

KIC 003223433

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})
003223433-01	OBS	4548.01	61.072522	132.602528	210.4	11.438	10.1	9.3	1.01	5803	1.56	11.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003223433-01	OBS	PC	1.00	0	0	0	0	CENT_FEW_MEAS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

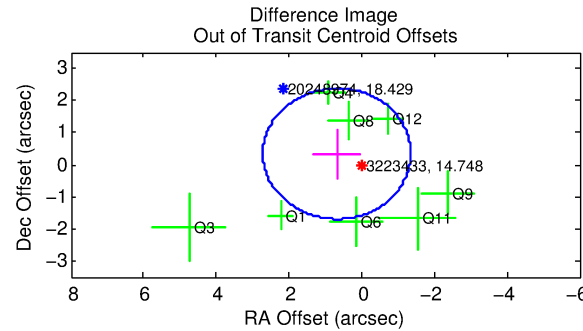
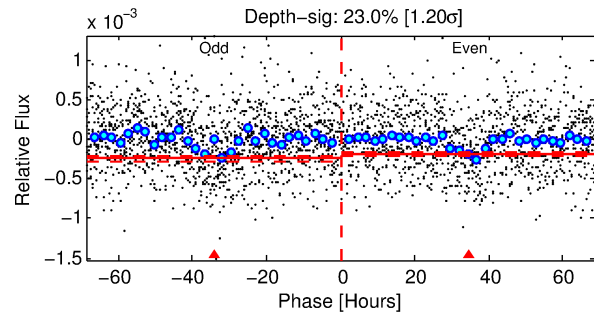
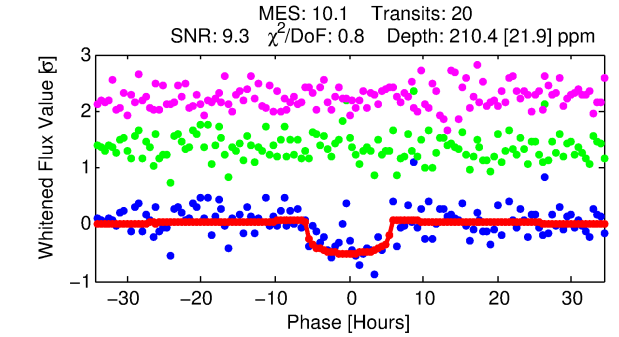
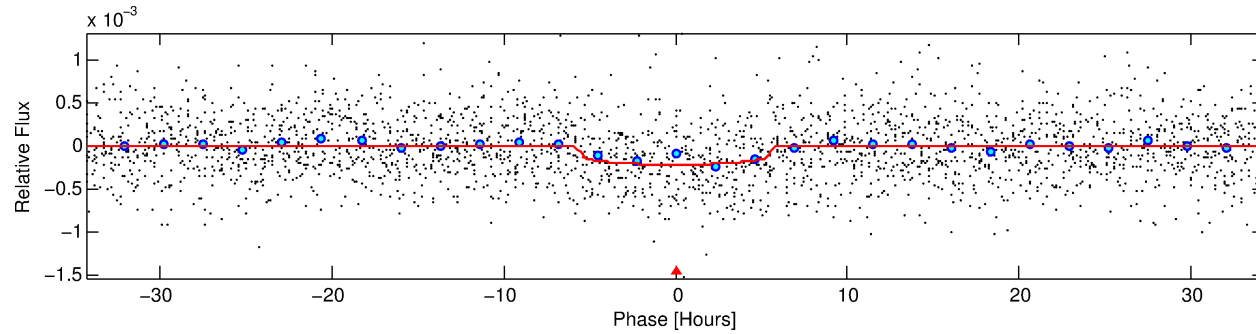
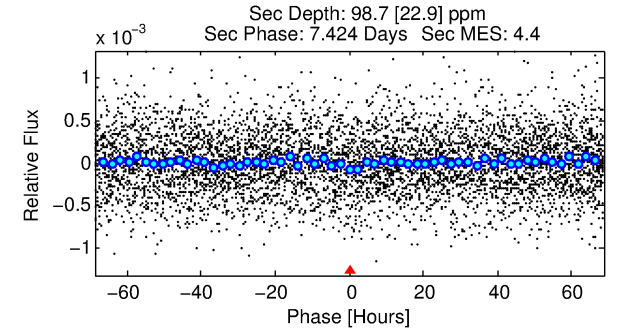
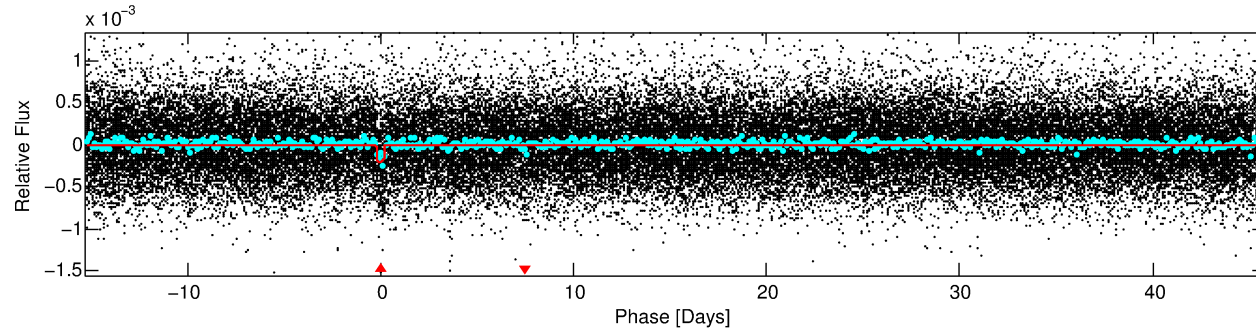
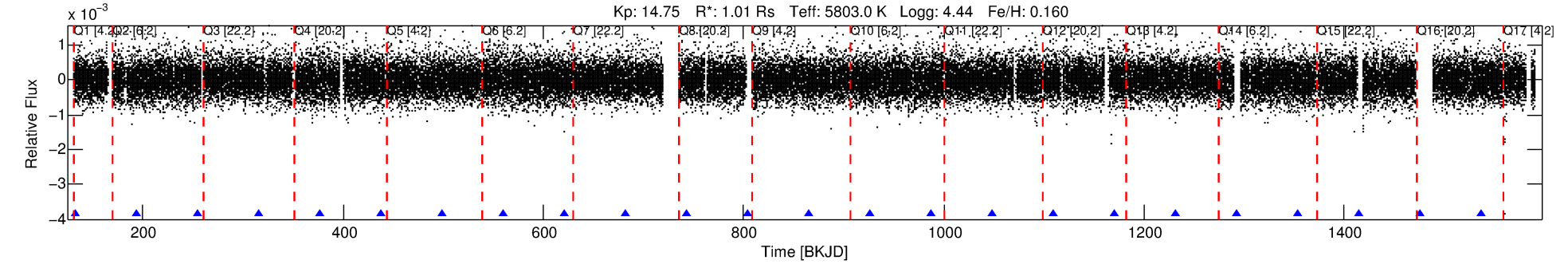
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003223433-01

No Significant Match Found

DV One-Page Summary

KIC: 3223433 Candidate: 1 of 1 Period: 61.073 d
KOI: K04548.01 Corr: 0.843



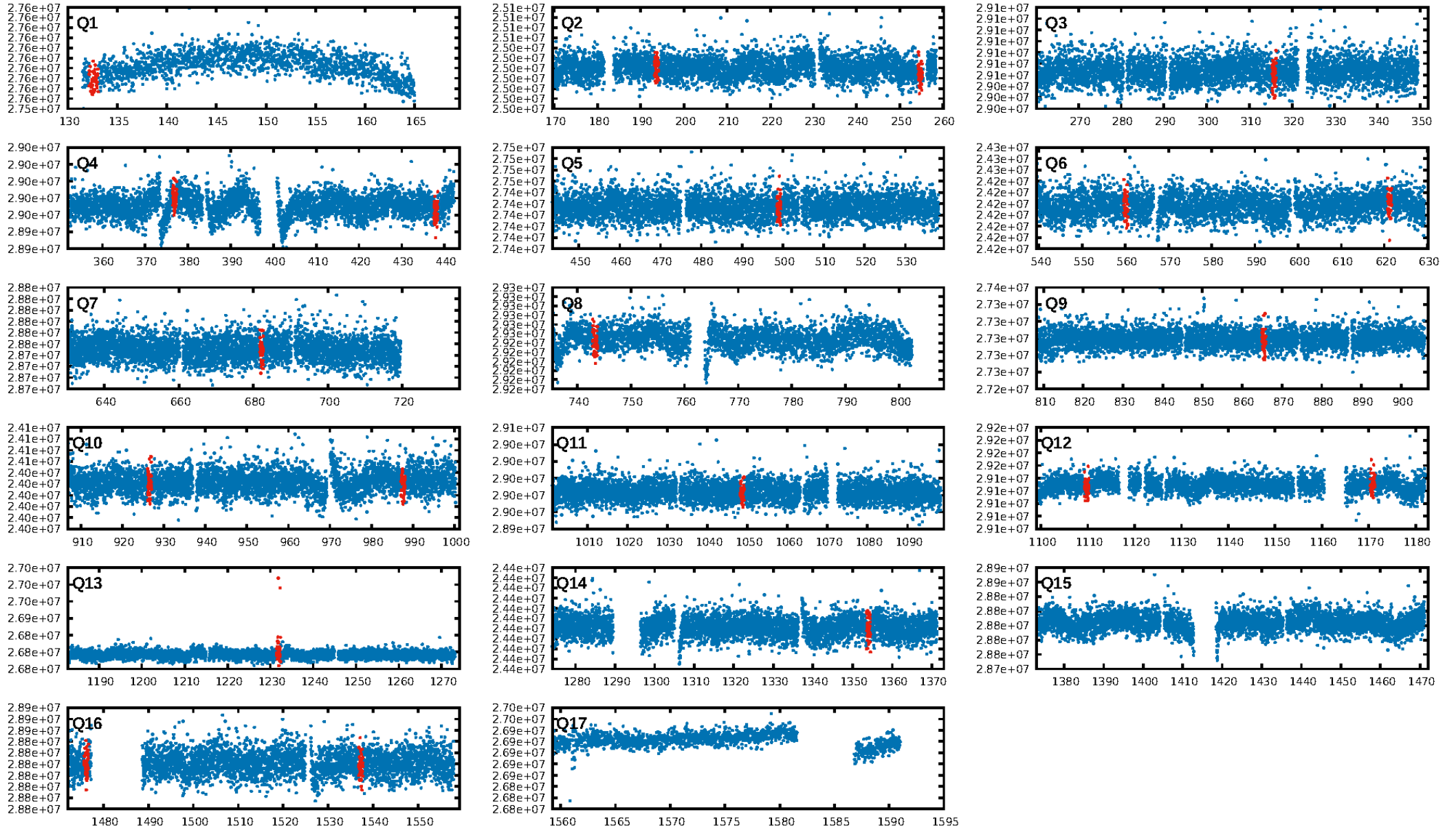
DV Fit Results:

Period = 61.07252 [0.00144] d
Epoch = 132.6025 [0.0175] BKJD
Rp/R* = 0.0141 [0.0092]
a/R* = 31.06 [88.36]
b = 0.67 [2.36]
Seff = 11.03 [2.52]
Teq = 465 [27] K
Rp = 1.56 [1.05] Re
a = 0.3080 [0.0446] AU
Ag = 2124.29 [2861.83] [0.74 σ]
Teffp = 4878 [1622] K [2.72 σ]

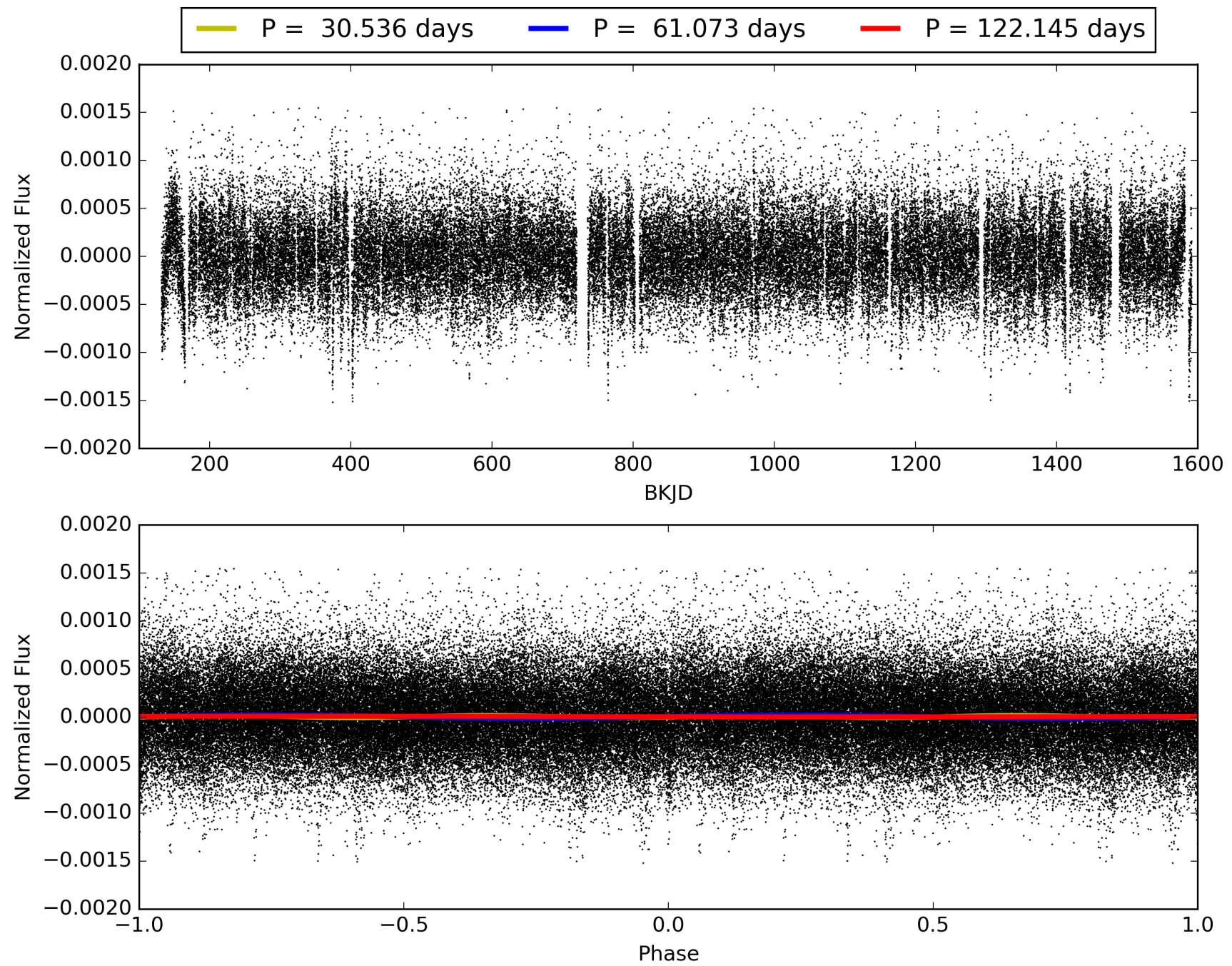
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 92.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.14e-19
RollingBand-fgt: 1.00 [19/19]
GhostDiagnostic-chr: 1.244
Centroid-sig: 0.3%
Centroid-so: 3.545 arcsec [2.09 σ]
OotOffset-rm: 0.767 arcsec [1.13 σ]
KicOffset-rm: 0.714 arcsec [1.03 σ]
OotOffset-st: 1/2/3/2 [8]
KicOffset-st: 1/2/3/2 [8]
DiffImageQuality-fgm: 0.50 [4/8]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 003223433-01, PDC Light Curves

