

KIC 008110767

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})
008110767-01	OBS	2504.01	20.490495	144.416677	682.8	4.733	17.5	18.9	0.92	5681	2.90	36.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008110767-01	OBS	PC	0.96	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.

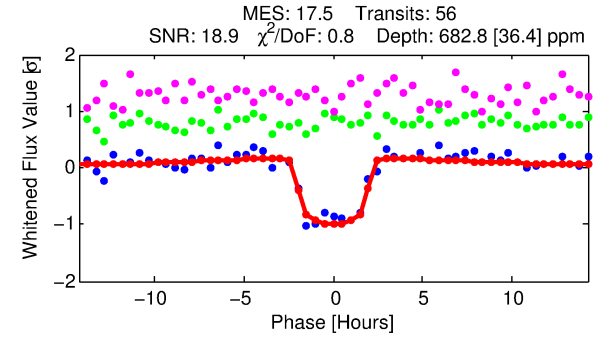
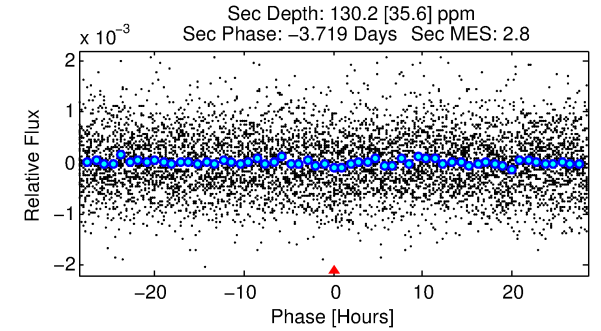
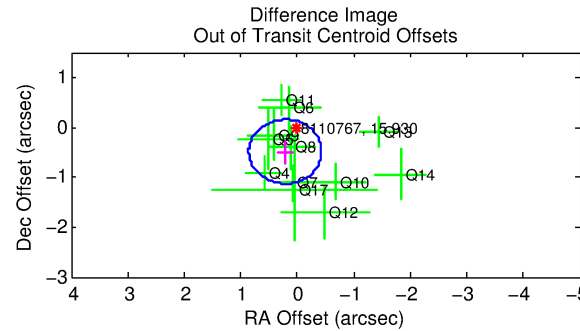
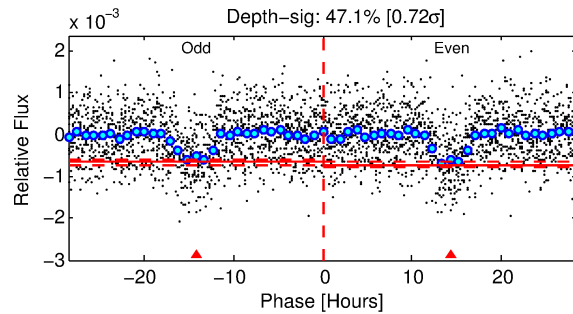
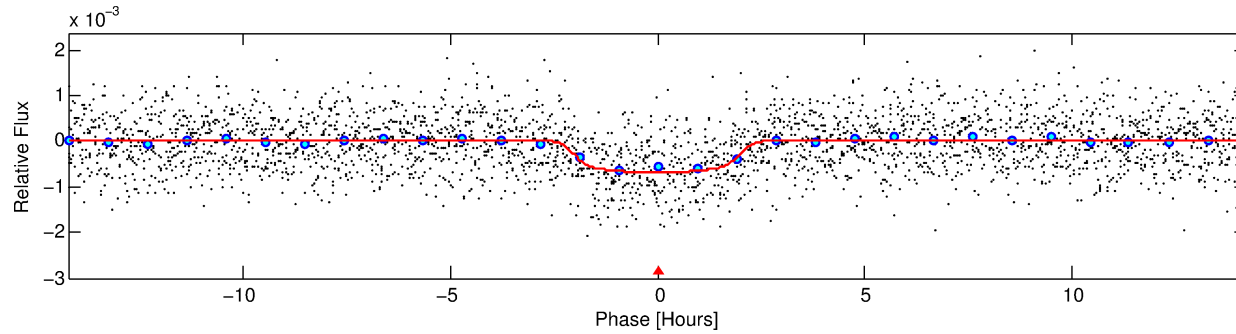
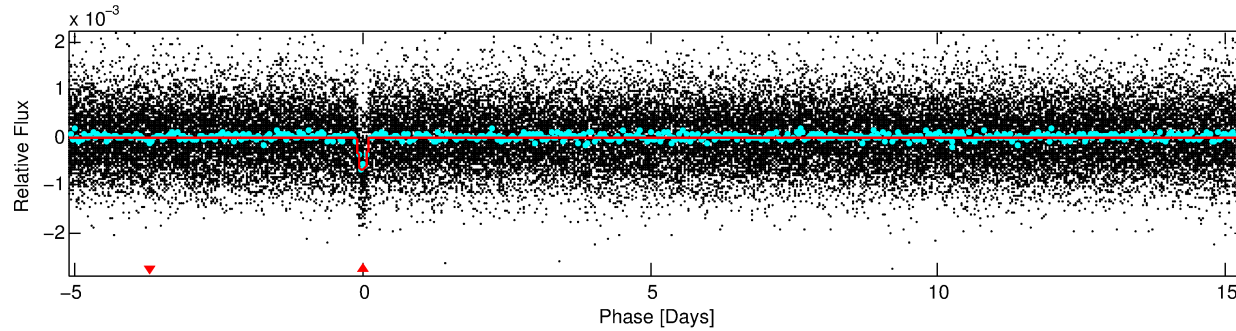
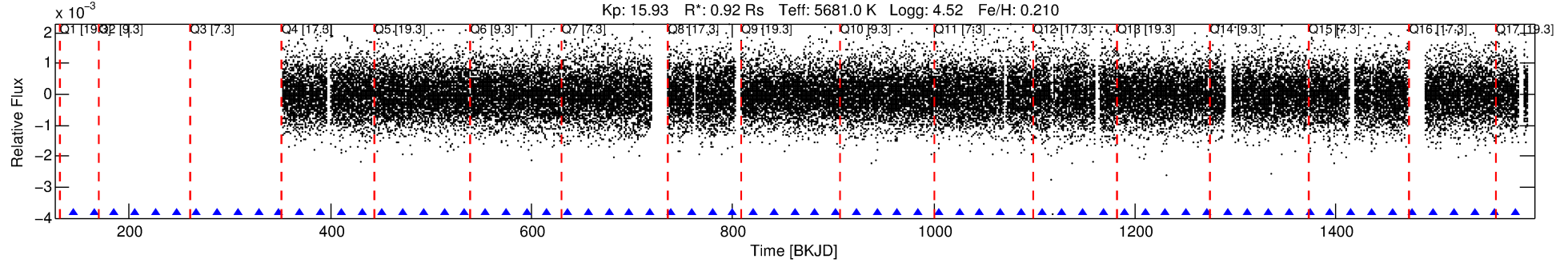
Ephemeris Match Information For 008110767-01

No Significant Match Found

DV One-Page Summary

KIC: 8110767 Candidate: 1 of 1 Period: 20.490 d
KOI: K02504.01 Corr: 0.977

Kp: 15.93 R*: 0.92 Rs Teff: 5681.0 K Logg: 4.52 Fe/H: 0.210



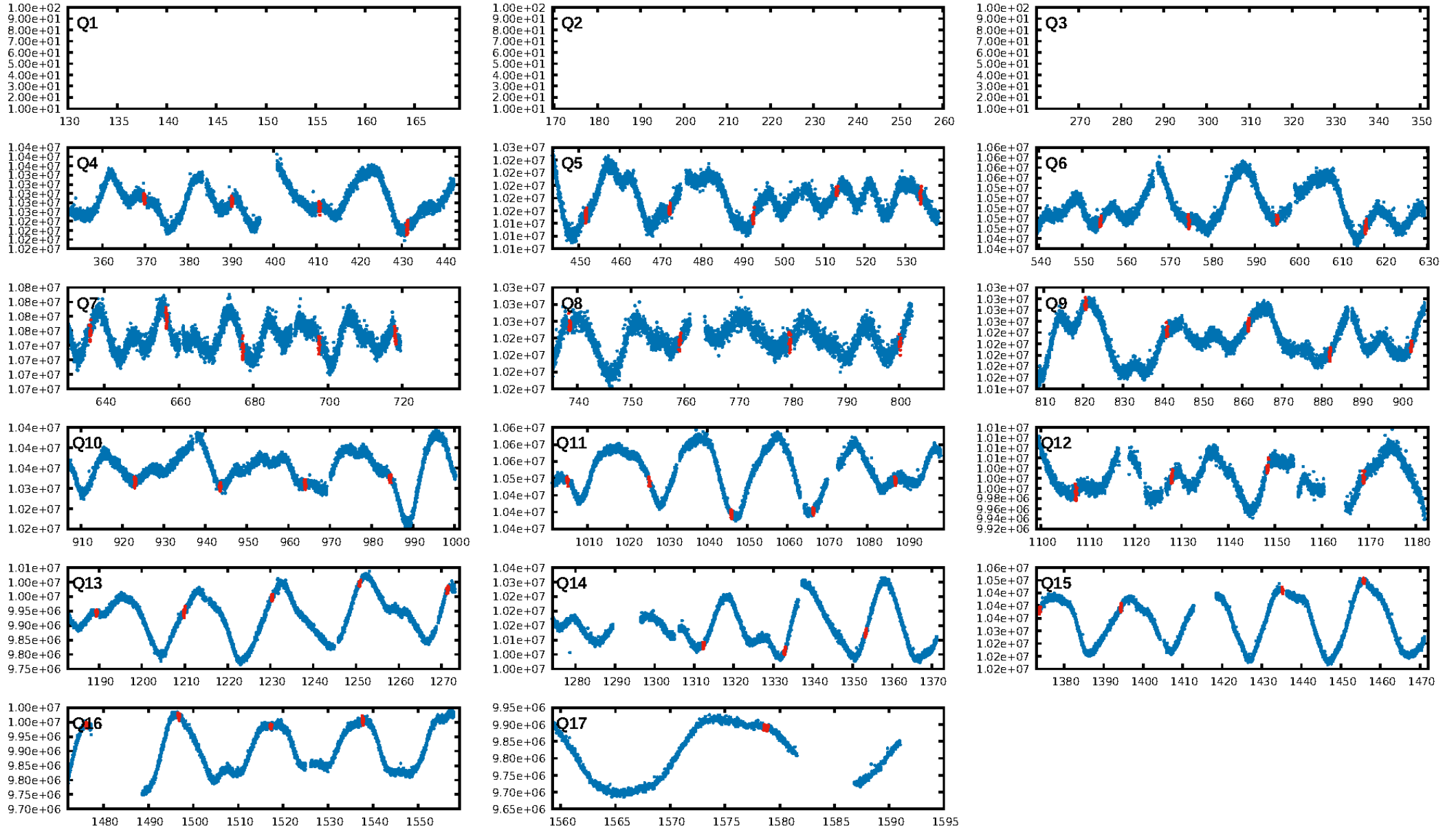
DV Fit Results:

Period = 20.49049 [0.00015] d
Epoch = 144.4167 [0.0062] BKJD
Rp/R* = 0.0288 [0.0024]
a/R* = 16.28 [5.55]
b = 0.90 [0.07]
Seff = 36.08 [14.17]
Teq = 625 [61] K
Rp = 2.90 [0.86] Re
a = 0.1484 [0.0366] AU
Ag = 188.04 [91.76] [2.04σ]
Teffp = 3578 [314] K [9.22σ]

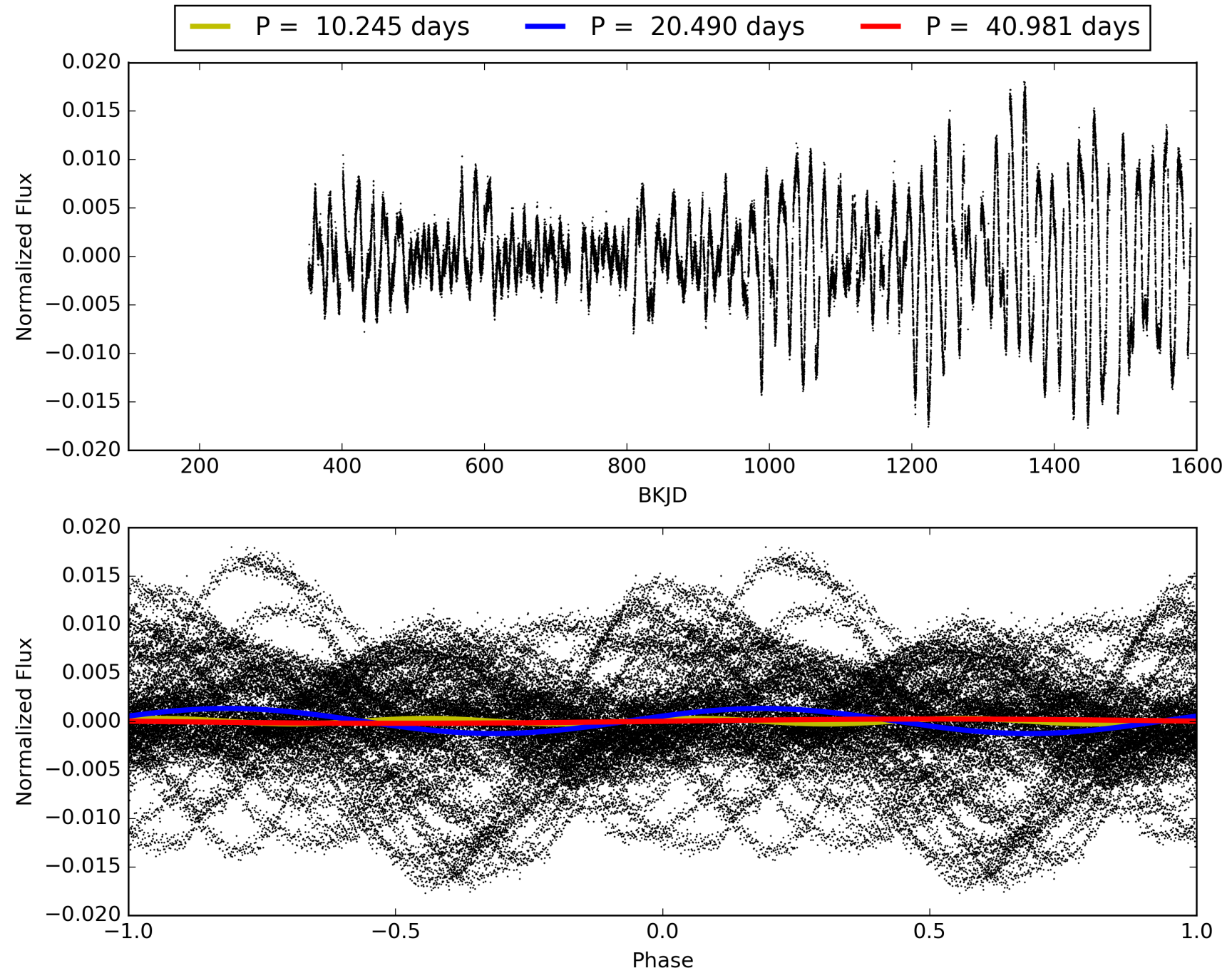
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.73e-63
RollingBand-fgt: 1.00 [55/55]
GhostDiagnostic-chr: 2.944
Centroid-sig: 70.2%
Centroid-so: 0.303 arcsec [0.47σ]
OotOffset-rm: 0.535 arcsec [2.49σ]
KicOffset-rm: 0.605 arcsec [2.81σ]
OotOffset-st: 3/2/3/4 [12]
KicOffset-st: 3/2/3/4 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 008110767-01, PDC Light Curves

