

KIC 005088400

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})
005088400-01	OBS	4127.01	8.827180	139.732585	406.1	2.301	13.9	16.3	0.88	5550	2.21	95.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005088400-01	OBS	PC	0.99	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.

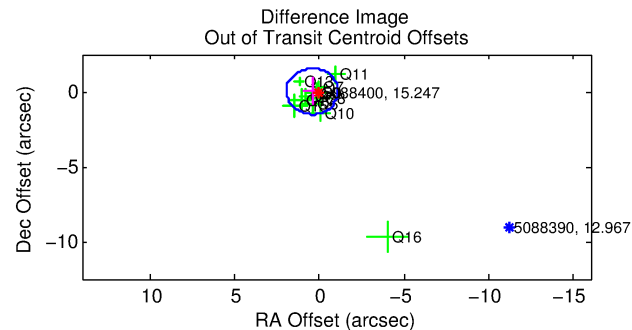
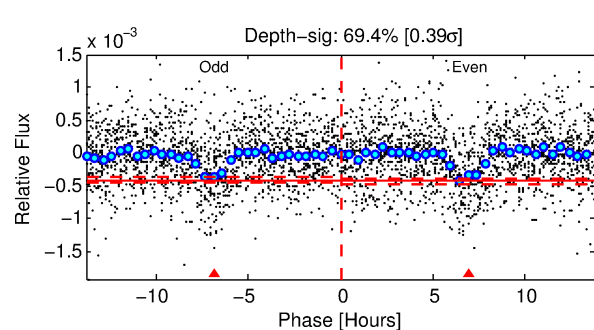
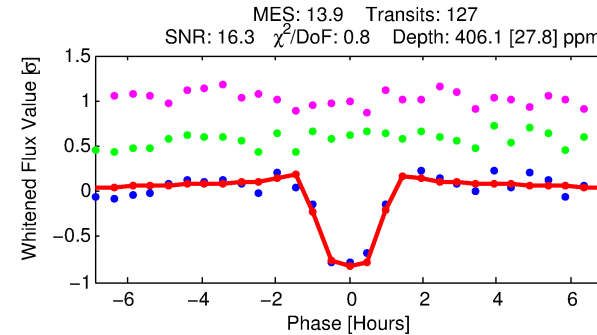
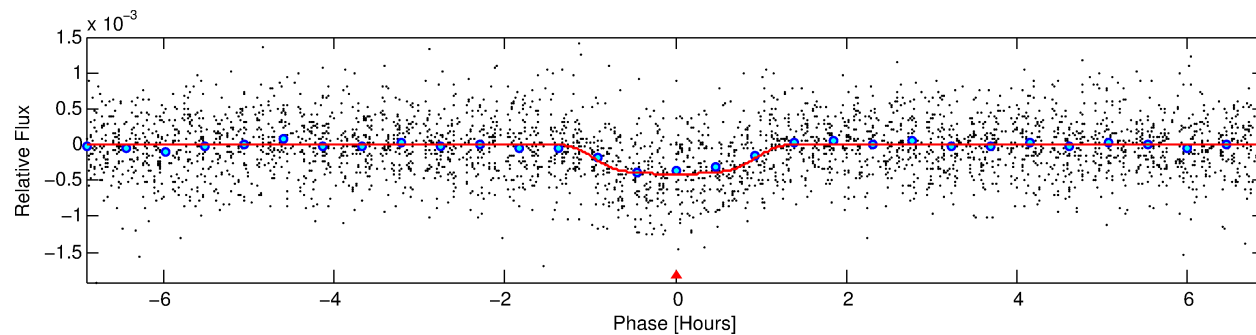
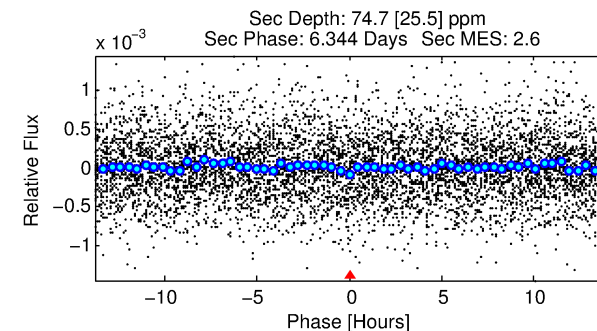
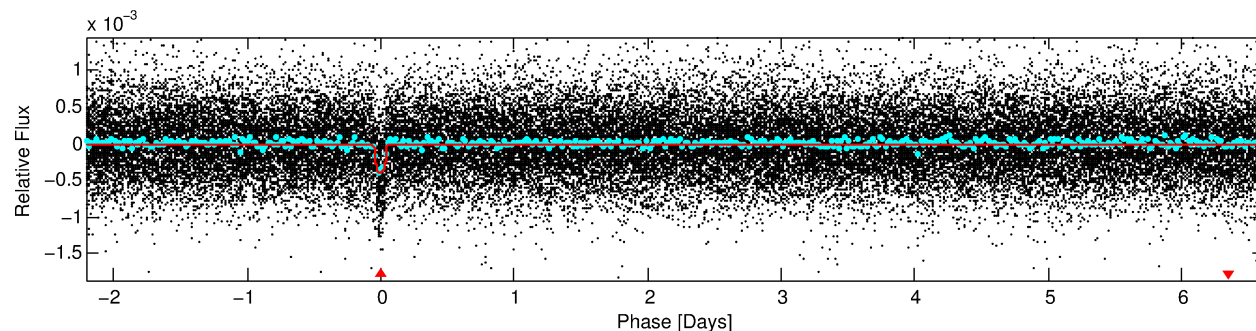
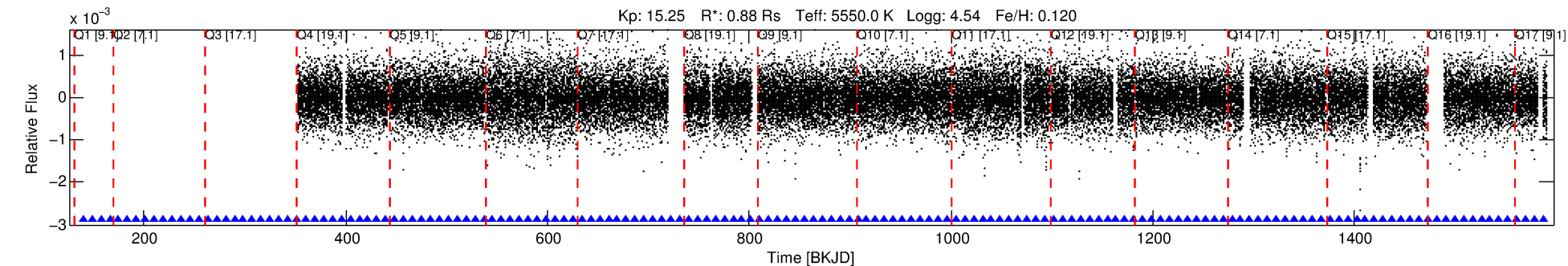
Ephemeris Match Information For 005088400-01

No Significant Match Found

DV One-Page Summary

KIC: 5088400 Candidate: 1 of 1 Period: 8.827 d

KOI: K04127.01 Corr: 0.952



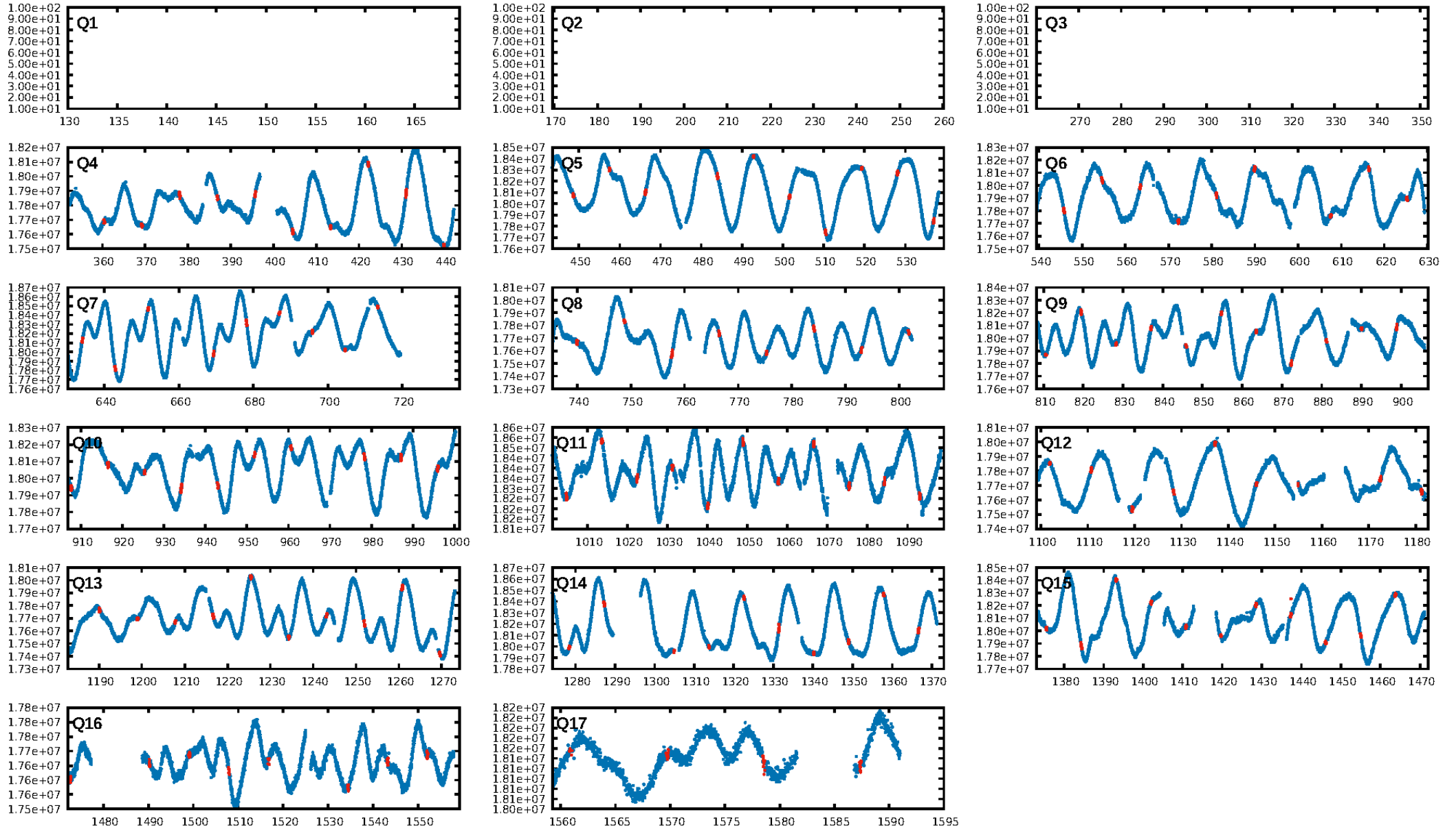
DV Fit Results:

Period = 8.82718 [0.00004] d
Epoch = 139.7326 [0.0034] BKJD
Rp/R* = 0.0231 [0.0039]
a/R* = 12.40 [9.05]
b = 0.93 [0.11]
Seff = 95.49 [19.44]
Teff = 797 [41] K
Rp = 2.21 [0.48] Re
a = 0.0828 [0.0104] AU
Ag = 57.64 [29.84] [1.90σ]
Teffp = 3396 [410] K [6.30σ]

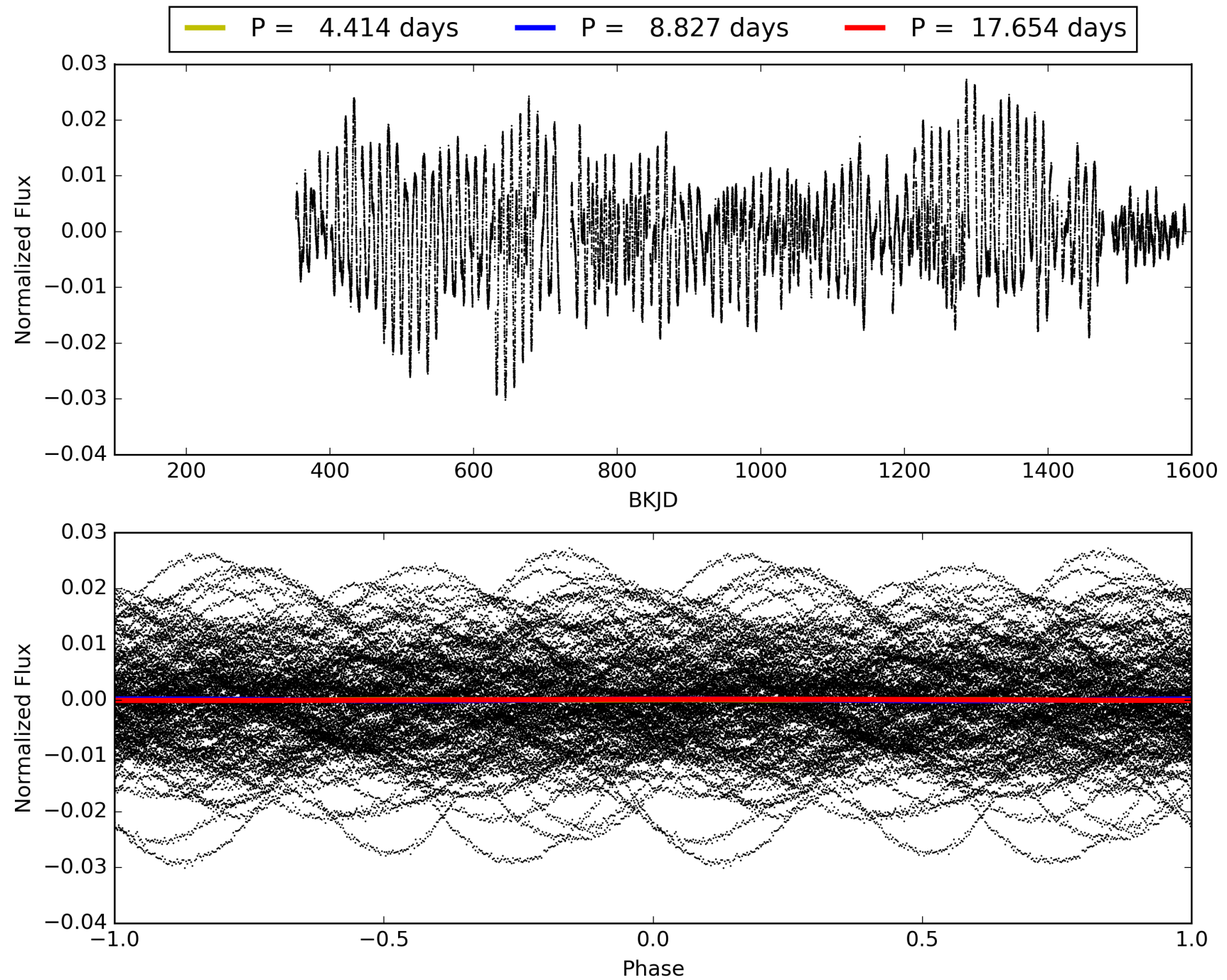
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.95e-41
RollingBand-fgt: 1.00 [123/123]
GhostDiagnostic-chr: 4.951
Centroid-sig: N/A
Centroid-so: 0.932 arcsec [1.18σ]
OotOffset-rm: 0.433 arcsec [0.85σ]
KicOffset-rm: 0.342 arcsec [0.50σ]
OotOffset-st: 2/3/3/3 [11]
KicOffset-st: 2/3/3/3 [11]
DiffImageQuality-fgm: 0.82 [9/11]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005088400-01, PDC Light Curves

