

KIC 007834045

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})
007834045-01	OBS	4630.01	44.702007	155.589268	231.6	8.110	11.1	10.4	1.52	5929	2.61	39.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007834045-01	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.

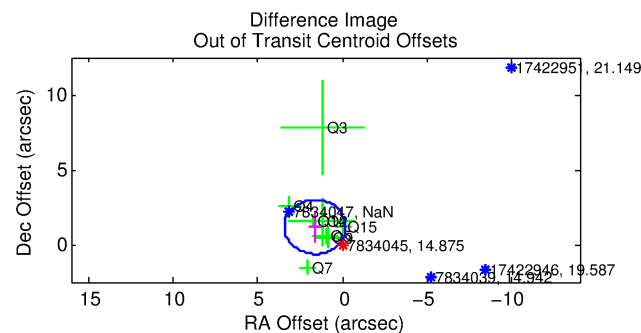
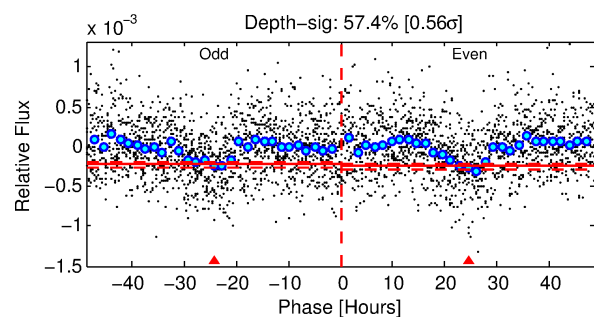
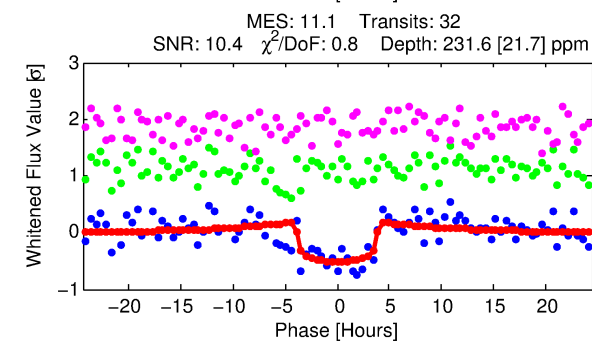
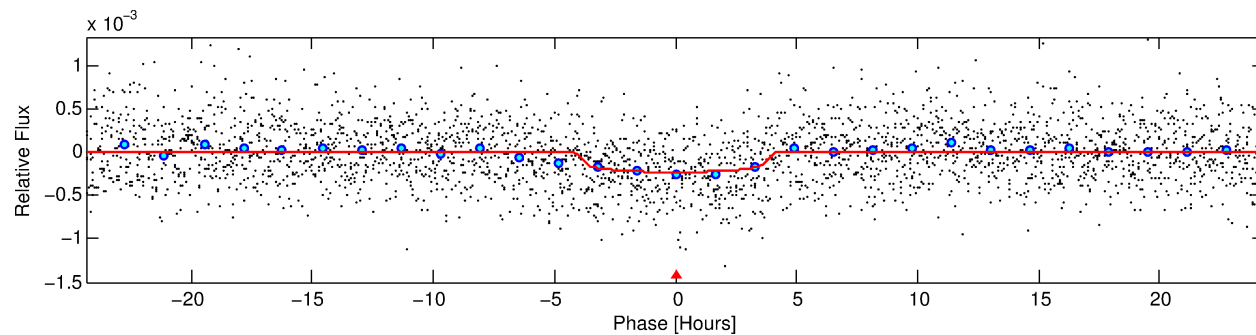
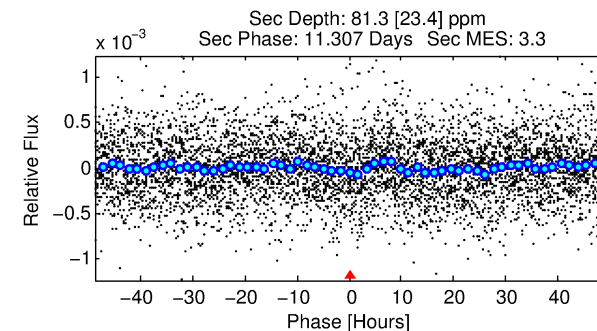
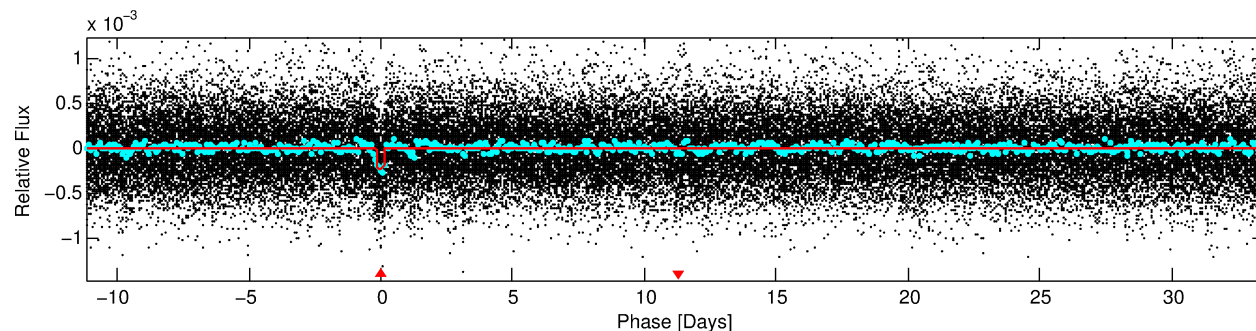
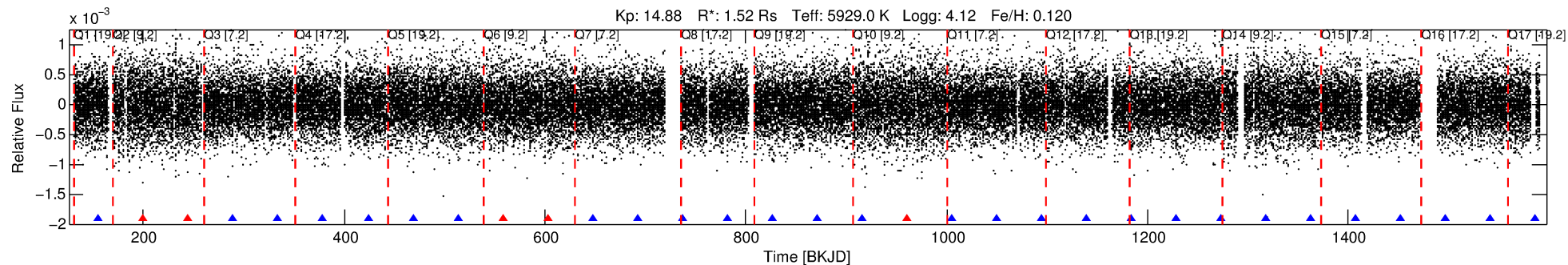
Ephemeris Match Information For 007834045-01

No Significant Match Found

DV One-Page Summary

KIC: 7834045 Candidate: 1 of 1 Period: 44.702 d

KOI: K04630.01 Corr: 0.968



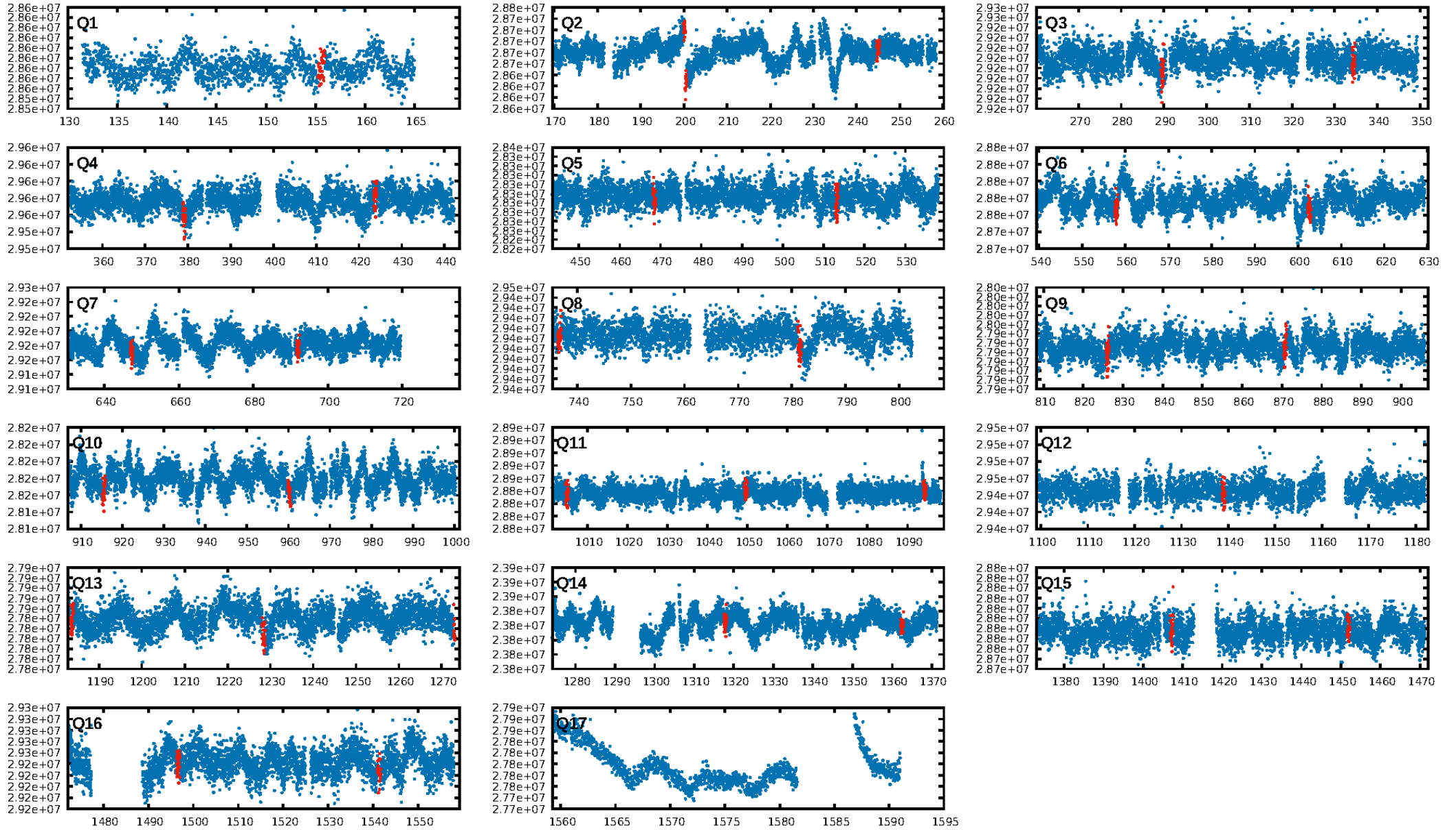
DV Fit Results:

Period = 44.70201 [0.00063] d
Epoch = 155.5893 [0.0116] BKJD
Rp/R* = 0.0158 [0.0045]
a/R* = 24.22 [31.91]
b = 0.84 [0.48]
Seff = 39.02 [12.28]
Teff = 637 [50] K
Rp = 2.61 [0.91] Re
a = 0.2557 [0.0496] AU
Ag = 428.51 [303.18] [1.41 σ]
Teffp = 4483 [715] K [5.36 σ]

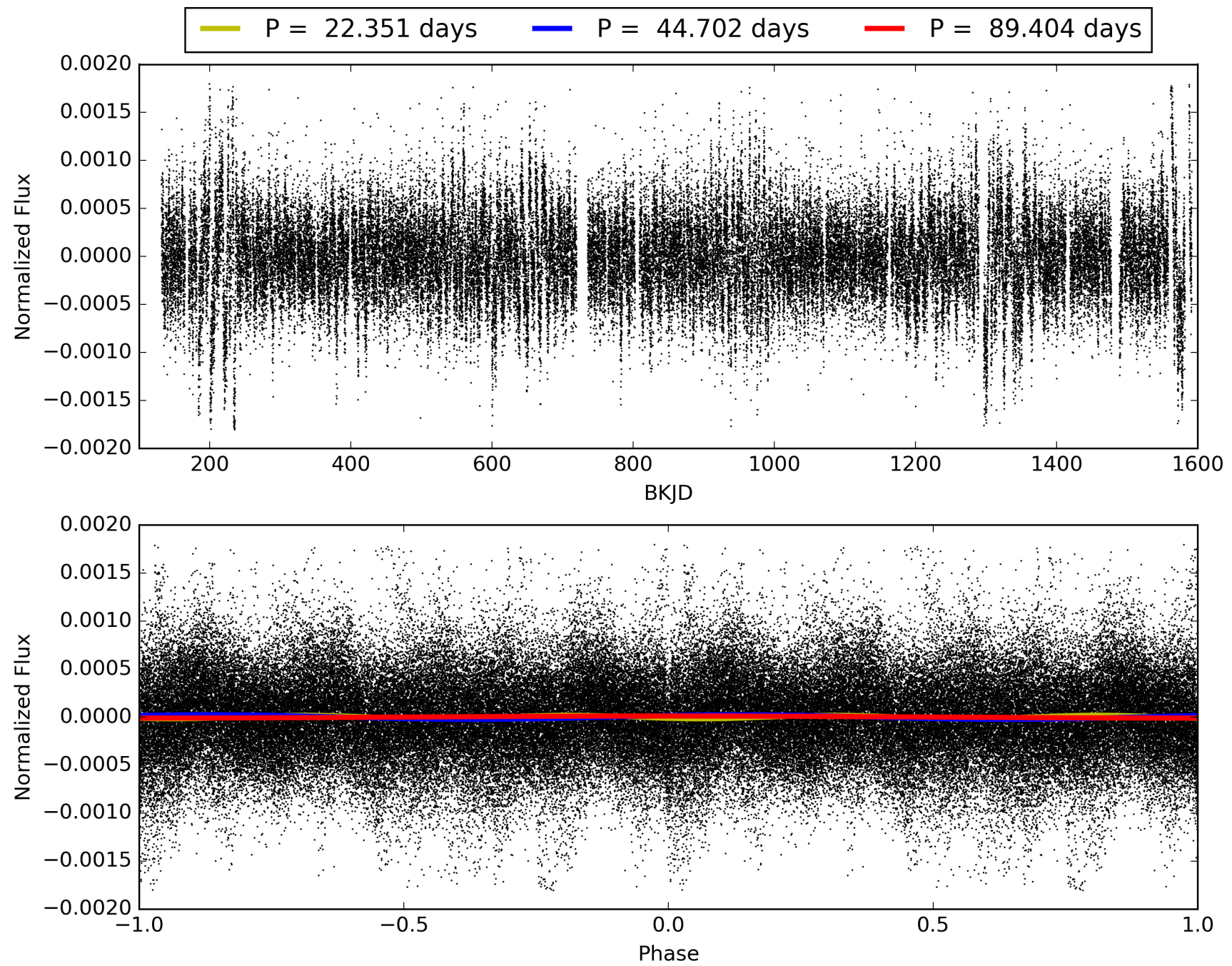
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 68.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.19e-27
RollingBand-fgt: 0.84 [26/31]
GhostDiagnostic-chr: 2.327
Centroid-sig: 5.3%
Centroid-so: 0.713 arcsec [1.02 σ]
OotOffset-rm: 1.995 arcsec [3.31 σ]
KicOffset-rm: 0.730 arcsec [1.27 σ]
OotOffset-st: 2/3/1/2 [8]
KicOffset-st: 2/3/1/2 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 1.00 [15/15]

