

KIC 008703491

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})
008703491-01	OBS	7906.01	0.616344	132.088533	49.9	0.573	9.1	22.4	1.34	6045	1.16	9450.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008703491-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—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.

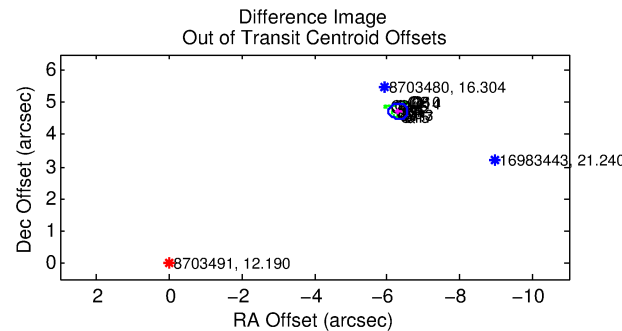
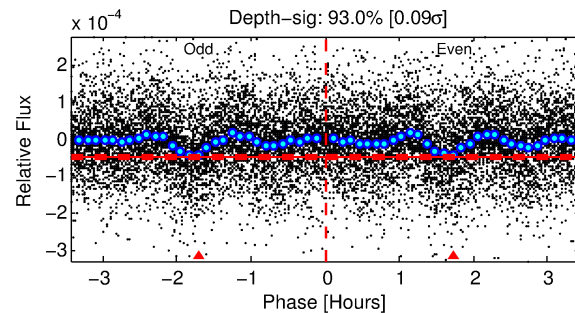
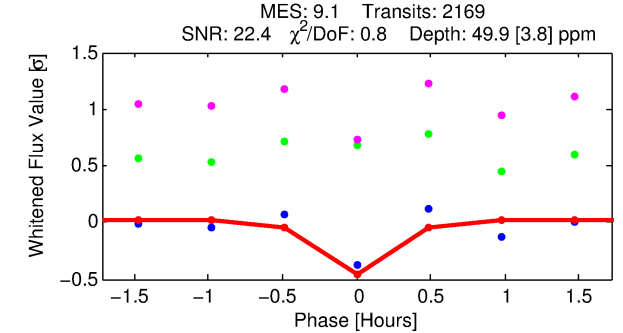
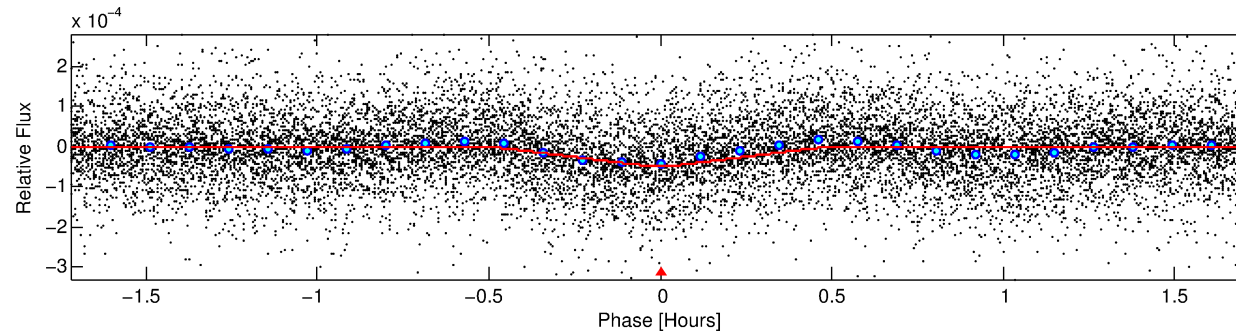
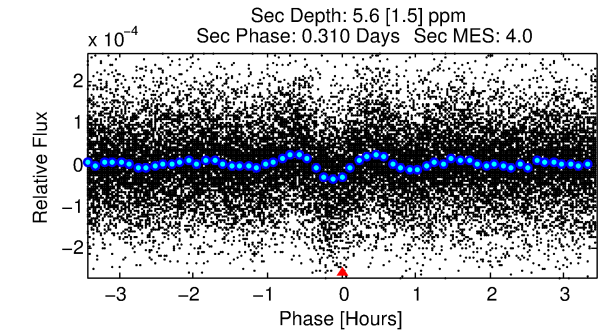
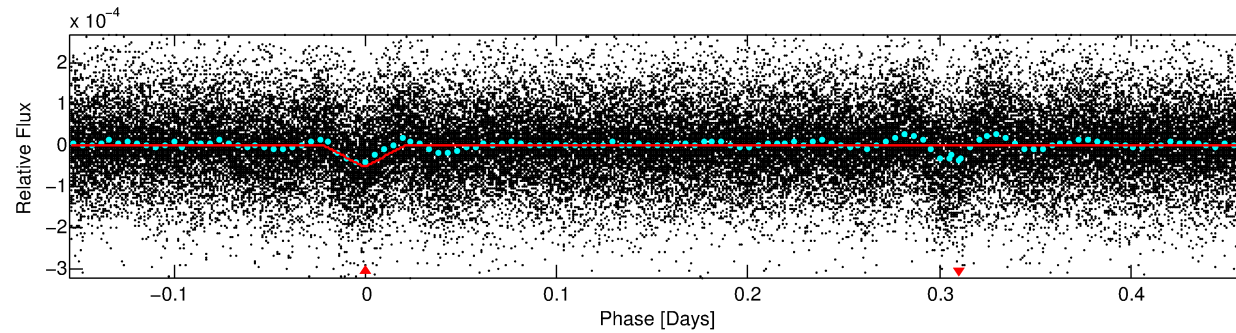
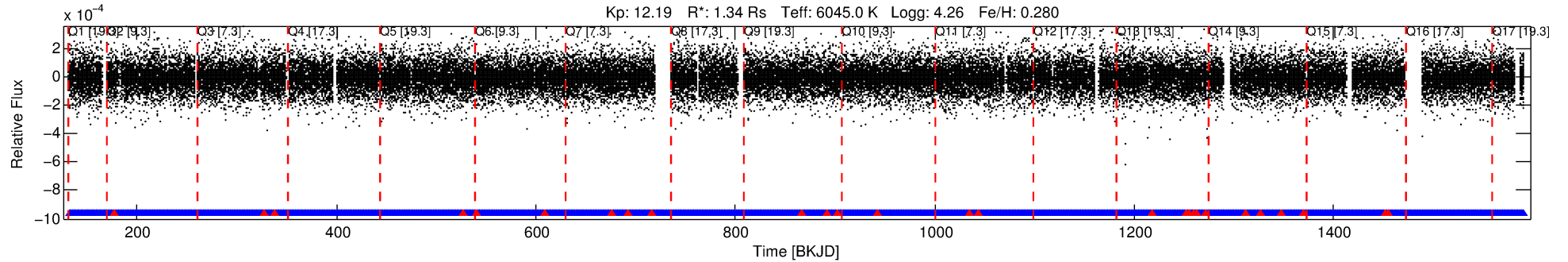
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008703491-01

No Significant Match Found

DV One-Page Summary

KIC: 8703491 Candidate: 1 of 1 Period: 0.616 d



DV Fit Results:

Period = 0.61634 [0.00001] d
Epoch = 132.0885 [0.0005] BKJD
Rp/R* = 0.0079 [0.0011]
a/R* = 3.79 [2.41]
b = 0.90 [0.14]
Seff = 9450.43 [3876.43]
Teq = 2514 [258] K
Rp = 1.16 [0.41] Re
a = 0.0151 [0.0040] AU
Ag = 0.52 [0.28] [-1.70σ]
Teffp = 3302 [342] K [1.84σ]

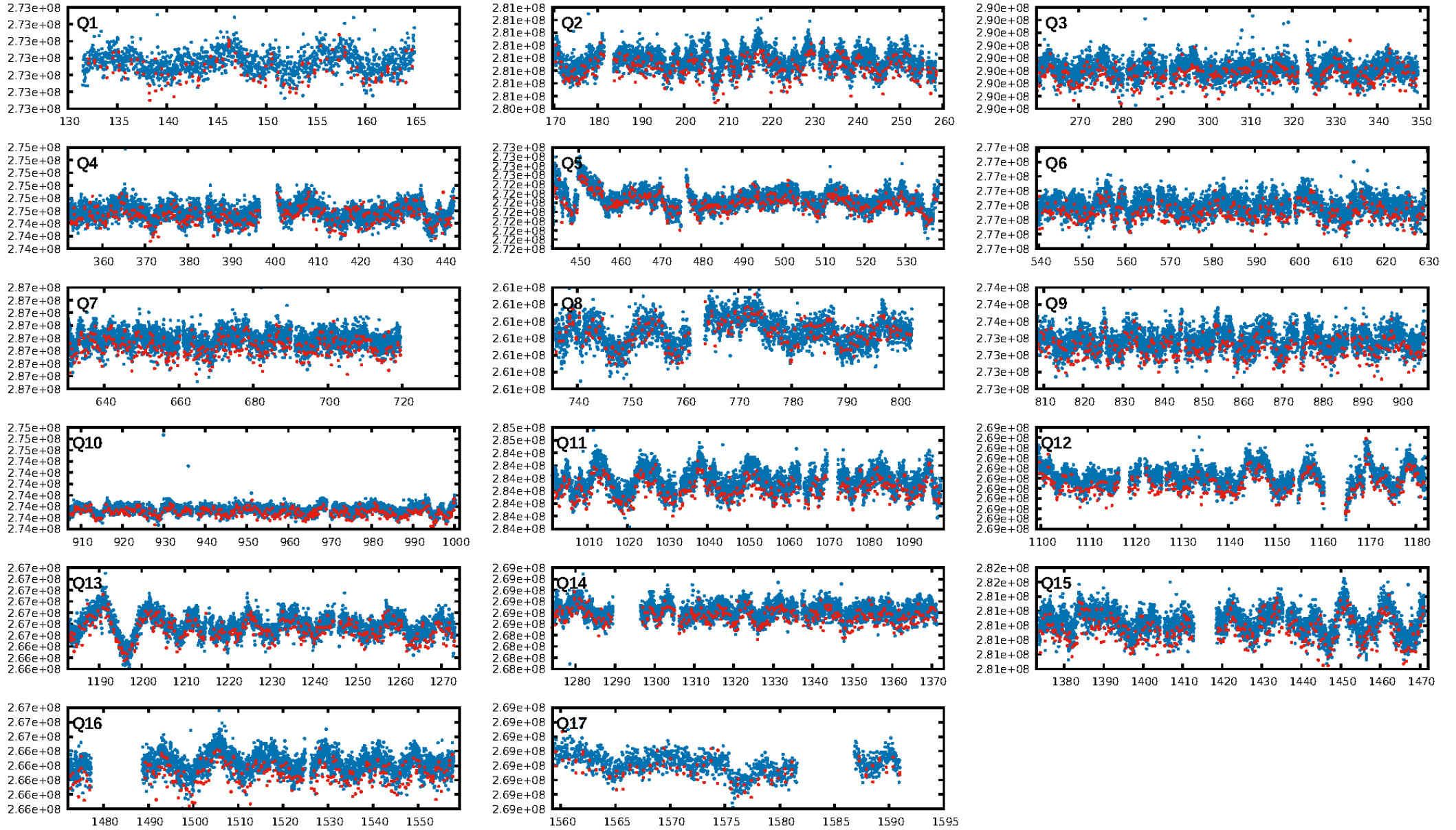
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.57e-18
RollingBand-fgt: 0.99 [2044/2071]
GhostDiagnostic-chr: -0.05251
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 7.875 arcsec [95.82σ]
KicOffset-rm: 8.056 arcsec [89.91σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

