

KIC 012254688

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})
012254688-01	OBS	2384.01	62.682423	182.230899	346.5	1.714	14.9	17.6	3.10	7058	6.72	166.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012254688-01	OBS	FP	0.01	0	0	1	0	CENT_UNRESOLVED_OFFSET

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

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

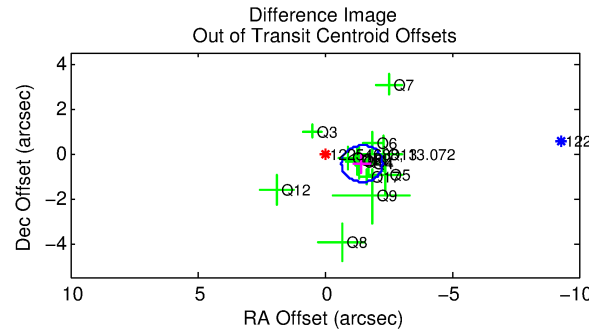
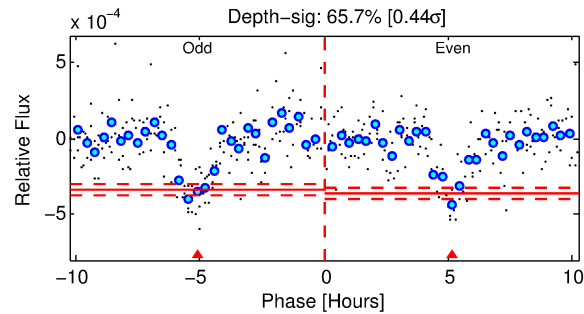
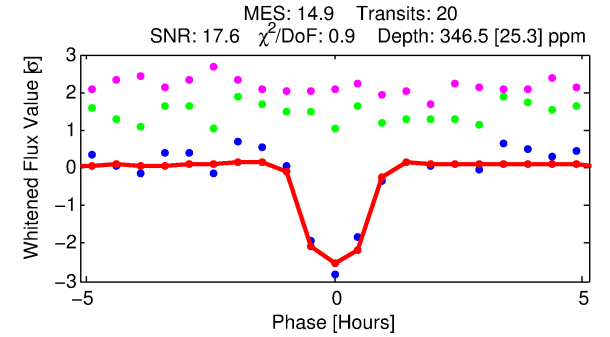
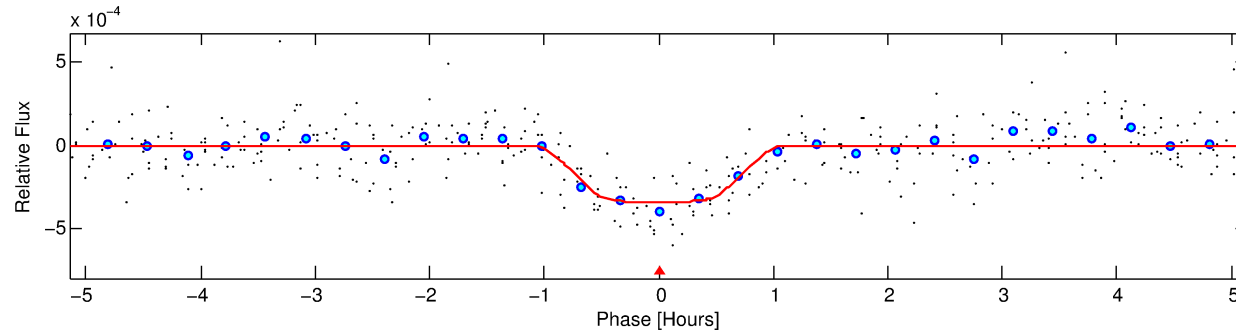
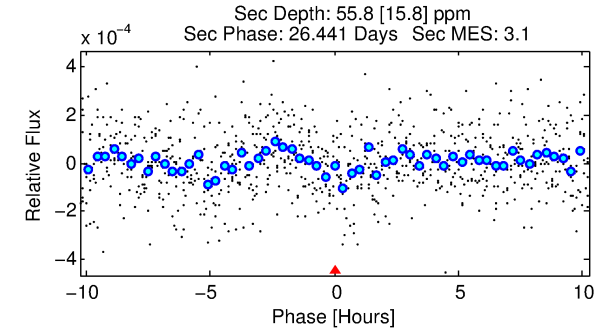
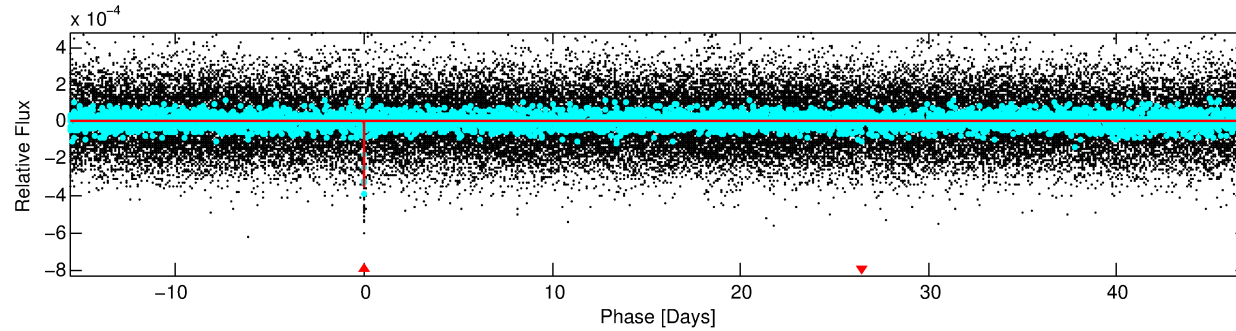
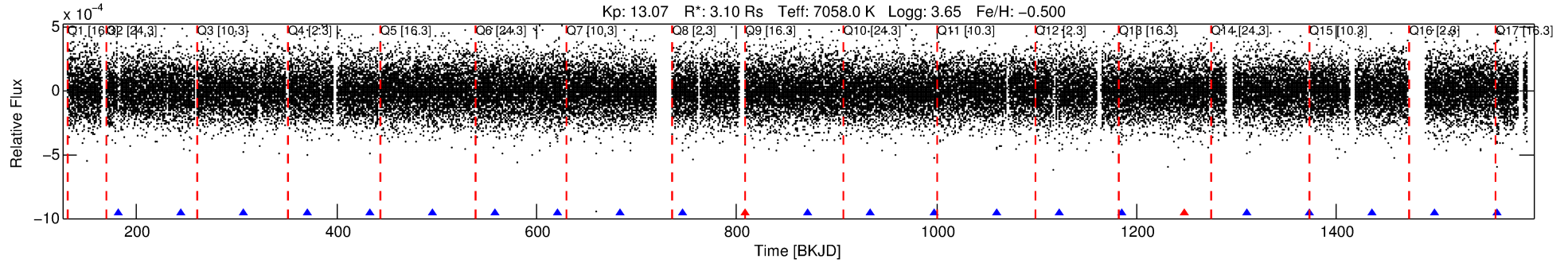
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012254688-01

No Significant Match Found

DV One-Page Summary

KIC: 12254688 Candidate: 1 of 1 Period: 62.682 d
KOI: K02384.01 Corr: 0.830



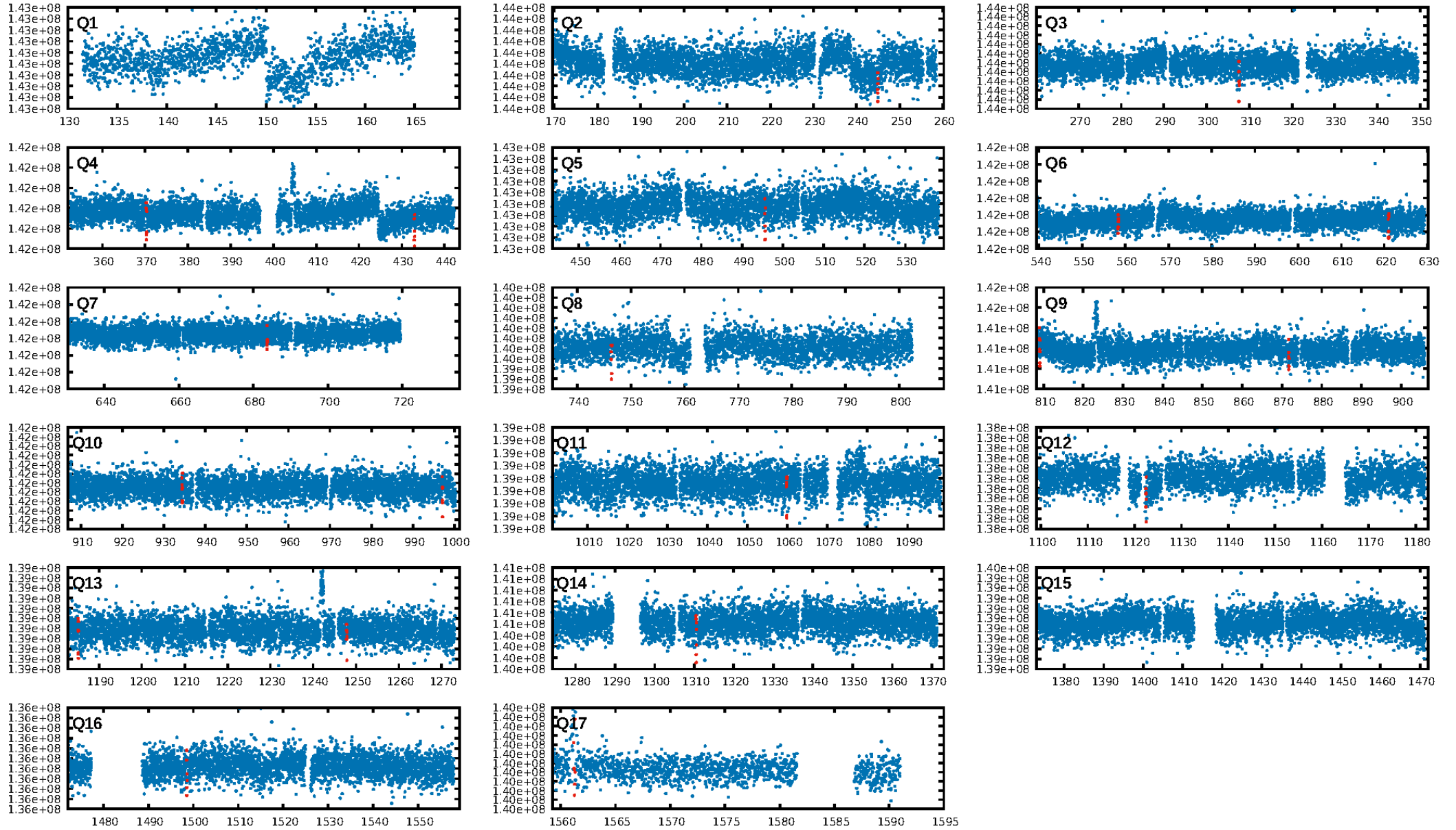
DV Fit Results:

