

KIC 007439316

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})
007439316-01	OBS	1501.01	2.617012	134.037650	484.5	2.155	23.6	29.6	0.72	4831	1.97	233.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007439316-01	OBS	PC	1.00	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 007439316-01

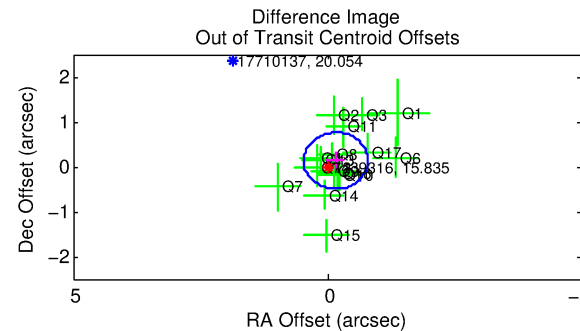
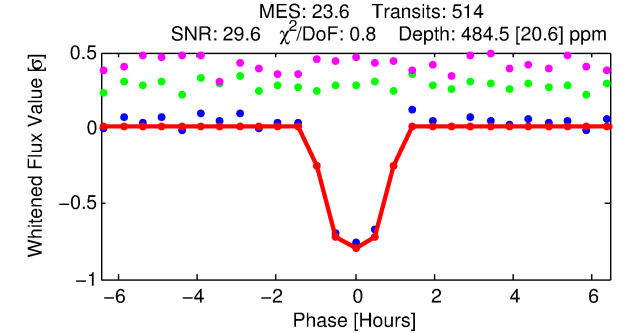
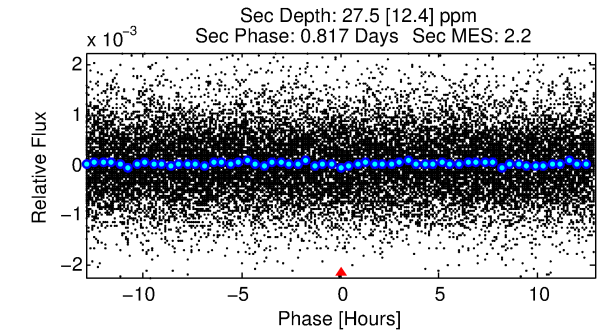
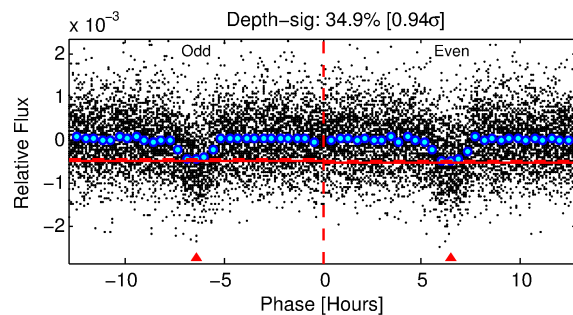
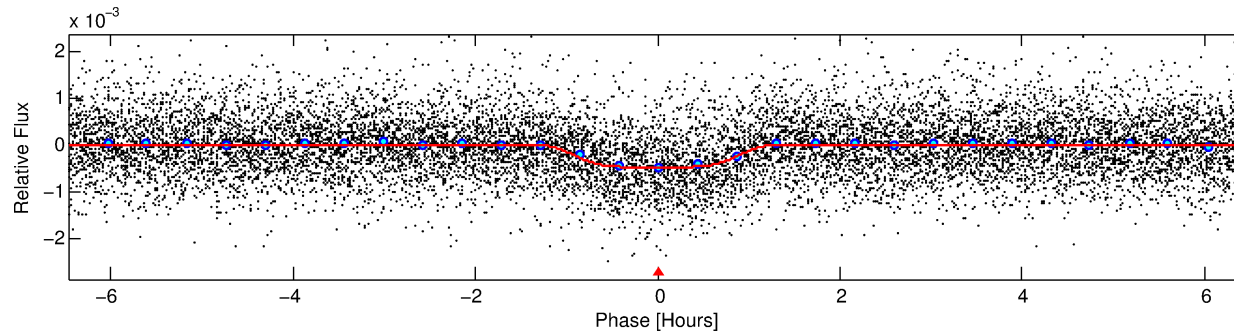
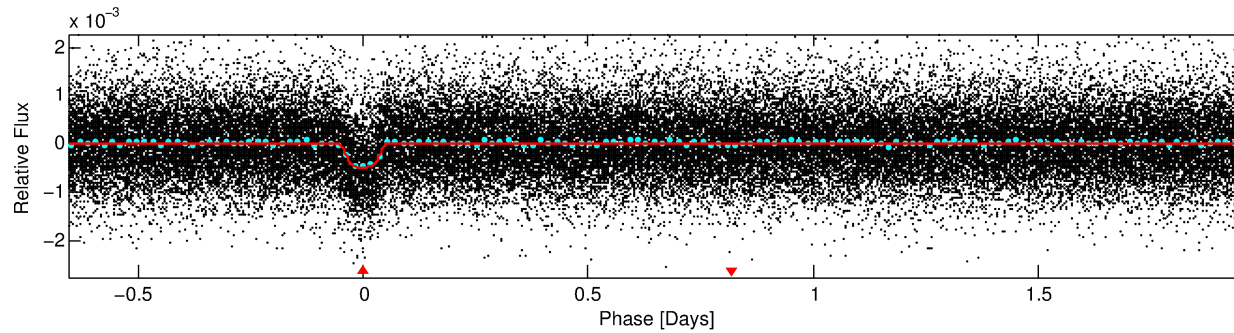
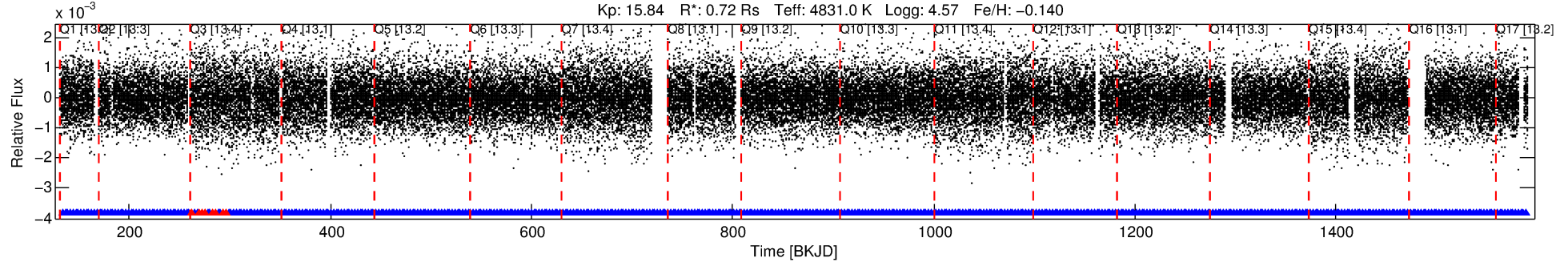
No Significant Match Found

DV One-Page Summary

KIC: 7439316 Candidate: 1 of 1 Period: 2.617 d

KOI: K01501.01 Corr: 0.962

Kp: 15.84 R*: 0.72 Rs Teff: 4831.0 K Logg: 4.57 Fe/H: -0.140



DV Fit Results:

Period = 2.61701 [0.00001] d
Epoch = 134.0377 [0.0012] BKJD
Rp/R* = 0.0249 [0.0049]
a/R* = 4.56 [3.22]
b = 0.91 [0.15]
Seff = 233.24 [39.37]
Teq = 996 [42] K
Rp = 1.97 [0.43] Re
a = 0.0331 [0.0027] AU
Ag = 4.29 [2.60] [1.26σ]
Teffp = 2217 [337] K [3.59σ]

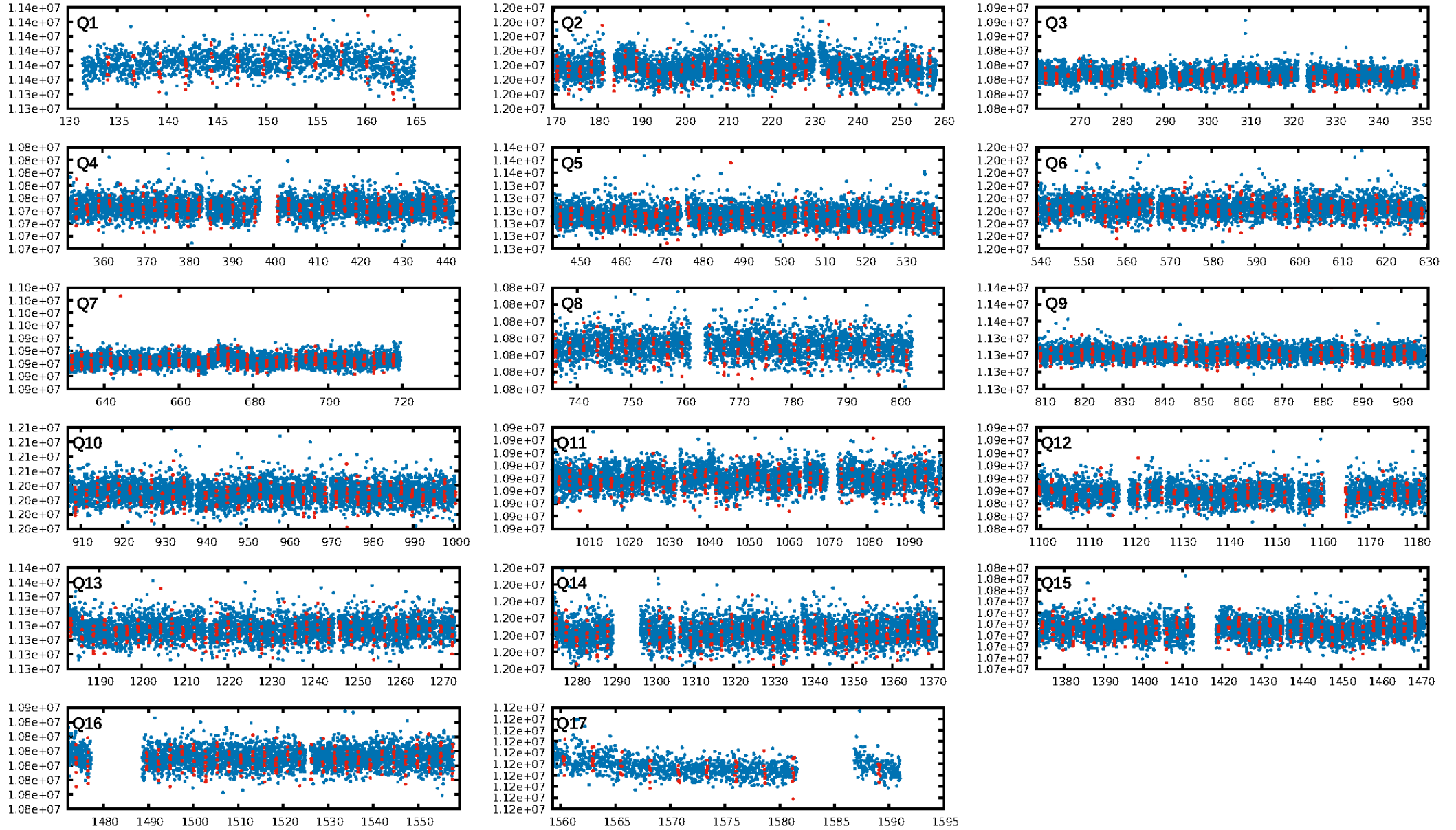
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.06e-120
RollingBand-fgt: 0.98 [484/492]
GhostDiagnostic-chr: 4.664
Centroid-sig: 2.0%
Centroid-so: 0.504 arcsec [1.04σ]
OotOffset-rm: 0.208 arcsec [0.99σ]
KicOffset-rm: 0.477 arcsec [2.91σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

