

KIC 008099138

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})
008099138-01	OBS	2338.01	66.185065	141.612682	567.0	4.936	18.2	18.5	0.98	5640	2.67	8.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008099138-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

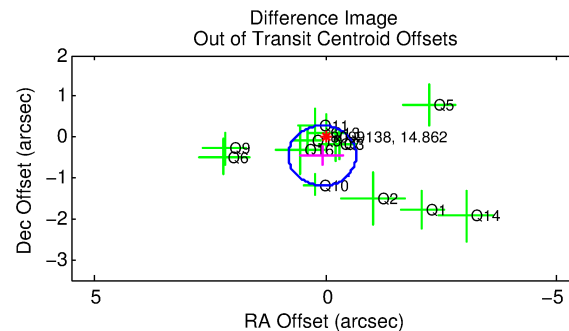
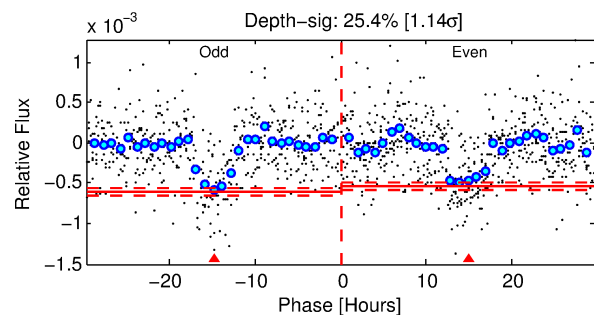
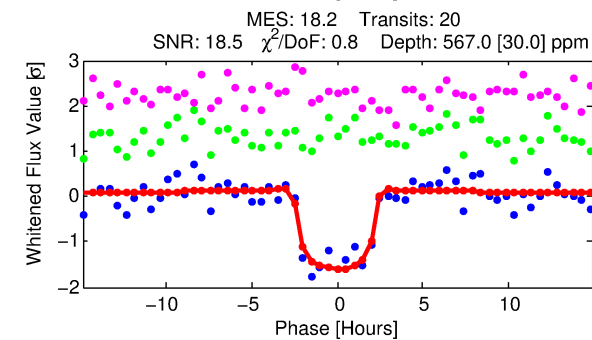
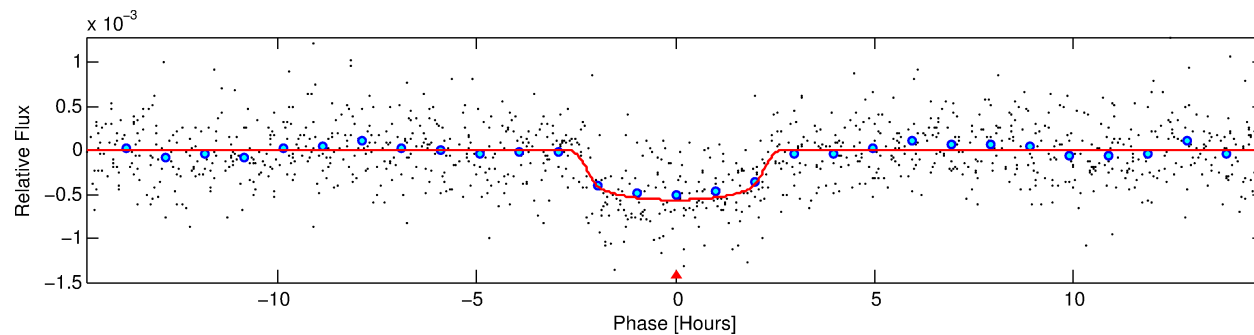
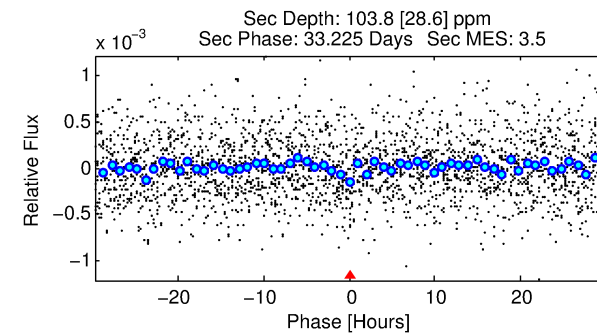
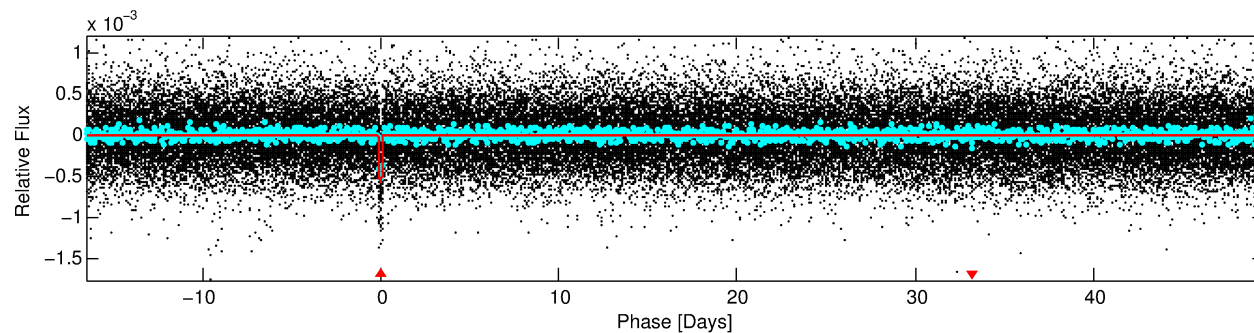
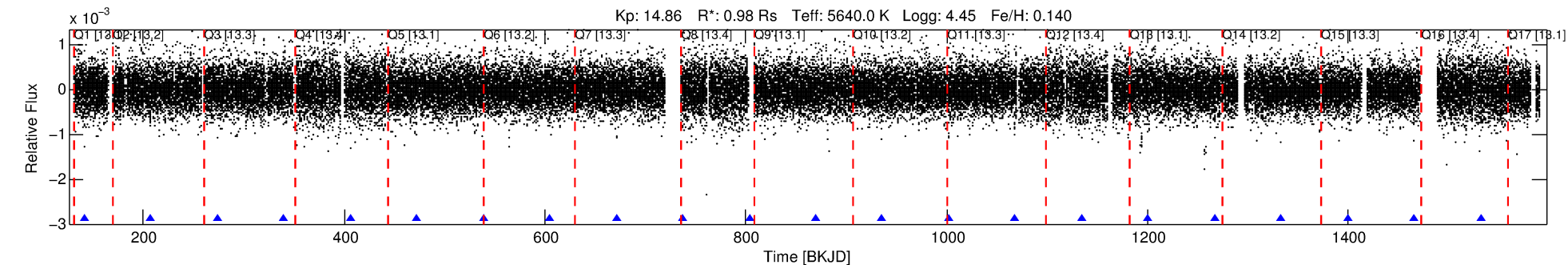
Ephemeris Match Information For 008099138-01

No Significant Match Found

DV One-Page Summary

KIC: 8099138 Candidate: 1 of 1 Period: 66.185 d

KOI: K02338.01 Corr: 0.986



DV Fit Results:

Period = 66.18506 [0.00041] d
Epoch = 141.6127 [0.0049] BKJD
 $R_p/R^* = 0.0250$ [0.0053]
 $a/R^* = 58.47$ [52.76]
 $b = 0.85$ [0.30]
 $S_{\text{eff}} = 8.59$ [1.81]
 $T_{\text{eq}} = 437$ [23] K
 $R_p = 2.67$ [0.67] R_e
 $a = 0.3178$ [0.0409] AU
 $A_g = 807.60$ [437.22] [1.84σ]
 $T_{\text{eff}} = 3598$ [455] K [6.94σ]

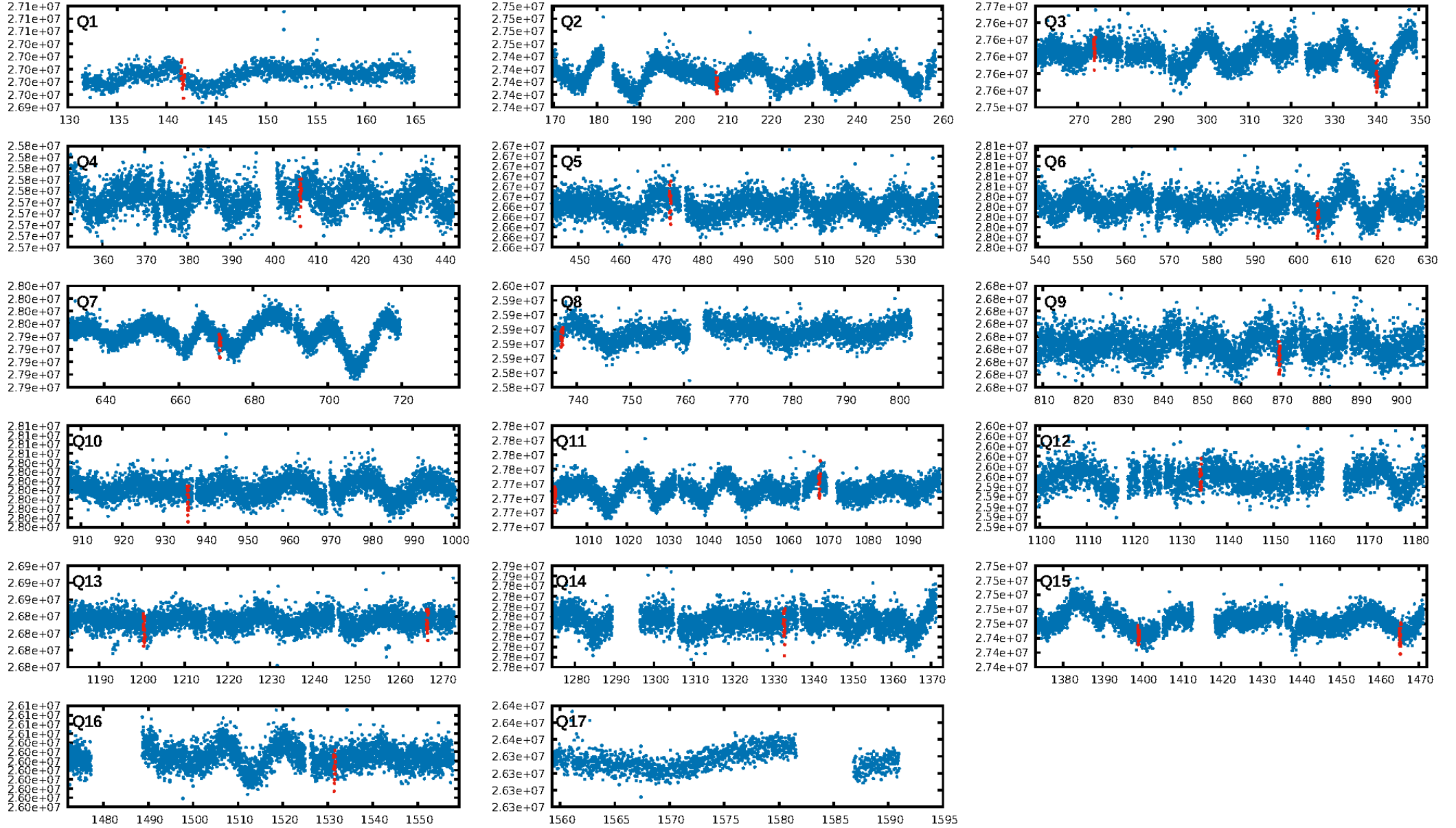
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 83.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.84e-67
RollingBand-fgt: 1.00 [19/19]
GhostDiagnostic-chr: 1.408
Centroid-sig: 0.3%
Centroid-so: 1.513 arcsec [2.44σ]
OotOffset-rm: 0.460 arcsec [1.87σ]
KicOffset-rm: 0.195 arcsec [0.68σ]
OotOffset-st: 4/4/1/4 [13]
KicOffset-st: 4/4/1/4 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [15/15]

