

KIC 004932689

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})
004932689-01	OBS	3453.01	18.111767	134.732425	242.1	5.847	9.5	9.6	1.14	6434	1.91	98.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004932689-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 004932689-01

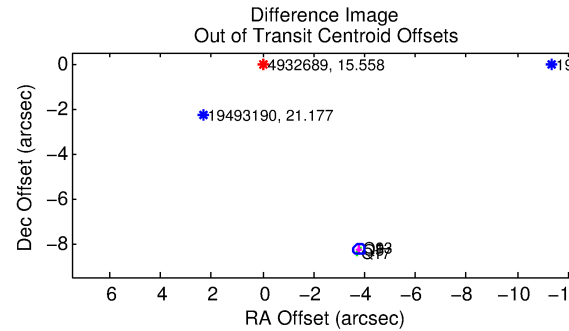
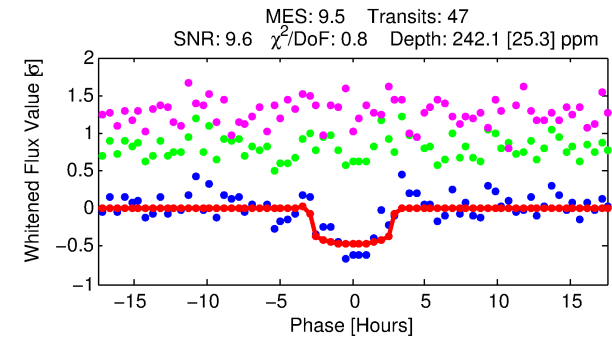
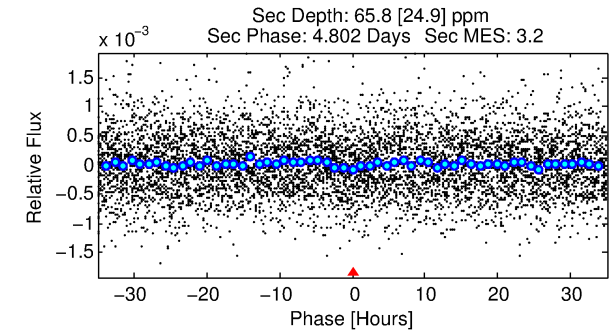
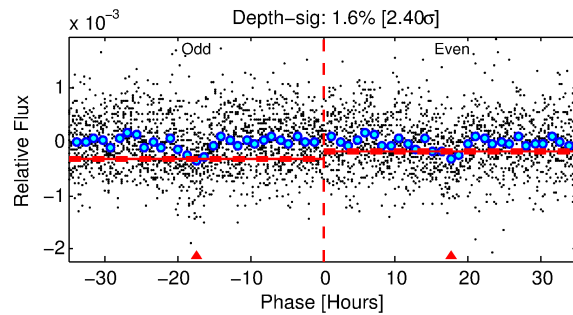
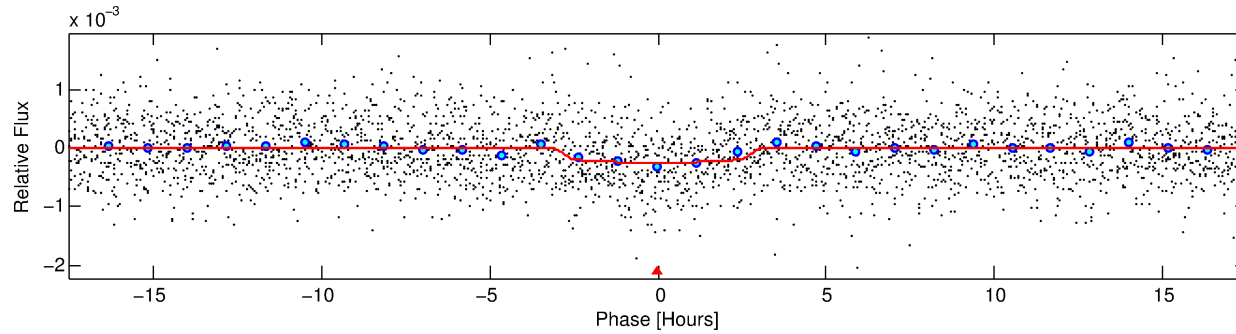
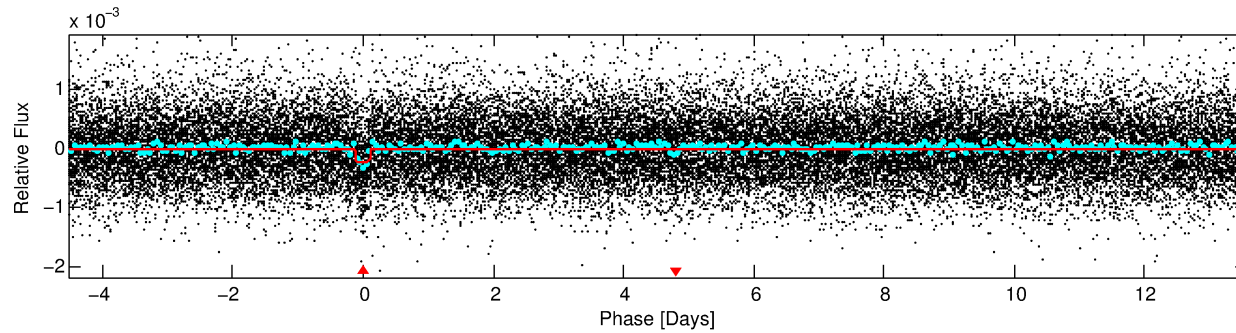
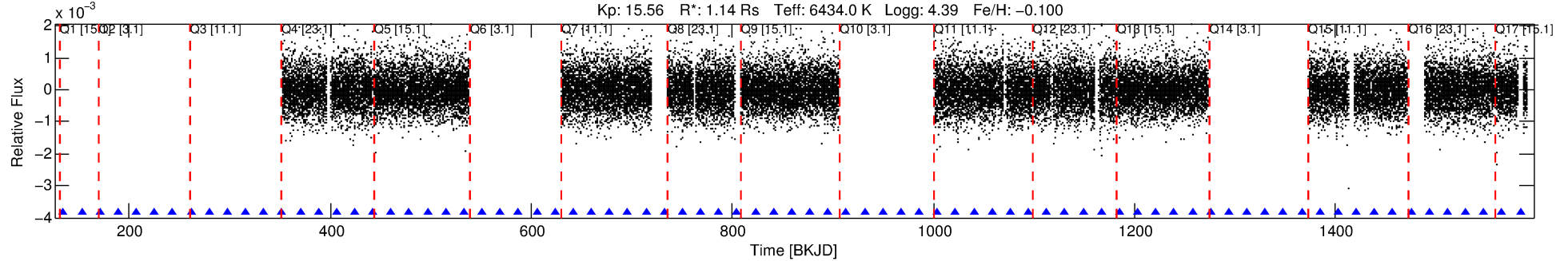
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
004932689-01	4932689	6474.01	4932691	1:1	16.9	-4	2	13.63	15.56	485.91	Direct-PRF	0	0.56	0.48

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 4932689 Candidate: 1 of 1 Period: 18.112 d
KOI: K03453.01 Corr: 0.937

Kp: 15.56 R*: 1.14 Rs Teff: 6434.0 K Logg: 4.39 Fe/H: -0.100



DV Fit Results:

Period = 18.11177 [0.00030] d
Epoch = 134.7324 [0.0147] BKJD
Rp/R* = 0.0153 [0.0112]
a/R* = 16.93 [66.20]
b = 0.72 [2.63]
Seff = 98.24 [37.29]
Teq = 803 [76] K
Rp = 1.91 [1.50] Re
a = 0.1423 [0.0343] AU
Ag = 201.90 [313.03] [0.64σ]
Teff = 4679 [1776] K [2.18σ]

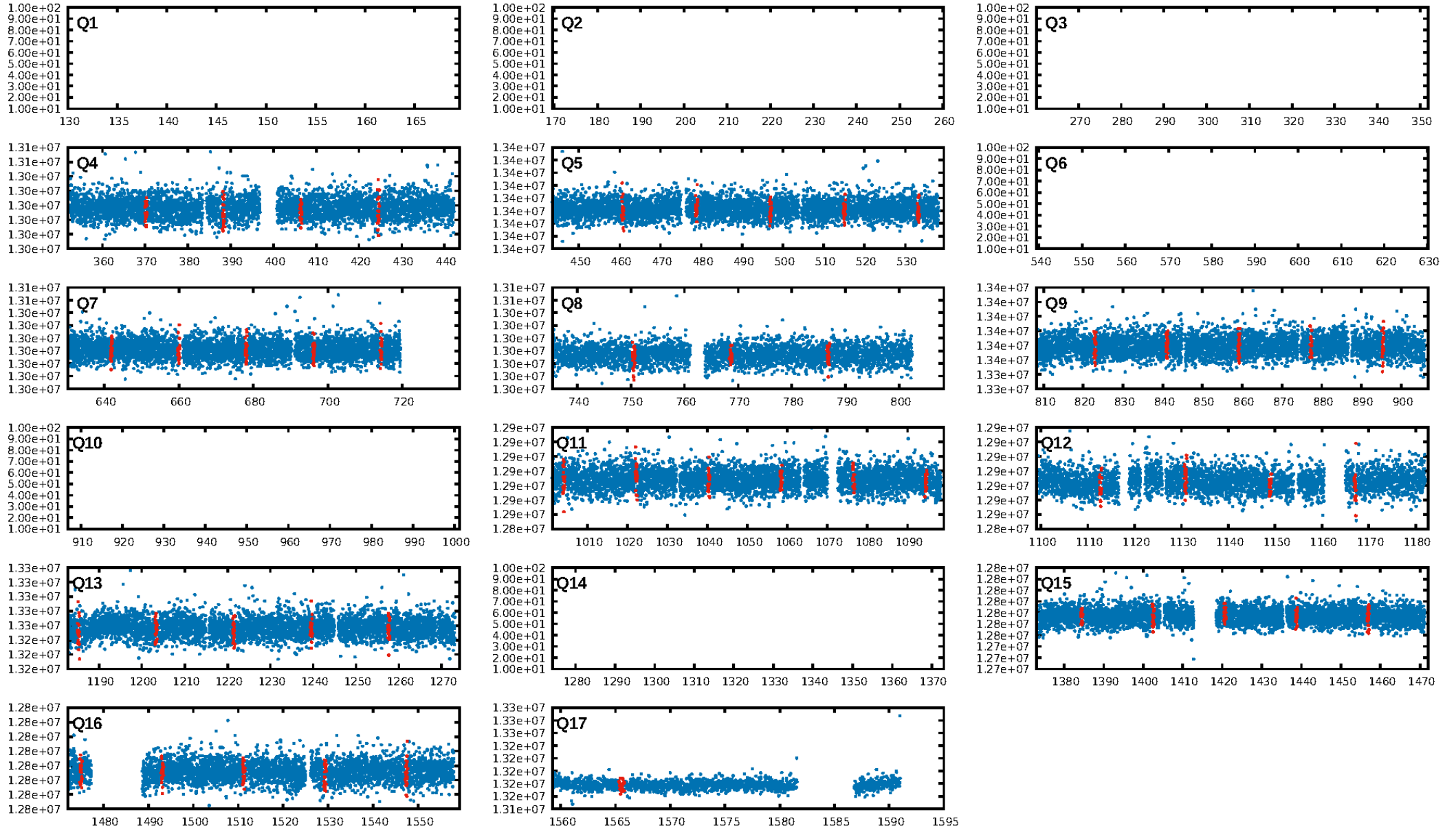
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 50.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.67e-21
RollingBand-fgt: 1.00 [46/46]
GhostDiagnostic-chr: -0.6405
Centroid-sig: 0.0%
Centroid-so: 91.867 arcsec [29.96σ]
OotOffset-rm: 9.079 arcsec [109.36σ]
KicOffset-rm: 8.939 arcsec [115.93σ]
OotOffset-st: 0/0/0/4 [4]
KicOffset-st: 0/0/0/4 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [11/11]

