

KIC 004588115

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})
004588115-01	OBS	No	4.659917	132.064933	370.2	22.062	9.4	16.4	1.40	6084	3.34	766.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004588115-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

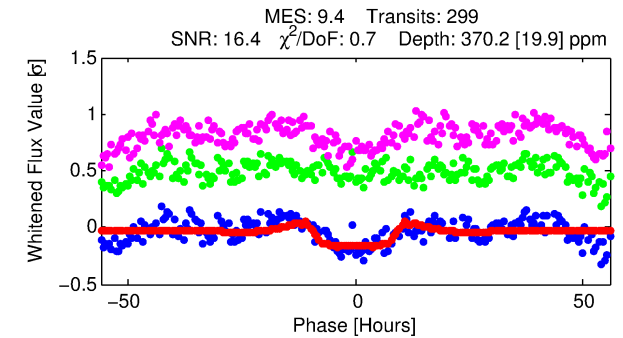
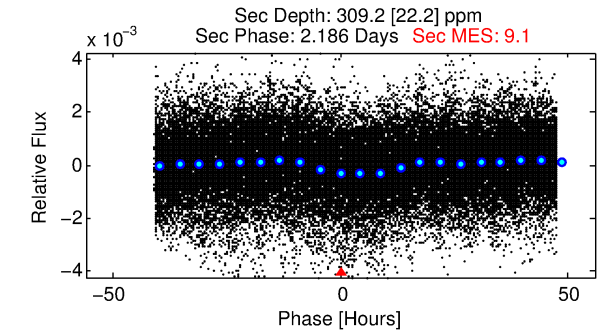
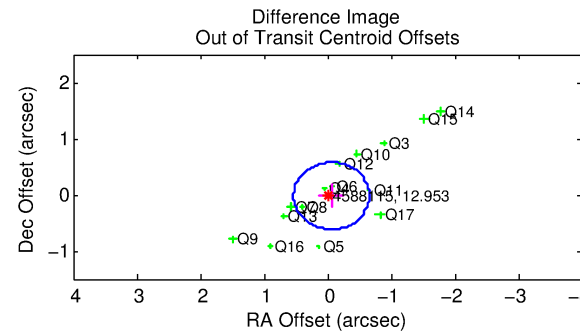
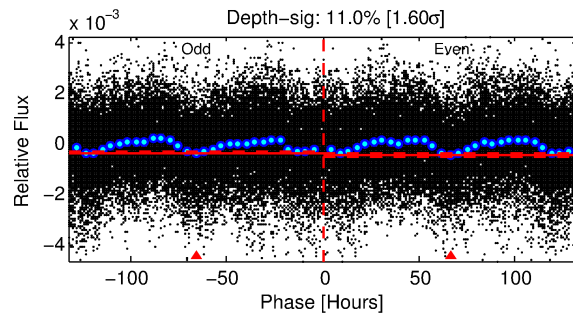
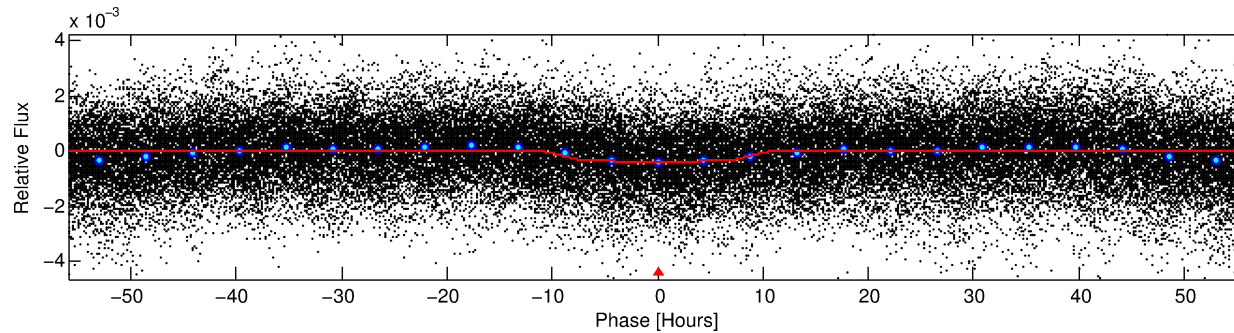
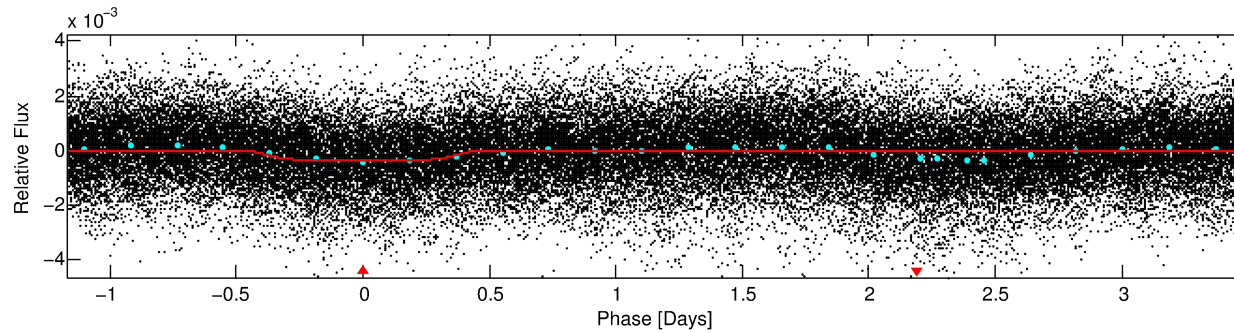
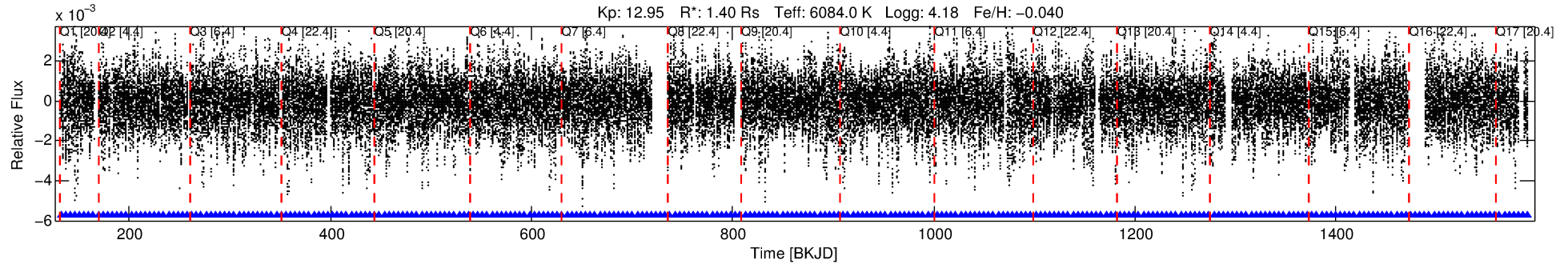
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004588115-01

No Significant Match Found

DV One-Page Summary

KIC: 4588115 Candidate: 1 of 1 Period: 4.660 d



DV Fit Results:

Period = 4.65992 [0.00009] d
Epoch = 132.0649 [0.0154] BKJD
Rp/R* = 0.0218 [0.0006]
a/R* = 1.16 [0.02]
b = 0.94 [0.01]
Seff = 766.88 [315.64]
Teq = 1342 [138] K
Rp = 3.34 [1.02] Re
a = 0.0562 [0.0148] AU
Ag = 48.13 [19.46] [2.42 σ]
Teffp = 5465 [209] K [16.47 σ]

