

KIC 011304987

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})
011304987-01	OBS	2993.01	0.692688	131.810447	513.0	0.604	20.0	43.1	0.96	5907	2.69	4185.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011304987-01	OBS	FP	0.00	0	1	1	0	MOD_ODDEVEN_DV—CENT_UNRESOLVED_OFFSET

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 011304987-01

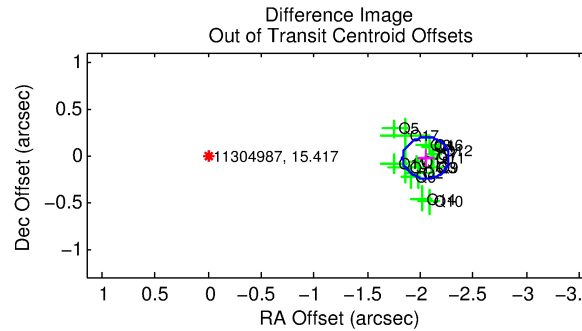
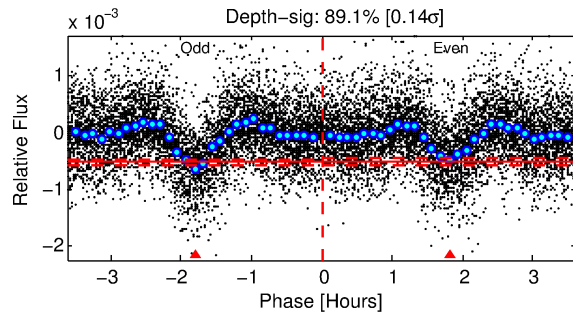
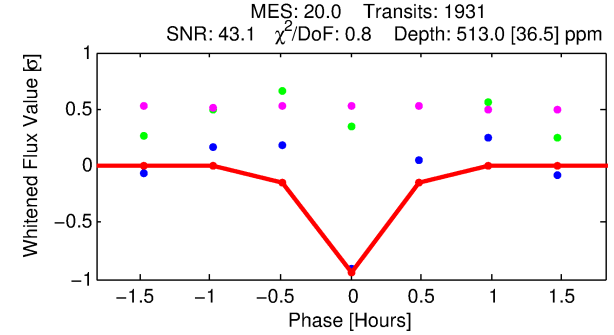
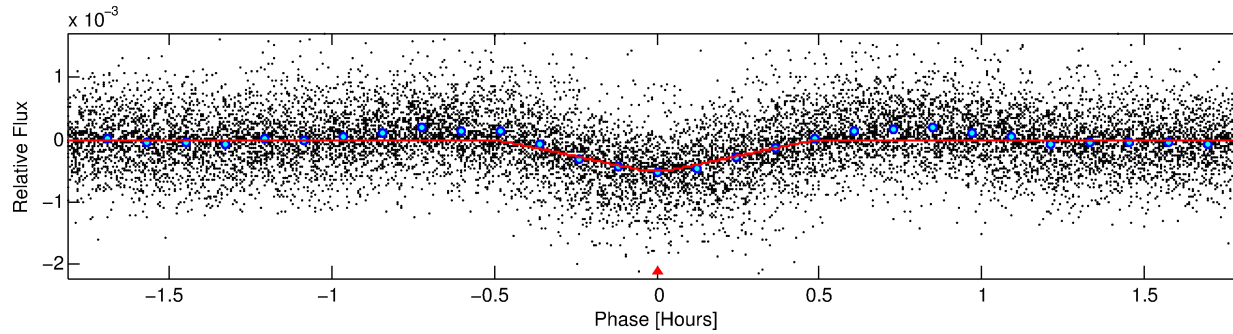
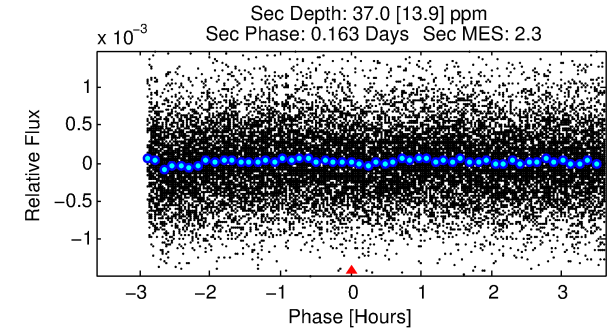
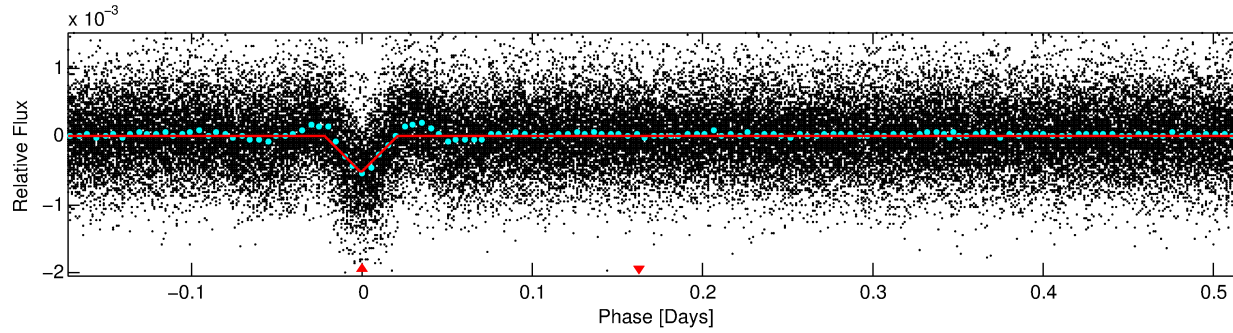
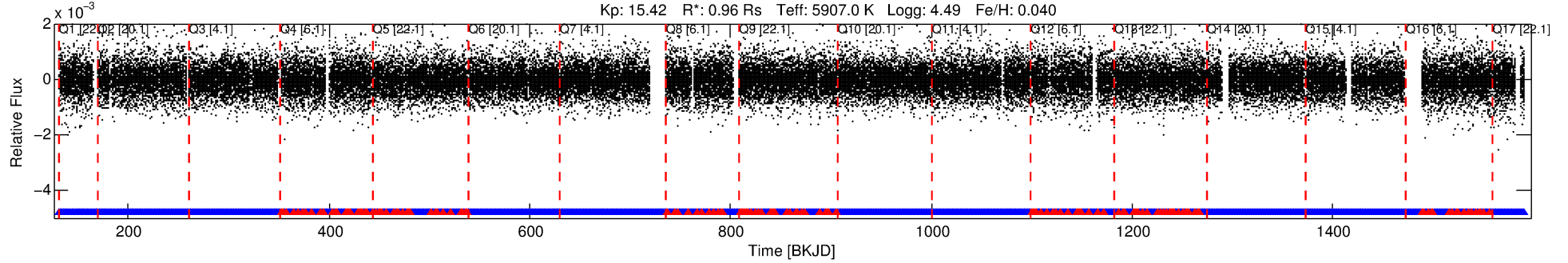
No Significant Match Found

DV One-Page Summary

KIC: 11304987 Candidate: 1 of 1 Period: 0.693 d

KOI: K02993 Corr: No Ephemeris Match

Kp: 15.42 R*: 0.96 Rs Teff: 5907.0 K Logg: 4.49 Fe/H: 0.040



DV Fit Results:

Period = 0.69269 [0.00000] d
Epoch = 131.8104 [0.0003] BKJD
Rp/R* = 0.0256 [0.0053]
a/R* = 4.40 [3.93]
b = 0.90 [0.21]
Seff = 4185.01 [1760.25]
Teq = 2051 [216] K
Rp = 2.69 [1.03] Re
a = 0.0156 [0.0042] AU
Ag = 0.68 [0.47] [-0.68σ]
Teff = 2881 [415] K [1.77σ]