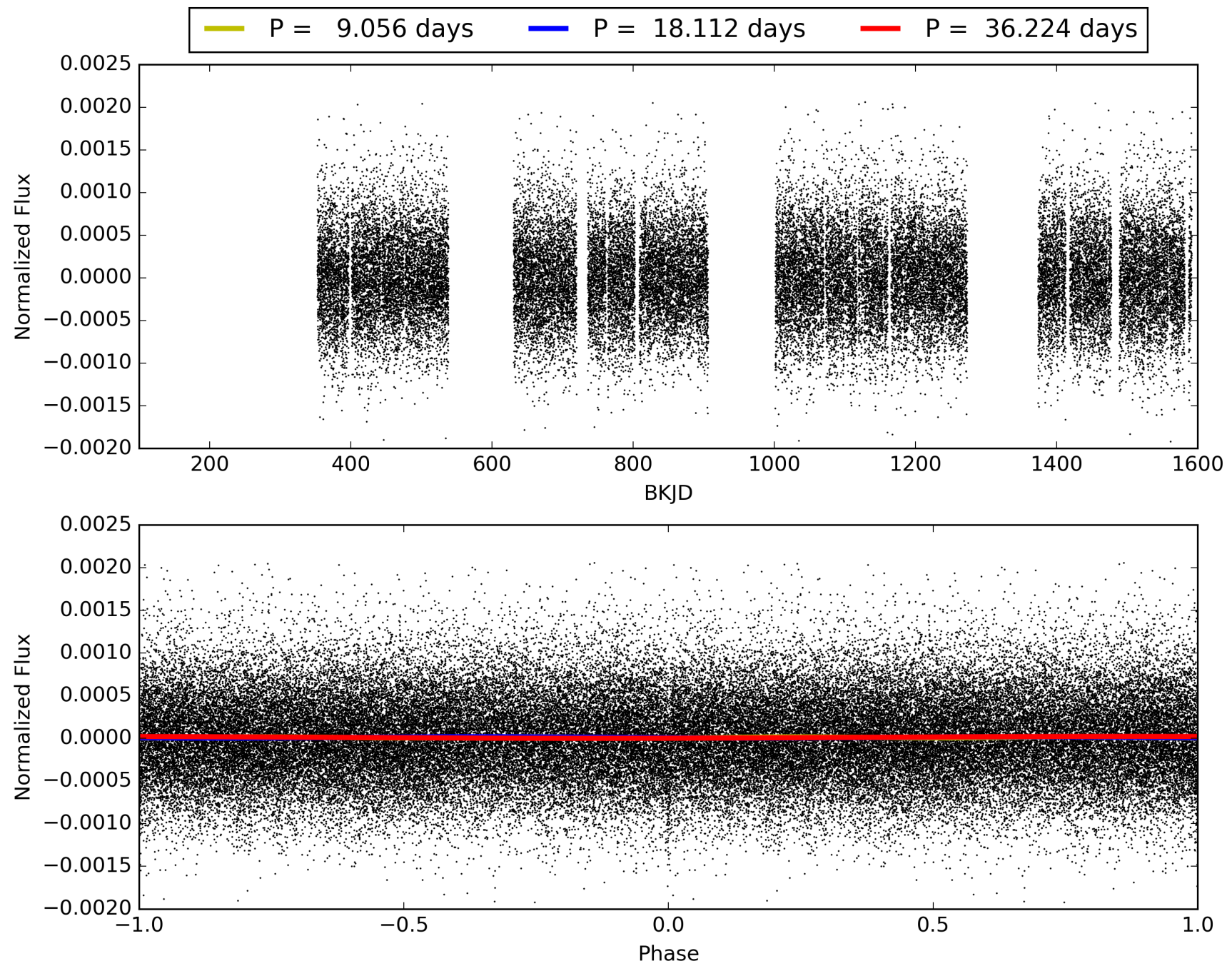
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:28:55 Z

