

KIC 006070337

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})
006070337-01	OBS	4632.01	40.069253	143.734924	772.4	2.740	9.4	10.0	0.76	5485	3.40	10.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006070337-01	OBS	PC	0.87	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.

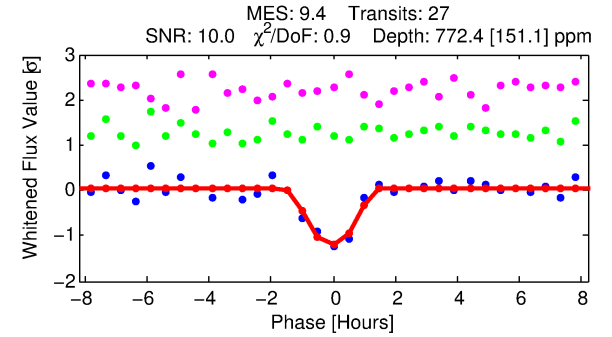
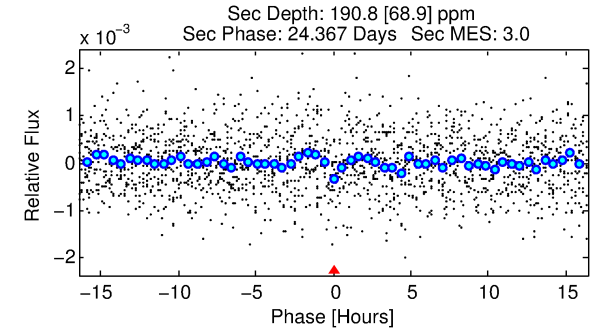
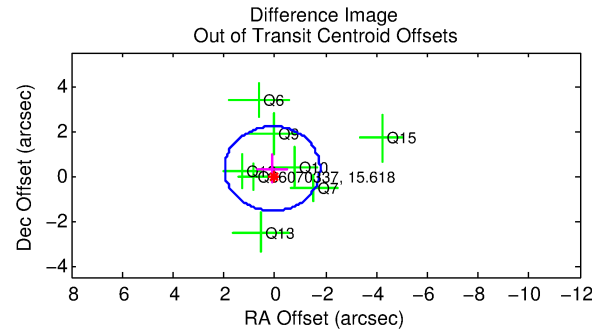
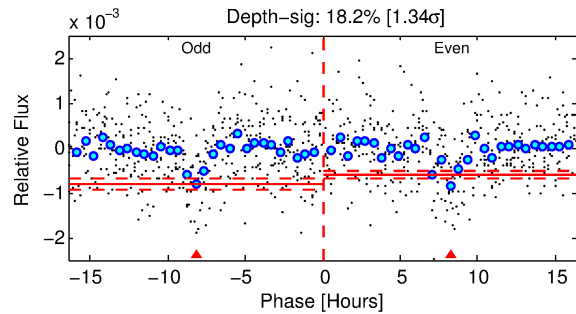
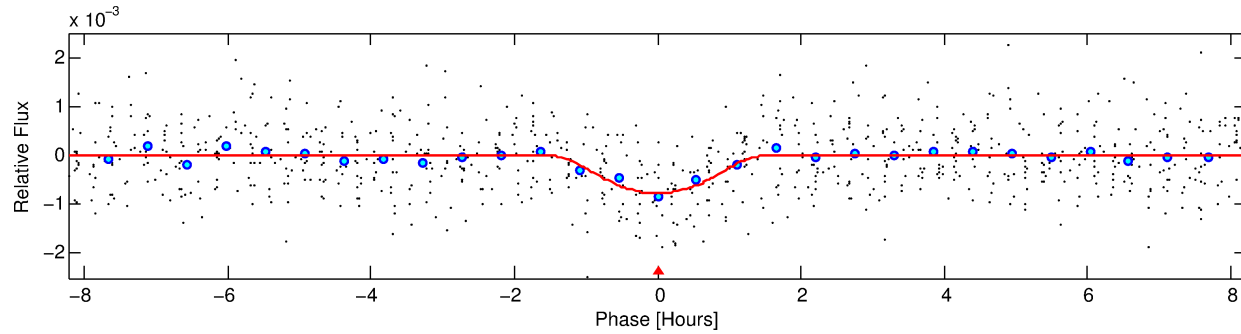
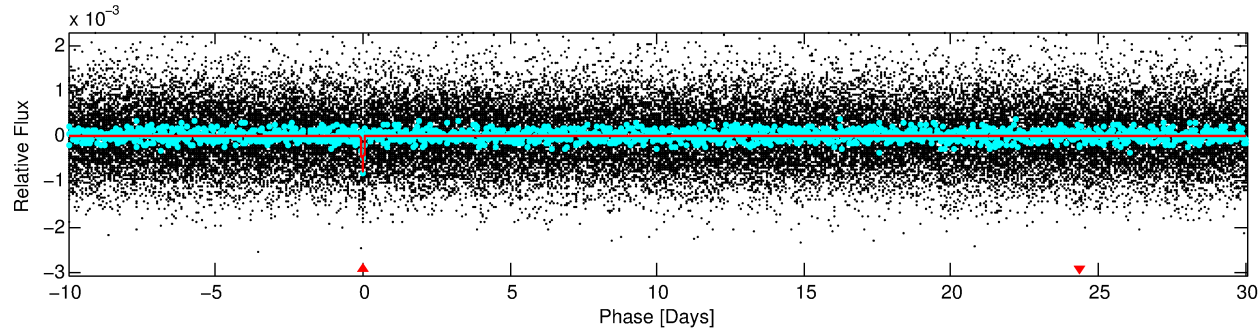
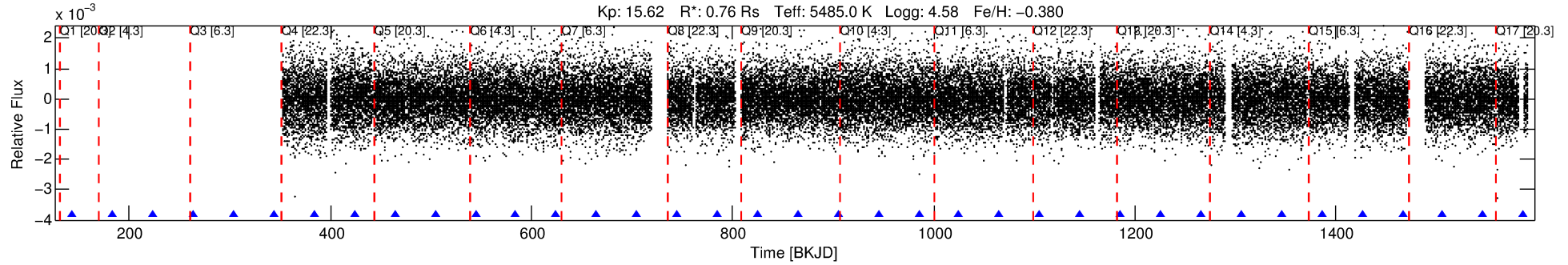
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006070337-01

No Significant Match Found

DV One-Page Summary

KIC: 6070337 Candidate: 1 of 1 Period: 40.069 d
KOI: K04632.01 Corr: 0.940



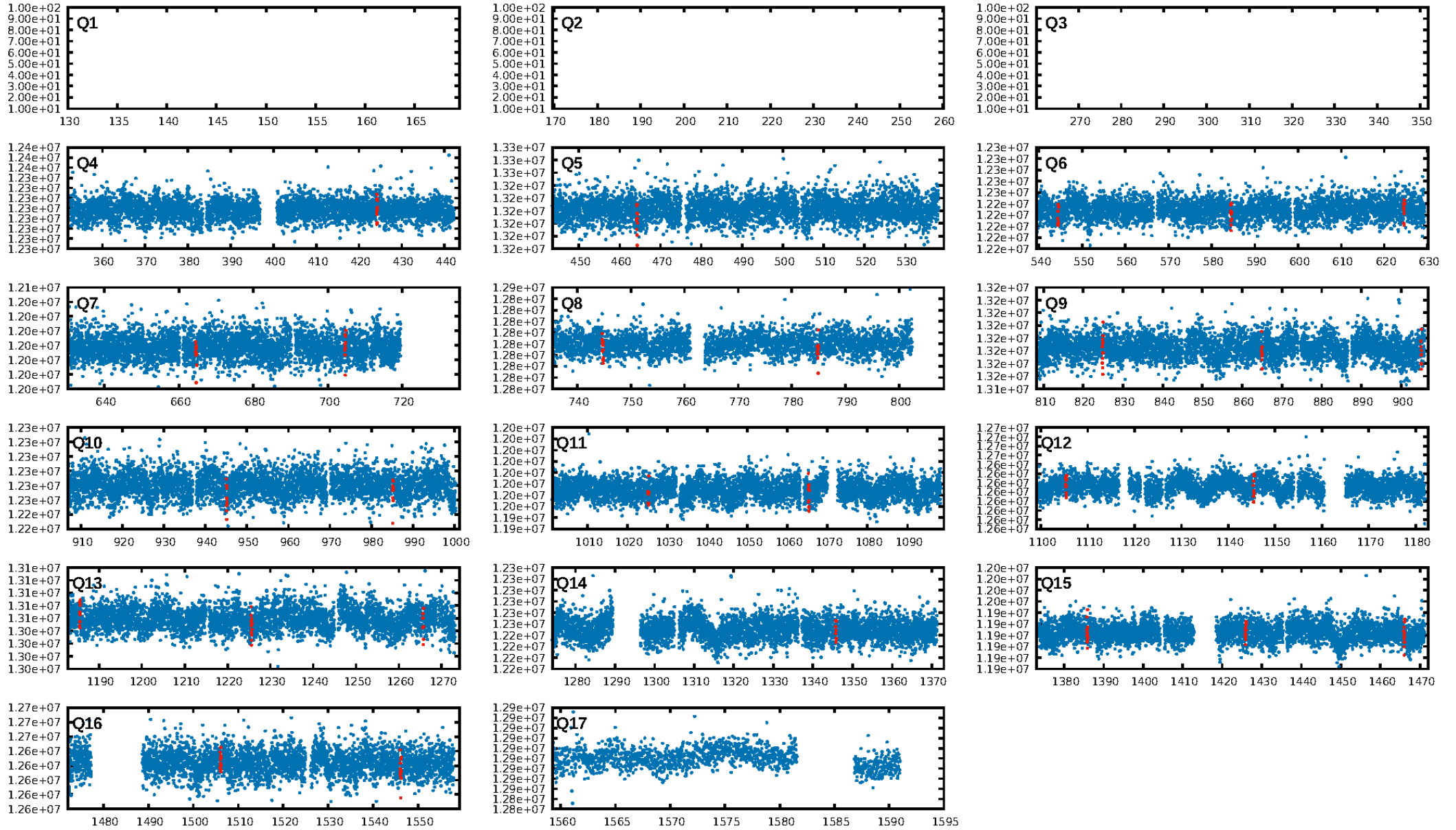
DV Fit Results:

