

KIC 007668416

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})
007668416-01	OBS	3089.01	0.858554	132.137417	147.5	0.610	10.3	12.1	0.86	5269	1.60	1846.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007668416-01	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.

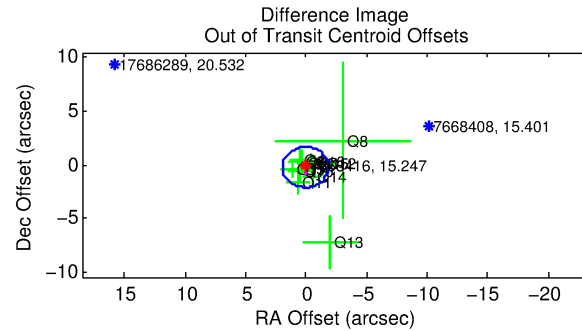
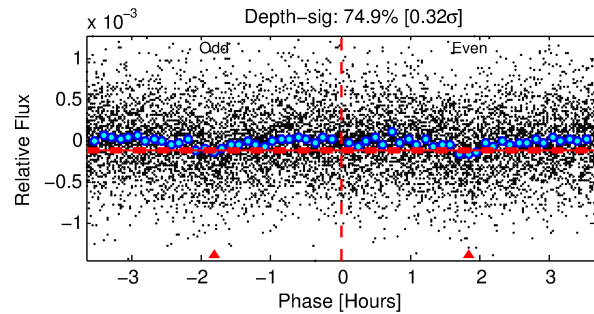
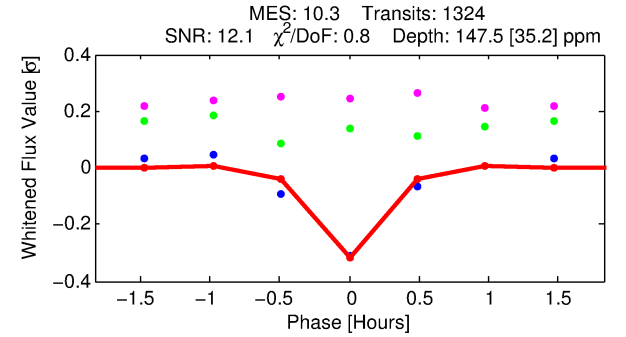
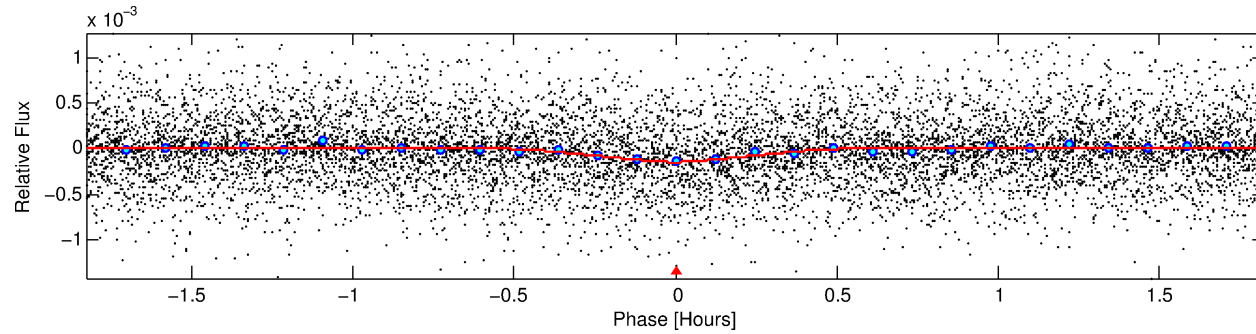
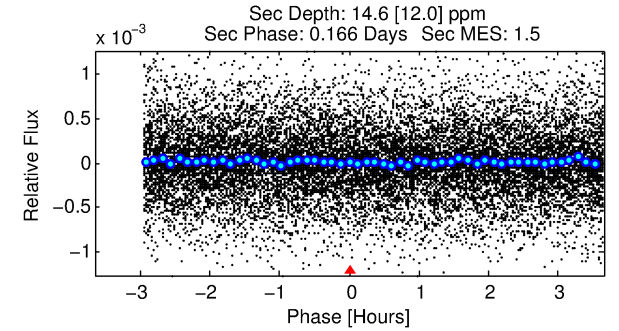
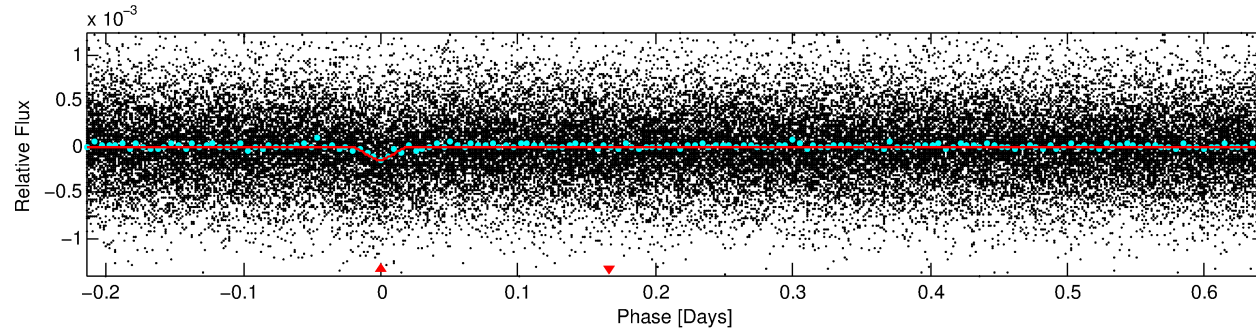
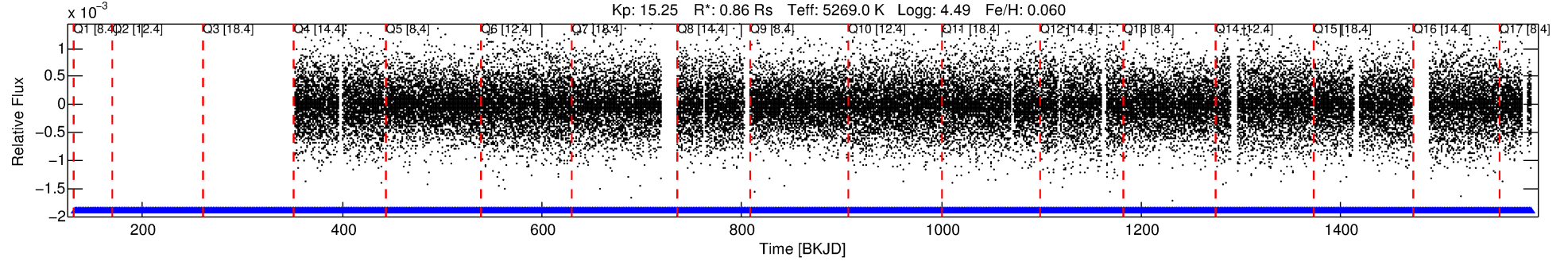
Ephemeris Match Information For 007668416-01

No Significant Match Found

DV One-Page Summary

KIC: 7668416 Candidate: 1 of 1 Period: 0.859 d

KOI: K03089.01 Corr: 0.752



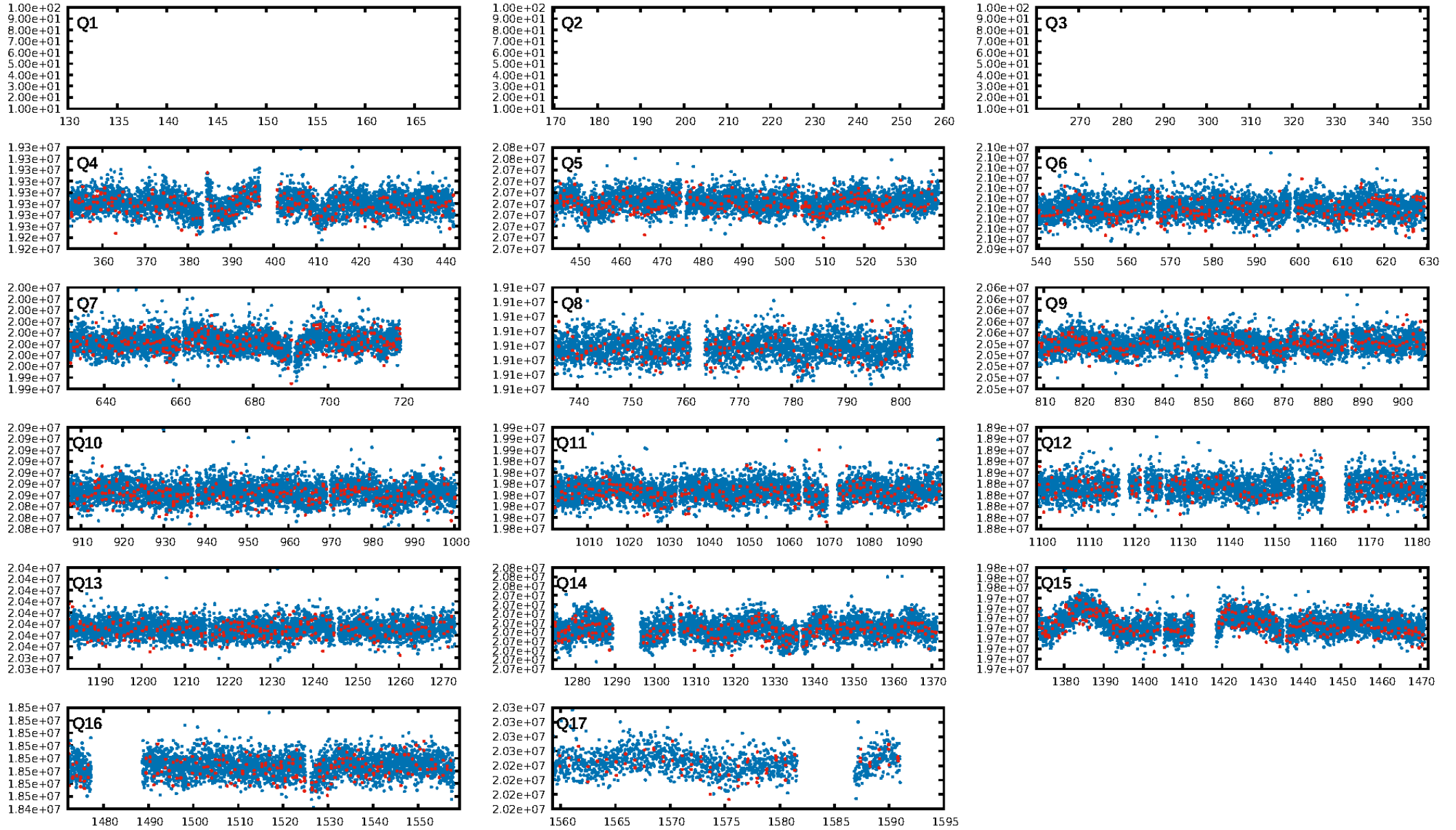
DV Fit Results:

Period = 0.85855 [0.00001] d
Epoch = 132.1374 [0.0010] BKJD
Rp/R* = 0.0170 [0.0061]
a/R* = 3.24 [3.27]
b = 0.98 [0.06]
Seff = 1846.97 [475.61]
Teff = 1672 [108] K
Rp = 1.60 [0.64] Re
a = 0.0167 [0.0024] AU
Ag = 0.88 [0.98] [-0.13σ]
Teffp = 2501 [689] K [1.19σ]

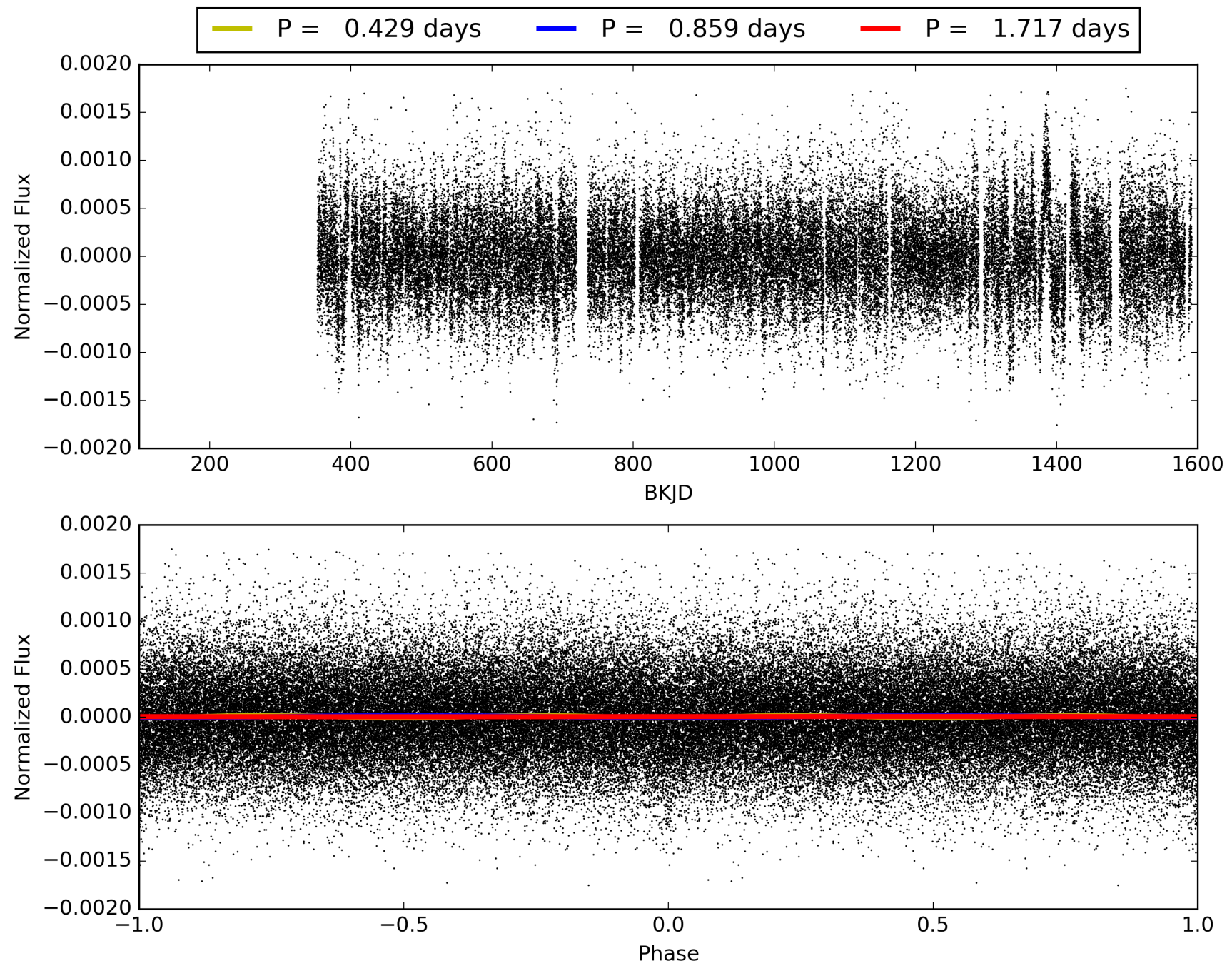
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.01e-25
RollingBand-fgt: 1.00 [1293/1293]
GhostDiagnostic-chr: -2.352
Centroid-sig: 0.0%
Centroid-so: 1.627 arcsec [1.70σ]
OotOffset-rm: 0.249 arcsec [0.40σ]
KicOffset-rm: 0.078 arcsec [0.13σ]
OotOffset-st: 3/2/4/4 [13]
KicOffset-st: 3/2/4/4 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 007668416-01, PDC Light Curves