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

TCE 004932689-01, PDC Light Curves

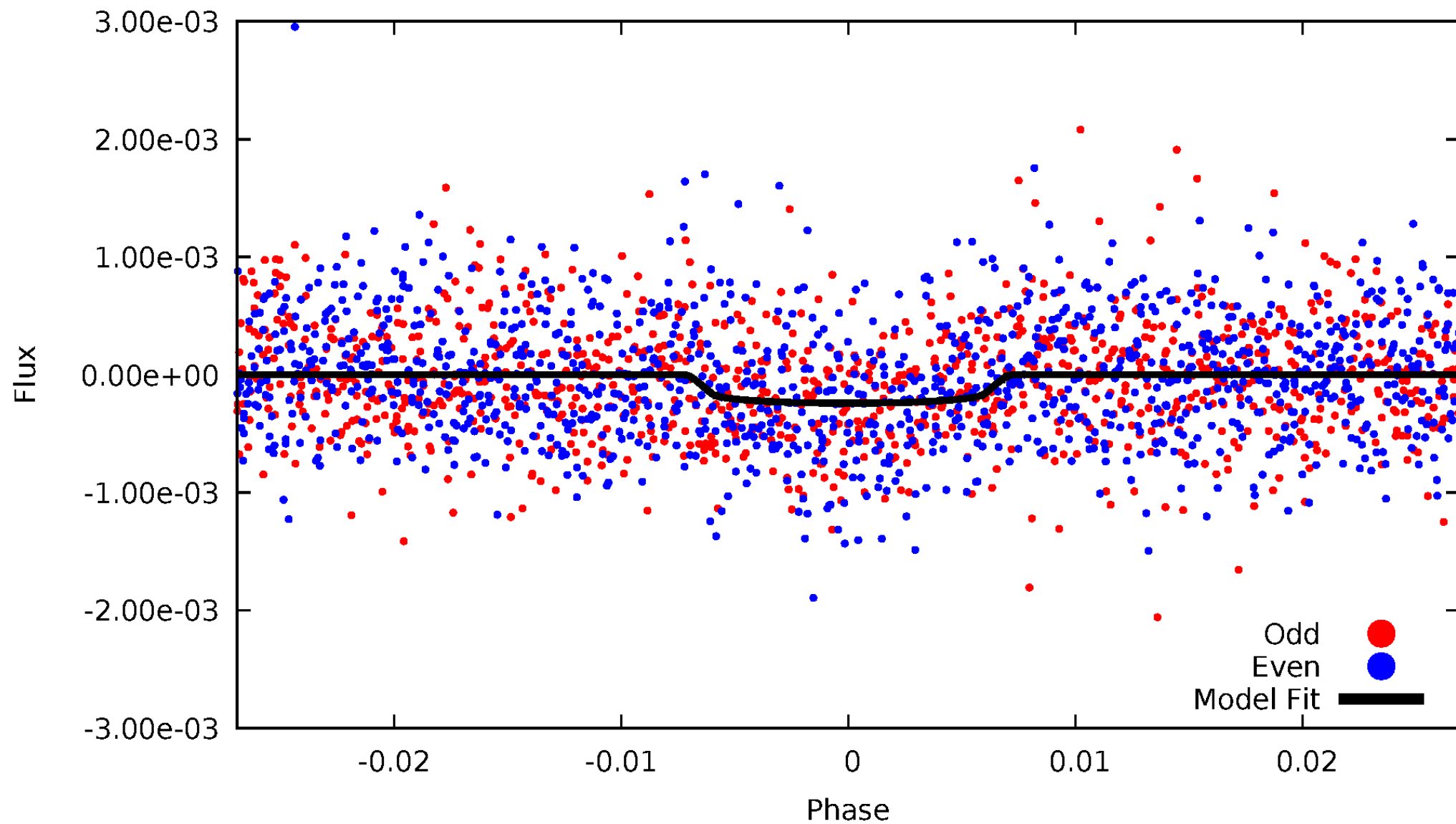


TCE 004932689-01



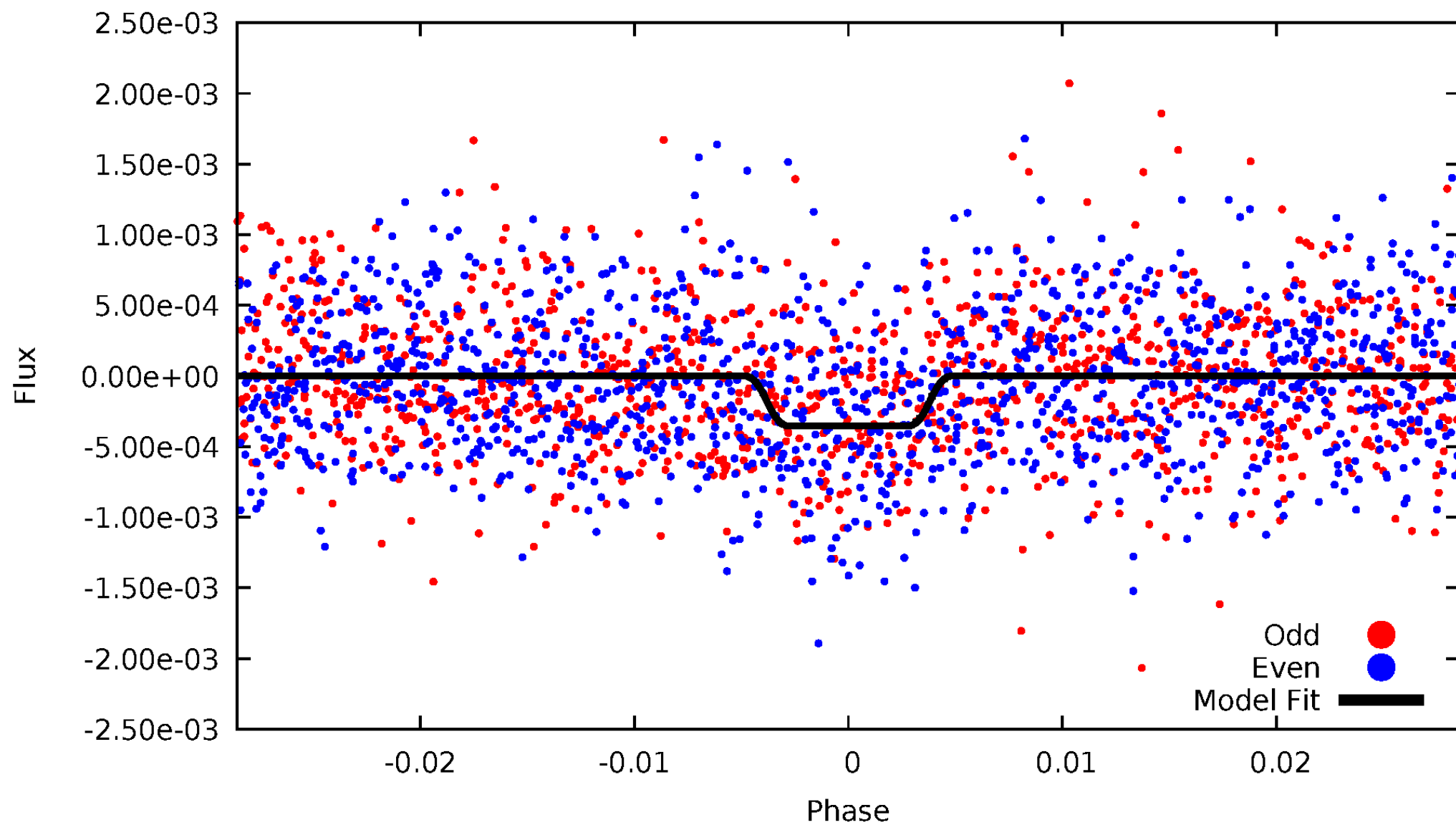
DV Odd/Even

TCE 004932689-01

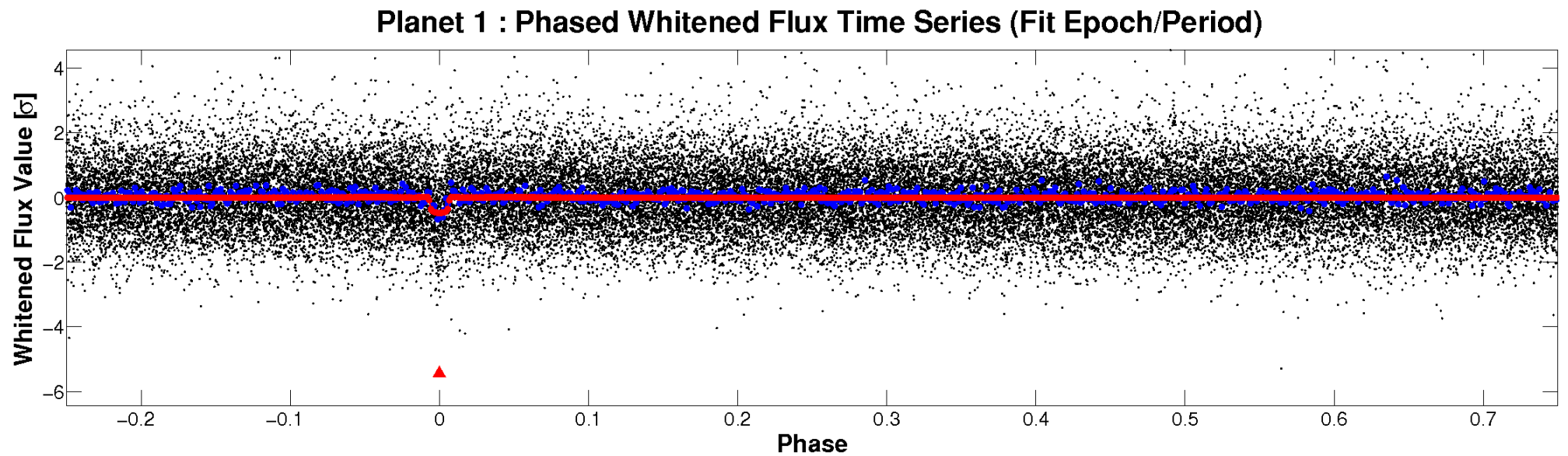
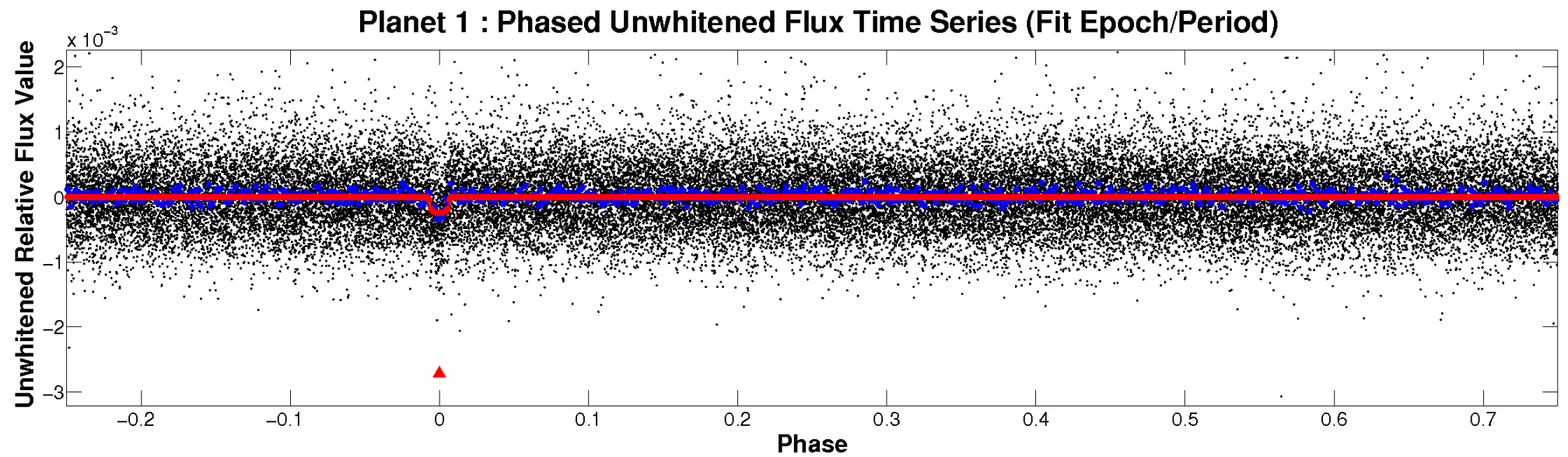


