

KIC 005199978

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})
005199978-01	OBS	6540.01	0.550508	131.871925	108.5	0.763	14.1	18.4	4.53	4891	5.14	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005199978-01	OBS	FP	0.00	0	1	1	0	PLANET_IN_STAR—MOD_SEC_DV—CENT_RESOLVED_OFFSET—HALO_GHOST

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 005199978-01

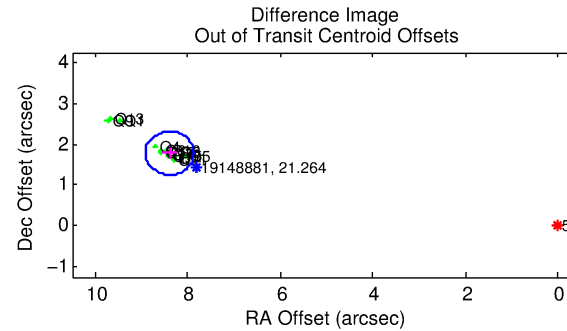
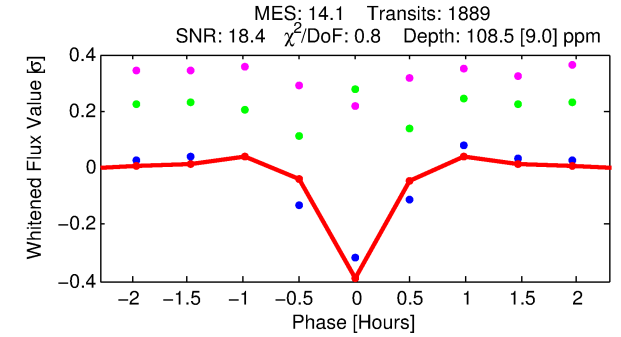
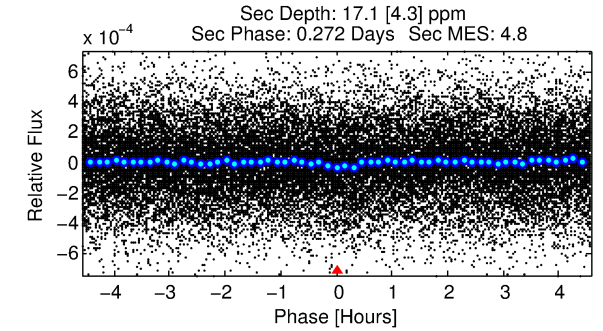
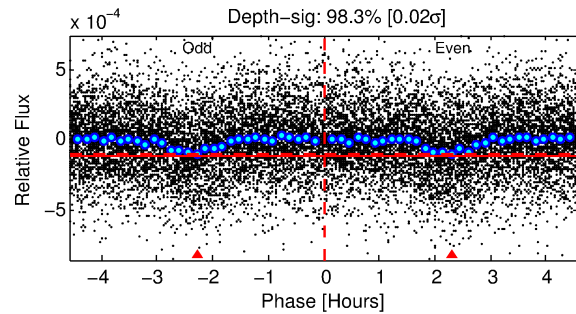
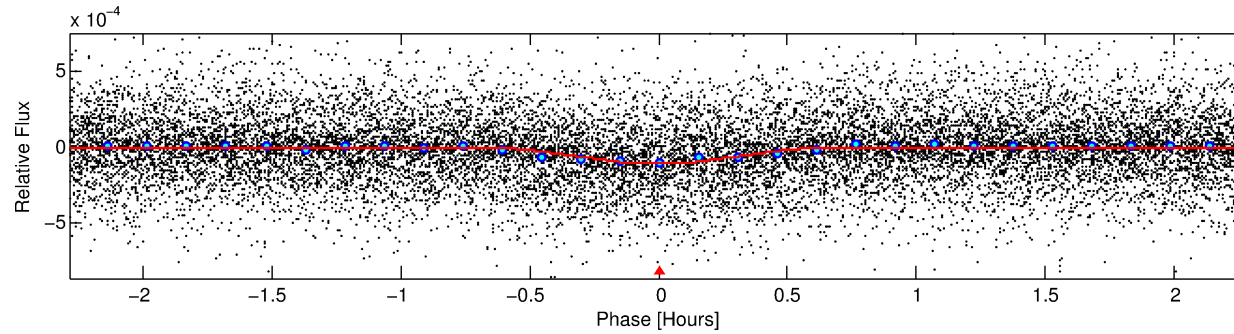
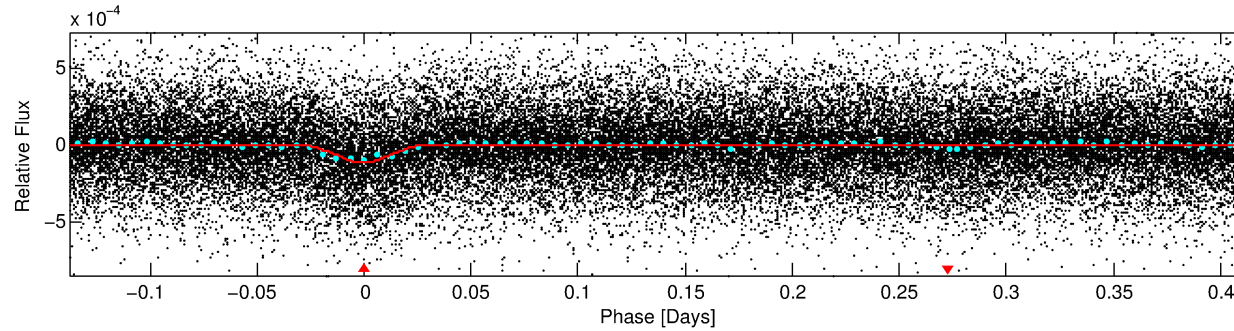
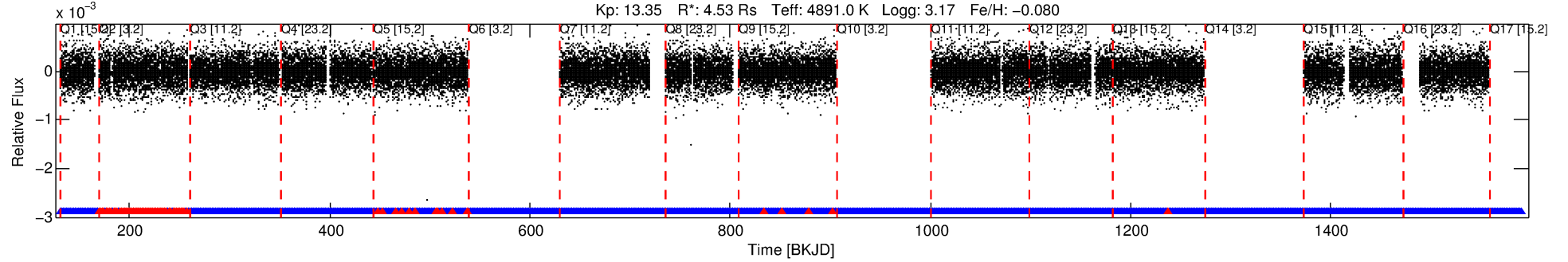
No Significant Match Found

DV One-Page Summary

KIC: 5199978 Candidate: 1 of 1 Period: 0.551 d

KOI: K06540.01 Corr: 0.805

Kp: 13.35 R*: 4.53 Rs Teff: 4891.0 K Logg: 3.17 Fe/H: -0.080



DV Fit Results:

Period = 0.55051 [0.00001] d
Epoch = 131.8719 [0.0007] BKJD
Rp/R* = 0.0104 [0.0036]
a/R* = 4.11 [4.65]
b = 0.70 [0.89]
Seff = N/A
Teq = N/A
Rp = 5.14 [1.89] Re
a = N/A
Ag = N/A
Teff = N/A

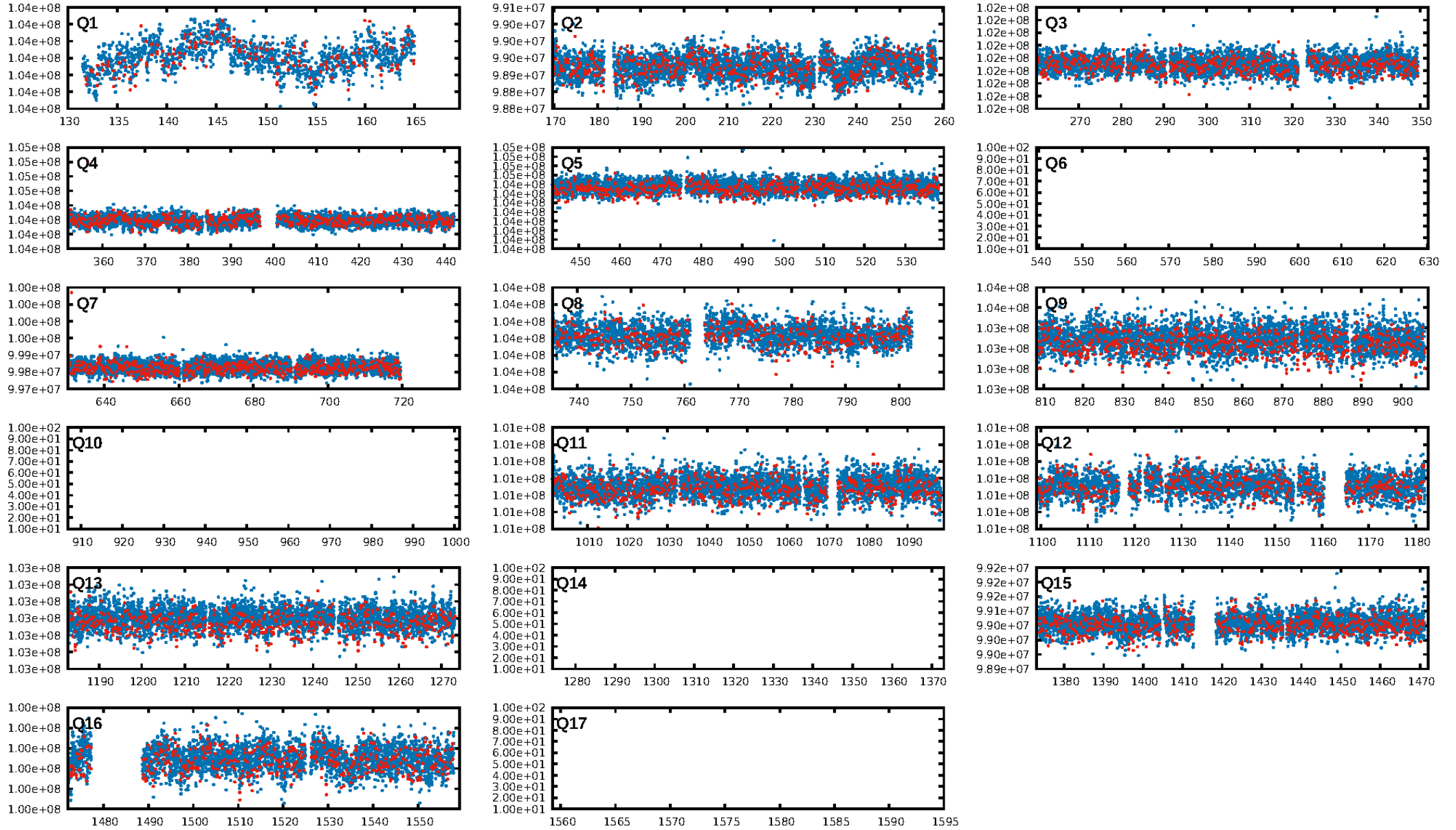
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 3.18e-36
RollingBand-fgt: 0.94 [1719/1828]
GhostDiagnostic-chr: 0.1196
Centroid-sig: 0.0%
Centroid-so: 3.173 arcsec [10.17σ]
OotOffset-rm: 8.583 arcsec [48.97σ]
KicOffset-rm: 7.911 arcsec [107.29σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

