

KIC 005446009

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})
005446009-01	OBS	No	3.624077	135.038576	36.5	16.772	8.4	7.8	1.22	6602	0.76	1038.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005446009-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

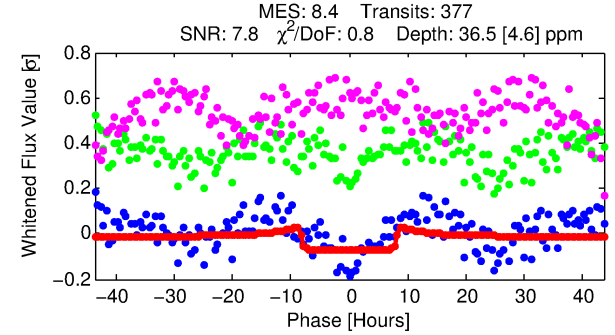
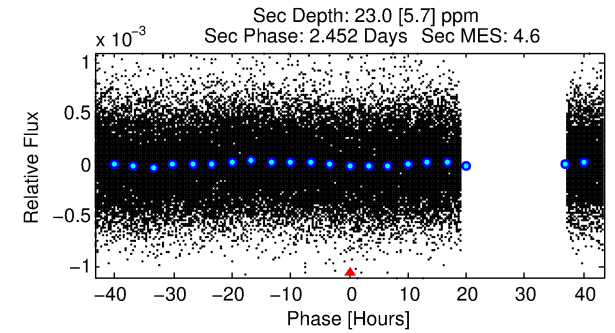
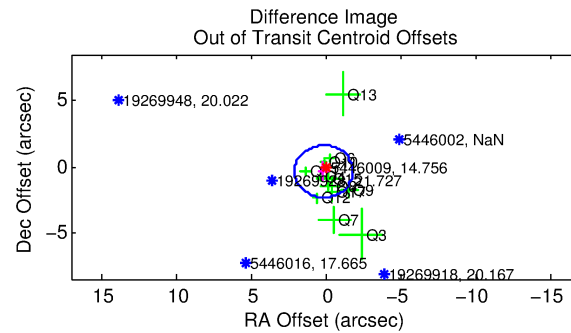
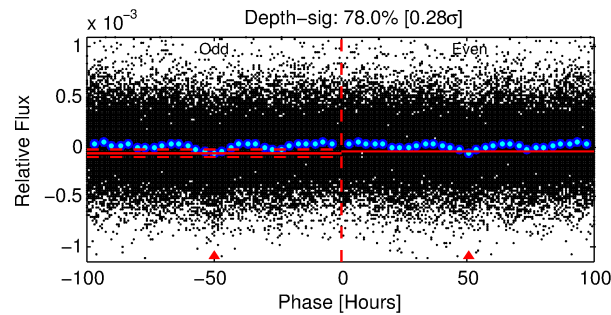
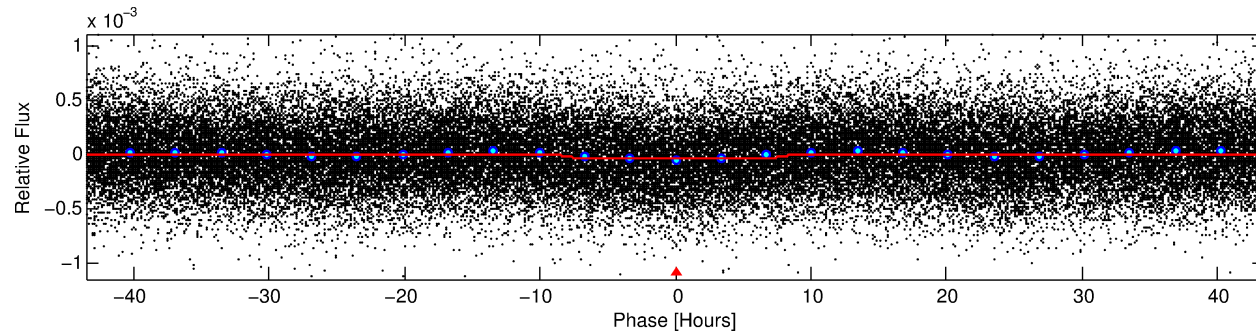
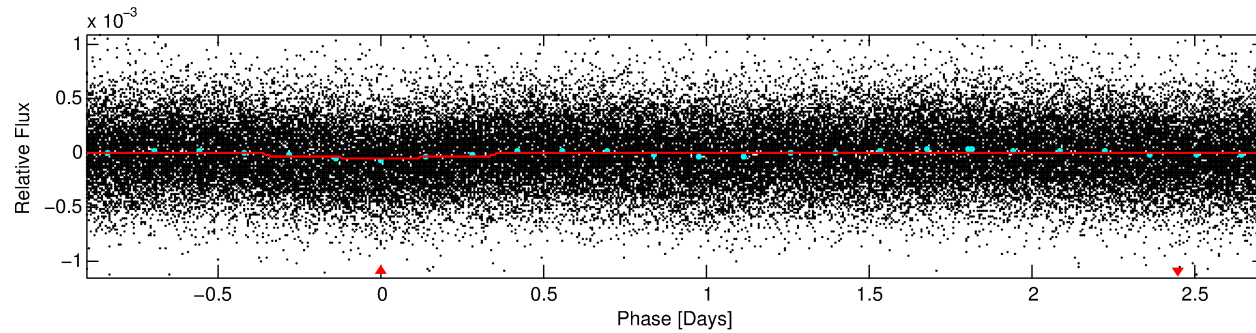
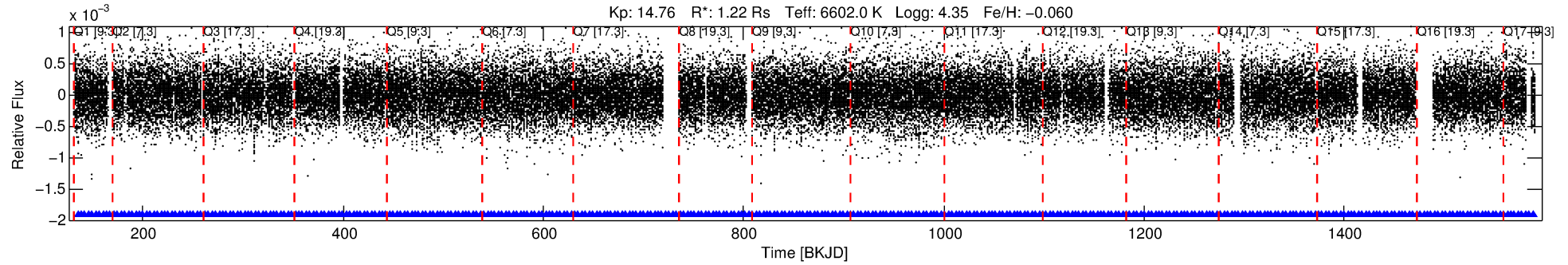
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005446009-01

No Significant Match Found

DV One-Page Summary

KIC: 5446009 Candidate: 1 of 1 Period: 3.624 d



DV Fit Results:

Period = 3.62408 [0.00007] d
Epoch = 135.0386 [0.0127] BKJD
Rp/R* = 0.0057 [0.0037]
a/R* = 1.63 [3.60]
b = 0.48 [5.79]
Seff = 1038.21 [380.14]
Teff = 1447 [132] K
Rp = 0.76 [0.54] Re
a = 0.0495 [0.0117] AU
Ag = 53.66 [73.69] [0.71 σ]
Teffp = 6057 [2029] K [2.27 σ]

