

KIC 004049901

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})
004049901-01	OBS	2295.01	16.290855	132.116832	45.2	3.301	12.5	14.2	0.80	5425	0.64	35.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004049901-01	OBS	PC	0.96	0	0	0	0	CENT_KIC_POS

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 004049901-01

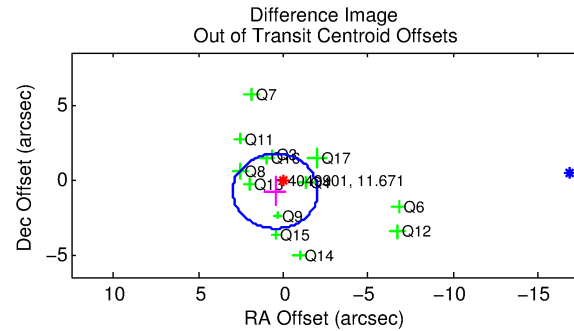
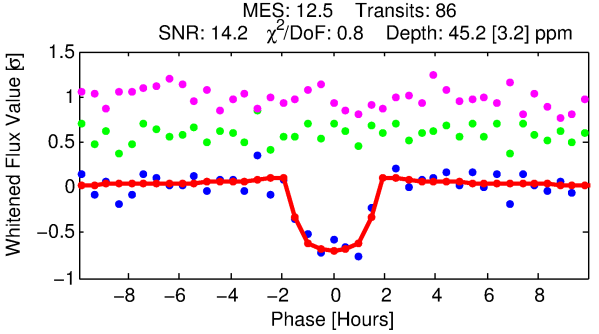
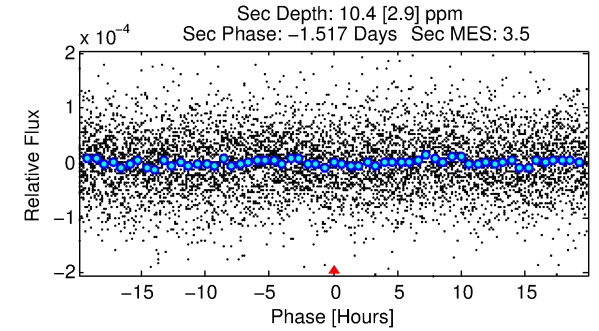
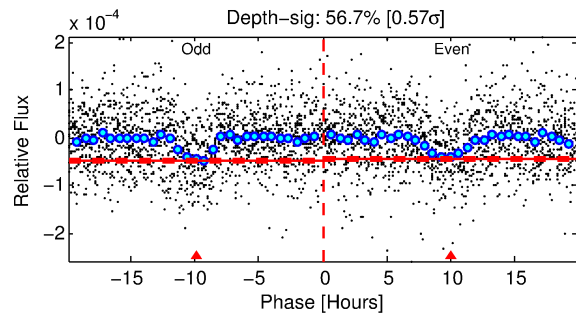
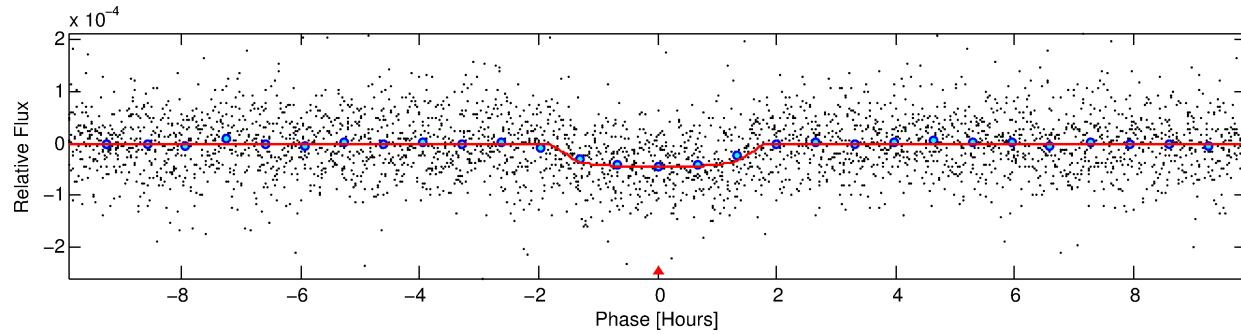
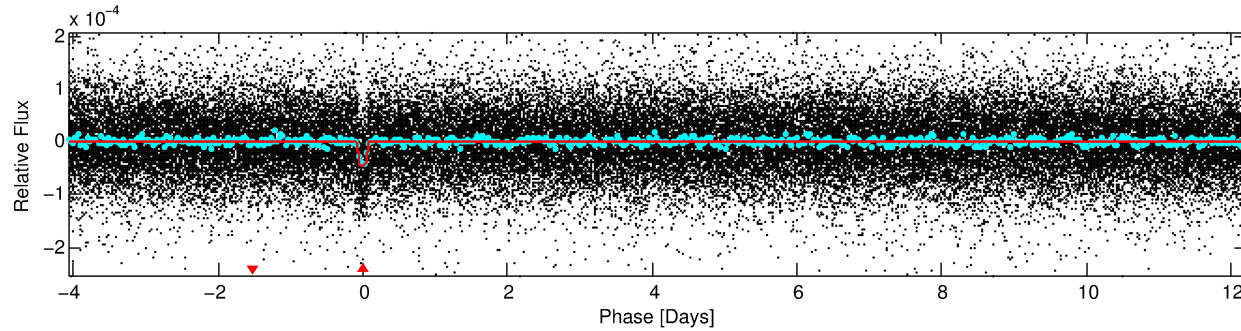
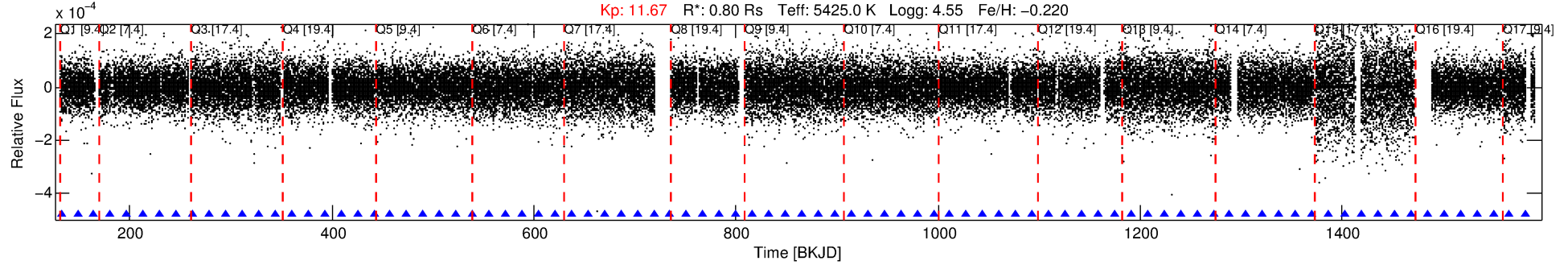
No Significant Match Found

DV One-Page Summary

KIC: 4049901 Candidate: 1 of 1 Period: 16.291 d

KOI: K02295.01 Corr: 0.991

Kp: 11.67 R*: 0.80 Rs Teff: 5425.0 K Logg: 4.55 Fe/H: -0.220



DV Fit Results:

Period = 16.29086 [0.00010] d
Epoch = 132.1168 [0.0045] BKJD
Rp/R* = 0.0074 [0.0029]
a/R* = 17.35 [31.23]
b = 0.90 [0.40]
Seff = 35.55 [5.31]
Teq = 623 [23] K
Rp = 0.64 [0.26] Re
a = 0.1178 [0.0097] AU
Ag = 194.09 [165.98] [1.16σ]
Teffp = 3593 [763] K [3.89σ]

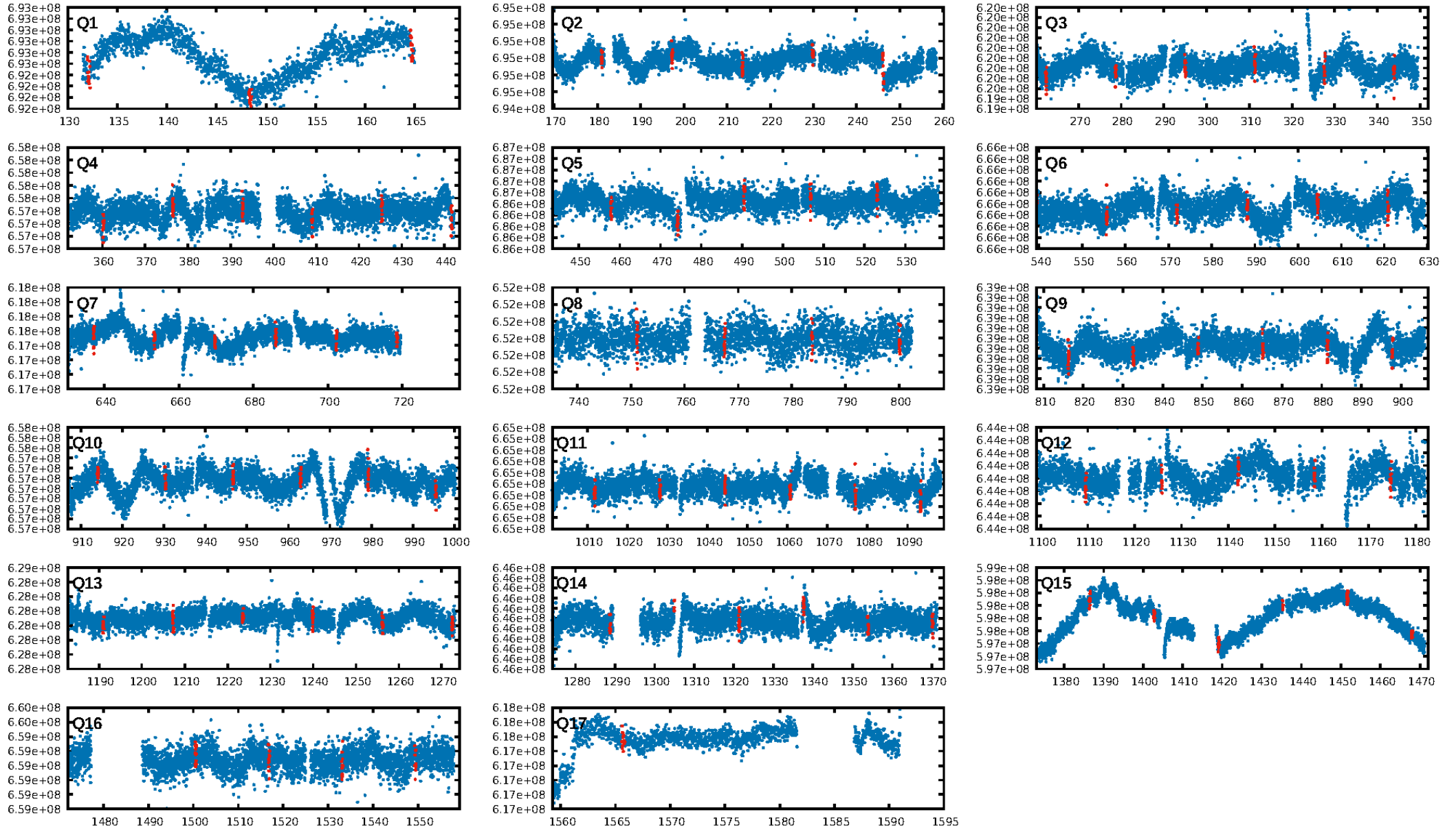
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.42e-33
RollingBand-fgt: 1.00 [82/82]
GhostDiagnostic-chr: 0.902
Centroid-sig: 0.0%
Centroid-so: 3.166 arcsec [4.83σ]
OotOffset-rm: 0.895 arcsec [1.07σ]
KicOffset-rm: 0.968 arcsec [1.27σ]
OotOffset-st: 2/4/4/3 [13]
KicOffset-st: 2/4/4/3 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 1.00 [17/17]

