

KIC 005516246

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})
005516246-01	OBS	No	549.190084	202.645359	123.4	12.888	8.2	6.5	1.17	5869	1.67	0.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005516246-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

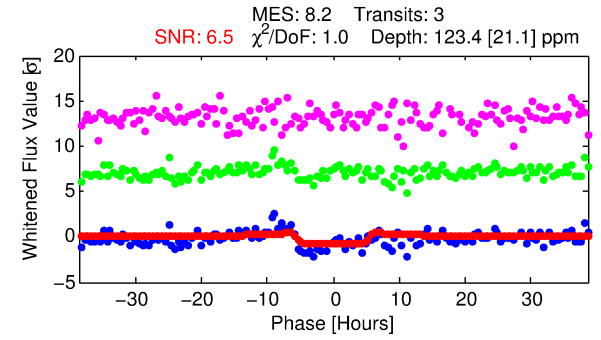
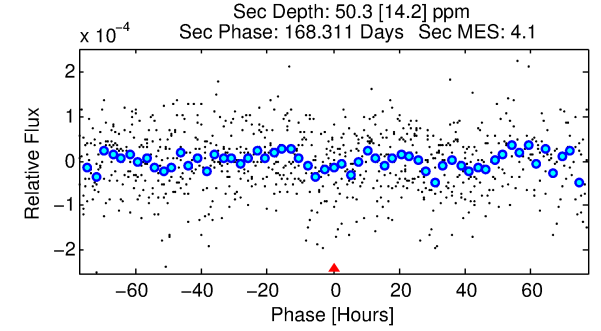
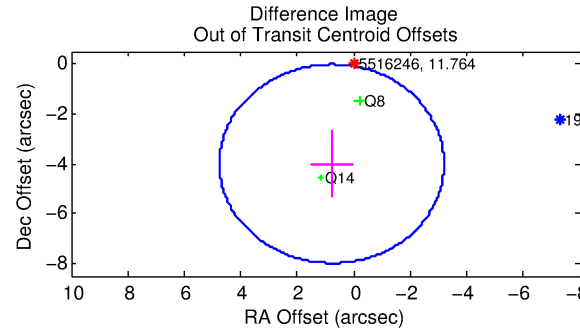
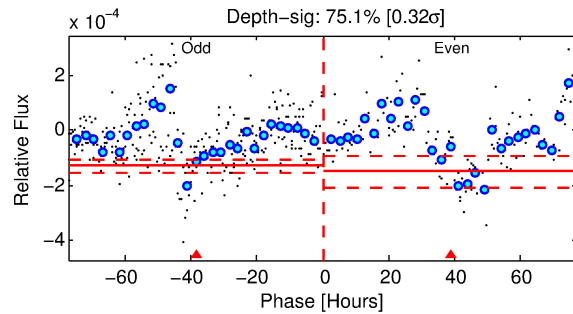
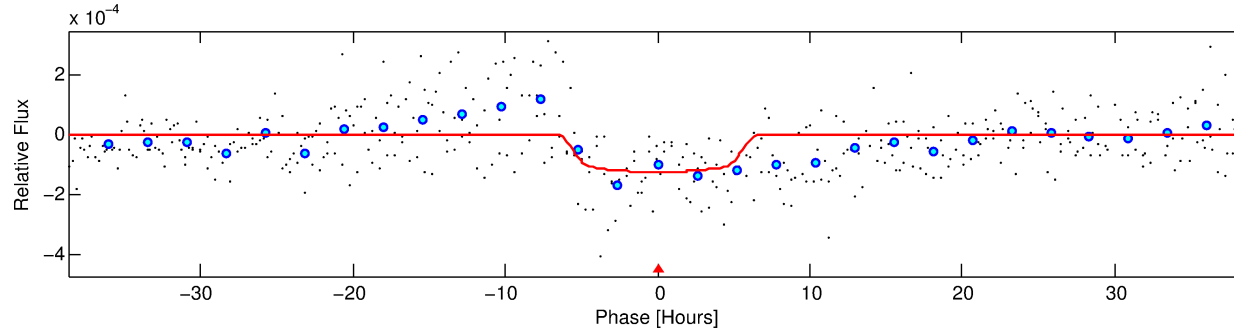
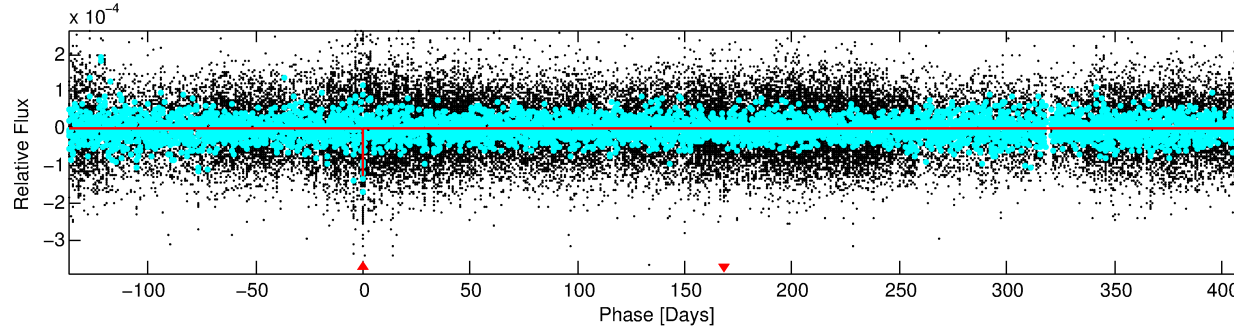
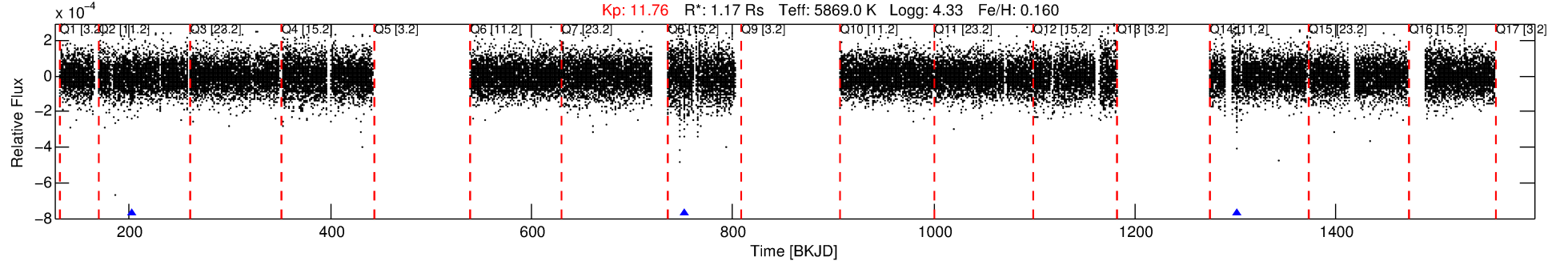
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005516246-01

No Significant Match Found

DV One-Page Summary

KIC: 5516246 Candidate: 1 of 1 Period: 549.190 d



DV Fit Results:

Period = 549.19008 [0.01731] d
Epoch = 202.6454 [0.0215] BKJD
Rp/R* = 0.0130 [0.0016]
a/R* = 109.51 [46.70]
b = 0.96 [0.04]
Seff = 0.81 [0.23]
Teq = 242 [17] K
Rp = 1.67 [0.39] Re
a = 1.3421 [0.2315] AU
Ag = 17915.36 [8171.76] [2.19 σ]
Teff = 4328 [428] K [9.53 σ]