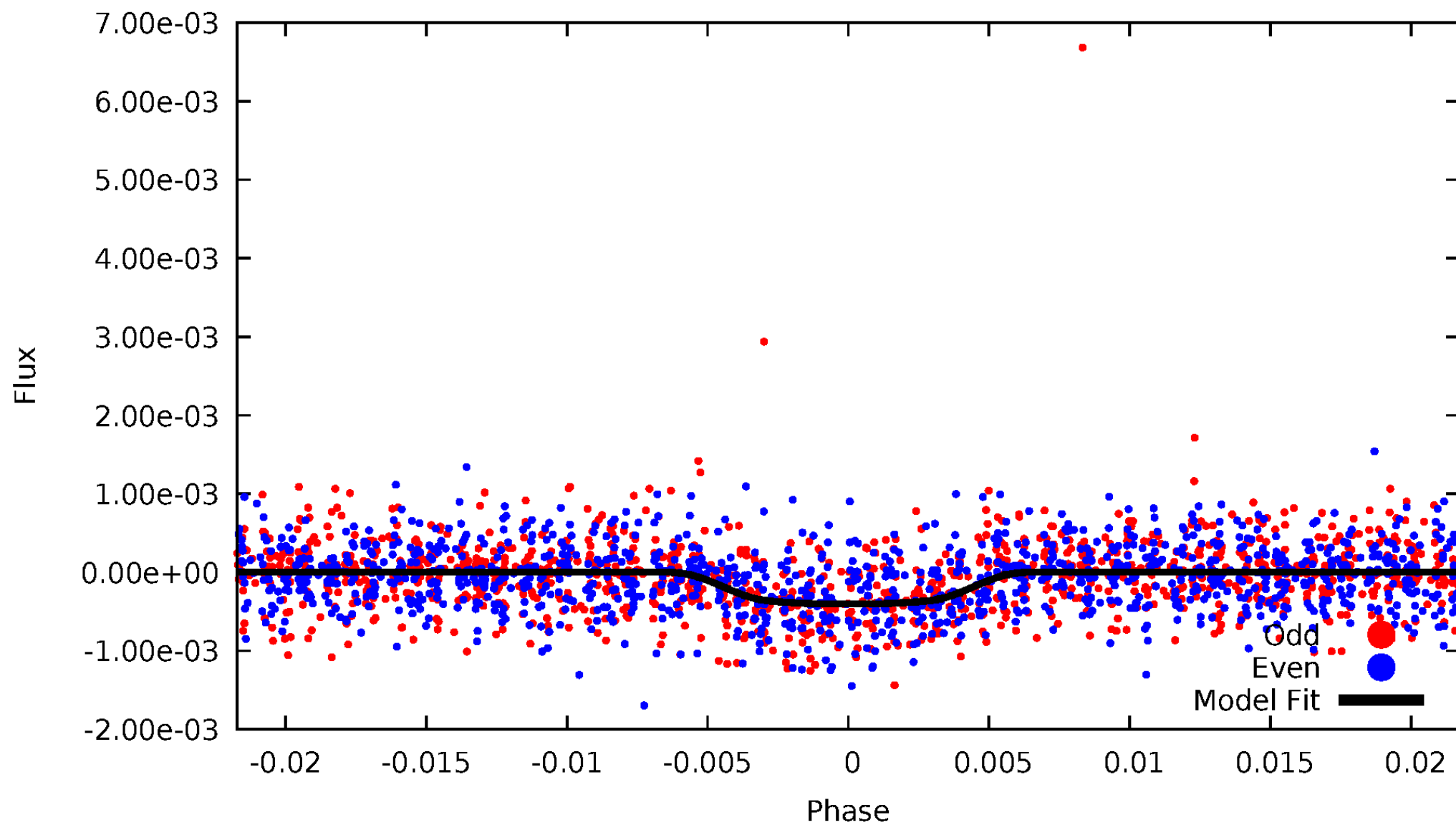


TCE 005088400-01



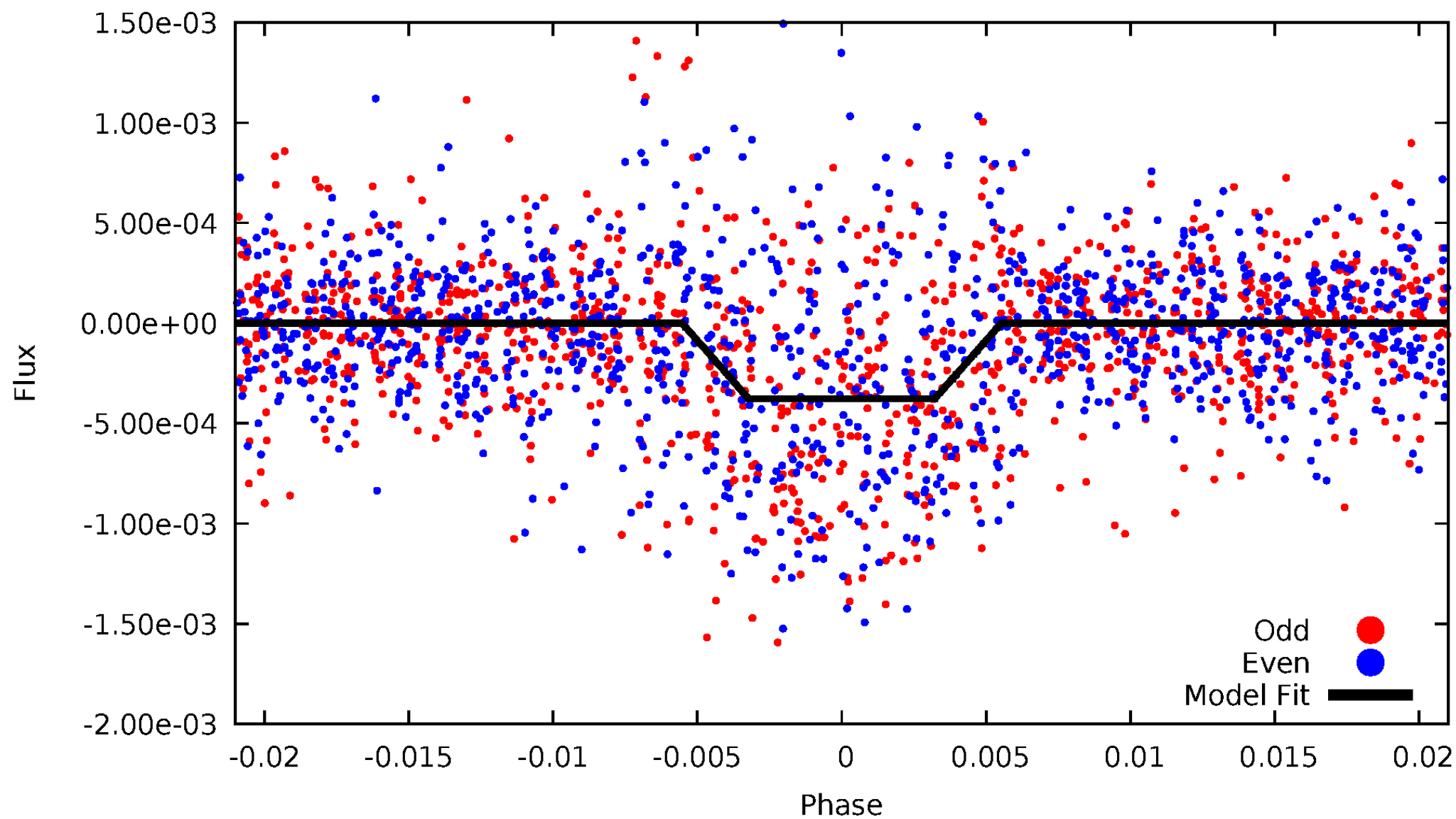
DV Odd/Even

TCE 005088400-01



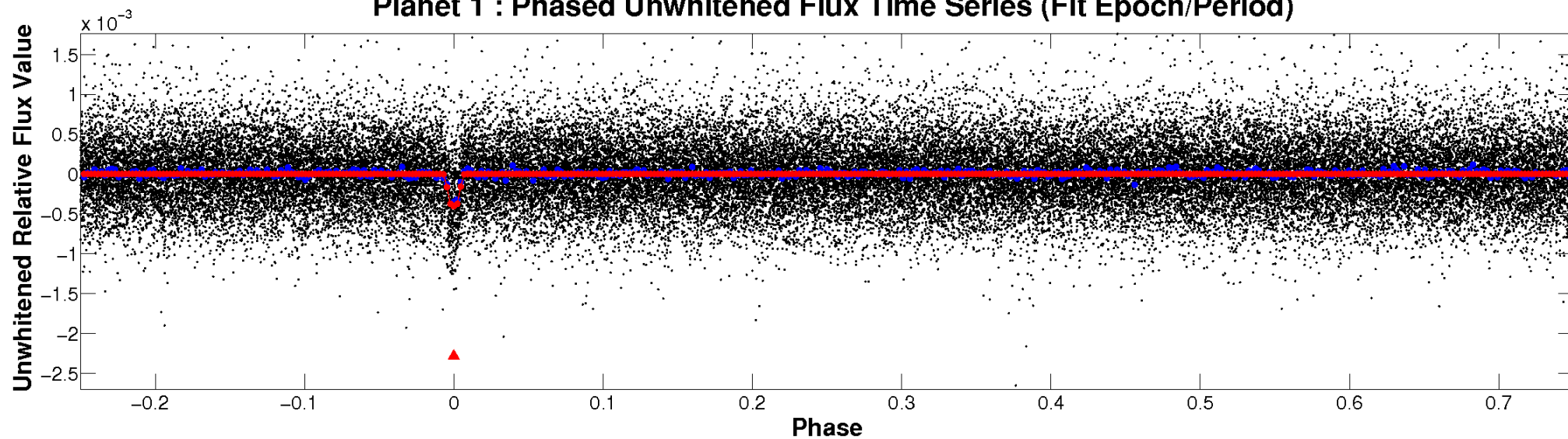
ALT Odd/Even

TCE 005088400-01

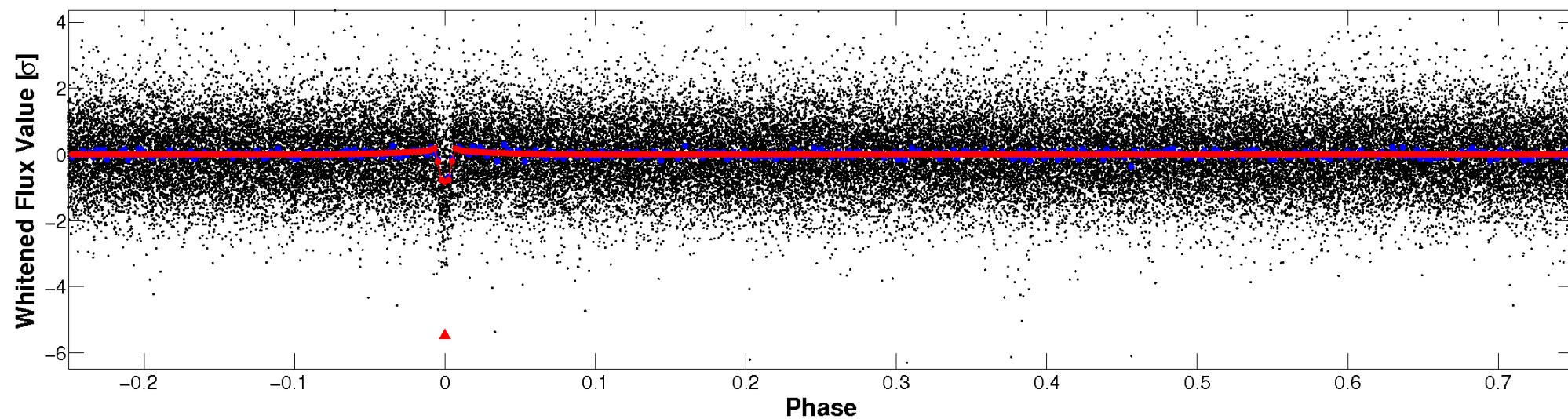


Non-Whitened Vs. Whitened Light Curve

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

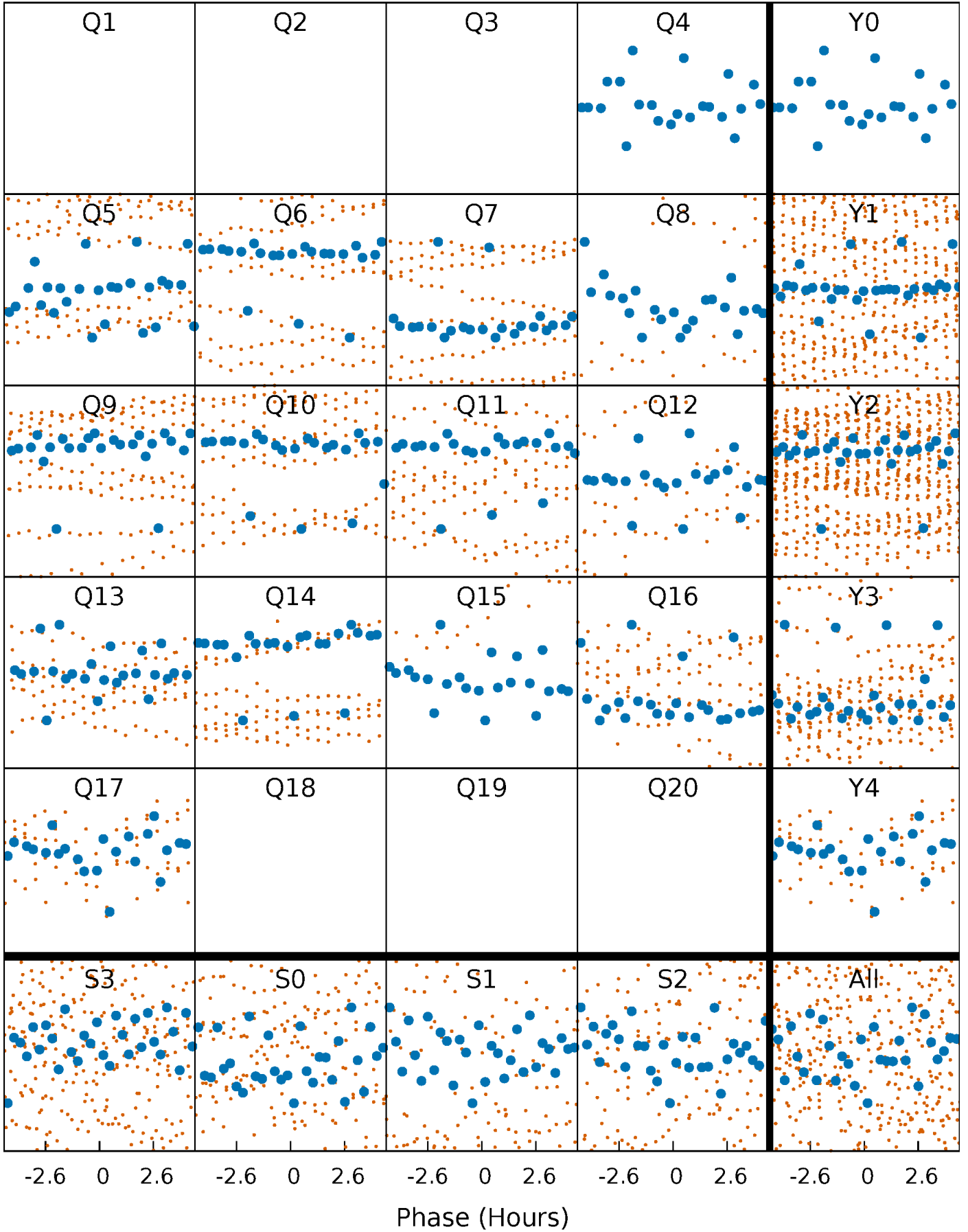


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