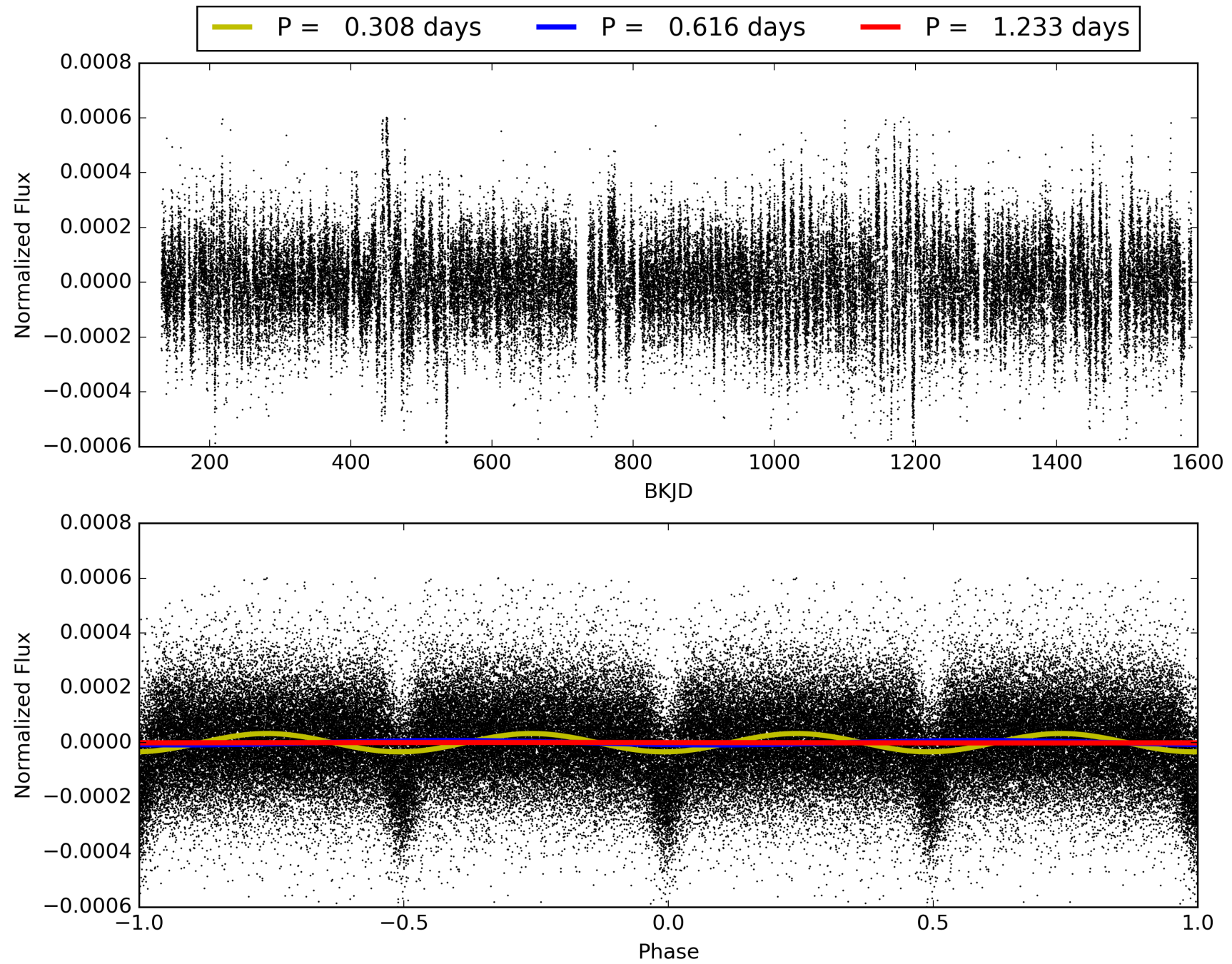
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:29:17 Z

