

KIC 007137725

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
007137725-01	OBS	1699.01	2.253517	132.490923	87.2	3.551	28.6	30.3	1.43	6526	1.58	2553.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007137725-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH

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.

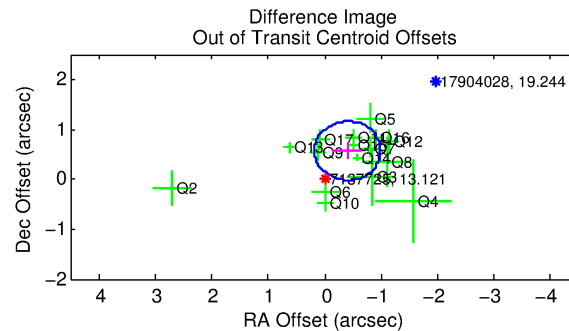
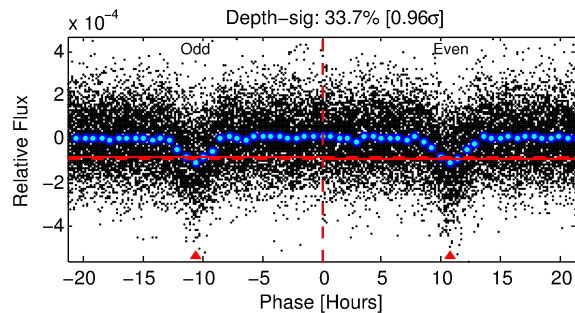
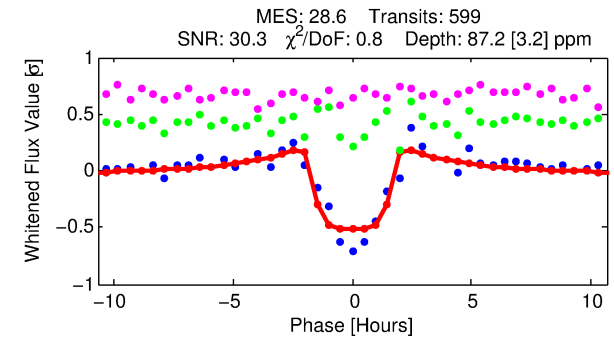
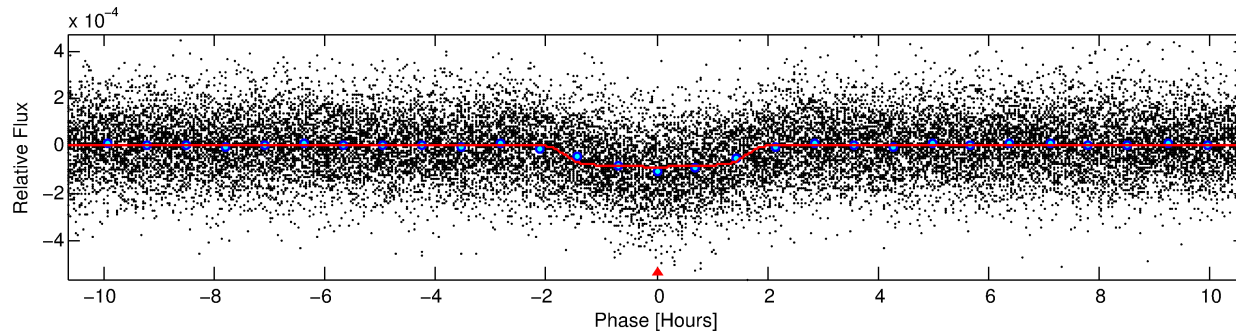
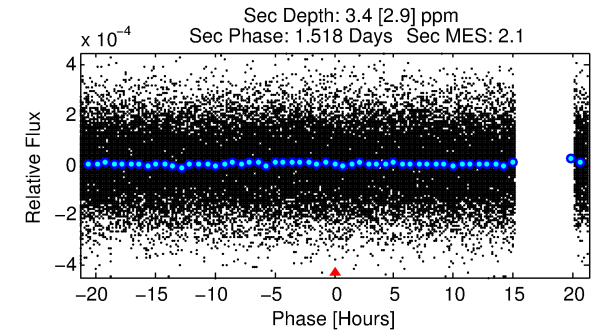
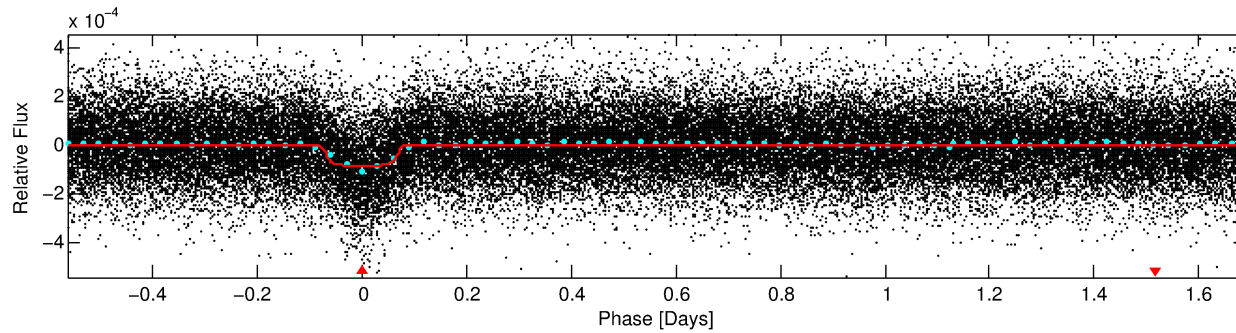
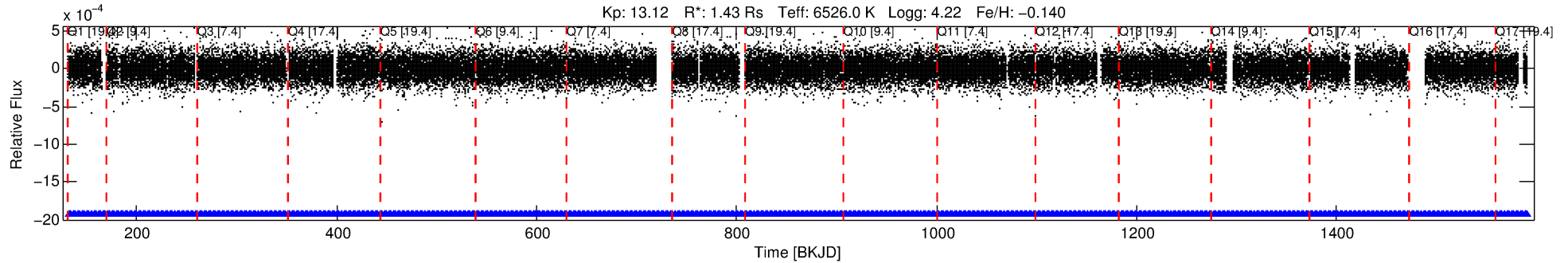
Ephemeris Match Information For 007137725-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
007137725-01	7137725	007137798-pri	7137798	1:1	48.7	12	0	13.45	13.12	2248.30	Direct-PRF	0	0.61	0.31

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7137725 Candidate: 1 of 1 Period: 2.254 d
KOI: K01699.01 Corr: 0.958



