

KIC 008780099

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})
008780099-01	OBS	No	4.367657	132.573767	15.4	27.081	8.8	10.5	2.81	6737	1.34	3669.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008780099-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

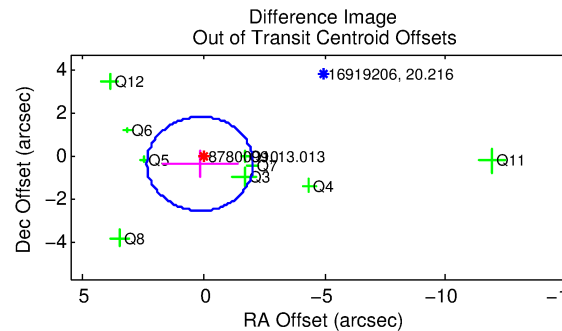
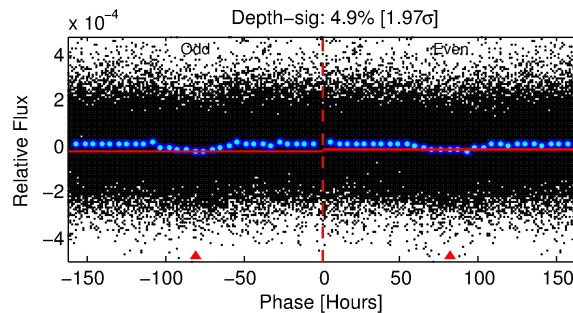
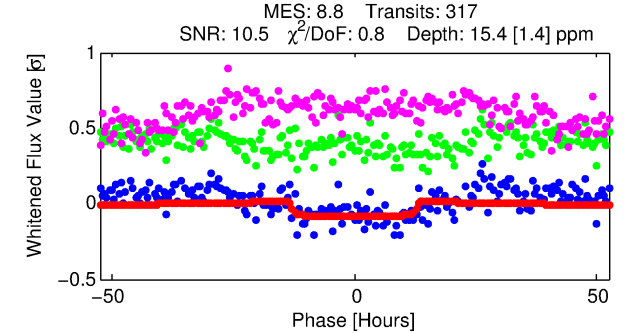
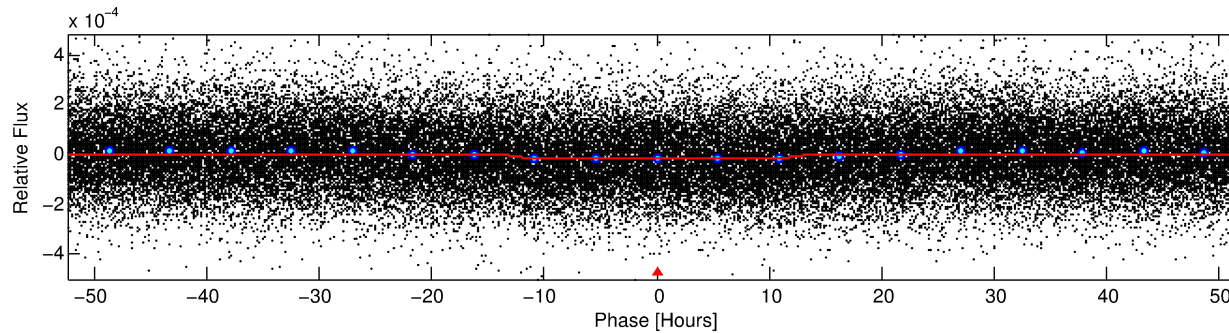
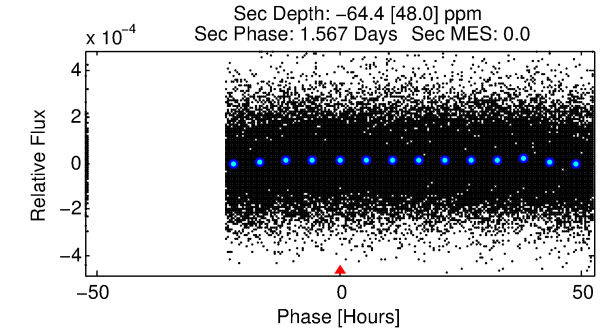
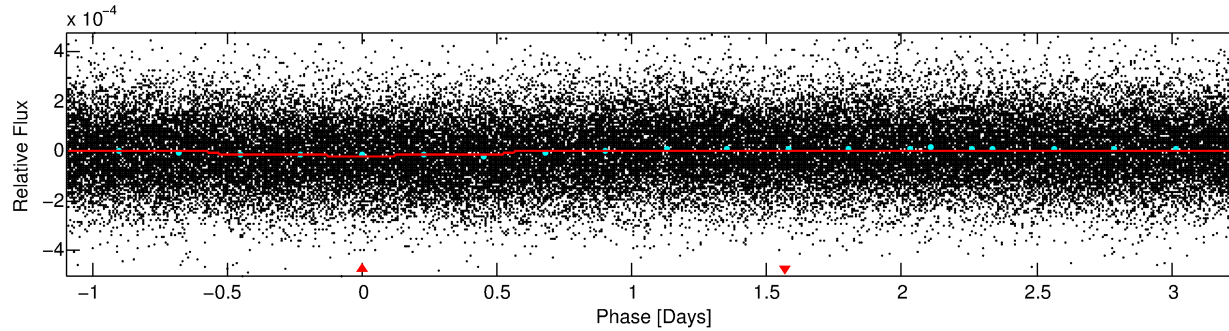
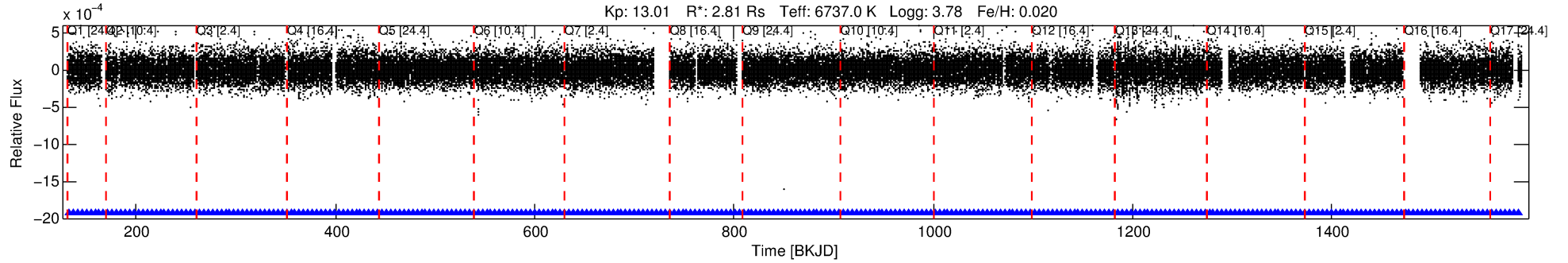
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008780099-01

No Significant Match Found

DV One-Page Summary

KIC: 8780099 Candidate: 1 of 1 Period: 4.368 d



DV Fit Results:

Period = 4.36766 [0.00016] d
Epoch = 132.5738 [0.0278] BKJD
Rp/R* = 0.0044 [0.0005]
a/R* = 1.06 [0.07]
b = 0.94 [0.07]
Seff = 3669.36 [1852.45]
Teff = 1985 [250] K
Rp = 1.34 [0.52] Re
a = 0.0630 [0.0205] AU
Ag = N/A
Teffp = N/A

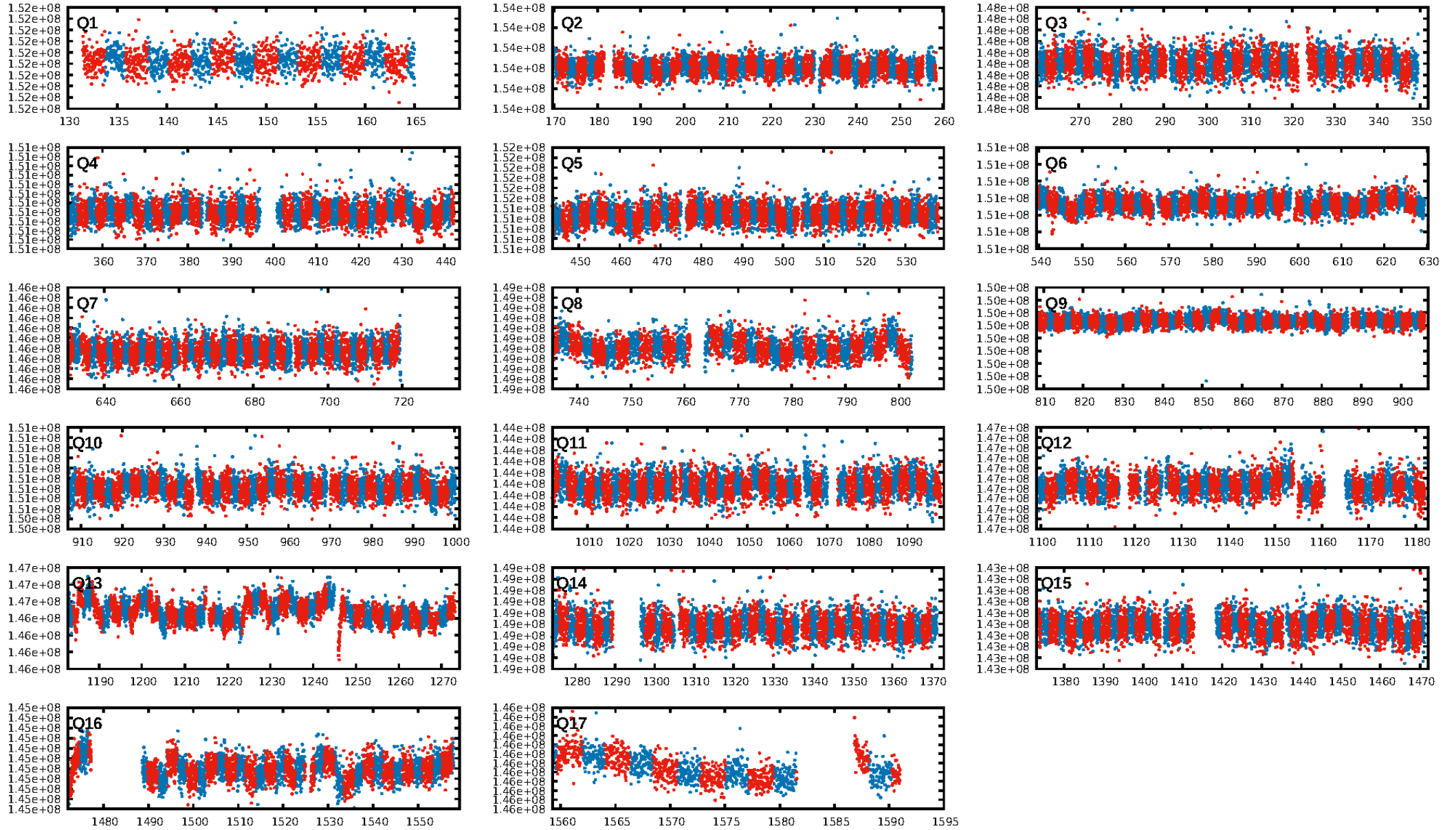
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.51e-21
RollingBand-fgt: 1.00 [302/302]
GhostDiagnostic-chr: 22.18
Centroid-sig: 3.7%
Centroid-so: 2.269 arcsec [1.42σ]
OotOffset-rm: 0.392 arcsec [0.54σ]
KicOffset-rm: 0.438 arcsec [0.50σ]
OotOffset-st: 2/3/3/1 [9]
KicOffset-st: 2/3/3/1 [9]
DiffImageQuality-fgm: 0.56 [5/9]
DiffImageOverlap-fno: 1.00 [17/17]

