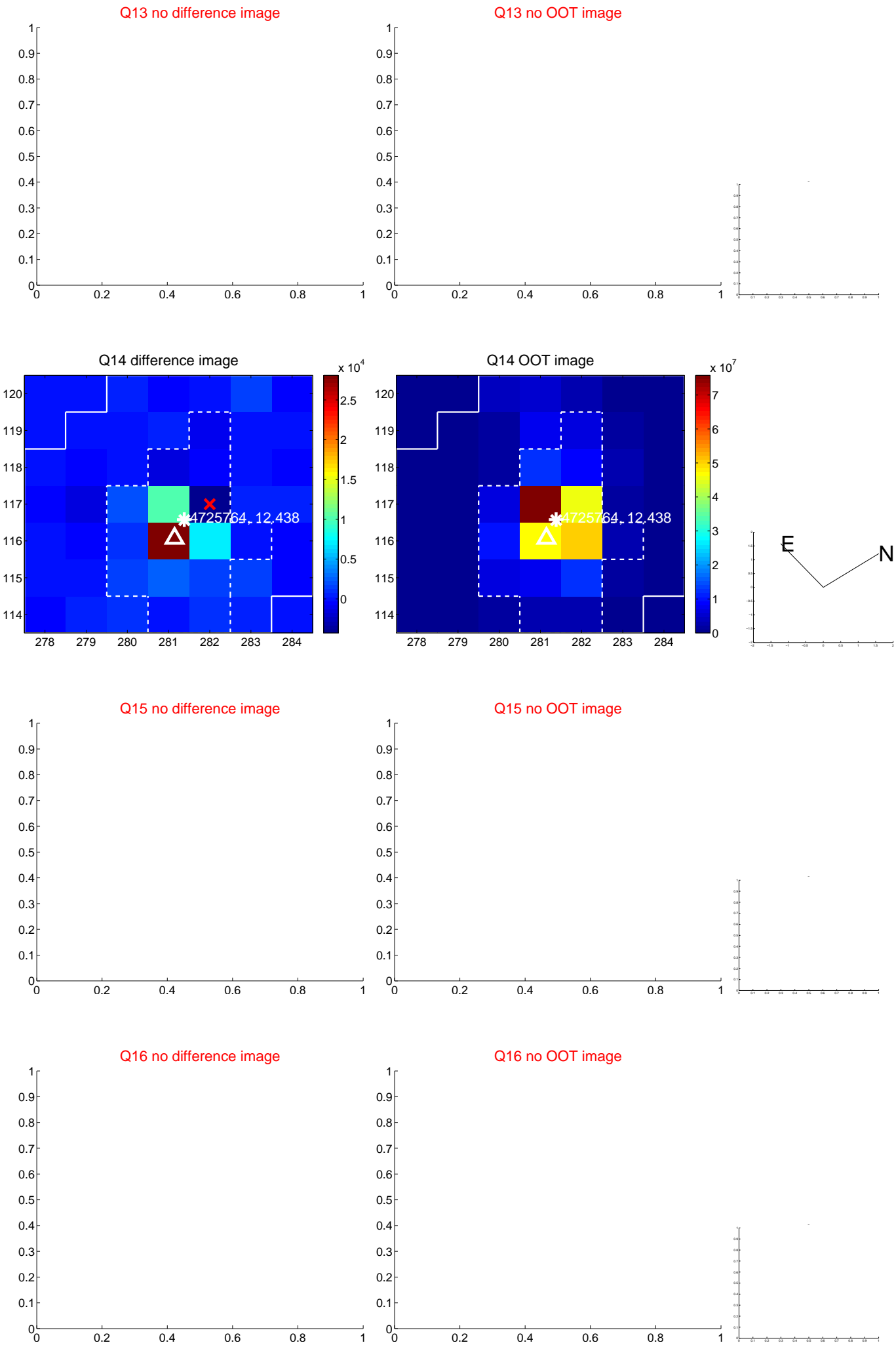
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