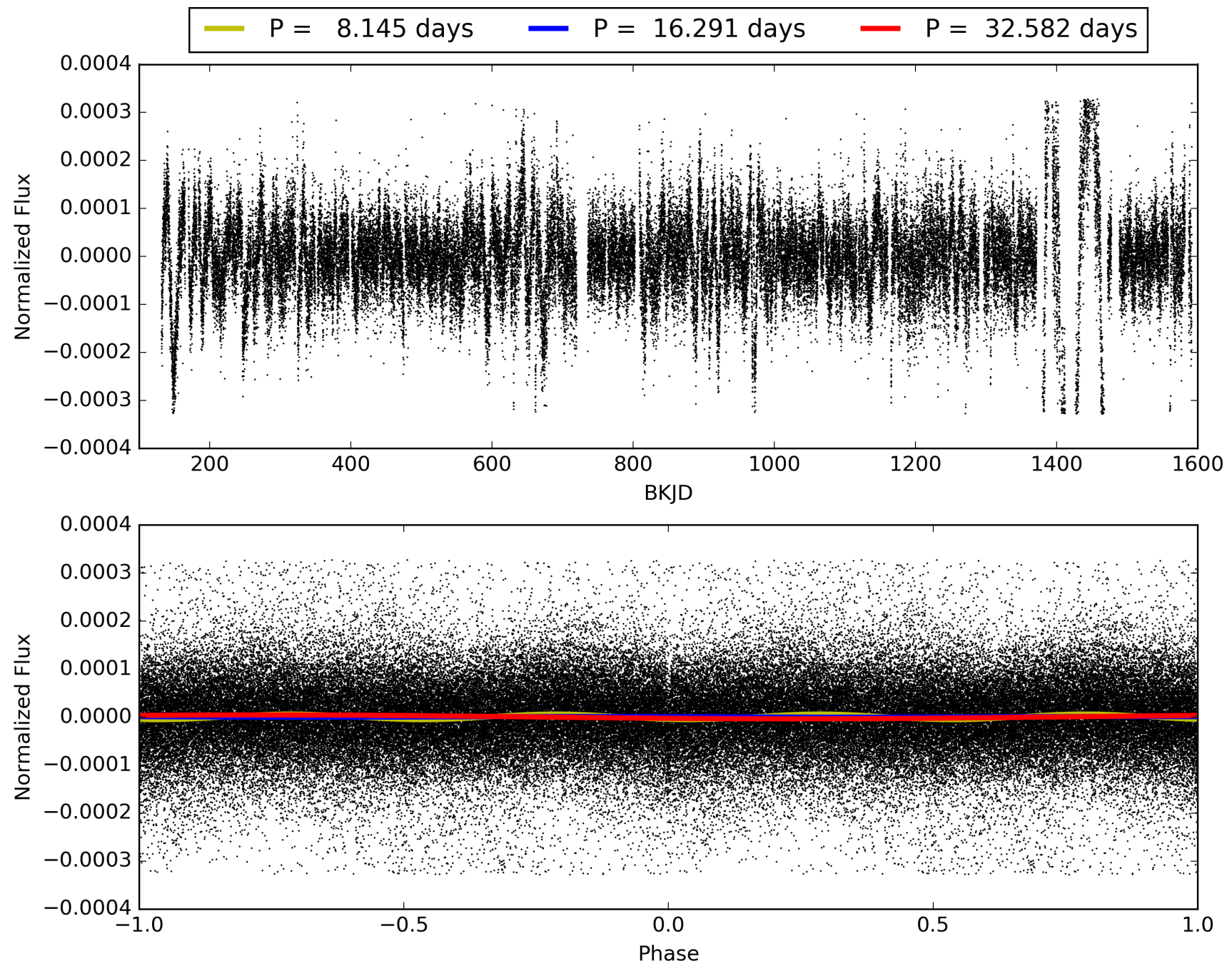
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:41:35 Z