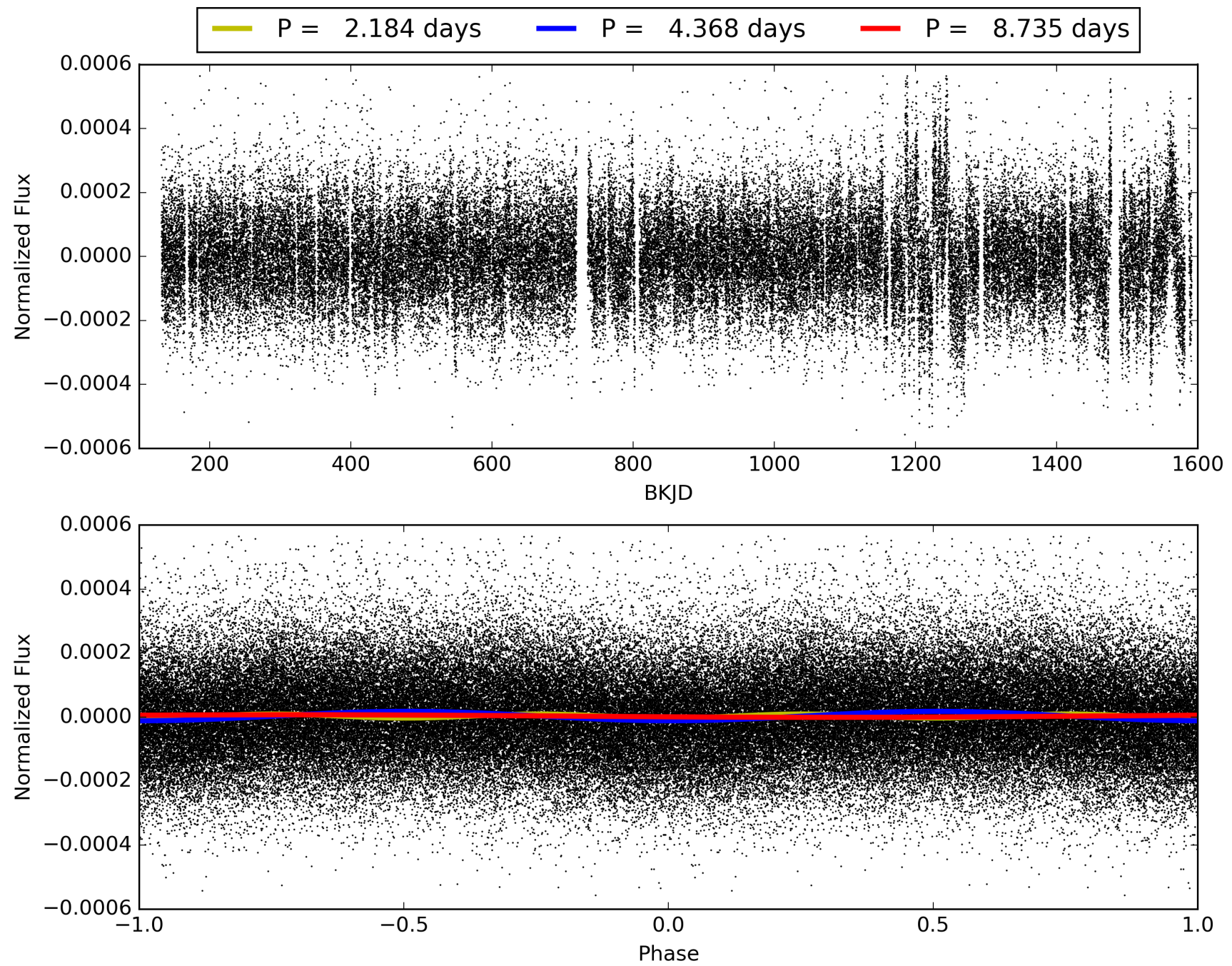
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:40:25 Z