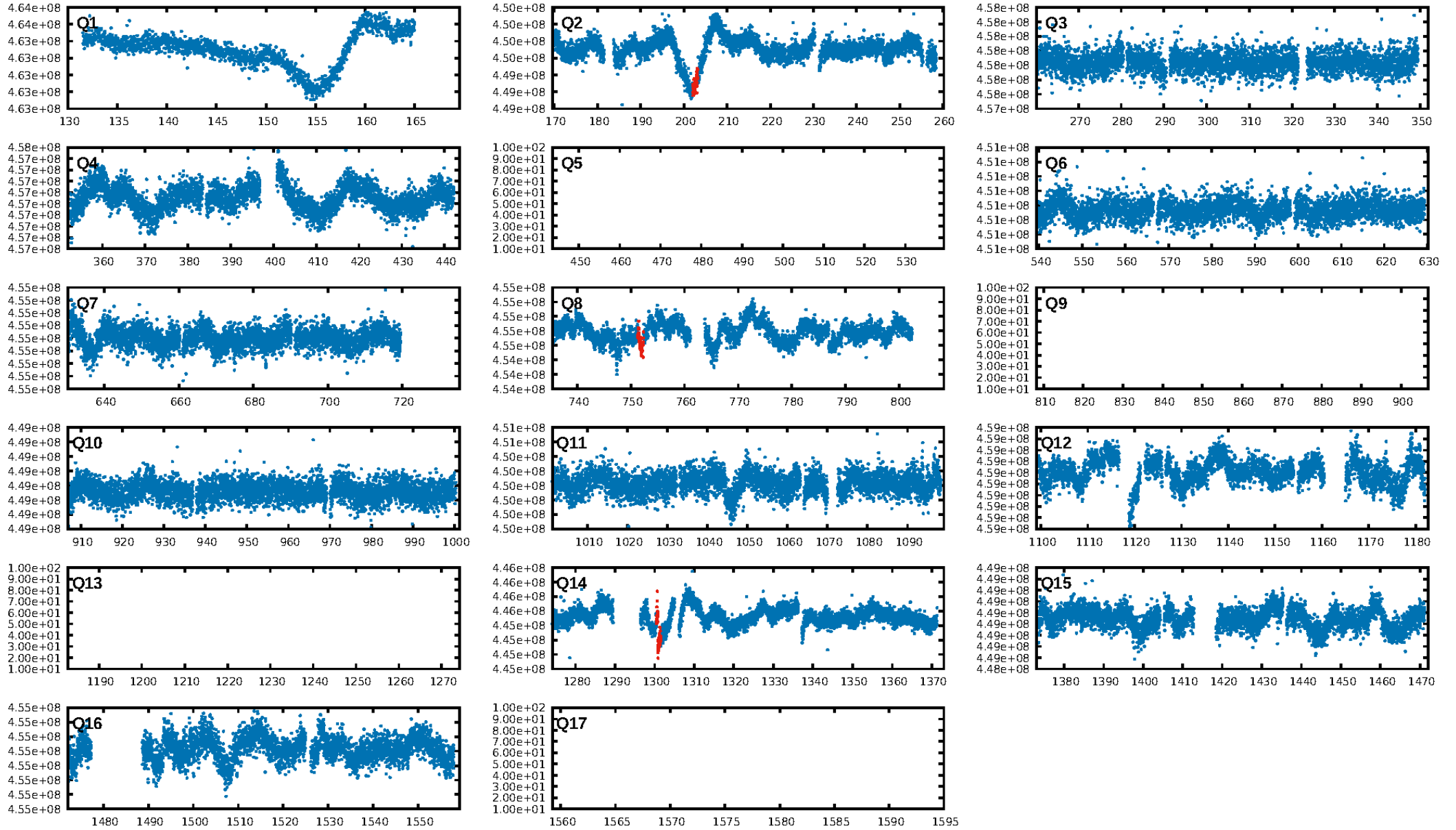
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.3%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 5.04e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.561
Centroid-sig: 2.4%
Centroid-so: 3.772 arcsec [1.77 σ]
OotOffset-rm: 4.079 arcsec [3.07 σ]
KicOffset-rm: 4.504 arcsec [3.38 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

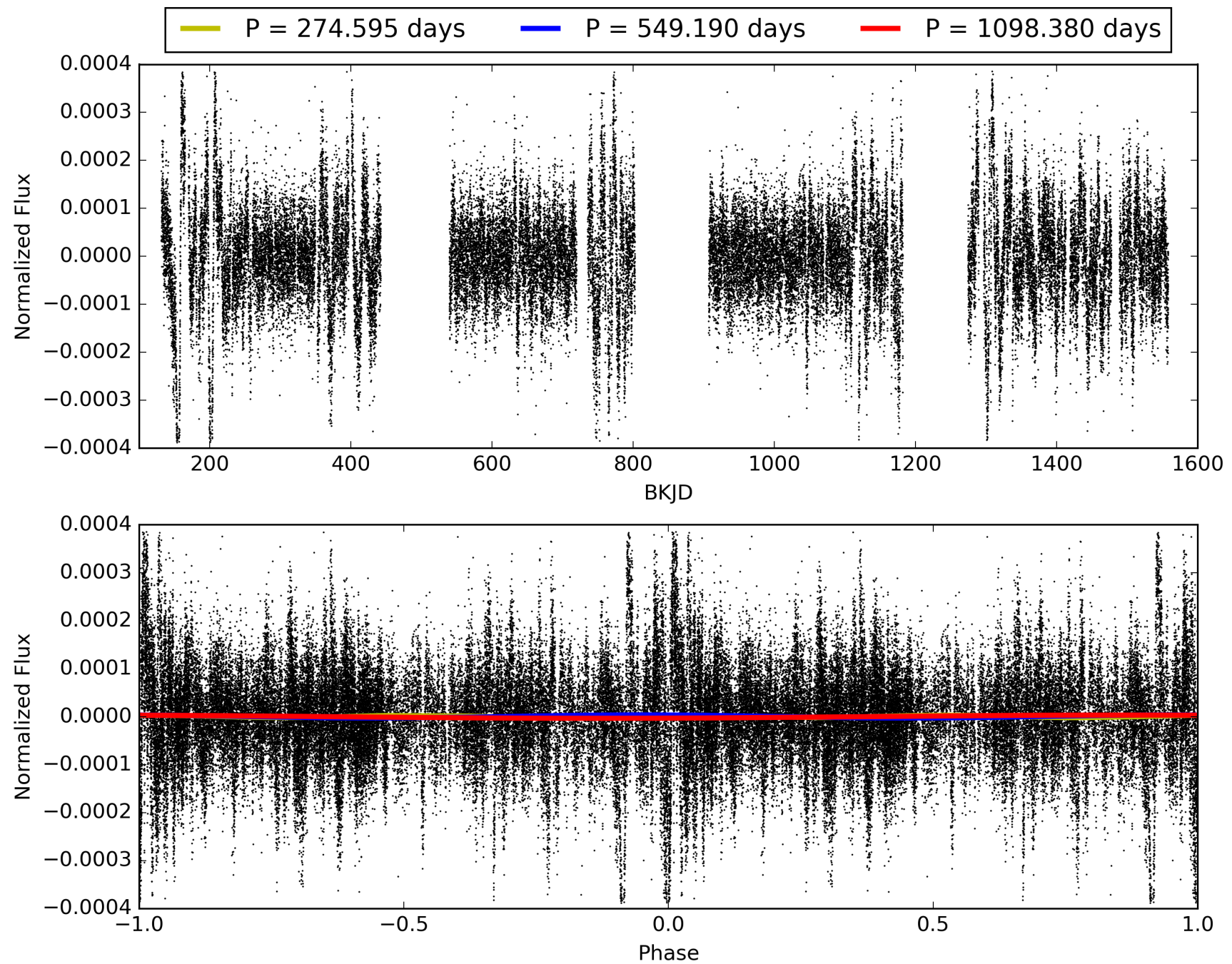
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:51:34 Z