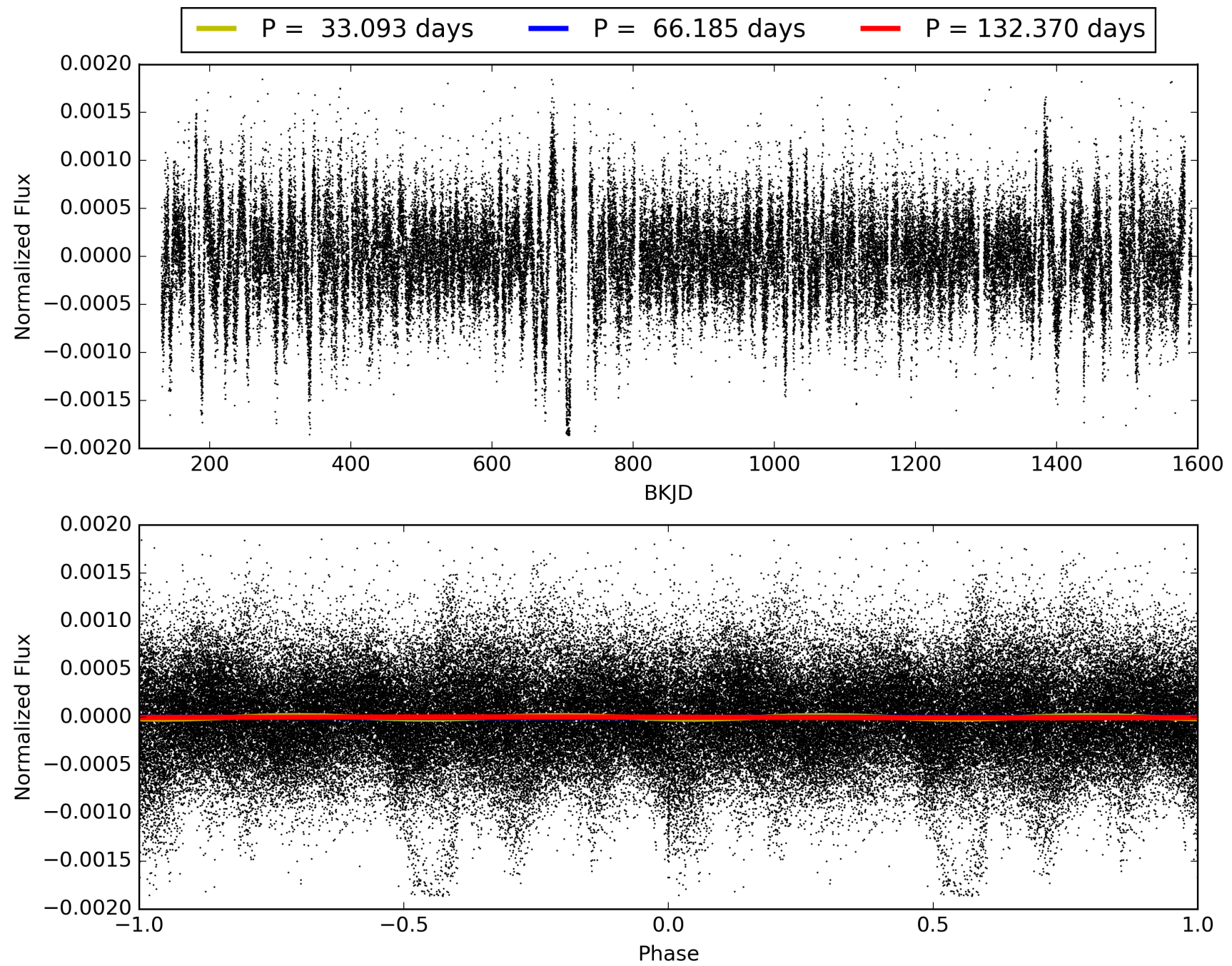
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:22:40 Z

