

KIC 005108946

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})
005108946-01	OBS	2955.01	0.591272	131.749970	103.7	1.262	16.2	17.2	1.09	6246	1.31	7663.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005108946-01	OBS	FP	0.00	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.

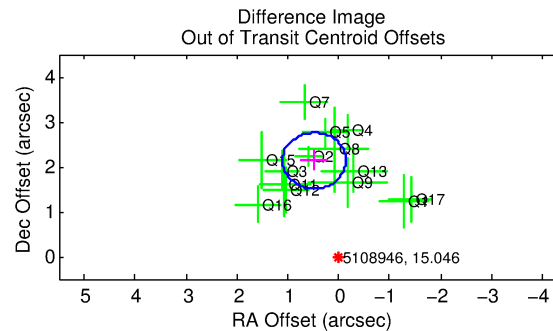
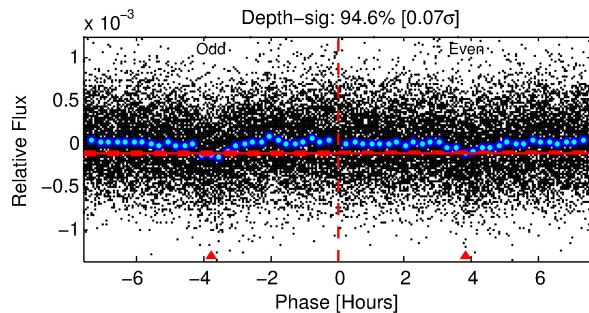
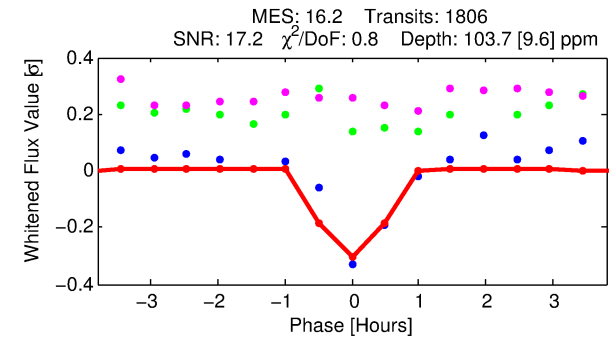
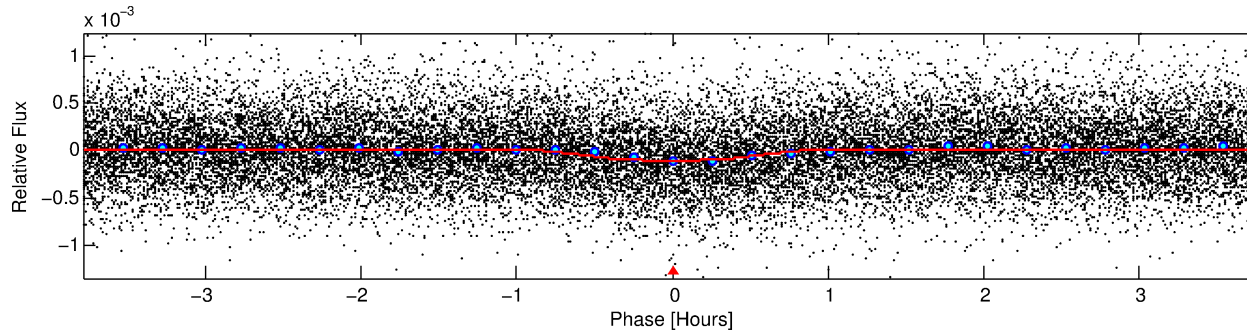
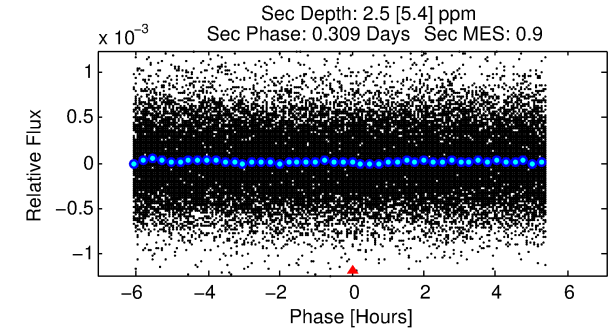
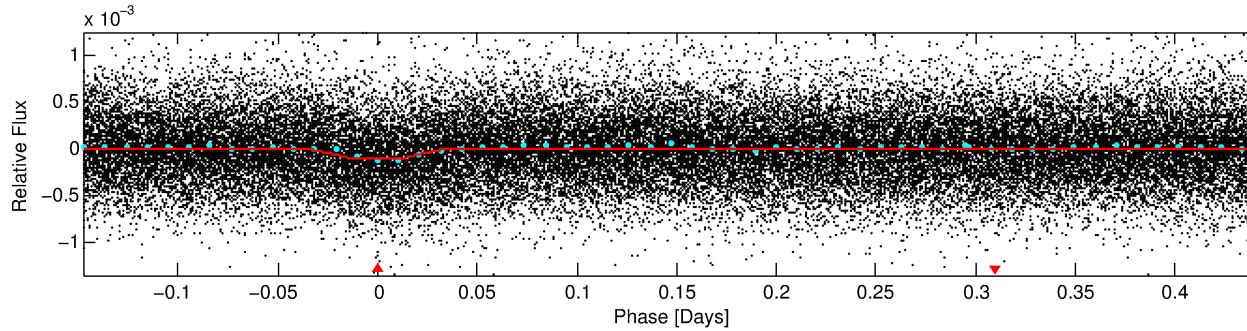
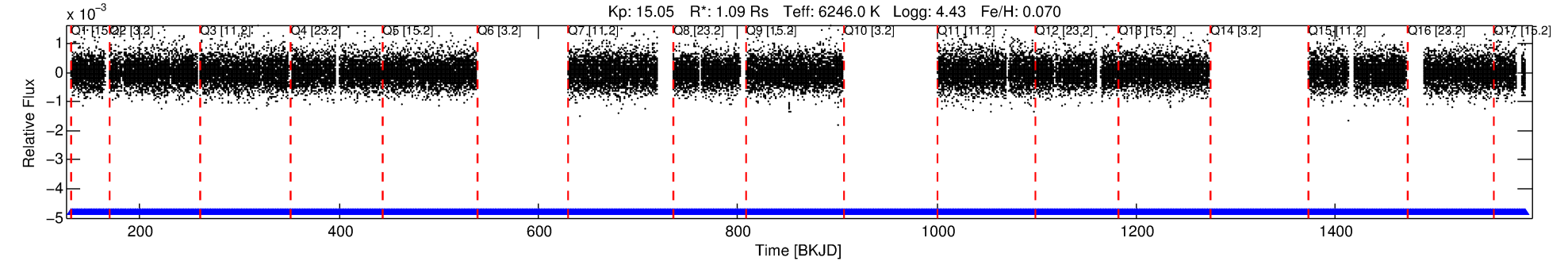
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005108946-01

No Significant Match Found

DV One-Page Summary

KIC: 5108946 Candidate: 1 of 1 Period: 0.591 d
KOI: K02955.01 Corr: 0.890



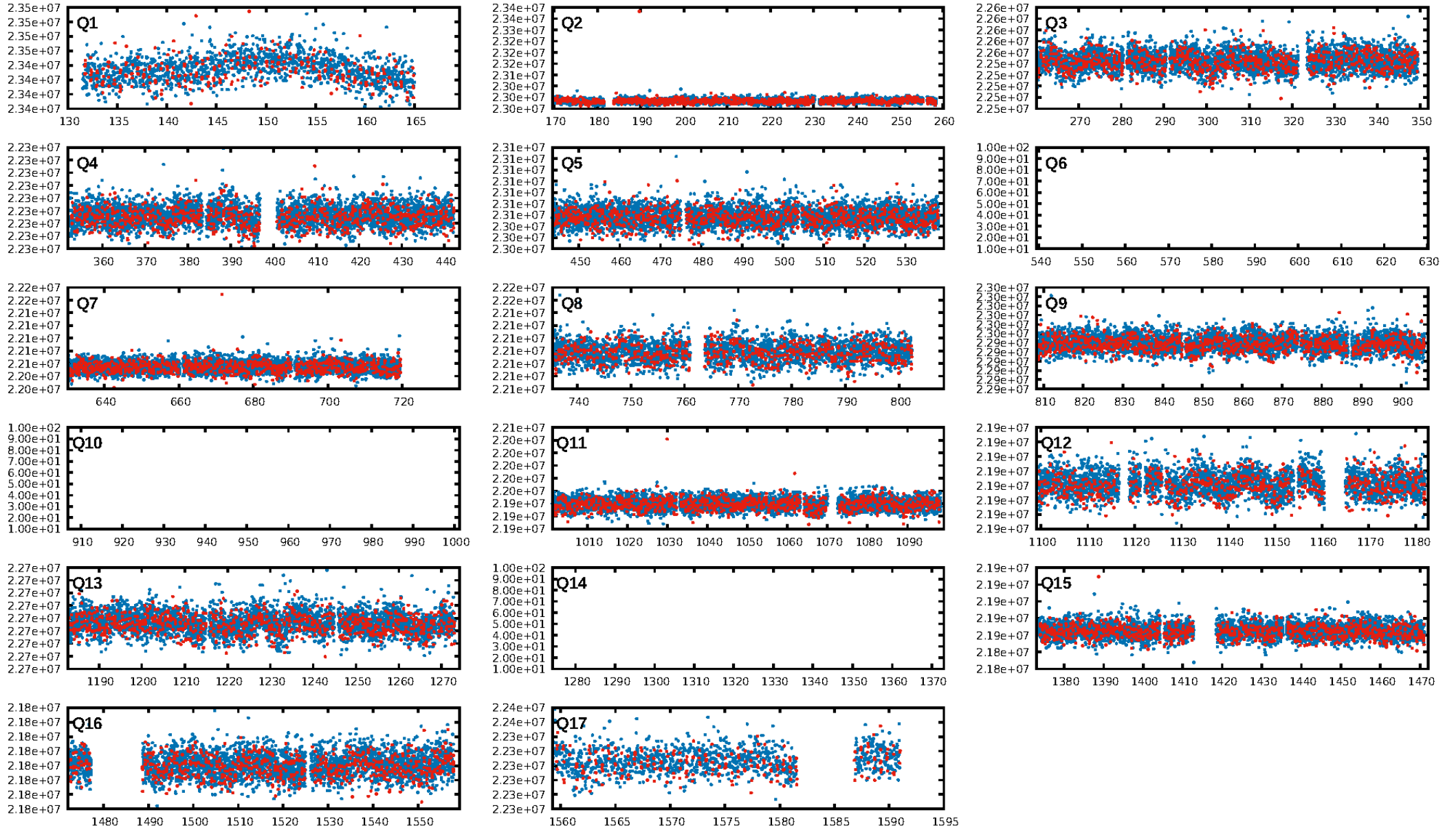
DV Fit Results:

