

KIC 004165527

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})
004165527-01	OBS	No	199.503836	309.854486	639.2	6.727	7.3	7.1	0.93	5770	2.58	1.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004165527-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

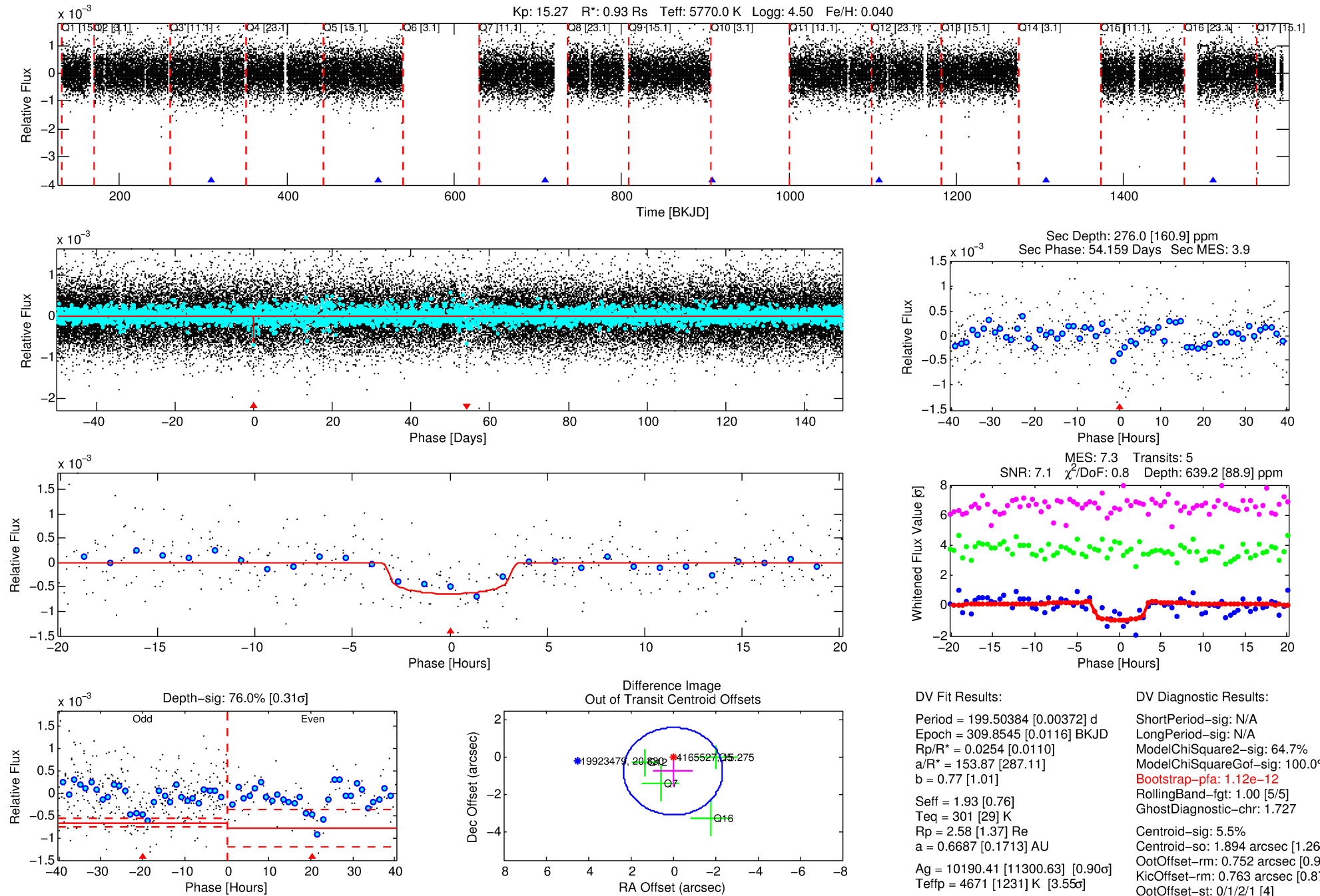
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004165527-01

No Significant Match Found

DV One-Page Summary

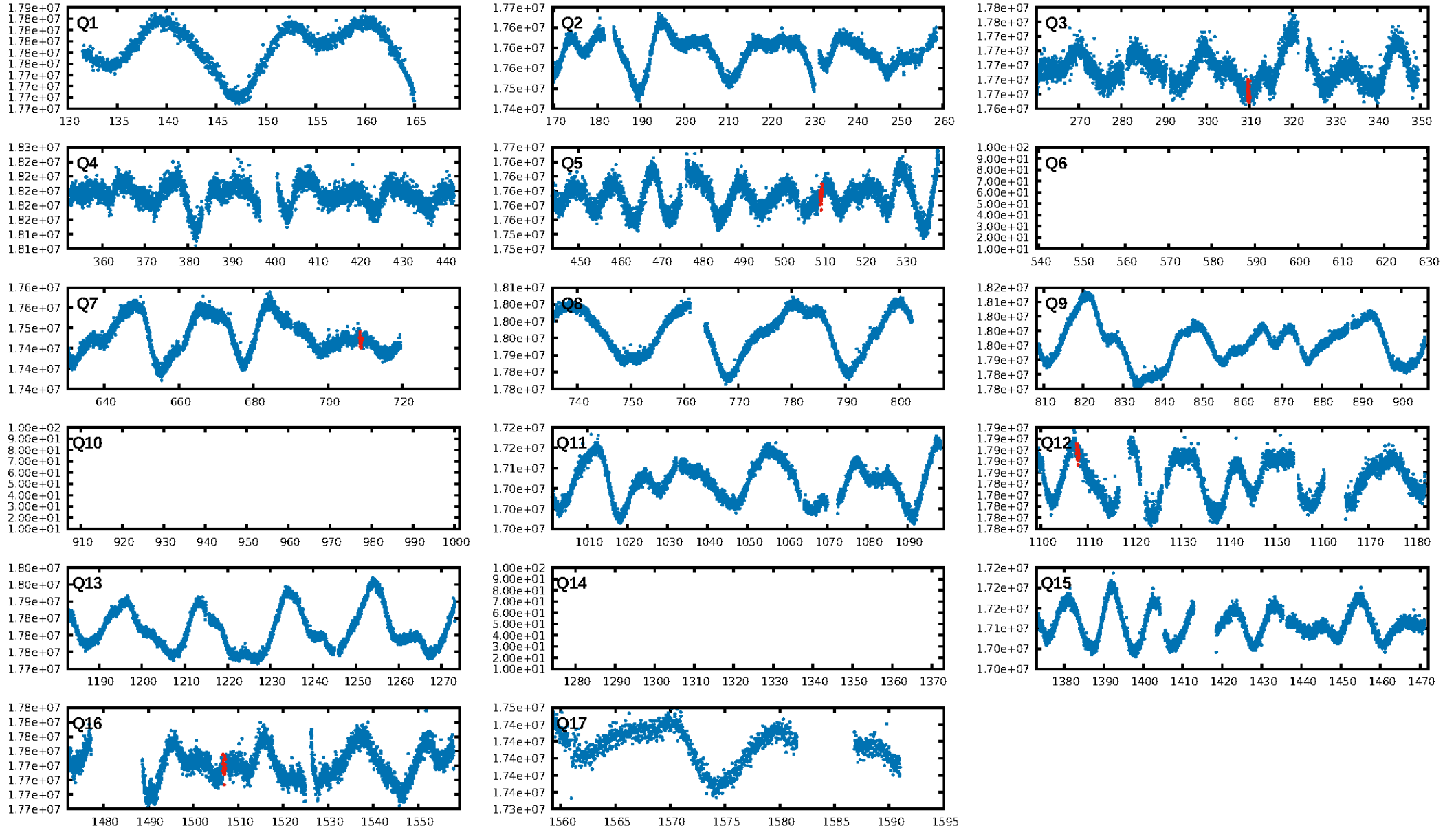
KIC: 4165527 Candidate: 1 of 1 Period: 199.504 d