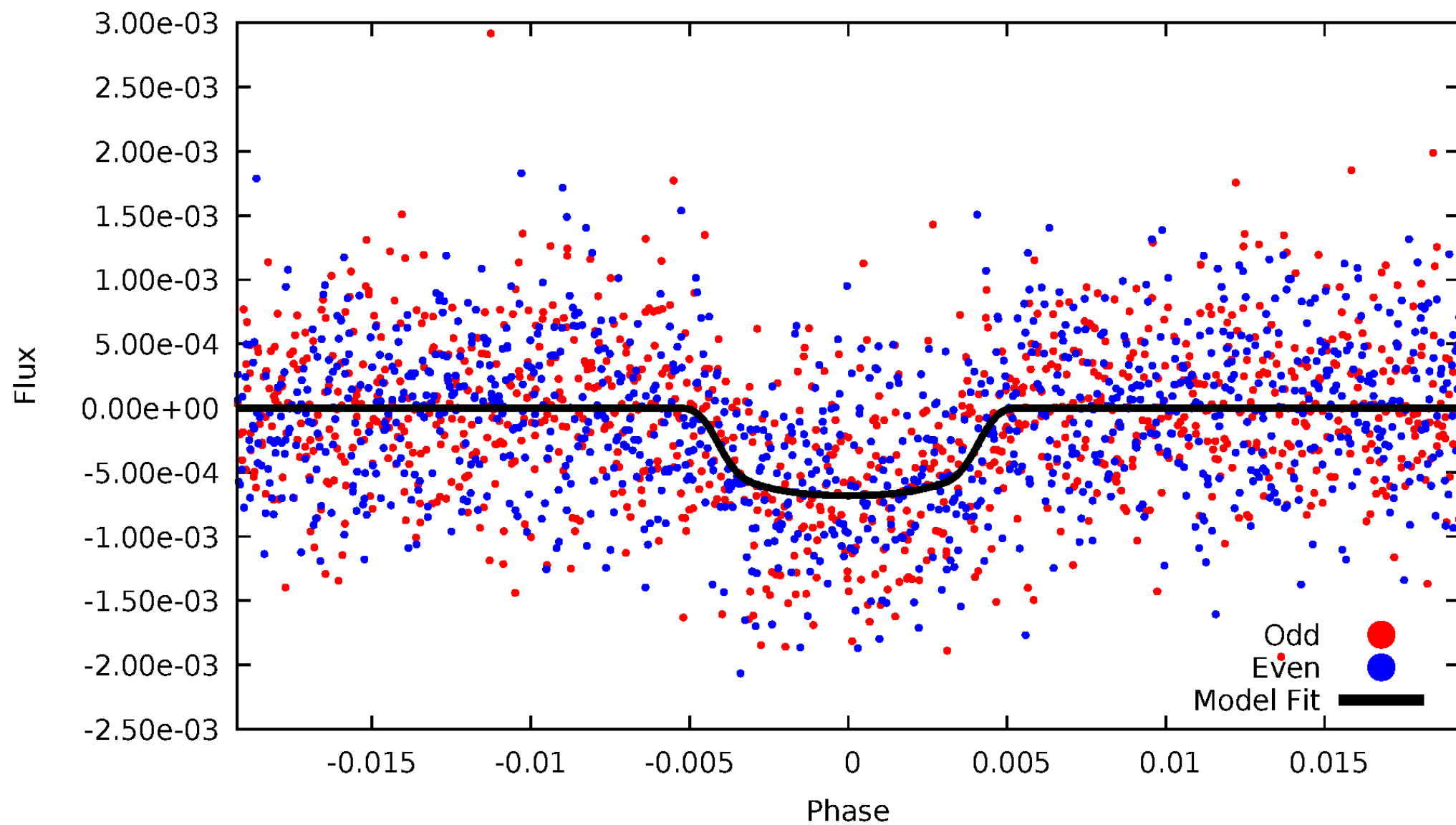


TCE 008110767-01



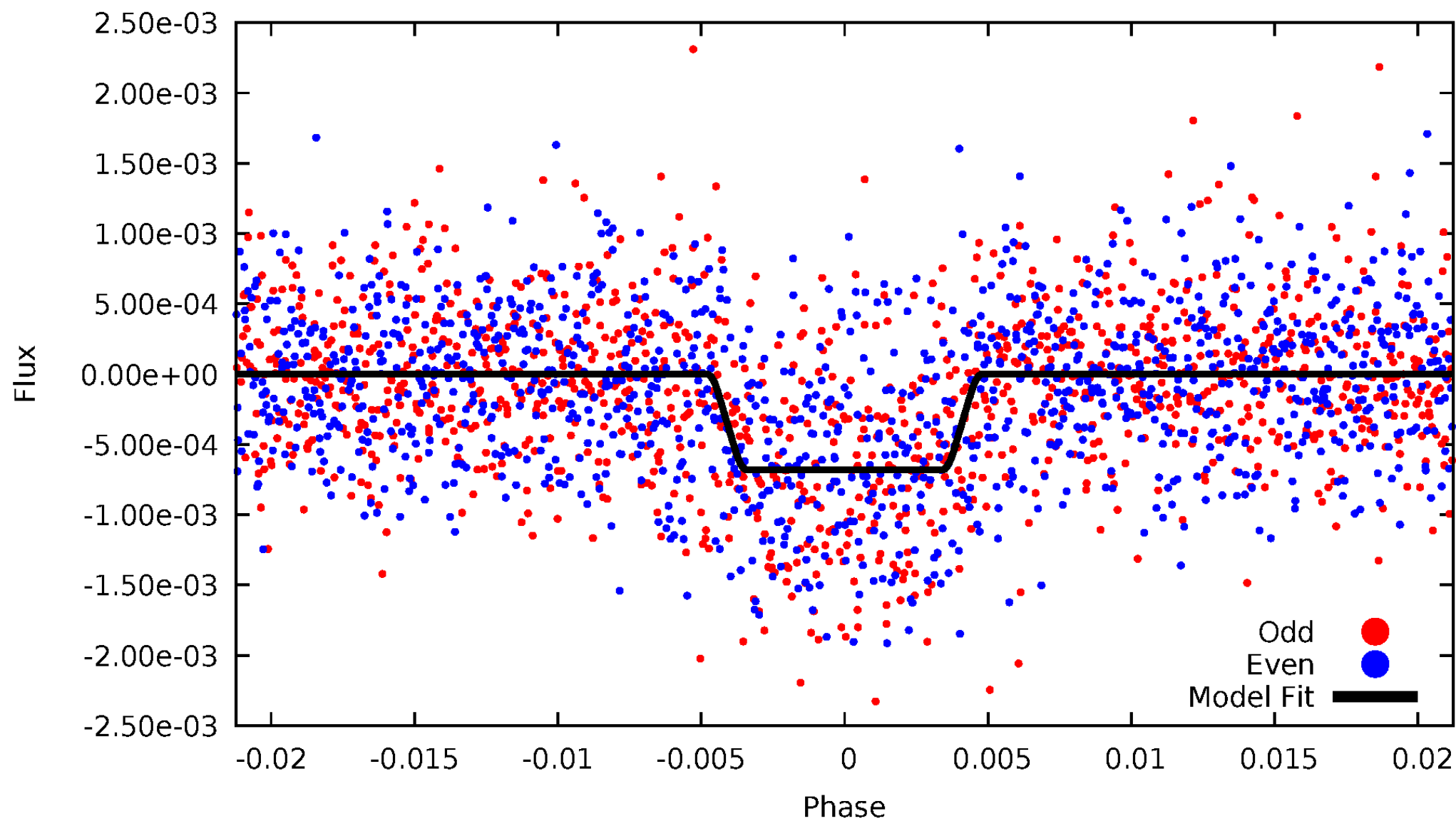
DV Odd/Even

TCE 008110767-01



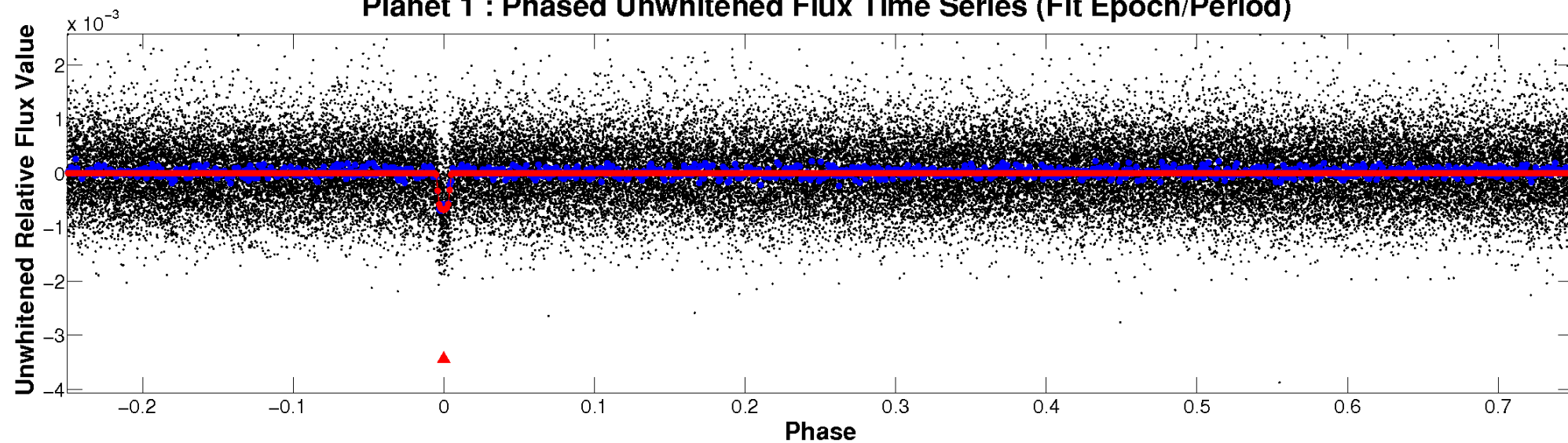
ALT Odd/Even

TCE 008110767-01

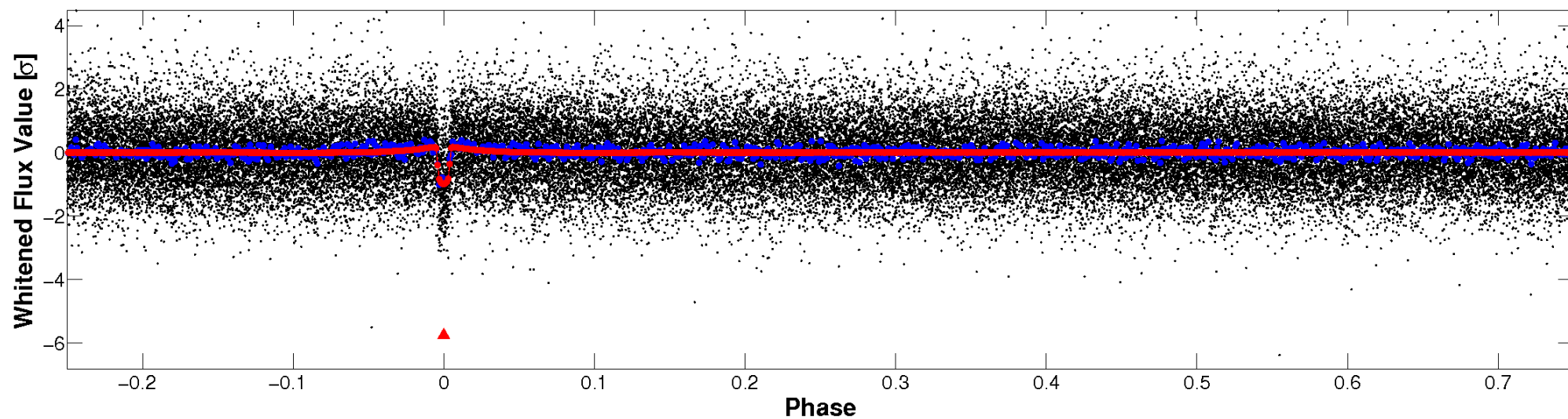


Non-Whitened Vs. Whitened Light Curve

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

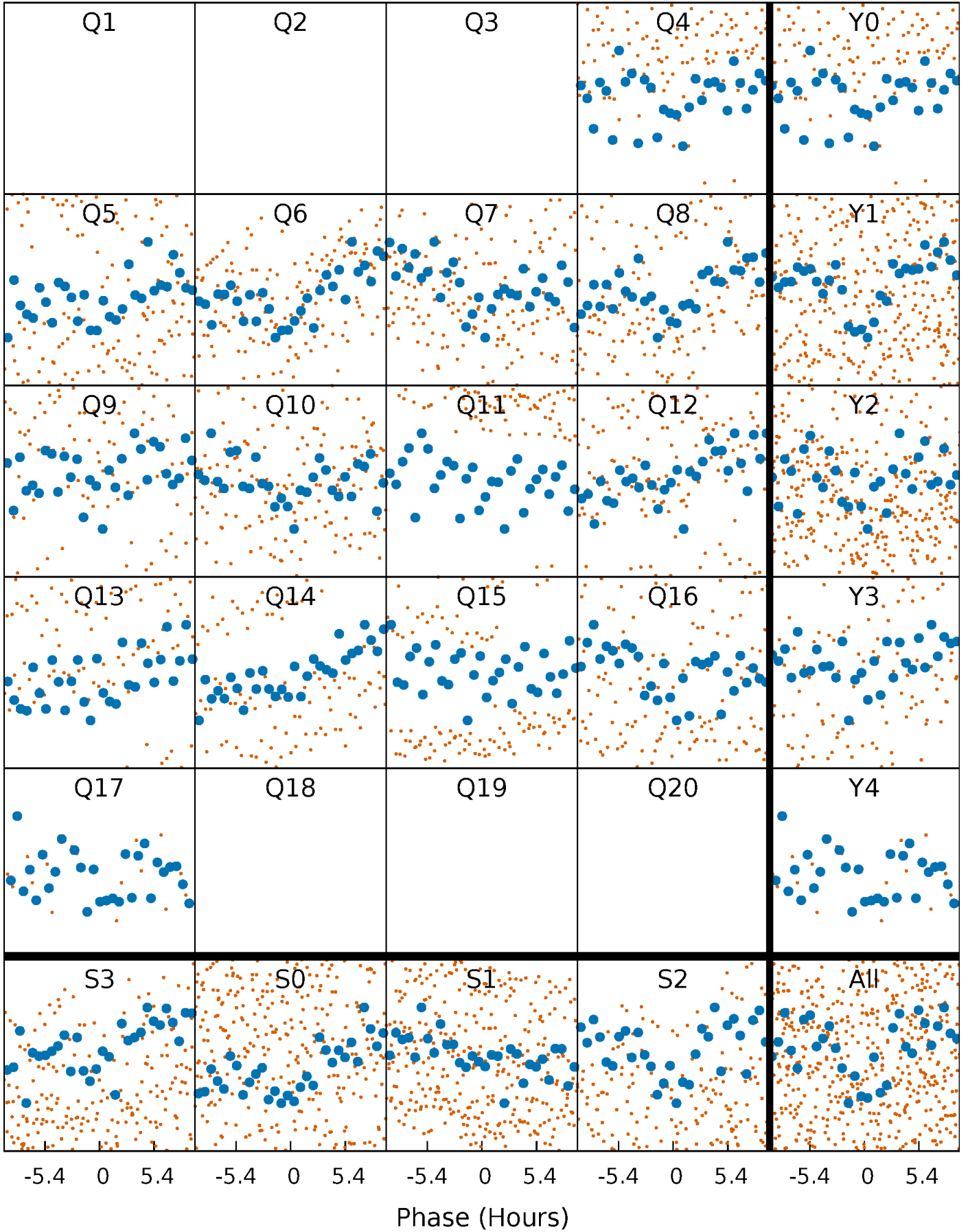


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



