

KIC 010863608

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})
010863608-01	OBS	2368.01	8.071298	137.758278	303.2	2.832	15.9	17.5	0.85	5766	1.69	127.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010863608-01	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.

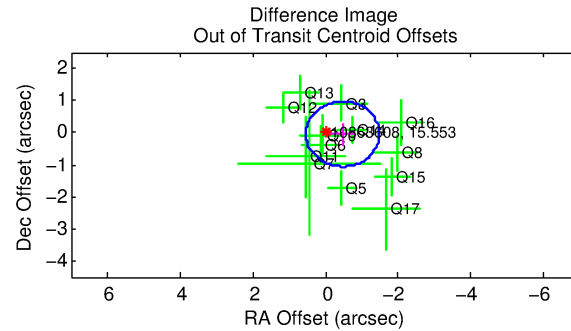
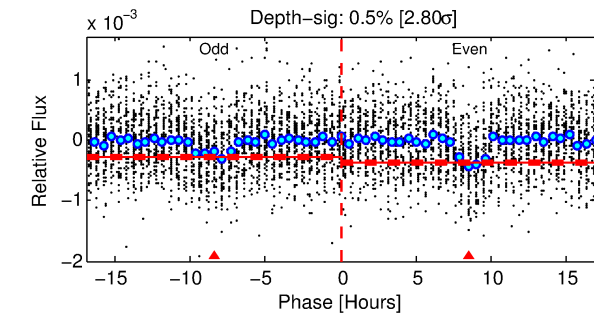
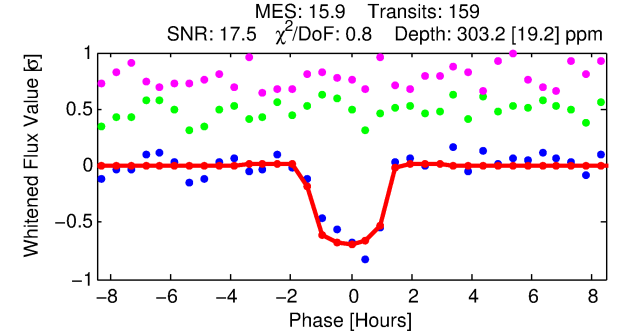
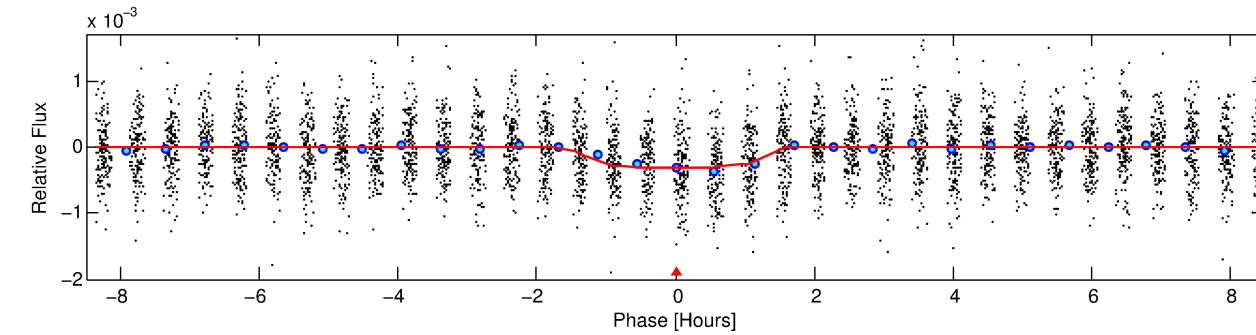
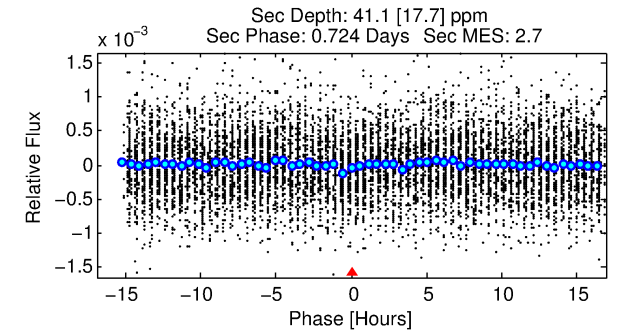
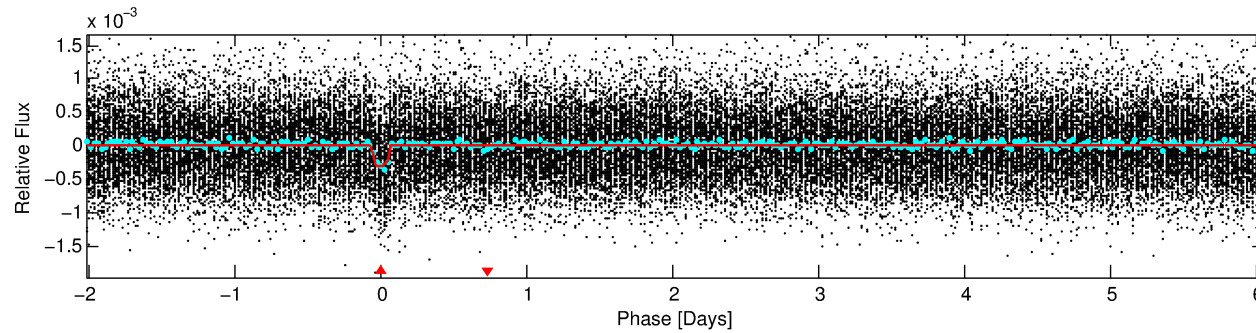
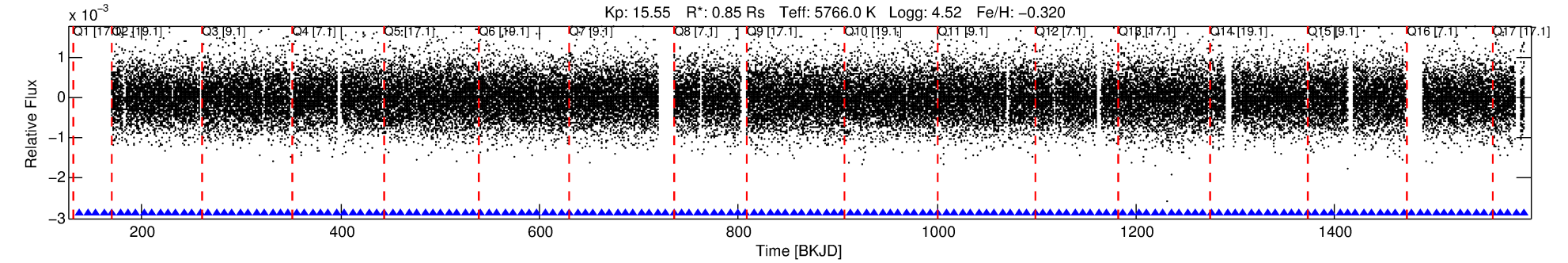
Ephemeris Match Information For 010863608-01

No Significant Match Found

DV One-Page Summary

KIC: 10863608 Candidate: 1 of 1 Period: 8.071 d

KOI: K02368.01 Corr: 0.966



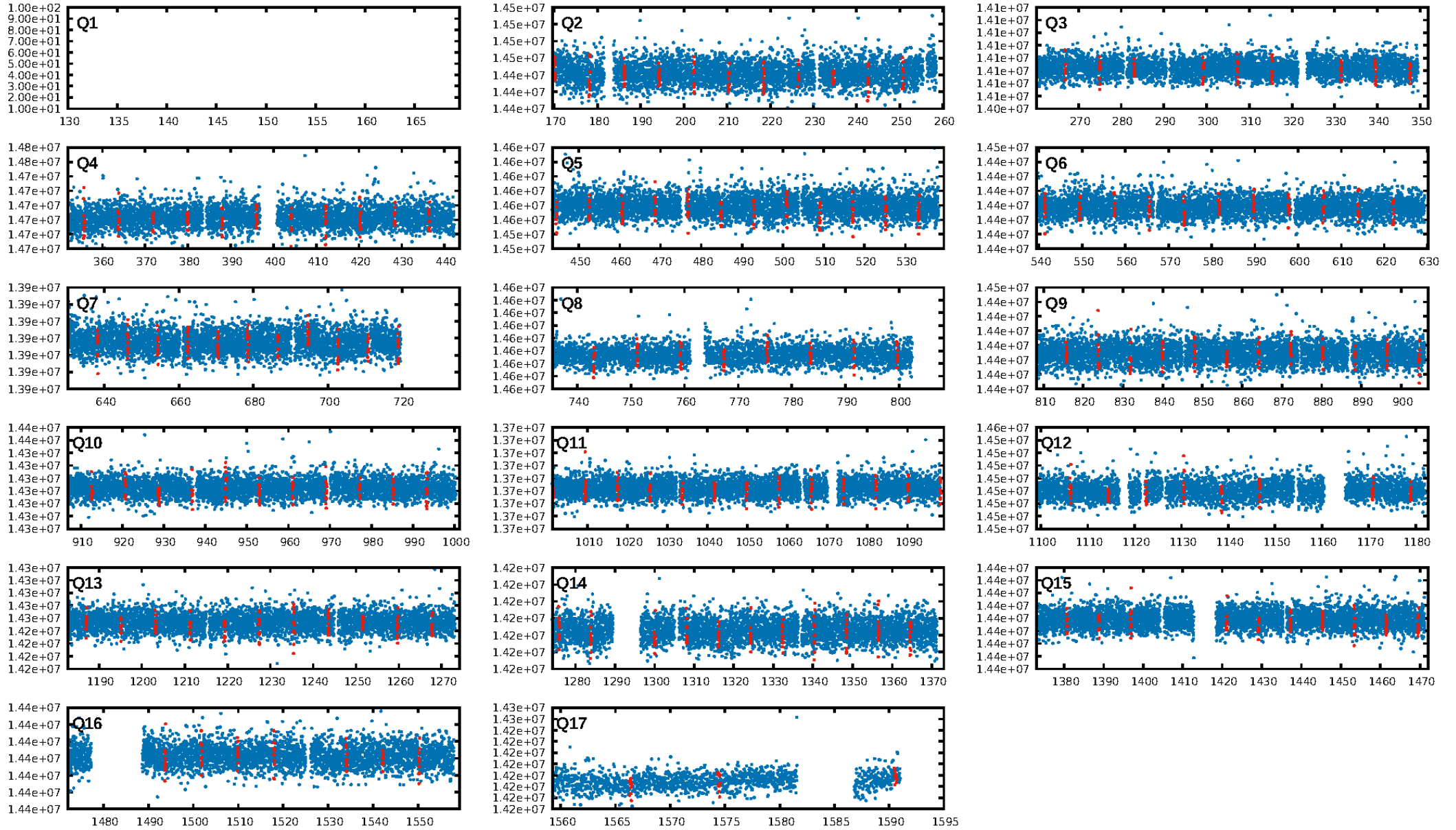
DV Fit Results:

Period = 8.07130 [0.00004] d
Epoch = 137.7583 [0.0038] BKJD
Rp/R* = 0.0182 [0.0071]
a/R* = 12.20 [22.73]
b = 0.85 [0.62]
Seff = 127.18 [44.90]
Teq = 856 [76] K
Rp = 1.69 [0.81] Re
a = 0.0753 [0.0173] AU
Ag = 44.62 [42.61] [1.02σ]
Teffp = 3422 [773] K [3.30σ]

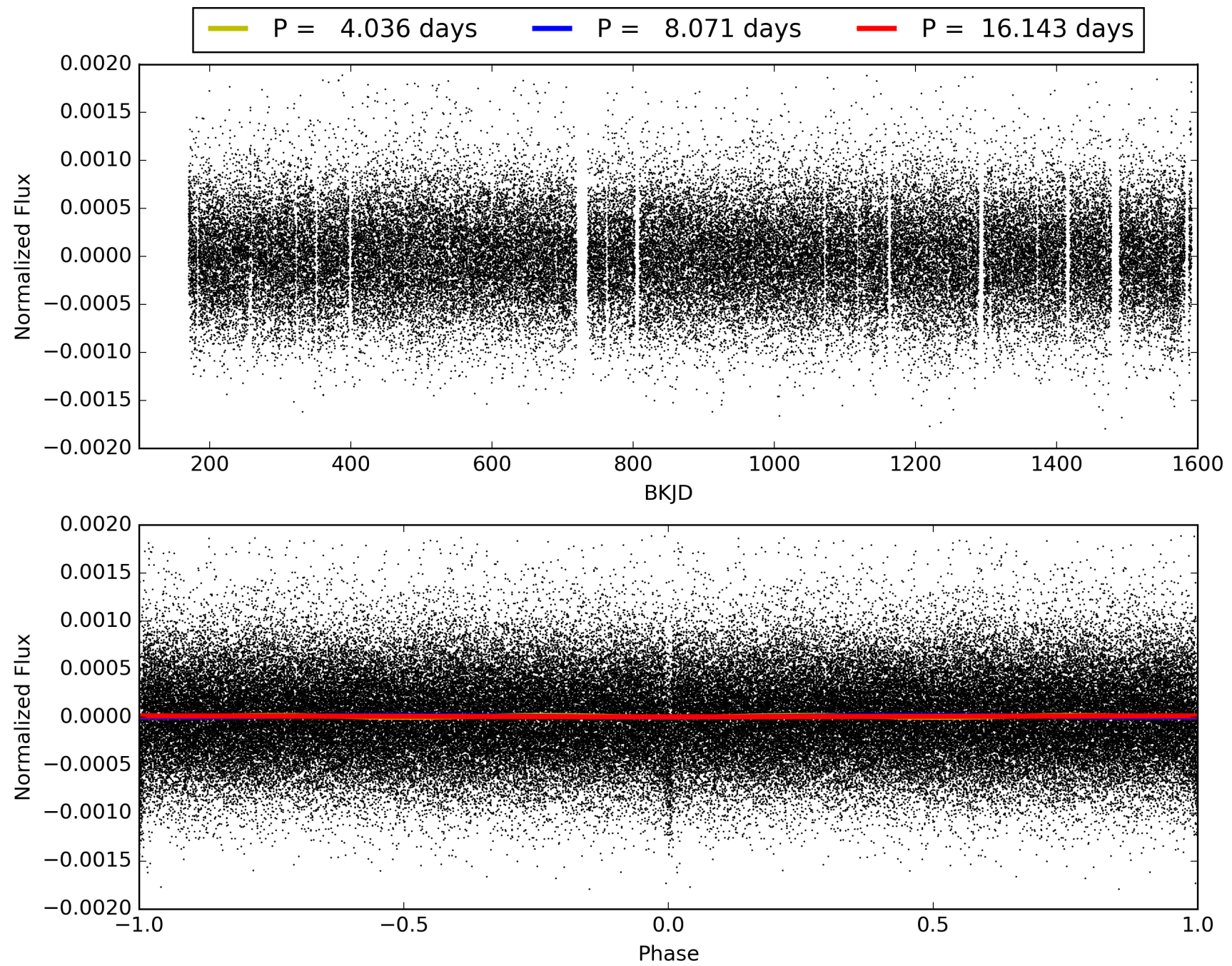
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.44e-56
RollingBand-fgt: 1.00 [156/156]
GhostDiagnostic-chr: -18.28
Centroid-sig: 45.9%
Centroid-so: 0.566 arcsec [0.67σ]
OotOffset-rm: 0.472 arcsec [1.39σ]
KicOffset-rm: 0.445 arcsec [1.31σ]
OotOffset-st: 3/4/3/3 [13]
KicOffset-st: 3/4/3/3 [13]
DiffImageQuality-fgm: 0.85 [11/13]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 010863608-01, PDC Light Curves

