

KIC 004914566

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})
004914566-01	OBS	2635.01	22.242012	144.722431	66.3	7.492	12.0	12.2	2.16	5979	2.02	195.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004914566-01	OBS	PC	0.99	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 004914566-01

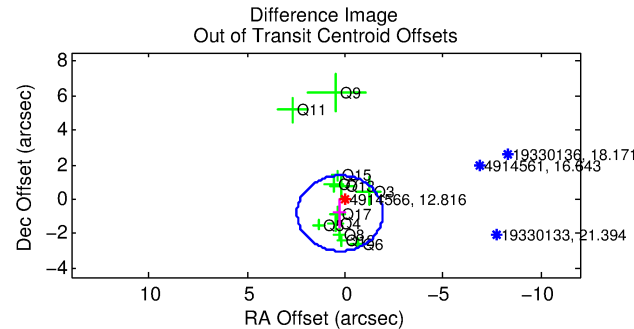
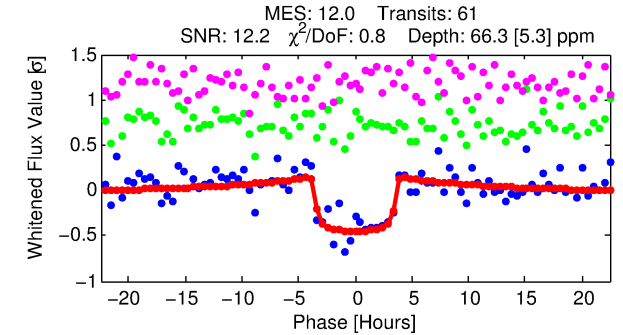
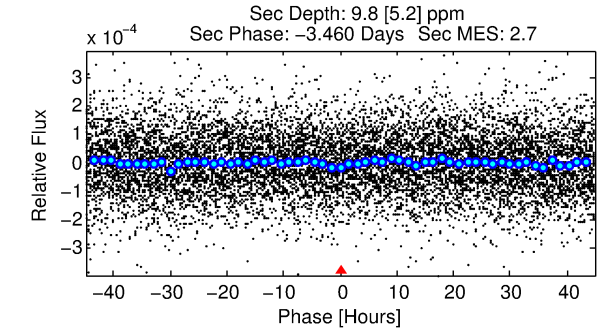
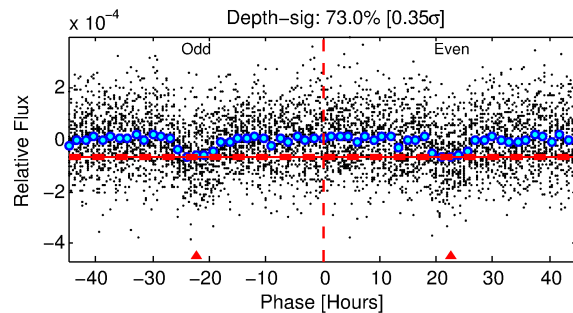
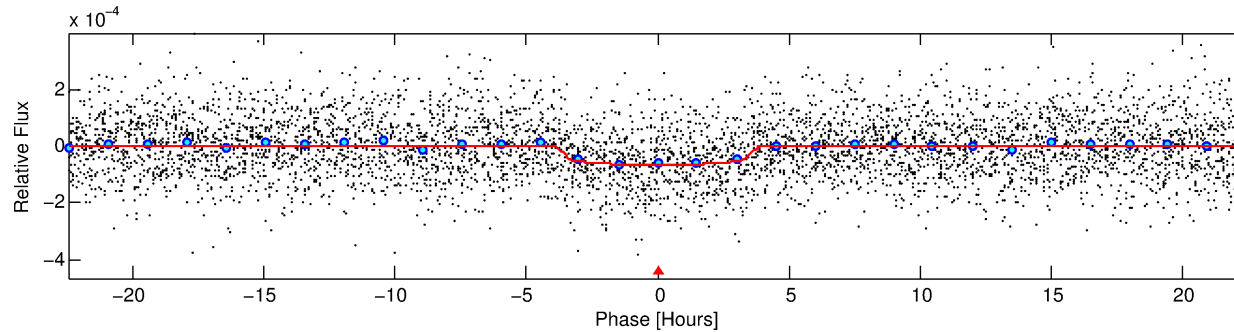
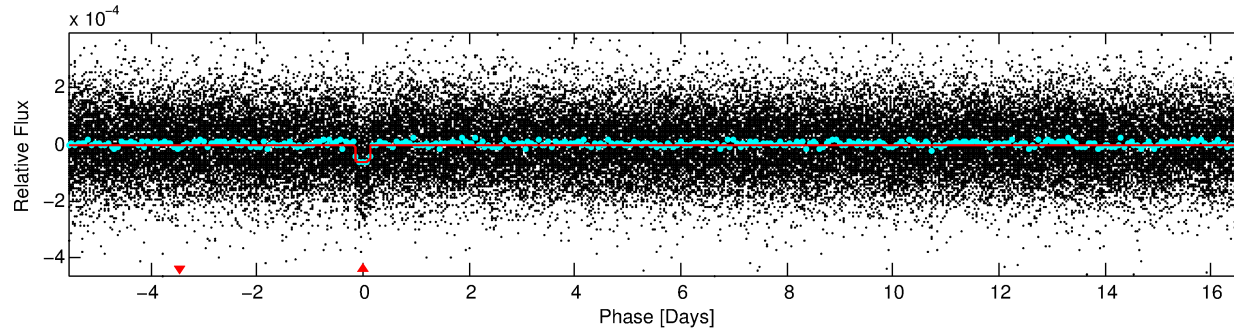
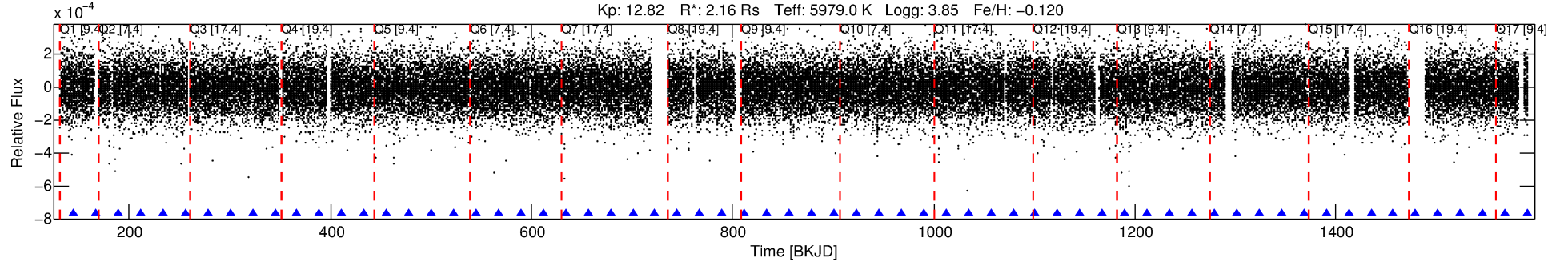
No Significant Match Found

DV One-Page Summary

KIC: 4914566 Candidate: 1 of 1 Period: 22.242 d

KOI: K02635.01 Corr: 0.982

Kp: 12.82 R*: 2.16 Rs Teff: 5979.0 K Logg: 3.85 Fe/H: -0.120



DV Fit Results:

Period = 22.24201 [0.00023] d
Epoch = 144.7224 [0.0087] BKJD
Rp/R* = 0.0086 [0.0022]
a/R* = 11.78 [15.47]
b = 0.87 [0.39]
Seff = 195.89 [78.38]
Teq = 954 [95] K
Rp = 2.02 [0.77] Re
a = 0.1654 [0.0418] AU
Ag = 36.03 [30.34] [1.15σ]
Teffp = 3614 [679] K [3.88σ]

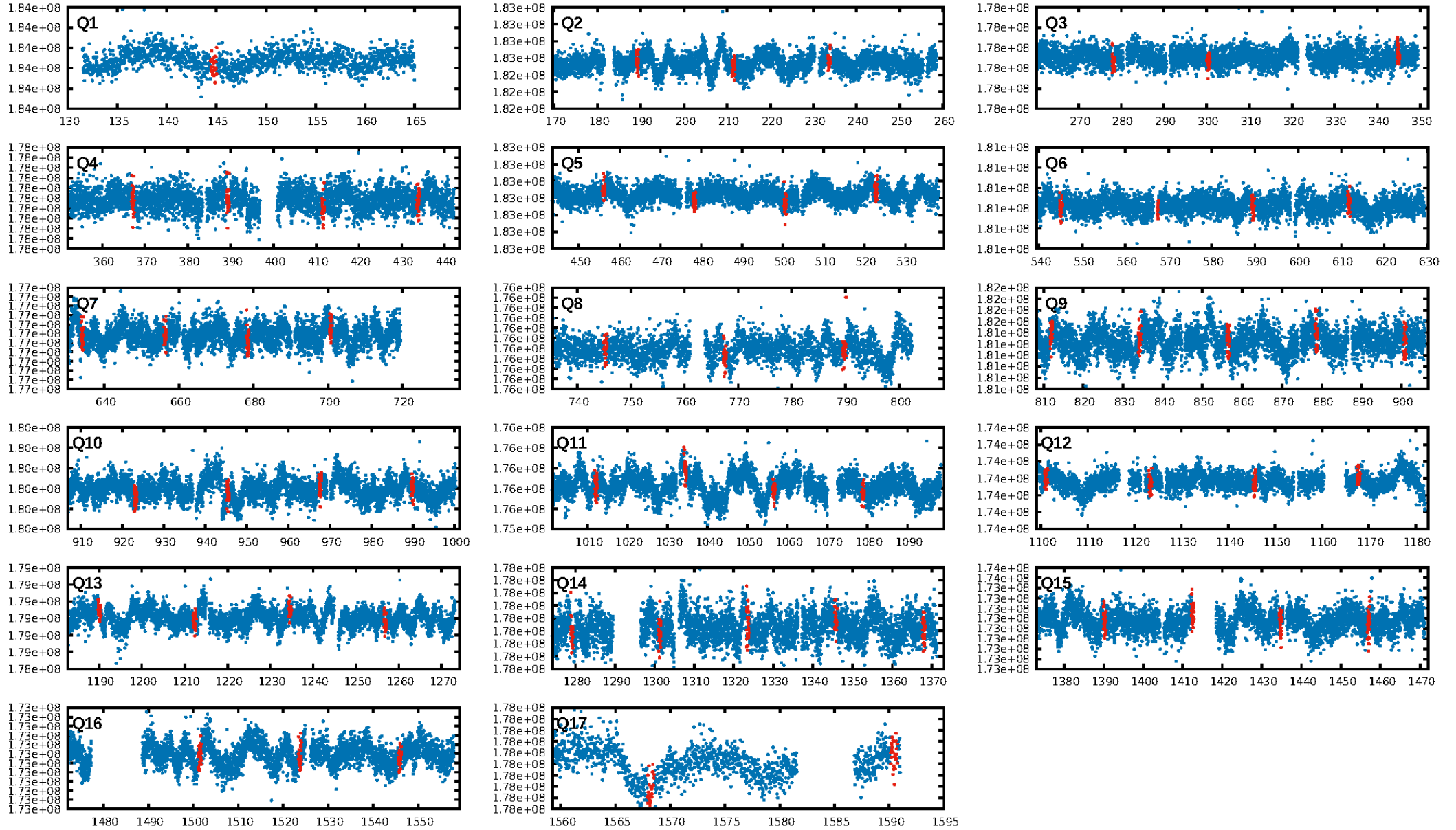
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.93e-32
RollingBand-fgt: 1.00 [58/58]
GhostDiagnostic-chr: 491.7
Centroid-sig: 0.9%
Centroid-so: 1.430 arcsec [1.99σ]
OotOffset-rm: 0.857 arcsec [1.18σ]
KicOffset-rm: 0.815 arcsec [1.17σ]
OotOffset-st: 1/4/3/4 [12]
KicOffset-st: 1/4/3/4 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 1.00 [17/17]

