

KIC 008098212

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})
008098212-01	OBS	4487.01	3.487519	134.164222	89.6	1.776	9.3	10.0	0.78	5252	0.90	225.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008098212-01	OBS	PC	0.98	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.

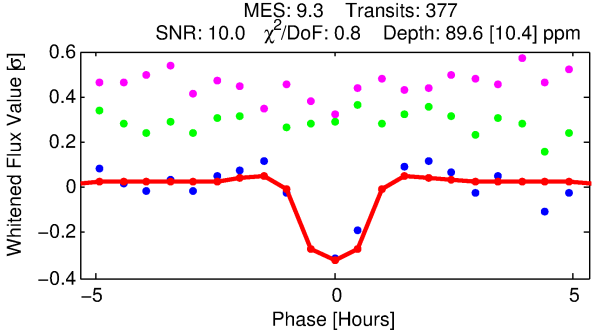
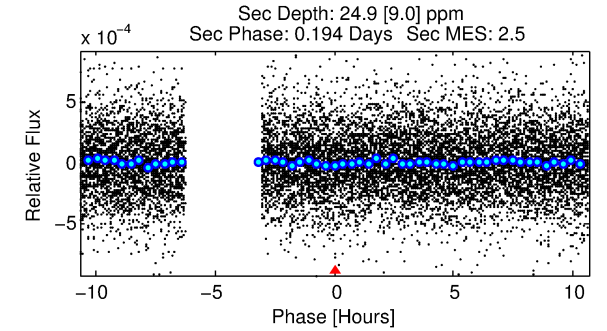
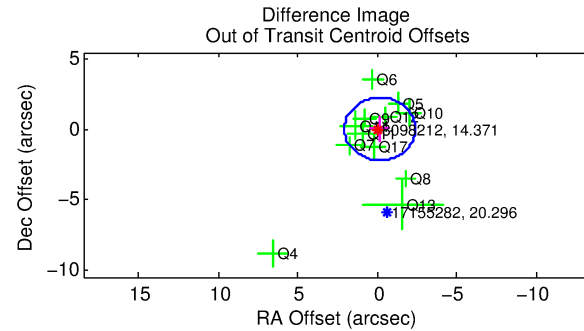
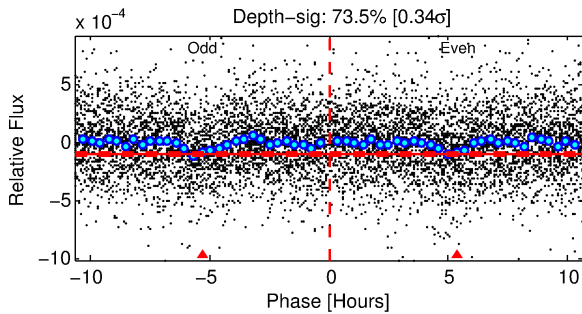
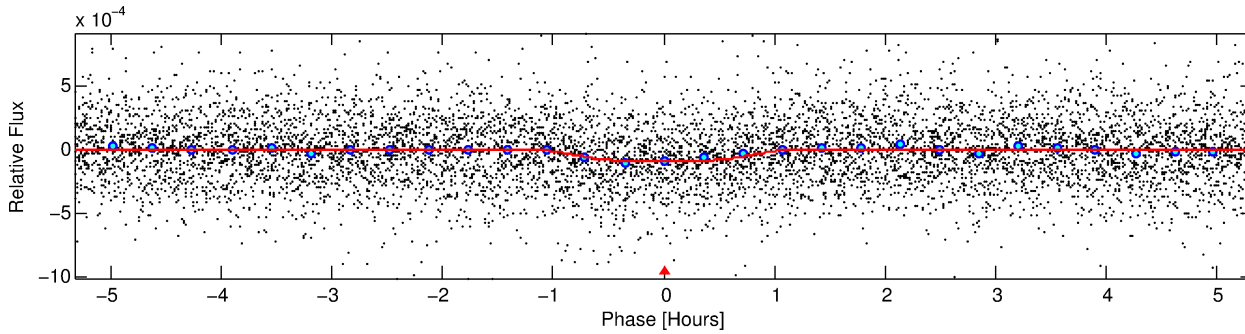
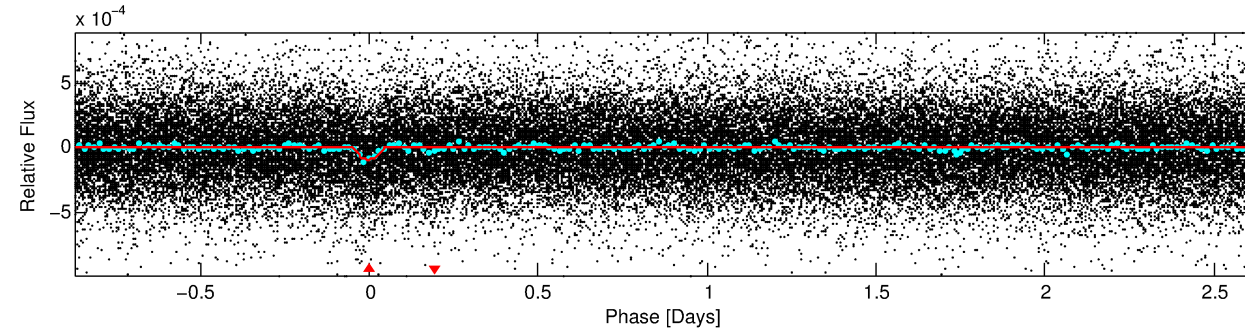
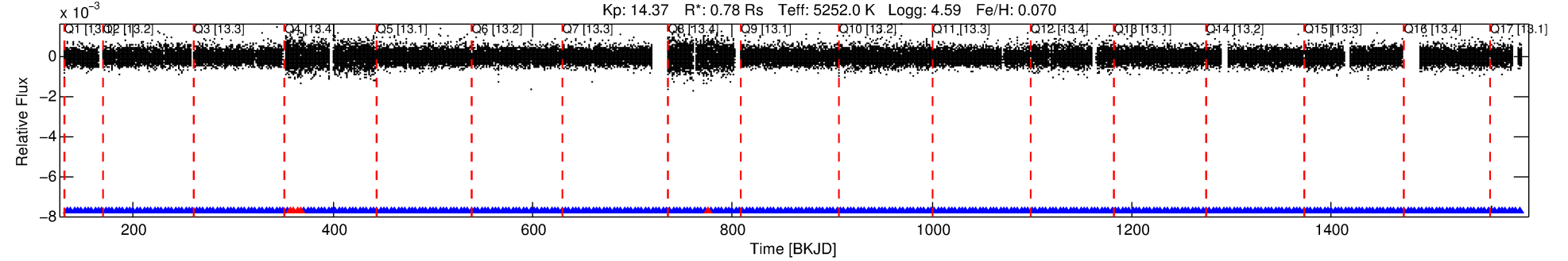
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008098212-01

No Significant Match Found

DV One-Page Summary

KIC: 8098212 Candidate: 1 of 1 Period: 3.488 d
KOI: K04487.01 Corr: 0.967



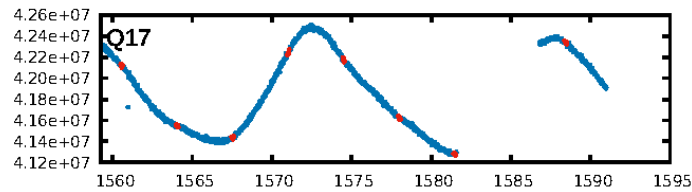
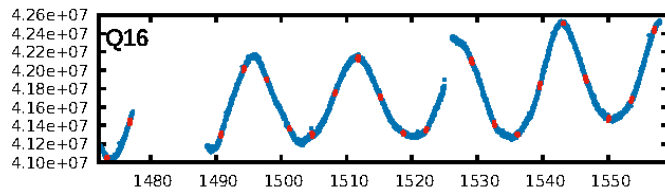
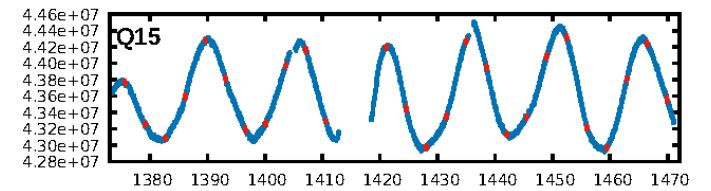
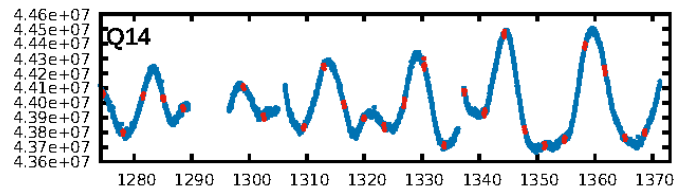
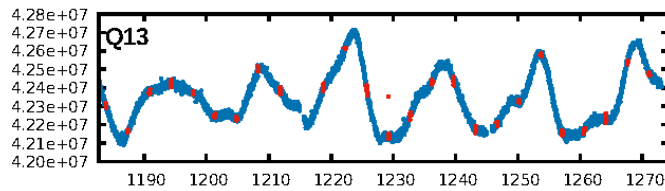
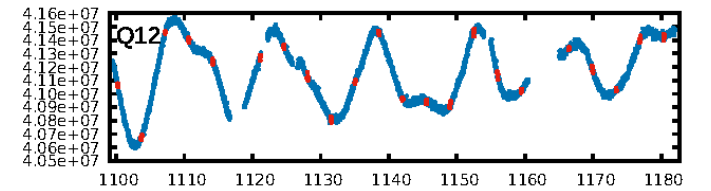
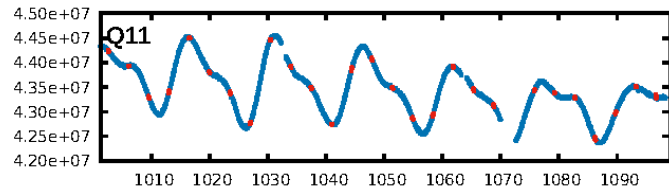
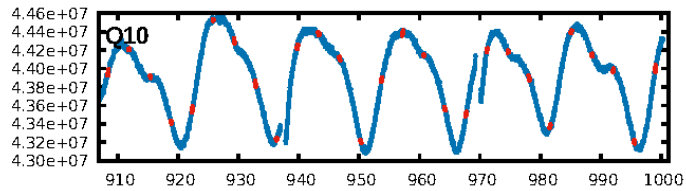
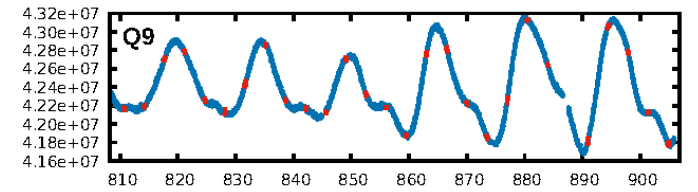
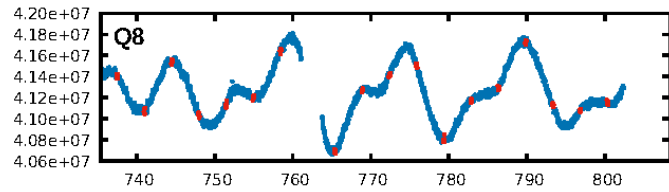
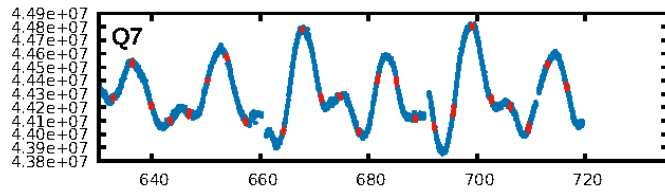
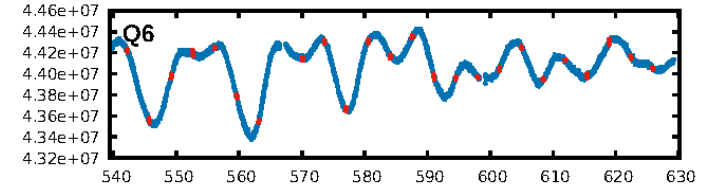
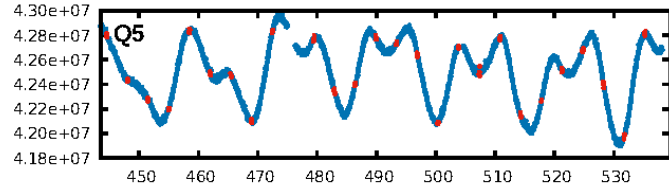
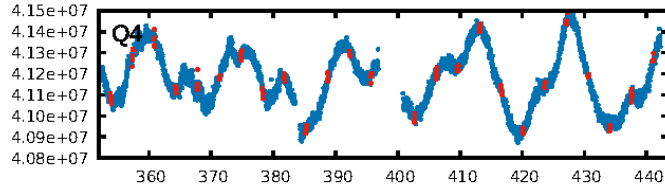
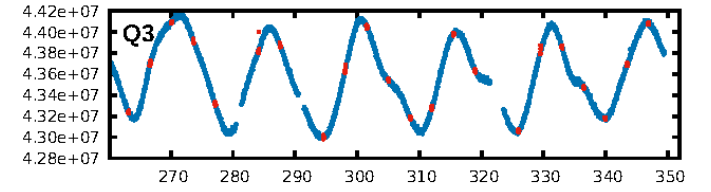
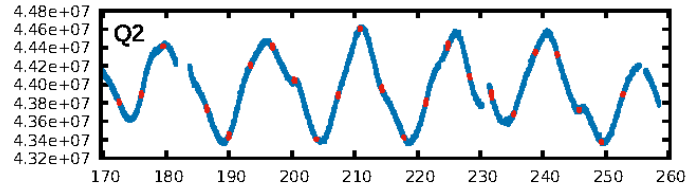
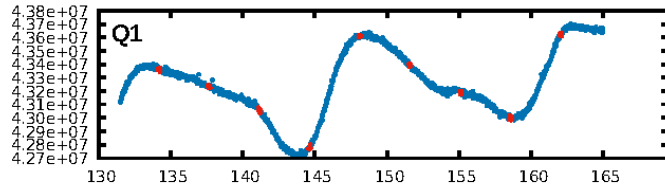
DV Fit Results:

Period = 3.48752 [0.00002] d
Epoch = 134.1642 [0.0030] BKJD
Rp/R* = 0.0106 [0.0082]
a/R* = 6.86 [21.99]
b = 0.90 [0.69]
Seff = 225.26 [36.43]
Teq = 988 [40] K
Rp = 0.90 [0.70] Re
a = 0.0431 [0.0041] AU
Ag = 31.24 [49.86] [0.61 σ]
Teffp = 3611 [1435] K [1.83 σ]

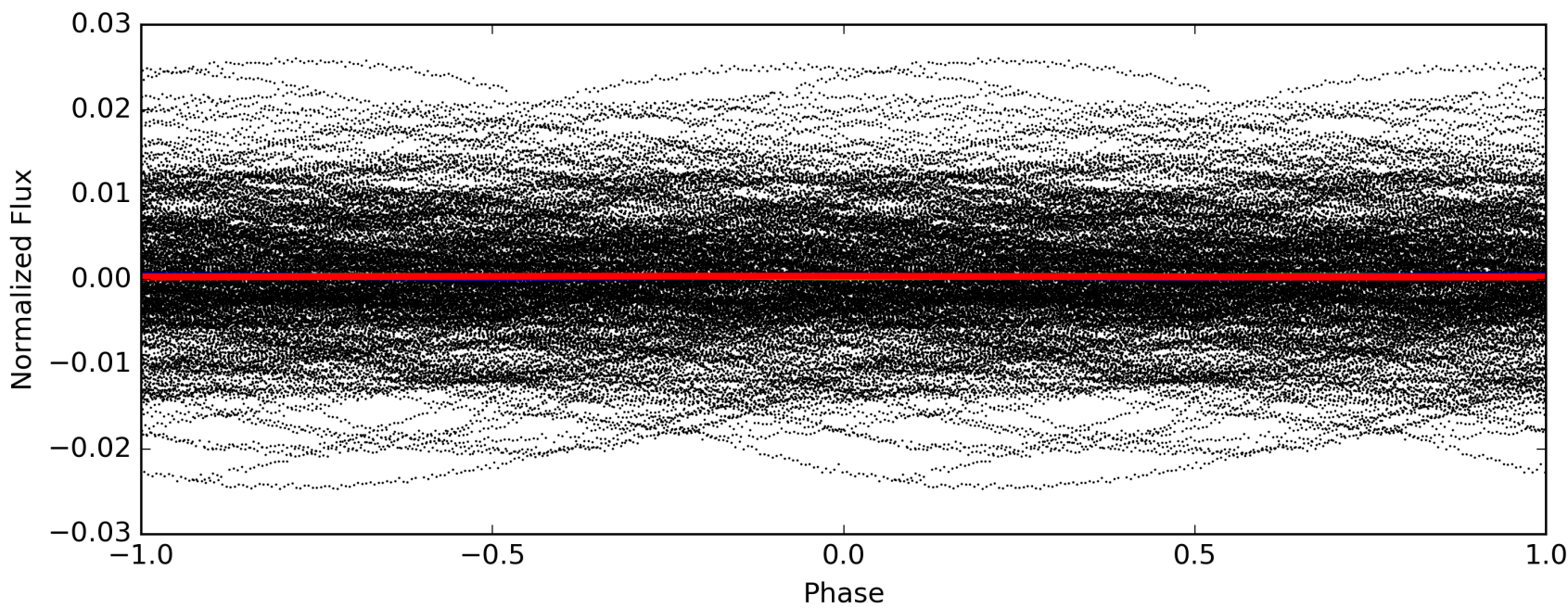
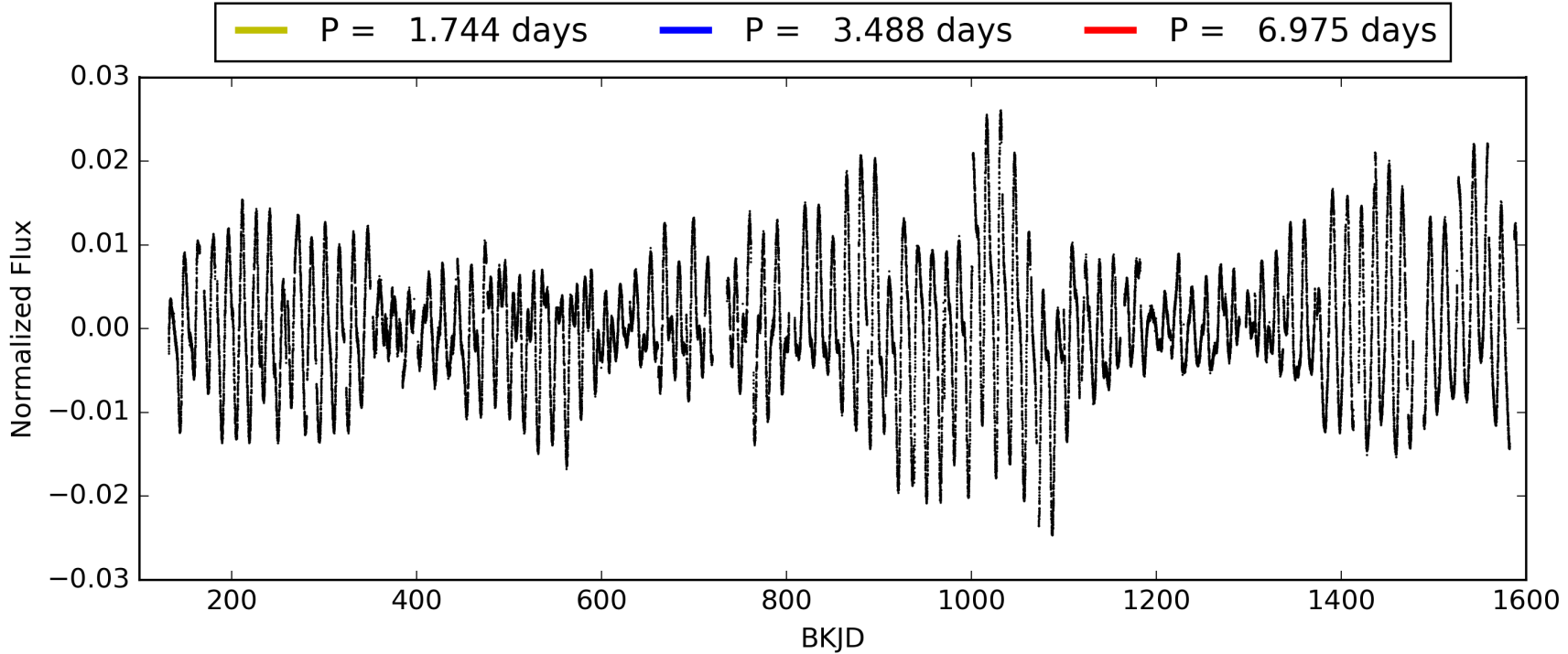
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.78e-20
RollingBand-fgt: 0.99 [355/360]
GhostDiagnostic-chr: -38.12
Centroid-sig: N/A
Centroid-so: 1.219 arcsec [1.16 σ]
OotOffset-rm: 0.148 arcsec [0.20 σ]
OotOffset-st: 3/2/3/4 [12]
KicOffset-rm: 0.273 arcsec [0.27 σ]
KicOffset-st: 3/2/3/4 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008098212-01, PDC Light Curves

