

KIC 010854768

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})
010854768-01	OBS	1309.01	10.117163	137.445644	286.8	5.034	36.0	37.9	1.79	6306	3.63	433.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010854768-01	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.

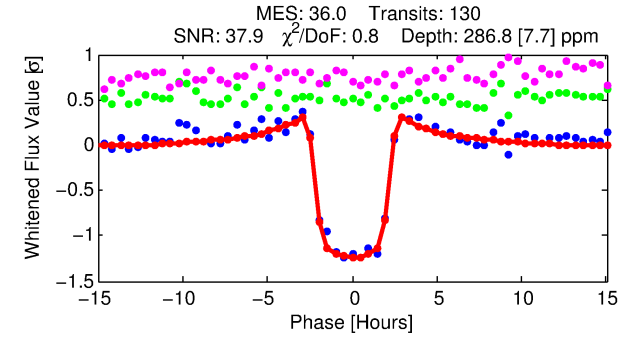
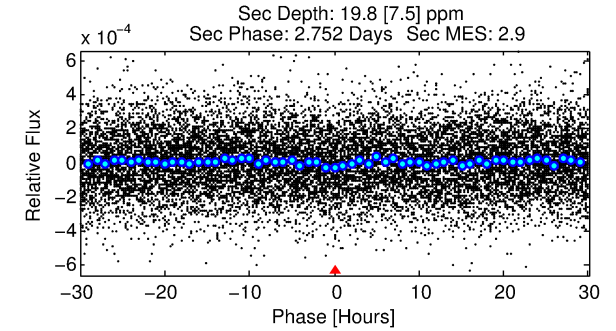
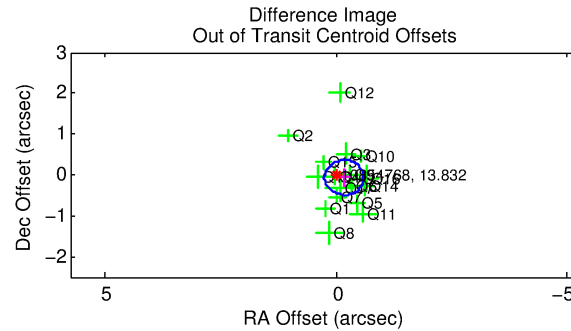
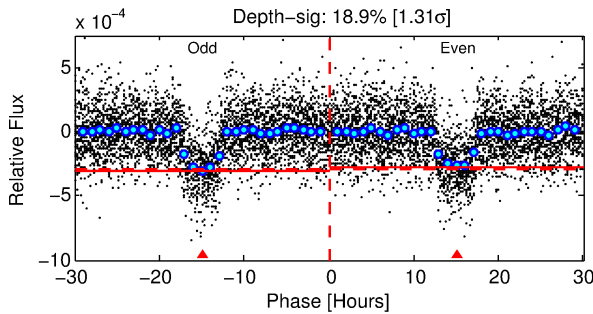
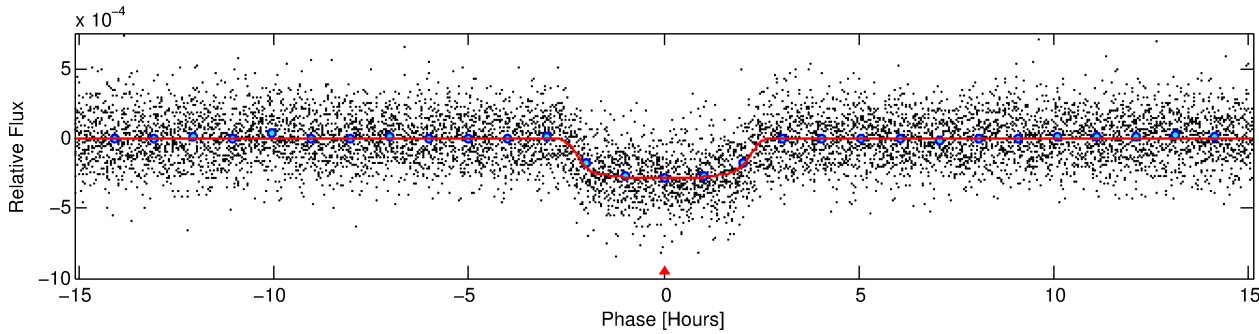
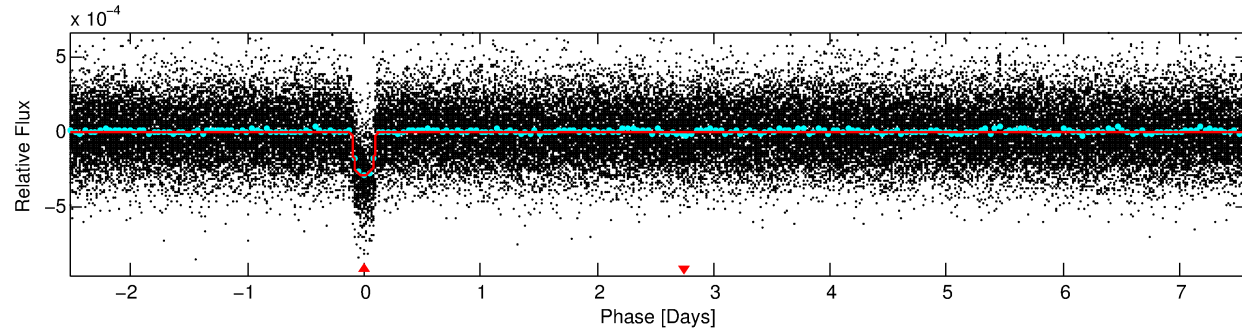
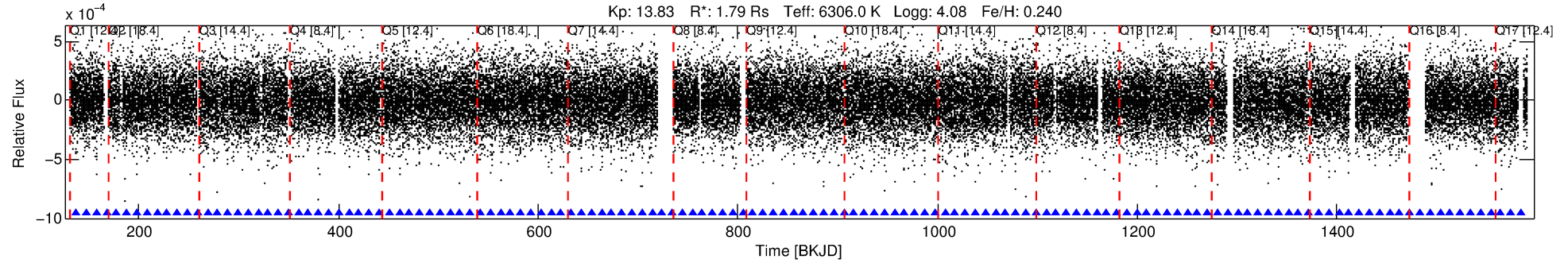
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010854768-01

No Significant Match Found

DV One-Page Summary

KIC: 10854768 Candidate: 1 of 1 Period: 10.117 d
KOI: K01309.01 Corr: 0.991



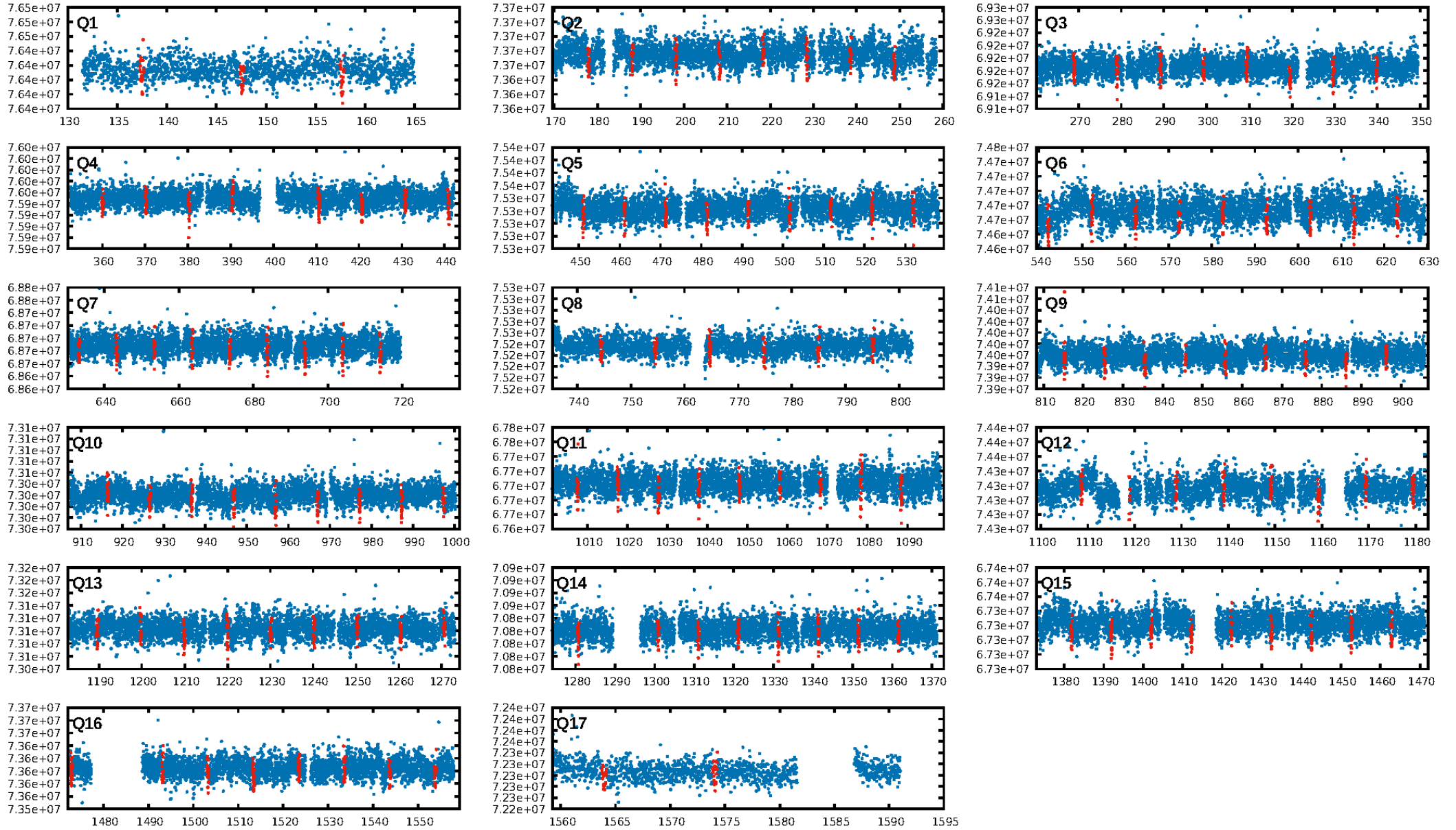
DV Fit Results:

