

KIC 008443812

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})
008443812-01	OBS	7041.01	8.361339	139.251059	90.4	3.682	7.6	7.3	0.78	5470	0.88	93.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008443812-01	OBS	PC	0.89	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.

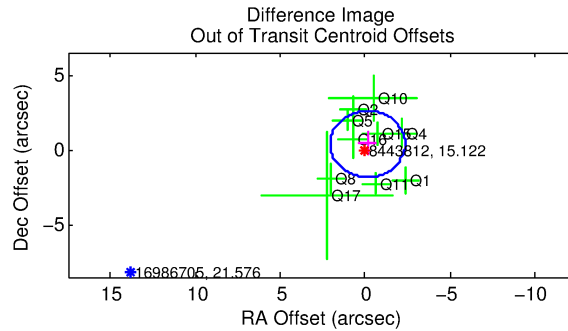
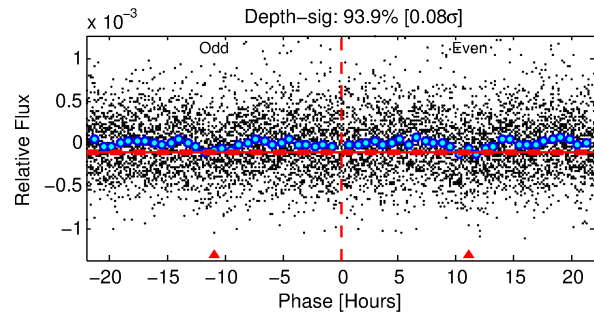
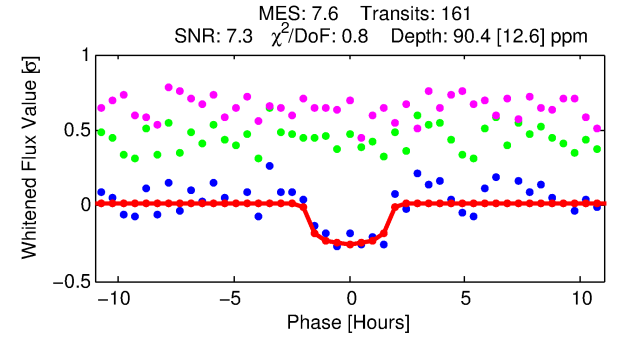
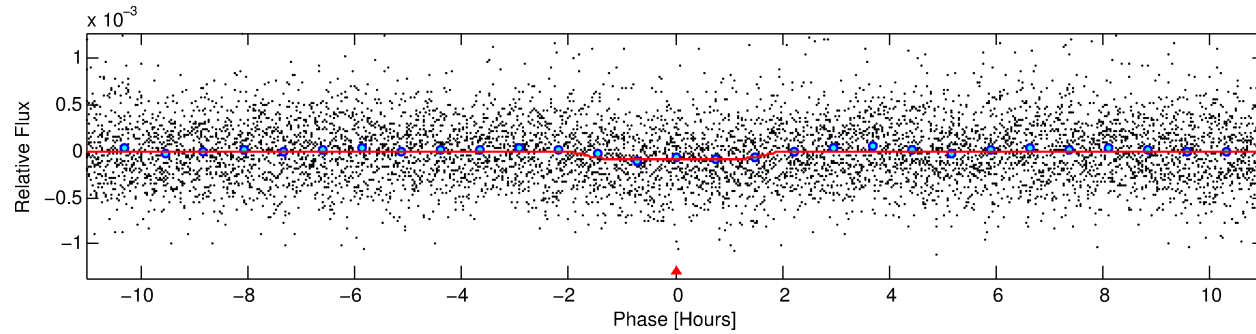
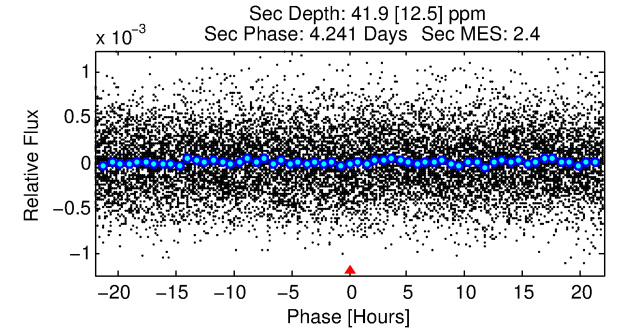
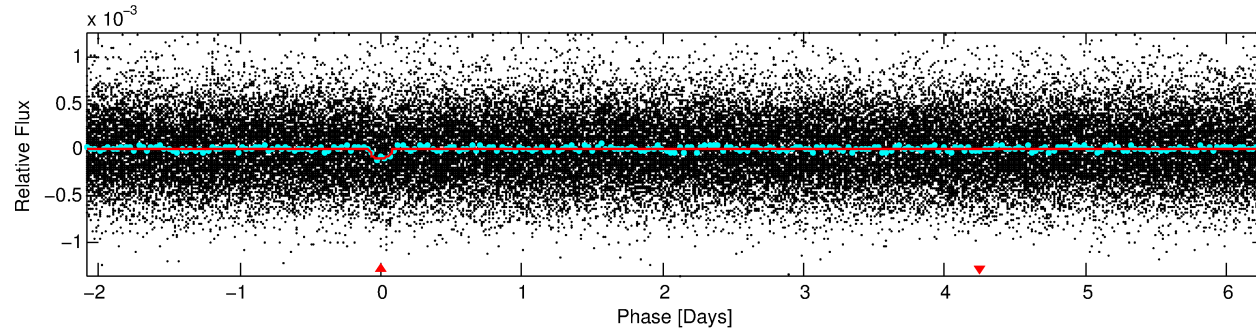
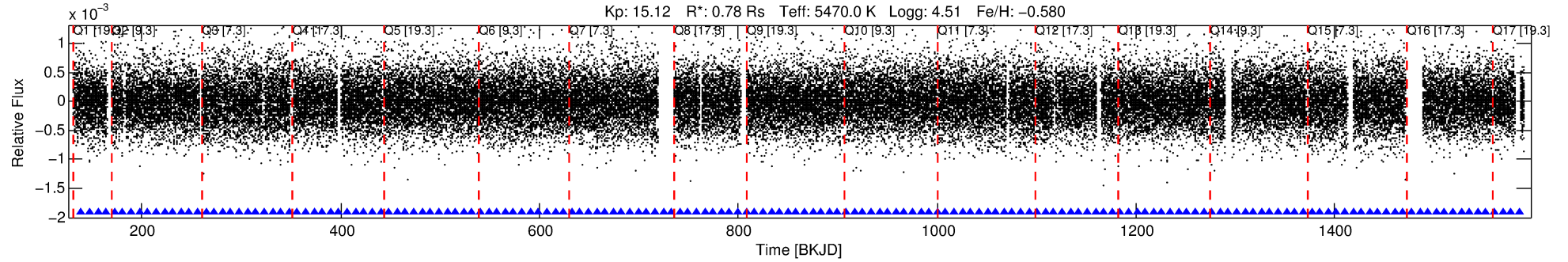
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008443812-01

No Significant Match Found

DV One-Page Summary

KIC: 8443812 Candidate: 1 of 1 Period: 8.361 d
KOI: K07041.01 Corr: 0.931



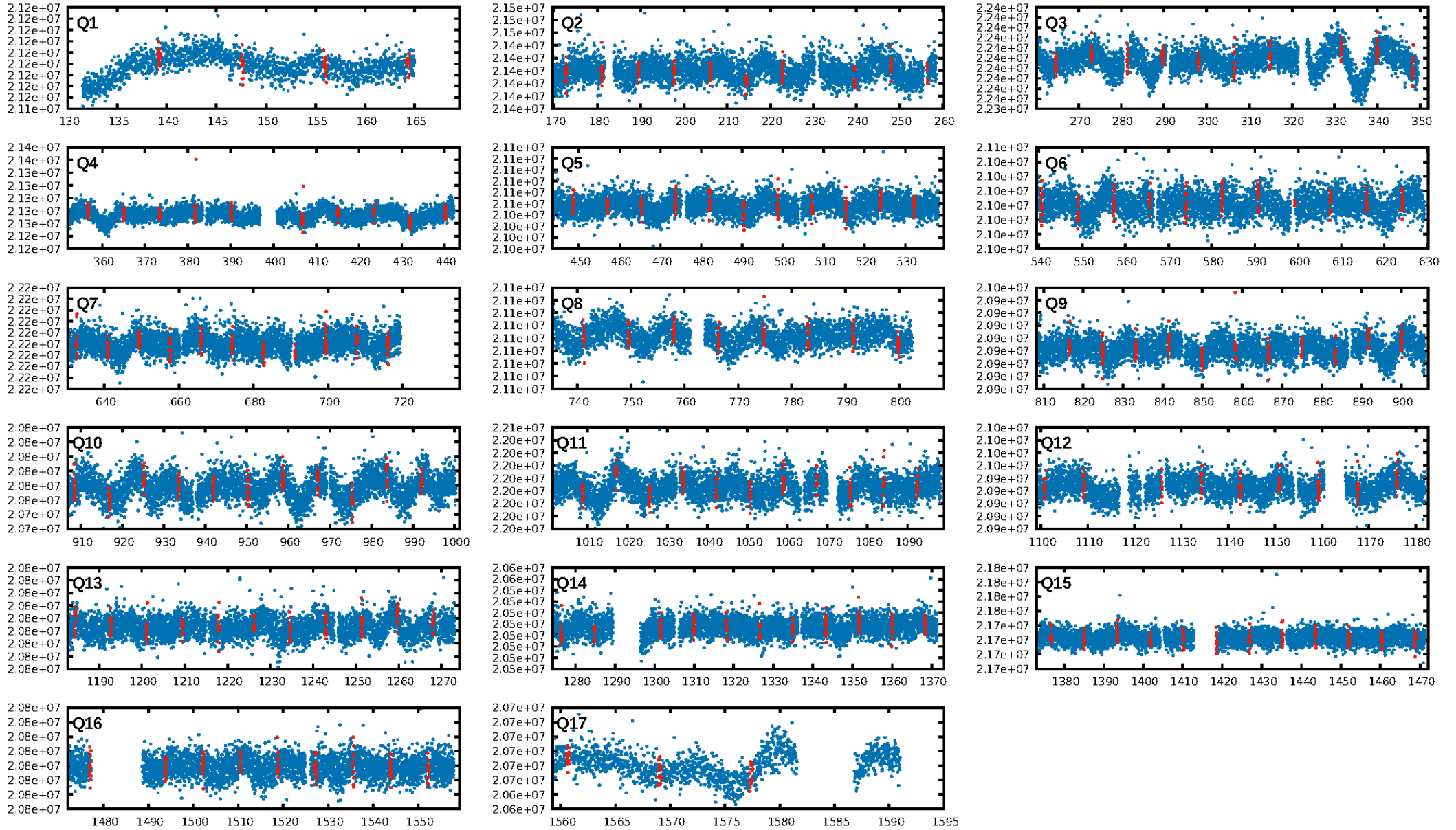
DV Fit Results:

Period = 8.36134 [0.00010] d
Epoch = 139.2511 [0.0097] BKJD
Rp/R* = 0.0103 [0.0082]
a/R* = 8.05 [30.18]
b = 0.90 [0.83]
Seff = 93.49 [21.53]
Teff = 793 [46] K
Rp = 0.88 [0.71] Re
a = 0.0720 [0.0092] AU
Ag = 154.93 [252.23] [0.61σ]
Teffp = 4325 [1754] K [2.01σ]

