

KIC 003939209

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})
003939209-01	OBS	No	1.178428	131.897179	7.7	5.458	8.3	3.2	1.34	6587	0.38	5771.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003939209-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—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.

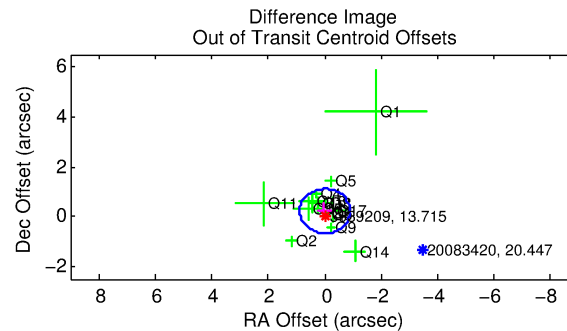
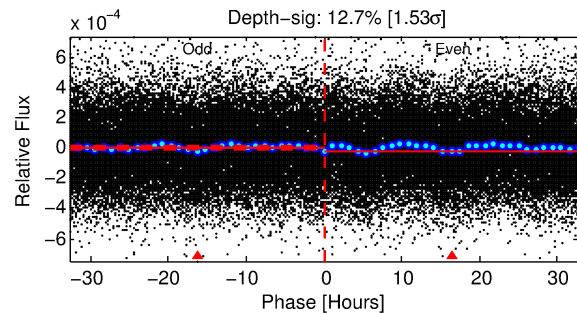
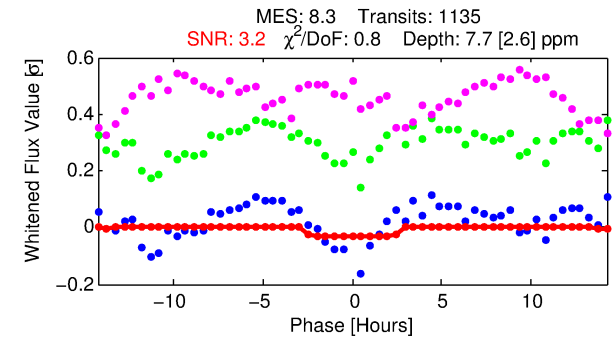
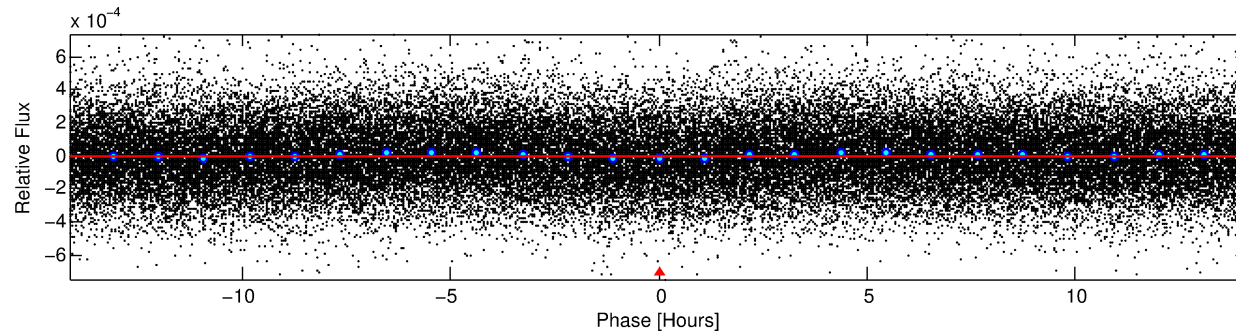
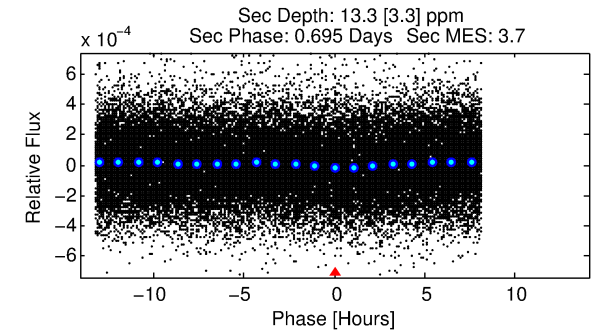
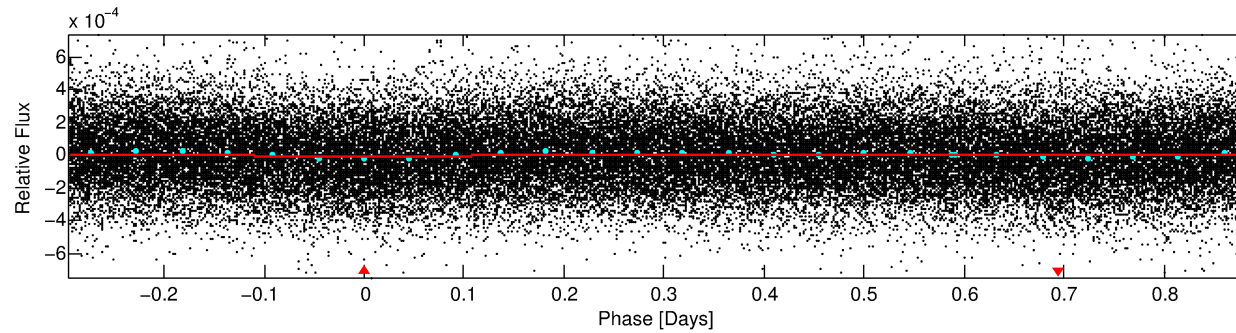
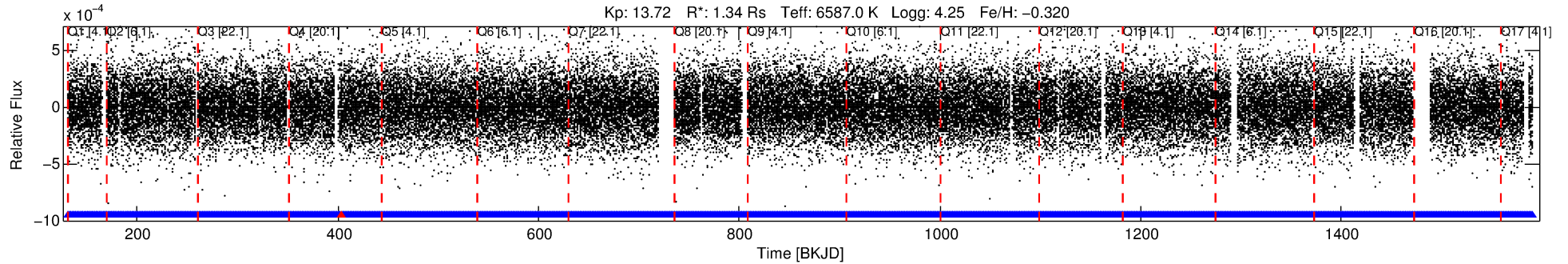
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003939209-01

No Significant Match Found

DV One-Page Summary

KIC: 3939209 Candidate: 1 of 1 Period: 1.178 d



DV Fit Results:

Period = 1.17843 [0.00005] d
Epoch = 131.8972 [0.0164] BKJD
Rp/R* = 0.0026 [0.0030]
a/R* = 1.69 [6.88]
b = 0.35 [16.03]
Seff = 5771.80 [2076.16]
Teq = 2223 [200] K
Rp = 0.38 [0.45] Re
a = 0.0229 [0.0054] AU
Ag = 26.84 [63.05] [0.41σ]
Teffp = 7821 [4551] K [1.23σ]

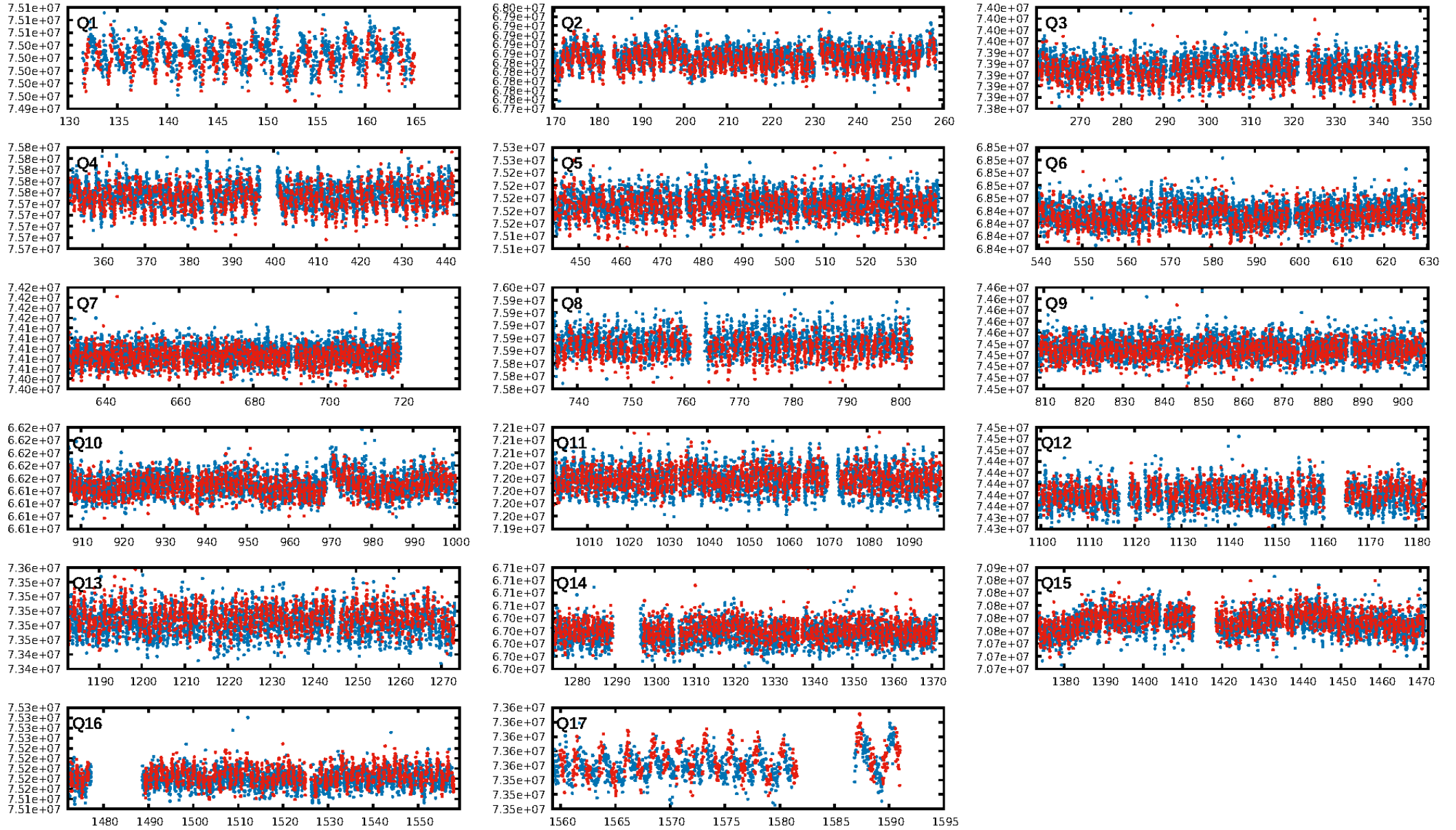
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.04e-14
RollingBand-fgt: 1.00 [1082/1083]
GhostDiagnostic-chr: 0.6425
Centroid-sig: 0.0%
Centroid-so: 8.314 arcsec [2.55σ]
OotOffset-rm: 0.219 arcsec [0.74σ]
KicOffset-rm: 0.080 arcsec [0.33σ]
OotOffset-st: 4/3/3/5 [15]
KicOffset-st: 4/3/3/5 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [17/17]

