

KIC 004756171

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})
004756171-01	OBS	No	5.012104	134.567096	159.1	21.093	10.1	11.5	1.24	6033	2.71	654.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004756171-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

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

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

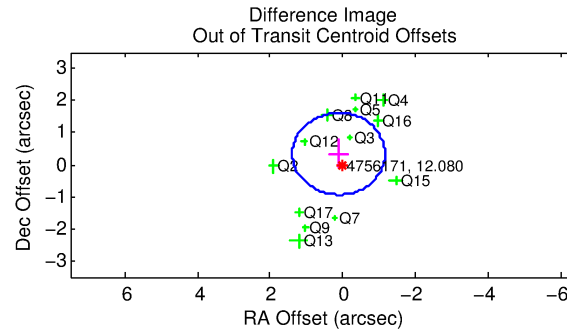
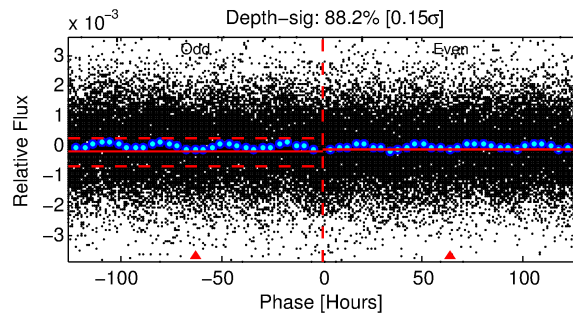
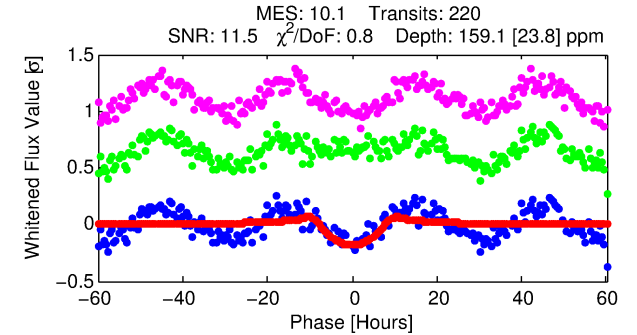
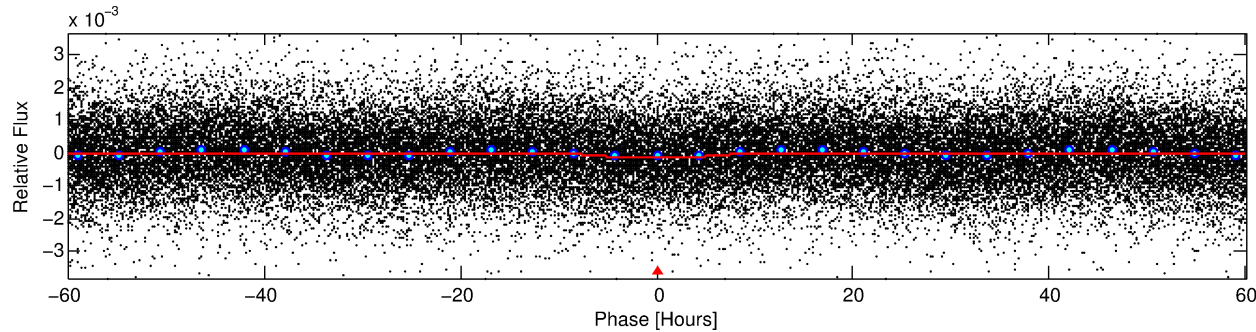
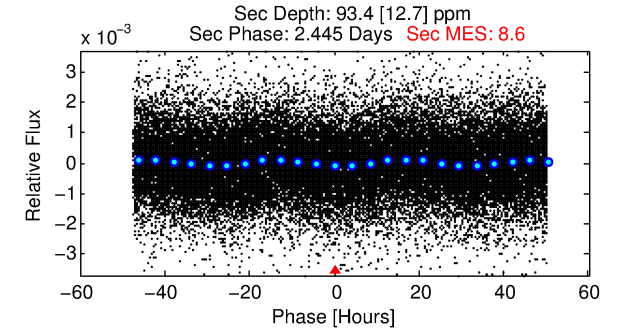
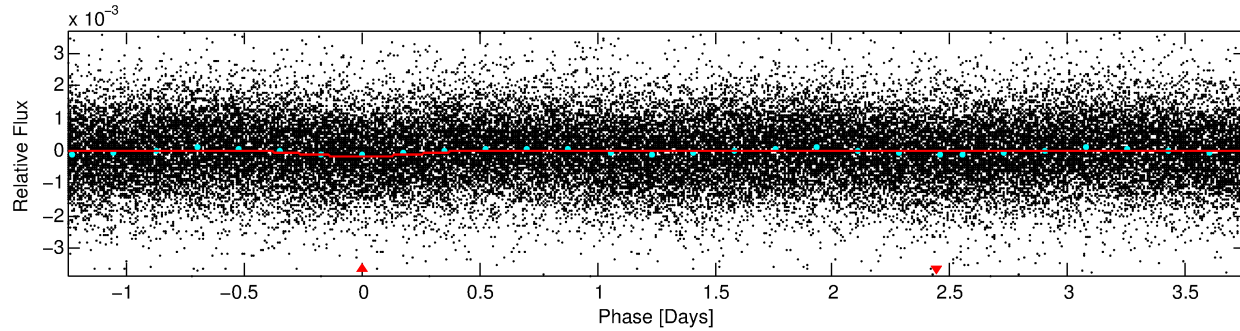
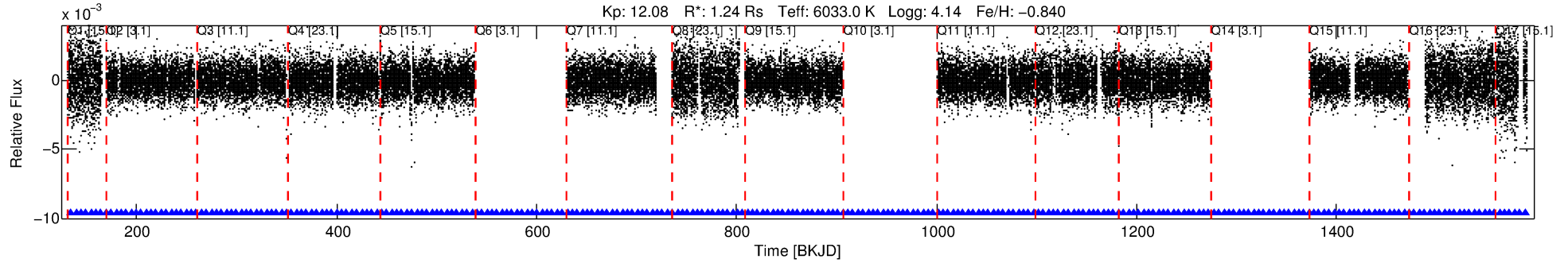
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004756171-01

No Significant Match Found

DV One-Page Summary

KIC: 4756171 Candidate: 1 of 1 Period: 5.012 d



DV Fit Results:

Period = 5.01210 [0.00018] d
Epoch = 134.5671 [0.0291] BKJD
Rp/R* = 0.0200 [0.0170]
a/R* = 1.08 [0.02]
b = 0.99 [0.03]
Seff = 654.91 [431.24]
Teff = 1290 [212] K
Rp = 2.70 [2.48] Re
a = 0.0528 [0.0200] AU
Ag = 19.60 [35.82] [0.52σ]
Teffp = 4196 [1796] K [1.61σ]

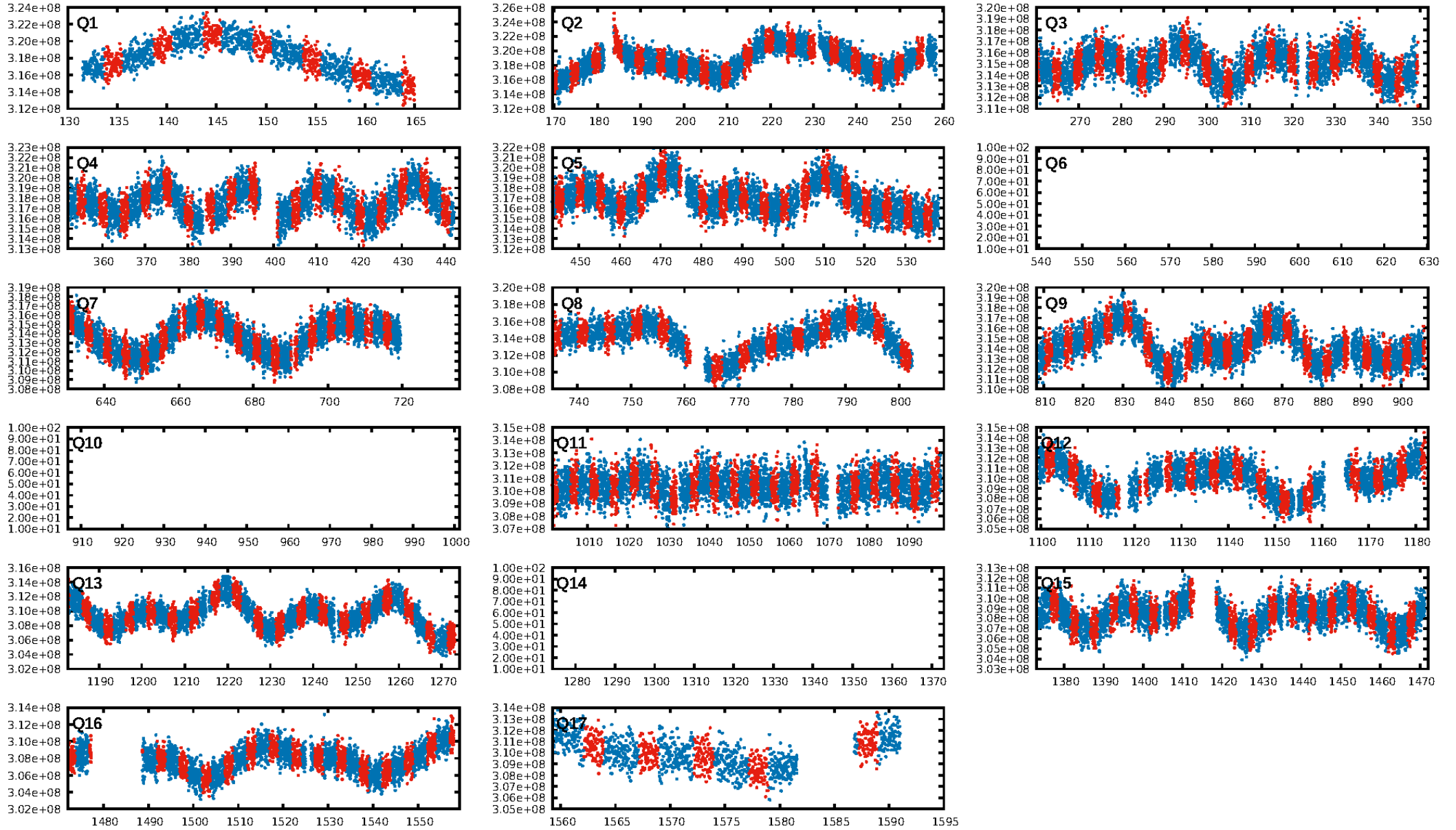
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.39e-28
RollingBand-fgt: 1.00 [208/208]
GhostDiagnostic-chr: 4.047
Centroid-sig: 42.9%
Centroid-so: 0.274 arcsec [2.08σ]
OotOffset-rm: 0.355 arcsec [0.84σ]
KicOffset-rm: 0.218 arcsec [0.50σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [14/14]