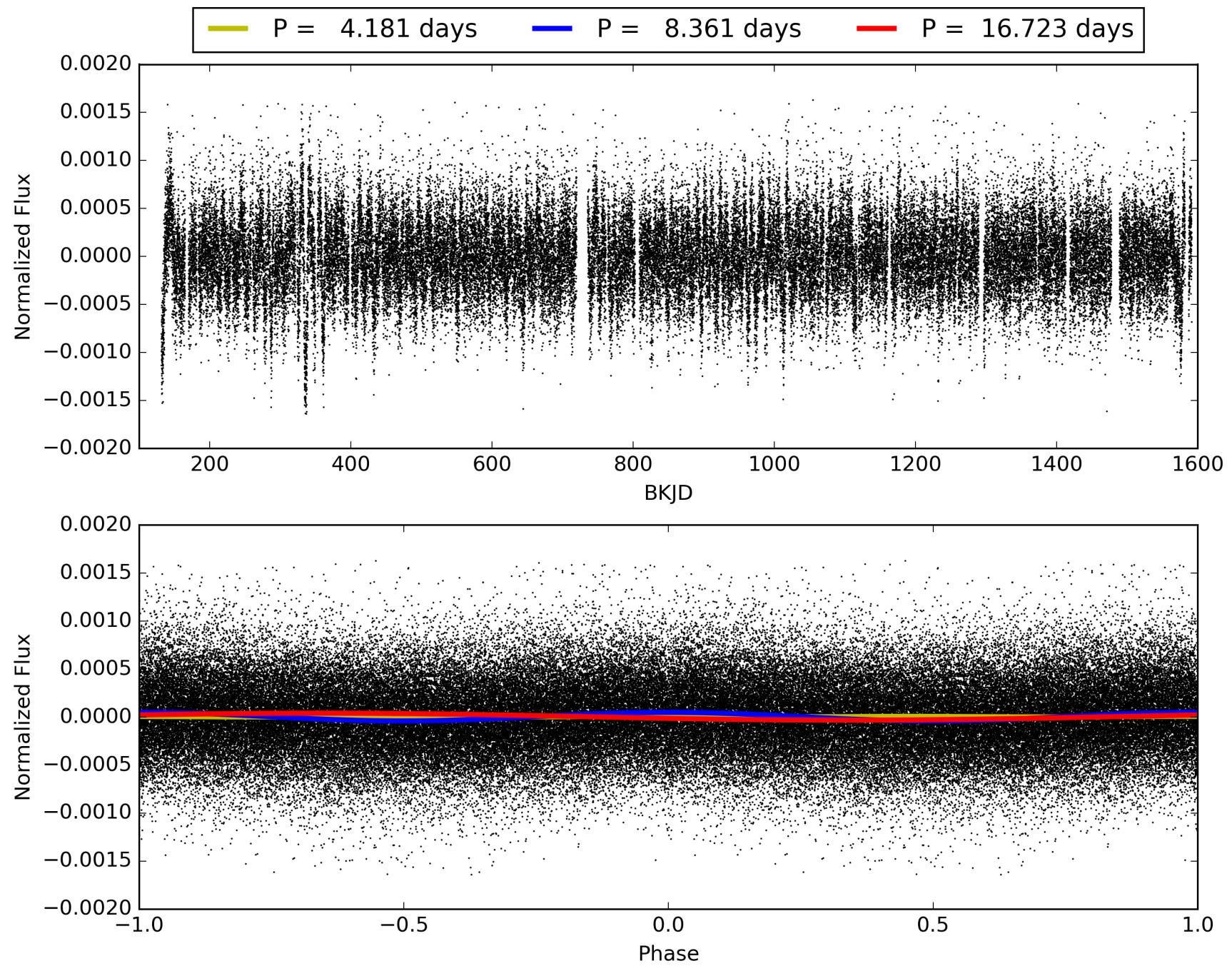
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.66e-14
RollingBand-fgt: 1.00 [154/154]
GhostDiagnostic-chr: -0.3006
Centroid-sig: 0.0%
Centroid-so: 5.943 arcsec [2.98σ]
OotOffset-rm: 0.409 arcsec [0.55σ]
KicOffset-rm: 0.357 arcsec [0.46σ]
OotOffset-st: 2/2/3/3 [10]
KicOffset-st: 2/2/3/3 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008443812-01, PDC Light Curves