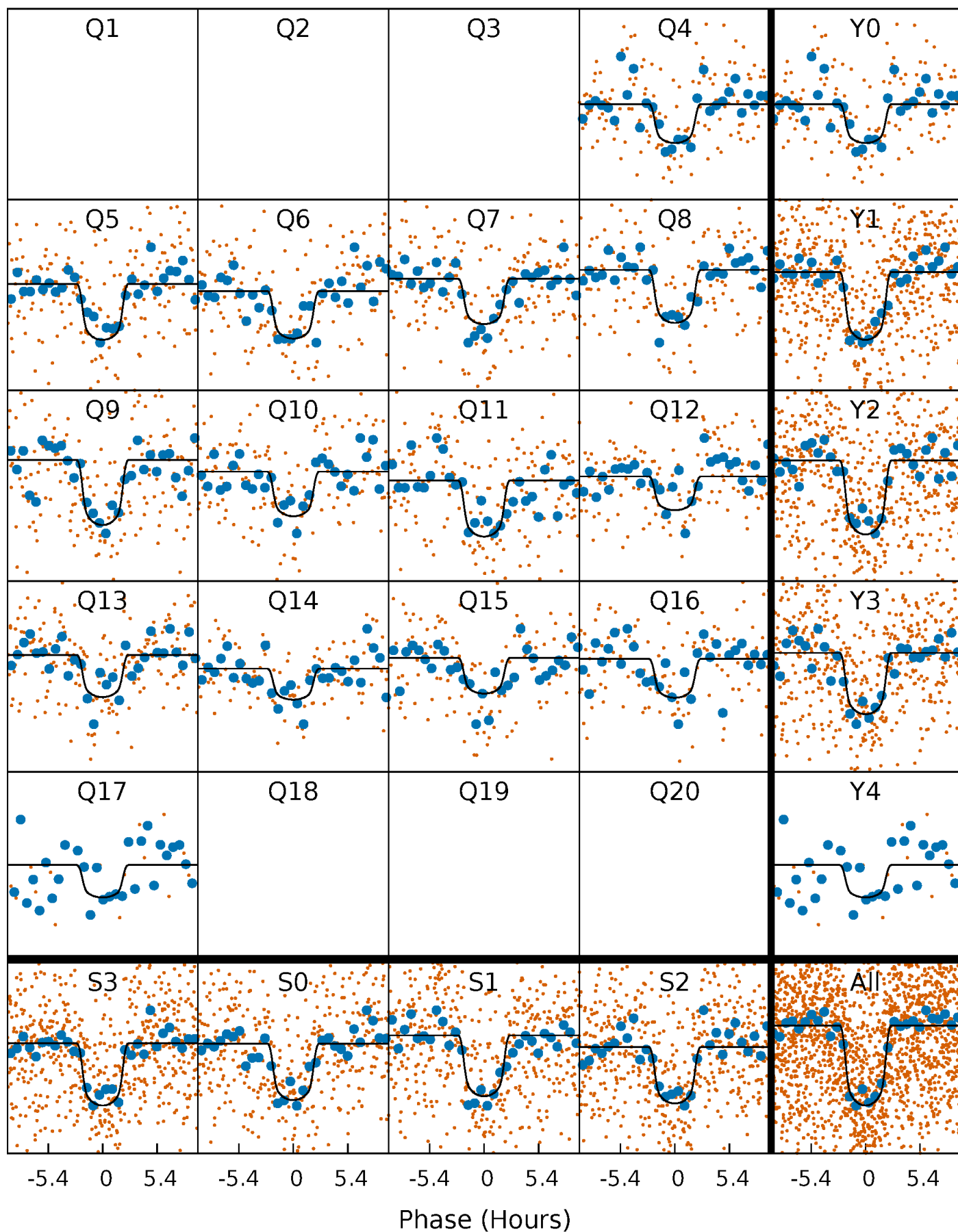
PDC Quarter-Phased Transit Curves

TCE 008110767-01 P= 20.490495 Days $T_0=144.416677$ (BKJD)



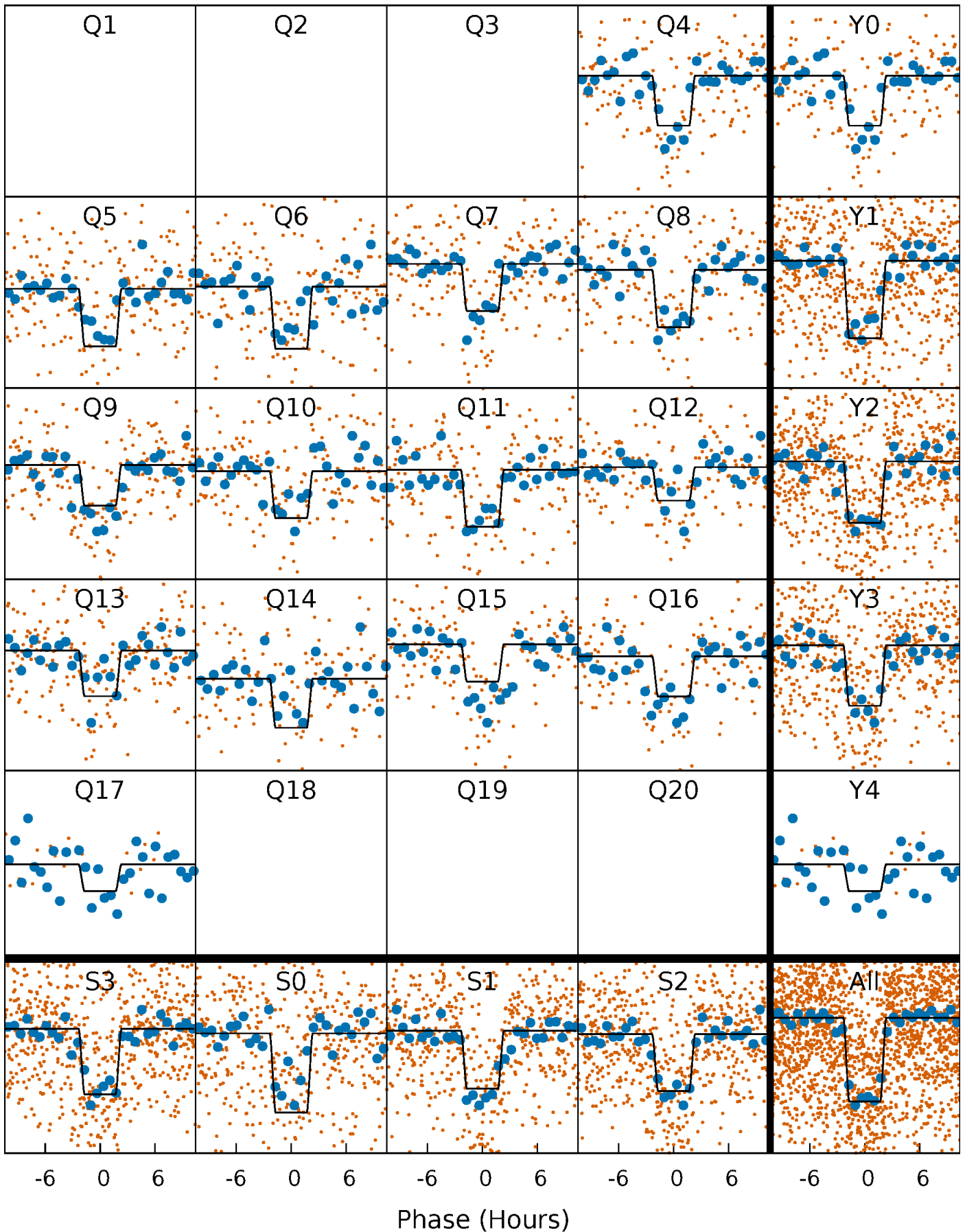
DV Quarter-Phased Transit Curves

TCE 008110767-01 P= 20.490495 Days $T_0=144.416677$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

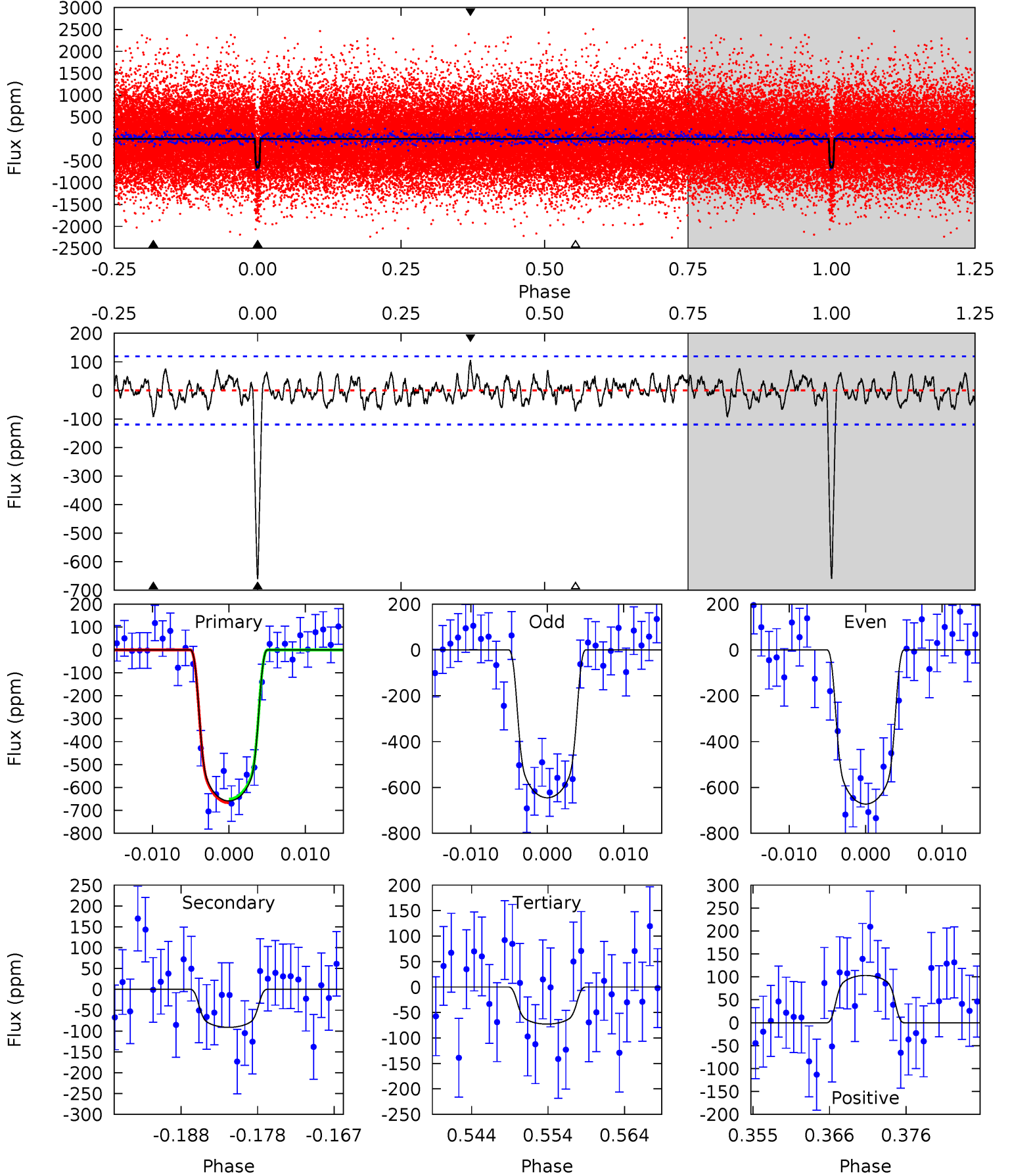
TCE 008110767-01 P= 20.490220 Days $T_0=144.424971$ (BKJD)