Period = 62.68242 [0.00025] d
Epoch = 182.2309 [0.0031] BKJD
Rp/R* = 0.0199 [0.0055]
a/R* = 134.05 [223.32]
b = 0.90 [0.36]
Seff = 166.63 [95.46]
Teff = 916 [131] K
Rp = 6.72 [3.05] Re
a = 0.3582 [0.1244] AU
Ag = 87.27 [73.01] [1.18σ]
Teffp = 4329 [690] K [4.86σ]

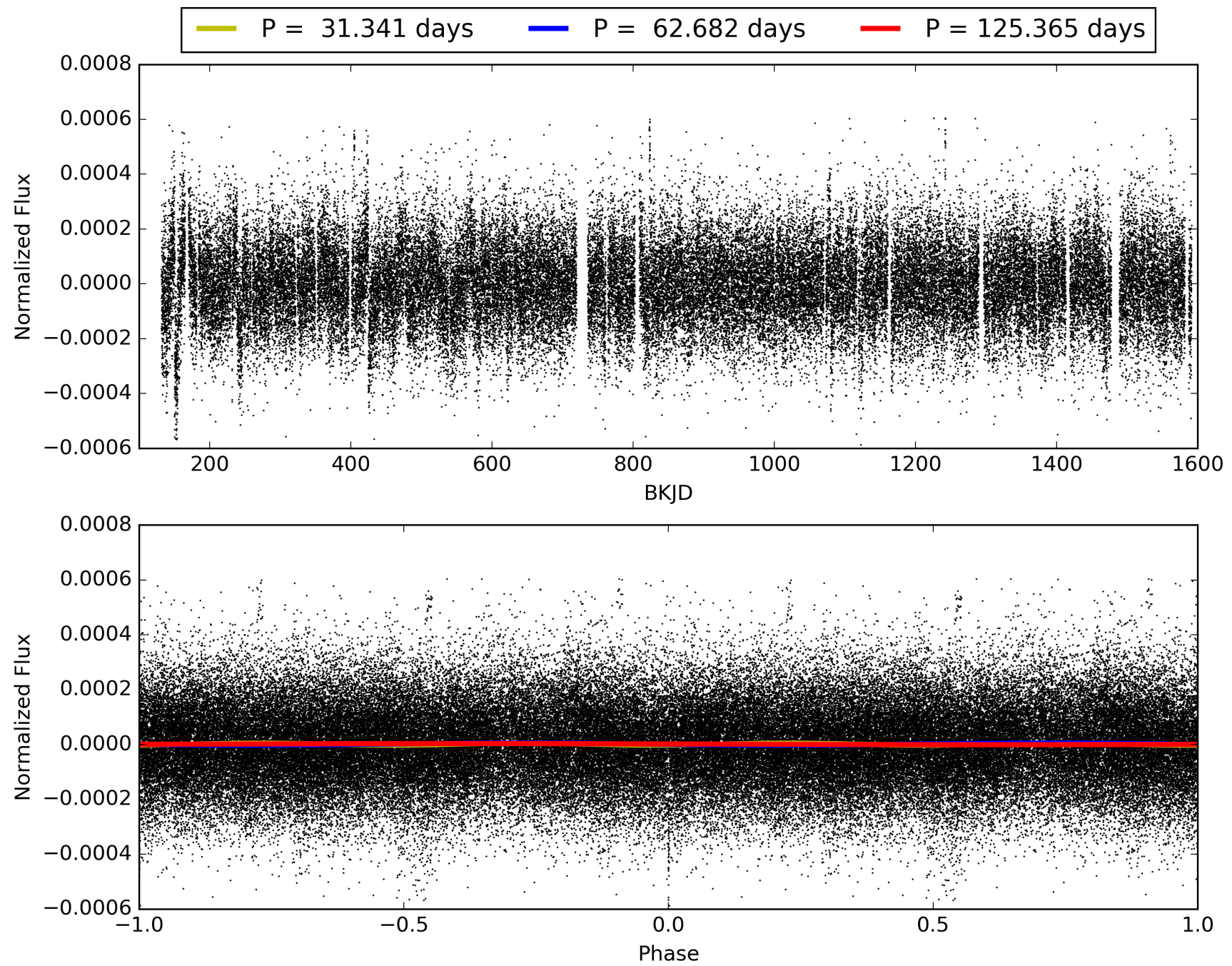
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 92.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.03e-47
RollingBand-fgt: 0.89 [17/19]
GhostDiagnostic-chr: 11.55
Centroid-sig: 0.1%
Centroid-so: 1.778 arcsec [2.52σ]
OotOffset-rm: 1.536 arcsec [5.66σ]
KicOffset-rm: 1.611 arcsec [5.68σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 012254688-01, PDC Light Curves