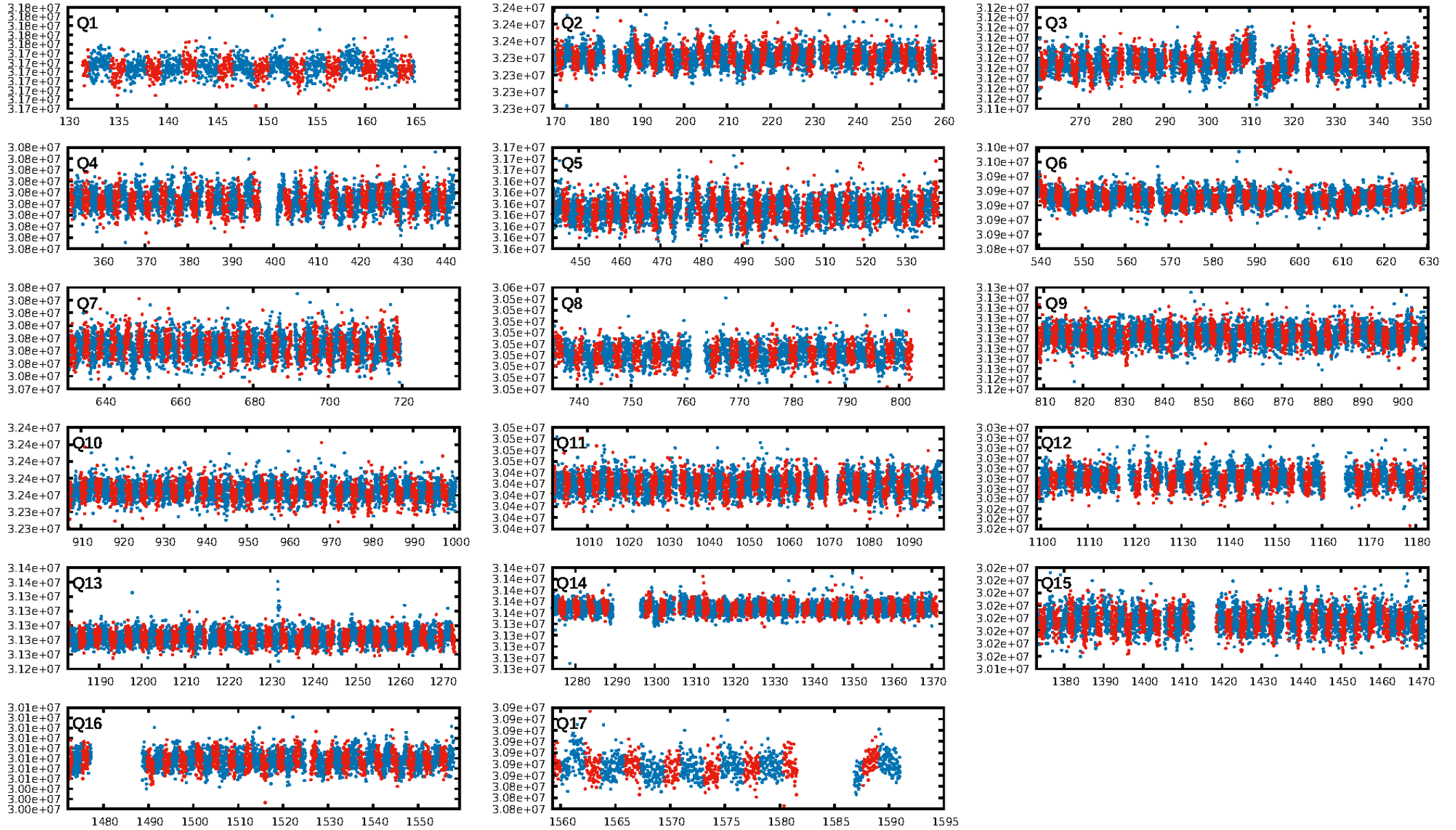
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.48e-11
RollingBand-fgt: 1.00 [359/359]
GhostDiagnostic-chr: -3.097
Centroid-sig: 16.2%
Centroid-so: 1.445 arcsec [1.28 σ]
OotOffset-rm: 0.388 arcsec [0.59 σ]
KicOffset-rm: 0.400 arcsec [0.55 σ]
OotOffset-st: 2/4/3/3 [12]
KicOffset-st: 2/4/3/3 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 1.00 [17/17]

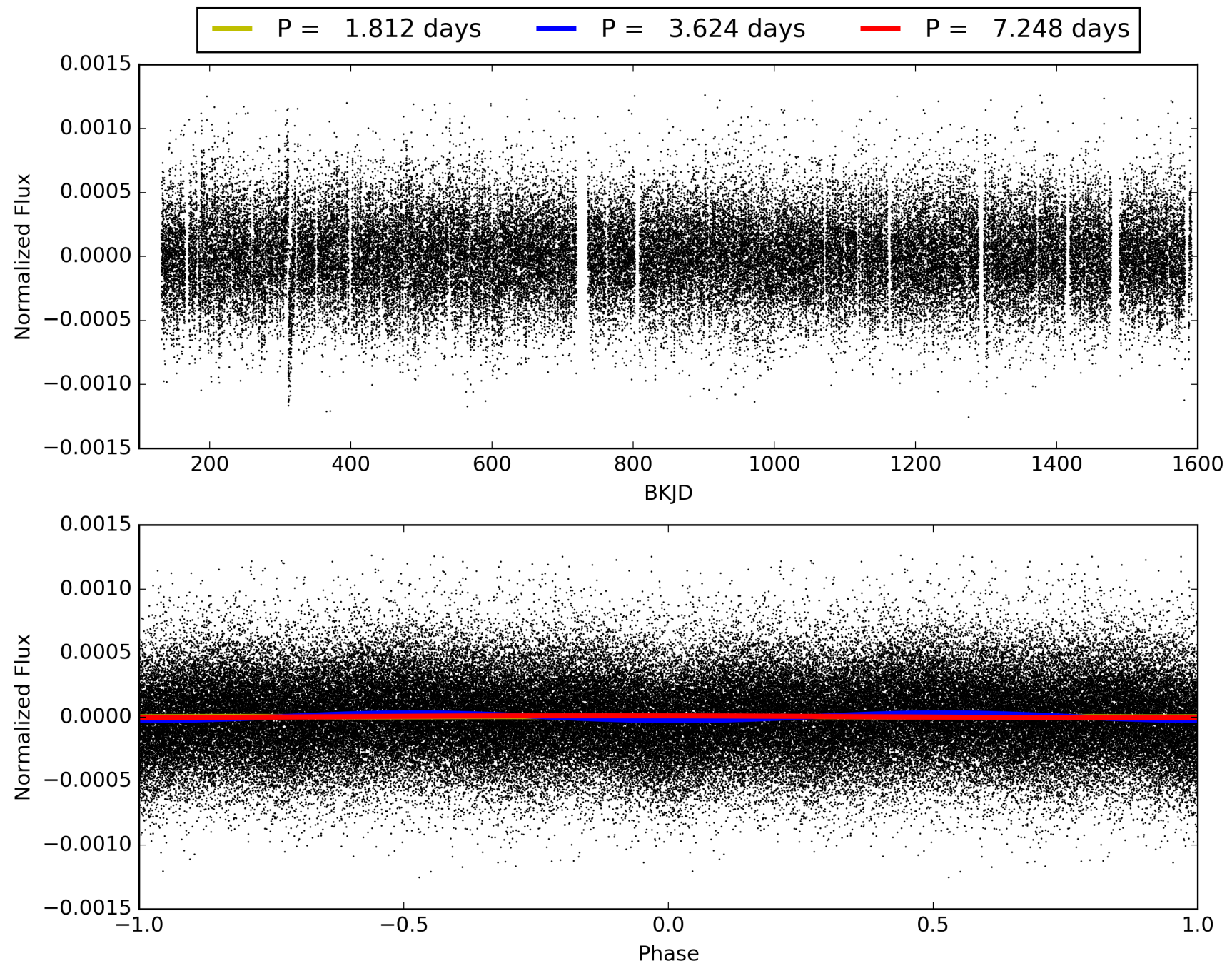
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:22:07 Z

