

KIC 002441495

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})
002441495-01	OBS	0166.01	12.493397	138.462413	701.2	2.401	66.1	70.7	0.80	5207	2.47	42.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002441495-01	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.

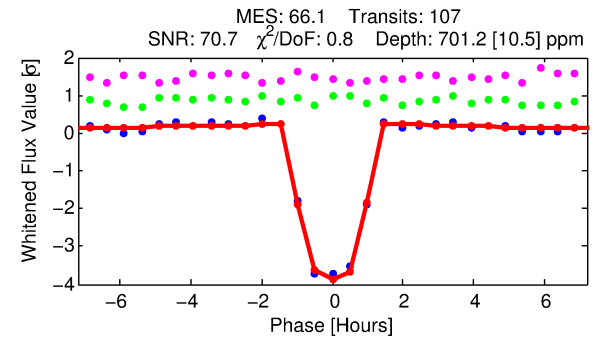
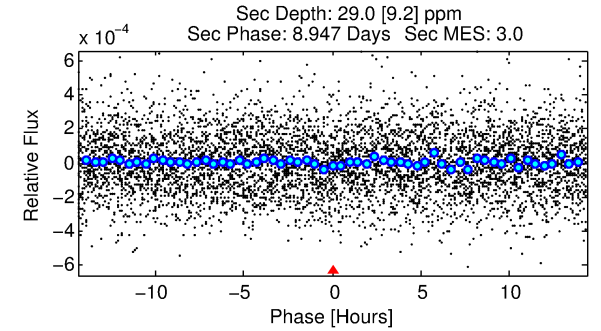
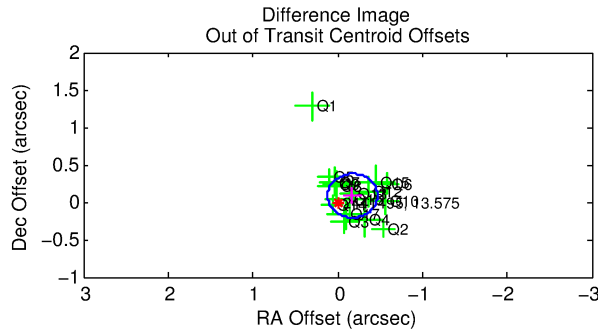
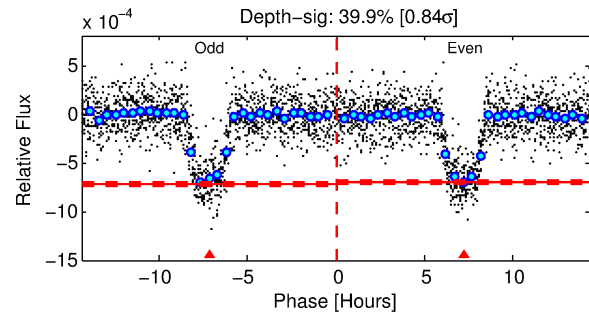
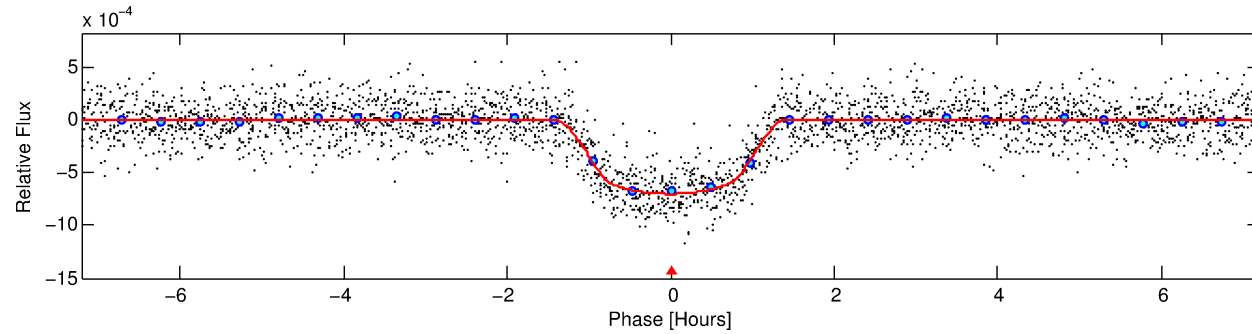
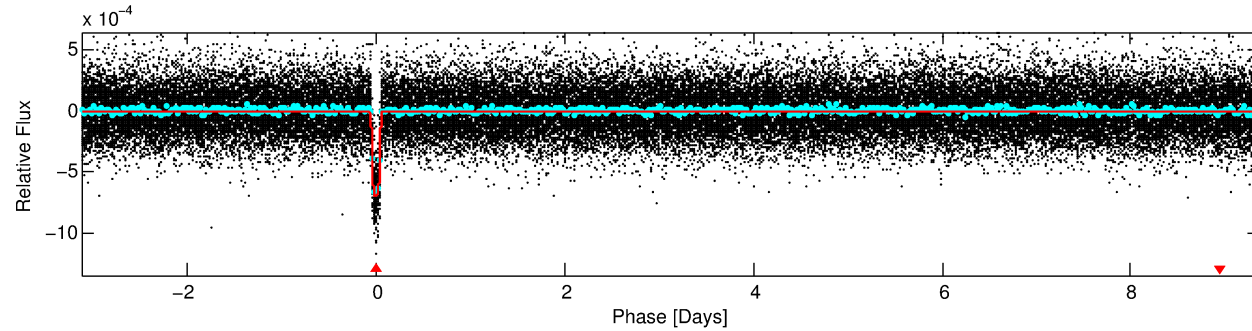
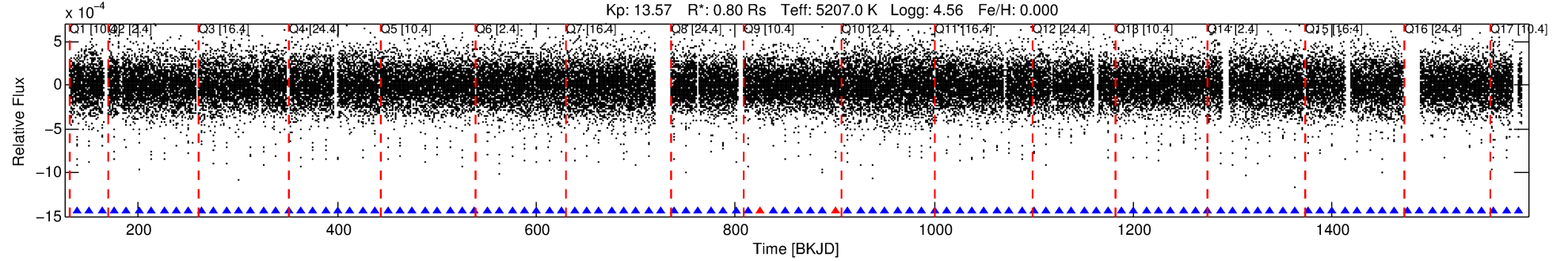
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002441495-01

No Significant Match Found

DV One-Page Summary

KIC: 2441495 Candidate: 1 of 1 Period: 12.493 d
KOI: K00166.01 Corr: 0.965



DV Fit Results:

Period = 12.49340 [0.00001] d
Epoch = 138.4624 [0.0008] BKJD
Rp/R* = 0.0285 [0.0027]
a/R* = 22.04 [8.02]
b = 0.87 [0.11]
Seff = 42.13 [5.67]
Teff = 650 [22] K
Rp = 2.47 [0.30] Re
a = 0.0994 [0.0069] AU
Ag = 25.82 [9.91] [2.50 σ]
Teffp = 2264 [213] K [7.53 σ]

