

KIC 009935242

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})
009935242-01	OBS	No	0.784788	132.024231	93.6	3.383	126.0	13.9	1.00	6024	1.02	4079.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009935242-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET

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

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

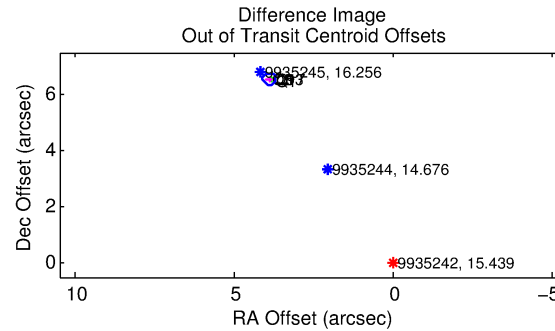
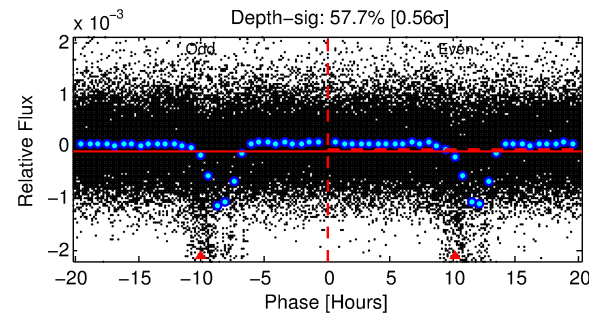
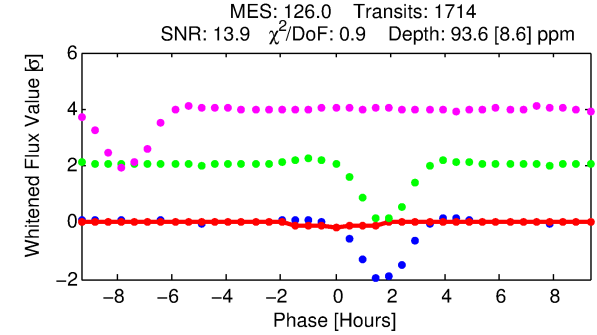
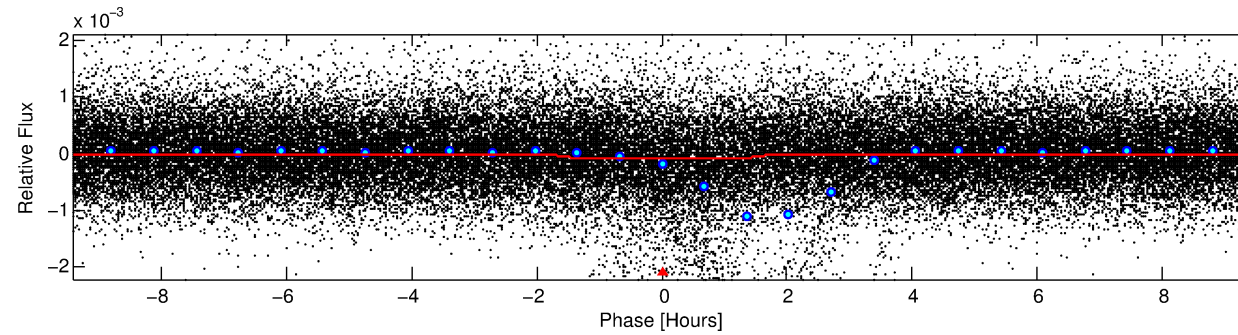
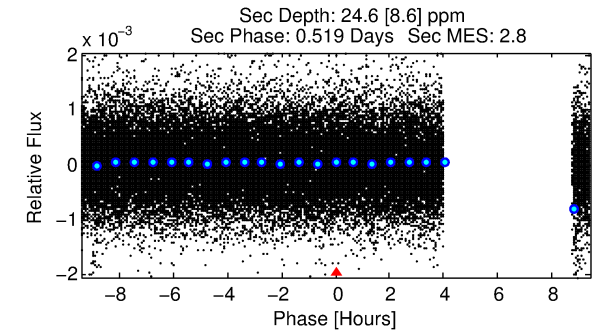
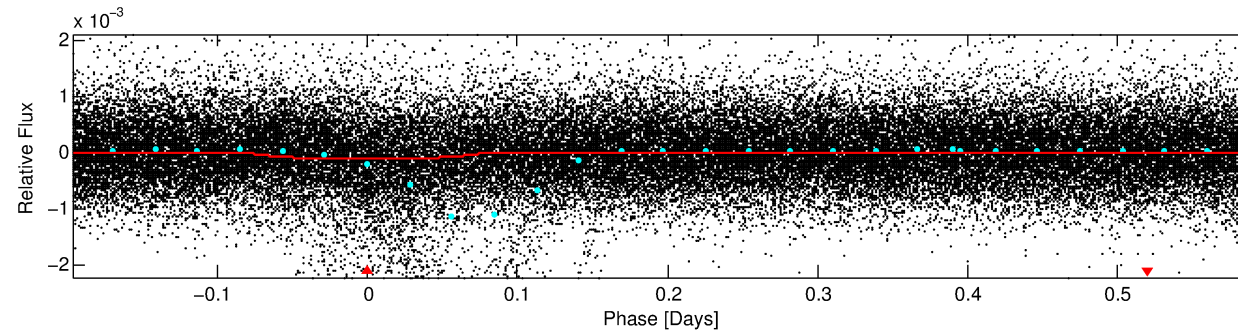
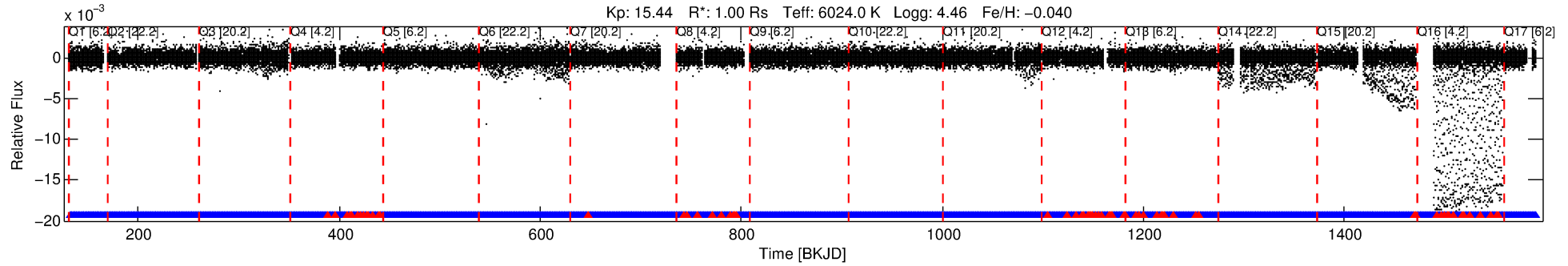
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009935242-01

No Significant Match Found

DV One-Page Summary

KIC: 9935242 Candidate: 1 of 1 Period: 0.785 d



DV Fit Results:

Period = 0.78479 [0.00001] d
Epoch = 132.0242 [0.0028] BKJD
Rp/R* = 0.0094 [0.0066]
a/R* = 1.56 [3.10]
b = 0.67 [2.82]
Seff = 4079.07 [1664.90]
Teff = 2038 [208] K
Rp = 1.02 [0.79] Re
a = 0.0170 [0.0045] AU
Ag = 3.72 [5.58] [0.49σ]
Teffp = 4377 [1592] K [1.46σ]

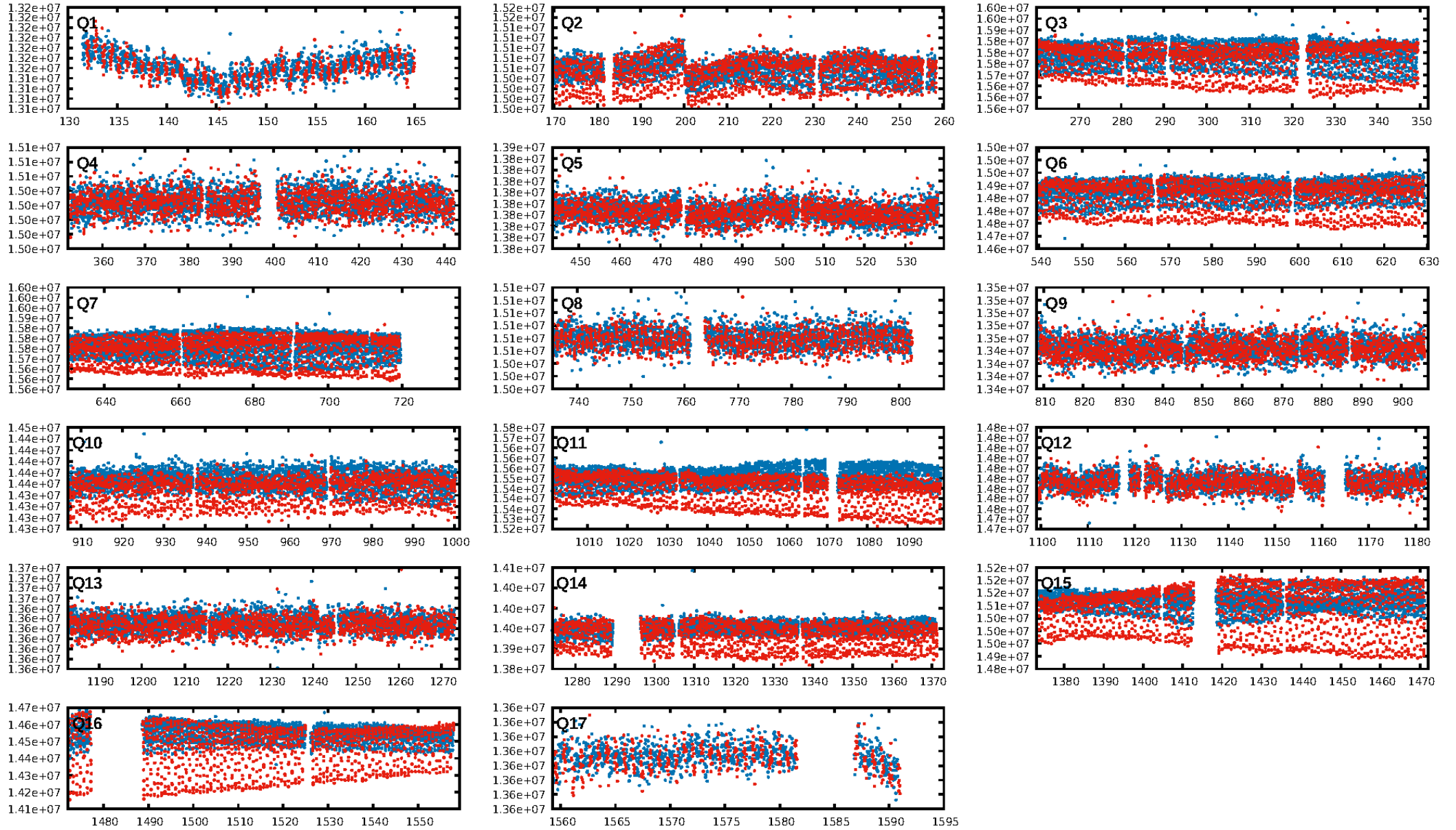
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.96 [1568/1636]
GhostDiagnostic-chr: -0.5518
Centroid-sig: 0.0%
Centroid-so: 25.938 arcsec [17.59σ]
OotOffset-rm: 7.624 arcsec [110.96σ]
KicOffset-rm: 8.008 arcsec [106.08σ]
OotOffset-st: 0/0/0/5 [5]
KicOffset-st: 0/0/0/5 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [17/17]