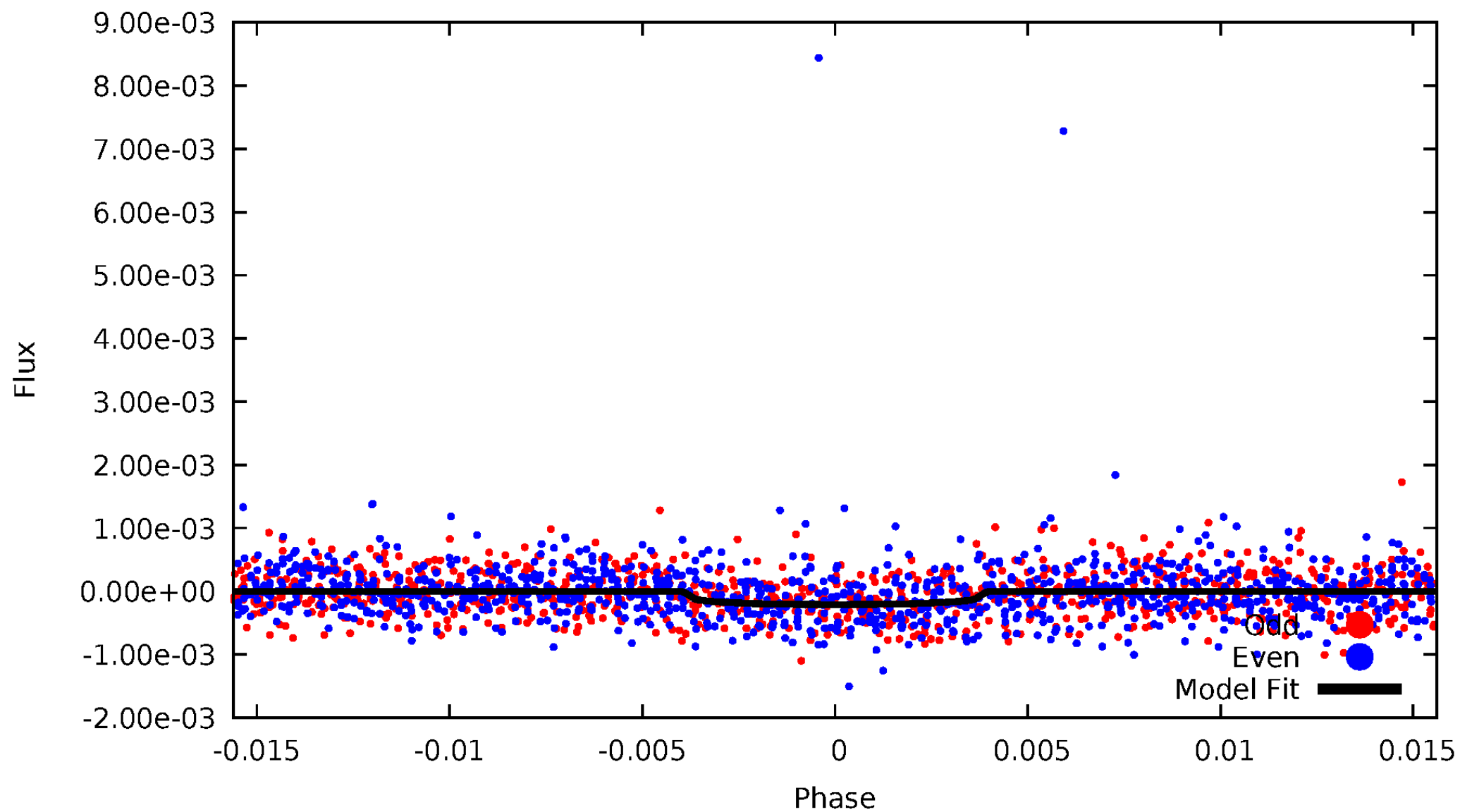


TCE 003223433-01



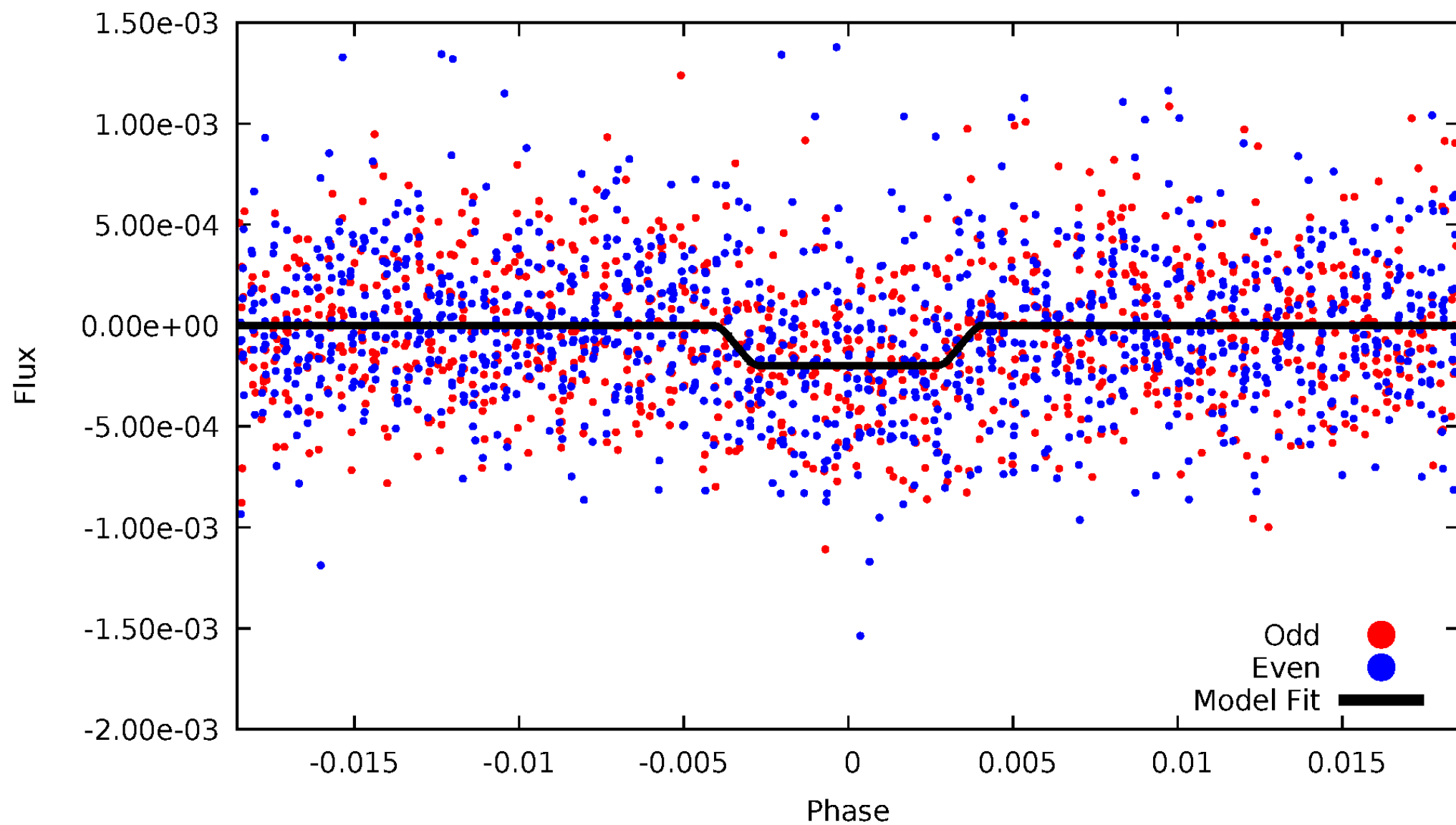
DV Odd/Even

TCE 003223433-01



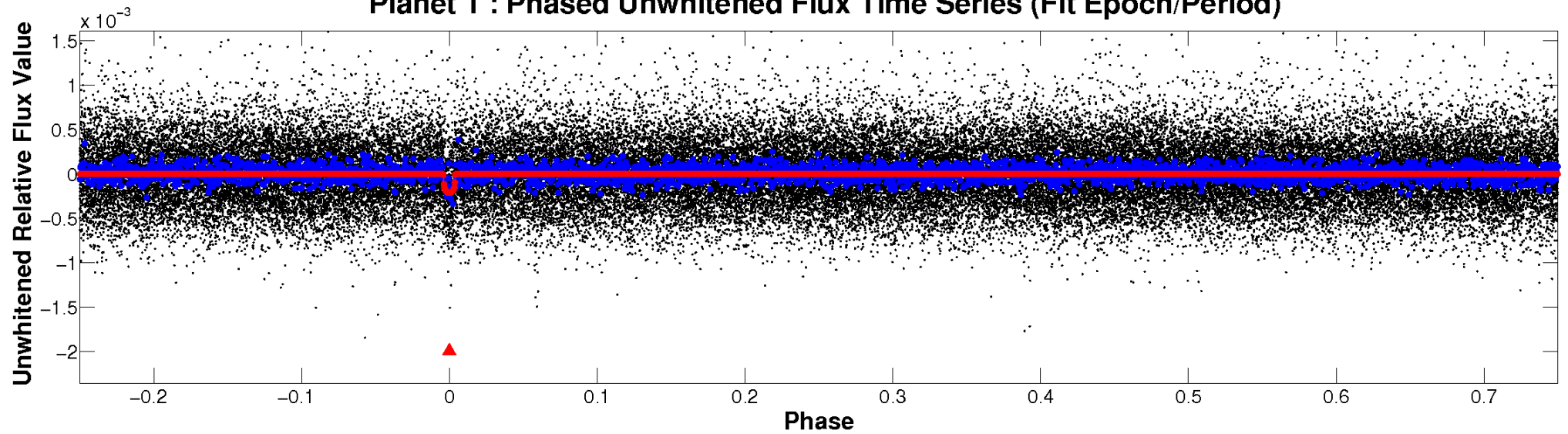
ALT Odd/Even

TCE 003223433-01

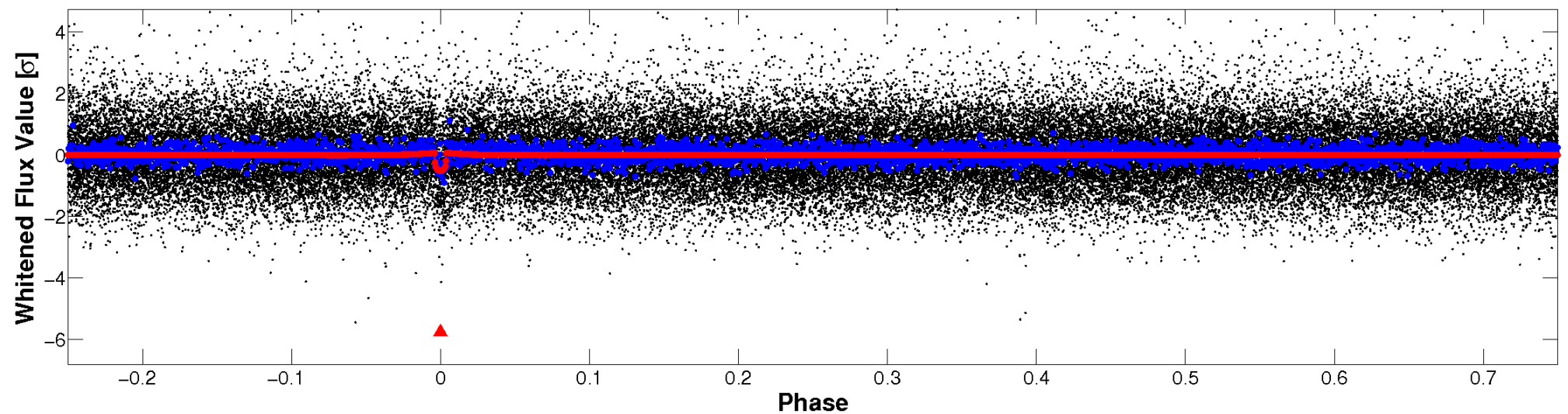


Non-Whitened Vs. Whitened Light Curve

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

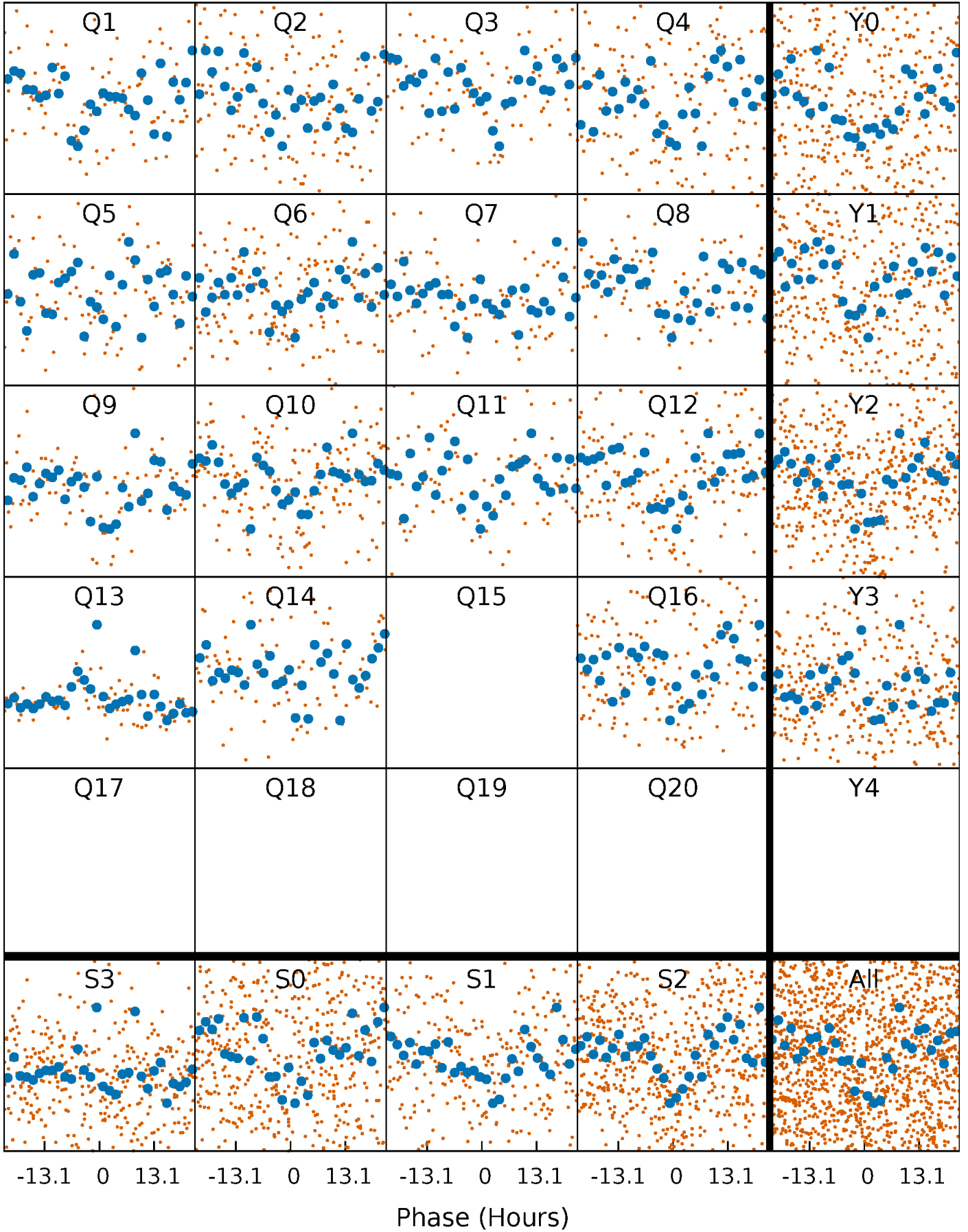


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