Period = 10.11716 [0.00003] d
Epoch = 137.4456 [0.0021] BKJD
Rp/R* = 0.0186 [0.0008]
a/R* = 6.87 [1.34]
b = 0.92 [0.03]
Seff = 433.90 [134.07]
Teq = 1164 [90] K
Rp = 3.63 [0.81] Re
a = 0.1024 [0.0203] AU
Ag = 8.68 [4.26] [1.80 σ]
Teffp = 3088 [300] K [6.14 σ]

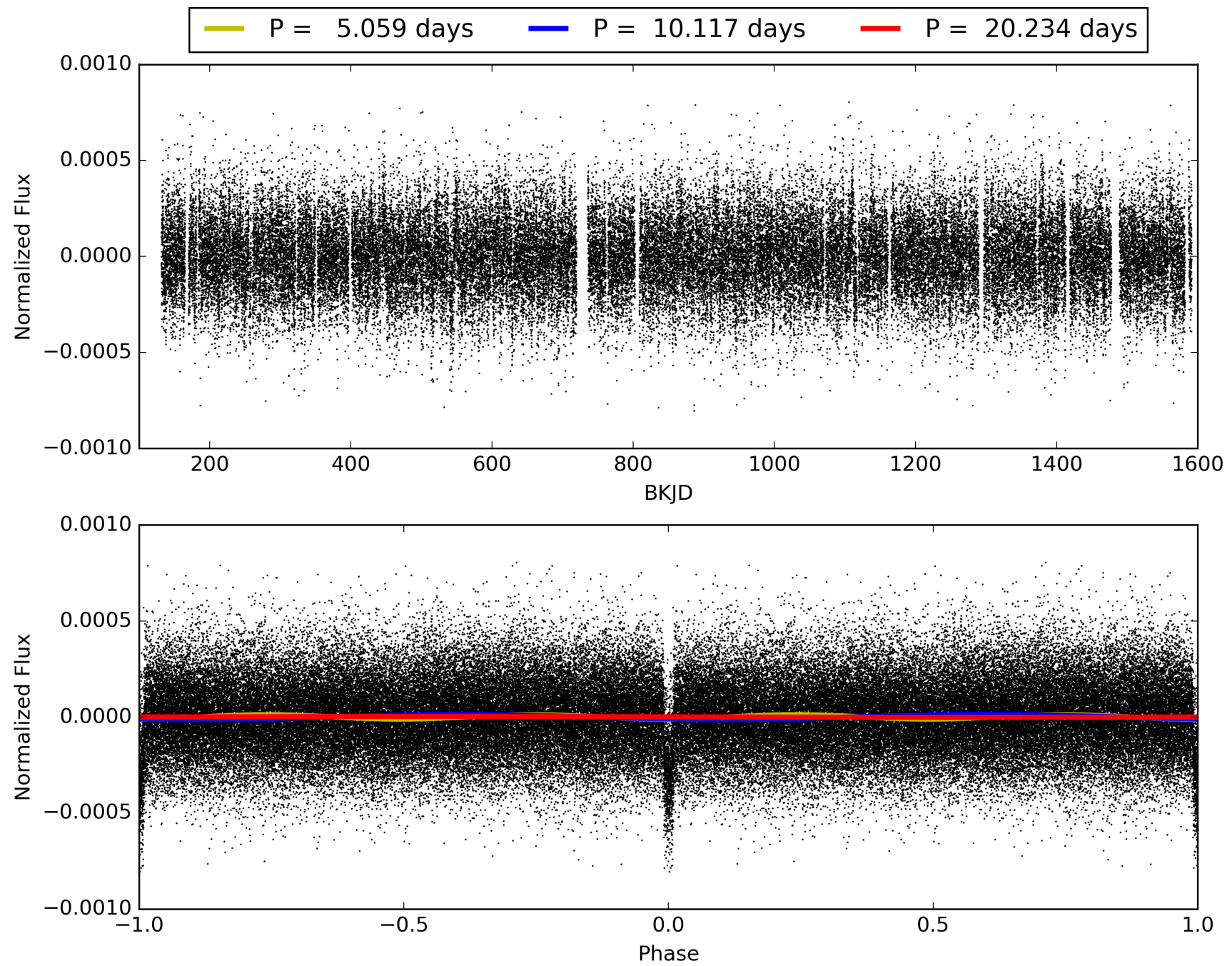
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.39e-258
RollingBand-fgt: 1.00 [125/125]
GhostDiagnostic-chr: 3.056
Centroid-sig: 0.1%
Centroid-so: 0.477 arcsec [1.92 σ]
OotOffset-rm: 0.181 arcsec [1.28 σ]
KicOffset-rm: 0.122 arcsec [1.00 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010854768-01, PDC Light Curves

