

KIC 004137903

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})
004137903-01	OBS	No	1.436308	132.175483	166.9	11.869	15.5	7.0	1.84	7296	2.75	10203.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004137903-01	OBS	FP	0.00	1	0	0	0	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.

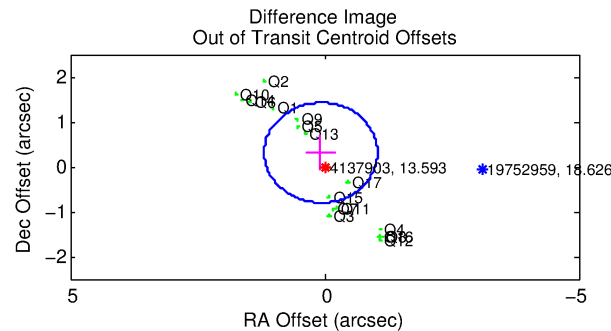
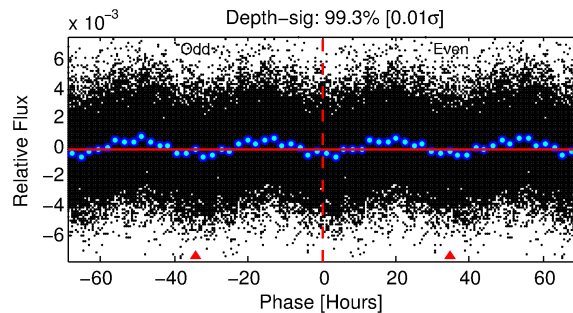
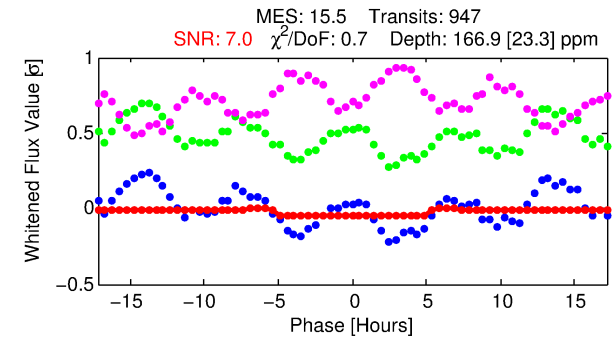
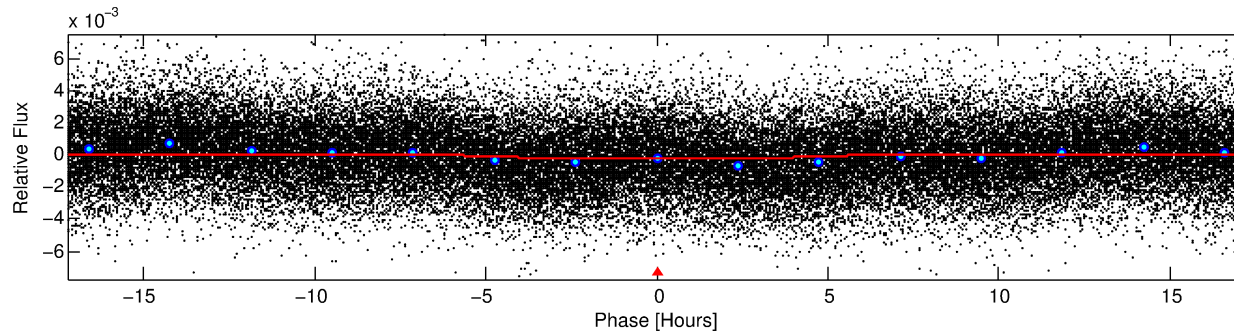
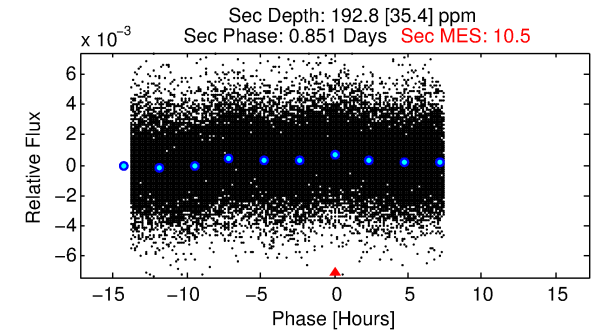
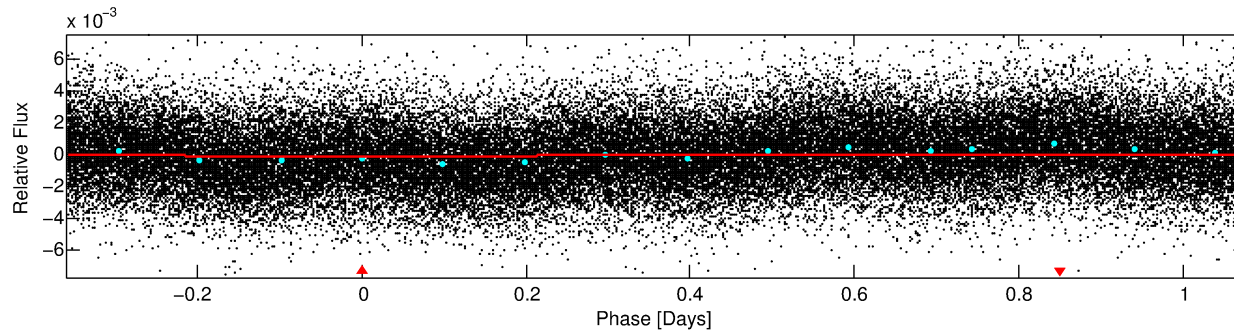
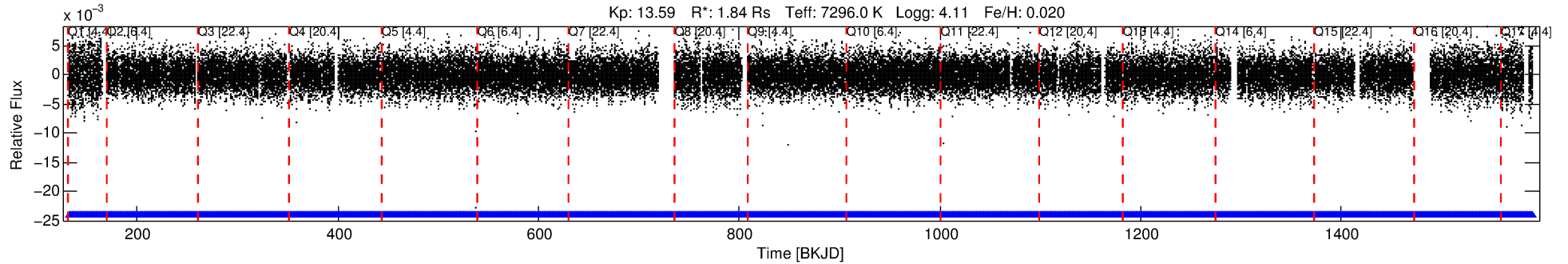
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004137903-01

No Significant Match Found

DV One-Page Summary

KIC: 4137903 Candidate: 1 of 1 Period: 1.436 d



DV Fit Results:

Period = 1.43631 [0.00004] d
Epoch = 132.1755 [0.0118] BKJD
Rp/R* = 0.0137 [0.0012]
a/R* = 1.04 [0.03]
b = 0.90 [0.08]
Seff = 10203.39 [4197.69]
Teq = 2563 [264] K
Rp = 2.75 [0.91] Re
a = 0.0291 [0.0076] AU
Ag = 11.83 [5.34] [2.03σ]
Teffp = 7348 [577] K [7.54σ]