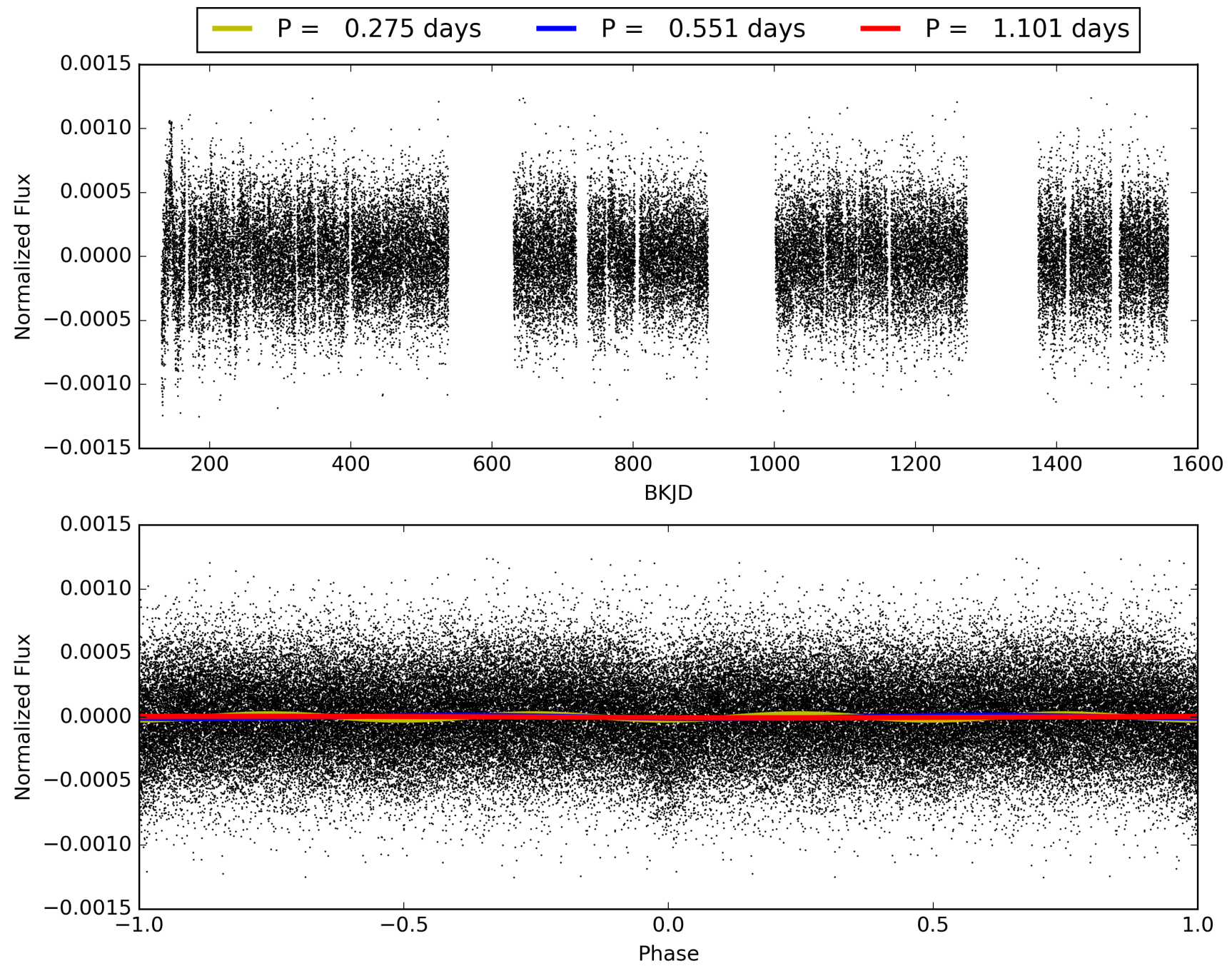
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:50:00 Z

