

KIC 002576107

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})
002576107-01	OBS	3709.01	205.583187	234.746758	24268.9	5.988	275.9	229.8	0.92	6328	19.27	2.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002576107-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

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.

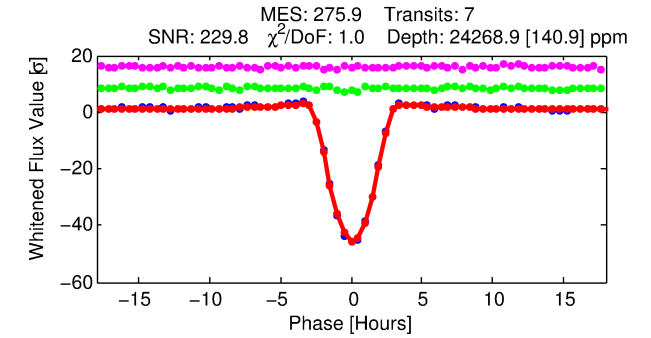
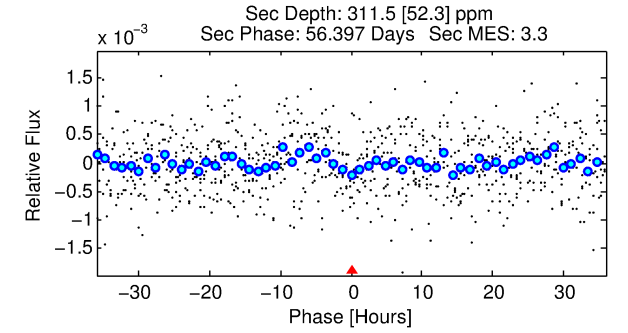
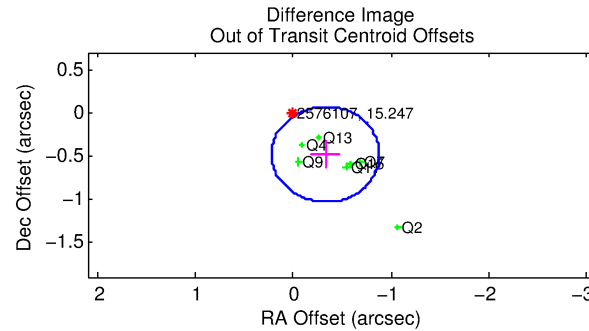
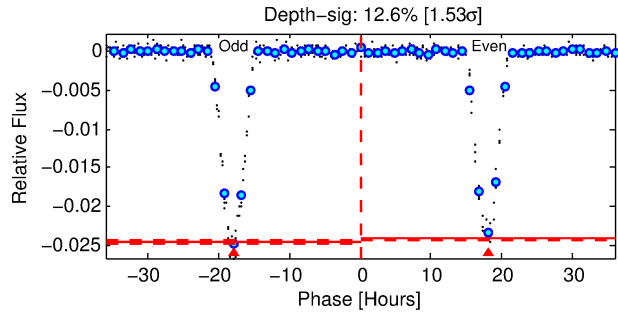
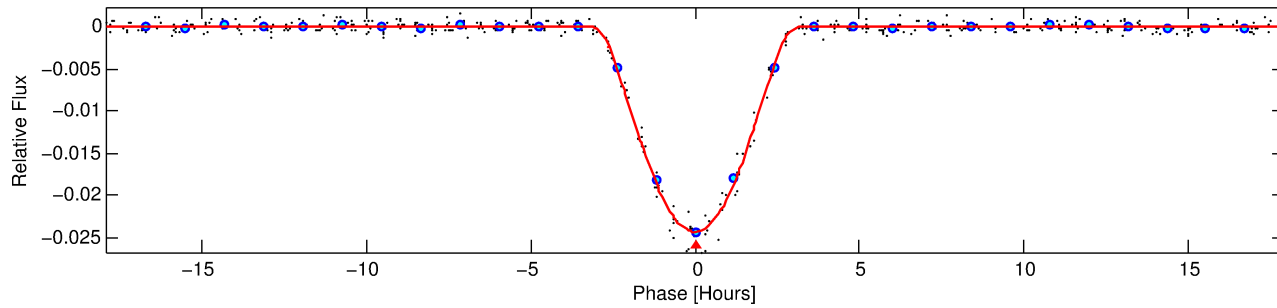
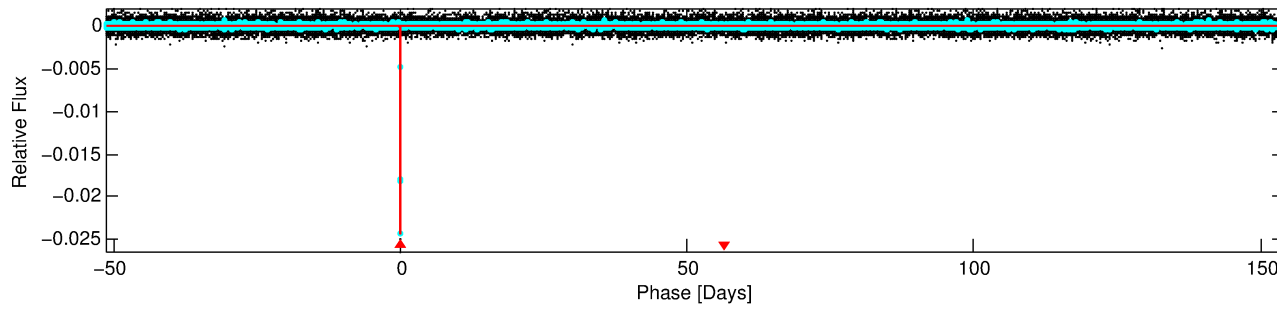
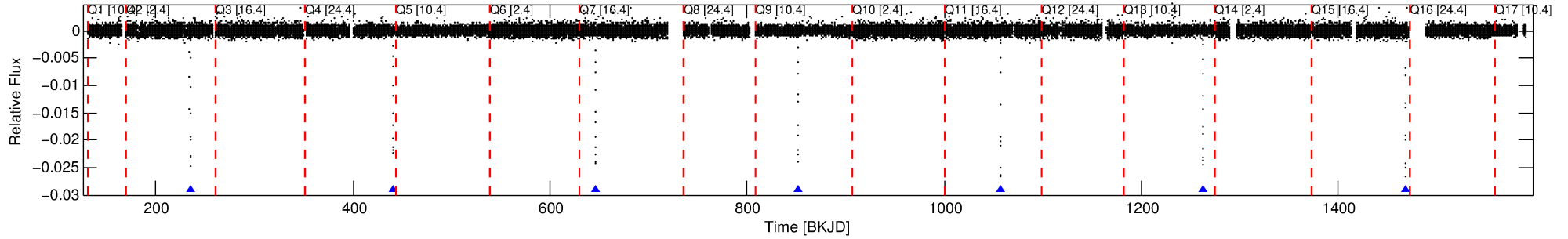
Ephemeris Match Information For 002576107-01

No Significant Match Found

DV One-Page Summary

KIC: 2576107 Candidate: 1 of 1 Period: 205.583 d
KOI: K03709.01 Corr: 0.988

Kp: 15.25 R*: 0.92 Rs Teff: 6328.0 K Logg: 4.52 Fe/H: -0.500



DV Fit Results:

Period = 205.58319 [0.00016] d
Epoch = 234.7468 [0.0006] BKJD
Rp/R* = 0.1930 [0.0154]
a/R* = 200.65 [3.78]
b = 0.92 [0.03]
Seff = 2.58 [1.11]
Teq = 323 [35] K
Rp = 19.27 [6.34] Re
a = 0.6823 [0.1856] AU
Ag = 214.95 [99.42] [2.15σ]
Teff = 1914 [133] K [11.56σ]