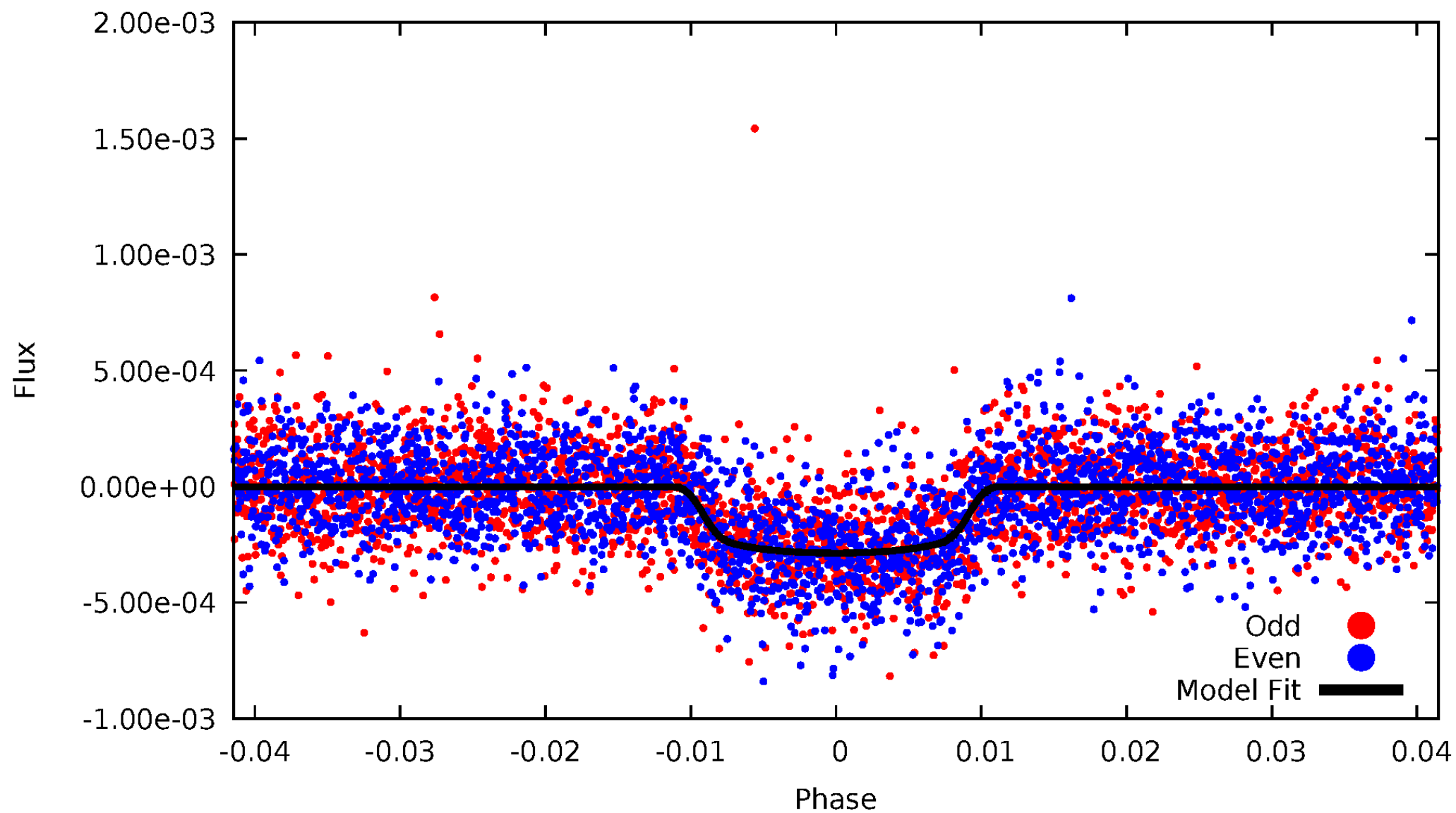


TCE 010854768-01



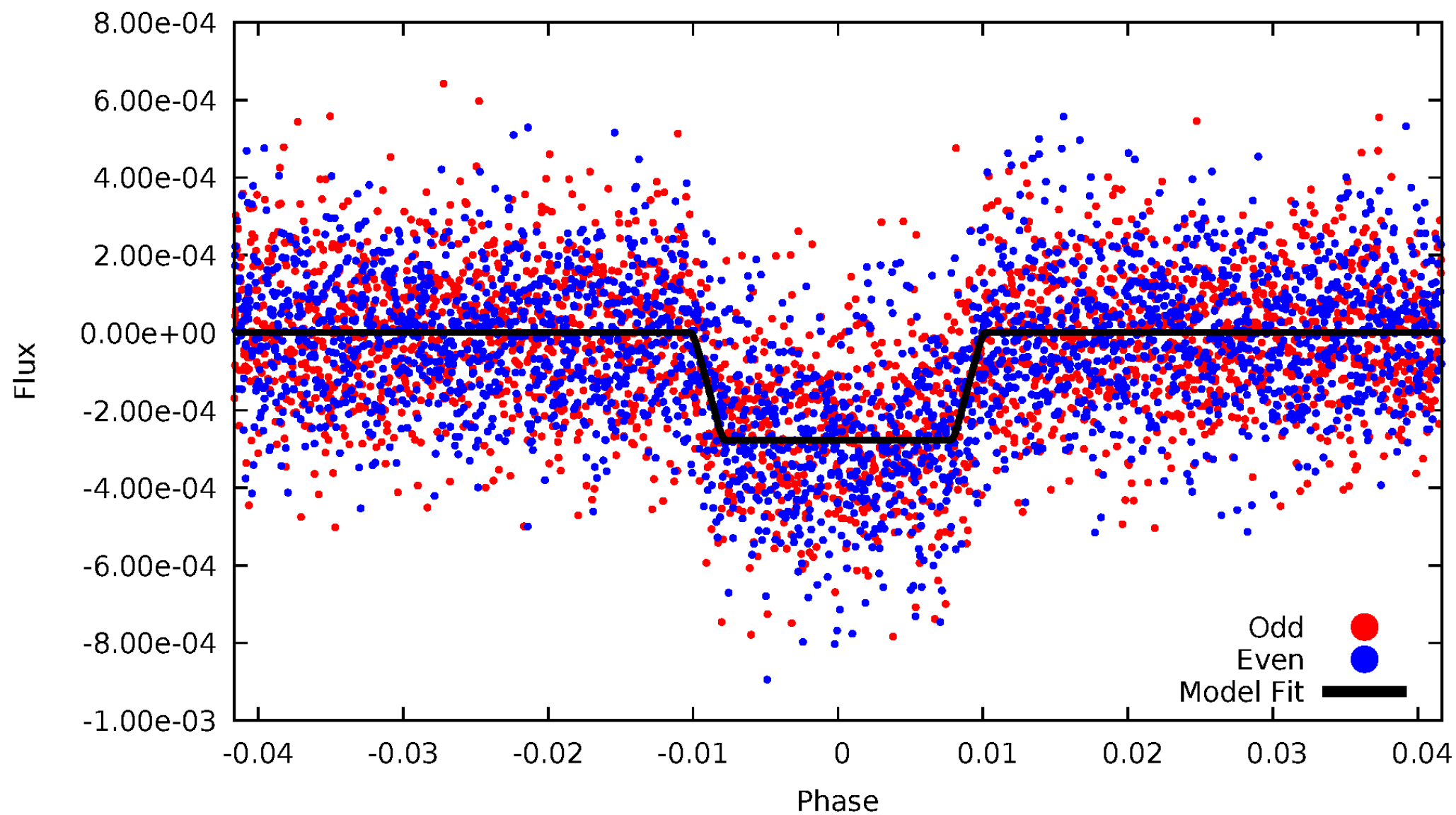
DV Odd/Even

TCE 010854768-01

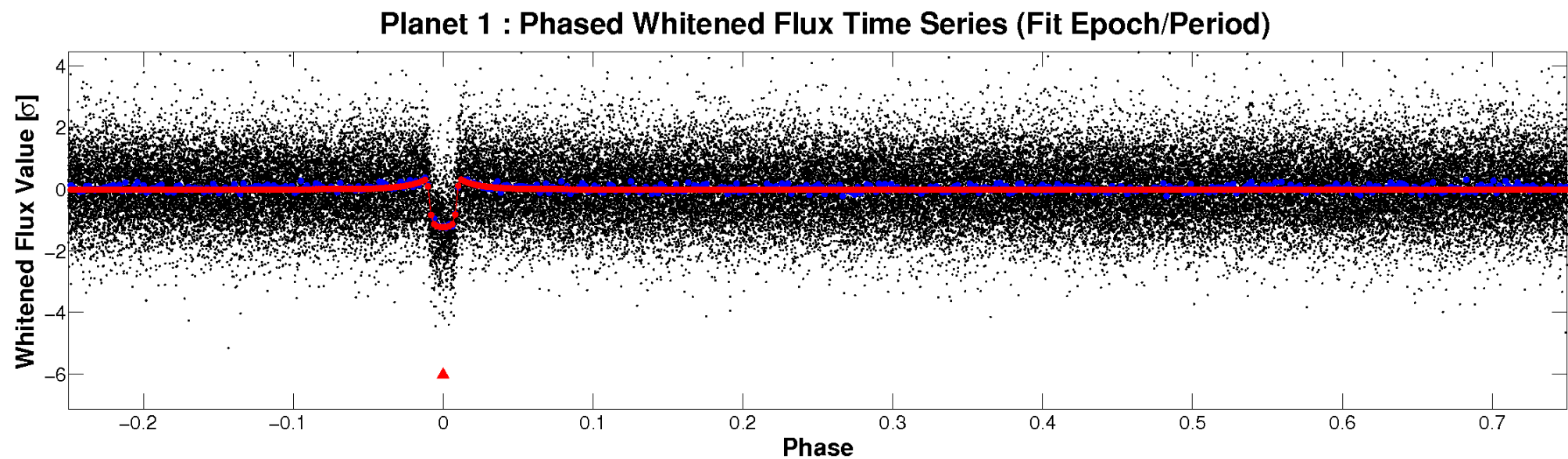
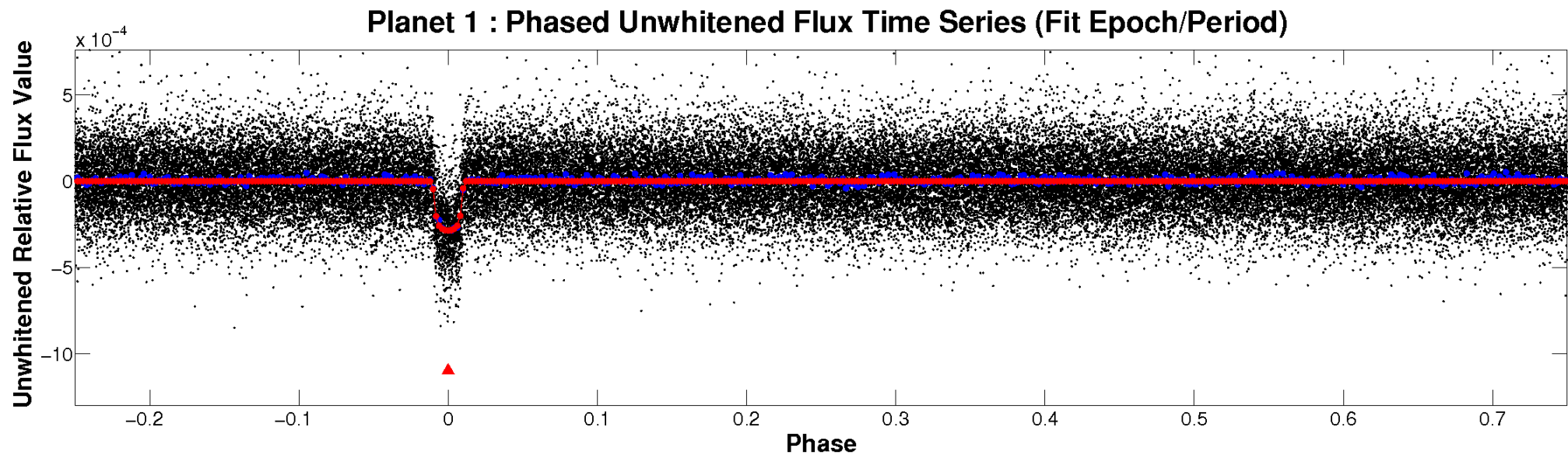


