

KIC 005709889

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})
005709889-01	OBS	2783.01	0.526891	131.865439	106.8	0.948	14.1	19.6	0.52	3945	0.67	556.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005709889-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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 005709889-01

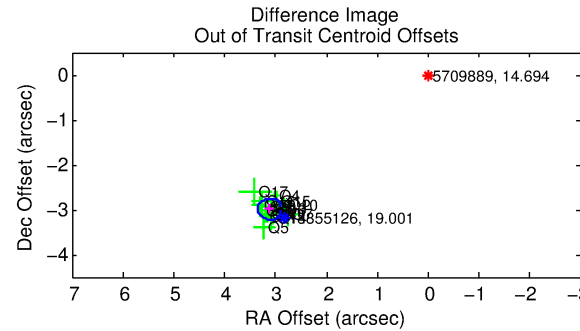
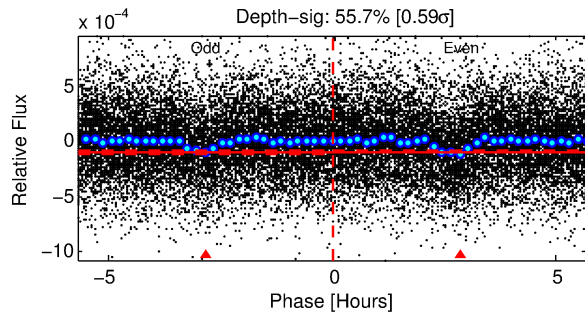
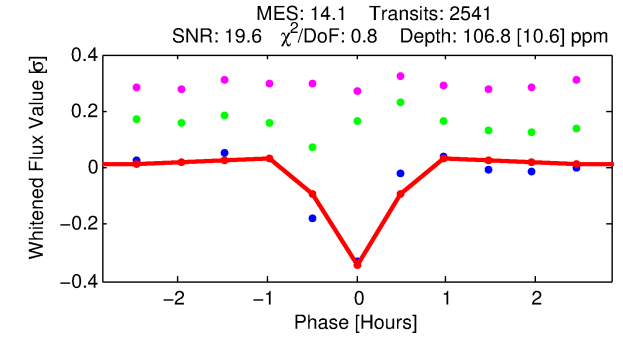
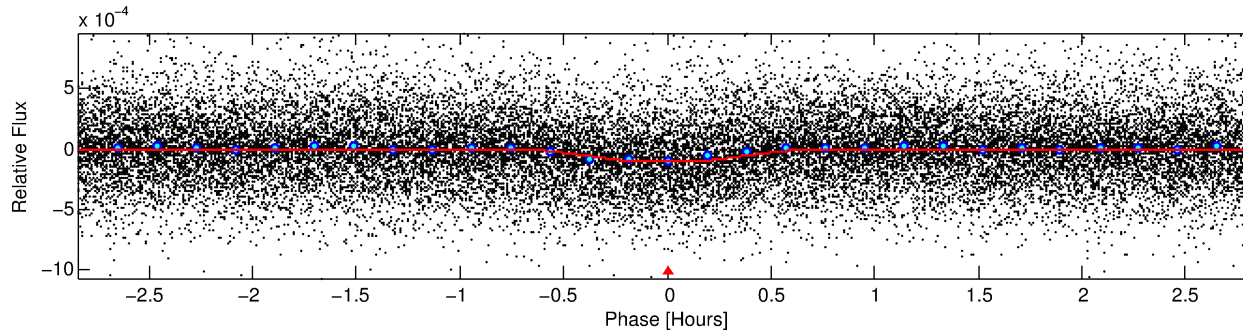
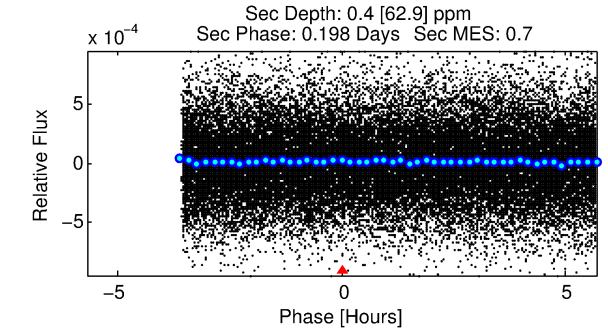
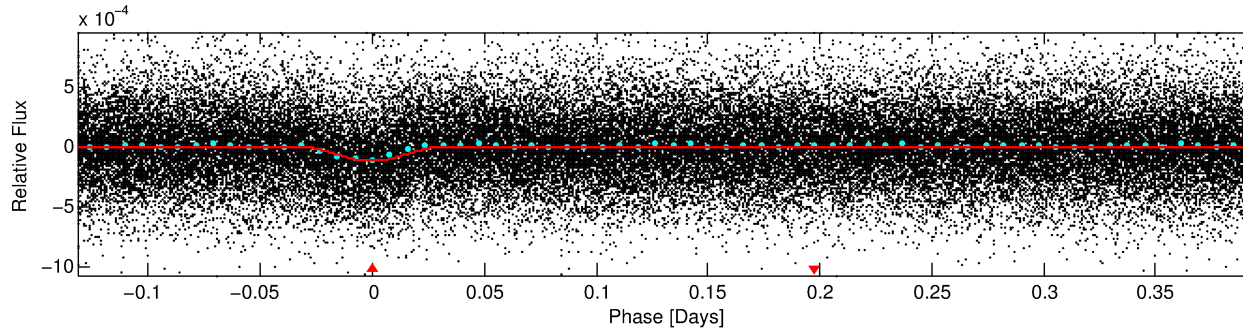
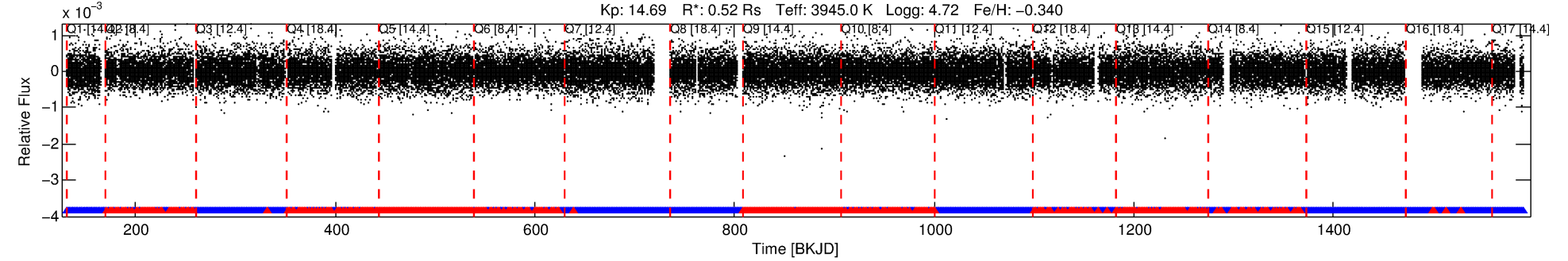
No Significant Match Found

DV One-Page Summary

KIC: 5709889 Candidate: 1 of 1 Period: 0.527 d

KOI: K02783.01 Corr: 0.886

Kp: 14.69 R*: 0.52 Rs Teff: 3945.0 K Logg: 4.72 Fe/H: -0.340



DV Fit Results:

Period = 0.52689 [0.00001] d
Epoch = 131.8654 [0.0008] BKJD
Rp/R* = 0.0119 [0.0036]
a/R* = 1.86 [1.97]
b = 0.94 [0.19]
Seff = 556.63 [65.71]
Teq = 1239 [37] K
Rp = 0.67 [0.21] Re
a = 0.0102 [0.0007] AU
Ag = 0.05 [8.05] [-0.12σ]
Teffp = 883 [39280] K [-0.01σ]