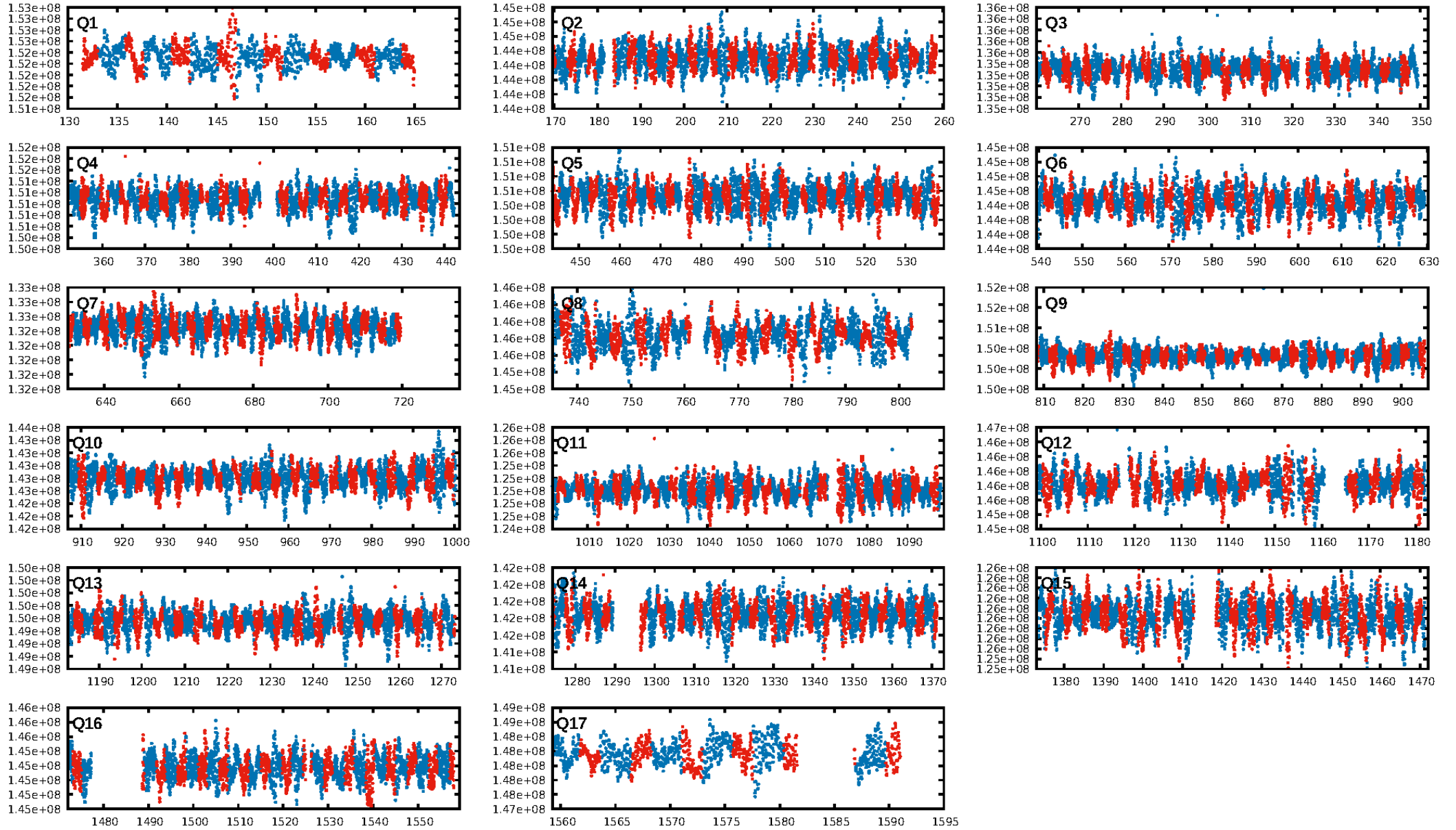
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.55e-19
RollingBand-fgt: 1.00 [285/285]
GhostDiagnostic-chr: 1.198
Centroid-sig: 0.0%
Centroid-so: 0.022 arcsec [0.30 σ]
OotOffset-rm: 0.064 arcsec [0.32 σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-rm: 0.023 arcsec [0.13 σ]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [17/17]

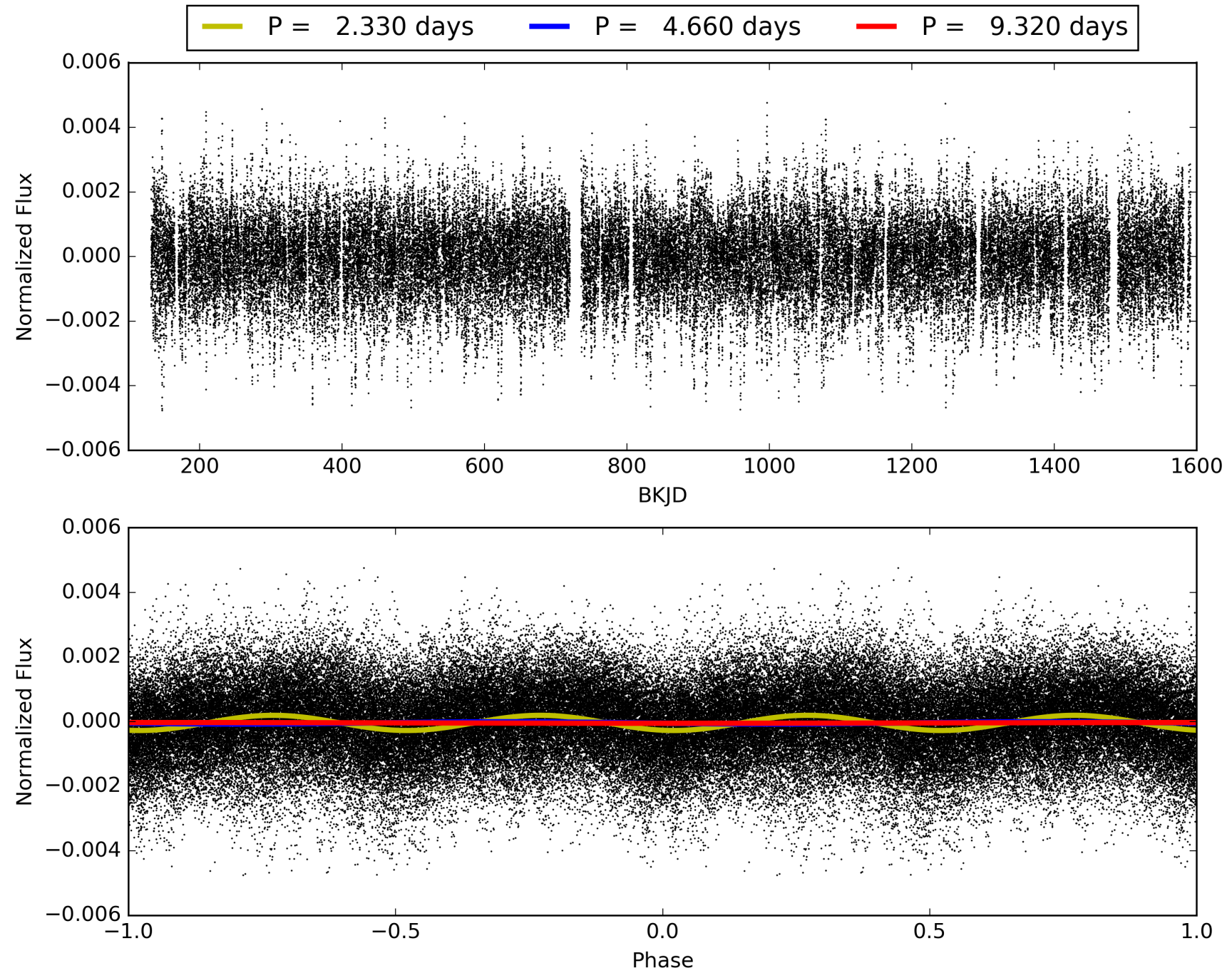
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:04:32 Z