Period = 40.06925 [0.00042] d
Epoch = 143.7349 [0.0099] BKJD
Rp/R* = 0.0408 [0.0821]
a/R* = 38.01 [28.49]
b = 0.98 [0.15]
Seff = 10.43 [2.67]
Teq = 458 [29] K
Rp = 3.40 [6.86] Re
a = 0.2124 [0.0331] AU
Ag = 410.63 [1660.01] [0.25 σ]
Teffp = 3190 [3221] K [0.85 σ]

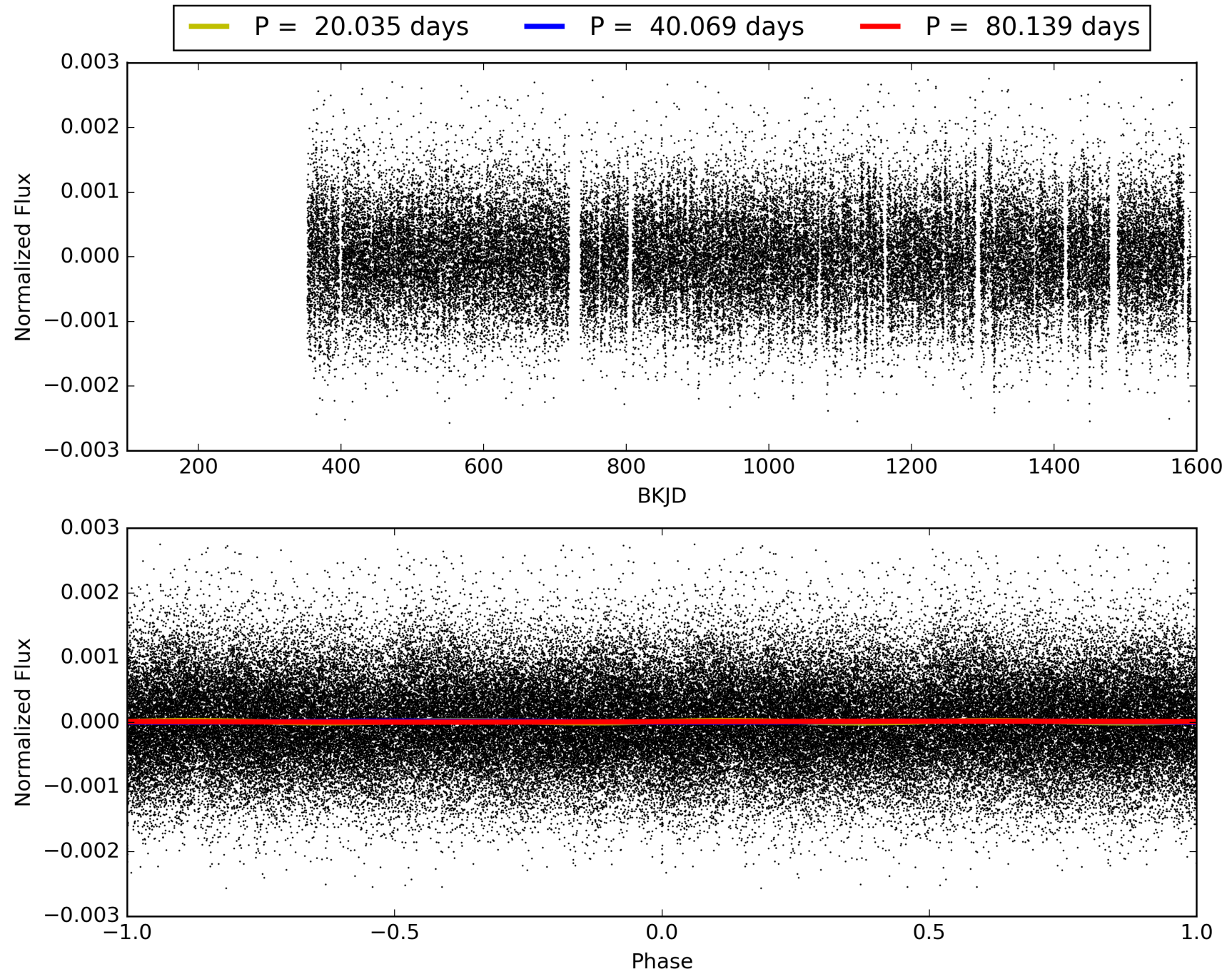
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.57e-21
RollingBand-fgt: 1.00 [27/27]
GhostDiagnostic-chr: 1.431
Centroid-sig: 51.6%
Centroid-so: 1.222 arcsec [0.91 σ]
OotOffset-rm: 0.333 arcsec [0.53 σ]
KicOffset-rm: 0.334 arcsec [0.54 σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 006070337-01, PDC Light Curves

