

KIC 003955817

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})
003955817-01	OBS	4117.01	4.242587	135.036526	190.4	3.041	14.4	16.0	0.82	5072	1.58	174.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003955817-01	OBS	PC	1.00	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.

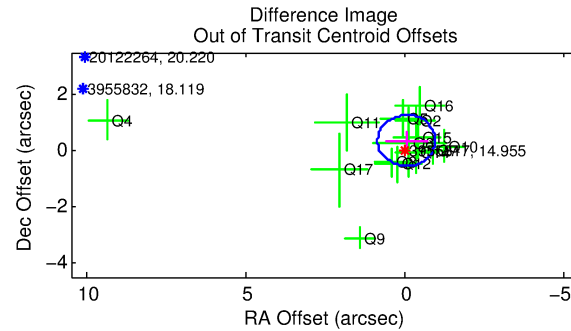
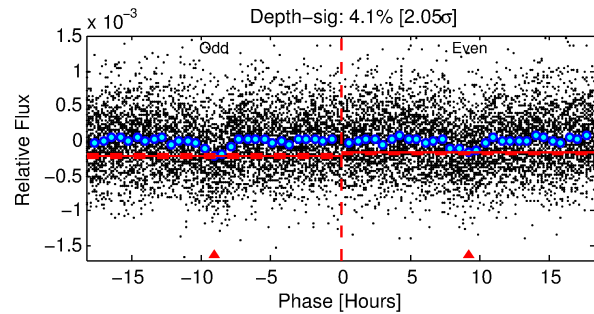
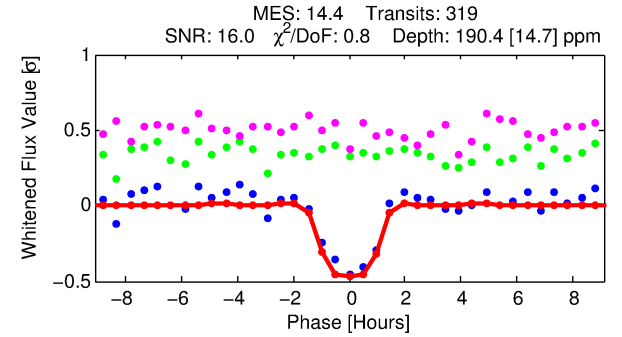
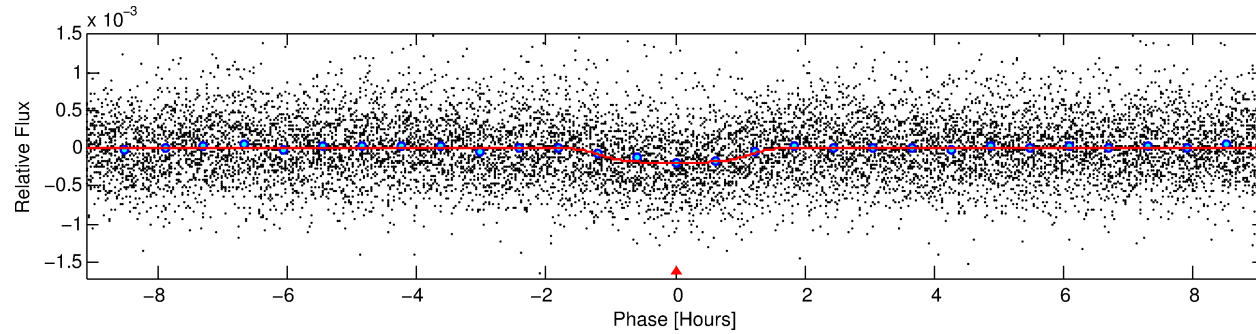
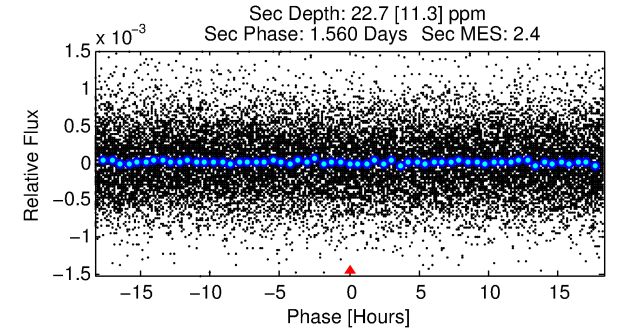
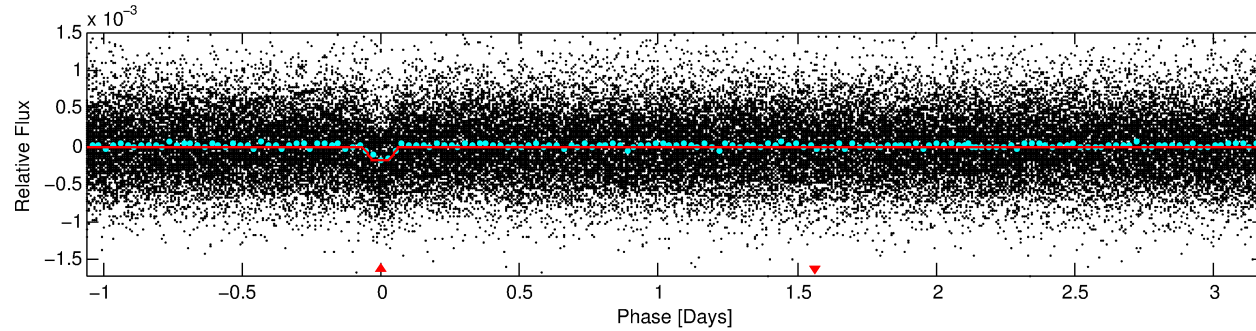
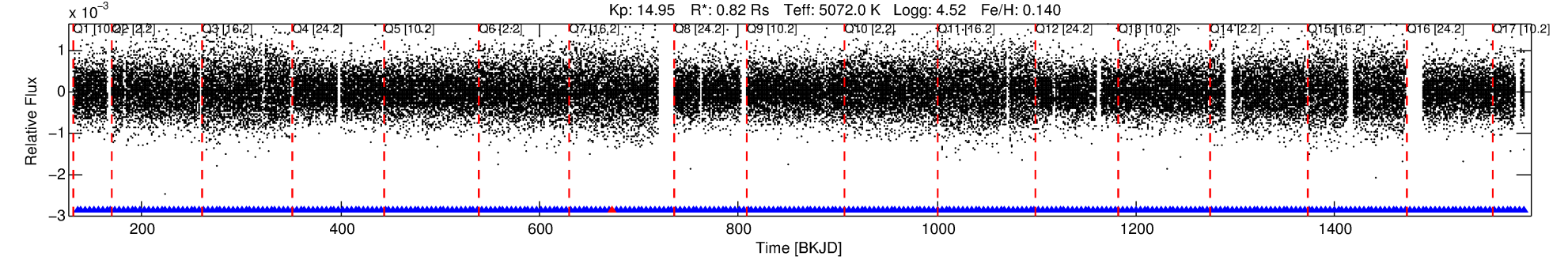
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003955817-01