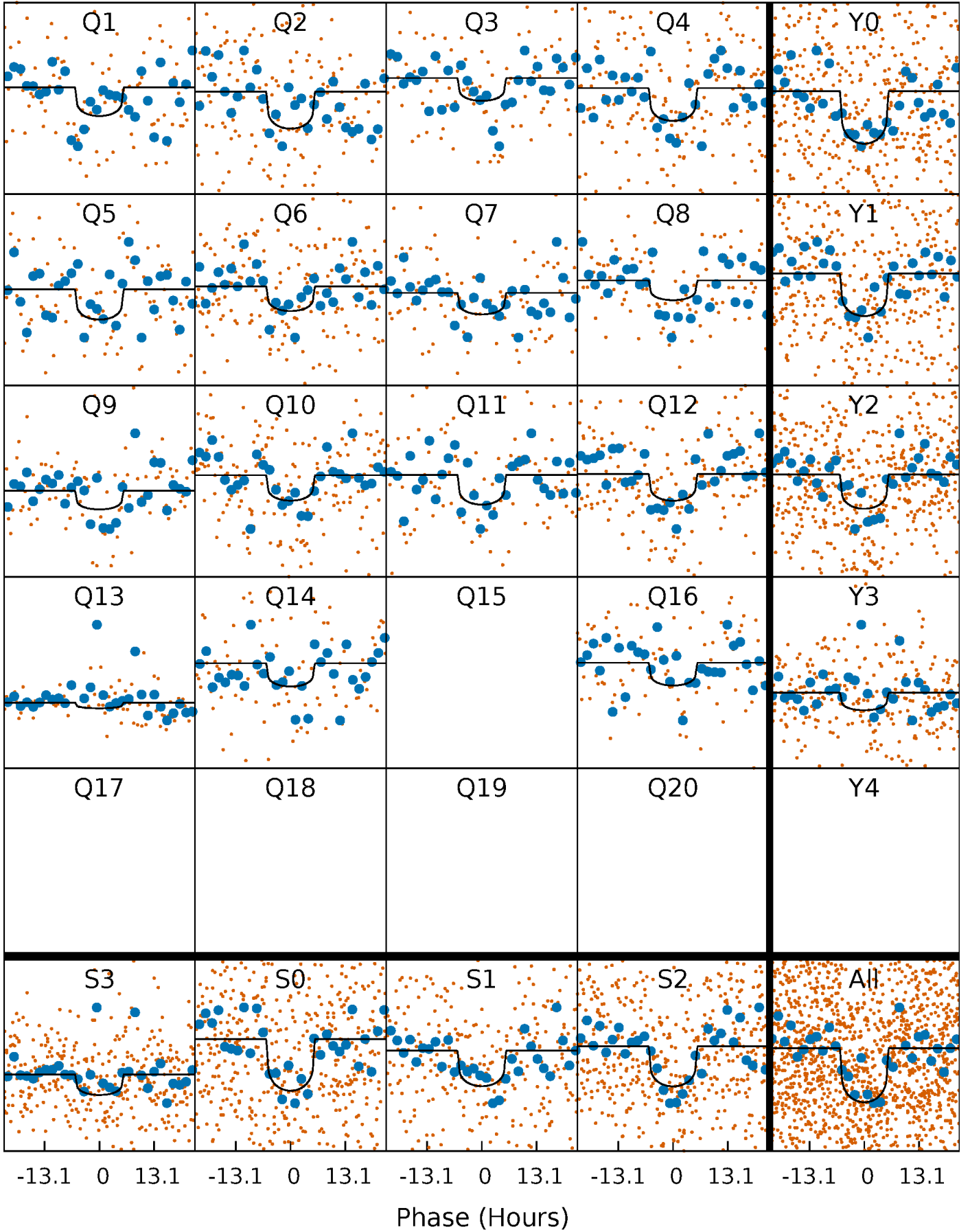
PDC Quarter-Phased Transit Curves

TCE 003223433-01 P= 61.072522 Days $T_0=132.602528$ (BKJD)



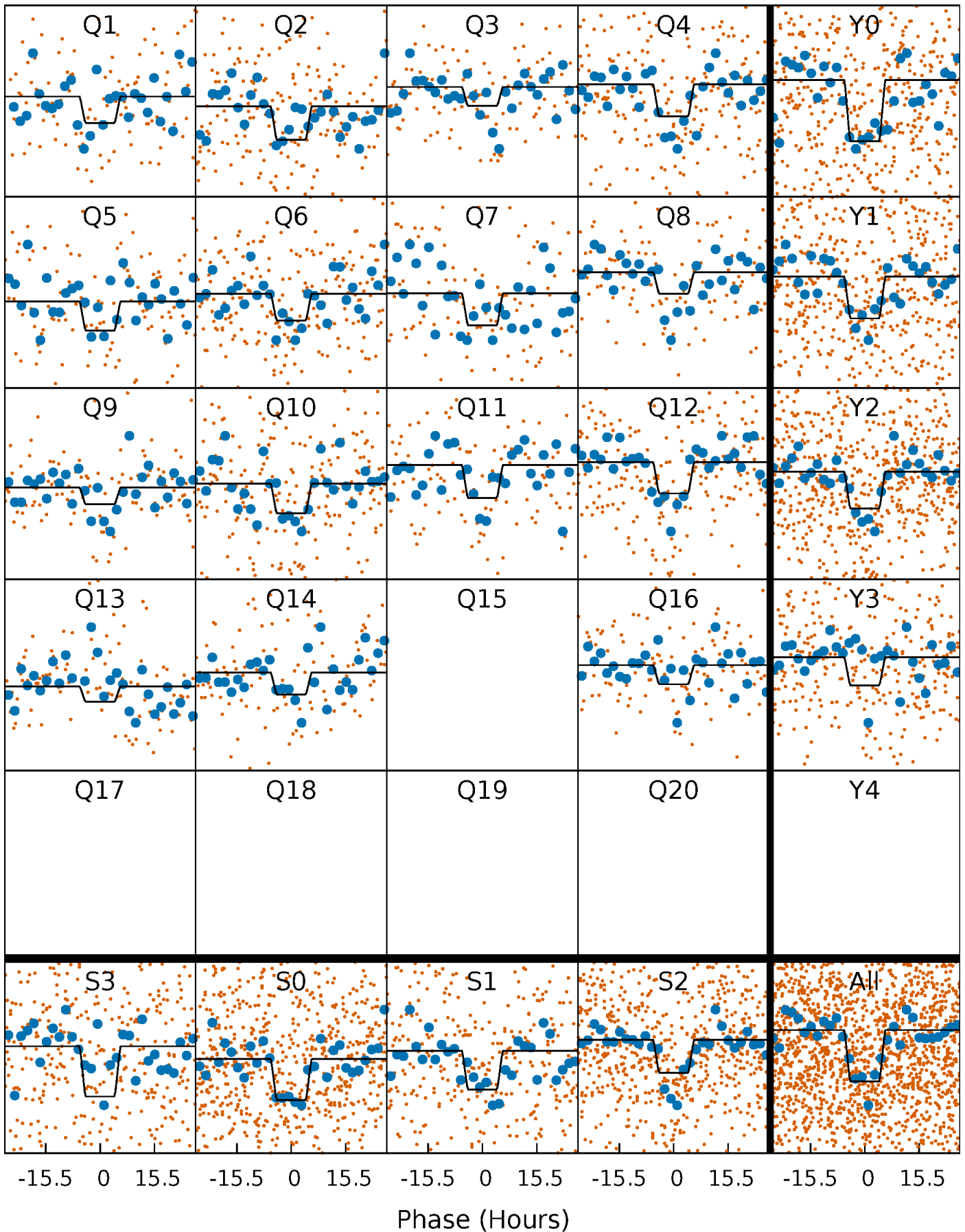
DV Quarter-Phased Transit Curves

TCE 003223433-01 P= 61.072522 Days $T_0=132.602528$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

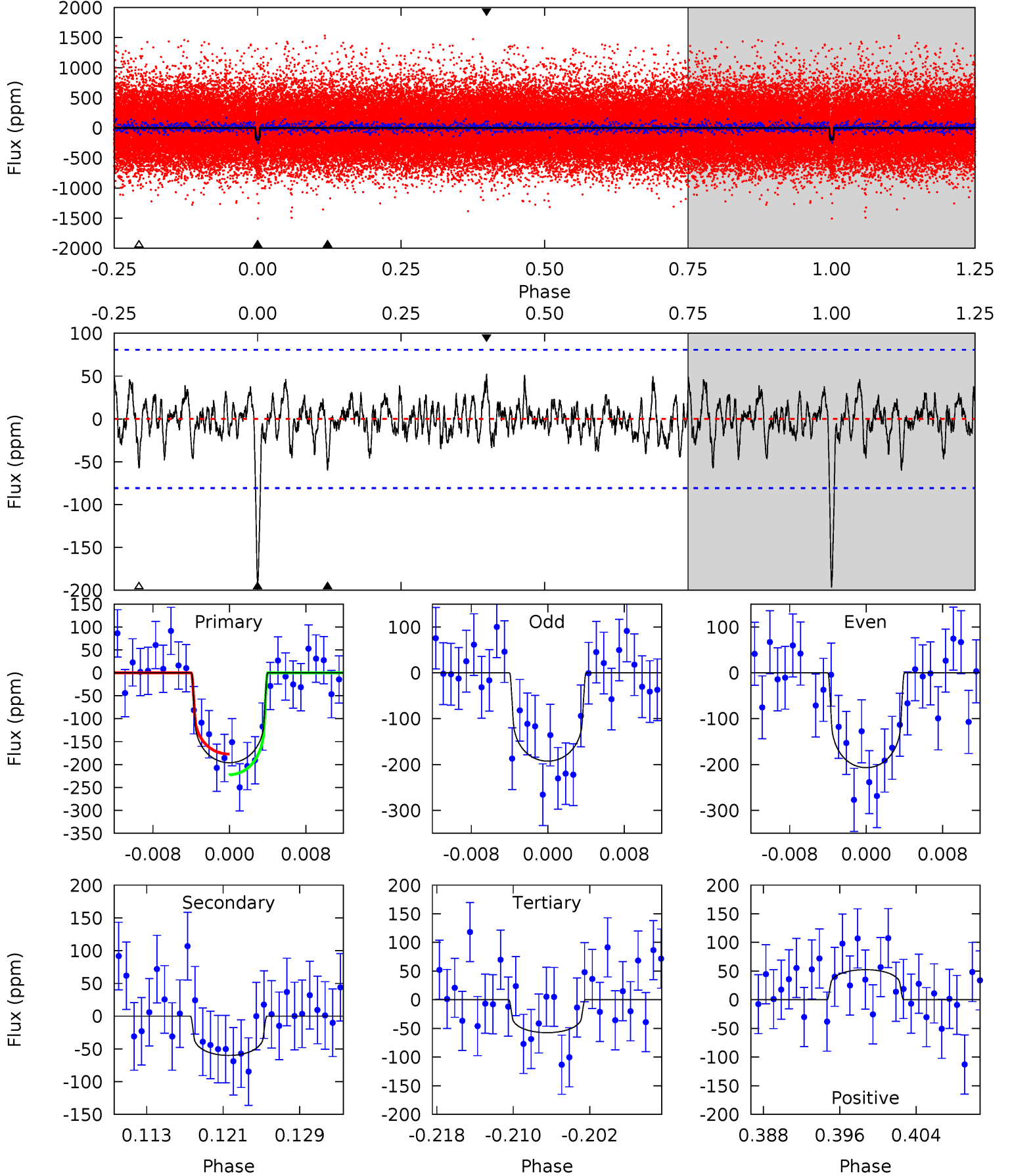
TCE 003223433-01 P= 61.076189 Days $T_0=132.573321$ (BKJD)