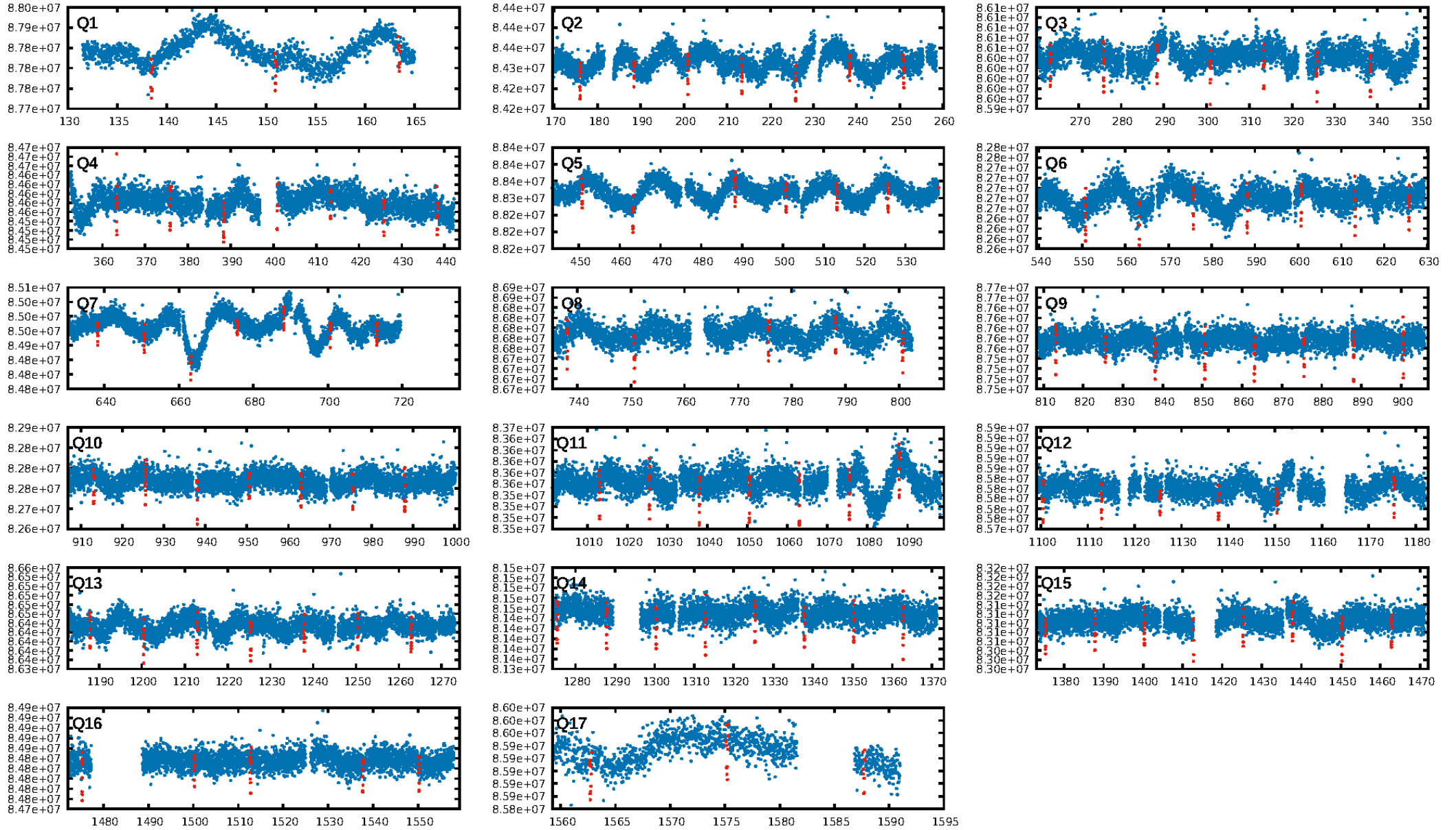
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [99/101]
GhostDiagnostic-chr: 10.58
Centroid-sig: 0.6%
Centroid-so: 0.414 arcsec [1.89 σ]
OotOffset-rm: 0.193 arcsec [1.98 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.423 arcsec [4.05 σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

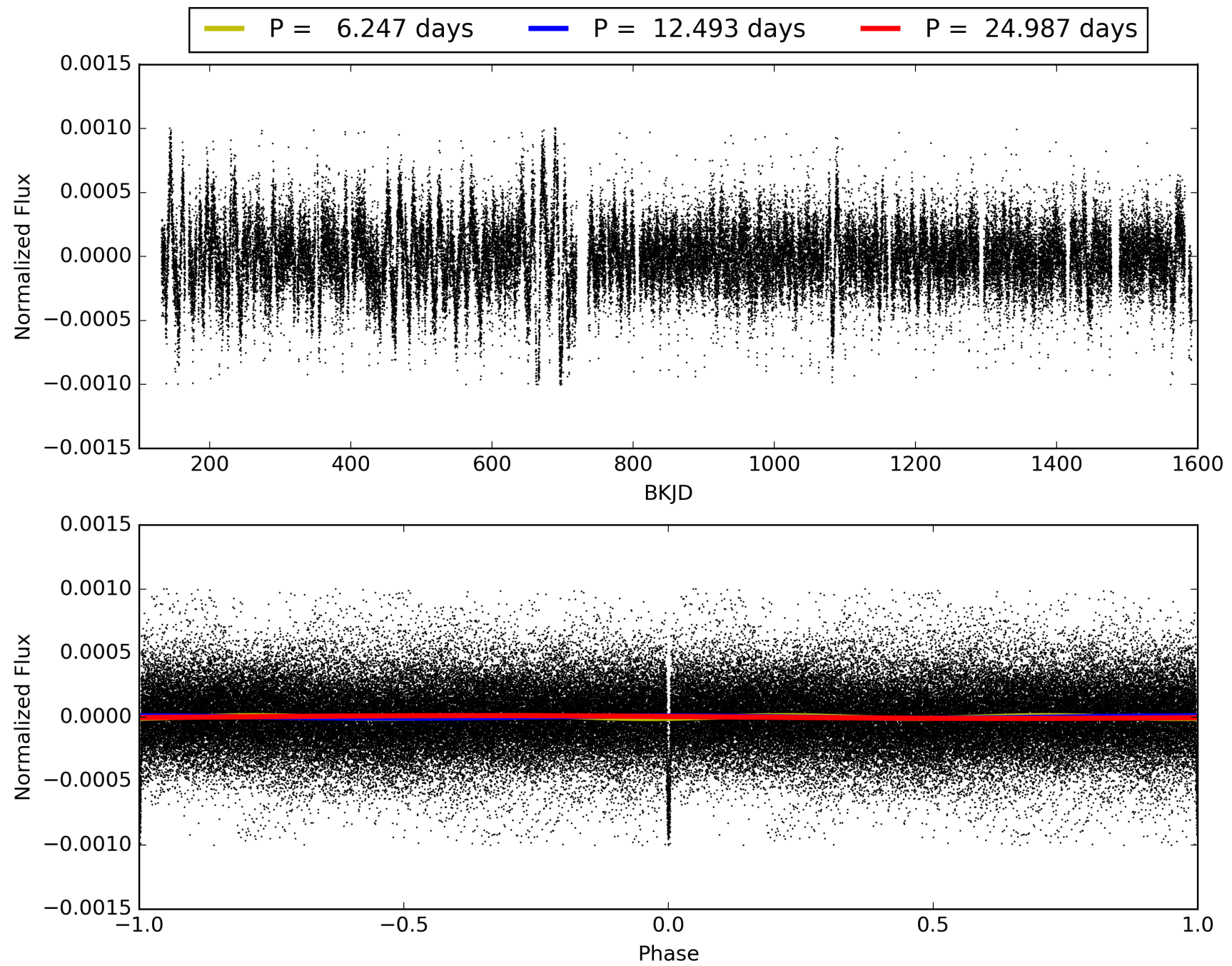
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:27:01 Z

