

KIC 008087812

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})
008087812-01	OBS	4343.01	27.210850	132.369410	103.8	10.664	13.4	13.8	1.30	5973	1.76	65.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008087812-01	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.

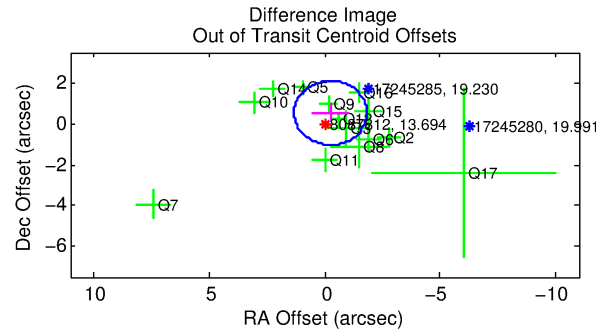
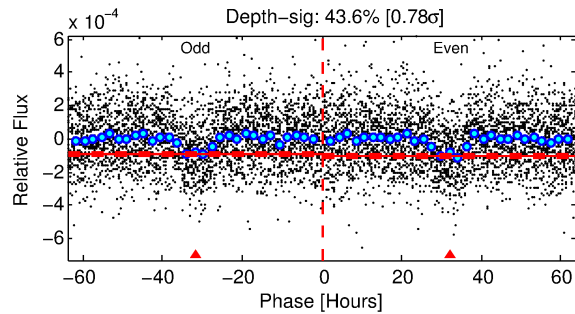
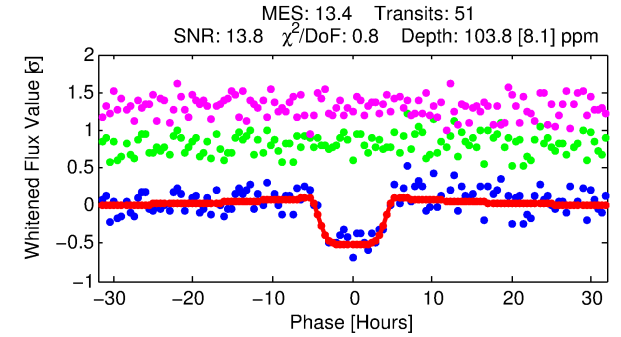
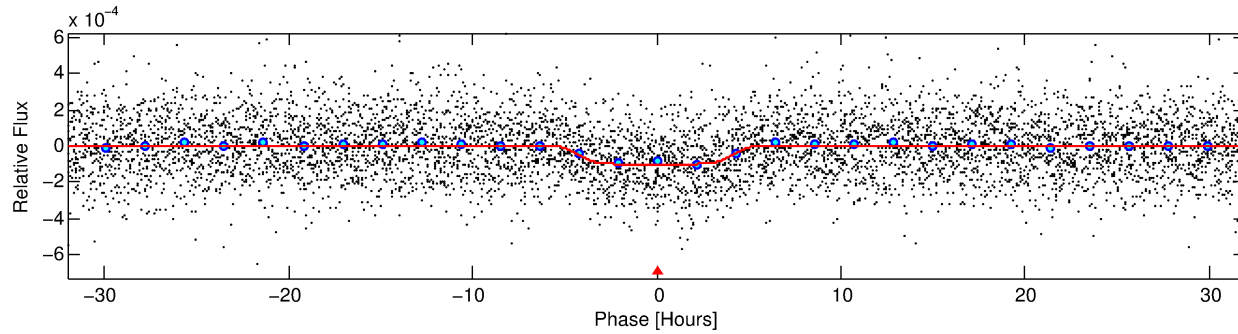
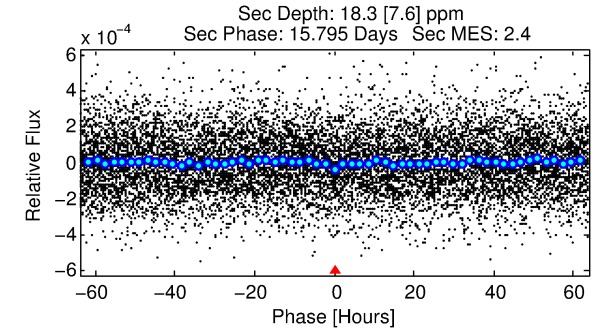
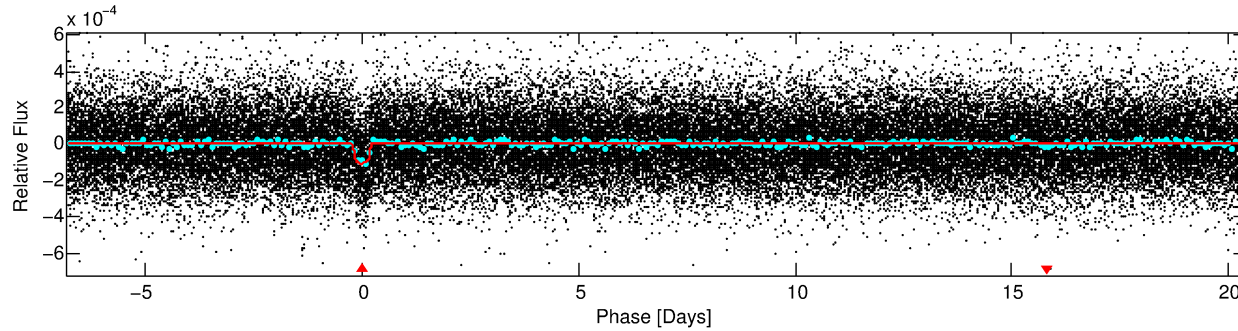
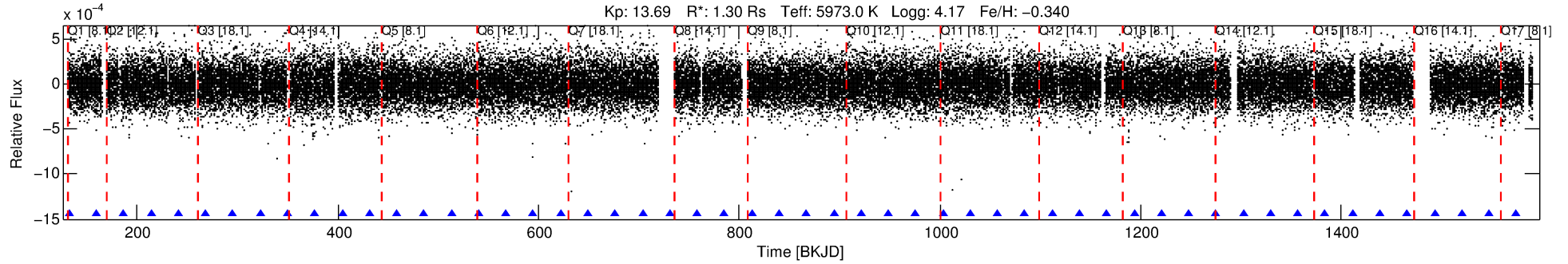
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008087812-01

No Significant Match Found

DV One-Page Summary

KIC: 8087812 Candidate: 1 of 1 Period: 27.211 d
KOI: K04343.01 Corr: 0.938



DV Fit Results:

Period = 27.21085 [0.00049] d
Epoch = 132.3694 [0.0153] BKJD
Rp/R* = 0.0124 [0.0007]
a/R* = 5.40 [1.03]
b = 0.97 [0.01]
Seff = 65.43 [21.52]
Teq = 725 [60] K
Rp = 1.76 [0.37] Re
a = 0.1723 [0.0341] AU
Ag = 96.52 [51.85] [1.84σ]
Teffp = 3514 [386] K [7.14σ]

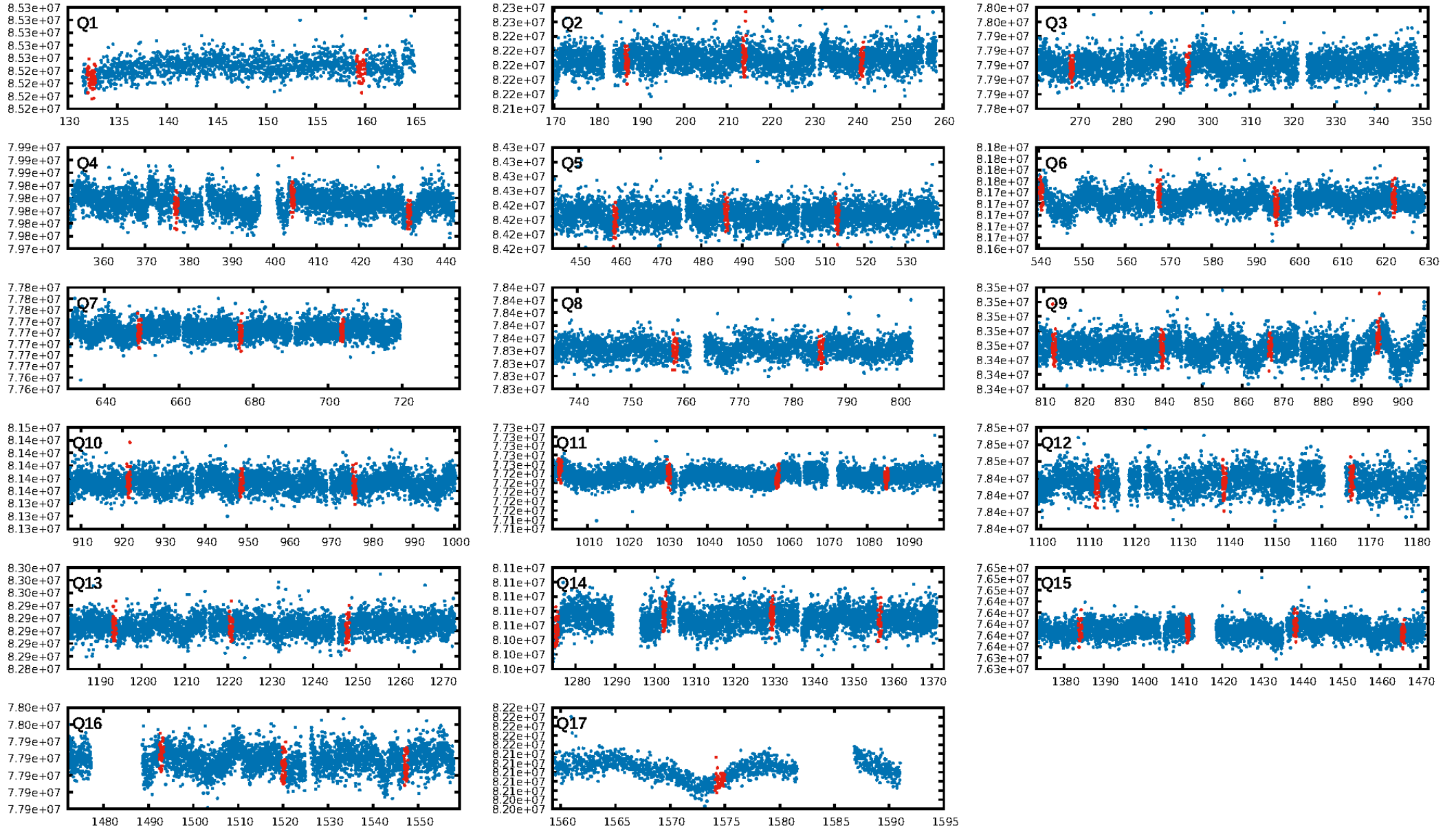
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.99e-39
RollingBand-fgt: 1.00 [48/48]
GhostDiagnostic-chr: 17.44
Centroid-sig: 35.0%
Centroid-so: 0.575 arcsec [0.78σ]
OotOffset-rm: 0.585 arcsec [1.12σ]
KicOffset-rm: 0.461 arcsec [0.78σ]
OotOffset-st: 4/4/3/3 [14]
KicOffset-st: 4/4/3/3 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [17/17]