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

TCE 005199978-01, PDC Light Curves

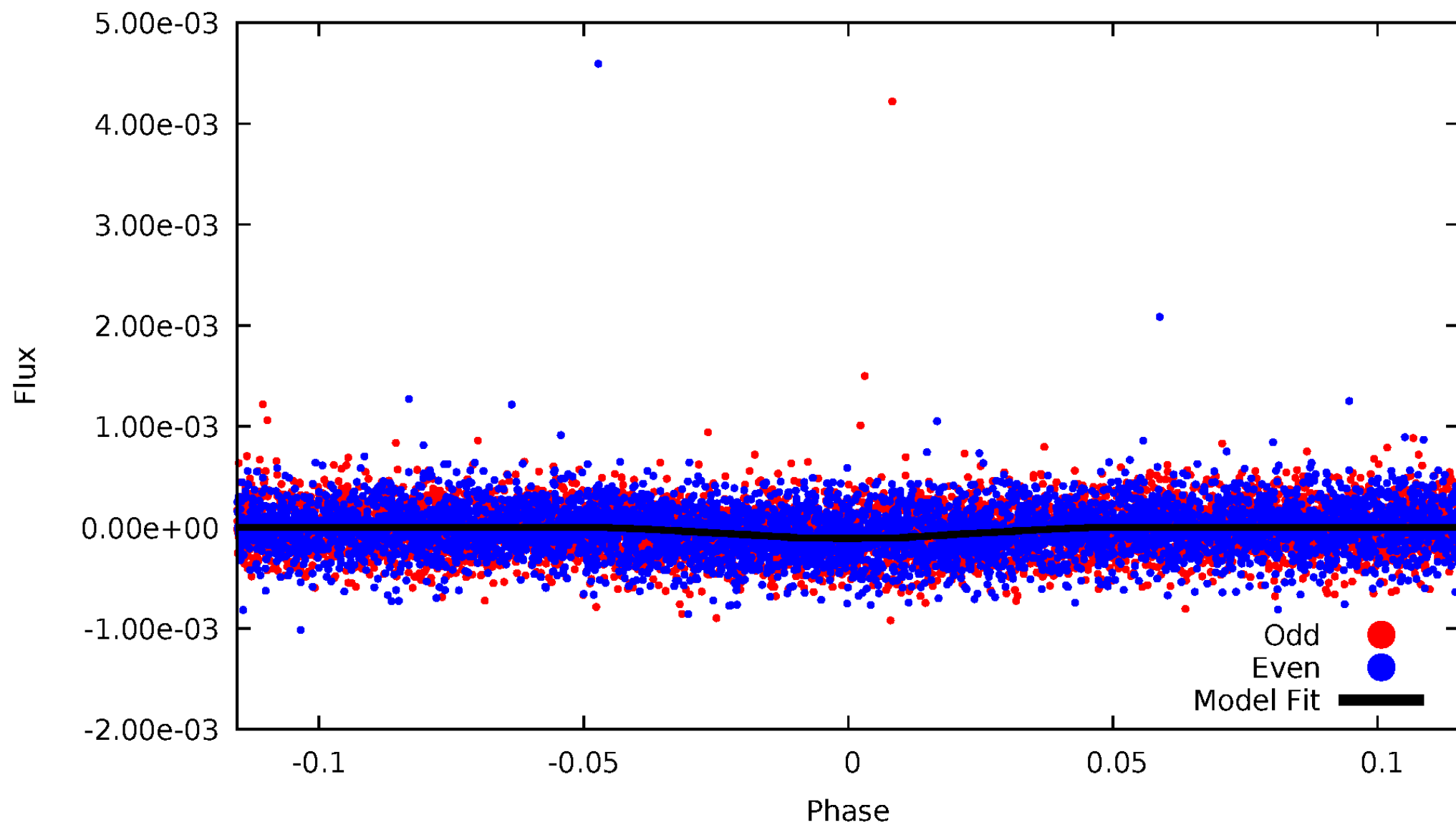


TCE 005199978-01



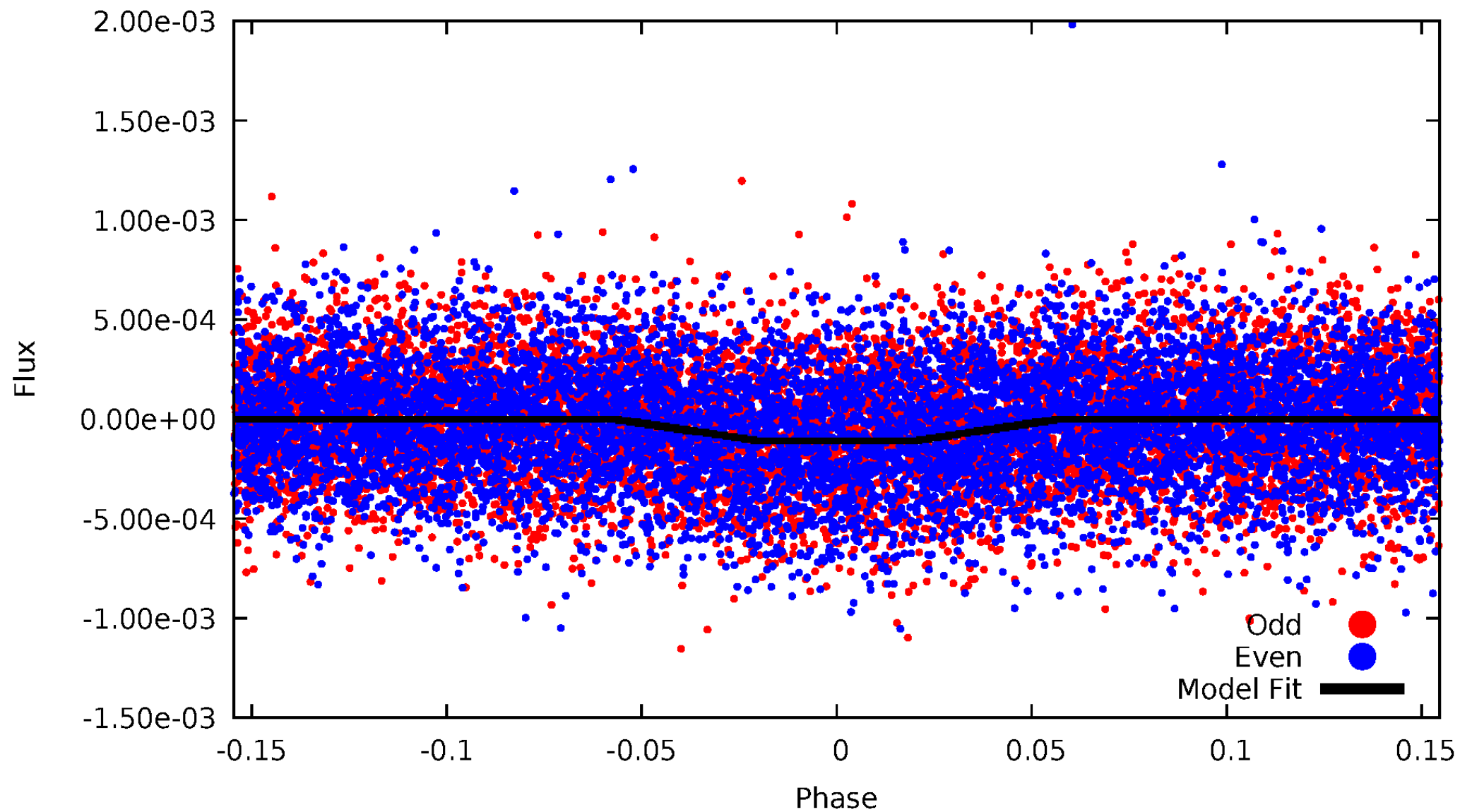
DV Odd/Even

TCE 005199978-01

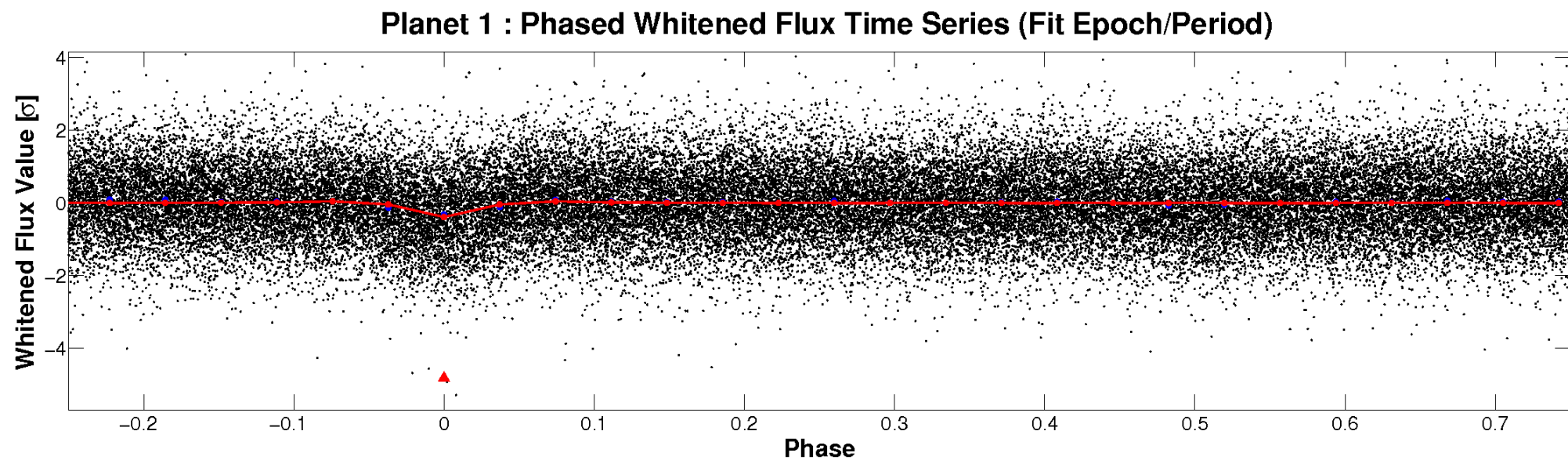
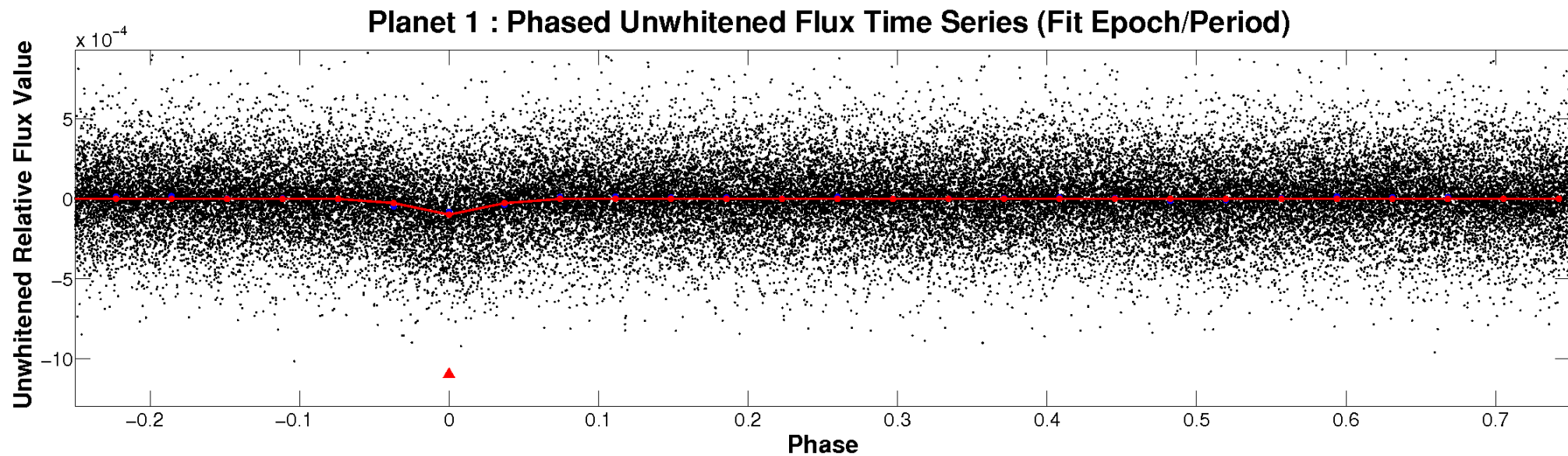