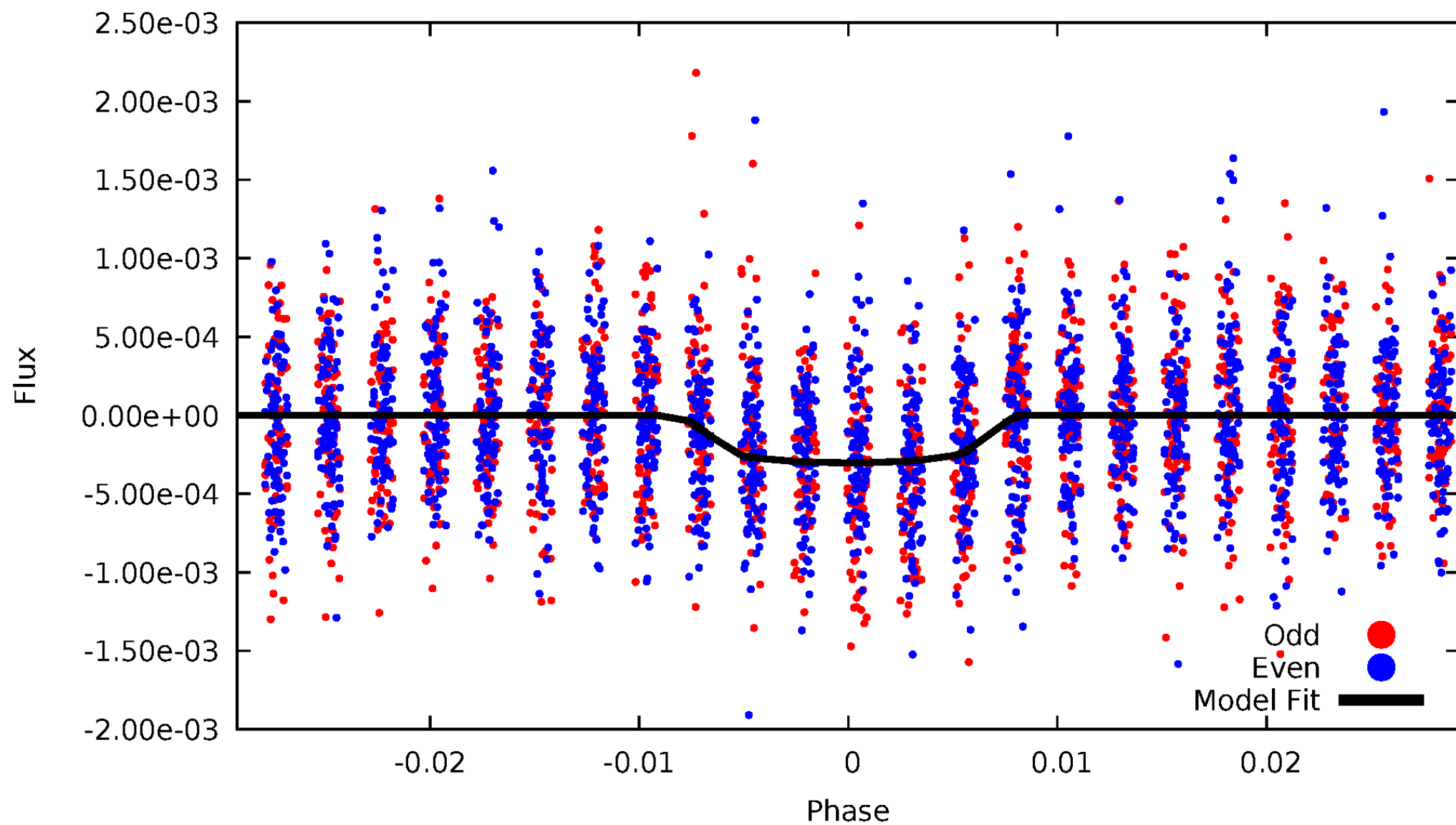


TCE 010863608-01



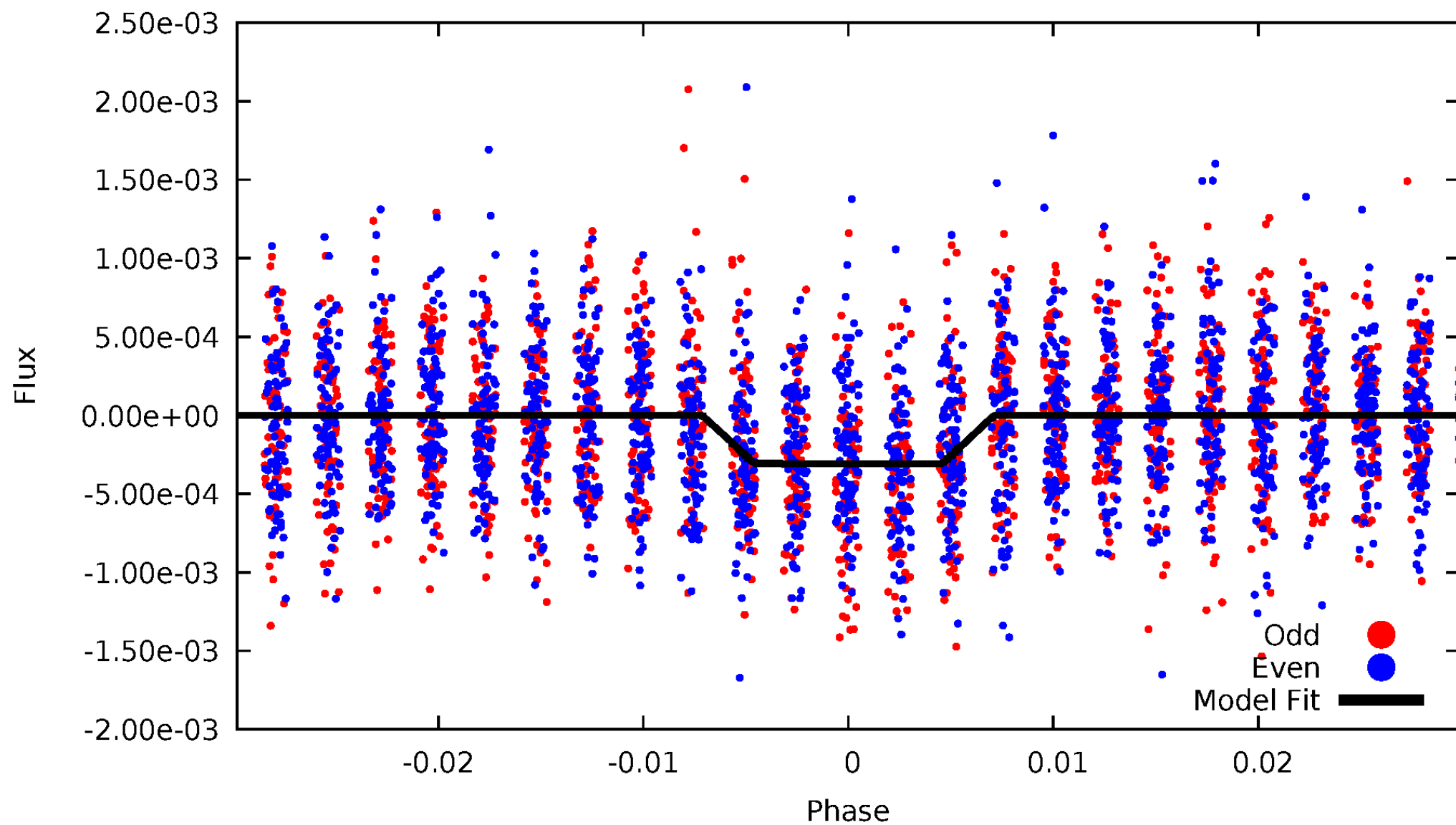
DV Odd/Even

TCE 010863608-01



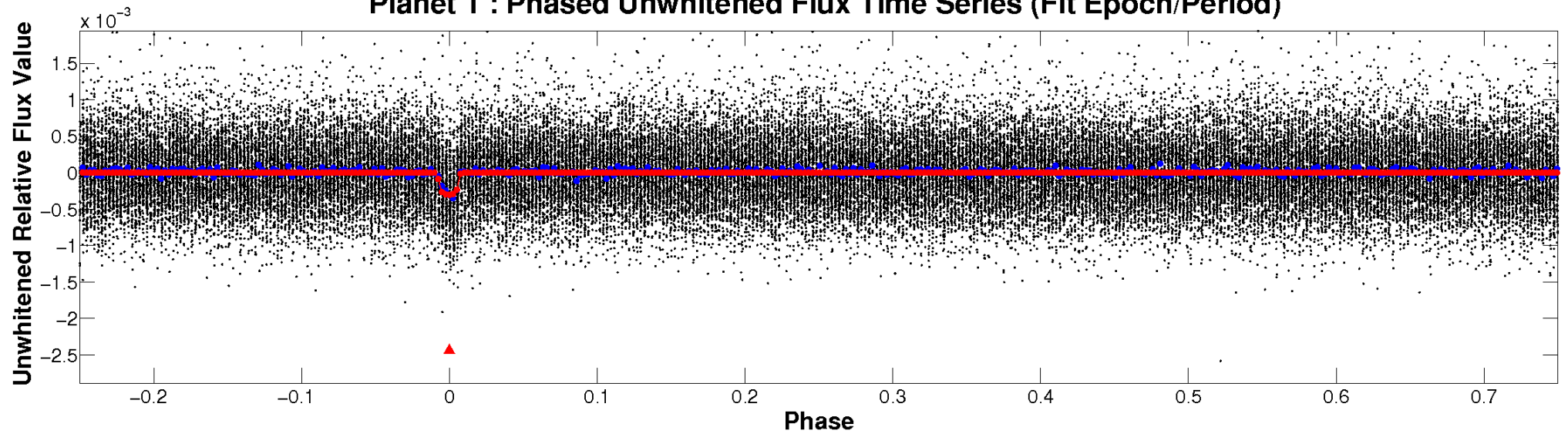
ALT Odd/Even

TCE 010863608-01

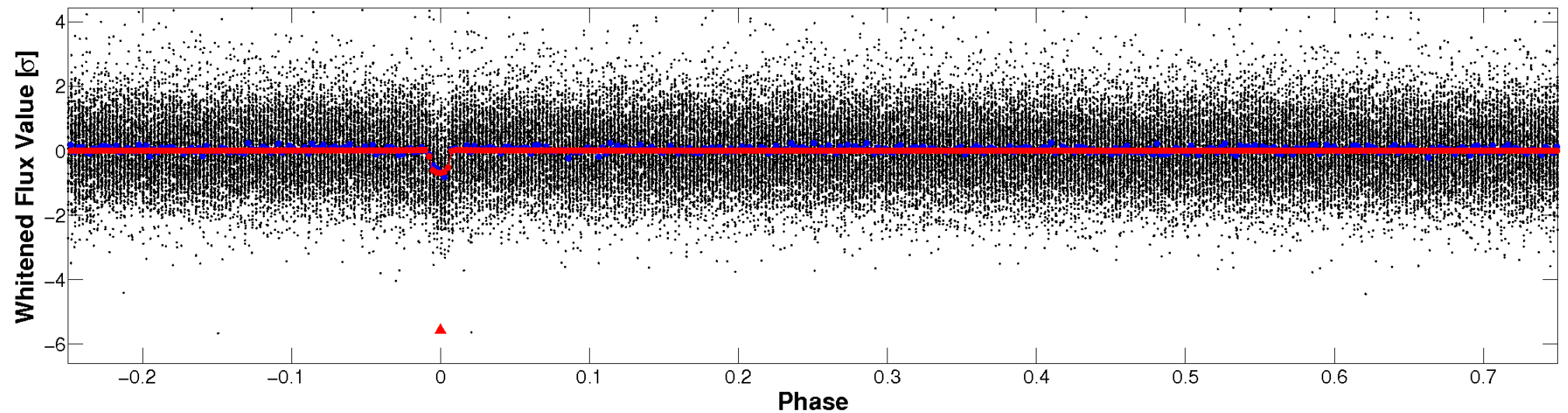


Non-Whitened Vs. Whitened Light Curve

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

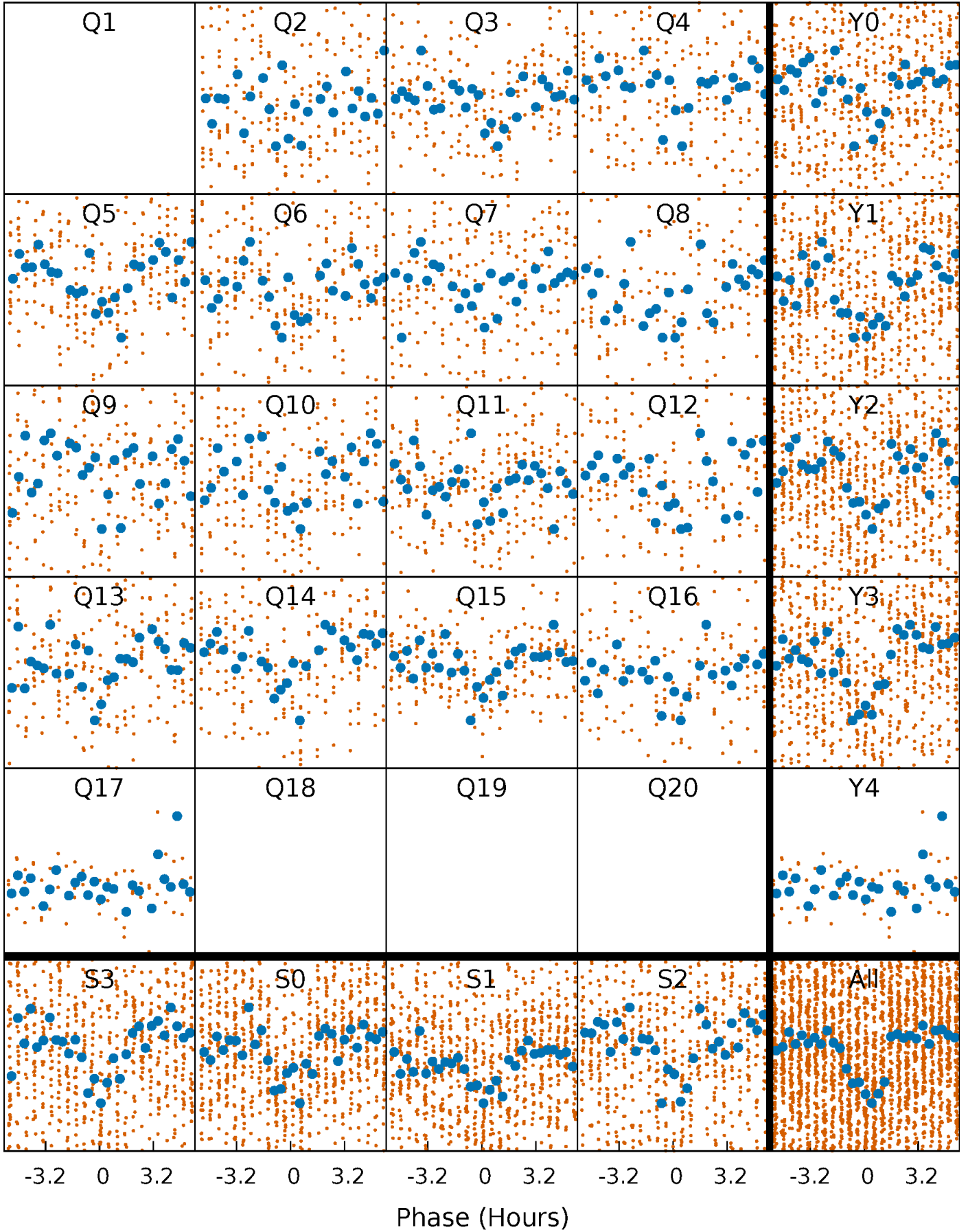


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