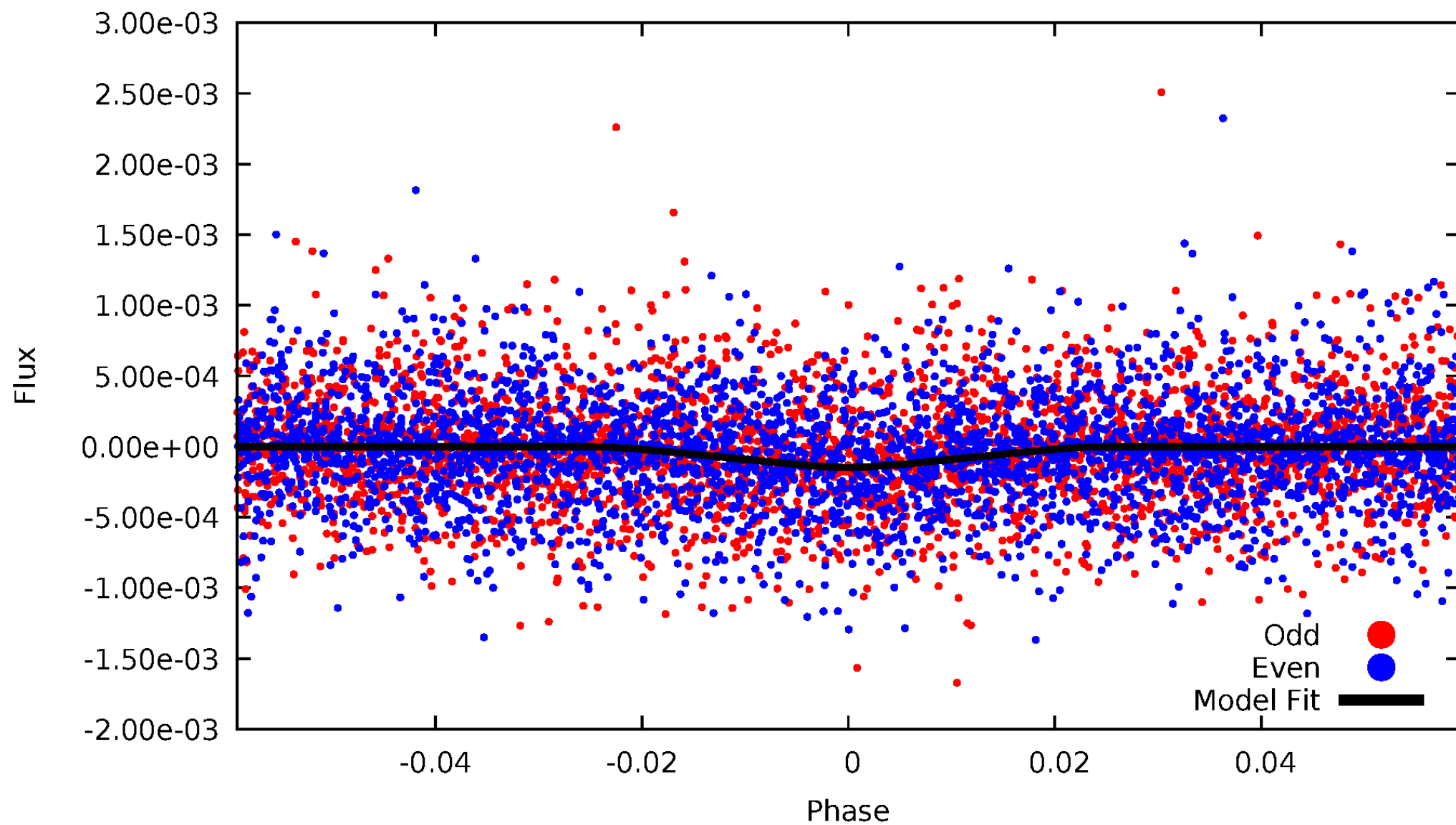


TCE 007668416-01



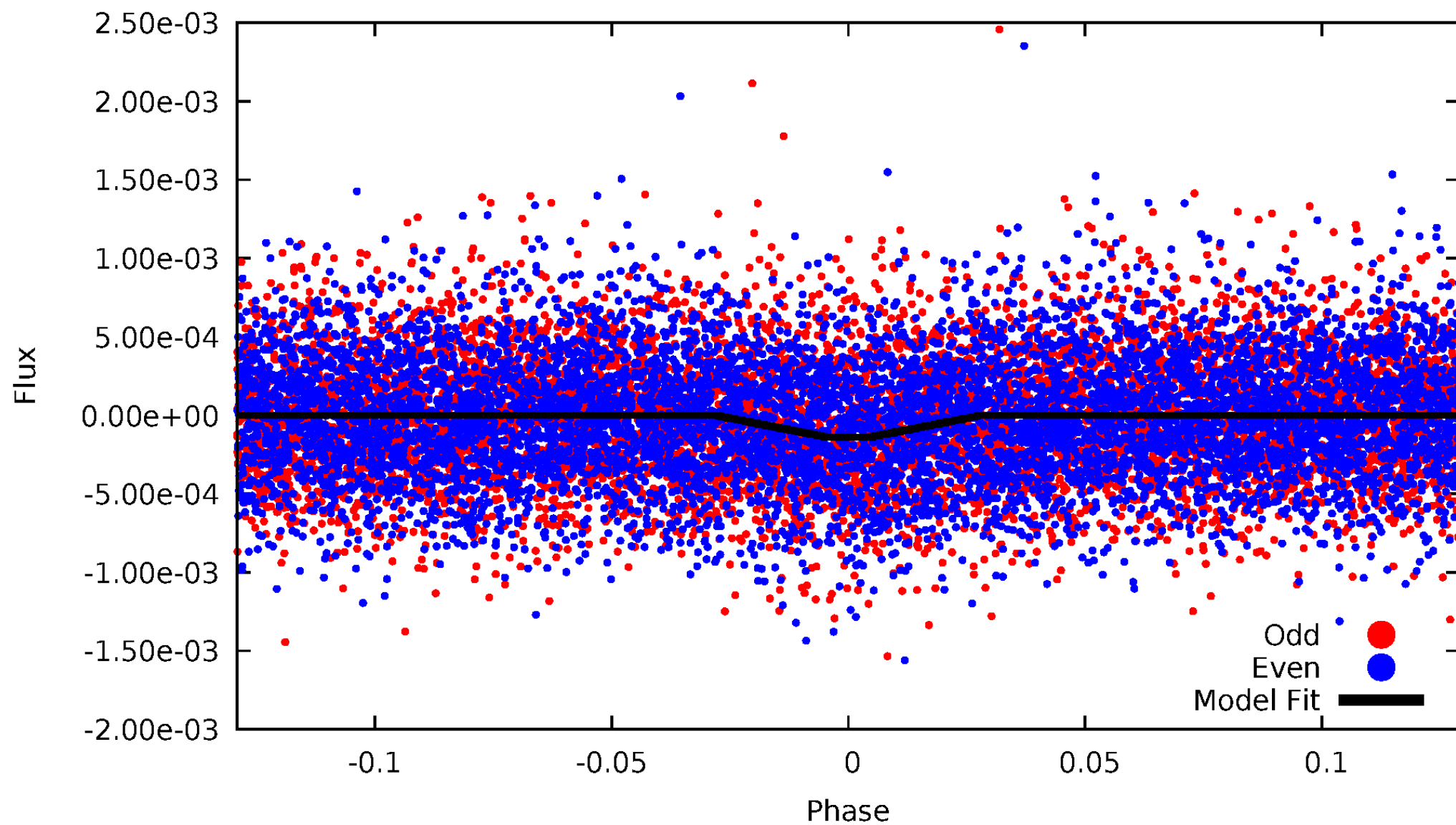
DV Odd/Even

TCE 007668416-01



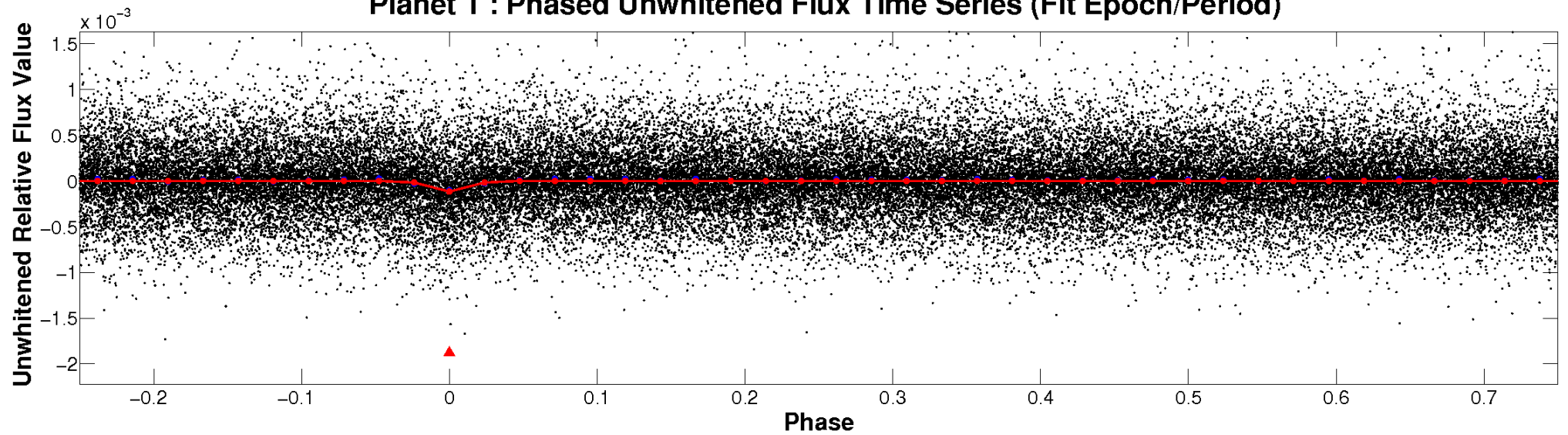
ALT Odd/Even

TCE 007668416-01

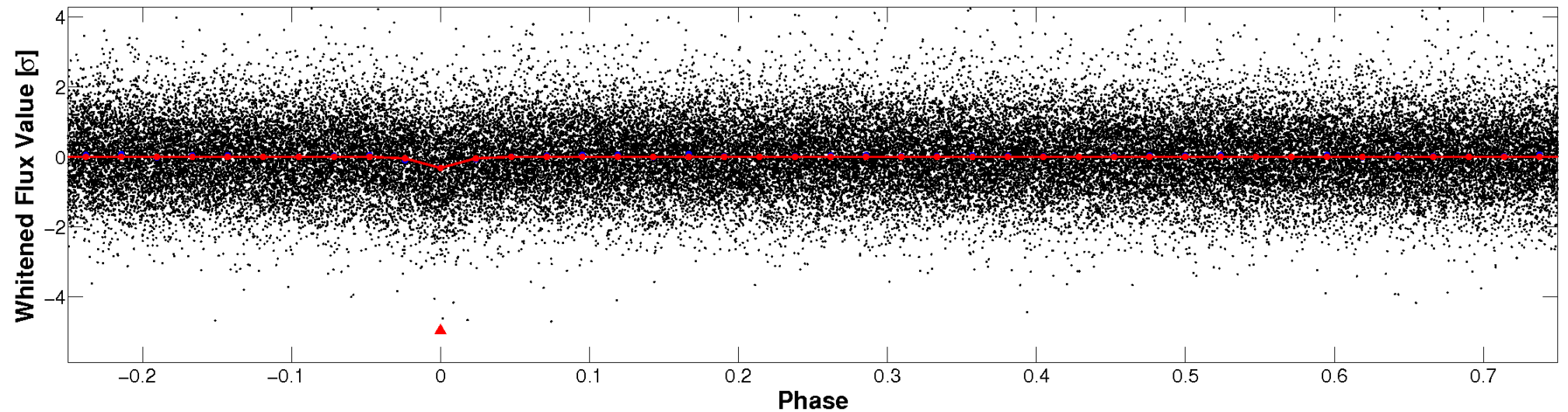


Non-Whitened Vs. Whitened Light Curve

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

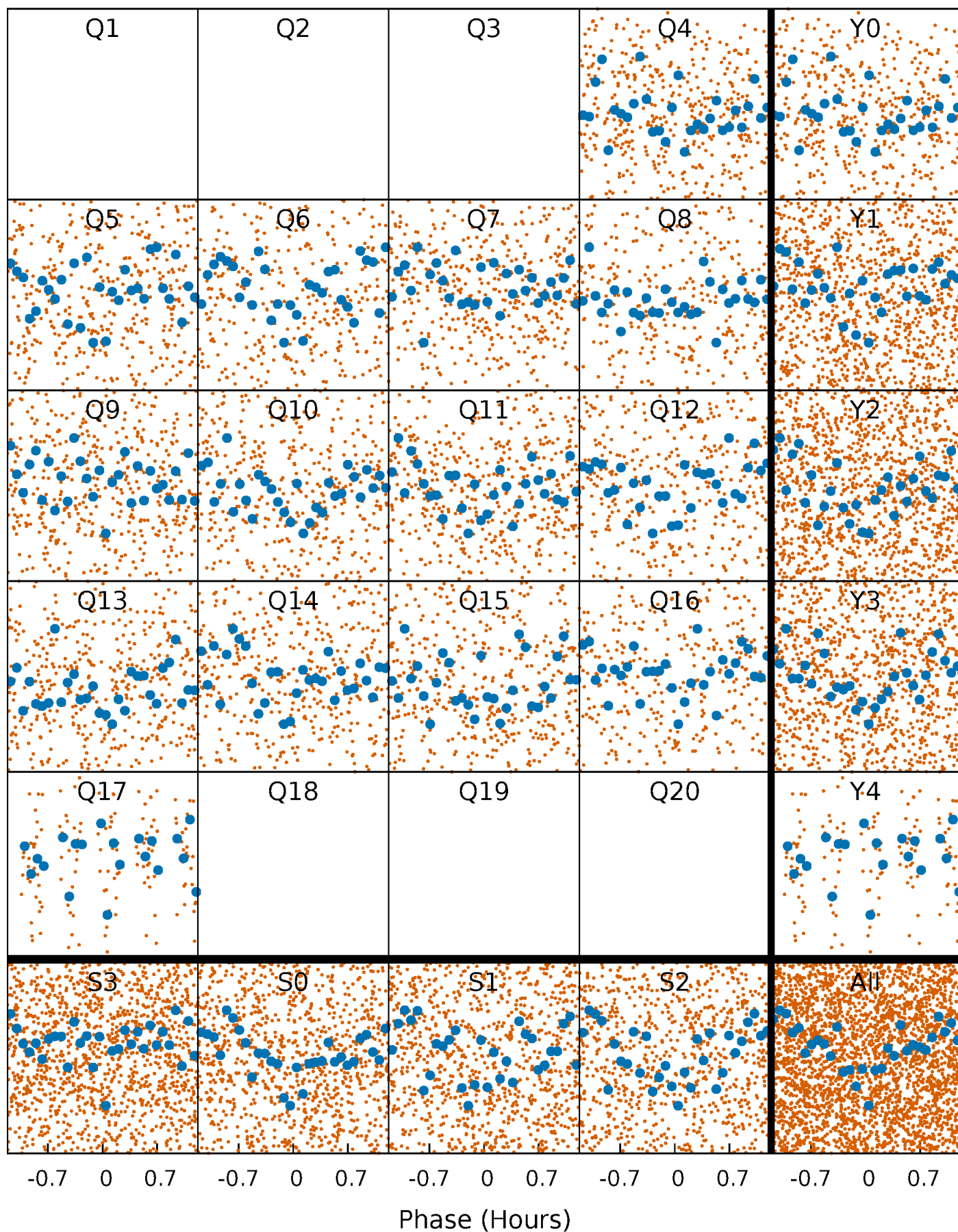


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



