

KIC 009491832

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})
009491832-01	OBS	4226.01	49.565277	170.690305	116.4	8.717	10.4	11.4	1.44	5907	1.72	28.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009491832-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

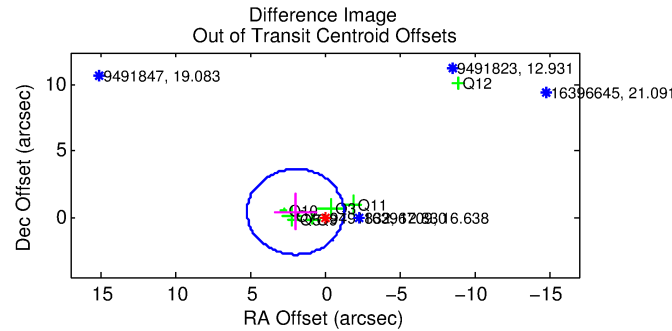
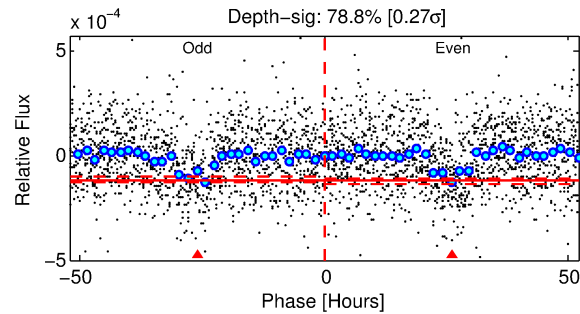
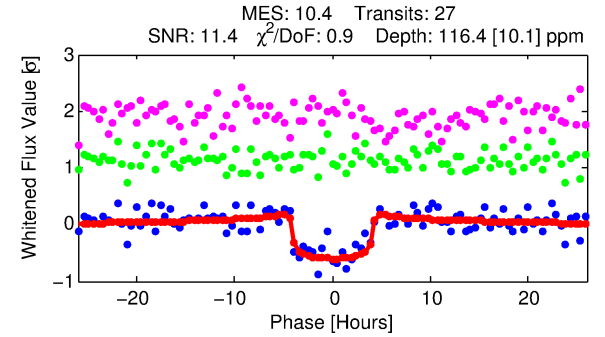
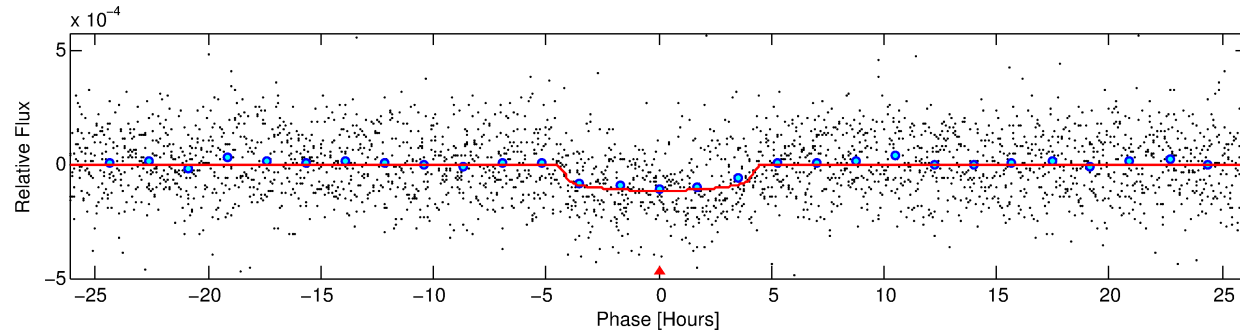
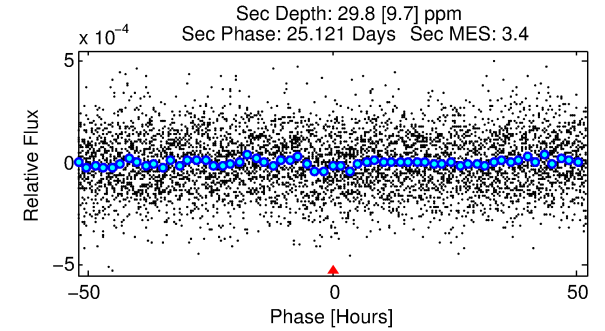
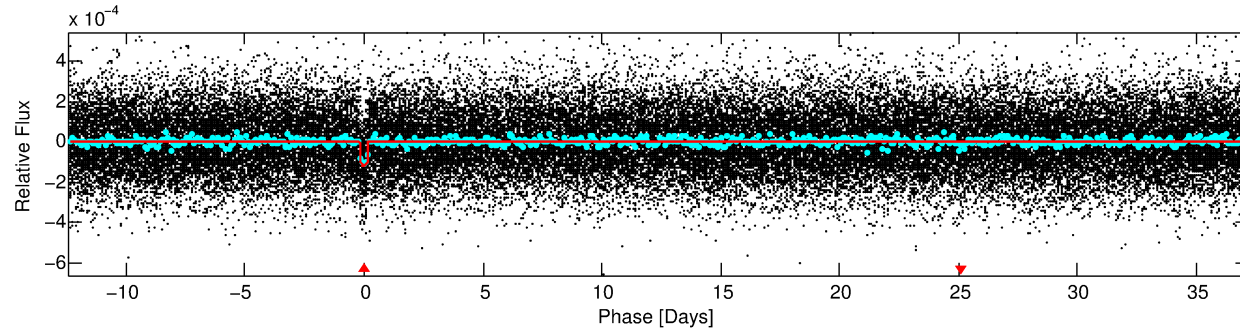
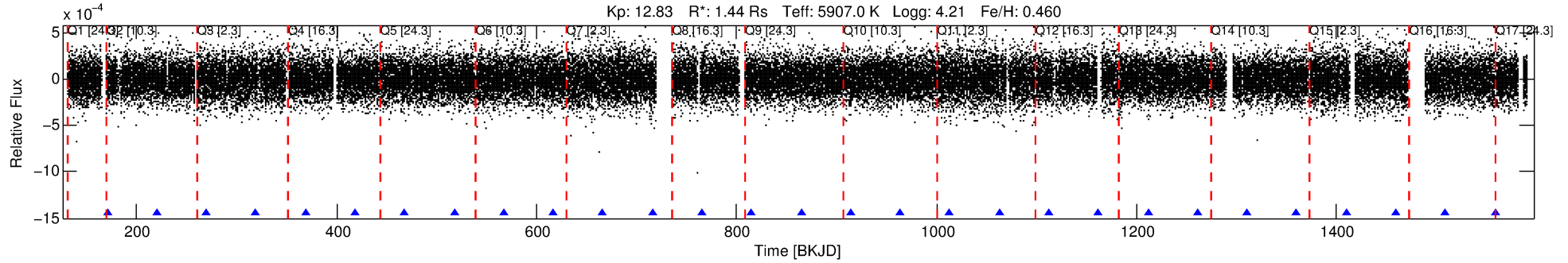
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009491832-01

No Significant Match Found

DV One-Page Summary

KIC: 9491832 Candidate: 1 of 1 Period: 49.565 d
KOI: K04226.01 Corr: 0.980



DV Fit Results:

Period = 49.56528 [0.00064] d
Epoch = 170.6903 [0.0103] BKJD
Rp/R* = 0.0110 [0.0044]
a/R* = 27.09 [47.58]
b = 0.80 [0.82]
Seff = 28.23 [7.51]
Teq = 588 [39] K
Rp = 1.72 [0.75] Re
a = 0.2834 [0.0464] AU
Ag = 442.27 [395.44] [1.12σ]
Teffp = 4168 [899] K [3.98σ]

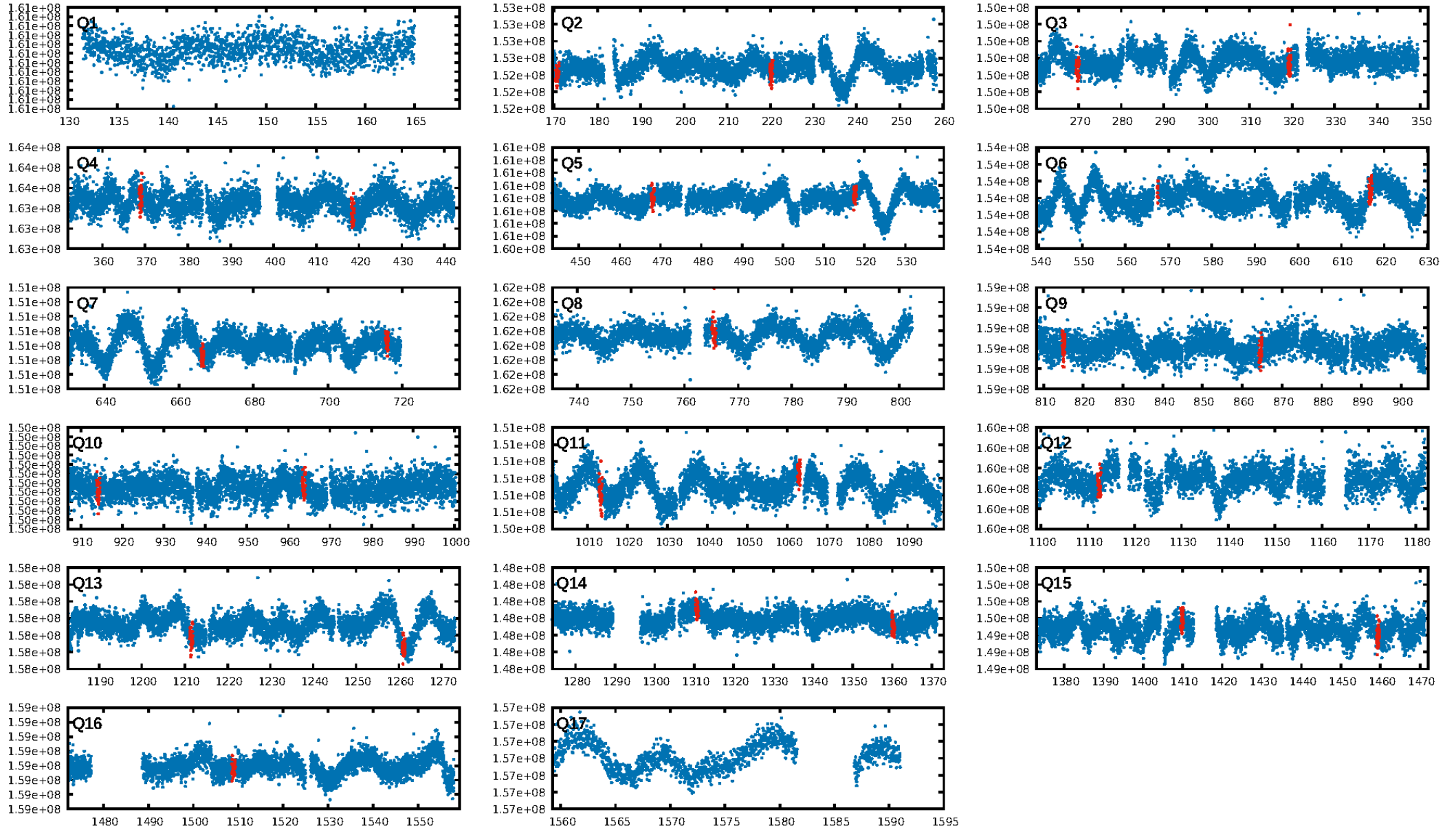
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 67.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.51e-24
RollingBand-fgt: 1.00 [27/27]
GhostDiagnostic-chr: -5.087
Centroid-sig: 38.5%
Centroid-so: 1.959 arcsec [1.23σ]
OotOffset-rm: 2.003 arcsec [1.86σ]
KicOffset-rm: 1.981 arcsec [1.60σ]
OotOffset-st: 1/3/1/2 [7]
KicOffset-st: 1/3/1/2 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 1.00 [15/15]