ALT Odd/Even

TCE 005199978-01

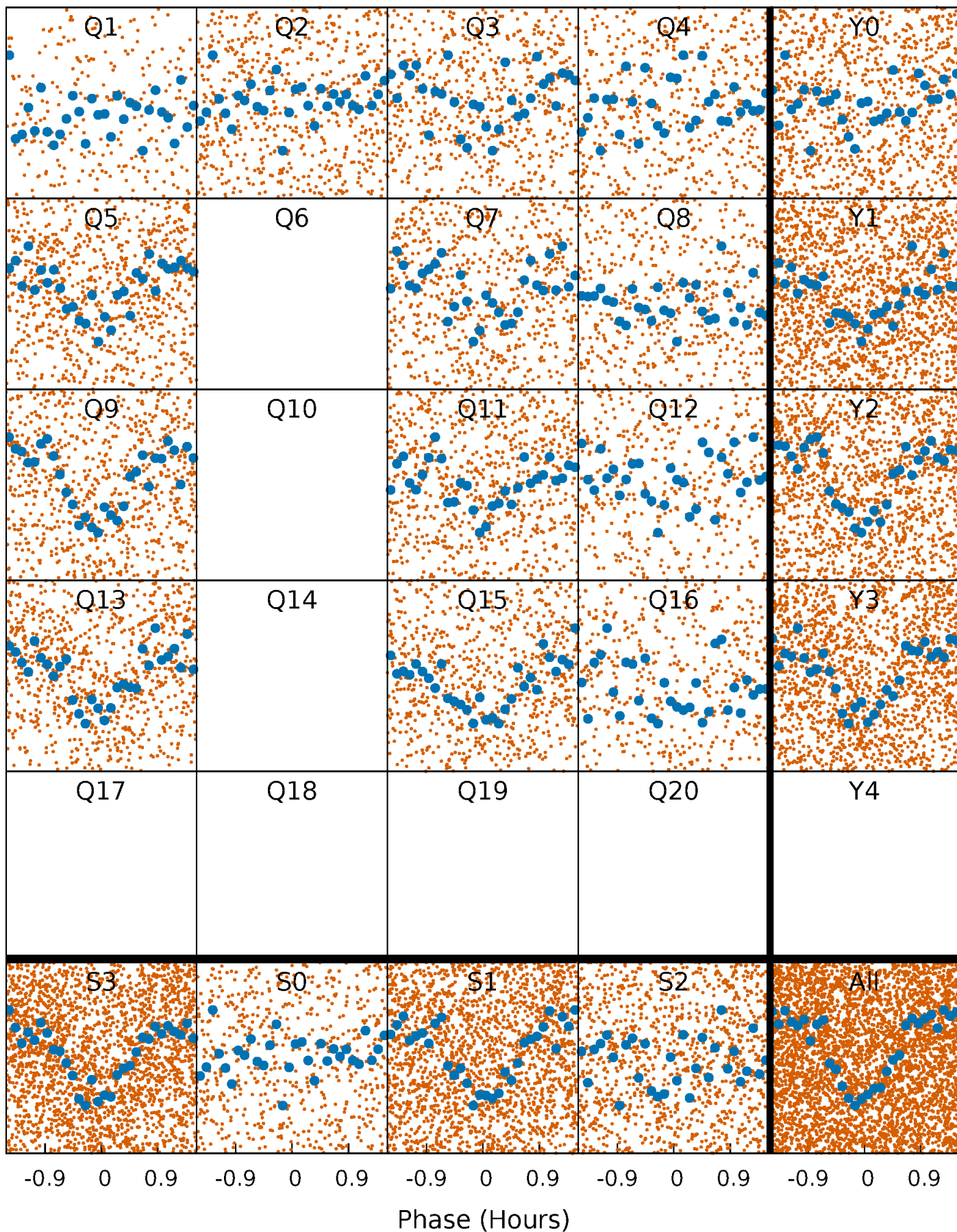


Non-Whitened Vs. Whitened Light Curve



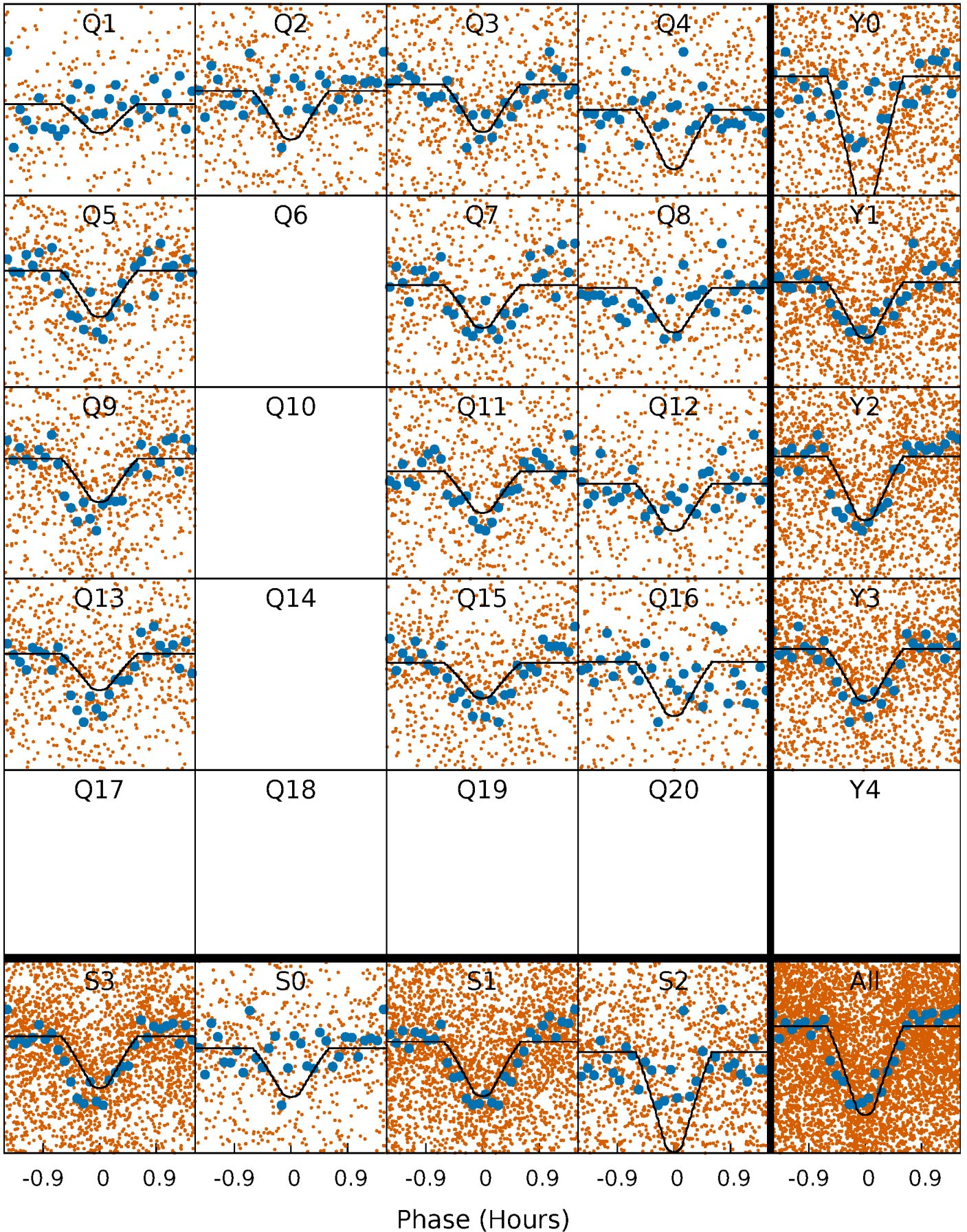
PDC Quarter-Phased Transit Curves

TCE 005199978-01 P= 0.550508 Days $T_0=131.871926$ (BKJD)



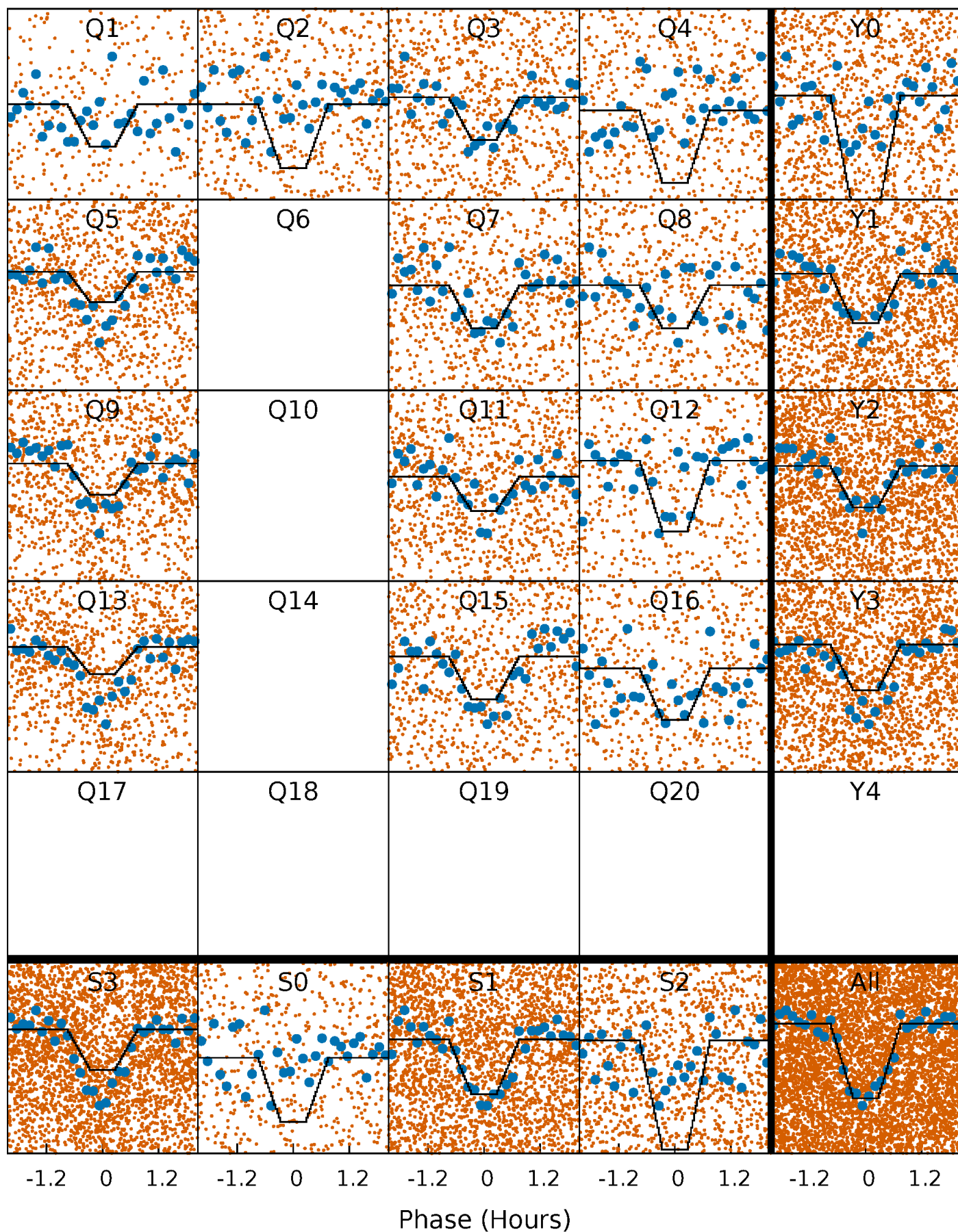
DV Quarter-Phased Transit Curves

TCE 005199978-01 P= 0.550508 Days $T_0=131.871926$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

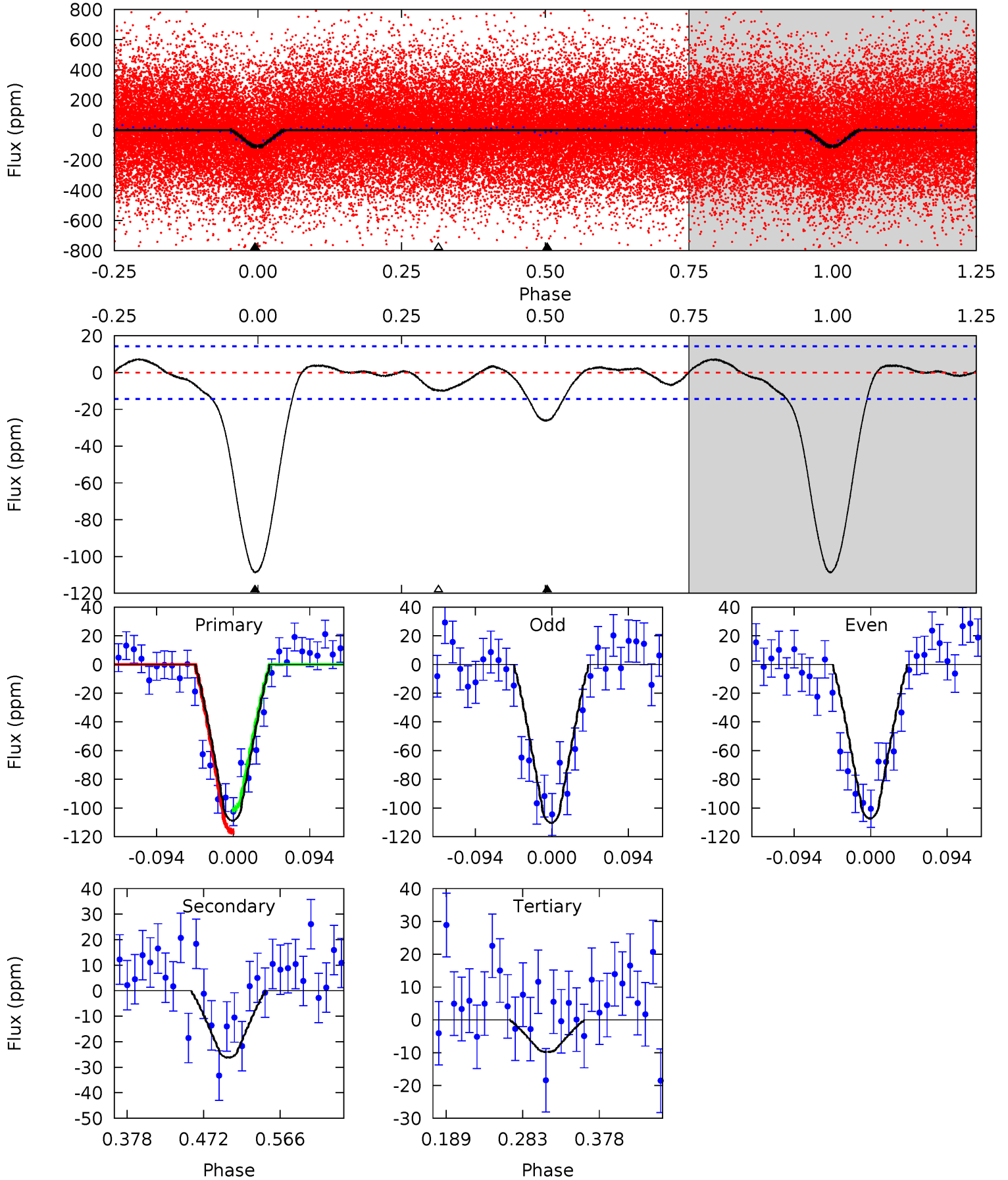
TCE 005199978-01 P= 0.550506 Days $T_0=131.871854$ (BKJD)



