

KIC 004277304

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})
004277304-01	OBS	4774.01	51.567923	168.872594	198.1	5.569	10.0	10.8	0.88	5285	1.38	8.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004277304-01	OBS	PC	0.99	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.

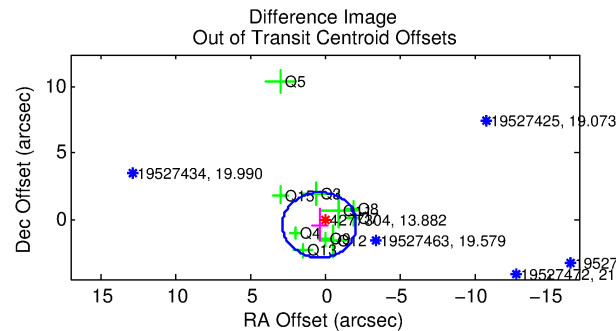
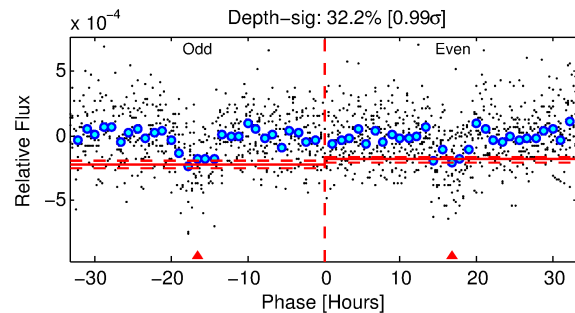
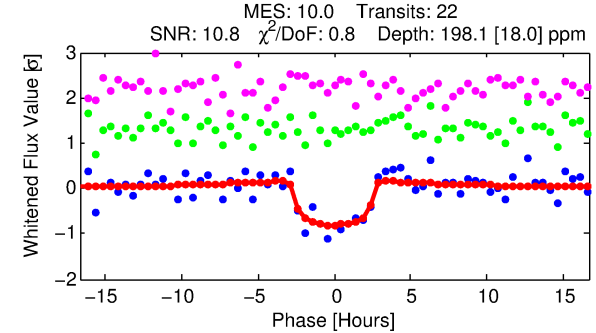
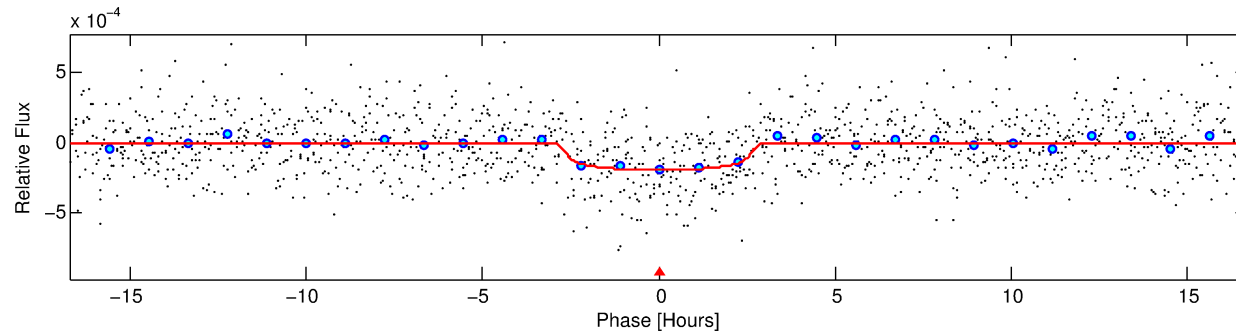
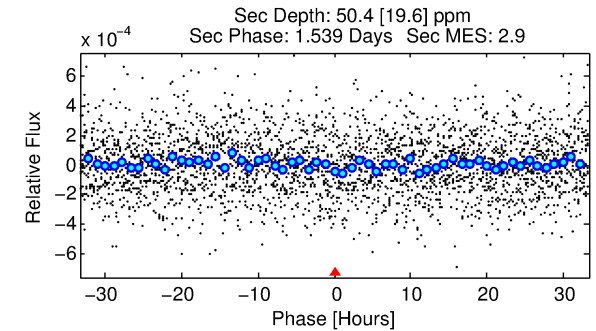
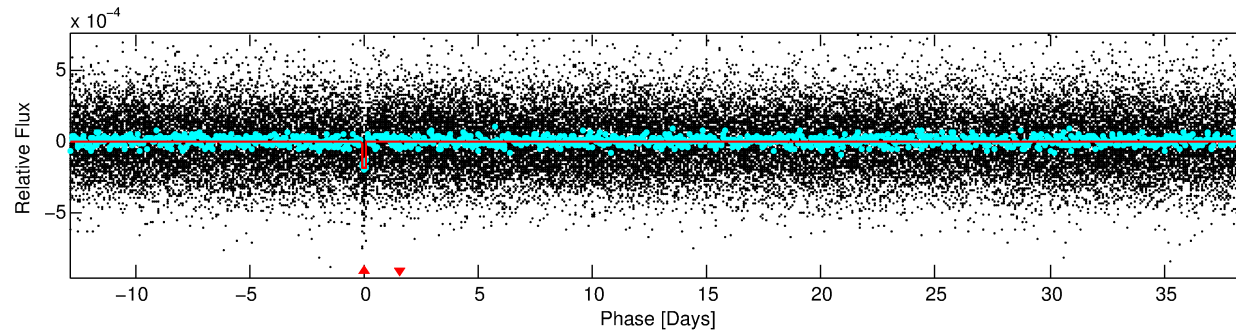
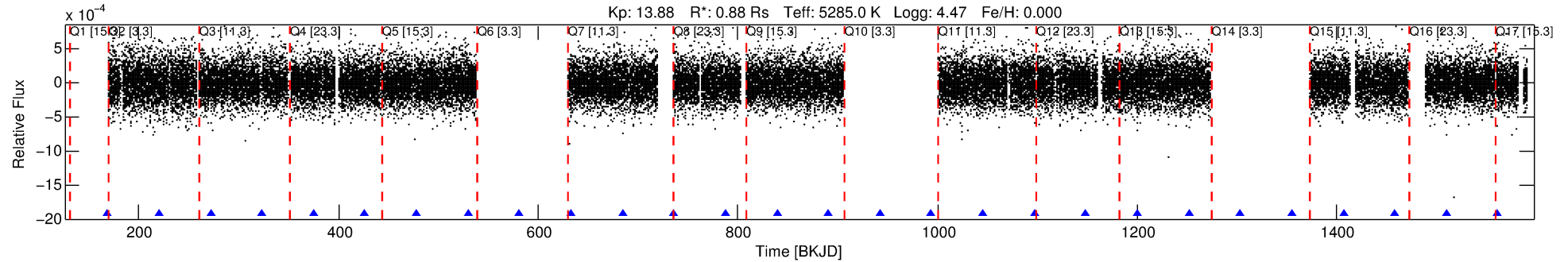
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004277304-01

No Significant Match Found

DV One-Page Summary

KIC: 4277304 Candidate: 1 of 1 Period: 51.568 d
KOI: K04774.01 Corr: 0.967



DV Fit Results:

Period = 51.56792 [0.00058] d
Epoch = 168.8726 [0.0091] BKJD
Rp/R* = 0.0145 [0.0085]
a/R* = 43.46 [100.98]
b = 0.81 [1.02]
Seff = 8.32 [2.34]
Teq = 433 [30] K
Rp = 1.38 [0.85] Re
a = 0.2539 [0.0410] AU
Ag = 936.55 [1180.61] [0.79σ]
Teffp = 3704 [1153] K [2.84σ]

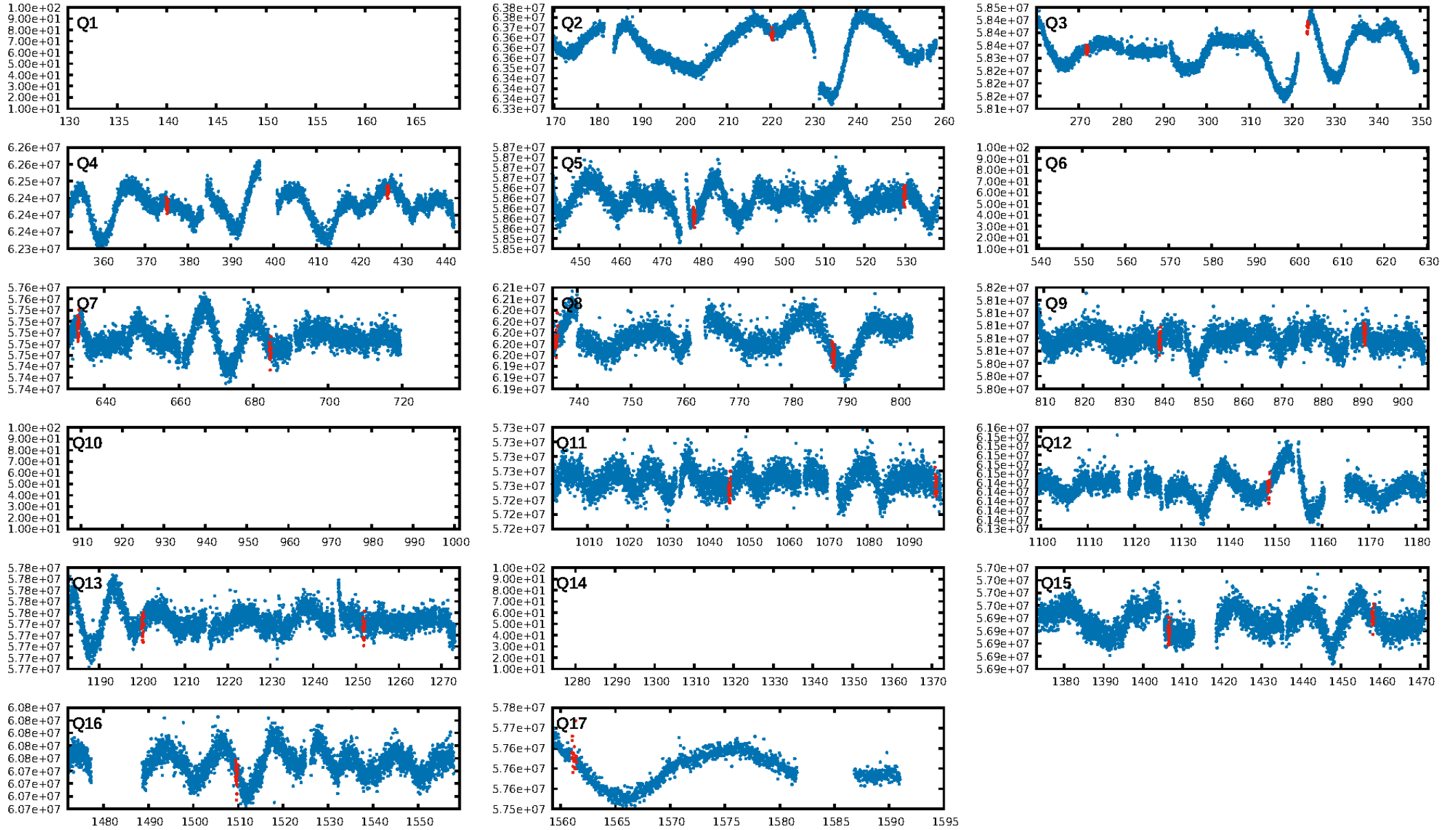
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 88.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.53e-23
RollingBand-fgt: 1.00 [21/21]
GhostDiagnostic-chr: 4.891
Centroid-sig: 9.9%
Centroid-so: 1.526 arcsec [1.29σ]
OotOffset-rm: 0.547 arcsec [0.66σ]
KicOffset-rm: 0.593 arcsec [0.84σ]
OotOffset-st: 0/4/3/3 [10]
KicOffset-st: 0/4/3/3 [10]
DiffImageQuality-fgm: 0.90 [9/10]
DiffImageOverlap-fno: 1.00 [11/11]