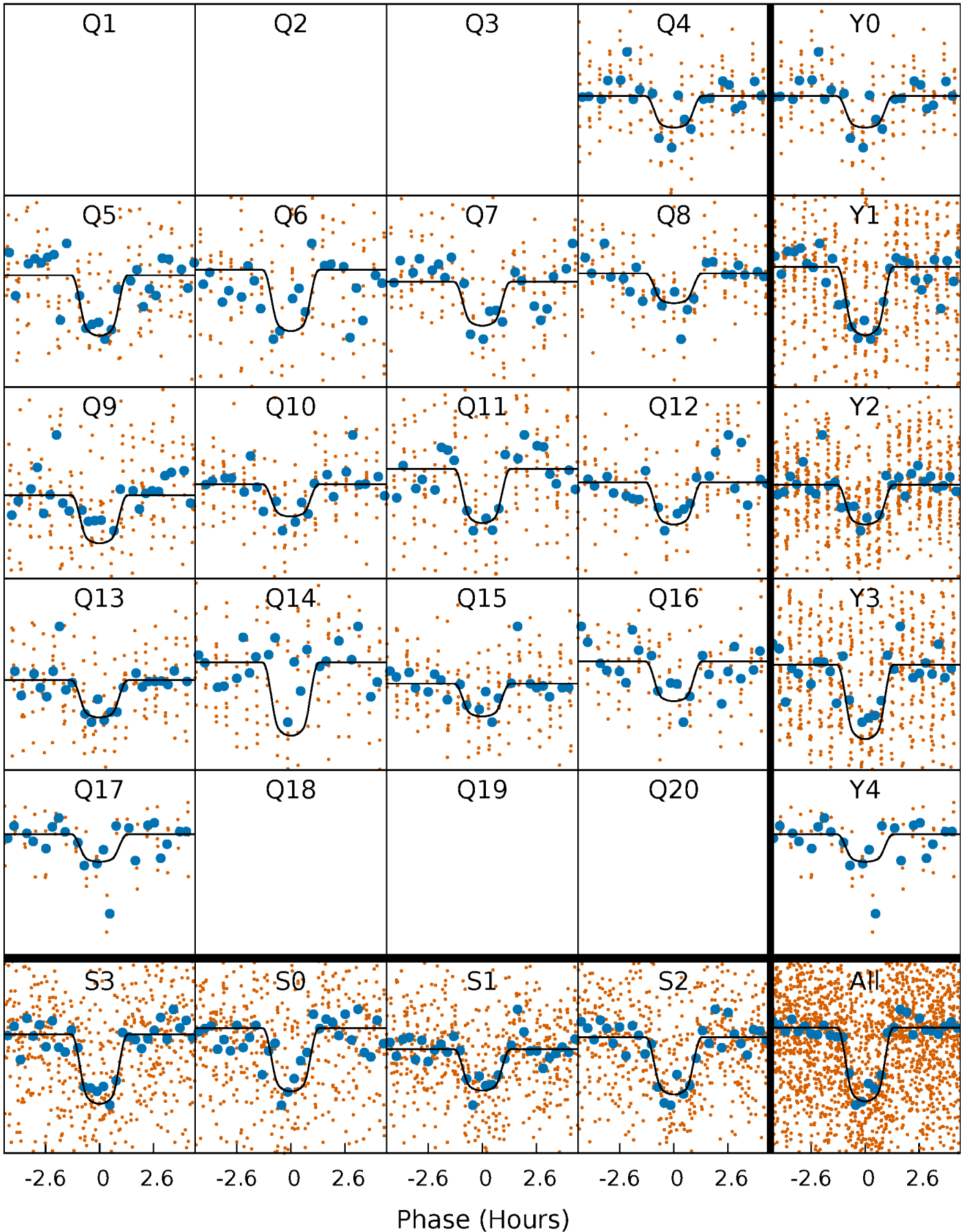
PDC Quarter-Phased Transit Curves

TCE 005088400-01 P= 8.827180 Days $T_0=139.732585$ (BKJD)



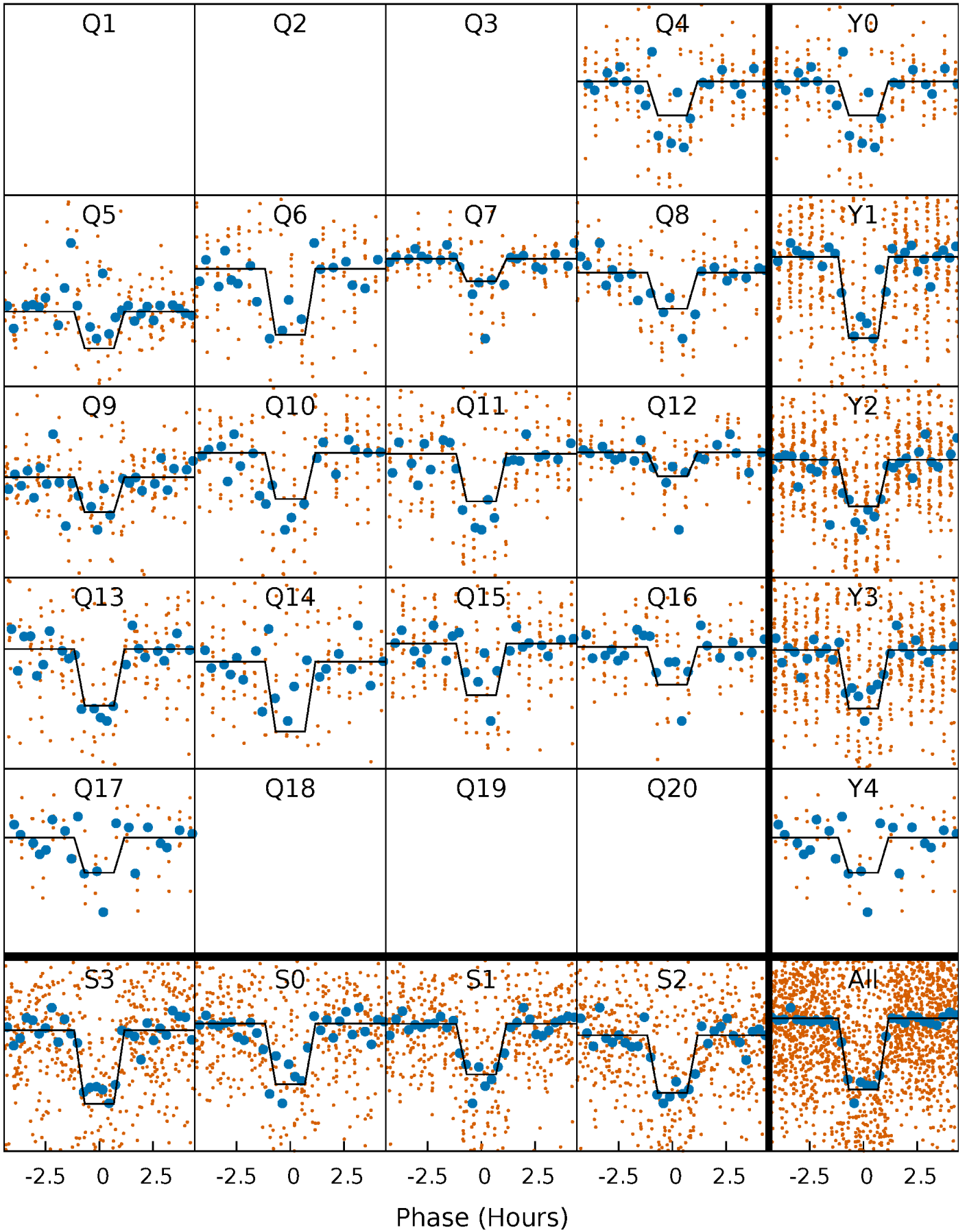
DV Quarter-Phased Transit Curves

TCE 005088400-01 P= 8.827180 Days $T_0=139.732585$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

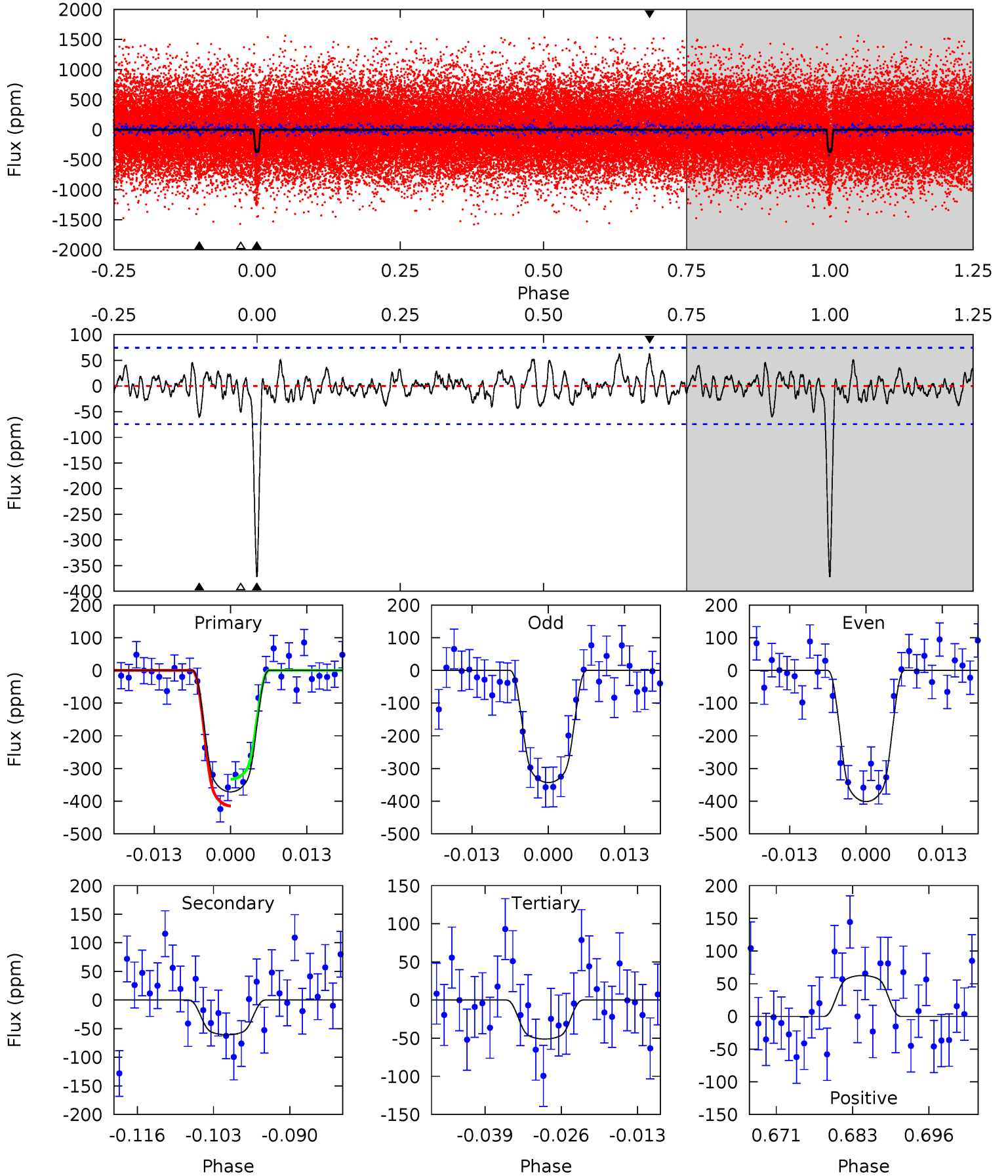
TCE 005088400-01 P= 8.827185 Days $T_0=139.732822$ (BKJD)