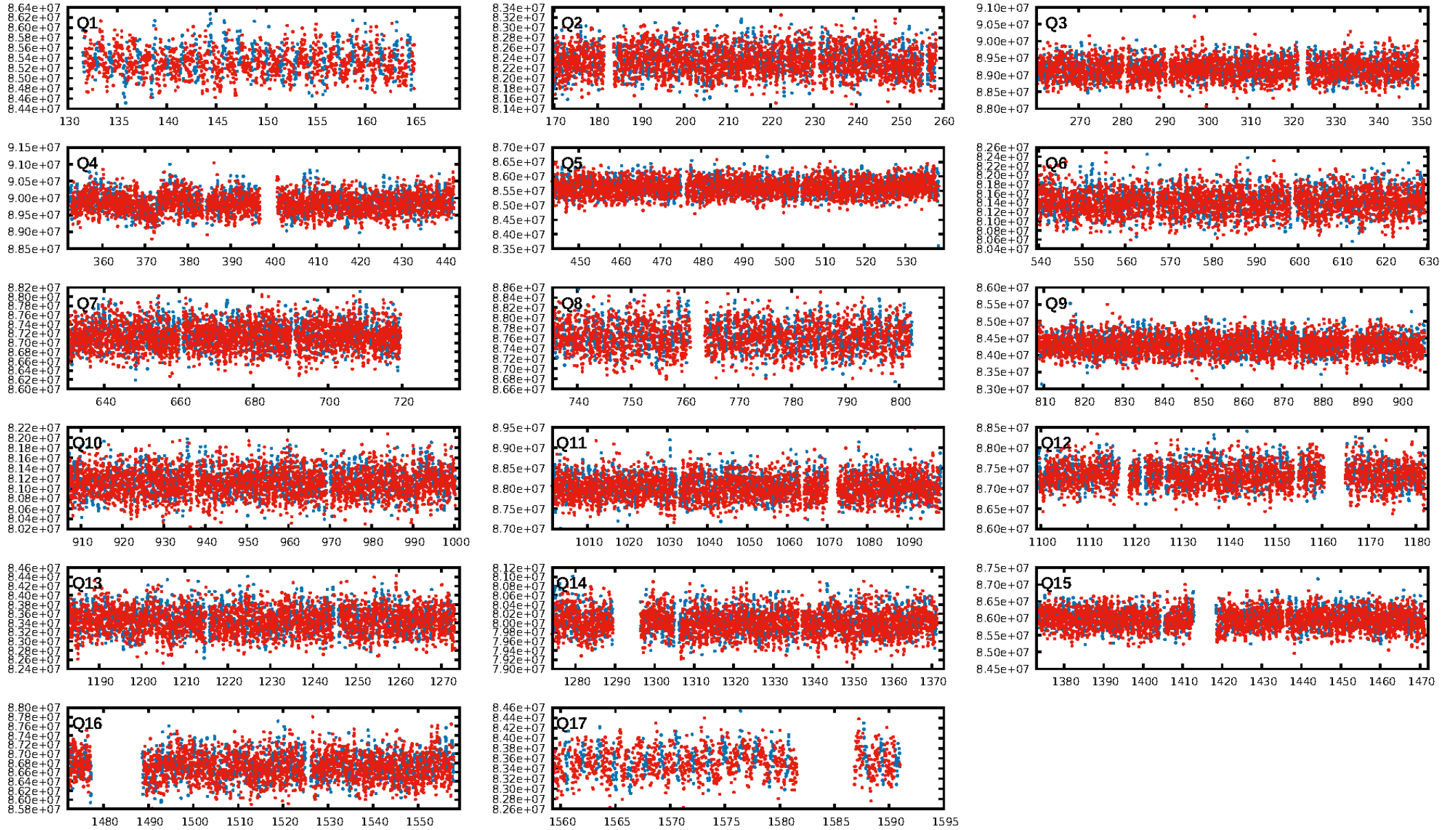
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [904/904]
GhostDiagnostic-chr: 1.231
Centroid-sig: 85.6%
Centroid-so: 0.125 arcsec [0.97σ]
OotOffset-rm: 0.320 arcsec [0.86σ]
KicOffset-rm: 0.325 arcsec [0.83σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

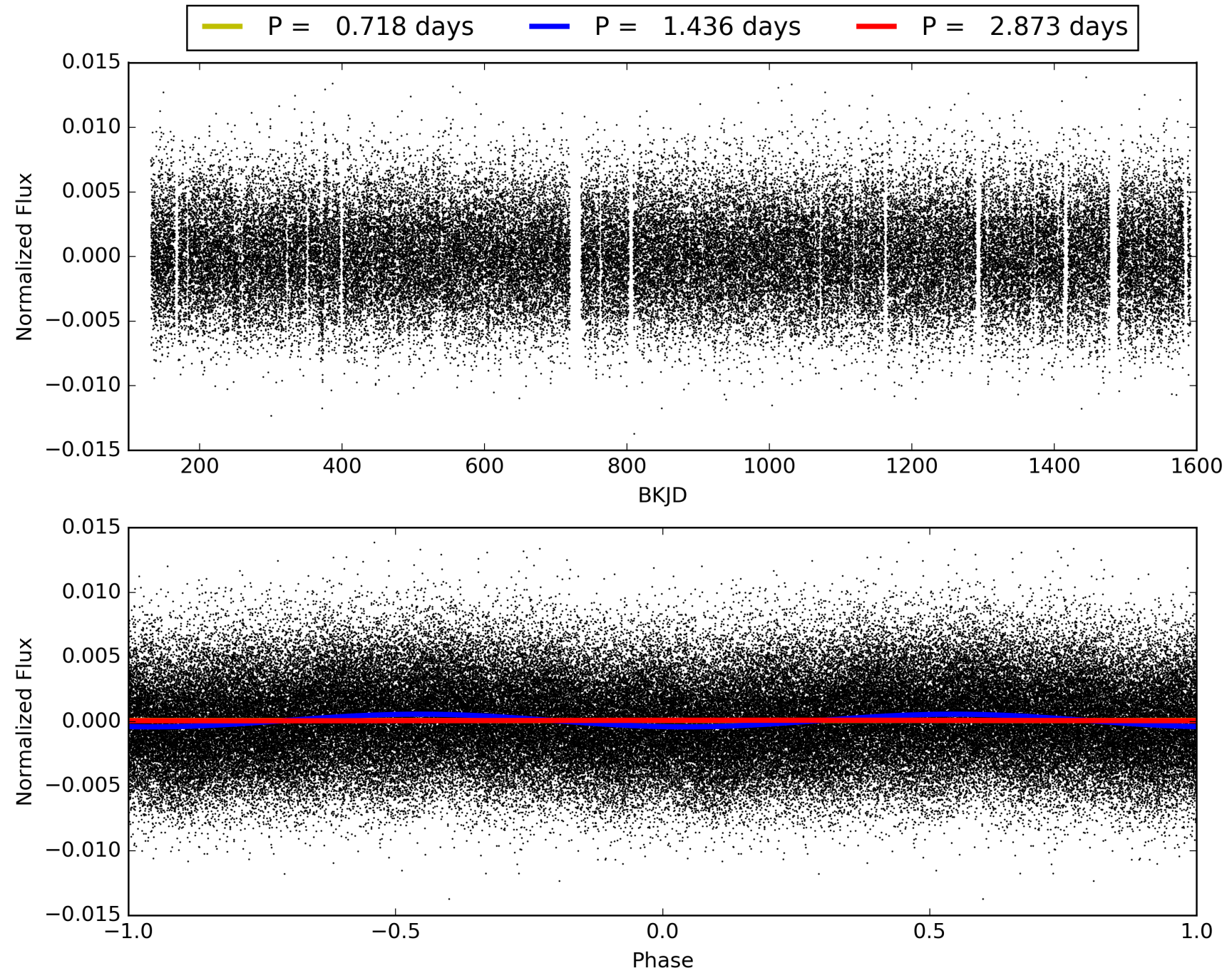
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 13:24:35 Z