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

TCE 005516246-01, PDC Light Curves

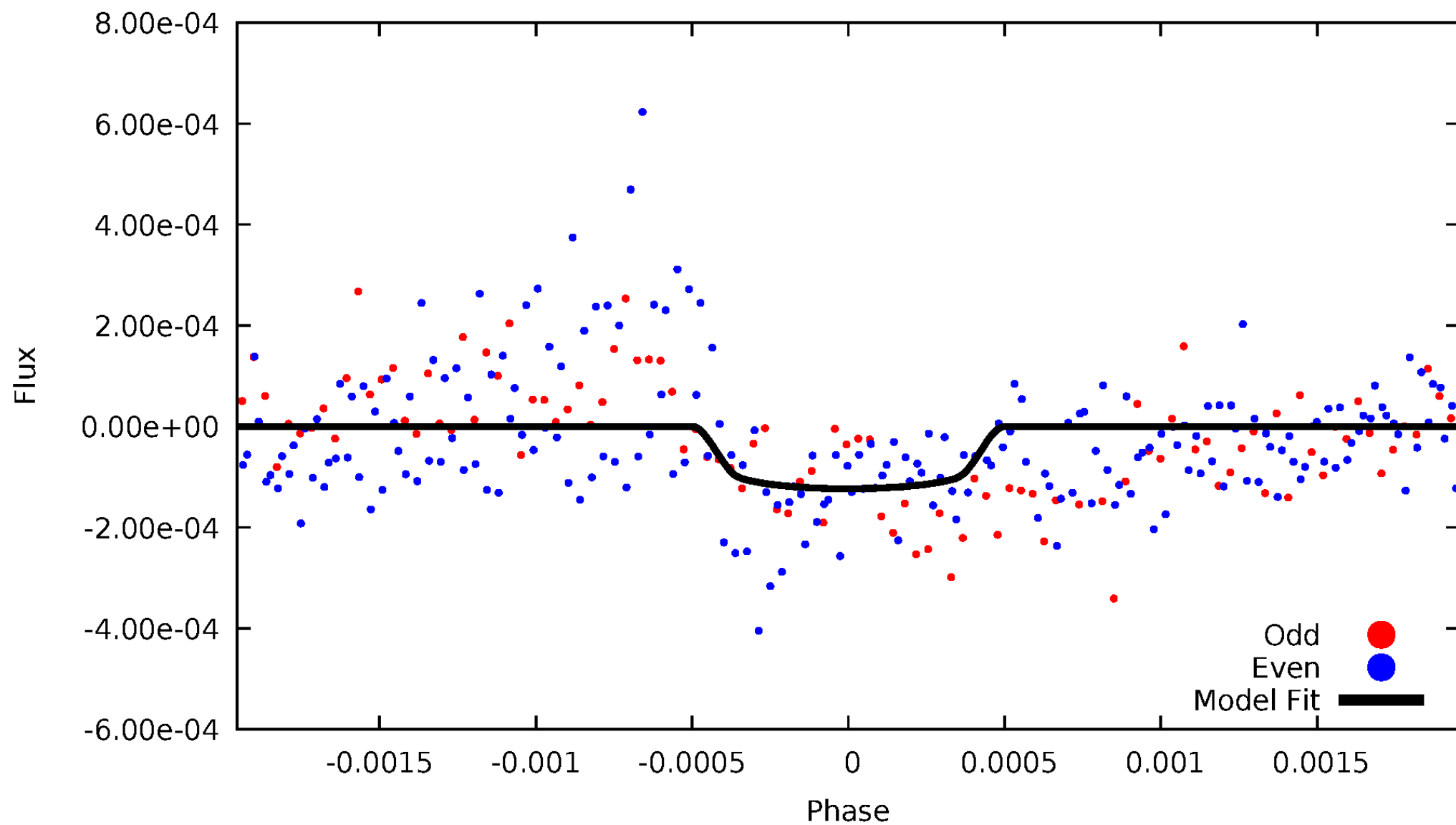


TCE 005516246-01



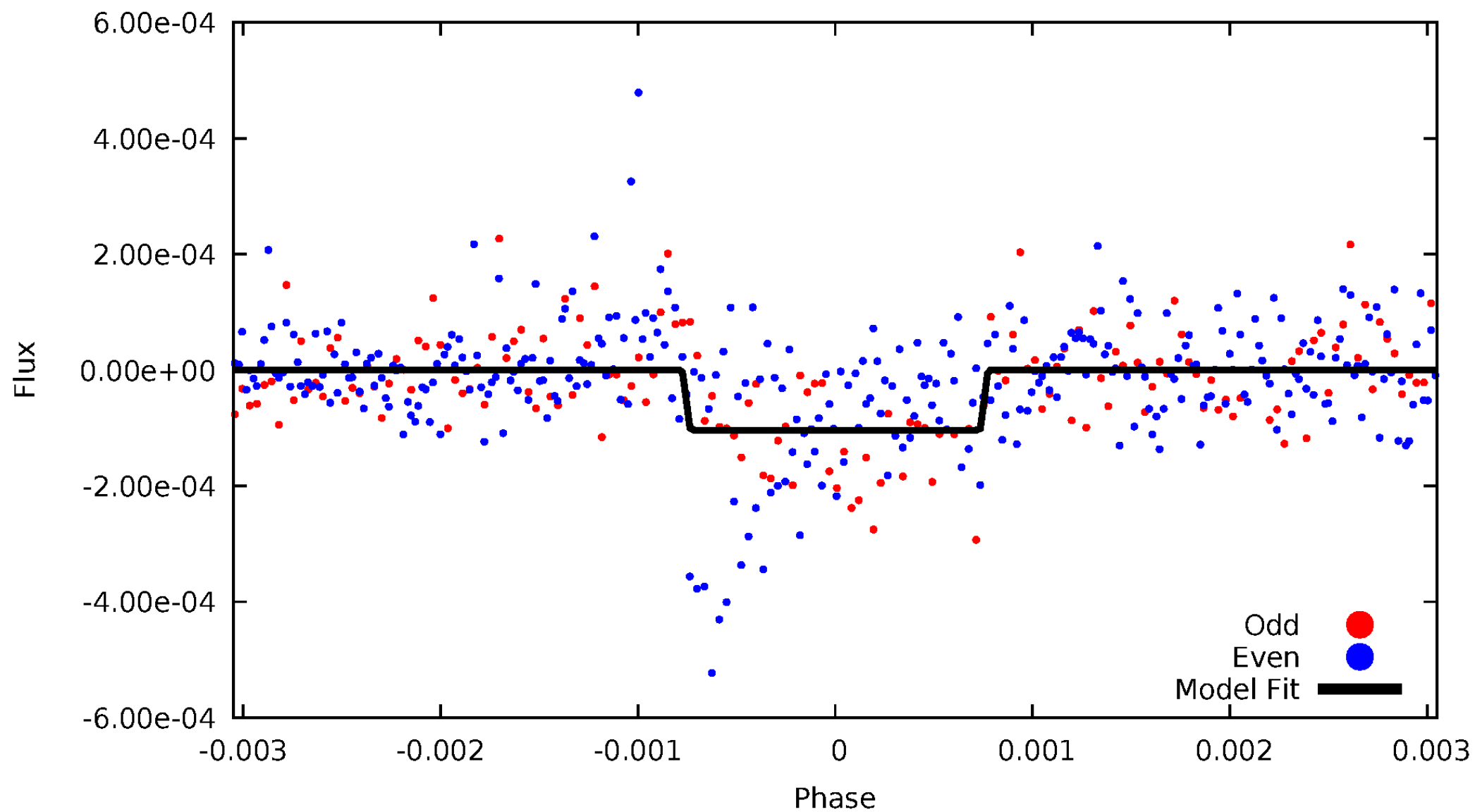
DV Odd/Even

TCE 005516246-01



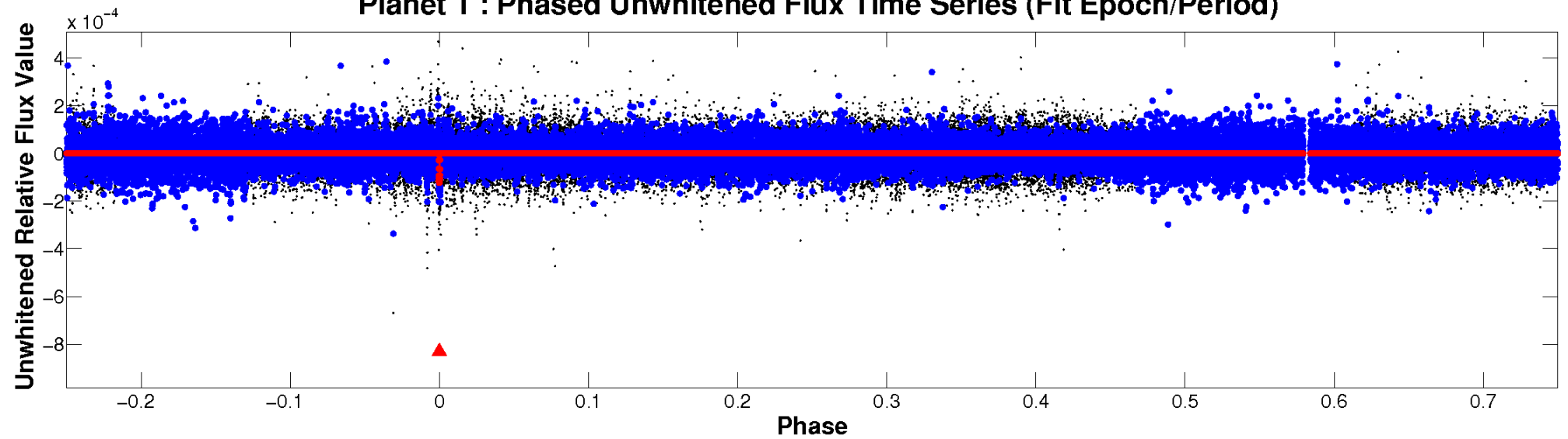
ALT Odd/Even

TCE 005516246-01