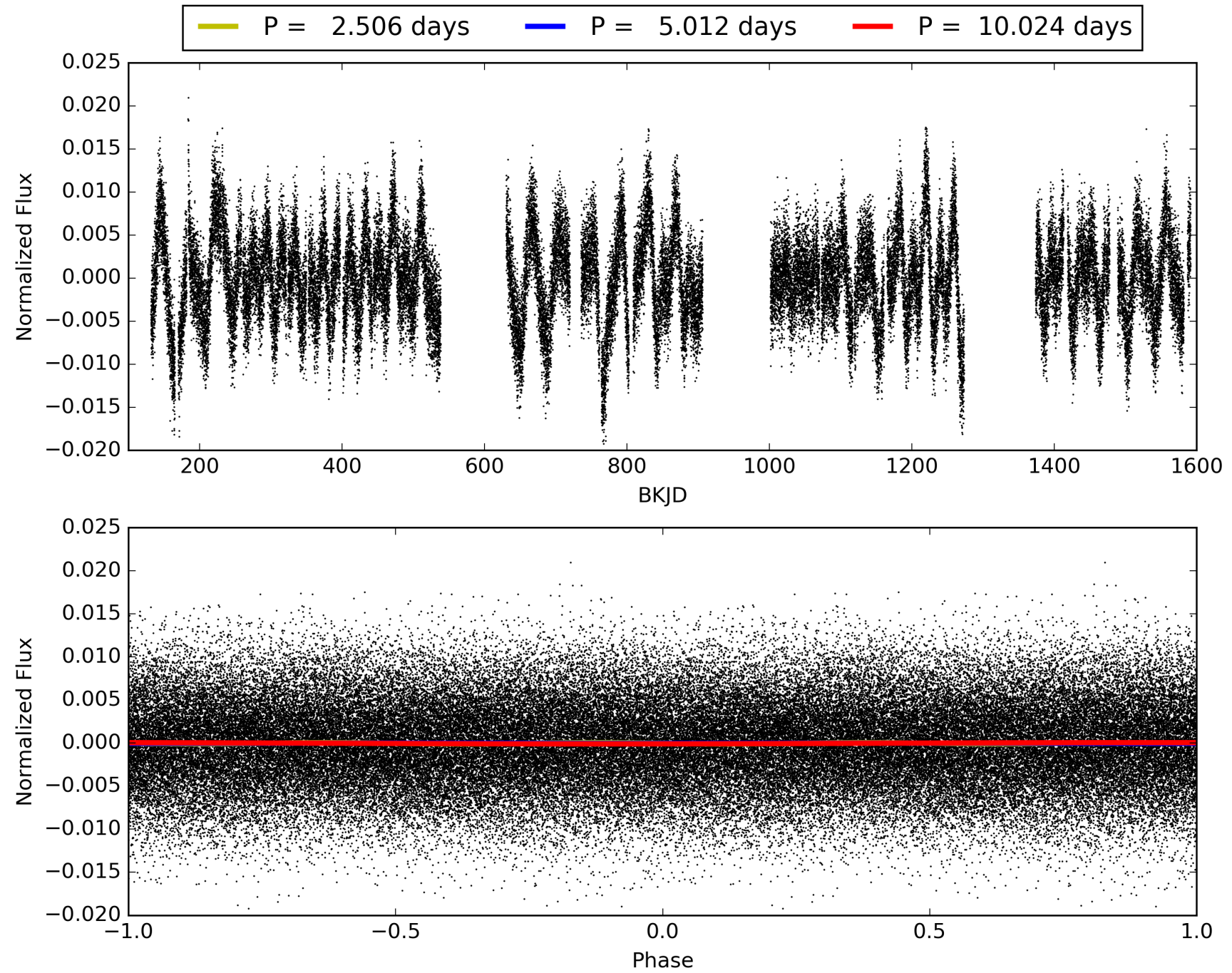
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:18:21 Z