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

TCE 004137903-01, PDC Light Curves

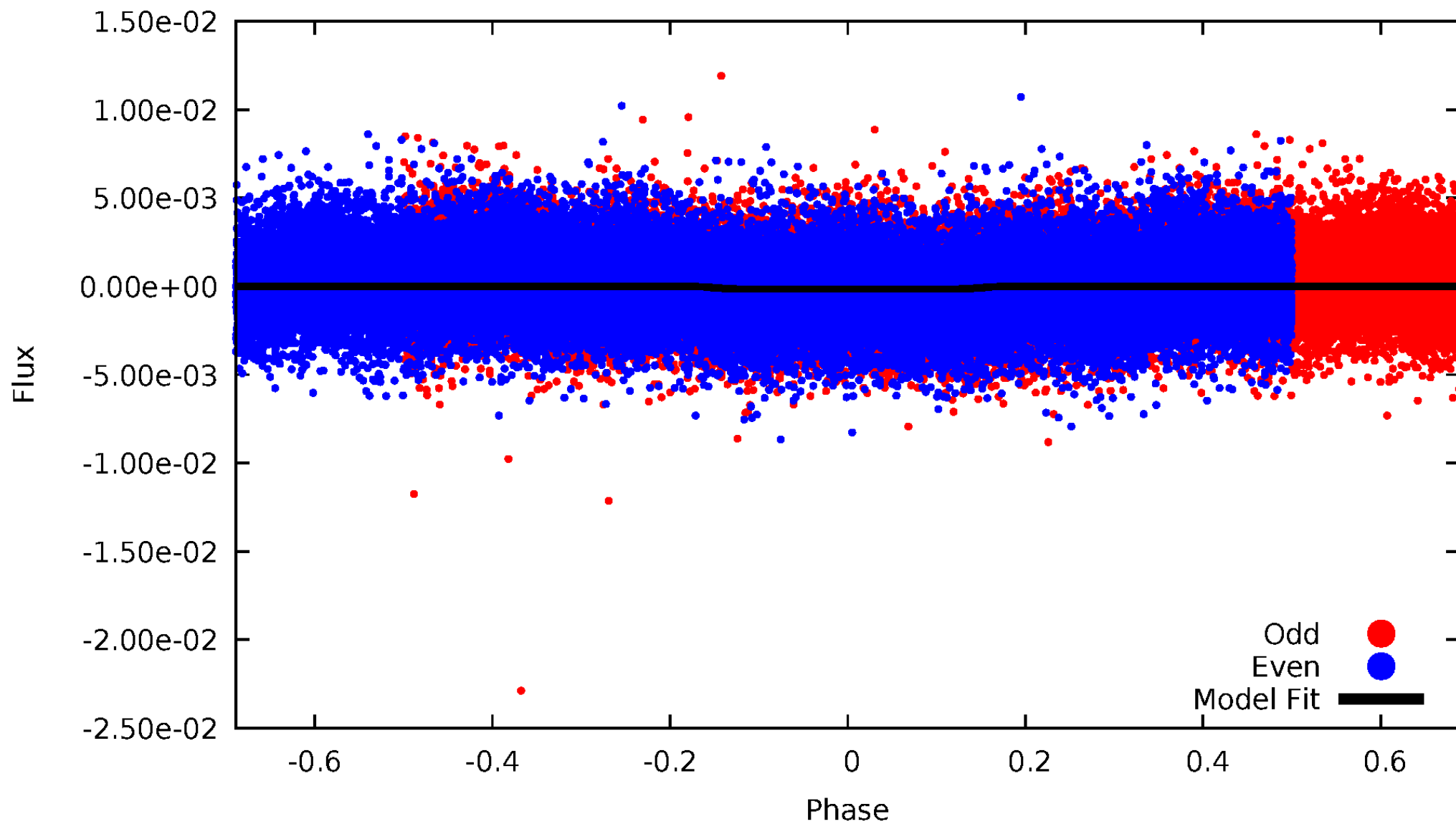


TCE 004137903-01



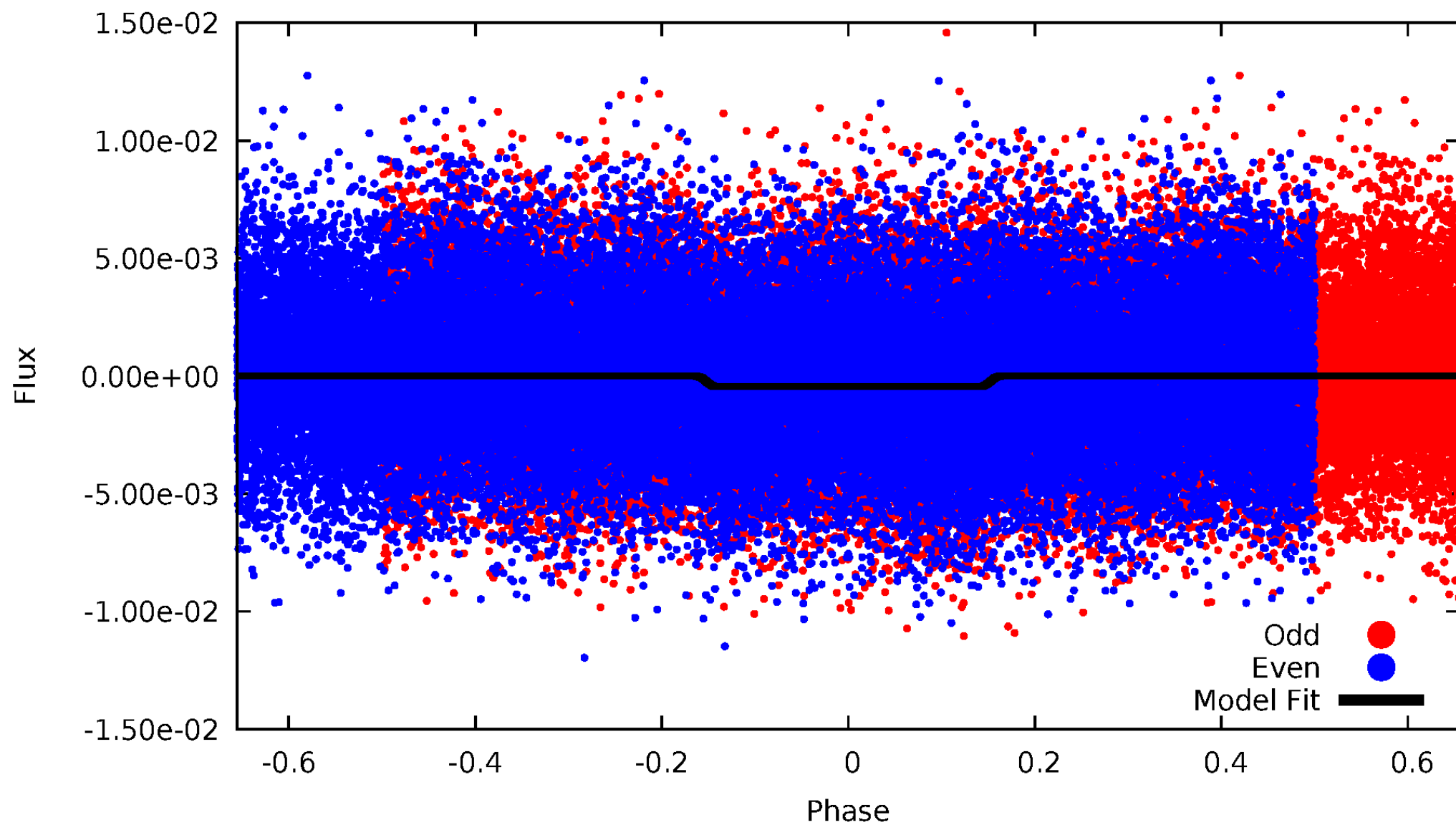
DV Odd/Even

TCE 004137903-01



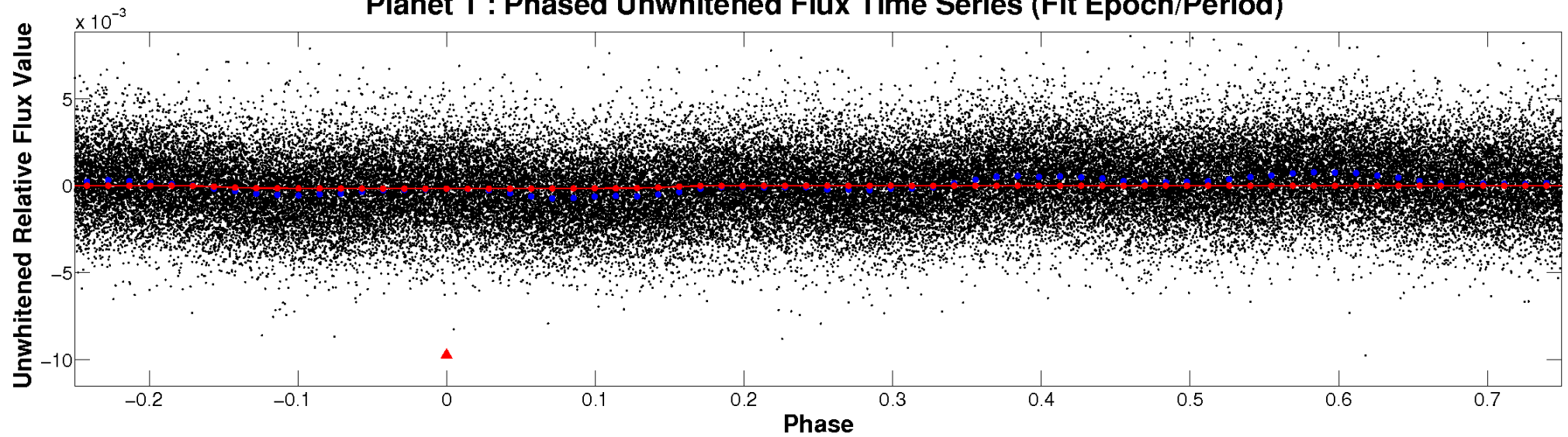
ALT Odd/Even

TCE 004137903-01

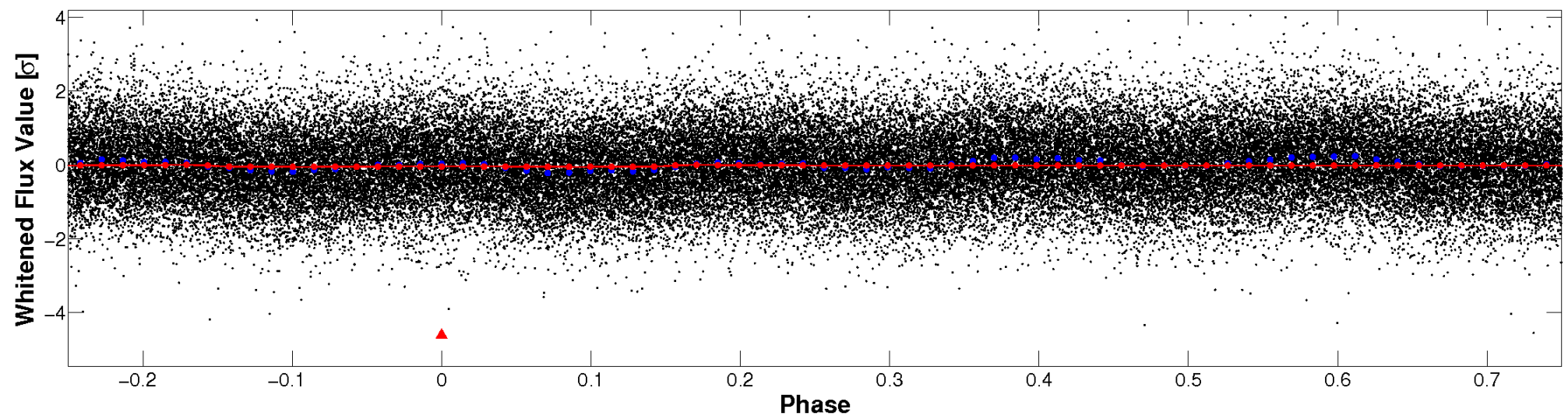