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

TCE 002441495-01, PDC Light Curves

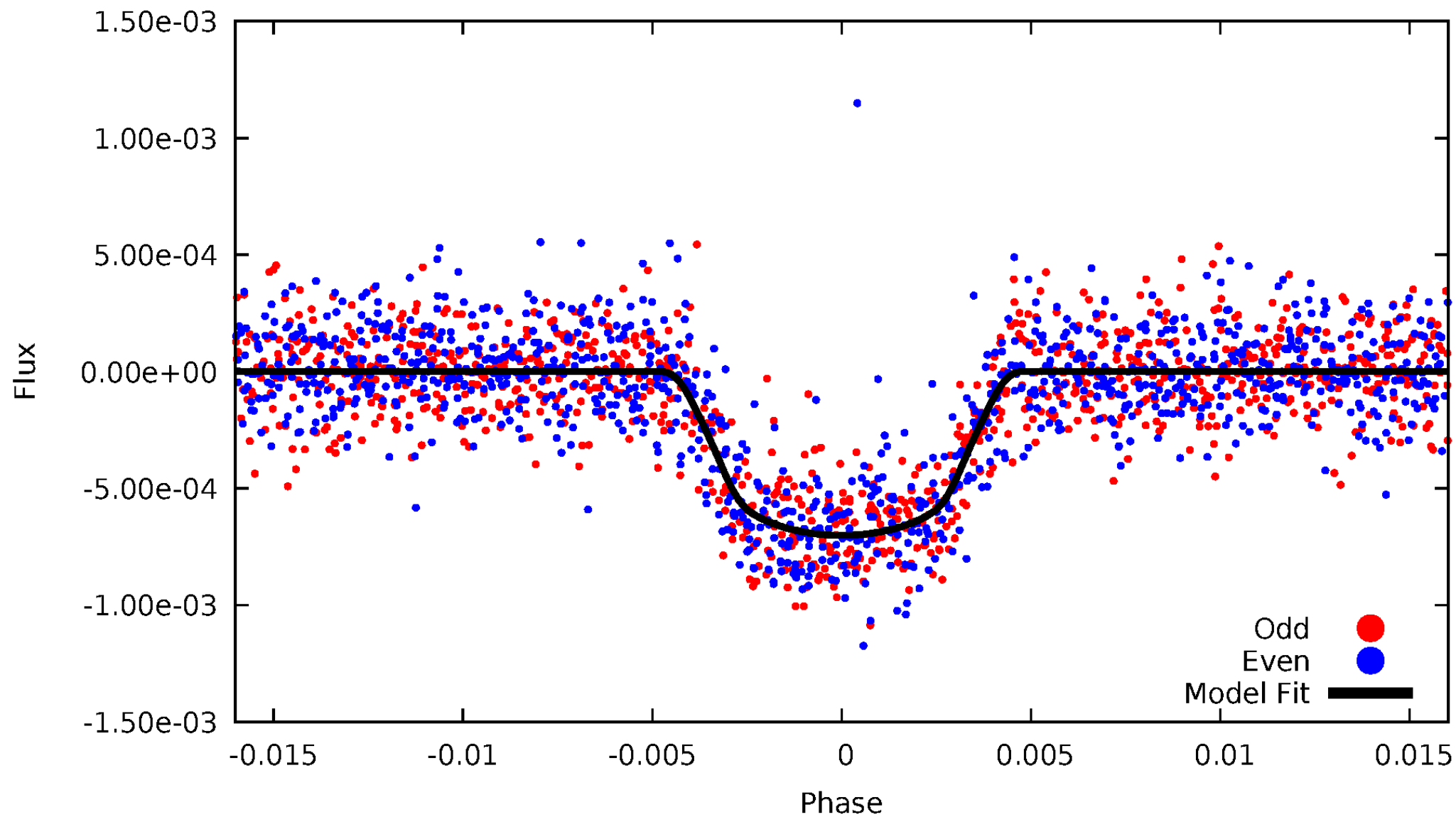


TCE 002441495-01



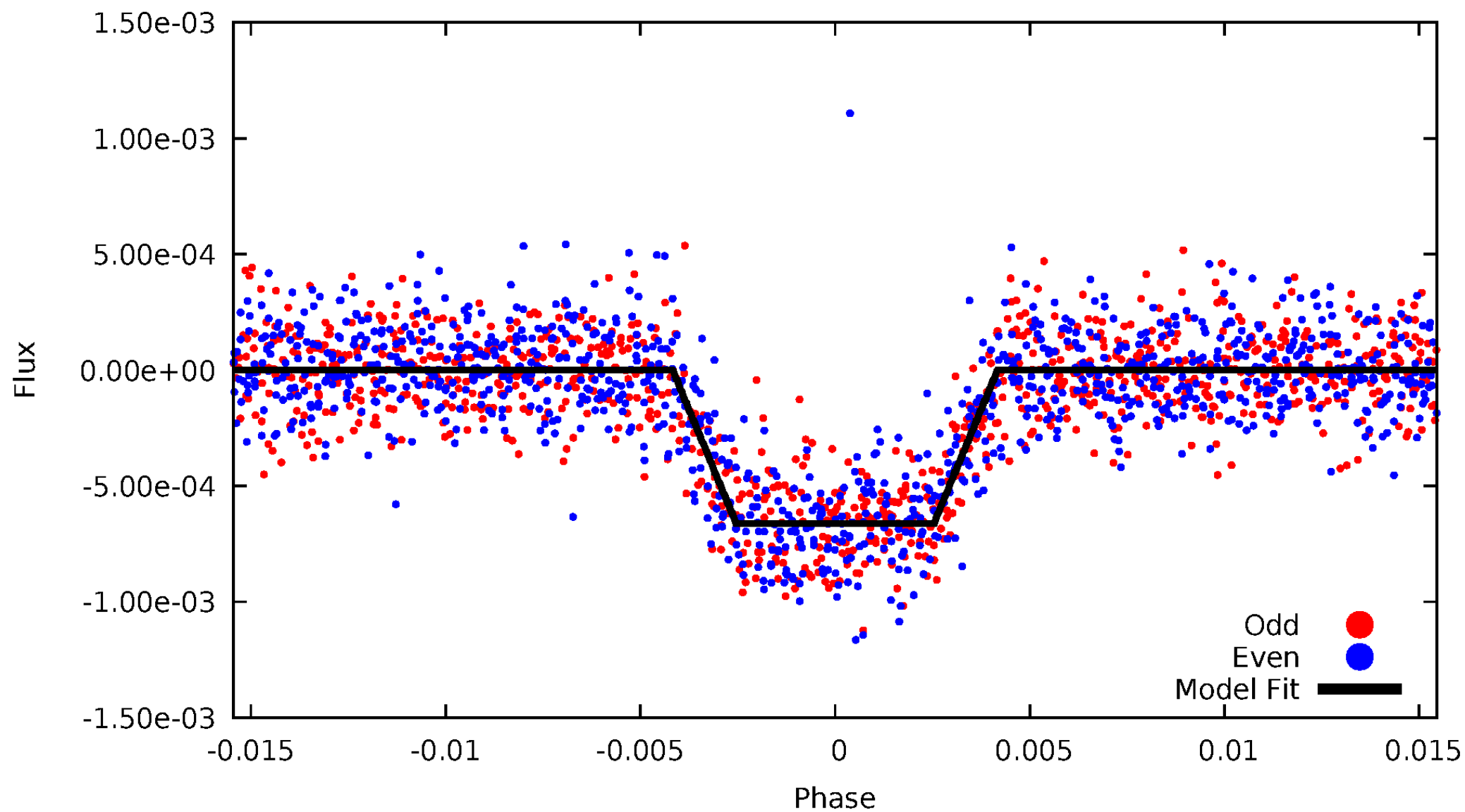
DV Odd/Even

TCE 002441495-01



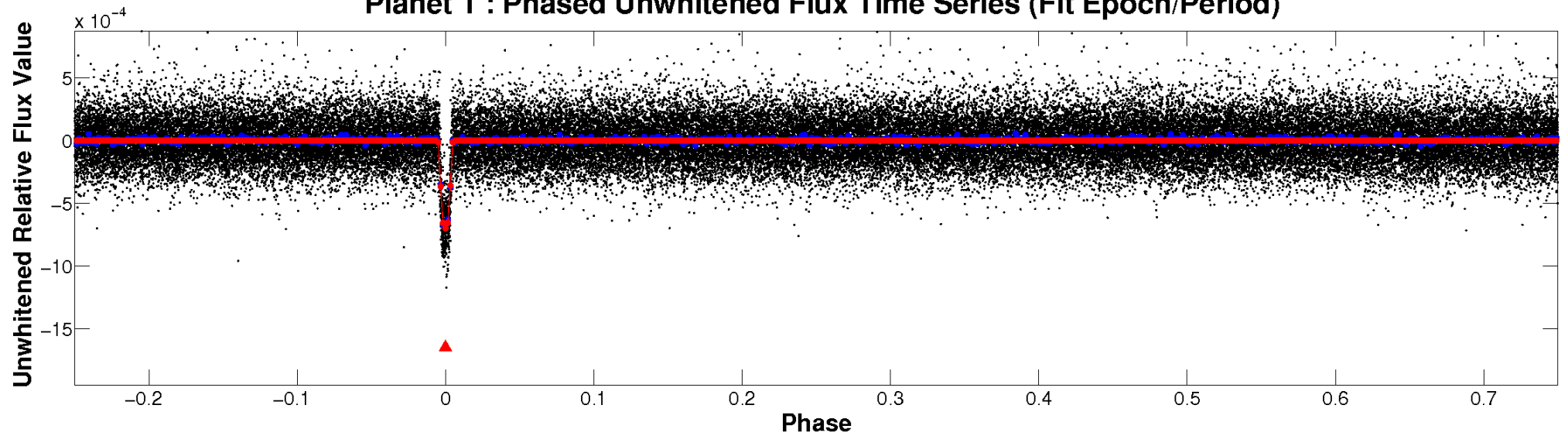
ALT Odd/Even

TCE 002441495-01

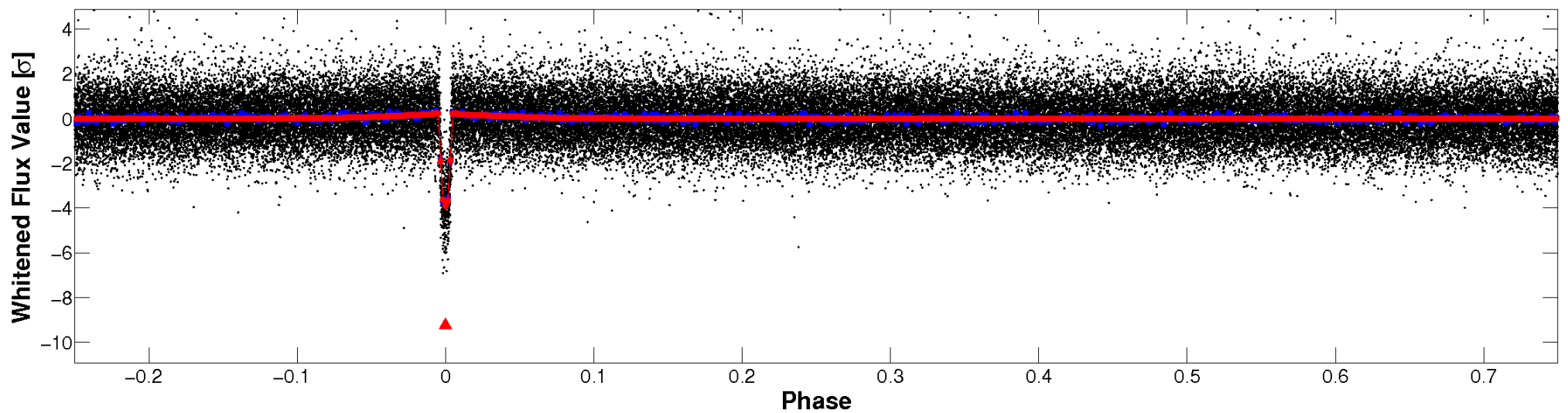