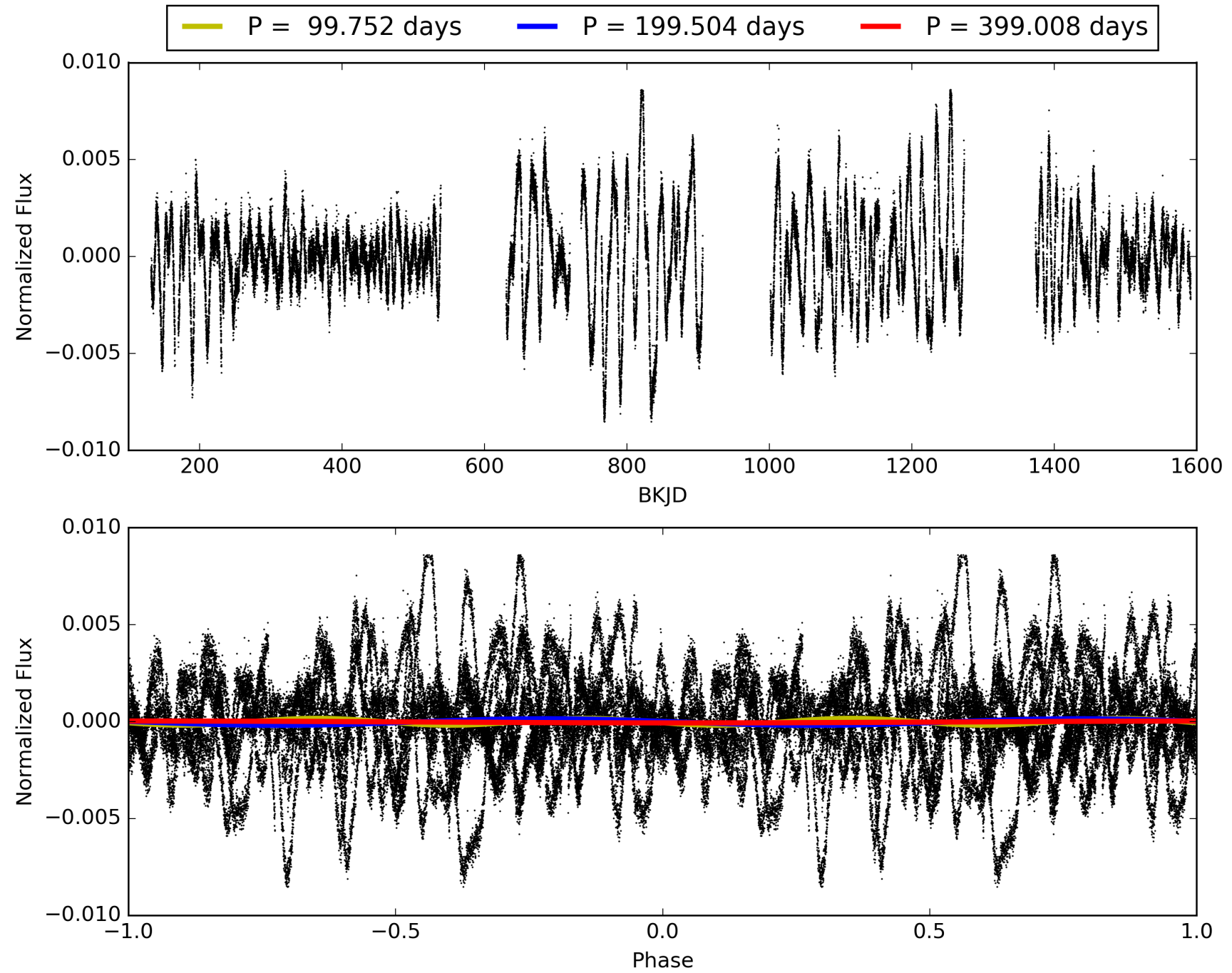
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:33:14 Z