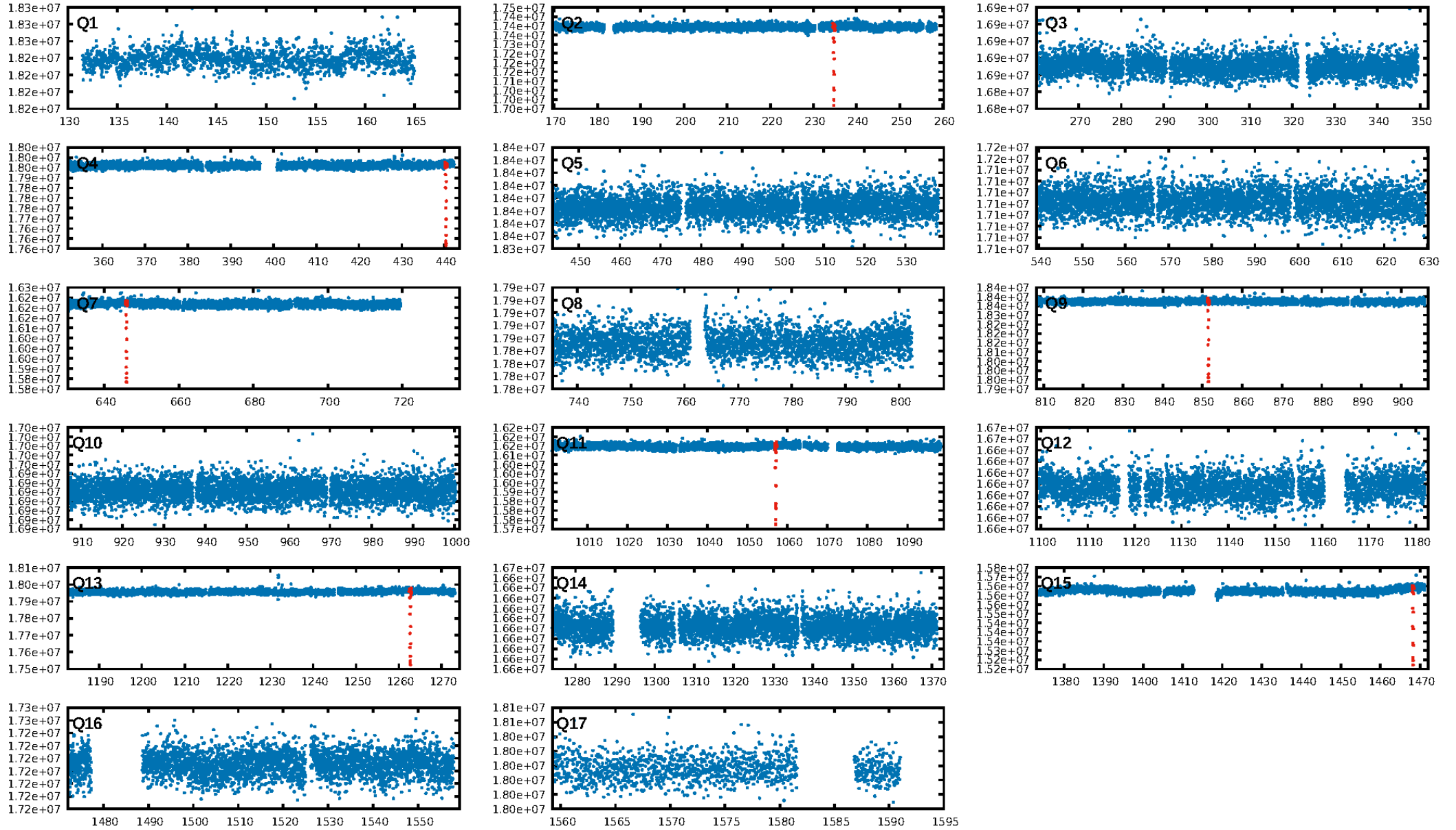
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 4.656
Centroid-sig: 0.0%
Centroid-so: 0.654 arcsec [18.43σ]
OotOffset-rm: 0.584 arcsec [3.18σ]
KicOffset-rm: 0.087 arcsec [1.10σ]
OotOffset-st: 1/3/1/2 [7]
KicOffset-st: 1/3/1/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

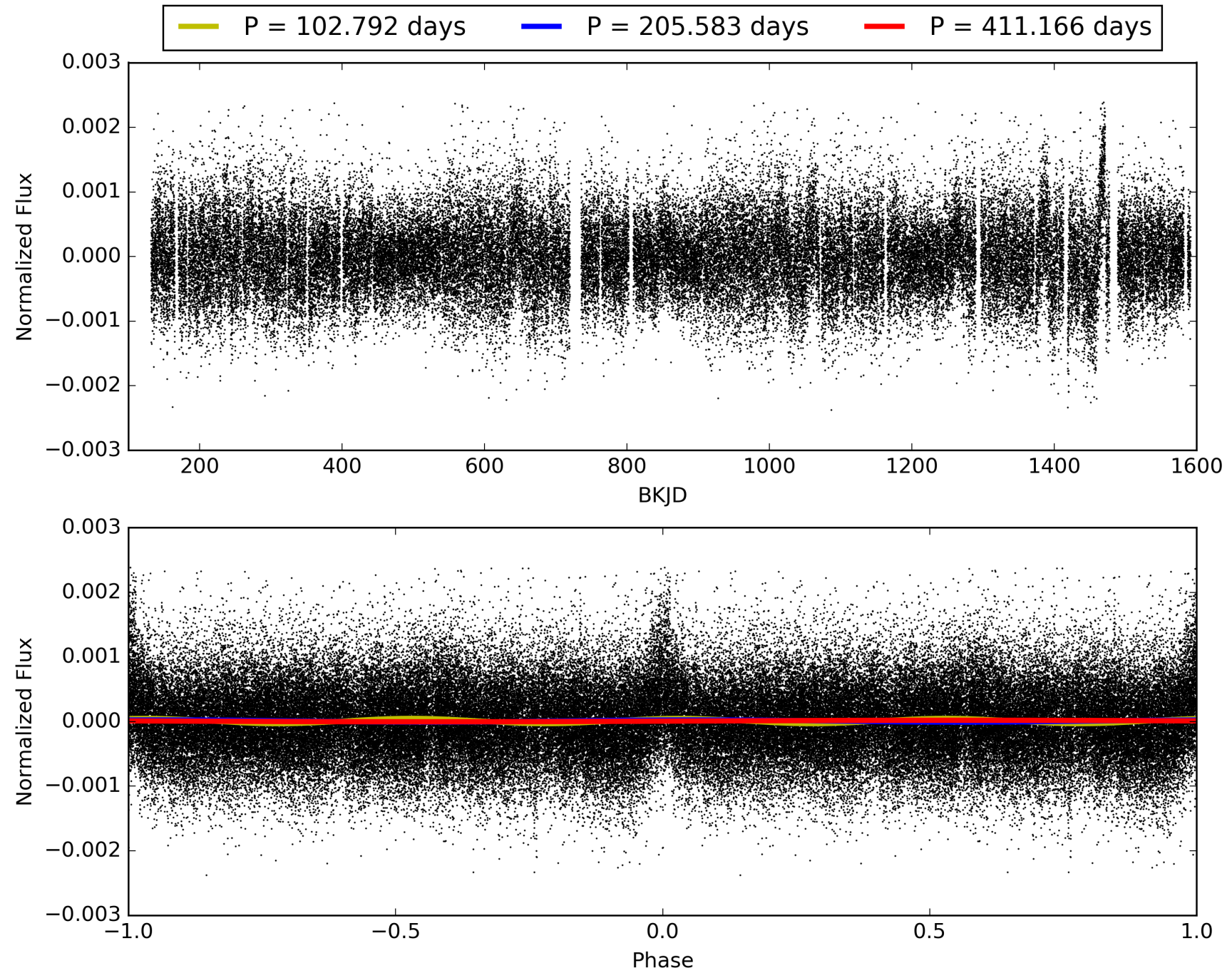
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:50:58 Z

