

KIC 002438249

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})
002438249-01	OBS	No	1.508503	132.324798	221.5	8.520	8.7	10.3	2.26	7540	4.65	15445.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002438249-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV

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

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

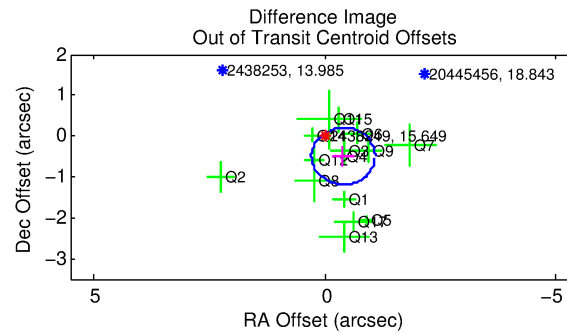
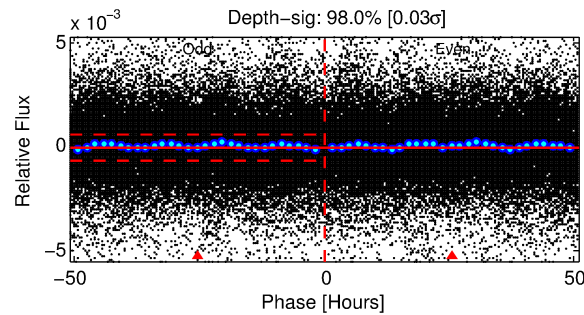
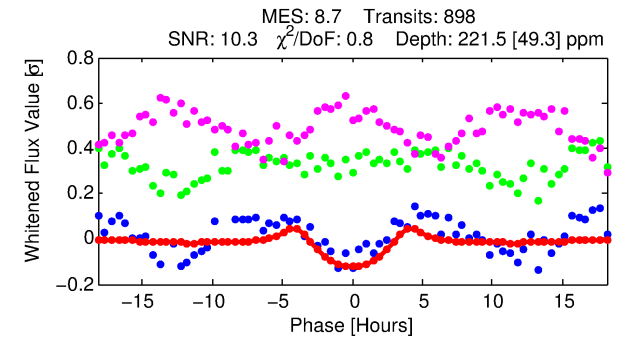
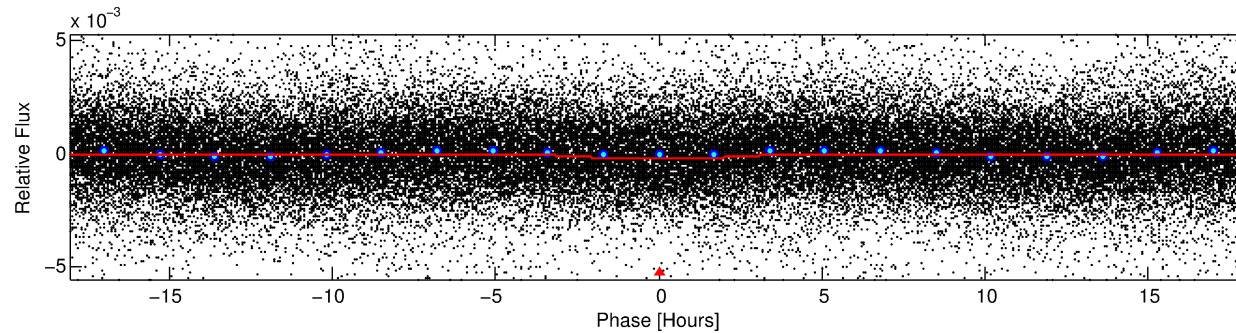
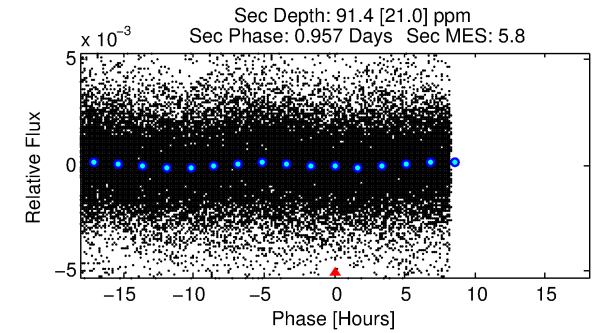
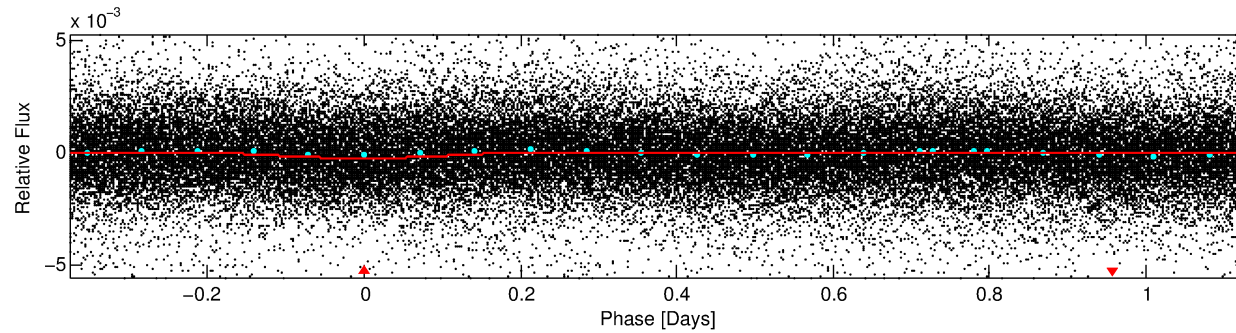
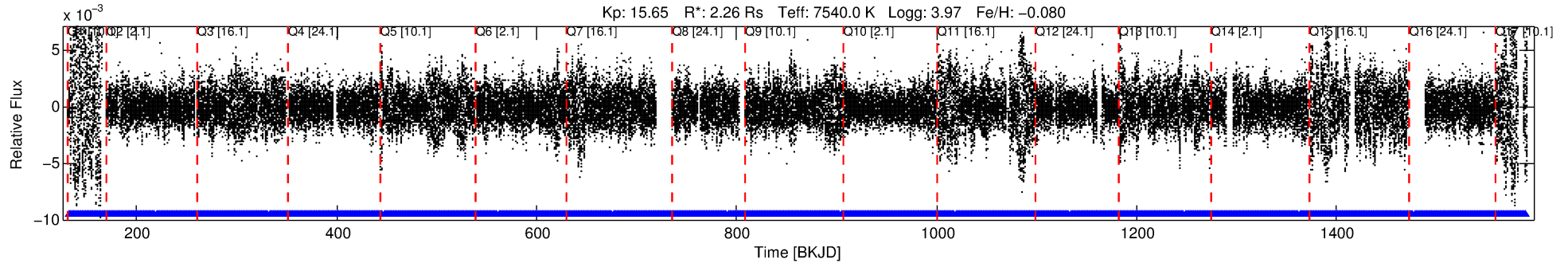
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002438249-01

No Significant Match Found

DV One-Page Summary

KIC: 2438249 Candidate: 1 of 1 Period: 1.509 d



DV Fit Results:

Period = 1.50850 [0.00002] d
Epoch = 132.3248 [0.0101] BKJD
Rp/R* = 0.0189 [0.0045]
a/R* = 1.06 [0.01]
b = 0.99 [0.01]
Seff = 15445.46 [7033.49]
Teq = 2843 [324] K
Rp = 4.65 [1.75] Re
a = 0.0309 [0.0083] AU
Ag = 2.23 [1.49] [0.82σ]
Teffp = 5369 [746] K [3.11σ]