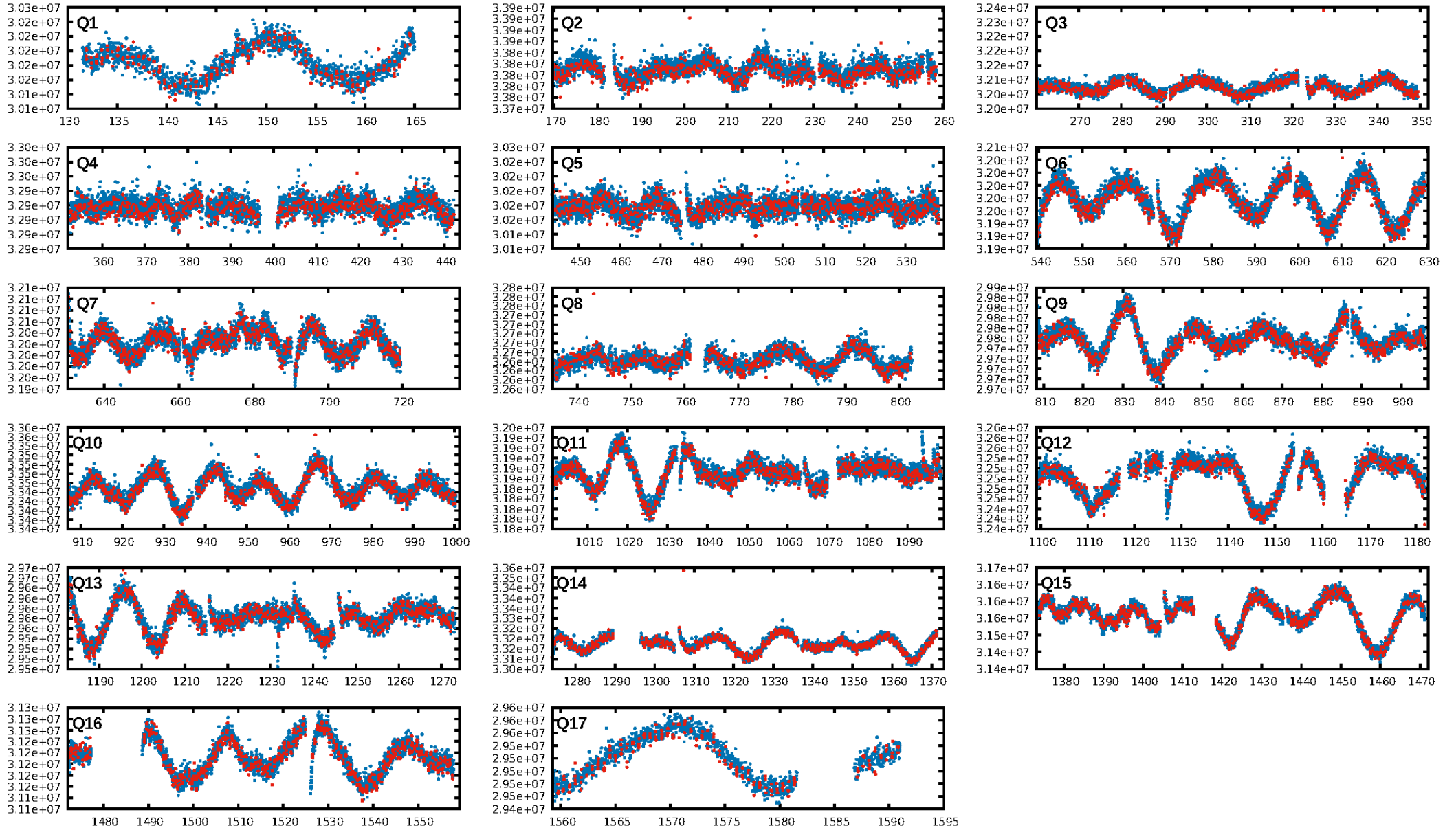
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.54e-43
RollingBand-fgt: 0.72 [1752/2427]
GhostDiagnostic-chr: 0.4726
Centroid-sig: 0.0%
Centroid-so: 5.369 arcsec [8.96σ]
OotOffset-rm: 4.318 arcsec [54.59σ]
KicOffset-rm: 4.245 arcsec [53.58σ]
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]

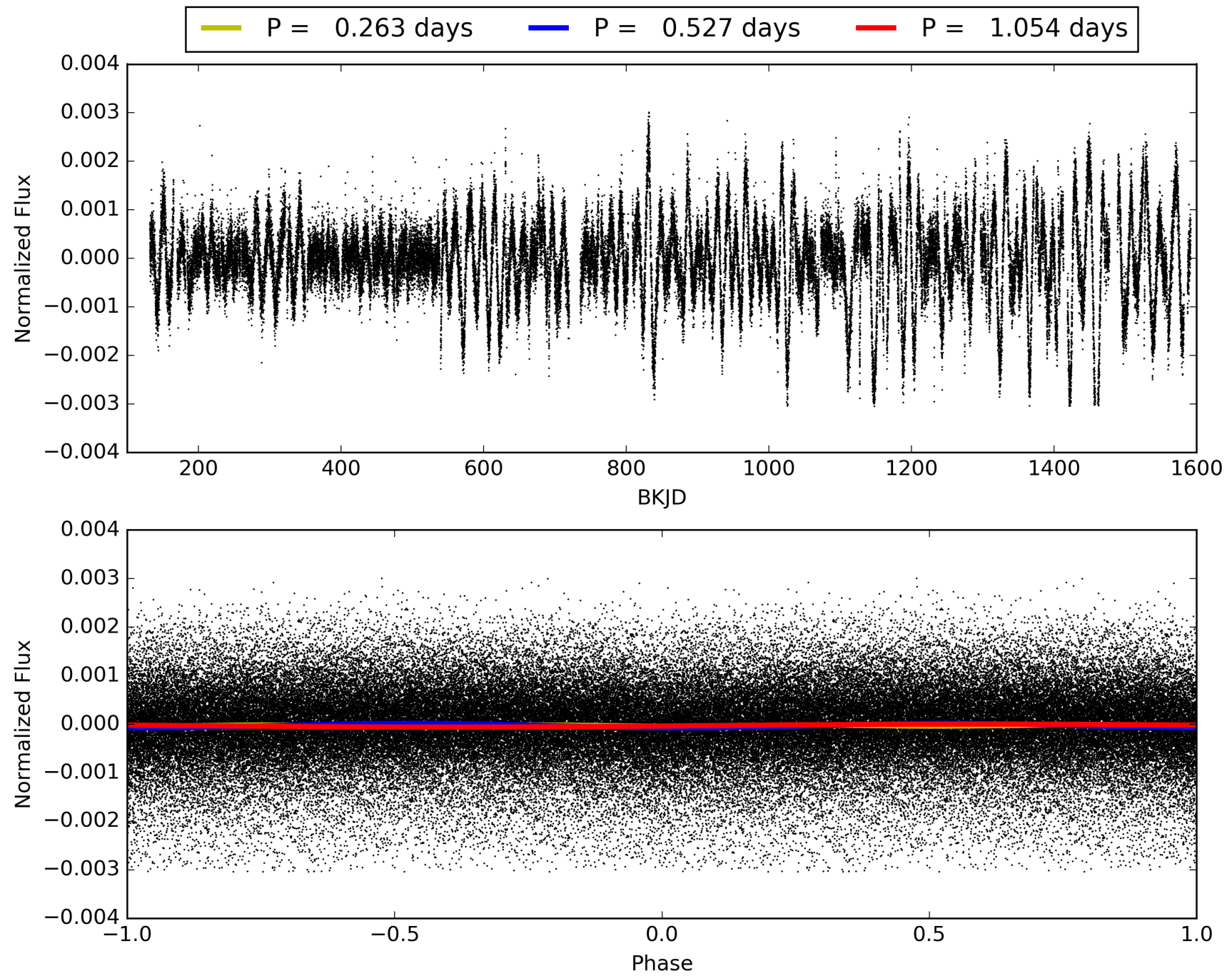
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:57:18 Z