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

TCE 004165527-01, PDC Light Curves

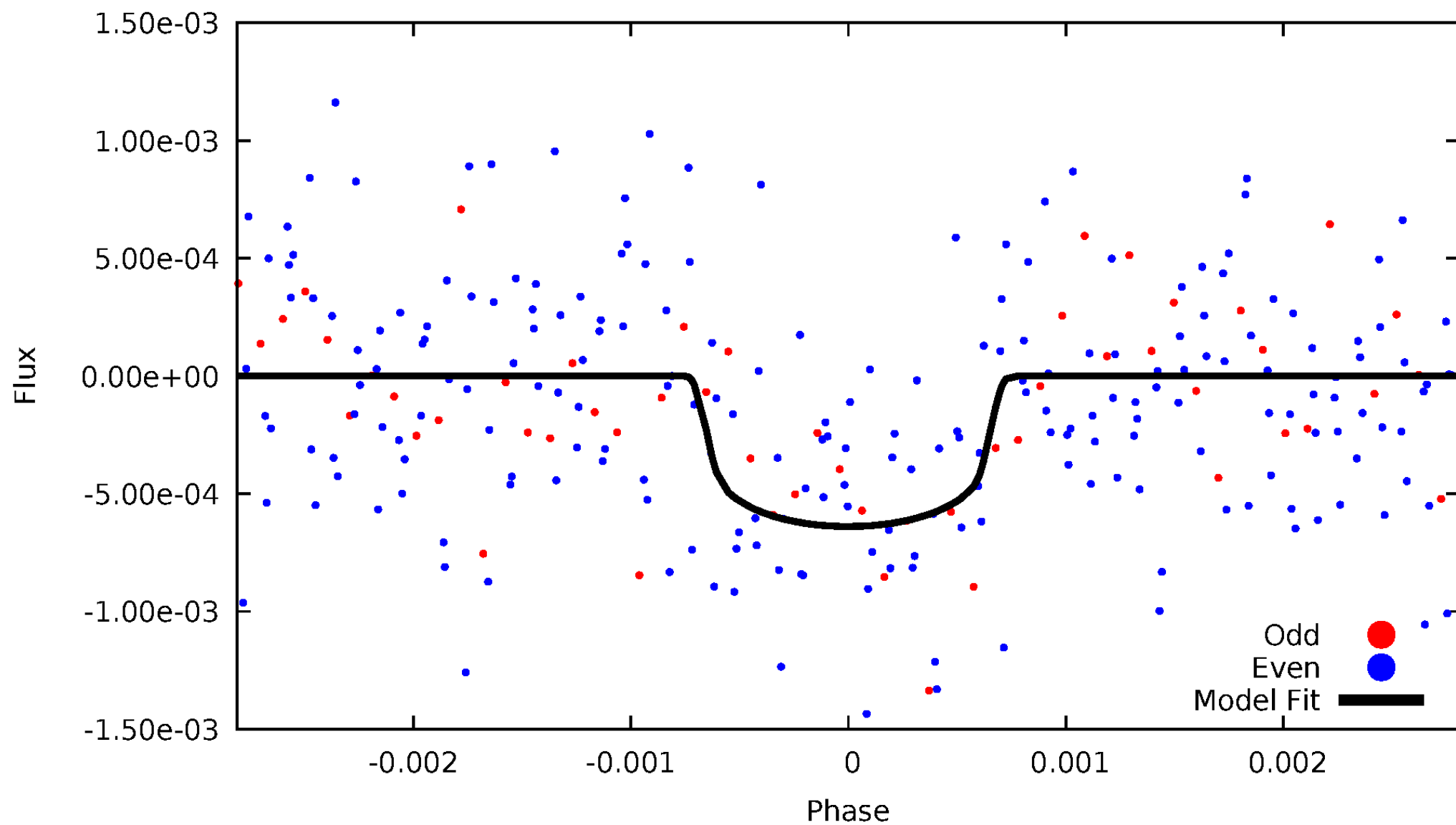


TCE 004165527-01



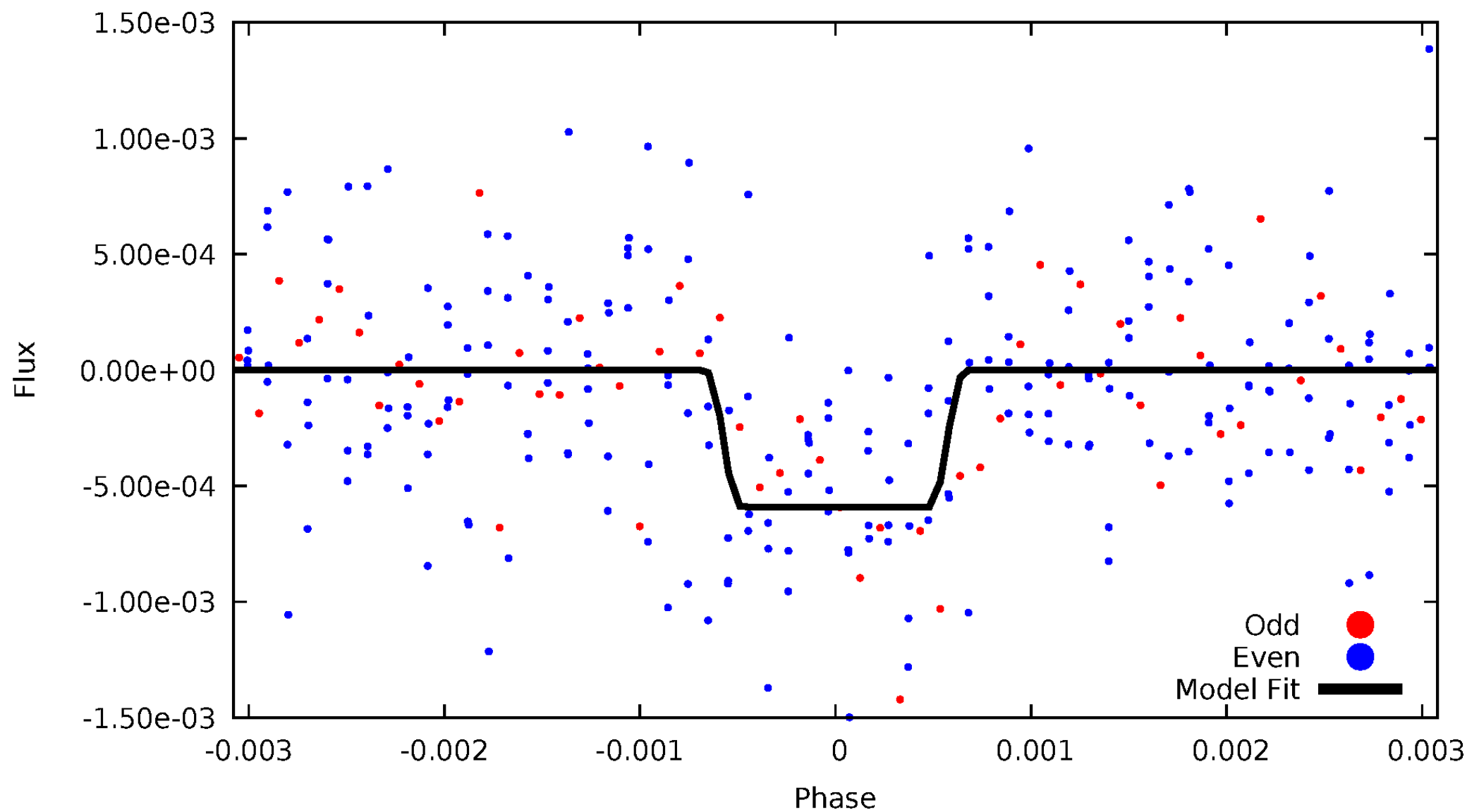
DV Odd/Even

TCE 004165527-01



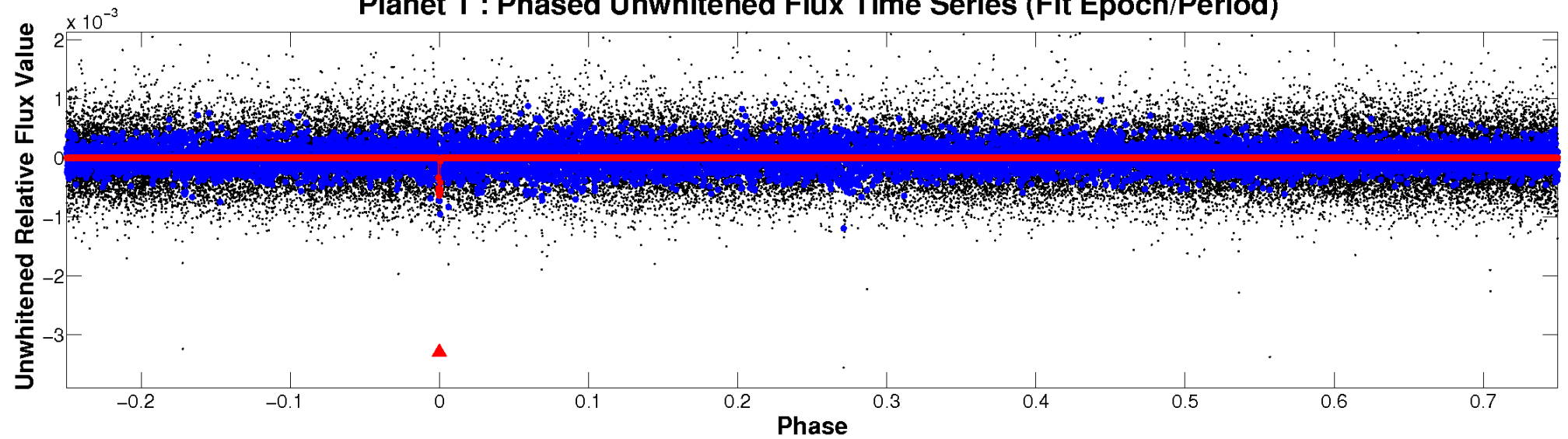
ALT Odd/Even

TCE 004165527-01

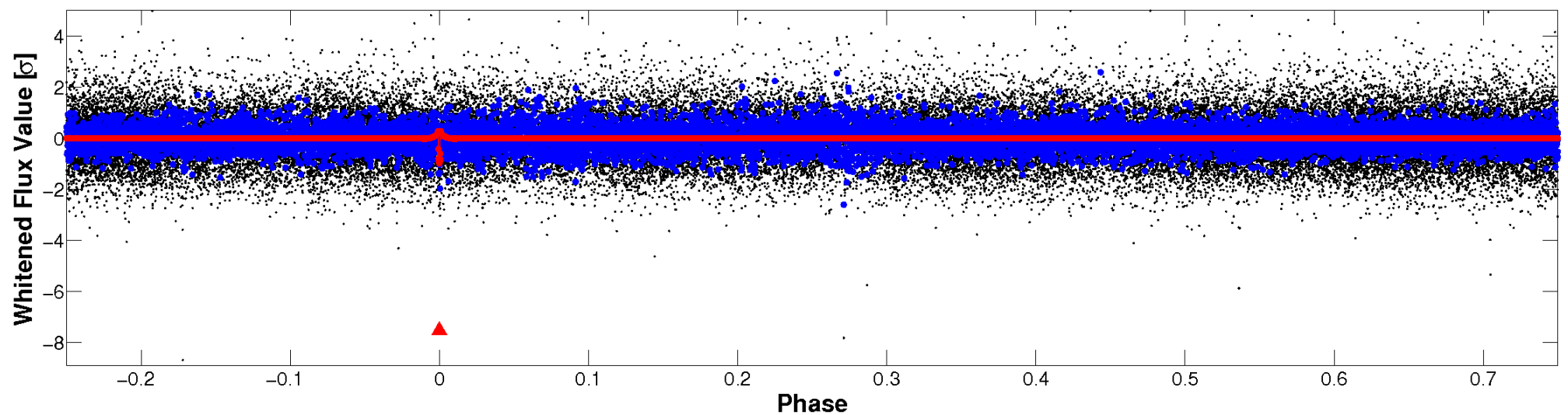


Non-Whitened Vs. Whitened Light Curve

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