Non-Whitened Vs. Whitened Light Curve

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

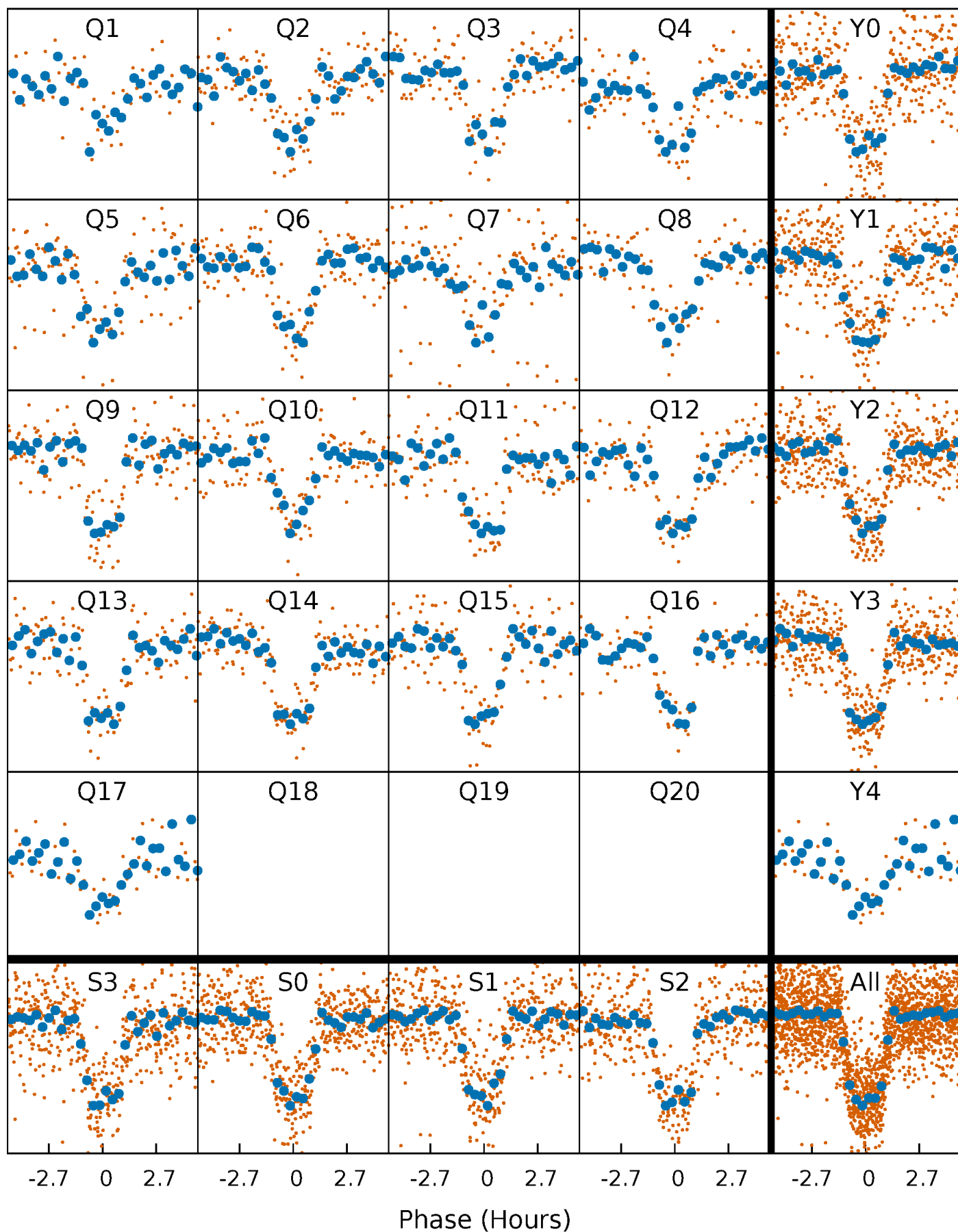


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



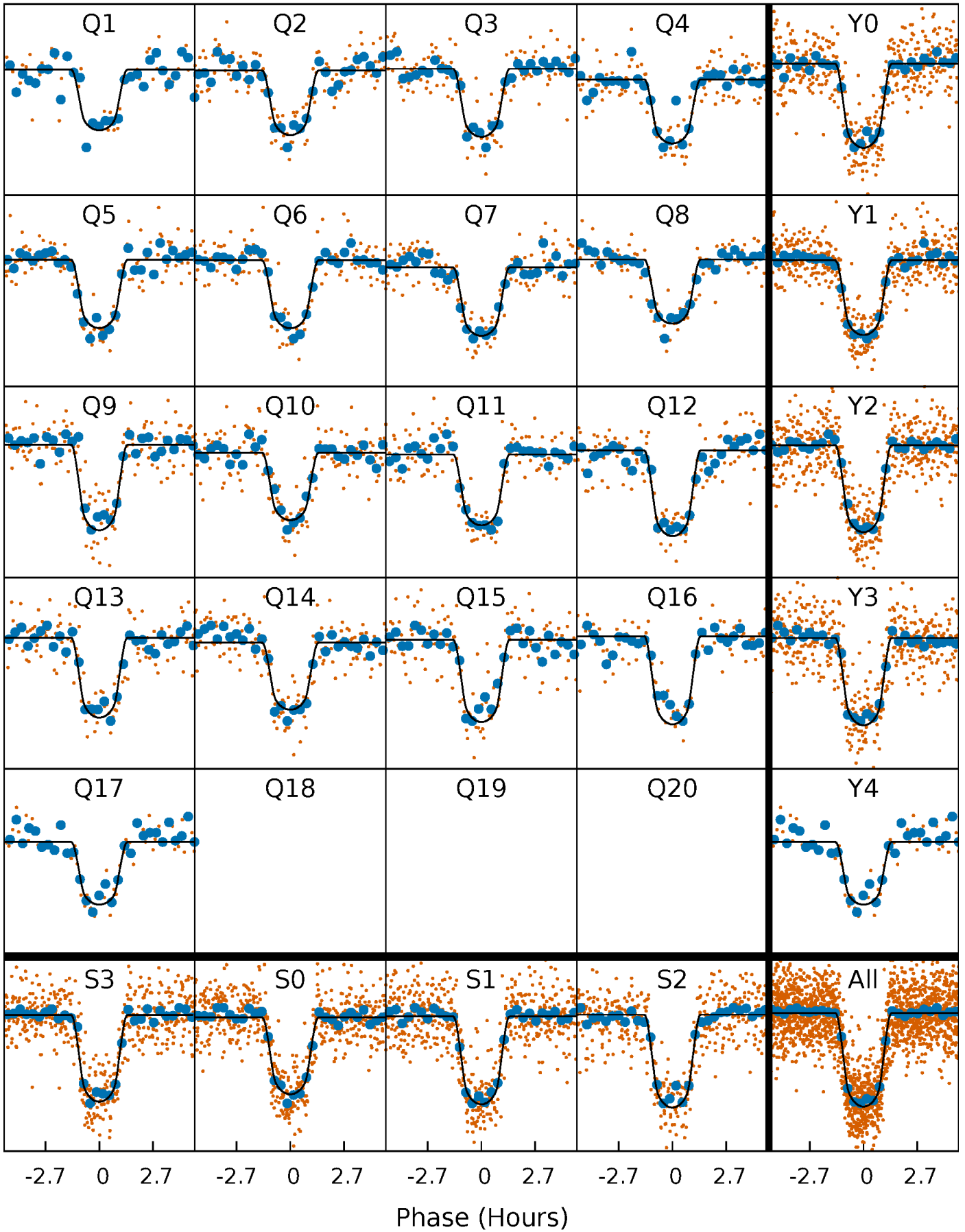
PDC Quarter-Phased Transit Curves

TCE 002441495-01 P= 12.493397 Days $T_0=138.462413$ (BKJD)