ALT Odd/Even

TCE 010854768-01

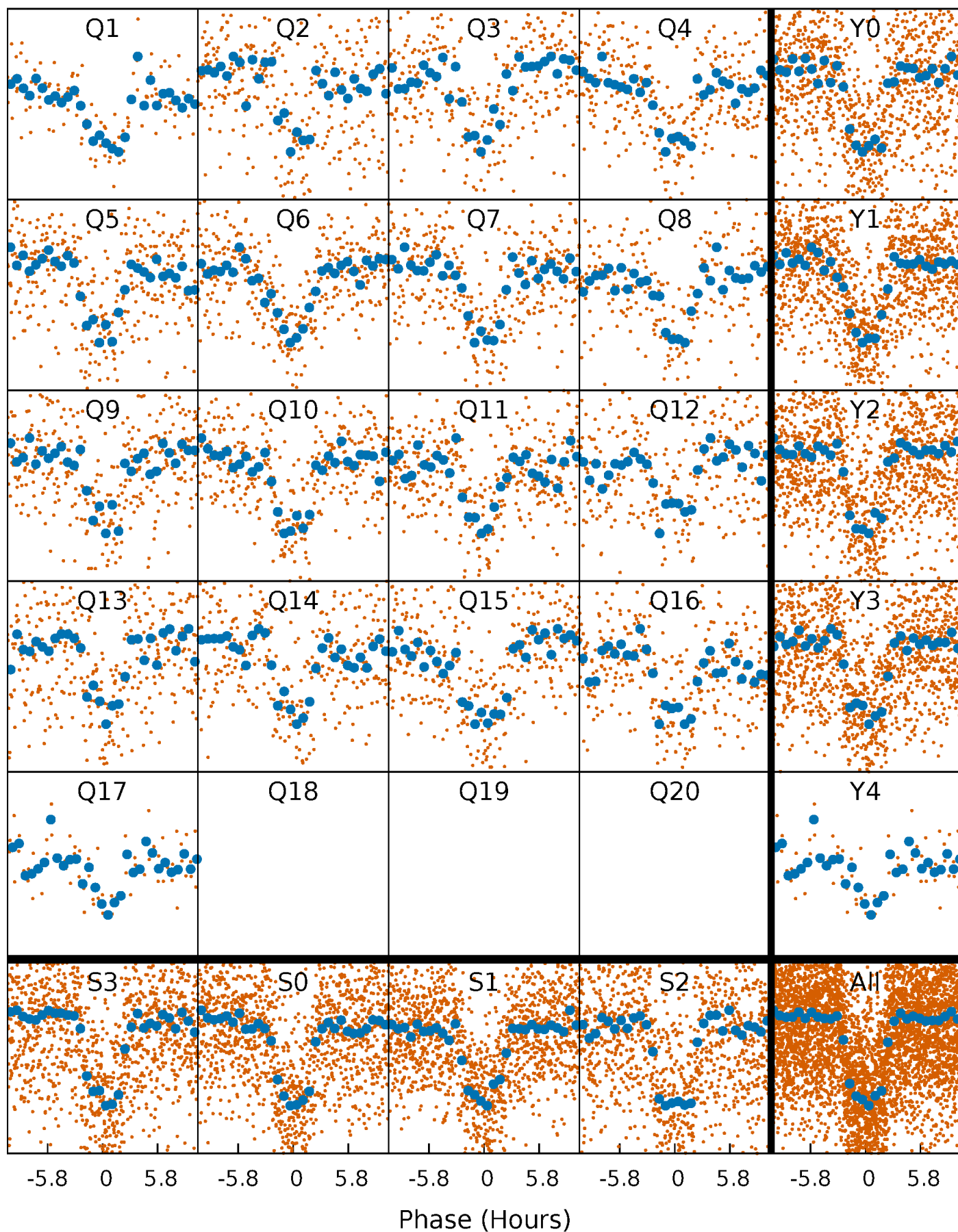


Non-Whitened Vs. Whitened Light Curve



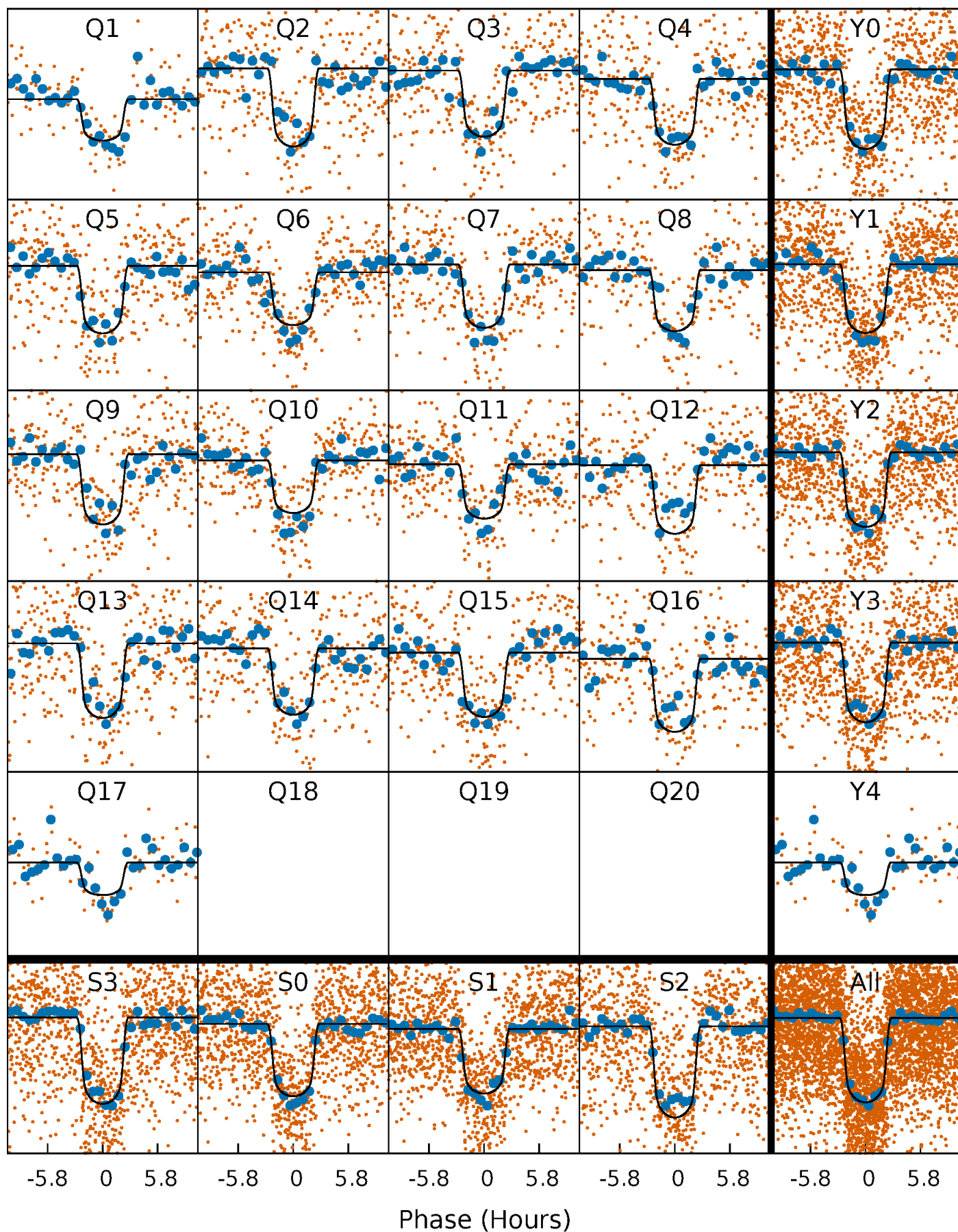
PDC Quarter-Phased Transit Curves

TCE 010854768-01 P= 10.117163 Days $T_0=137.445644$ (BKJD)



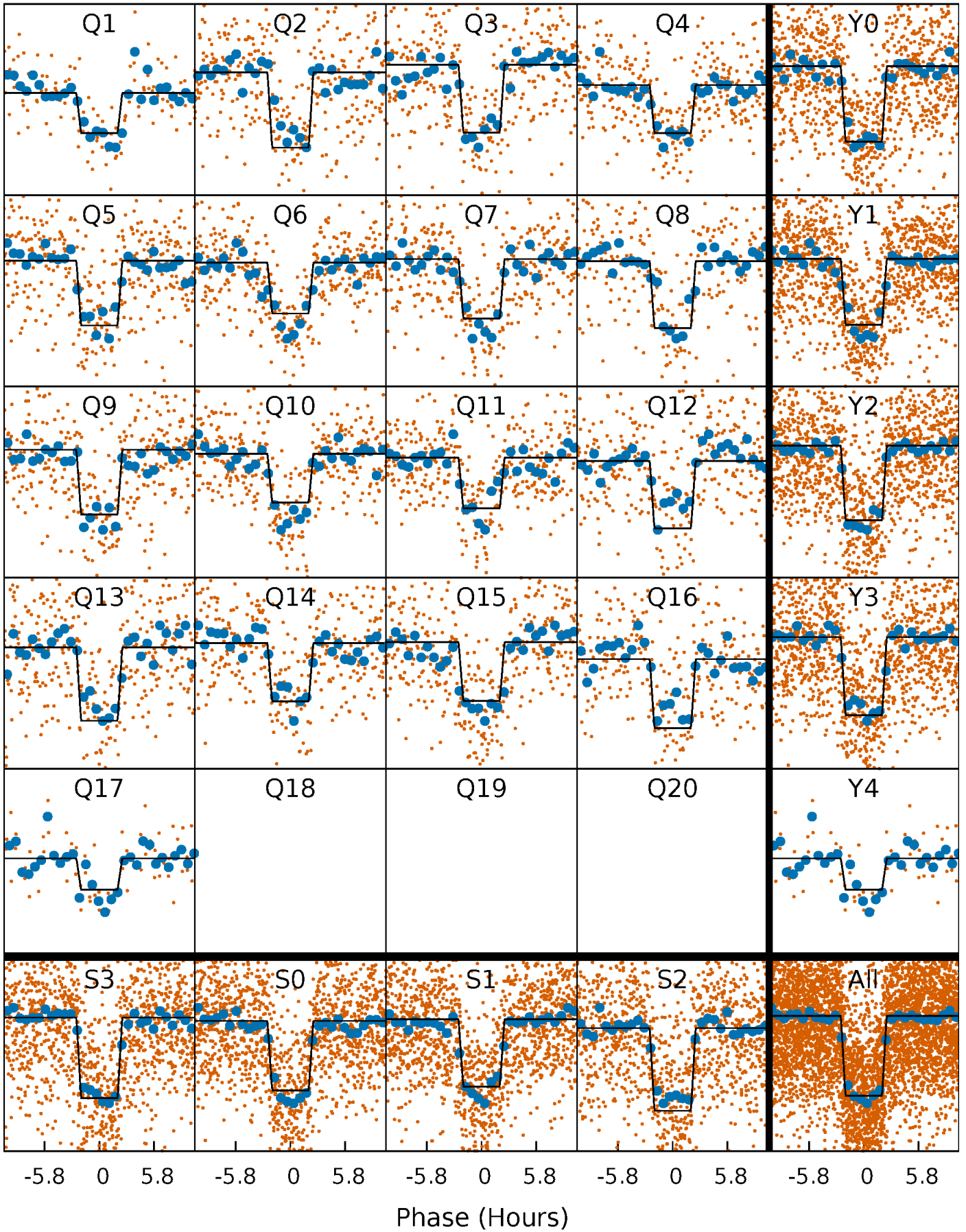
DV Quarter-Phased Transit Curves

TCE 010854768-01 P= 10.117163 Days $T_0=137.445644$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

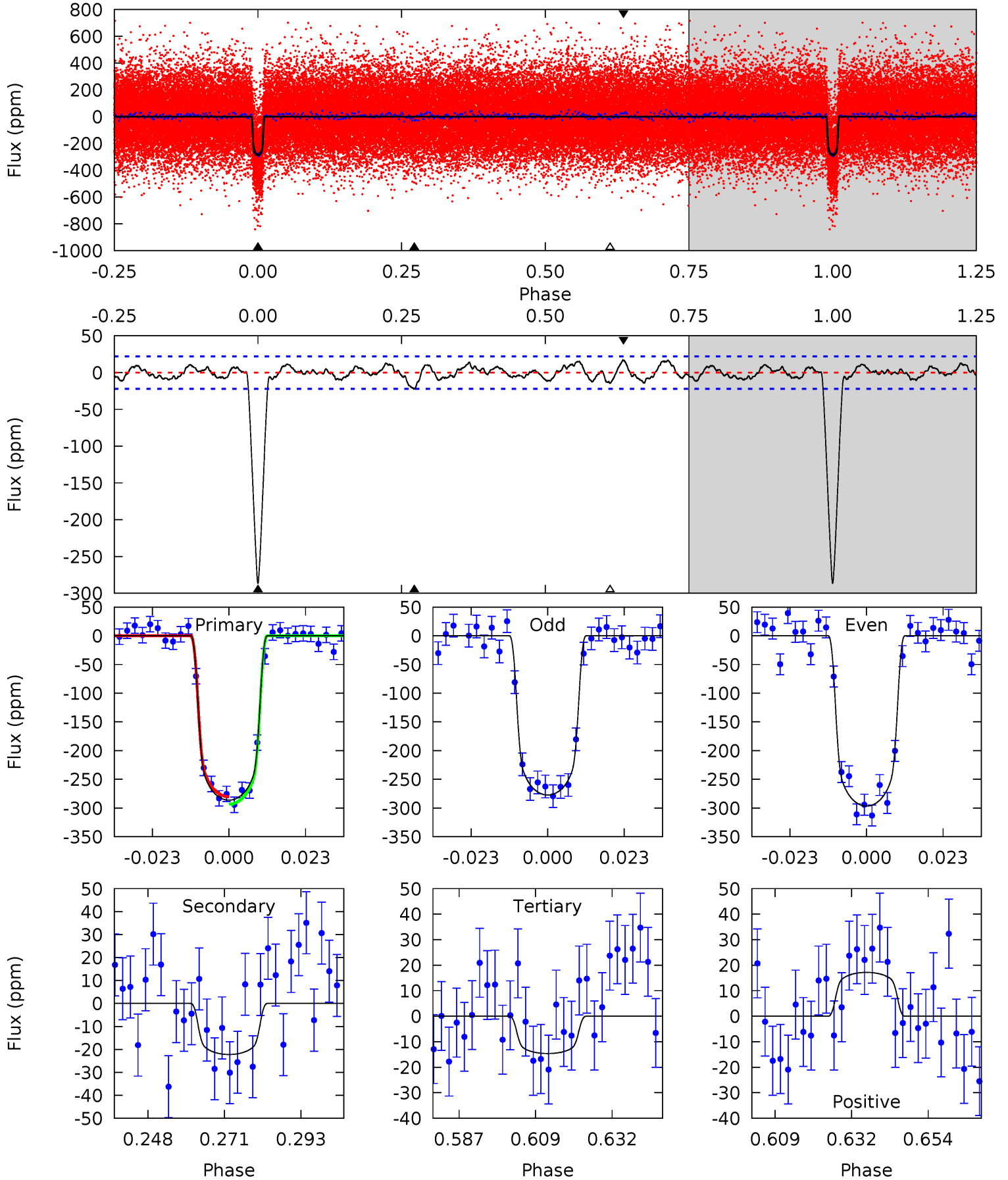
TCE 010854768-01 P= 10.117179 Days $T_0=137.444258$ (BKJD)