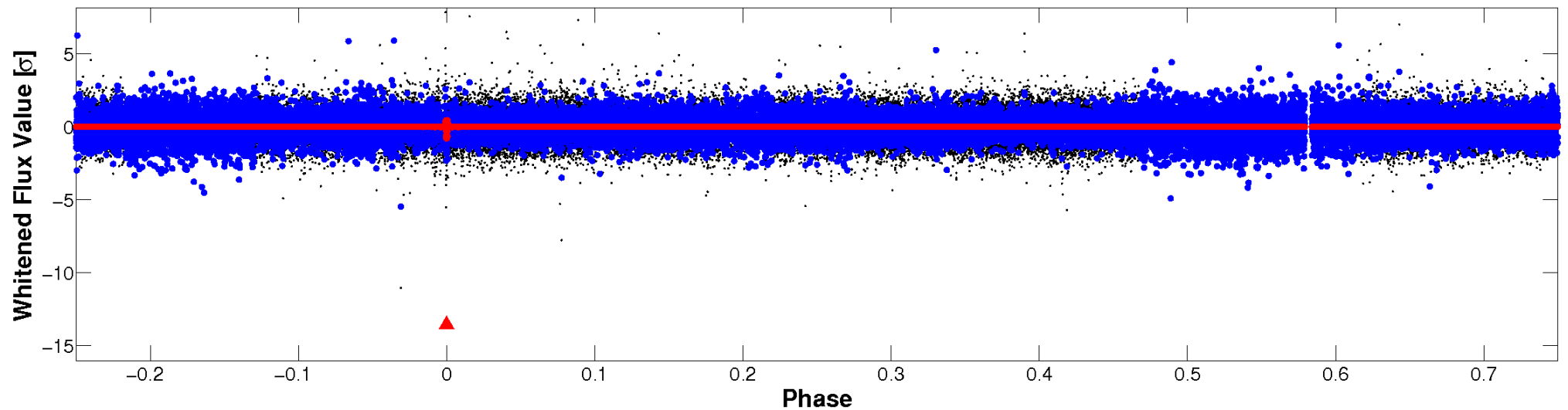


Non-Whitened Vs. Whitened Light Curve

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

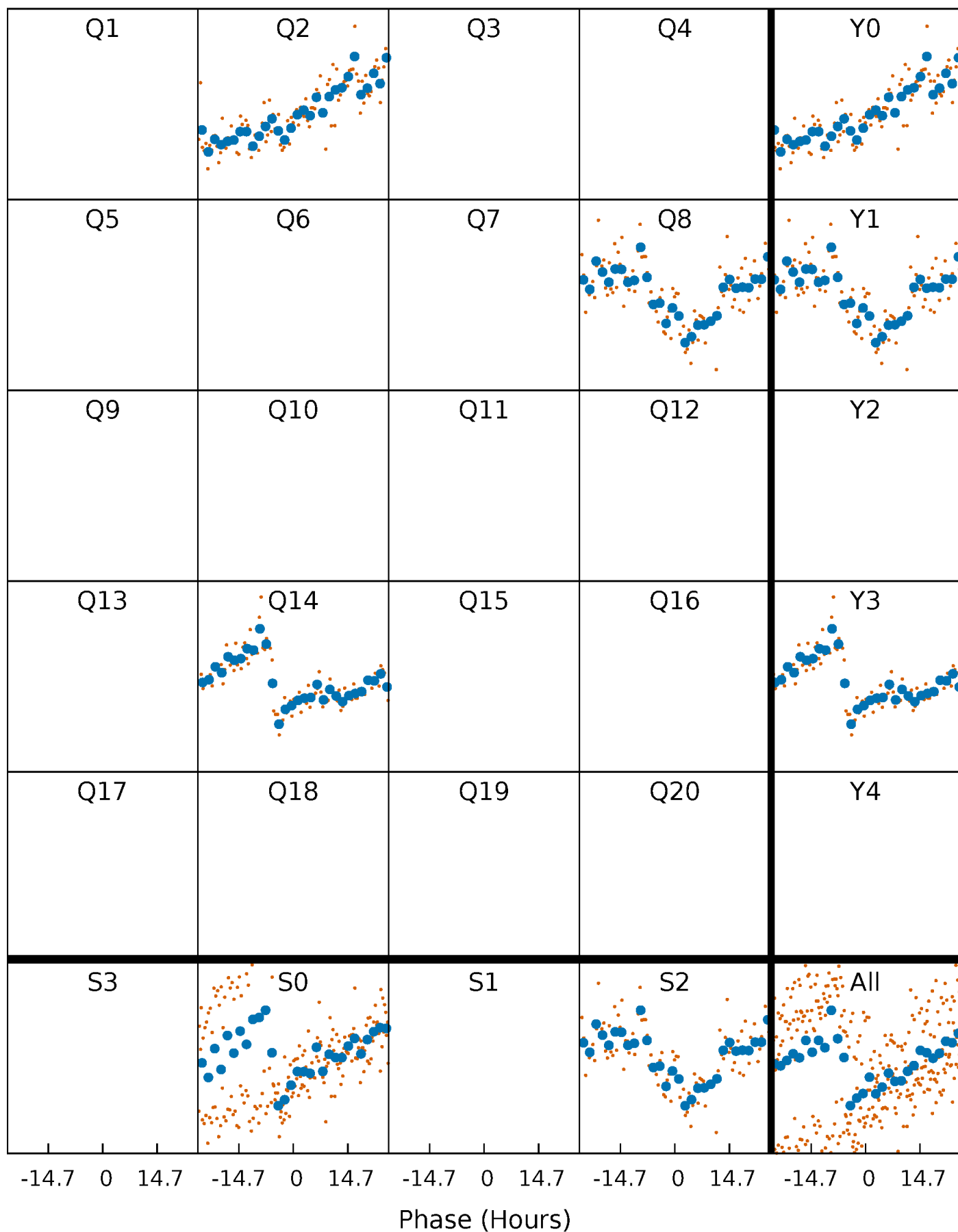


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



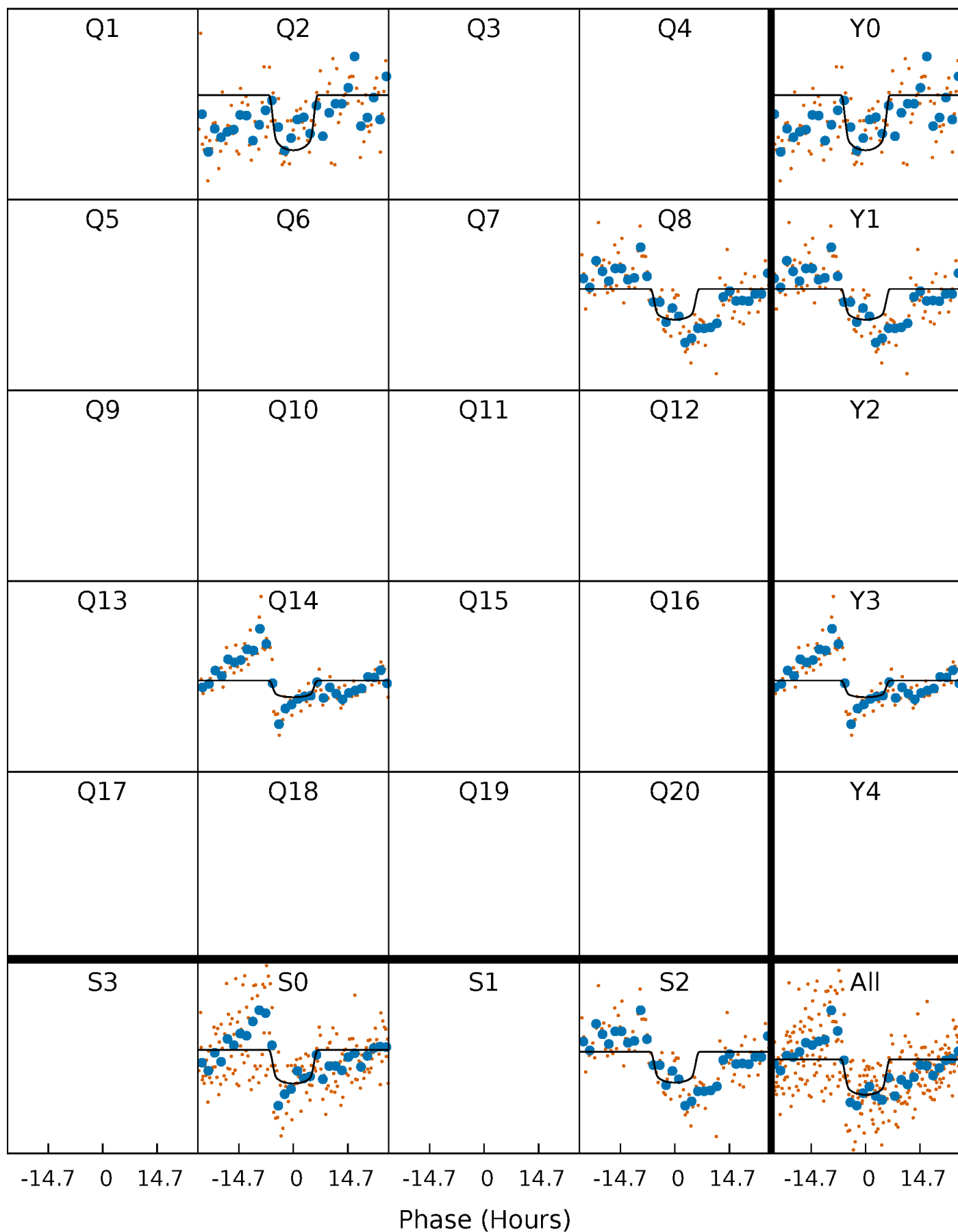
PDC Quarter-Phased Transit Curves

