

KIC 004359049

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})
004359049-01	OBS	No	319.267680	432.879927	251.4	14.100	9.4	8.5	1.38	6729	2.64	4.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004359049-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

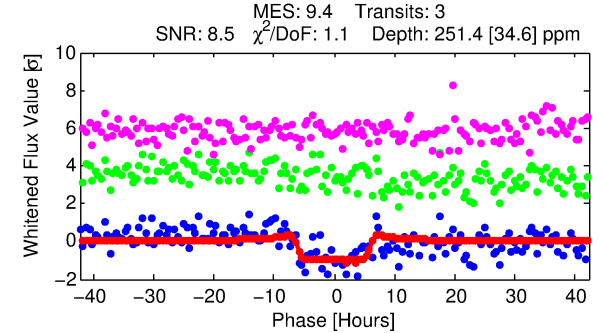
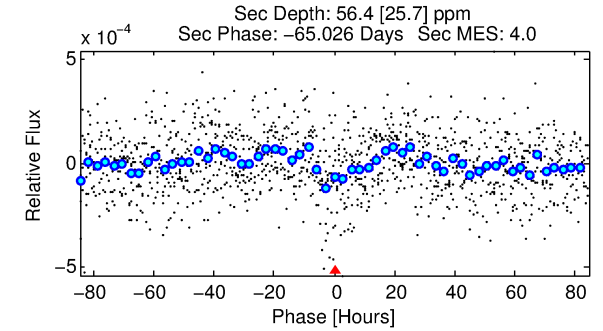
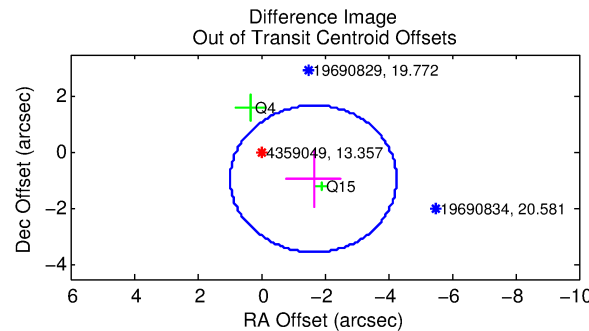
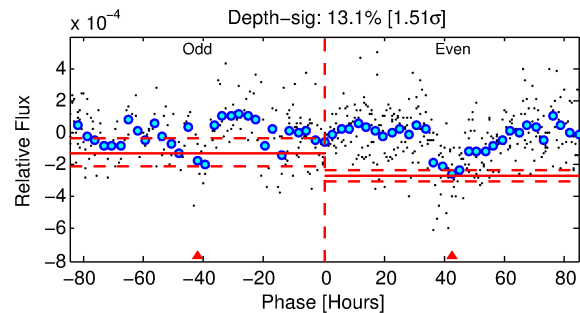
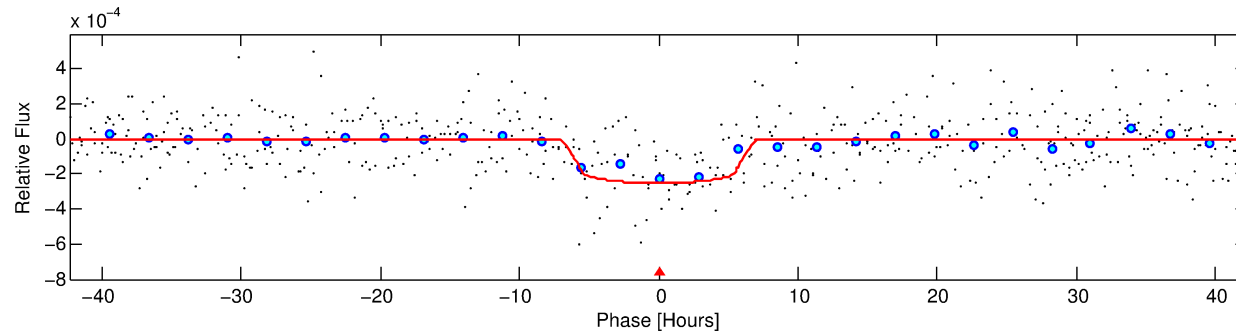
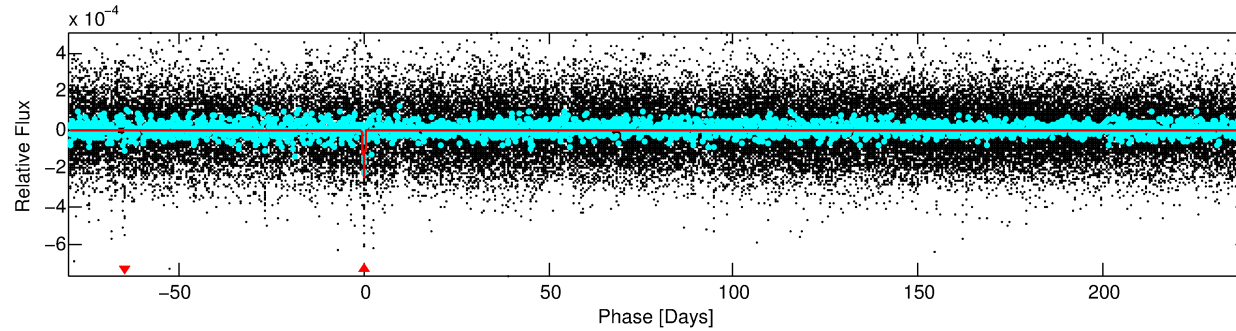
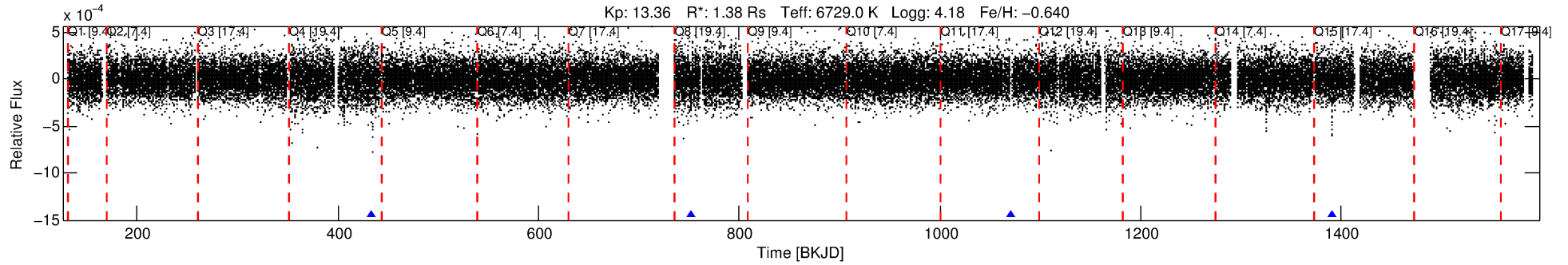
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004359049-01

No Significant Match Found

DV One-Page Summary

KIC: 4359049 Candidate: 1 of 1 Period: 319.268 d



DV Fit Results:

Period = 319.26768 [0.01096] d
Epoch = 432.8799 [0.0238] BKJD
Rp/R* = 0.0175 [0.0018]
a/R* = 68.44 [28.12]
b = 0.94 [0.05]
Seff = 4.06 [1.39]
Teq = 362 [31] K
Rp = 2.64 [0.59] Re
a = 0.9288 [0.1799] AU
Ag = 3831.22 [2262.46] [1.69 σ]
Teffp = 4403 [570] K [7.08 σ]