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

TCE 004756171-01, PDC Light Curves

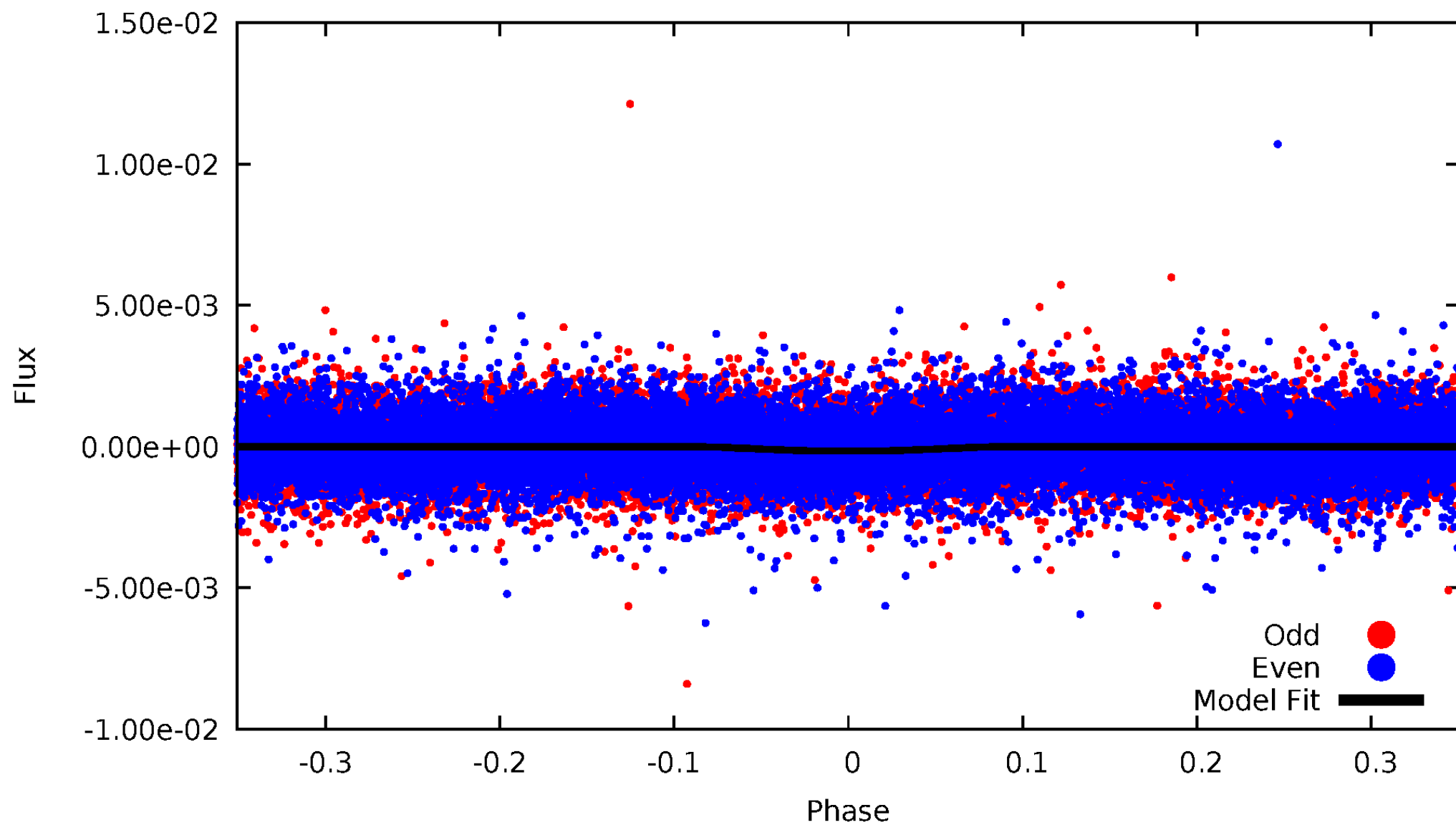


TCE 004756171-01



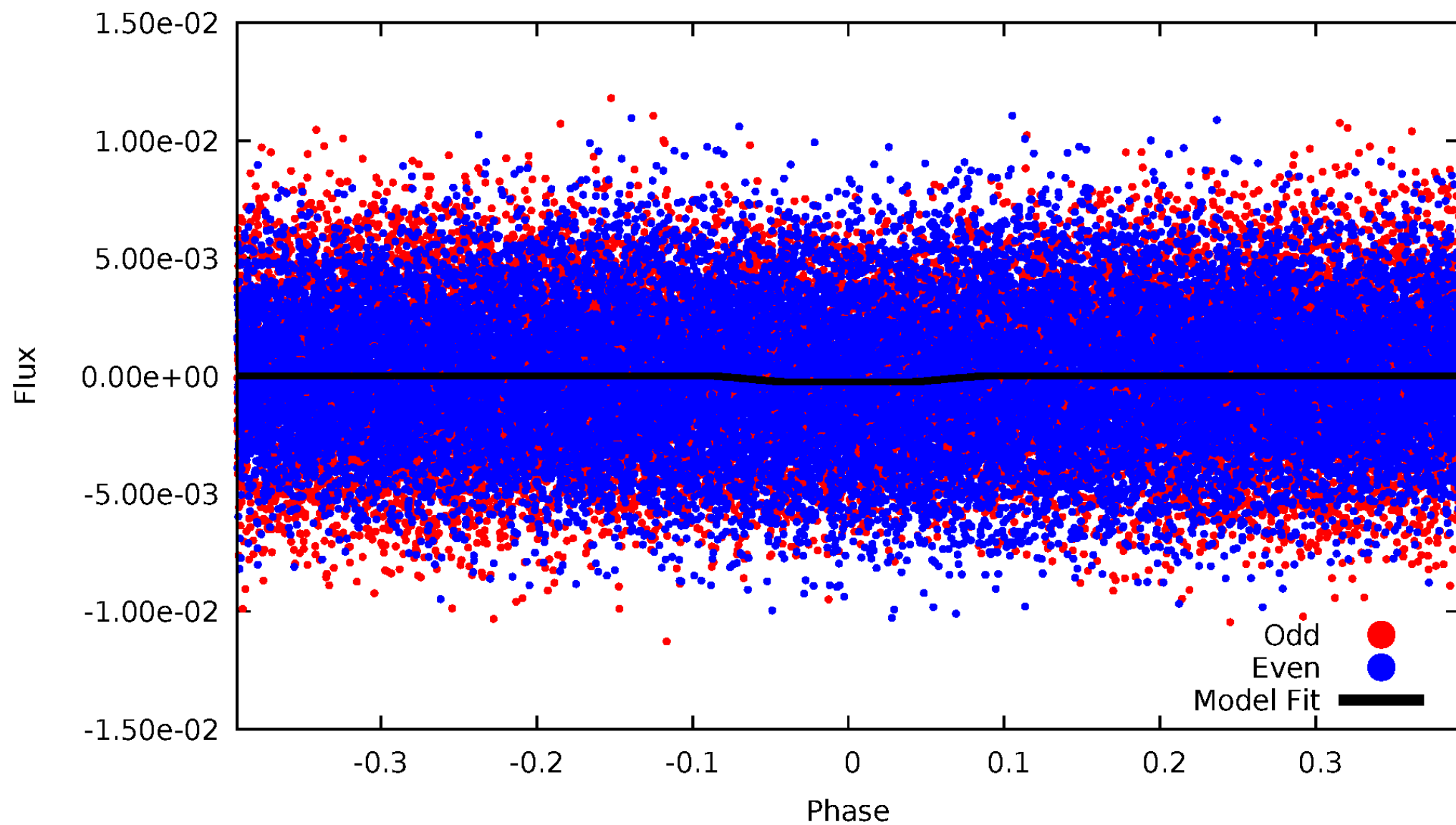
DV Odd/Even

TCE 004756171-01

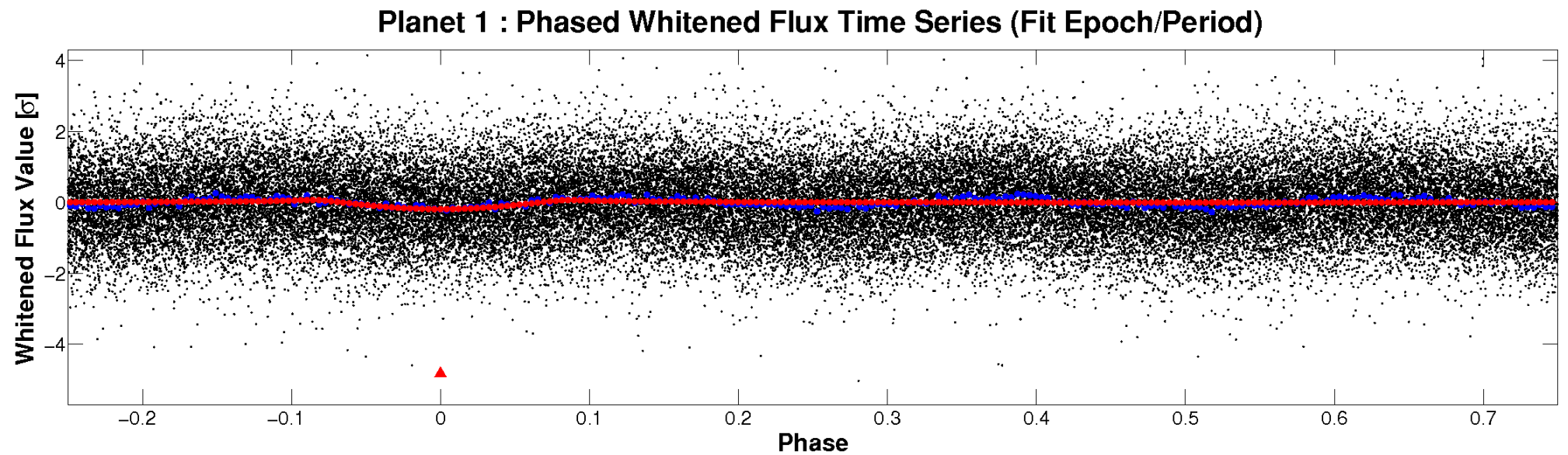
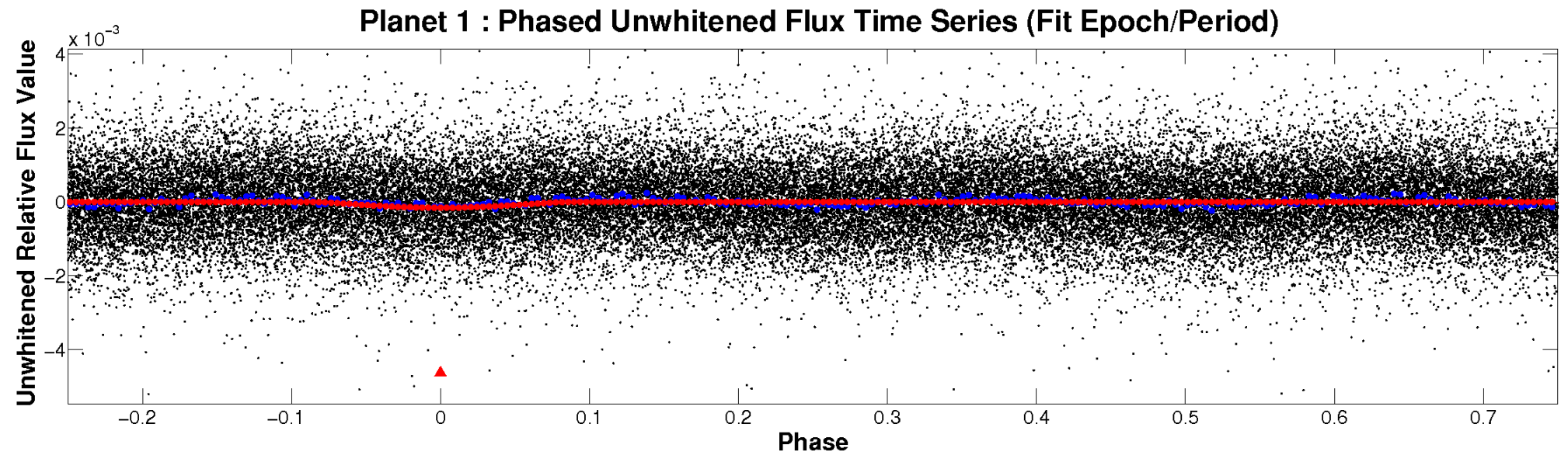