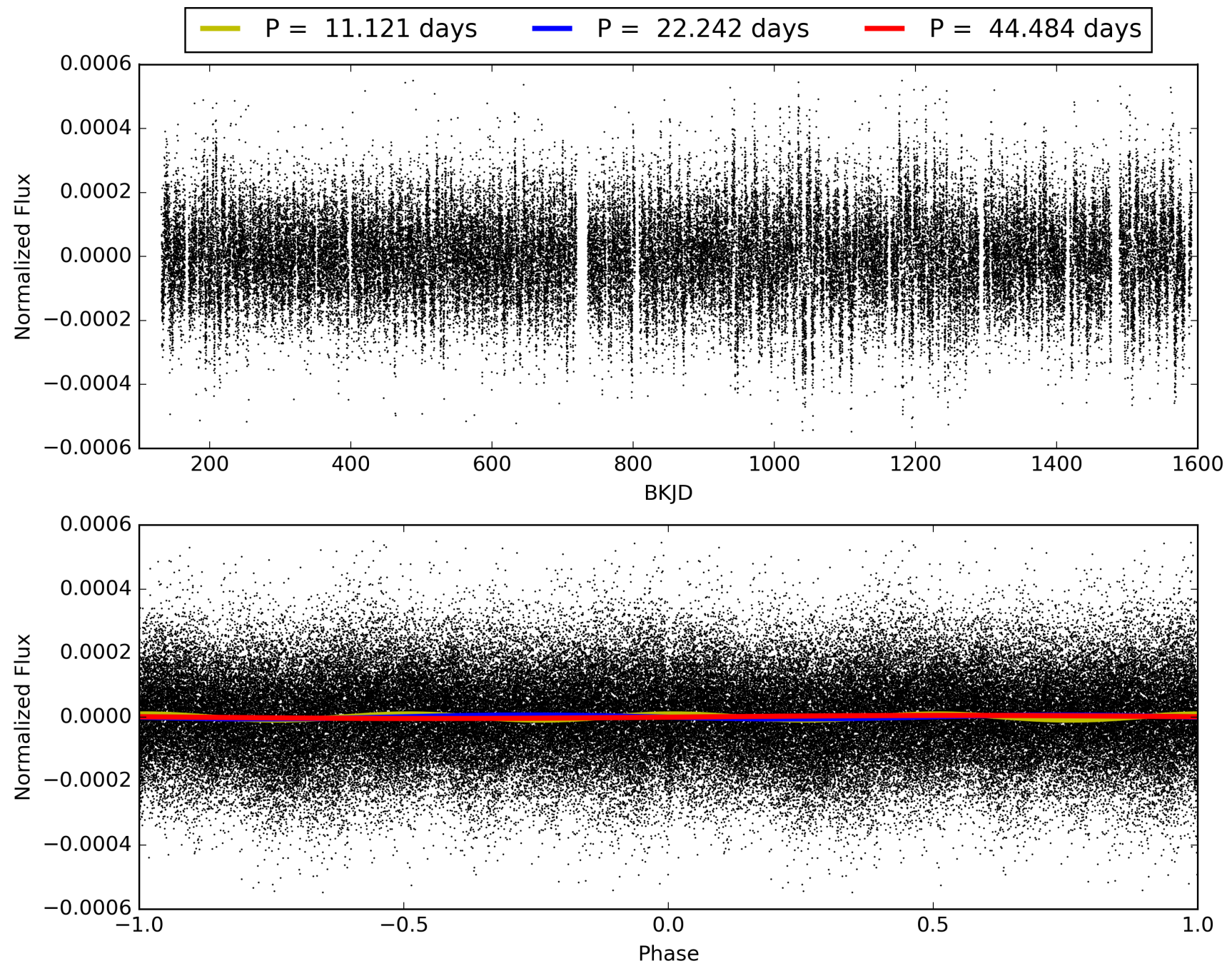
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:25:40 Z