Non-Whitened Vs. Whitened Light Curve

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

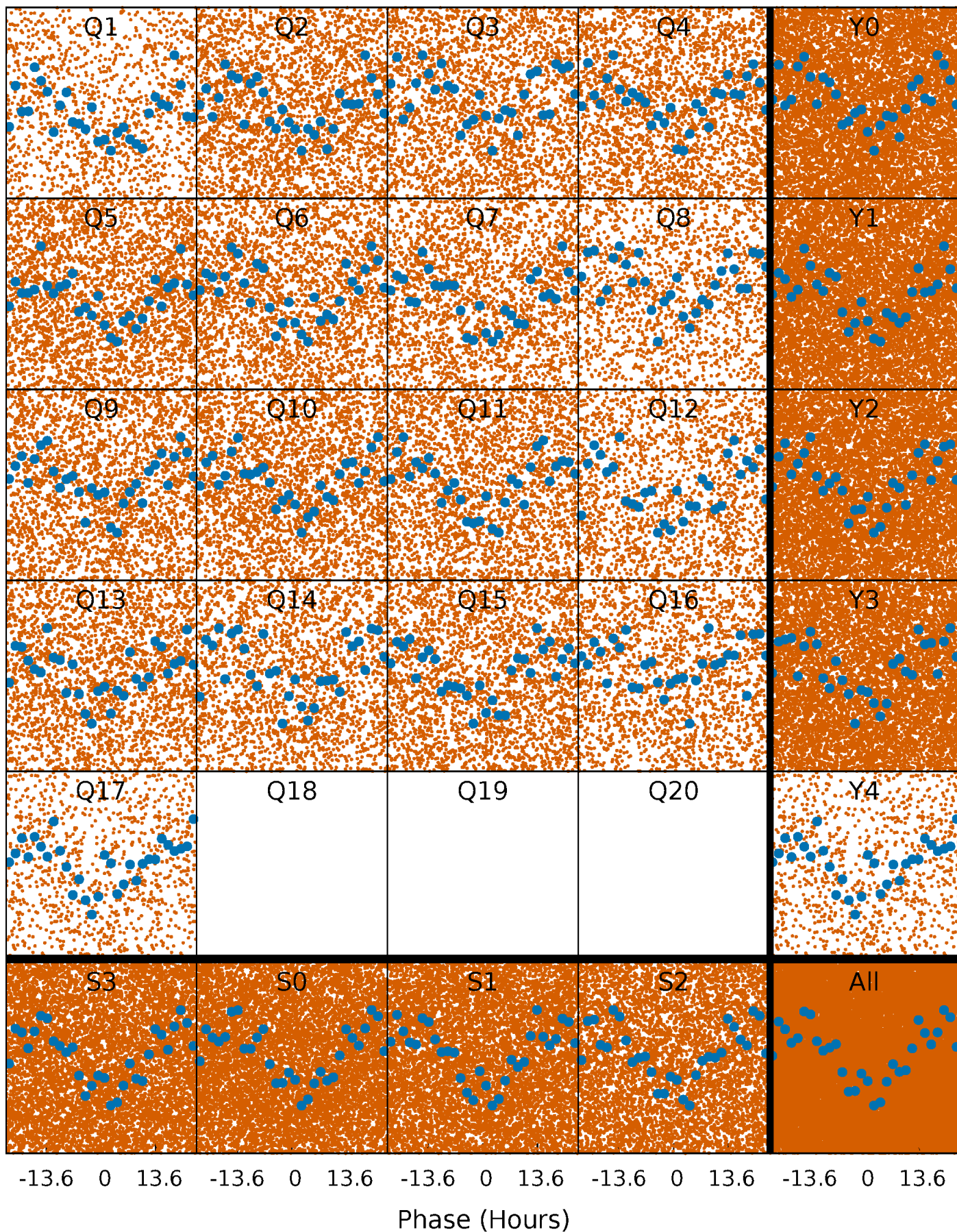


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



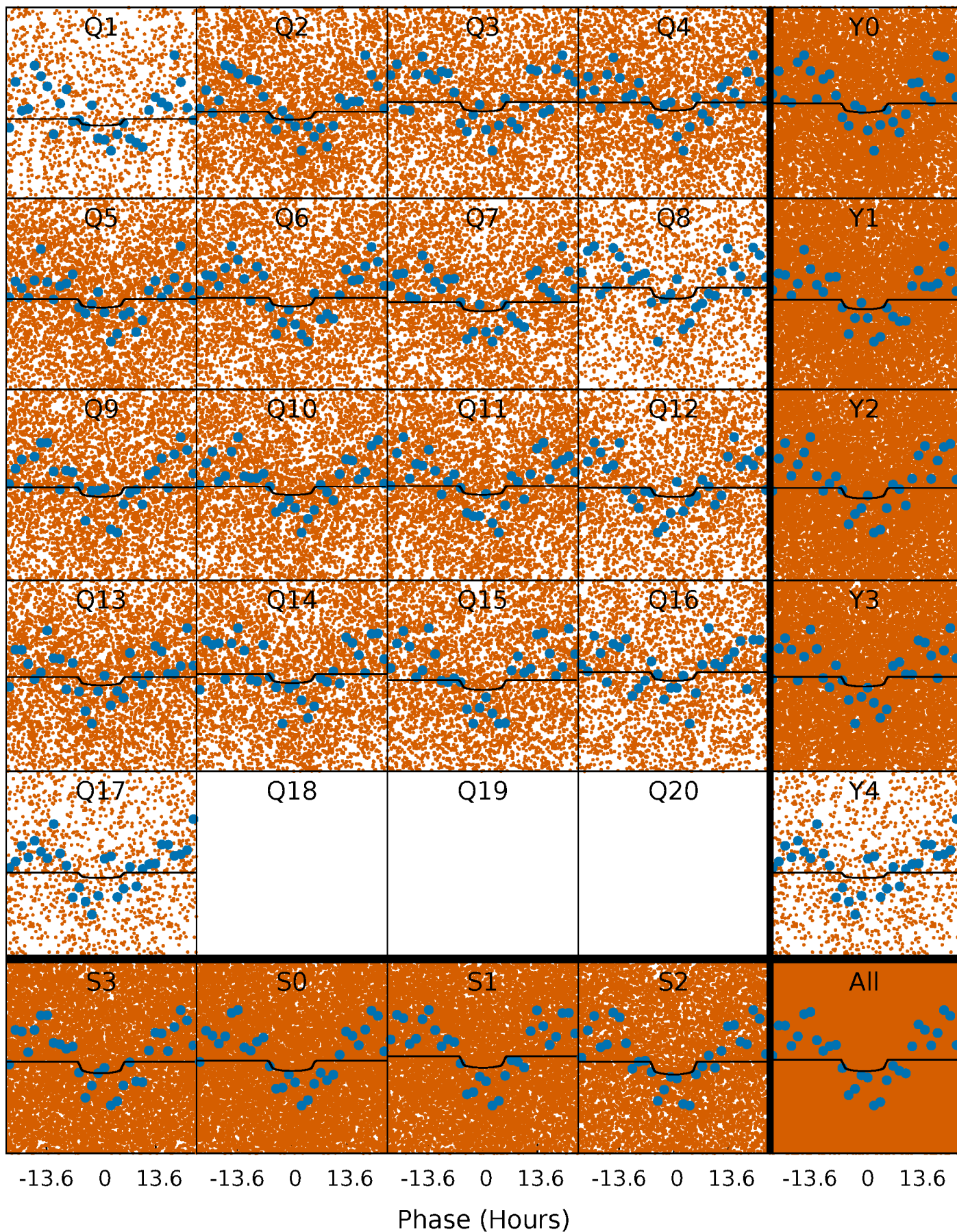
PDC Quarter-Phased Transit Curves

TCE 004137903-01 P= 1.436308 Days $T_0=132.175483$ (BKJD)