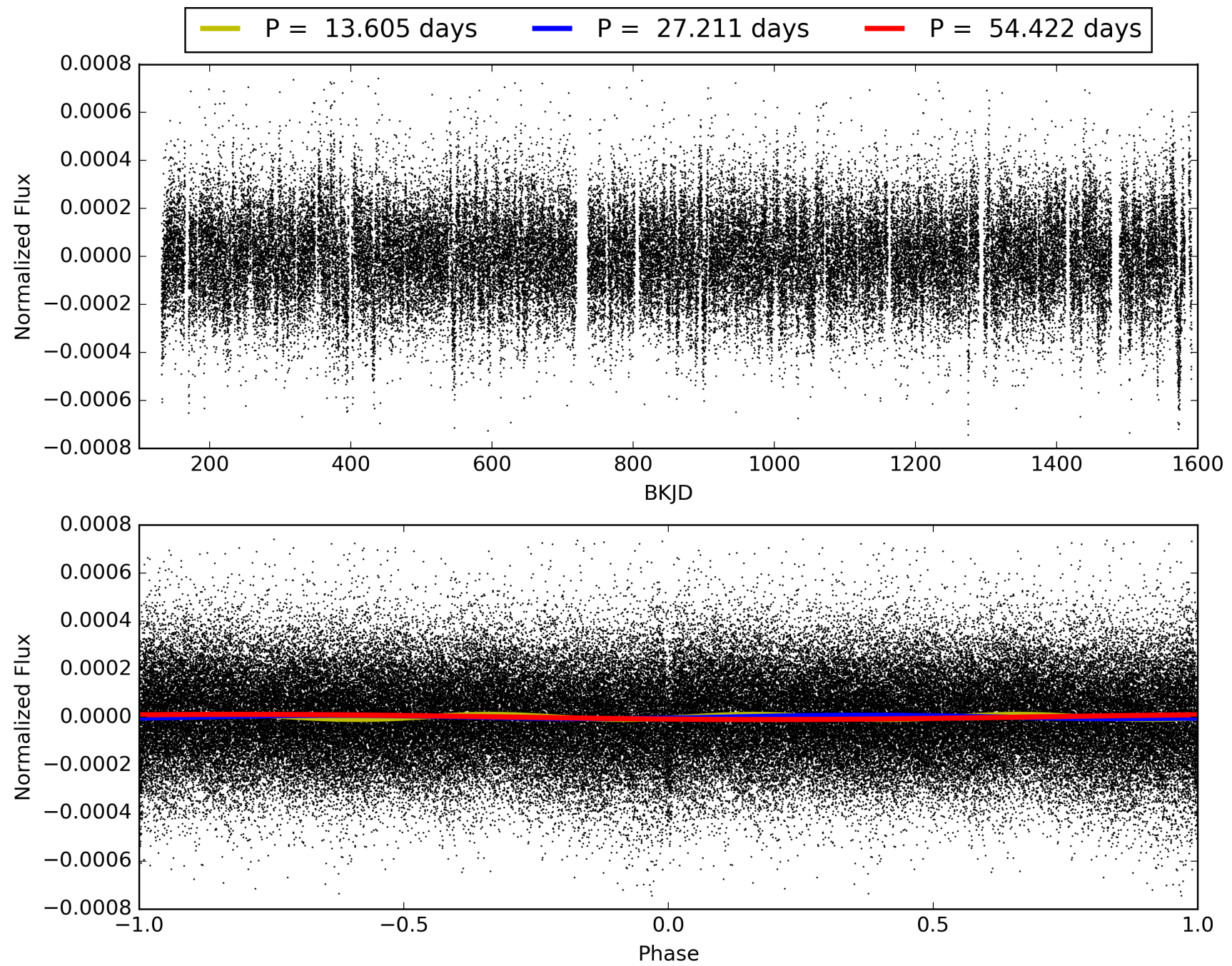
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:56:49 Z