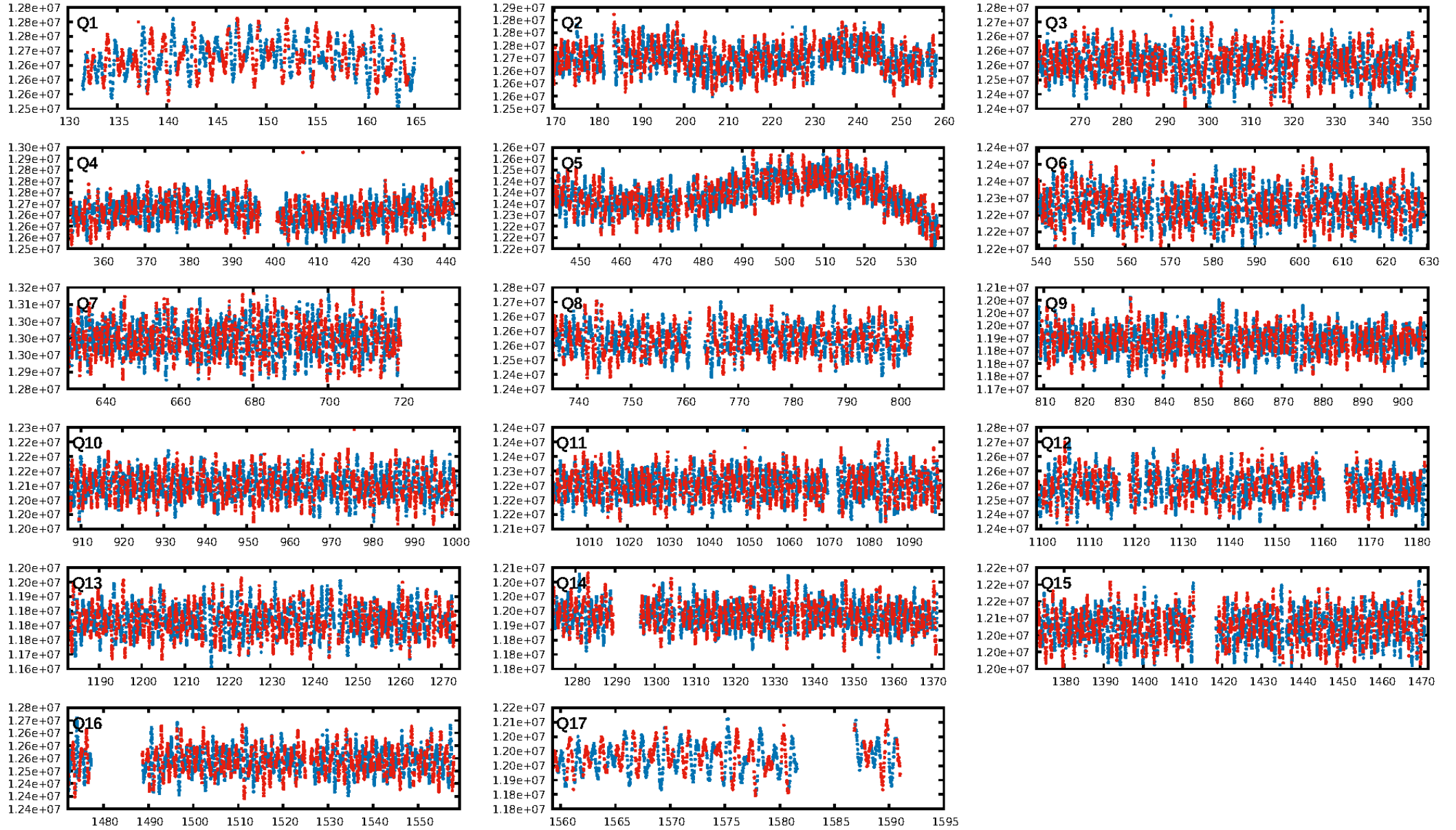
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.22e-12
RollingBand-fgt: 1.00 [858/858]
GhostDiagnostic-chr: 1.166
Centroid-sig: 82.9%
Centroid-so: 0.456 arcsec [1.12σ]
OotOffset-rm: 0.636 arcsec [2.76σ]
KicOffset-rm: 0.378 arcsec [1.98σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.40 [6/15]
DiffImageOverlap-fno: 1.00 [17/17]

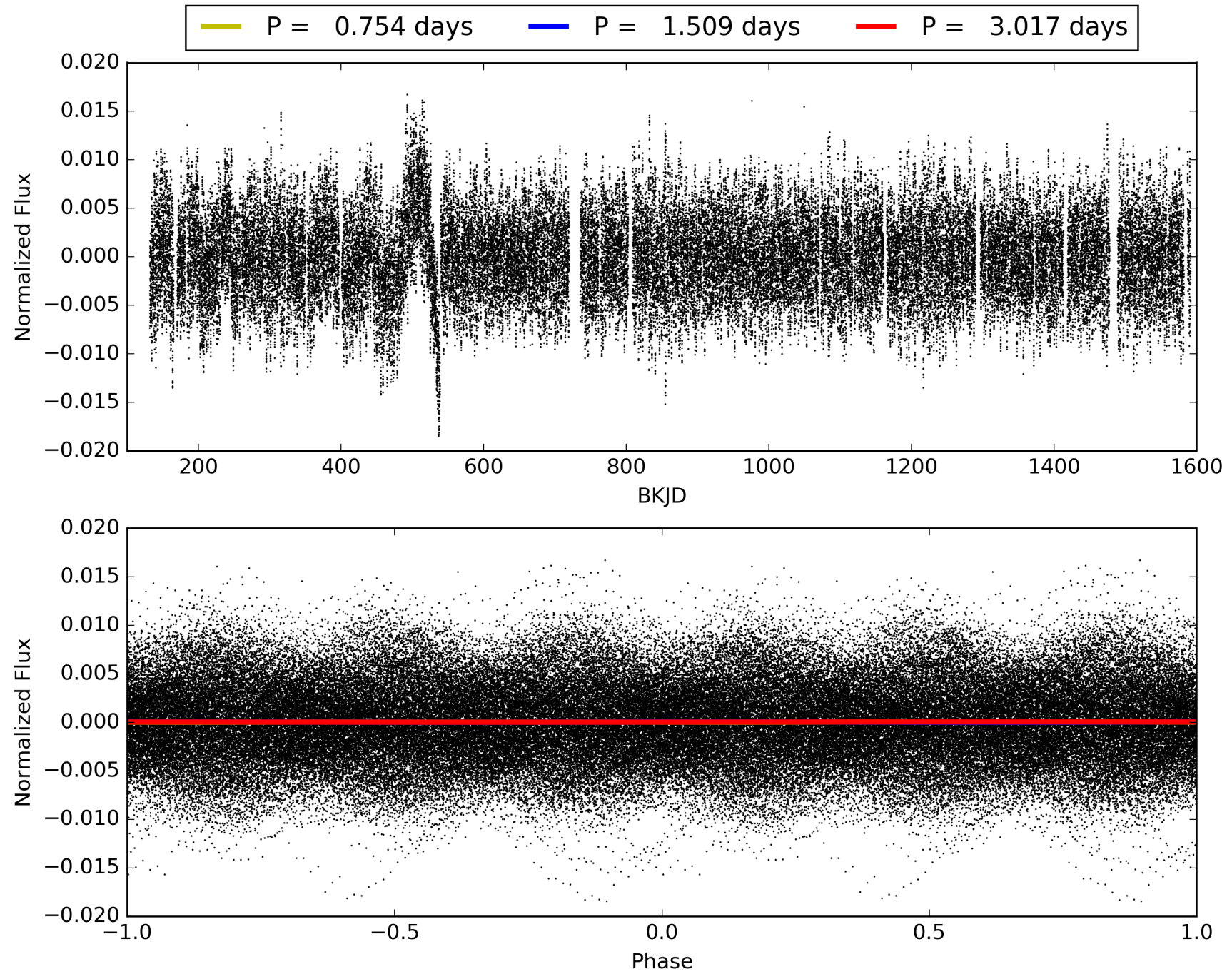
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:45:12 Z