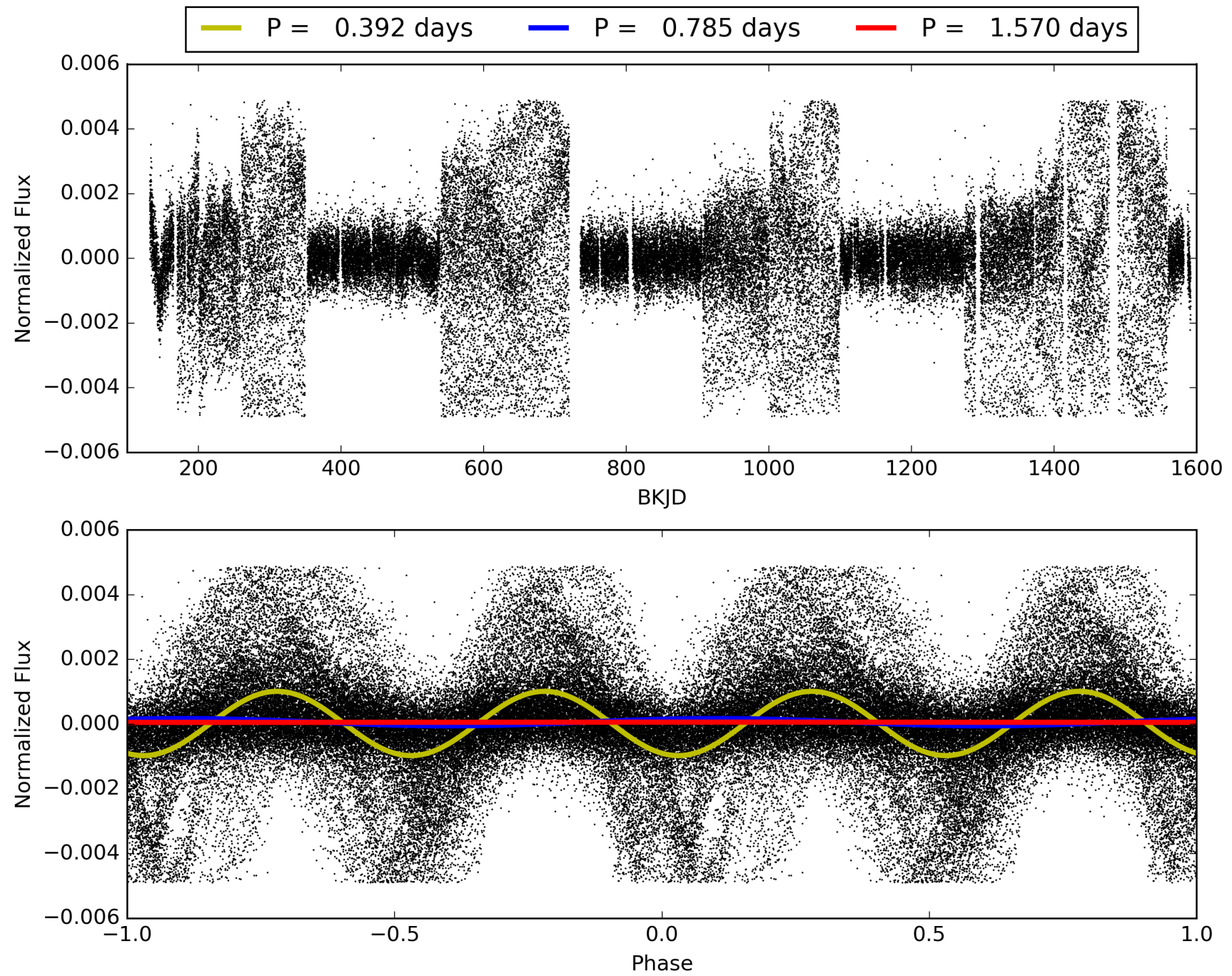
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:47:50 Z