ALT Odd/Even

TCE 004756171-01

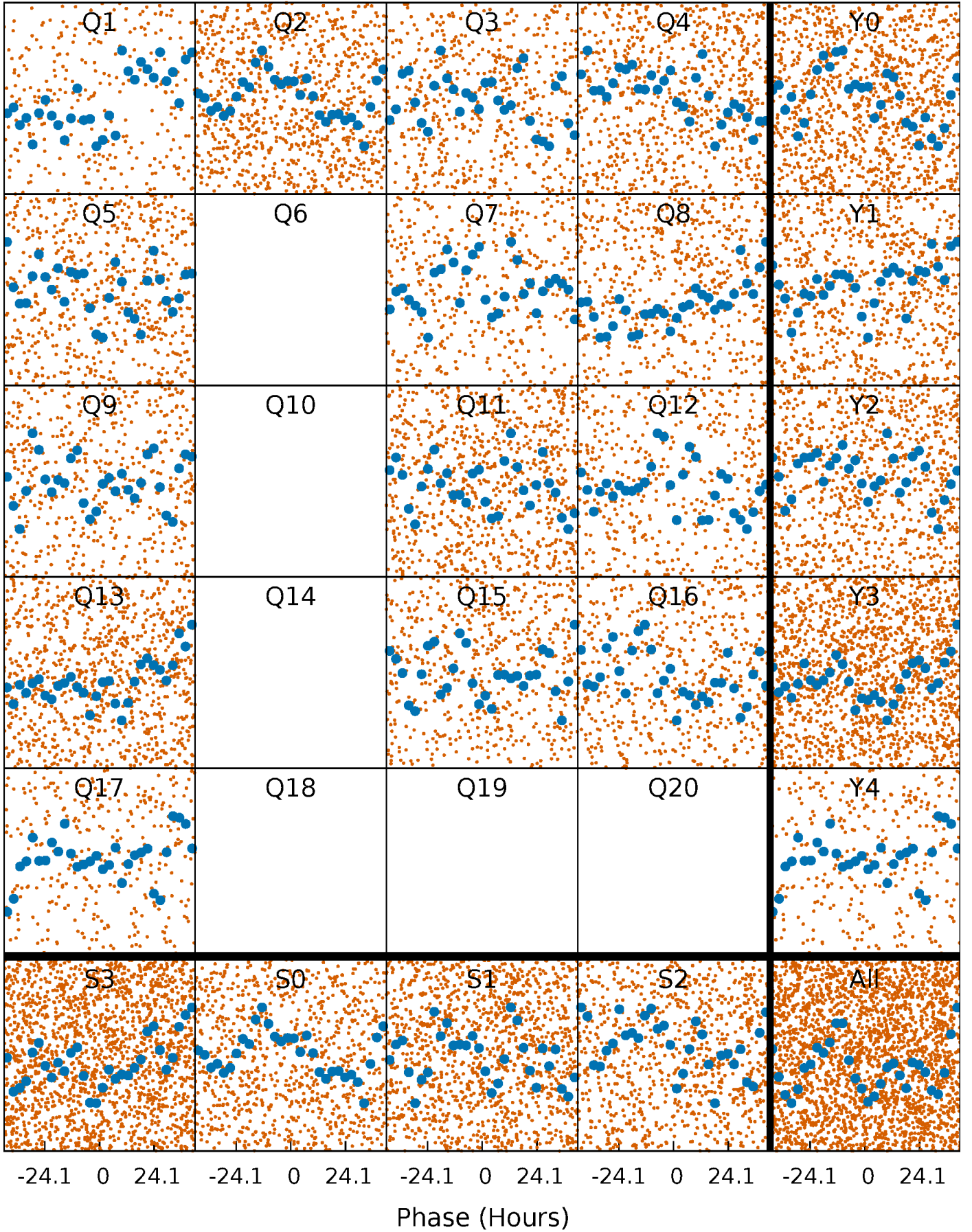


Non-Whitened Vs. Whitened Light Curve



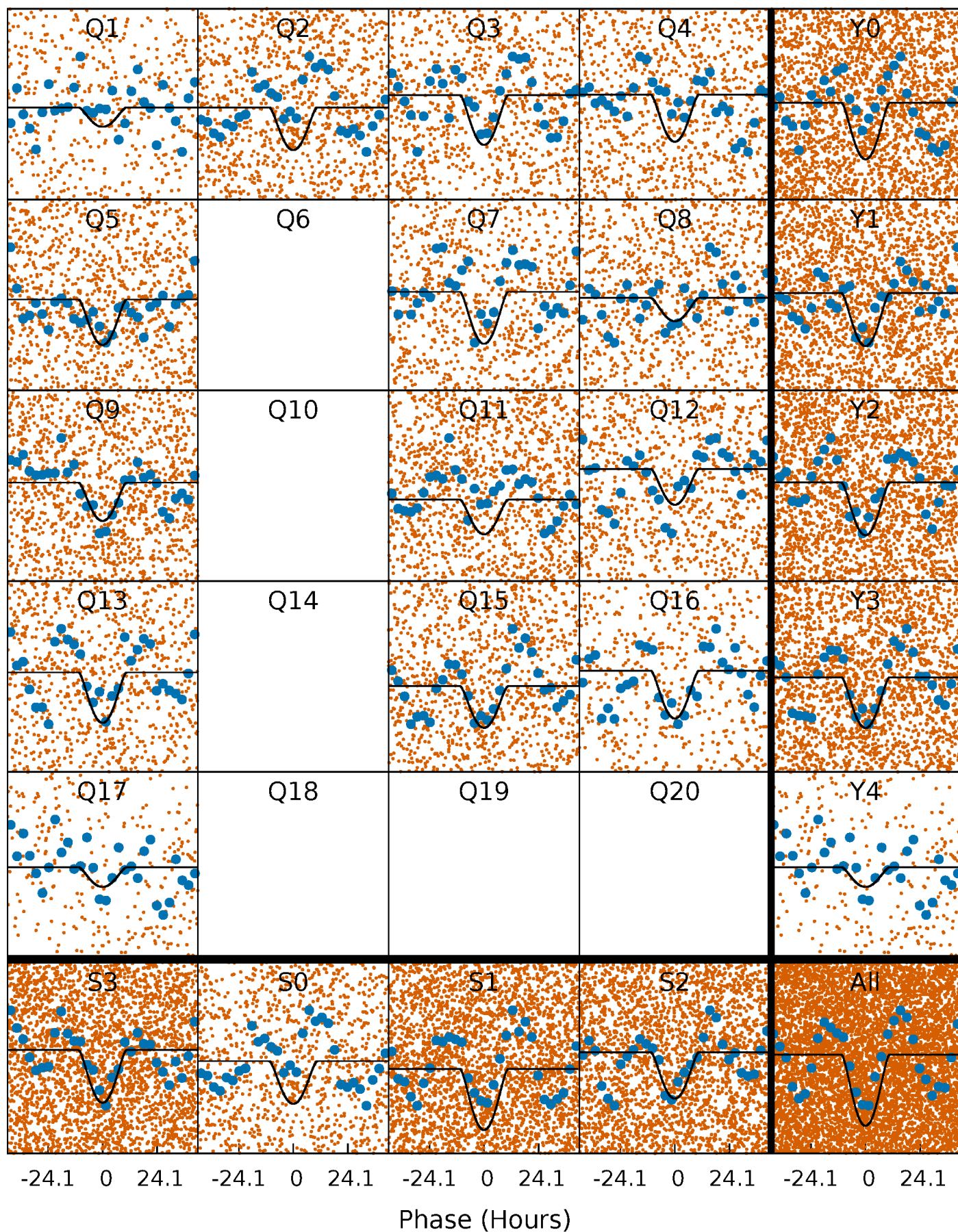
PDC Quarter-Phased Transit Curves

TCE 004756171-01 P= 5.012104 Days $T_0=134.567096$ (BKJD)



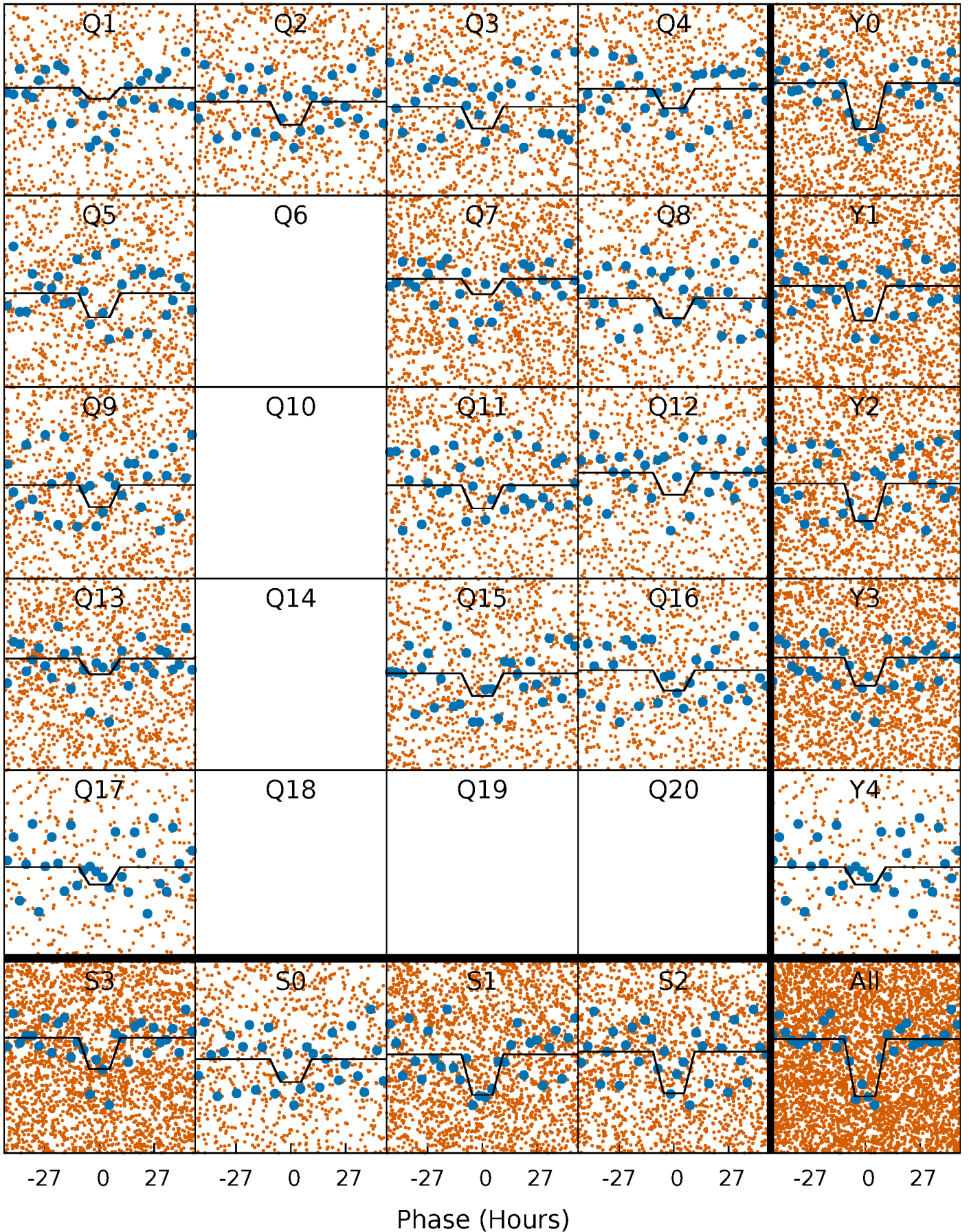
DV Quarter-Phased Transit Curves

TCE 004756171-01 P= 5.012104 Days $T_0=134.567096$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

