

KIC 008104598

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})
008104598-01	OBS	No	0.678629	131.725507	26.6	1.878	9.2	6.5	1.39	6557	0.84	12082.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008104598-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

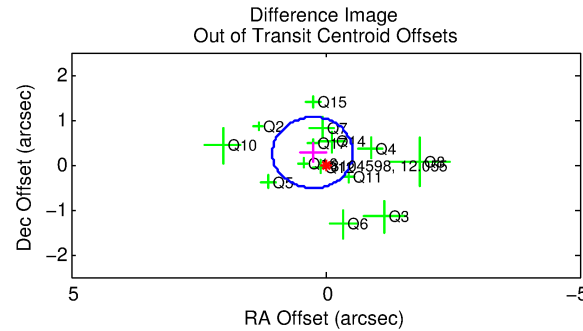
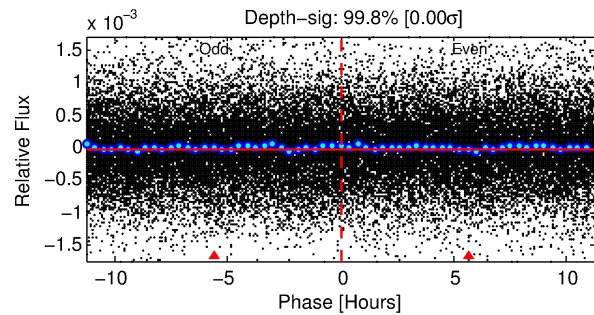
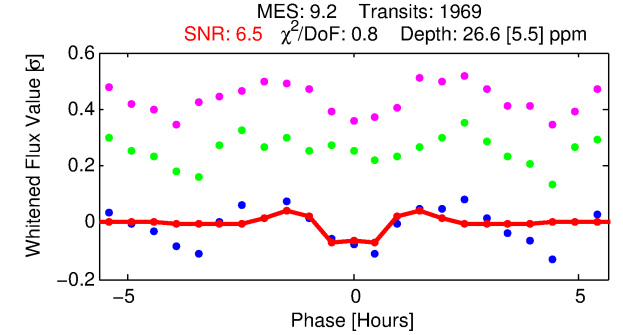
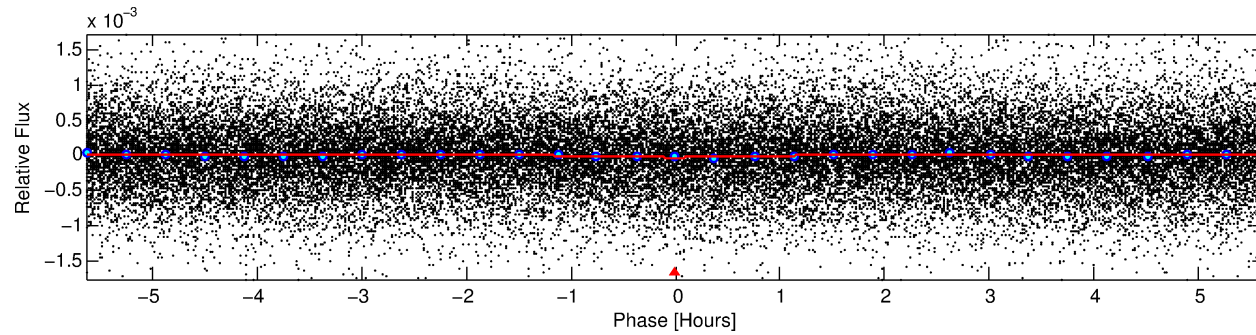
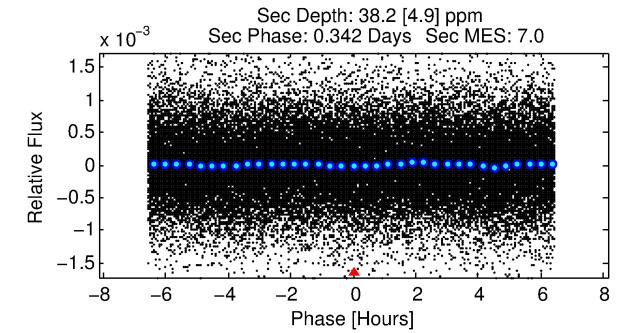
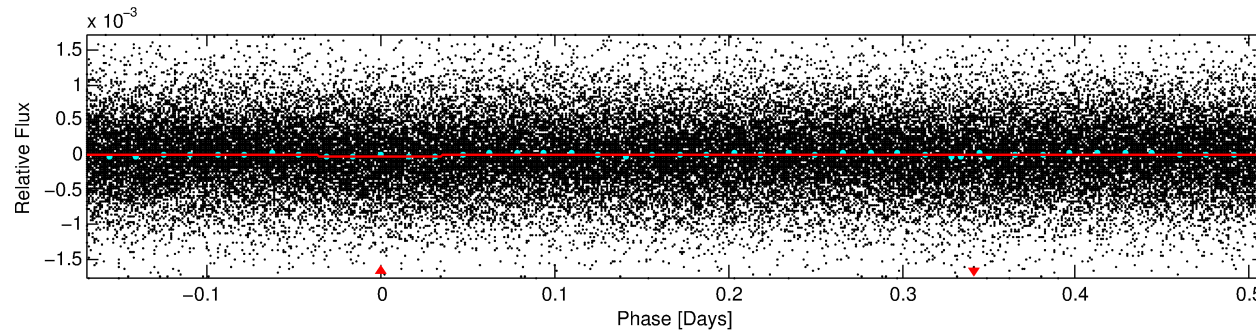
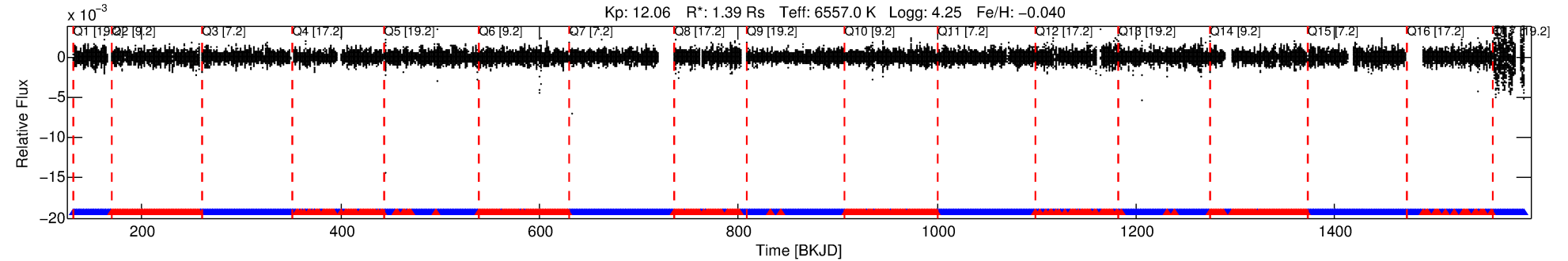
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008104598-01

No Significant Match Found

DV One-Page Summary

KIC: 8104598 Candidate: 1 of 1 Period: 0.679 d



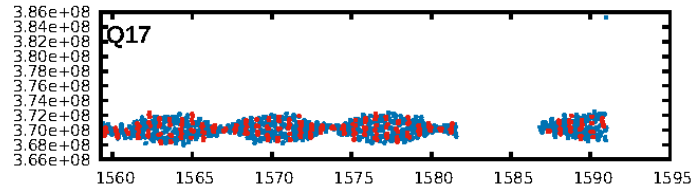
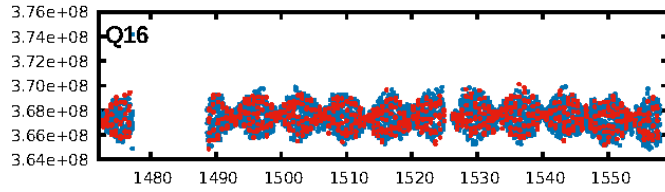
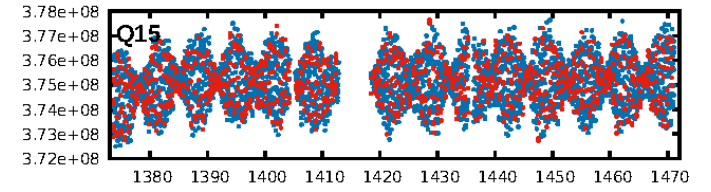
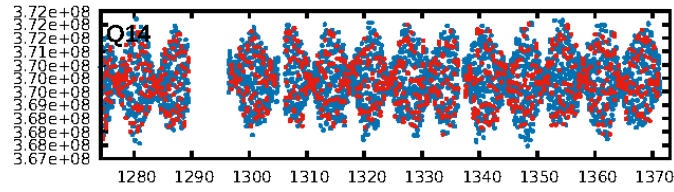
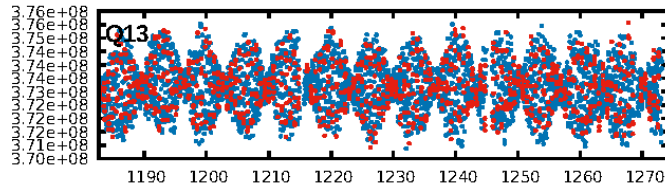
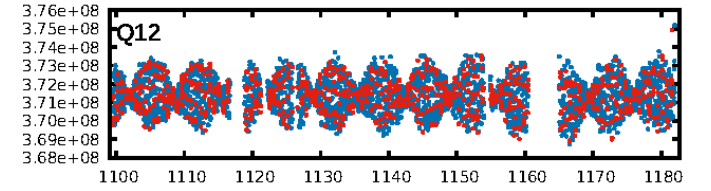
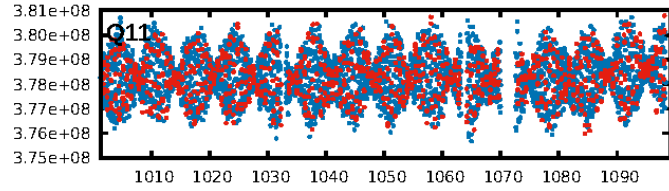
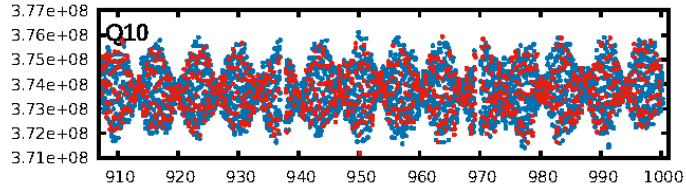
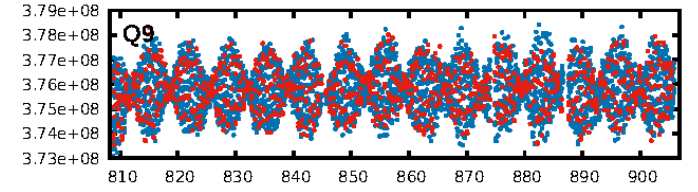
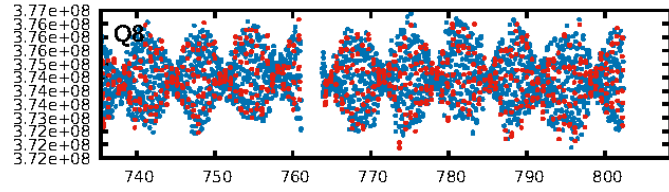
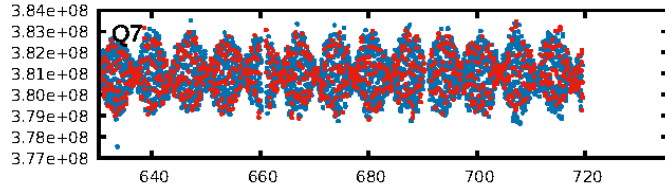
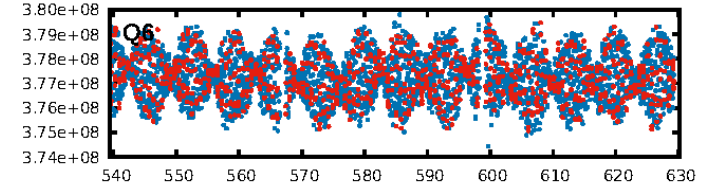
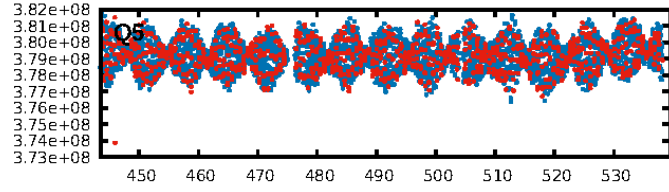
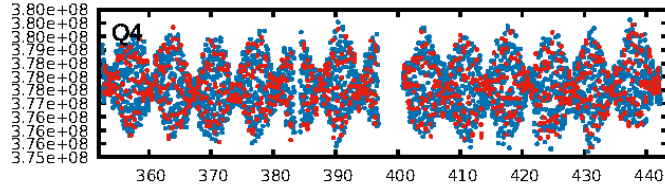
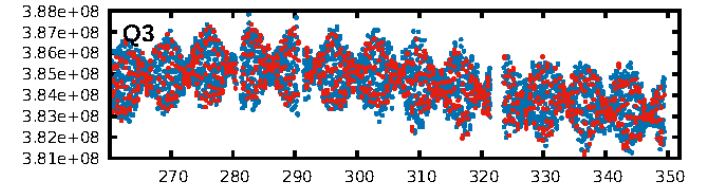
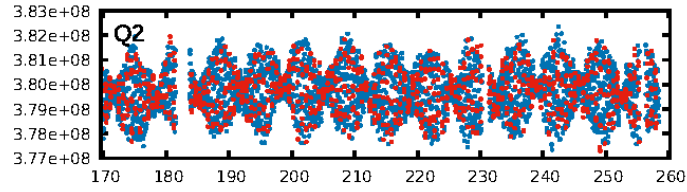
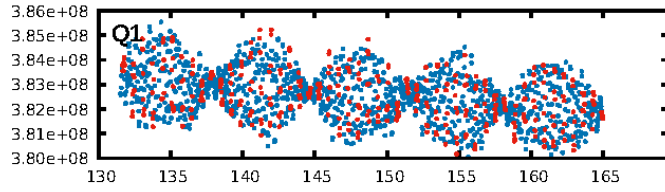
DV Fit Results:

Period = 0.67863 [0.00001] d
Epoch = 131.7255 [0.0021] BKJD
Rp/R* = 0.0055 [0.0019]
a/R* = 1.55 [1.69]
b = 0.90 [0.40]
Seff = 12082.94 [4643.16]
Teq = 2673 [257] K
Rp = 0.84 [0.39] Re
a = 0.0163 [0.0043] AU
Ag = 7.90 [6.13] [1.13σ]
Teffp = 6931 [1202] K [3.46σ]

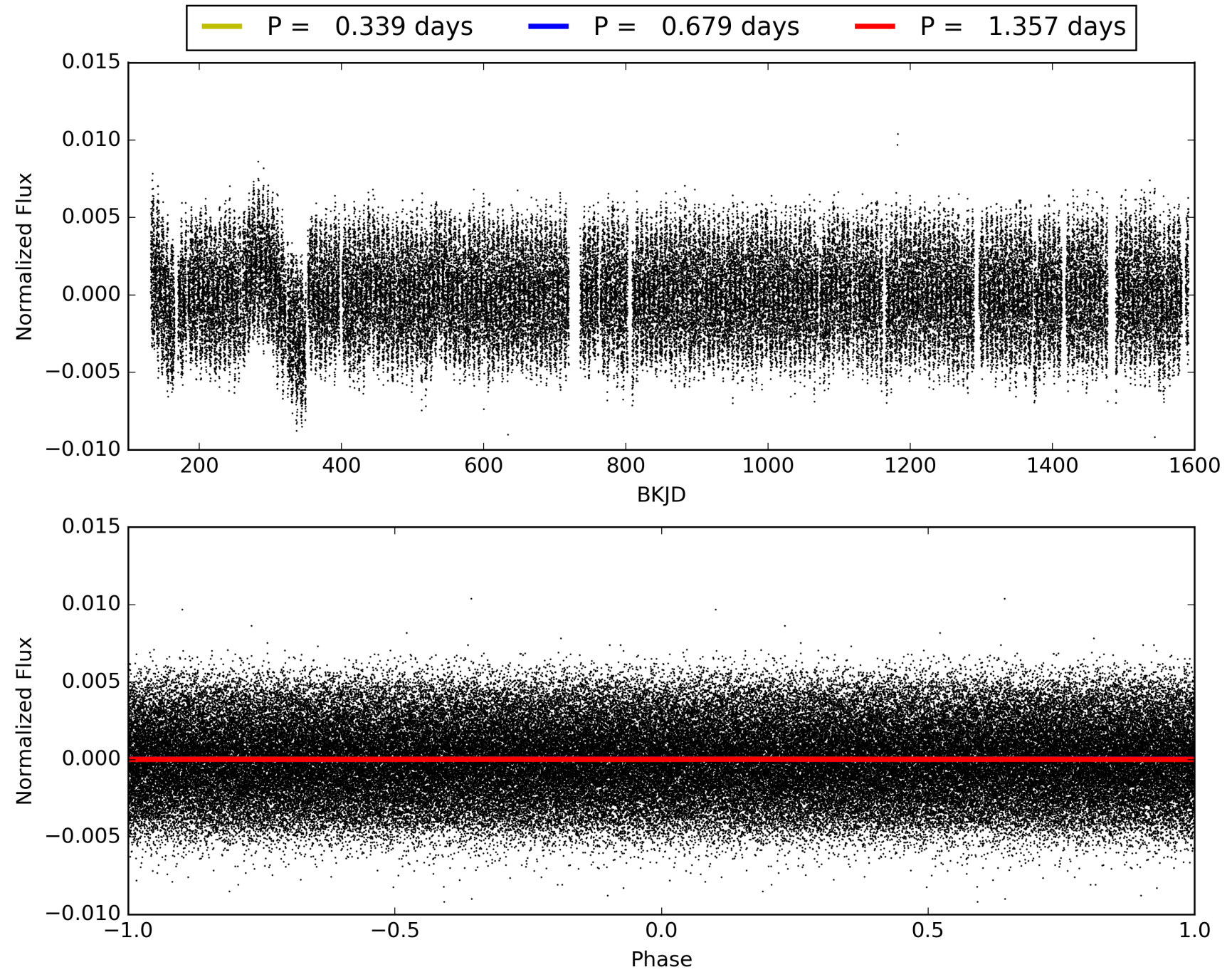
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.48e-21
RollingBand-fgt: 0.67 [1263/1880]
GhostDiagnostic-chr: 8.538
Centroid-sig: 42.7%
Centroid-so: 0.276 arcsec [0.73σ]
OotOffset-rm: 0.368 arcsec [1.40σ]
KicOffset-rm: 0.459 arcsec [1.75σ]
OotOffset-st: 4/4/4/2 [14]
KicOffset-st: 4/4/4/2 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008104598-01, PDC Light Curves