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

TCE 002576107-01, PDC Light Curves

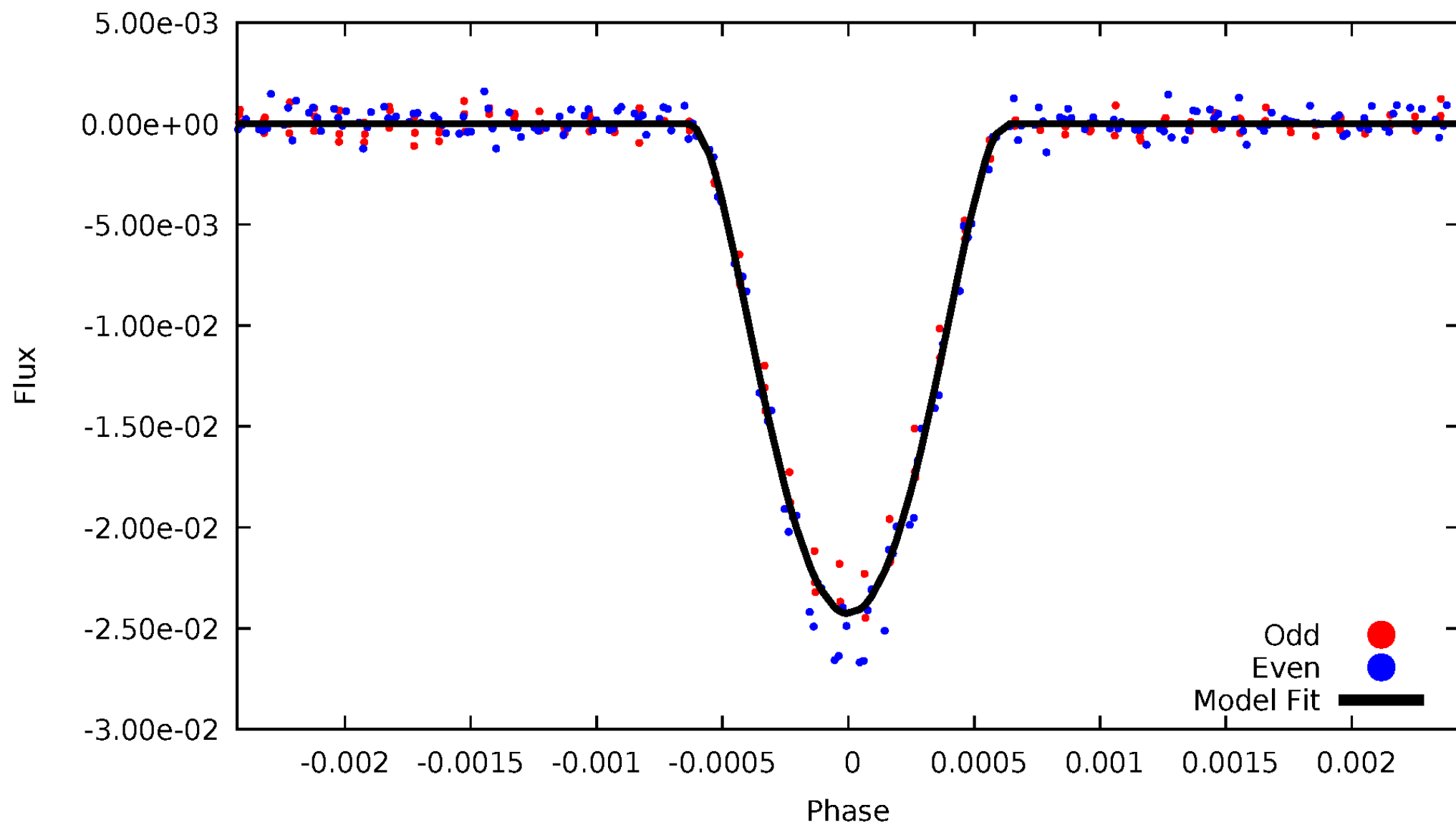


TCE 002576107-01



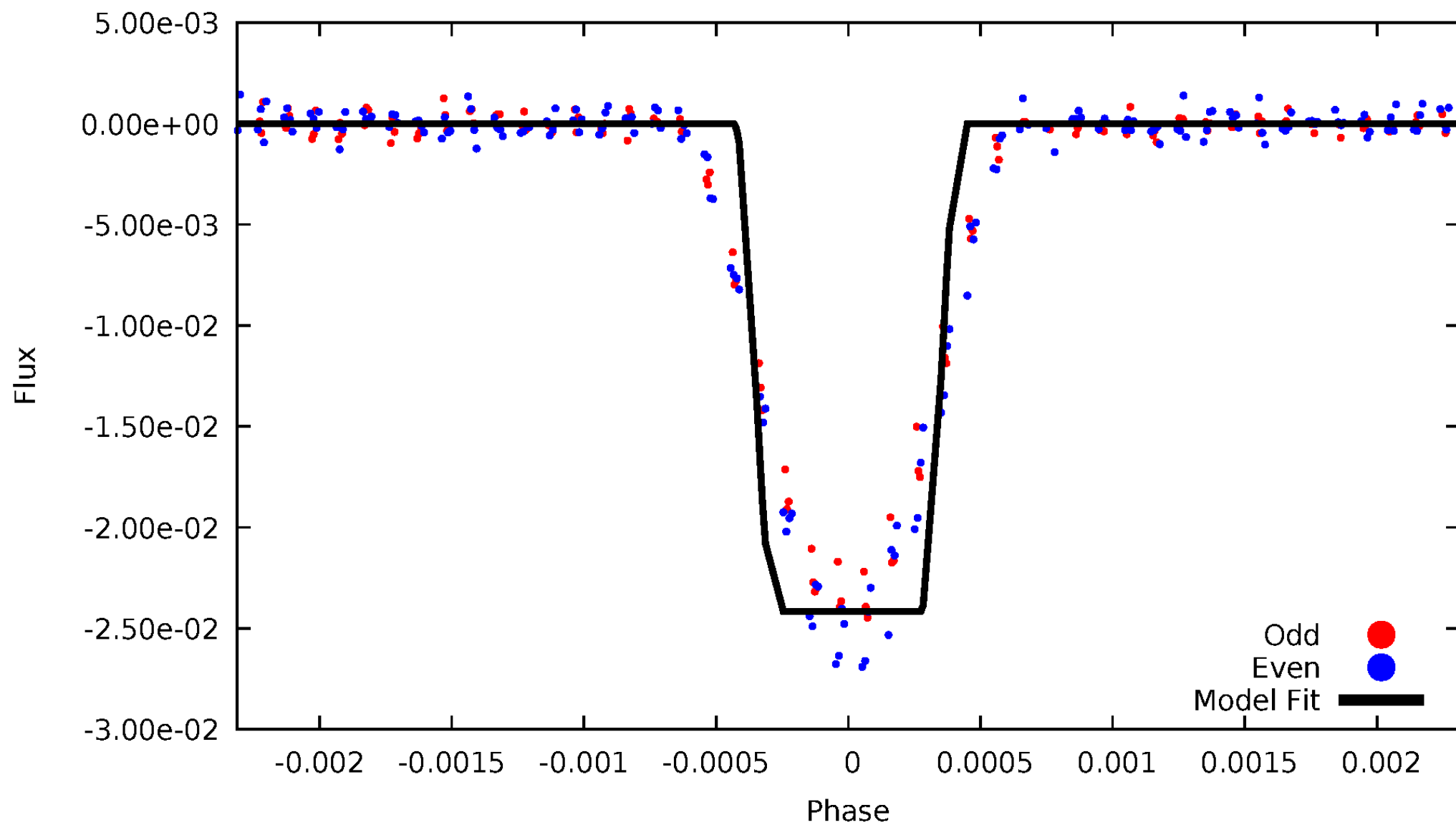
DV Odd/Even

TCE 002576107-01



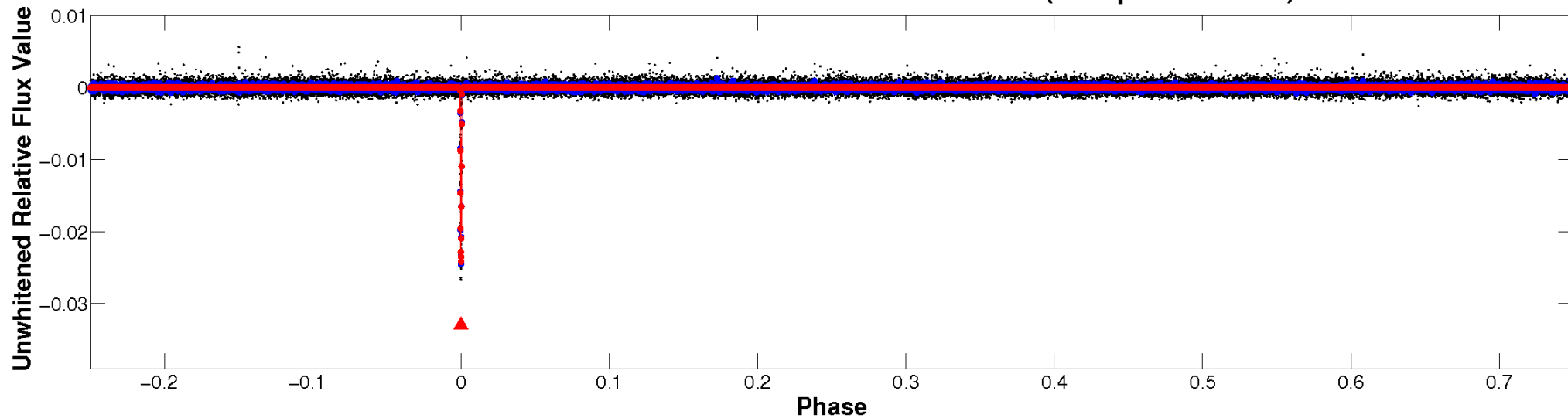
ALT Odd/Even

TCE 002576107-01