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

TCE 004588115-01, PDC Light Curves

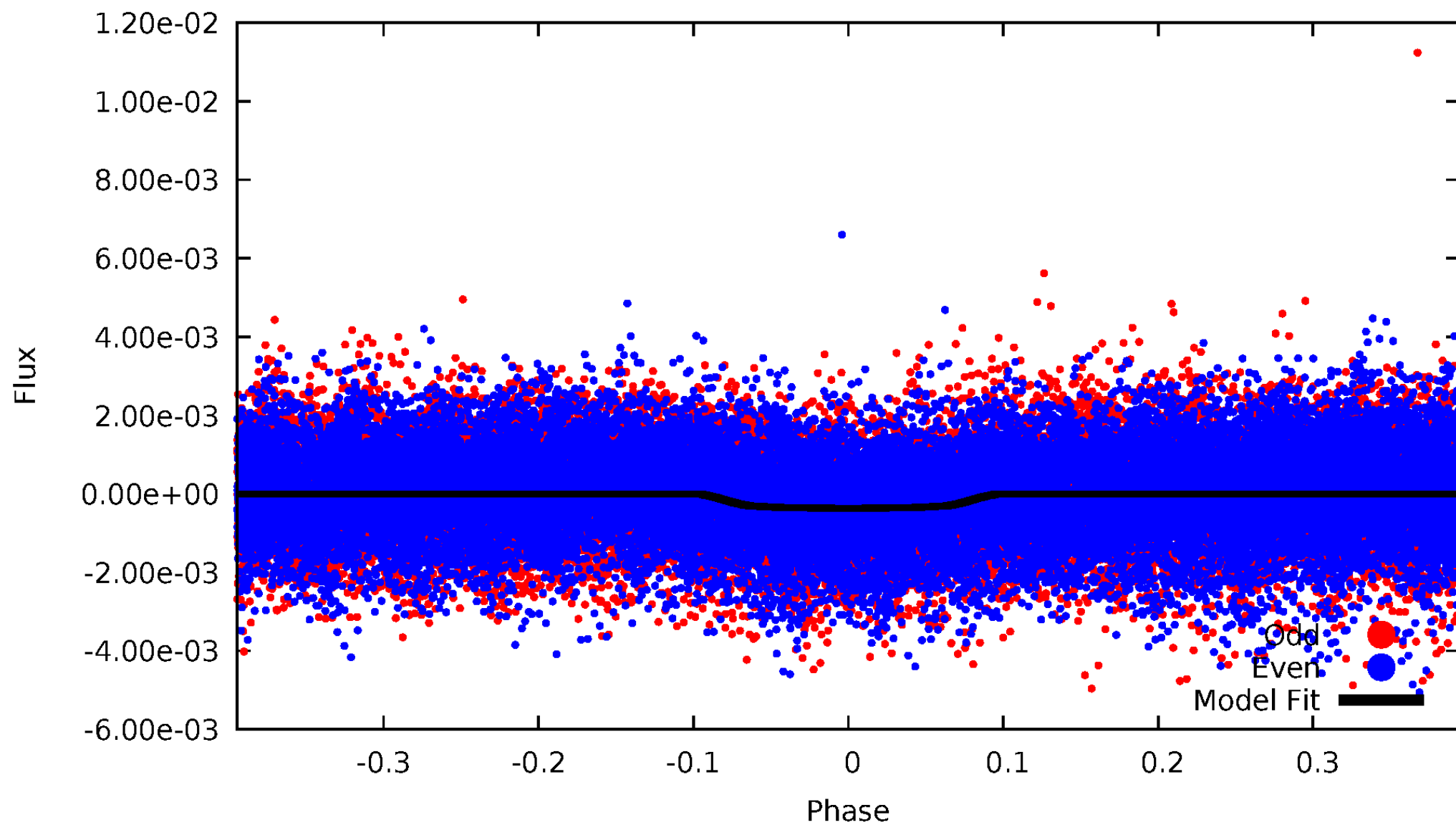


TCE 004588115-01



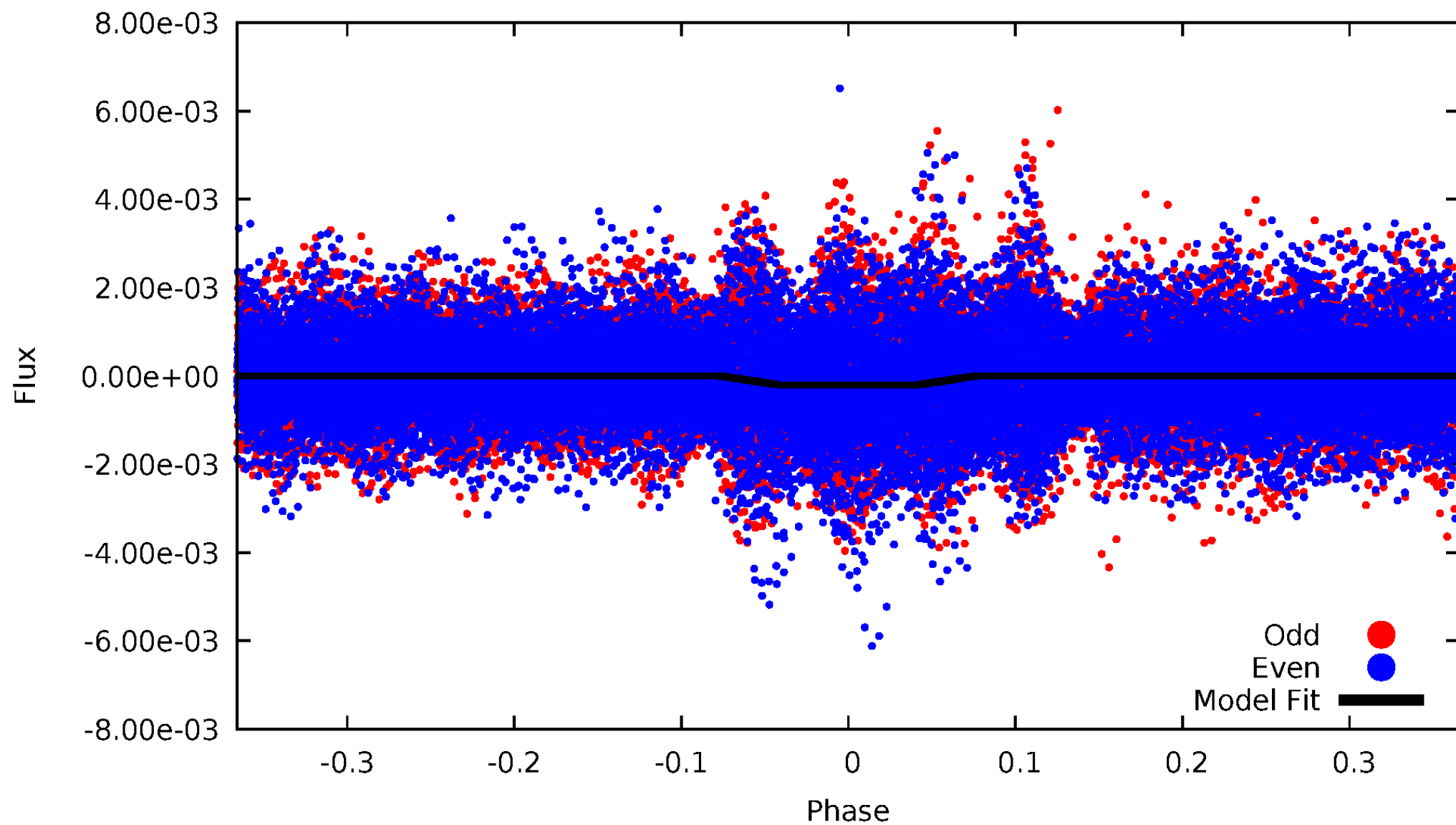
DV Odd/Even

TCE 004588115-01

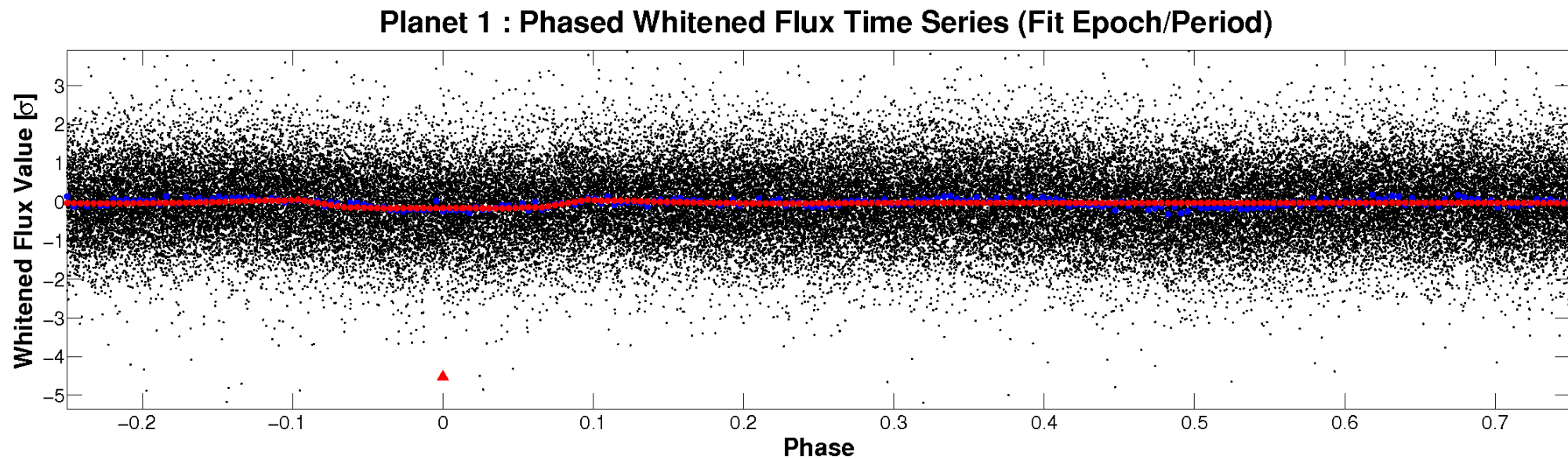
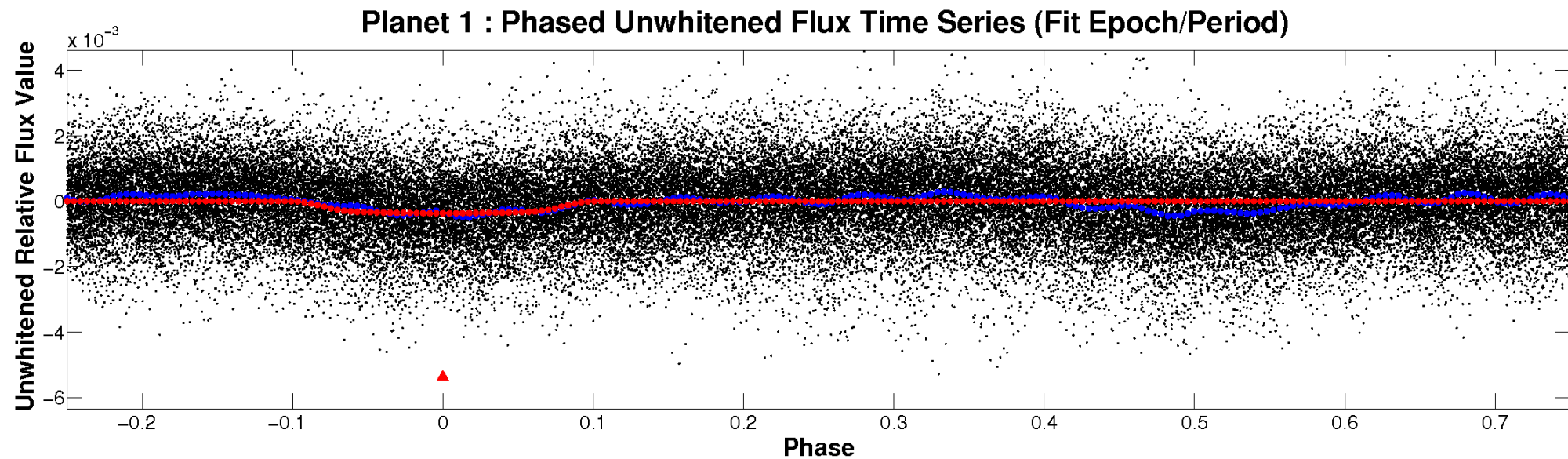