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

TCE 004049901-01, PDC Light Curves

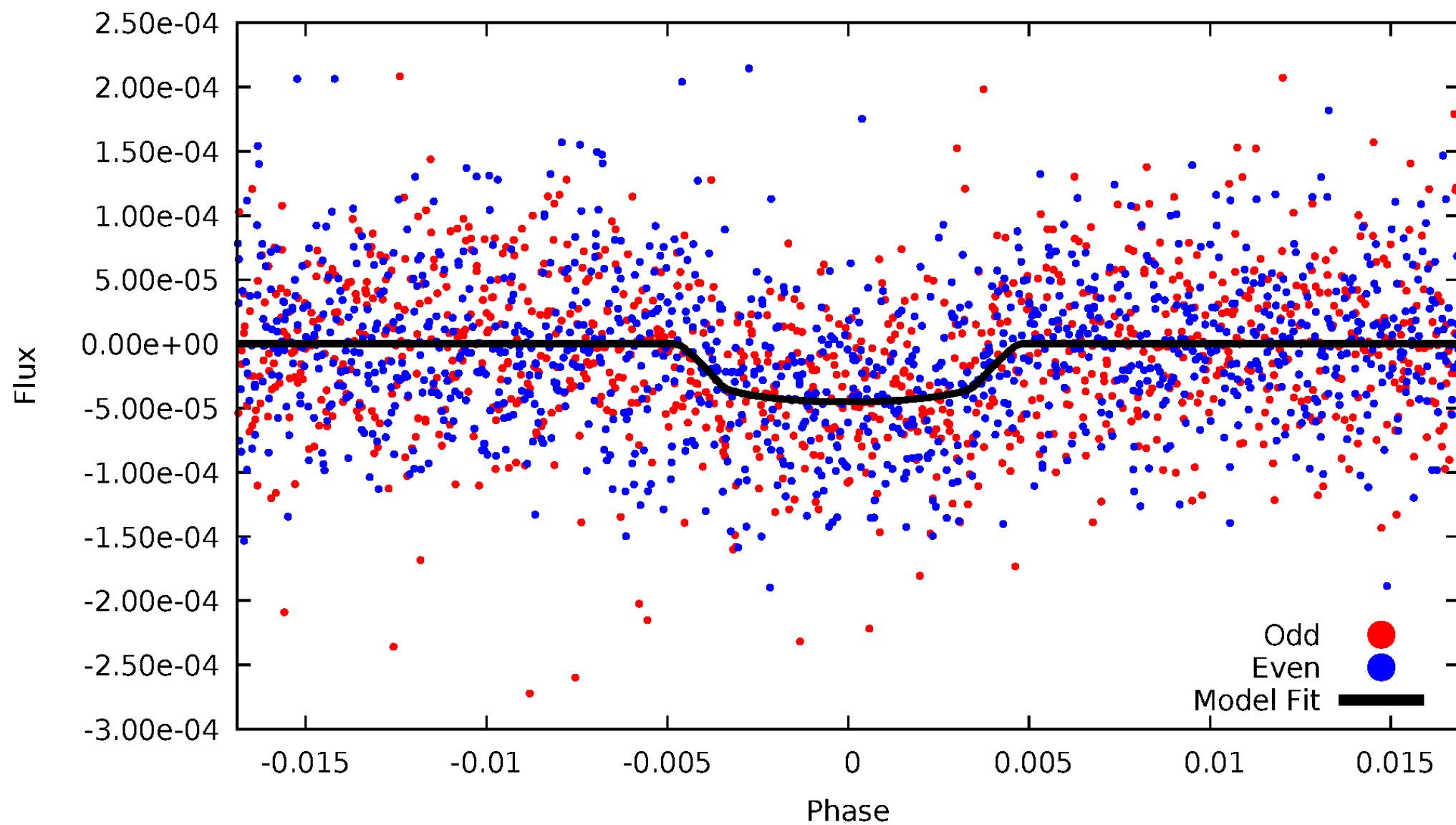


TCE 004049901-01



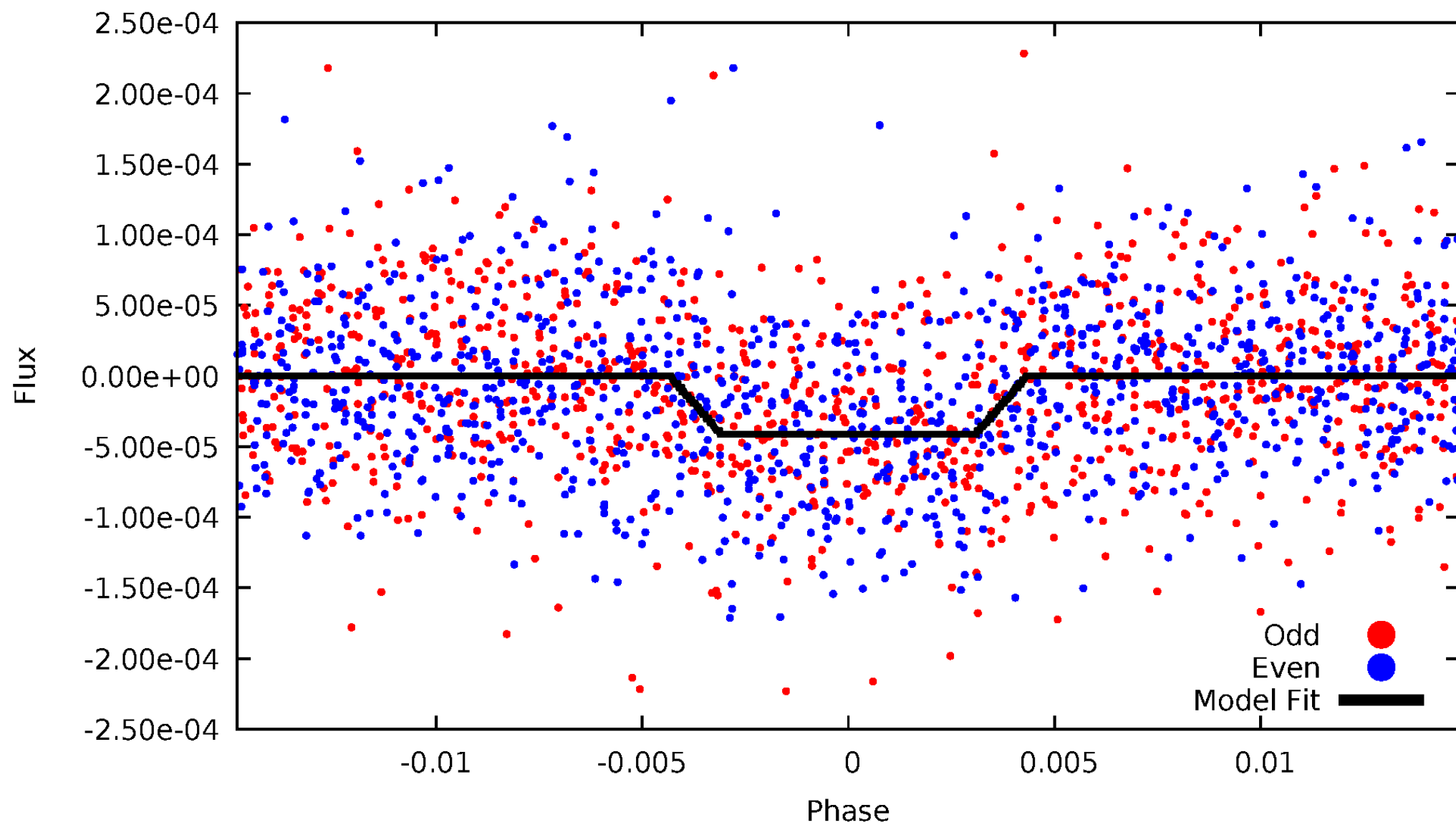
DV Odd/Even

TCE 004049901-01



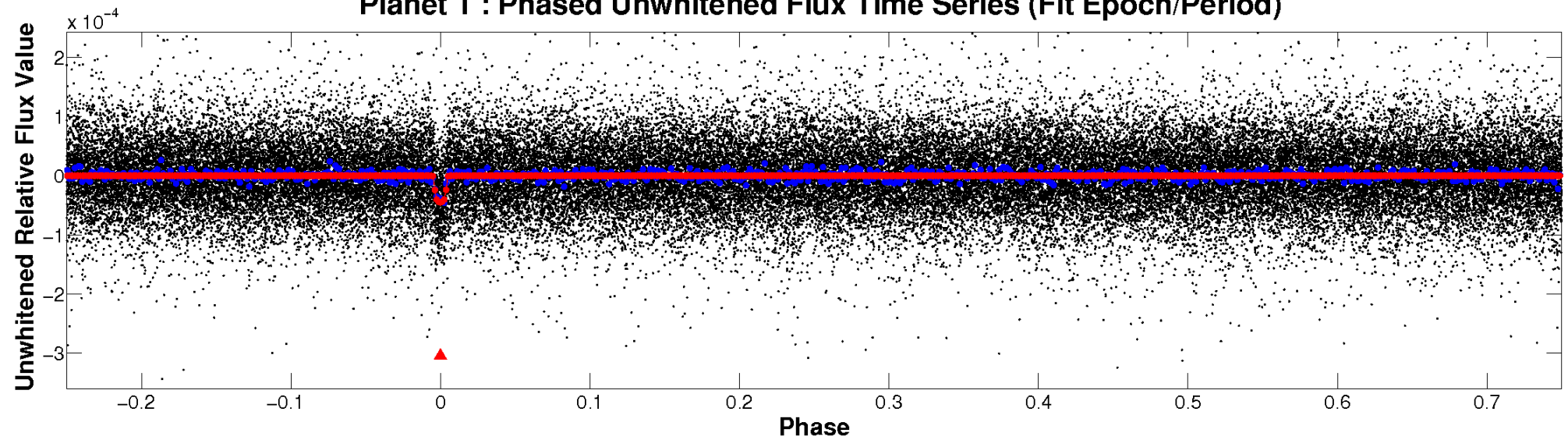
ALT Odd/Even

TCE 004049901-01

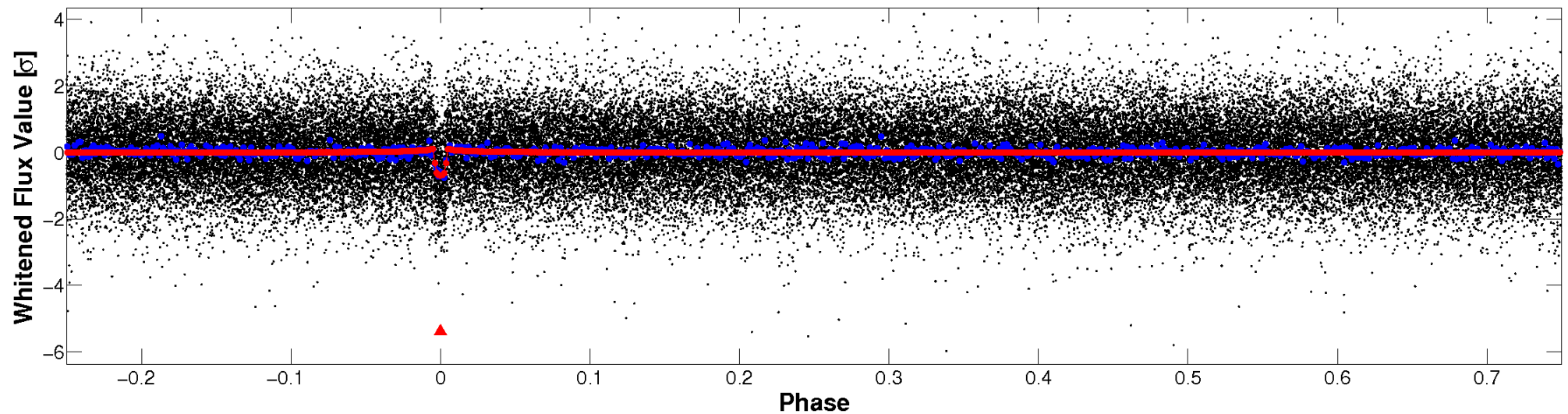


Non-Whitened Vs. Whitened Light Curve

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

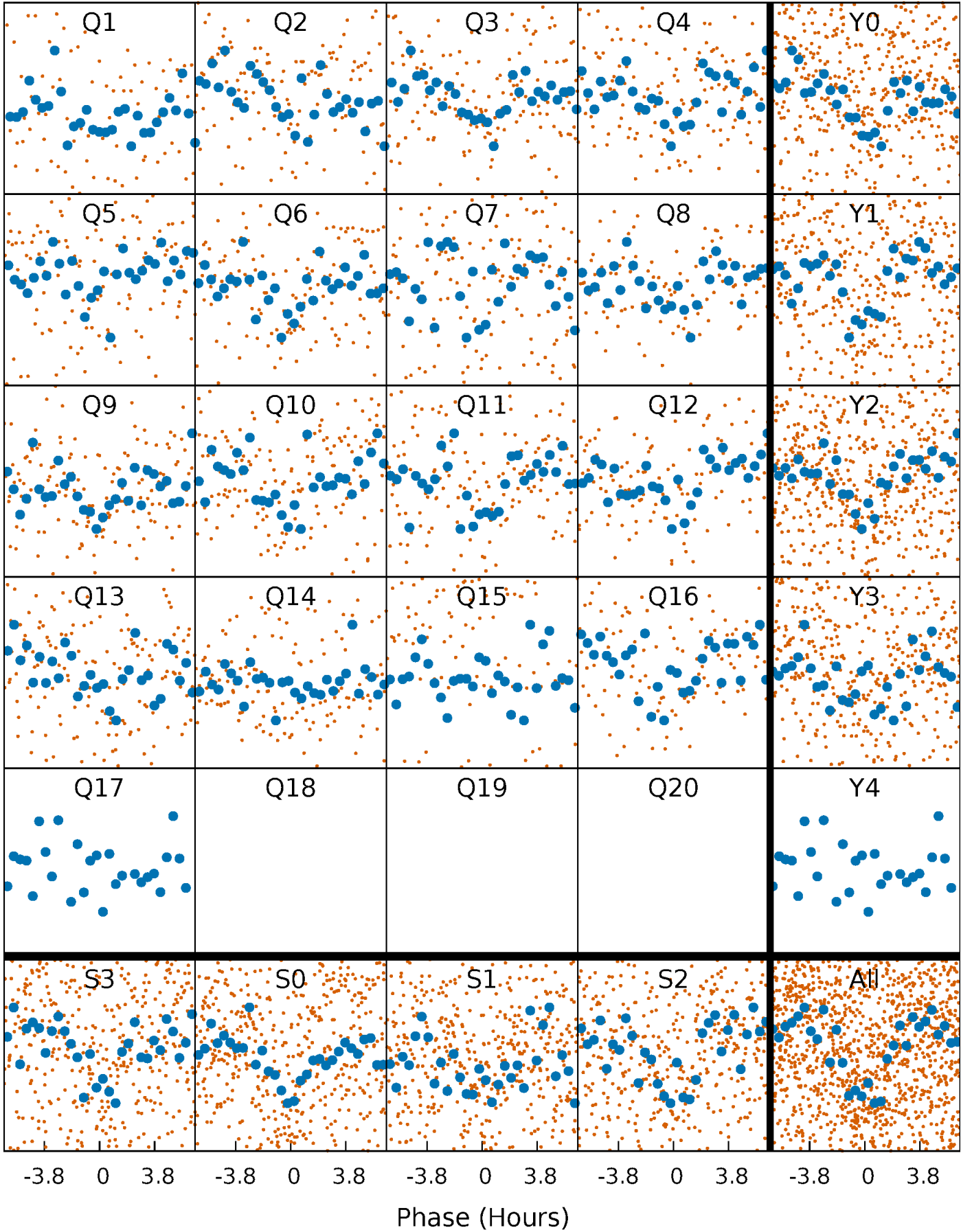