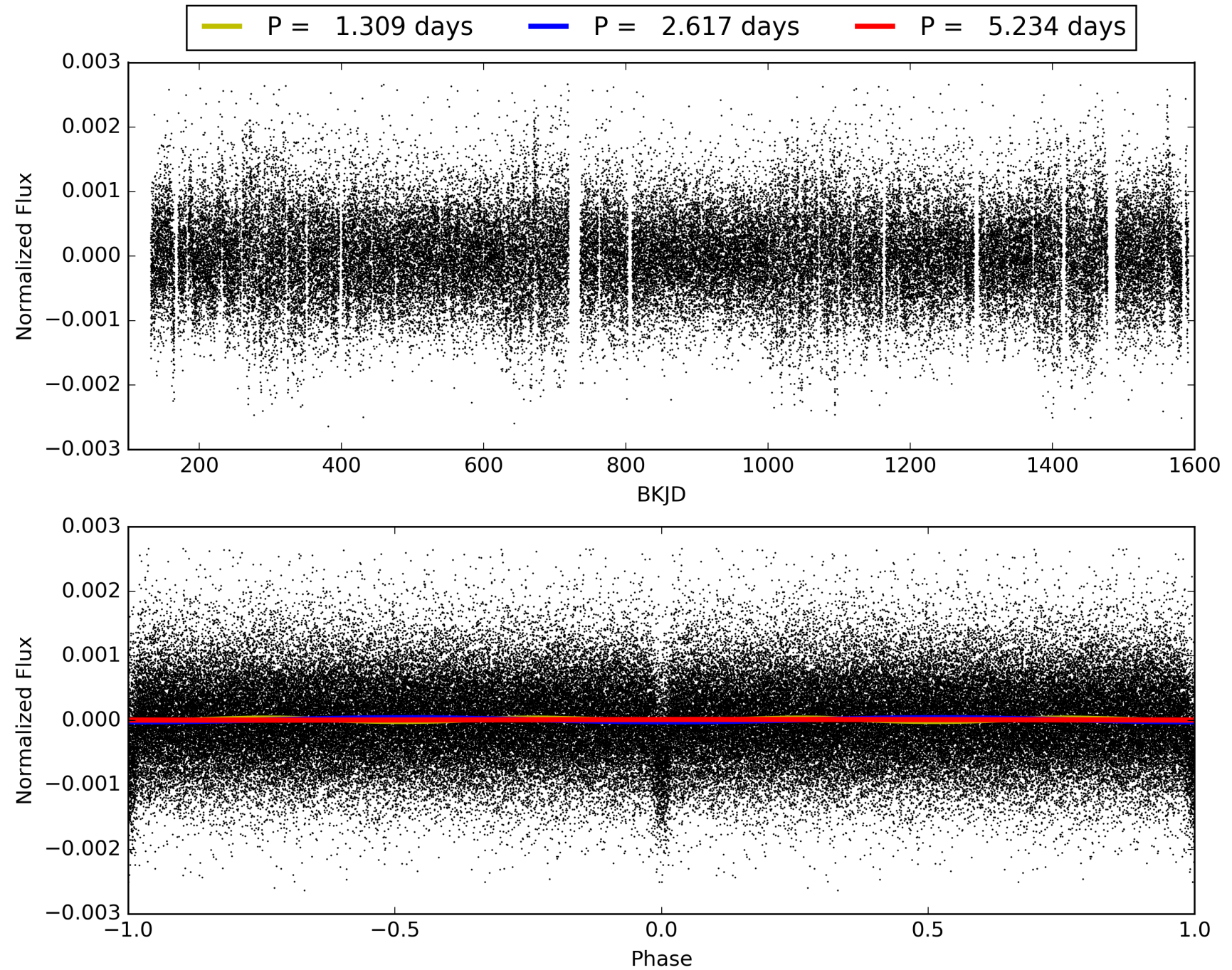
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:34:31 Z