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

TCE 005446009-01, PDC Light Curves

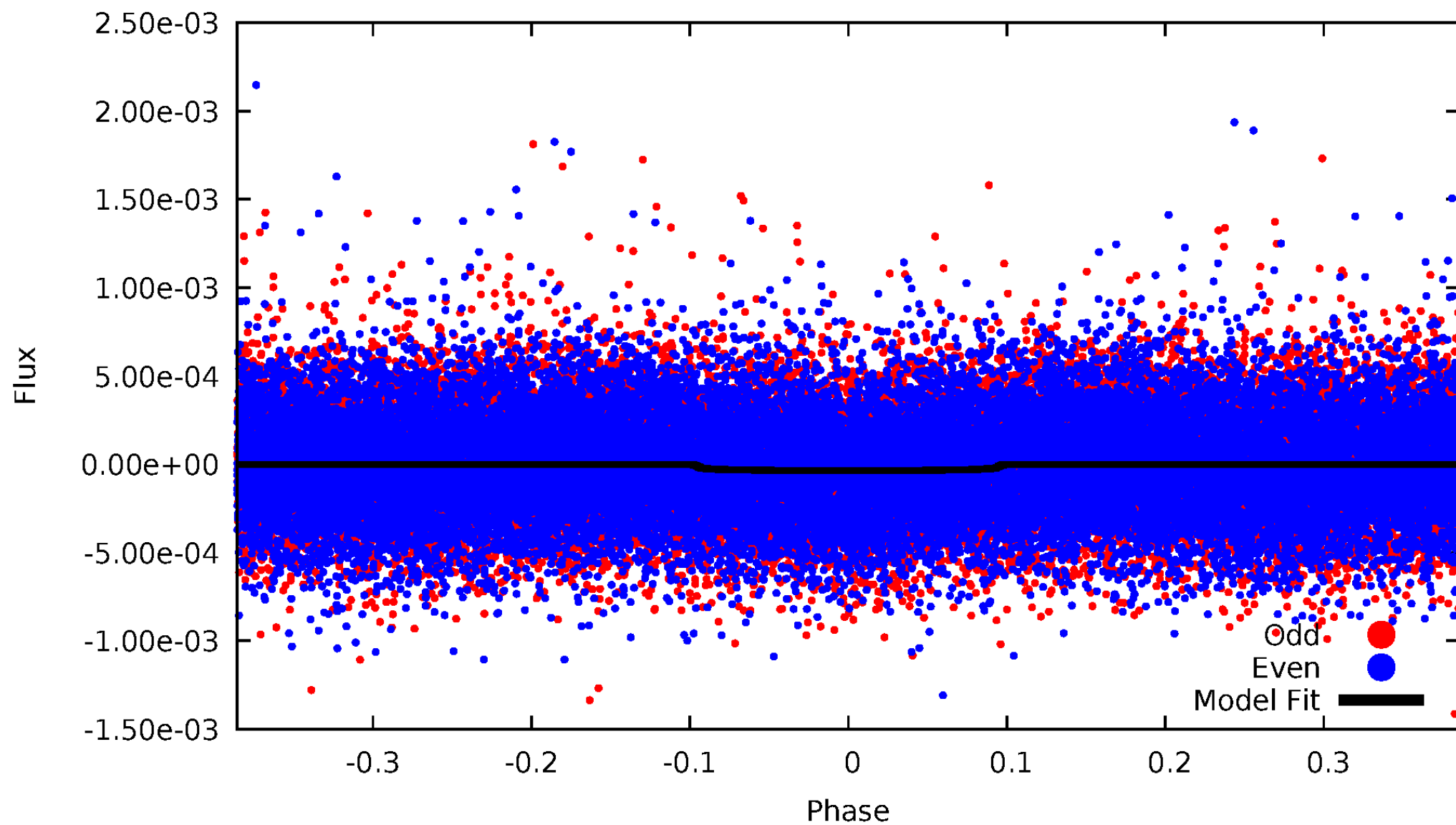


TCE 005446009-01



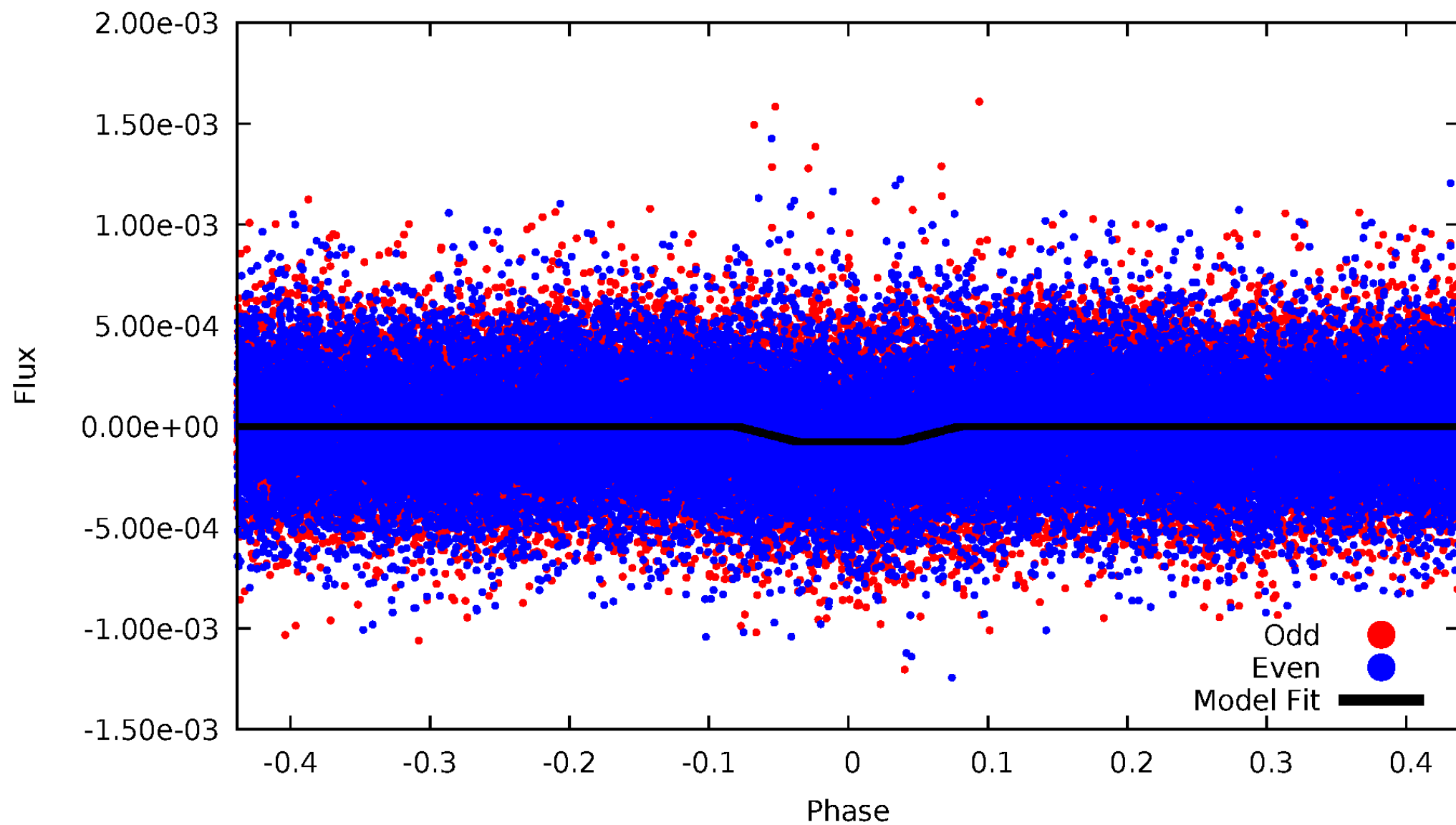
DV Odd/Even

TCE 005446009-01

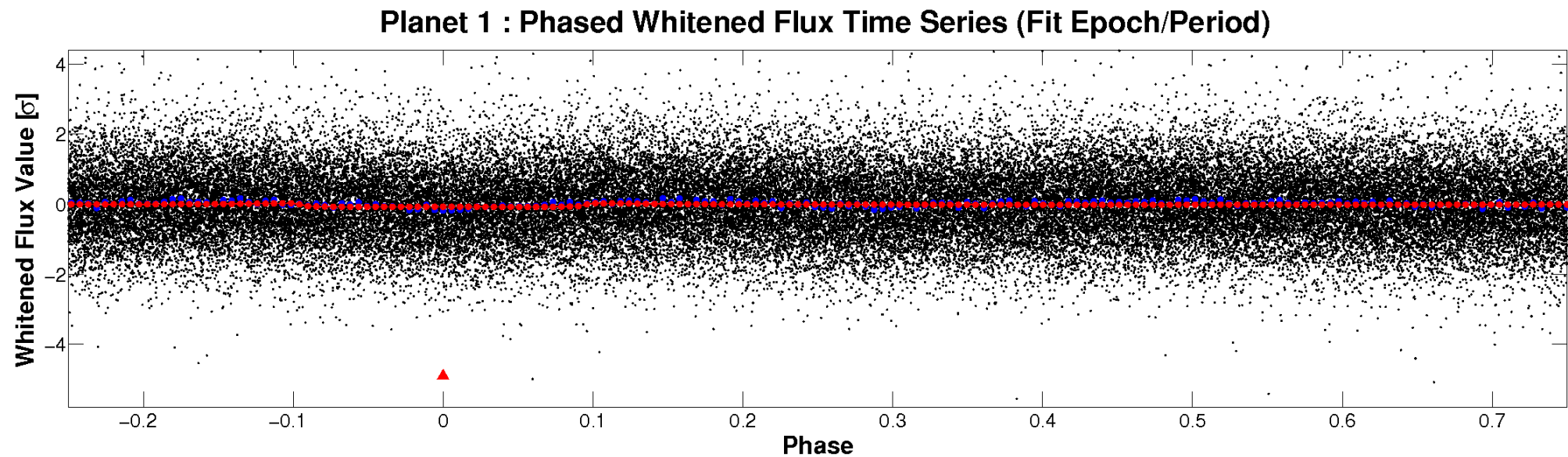
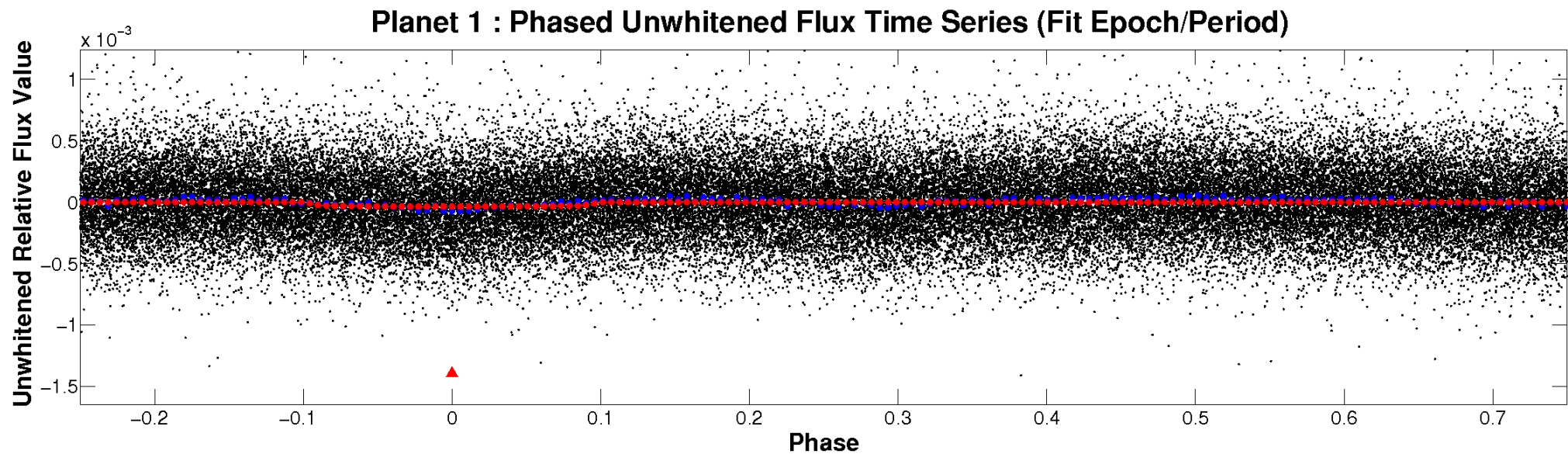