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

TCE 005709889-01, PDC Light Curves

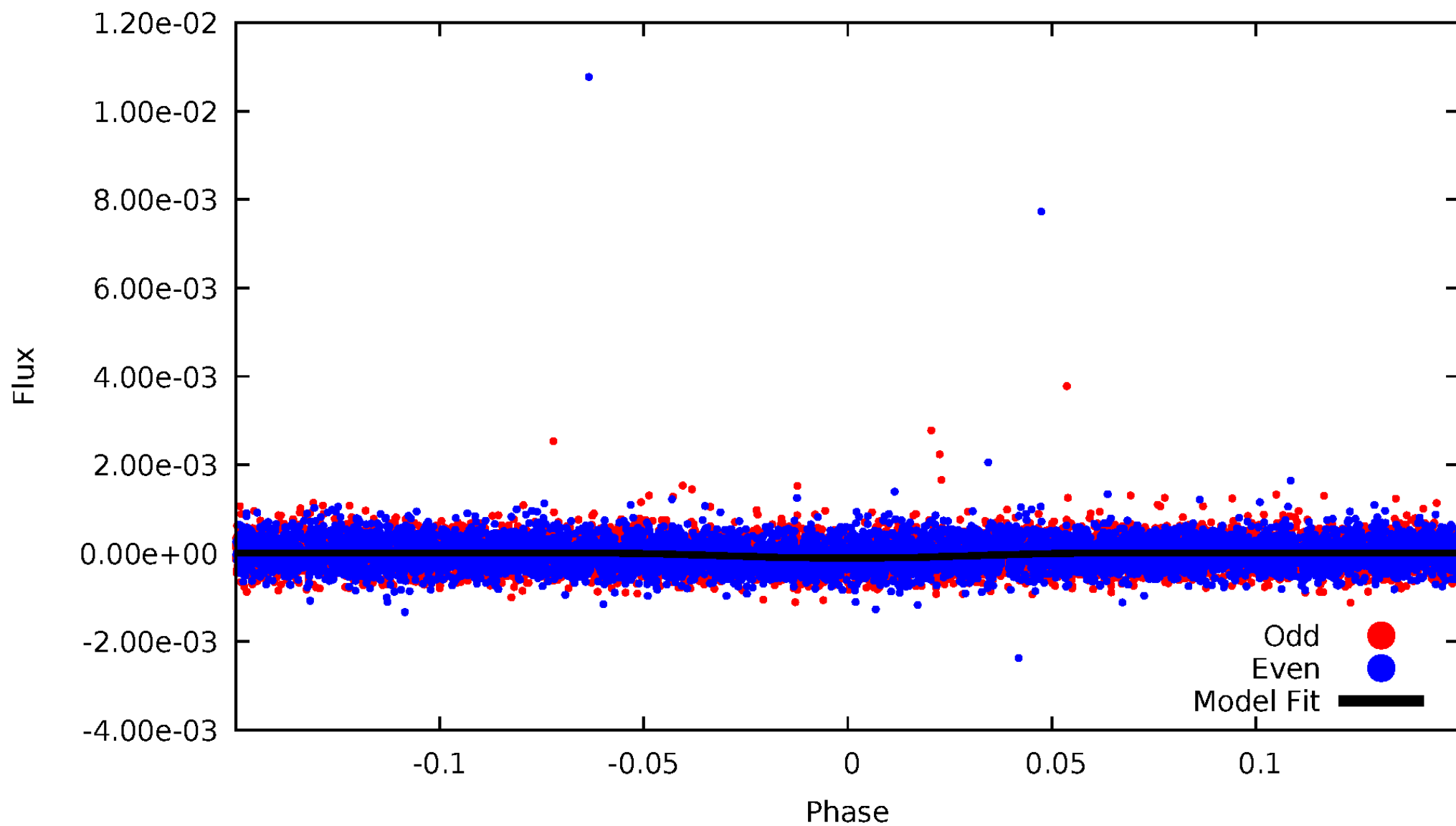


TCE 005709889-01



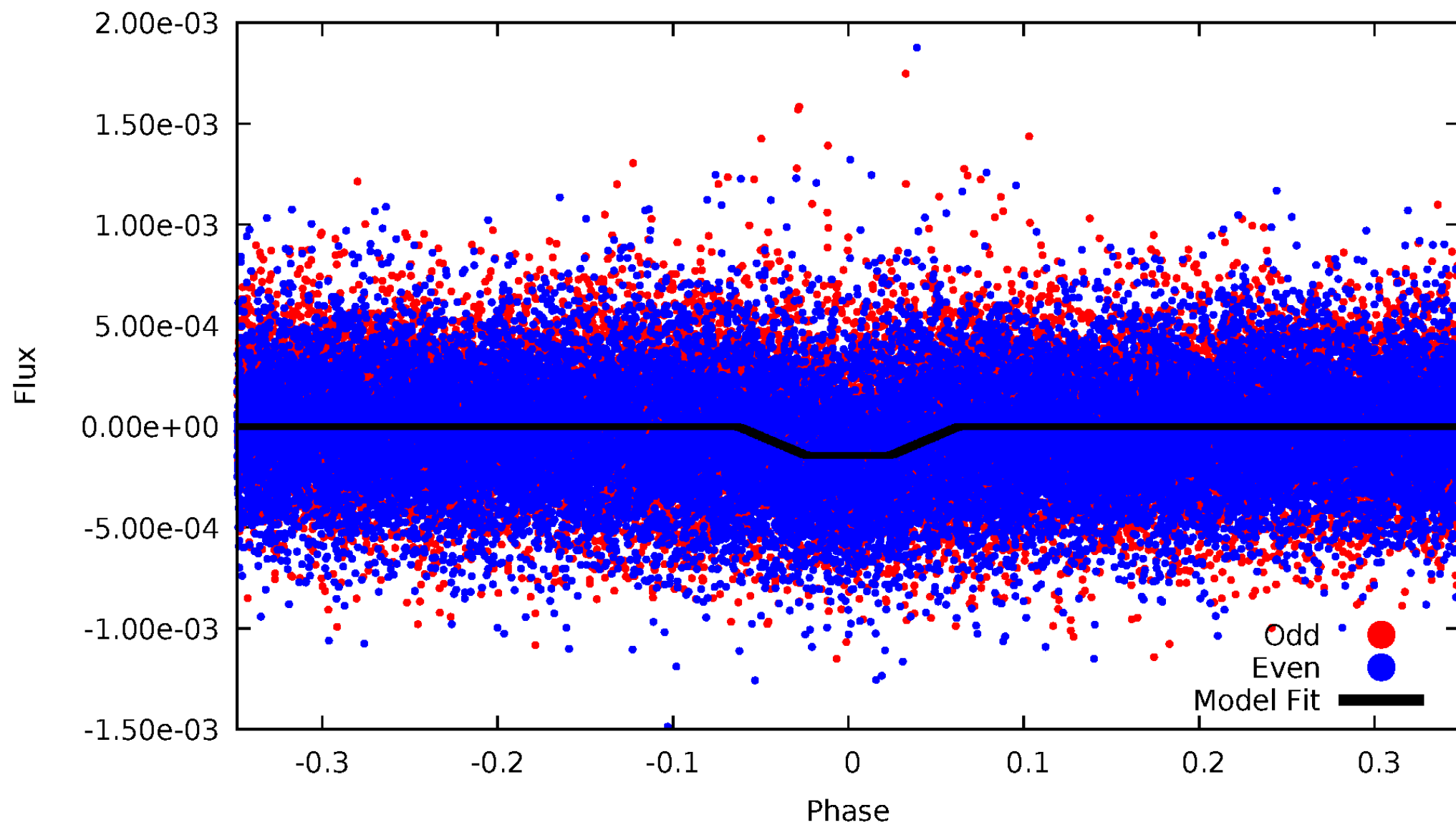
DV Odd/Even

TCE 005709889-01



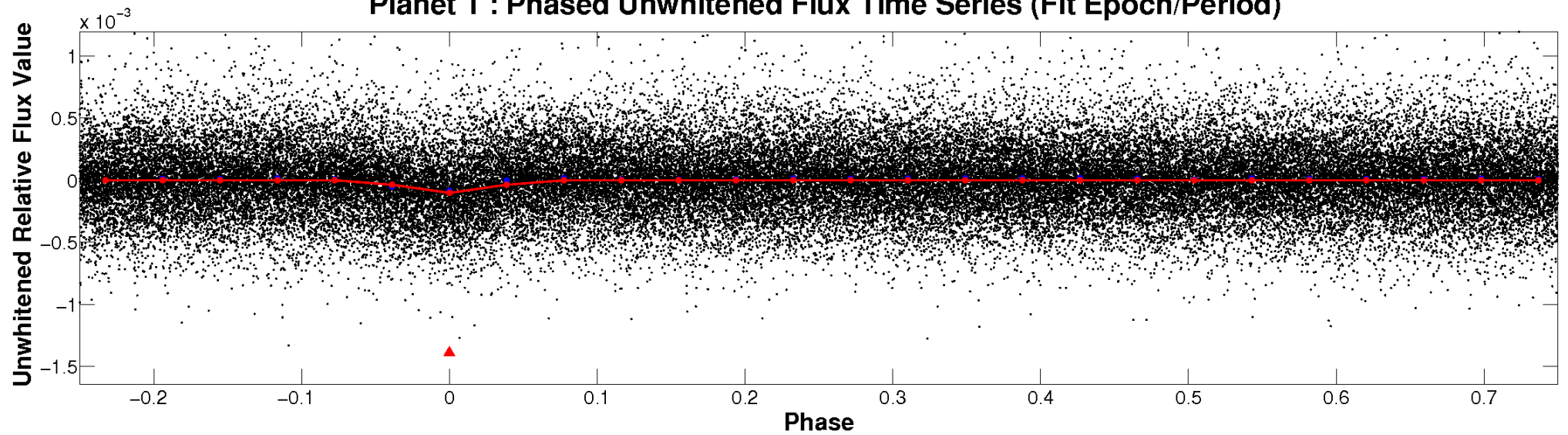
ALT Odd/Even

TCE 005709889-01

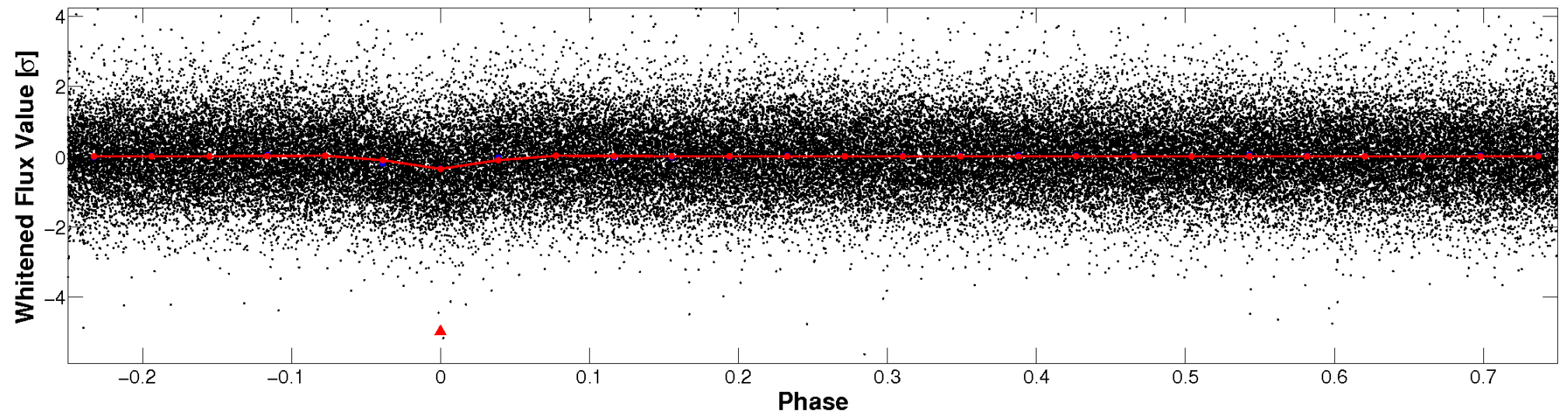


