

KIC 006139220

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})
006139220-01	OBS	5241.01	273.685459	350.851988	15251.6	8.284	178.6	169.6	1.65	6033	29.81	4.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006139220-01	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.

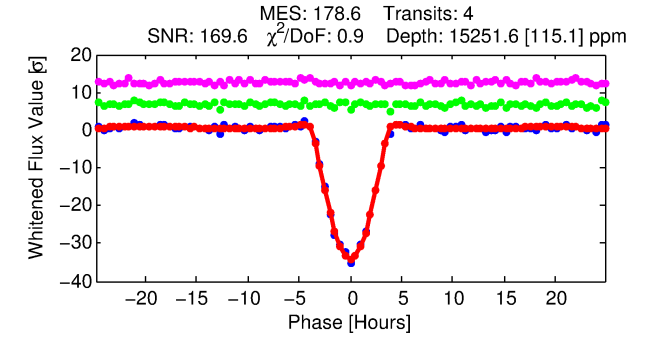
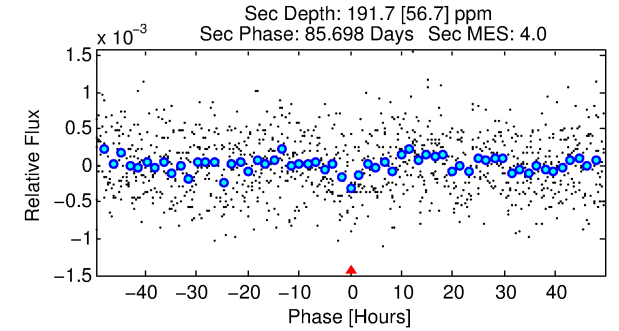
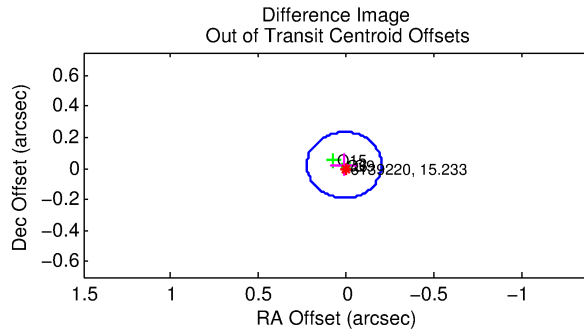
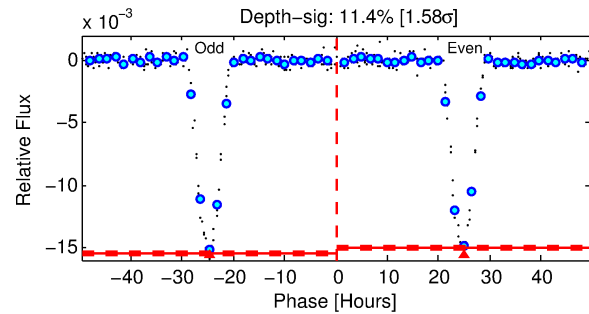
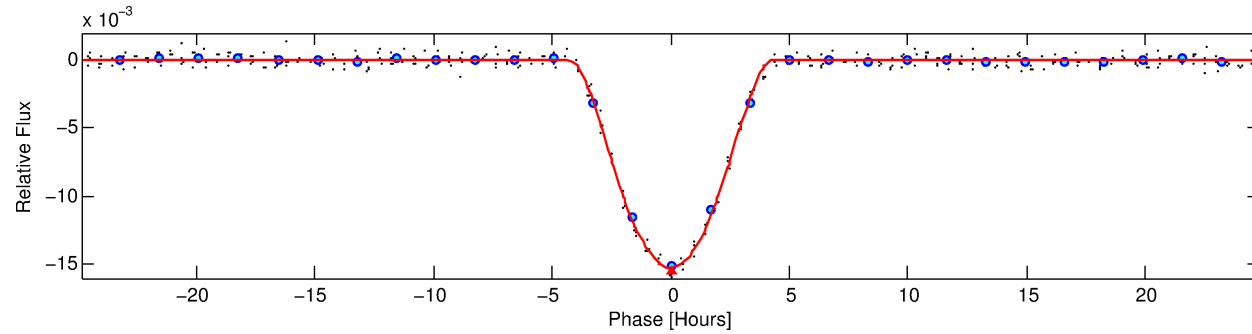
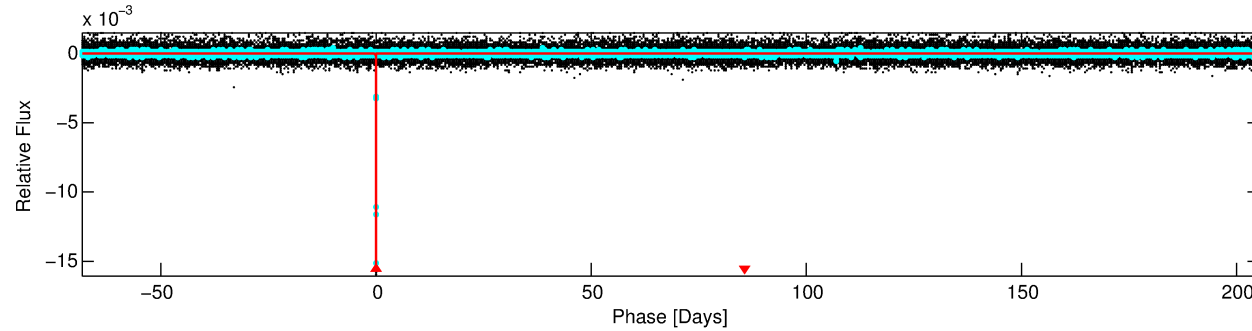
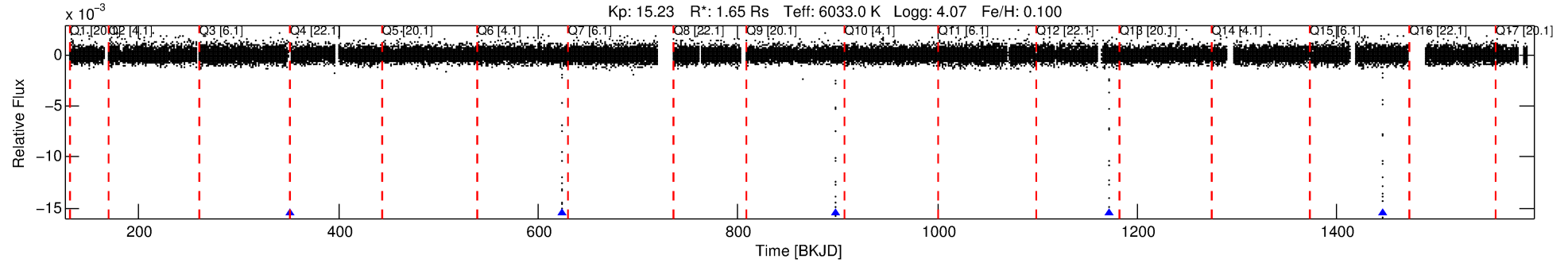
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006139220-01

No Significant Match Found

DV One-Page Summary

KIC: 6139220 Candidate: 1 of 1 Period: 273.685 d
KOI: K05241.01 Corr: 0.992



DV Fit Results:

Period = 273.68546 [0.00054] d
Epoch = 350.8520 [0.0014] BKJD
Rp/R* = 0.1655 [0.0228]
a/R* = 171.53 [5.07]
b = 0.95 [0.04]
Seff = 4.28 [1.36]
Teff = 367 [29] K
Rp = 29.81 [7.58] Re
a = 0.8693 [0.1736] AU
Ag = 89.70 [45.89] [1.93 σ]
Teffp = 1745 [178] K [7.65 σ]