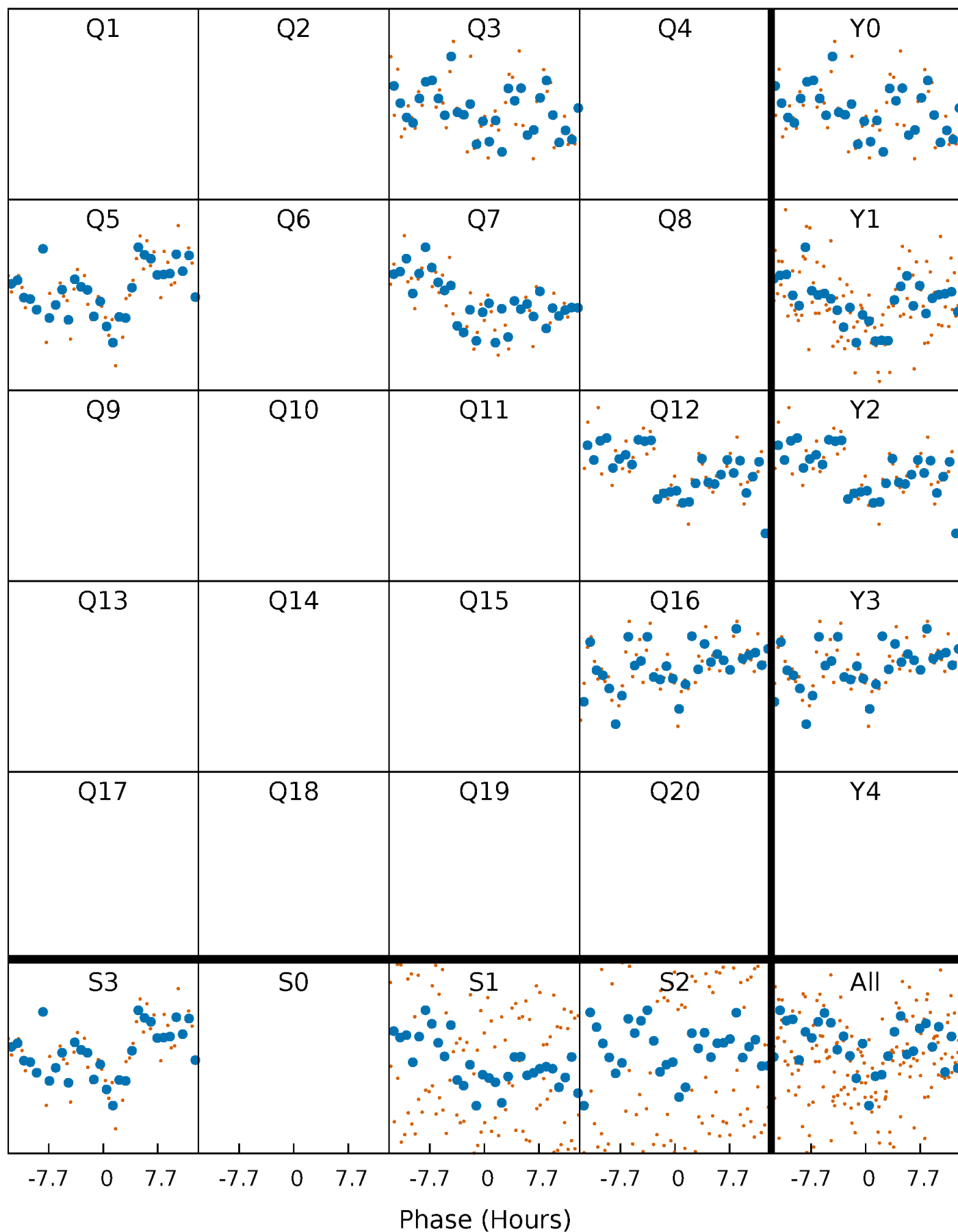


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



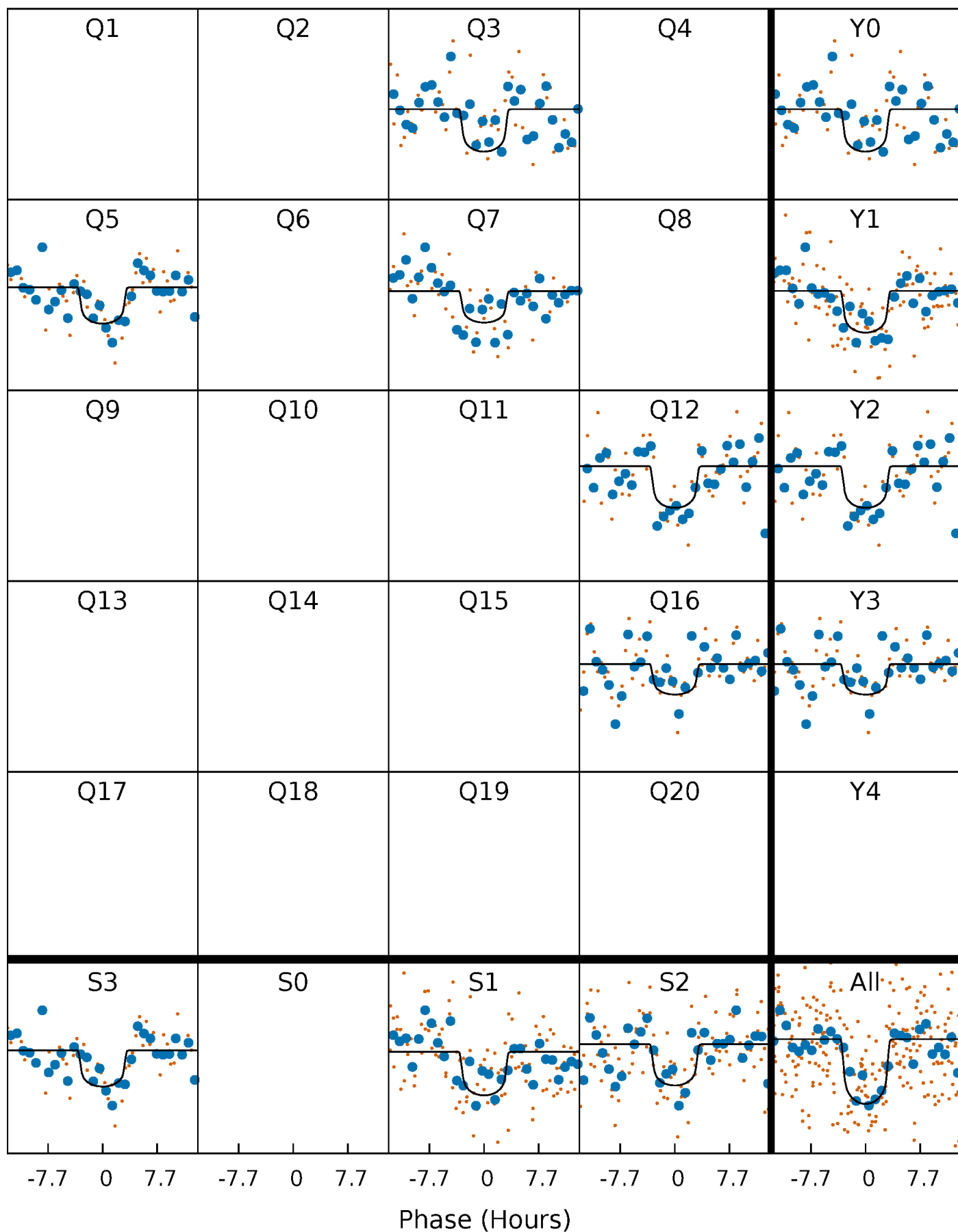
PDC Quarter-Phased Transit Curves

TCE 004165527-01 P=199.503836 Days $T_0=309.854486$ (BKJD)



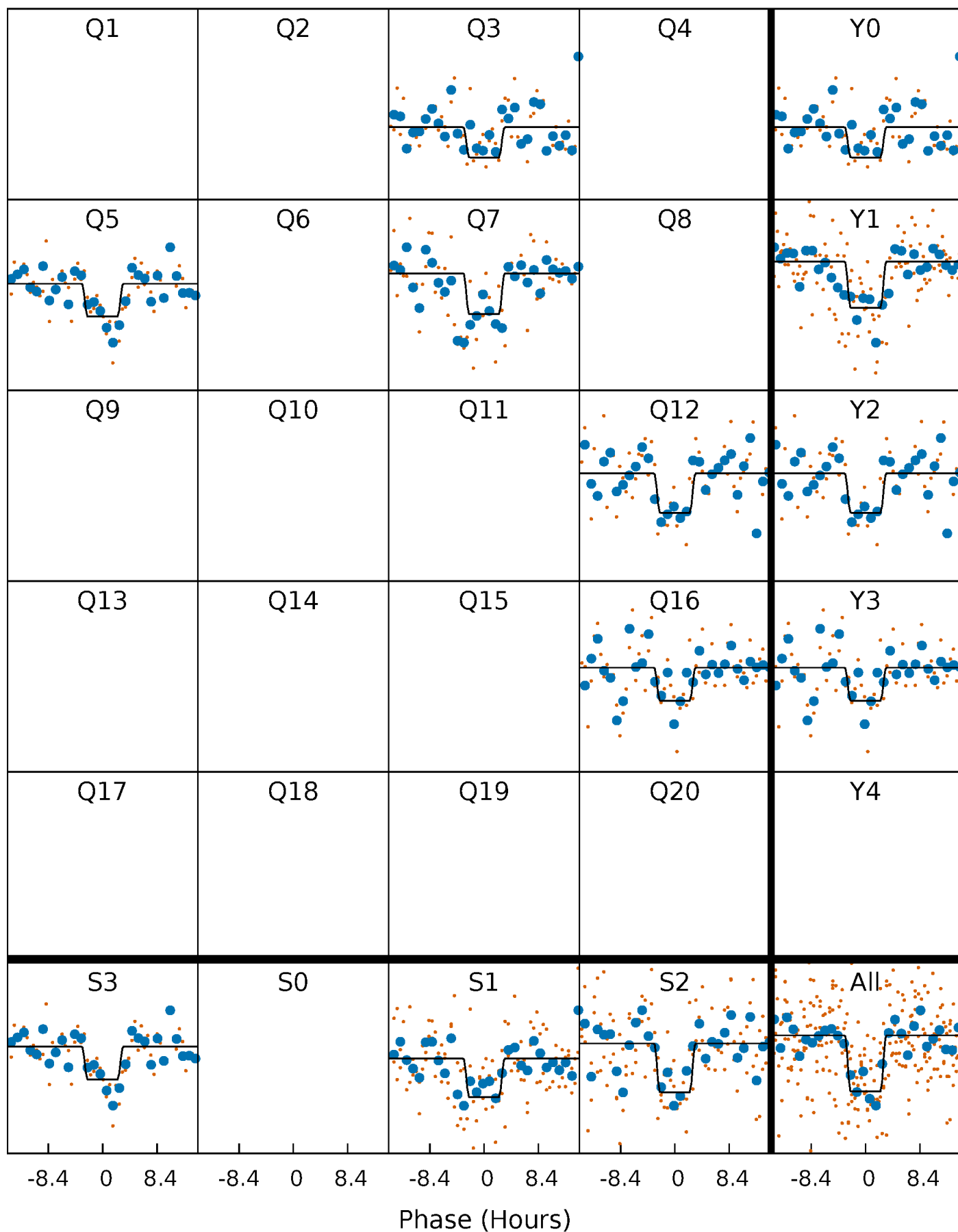
DV Quarter-Phased Transit Curves

TCE 004165527-01 P=199.503836 Days $T_0=309.854486$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