Period = 0.59127 [0.00001] d
Epoch = 131.7500 [0.0012] BKJD
Rp/R* = 0.0110 [0.0051]
a/R* = 1.90 [3.39]
b = 0.90 [0.53]
Seff = 7663.04 [3104.49]
Teff = 2386 [242] K
Rp = 1.31 [0.75] Re
a = 0.0146 [0.0039] AU
Ag = 0.17 [0.40] [-2.06σ]
Teffp = 2369 [1385] K [-0.01σ]

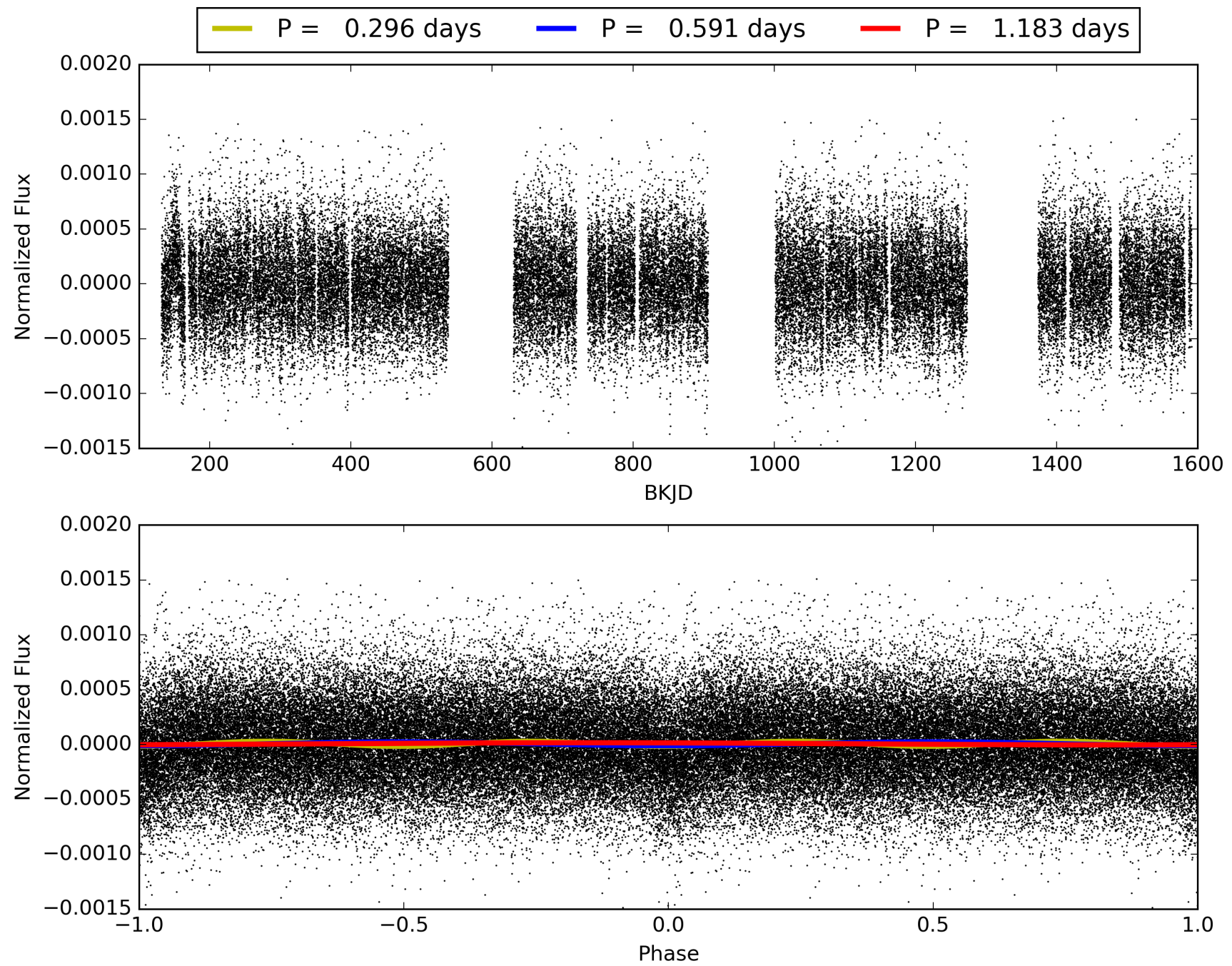
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.67e-54
RollingBand-fgt: 1.00 [1703/1703]
GhostDiagnostic-chr: 1.636
Centroid-sig: 0.0%
Centroid-so: 2.503 arcsec [2.51σ]
OotOffset-rm: 2.186 arcsec [10.52σ]
KicOffset-rm: 2.154 arcsec [10.50σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.93 [13/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005108946-01, PDC Light Curves