ALT Odd/Even

TCE 005446009-01

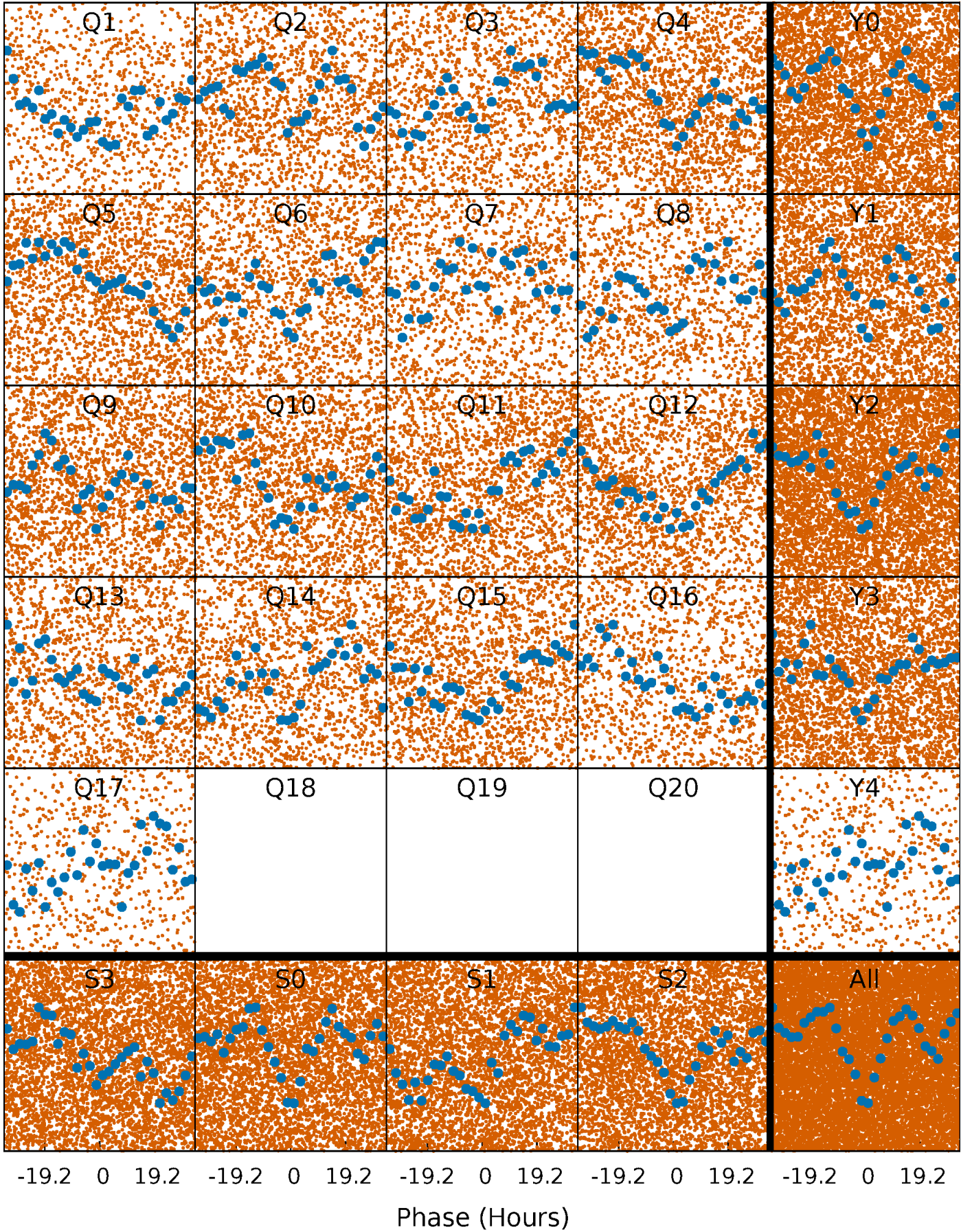


Non-Whitened Vs. Whitened Light Curve



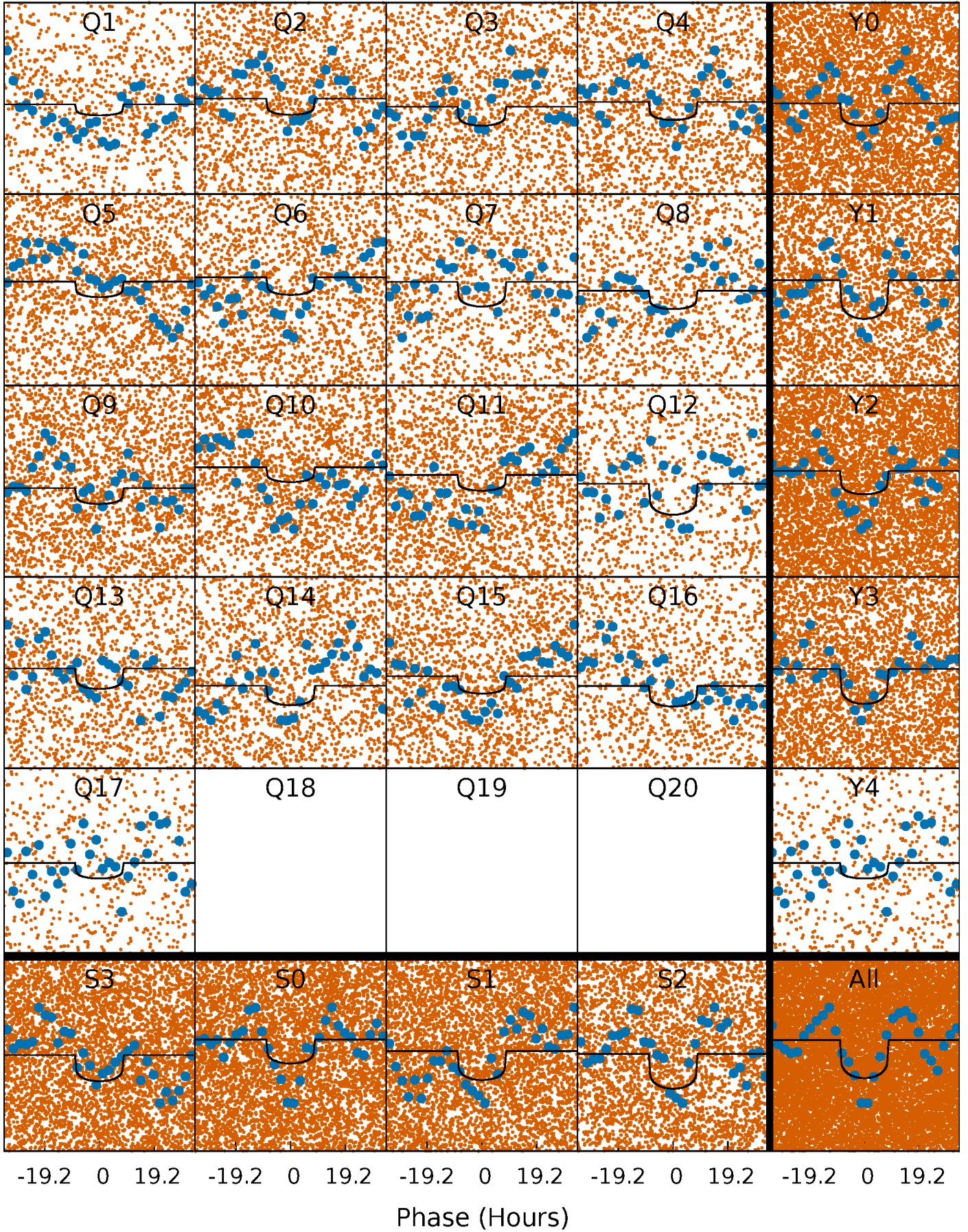
PDC Quarter-Phased Transit Curves

TCE 005446009-01 P= 3.624077 Days $T_0=135.038576$ (BKJD)