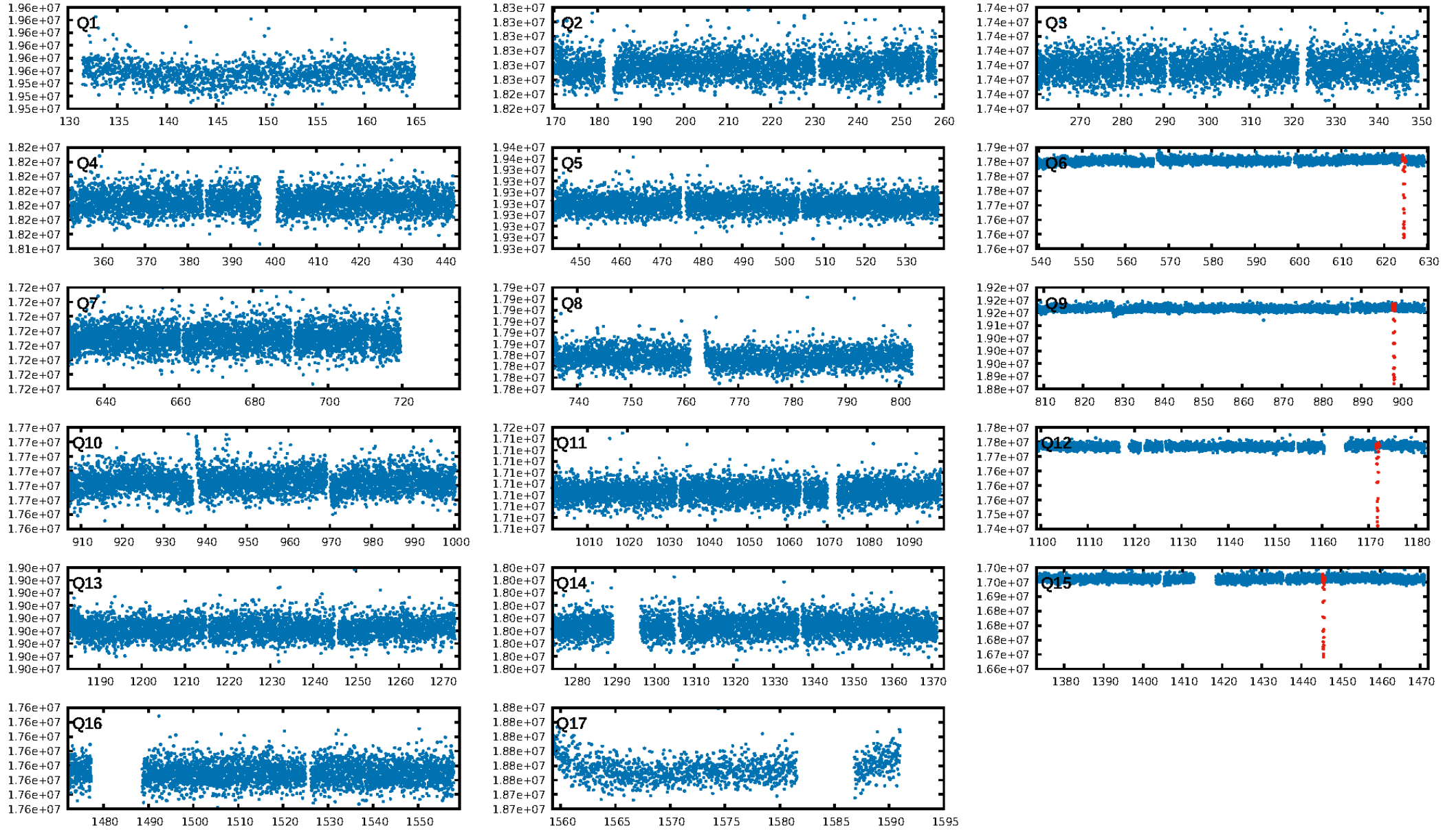
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 13.3%
ModelChiSquareGof-sig: 97.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.76
Centroid-sig: 0.8%
Centroid-so: 0.102 arcsec [1.41 σ]
OotOffset-rm: 0.025 arcsec [0.36 σ]
KicOffset-rm: 0.130 arcsec [1.55 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

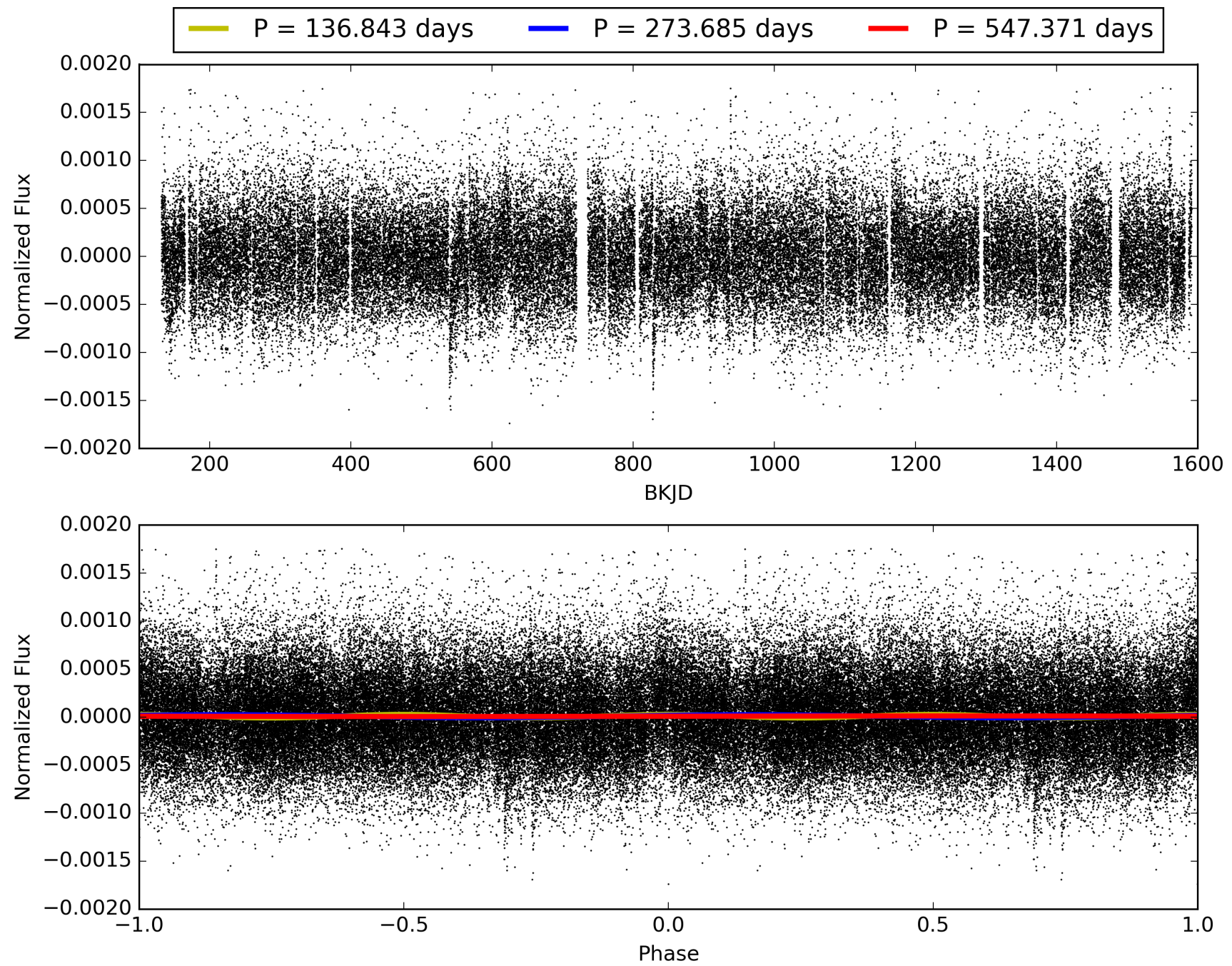
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:10:55 Z