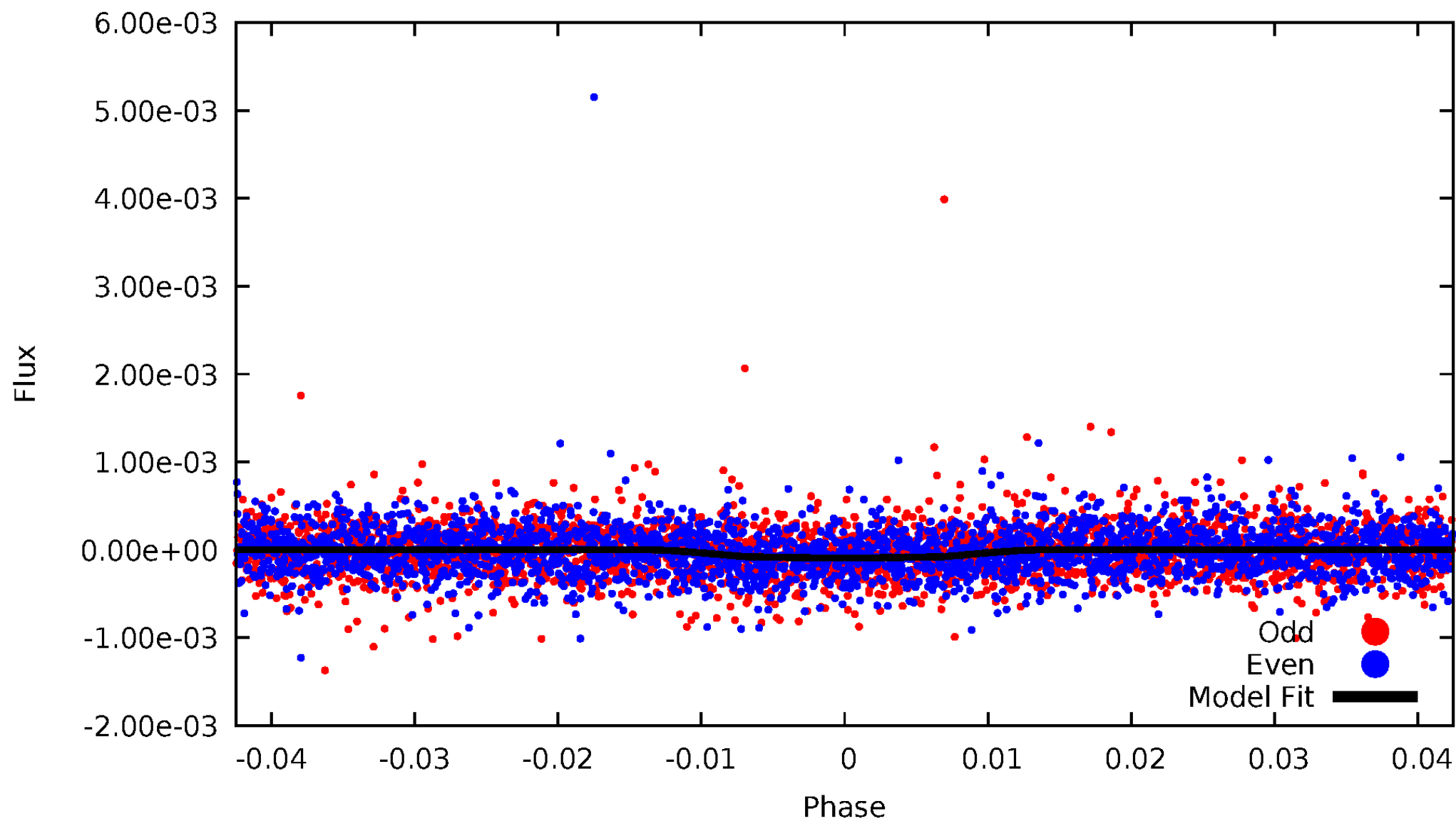


TCE 008098212-01



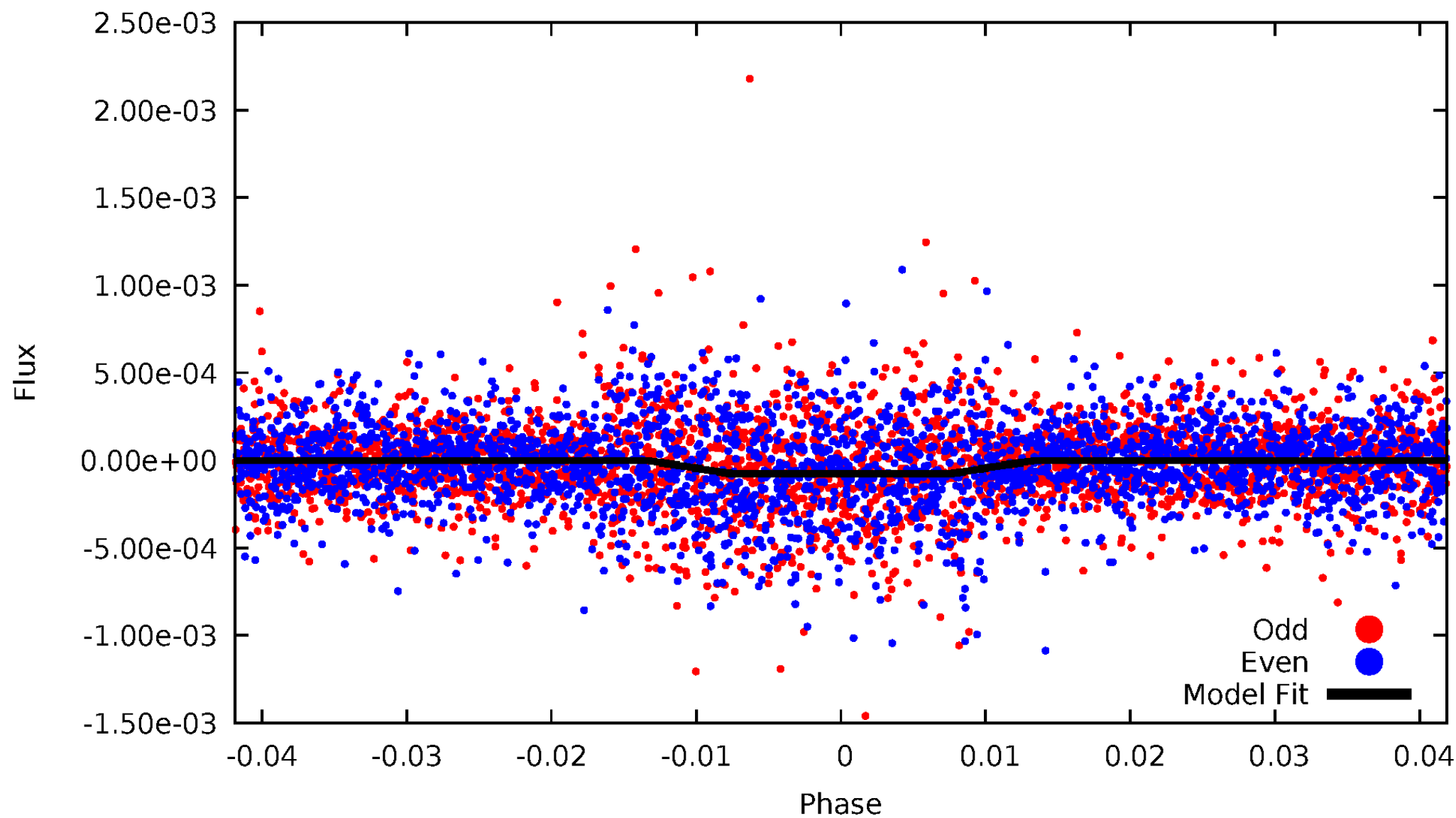
DV Odd/Even

TCE 008098212-01



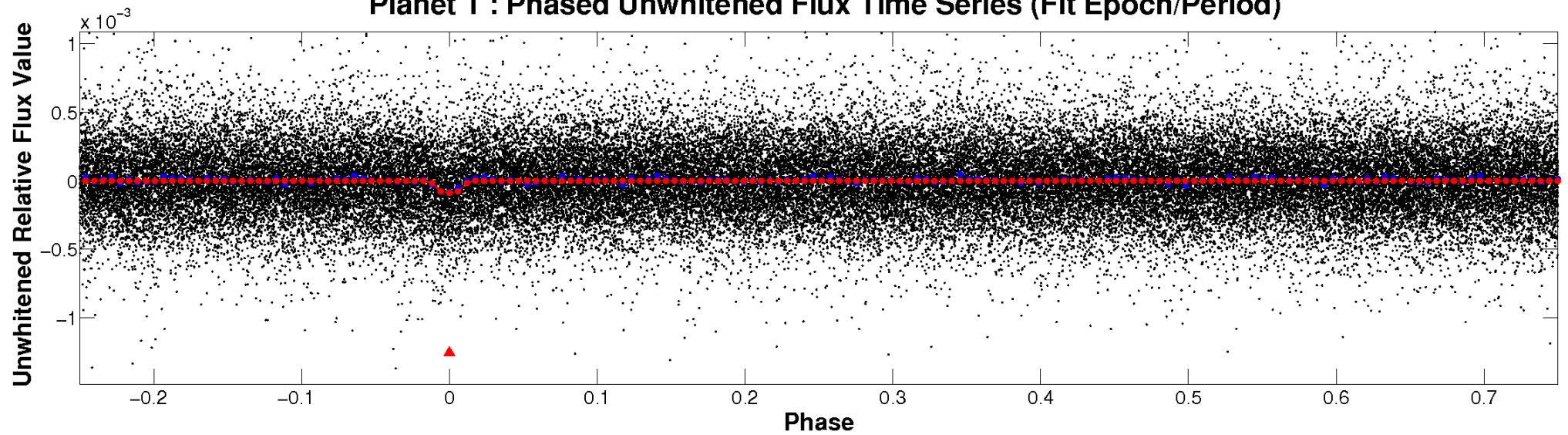
ALT Odd/Even

TCE 008098212-01

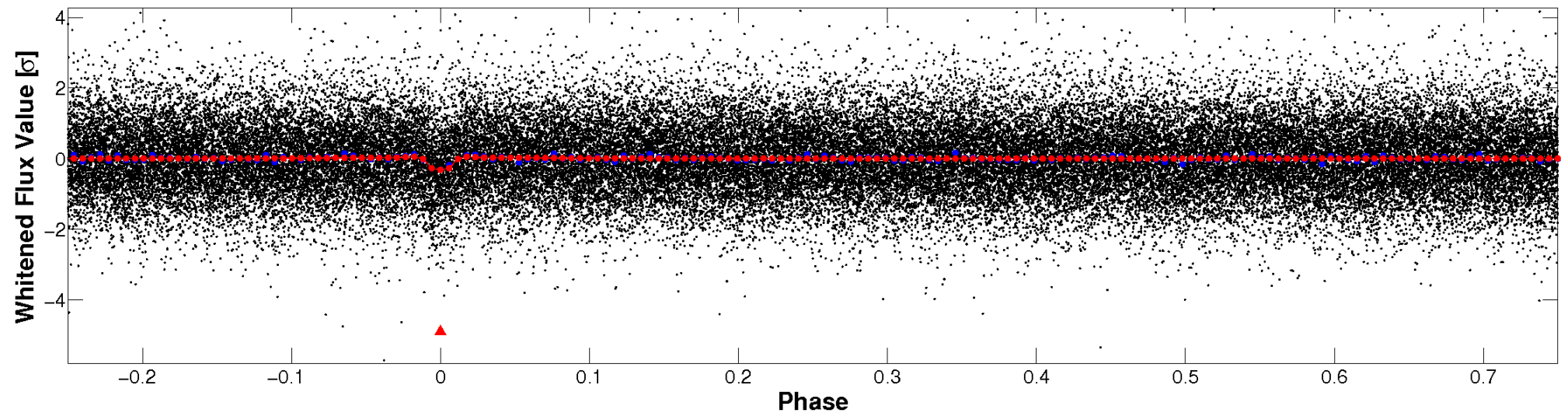


Non-Whitened Vs. Whitened Light Curve

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

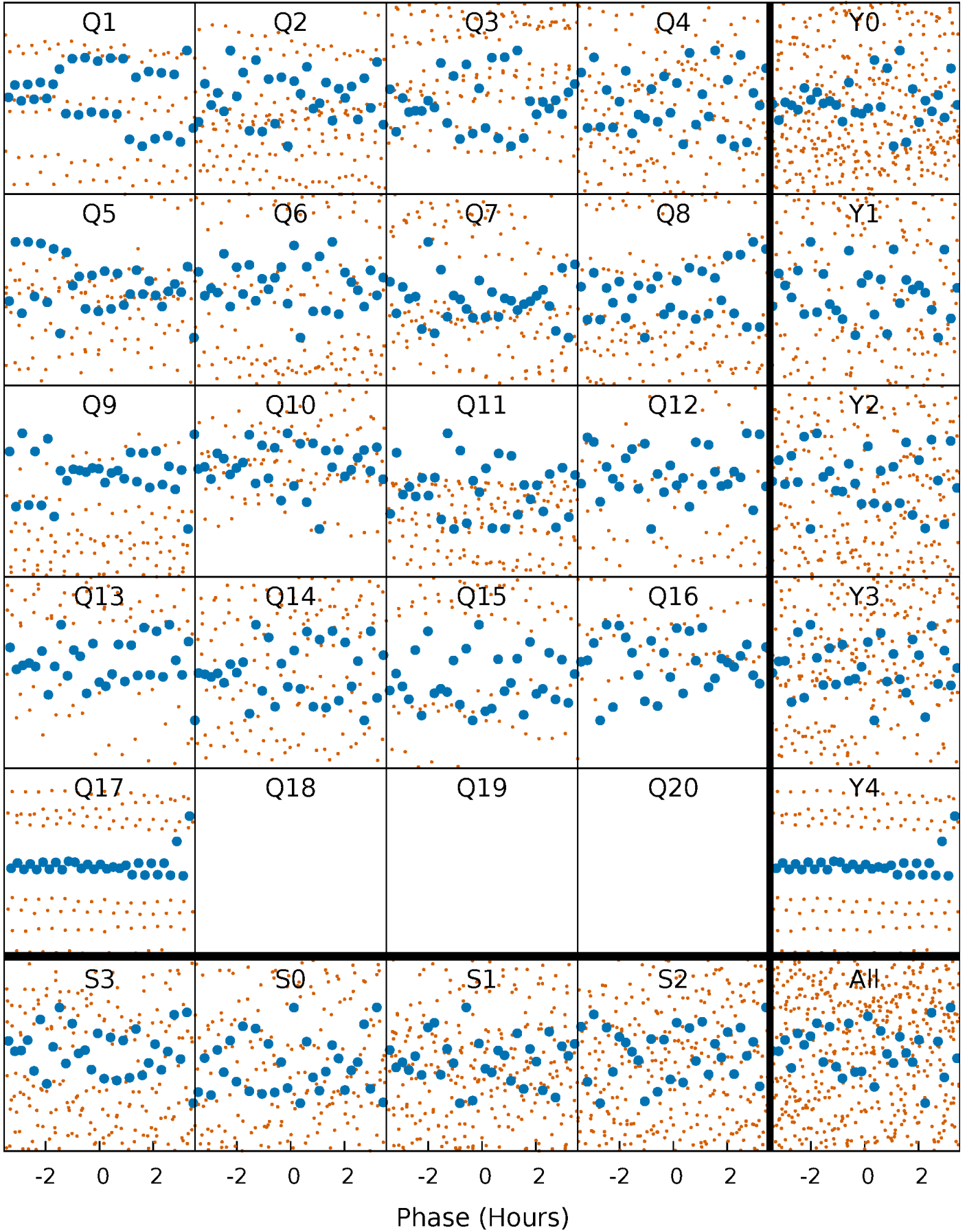


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