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

TCE 007439316-01, PDC Light Curves

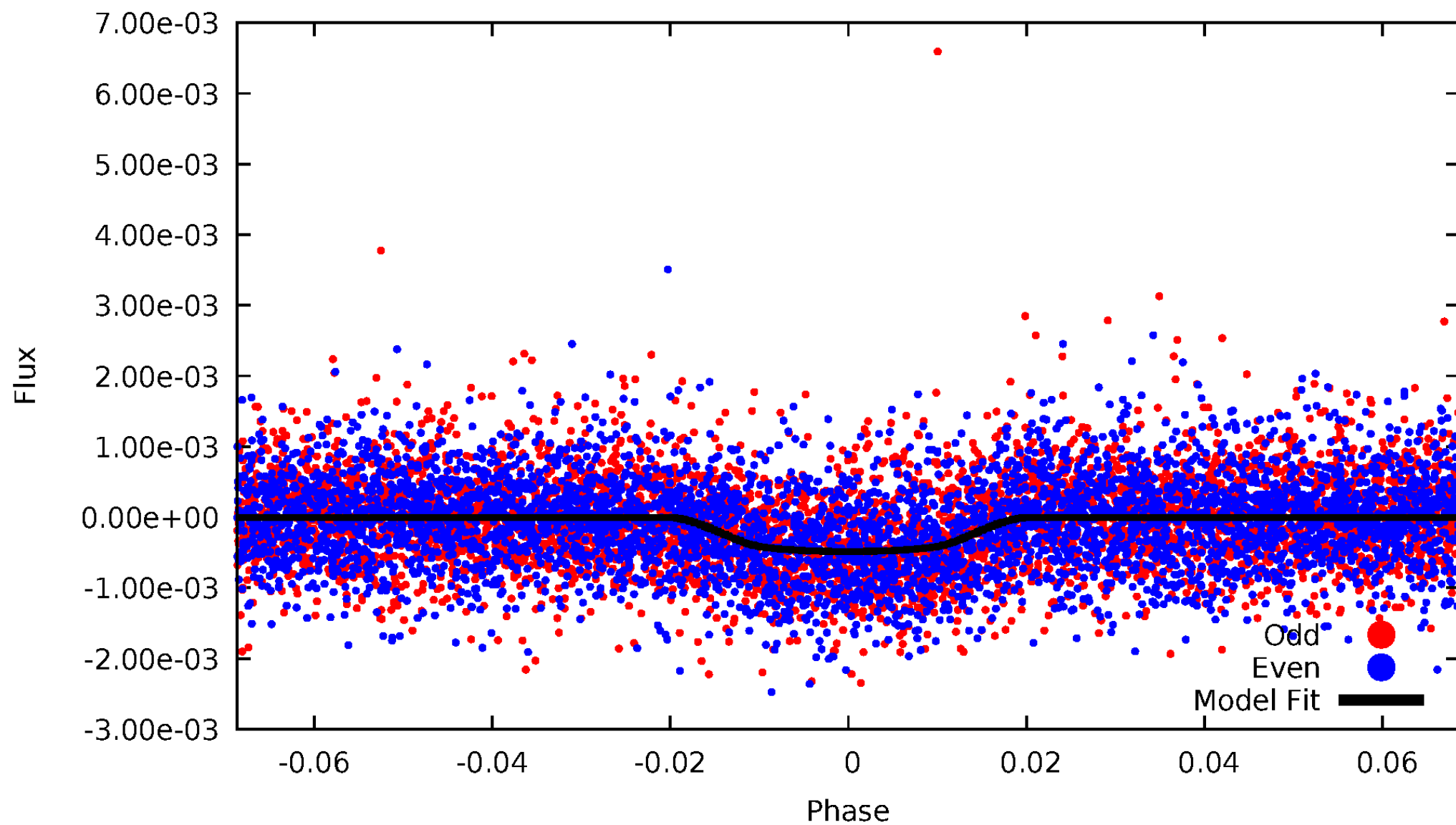


TCE 007439316-01



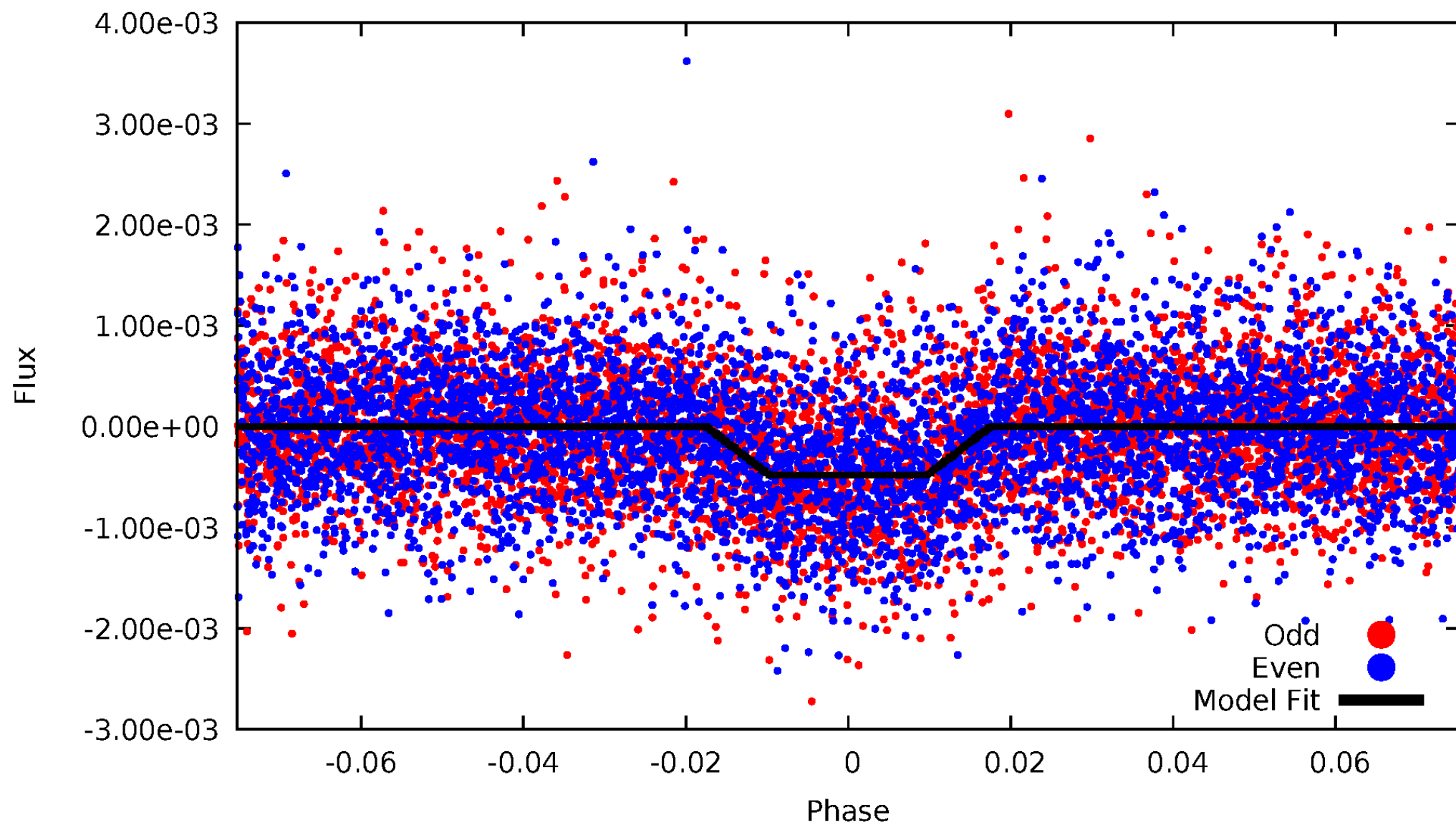
DV Odd/Even

TCE 007439316-01

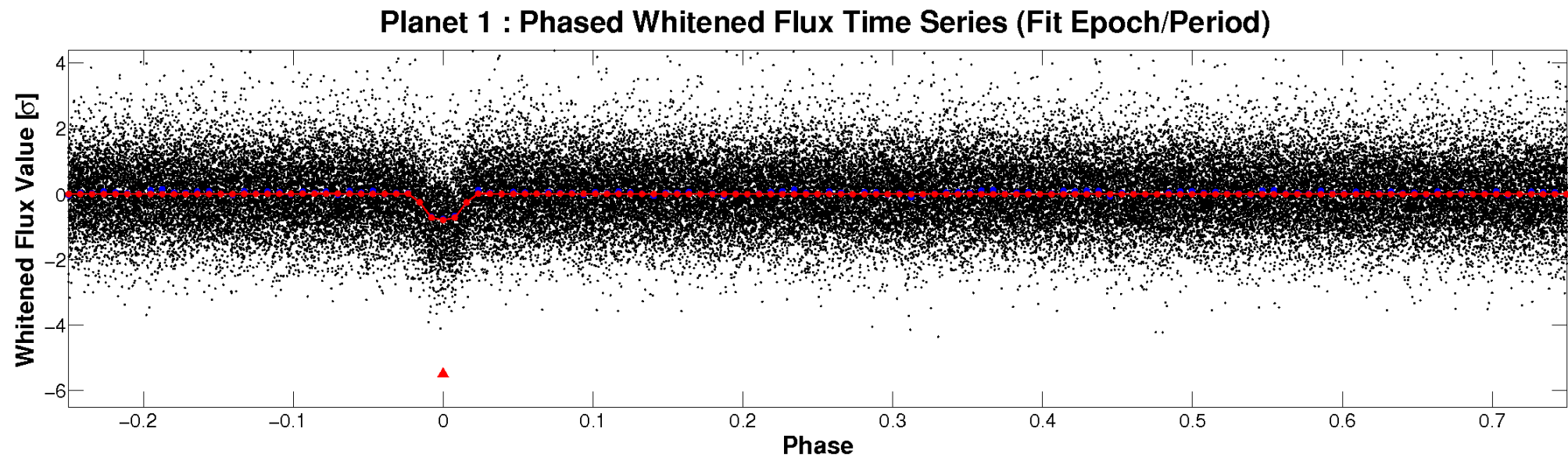
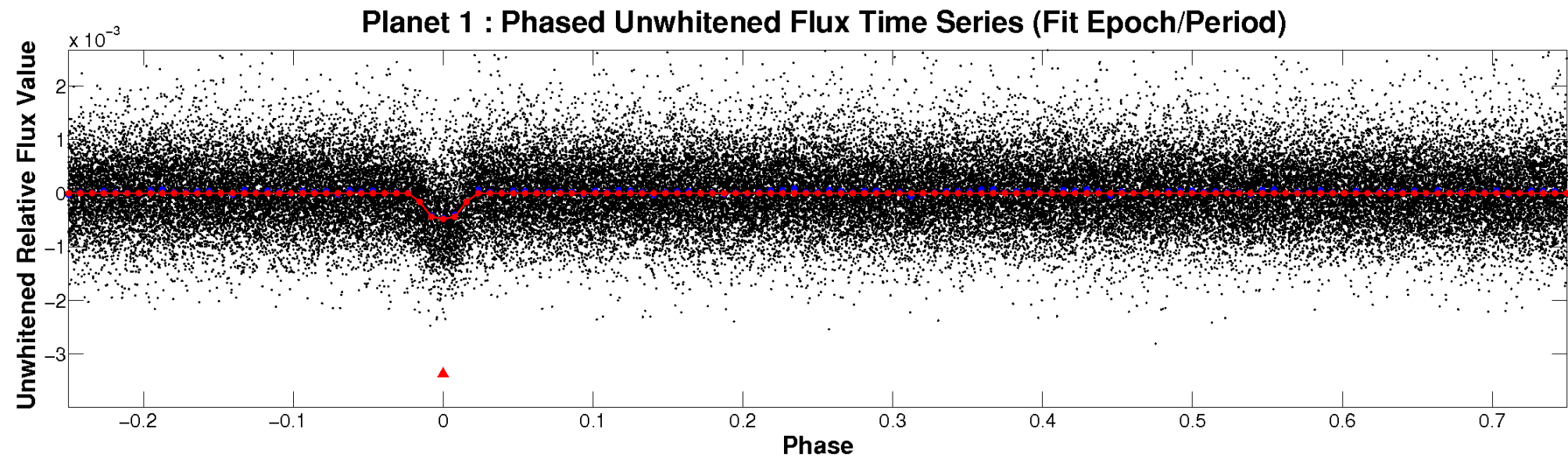


ALT Odd/Even

TCE 007439316-01

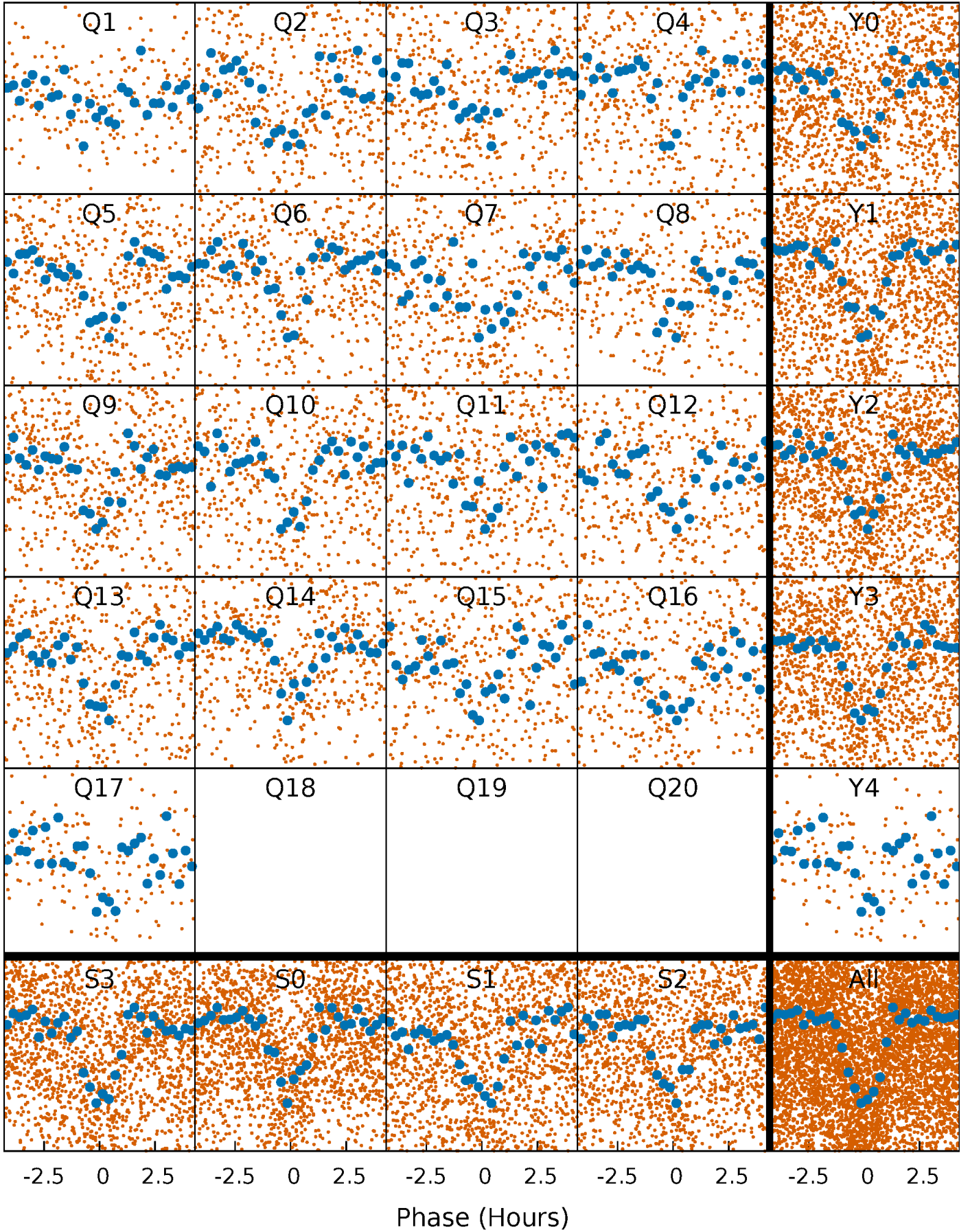


Non-Whitened Vs. Whitened Light Curve



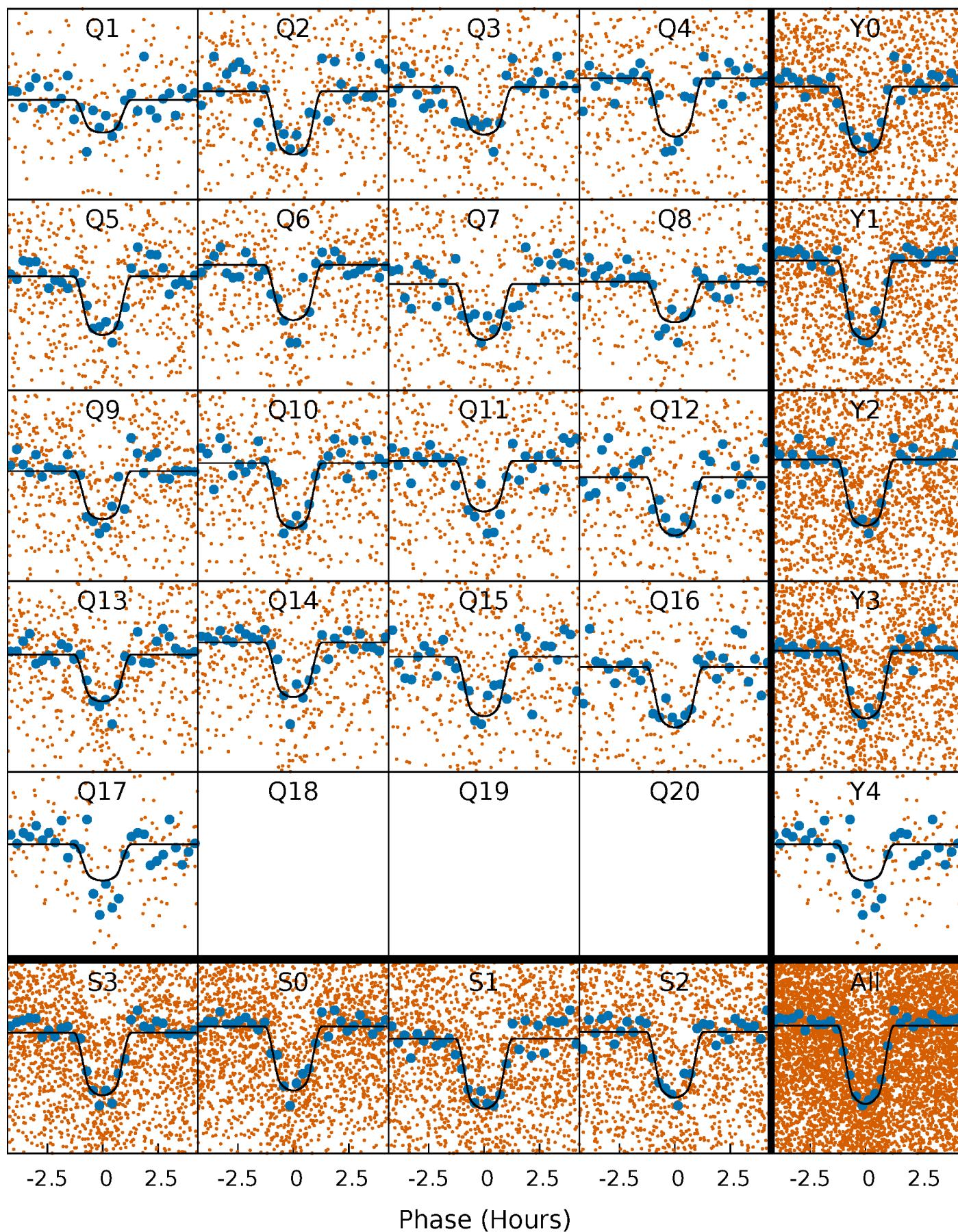
PDC Quarter-Phased Transit Curves

TCE 007439316-01 P= 2.617012 Days $T_0=134.037650$ (BKJD)