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

TCE 004914566-01, PDC Light Curves

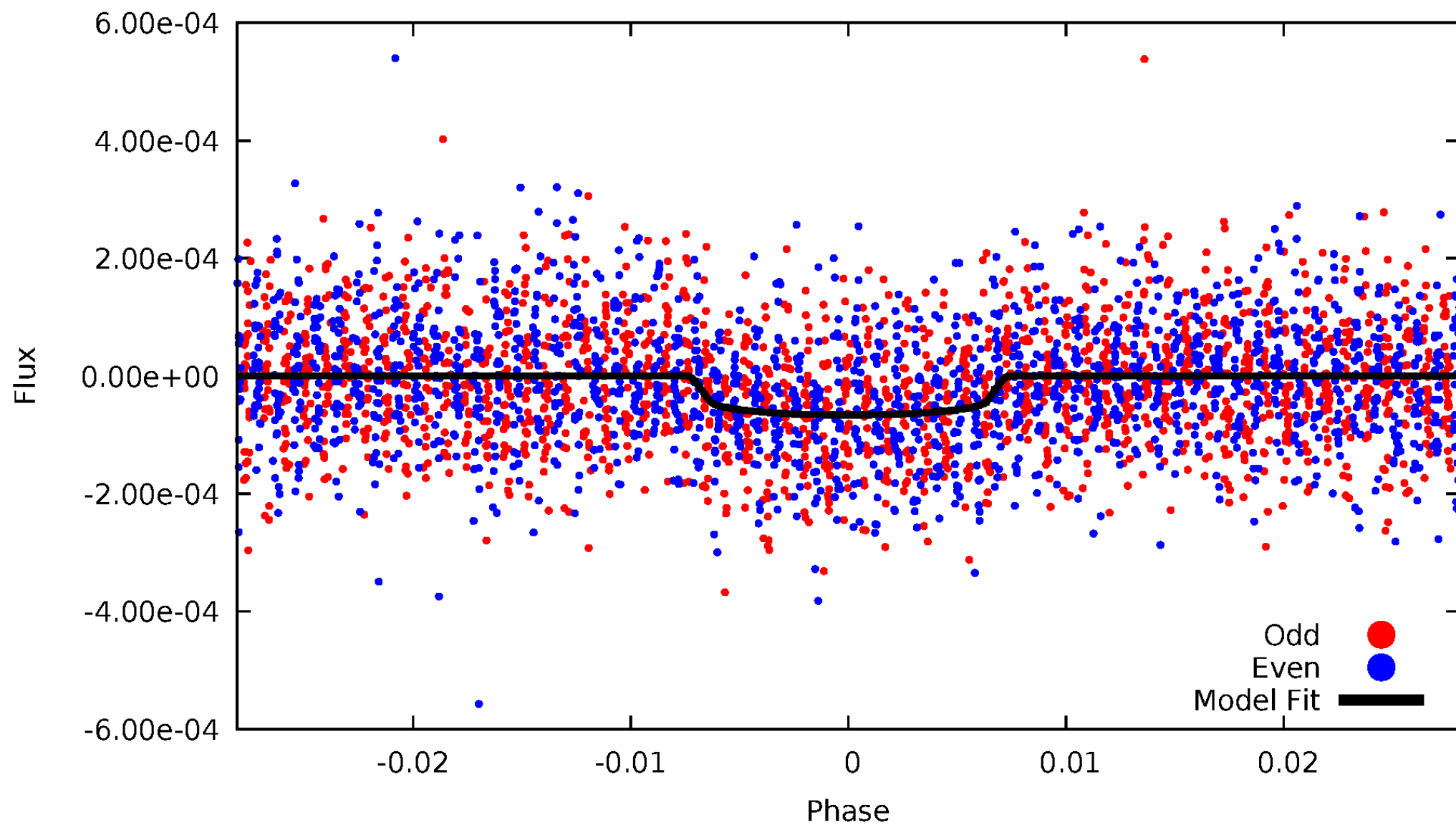


TCE 004914566-01



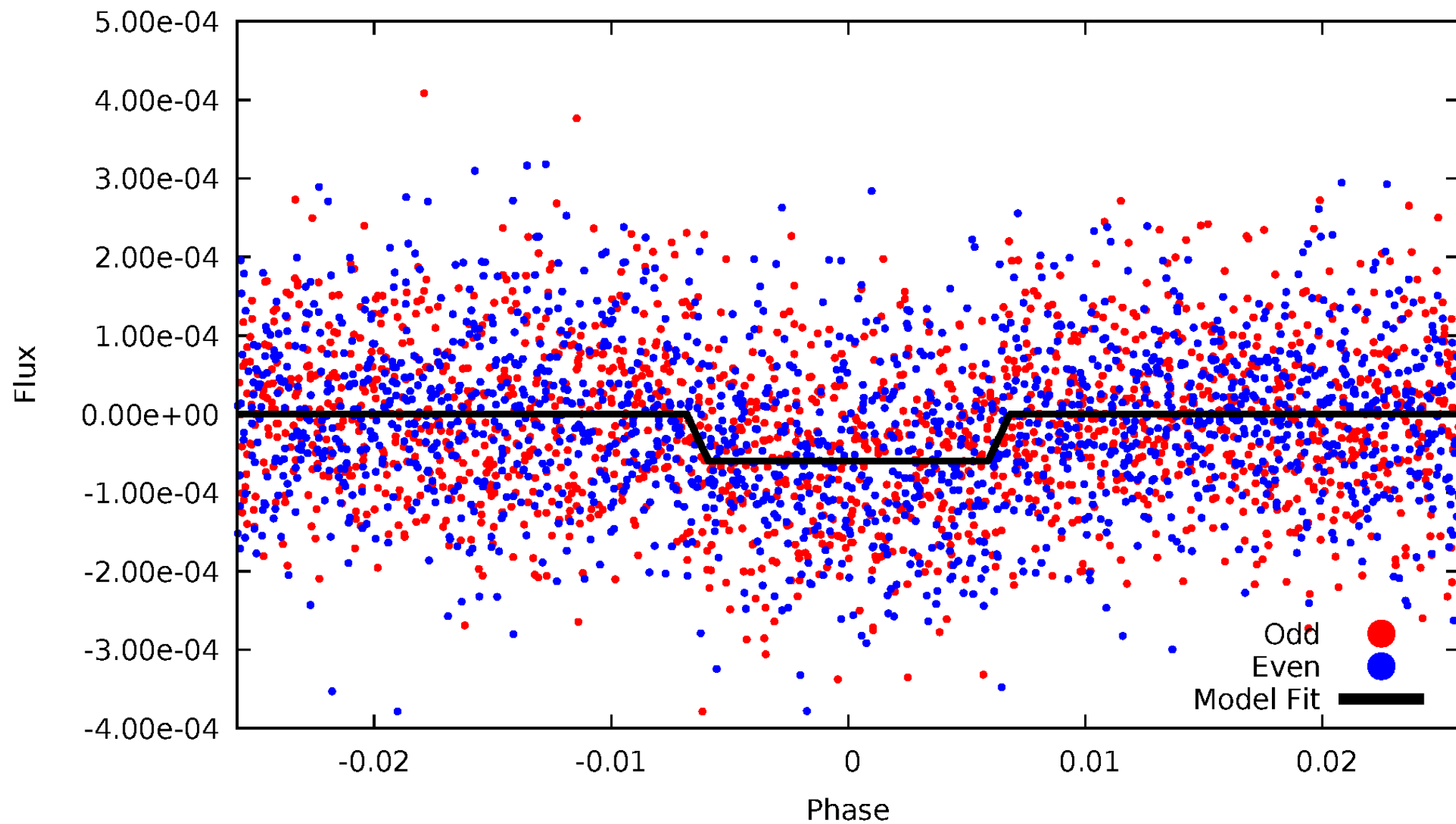
DV Odd/Even

TCE 004914566-01



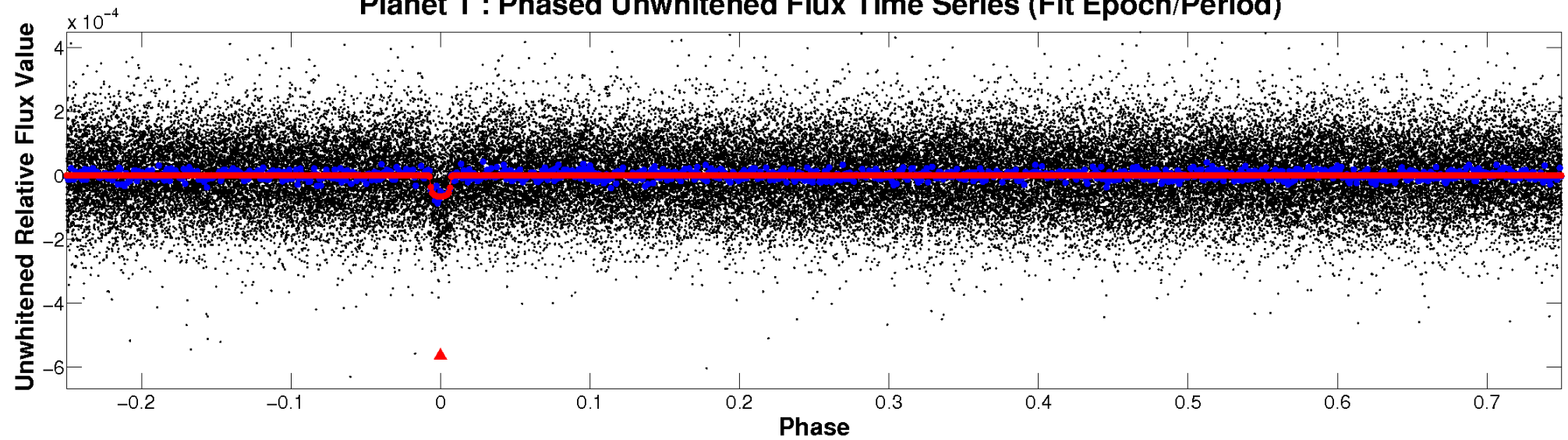
ALT Odd/Even

TCE 004914566-01

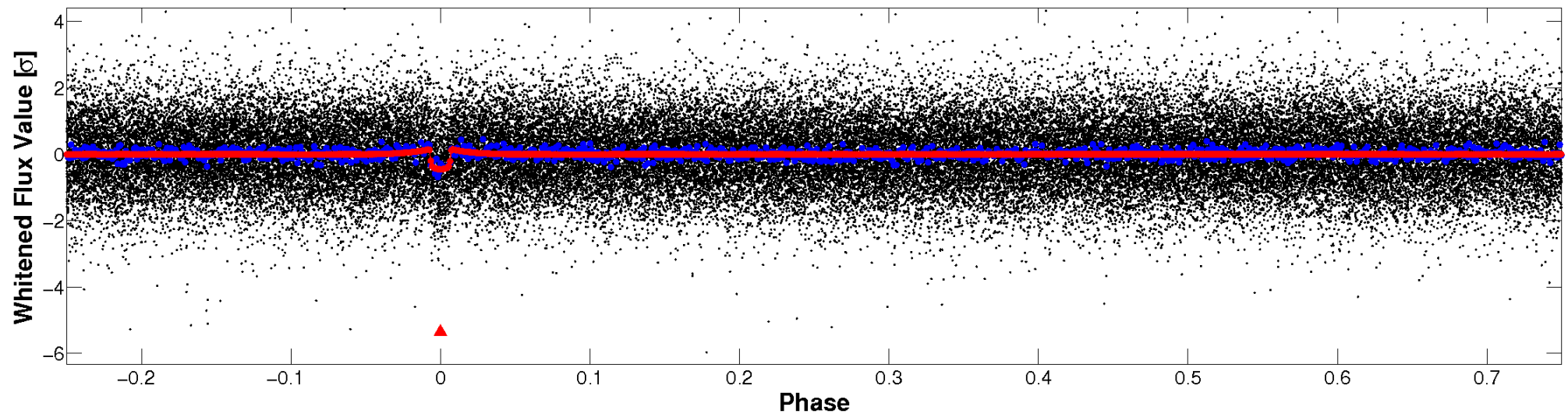


Non-Whitened Vs. Whitened Light Curve

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

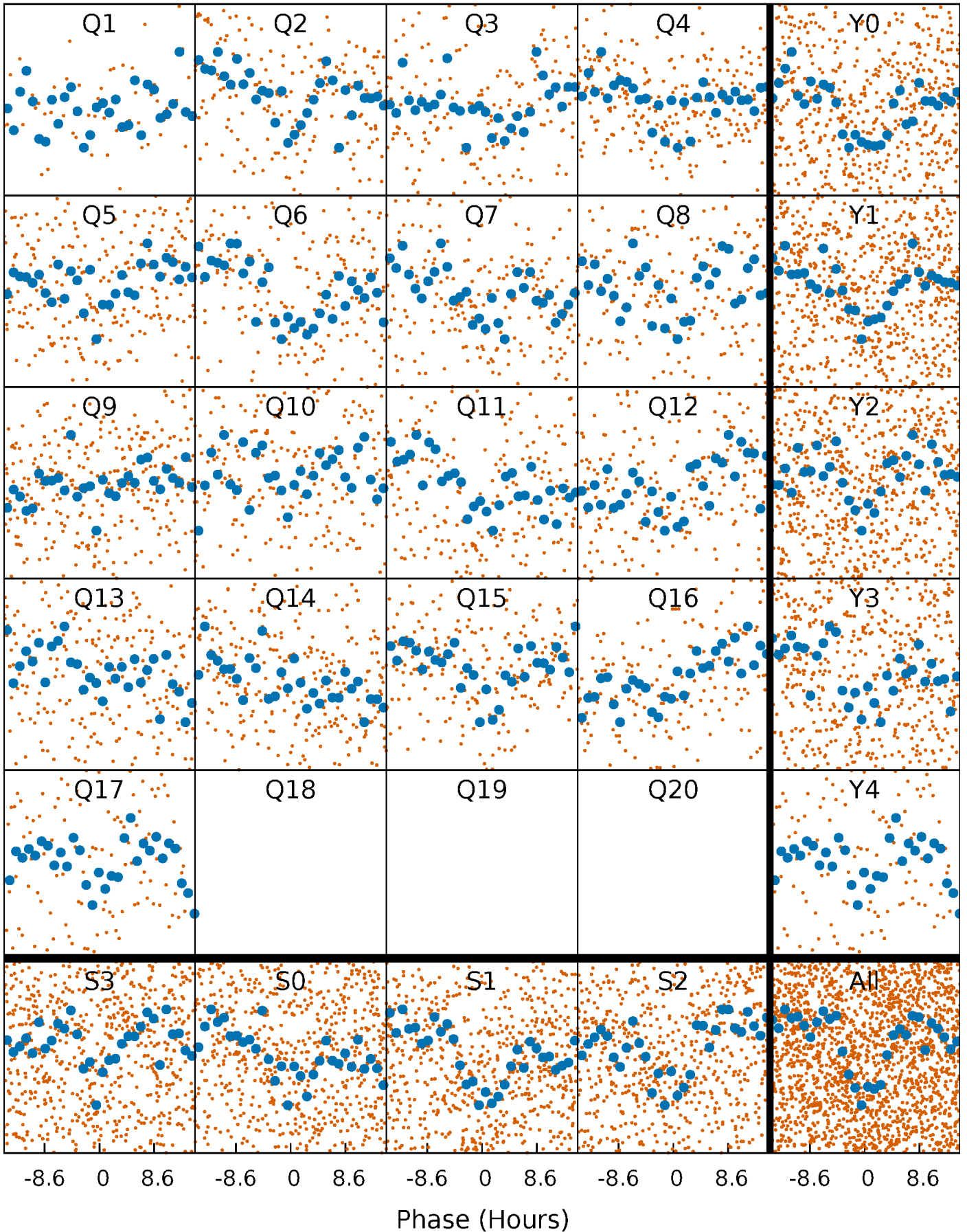