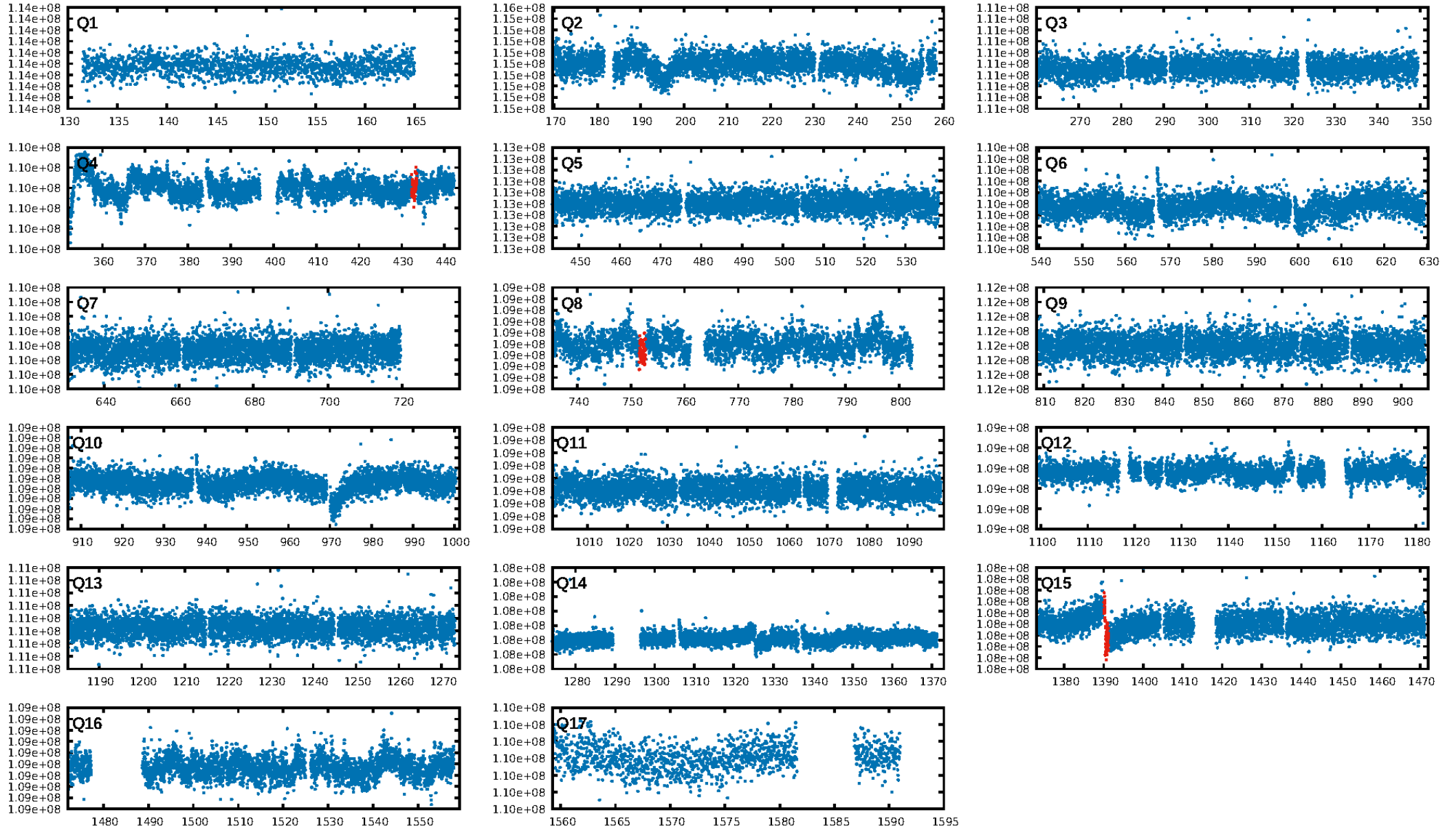
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.5%
ModelChiSquareGof-sig: 98.8%
Bootstrap-pfa: 2.09e-17
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.588
Centroid-sig: 0.4%
Centroid-so: 2.199 arcsec [2.39 σ]
OotOffset-rm: 1.895 arcsec [2.18 σ]
KicOffset-rm: 1.755 arcsec [2.09 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

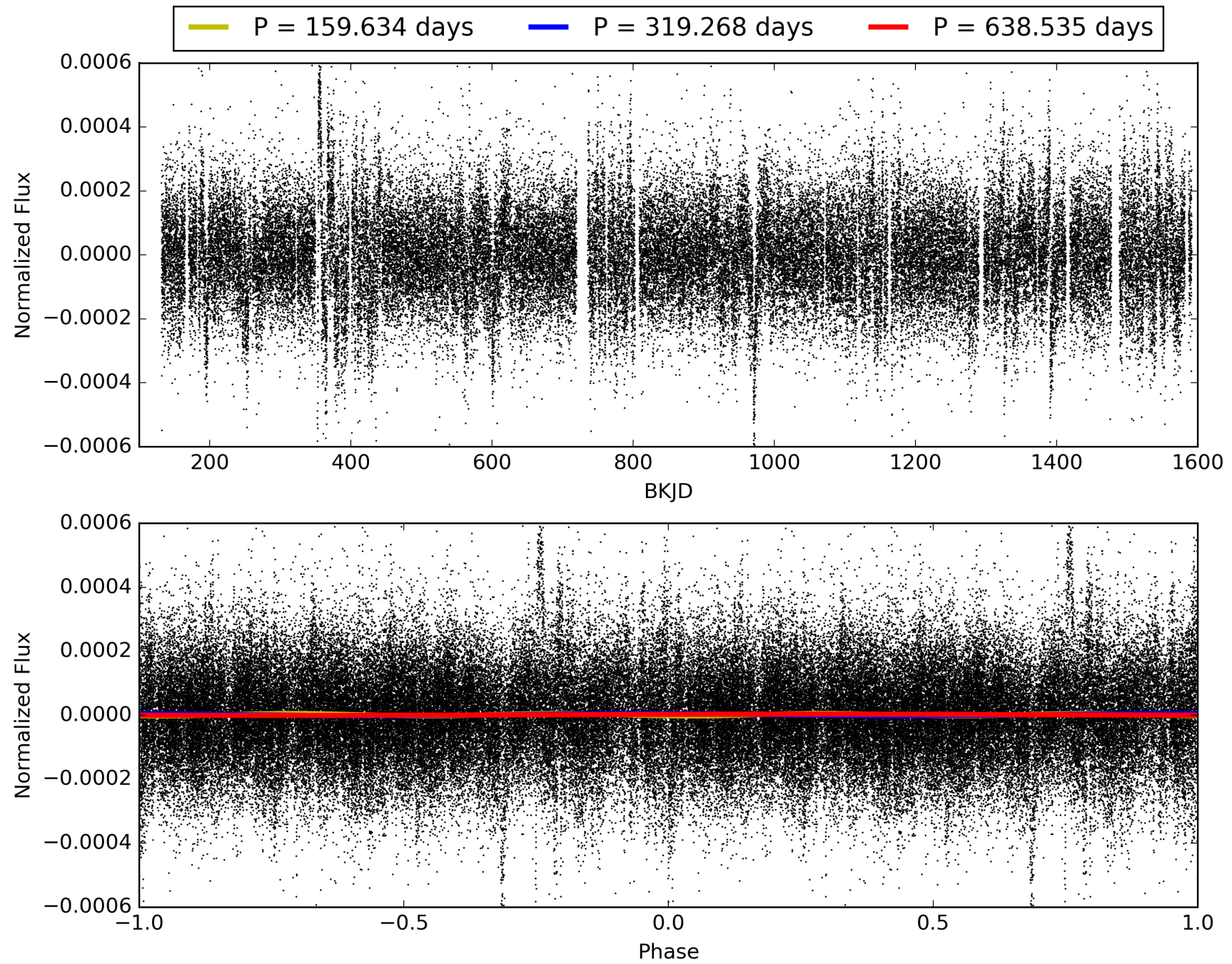
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 17:29:36 Z