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

TCE 002438249-01, PDC Light Curves

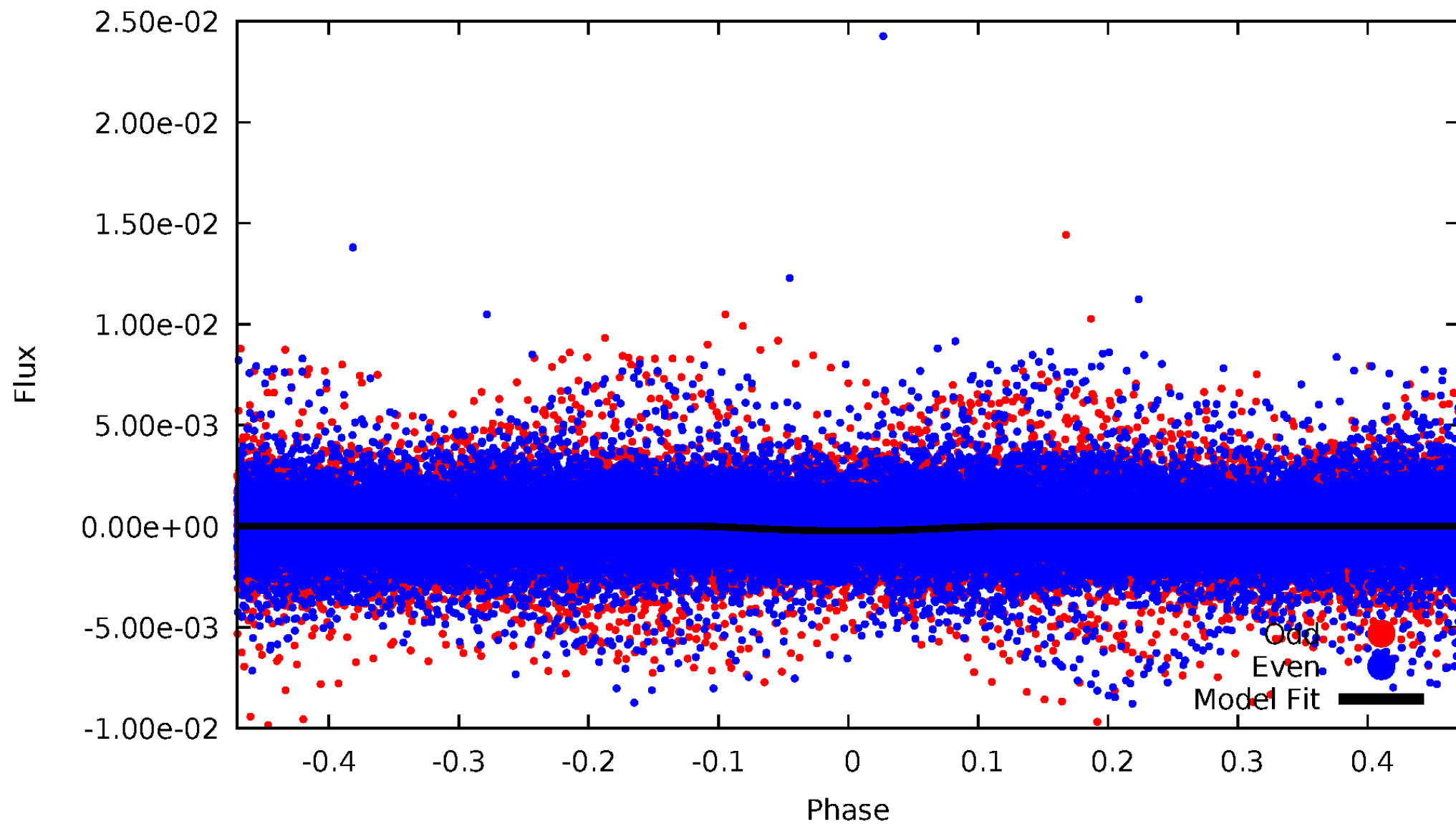


TCE 002438249-01



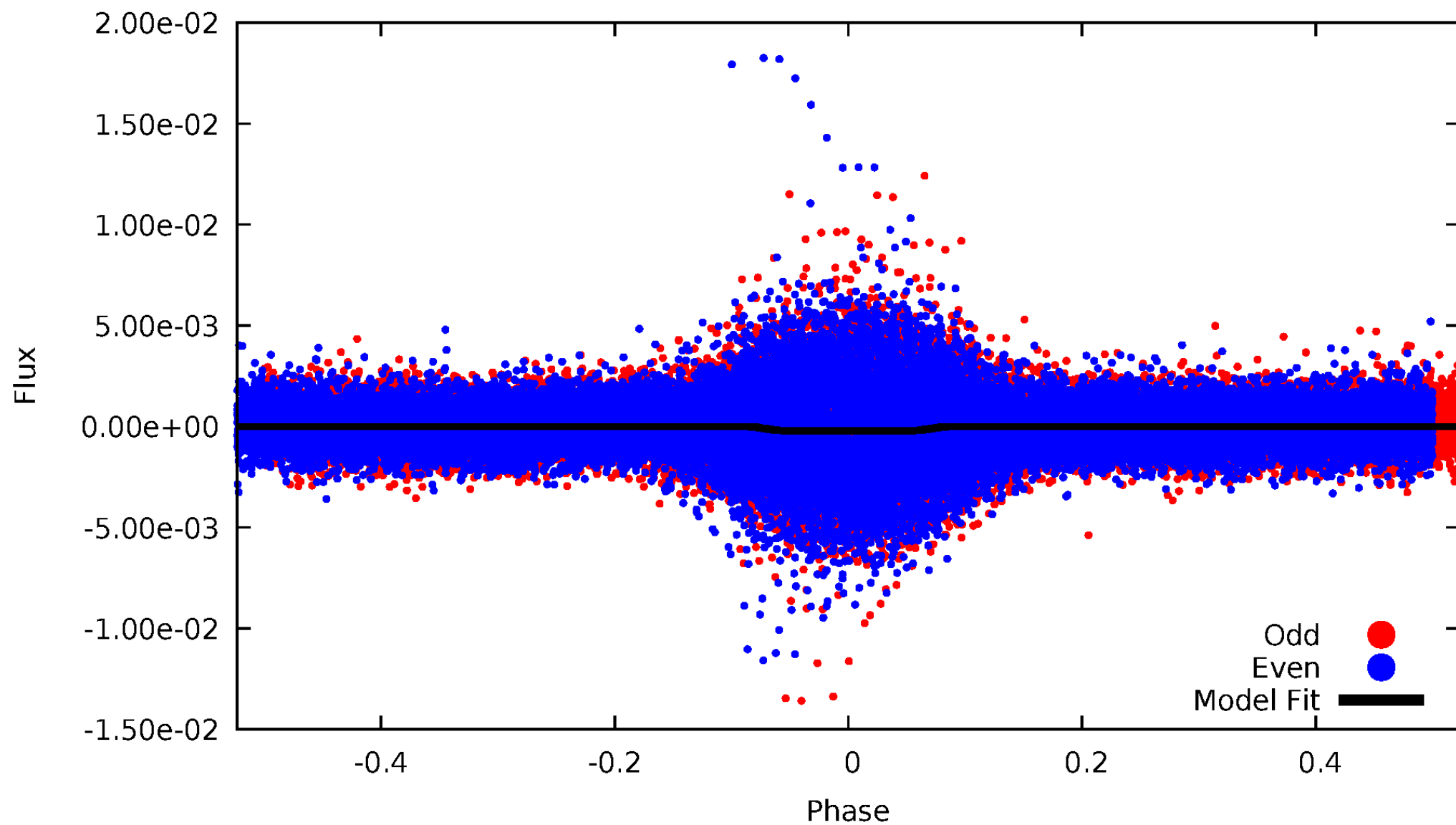
DV Odd/Even

TCE 002438249-01



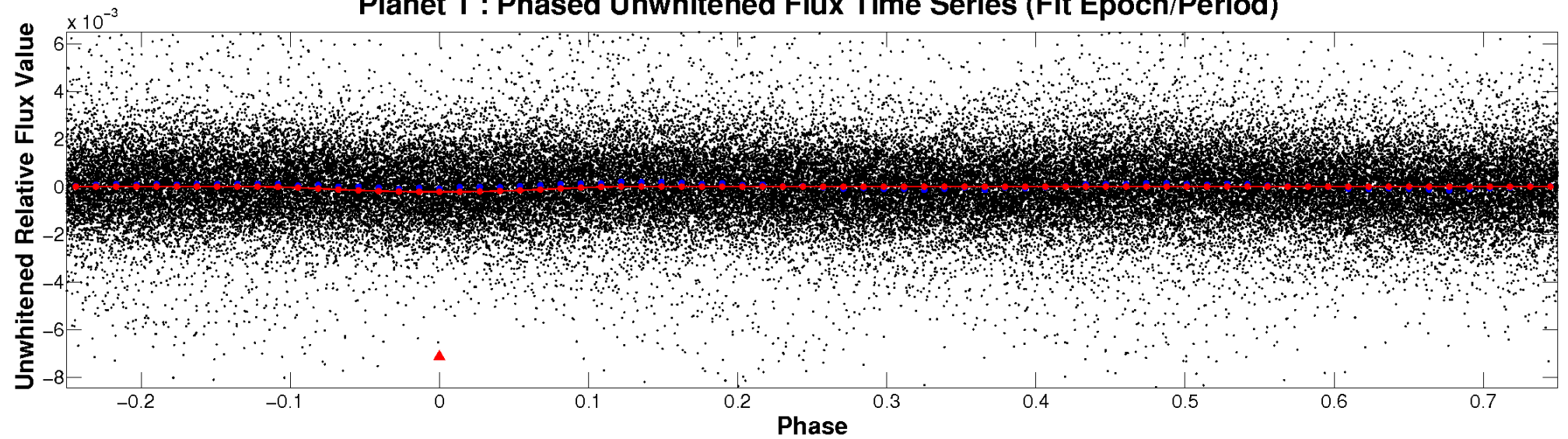
ALT Odd/Even

TCE 002438249-01

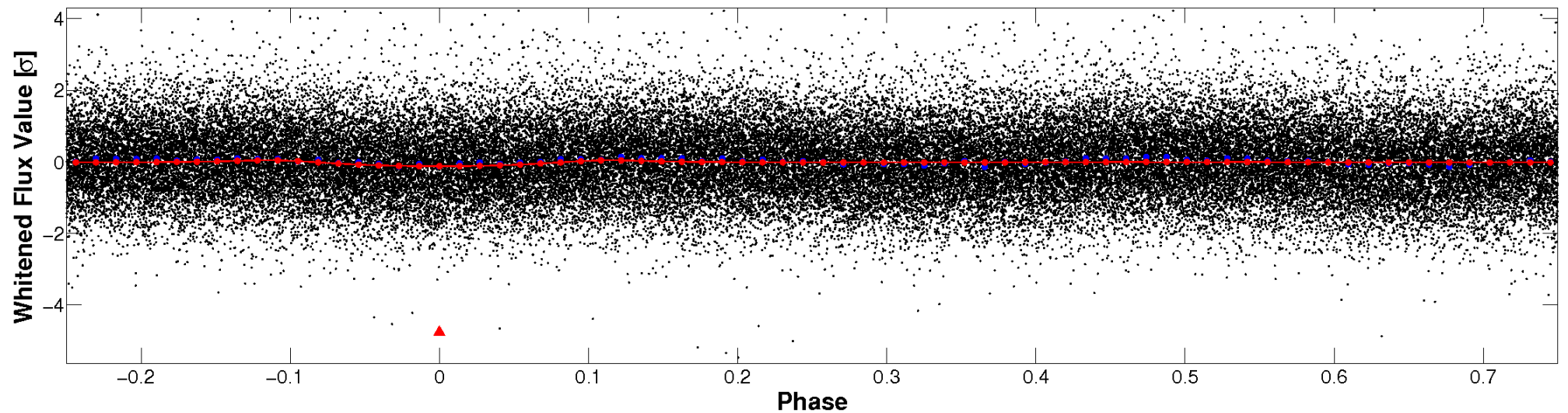