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



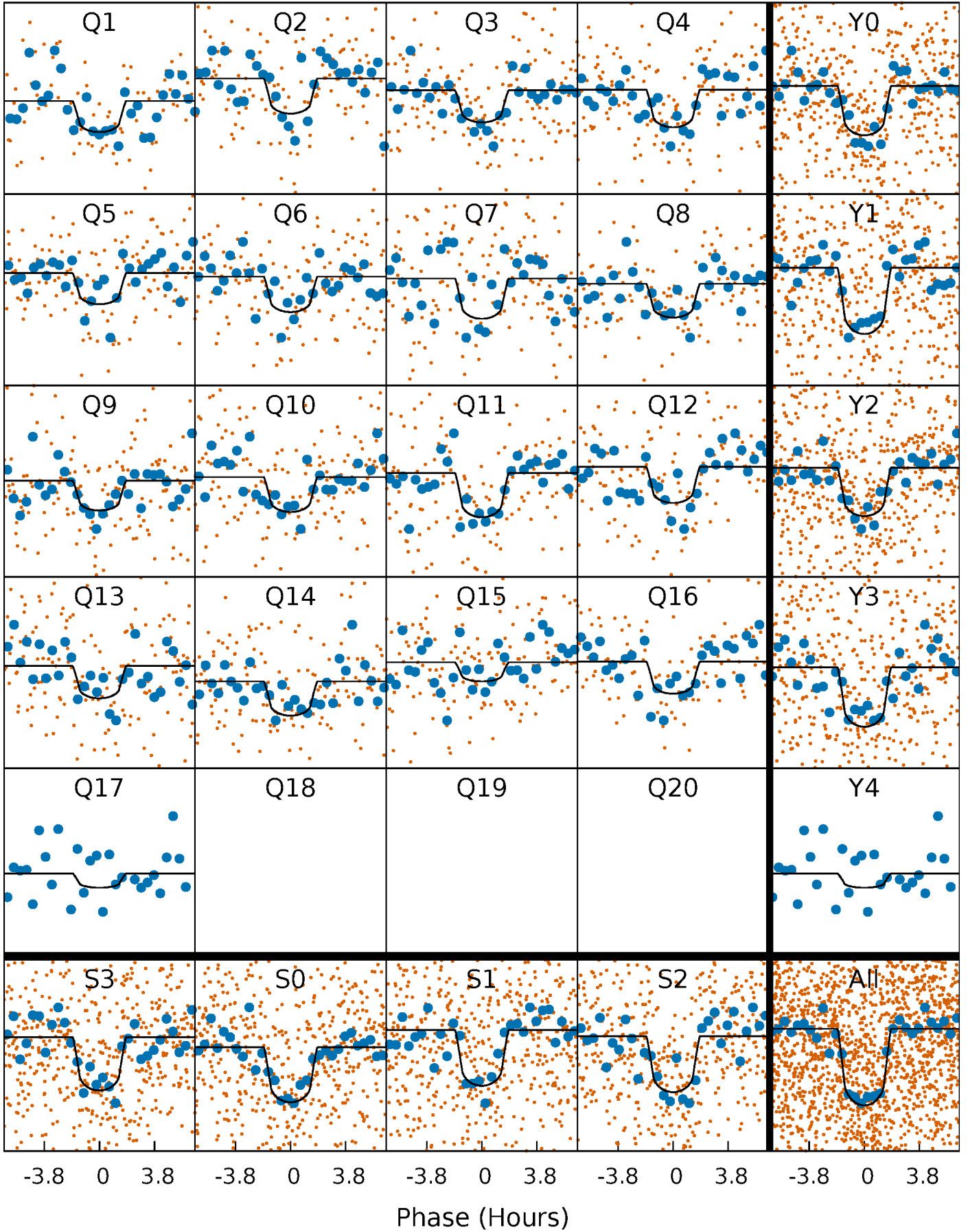
PDC Quarter-Phased Transit Curves

TCE 004049901-01 P= 16.290855 Days $T_0=132.116832$ (BKJD)



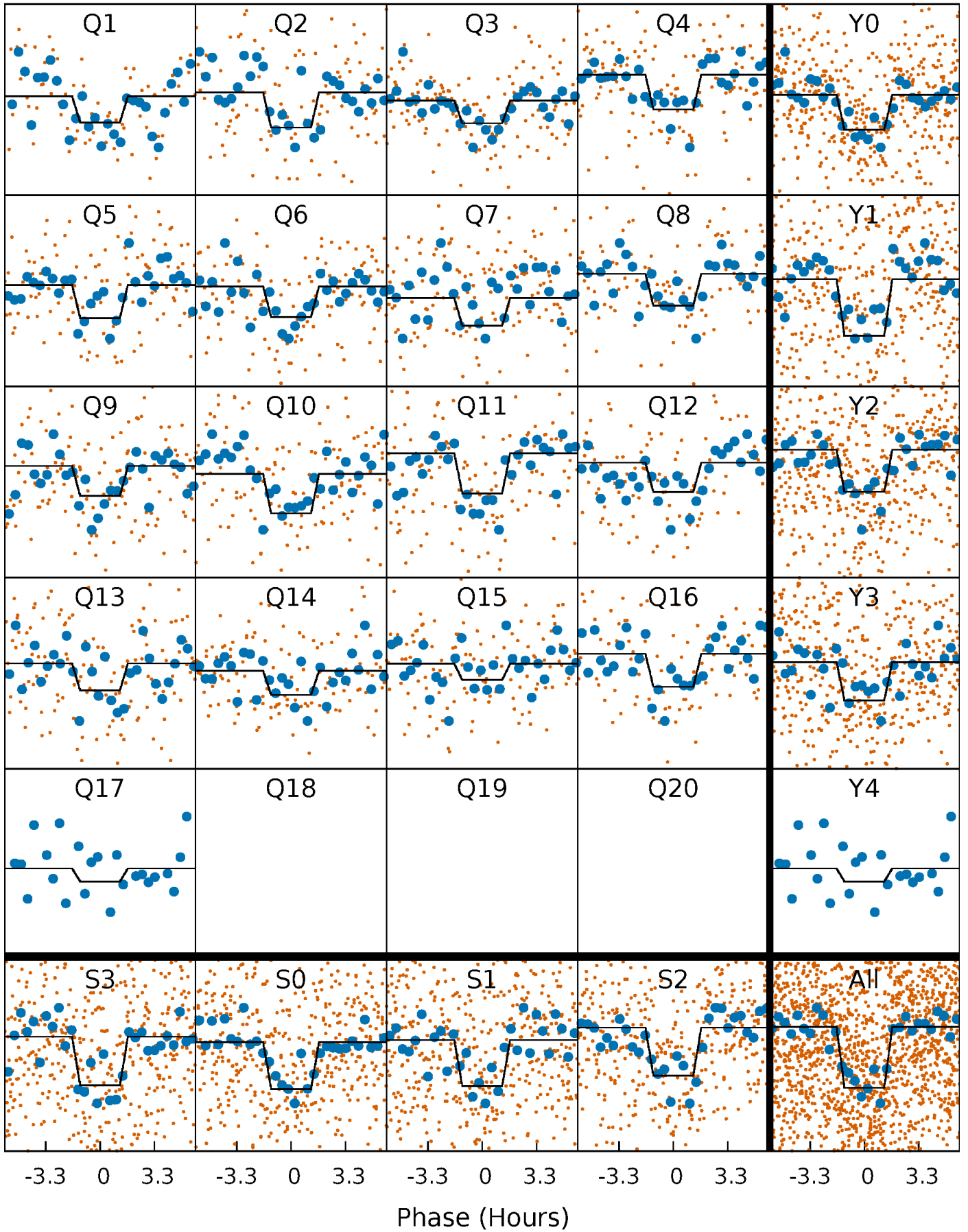
DV Quarter-Phased Transit Curves

TCE 004049901-01 P= 16.290855 Days $T_0=132.116832$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

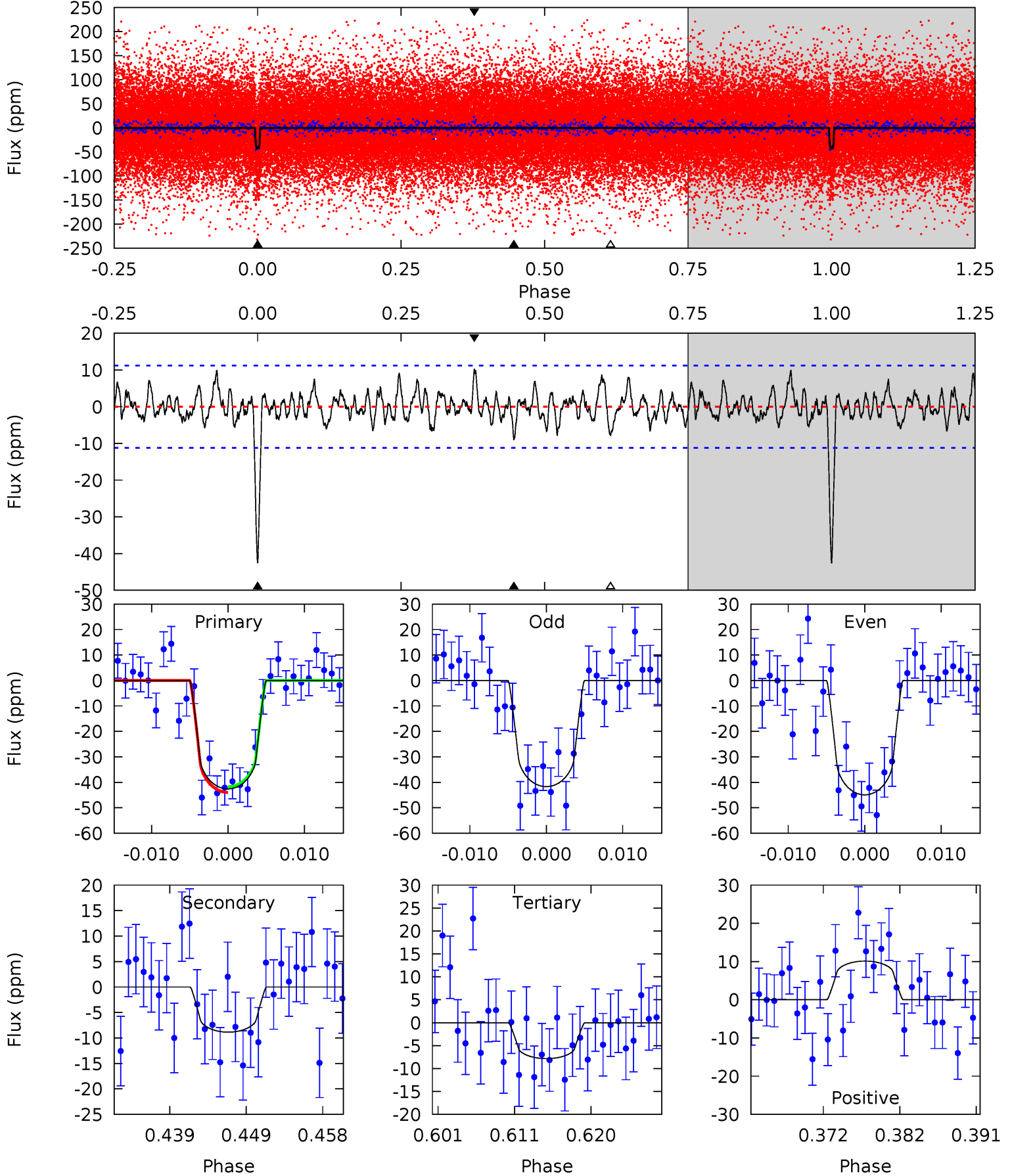
TCE 004049901-01 P= 16.290684 Days $T_0=132.121939$ (BKJD)