ALT Odd/Even

TCE 004932689-01

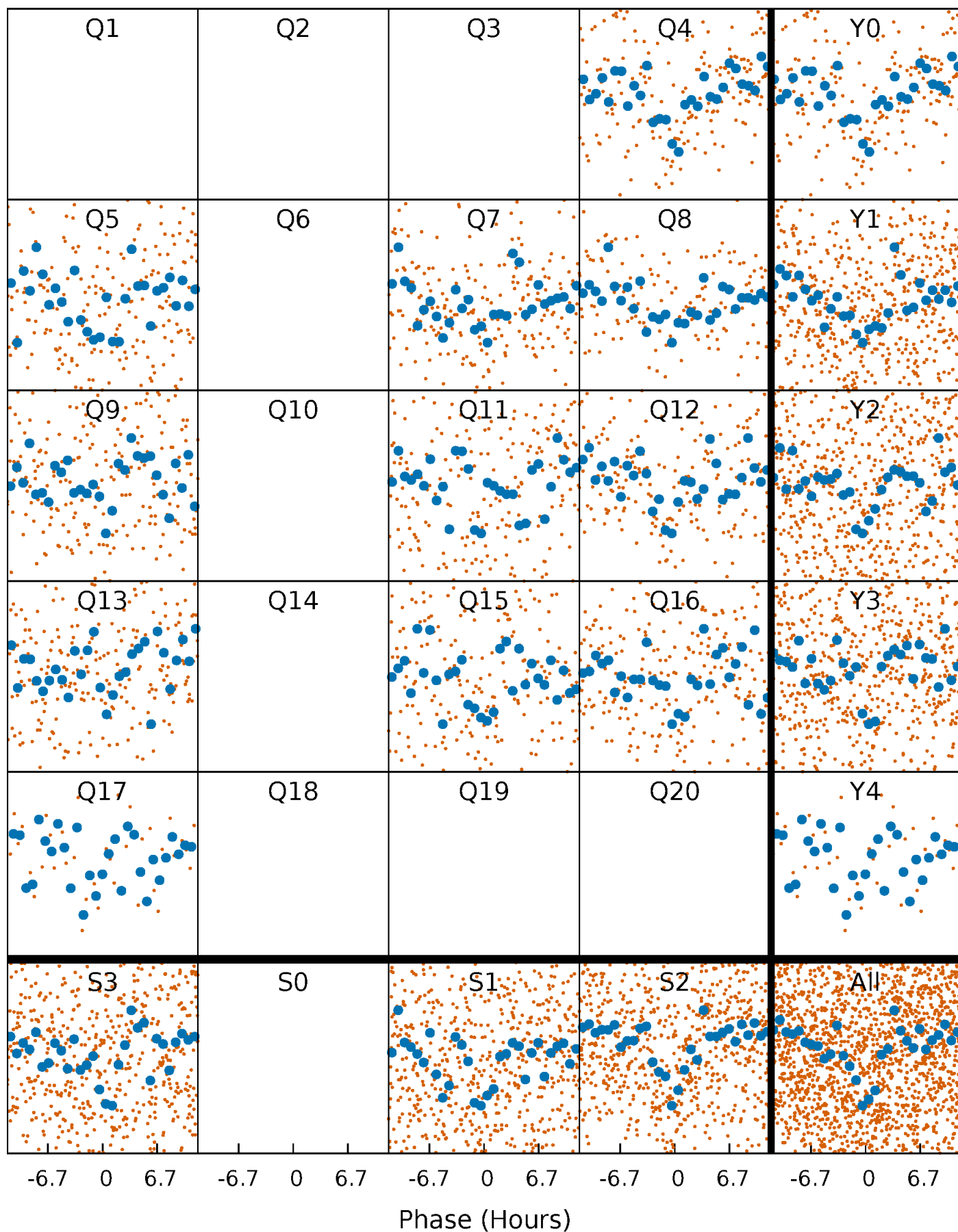


Non-Whitened Vs. Whitened Light Curve



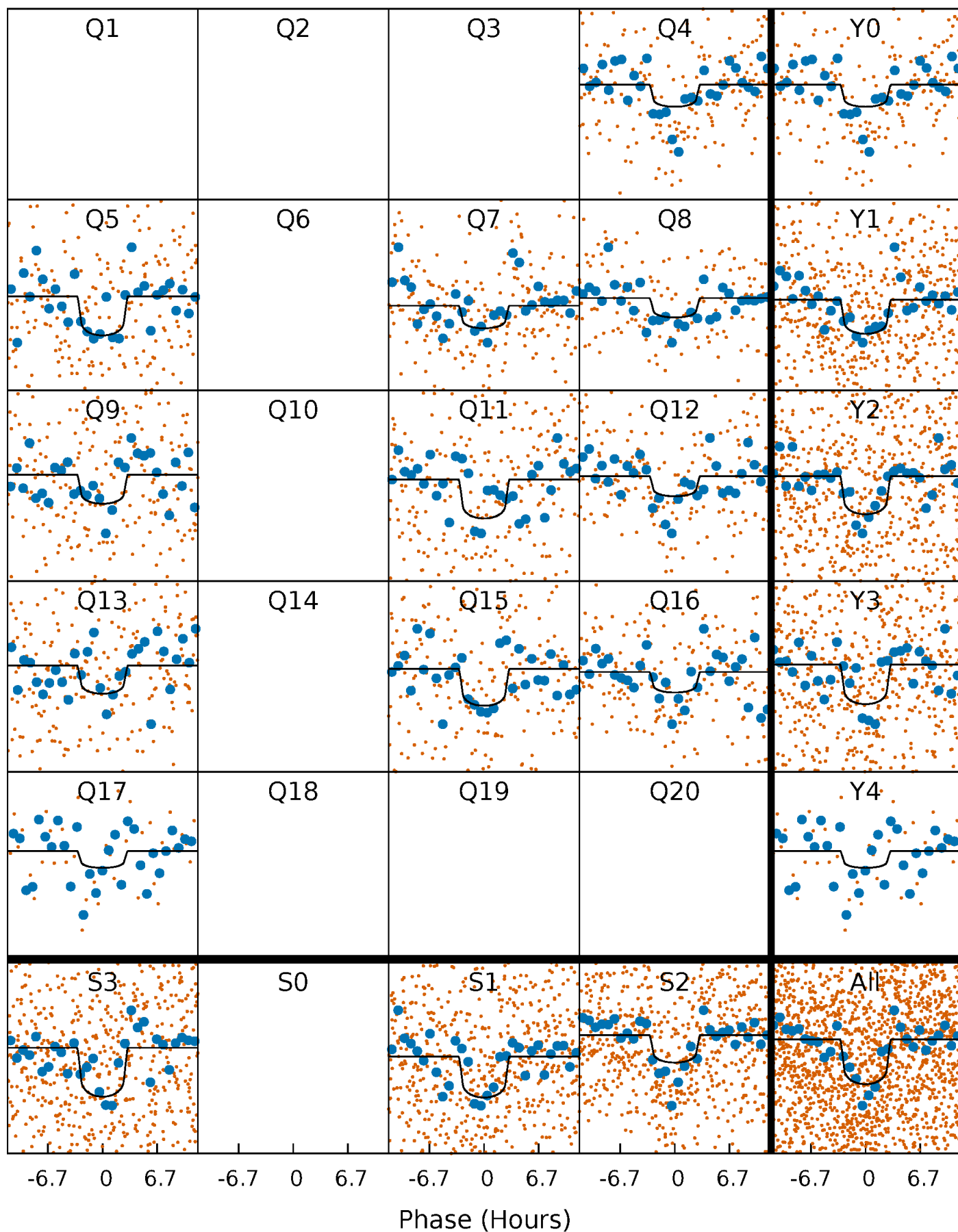
PDC Quarter-Phased Transit Curves

TCE 004932689-01 P= 18.111767 Days $T_0=134.732425$ (BKJD)



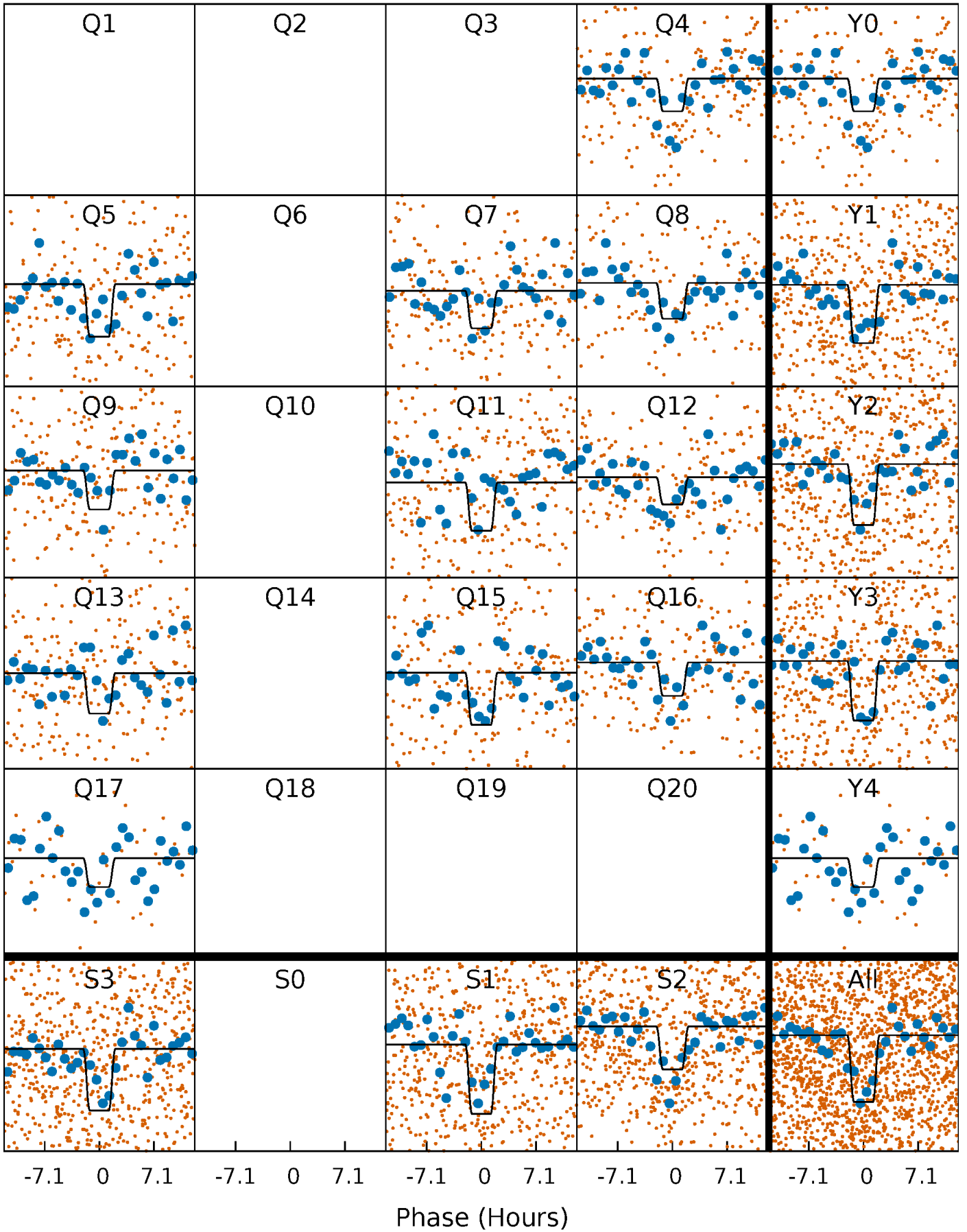
DV Quarter-Phased Transit Curves

TCE 004932689-01 P= 18.111767 Days $T_0=134.732425$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