DV Model-Shift Uniqueness Test

005088400-01, P = 8.827180 Days, E = 139.732585 Days

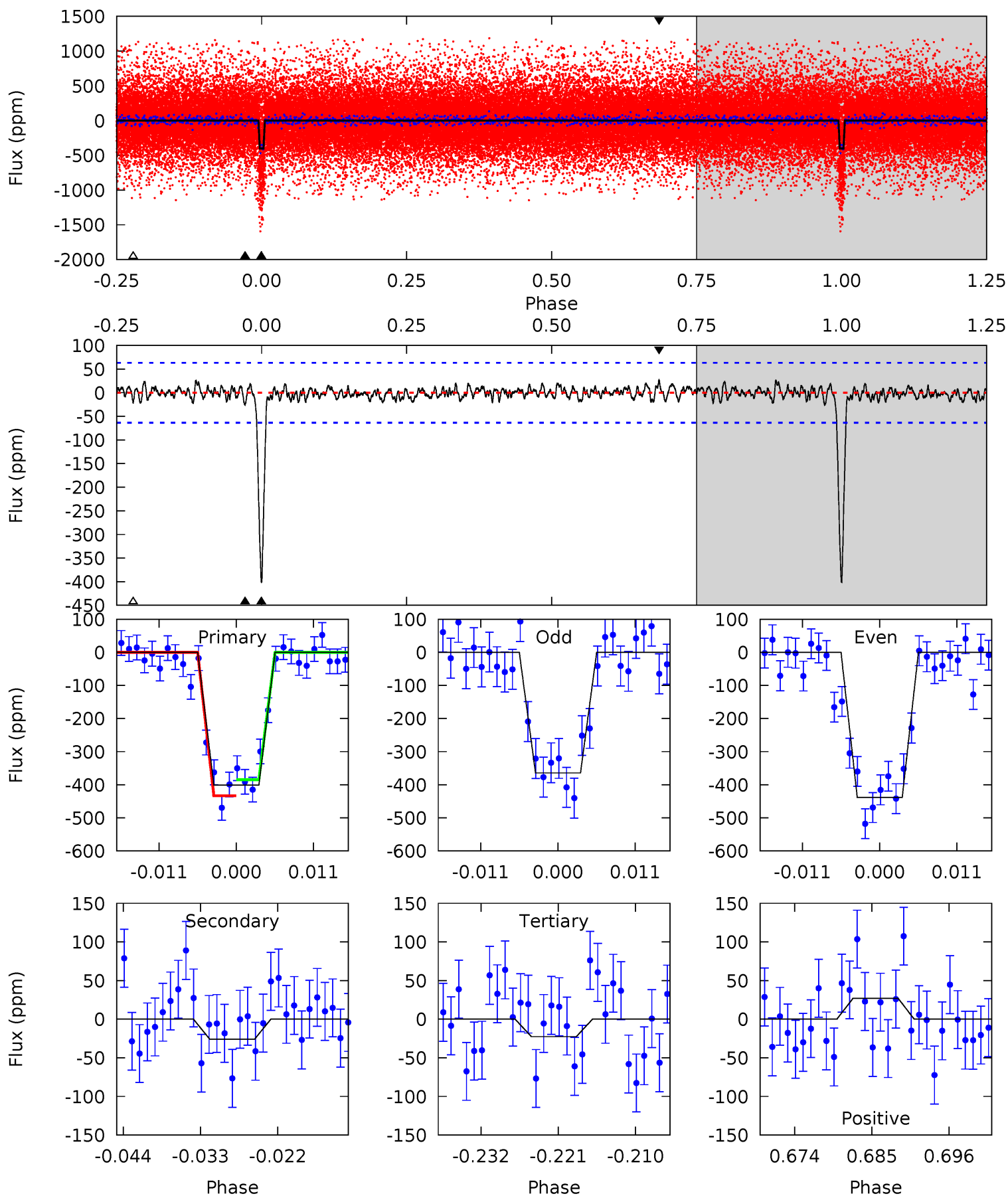
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	4.07	3.42	4.19	4.98	2.49	1.27	21.5	20.7	0.65	-0.12	1.95	0.91	0.14	2.74



Alt Model-Shift Uniqueness Test

005088400-01, P = 8.827185 Days, E = 139.732822 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.7	2.04	1.78	2.14	5.01	2.54	0.72	29.9	29.6	0.26	-0.10	2.92	1.02	0.06	0



Stellar Parameters For KIC 005088400

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5550^{+75}_{-83}	$4.539^{+0.021}_{-0.112}$	$0.120^{+0.150}_{-0.150}$	$0.878^{+0.120}_{-0.032}$	$0.972^{+0.041}_{-0.065}$	$2.020^{+0.204}_{-0.644}$
	+1%/-1%	+0%/-2%	+125%/-125%	+14%/-4%	+4%/-7%	+10%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005088400-01 / KOI 4127.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-61 ± 15	$2.27^{+0.42}_{-0.41}$	1126^{+43}_{-27}	3635^{+280}_{-248}	43^{+25}_{-16}
Alt.	-26 ± 13	$1.90^{+0.40}_{-0.42}$	1122^{+40}_{-22}	3352^{+347}_{-371}	26^{+22}_{-14}

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 $A_{obs} \gg 1.0$

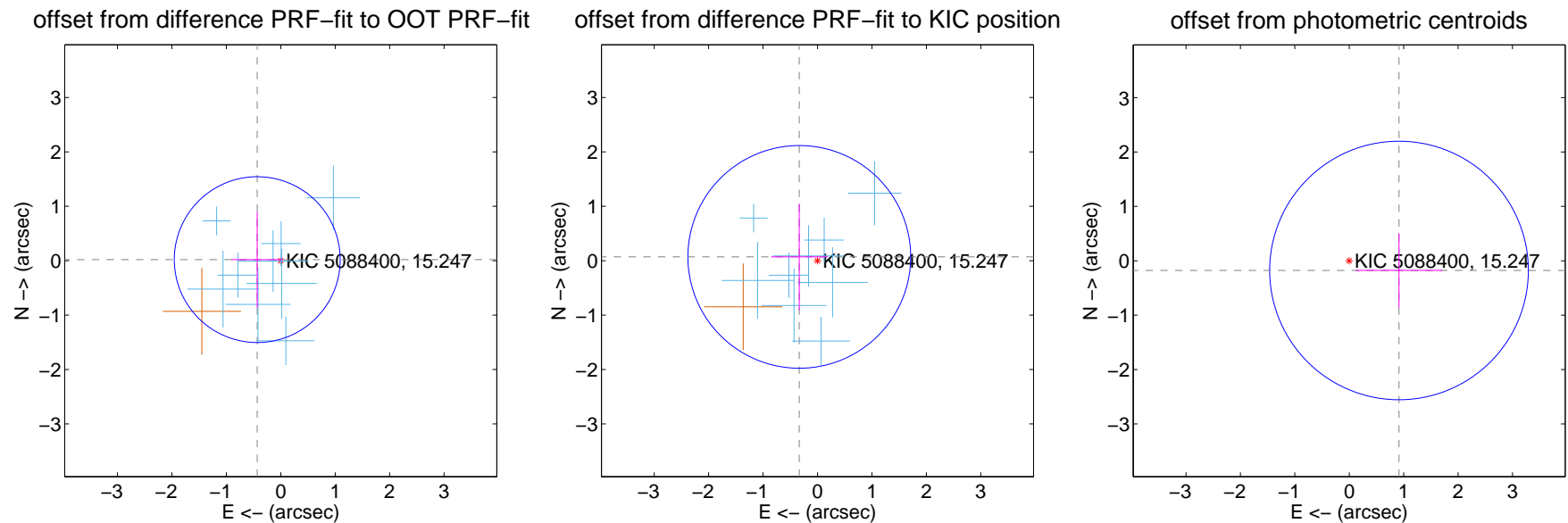
DV Centroid Data

Supplemental centroid analysis for 005088400-01. Kepler magnitude: 15.25. Transit SNR 16.33

There are 9 quarters with good PRF difference image offsets

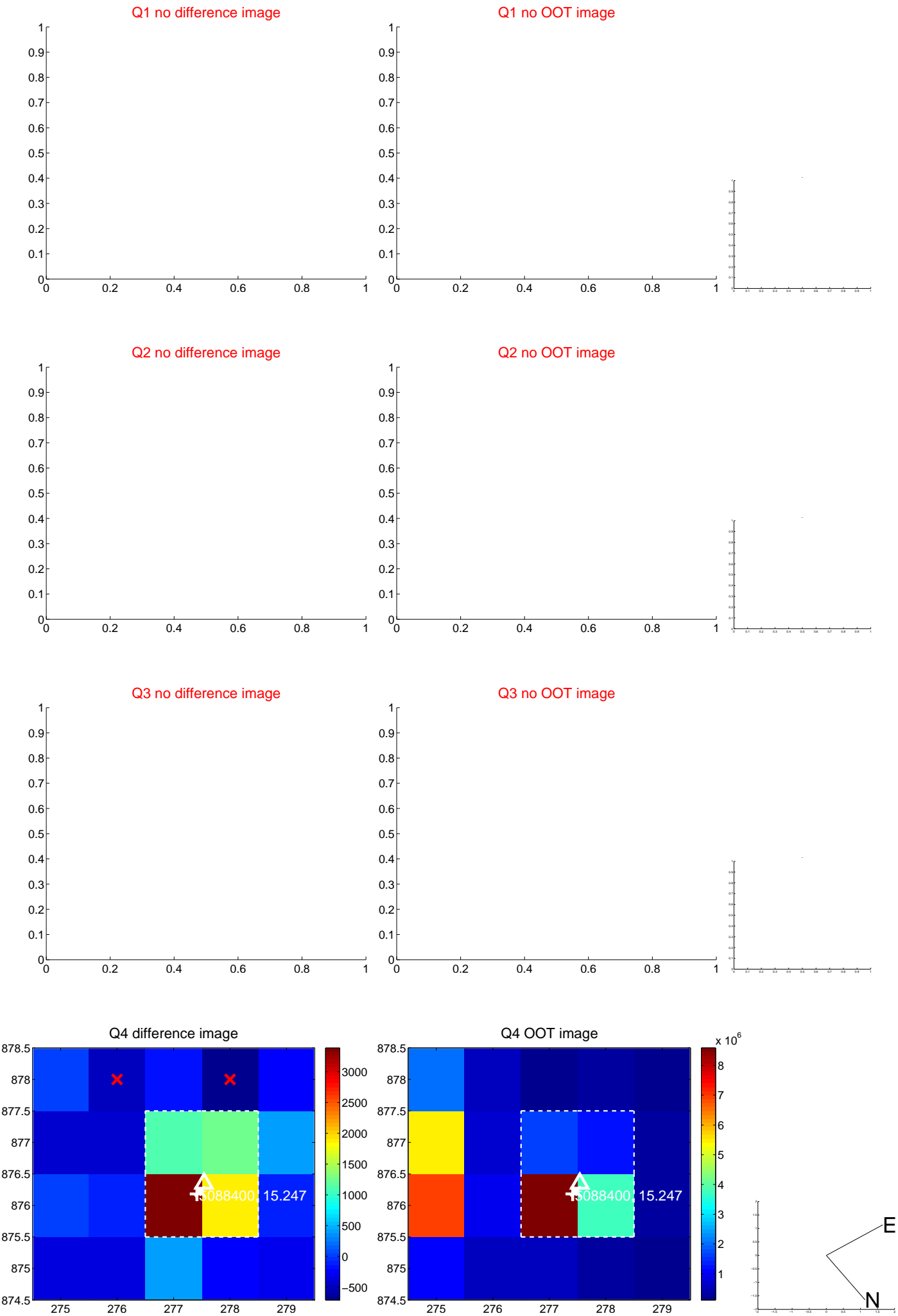
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.433 ± 0.508	0.85	0.432 ± 0.475	0.020 ± 0.883
PRF-fit source offset from KIC position	0.342 ± 0.682	0.50	0.334 ± 0.518	0.070 ± 0.979
photometric centroid source offset	0.93 ± 0.79	1.18	-0.91 ± 0.80	-0.18 ± 0.68

