

KIC 007047363

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})
007047363-01	OBS	2432.01	31.057269	147.560469	642.6	3.465	12.8	14.1	0.73	5395	2.06	12.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007047363-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

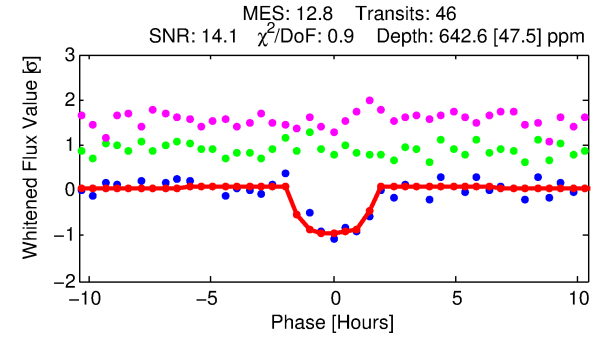
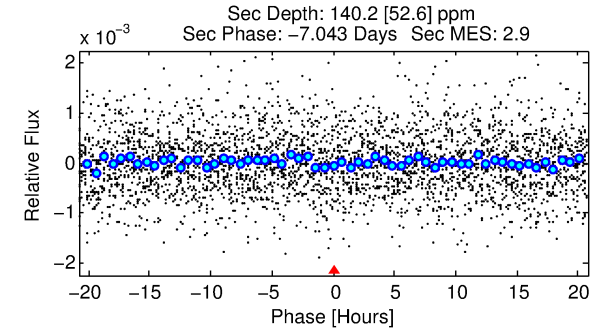
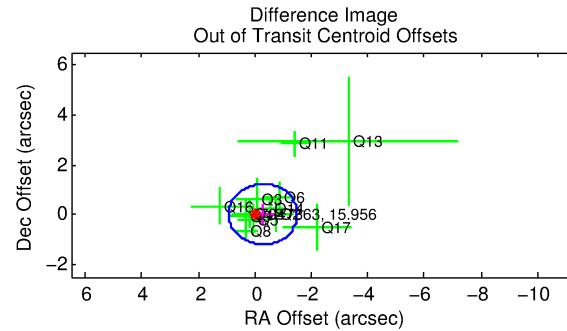
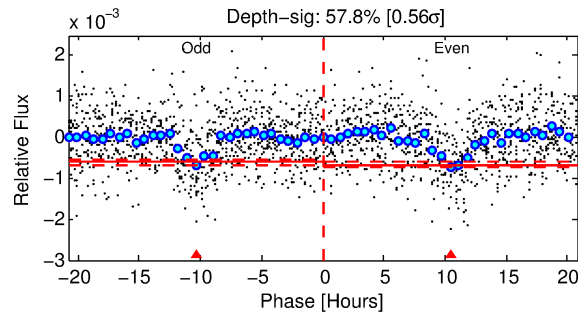
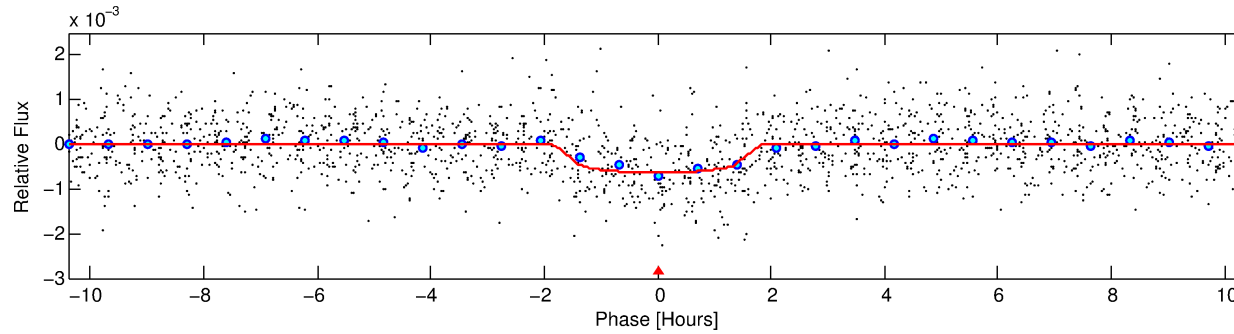
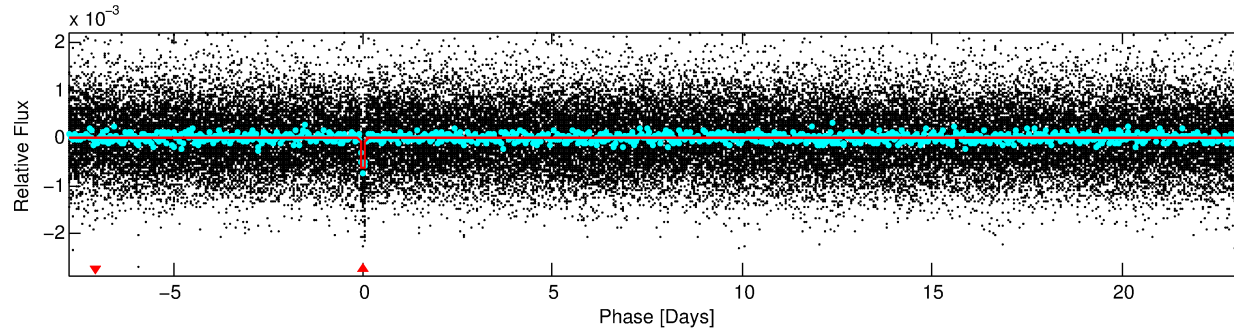
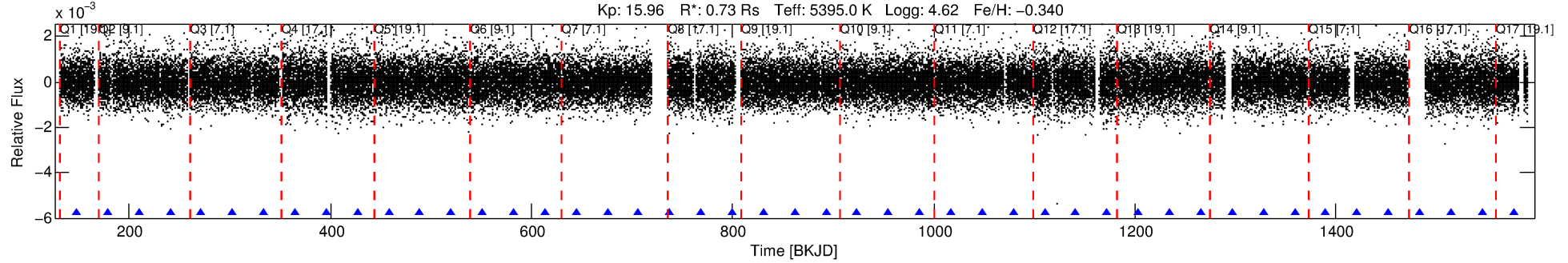
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007047363-01

No Significant Match Found

DV One-Page Summary

KIC: 7047363 Candidate: 1 of 1 Period: 31.057 d
KOI: K02432.01 Corr: 0.989



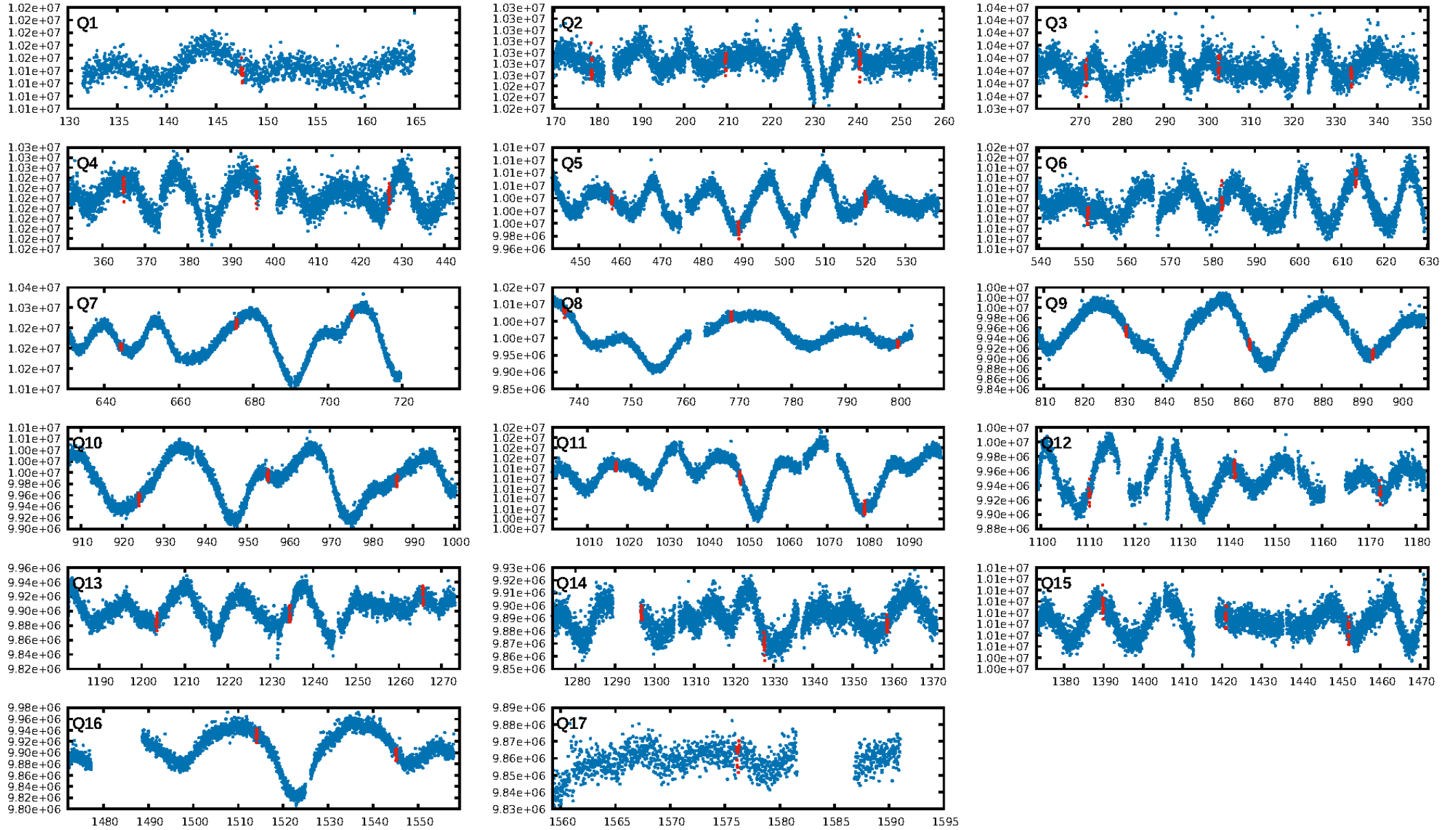
DV Fit Results:

Period = 31.05727 [0.00020] d
Epoch = 147.5605 [0.0052] BKJD
Rp/R* = 0.0257 [0.0142]
a/R* = 44.63 [102.07]
b = 0.79 [1.10]
Seff = 12.58 [3.11]
Teq = 480 [30] K
Rp = 2.06 [1.19] Re
a = 0.1803 [0.0266] AU
Ag = 589.35 [696.30] [0.84 σ]
Teffp = 3658 [1070] K [2.97 σ]

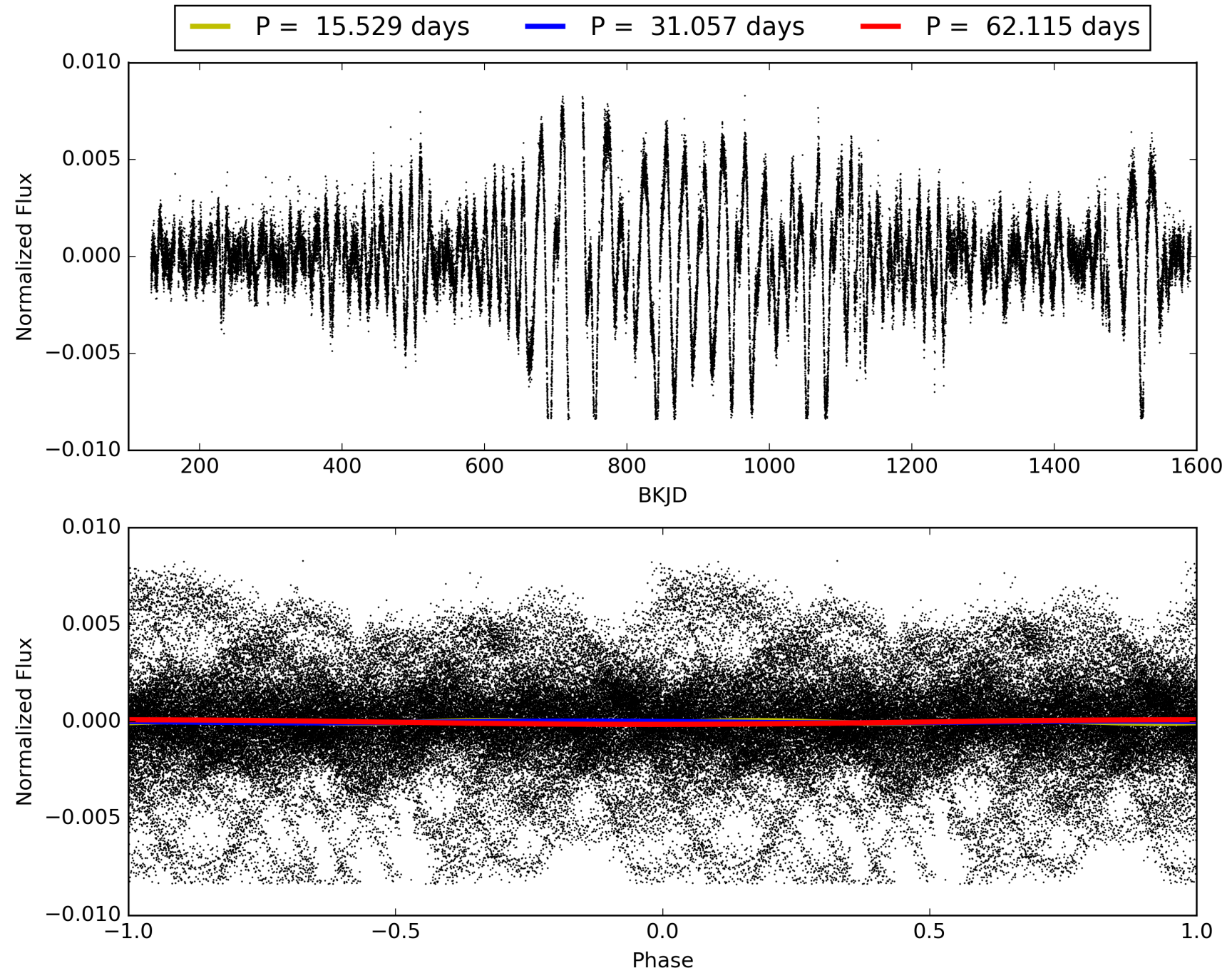
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 89.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.07e-35
RollingBand-fgt: 1.00 [44/44]
GhostDiagnostic-chr: 118.5
Centroid-sig: 4.1%
Centroid-so: 1.588 arcsec [1.58 σ]
OotOffset-rm: 0.288 arcsec [0.71 σ]
KicOffset-rm: 0.219 arcsec [0.58 σ]
OotOffset-st: 3/2/3/4 [12]
KicOffset-st: 3/2/3/4 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007047363-01, PDC Light Curves