ALT Odd/Even

TCE 004588115-01

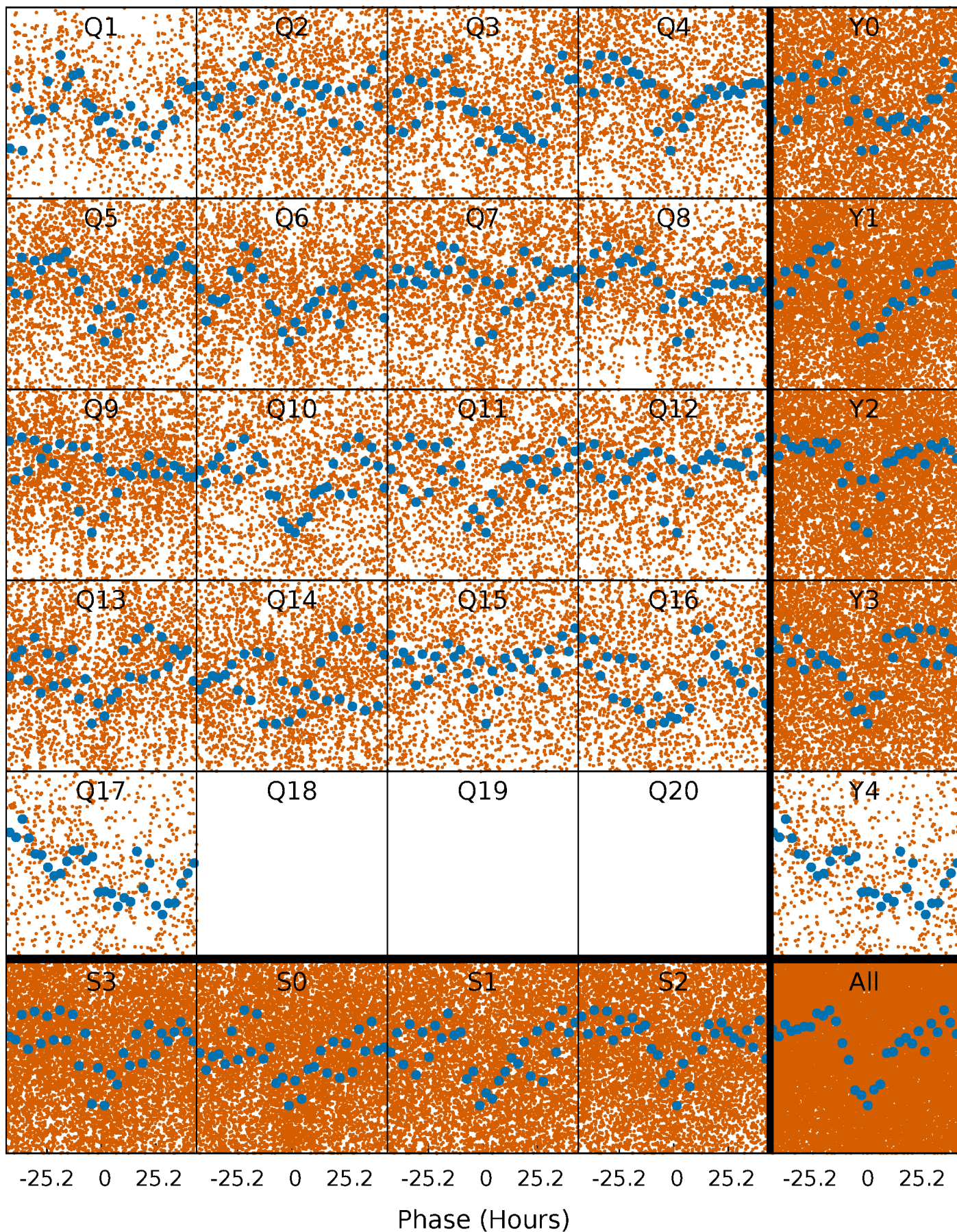


Non-Whitened Vs. Whitened Light Curve



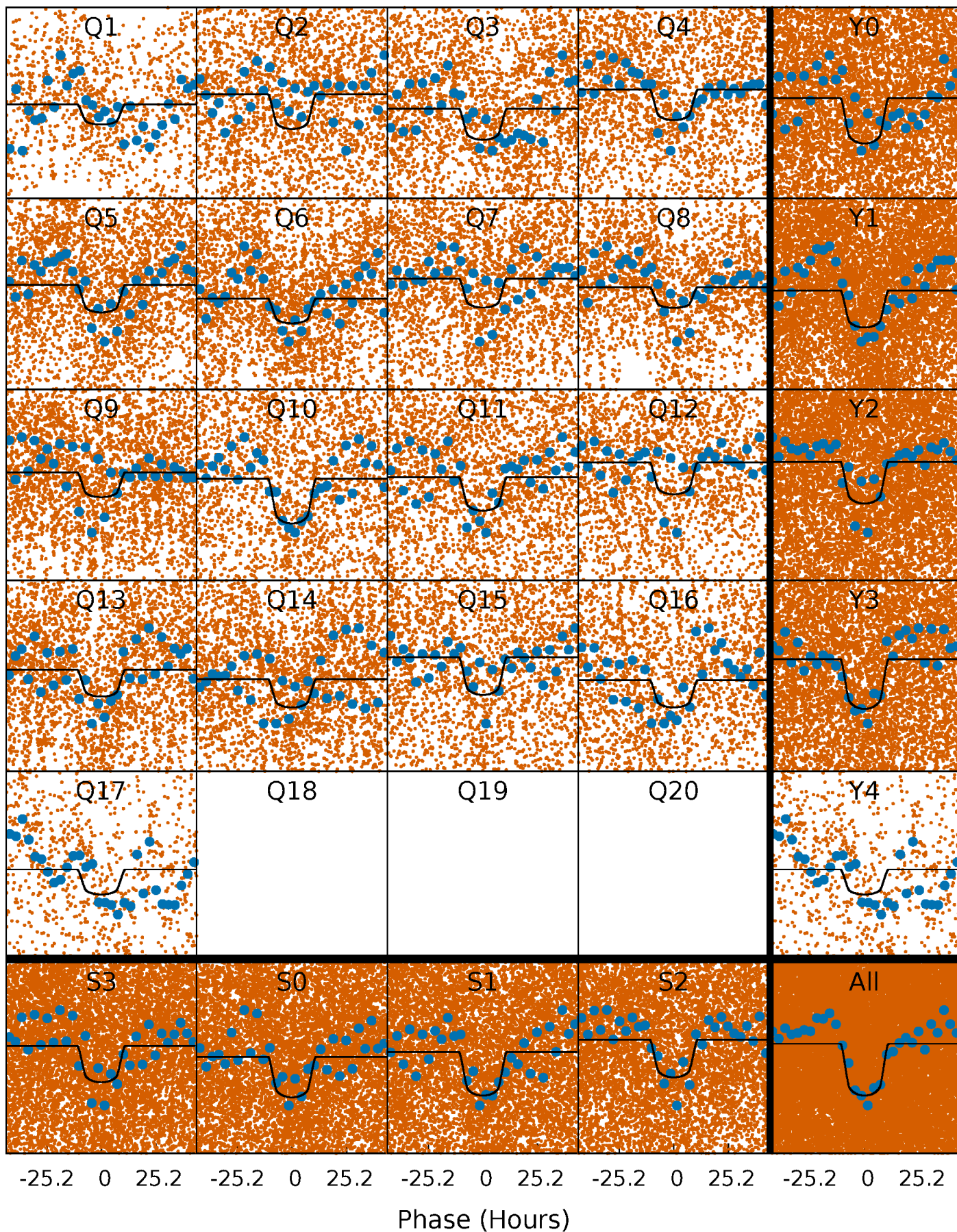
PDC Quarter-Phased Transit Curves

TCE 004588115-01 P= 4.659917 Days $T_0=132.064933$ (BKJD)