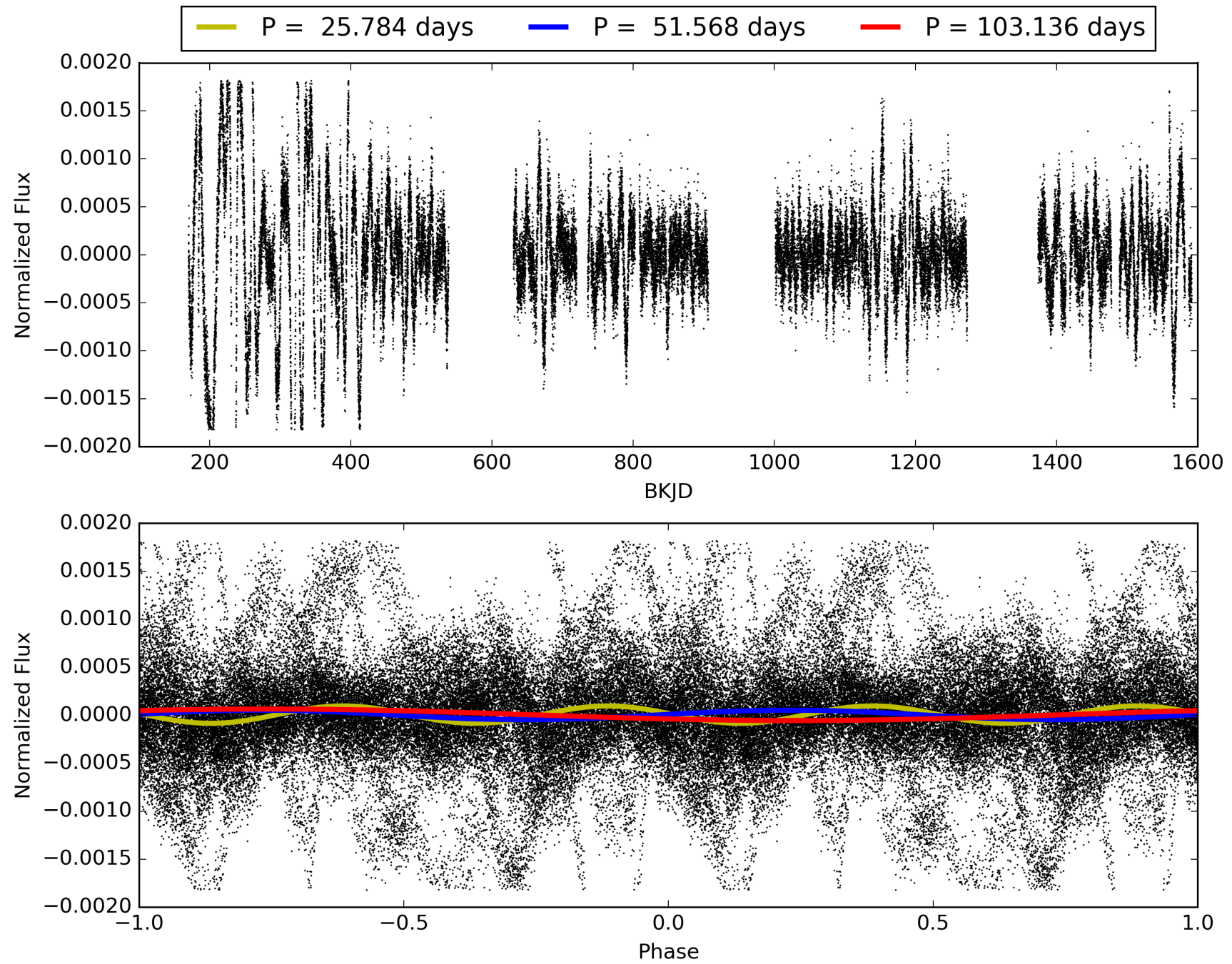
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:03:38 Z