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

TCE 009935242-01, PDC Light Curves

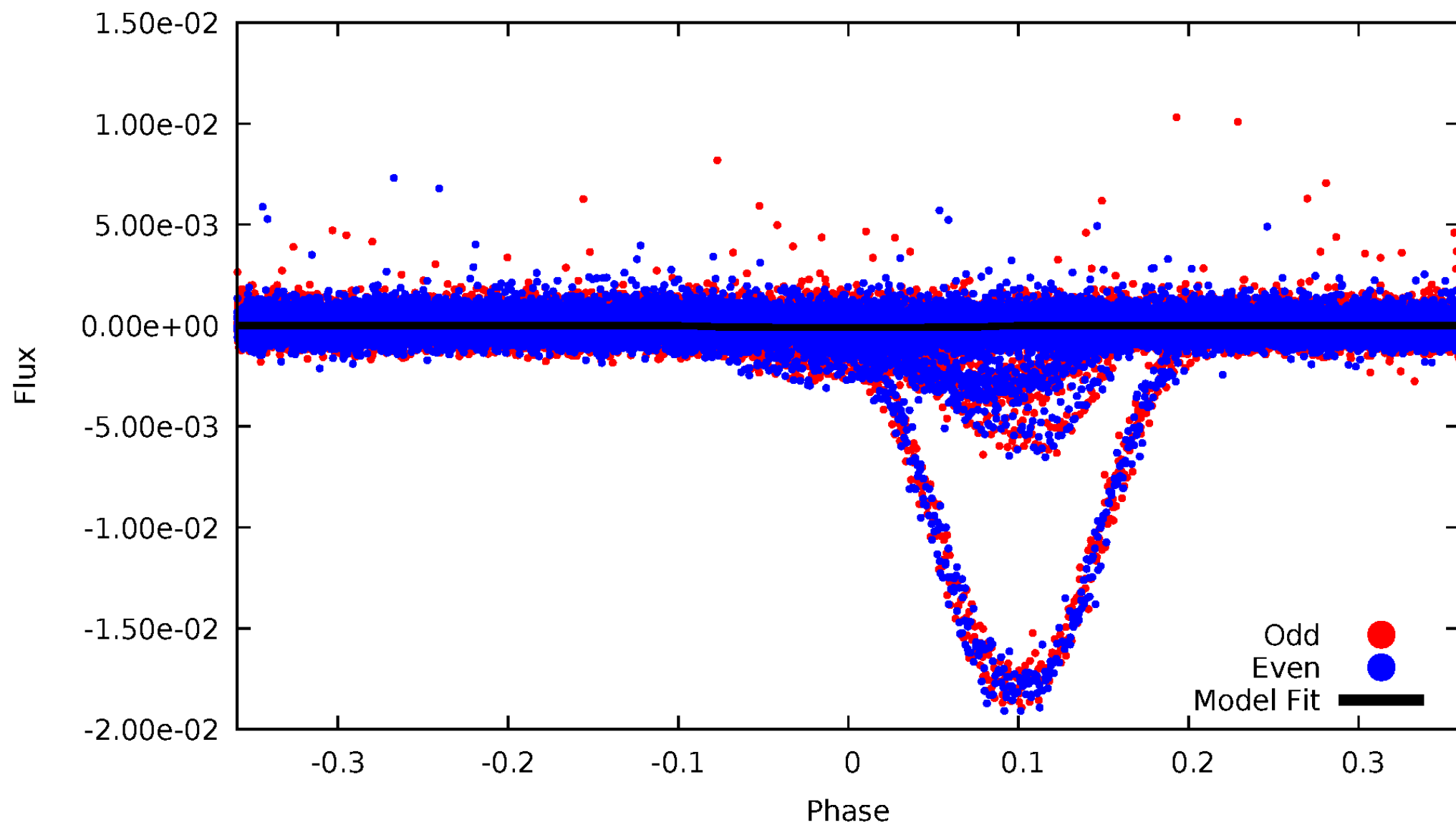


TCE 009935242-01



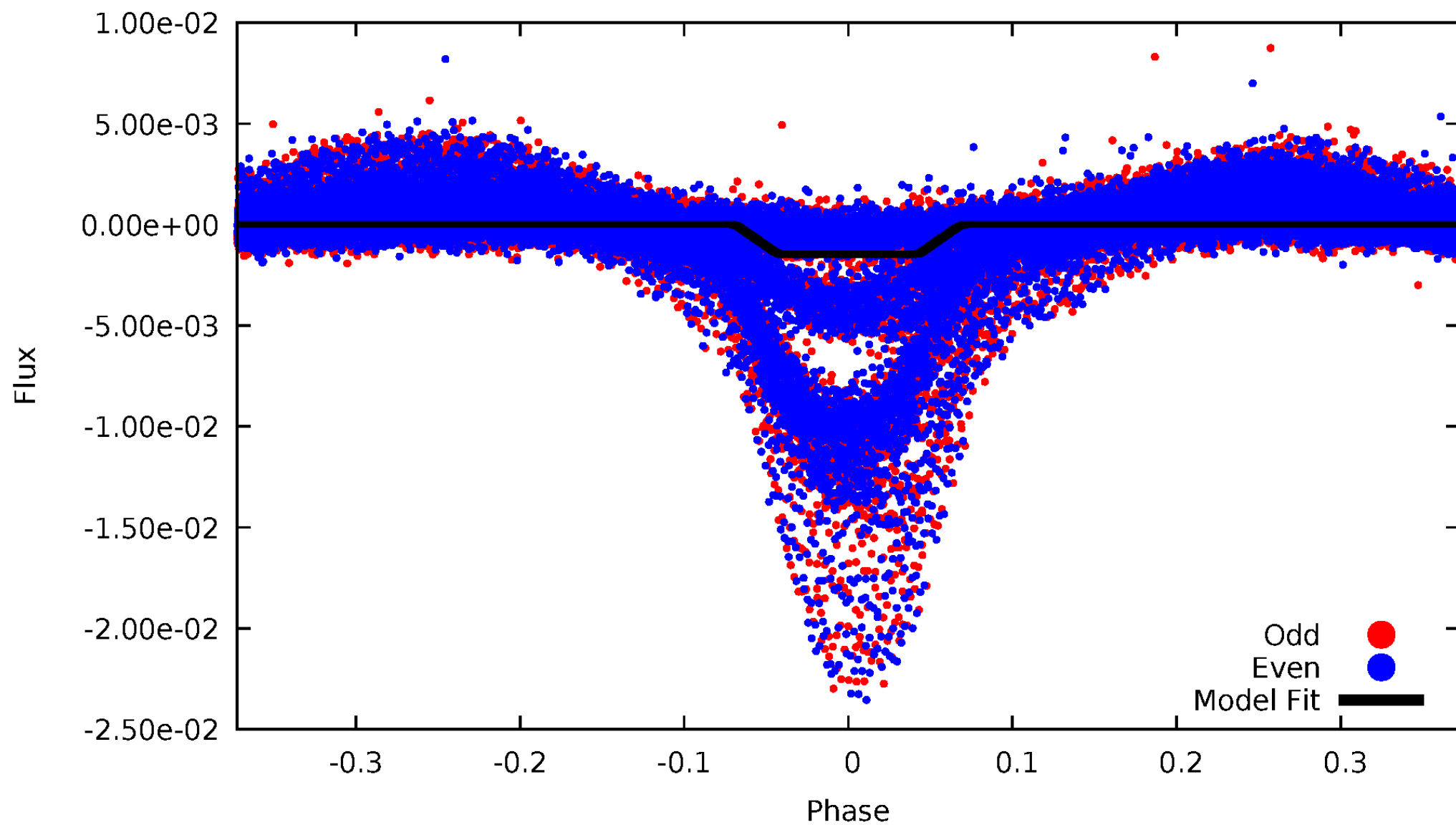
DV Odd/Even

TCE 009935242-01



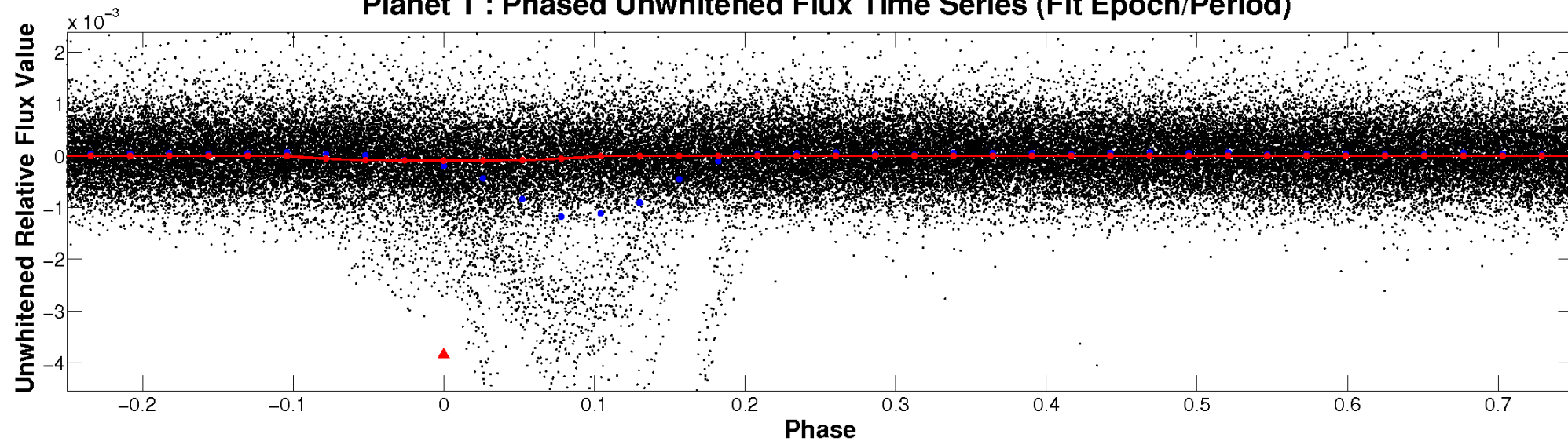
ALT Odd/Even

TCE 009935242-01

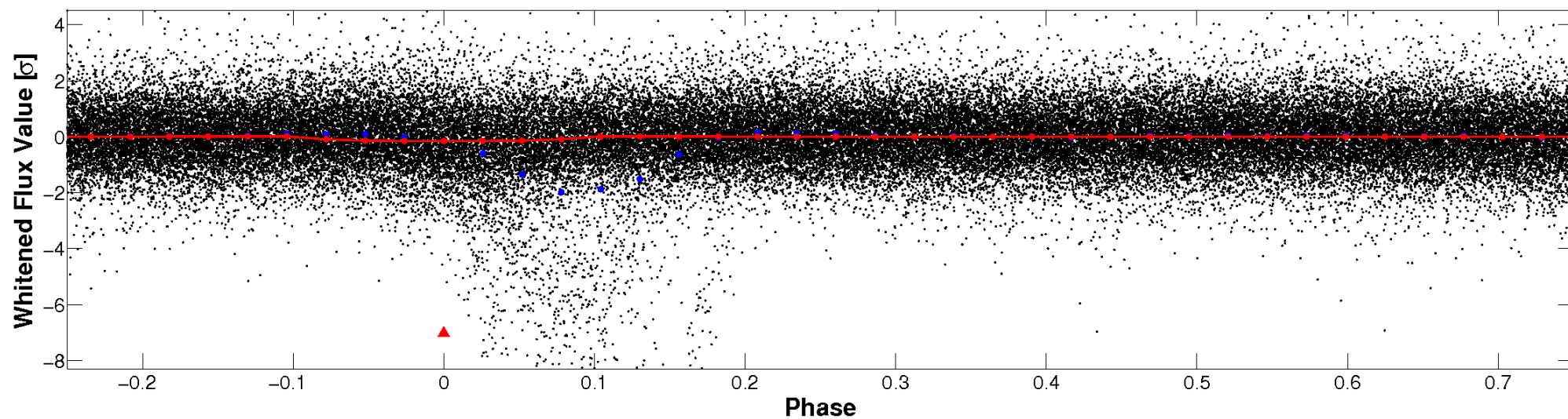


Non-Whitened Vs. Whitened Light Curve

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

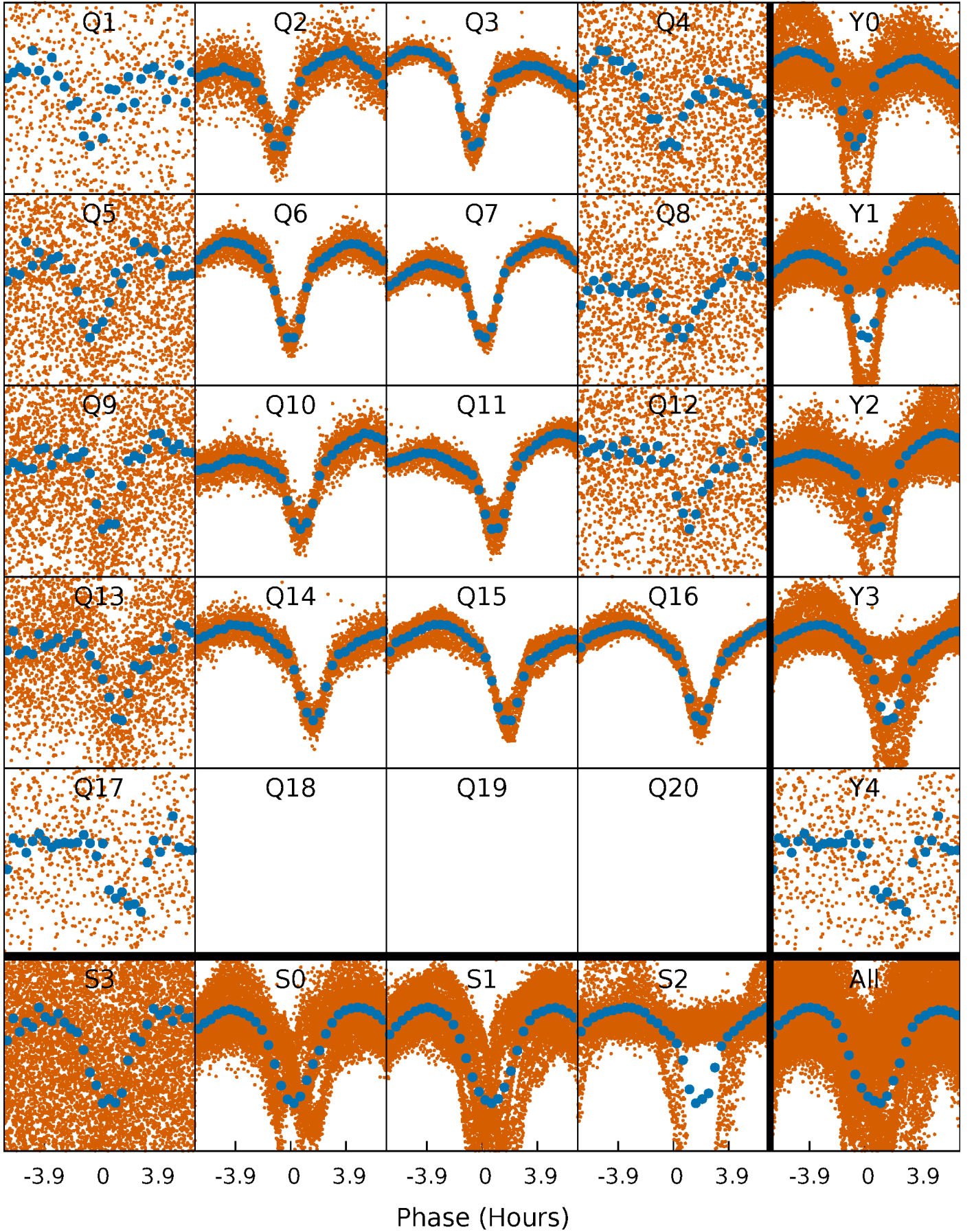


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



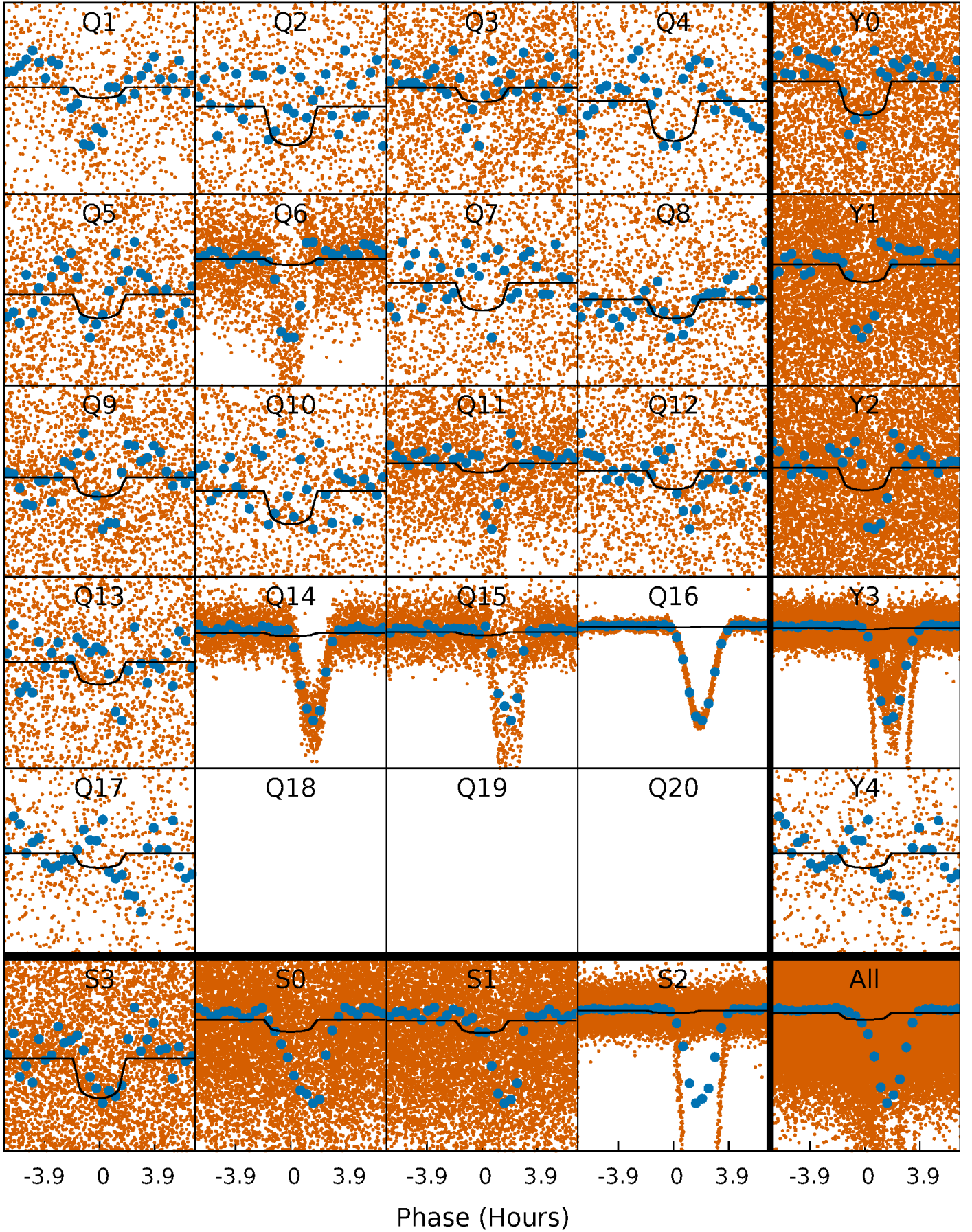
PDC Quarter-Phased Transit Curves

TCE 009935242-01 P= 0.784788 Days $T_0=132.024231$ (BKJD)