DV Model-Shift Uniqueness Test

003223433-01, P = 61.072522 Days, E = 71.530006 Days

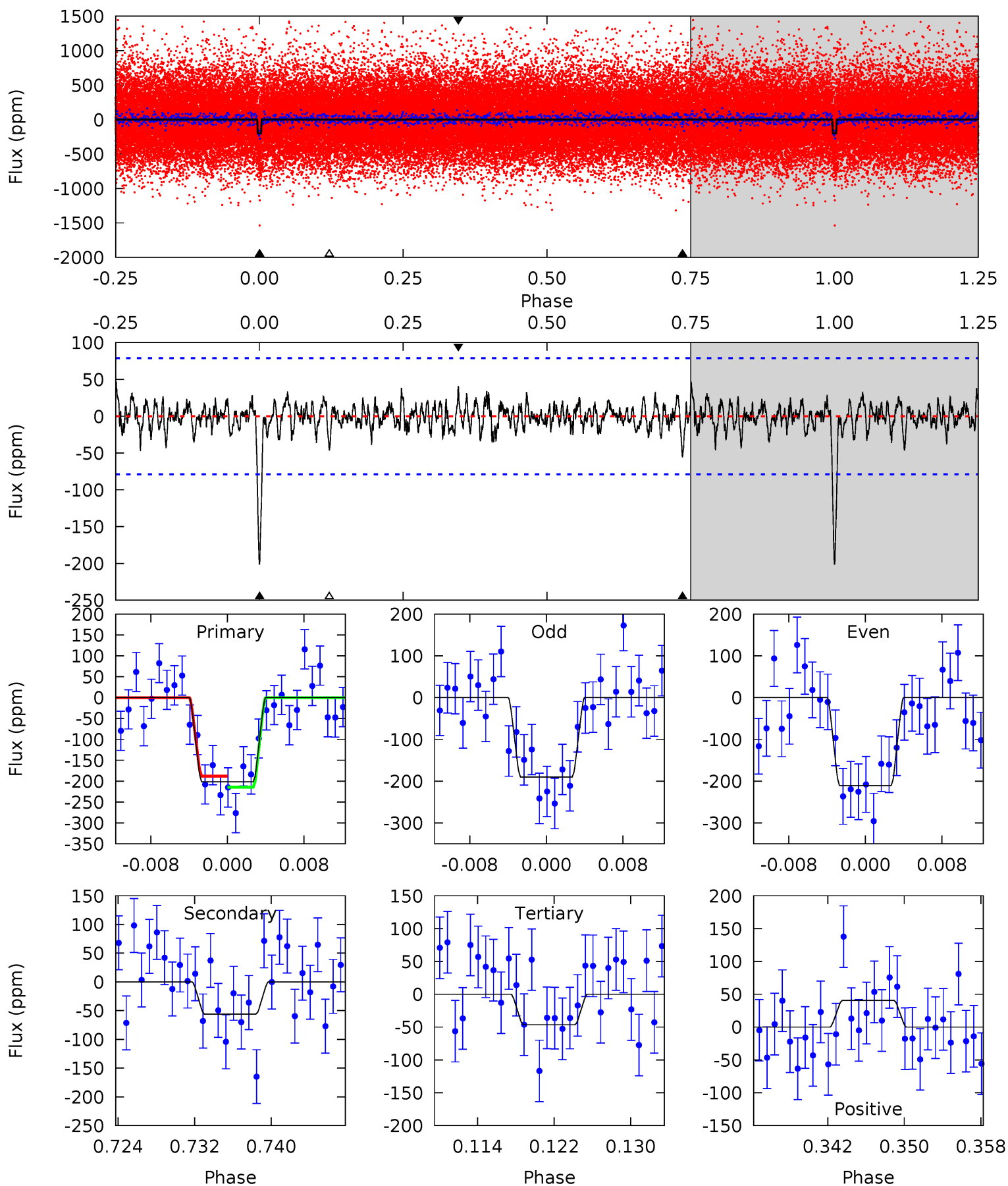
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	3.76	3.60	3.29	5.07	2.65	1.09	8.70	9.01	0.16	0.47	0.44	0.81	0.21	1.41



Alt Model-Shift Uniqueness Test

003223433-01, P = 61.076189 Days, E = 71.497132 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	3.59	2.98	2.61	5.07	2.65	0.89	9.95	10.3	0.61	0.98	0.65	0.99	0.19	0.85



Stellar Parameters For KIC 003223433

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5803^{+78}_{-78}	$4.444^{+0.042}_{-0.127}$	$0.160^{+0.150}_{-0.150}$	$1.015^{+0.163}_{-0.065}$	$1.044^{+0.056}_{-0.069}$	$1.406^{+0.277}_{-0.482}$
	+1%/-1%	+1%/-3%	+94%/-94%	+16%/-6%	+5%/-7%	+20%/-34%
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 003223433-01 / KOI 4548.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-60 ± 16	$1.67^{+1.08}_{-0.92}$	655^{+26}_{-17}	4441^{+1848}_{-791}	1164^{+4288}_{-775}
Alt.	-56 ± 16	$1.63^{+0.99}_{-0.88}$	654^{+27}_{-17}	4358^{+1790}_{-702}	1044^{+4054}_{-662}

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

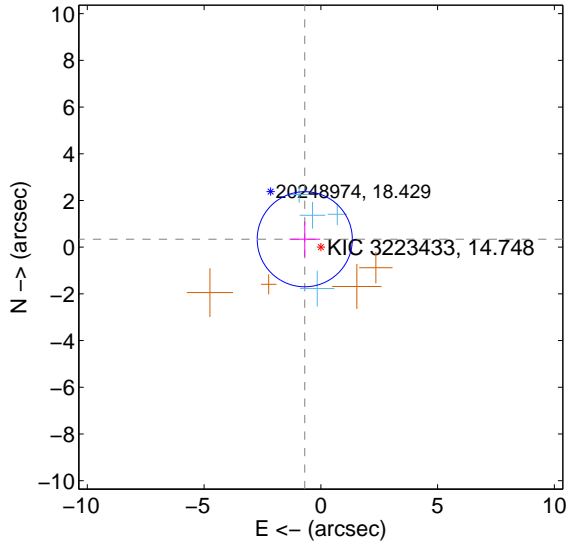
Supplemental centroid analysis for 003223433-01. Kepler magnitude: 14.75. Transit SNR 9.34

There are 4 quarters with good PRF difference image offsets

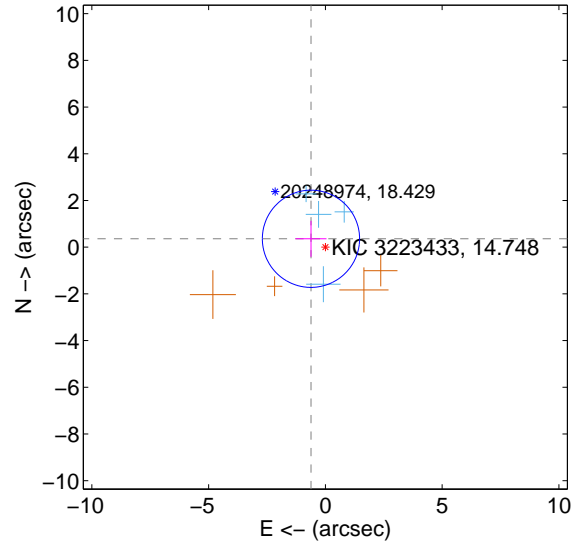
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.767 ± 0.679	1.13	0.688 ± 0.660	0.340 ± 0.752
PRF-fit source offset from KIC position	0.714 ± 0.694	1.03	0.617 ± 0.665	0.359 ± 0.773
photometric centroid source offset	3.54 ± 1.70	2.09	2.12 ± 1.60	-2.84 ± 1.75

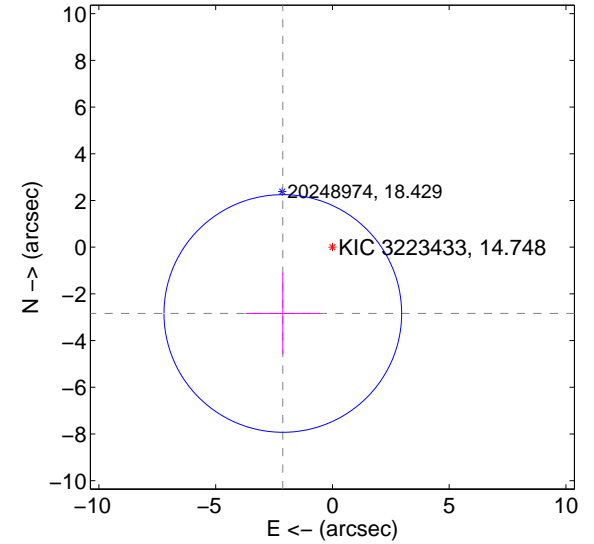
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