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

TCE 004277304-01, PDC Light Curves

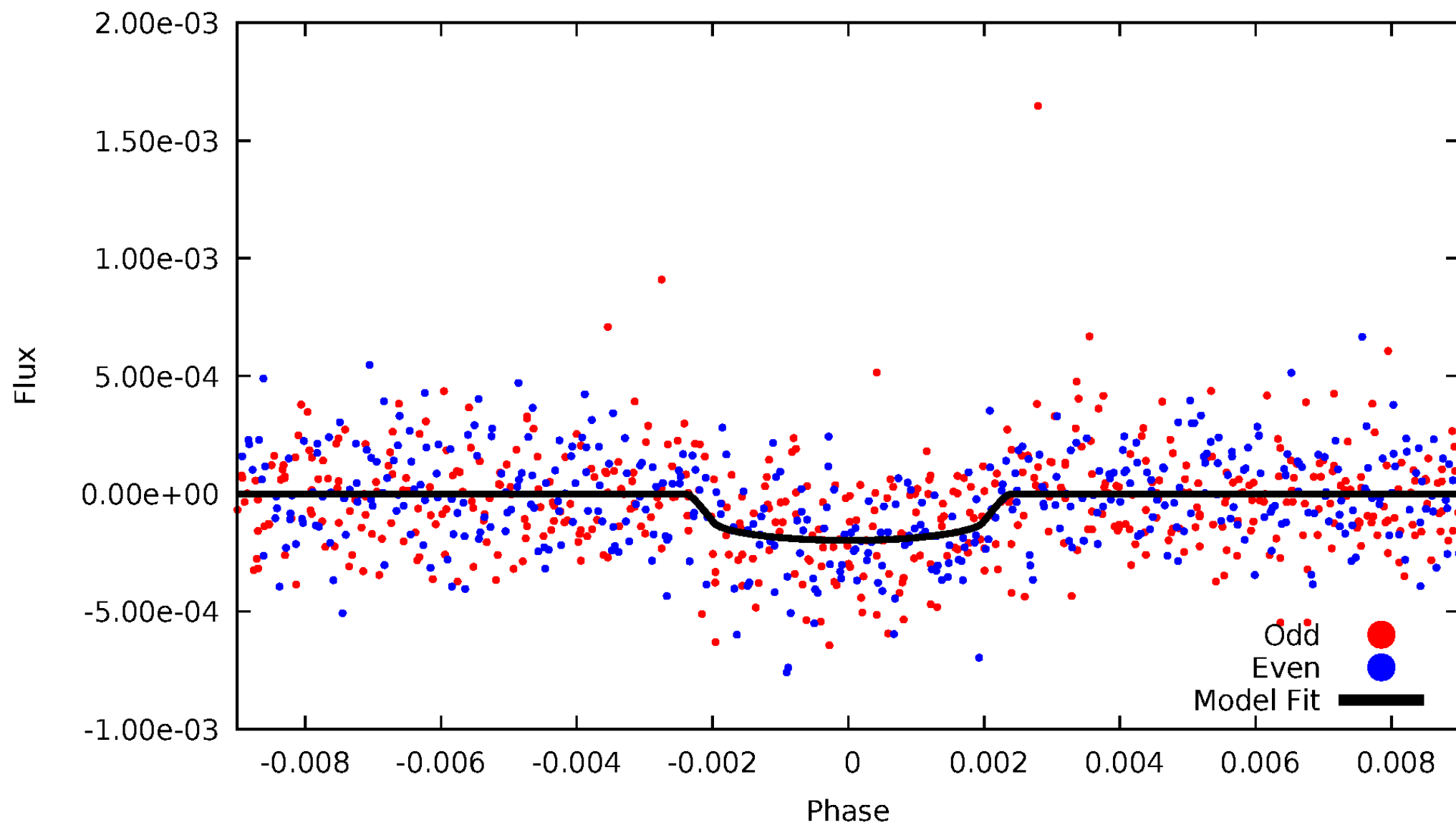


TCE 004277304-01



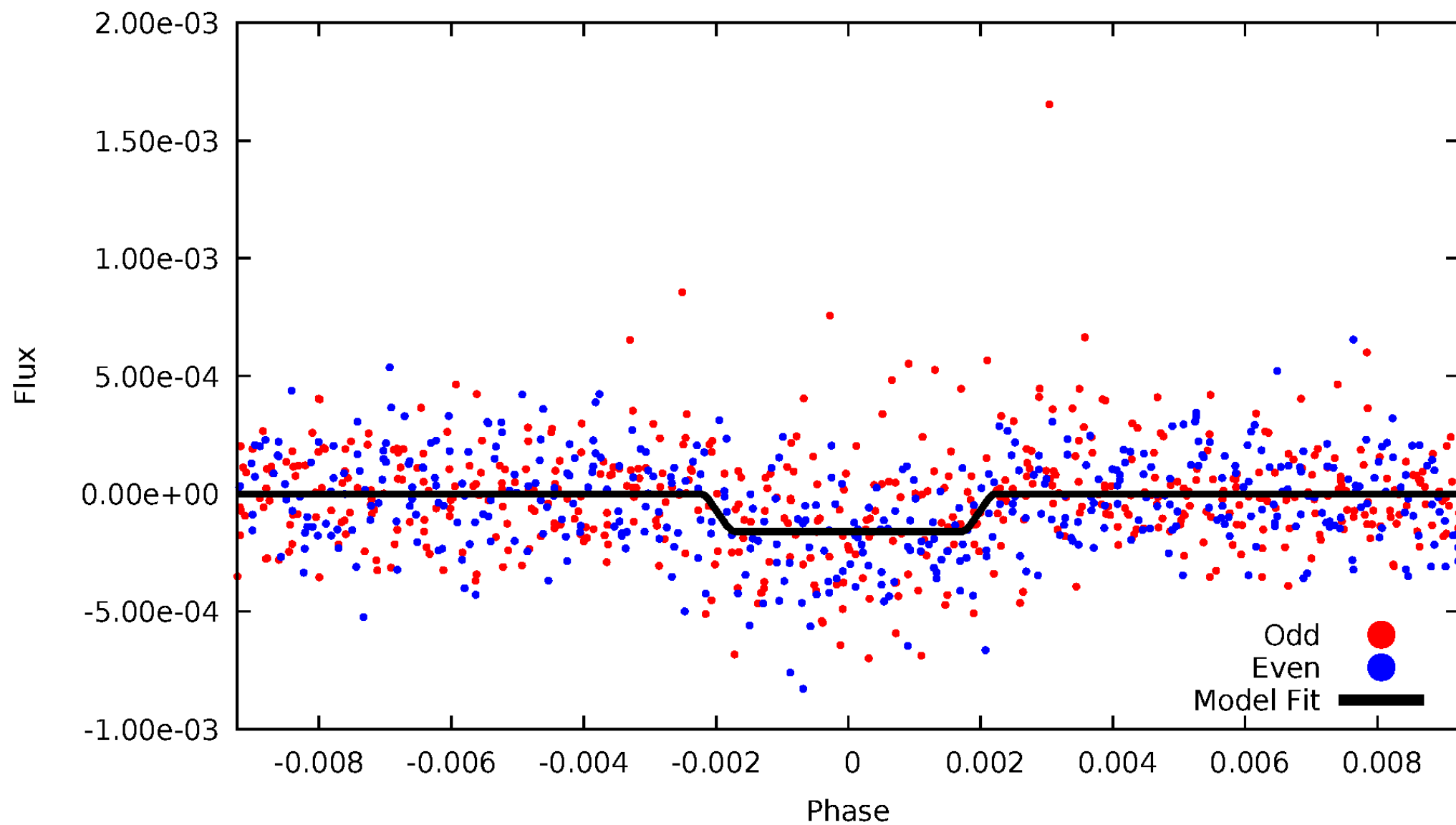
DV Odd/Even

TCE 004277304-01

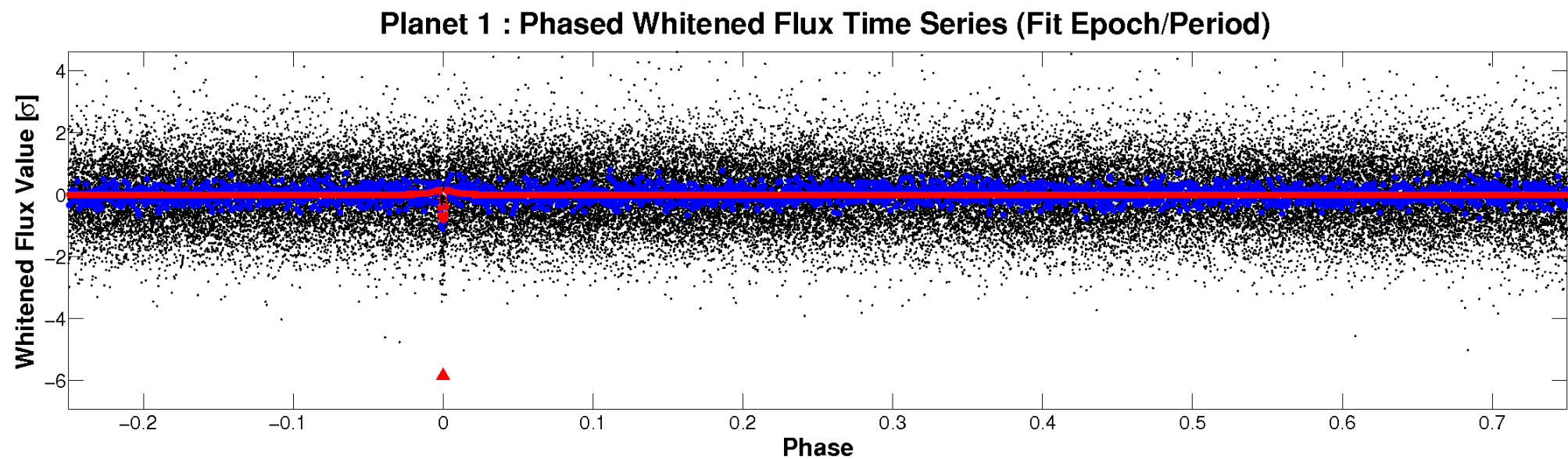
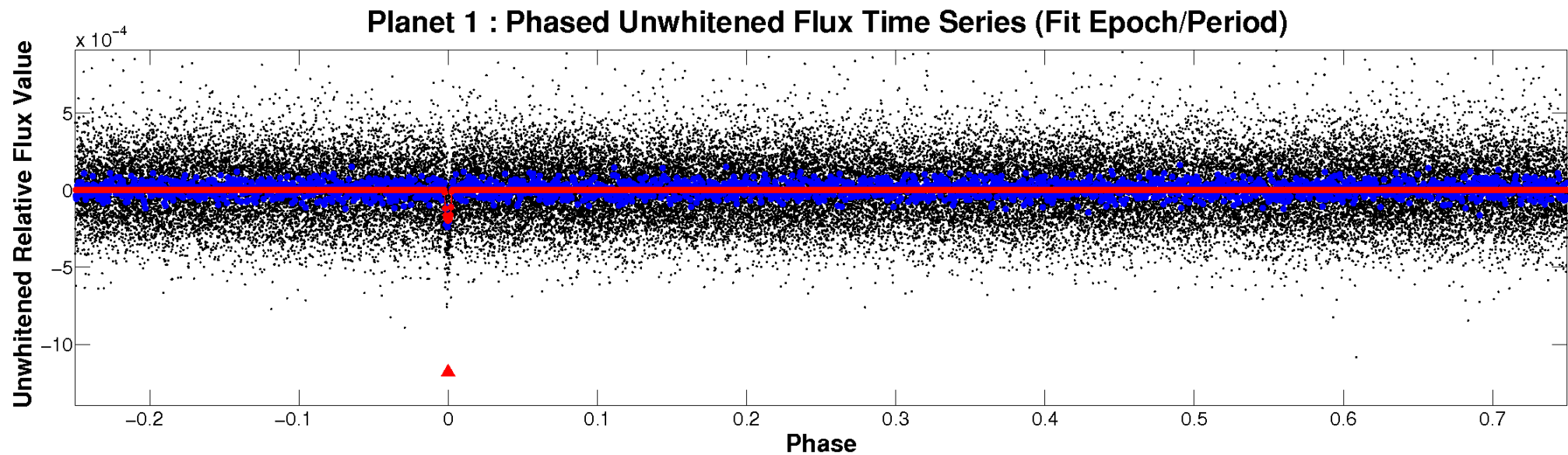