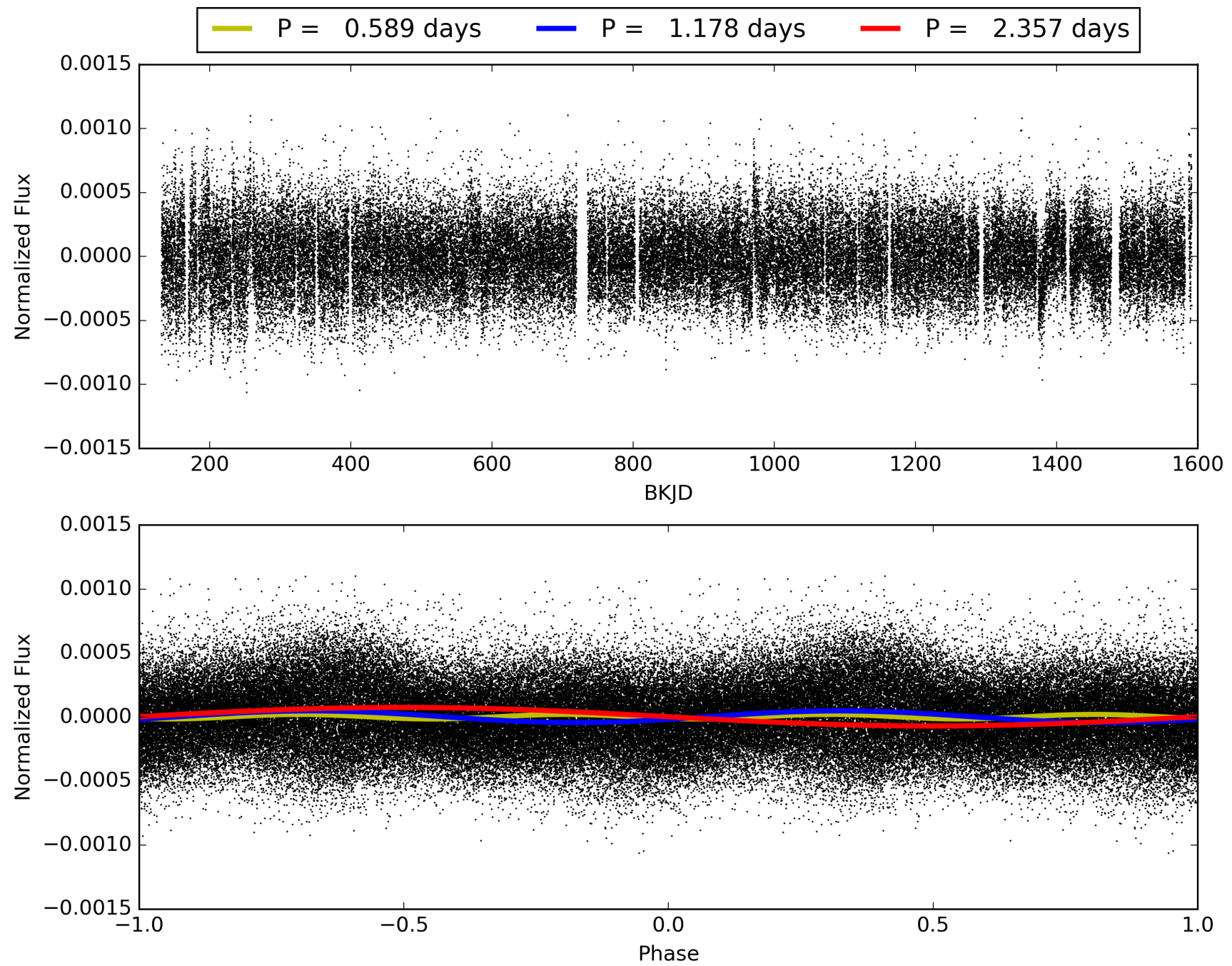
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:45:24 Z