TCE 005516246-01 P=549.190084 Days $T_0=202.645359$ (BKJD)



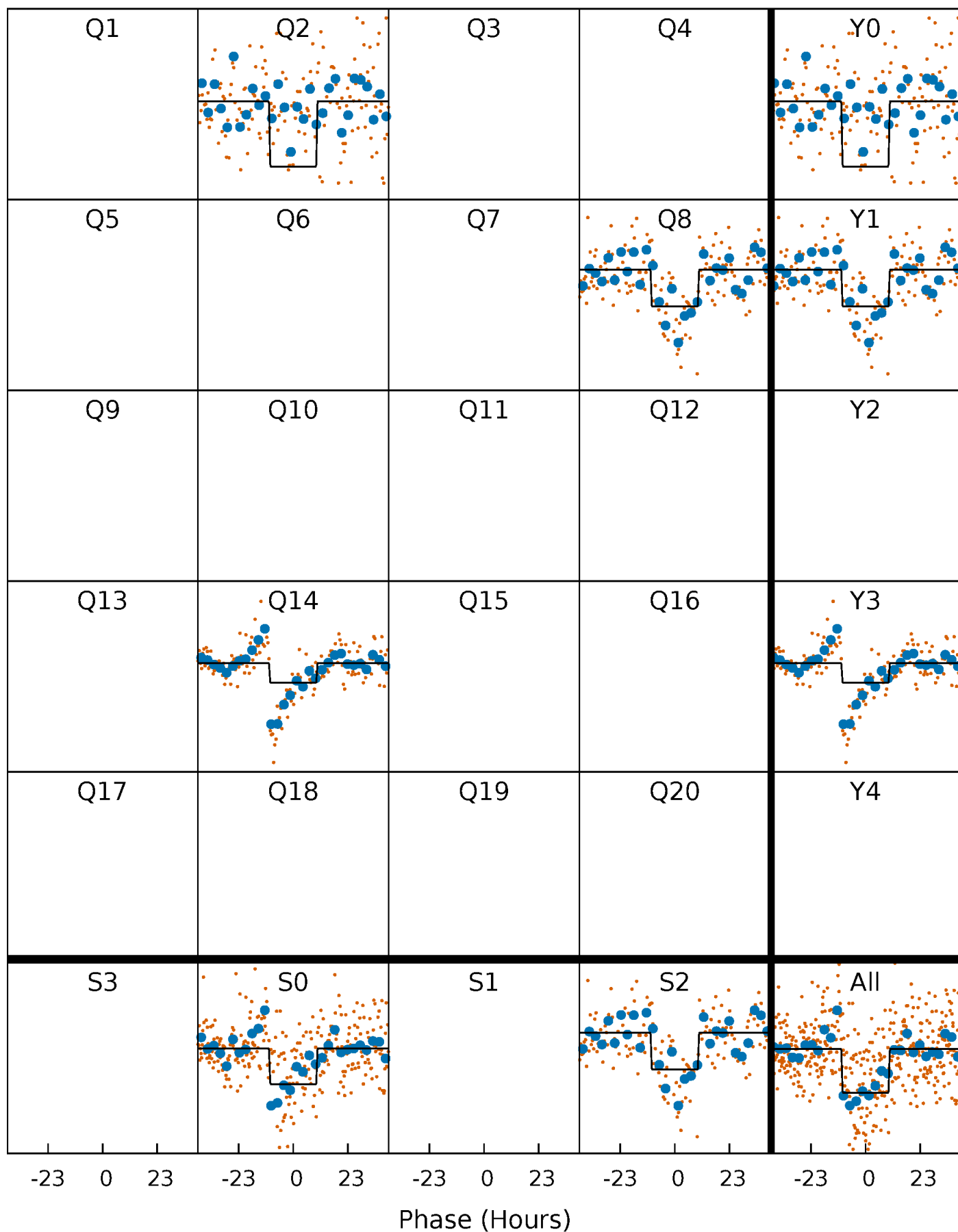
DV Quarter-Phased Transit Curves

TCE 005516246-01 P=549.190084 Days $T_0=202.645359$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

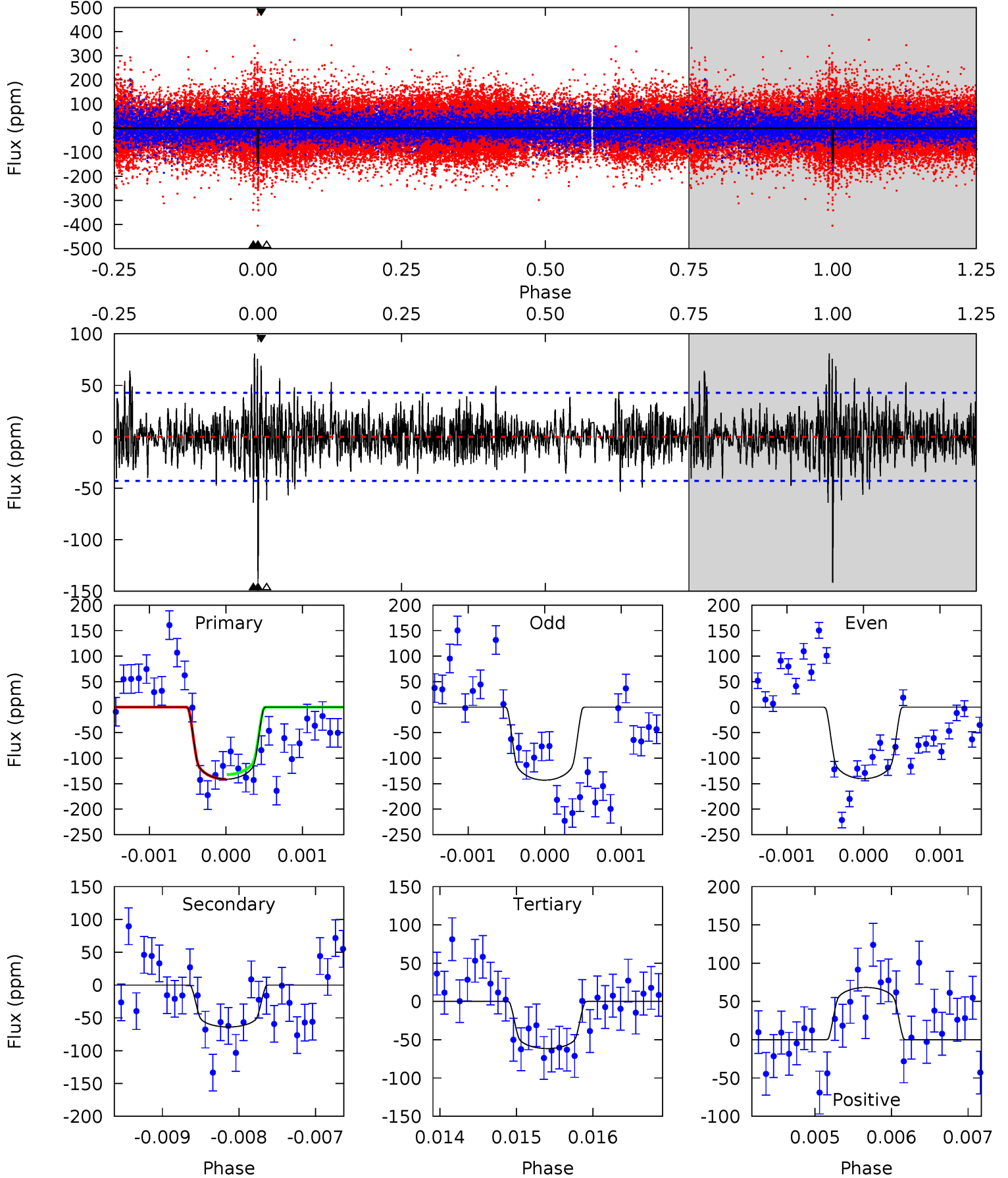
TCE 005516246-01 P=549.301771 Days $T_0=202.607771$ (BKJD)