DV Model-Shift Uniqueness Test

008110767-01, P = 20.490495 Days, E = 144.416677 Days

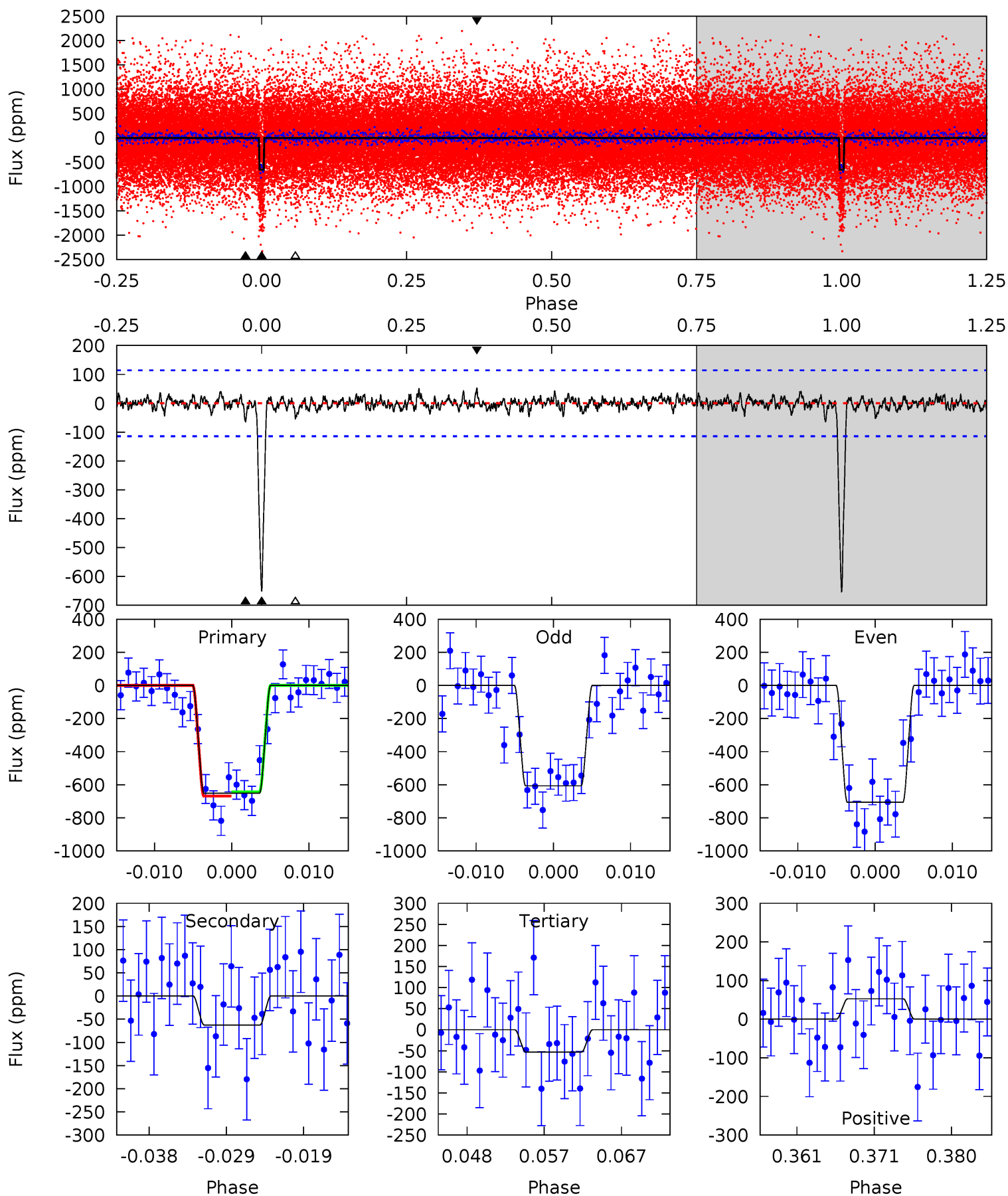
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.7	3.83	3.06	4.33	5.02	2.56	1.25	24.6	23.3	0.77	-0.50	0.58	1.01	0.14	0.33



Alt Model-Shift Uniqueness Test

008110767-01, P = 20.490220 Days, E = 144.424971 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.7	2.77	2.34	2.32	5.04	2.59	0.67	26.4	26.4	0.43	0.45	2.20	0.99	0.07	0.55



Stellar Parameters For KIC 008110767

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5681^{+180}_{-200}	$4.524^{+0.036}_{-0.204}$	$0.210^{+0.200}_{-0.300}$	$0.923^{+0.264}_{-0.088}$	$1.038^{+0.100}_{-0.122}$	$1.862^{+0.363}_{-0.946}$
	+3%/-4%	+1%/-5%	+95%/-143%	+29%/-10%	+10%/-12%	+20%/-51%
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 008110767-01 / KOI 2504.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-91 ± 24	$3.04^{+0.48}_{-0.37}$	894^{+62}_{-44}	3675^{+205}_{-213}	116^{+49}_{-39}
Alt.	-63 ± 23	$2.74^{+0.44}_{-0.34}$	895^{+58}_{-42}	3565^{+252}_{-247}	95^{+47}_{-37}

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

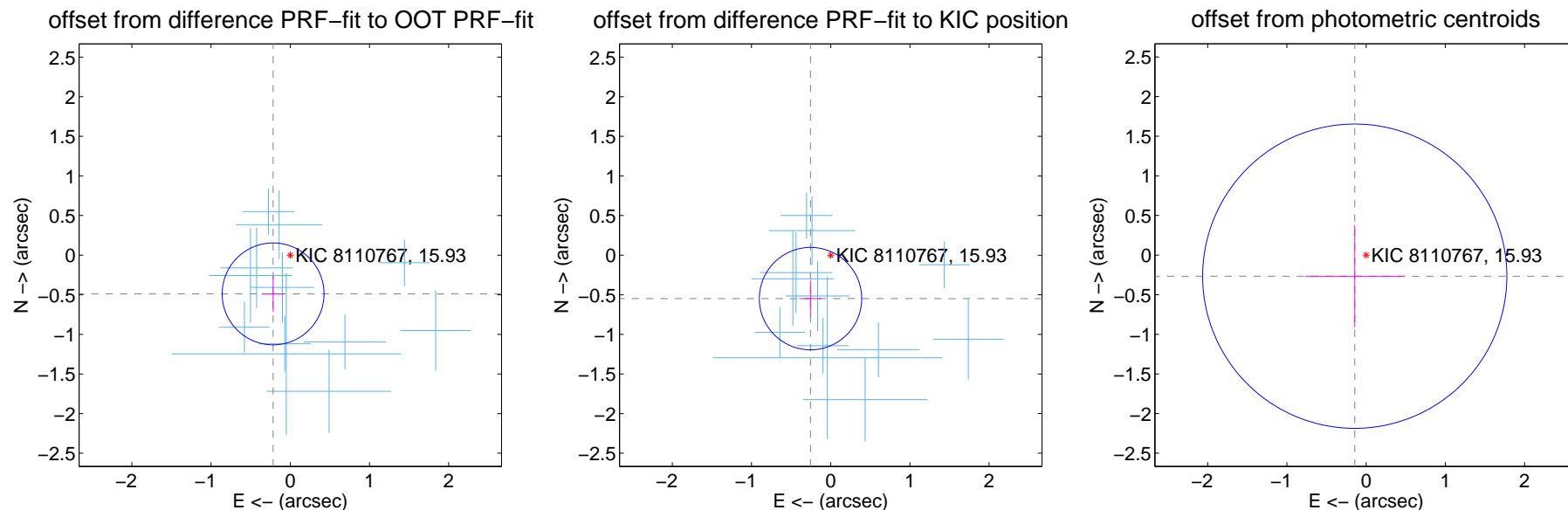
DV Centroid Data

Supplemental centroid analysis for 008110767-01. Kepler magnitude: 15.93. Transit SNR 18.86

There are 12 quarters with good PRF difference image offsets

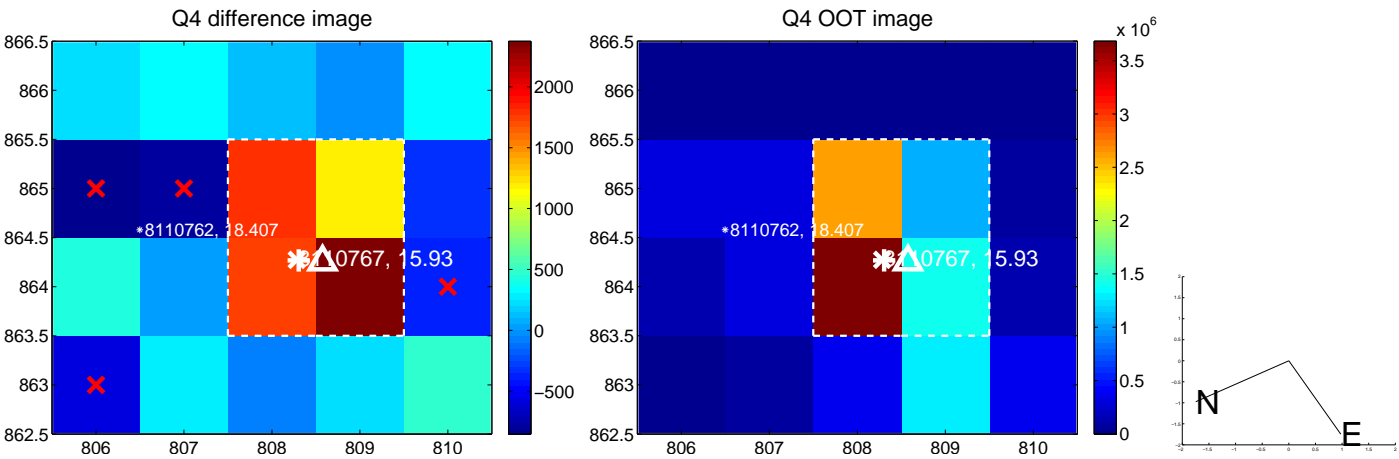
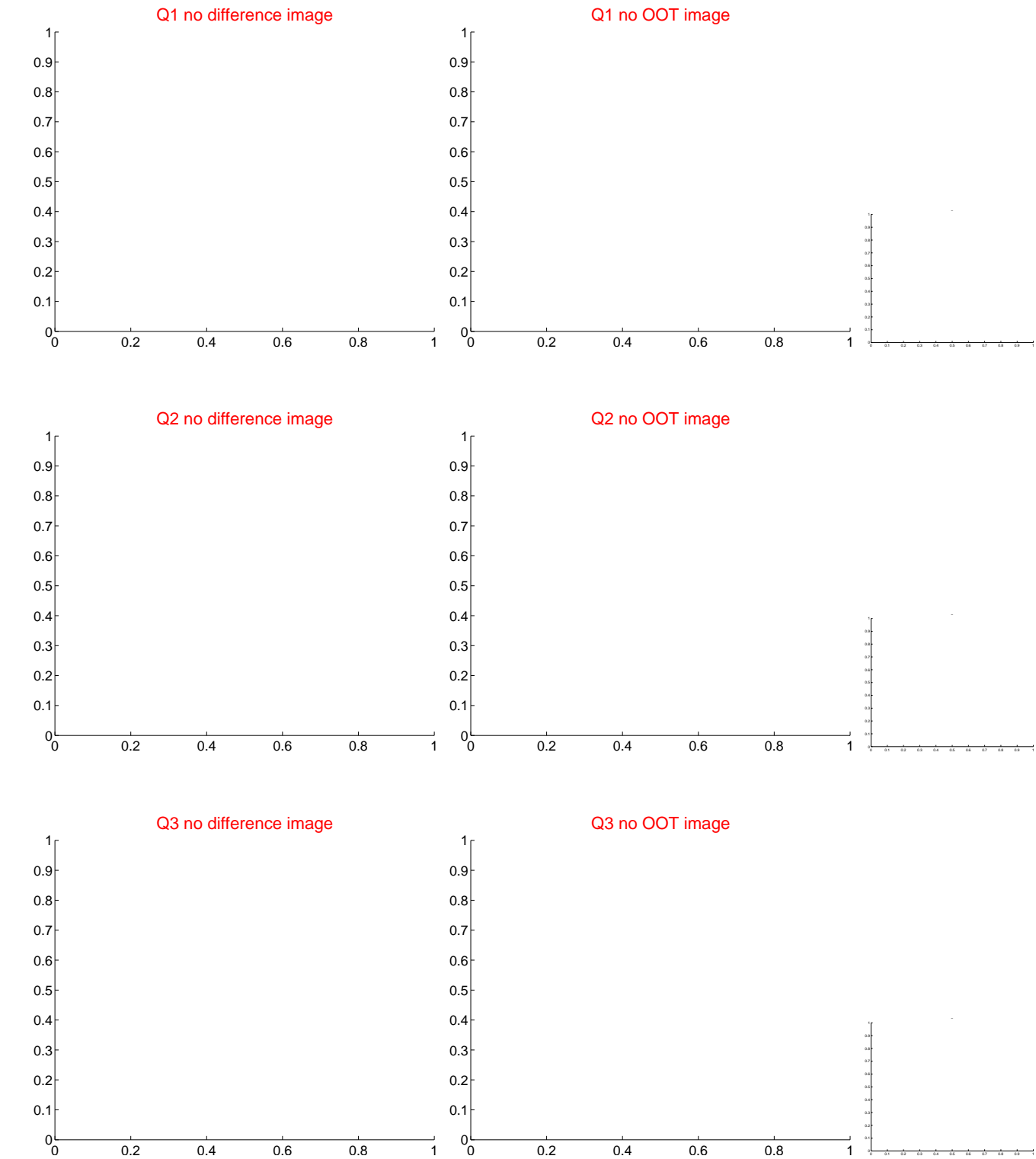
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.535 ± 0.214	2.49	0.217 ± 0.143	-0.489 ± 0.226
PRF-fit source offset from KIC position	0.605 ± 0.215	2.81	0.255 ± 0.140	-0.549 ± 0.228
photometric centroid source offset	0.30 ± 0.64	0.47	0.14 ± 0.63	-0.27 ± 0.64