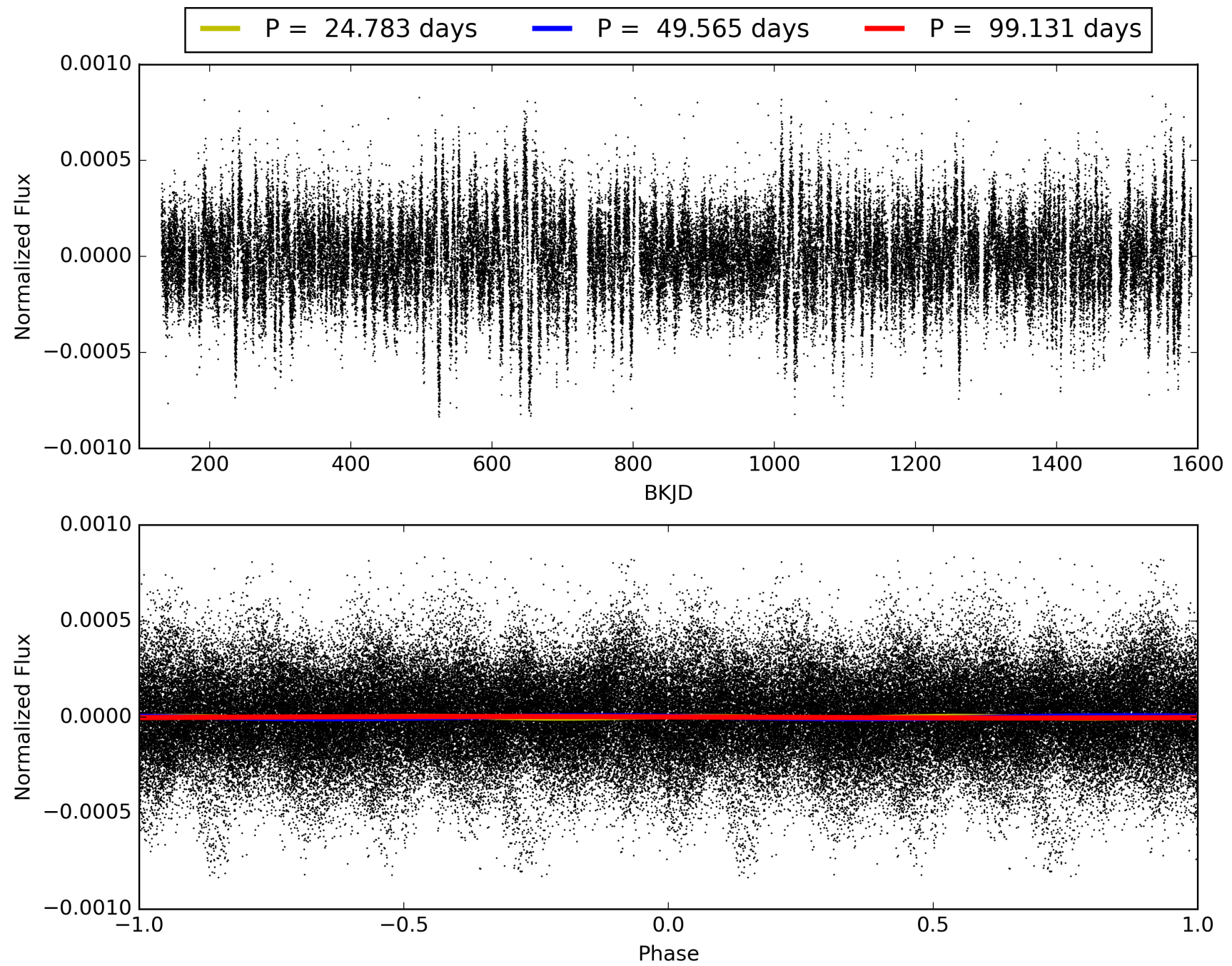
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:28:37 Z