DV Model-Shift Uniqueness Test

010854768-01, $P = 10.117163$ Days, $E = 127.328481$ Days

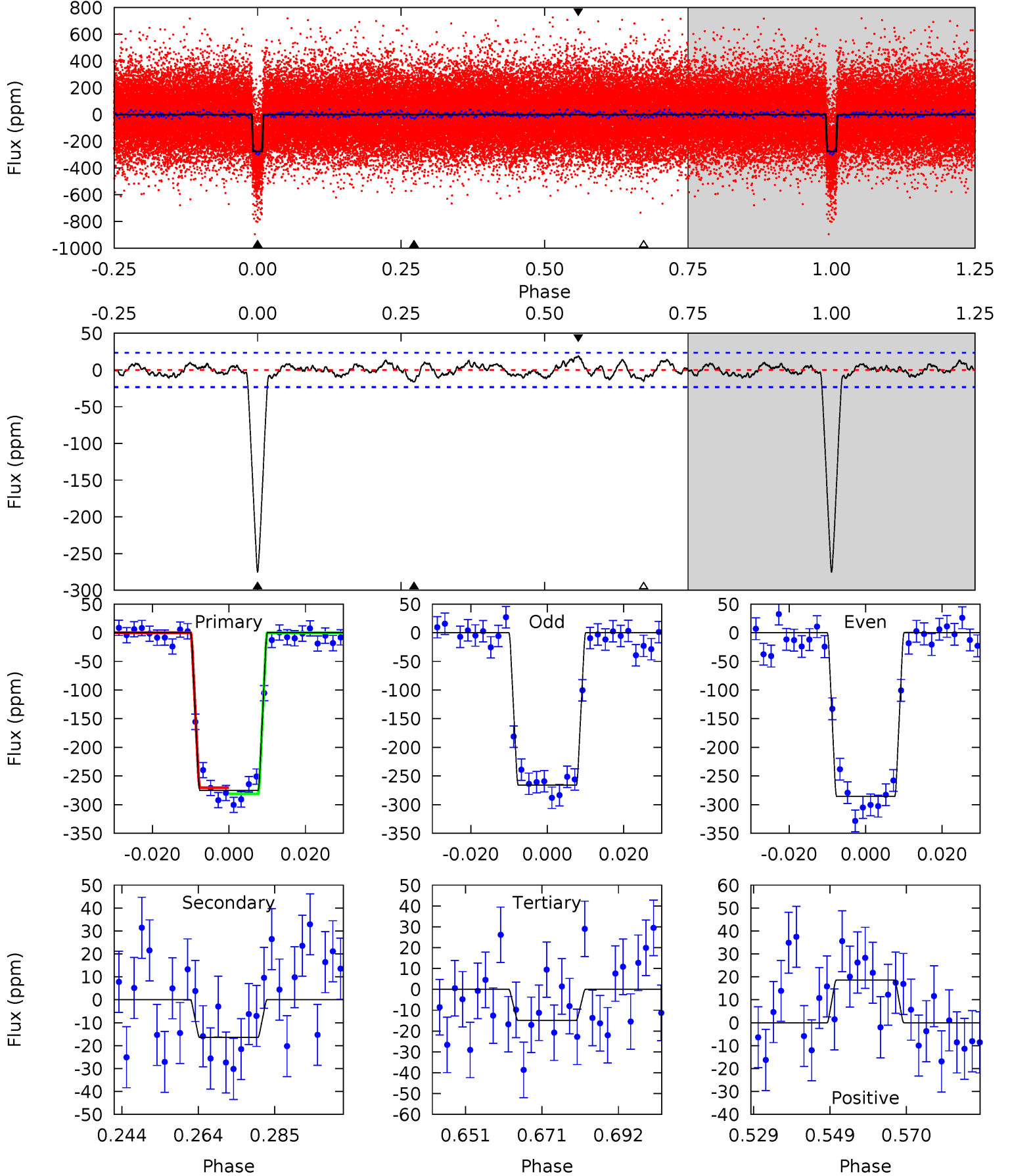
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.0	4.89	3.22	3.78	4.87	2.28	1.52	59.8	59.2	1.67	1.11	2.12	1.01	0.06	1.42



Alt Model-Shift Uniqueness Test

010854768-01, $P = 10.117179$ Days, $E = 127.327079$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.6	3.45	3.13	3.91	4.89	2.32	1.38	54.5	53.7	0.32	-0.46	2.04	1.01	0.06	1.15



Stellar Parameters For KIC 010854768

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6306^{+81}_{-81}	$4.077^{+0.174}_{-0.116}$	$0.240^{+0.150}_{-0.150}$	$1.792^{+0.323}_{-0.394}$	$1.399^{+0.113}_{-0.126}$	$0.342^{+0.299}_{-0.116}$
	+1%/-1%	+4%/-3%	+62%/-62%	+18%/-22%	+8%/-9%	+87%/-34%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 010854768-01 / KOI 1309.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-22 ± 5	$3.62^{+0.40}_{-0.41}$	1625^{+82}_{-96}	3593^{+132}_{-139}	$9.681^{+3.268}_{-2.556}$
Alt.	-16 ± 5	$3.23^{+0.33}_{-0.39}$	1622^{+76}_{-89}	3553^{+169}_{-208}	$9.092^{+3.891}_{-3.141}$

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 $A_{obs} \gg 1.0$

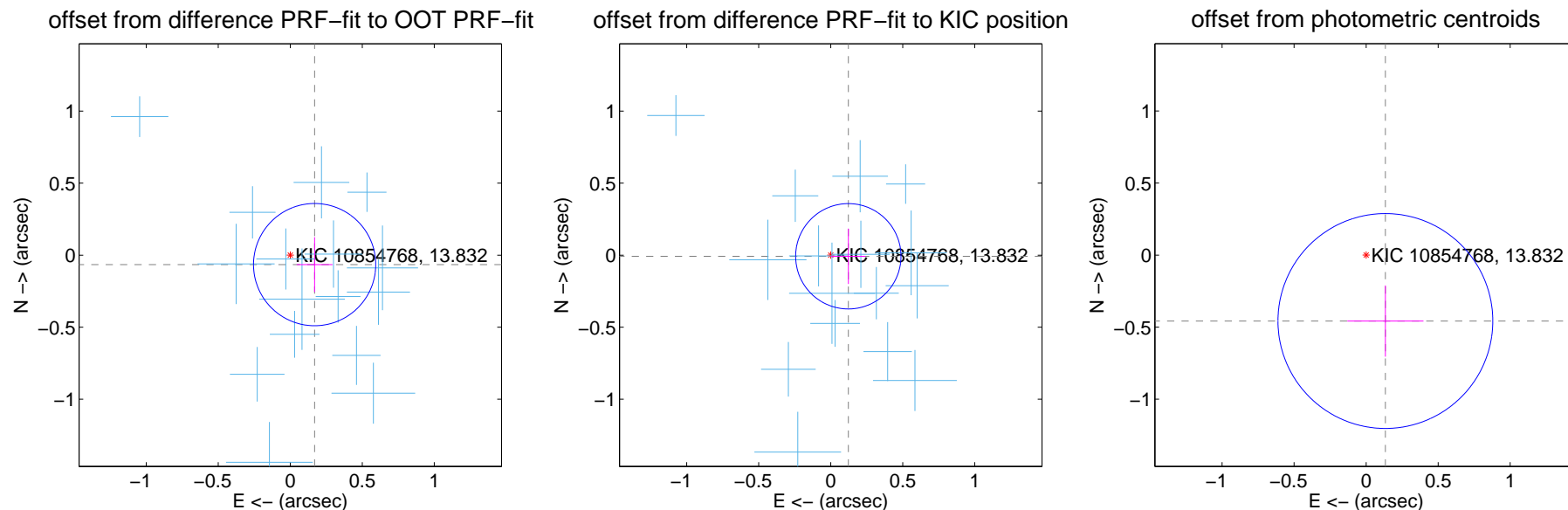
DV Centroid Data

Supplemental centroid analysis for 010854768-01. Kepler magnitude: 13.83. Transit SNR 37.94