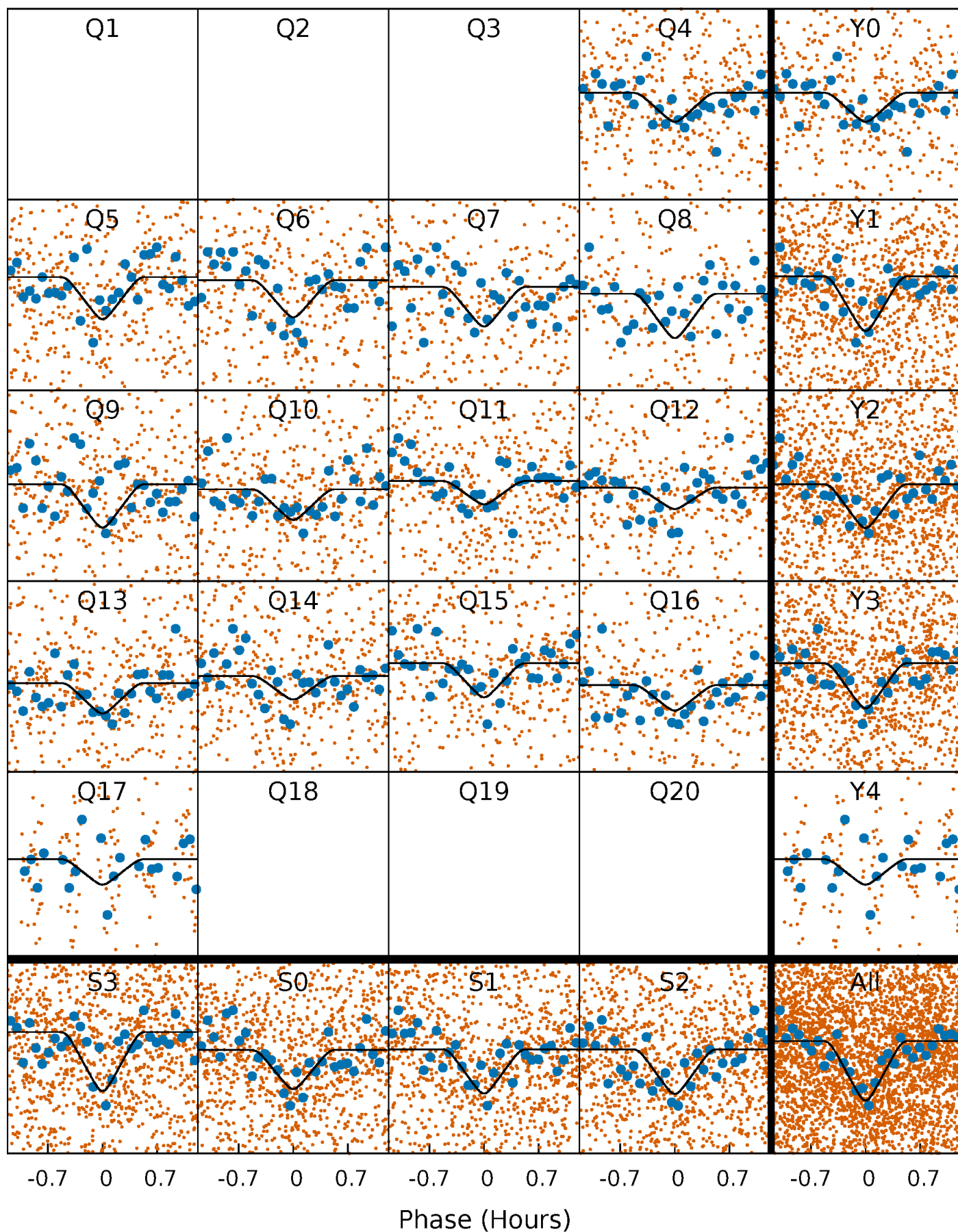
PDC Quarter-Phased Transit Curves

TCE 007668416-01 P= 0.858554 Days $T_0=132.137417$ (BKJD)



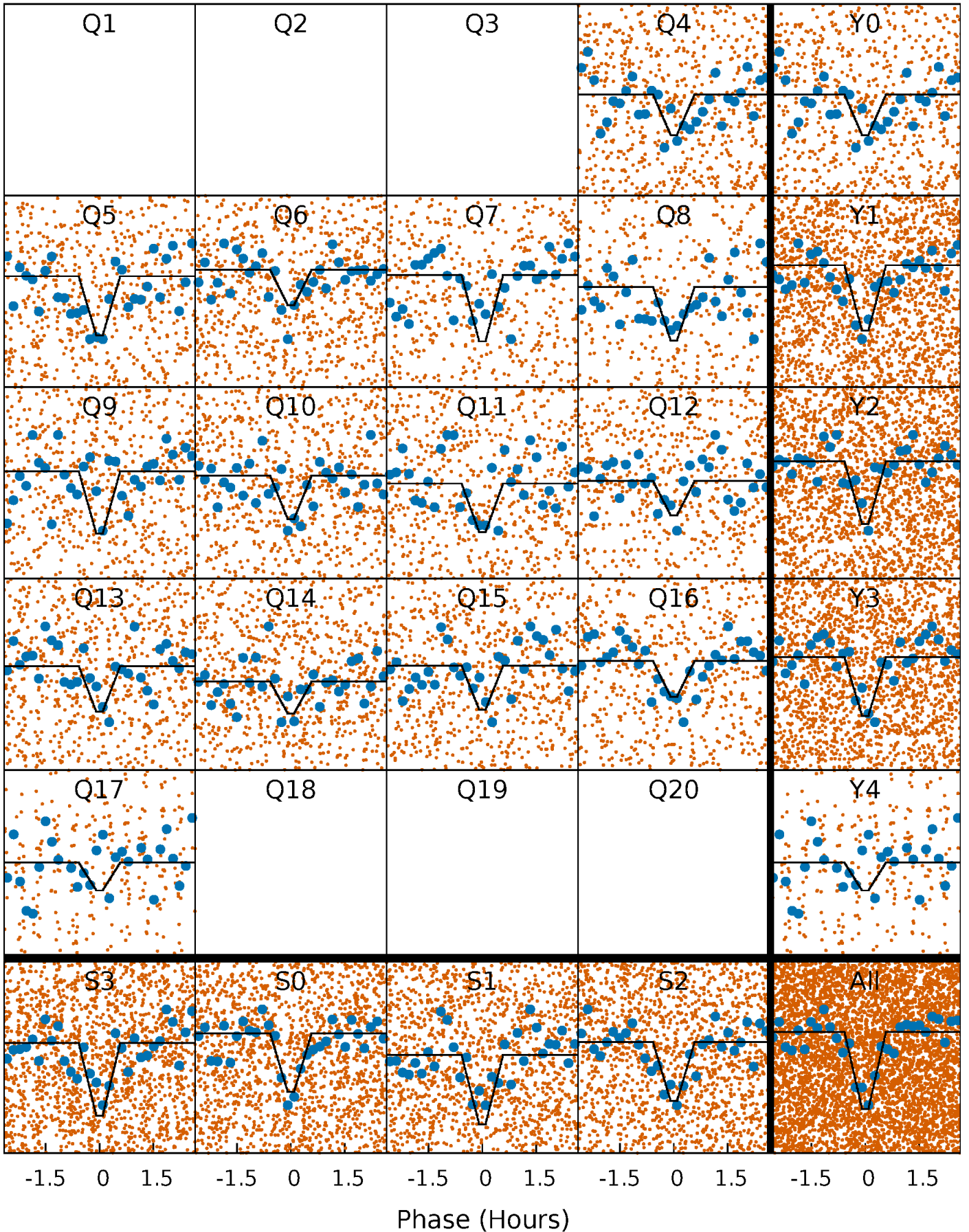
DV Quarter-Phased Transit Curves

TCE 007668416-01 P= 0.858554 Days $T_0=132.137417$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

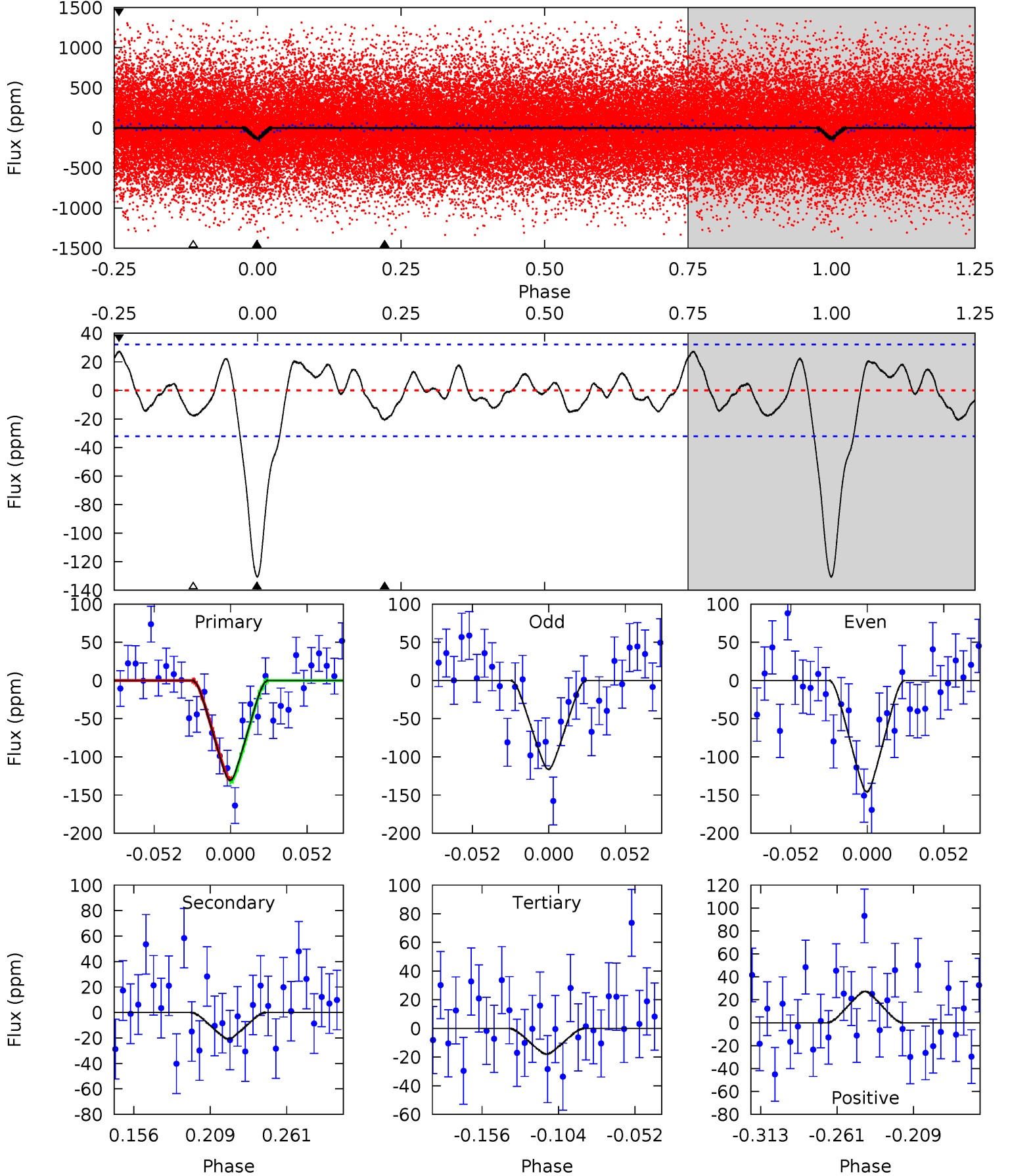
TCE 007668416-01 P= 0.858545 Days $T_0=132.145102$ (BKJD)