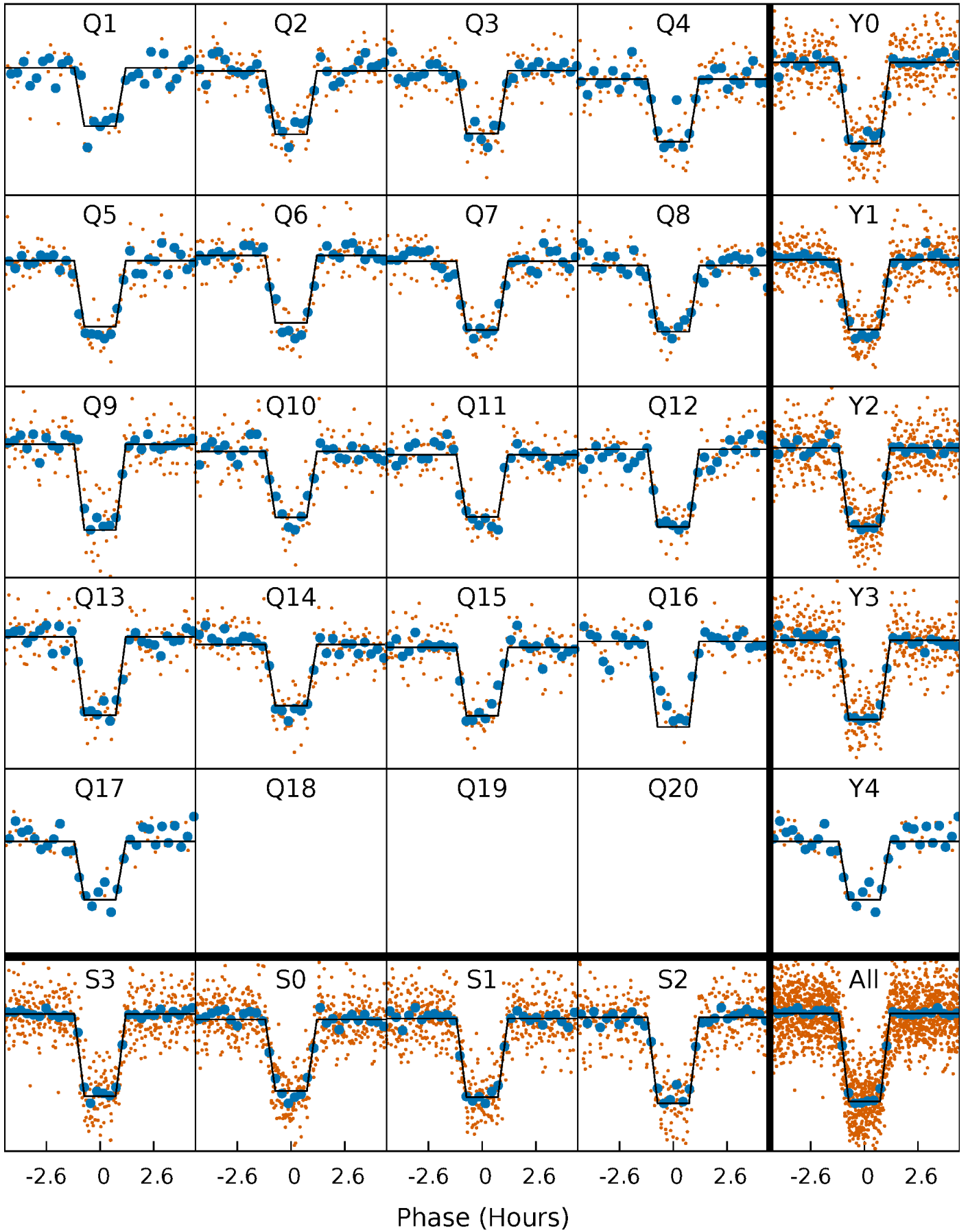
DV Quarter-Phased Transit Curves

TCE 002441495-01 P= 12.493397 Days $T_0=138.462413$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

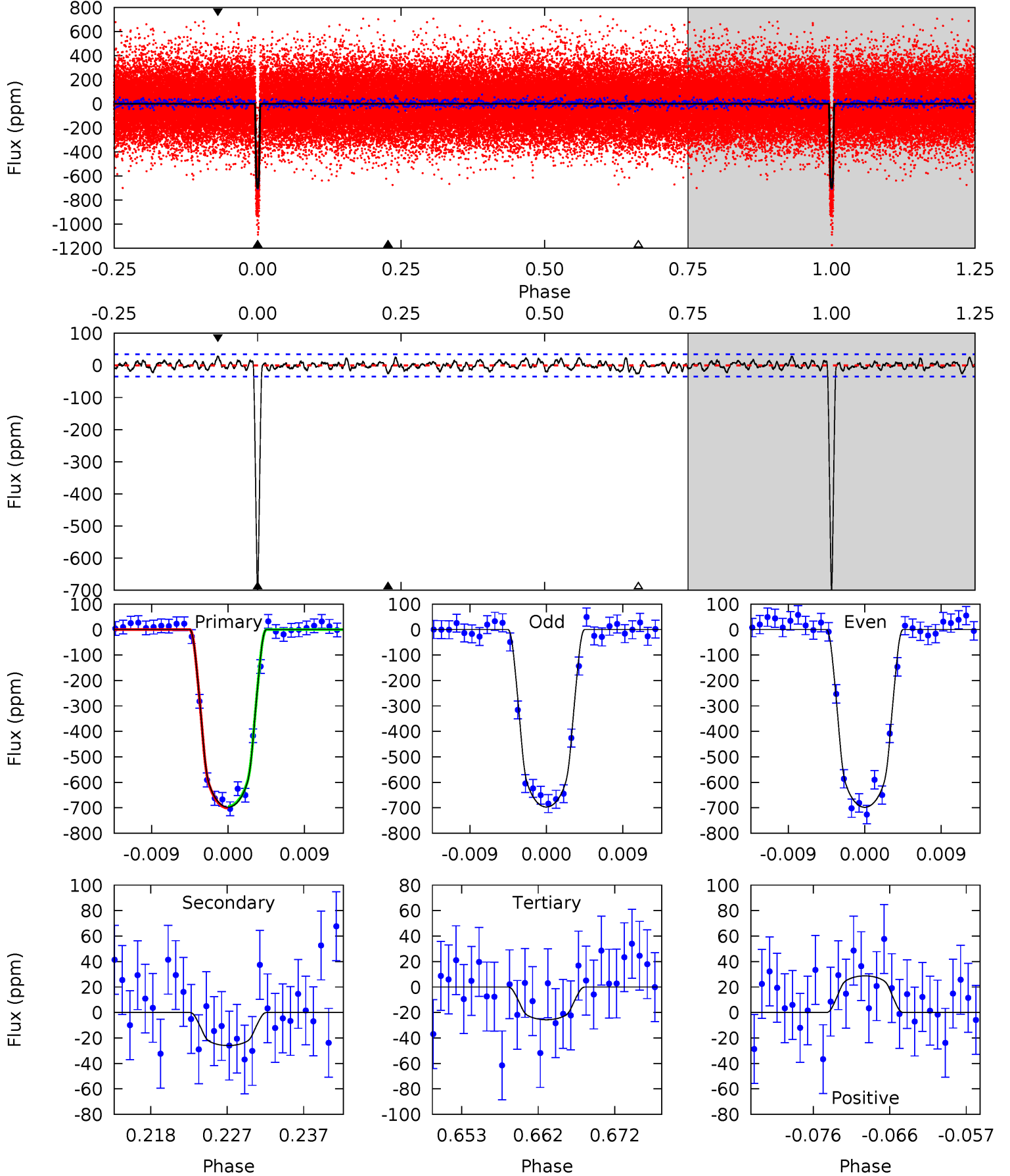
TCE 002441495-01 P= 12.493399 Days $T_0=138.462758$ (BKJD)



DV Model-Shift Uniqueness Test

002441495-01, $P = 12.493397$ Days, $E = 125.969016$ Days

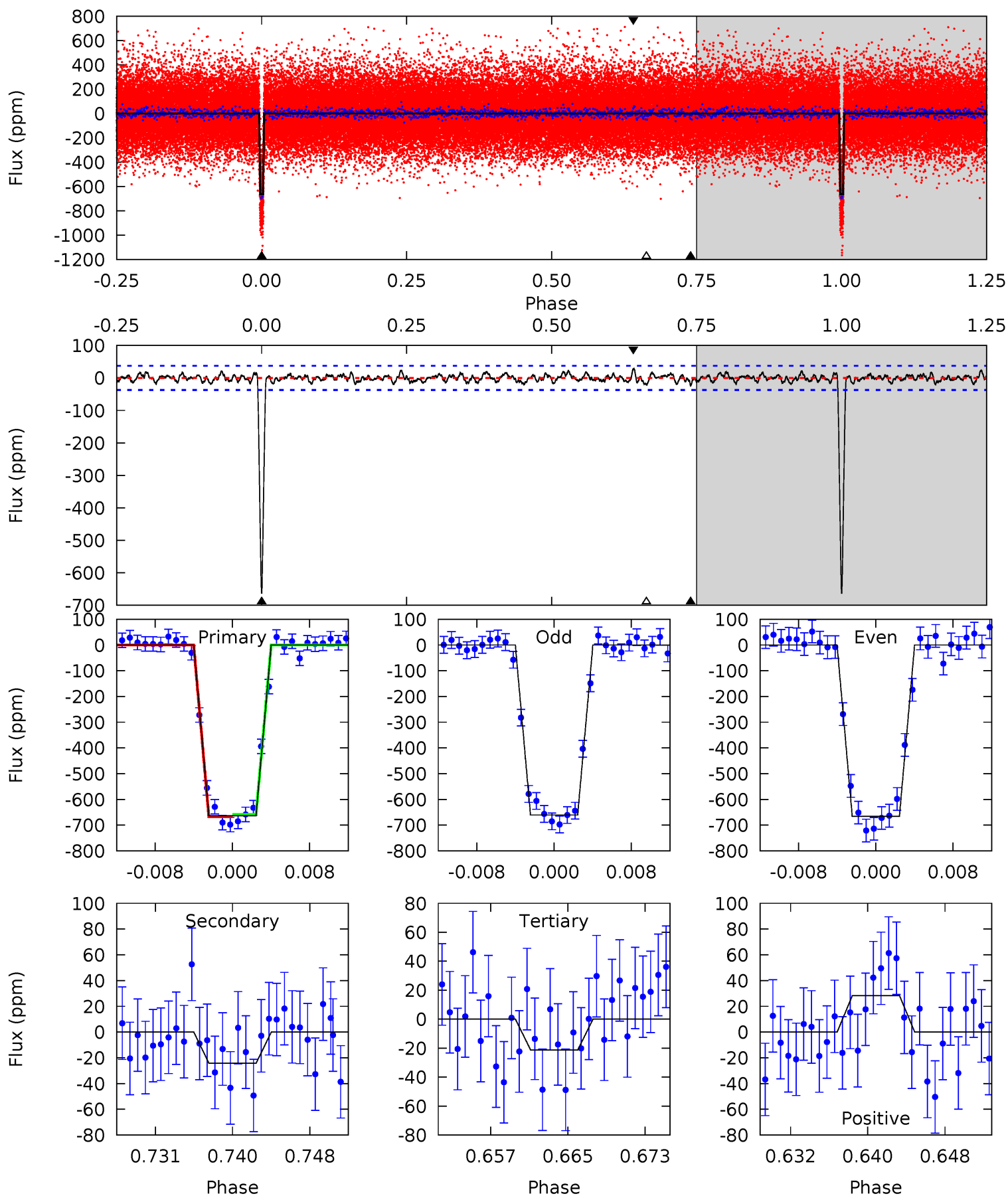
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
101.1	3.76	3.72	4.17	5.04	2.59	1.38	97.3	96.9	0.04	-0.40	0.08	0.99	0.04	0.44