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

TCE 008703491-01, PDC Light Curves

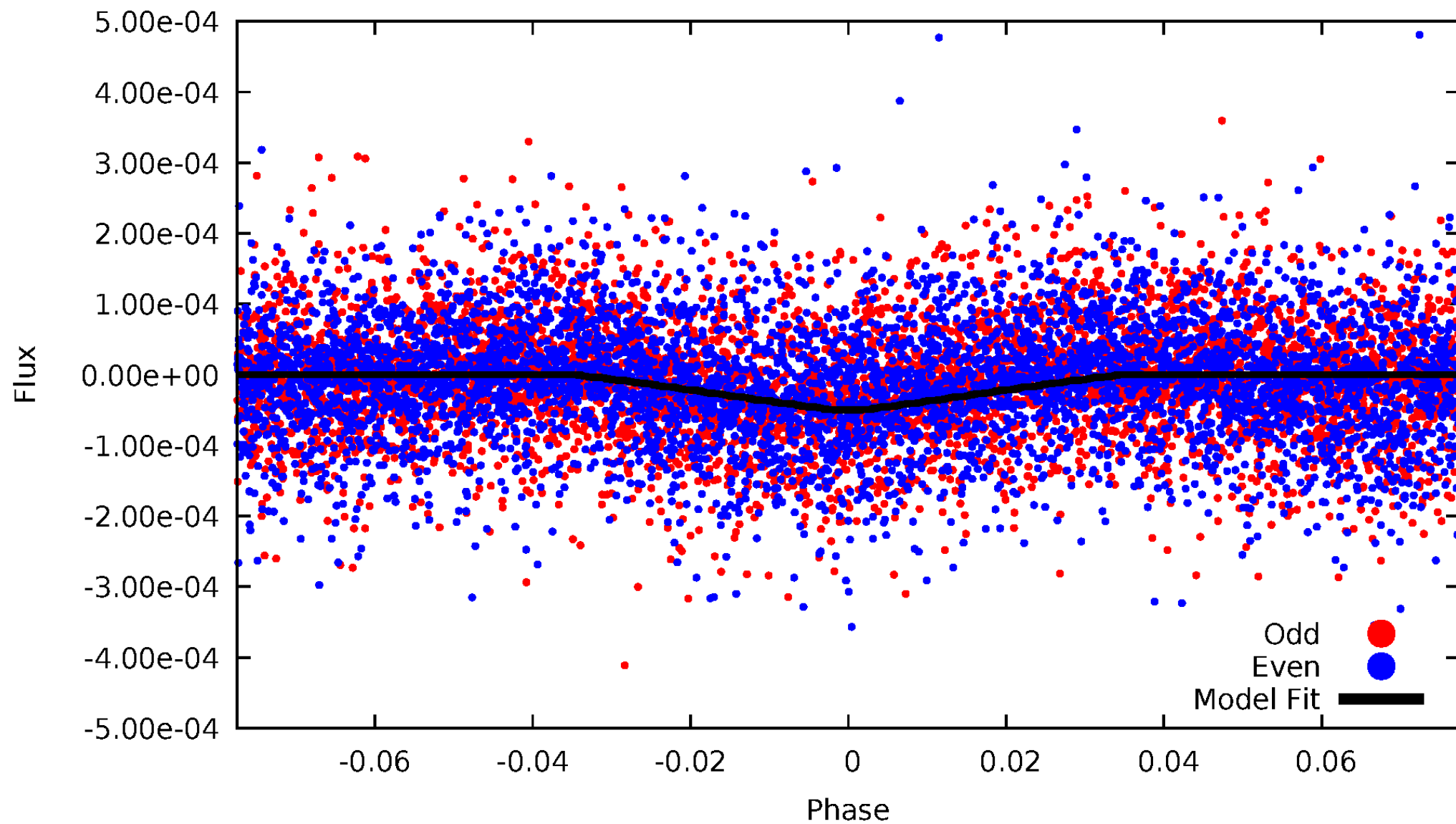


TCE 008703491-01



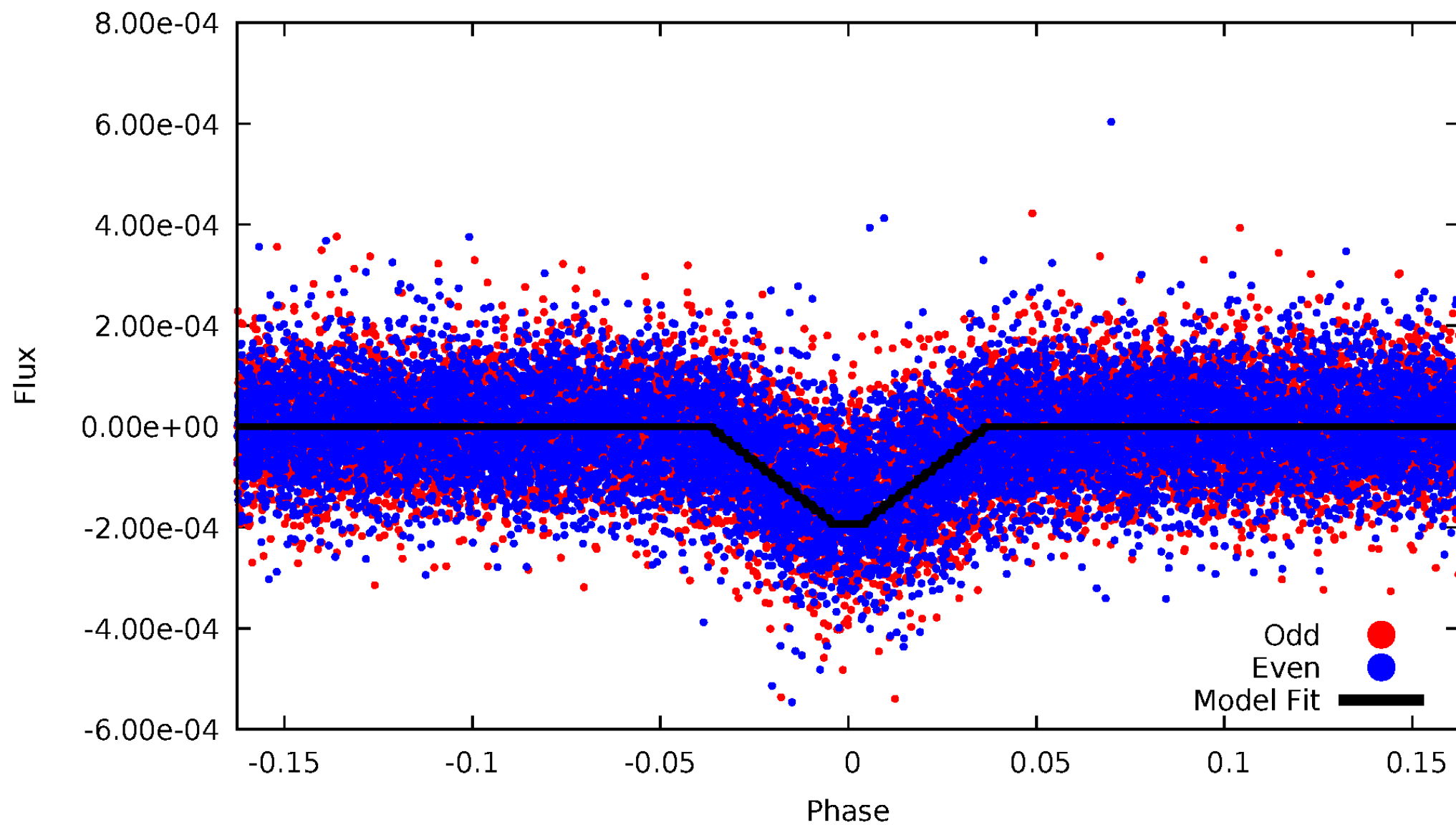
DV Odd/Even

TCE 008703491-01



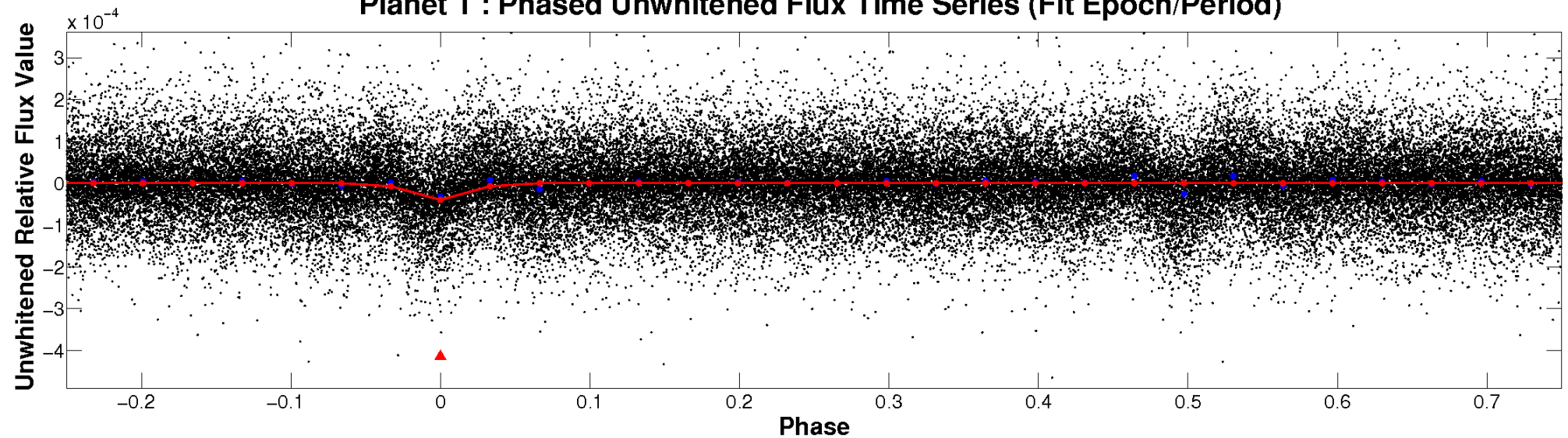
ALT Odd/Even

TCE 008703491-01

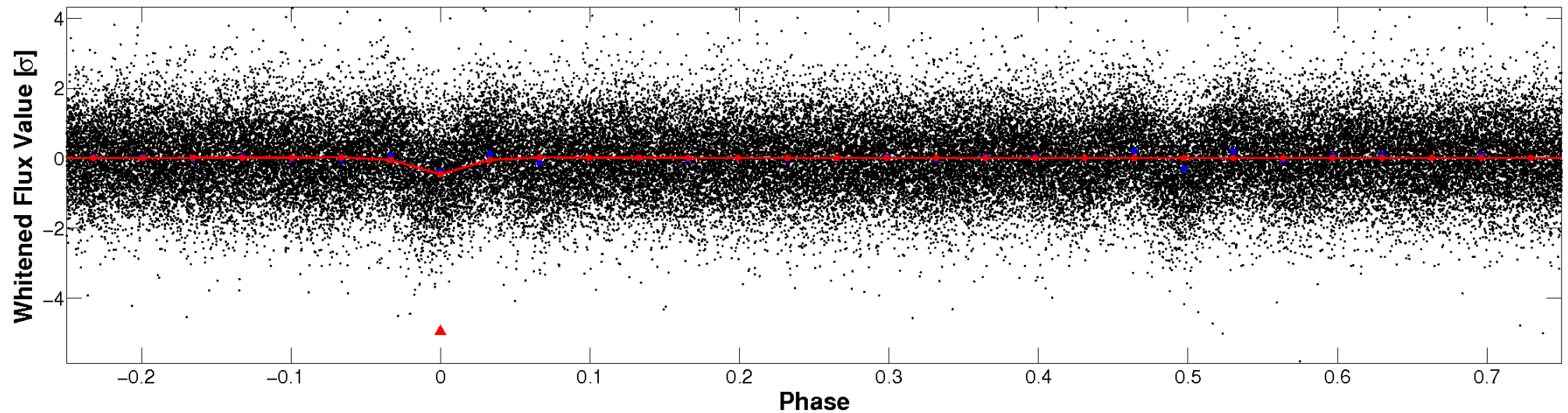


Non-Whitened Vs. Whitened Light Curve

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

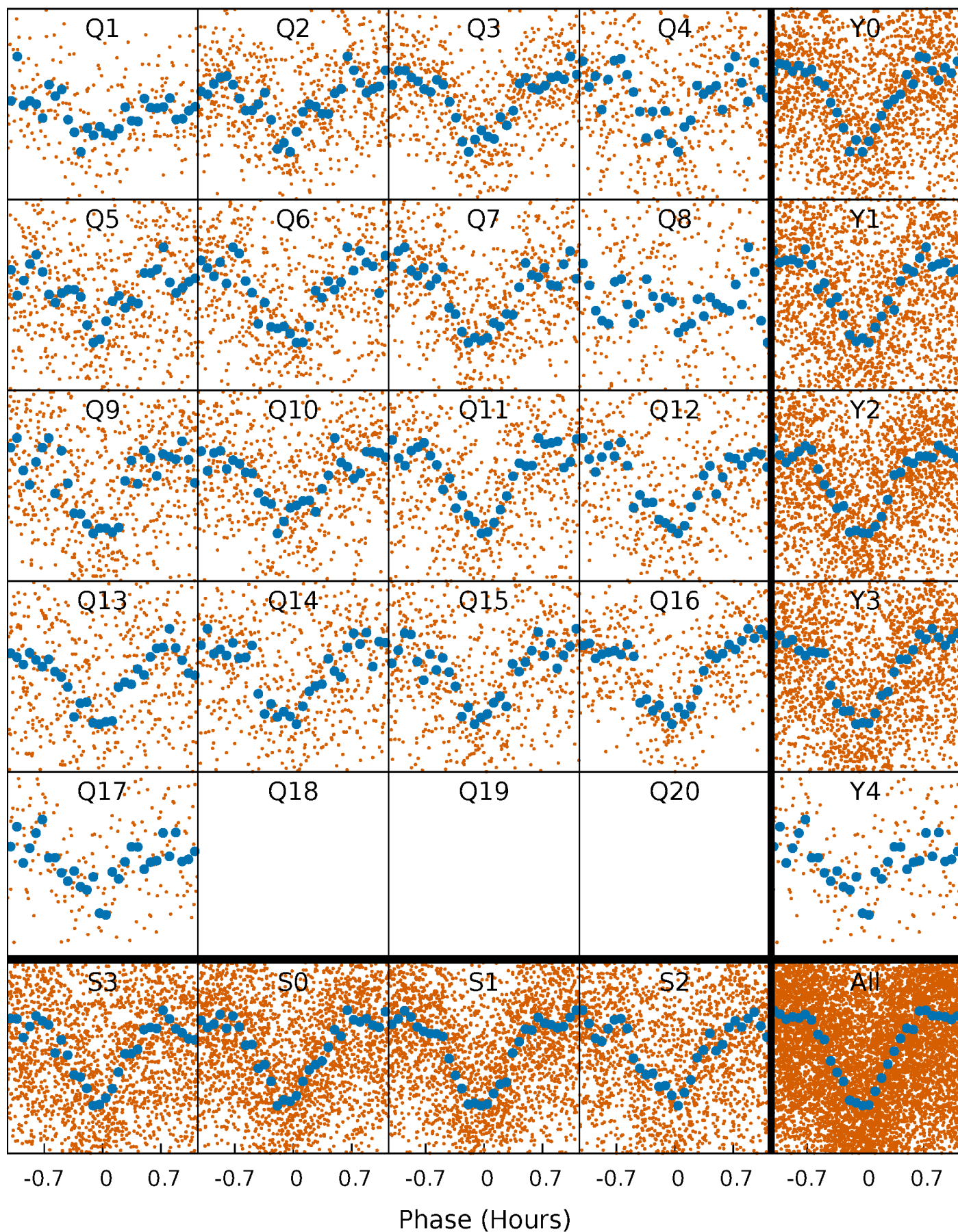