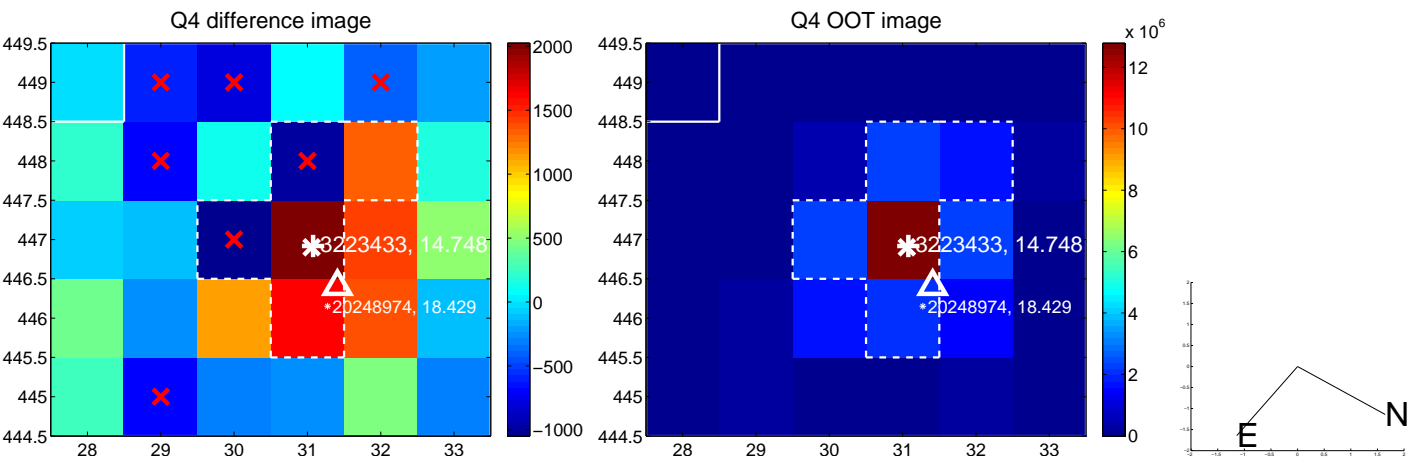
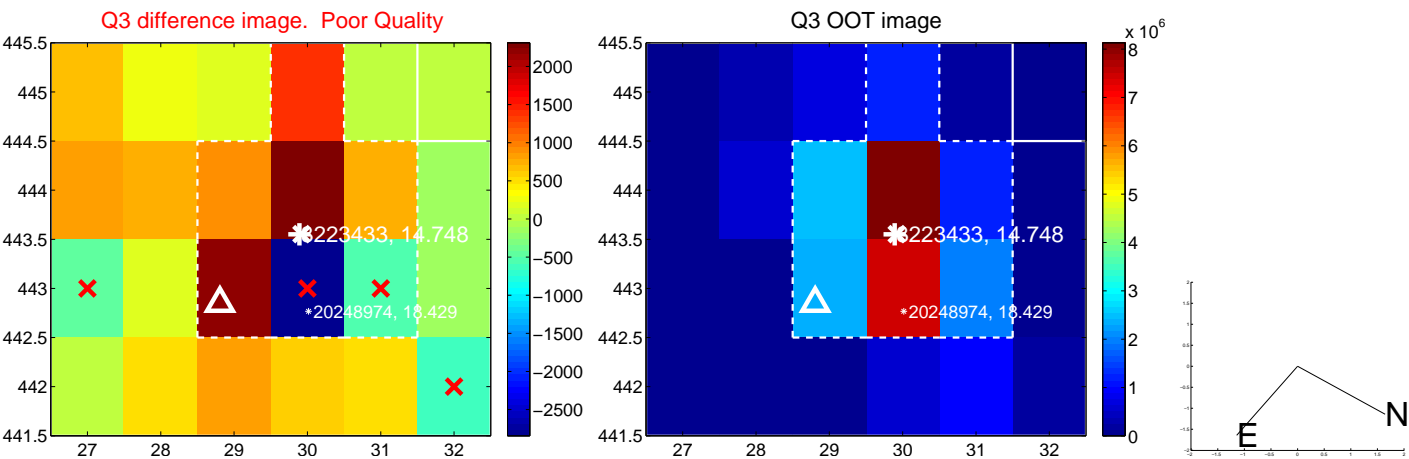
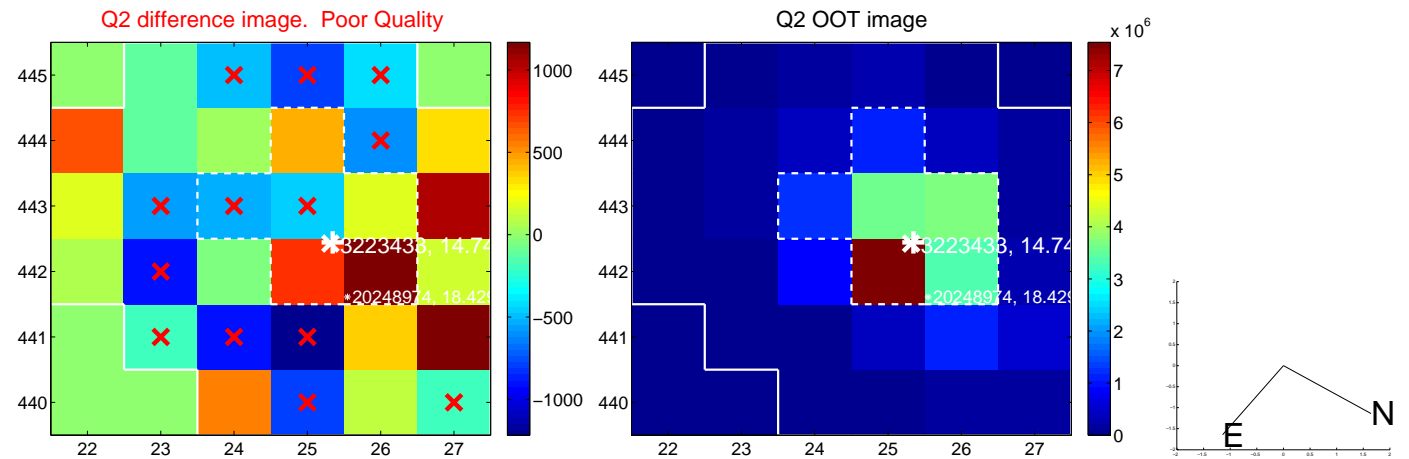
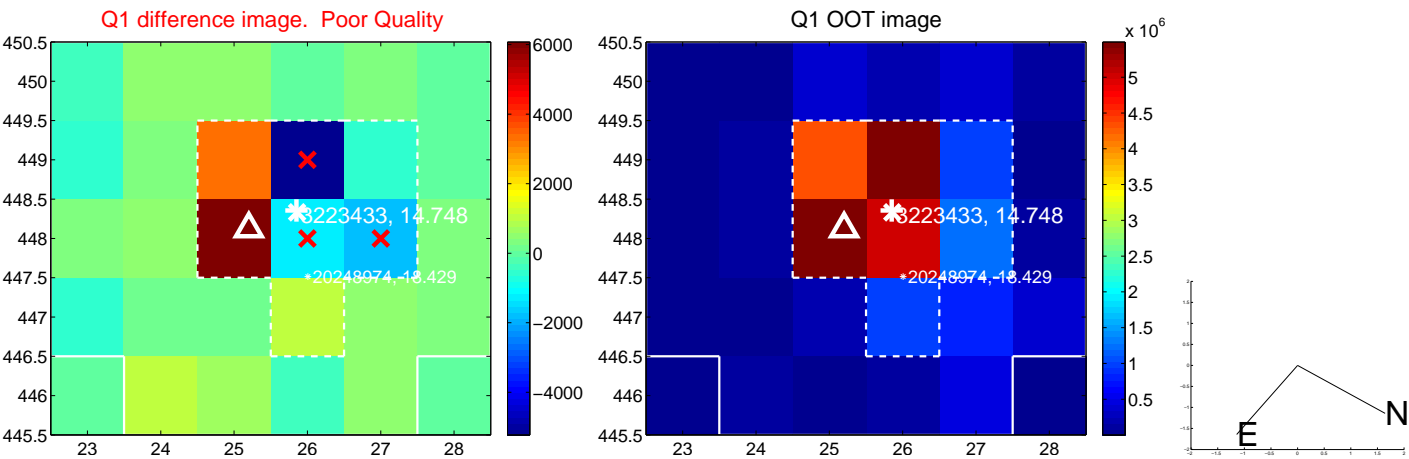


offset from photometric centroids

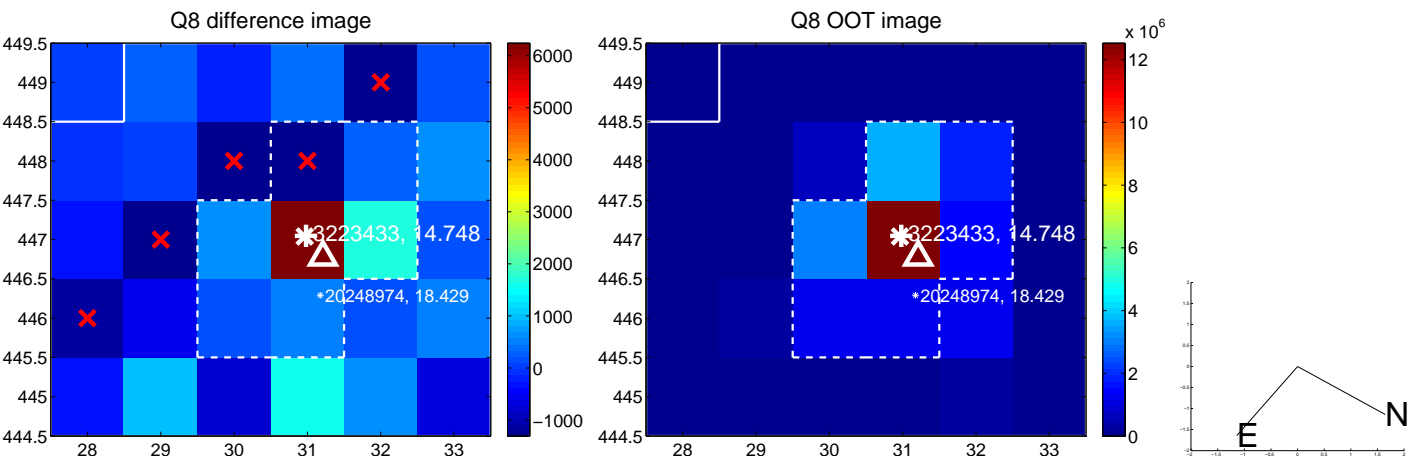
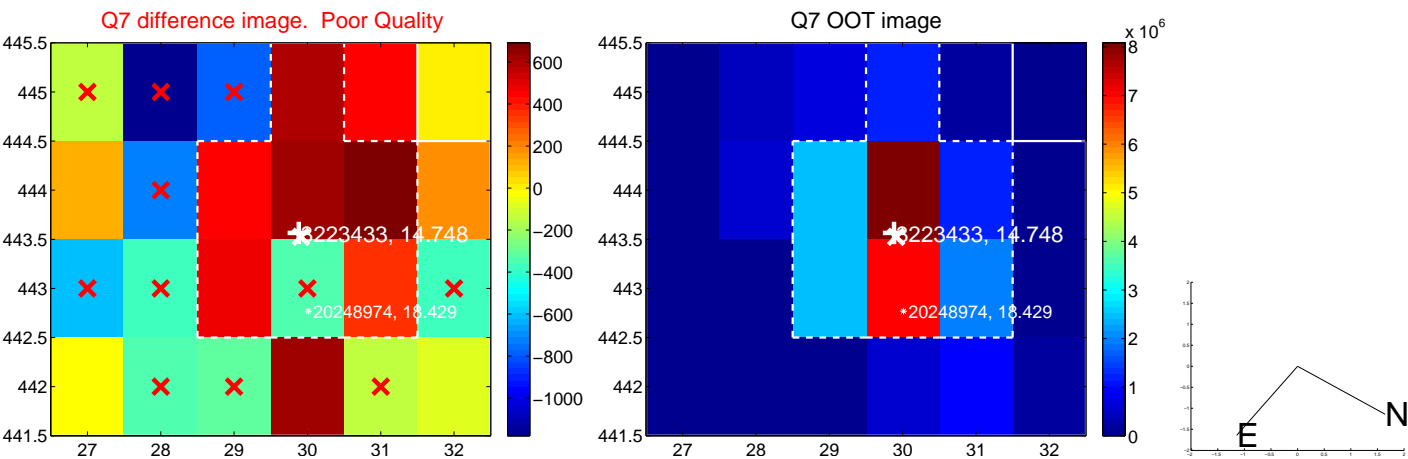
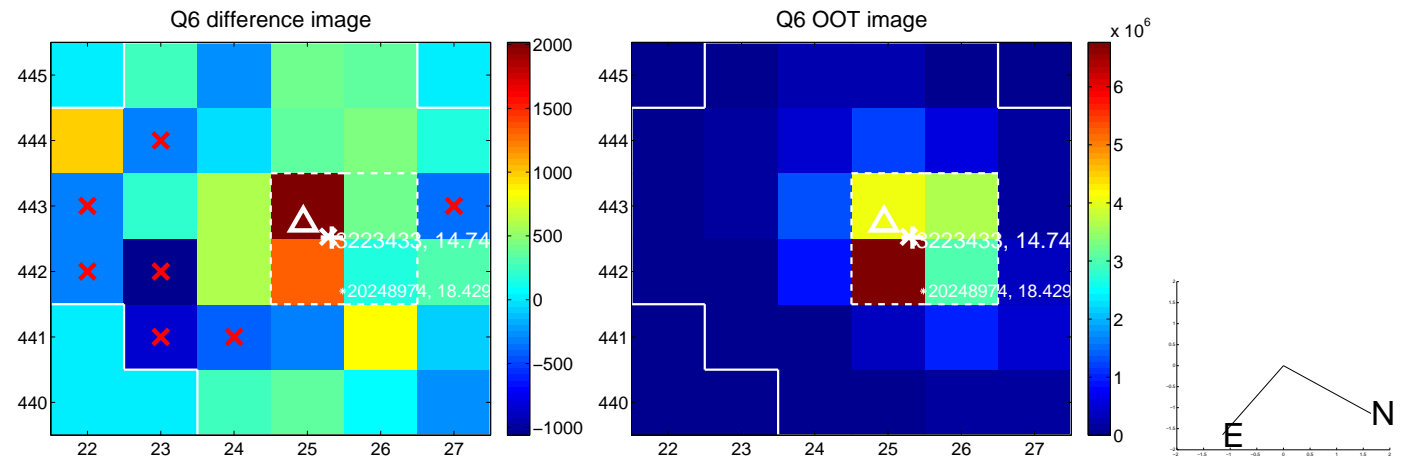
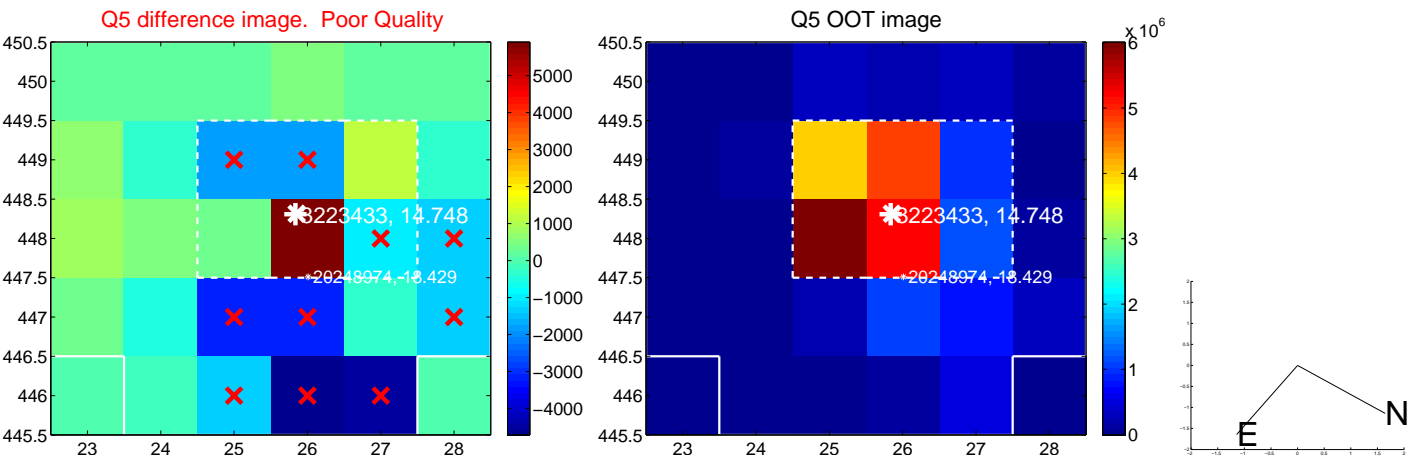