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

TCE 009491832-01, PDC Light Curves

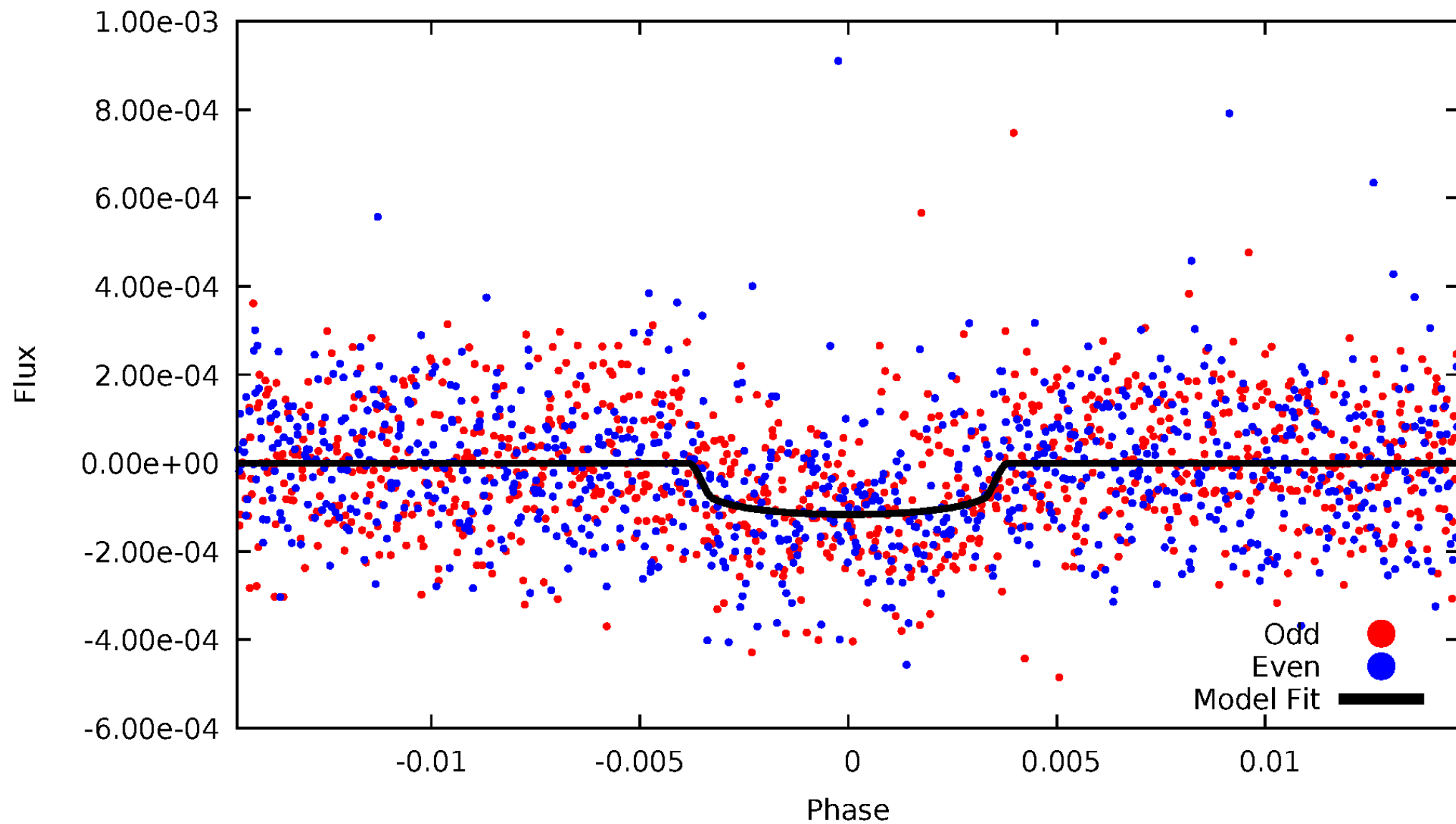


TCE 009491832-01



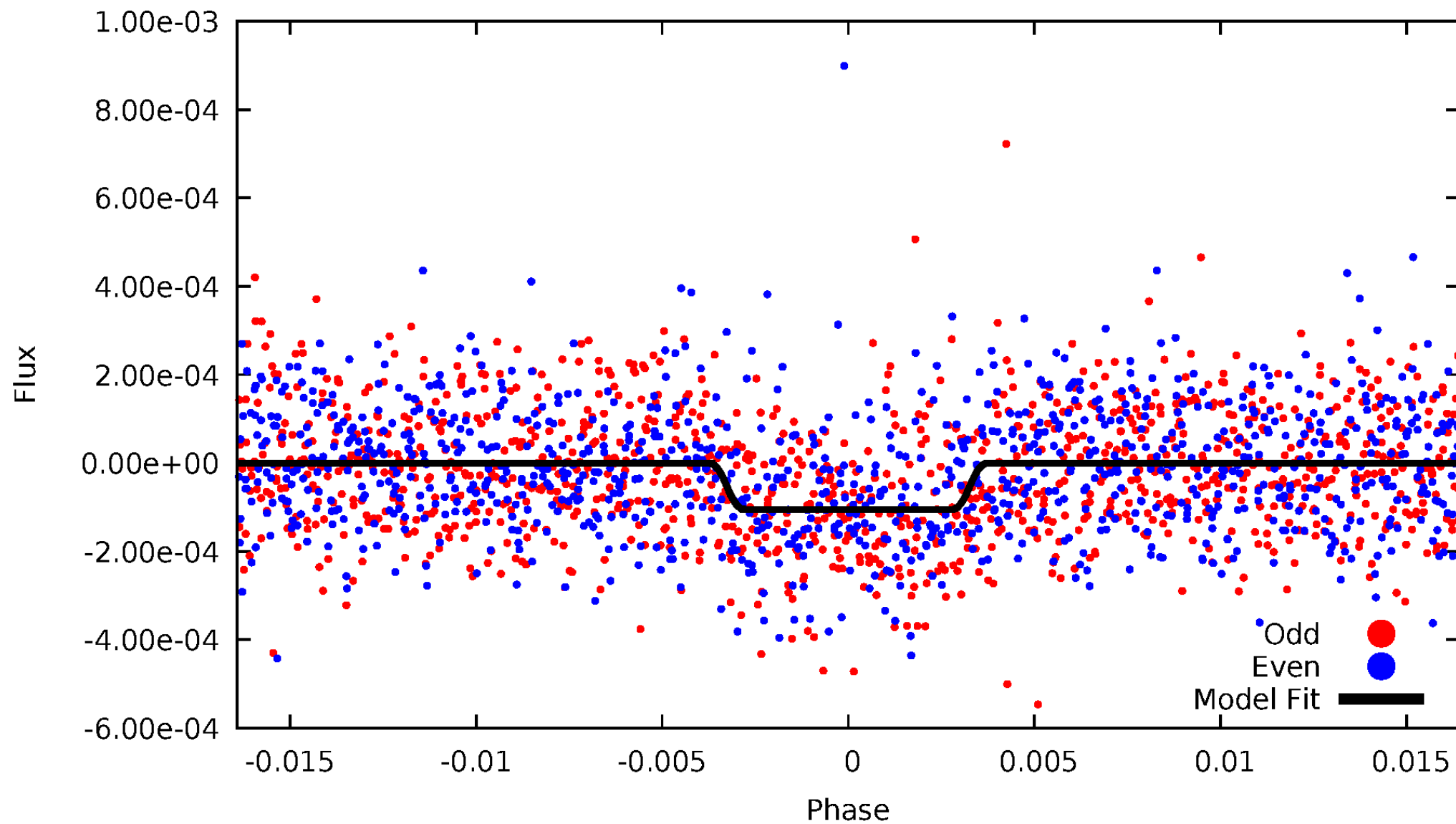
DV Odd/Even

TCE 009491832-01



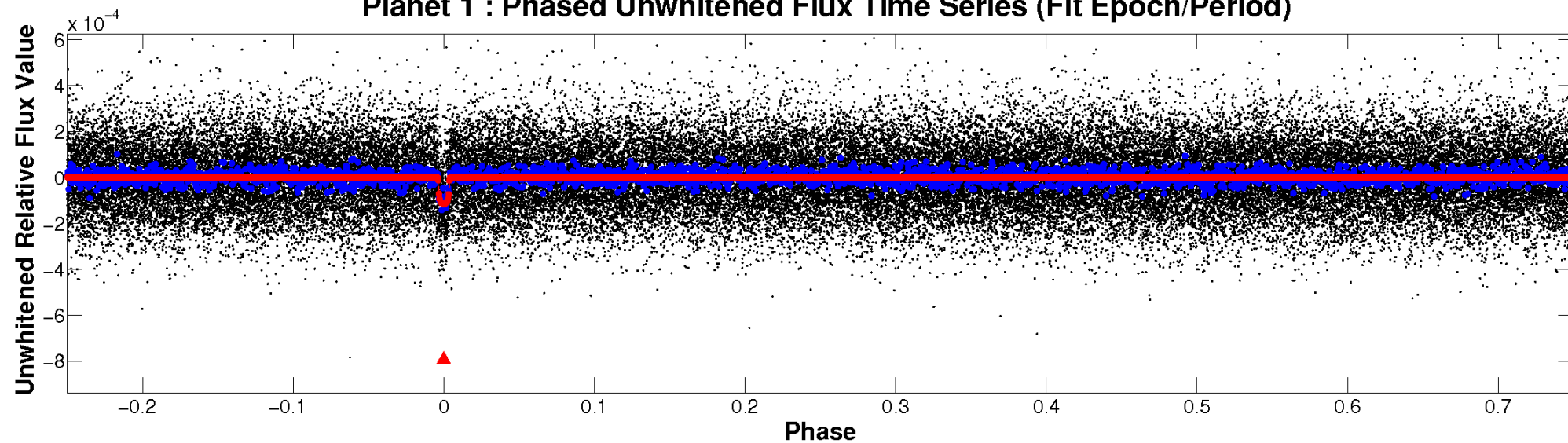
ALT Odd/Even

TCE 009491832-01

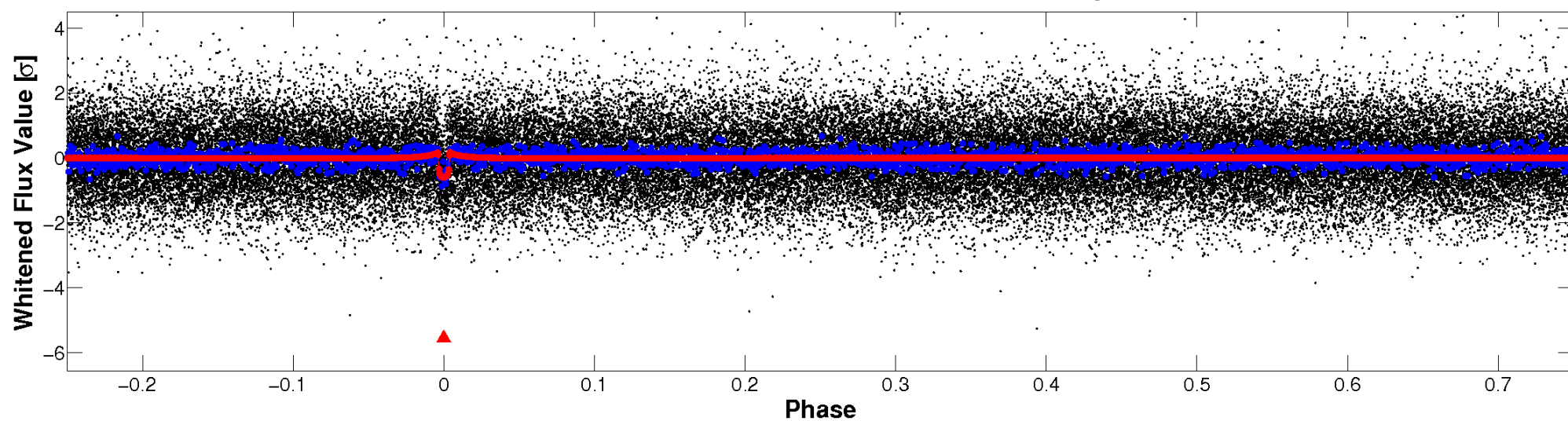


Non-Whitened Vs. Whitened Light Curve

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

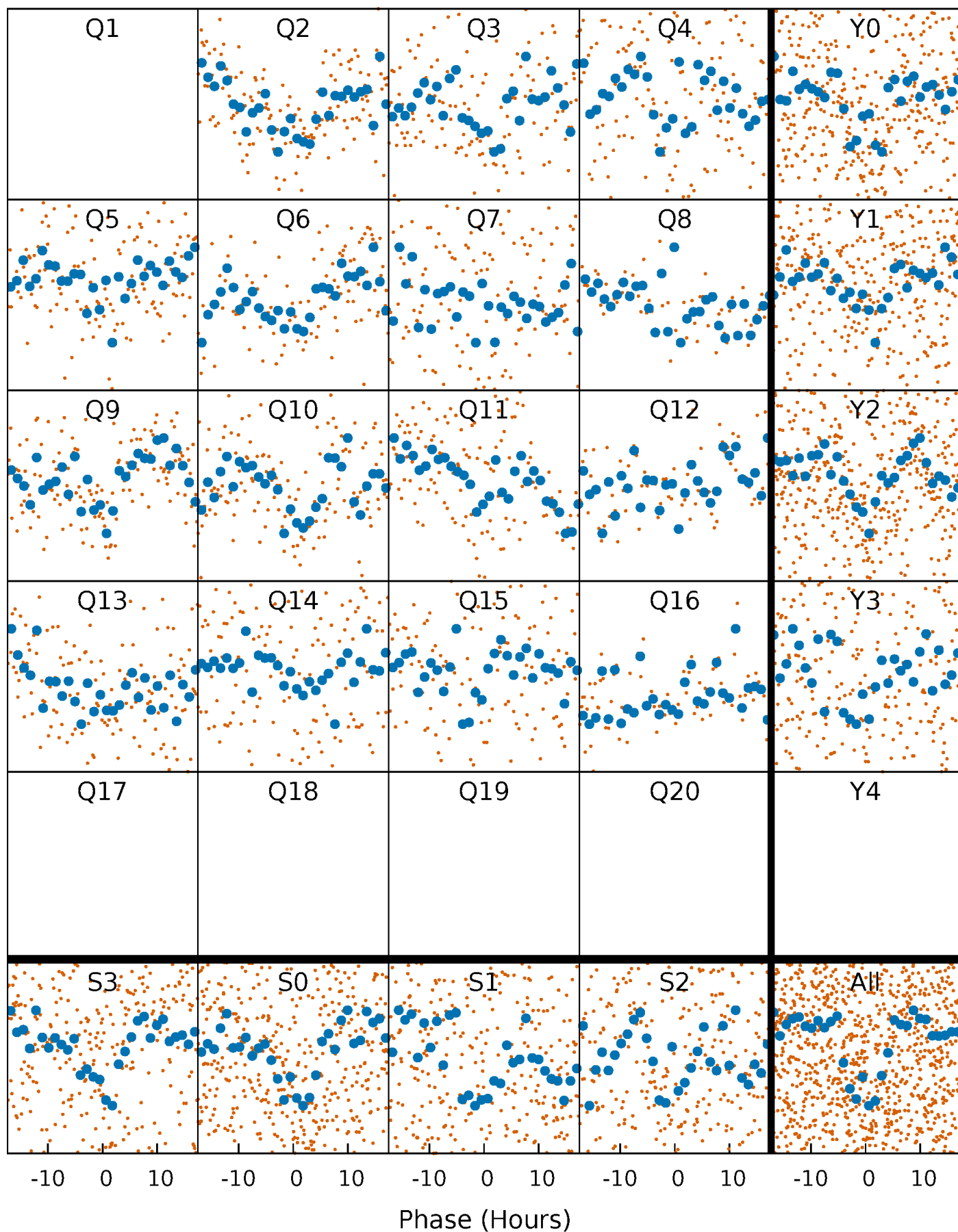