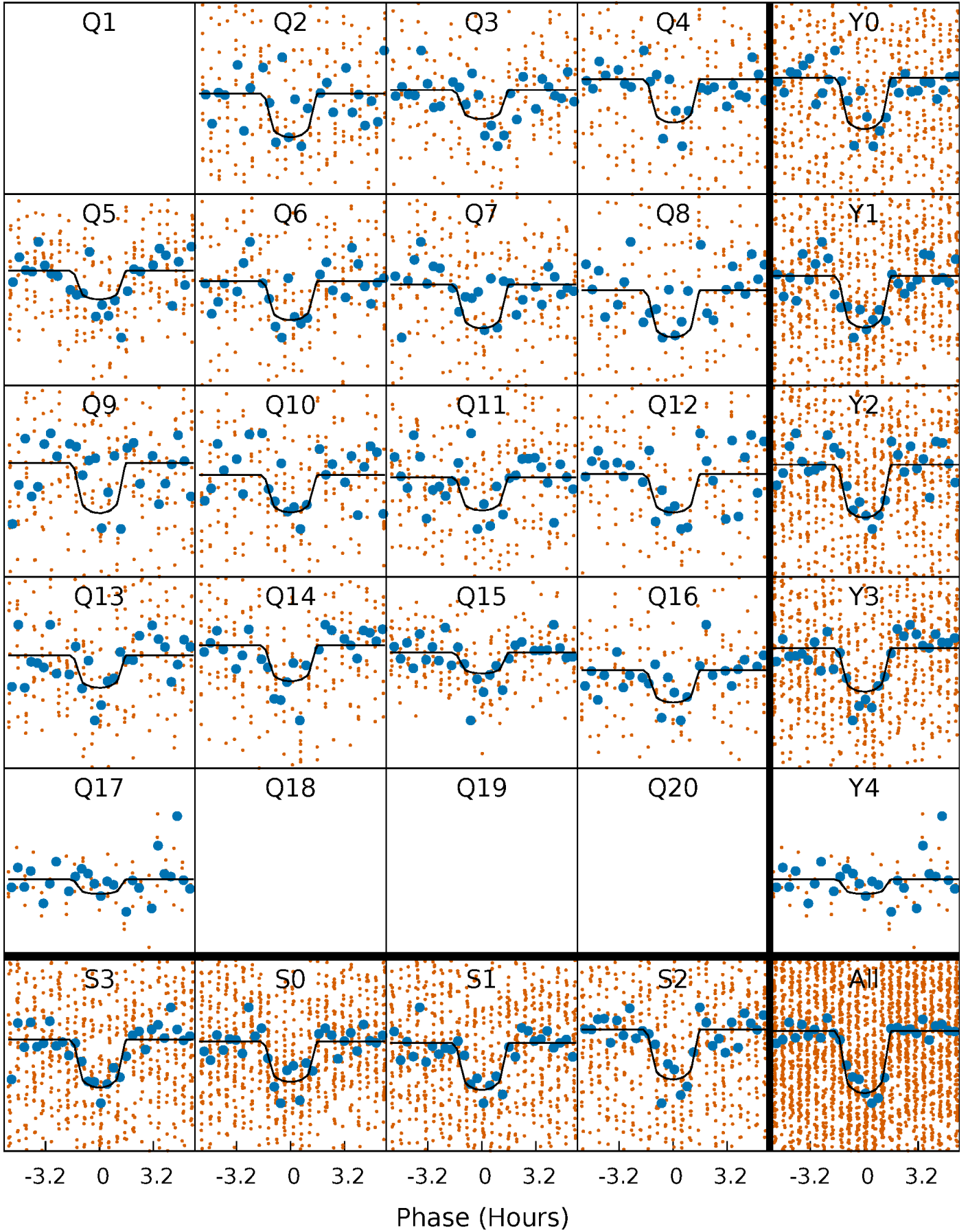
PDC Quarter-Phased Transit Curves

TCE 010863608-01 P= 8.071298 Days $T_0=137.758278$ (BKJD)



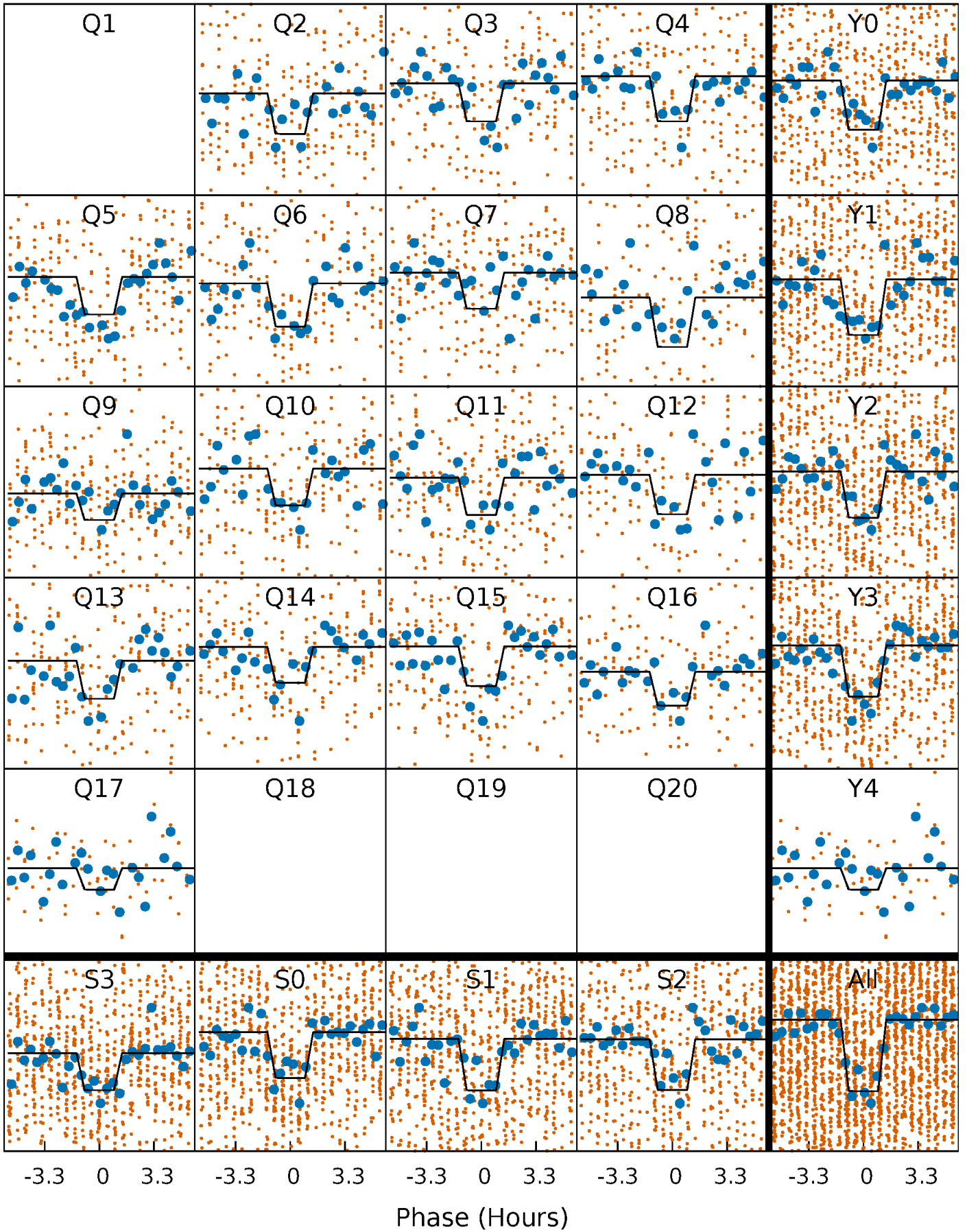
DV Quarter-Phased Transit Curves

TCE 010863608-01 P= 8.071298 Days $T_0=137.758278$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

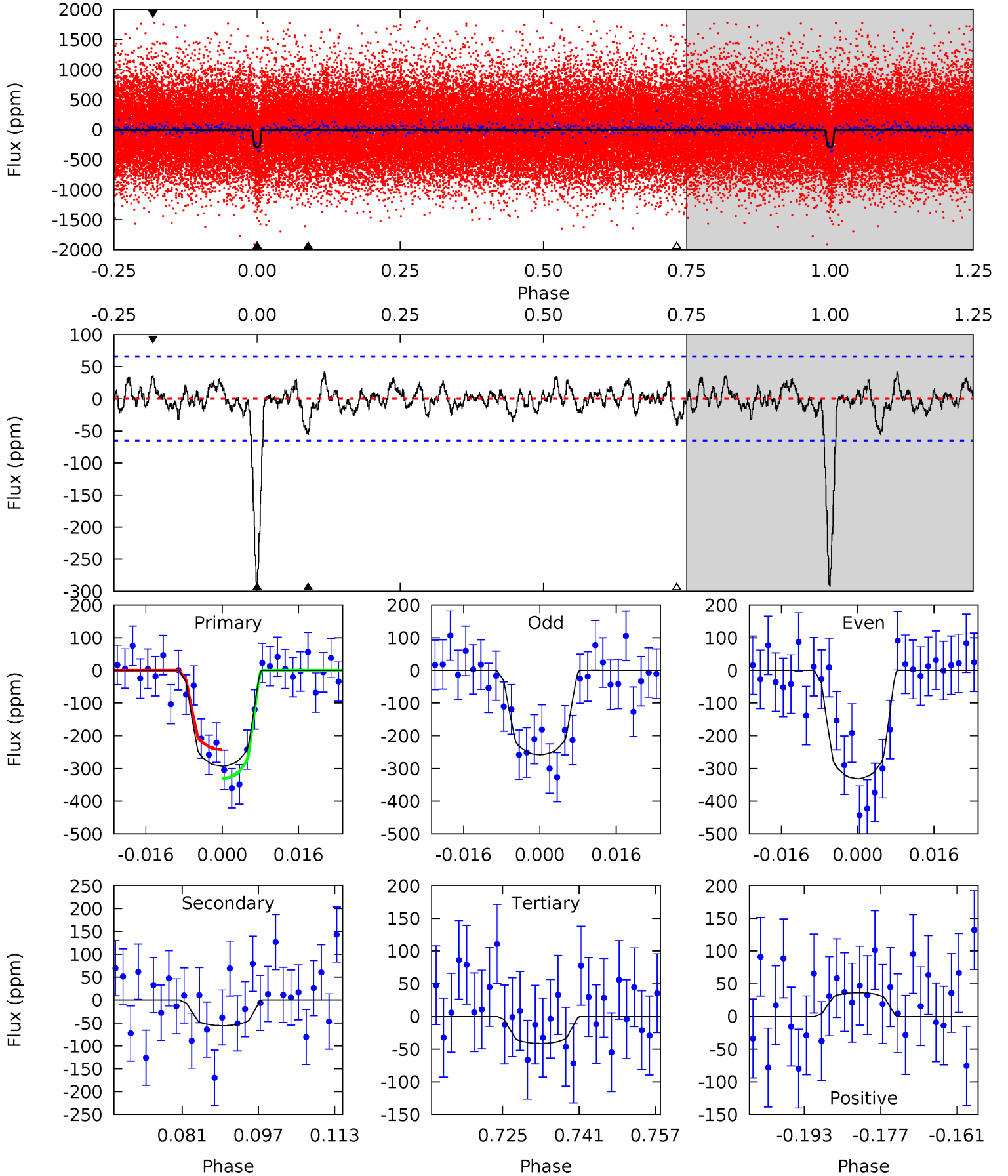
TCE 010863608-01 P= 8.071301 Days $T_0=137.762153$ (BKJD)