Non-Whitened Vs. Whitened Light Curve

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

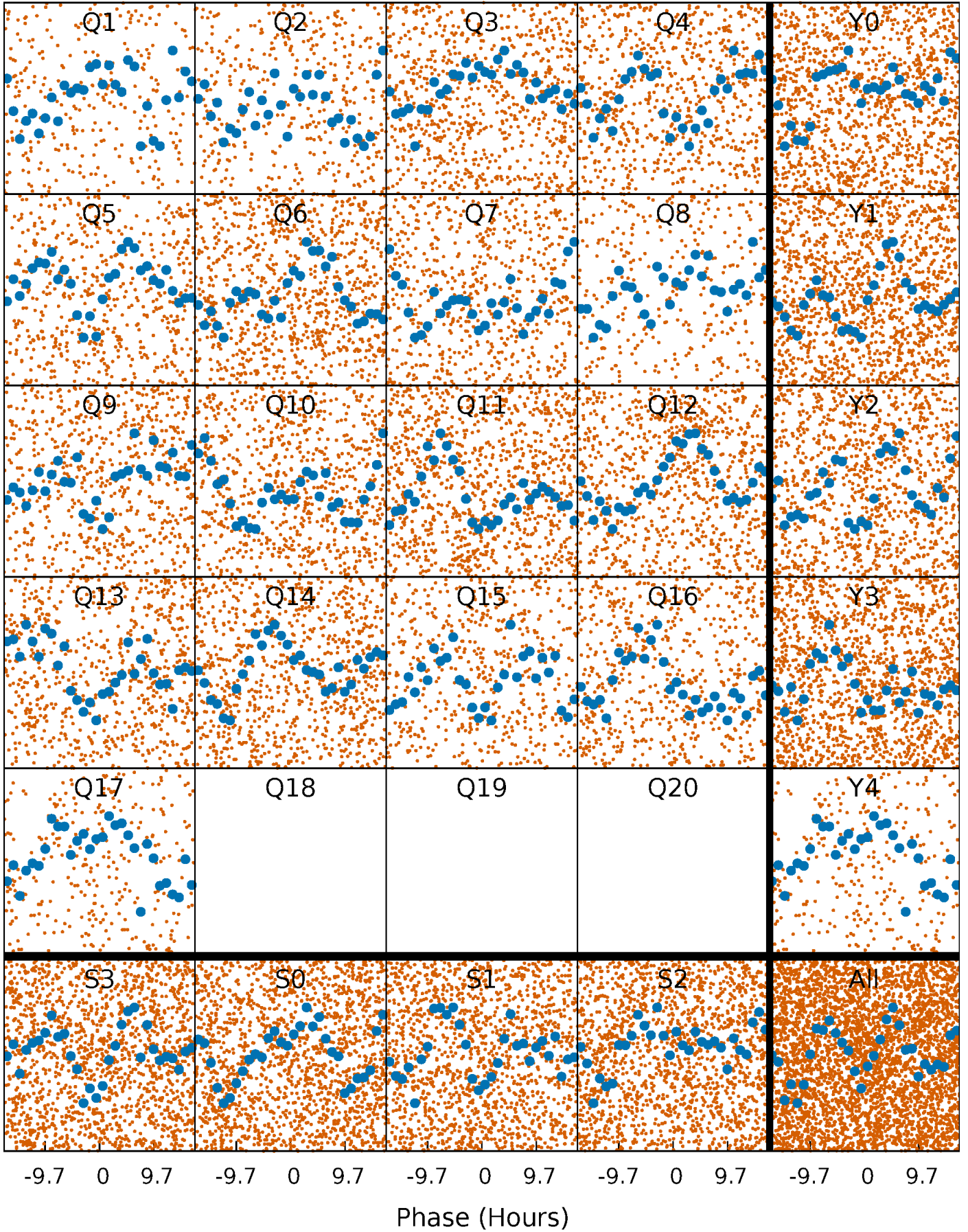


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



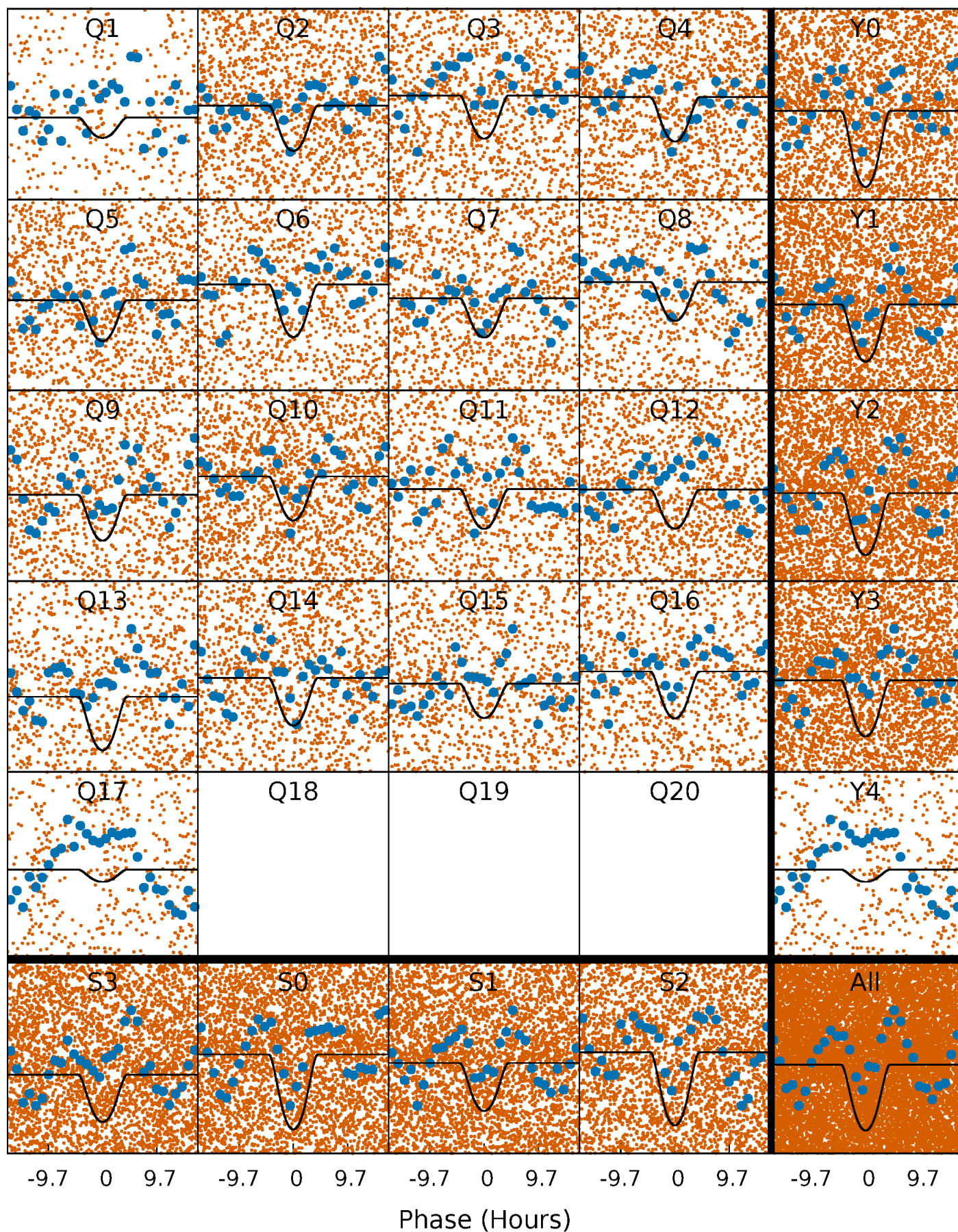
PDC Quarter-Phased Transit Curves

TCE 002438249-01 P= 1.508503 Days $T_0=132.324798$ (BKJD)