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

TCE 008780099-01, PDC Light Curves

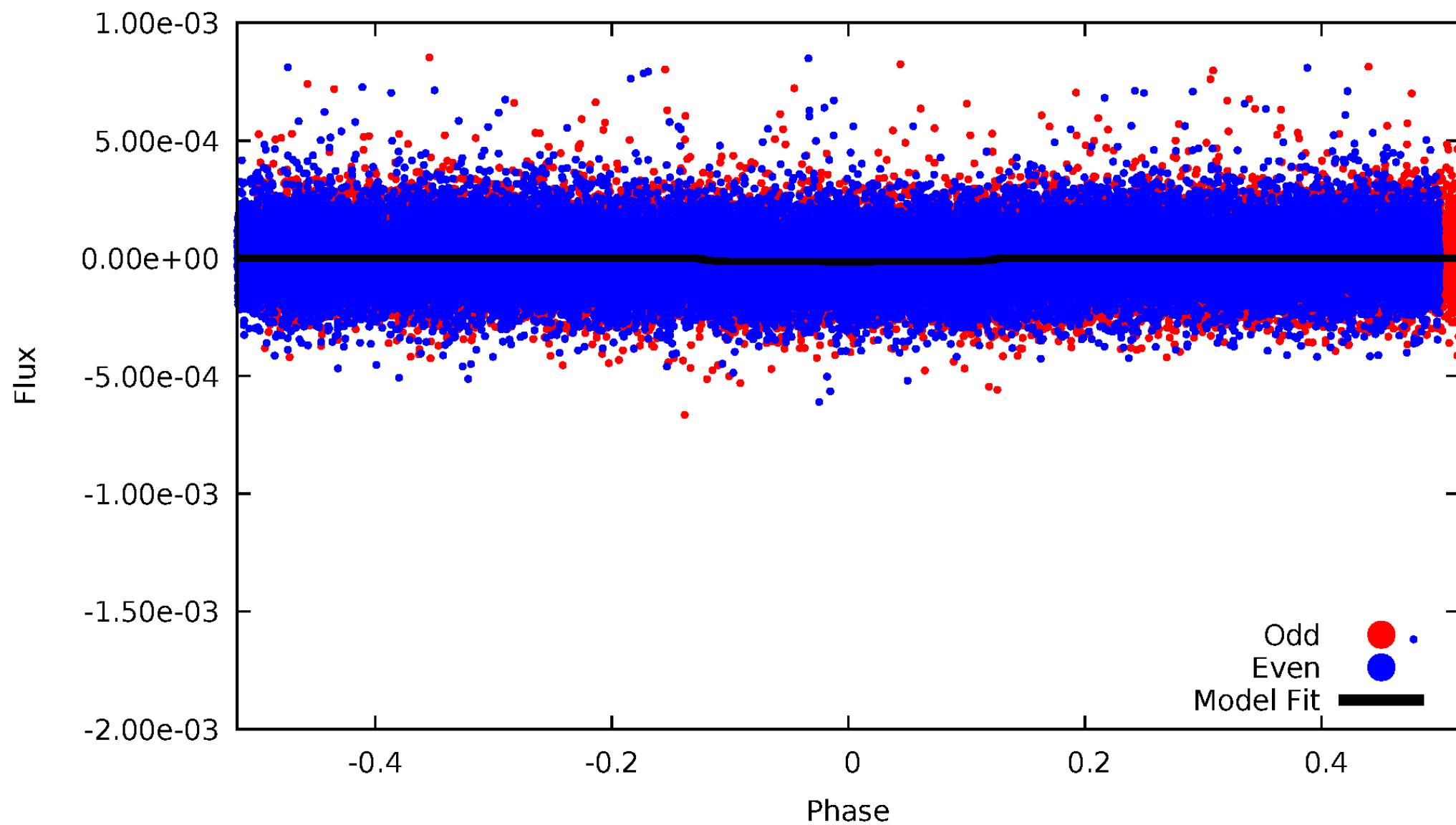


TCE 008780099-01



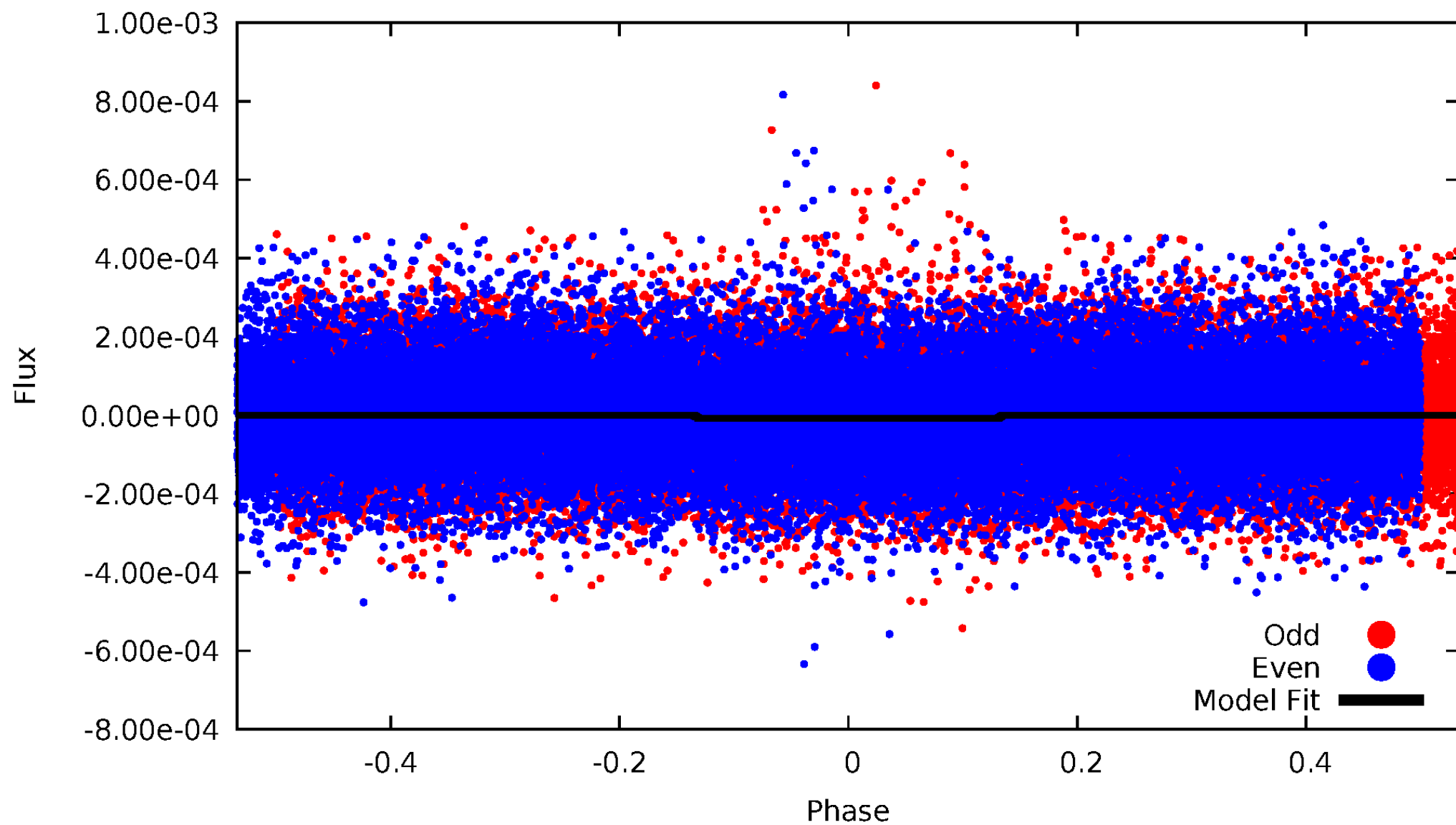
DV Odd/Even

TCE 008780099-01



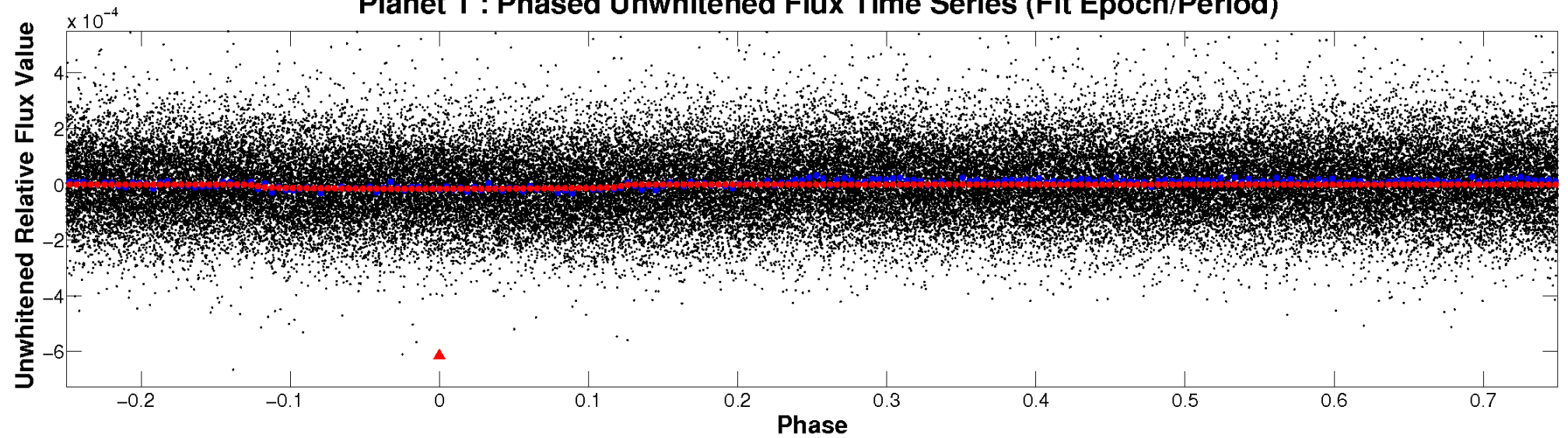
ALT Odd/Even

TCE 008780099-01

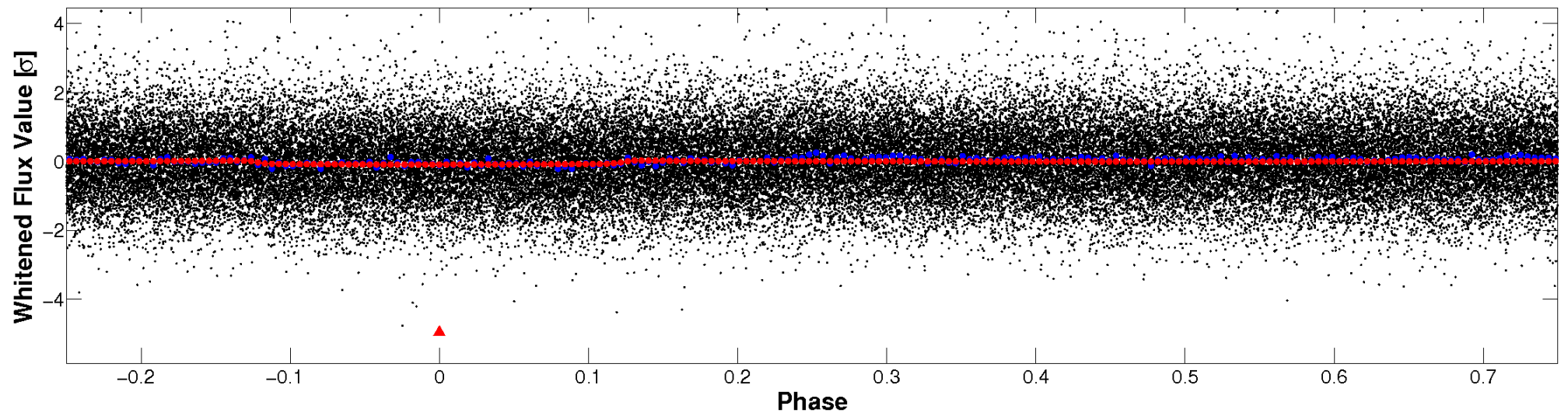


Non-Whitened Vs. Whitened Light Curve

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

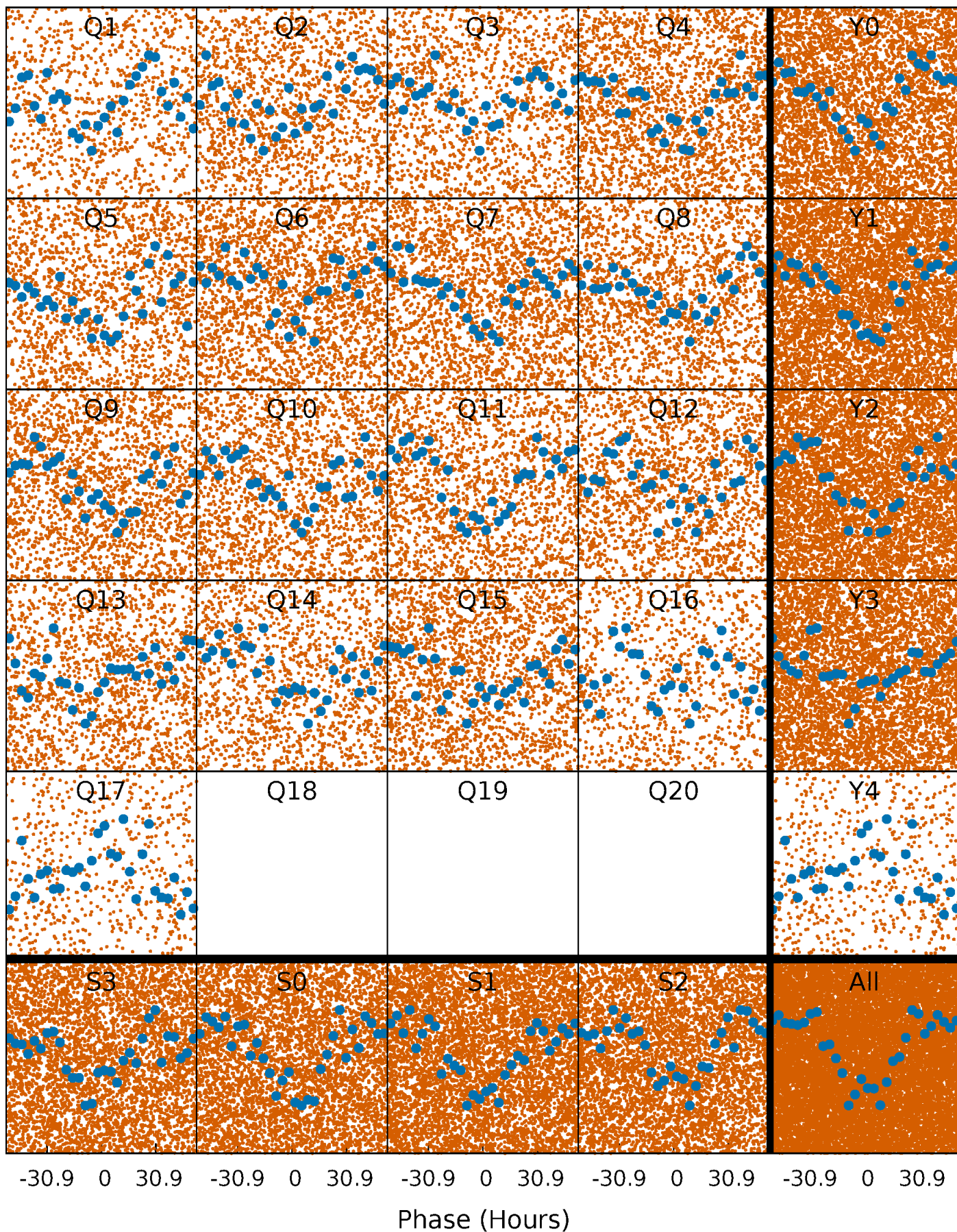


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



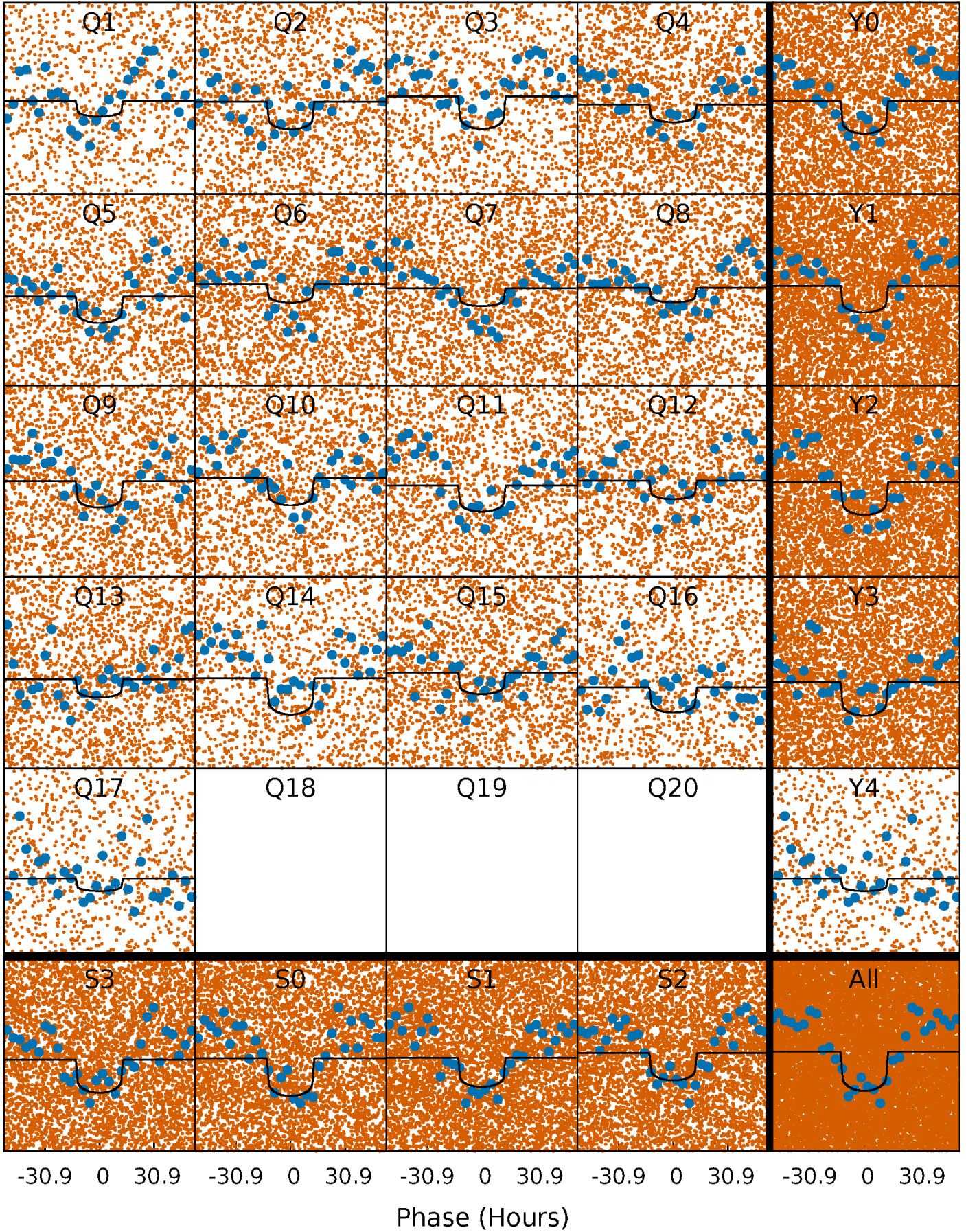
PDC Quarter-Phased Transit Curves

TCE 008780099-01 P= 4.367657 Days $T_0=132.573767$ (BKJD)