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

TCE 003939209-01, PDC Light Curves

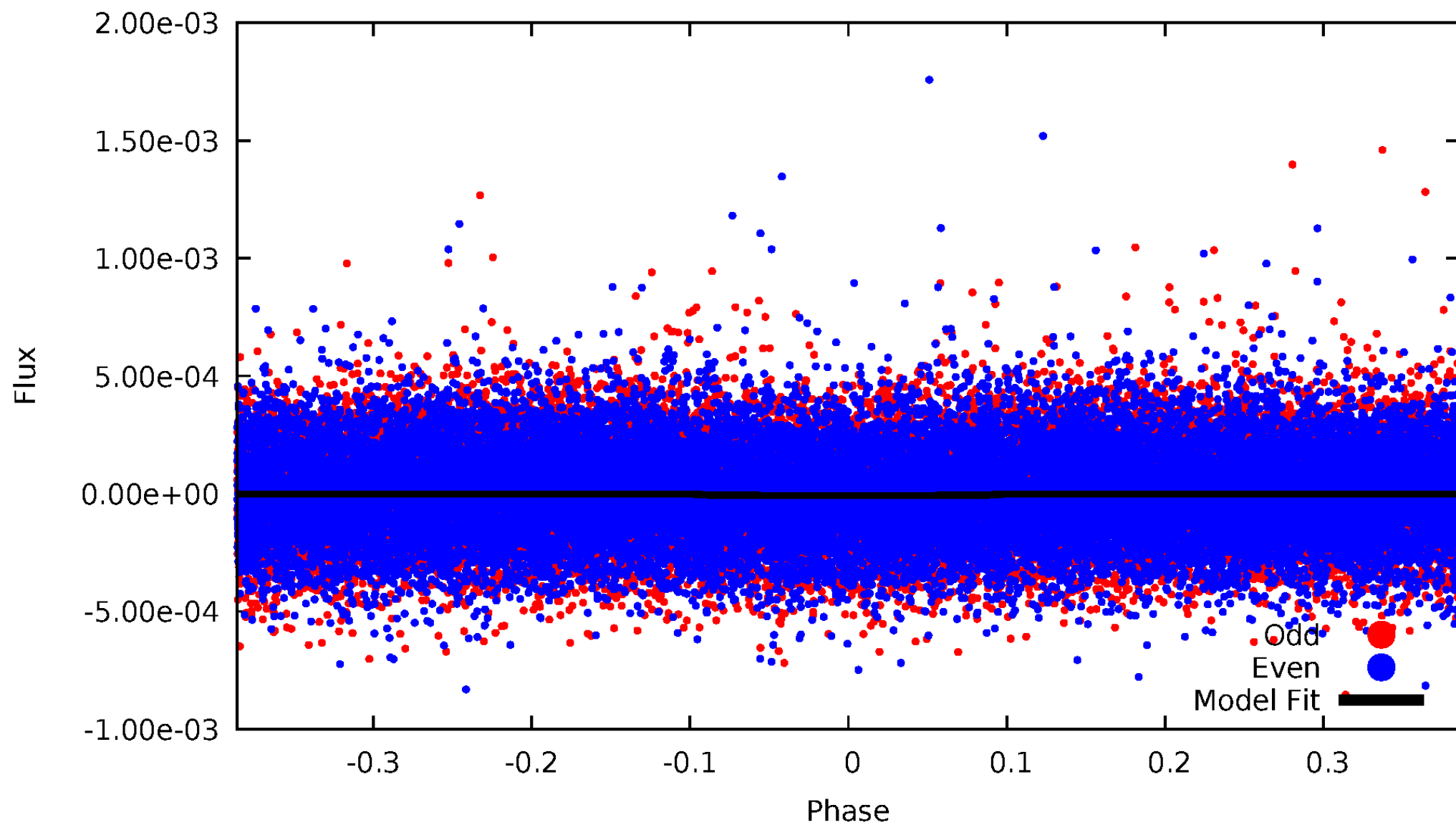


TCE 003939209-01



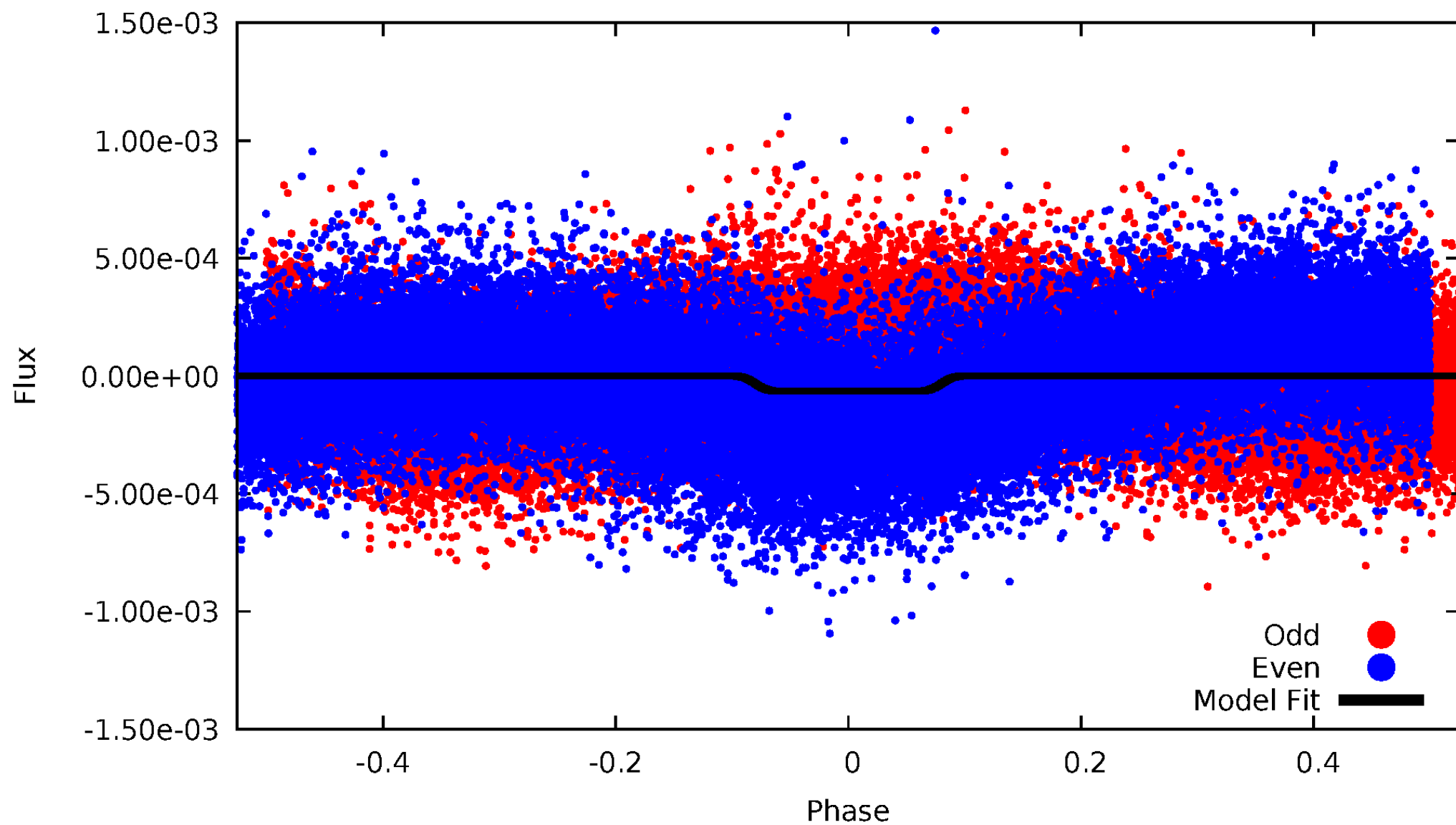
DV Odd/Even

TCE 003939209-01



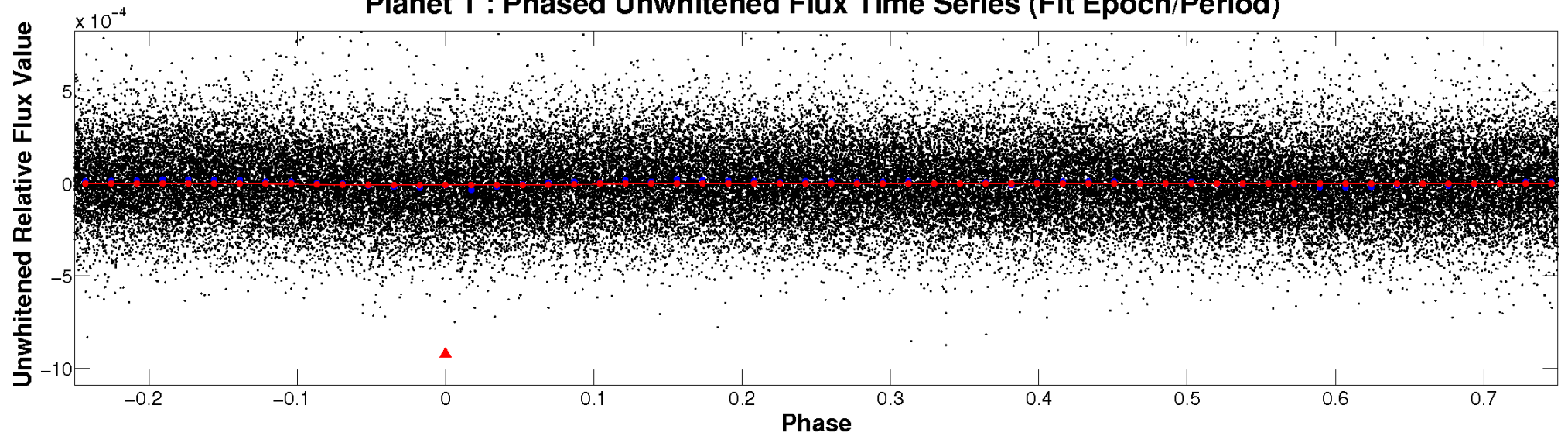
ALT Odd/Even

TCE 003939209-01

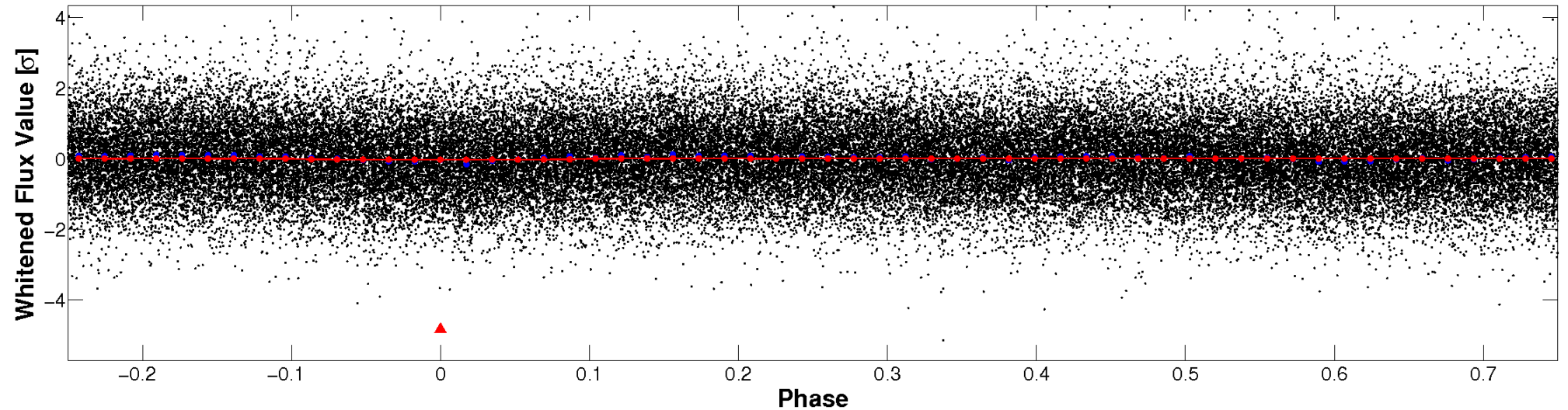


Non-Whitened Vs. Whitened Light Curve

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