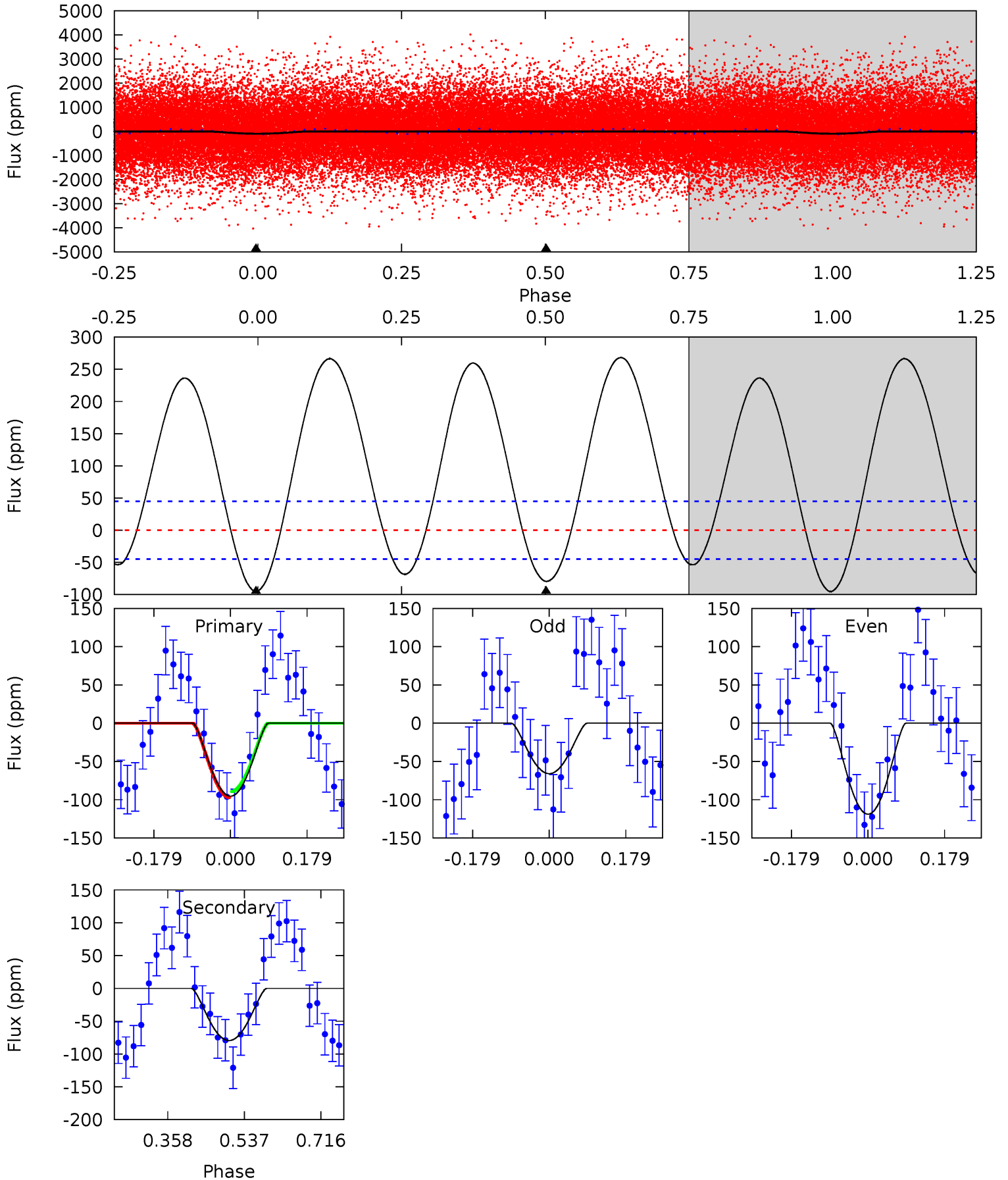
TCE 004756171-01 P= 5.012470 Days $T_0=134.503001$ (BKJD)



DV Model-Shift Uniqueness Test

004756171-01, P = 5.012104 Days, E = 129.554992 Days

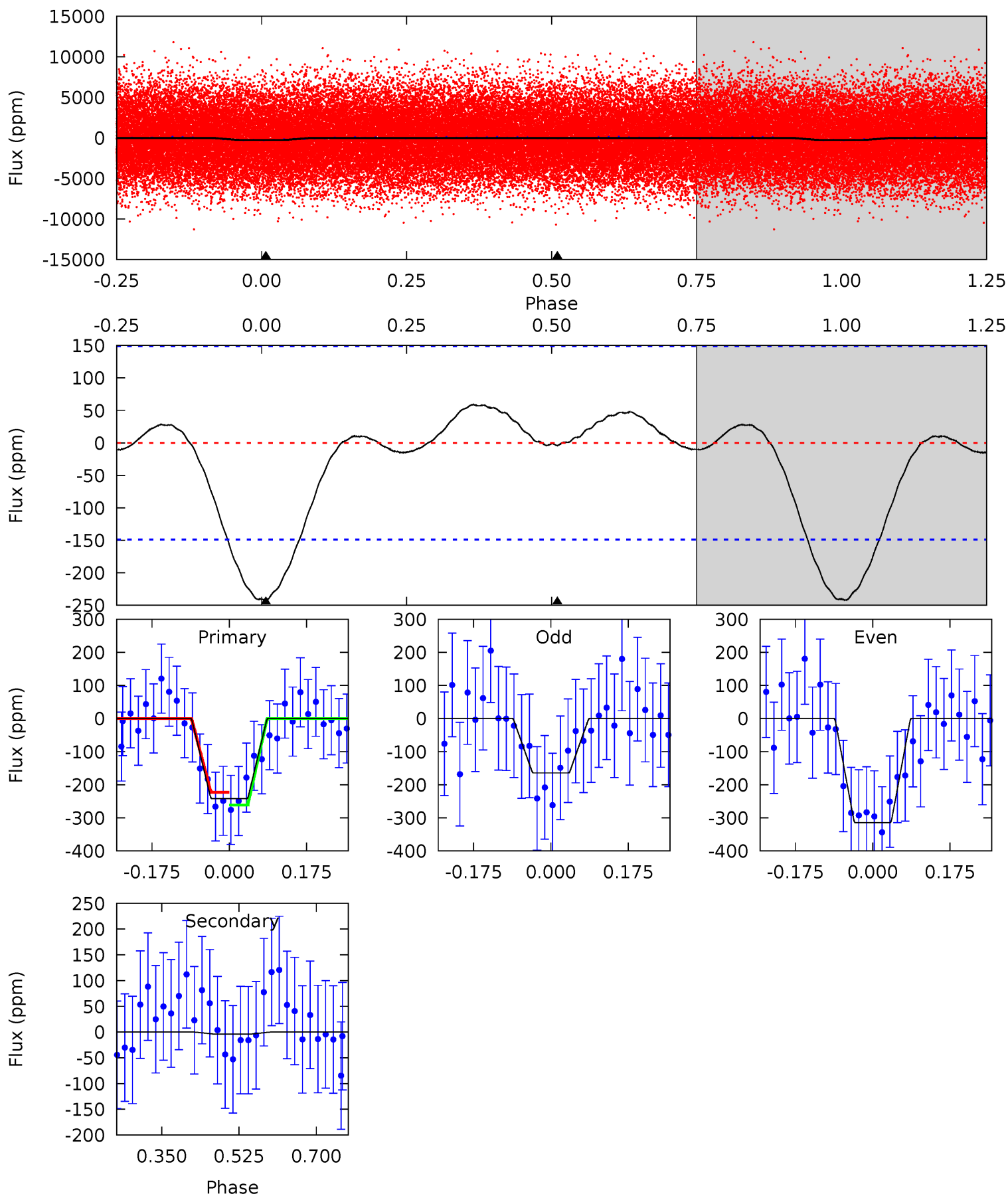
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.45	7.87	0	0	4.44	1.34	6.27	9.45	9.45	7.87	7.87	2.62	3.76	0.74	0.39



Alt Model-Shift Uniqueness Test

004756171-01, P = 5.012470 Days, E = 129.490531 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.23	0.12	0	0	4.45	1.36	0.42	7.23	7.23	0.12	0.12	2.23	1.19	0.20	0.57



Stellar Parameters For KIC 004756171

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6033^{+162}_{-162}	$4.144^{+0.397}_{-0.214}$	$-0.840^{+0.300}_{-0.300}$	$1.241^{+0.377}_{-0.419}$	$0.781^{+0.085}_{-0.050}$	$0.576^{+1.707}_{-0.302}$
	+3%/-3%	+10%/-5%	+36%/-36%	+30%/-34%	+11%/-6%	+296%/-52%
Source	PHO1	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 004756171-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-80 ± 10	$2.84^{+2.28}_{-1.81}$	1785^{+174}_{-195}	4111^{+2204}_{-713}	15^{+93}_{-11}
Alt.	-4 ± 33	$2.57^{+2.24}_{-1.52}$	1791^{+158}_{-186}	2233^{+1846}_{-6064}	$0.501^{+13.491}_{-10.457}$

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

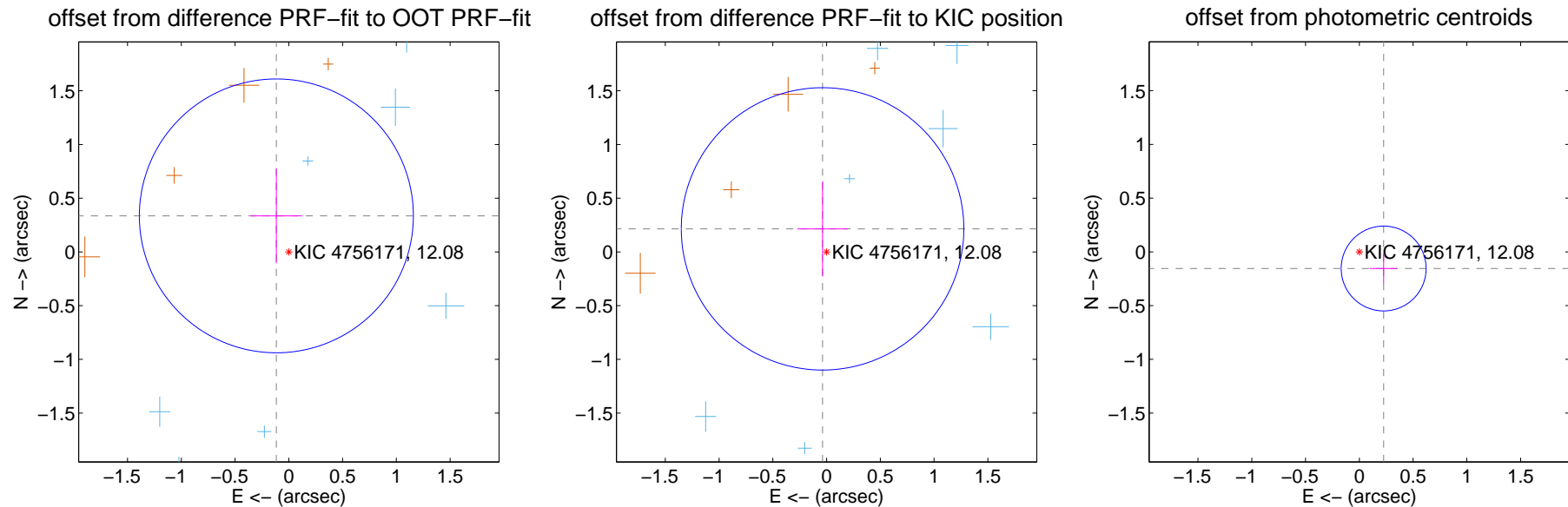
DV Centroid Data

Supplemental centroid analysis for 004756171-01. Kepler magnitude: 12.08. Transit SNR 11.48