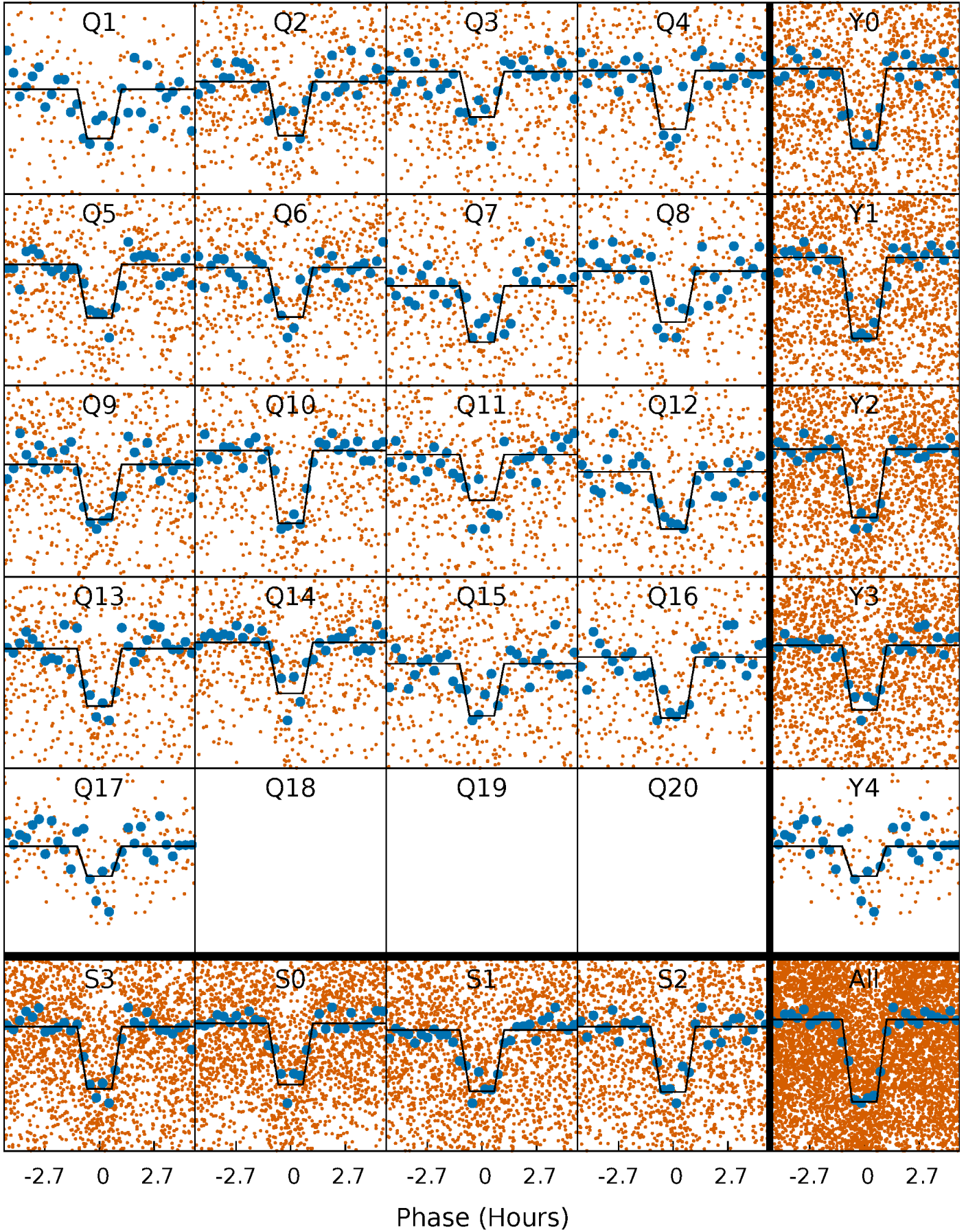
DV Quarter-Phased Transit Curves

TCE 007439316-01 P= 2.617012 Days $T_0=134.037650$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

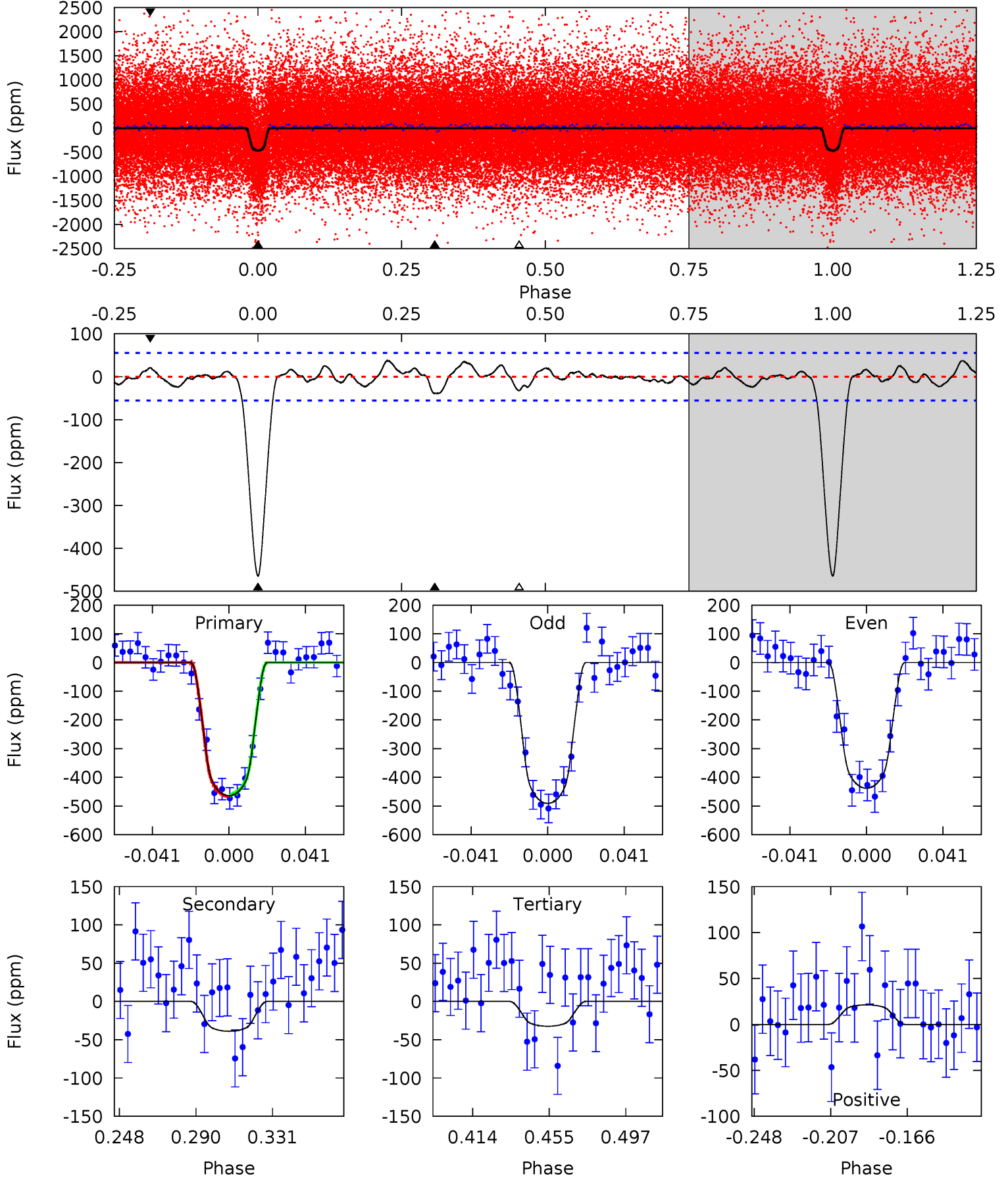
TCE 007439316-01 P= 2.617018 Days $T_0=134.035924$ (BKJD)