TCE 007834045-01, PDC Light Curves

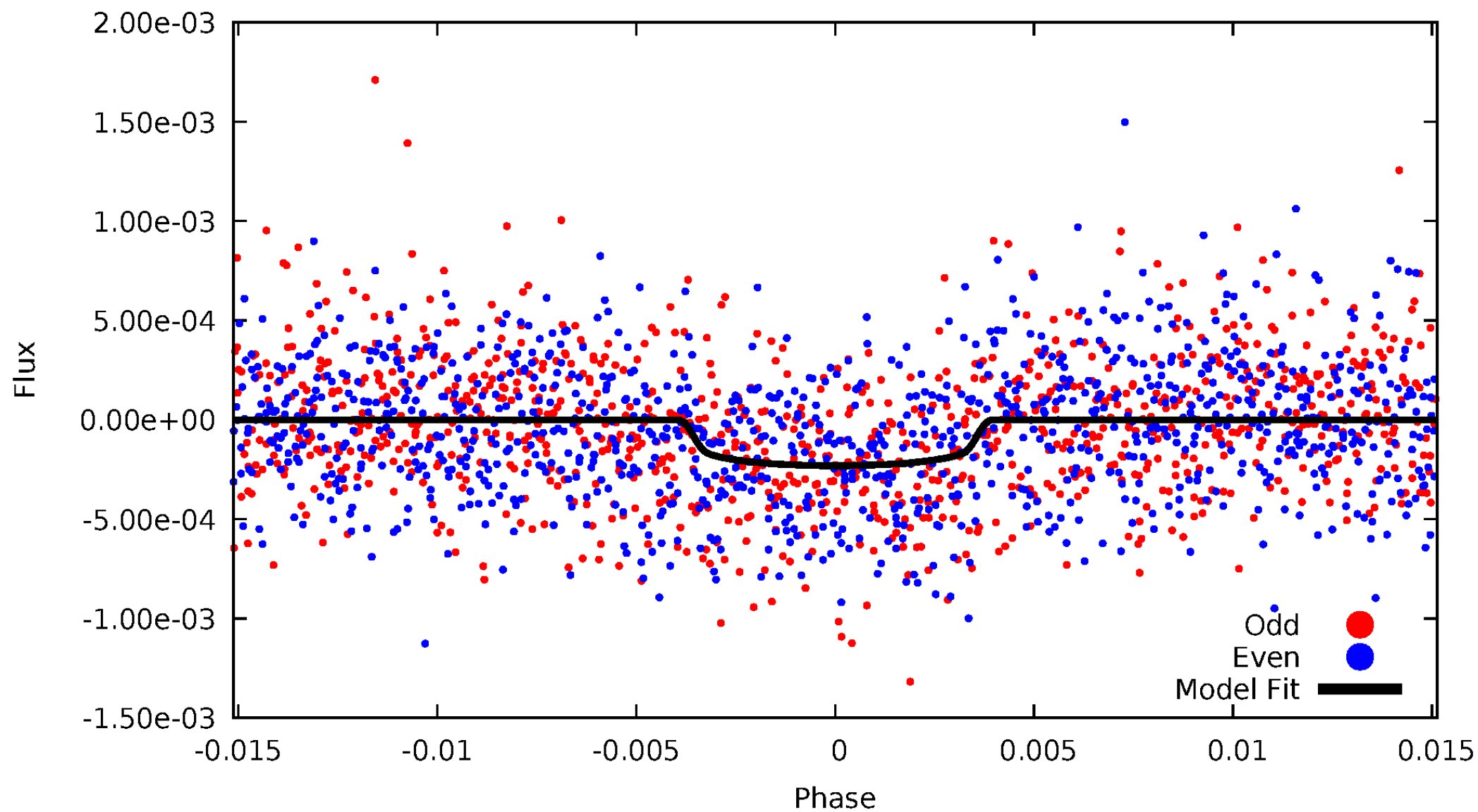


TCE 007834045-01



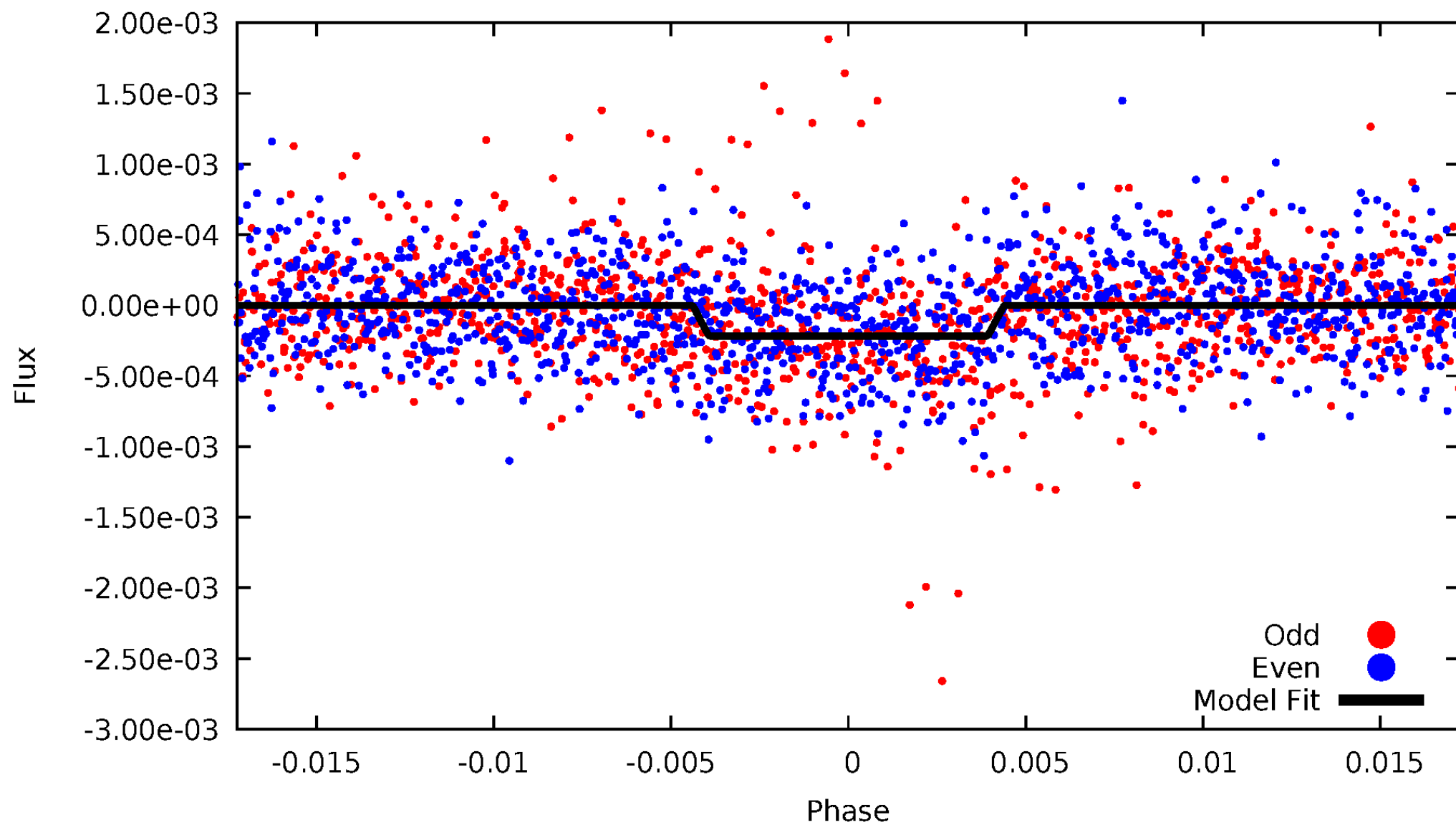
DV Odd/Even

TCE 007834045-01



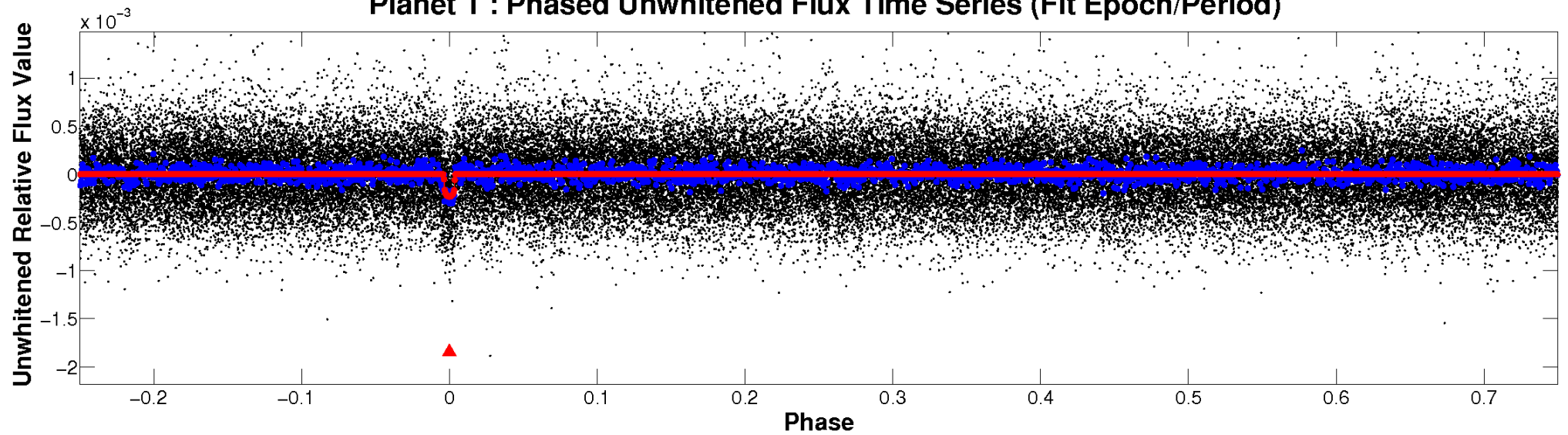
ALT Odd/Even

TCE 007834045-01

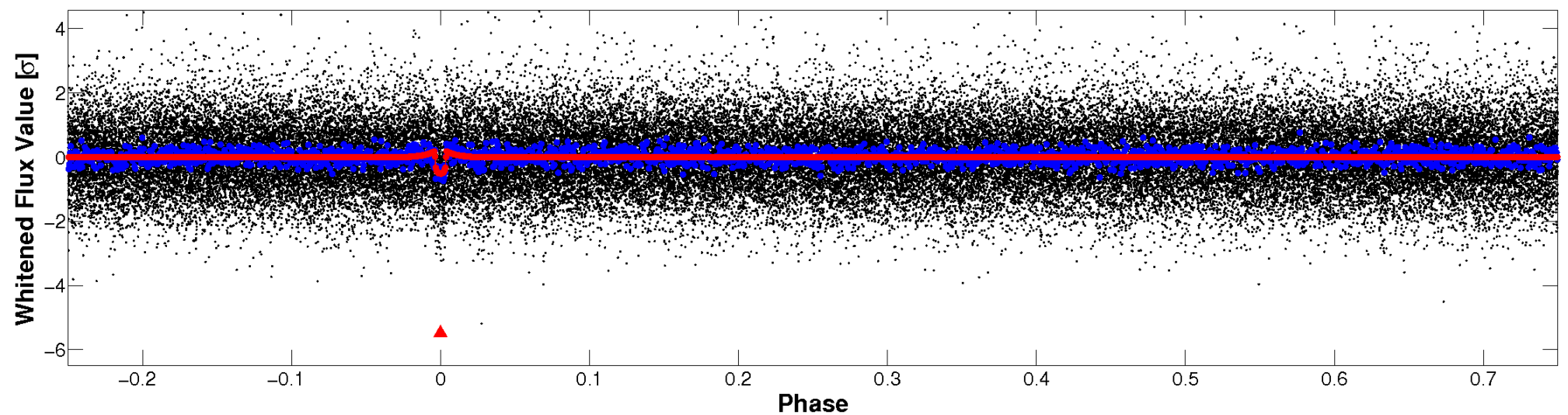


Non-Whitened Vs. Whitened Light Curve

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

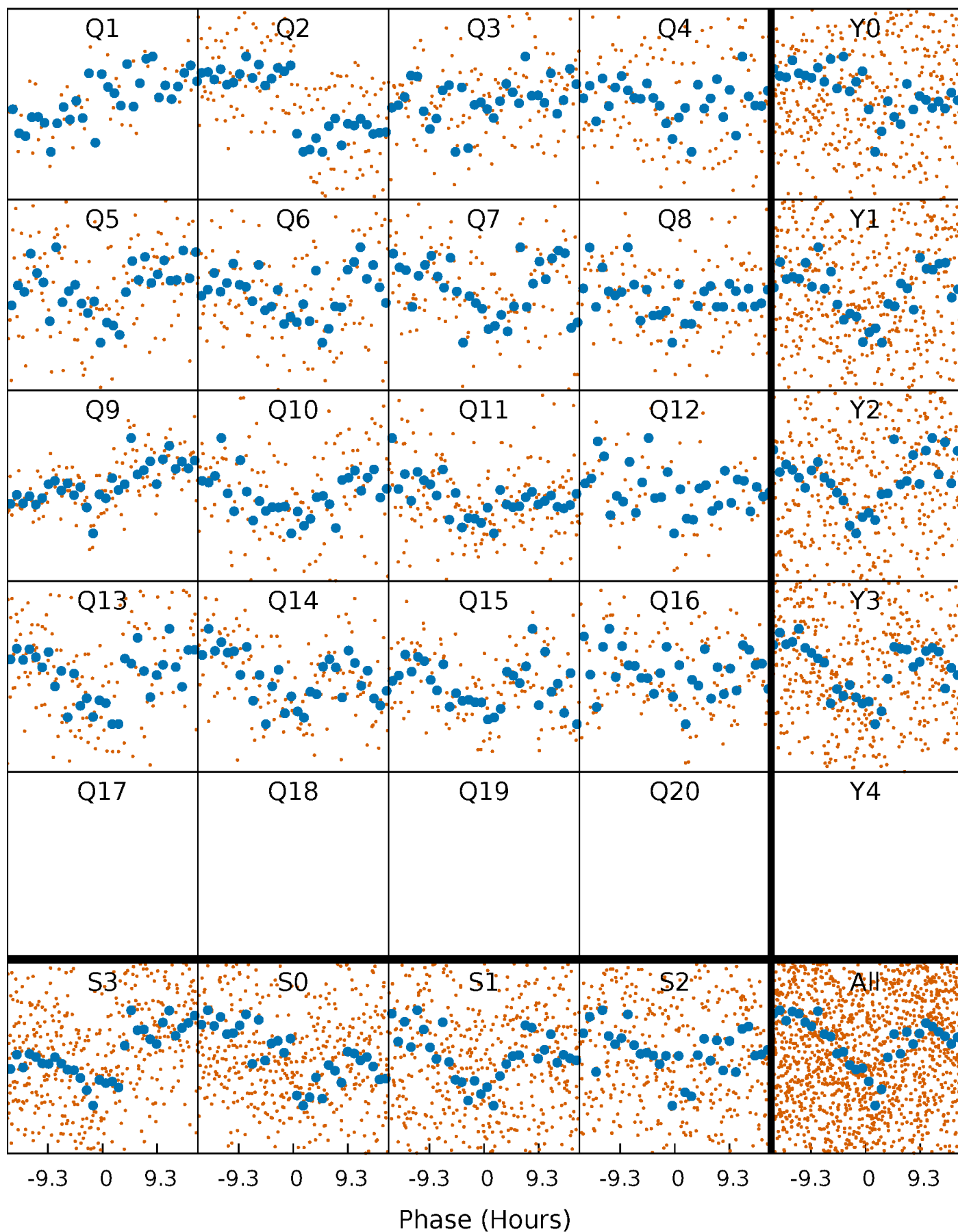