DV Model-Shift Uniqueness Test

004049901-01, $P = 16.290855$ Days, $E = 115.825977$ Days

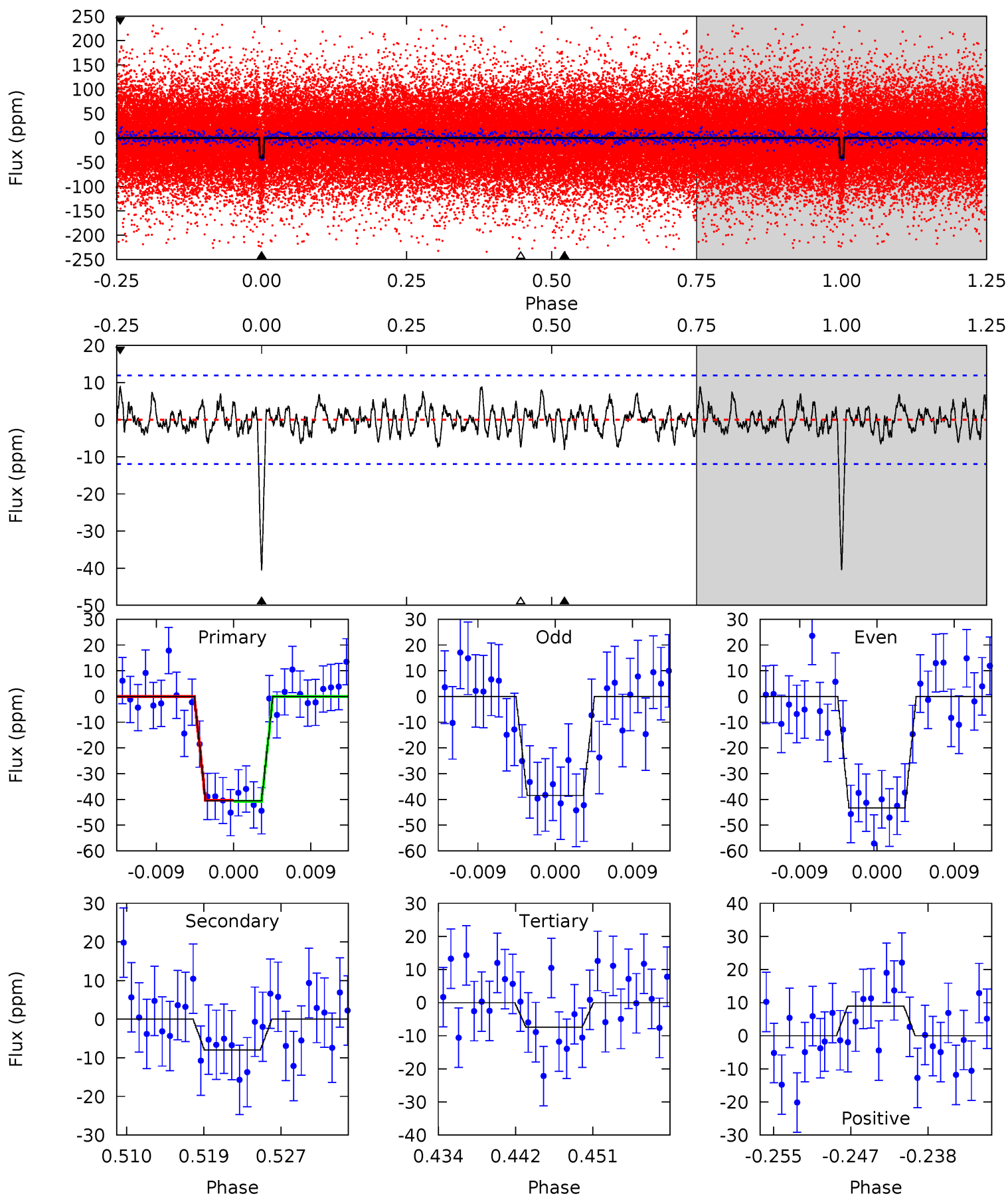
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	3.98	3.52	4.54	5.04	2.59	1.41	15.6	14.6	0.46	-0.57	0.73	0.98	0.19	0.51



Alt Model-Shift Uniqueness Test

004049901-01, $P = 16.290684$ Days, $E = 115.831255$ 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	3.38	3.15	3.80	5.06	2.63	1.24	14.0	13.4	0.22	-0.42	1.03	0.97	0.18	0.08



Stellar Parameters For KIC 004049901

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5425^{+108}_{-108}	$4.549^{+0.039}_{-0.072}$	$-0.220^{+0.150}_{-0.150}$	$0.797^{+0.073}_{-0.045}$	$0.822^{+0.050}_{-0.050}$	$2.284^{+0.353}_{-0.498}$
	+2%/-2%	+1%/-2%	+68%/-68%	+9%/-6%	+6%/-6%	+15%/-22%
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 004049901-01 / KOI 2295.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 2	$0.66^{+0.26}_{-0.25}$	875^{+26}_{-24}	3788^{+745}_{-441}	156^{+243}_{-83}
Alt.	-8 ± 2	$0.55^{+0.26}_{-0.25}$	875^{+28}_{-24}	3926^{+1065}_{-510}	190^{+478}_{-105}

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

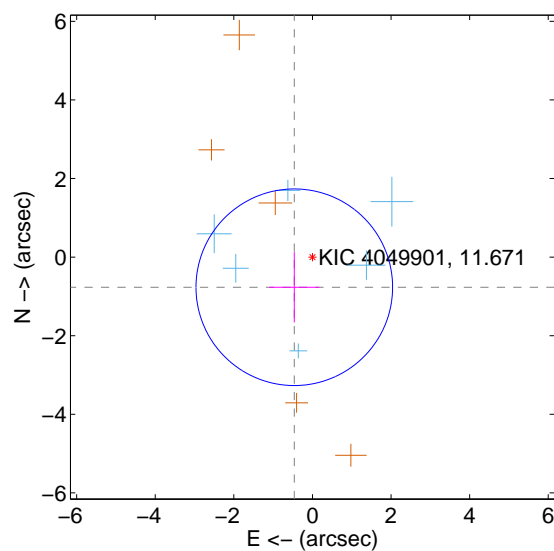
Supplemental centroid analysis for 004049901-01. **Kepler magnitude: 11.67.** Transit SNR 14.23

There are 6 quarters with good PRF difference image offsets

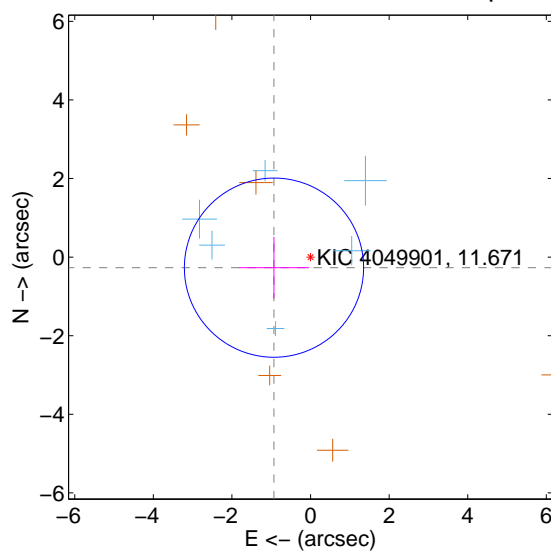
The direct PRF centroid is offset from the target star catalog position by about 0.82 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.895 ± 0.834	1.07	0.462 ± 0.635	-0.767 ± 0.895
PRF-fit source offset from KIC position	0.968 ± 0.760	1.27	0.930 ± 0.896	-0.269 ± 0.782
photometric centroid source offset	3.17 ± 0.66	4.83	3.09 ± 0.65	0.67 ± 0.68

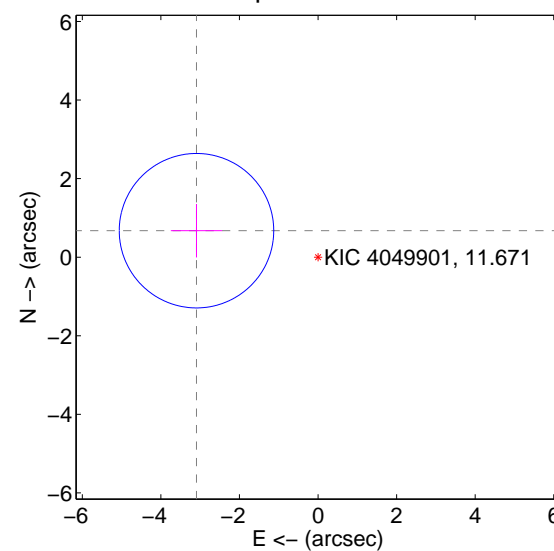
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