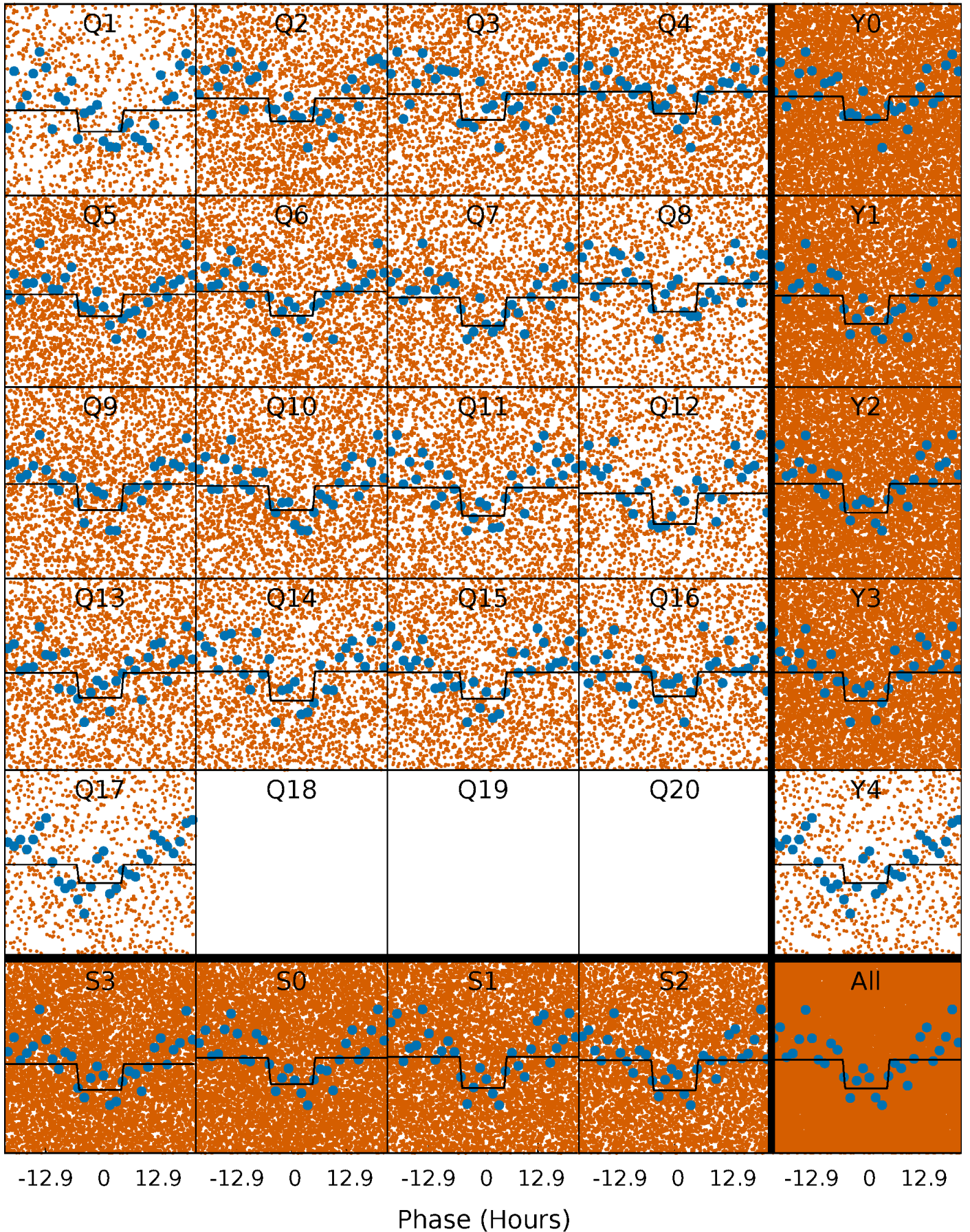
DV Quarter-Phased Transit Curves

TCE 004137903-01 P= 1.436308 Days $T_0=132.175483$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

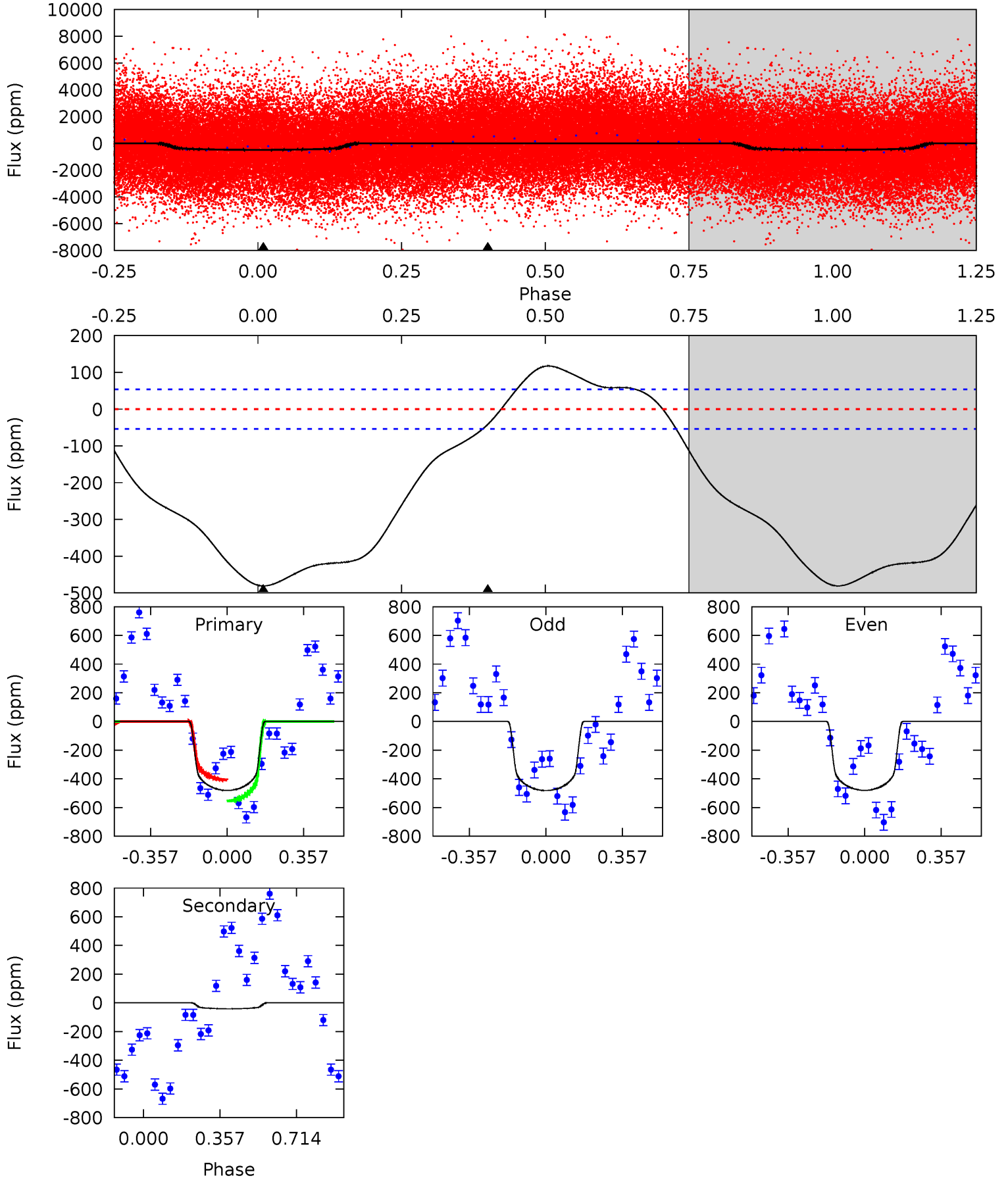
TCE 004137903-01 P= 1.436428 Days $T_0=132.123132$ (BKJD)



DV Model-Shift Uniqueness Test

004137903-01, P = 1.436308 Days, E = 130.739175 Days

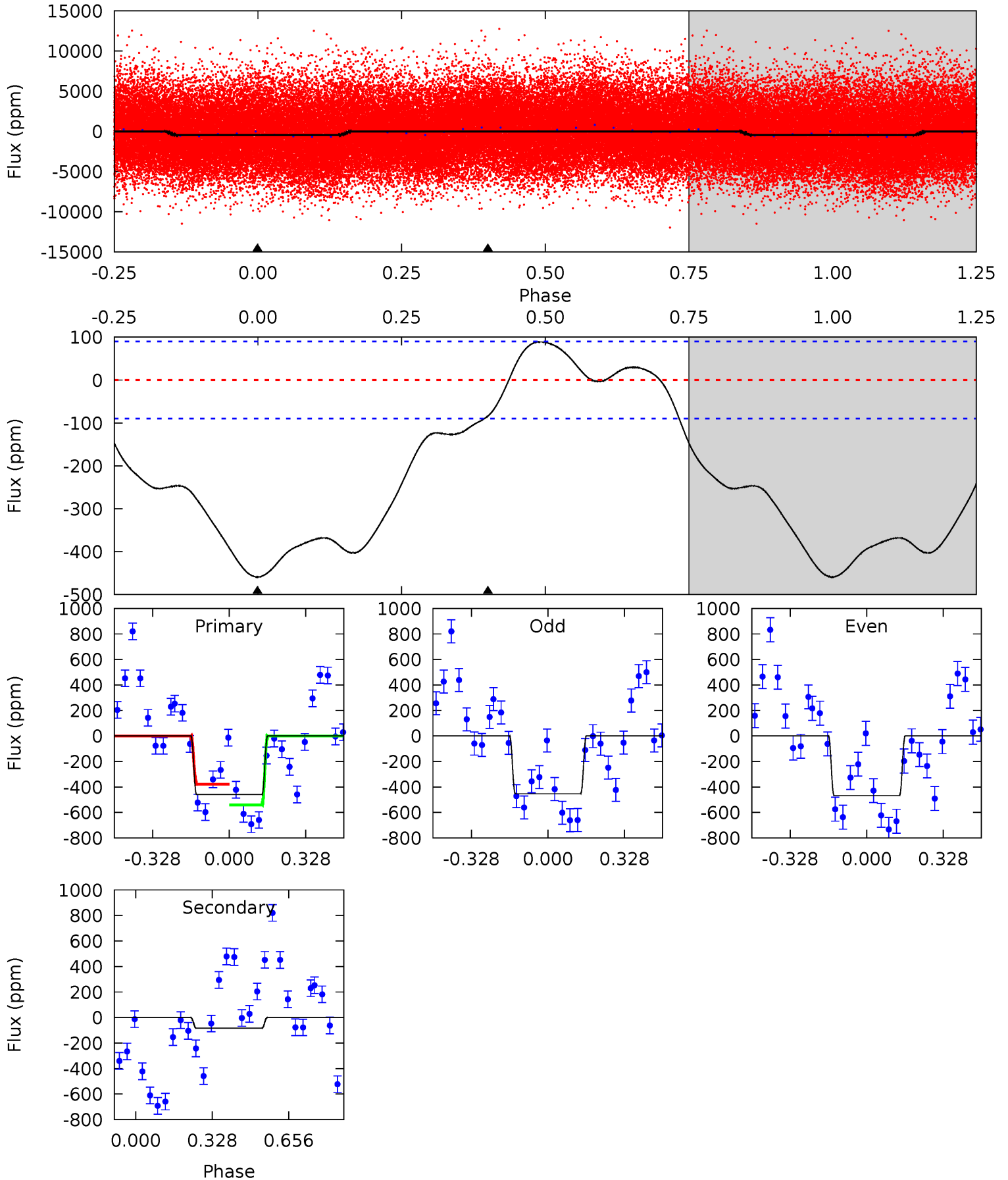
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.3	3.29	0	0	4.29	0.92	4.46	38.3	38.3	3.29	3.29	0.05	1.10	0.20	5.76