DV Model-Shift Uniqueness Test

010863608-01, P = 8.071298 Days, E = 137.758278 Days

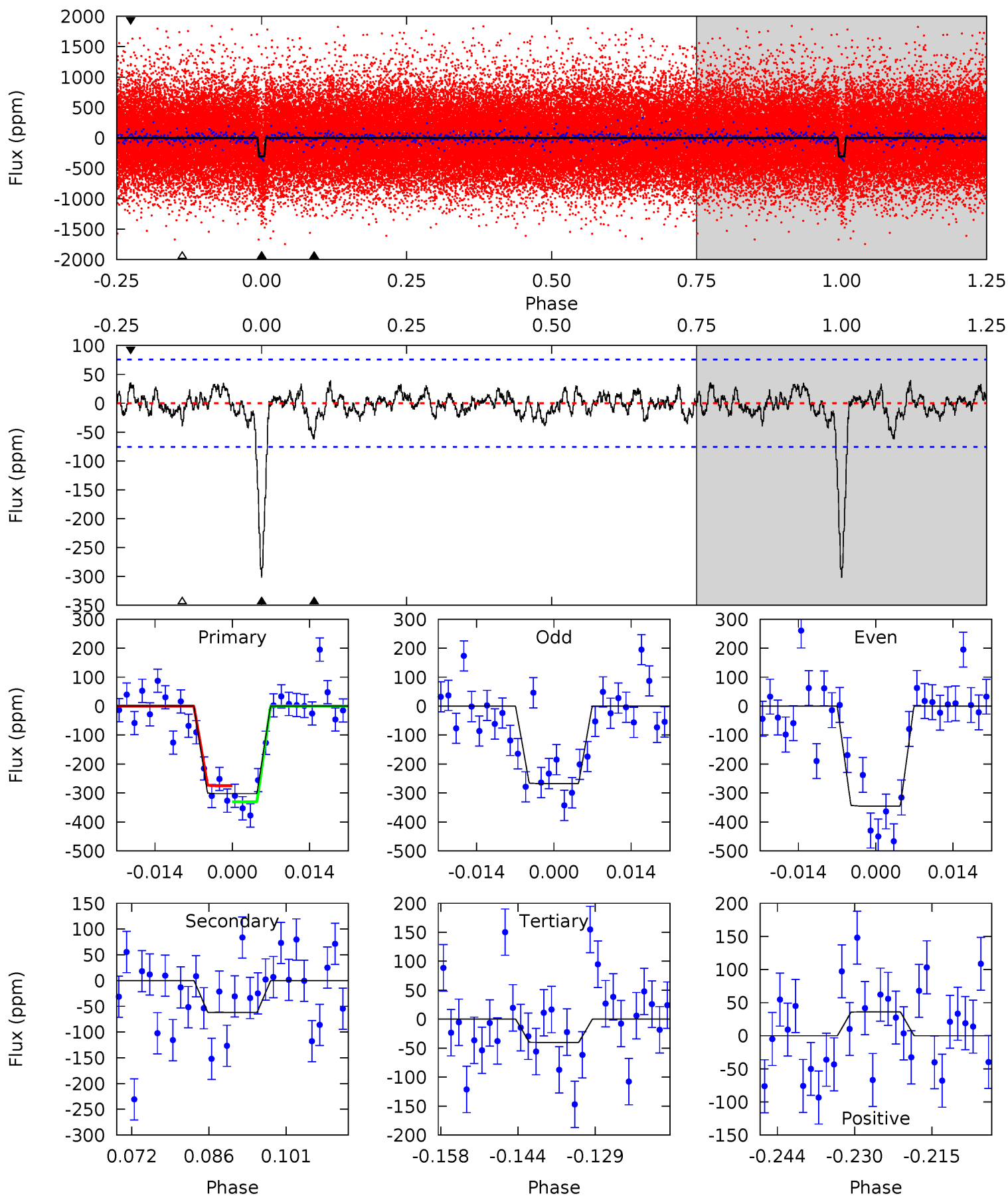
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	4.21	3.11	2.73	4.93	2.41	1.03	18.9	19.3	1.10	1.48	2.74	0.96	0.13	3.30



Alt Model-Shift Uniqueness Test

010863608-01, P = 8.071301 Days, E = 137.762153 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.8	4.06	2.62	2.35	4.96	2.45	0.95	17.2	17.4	1.44	1.71	2.53	0.96	0.12	1.82



Stellar Parameters For KIC 010863608

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5766^{+155}_{-172}	$4.517^{+0.060}_{-0.180}$	$-0.320^{+0.300}_{-0.300}$	$0.853^{+0.236}_{-0.079}$	$0.874^{+0.110}_{-0.080}$	$1.982^{+0.603}_{-0.910}$
	+3%/-3%	+1%/-4%	+94%/-94%	+28%/-9%	+13%/-9%	+30%/-46%
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 010863608-01 / KOI 2368.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-56 ± 13	$1.79^{+0.78}_{-0.72}$	1214^{+82}_{-59}	3996^{+854}_{-493}	56^{+95}_{-31}
Alt.	-62 ± 15	$1.72^{+0.70}_{-0.72}$	1215^{+83}_{-54}	4124^{+947}_{-510}	64^{+130}_{-34}

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 $A_{obs} \gg 1.0$

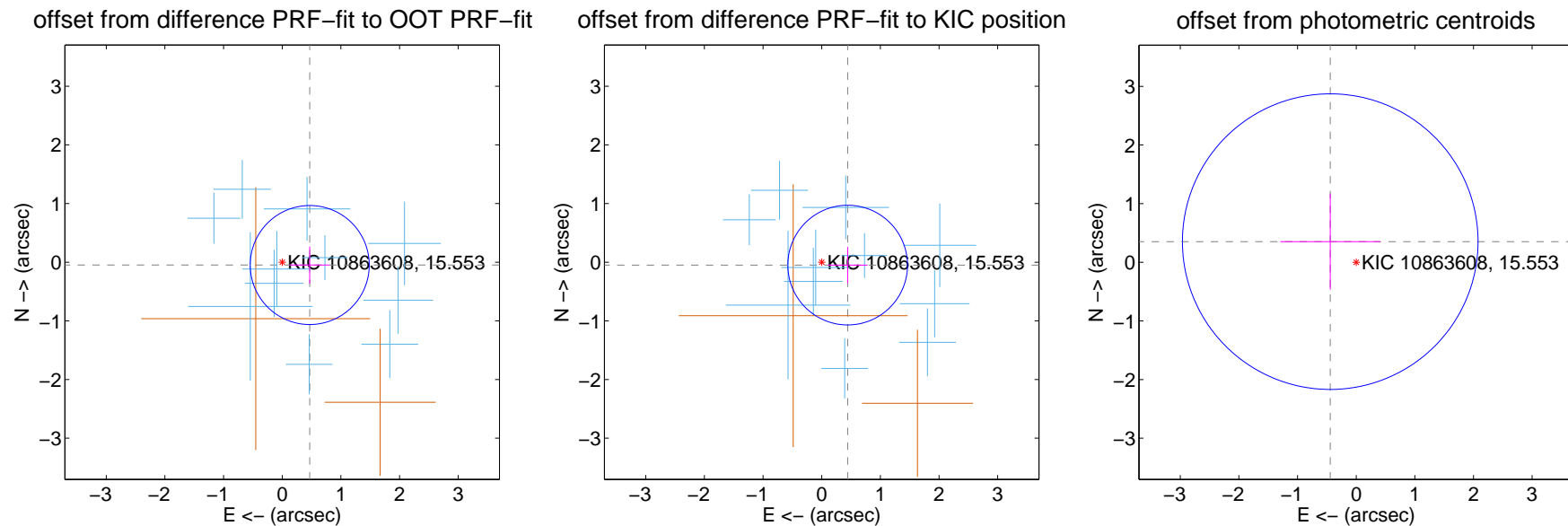
DV Centroid Data

Supplemental centroid analysis for 010863608-01. Kepler magnitude: 15.55. Transit SNR 17.50

There are 11 quarters with good PRF difference image offsets

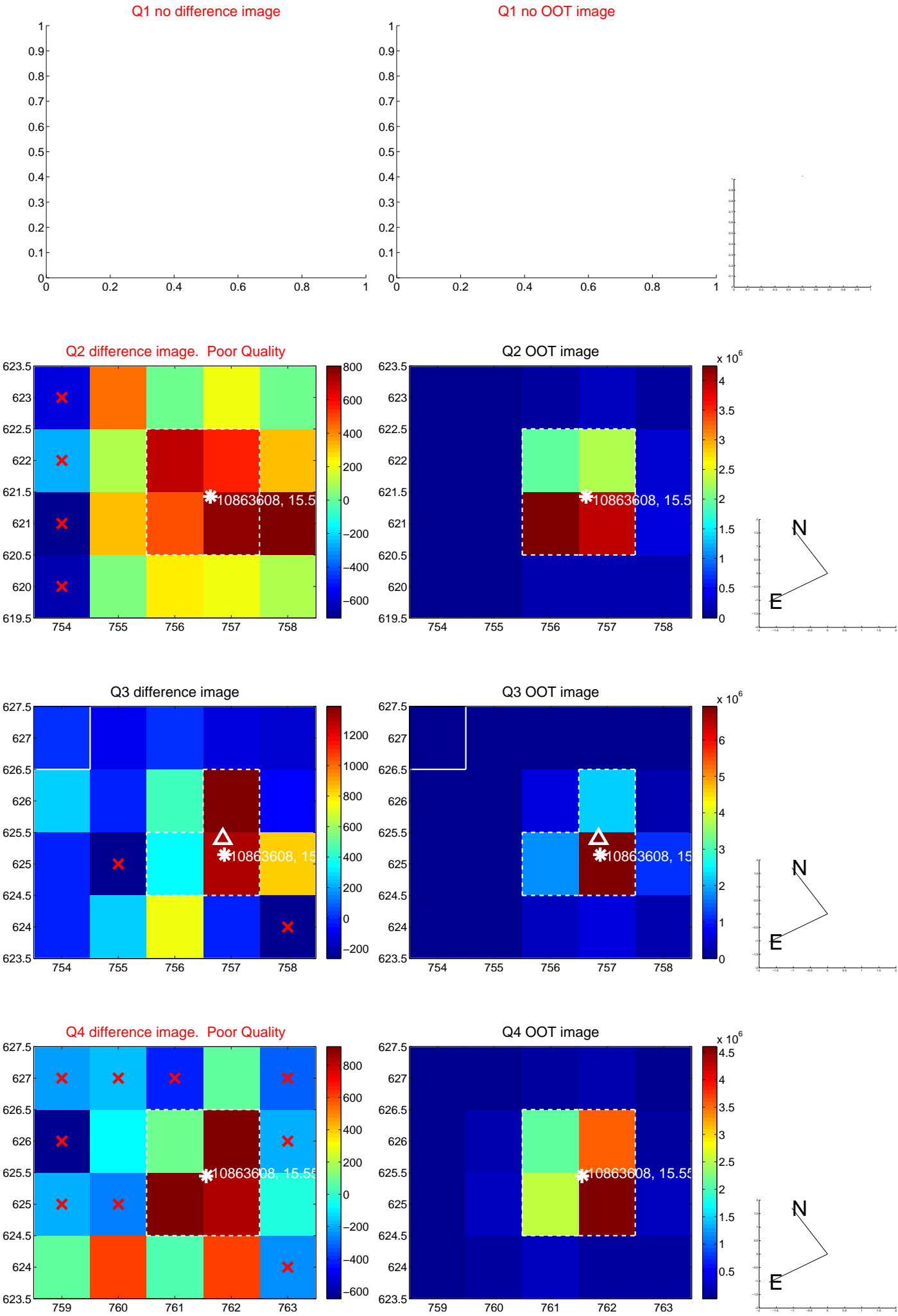
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.472 ± 0.338	1.39	-0.469 ± 0.338	-0.048 ± 0.316
PRF-fit source offset from KIC position	0.445 ± 0.340	1.31	-0.442 ± 0.340	-0.050 ± 0.311
photometric centroid source offset	0.57 ± 0.84	0.67	0.44 ± 0.85	0.35 ± 0.82