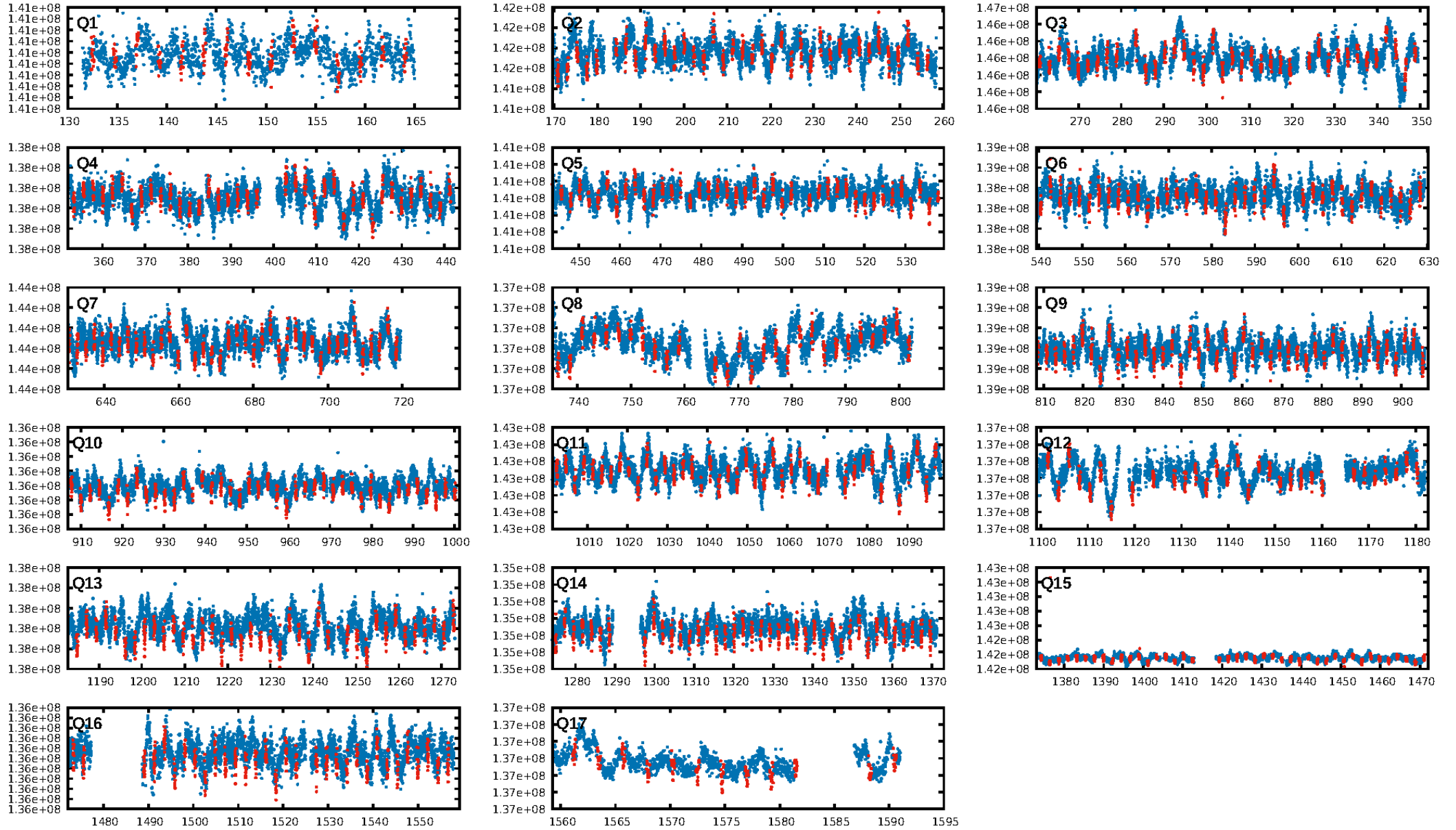
DV Fit Results:

Period = 2.25352 [0.00001] d
Epoch = 132.4909 [0.0012] BKJD
Rp/R* = 0.0101 [0.0011]
a/R* = 2.28 [1.15]
b = 0.91 [0.11]
Seff = 2553.18 [731.80]
Teq = 1813 [130] K
Rp = 1.58 [0.37] Re
a = 0.0360 [0.0063] AU
Ag = 0.98 [0.90] [-0.02σ]
Teffp = 2788 [619] K [1.54σ]

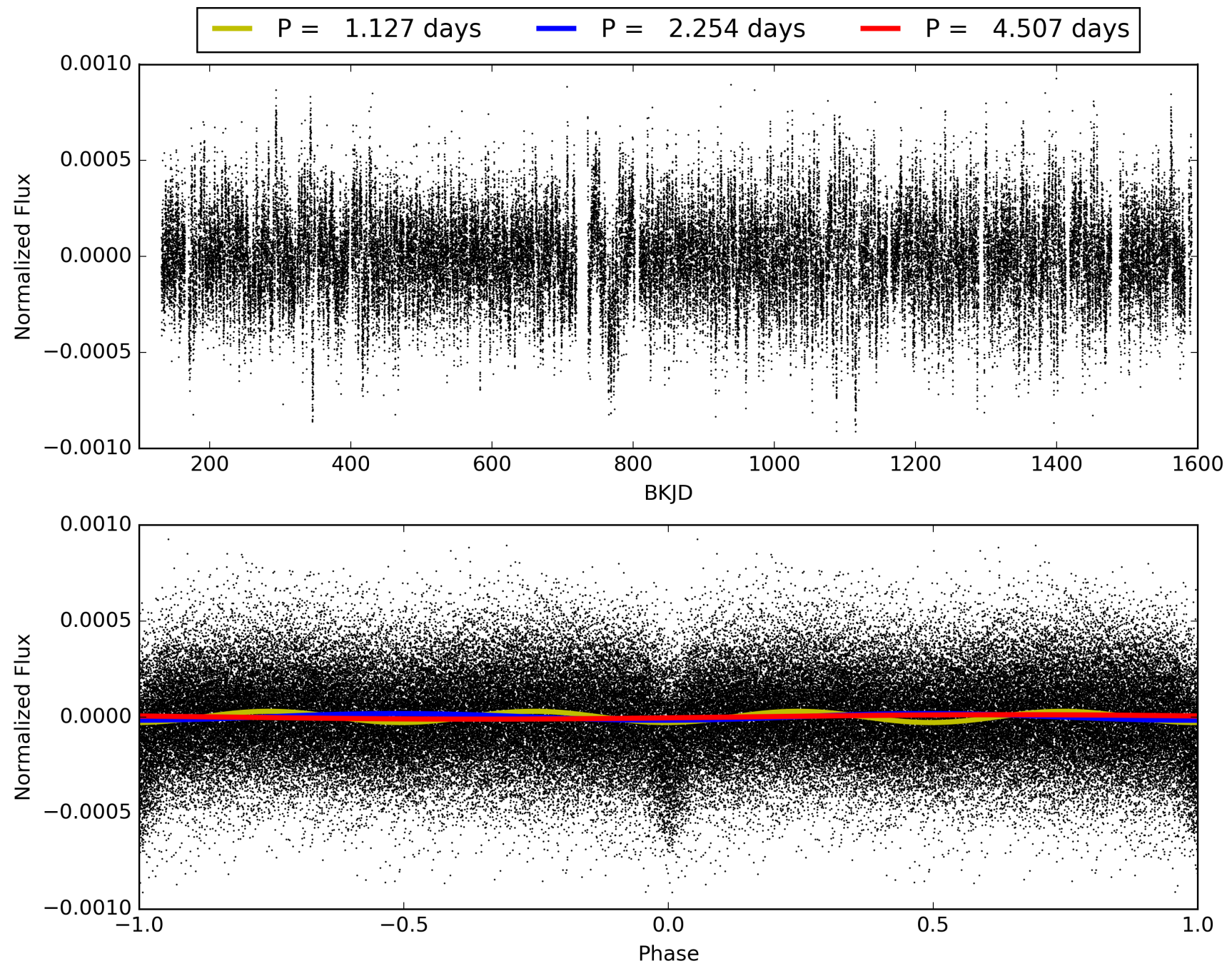
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.17e-168
RollingBand-fgt: 1.00 [572/572]
GhostDiagnostic-chr: 1.969
Centroid-sig: 0.0%
Centroid-so: 1.139 arcsec [4.43σ]
OotOffset-rm: 0.696 arcsec [3.54σ]
KicOffset-rm: 0.675 arcsec [3.78σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007137725-01, PDC Light Curves