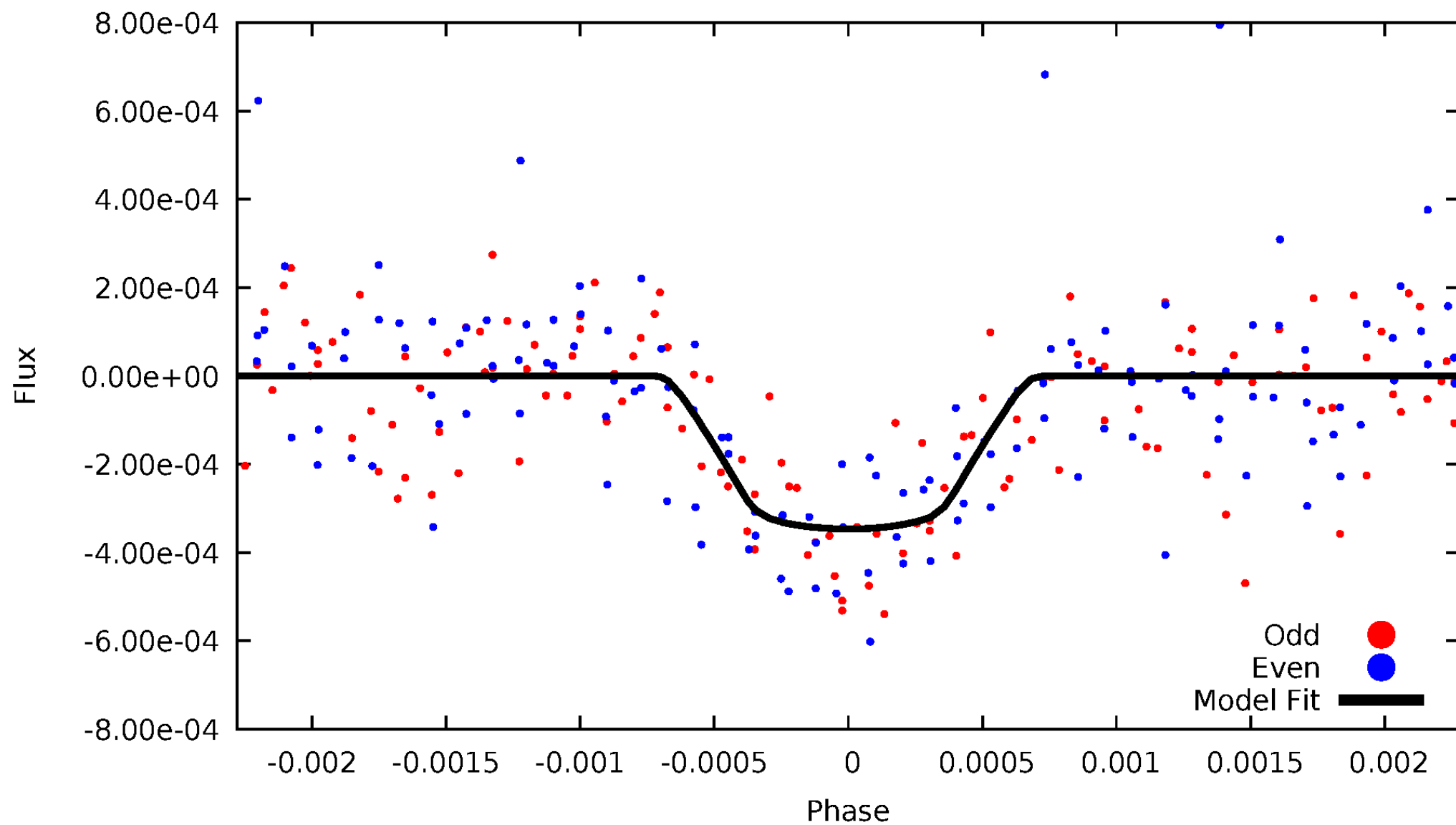


TCE 012254688-01



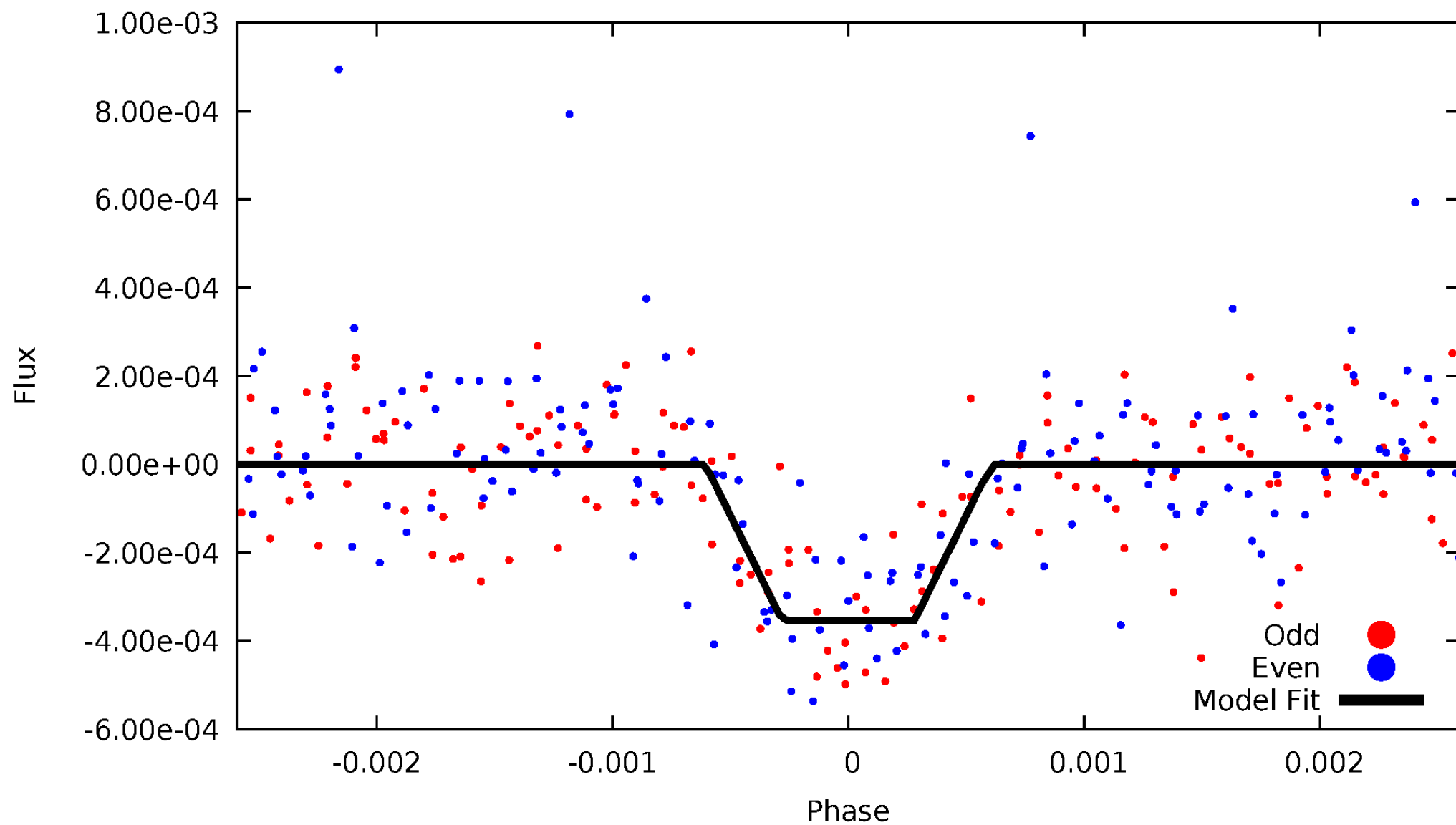
DV Odd/Even

TCE 012254688-01



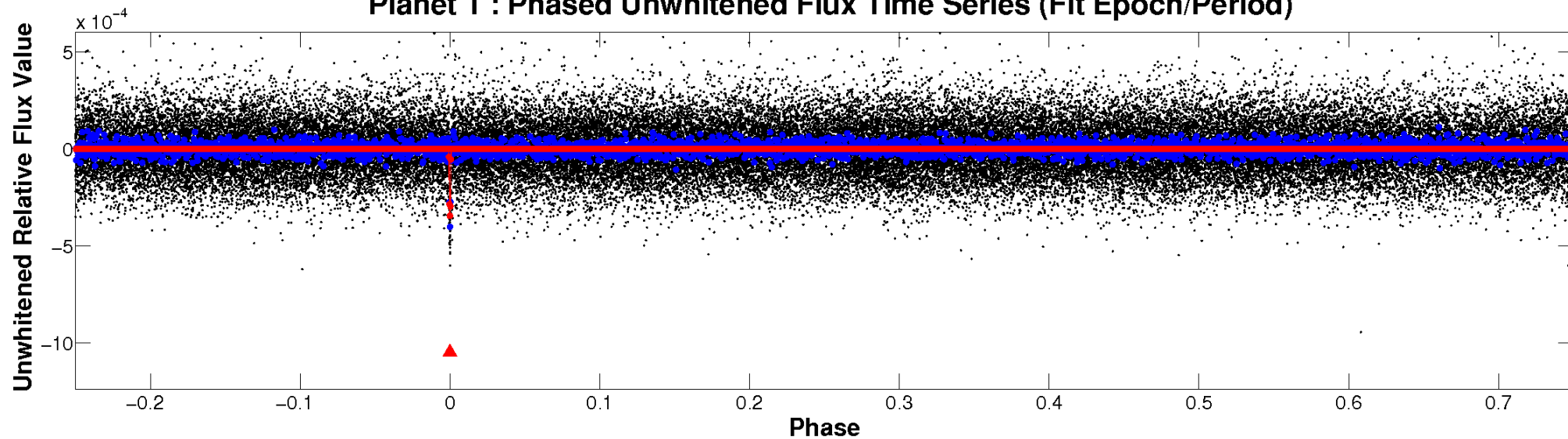
ALT Odd/Even

TCE 012254688-01

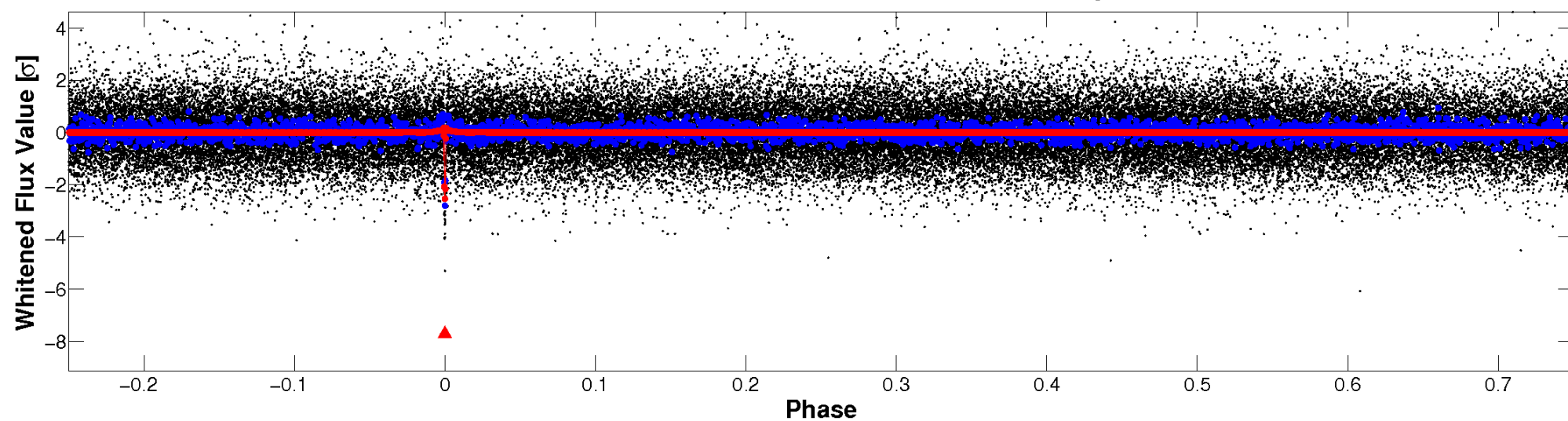


Non-Whitened Vs. Whitened Light Curve

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

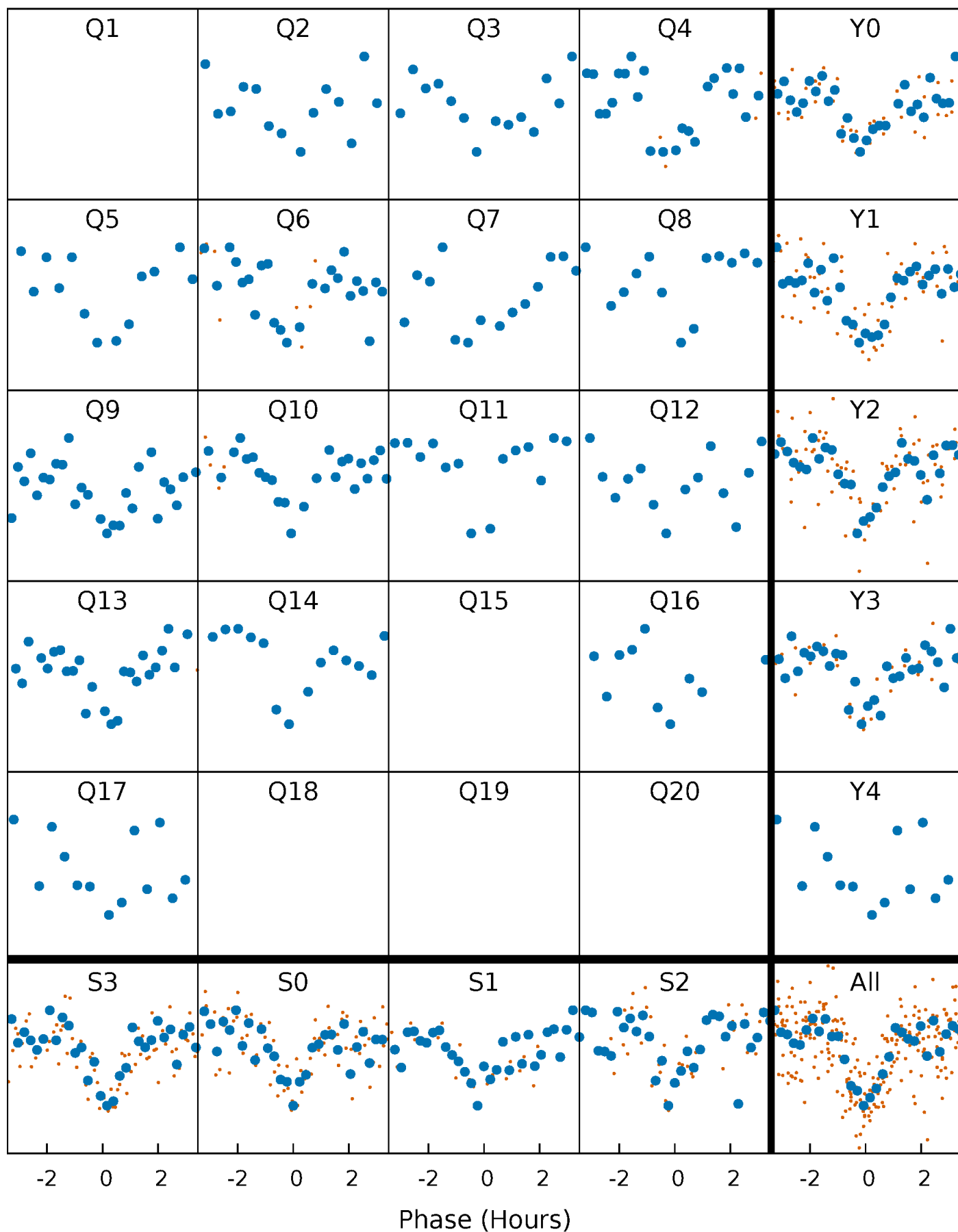