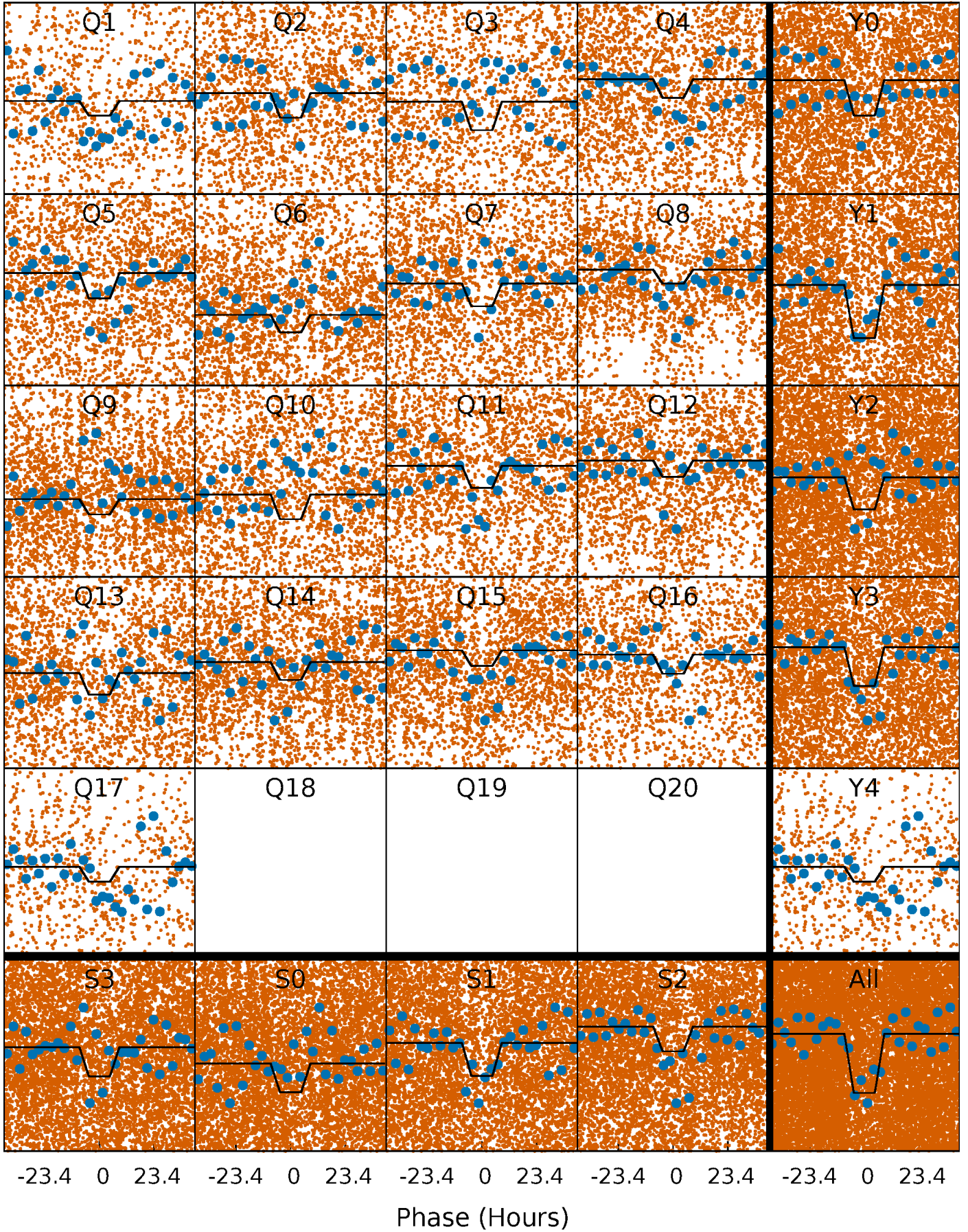
DV Quarter-Phased Transit Curves

TCE 004588115-01 P= 4.659917 Days $T_0=132.064933$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

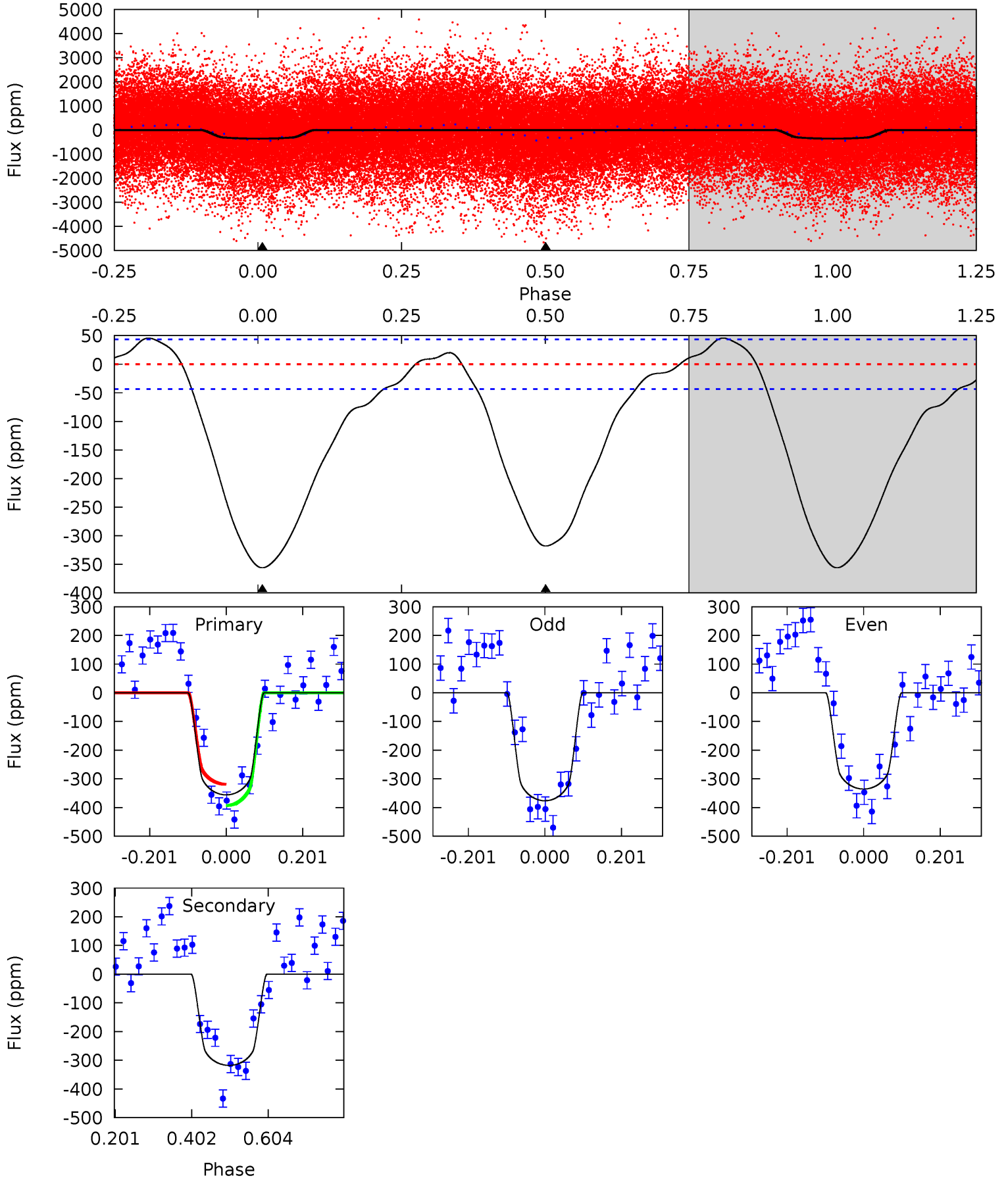
TCE 004588115-01 P= 4.659916 Days $T_0=132.069559$ (BKJD)