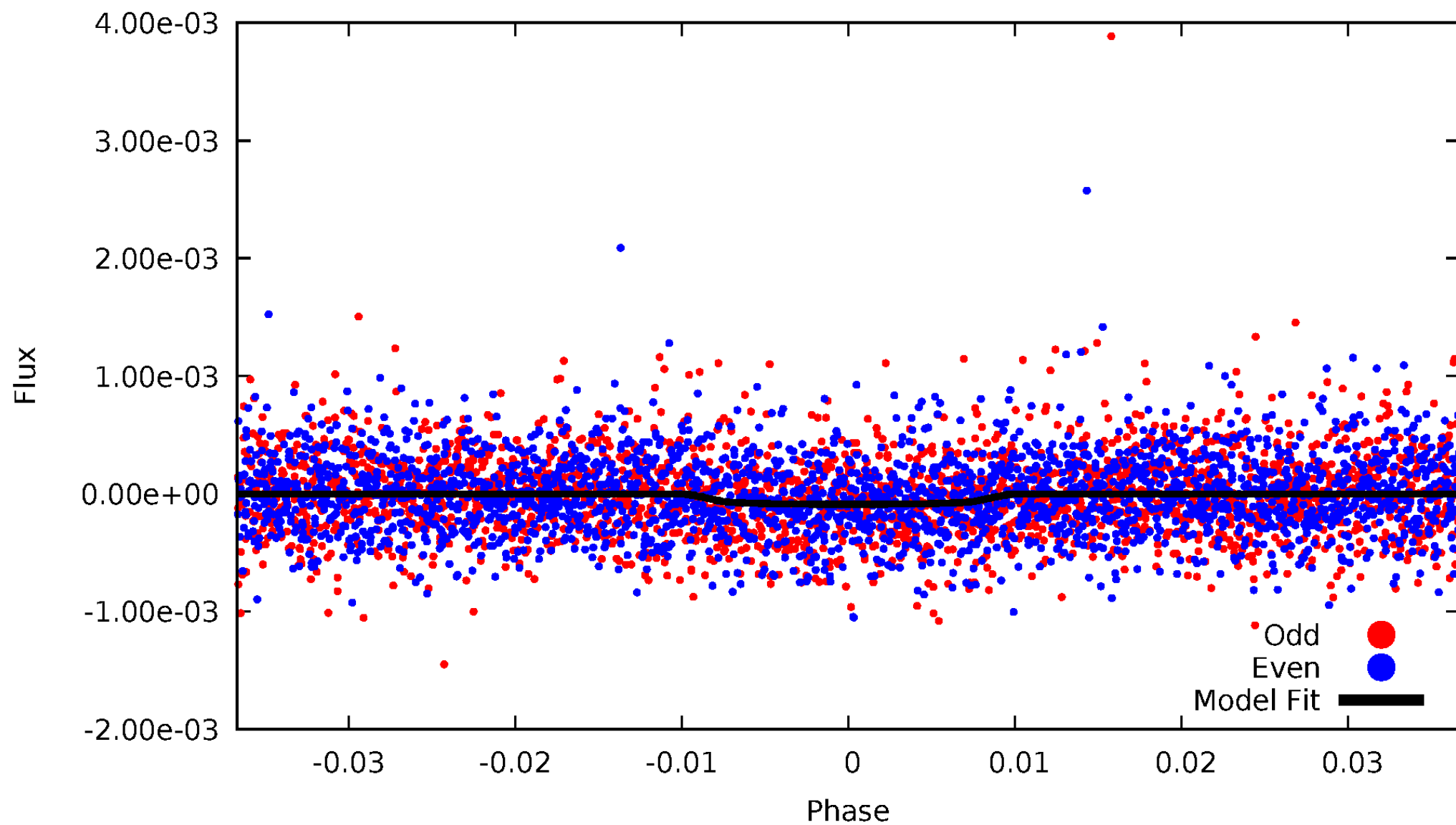


TCE 008443812-01



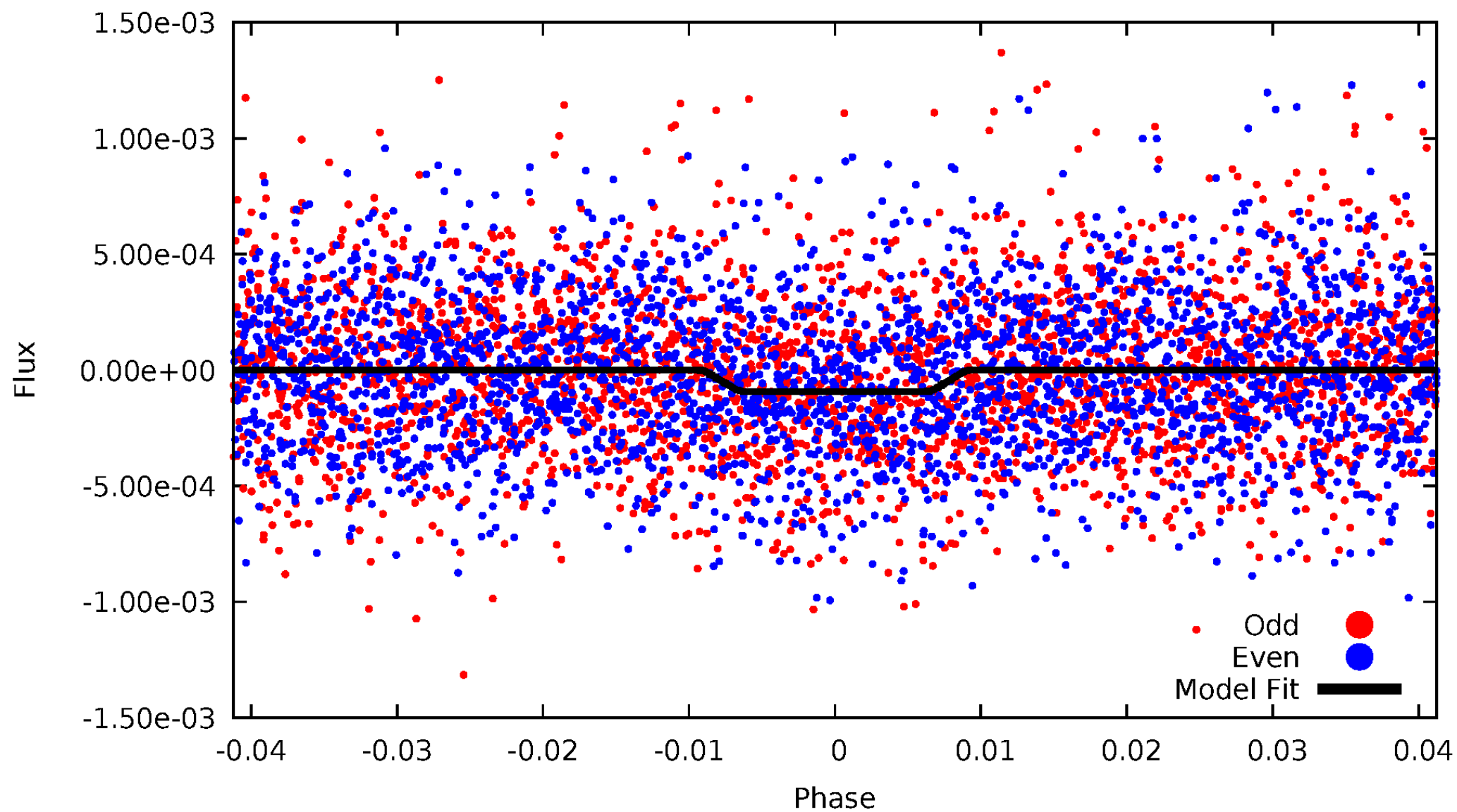
DV Odd/Even

TCE 008443812-01



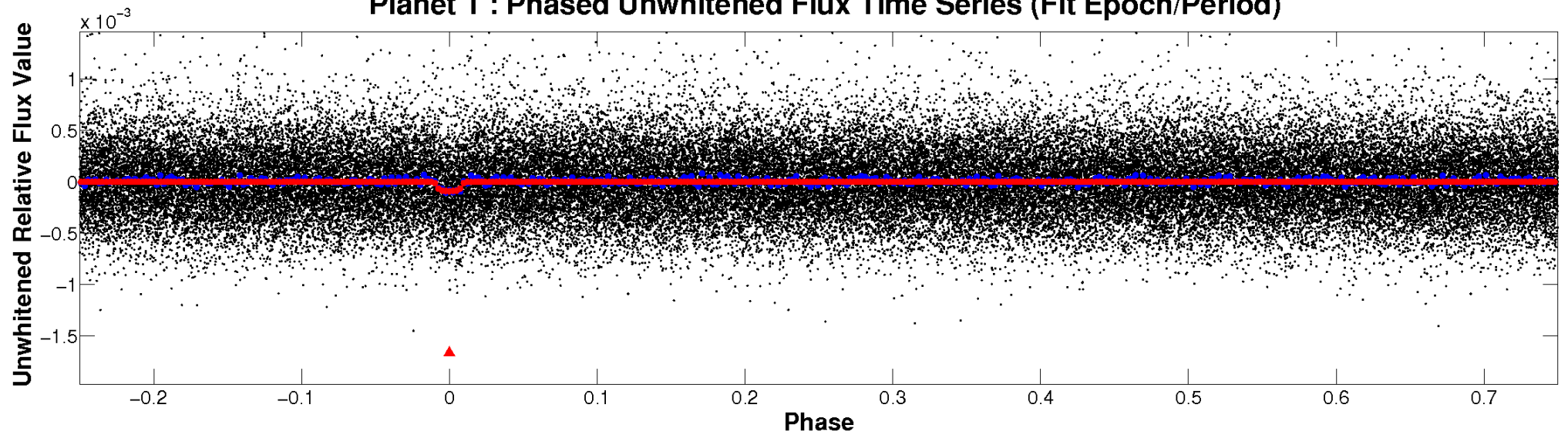
ALT Odd/Even

TCE 008443812-01

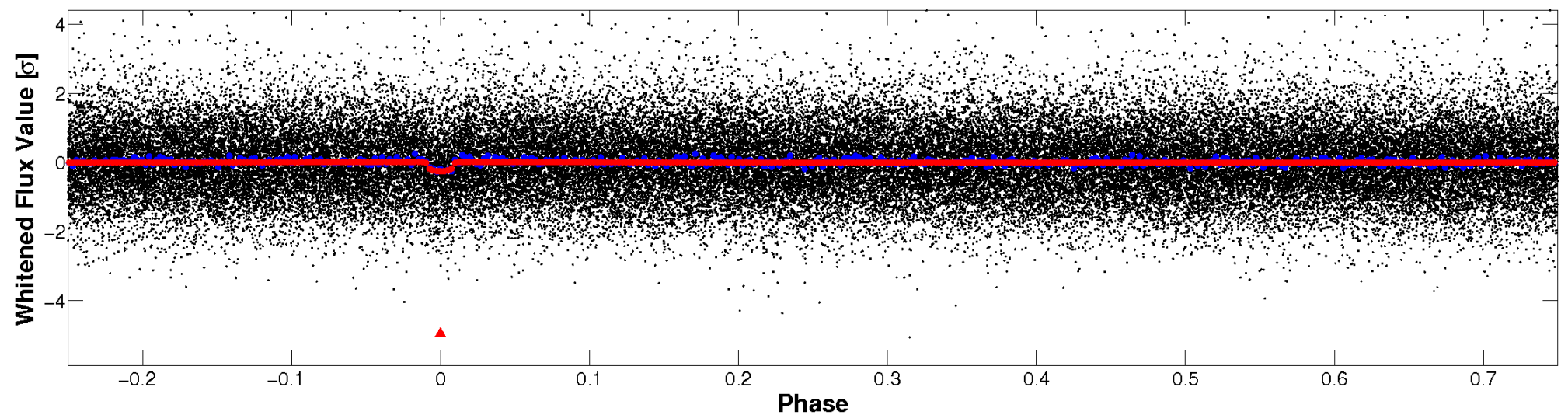


Non-Whitened Vs. Whitened Light Curve

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

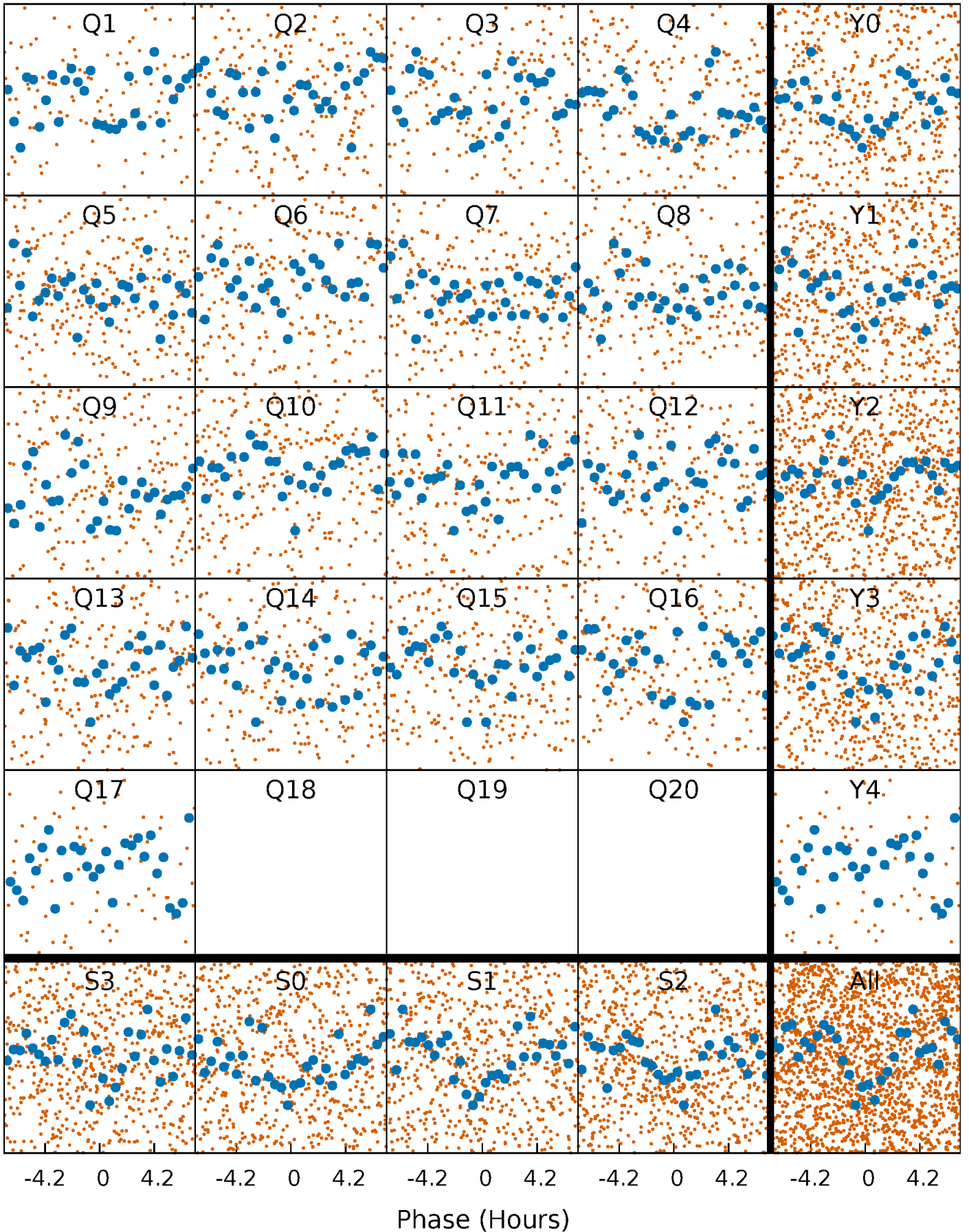


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



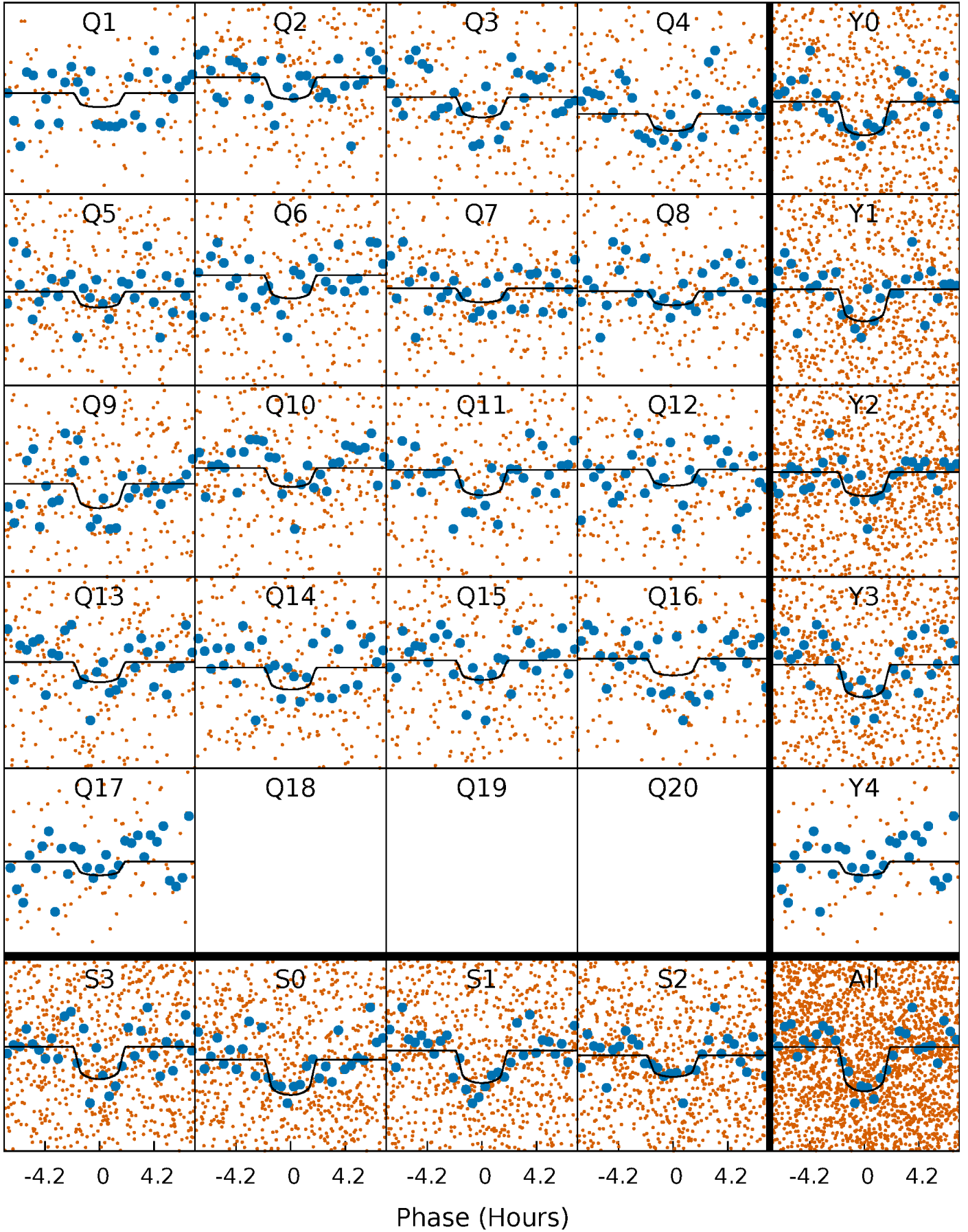
PDC Quarter-Phased Transit Curves

TCE 008443812-01 P= 8.361339 Days $T_0=139.251059$ (BKJD)