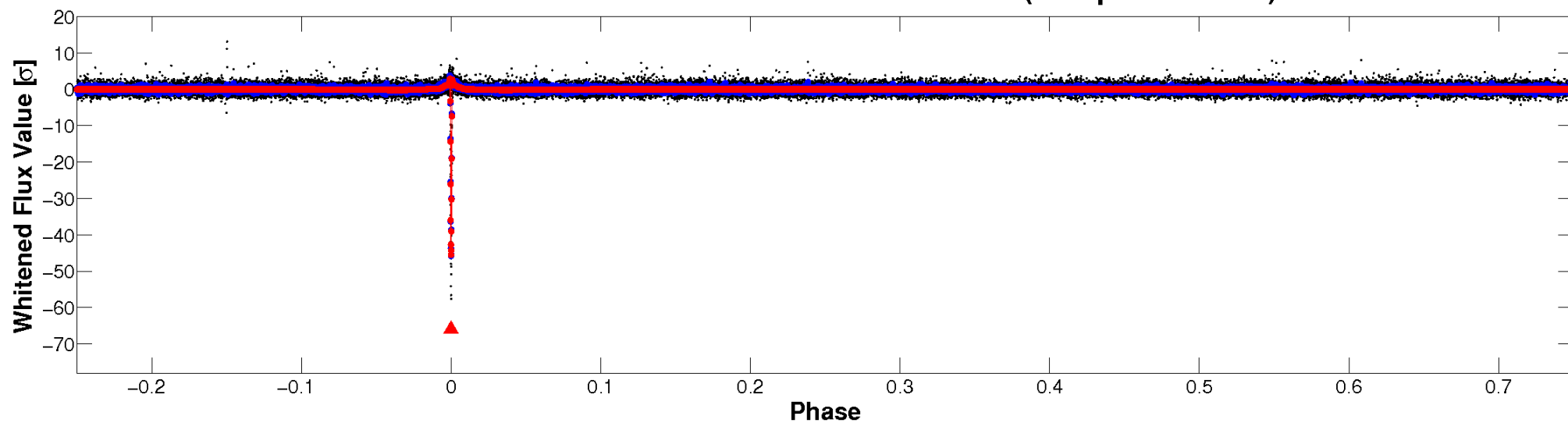


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

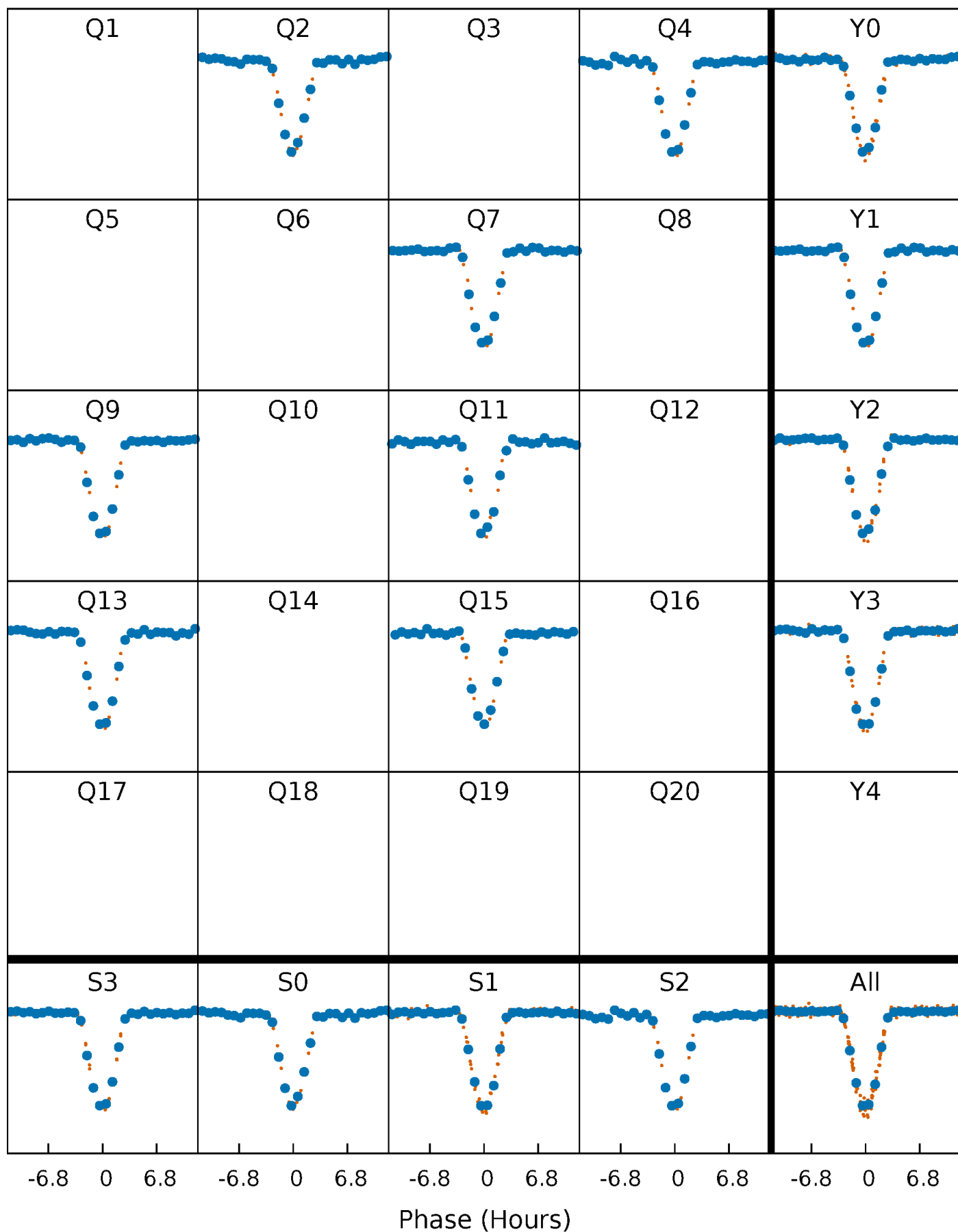


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



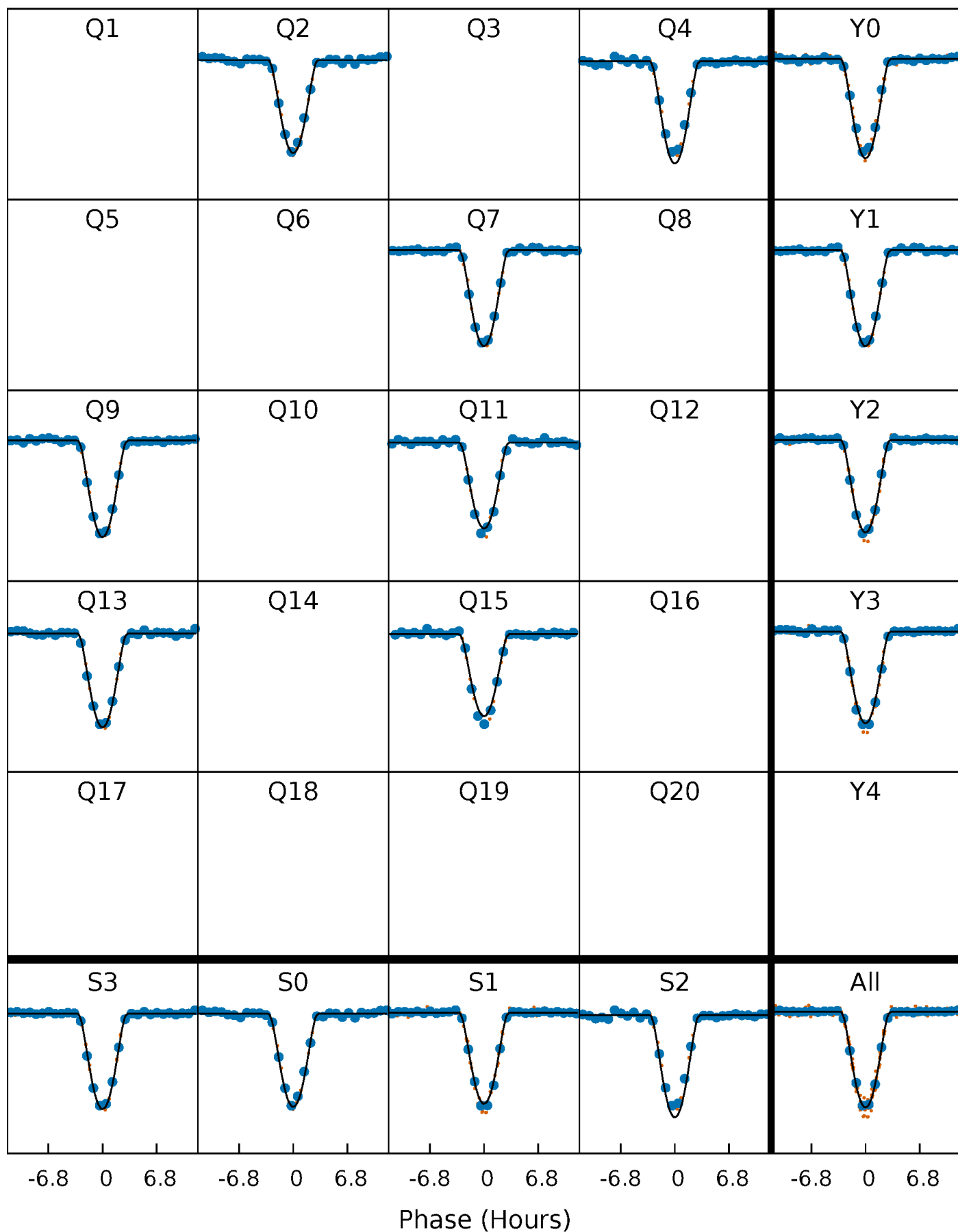
PDC Quarter-Phased Transit Curves

TCE 002576107-01 P=205.583187 Days $T_0=234.746758$ (BKJD)