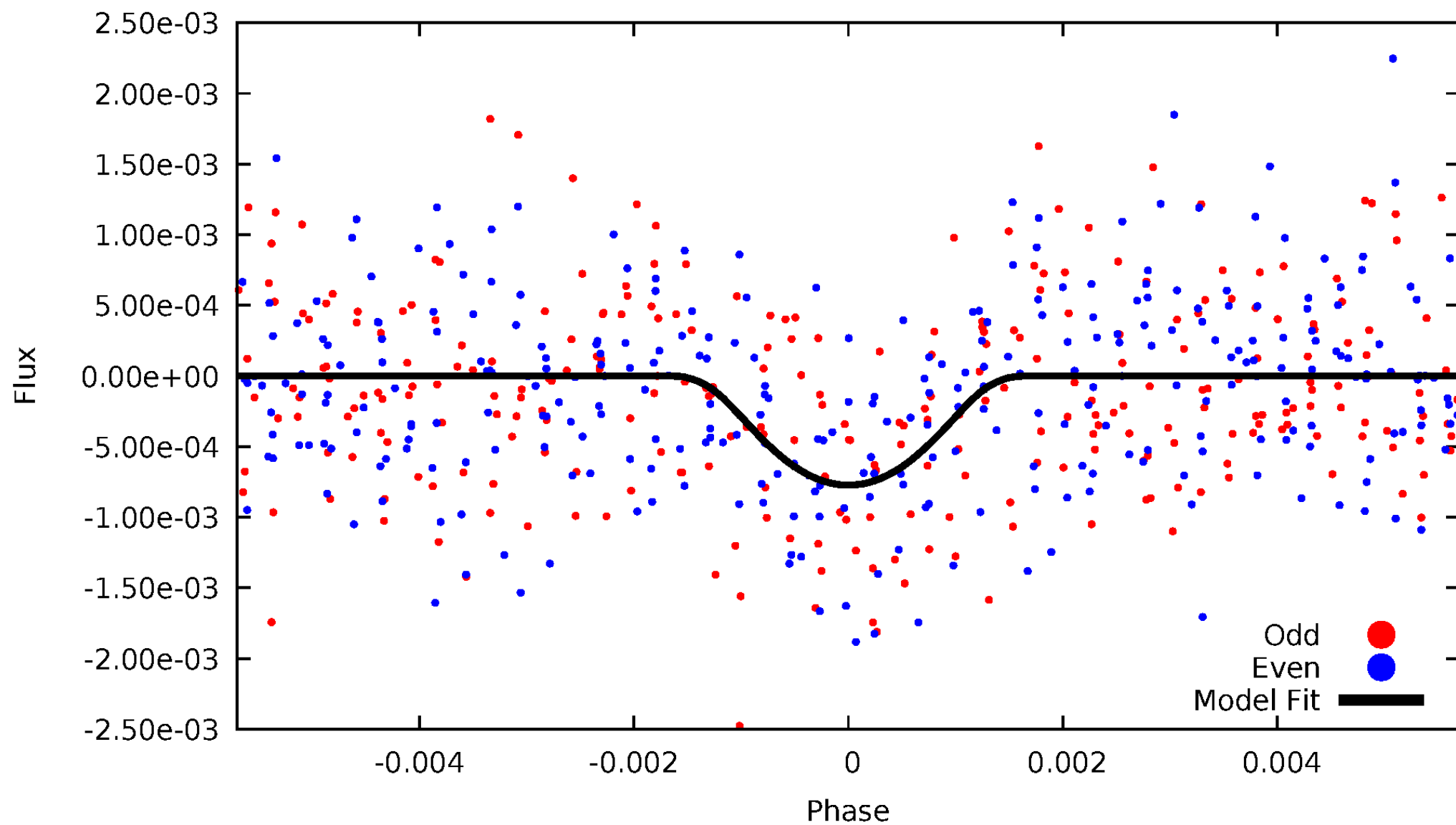


TCE 006070337-01



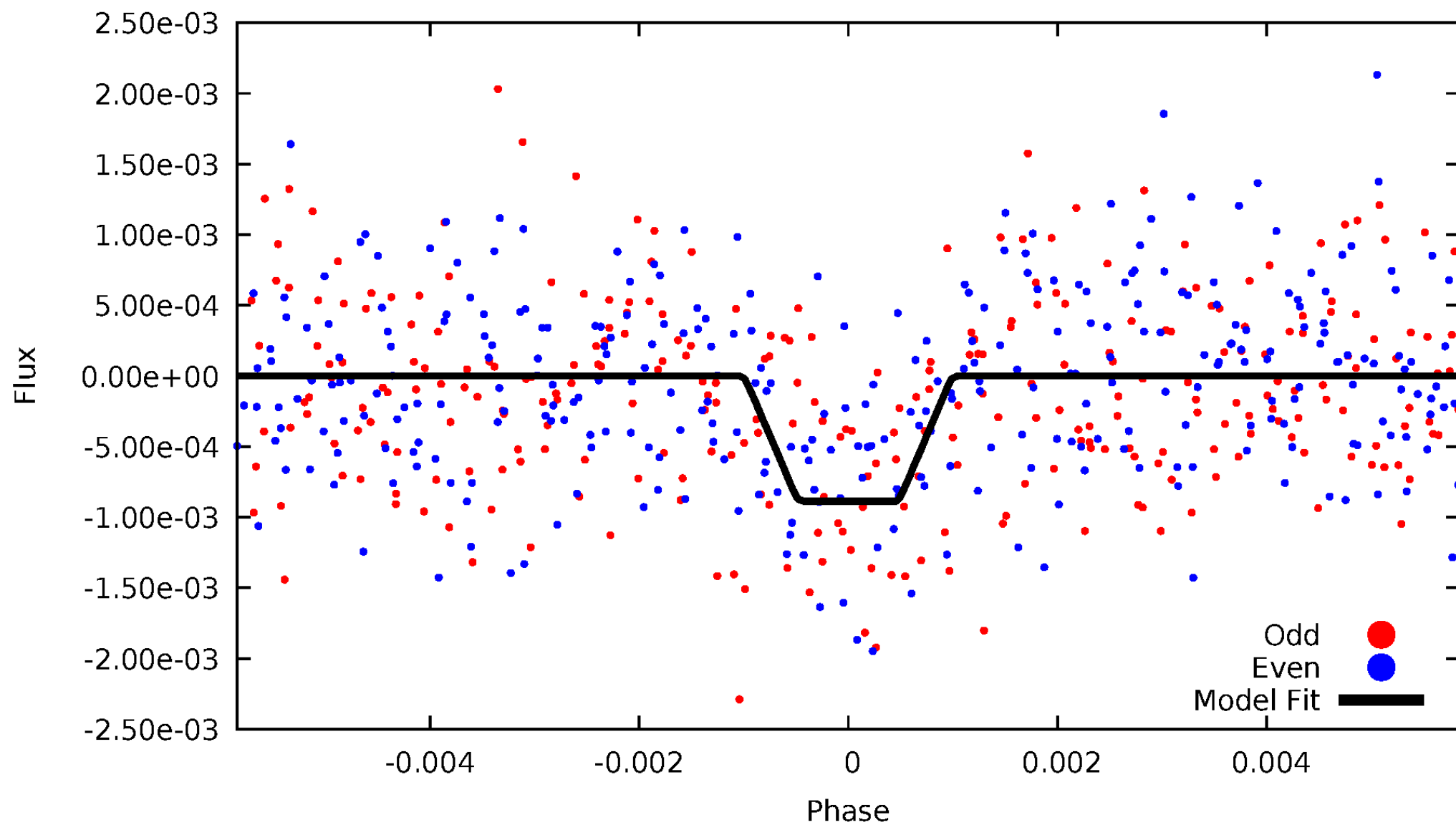
DV Odd/Even

TCE 006070337-01



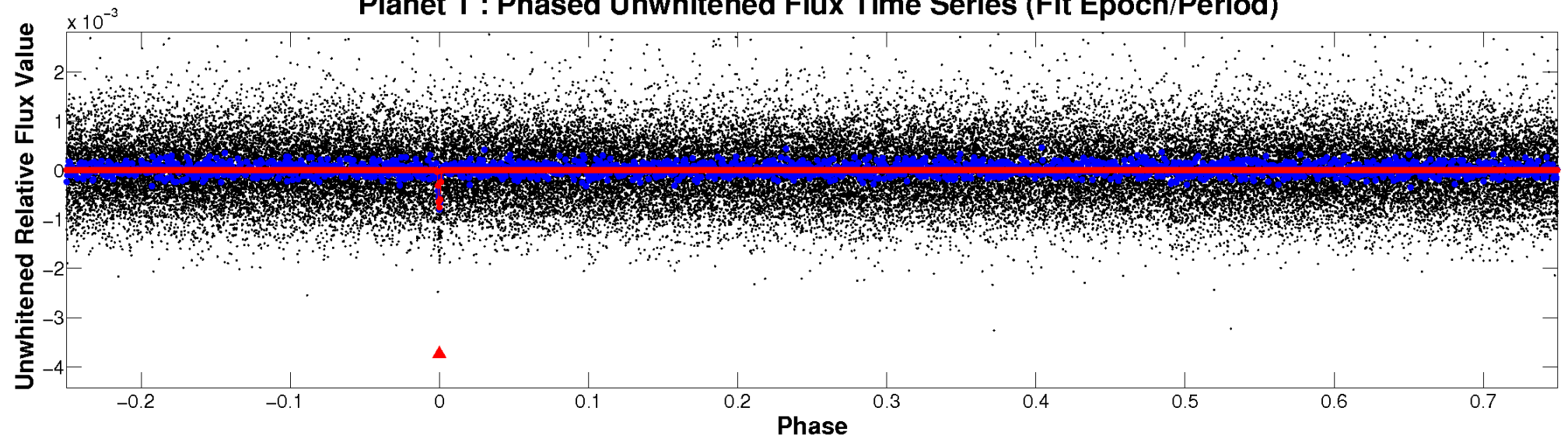
ALT Odd/Even

TCE 006070337-01

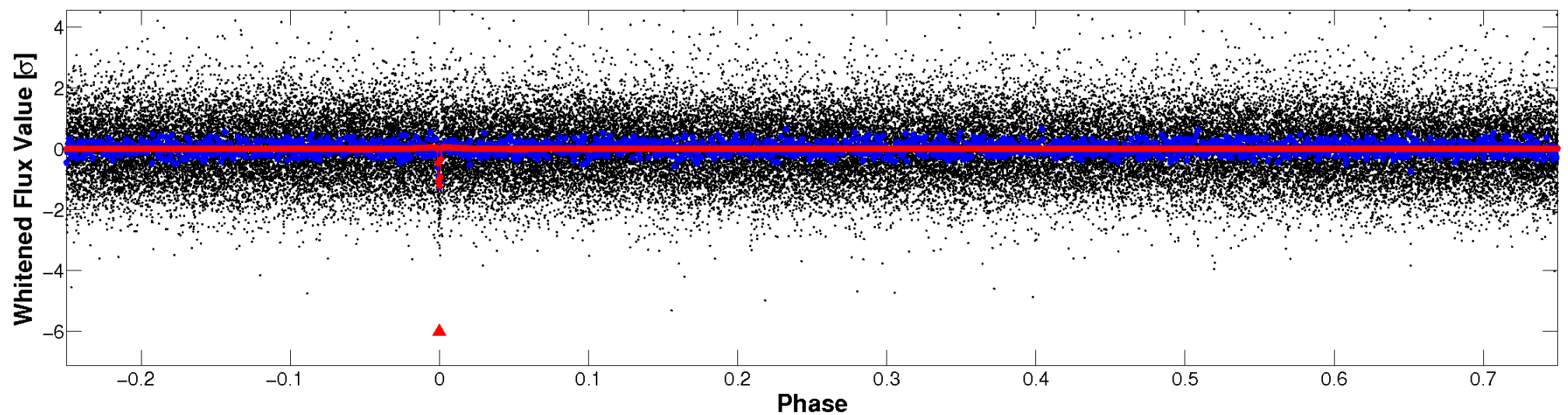


Non-Whitened Vs. Whitened Light Curve

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

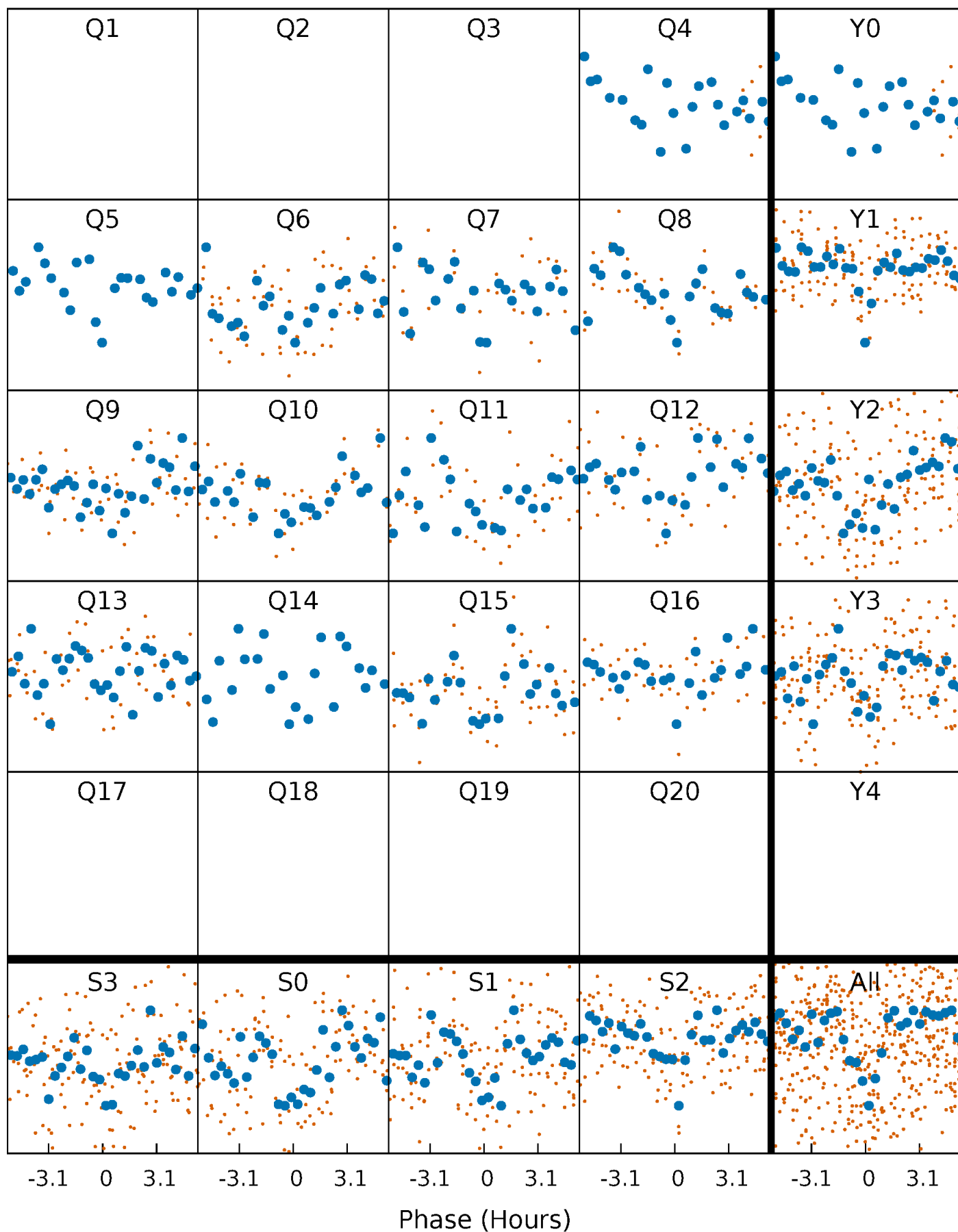


