

KIC 002300603

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})
002300603-01	OBS	No	3.251338	132.666328	98.7	24.101	12.6	11.0	2.15	7095	2.27	4378.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002300603-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

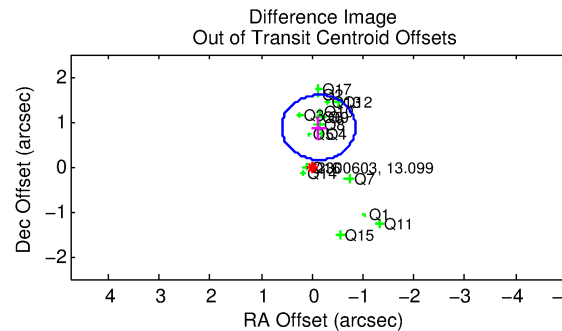
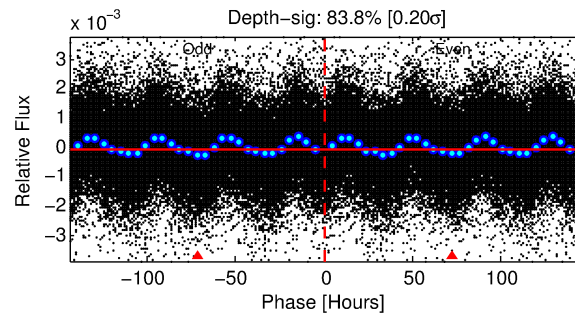
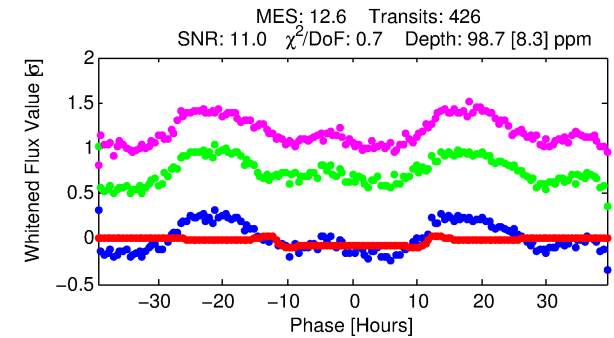
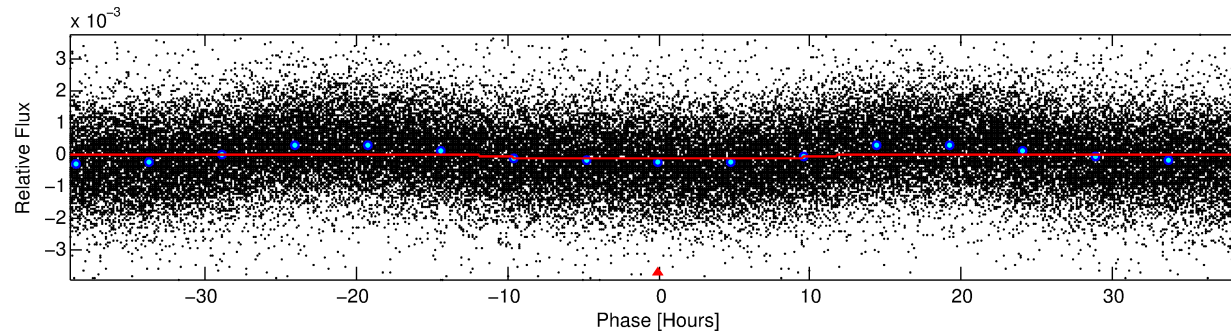
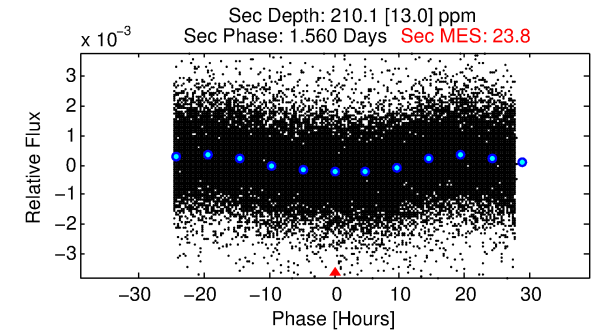
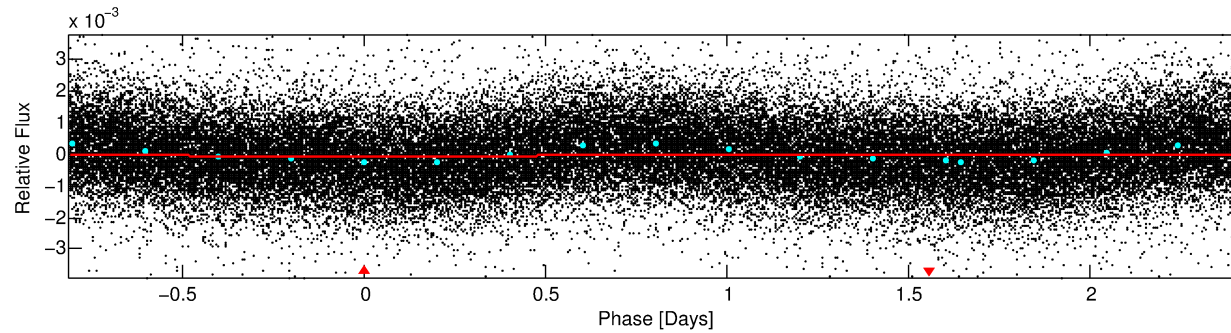
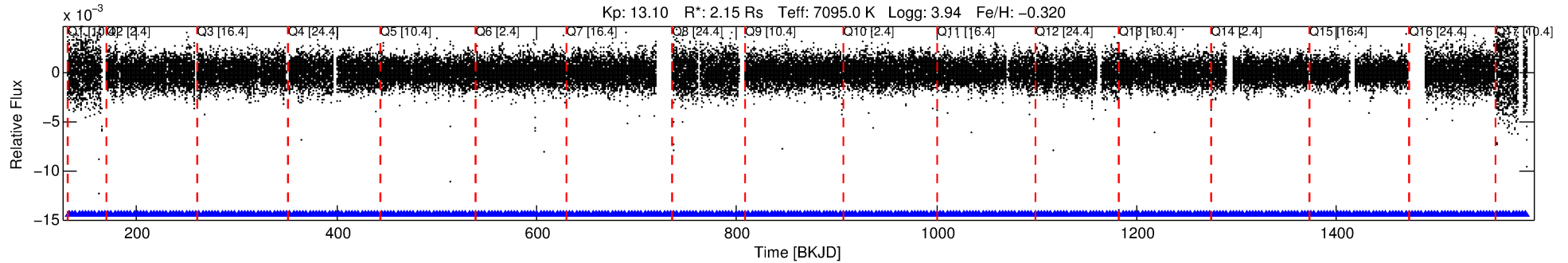
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002300603-01

No Significant Match Found

DV One-Page Summary

KIC: 2300603 Candidate: 1 of 1 Period: 3.251 d



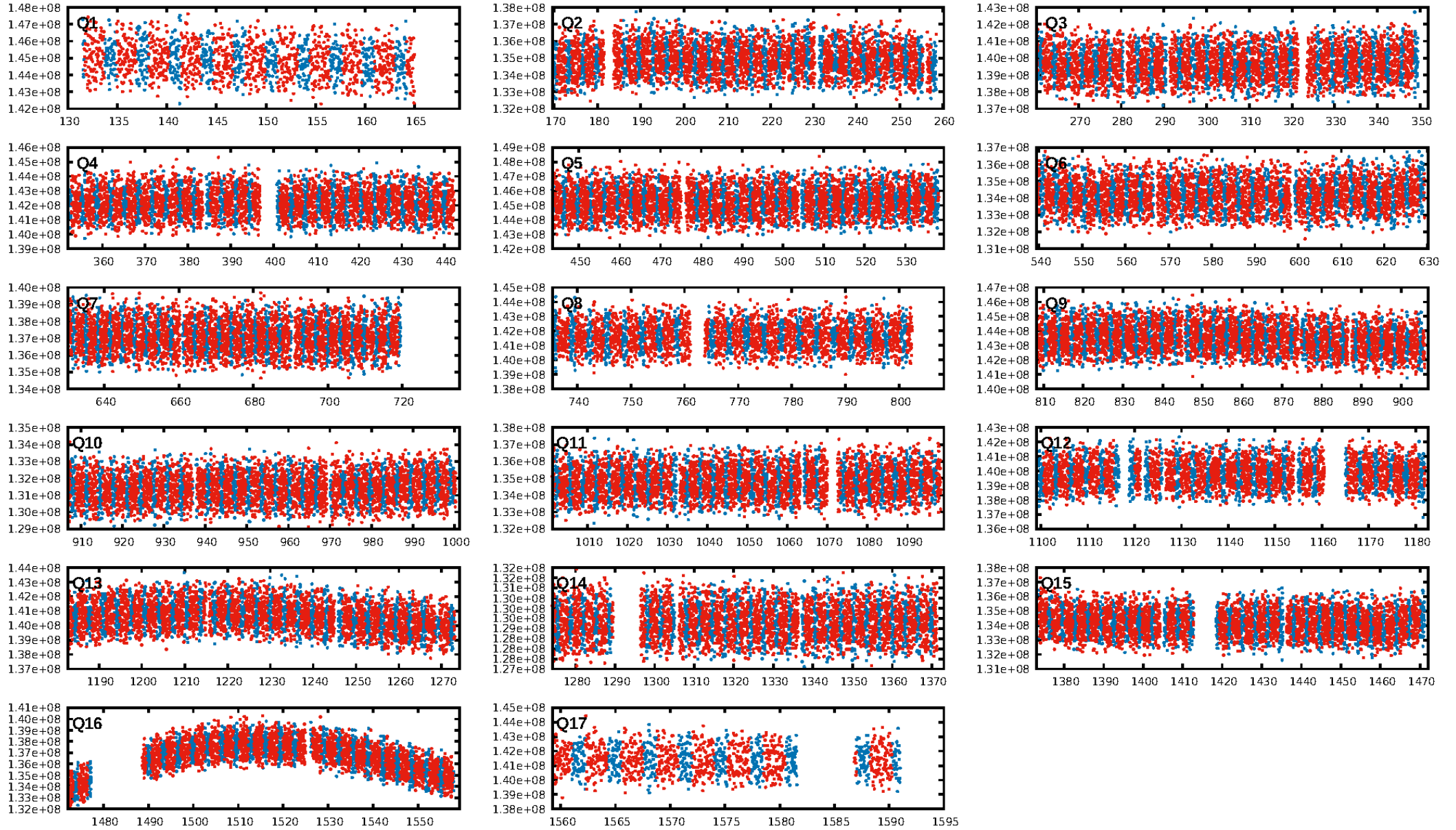
DV Fit Results:

Period = 3.25134 [0.00006] d
Epoch = 132.6663 [0.0122] BKJD
Rp/R* = 0.0097 [0.0021]
a/R* = 1.14 [0.33]
b = 0.66 [1.11]
Seff = 4378.42 [2507.08]
Teq = 2074 [297] K
Rp = 2.27 [0.97] Re
a = 0.0490 [0.0170] AU
Ag = 53.99 [38.09] [1.39σ]
Teffp = 8693 [1014] K [6.26σ]