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

TCE 006139220-01, PDC Light Curves

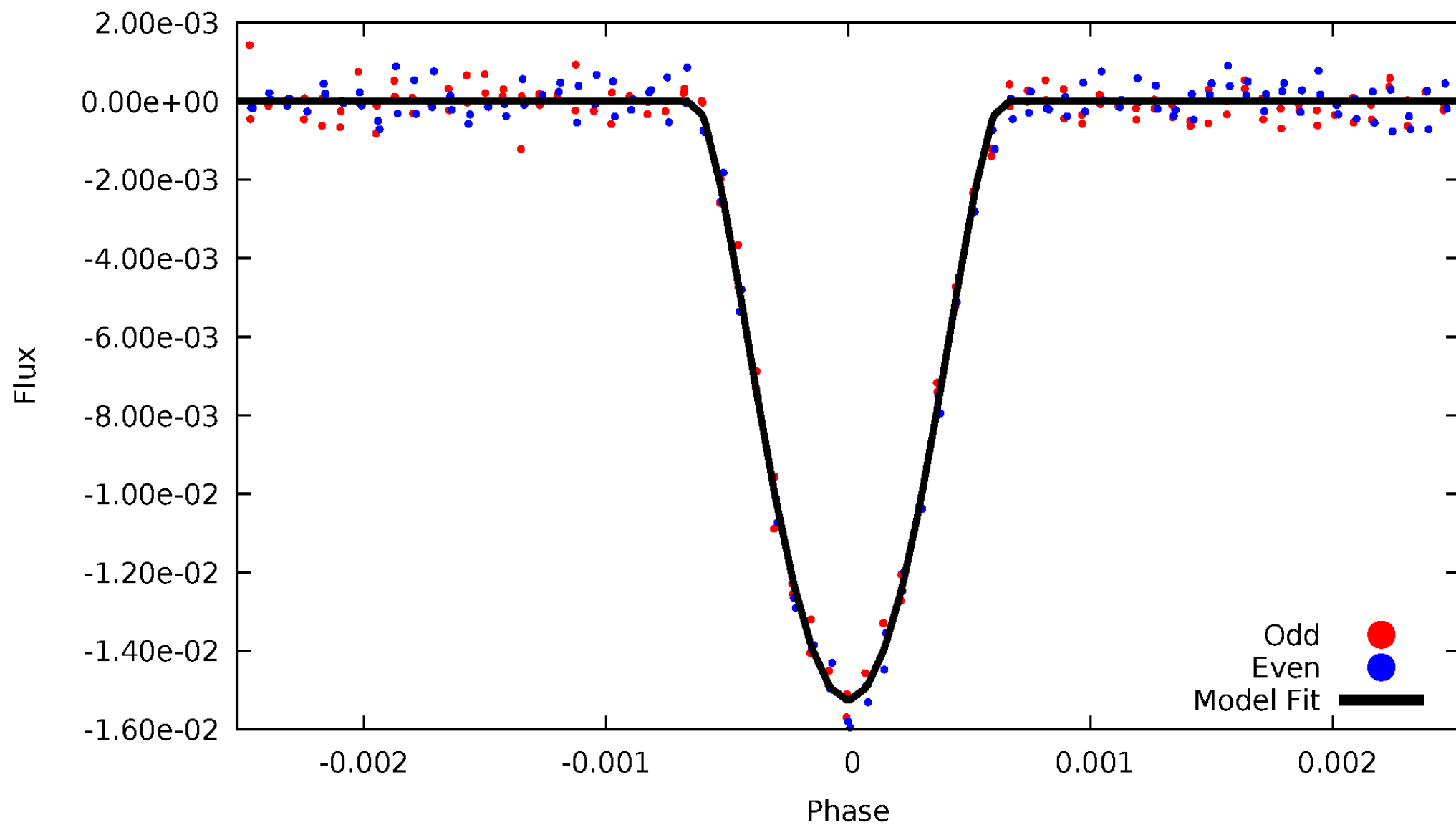


TCE 006139220-01



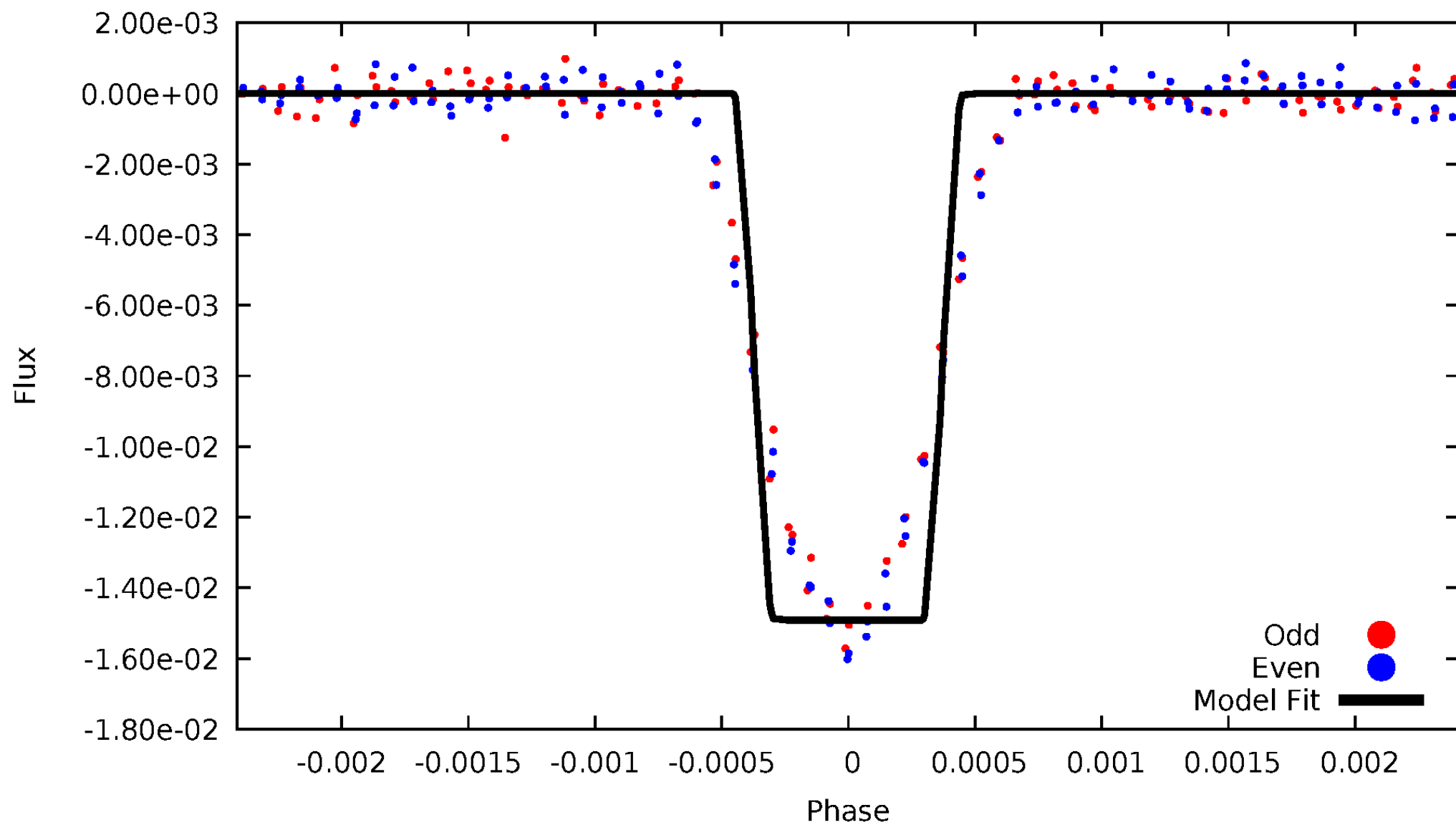
DV Odd/Even

TCE 006139220-01



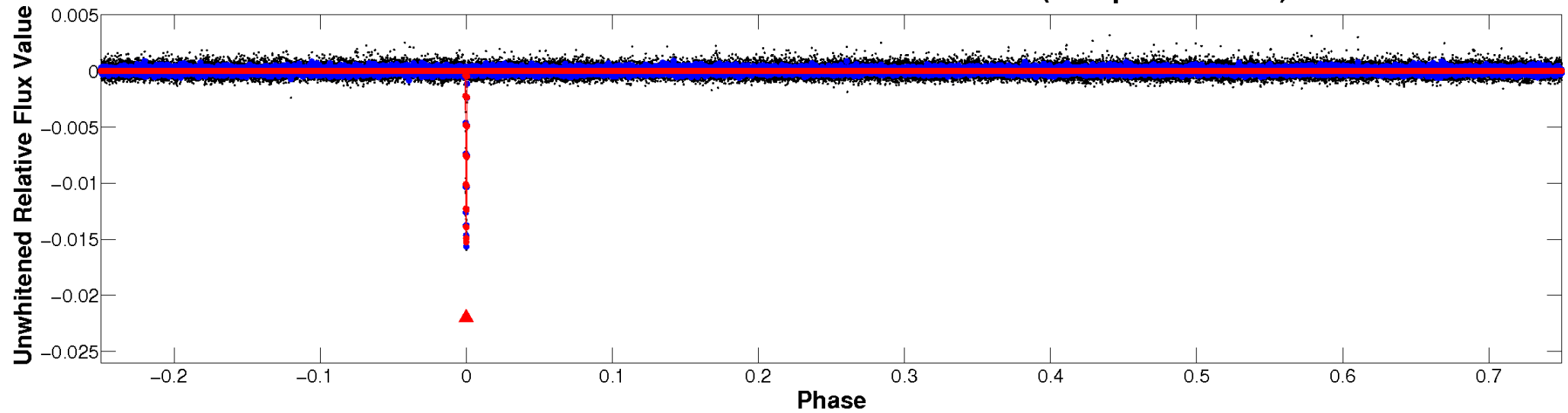
ALT Odd/Even