Non-Whitened Vs. Whitened Light Curve

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

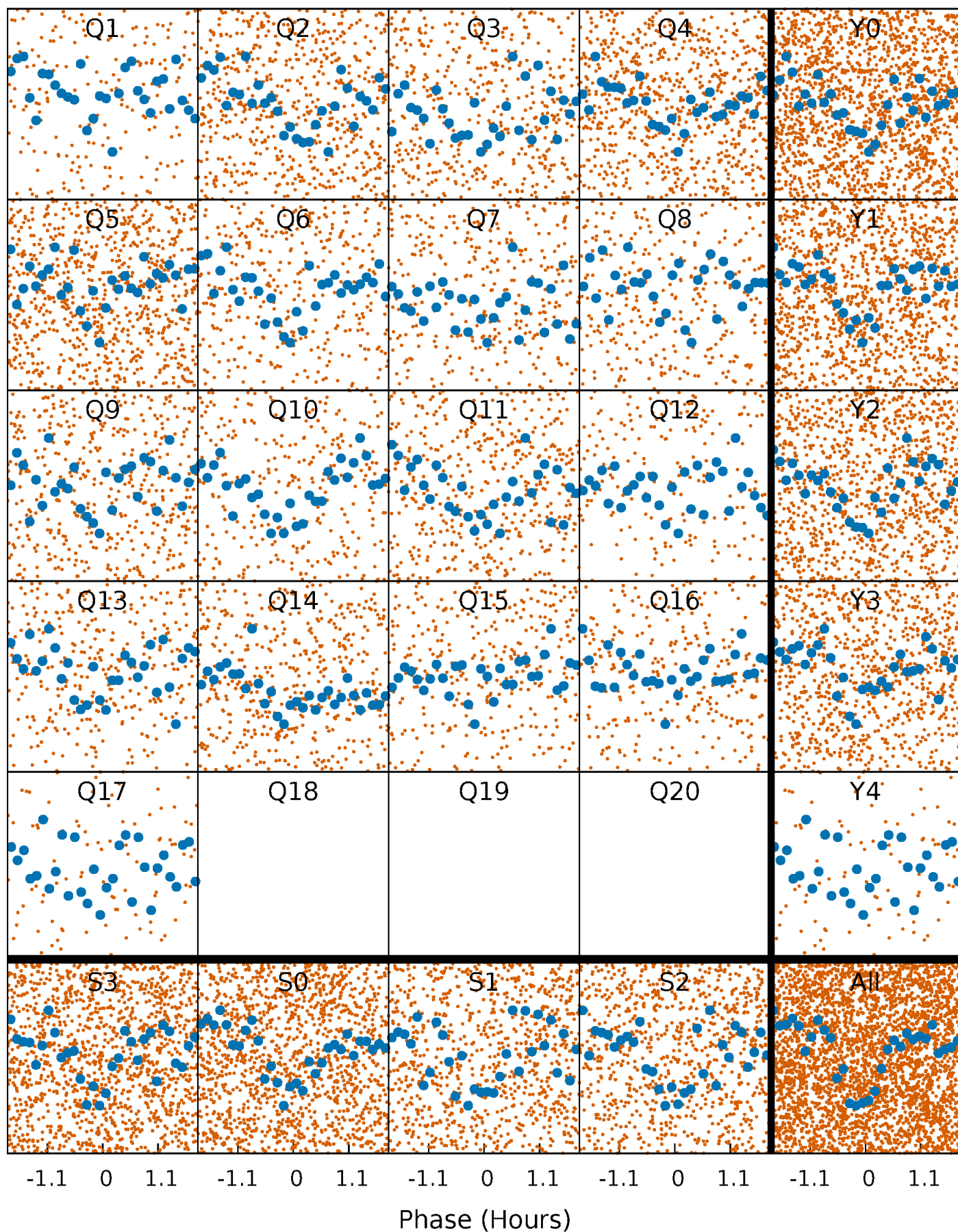


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



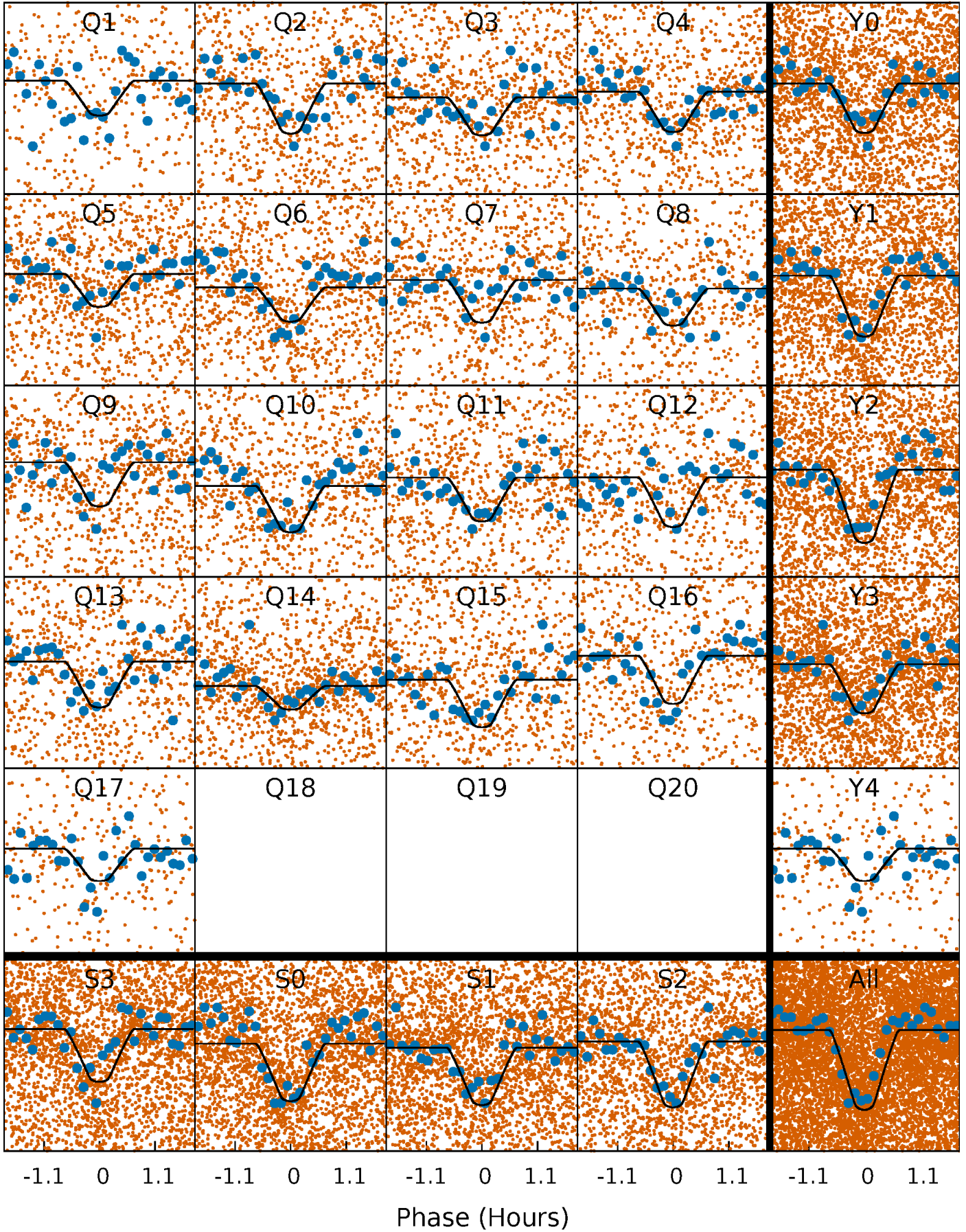
PDC Quarter-Phased Transit Curves

TCE 005709889-01 P= 0.526891 Days $T_0=131.865439$ (BKJD)