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



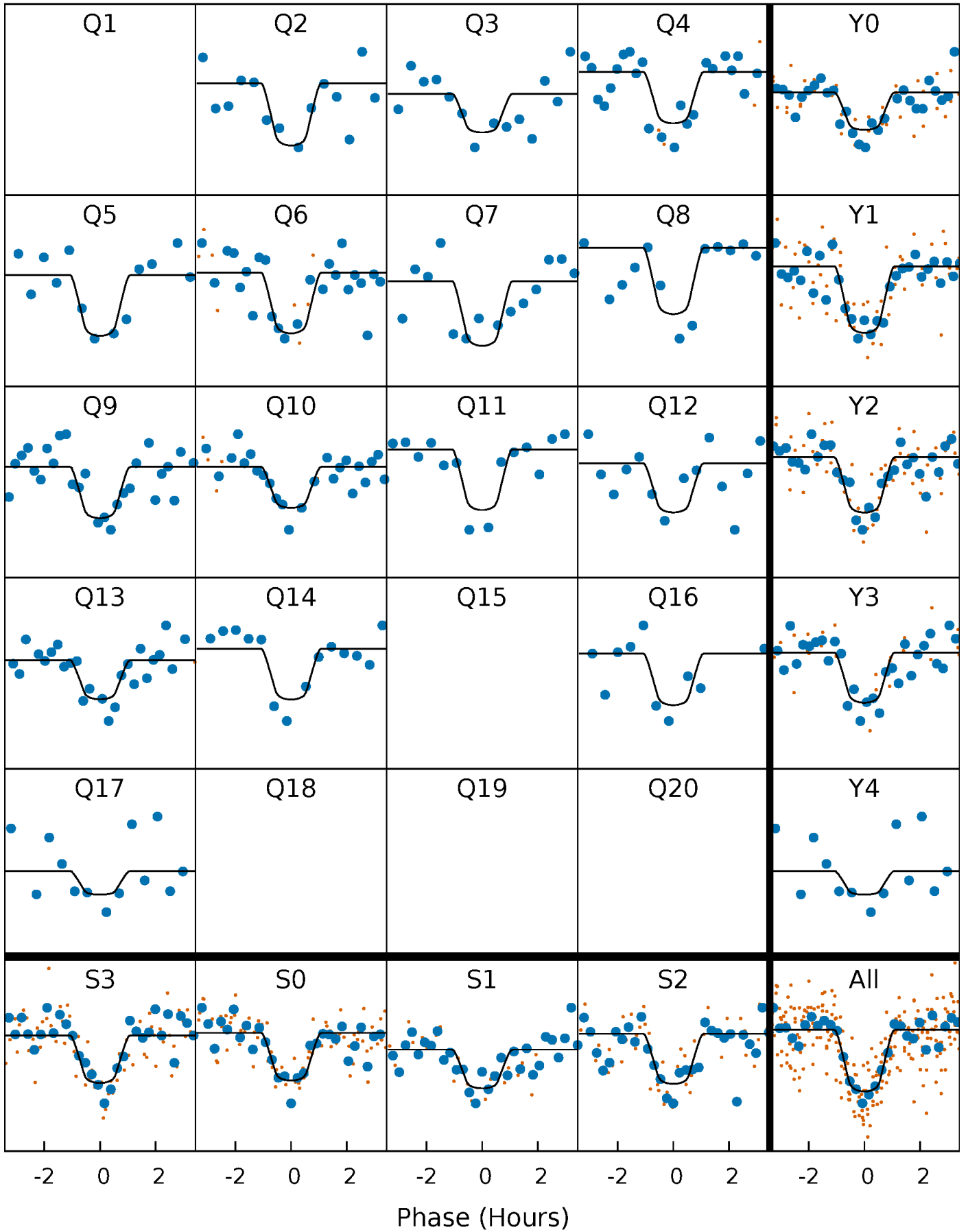
PDC Quarter-Phased Transit Curves

TCE 012254688-01 P= 62.682423 Days $T_0=182.230899$ (BKJD)



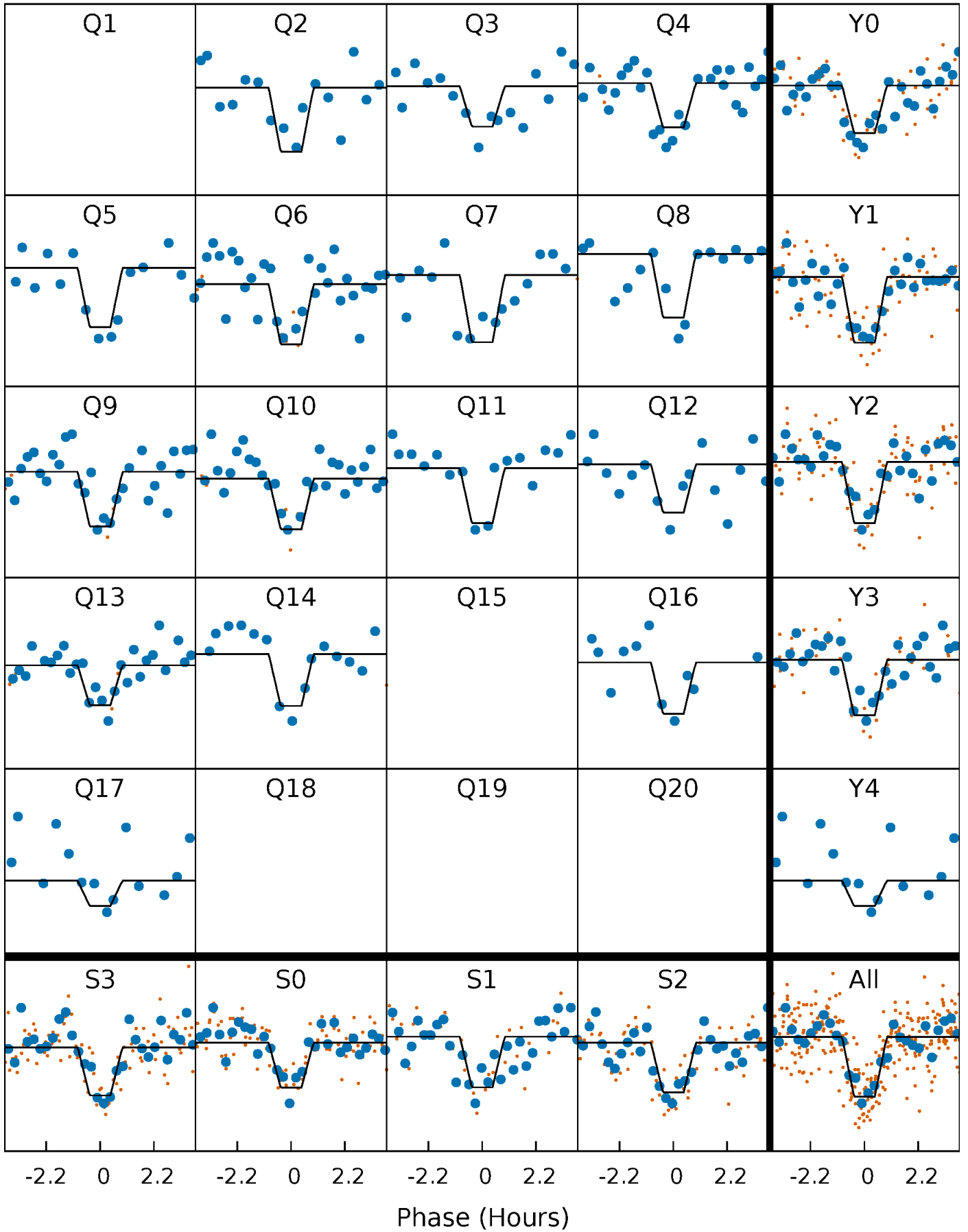
DV Quarter-Phased Transit Curves

TCE 012254688-01 P= 62.682423 Days $T_0=182.230899$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

