

KIC 009099607

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})
009099607-01	OBS	7925.01	4.631882	133.712493	49.9	3.574	7.5	7.7	0.89	5926	0.74	298.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009099607-01	OBS	PC	0.95	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.

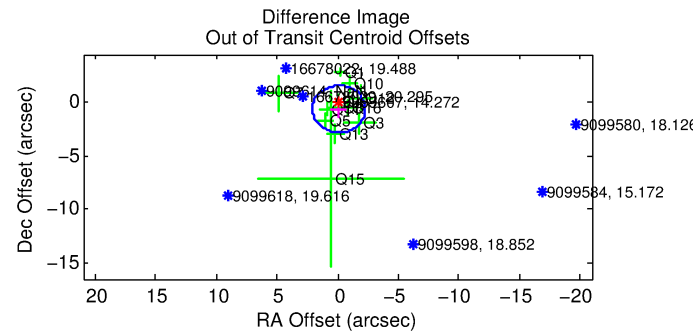
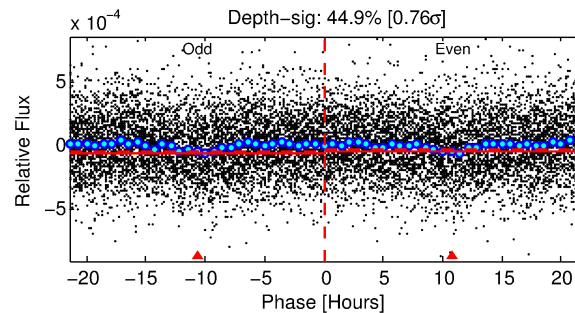
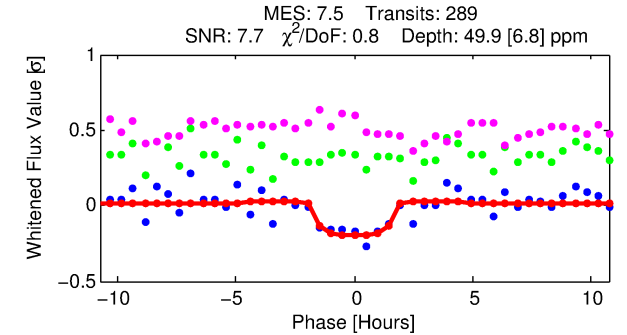
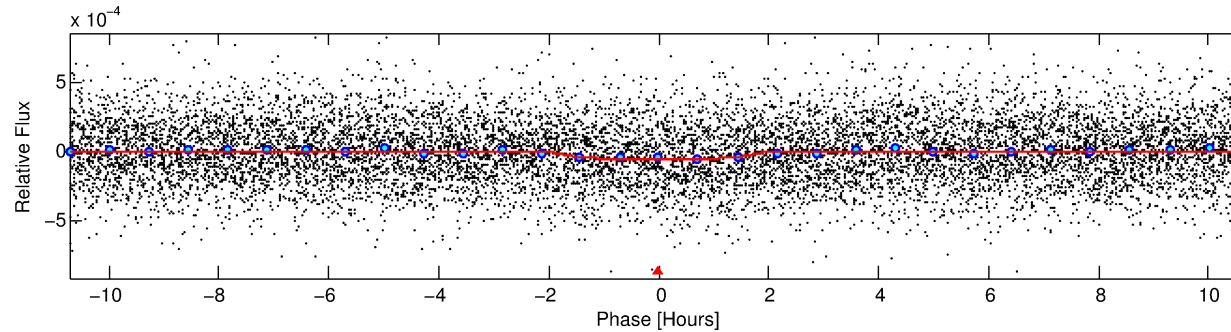
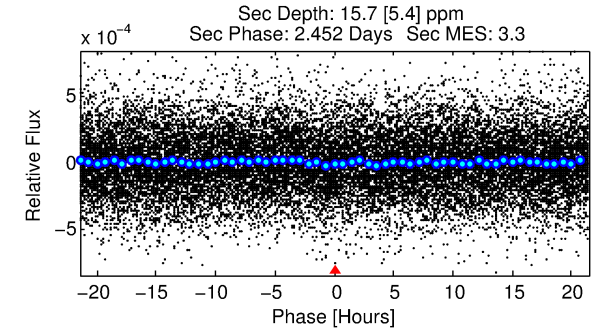
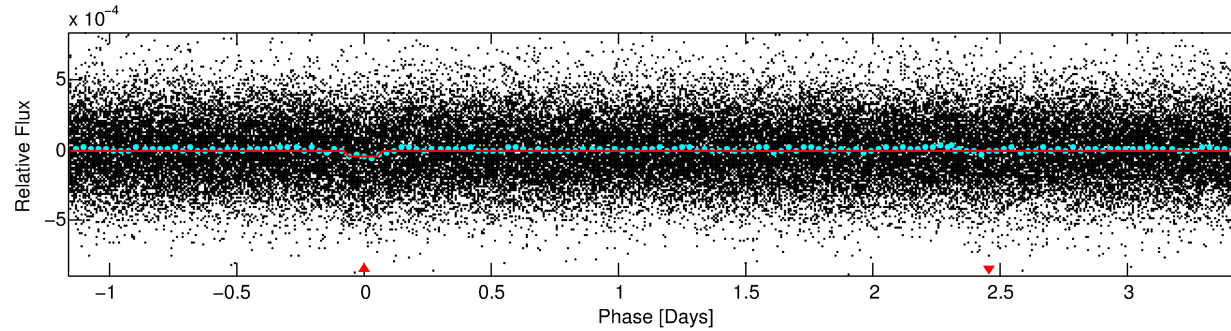
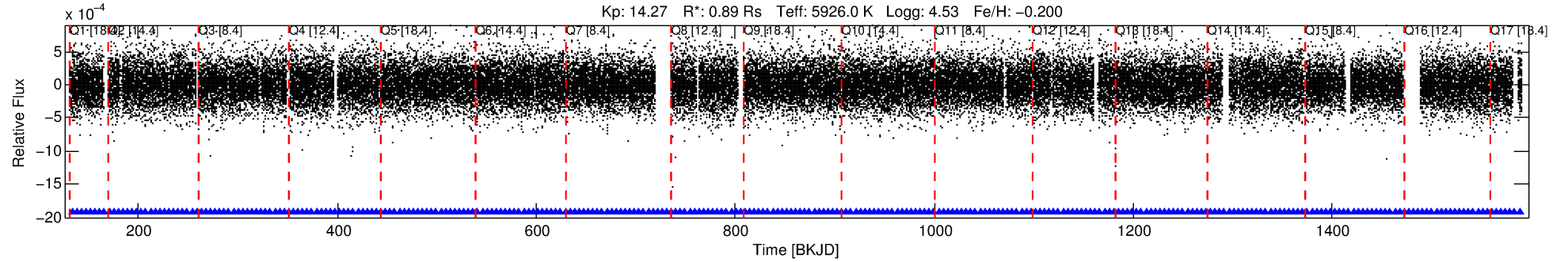
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009099607-01

No Significant Match Found

DV One-Page Summary

KIC: 9099607 Candidate: 1 of 1 Period: 4.632 d



DV Fit Results:

Period = 4.63188 [0.00005] d
Epoch = 133.7125 [0.0071] BKJD
Rp/R* = 0.0076 [0.0050]
a/R* = 4.58 [14.77]
b = 0.90 [0.73]
Seff = 298.46 [115.68]
Teff = 1060 [103] K
Rp = 0.74 [0.53] Re
a = 0.0540 [0.0135] AU
Ag = 45.94 [64.93] [0.69σ]
Teffp = 4266 [1461] K [2.19σ]

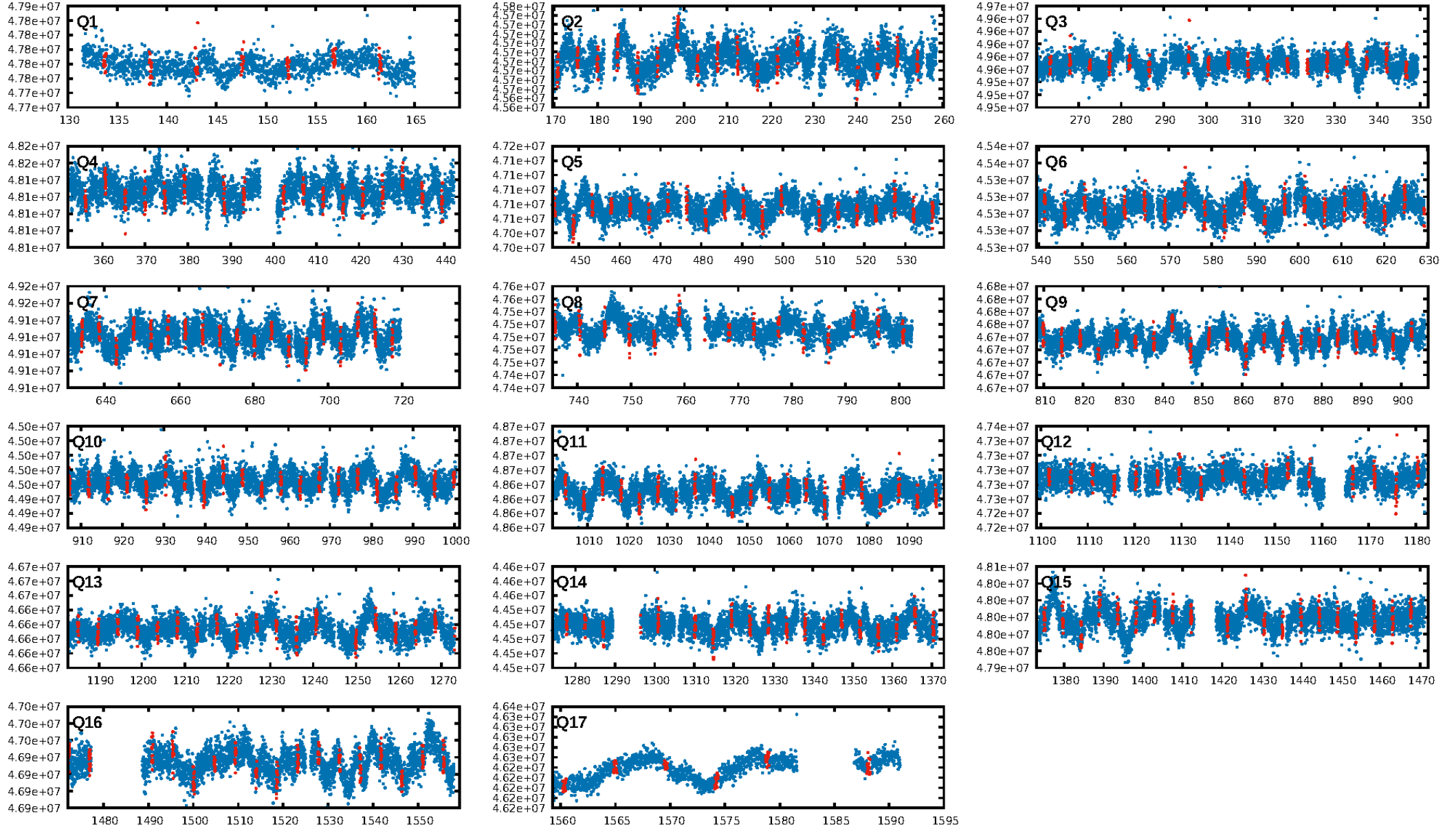
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.19e-14
RollingBand-fgt: 1.00 [276/276]
GhostDiagnostic-chr: -8.145
Centroid-sig: 12.4%
Centroid-so: 2.377 arcsec [1.66σ]
OotOffset-rm: 0.616 arcsec [0.84σ]
KicOffset-rm: 0.689 arcsec [0.94σ]
OotOffset-st: 1/4/4/3 [12]
KicOffset-st: 1/4/4/3 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [17/17]