There are 9 quarters with good PRF difference image offsets

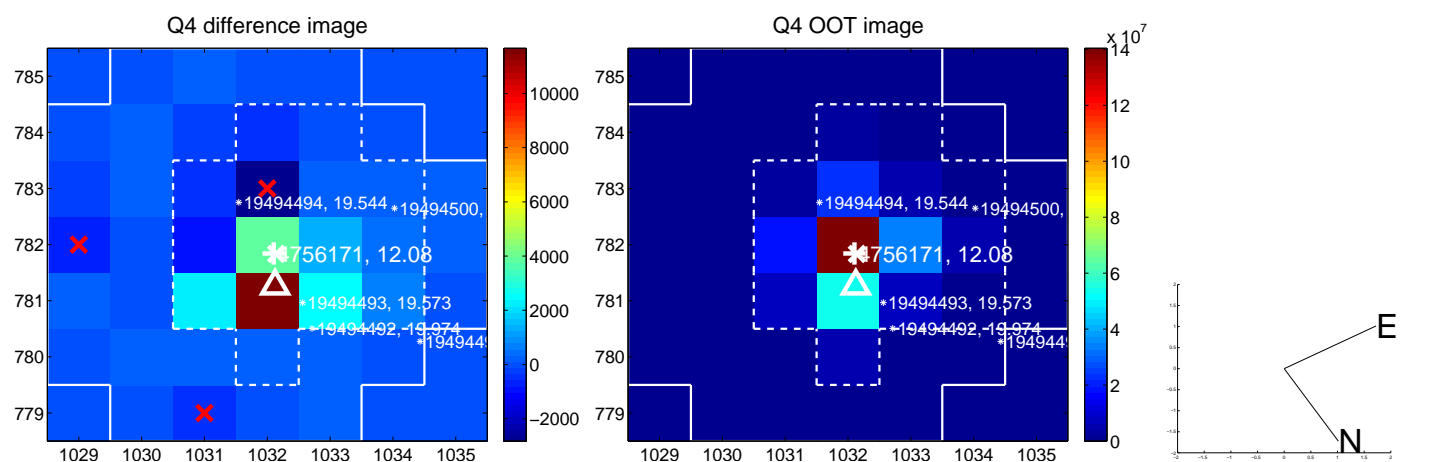
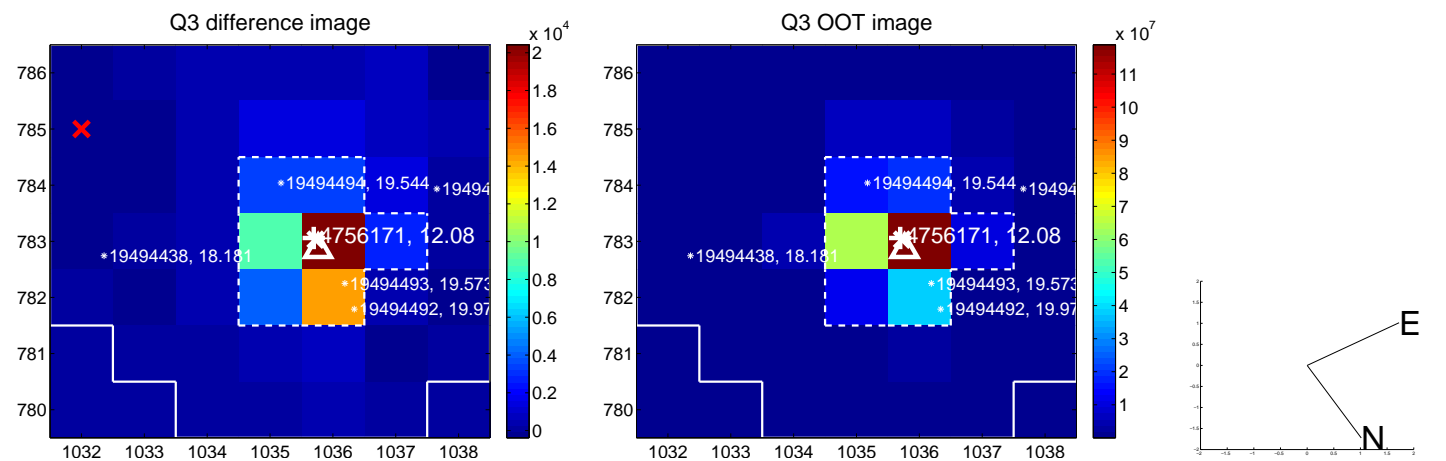
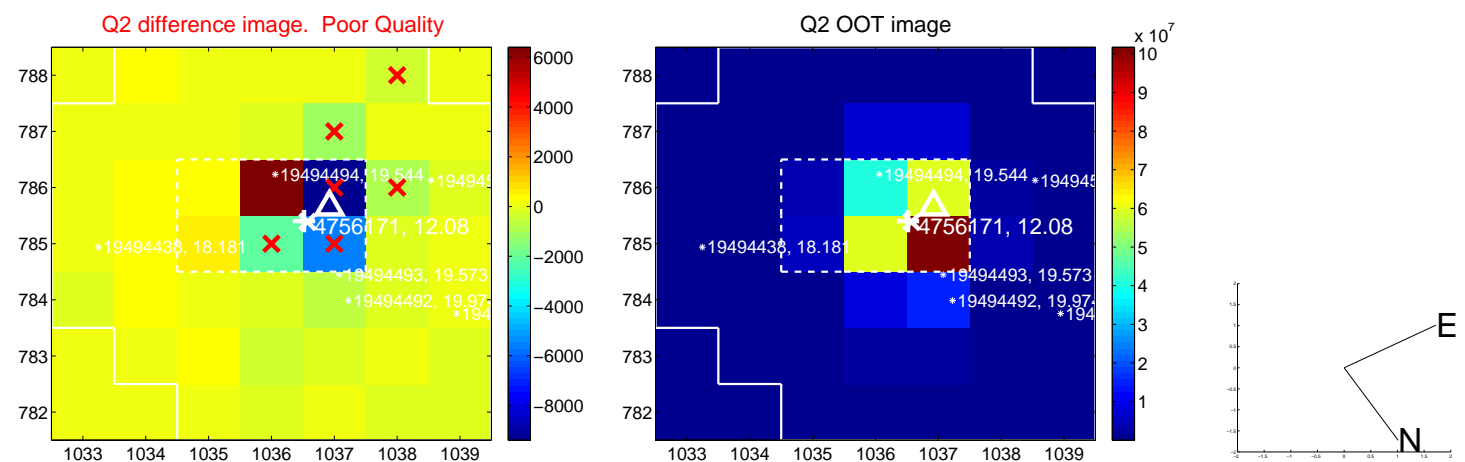
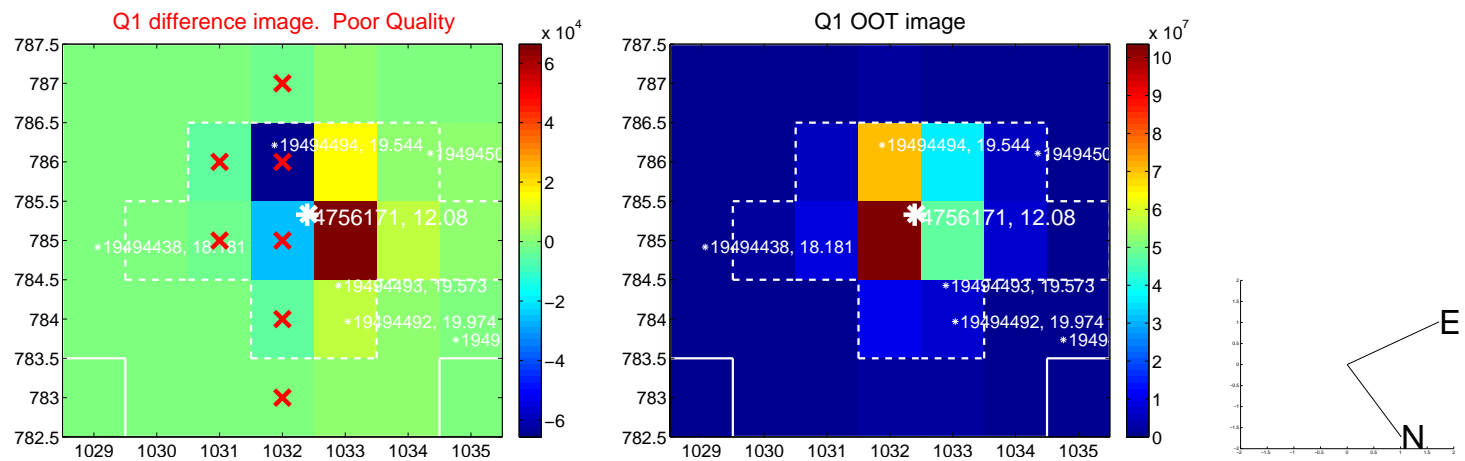
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.355 ± 0.425	0.84	0.116 ± 0.241	0.335 ± 0.442
PRF-fit source offset from KIC position	0.218 ± 0.438	0.50	0.037 ± 0.235	0.215 ± 0.443
photometric centroid source offset	0.27 ± 0.13	2.08	-0.23 ± 0.13	-0.16 ± 0.14