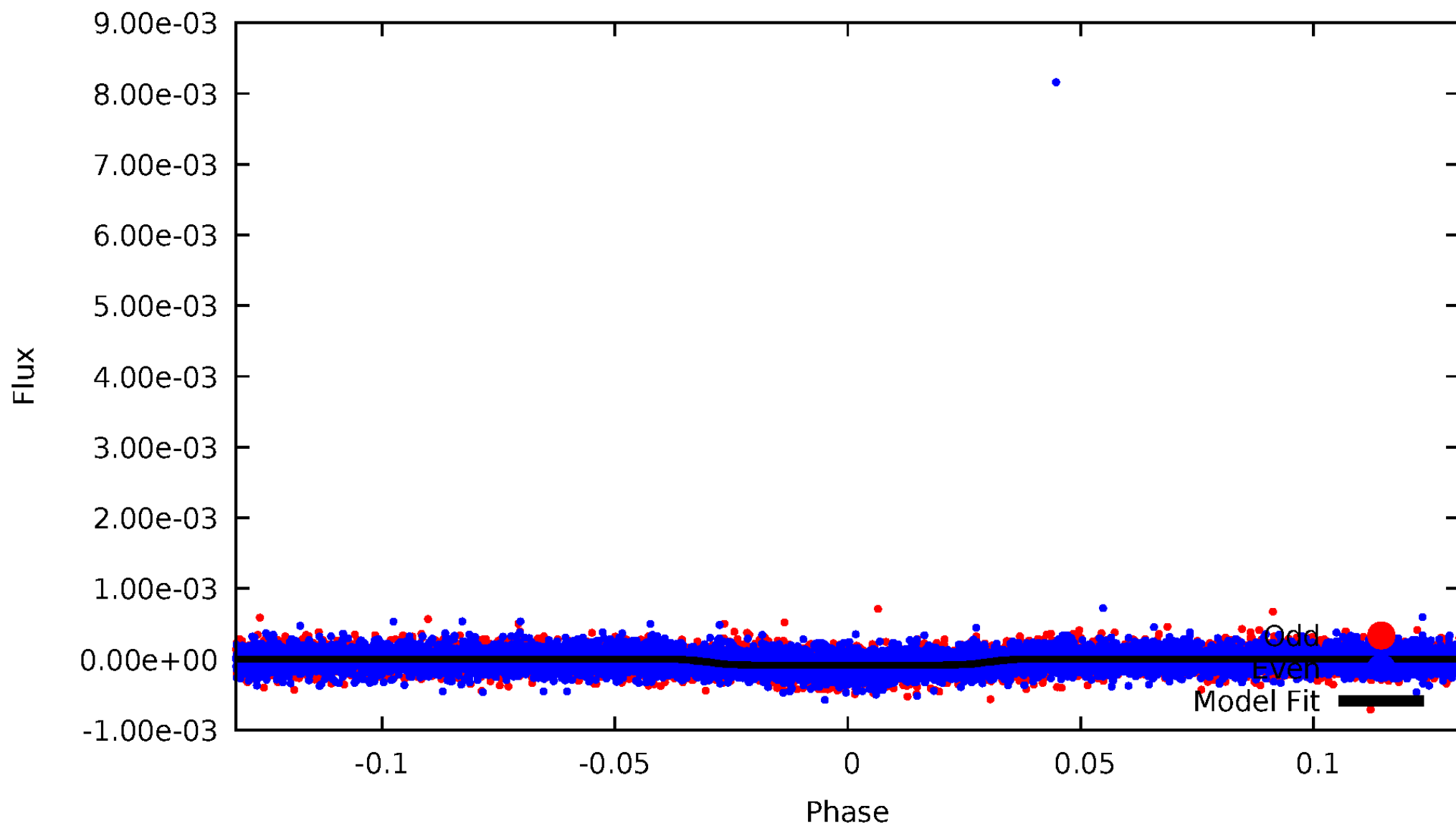


TCE 007137725-01



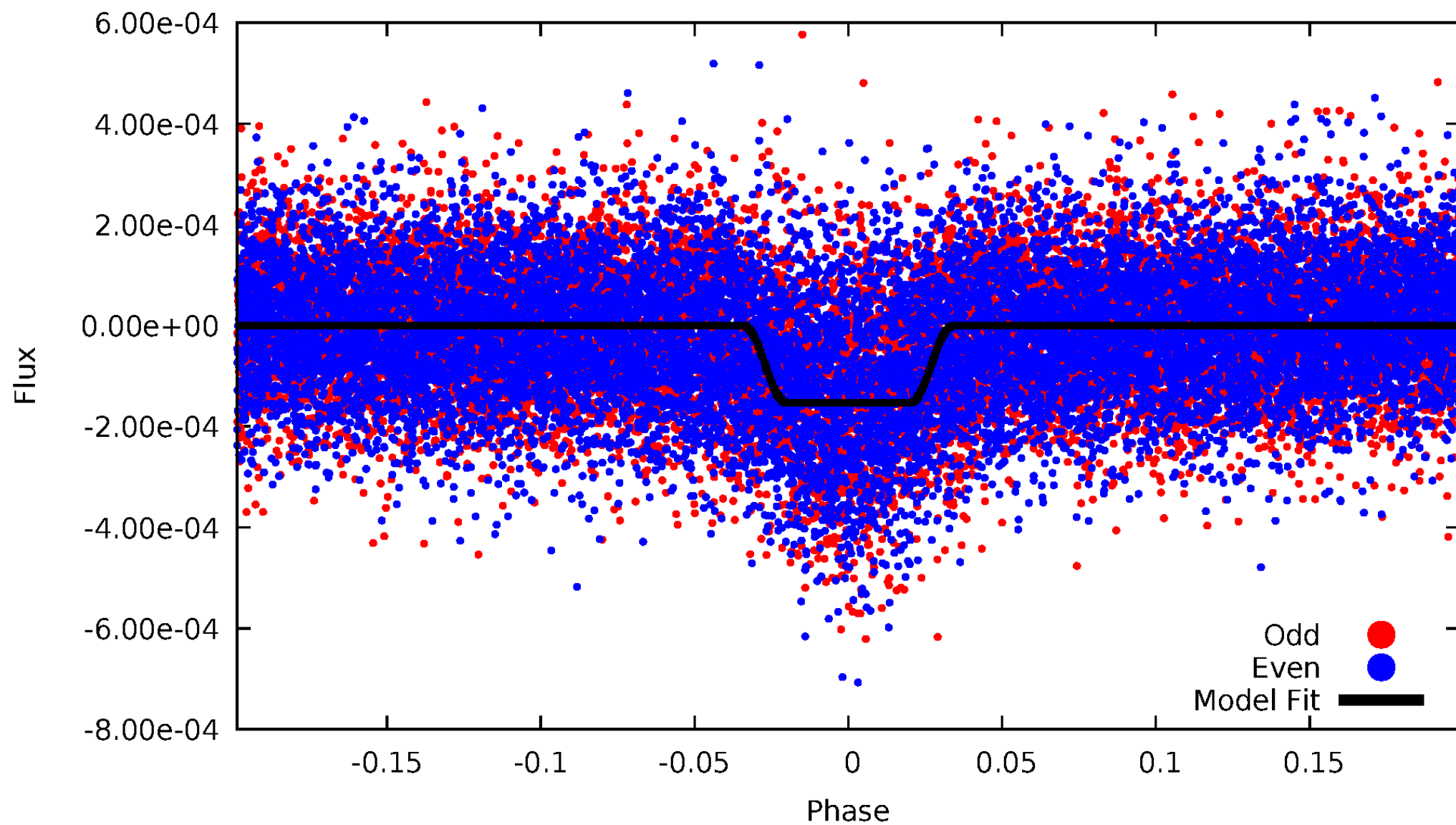
DV Odd/Even

TCE 007137725-01



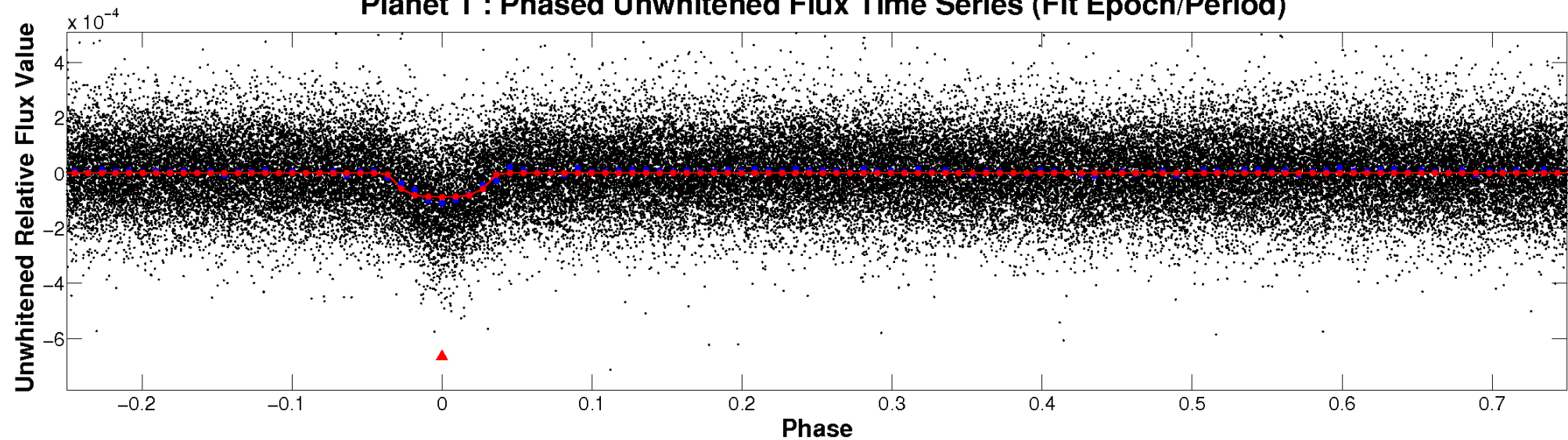
ALT Odd/Even

TCE 007137725-01

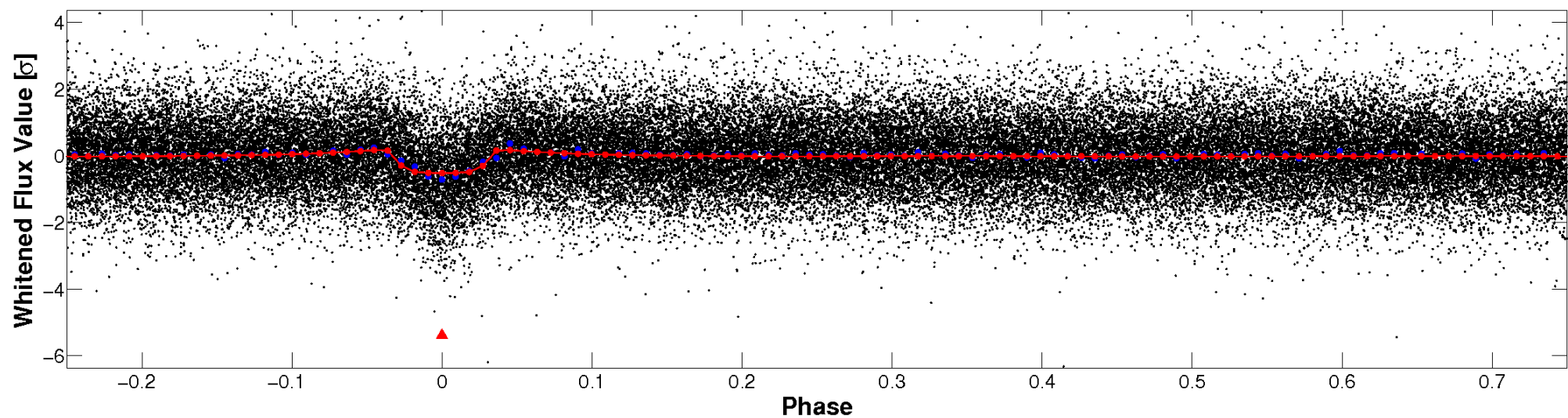


Non-Whitened Vs. Whitened Light Curve