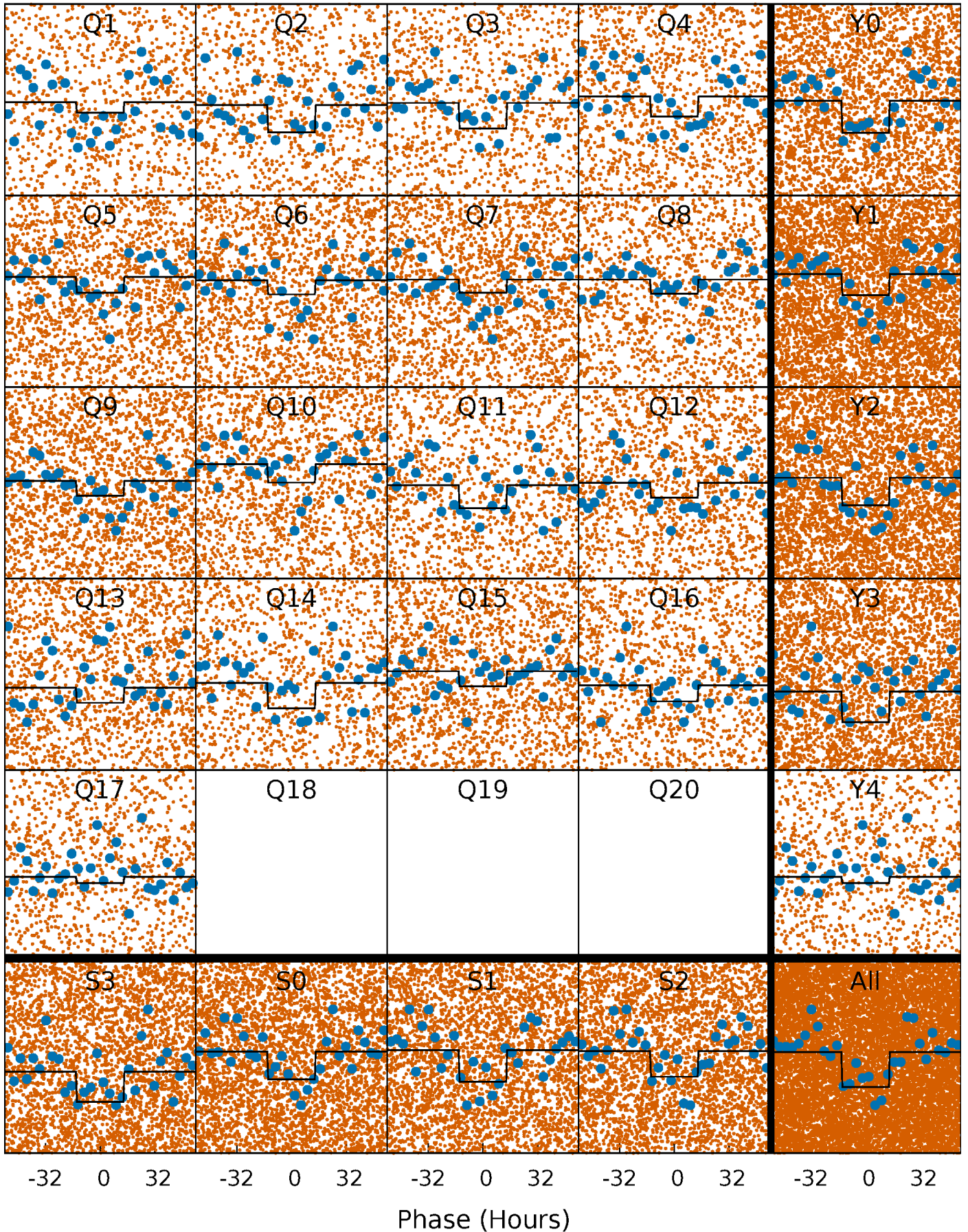
DV Quarter-Phased Transit Curves

TCE 008780099-01 P= 4.367657 Days $T_0=132.573767$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

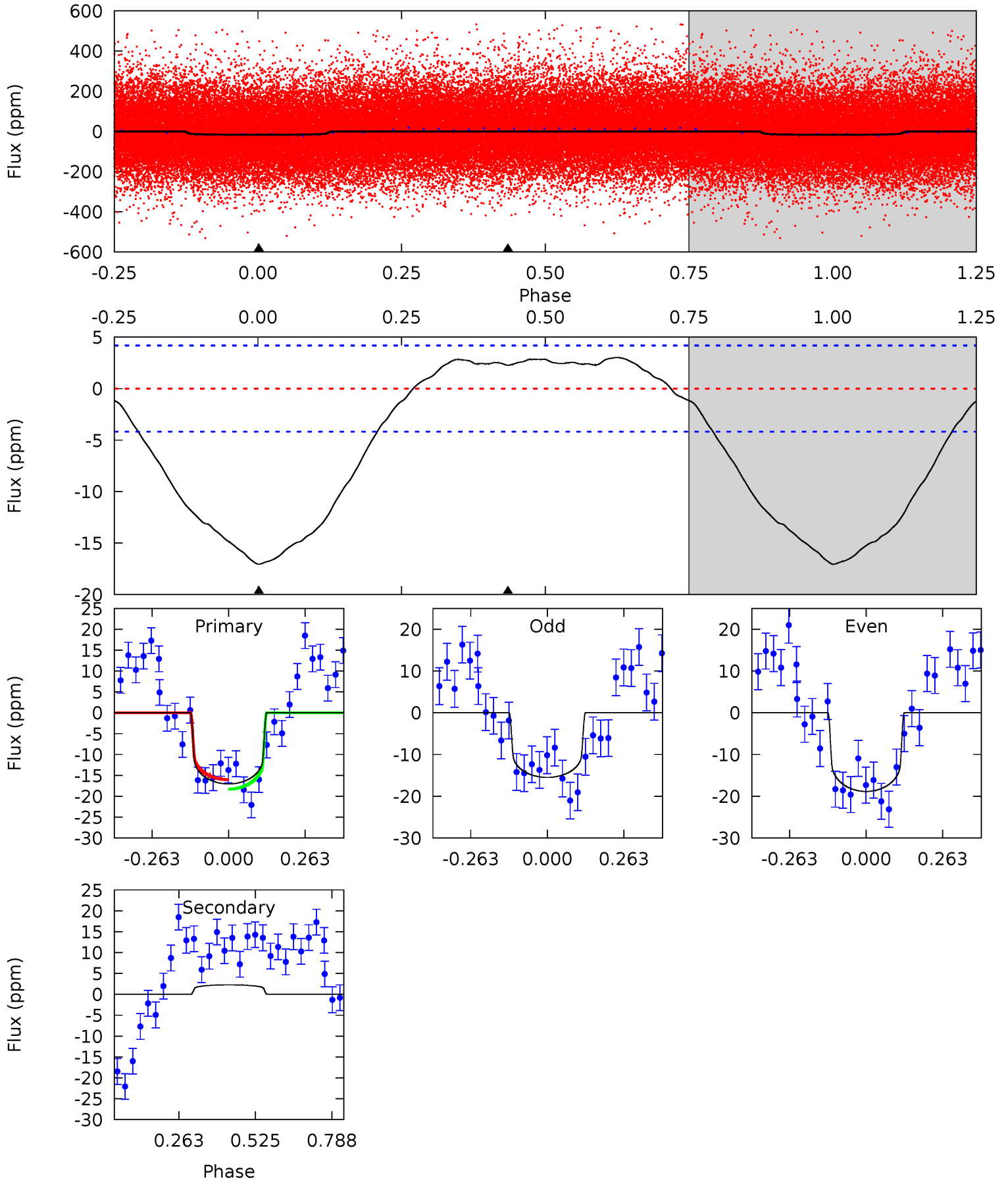
TCE 008780099-01 P= 4.367832 Days $T_0=132.618816$ (BKJD)



DV Model-Shift Uniqueness Test

008780099-01, P = 4.367657 Days, E = 128.206110 Days

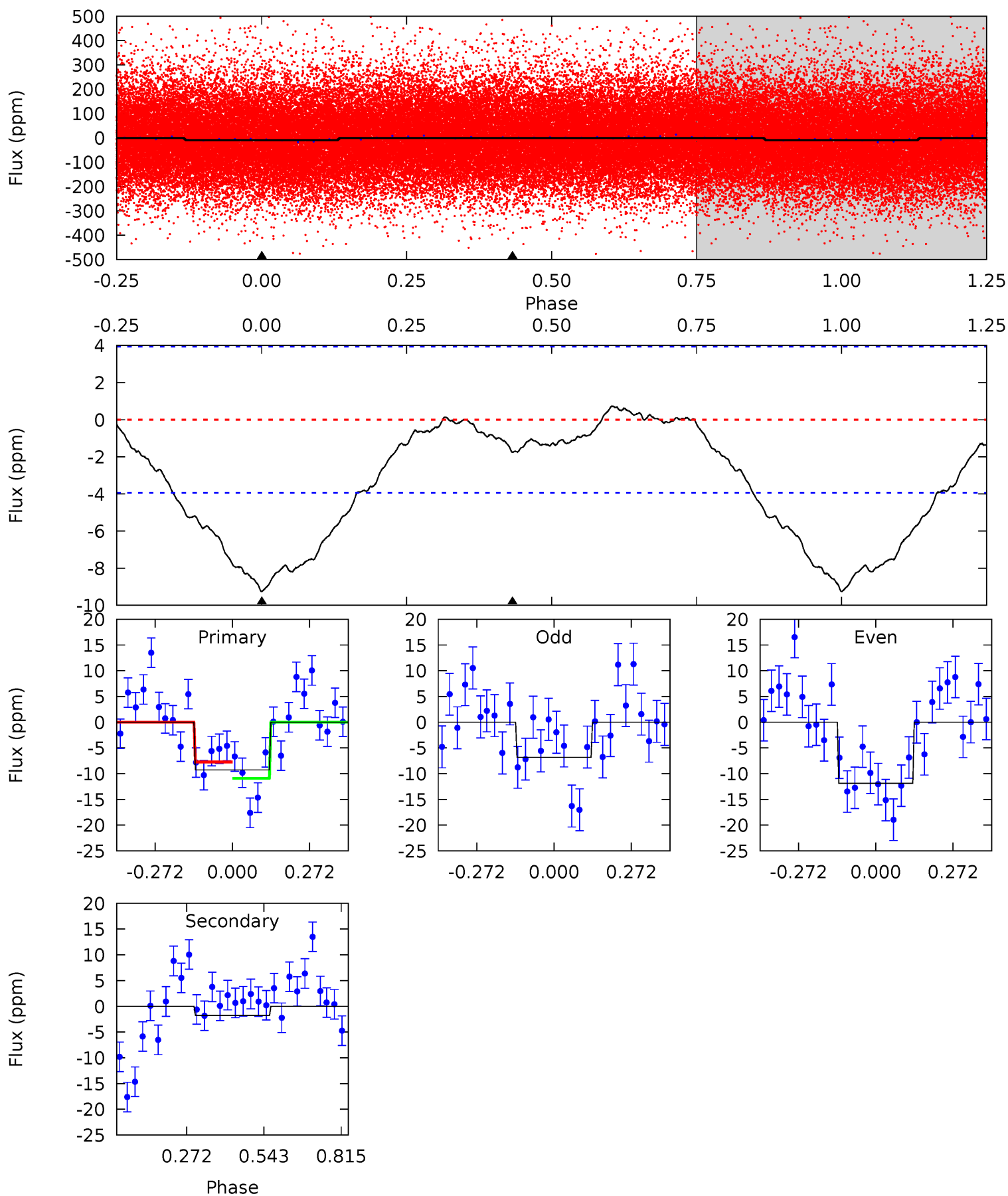
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.8	-2.37	0	0	4.36	1.12	1.23	17.8	17.8	-2.37	-2.37	1.76	0.93	0.15	1.19