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



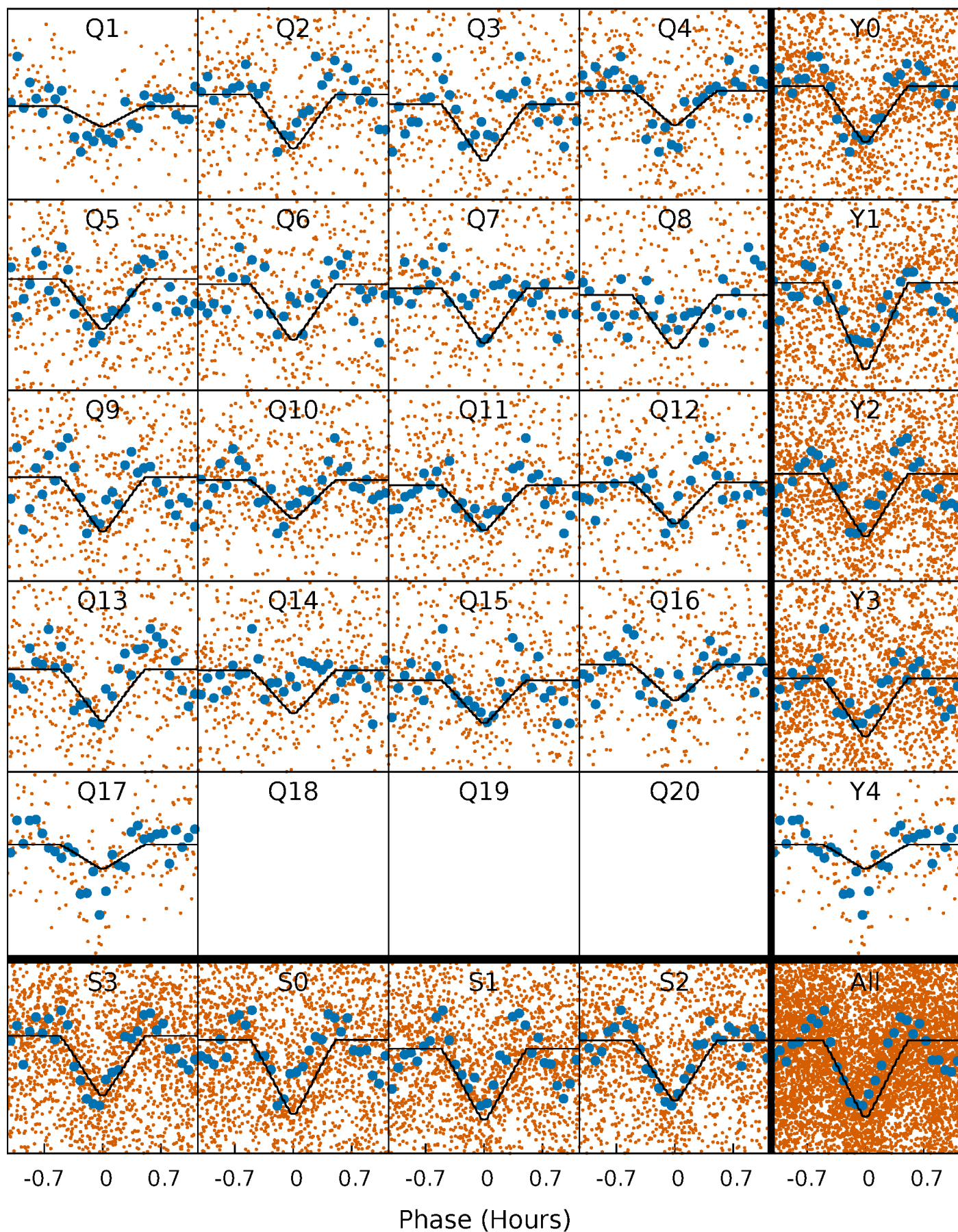
PDC Quarter-Phased Transit Curves

TCE 008703491-01 P= 0.616344 Days $T_0=132.088533$ (BKJD)



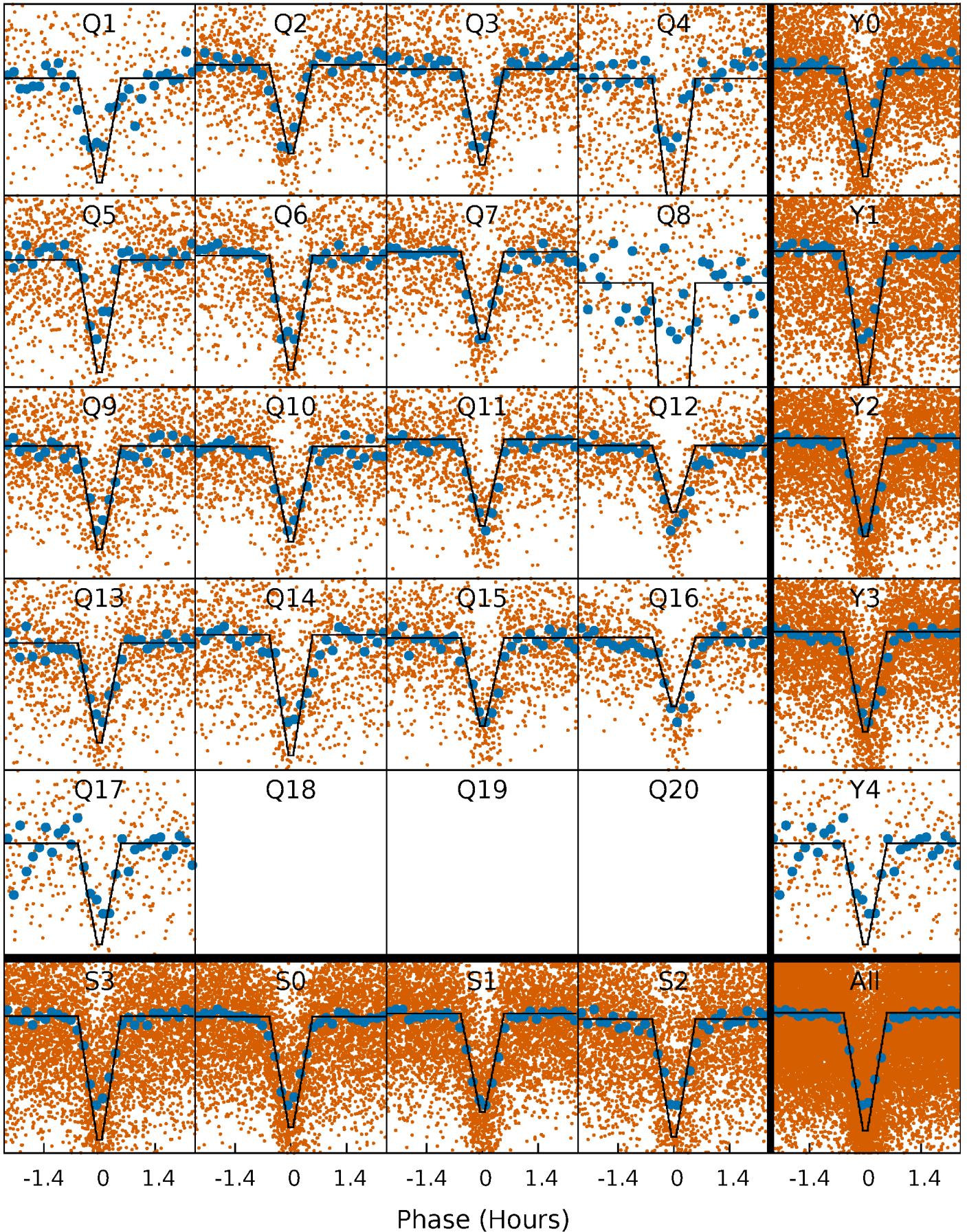
DV Quarter-Phased Transit Curves

TCE 008703491-01 P= 0.616344 Days $T_0=132.088533$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

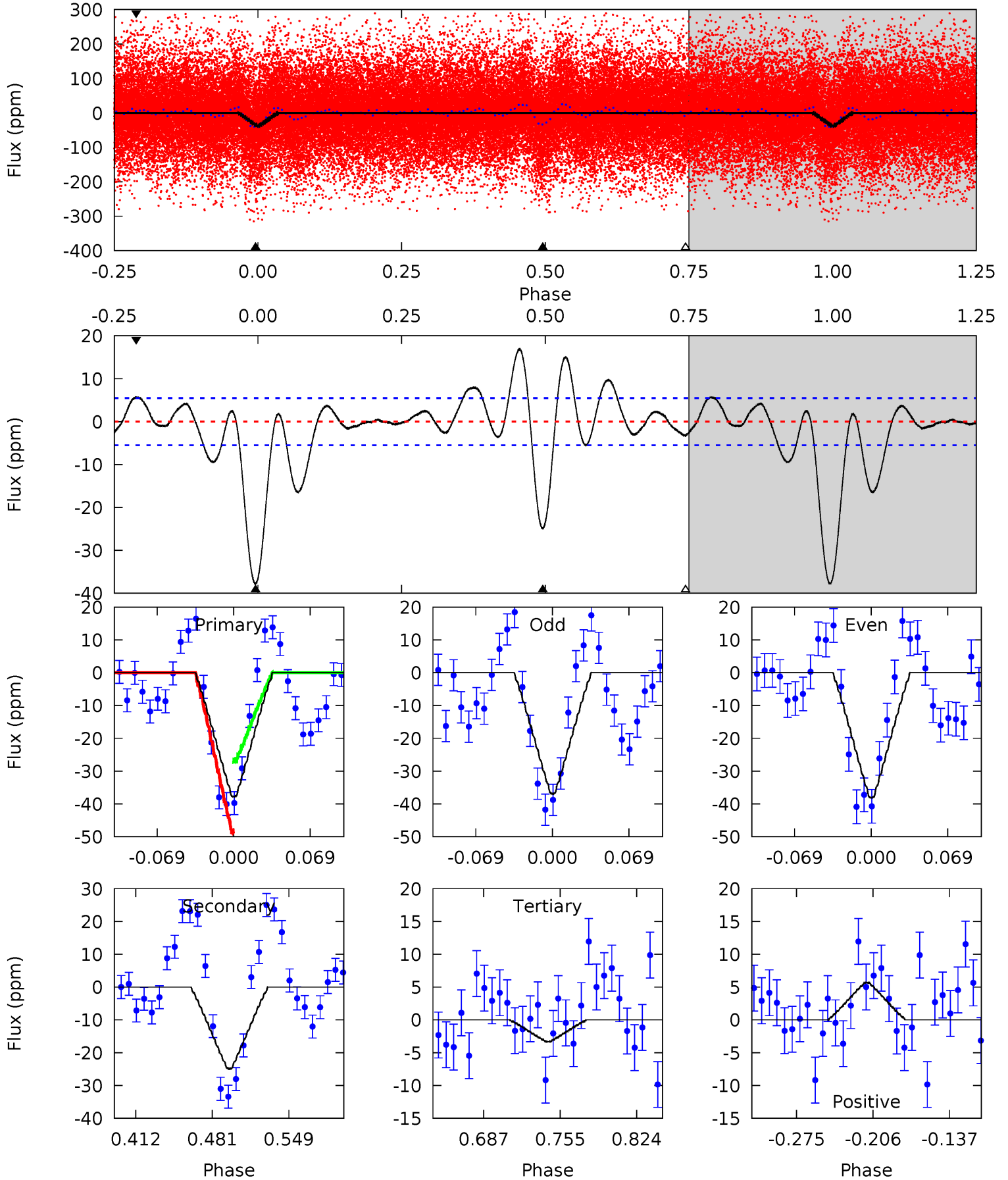
TCE 008703491-01 P= 0.616340 Days $T_0=132.091076$ (BKJD)