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

TCE 008087812-01, PDC Light Curves

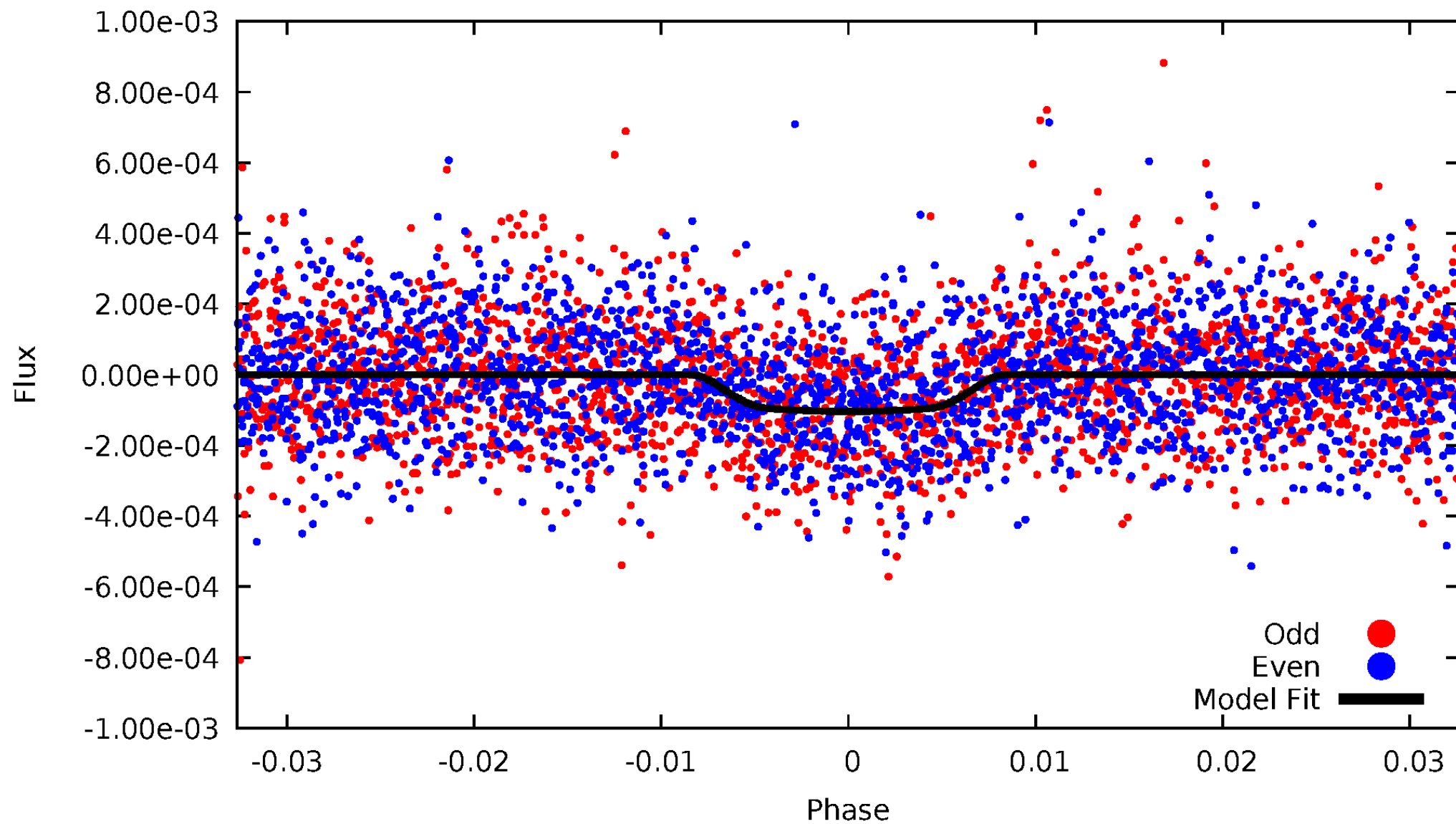


TCE 008087812-01



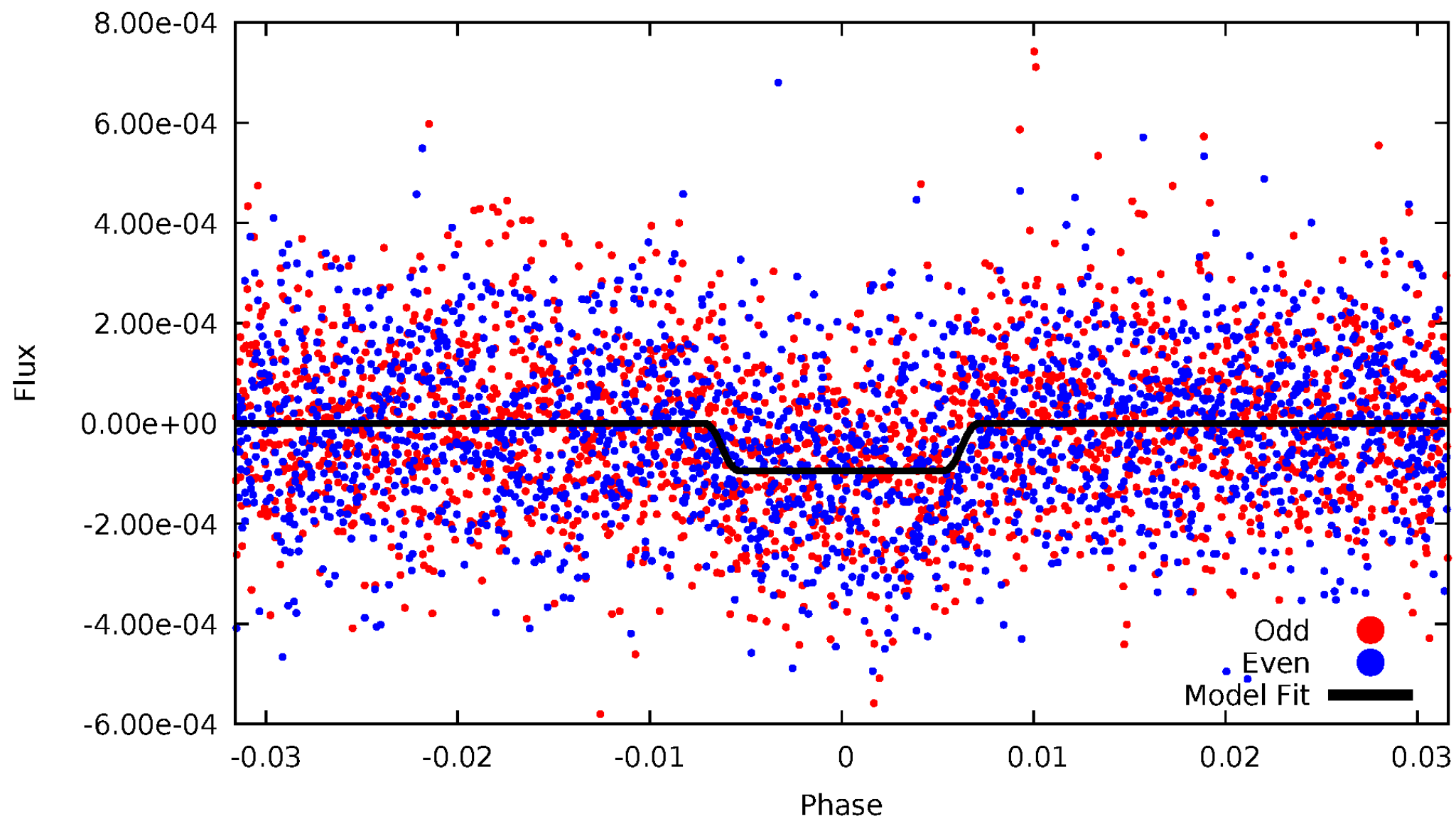
DV Odd/Even

TCE 008087812-01



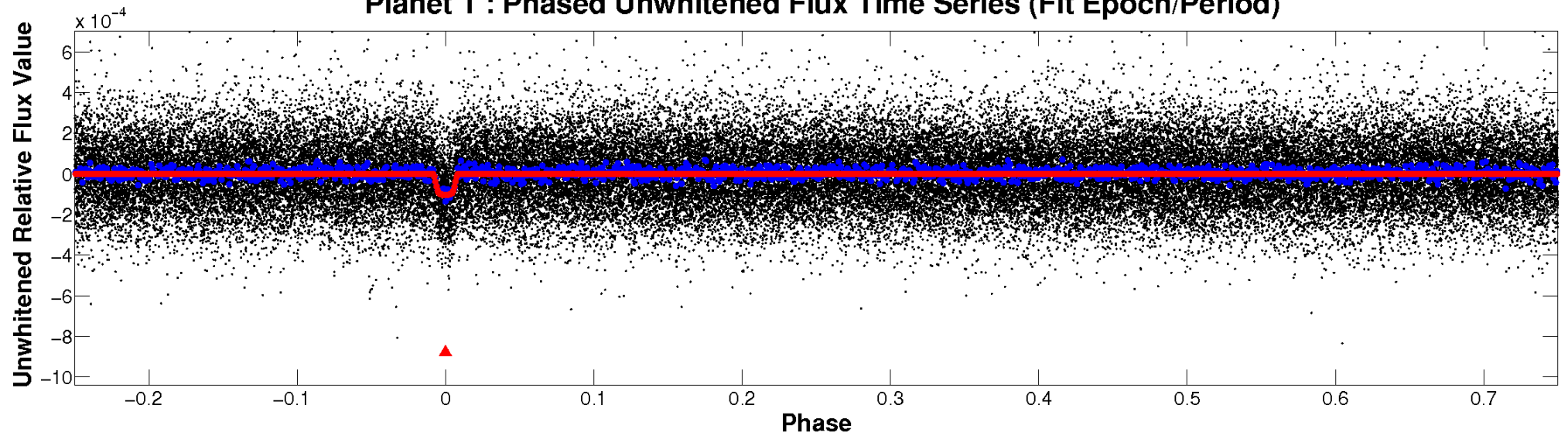
ALT Odd/Even

TCE 008087812-01

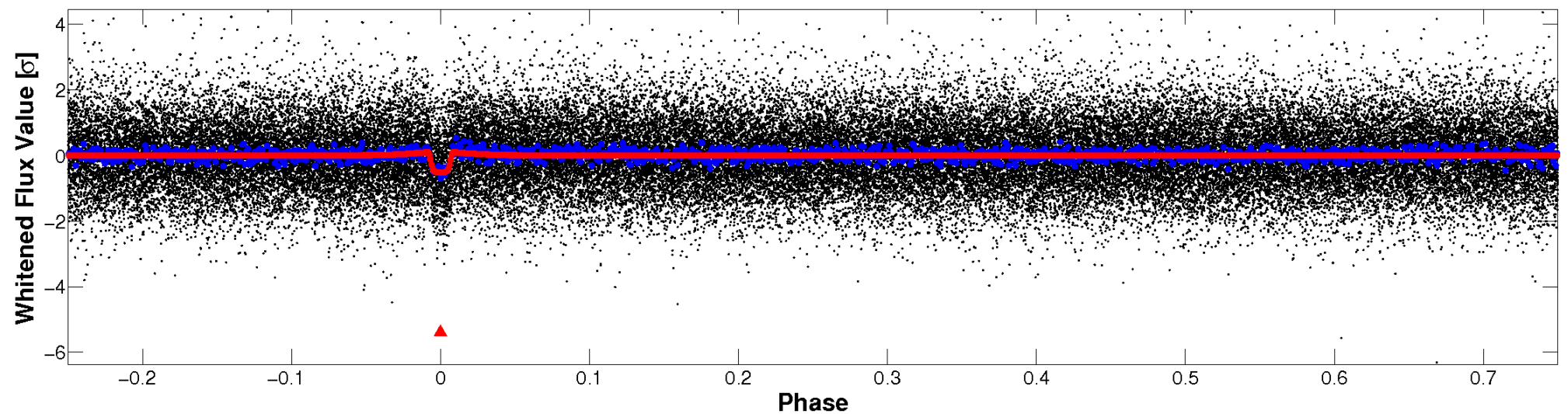


Non-Whitened Vs. Whitened Light Curve

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

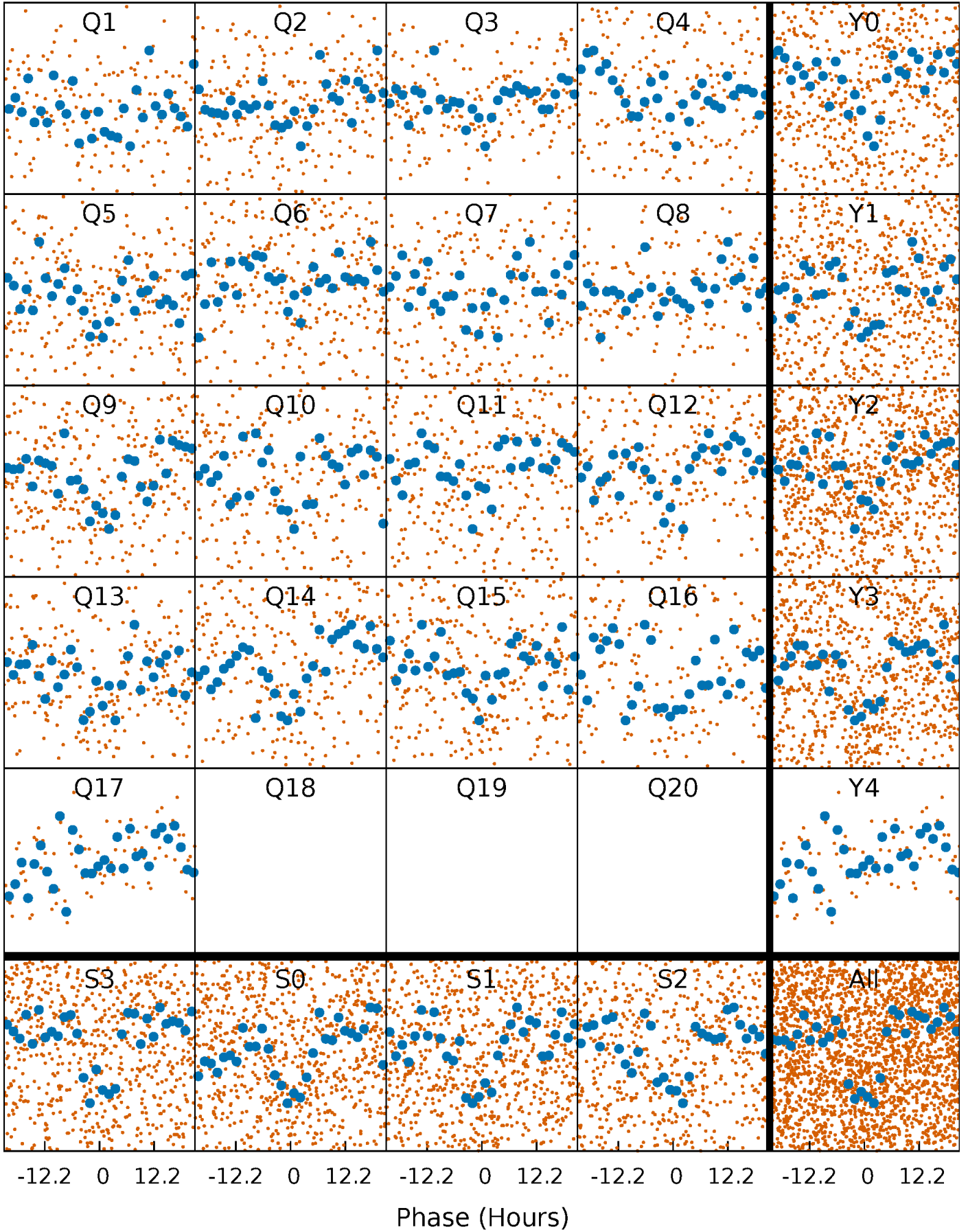