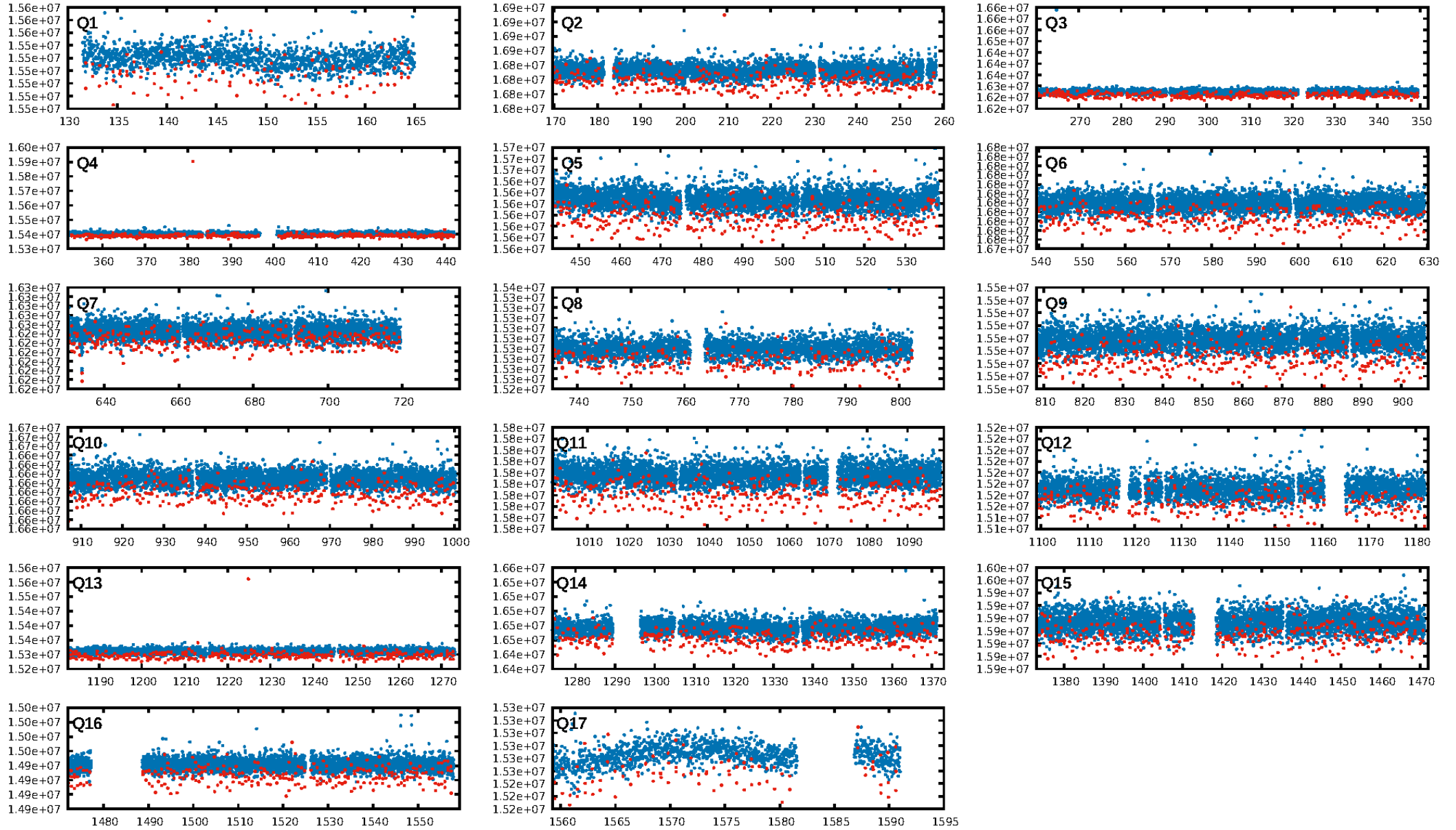
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.67e-82
RollingBand-fgt: 0.91 [1680/1844]
GhostDiagnostic-chr: 1.17
Centroid-sig: 0.0%
Centroid-so: 6.854 arcsec [24.66σ]
OotOffset-rm: 2.051 arcsec [27.98σ]
KicOffset-rm: 1.989 arcsec [27.69σ]
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]

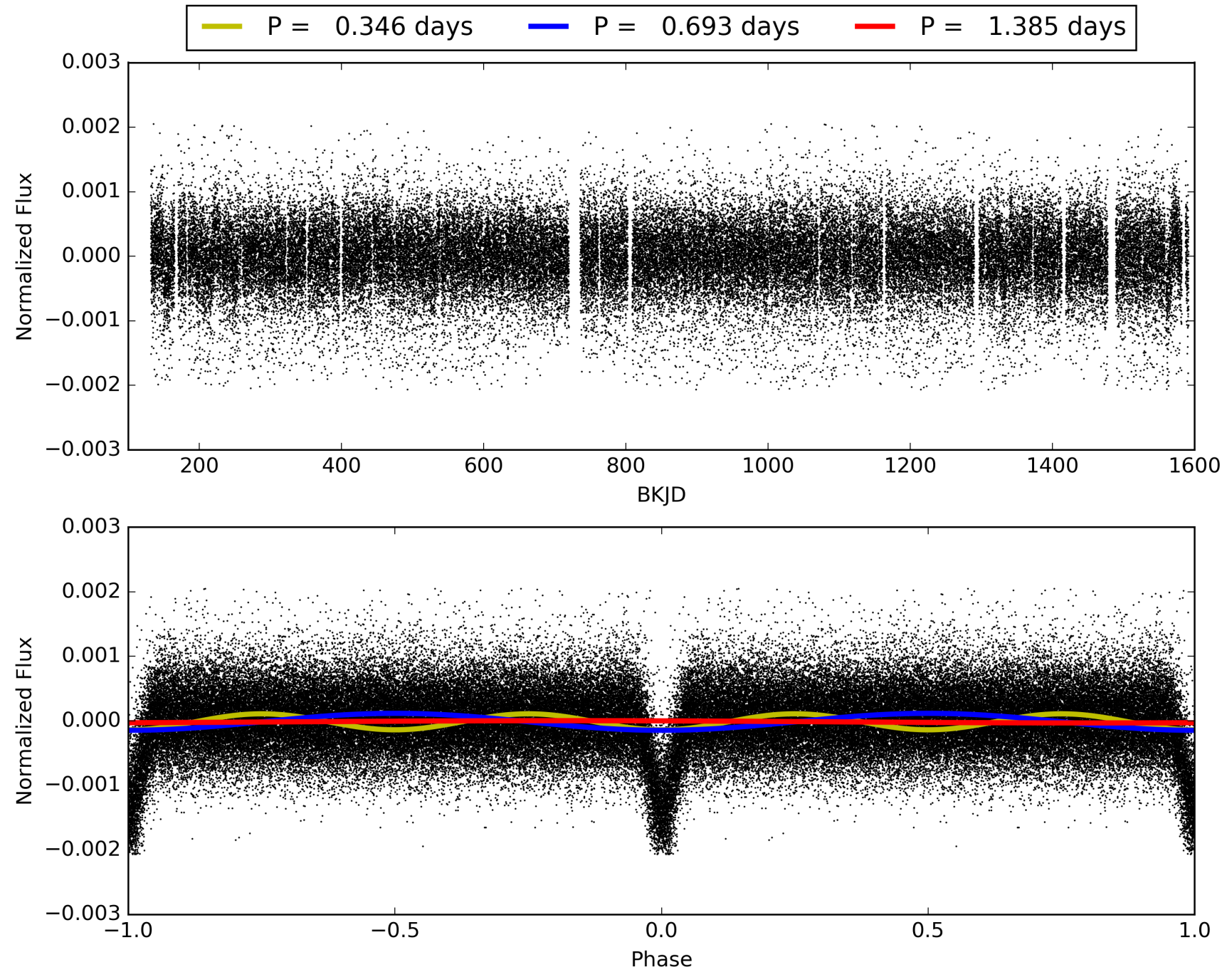
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:21:46 Z