There are 17 quarters with good PRF difference image offsets

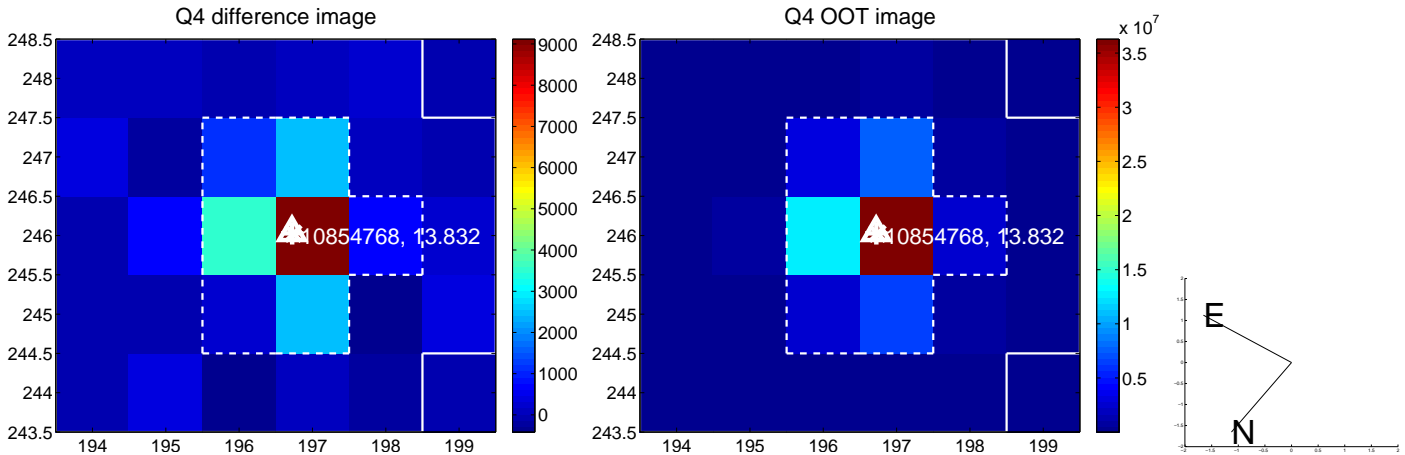
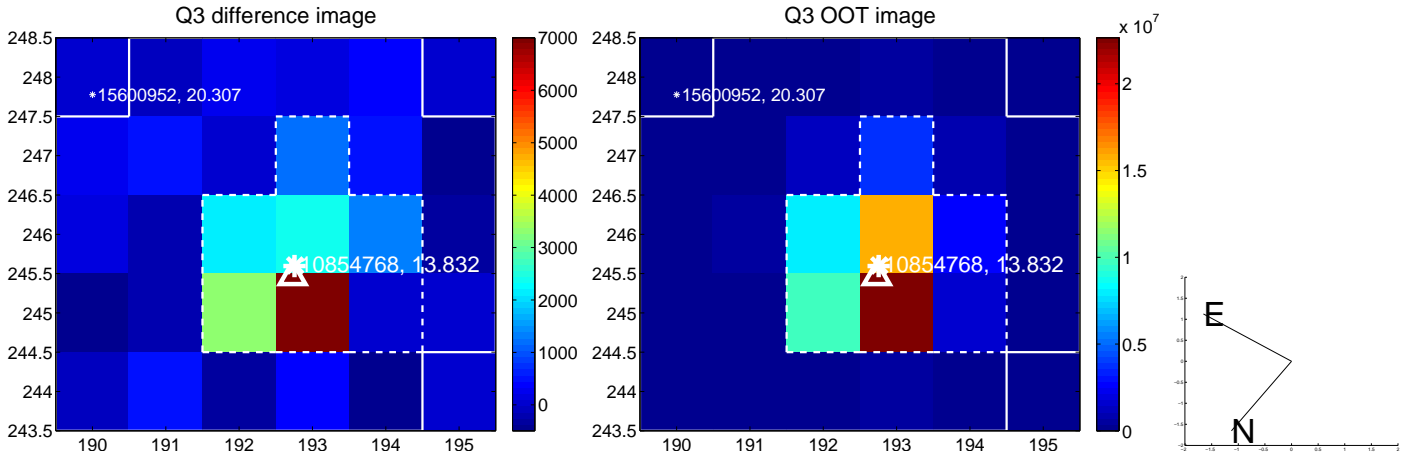
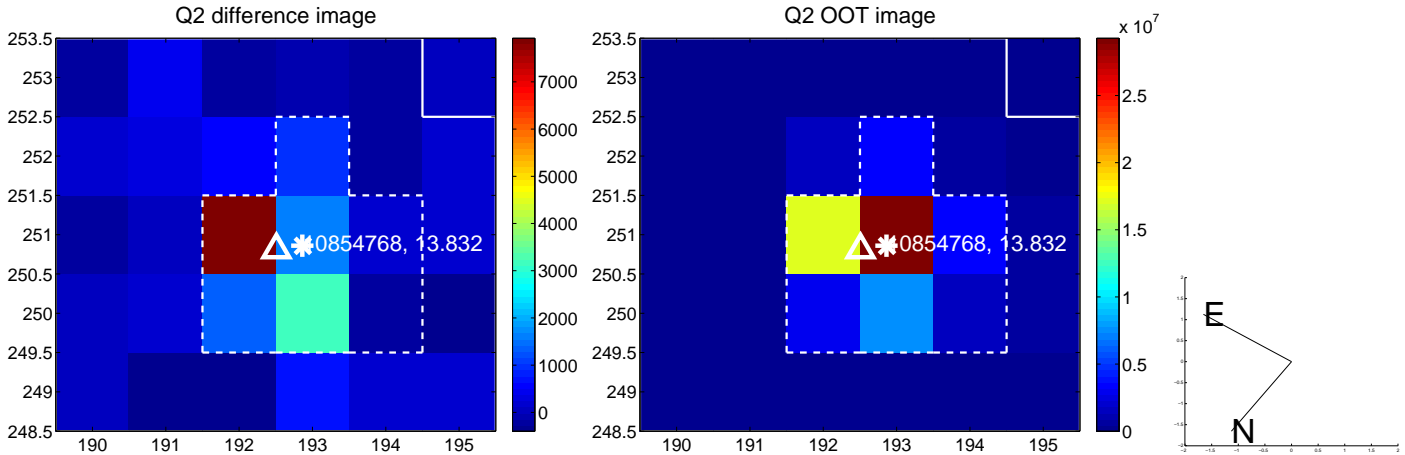
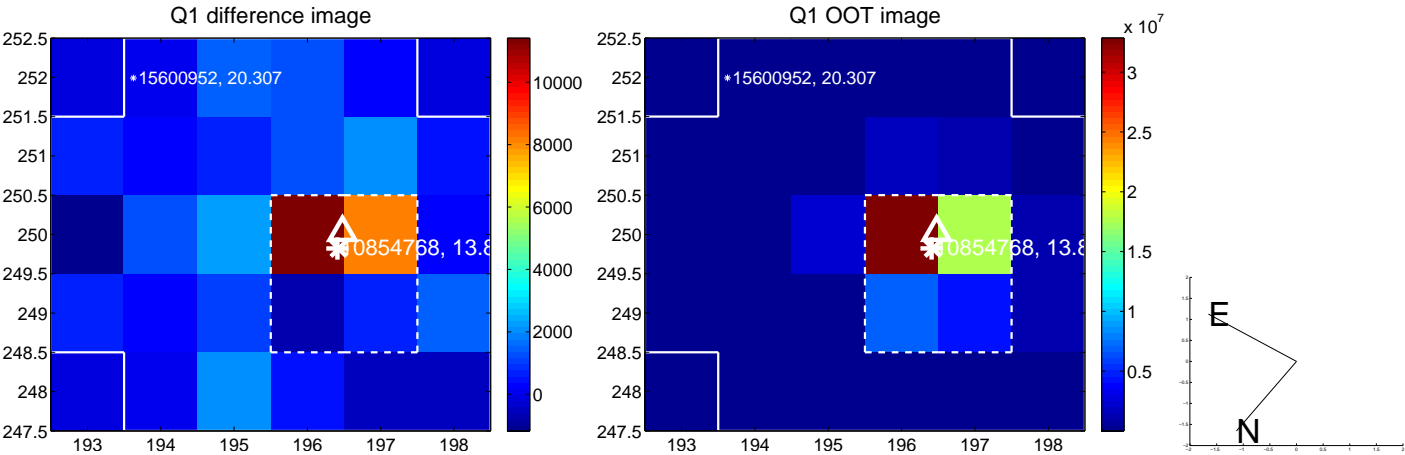
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.181 ± 0.141	1.28	-0.169 ± 0.124	-0.066 ± 0.190
PRF-fit source offset from KIC position	0.122 ± 0.122	1.00	-0.122 ± 0.119	-0.008 ± 0.192
photometric centroid source offset	0.48 ± 0.25	1.92	-0.13 ± 0.26	-0.46 ± 0.25

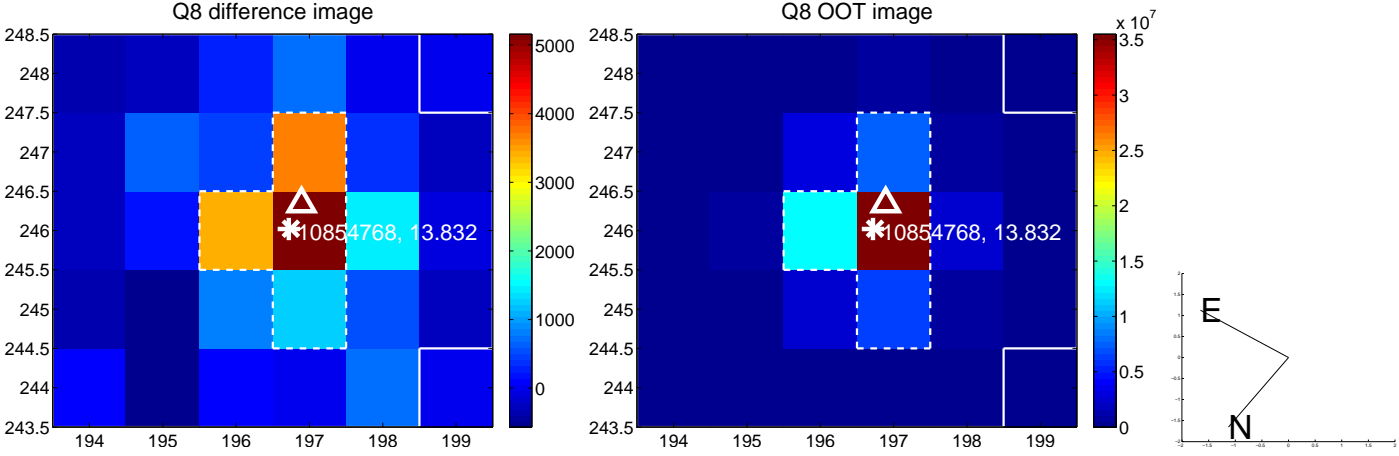
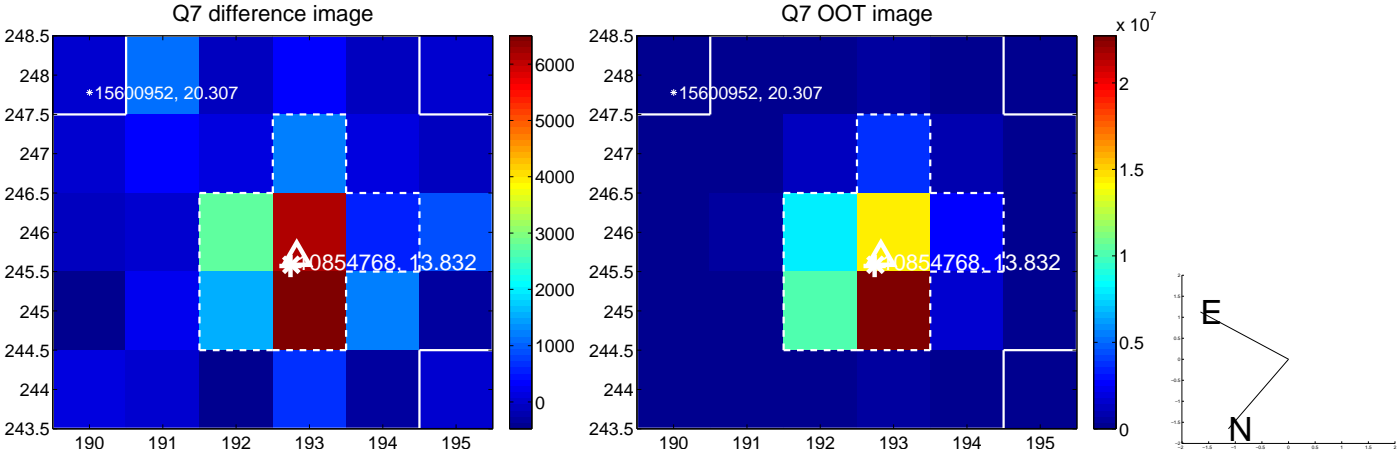
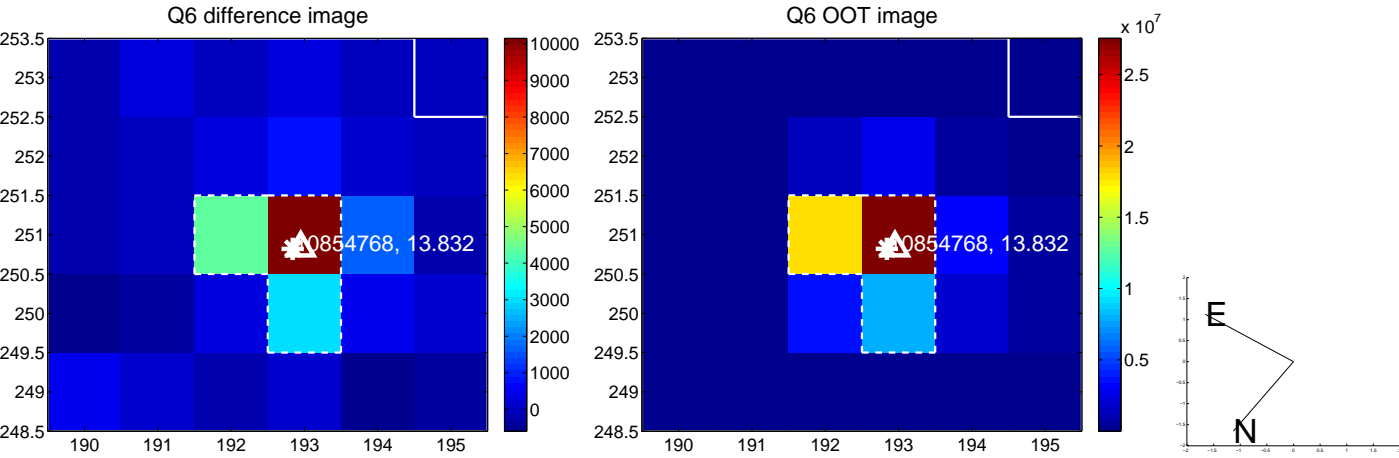
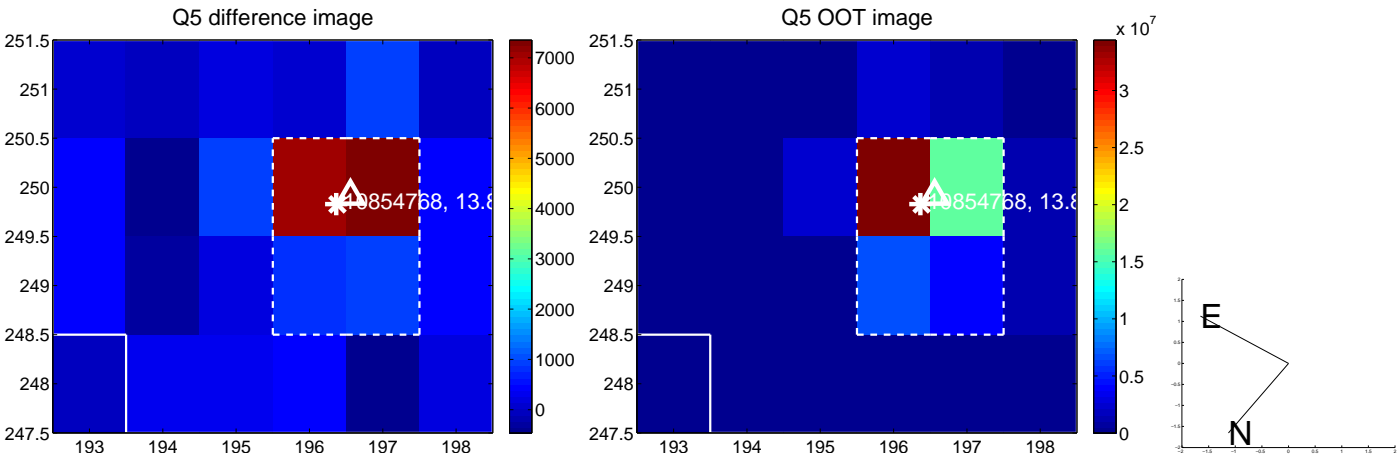