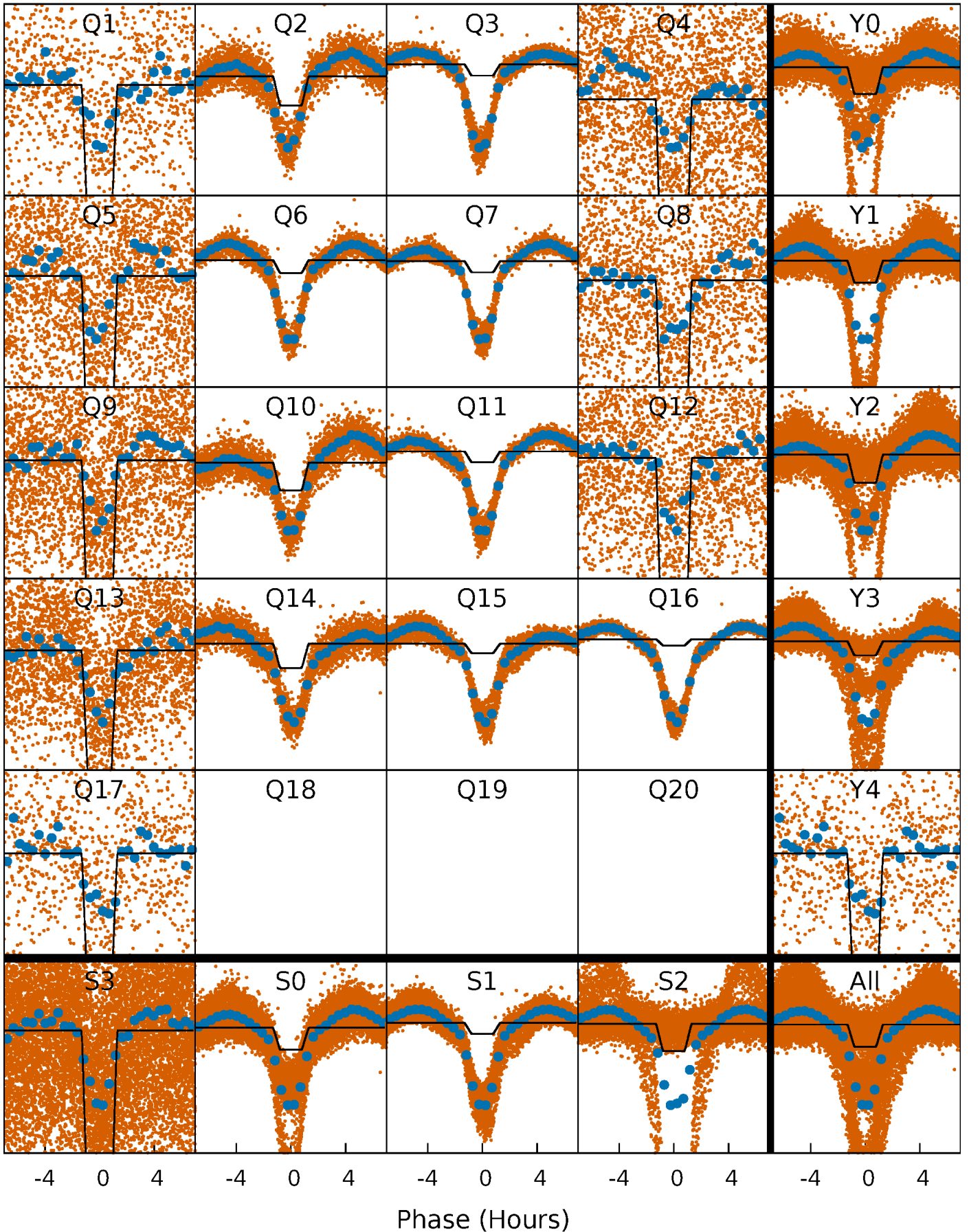
DV Quarter-Phased Transit Curves

TCE 009935242-01 P= 0.784788 Days $T_0=132.024231$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

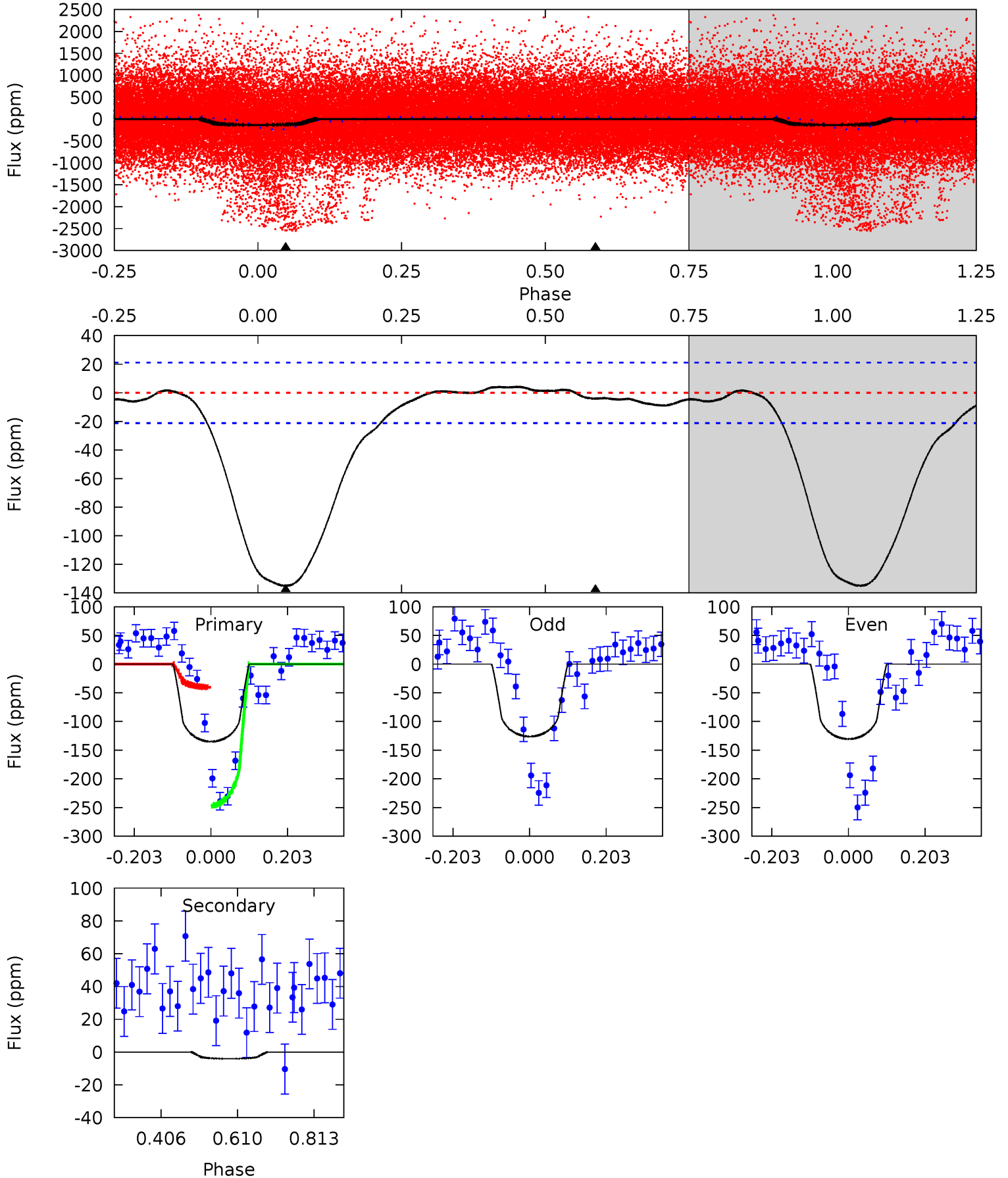
TCE 009935242-01 P= 0.784849 Days $T_0=131.990349$ (BKJD)



DV Model-Shift Uniqueness Test

009935242-01, P = 0.784788 Days, E = 131.239443 Days

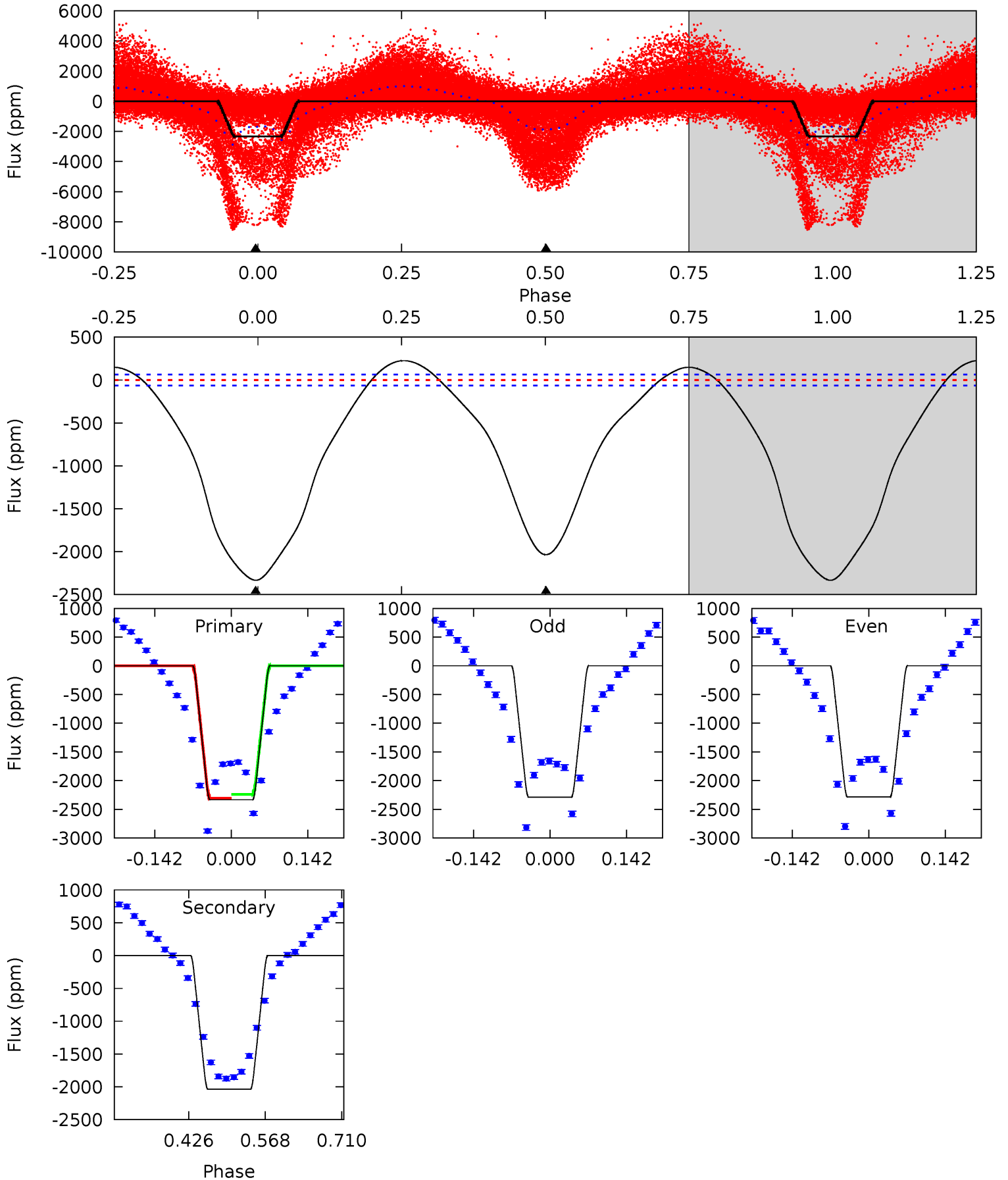
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.1	0.85	0	0	4.41	1.27	0.55	28.1	28.1	0.85	0.85	0.46	3.07	0.03	21.5