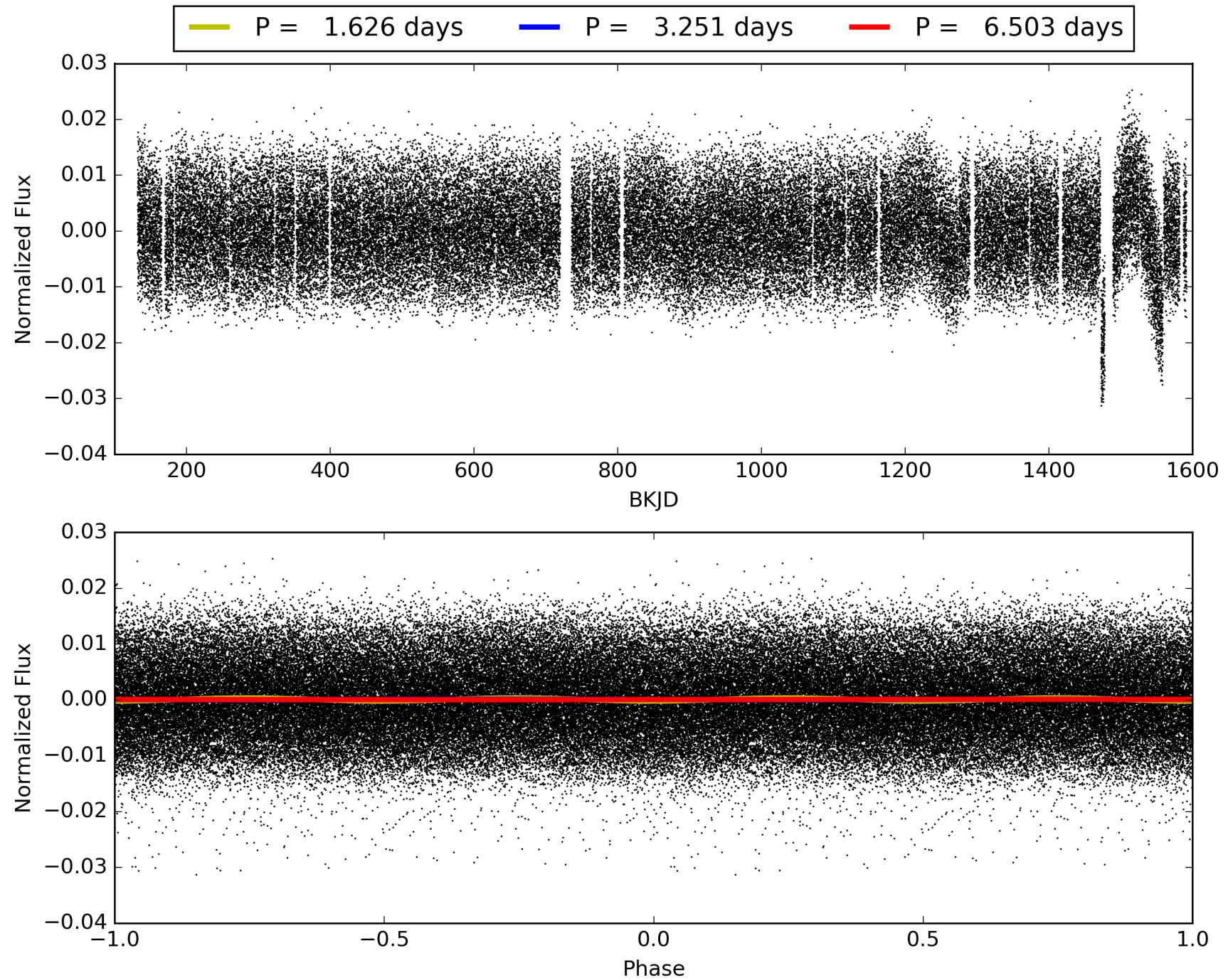
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [407/407]
GhostDiagnostic-chr: 1.219
Centroid-sig: 0.1%
Centroid-so: 0.351 arcsec [1.89σ]
OotOffset-rm: 0.883 arcsec [3.67σ]
KicOffset-rm: 0.786 arcsec [3.23σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 002300603-01, PDC Light Curves