DV Model-Shift Uniqueness Test

007439316-01, P = 2.617012 Days, E = 131.420638 Days

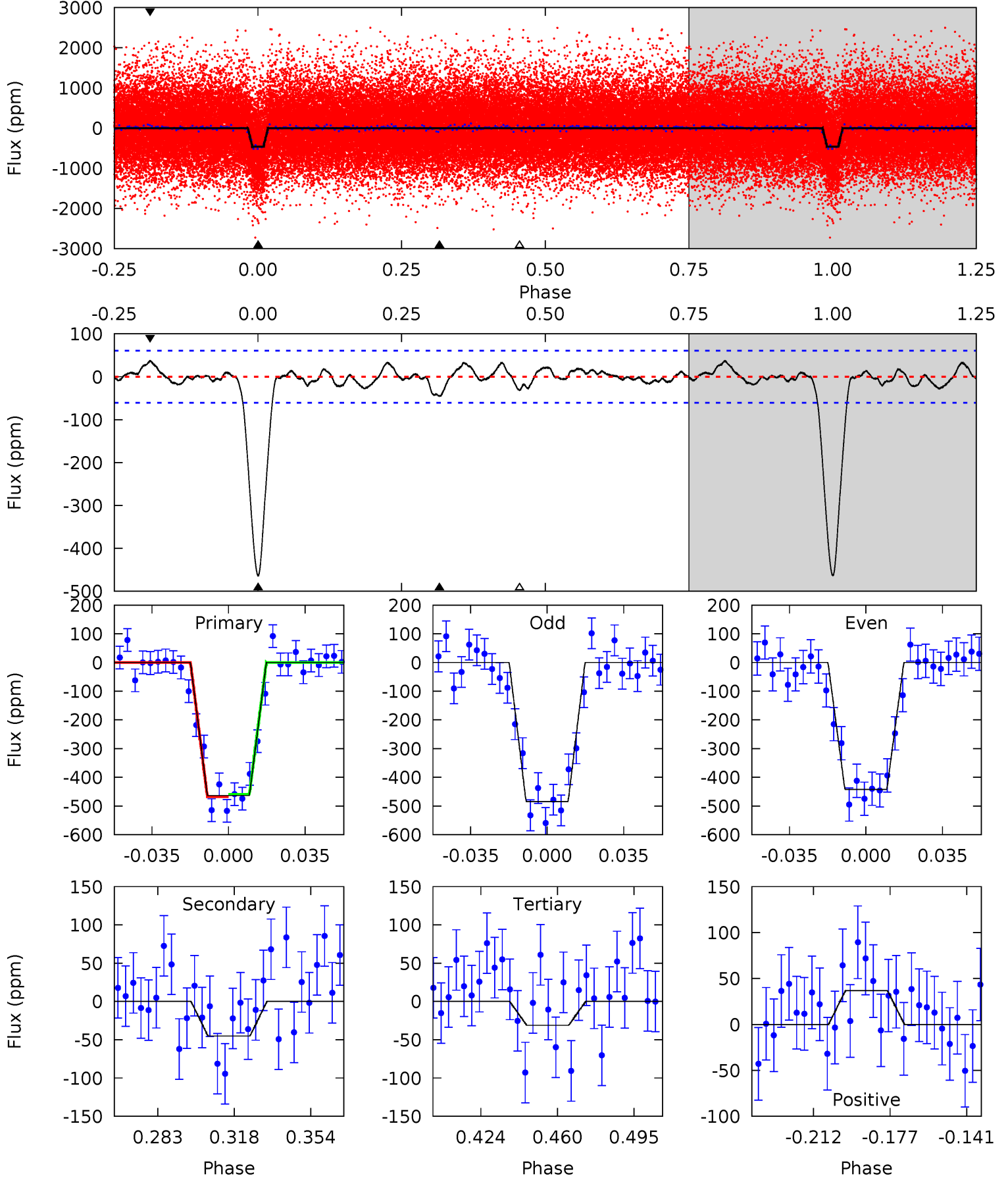
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.8	3.33	2.77	1.82	4.75	2.04	1.14	37.0	37.9	0.56	1.52	2.27	0.97	0.07	0.22



Alt Model-Shift Uniqueness Test

007439316-01, P = 2.617018 Days, E = 131.418906 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.5	3.56	2.46	2.90	4.78	2.10	1.08	34.1	33.6	1.10	0.66	1.70	1.00	0.07	0.33



Stellar Parameters For KIC 007439316

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4831^{+146}_{-146}	$4.568^{+0.065}_{-0.035}$	$-0.140^{+0.300}_{-0.300}$	$0.724^{+0.056}_{-0.068}$	$0.706^{+0.081}_{-0.054}$	$2.625^{+0.700}_{-0.383}$
	+3%/-3%	+1%/-1%	+214%/-214%	+8%/-9%	+11%/-8%	+27%/-15%
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 007439316-01 / KOI 1501.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-39 ± 12	$1.97^{+0.40}_{-0.41}$	1385^{+46}_{-51}	2987^{+232}_{-221}	$6.126^{+3.832}_{-2.378}$
Alt.	-45 ± 13	$1.72^{+0.41}_{-0.38}$	1382^{+49}_{-51}	3176^{+299}_{-245}	$9.210^{+6.797}_{-3.718}$

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

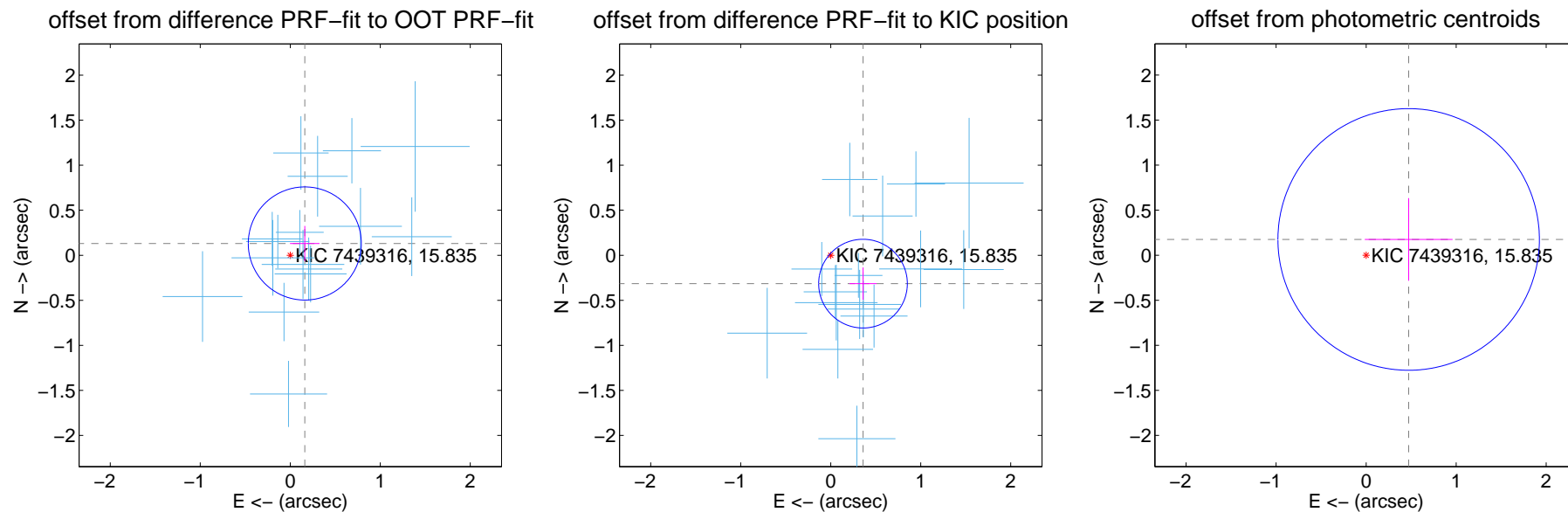
DV Centroid Data

Supplemental centroid analysis for 007439316-01. Kepler magnitude: 15.84. Transit SNR 29.56

There are 16 quarters with good PRF difference image offsets

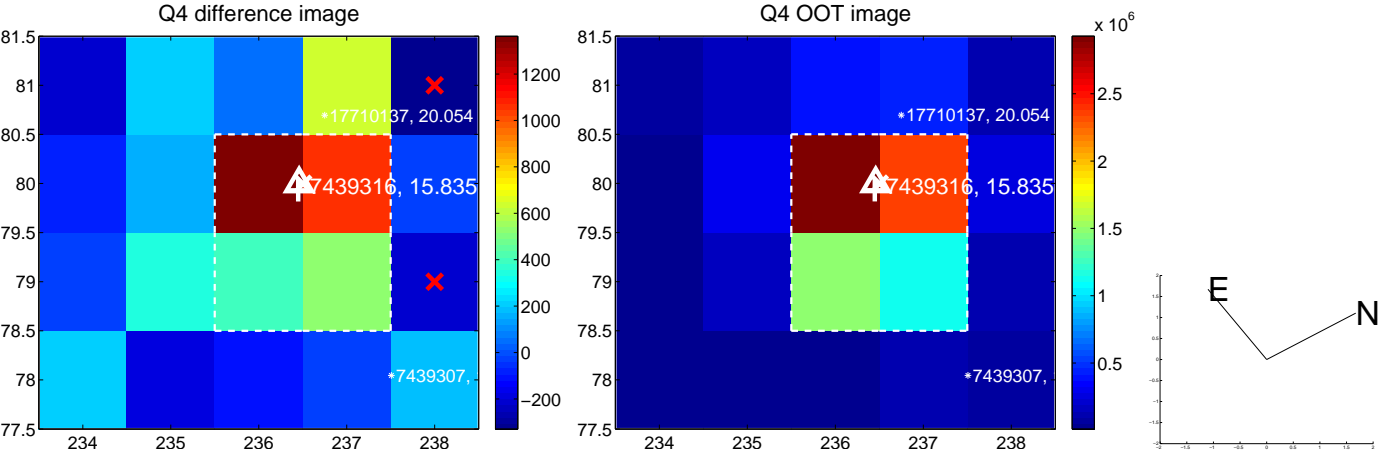
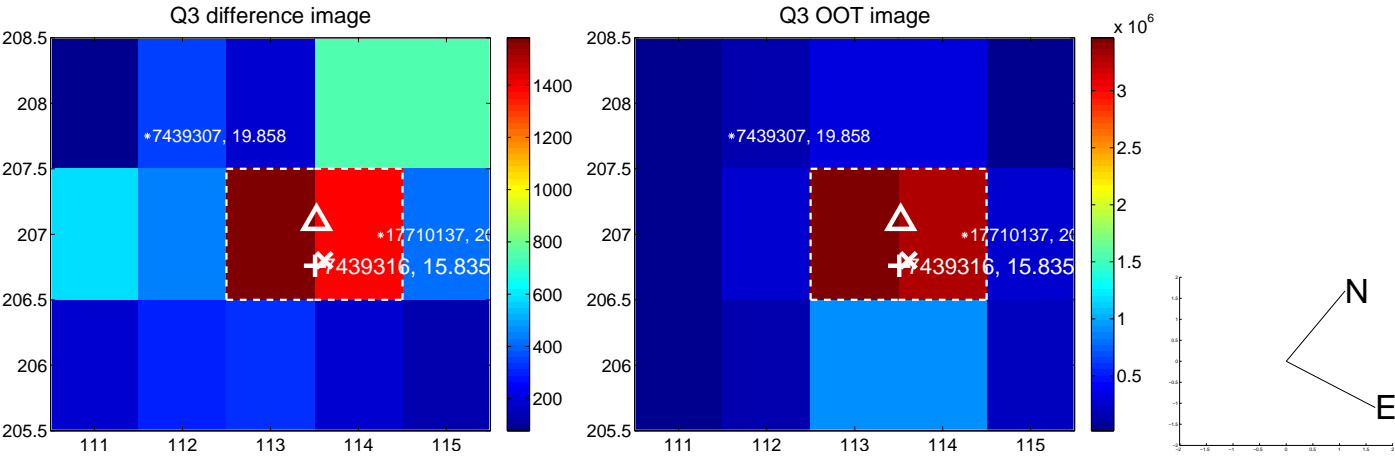
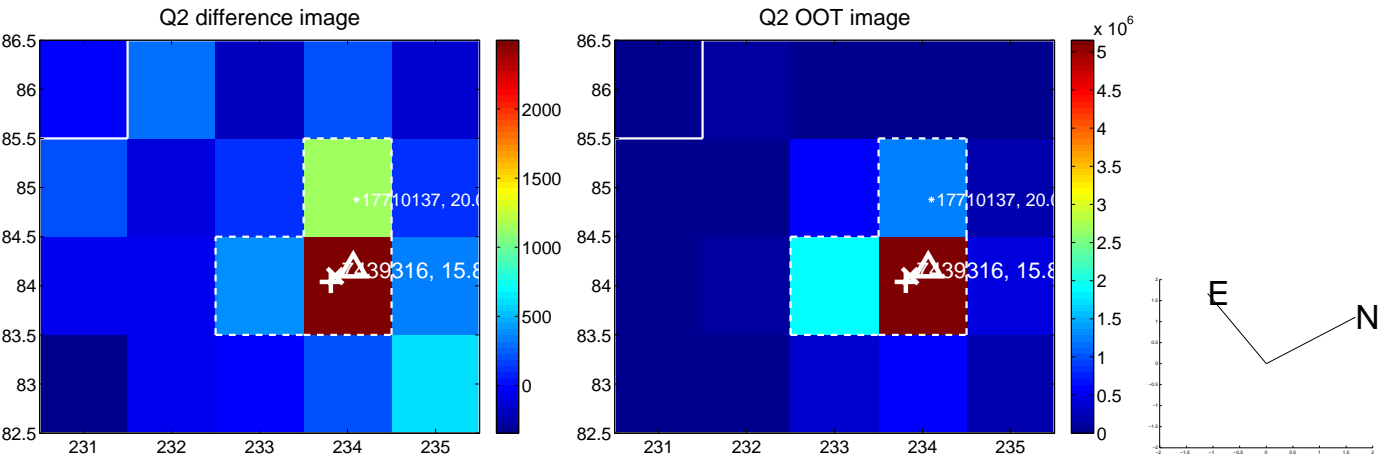
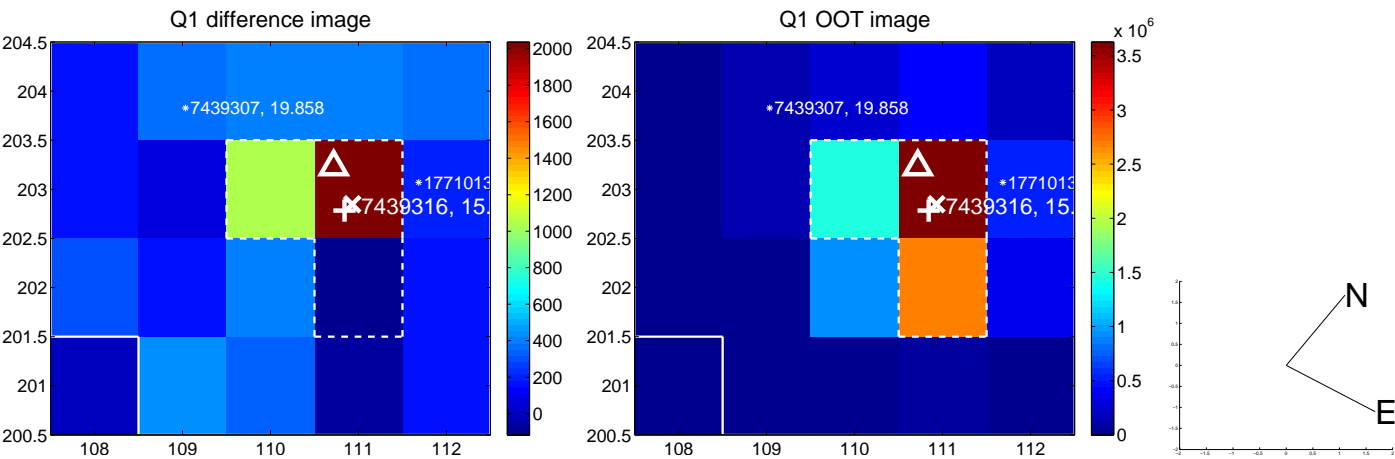
The direct PRF centroid is offset from the target star catalog position by about 0.52 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.208 ± 0.209	0.99	-0.162 ± 0.164	0.131 ± 0.195
PRF-fit source offset from KIC position	0.477 ± 0.164	2.91	-0.359 ± 0.151	-0.315 ± 0.179
photometric centroid source offset	0.50 ± 0.48	1.04	-0.47 ± 0.49	0.17 ± 0.46