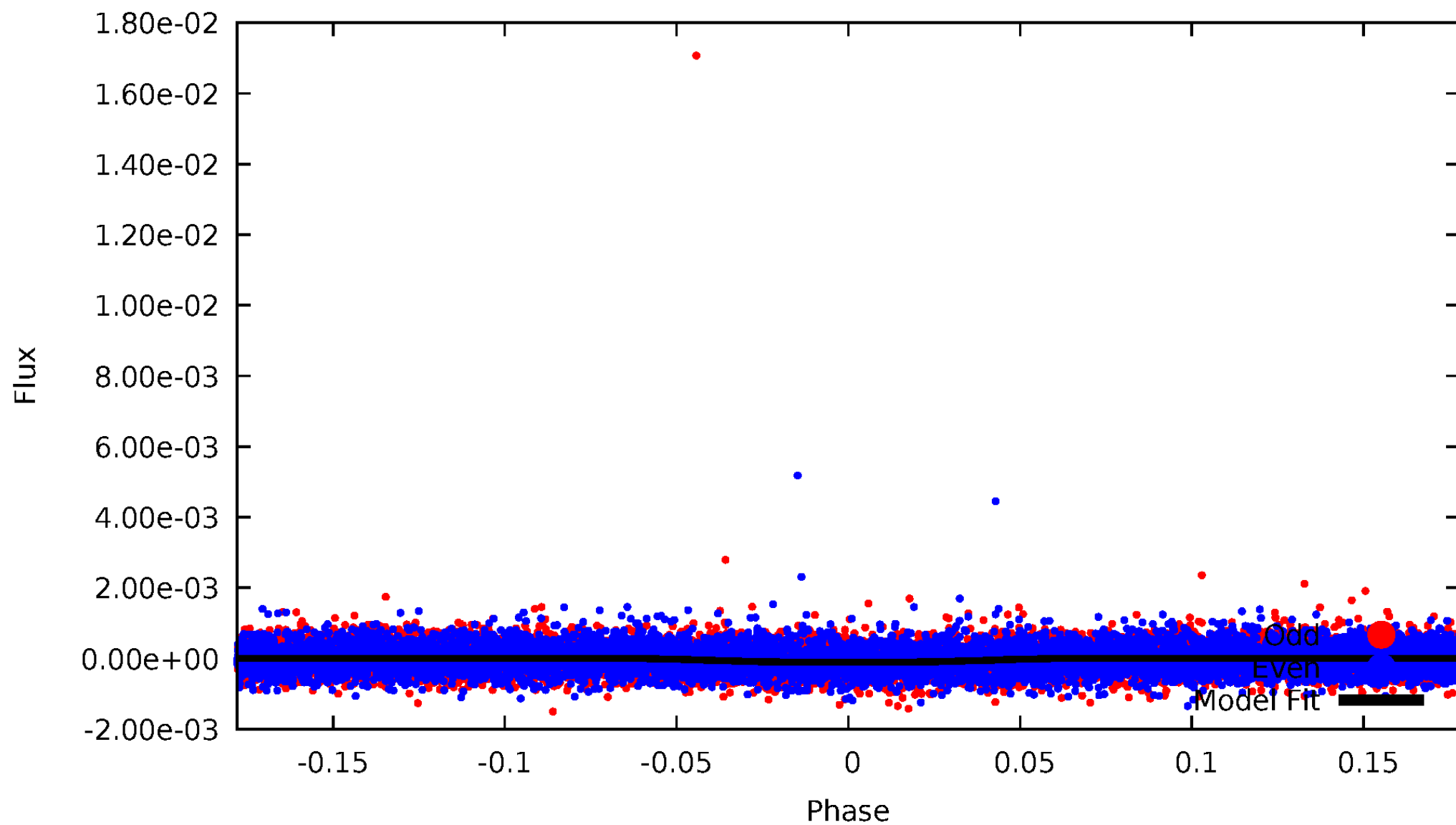


TCE 005108946-01



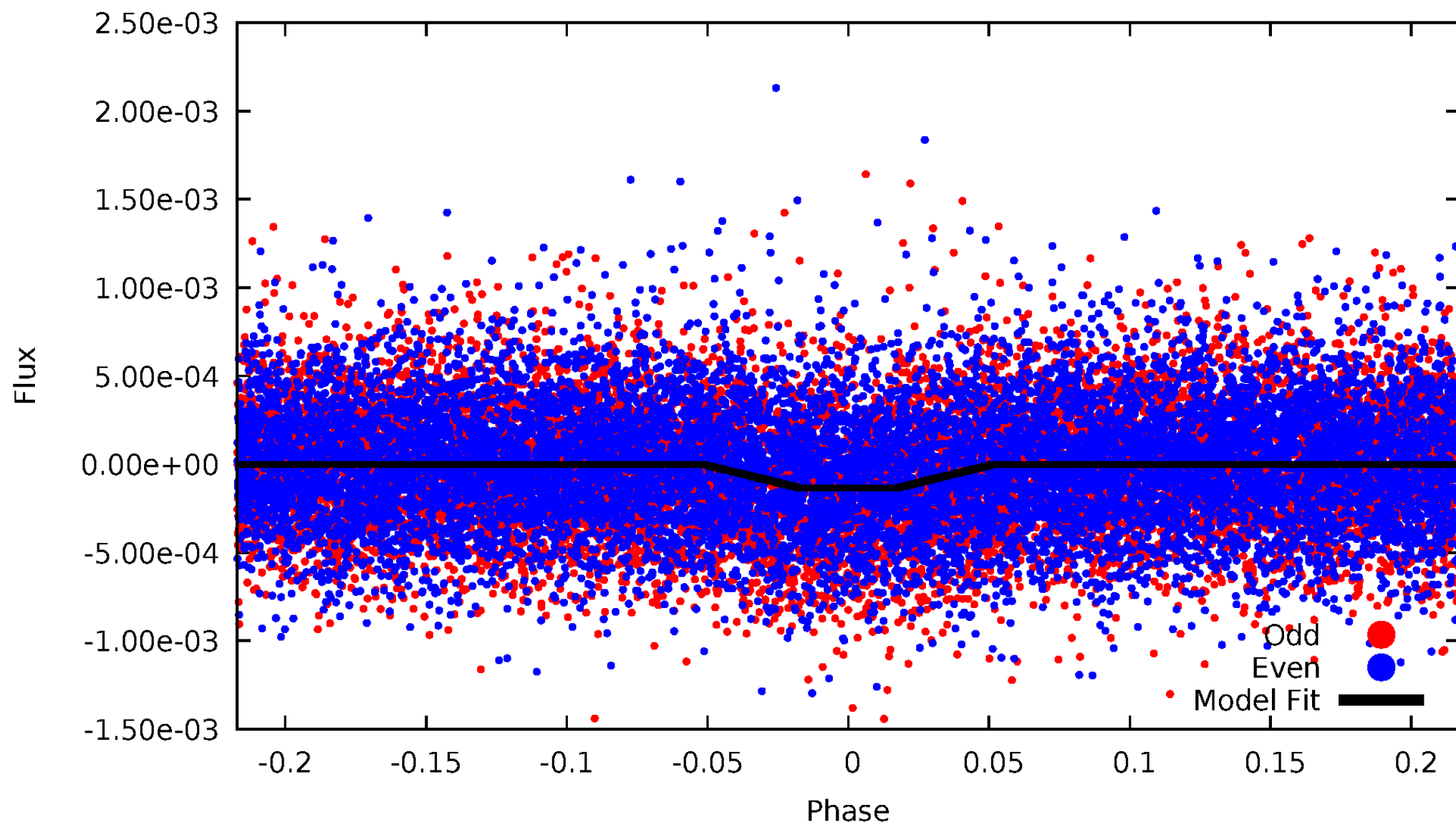
DV Odd/Even

TCE 005108946-01



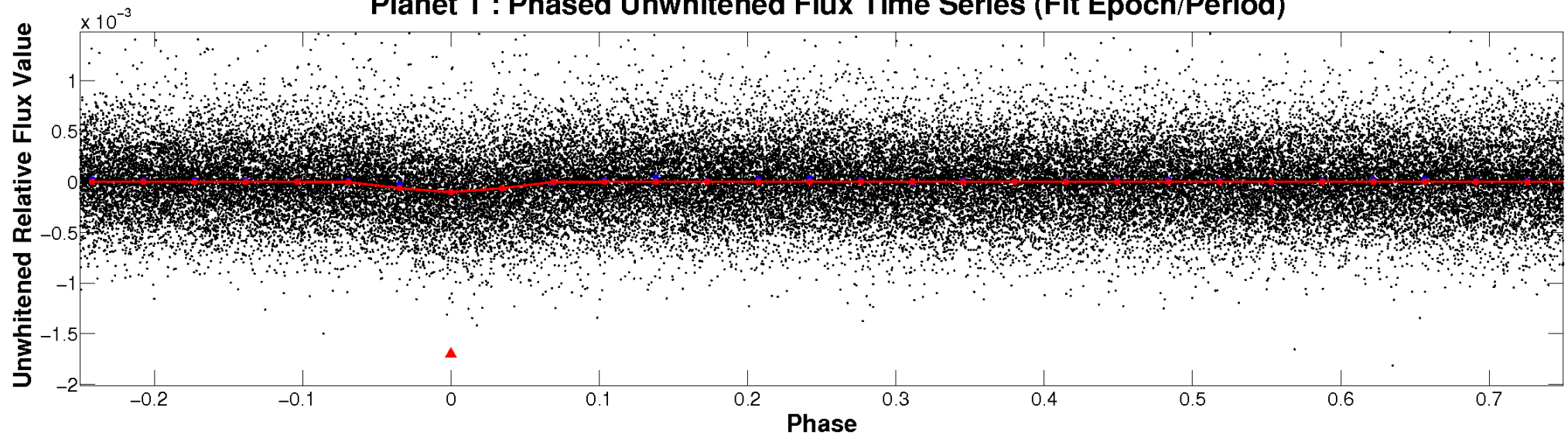
ALT Odd/Even

TCE 005108946-01

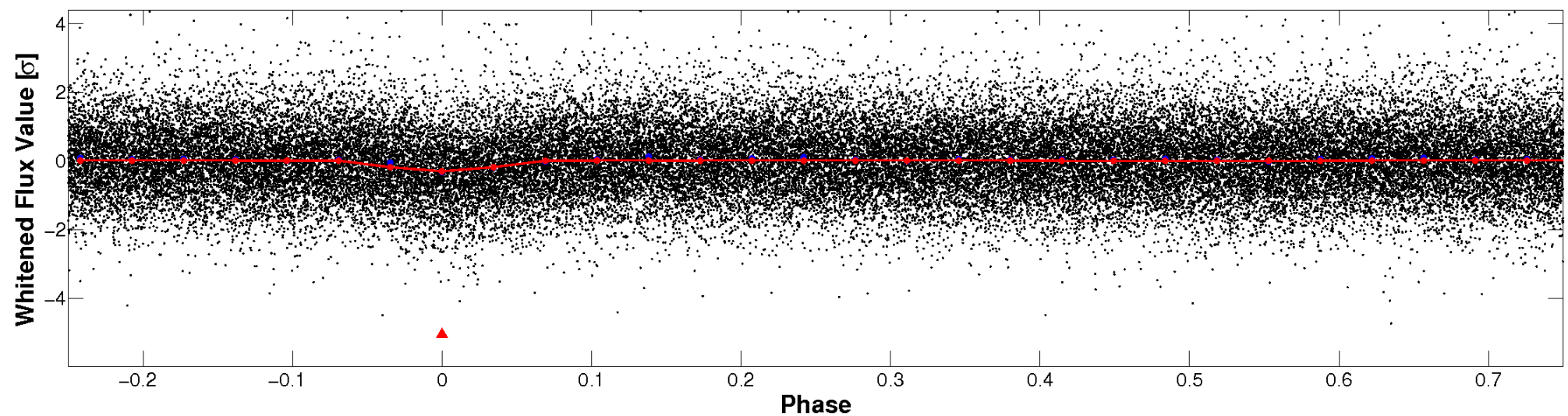


Non-Whitened Vs. Whitened Light Curve

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

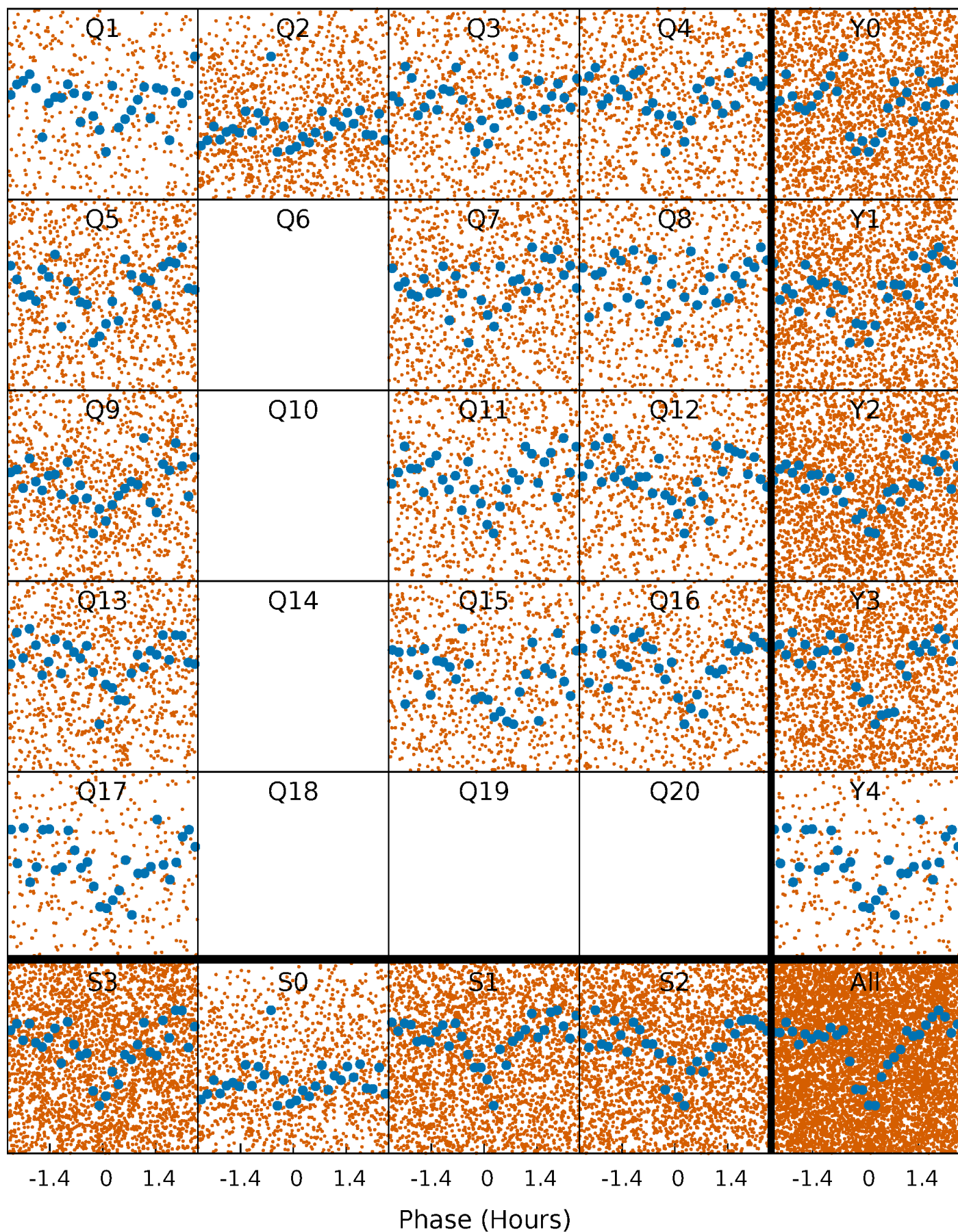