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



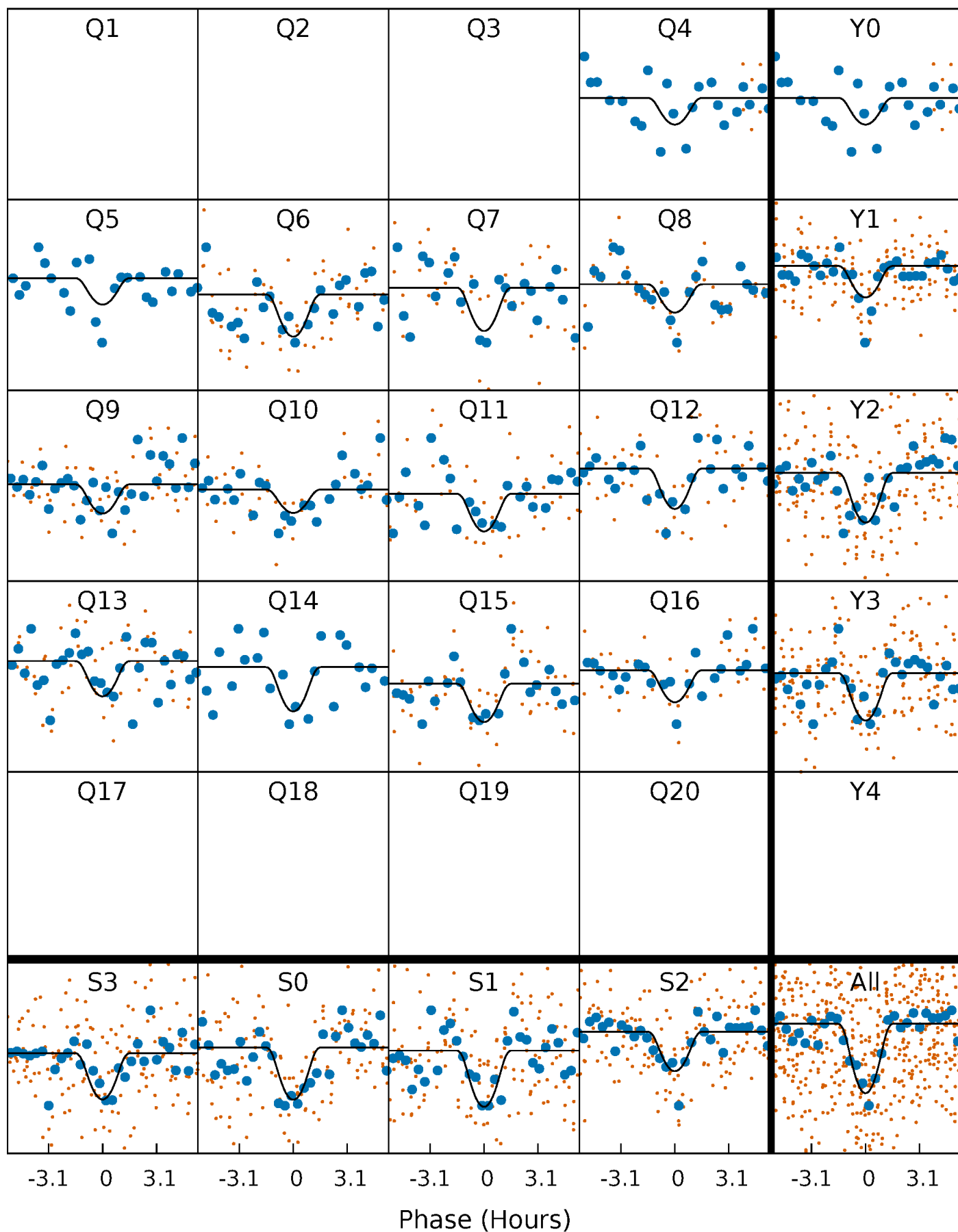
PDC Quarter-Phased Transit Curves

TCE 006070337-01 P= 40.069253 Days $T_0=143.734924$ (BKJD)



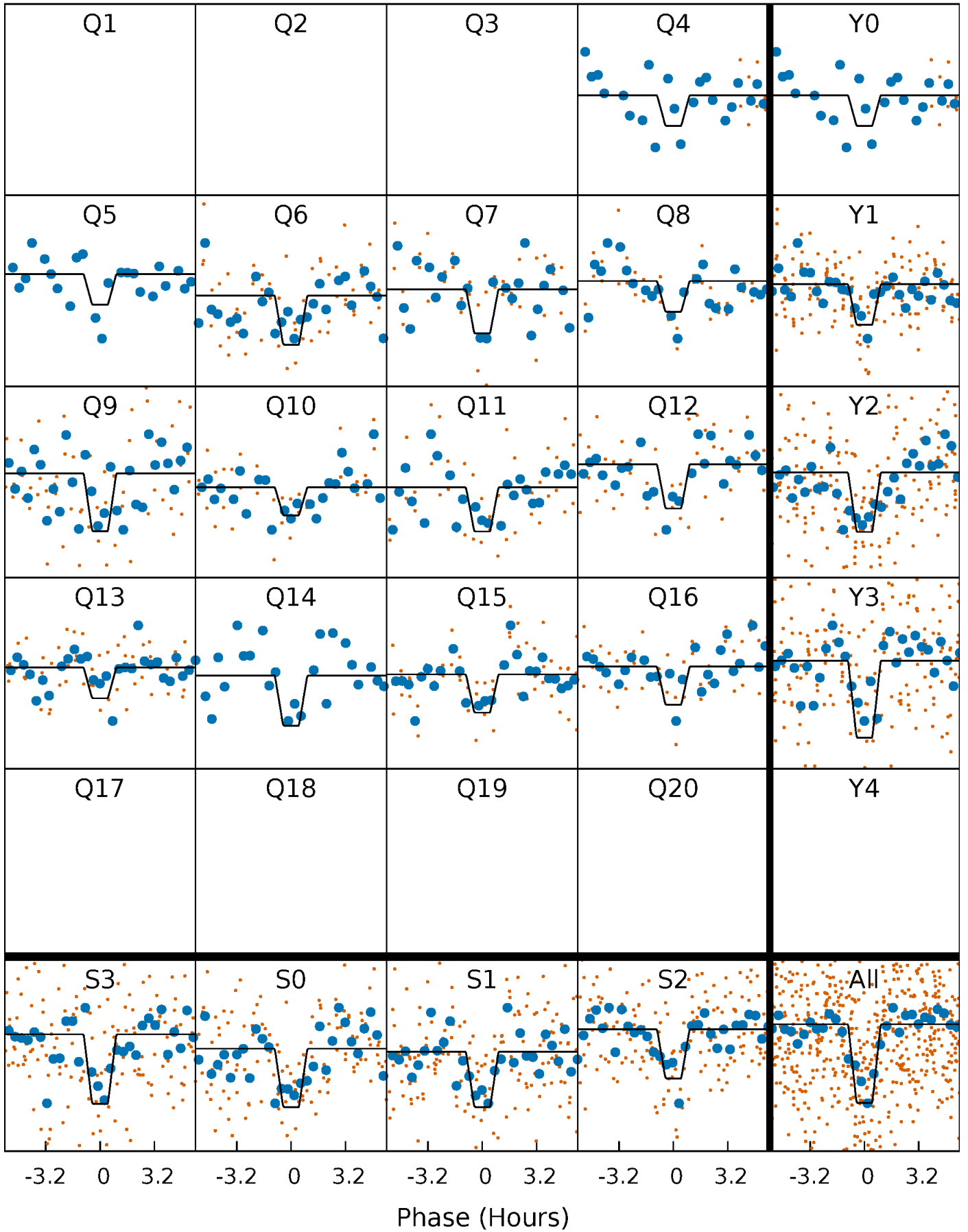
DV Quarter-Phased Transit Curves

TCE 006070337-01 P= 40.069253 Days $T_0=143.734924$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