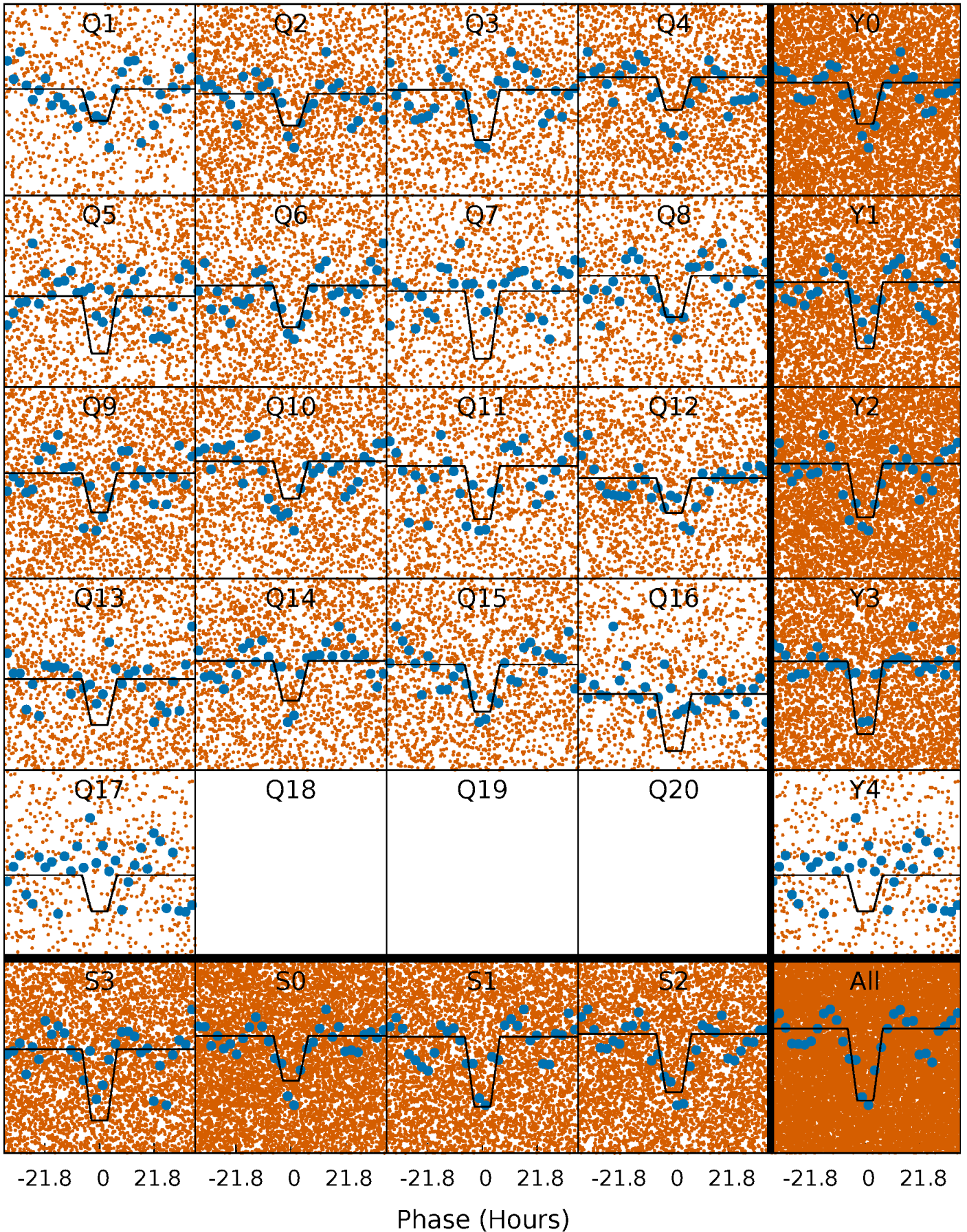
DV Quarter-Phased Transit Curves

TCE 005446009-01 P= 3.624077 Days $T_0=135.038576$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

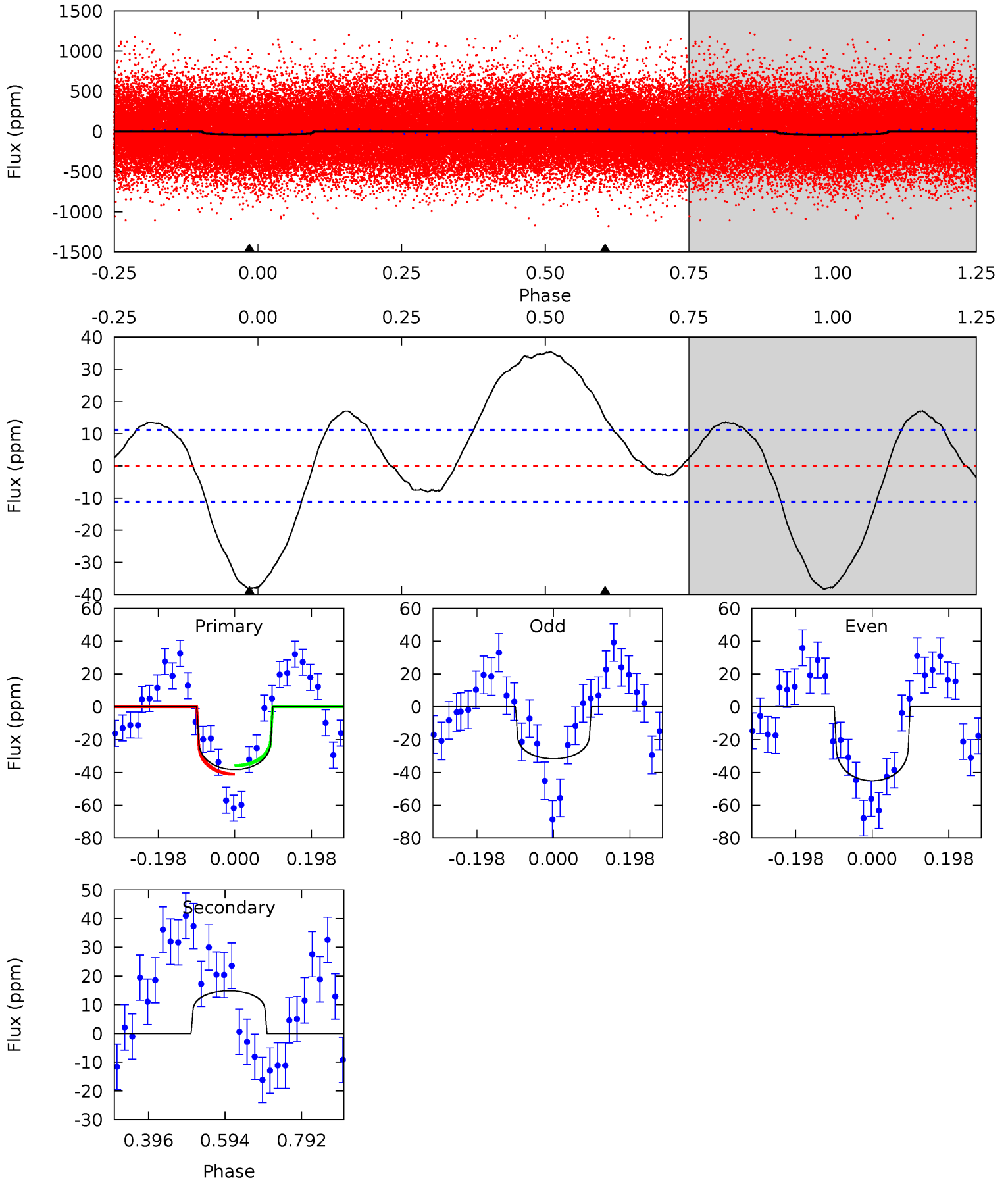
TCE 005446009-01 P= 3.623872 Days $T_0=135.063576$ (BKJD)



DV Model-Shift Uniqueness Test

005446009-01, P = 3.624077 Days, E = 131.414499 Days

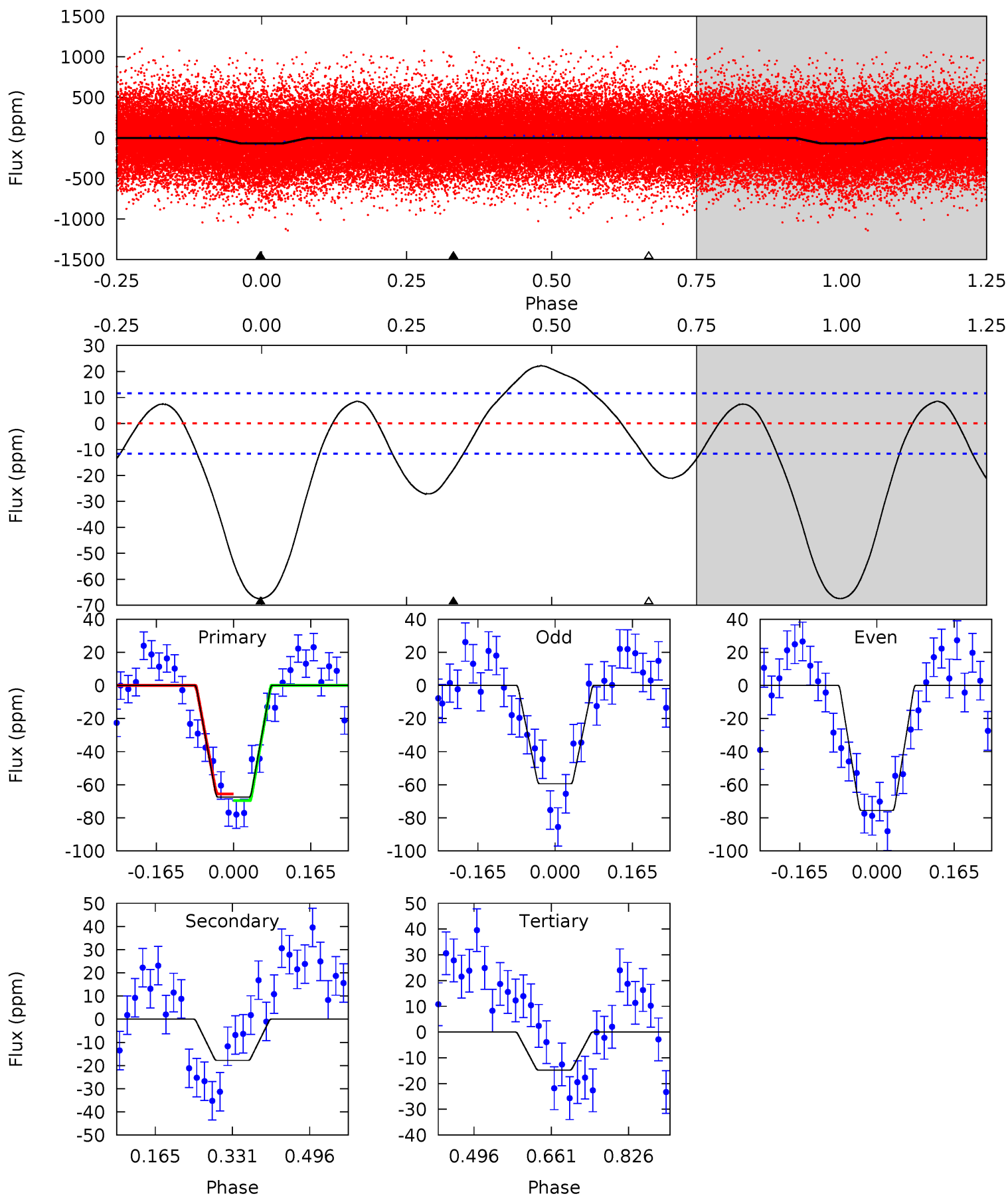
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	-5.89	0	0	4.42	1.29	3.45	15.2	15.2	-5.89	-5.89	2.66	1.01	0.48	1.01