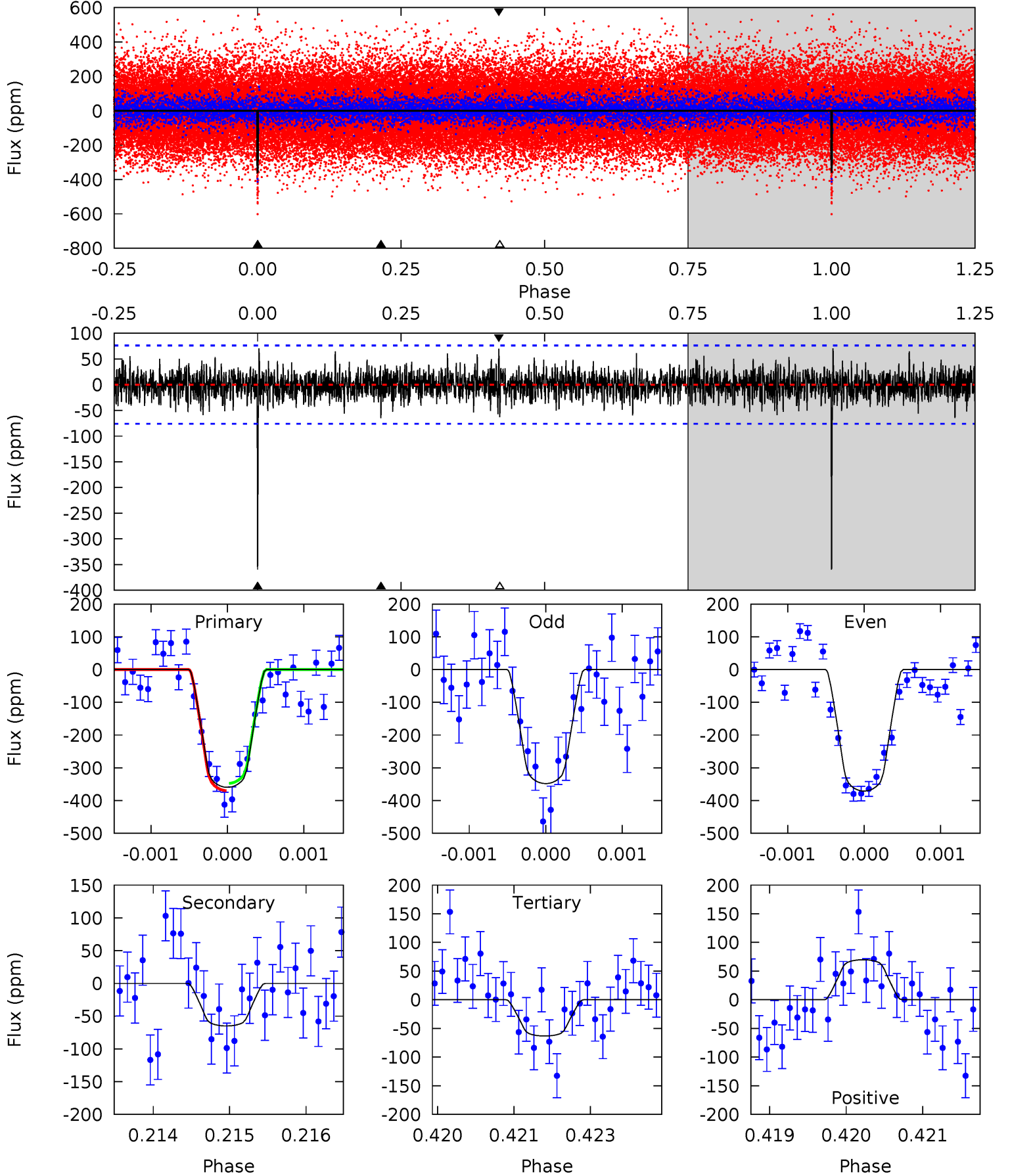
TCE 012254688-01 P= 62.682214 Days $T_0=182.233022$ (BKJD)



DV Model-Shift Uniqueness Test

012254688-01, $P = 62.682423$ Days, $E = 119.548476$ Days

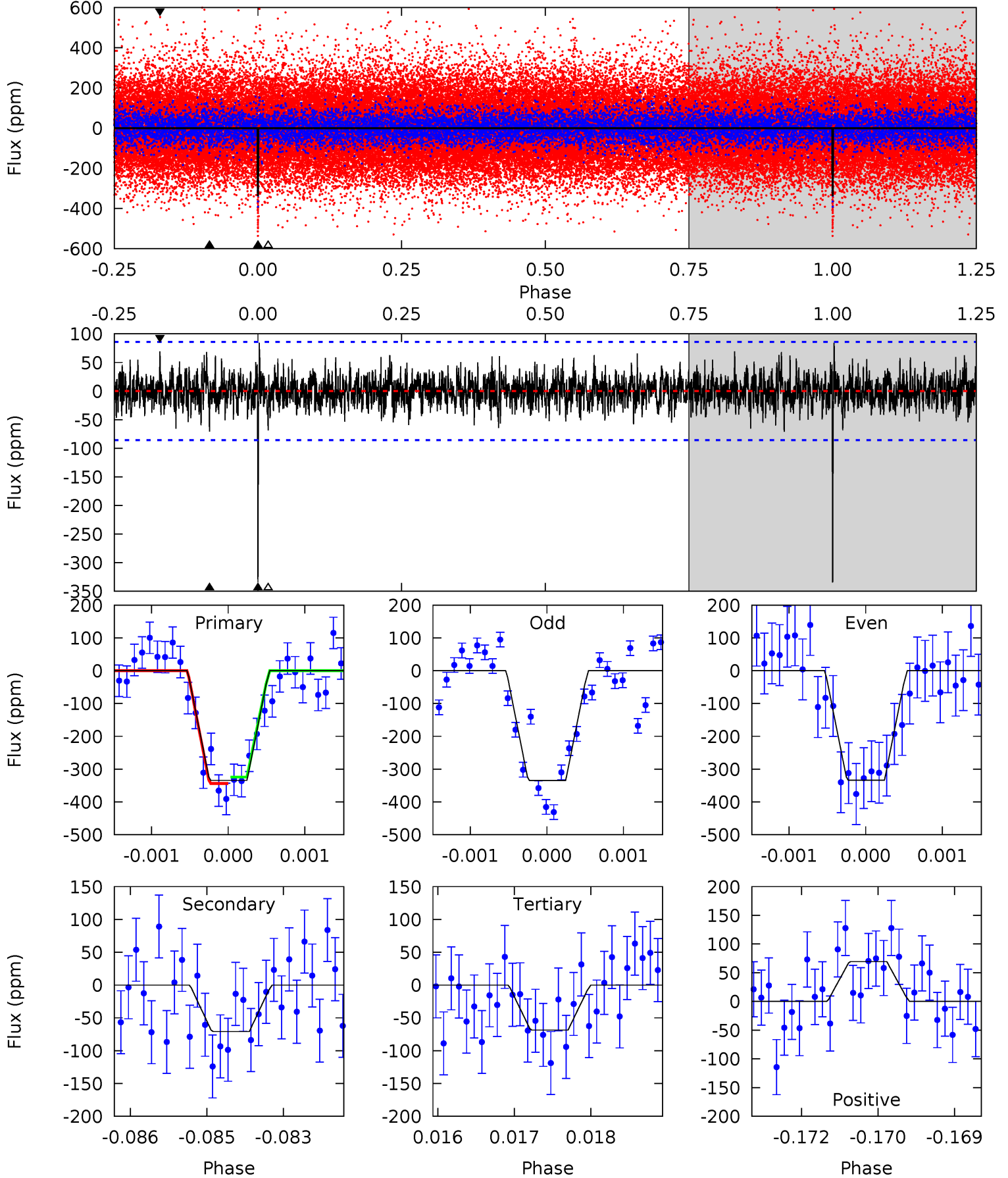
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.5	4.60	4.48	4.95	5.39	3.19	1.29	21.0	20.5	0.12	-0.34	0.81	0.97	0.16	0.79



Alt Model-Shift Uniqueness Test

012254688-01, P = 62.682214 Days, E = 119.550808 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	4.48	4.33	4.39	5.43	3.25	1.27	16.8	16.8	0.14	0.09	0.03	0.99	0.20	0.62



Stellar Parameters For KIC 012254688

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7058^{+191}_{-233}	$3.648^{+0.328}_{-0.082}$	$-0.500^{+0.300}_{-0.250}$	$3.101^{+0.398}_{-1.113}$	$1.562^{+0.242}_{-0.323}$	$0.074^{+0.180}_{-0.020}$
	+3%/-3%	+9%/-2%	+60%/-50%	+13%/-36%	+15%/-21%	+244%/-27%
Source	PHO1	FLK73	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 012254688-01 / KOI 2384.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-65 ± 14	$6.24^{+2.16}_{-1.95}$	1255^{+69}_{-126}	4626^{+693}_{-484}	118^{+130}_{-54}
Alt.	-71 ± 16	$5.98^{+2.23}_{-1.98}$	1243^{+83}_{-112}	4786^{+830}_{-531}	141^{+191}_{-69}

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

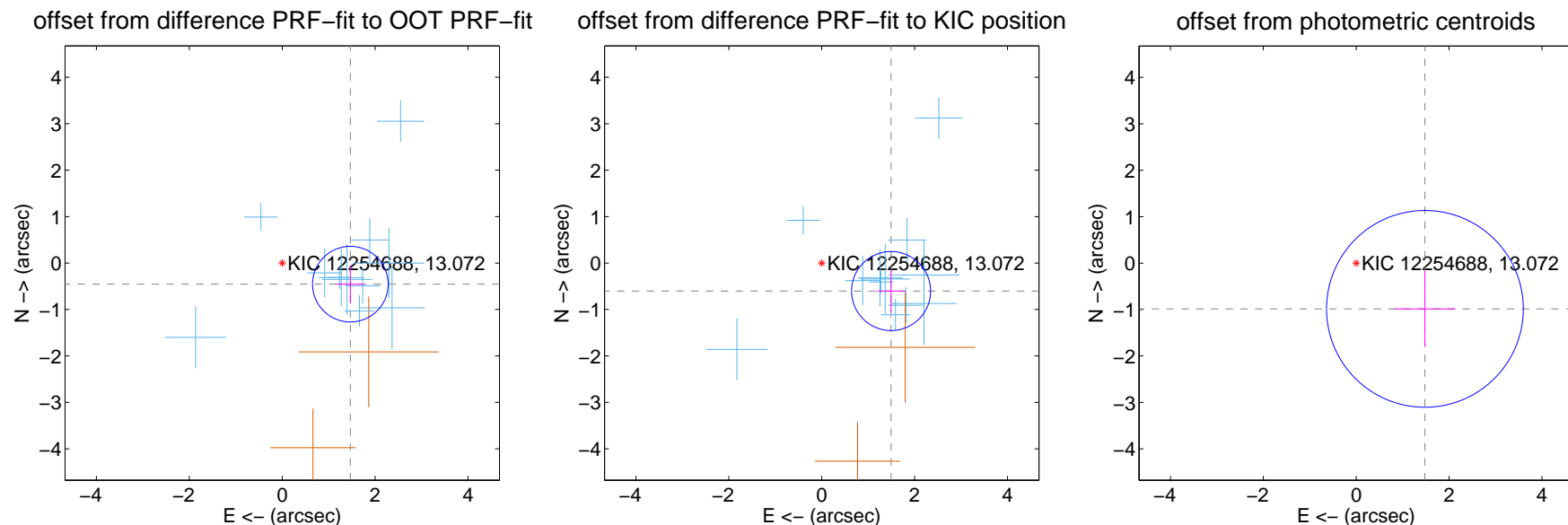
DV Centroid Data

Supplemental centroid analysis for 012254688-01. Kepler magnitude: 13.07. Transit SNR 17.63