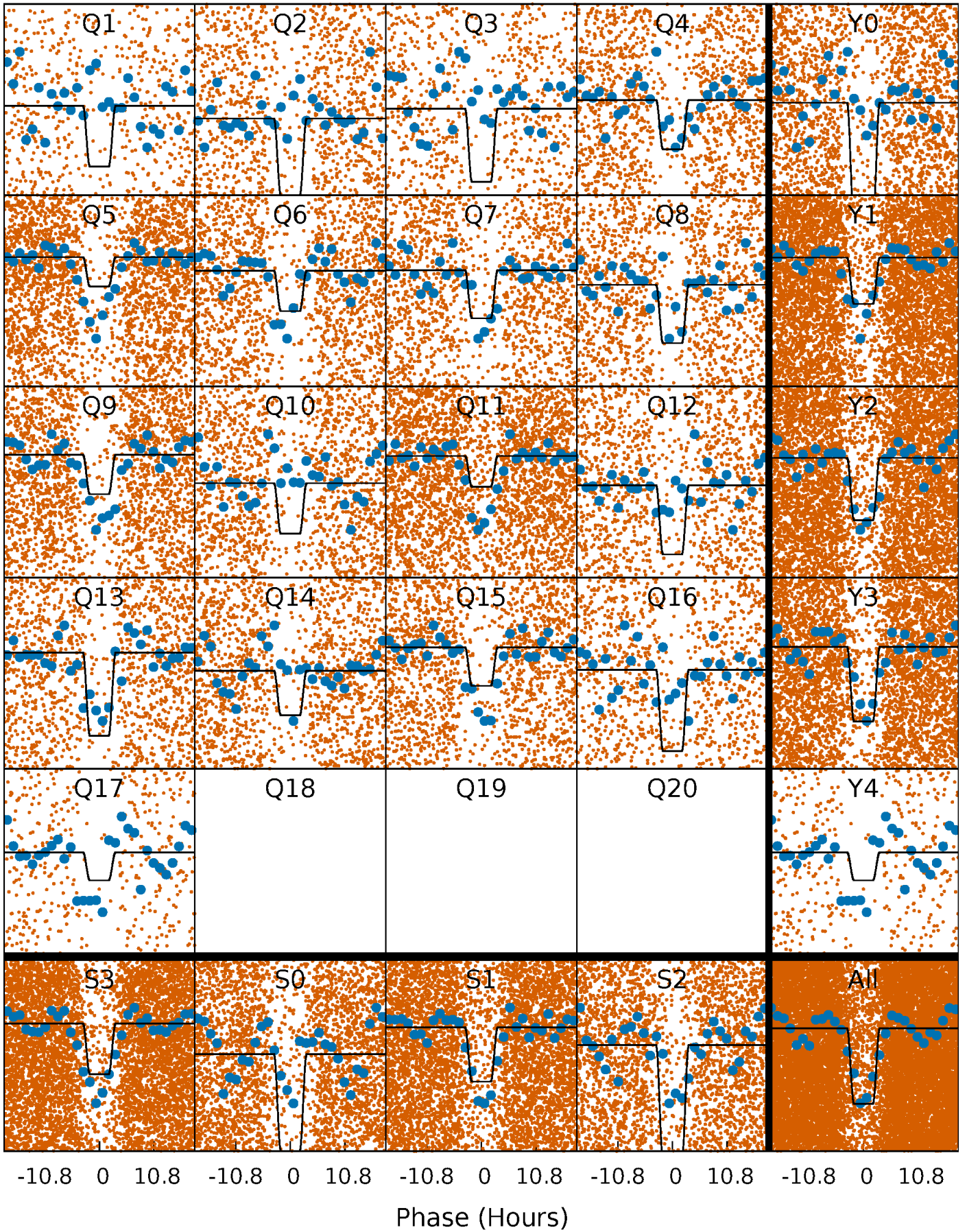
DV Quarter-Phased Transit Curves

TCE 002438249-01 P= 1.508503 Days $T_0=132.324798$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

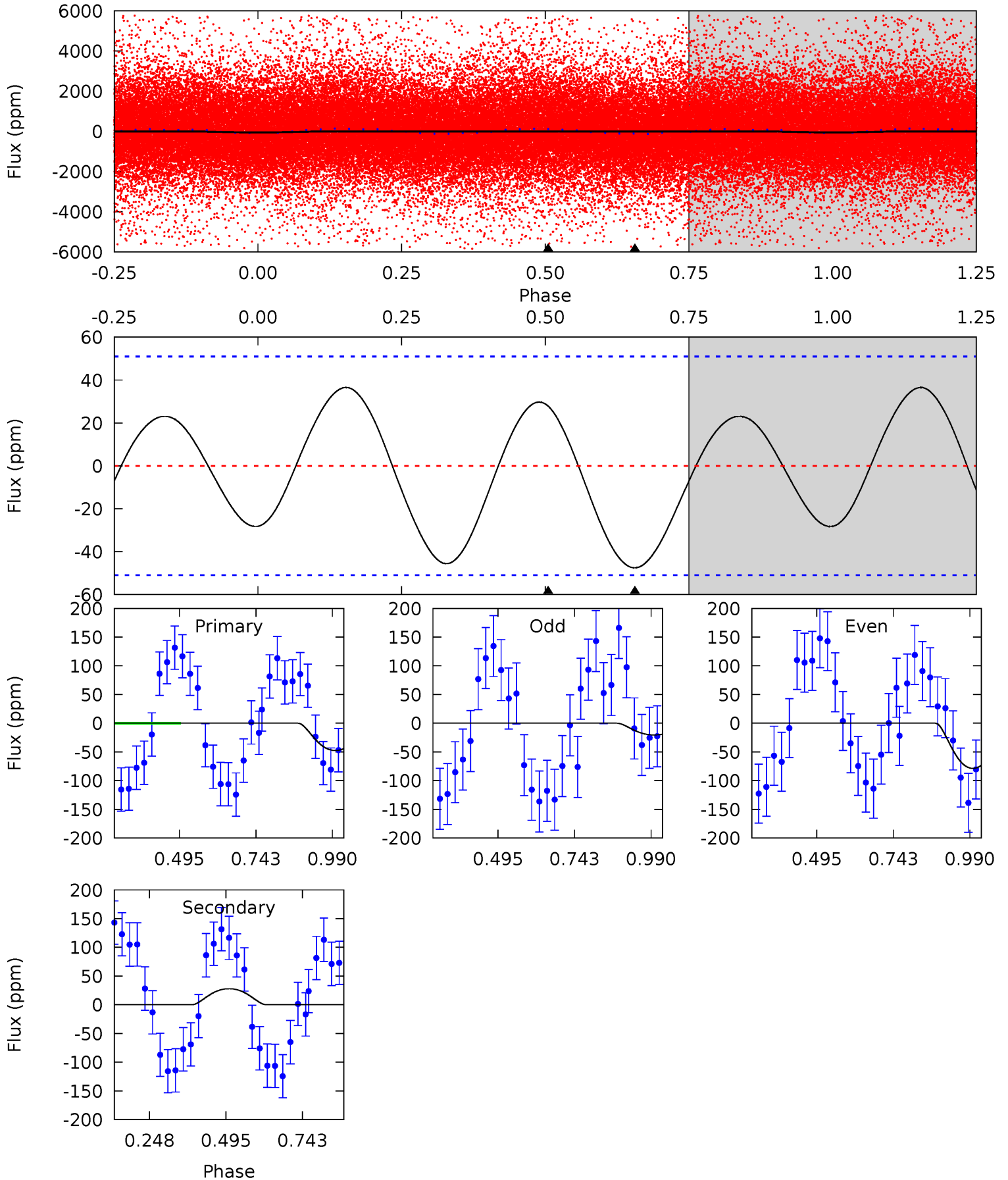
TCE 002438249-01 P= 1.508502 Days $T_0=132.305594$ (BKJD)



DV Model-Shift Uniqueness Test

002438249-01, P = 1.508503 Days, E = 130.816295 Days

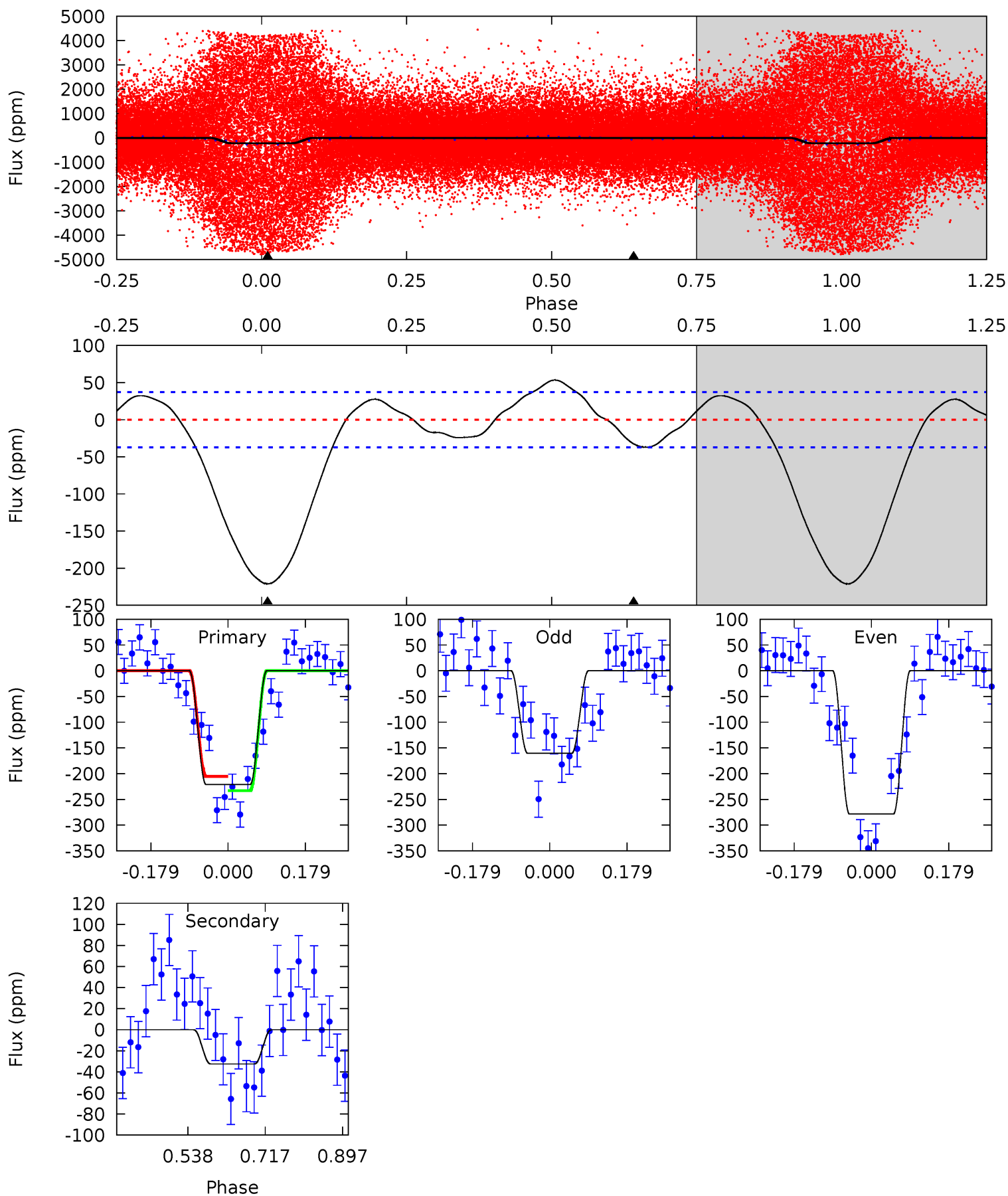
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.08	-2.39	0	0	4.37	1.16	1.88	4.08	4.08	-2.39	-2.39	2.53	0.24	0.43	1.22