Alt Model-Shift Uniqueness Test

009935242-01, P = 0.784849 Days, E = 131.205500 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
165.8	144.6	0	0	4.49	1.47	14.4	165.8	165.8	144.6	144.6	0.07	1.48	0.09	2.25



Stellar Parameters For KIC 009935242

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6024^{+163}_{-199}	$4.464^{+0.056}_{-0.210}$	$-0.040^{+0.250}_{-0.300}$	$0.997^{+0.318}_{-0.106}$	$1.054^{+0.145}_{-0.145}$	$1.499^{+0.453}_{-0.828}$
	+3%/-3%	+1%/-5%	+625%/-750%	+32%/-11%	+14%/-14%	+30%/-55%
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 009935242-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 5	$1.15^{+0.74}_{-0.63}$	2901^{+201}_{-142}	2605^{+1542}_{-5736}	$0.390^{+1.916}_{-0.410}$
Alt.	-2035 ± 14	$4.32^{+1.06}_{-0.84}$	2905^{+216}_{-145}	6497^{+746}_{-507}	17^{+8}_{-6}

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 $A_{obs} \gg 1.0$

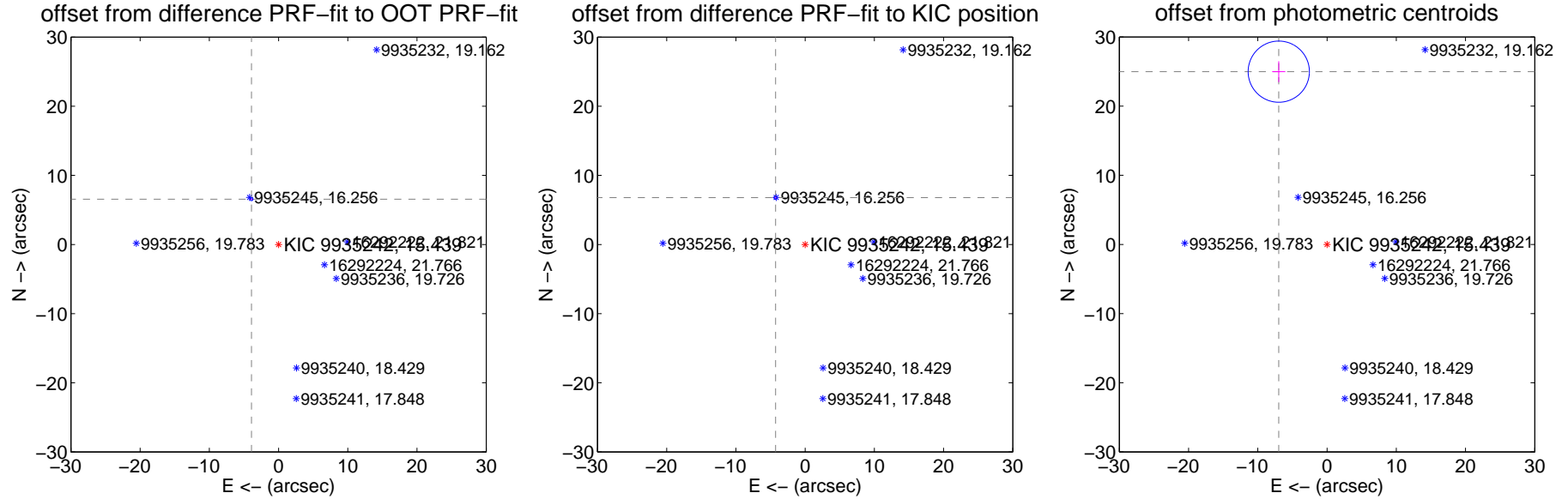
DV Centroid Data

Supplemental centroid analysis for 009935242-01. Kepler magnitude: 15.44. Transit SNR 13.91

There are 5 quarters with good PRF difference image offsets

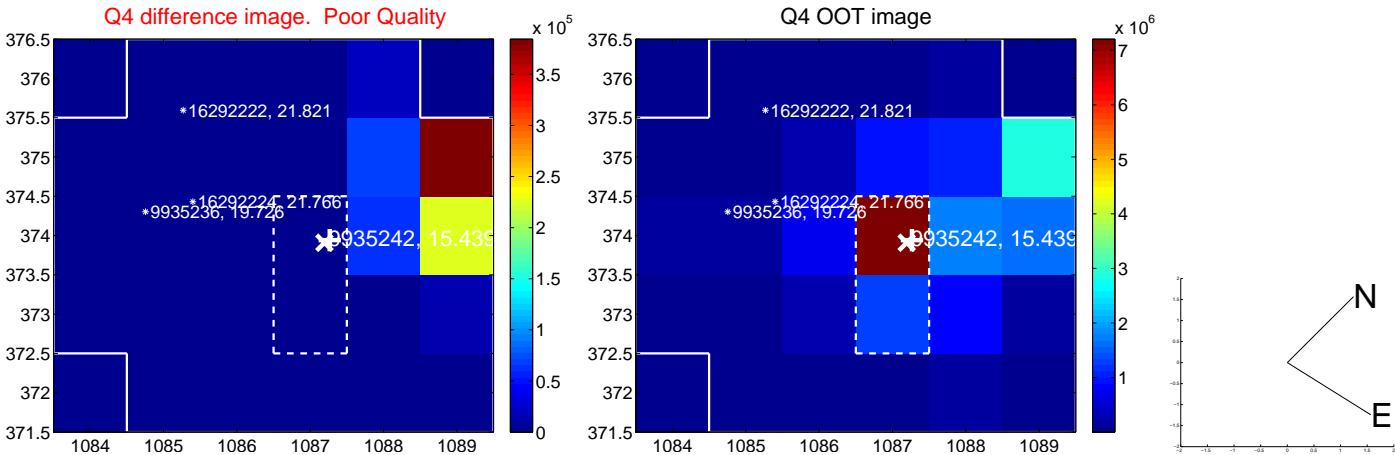
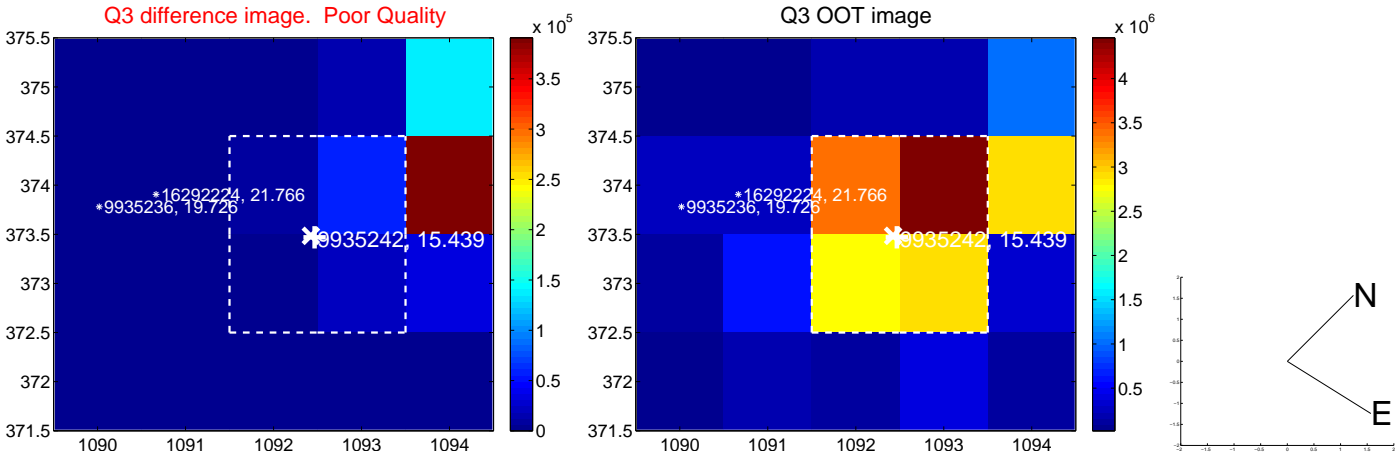
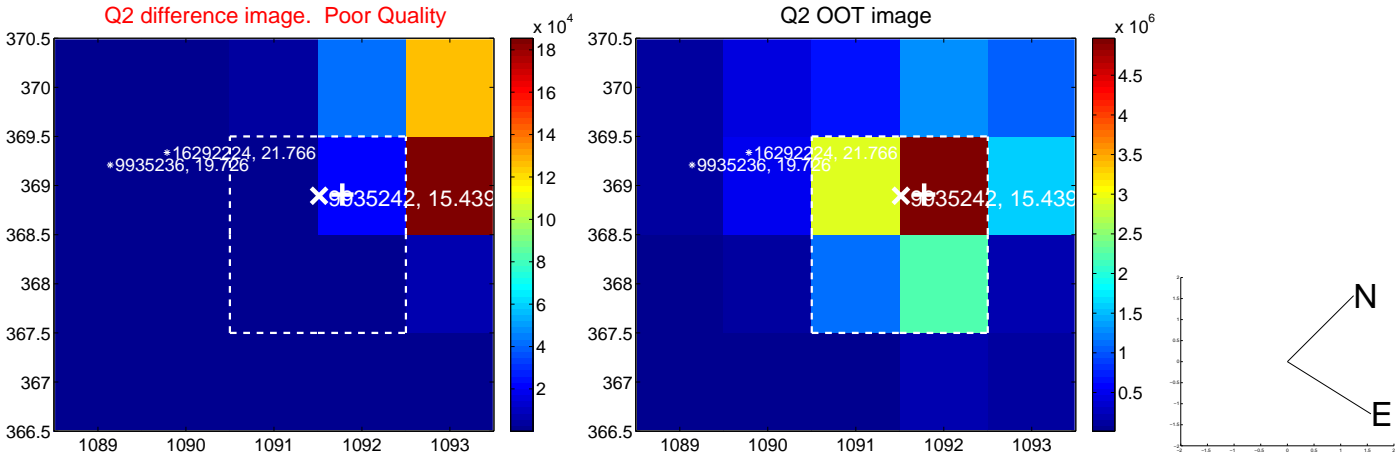
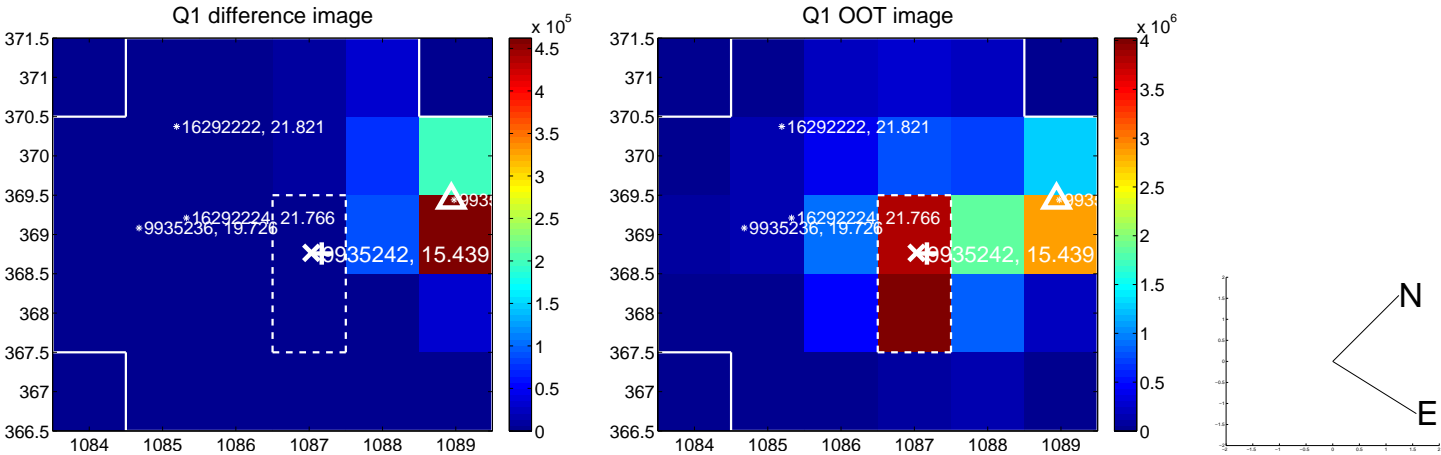
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.624 \pm 0.069	110.96	3.907 \pm 0.069	6.547 \pm 0.068
PRF-fit source offset from KIC position	8.008 \pm 0.075	106.08	4.273 \pm 0.068	6.773 \pm 0.078
photometric centroid source offset	25.94 \pm 1.47	17.59	6.97 \pm 0.95	24.98 \pm 1.51