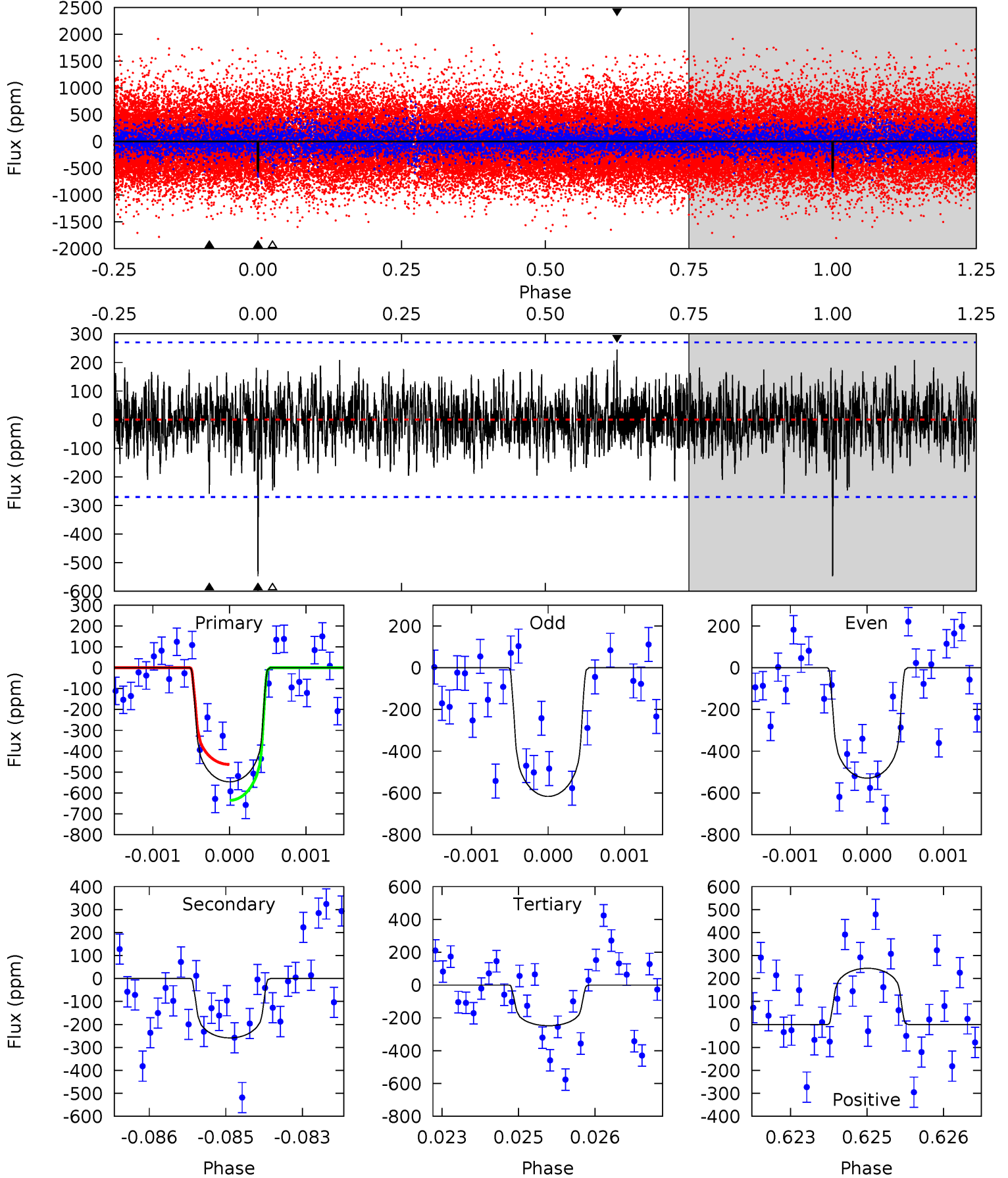
TCE 004165527-01 P=199.502821 Days $T_0=309.863387$ (BKJD)



DV Model-Shift Uniqueness Test

004165527-01, P = 199.503836 Days, E = 110.350650 Days

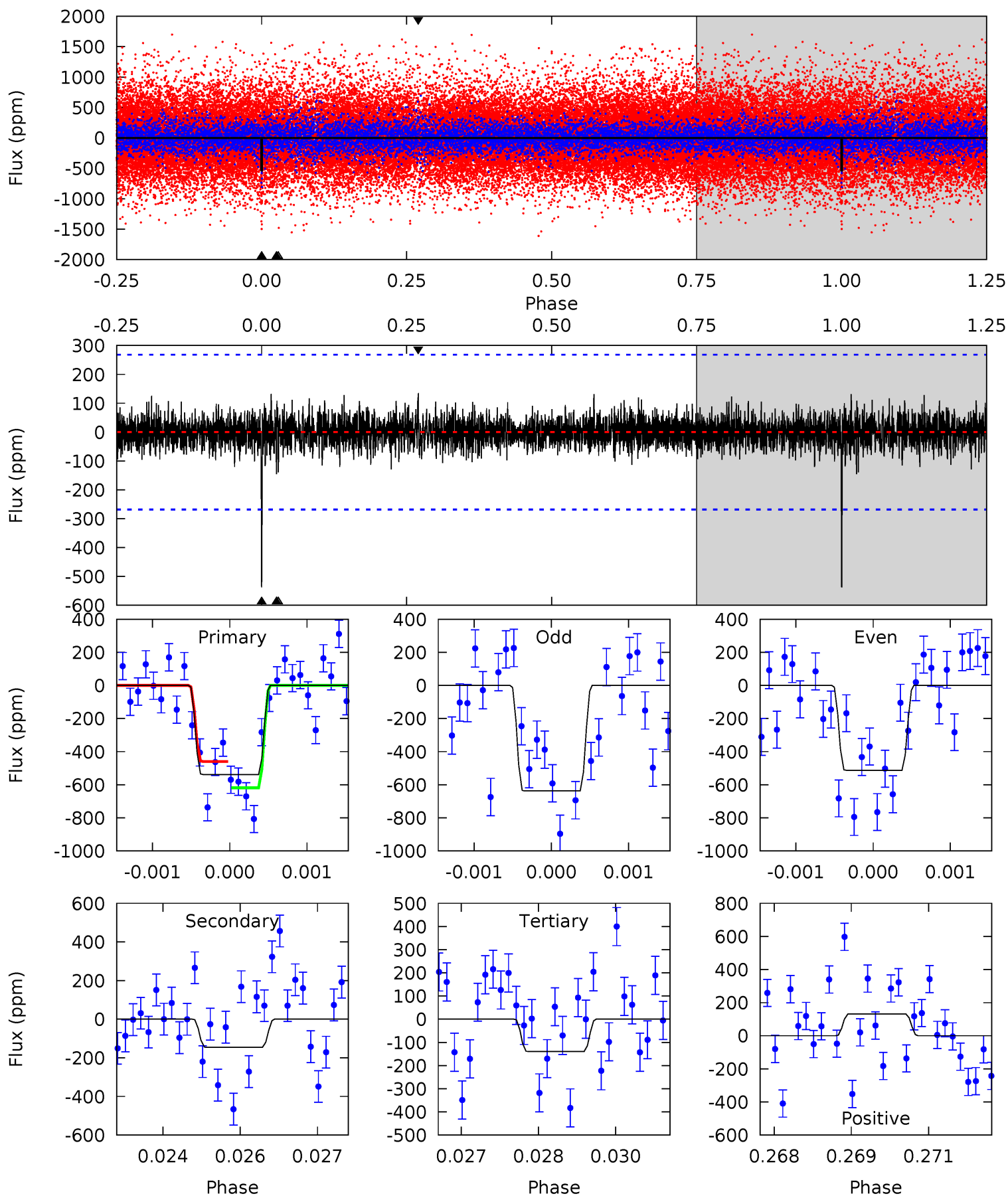
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	5.16	4.94	4.87	5.38	3.18	1.36	5.96	6.02	0.22	0.28	0.71	0.89	0.31	1.72



Alt Model-Shift Uniqueness Test

004165527-01, P = 199.502821 Days, E = 110.360566 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	2.93	2.81	2.66	5.41	3.22	0.70	8.03	8.18	0.12	0.27	1.03	0.85	0.20	1.60



Stellar Parameters For KIC 004165527

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5770^{+156}_{-190}	$4.499^{+0.050}_{-0.200}$	$0.040^{+0.250}_{-0.300}$	$0.933^{+0.287}_{-0.096}$	$1.001^{+0.114}_{-0.125}$	$1.736^{+0.373}_{-0.902}$
	+3%/-3%	+1%/-4%	+625%/-750%	+31%/-10%	+11%/-12%	+21%/-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 004165527-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-259 ± 50	$2.79^{+1.19}_{-1.23}$	428^{+30}_{-21}	4685^{+1406}_{-651}	8272^{+17780}_{-4382}
Alt.	-145 ± 50	$2.60^{+1.39}_{-1.18}$	428^{+30}_{-22}	4238^{+1228}_{-585}	4904^{+13091}_{-2909}

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 $A_{obs} \gg 1.0$

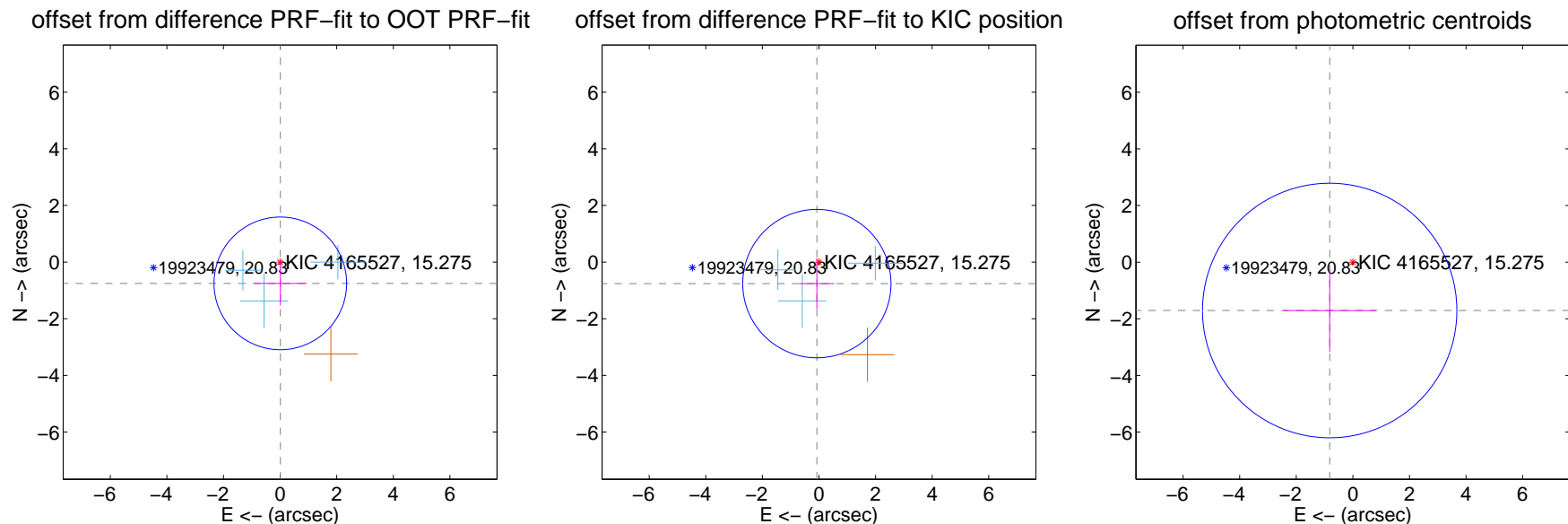
DV Centroid Data

Supplemental centroid analysis for 004165527-01. Kepler magnitude: 15.28. Transit SNR 7.11