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

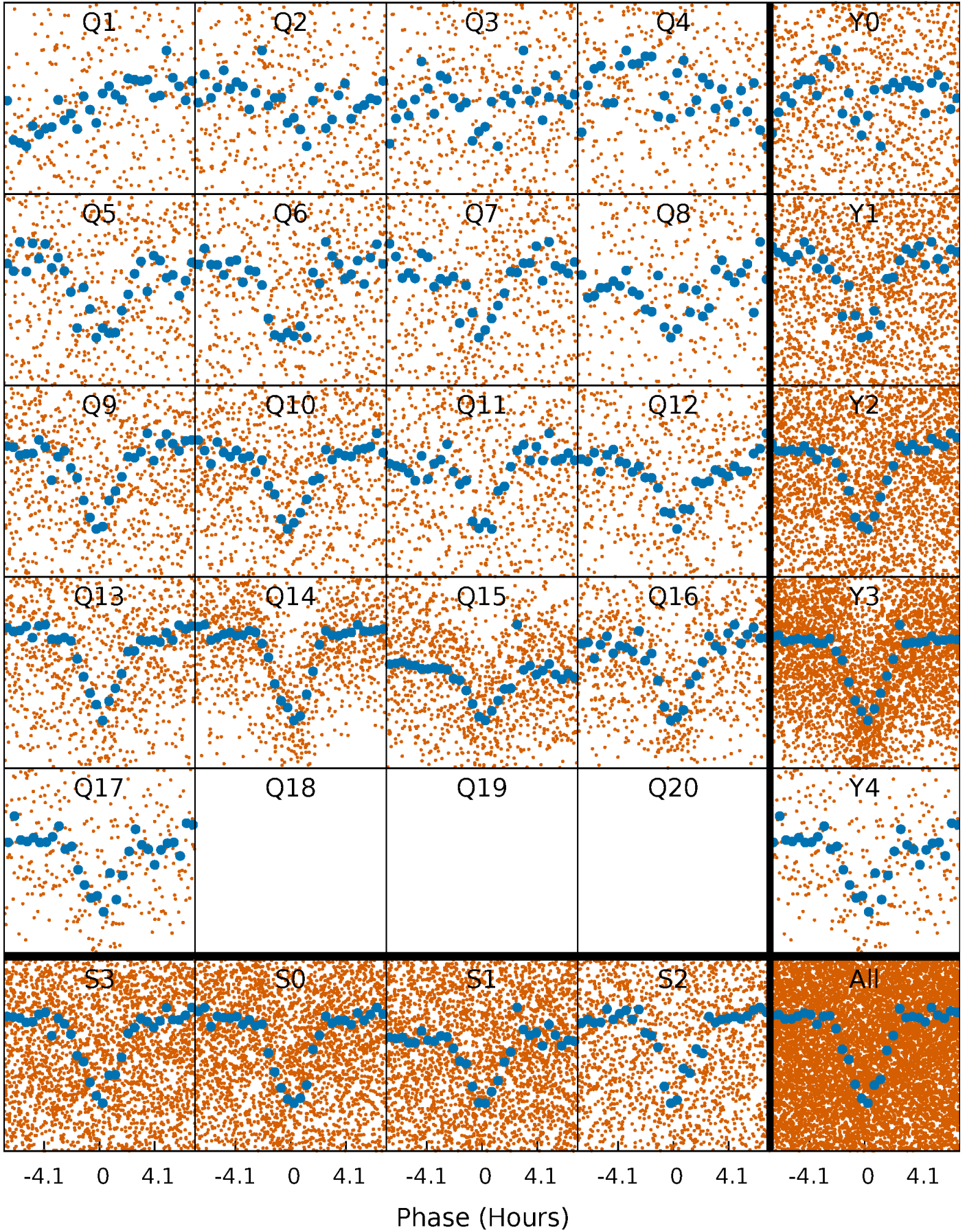


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



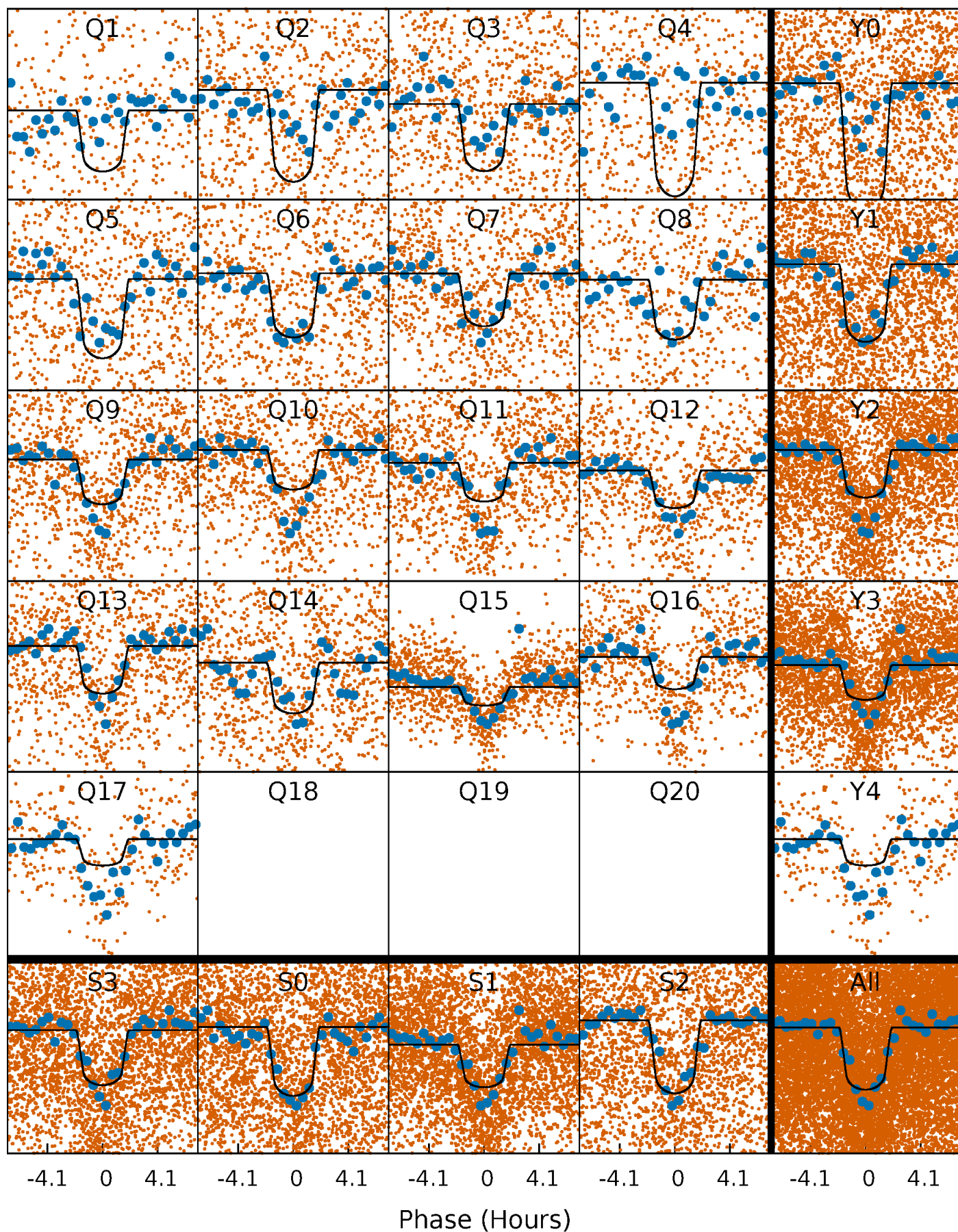
PDC Quarter-Phased Transit Curves

TCE 007137725-01 P= 2.253517 Days $T_0=132.490923$ (BKJD)