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



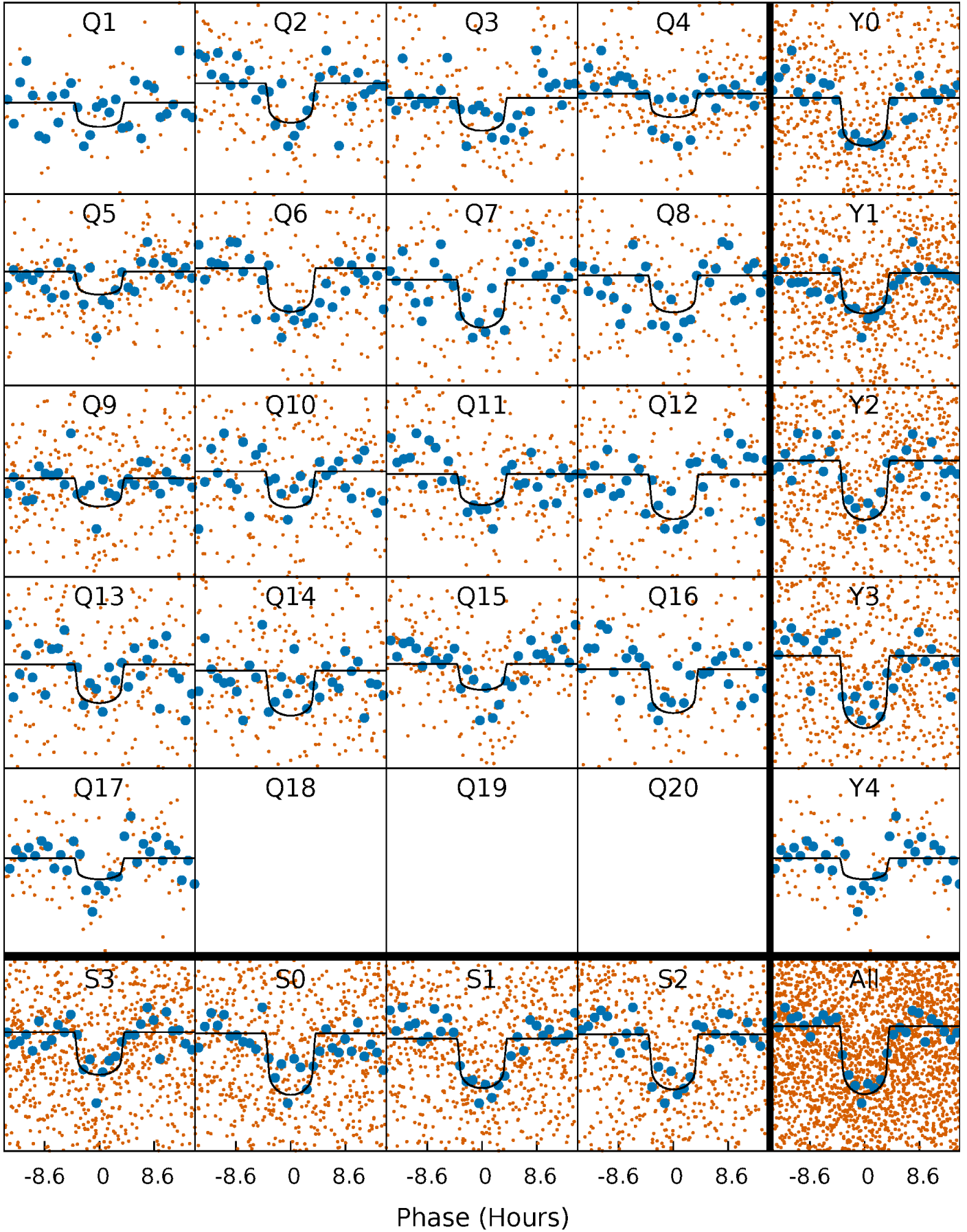
PDC Quarter-Phased Transit Curves

TCE 004914566-01 P= 22.242012 Days $T_0=144.722431$ (BKJD)



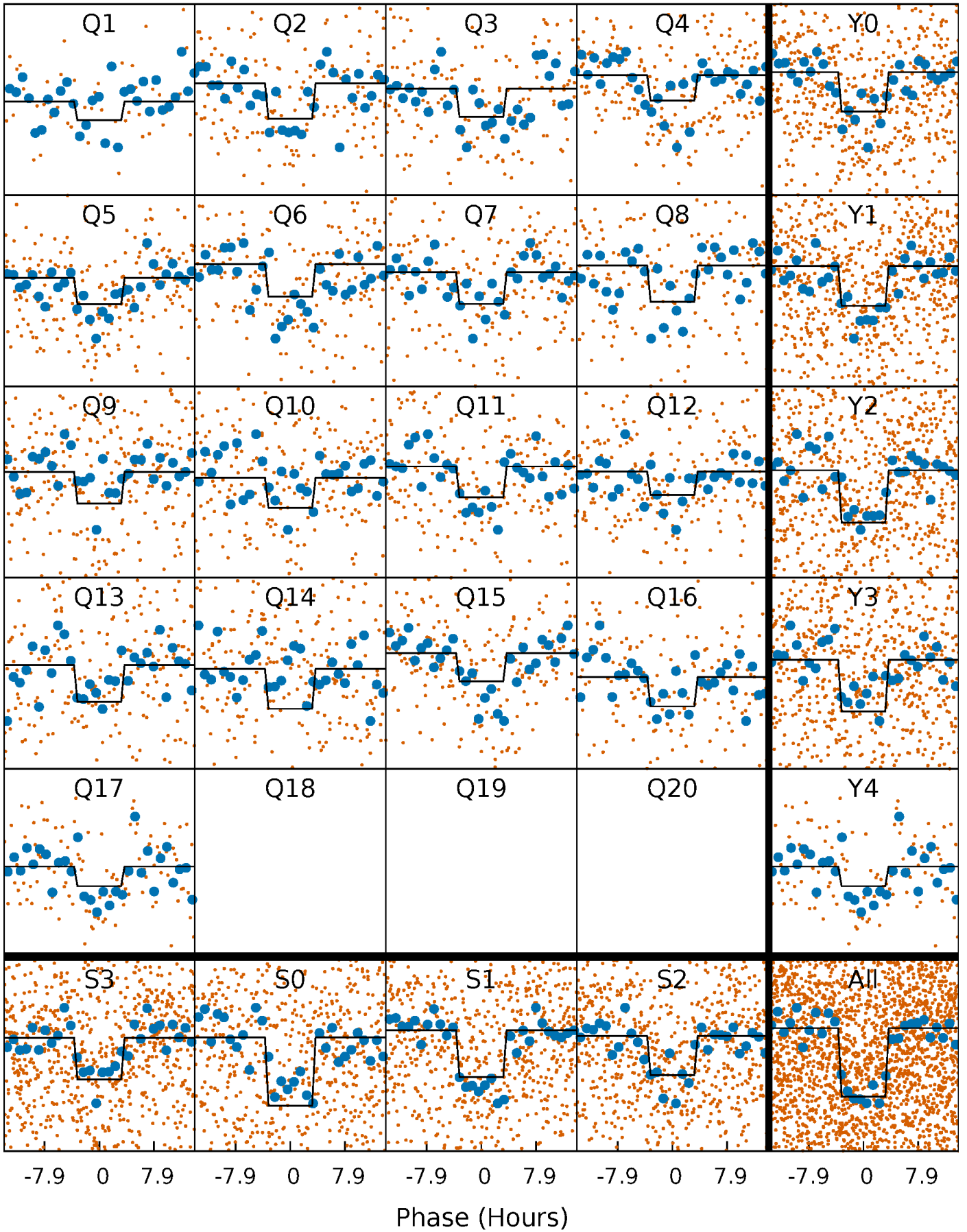
DV Quarter-Phased Transit Curves

TCE 004914566-01 P= 22.242012 Days $T_0=144.722431$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

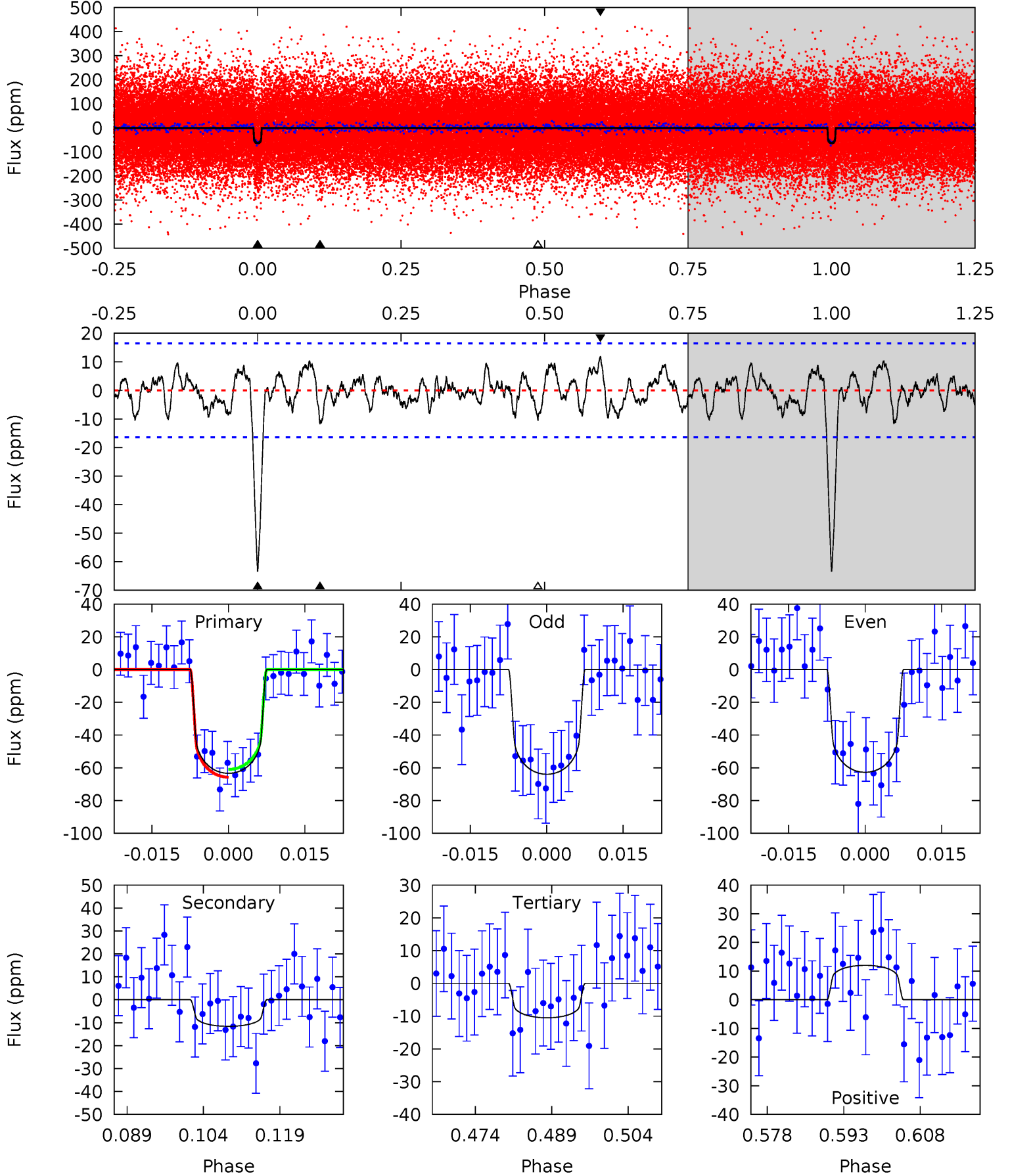
TCE 004914566-01 P= 22.241473 Days $T_0=144.739123$ (BKJD)