TCE 006139220-01

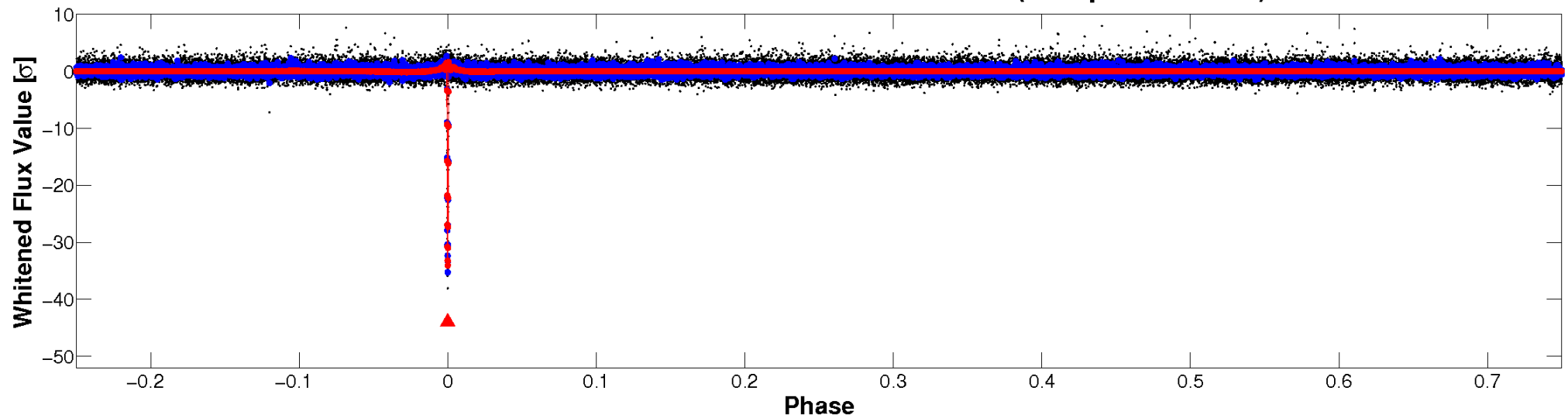


Non-Whitened Vs. Whitened Light Curve

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

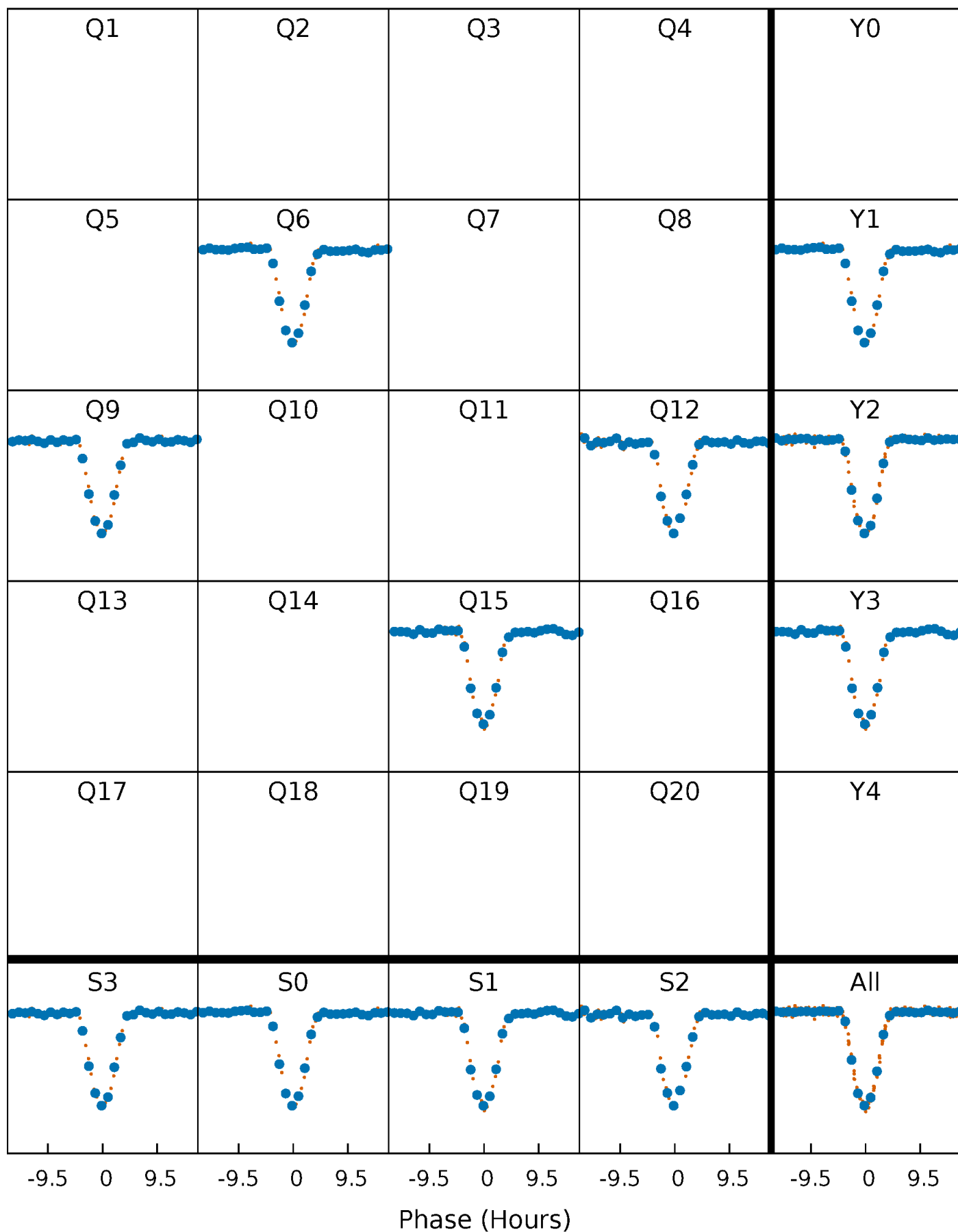


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



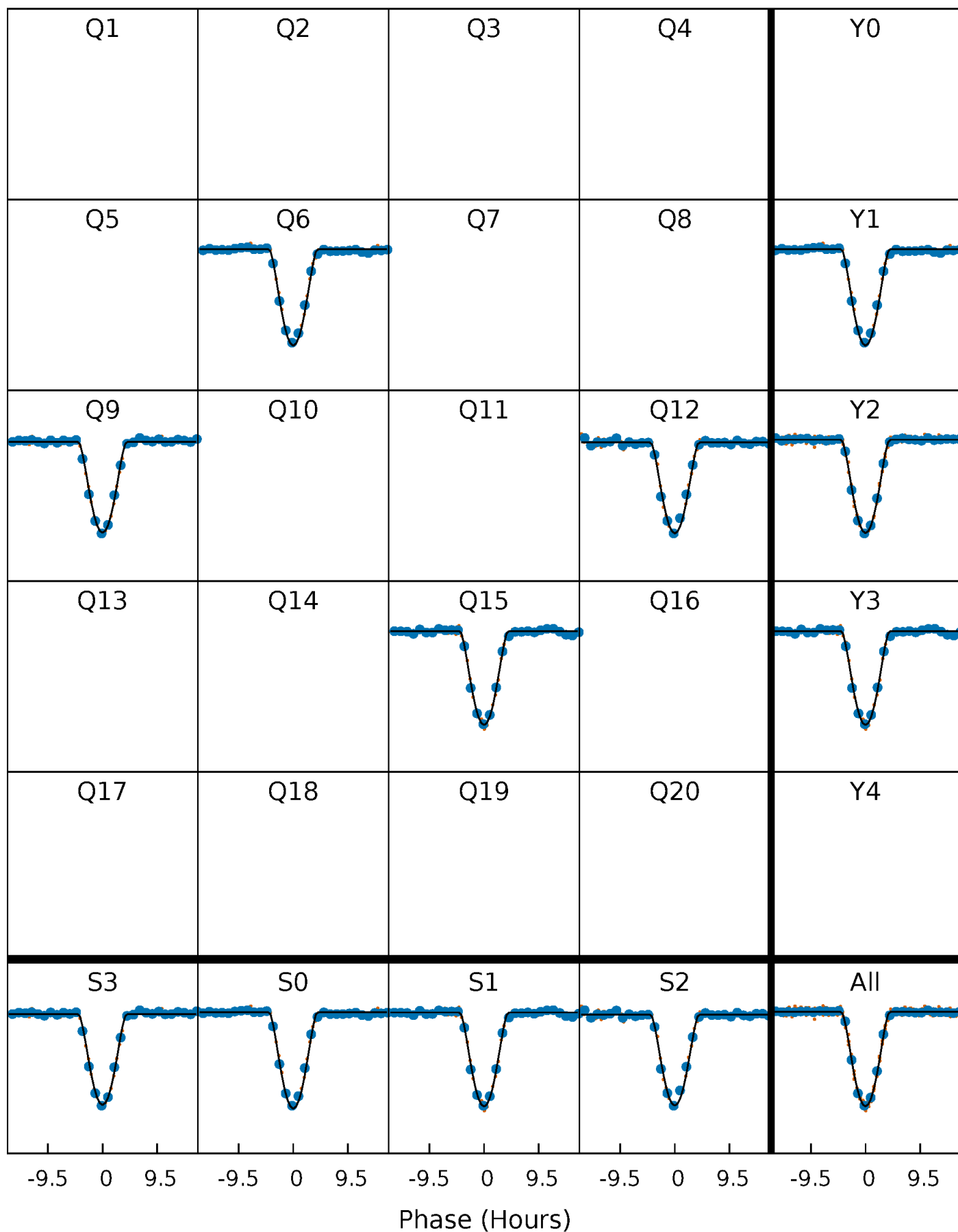