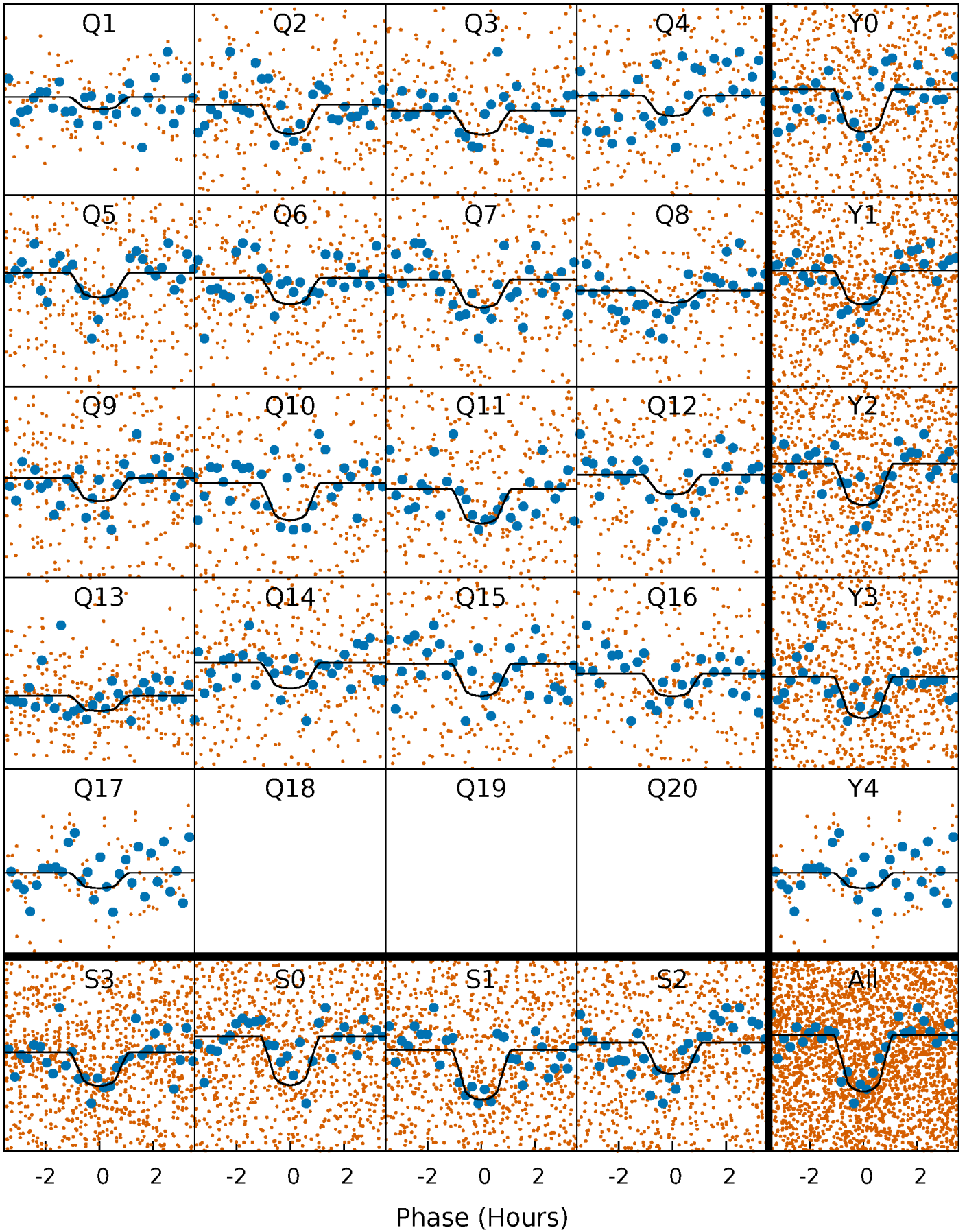
PDC Quarter-Phased Transit Curves

TCE 008098212-01 P= 3.487519 Days $T_0=134.164221$ (BKJD)



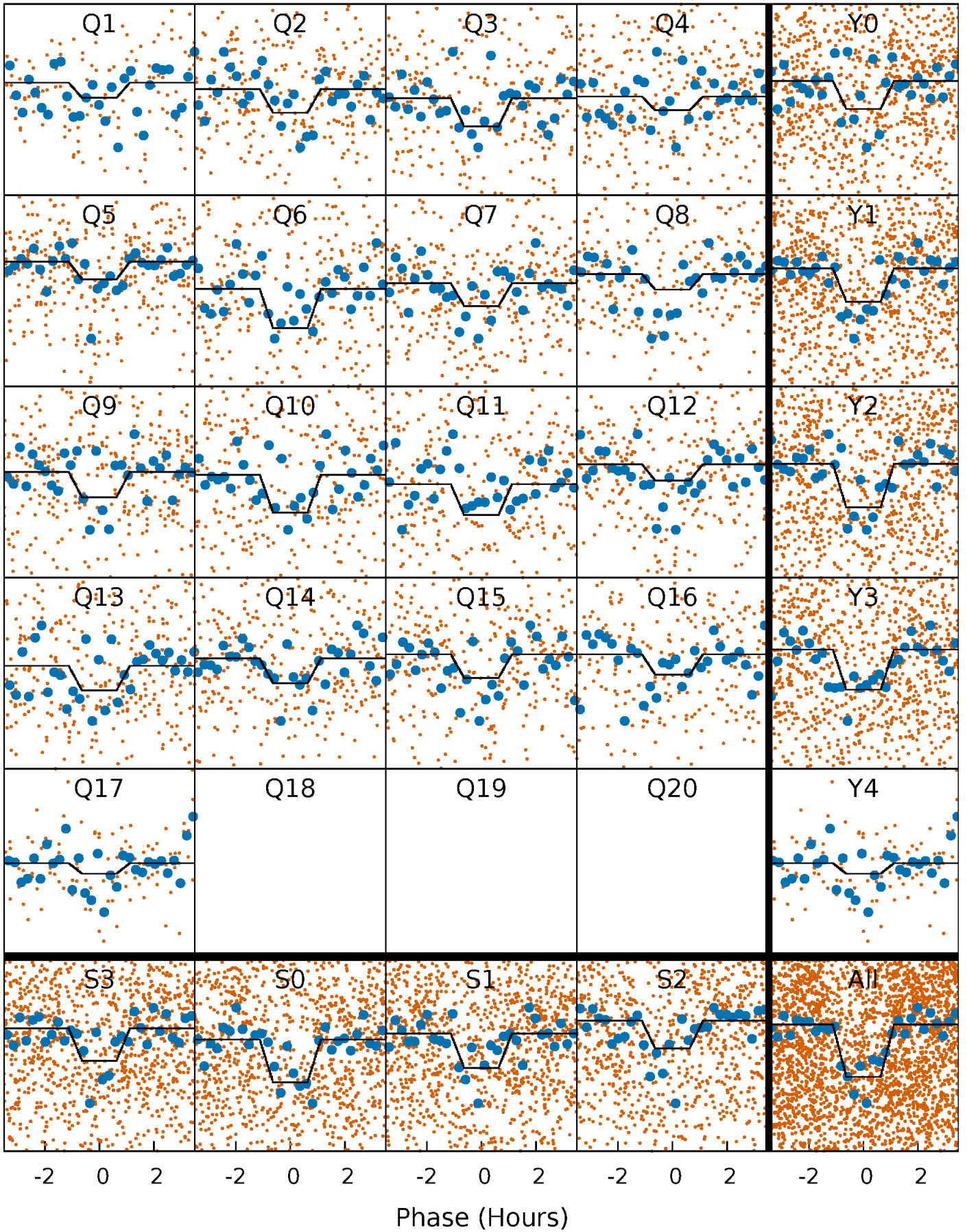
DV Quarter-Phased Transit Curves

TCE 008098212-01 P= 3.487519 Days $T_0=134.164221$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

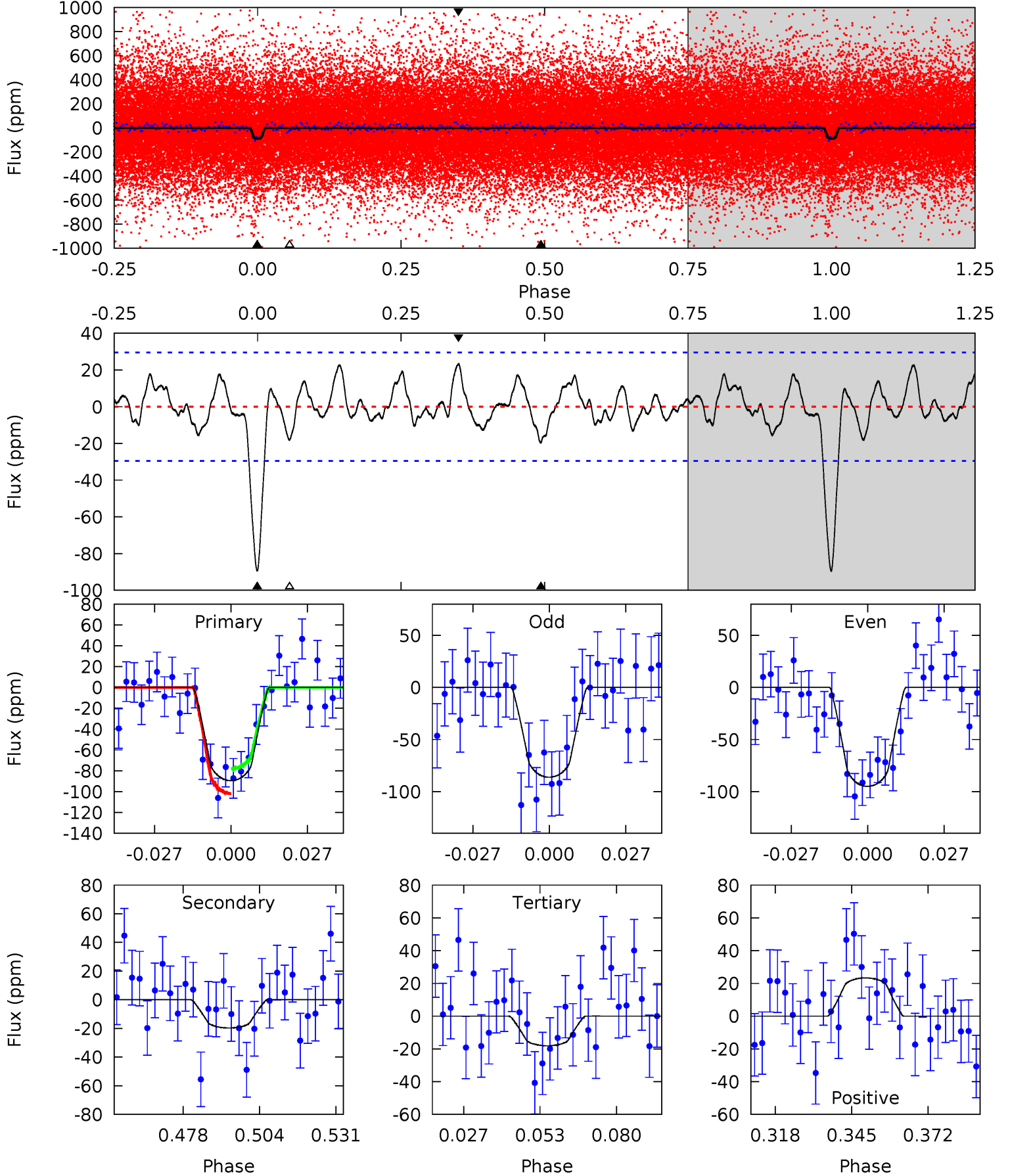
TCE 008098212-01 P= 3.487549 Days $T_0=134.159822$ (BKJD)