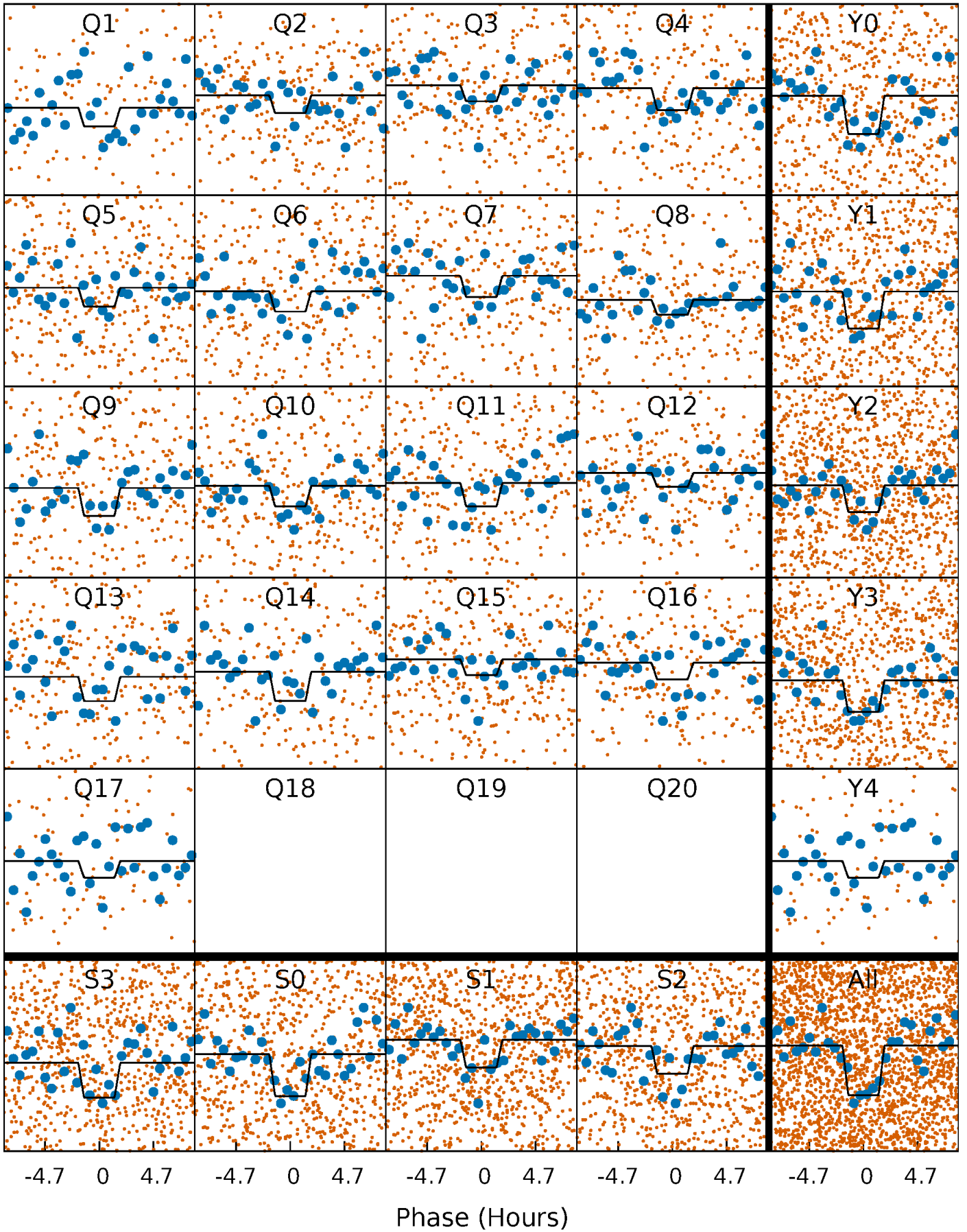
DV Quarter-Phased Transit Curves

TCE 008443812-01 P= 8.361339 Days $T_0=139.251059$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

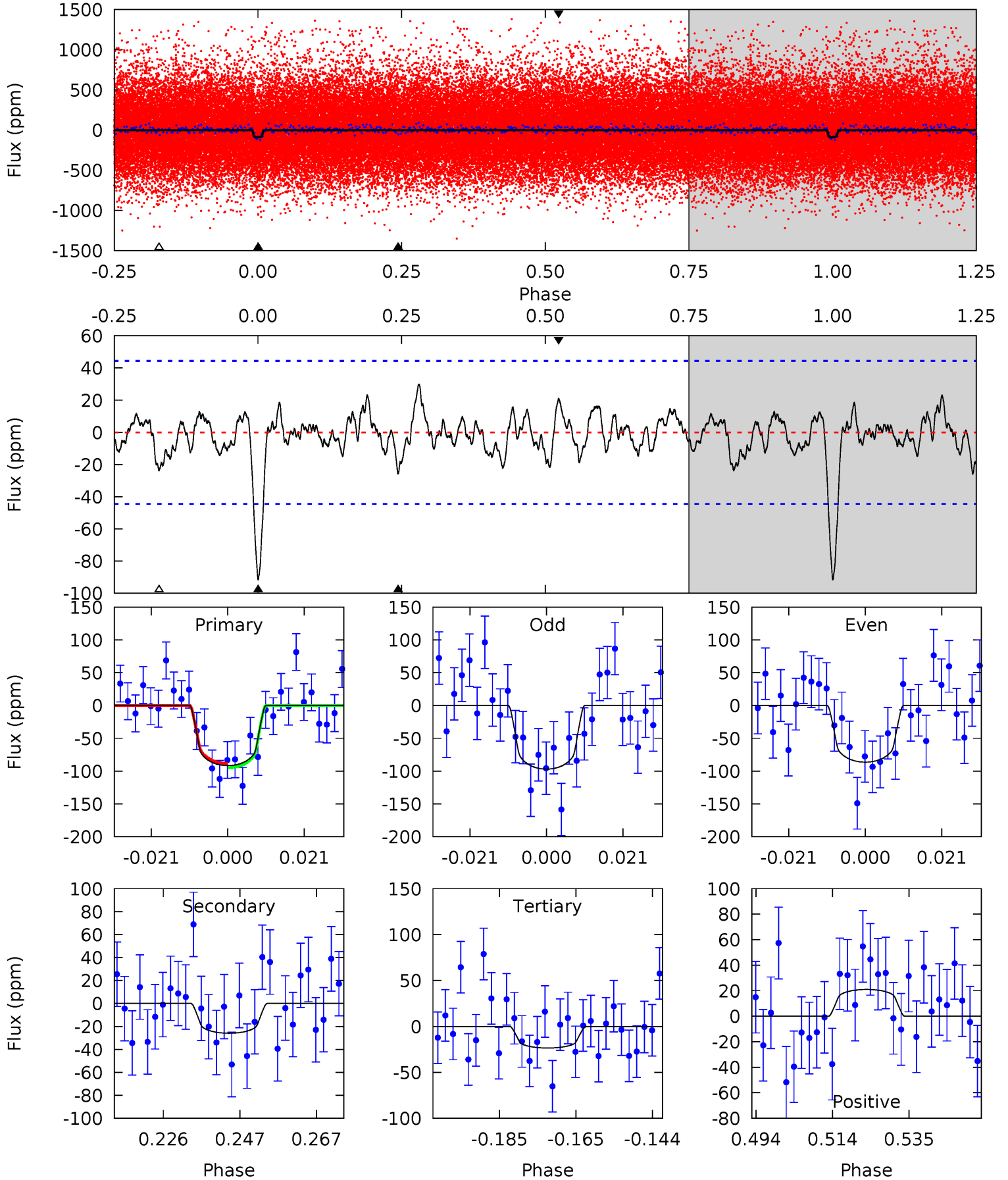
TCE 008443812-01 P= 8.361447 Days $T_0=139.247489$ (BKJD)



DV Model-Shift Uniqueness Test

008443812-01, P = 8.361339 Days, E = 130.889720 Days

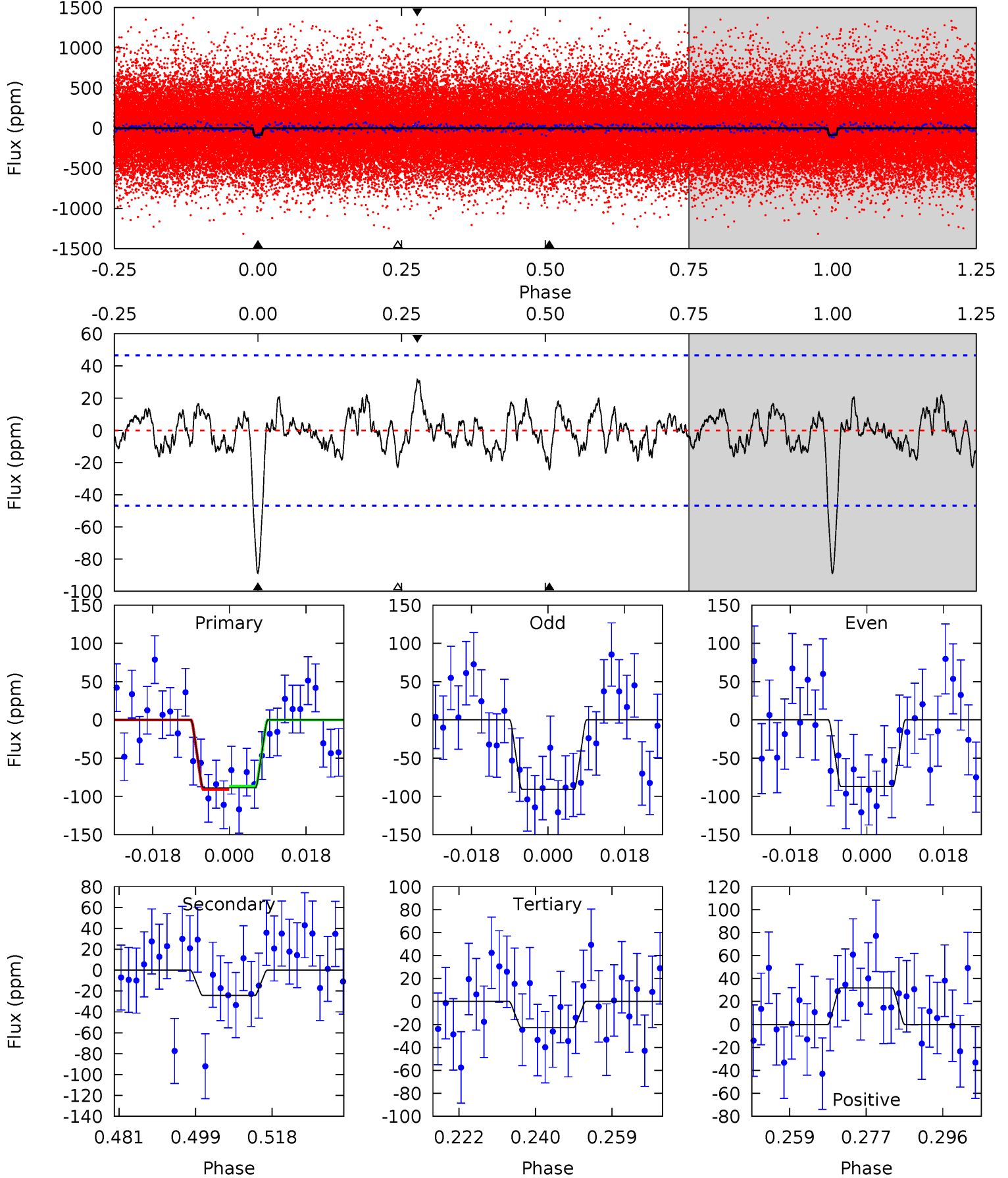
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	2.86	2.59	2.31	4.89	2.32	1.04	7.50	7.78	0.27	0.55	0.59	0.94	0.25	0.35