DV Model-Shift Uniqueness Test

005199978-01, P = 0.550508 Days, E = 131.321418 Days

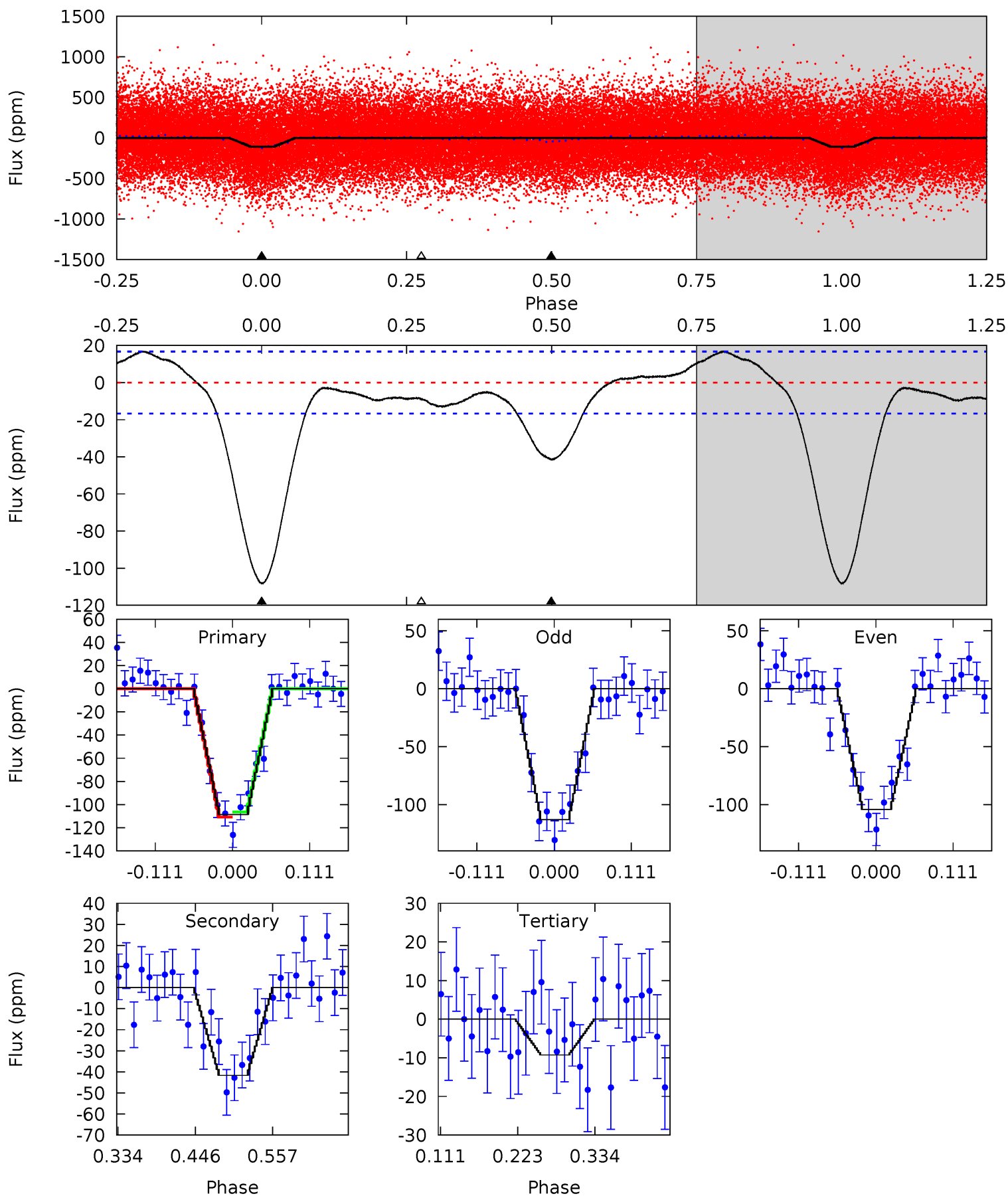
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.8	8.39	3.13	0	4.58	1.67	1.34	31.7	34.8	5.25	8.39	0.49	0.99	0.06	2.42



Alt Model-Shift Uniqueness Test

005199978-01, P = 0.550506 Days, E = 131.321348 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.5	11.3	2.52	0	4.54	1.59	2.41	27.0	29.5	8.81	11.3	1.19	1.00	0.13	0.60



Stellar Parameters For KIC 005199978

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4891^{+88}_{-78}	$3.169^{+0.030}_{-0.030}$	$-0.080^{+0.200}_{-0.200}$	$4.529^{+0.568}_{-0.332}$	$1.106^{+0.287}_{-0.143}$	$0.017^{+0.002}_{-0.002}$
	+2%/-2%	+1%/-1%	+250%/-250%	+13%/-7%	+26%/-13%	+13%/-14%
Source	PHO56	AST56	PHO56	DSEP		

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

Secondary Eclipse Parameters for KIC 005199978-01 / KOI 6540.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-26 ± 3	$5.19^{+1.75}_{-1.83}$	5511^{+126}_{-125}	-4227^{+659}_{-201}	$0.098^{+0.130}_{-0.043}$
Alt.	-42 ± 4	$5.11^{+1.97}_{-1.86}$	5499^{+143}_{-120}	-3953^{+7741}_{-358}	$0.160^{+0.247}_{-0.075}$

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 $A_{obs} \gg 1.0$

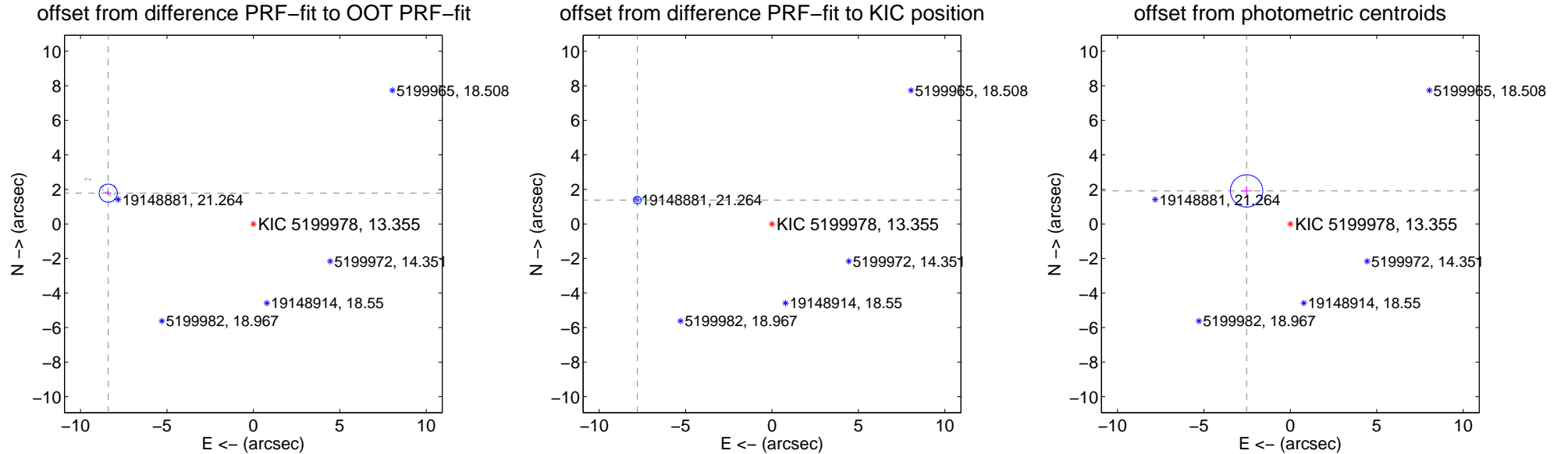
DV Centroid Data

Supplemental centroid analysis for 005199978-01. Kepler magnitude: 13.36. Transit SNR 18.37