PDC Quarter-Phased Transit Curves

TCE 006139220-01 P=273.685459 Days $T_0=350.851988$ (BKJD)



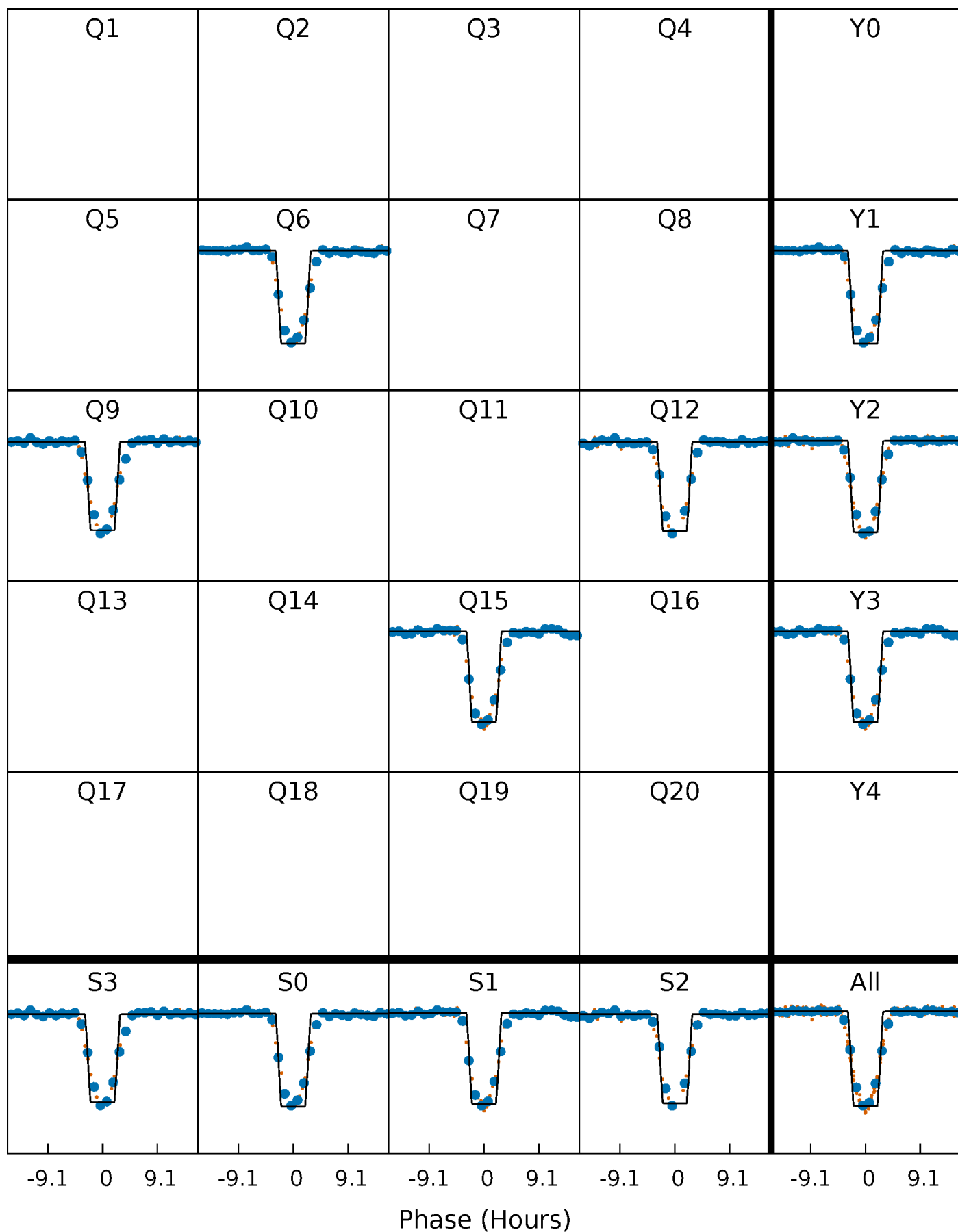
DV Quarter-Phased Transit Curves

TCE 006139220-01 P=273.685459 Days $T_0=350.851988$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