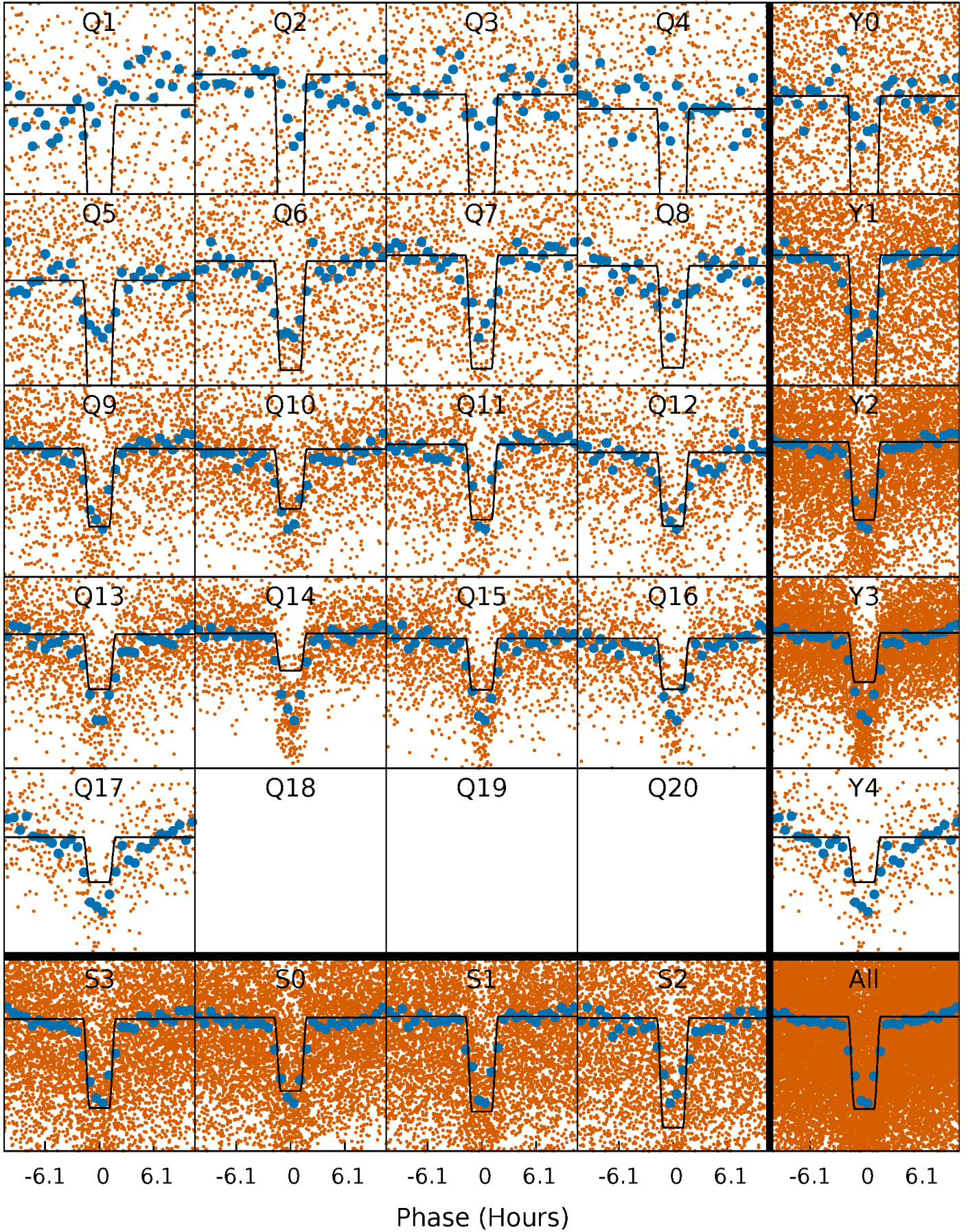
DV Quarter-Phased Transit Curves

TCE 007137725-01 P= 2.253517 Days $T_0=132.490923$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

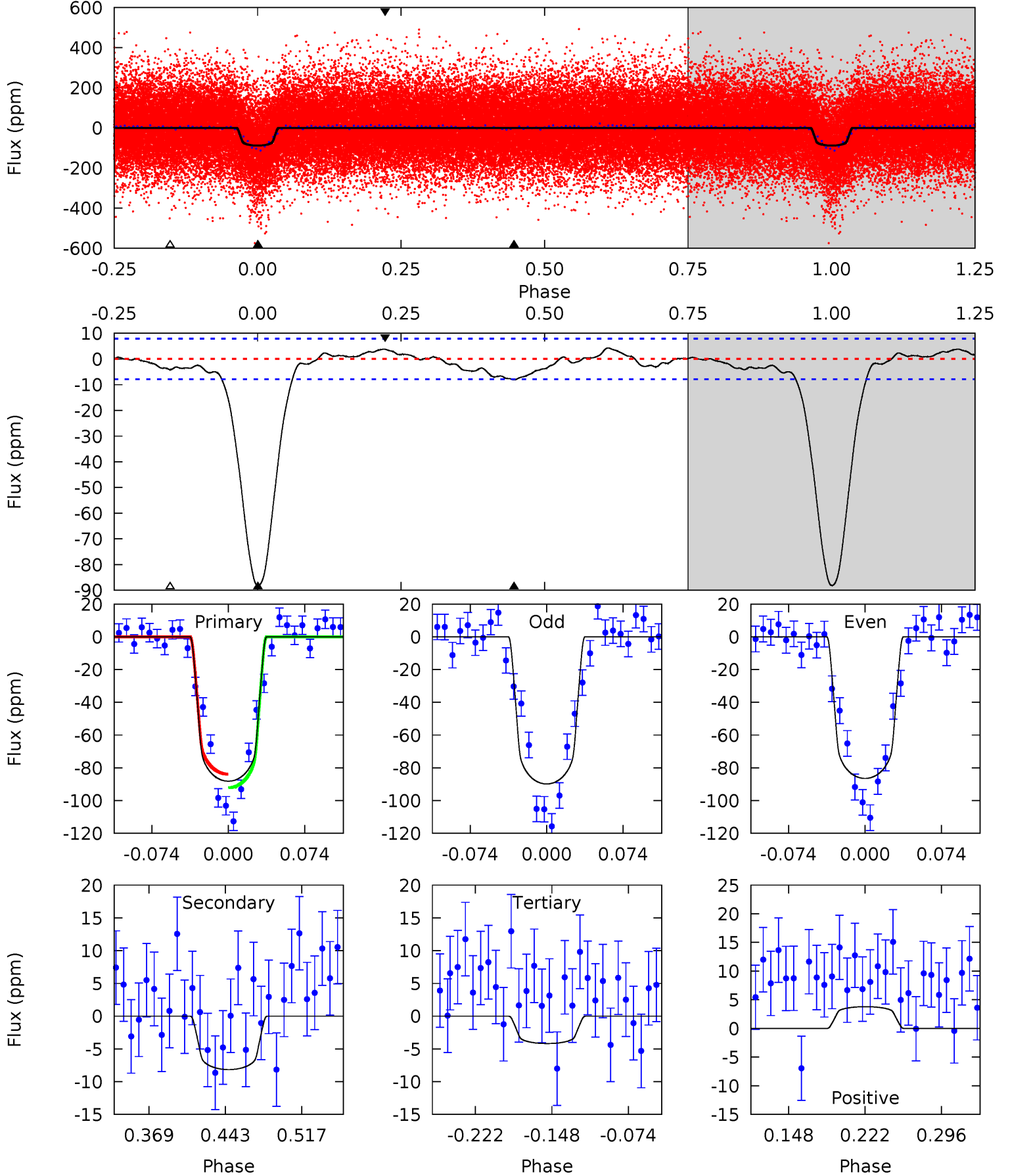
TCE 007137725-01 P= 2.253518 Days $T_0=132.494137$ (BKJD)