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

TCE 011304987-01, PDC Light Curves

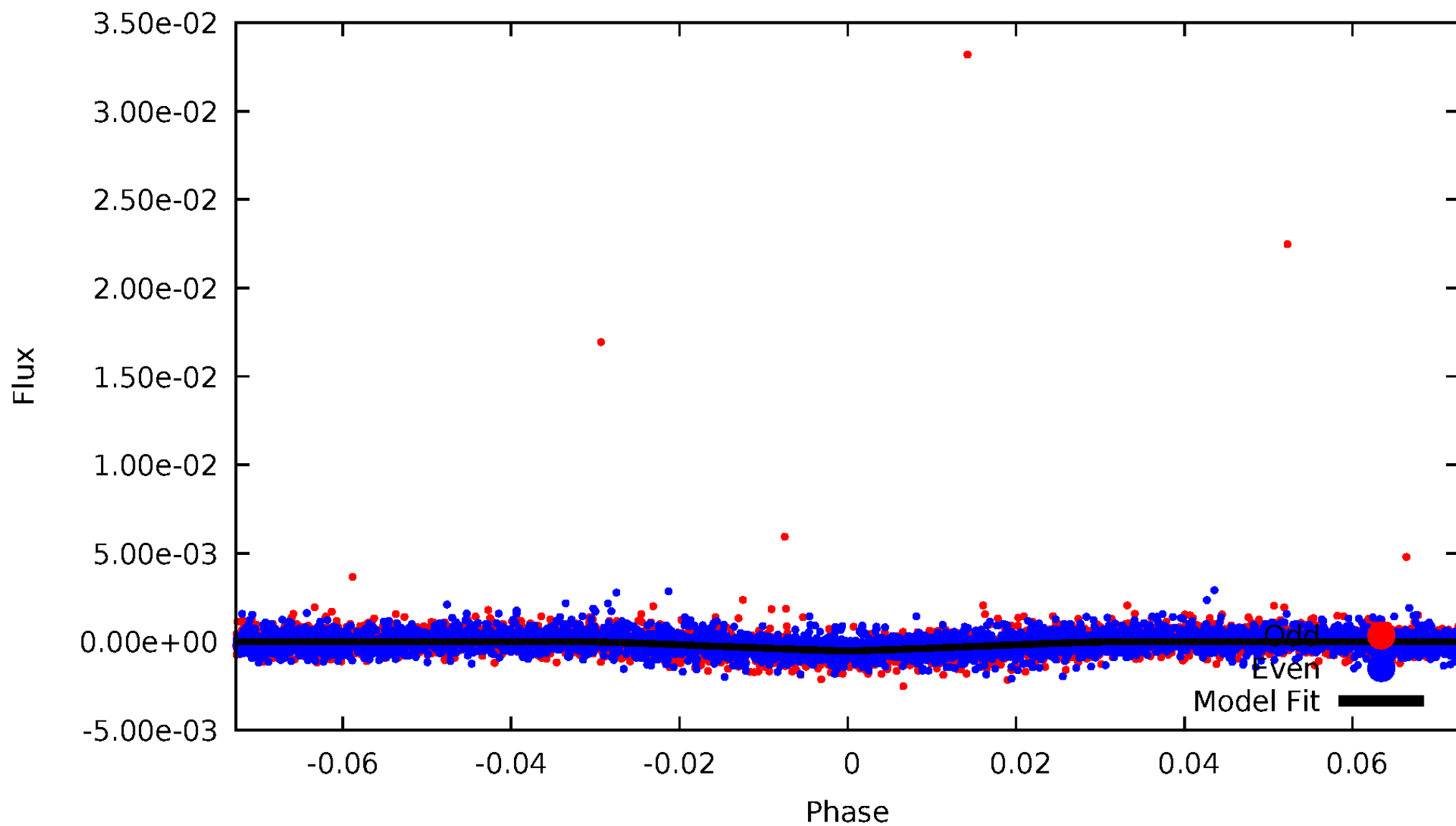


TCE 011304987-01



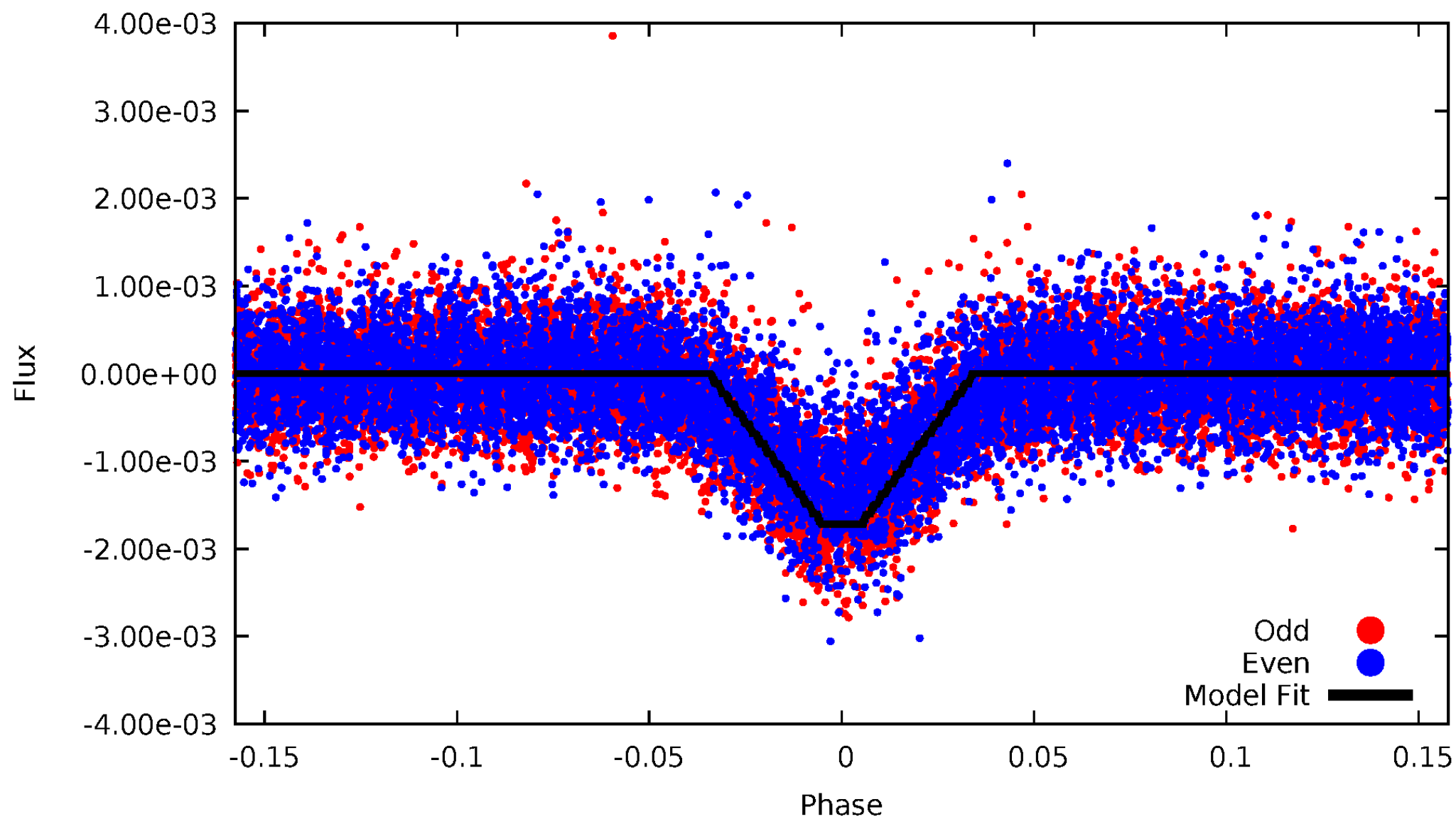
DV Odd/Even

TCE 011304987-01



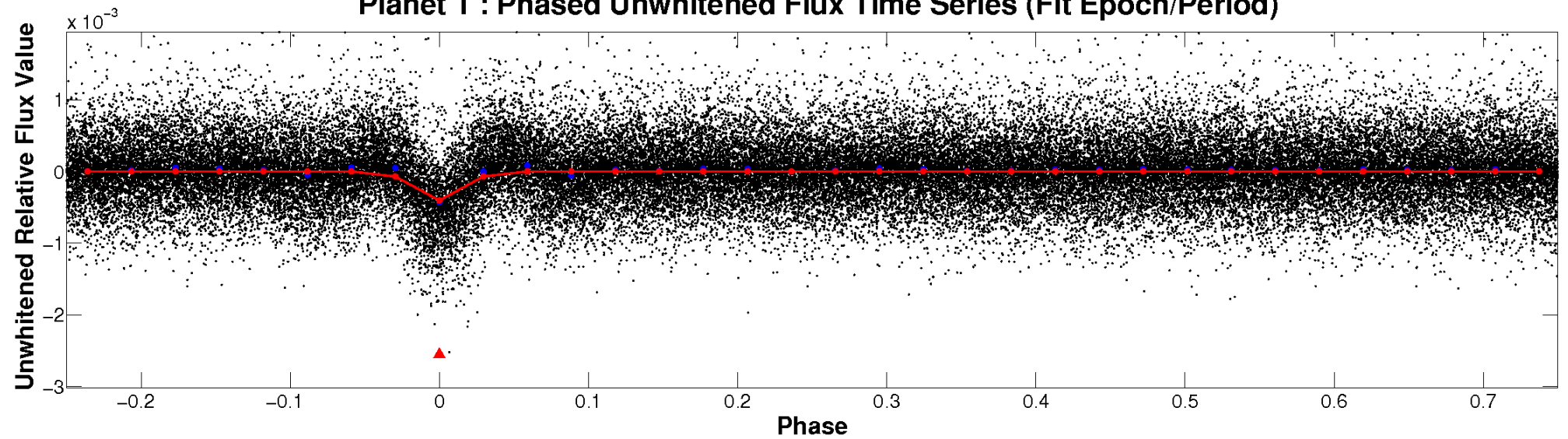
ALT Odd/Even

TCE 011304987-01

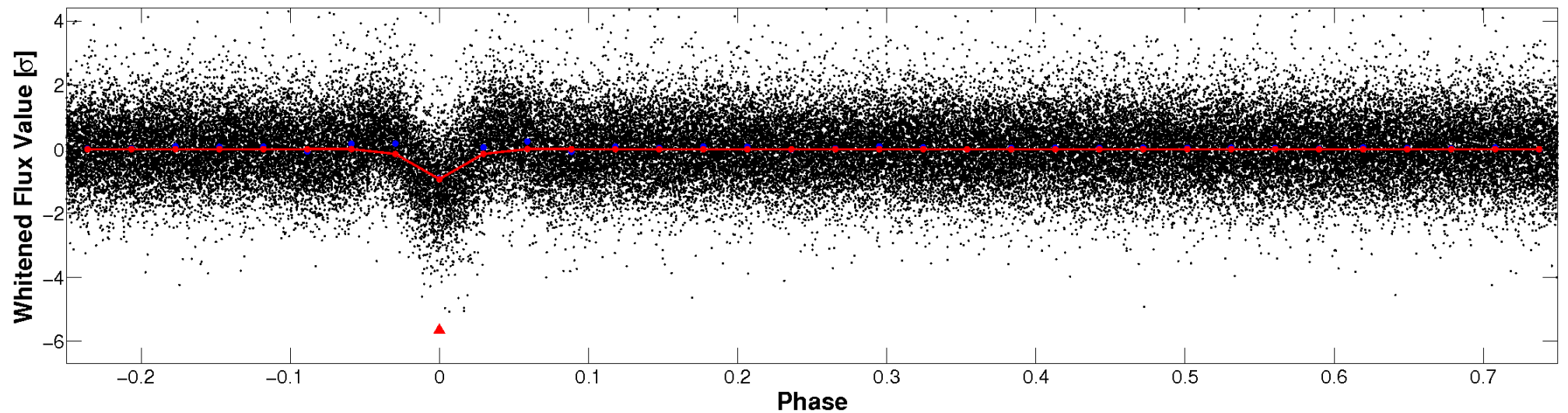