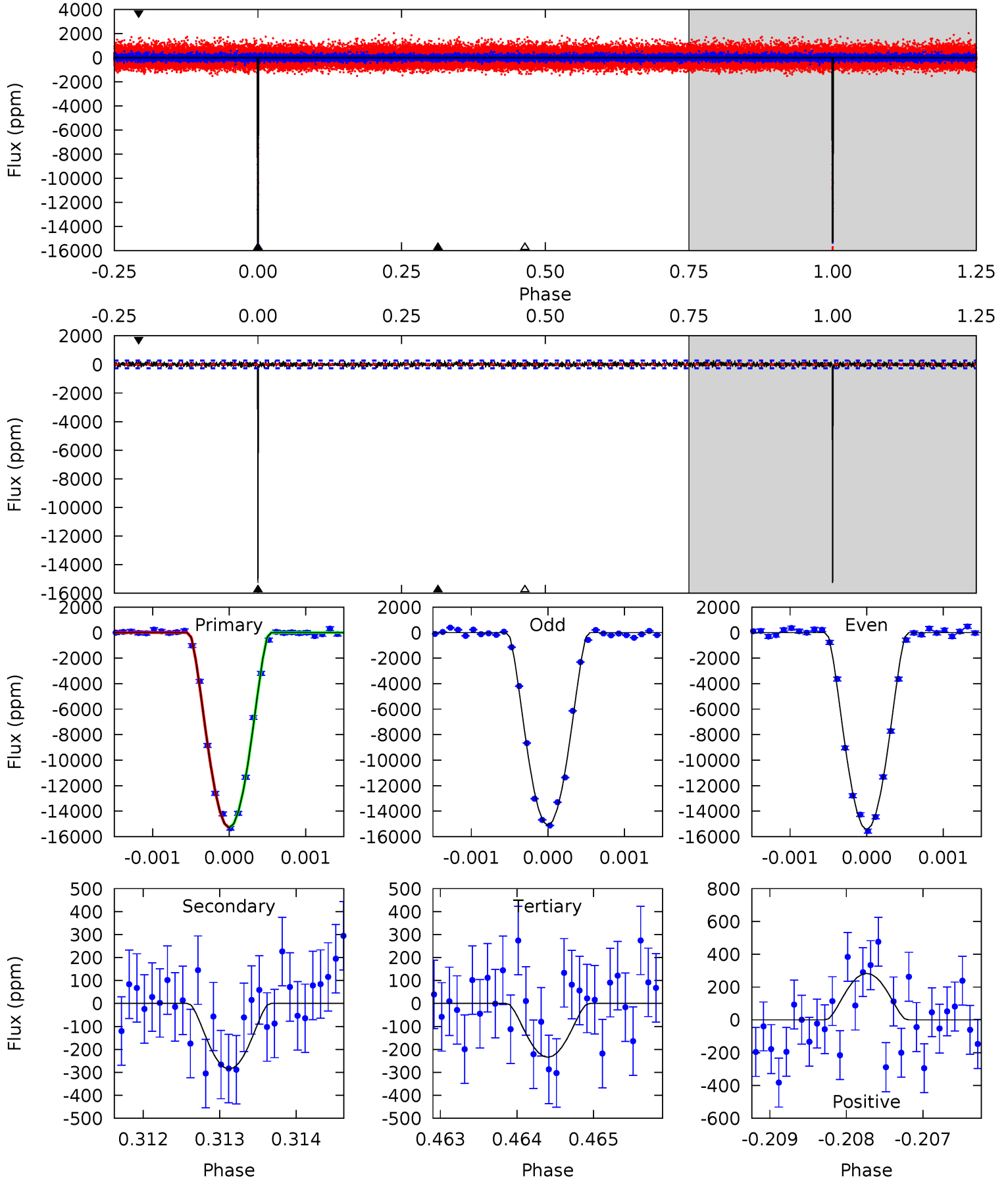
TCE 006139220-01 P=273.687103 Days $T_0=350.848178$ (BKJD)



DV Model-Shift Uniqueness Test

006139220-01, $P = 273.685459$ Days, $E = 77.166529$ Days

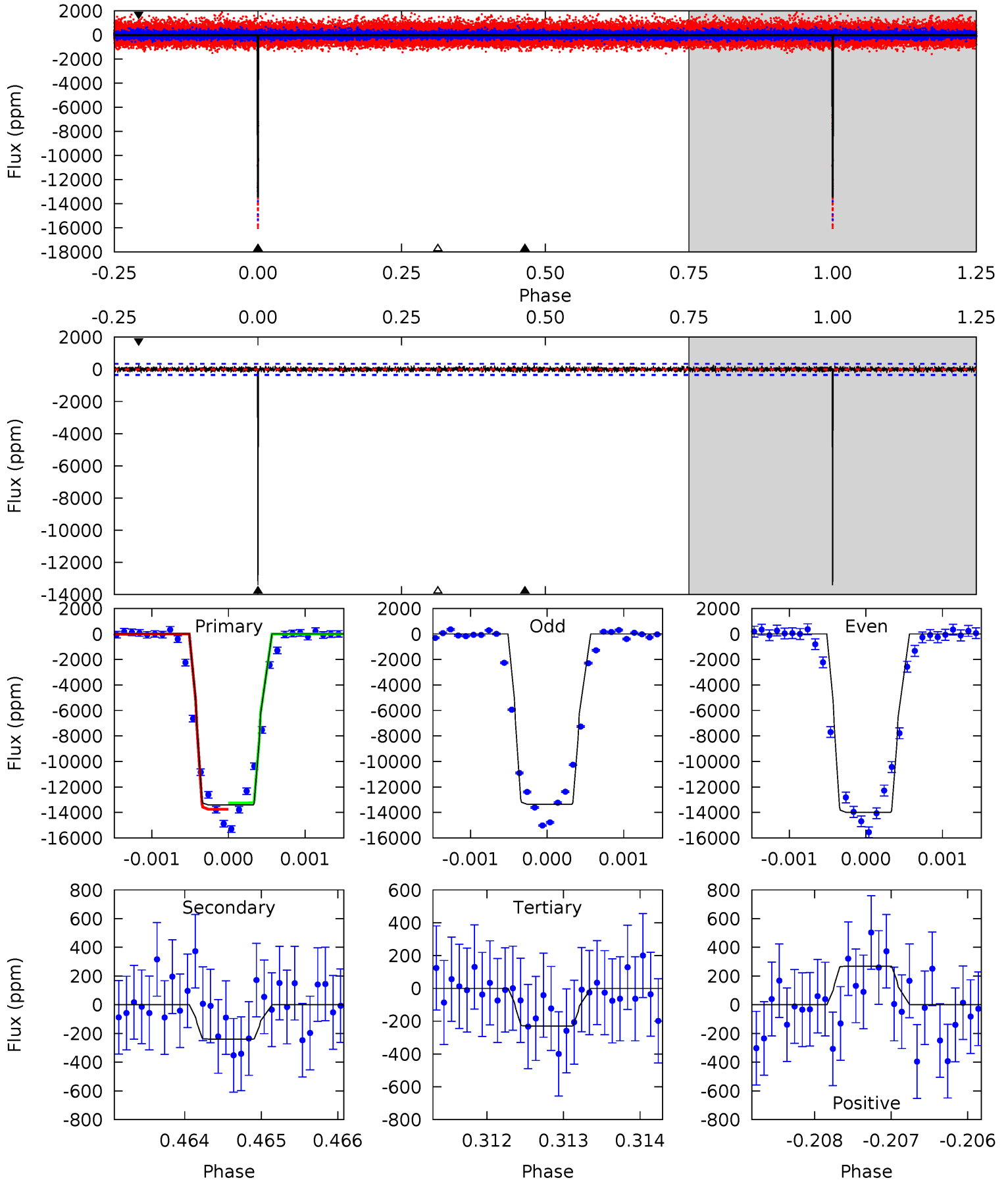
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
302.8	5.65	4.64	5.61	5.42	3.24	1.47	298.2	297.2	1.01	0.04	3.33	0.99	0.02	0.09



Alt Model-Shift Uniqueness Test

006139220-01, P = 273.687103 Days, E = 77.161075 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
211.3	3.77	3.62	4.24	5.47	3.32	1.03	207.7	207.1	0.15	-0.47	4.79	1.00	0.02	3.81



Stellar Parameters For KIC 006139220

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6033^{+82}_{-82}	$4.071^{+0.182}_{-0.112}$	$0.100^{+0.150}_{-0.150}$	$1.650^{+0.289}_{-0.353}$	$1.170^{+0.132}_{-0.096}$	$0.367^{+0.330}_{-0.128}$
	+1%/-1%	+4%/-3%	+150%/-150%	+18%/-21%	+11%/-8%	+90%/-35%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006139220-01 / KOI 5241.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-285 ± 50	$29.32^{+5.60}_{-5.37}$	510^{+25}_{-32}	2706^{+134}_{-123}	138^{+75}_{-46}
Alt.	-239 ± 63	$21.53^{+4.77}_{-4.53}$	510^{+23}_{-28}	2873^{+212}_{-178}	212^{+165}_{-81}