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



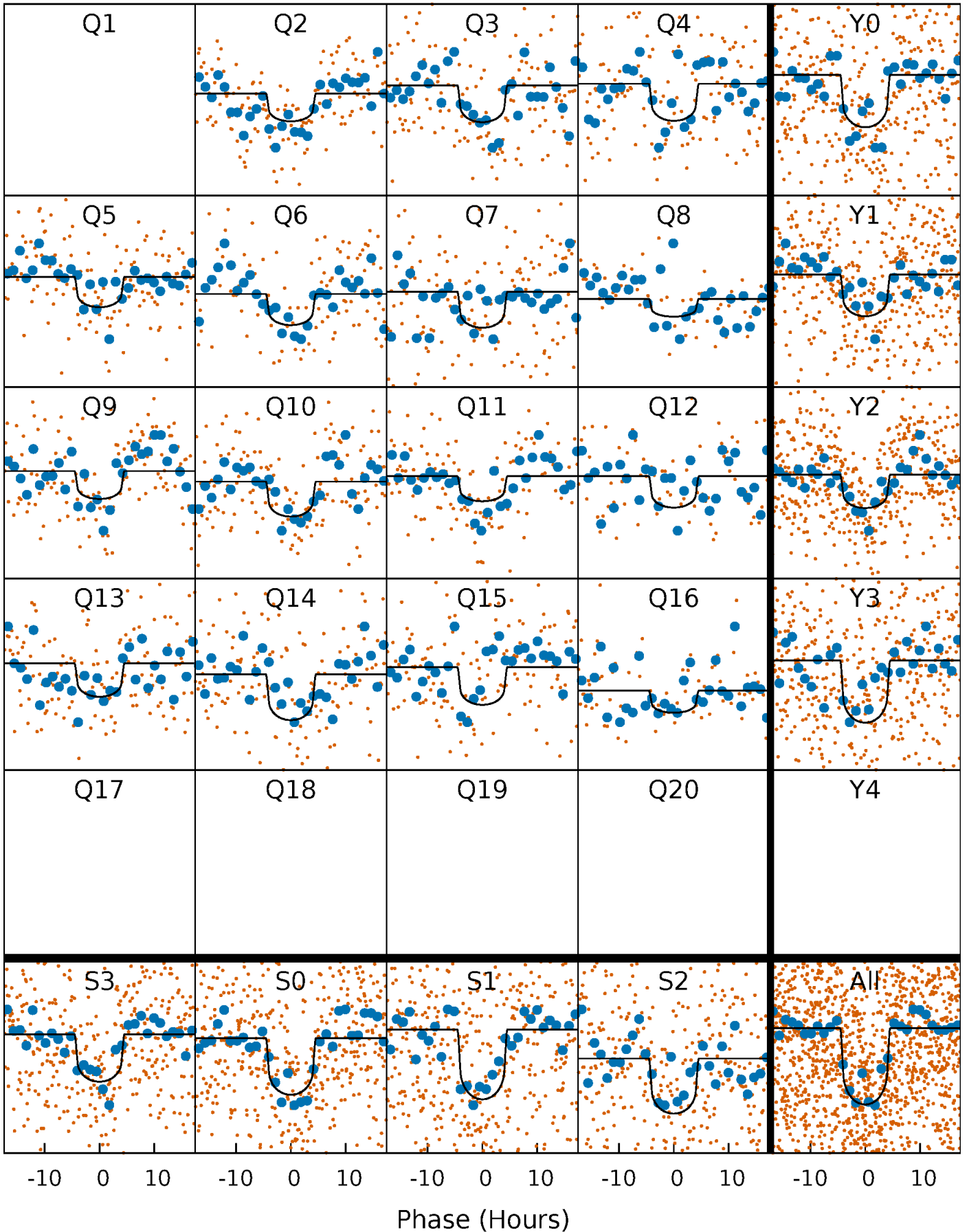
PDC Quarter-Phased Transit Curves

TCE 009491832-01 P= 49.565277 Days $T_0=170.690305$ (BKJD)



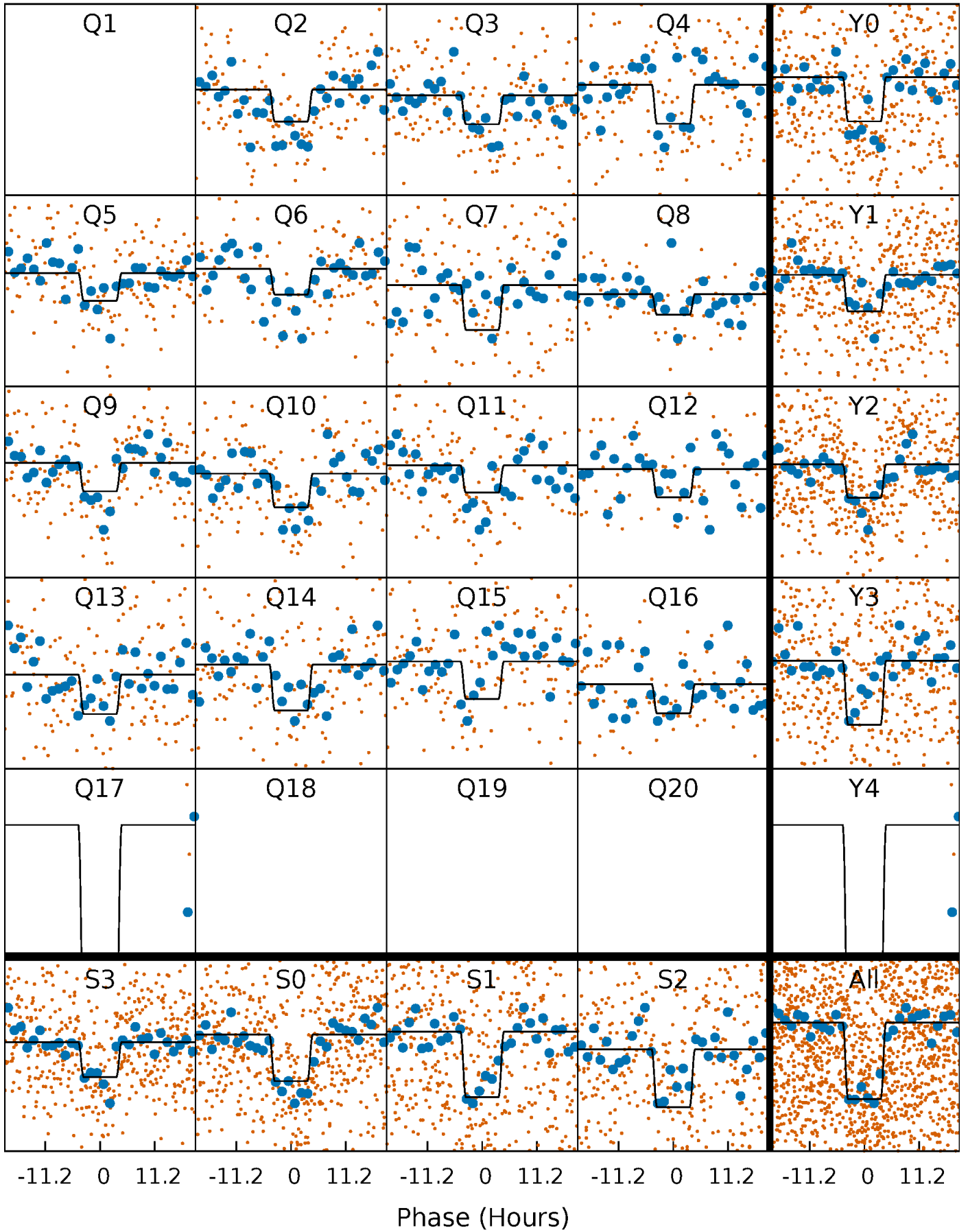
DV Quarter-Phased Transit Curves

TCE 009491832-01 P= 49.565277 Days $T_0=170.690305$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

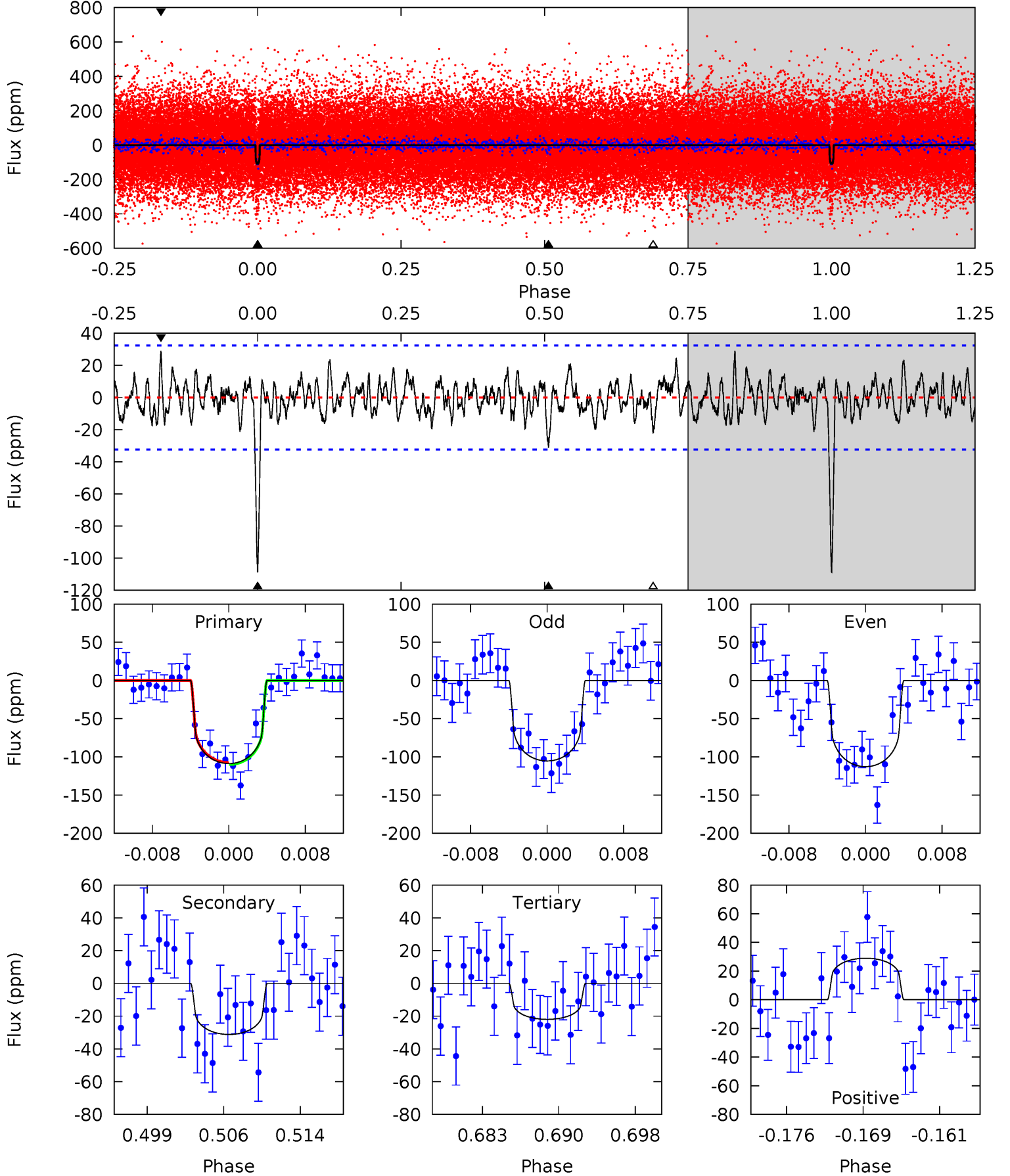
TCE 009491832-01 P= 49.566102 Days $T_0=170.674170$ (BKJD)