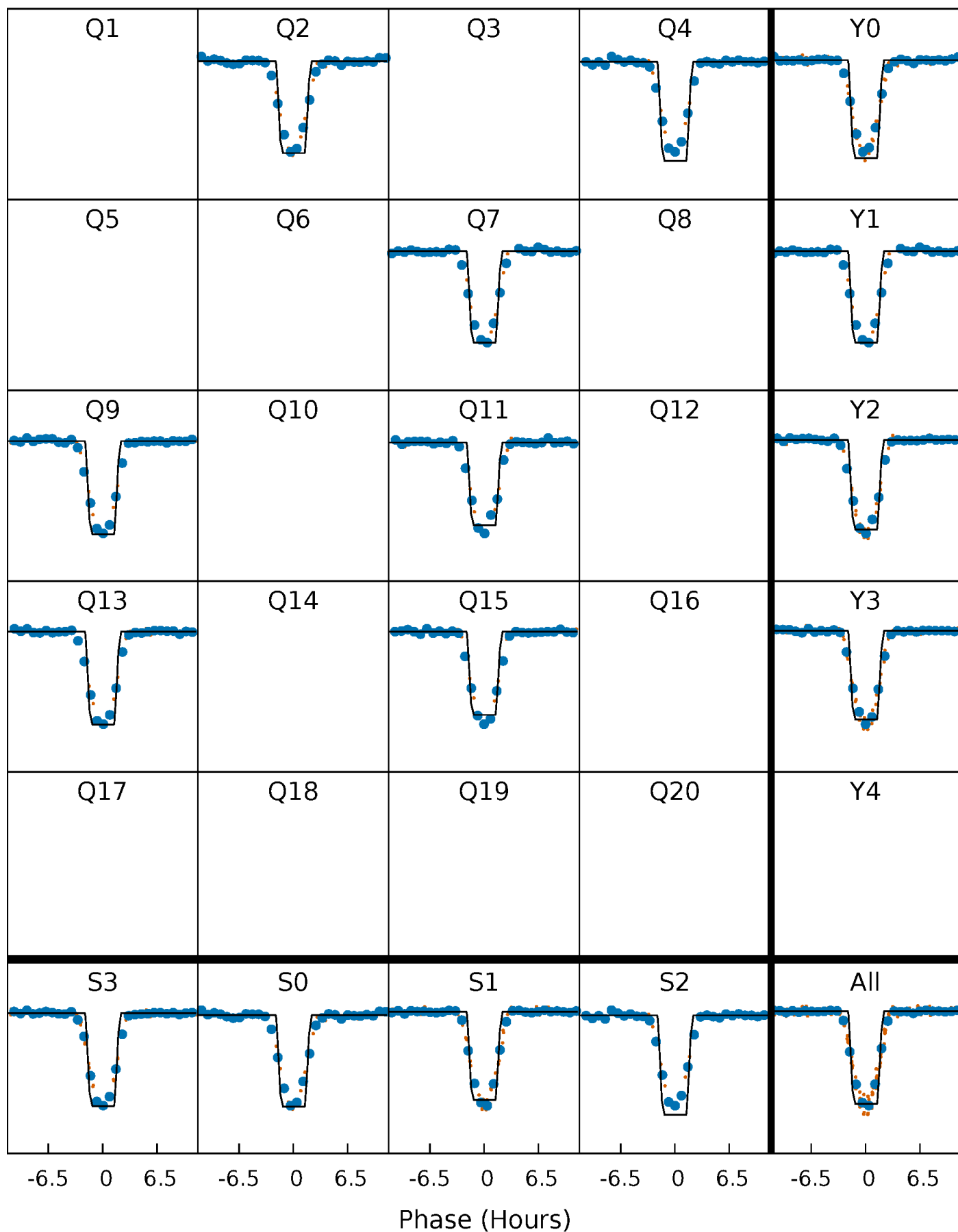
DV Quarter-Phased Transit Curves

TCE 002576107-01 P=205.583187 Days $T_0=234.746758$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

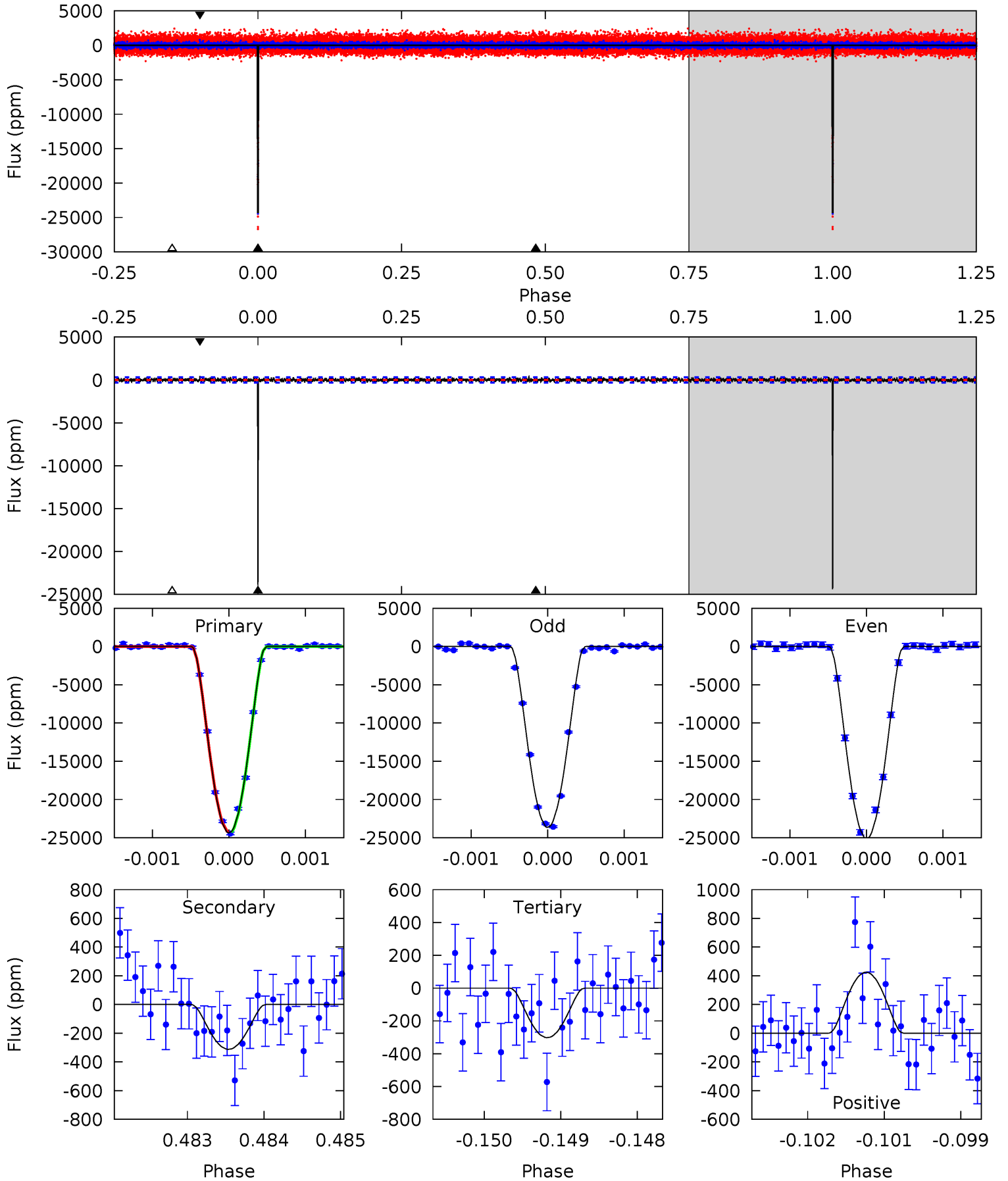
TCE 002576107-01 P=205.582687 Days $T_0=234.748202$ (BKJD)