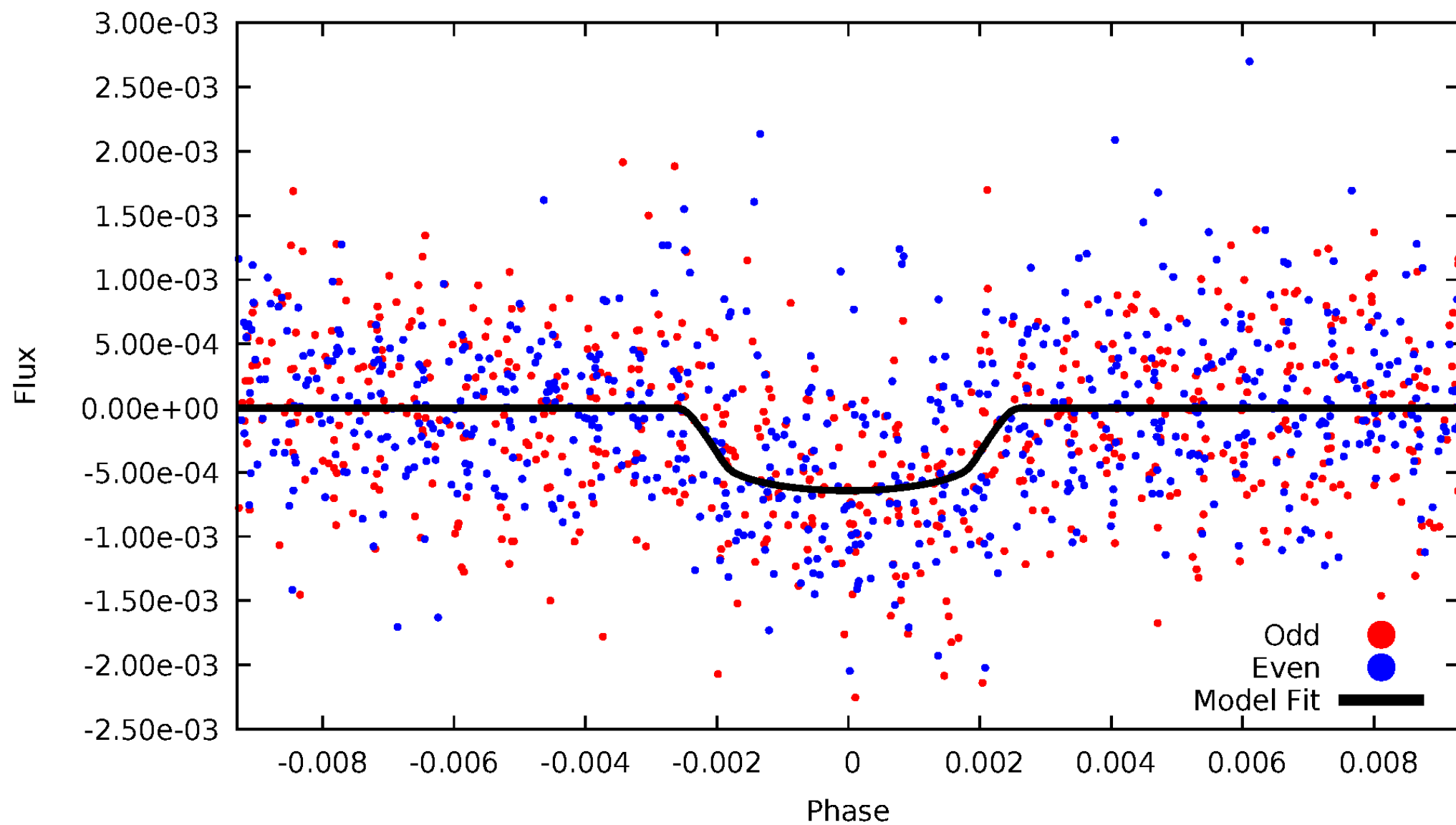


TCE 007047363-01



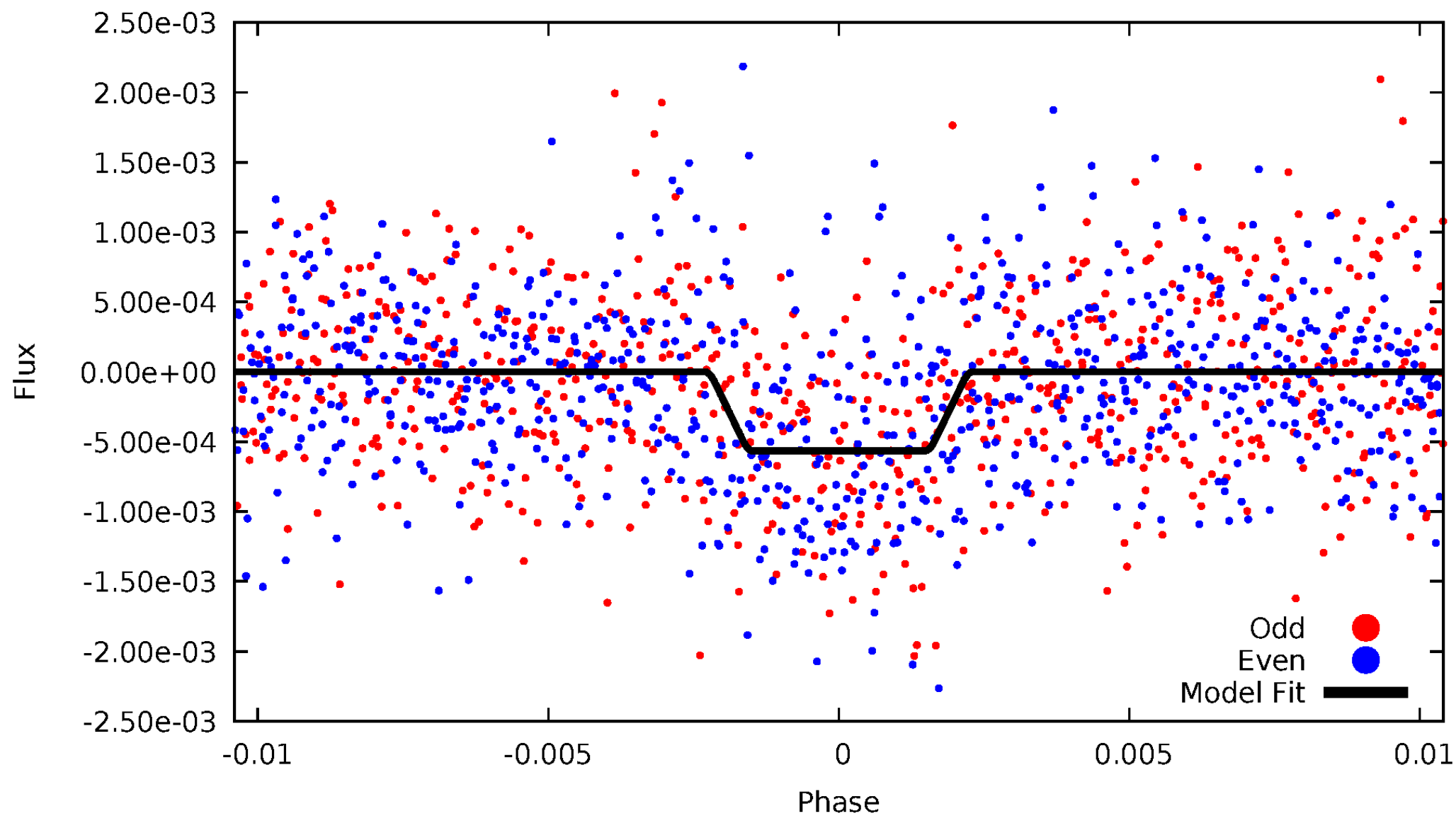
DV Odd/Even

TCE 007047363-01



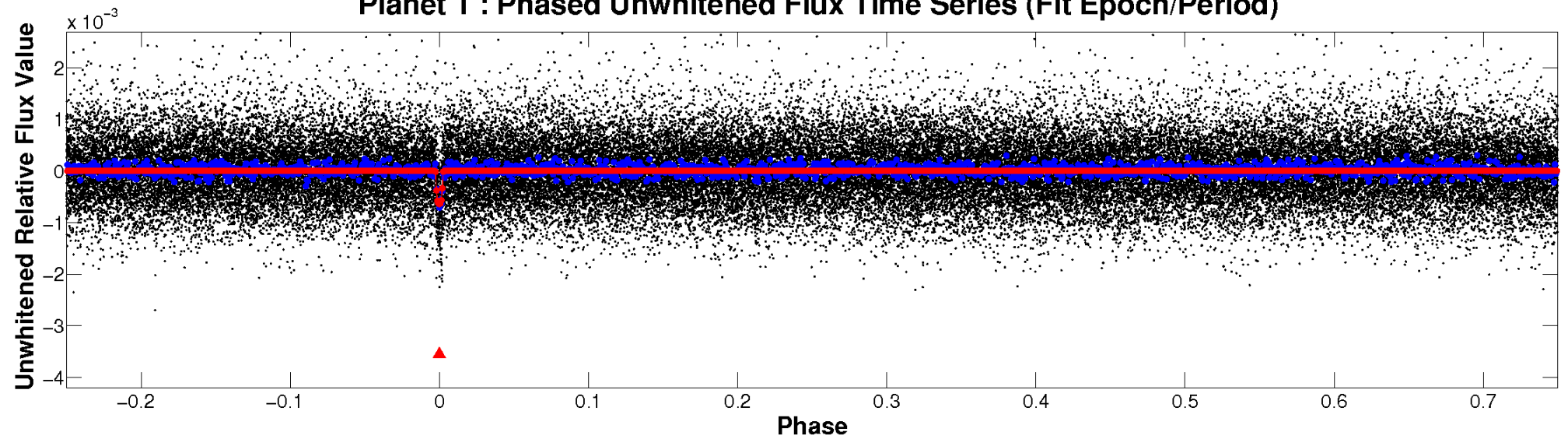
ALT Odd/Even

TCE 007047363-01

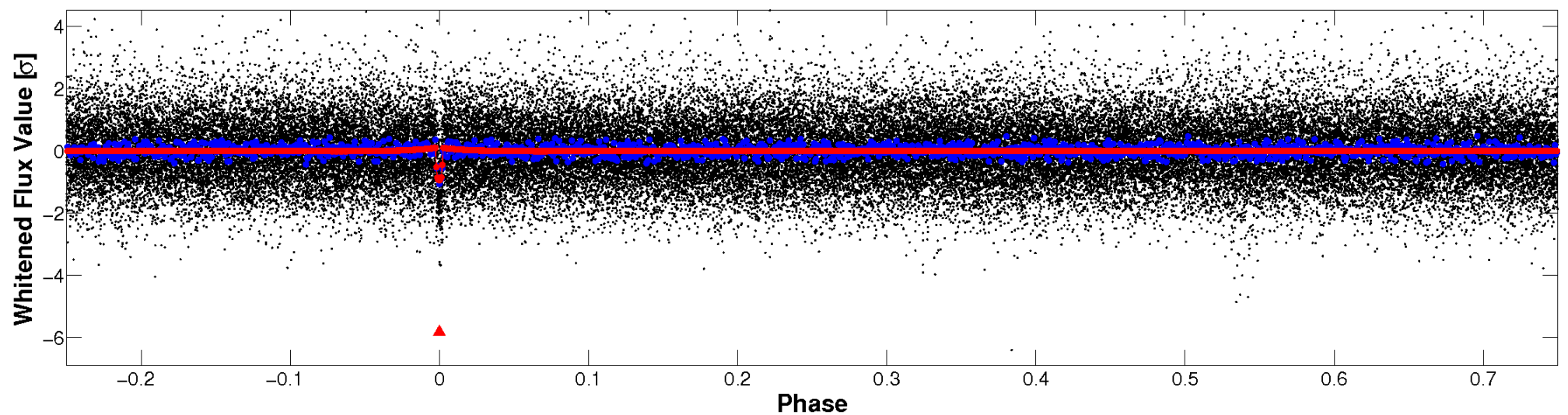


Non-Whitened Vs. Whitened Light Curve

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

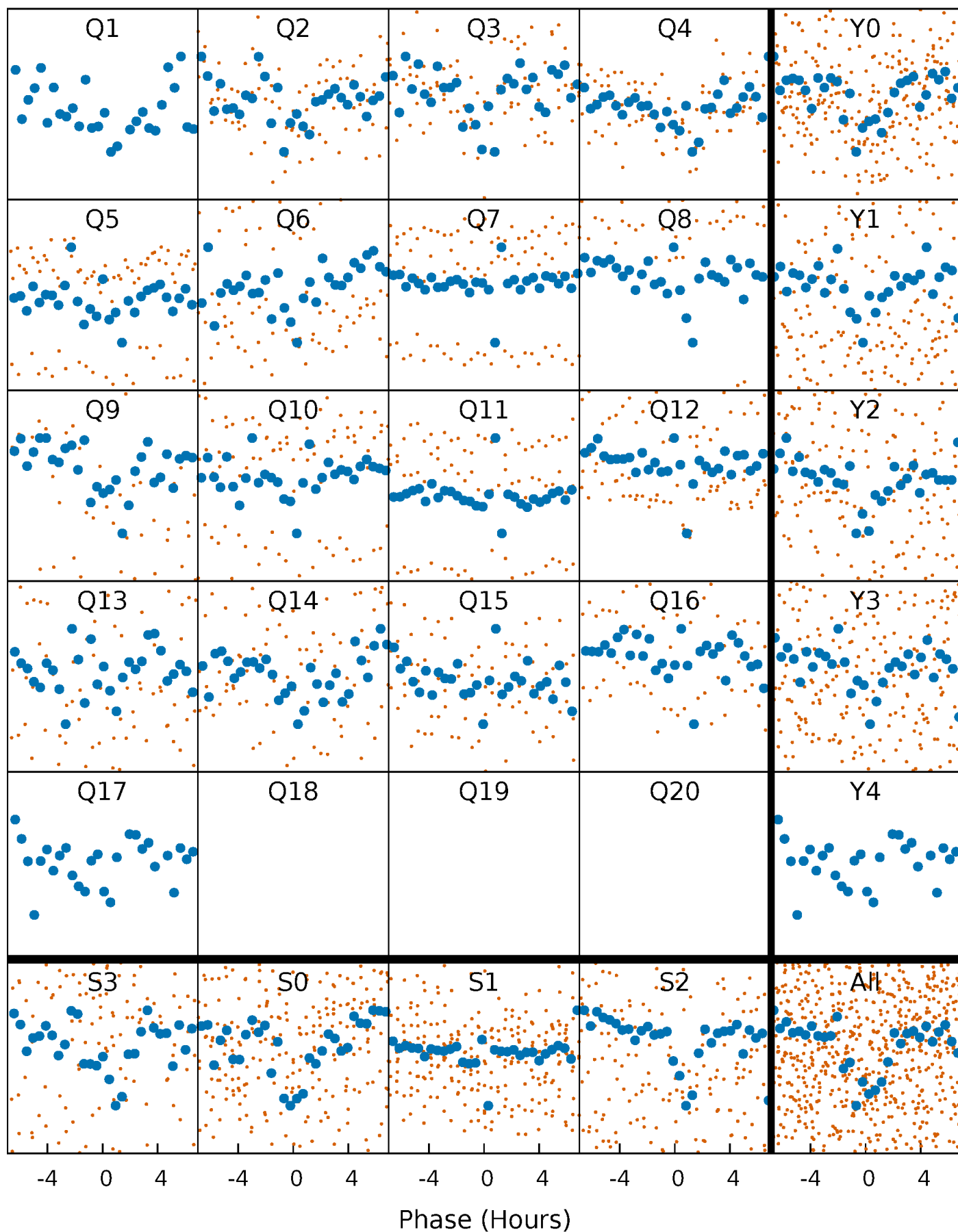


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