There are 13 quarters with good PRF difference image offsets

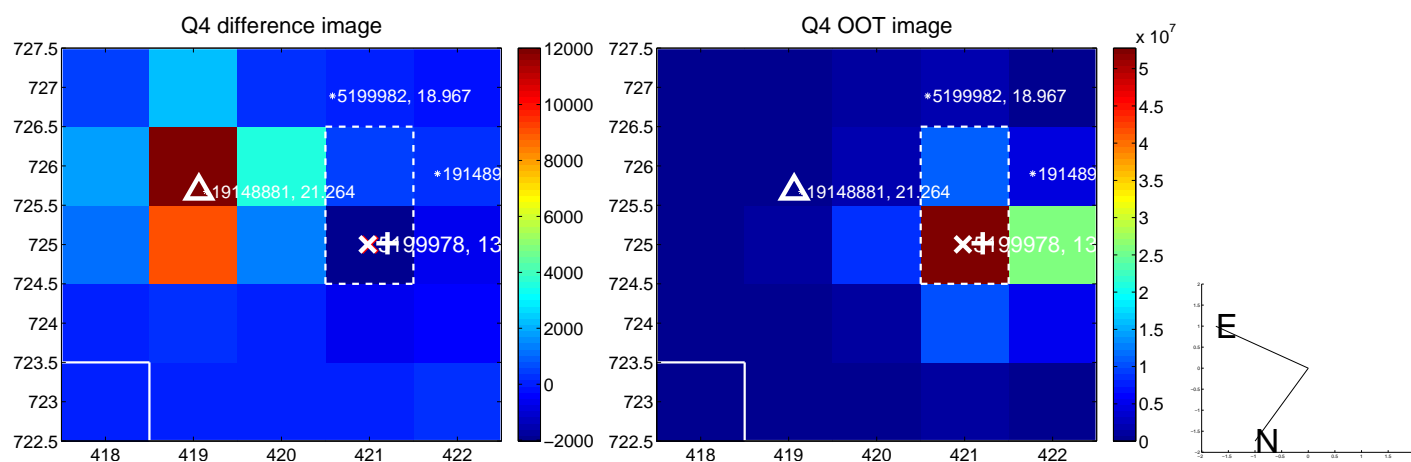
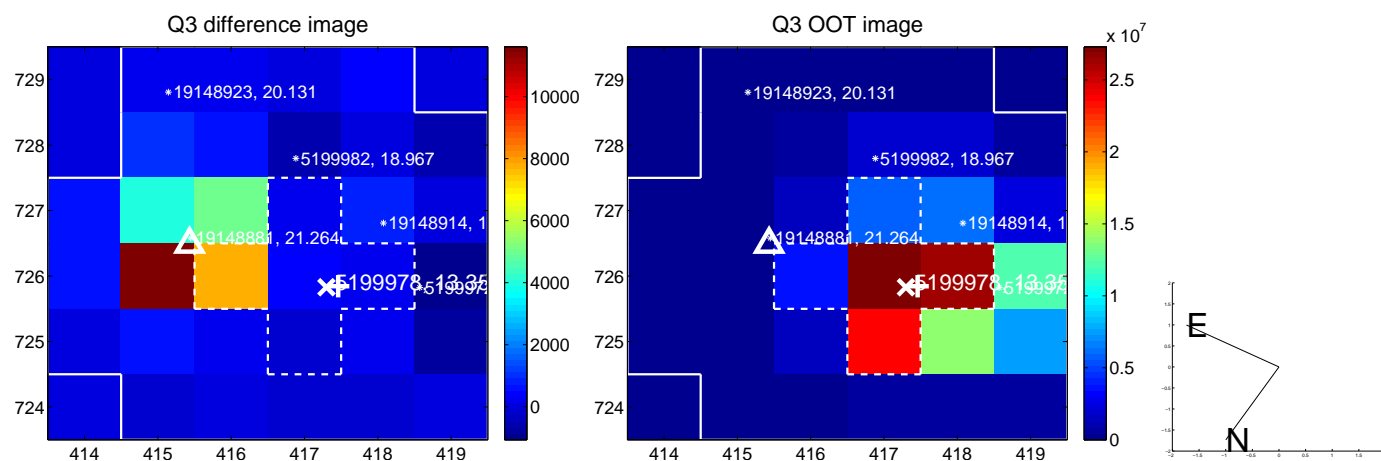
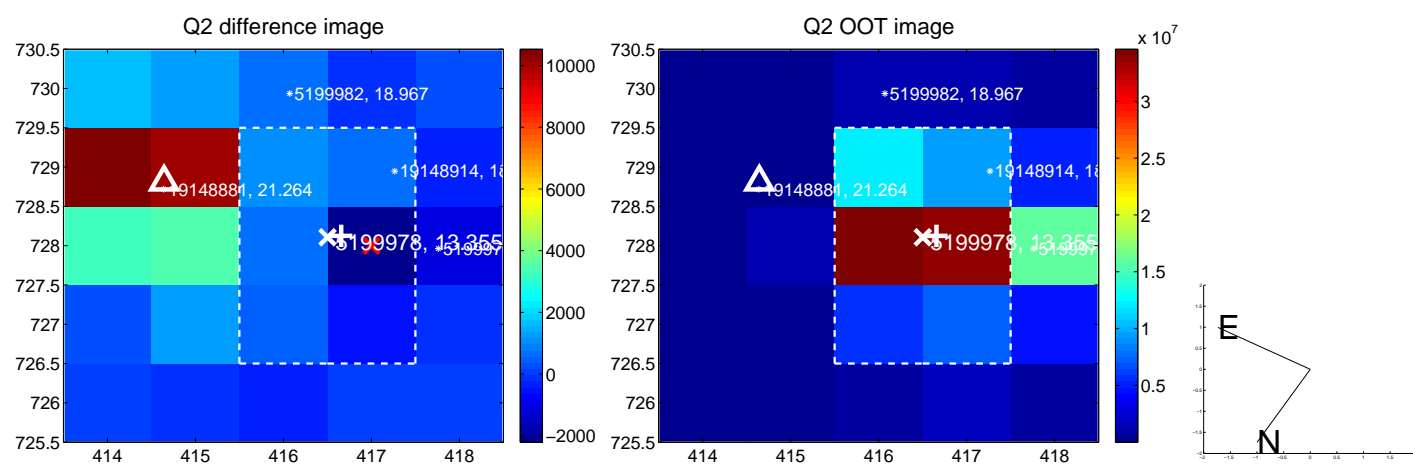
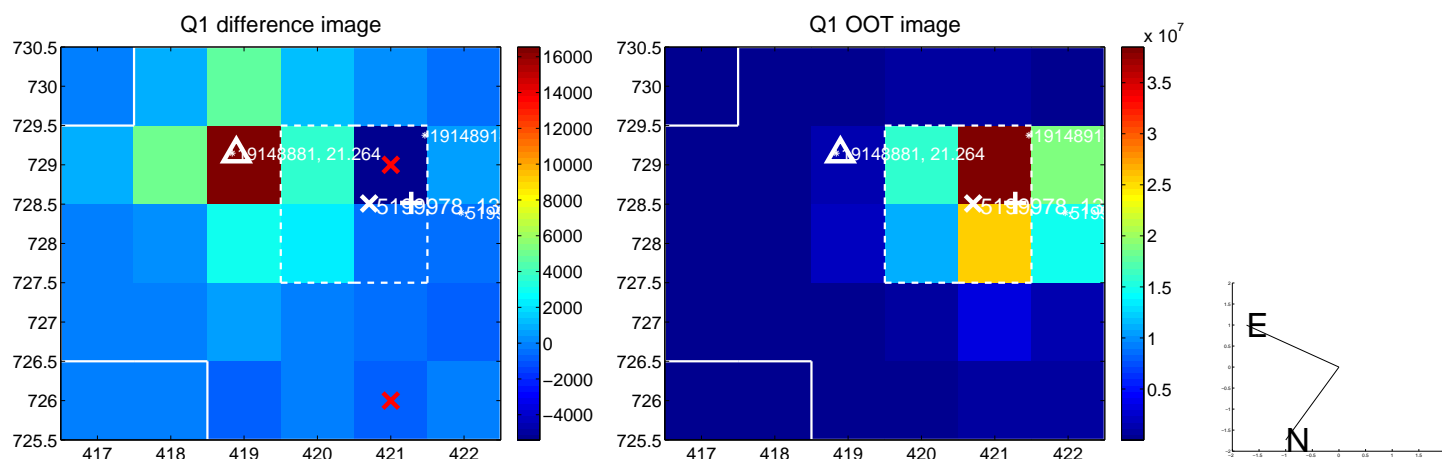
The direct PRF centroid is offset from the target star catalog position by about 0.85 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.583 ± 0.175	48.97	8.396 ± 0.160	1.782 ± 0.118
PRF-fit source offset from KIC position	7.911 ± 0.074	107.29	7.790 ± 0.074	1.380 ± 0.070
photometric centroid source offset	3.17 ± 0.31	10.17	2.53 ± 0.33	1.91 ± 0.28

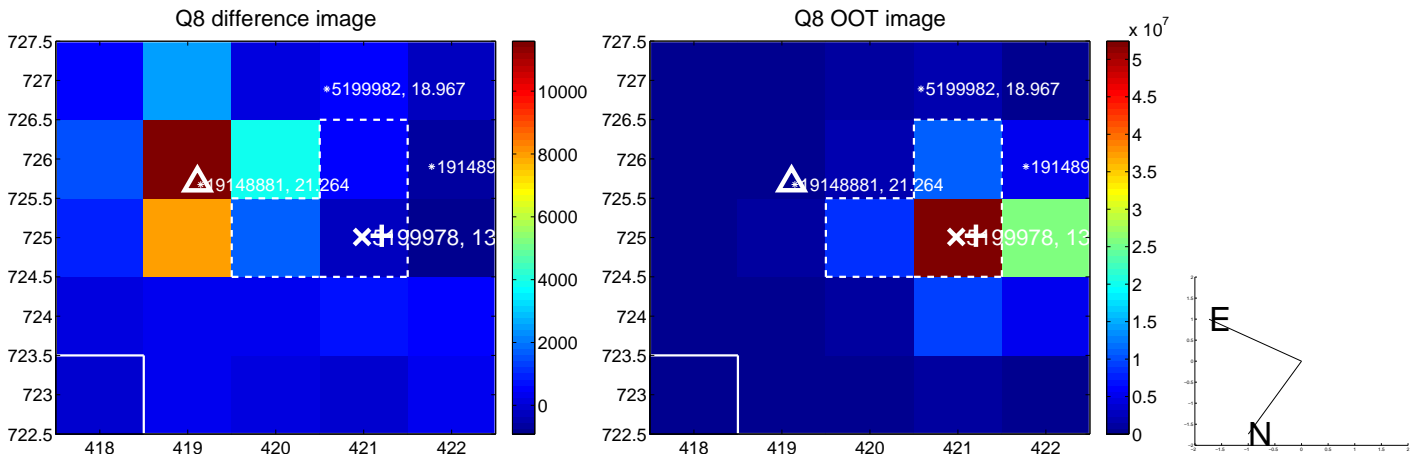
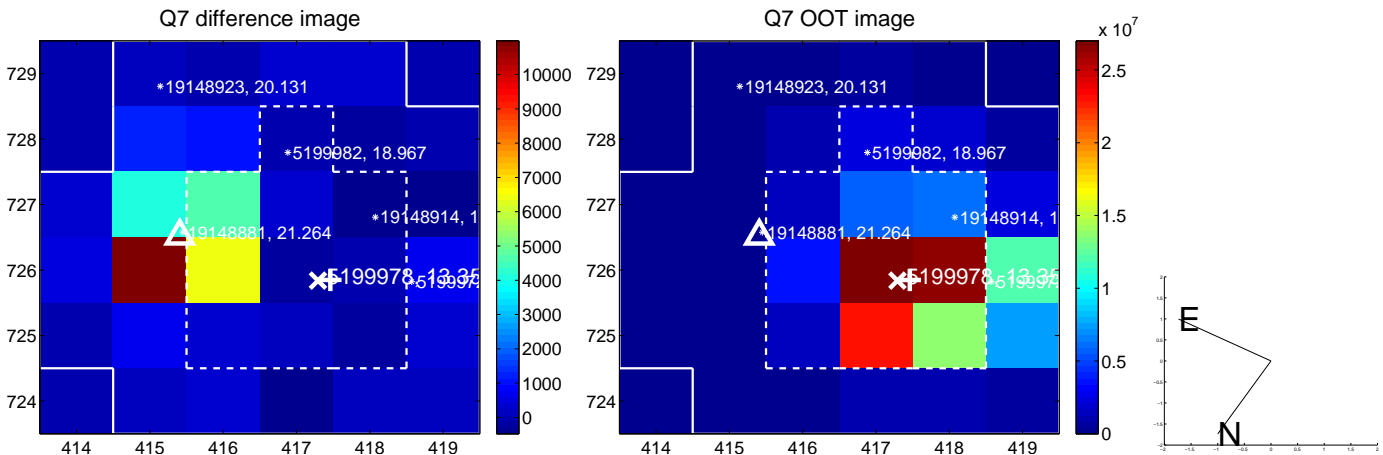
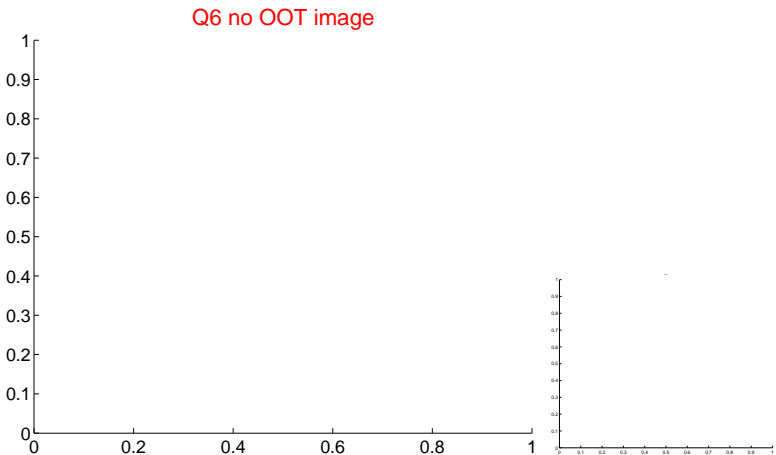
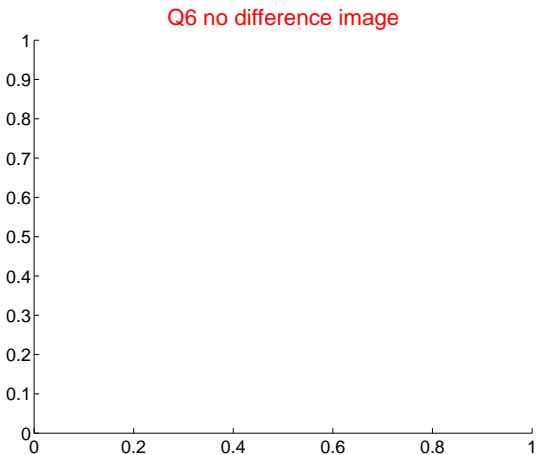
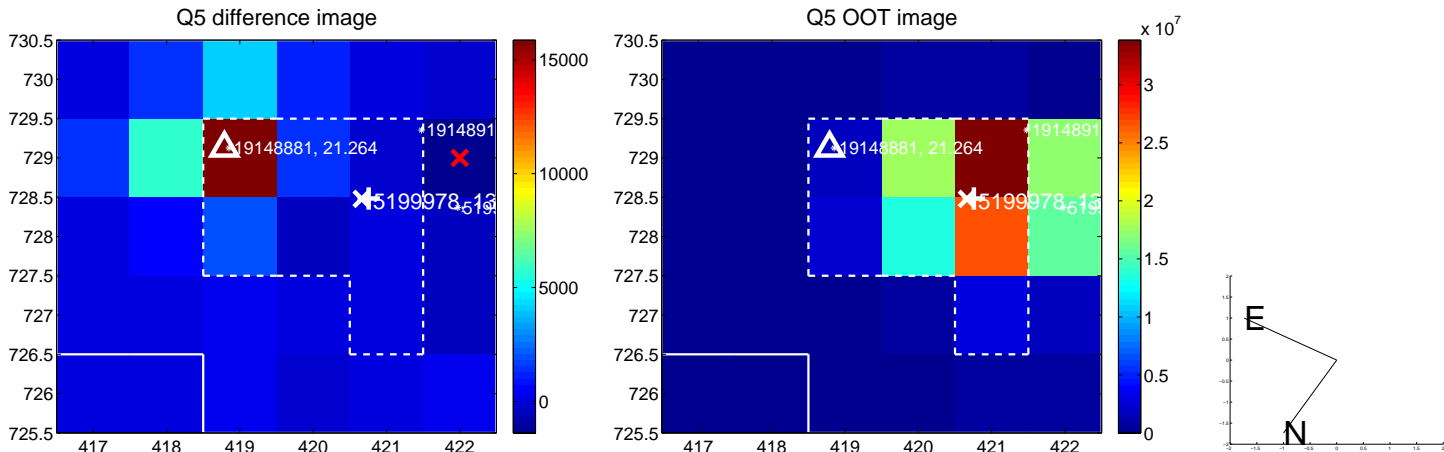