Alt Model-Shift Uniqueness Test

005446009-01, P = 3.623872 Days, E = 131.439704 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.9	6.82	5.66	0	4.46	1.39	5.17	20.2	25.9	1.16	6.82	3.10	1.10	0.25	0.76



Stellar Parameters For KIC 005446009

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6602^{+161}_{-241}	$4.354^{+0.072}_{-0.180}$	$-0.060^{+0.250}_{-0.300}$	$1.223^{+0.350}_{-0.150}$	$1.240^{+0.176}_{-0.176}$	$0.954^{+0.315}_{-0.465}$
	+2%/-4%	+2%/-4%	+417%/-500%	+29%/-12%	+14%/-14%	+33%/-49%
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 005446009-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	15 ± 3	$0.81^{+0.51}_{-0.46}$	2054^{+138}_{-104}	-5410^{+1011}_{-2965}	$-30.514^{+19.417}_{-126.711}$
Alt.	-18 ± 3	$1.24^{+0.51}_{-0.53}$	2041^{+127}_{-99}	4629^{+1315}_{-573}	16^{+33}_{-8}

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

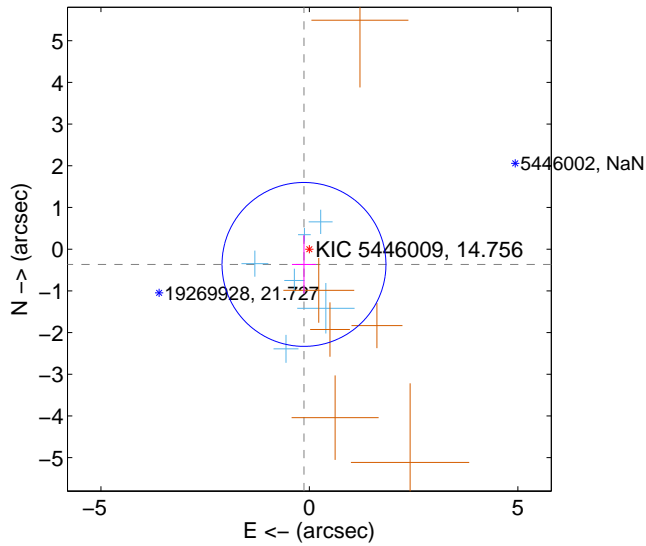
Supplemental centroid analysis for 005446009-01. Kepler magnitude: 14.76. Transit SNR 7.76

There are 6 quarters with good PRF difference image offsets

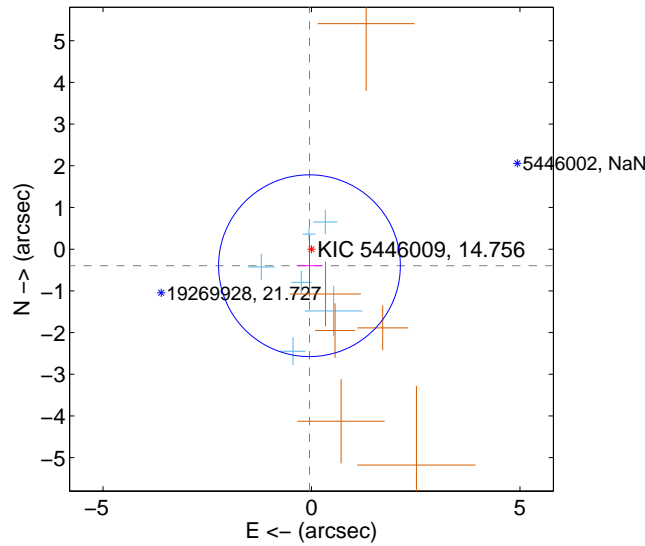
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.388 ± 0.655	0.59	0.130 ± 0.287	-0.366 ± 0.701
PRF-fit source offset from KIC position	0.400 ± 0.726	0.55	0.049 ± 0.306	-0.397 ± 0.741
photometric centroid source offset	1.45 ± 1.13	1.28	-0.61 ± 1.12	-1.31 ± 1.13

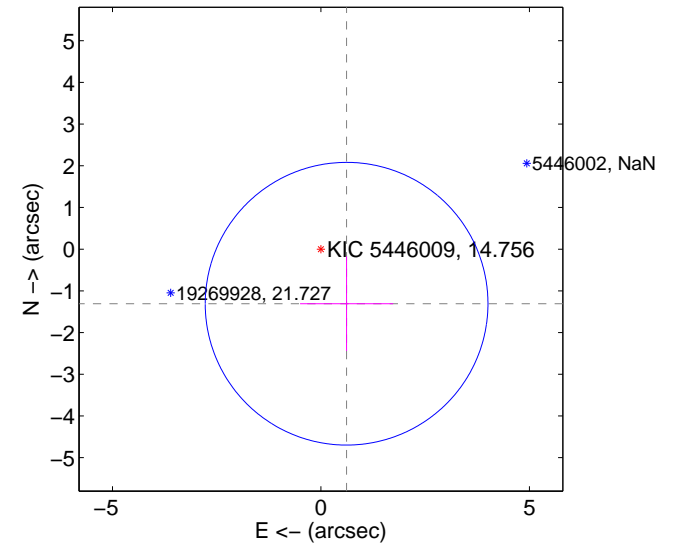
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