DV Model-Shift Uniqueness Test

002576107-01, $P = 205.583187$ Days, $E = 29.163571$ Days

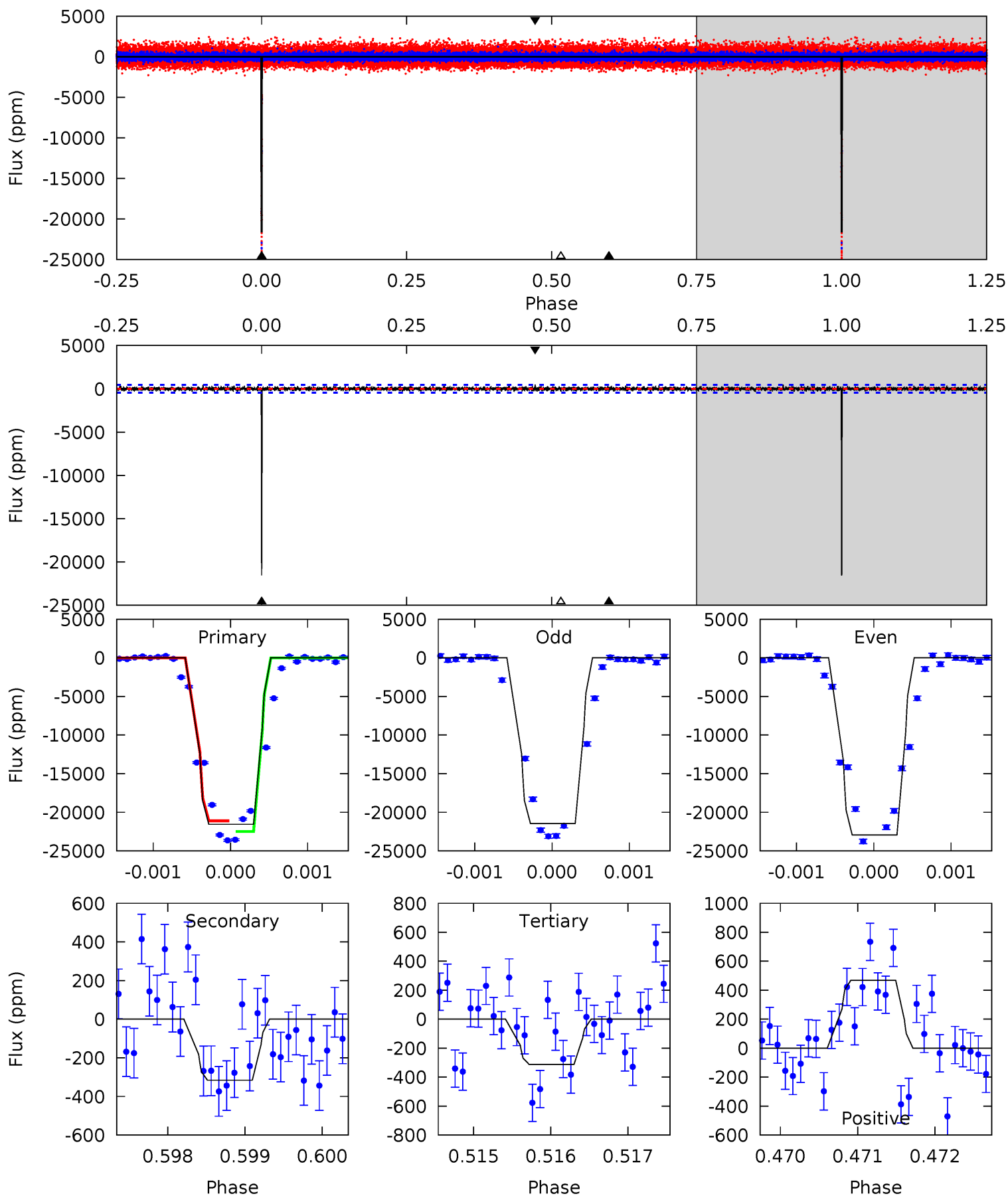
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
411.9	5.28	5.11	7.18	5.40	3.21	1.59	406.8	404.8	0.17	-1.90	12.7	1.01	0.02	0.16



Alt Model-Shift Uniqueness Test

002576107-01, P = 205.582687 Days, E = 29.165515 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
261.5	3.83	3.79	5.68	5.48	3.33	1.09	257.7	255.8	0.04	-1.85	9.36	1.01	0.02	8.24



Stellar Parameters For KIC 002576107

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6328^{+177}_{-244}	$4.516^{+0.039}_{-0.221}$	$-0.500^{+0.300}_{-0.300}$	$0.915^{+0.292}_{-0.091}$	$1.000^{+0.119}_{-0.132}$	$1.839^{+0.392}_{-0.990}$
	+3%/-4%	+1%/-5%	+60%/-60%	+32%/-10%	+12%/-13%	+21%/-54%
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 002576107-01 / KOI 3709.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-312 ± 59	$20.14^{+3.83}_{-2.32}$	464^{+35}_{-23}	2696^{+95}_{-97}	191^{+65}_{-59}
Alt.	-316 ± 82	$16.35^{+2.82}_{-2.24}$	463^{+37}_{-22}	2863^{+143}_{-140}	298^{+124}_{-109}

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

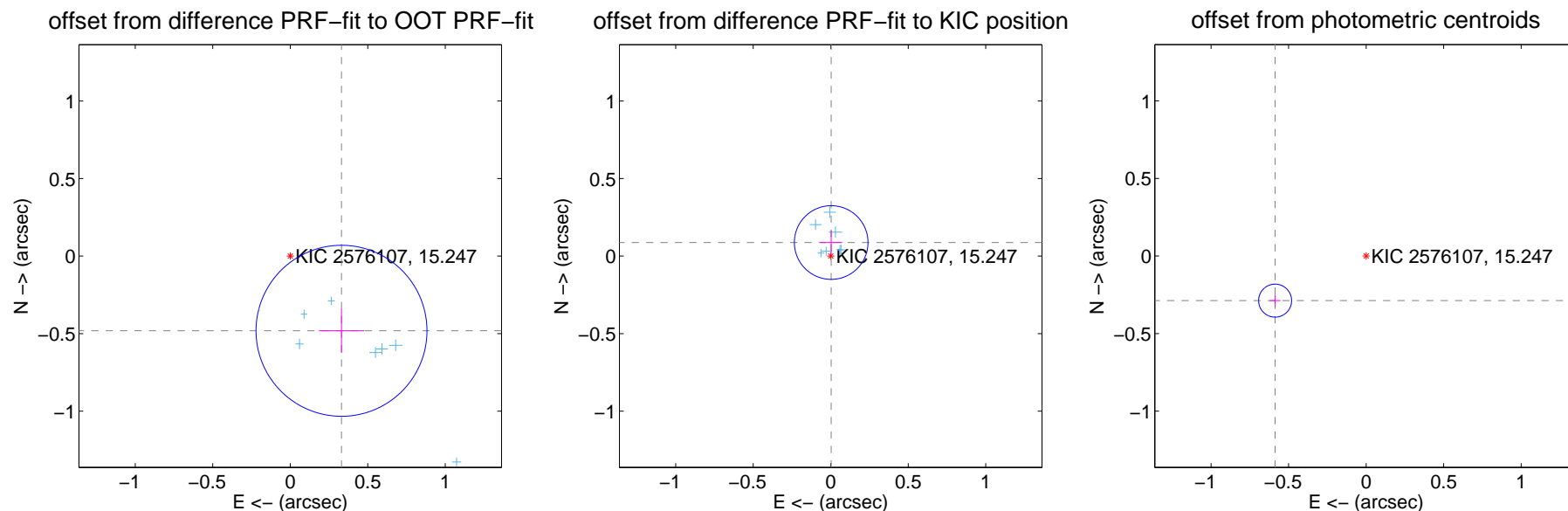
DV Centroid Data

Supplemental centroid analysis for 002576107-01. Kepler magnitude: 15.25. Transit SNR 229.80

There are 7 quarters with good PRF difference image offsets

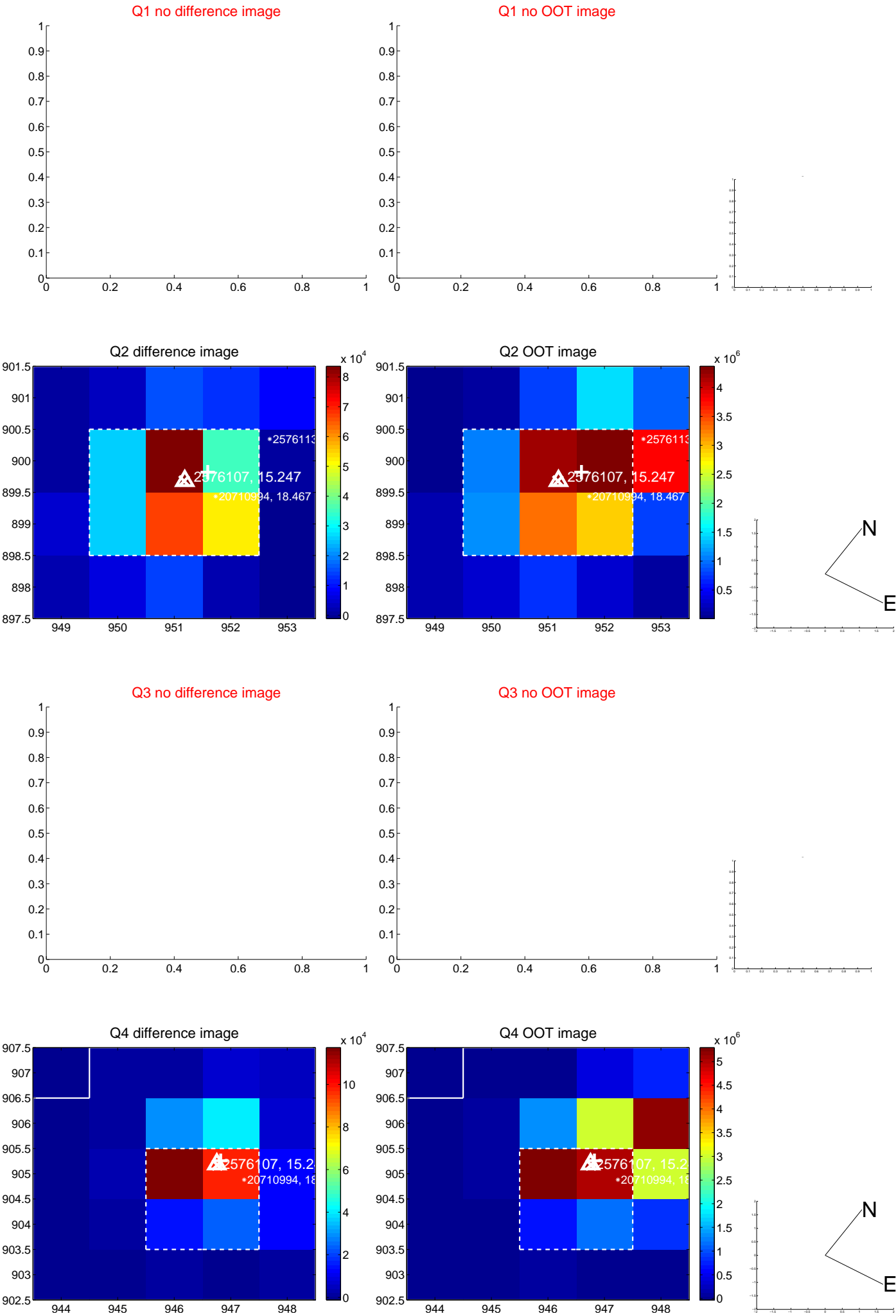
The direct PRF centroid is offset from the target star catalog position by about 1.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.584 ± 0.184	3.18	-0.331 ± 0.146	-0.482 ± 0.143
PRF-fit source offset from KIC position	0.087 ± 0.079	1.10	-0.003 ± 0.071	0.087 ± 0.079
photometric centroid source offset	0.65 ± 0.04	18.43	0.59 ± 0.03	-0.29 ± 0.04