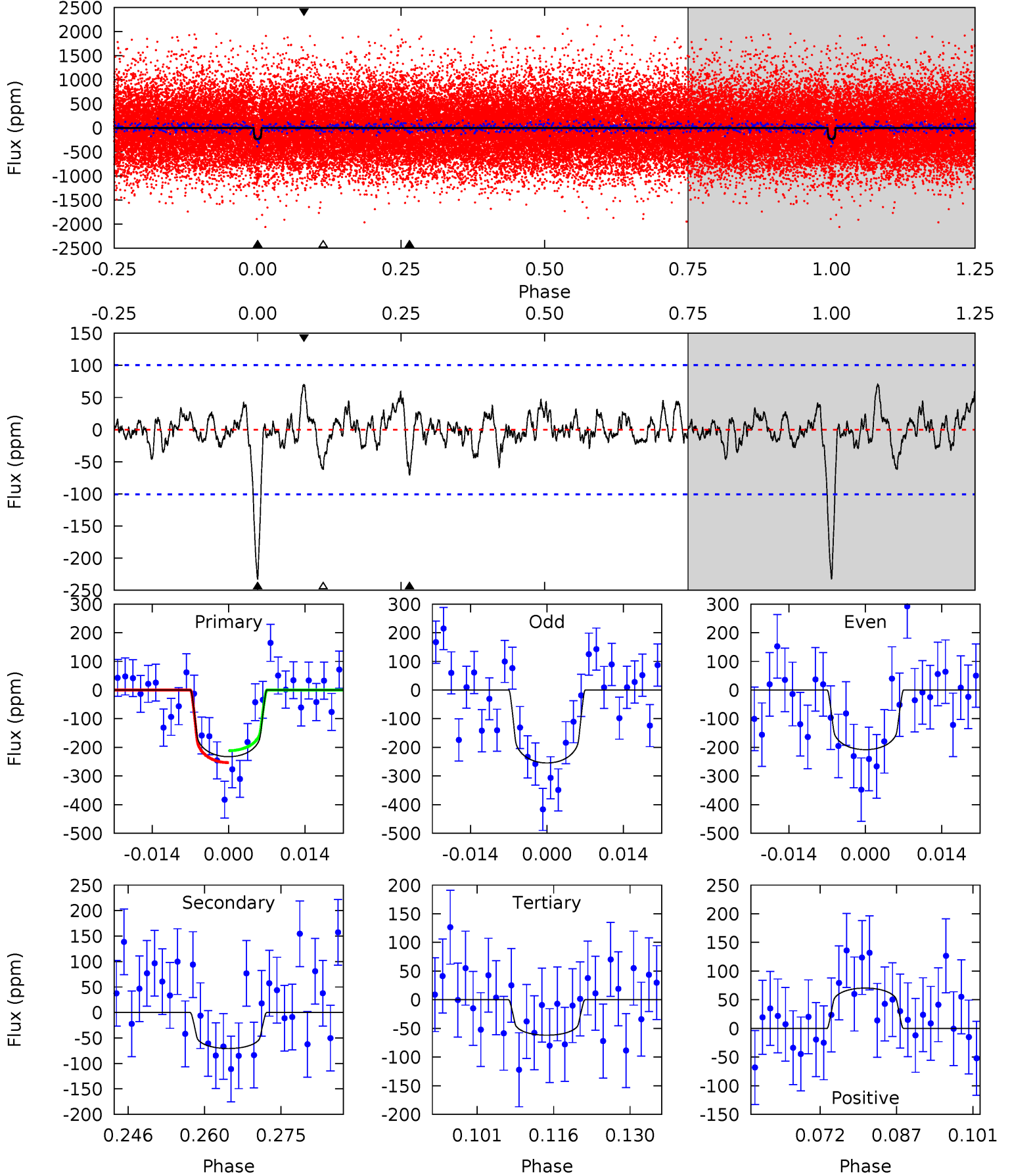
TCE 004932689-01 P= 18.111812 Days $T_0=134.727809$ (BKJD)



DV Model-Shift Uniqueness Test

004932689-01, $P = 18.111767$ Days, $E = 134.732425$ Days

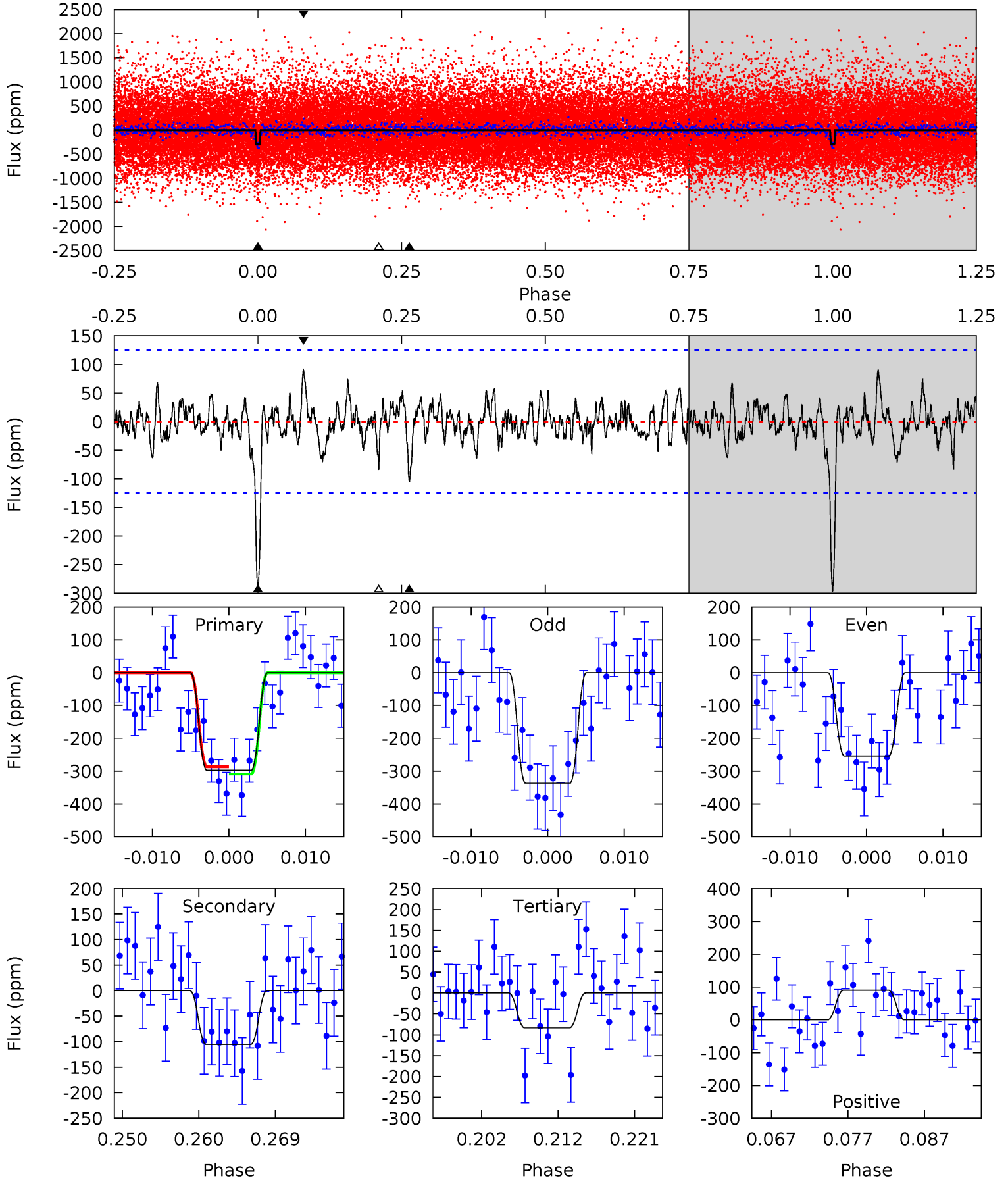
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	3.48	3.05	3.47	4.96	2.45	0.97	8.42	8.00	0.44	0.01	1.14	0.92	0.23	1.03



Alt Model-Shift Uniqueness Test

004932689-01, $P = 18.111812$ Days, $E = 134.727809$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	4.24	3.37	3.65	5.03	2.59	1.02	8.62	8.34	0.88	0.60	1.67	0.96	0.23	0.45



Stellar Parameters For KIC 004932689

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6434^{+179}_{-246}	$4.394^{+0.062}_{-0.188}$	$-0.100^{+0.250}_{-0.300}$	$1.138^{+0.330}_{-0.141}$	$1.169^{+0.162}_{-0.162}$	$1.119^{+0.375}_{-0.553}$
	+3%/-4%	+1%/-4%	+250%/-300%	+29%/-12%	+14%/-14%	+33%/-49%
Source	KIC0	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 004932689-01 / KOI 3453.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-71 ± 20	$2.11^{+1.48}_{-1.23}$	1138^{+74}_{-59}	4662^{+2517}_{-823}	171^{+802}_{-117}
Alt.	-105 ± 25	$2.55^{+1.46}_{-1.32}$	1143^{+84}_{-62}	4754^{+1989}_{-788}	170^{+601}_{-104}

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 $A_{obs} \gg 1.0$

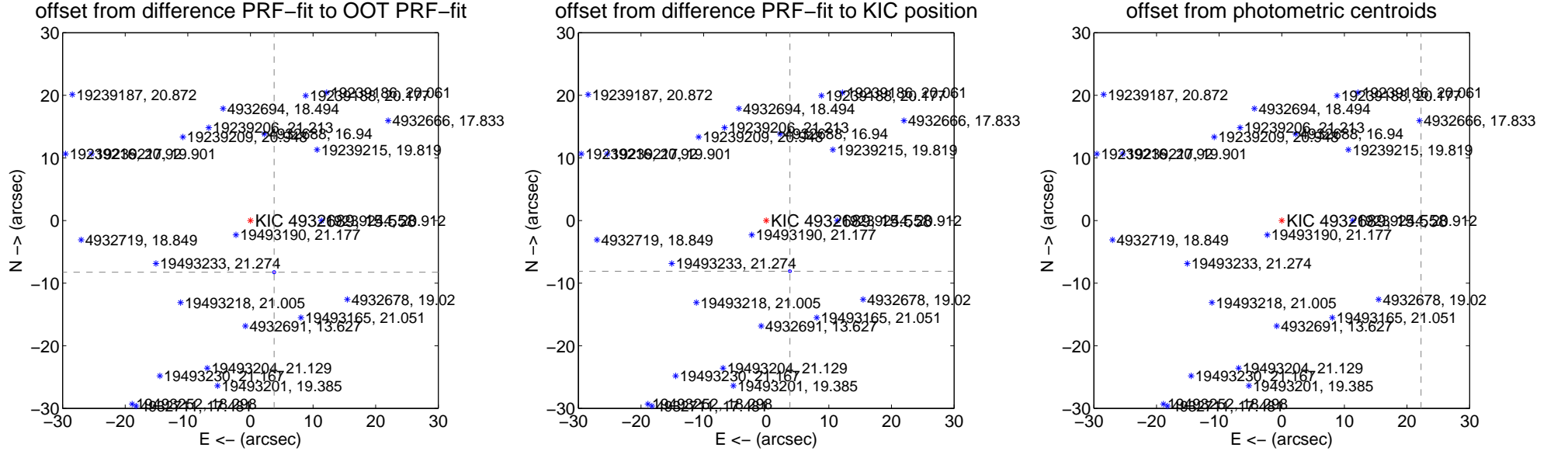
DV Centroid Data

Supplemental centroid analysis for 004932689-01. Kepler magnitude: 15.56. Transit SNR 9.59