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

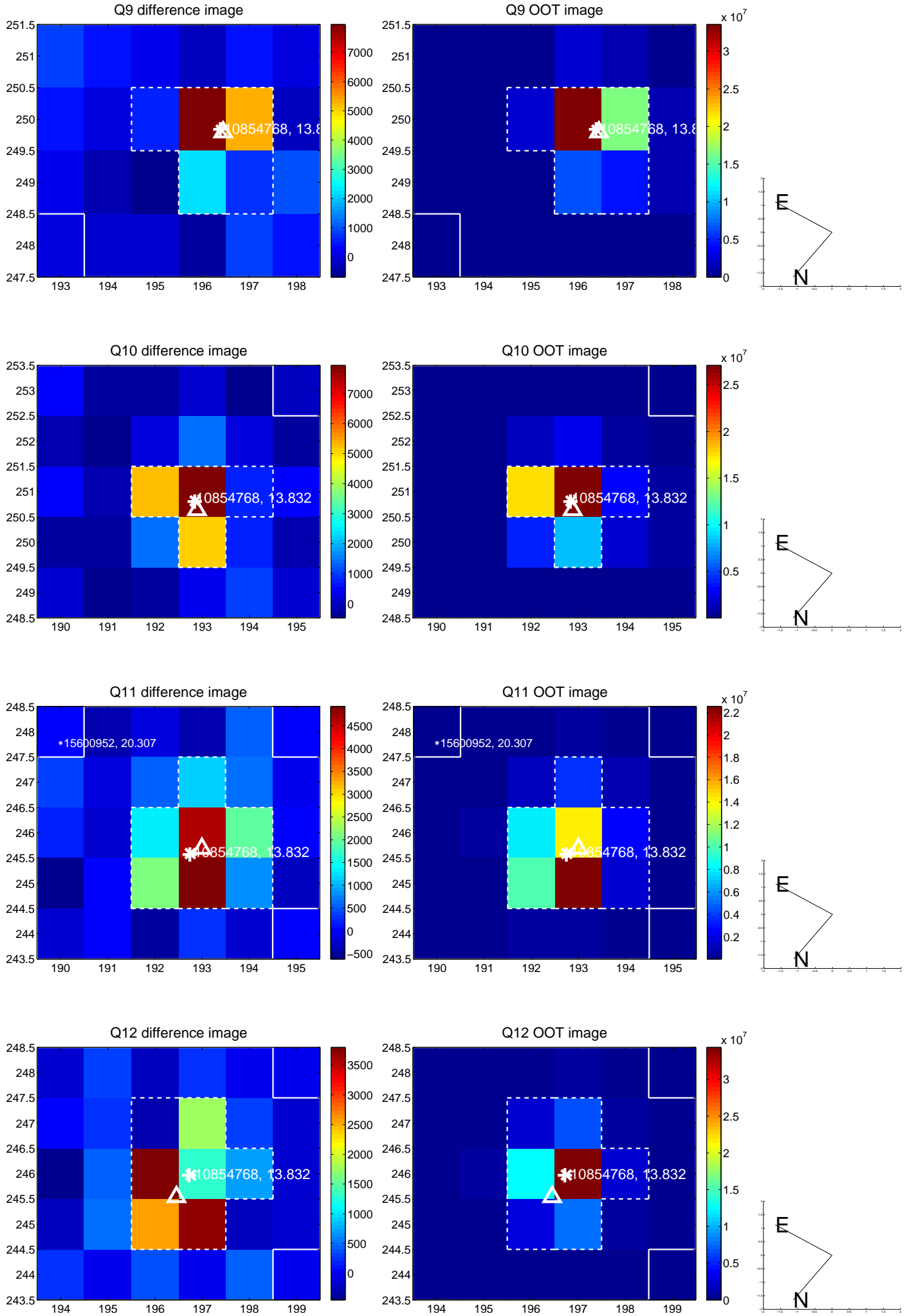
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