DV Model-Shift Uniqueness Test

008098212-01, P = 3.487519 Days, E = 130.676702 Days

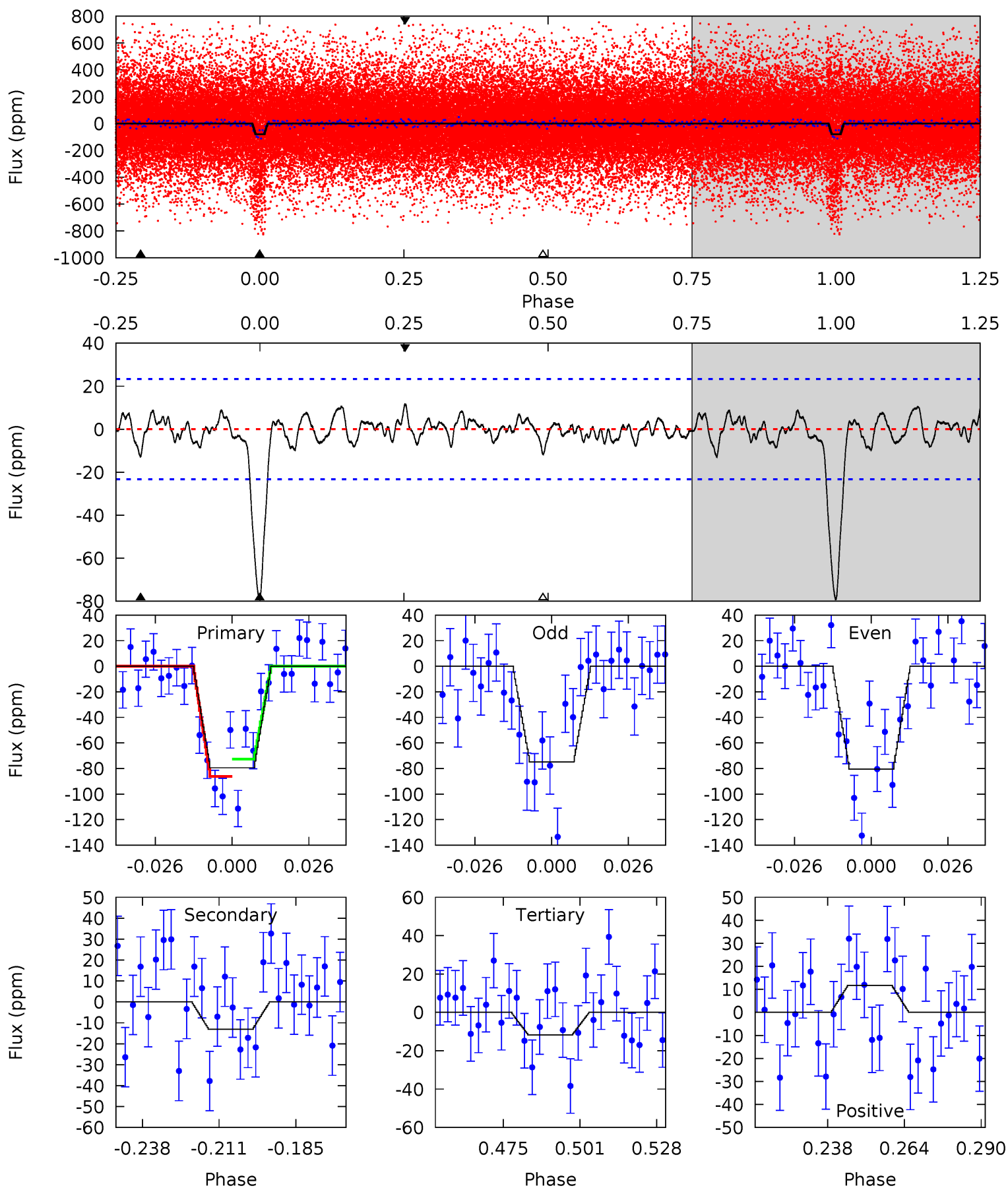
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	3.22	2.97	3.82	4.84	2.22	1.37	11.7	10.8	0.26	-0.59	0.72	1.05	0.21	1.95



Alt Model-Shift Uniqueness Test

008098212-01, P = 3.487549 Days, E = 130.672273 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	2.72	2.45	2.44	4.84	2.22	0.86	14.0	14.1	0.27	0.28	0.58	0.98	0.13	1.41



Stellar Parameters For KIC 008098212

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5252^{+73}_{-84}	$4.593^{+0.009}_{-0.086}$	$0.070^{+0.150}_{-0.150}$	$0.783^{+0.080}_{-0.023}$	$0.896^{+0.033}_{-0.060}$	$2.623^{+0.139}_{-0.663}$
	+1%/-2%	+0%/-2%	+214%/-214%	+10%/-3%	+4%/-7%	+5%/-25%
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 008098212-01 / KOI 4487.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-20 ± 6	$1.01^{+0.73}_{-0.59}$	1401^{+34}_{-31}	3652^{+1480}_{-616}	20^{+94}_{-13}
Alt.	-13 ± 5	$0.96^{+0.68}_{-0.58}$	1399^{+41}_{-31}	3461^{+1336}_{-585}	14^{+72}_{-10}

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

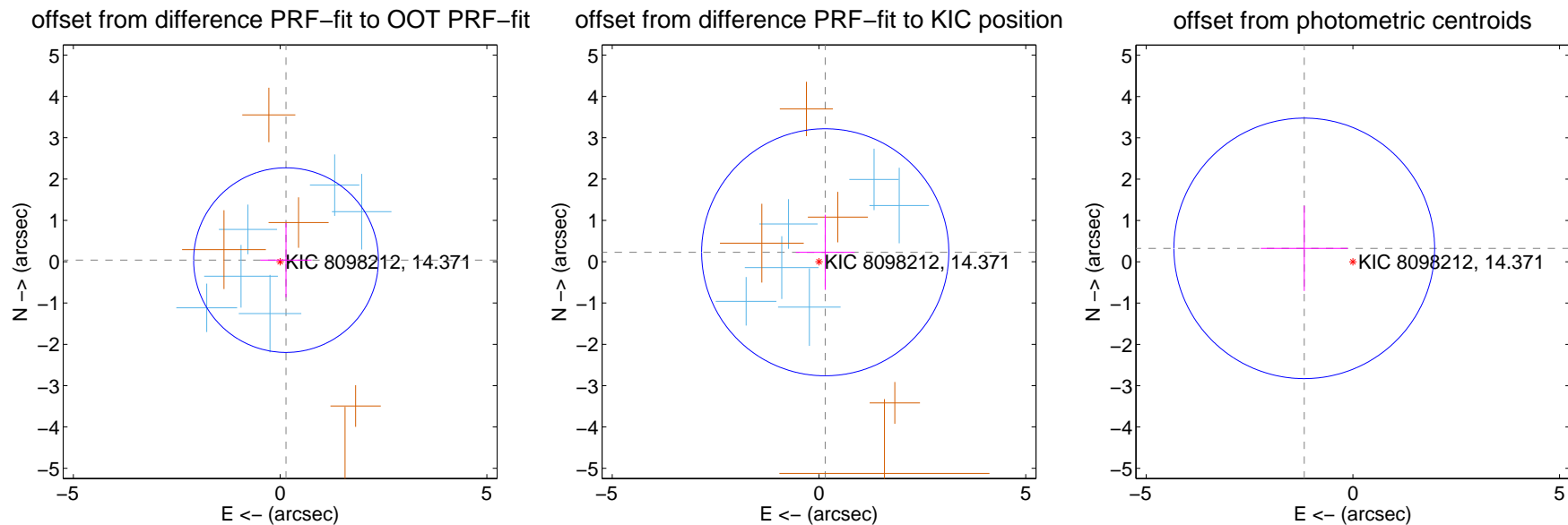
DV Centroid Data

Supplemental centroid analysis for 008098212-01. Kepler magnitude: 14.37. Transit SNR 10.01