There are 4 quarters with good PRF difference image offsets

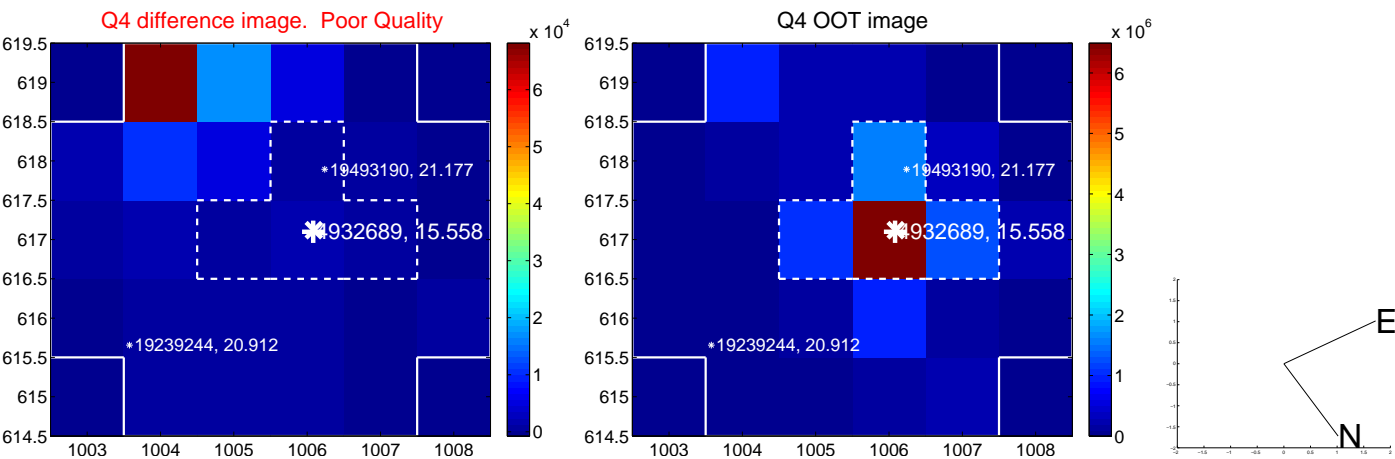
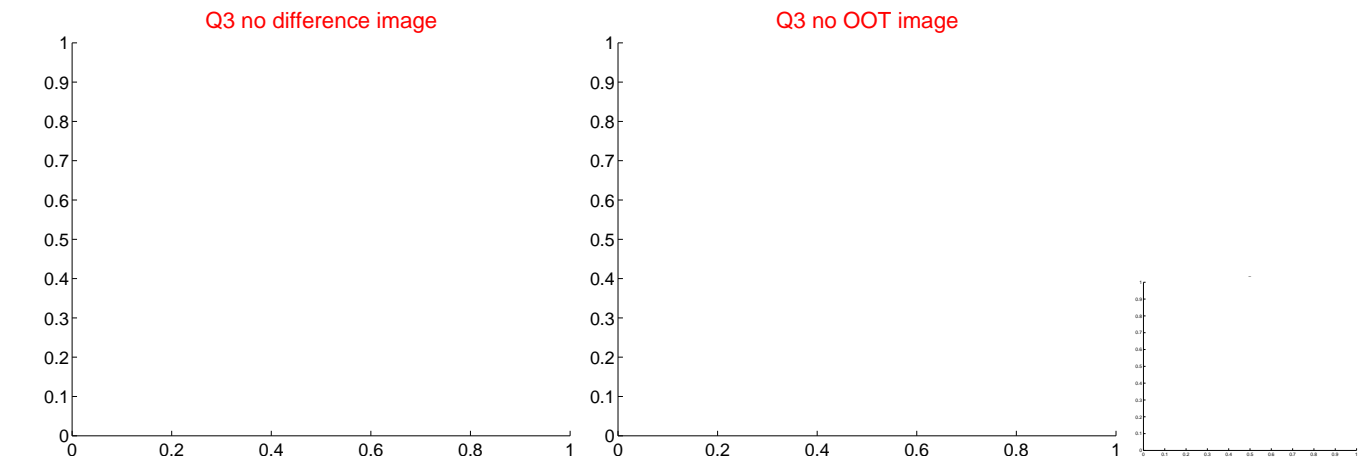
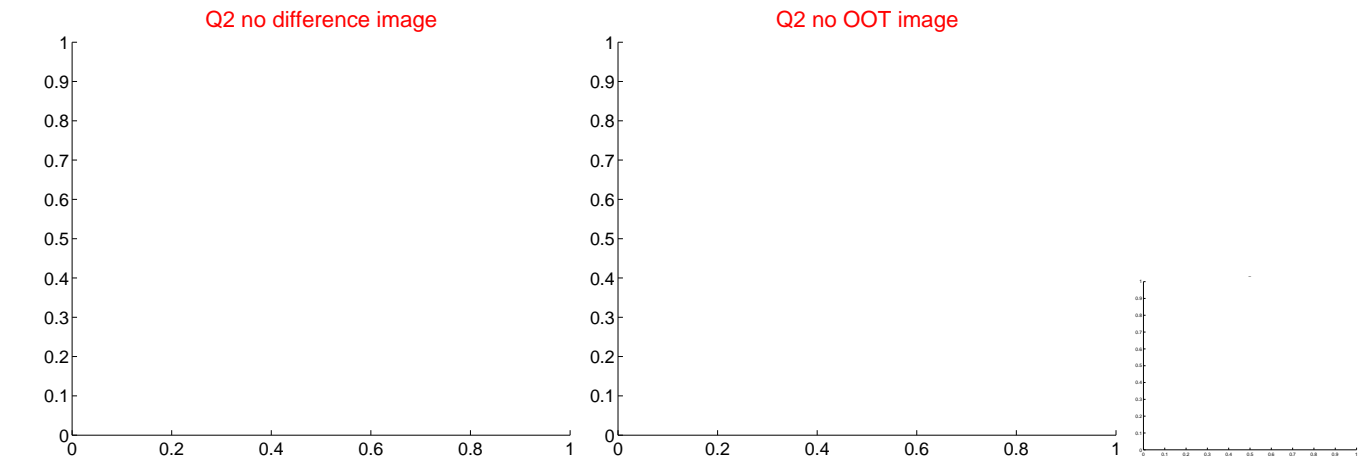
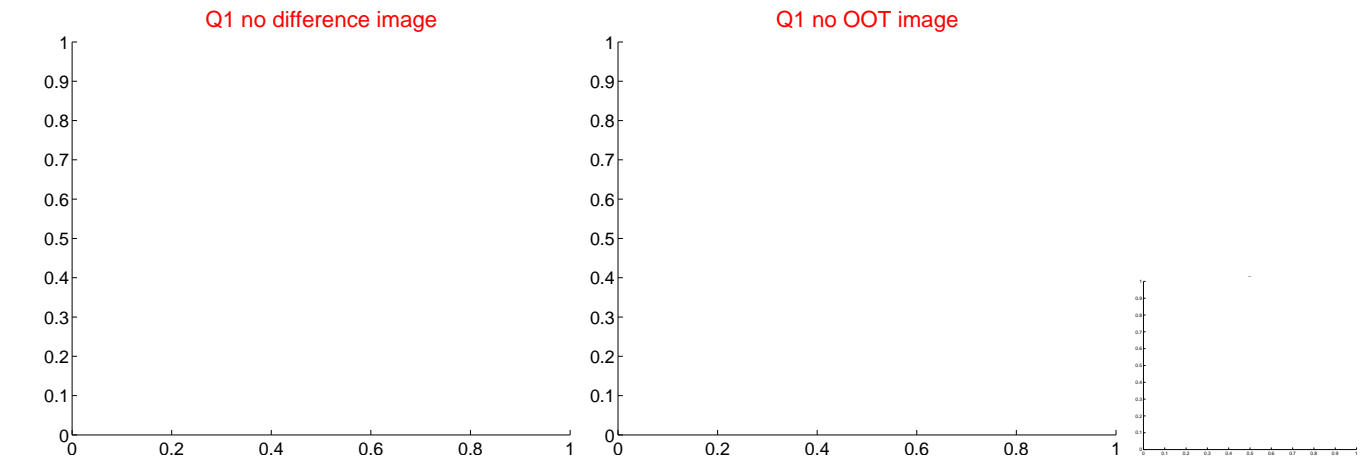
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.079 \pm 0.083	109.36	-3.787 \pm 0.074	-8.252 \pm 0.095
PRF-fit source offset from KIC position	8.939 \pm 0.077	115.93	-3.786 \pm 0.074	-8.097 \pm 0.078
photometric centroid source offset	91.87 \pm 3.07	29.96	-22.24 \pm 1.96	-89.14 \pm 3.12