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

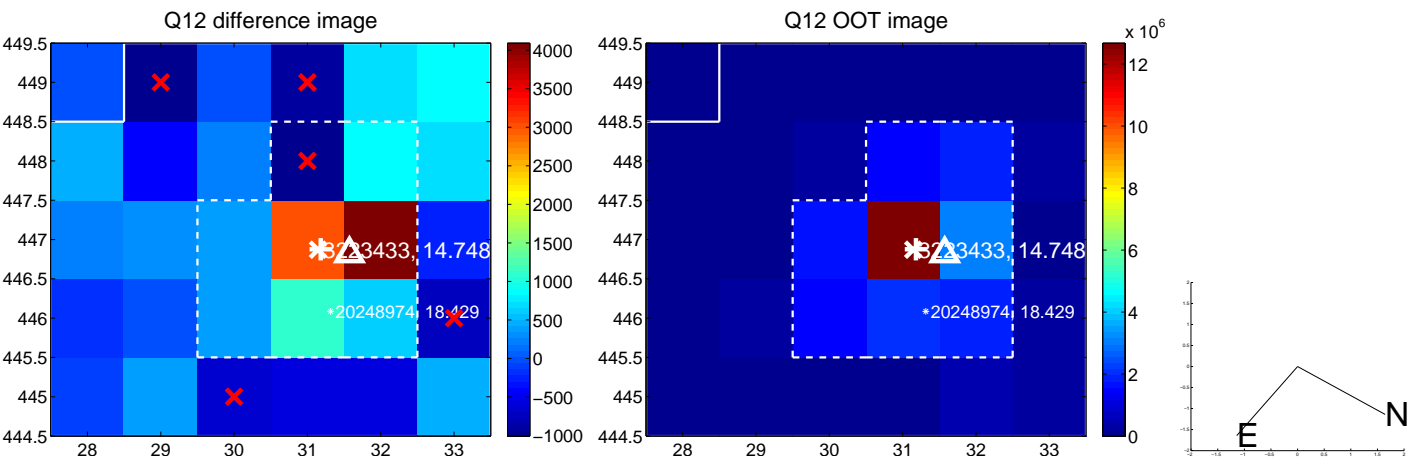
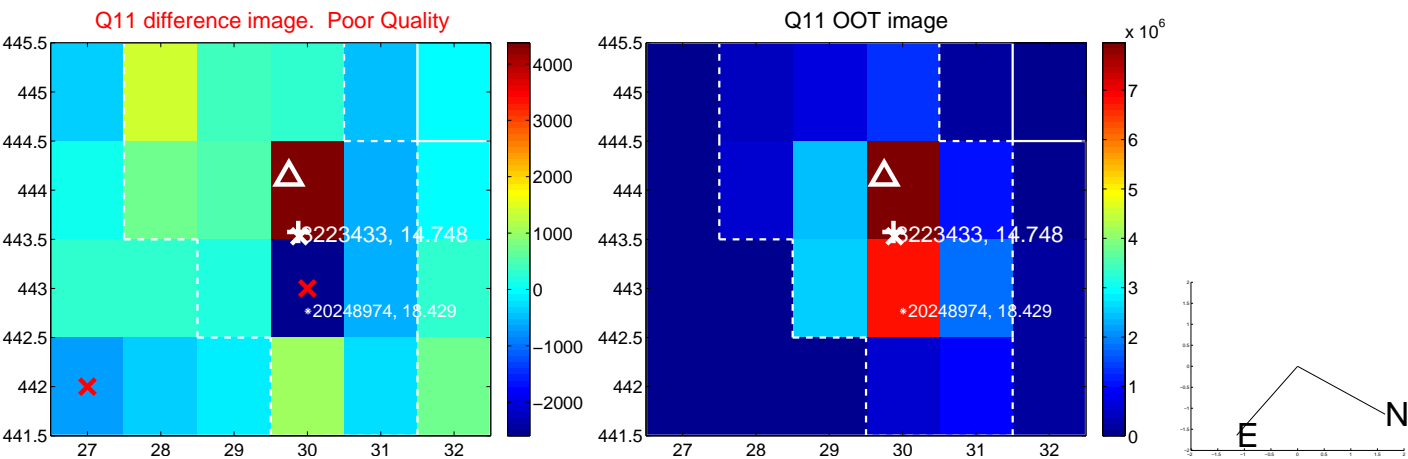
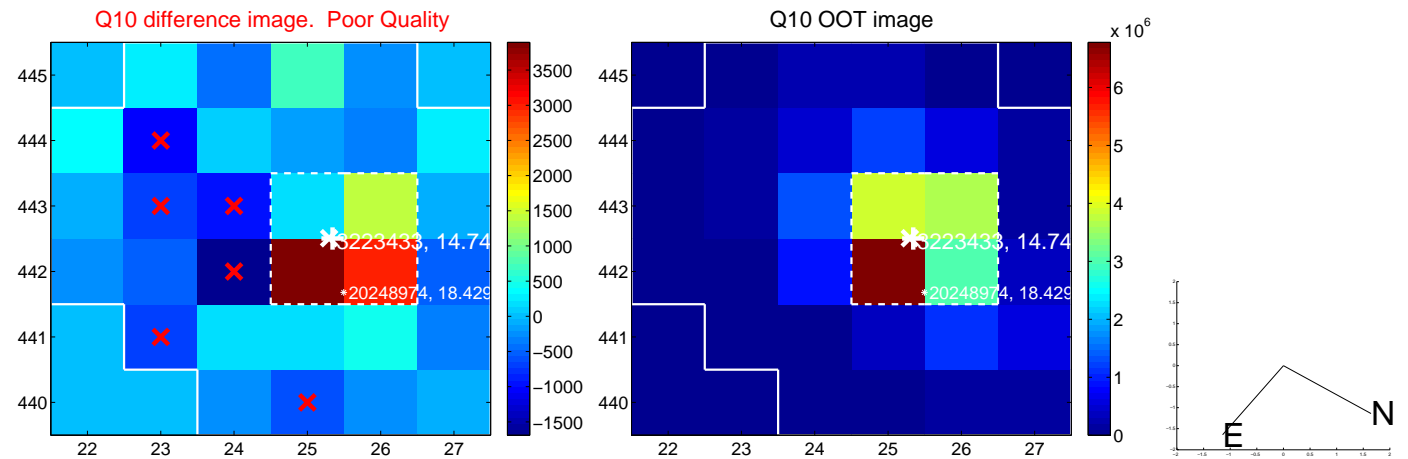
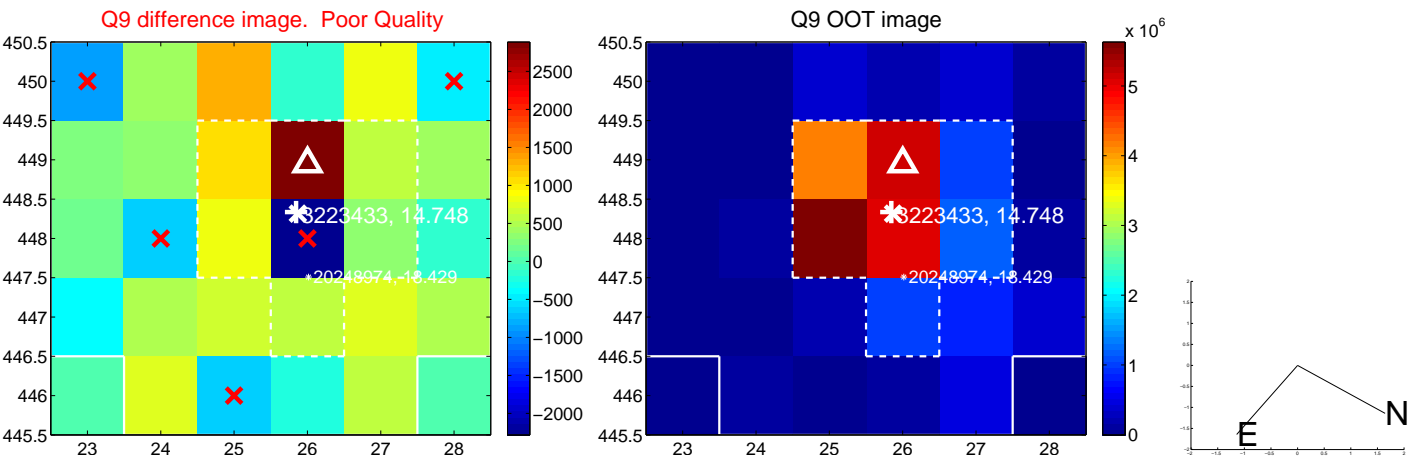
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