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

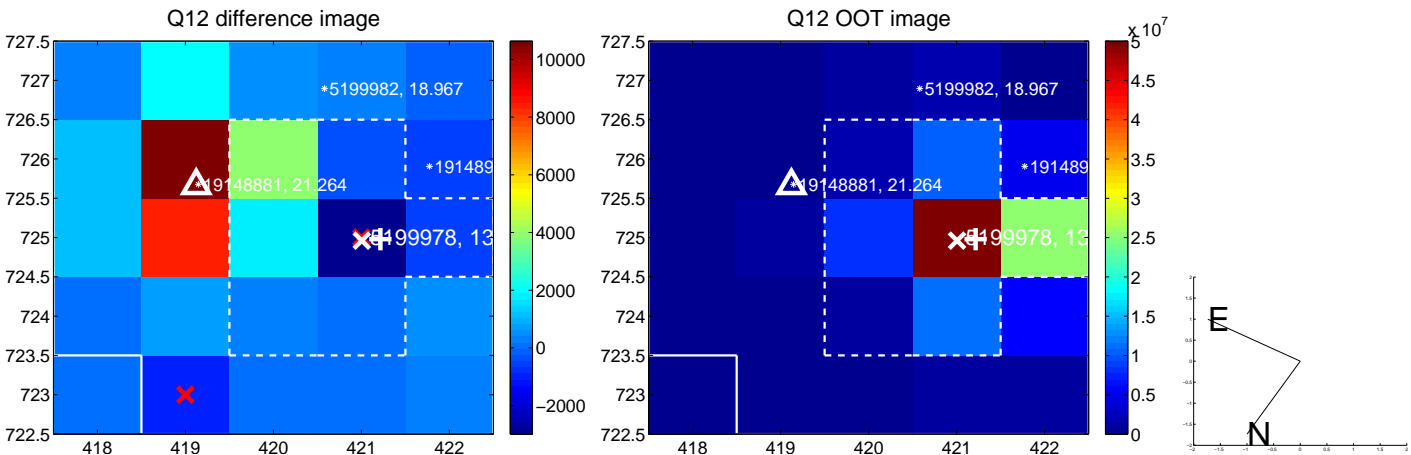
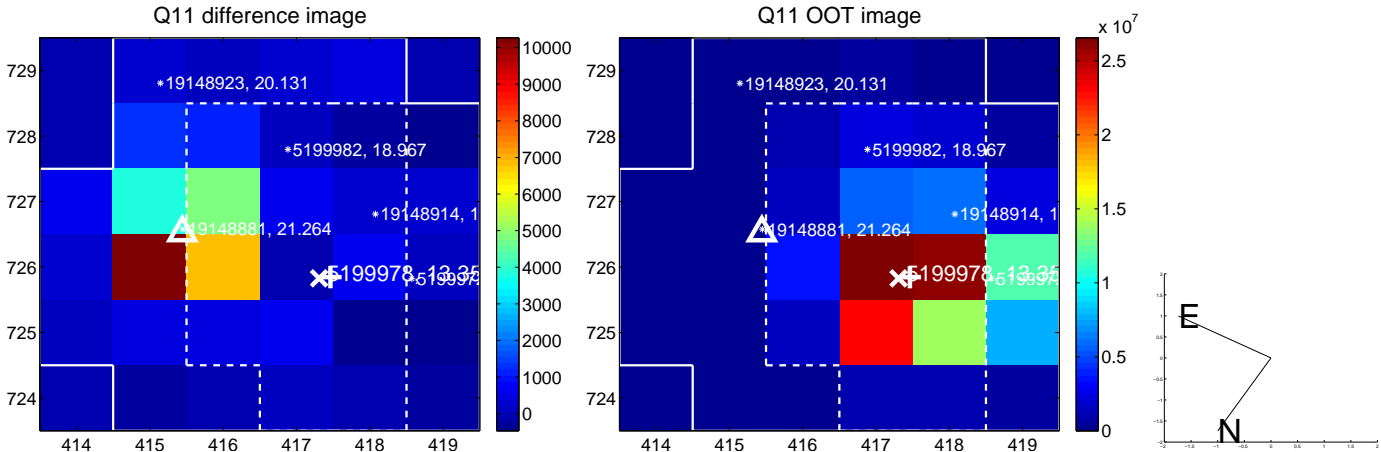
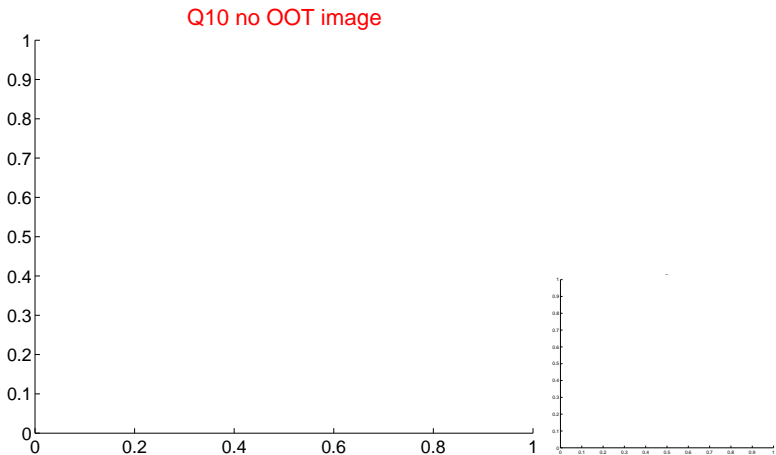
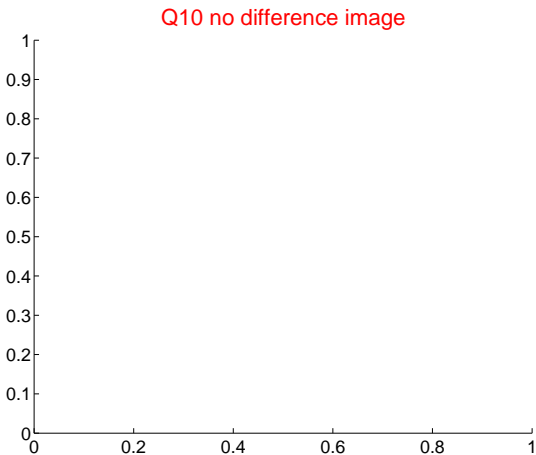
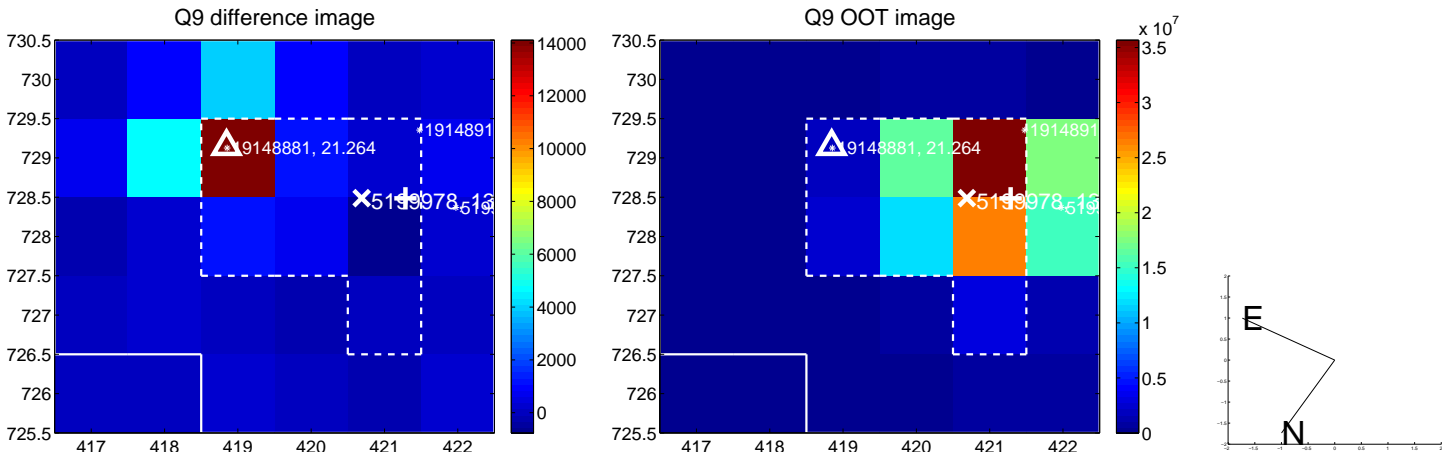
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