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



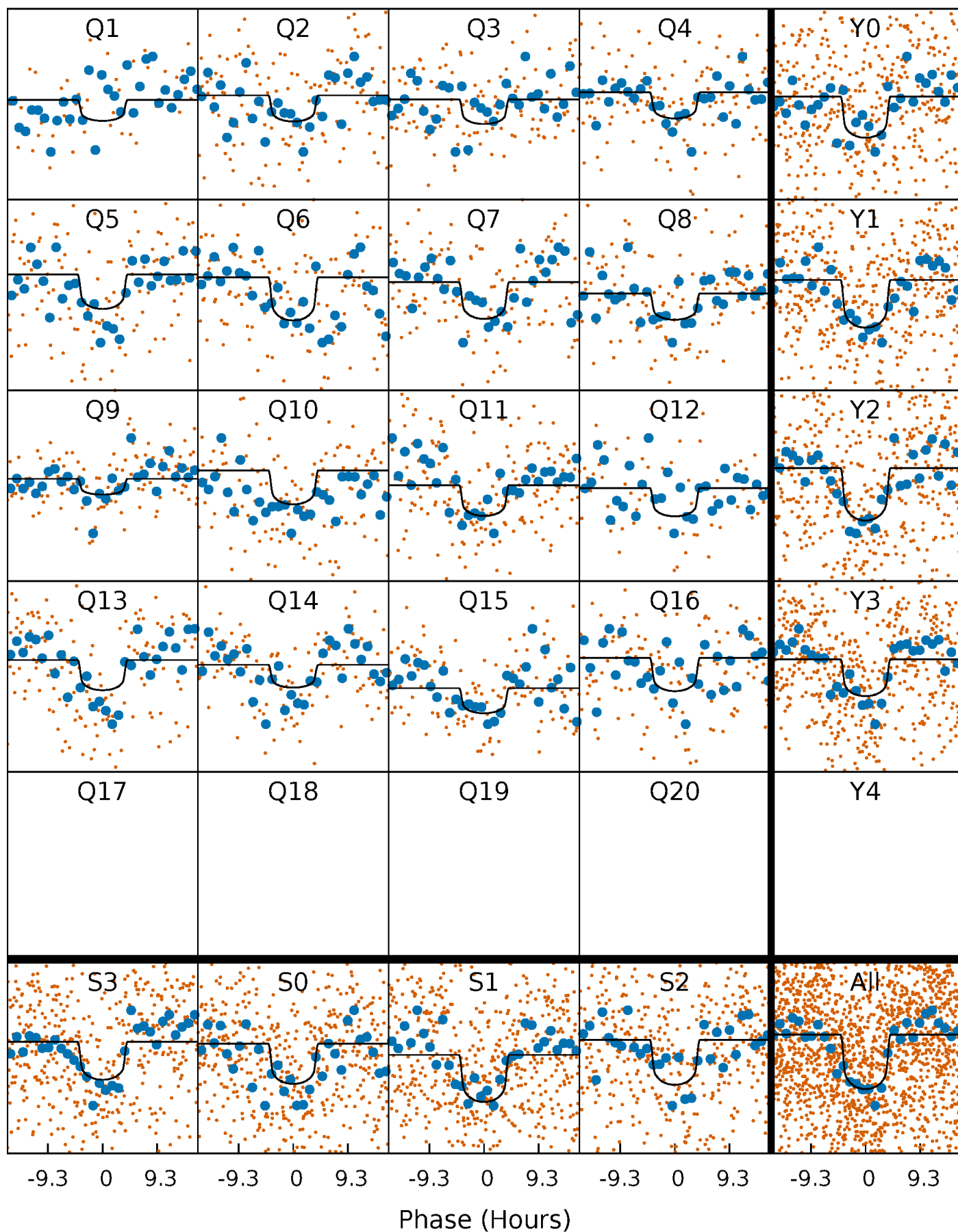
PDC Quarter-Phased Transit Curves

TCE 007834045-01 P= 44.702007 Days $T_0=155.589268$ (BKJD)



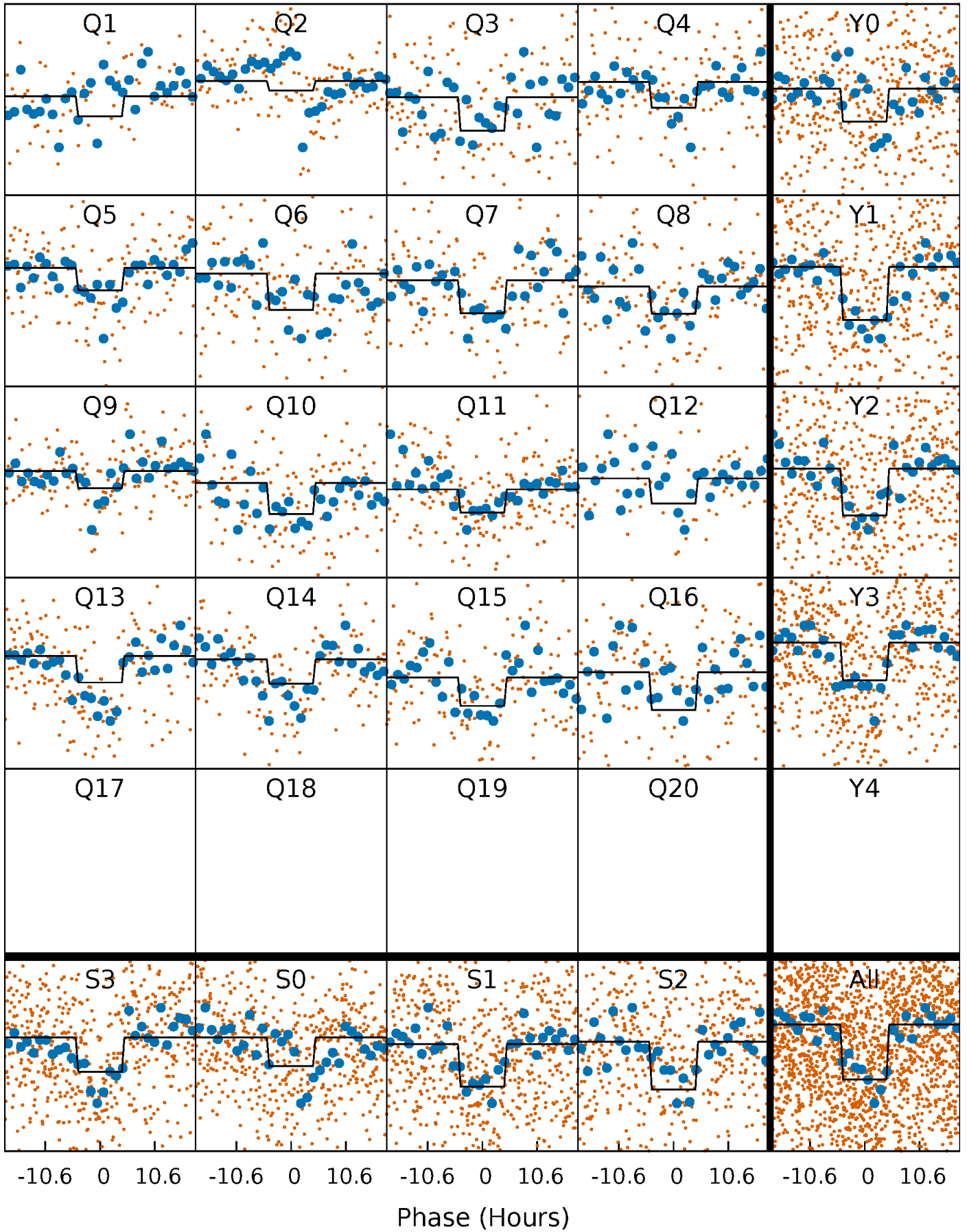
DV Quarter-Phased Transit Curves

TCE 007834045-01 P= 44.702007 Days $T_0=155.589268$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

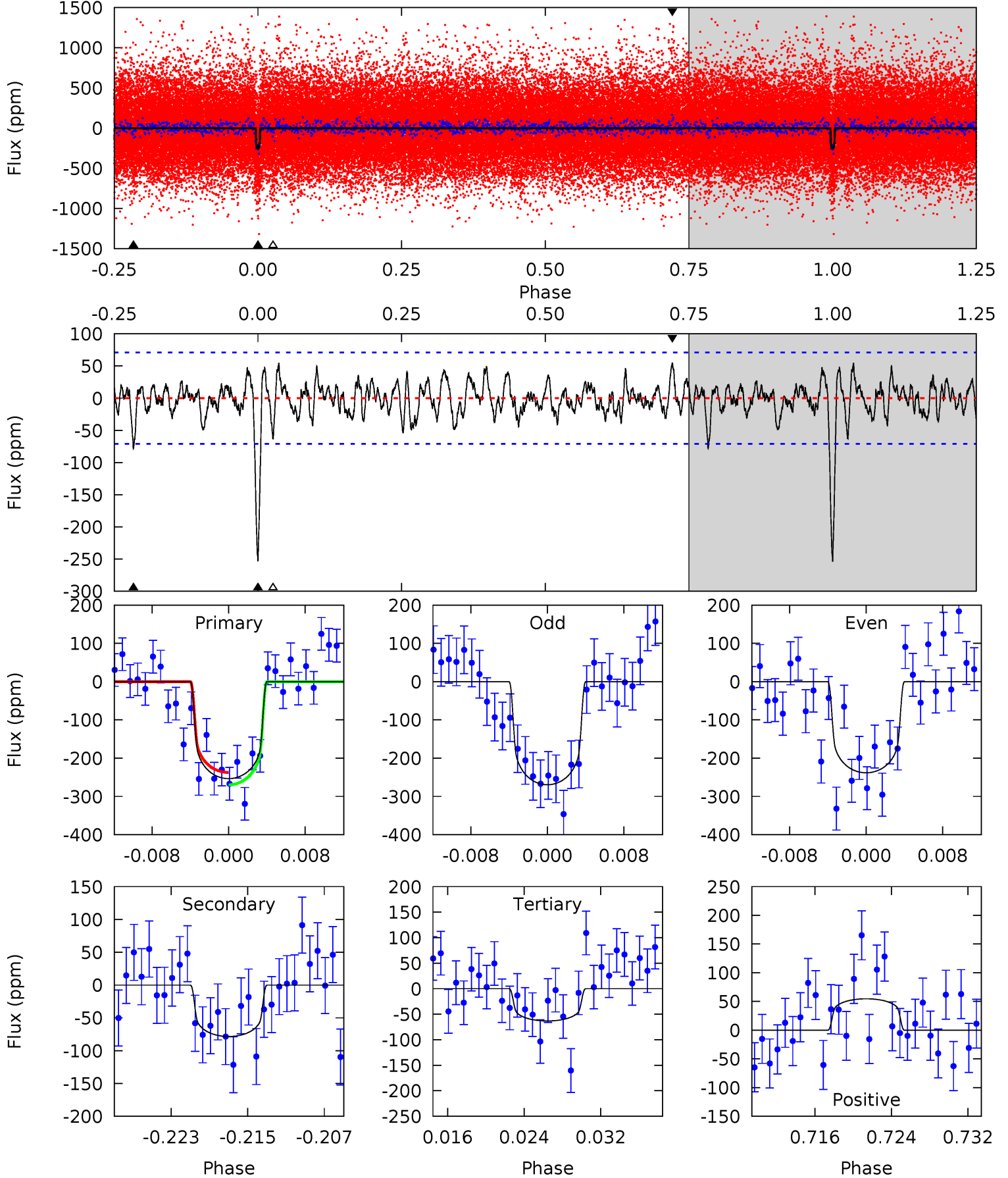
TCE 007834045-01 P= 44.702515 Days $T_0=155.554784$ (BKJD)