DV Model-Shift Uniqueness Test

005516246-01, P = 549.190084 Days, E = 202.645359 Days

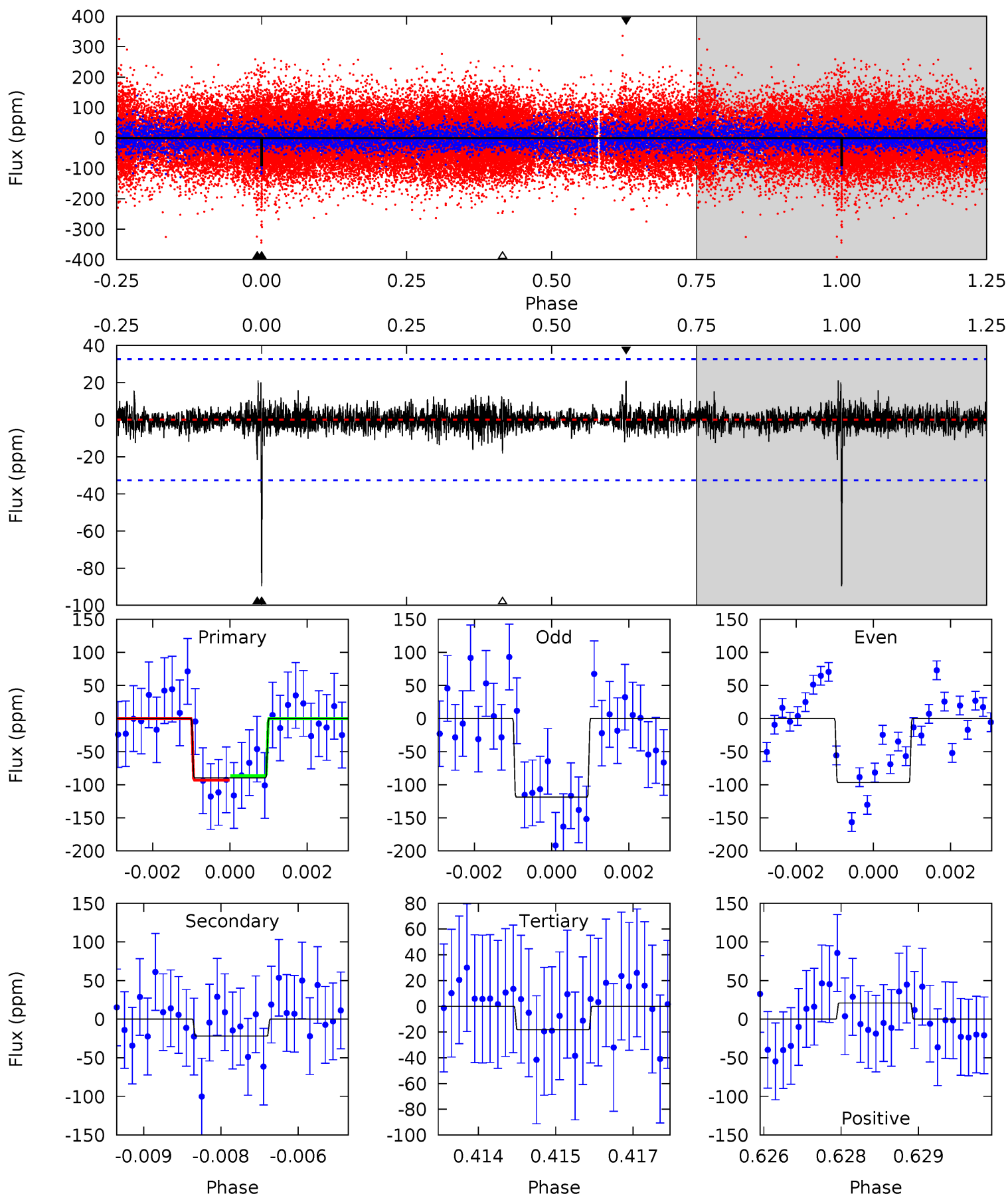
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	8.16	7.86	8.73	5.45	3.30	2.03	10.2	9.31	0.31	-0.56	0.17	0.99	0.36	0.58



Alt Model-Shift Uniqueness Test

005516246-01, P = 549.301771 Days, E = 202.607771 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	3.58	2.99	3.44	5.37	3.16	0.63	11.8	11.3	0.59	0.14	1.73	0.89	0.19	0.52



Stellar Parameters For KIC 005516246

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+148}_{-177}	$4.329^{+0.117}_{-0.143}$	$0.160^{+0.200}_{-0.300}$	$1.172^{+0.234}_{-0.191}$	$1.068^{+0.109}_{-0.121}$	$0.934^{+0.521}_{-0.394}$
	+3%/-3%	+3%/-3%	+125%/-188%	+20%/-16%	+10%/-11%	+56%/-42%
Source	PHO1	FLK73	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 005516246-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-64 ± 8	$1.67^{+0.30}_{-0.27}$	339^{+20}_{-19}	4732^{+318}_{-274}	22481^{+10040}_{-6632}
Alt.	-22 ± 6	$1.29^{+0.28}_{-0.21}$	339^{+21}_{-17}	4208^{+372}_{-301}	12239^{+7801}_{-4301}

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 $A_{obs} \gg 1.0$

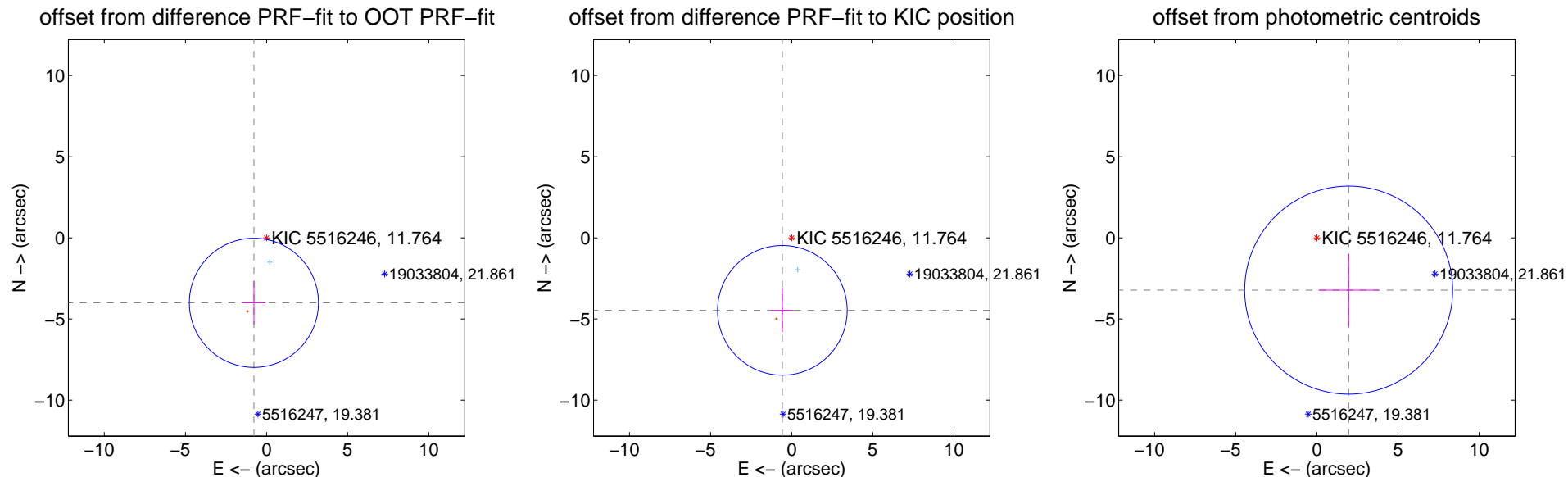
DV Centroid Data

Supplemental centroid analysis for 005516246-01. **Kepler magnitude: 11.76.** Transit SNR 6.47