DV Model-Shift Uniqueness Test

004588115-01, P = 4.659917 Days, E = 127.405016 Days

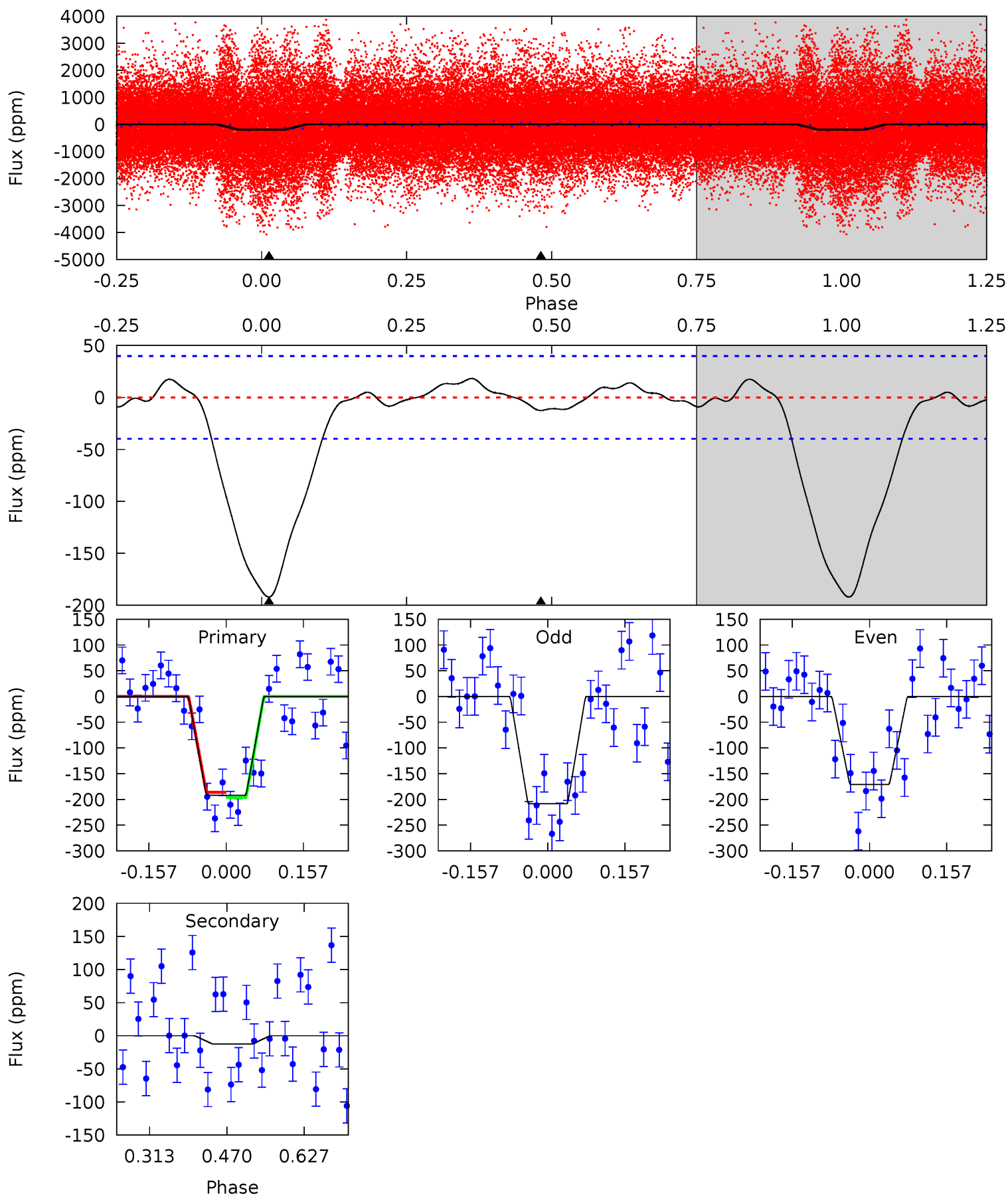
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.2	32.3	0	0	4.42	1.28	2.53	36.2	36.2	32.3	32.3	2.08	1.34	0.11	3.76



Alt Model-Shift Uniqueness Test

004588115-01, P = 4.659916 Days, E = 127.409643 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	1.41	0	0	4.47	1.42	0.79	21.5	21.5	1.41	1.41	2.10	1.44	0.09	0.56



Stellar Parameters For KIC 004588115

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6084^{+165}_{-184}	$4.180^{+0.220}_{-0.180}$	$-0.040^{+0.250}_{-0.300}$	$1.404^{+0.425}_{-0.348}$	$1.089^{+0.166}_{-0.151}$	$0.554^{+0.704}_{-0.273}$
	+3%/-3%	+5%/-4%	+625%/-750%	+30%/-25%	+15%/-14%	+127%/-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 004588115-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-318 ± 10	$3.35^{+0.57}_{-0.49}$	1868^{+165}_{-129}	5518^{+176}_{-181}	49^{+16}_{-12}
Alt.	-13 ± 9	$2.20^{+0.39}_{-0.30}$	1876^{+143}_{-137}	3463^{+335}_{-601}	$4.508^{+3.732}_{-3.157}$

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

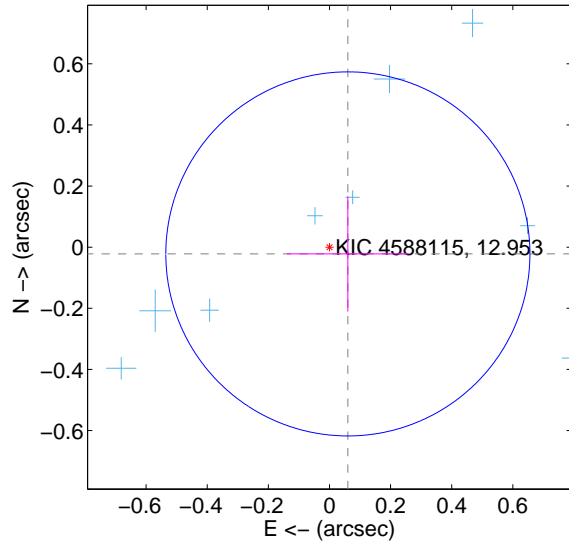
Supplemental centroid analysis for 004588115-01. Kepler magnitude: 12.95. Transit SNR 16.37

There are 15 quarters with good PRF difference image offsets

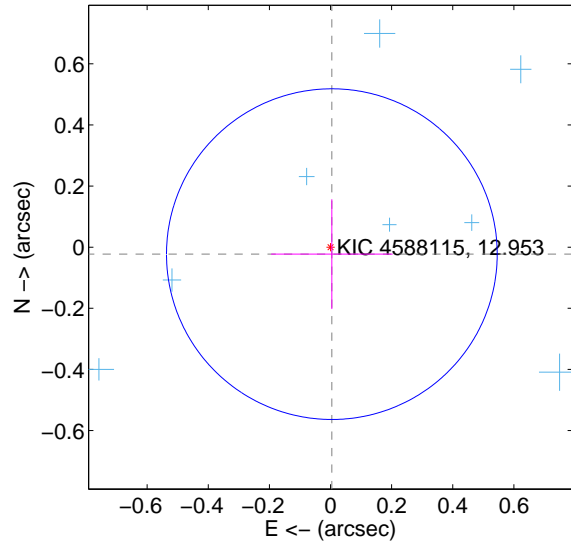
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.064 ± 0.199	0.32	-0.060 ± 0.200	-0.022 ± 0.189
PRF-fit source offset from KIC position	0.023 ± 0.180	0.13	-0.004 ± 0.199	-0.023 ± 0.180
photometric centroid source offset	0.02 ± 0.07	0.30	-0.02 ± 0.07	0.01 ± 0.08

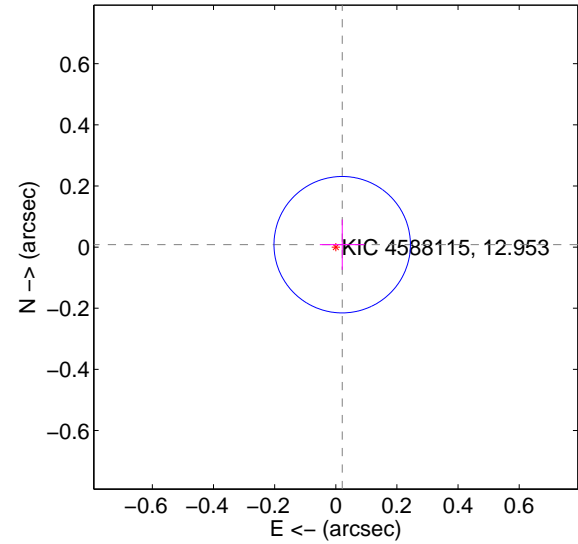
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