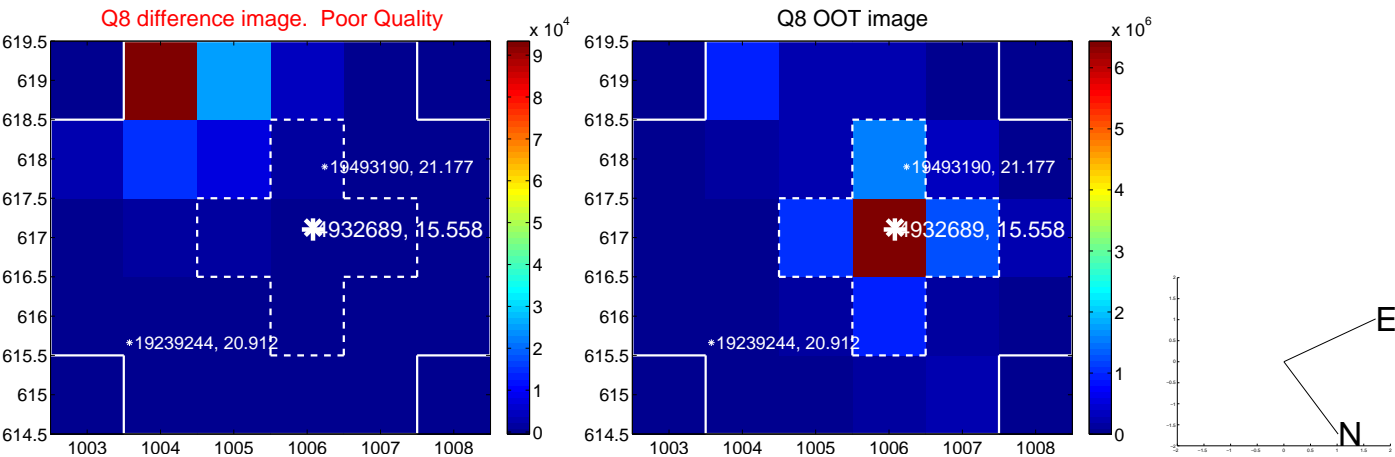
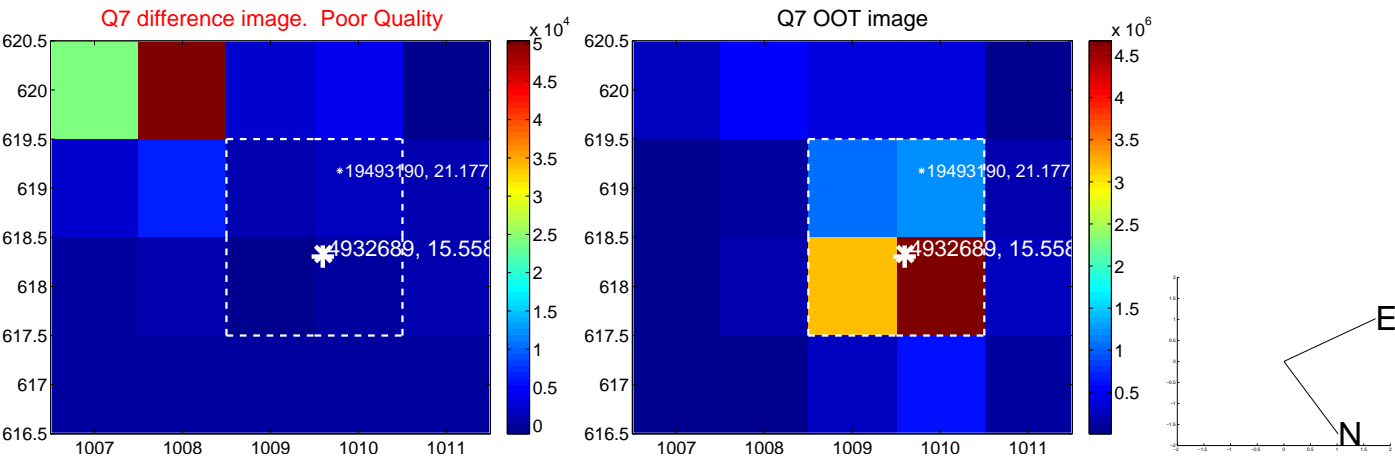
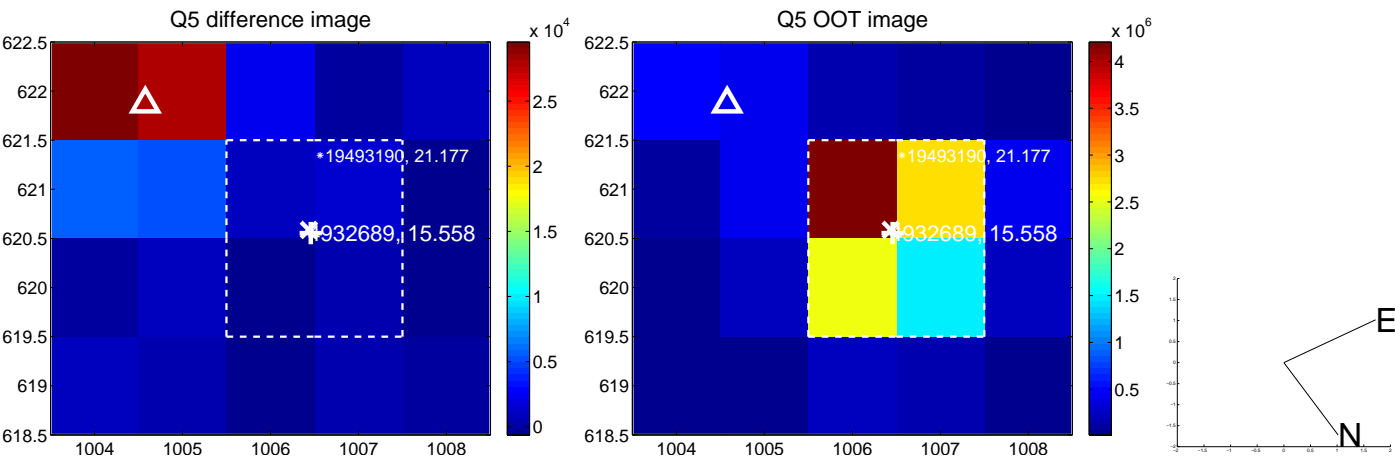


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

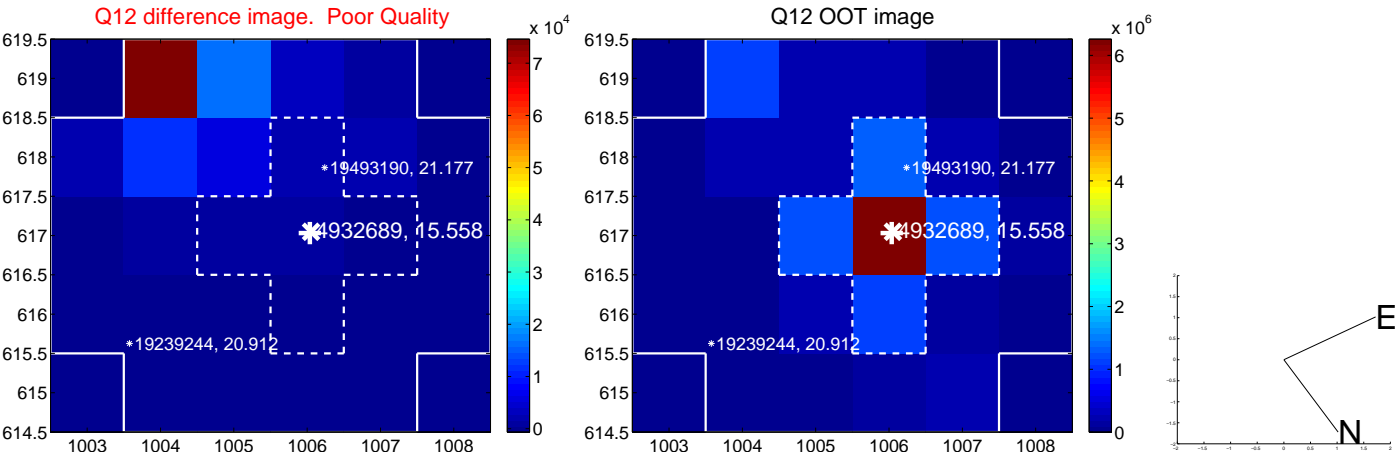
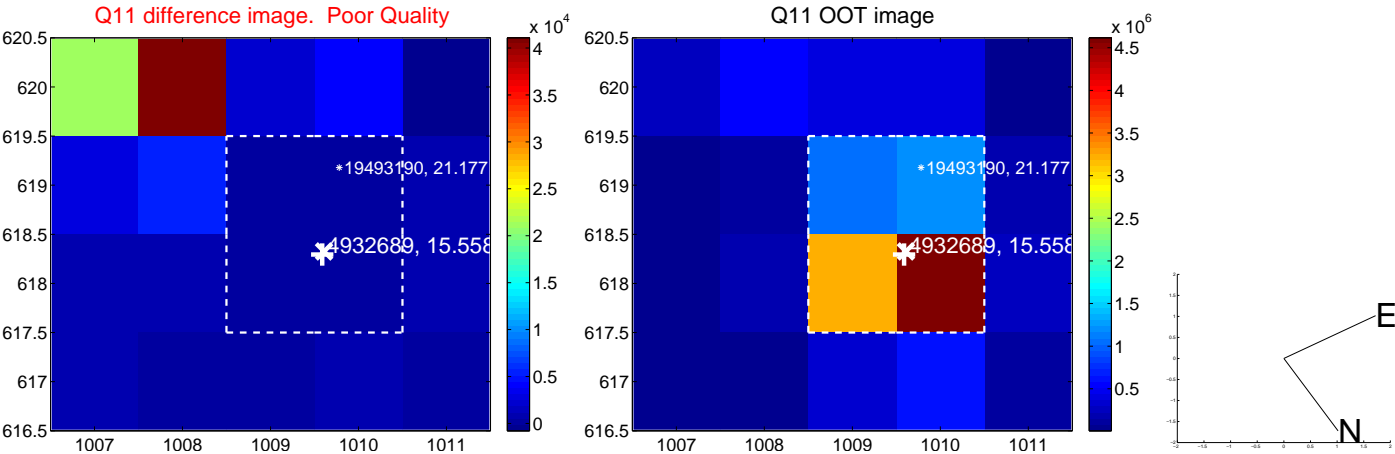
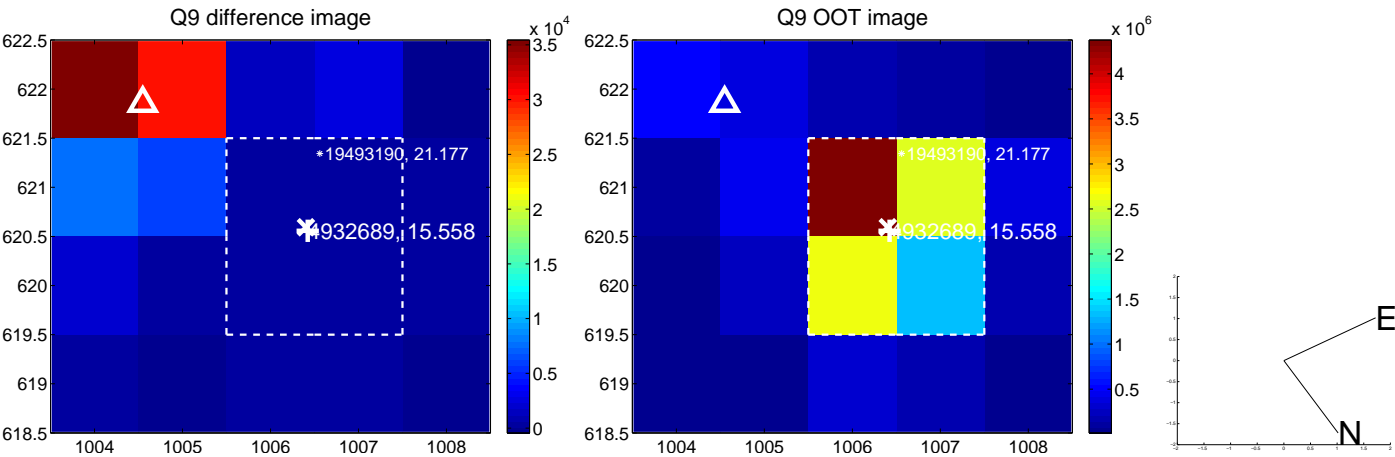
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