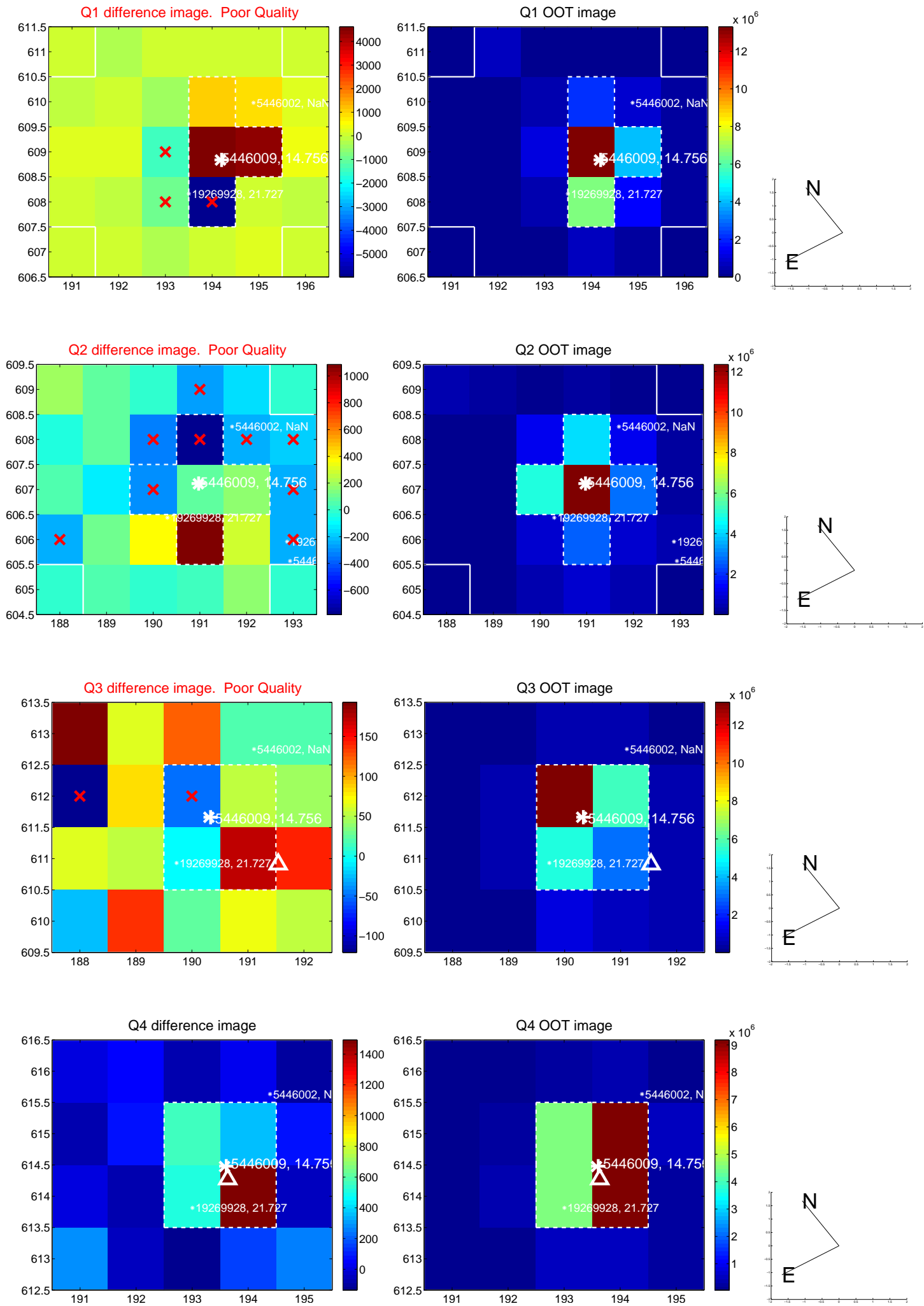


offset from photometric centroids

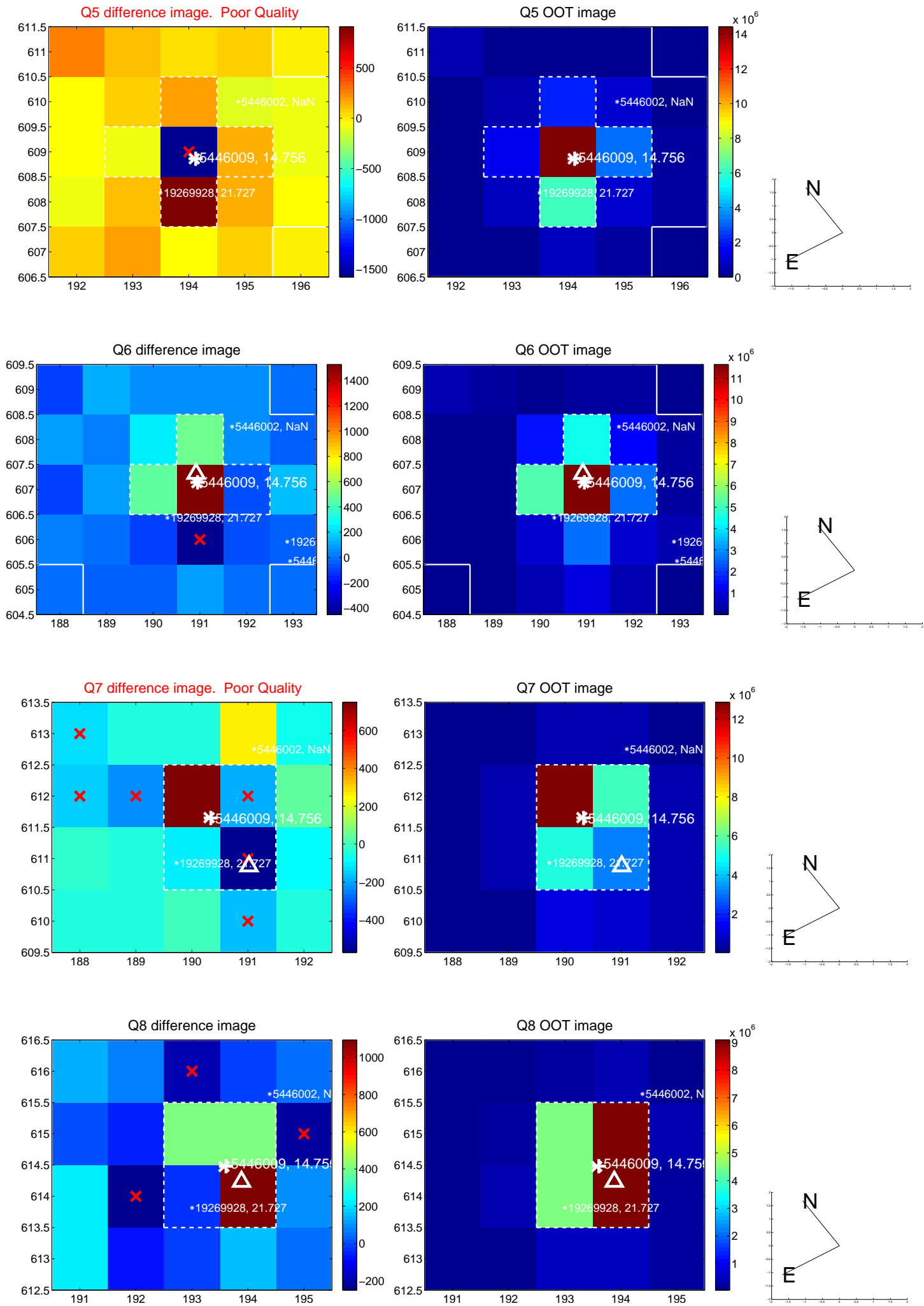


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

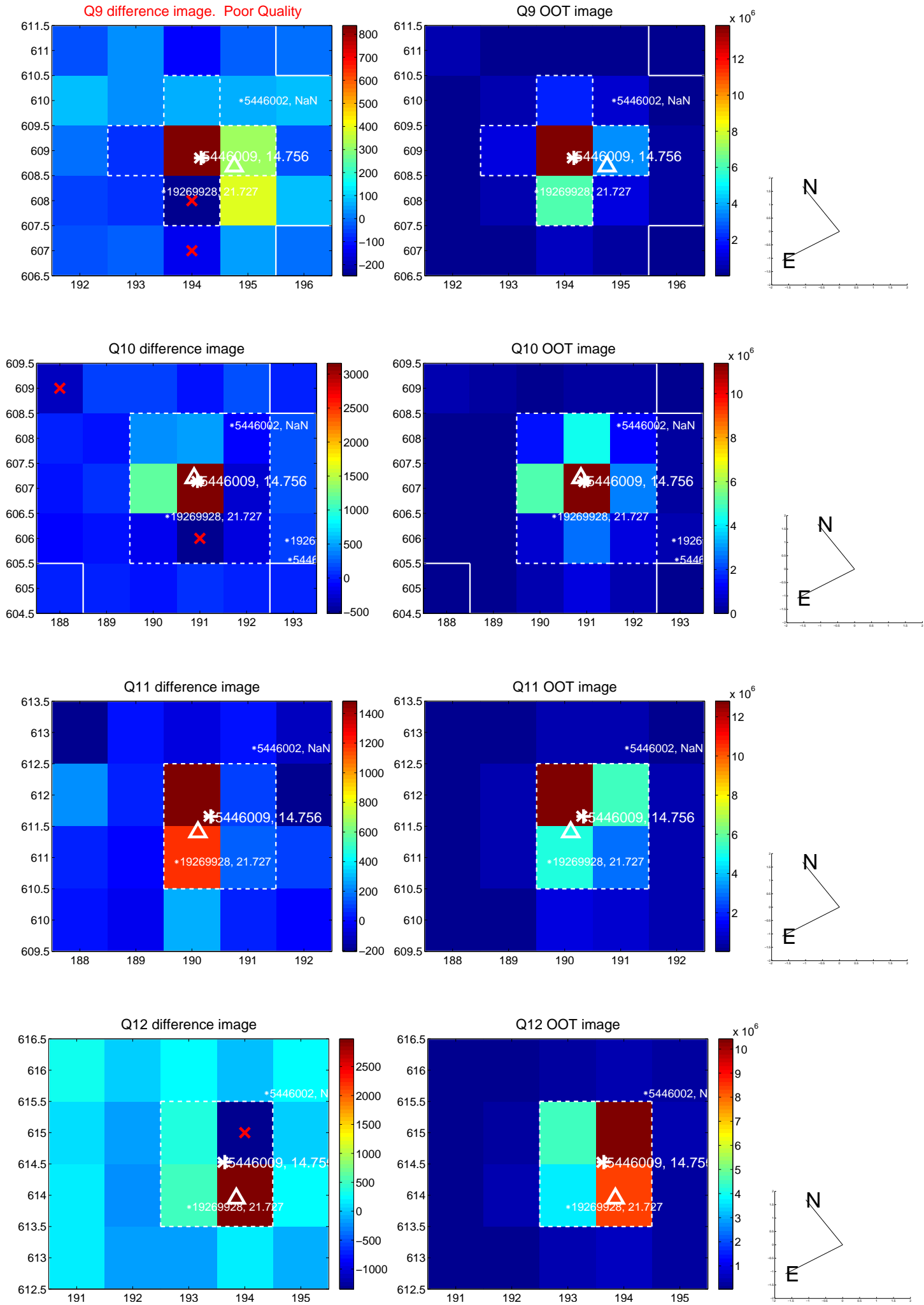
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