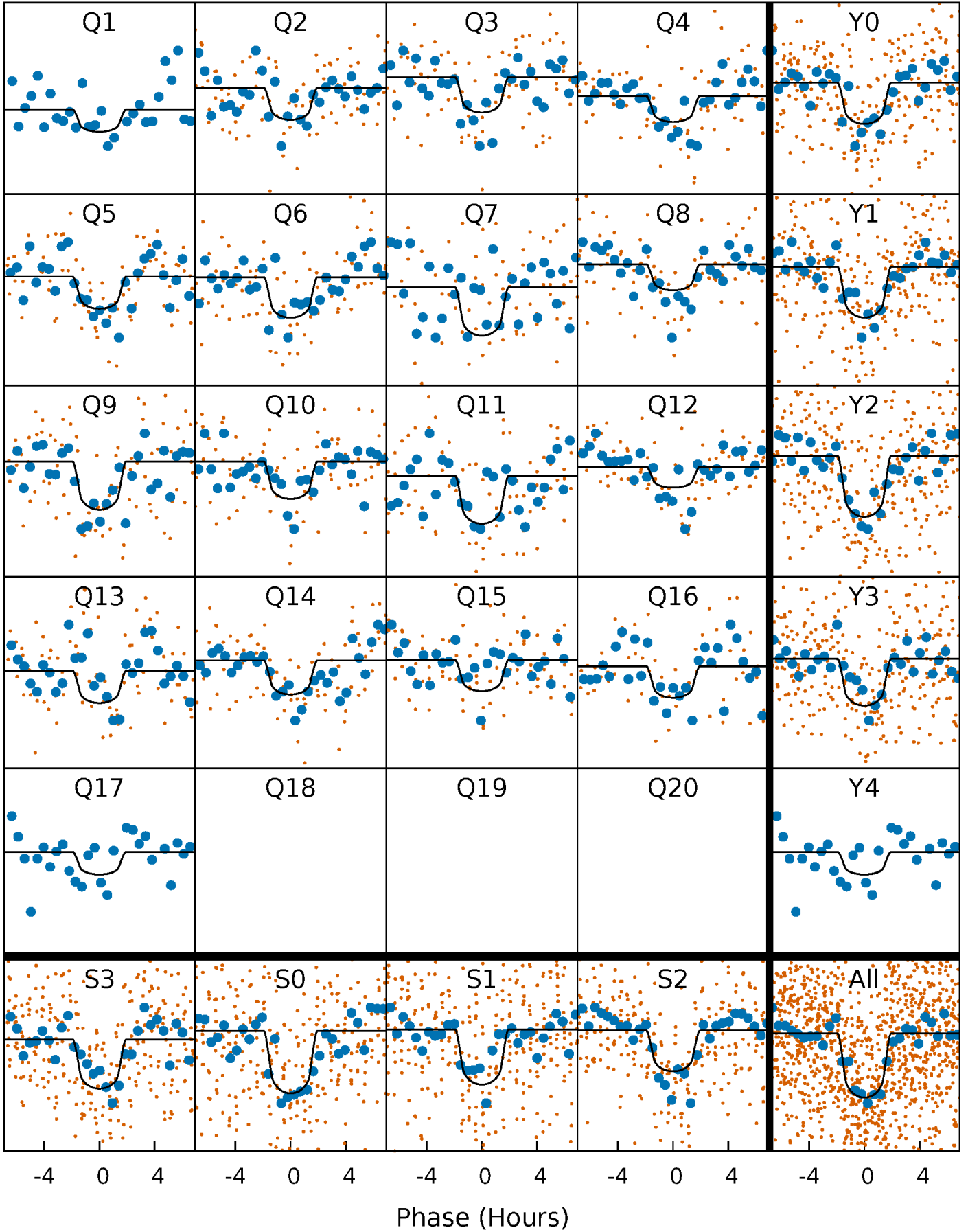
PDC Quarter-Phased Transit Curves

TCE 007047363-01 P= 31.057269 Days $T_0=147.560469$ (BKJD)



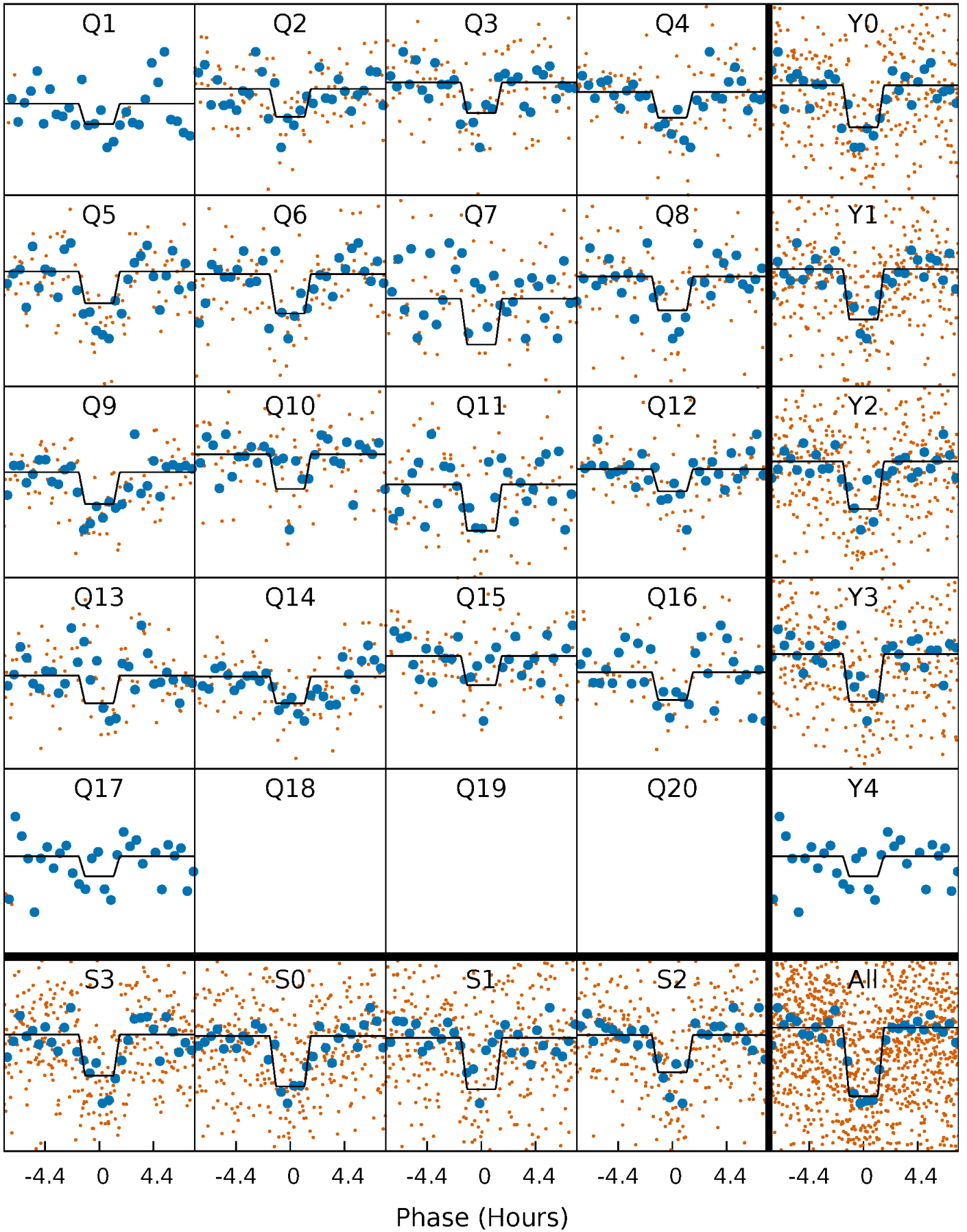
DV Quarter-Phased Transit Curves

TCE 007047363-01 P= 31.057269 Days $T_0=147.560469$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

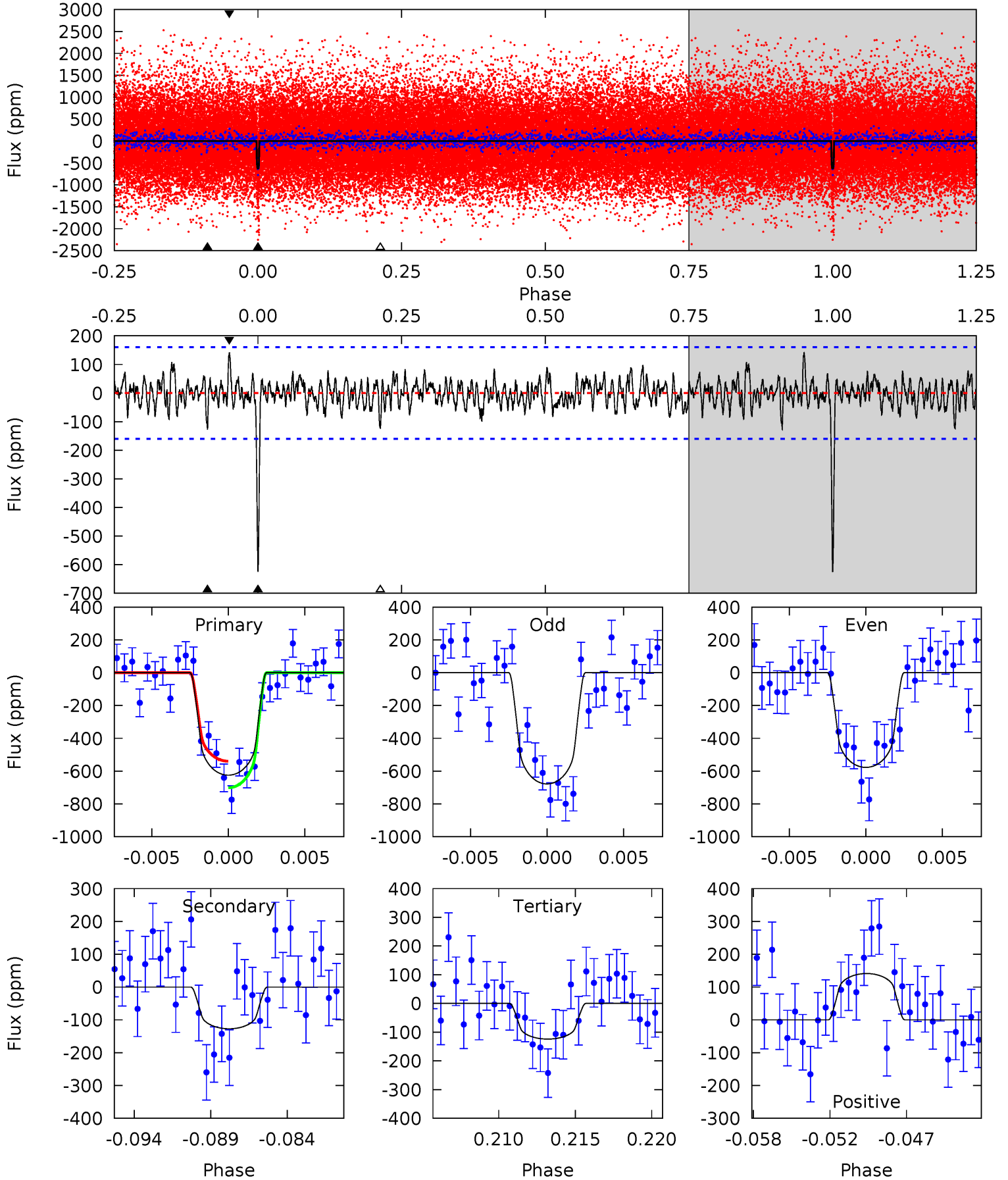
TCE 007047363-01 P= 31.056994 Days $T_0=147.573896$ (BKJD)