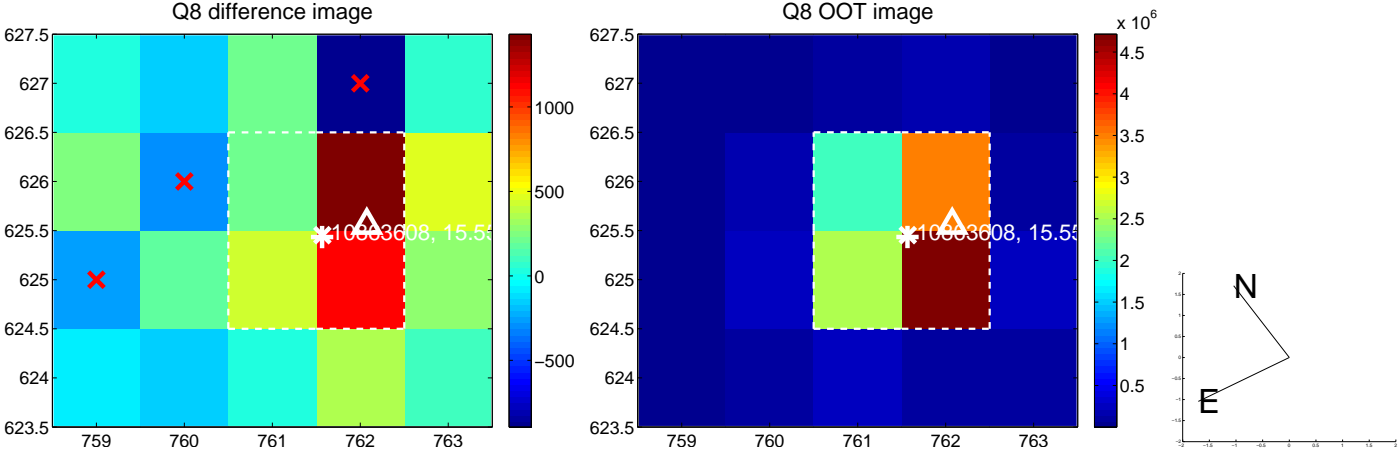
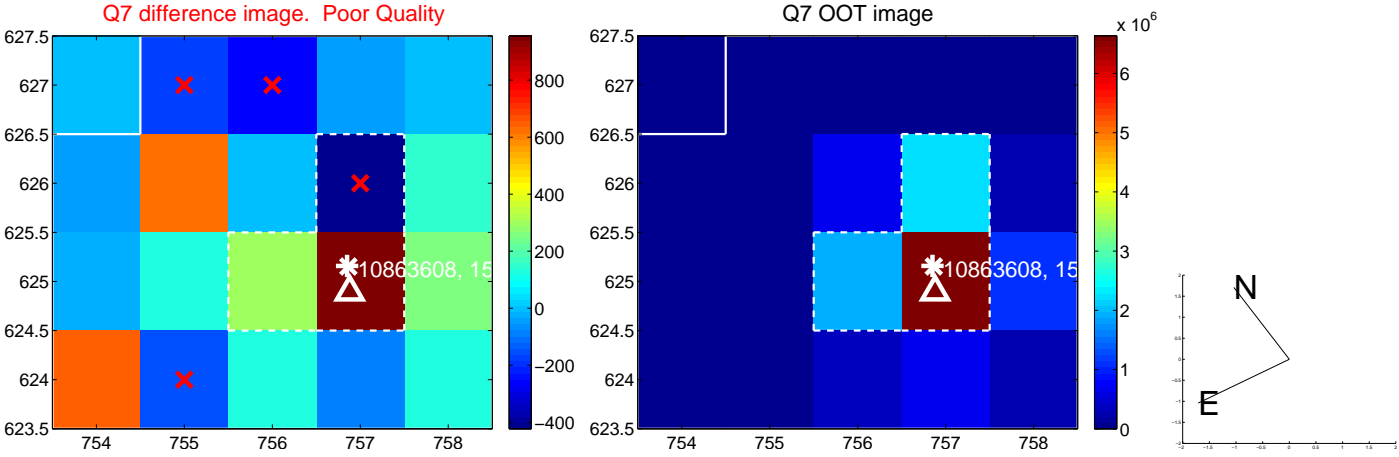
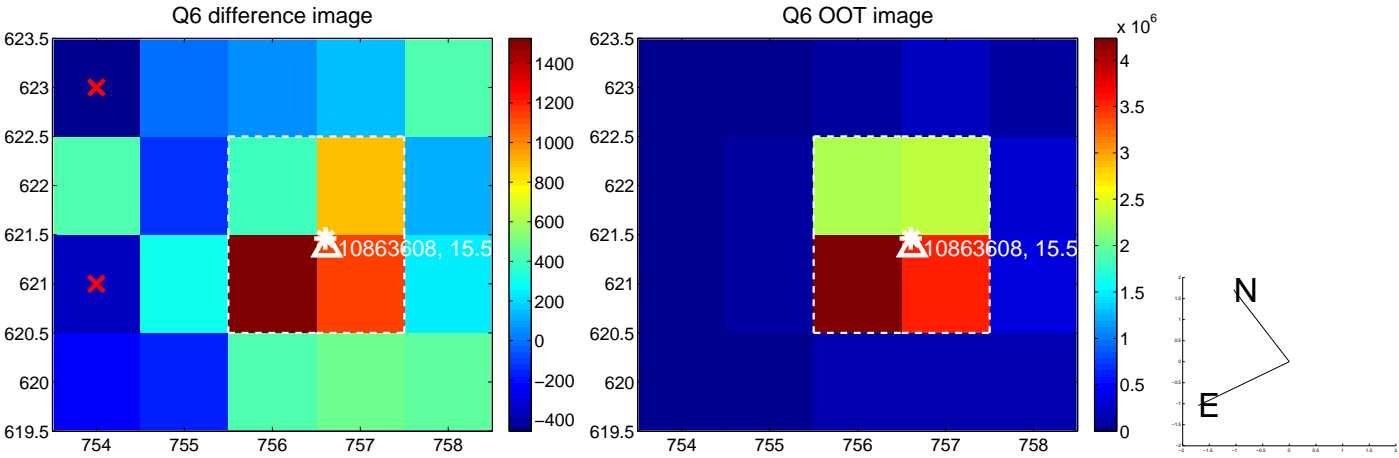
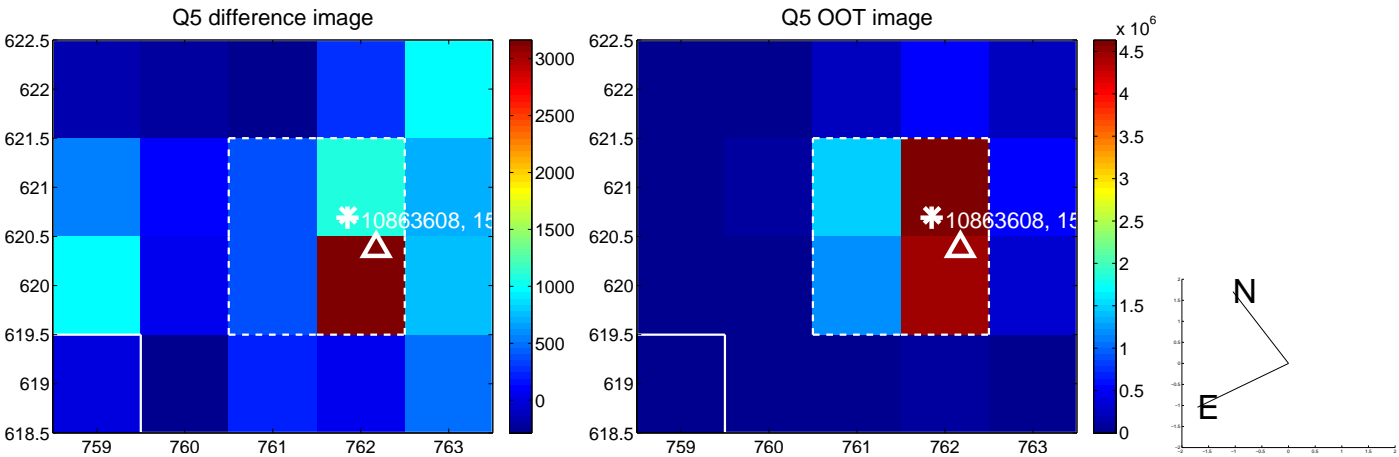