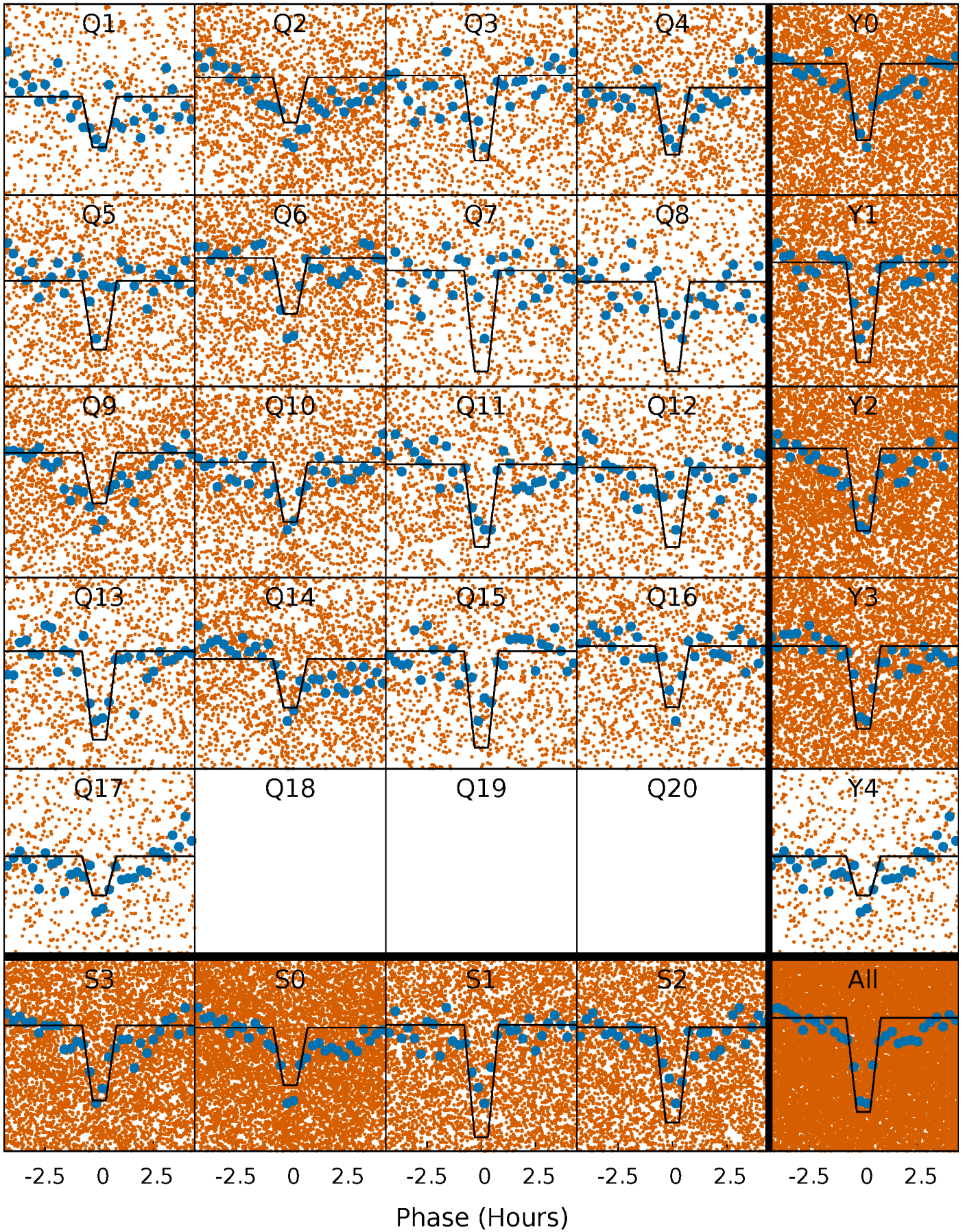
DV Quarter-Phased Transit Curves

TCE 005709889-01 P= 0.526891 Days $T_0=131.865439$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

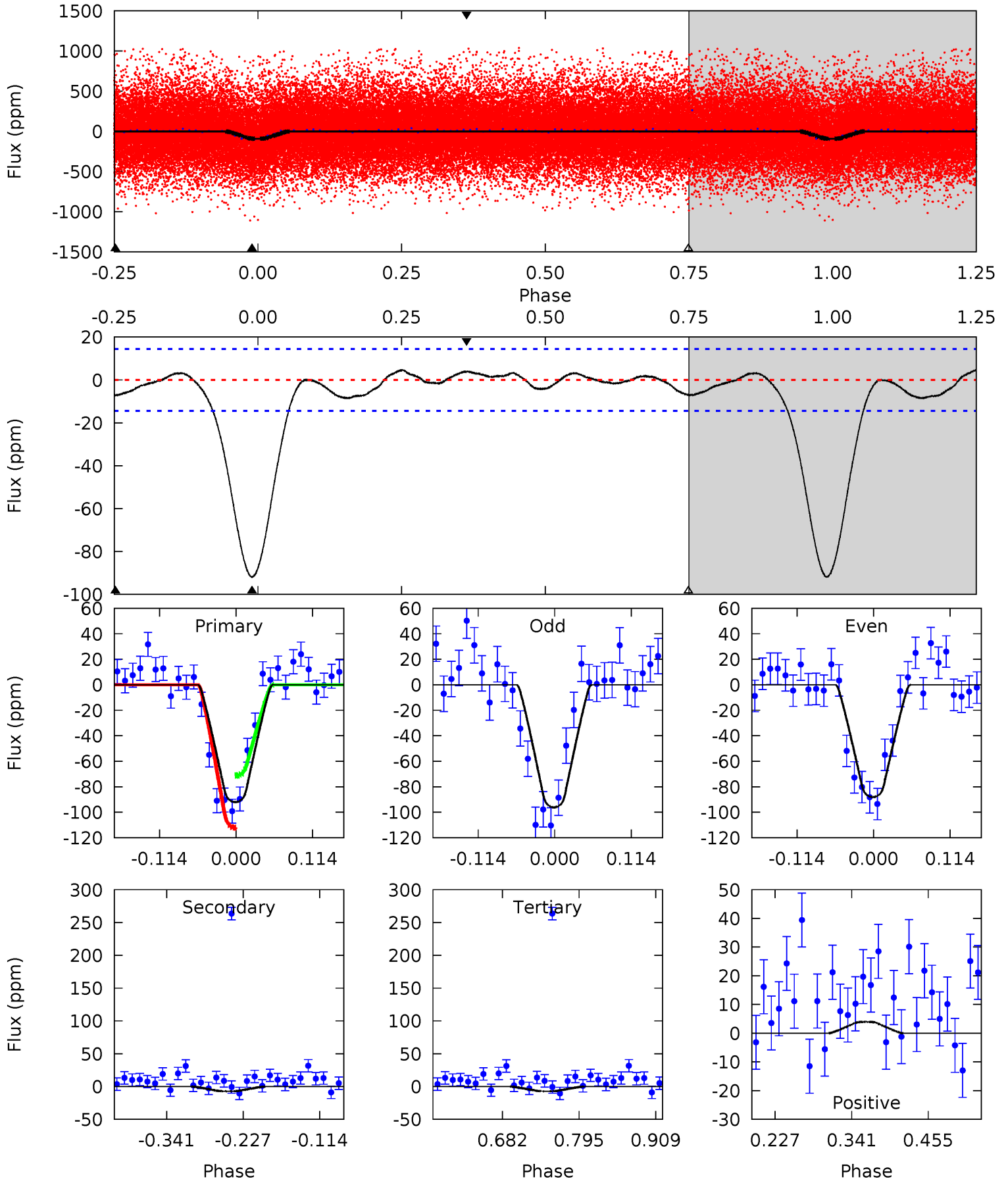
TCE 005709889-01 P= 0.526886 Days $T_0=131.867500$ (BKJD)



DV Model-Shift Uniqueness Test

005709889-01, P = 0.526891 Days, E = 131.338548 Days

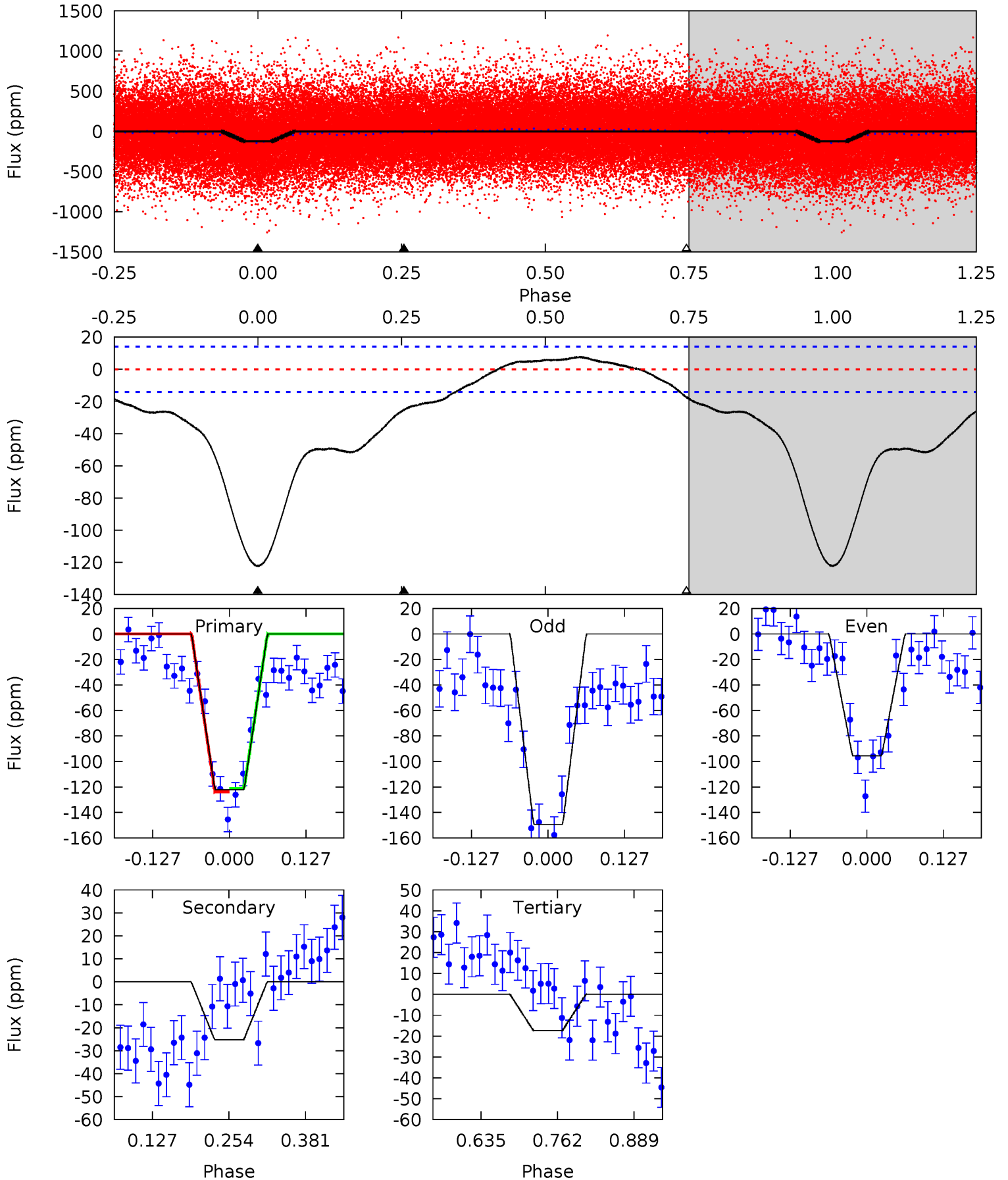
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.0	2.28	2.25	1.25	4.54	1.58	1.07	26.7	27.7	0.03	1.03	1.27	0.86	0.05	6.40