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



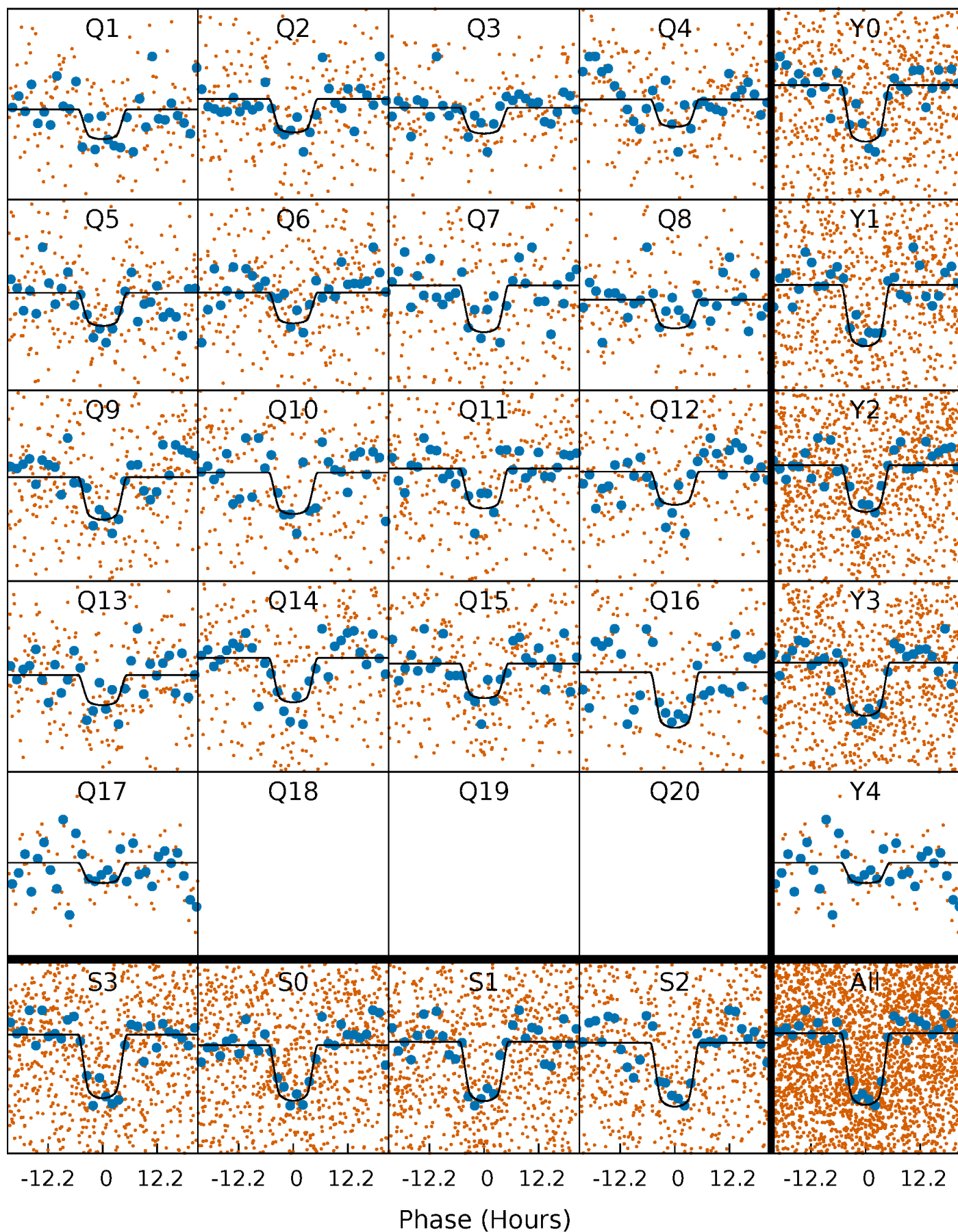
PDC Quarter-Phased Transit Curves

TCE 008087812-01 P= 27.210850 Days $T_0=132.369410$ (BKJD)



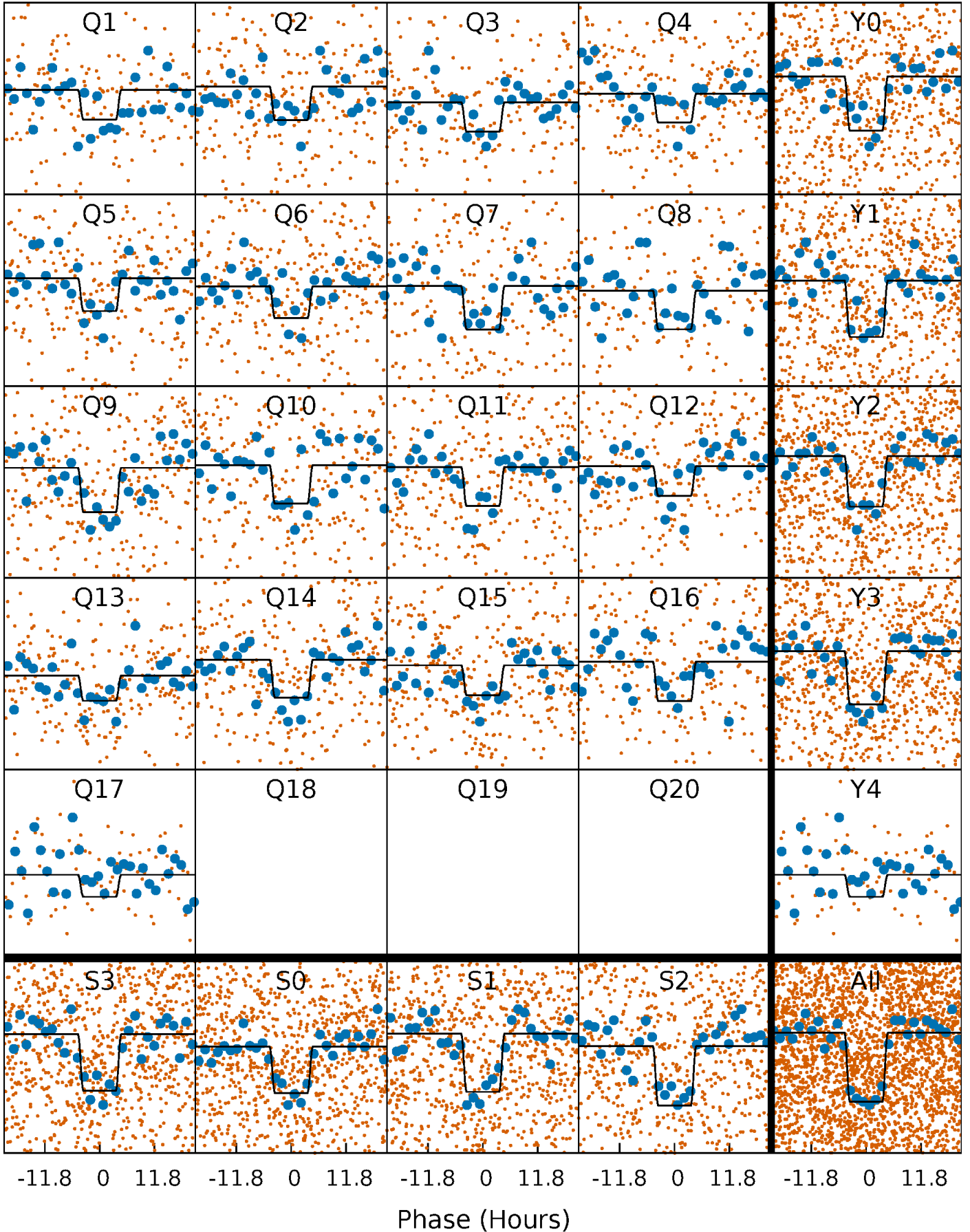
DV Quarter-Phased Transit Curves

TCE 008087812-01 P= 27.210850 Days $T_0=132.369410$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

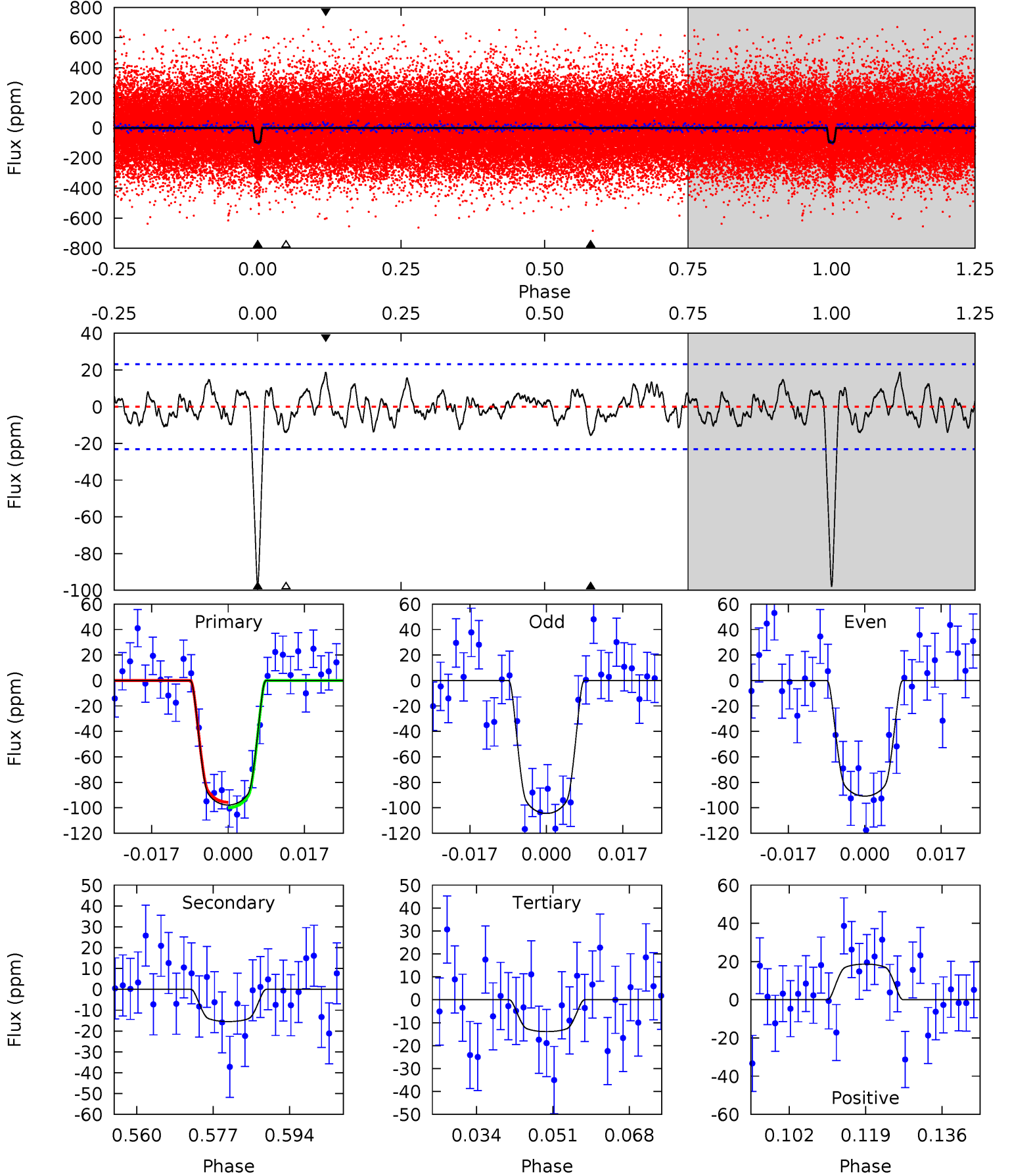
TCE 008087812-01 P= 27.210392 Days $T_0=132.386528$ (BKJD)