Non-Whitened Vs. Whitened Light Curve

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

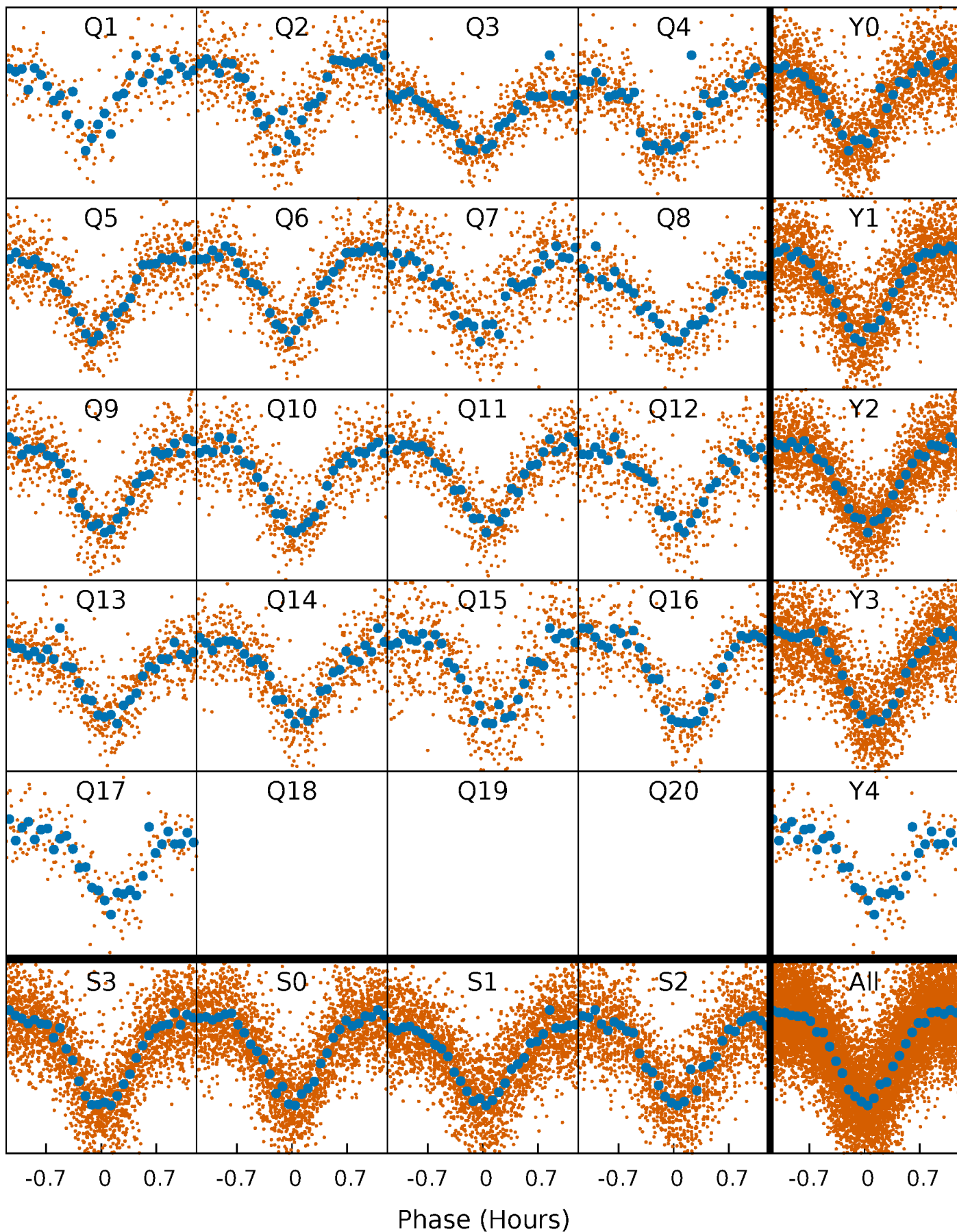


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



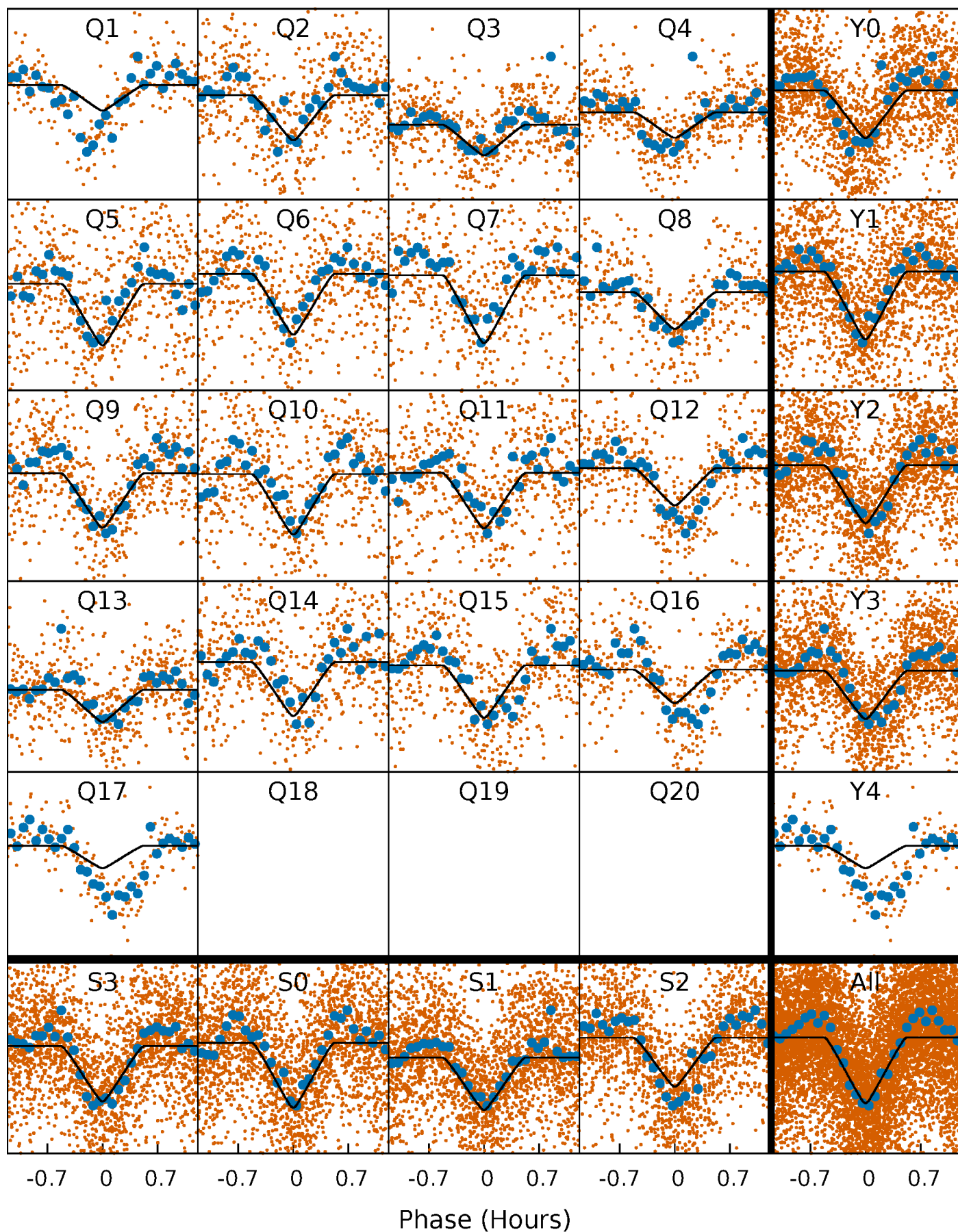
PDC Quarter-Phased Transit Curves

TCE 011304987-01 P= 0.692688 Days $T_0=131.810447$ (BKJD)