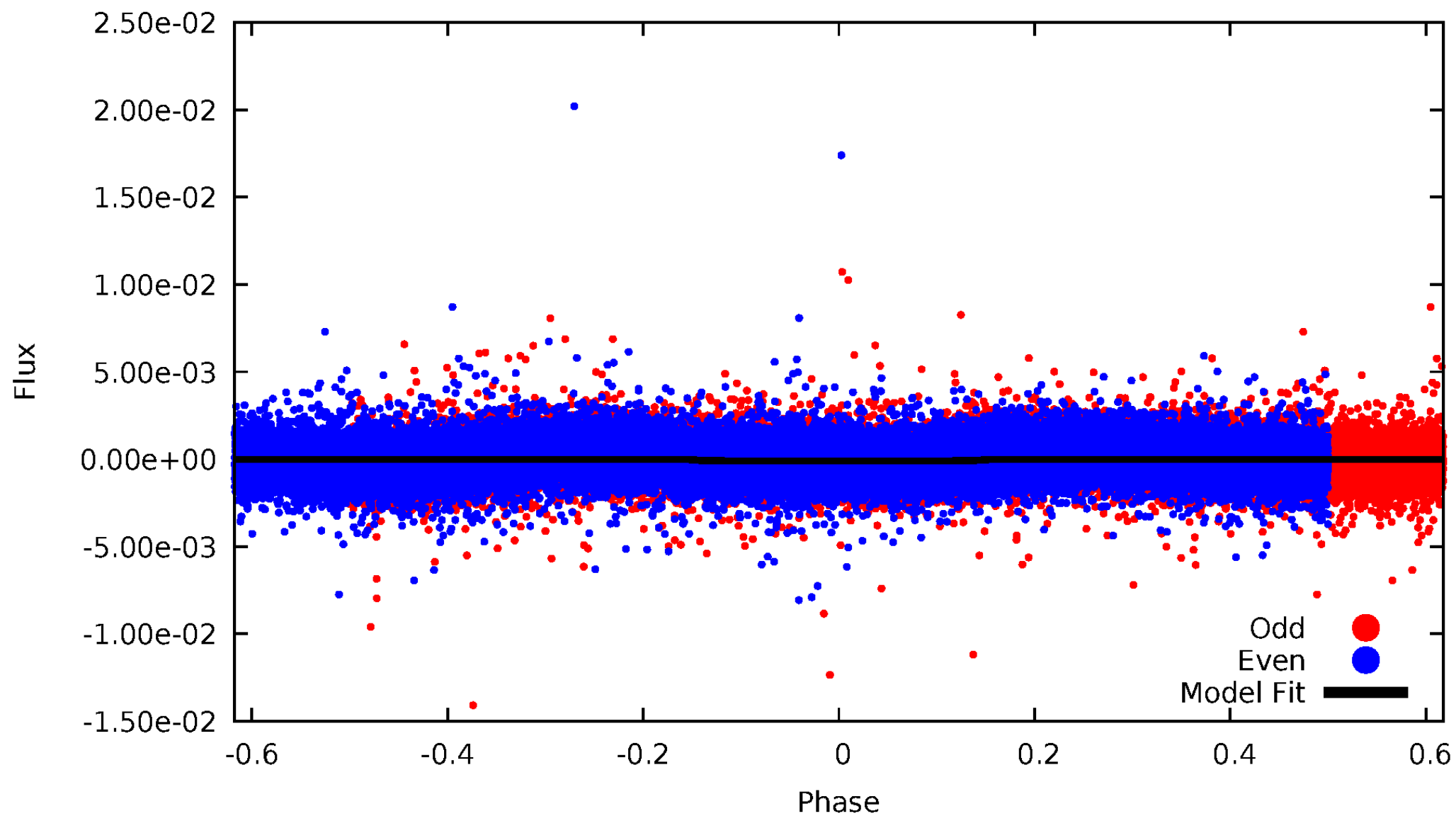


TCE 002300603-01



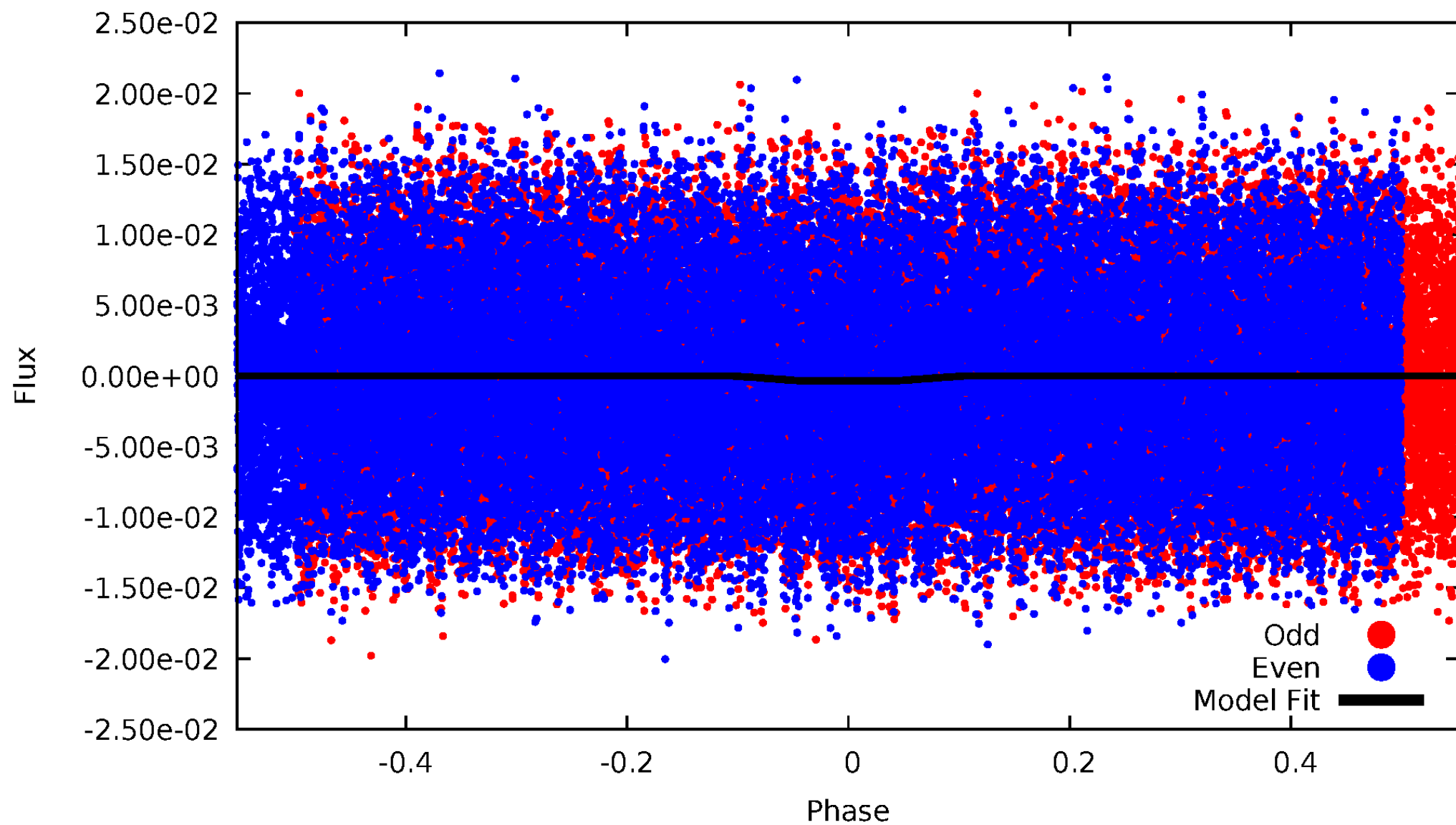
DV Odd/Even

TCE 002300603-01



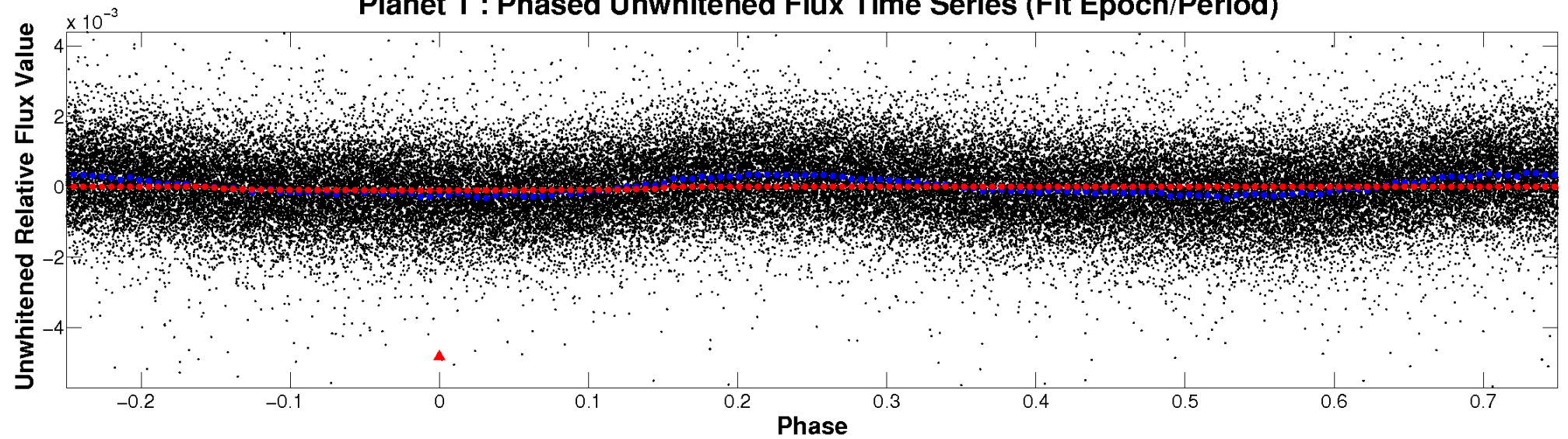
ALT Odd/Even

TCE 002300603-01

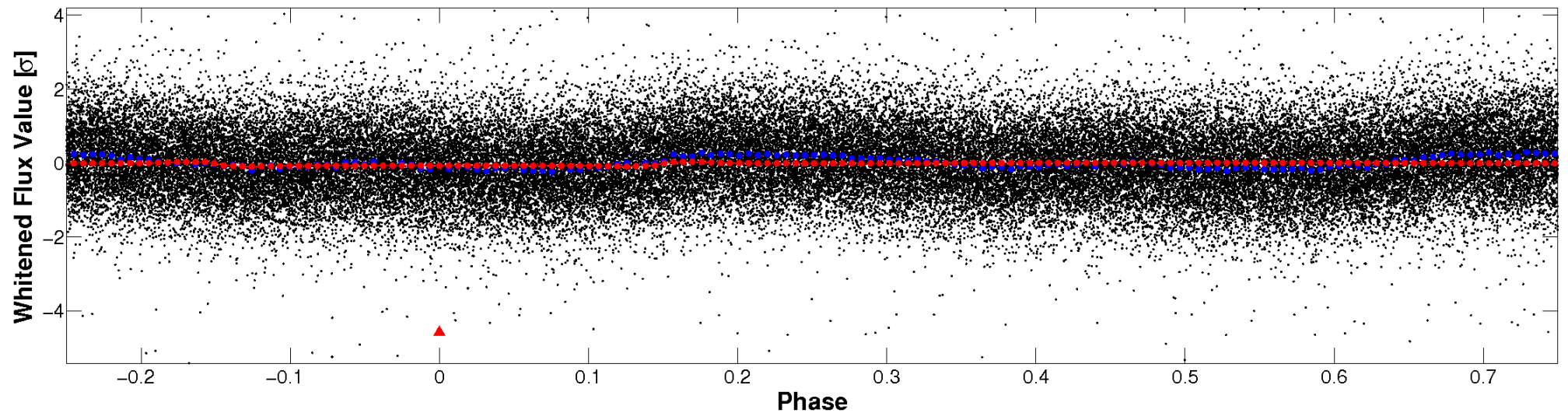


Non-Whitened Vs. Whitened Light Curve

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

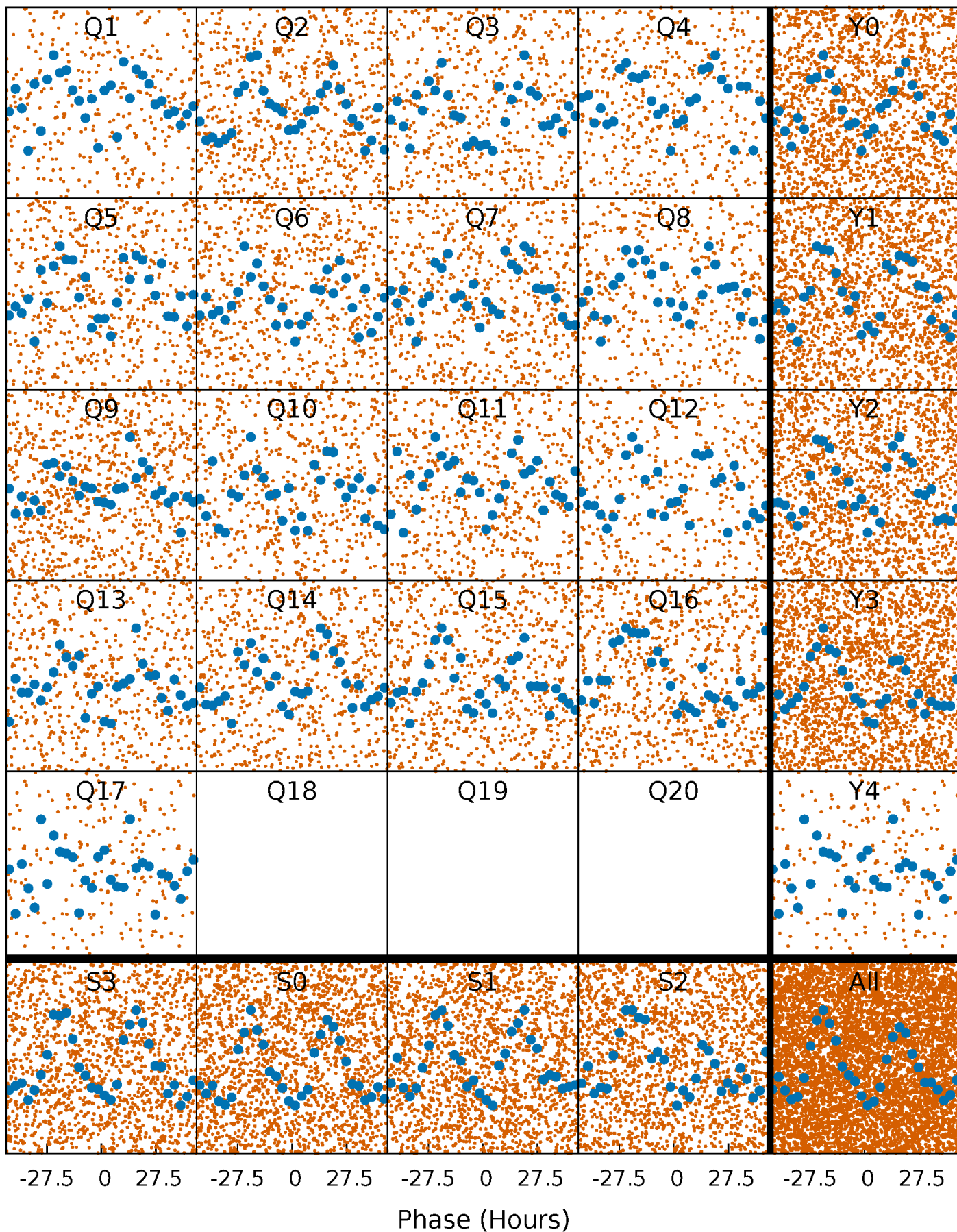


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



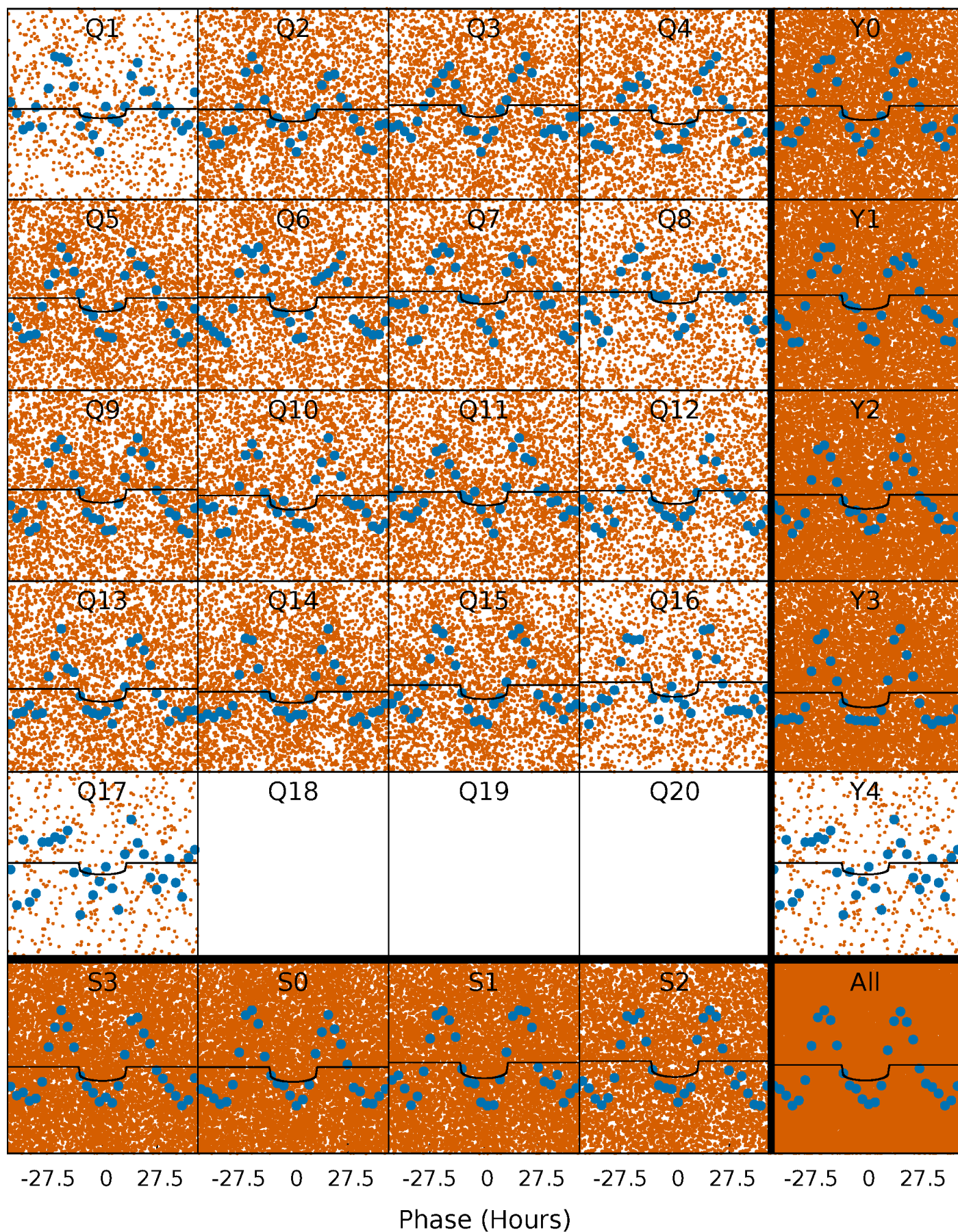
PDC Quarter-Phased Transit Curves

TCE 002300603-01 P= 3.251338 Days $T_0=132.666328$ (BKJD)