DV Model-Shift Uniqueness Test

007668416-01, P = 0.858554 Days, E = 132.137417 Days

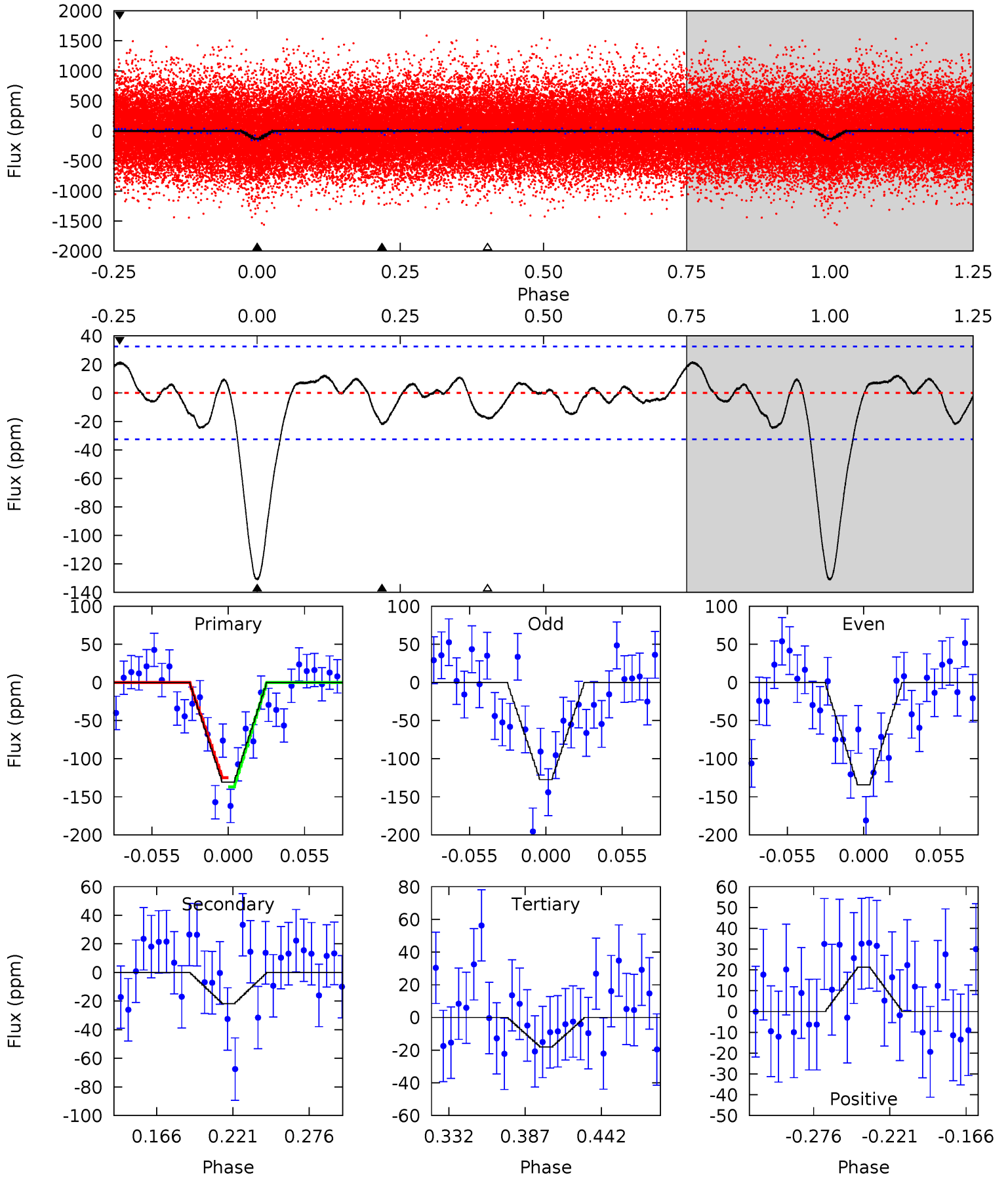
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	3.03	2.62	4.00	4.70	1.94	1.50	16.5	15.1	0.41	-0.96	2.16	1.03	0.17	0.28



Alt Model-Shift Uniqueness Test

007668416-01, P = 0.858545 Days, E = 132.145102 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	3.14	2.59	3.07	4.69	1.92	1.31	16.2	15.7	0.55	0.07	0.50	0.97	0.14	0.87



Stellar Parameters For KIC 007668416

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5269^{+184}_{-184}	$4.491^{+0.080}_{-0.120}$	$0.060^{+0.250}_{-0.300}$	$0.864^{+0.147}_{-0.098}$	$0.843^{+0.090}_{-0.074}$	$1.843^{+0.618}_{-0.652}$
	+3%/-3%	+2%/-3%	+417%/-500%	+17%/-11%	+11%/-9%	+34%/-35%
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 007668416-01 / KOI 3089.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-21 ± 7	$1.63^{+0.61}_{-0.57}$	2349^{+125}_{-119}	3098^{+590}_{-487}	$1.147^{+1.699}_{-0.602}$
Alt.	-22 ± 7	$1.11^{+0.59}_{-0.53}$	2352^{+121}_{-113}	3626^{+1030}_{-604}	$2.632^{+7.347}_{-1.596}$

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

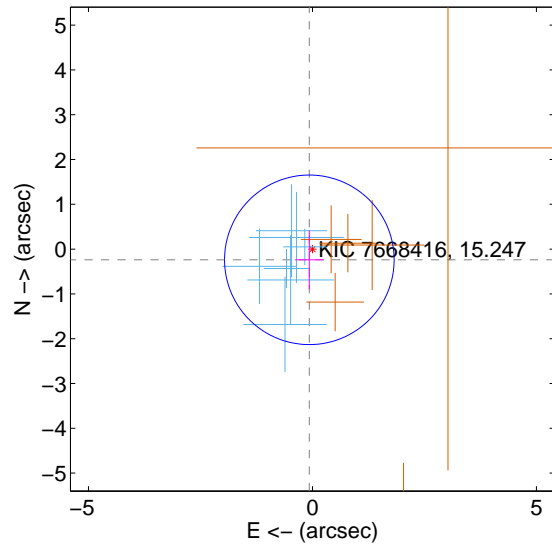
Supplemental centroid analysis for 007668416-01. Kepler magnitude: 15.25. Transit SNR 12.06

There are 7 quarters with good PRF difference image offsets

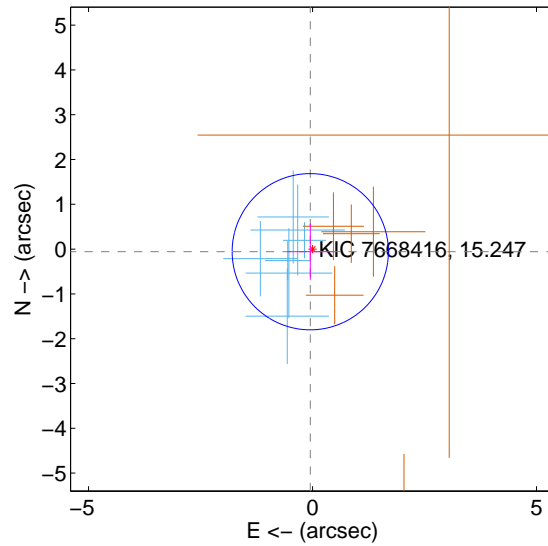
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.249 ± 0.631	0.40	0.069 ± 0.322	-0.239 ± 0.659
PRF-fit source offset from KIC position	0.078 ± 0.581	0.13	0.051 ± 0.513	-0.059 ± 0.627
photometric centroid source offset	1.63 ± 0.96	1.70	1.45 ± 0.97	-0.74 ± 0.92

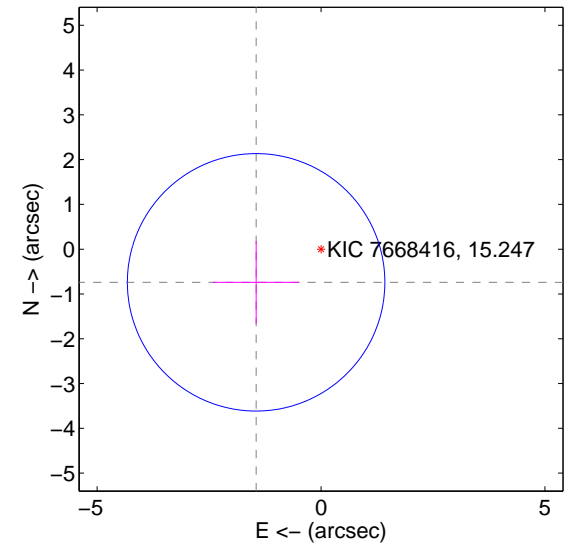
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