There are 3 quarters with good PRF difference image offsets

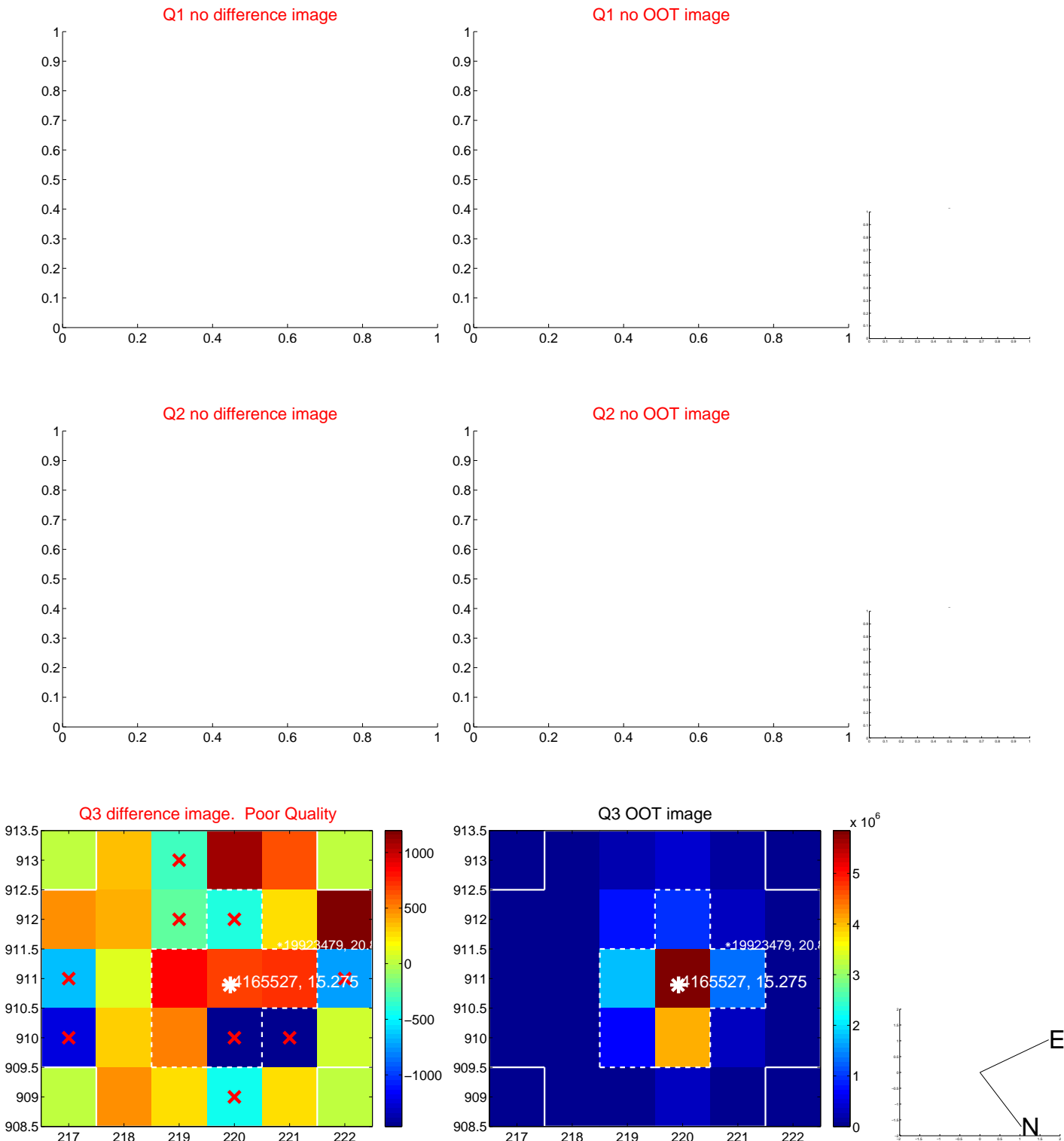
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.752 ± 0.781	0.96	-0.007 ± 0.932	-0.751 ± 0.781
PRF-fit source offset from KIC position	0.763 ± 0.873	0.87	0.075 ± 0.615	-0.760 ± 0.894
photometric centroid source offset	1.89 ± 1.50	1.26	0.82 ± 1.64	-1.71 ± 1.46