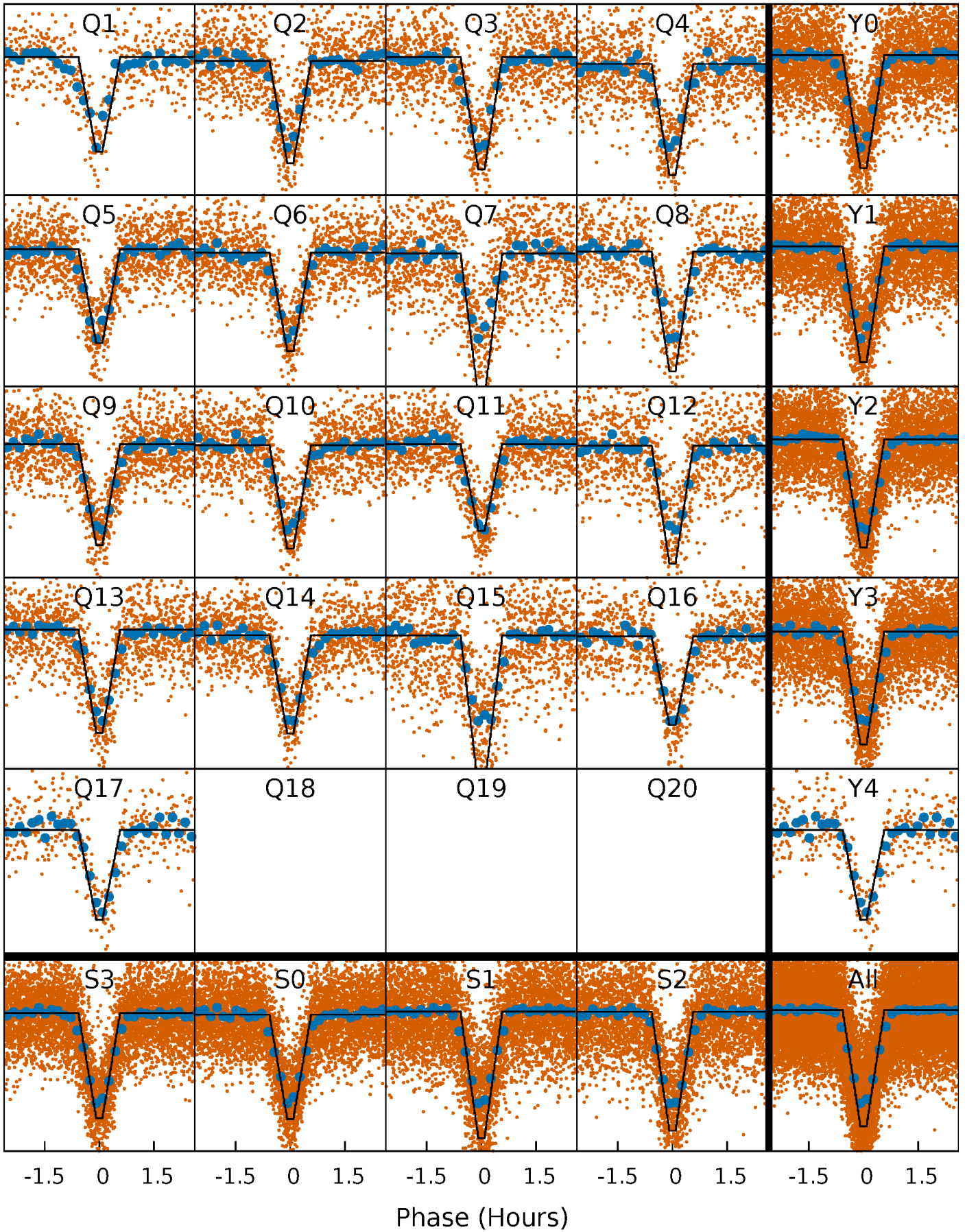
DV Quarter-Phased Transit Curves

TCE 011304987-01 P= 0.692688 Days $T_0=131.810447$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

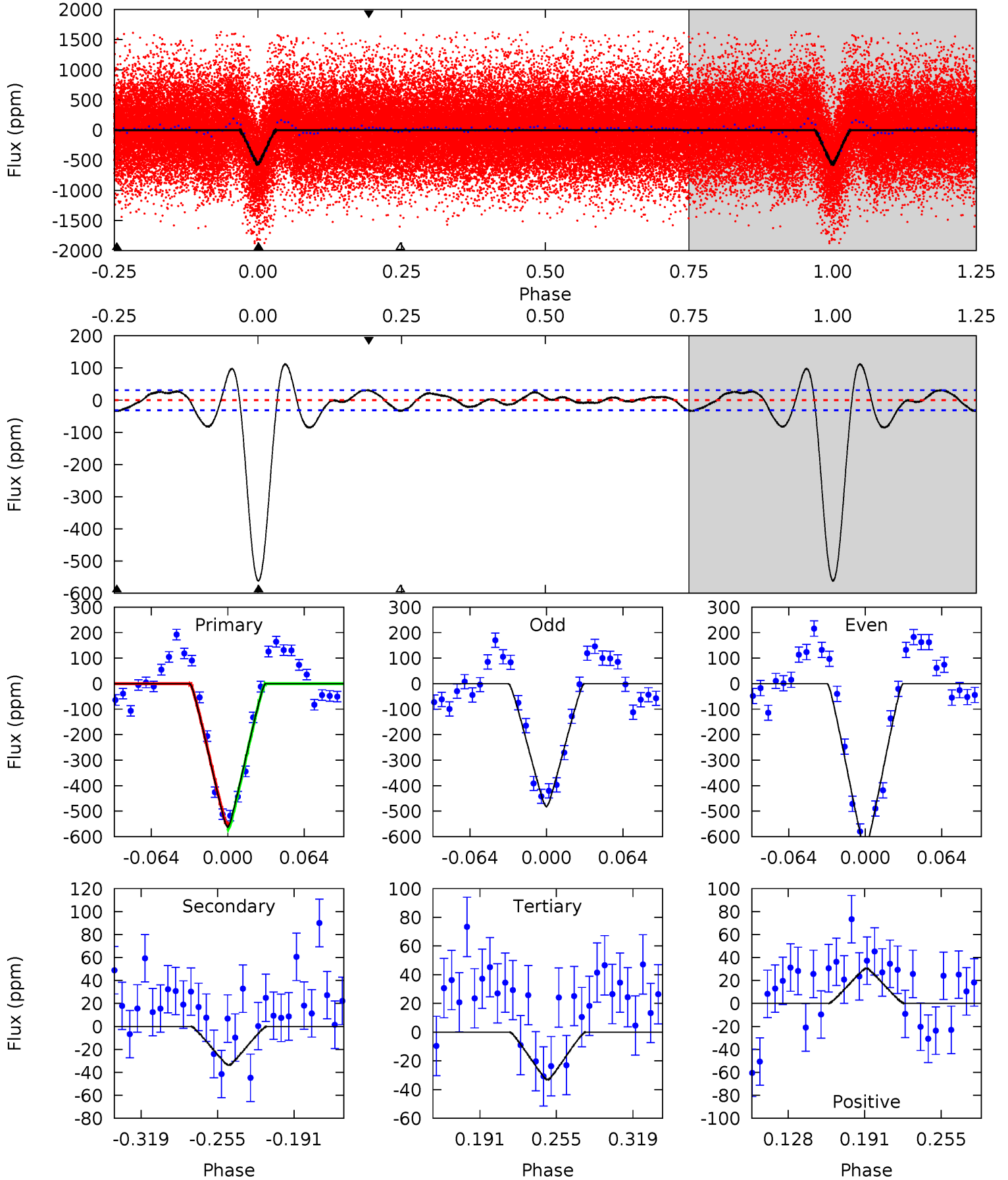
TCE 011304987-01 P= 0.692691 Days $T_0=131.808002$ (BKJD)



DV Model-Shift Uniqueness Test

011304987-01, P = 0.692688 Days, E = 131.117759 Days

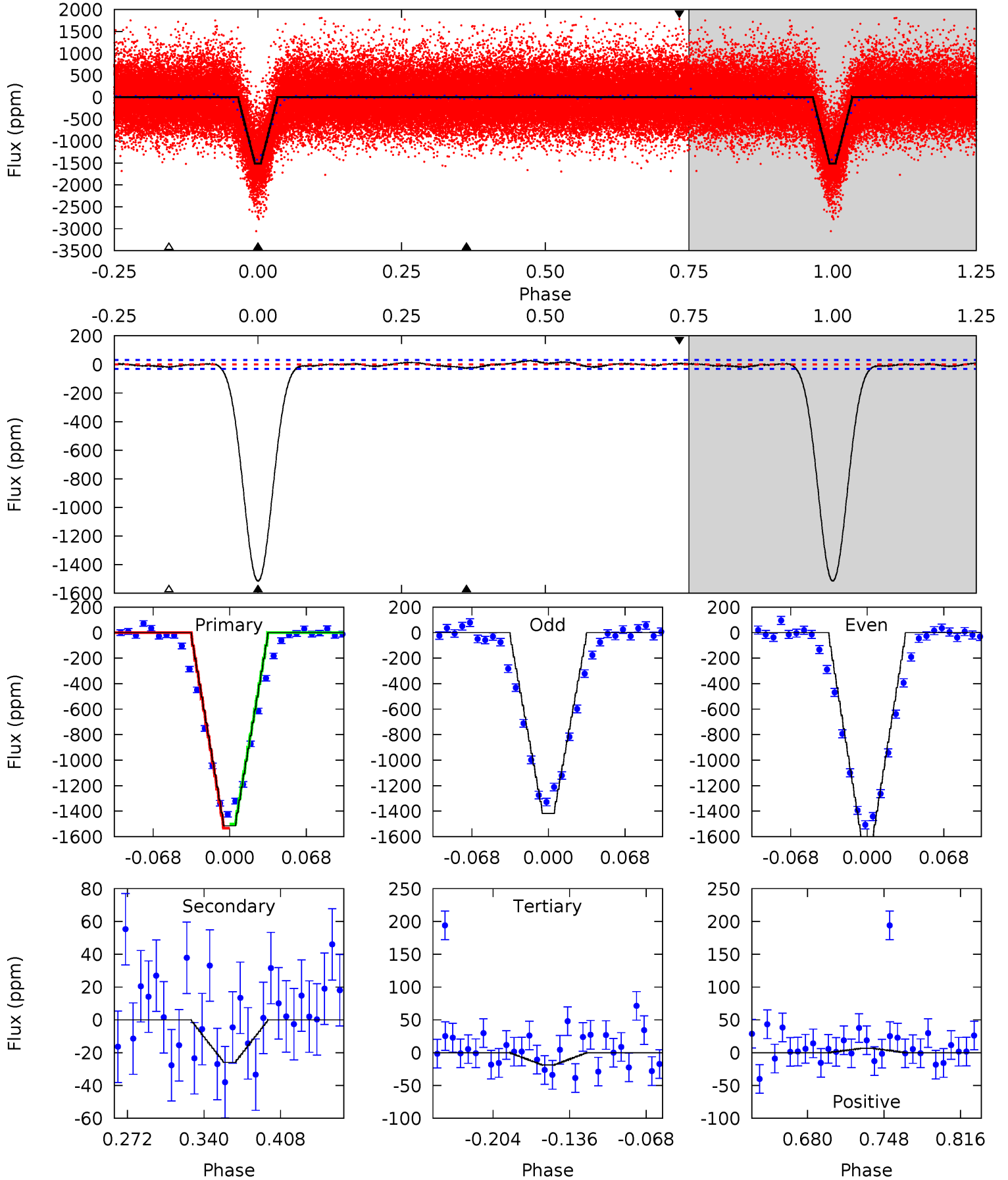
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
84.1	5.04	4.96	4.57	4.66	1.85	3.76	79.1	79.5	0.08	0.48	12.3	1.01	0.17	1.32