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



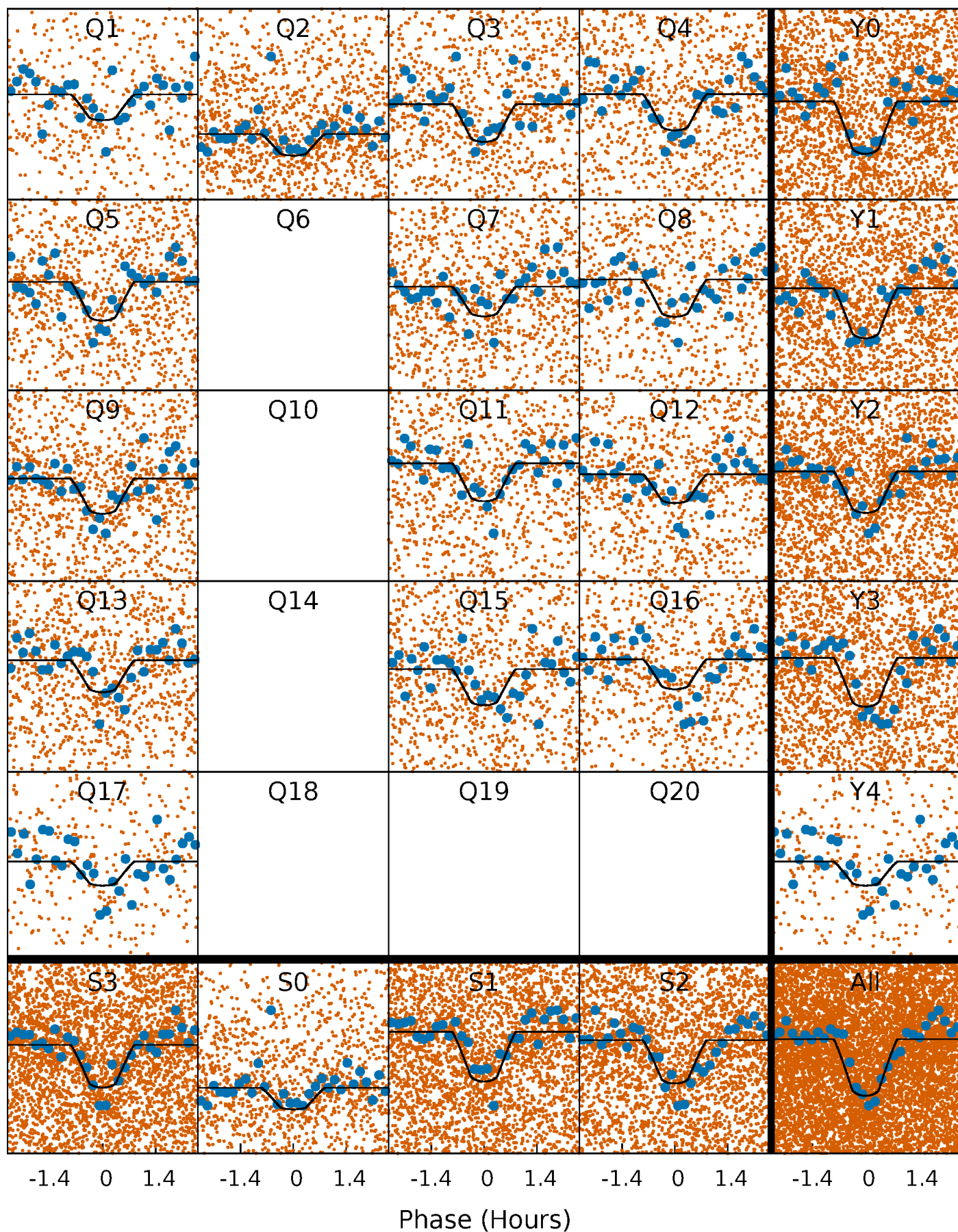
PDC Quarter-Phased Transit Curves

TCE 005108946-01 P= 0.591272 Days $T_0=131.749970$ (BKJD)



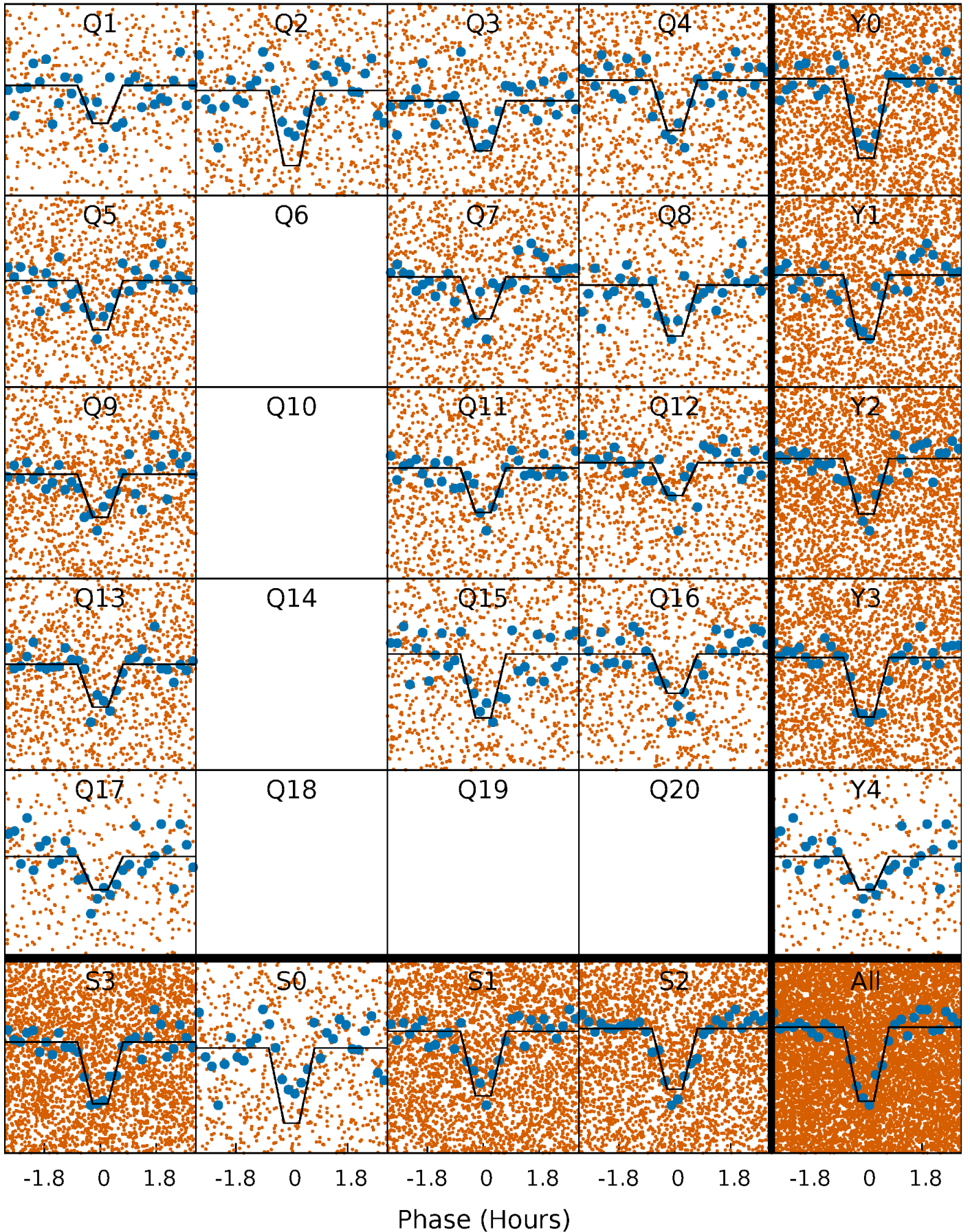
DV Quarter-Phased Transit Curves

TCE 005108946-01 P= 0.591272 Days $T_0=131.749970$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