DV Model-Shift Uniqueness Test

007137725-01, P = 2.253517 Days, E = 130.237406 Days

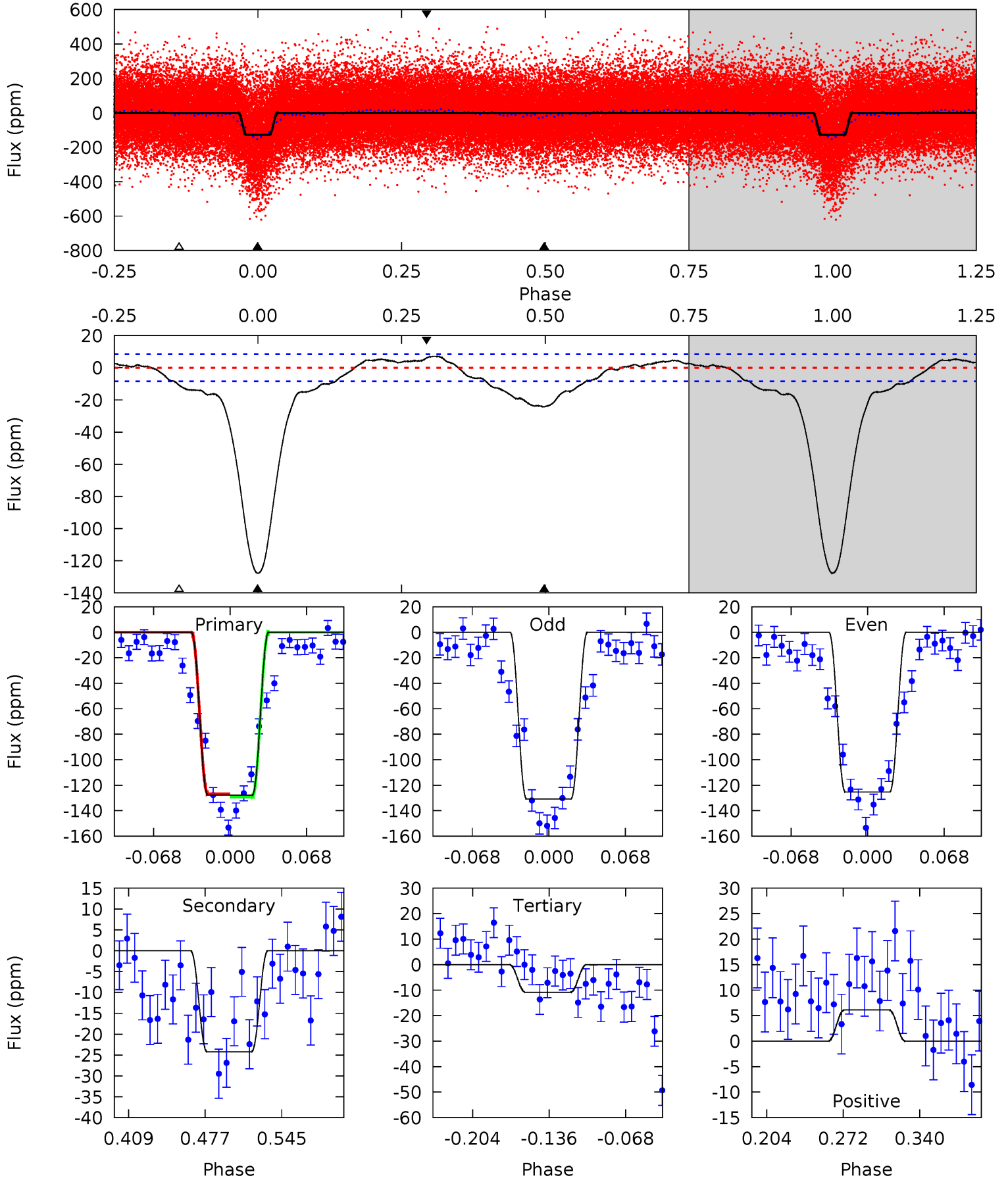
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.7	4.78	2.45	2.22	4.63	1.79	1.34	49.2	49.4	2.33	2.56	0.99	1.00	0.05	2.42



Alt Model-Shift Uniqueness Test

007137725-01, P = 2.253518 Days, E = 130.240619 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.5	13.4	6.01	3.37	4.64	1.82	3.89	64.5	67.1	7.35	10.00	1.50	1.00	0.05	0.69



Stellar Parameters For KIC 007137725

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6526^{+155}_{-214}	$4.217^{+0.140}_{-0.140}$	$-0.140^{+0.250}_{-0.300}$	$1.426^{+0.293}_{-0.263}$	$1.226^{+0.157}_{-0.192}$	$0.596^{+0.399}_{-0.241}$
	+2%/-3%	+3%/-3%	+179%/-214%	+21%/-18%	+13%/-16%	+67%/-40%
Source	PHO1	FLK73	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 007137725-01 / KOI 1699.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 2	$1.59^{+0.26}_{-0.25}$	2533^{+151}_{-136}	3723^{+226}_{-221}	$2.270^{+1.035}_{-0.693}$
Alt.	-24 ± 2	$1.92^{+0.29}_{-0.26}$	2534^{+151}_{-145}	4277^{+195}_{-175}	$4.610^{+1.487}_{-1.075}$

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

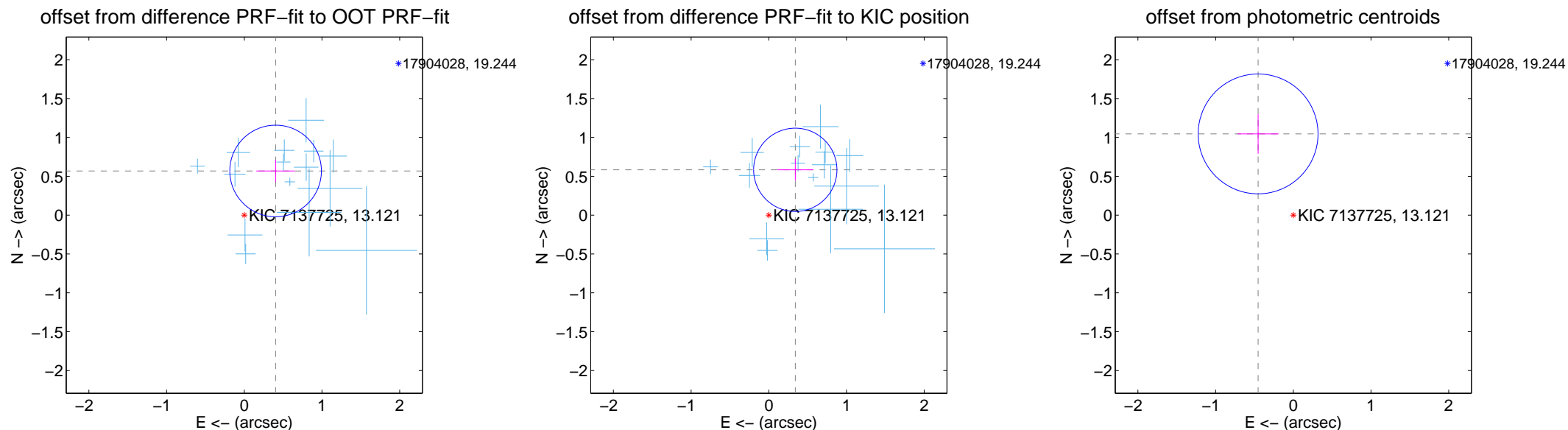
DV Centroid Data

Supplemental centroid analysis for 007137725-01. Kepler magnitude: 13.12. Transit SNR 30.34

There are 16 quarters with good PRF difference image offsets

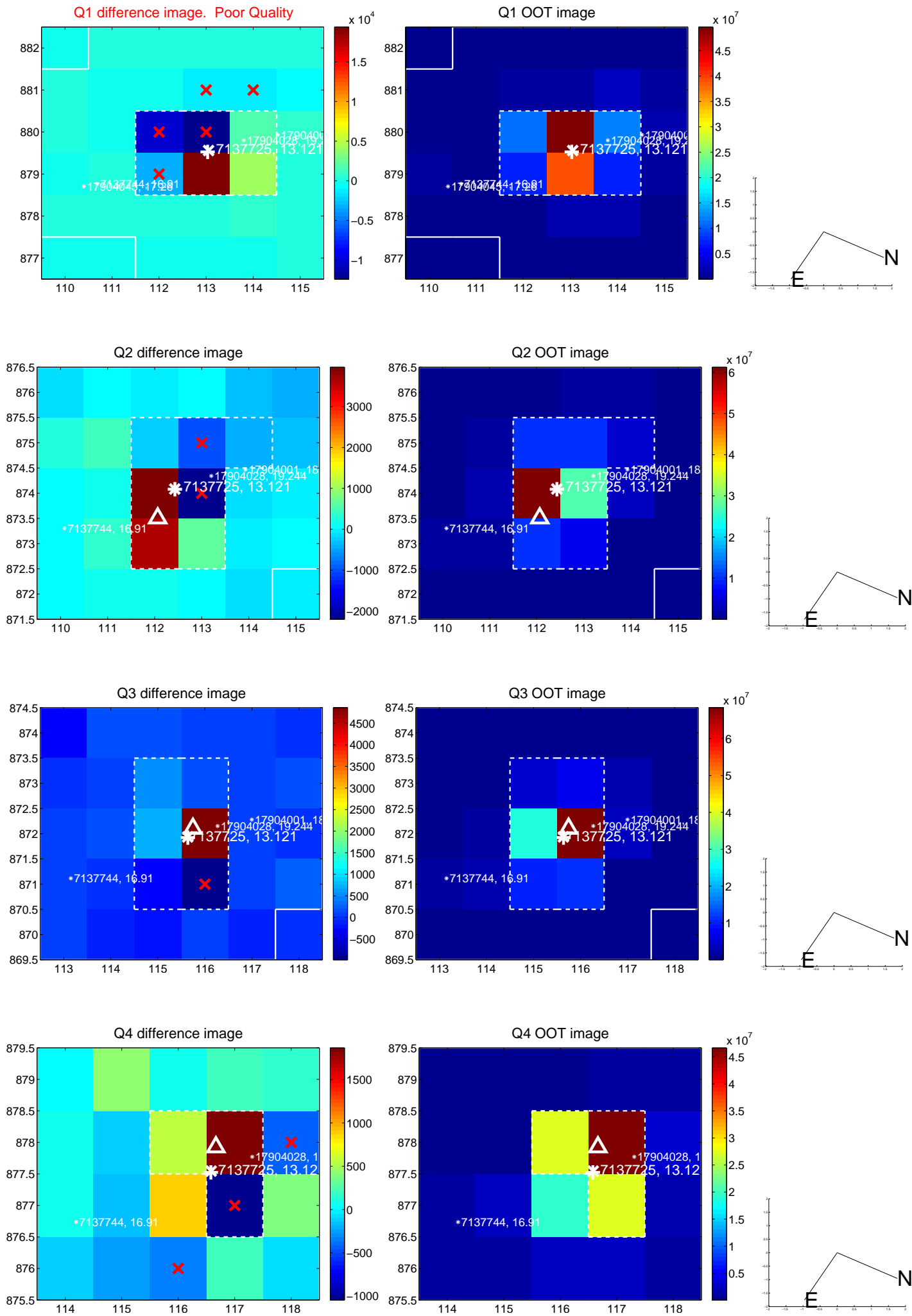
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.696 ± 0.196	3.54	-0.403 ± 0.249	0.568 ± 0.144
PRF-fit source offset from KIC position	0.675 ± 0.179	3.78	-0.341 ± 0.232	0.583 ± 0.139
photometric centroid source offset	1.14 ± 0.26	4.43	0.45 ± 0.26	1.05 ± 0.26