Alt Model-Shift Uniqueness Test

008780099-01, P = 4.367832 Days, E = 128.250984 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	1.95	0	0	4.35	1.10	0.30	10.2	10.2	1.95	1.95	2.78	0.93	0.07	1.74



Stellar Parameters For KIC 008780099

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6737^{+182}_{-223}	$3.783^{+0.273}_{-0.097}$	$0.020^{+0.250}_{-0.300}$	$2.807^{+0.448}_{-1.046}$	$1.743^{+0.165}_{-0.357}$	$0.111^{+0.211}_{-0.036}$
	+3%/-3%	+7%/-3%	+1250%/-1500%	+16%/-37%	+9%/-20%	+190%/-32%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008780099-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	2 ± 1	$1.29^{+0.22}_{-0.24}$	2733^{+154}_{-226}	-4269^{+411}_{-372}	$-2.953^{+1.473}_{-1.986}$
Alt.	-2 ± 1	$0.85^{+0.20}_{-0.18}$	2727^{+165}_{-226}	4567^{+611}_{-608}	$5.008^{+4.626}_{-2.569}$

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 $A_{obs} \gg 1.0$

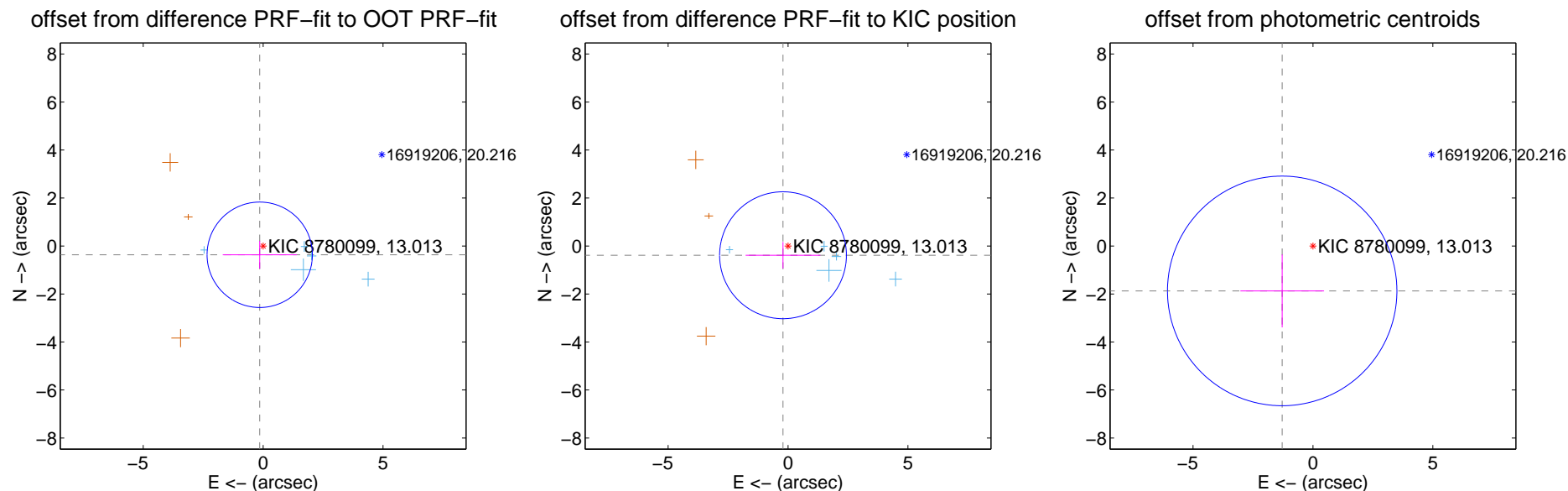
DV Centroid Data

Supplemental centroid analysis for 008780099-01. Kepler magnitude: 13.01. Transit SNR 10.49

There are 5 quarters with good PRF difference image offsets

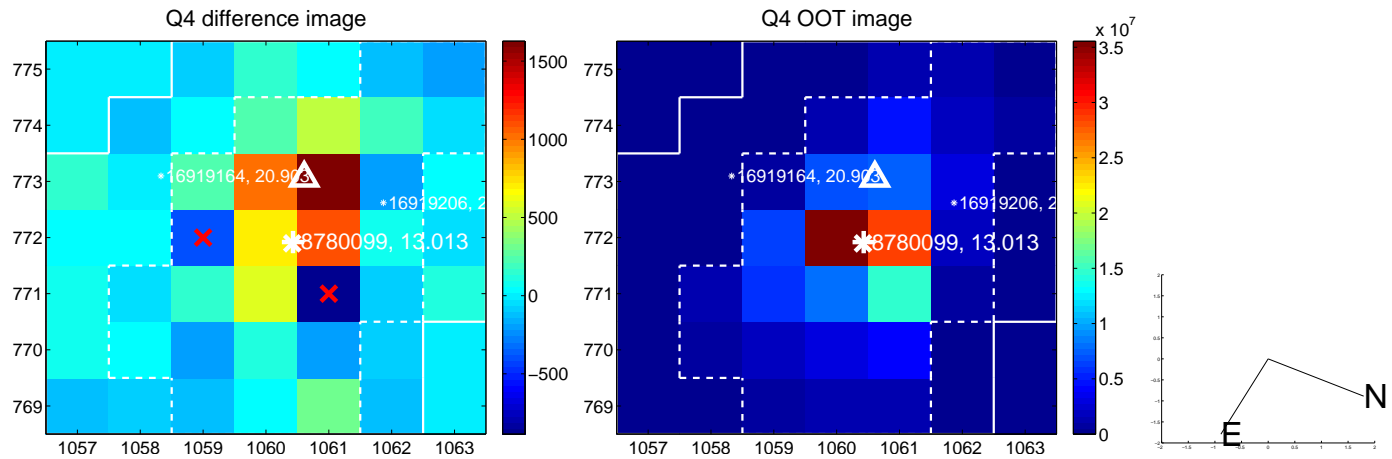
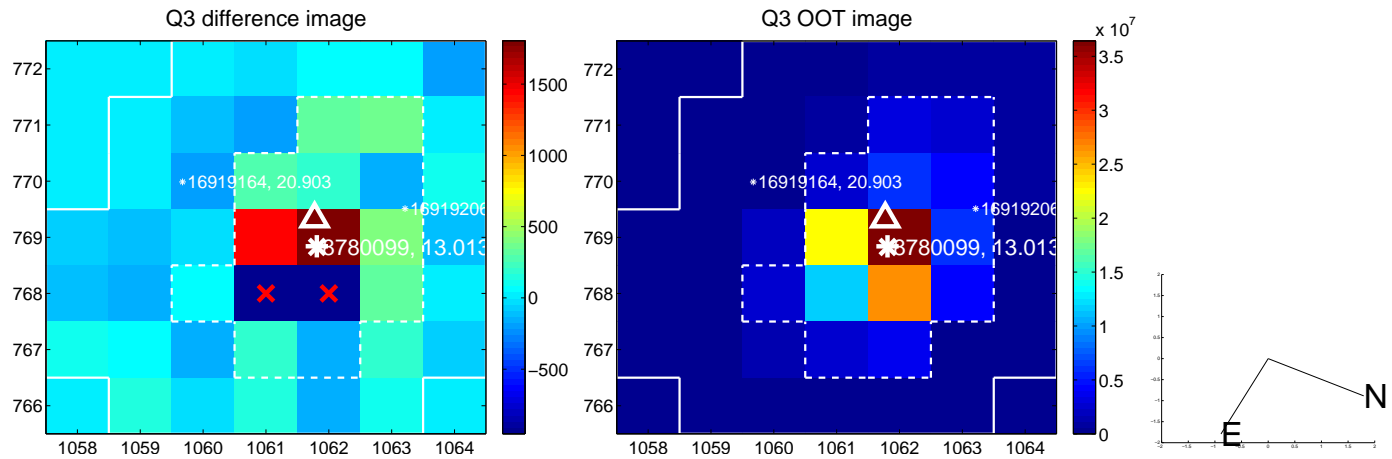
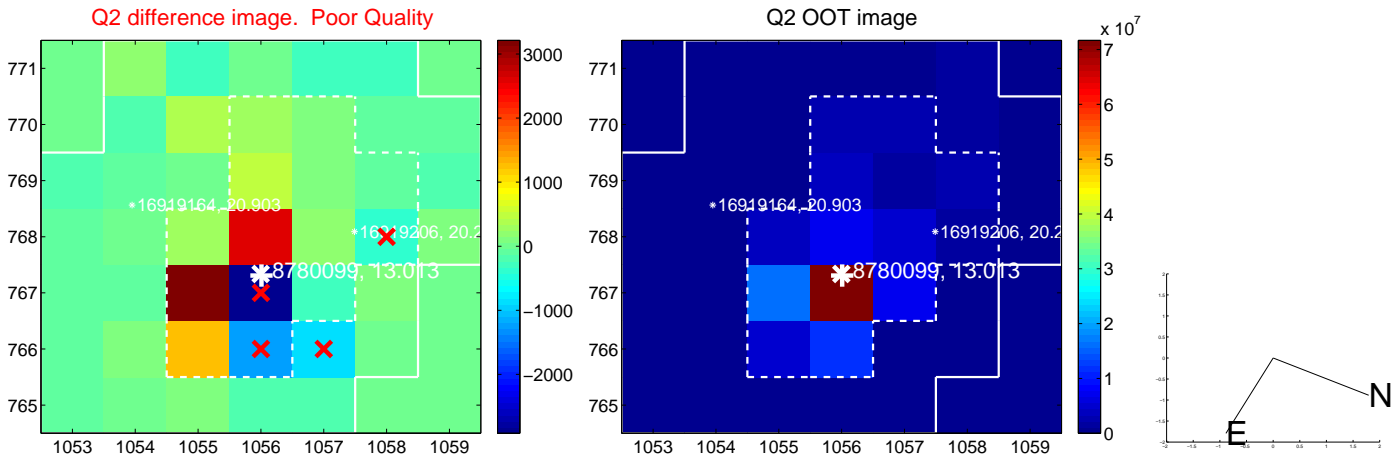
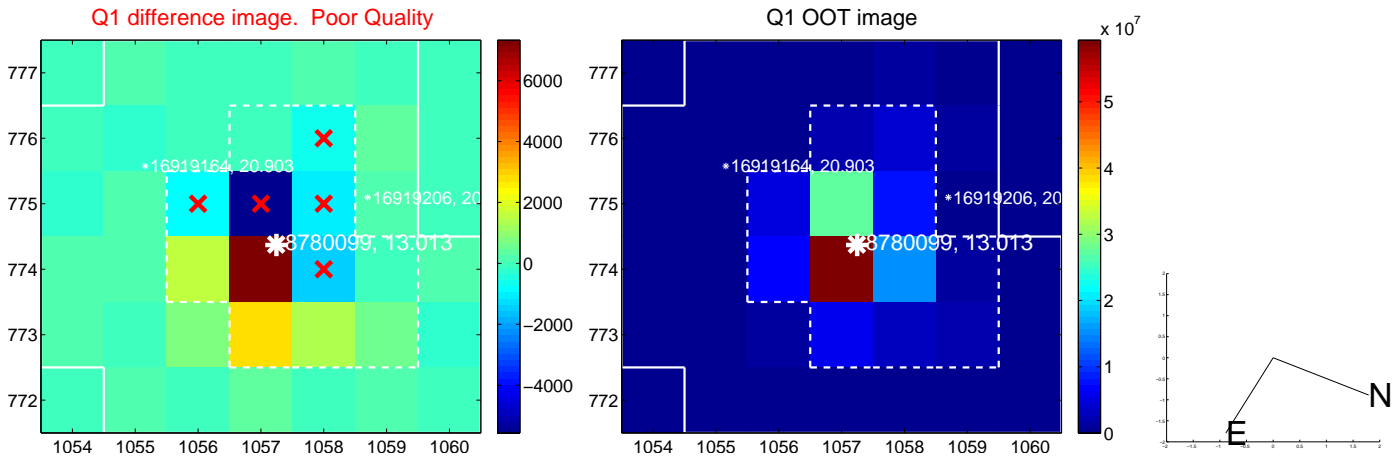
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.392 ± 0.732	0.54	0.141 ± 1.544	-0.365 ± 0.577
PRF-fit source offset from KIC position	0.438 ± 0.881	0.50	0.209 ± 1.559	-0.385 ± 0.551
photometric centroid source offset	2.27 ± 1.59	1.42	1.28 ± 1.74	-1.87 ± 1.52