Alt Model-Shift Uniqueness Test

002438249-01, P = 1.508502 Days, E = 130.797092 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.4	3.88	0	0	4.44	1.34	2.29	26.4	26.4	3.88	3.88	6.99	0.67	0.19	1.61



Stellar Parameters For KIC 002438249

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7540^{+209}_{-340}	$3.969^{+0.241}_{-0.148}$	$-0.080^{+0.200}_{-0.350}$	$2.258^{+0.540}_{-0.660}$	$1.730^{+0.185}_{-0.344}$	$0.212^{+0.299}_{-0.086}$
	+3%/-5%	+6%/-4%	+250%/-438%	+24%/-29%	+11%/-20%	+141%/-40%
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 002438249-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	28 ± 12	$4.45^{+1.37}_{-1.19}$	3923^{+273}_{-327}	-4471^{+345}_{-508}	$-0.715^{+0.373}_{-0.780}$
Alt.	-33 ± 8	$3.54^{+1.24}_{-1.12}$	3916^{+277}_{-301}	4444^{+850}_{-698}	$1.321^{+1.633}_{-0.668}$

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

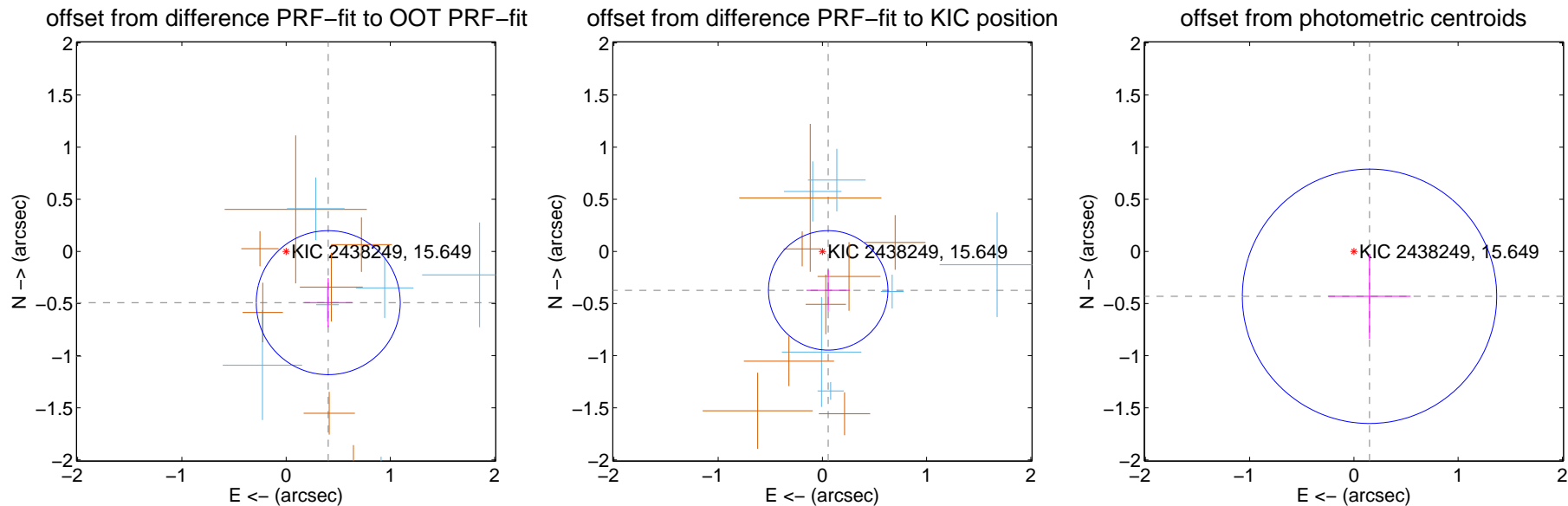
DV Centroid Data

Supplemental centroid analysis for 002438249-01. Kepler magnitude: 15.65. Transit SNR 10.33

There are 6 quarters with good PRF difference image offsets

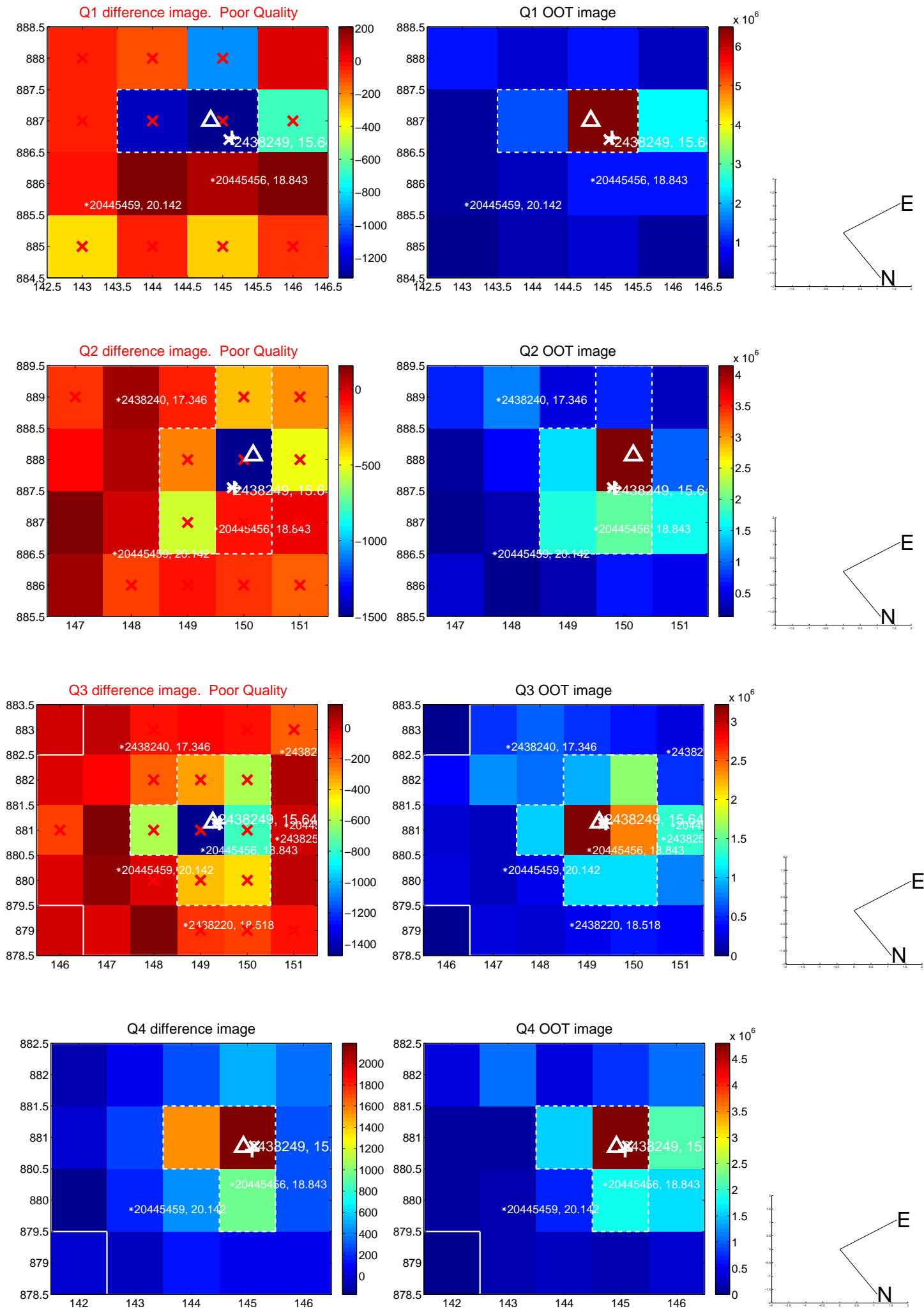
The direct PRF centroid is offset from the target star catalog position by about 1.42 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.636 ± 0.230	2.76	-0.404 ± 0.229	-0.492 ± 0.235
PRF-fit source offset from KIC position	0.378 ± 0.191	1.98	-0.056 ± 0.208	-0.374 ± 0.198
photometric centroid source offset	0.46 ± 0.41	1.12	-0.15 ± 0.40	-0.43 ± 0.41