ALT Odd/Even

TCE 004277304-01

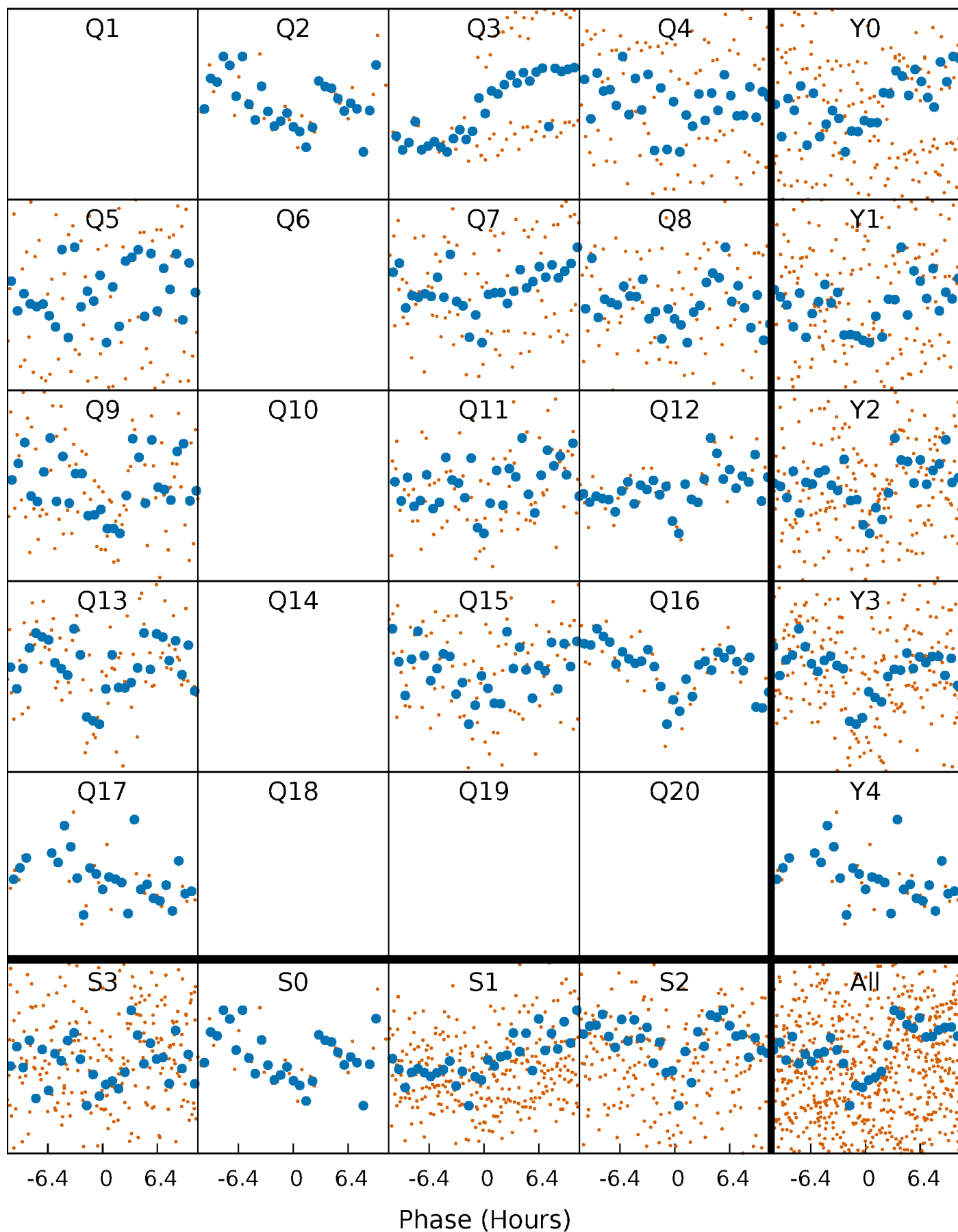


Non-Whitened Vs. Whitened Light Curve



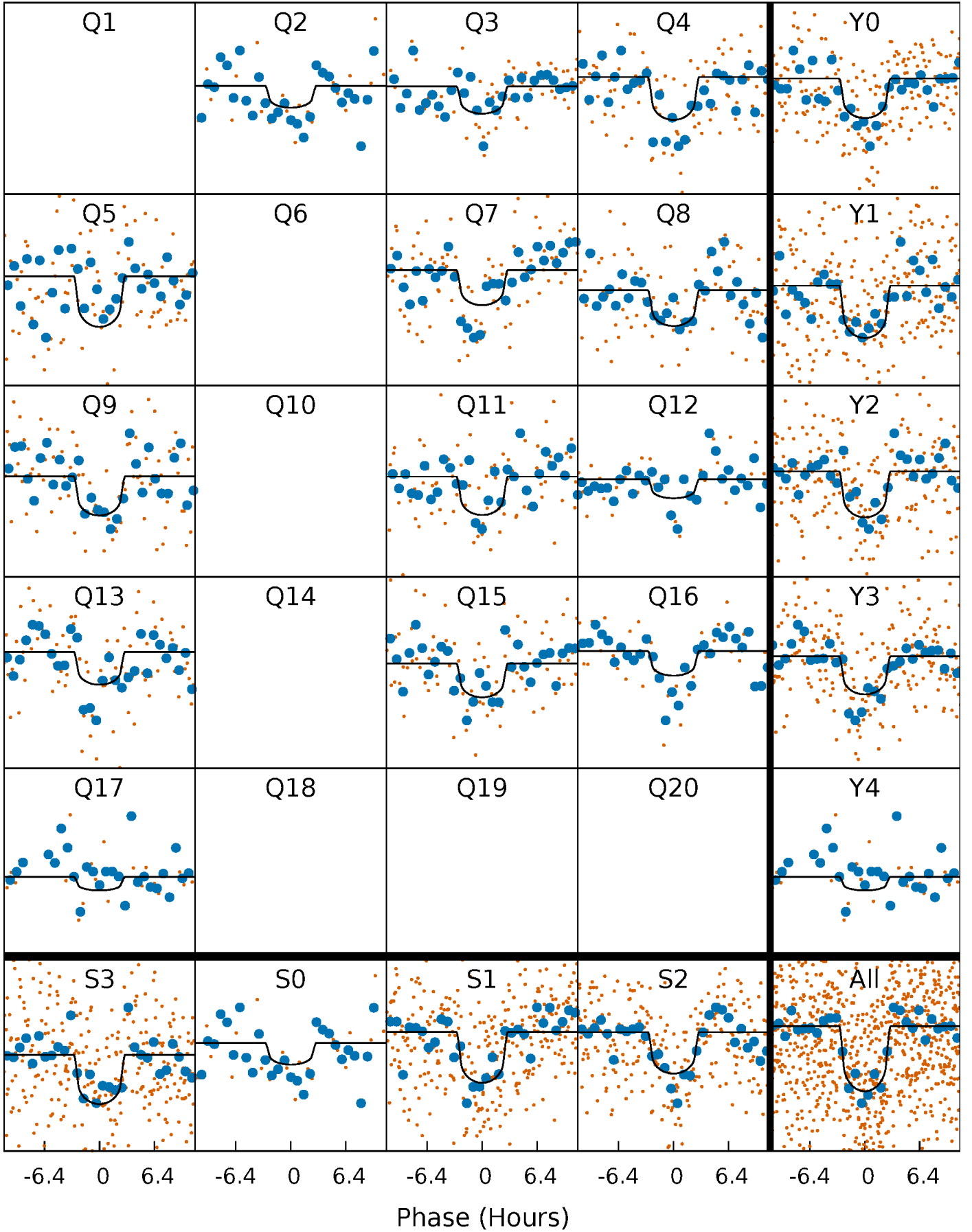
PDC Quarter-Phased Transit Curves

TCE 004277304-01 P= 51.567923 Days $T_0=168.872594$ (BKJD)



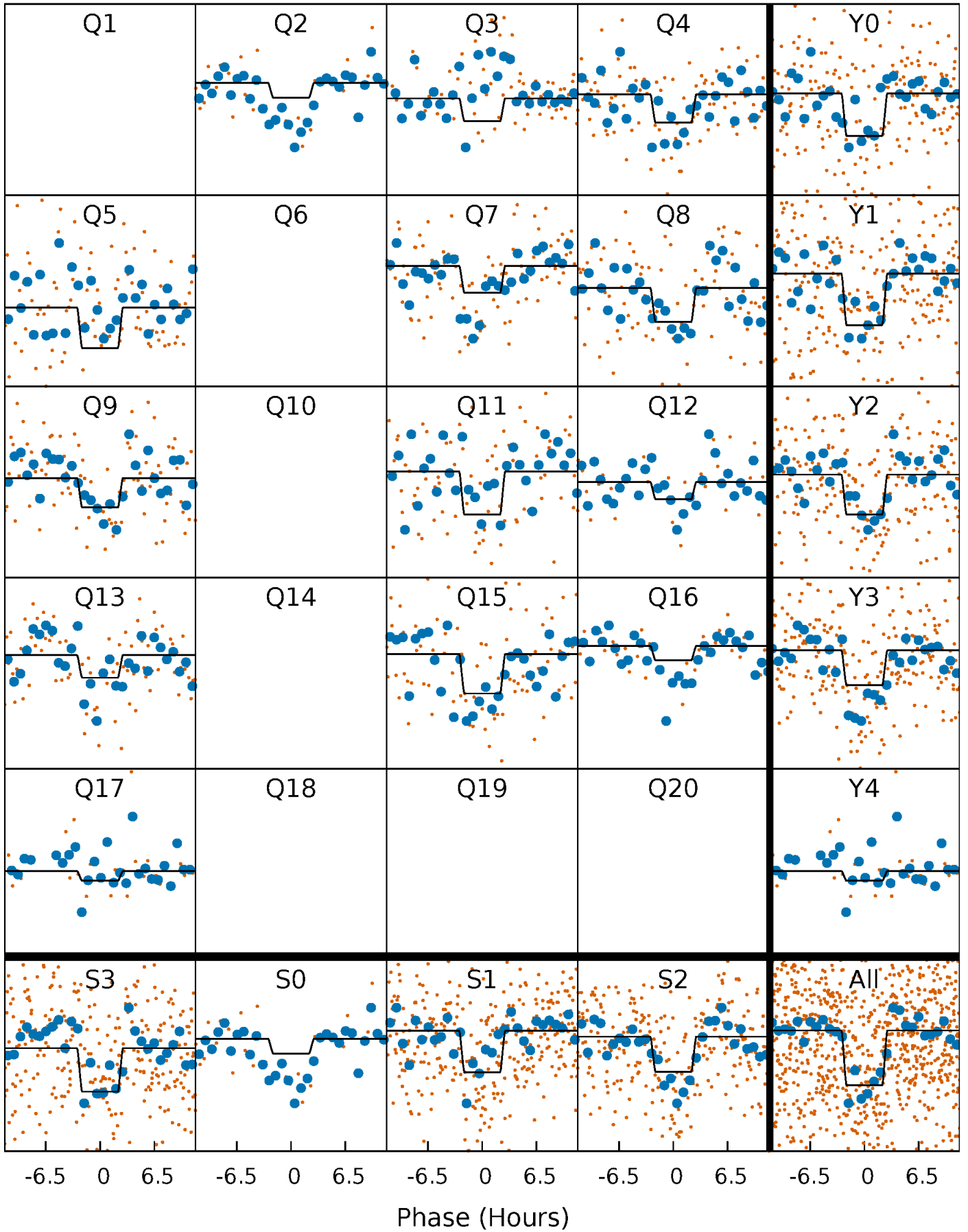
DV Quarter-Phased Transit Curves

TCE 004277304-01 P= 51.567923 Days $T_0=168.872594$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