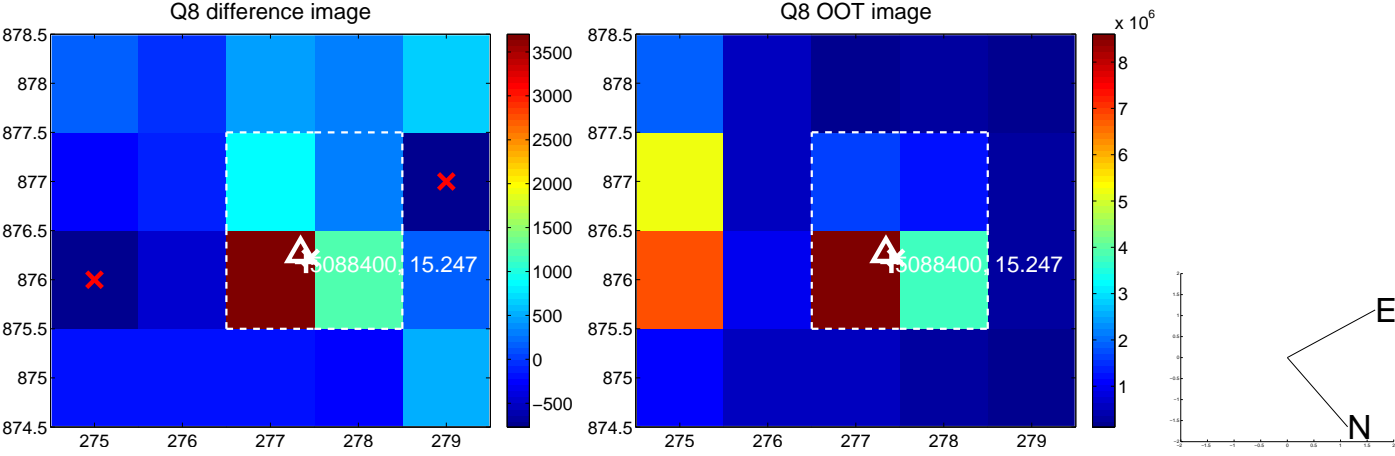
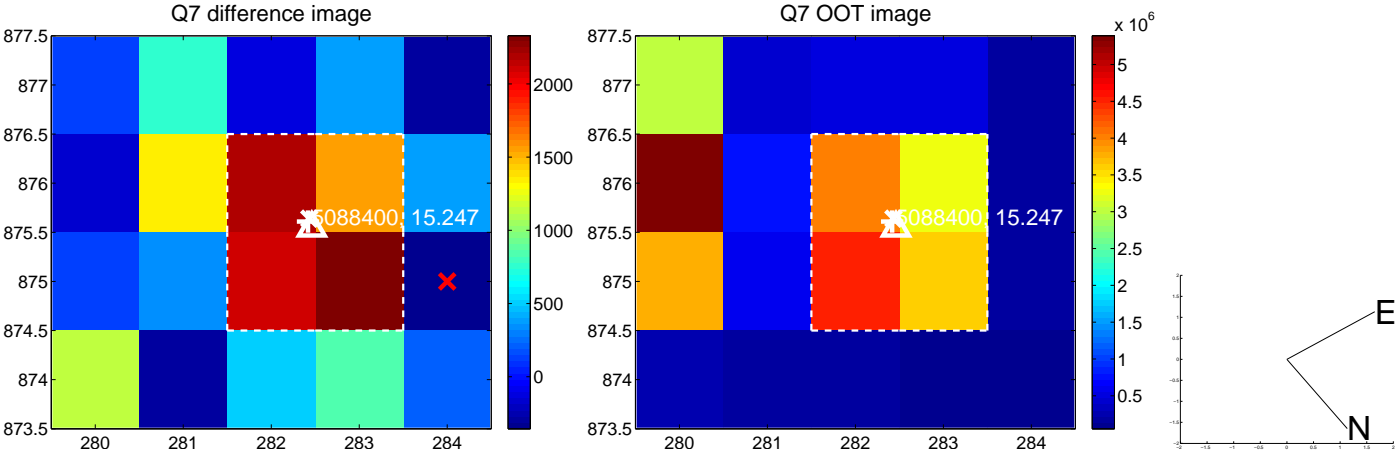
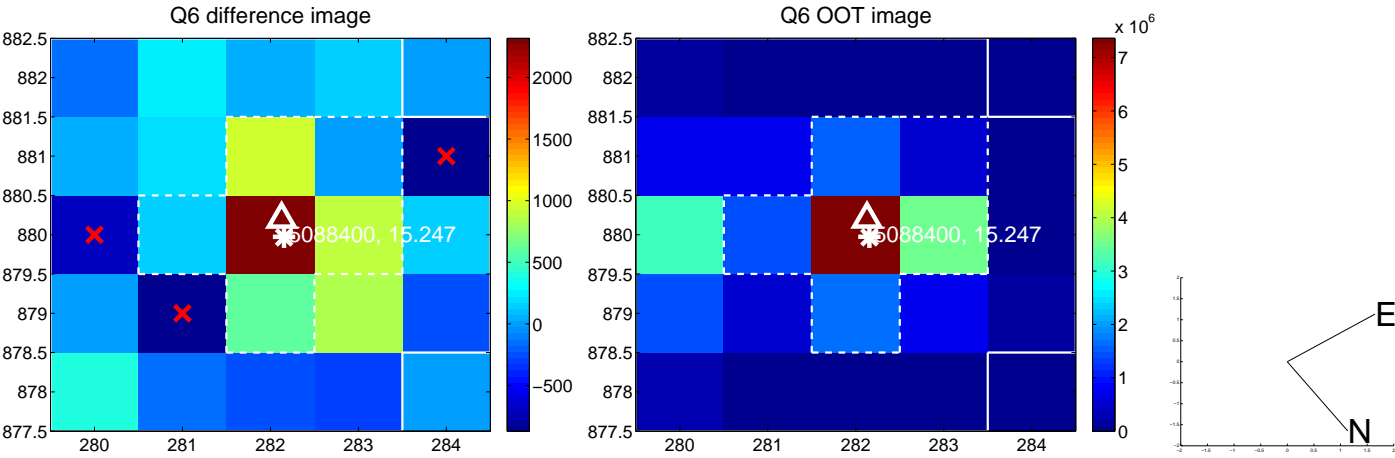
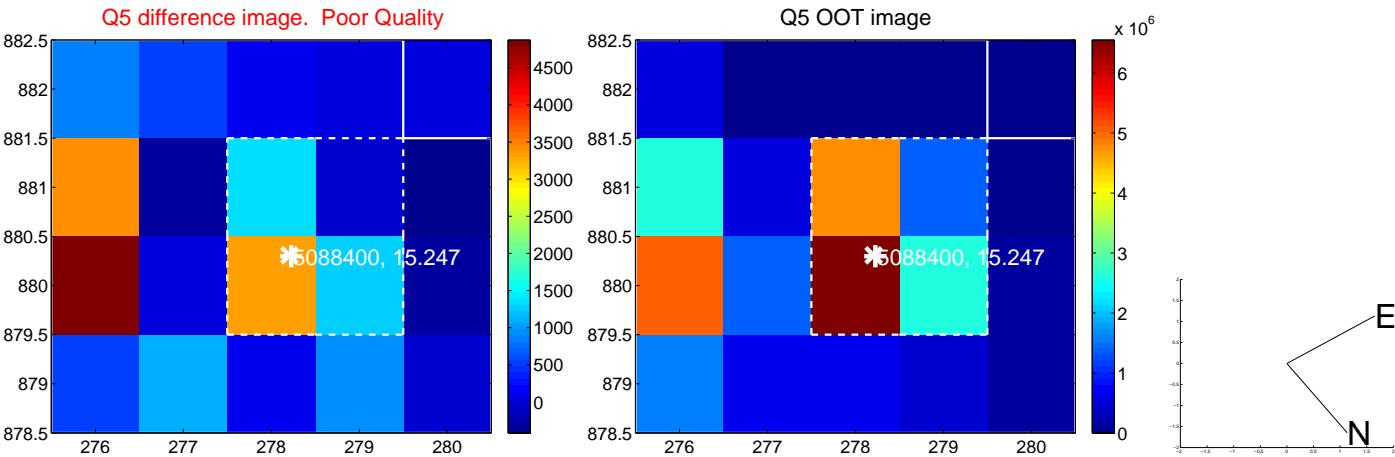