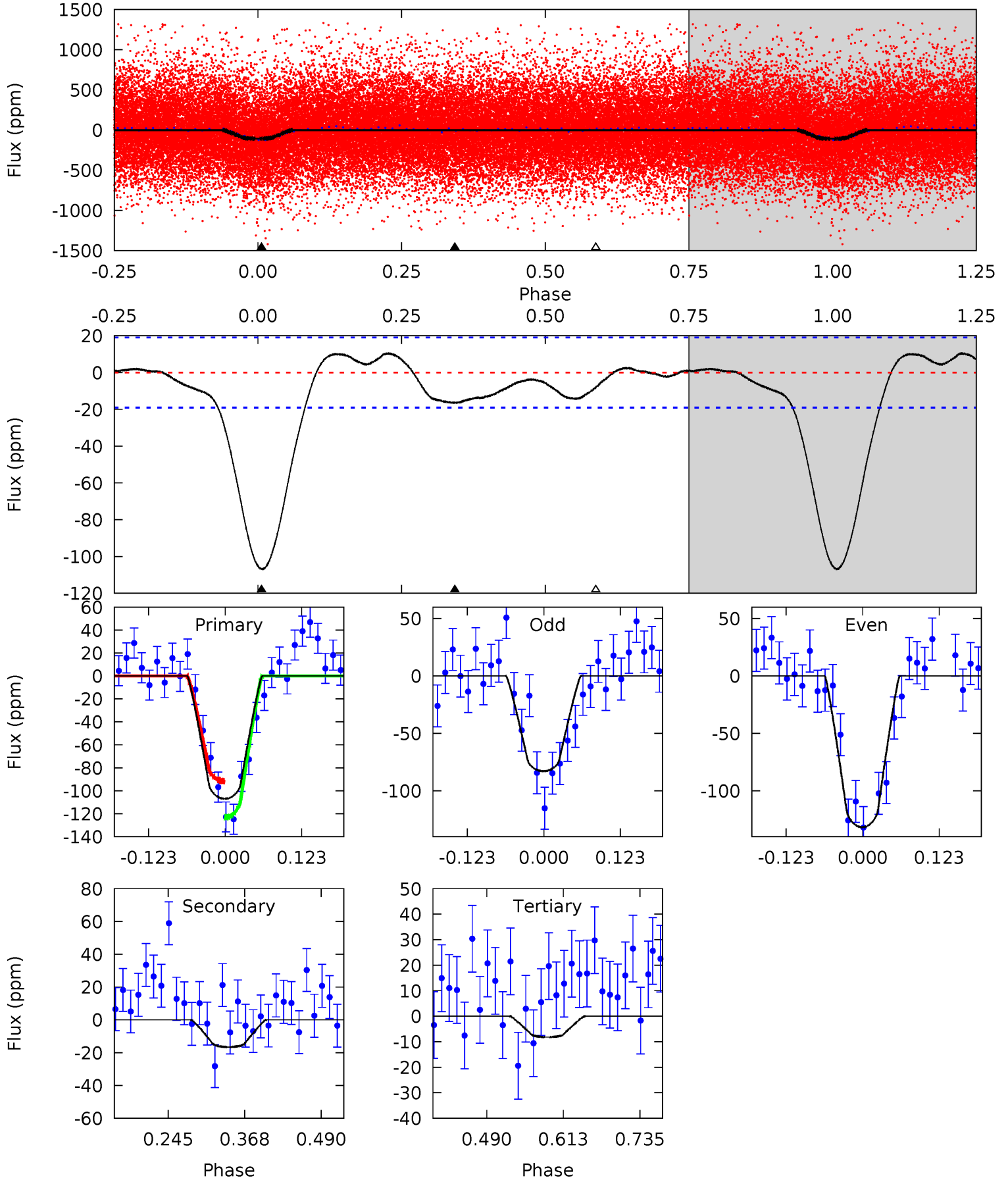
TCE 005108946-01 P= 0.591278 Days $T_0=131.746646$ (BKJD)



DV Model-Shift Uniqueness Test

005108946-01, P = 0.591272 Days, E = 131.158698 Days

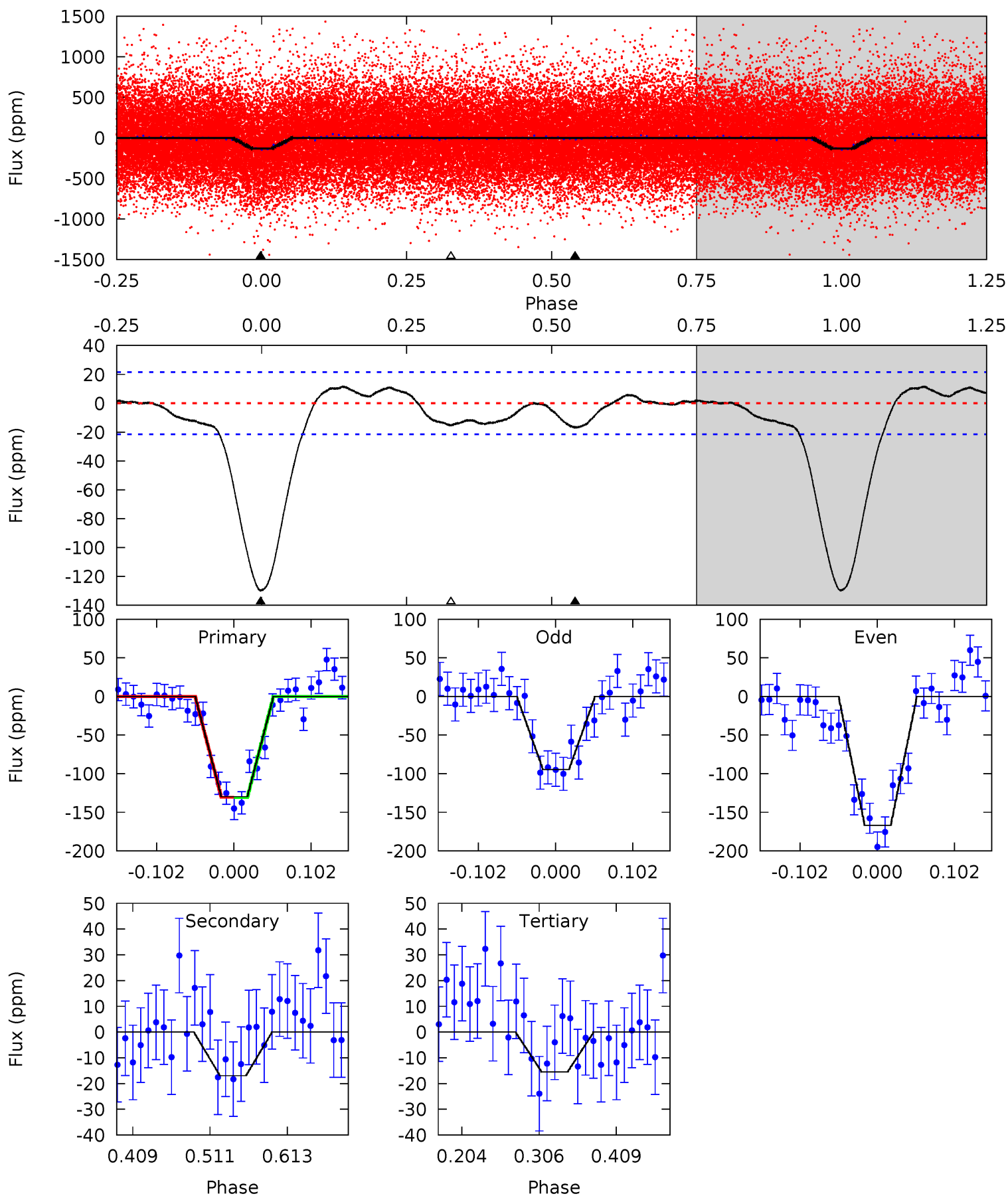
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.3	3.92	1.94	0	4.52	1.54	1.46	23.4	25.3	1.98	3.92	5.81	0.91	0.09	3.72



Alt Model-Shift Uniqueness Test

005108946-01, P = 0.591278 Days, E = 131.155368 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.5	3.59	3.27	0	4.56	1.63	1.77	24.2	27.5	0.32	3.59	7.68	1.02	0.08	0.06



Stellar Parameters For KIC 005108946

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6246^{+174}_{-239}	$4.433^{+0.050}_{-0.200}$	$0.070^{+0.250}_{-0.300}$	$1.092^{+0.353}_{-0.118}$	$1.180^{+0.145}_{-0.159}$	$1.276^{+0.344}_{-0.648}$
	+3%/-4%	+1%/-5%	+357%/-429%	+32%/-11%	+12%/-13%	+27%/-51%
Source	PHO1	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 005108946-01 / KOI 2955.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-17 ± 4	$1.36^{+0.68}_{-0.64}$	3393^{+243}_{-164}	3831^{+1294}_{-877}	$1.010^{+2.590}_{-0.576}$
Alt.	-17 ± 5	$1.45^{+0.65}_{-0.62}$	3399^{+230}_{-183}	3724^{+1172}_{-866}	$0.877^{+2.010}_{-0.476}$

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

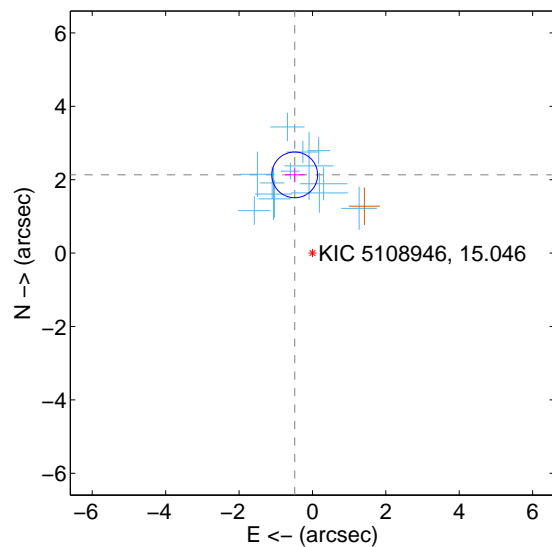
Supplemental centroid analysis for 005108946-01. Kepler magnitude: 15.05. Transit SNR 17.19

There are 13 quarters with good PRF difference image offsets

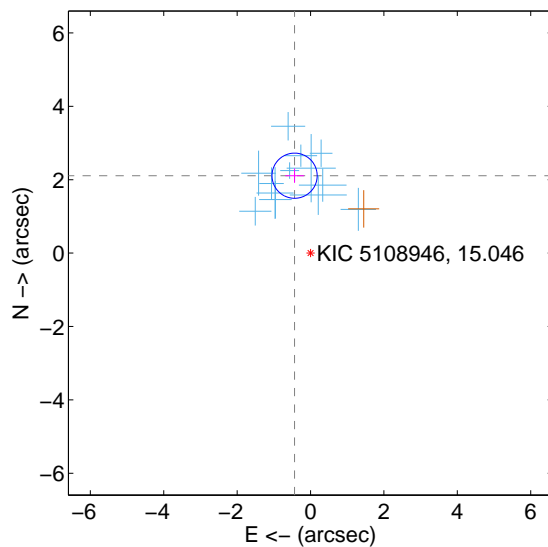
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.186 ± 0.208	10.52	0.483 ± 0.266	2.132 ± 0.204
PRF-fit source offset from KIC position	2.154 ± 0.205	10.50	0.434 ± 0.255	2.109 ± 0.195
photometric centroid source offset	2.50 ± 1.00	2.51	0.97 ± 0.92	2.31 ± 1.01