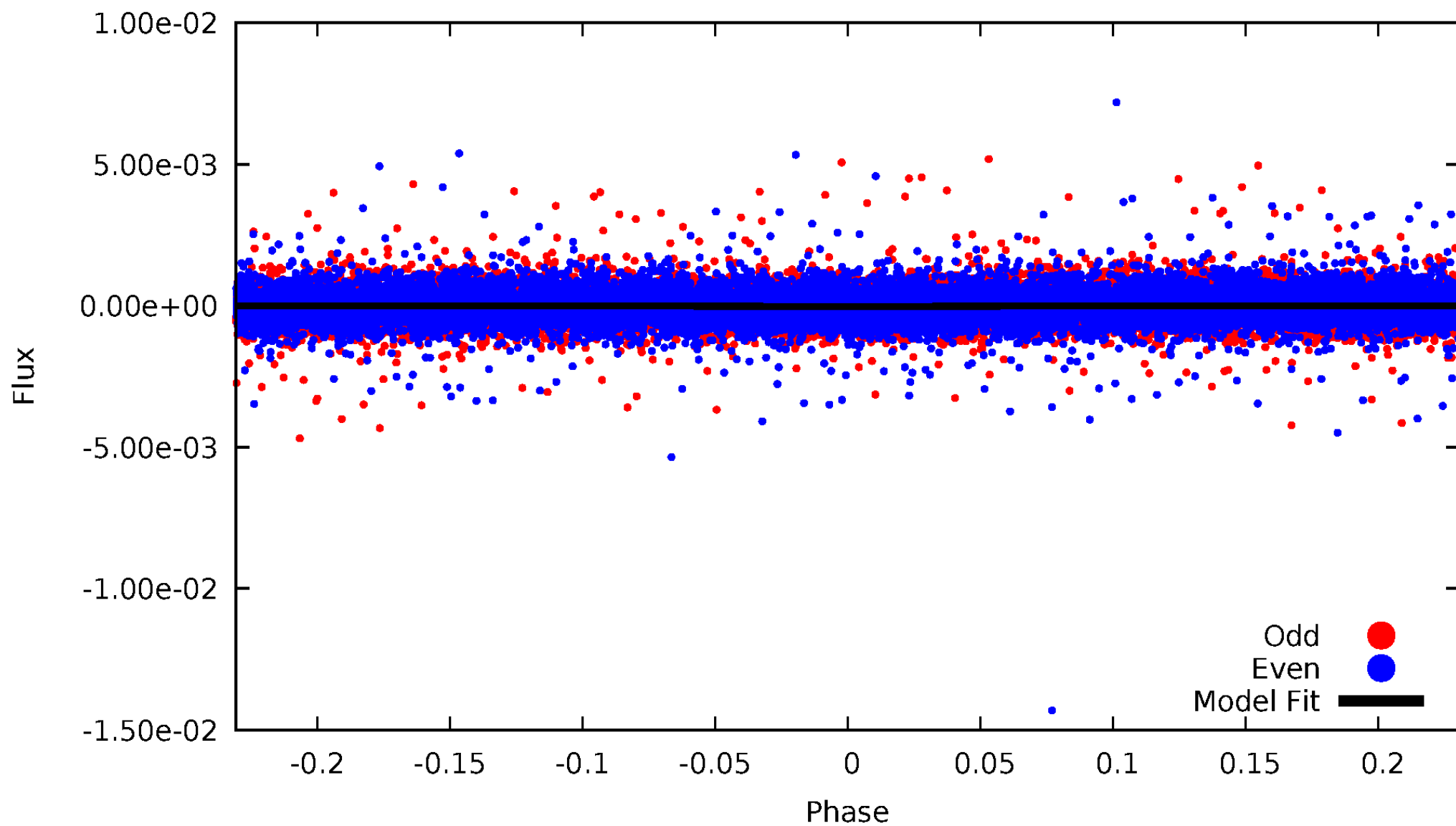


TCE 008104598-01



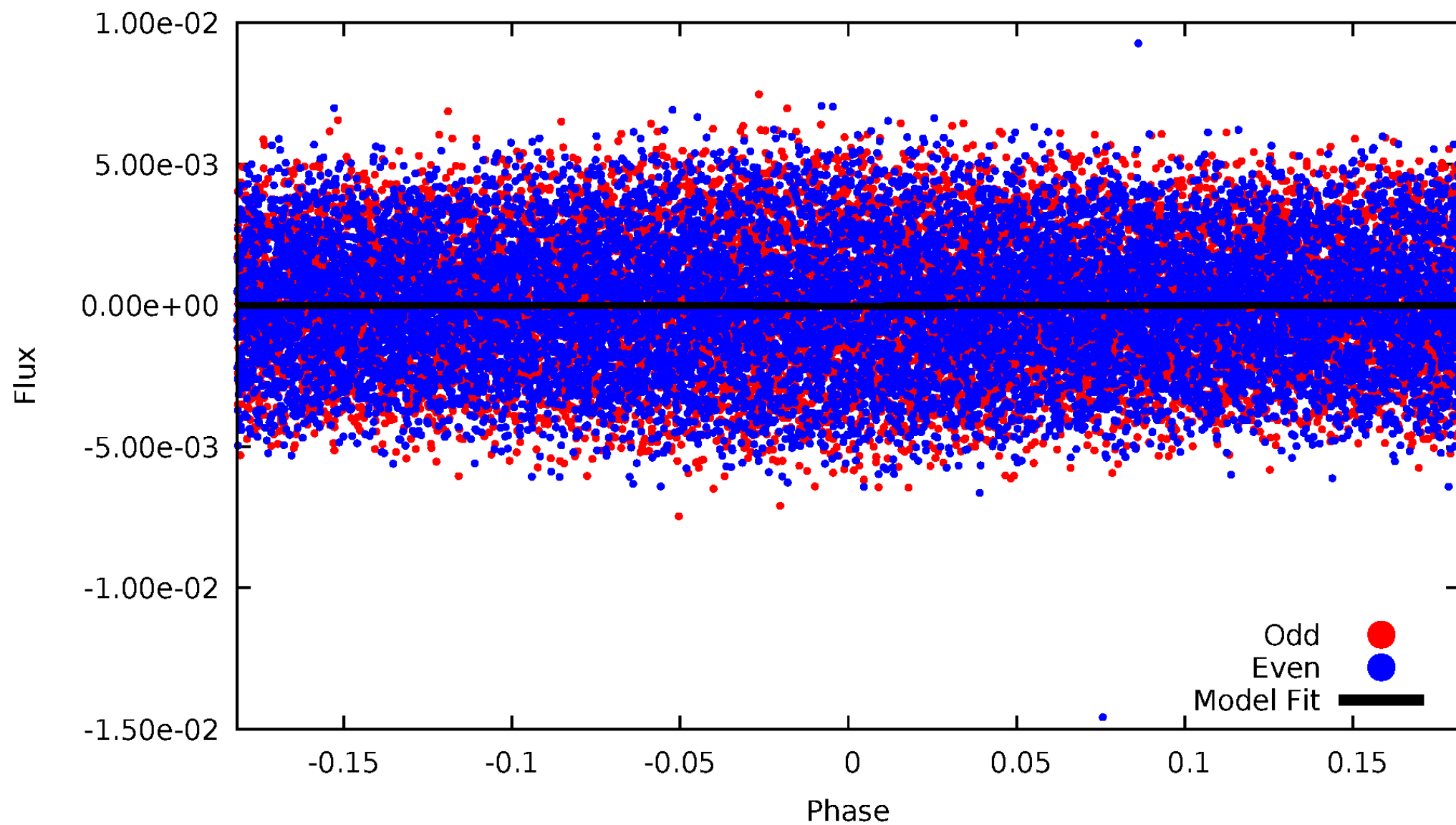
DV Odd/Even

TCE 008104598-01



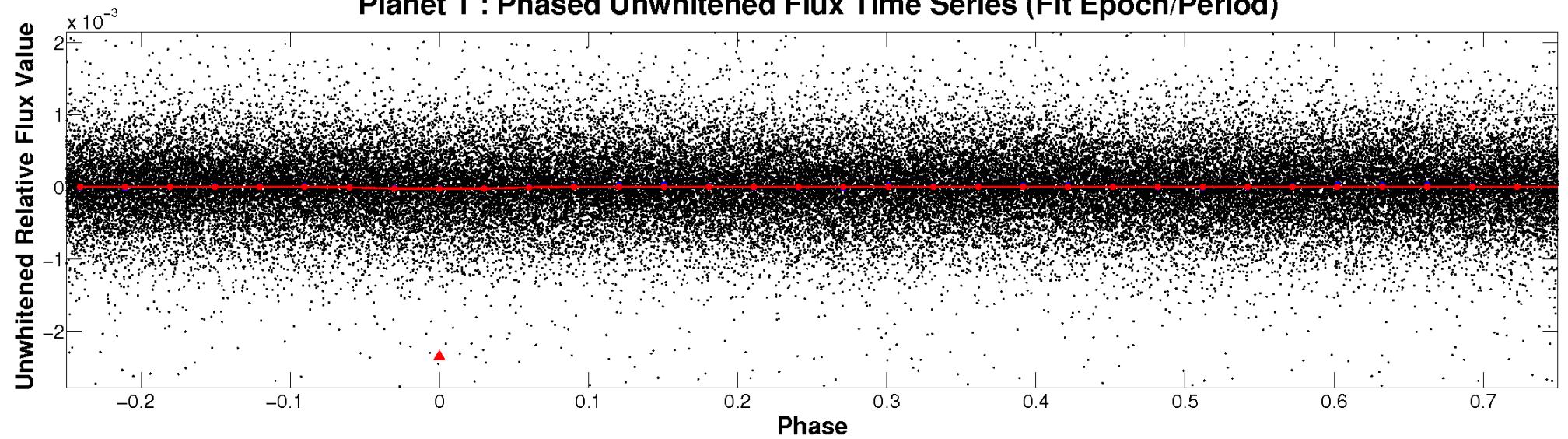
ALT Odd/Even

TCE 008104598-01

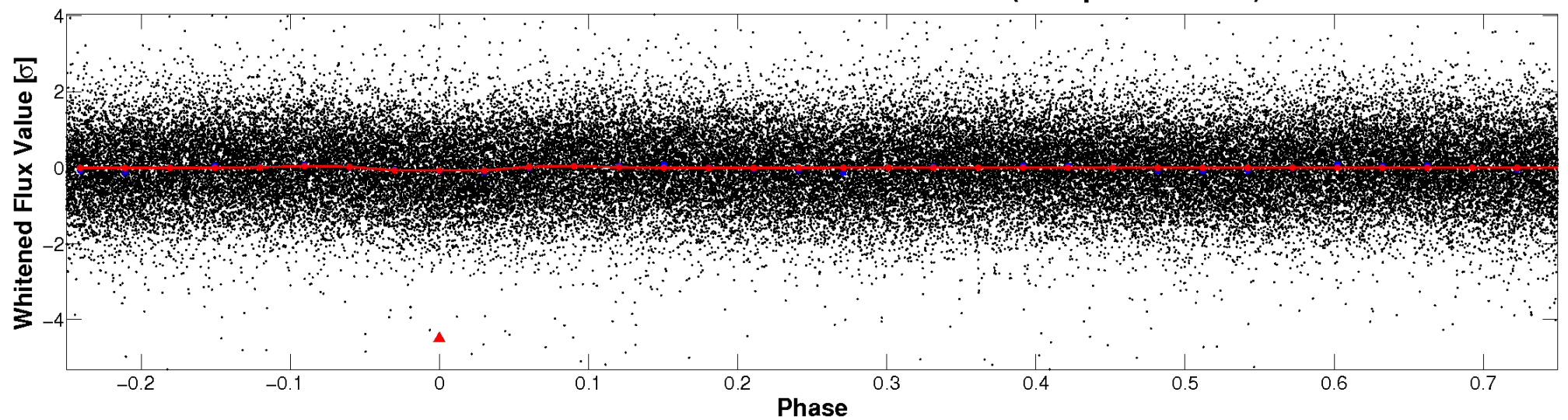


Non-Whitened Vs. Whitened Light Curve

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

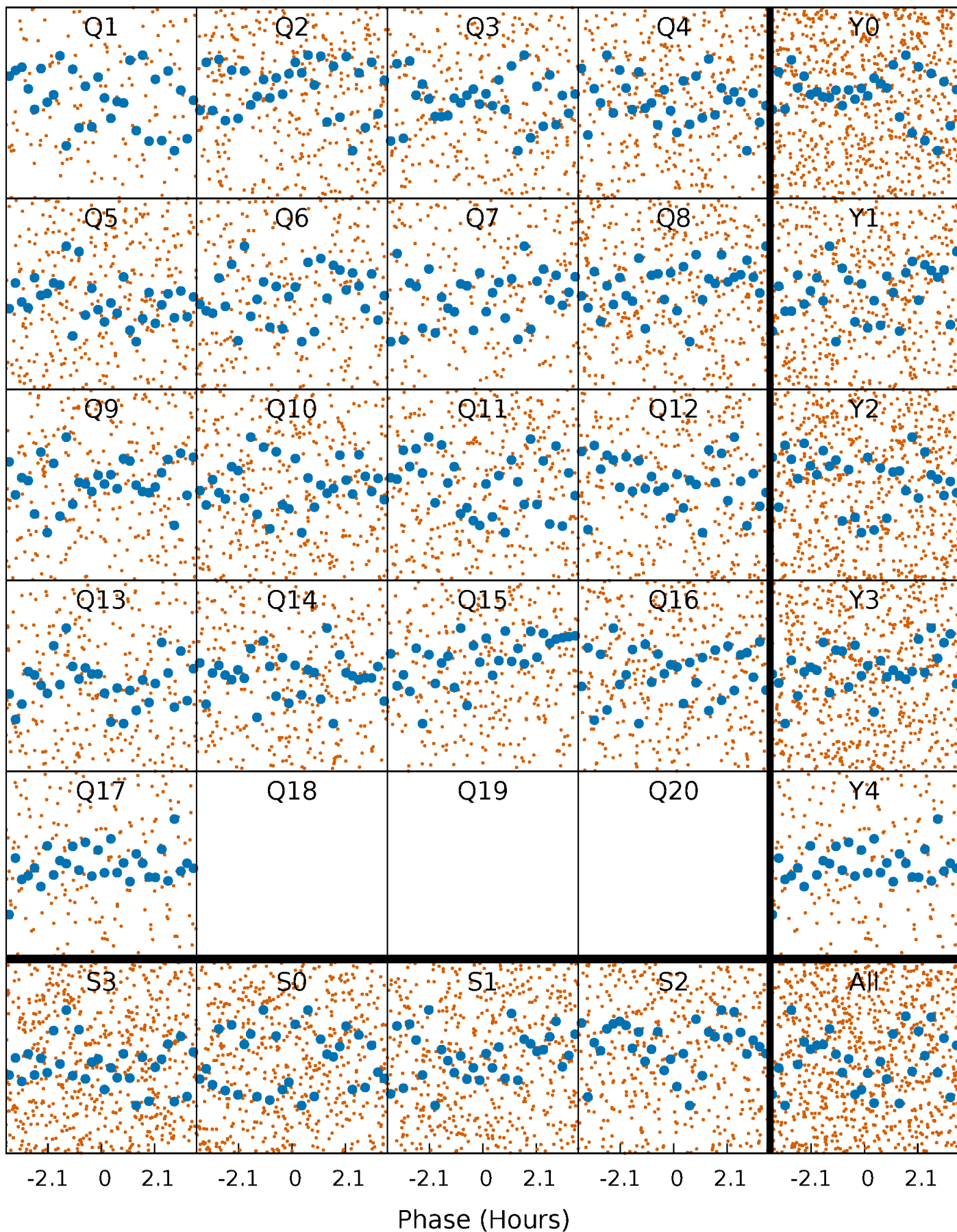


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