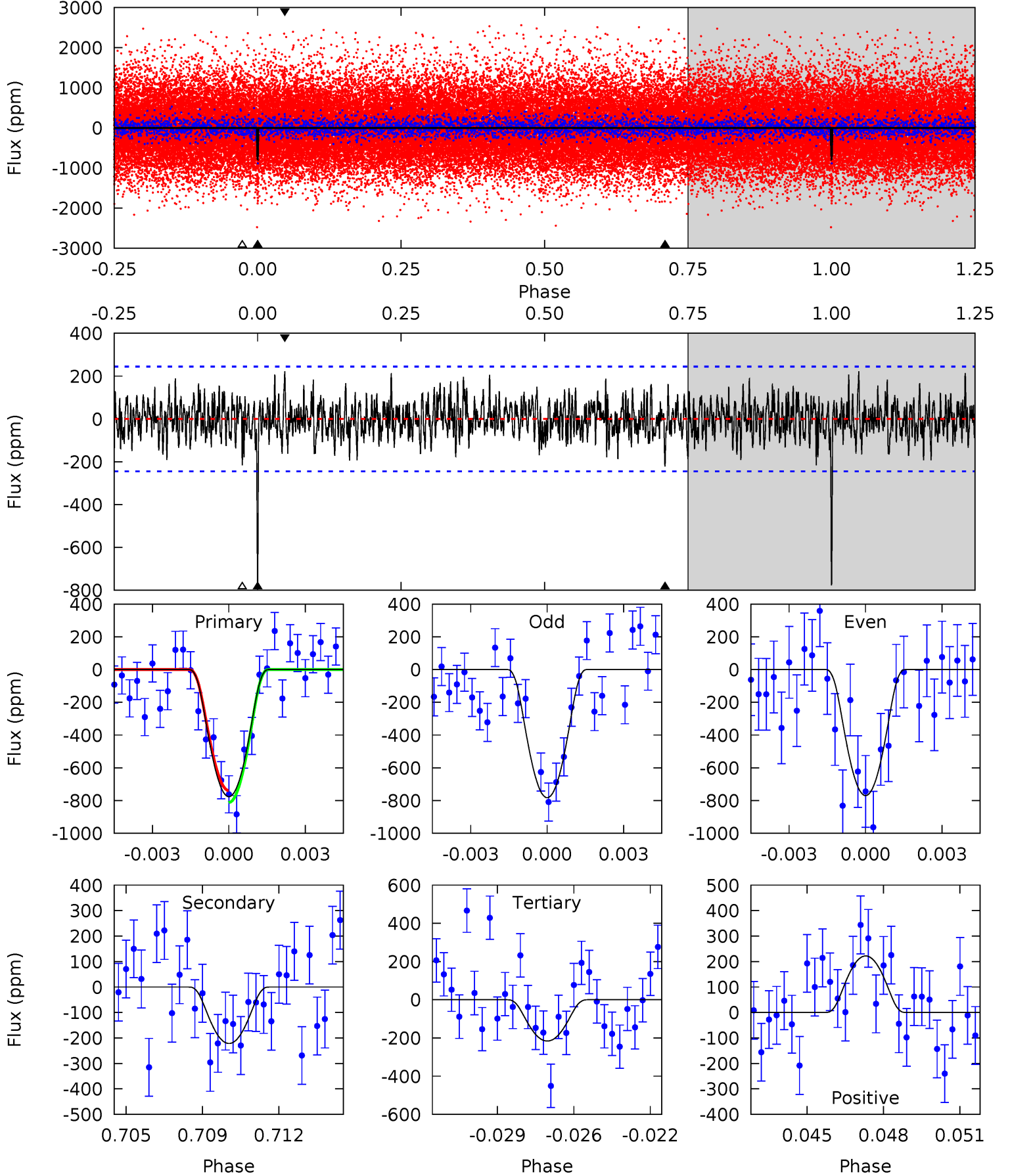
TCE 006070337-01 P= 40.069380 Days $T_0=143.733365$ (BKJD)



DV Model-Shift Uniqueness Test

006070337-01, P = 40.069253 Days, E = 143.734924 Days

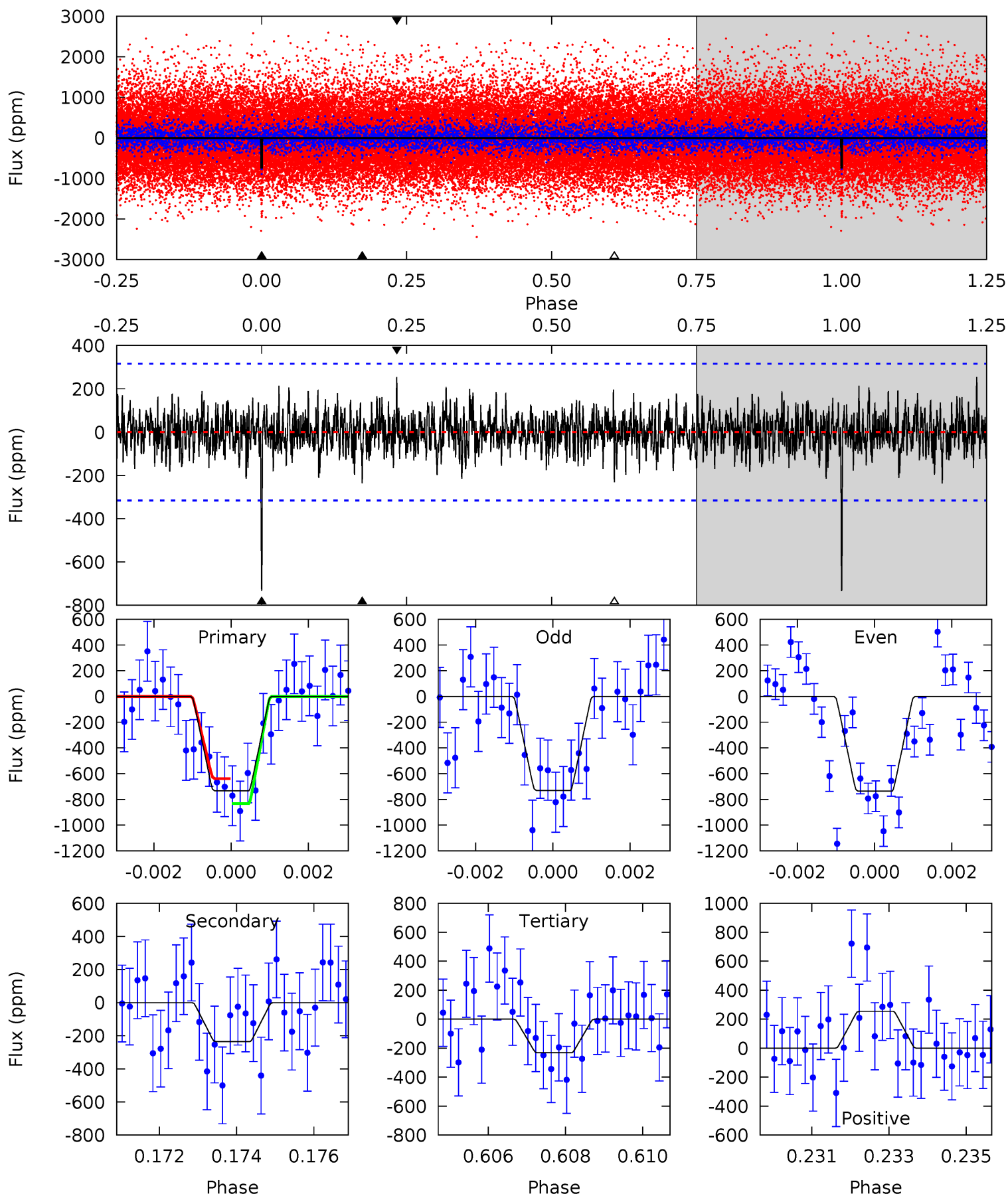
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	4.75	4.63	4.75	5.24	2.95	1.45	12.0	11.9	0.12	-0.01	0.14	0.99	0.22	0.78



Alt Model-Shift Uniqueness Test

006070337-01, $P = 40.069380$ Days, $E = 143.733365$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	3.96	3.91	4.28	5.33	3.09	1.17	8.44	8.08	0.05	-0.32	0.05	1.02	0.26	1.63



Stellar Parameters For KIC 006070337

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5485^{+191}_{-191}	$4.575^{+0.051}_{-0.111}$	$-0.380^{+0.350}_{-0.300}$	$0.762^{+0.149}_{-0.075}$	$0.796^{+0.096}_{-0.079}$	$2.535^{+0.548}_{-0.933}$
	+3%/-3%	+1%/-2%	+92%/-79%	+20%/-10%	+12%/-10%	+22%/-37%
Source	KIC0	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 006070337-01 / KOI 4632.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-222 ± 47	$6.71^{+5.37}_{-4.53}$	647^{+34}_{-29}	3038^{+1243}_{-459}	125^{+923}_{-89}
Alt.	-235 ± 59	$6.10^{+5.83}_{-4.27}$	647^{+35}_{-30}	3161^{+1626}_{-547}	164^{+1704}_{-124}