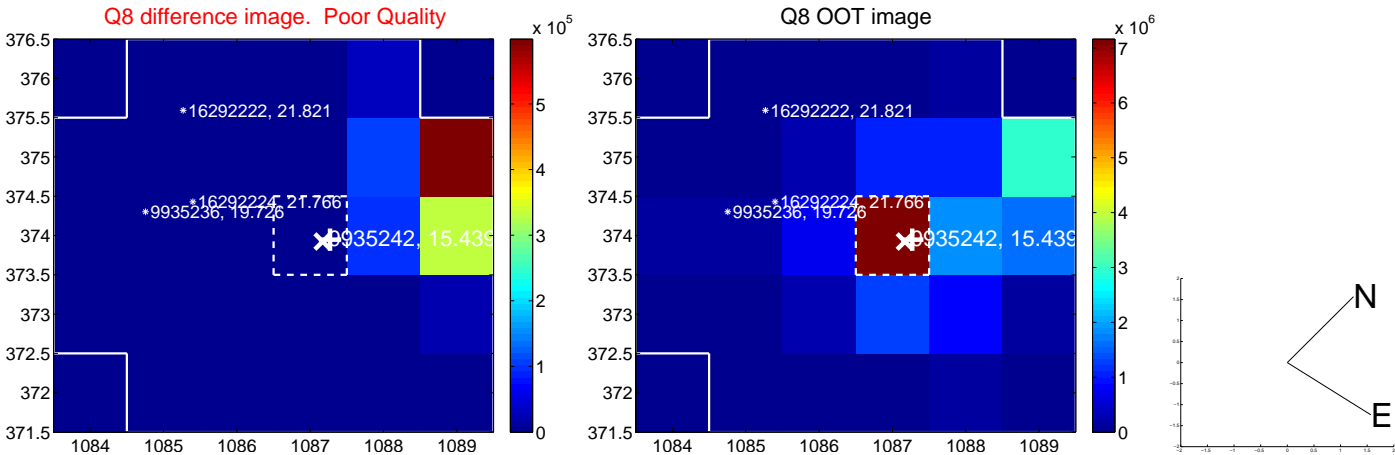
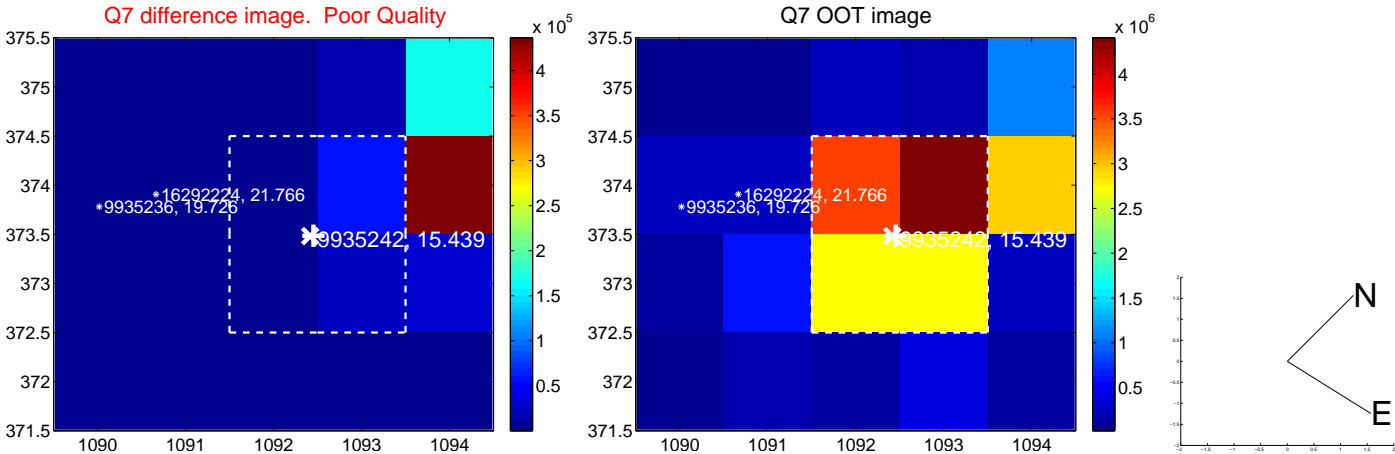
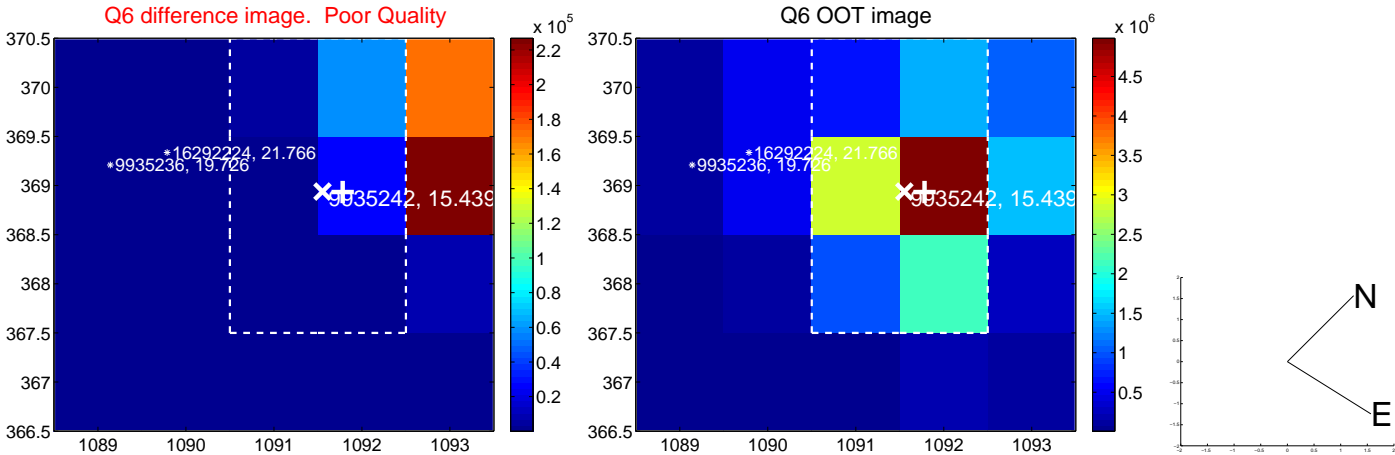
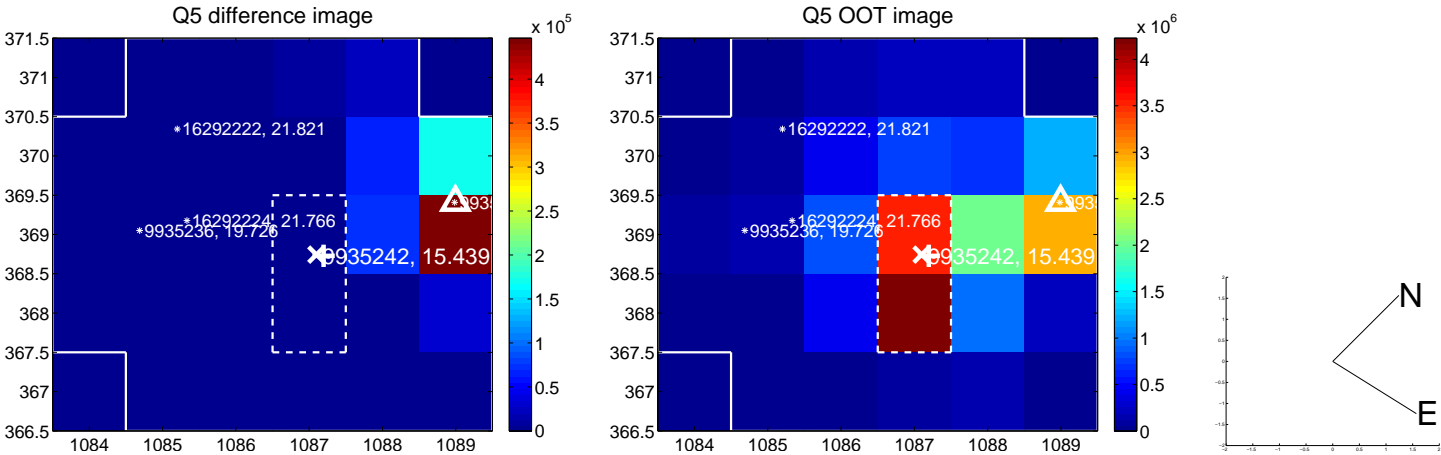