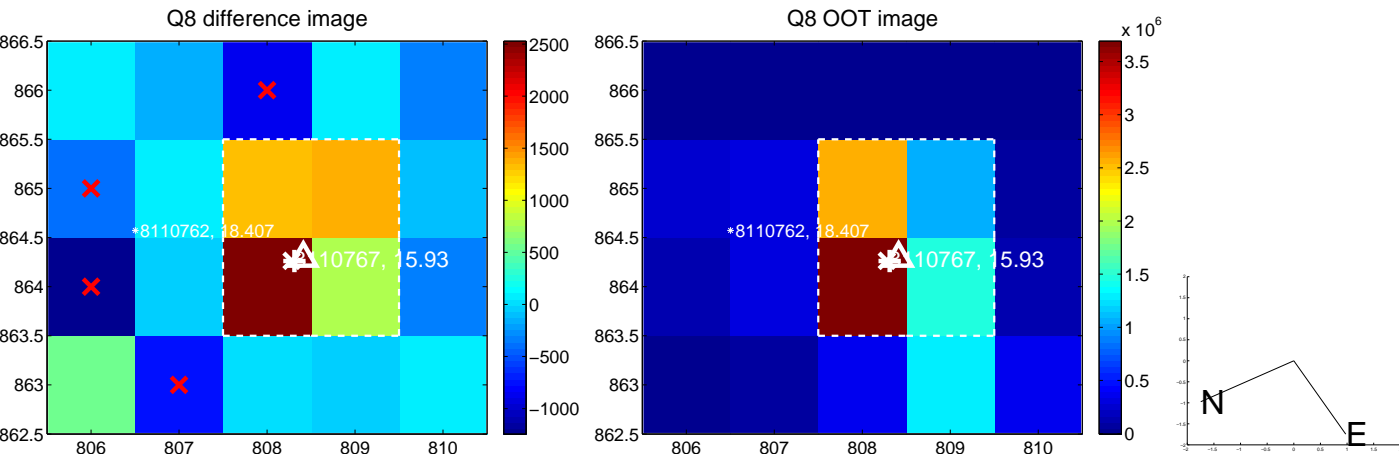
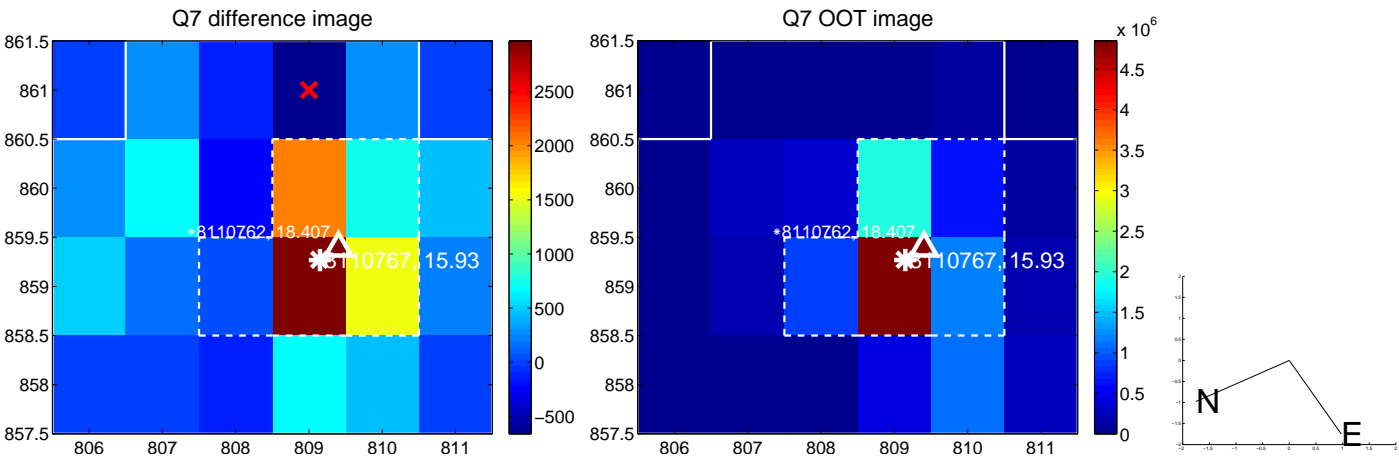
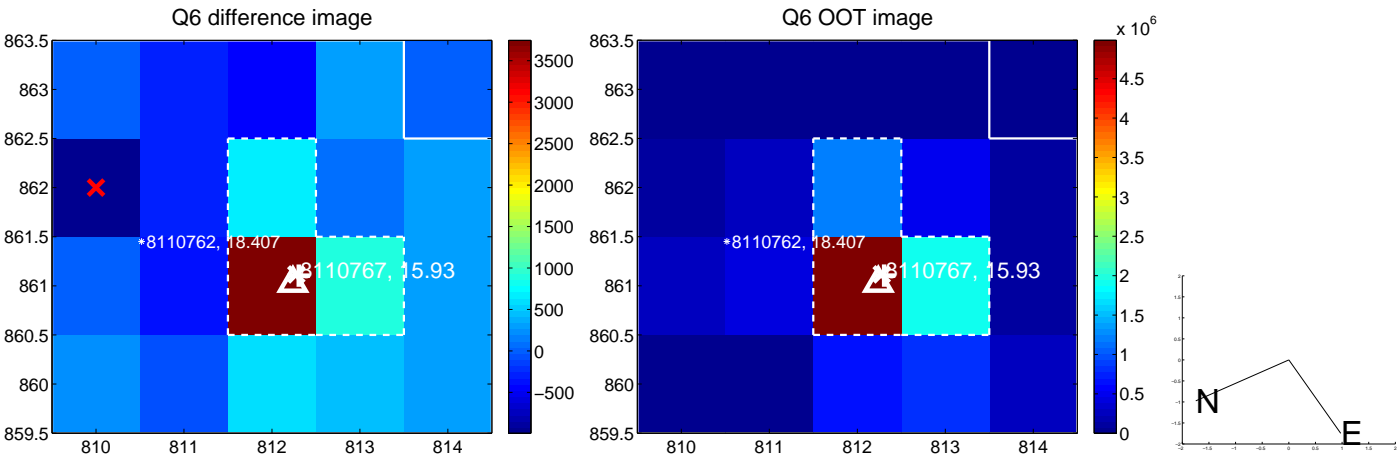
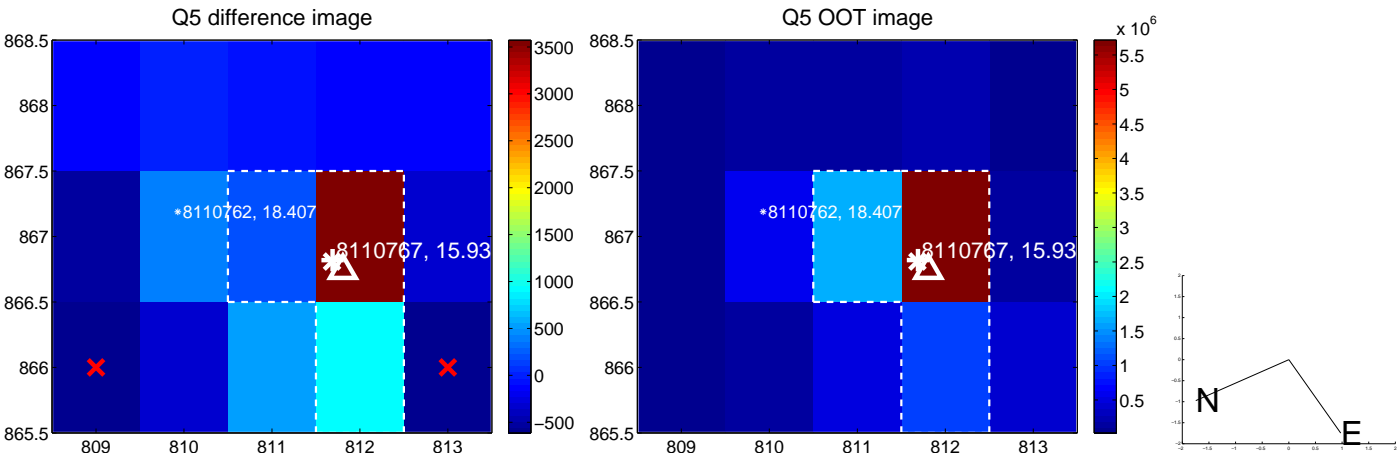