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

TCE 004359049-01, PDC Light Curves

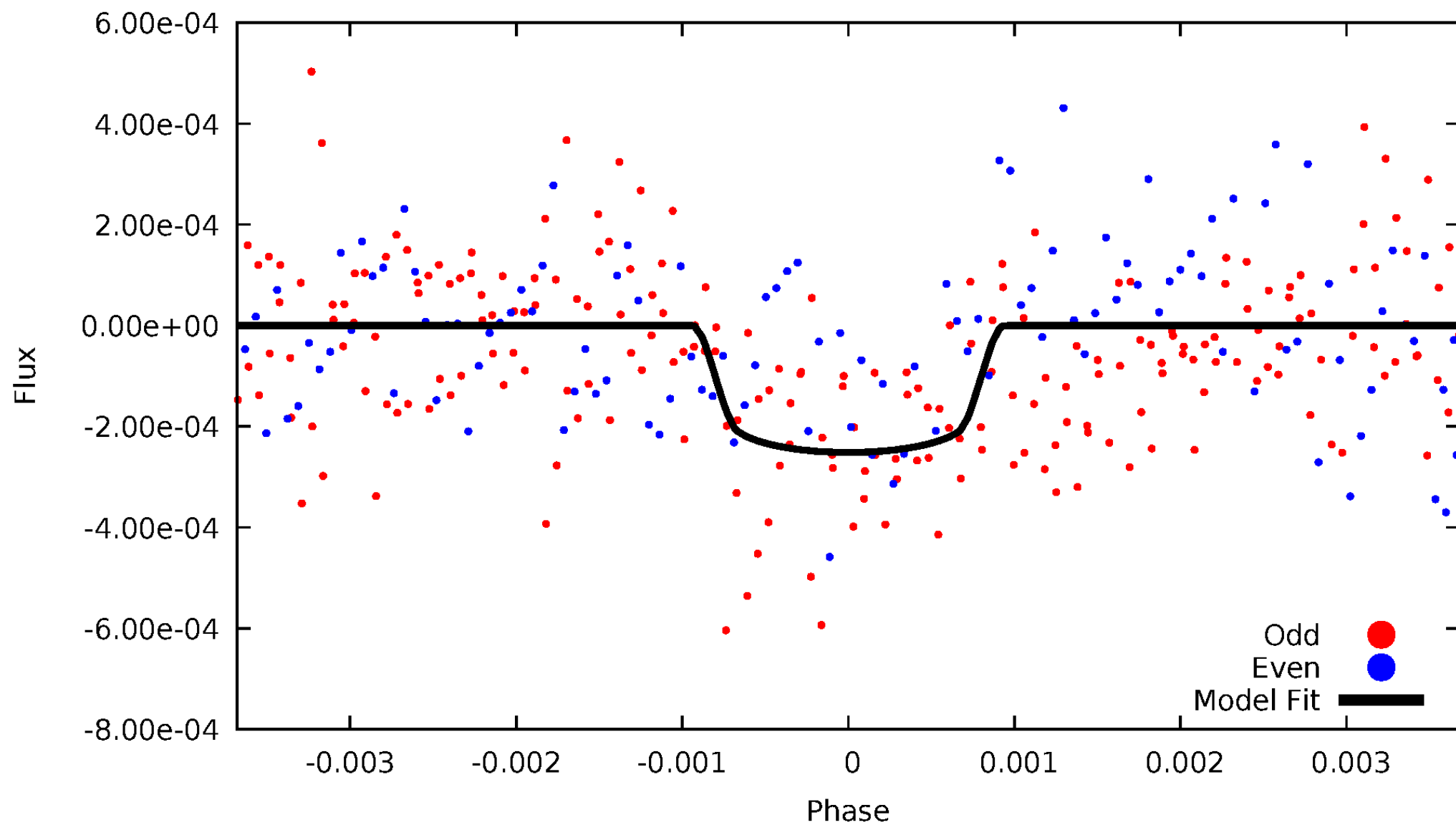


TCE 004359049-01



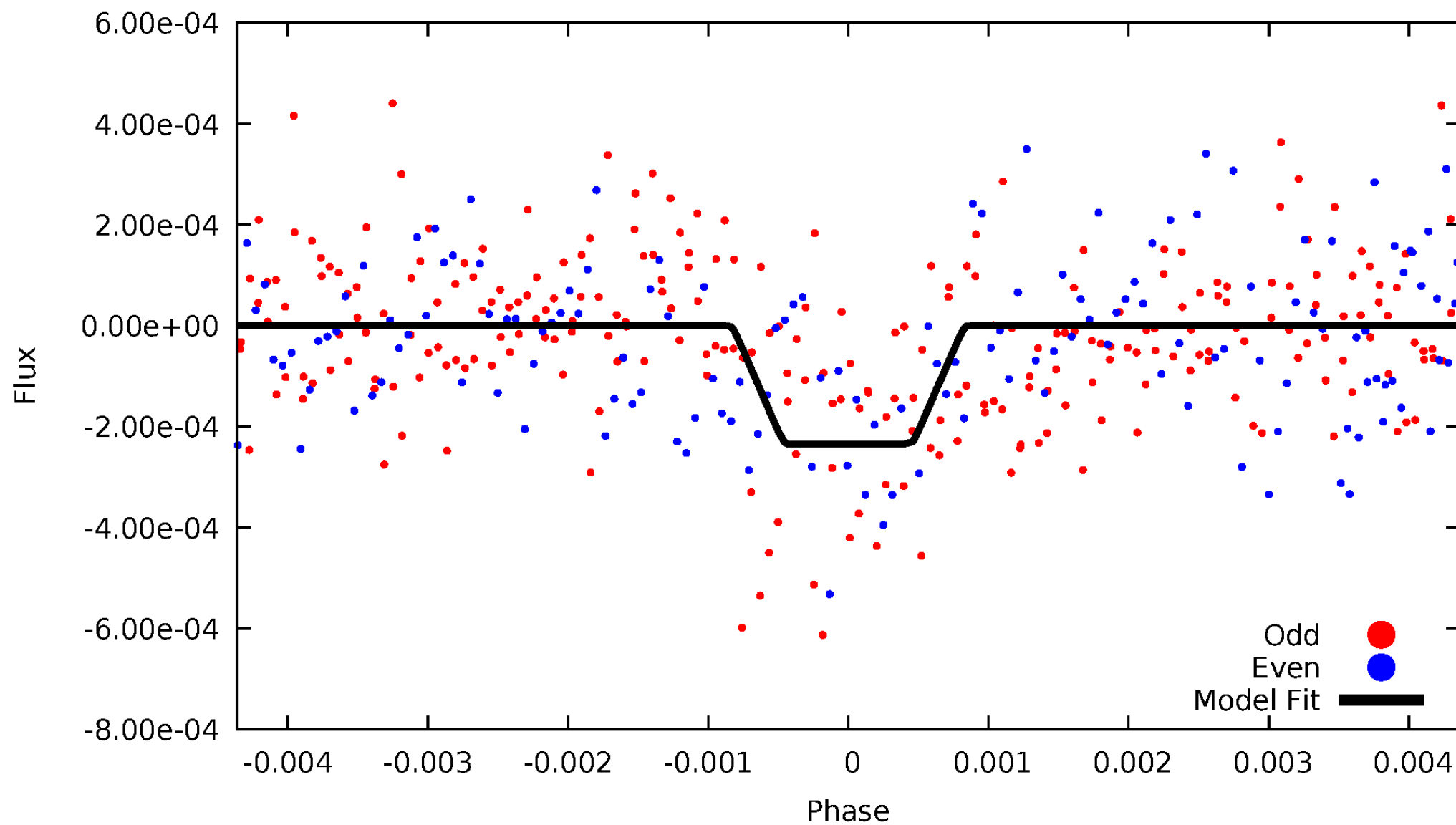
DV Odd/Even

TCE 004359049-01

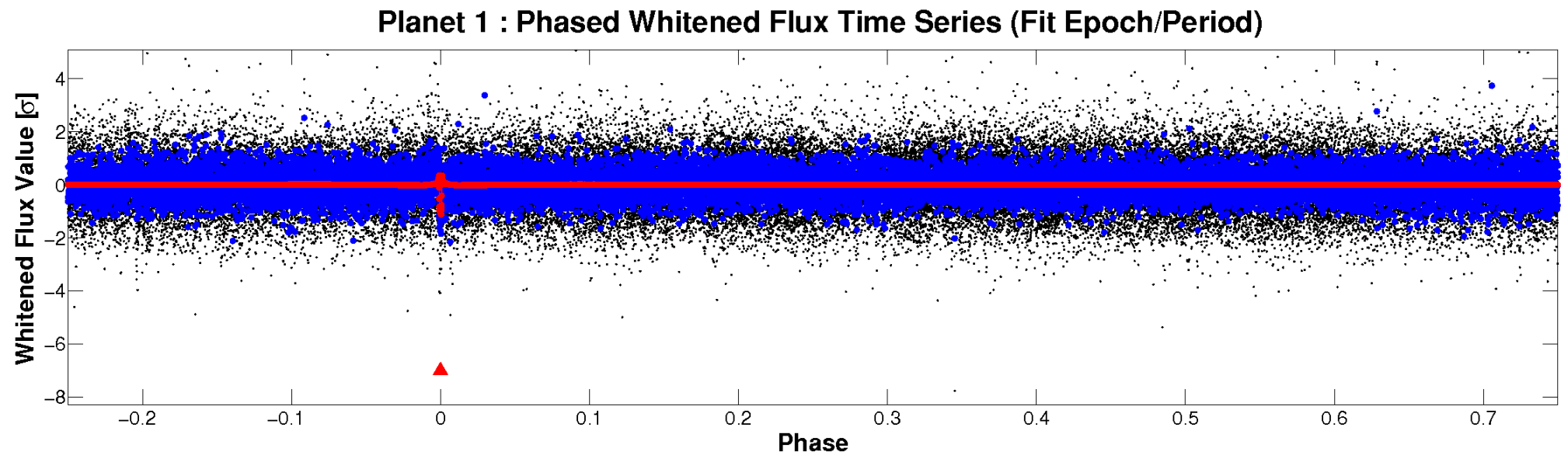
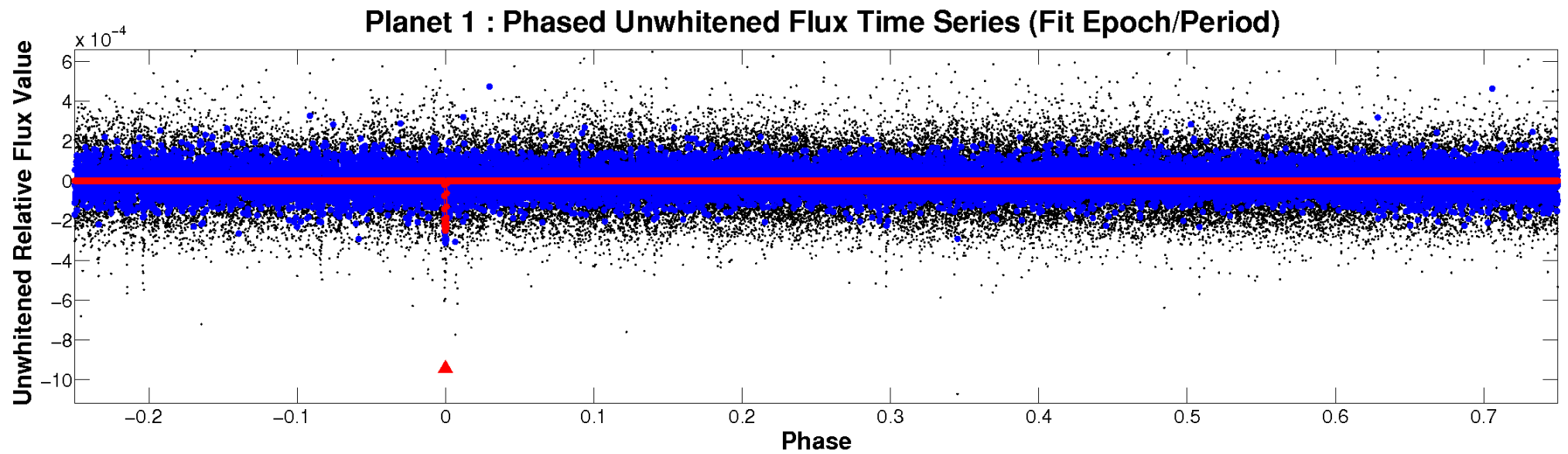