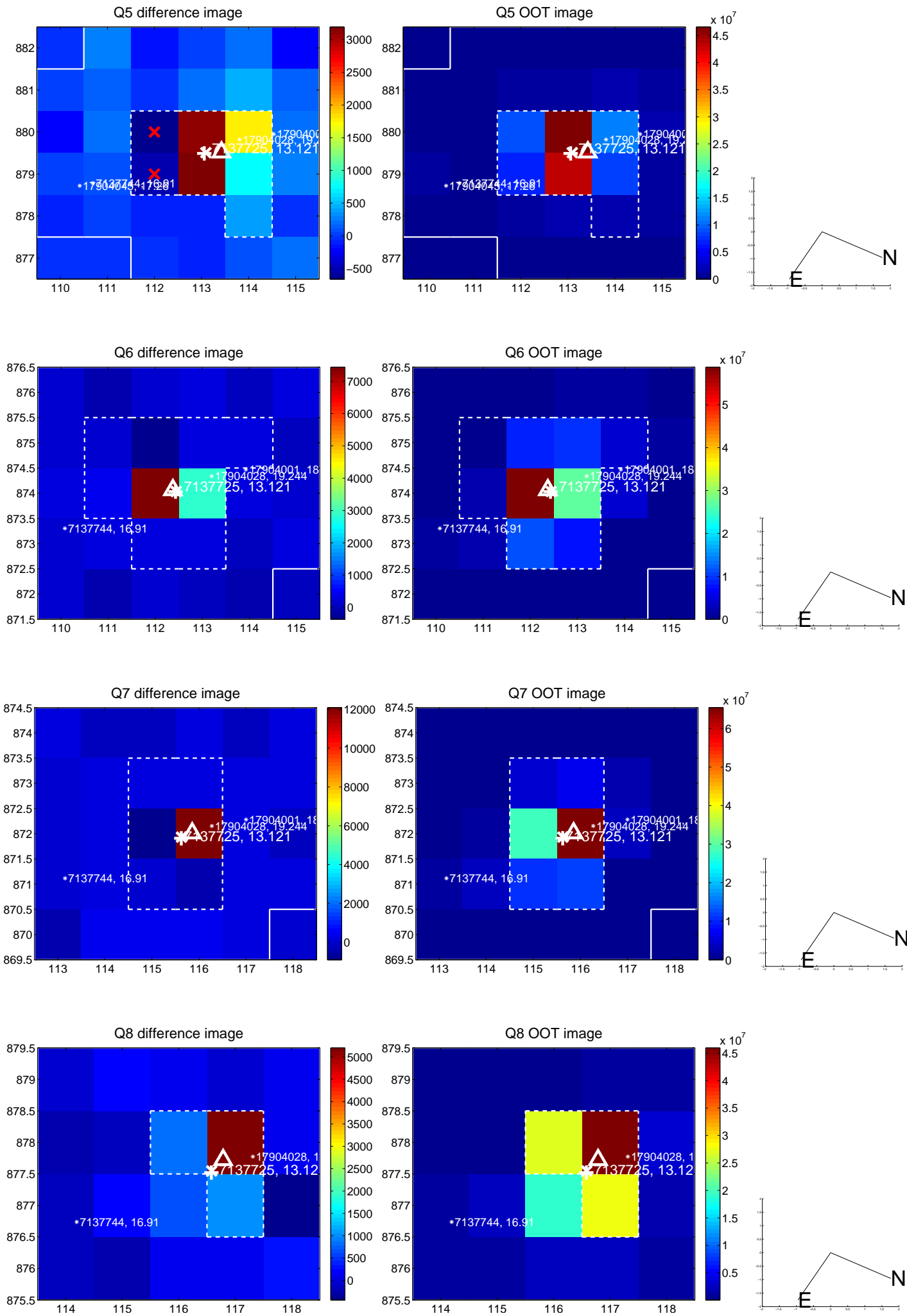


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

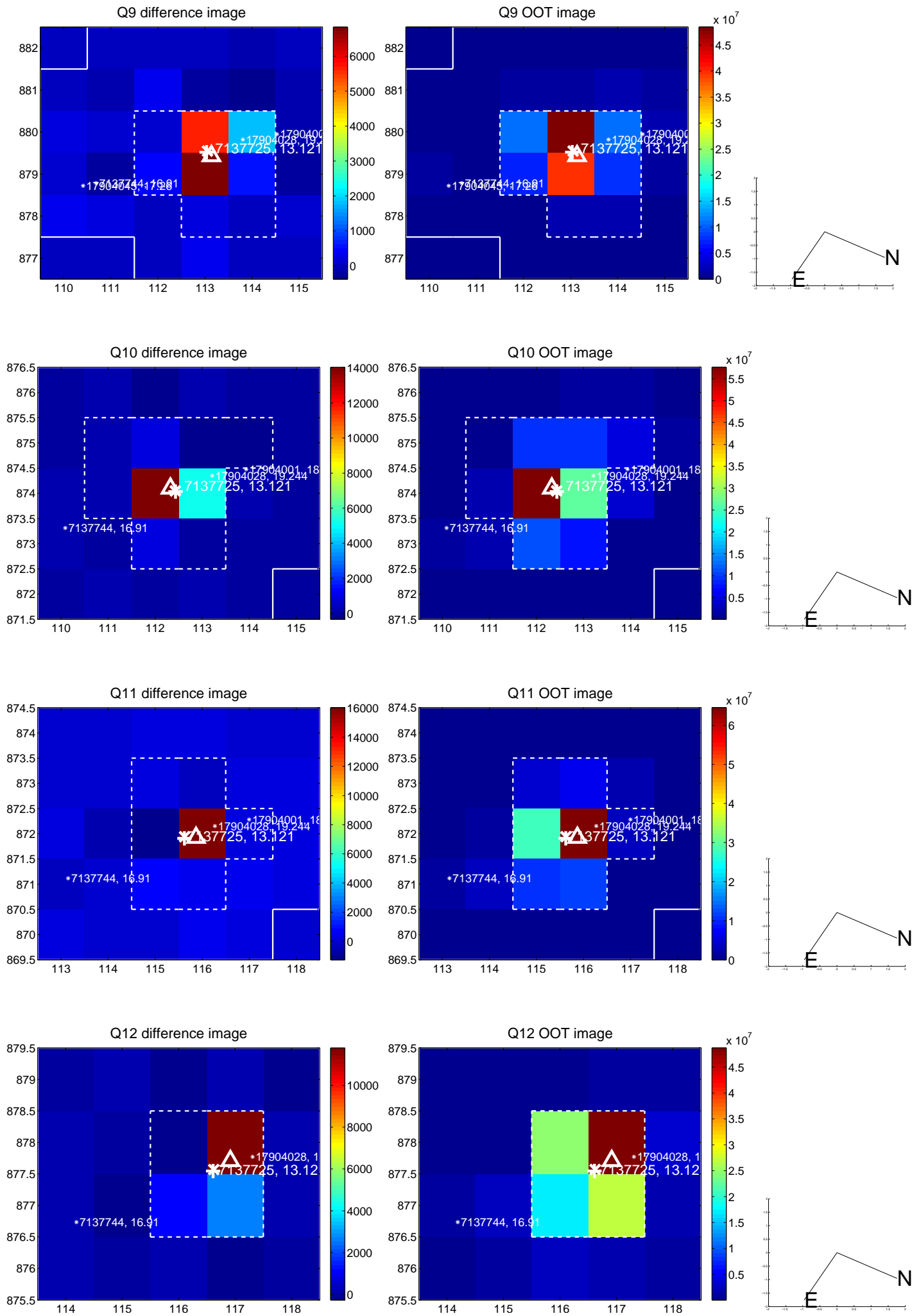
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