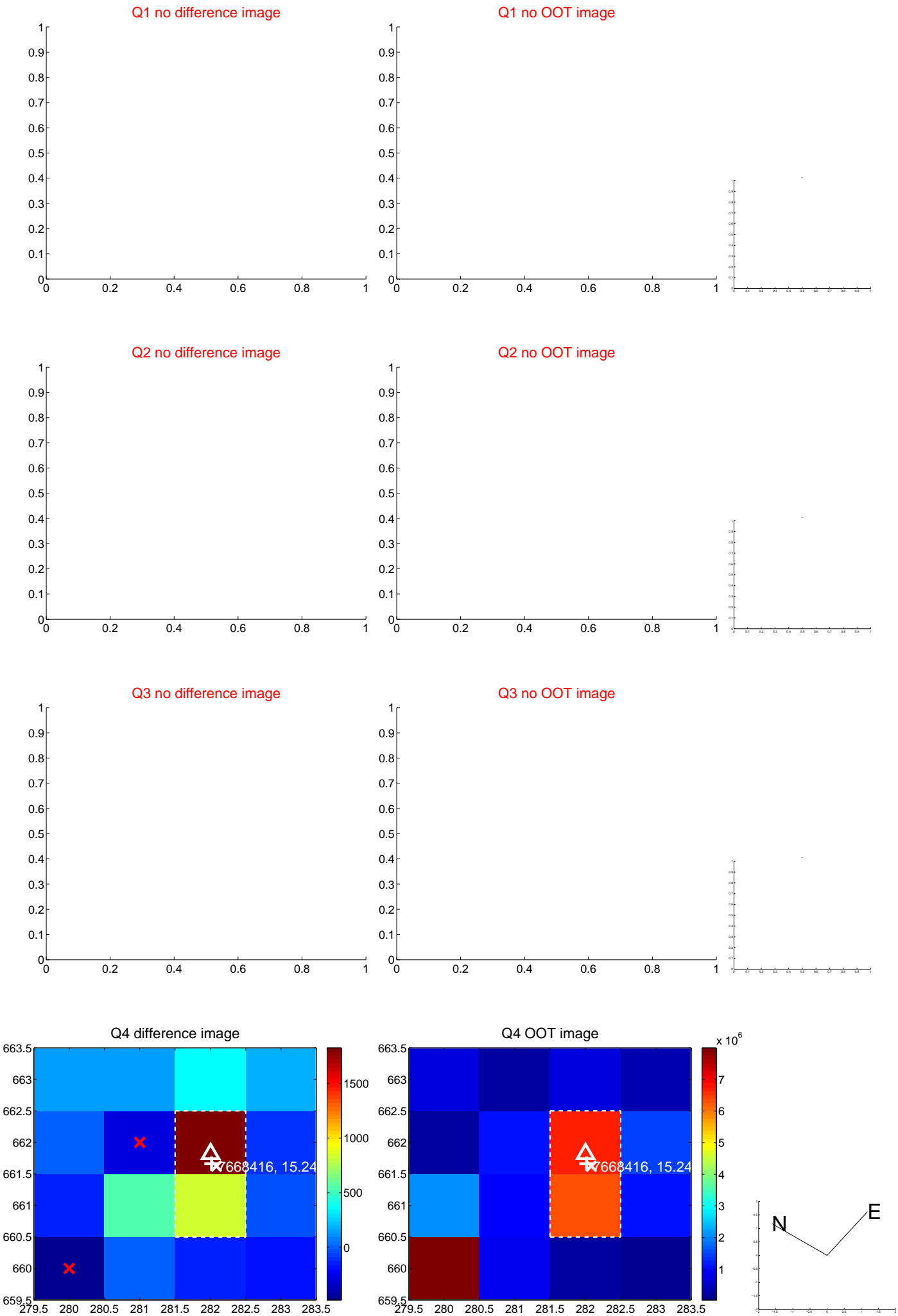


offset from photometric centroids

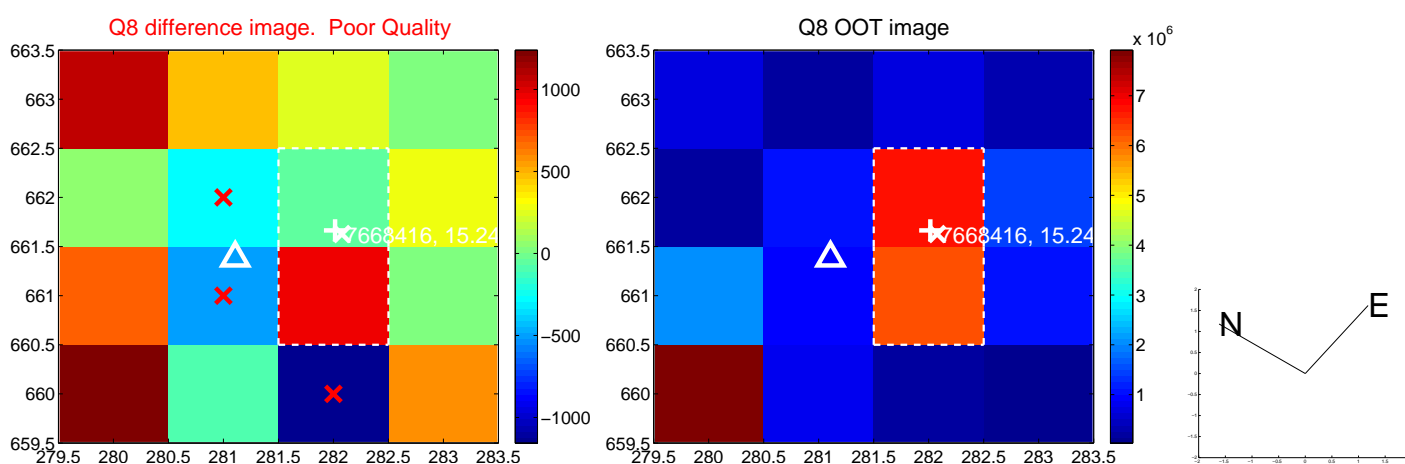
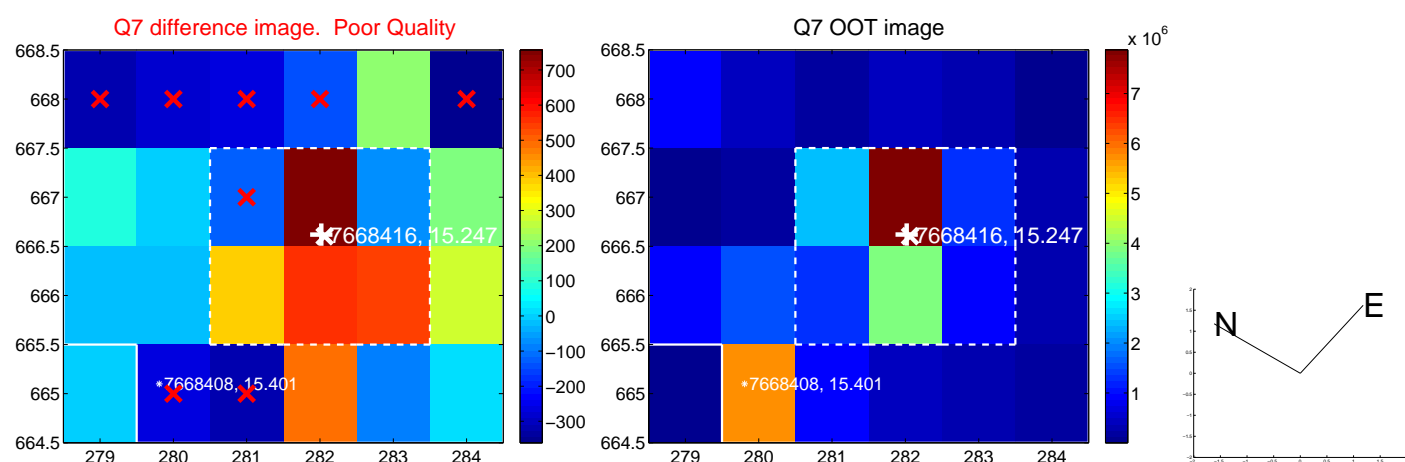
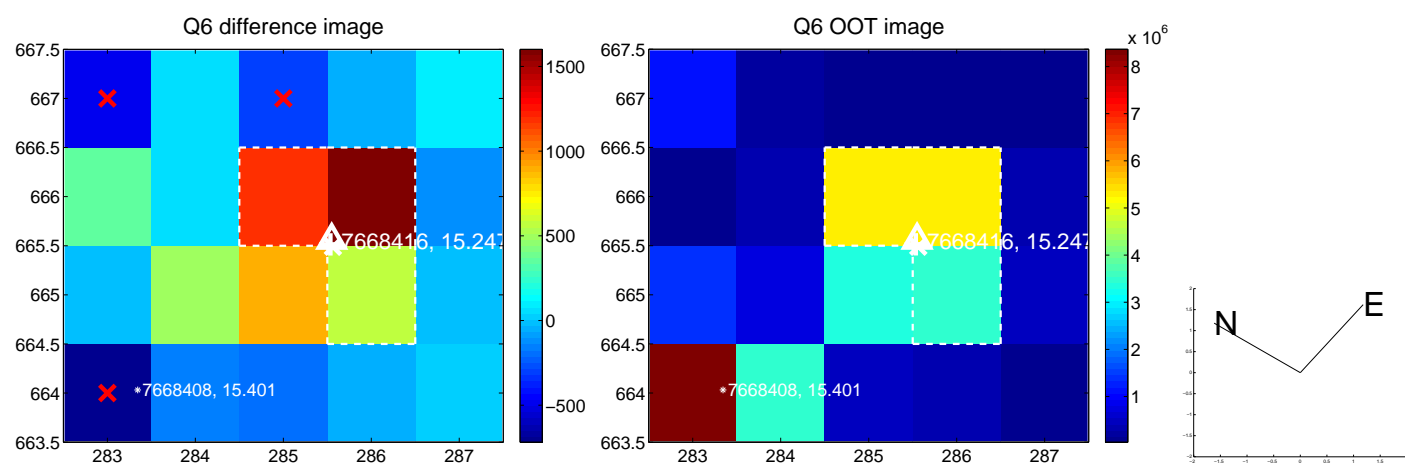
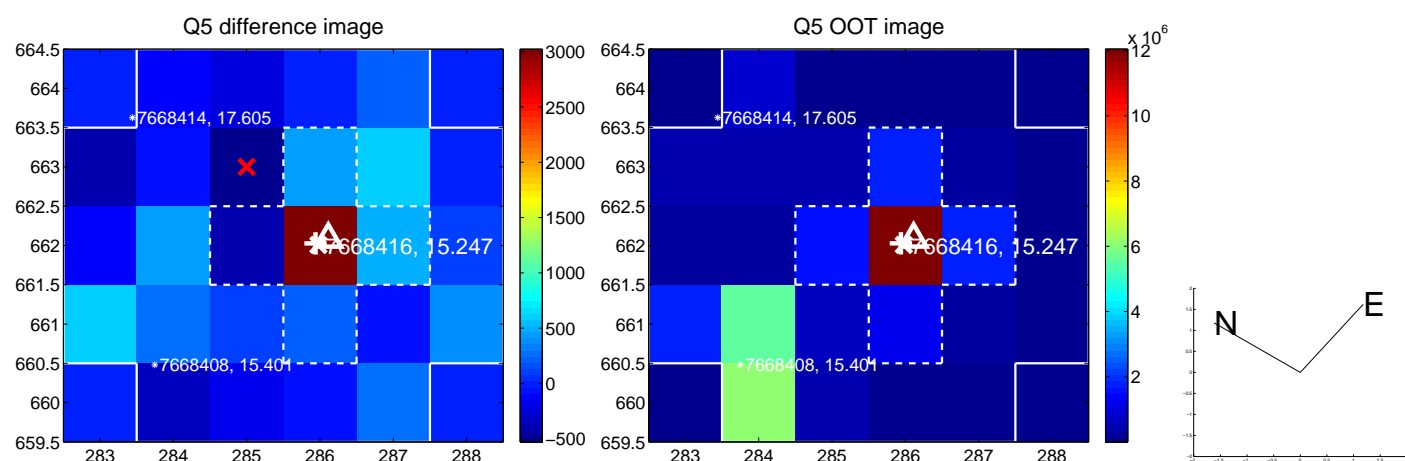