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

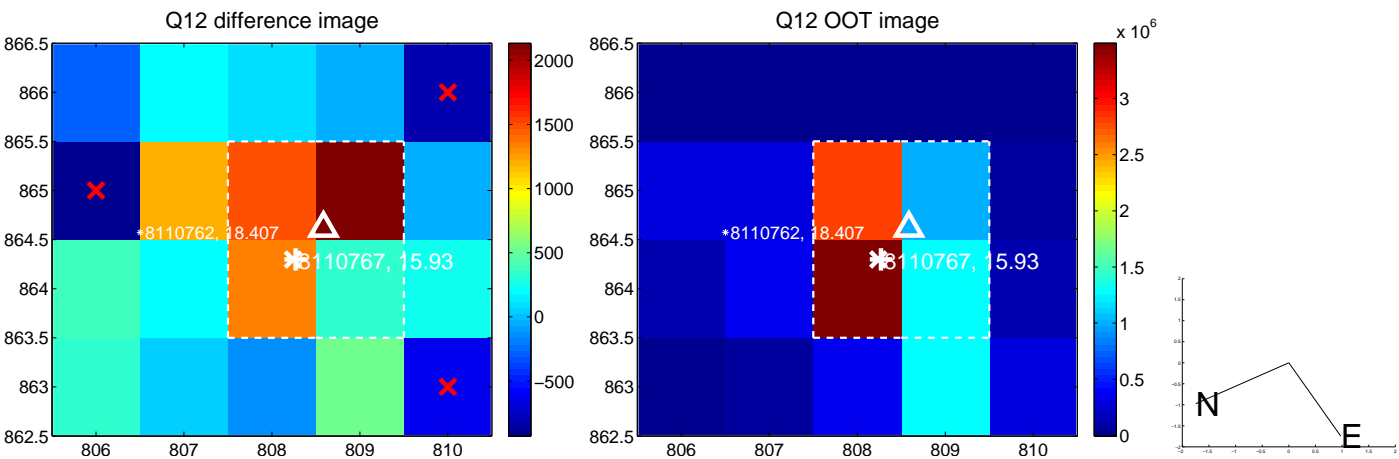
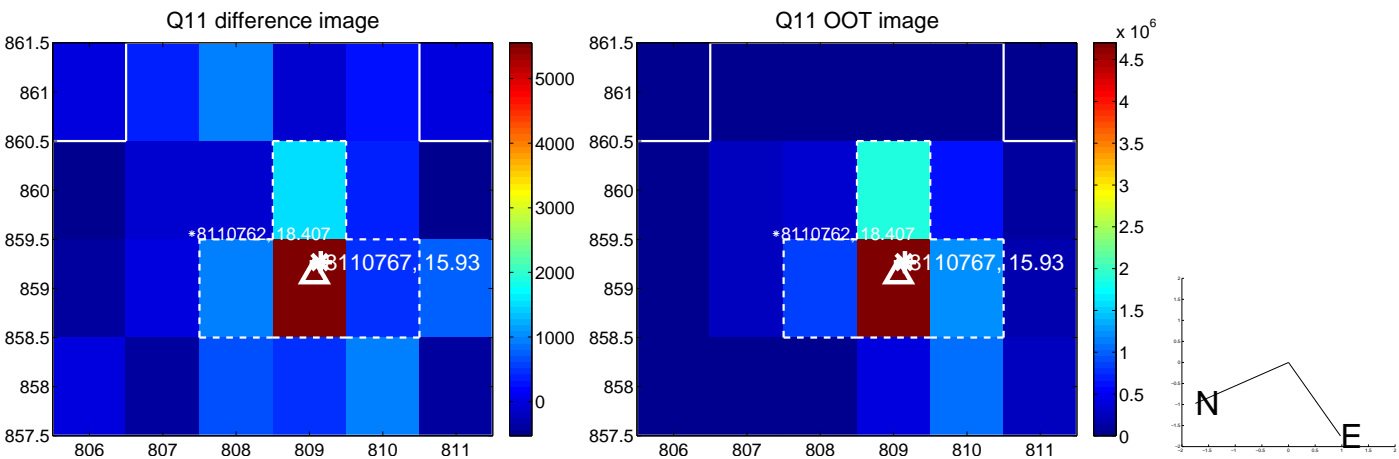
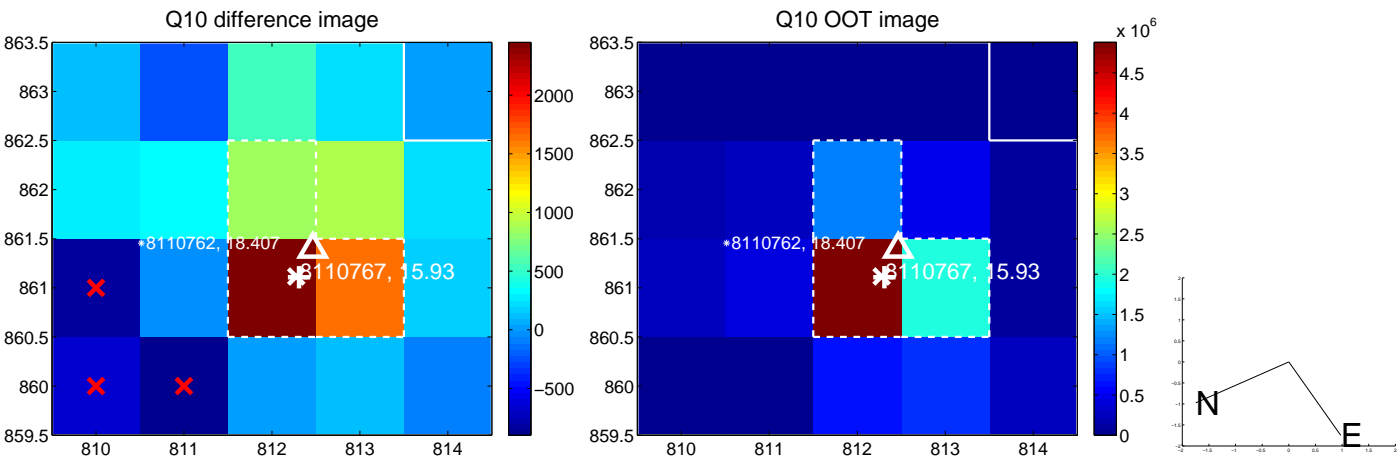
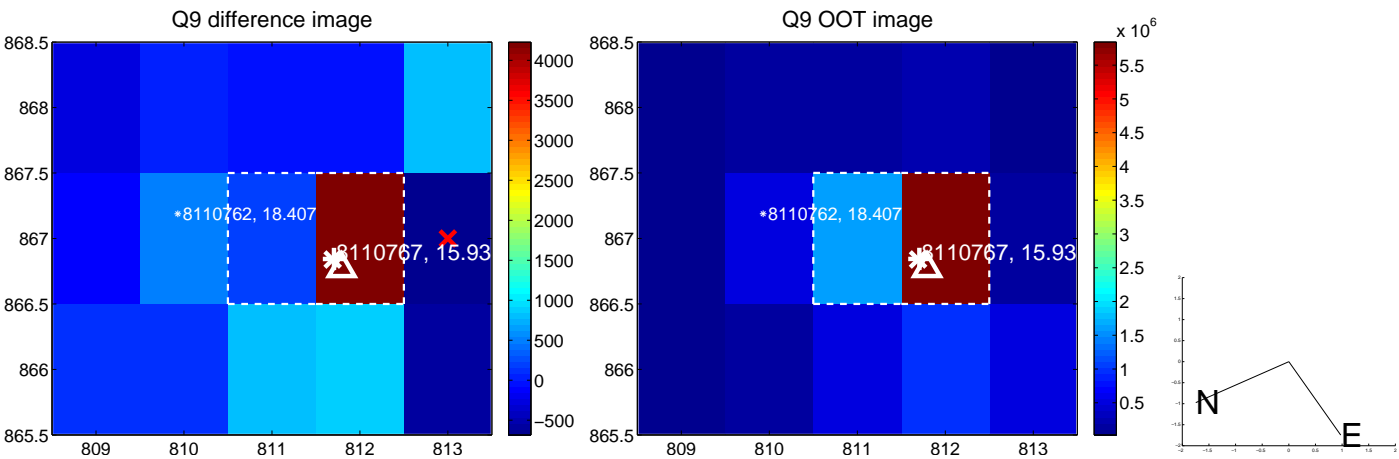
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