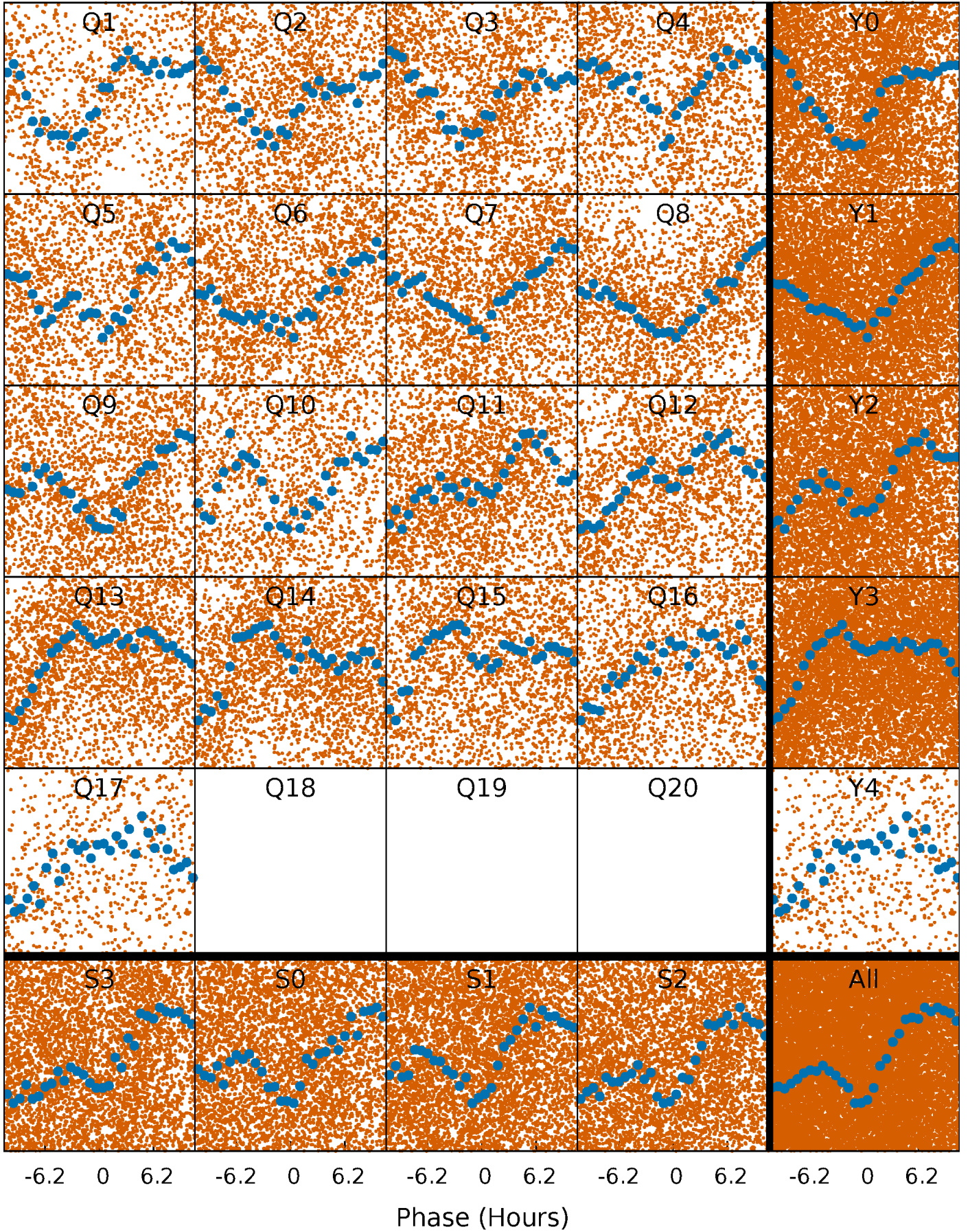


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



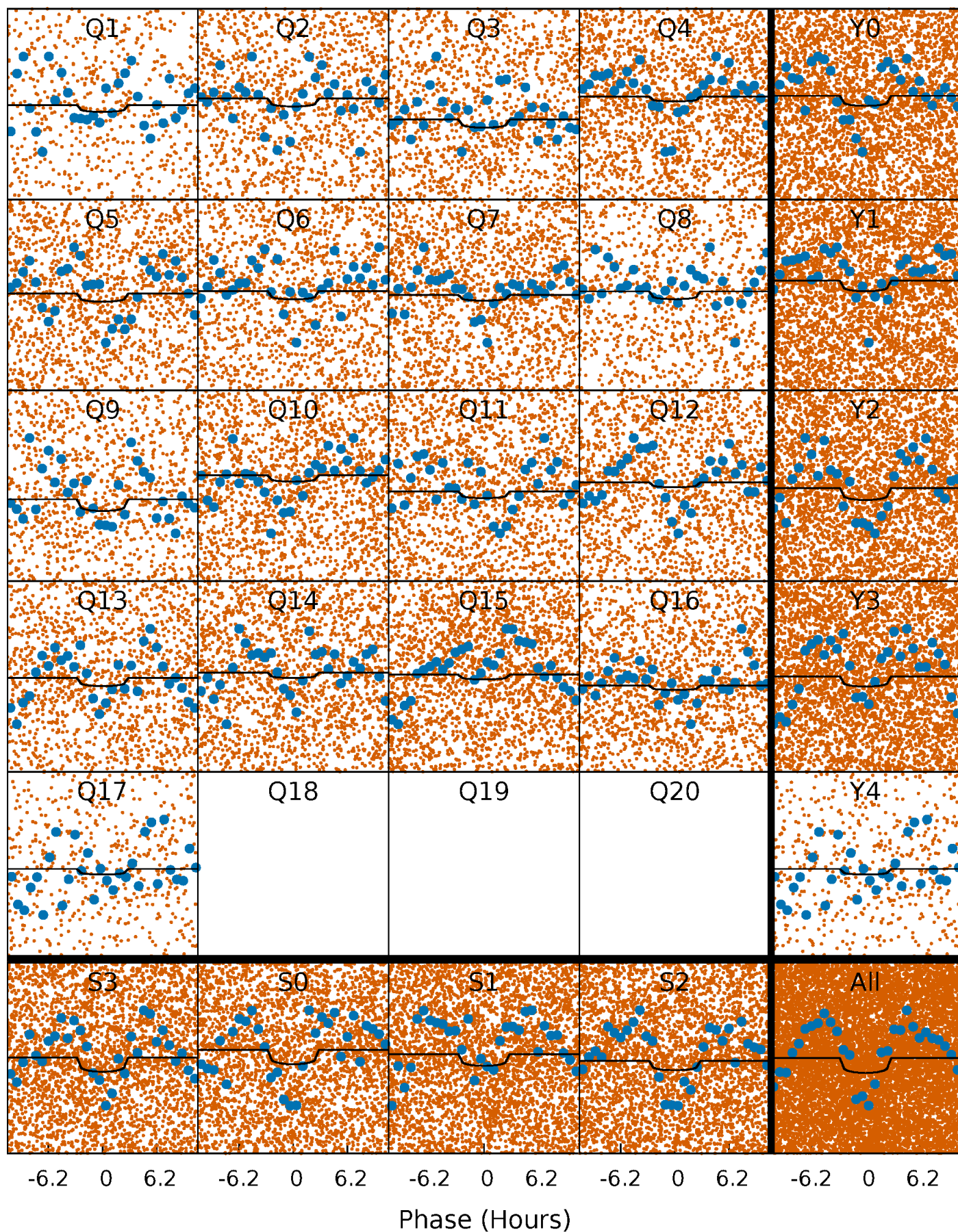
PDC Quarter-Phased Transit Curves

TCE 003939209-01 P= 1.178428 Days $T_0=131.897179$ (BKJD)



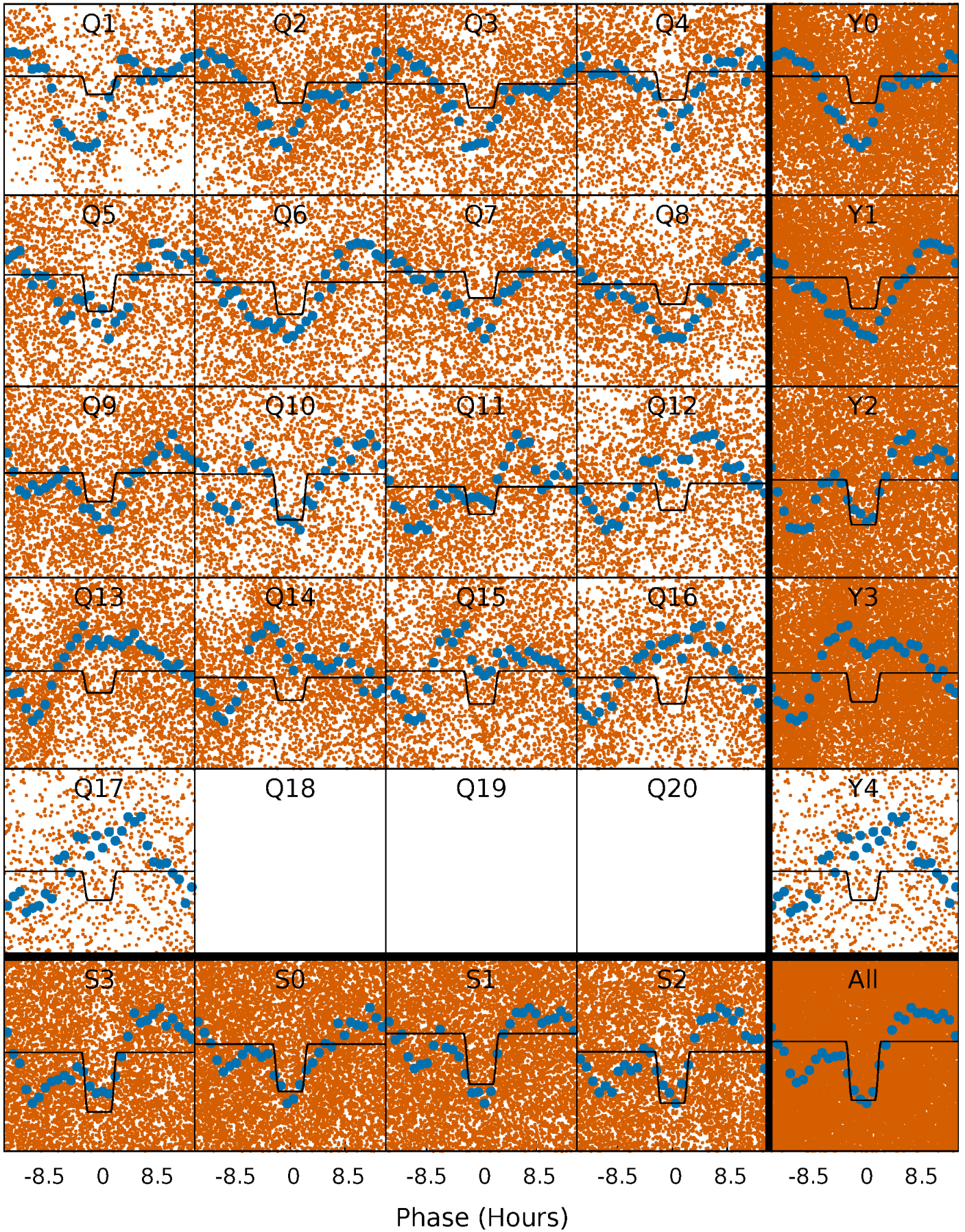
DV Quarter-Phased Transit Curves

TCE 003939209-01 P= 1.178428 Days $T_0=131.897179$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