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

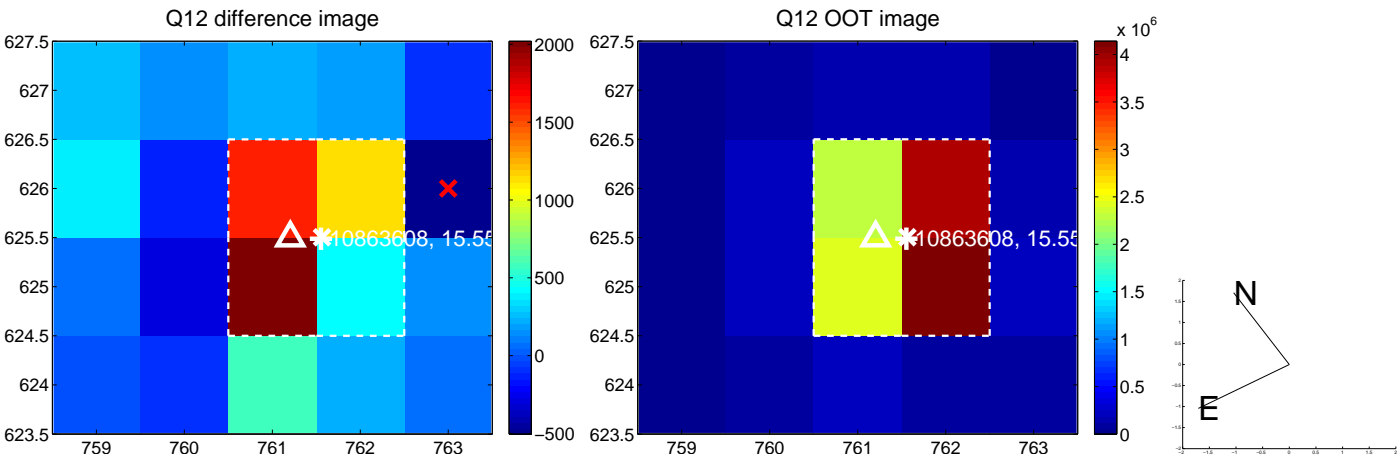
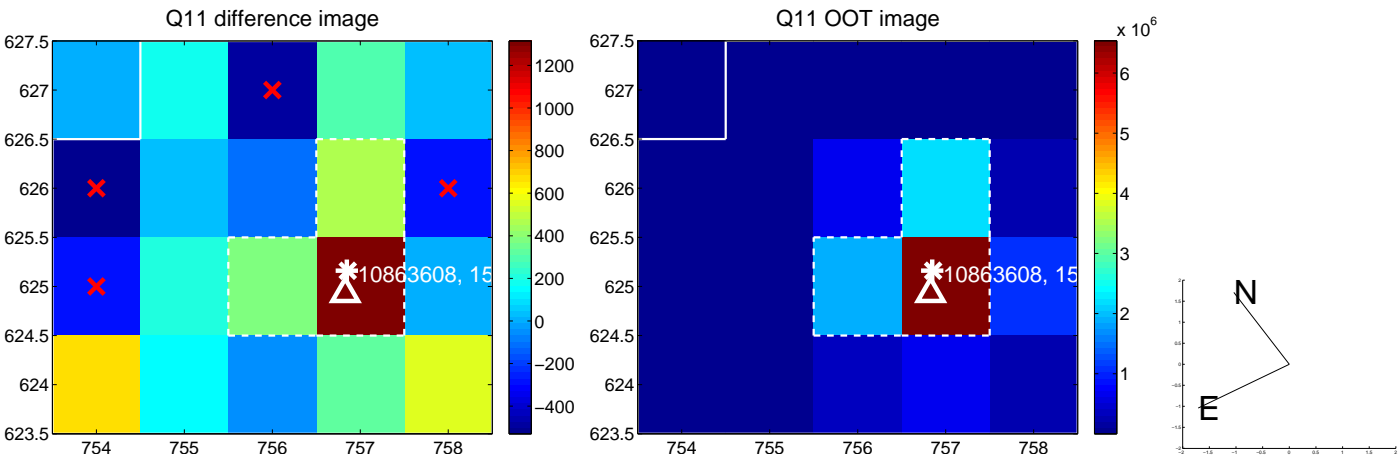
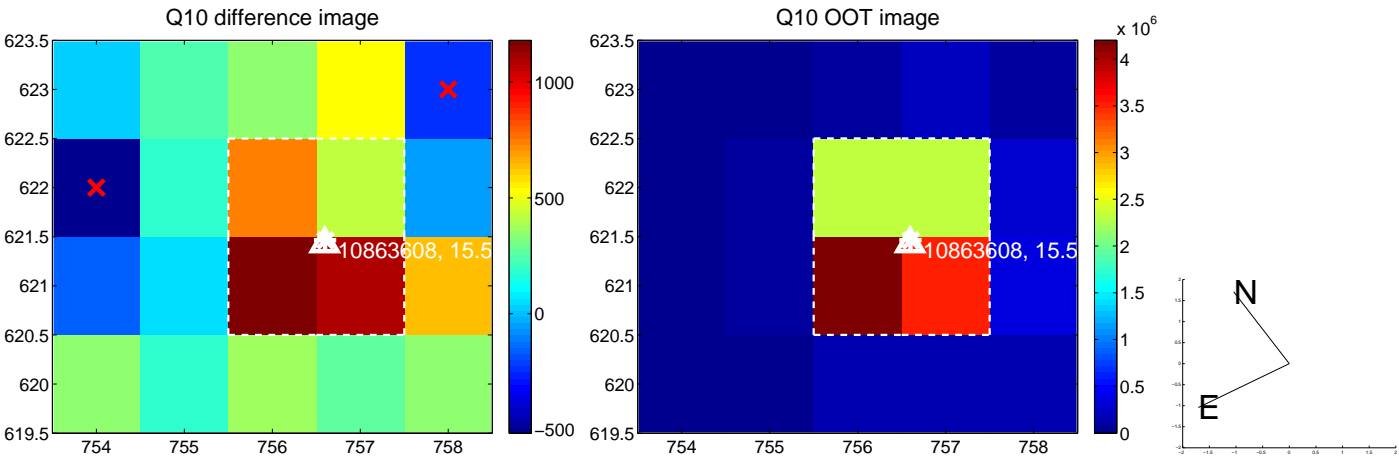
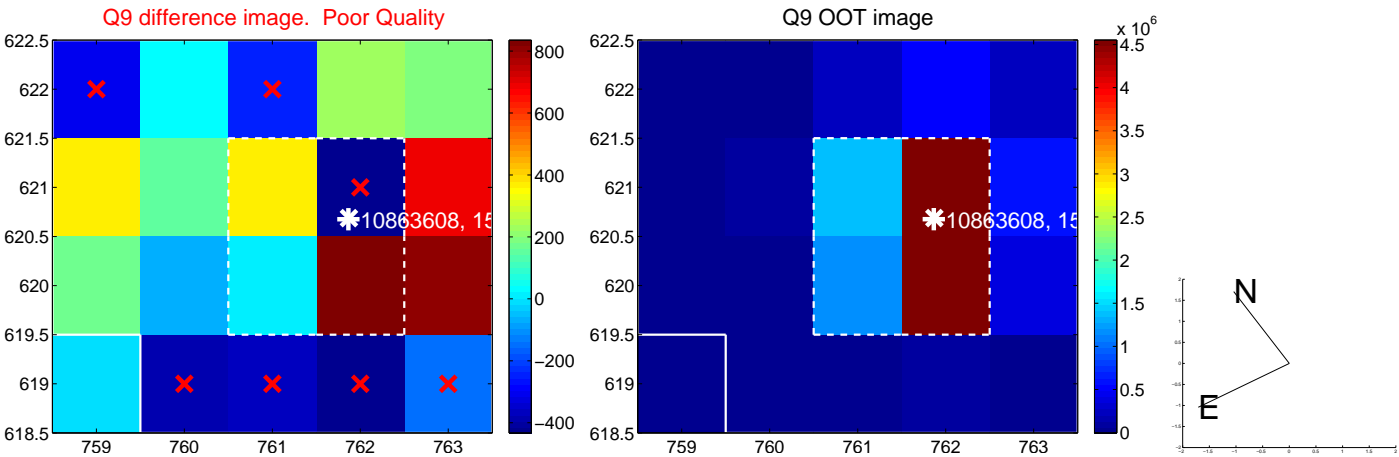
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