There are 1 quarters with good PRF difference image offsets

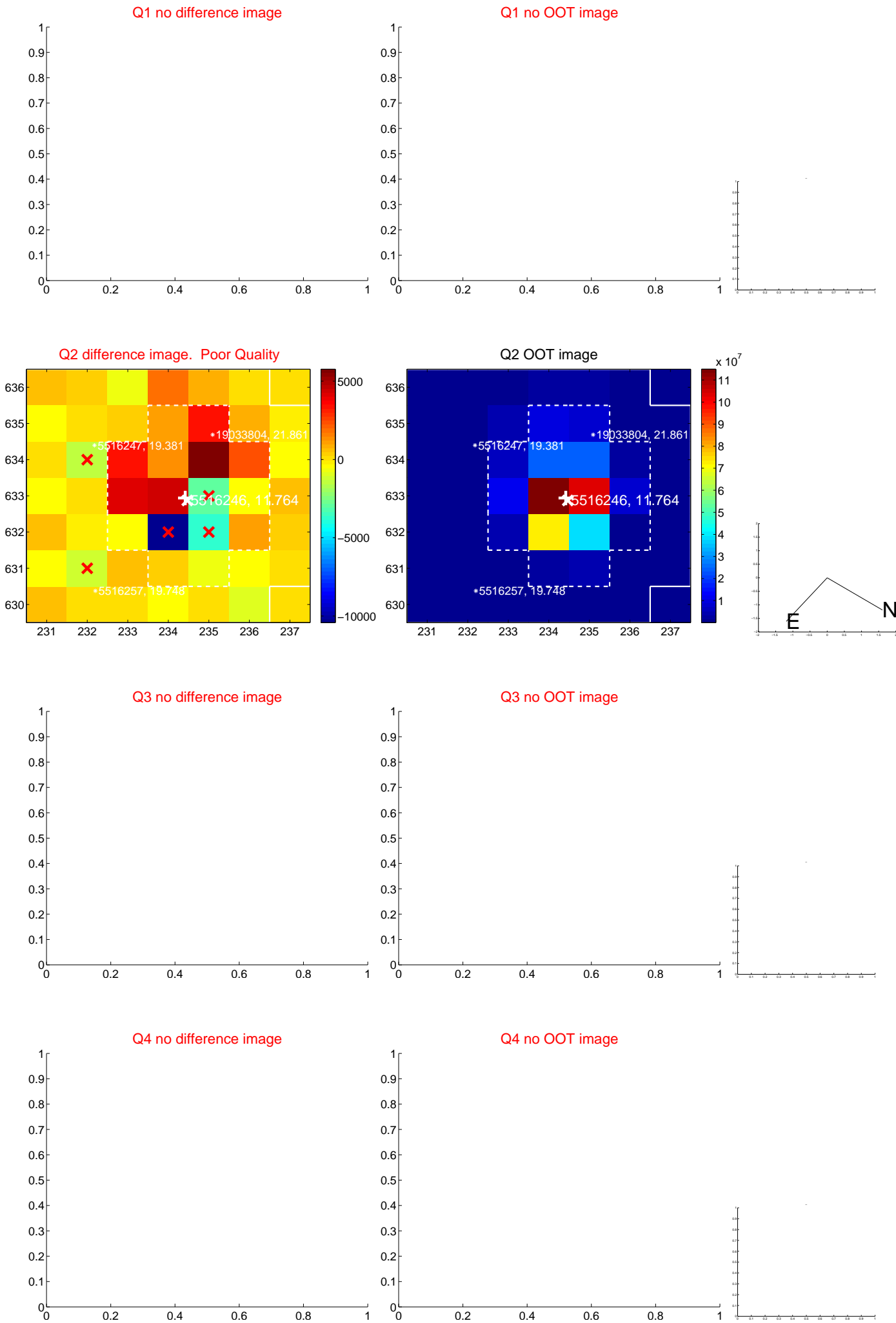
The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.079 ± 1.327	3.07	0.780 ± 0.722	-4.004 ± 1.344
PRF-fit source offset from KIC position	4.504 ± 1.332	3.38	0.576 ± 0.702	-4.467 ± 1.340
photometric centroid source offset	3.77 ± 2.14	1.77	-1.96 ± 1.85	-3.22 ± 2.23