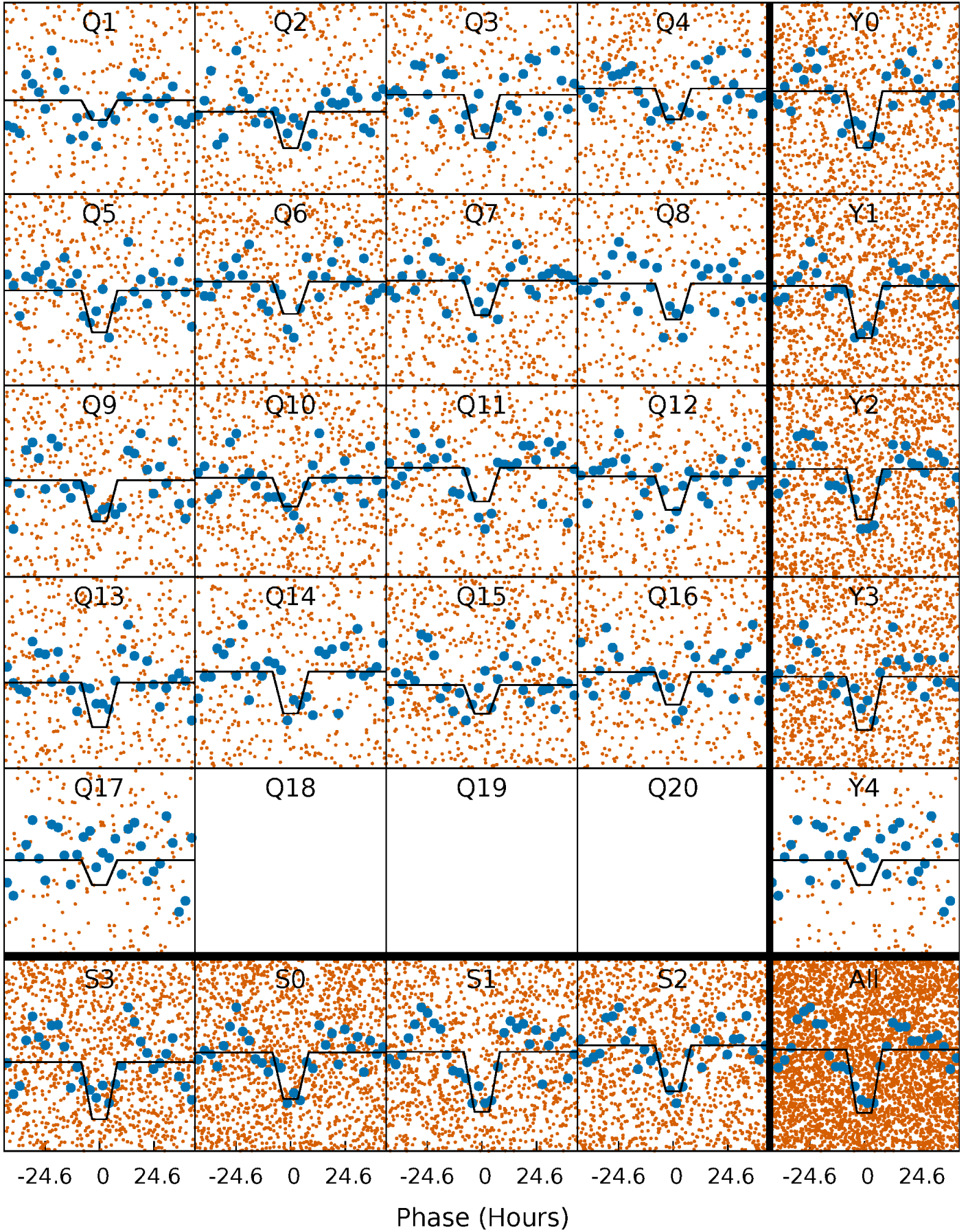
DV Quarter-Phased Transit Curves

TCE 002300603-01 P= 3.251338 Days $T_0=132.666328$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

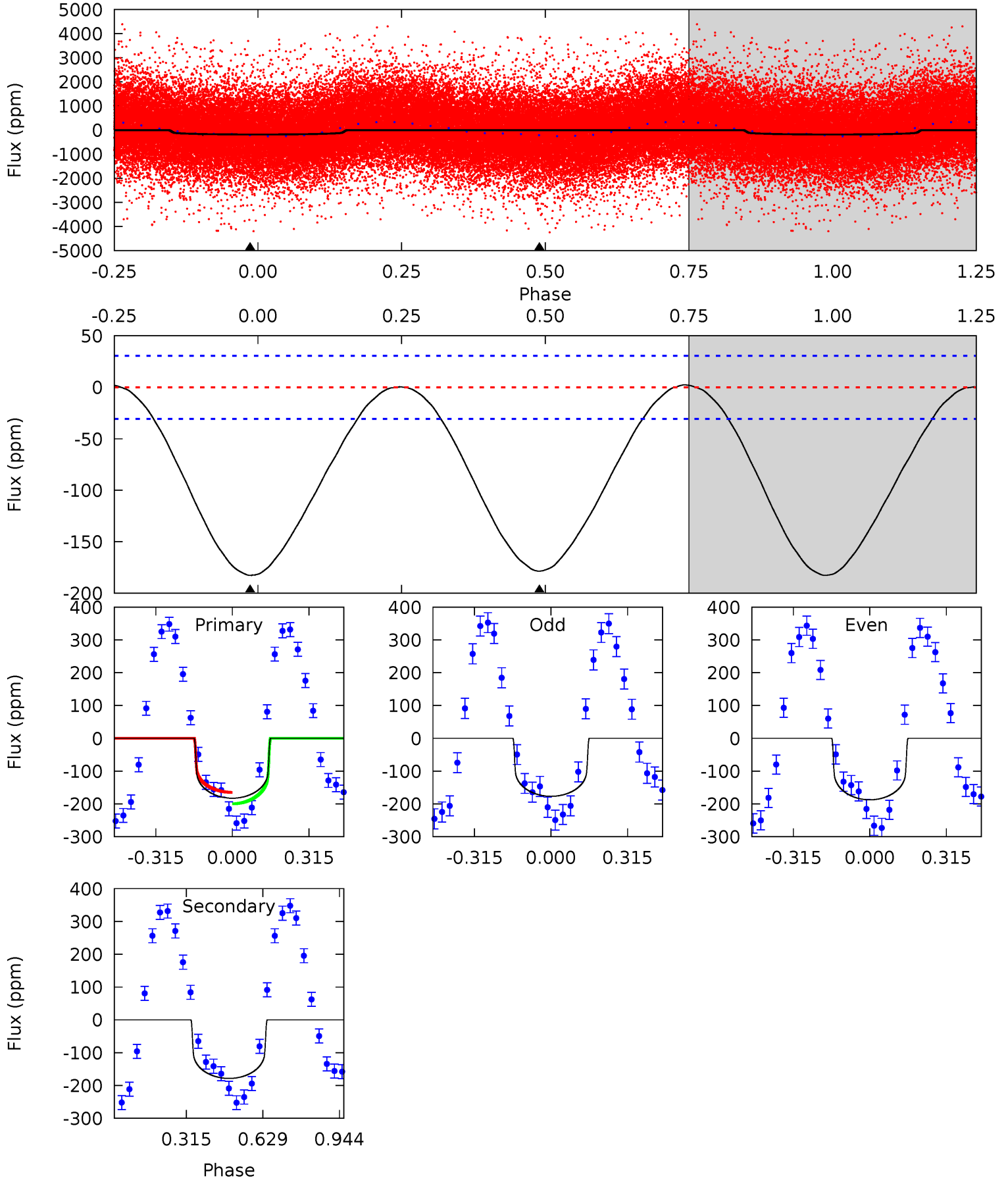
TCE 002300603-01 P= 3.251764 Days $T_0=132.716045$ (BKJD)



DV Model-Shift Uniqueness Test

002300603-01, P = 3.251338 Days, E = 129.414990 Days

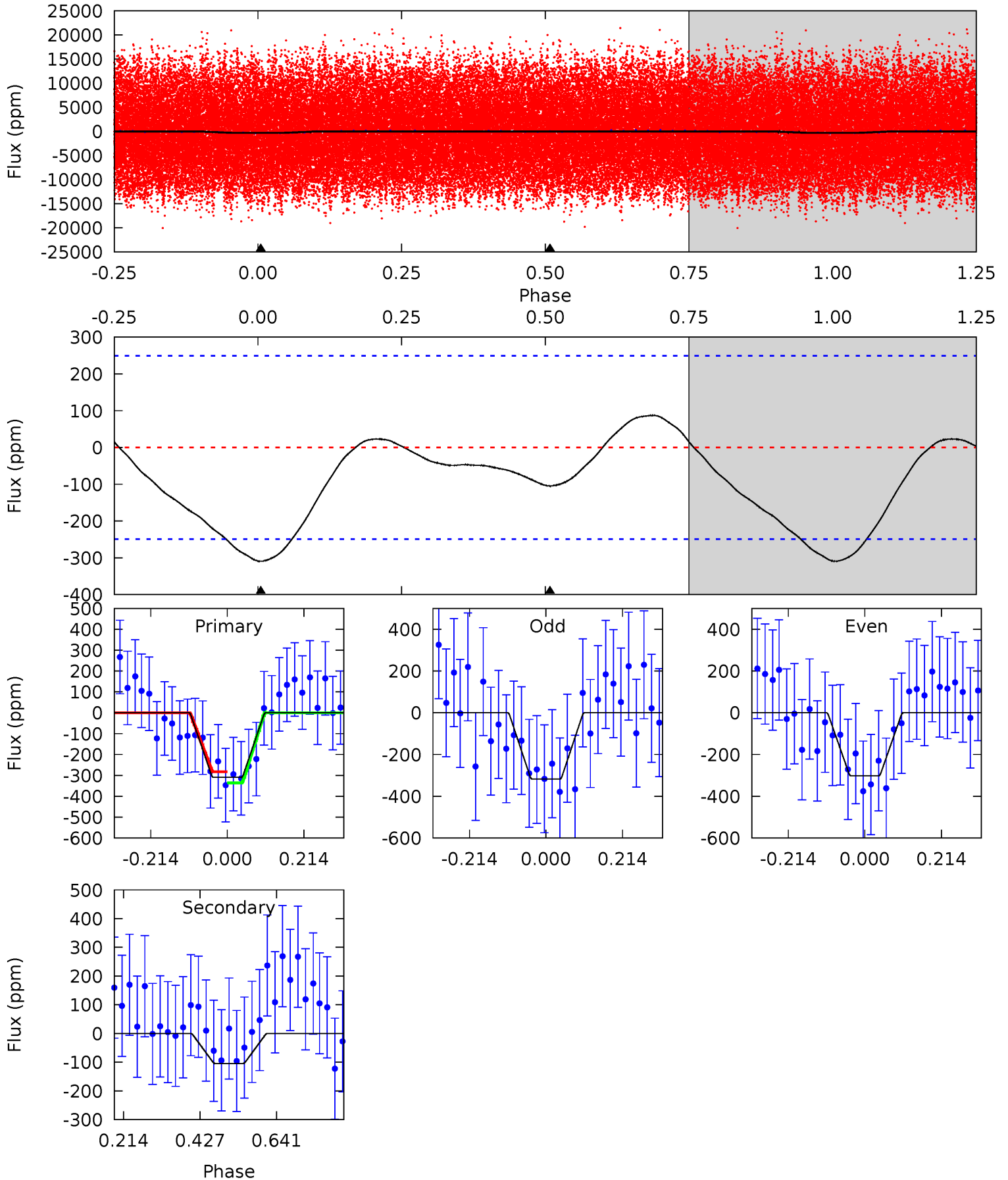
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.7	25.1	0	0	4.32	1.01	0.27	25.7	25.7	25.1	25.1	0.76	1.02	0.01	2.58