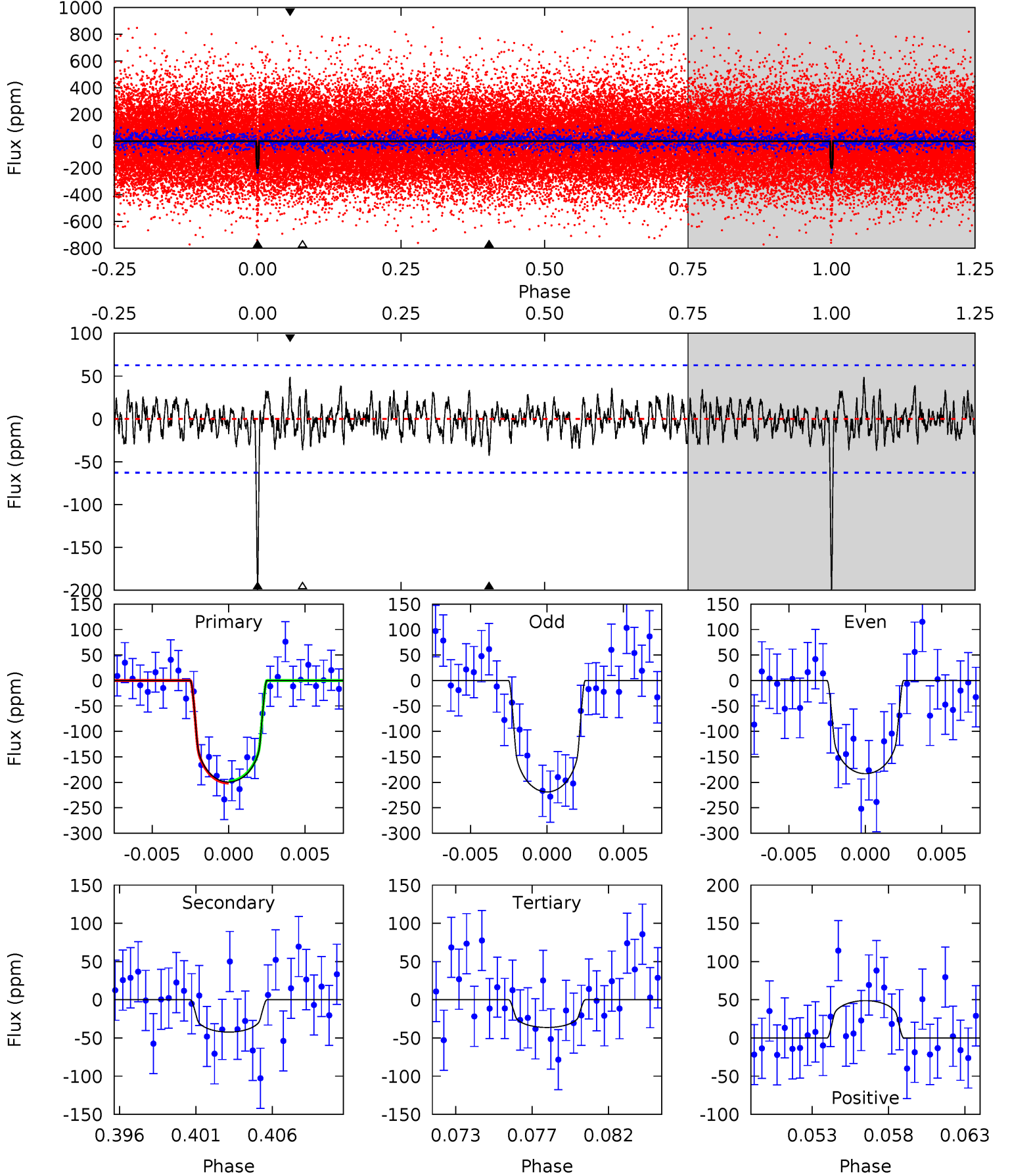
TCE 004277304-01 P= 51.567226 Days $T_0=168.879028$ (BKJD)



DV Model-Shift Uniqueness Test

004277304-01, P = 51.567923 Days, E = 168.872594 Days

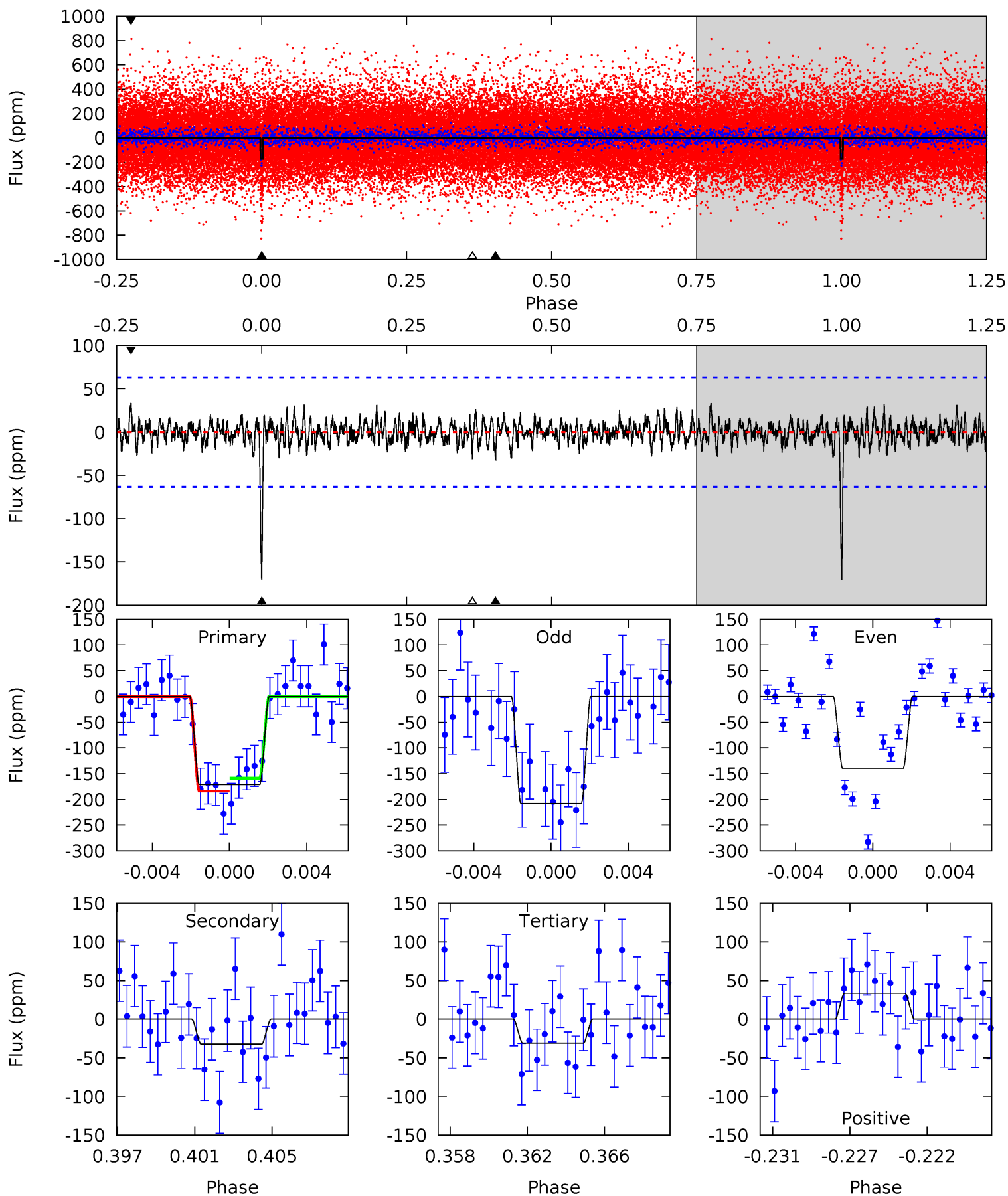
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	3.48	2.99	4.02	5.16	2.82	1.15	13.4	12.4	0.50	-0.54	1.47	1.03	0.20	0.16



Alt Model-Shift Uniqueness Test

004277304-01, P = 51.567226 Days, E = 168.879028 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	2.63	2.53	2.73	5.18	2.85	0.83	11.4	11.2	0.11	-0.10	2.77	0.83	0.16	1.02



Stellar Parameters For KIC 004277304

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5285^{+185}_{-185}	$4.467^{+0.104}_{-0.138}$	$0.000^{+0.250}_{-0.300}$	$0.876^{+0.160}_{-0.120}$	$0.821^{+0.104}_{-0.070}$	$1.719^{+0.762}_{-0.618}$
	+4%/-4%	+2%/-3%	+inf%/-inf%	+18%/-14%	+13%/-9%	+44%/-36%
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 004277304-01 / KOI 4774.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-42 ± 12	$1.45^{+0.81}_{-0.76}$	608^{+36}_{-33}	3791^{+1190}_{-521}	707^{+2437}_{-443}
Alt.	-32 ± 12	$1.26^{+0.81}_{-0.75}$	608^{+38}_{-33}	3795^{+1641}_{-597}	689^{+3769}_{-454}

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 $A_{obs} \gg 1.0$

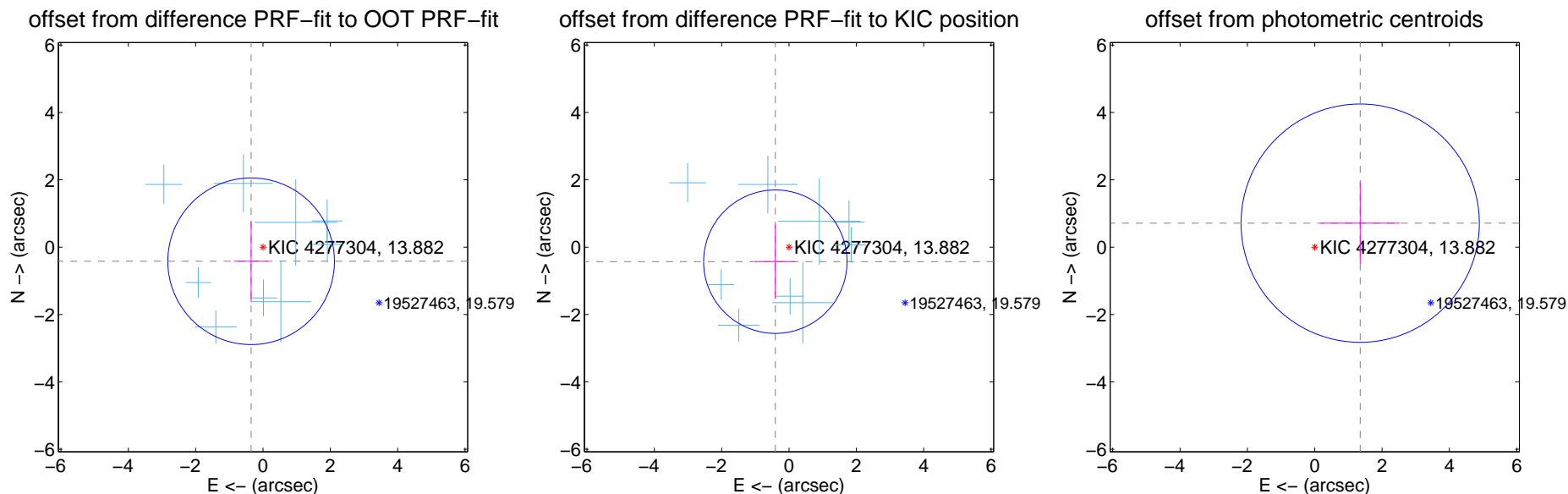
DV Centroid Data

Supplemental centroid analysis for 004277304-01. Kepler magnitude: 13.88. Transit SNR 10.78