Alt Model-Shift Uniqueness Test

008443812-01, P = 8.361447 Days, E = 130.886042 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.33	2.55	2.40	3.33	4.91	2.36	0.98	6.93	5.99	0.15	-0.79	0.20	0.96	0.26	0.21



Stellar Parameters For KIC 008443812

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5470^{+180}_{-163}	$4.509^{+0.105}_{-0.105}$	$-0.580^{+0.350}_{-0.300}$	$0.777^{+0.115}_{-0.094}$	$0.710^{+0.103}_{-0.037}$	$2.135^{+0.979}_{-0.669}$
	+3%/-3%	+2%/-2%	+60%/-52%	+15%/-12%	+15%/-5%	+46%/-31%
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 008443812-01 / KOI 7041.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 9	$1.00^{+0.67}_{-0.56}$	1109^{+60}_{-50}	3889^{+1640}_{-612}	73^{+322}_{-48}
Alt.	-24 ± 10	$0.91^{+0.64}_{-0.58}$	1107^{+54}_{-48}	3991^{+2123}_{-702}	81^{+585}_{-55}

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

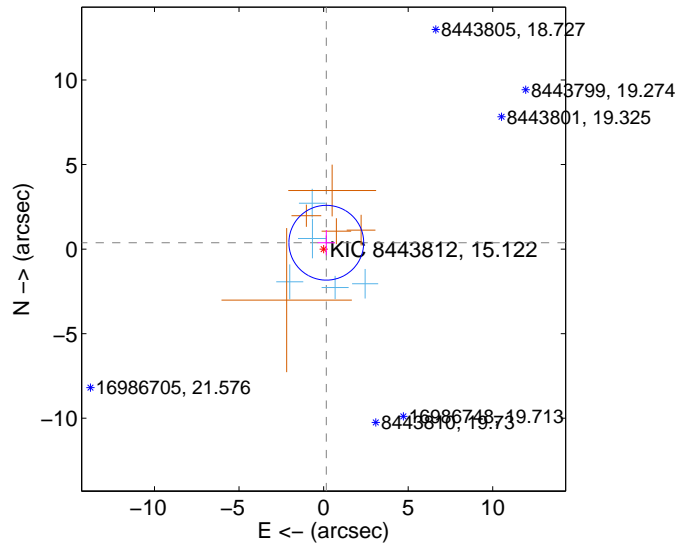
Supplemental centroid analysis for 008443812-01. Kepler magnitude: 15.12. Transit SNR 7.34

There are 5 quarters with good PRF difference image offsets

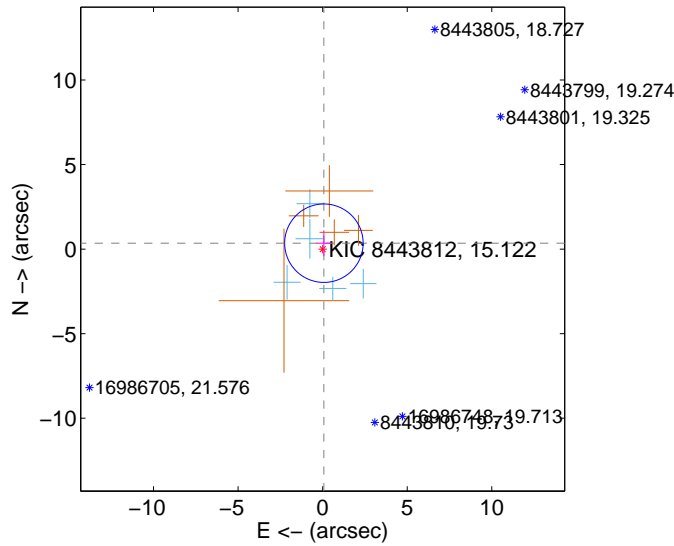
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.409 ± 0.737	0.55	-0.160 ± 0.509	0.377 ± 0.749
PRF-fit source offset from KIC position	0.357 ± 0.774	0.46	-0.073 ± 0.450	0.350 ± 0.764
photometric centroid source offset	5.94 ± 2.00	2.98	3.54 ± 1.76	-4.77 ± 2.11

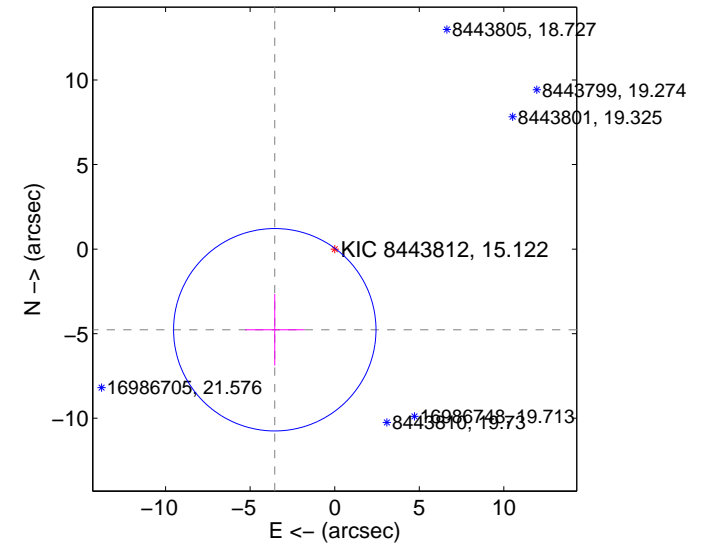
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

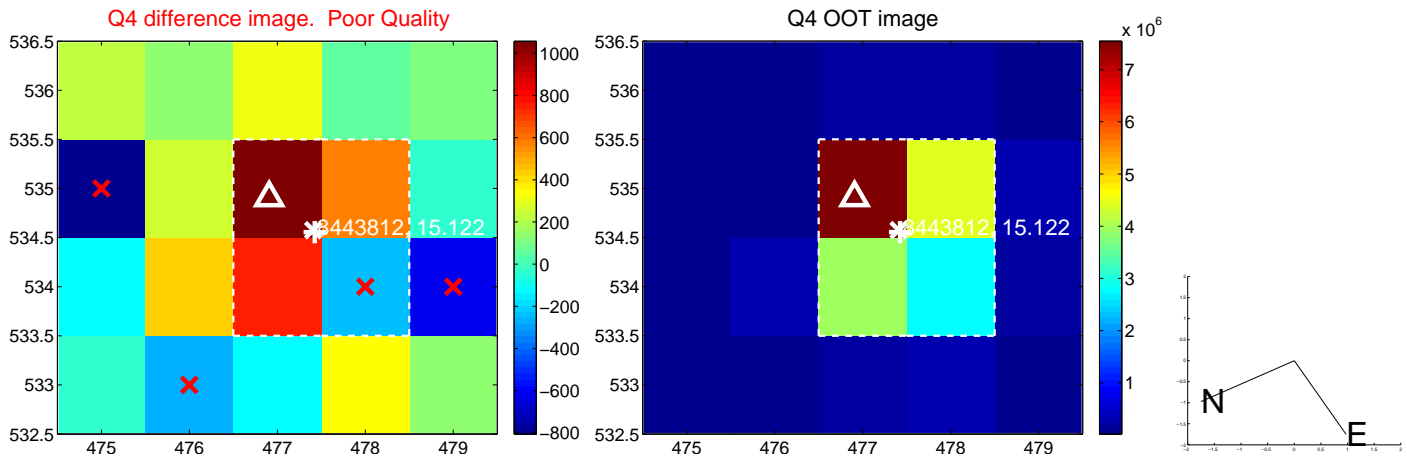
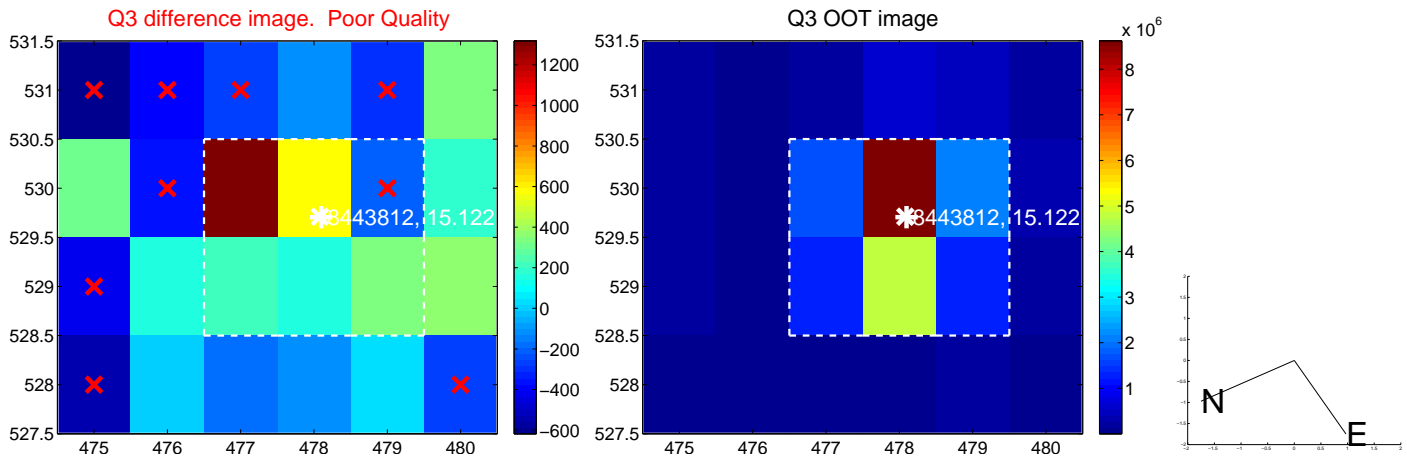
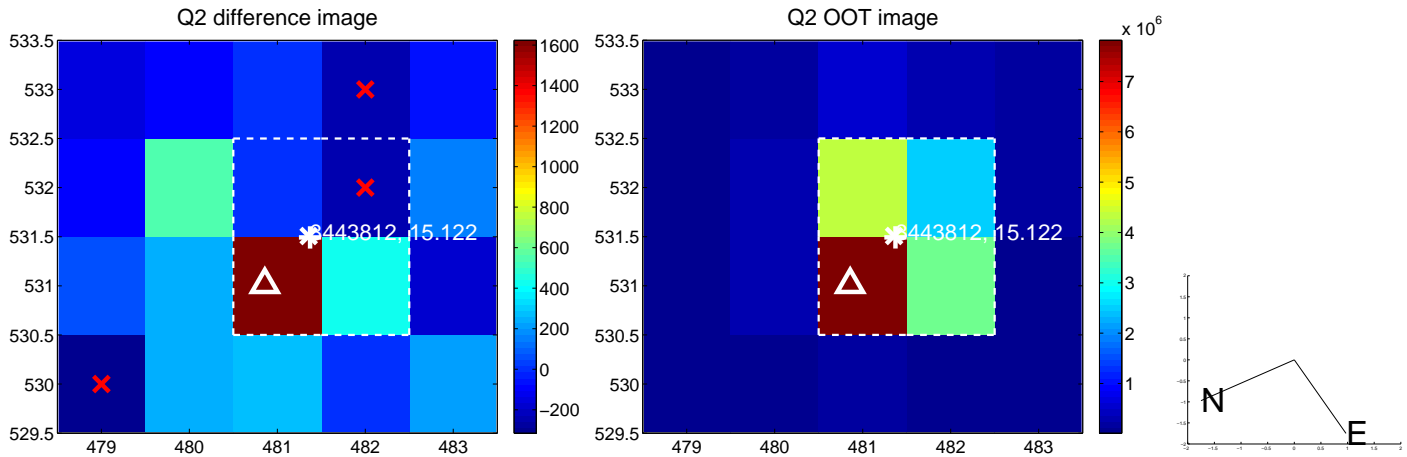
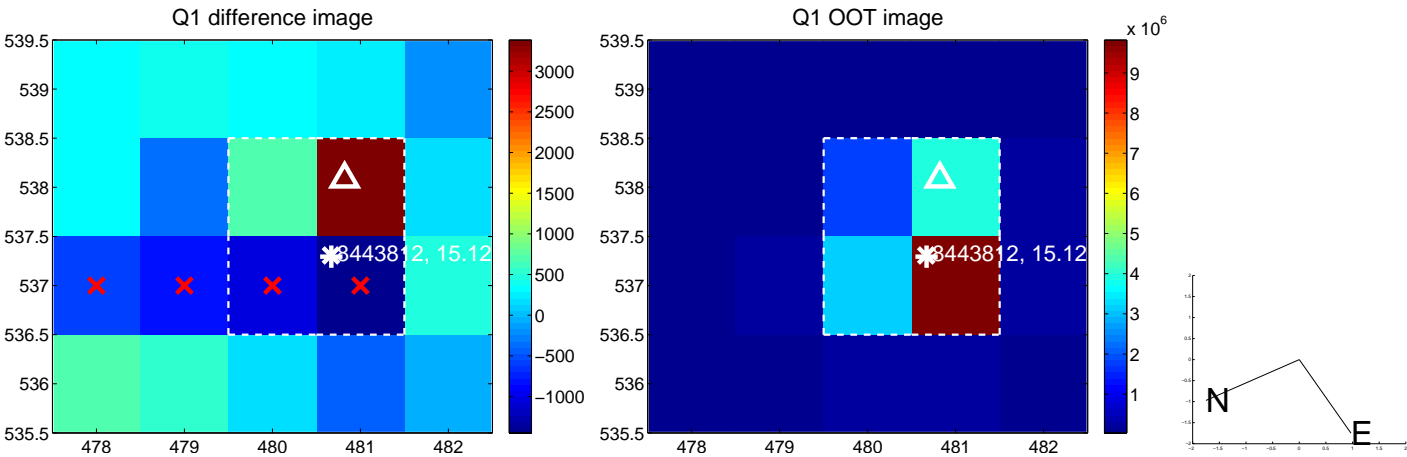