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

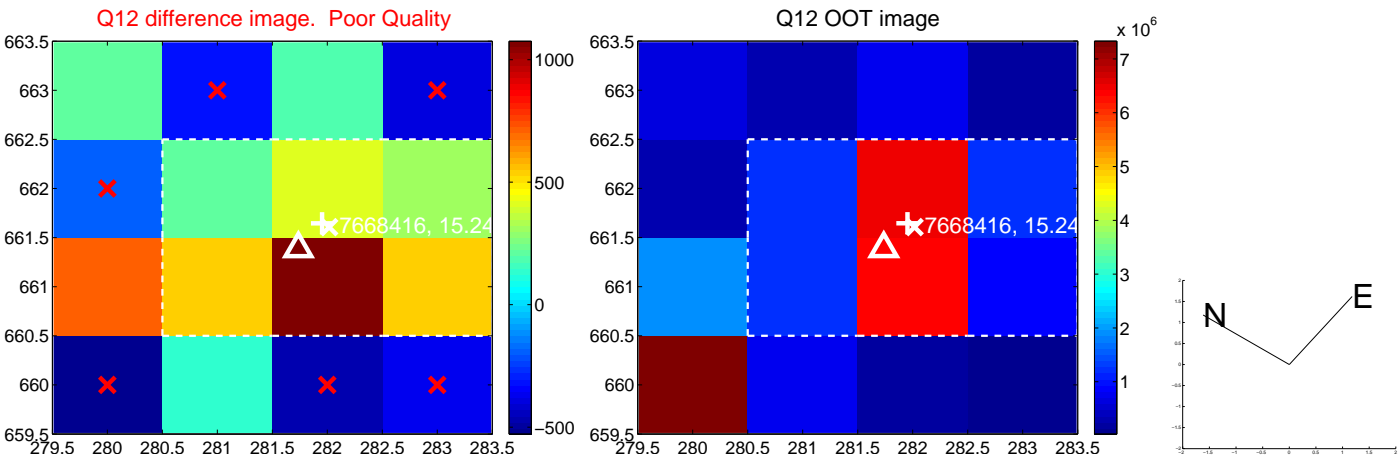
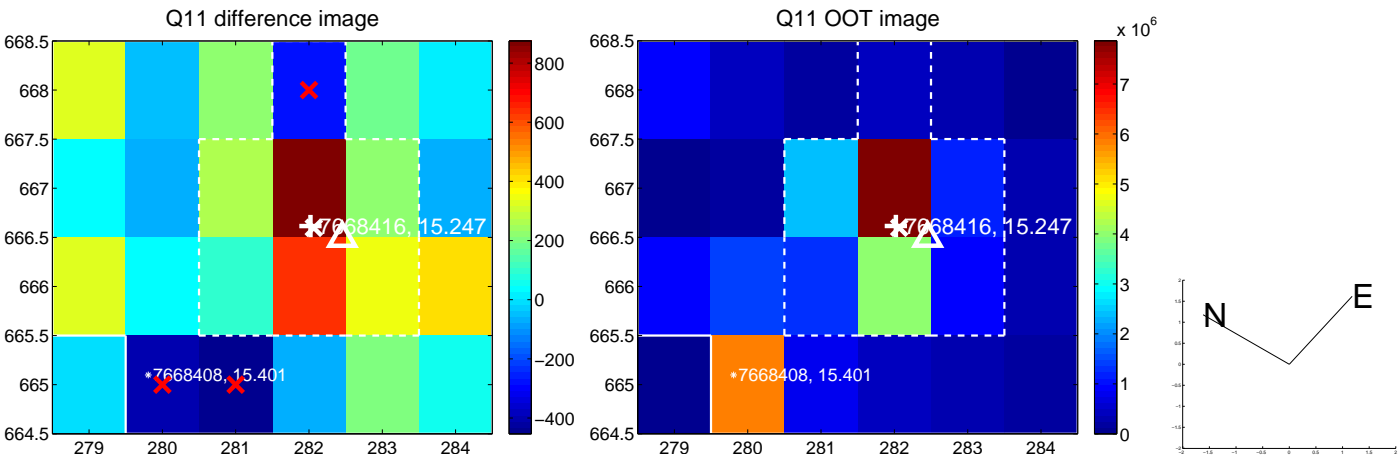
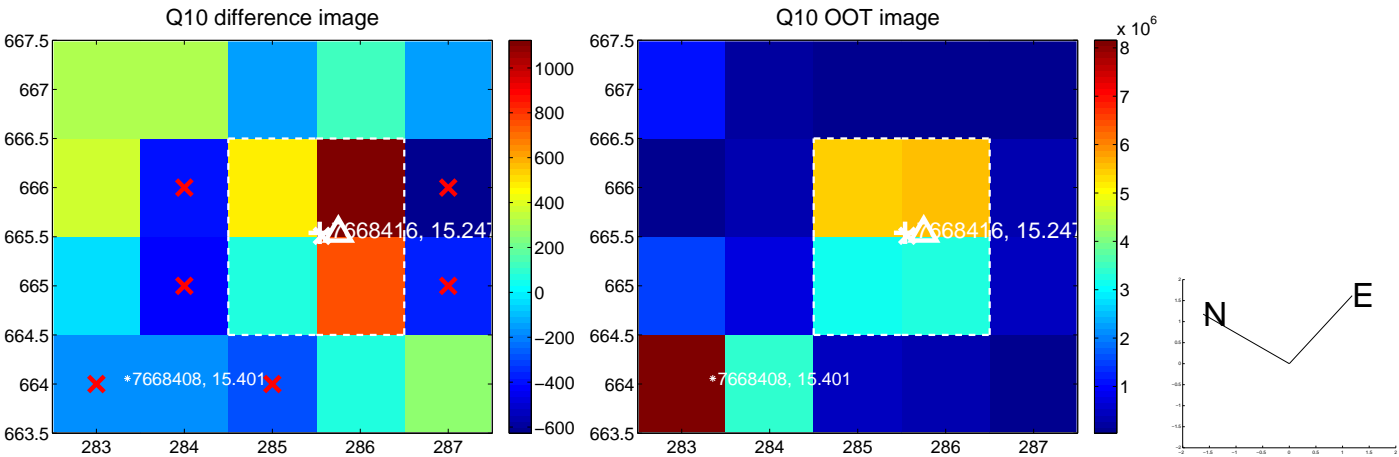
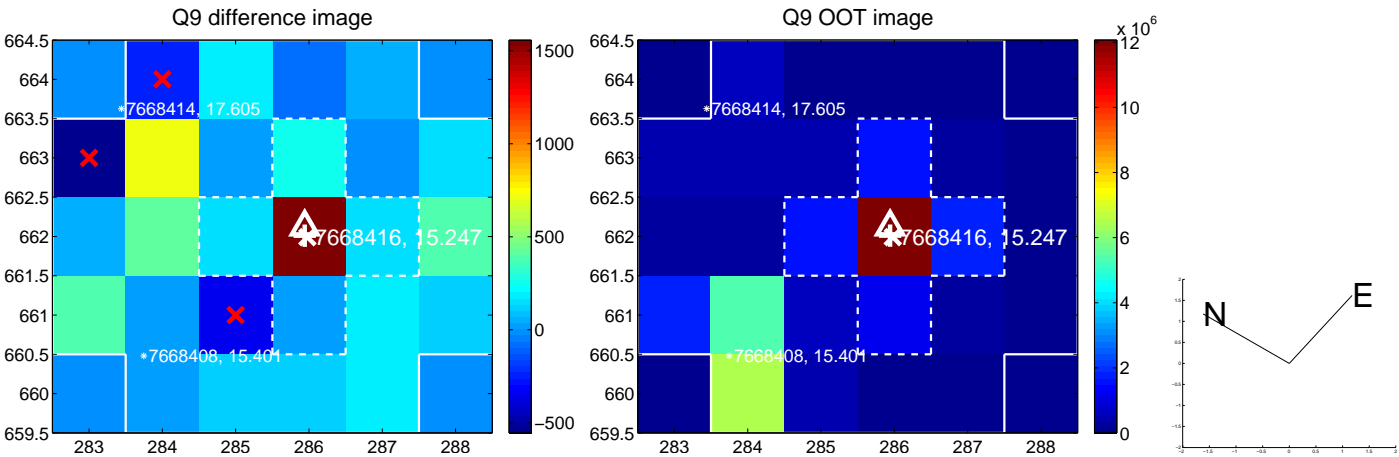
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