Alt Model-Shift Uniqueness Test

002300603-01, P = 3.251764 Days, E = 129.464281 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.47	1.85	0	0	4.40	1.24	0.48	5.47	5.47	1.85	1.85	0.14	0.94	0.22	0.47



Stellar Parameters For KIC 002300603

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7095^{+199}_{-274}	$3.944^{+0.322}_{-0.138}$	$-0.320^{+0.300}_{-0.300}$	$2.153^{+0.526}_{-0.789}$	$1.485^{+0.205}_{-0.308}$	$0.210^{+0.499}_{-0.085}$
	+3%/-4%	+8%/-3%	+94%/-94%	+24%/-37%	+14%/-21%	+238%/-40%
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 002300603-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-179 ± 7	$2.16^{+0.64}_{-0.60}$	2848^{+207}_{-278}	8547^{+1807}_{-1073}	50^{+45}_{-19}
Alt.	-105 ± 57	$4.22^{+0.85}_{-0.91}$	2843^{+226}_{-273}	5124^{+741}_{-863}	$7.317^{+6.974}_{-4.286}$

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 $A_{obs} \gg 1.0$

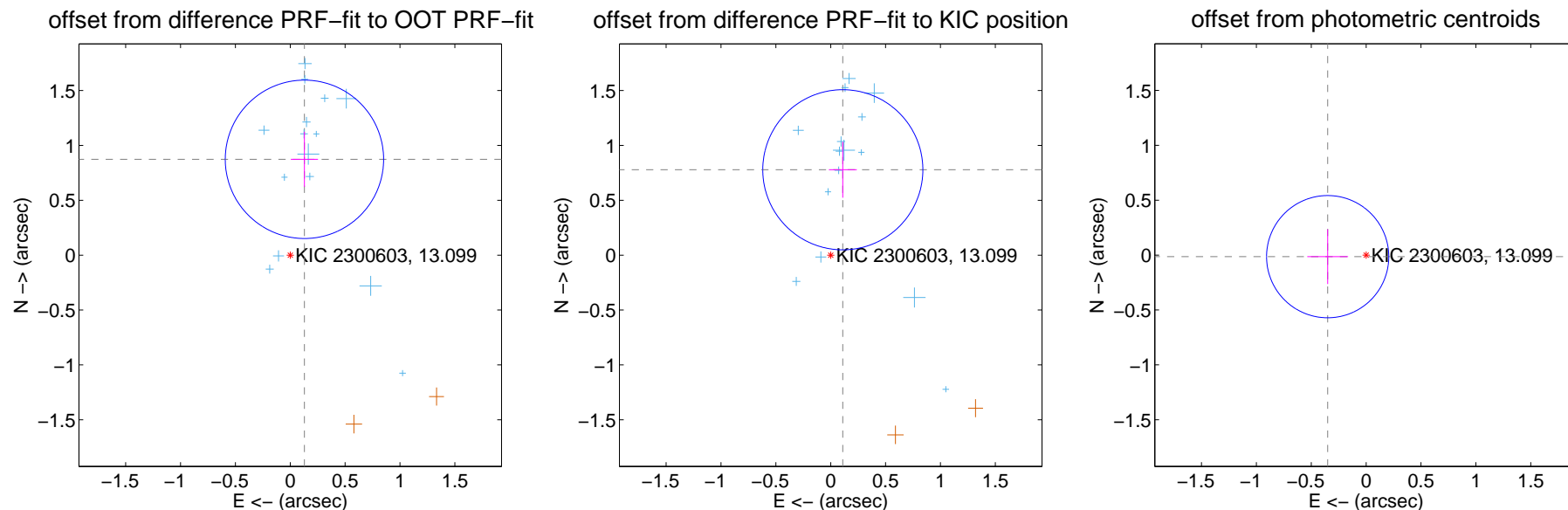
DV Centroid Data

Supplemental centroid analysis for 002300603-01. Kepler magnitude: 13.10. Transit SNR 11.05

There are 15 quarters with good PRF difference image offsets

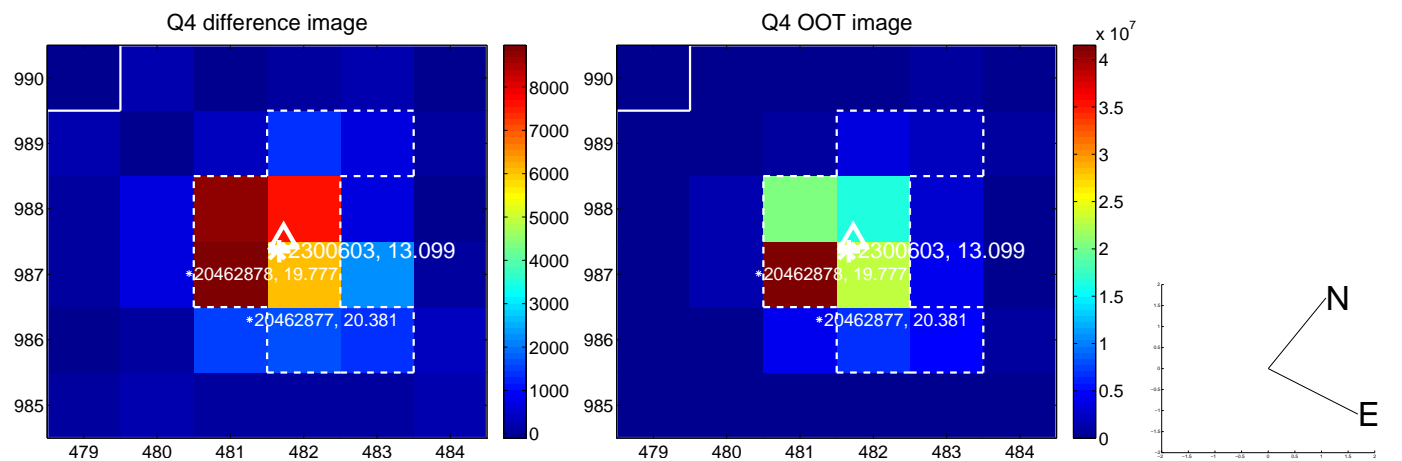
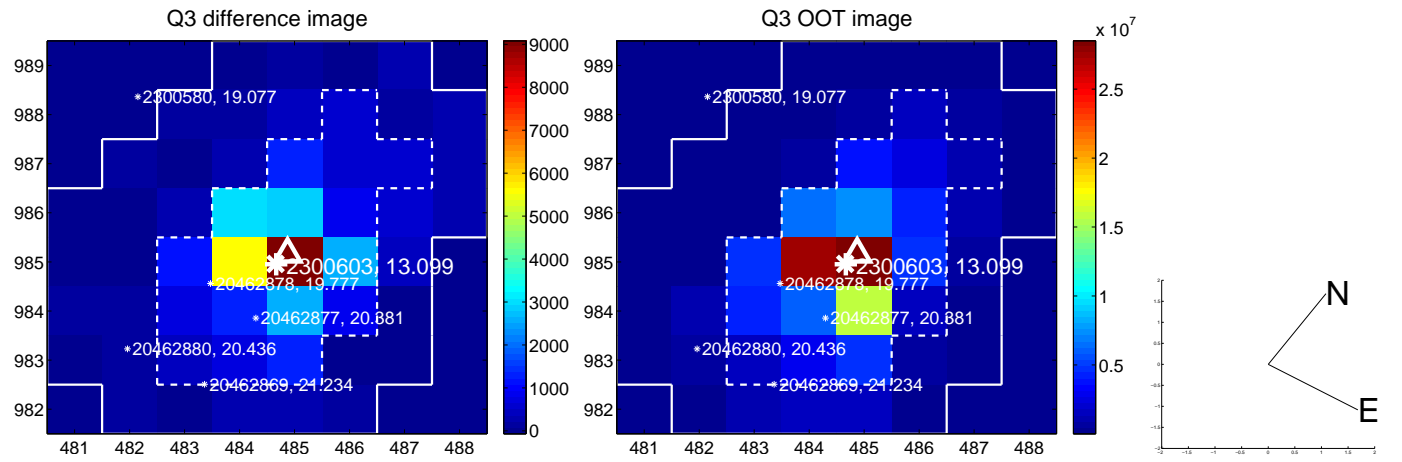
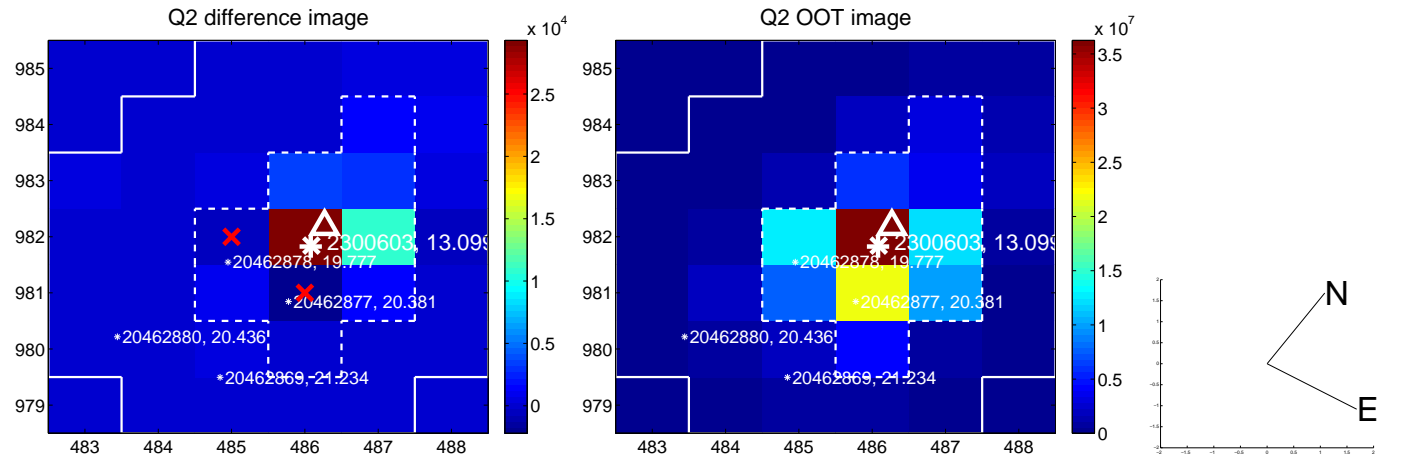
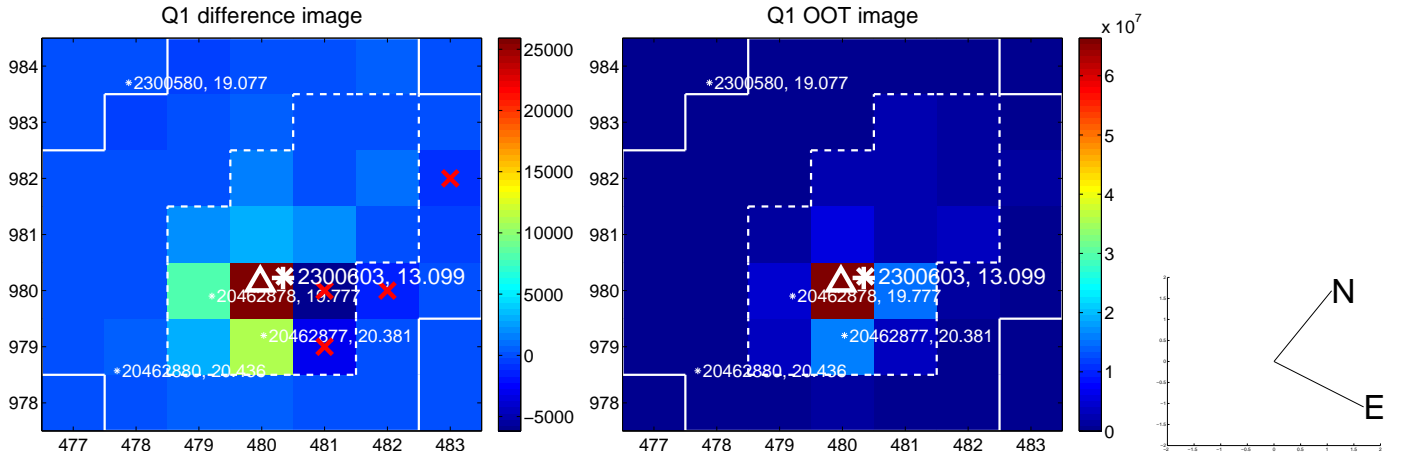
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.883 ± 0.241	3.67	-0.129 ± 0.124	0.873 ± 0.251
PRF-fit source offset from KIC position	0.786 ± 0.243	3.23	-0.110 ± 0.127	0.778 ± 0.255
photometric centroid source offset	0.35 ± 0.19	1.89	0.35 ± 0.19	-0.01 ± 0.25