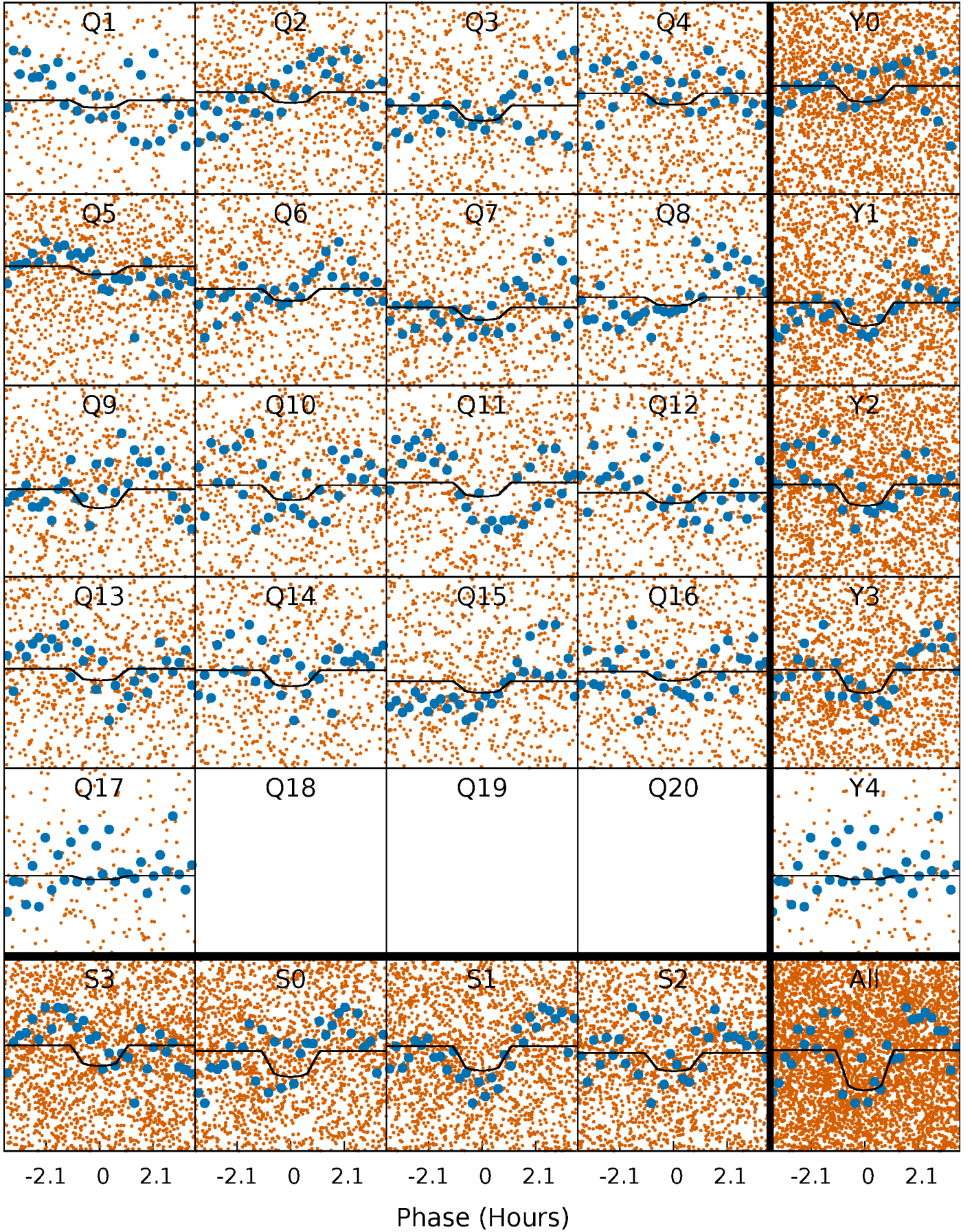
PDC Quarter-Phased Transit Curves

TCE 008104598-01 P= 0.678629 Days $T_0=131.725507$ (BKJD)



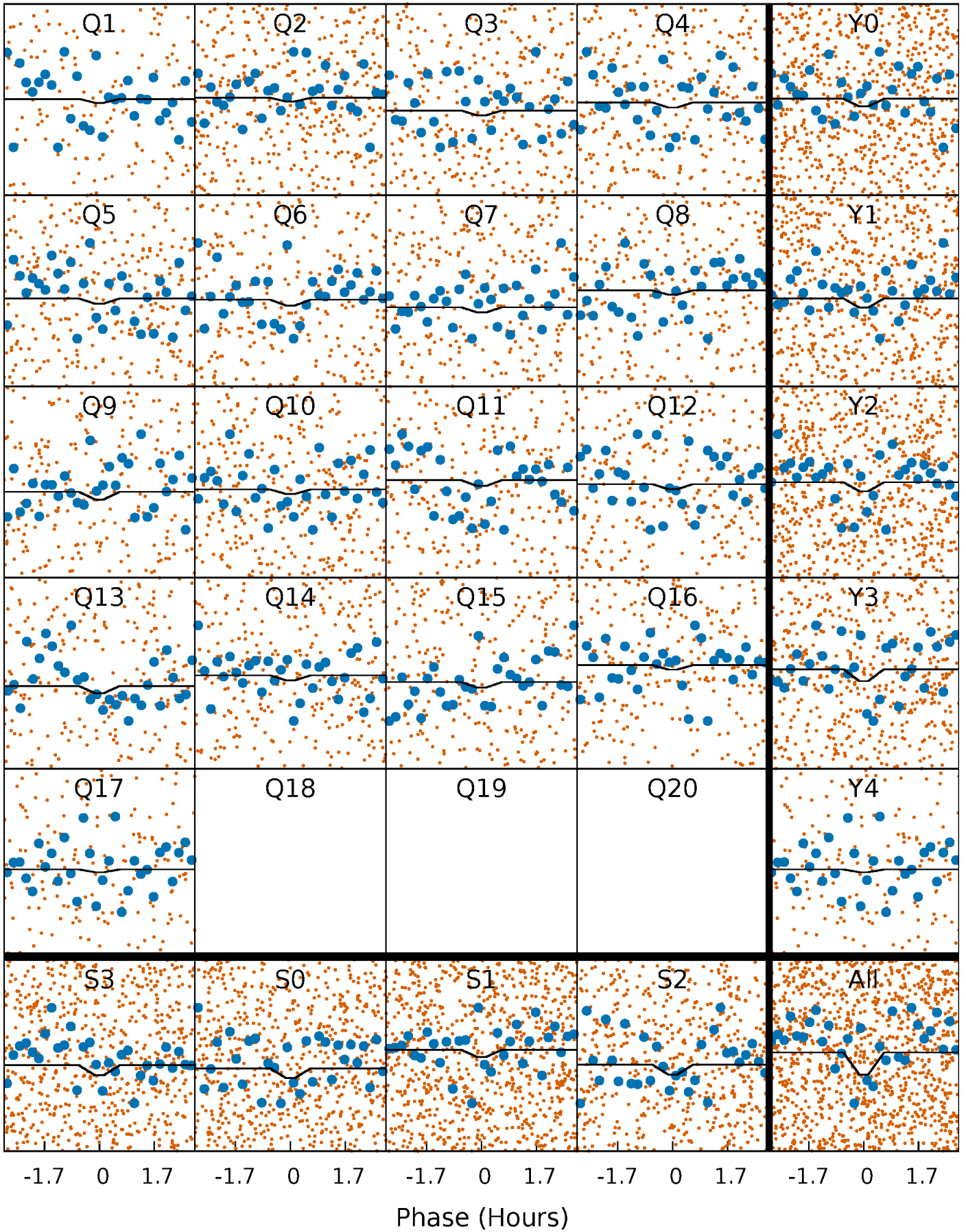
DV Quarter-Phased Transit Curves

TCE 008104598-01 P= 0.678629 Days $T_0=131.725507$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

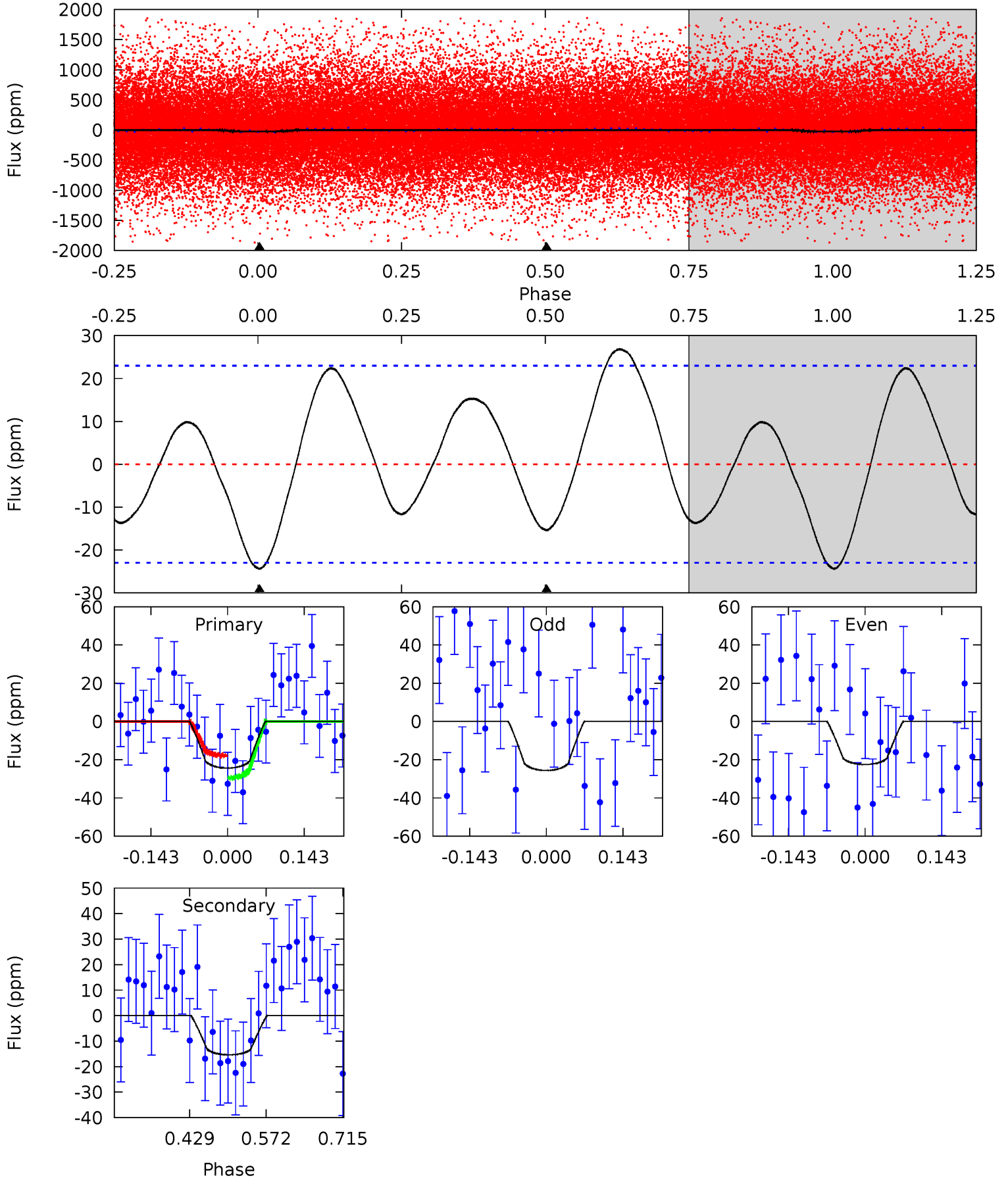
TCE 008104598-01 P= 0.678638 Days $T_0=131.722495$ (BKJD)