Alt Model-Shift Uniqueness Test

002441495-01, $P = 12.493399$ Days, $E = 125.969359$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
90.1	3.29	2.88	3.85	5.06	2.64	1.20	87.2	86.3	0.41	-0.56	0.36	0.98	0.04	0.64



Stellar Parameters For KIC 002441495

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5207^{+103}_{-103}	$4.561^{+0.032}_{-0.063}$	$0.000^{+0.150}_{-0.150}$	$0.795^{+0.060}_{-0.037}$	$0.840^{+0.043}_{-0.047}$	$2.351^{+0.282}_{-0.446}$
	+2%/-2%	+1%/-1%	+inf%/-inf%	+8%/-5%	+5%/-6%	+12%/-19%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 002441495-01 / KOI 0166.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-26 ± 7	$2.50^{+0.24}_{-0.24}$	913^{+23}_{-21}	2878^{+141}_{-137}	22^{+9}_{-6}
Alt.	-24 ± 7	$2.24^{+0.24}_{-0.24}$	912^{+24}_{-24}	2947^{+154}_{-171}	27^{+10}_{-9}

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

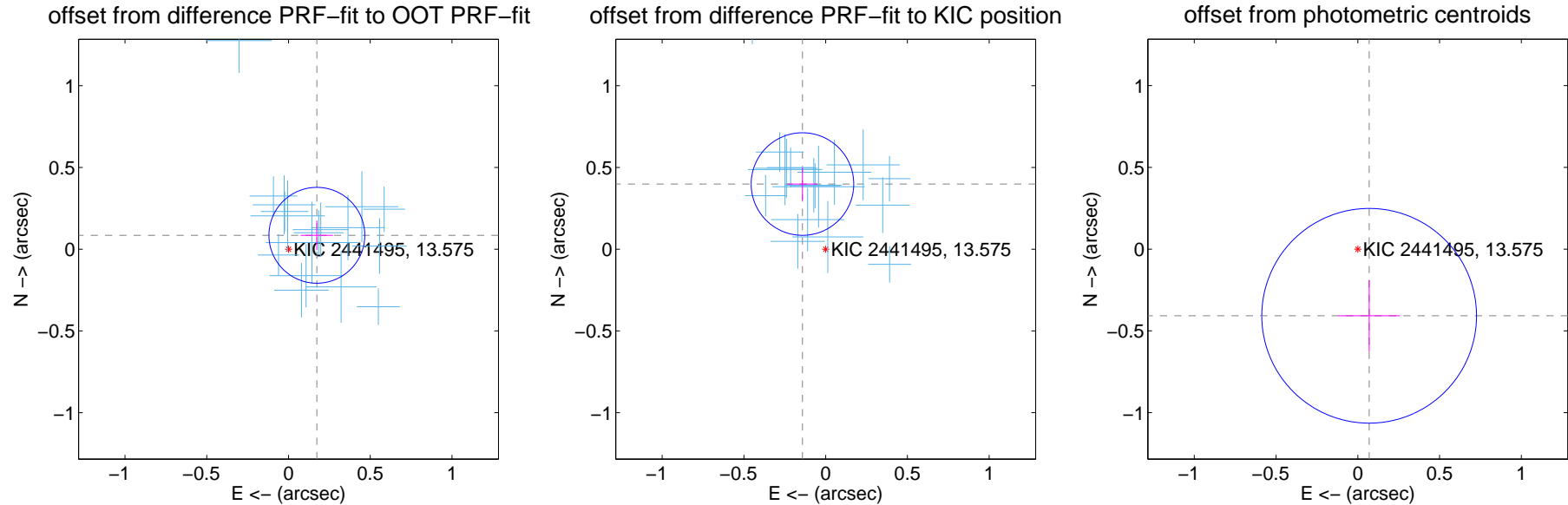
DV Centroid Data

Supplemental centroid analysis for 002441495-01. Kepler magnitude: 13.57. Transit SNR 70.66

There are 17 quarters with good PRF difference image offsets

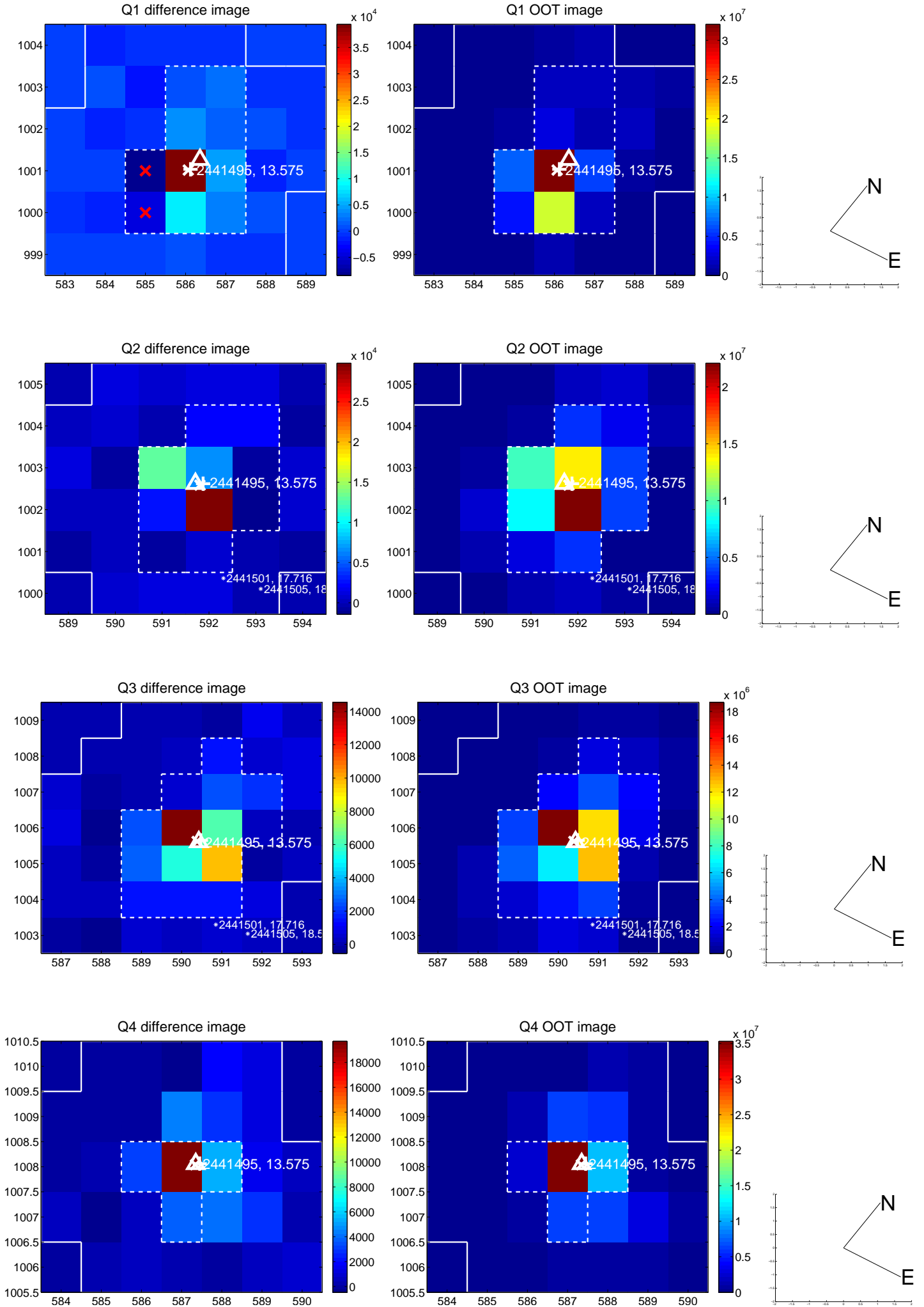
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.193 ± 0.098	1.98	-0.173 ± 0.099	0.085 ± 0.091
PRF-fit source offset from KIC position	0.423 ± 0.105	4.05	0.142 ± 0.091	0.398 ± 0.099
photometric centroid source offset	0.41 ± 0.22	1.89	-0.07 ± 0.19	-0.41 ± 0.22