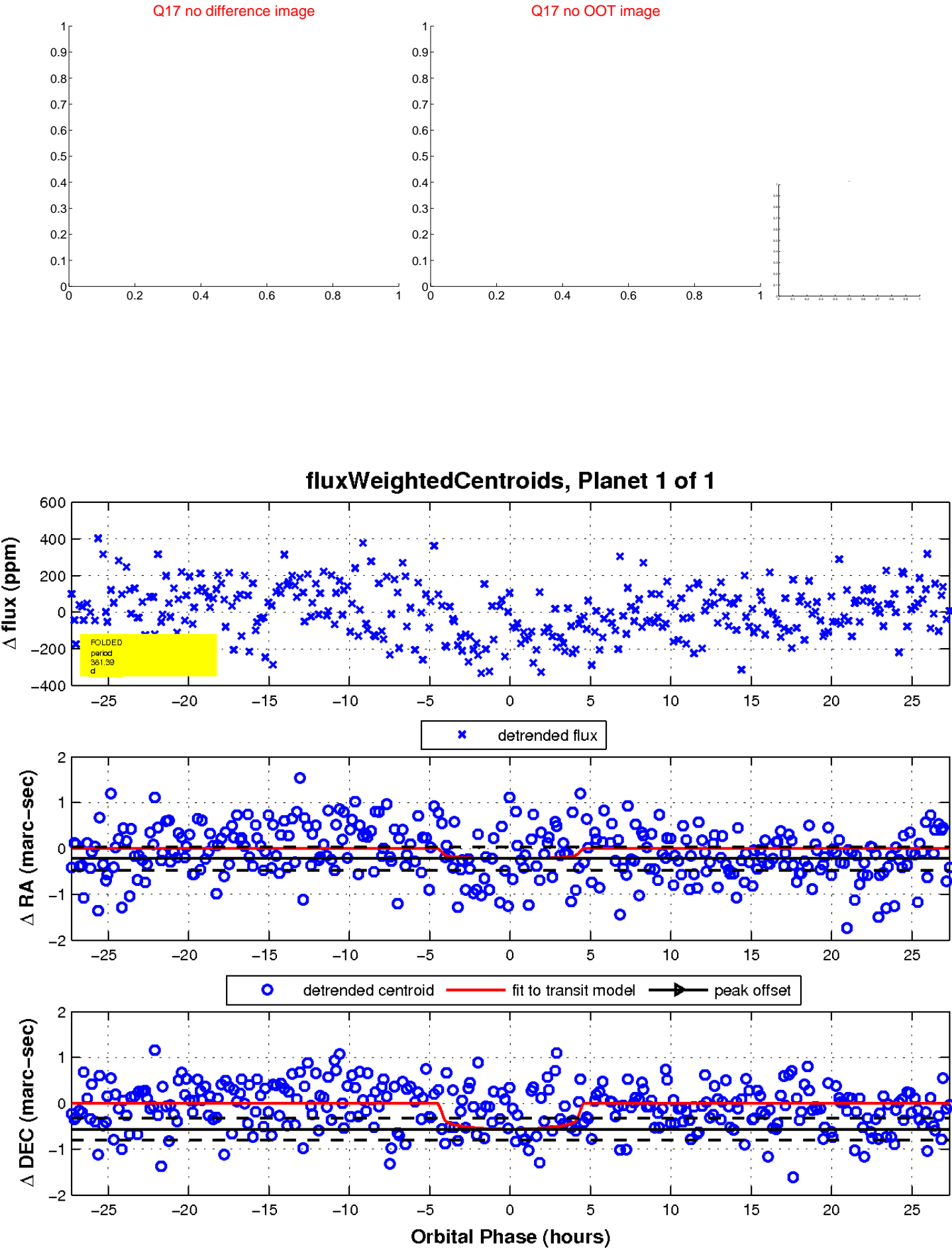
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