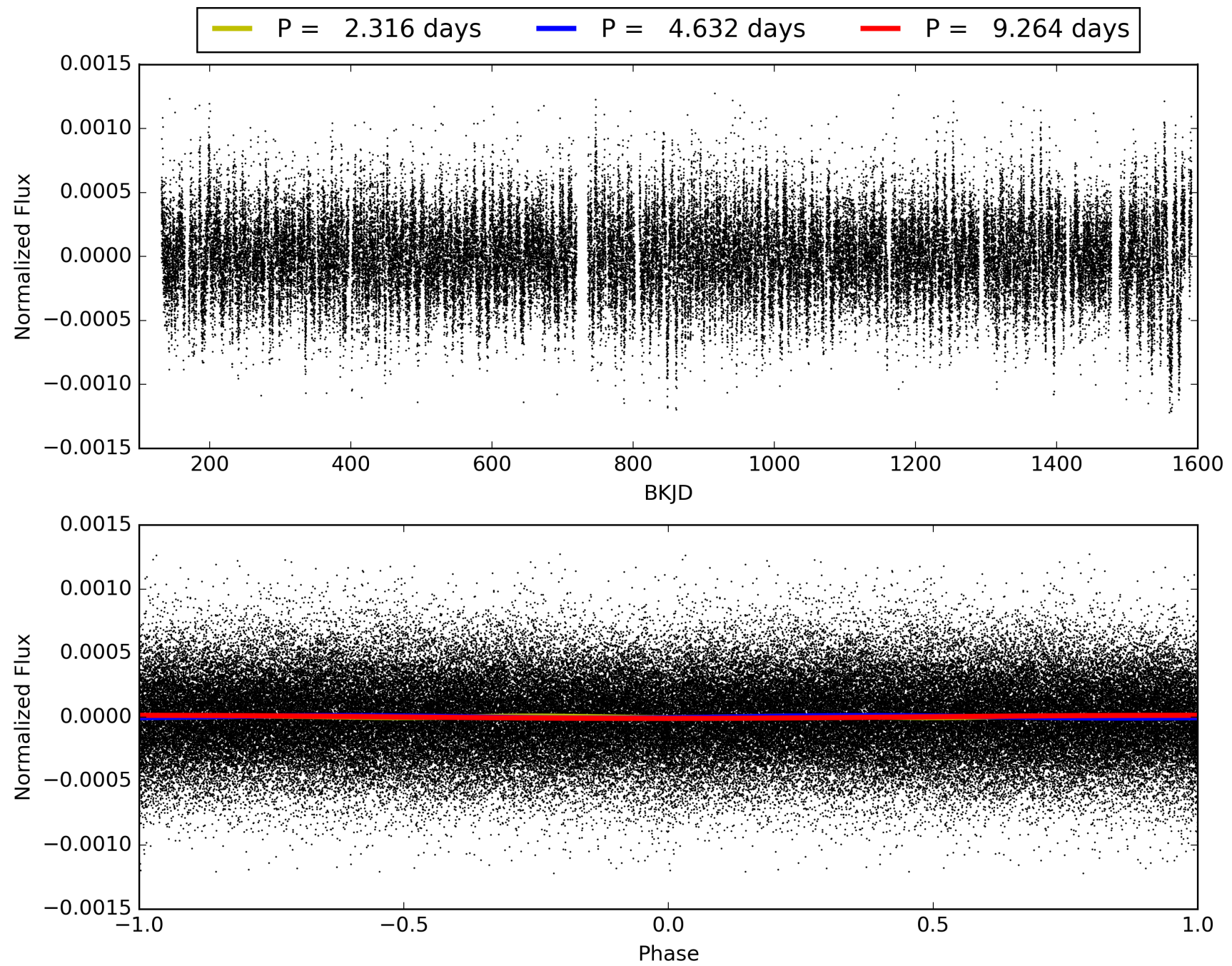
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:19:47 Z