DV Model-Shift Uniqueness Test

008104598-01, P = 0.678629 Days, E = 131.046878 Days

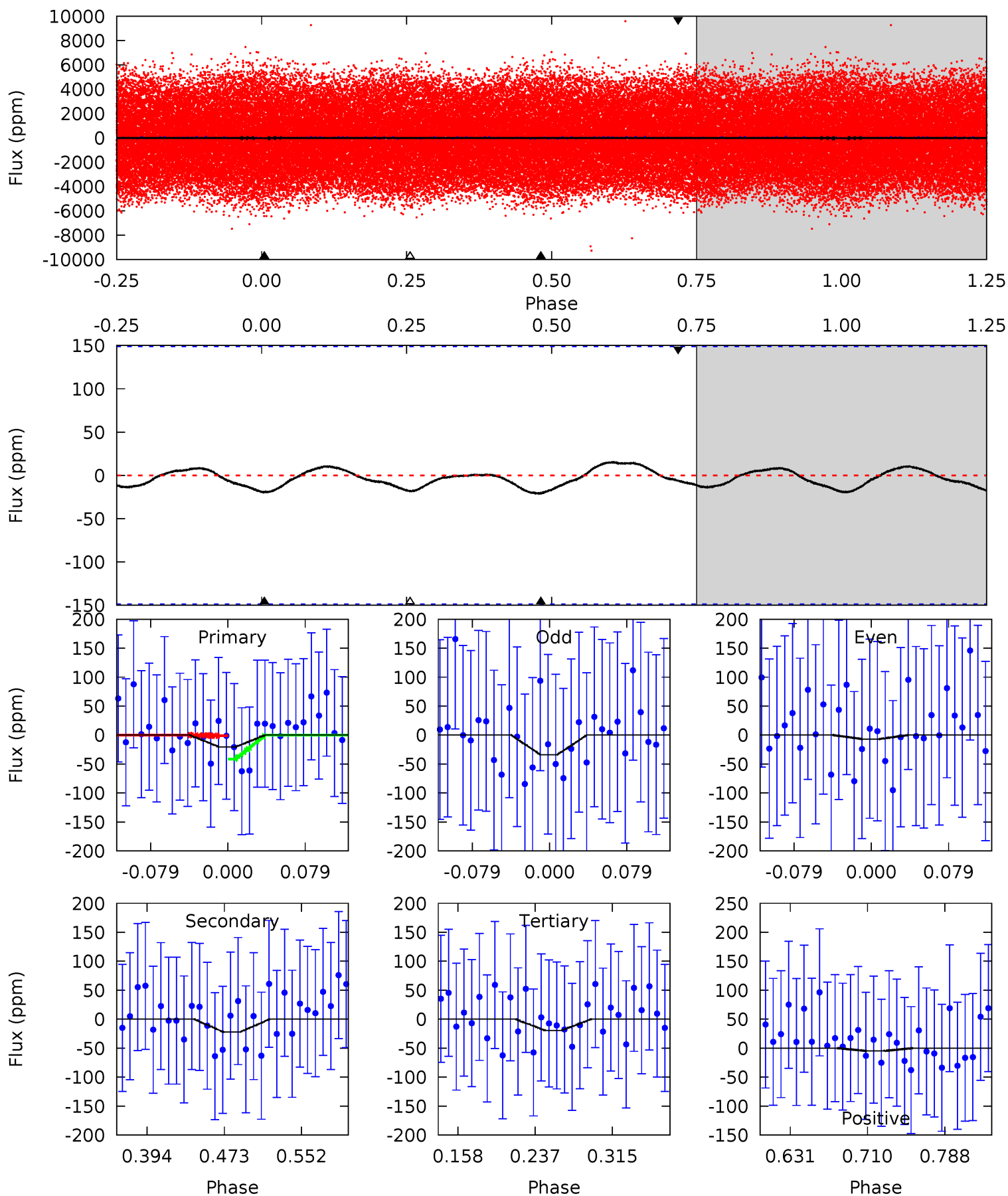
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.76	3.00	0	0	4.49	1.46	2.12	4.76	4.76	3.00	3.00	0.31	1.10	0.52	1.15



Alt Model-Shift Uniqueness Test

008104598-01, P = 0.678638 Days, E = 131.043857 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.63	0.69	0.60	-0.15	4.61	1.76	0.28	0.03	0.79	0.09	0.84	0.42	3.53	0.43	0.62



Stellar Parameters For KIC 008104598

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6557^{+146}_{-194}	$4.249^{+0.112}_{-0.192}$	$-0.040^{+0.250}_{-0.300}$	$1.393^{+0.452}_{-0.243}$	$1.258^{+0.188}_{-0.188}$	$0.655^{+0.391}_{-0.326}$
	+2%/-3%	+3%/-5%	+625%/-750%	+32%/-17%	+15%/-15%	+60%/-50%
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 008104598-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-15 ± 5	$0.85^{+0.33}_{-0.25}$	3755^{+276}_{-196}	5330^{+1282}_{-870}	$2.892^{+3.799}_{-1.605}$
Alt.	-22 ± 32	$0.82^{+0.33}_{-0.32}$	3775^{+269}_{-220}	6000^{+2643}_{-11171}	$4.465^{+11.688}_{-6.288}$

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 $A_{obs} \gg 1.0$

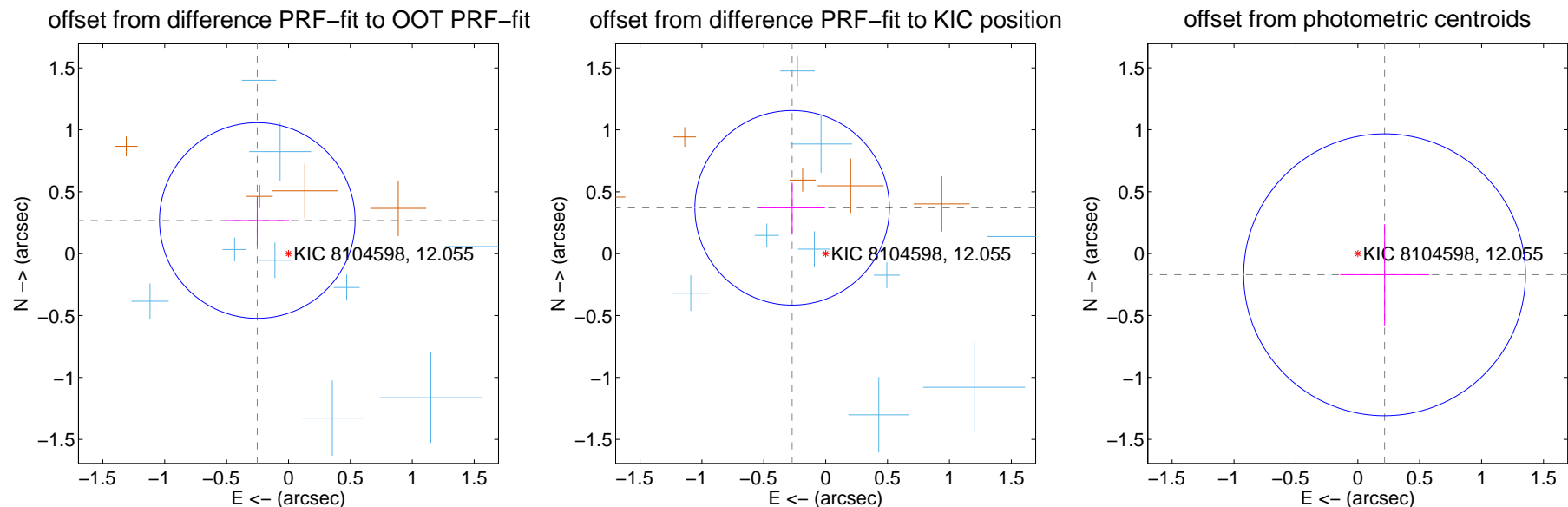
DV Centroid Data

Supplemental centroid analysis for 008104598-01. Kepler magnitude: 12.05. Transit SNR 6.52

There are 9 quarters with good PRF difference image offsets

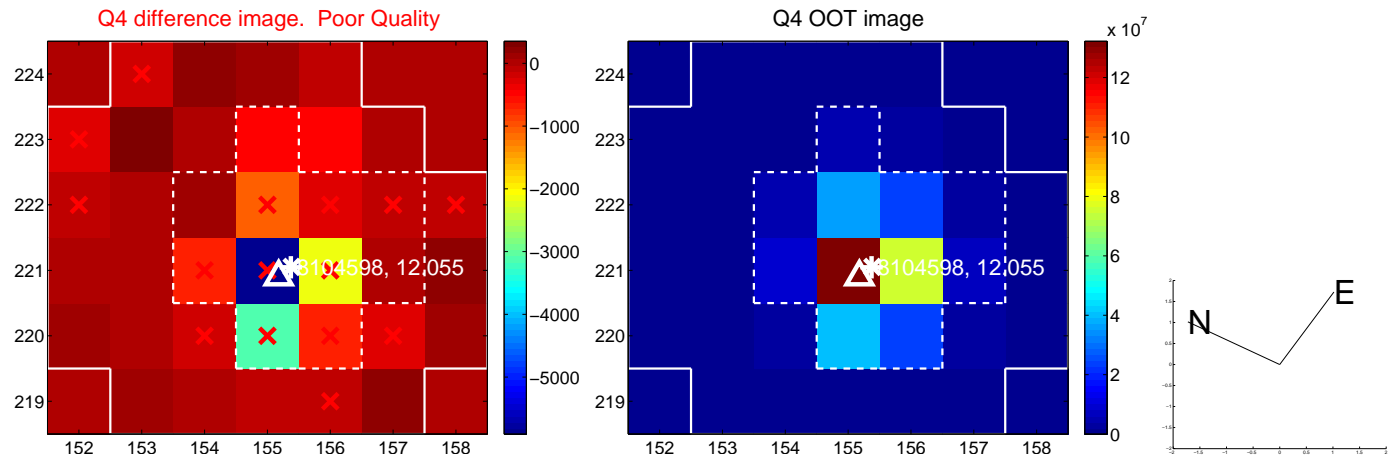
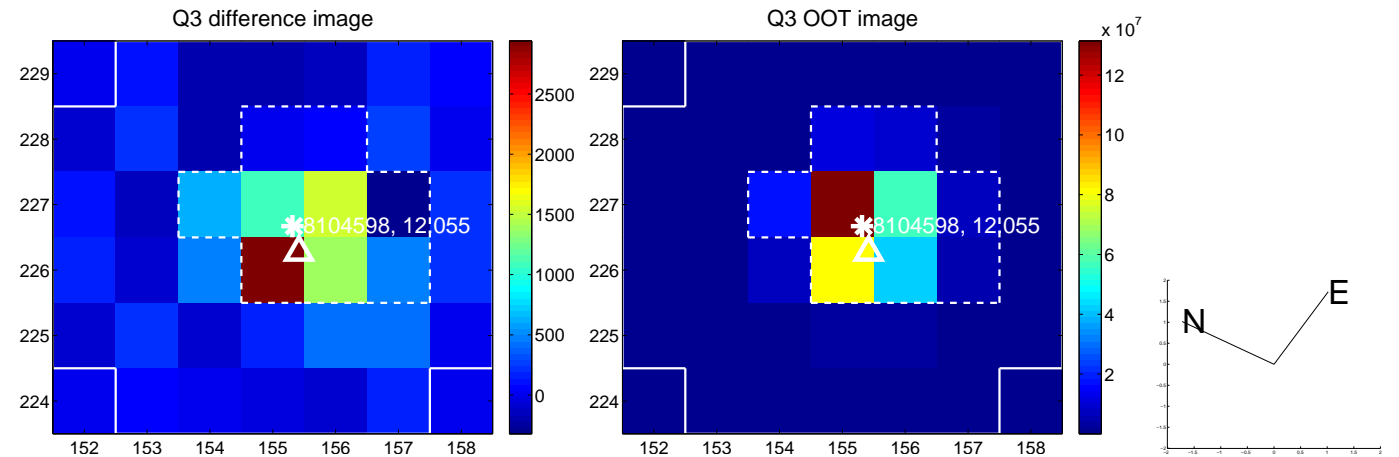
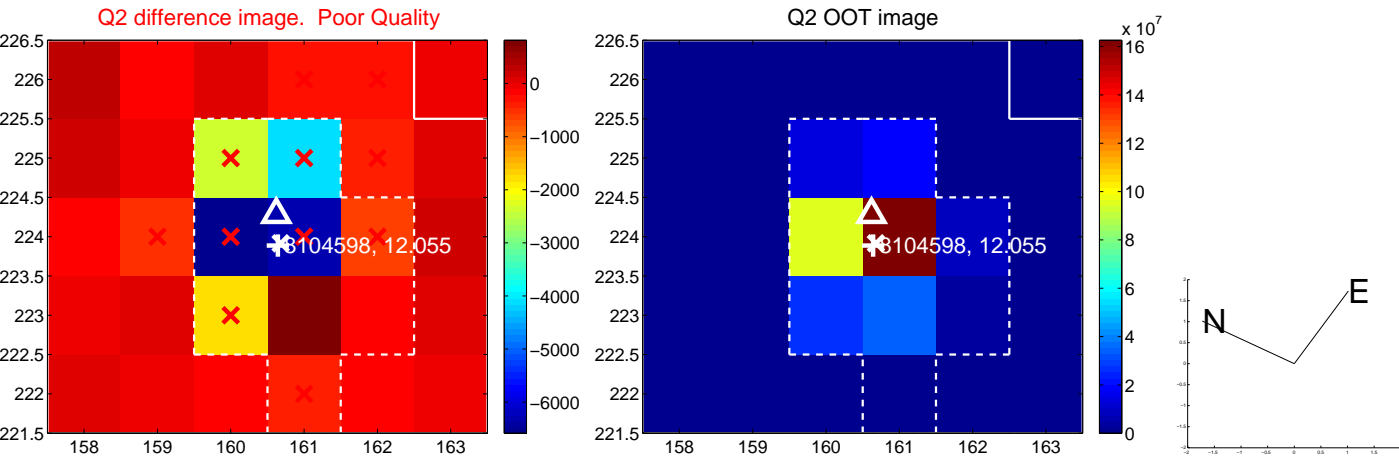
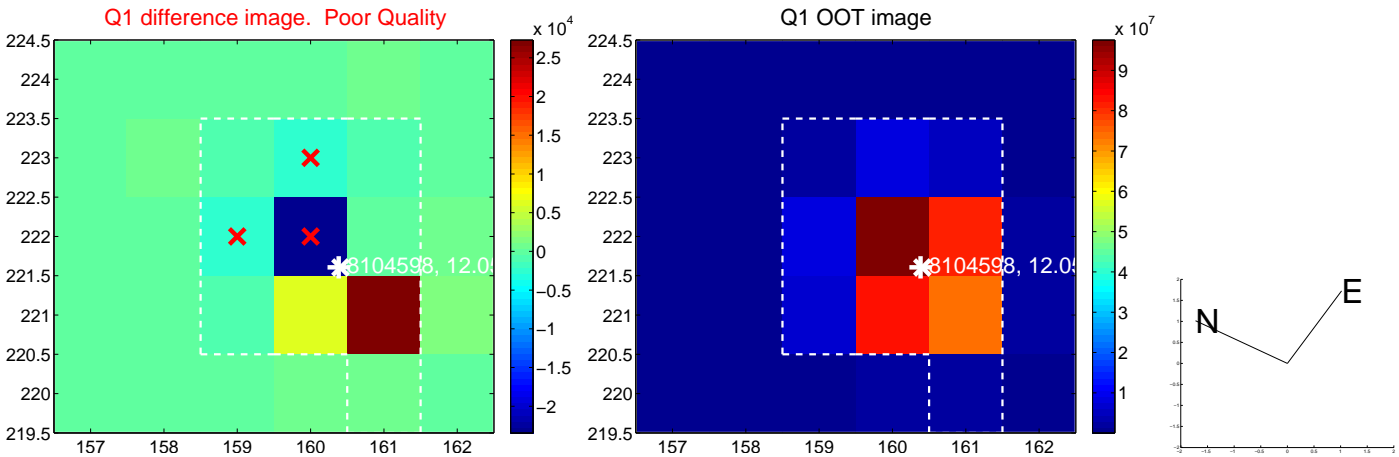
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.368 ± 0.263	1.40	0.252 ± 0.258	0.267 ± 0.197
PRF-fit source offset from KIC position	0.459 ± 0.262	1.75	0.271 ± 0.266	0.370 ± 0.205
photometric centroid source offset	0.28 ± 0.38	0.73	-0.22 ± 0.36	-0.17 ± 0.41