Alt Model-Shift Uniqueness Test

011304987-01, P = 0.692691 Days, E = 131.115311 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
226.6	3.88	2.83	0.98	4.65	1.82	1.45	223.8	225.6	1.05	2.90	14.6	0.99	0.02	2.42



Stellar Parameters For KIC 011304987

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5907^{+176}_{-211}	$4.490^{+0.054}_{-0.216}$	$0.040^{+0.250}_{-0.300}$	$0.964^{+0.312}_{-0.104}$	$1.048^{+0.127}_{-0.140}$	$1.649^{+0.363}_{-0.907}$
	+3%/-4%	+1%/-5%	+625%/-750%	+32%/-11%	+12%/-13%	+22%/-55%
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 011304987-01 / KOI 2993.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-34 ± 7	$2.78^{+0.71}_{-0.63}$	2927^{+203}_{-150}	2986^{+437}_{-647}	$0.548^{+0.404}_{-0.209}$
Alt.	-26 ± 7	$4.52^{+0.83}_{-0.74}$	2922^{+213}_{-157}	-2720^{+328}_{-216}	$0.162^{+0.087}_{-0.056}$

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

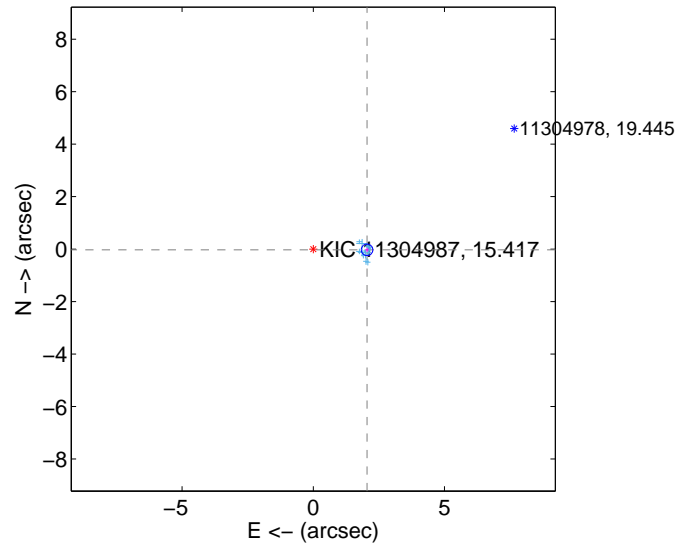
Supplemental centroid analysis for 011304987-01. Kepler magnitude: 15.42. Transit SNR 43.10

There are 17 quarters with good PRF difference image offsets

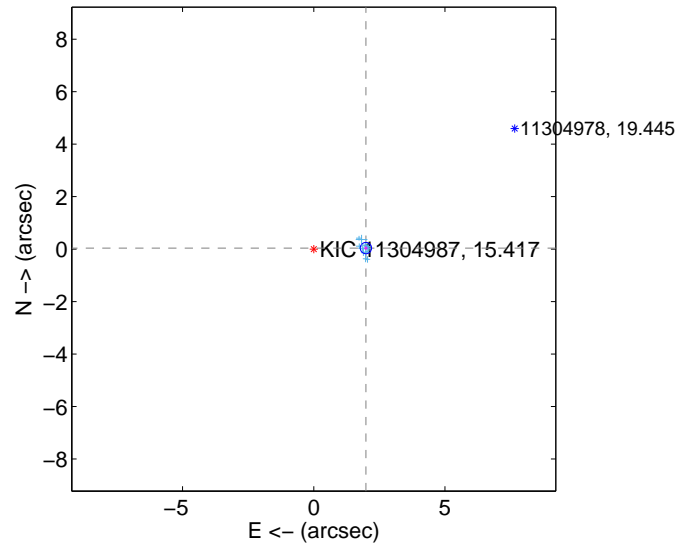
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.051 ± 0.073	27.98	-2.051 ± 0.073	-0.028 ± 0.084
PRF-fit source offset from KIC position	1.989 ± 0.072	27.69	-1.989 ± 0.072	0.039 ± 0.072
photometric centroid source offset	6.85 ± 0.28	24.66	-6.85 ± 0.28	0.24 ± 0.27

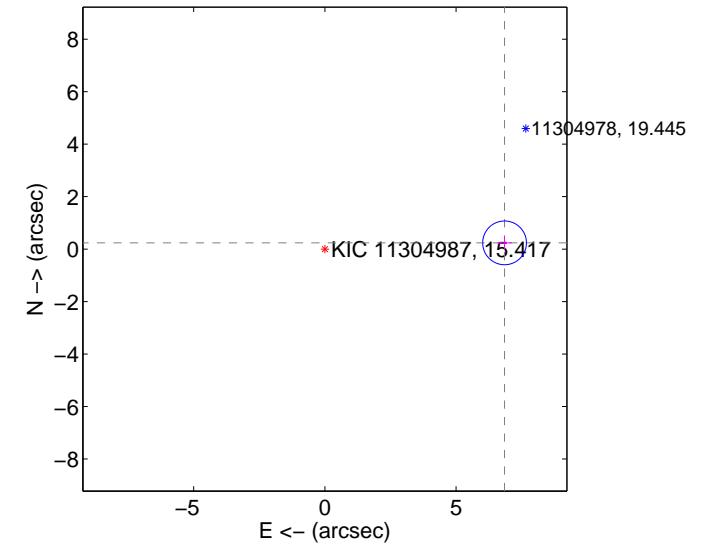
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