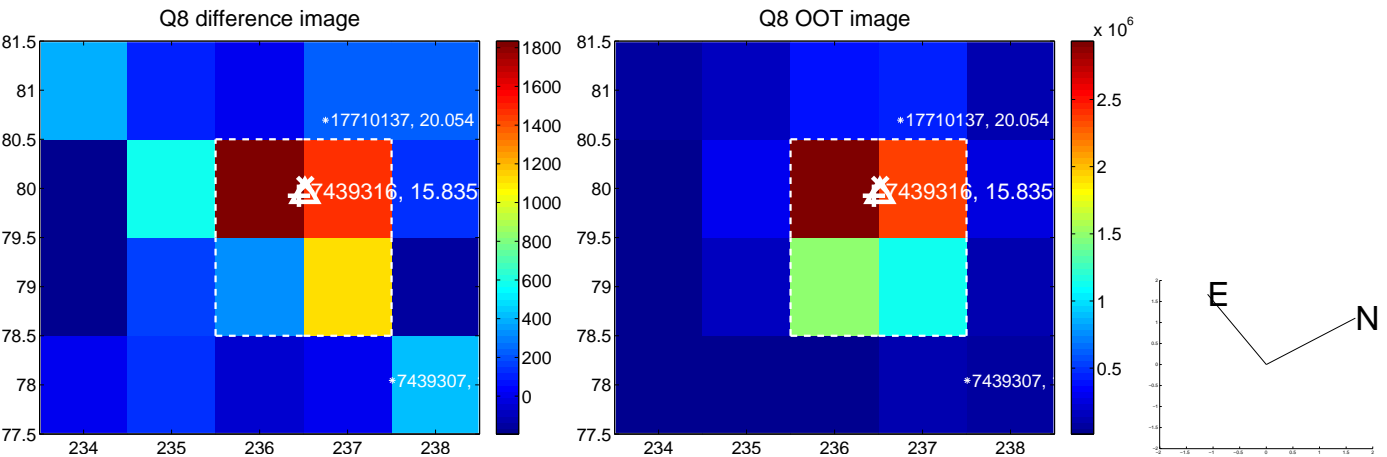
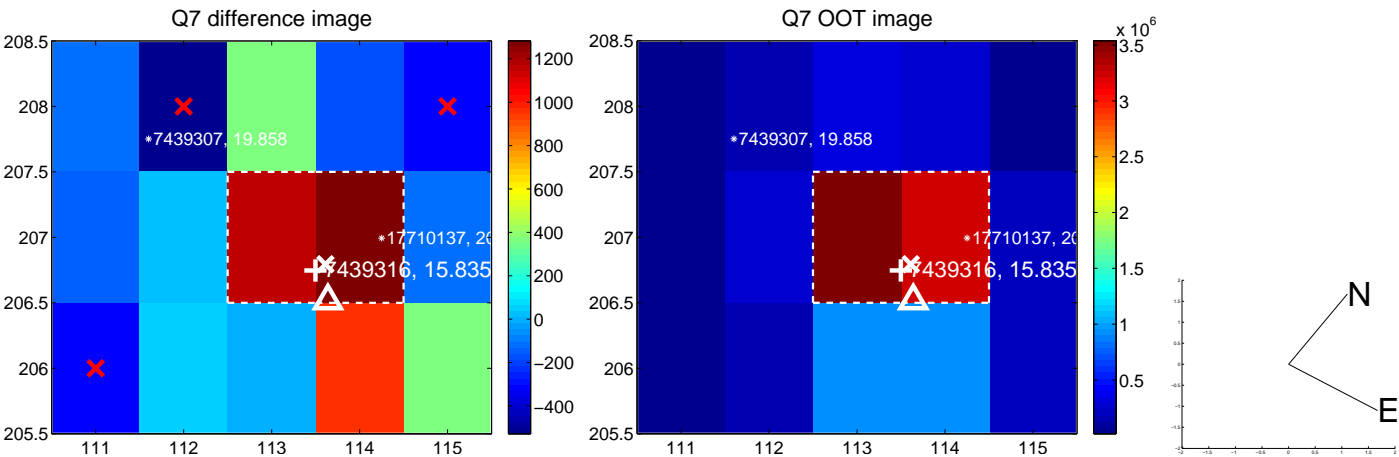
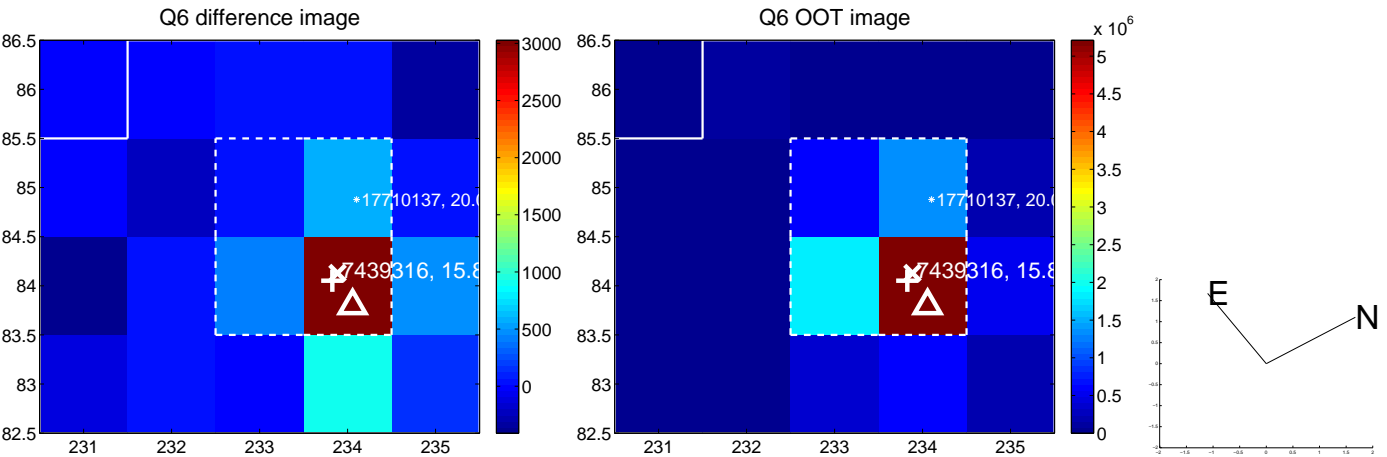
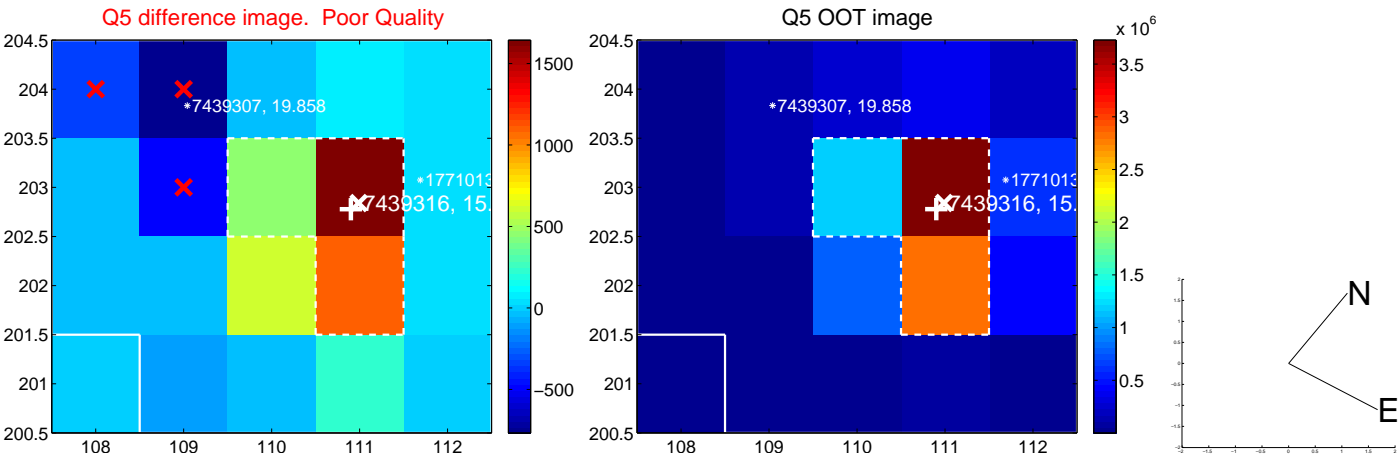