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

TCE 009099607-01, PDC Light Curves

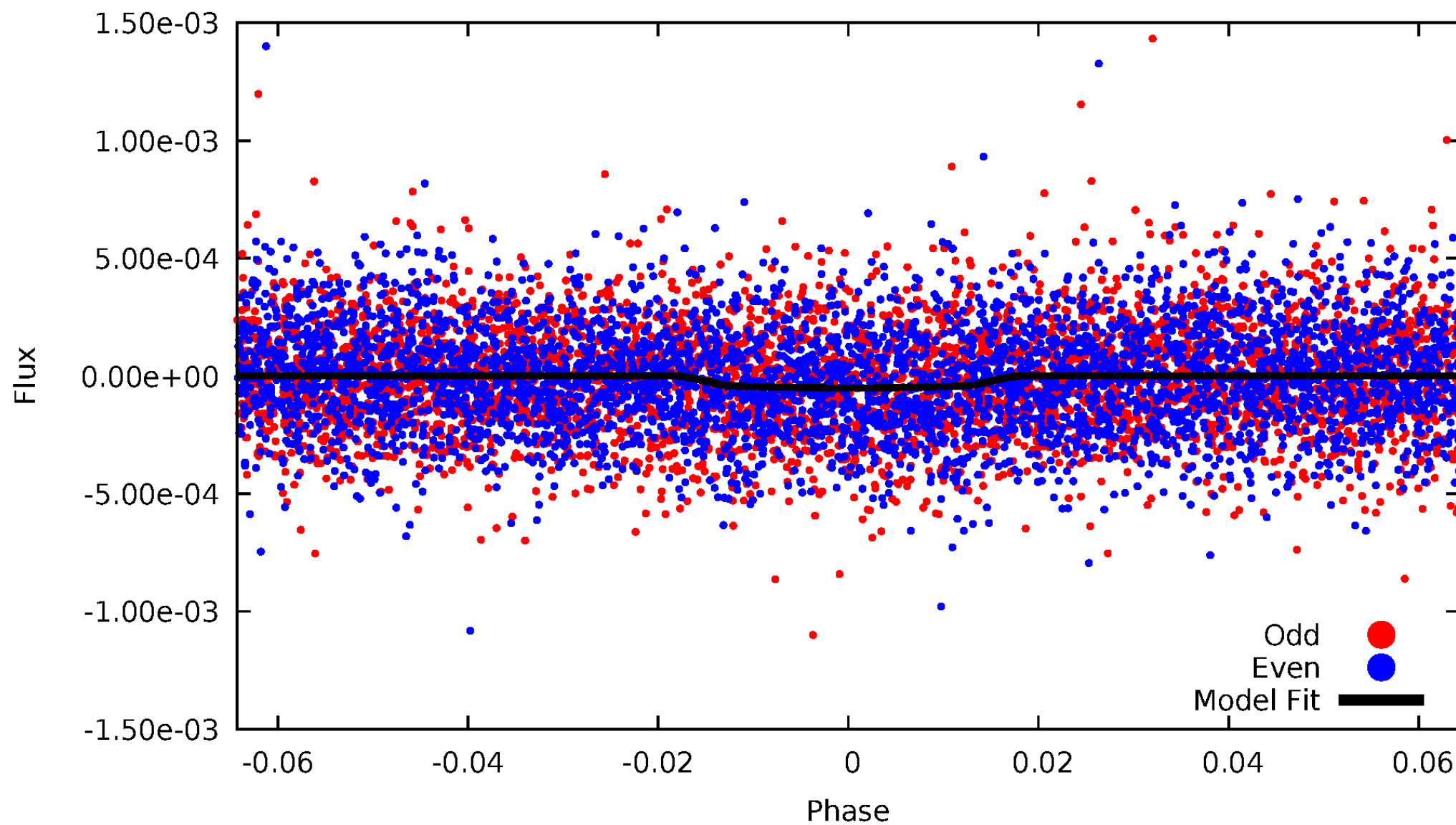


TCE 009099607-01



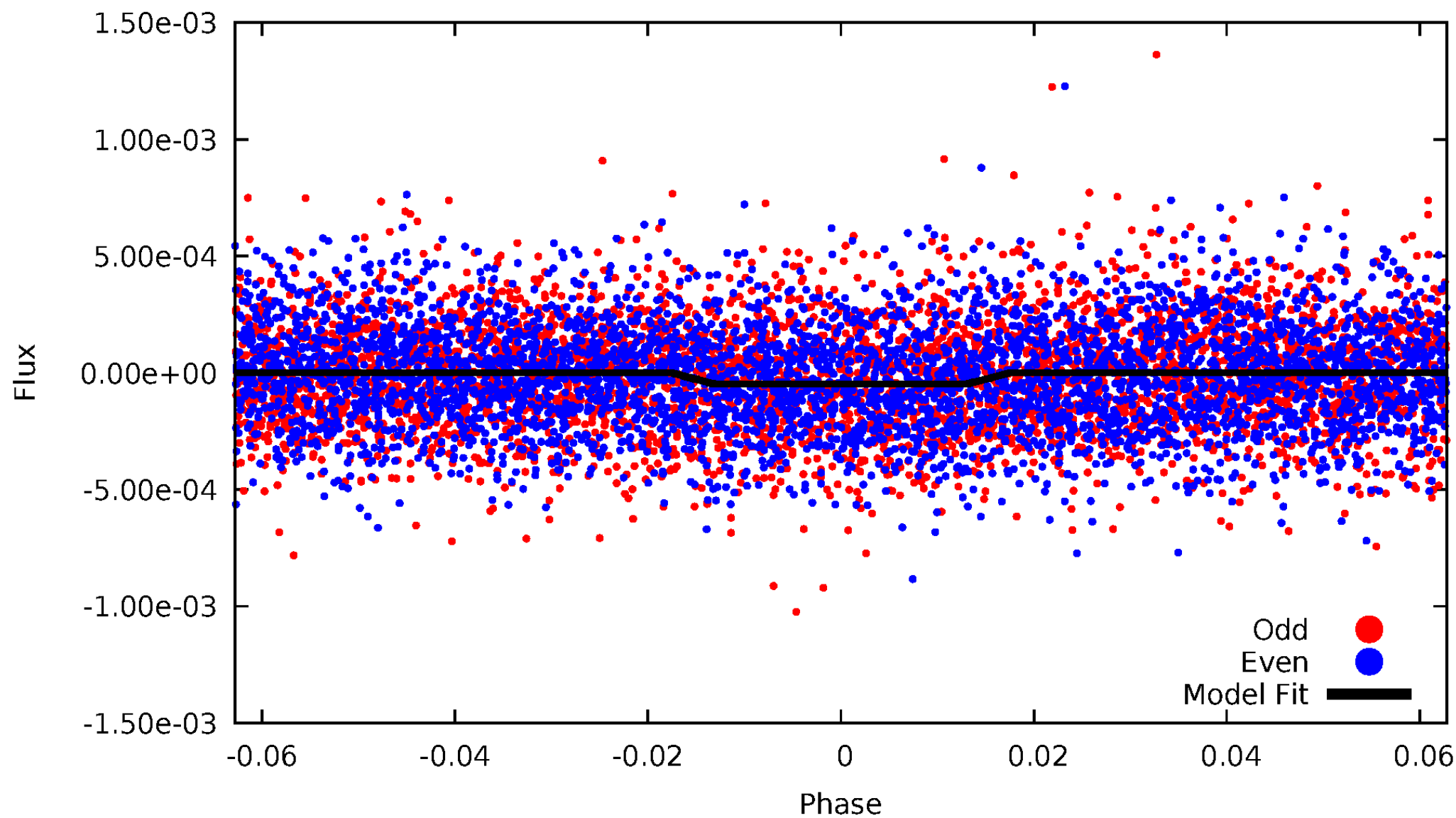
DV Odd/Even

TCE 009099607-01



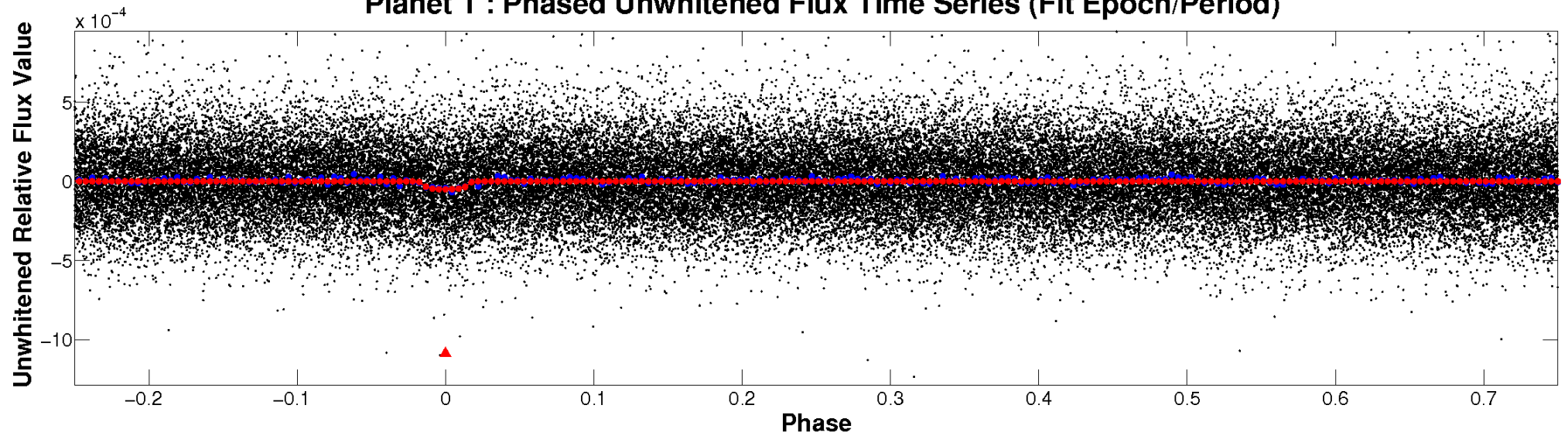
ALT Odd/Even

TCE 009099607-01

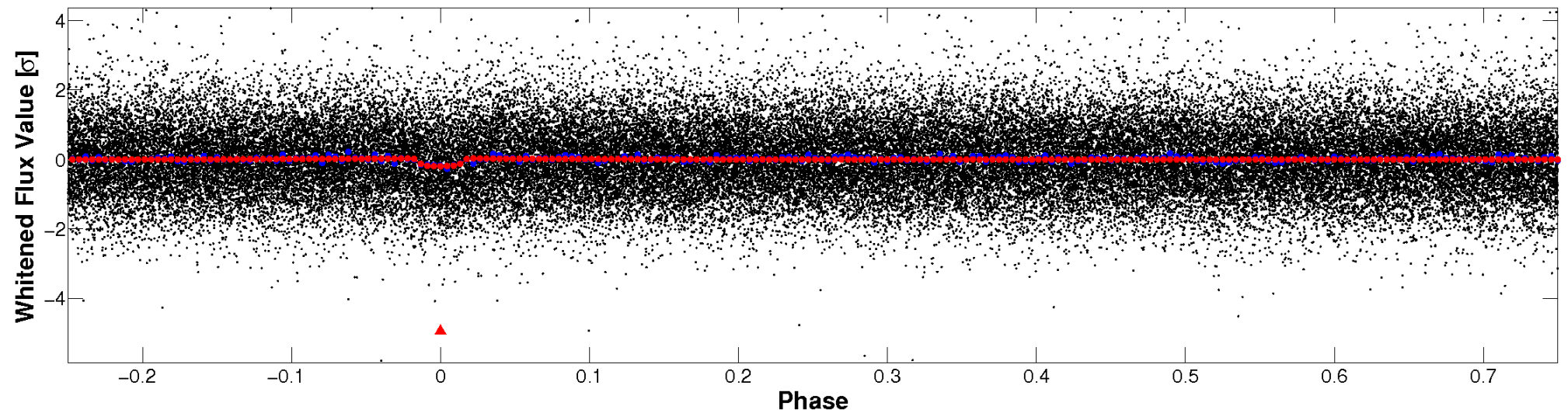


Non-Whitened Vs. Whitened Light Curve

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

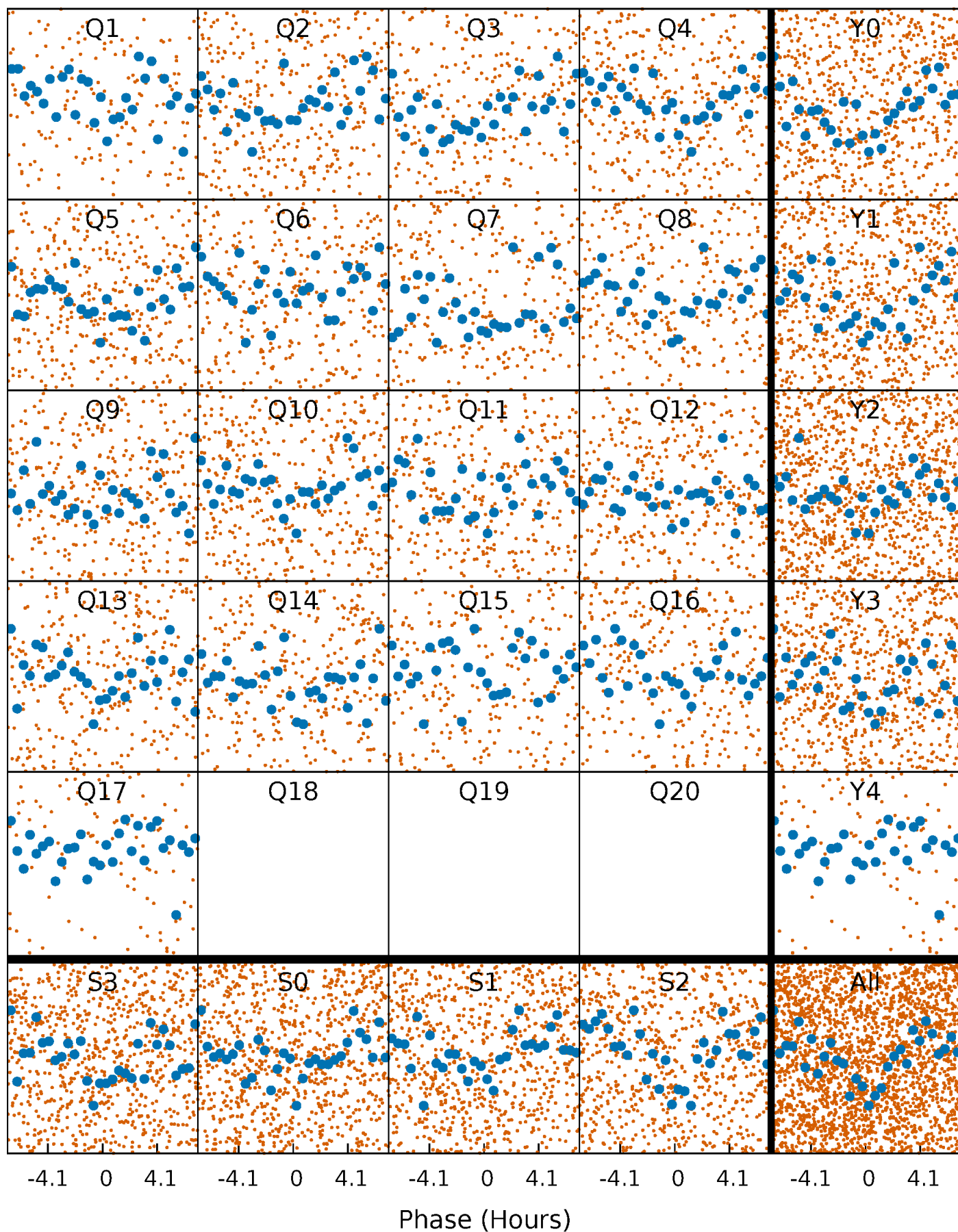


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



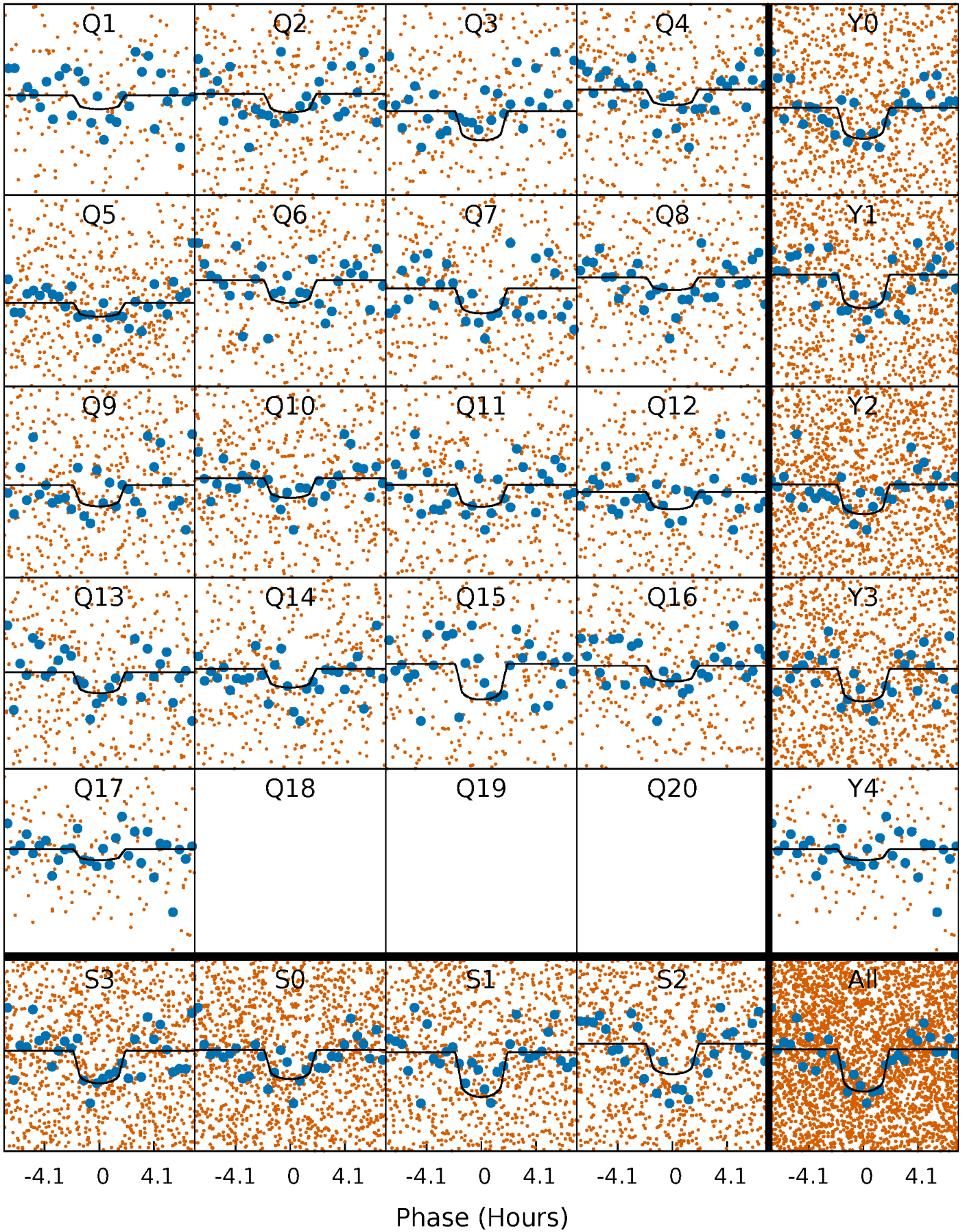
PDC Quarter-Phased Transit Curves

TCE 009099607-01 P= 4.631882 Days $T_0=133.712493$ (BKJD)