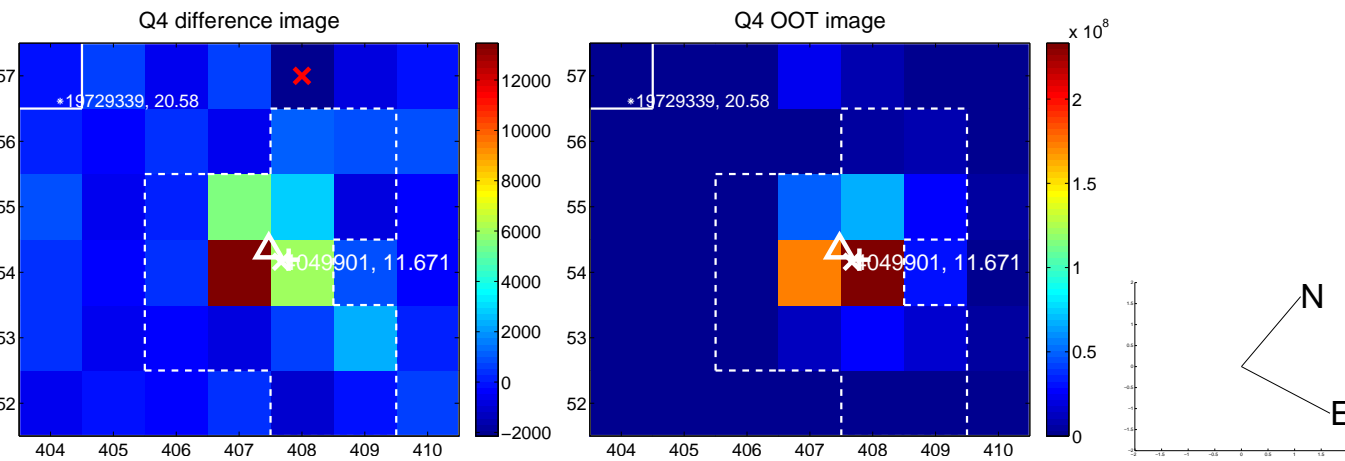
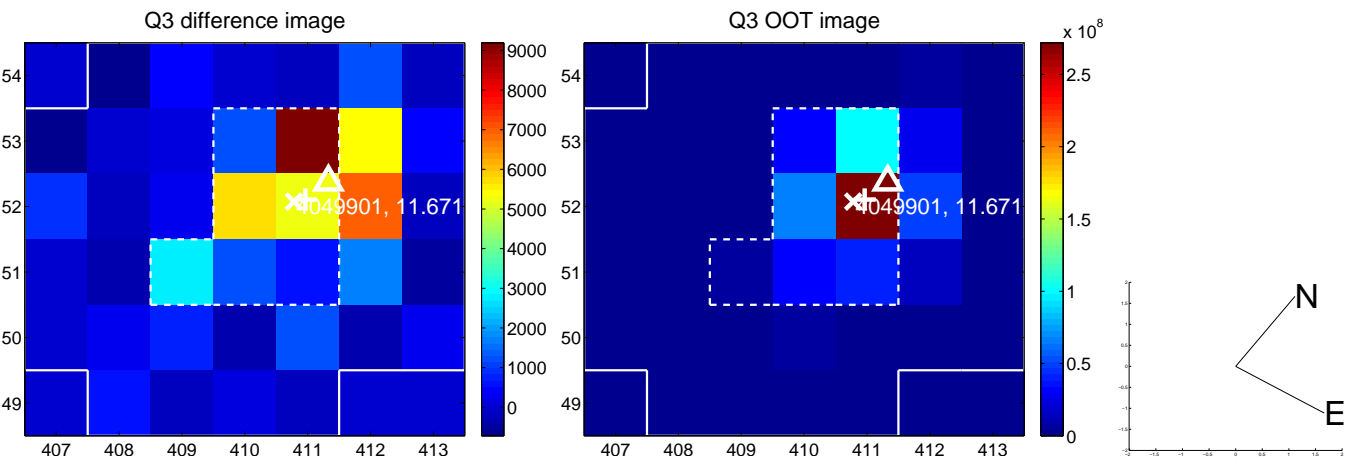
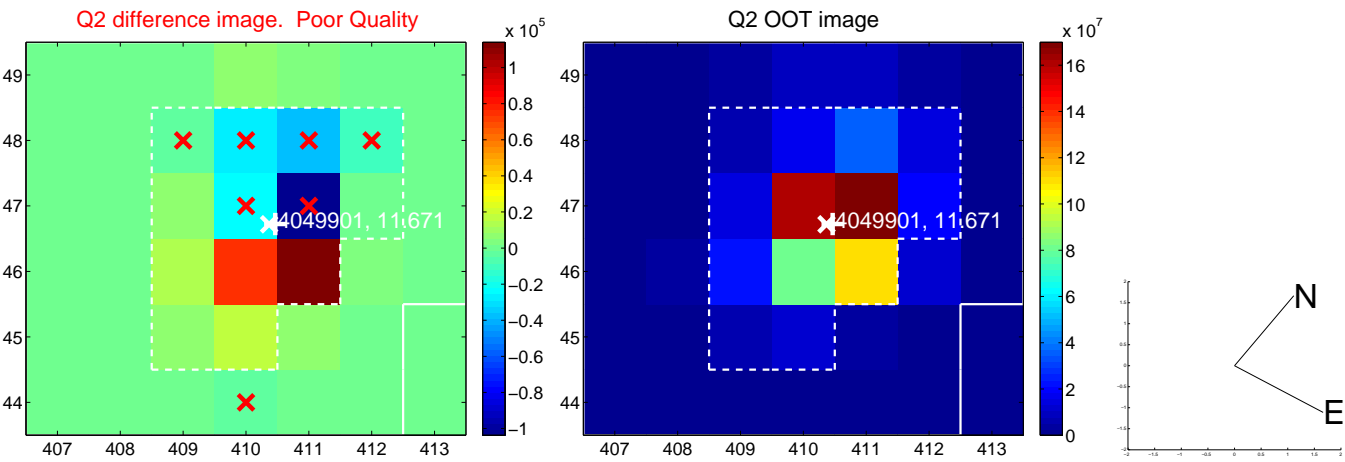
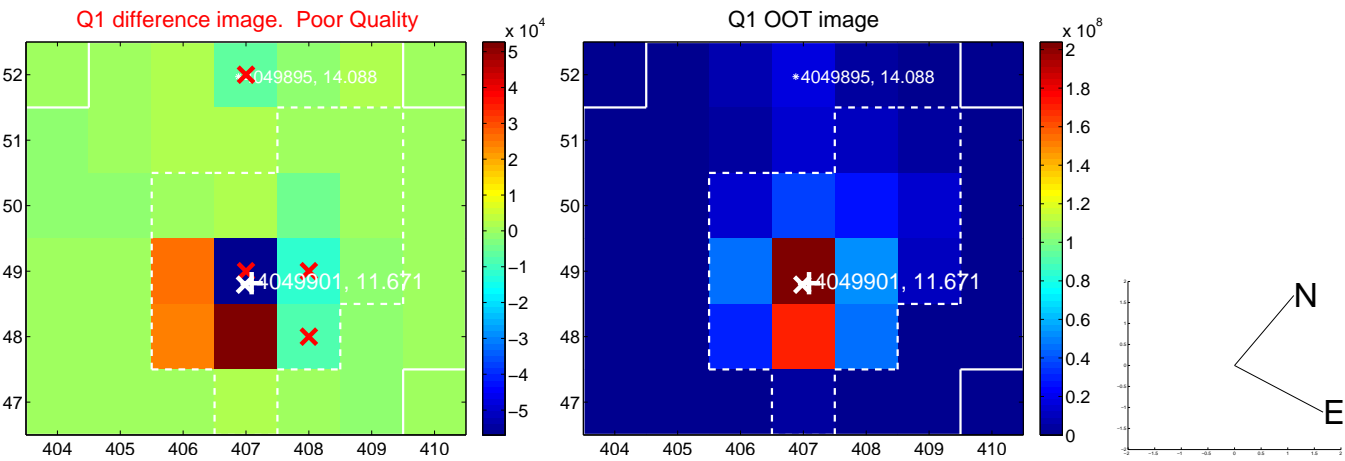