ALT Odd/Even

TCE 004359049-01

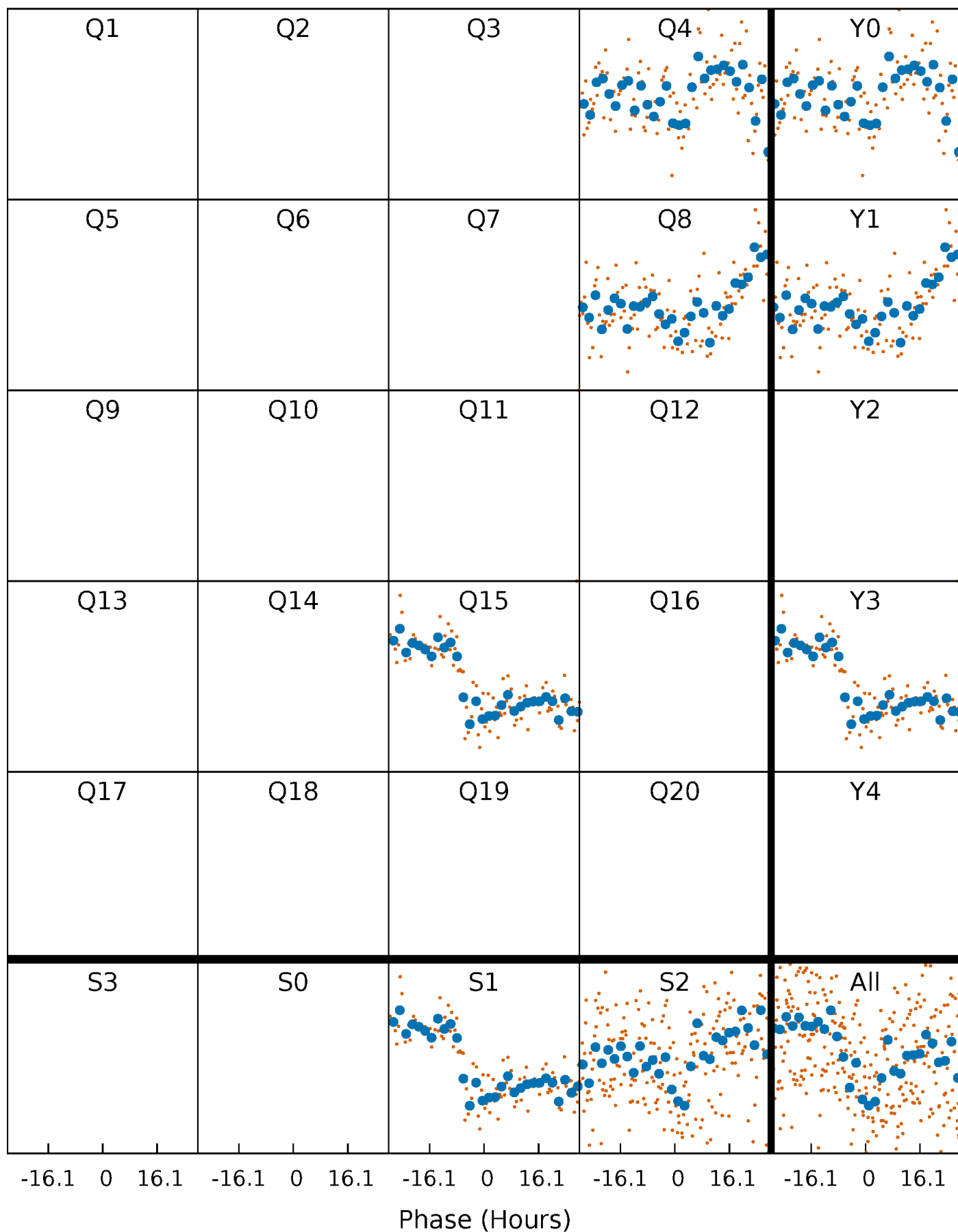


Non-Whitened Vs. Whitened Light Curve



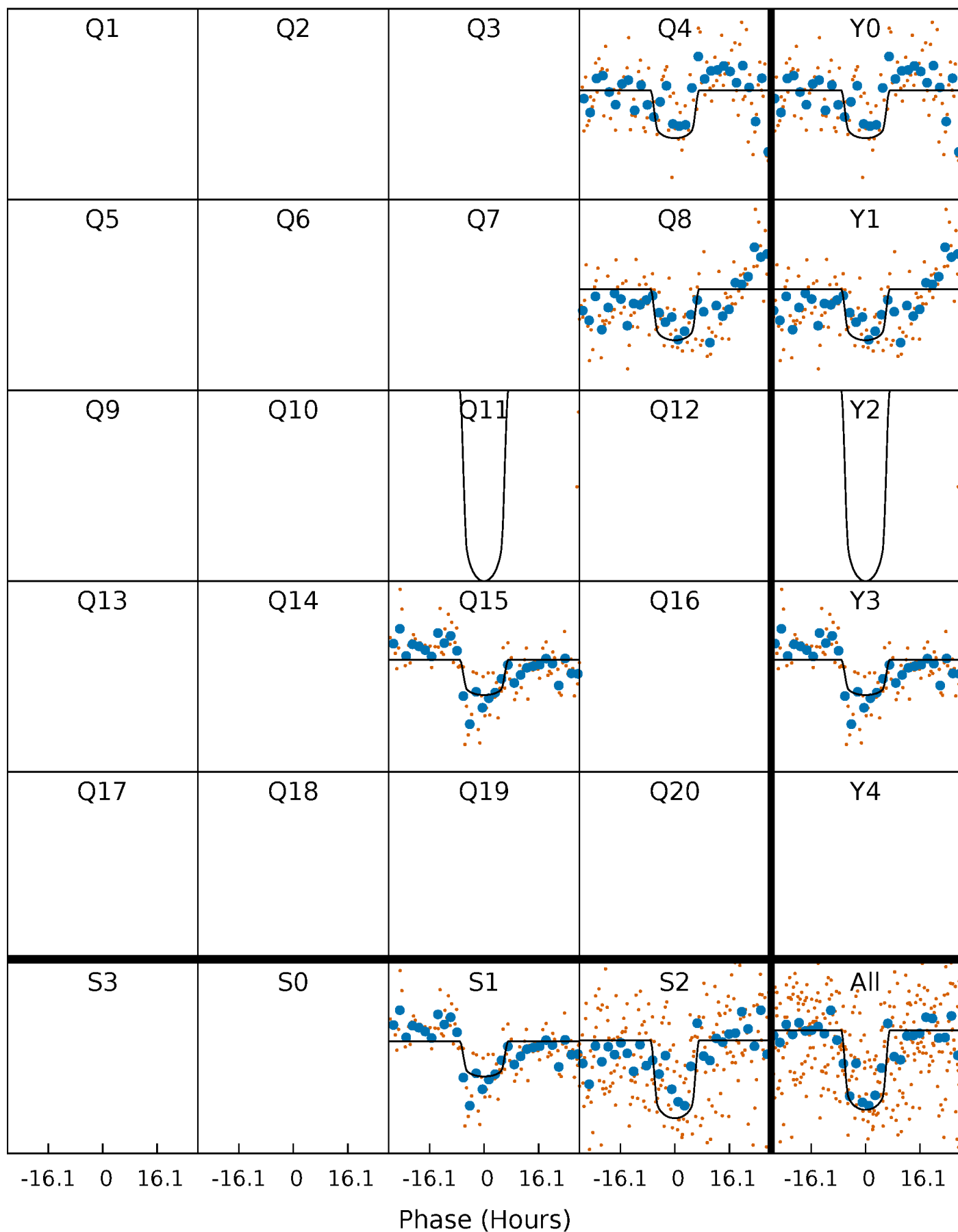
PDC Quarter-Phased Transit Curves

TCE 004359049-01 P=319.267680 Days $T_0=432.879927$ (BKJD)