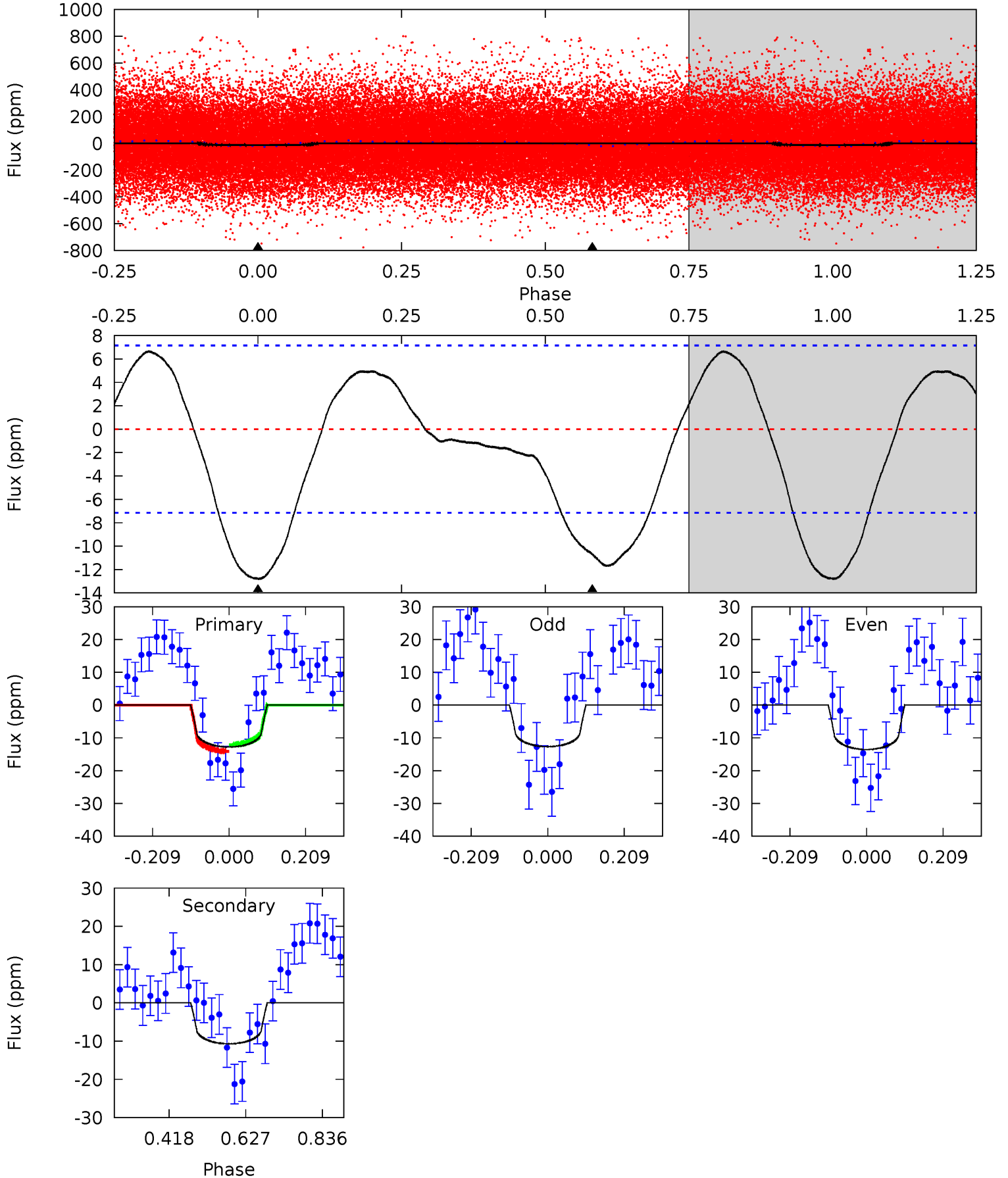
TCE 003939209-01 P= 1.178485 Days $T_0=131.844458$ (BKJD)



DV Model-Shift Uniqueness Test

003939209-01, P = 1.178428 Days, E = 130.718751 Days

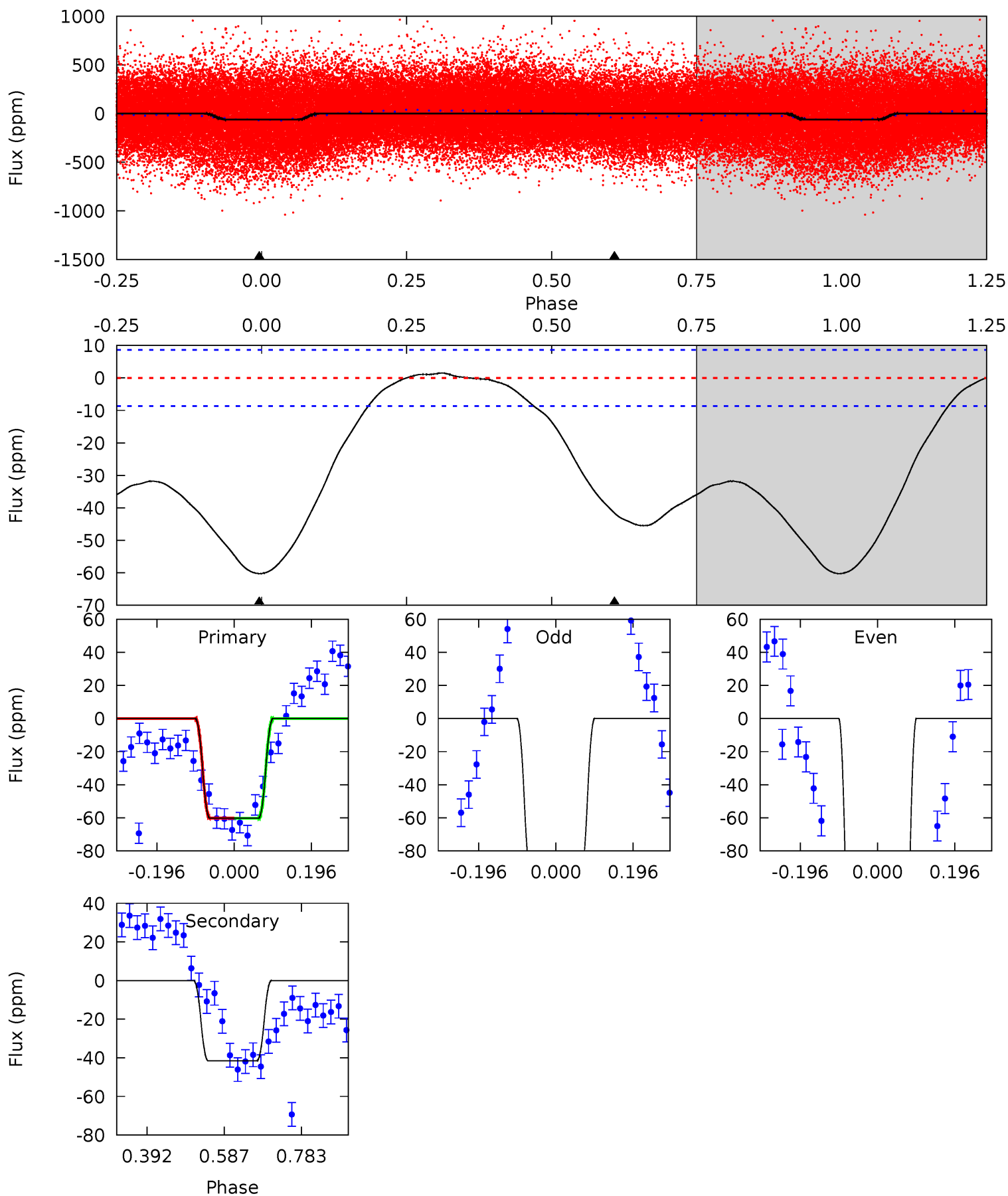
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.88	6.59	0	0	4.41	1.26	1.32	7.88	7.88	6.59	6.59	0.27	0.85	0.34	0.61



Alt Model-Shift Uniqueness Test

003939209-01, P = 1.178485 Days, E = 130.665973 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.8	21.3	0	0	4.42	1.29	0.94	30.8	30.8	21.3	21.3	31.4	1.41	0.02	0.03



Stellar Parameters For KIC 003939209

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6587^{+158}_{-198}	$4.246^{+0.149}_{-0.182}$	$-0.320^{+0.250}_{-0.300}$	$1.340^{+0.386}_{-0.257}$	$1.157^{+0.173}_{-0.173}$	$0.678^{+0.482}_{-0.326}$
	+2%/-3%	+4%/-4%	+78%/-94%	+29%/-19%	+15%/-15%	+71%/-48%
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 003939209-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 2	$0.48^{+0.38}_{-0.30}$	3117^{+262}_{-184}	6564^{+6587}_{-1598}	13^{+84}_{-9}
Alt.	-42 ± 2	$1.17^{+0.49}_{-0.40}$	3114^{+243}_{-201}	5814^{+1463}_{-773}	$8.750^{+11.571}_{-4.456}$

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 $A_{\text{obs}} \gg 1.0$

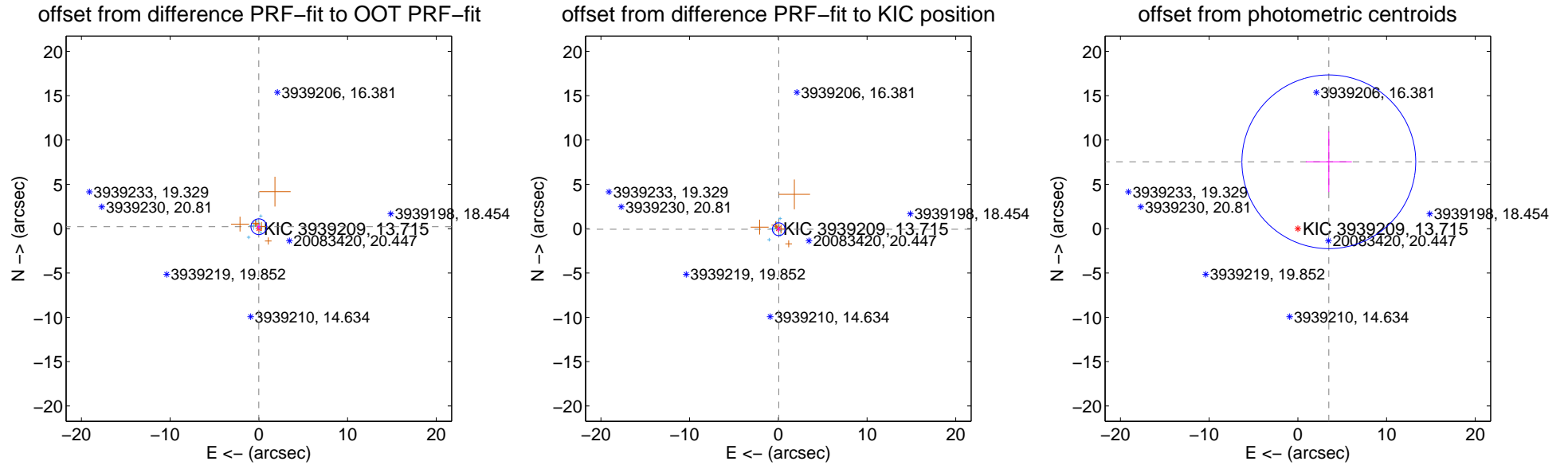
DV Centroid Data

Supplemental centroid analysis for 003939209-01. Kepler magnitude: 13.71. Transit SNR 3.18