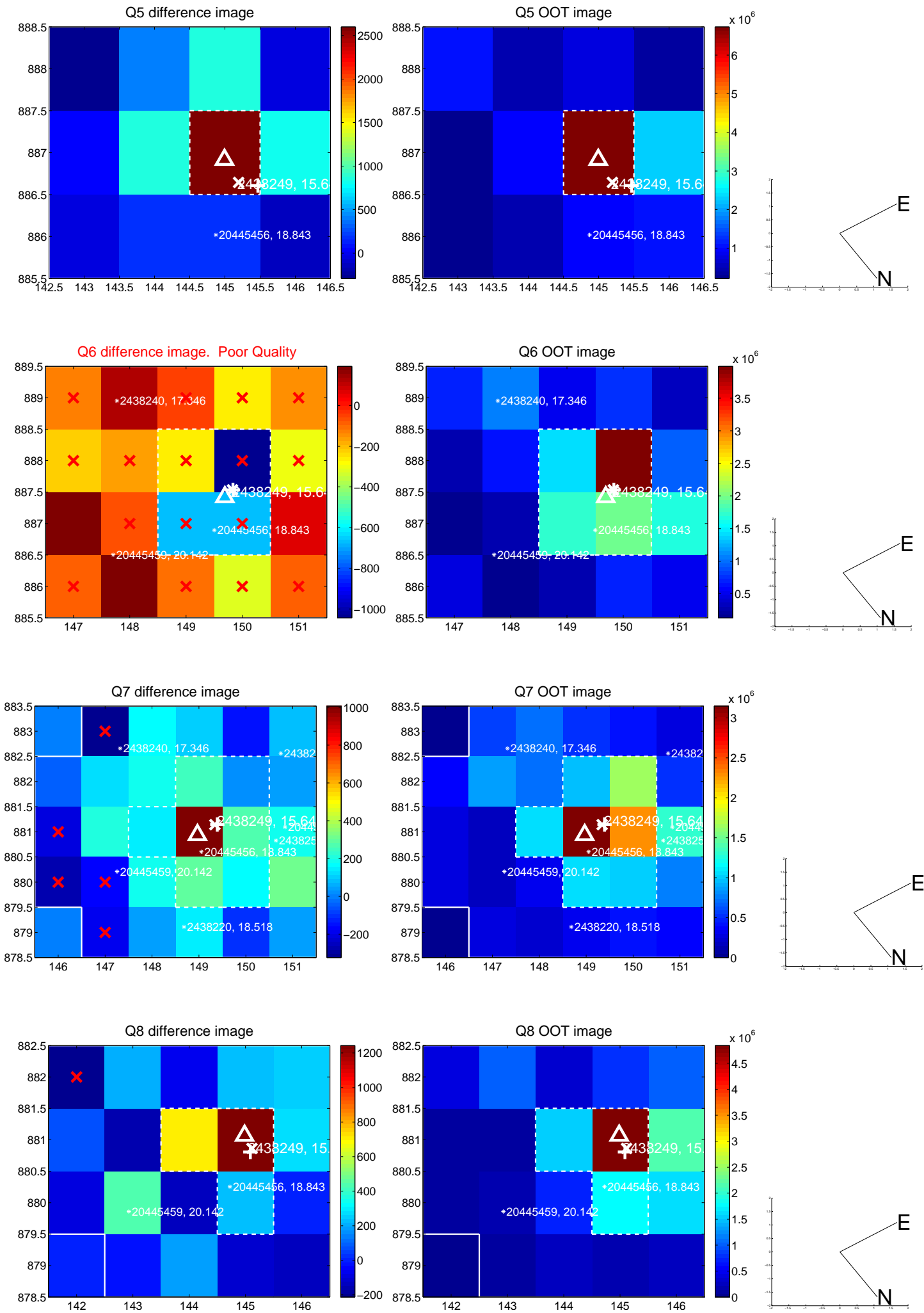


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

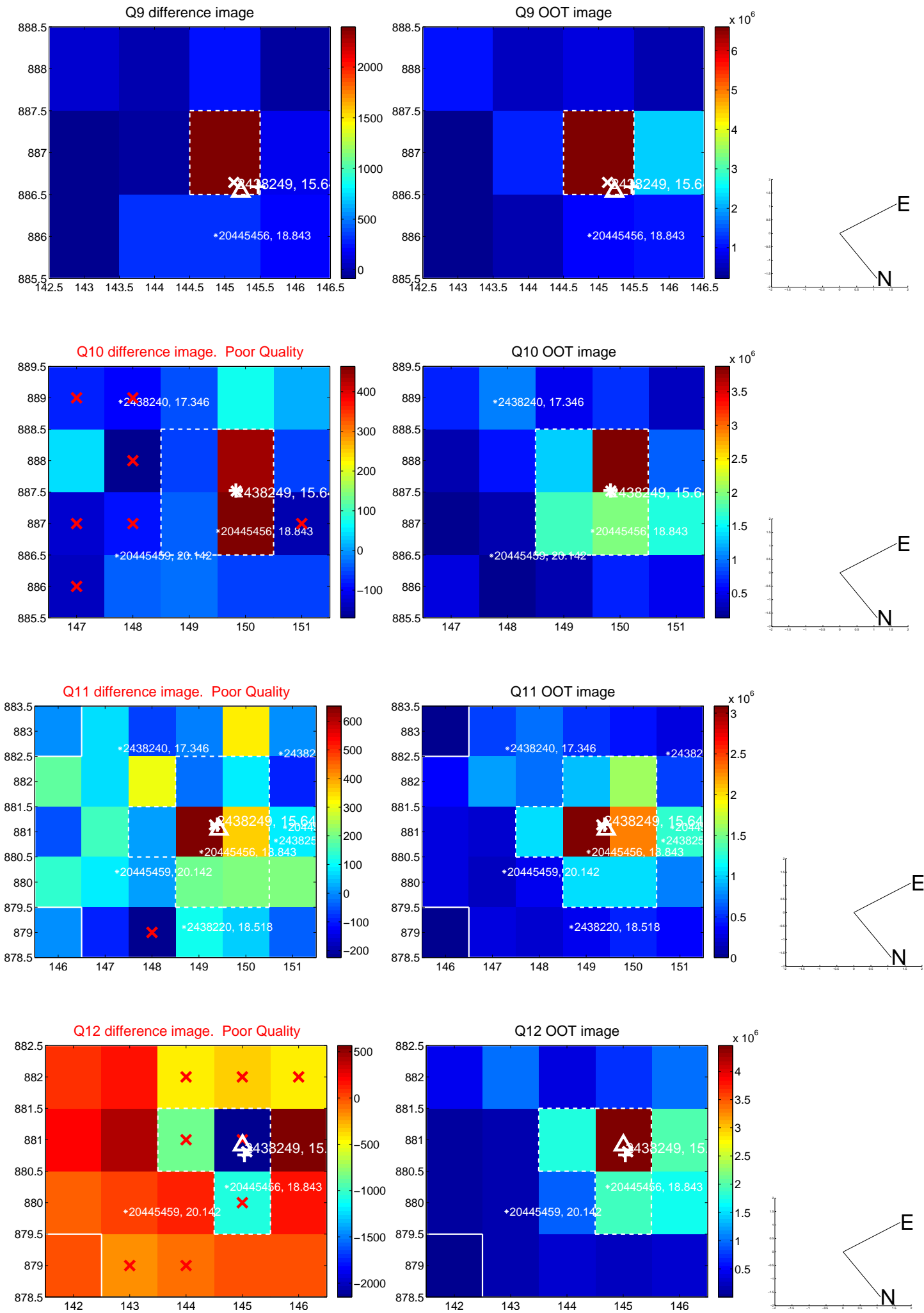
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