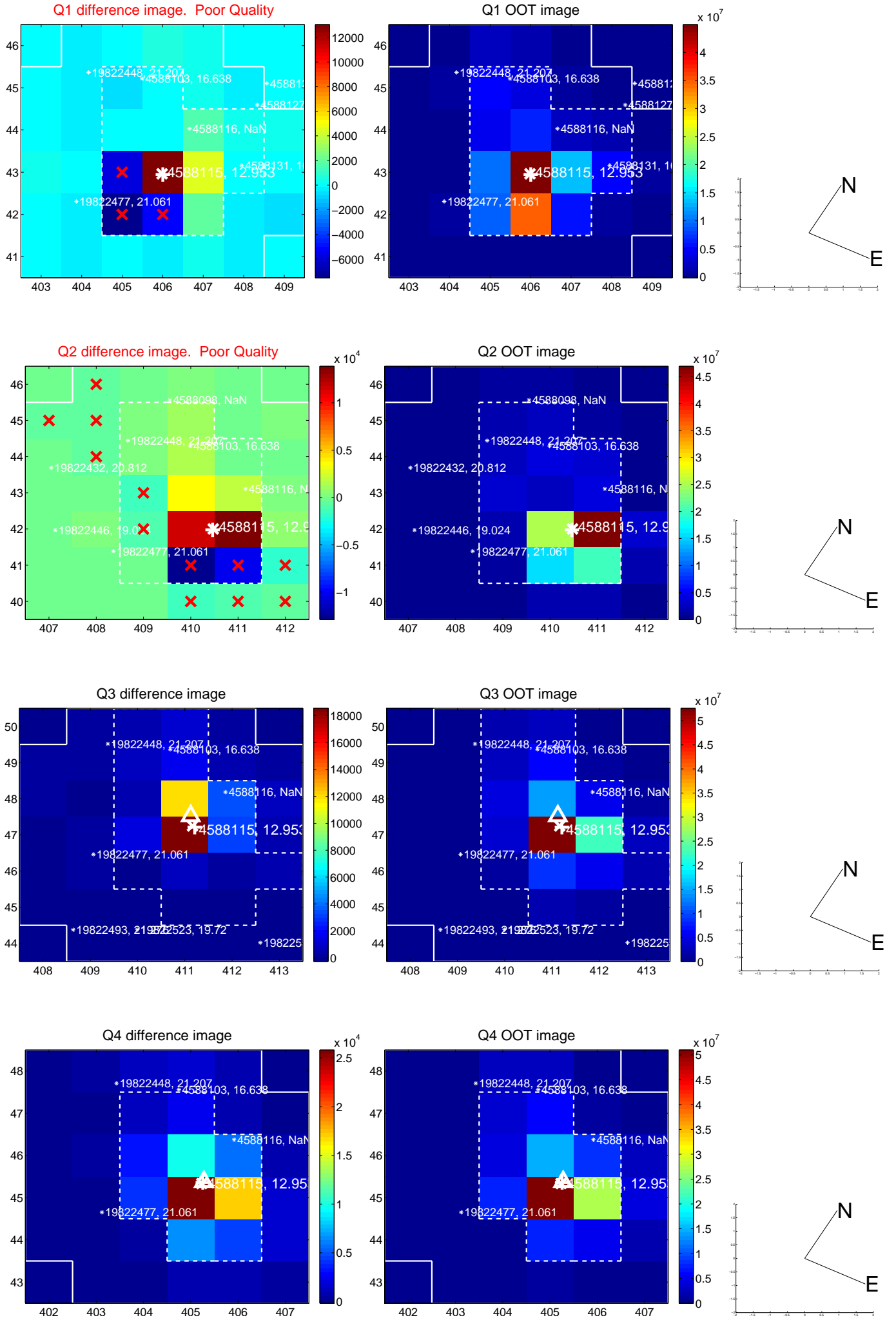


offset from photometric centroids

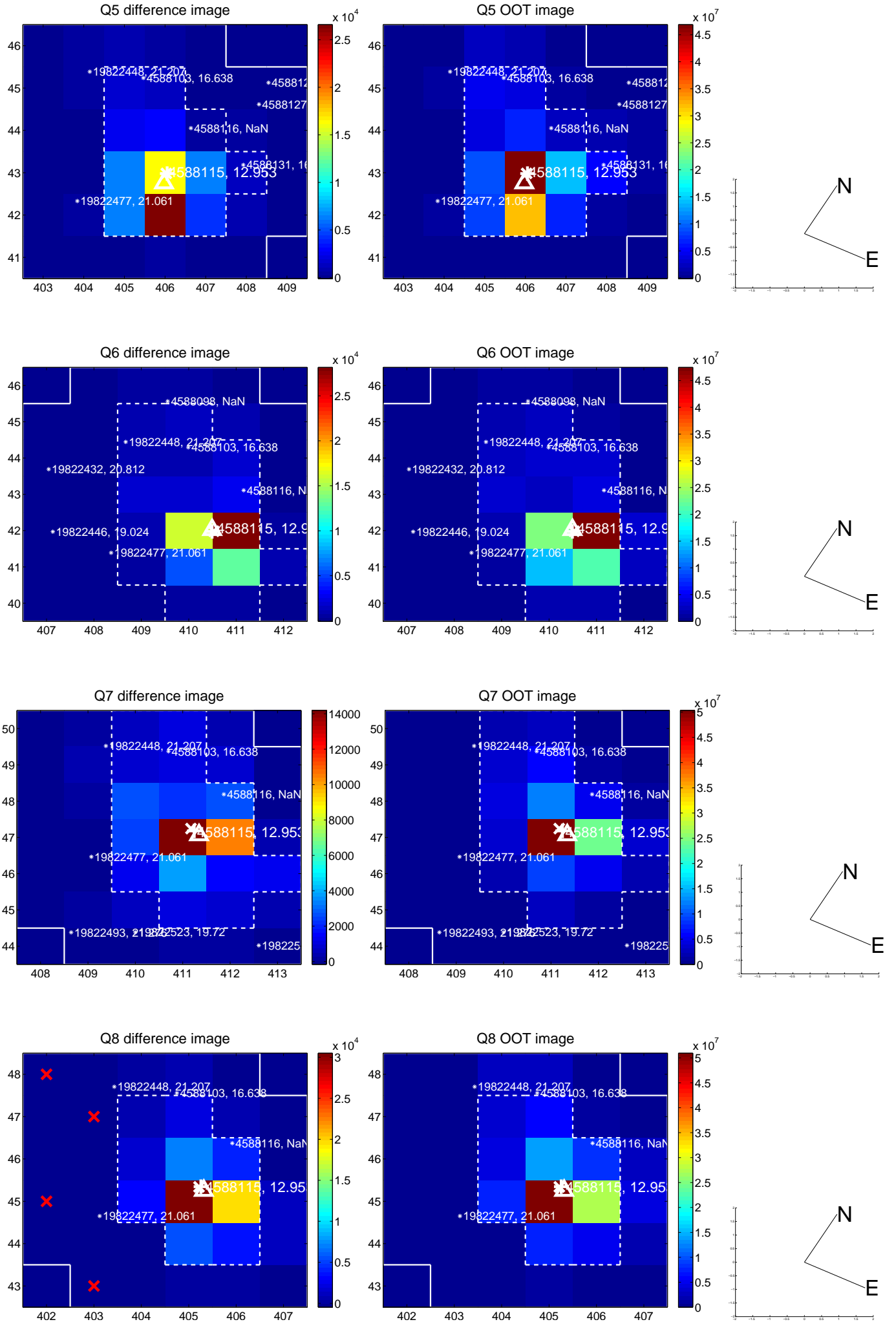


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

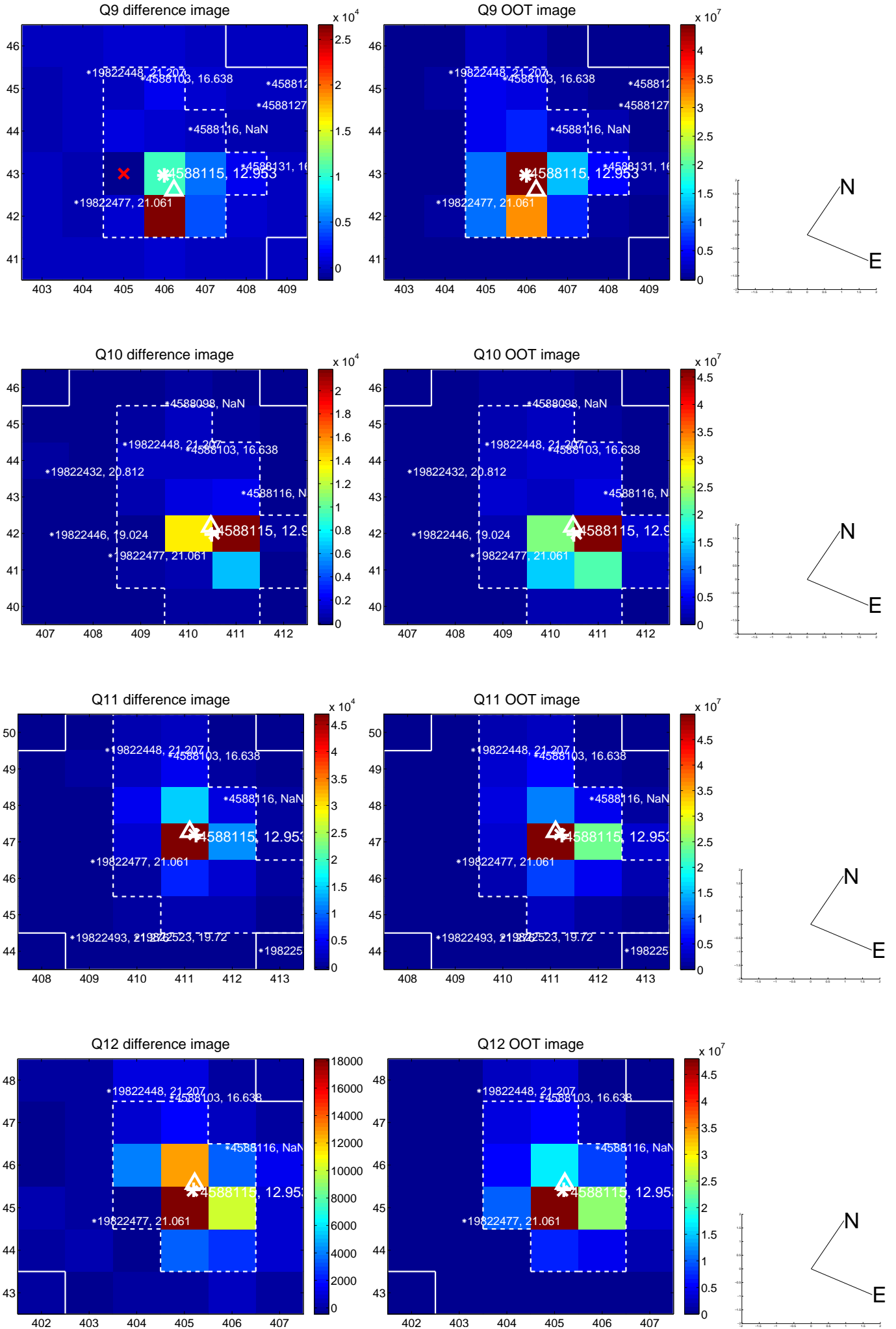
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