DV Model-Shift Uniqueness Test

008703491-01, P = 0.616344 Days, E = 131.472189 Days

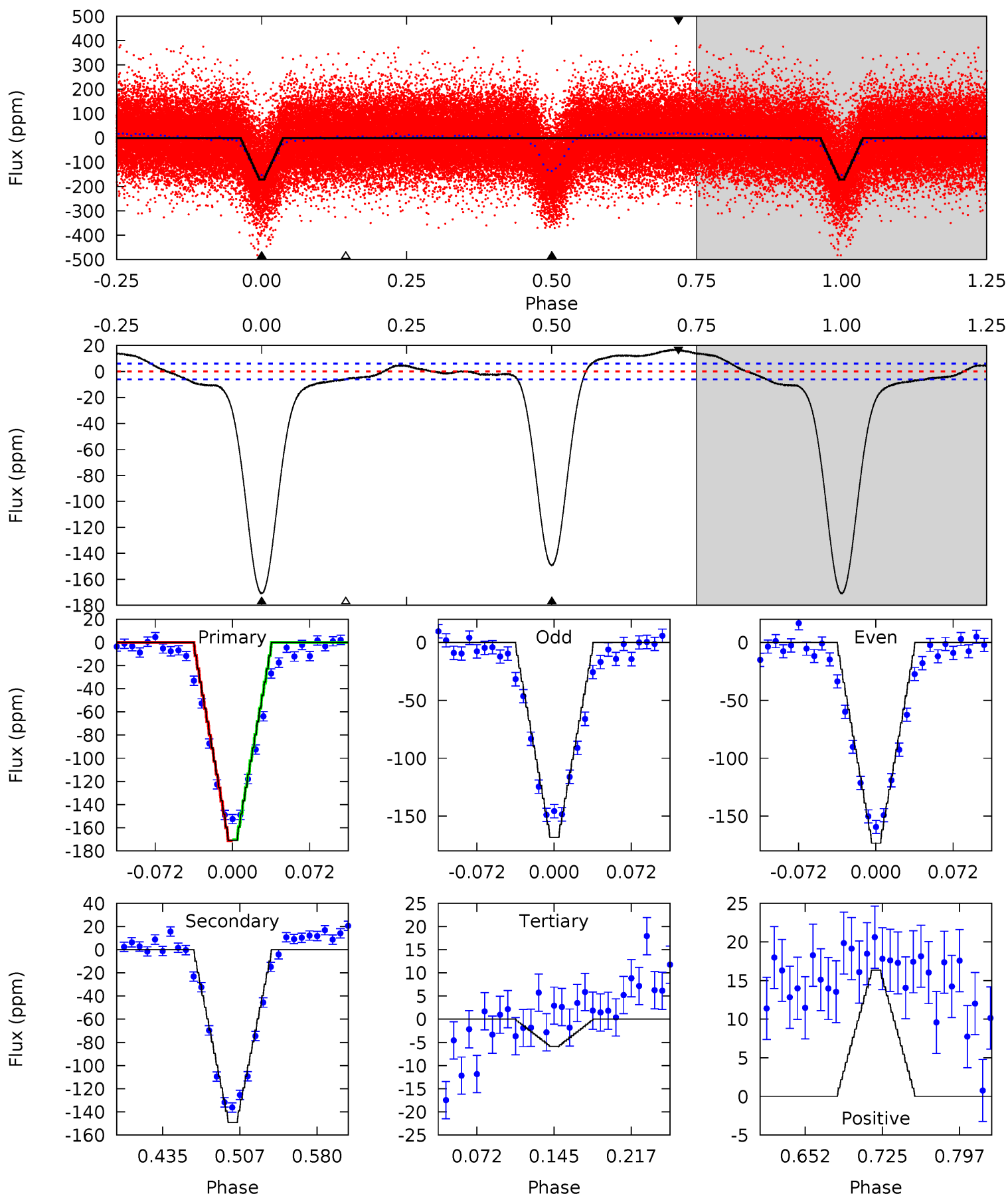
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.8	20.9	2.80	4.79	4.64	1.82	3.71	29.0	27.0	18.2	16.2	0.51	0.89	0.31	9.17



Alt Model-Shift Uniqueness Test

008703491-01, P = 0.616340 Days, E = 131.474736 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
131.1	114.5	4.52	12.5	4.63	1.80	6.43	126.6	118.5	109.9	101.9	1.93	0.98	0.09	0.42



Stellar Parameters For KIC 008703491

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6045^{+190}_{-232}	$4.264^{+0.136}_{-0.204}$	$0.280^{+0.150}_{-0.300}$	$1.340^{+0.434}_{-0.267}$	$1.205^{+0.164}_{-0.180}$	$0.705^{+0.536}_{-0.350}$
	+3%/-4%	+3%/-5%	+54%/-107%	+32%/-20%	+14%/-15%	+76%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008703491-01 / KOI 7906.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-25 ± 1	$1.19^{+0.27}_{-0.21}$	3559^{+291}_{-241}	4735^{+393}_{-339}	$2.178^{+0.996}_{-0.717}$
Alt.	-149 ± 1	$2.08^{+0.38}_{-0.28}$	3550^{+292}_{-234}	5580^{+295}_{-291}	$4.320^{+1.369}_{-1.193}$

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

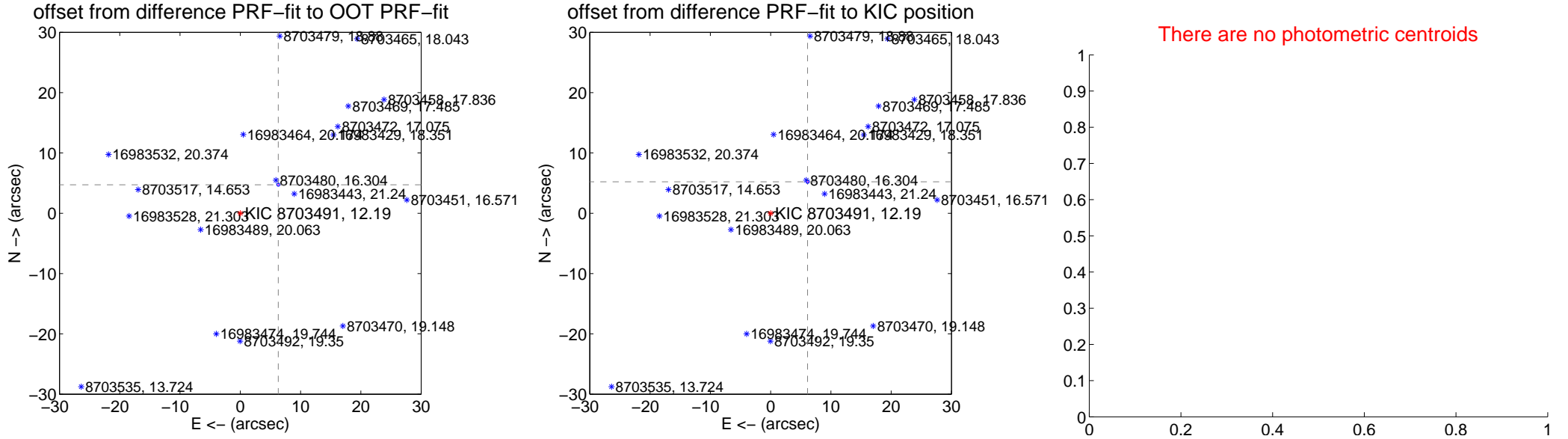
DV Centroid Data

Supplemental centroid analysis for 008703491-01. Kepler magnitude: 12.19. Transit SNR 22.44