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

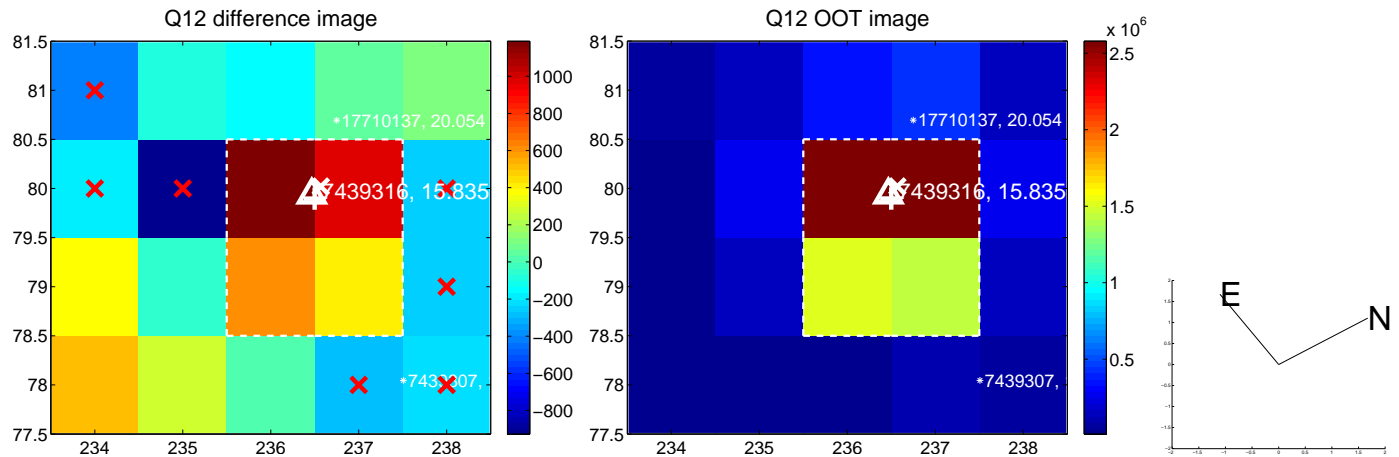
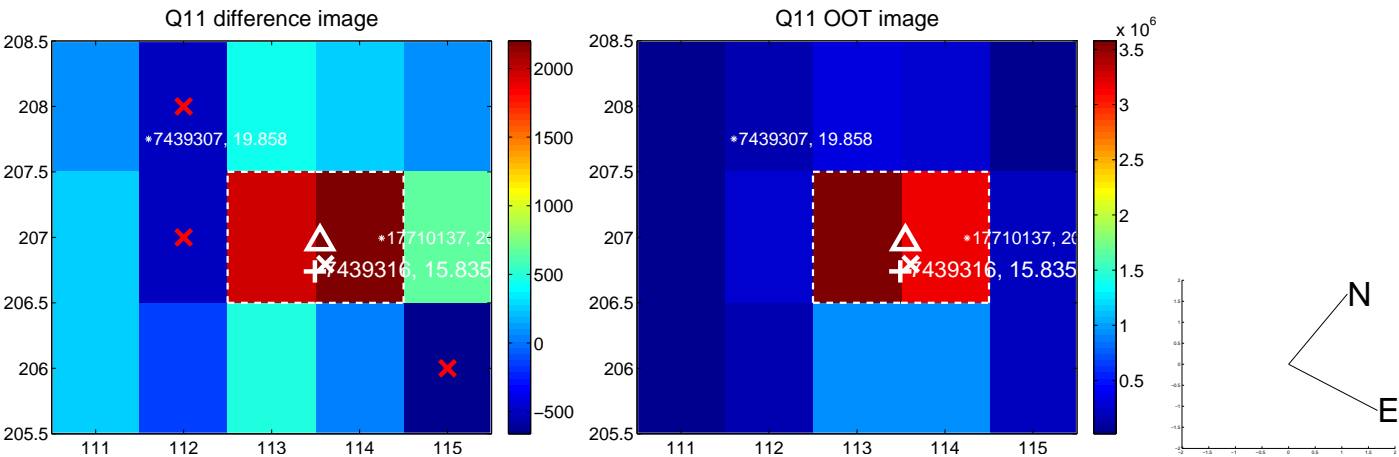
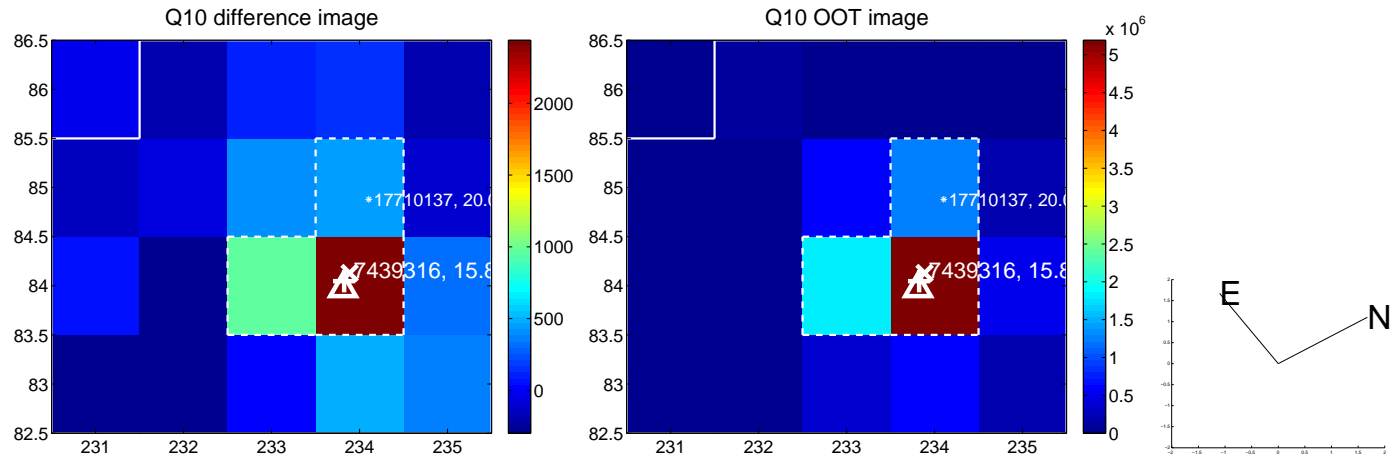
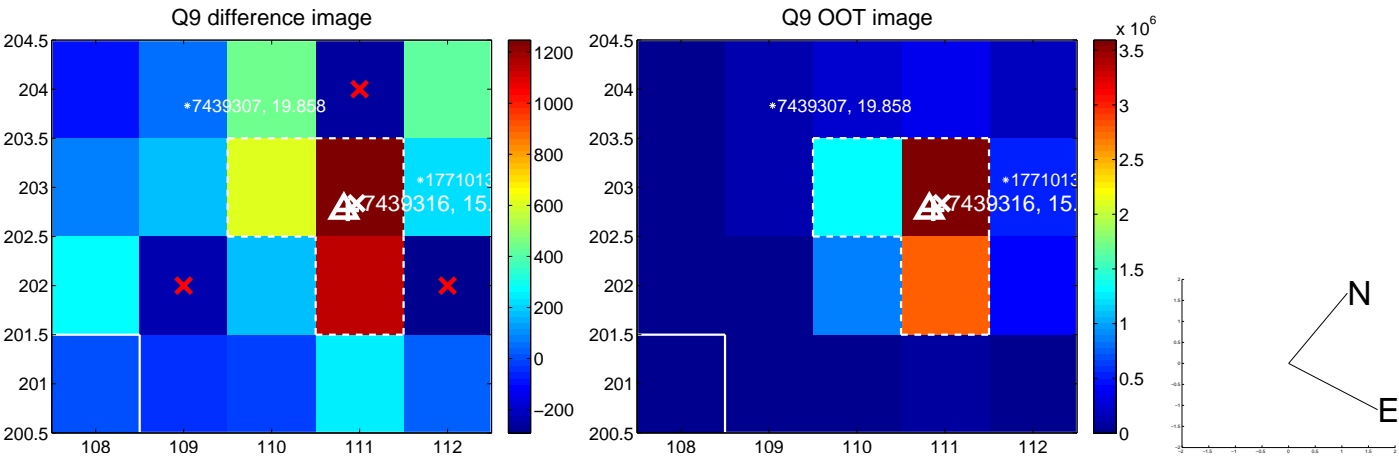
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