There are 9 quarters with good PRF difference image offsets

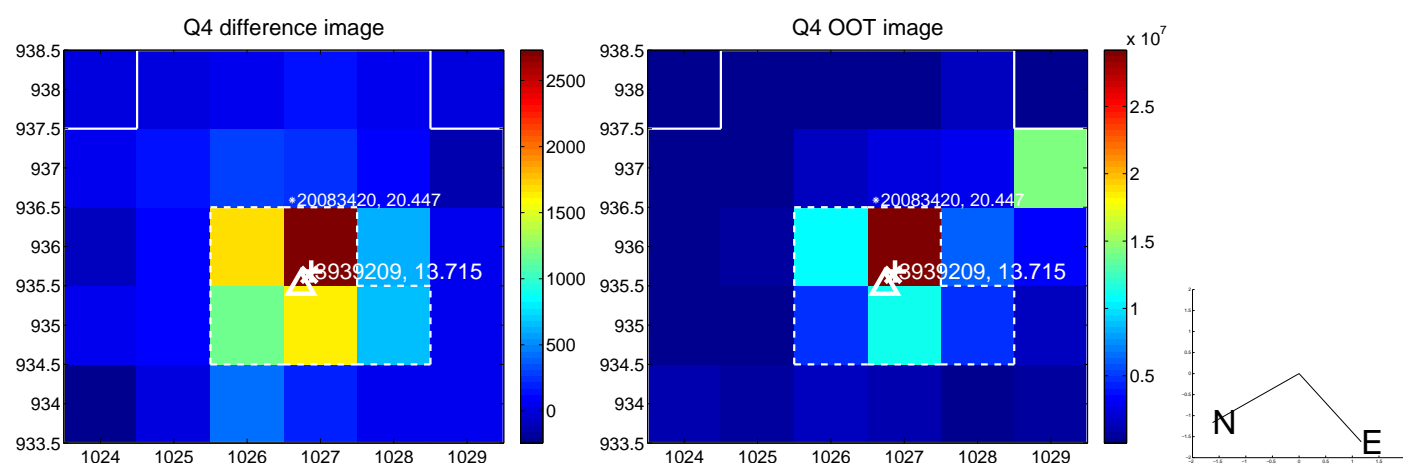
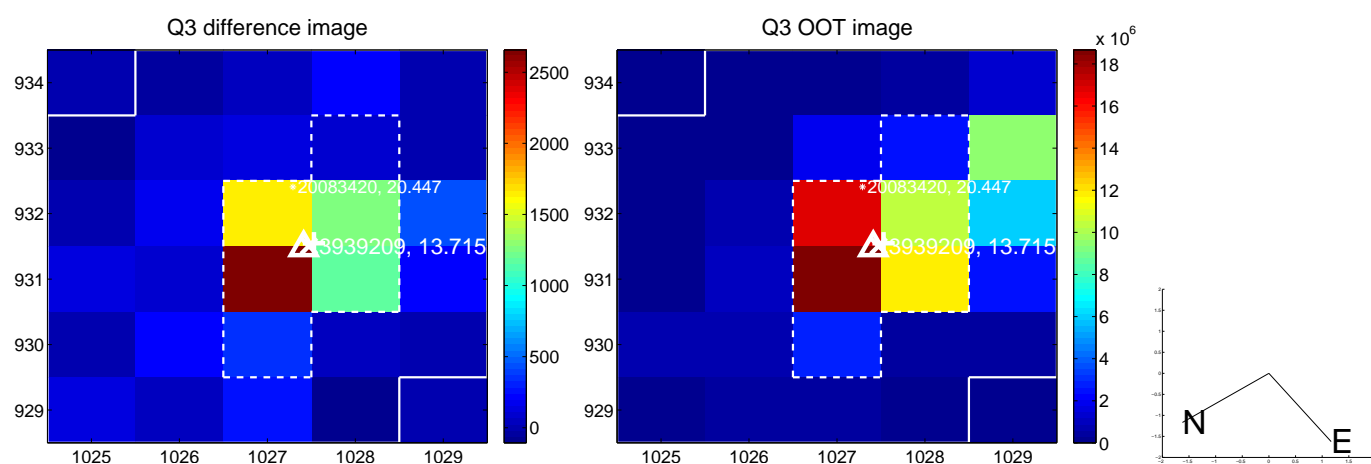
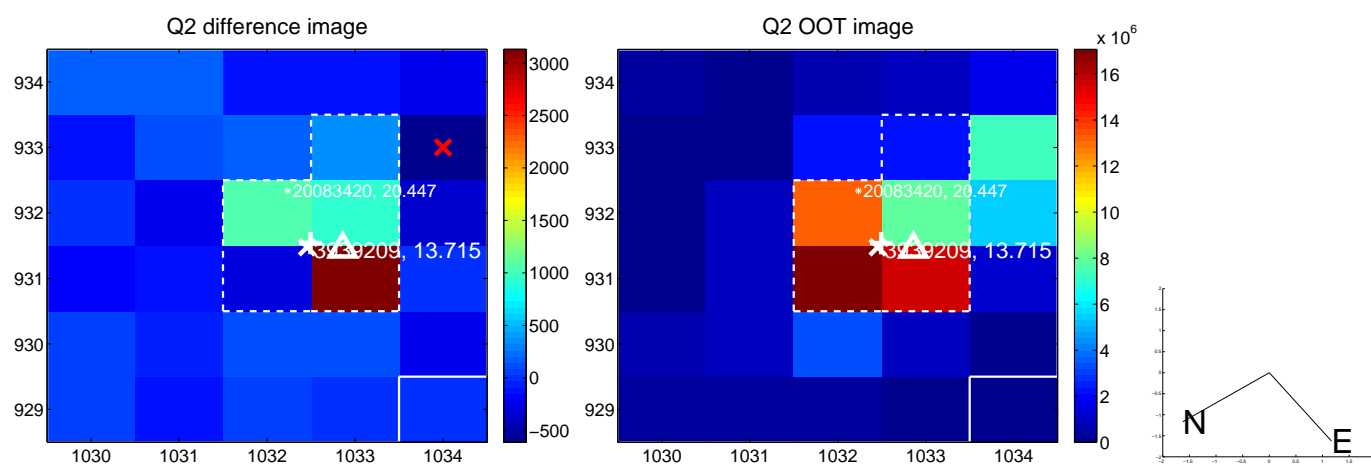
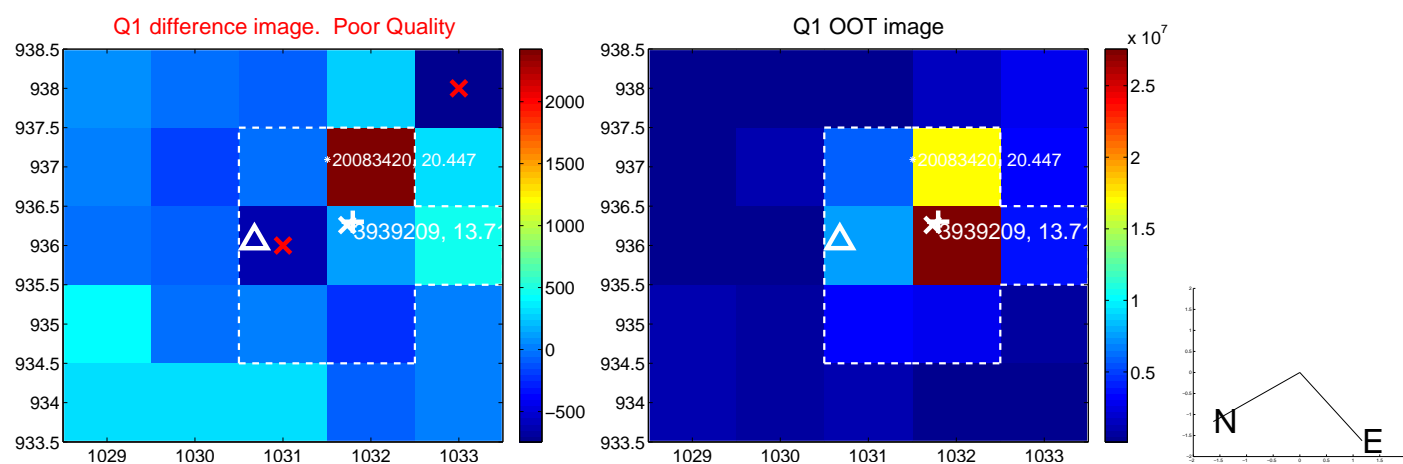
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.219 ± 0.296	0.74	0.000 ± 0.221	0.219 ± 0.296
PRF-fit source offset from KIC position	0.080 ± 0.240	0.33	-0.047 ± 0.216	-0.065 ± 0.317
photometric centroid source offset	8.31 ± 3.27	2.55	-3.49 ± 2.59	7.55 ± 3.39