offset from photometric centroids

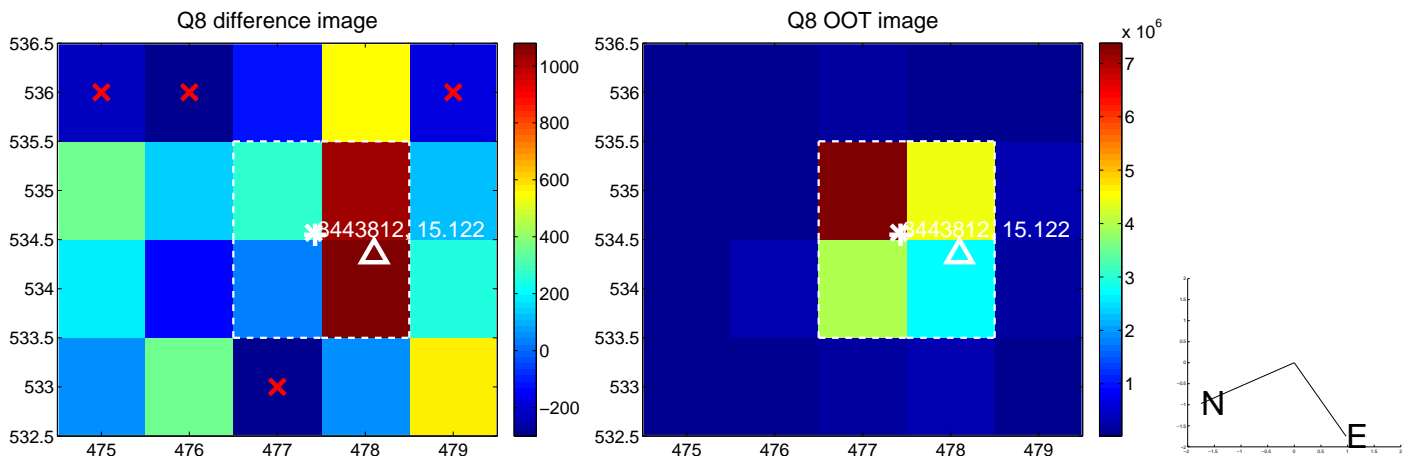
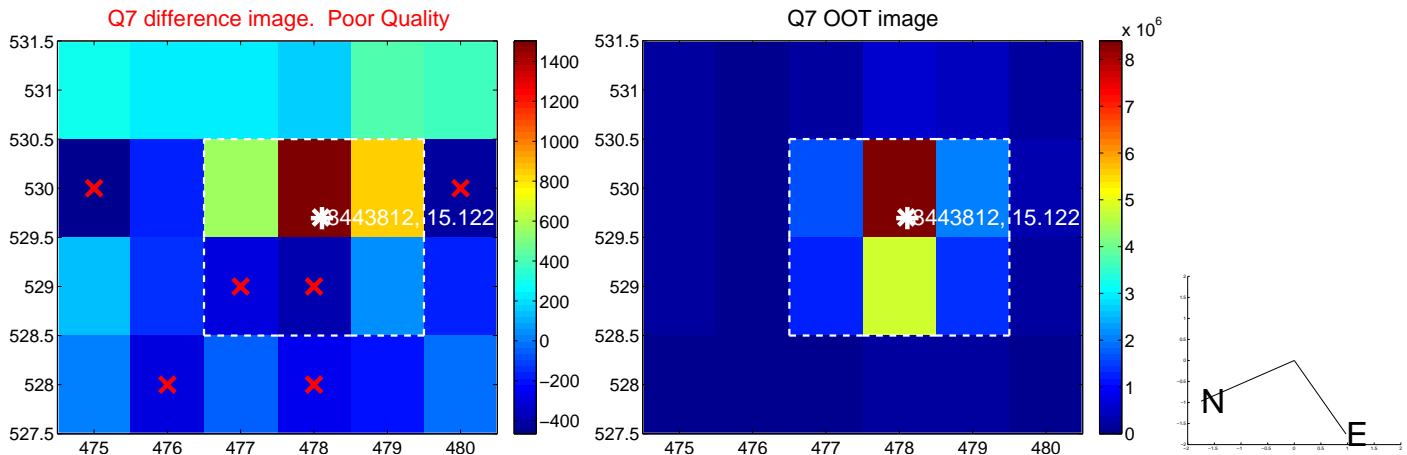
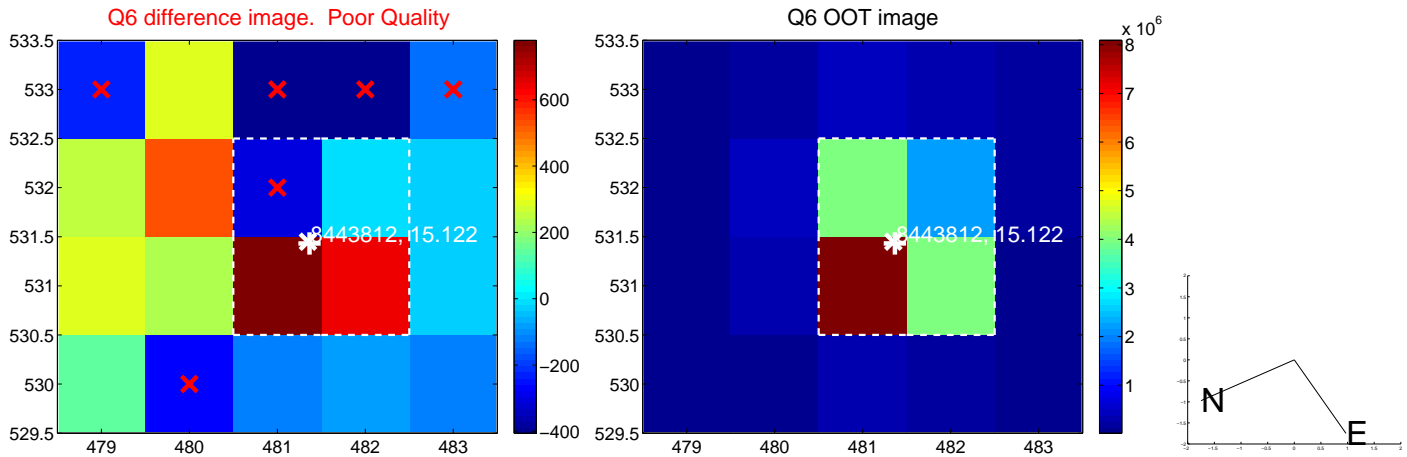
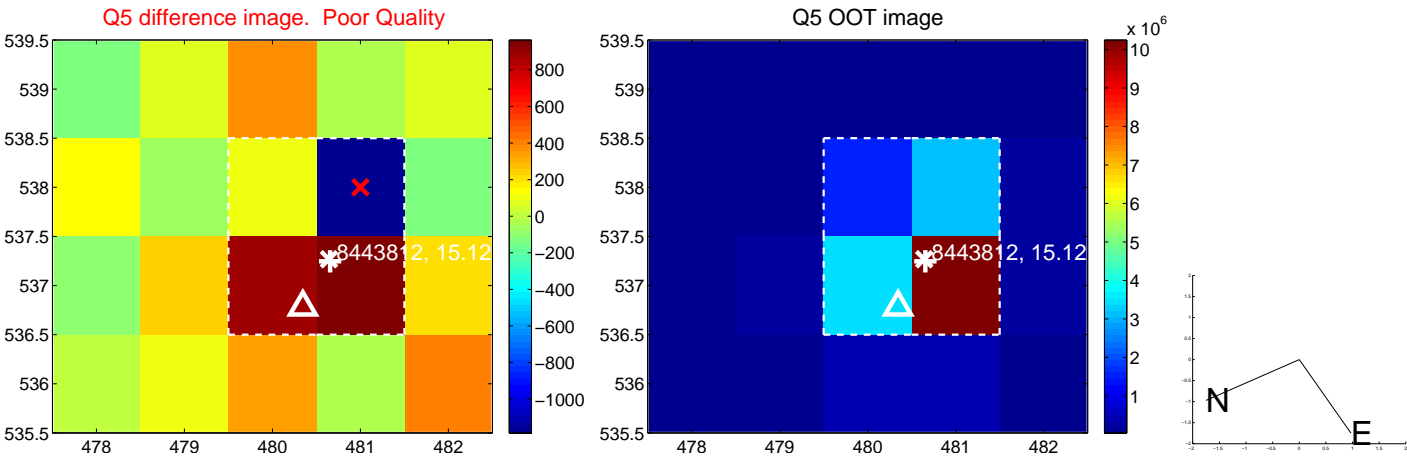