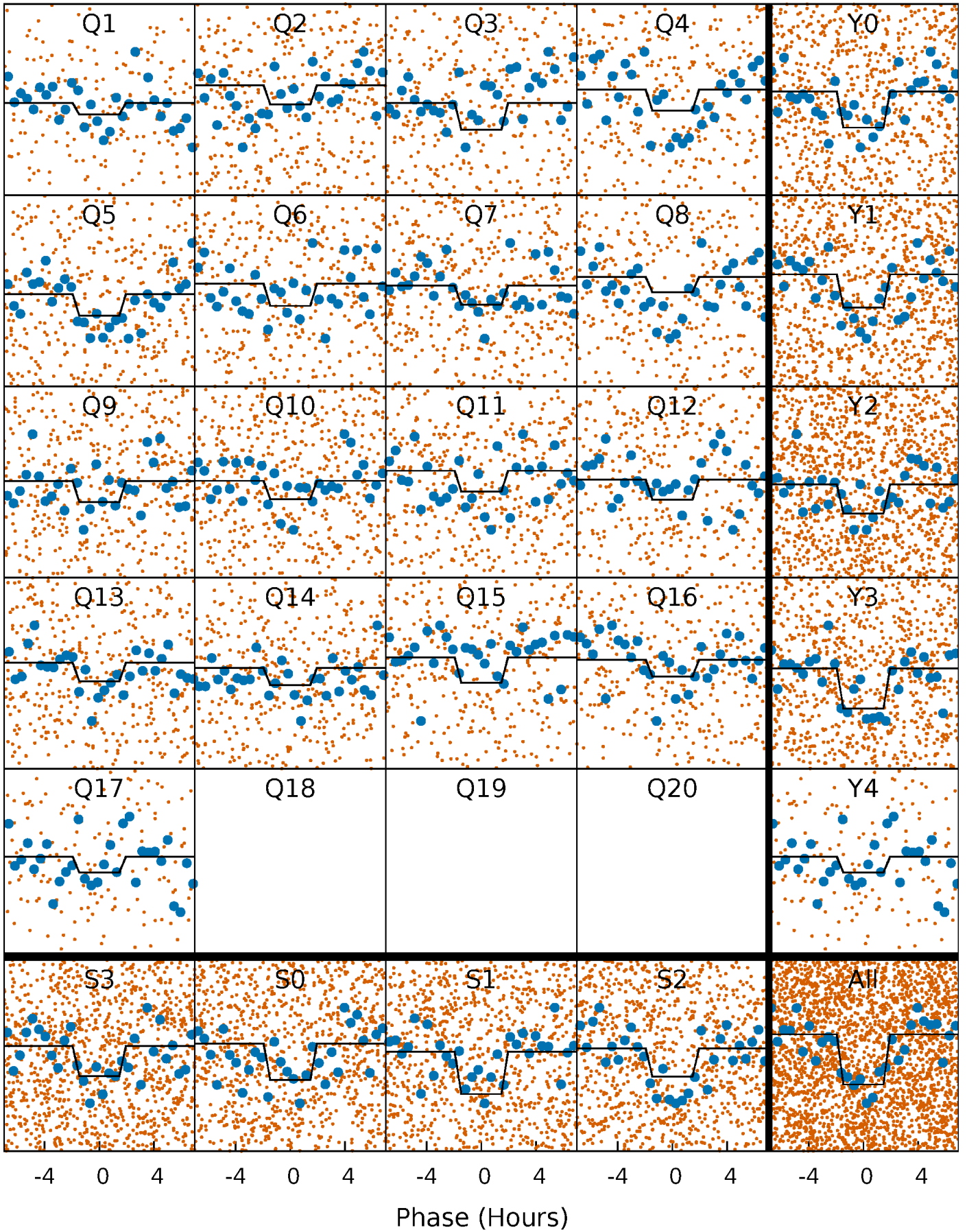
DV Quarter-Phased Transit Curves

TCE 009099607-01 P= 4.631882 Days $T_0=133.712493$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

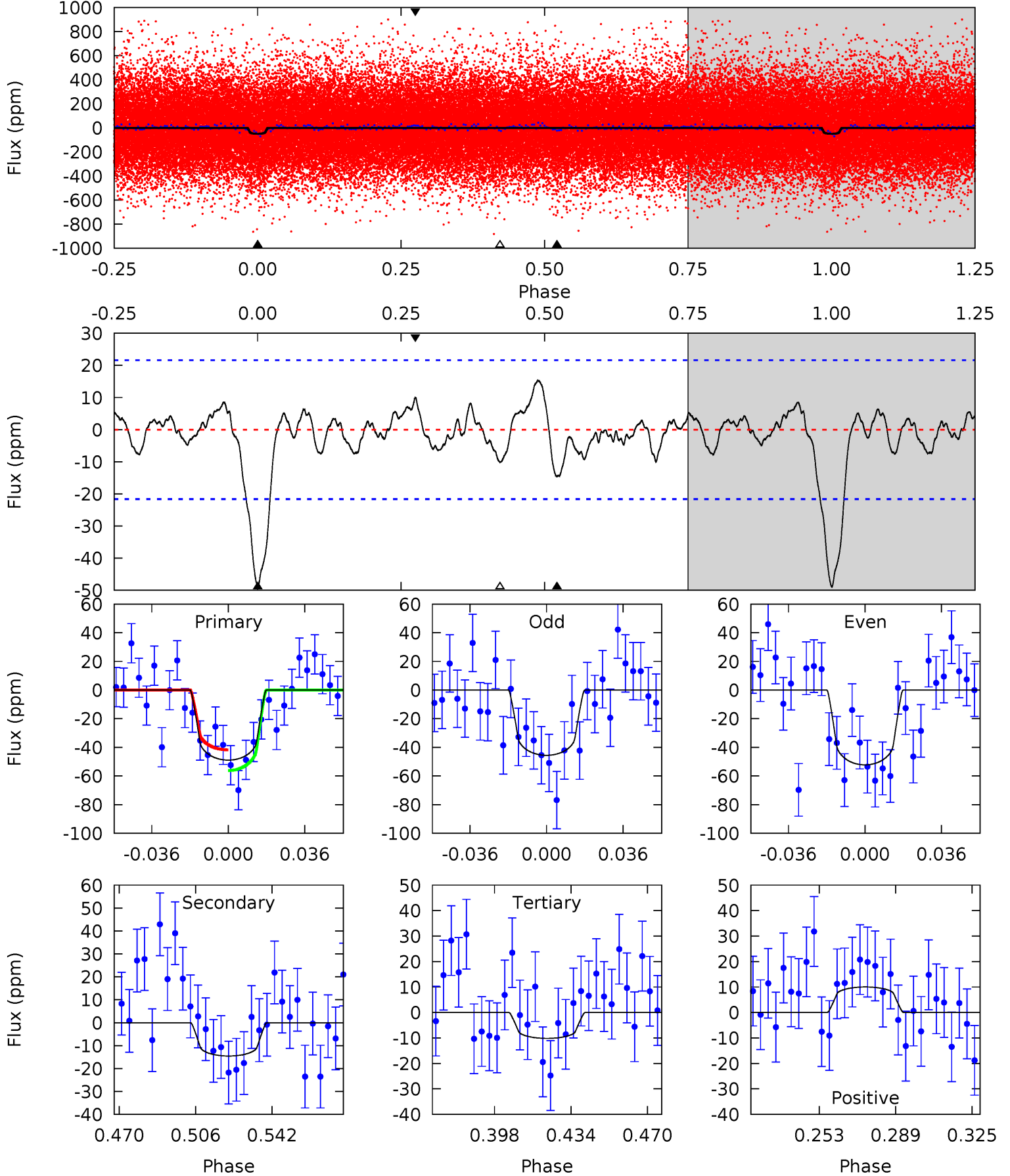
TCE 009099607-01 P= 4.631802 Days $T_0=133.727228$ (BKJD)



DV Model-Shift Uniqueness Test

009099607-01, P = 4.631882 Days, E = 129.080611 Days

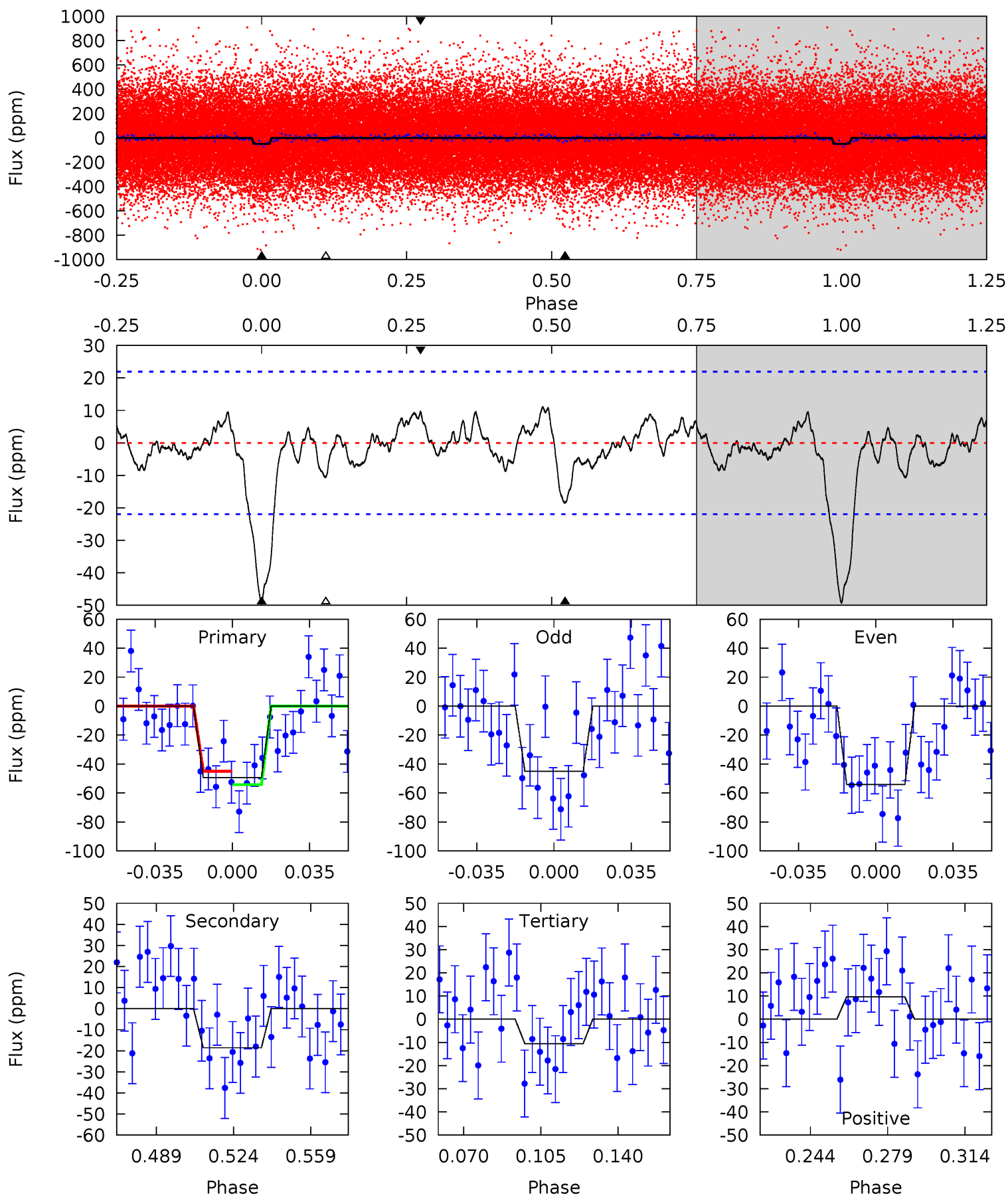
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	3.21	2.24	2.21	4.77	2.10	0.99	8.56	8.59	0.97	1.00	0.74	0.96	0.24	1.60