DV Model-Shift Uniqueness Test

007834045-01, P = 44.702007 Days, E = 110.887261 Days

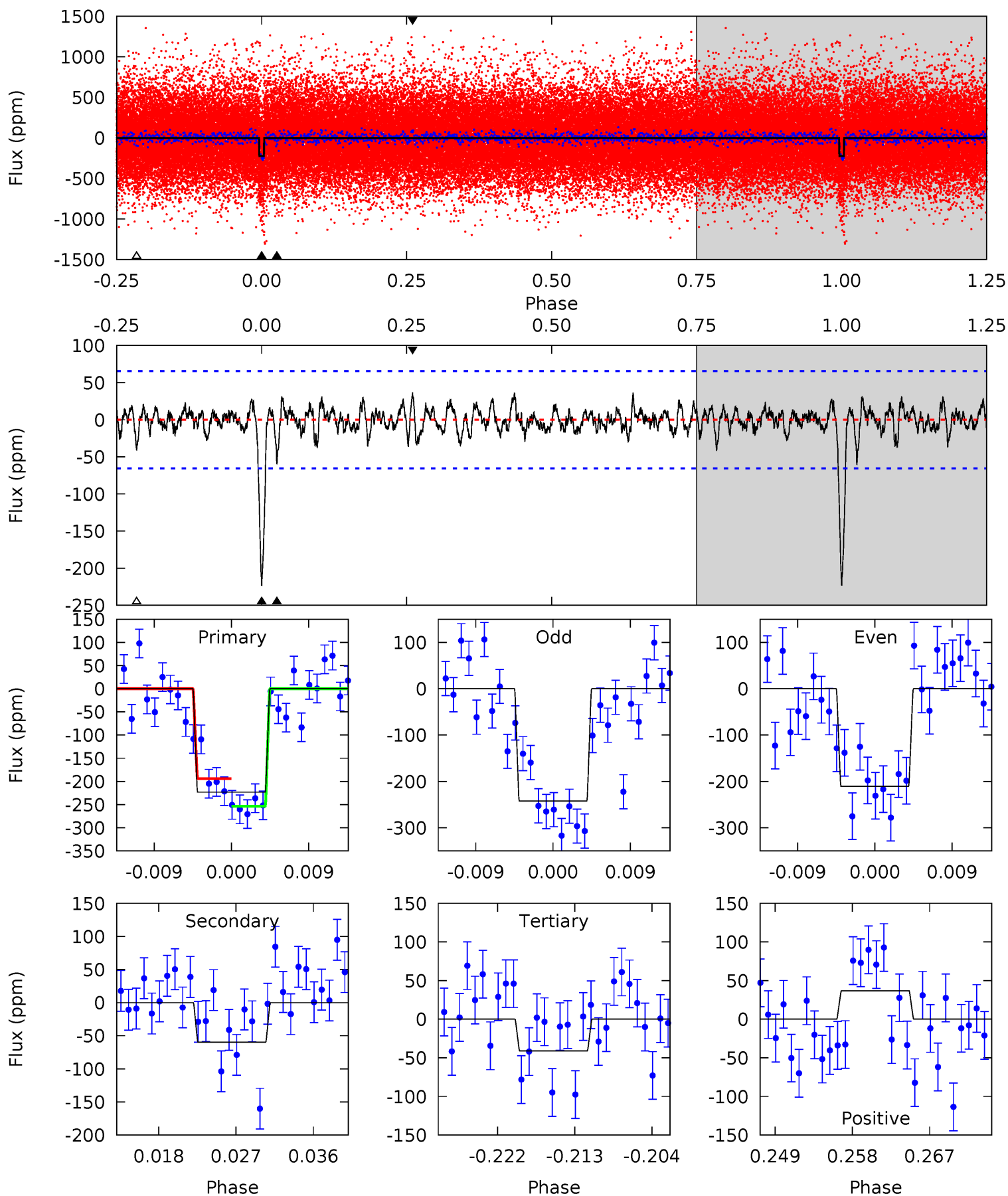
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	5.60	4.52	3.90	5.07	2.65	1.46	13.6	14.2	1.08	1.70	1.12	1.06	0.18	1.15



Alt Model-Shift Uniqueness Test

007834045-01, $P = 44.702515$ Days, $E = 110.852269$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	4.62	3.16	2.82	5.05	2.62	0.98	14.0	14.4	1.46	1.80	1.20	0.94	0.14	2.29



Stellar Parameters For KIC 007834045

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5929^{+80}_{-80}	$4.123^{+0.182}_{-0.098}$	$0.120^{+0.150}_{-0.150}$	$1.518^{+0.279}_{-0.307}$	$1.116^{+0.121}_{-0.081}$	$0.449^{+0.411}_{-0.147}$
	+1%/-1%	+4%/-2%	+125%/-125%	+18%/-20%	+11%/-7%	+92%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 007834045-01 / KOI 4630.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-78 ± 14	$2.46^{+0.78}_{-0.80}$	882^{+44}_{-52}	4647^{+757}_{-454}	465^{+549}_{-206}
Alt.	-60 ± 13	$2.40^{+0.82}_{-0.72}$	883^{+41}_{-47}	4475^{+670}_{-483}	381^{+375}_{-179}

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 $A_{obs} \gg 1.0$

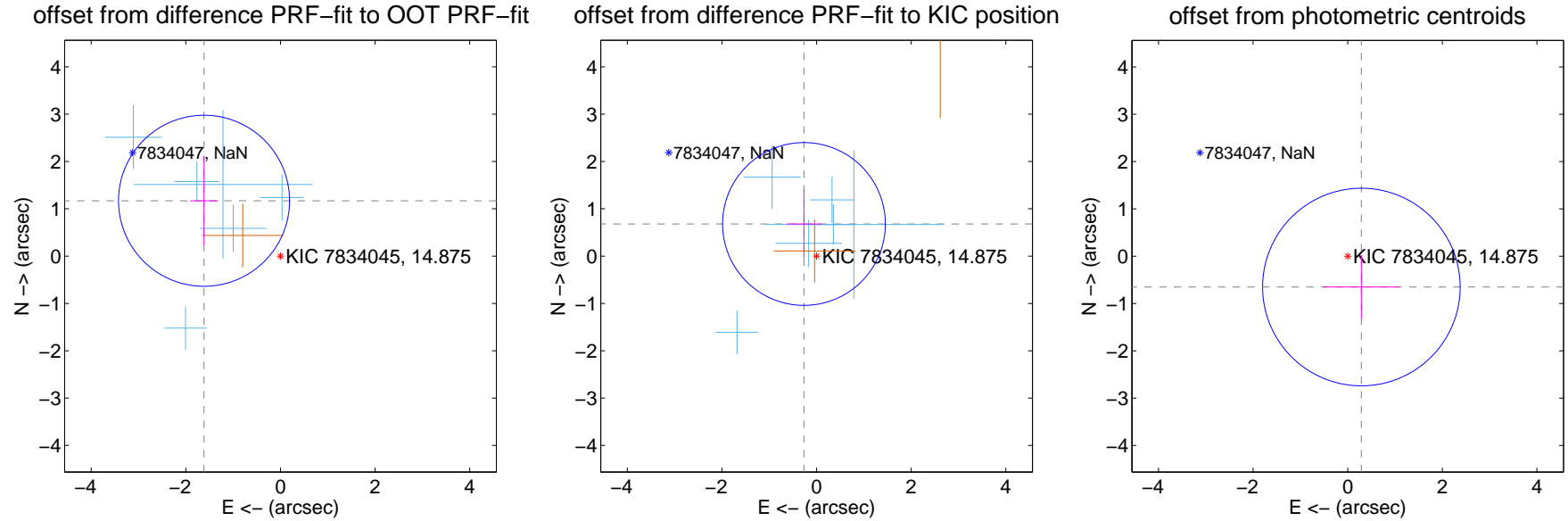
DV Centroid Data

Supplemental centroid analysis for 007834045-01. Kepler magnitude: 14.88. Transit SNR 10.44