There are 12 quarters with good PRF difference image offsets

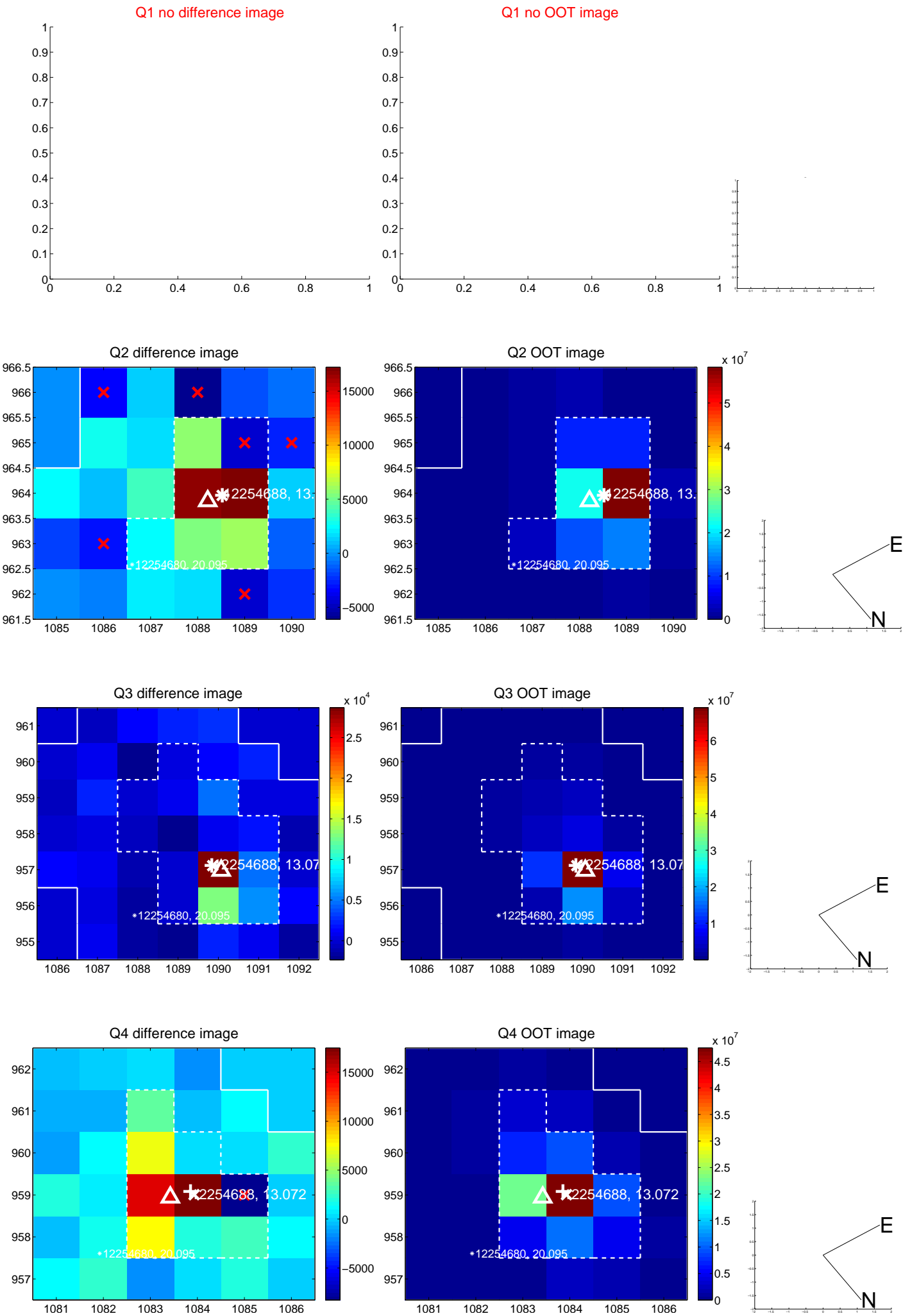
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.536 ± 0.271	5.66	-1.467 ± 0.307	-0.455 ± 0.412
PRF-fit source offset from KIC position	1.611 ± 0.284	5.68	-1.494 ± 0.300	-0.603 ± 0.451
photometric centroid source offset	1.78 ± 0.71	2.52	-1.48 ± 0.66	-0.99 ± 0.81

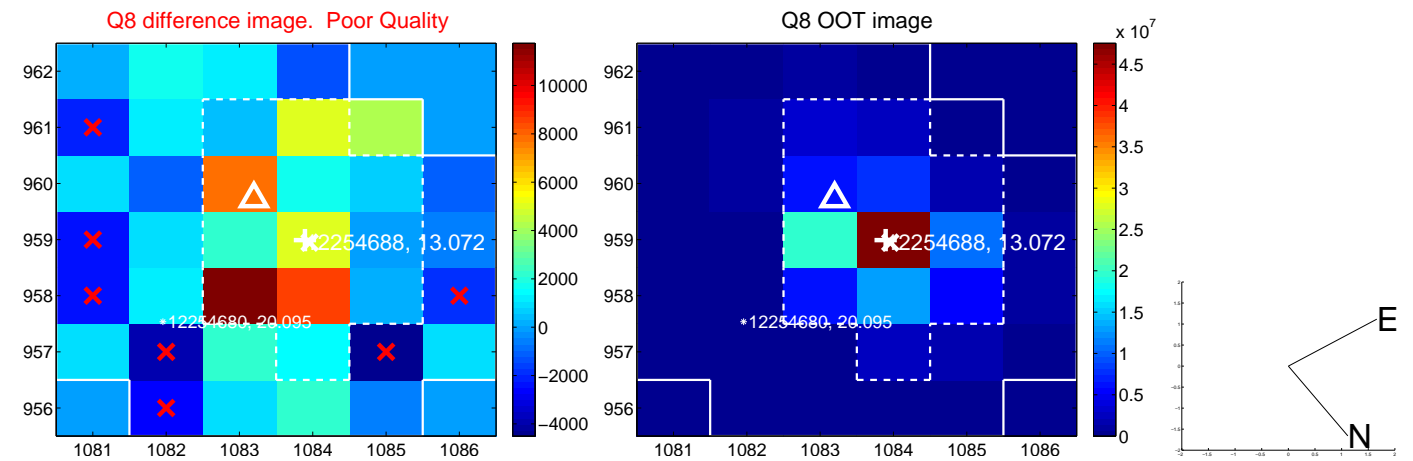
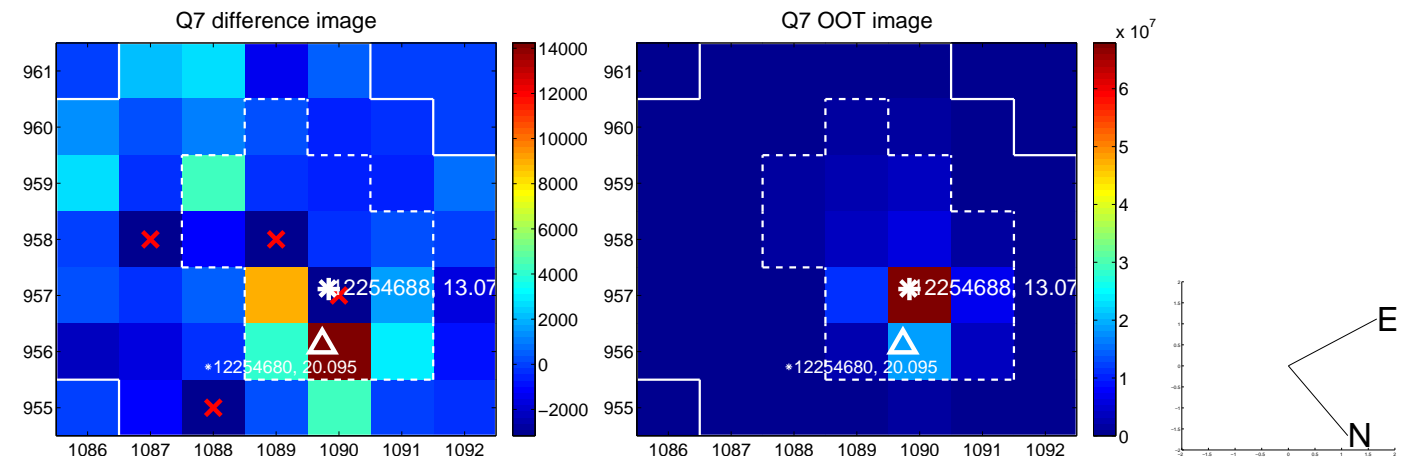
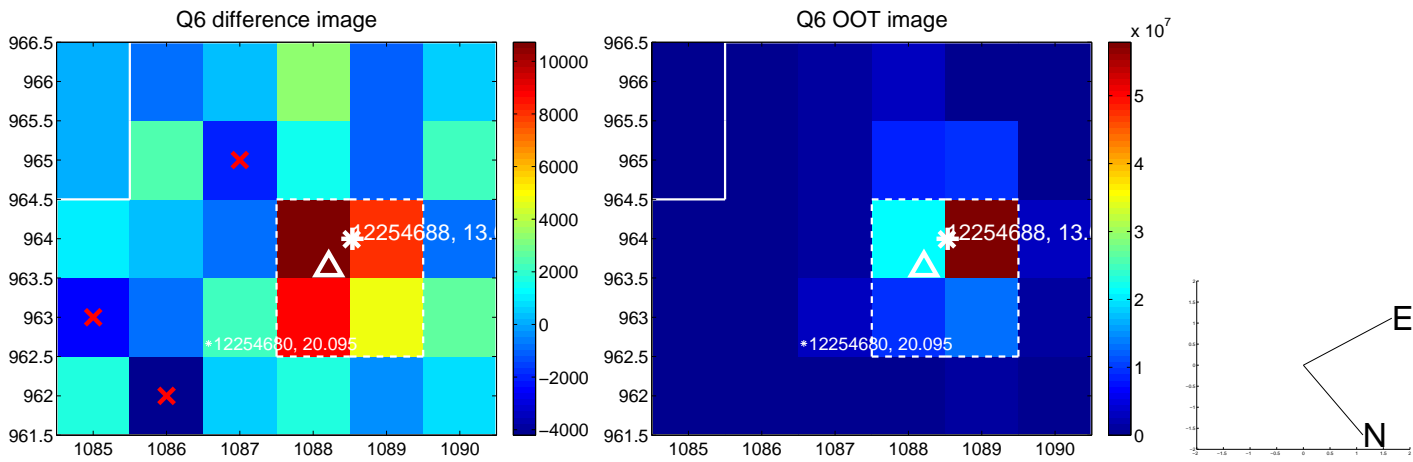
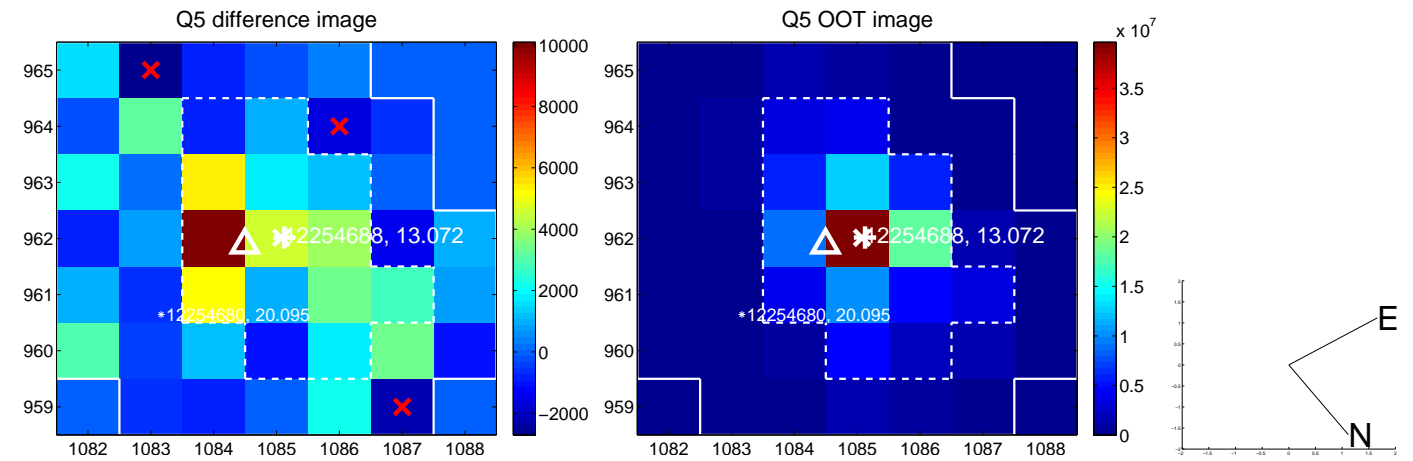