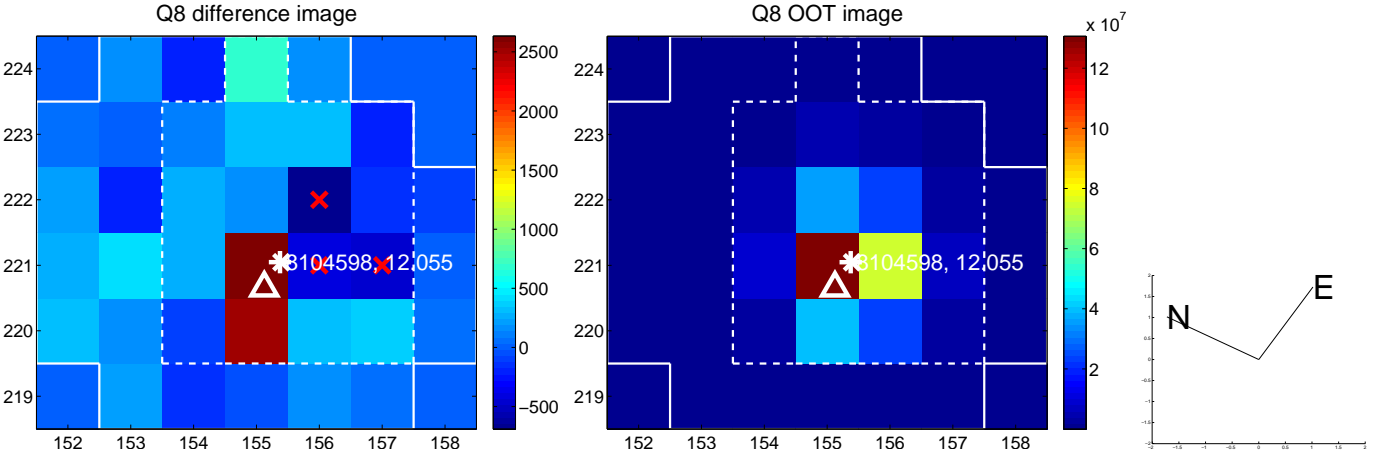
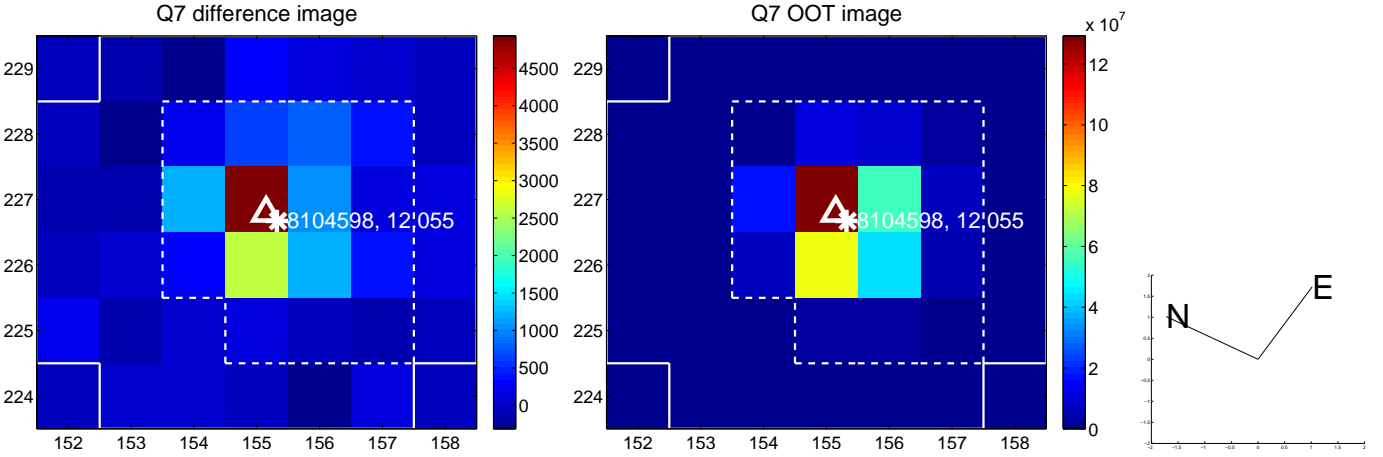
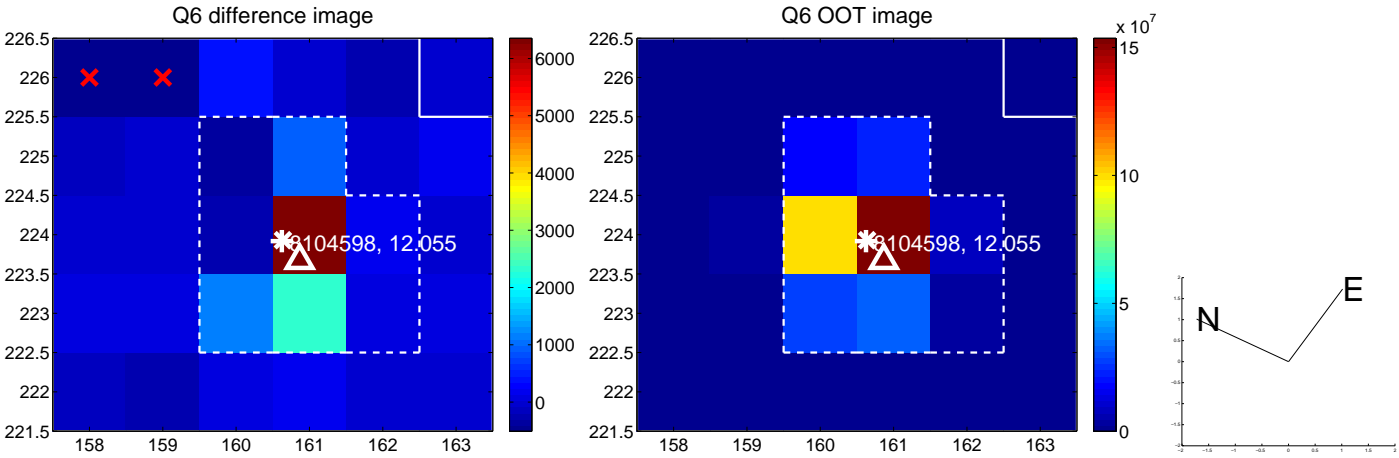
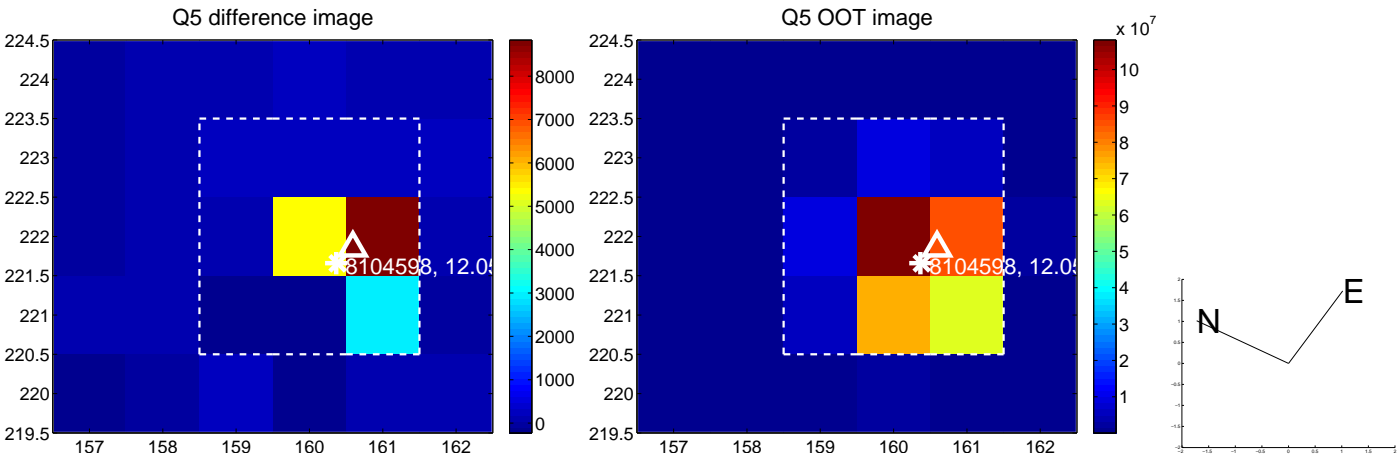