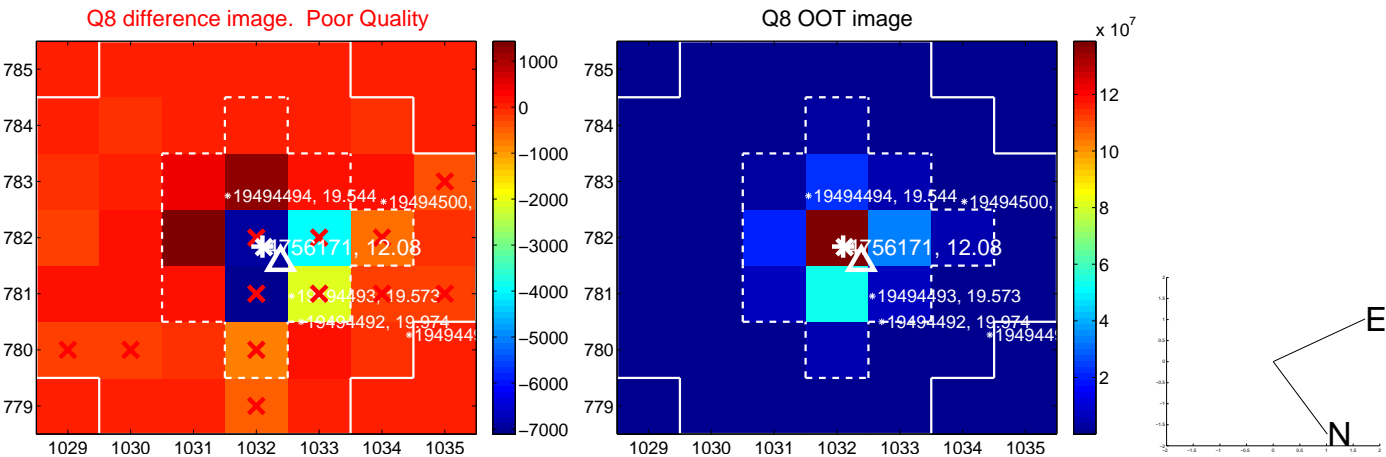
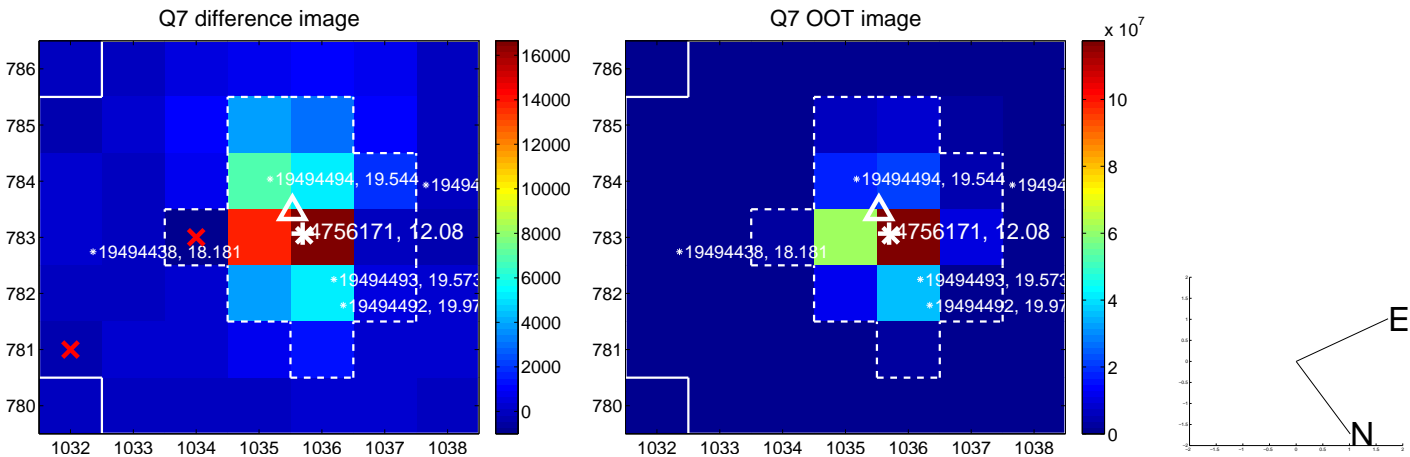
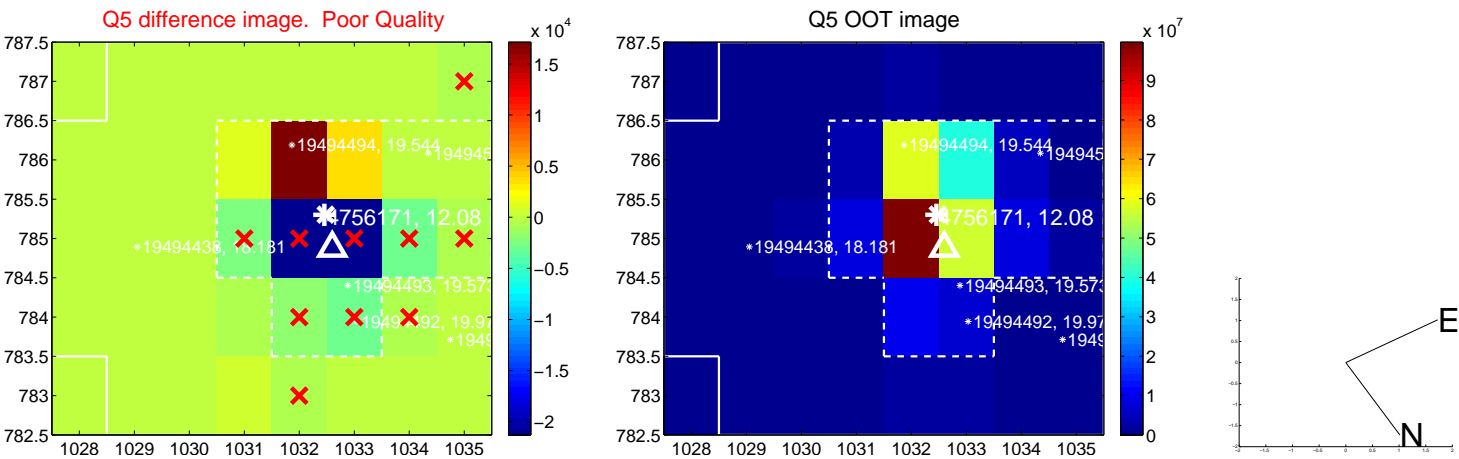


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

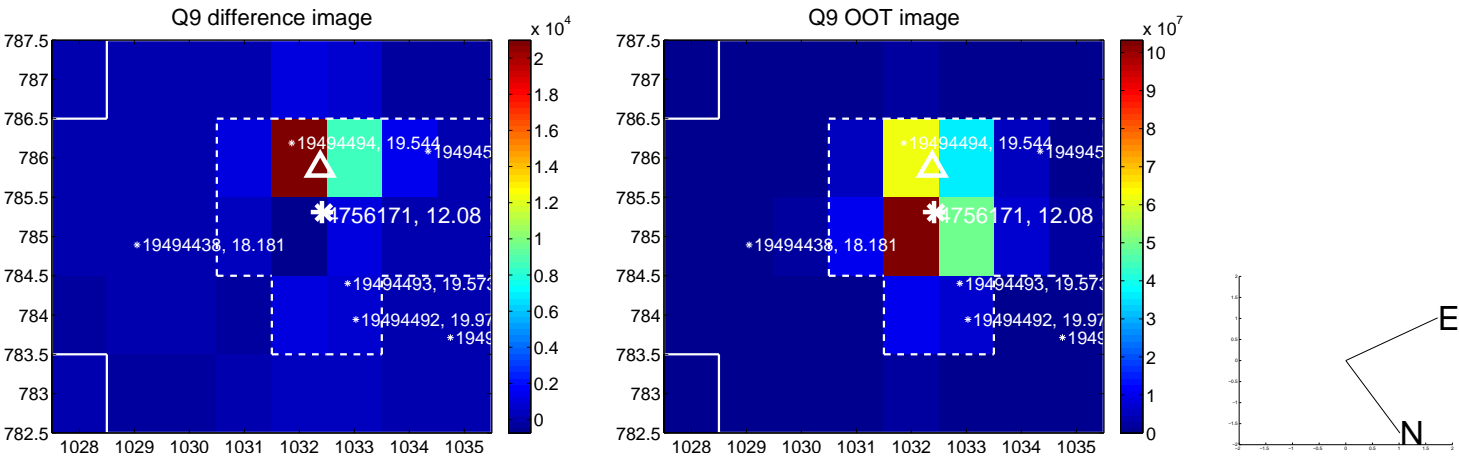
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