Alt Model-Shift Uniqueness Test

009099607-01, P = 4.631802 Days, E = 129.095426 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	4.04	2.31	2.11	4.78	2.11	0.99	8.43	8.64	1.73	1.94	0.99	1.02	0.18	1.00



Stellar Parameters For KIC 009099607

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5926^{+142}_{-177}	$4.532^{+0.036}_{-0.204}$	$-0.200^{+0.300}_{-0.300}$	$0.887^{+0.259}_{-0.086}$	$0.978^{+0.119}_{-0.119}$	$1.971^{+0.395}_{-1.029}$
	+2%/-3%	+1%/-5%	+150%/-150%	+29%/-10%	+12%/-12%	+20%/-52%
Source	PHO1	KIC0	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 009099607-01 / KOI 7925.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-15 ± 5	$0.80^{+0.50}_{-0.42}$	1517^{+106}_{-70}	4342^{+1607}_{-769}	36^{+123}_{-24}
Alt.	-19 ± 5	$0.75^{+0.50}_{-0.45}$	1521^{+111}_{-67}	4639^{+2624}_{-788}	50^{+286}_{-32}

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

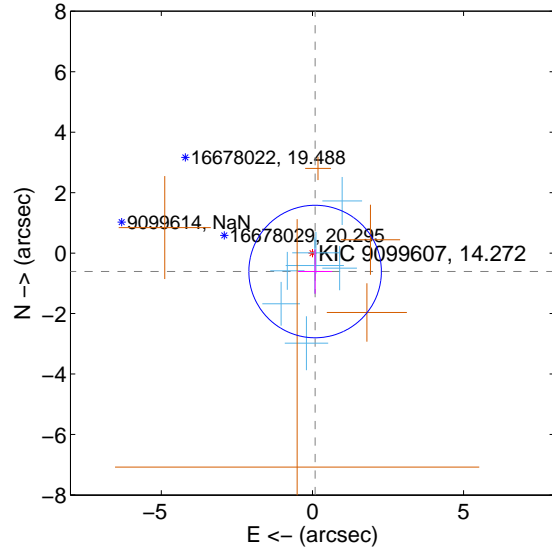
Supplemental centroid analysis for 009099607-01. Kepler magnitude: 14.27. Transit SNR 7.71

There are 7 quarters with good PRF difference image offsets

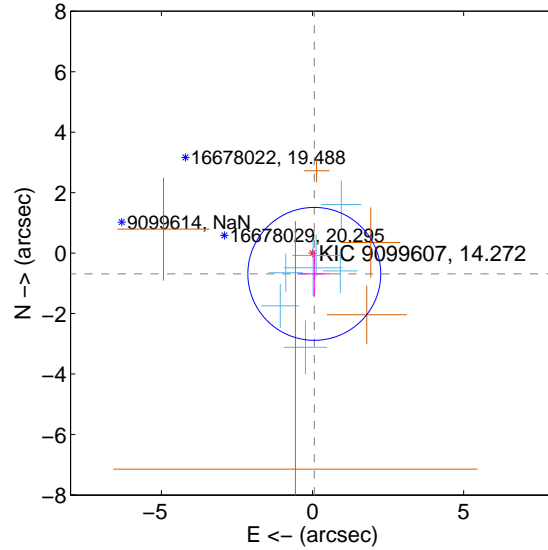
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.616 ± 0.731	0.84	-0.089 ± 0.563	-0.610 ± 0.734
PRF-fit source offset from KIC position	0.689 ± 0.733	0.94	-0.059 ± 0.563	-0.687 ± 0.734
photometric centroid source offset	2.38 ± 1.43	1.66	-2.34 ± 1.43	-0.43 ± 1.59

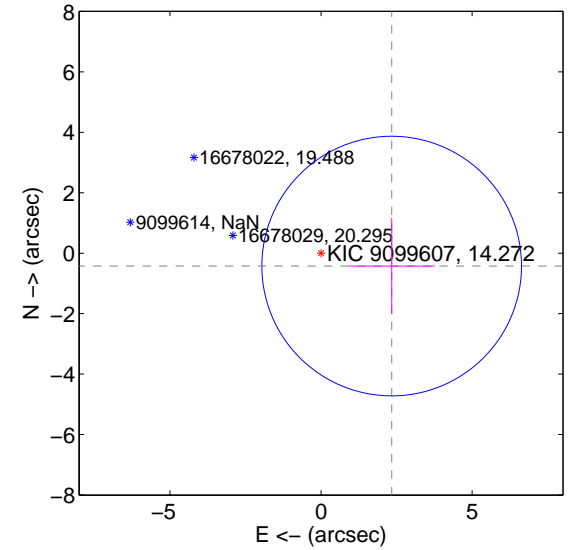
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

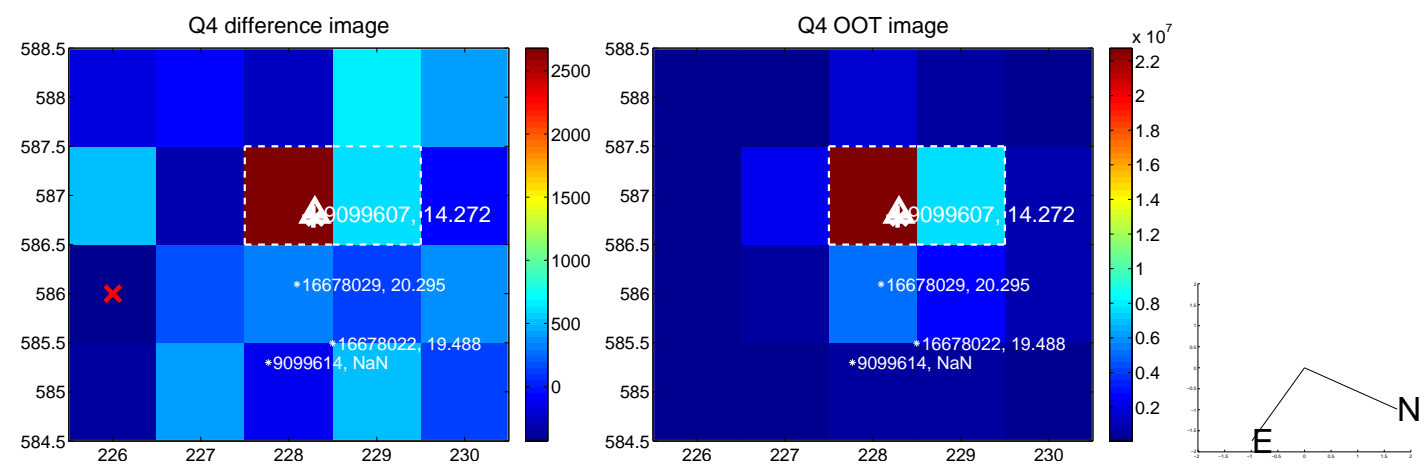
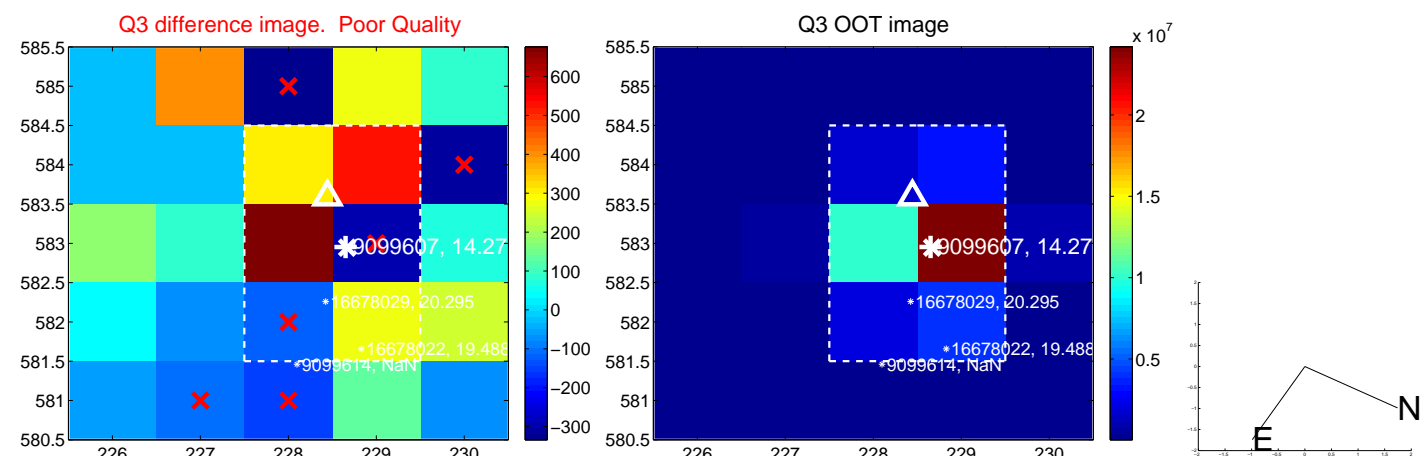
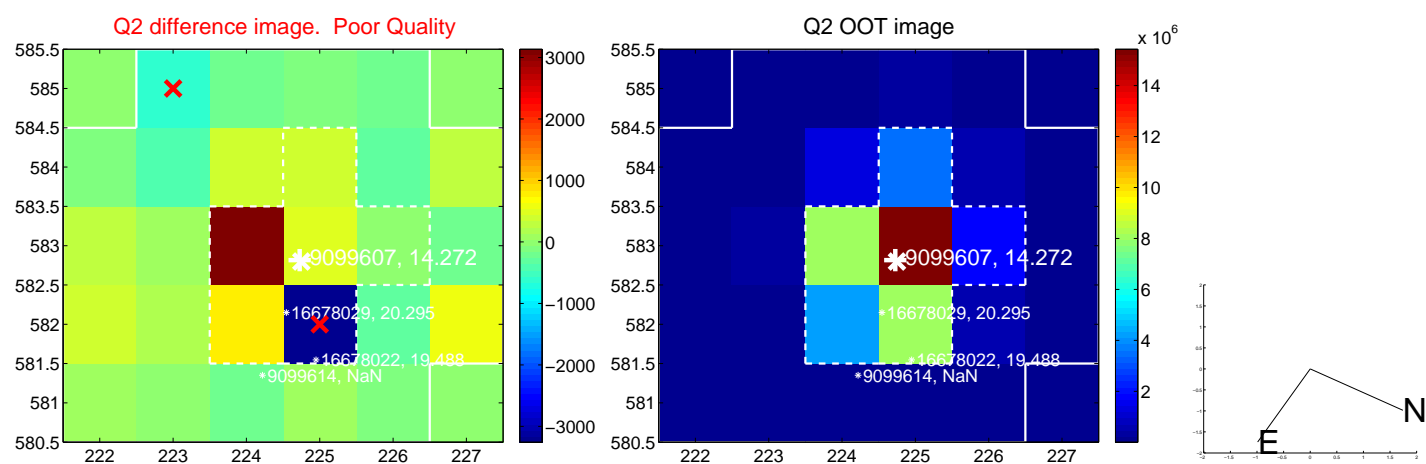
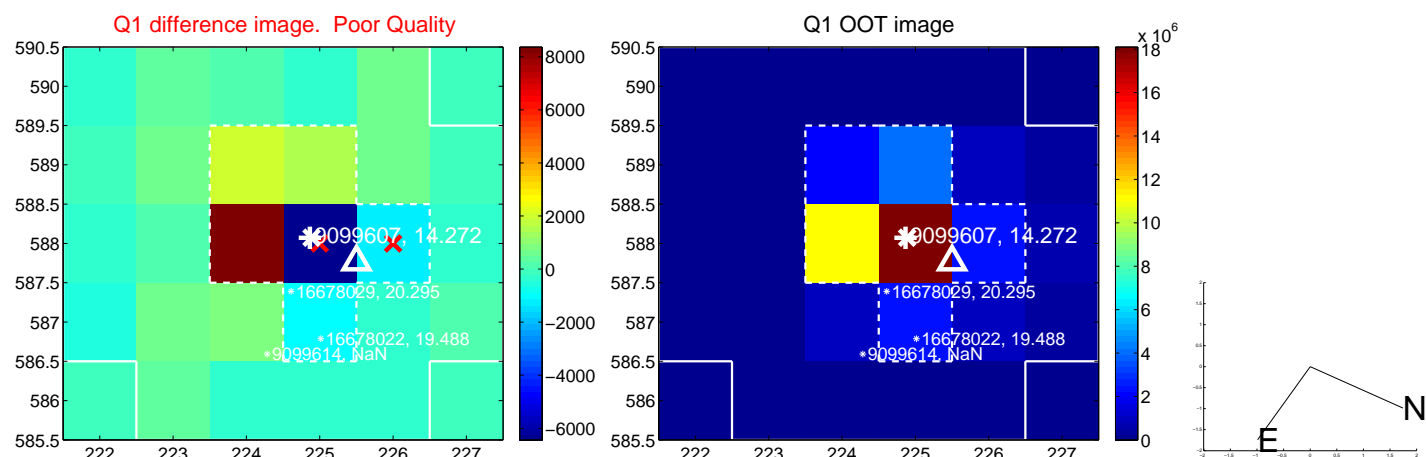