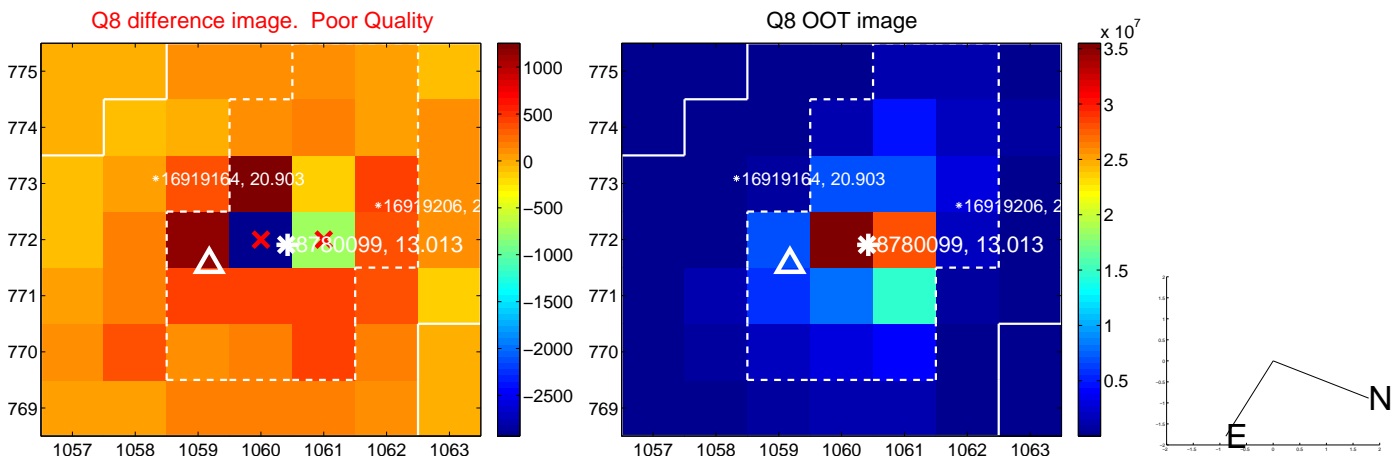
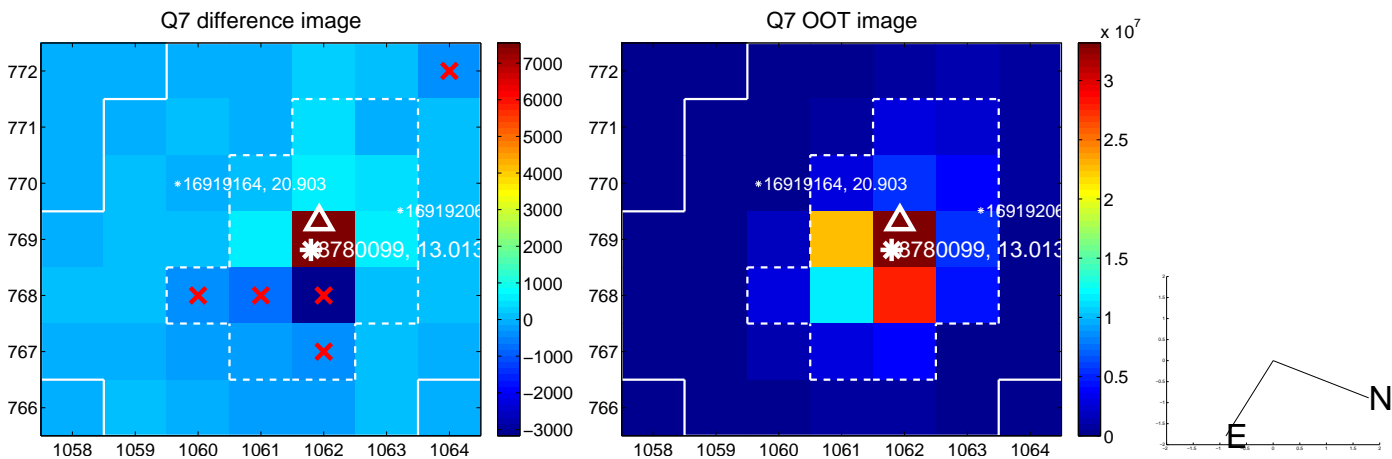
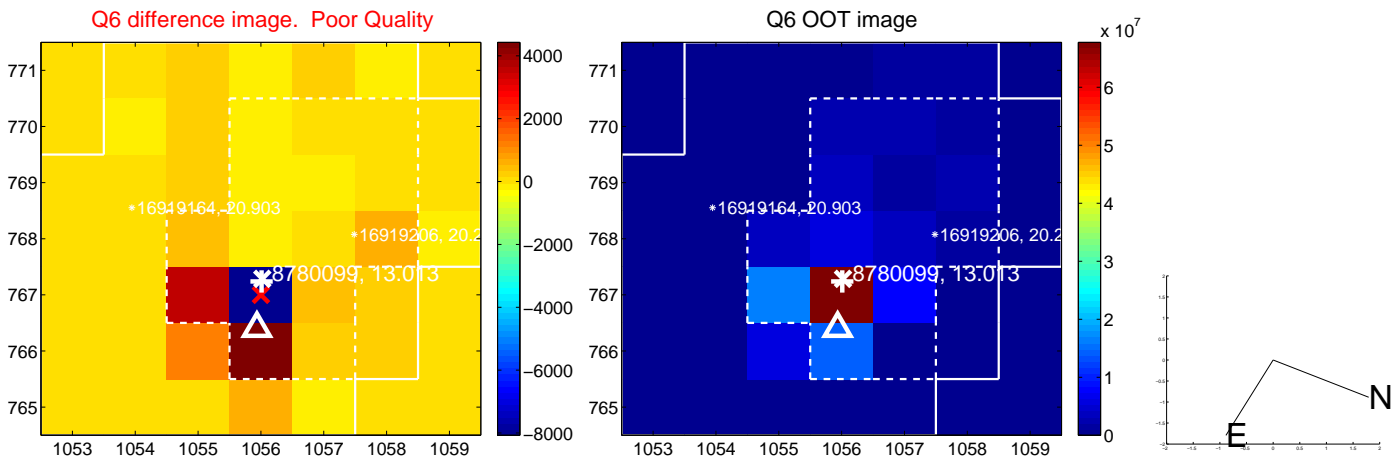
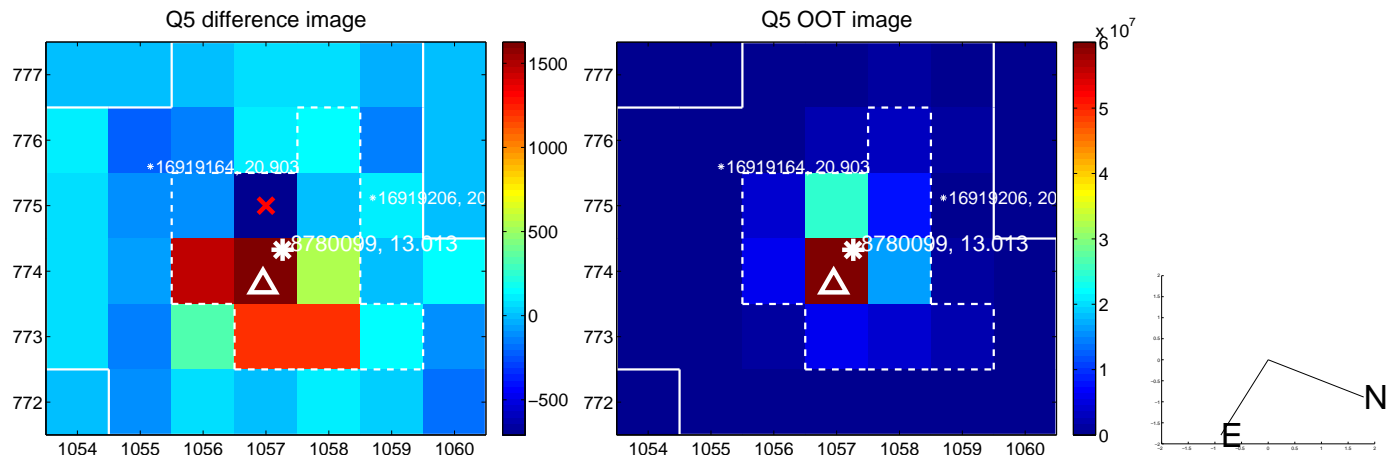