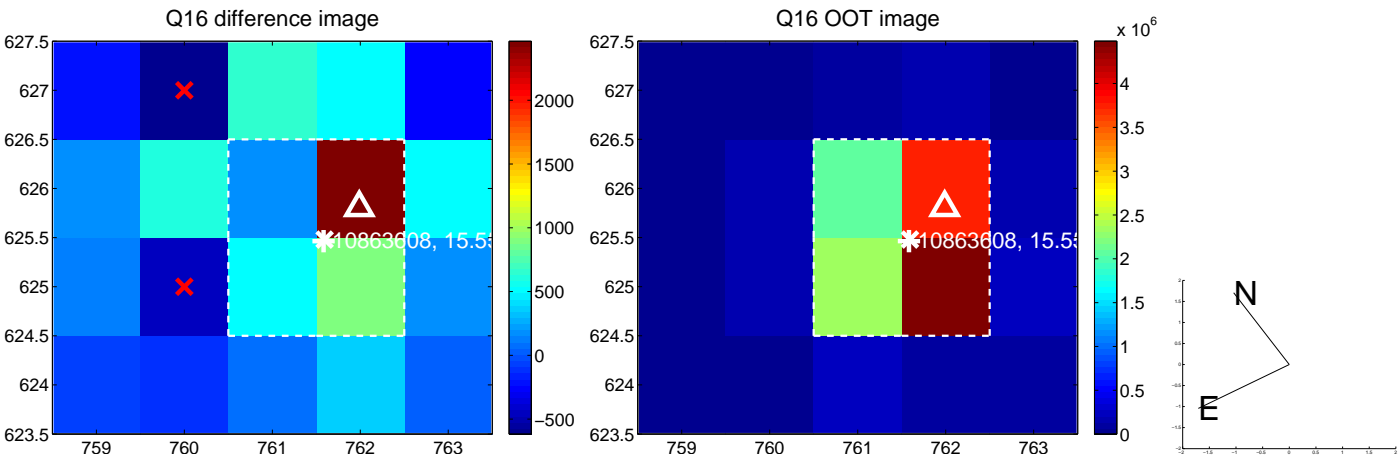
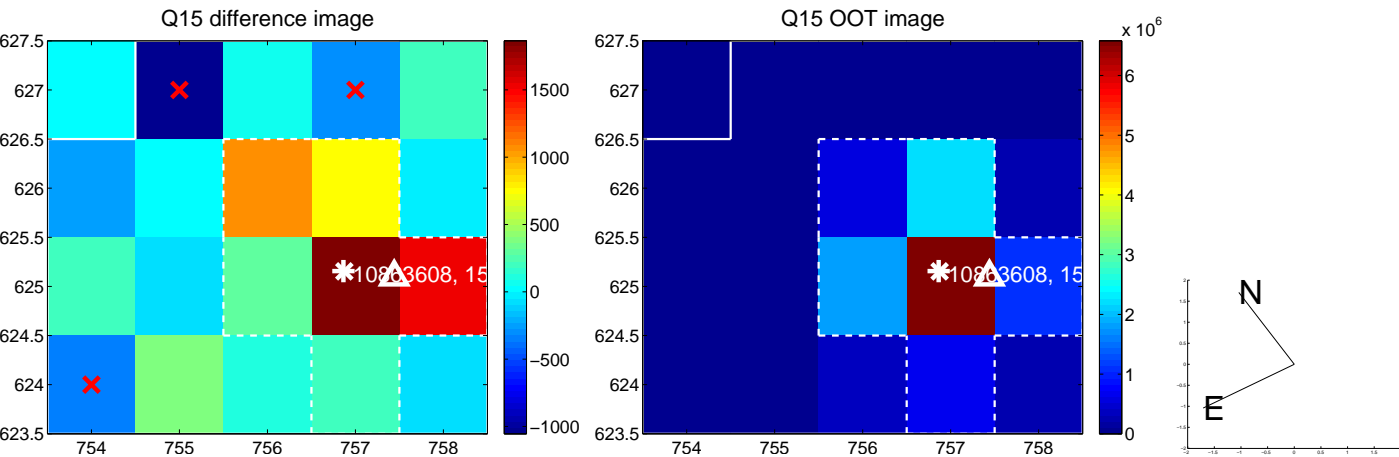
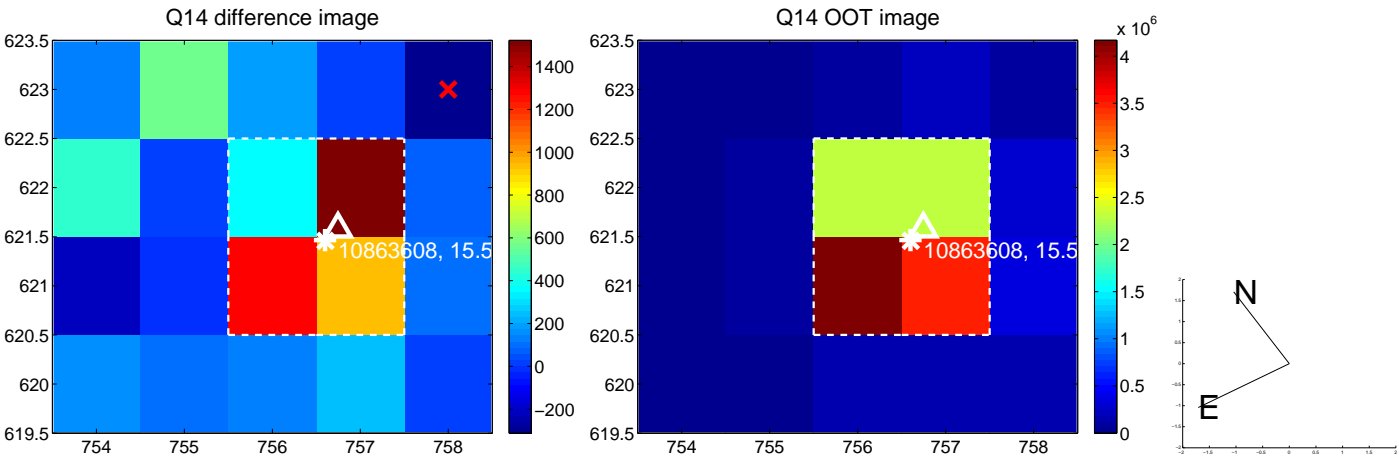
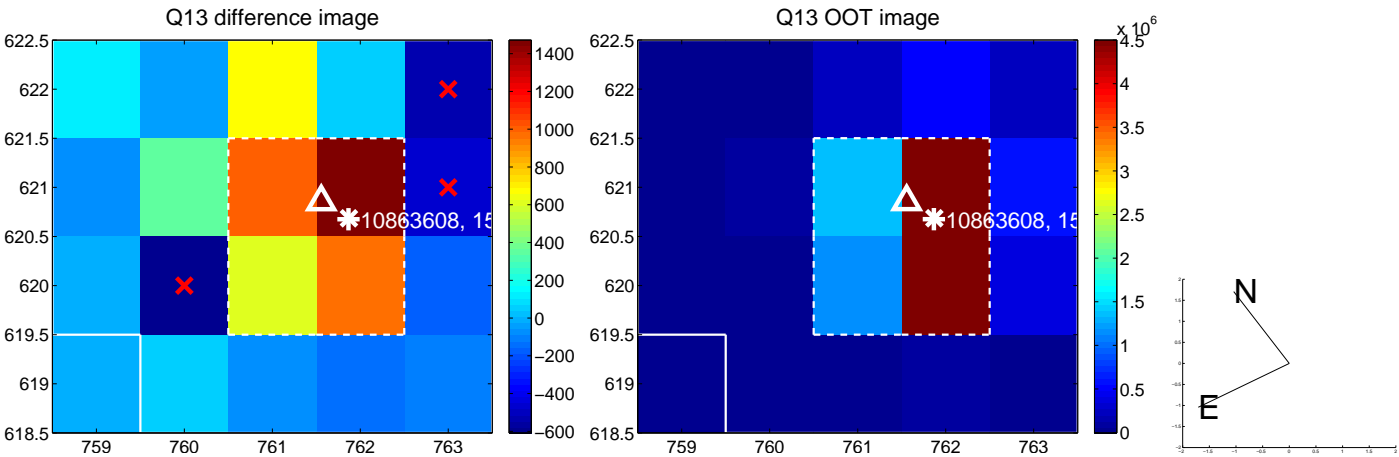
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



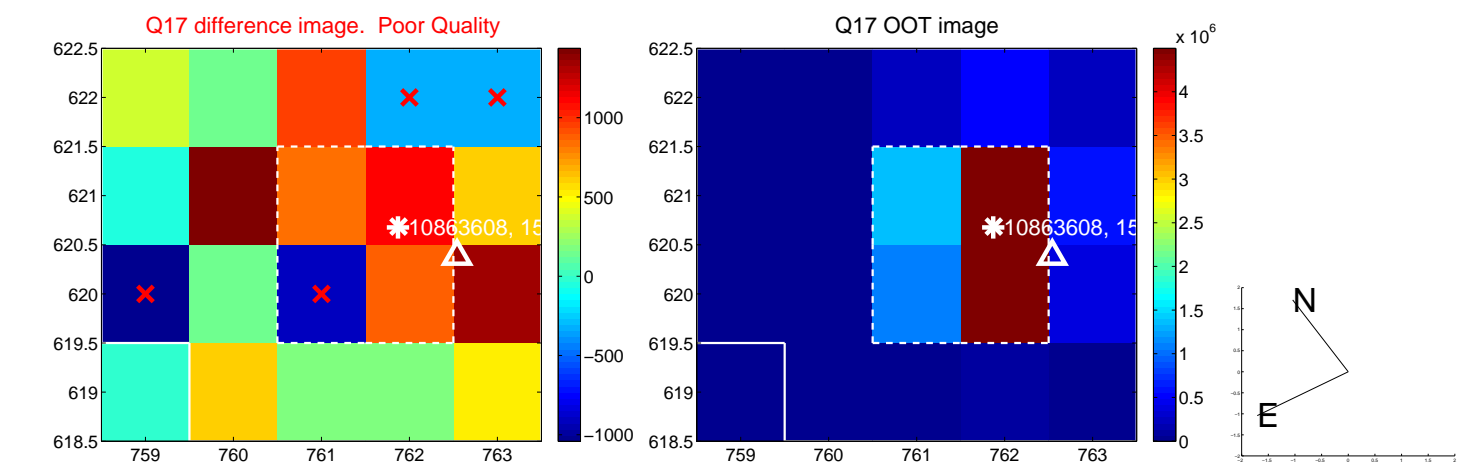
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



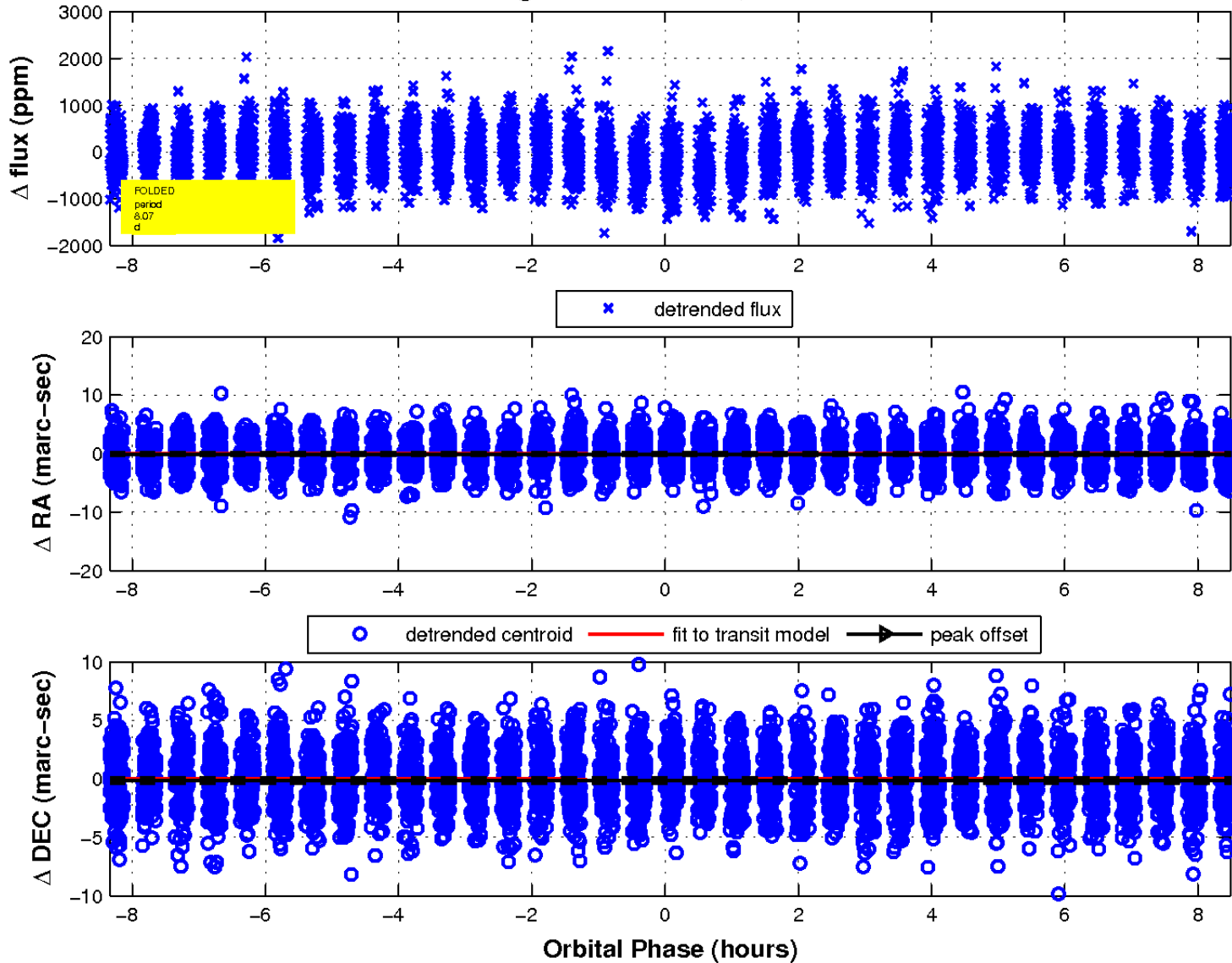
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