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

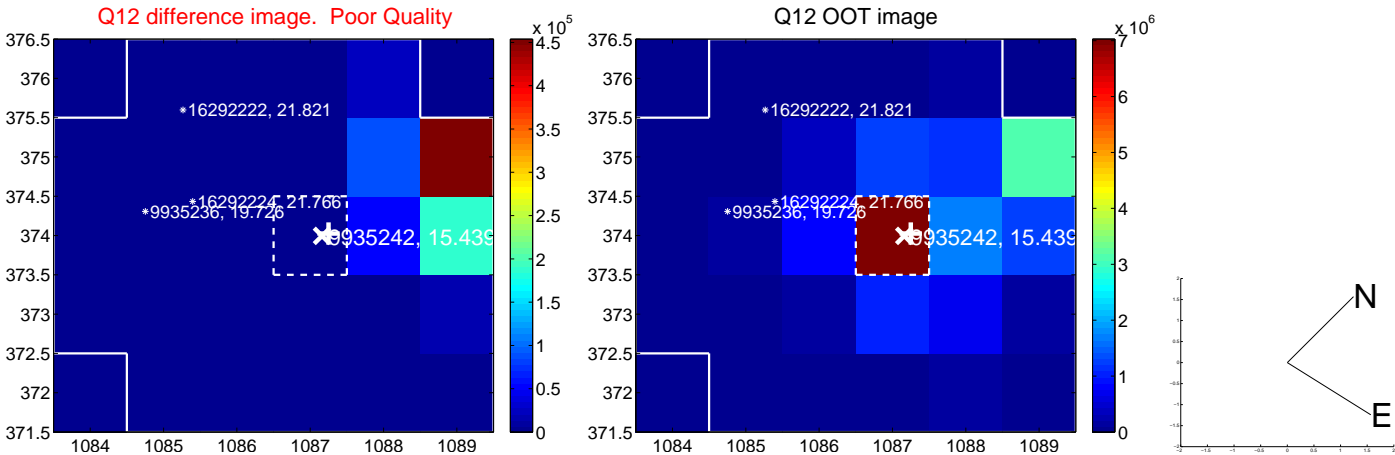
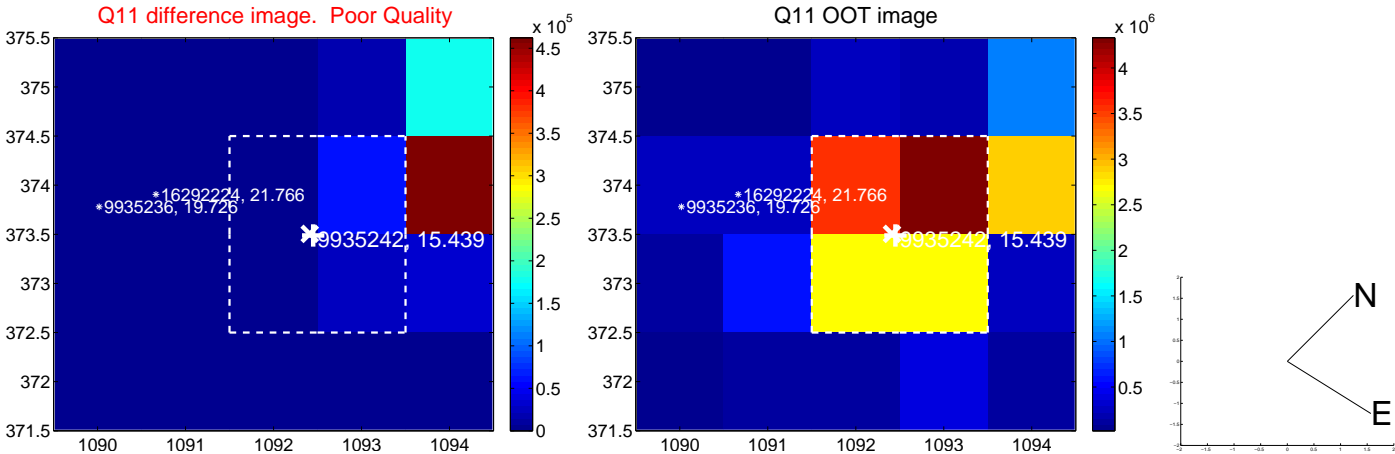
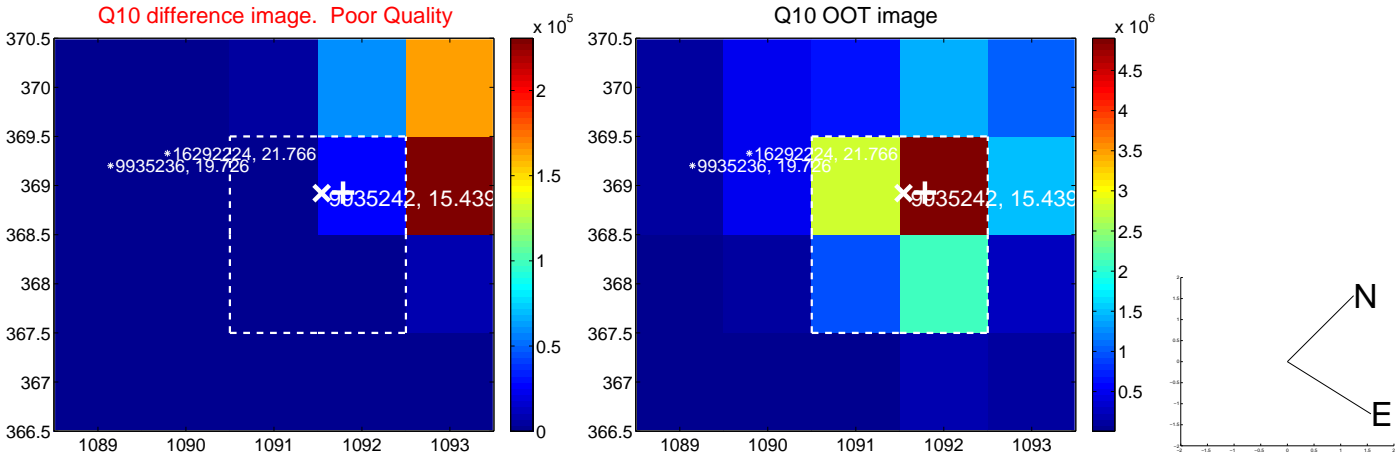
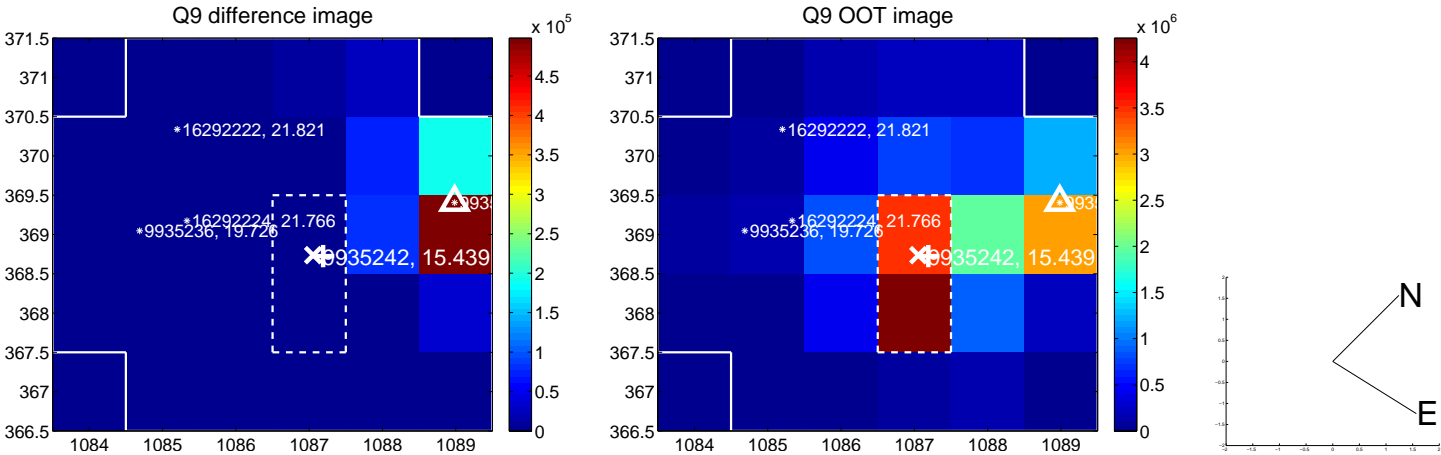
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