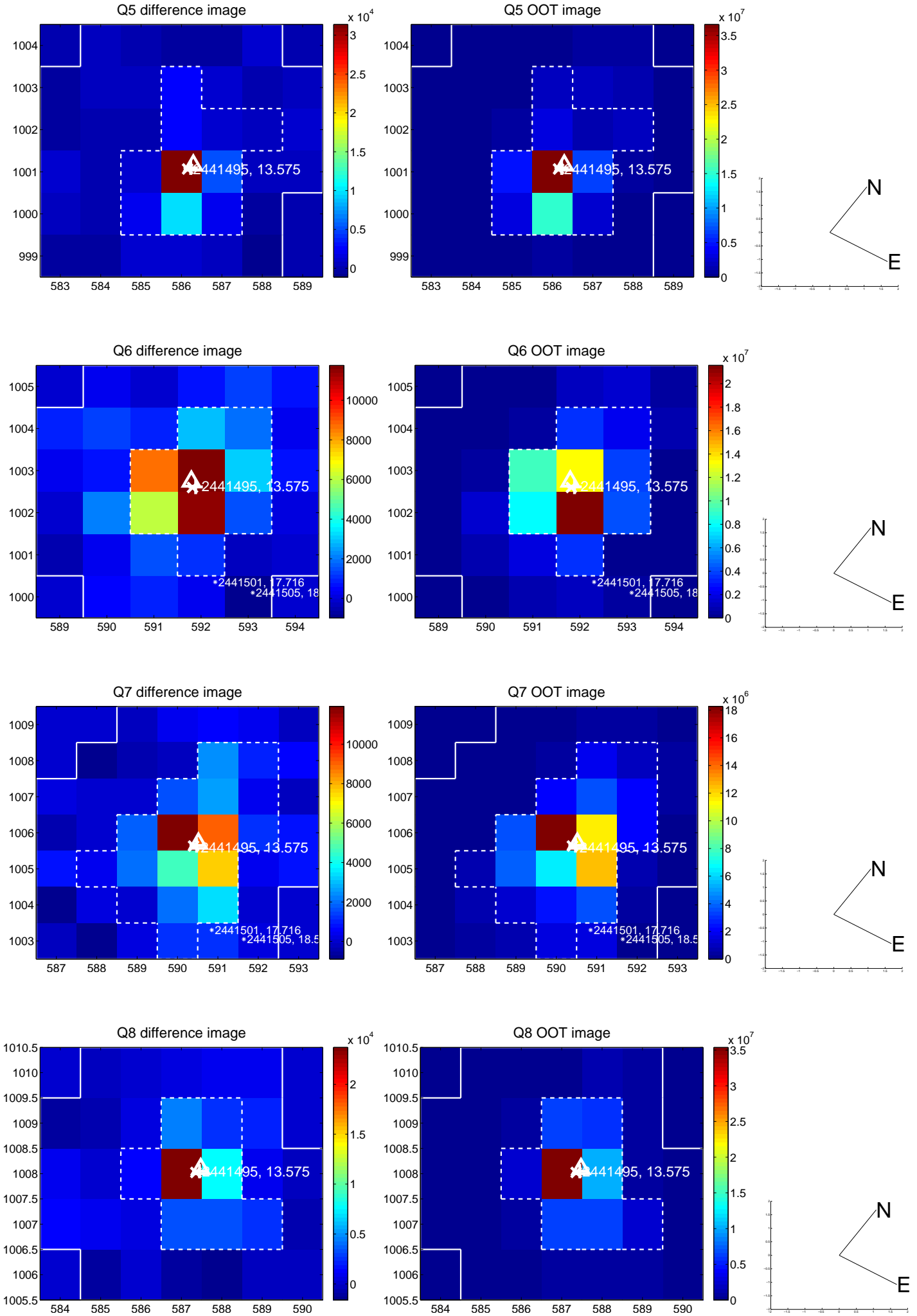


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

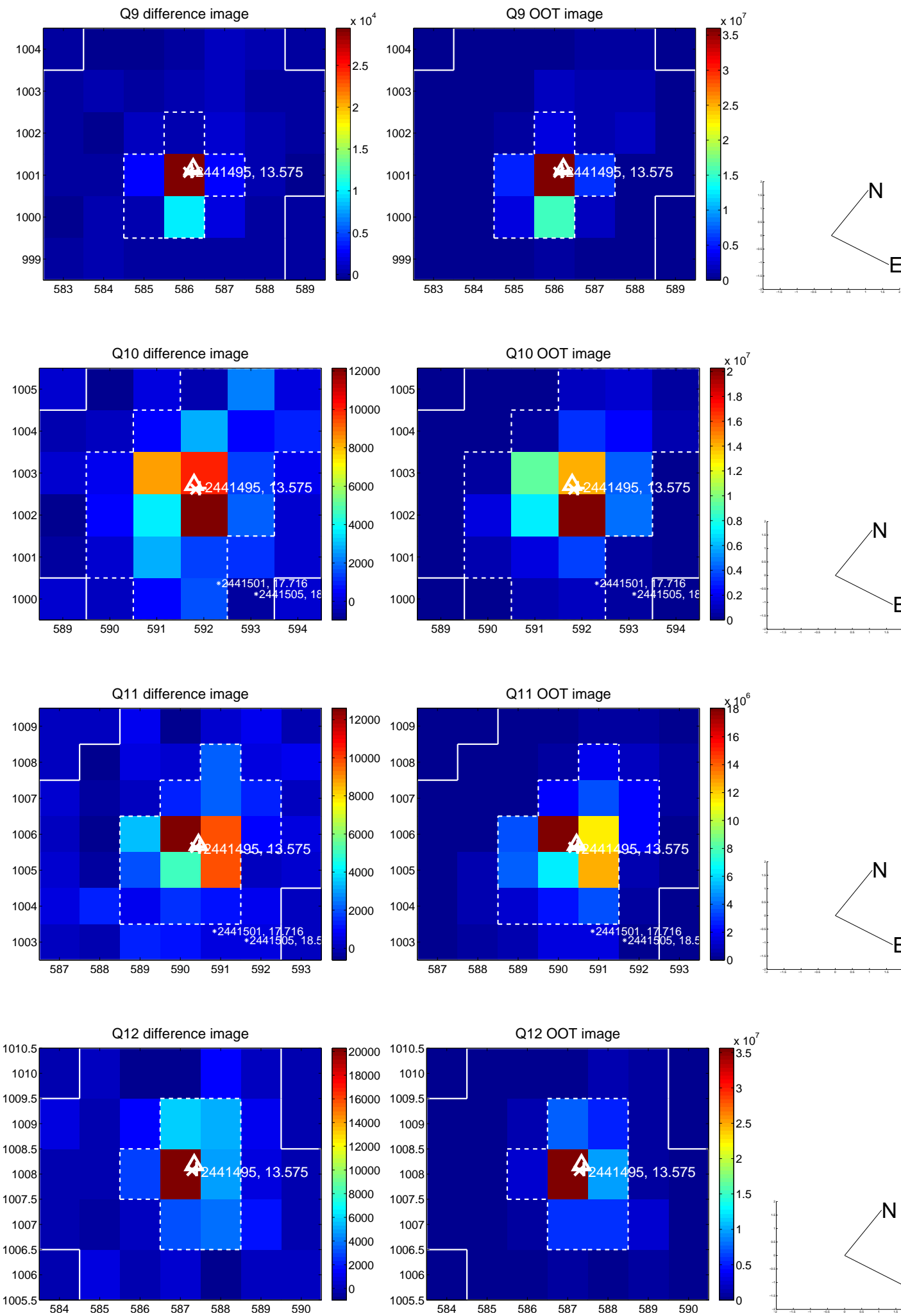
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