There are 9 quarters with good PRF difference image offsets

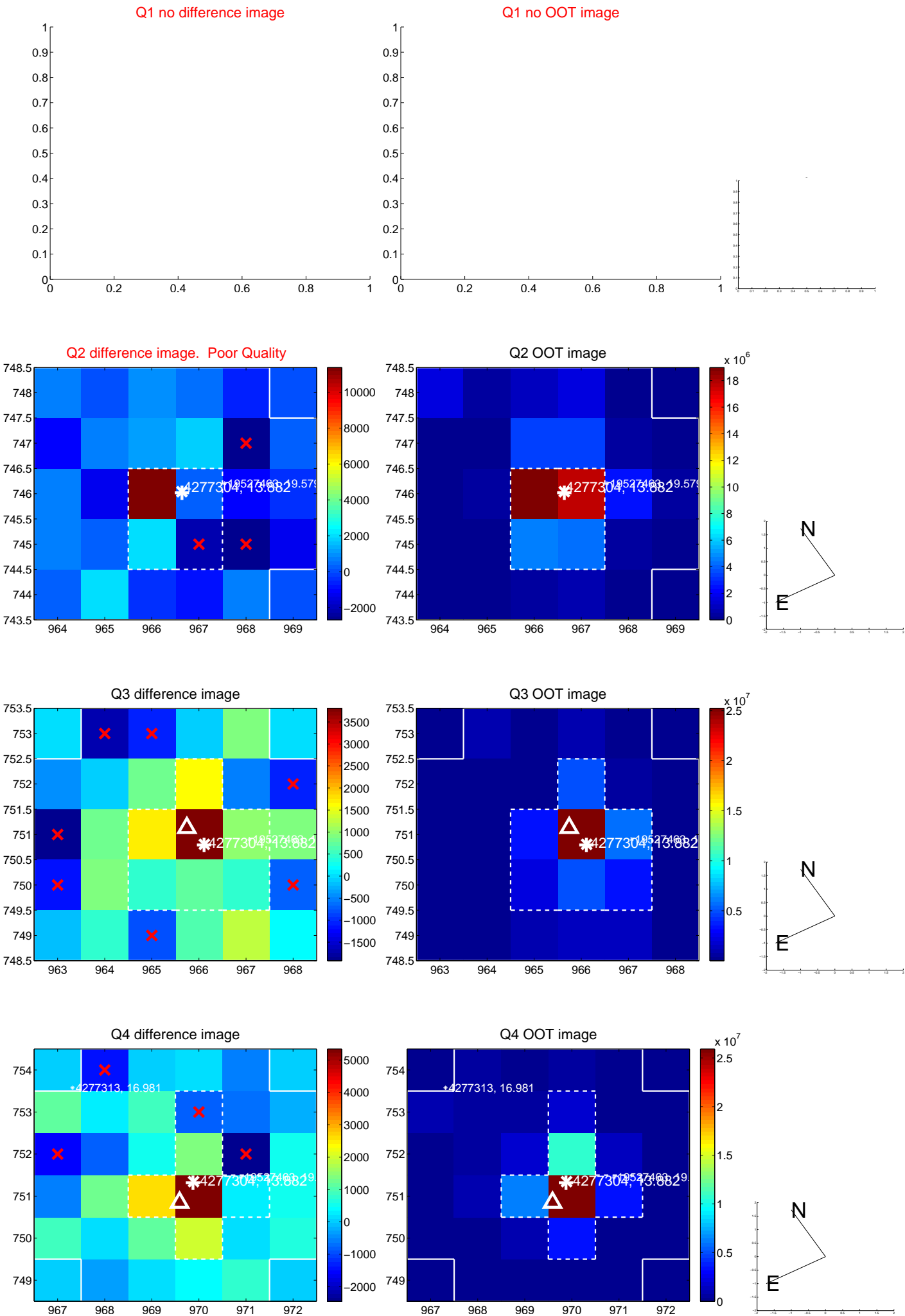
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.547 ± 0.825	0.66	0.352 ± 0.509	-0.419 ± 1.197
PRF-fit source offset from KIC position	0.593 ± 0.710	0.84	0.407 ± 0.592	-0.431 ± 1.100
photometric centroid source offset	1.53 ± 1.18	1.29	-1.35 ± 1.17	0.71 ± 1.21

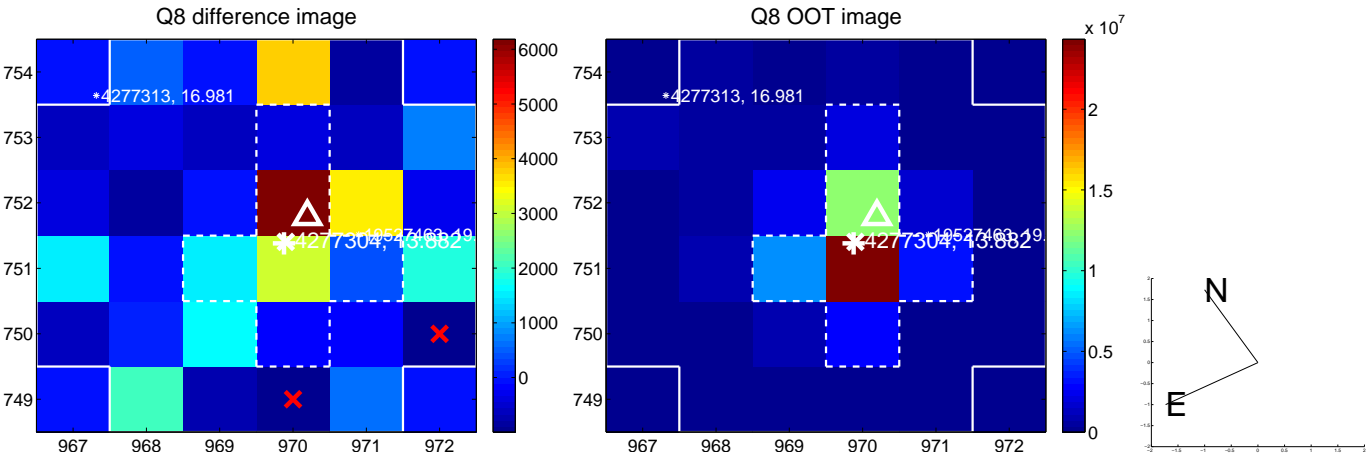
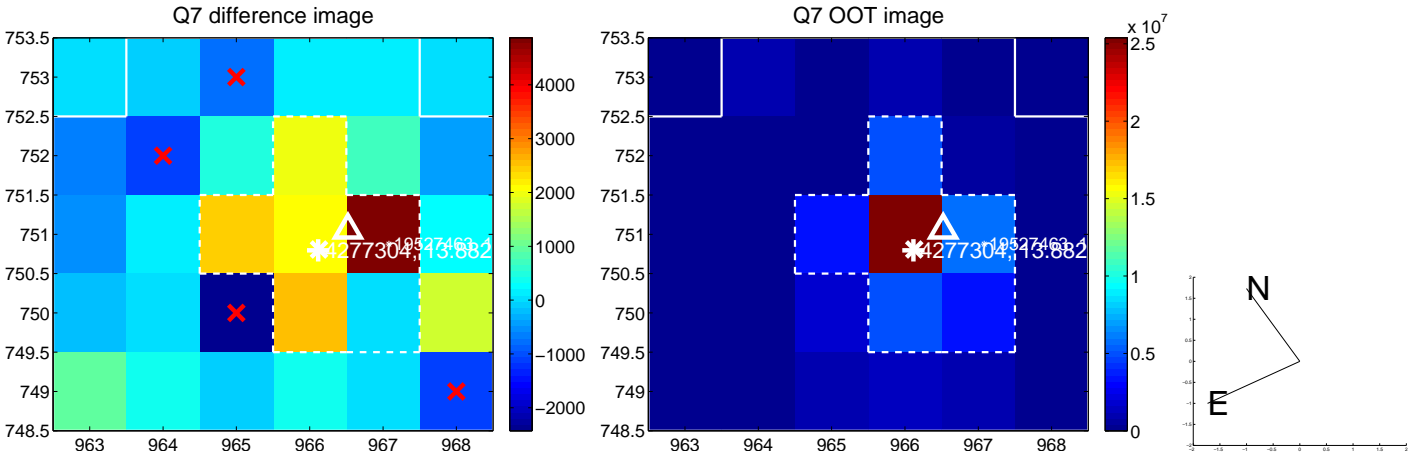
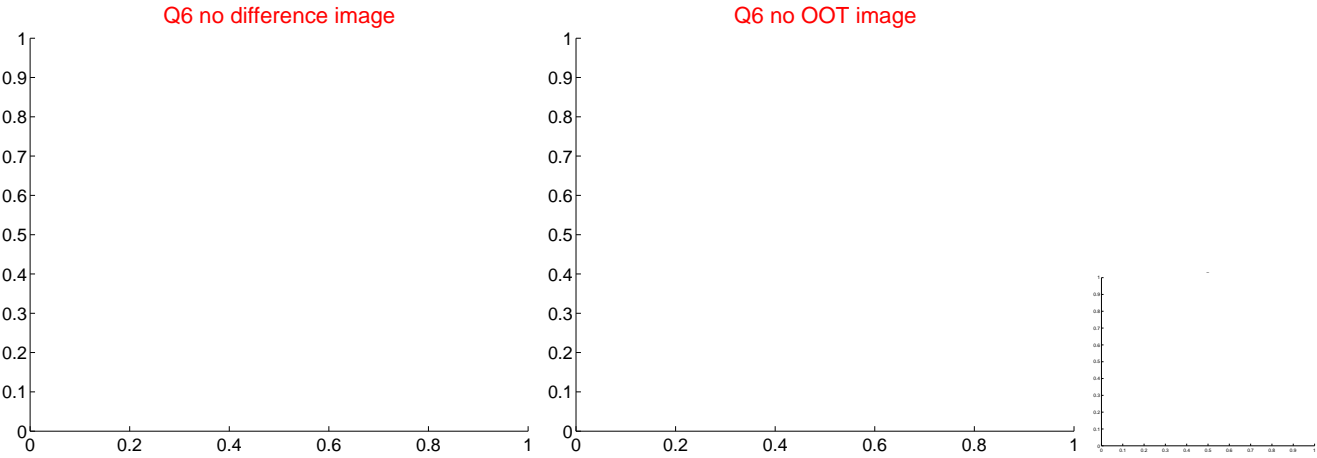
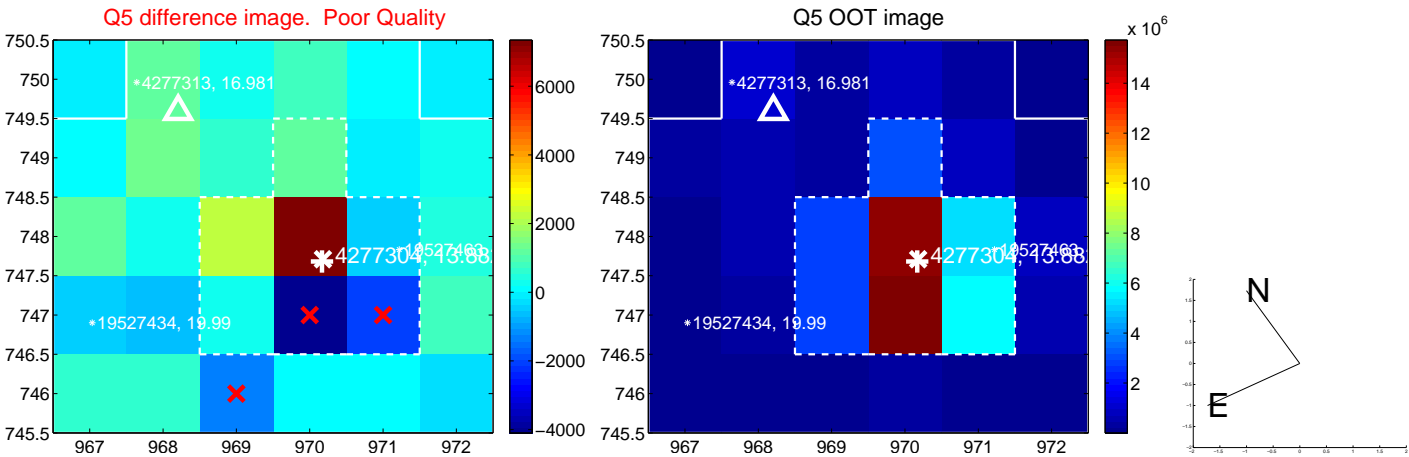