offset from photometric centroids

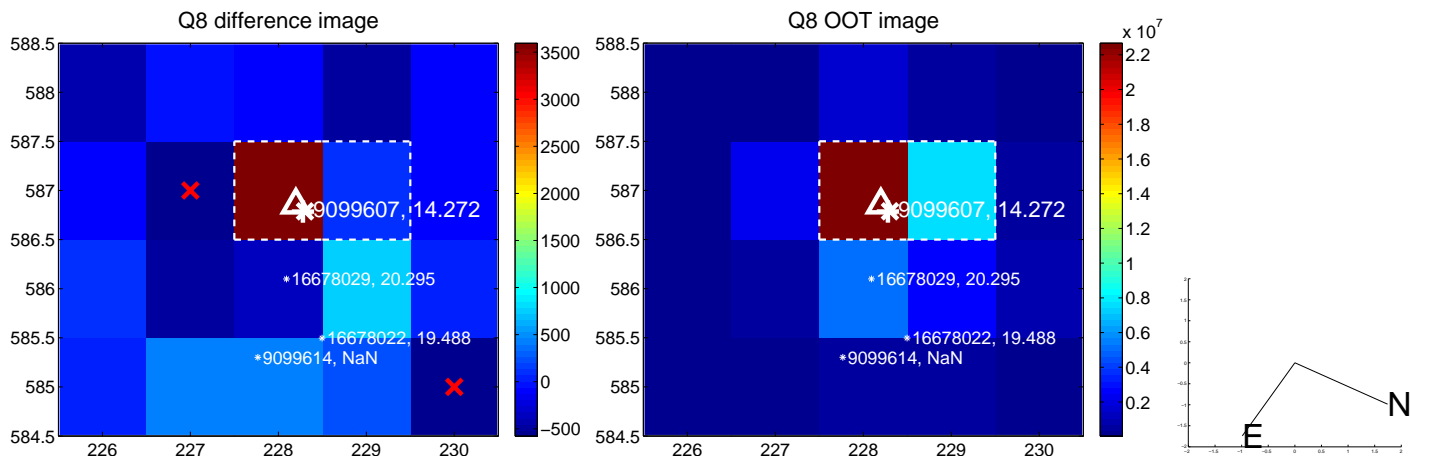
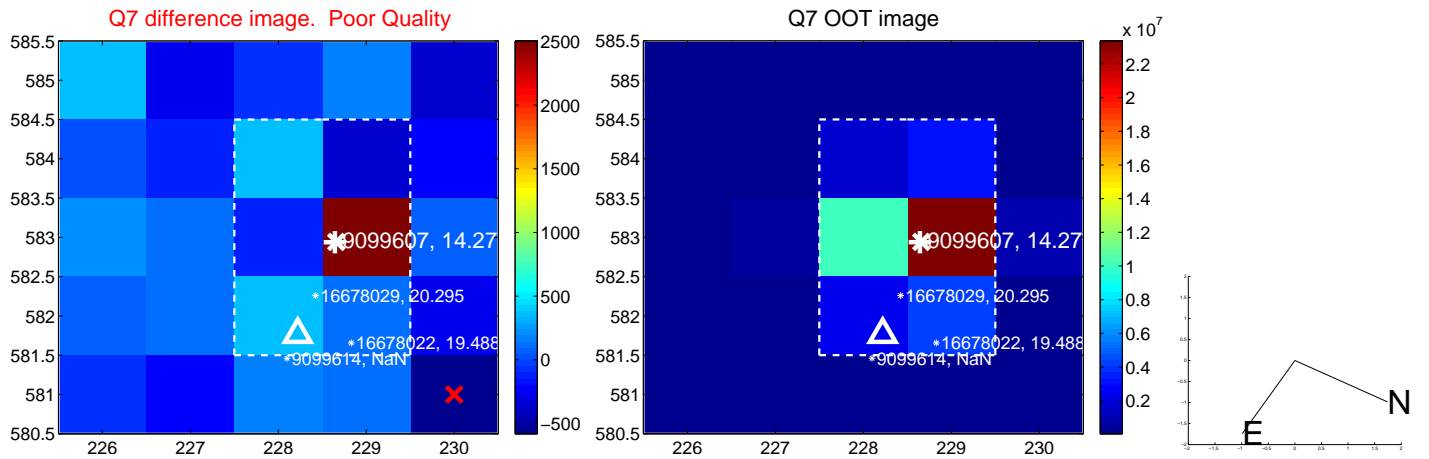
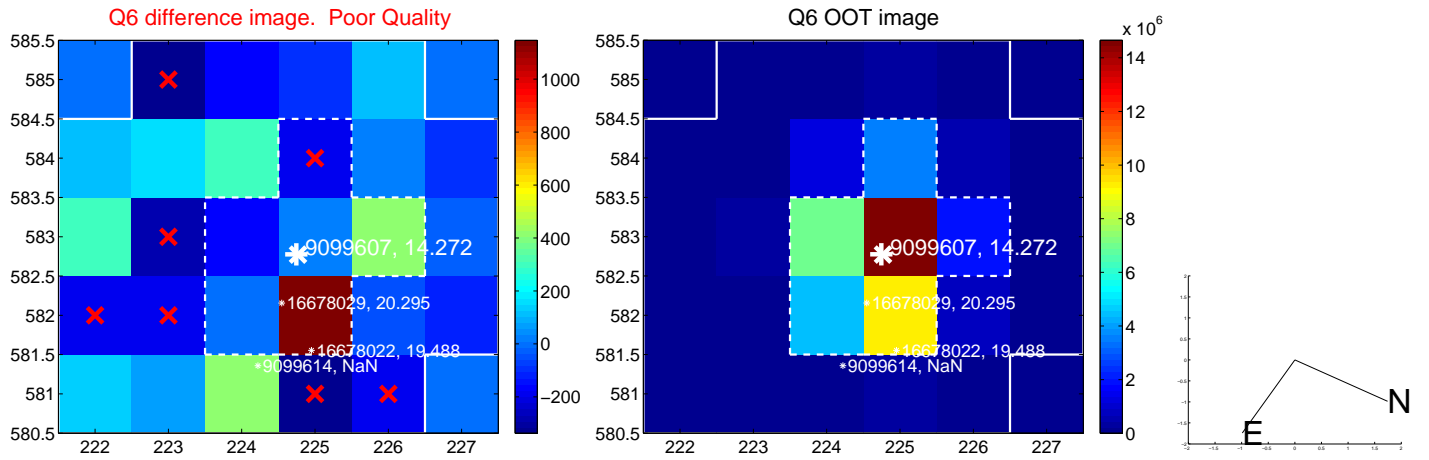
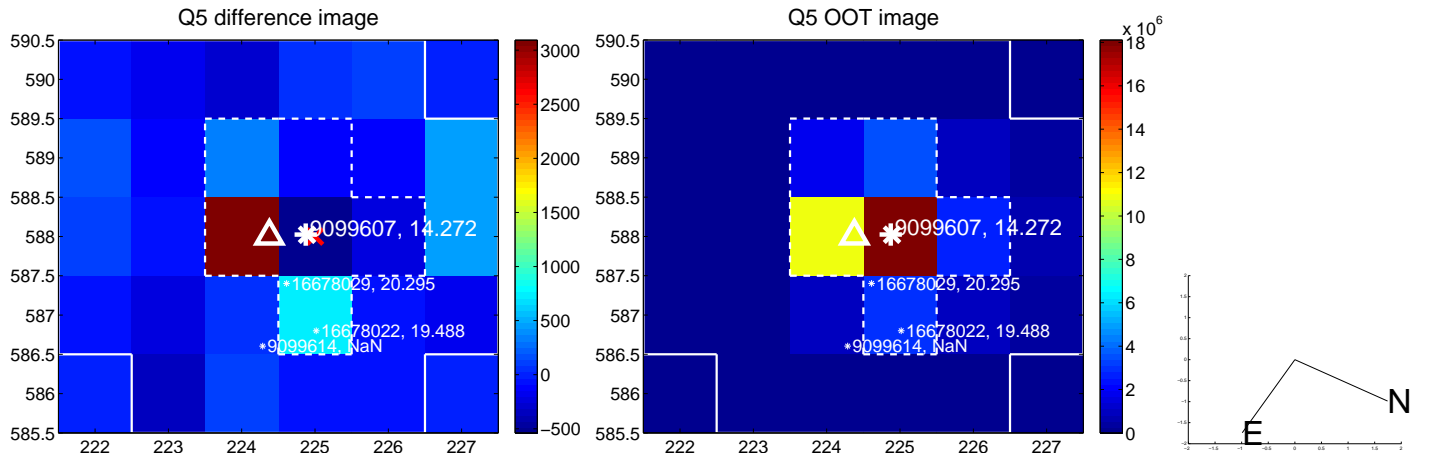