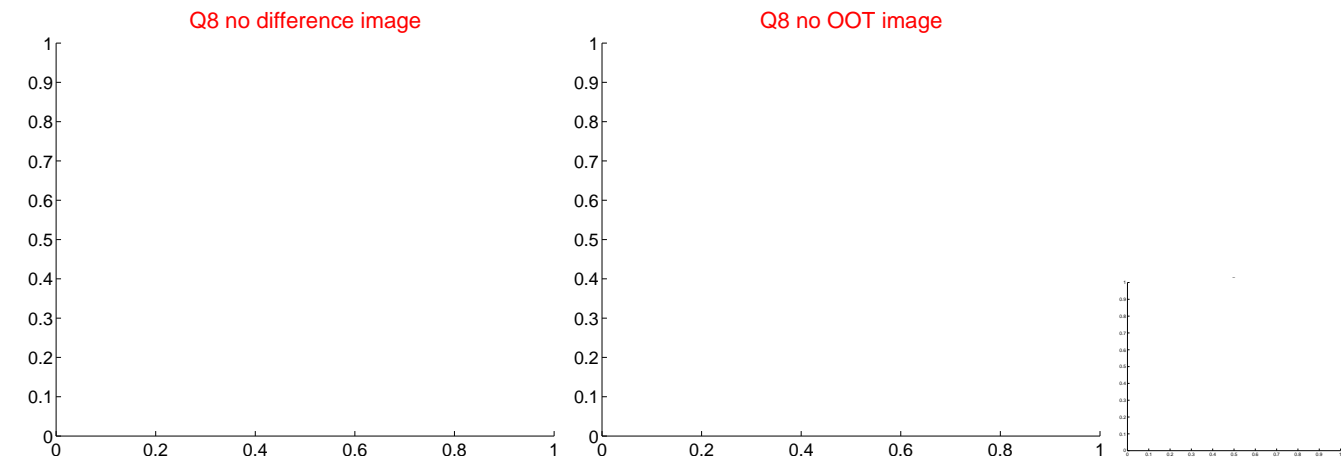
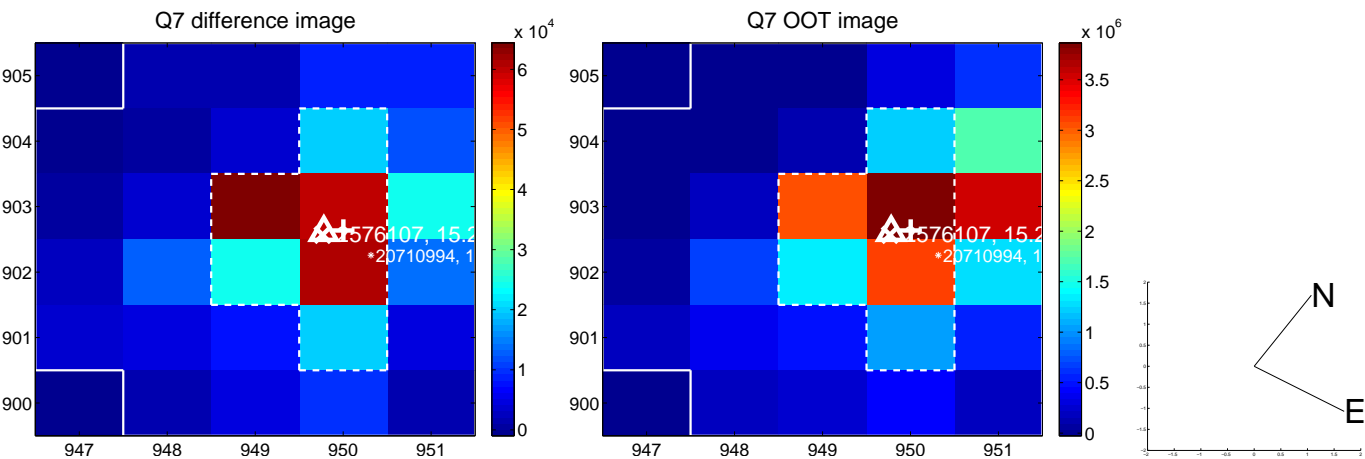


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

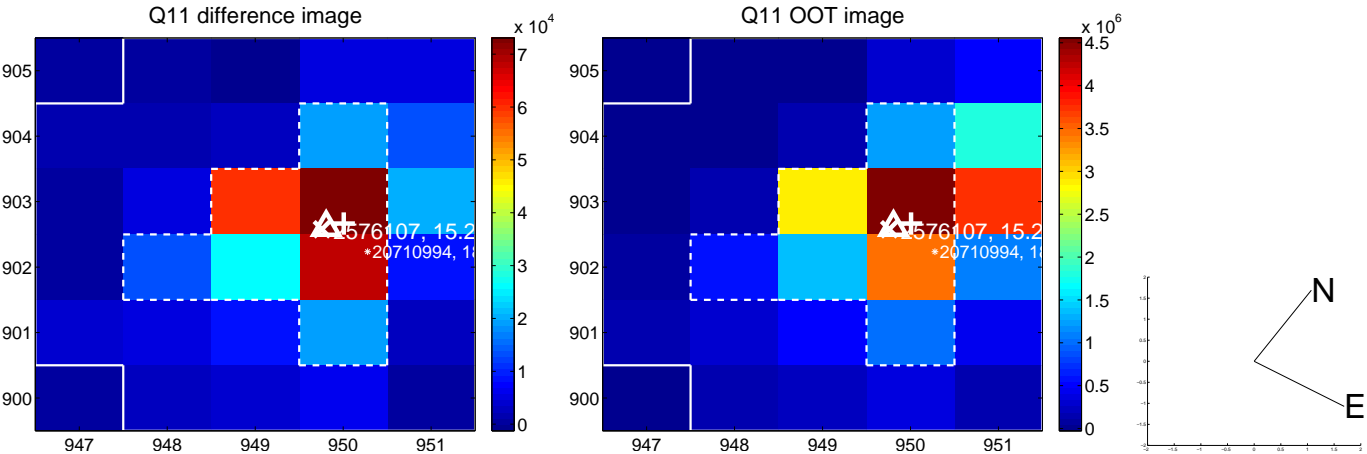
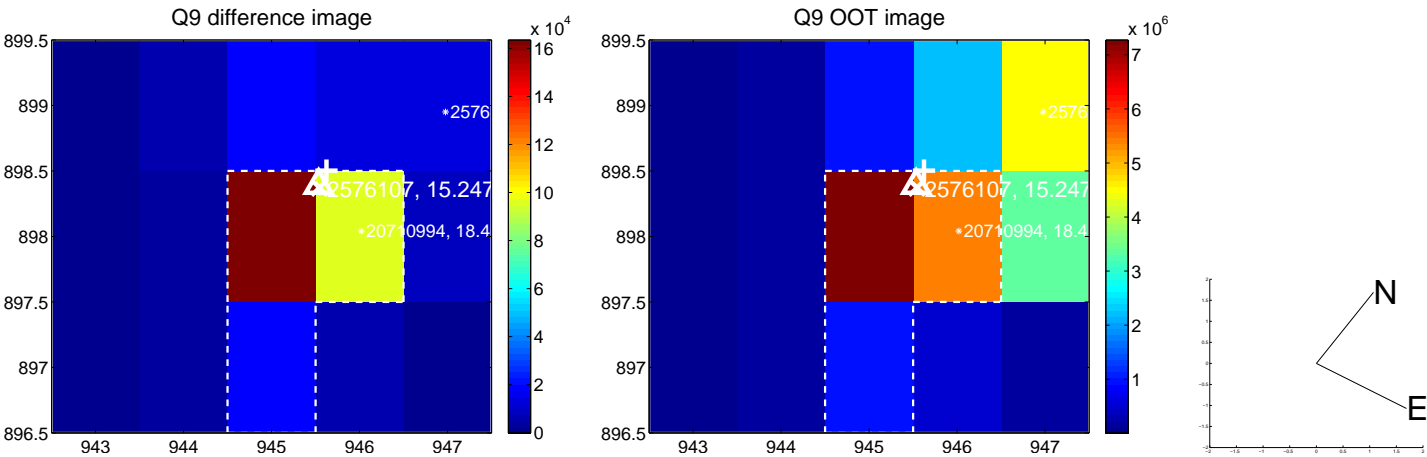
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