There are 6 quarters with good PRF difference image offsets

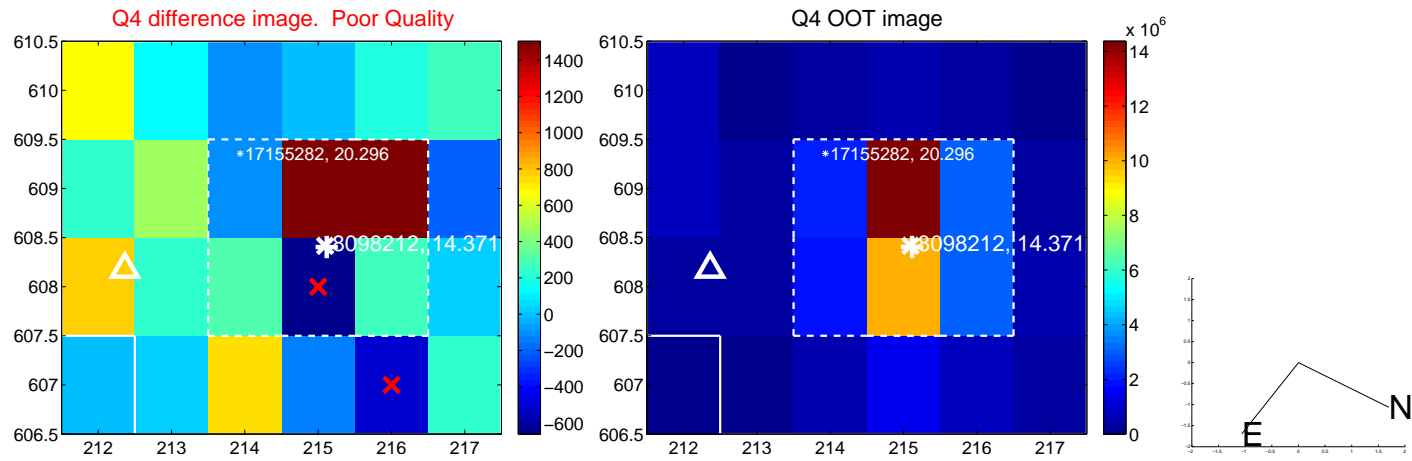
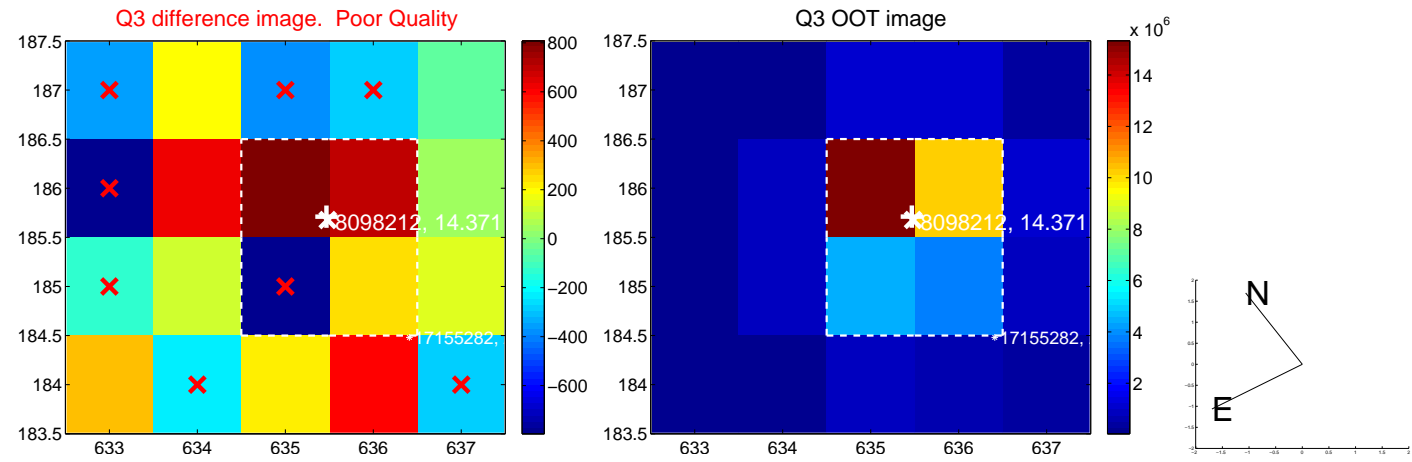
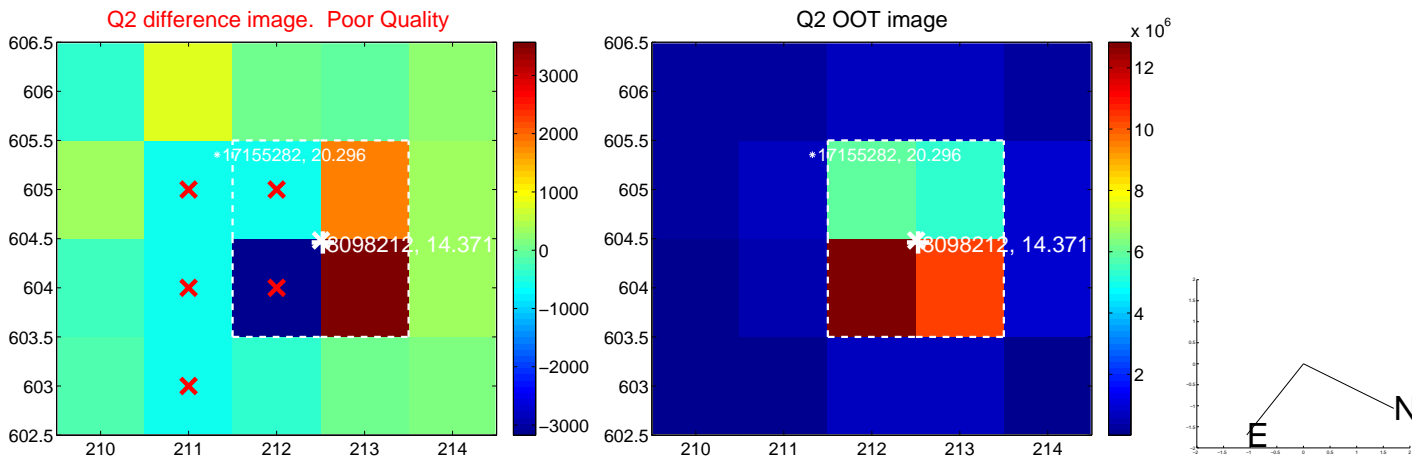
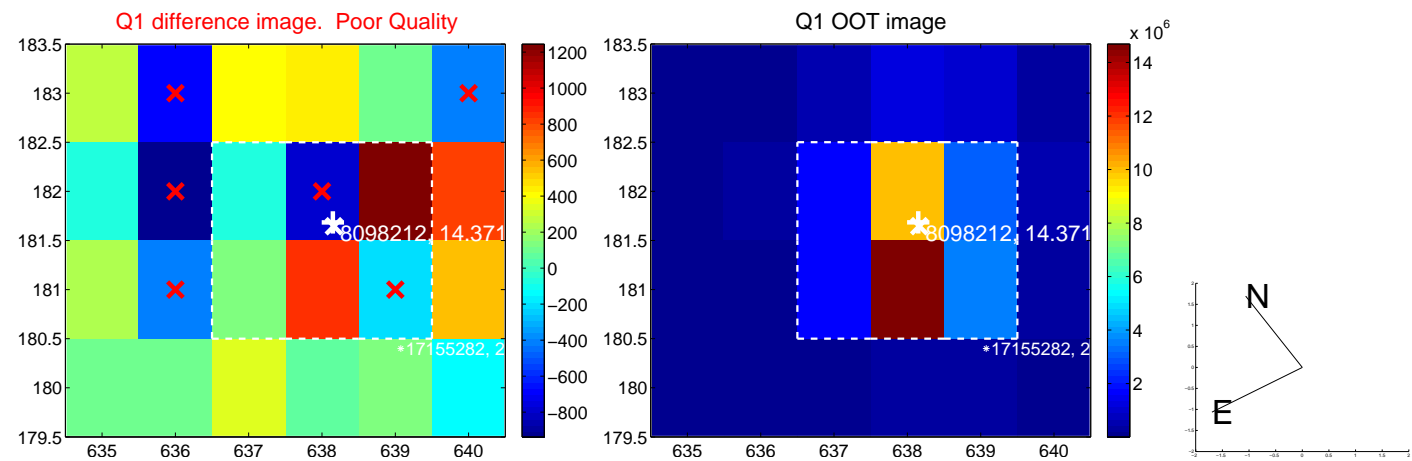
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.148 ± 0.745	0.20	-0.143 ± 0.621	0.038 ± 0.899
PRF-fit source offset from KIC position	0.273 ± 0.996	0.27	-0.150 ± 0.709	0.228 ± 0.908
photometric centroid source offset	1.22 ± 1.05	1.16	1.18 ± 1.05	0.32 ± 1.03

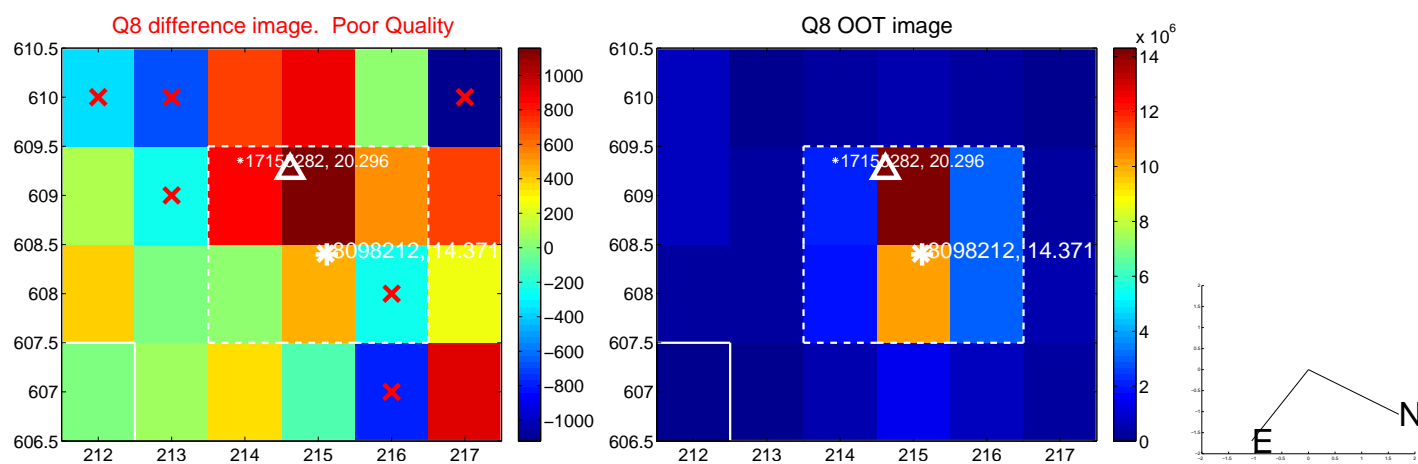
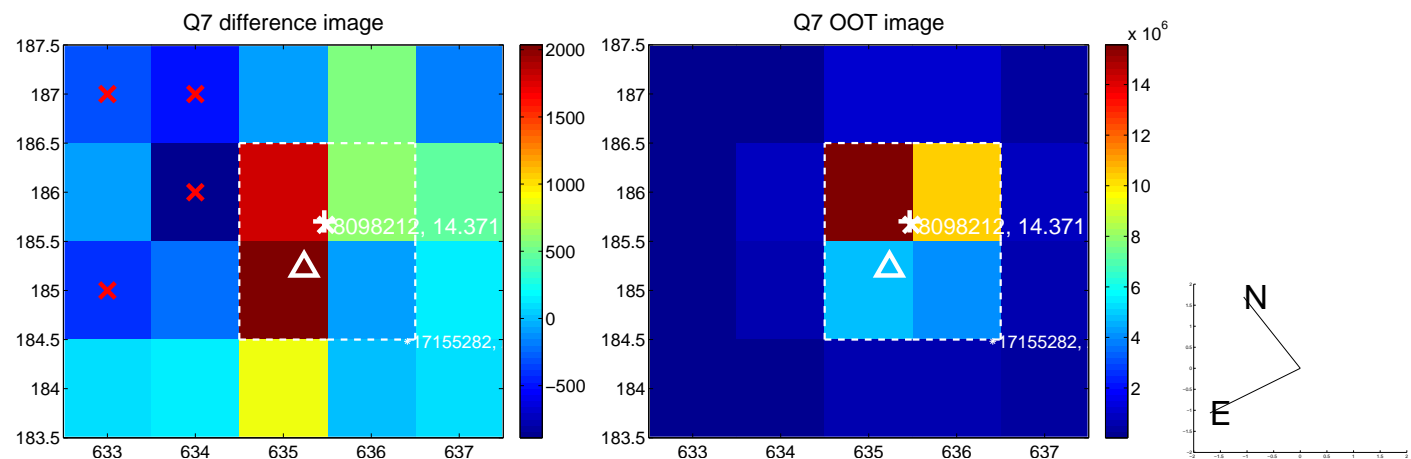
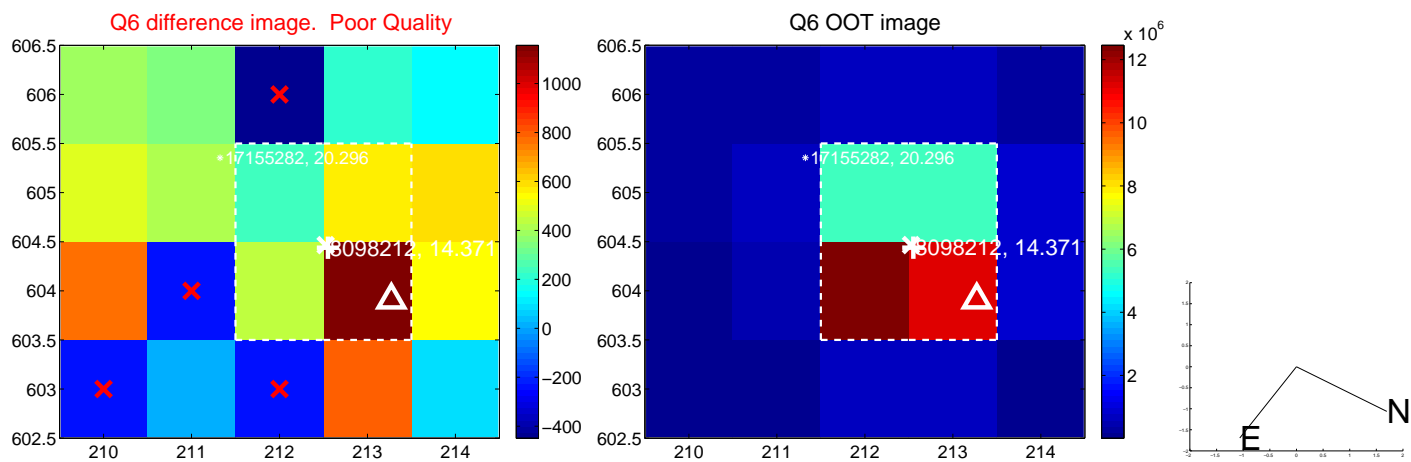
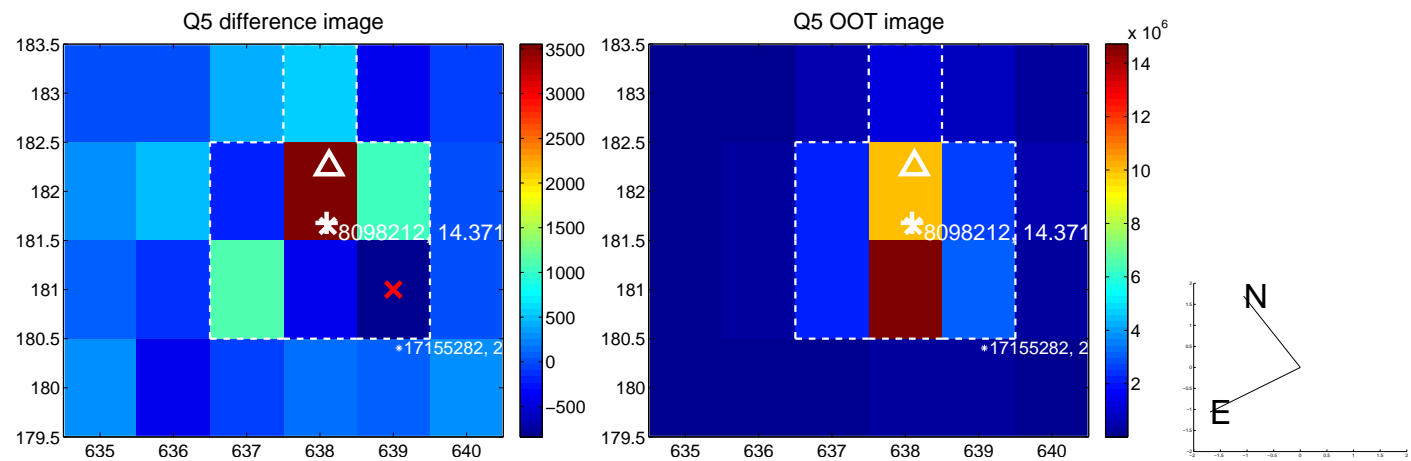