DV Model-Shift Uniqueness Test

004914566-01, P = 22.242012 Days, E = 122.480419 Days

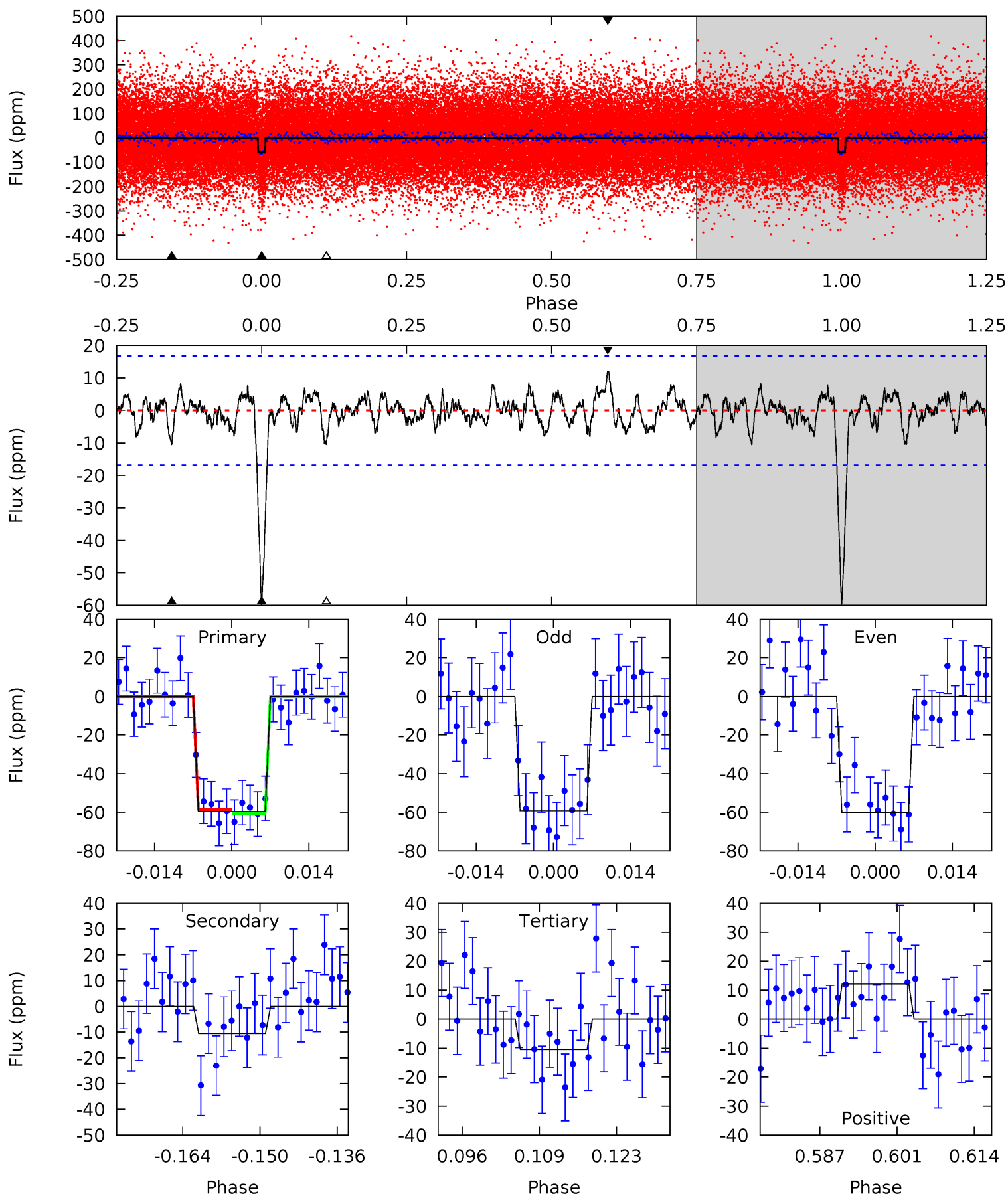
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	3.49	3.17	3.62	4.95	2.44	1.37	15.9	15.5	0.33	-0.13	0.18	1.01	0.16	0.71



Alt Model-Shift Uniqueness Test

004914566-01, P = 22.241473 Days, E = 122.497650 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	3.11	3.09	3.57	4.97	2.47	1.08	14.5	14.0	0.02	-0.46	0.13	0.91	0.17	0.32



Stellar Parameters For KIC 004914566

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5979^{+118}_{-130}	$3.854^{+0.224}_{-0.080}$	$-0.120^{+0.150}_{-0.150}$	$2.164^{+0.323}_{-0.601}$	$1.219^{+0.142}_{-0.189}$	$0.169^{+0.230}_{-0.049}$
	+2%/-2%	+6%/-2%	+125%/-125%	+15%/-28%	+12%/-16%	+136%/-29%
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 004914566-01 / KOI 2635.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-12 ± 3	$1.91^{+0.62}_{-0.56}$	1312^{+64}_{-90}	4044^{+577}_{-392}	47^{+49}_{-23}
Alt.	-11 ± 3	$1.74^{+0.59}_{-0.51}$	1317^{+61}_{-92}	4112^{+638}_{-410}	51^{+62}_{-25}

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

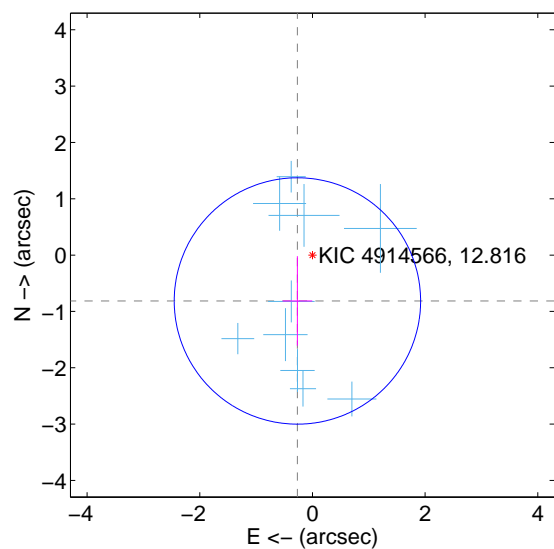
Supplemental centroid analysis for 004914566-01. Kepler magnitude: 12.82. Transit SNR 12.22

There are 10 quarters with good PRF difference image offsets

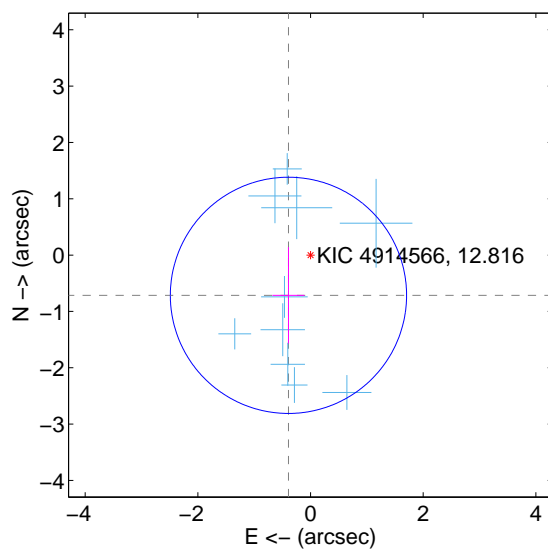
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.857 ± 0.729	1.18	0.267 ± 0.264	-0.814 ± 0.795
PRF-fit source offset from KIC position	0.815 ± 0.699	1.17	0.392 ± 0.283	-0.714 ± 0.855
photometric centroid source offset	1.43 ± 0.72	1.99	-0.89 ± 0.71	1.12 ± 0.72

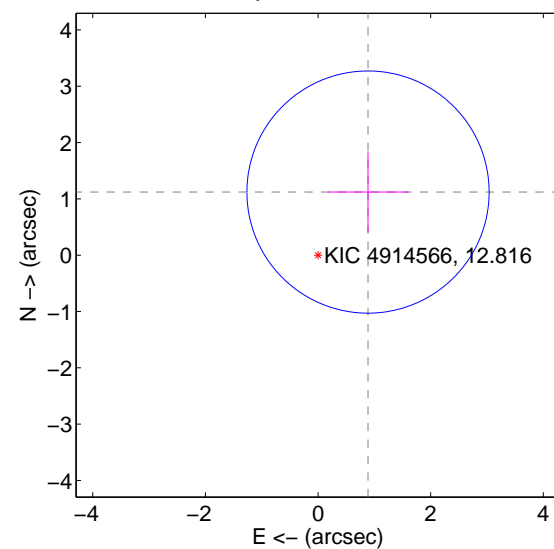
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