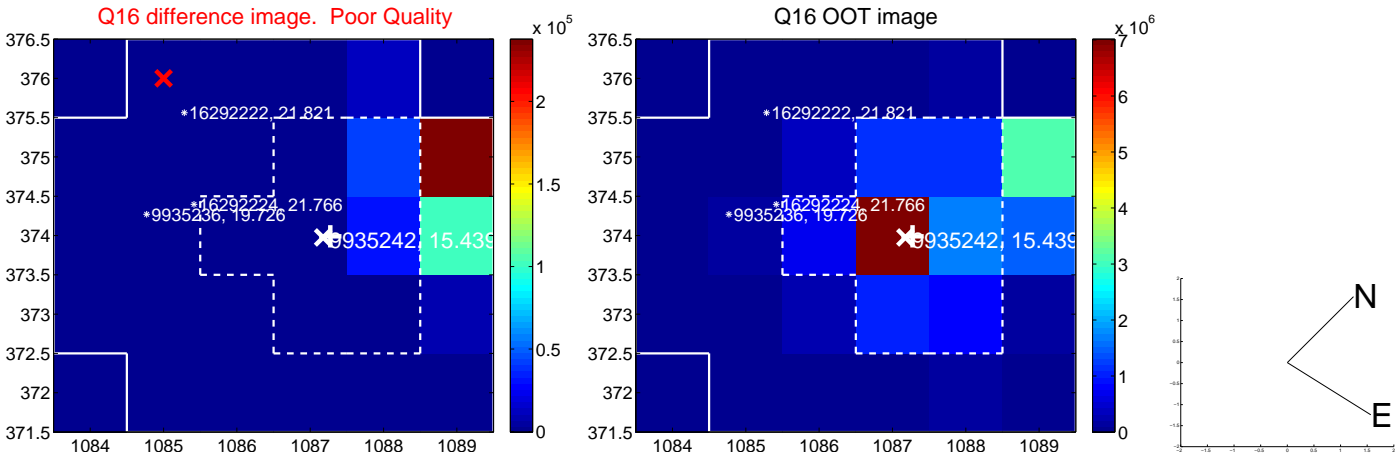
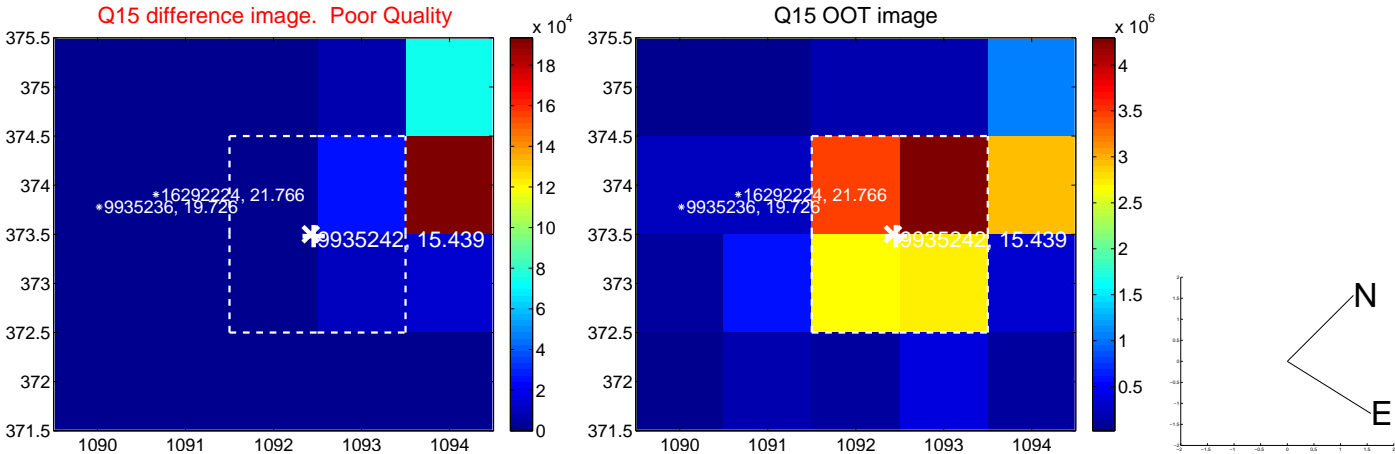
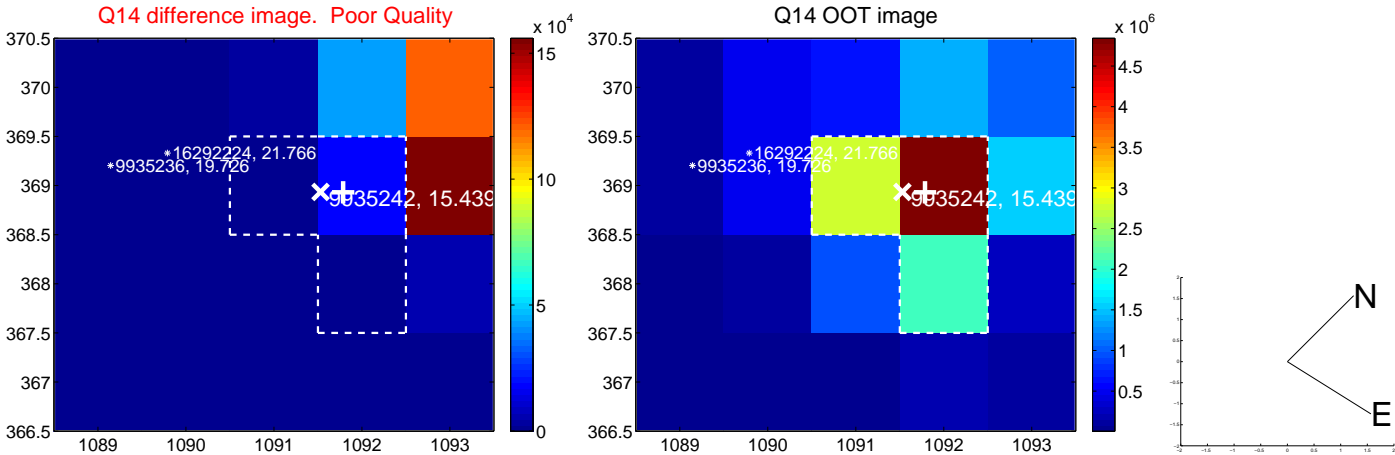
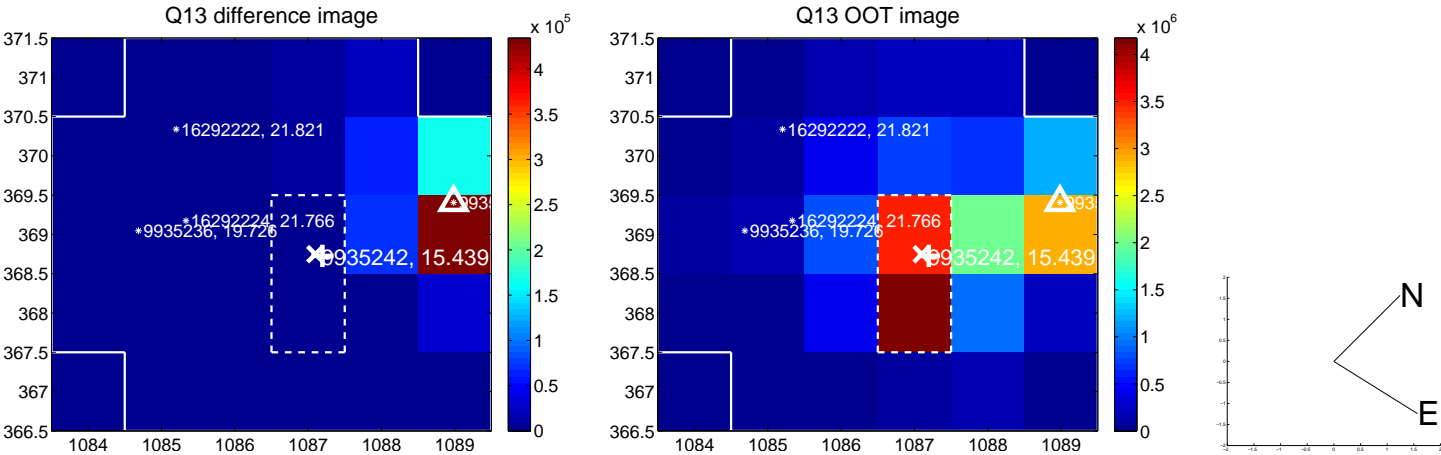
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



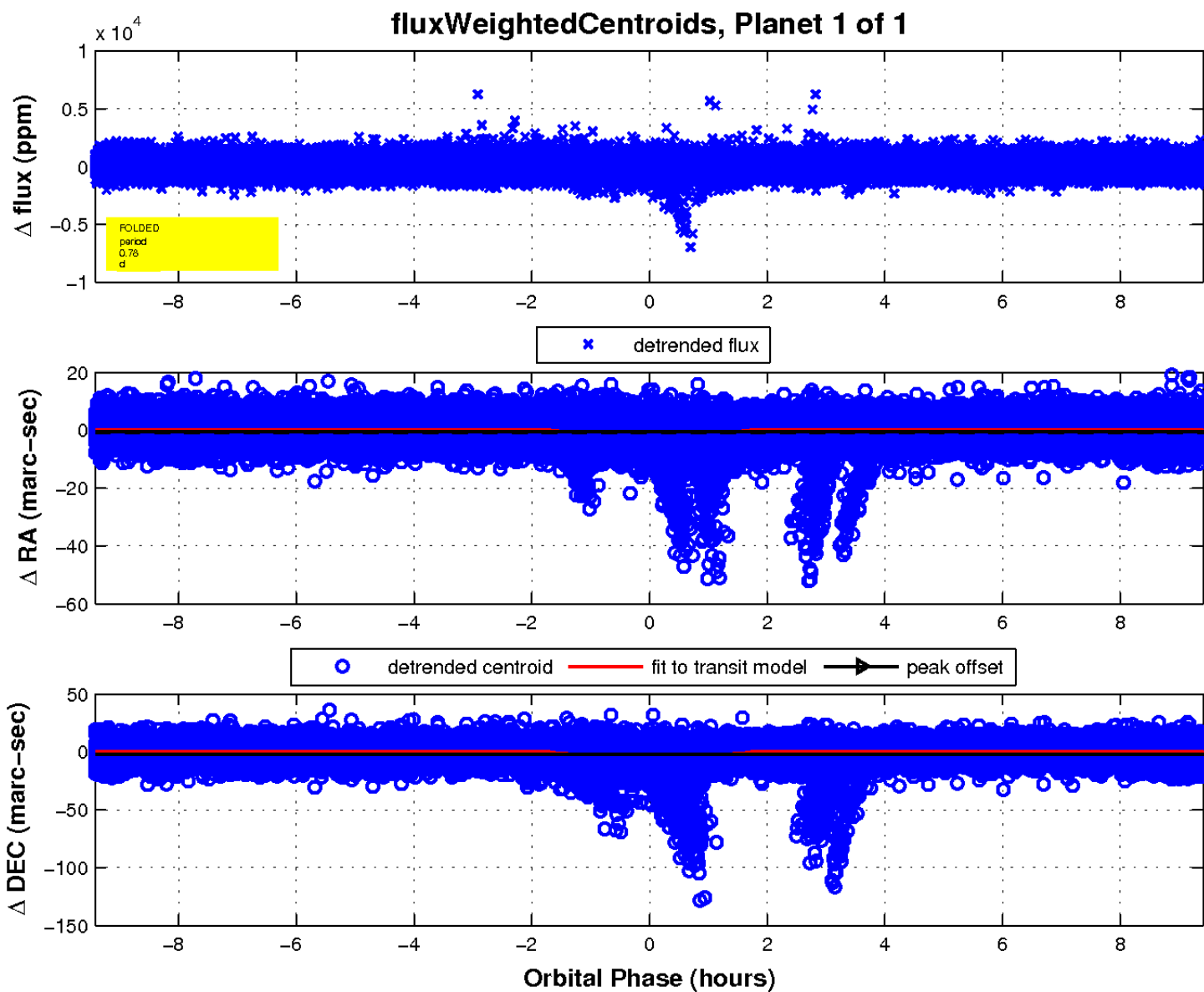
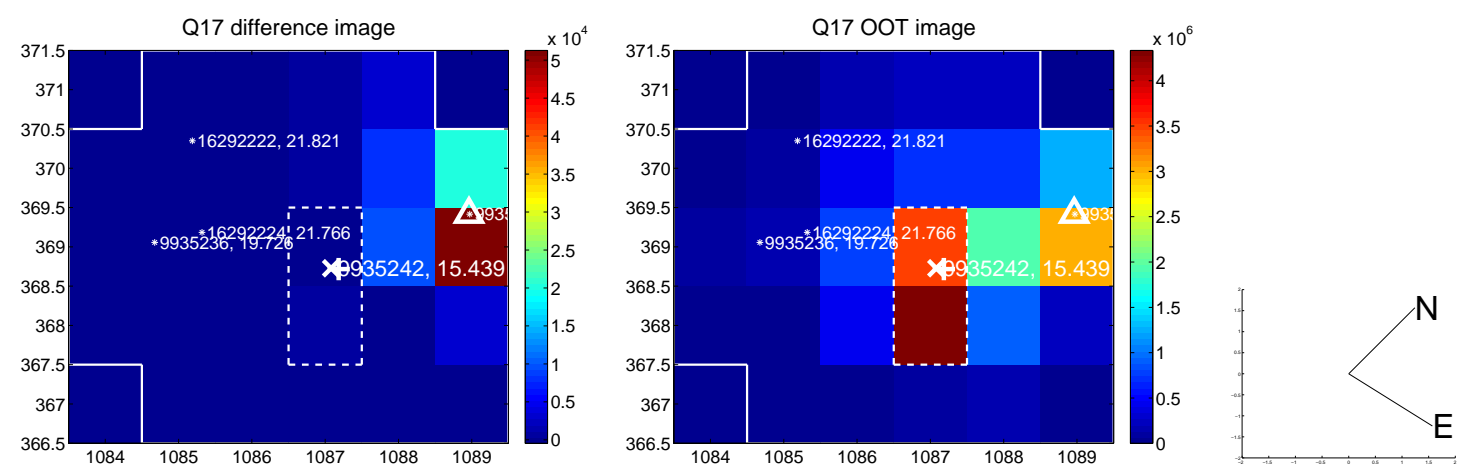
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