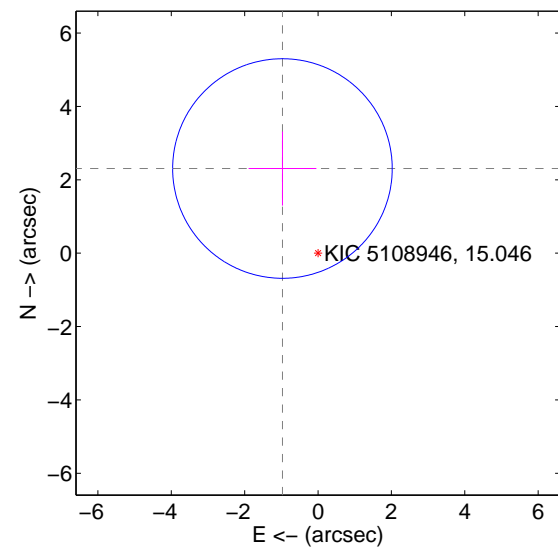
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

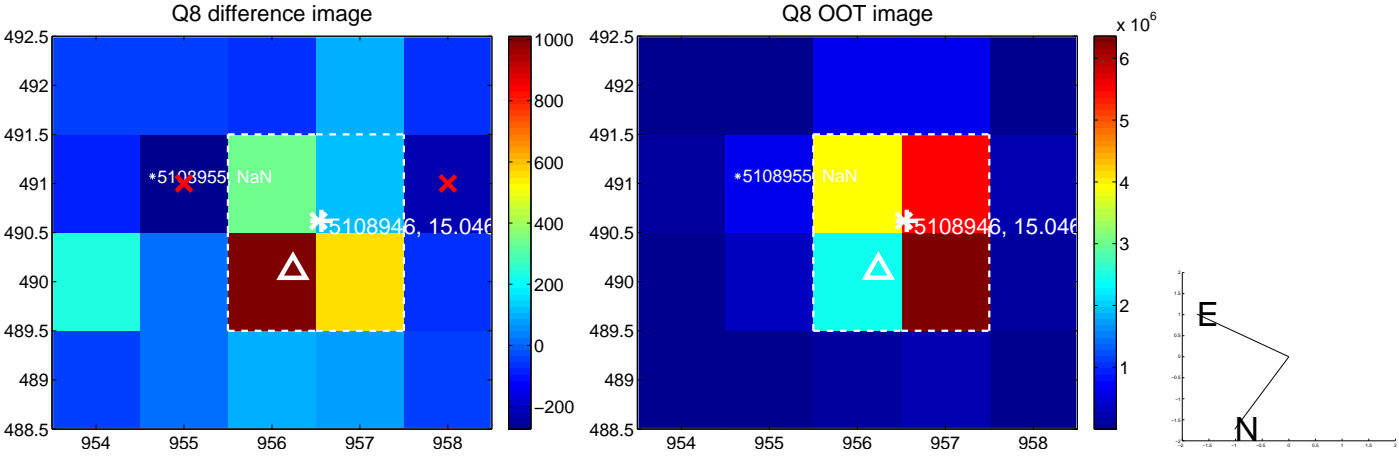
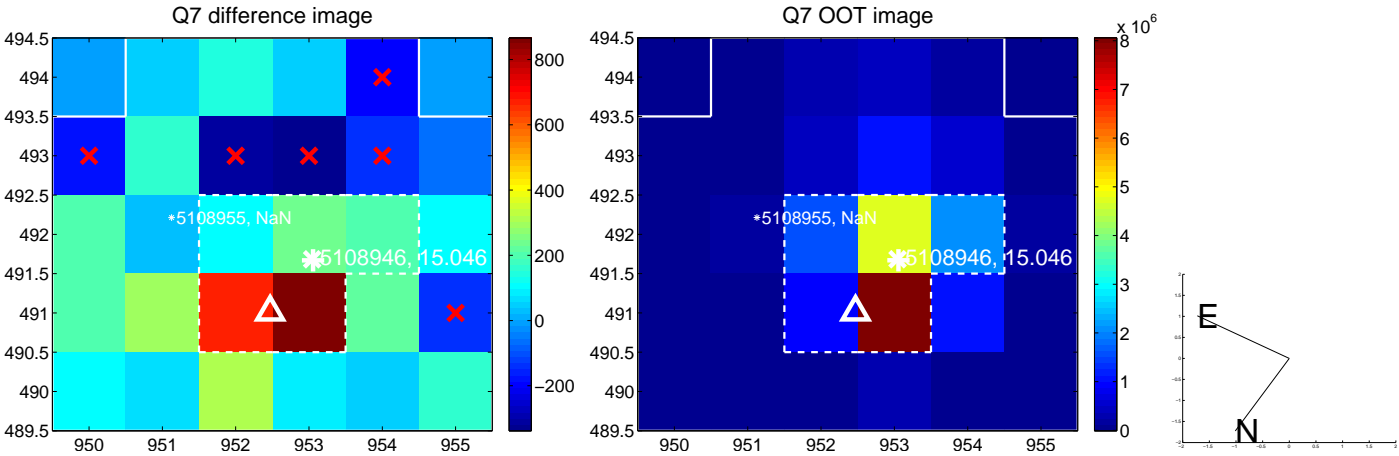
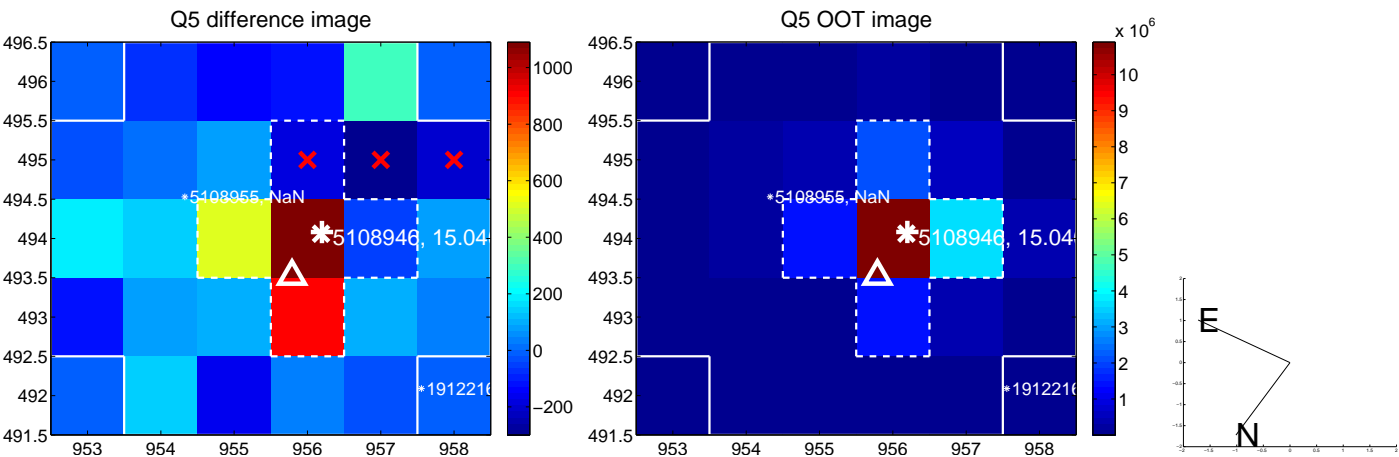