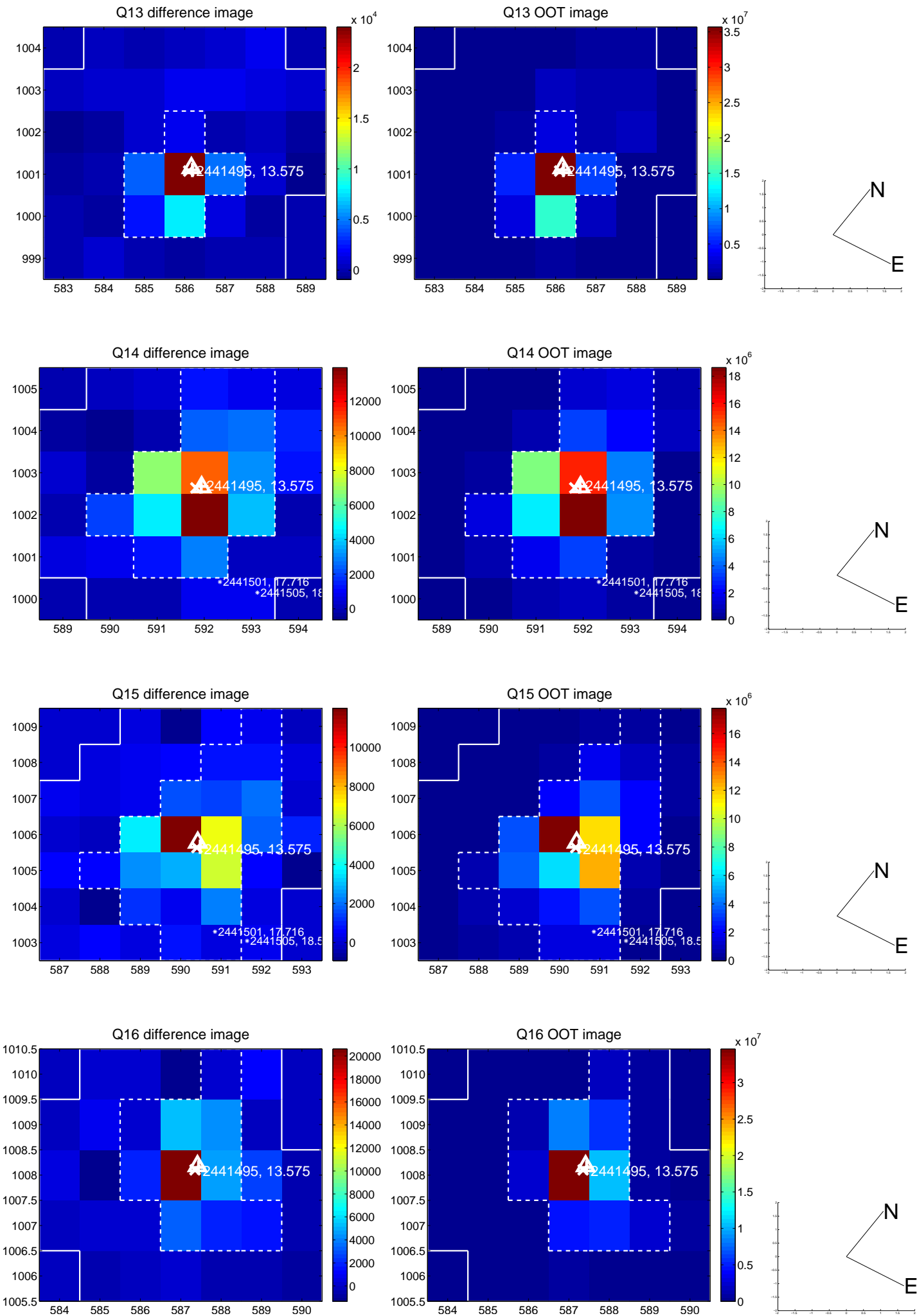
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



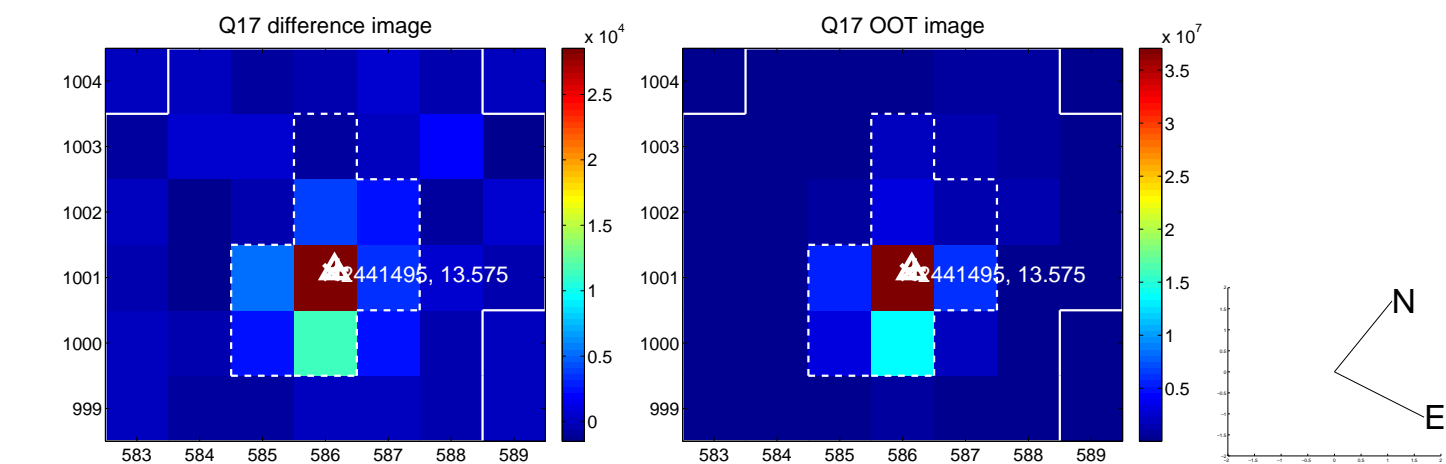
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



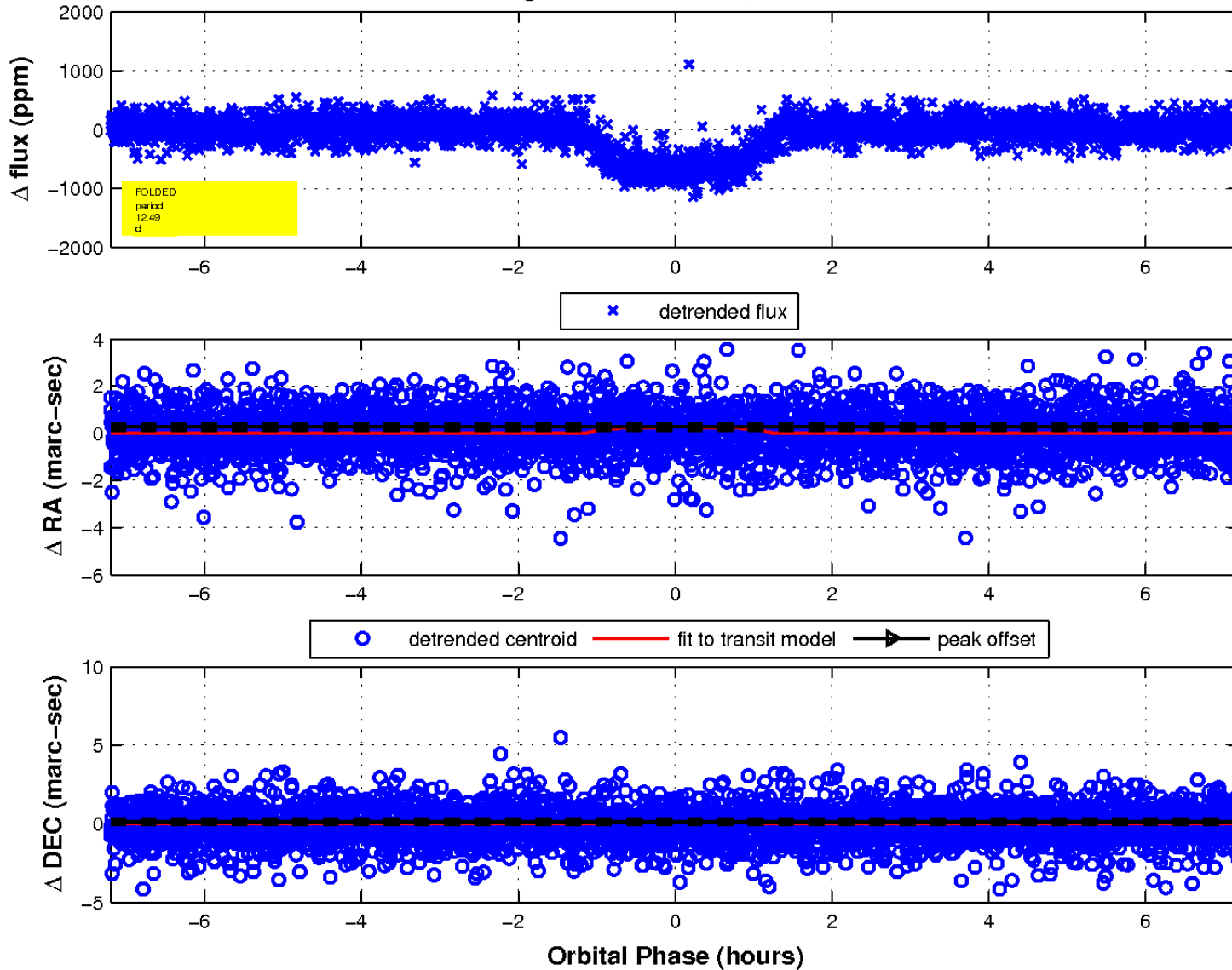
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