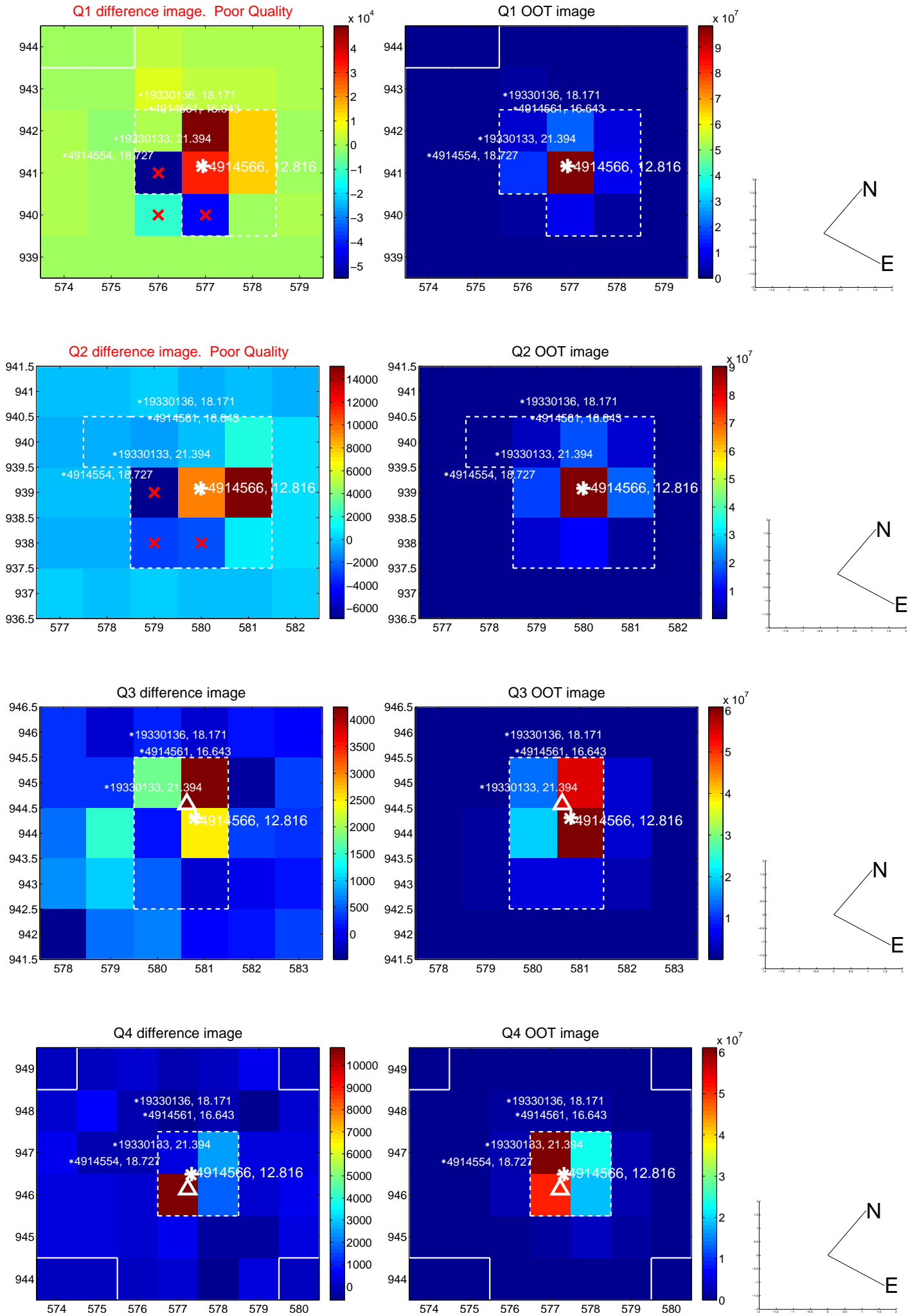


offset from photometric centroids

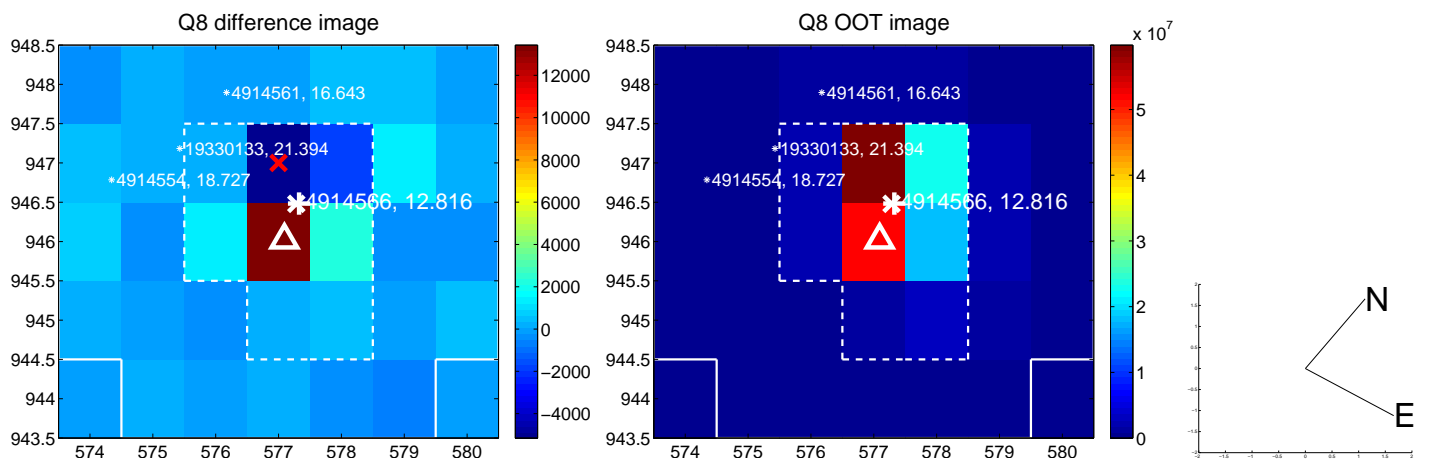
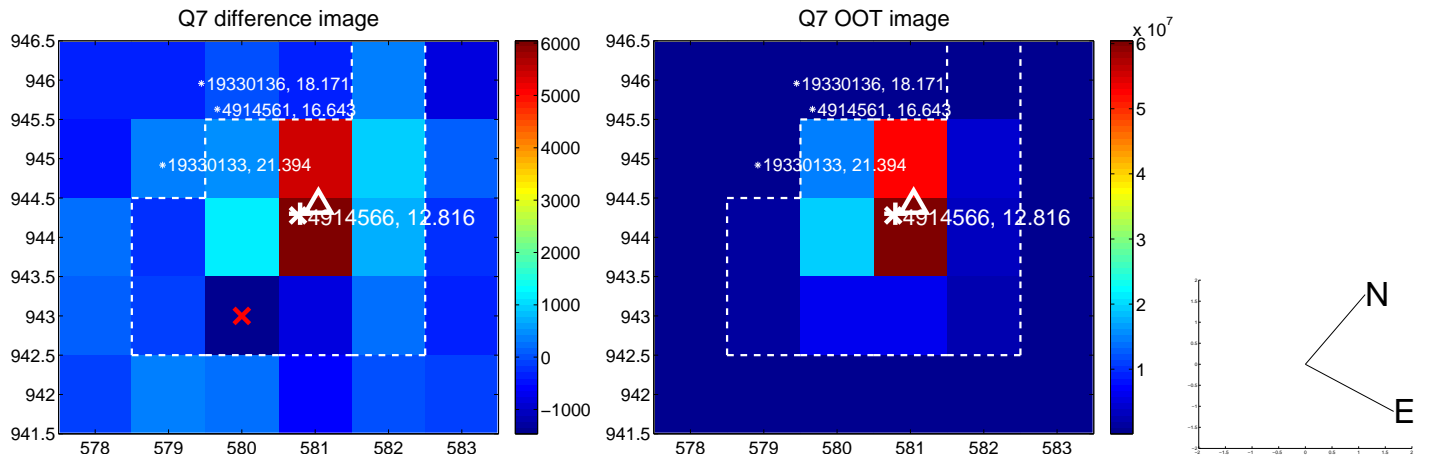
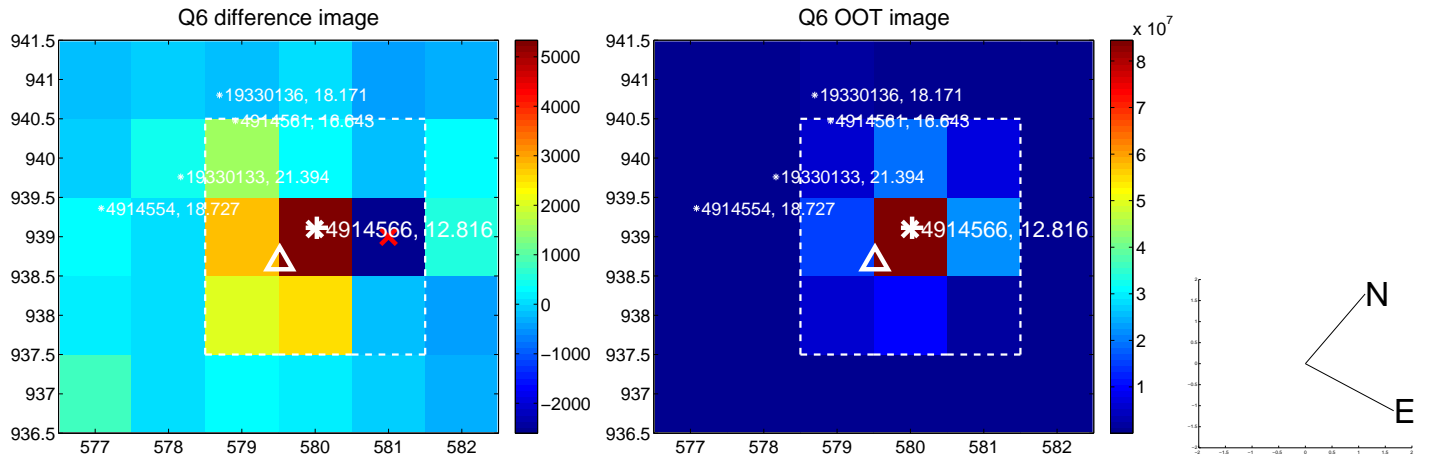
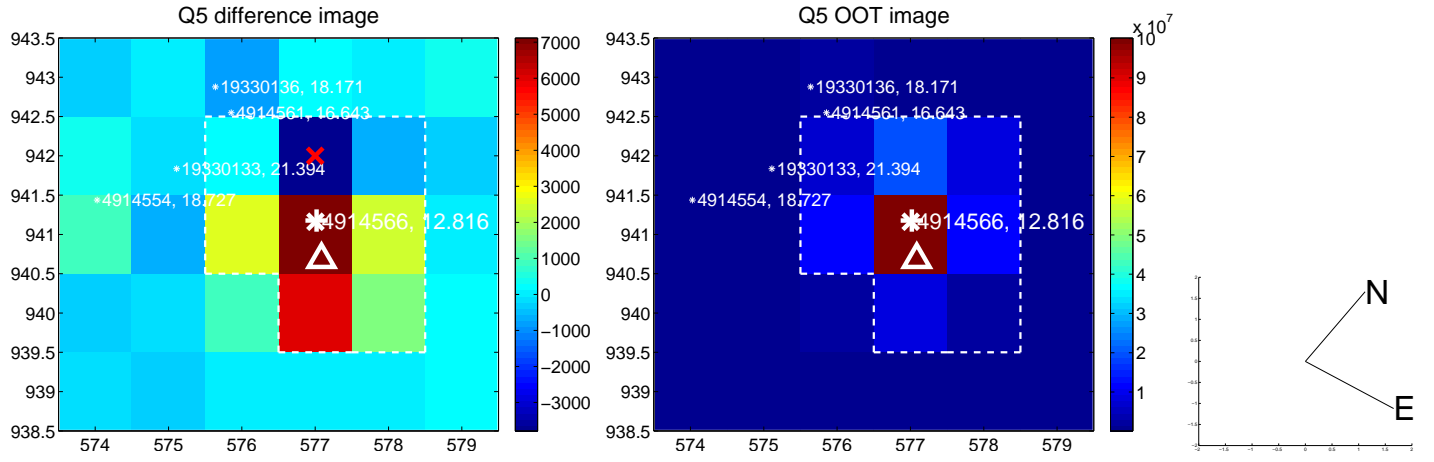