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

TCE 008099138-01, PDC Light Curves

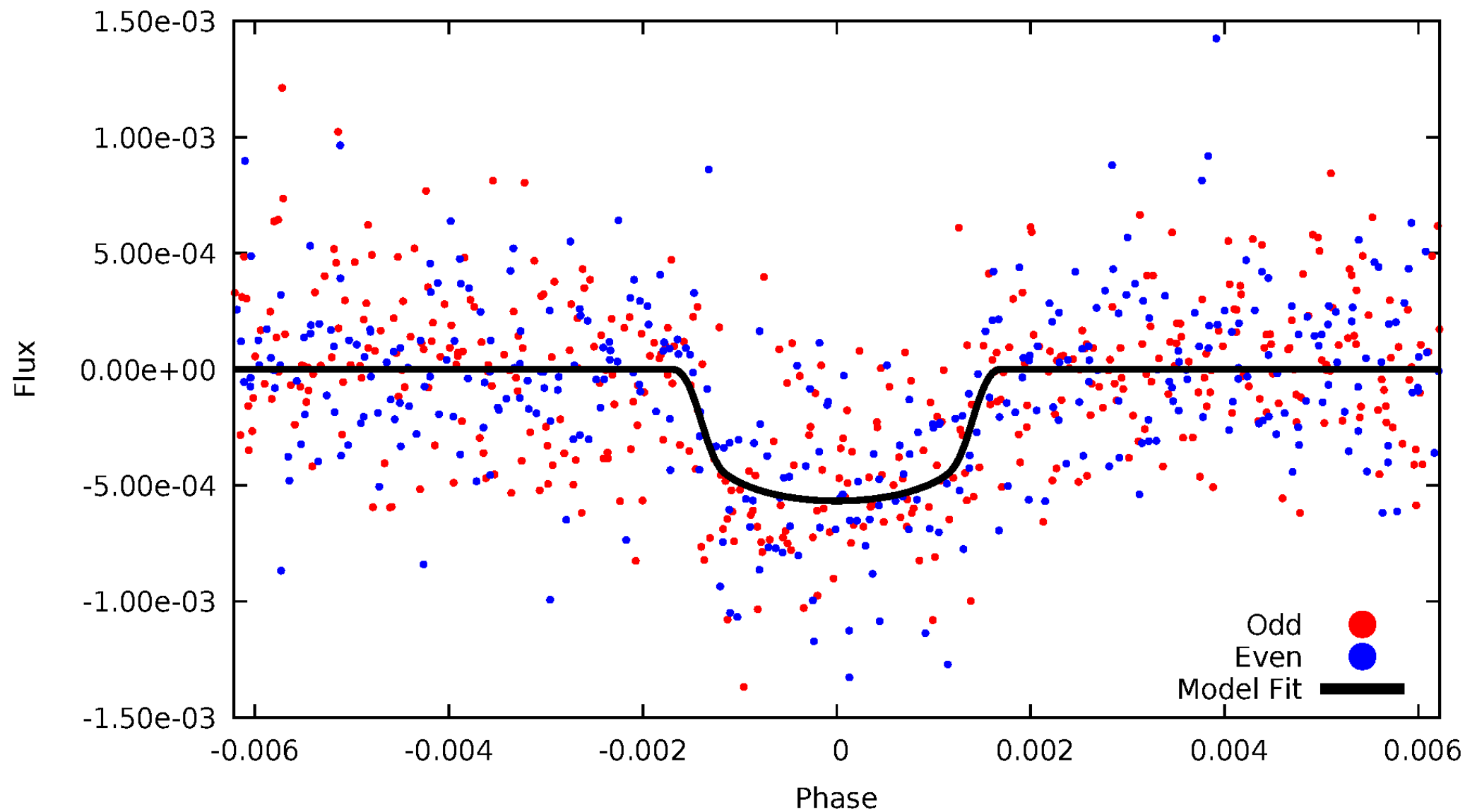


TCE 008099138-01



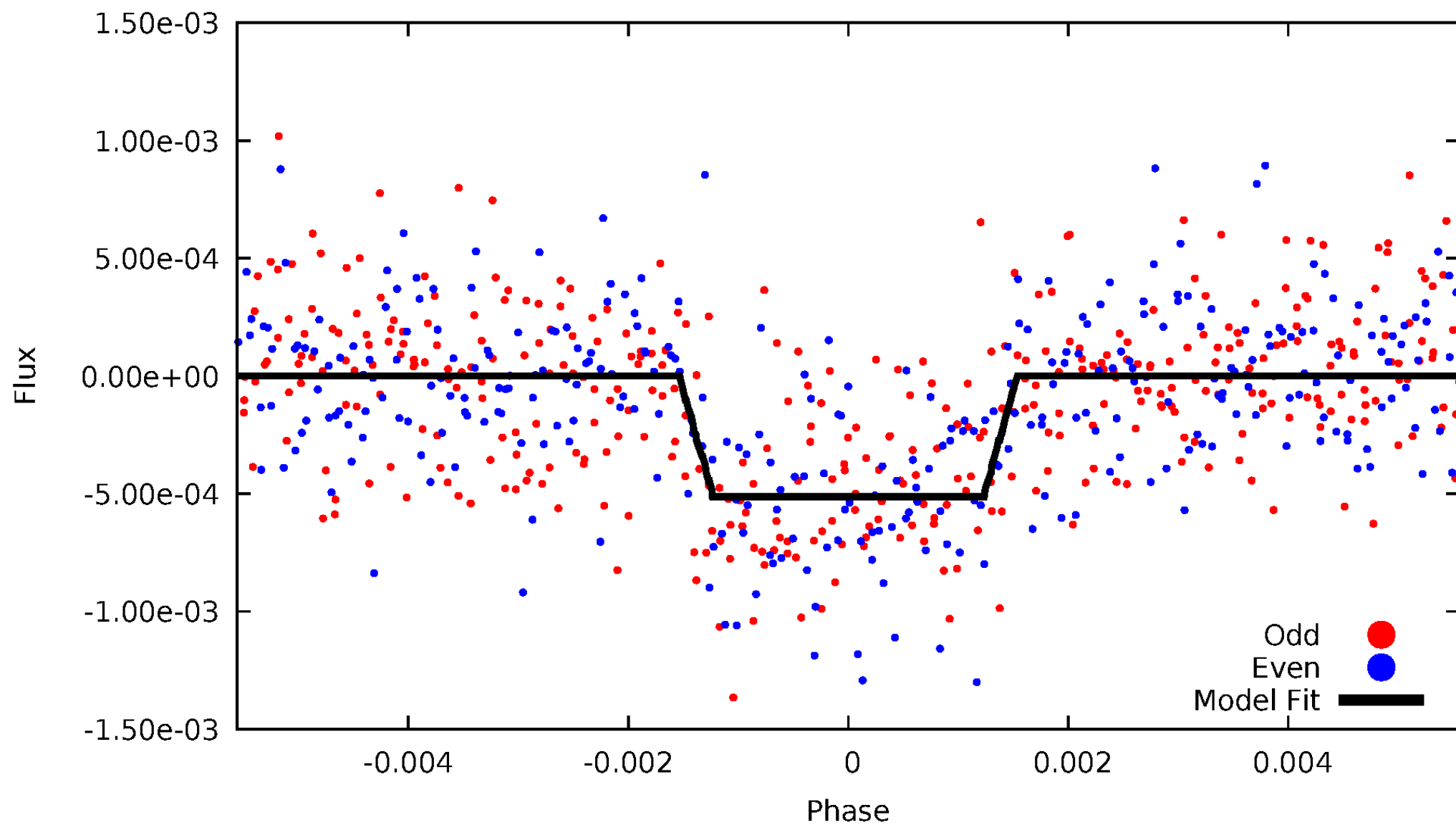
DV Odd/Even

TCE 008099138-01



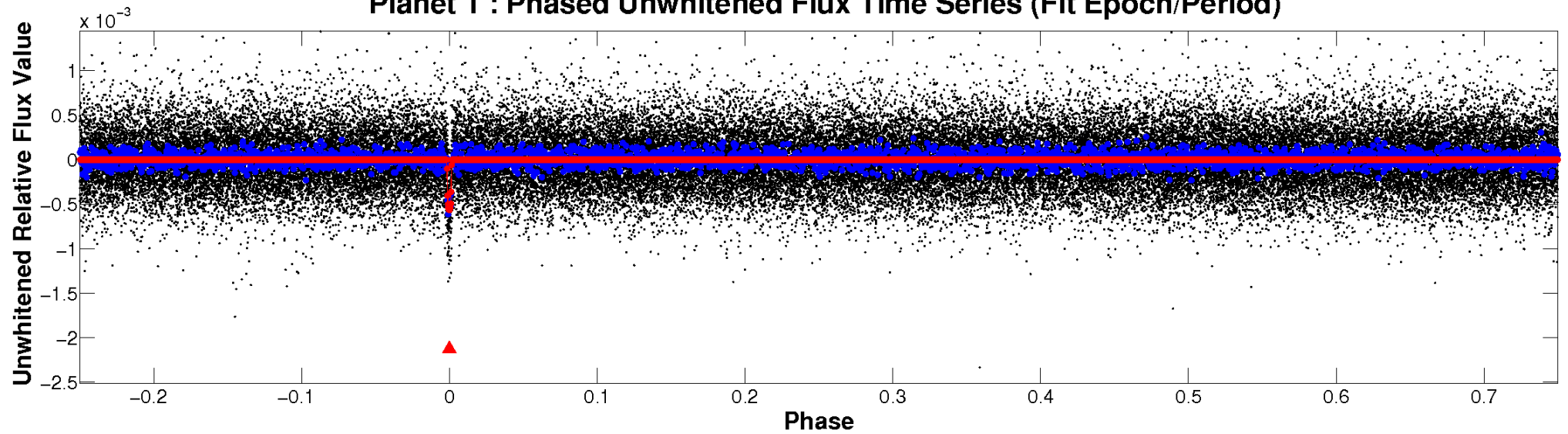
ALT Odd/Even

TCE 008099138-01

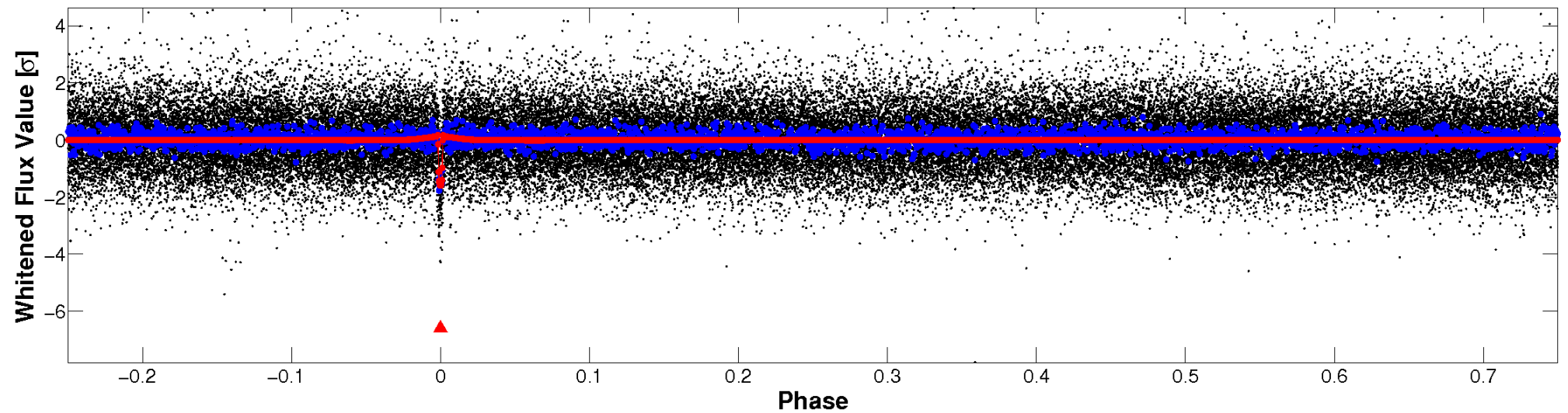


Non-Whitened Vs. Whitened Light Curve

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