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

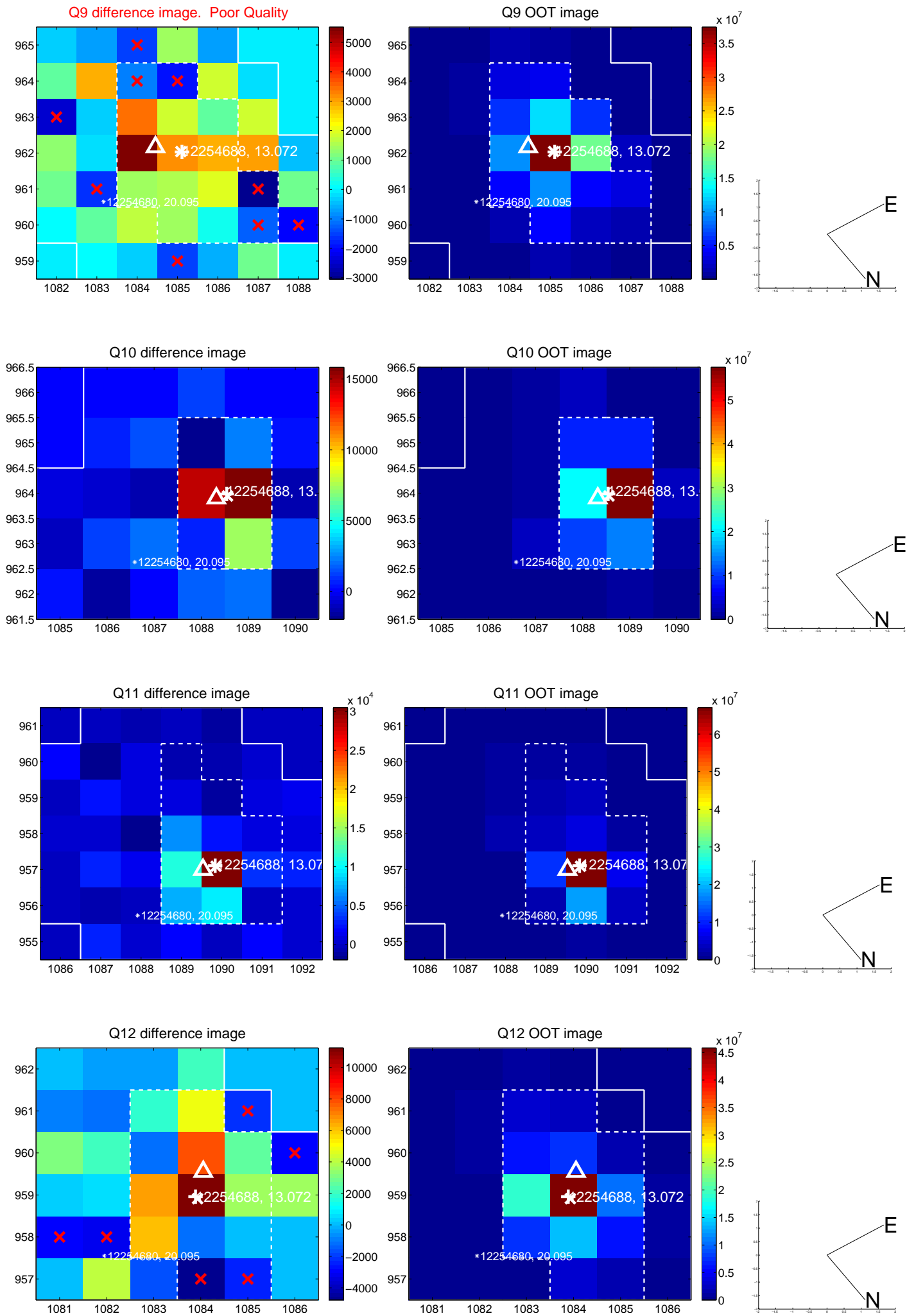
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