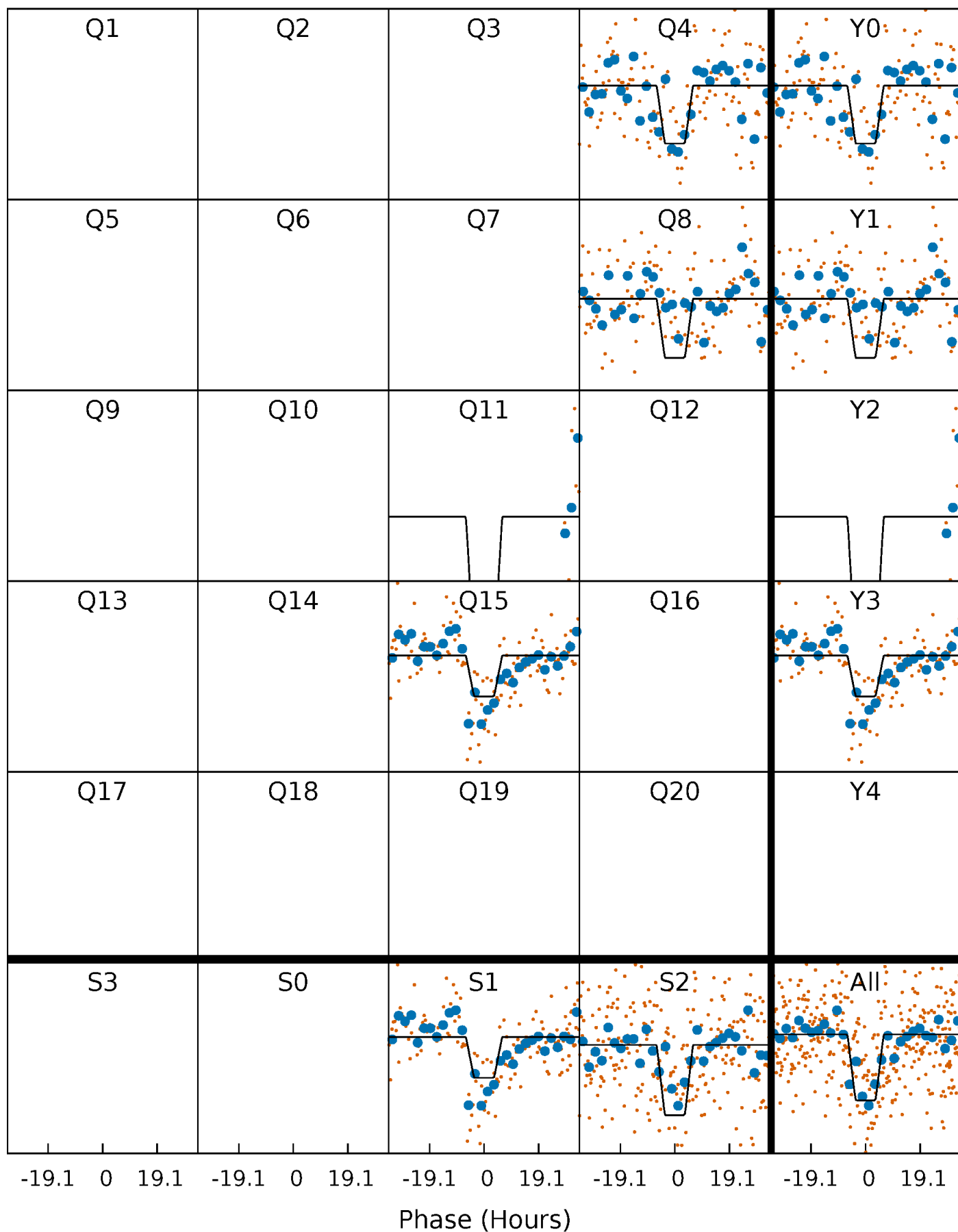
DV Quarter-Phased Transit Curves

TCE 004359049-01 P=319.267680 Days $T_0=432.879927$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

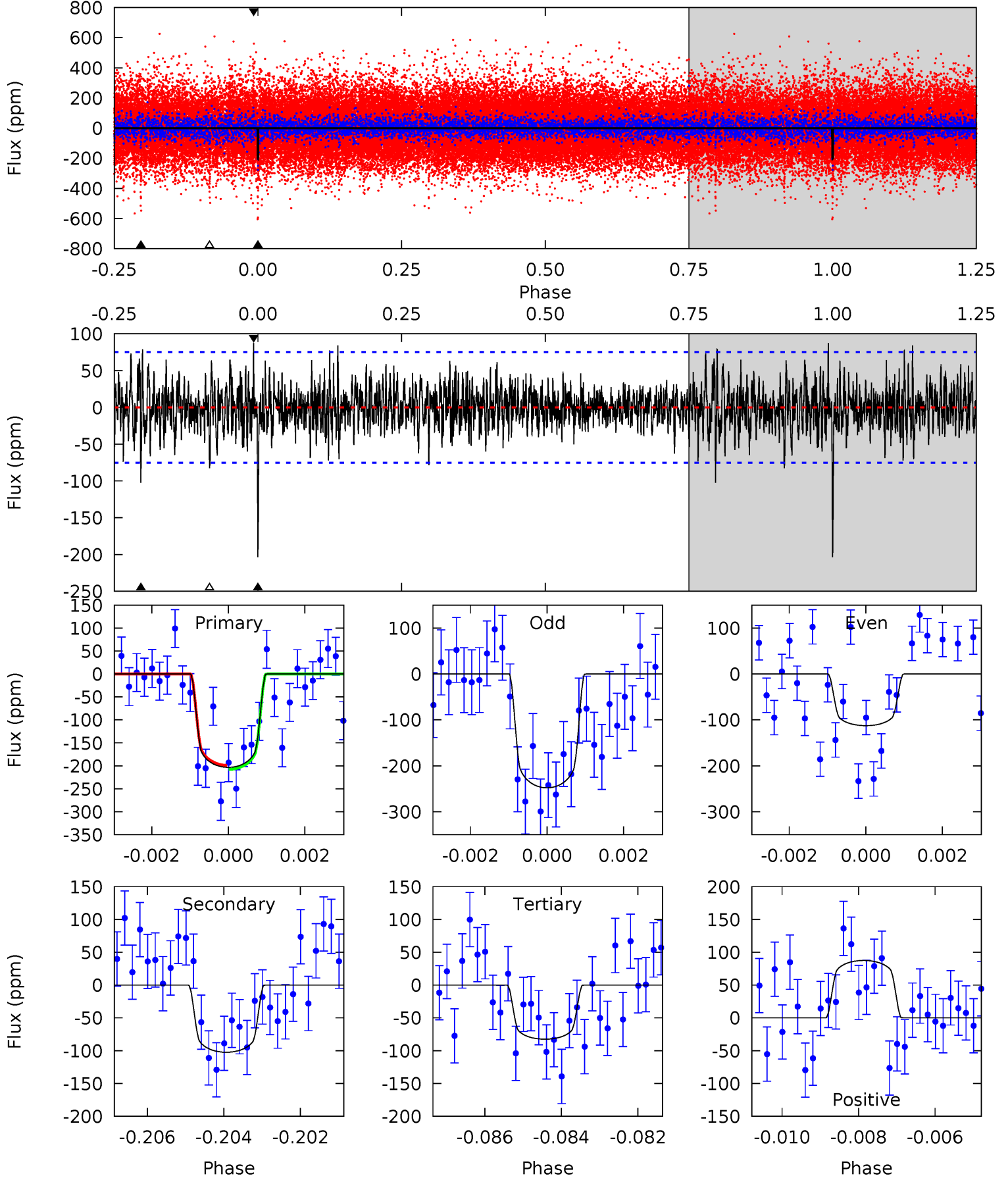
TCE 004359049-01 P=319.267564 Days $T_0=432.886637$ (BKJD)