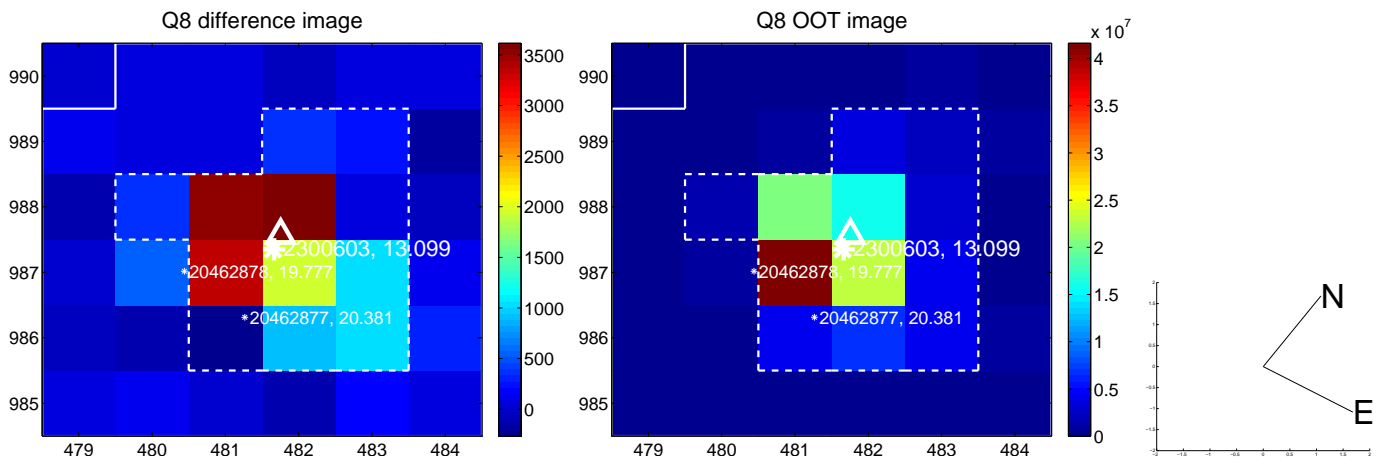
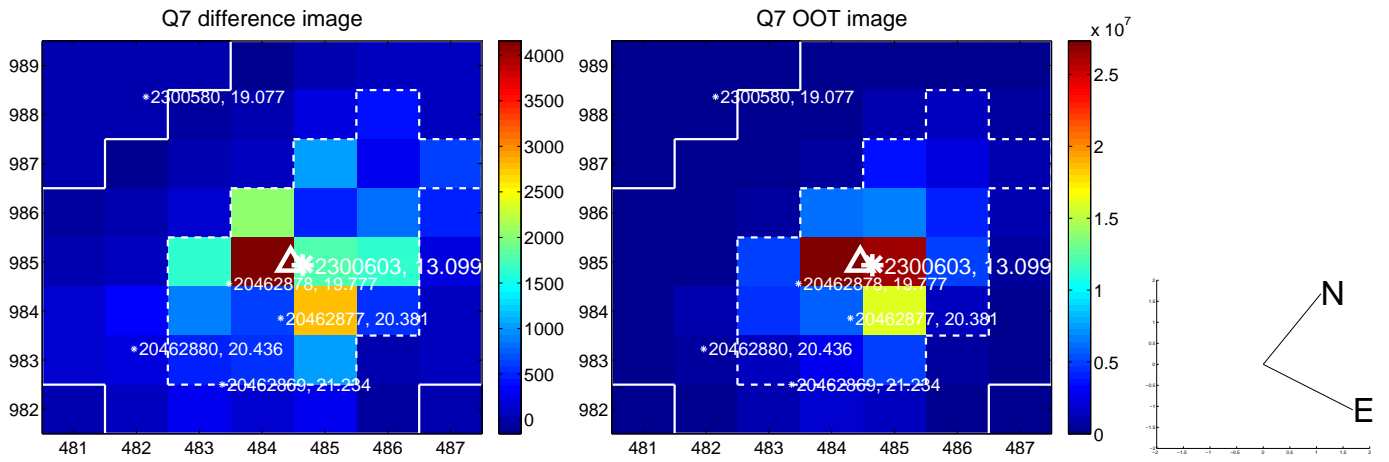
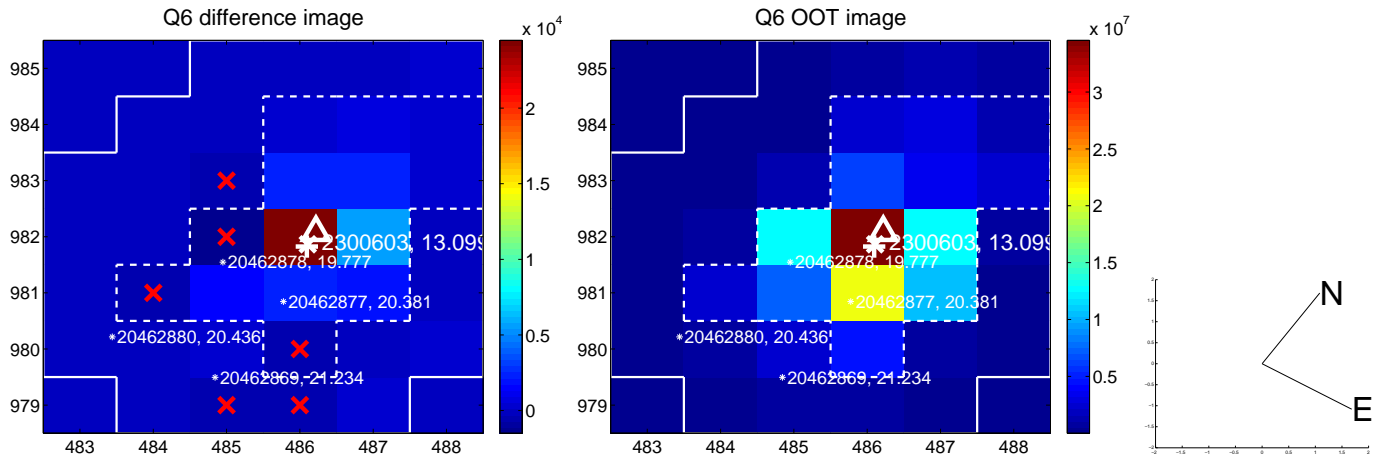
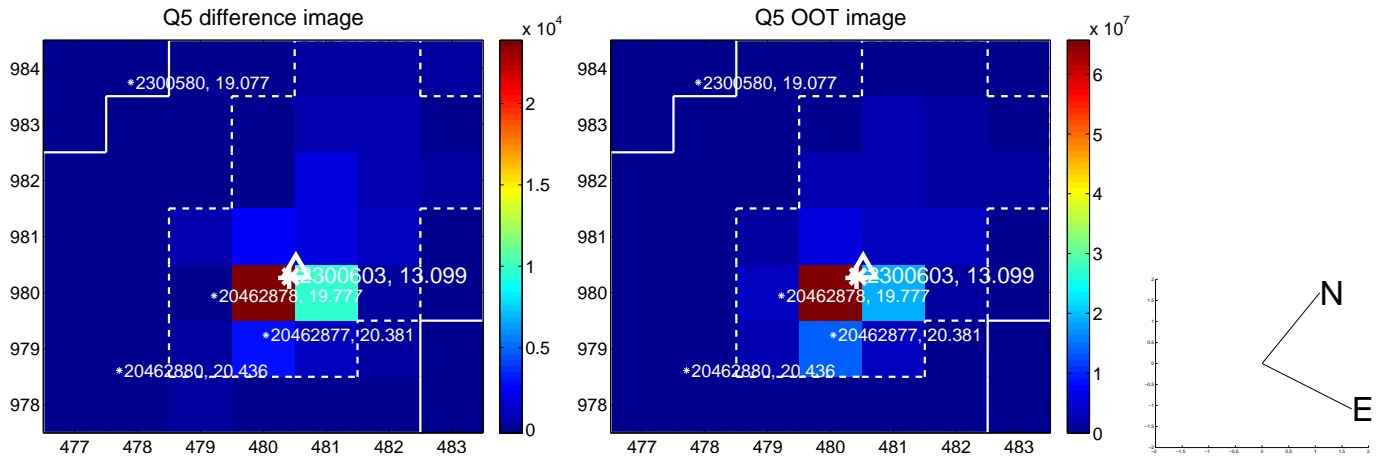