There are 6 quarters with good PRF difference image offsets

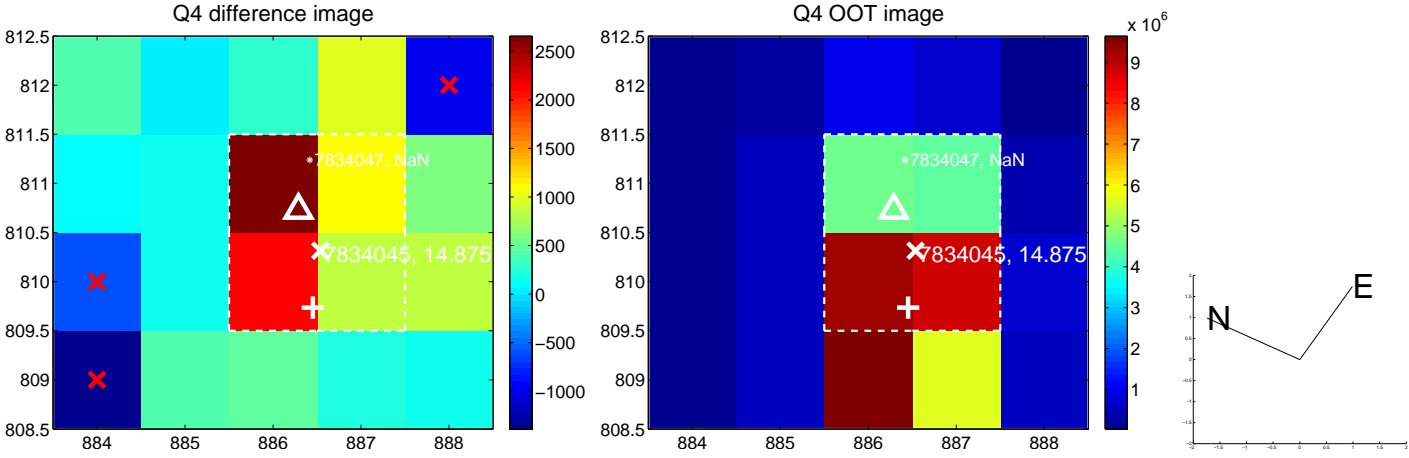
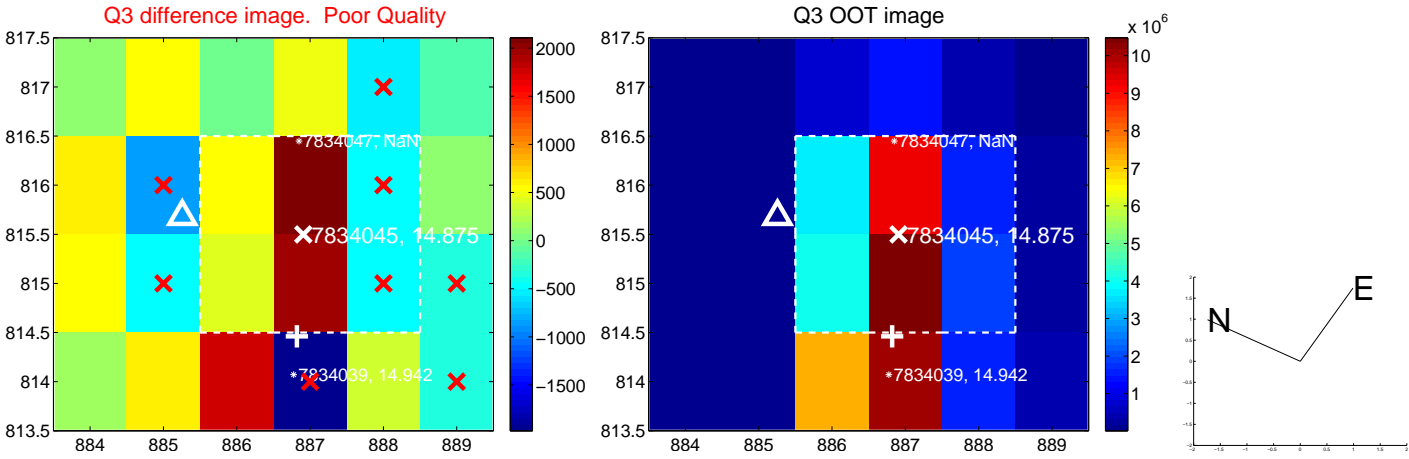
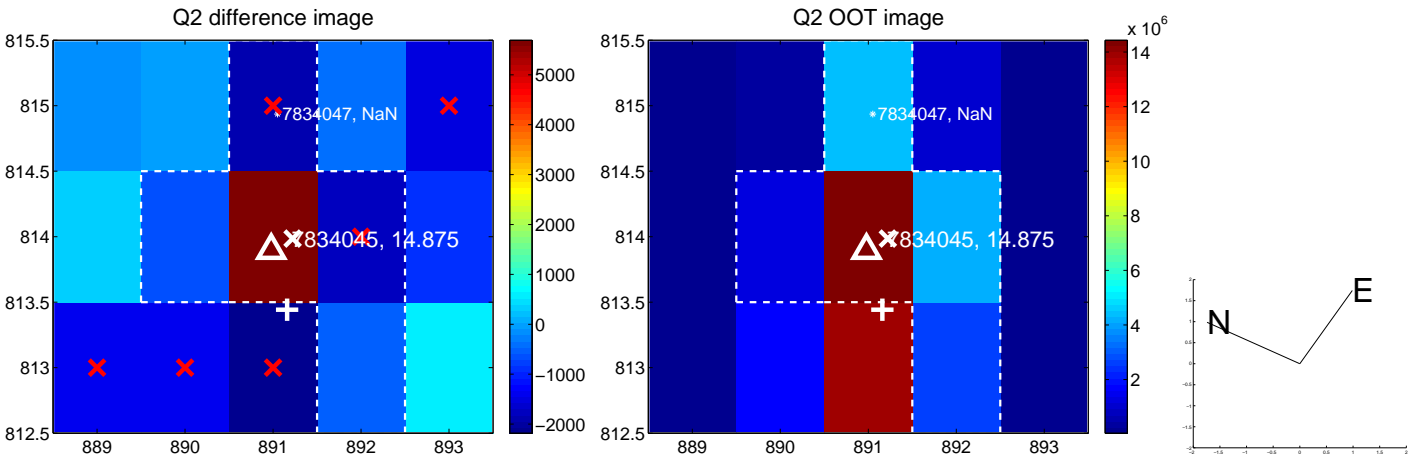
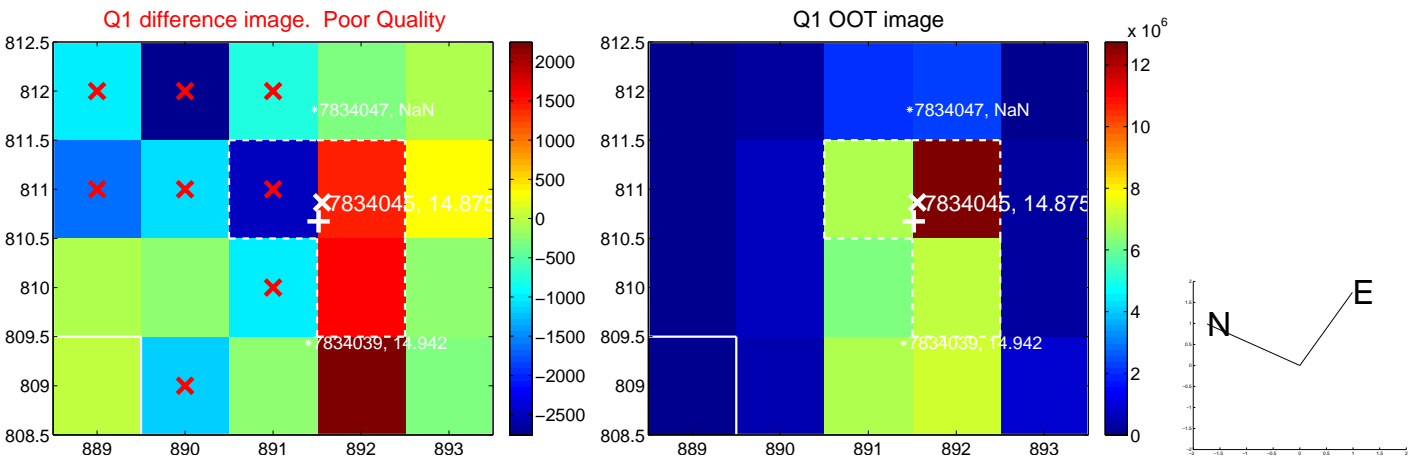
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.995 \pm 0.603	3.31	1.615 \pm 0.296	1.170 \pm 0.939
PRF-fit source offset from KIC position	0.730 \pm 0.573	1.27	0.267 \pm 0.379	0.680 \pm 0.729
photometric centroid source offset	0.71 \pm 0.70	1.02	-0.29 \pm 0.80	-0.65 \pm 0.67