DV Model-Shift Uniqueness Test

008087812-01, P = 27.210850 Days, E = 105.158560 Days

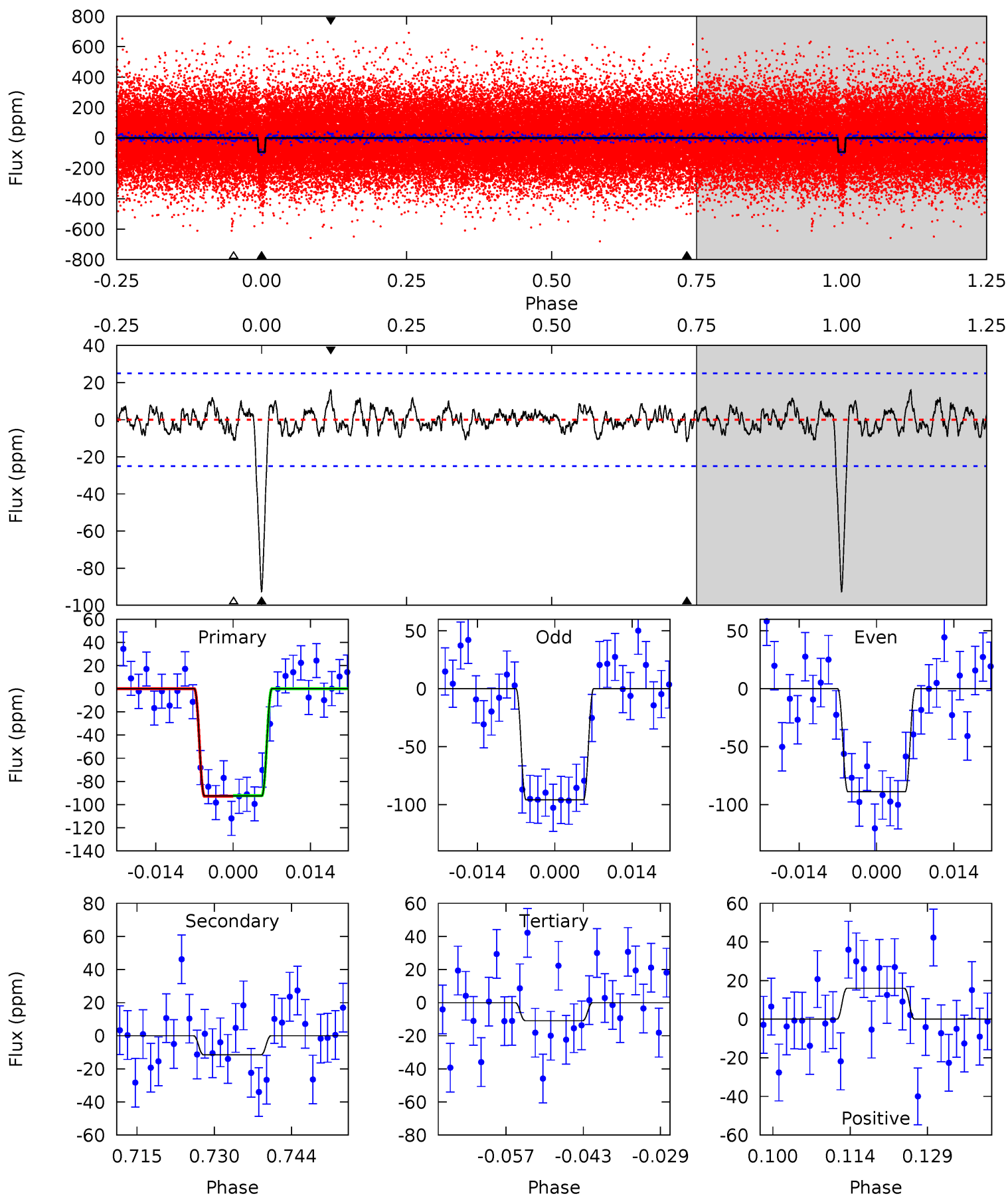
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.8	3.29	2.95	3.97	4.92	2.39	1.31	17.9	16.8	0.33	-0.69	1.45	1.04	0.16	0.45



Alt Model-Shift Uniqueness Test

008087812-01, P = 27.210392 Days, E = 105.176136 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.3	2.29	2.16	3.17	4.96	2.45	0.93	16.2	15.2	0.13	-0.88	0.70	0.95	0.15	0.05



Stellar Parameters For KIC 008087812

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5973^{+120}_{-108}	$4.171^{+0.188}_{-0.101}$	$-0.340^{+0.150}_{-0.150}$	$1.305^{+0.193}_{-0.266}$	$0.922^{+0.074}_{-0.067}$	$0.585^{+0.532}_{-0.186}$
	+2%/-2%	+5%/-2%	+44%/-44%	+15%/-20%	+8%/-7%	+91%/-32%
Source	SPE12	SPE12	SPE12	DSEP		

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

Secondary Eclipse Parameters for KIC 008087812-01 / KOI 4343.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-15 ± 5	$1.72^{+0.21}_{-0.21}$	1004^{+52}_{-60}	3782^{+198}_{-248}	86^{+40}_{-29}
Alt.	-12 ± 5	$1.36^{+0.17}_{-0.17}$	1010^{+44}_{-61}	3891^{+303}_{-380}	103^{+59}_{-51}

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 $A_{obs} \gg 1.0$

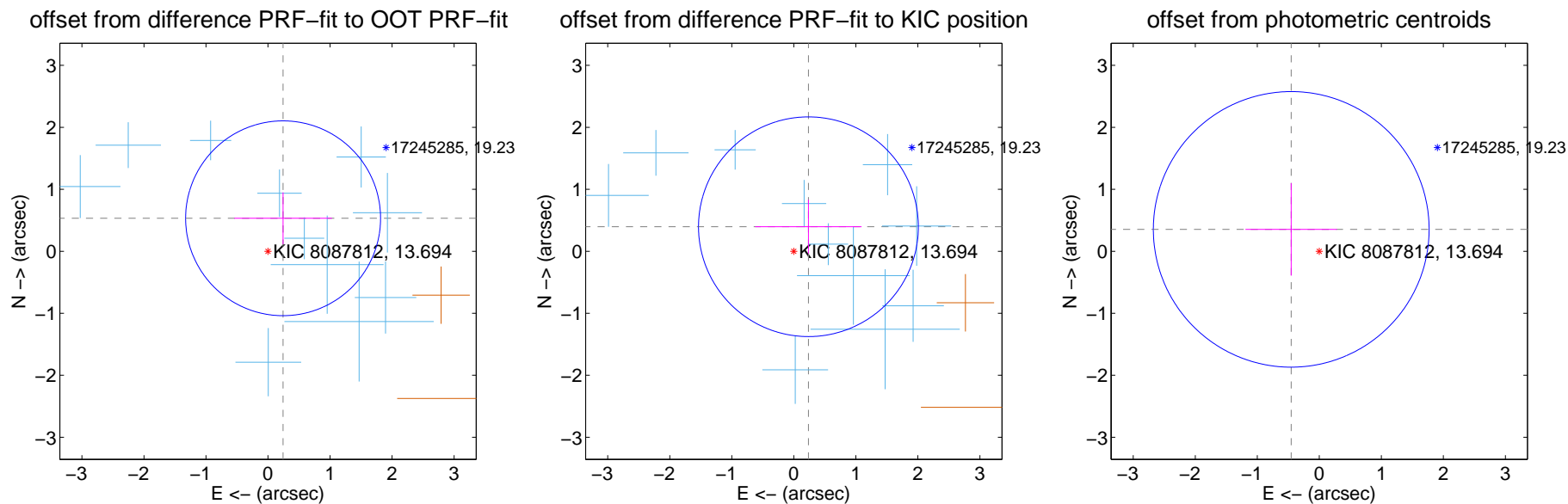
DV Centroid Data

Supplemental centroid analysis for 008087812-01. Kepler magnitude: 13.69. Transit SNR 13.78

There are 11 quarters with good PRF difference image offsets

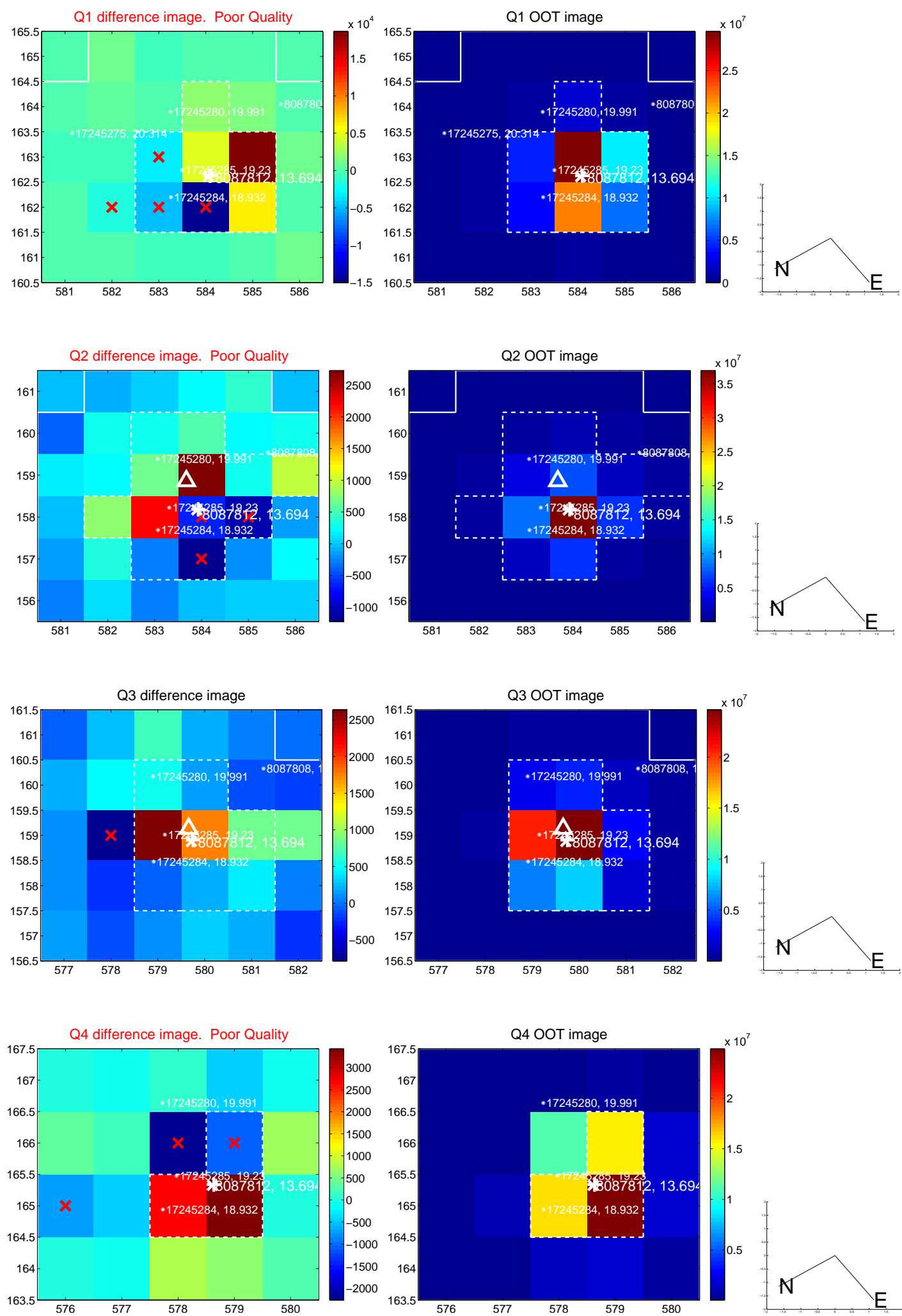
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.585 ± 0.524	1.12	-0.243 ± 0.788	0.533 ± 0.419
PRF-fit source offset from KIC position	0.461 ± 0.591	0.78	-0.236 ± 0.857	0.396 ± 0.435
photometric centroid source offset	0.57 ± 0.74	0.78	0.45 ± 0.74	0.35 ± 0.75