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

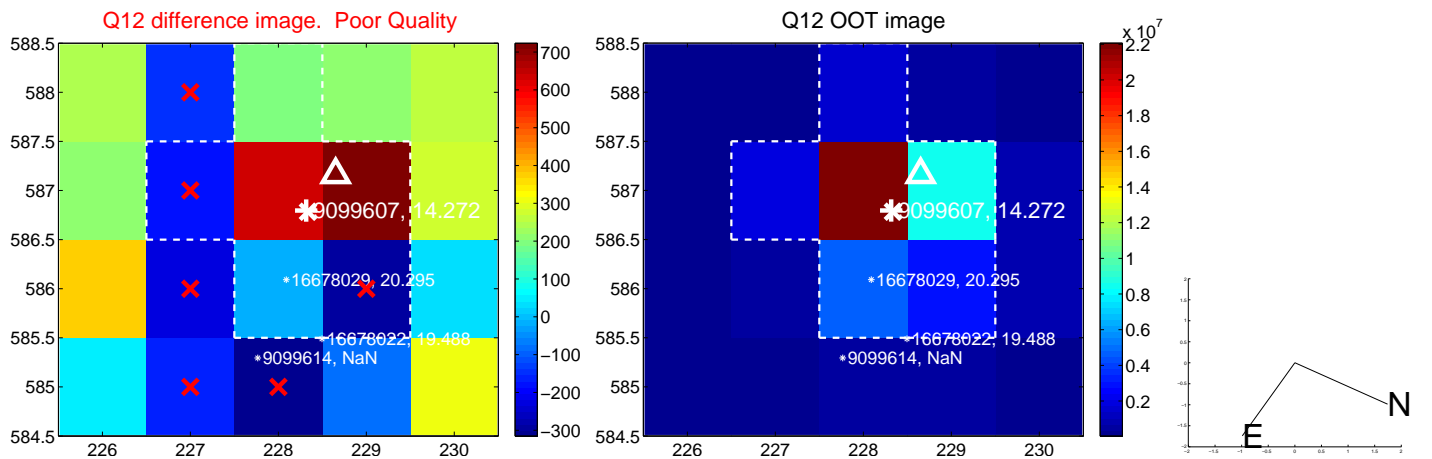
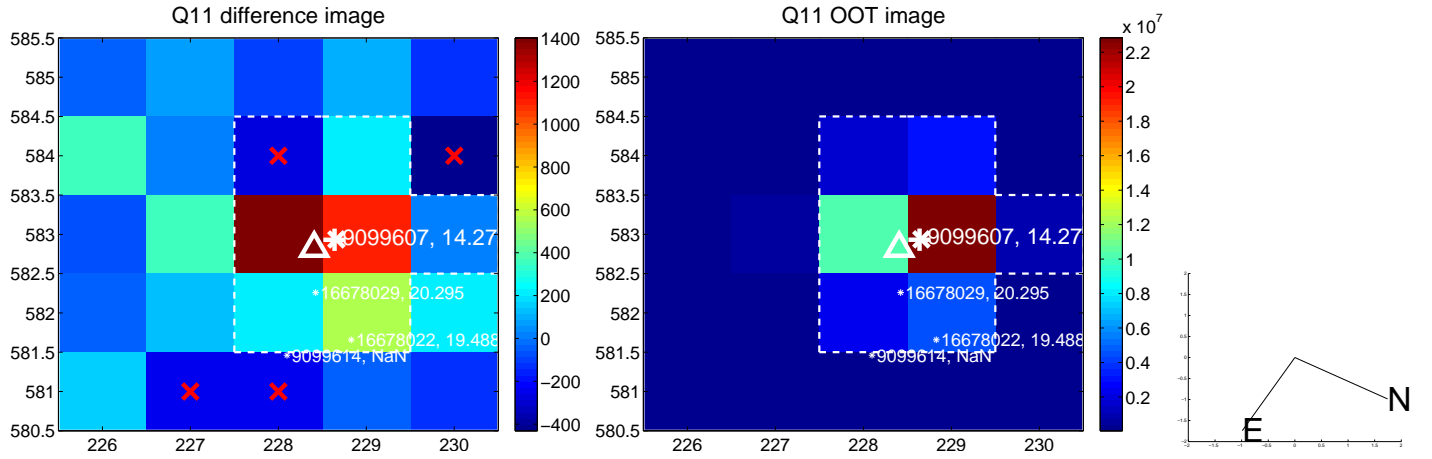
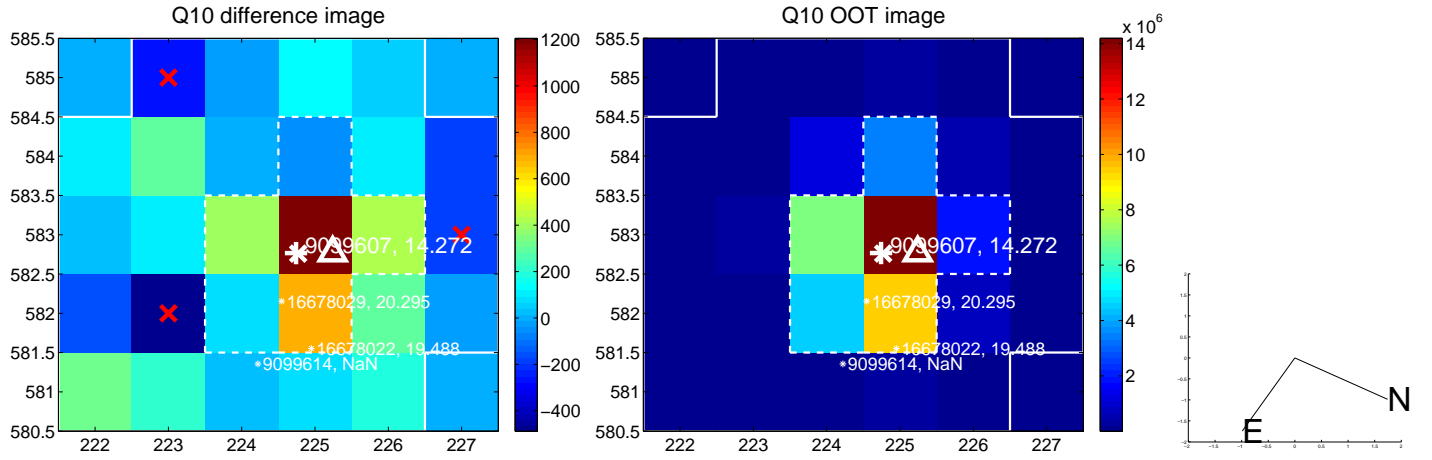
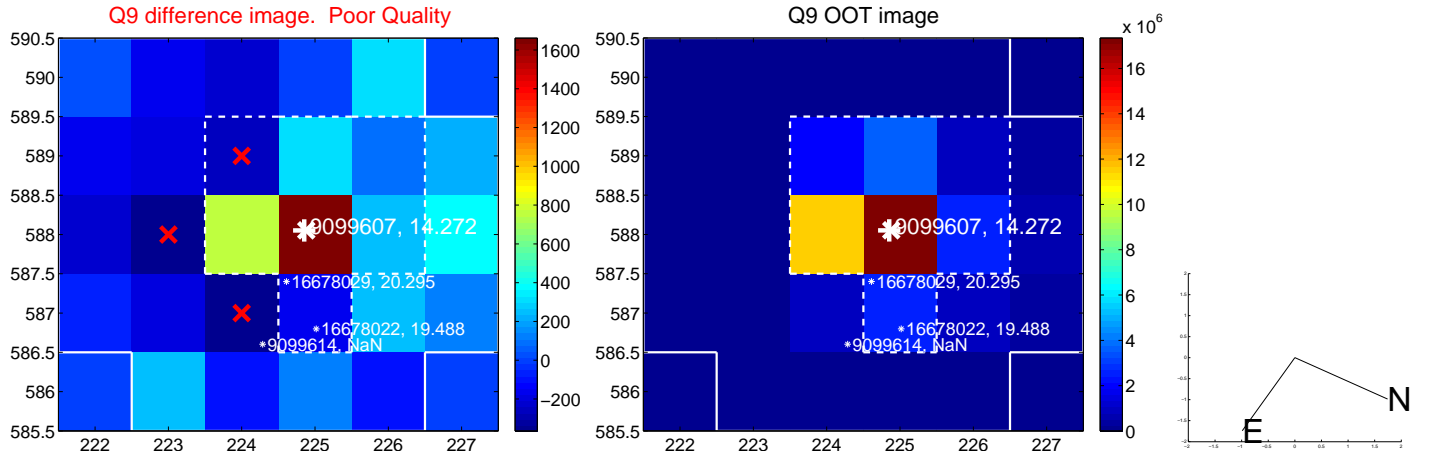
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