offset from photometric centroids

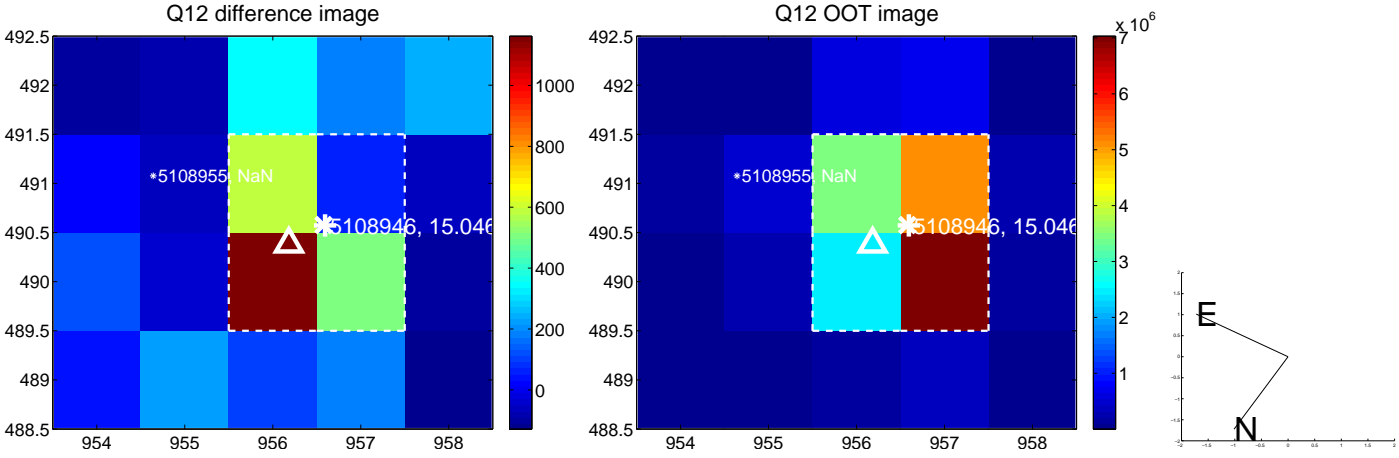
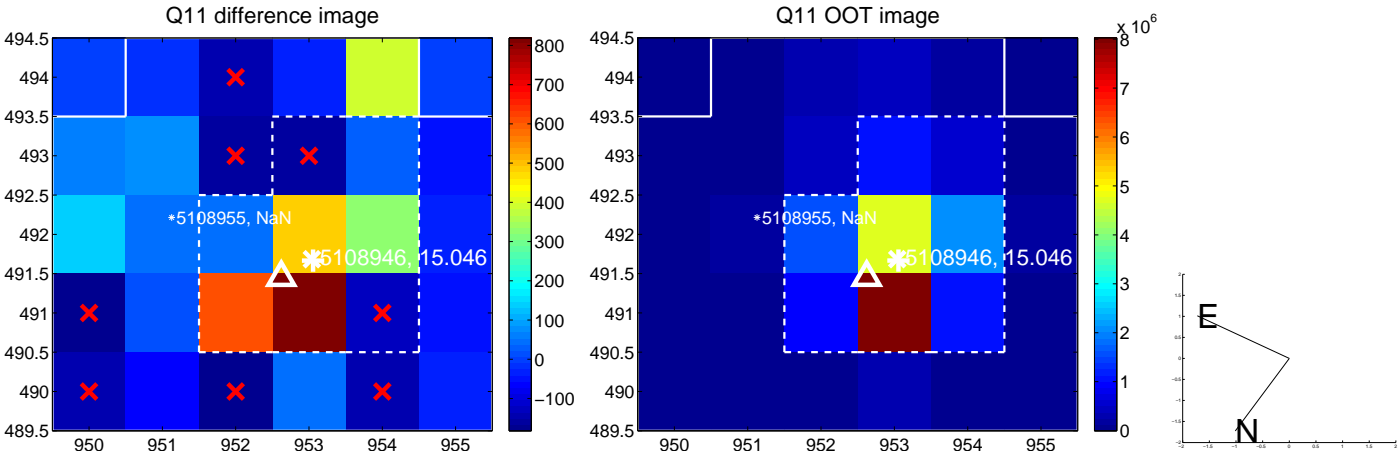
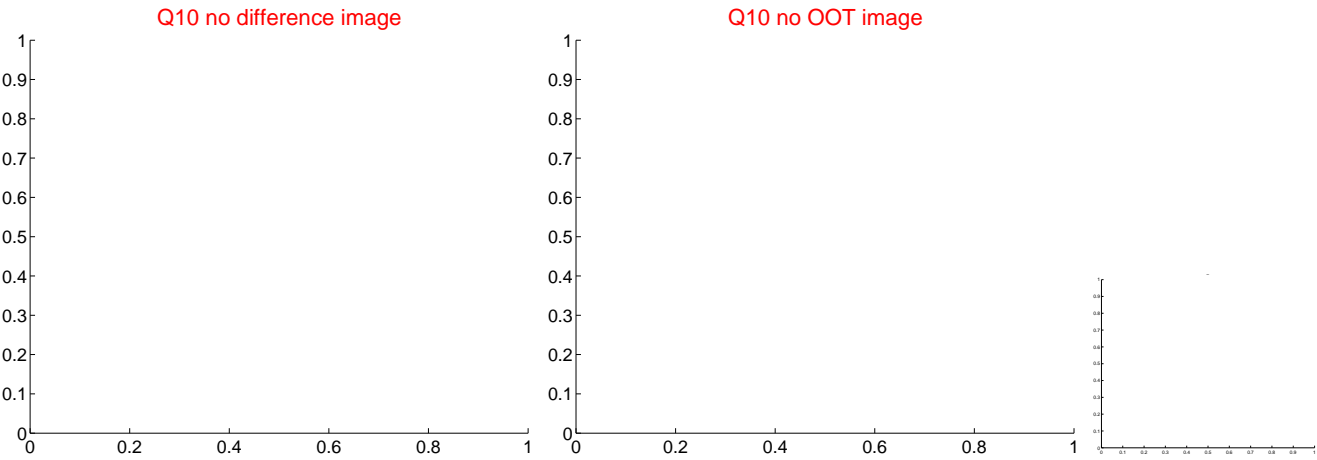
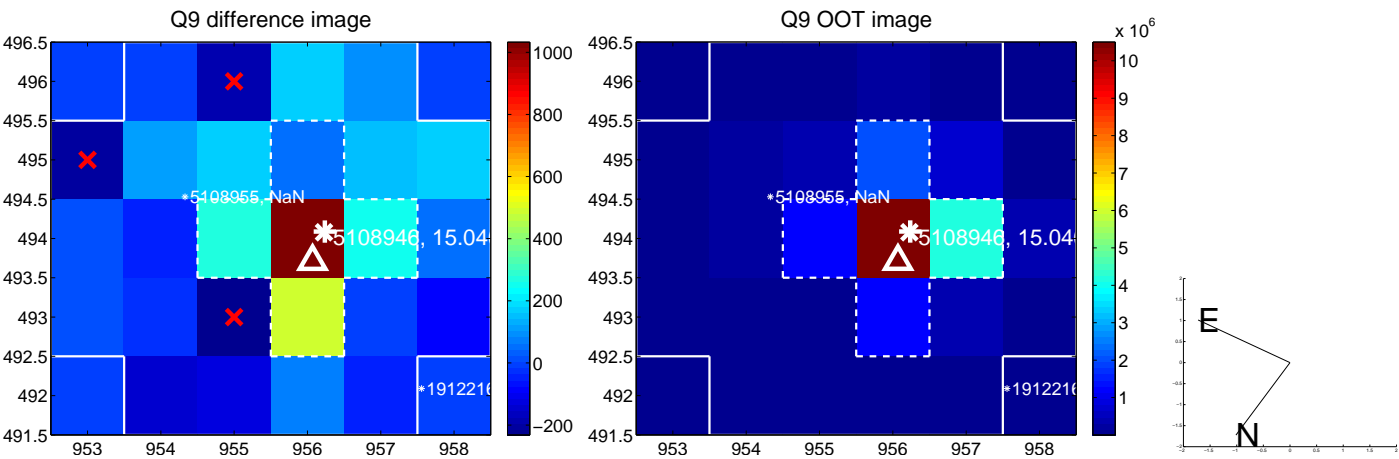


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

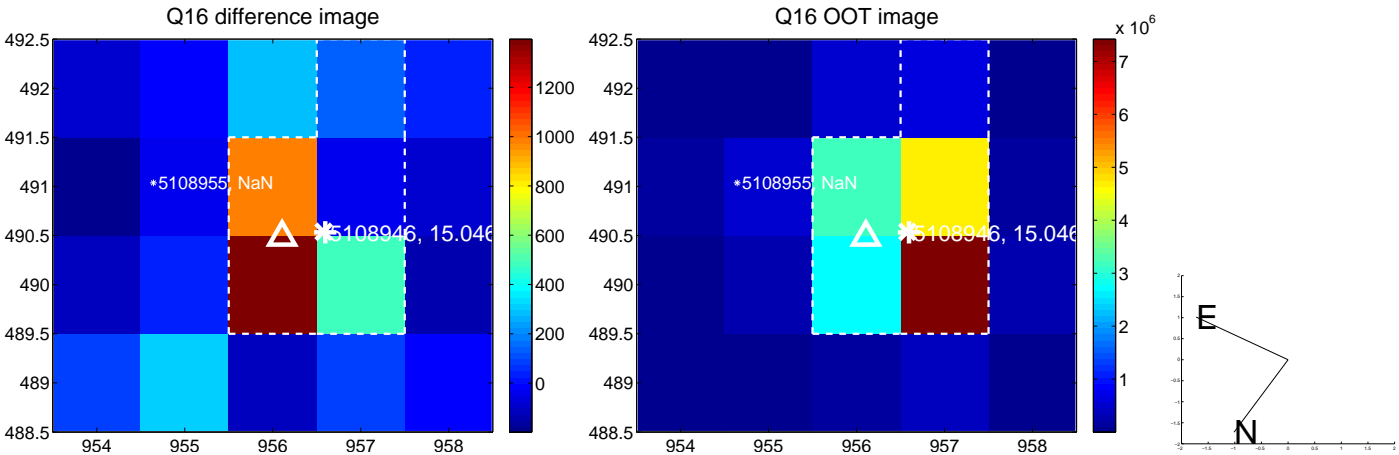
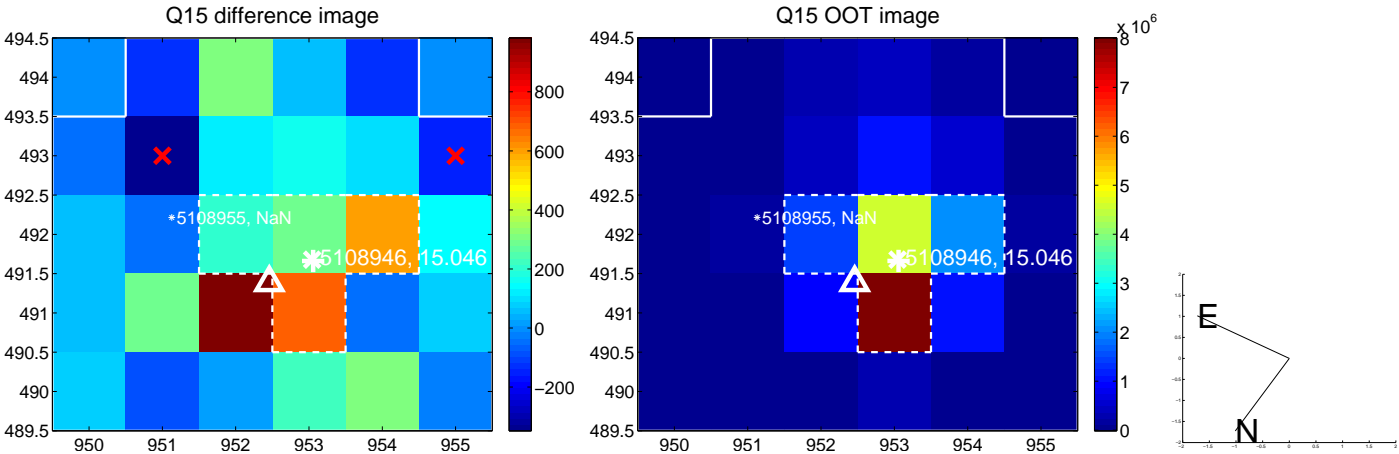
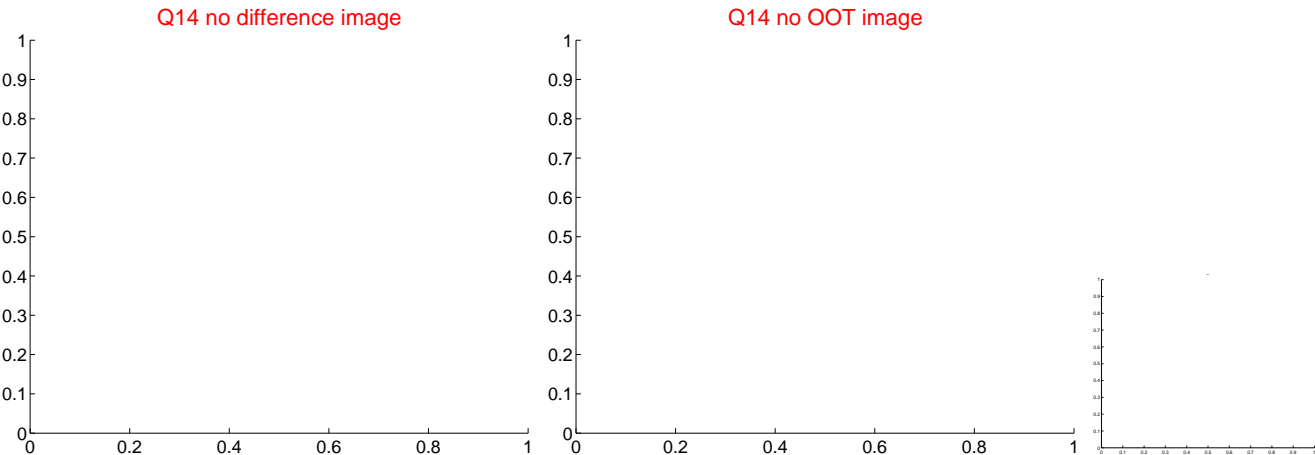
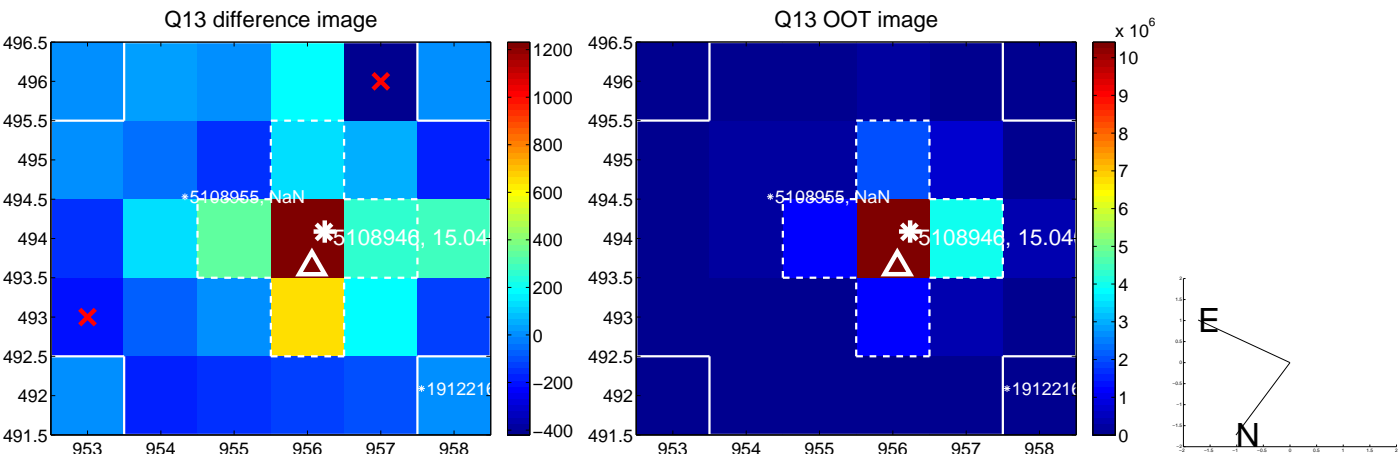
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