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

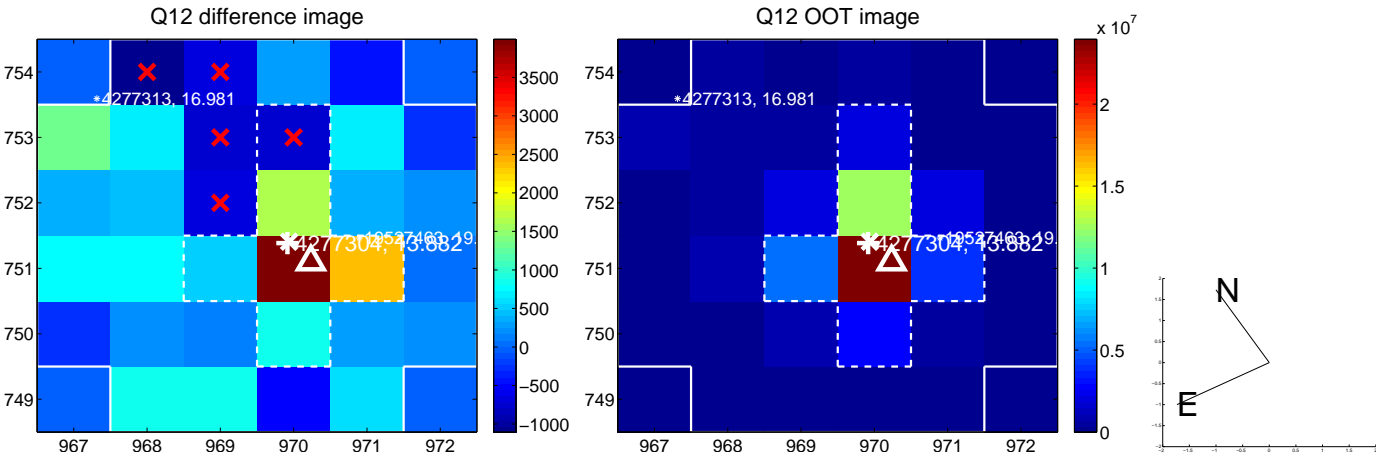
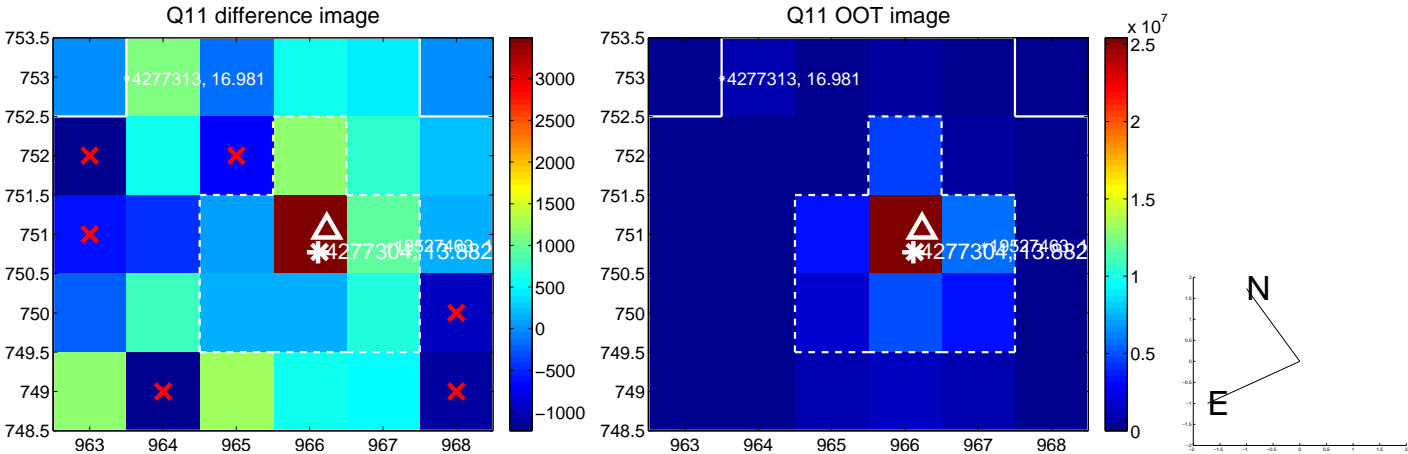
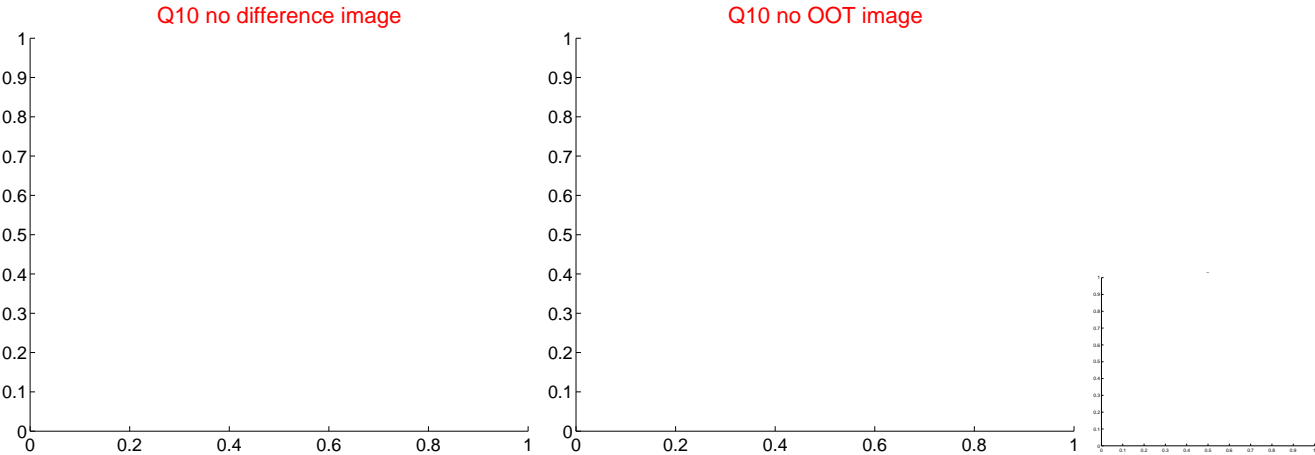
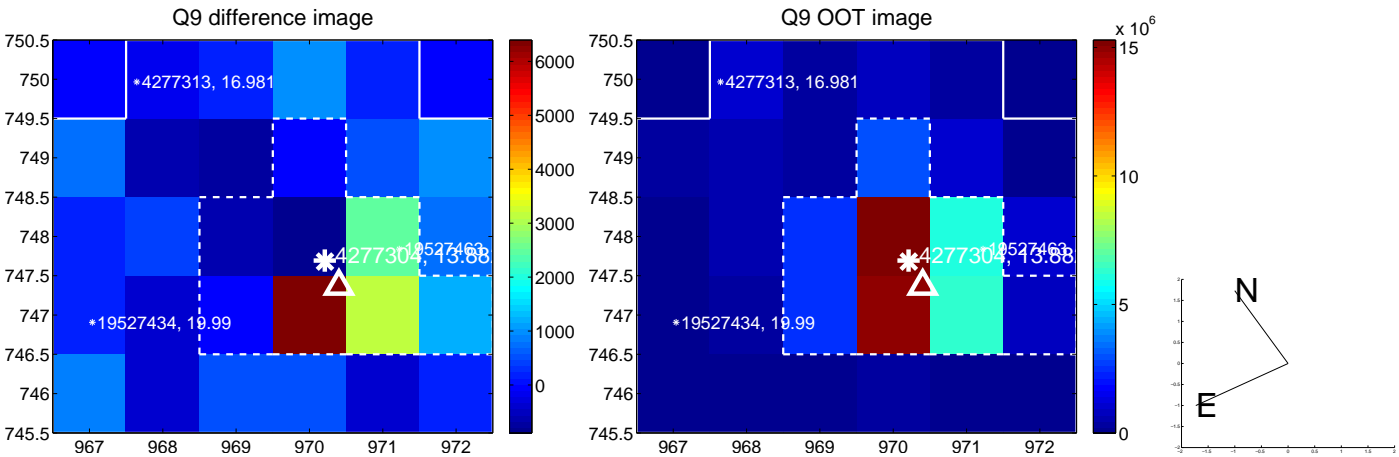
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