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

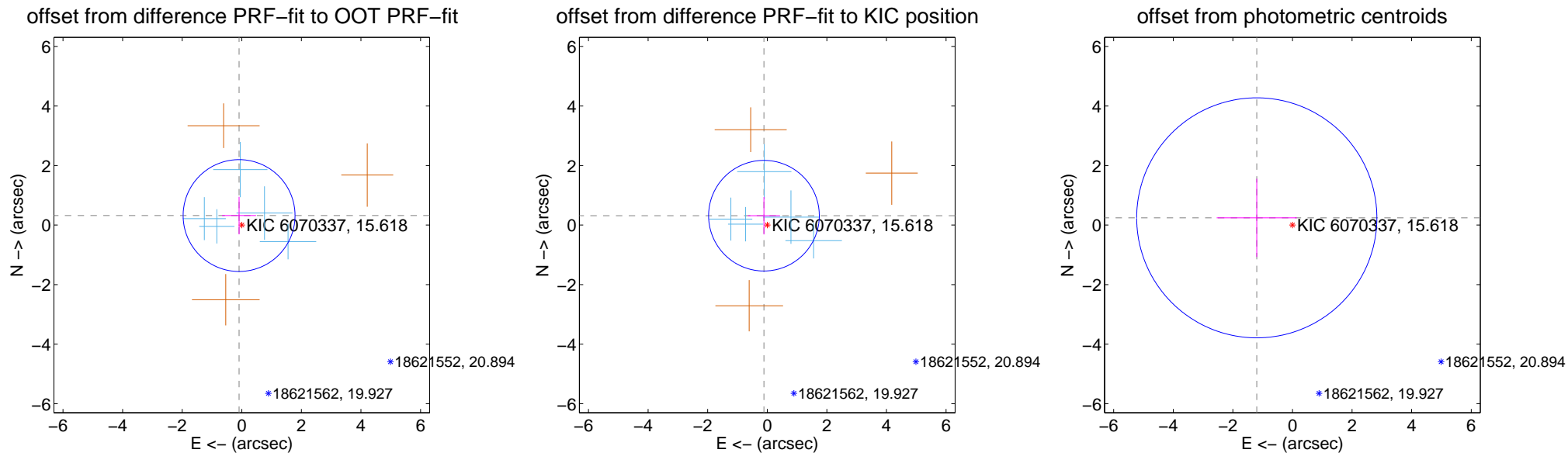
DV Centroid Data

Supplemental centroid analysis for 006070337-01. Kepler magnitude: 15.62. Transit SNR 10.01

There are 5 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	0.333 ± 0.626	0.53	0.091 ± 0.570	0.320 ± 0.630
PRF-fit source offset from KIC position	0.334 ± 0.619	0.54	0.112 ± 0.541	0.315 ± 0.628
photometric centroid source offset	1.22 ± 1.34	0.91	1.20 ± 1.34	0.24 ± 1.31



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.

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



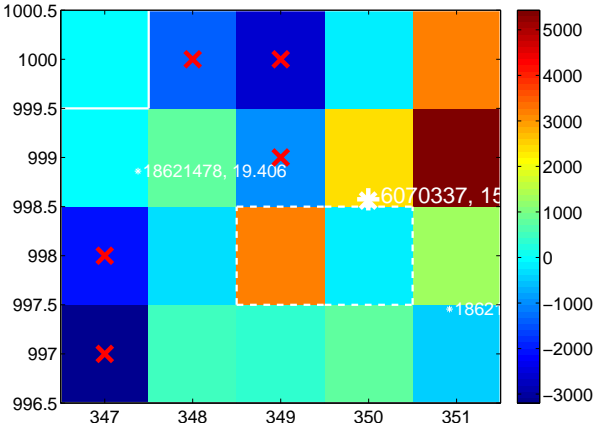
Q3 no difference image



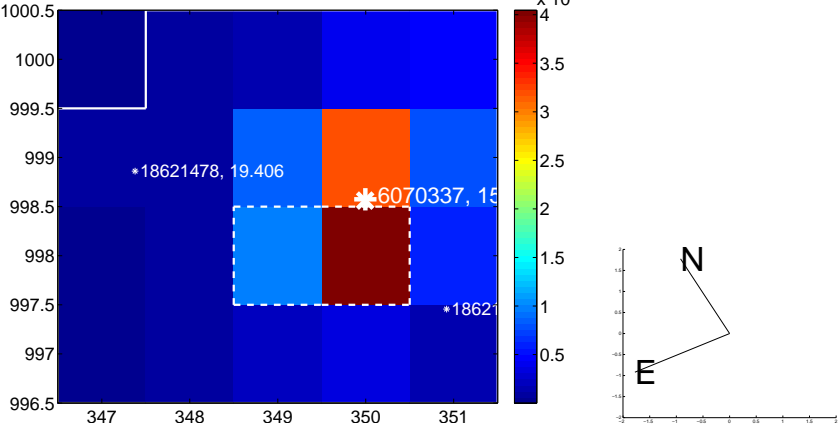
Q3 no OOT image



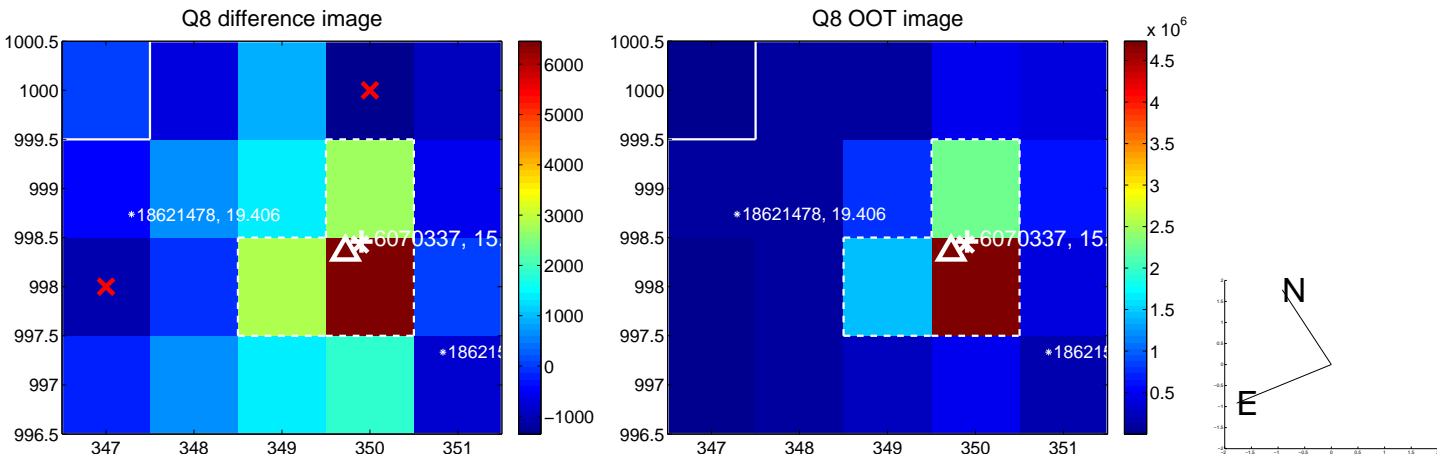
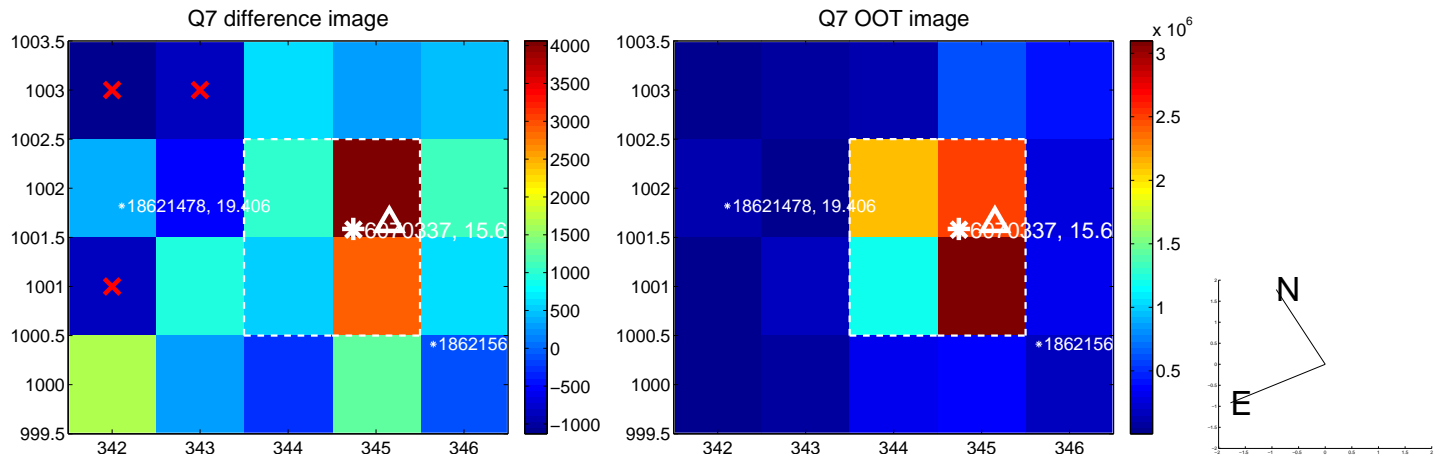
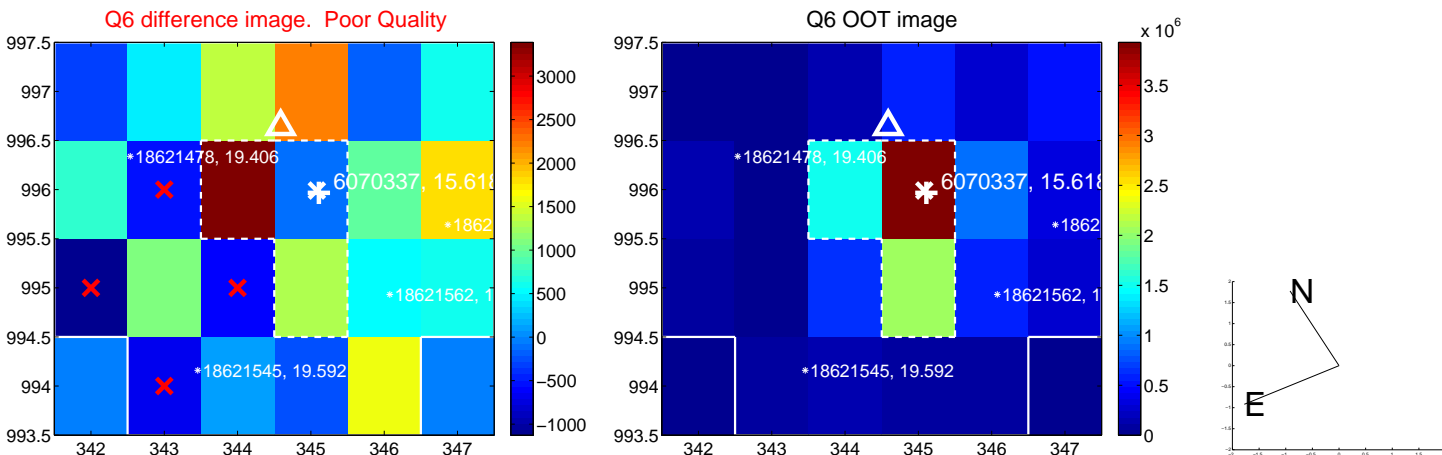
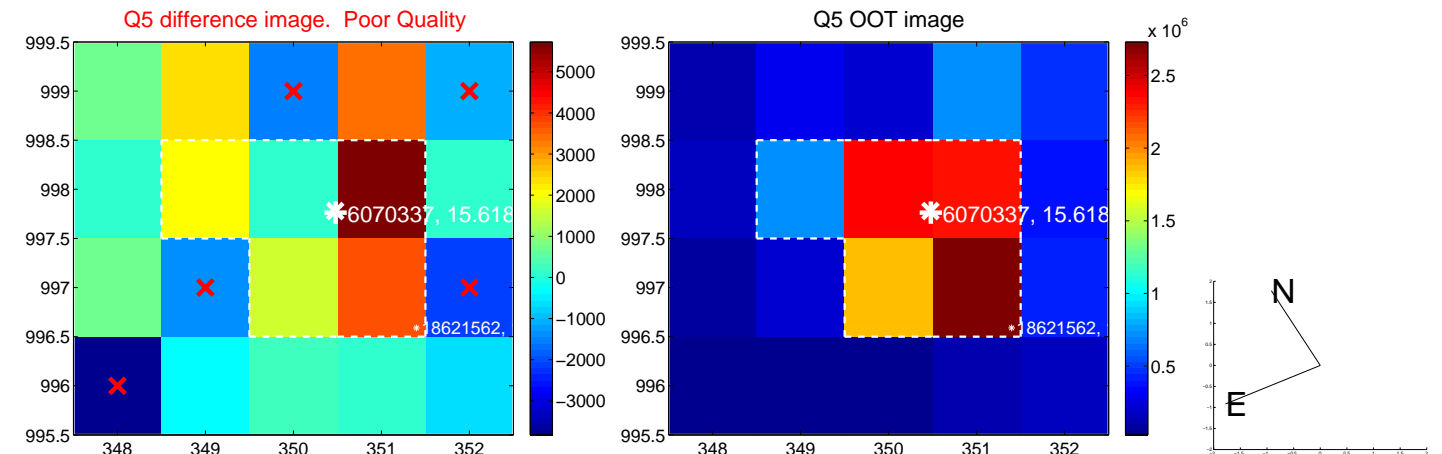
Q4 difference image. Poor Quality