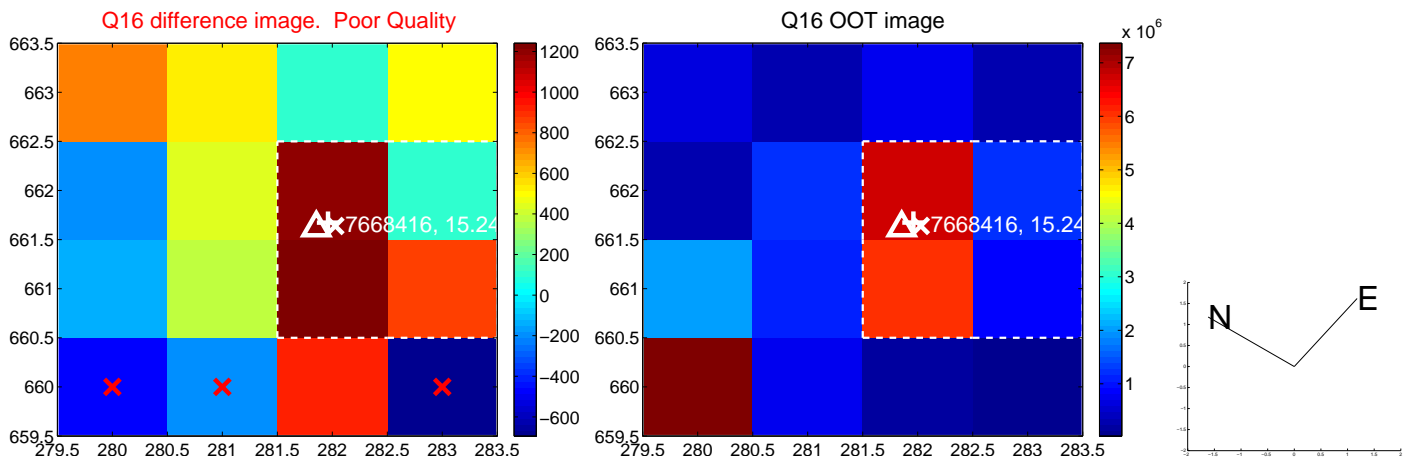
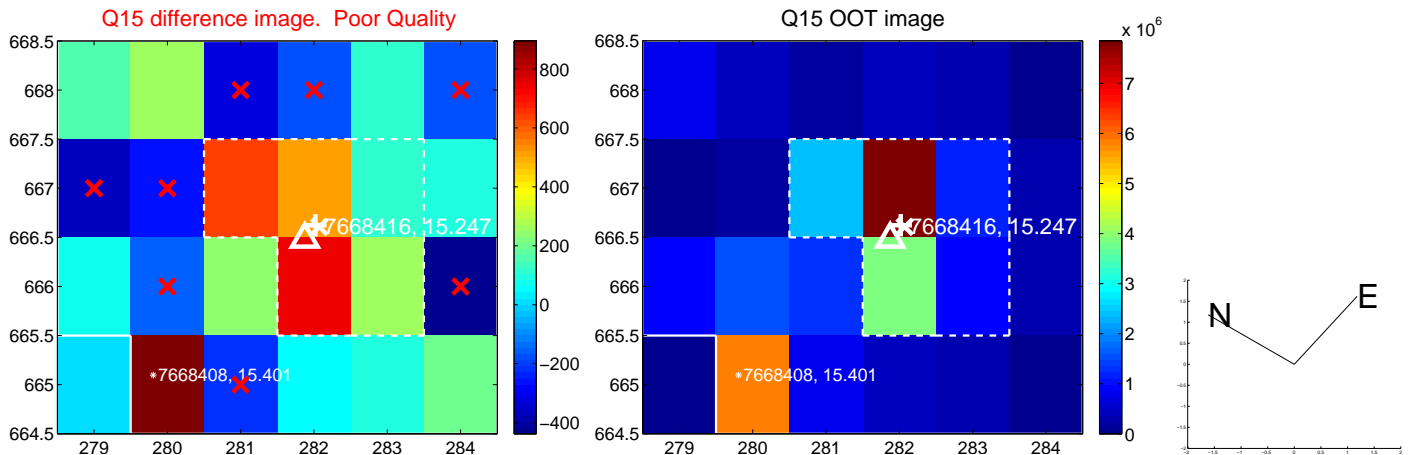
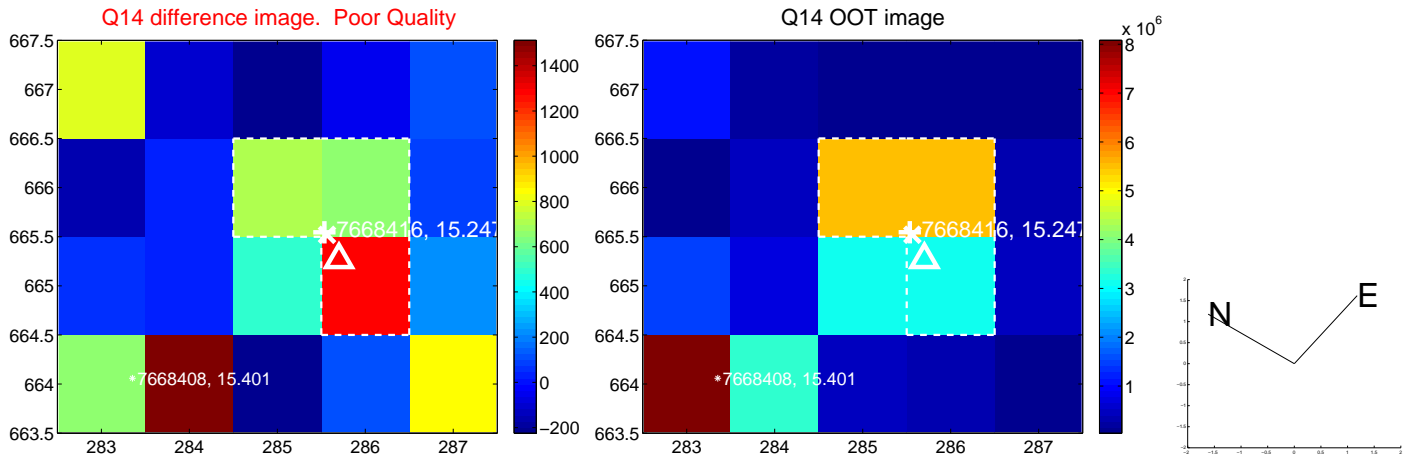
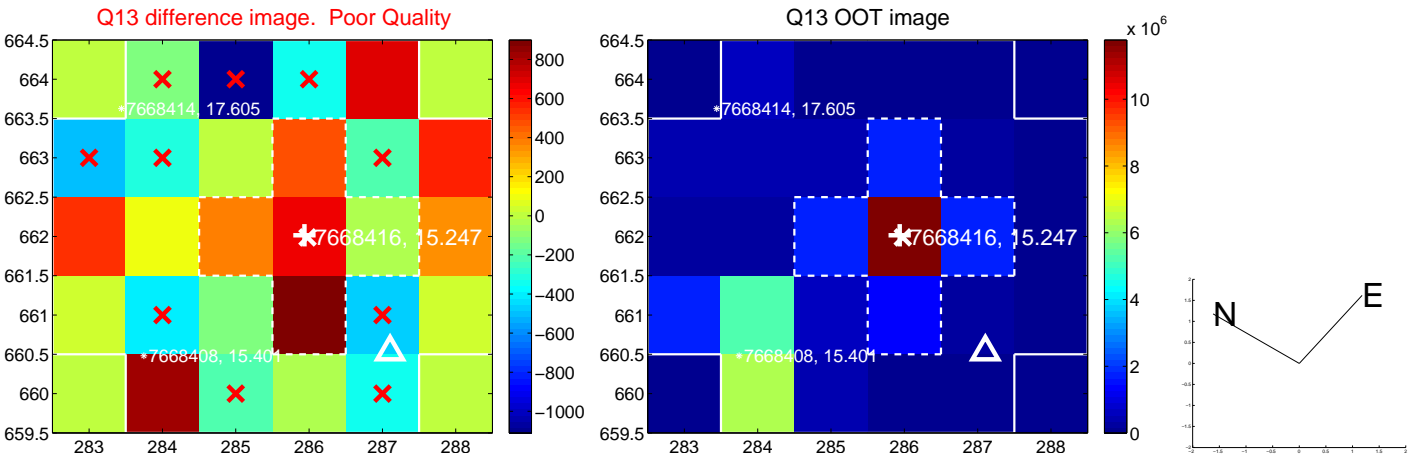
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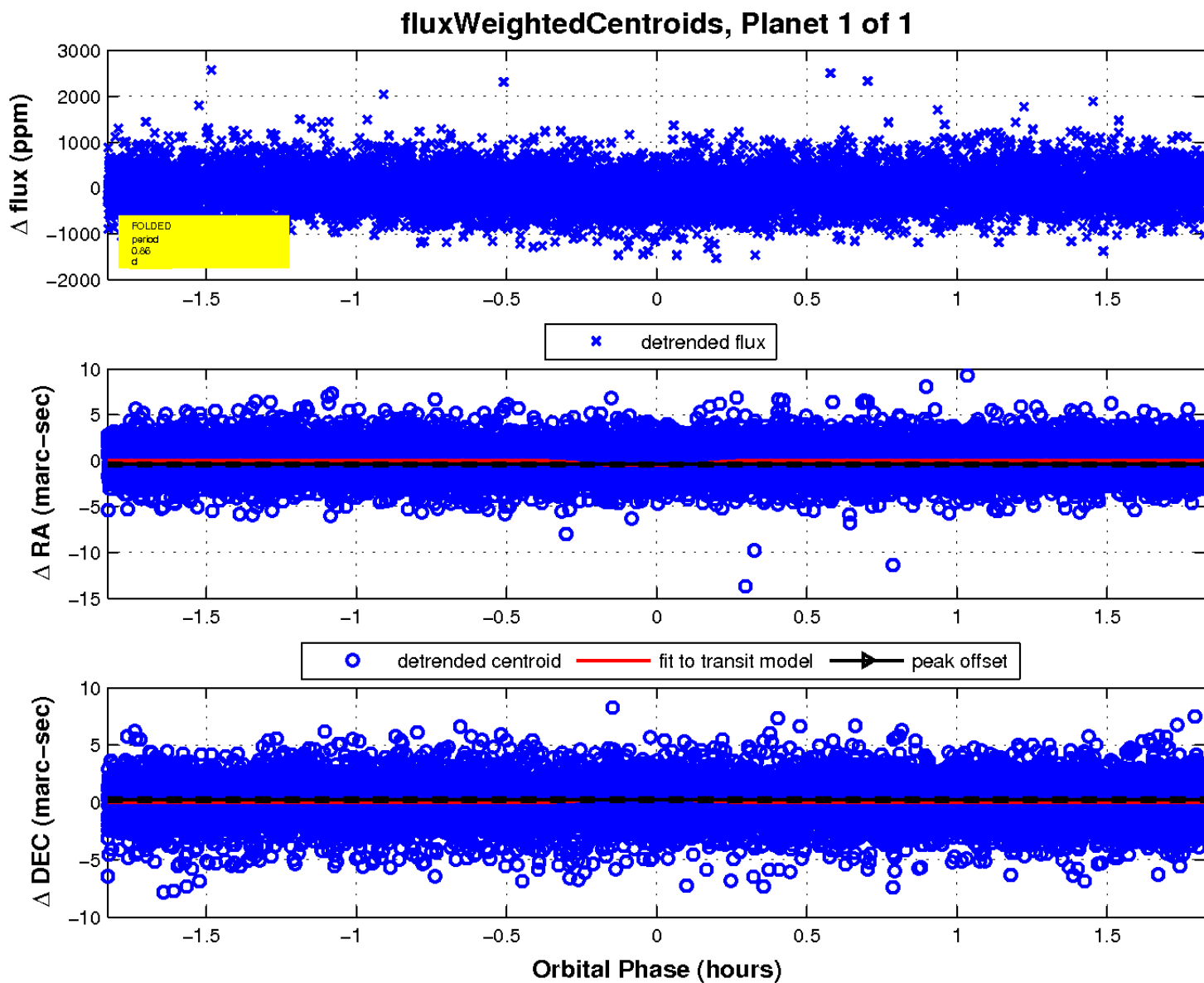
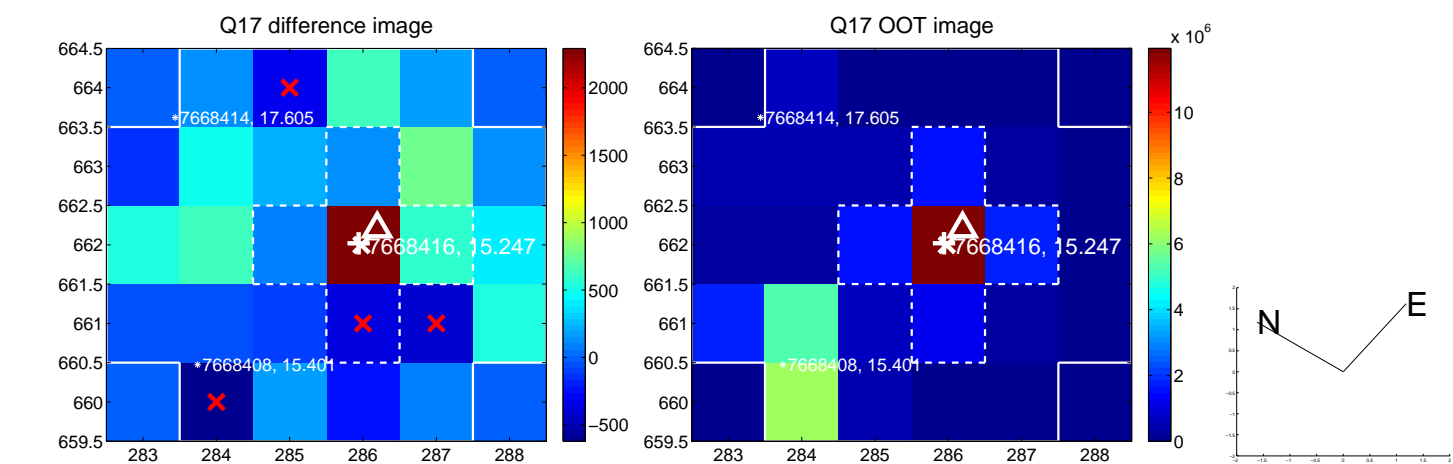
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UKIRT Image

Declination