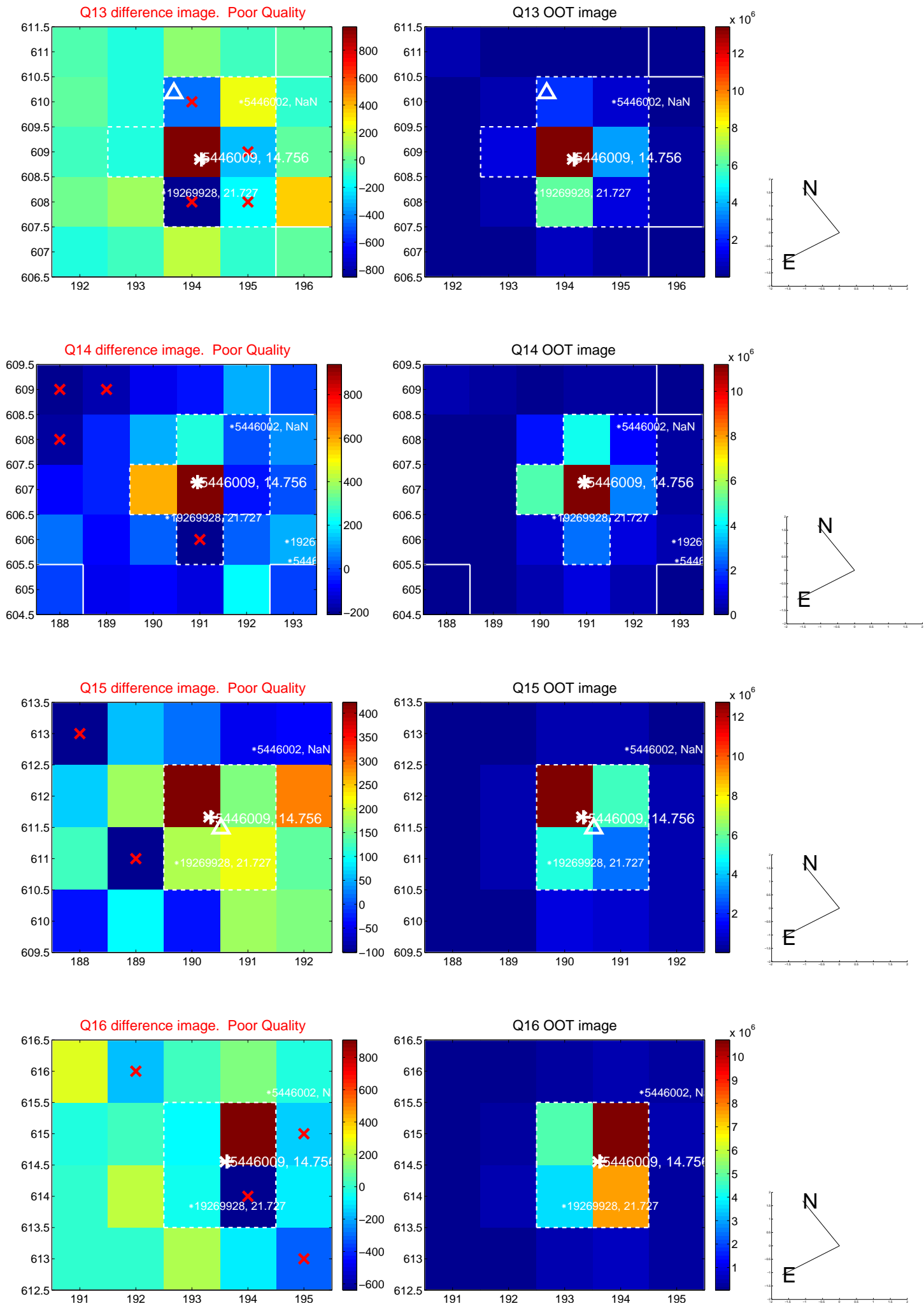
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



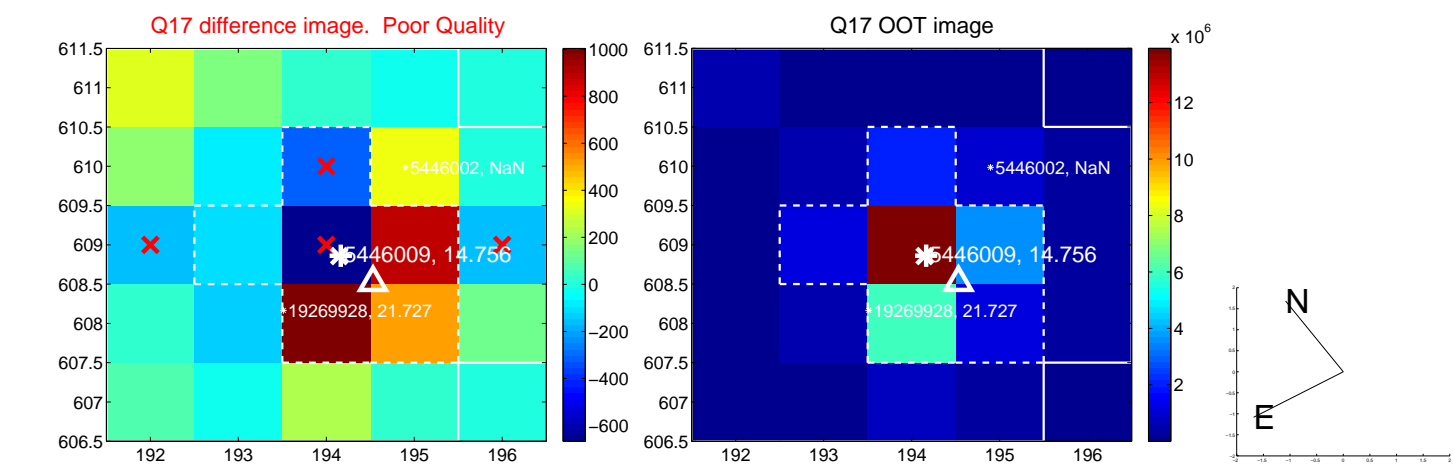
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



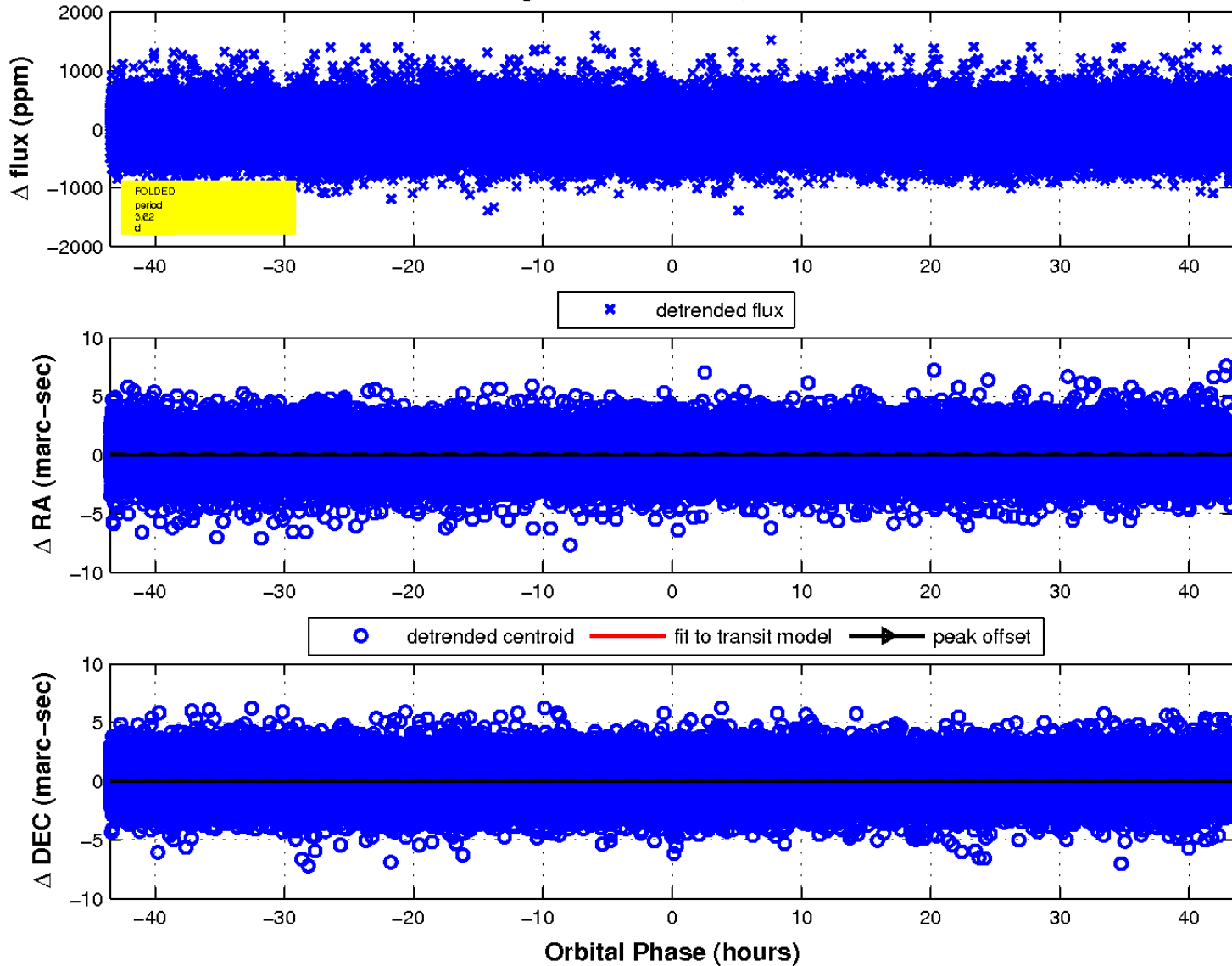
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