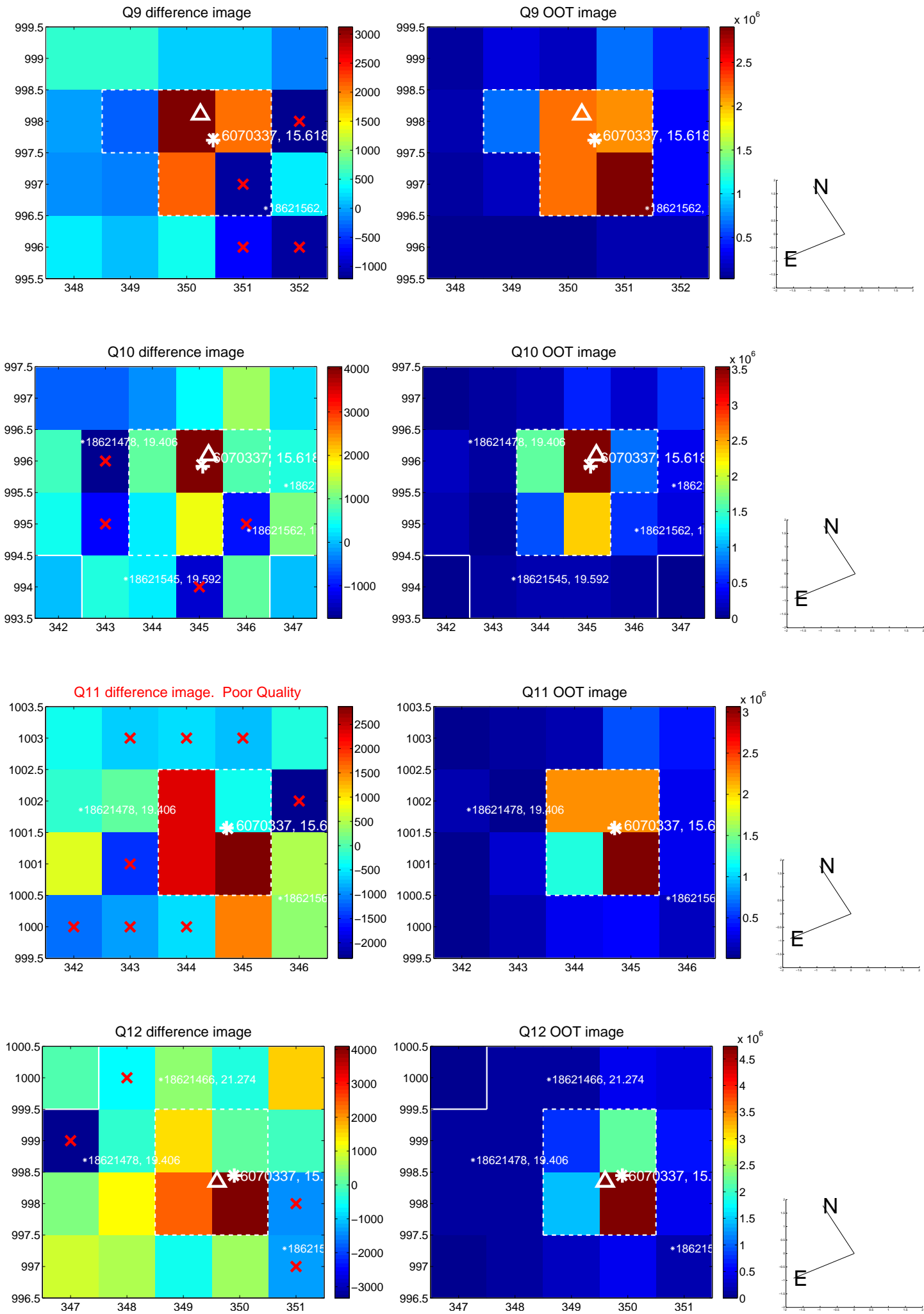
Q4 OOT image



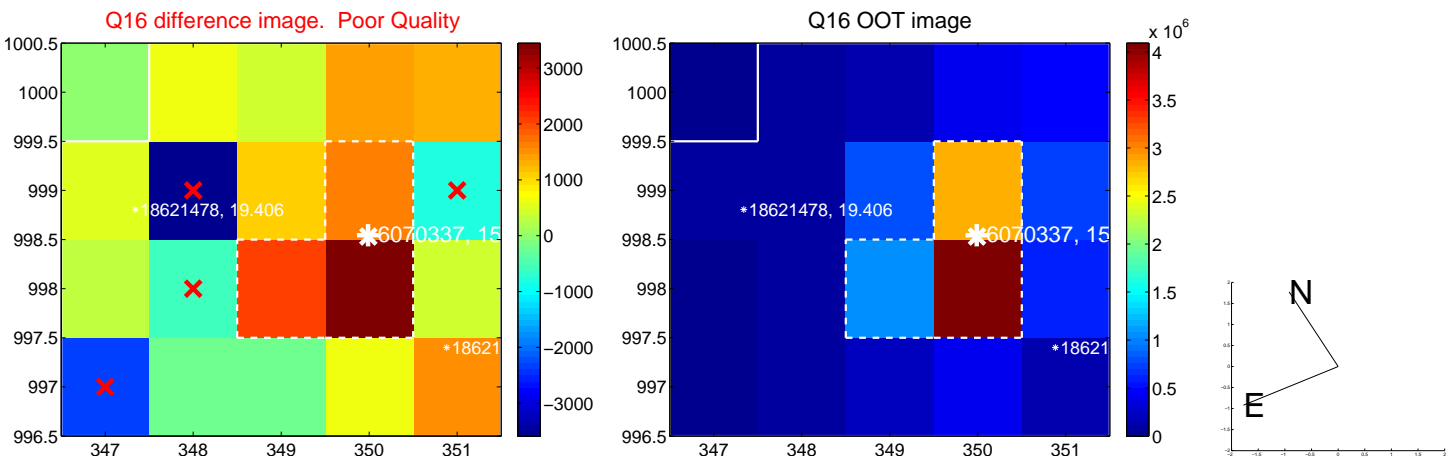
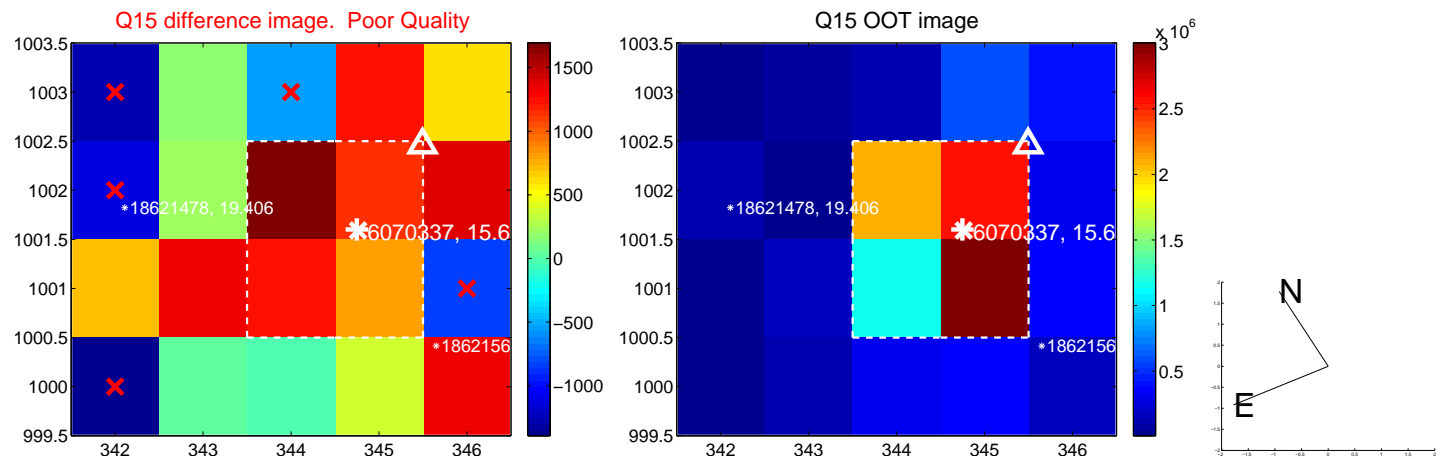
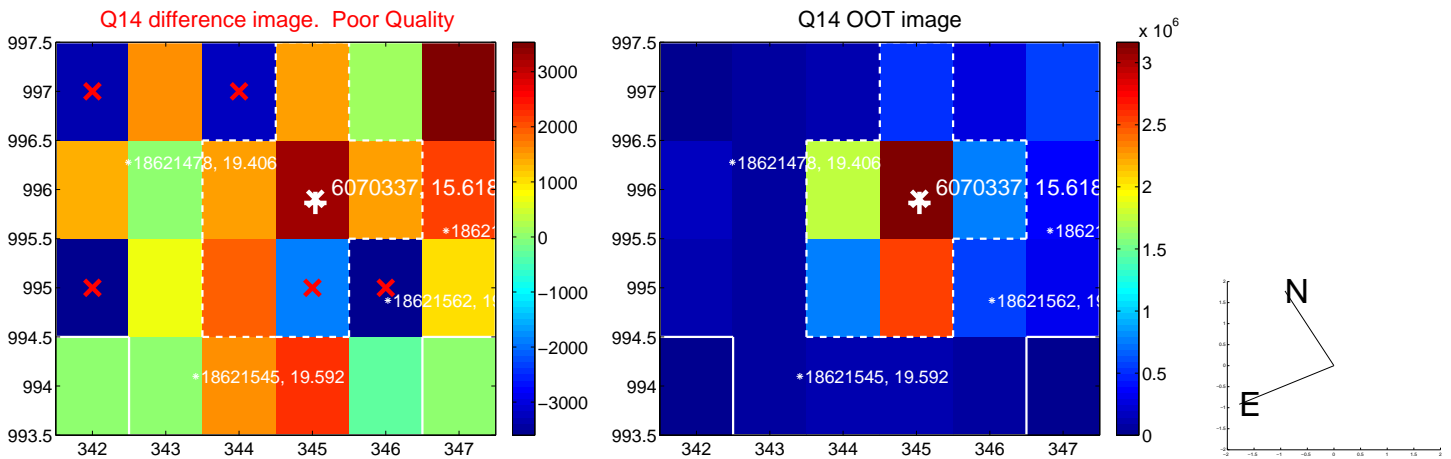