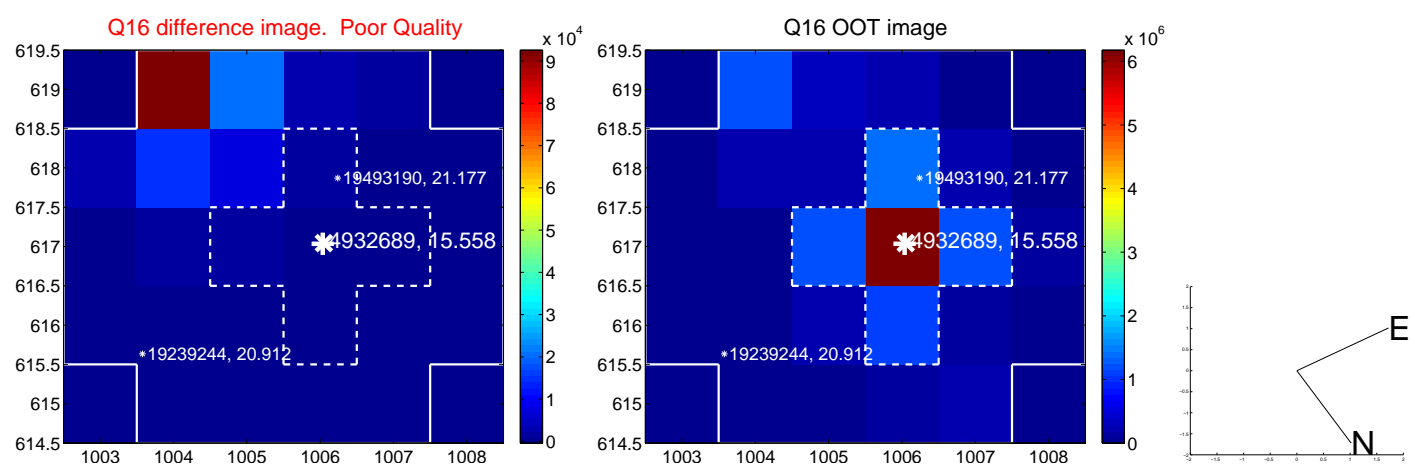
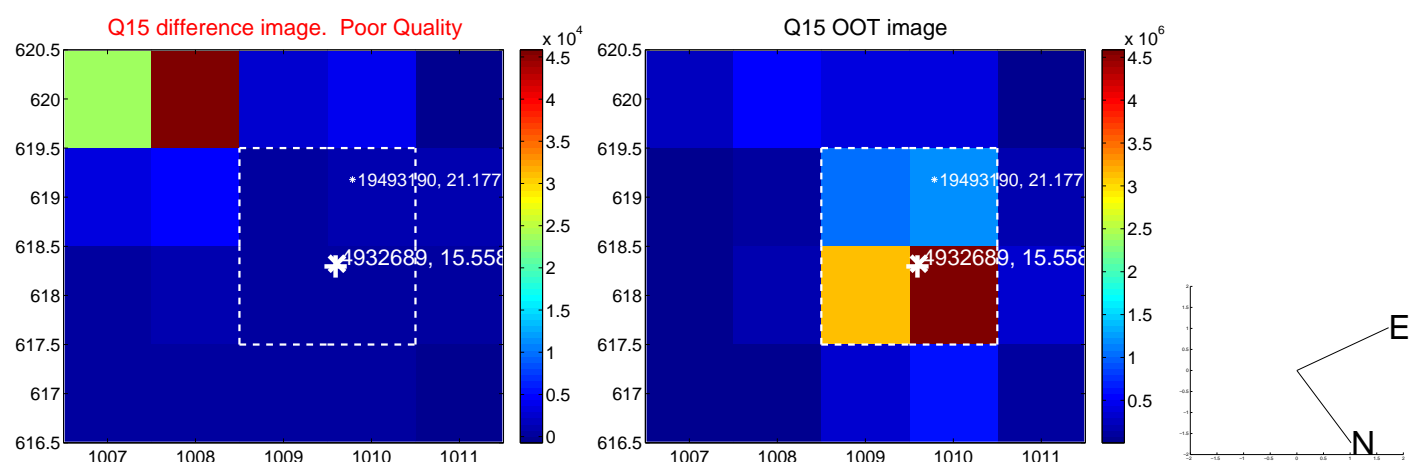
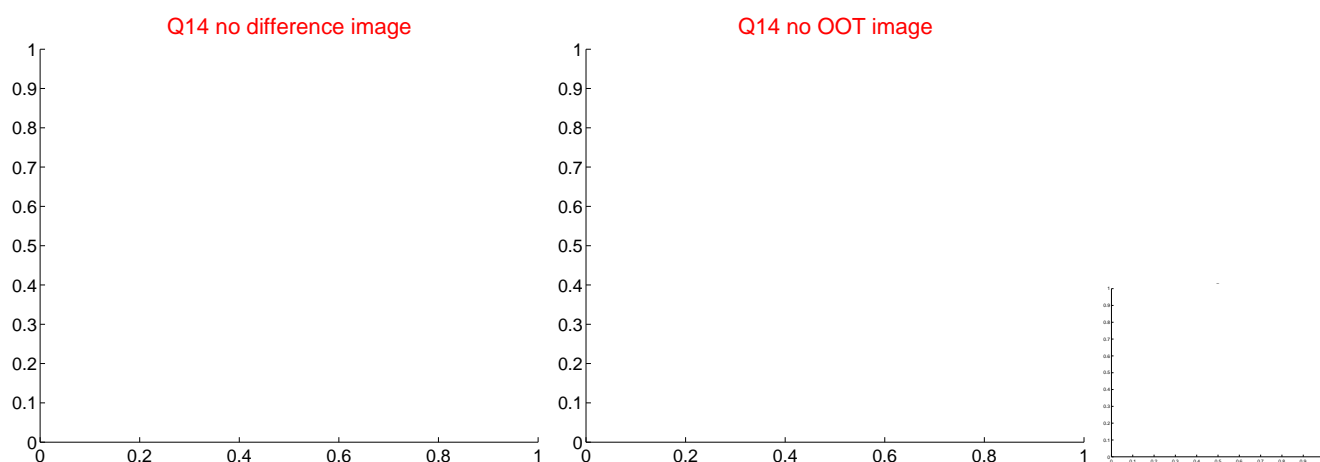
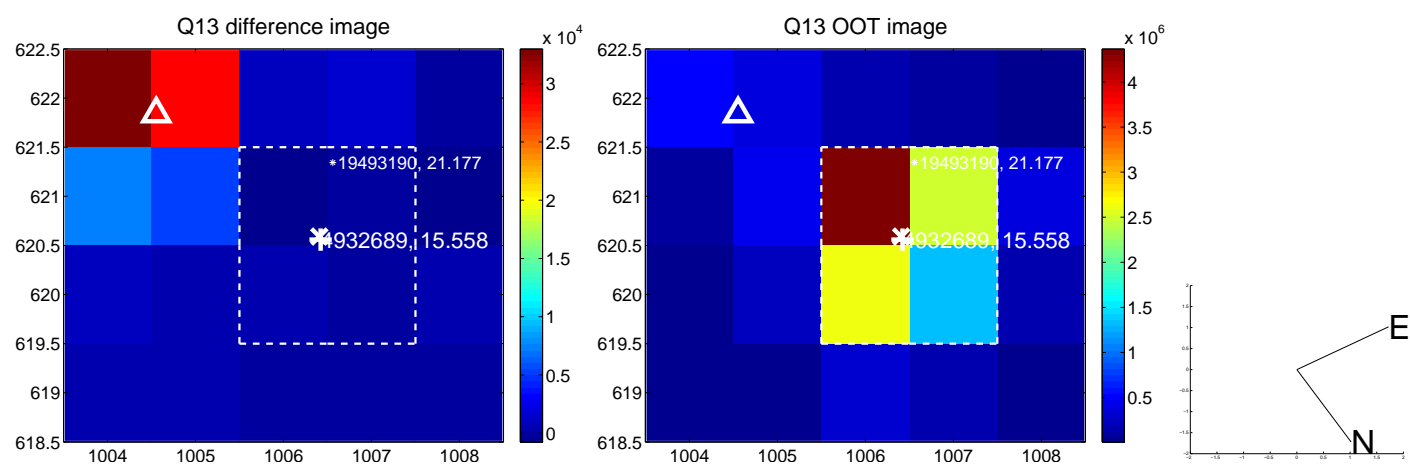
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