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

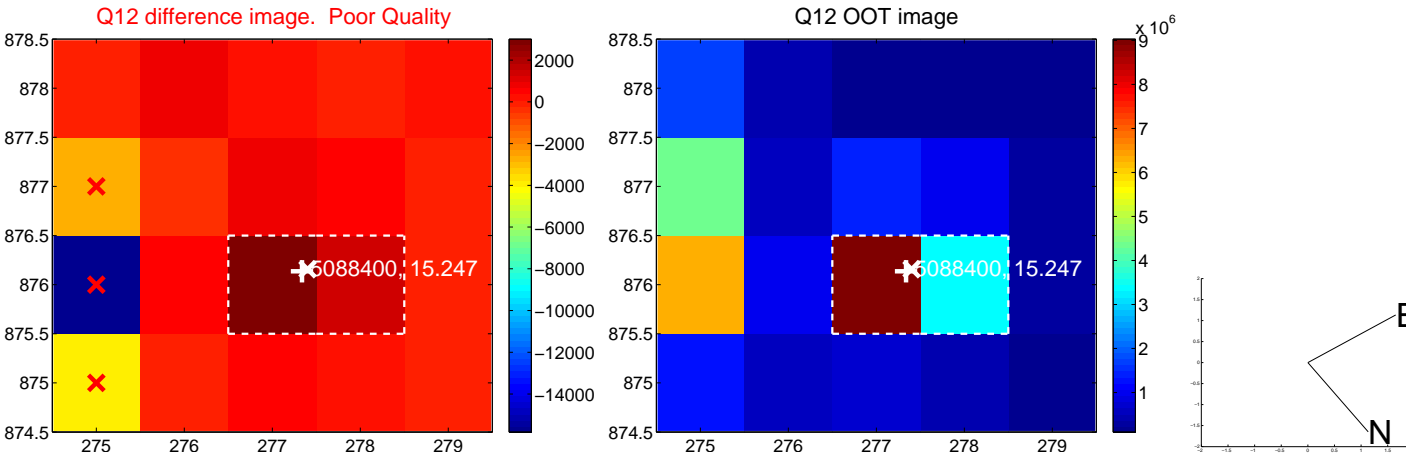
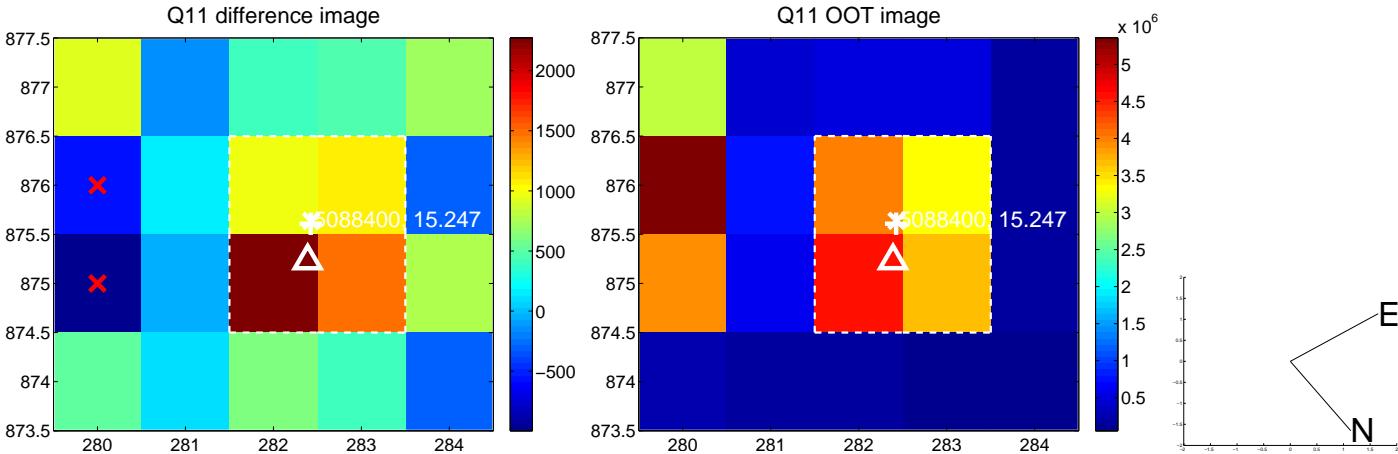
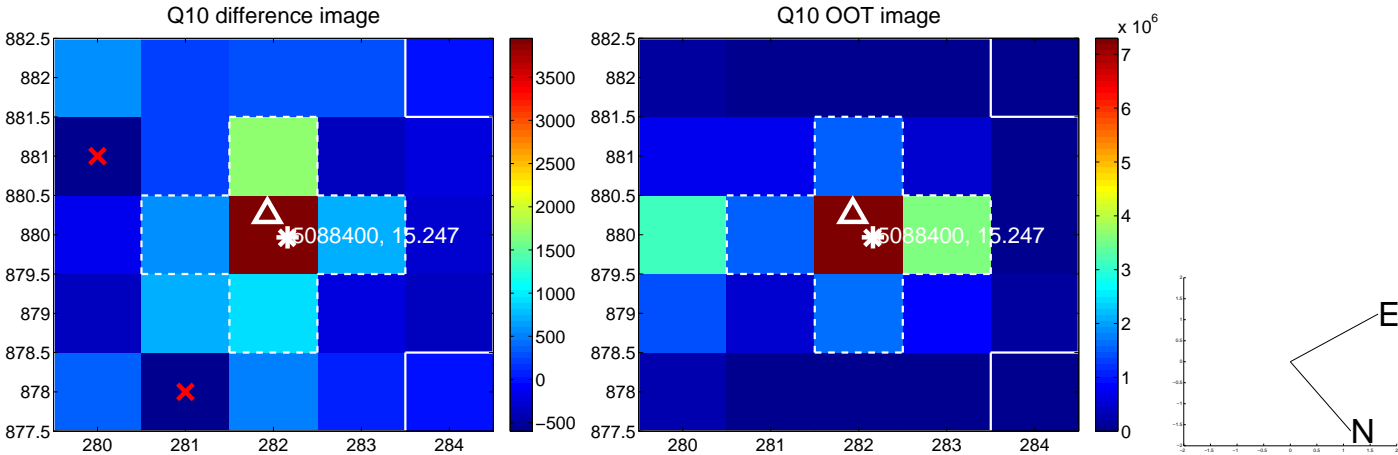
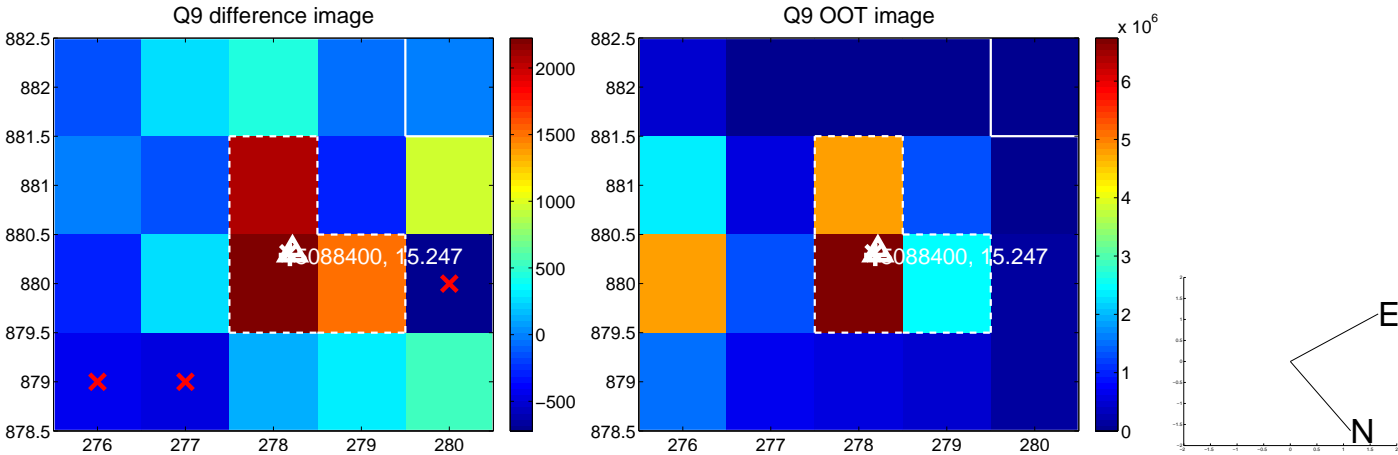
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