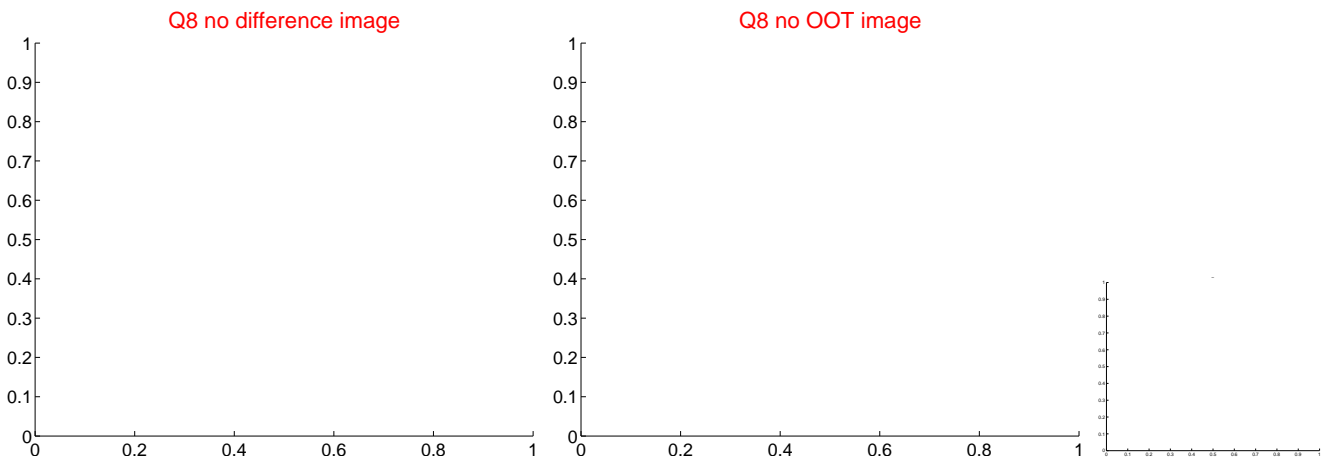
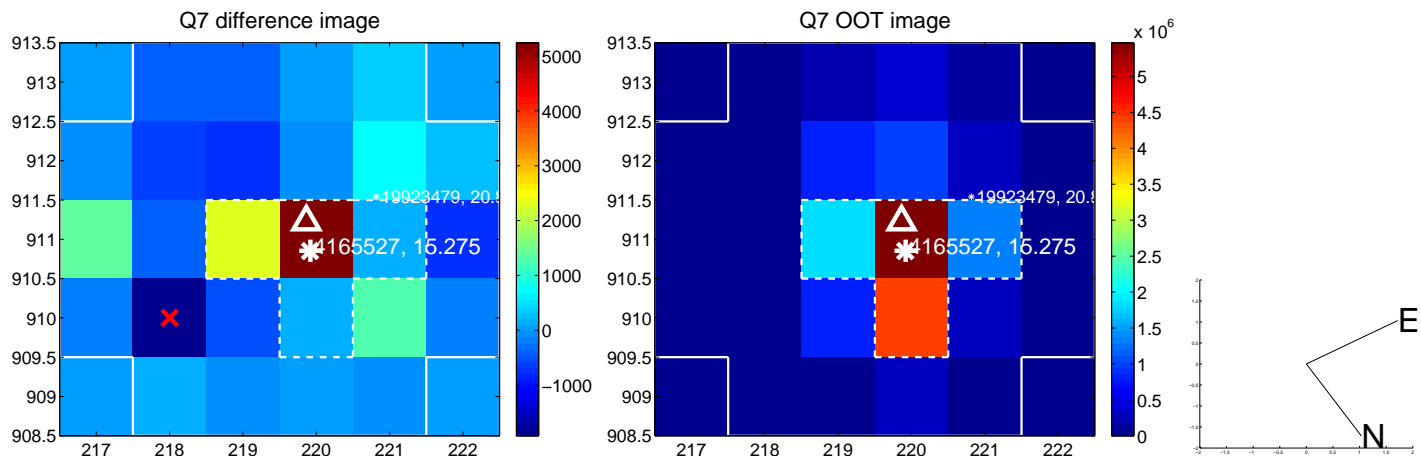
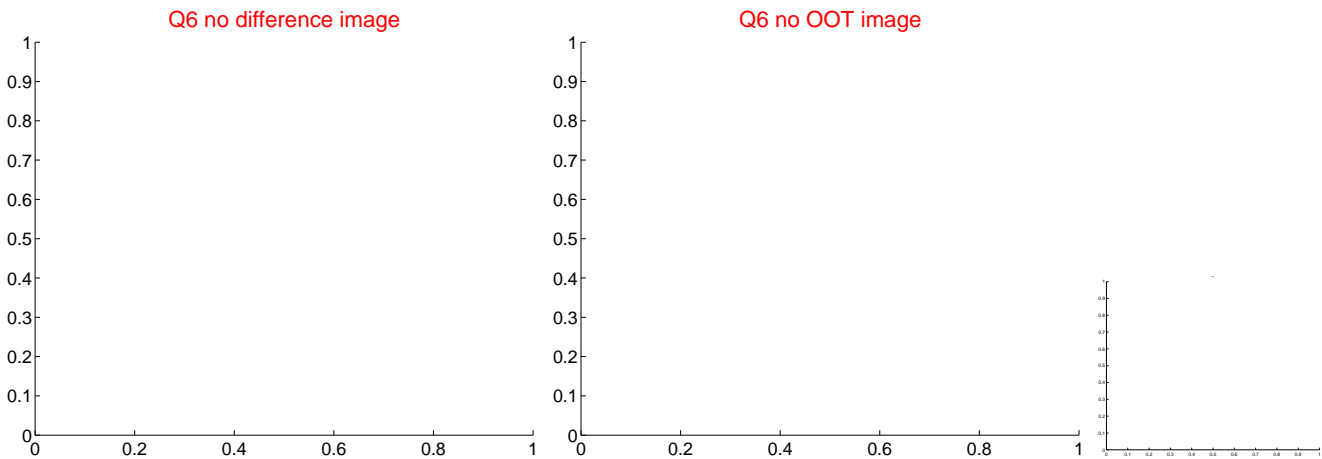
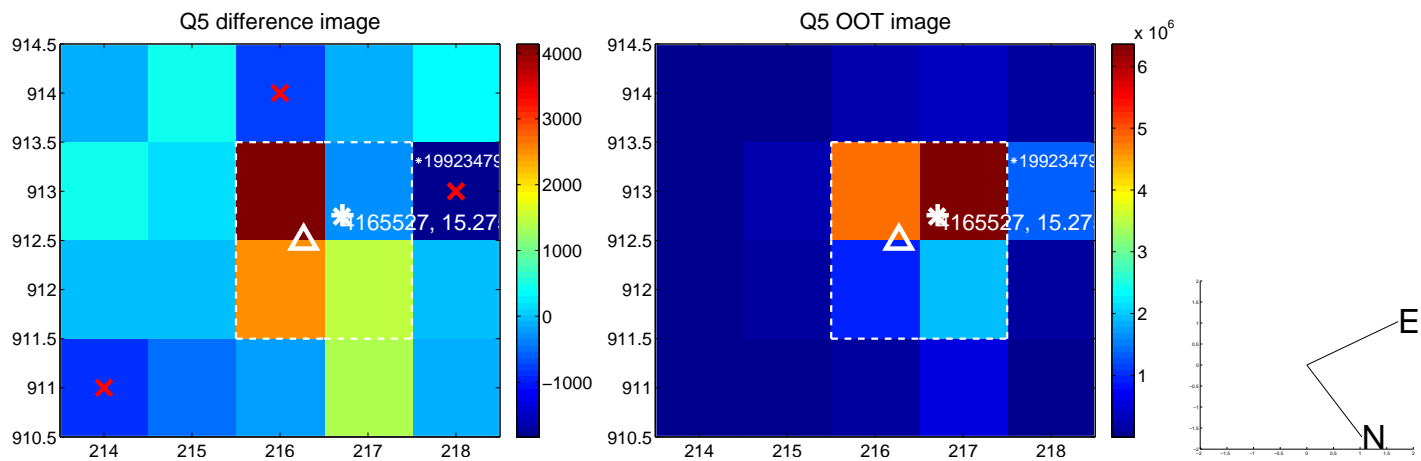


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

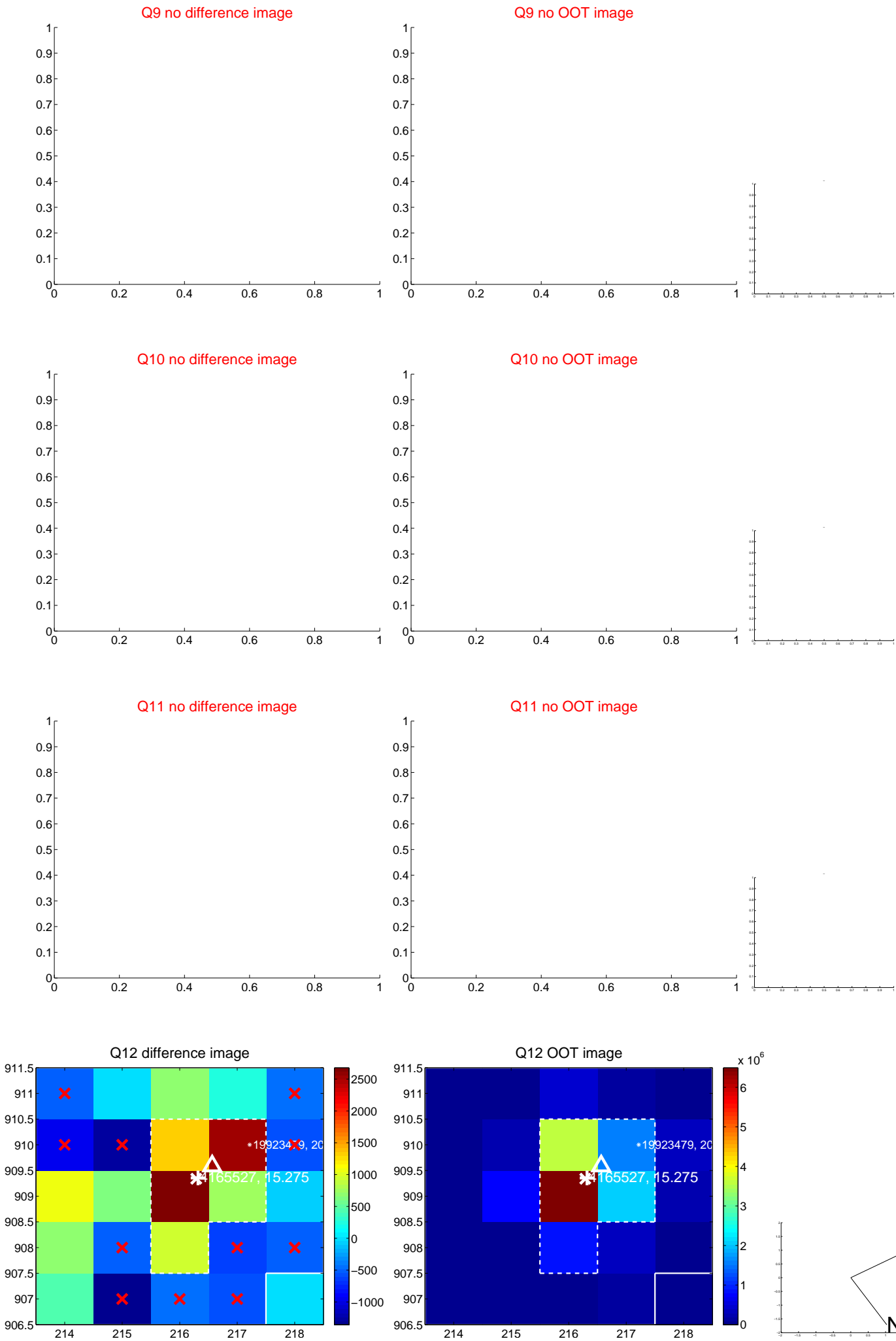
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