Alt Model-Shift Uniqueness Test

004137903-01, P = 1.436428 Days, E = 130.686704 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	4.04	0	0	4.31	0.98	2.60	22.1	22.1	4.04	4.04	0.34	0.96	0.16	3.90



Stellar Parameters For KIC 004137903

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7296^{+201}_{-327}	$4.108^{+0.132}_{-0.198}$	$0.020^{+0.200}_{-0.350}$	$1.844^{+0.585}_{-0.390}$	$1.590^{+0.212}_{-0.259}$	$0.357^{+0.279}_{-0.182}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+32%/-21%	+13%/-16%	+78%/-51%
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 004137903-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-41 ± 13	$2.82^{+0.53}_{-0.41}$	3611^{+285}_{-261}	4852^{+418}_{-471}	$2.369^{+1.190}_{-0.943}$
Alt.	-84 ± 21	$4.39^{+0.73}_{-0.60}$	3599^{+282}_{-242}	4642^{+316}_{-342}	$1.981^{+0.846}_{-0.681}$

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 $A_{obs} \gg 1.0$

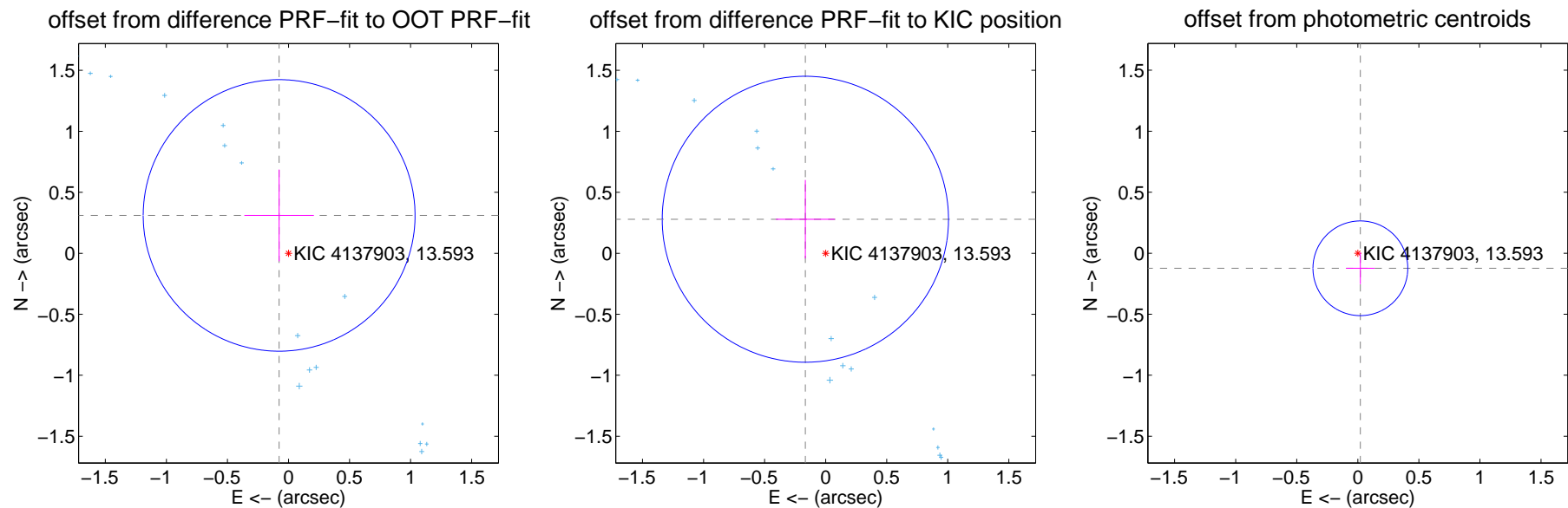
DV Centroid Data

Supplemental centroid analysis for 004137903-01. Kepler magnitude: 13.59. Transit SNR 7.05

There are 17 quarters with good PRF difference image offsets

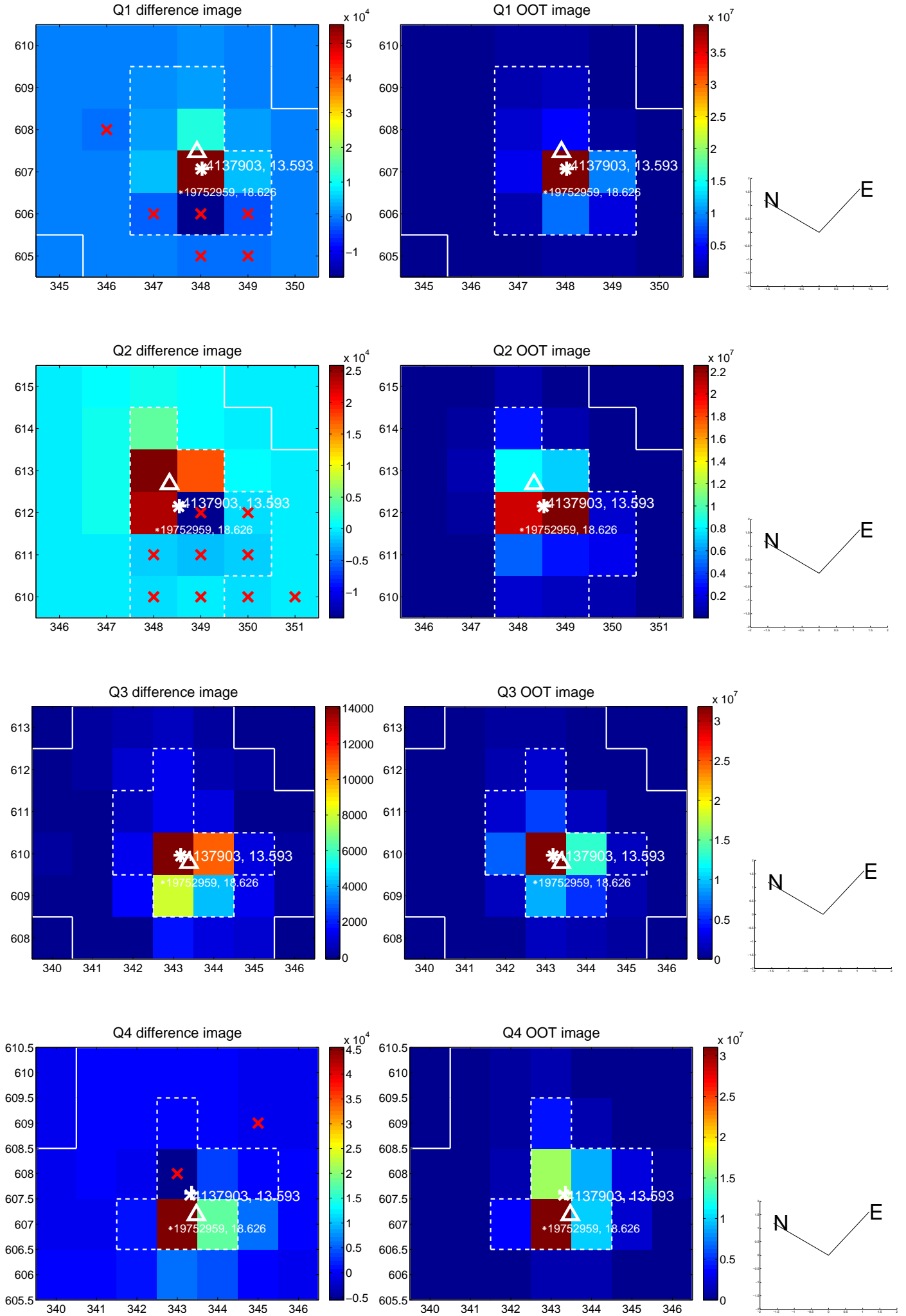
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.320 ± 0.371	0.86	0.077 ± 0.285	0.310 ± 0.376
PRF-fit source offset from KIC position	0.325 ± 0.391	0.83	0.166 ± 0.241	0.279 ± 0.322
photometric centroid source offset	0.13 ± 0.13	0.97	-0.02 ± 0.12	-0.12 ± 0.13