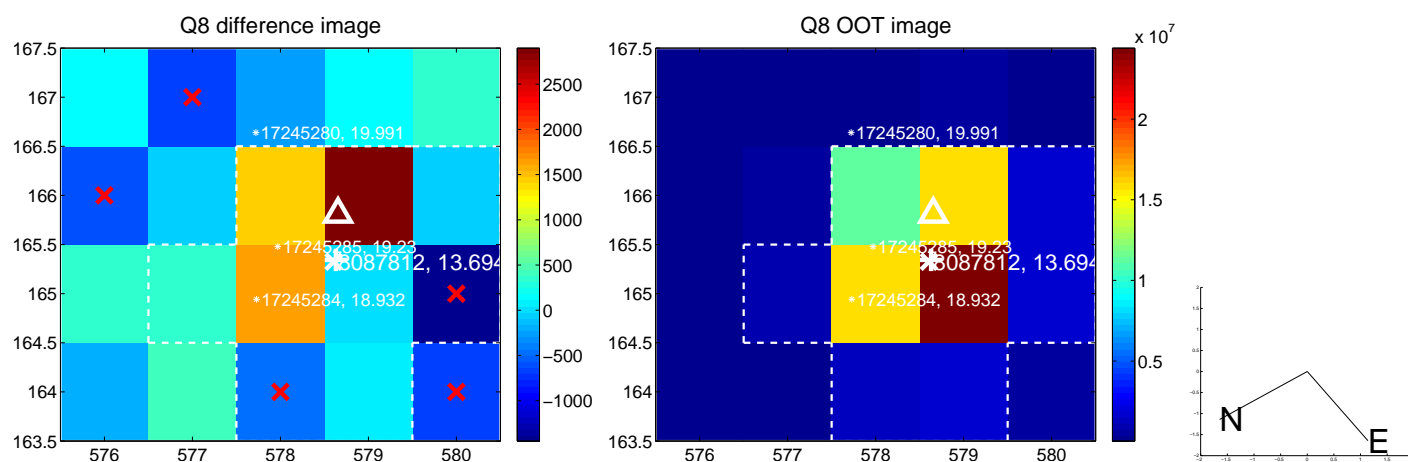
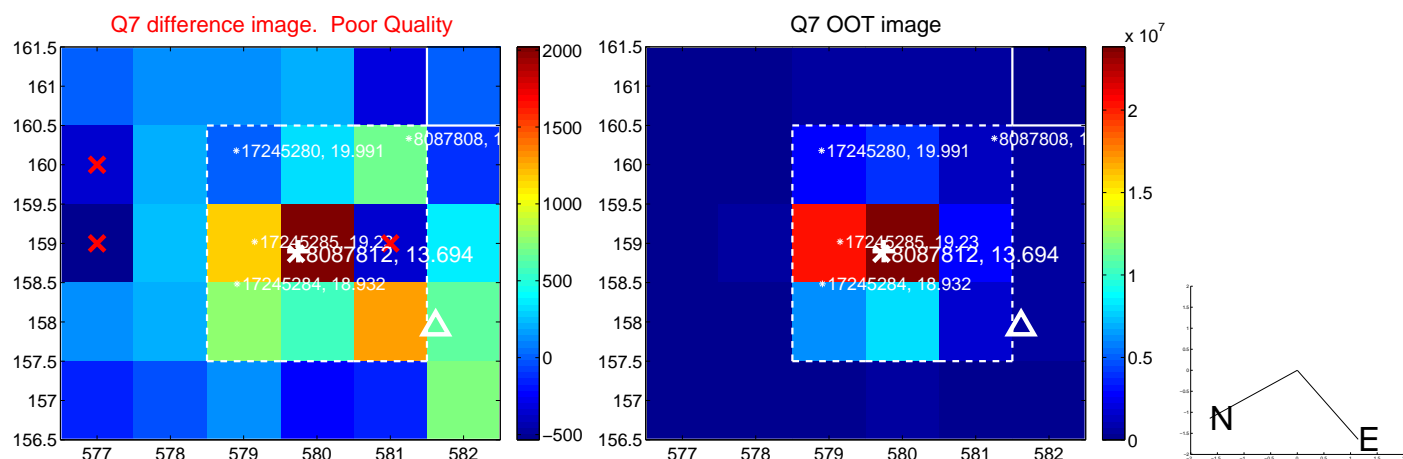
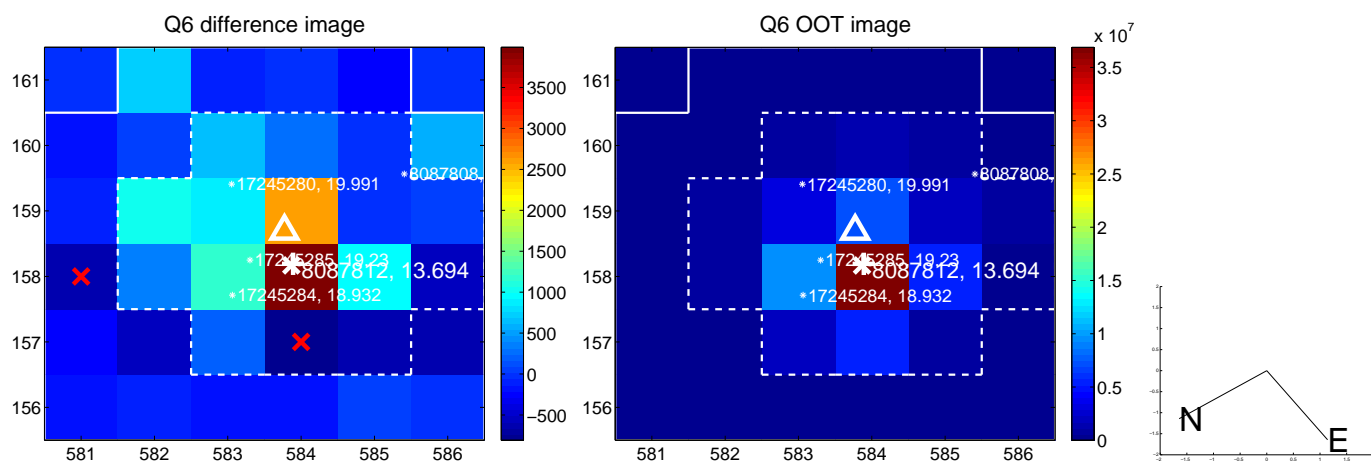
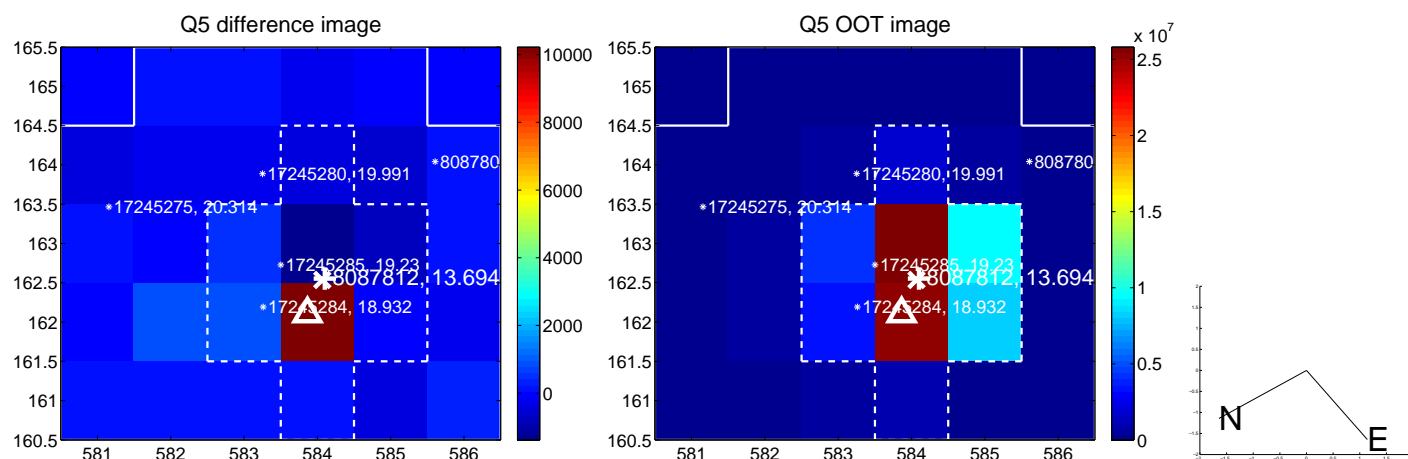