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

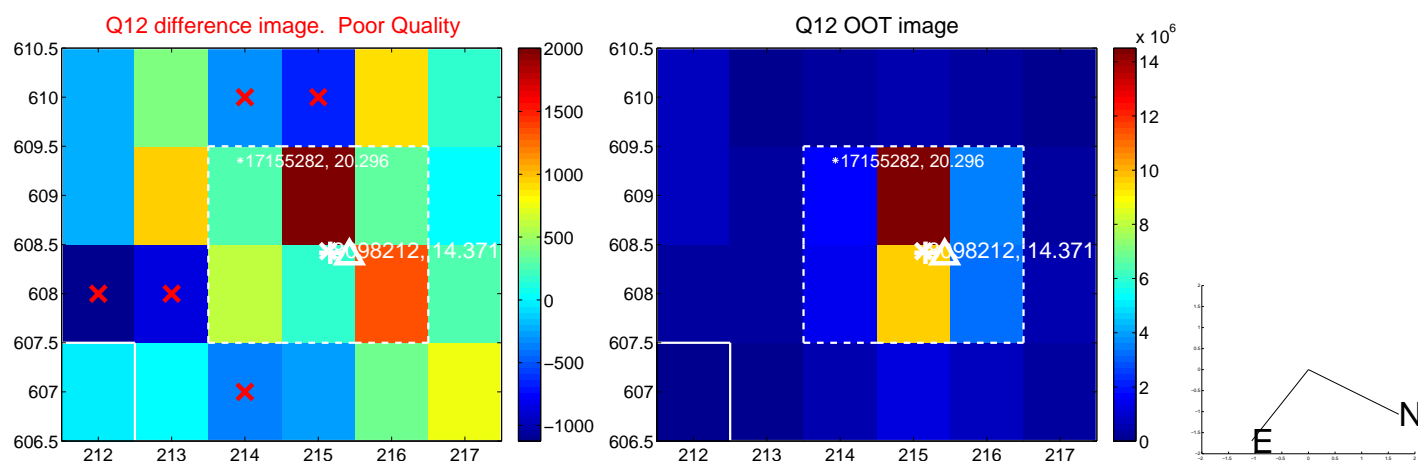
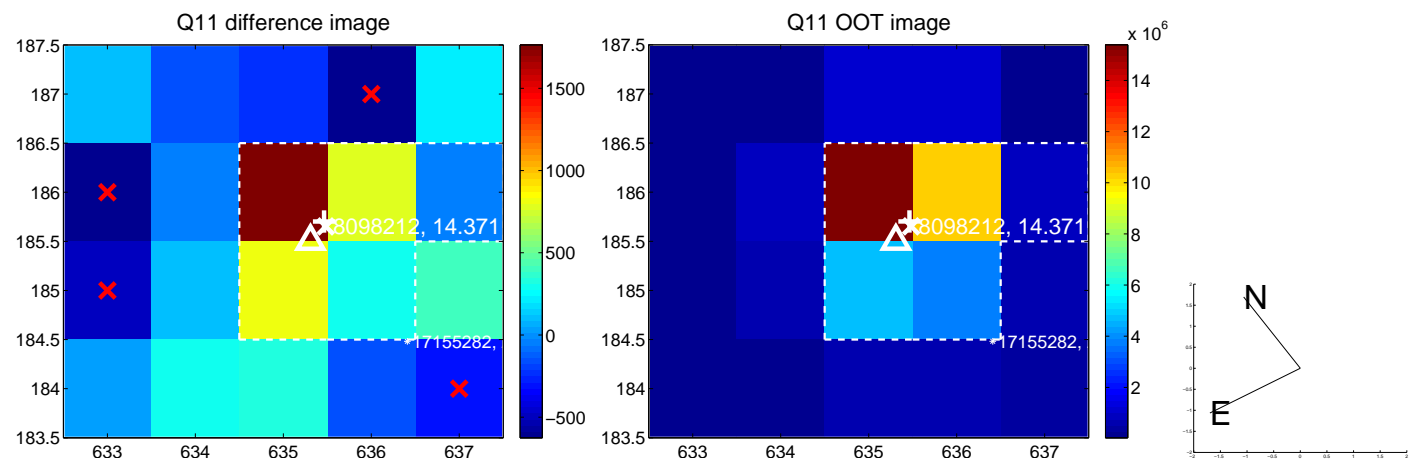
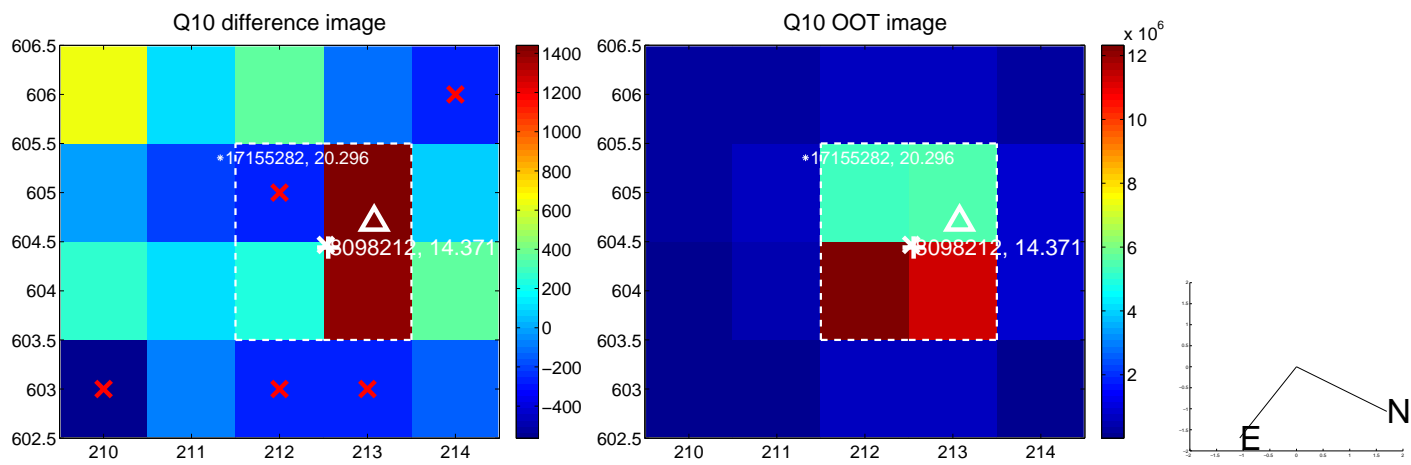
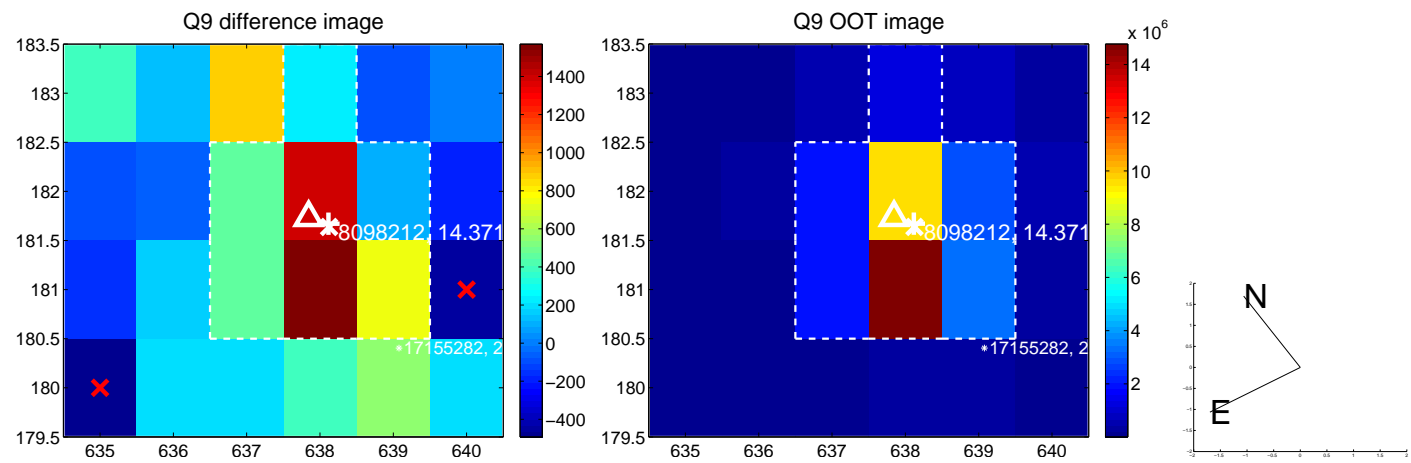
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