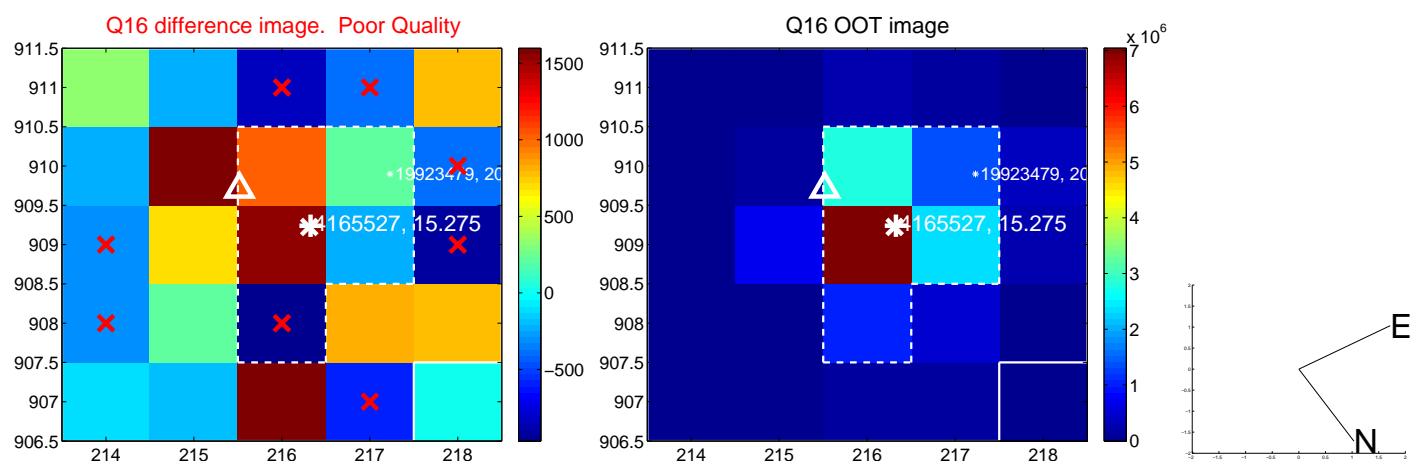
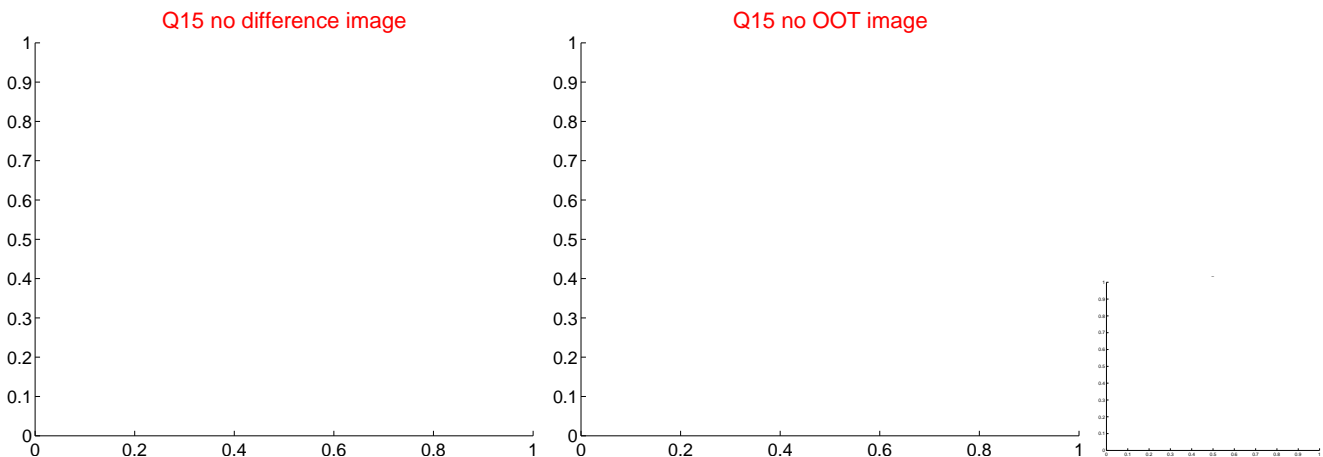
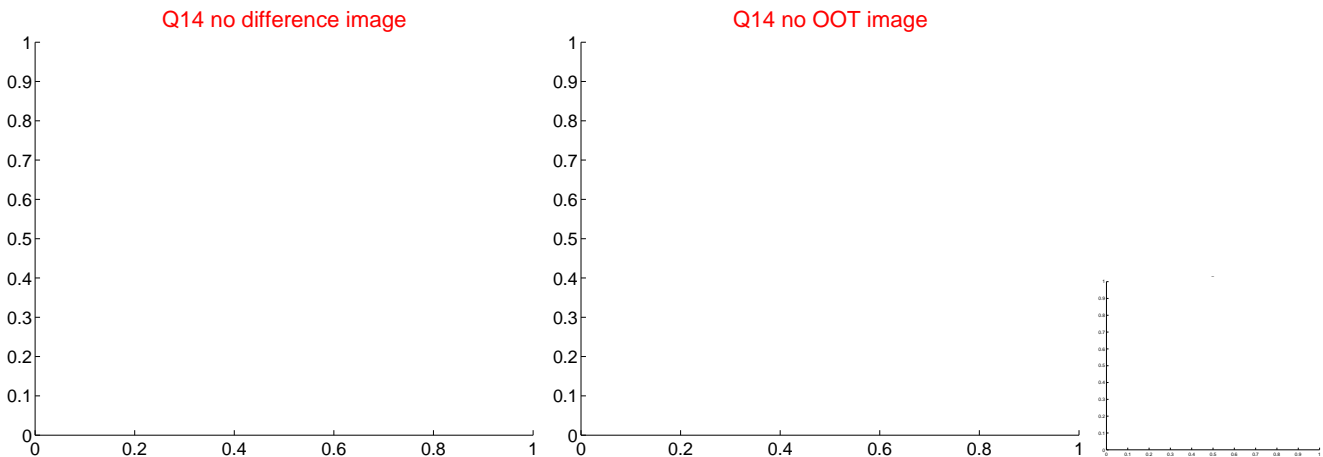
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



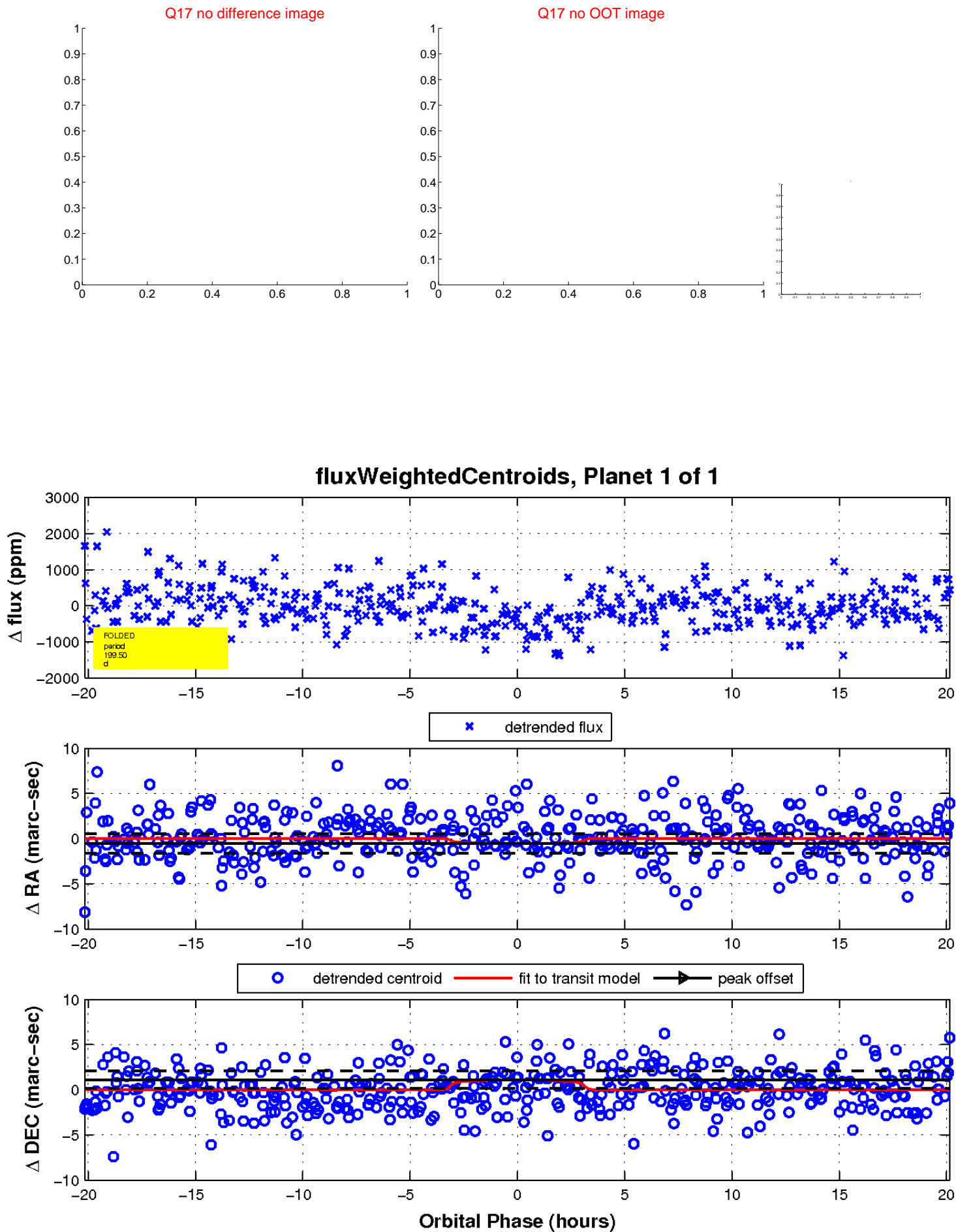
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