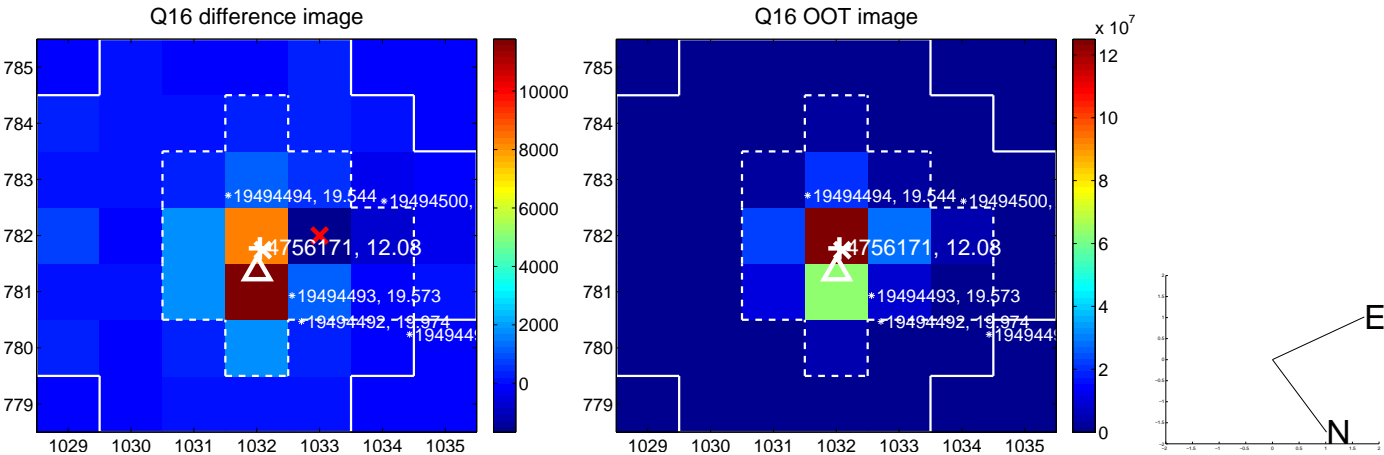
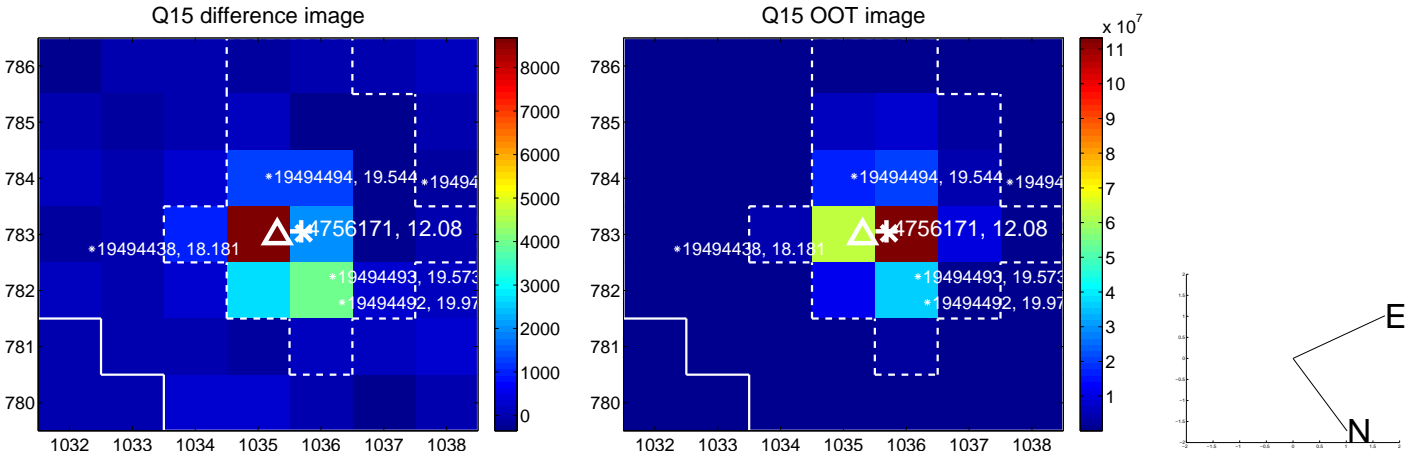
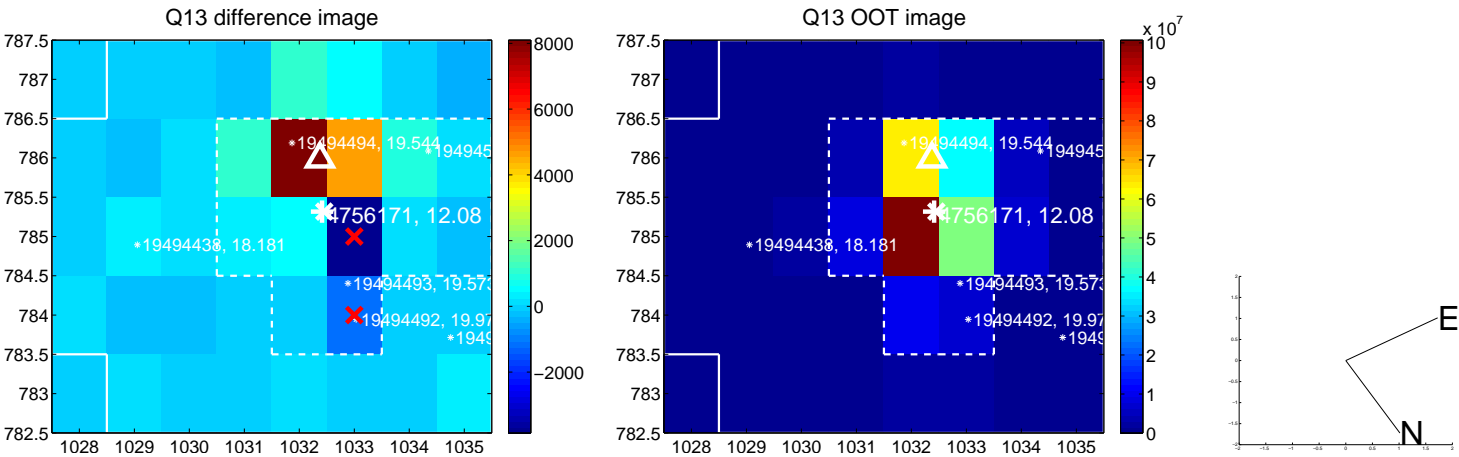
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



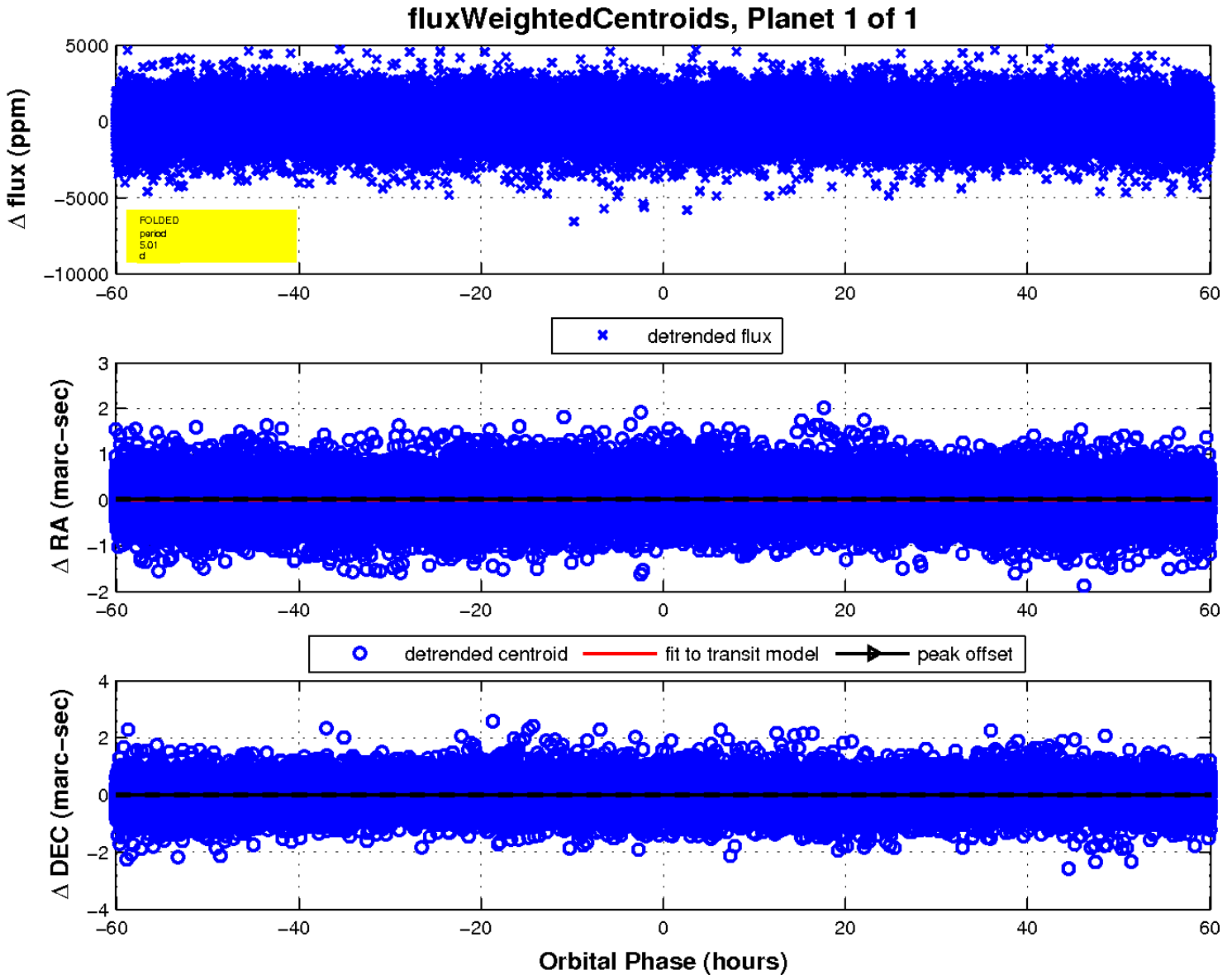
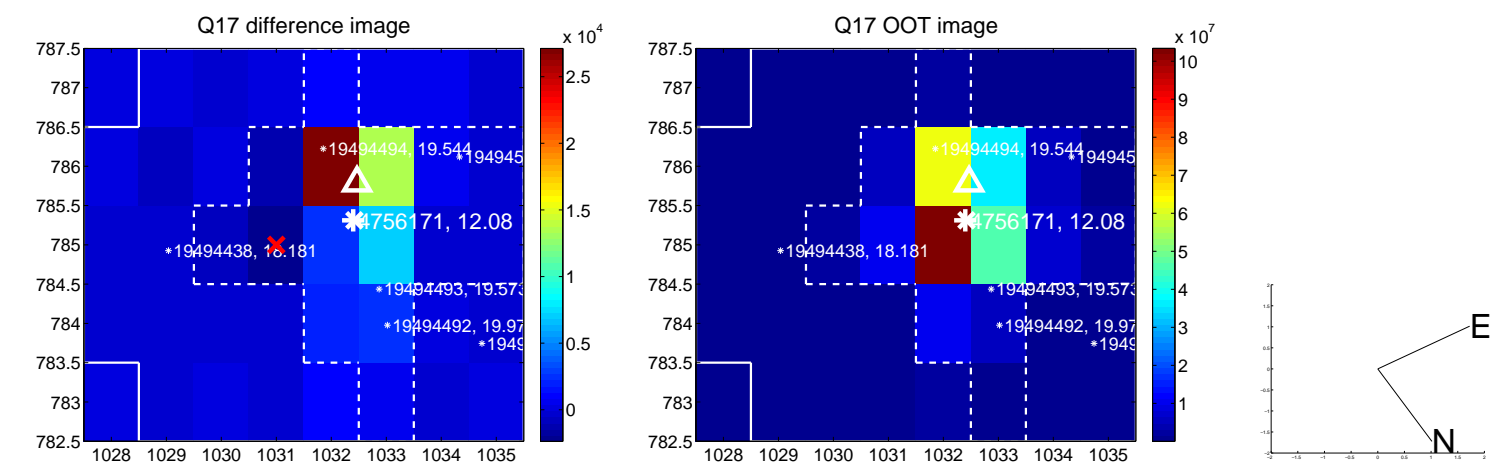
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UKIRT Image

Declination