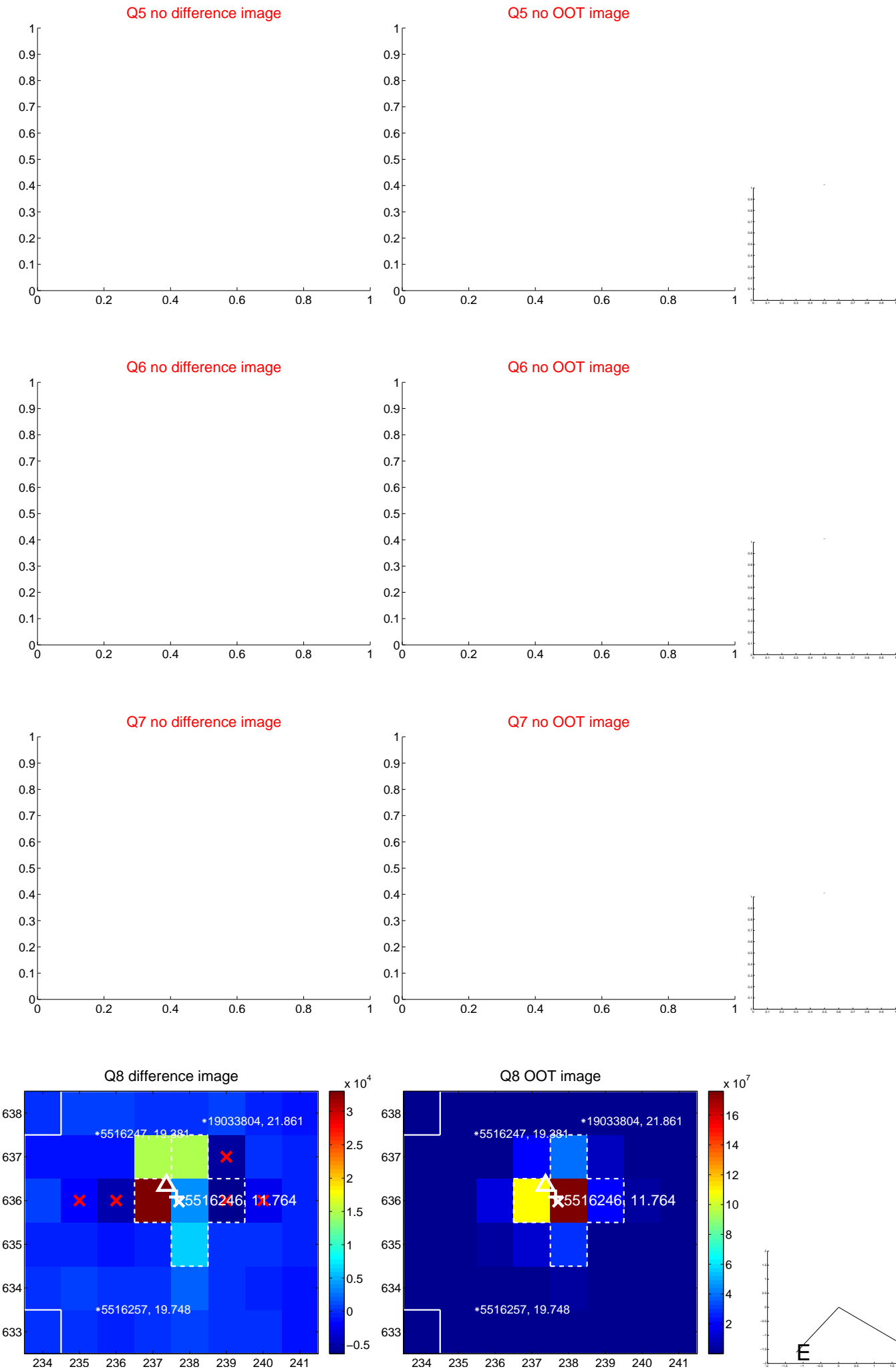


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



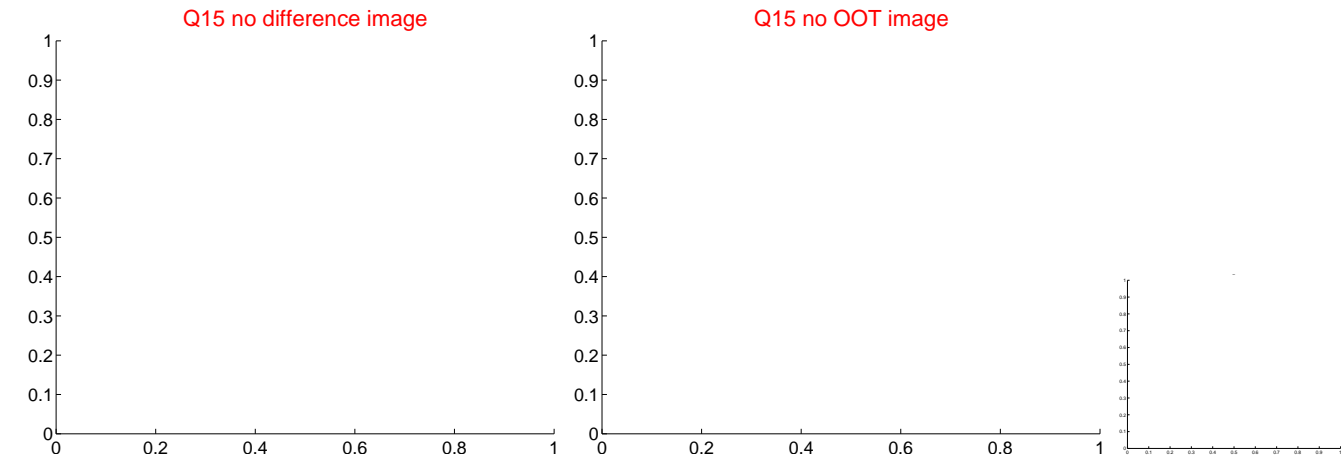
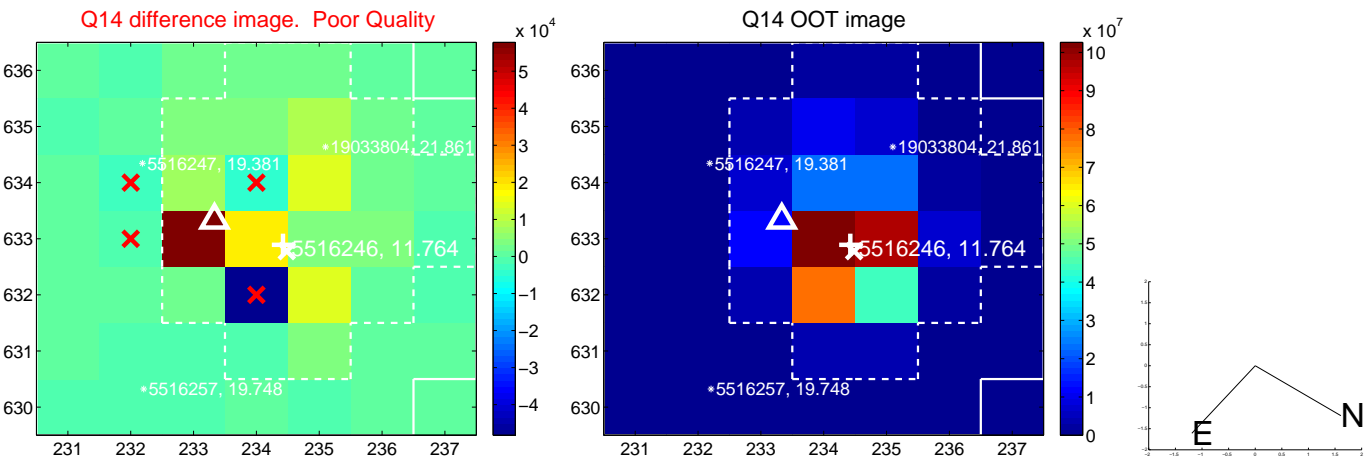
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



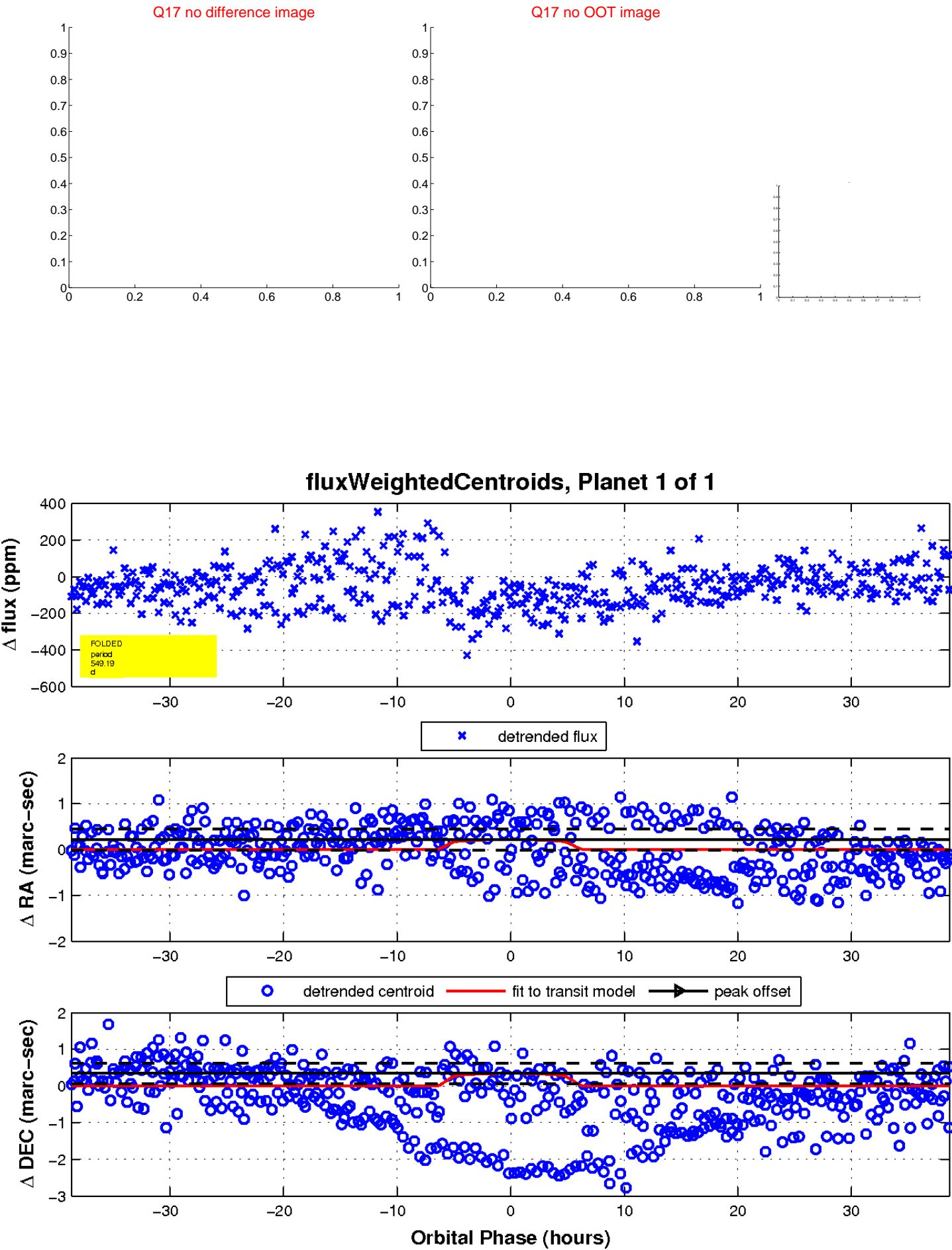
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