DV Model-Shift Uniqueness Test

009491832-01, $P = 49.565277$ Days, $E = 121.125028$ Days

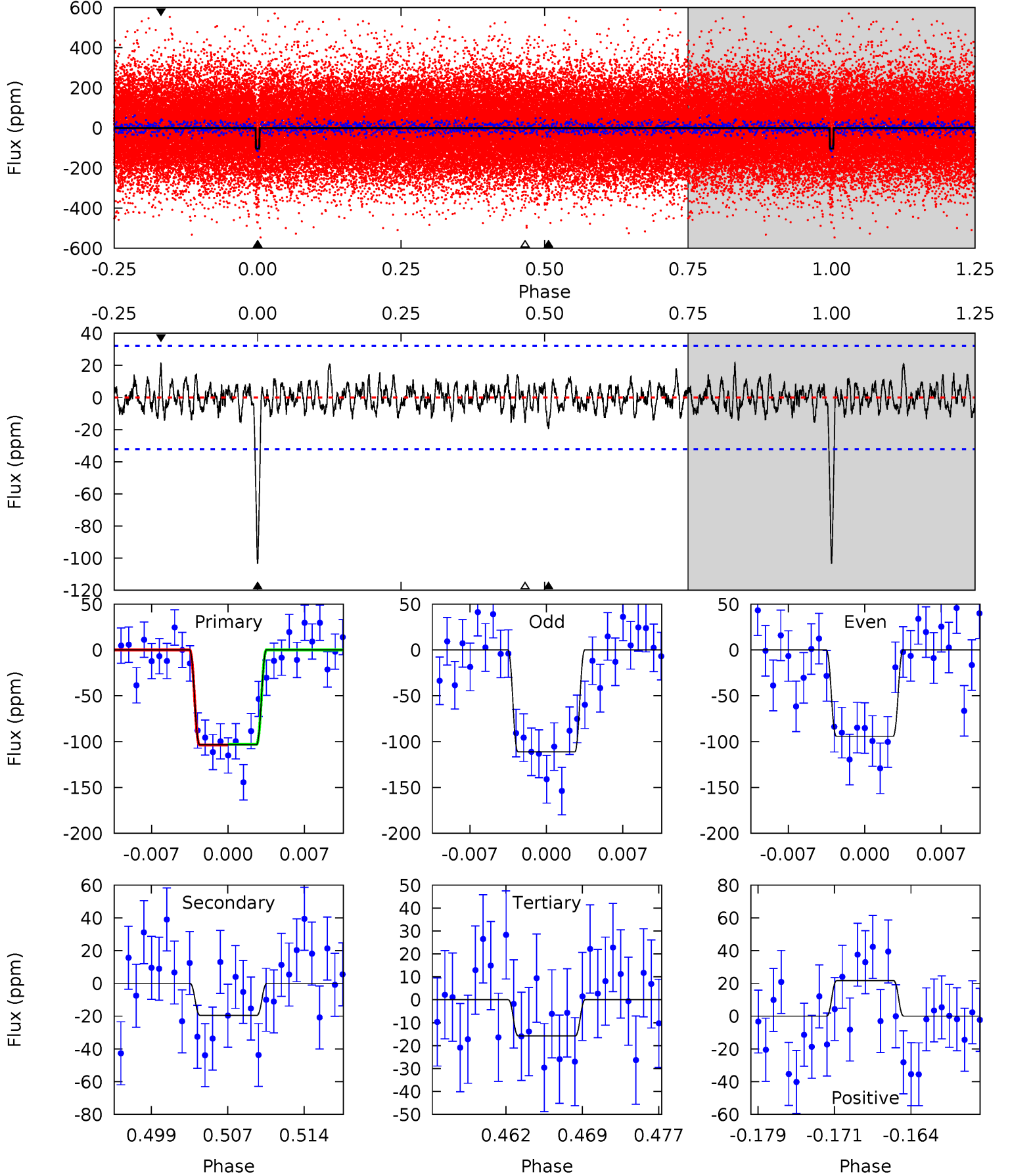
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	4.89	3.45	4.54	5.08	2.67	1.31	13.6	12.5	1.44	0.34	0.59	0.97	0.21	0.20



Alt Model-Shift Uniqueness Test

009491832-01, P = 49.566102 Days, E = 121.108068 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	3.08	2.50	3.42	5.08	2.68	0.98	13.8	12.9	0.59	-0.34	1.34	0.90	0.17	0.06



Stellar Parameters For KIC 009491832

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5907^{+107}_{-131}	$4.212^{+0.143}_{-0.117}$	$0.460^{+0.050}_{-0.150}$	$1.442^{+0.263}_{-0.263}$	$1.234^{+0.089}_{-0.109}$	$0.580^{+0.410}_{-0.206}$
	+2%/-2%	+3%/-3%	+11%/-33%	+18%/-18%	+7%/-9%	+71%/-36%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 009491832-01 / KOI 4226.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-31 ± 6	$1.72^{+0.71}_{-0.67}$	817^{+44}_{-42}	4417^{+902}_{-544}	480^{+724}_{-256}
Alt.	-20 ± 6	$1.57^{+0.75}_{-0.62}$	816^{+43}_{-47}	4113^{+1007}_{-526}	334^{+640}_{-188}

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 $A_{obs} \gg 1.0$

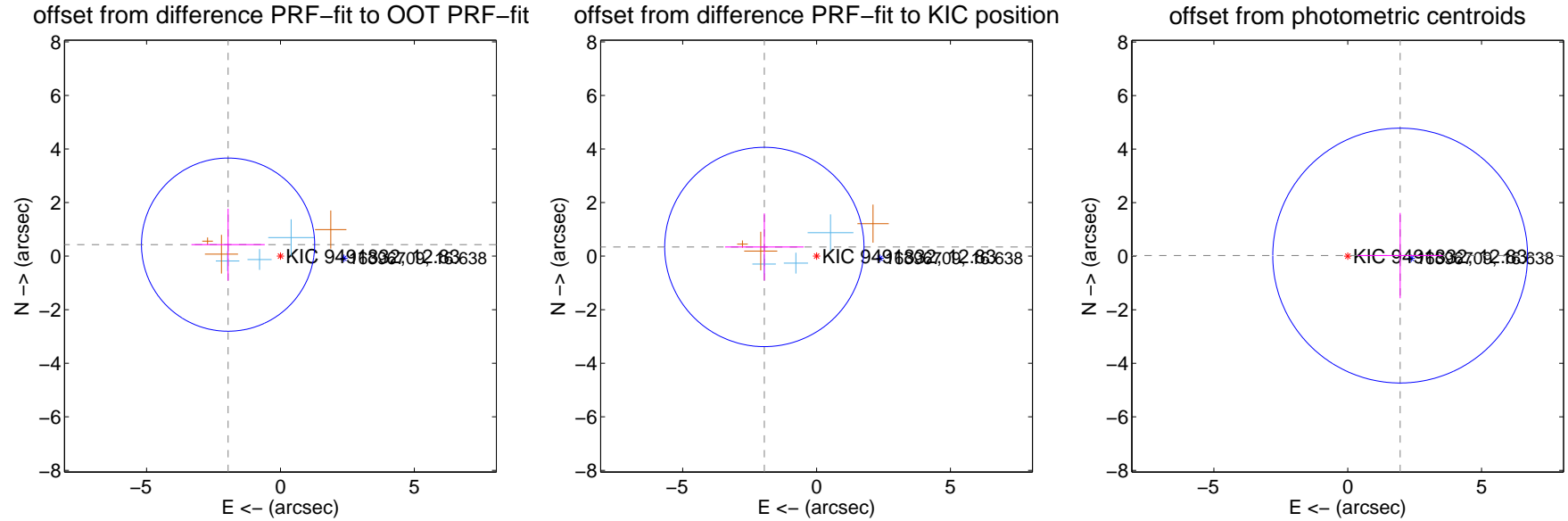
DV Centroid Data

Supplemental centroid analysis for 009491832-01. Kepler magnitude: 12.83. Transit SNR 11.45