Alt Model-Shift Uniqueness Test

005709889-01, P = 0.526886 Days, E = 131.340614 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.2	8.11	5.57	0	4.51	1.53	4.07	33.6	39.2	2.54	8.11	8.66	0.95	0.06	0.42



Stellar Parameters For KIC 005709889

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3945^{+70}_{-78}	$4.721^{+0.045}_{-0.021}$	$-0.340^{+0.150}_{-0.150}$	$0.519^{+0.028}_{-0.042}$	$0.515^{+0.035}_{-0.032}$	$5.208^{+1.114}_{-0.516}$
	+2%/-2%	+1%/-0%	+44%/-44%	+5%/-8%	+7%/-6%	+21%/-10%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005709889-01 / KOI 2783.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 3	$0.66^{+0.21}_{-0.18}$	1722^{+38}_{-43}	2423^{+338}_{-485}	$0.916^{+1.158}_{-0.535}$
Alt.	-25 ± 3	$0.67^{+0.21}_{-0.21}$	1721^{+37}_{-45}	2972^{+361}_{-264}	$3.314^{+3.644}_{-1.470}$

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

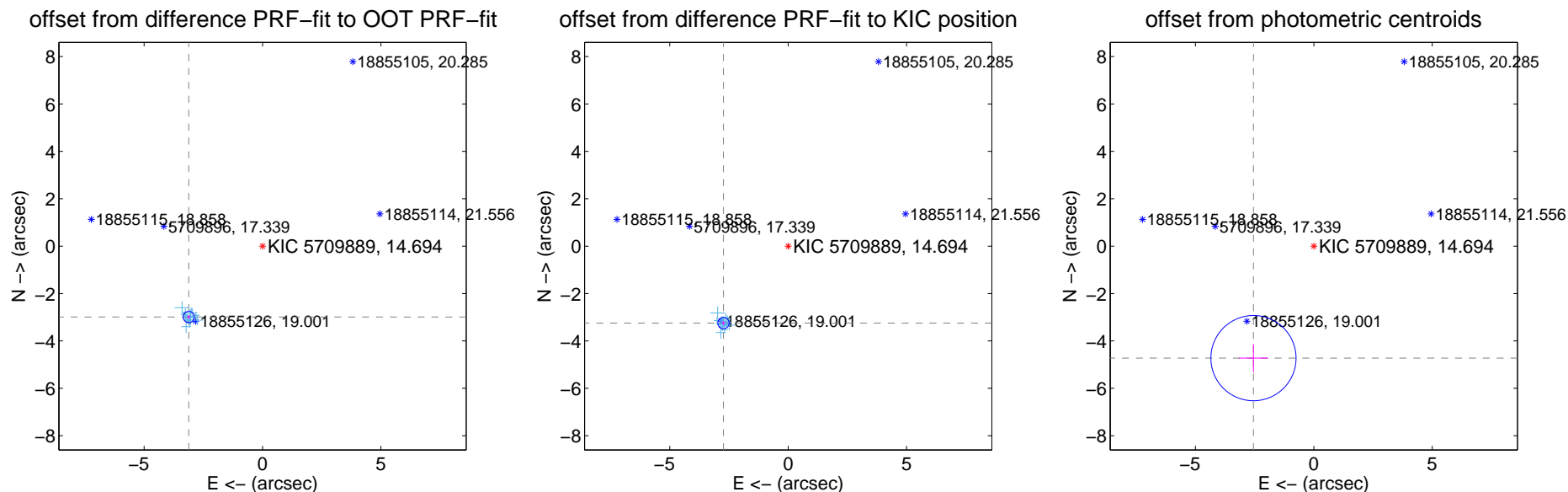
DV Centroid Data

Supplemental centroid analysis for 005709889-01. Kepler magnitude: 14.69. Transit SNR 19.57

There are 17 quarters with good PRF difference image offsets

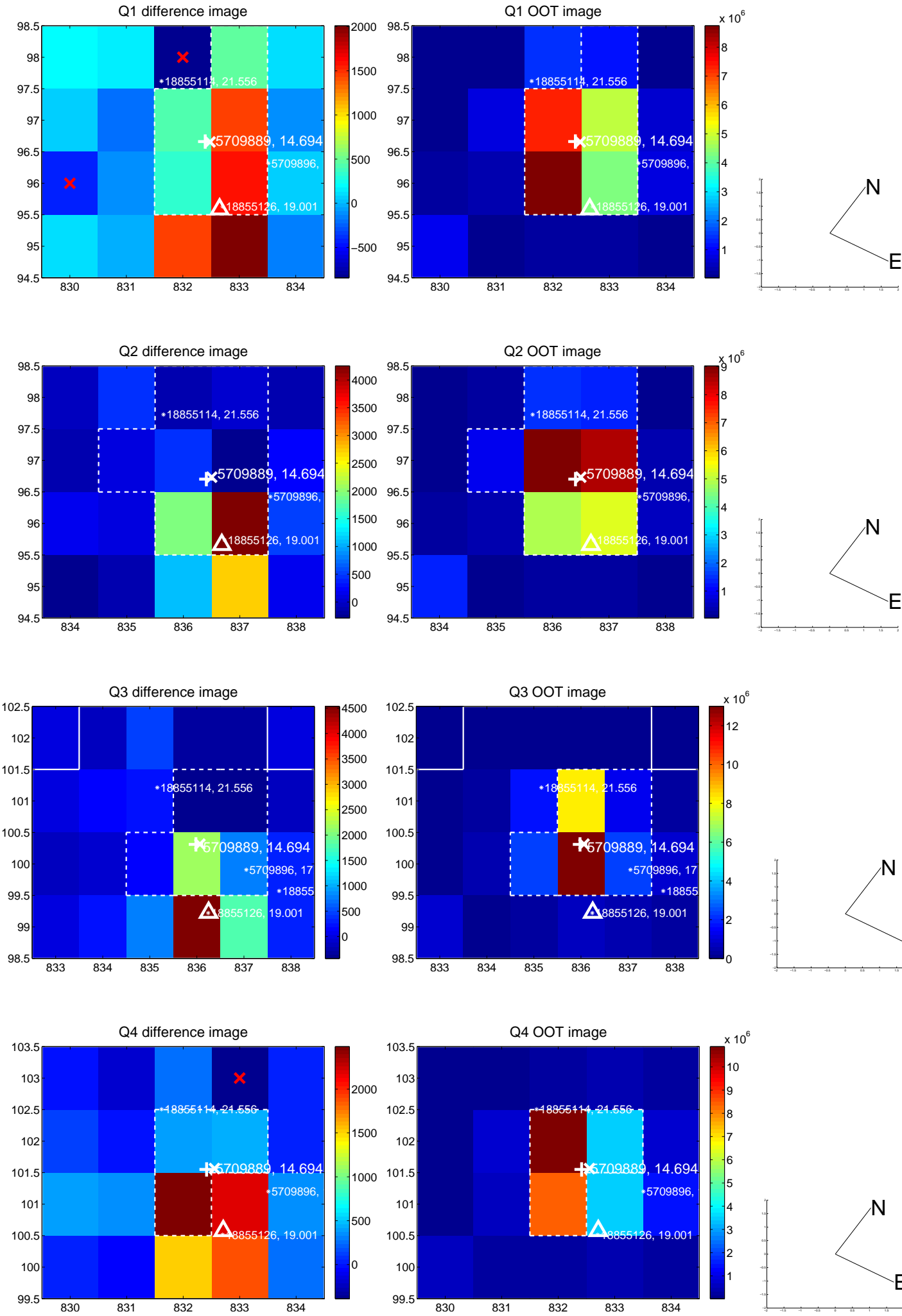
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.318 ± 0.079	54.59	3.115 ± 0.078	-2.989 ± 0.080
PRF-fit source offset from KIC position	4.245 ± 0.079	53.58	2.734 ± 0.078	-3.248 ± 0.080
photometric centroid source offset	5.37 ± 0.60	8.96	2.55 ± 0.62	-4.73 ± 0.59