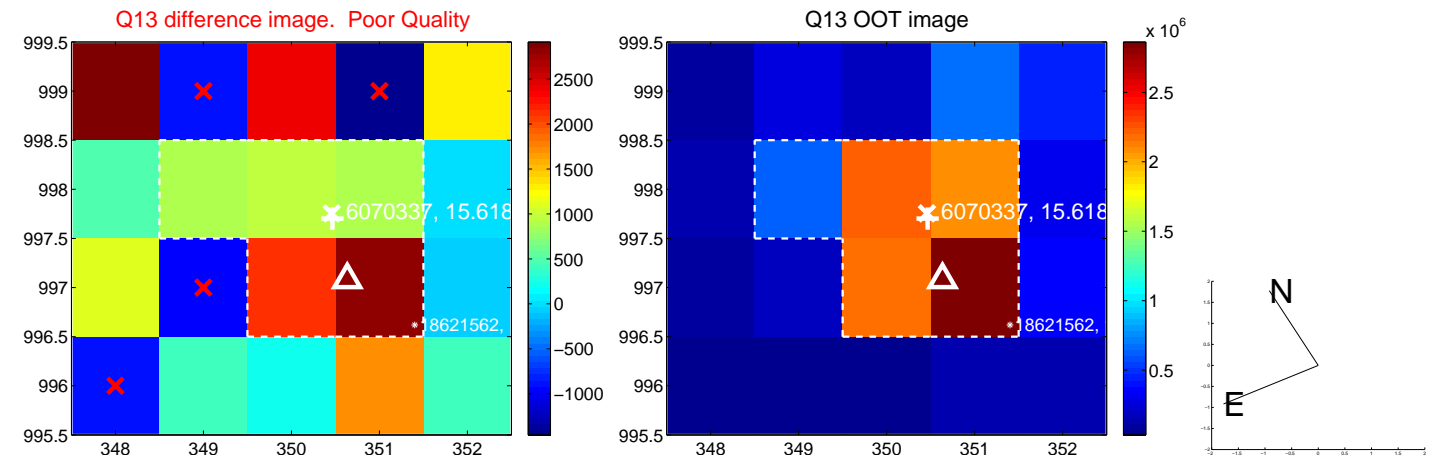
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



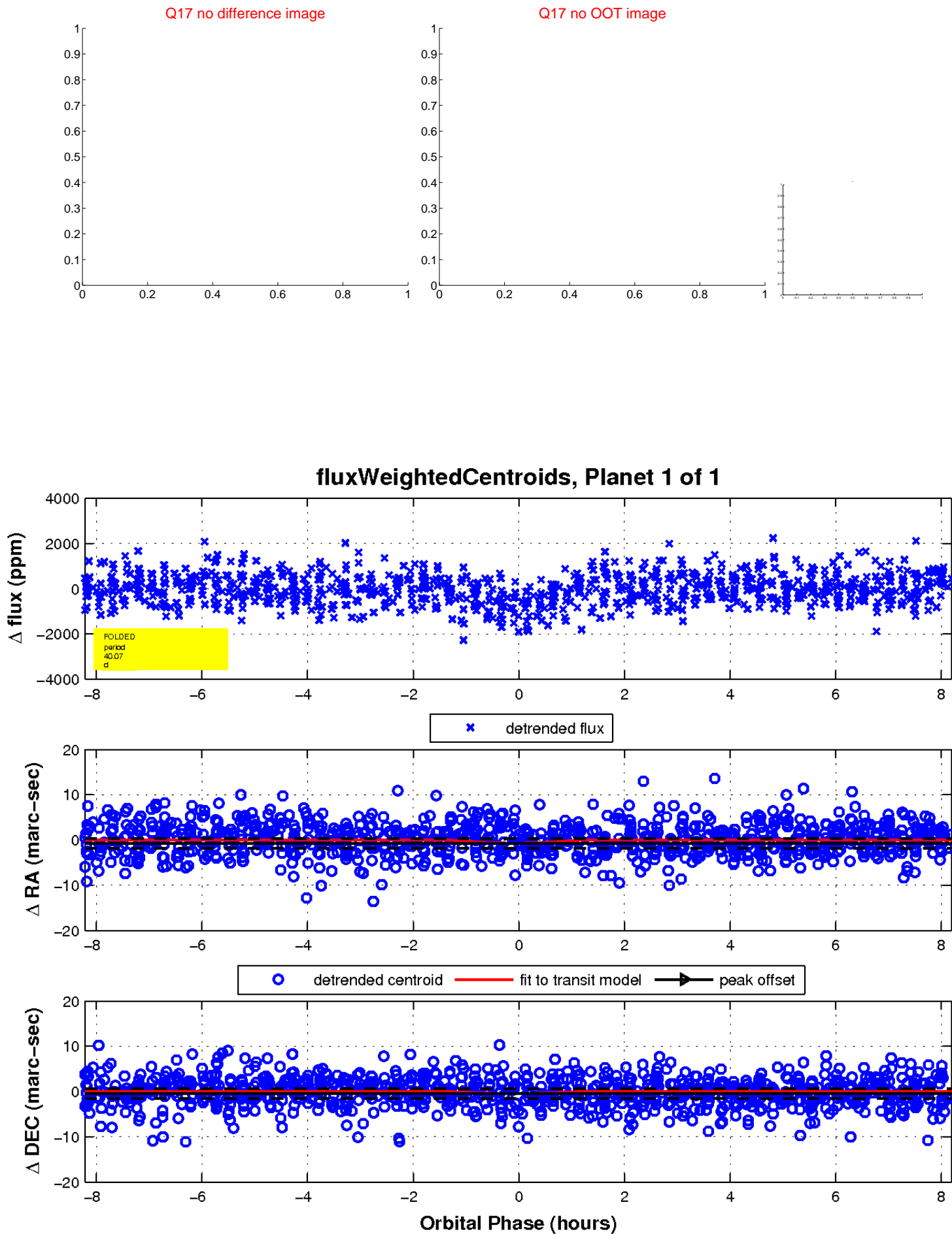
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