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

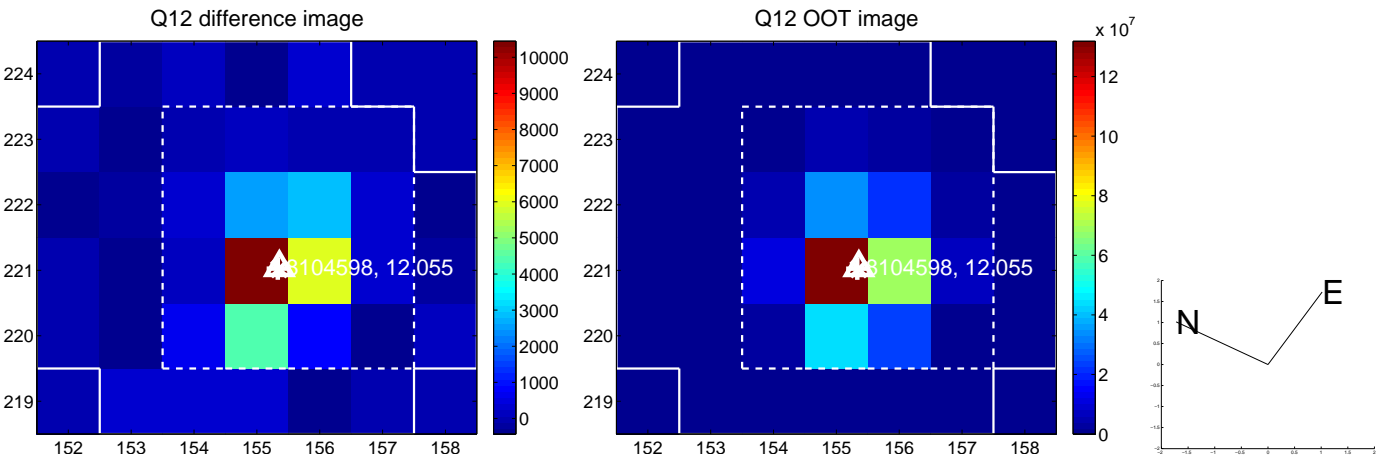
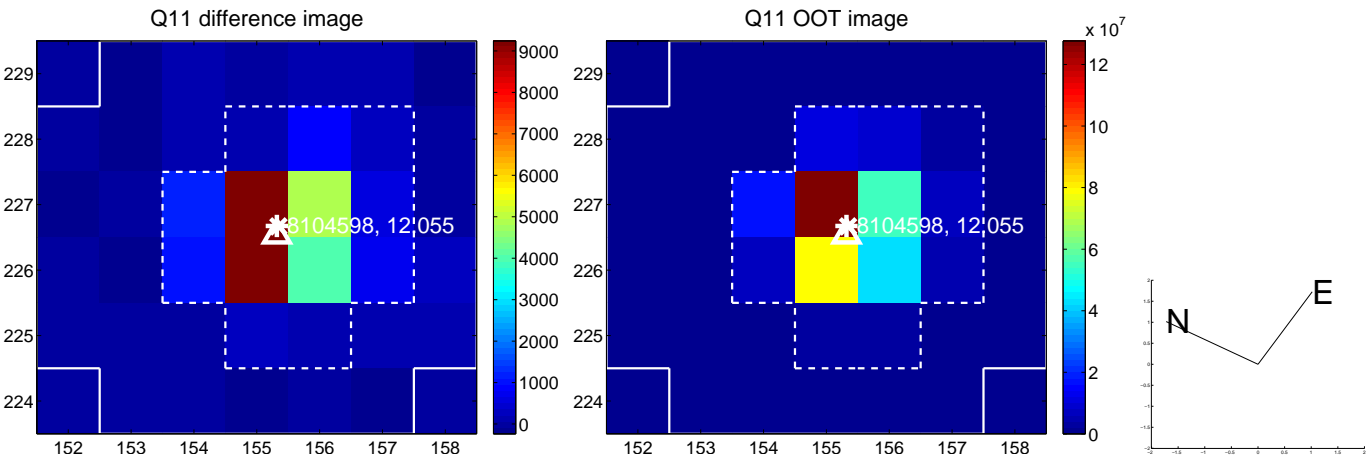
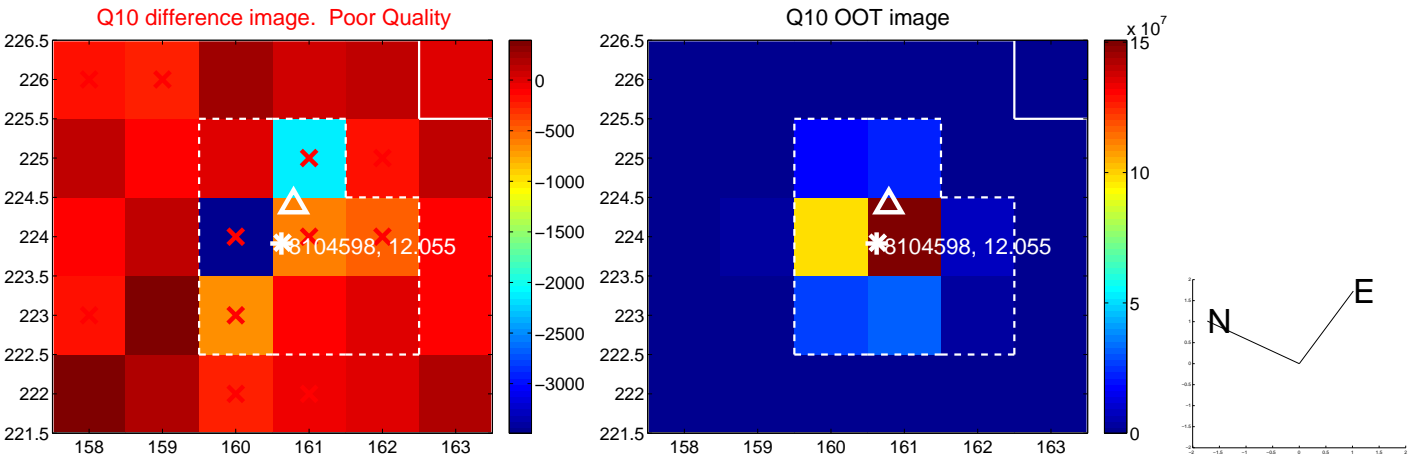
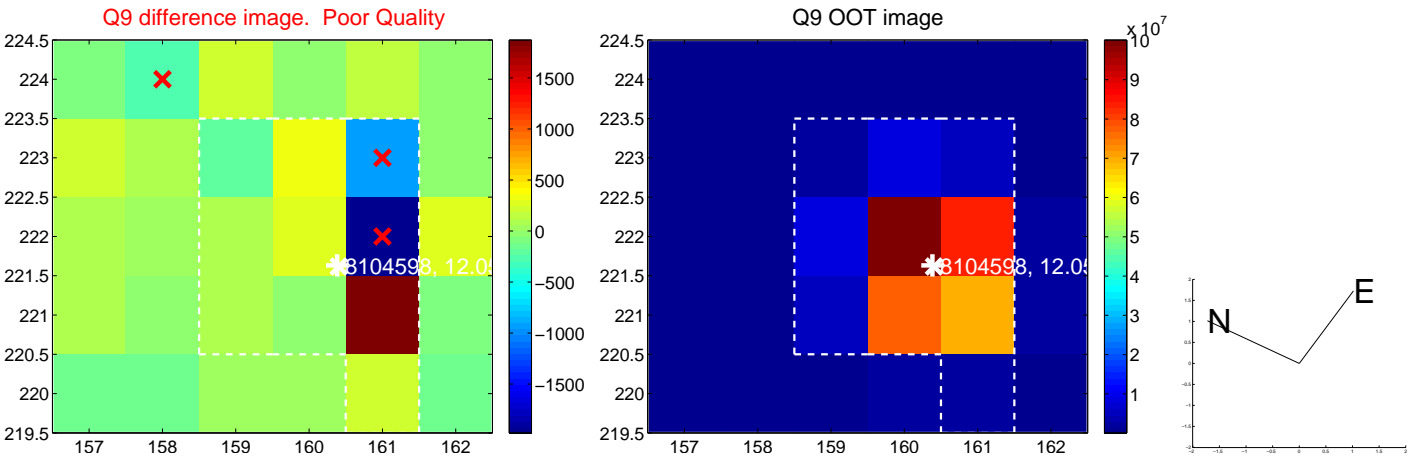
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