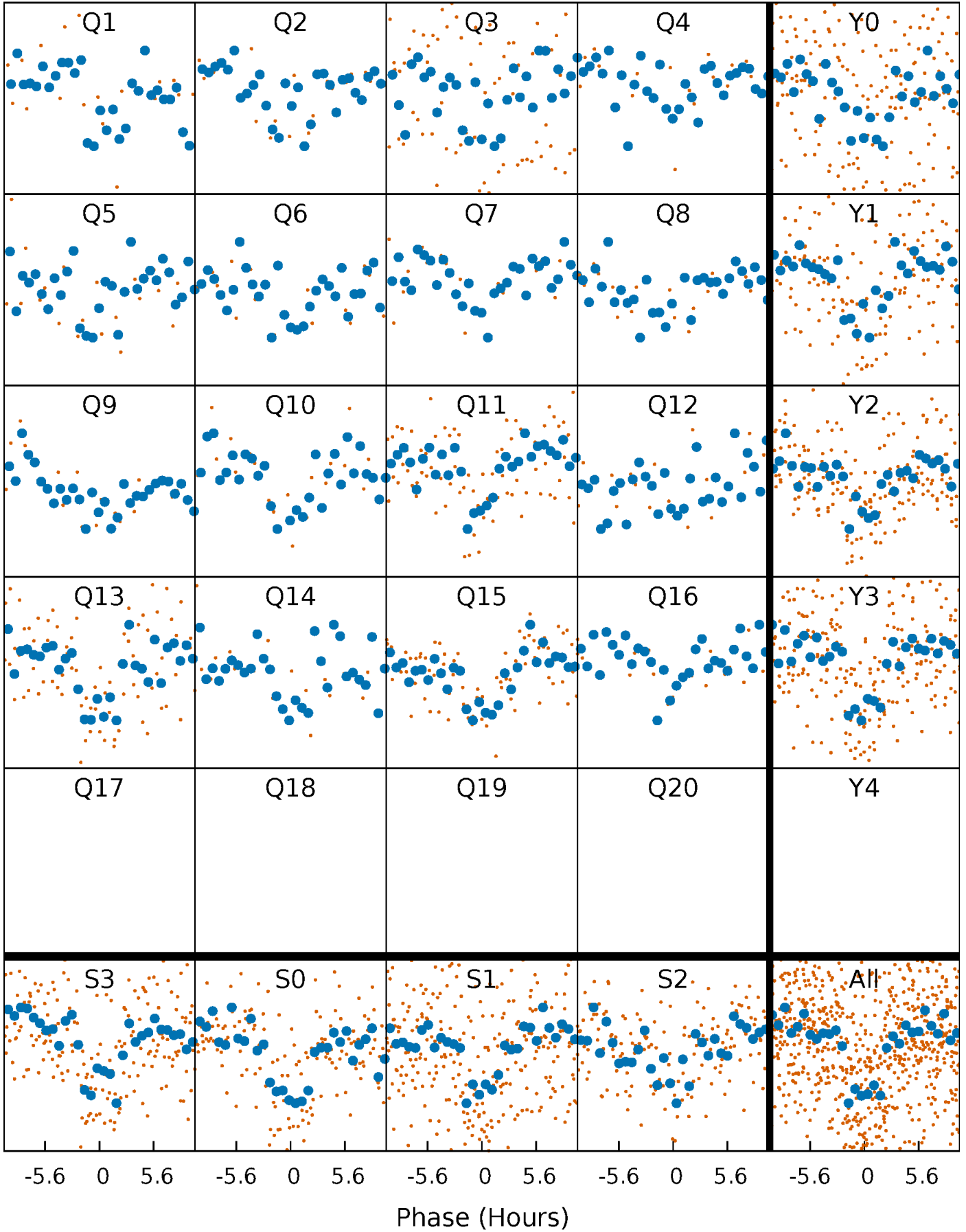


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



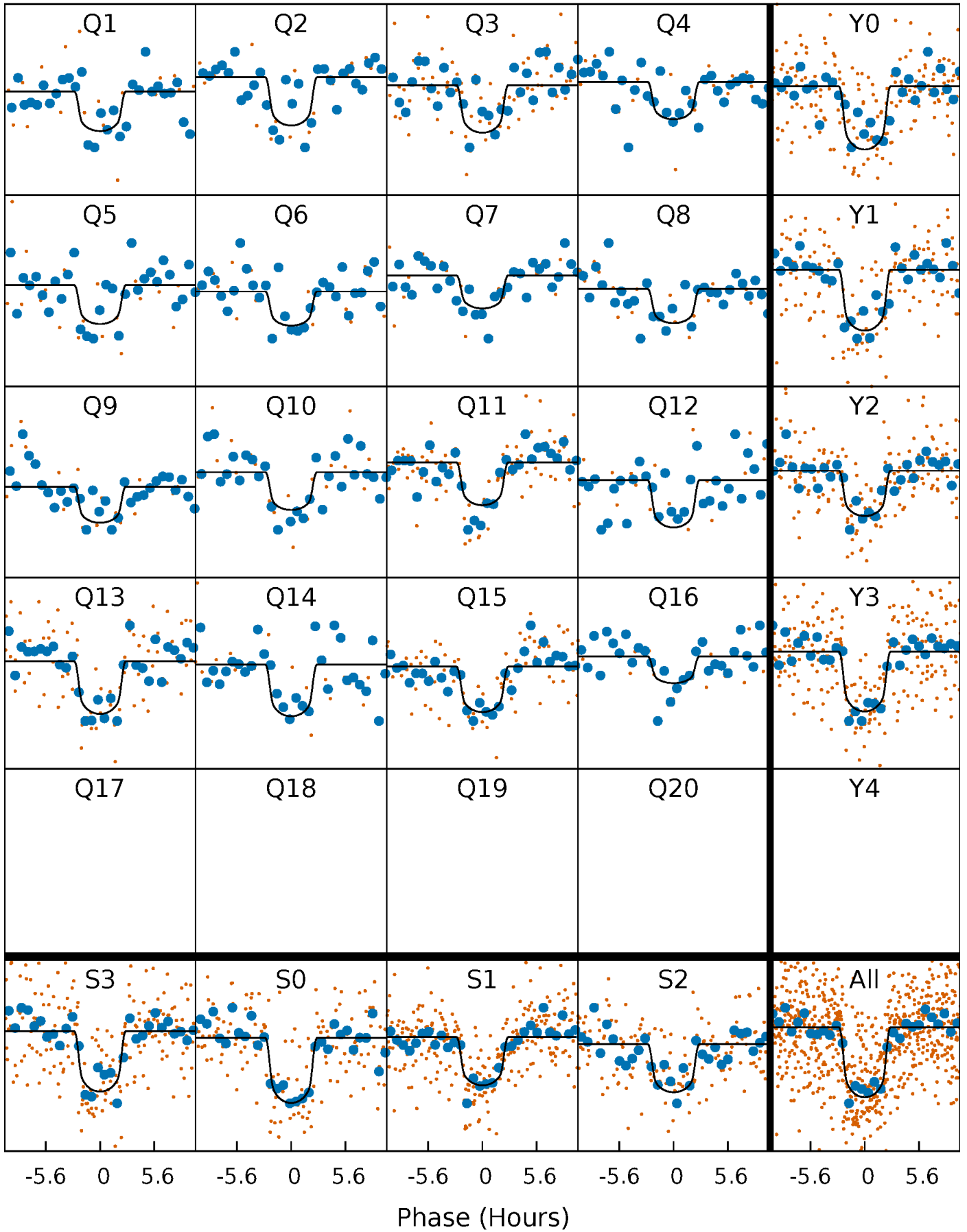
PDC Quarter-Phased Transit Curves

TCE 008099138-01 P= 66.185065 Days $T_0=141.612682$ (BKJD)



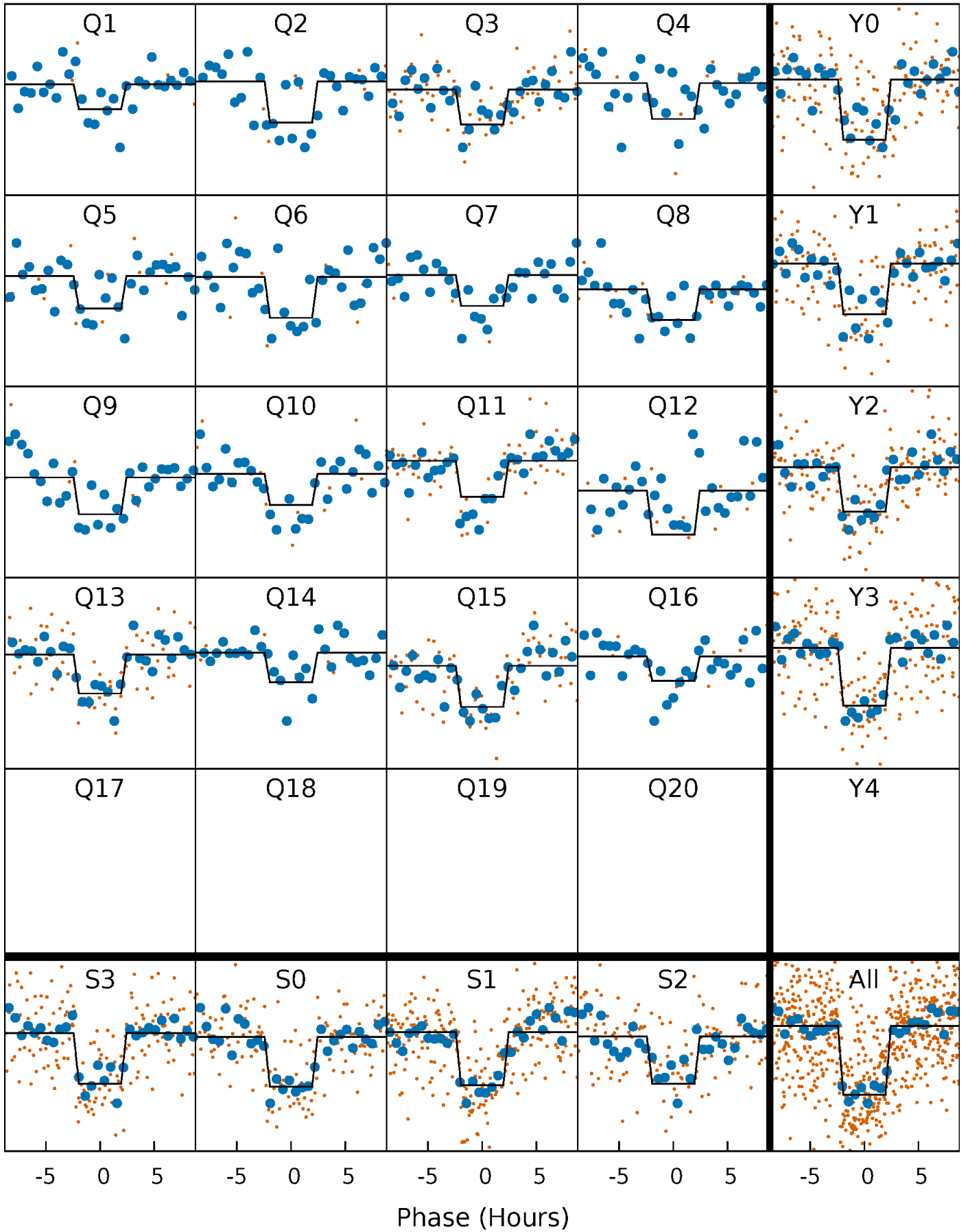
DV Quarter-Phased Transit Curves

TCE 008099138-01 P= 66.185065 Days $T_0=141.612682$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