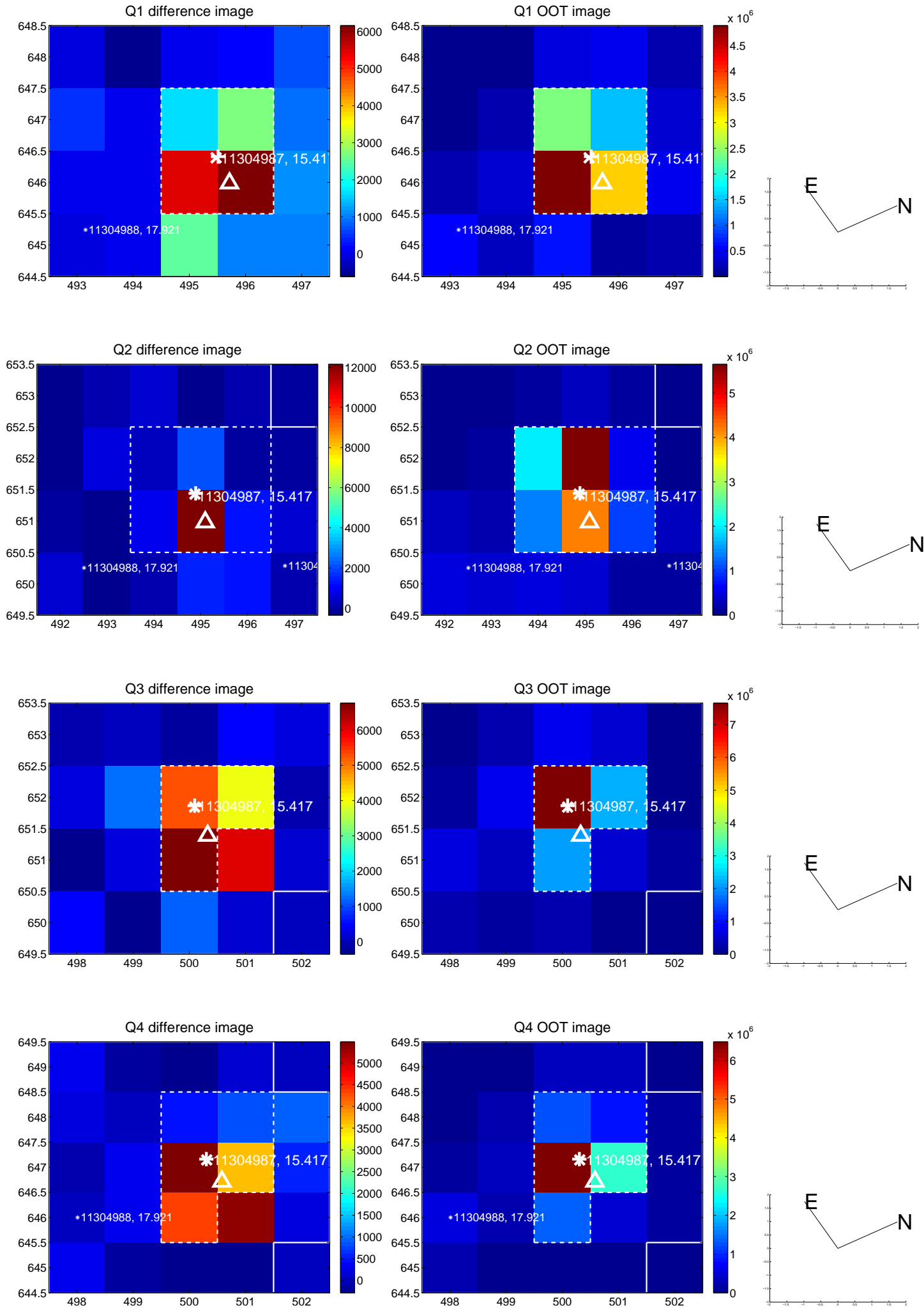


offset from photometric centroids

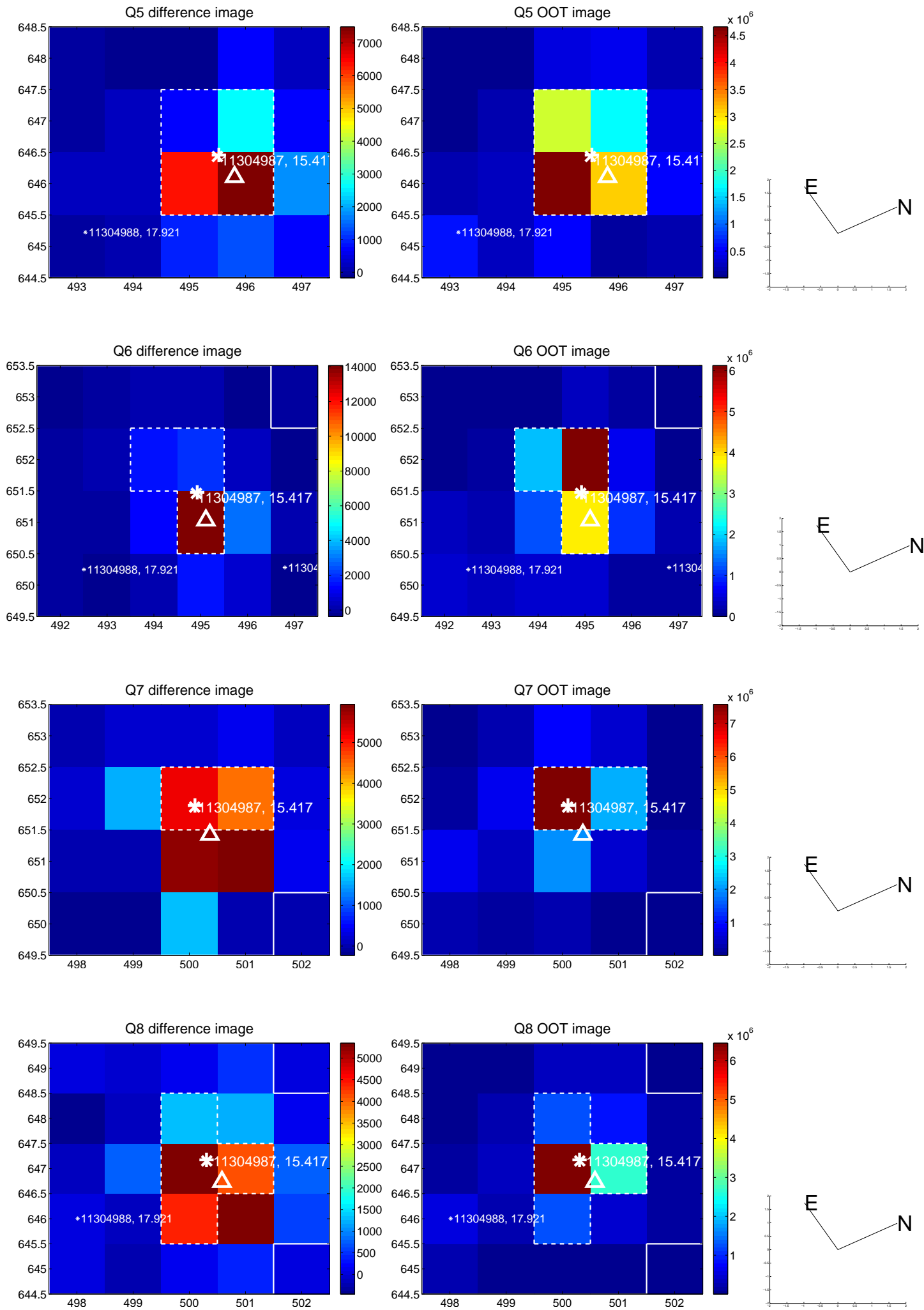


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

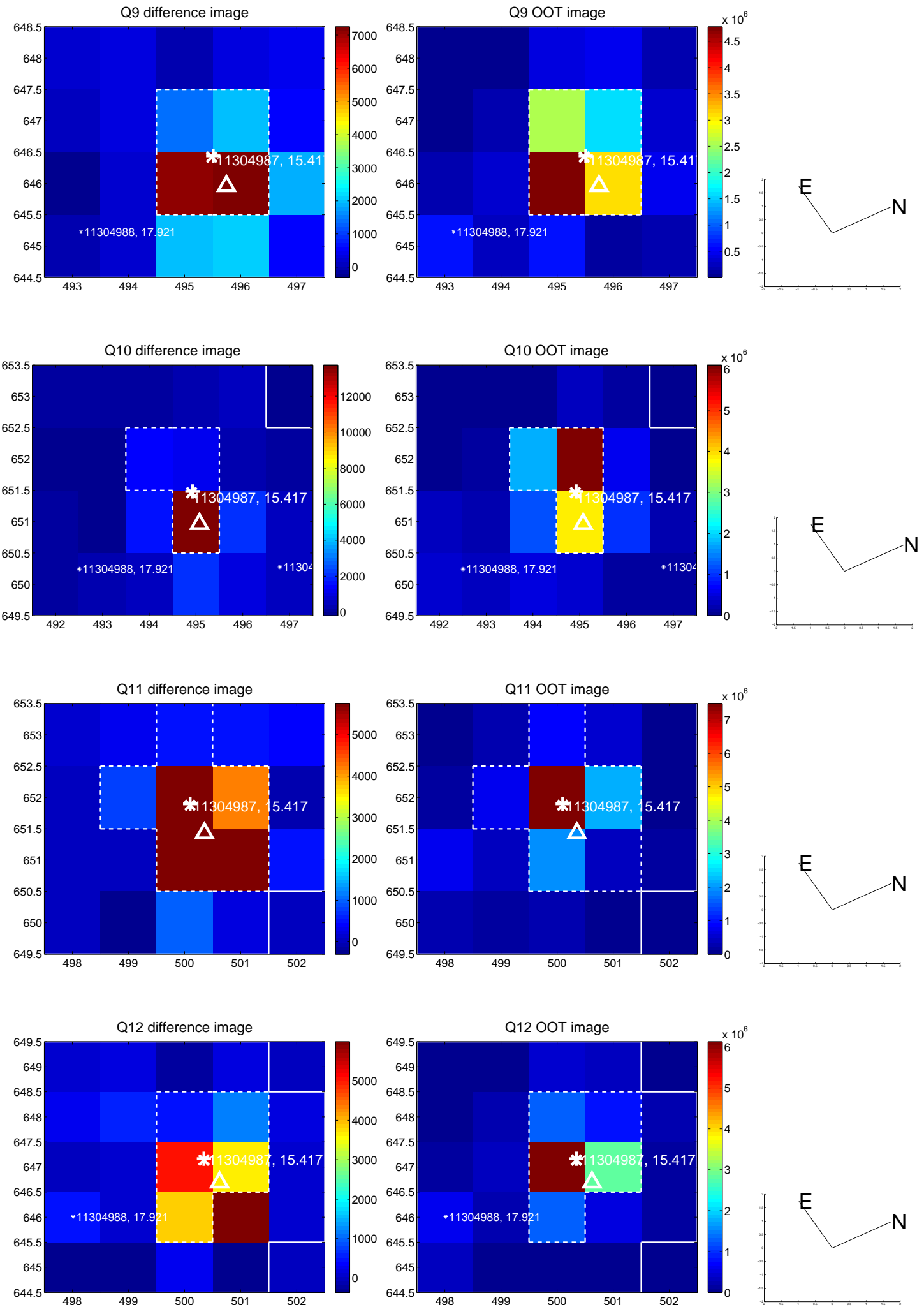
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