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

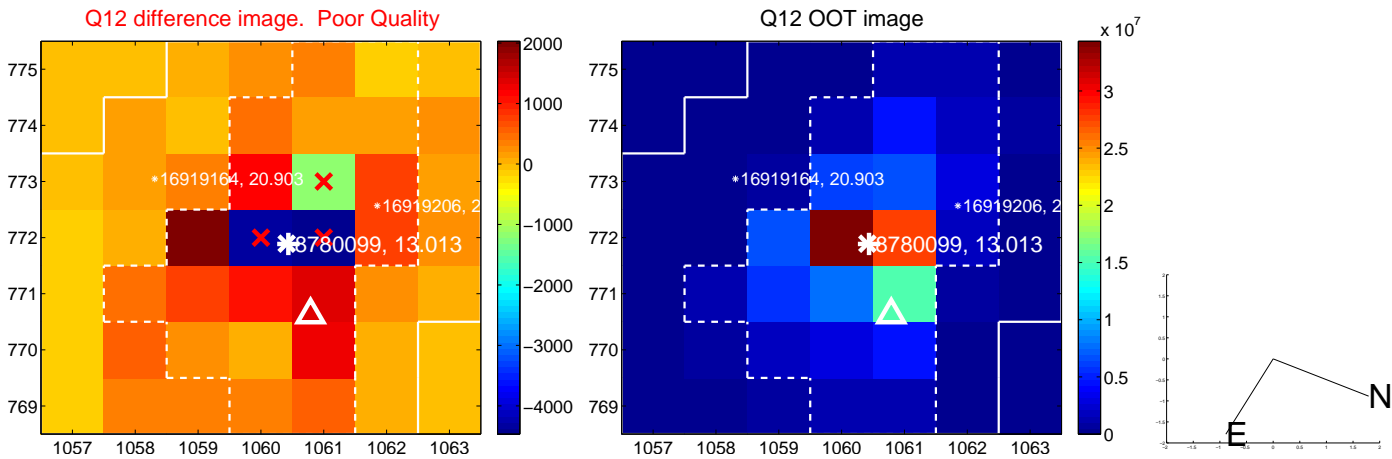
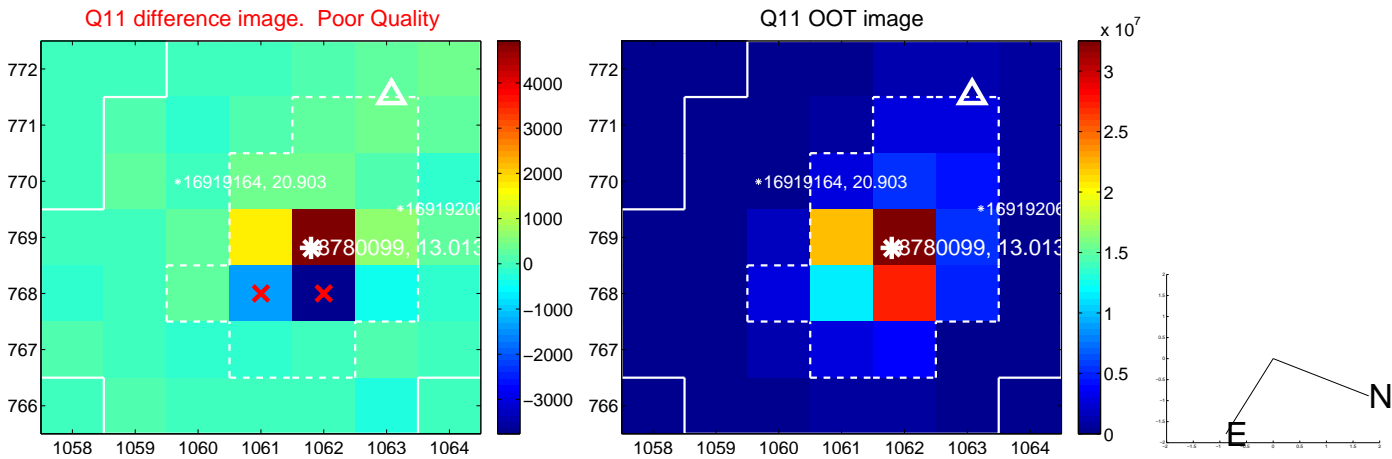
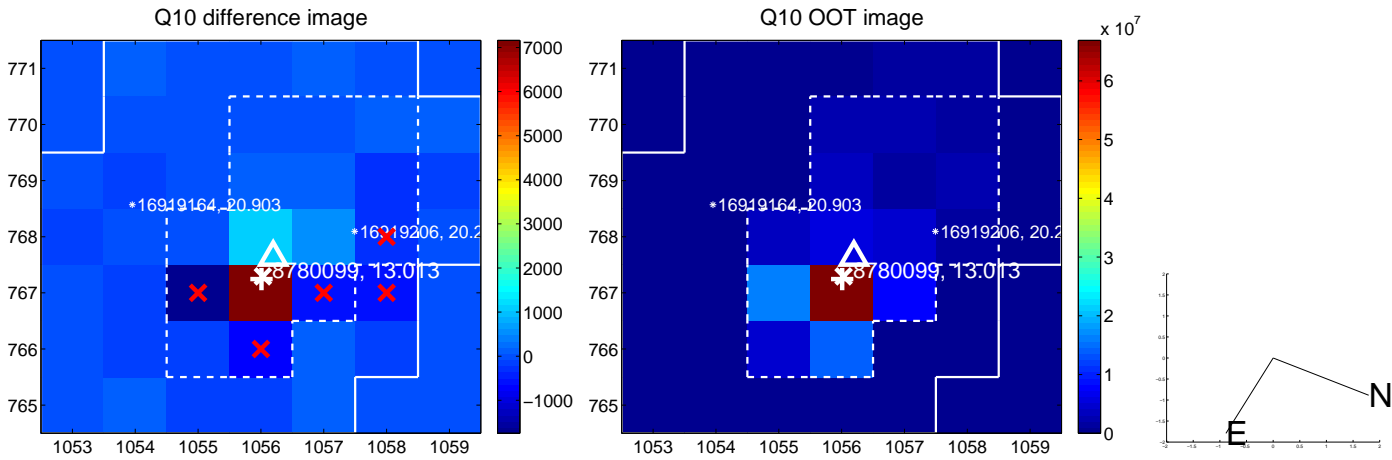
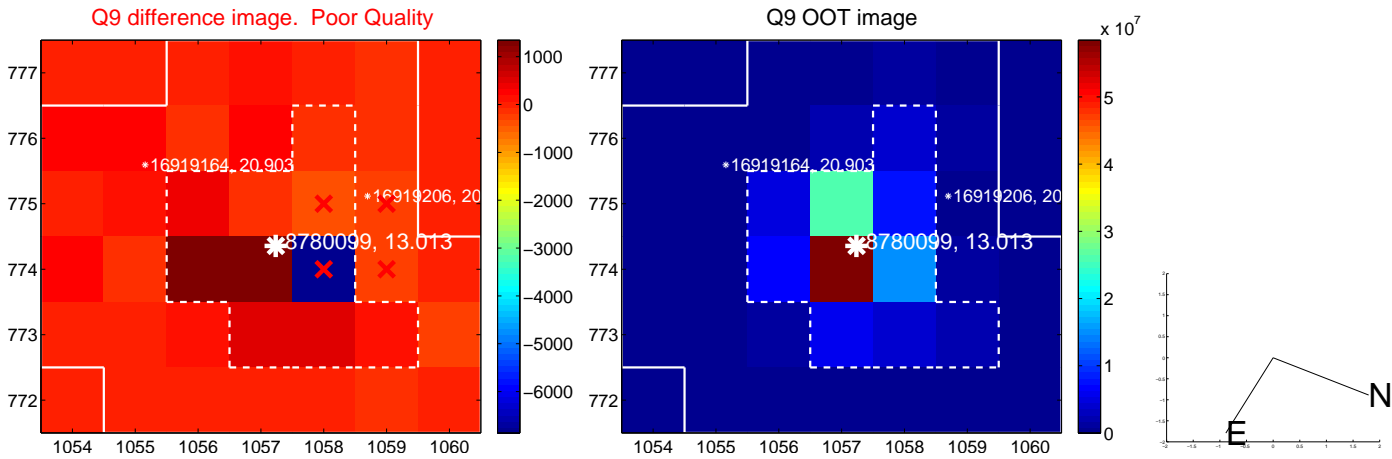
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