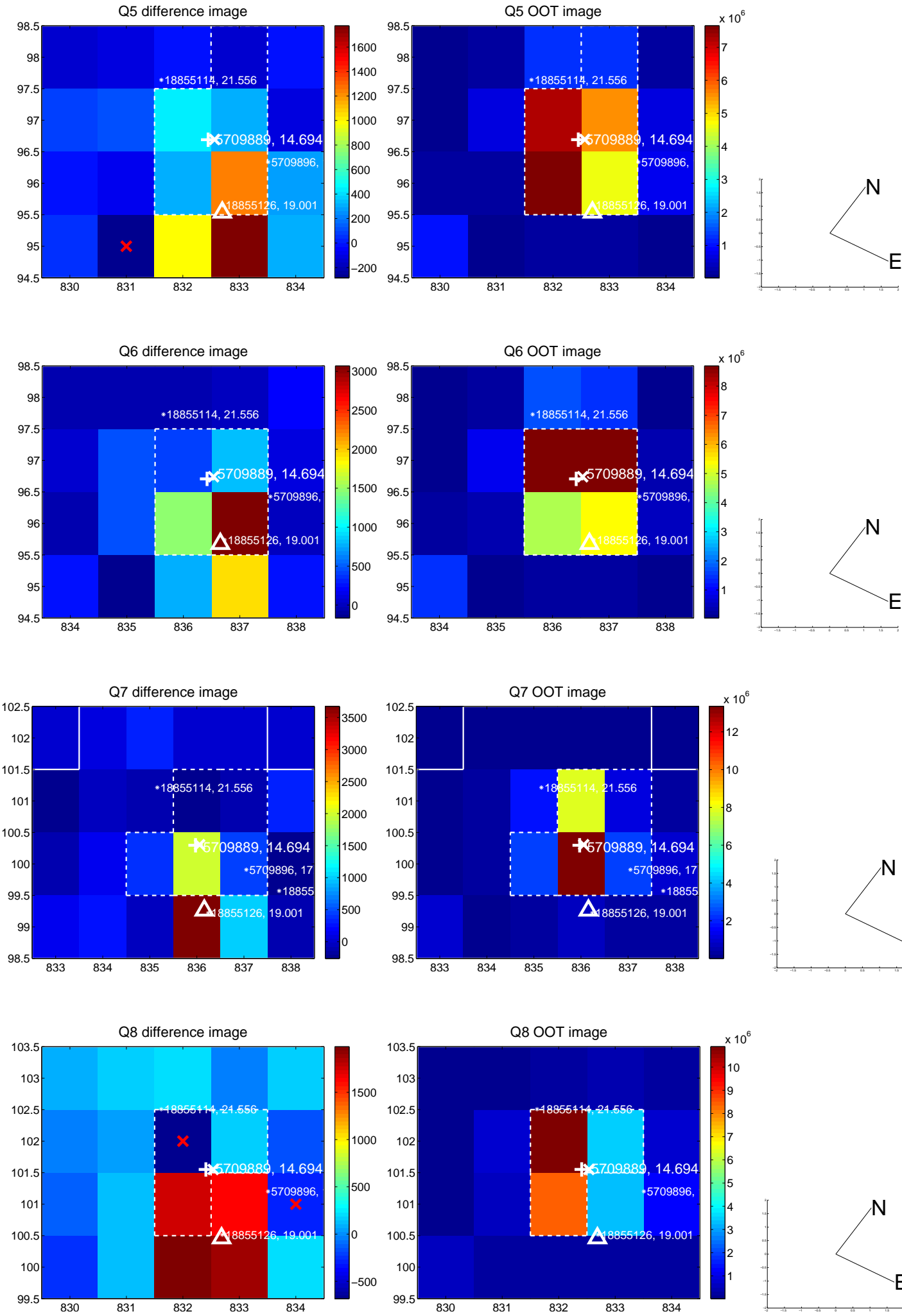


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

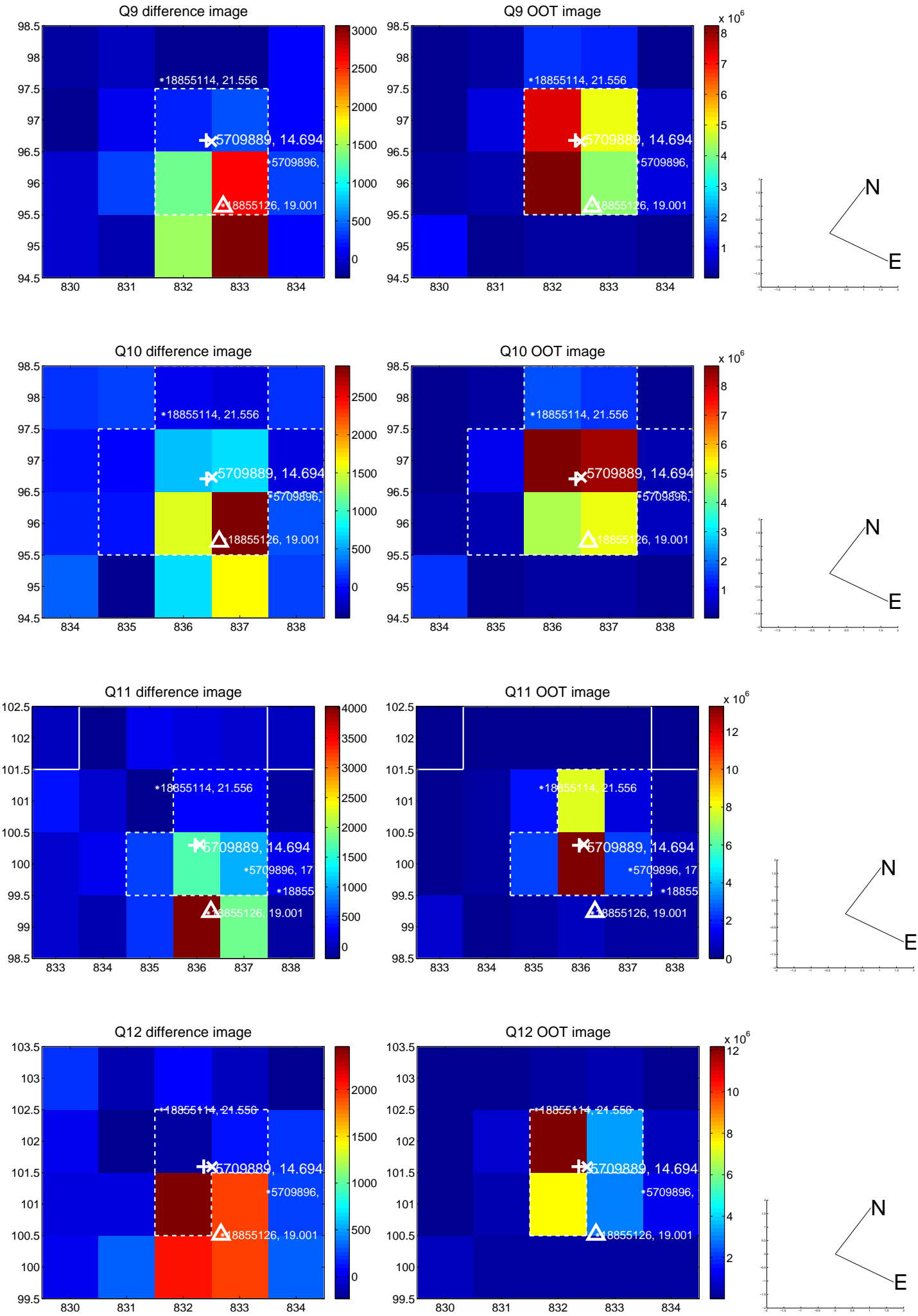
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