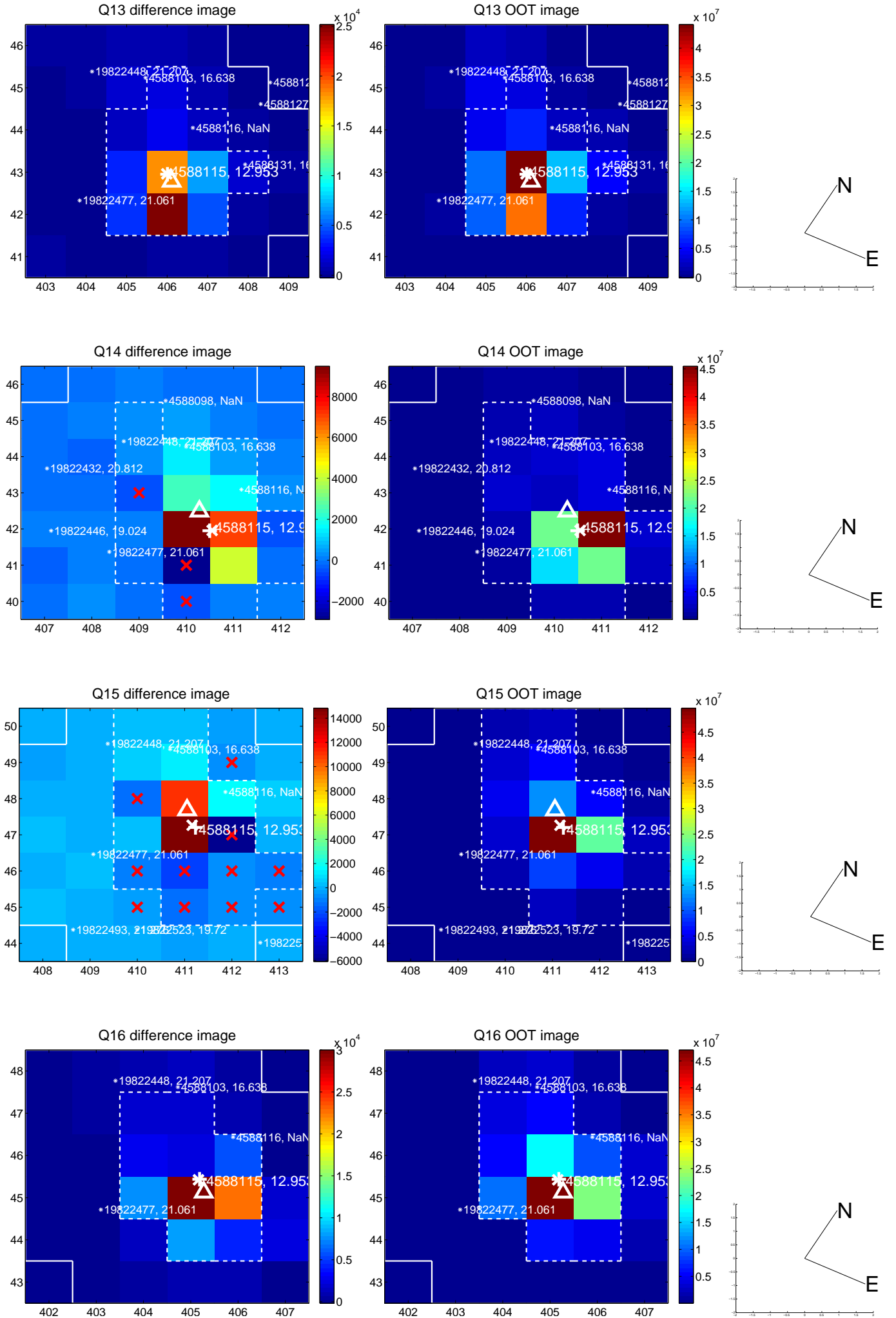
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



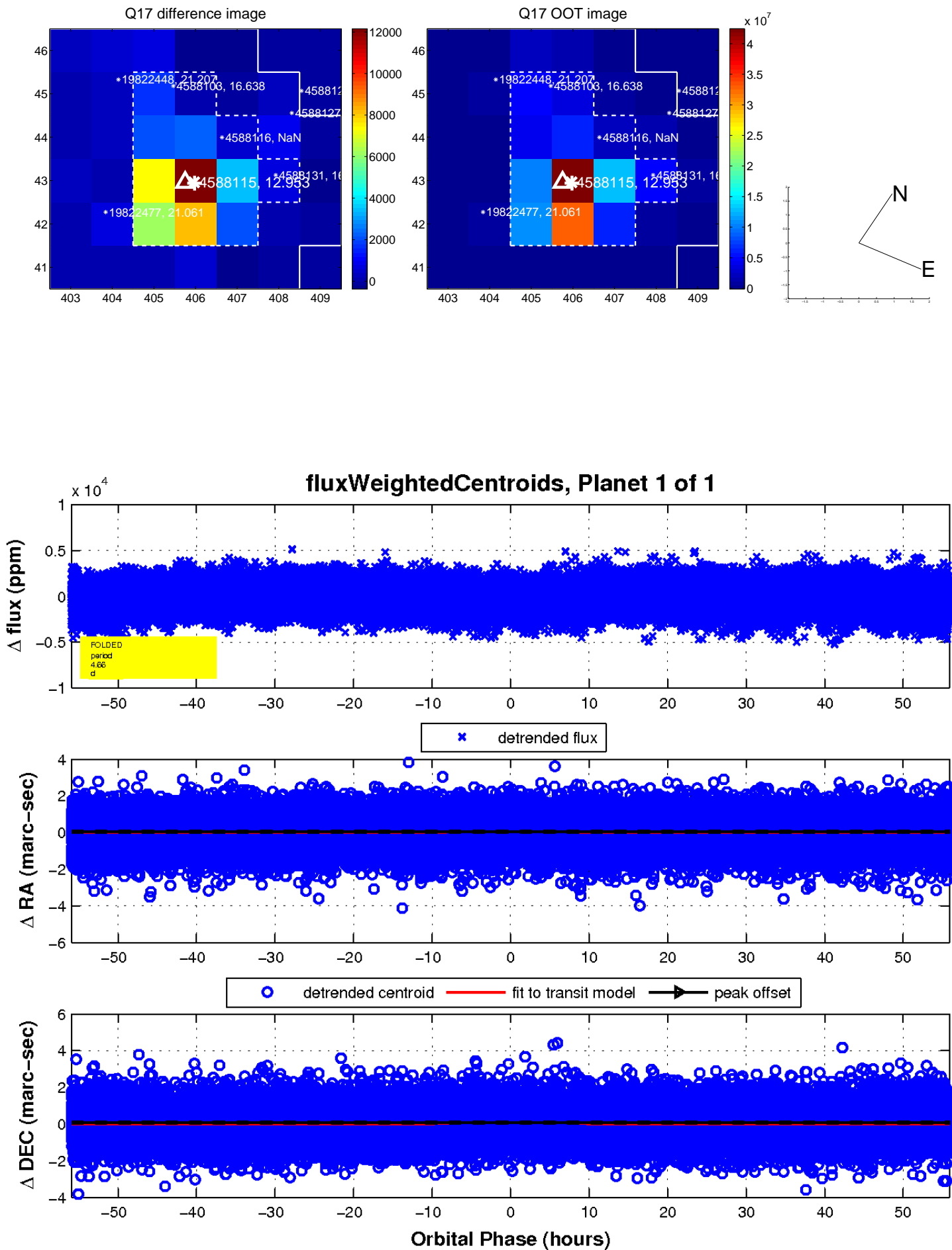
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