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

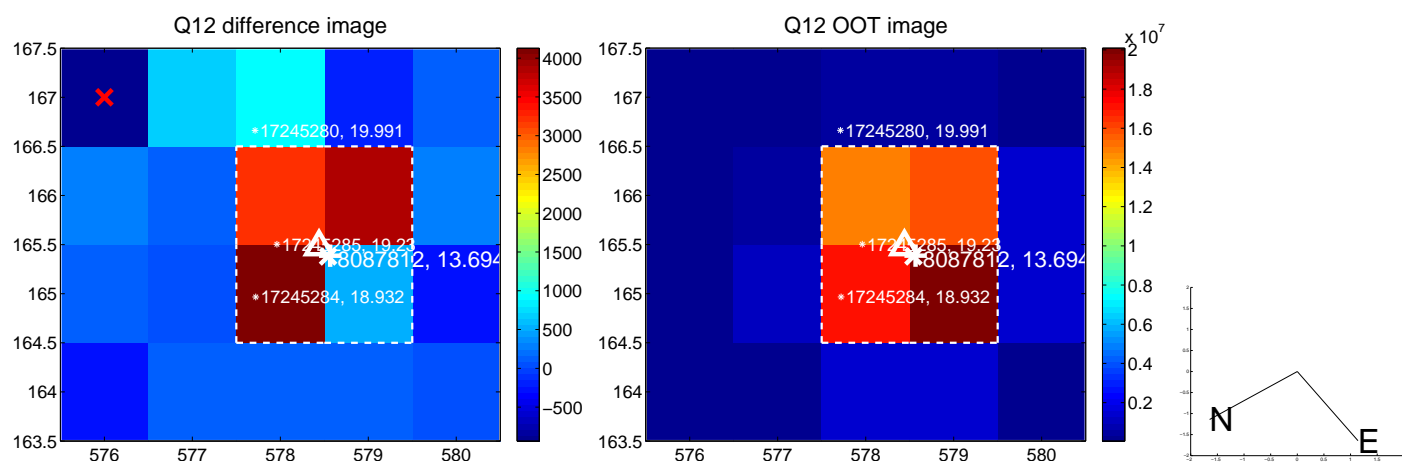
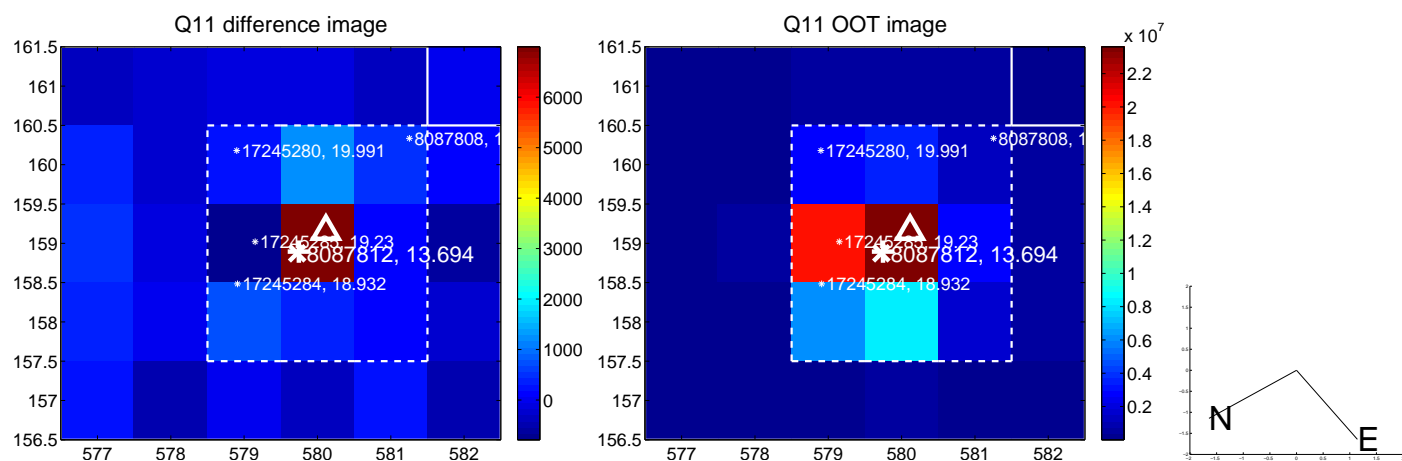
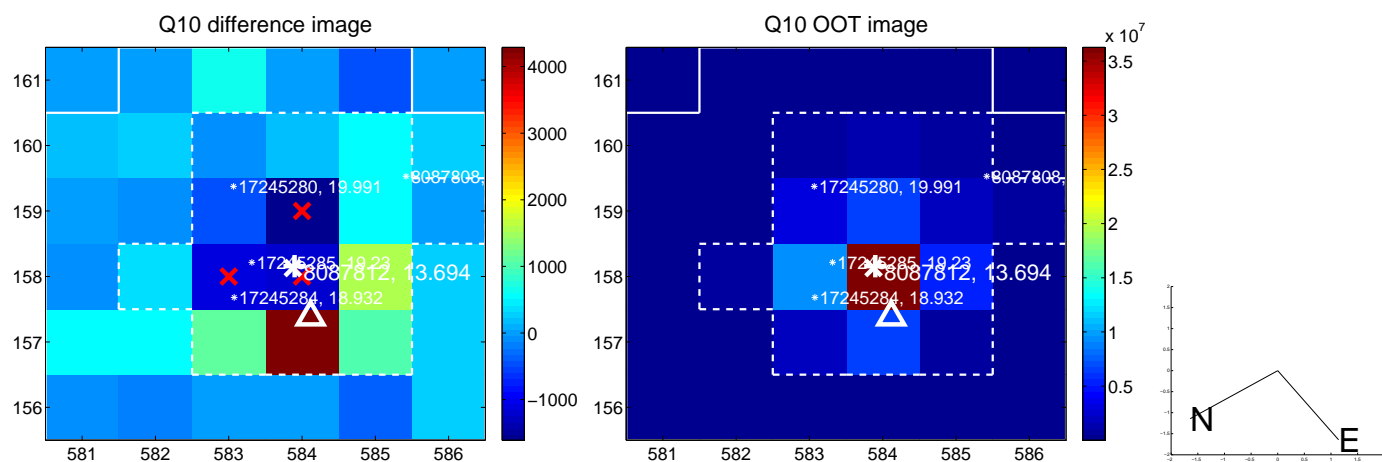
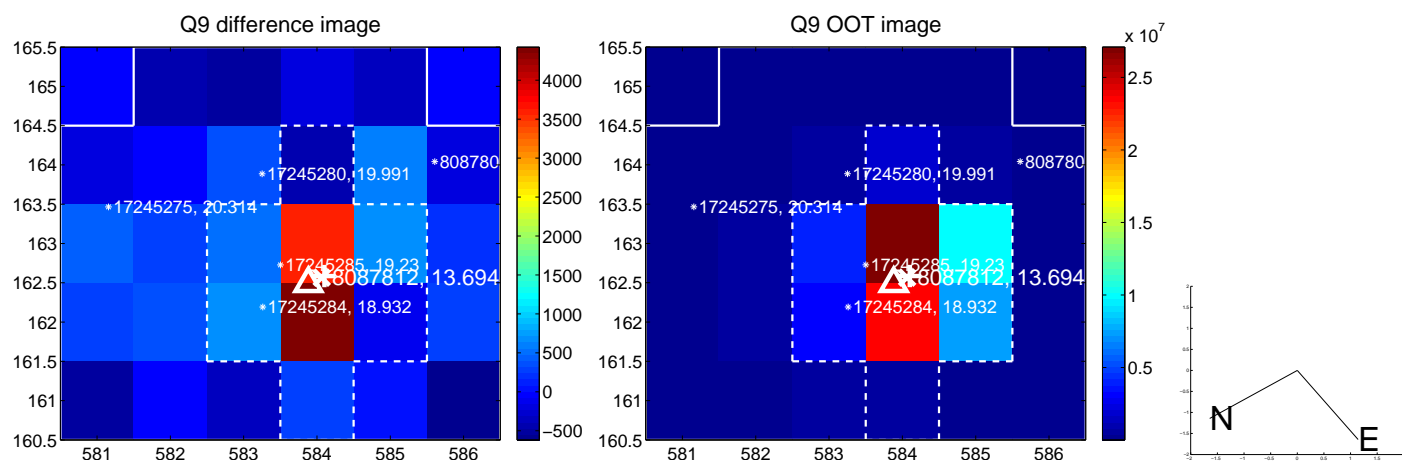
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