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

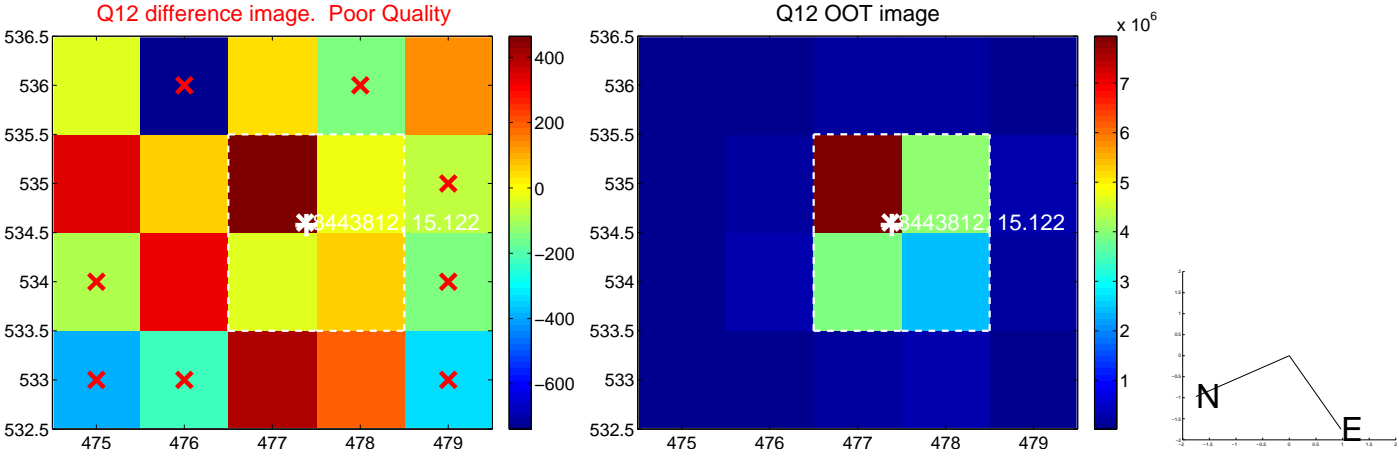
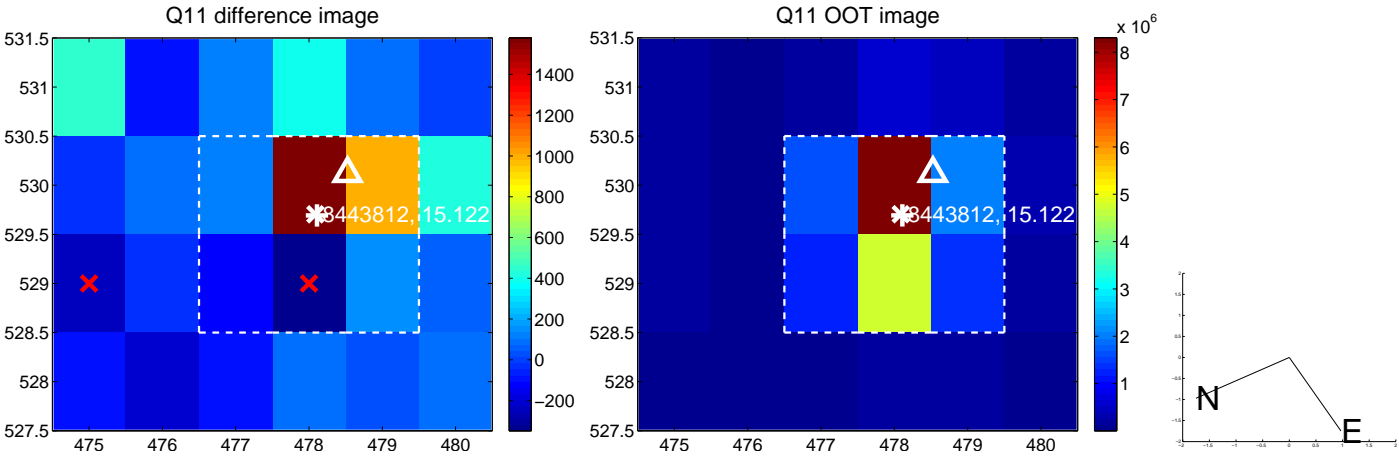
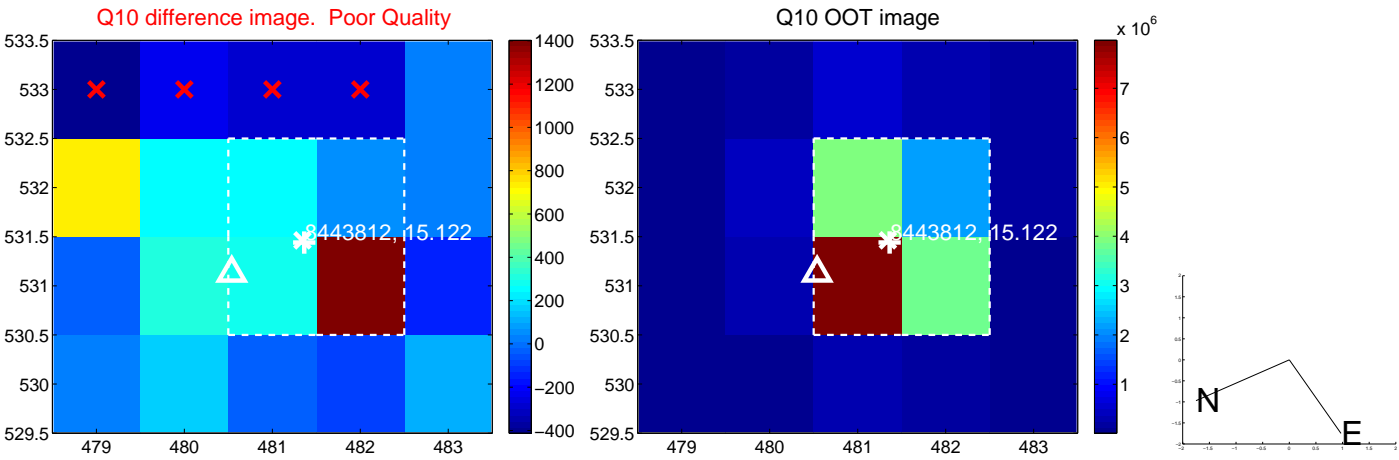
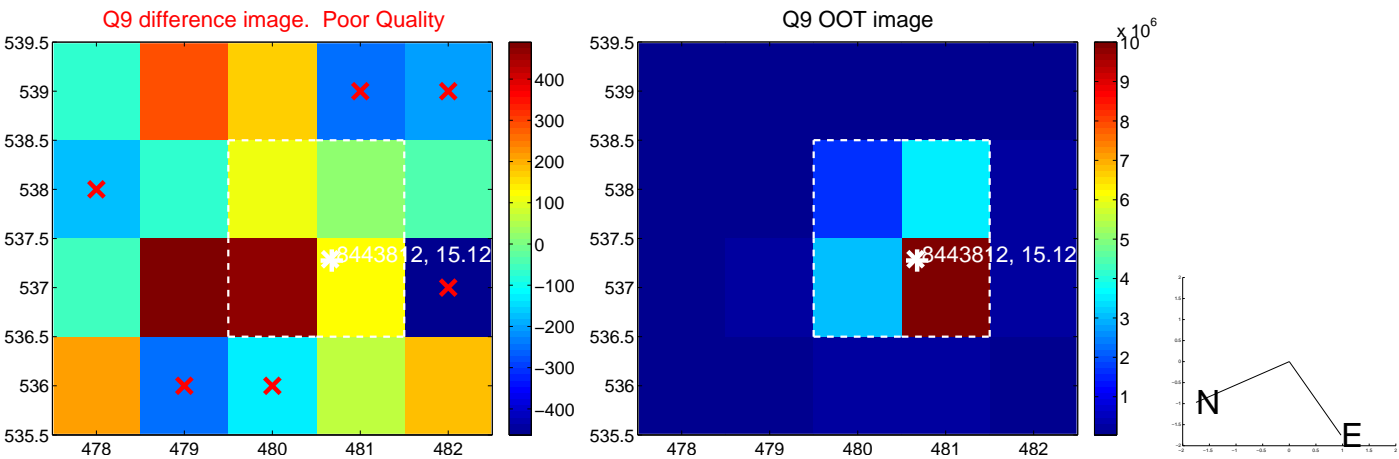
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