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

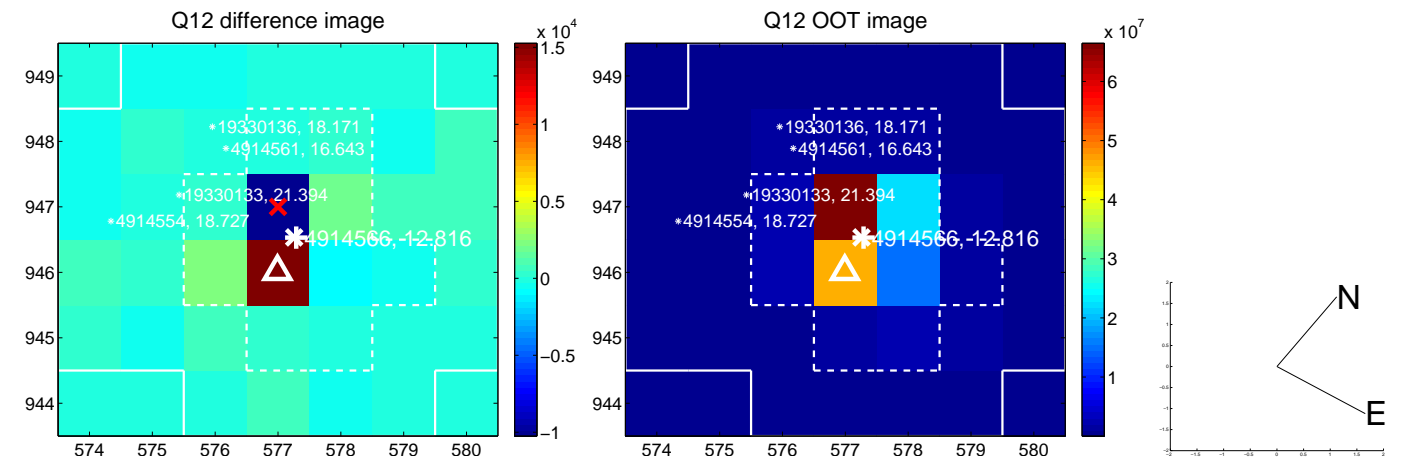
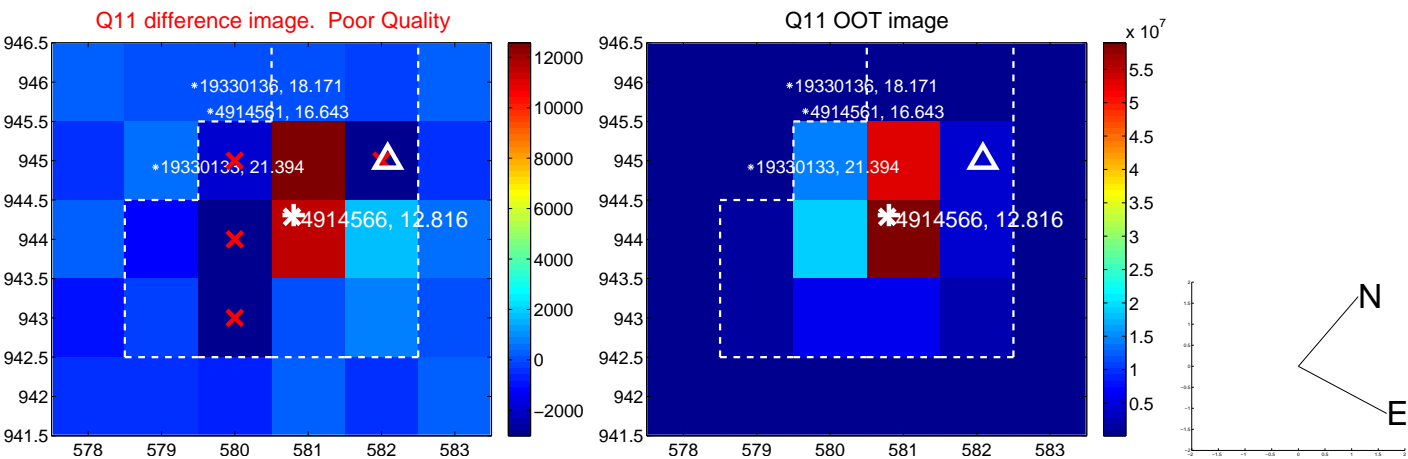
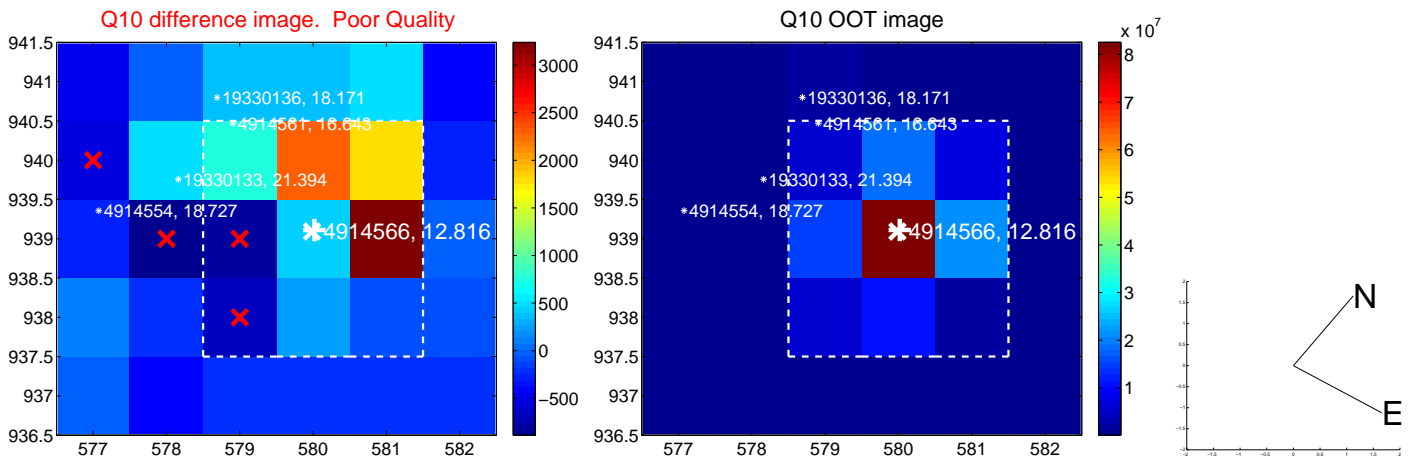
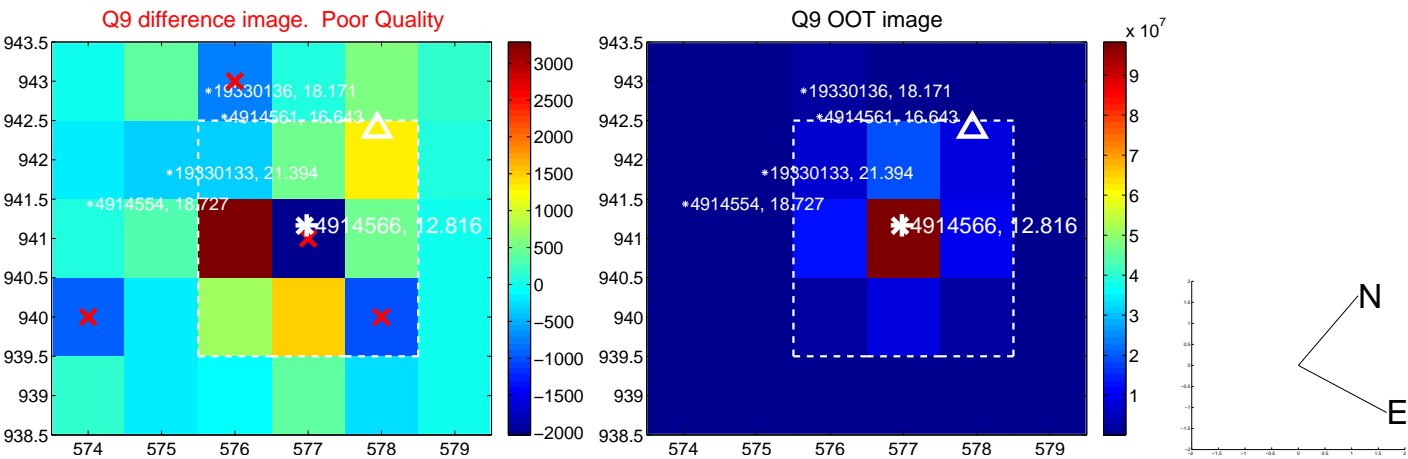
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