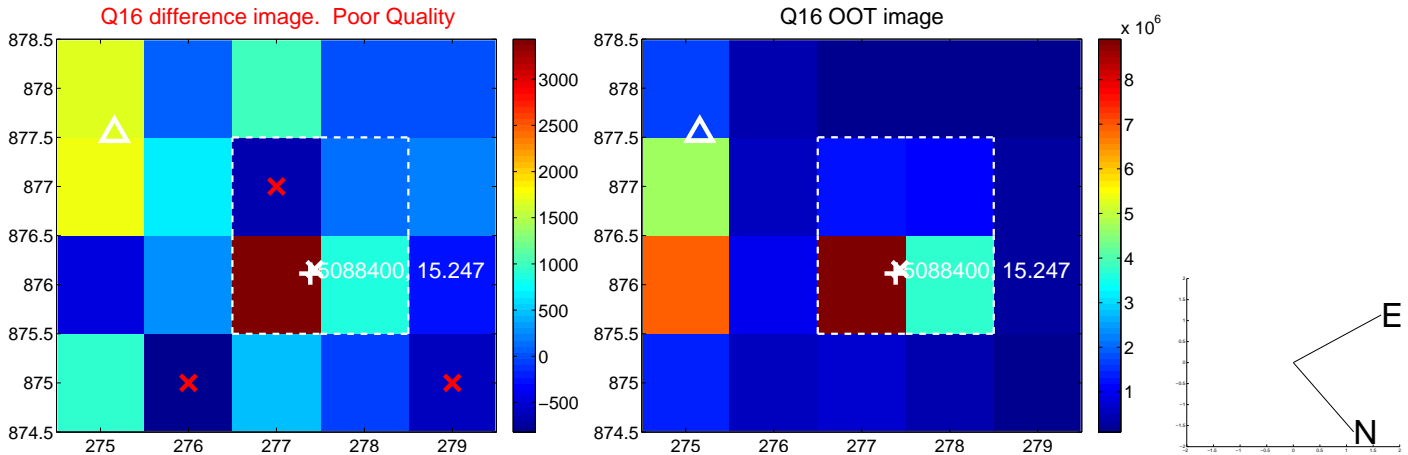
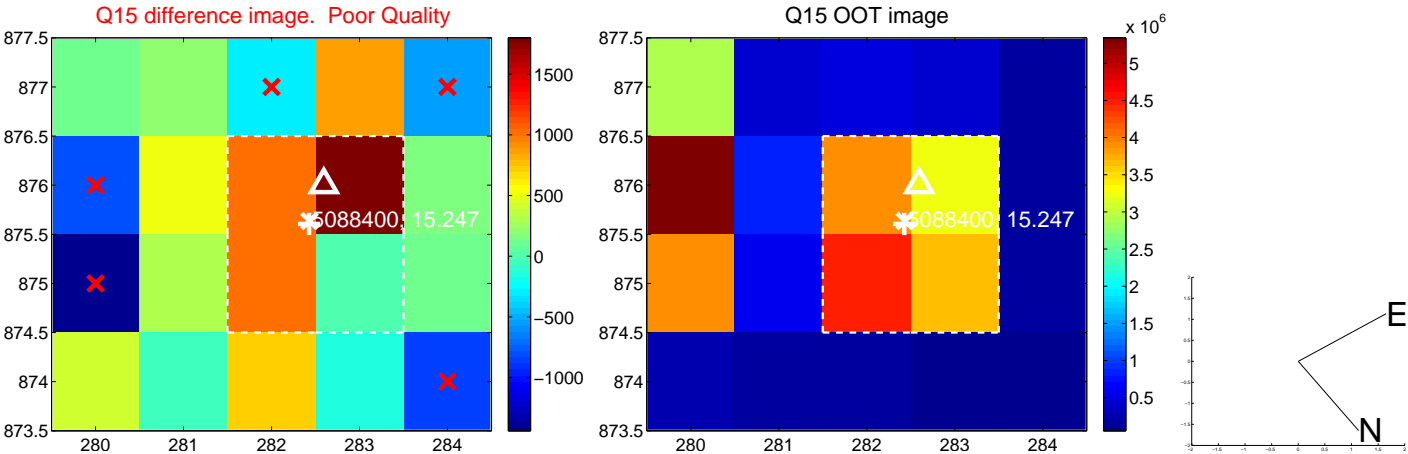
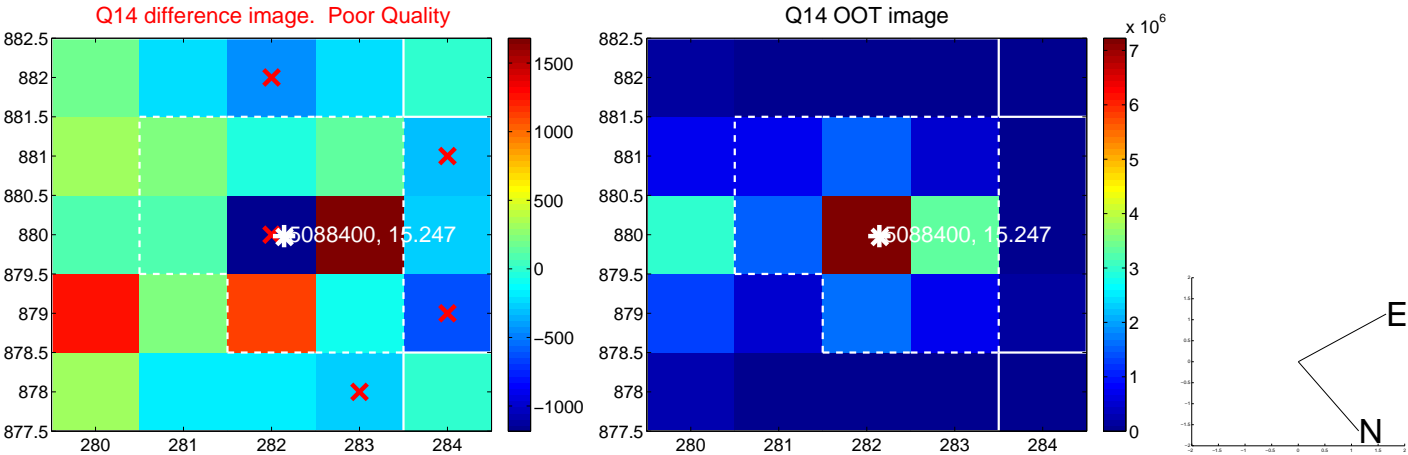
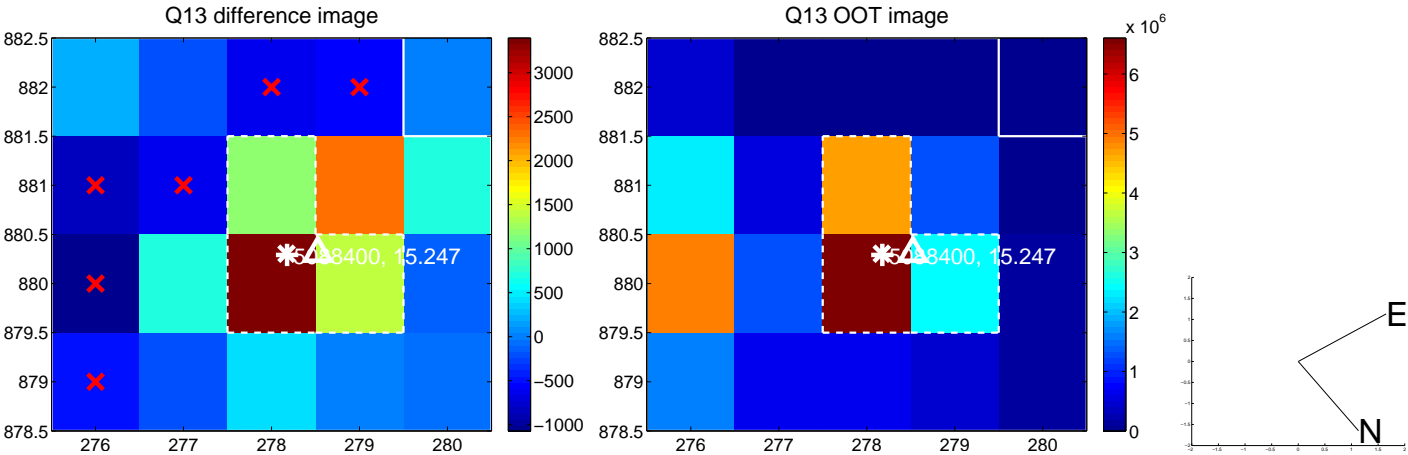
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



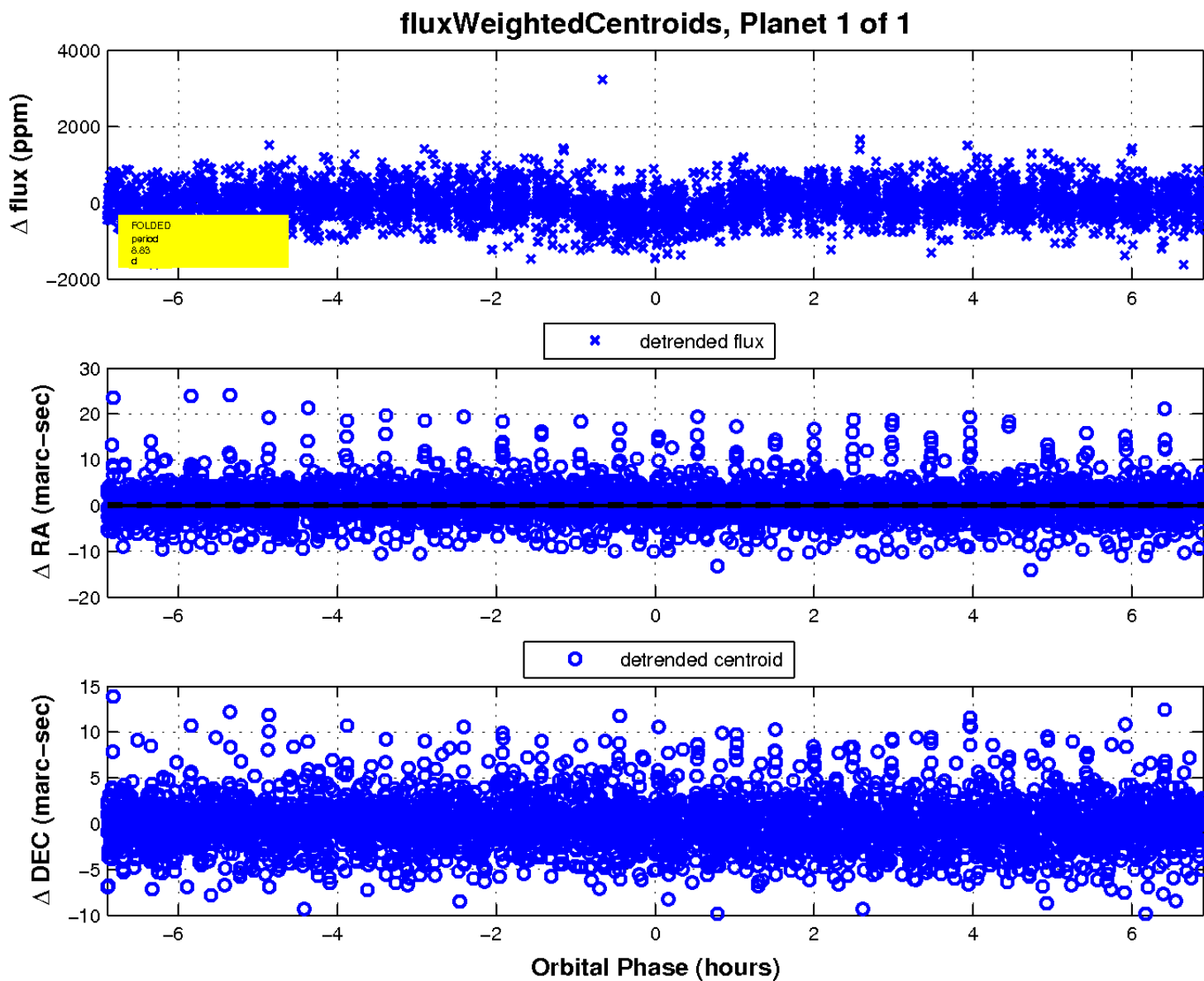
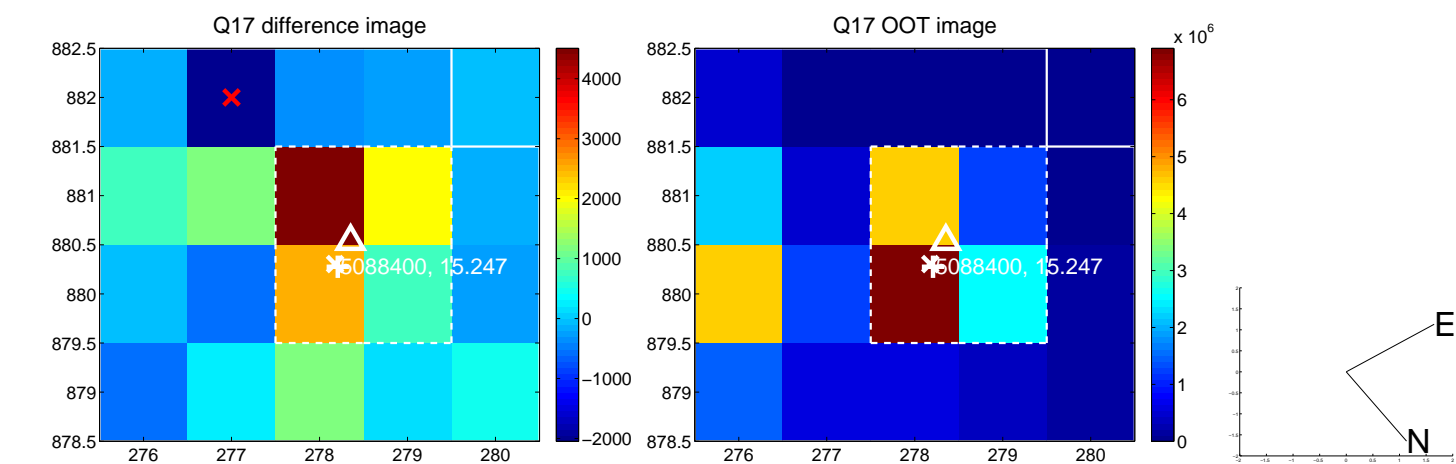
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UKIRT Image

Declination