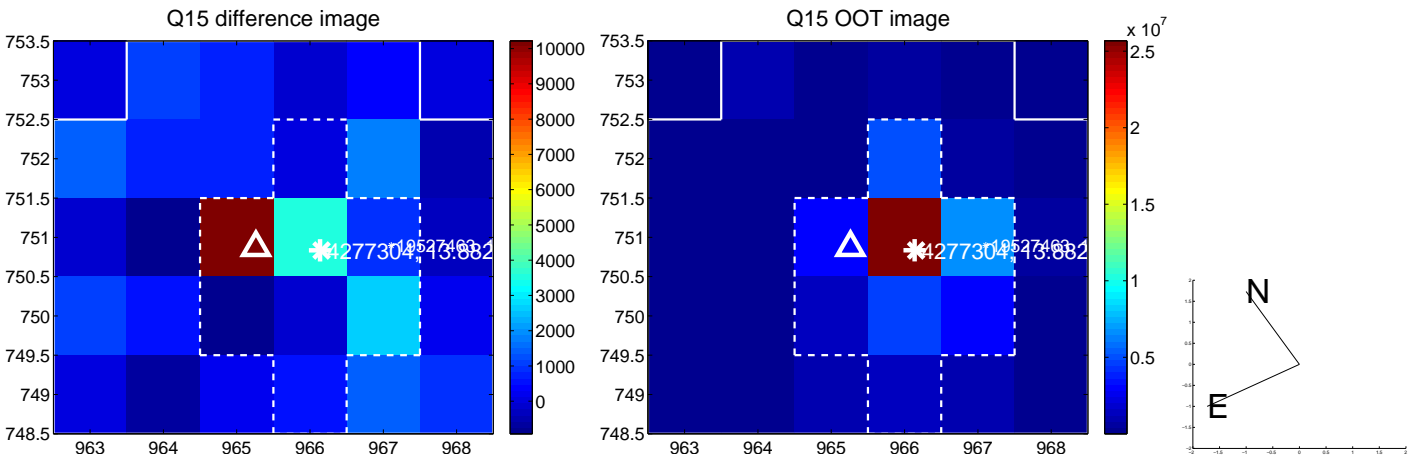
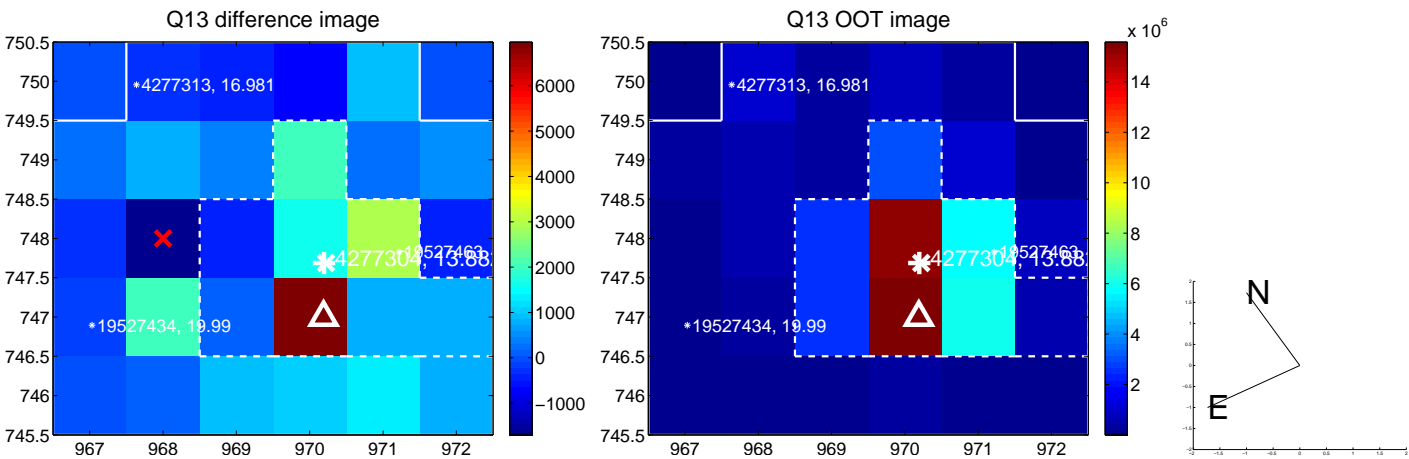
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



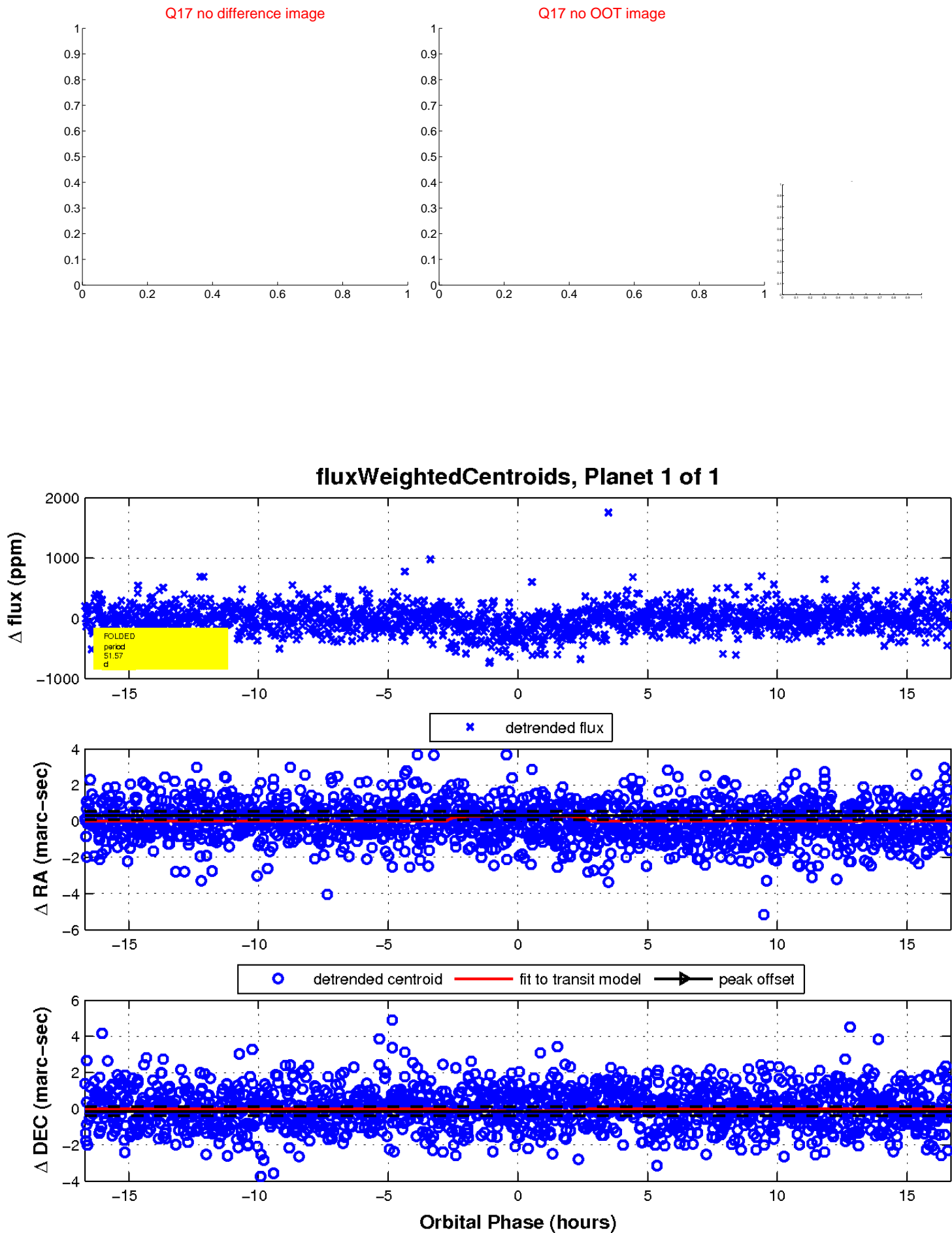
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