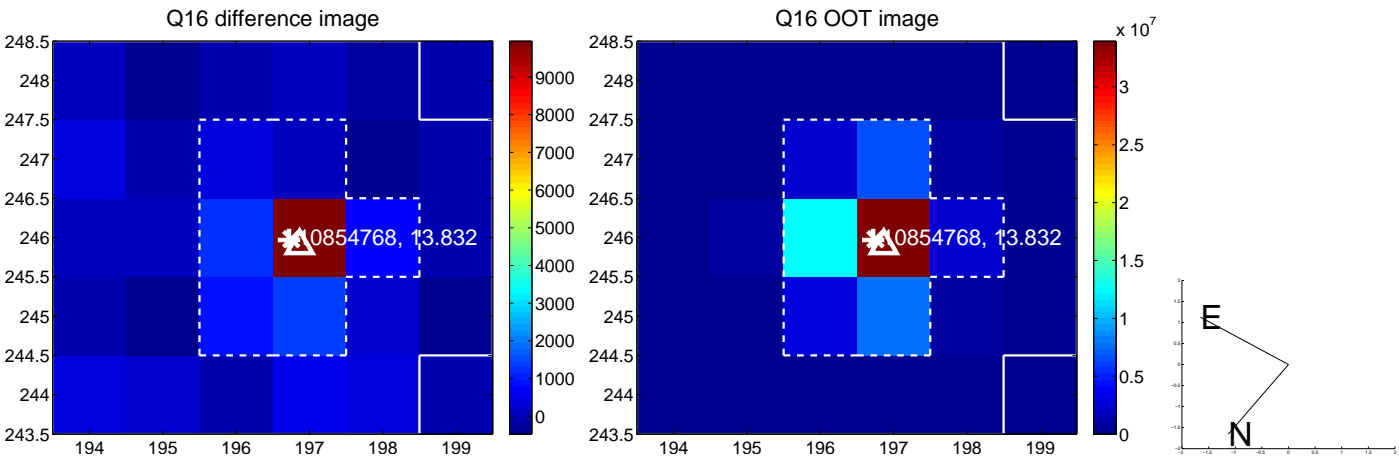
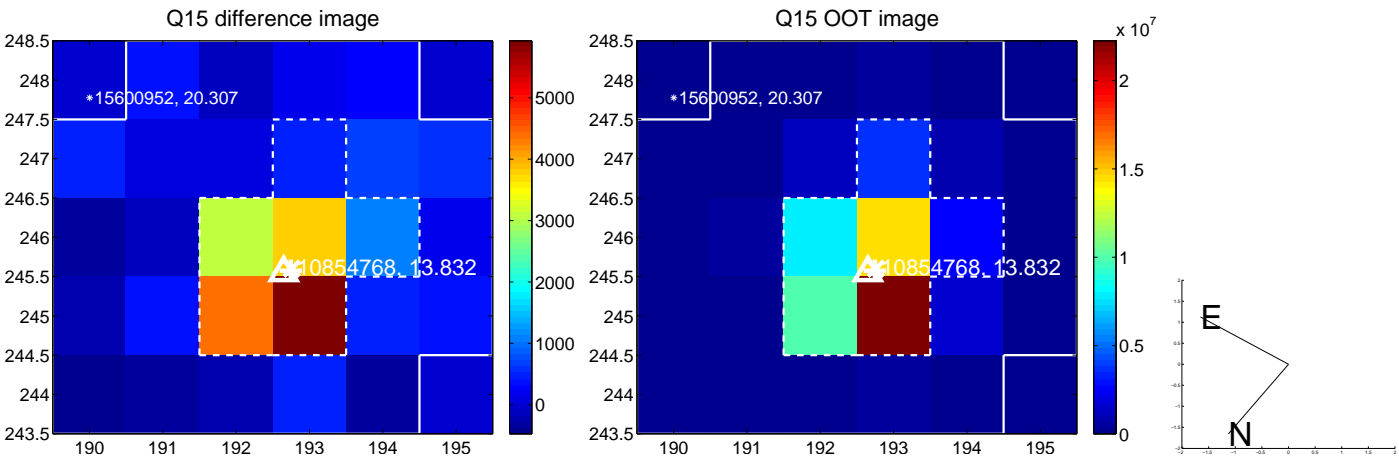
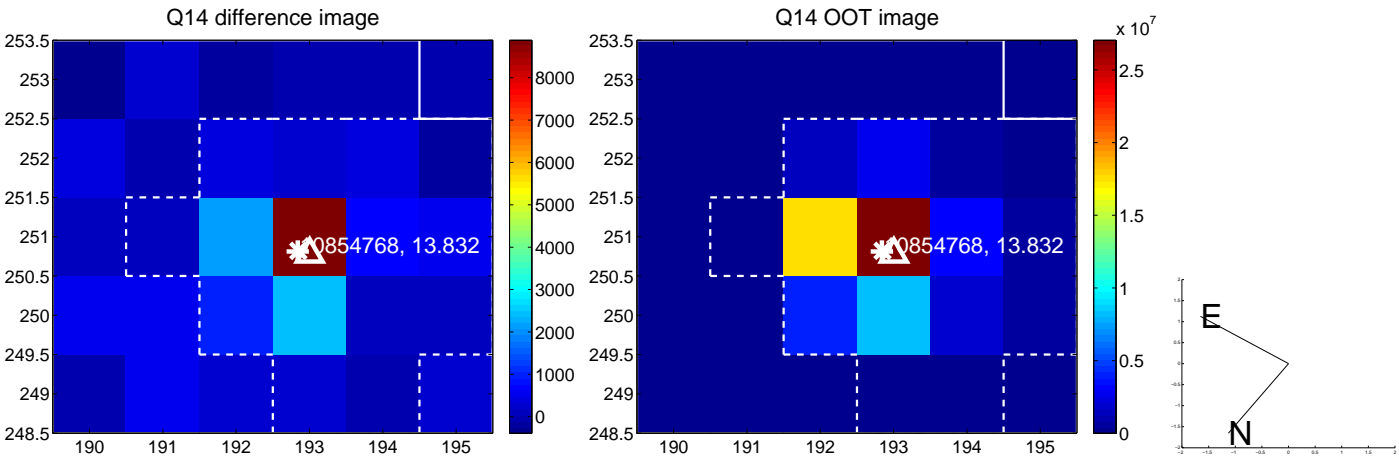
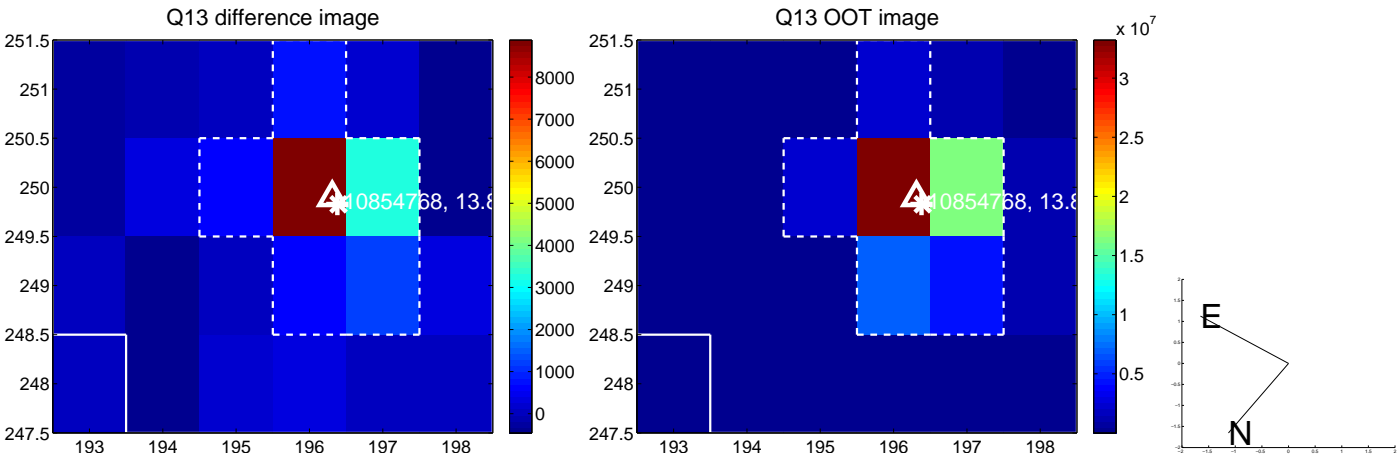
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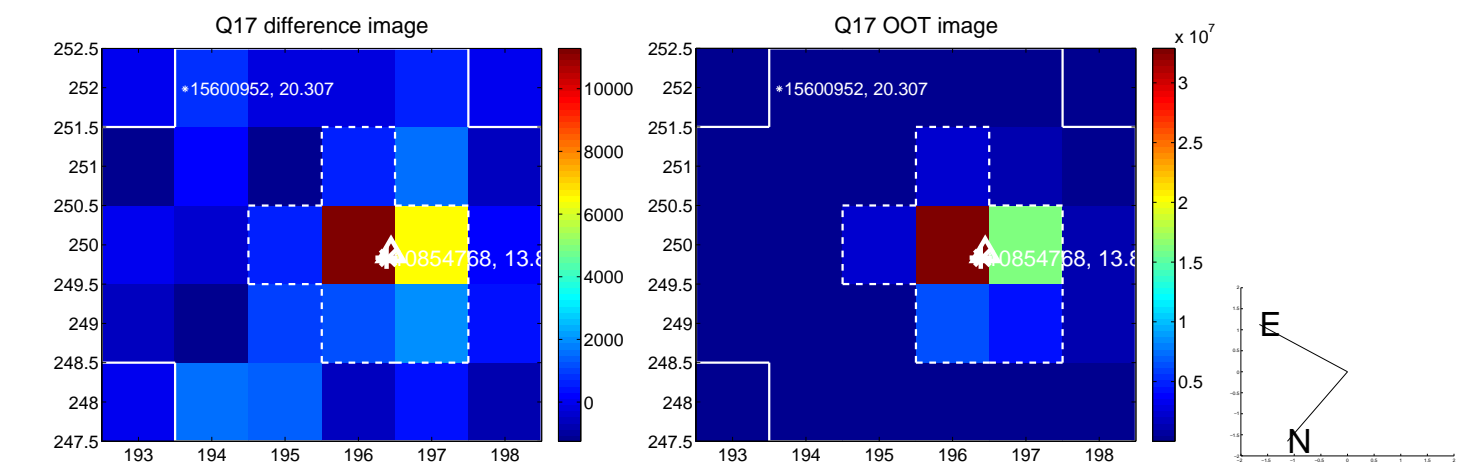
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



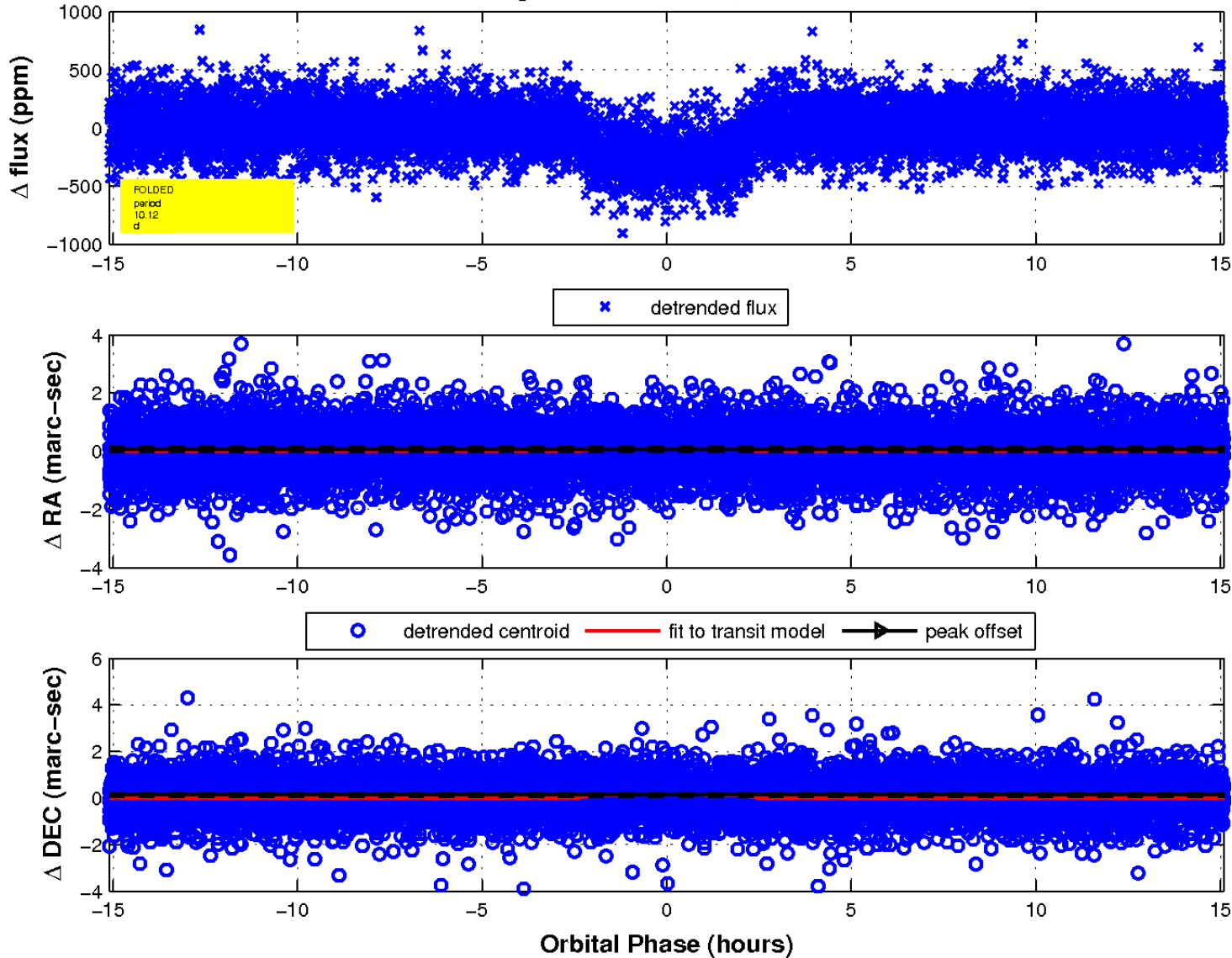
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