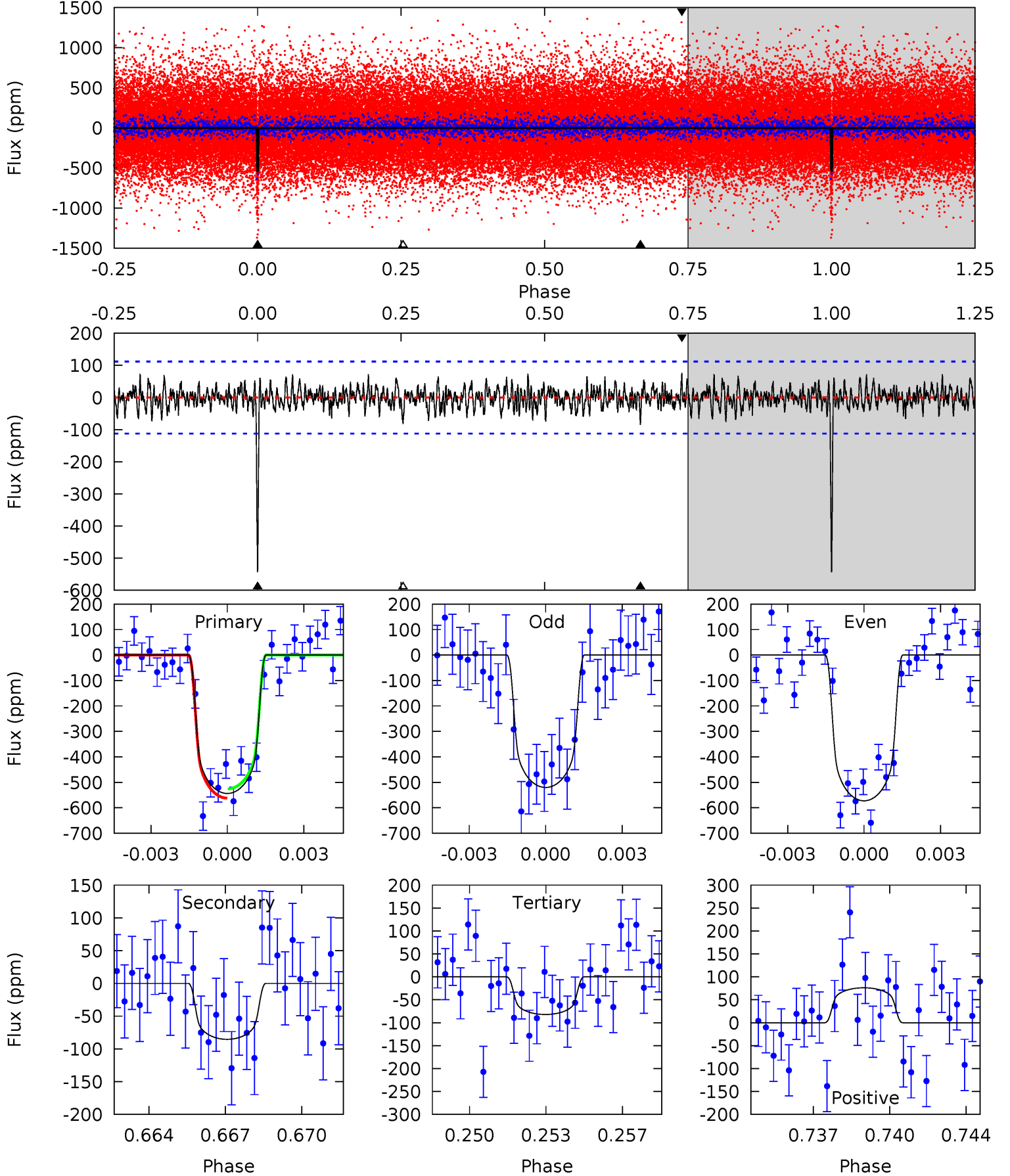
TCE 008099138-01 P= 66.185405 Days $T_0=141.611342$ (BKJD)



DV Model-Shift Uniqueness Test

008099138-01, P = 66.185065 Days, E = 75.427617 Days

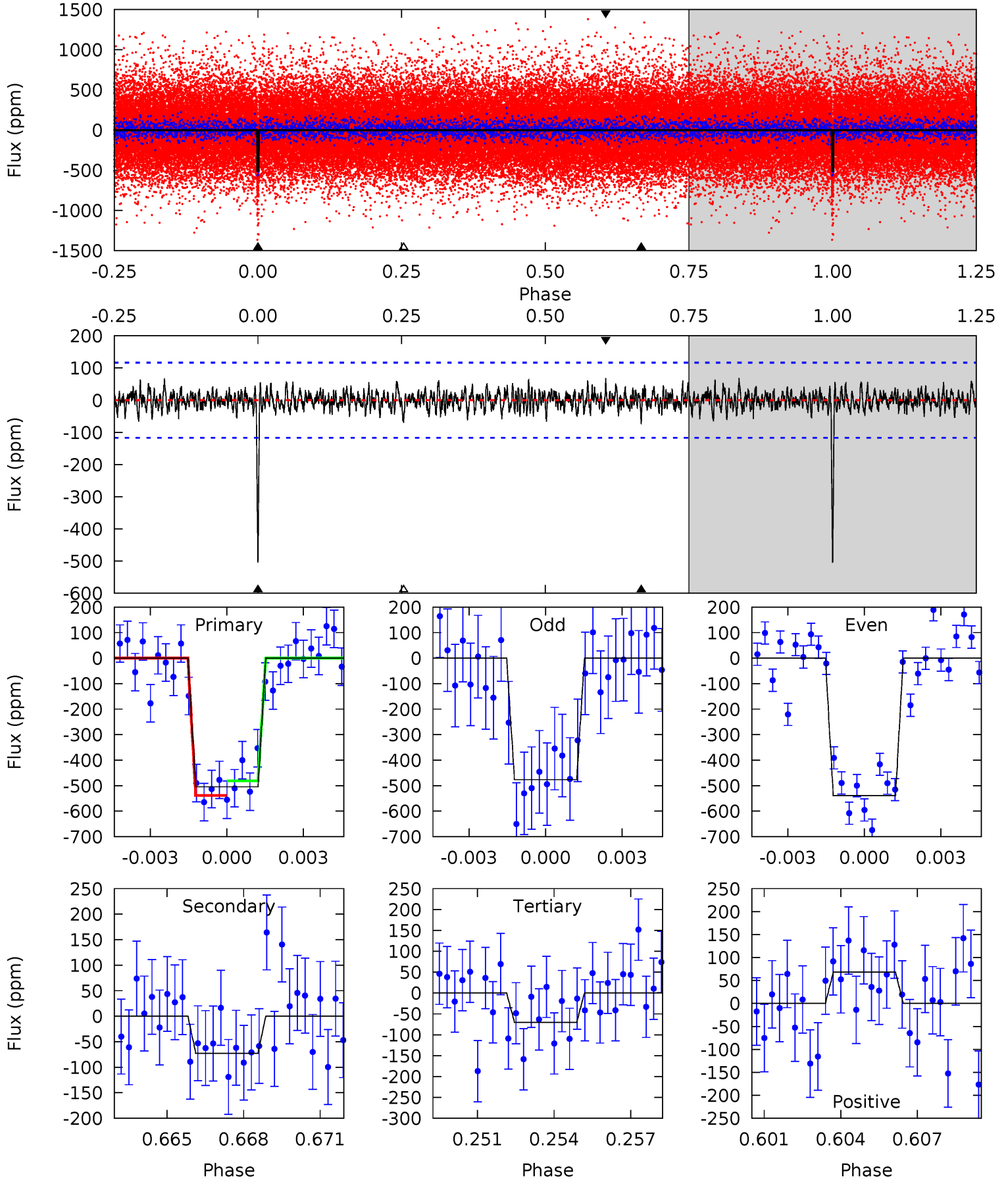
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.4	3.99	3.84	3.56	5.23	2.94	1.19	21.5	21.8	0.15	0.43	1.22	1.08	0.12	0.85



Alt Model-Shift Uniqueness Test

008099138-01, P = 66.185405 Days, E = 75.425937 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	3.26	3.15	3.06	5.25	2.97	0.97	19.5	19.6	0.11	0.20	1.40	1.04	0.12	1.29



Stellar Parameters For KIC 008099138

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5640^{+76}_{-84}	$4.447^{+0.063}_{-0.117}$	$0.140^{+0.150}_{-0.150}$	$0.978^{+0.135}_{-0.073}$	$0.977^{+0.056}_{-0.056}$	$1.470^{+0.347}_{-0.480}$
	+1%/-1%	+1%/-3%	+107%/-107%	+14%/-7%	+6%/-6%	+24%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008099138-01 / KOI 2338.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-85 ± 21	$2.72^{+0.61}_{-0.56}$	613^{+22}_{-18}	3780^{+360}_{-278}	623^{+466}_{-230}
Alt.	-73 ± 22	$2.41^{+0.59}_{-0.55}$	613^{+24}_{-19}	3842^{+432}_{-337}	686^{+583}_{-307}

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

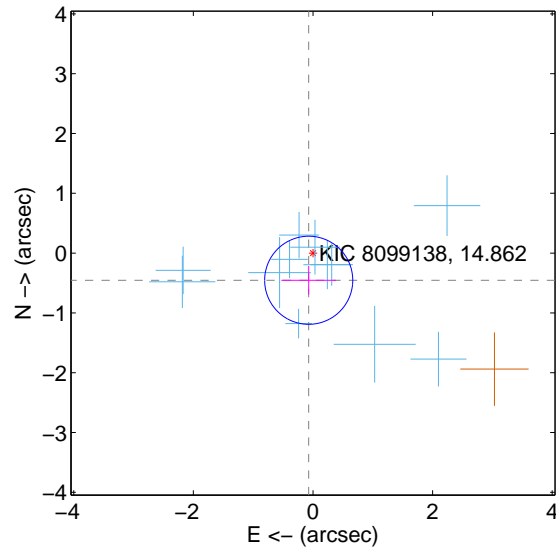
Supplemental centroid analysis for 008099138-01. Kepler magnitude: 14.86. Transit SNR 18.47