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

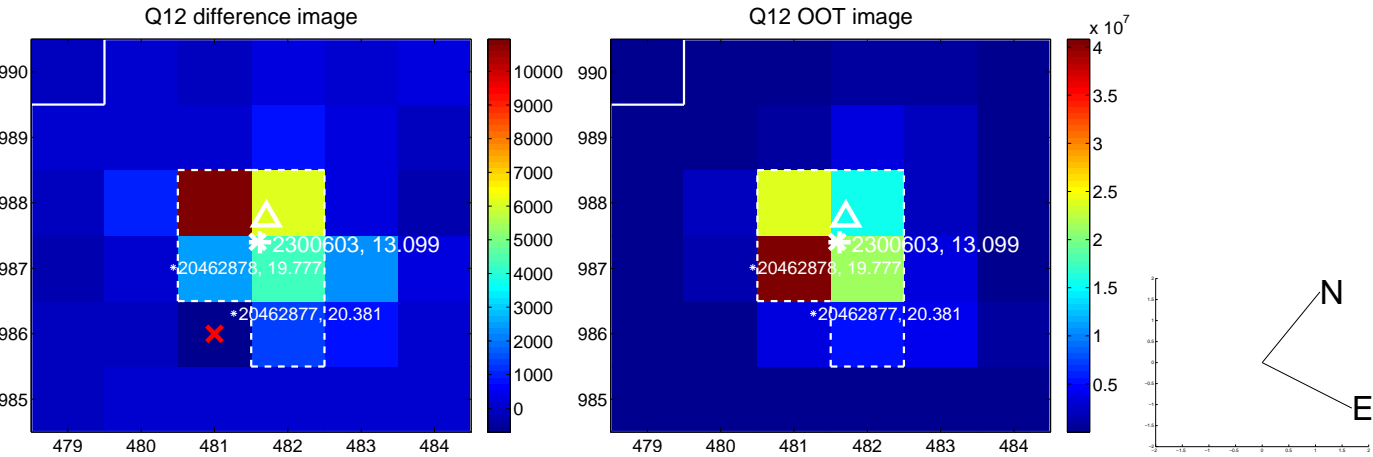
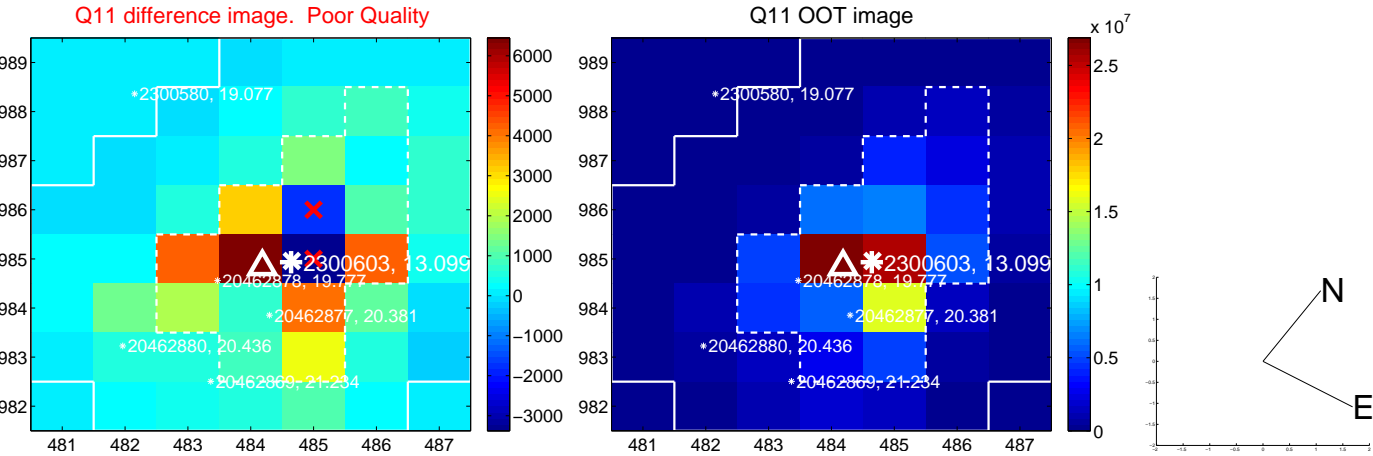
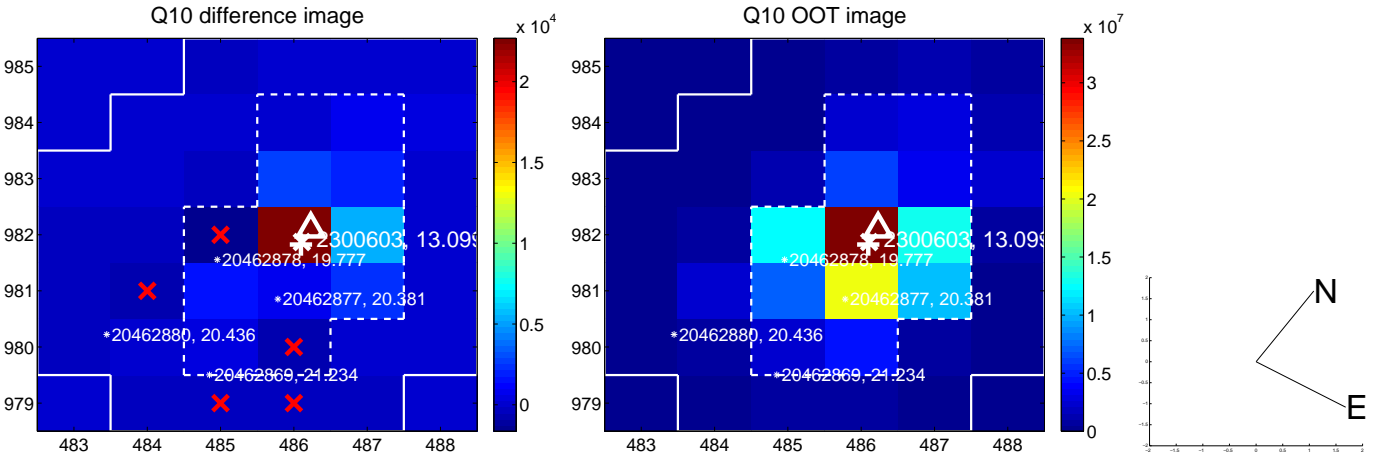
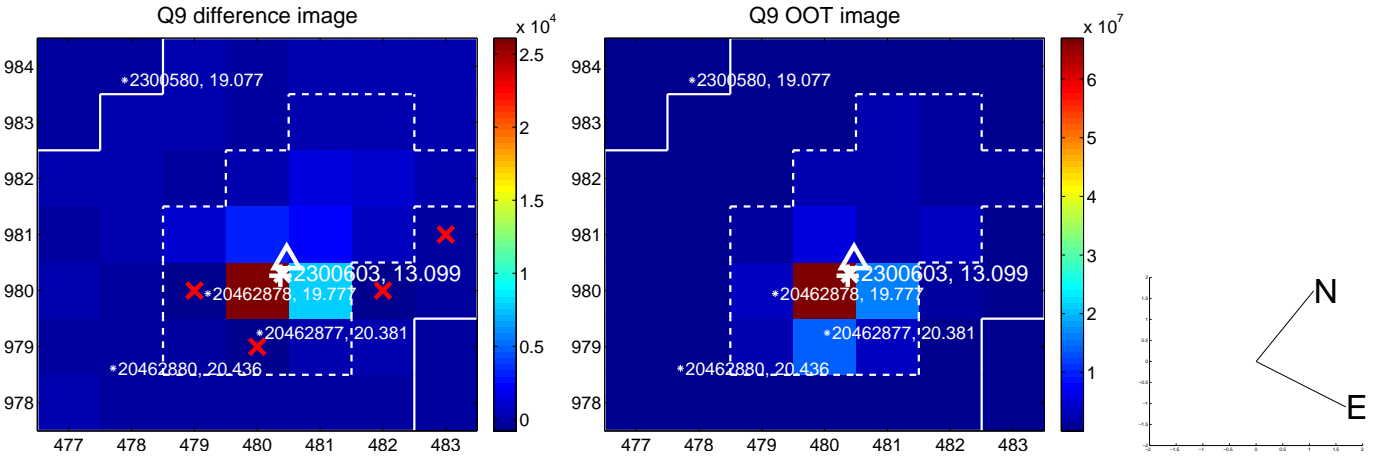
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