There are 4 quarters with good PRF difference image offsets

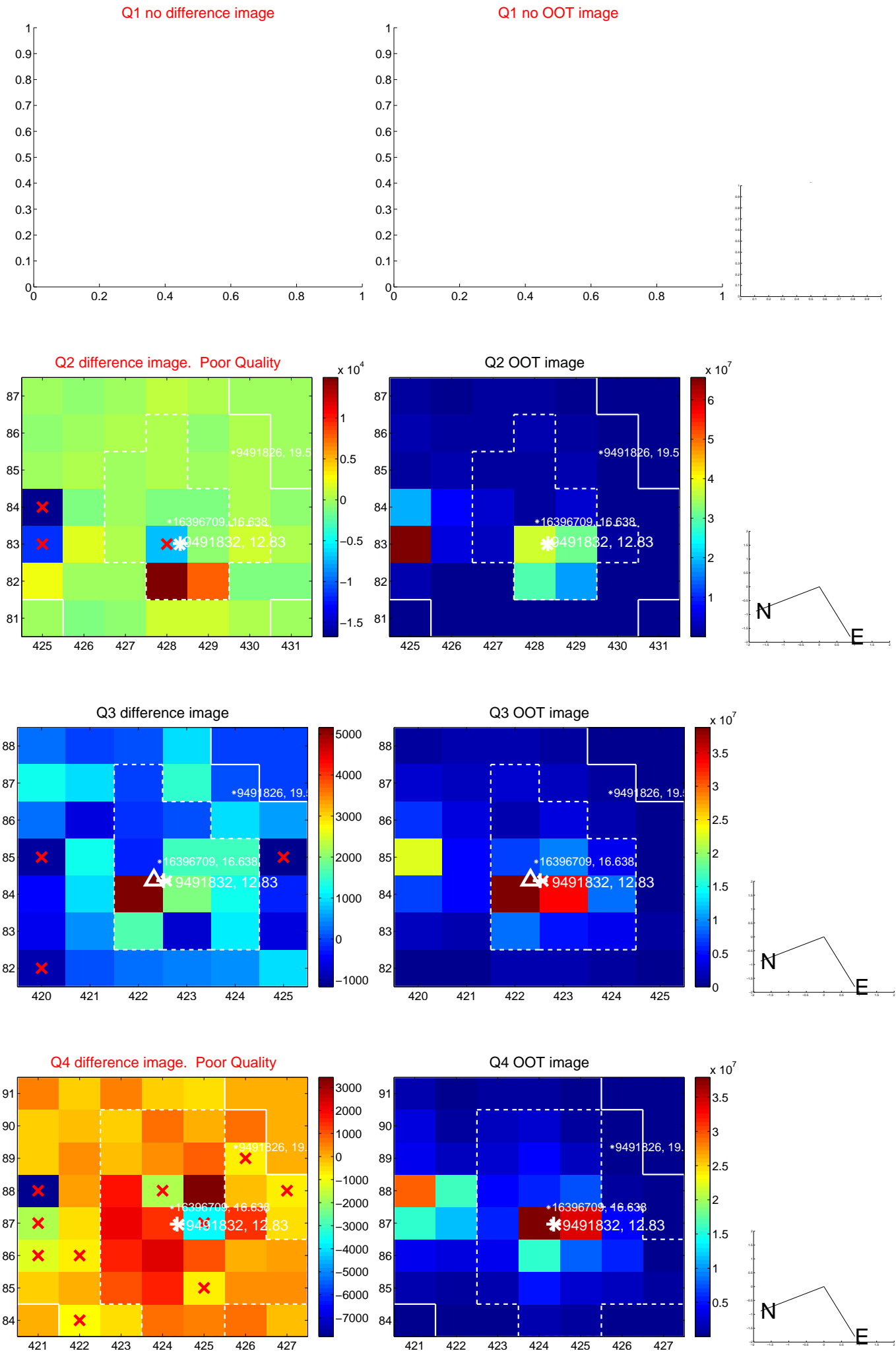
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.003 ± 1.078	1.86	1.957 ± 1.369	0.429 ± 1.344
PRF-fit source offset from KIC position	1.981 ± 1.241	1.60	1.951 ± 1.466	0.342 ± 1.253
photometric centroid source offset	1.96 ± 1.59	1.23	-1.96 ± 1.59	0.02 ± 1.59

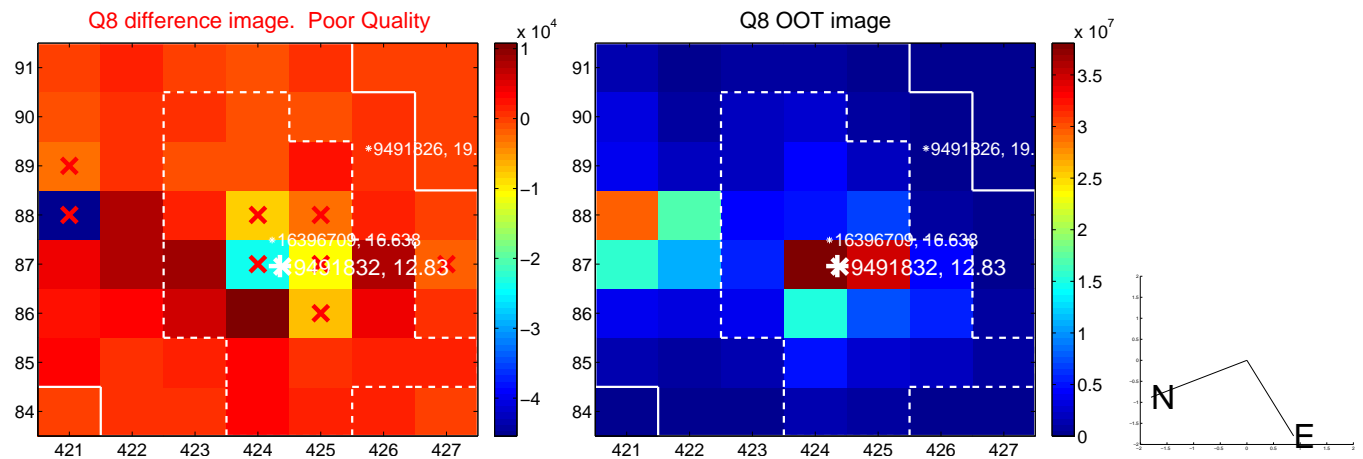
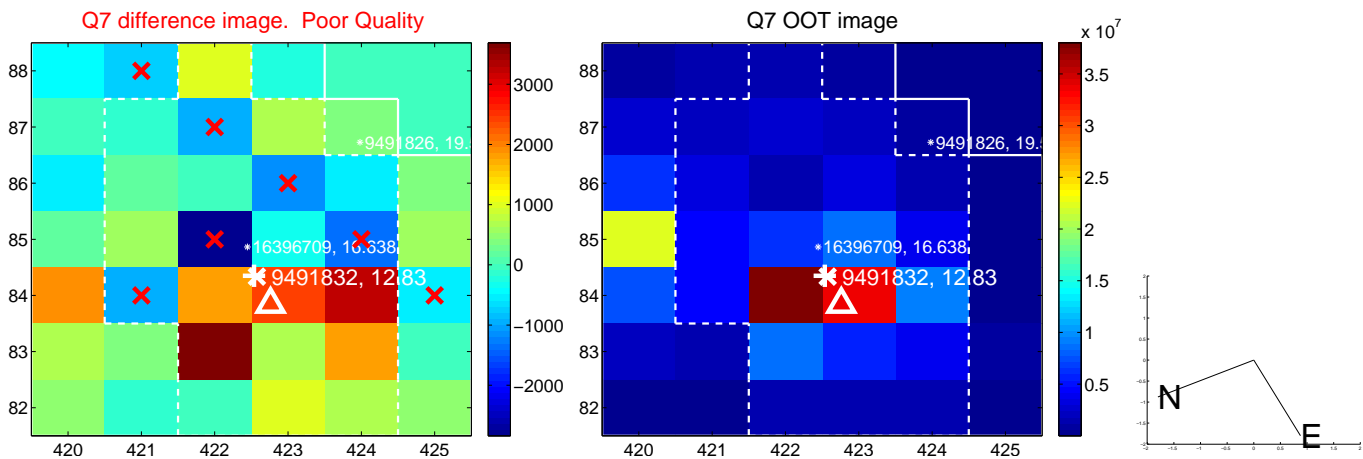
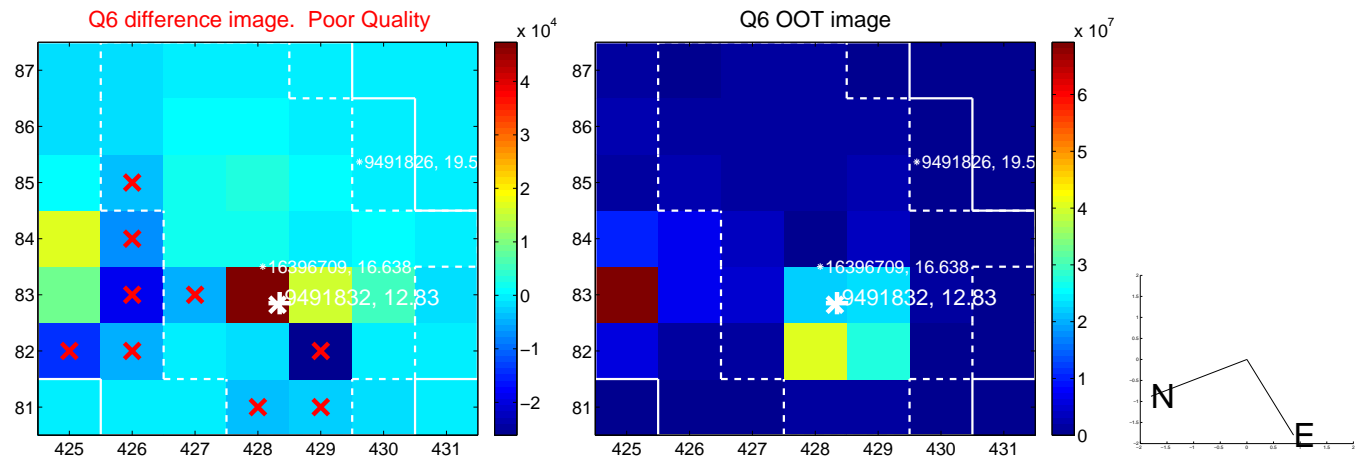
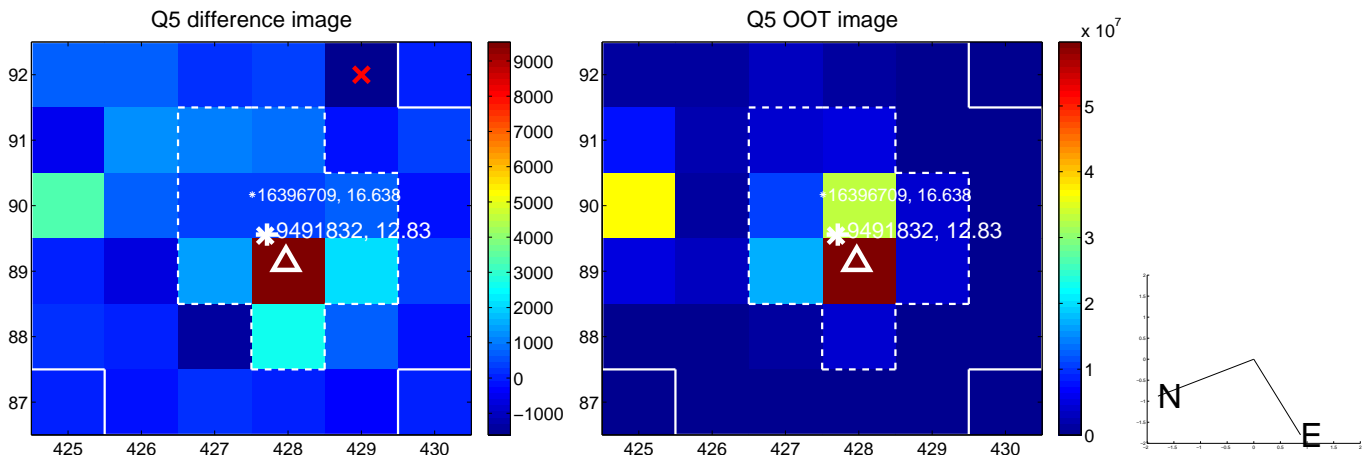