DV Model-Shift Uniqueness Test

007047363-01, P = 31.057269 Days, E = 116.503200 Days

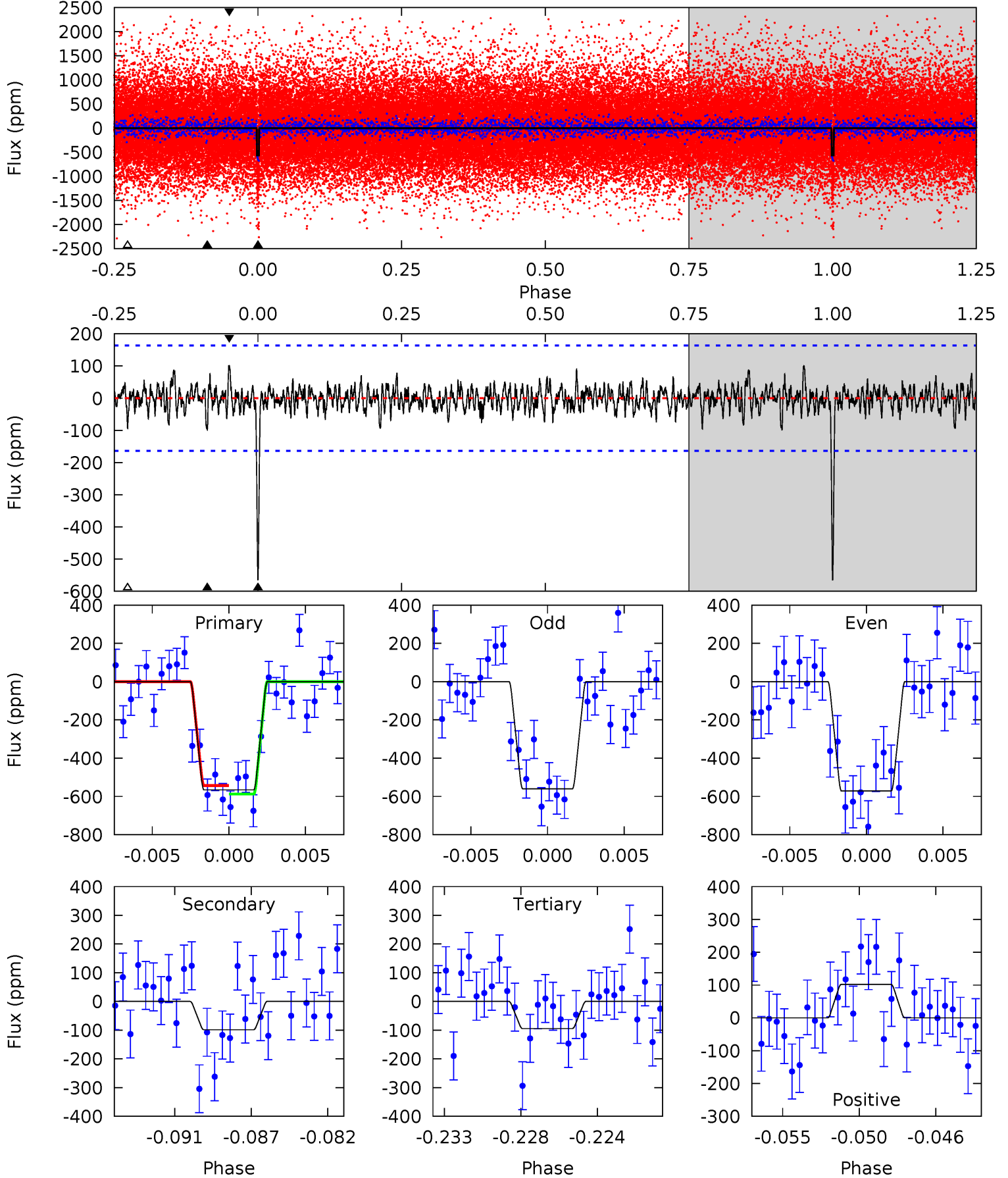
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	4.09	3.99	4.54	5.15	2.79	1.20	16.1	15.6	0.10	-0.45	1.62	1.06	0.18	2.61



Alt Model-Shift Uniqueness Test

007047363-01, $P = 31.056994$ Days, $E = 116.516902$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	3.12	2.99	3.22	5.17	2.84	0.91	14.9	14.7	0.13	-0.11	0.19	1.01	0.15	0.71



Stellar Parameters For KIC 007047363

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5395^{+177}_{-144}	$4.615^{+0.035}_{-0.112}$	$-0.340^{+0.300}_{-0.300}$	$0.734^{+0.132}_{-0.057}$	$0.821^{+0.076}_{-0.093}$	$2.929^{+0.448}_{-0.959}$
	+3%/-3%	+1%/-2%	+88%/-88%	+18%/-8%	+9%/-11%	+15%/-33%
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 007047363-01 / KOI 2432.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-127 ± 31	$2.16^{+1.17}_{-1.06}$	682^{+30}_{-28}	3864^{+1132}_{-502}	484^{+1292}_{-288}
Alt.	-99 ± 32	$2.01^{+1.10}_{-1.10}$	683^{+31}_{-27}	3824^{+1409}_{-591}	439^{+1688}_{-280}

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 $A_{obs} \gg 1.0$

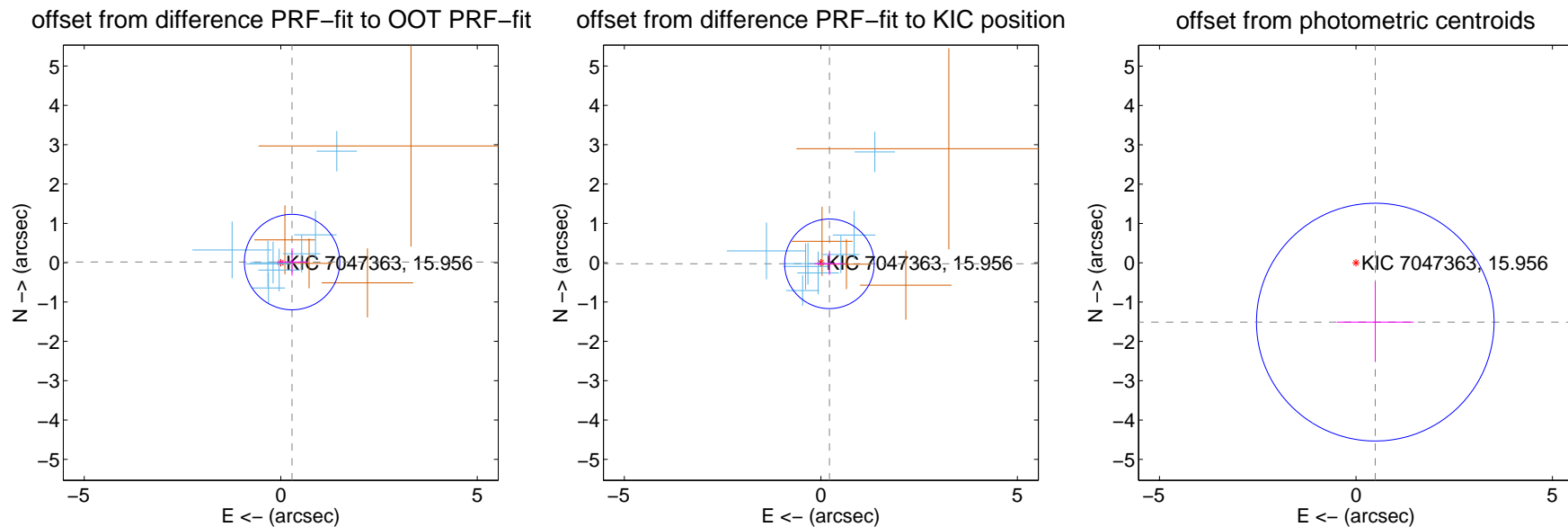
DV Centroid Data

Supplemental centroid analysis for 007047363-01. Kepler magnitude: 15.96. Transit SNR 14.06