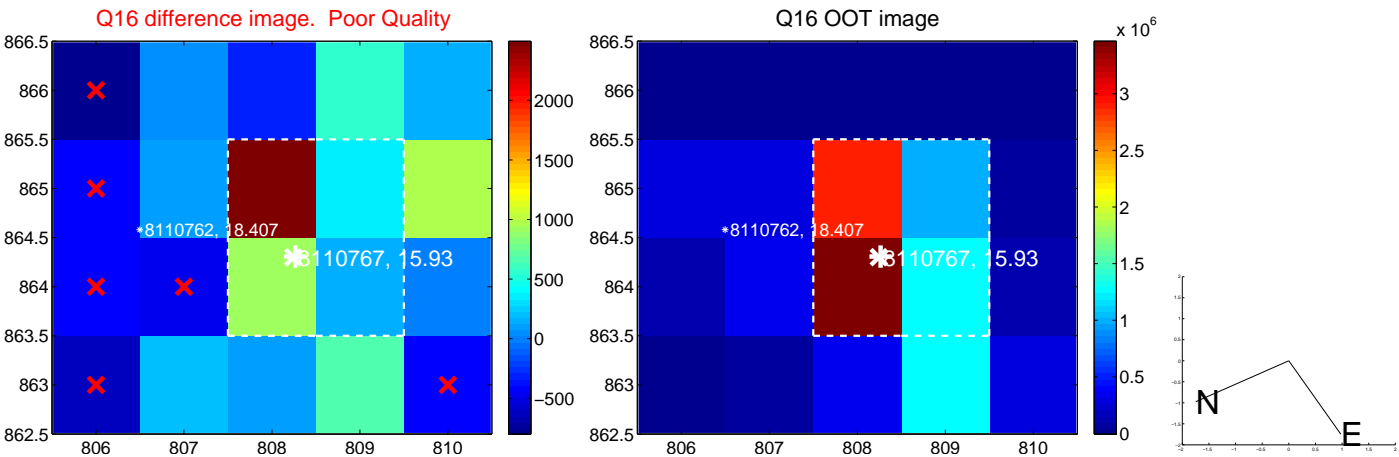
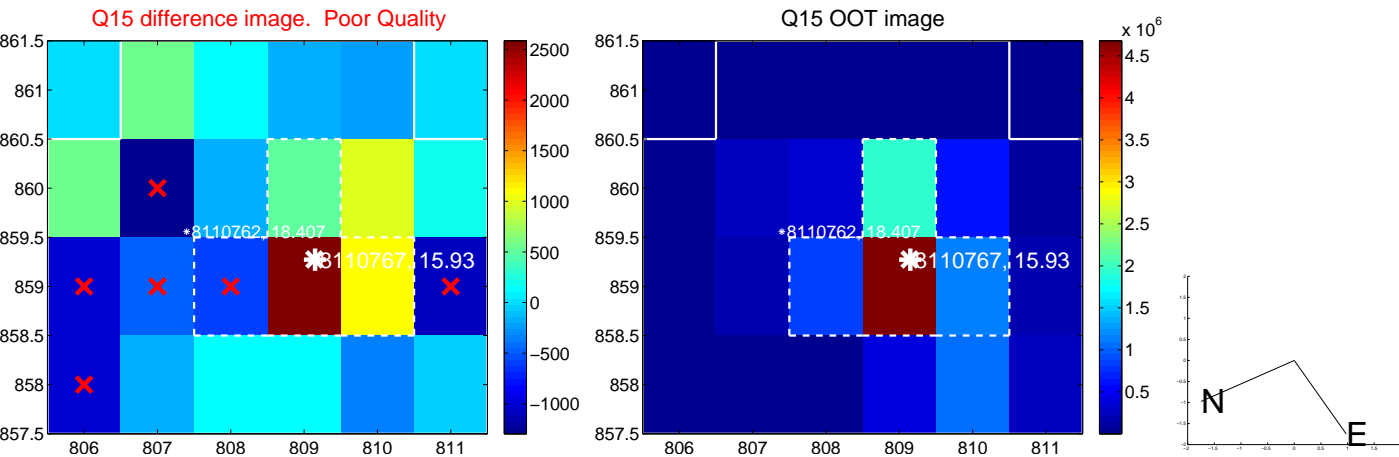
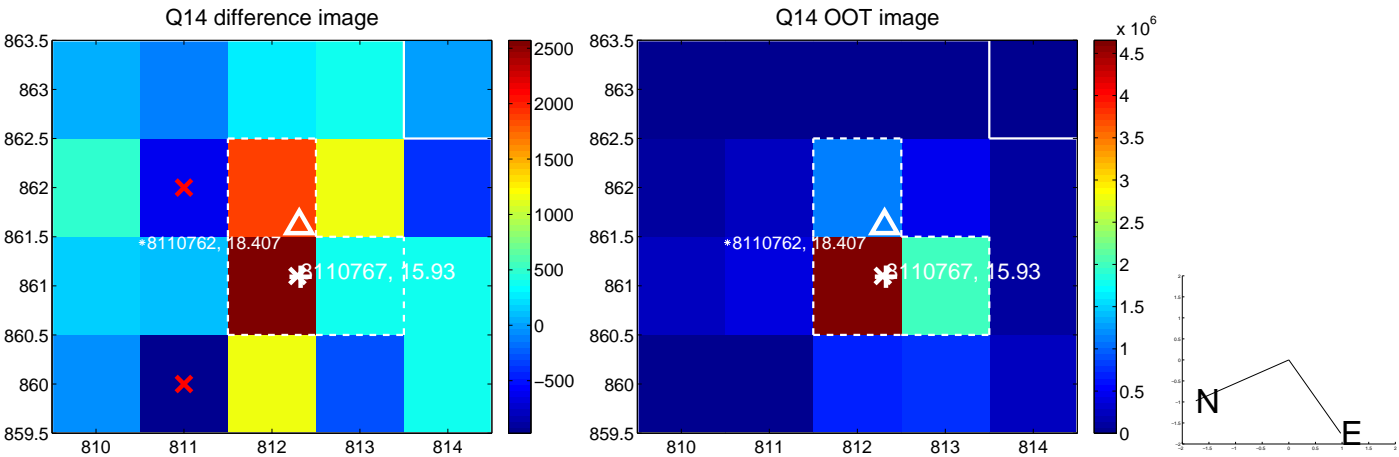
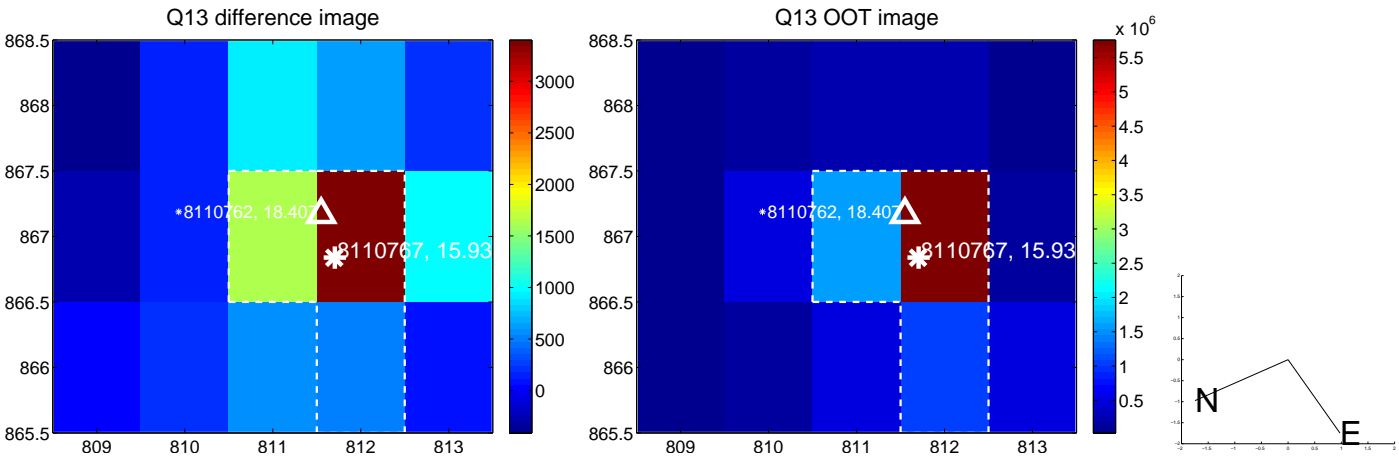
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



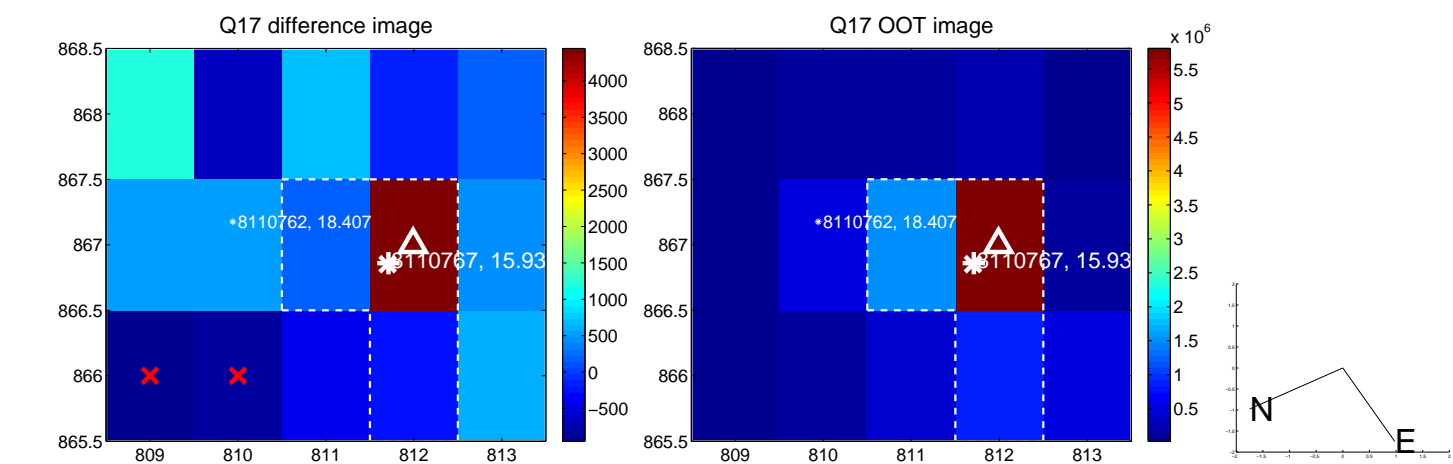
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



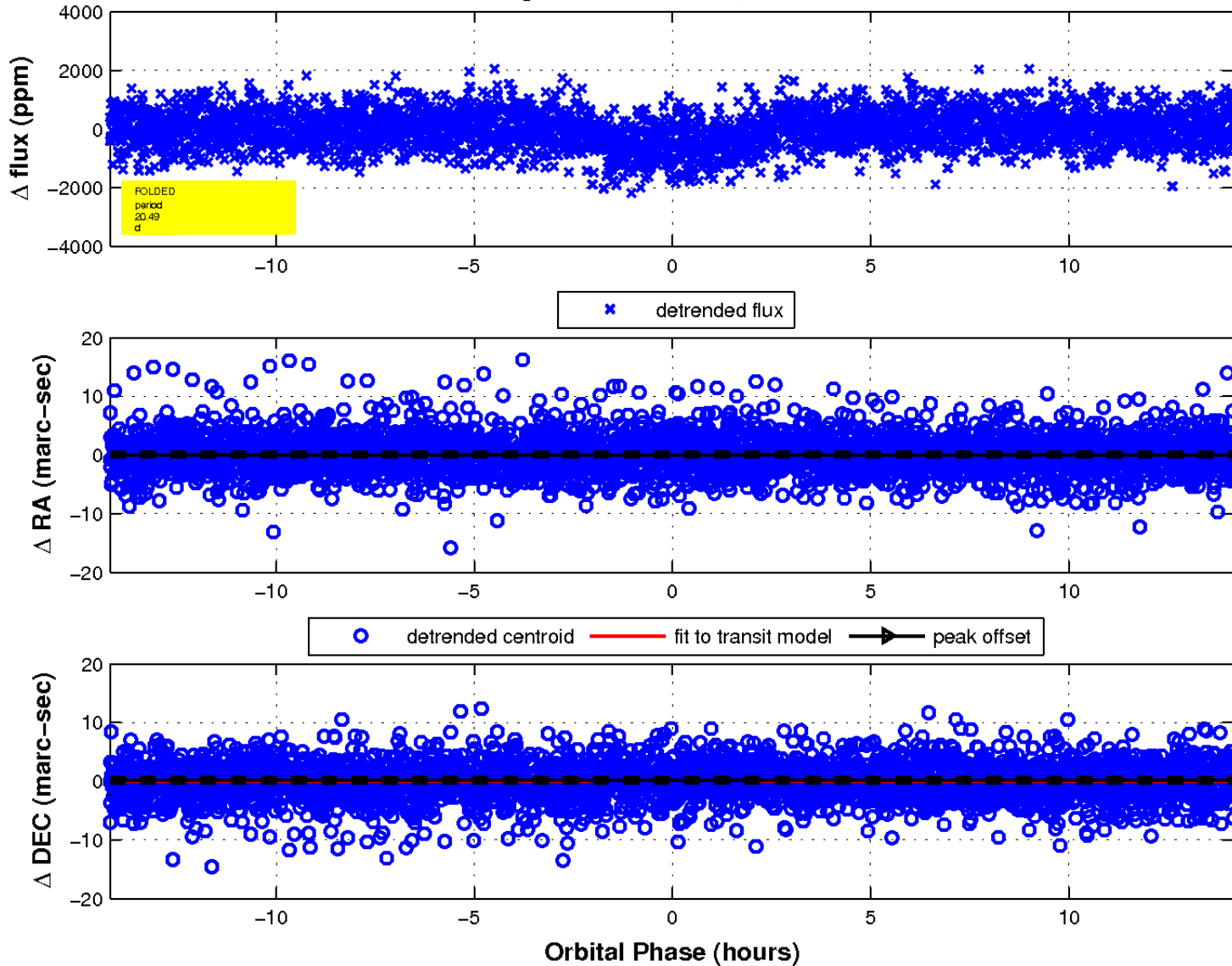
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