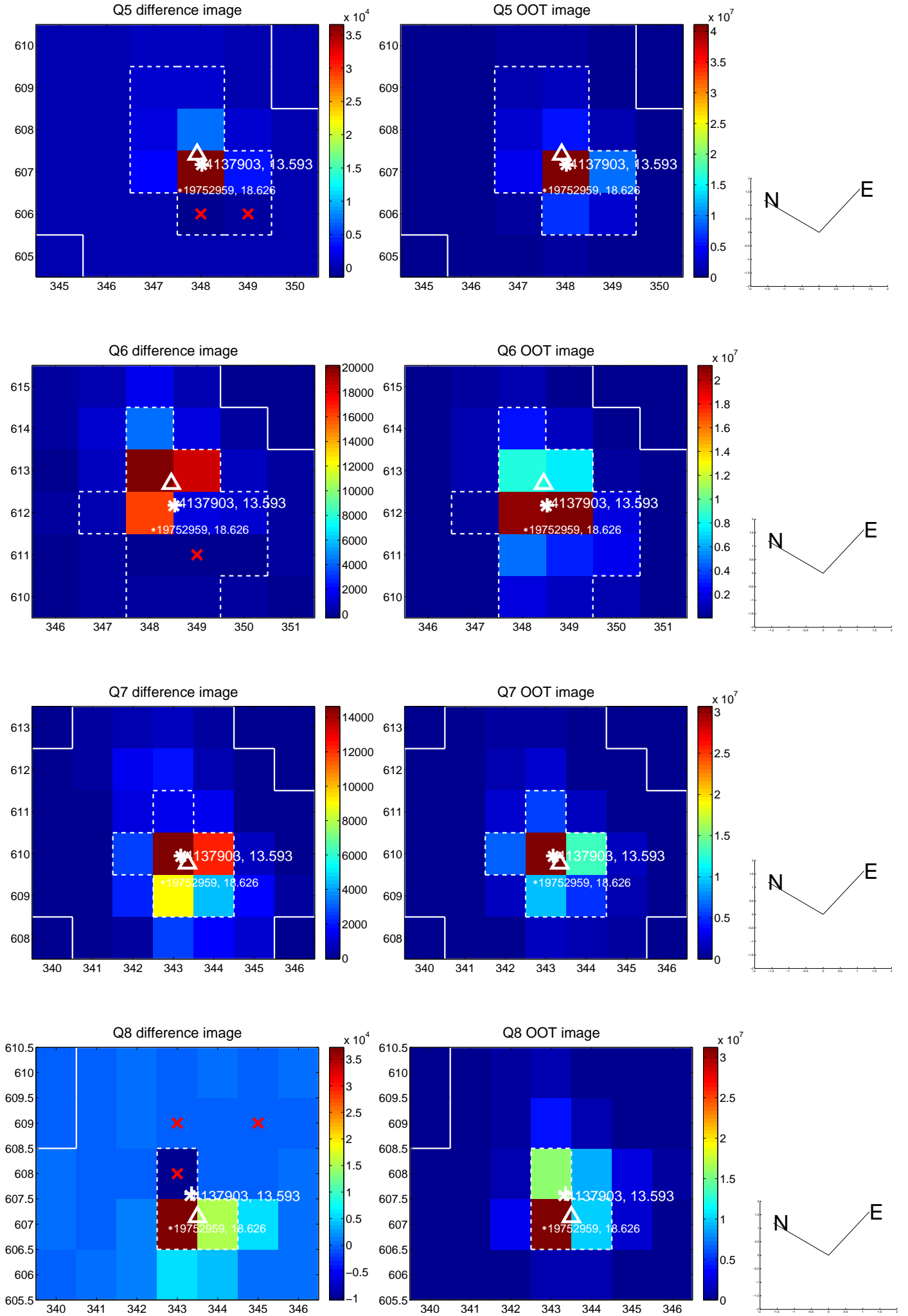


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

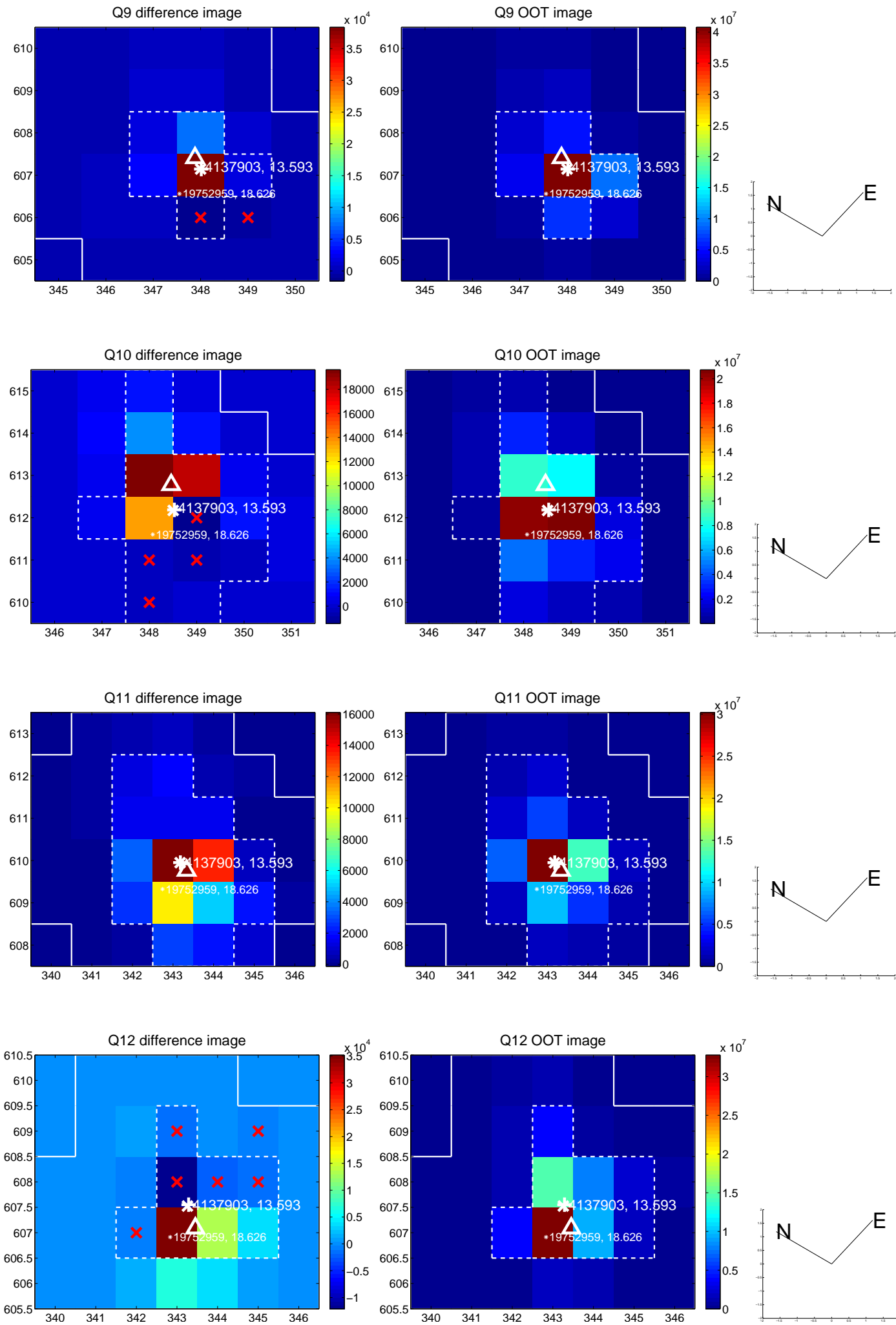
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