DV Model-Shift Uniqueness Test

004359049-01, P = 319.267680 Days, E = 113.612247 Days

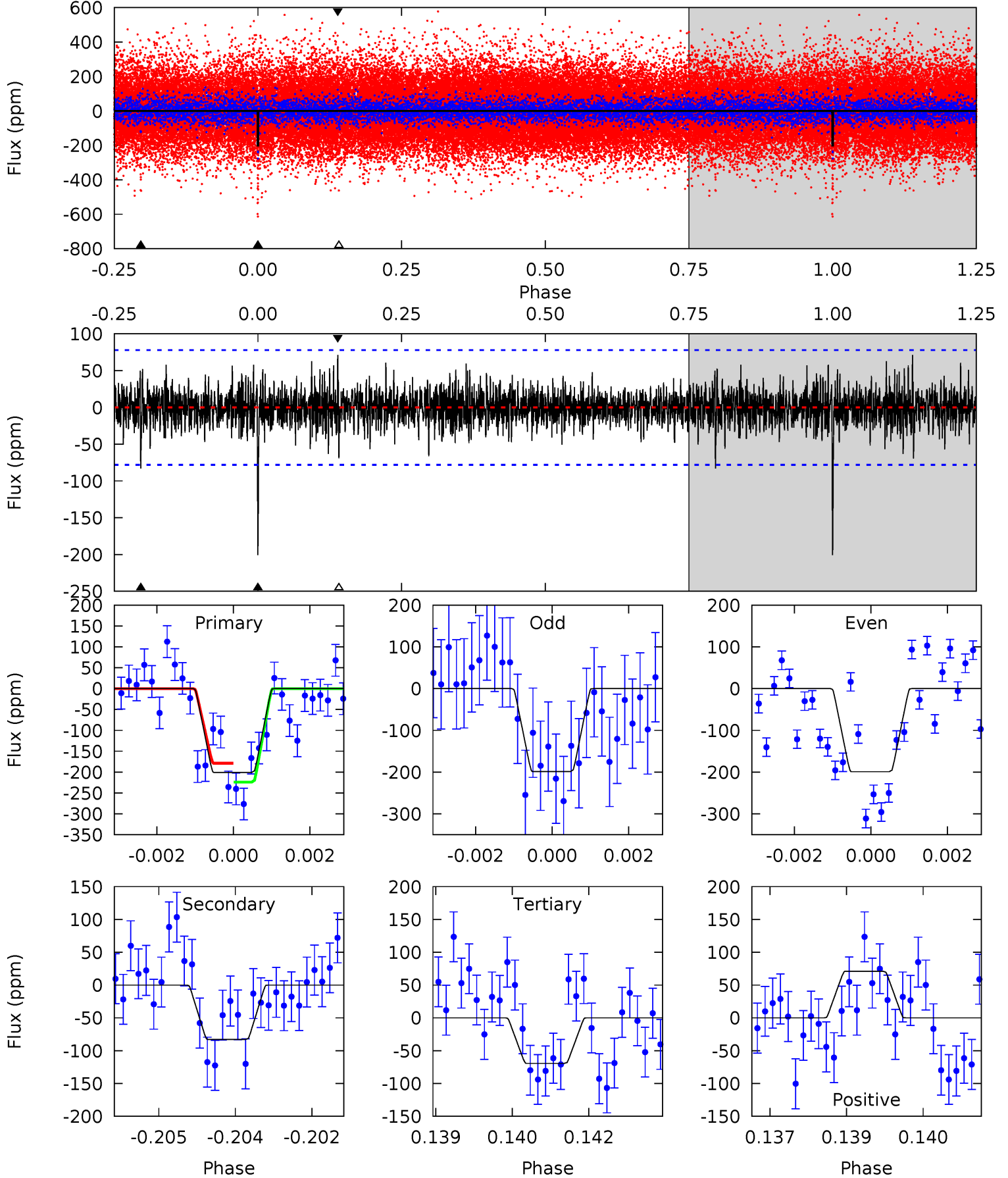
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	7.26	5.85	6.20	5.34	3.10	1.57	8.57	8.22	1.41	1.06	4.55	1.11	0.30	0.31



Alt Model-Shift Uniqueness Test

004359049-01, P = 319.267564 Days, E = 113.619073 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	5.70	4.77	4.88	5.36	3.14	1.20	9.03	8.92	0.93	0.82	0.01	0.99	0.26	1.55



Stellar Parameters For KIC 004359049

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6729^{+185}_{-226}	$4.178^{+0.186}_{-0.124}$	$-0.640^{+0.300}_{-0.300}$	$1.381^{+0.271}_{-0.271}$	$1.049^{+0.158}_{-0.105}$	$0.560^{+0.536}_{-0.201}$
	+3%/-3%	+4%/-3%	+47%/-47%	+20%/-20%	+15%/-10%	+96%/-36%
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 004359049-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-102 ± 14	$2.66^{+0.43}_{-0.42}$	503^{+30}_{-31}	5144^{+332}_{-281}	7092^{+2786}_{-2014}
Alt.	-83 ± 15	$2.30^{+0.38}_{-0.37}$	502^{+33}_{-31}	5227^{+369}_{-322}	7512^{+3585}_{-2228}

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

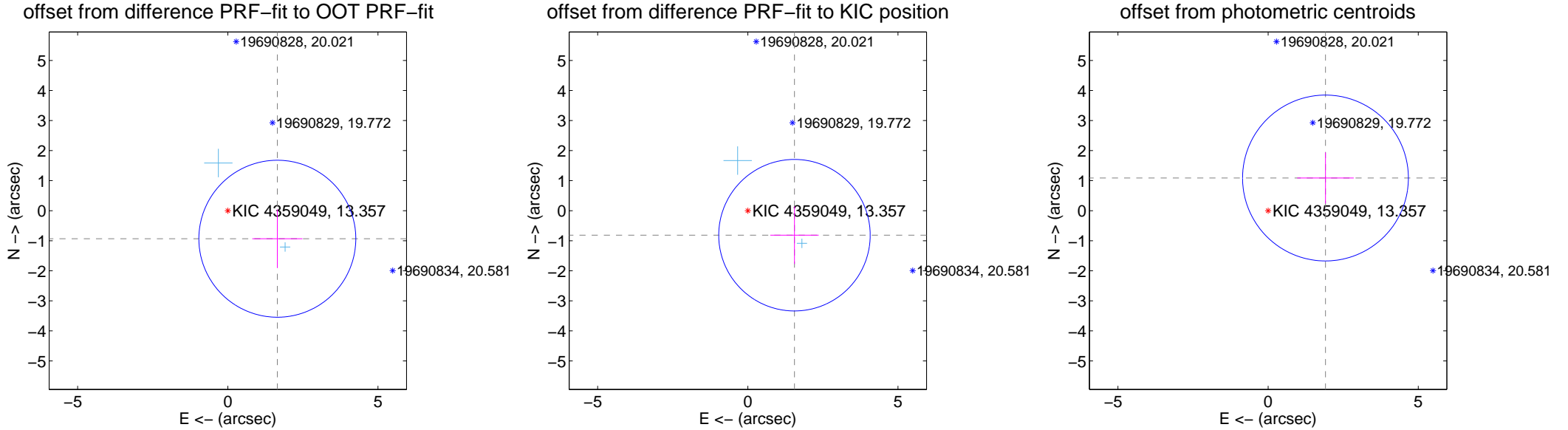
DV Centroid Data

Supplemental centroid analysis for 004359049-01. Kepler magnitude: 13.36. Transit SNR 8.47