offset from photometric centroids

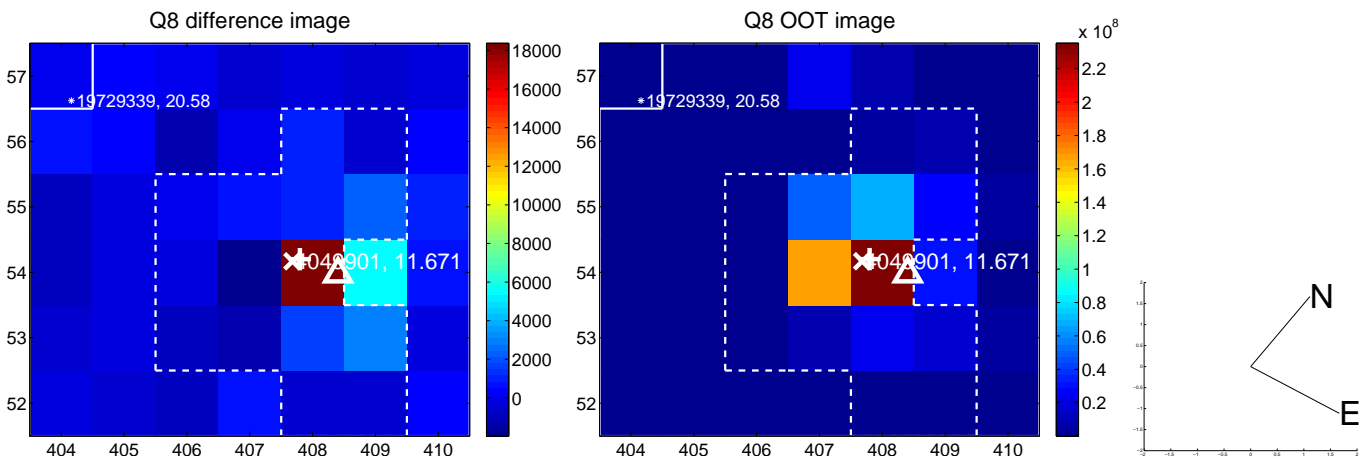
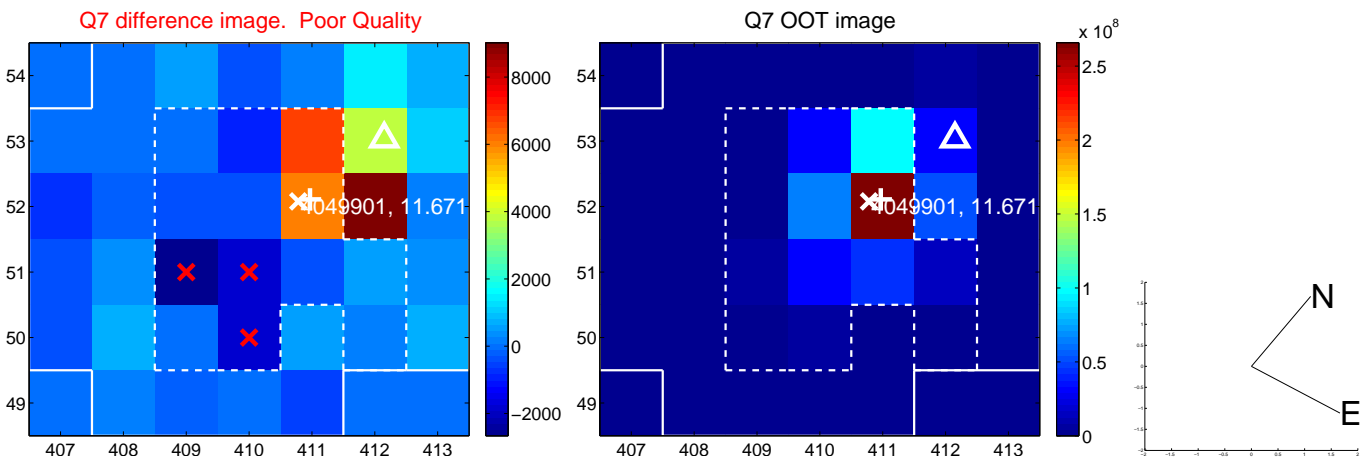
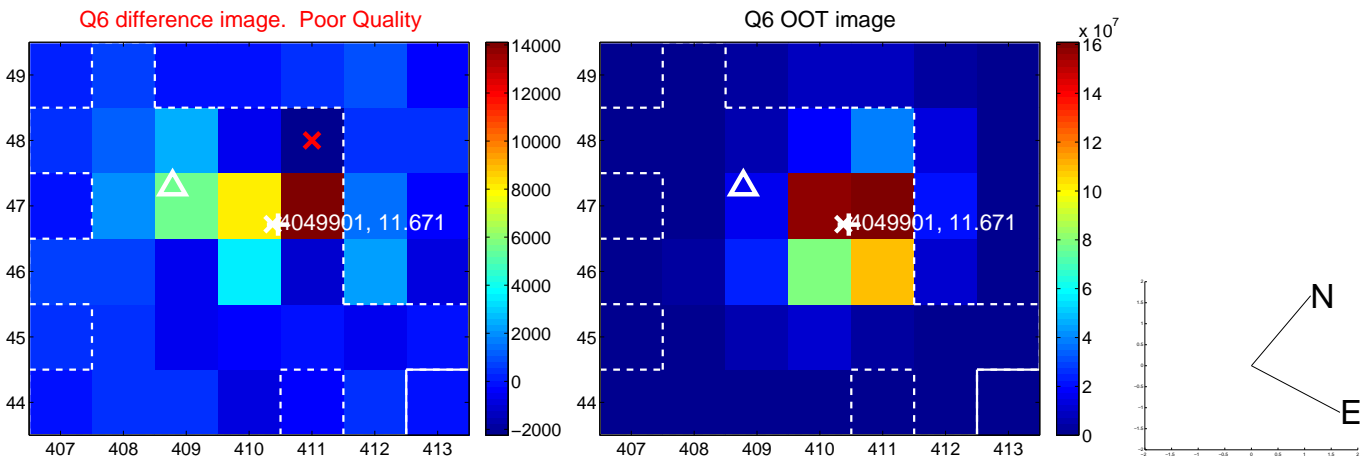
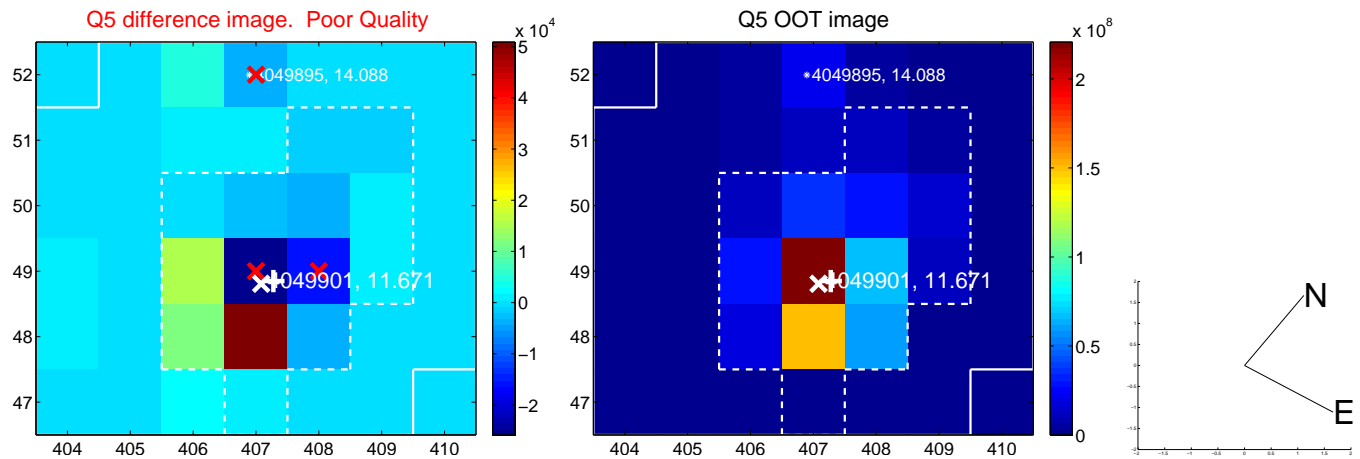


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

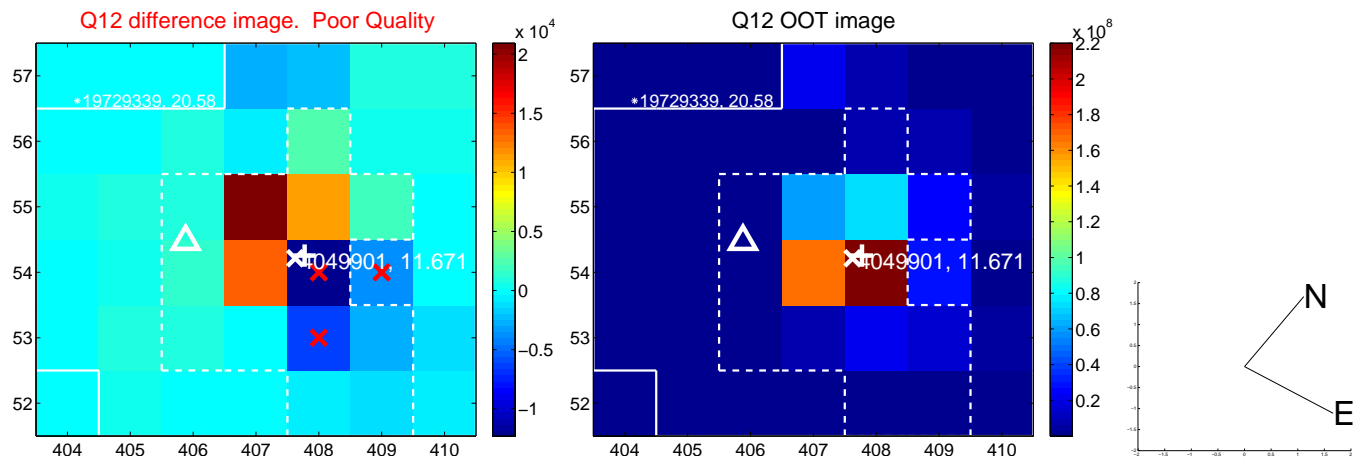
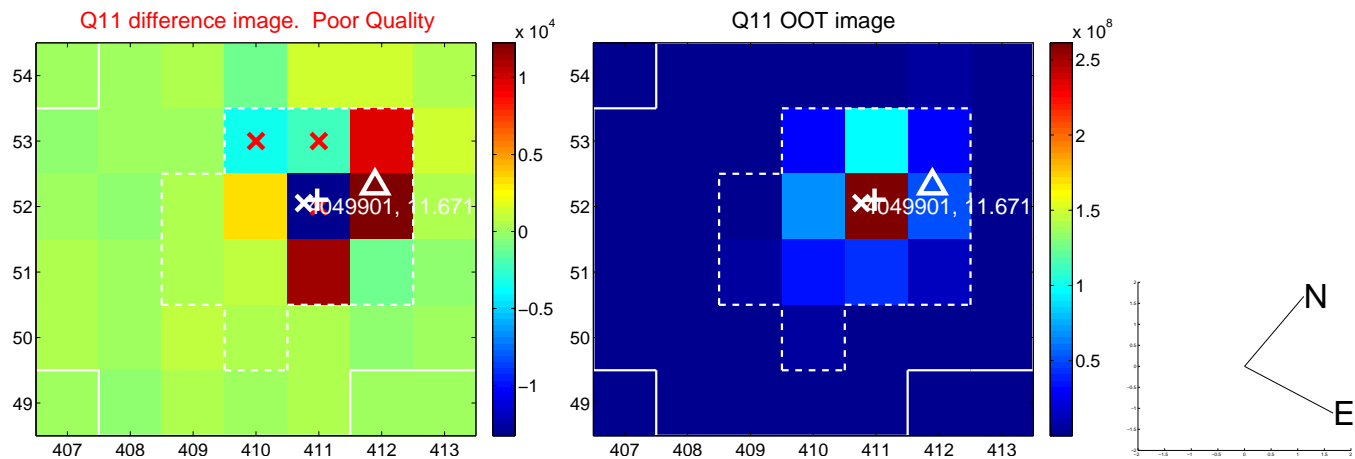
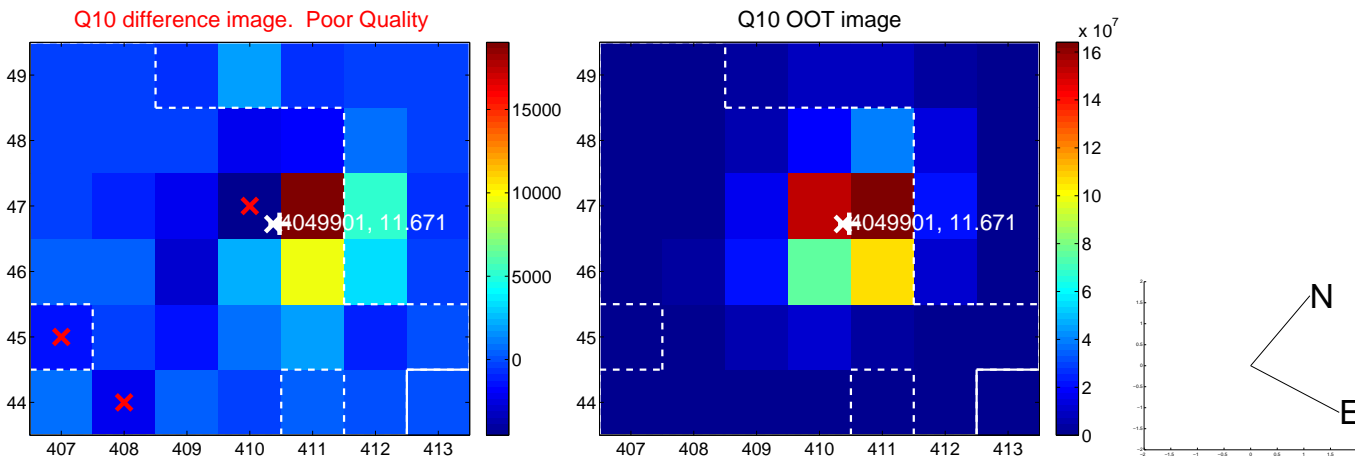
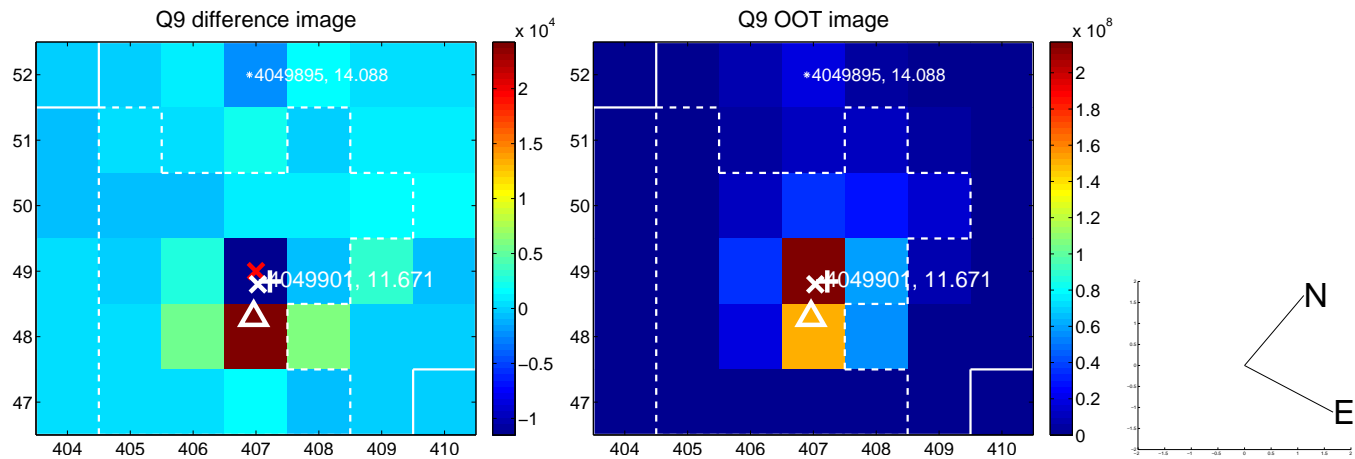
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