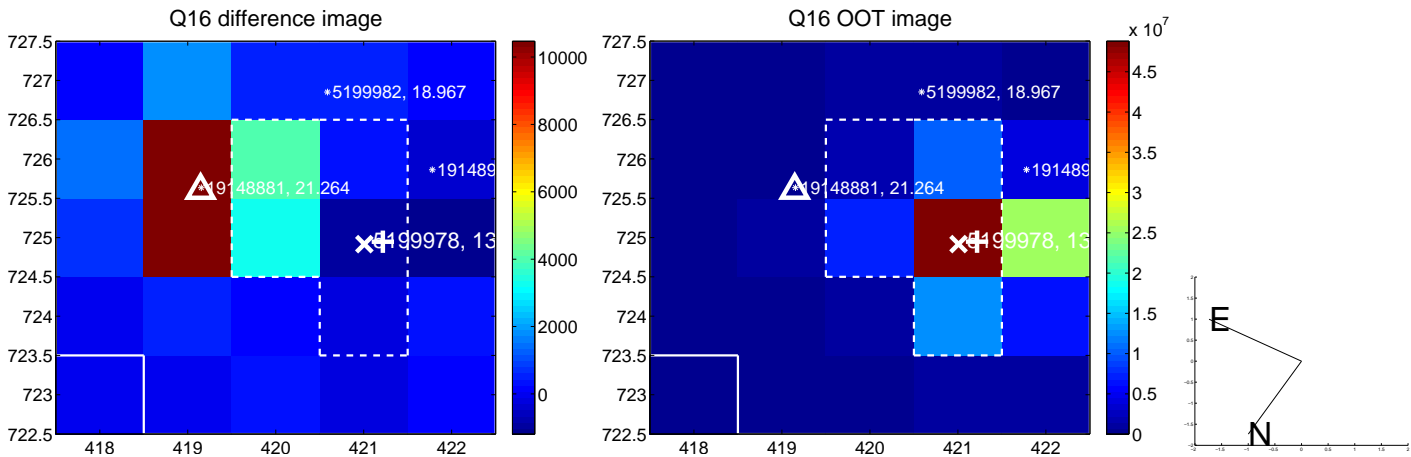
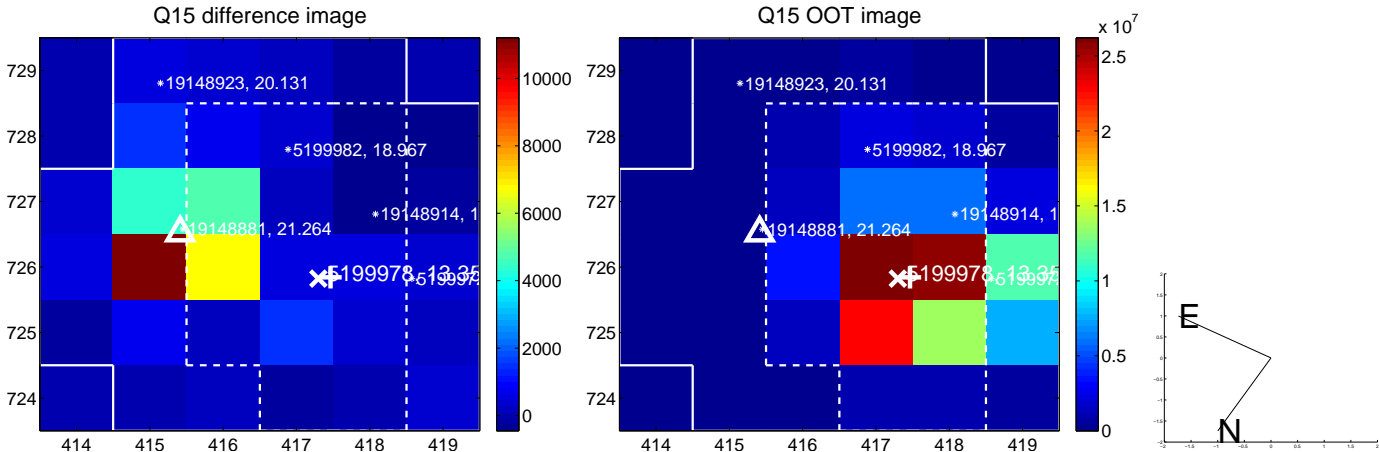
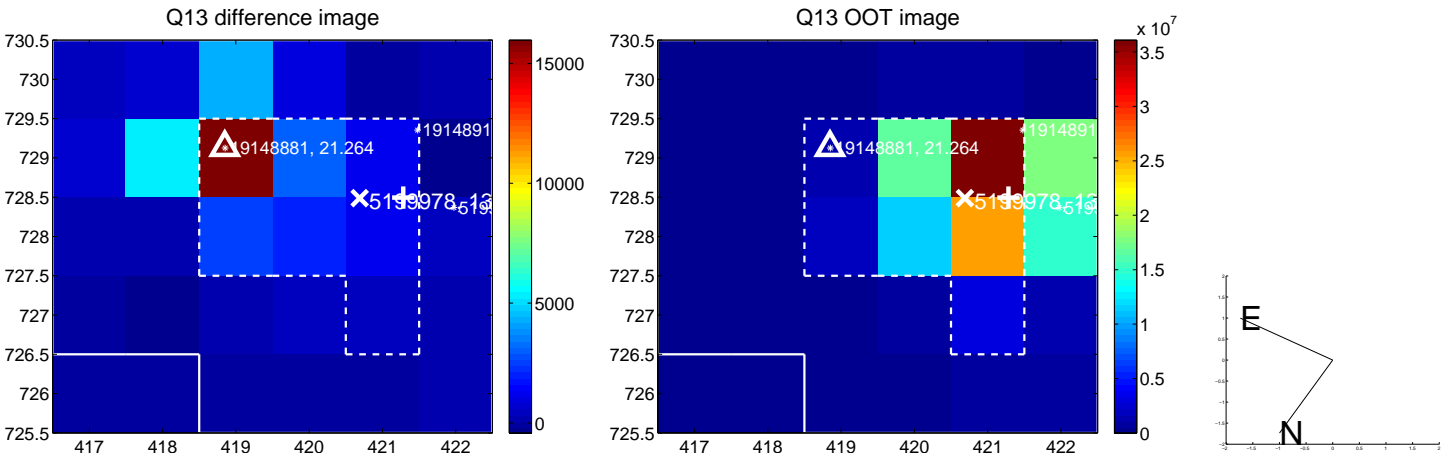
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



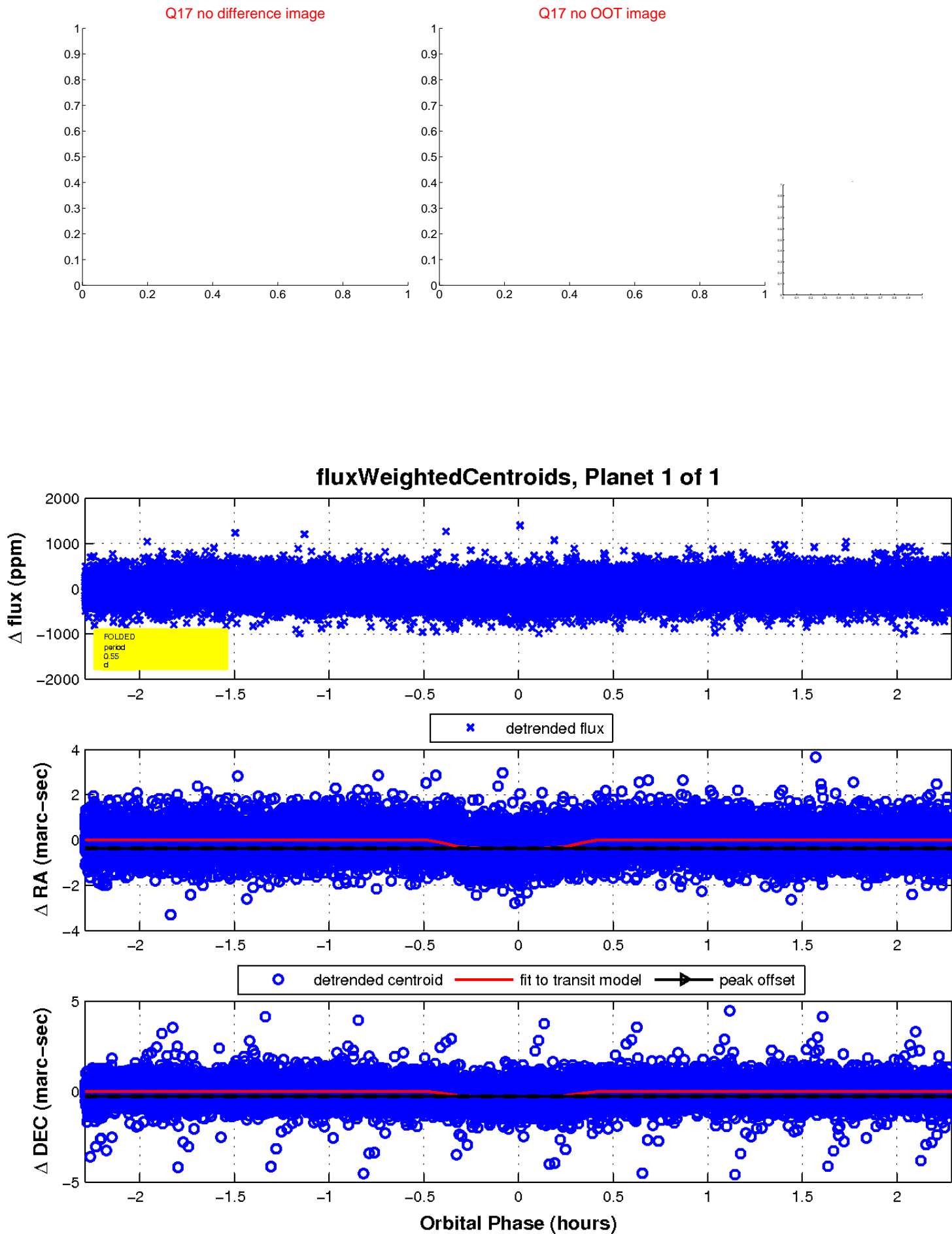
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