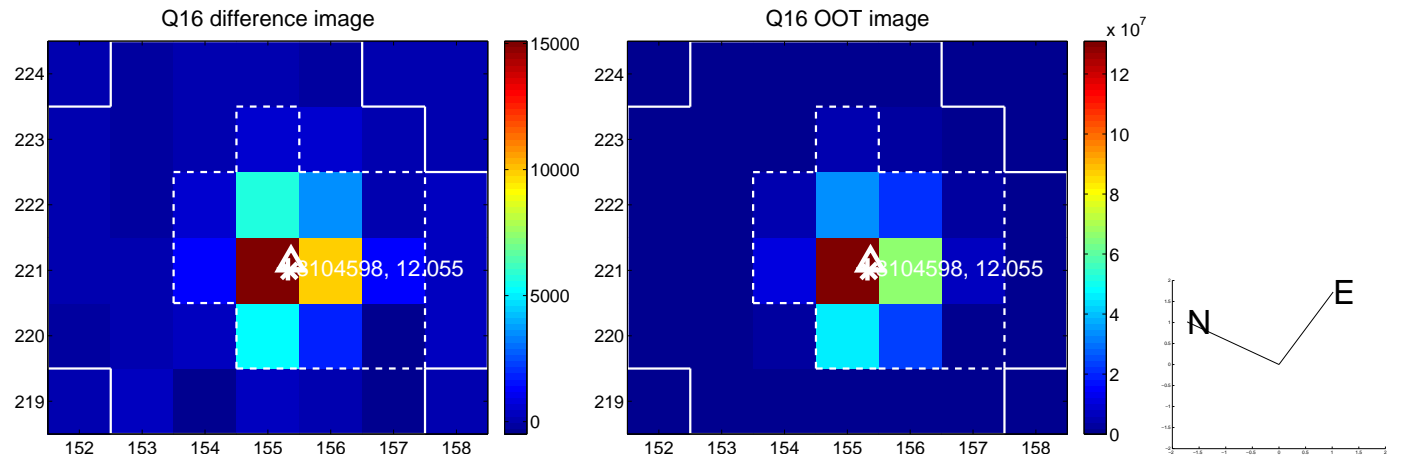
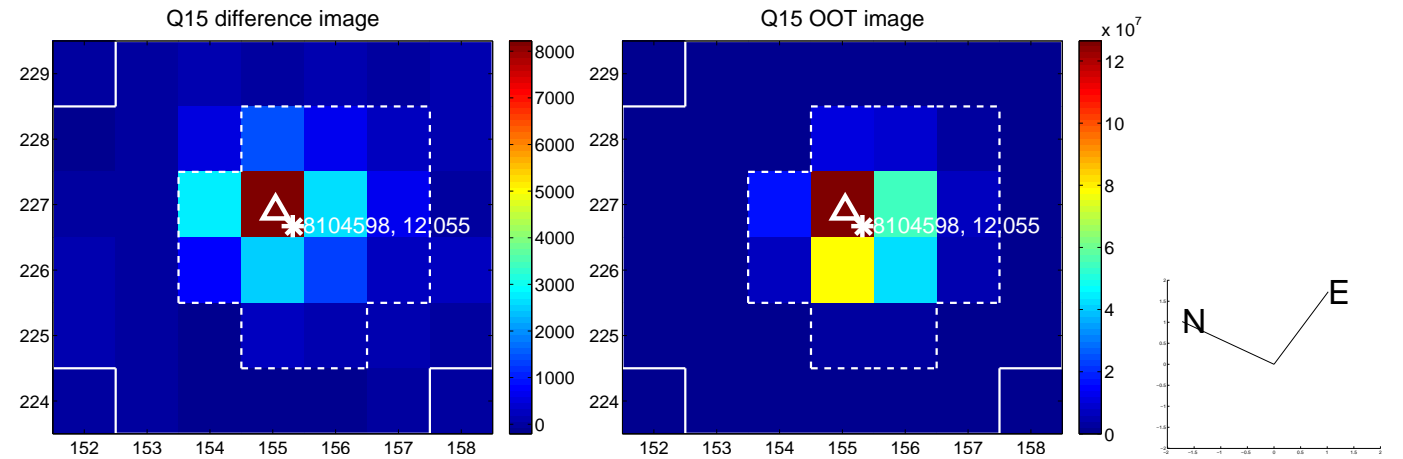
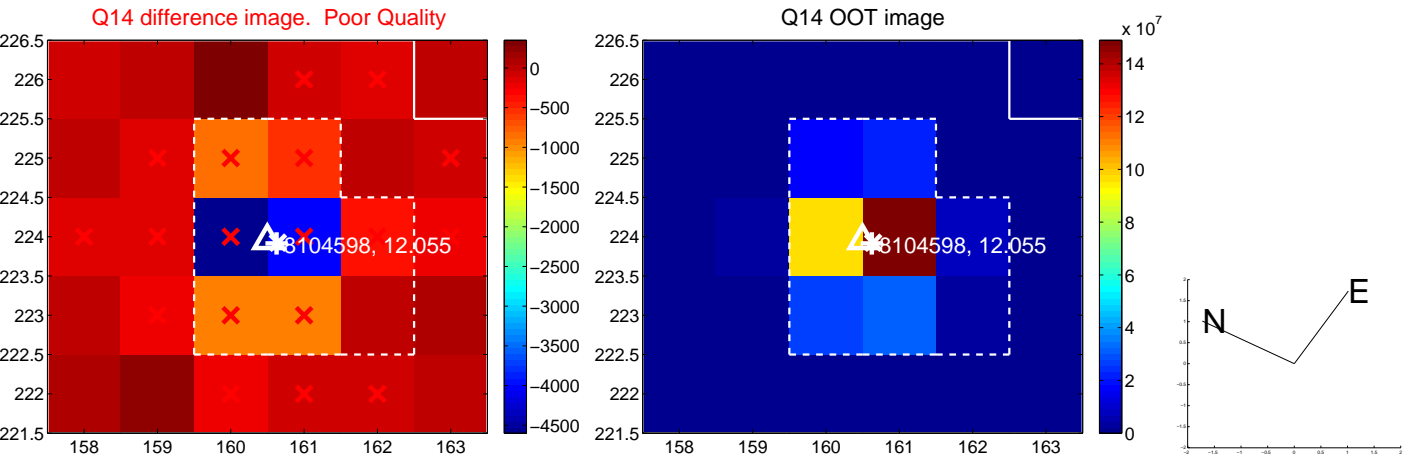
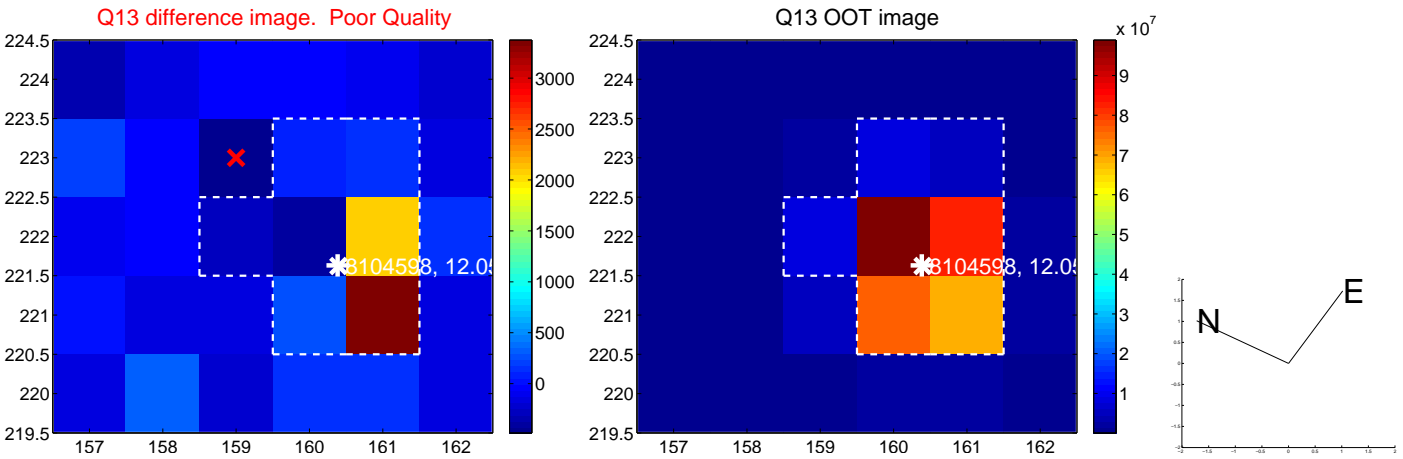
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



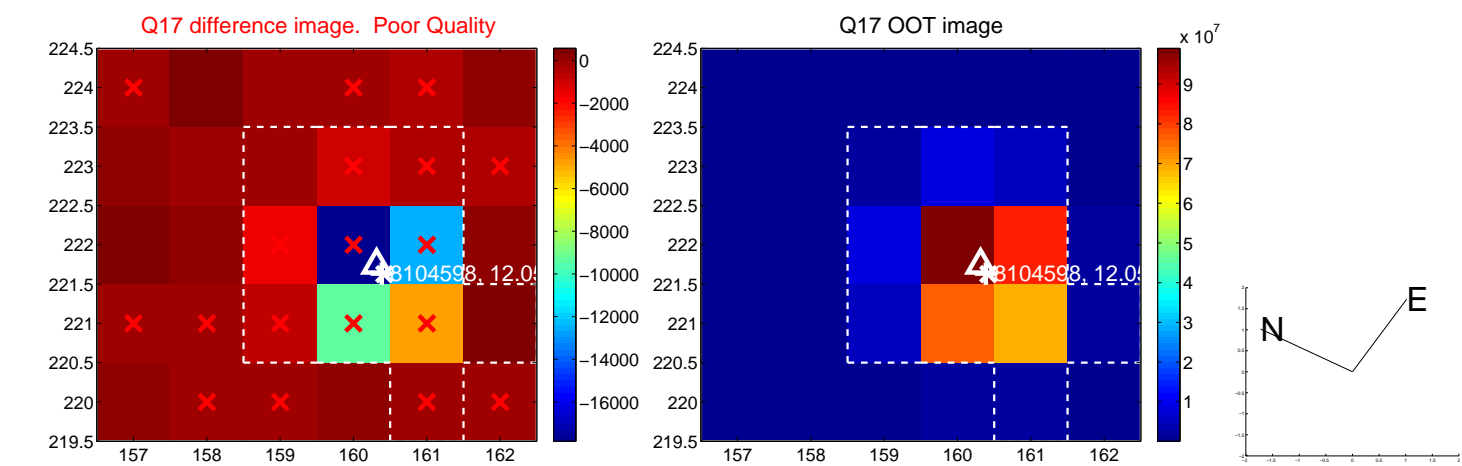
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



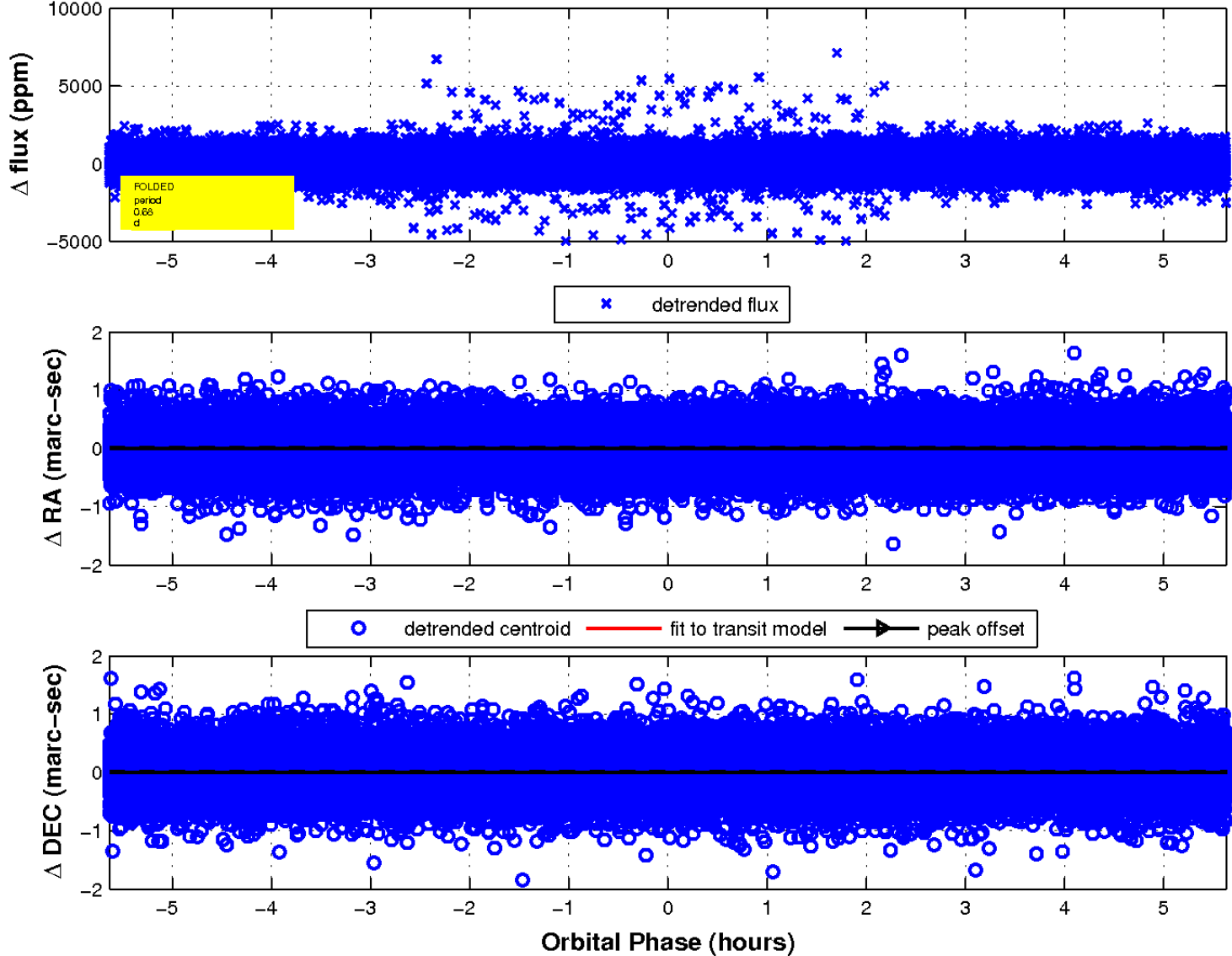
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