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

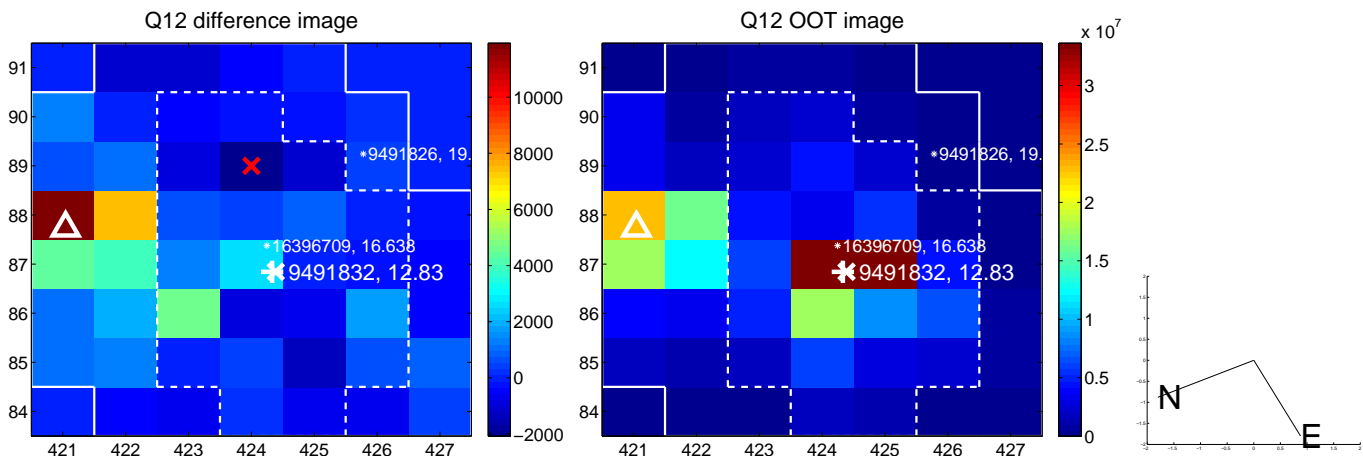
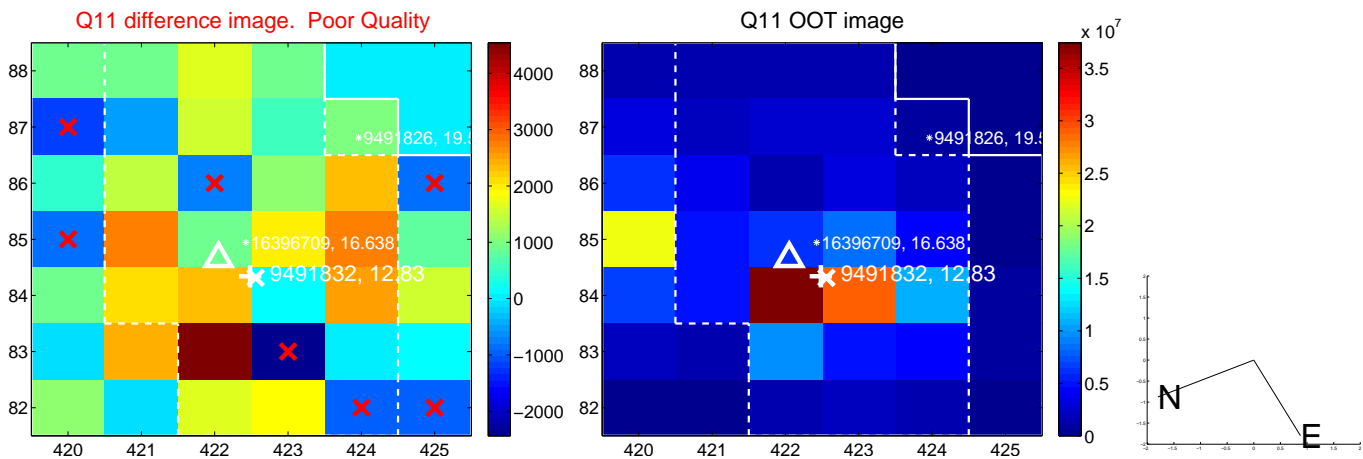
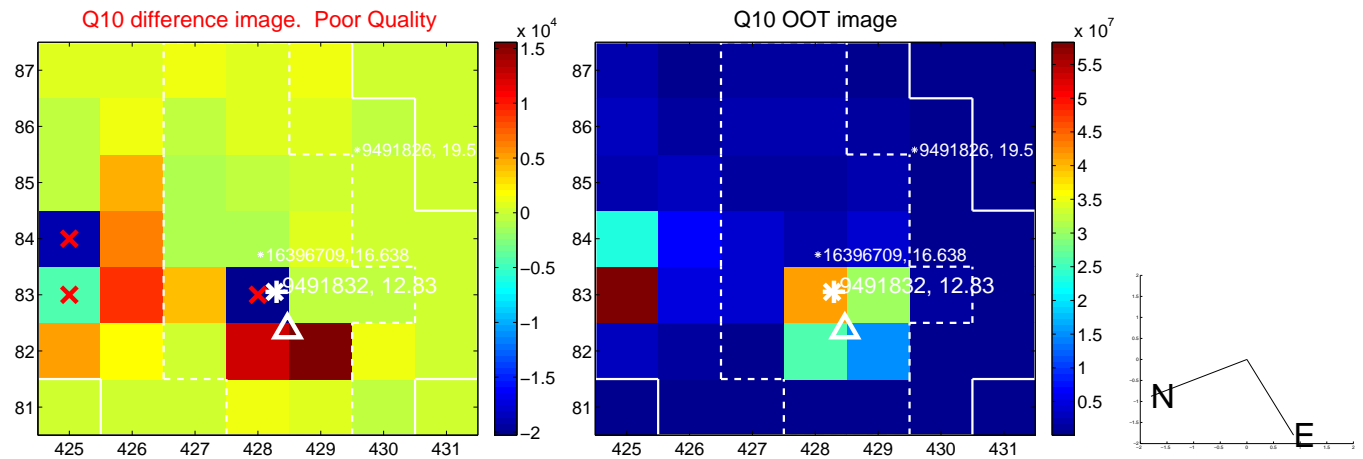
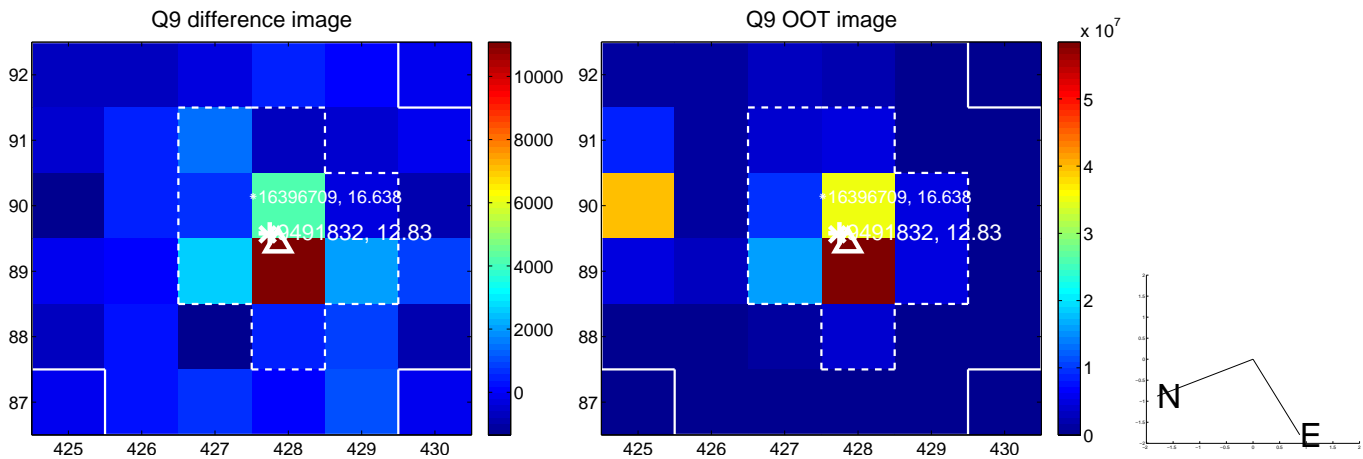
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