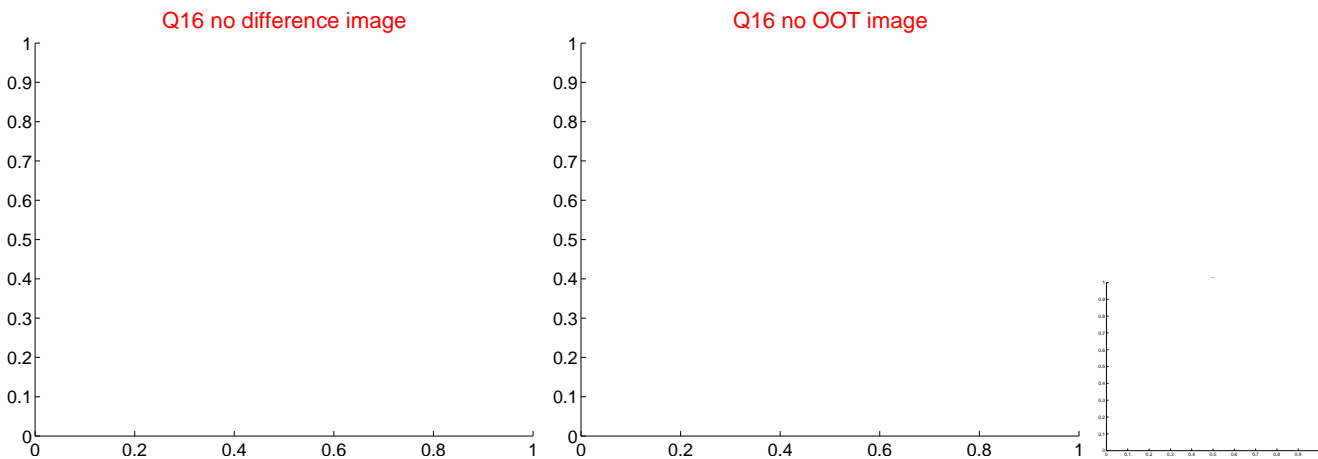
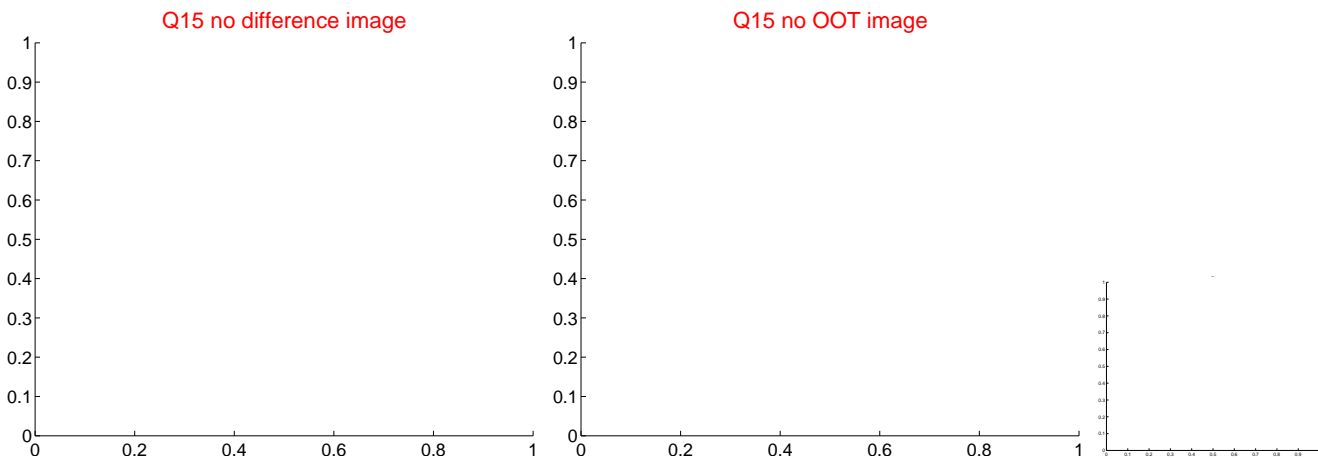
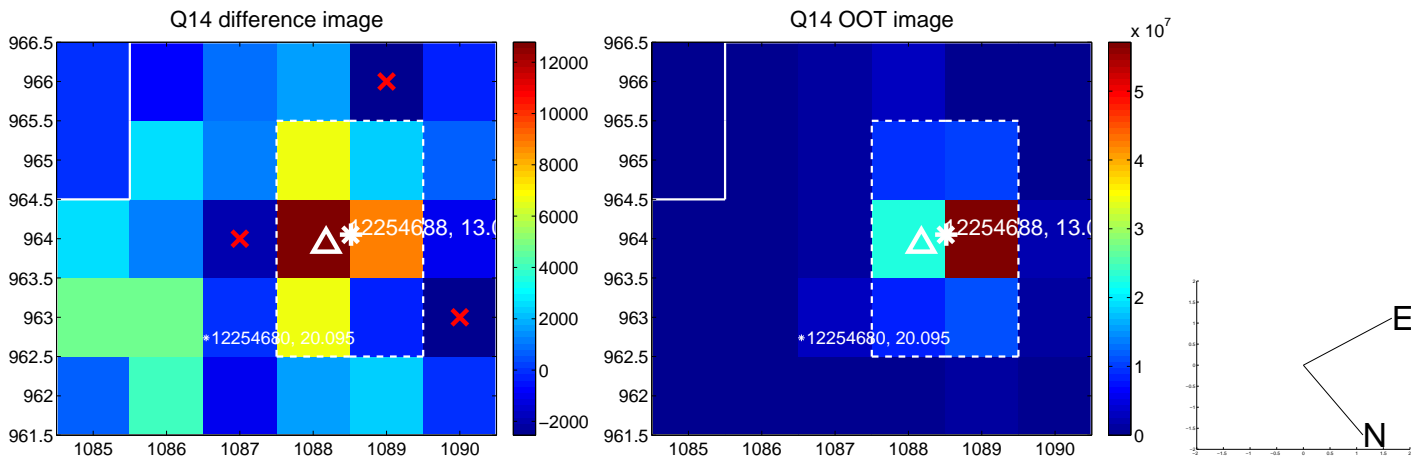
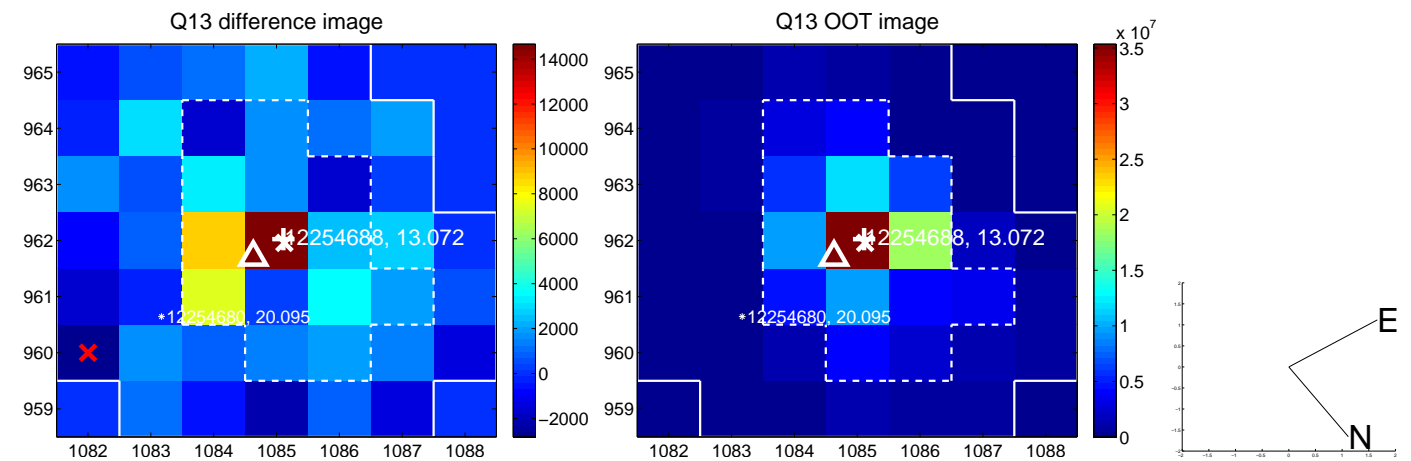
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



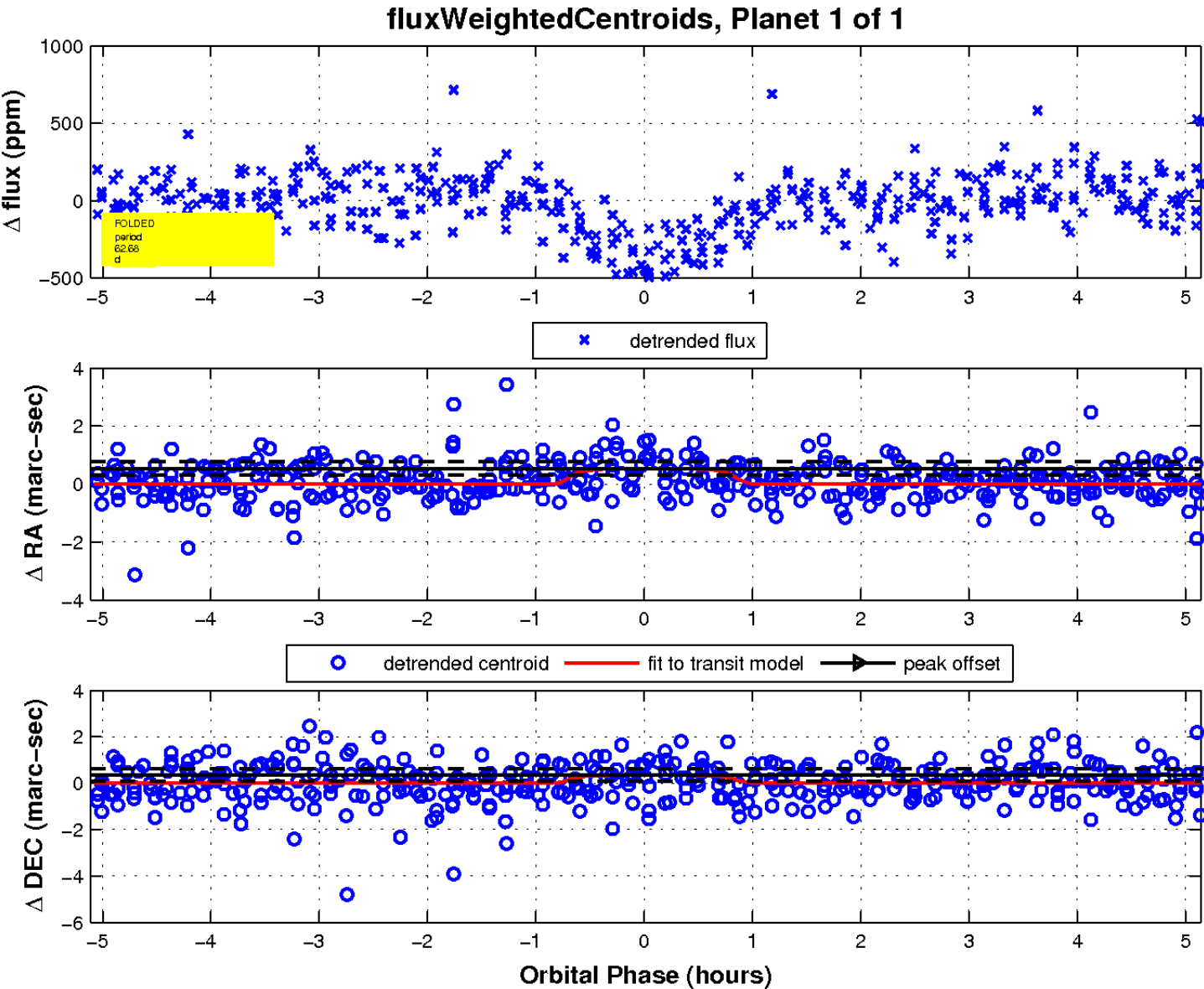
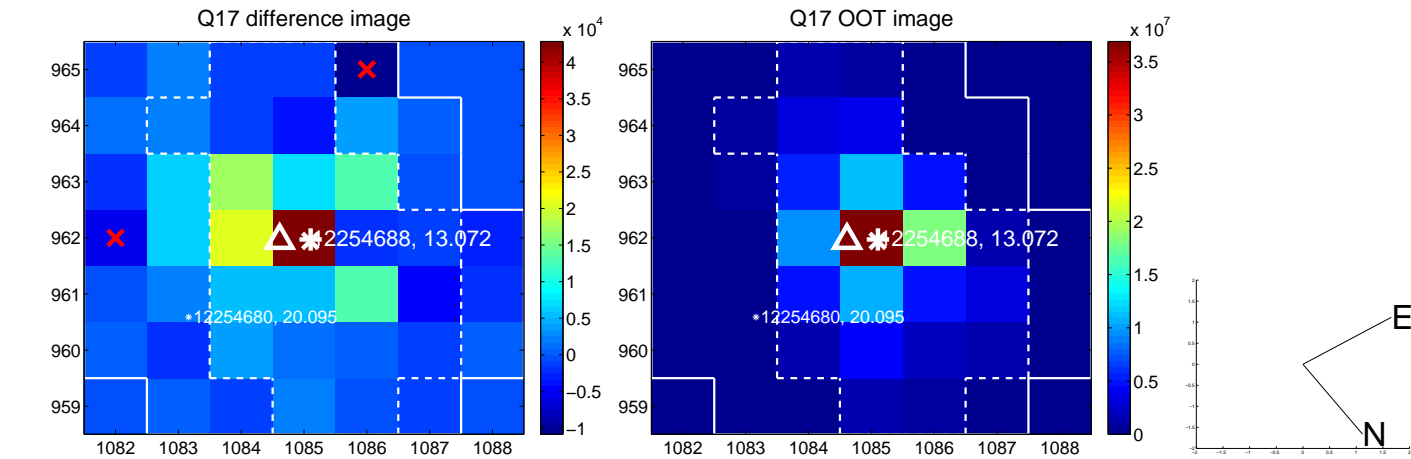
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UKIRT Image