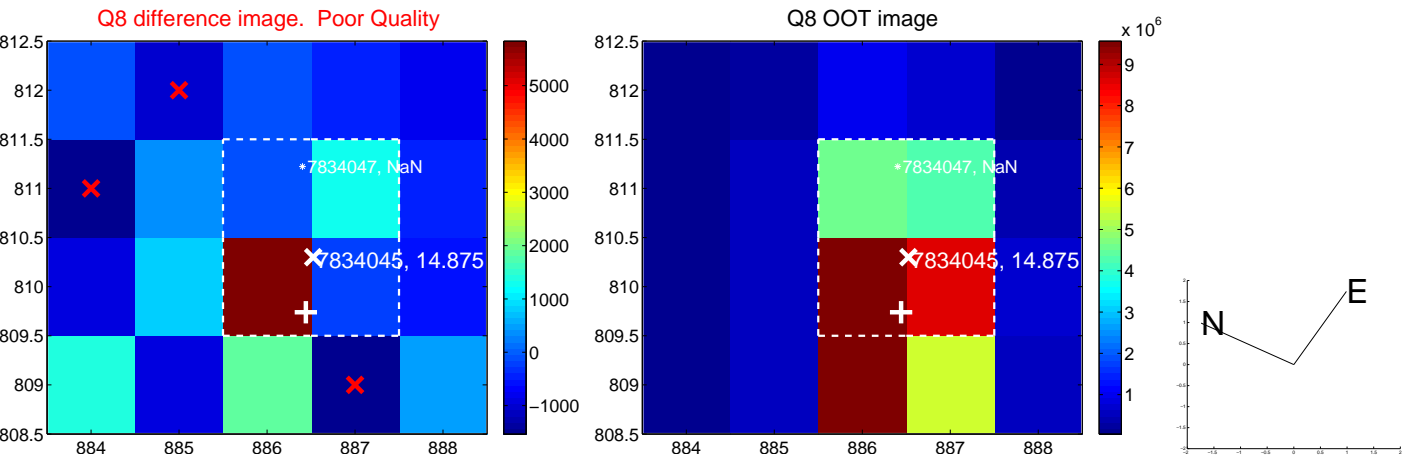
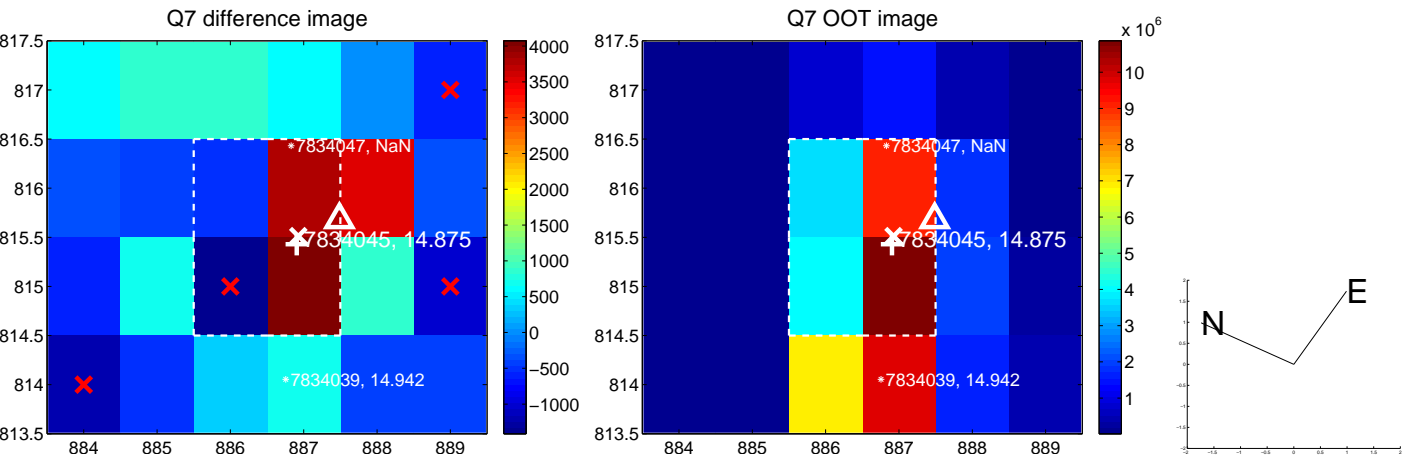
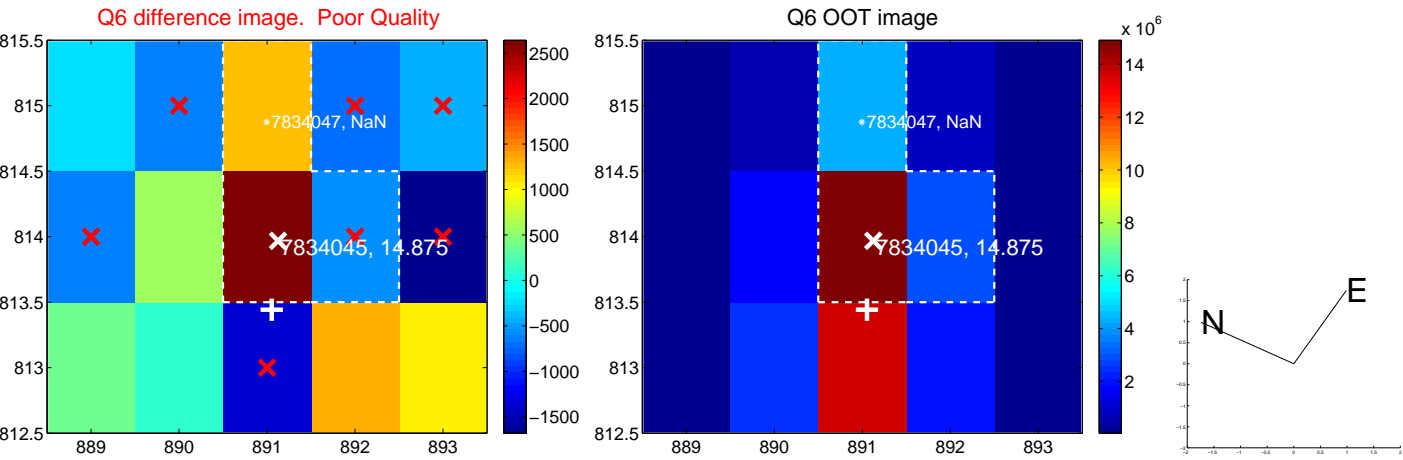
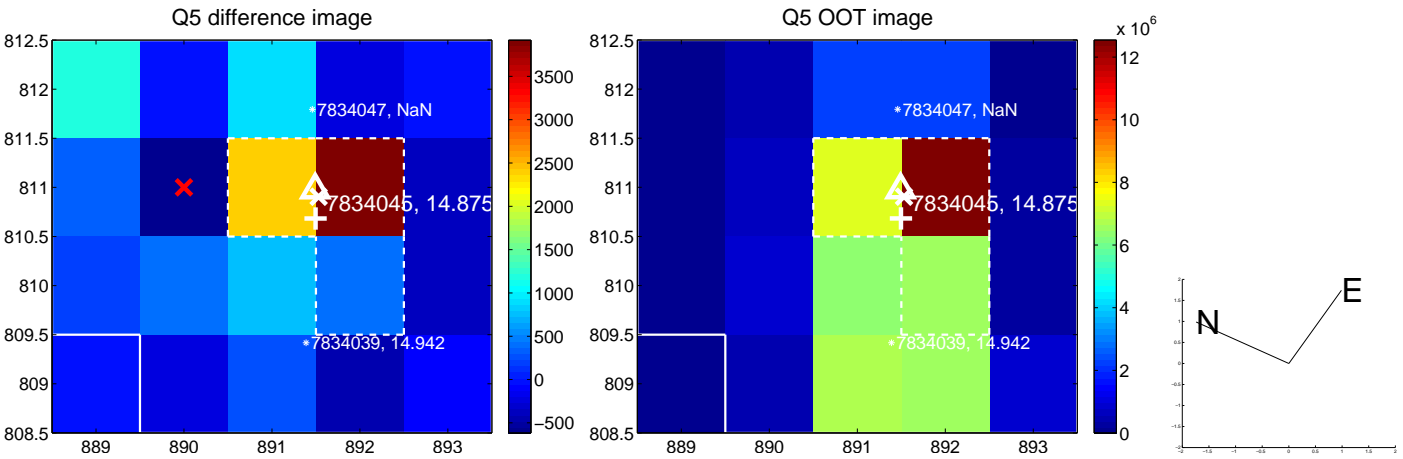


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

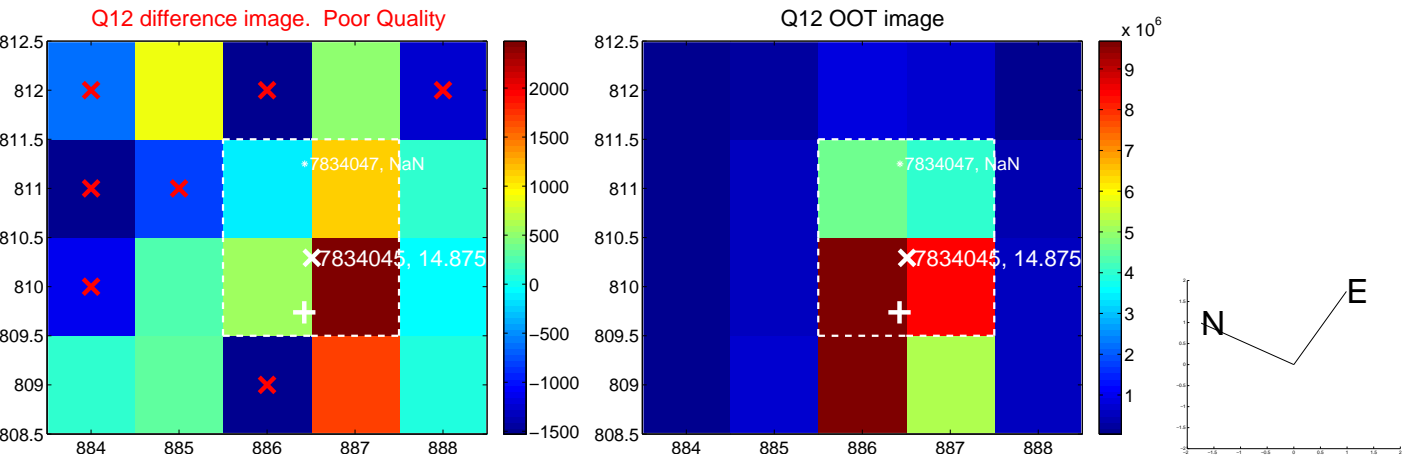
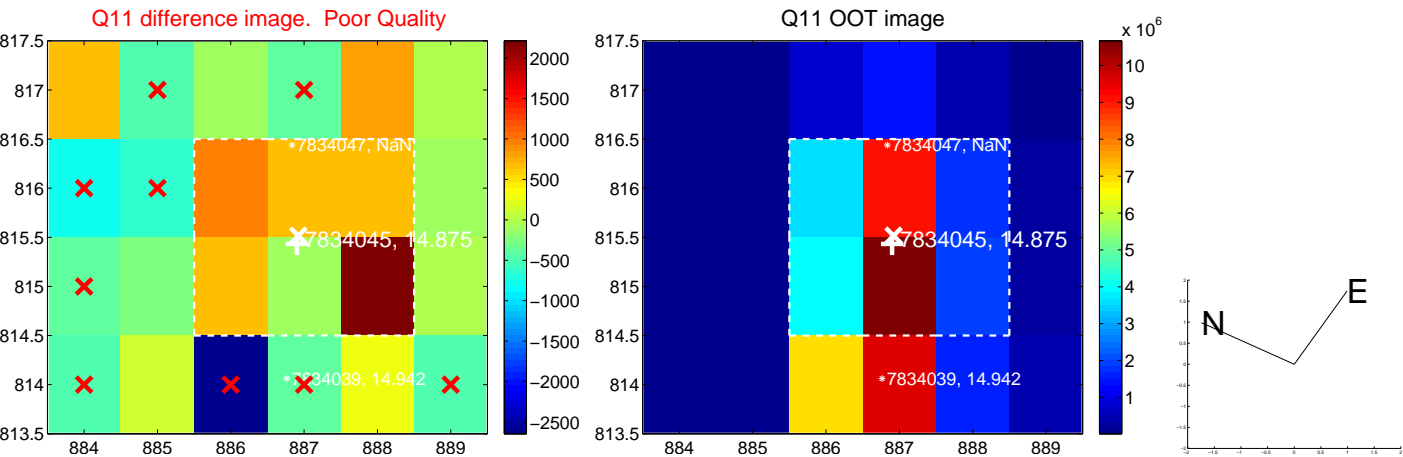
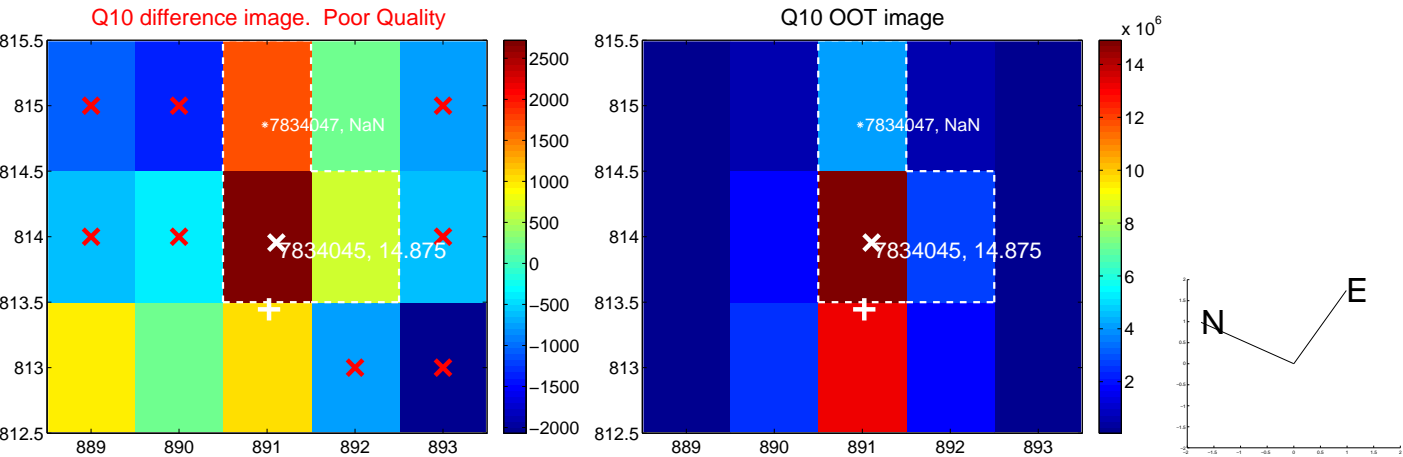
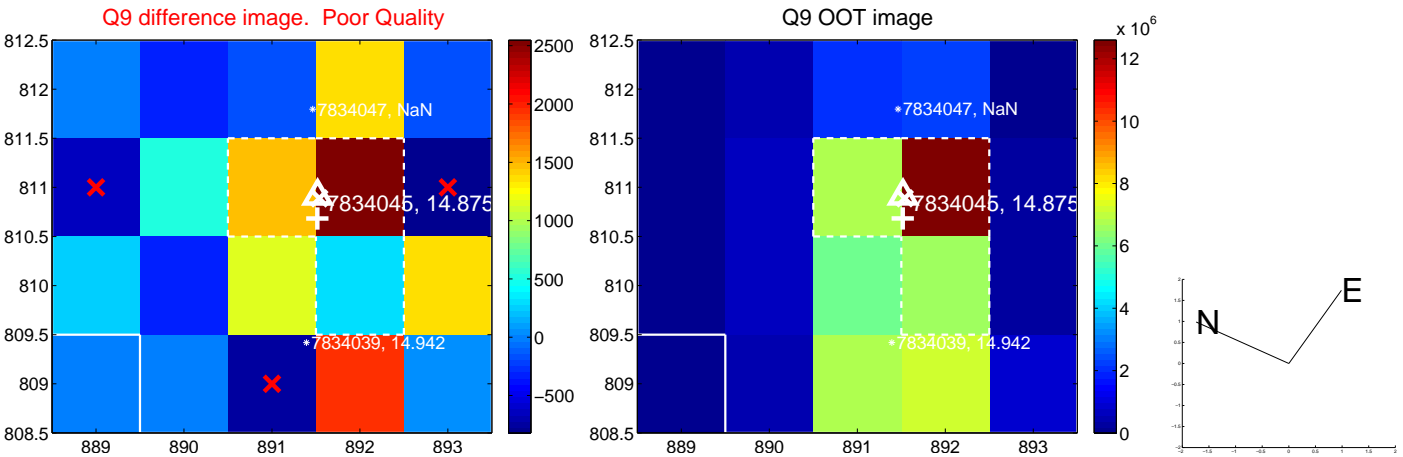
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