There are 17 quarters with good PRF difference image offsets

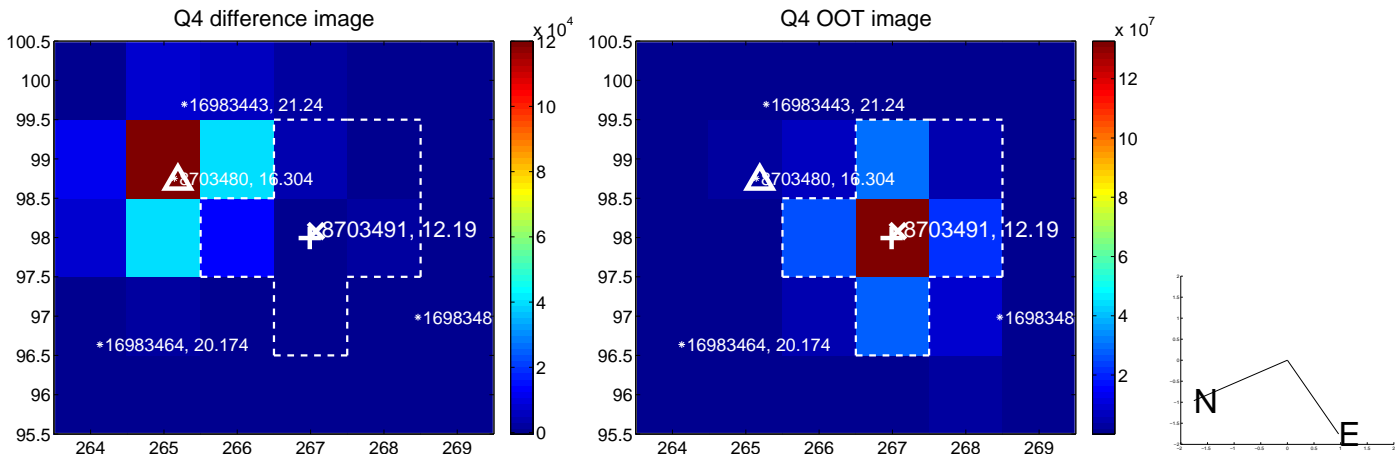
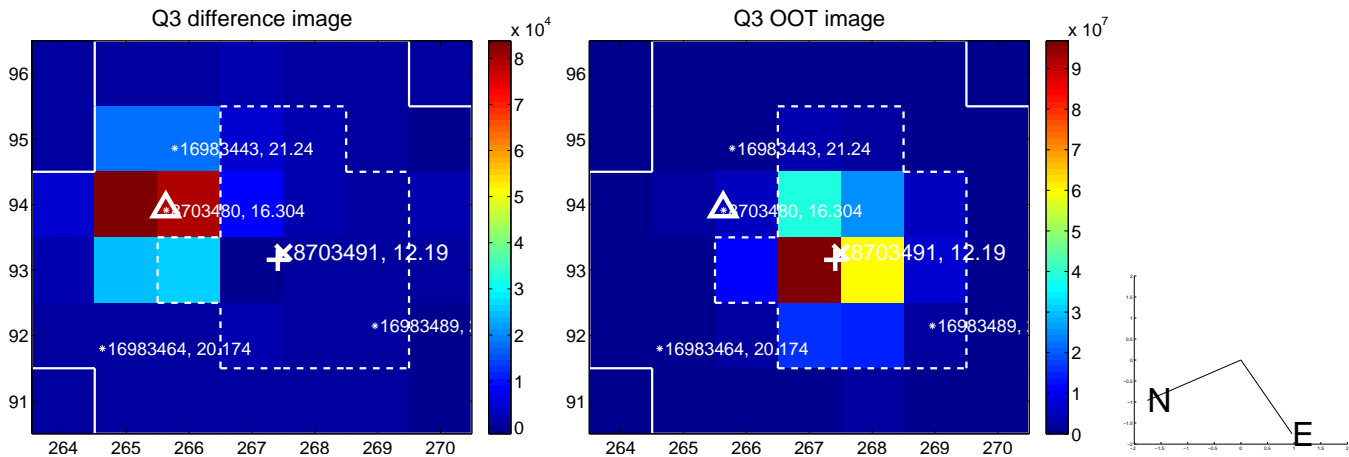
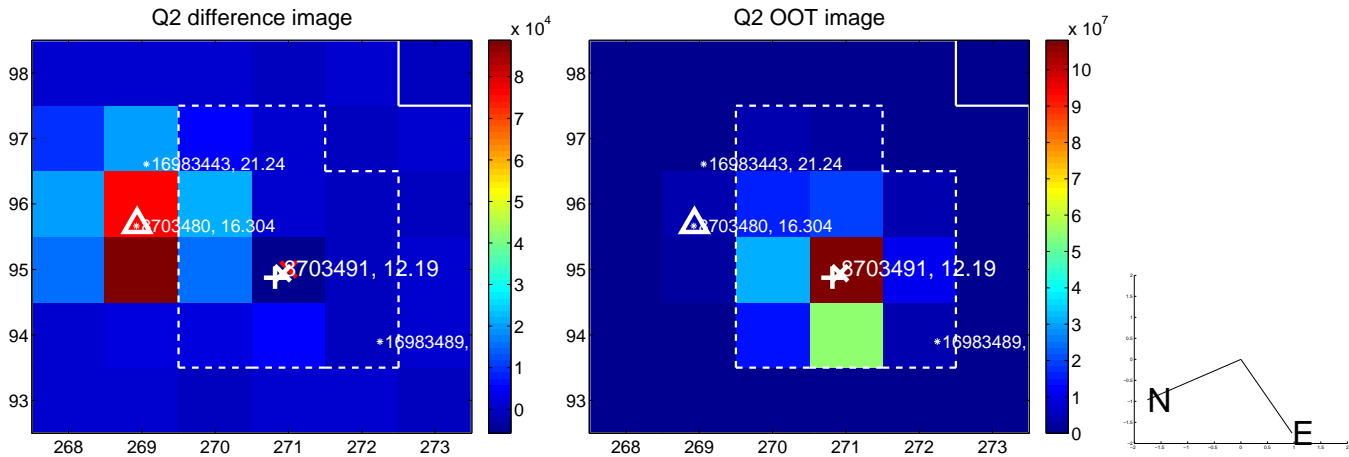
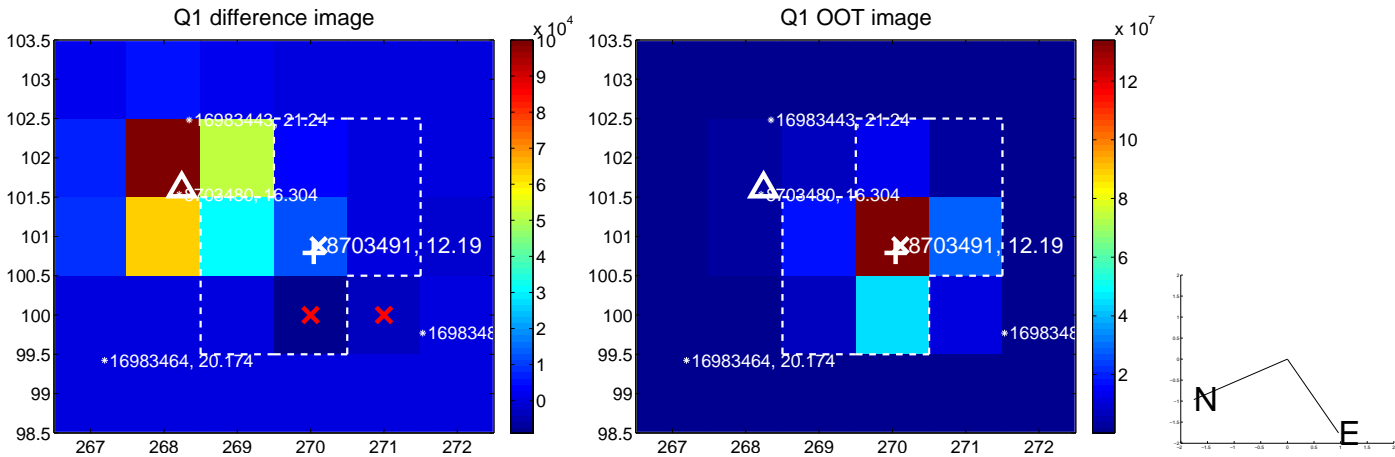
The direct PRF centroid is offset from the target star catalog position by about 0.53 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.875 \pm 0.082	95.82	-6.299 \pm 0.080	4.726 \pm 0.078
PRF-fit source offset from KIC position	8.056 \pm 0.090	89.91	-6.132 \pm 0.089	5.225 \pm 0.079
photometric centroid source offset	—	—	—	—

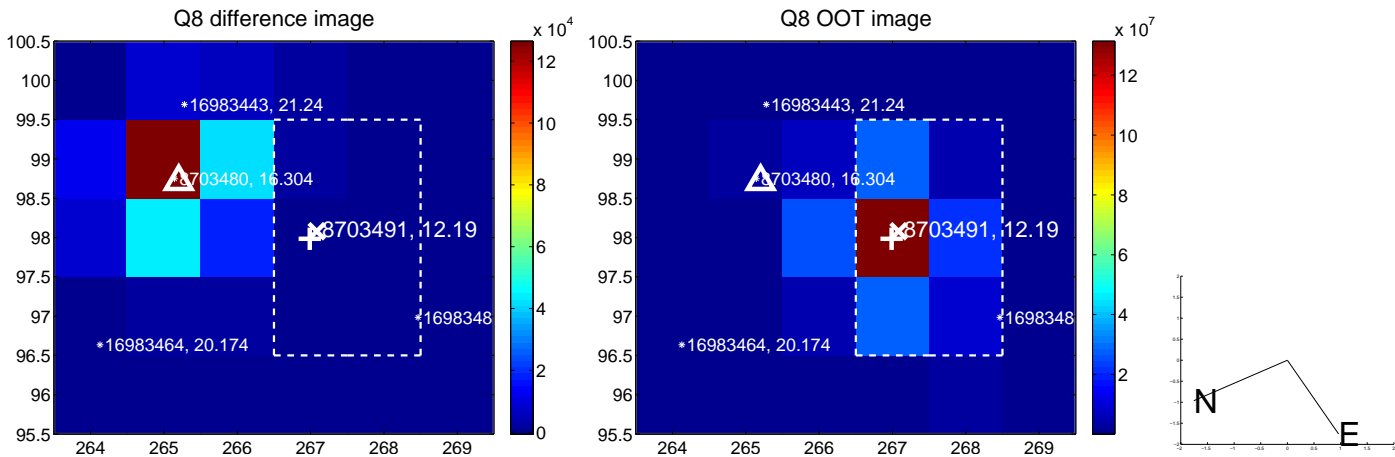
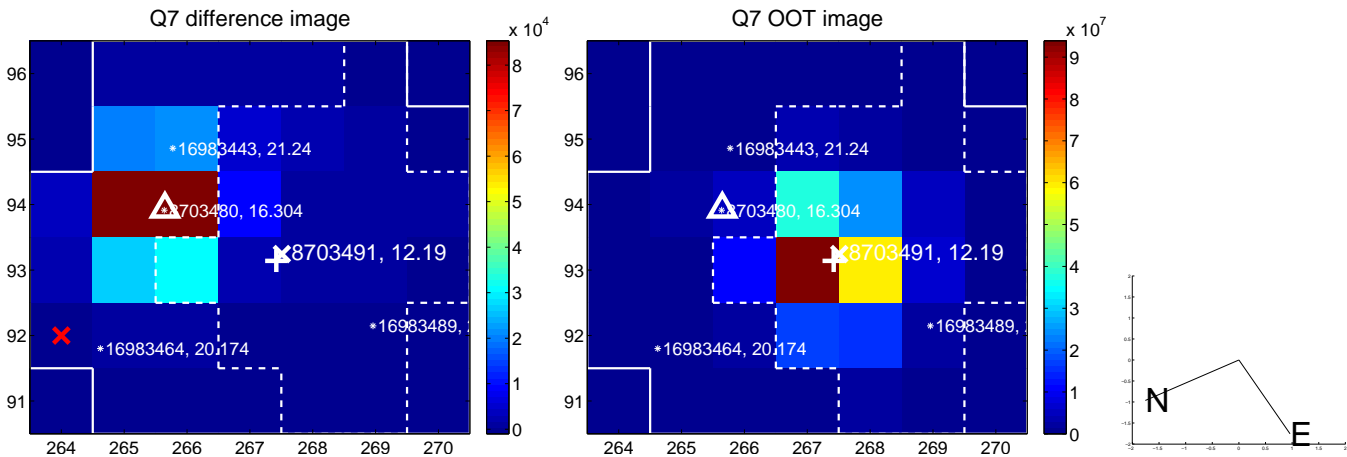
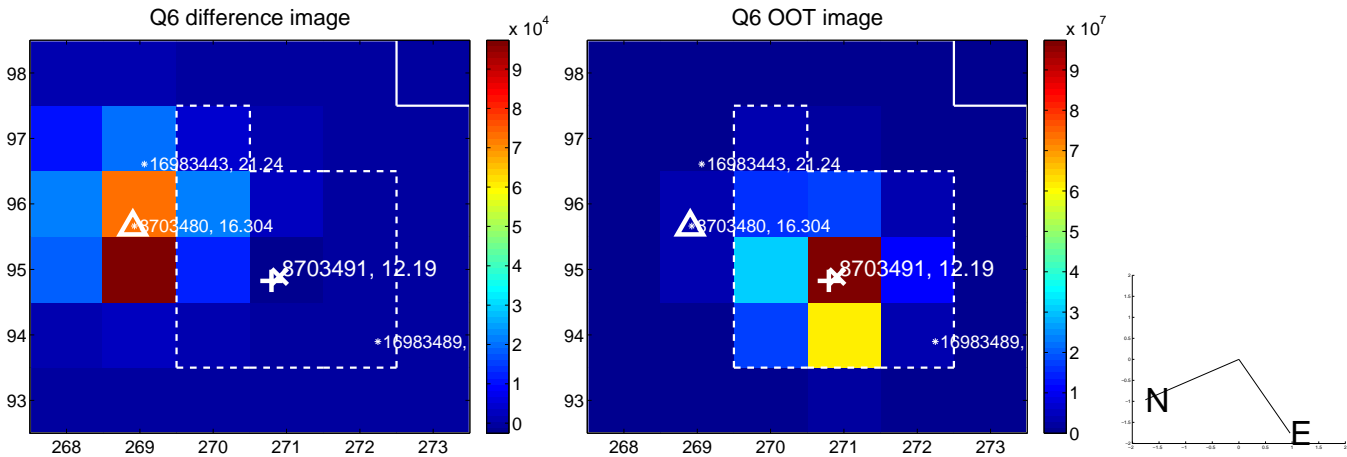
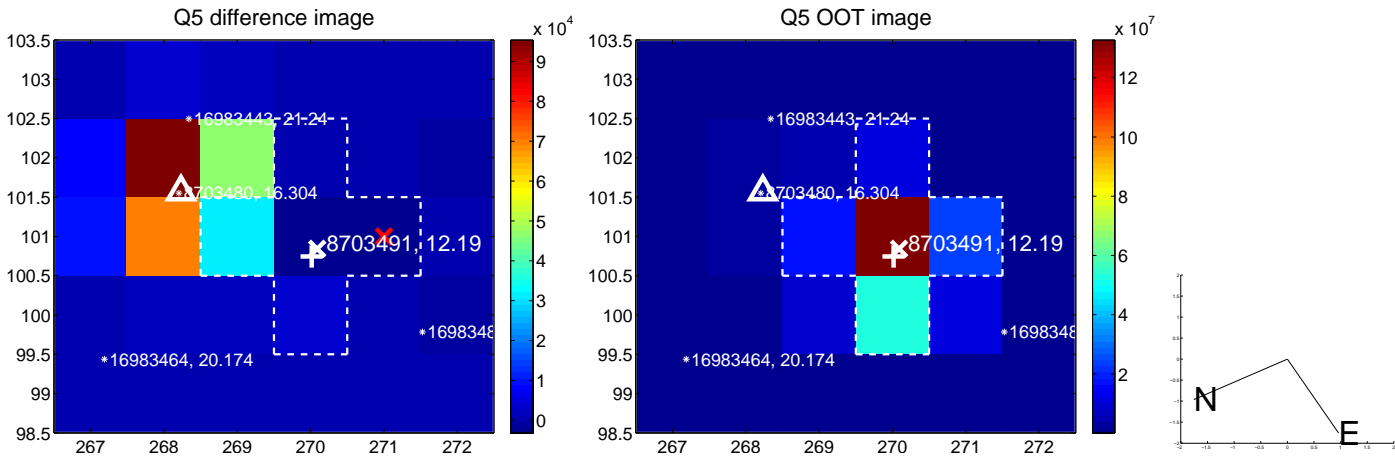