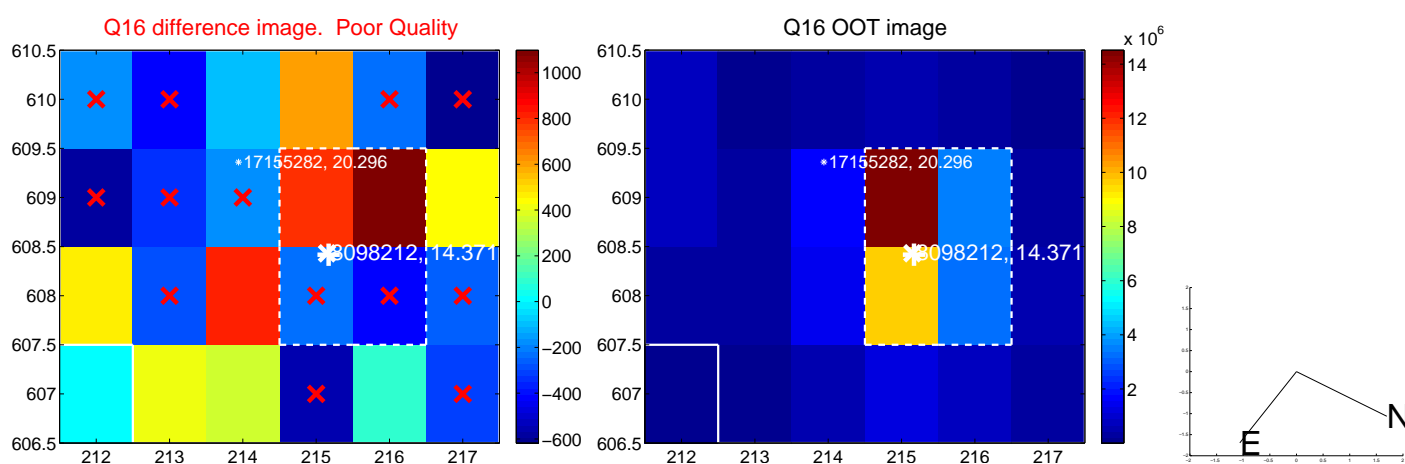
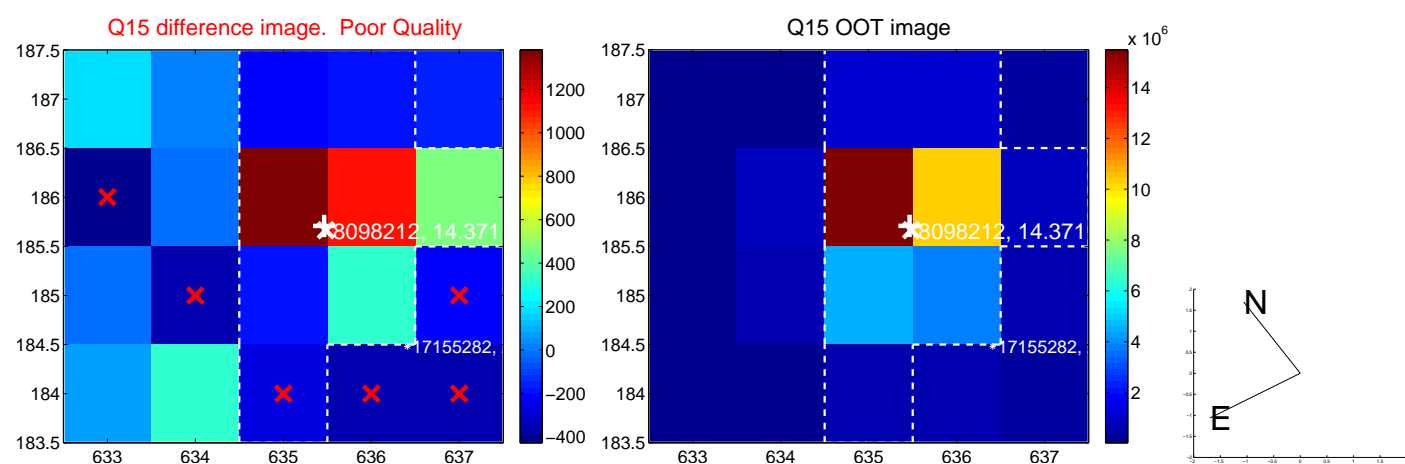
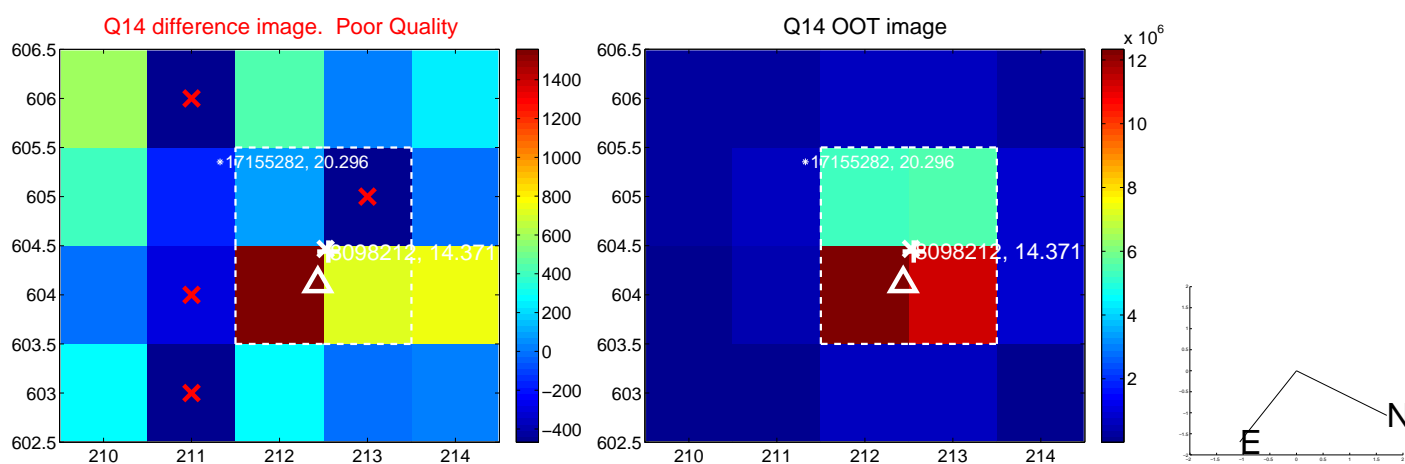
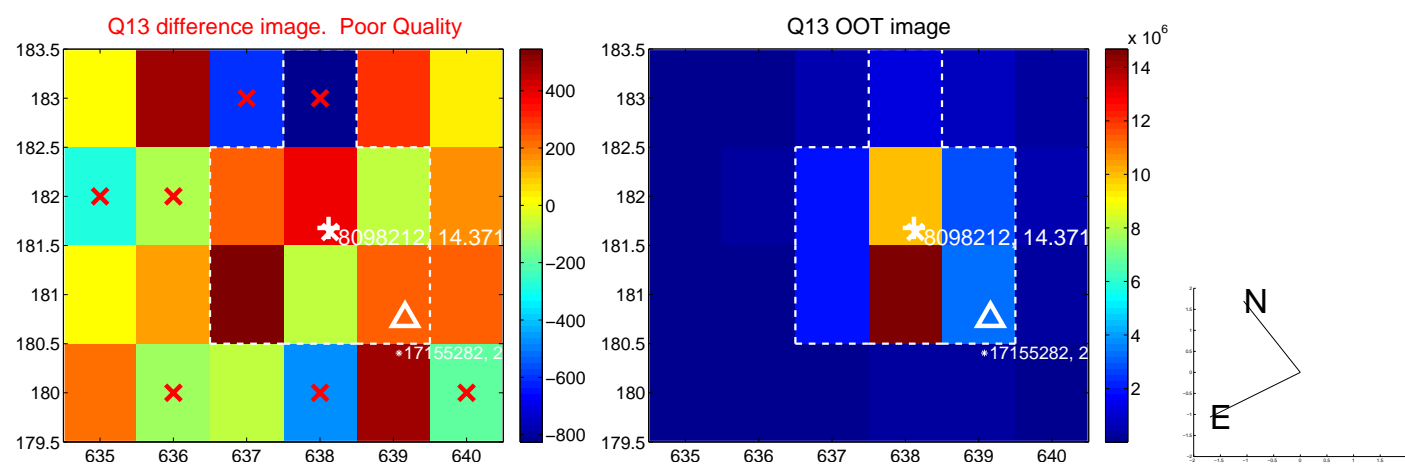
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



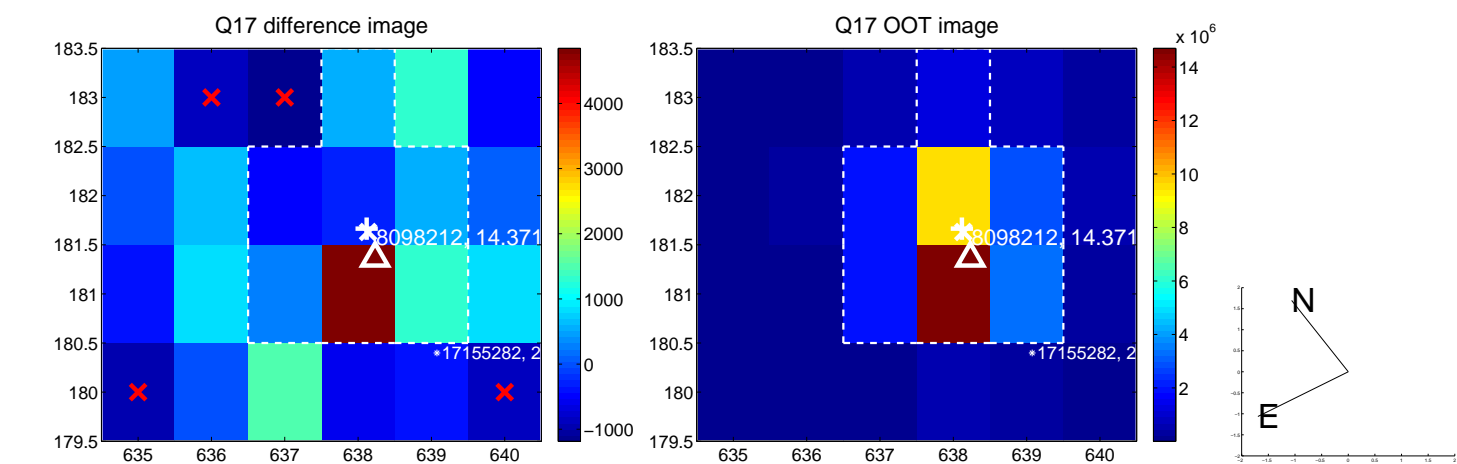
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



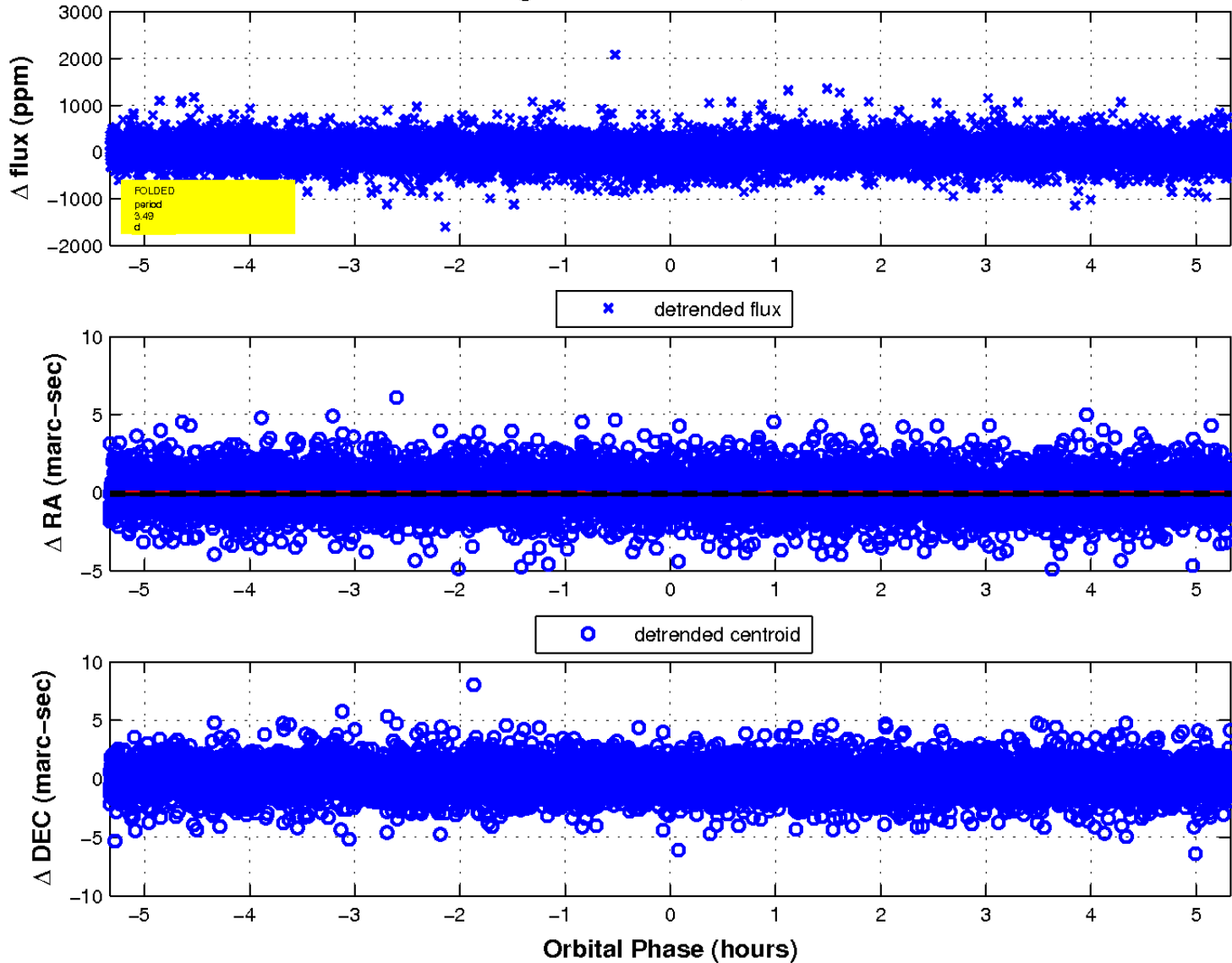
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