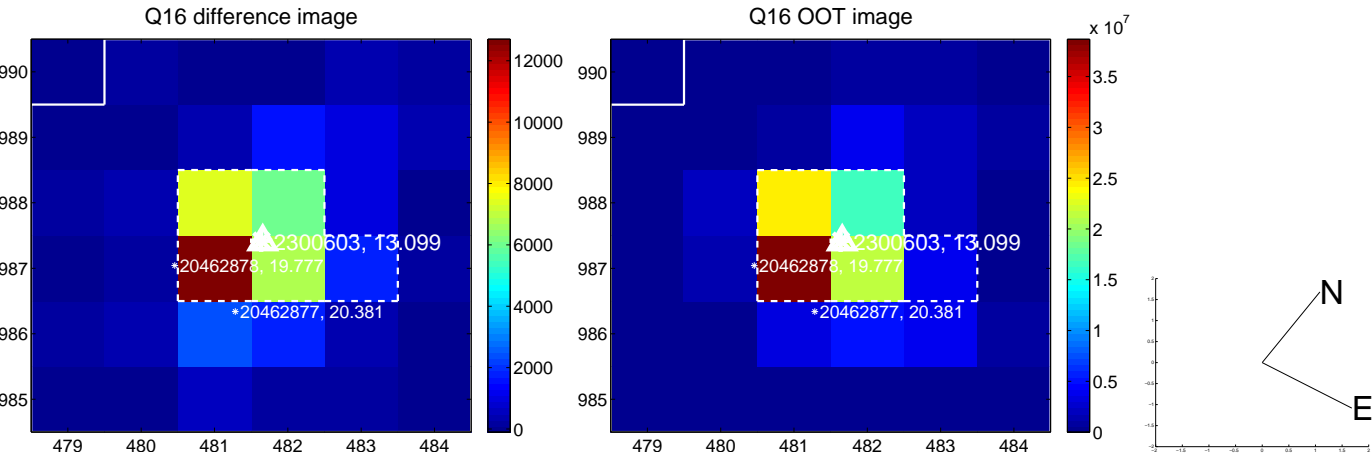
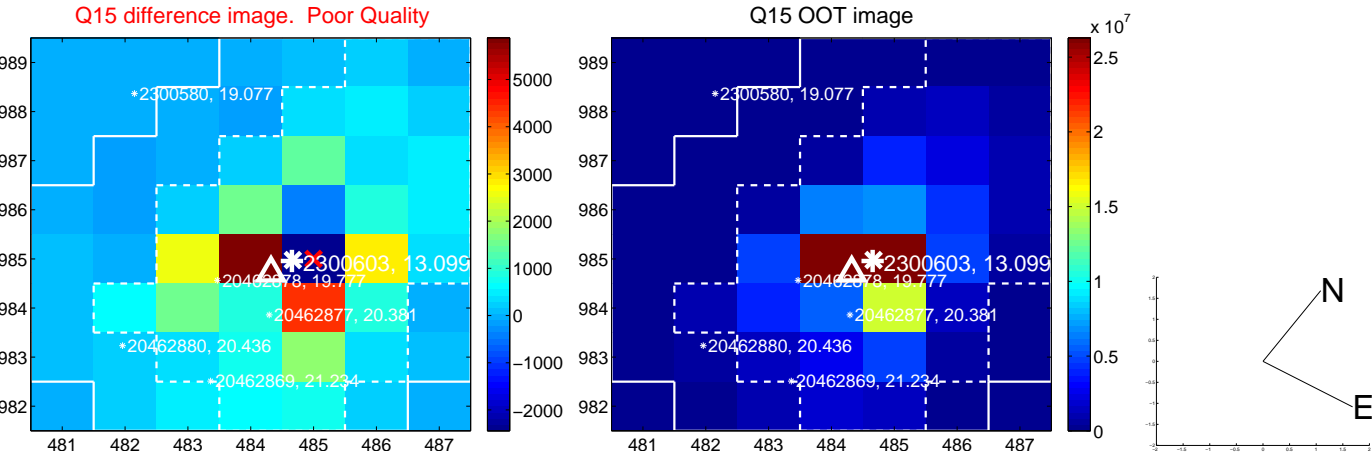
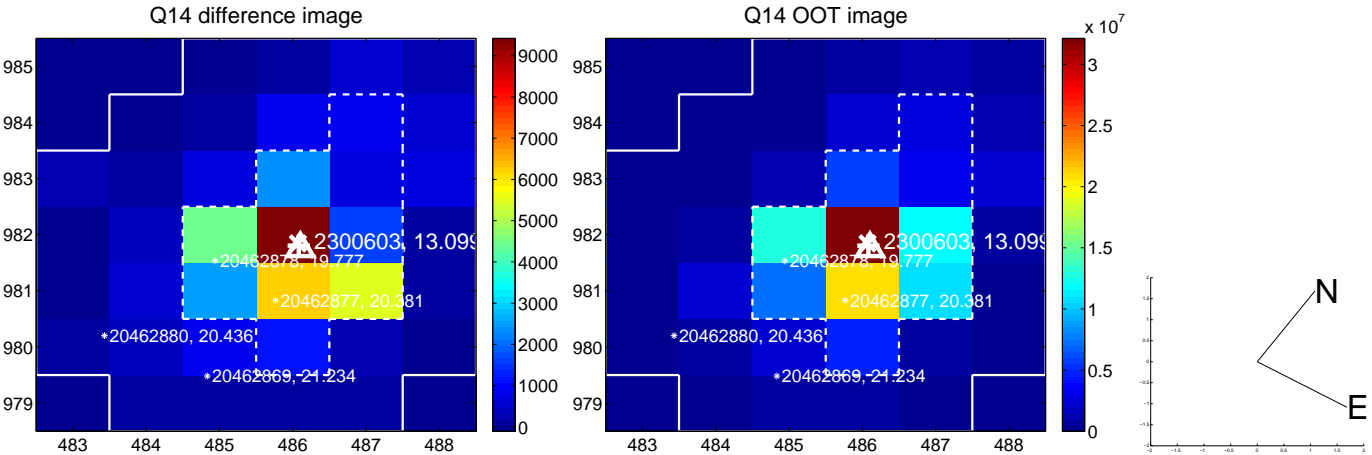
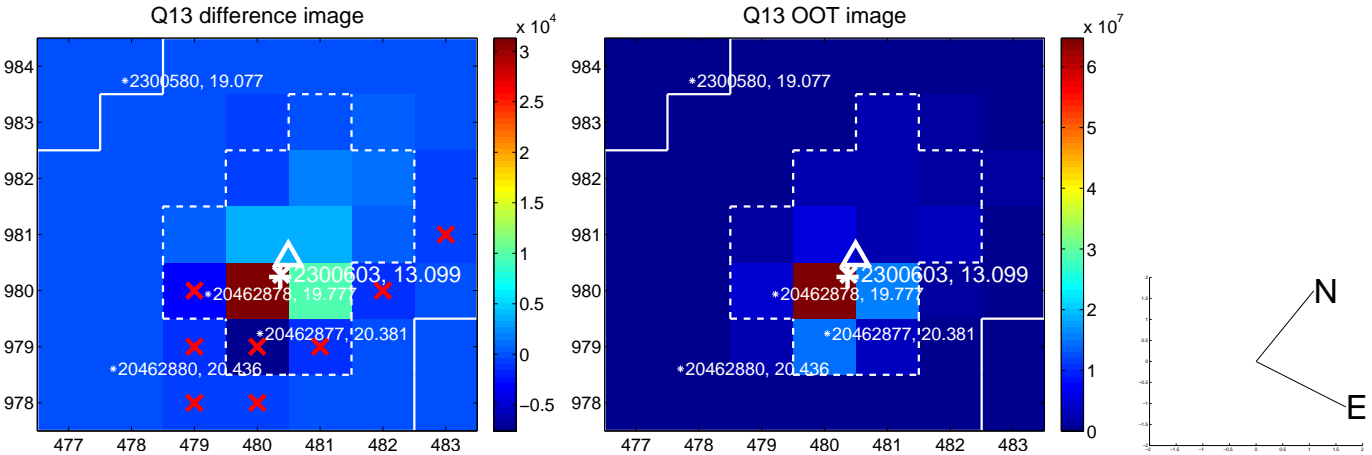
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



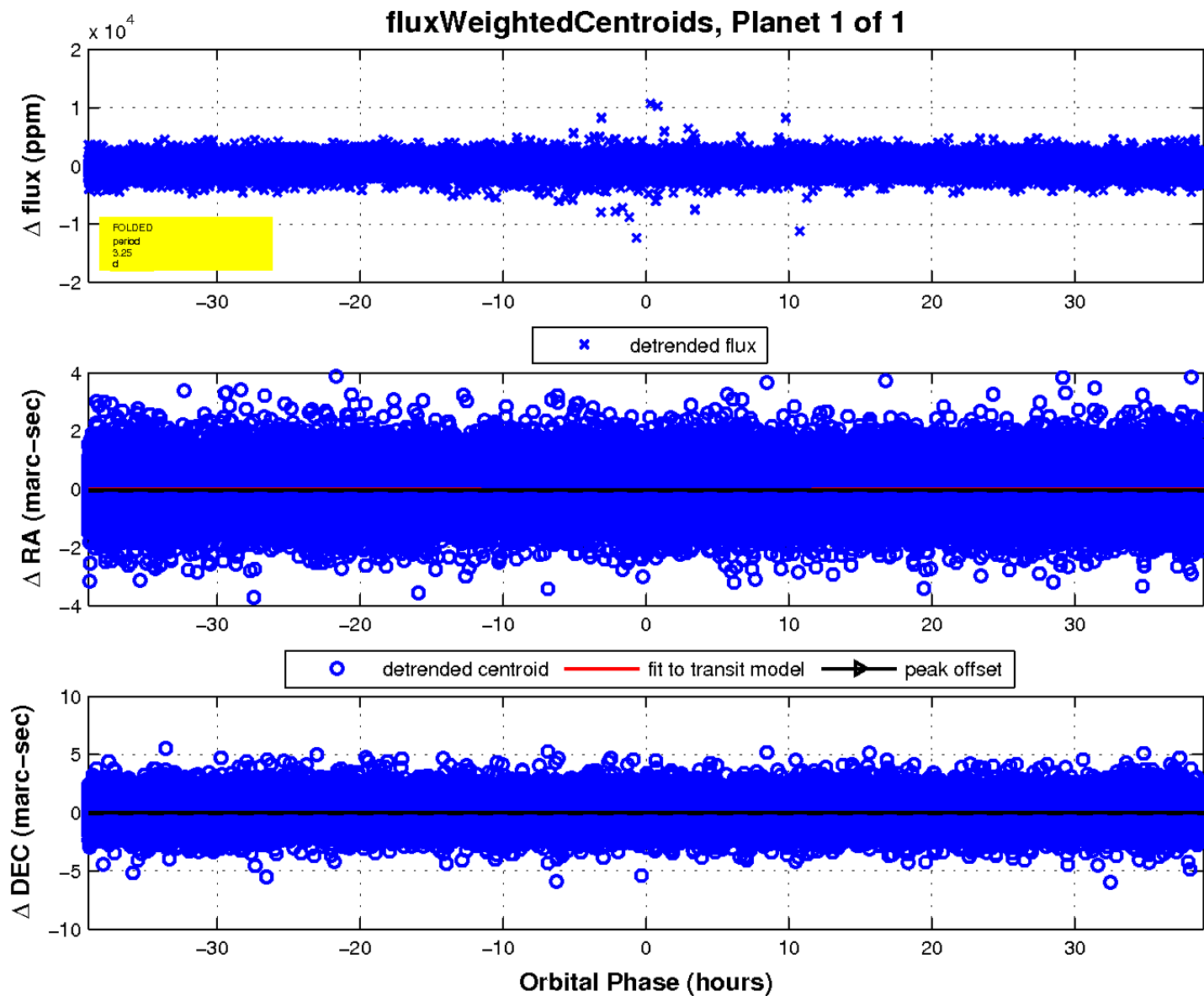
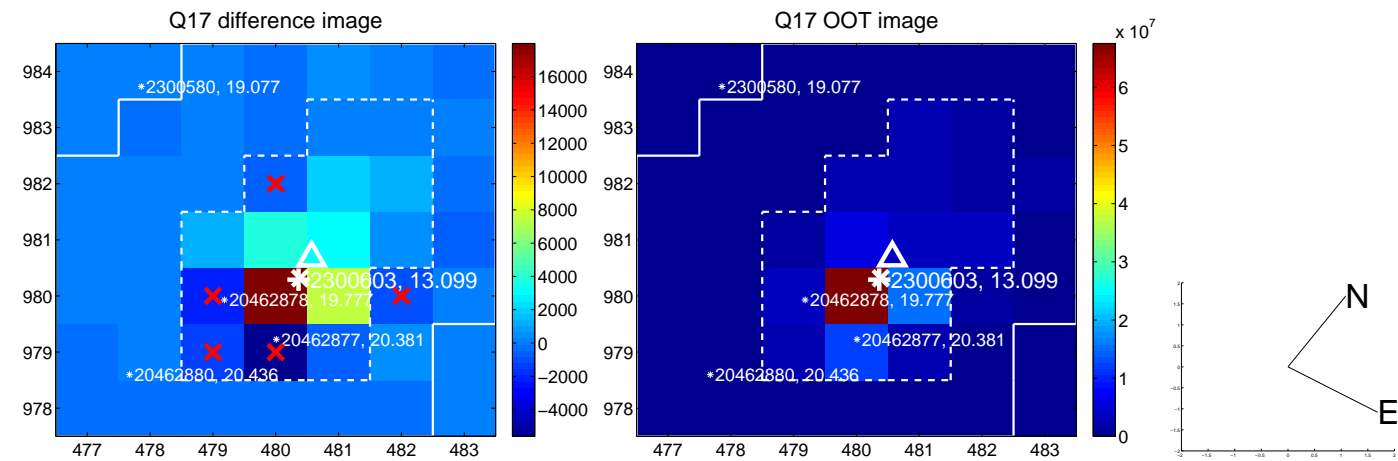
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