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

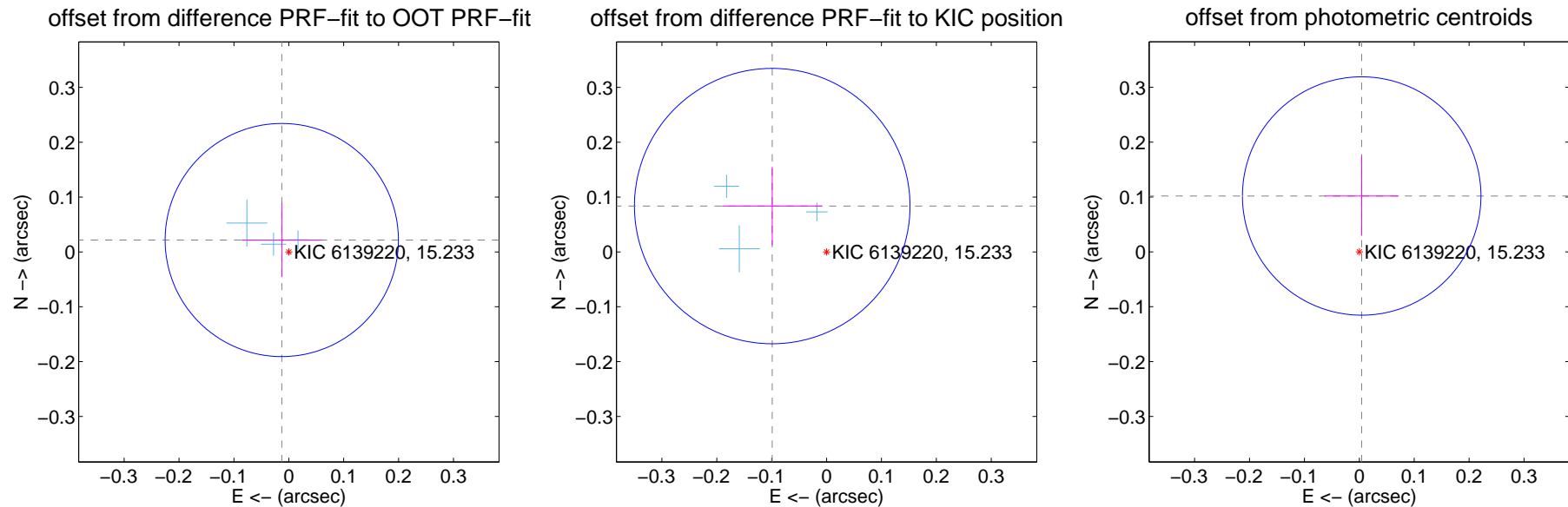
DV Centroid Data

Supplemental centroid analysis for 006139220-01. Kepler magnitude: 15.23. Transit SNR 169.57

There are 3 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.025 ± 0.071	0.36	0.013 ± 0.073	0.022 ± 0.068
PRF-fit source offset from KIC position	0.130 ± 0.084	1.55	0.099 ± 0.091	0.084 ± 0.071
photometric centroid source offset	0.10 ± 0.07	1.41	-0.00 ± 0.07	0.10 ± 0.07



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.

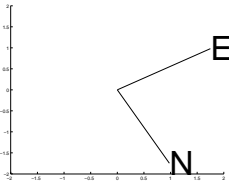
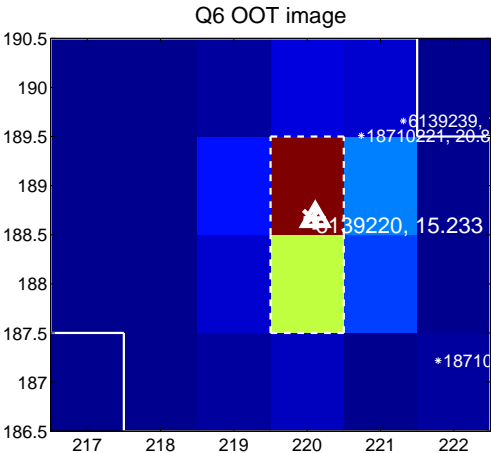
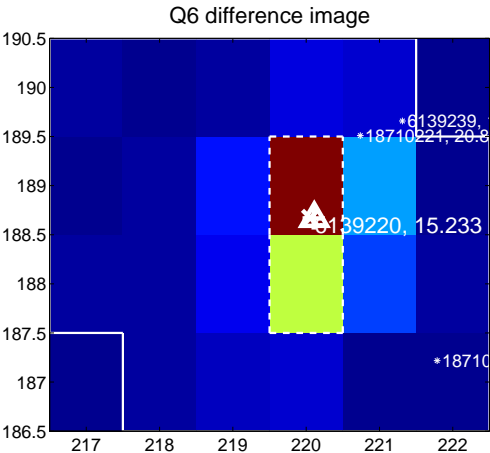