There are 2 quarters with good PRF difference image offsets

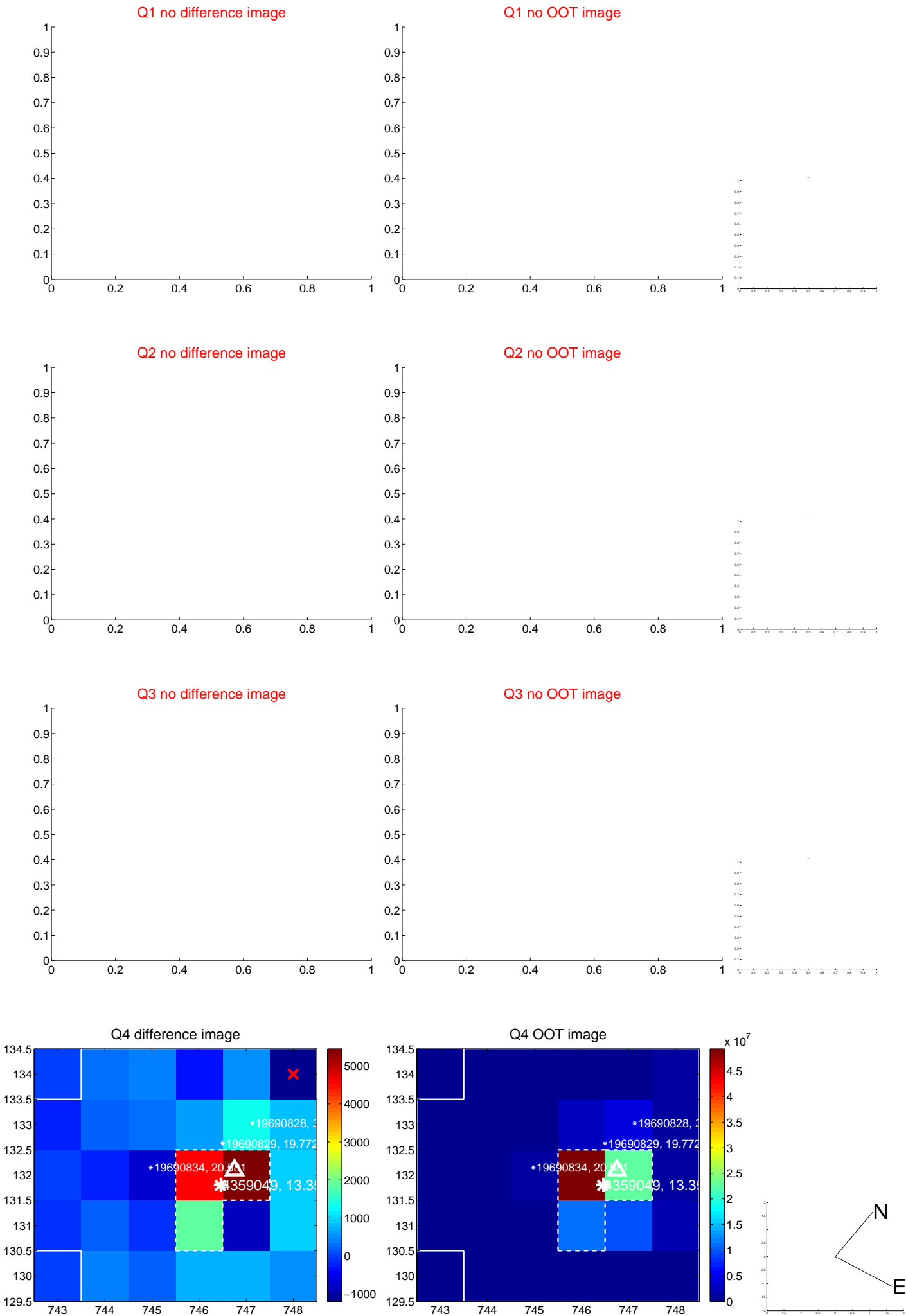
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.895 ± 0.871	2.18	-1.649 ± 0.835	-0.934 ± 0.975
PRF-fit source offset from KIC position	1.755 ± 0.841	2.09	-1.553 ± 0.805	-0.816 ± 0.961
photometric centroid source offset	2.20 ± 0.92	2.39	-1.91 ± 0.94	1.09 ± 0.85