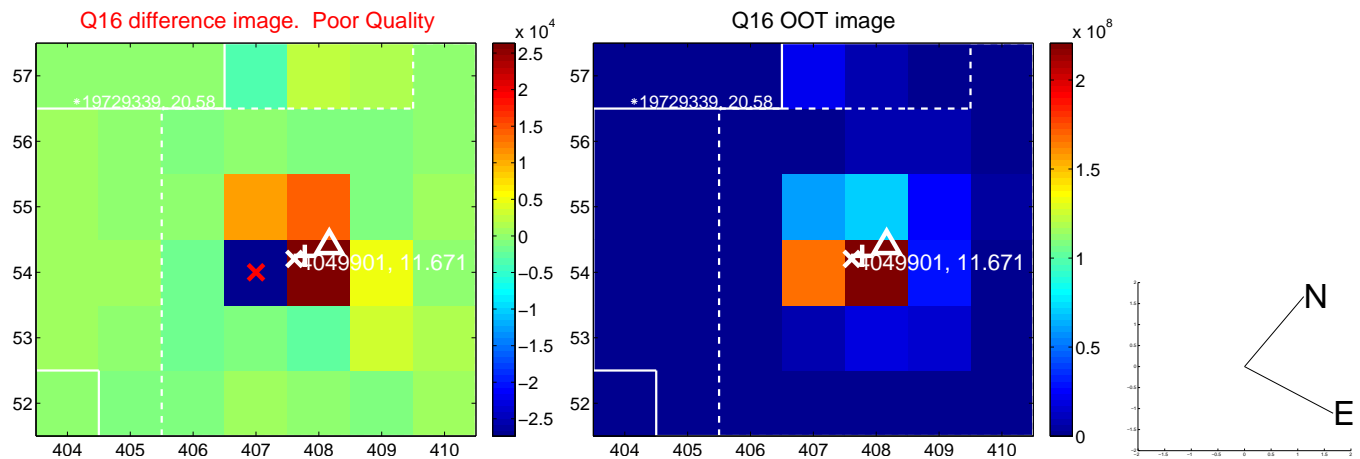
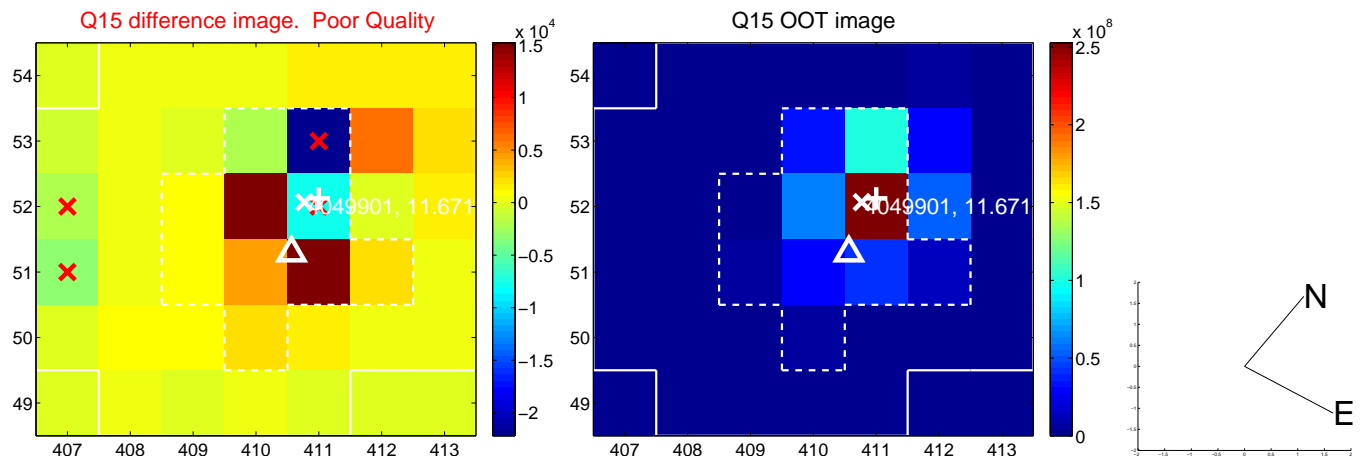
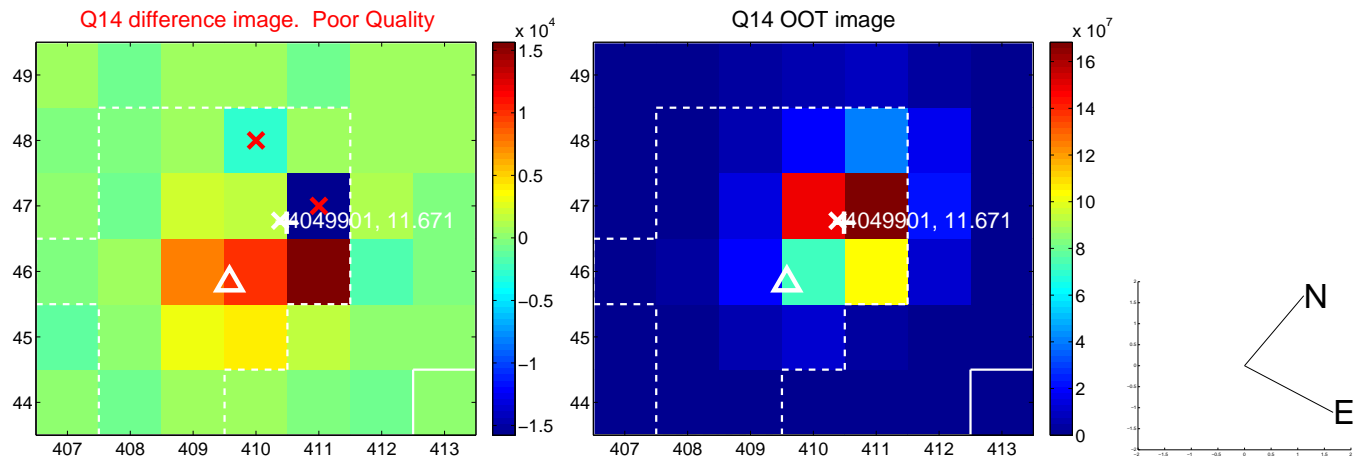
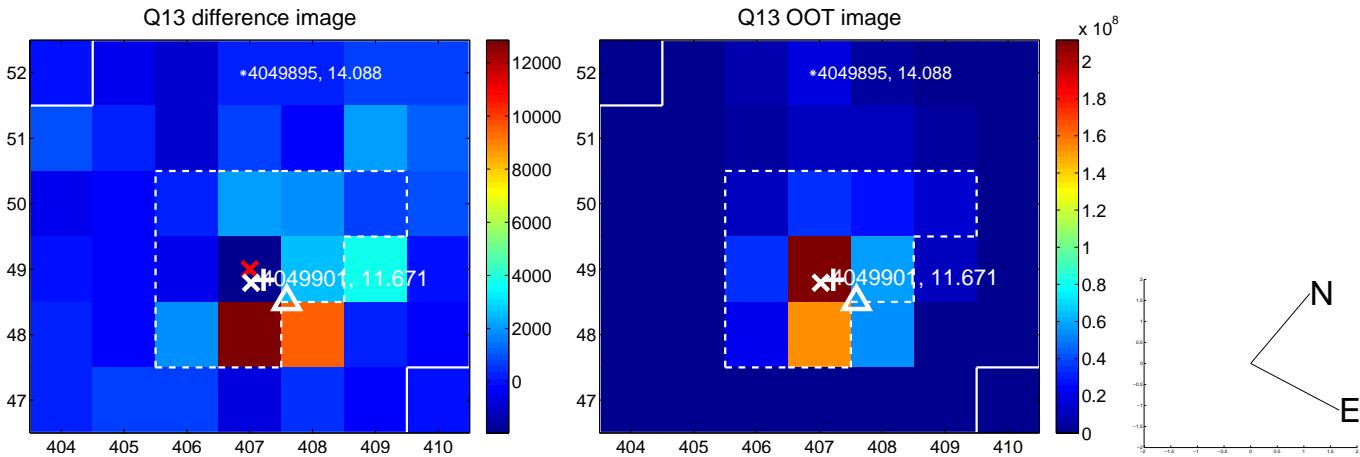
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