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

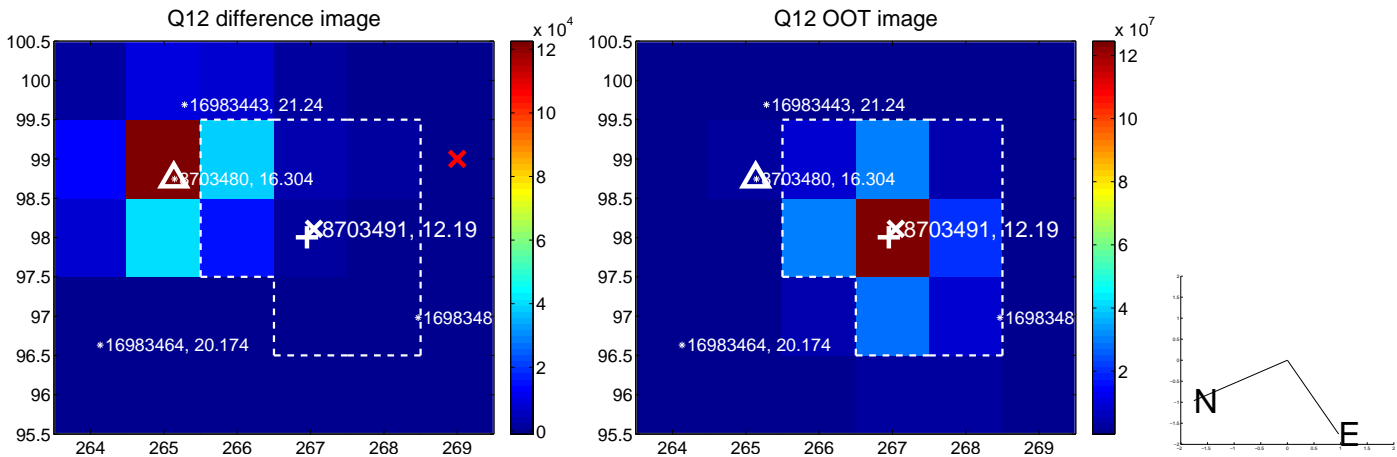
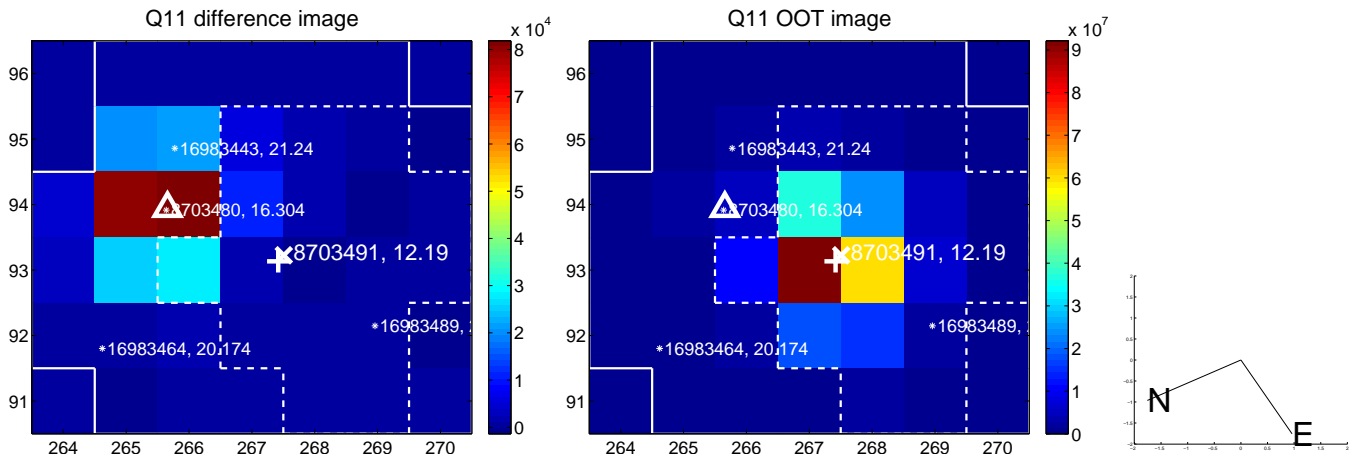
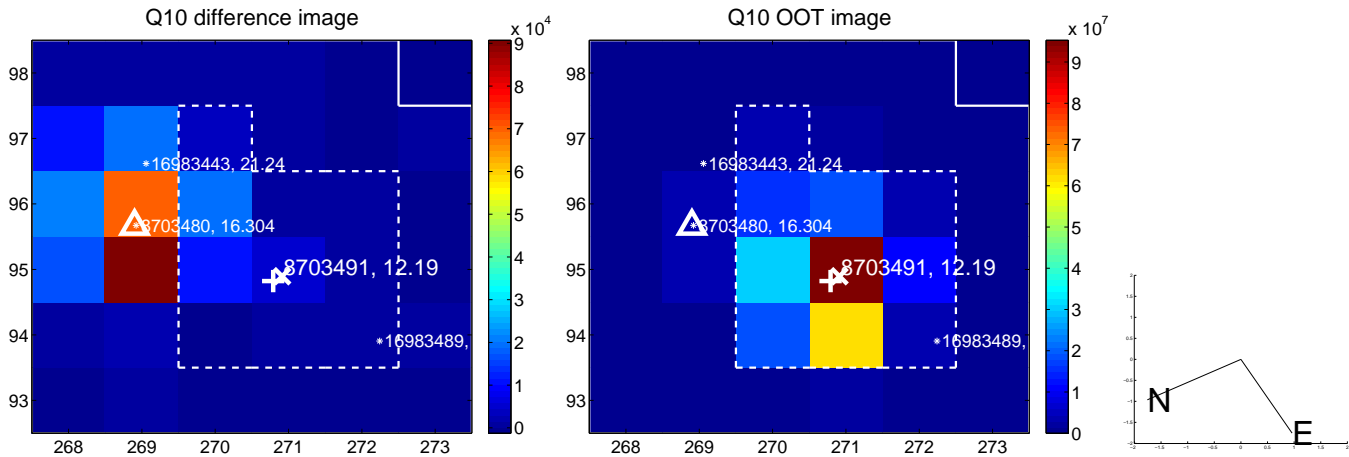
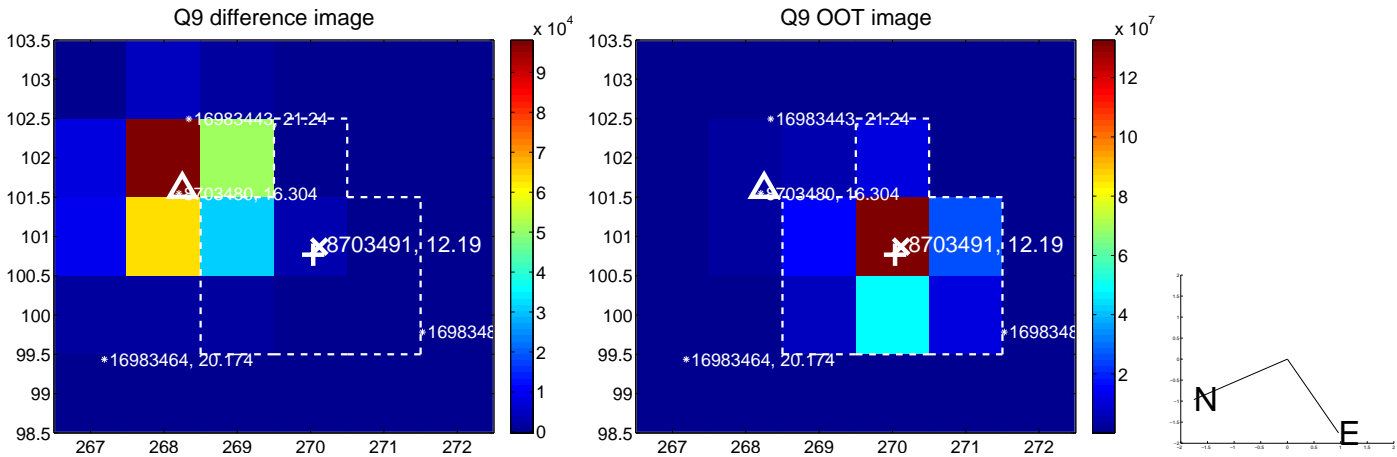
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