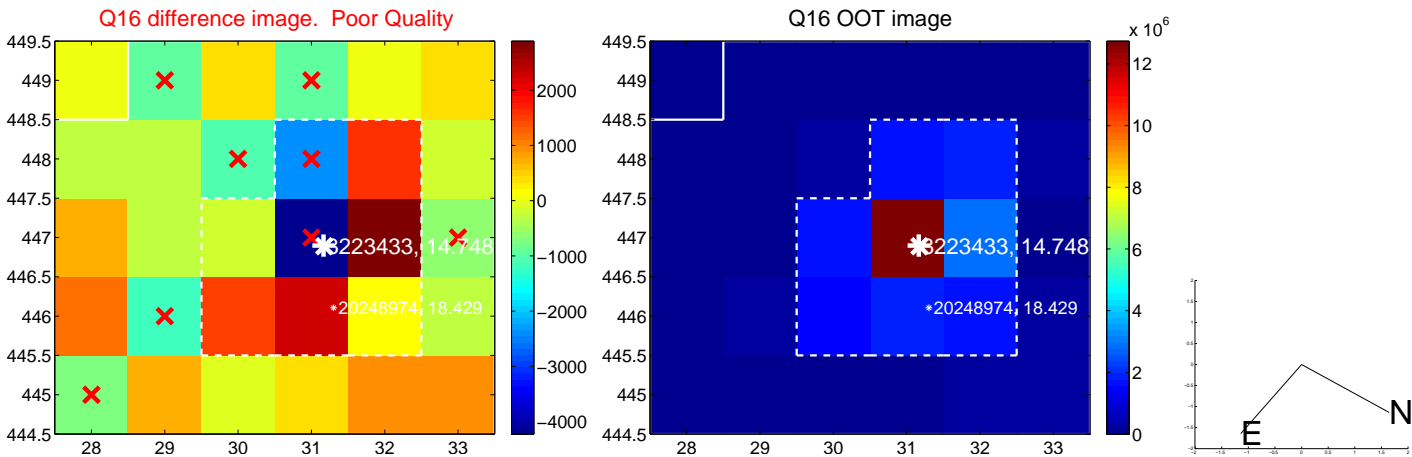
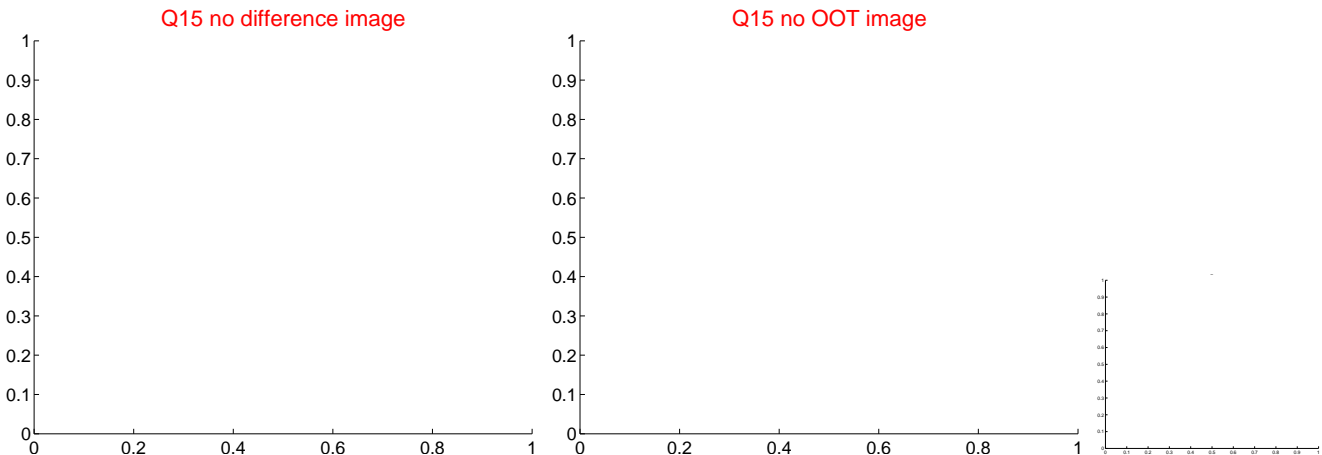
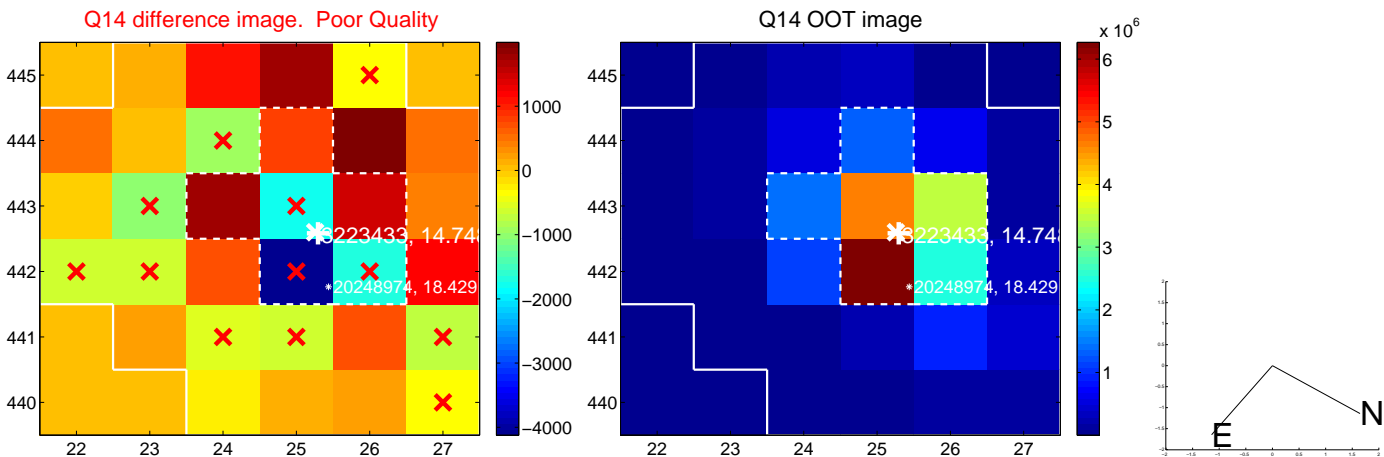
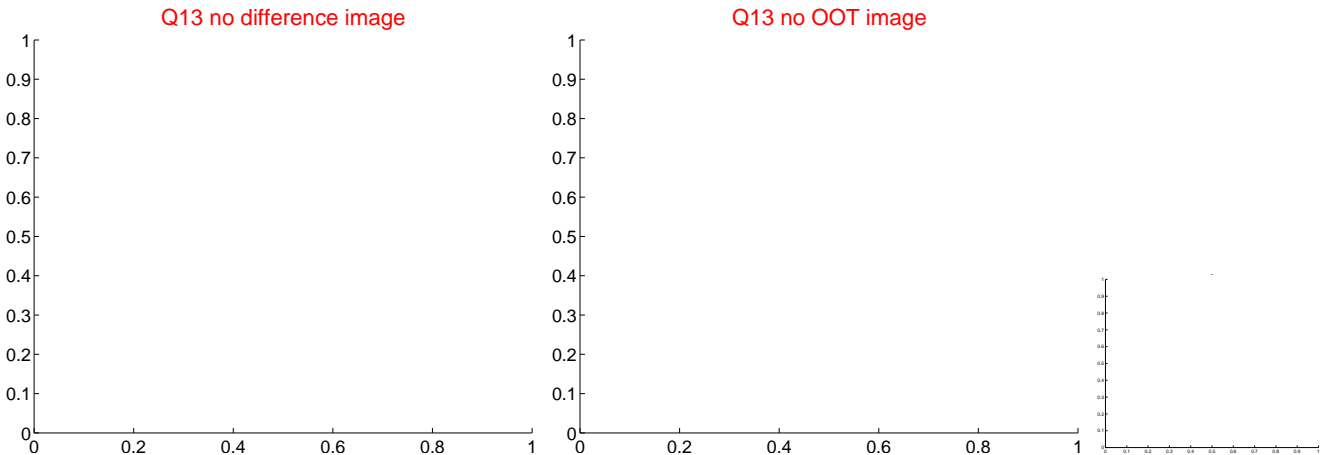
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



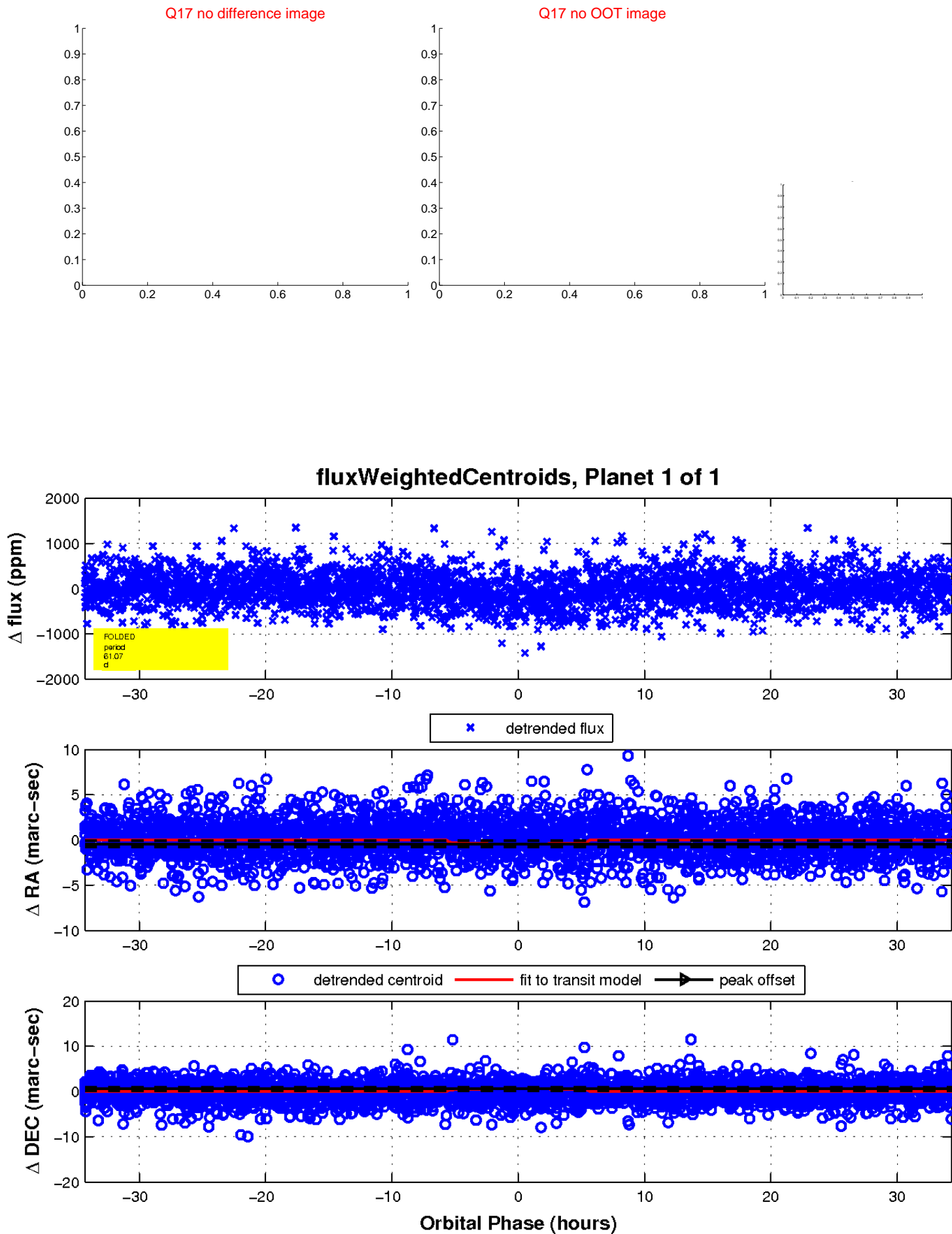
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