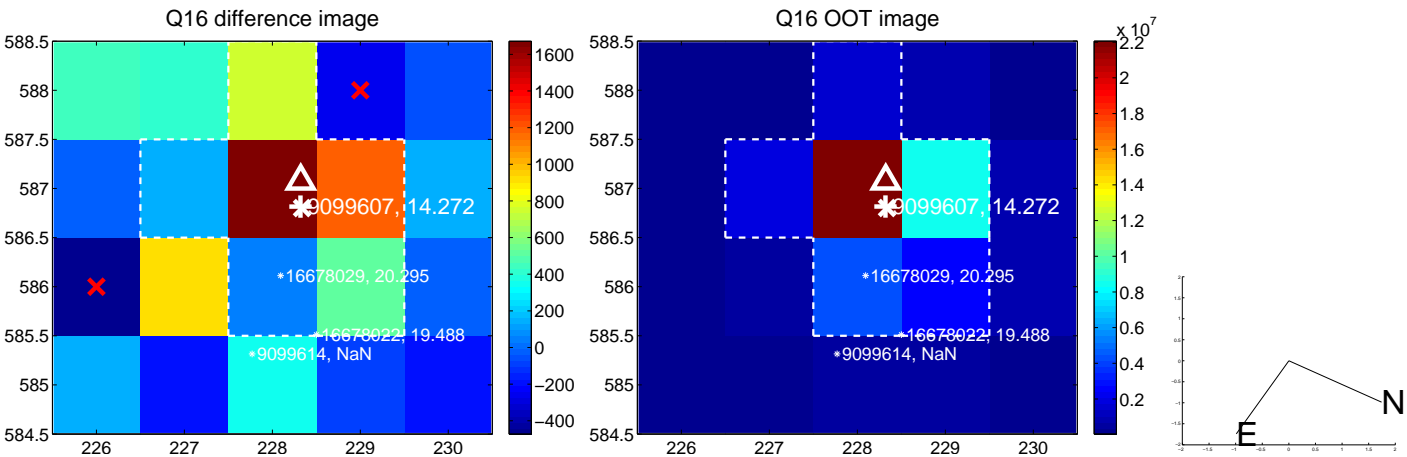
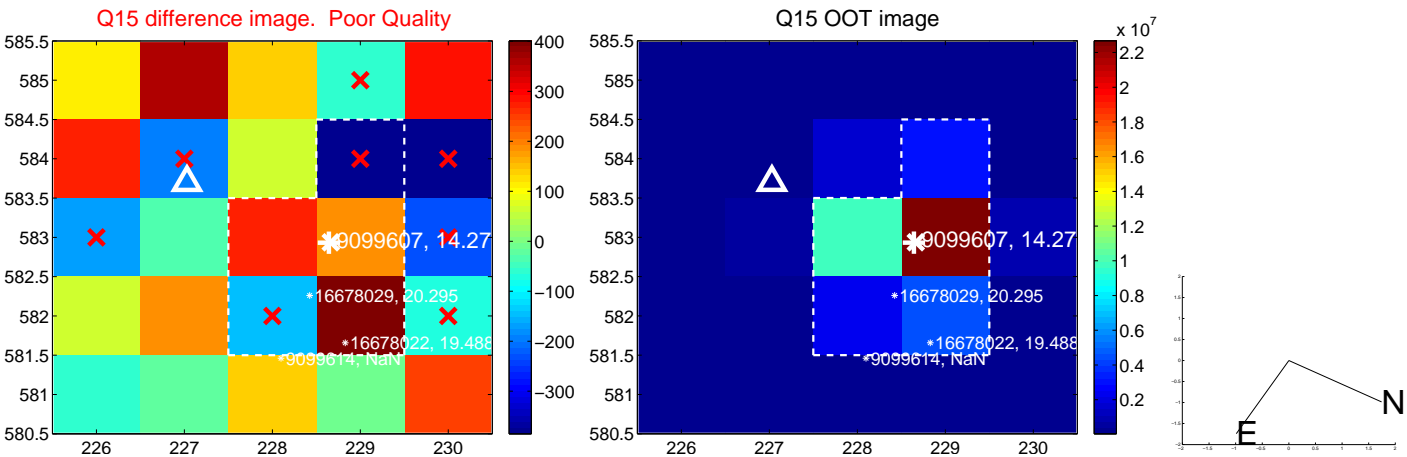
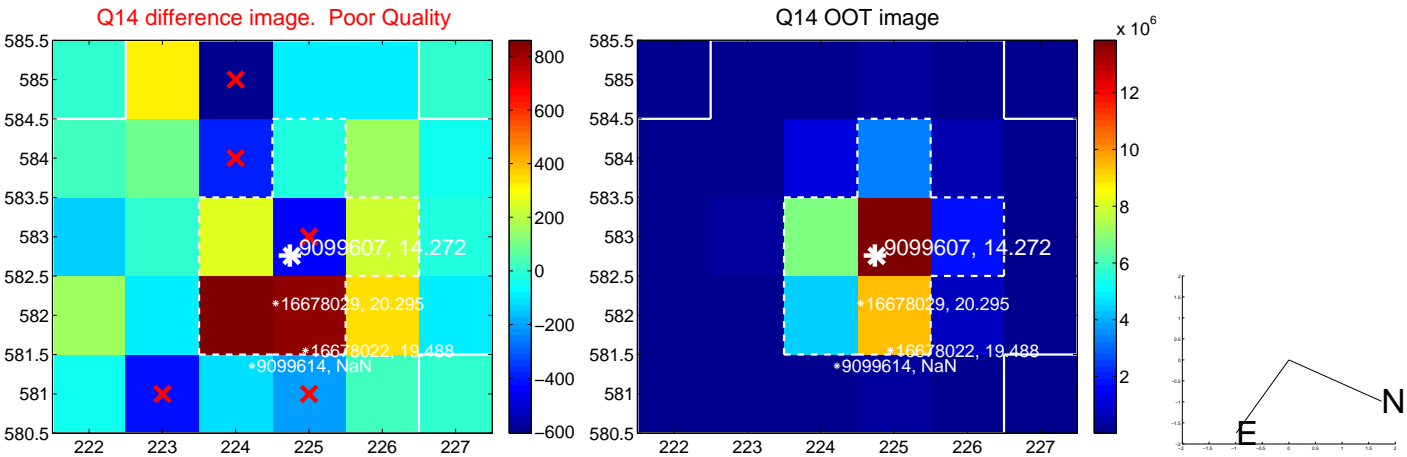
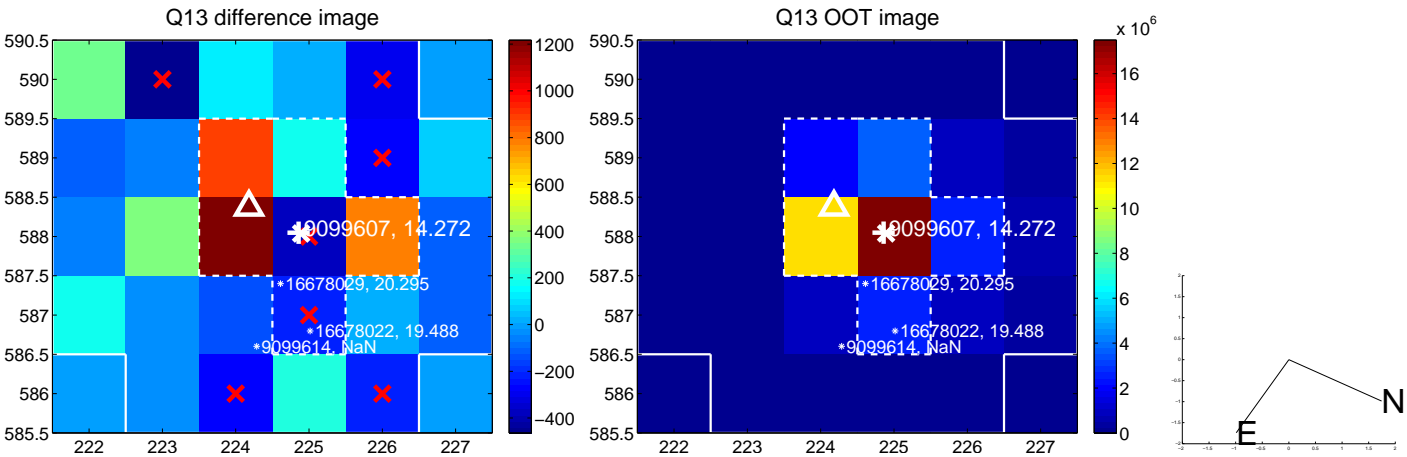
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



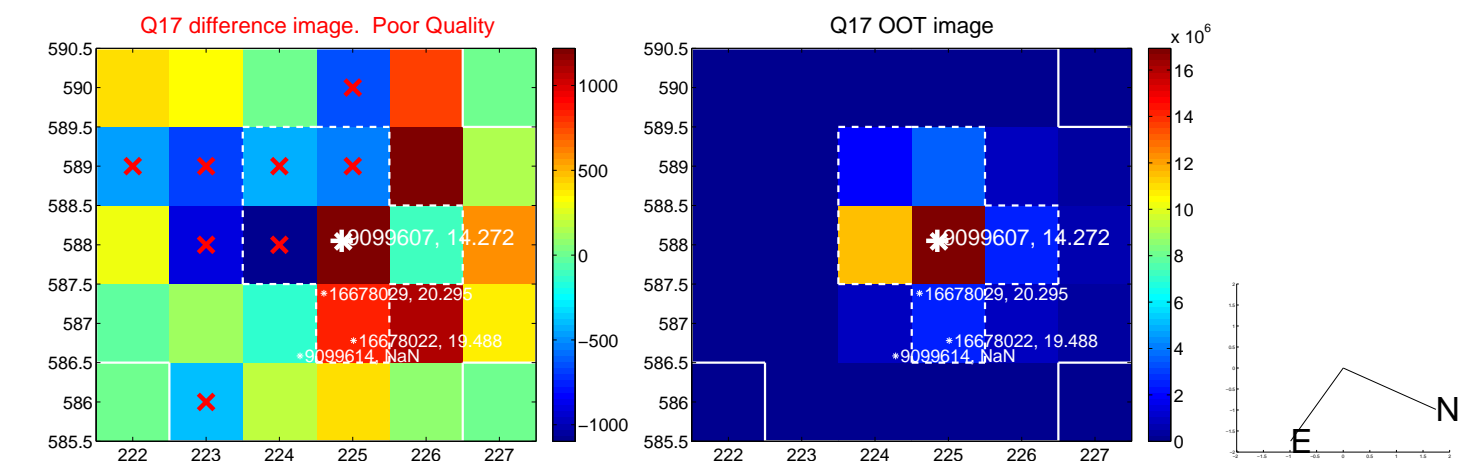
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



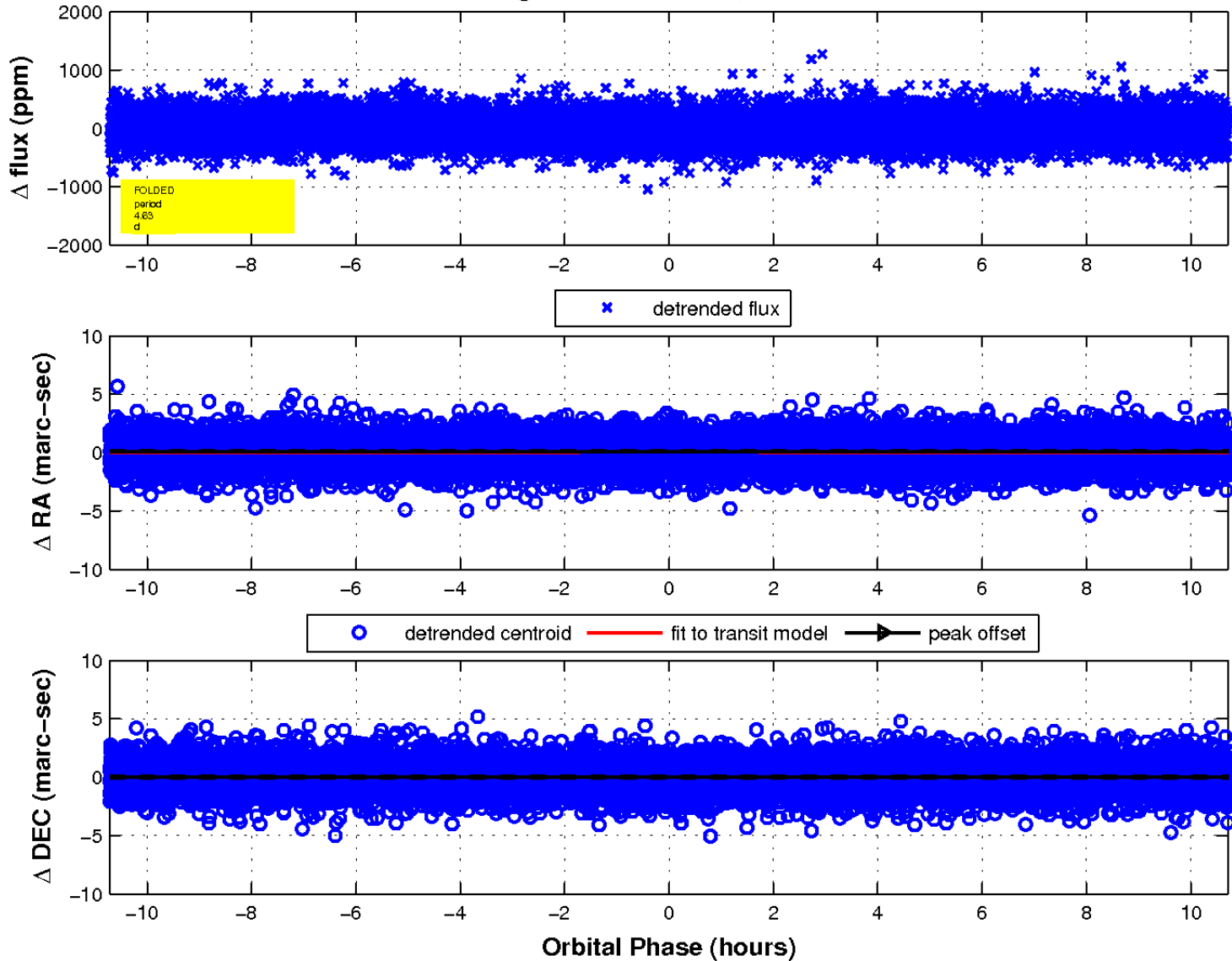
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