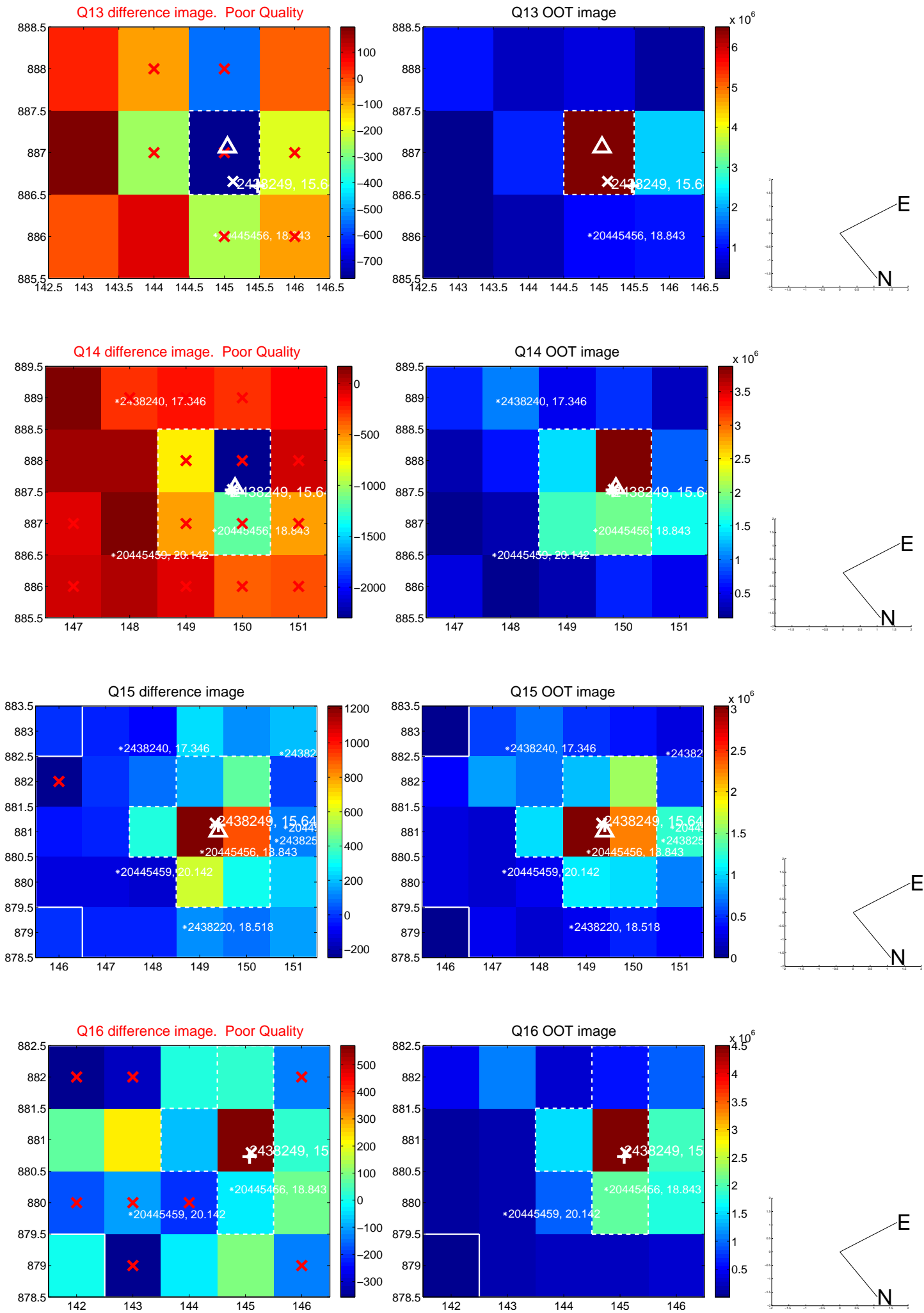
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



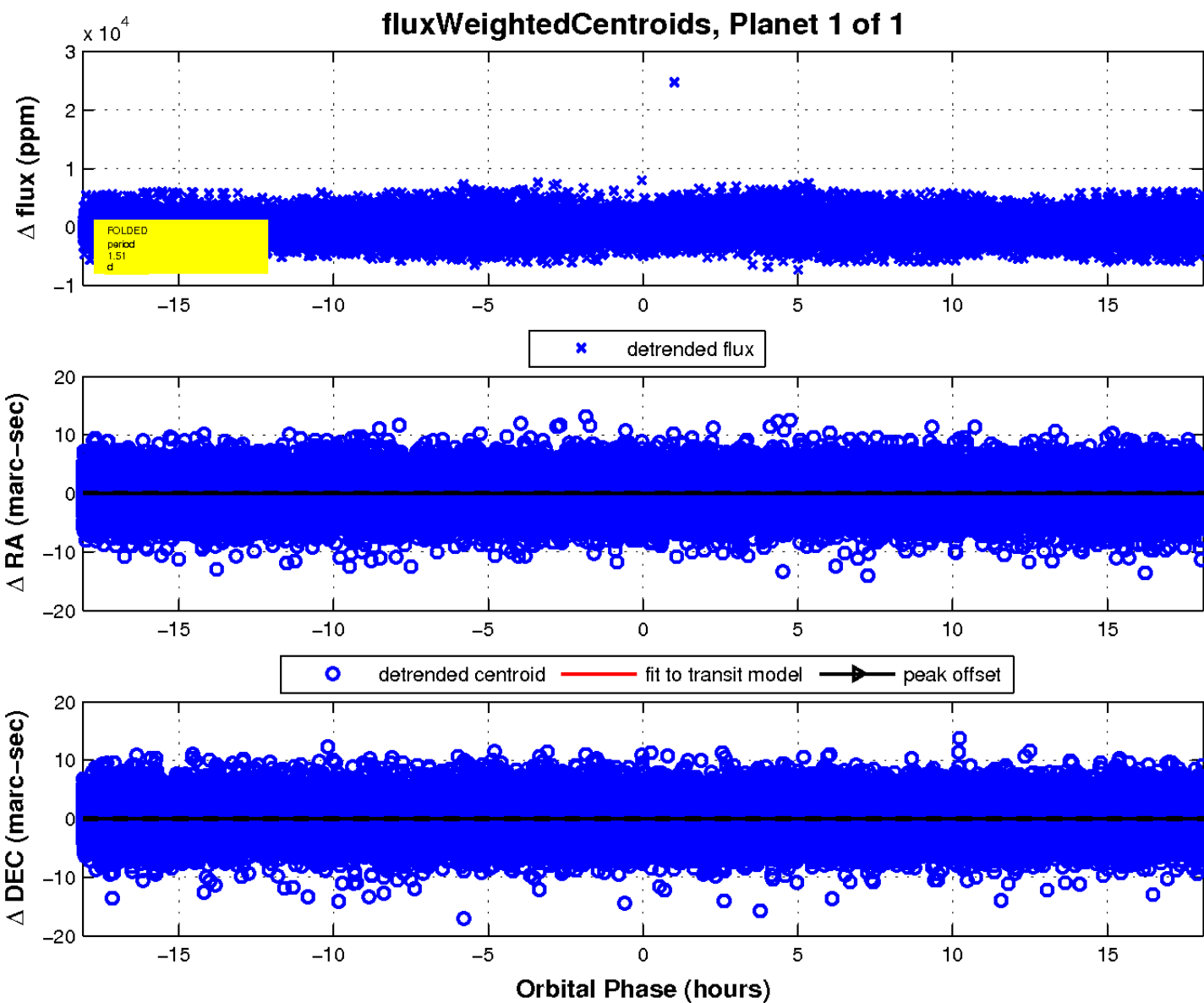
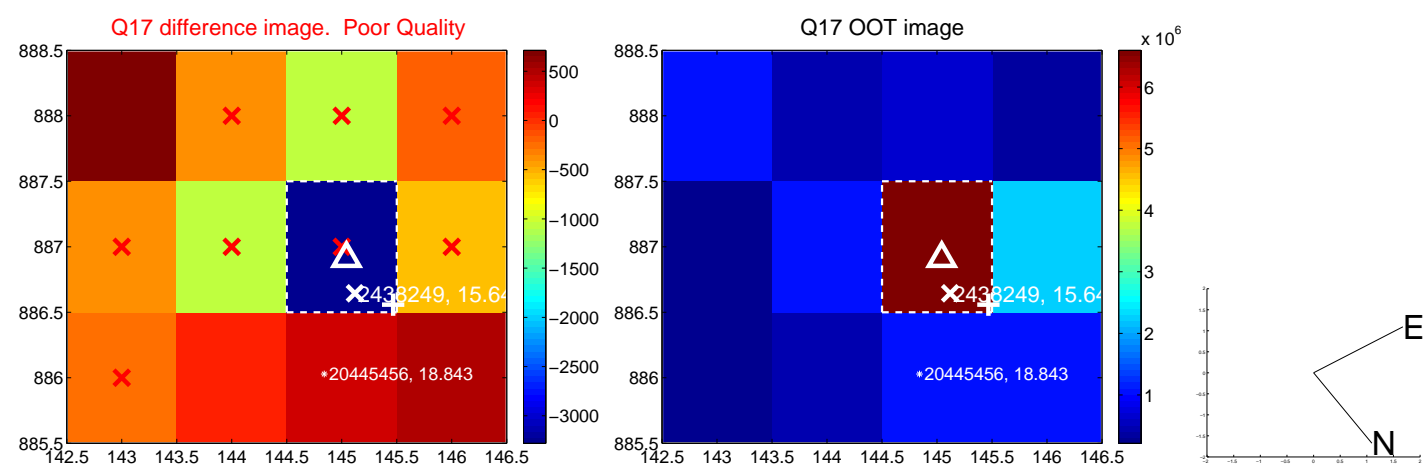
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