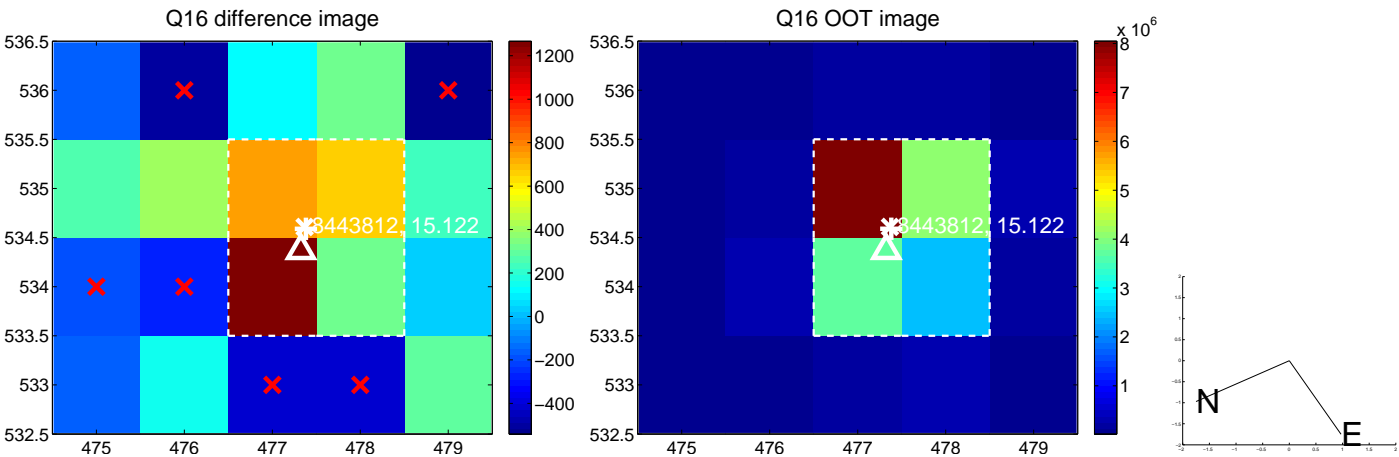
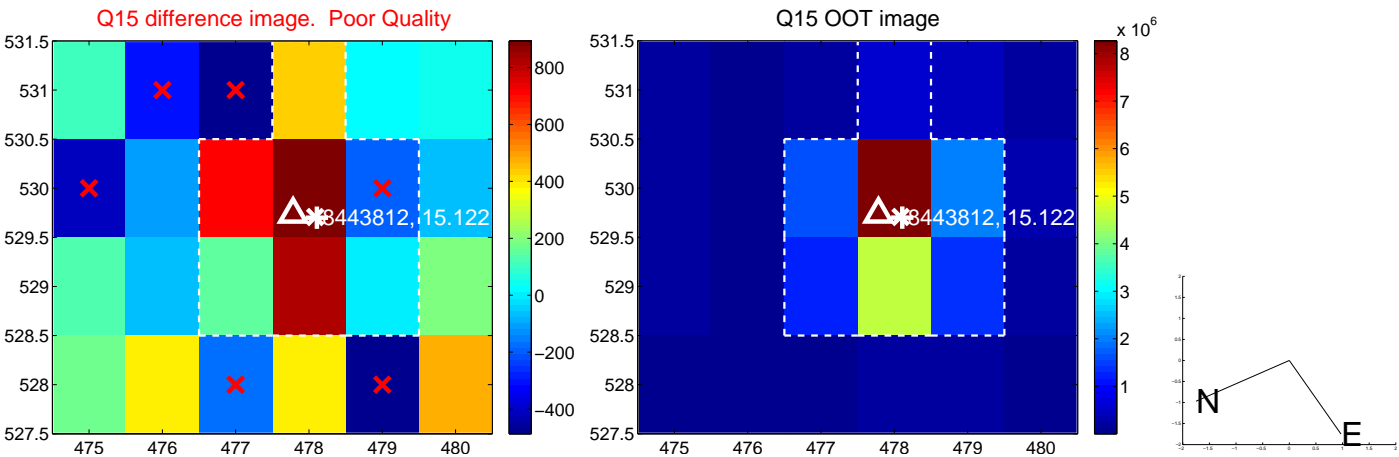
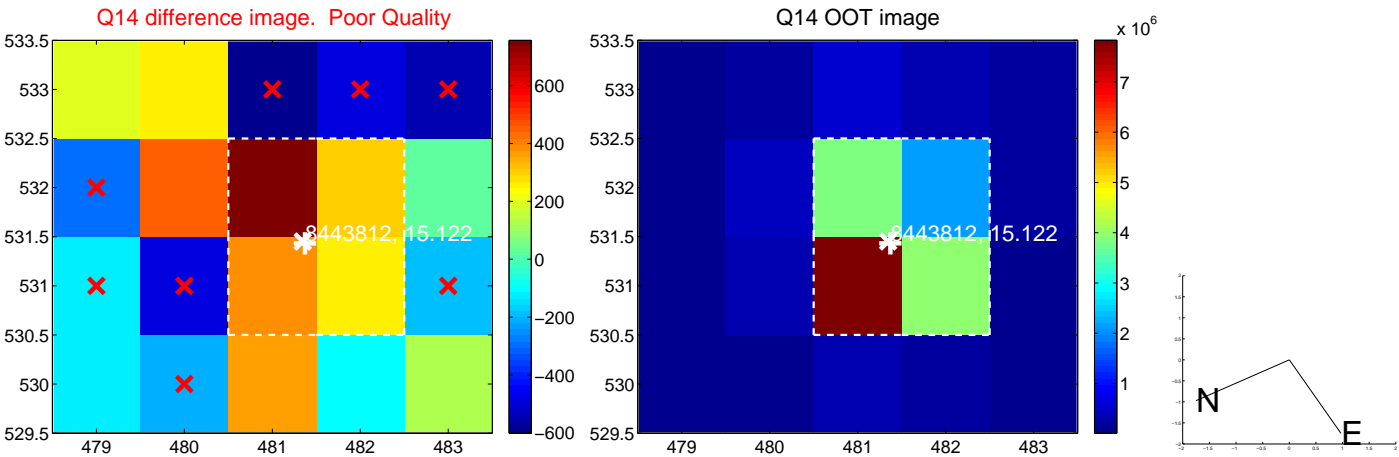
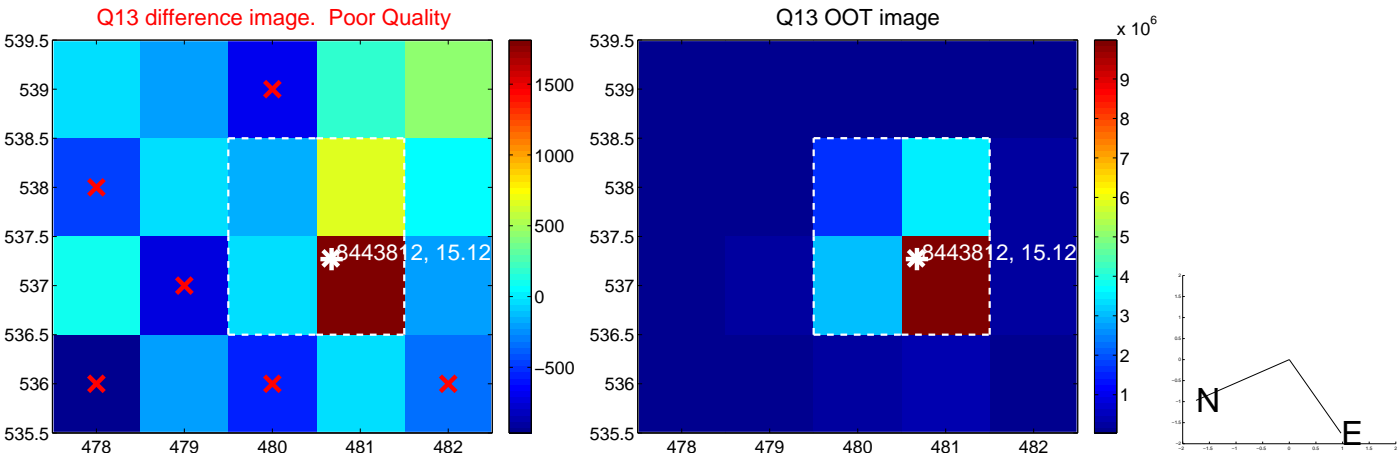
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



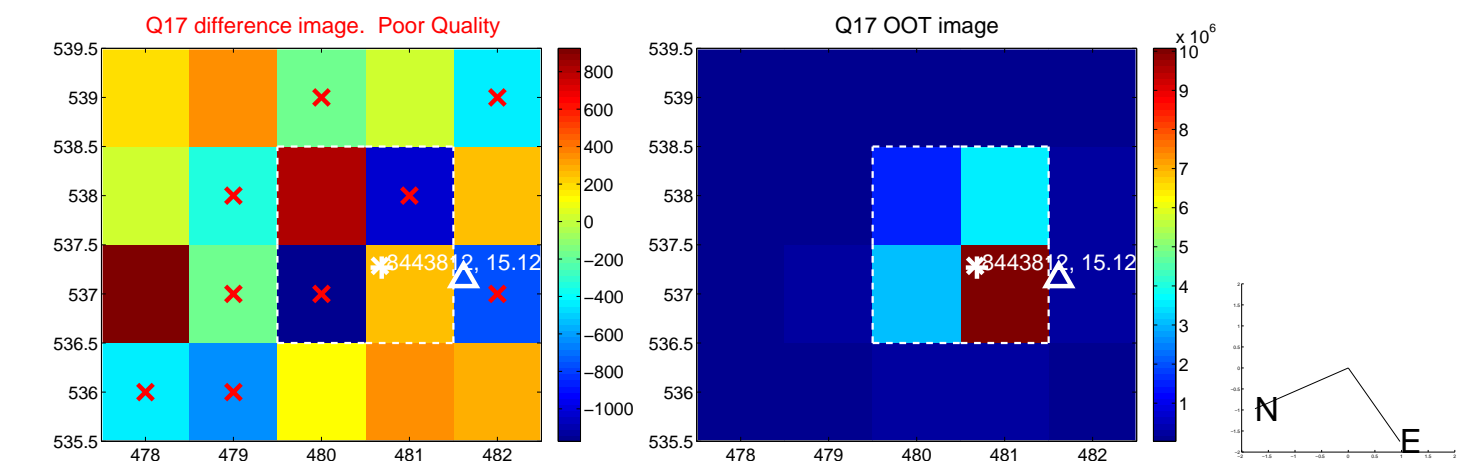
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



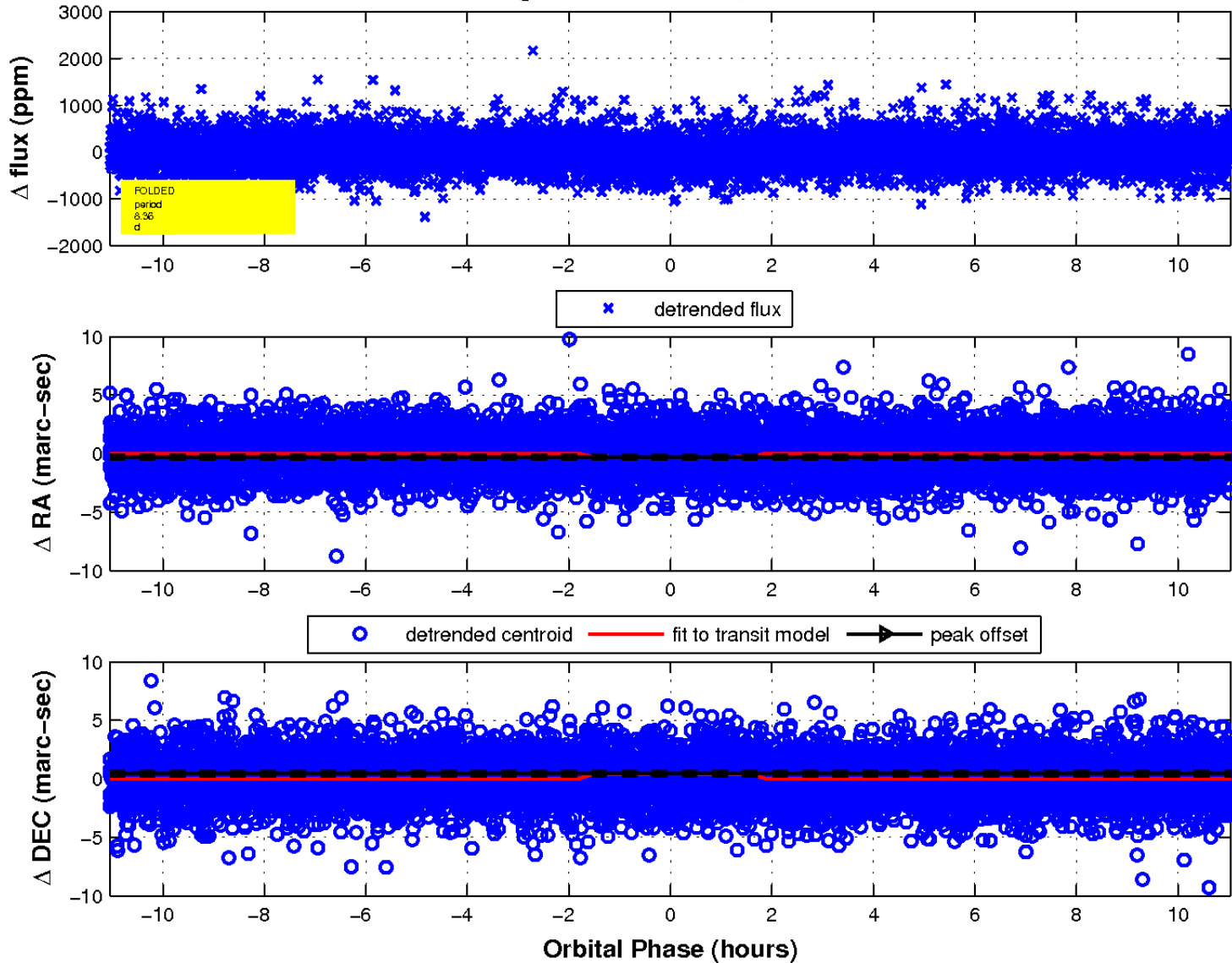
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