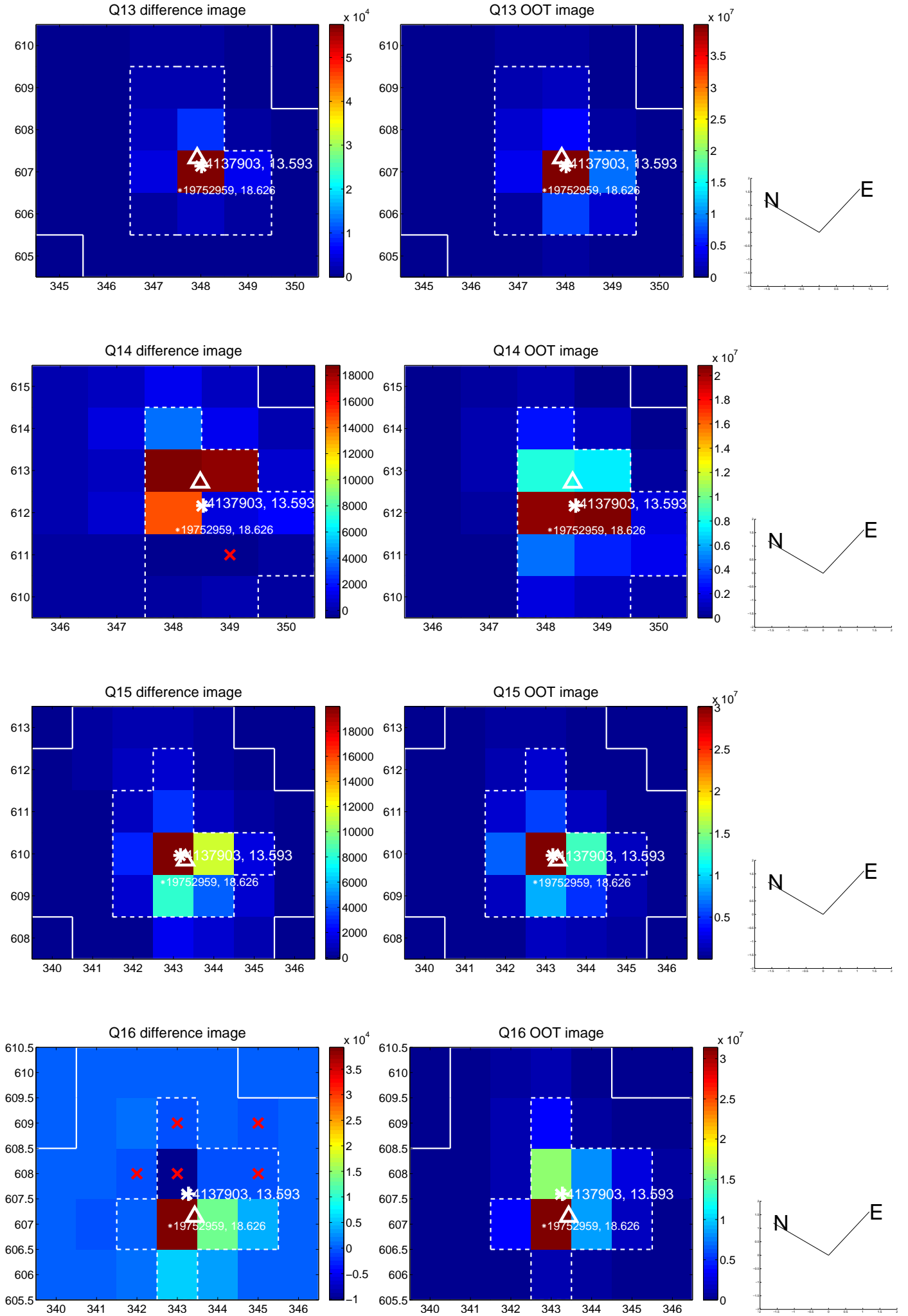
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



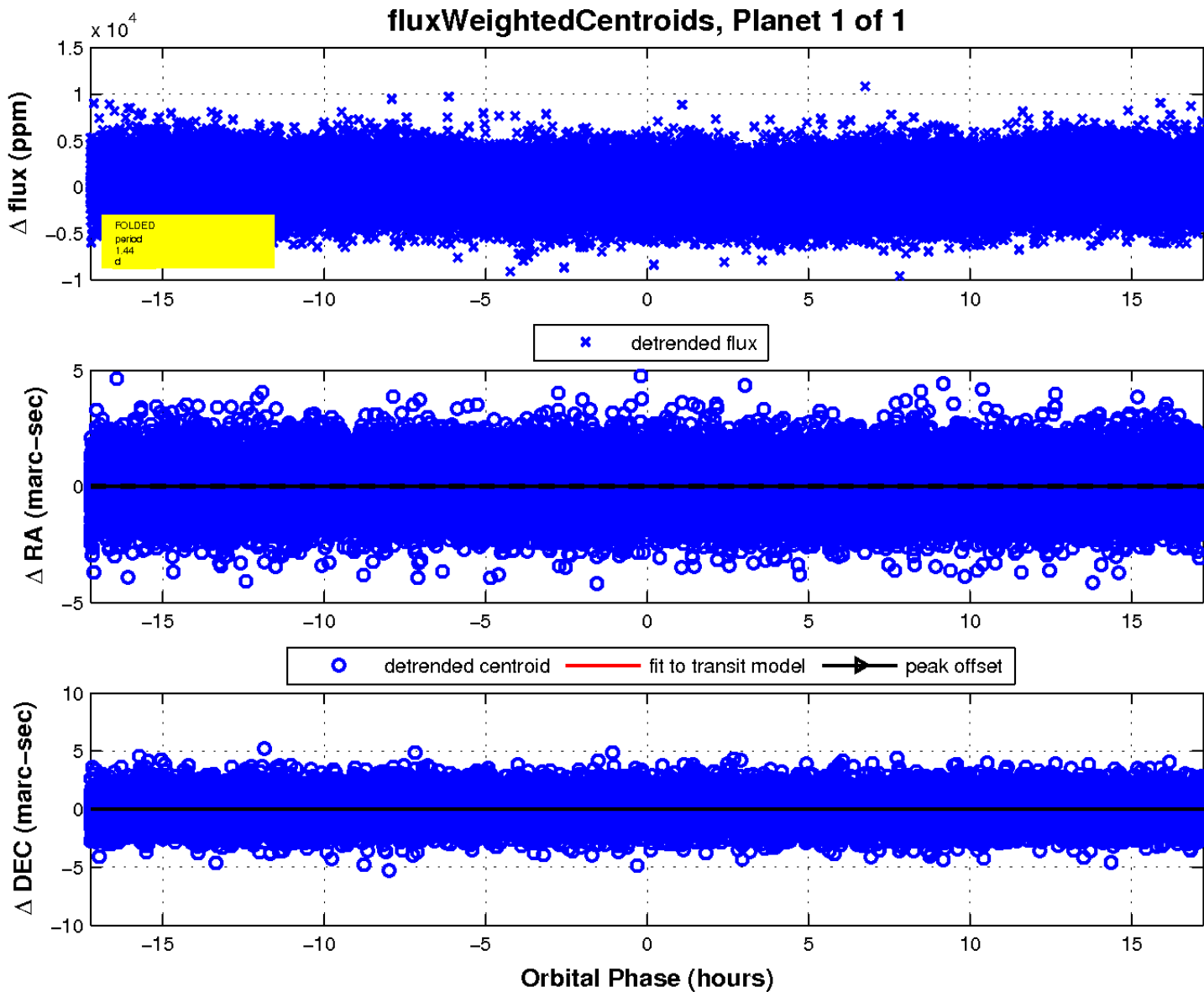
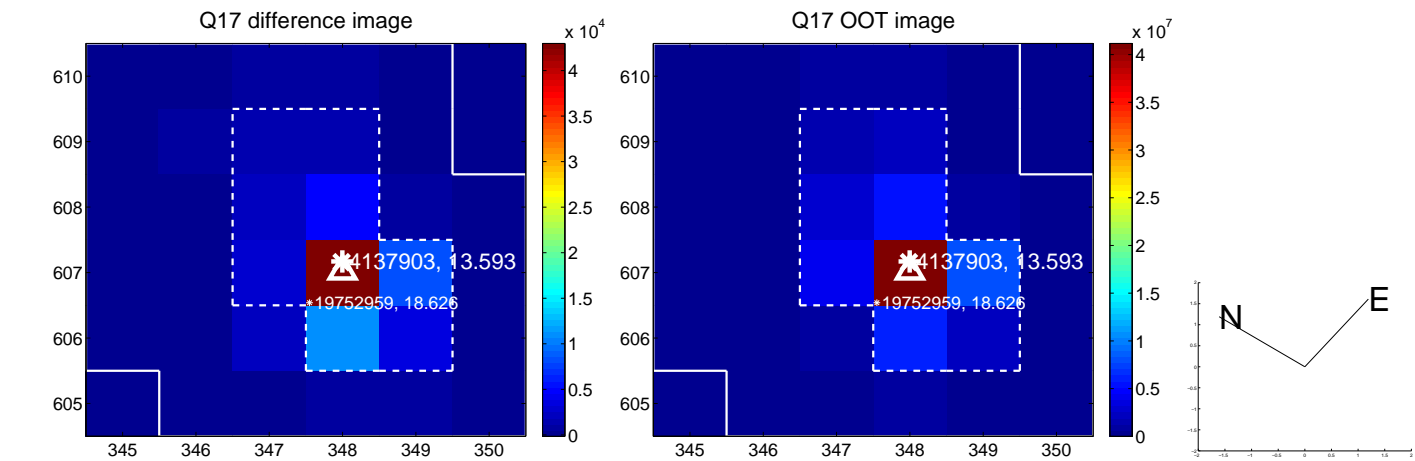
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UKIRT Image

Declination