There are 8 quarters with good PRF difference image offsets

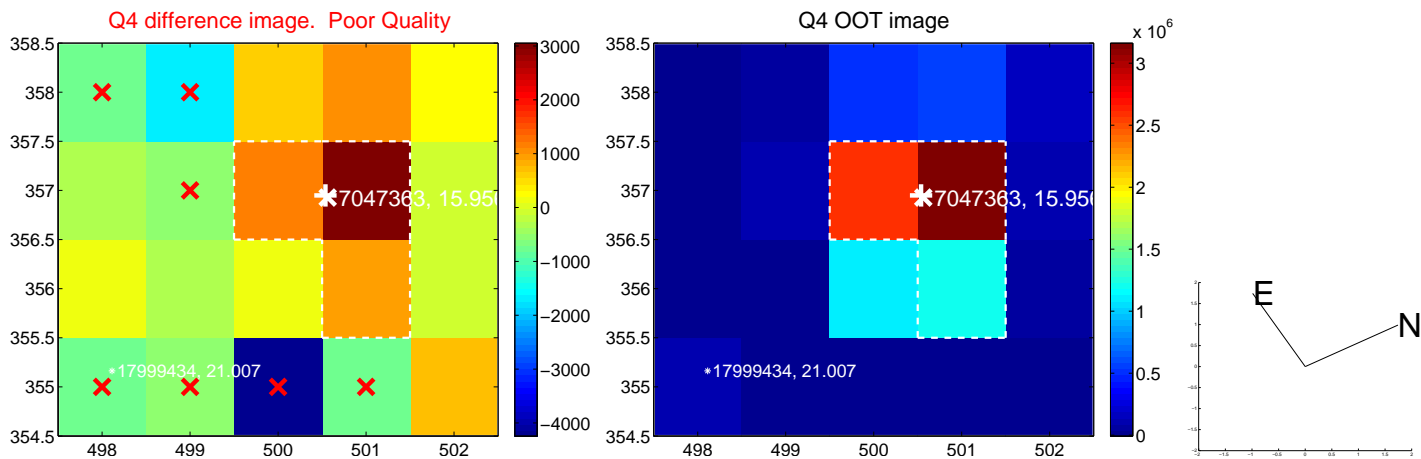
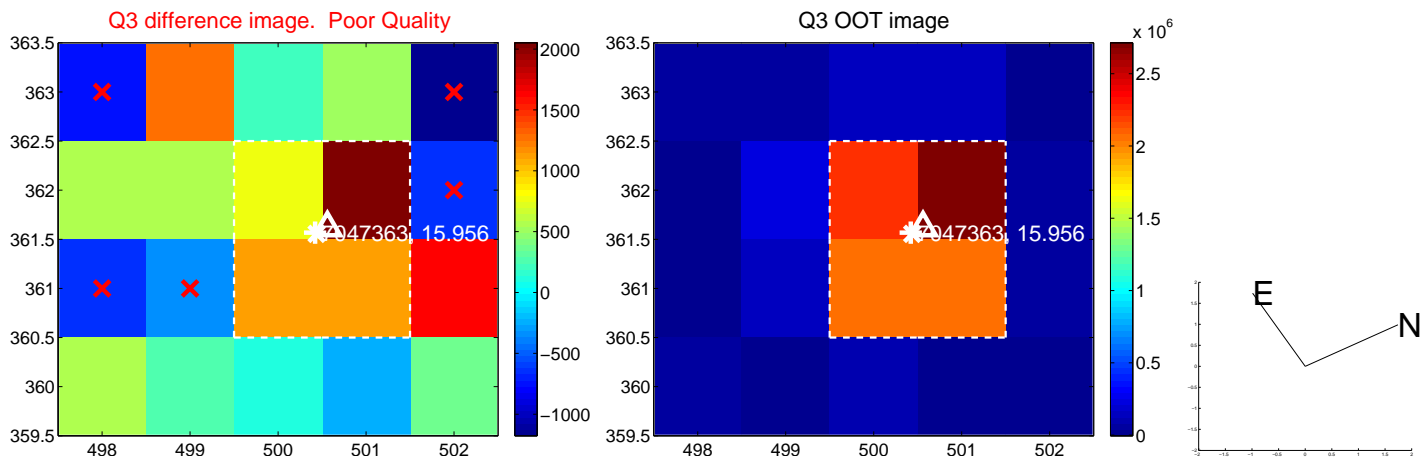
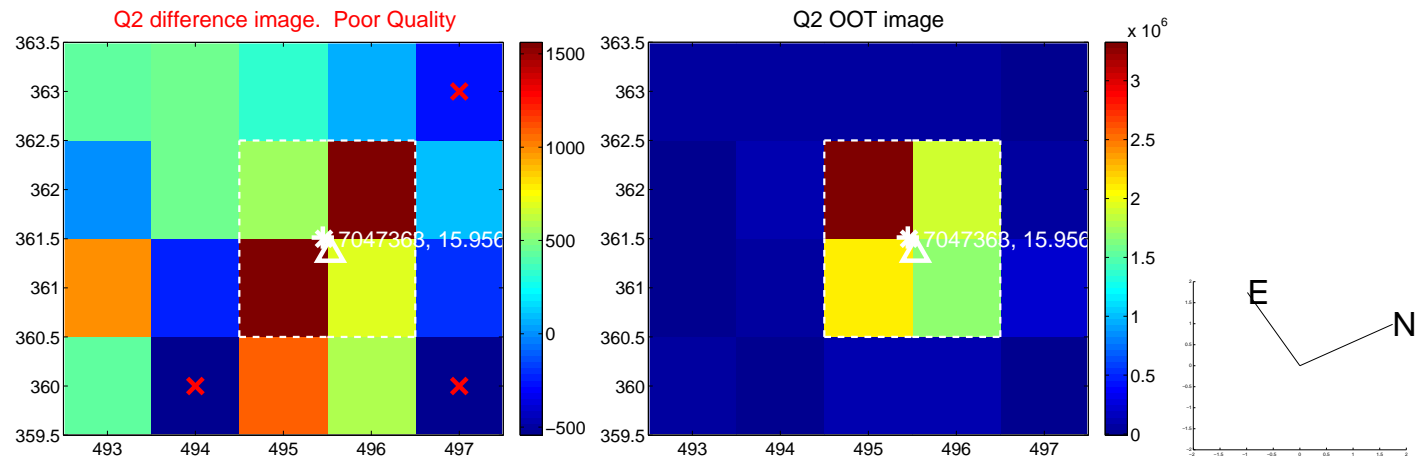
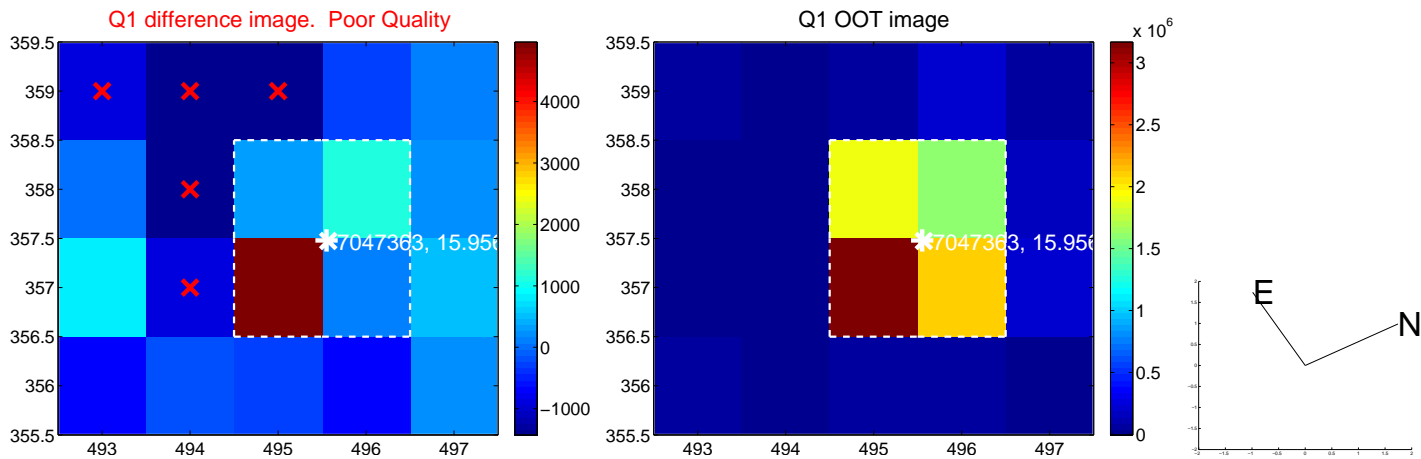
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.288 ± 0.405	0.71	-0.288 ± 0.393	0.016 ± 0.348
PRF-fit source offset from KIC position	0.219 ± 0.380	0.58	-0.217 ± 0.381	-0.028 ± 0.284
photometric centroid source offset	1.59 ± 1.01	1.58	-0.49 ± 0.98	-1.51 ± 1.01

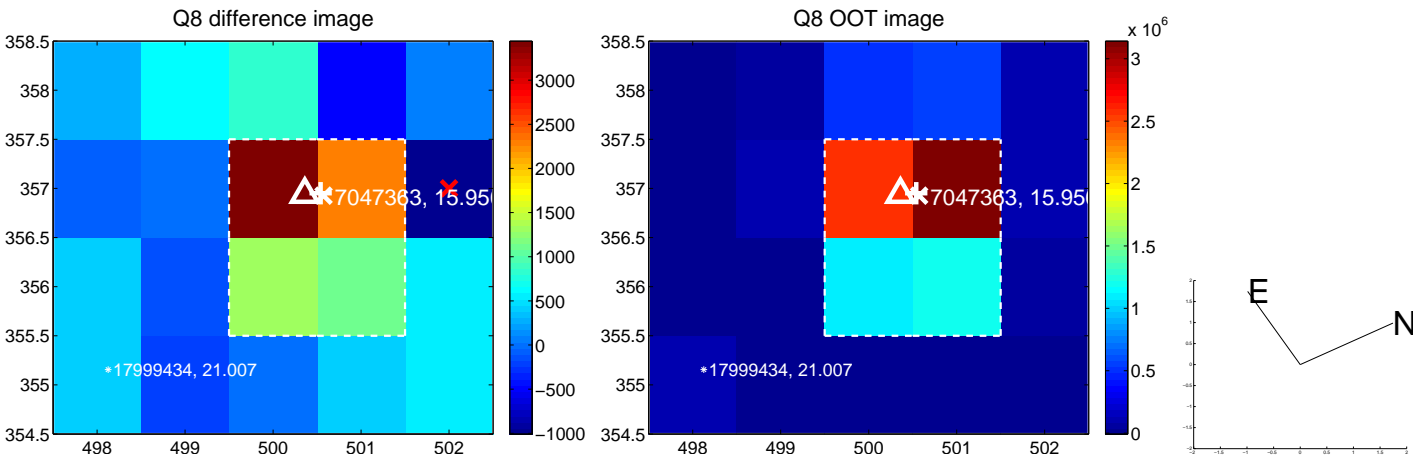
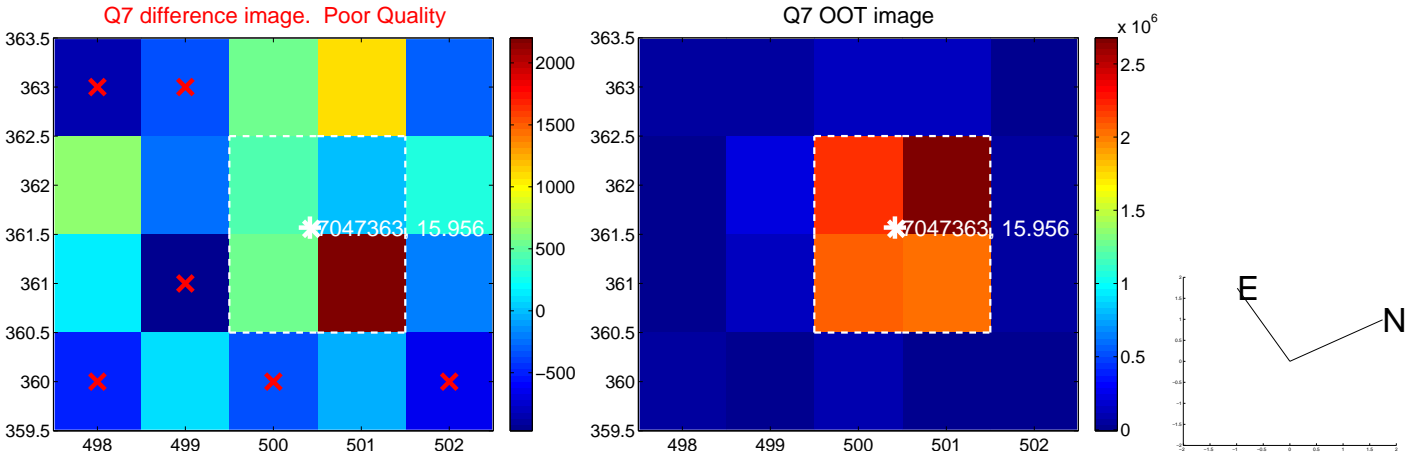
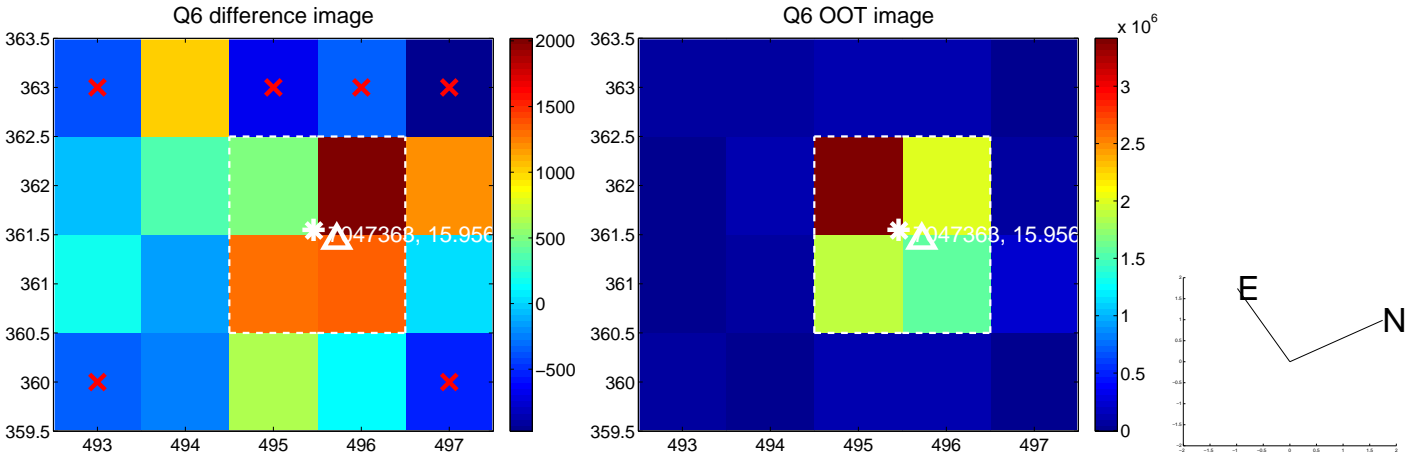
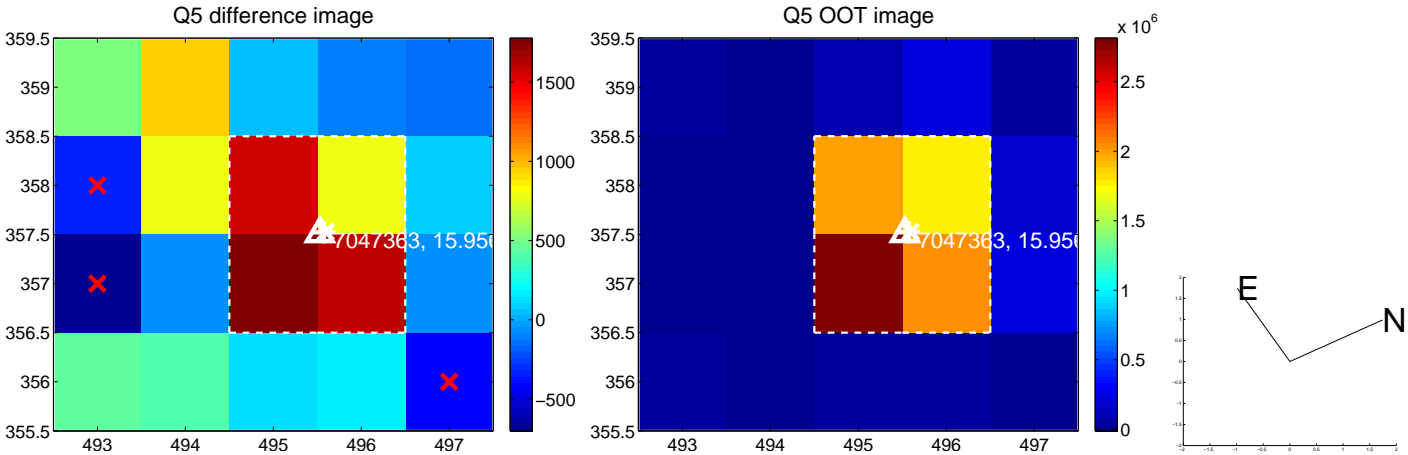