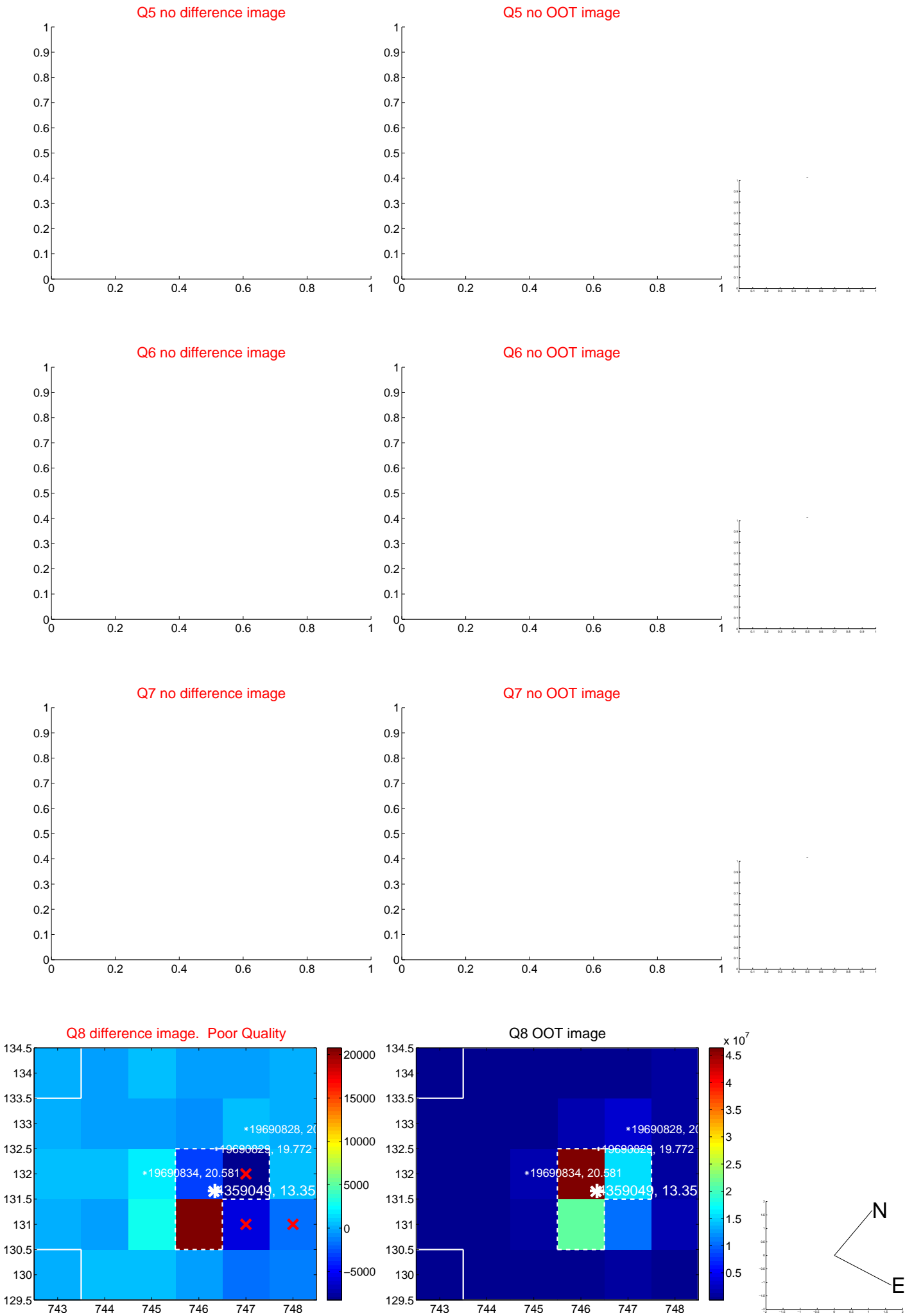


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



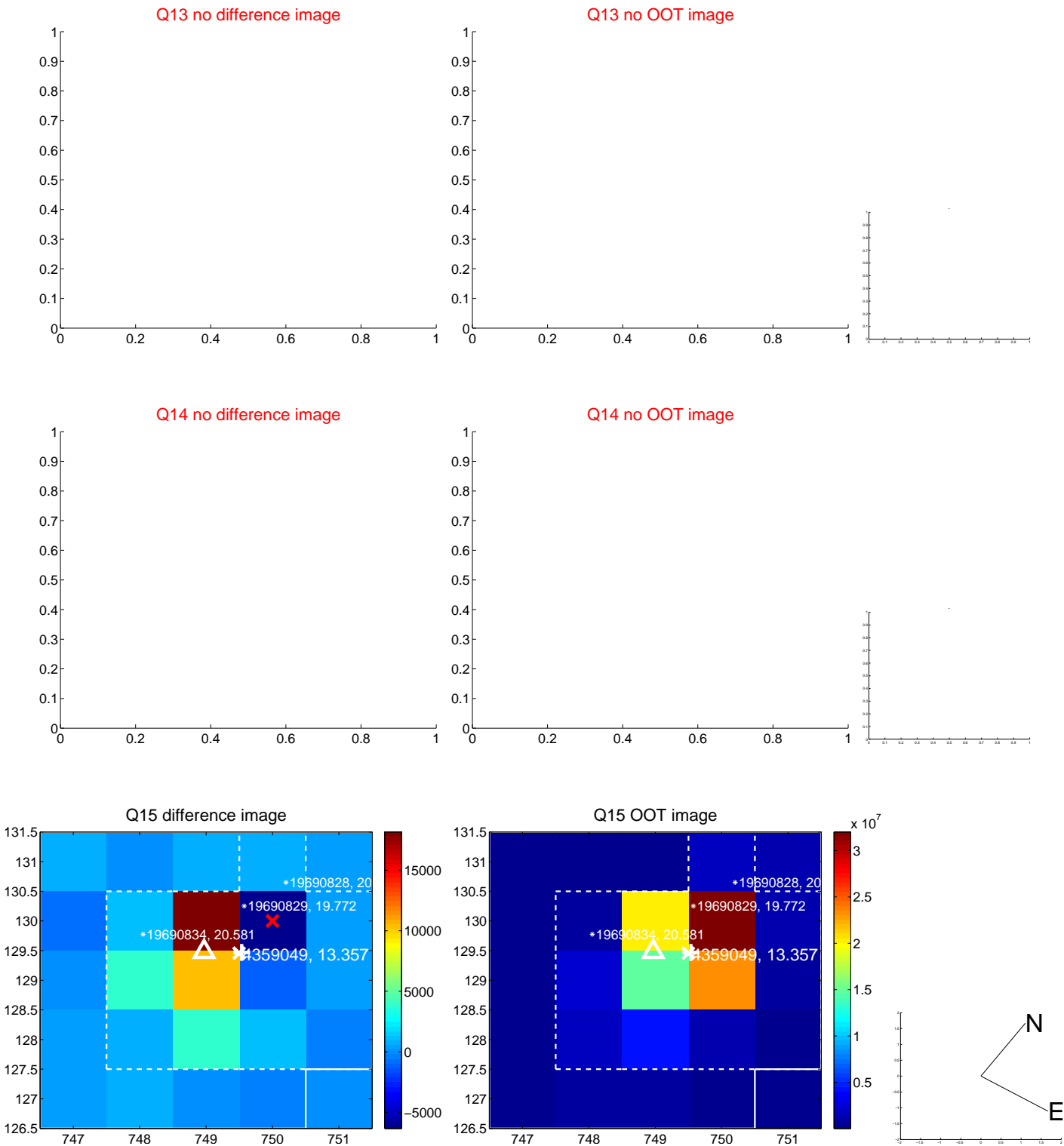
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



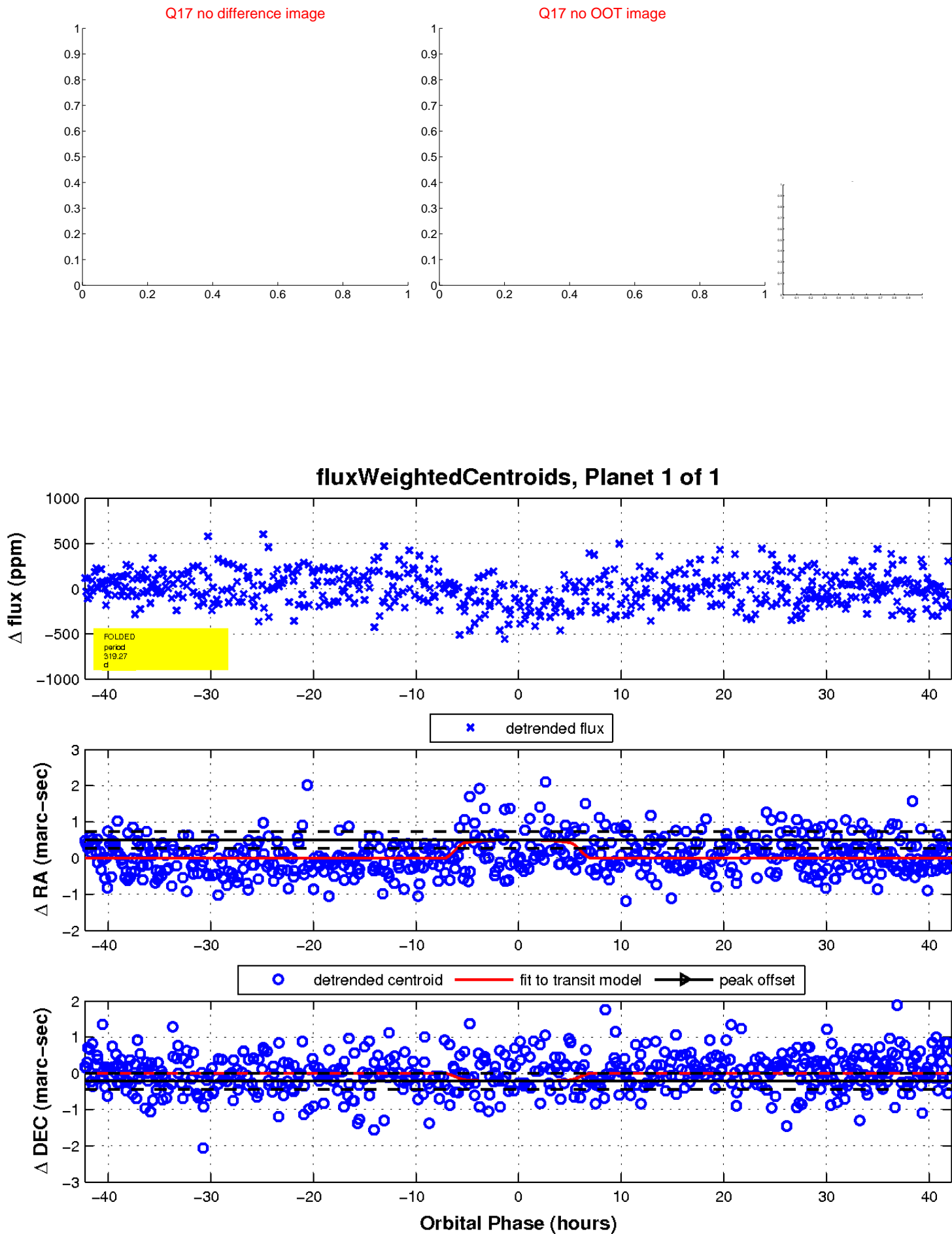
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