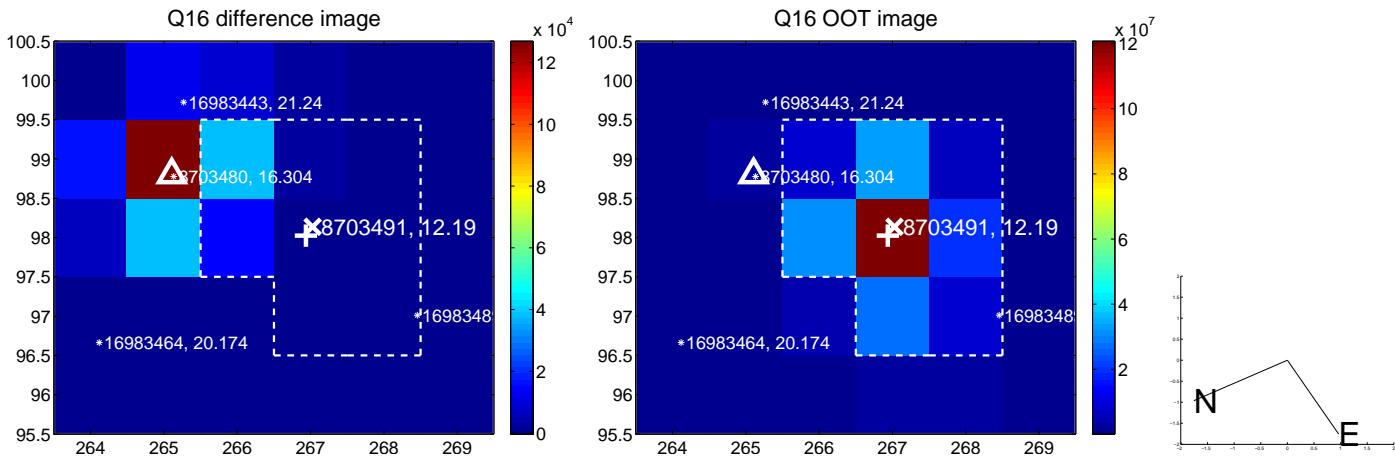
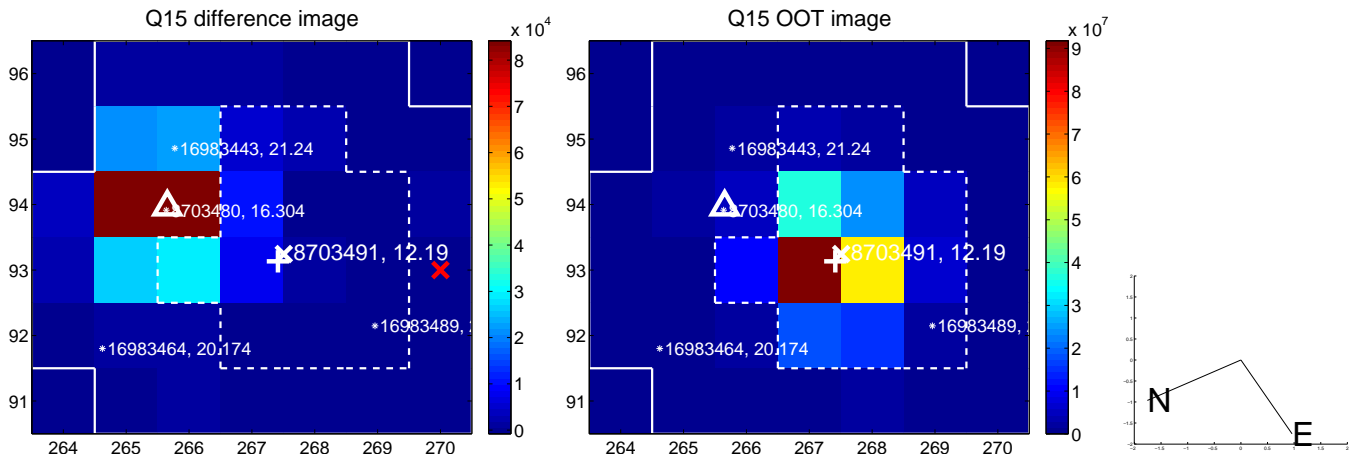
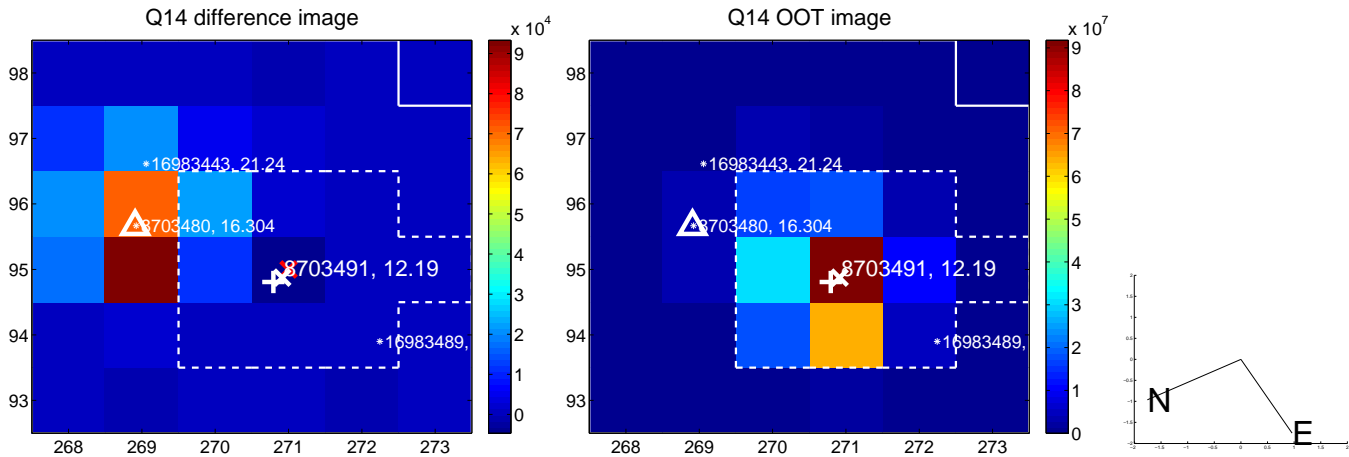
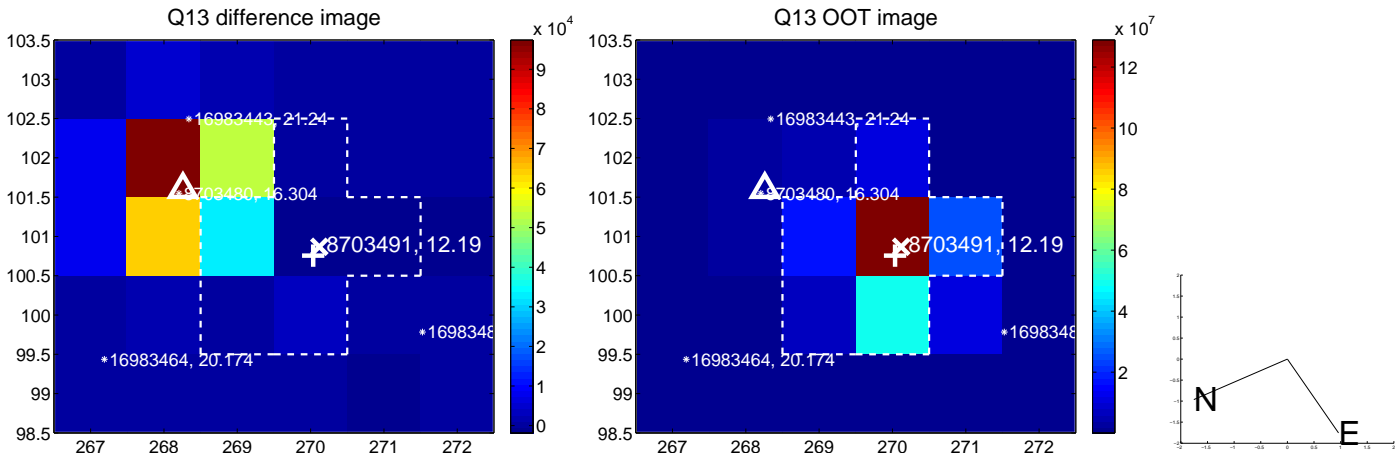
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



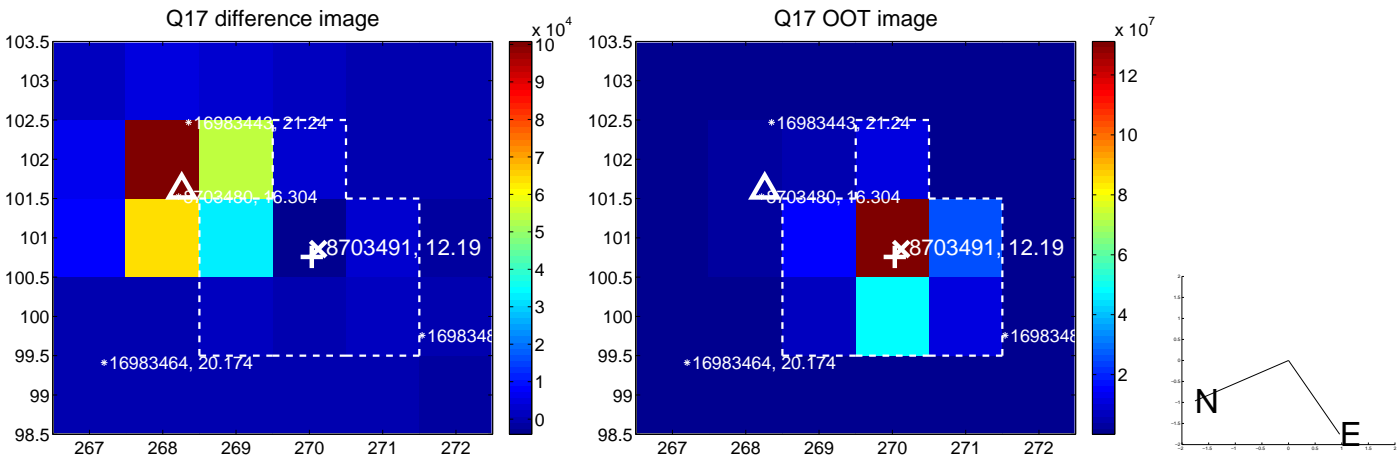
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