There are 12 quarters with good PRF difference image offsets

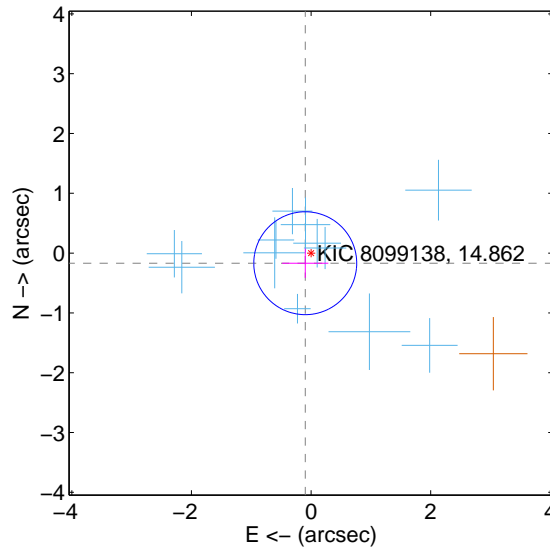
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.460 ± 0.246	1.87	0.071 ± 0.458	-0.454 ± 0.238
PRF-fit source offset from KIC position	0.195 ± 0.287	0.68	0.097 ± 0.386	-0.169 ± 0.245
photometric centroid source offset	1.51 ± 0.62	2.44	0.32 ± 0.64	1.48 ± 0.62

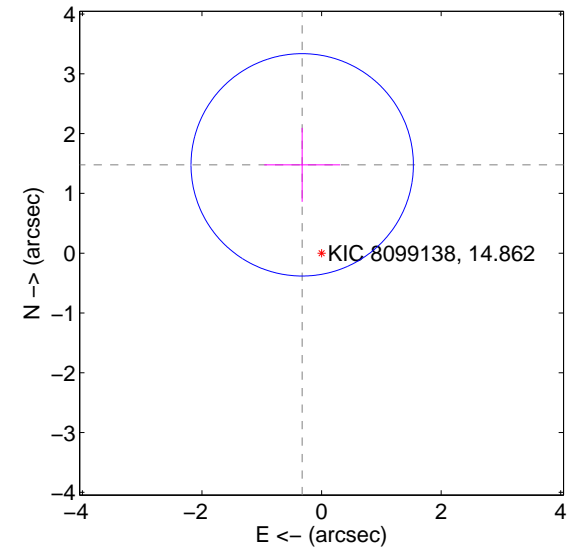
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

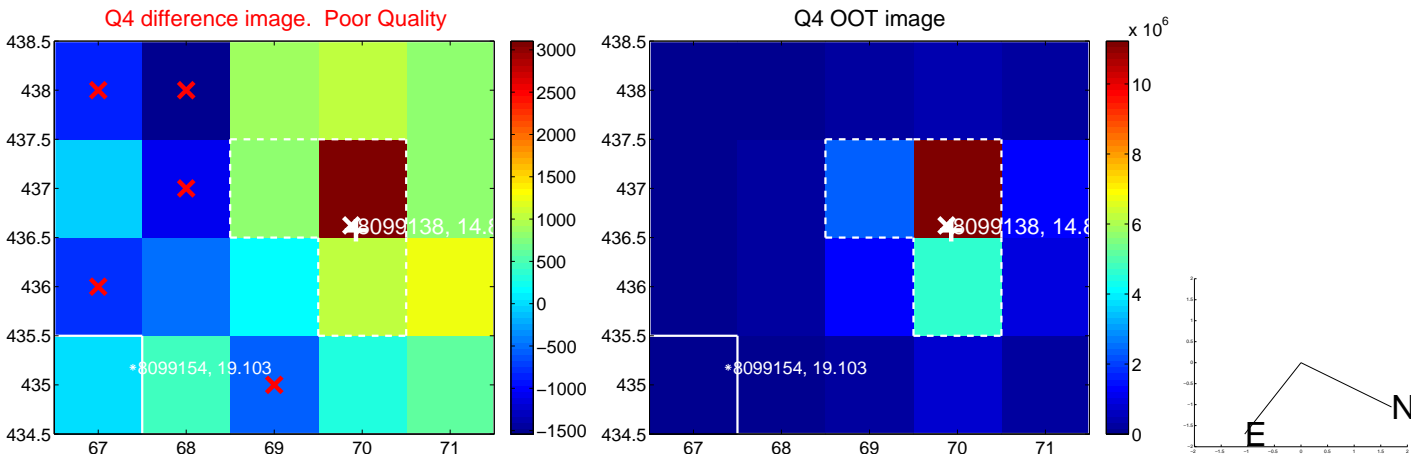
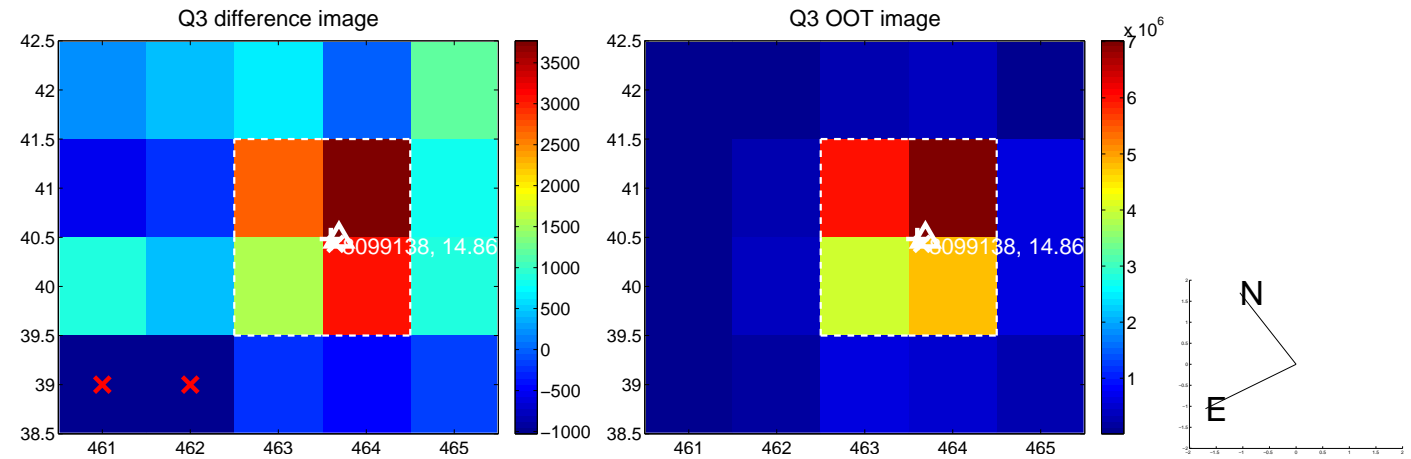
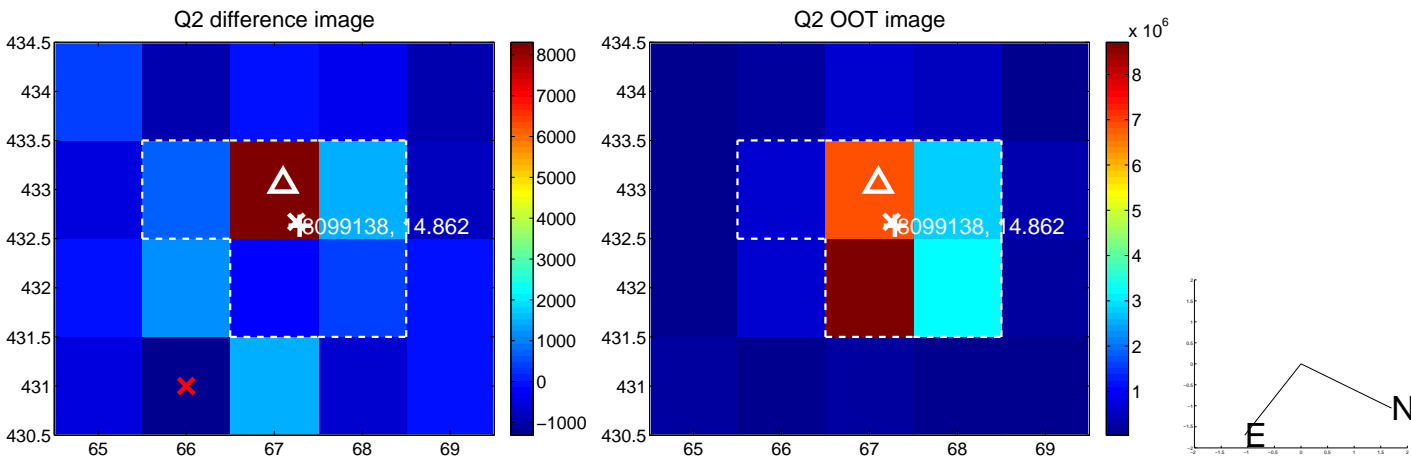
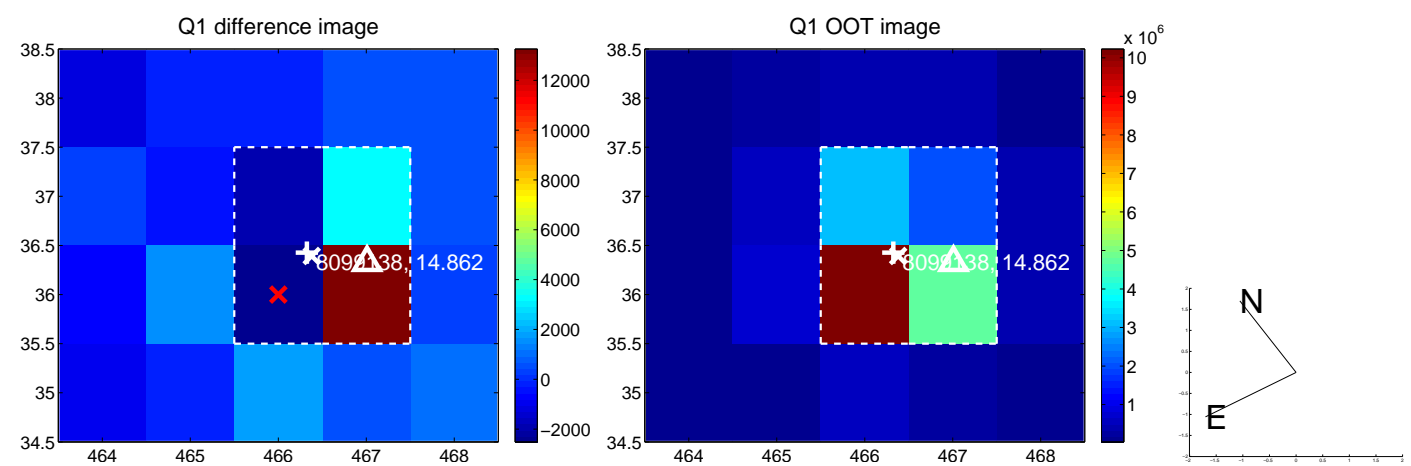