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

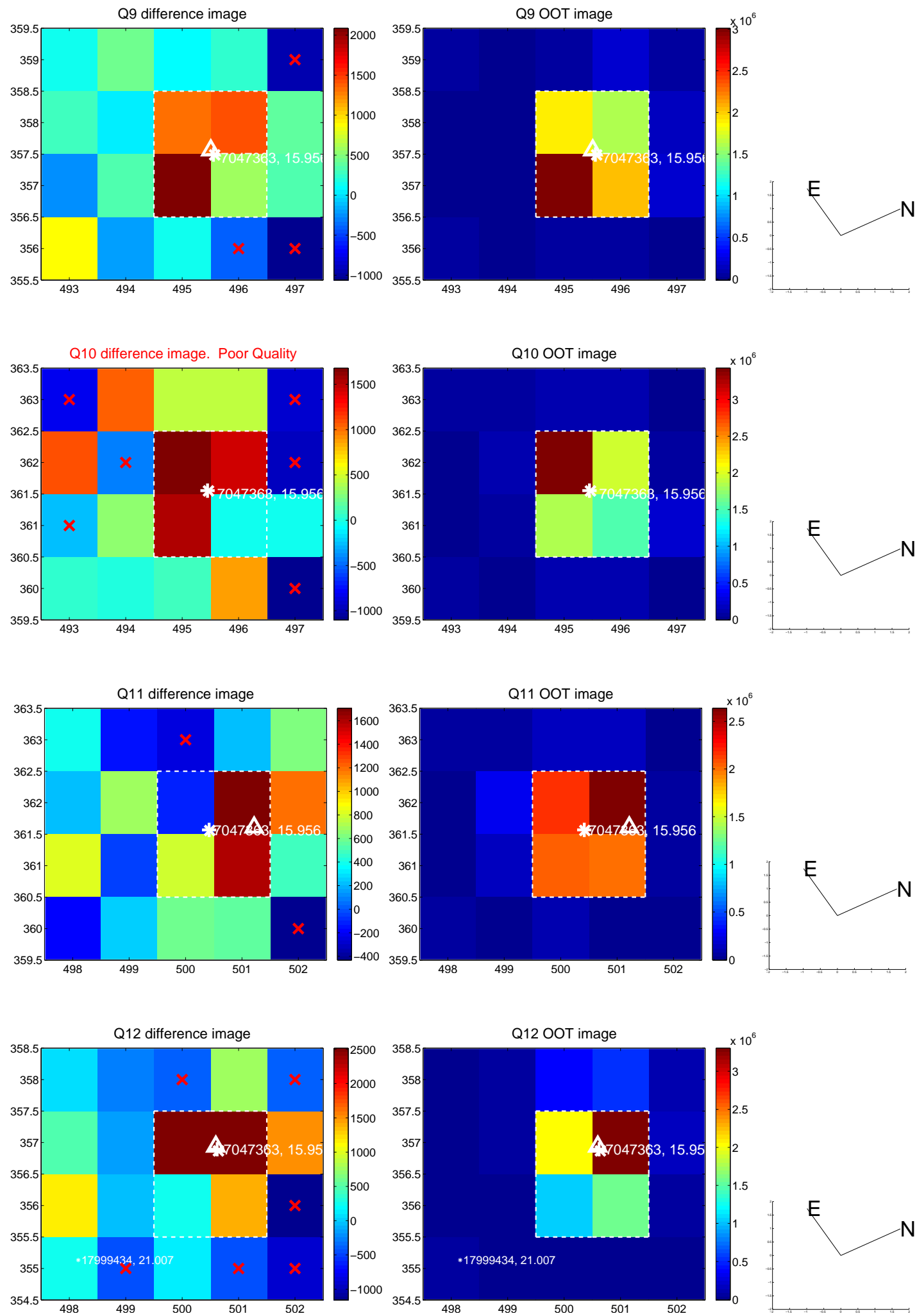
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