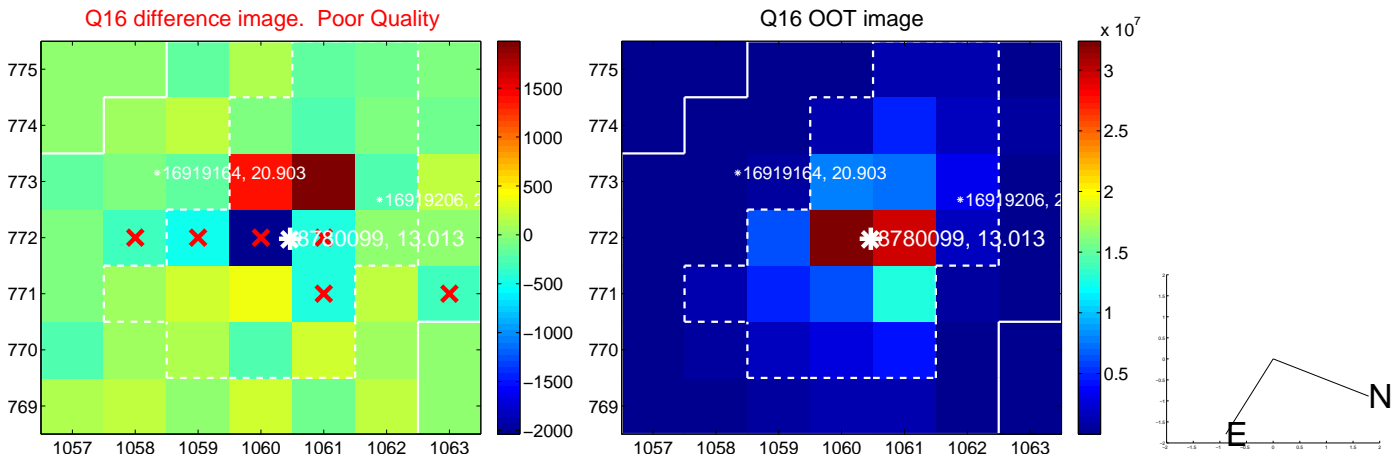
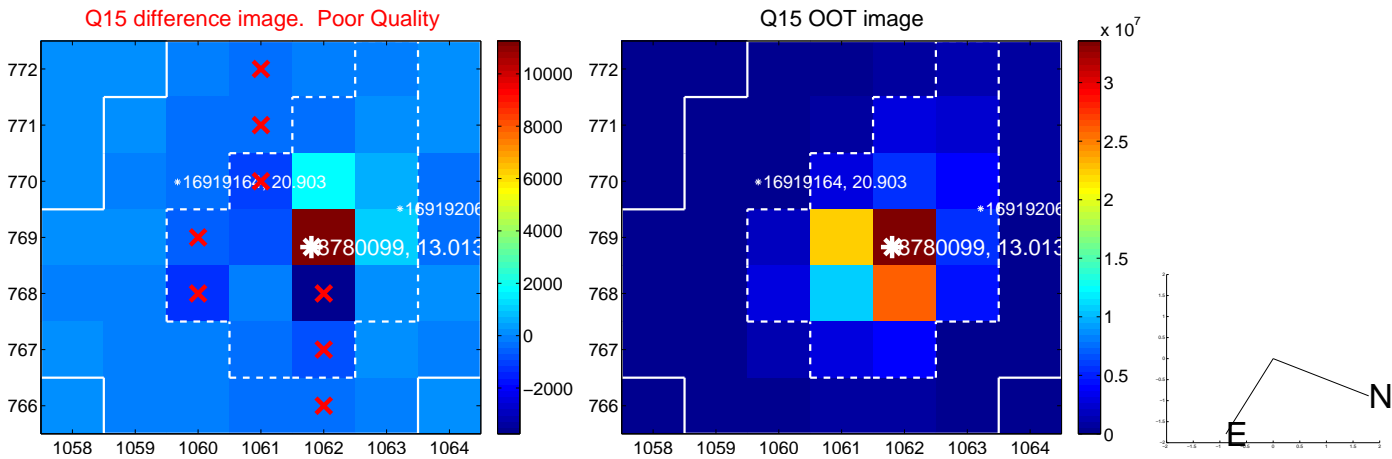
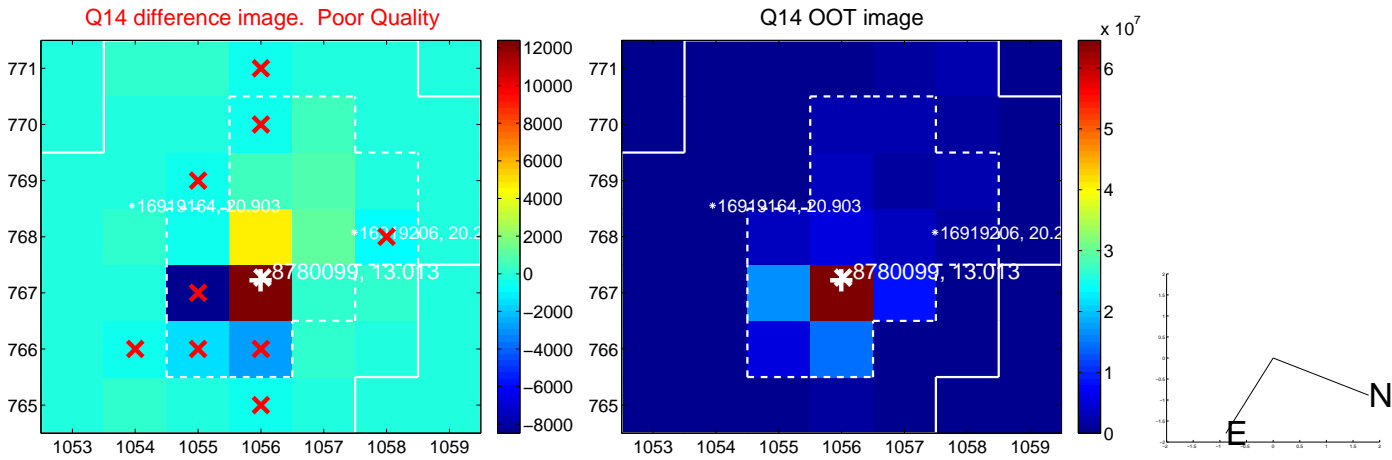
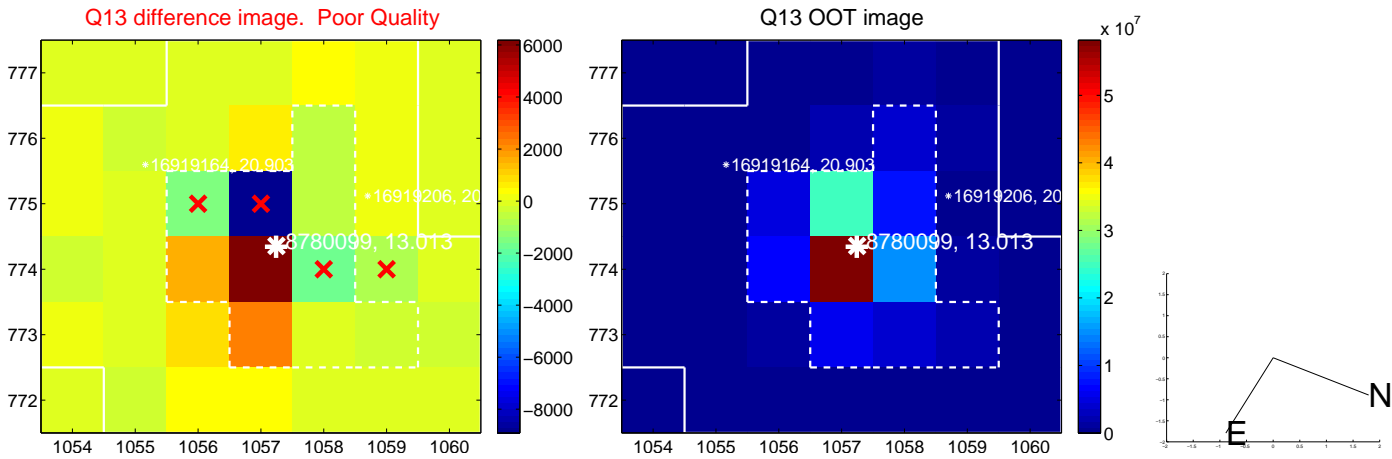
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



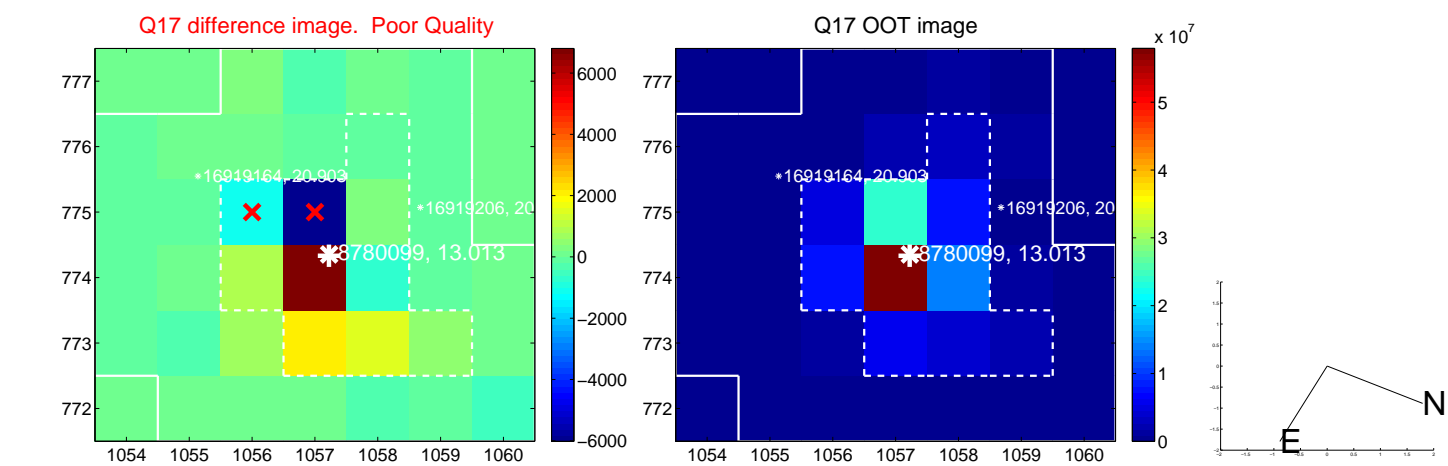
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



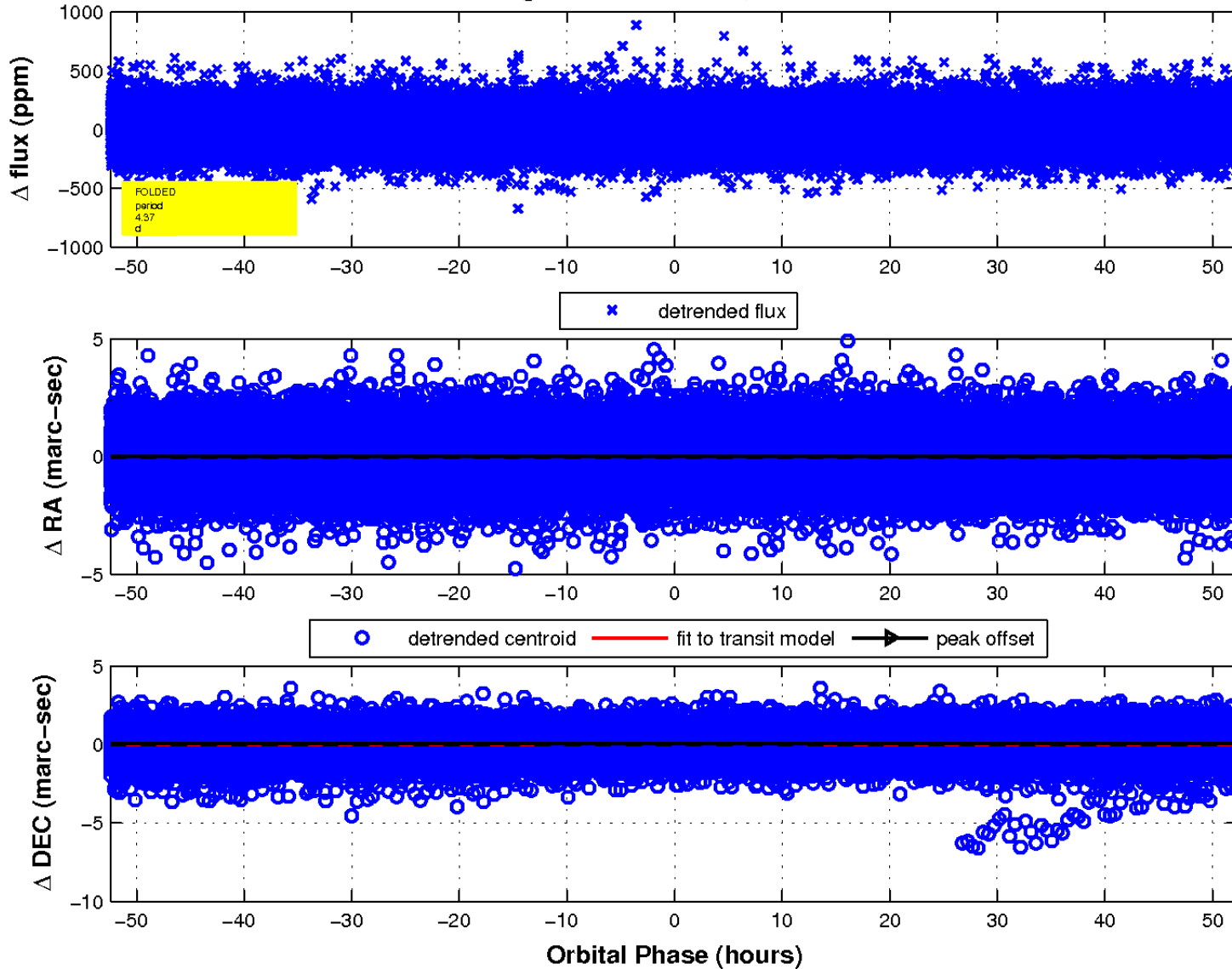
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