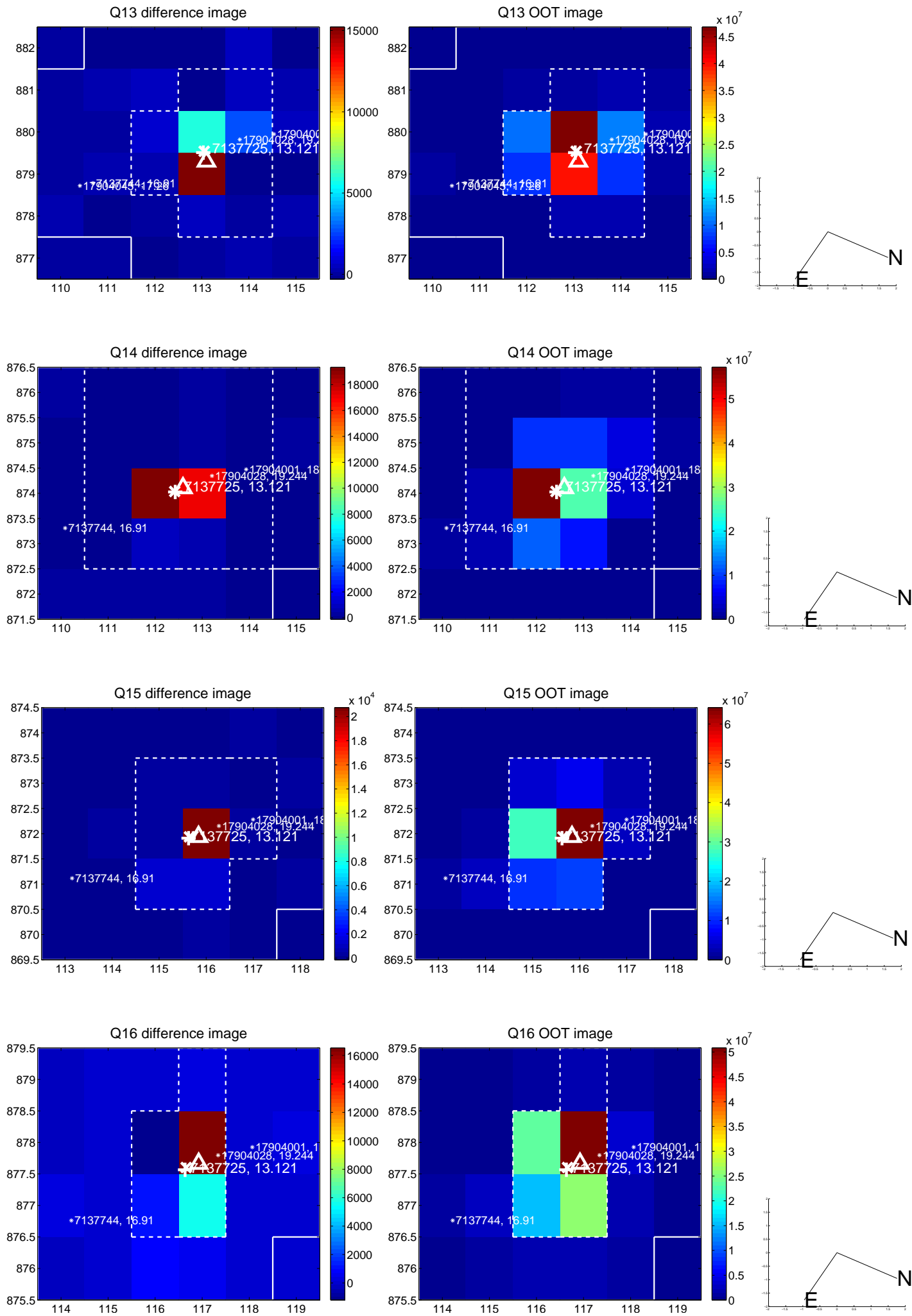
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



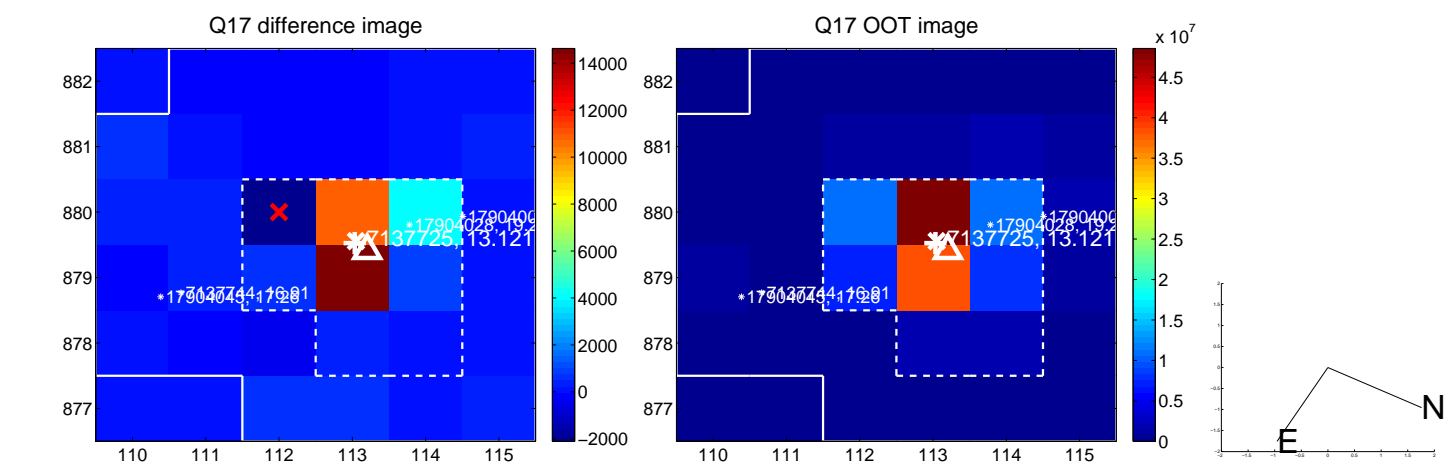
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



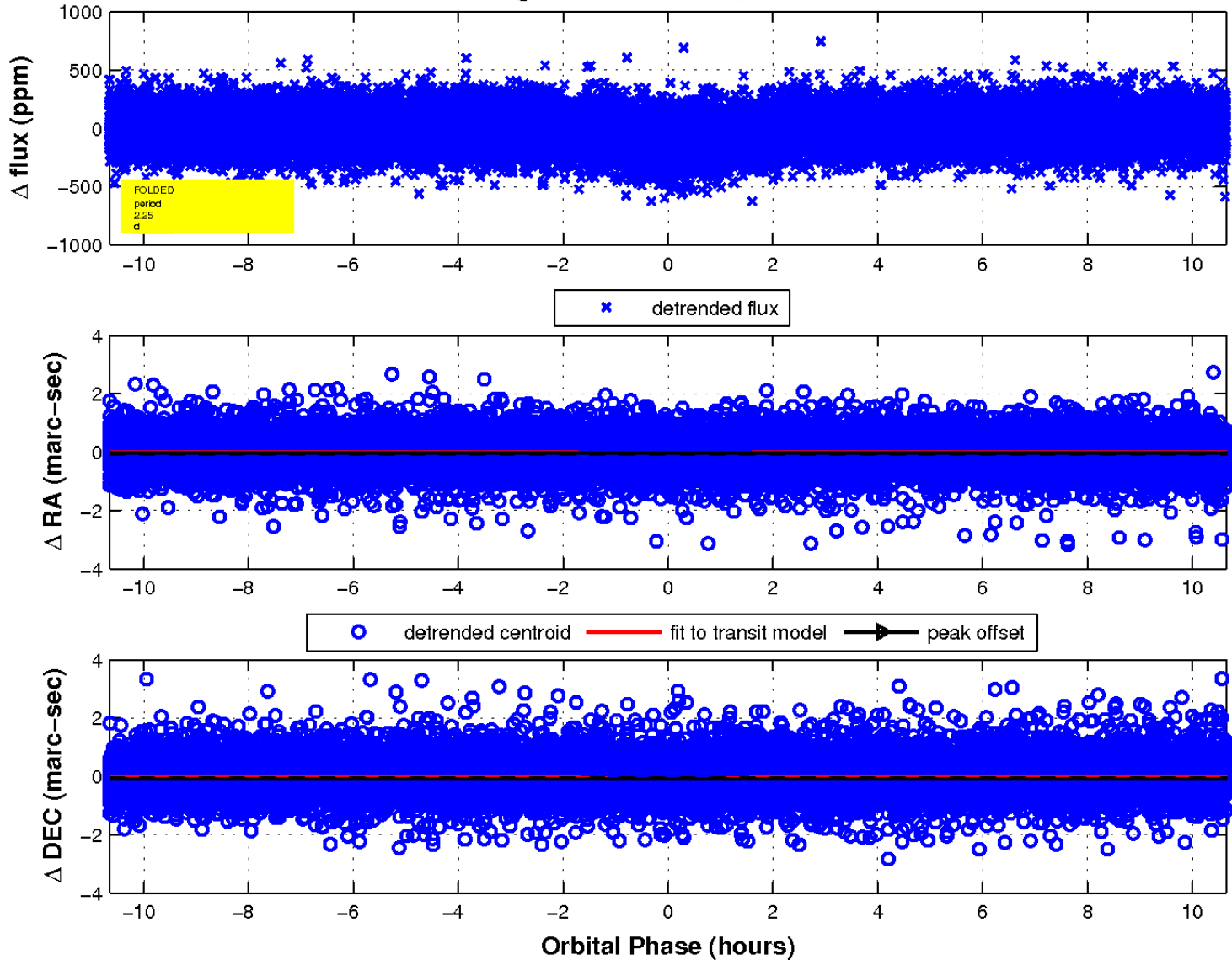
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