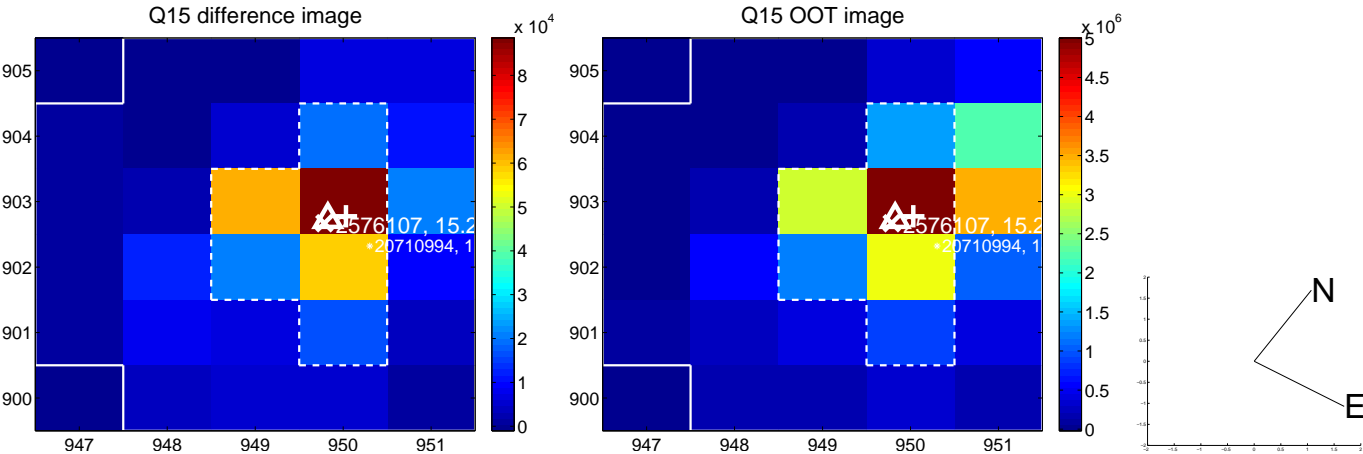
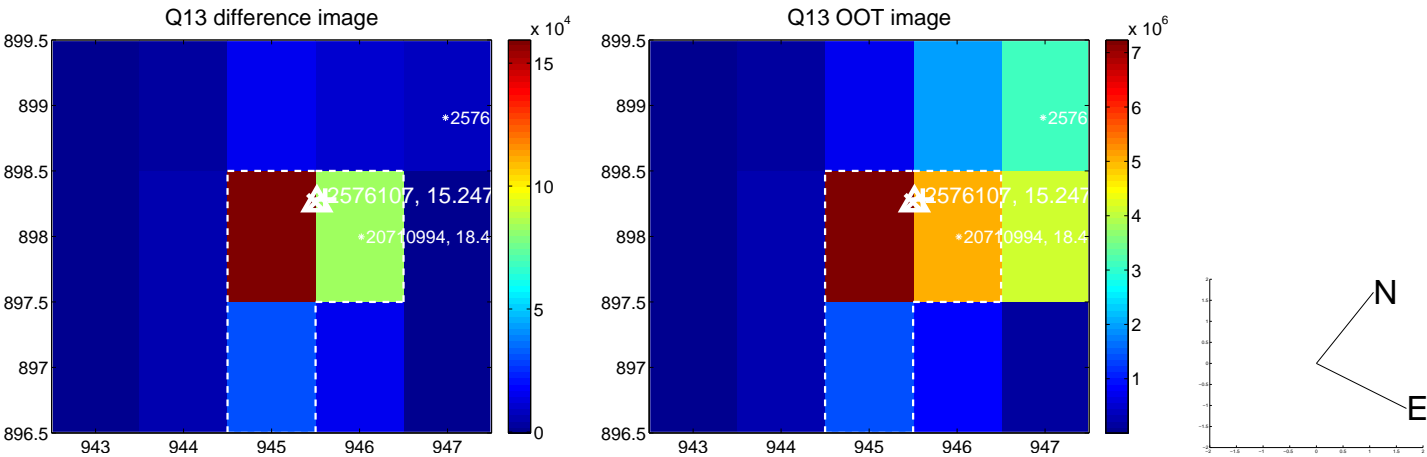
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



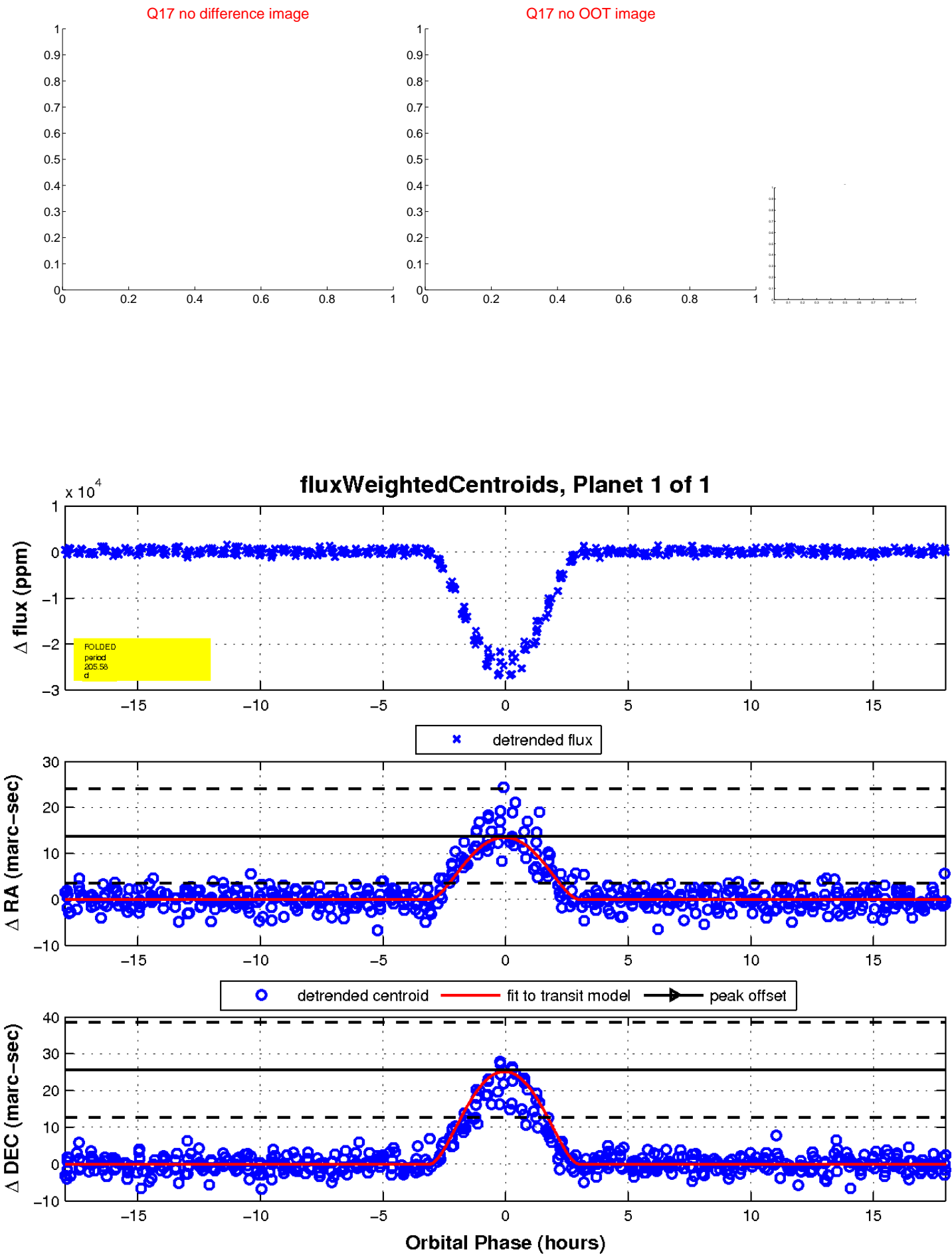
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