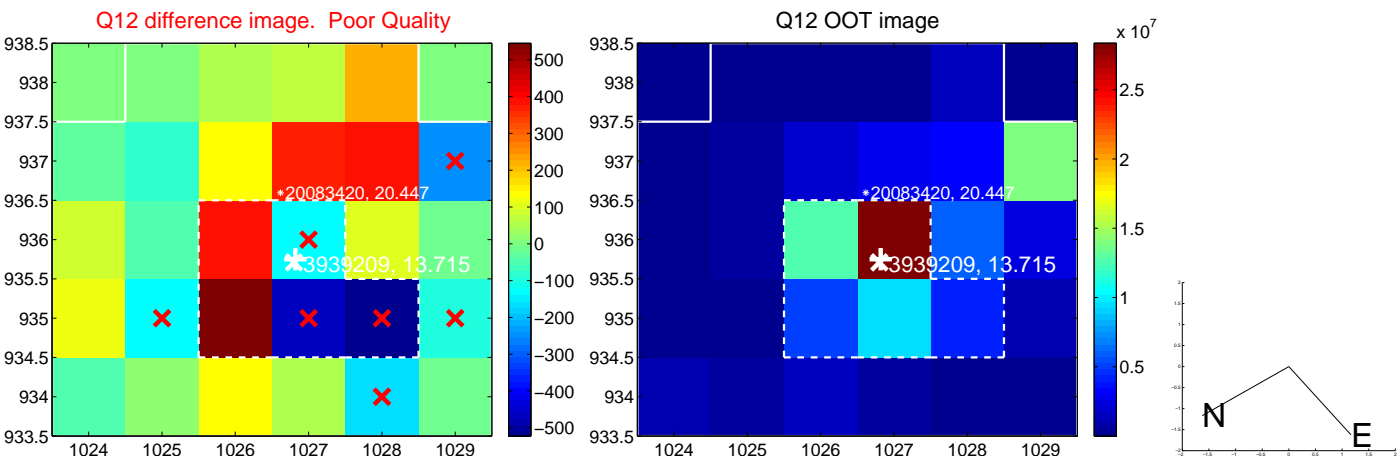
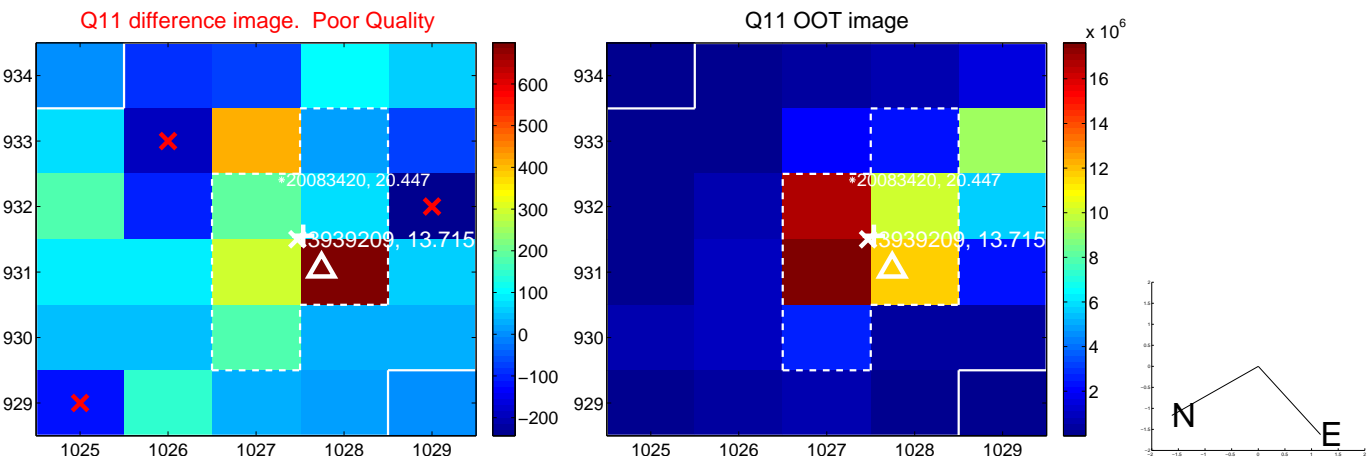
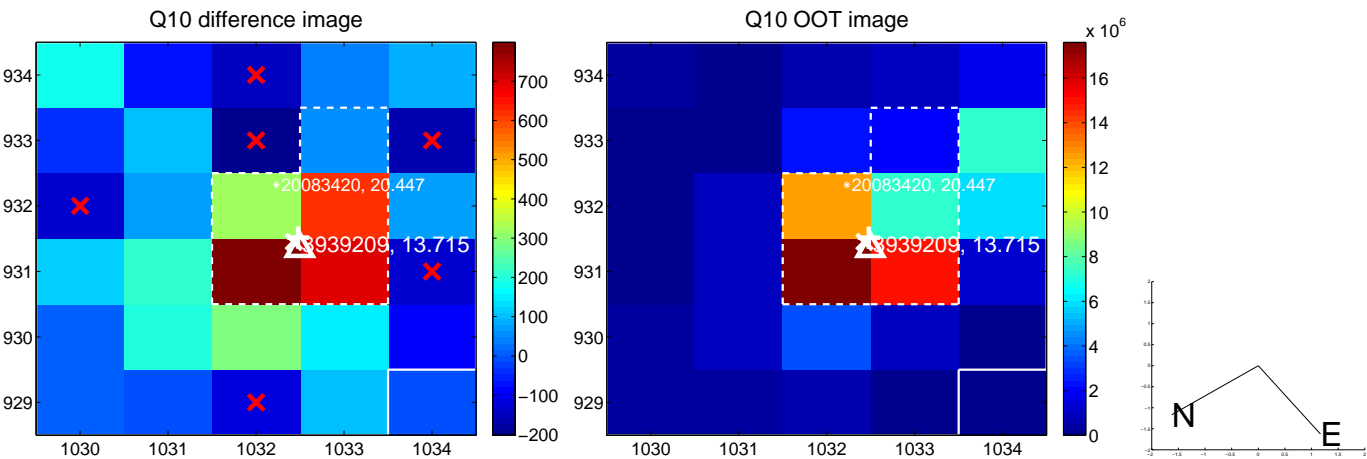
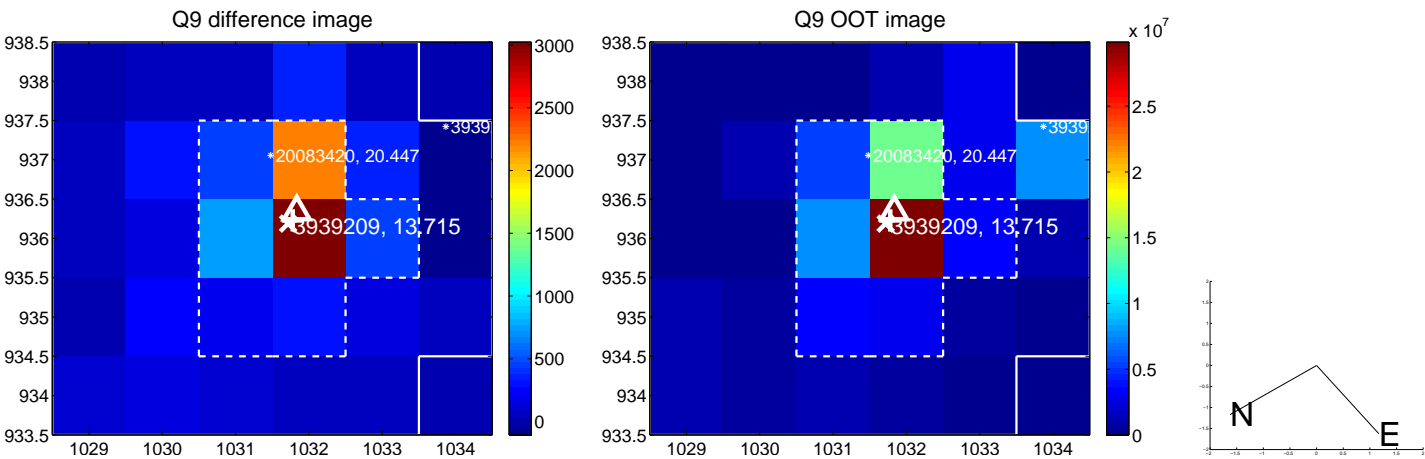