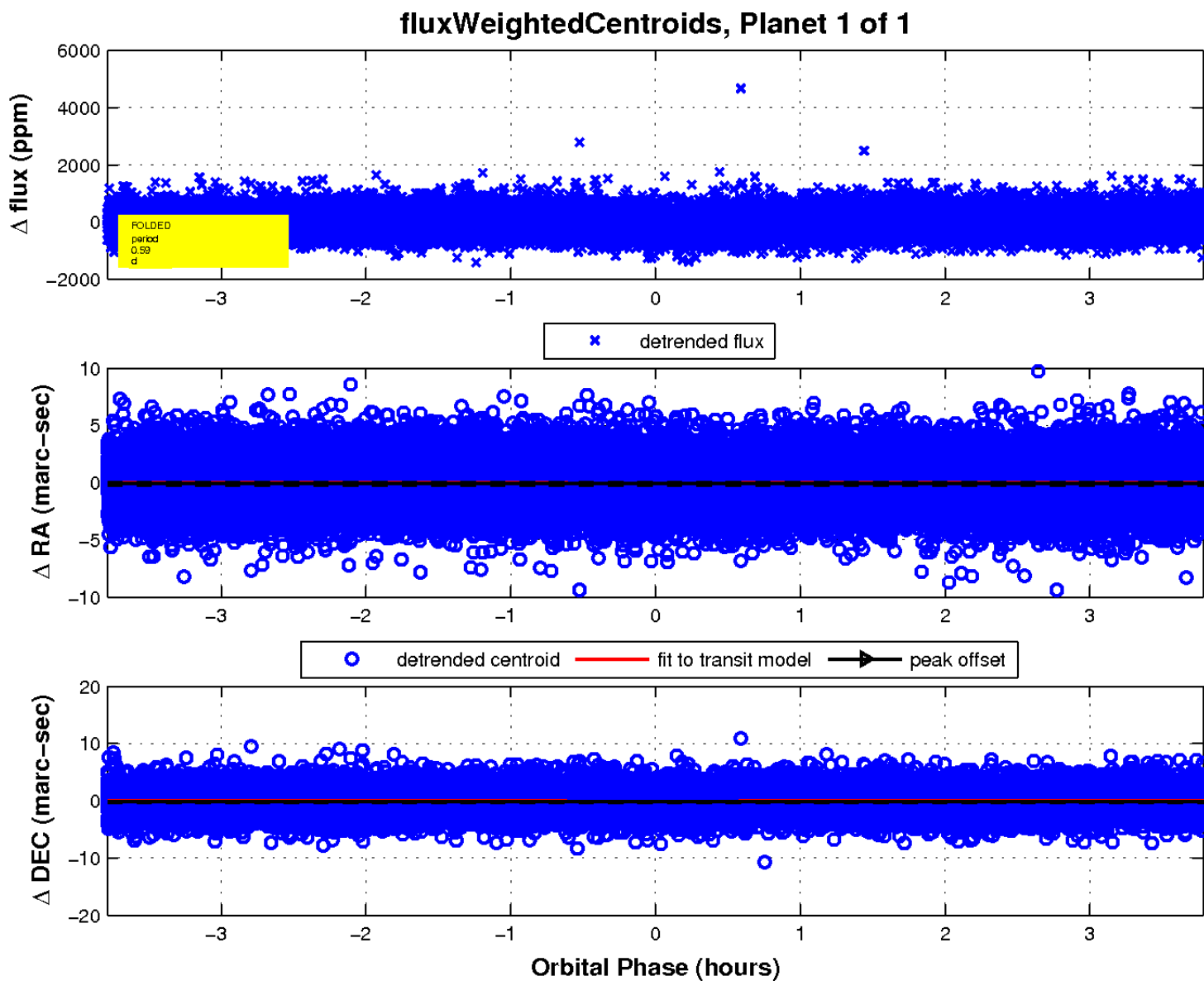
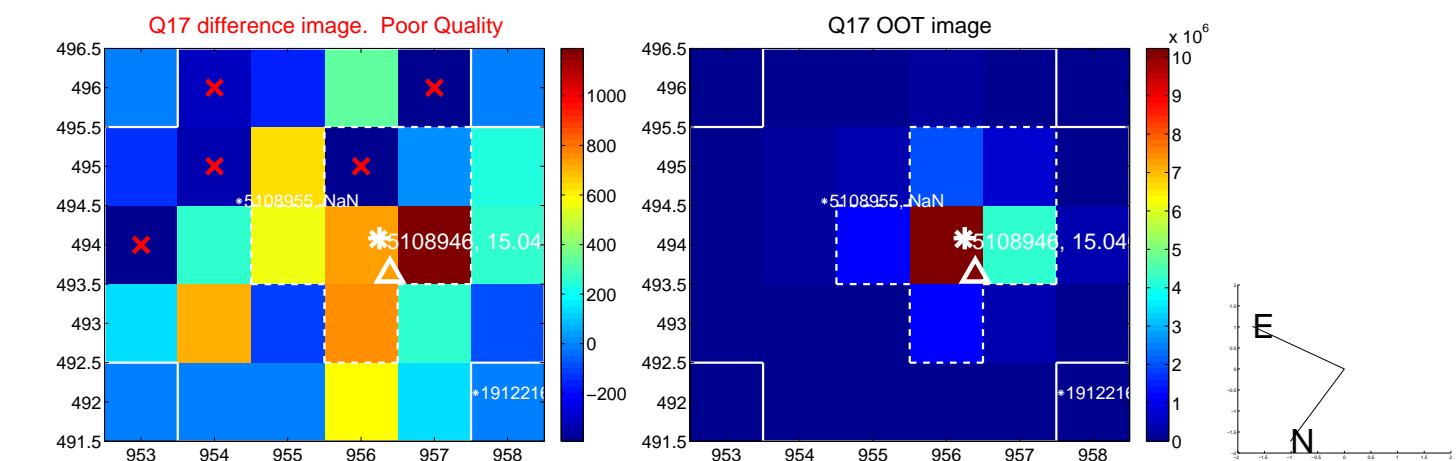
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