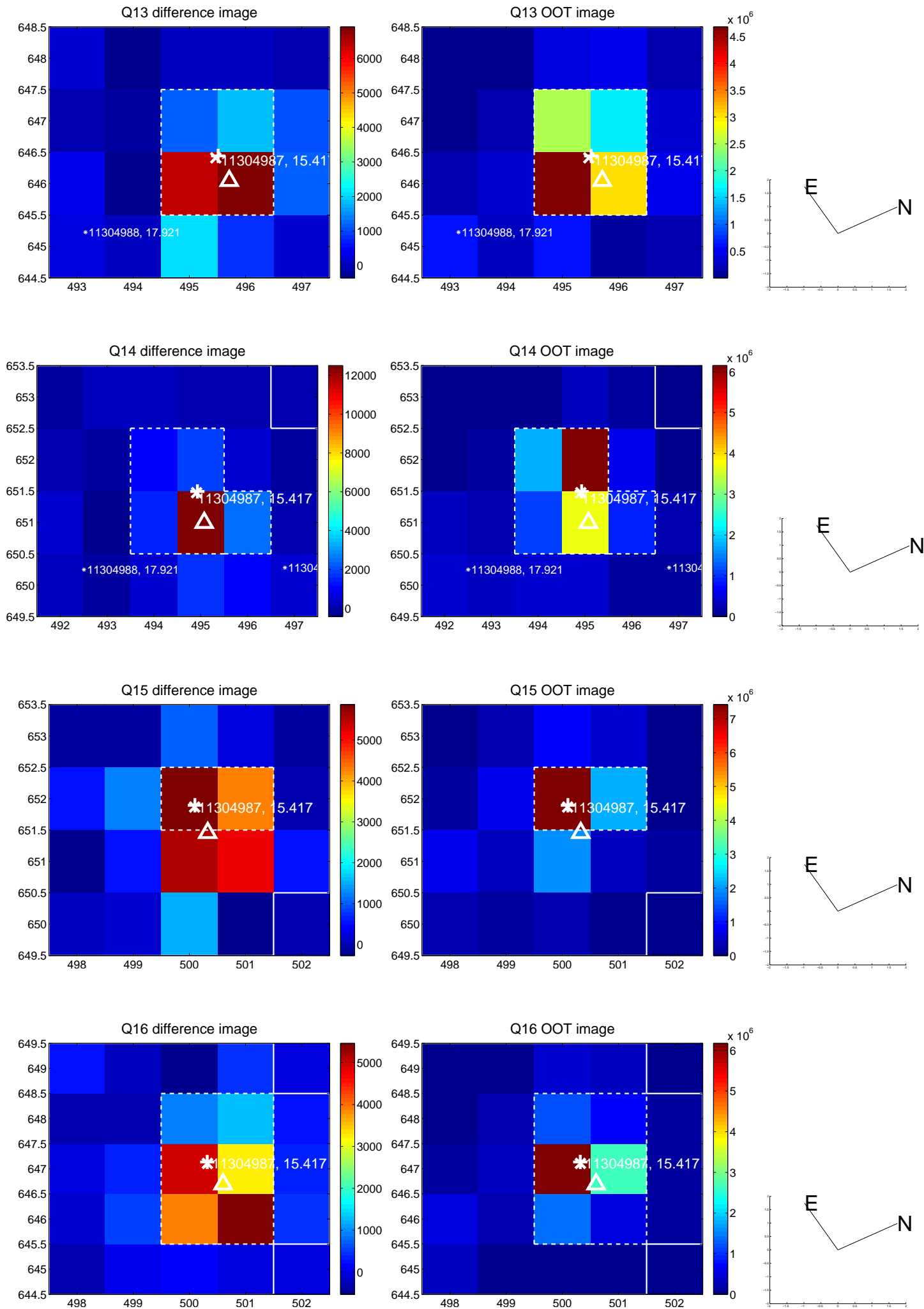
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



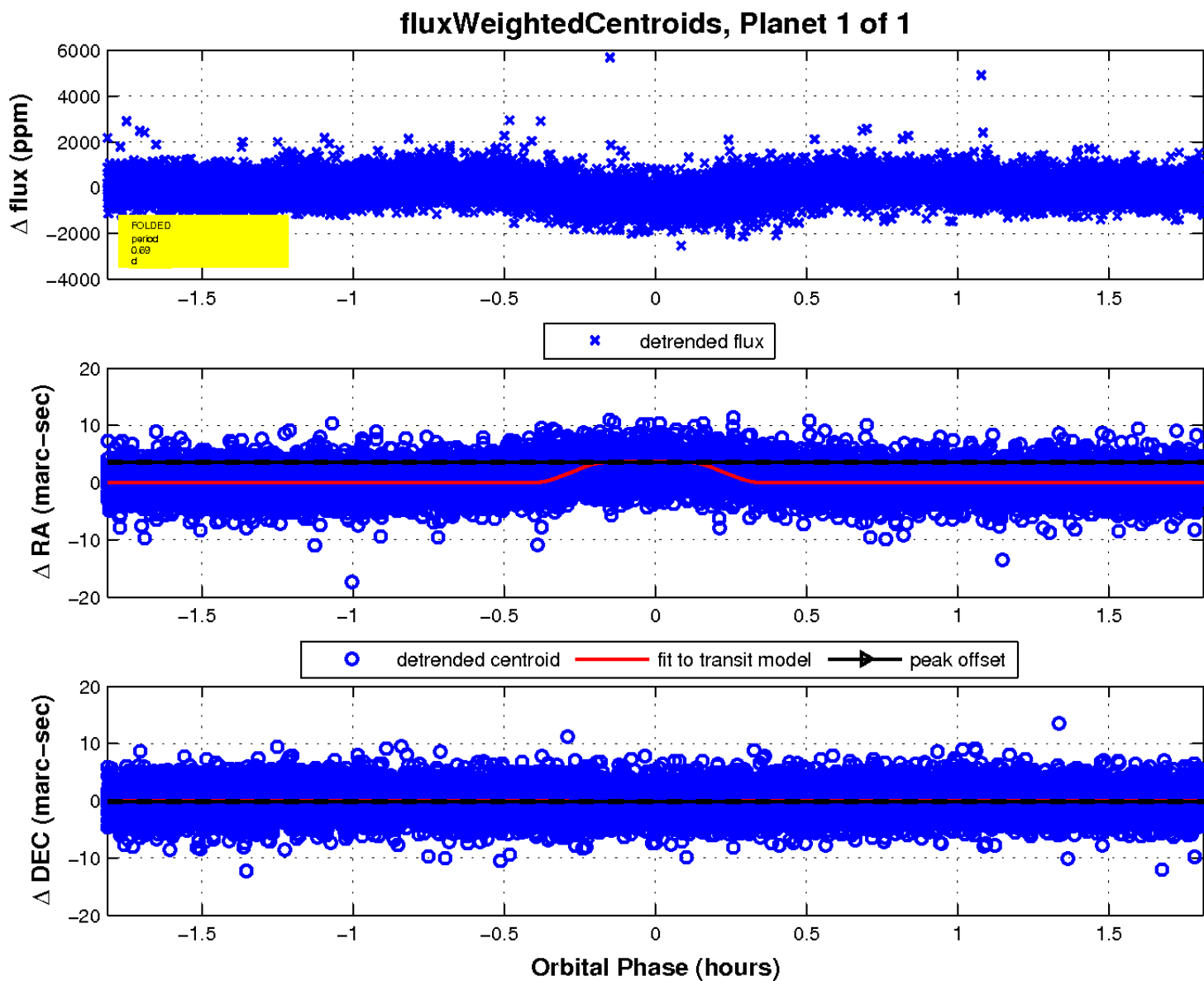
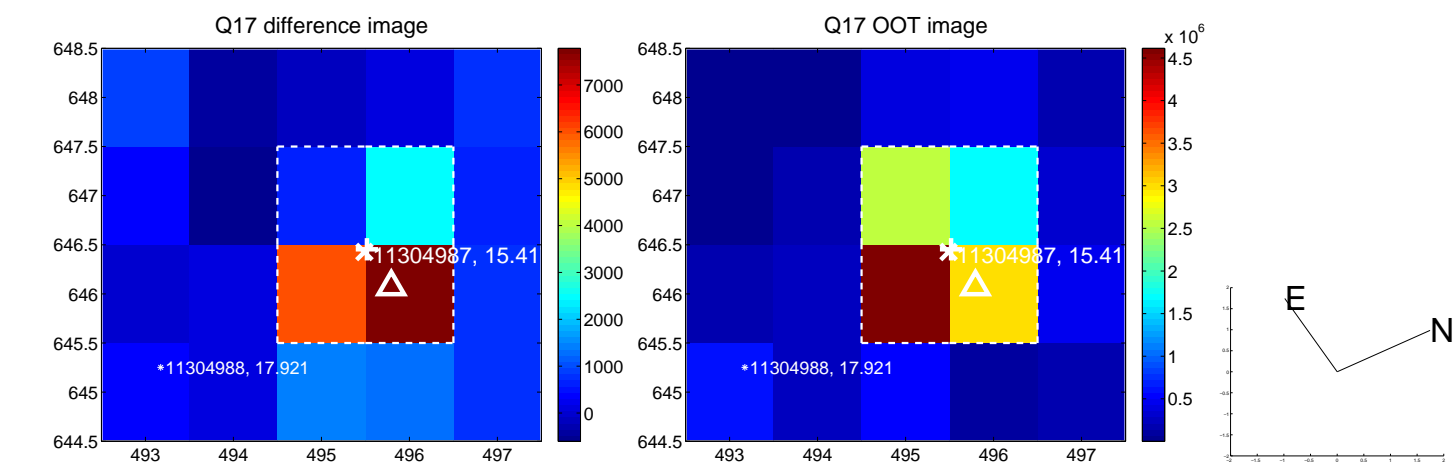
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