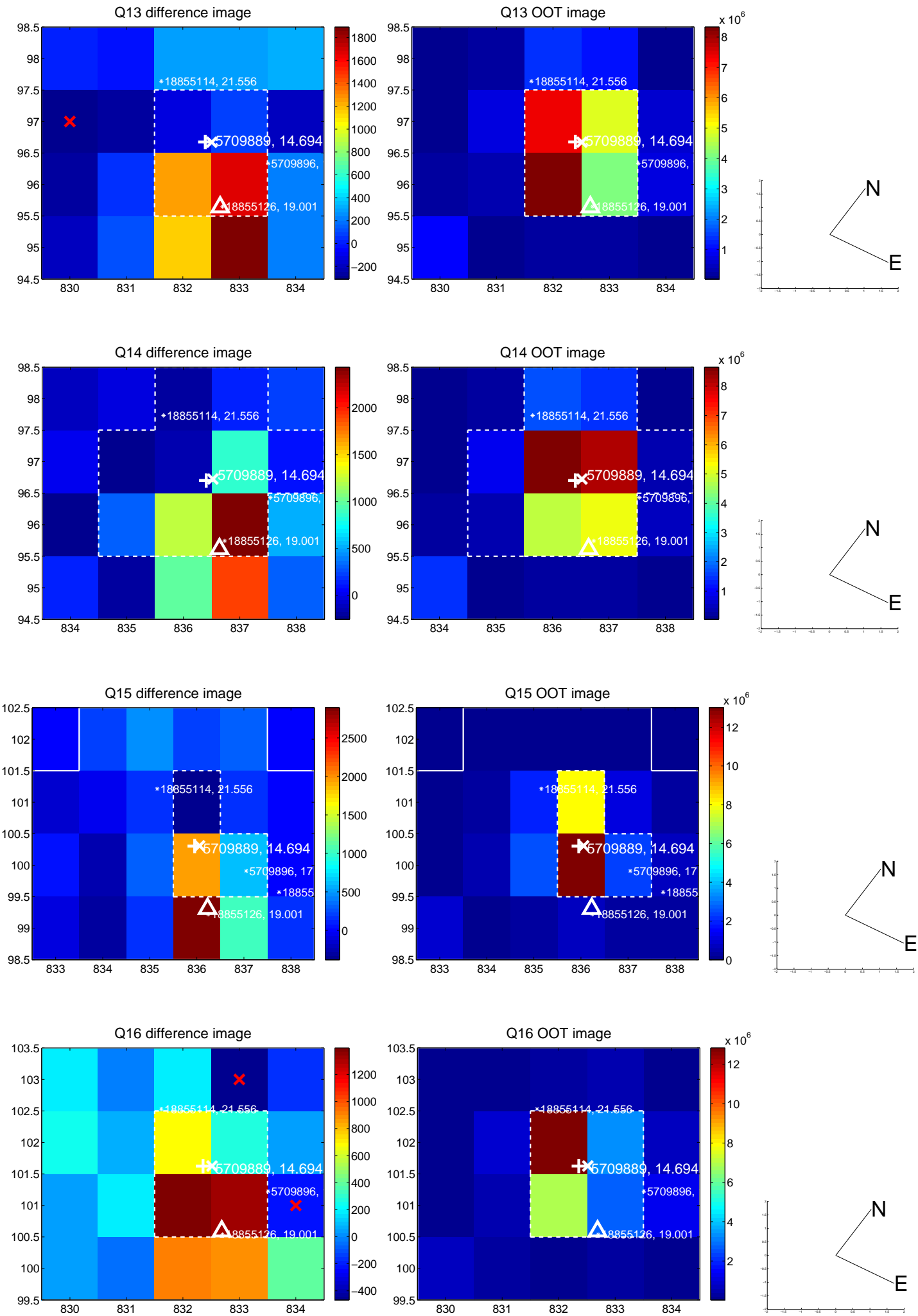
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



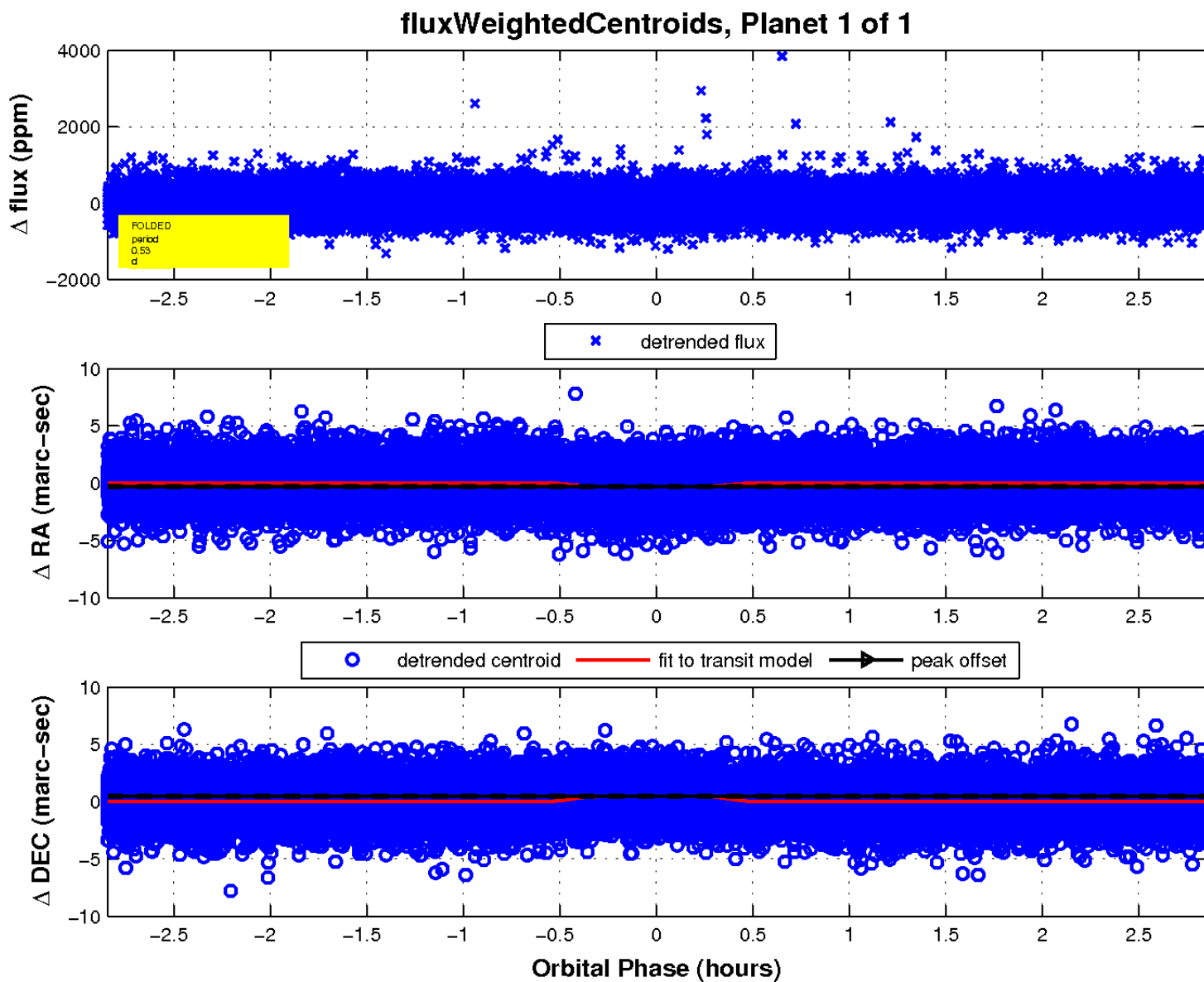
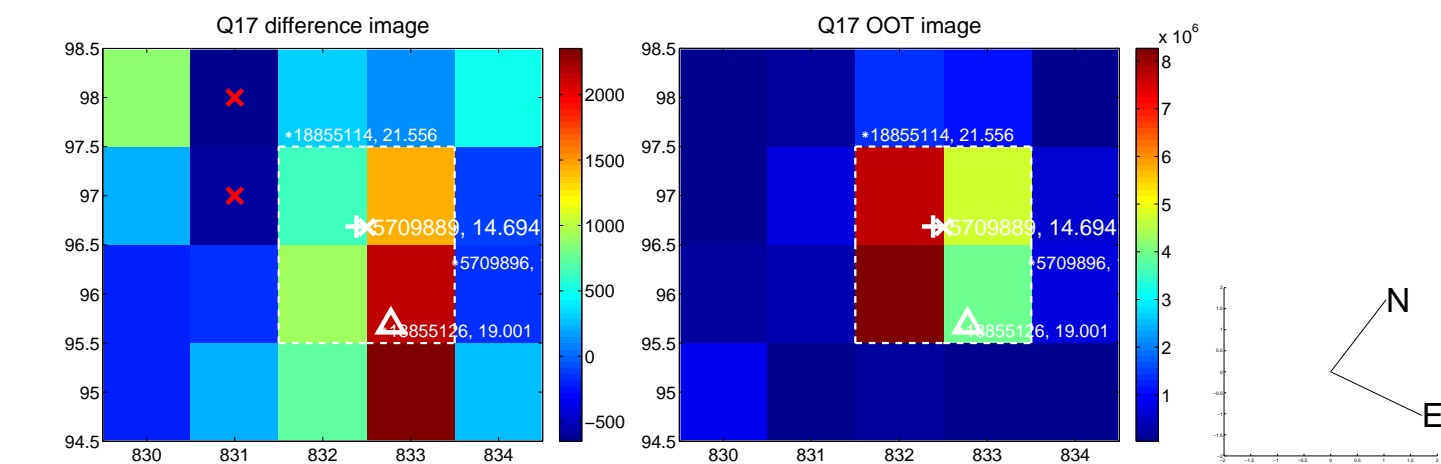
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