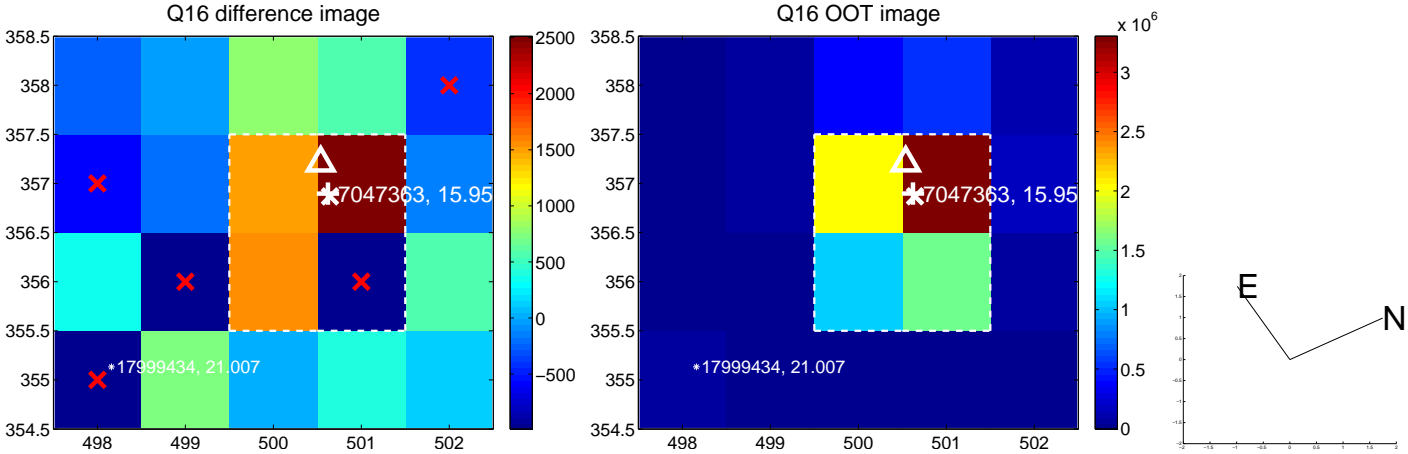
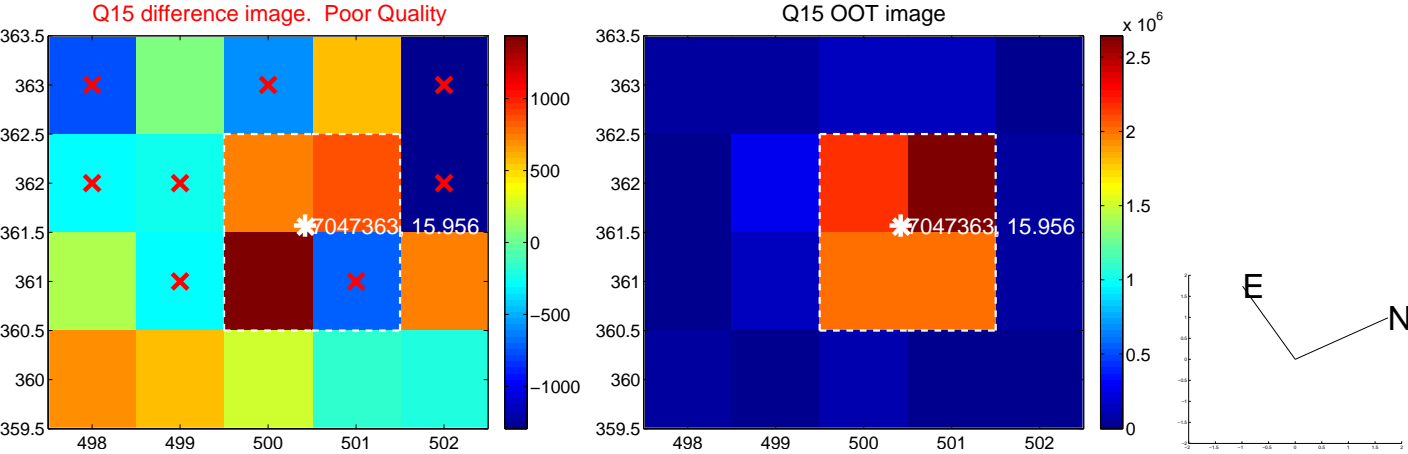
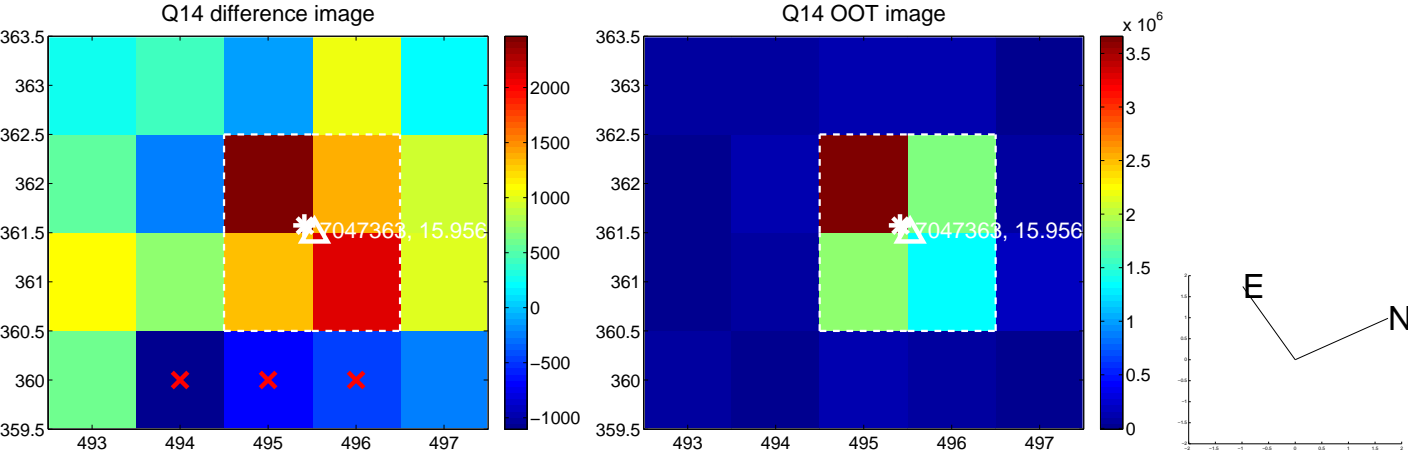
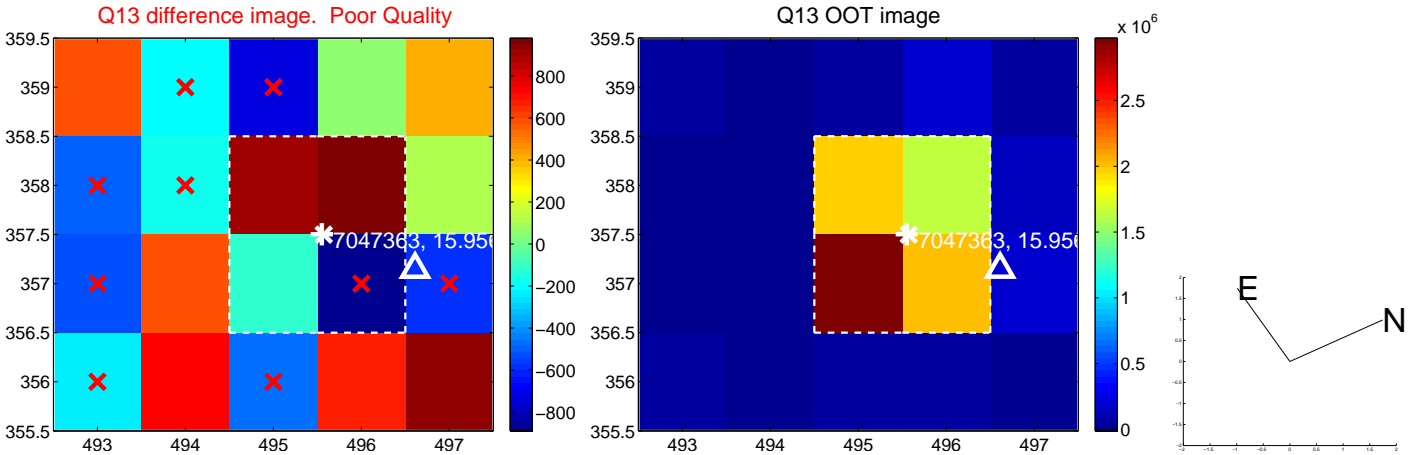
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



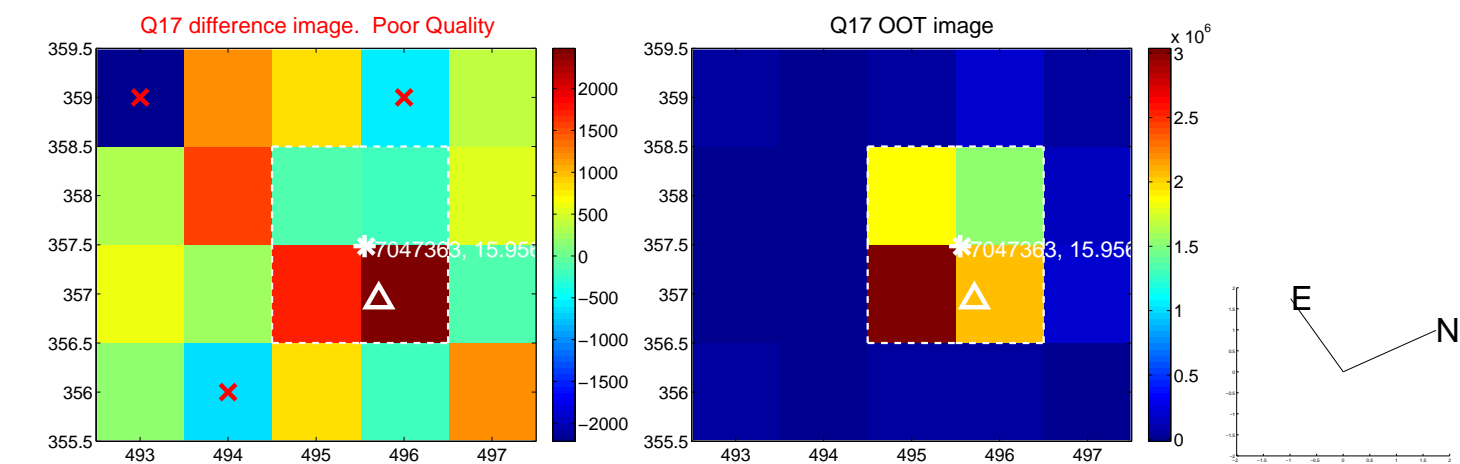
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



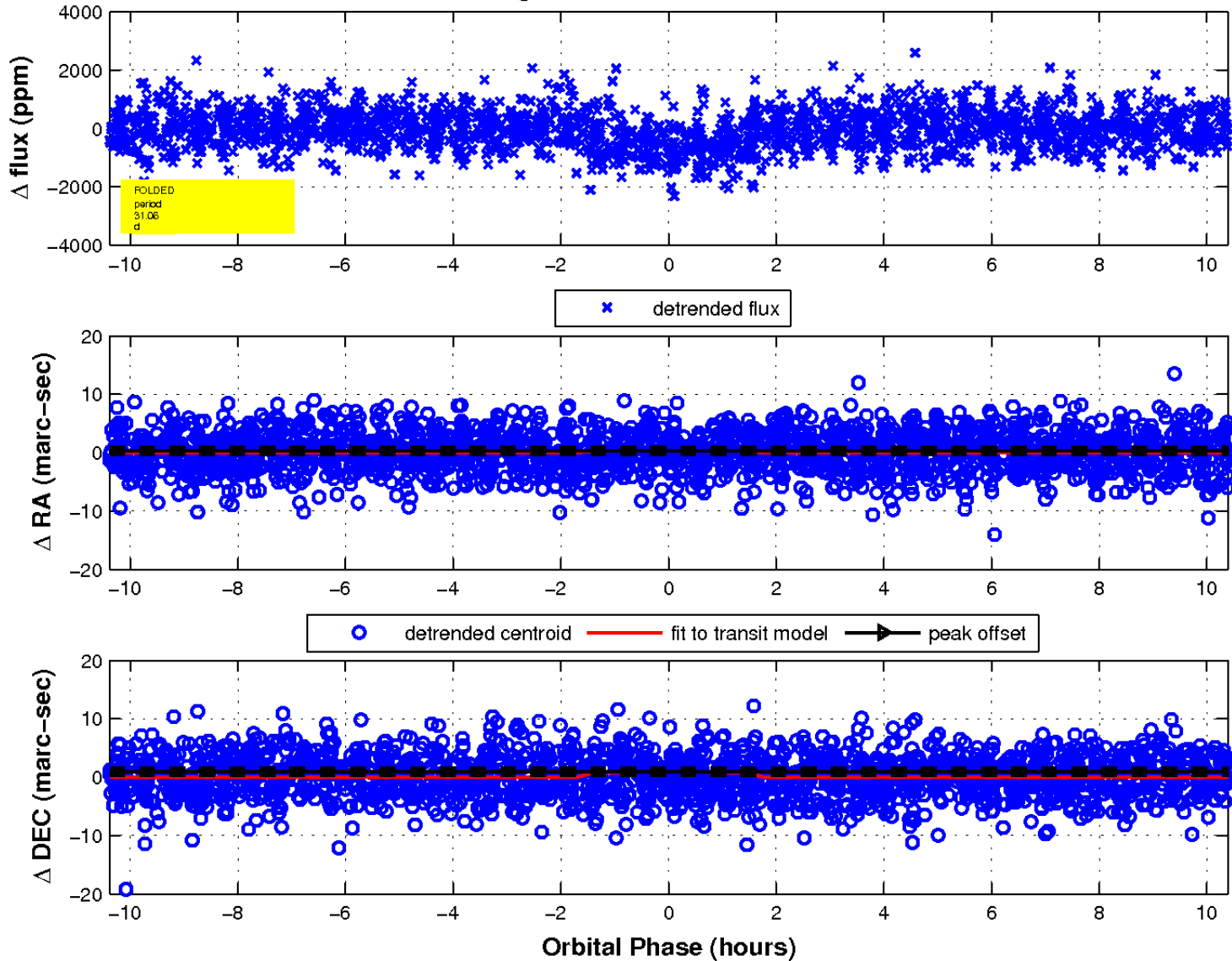
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