offset from photometric centroids

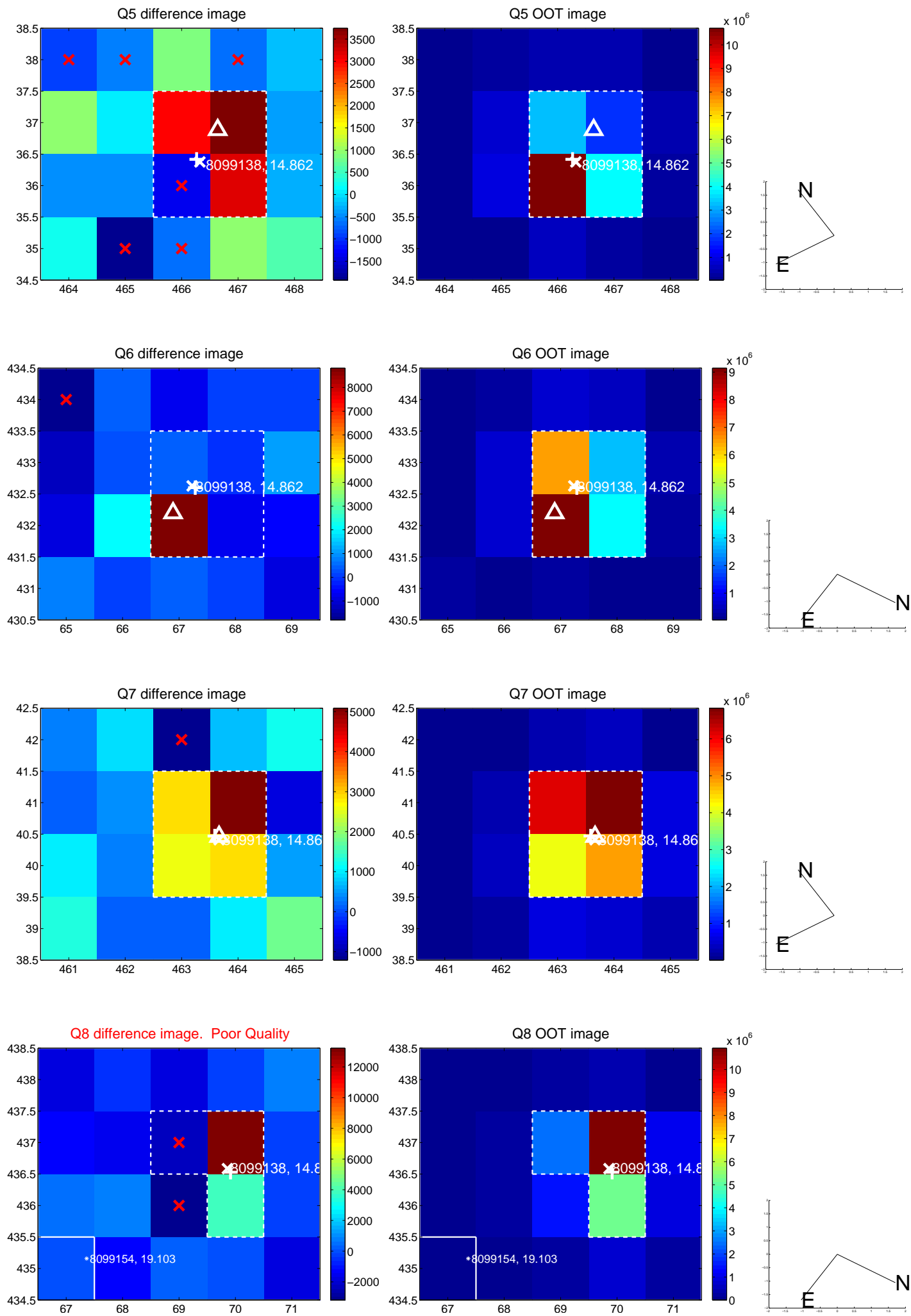


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

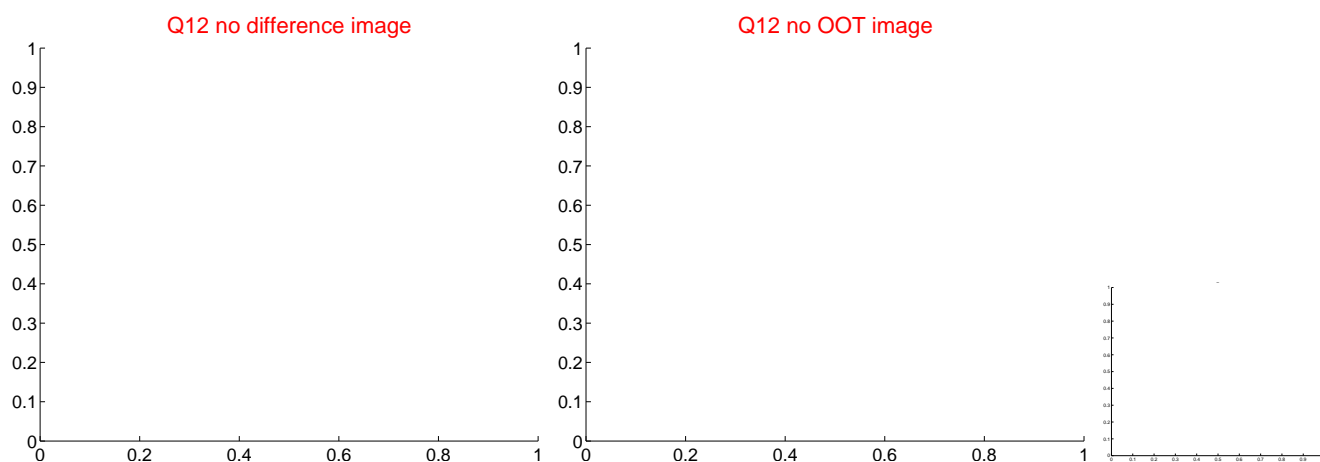
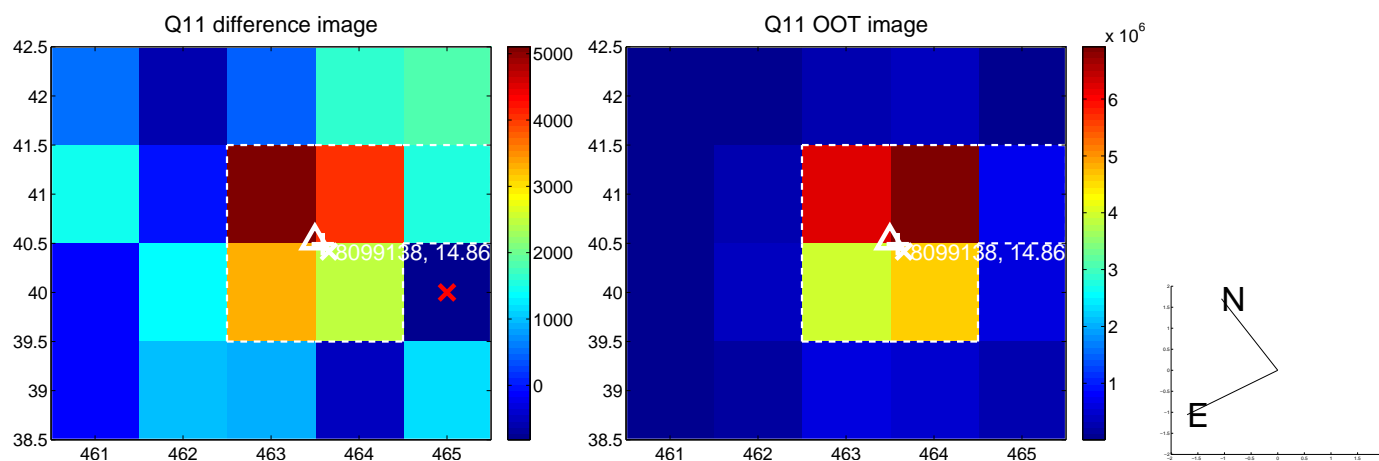
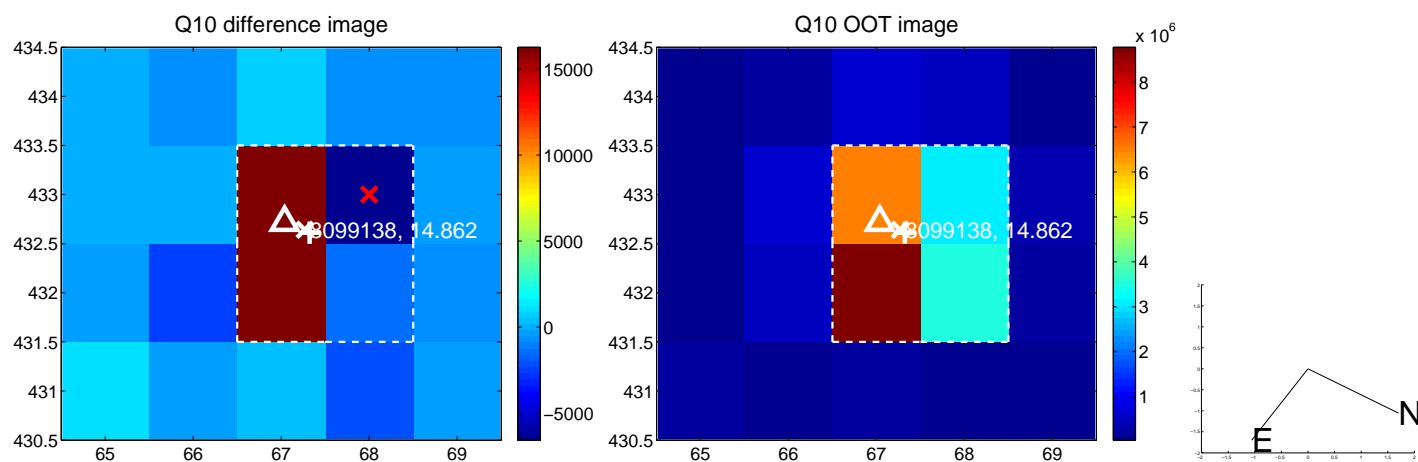
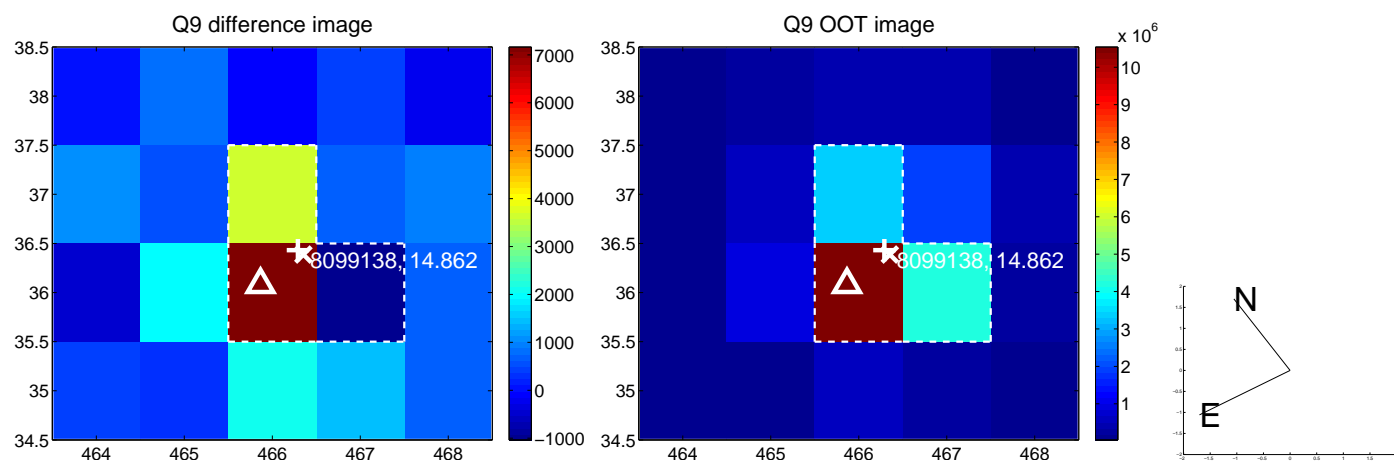
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