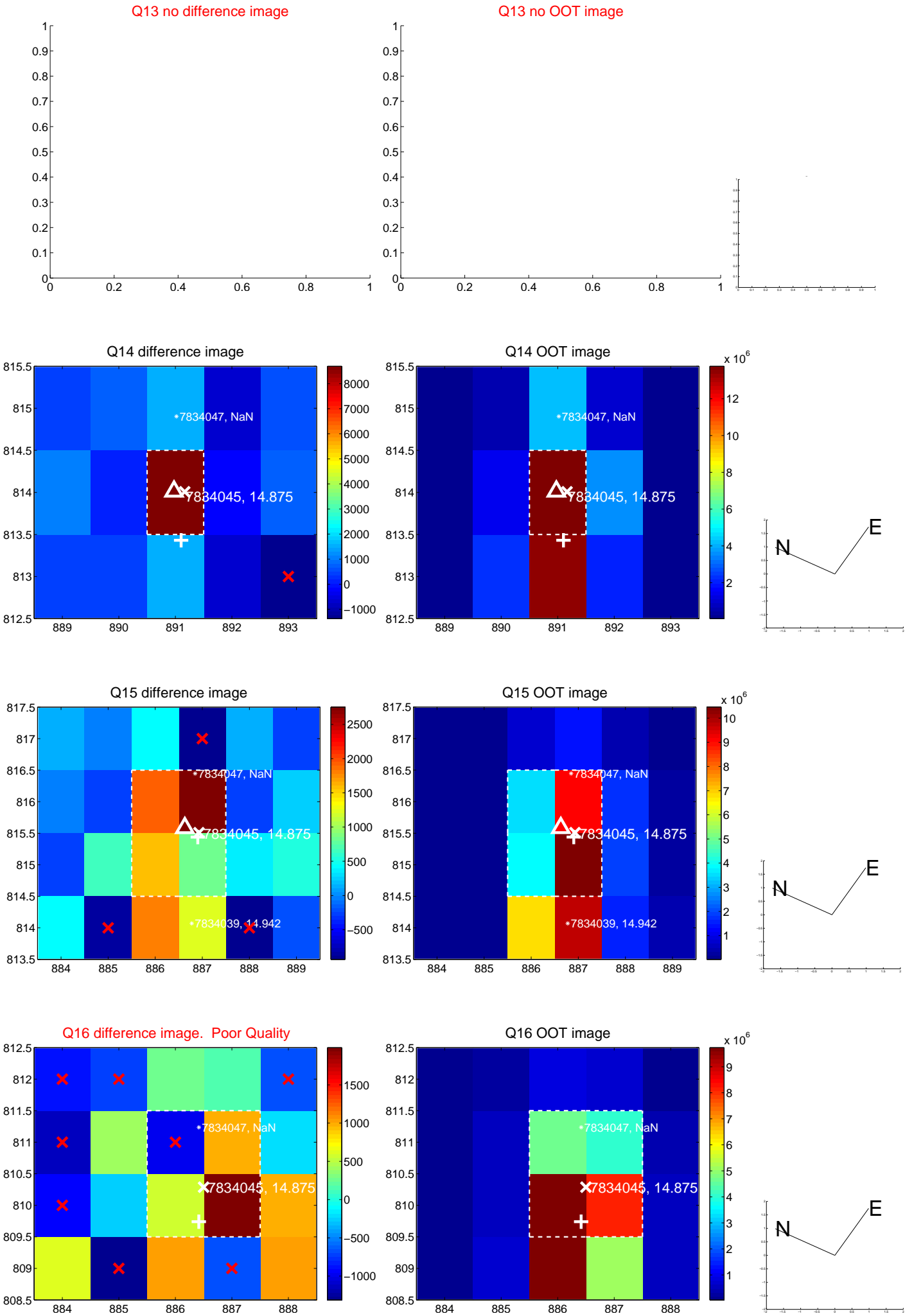
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



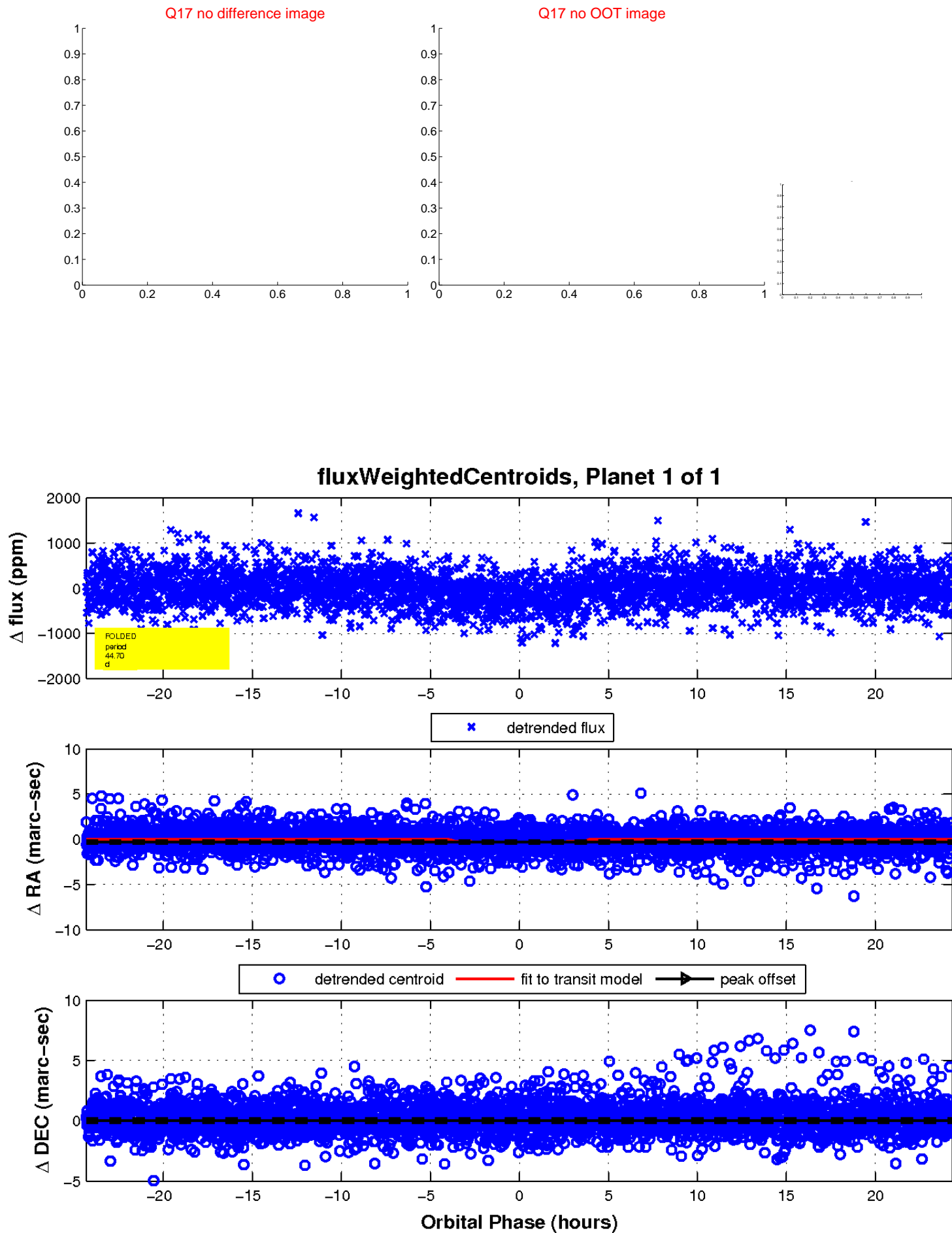
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UKIRT Image

Declination