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

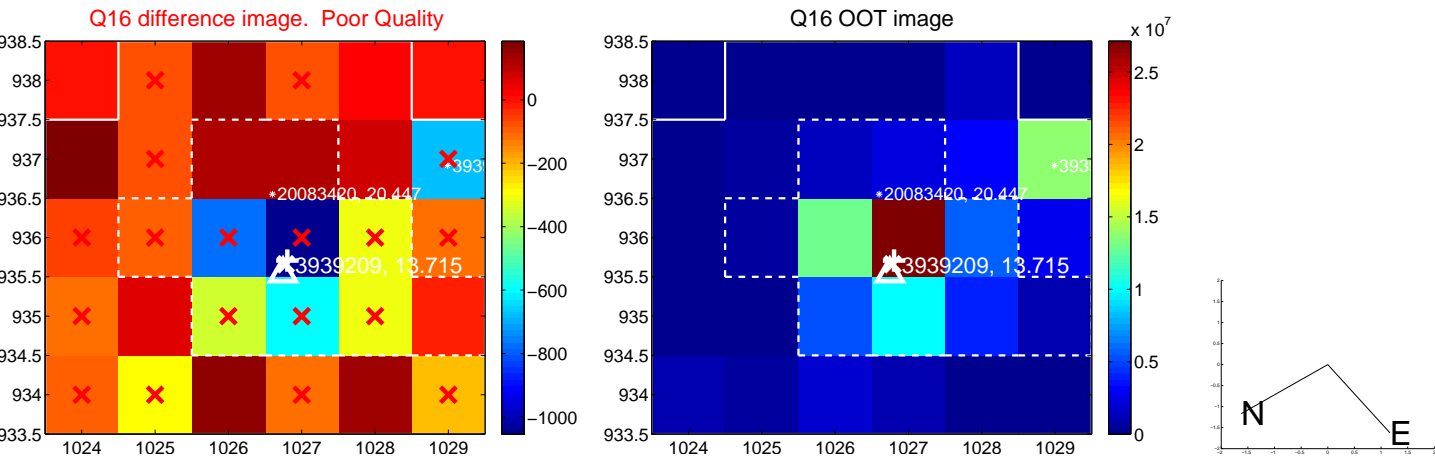
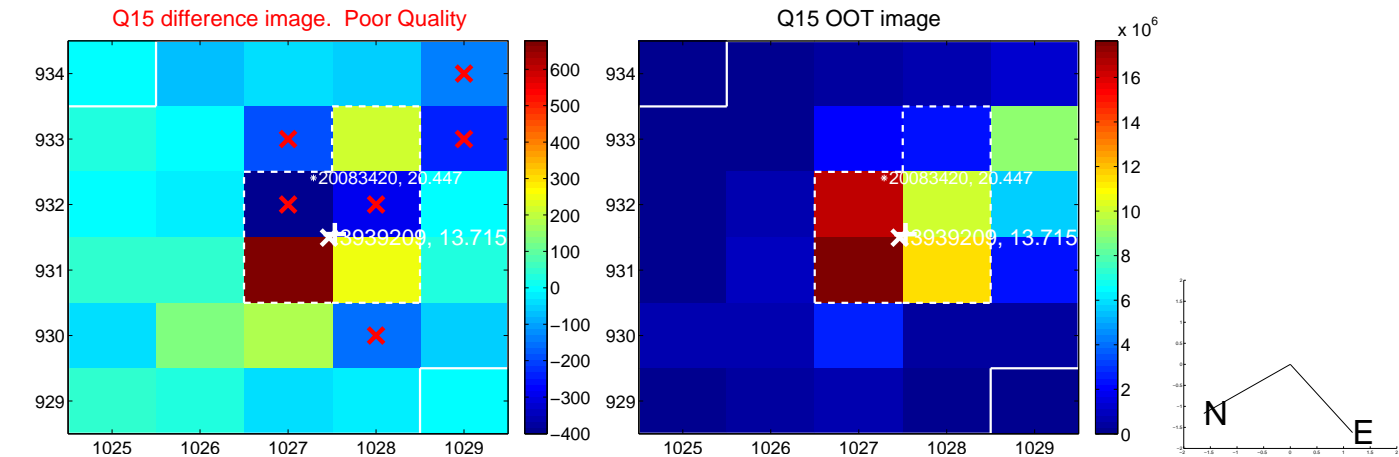
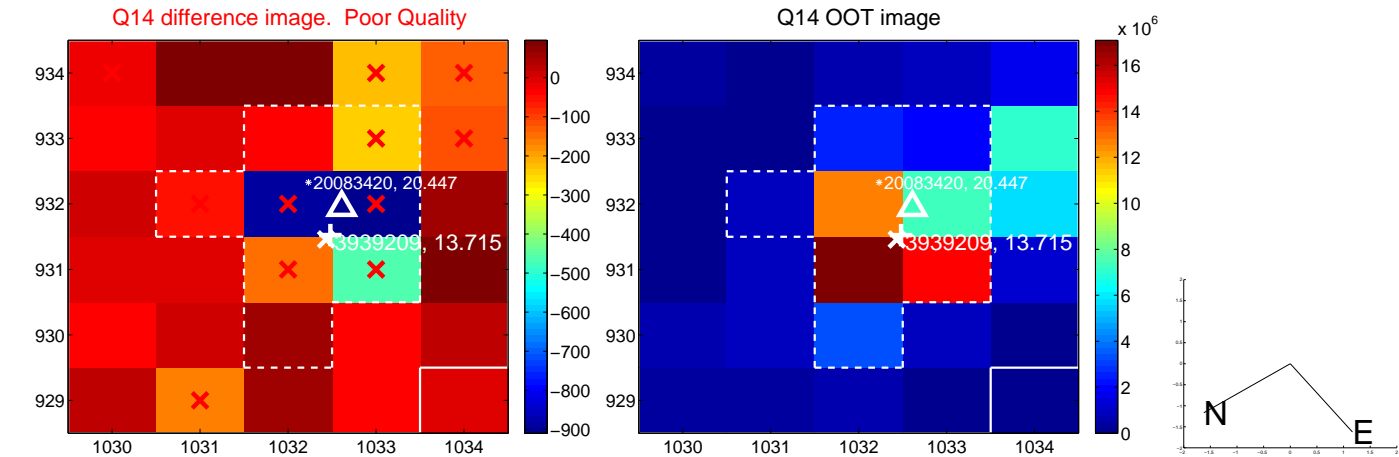
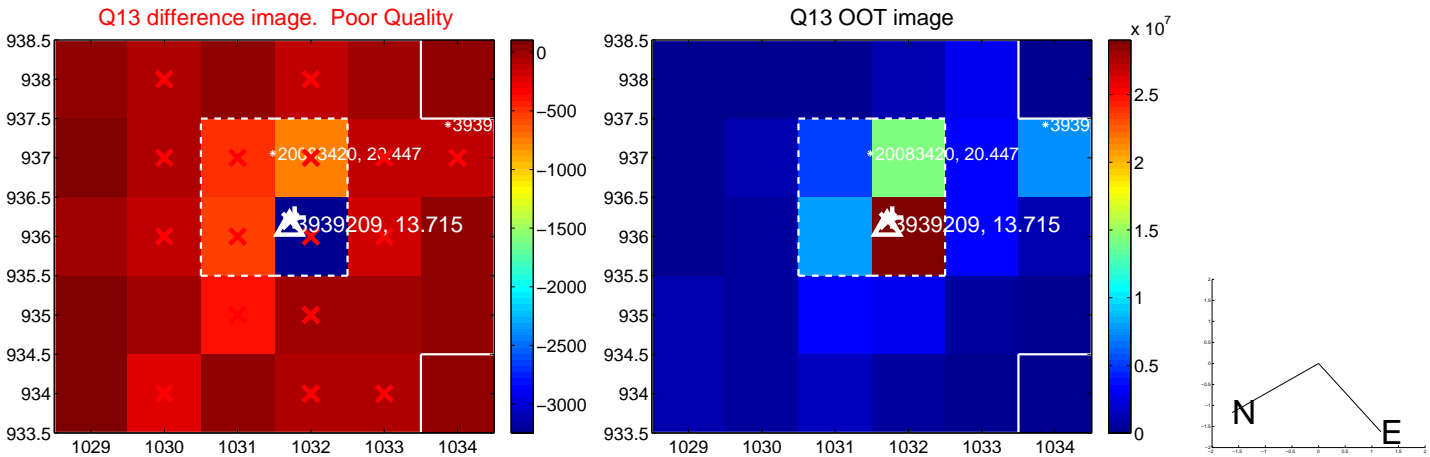
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



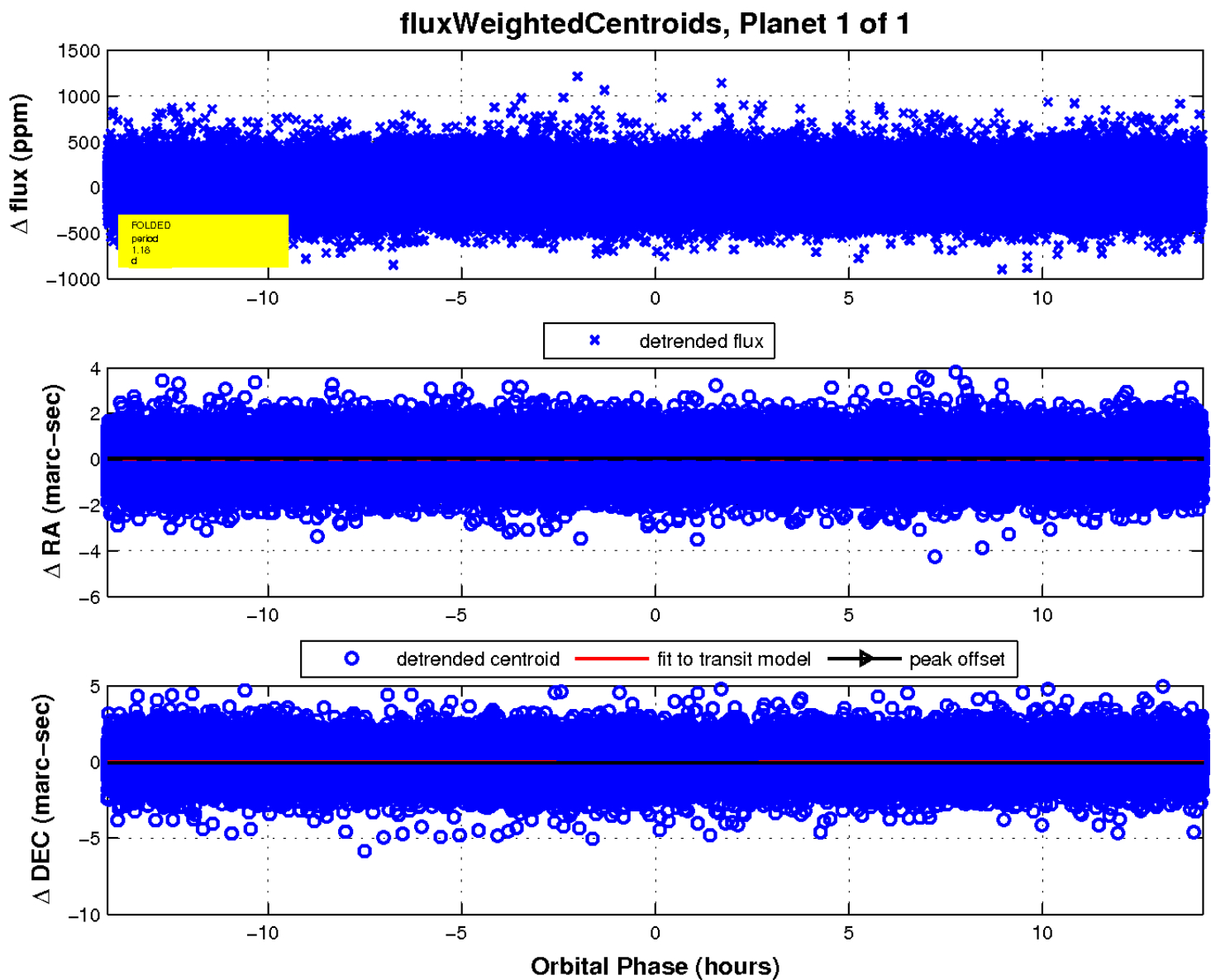
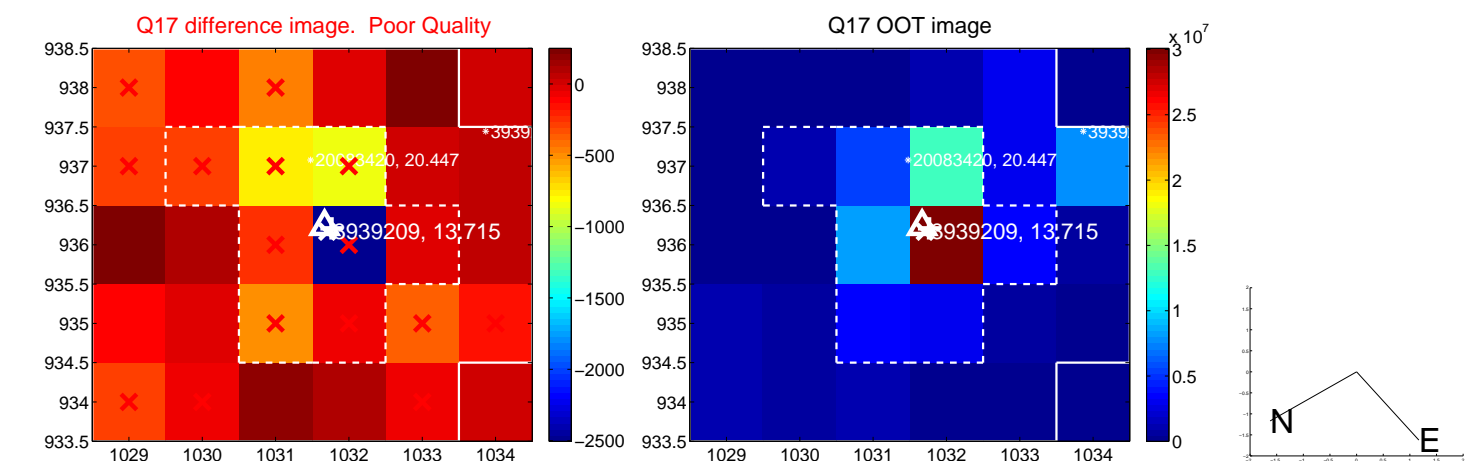
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