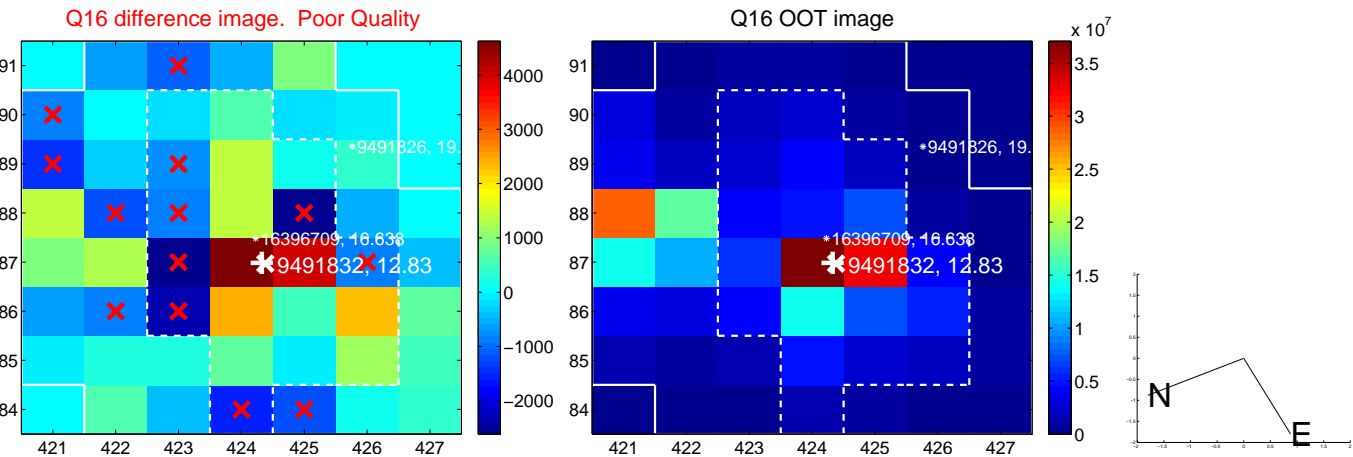
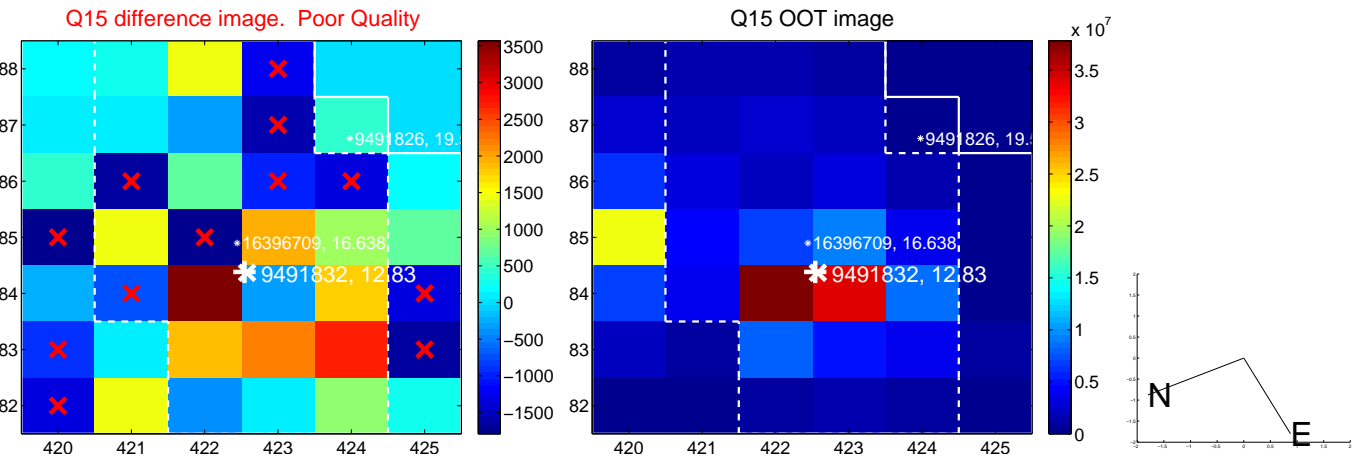
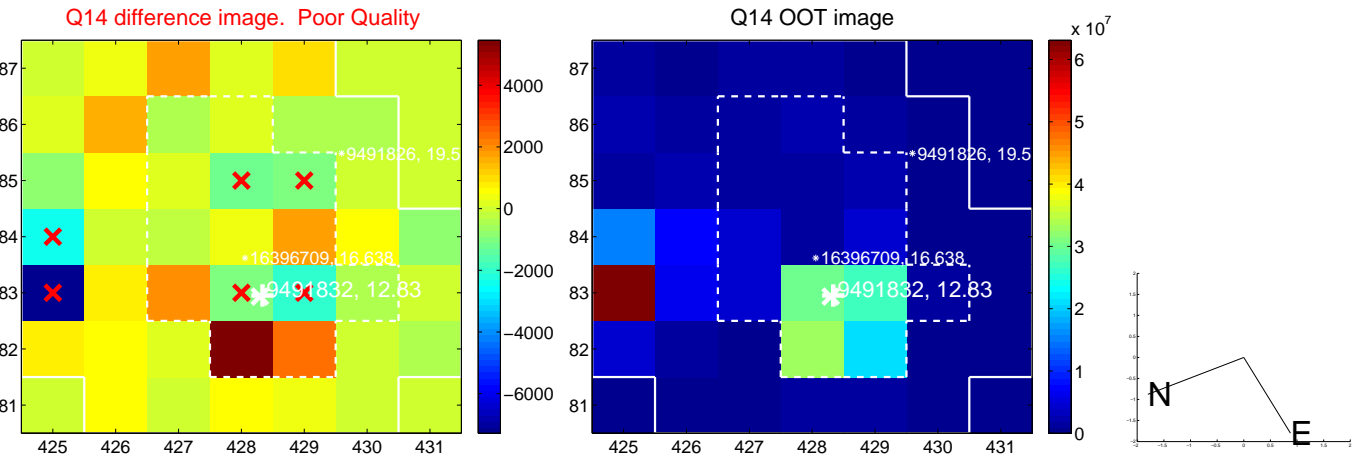
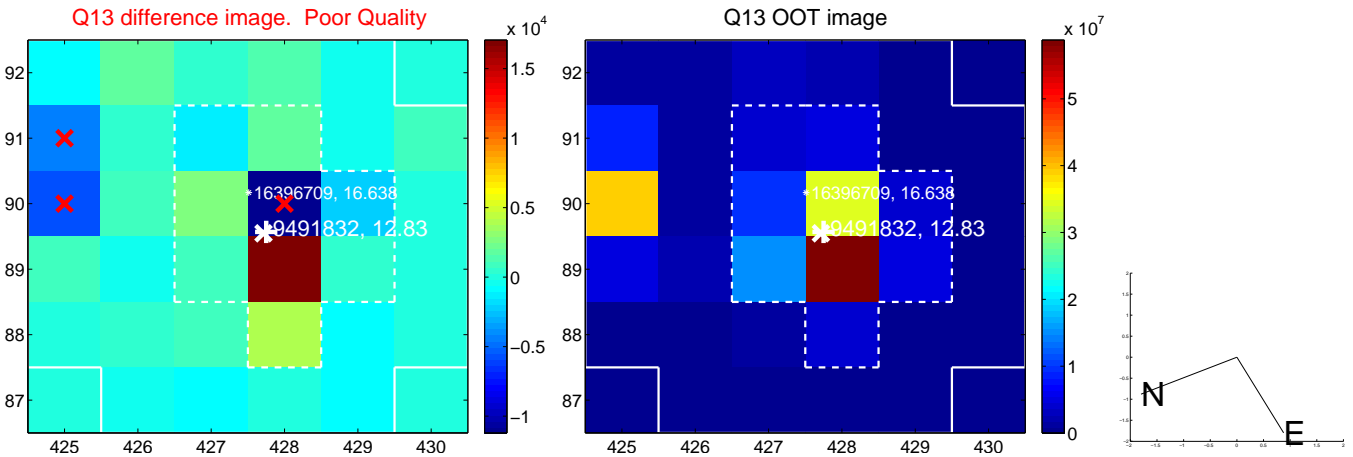
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



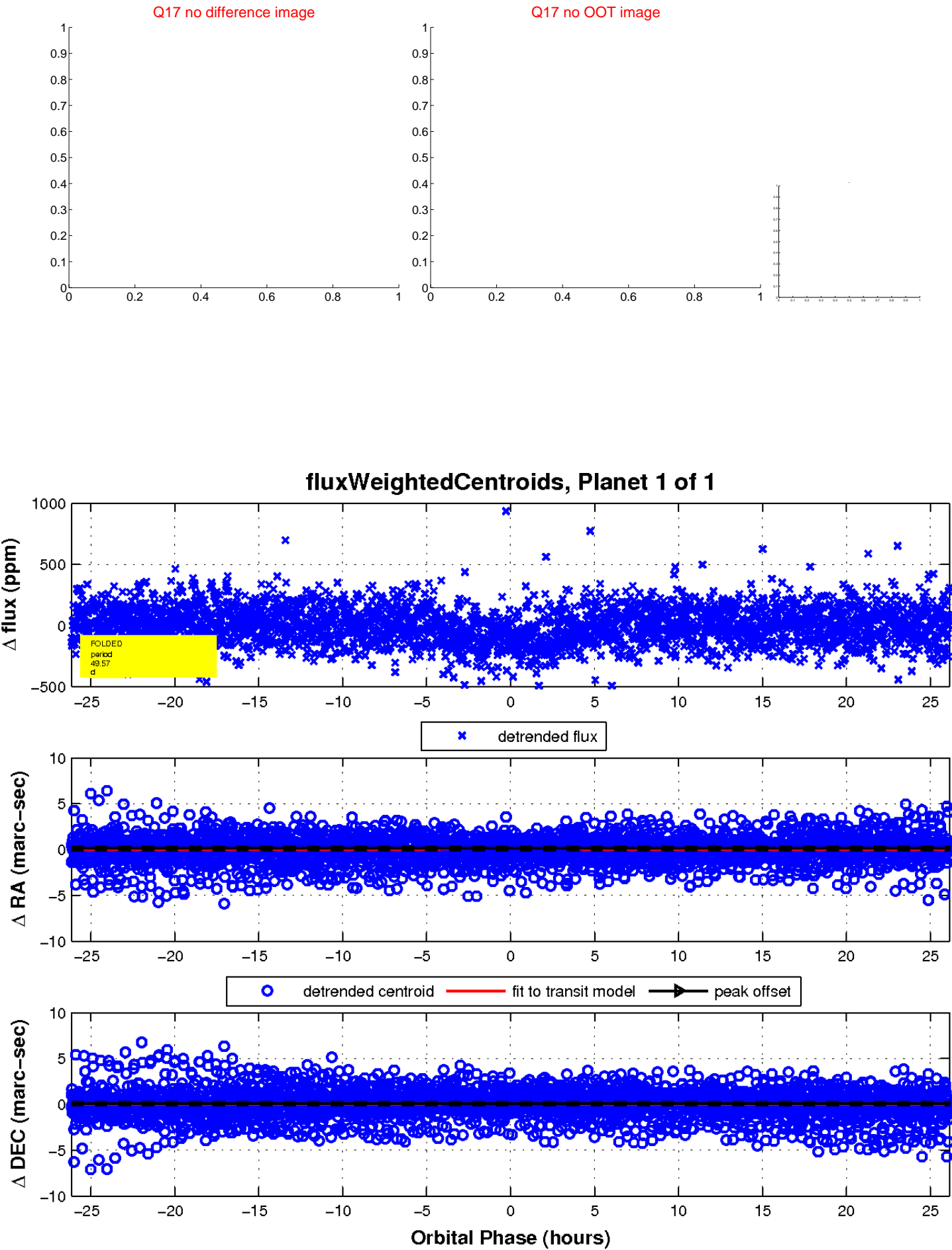
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