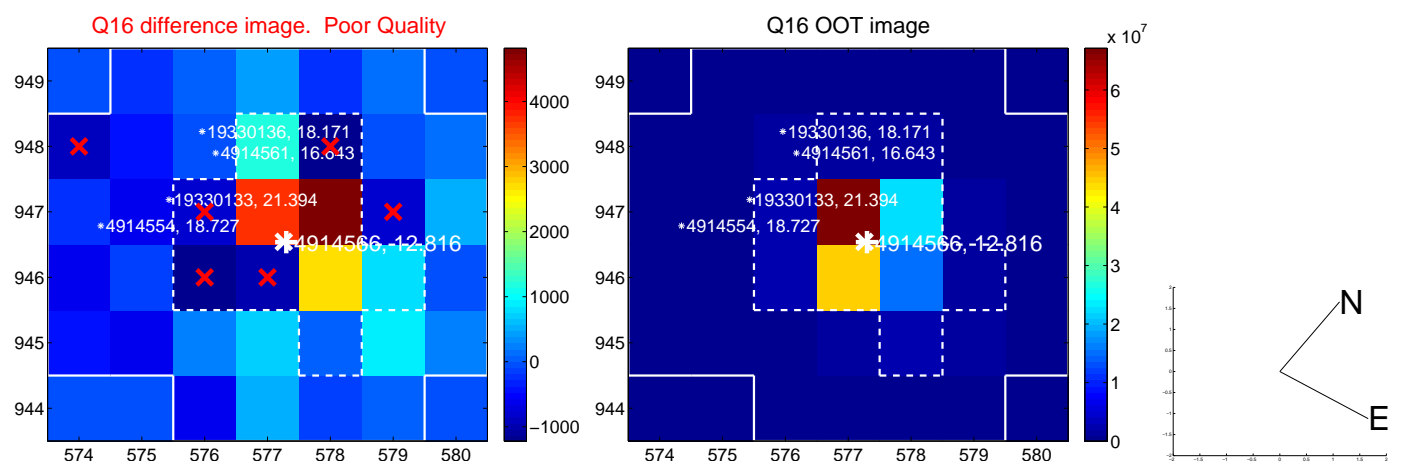
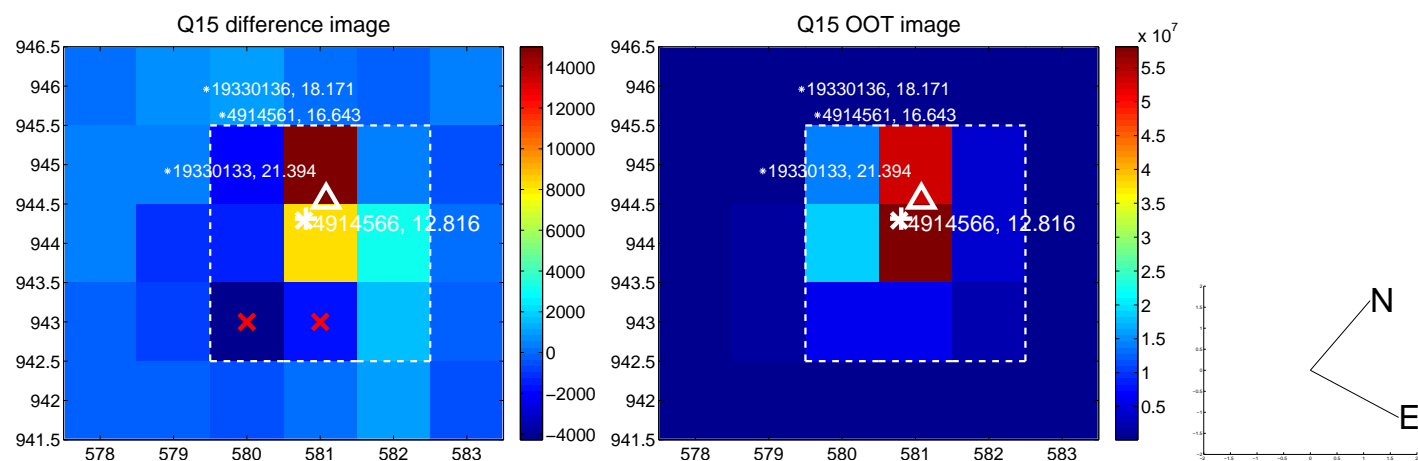
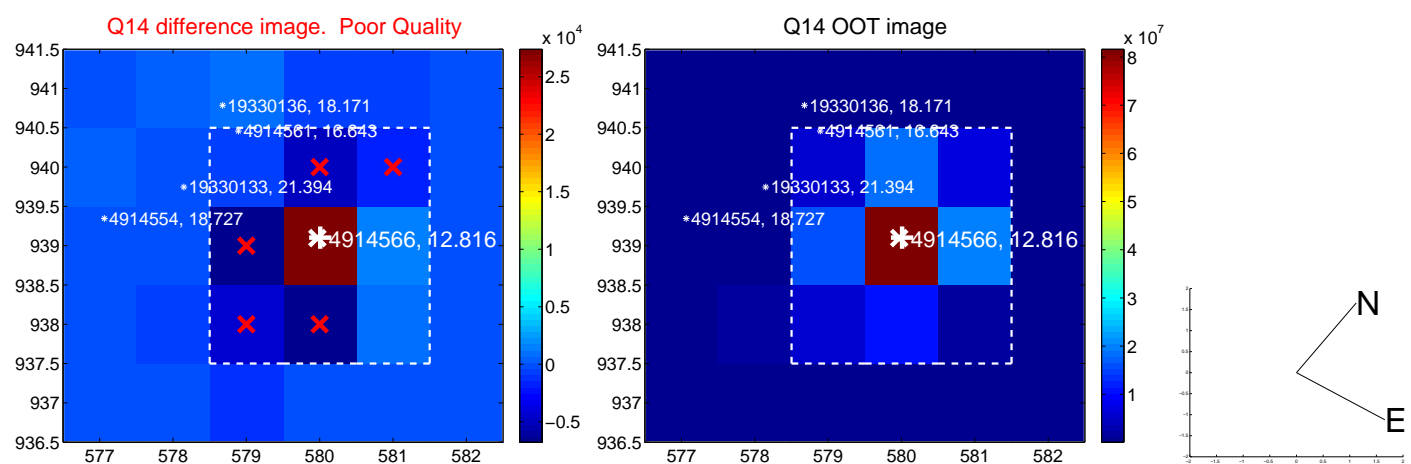
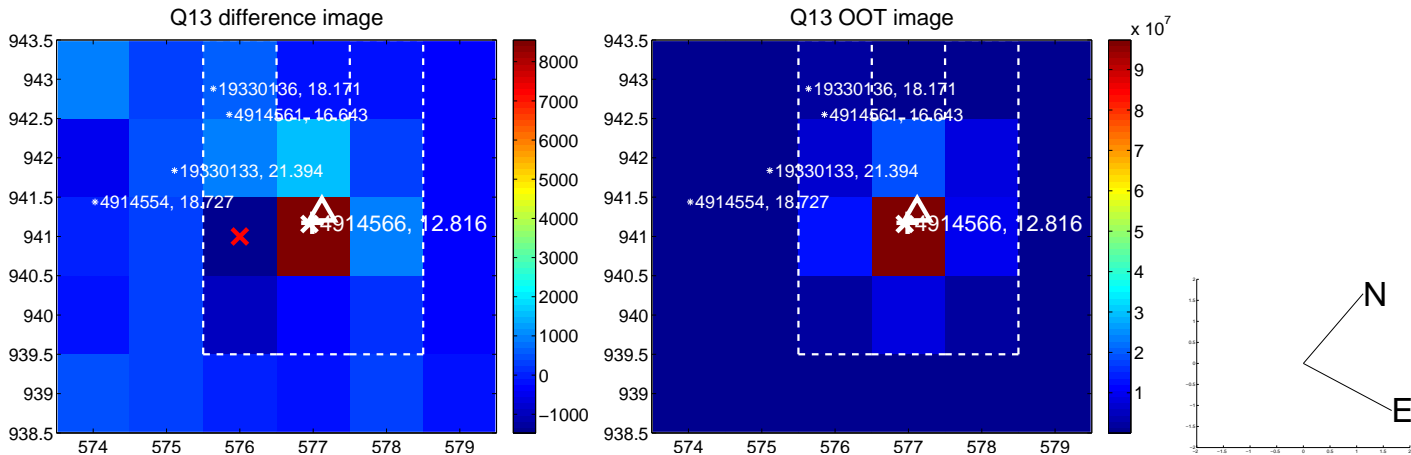
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



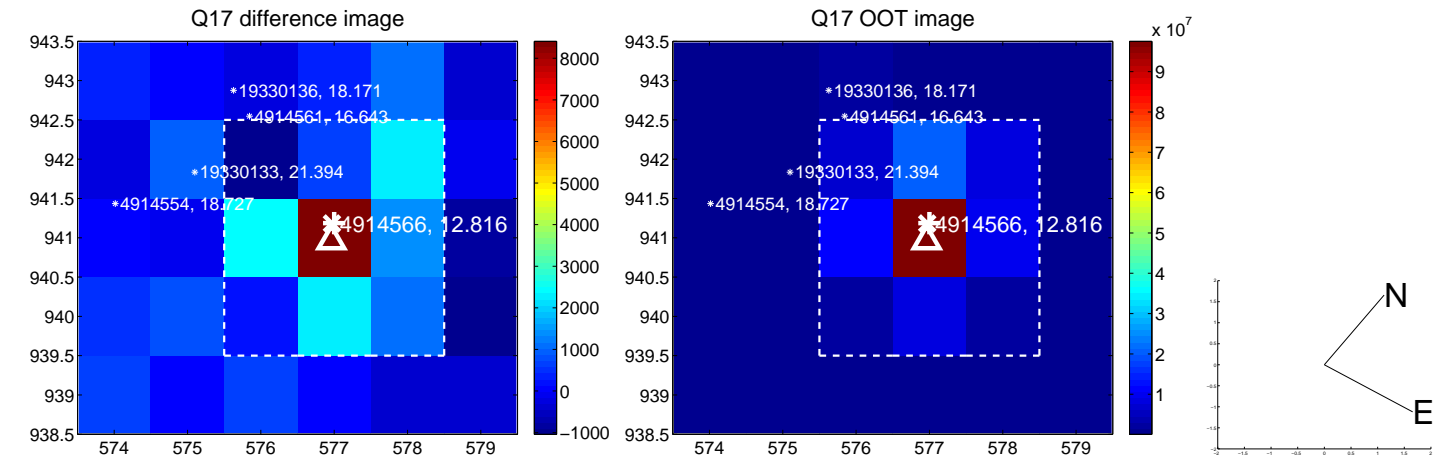
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



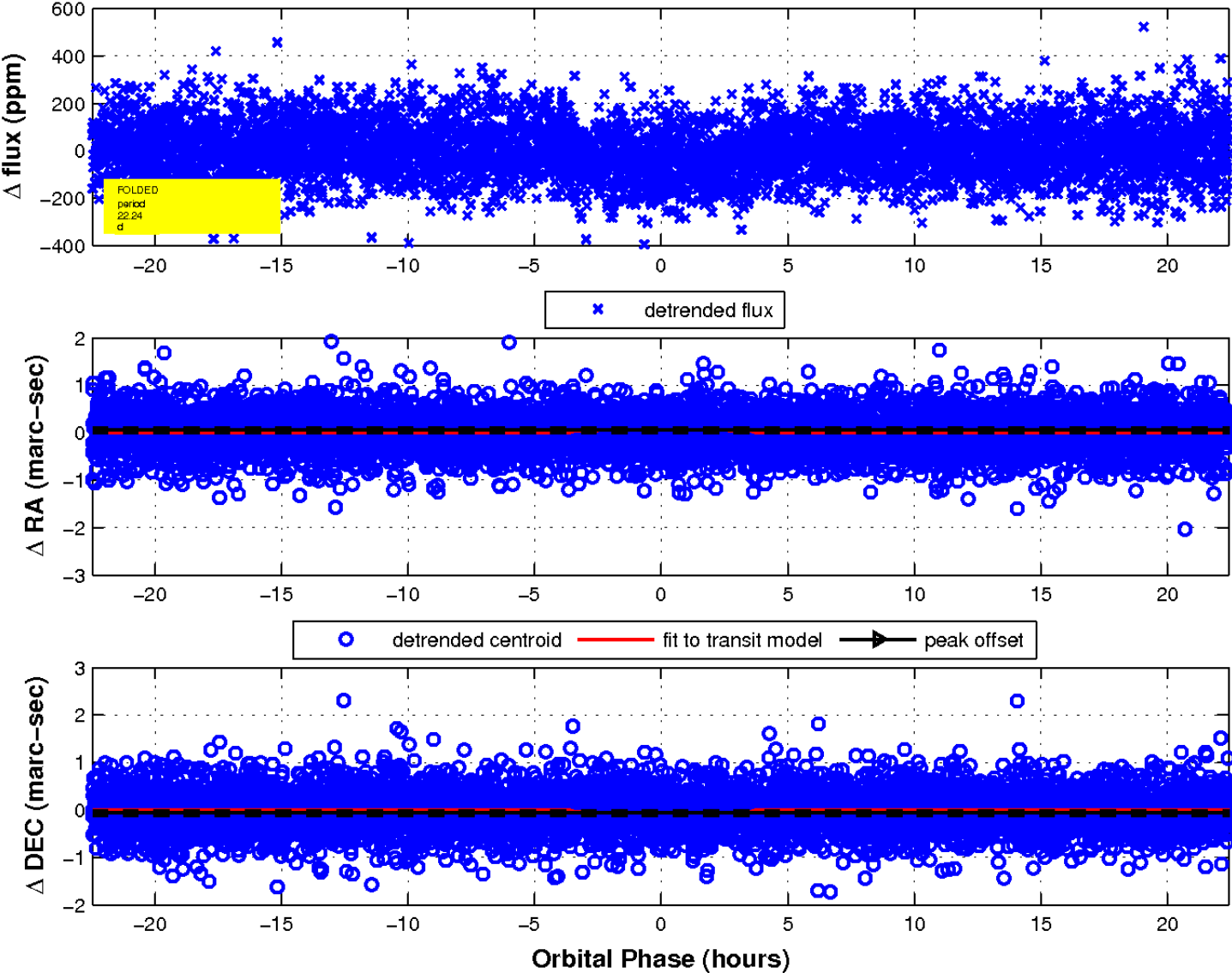
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