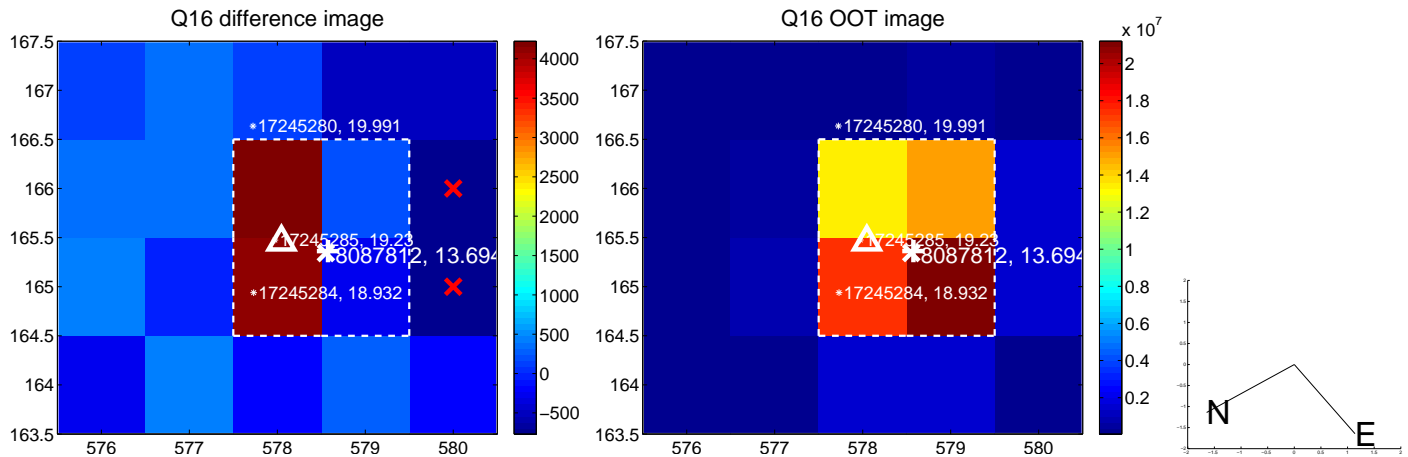
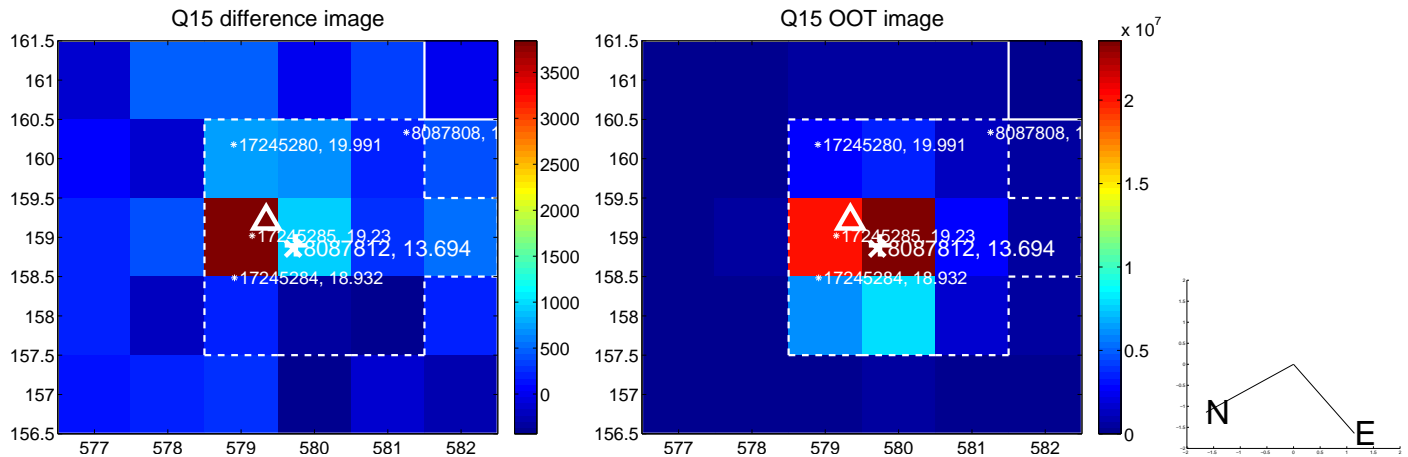
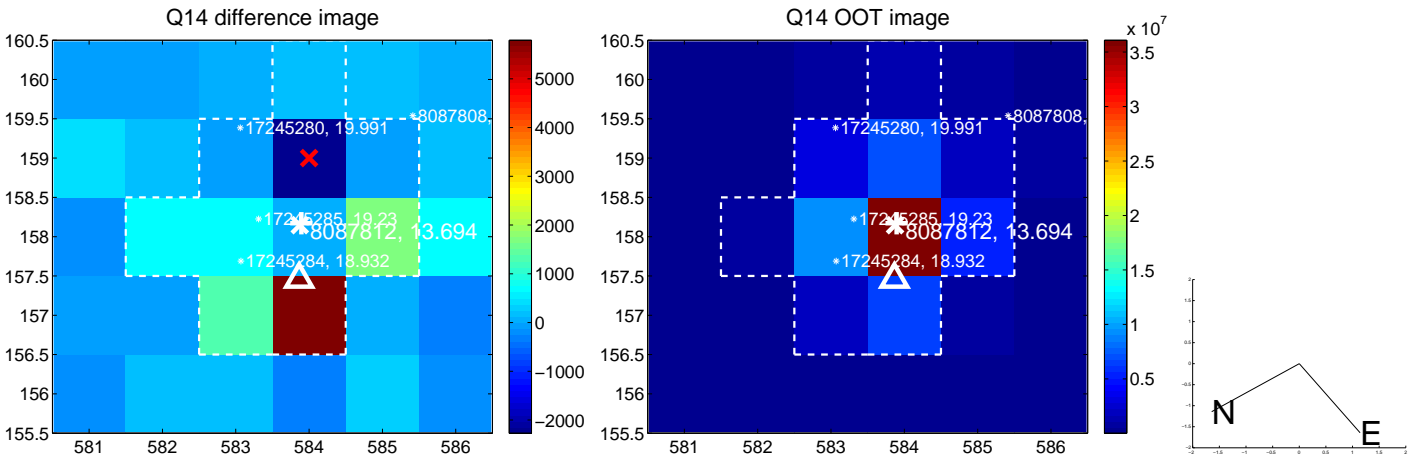
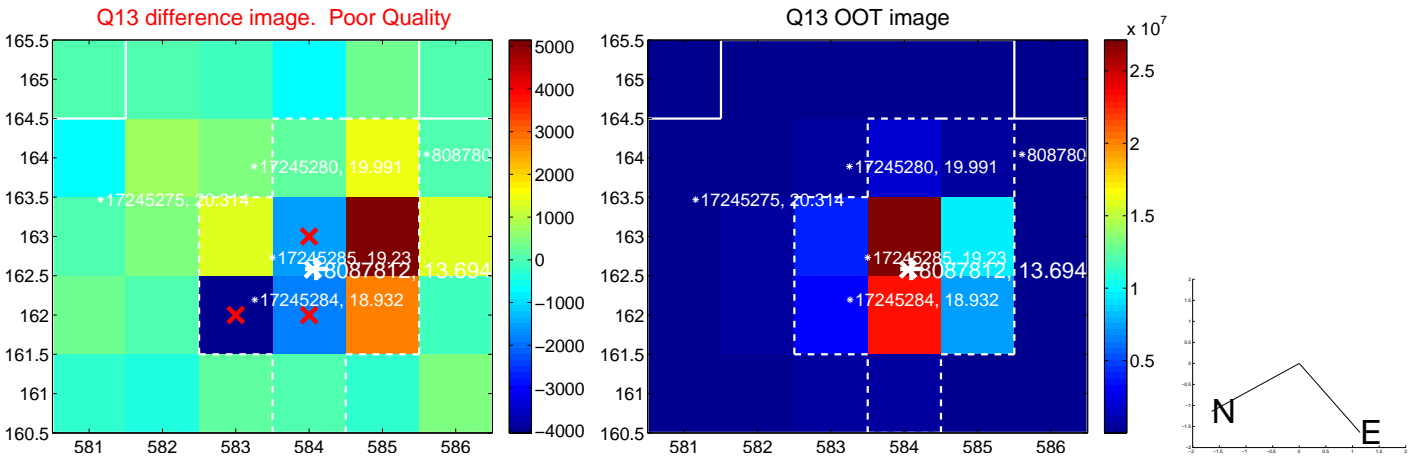
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



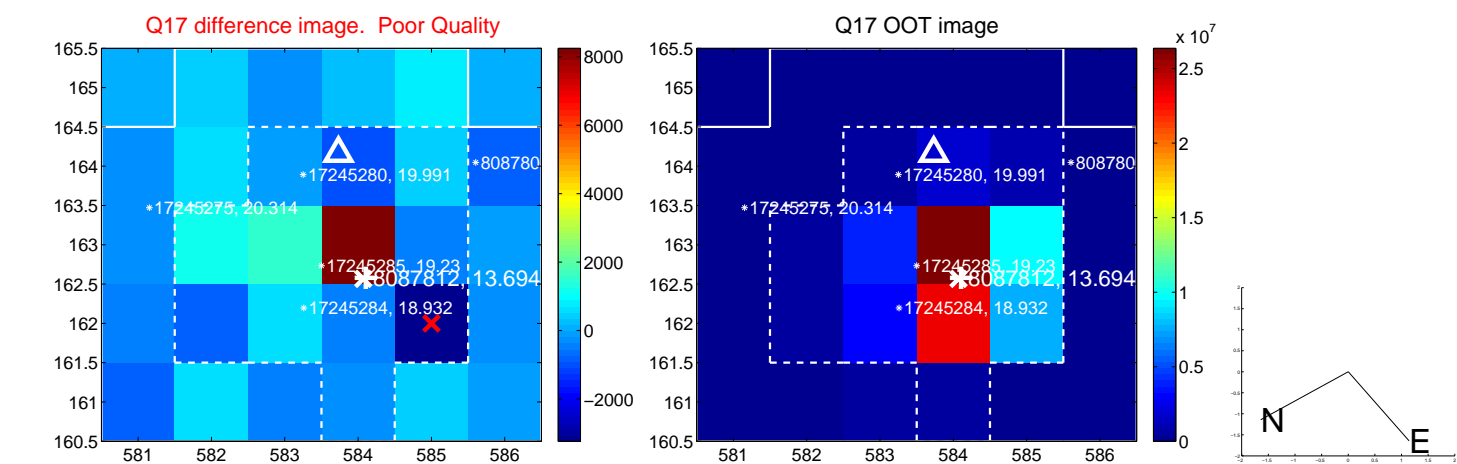
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



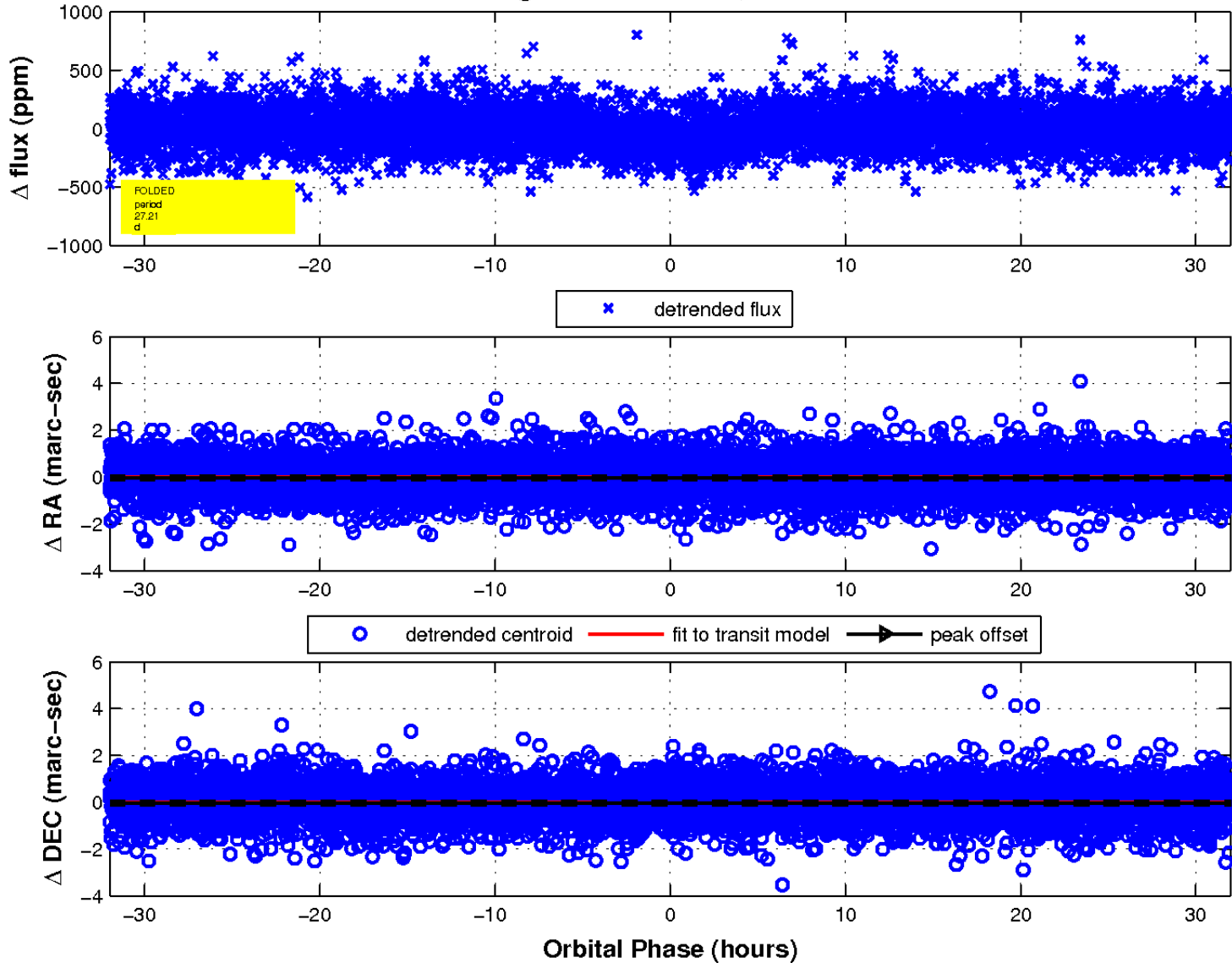
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