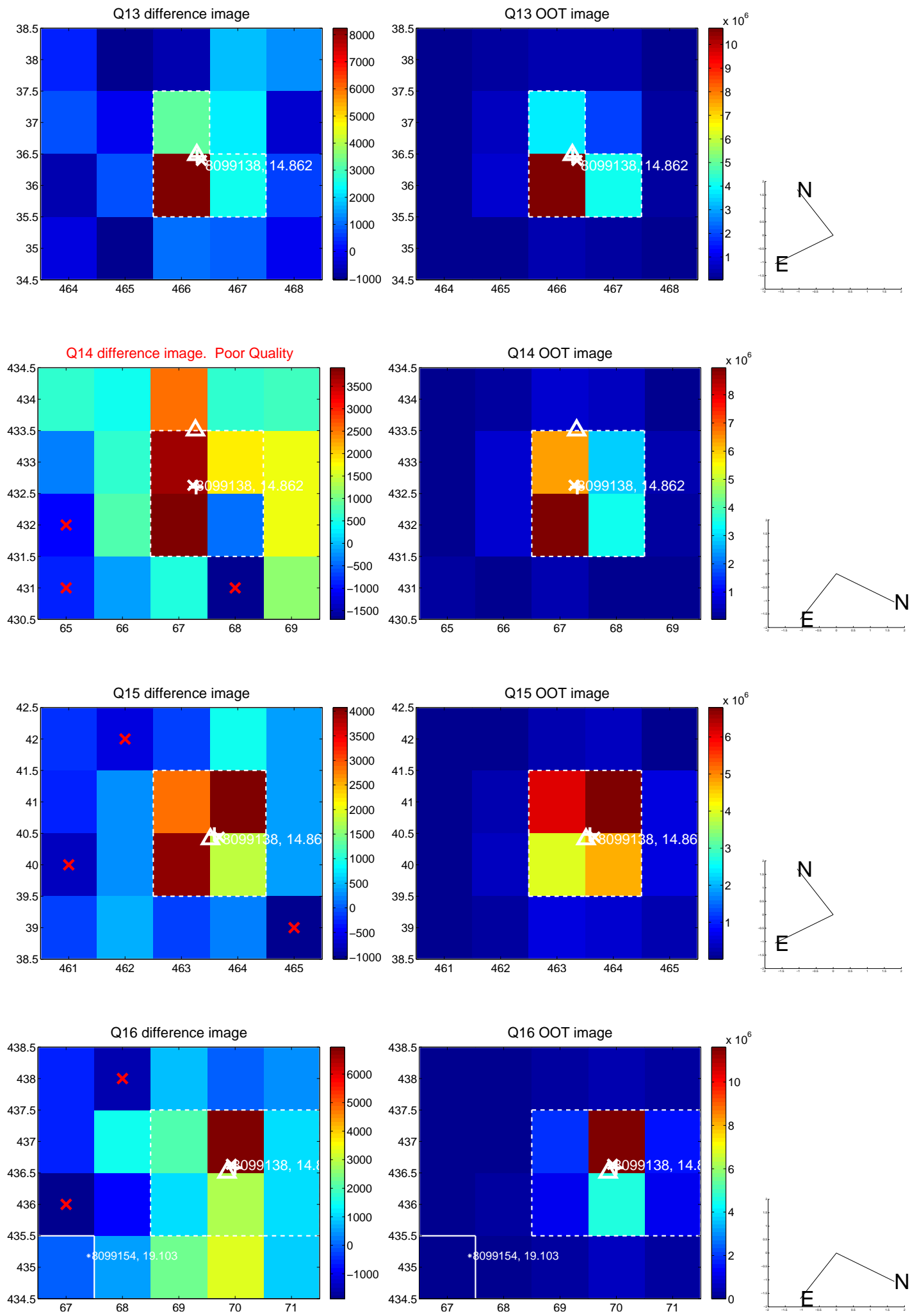
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



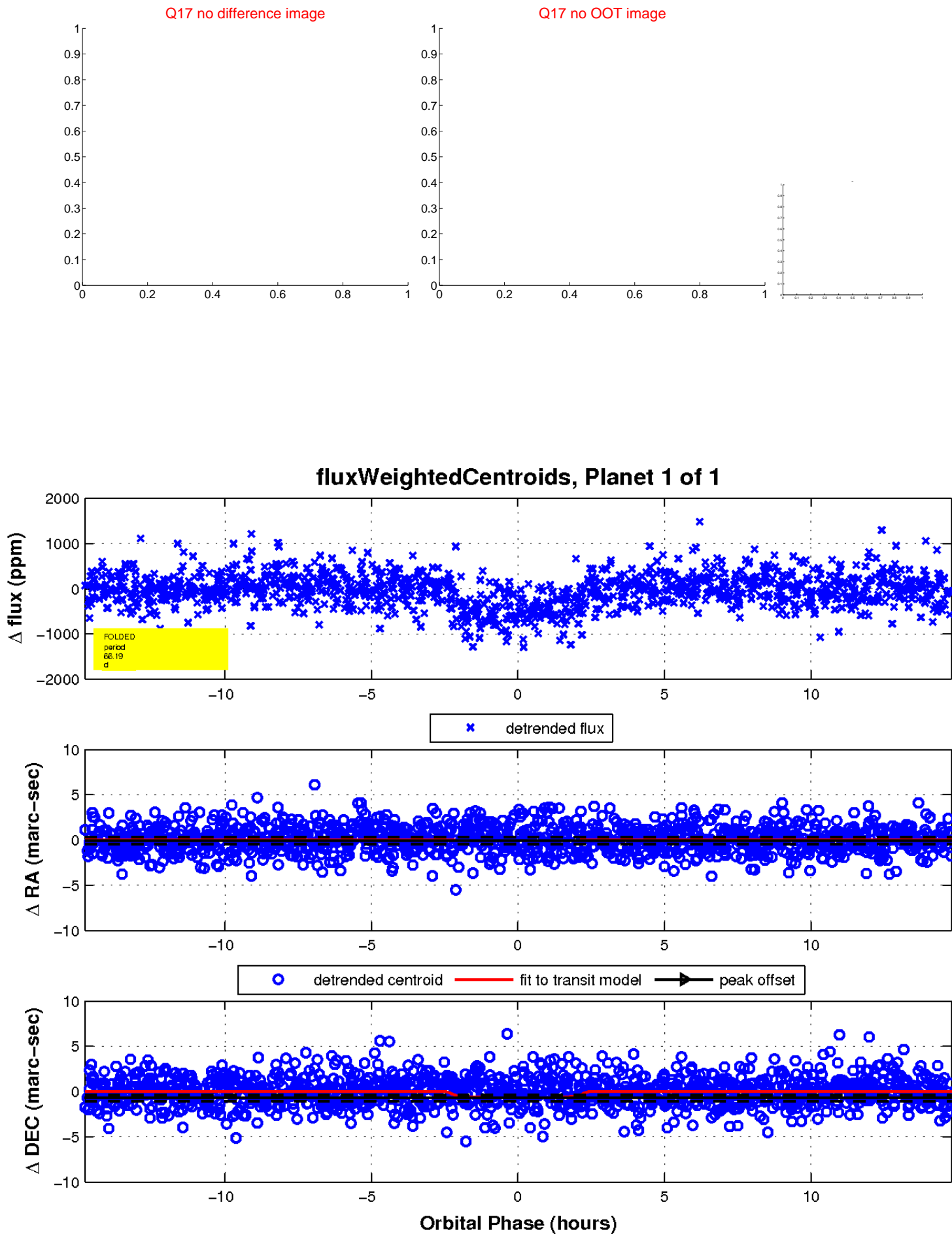
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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UKIRT Image

Declination