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

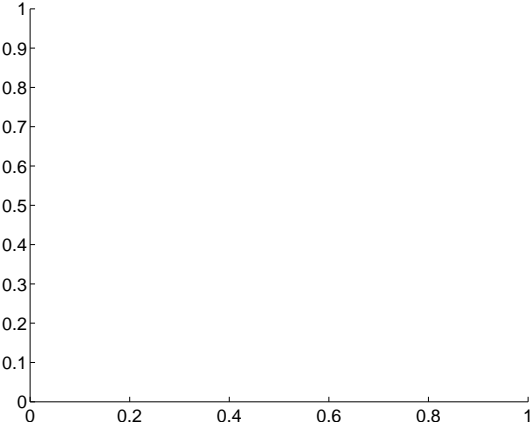
Q5 no difference image



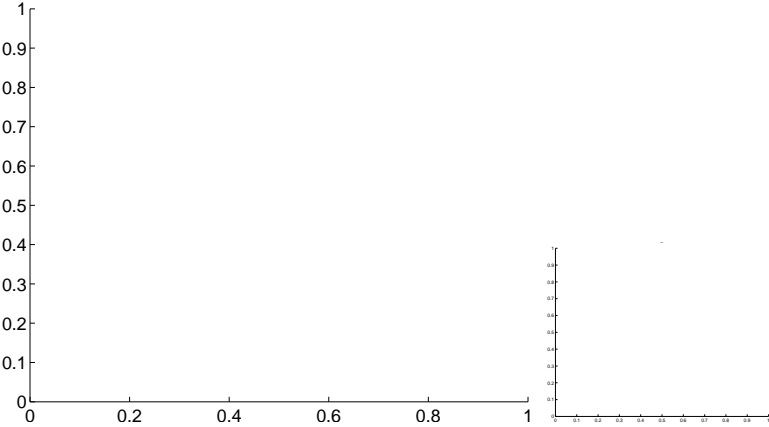
Q5 no OOT image



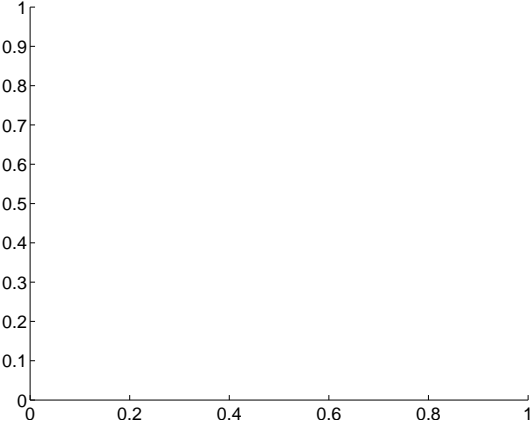
Q7 no difference image



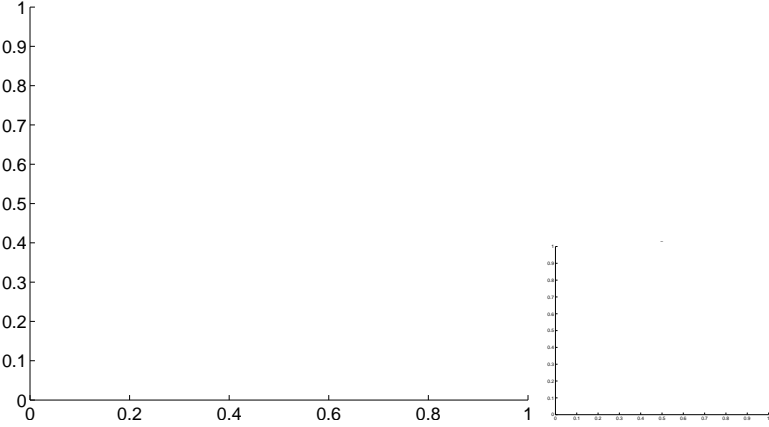
Q7 no OOT image



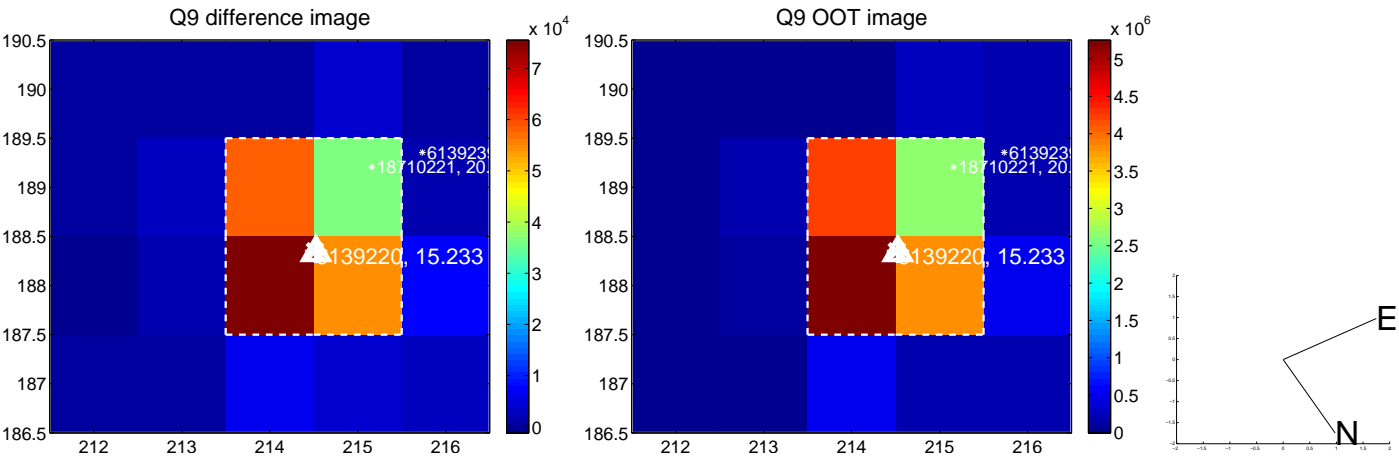
Q8 no difference image



Q8 no OOT image



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.

Q13 no difference image



Q13 no OOT image



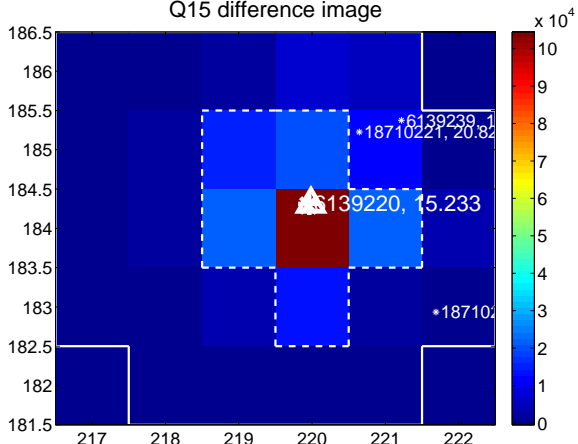
Q14 no difference image



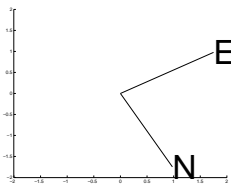
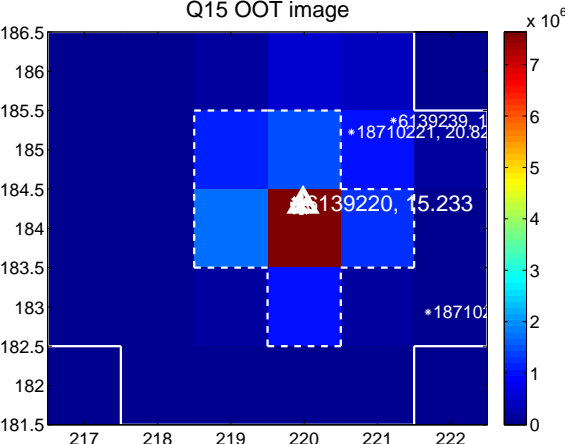
Q14 no OOT image



Q15 difference image



Q15 OOT image



Q16 no difference image



Q16 no OOT image



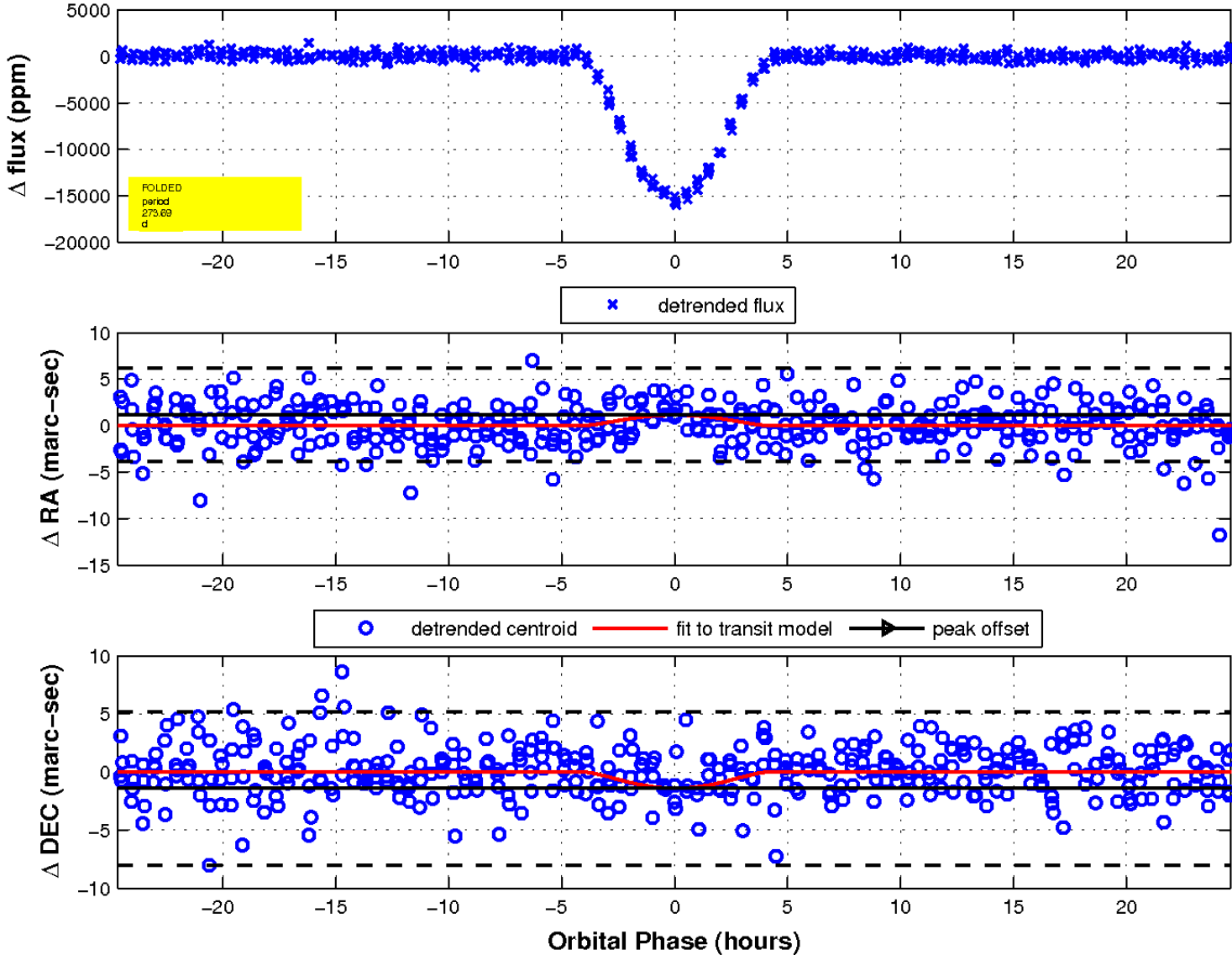
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q17 no difference image

Q17 no OOT image



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