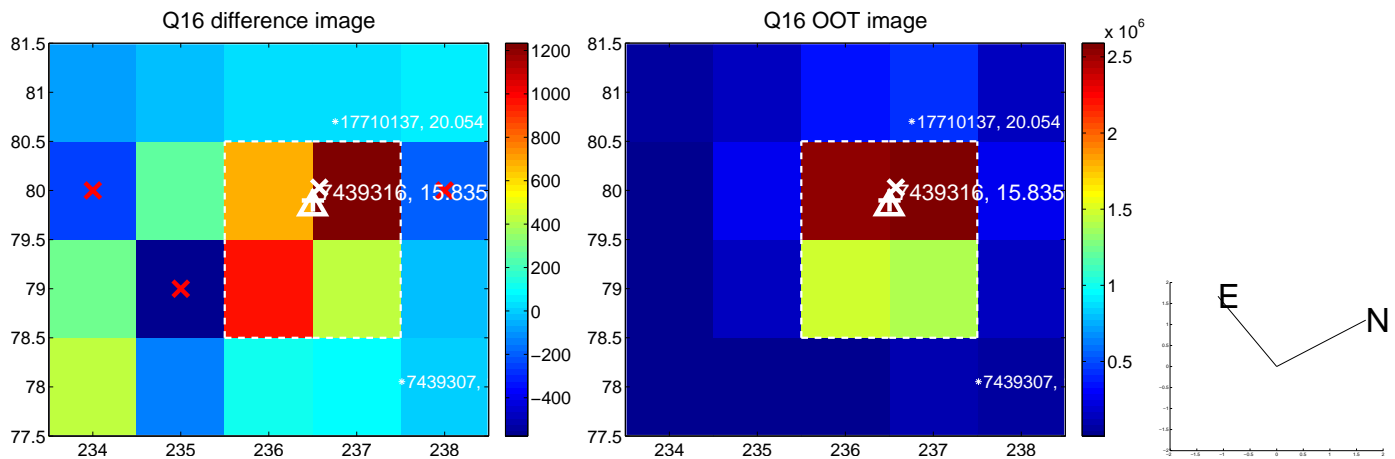
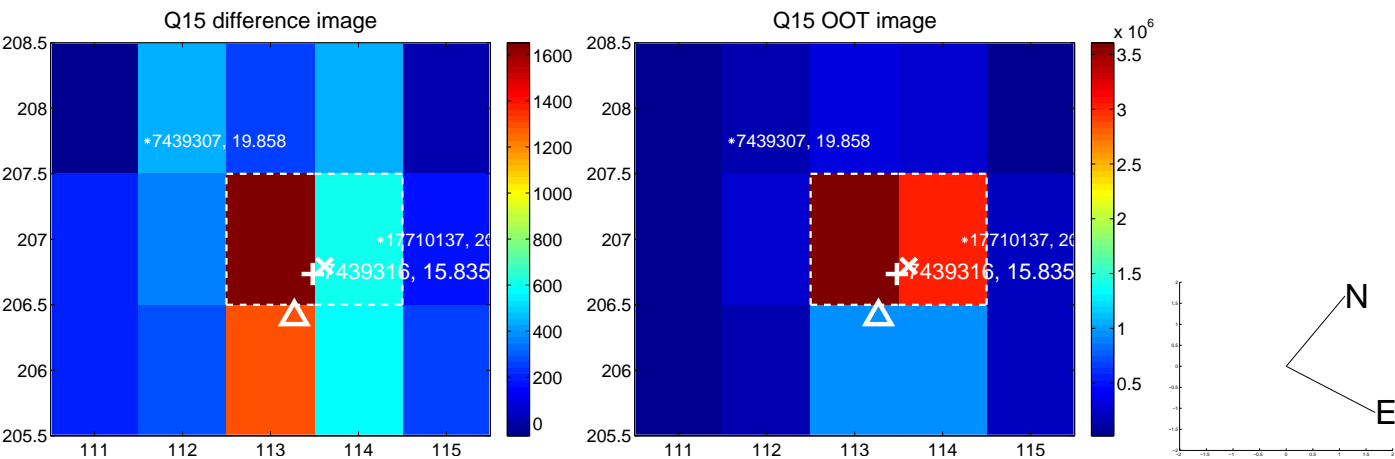
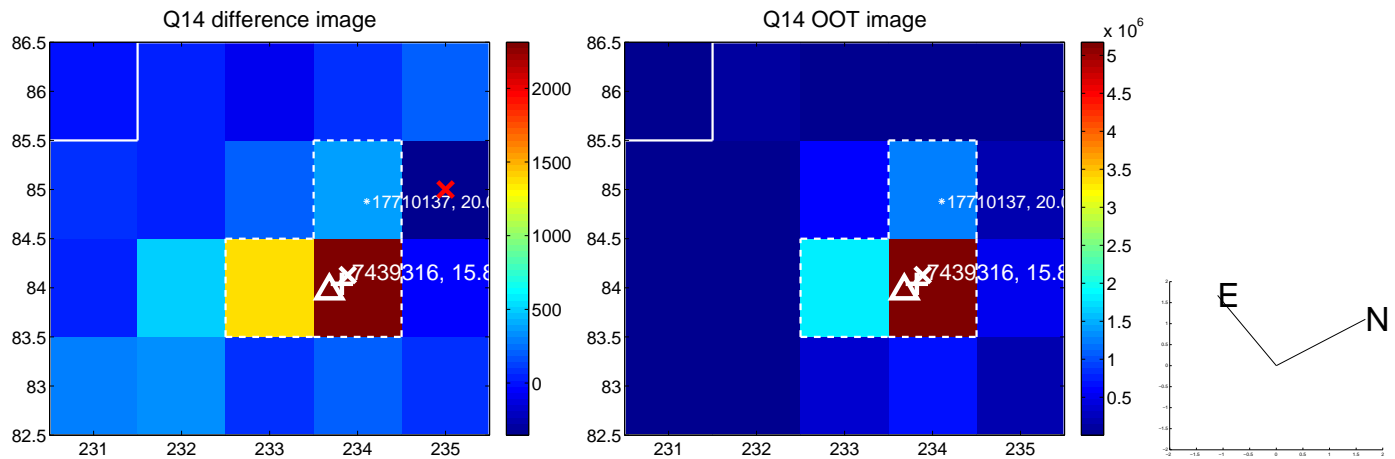
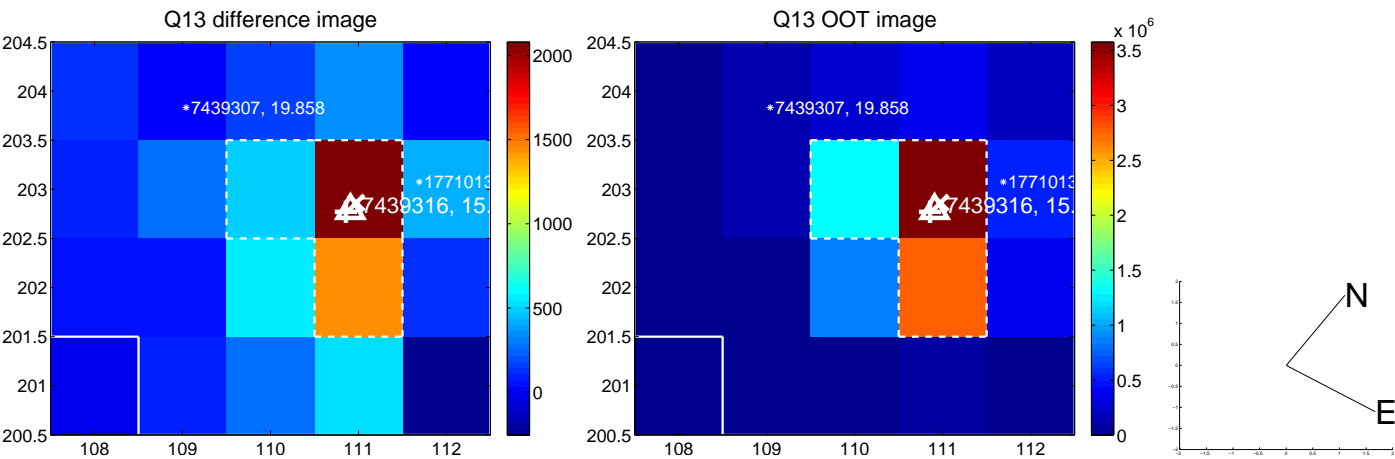
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



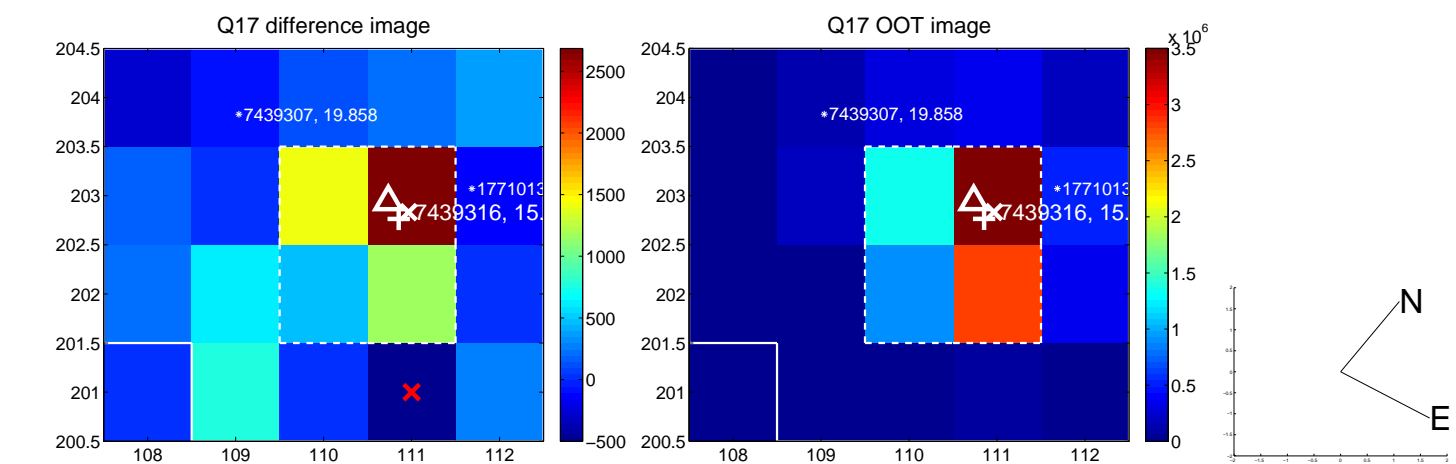
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



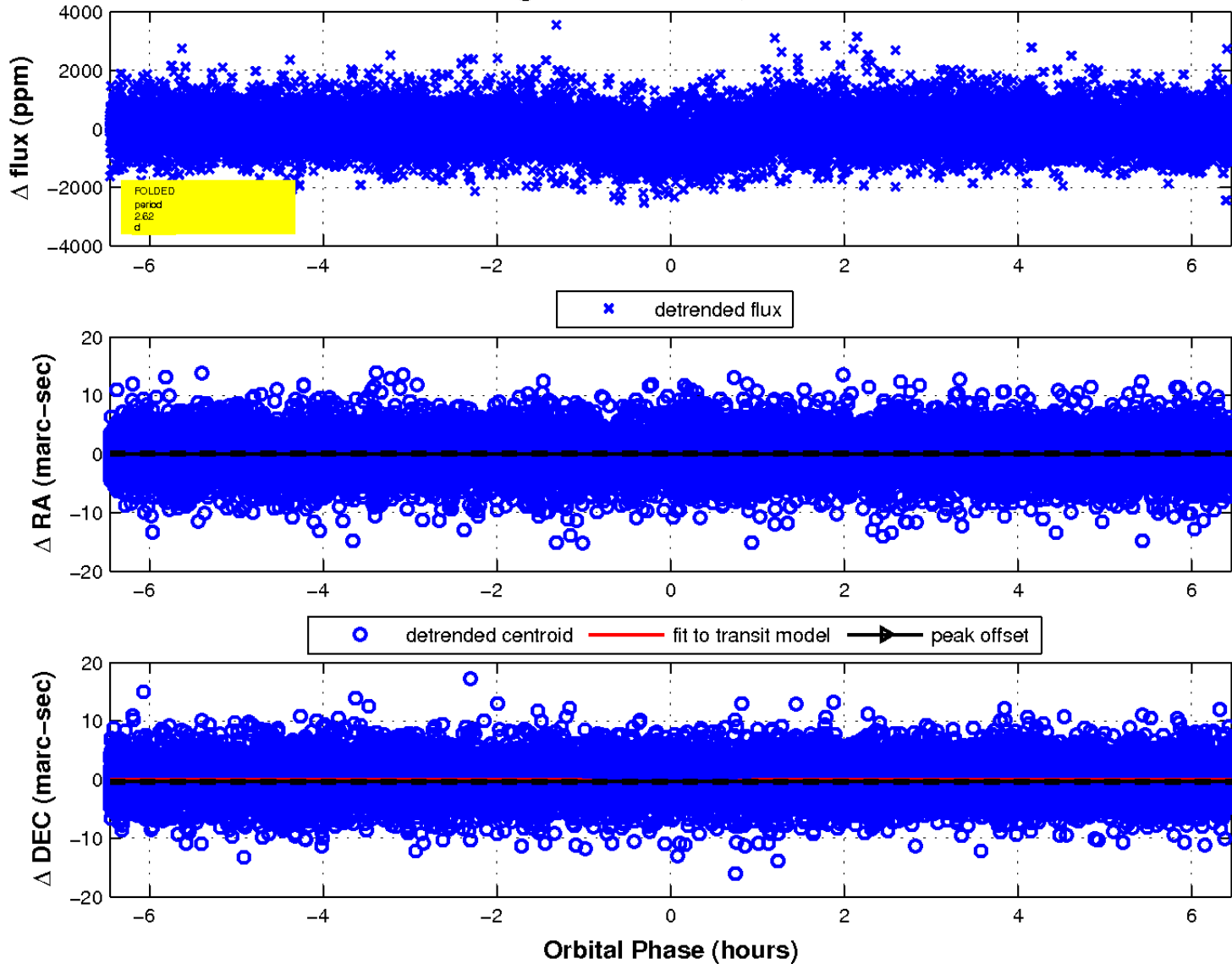
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