No Significant Match Found

DV One-Page Summary

KIC: 3955817 Candidate: 1 of 1 Period: 4.243 d
KOI: K04117.01 Corr: 0.935



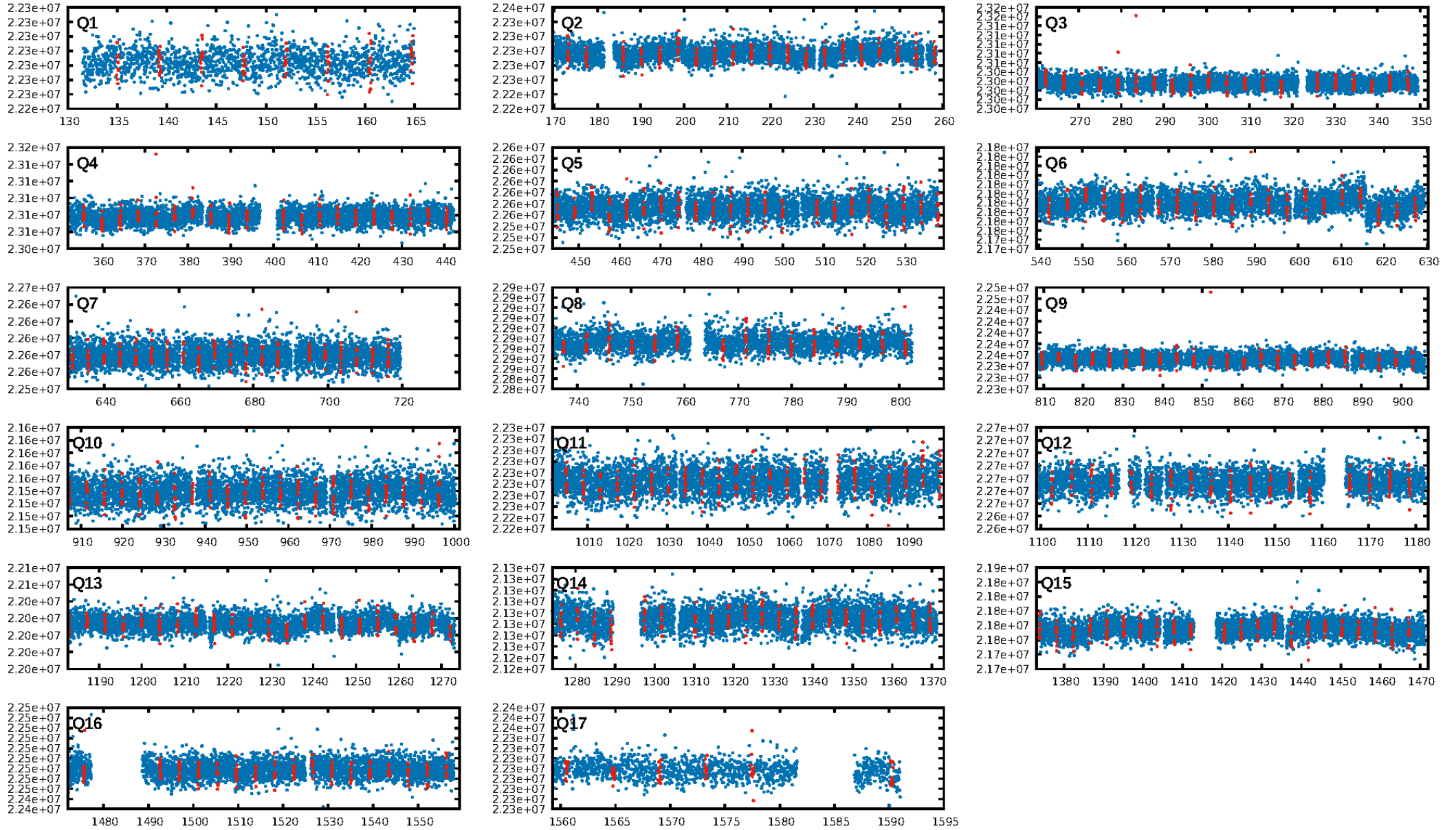
DV Fit Results:

Period = 4.24259 [0.00002] d
Epoch = 135.0365 [0.0037] BKJD
Rp/R* = 0.0175 [0.0014]
a/R* = 3.44 [0.93]
b = 0.97 [0.02]
Seff = 174.48 [19.42]
Teff = 927 [26] K
Rp = 1.58 [0.16] Re
a = 0.0481 [0.0027] AU
Ag = 11.62 [6.17] [1.72σ]
Teffp = 2645 [348] K [4.92σ]

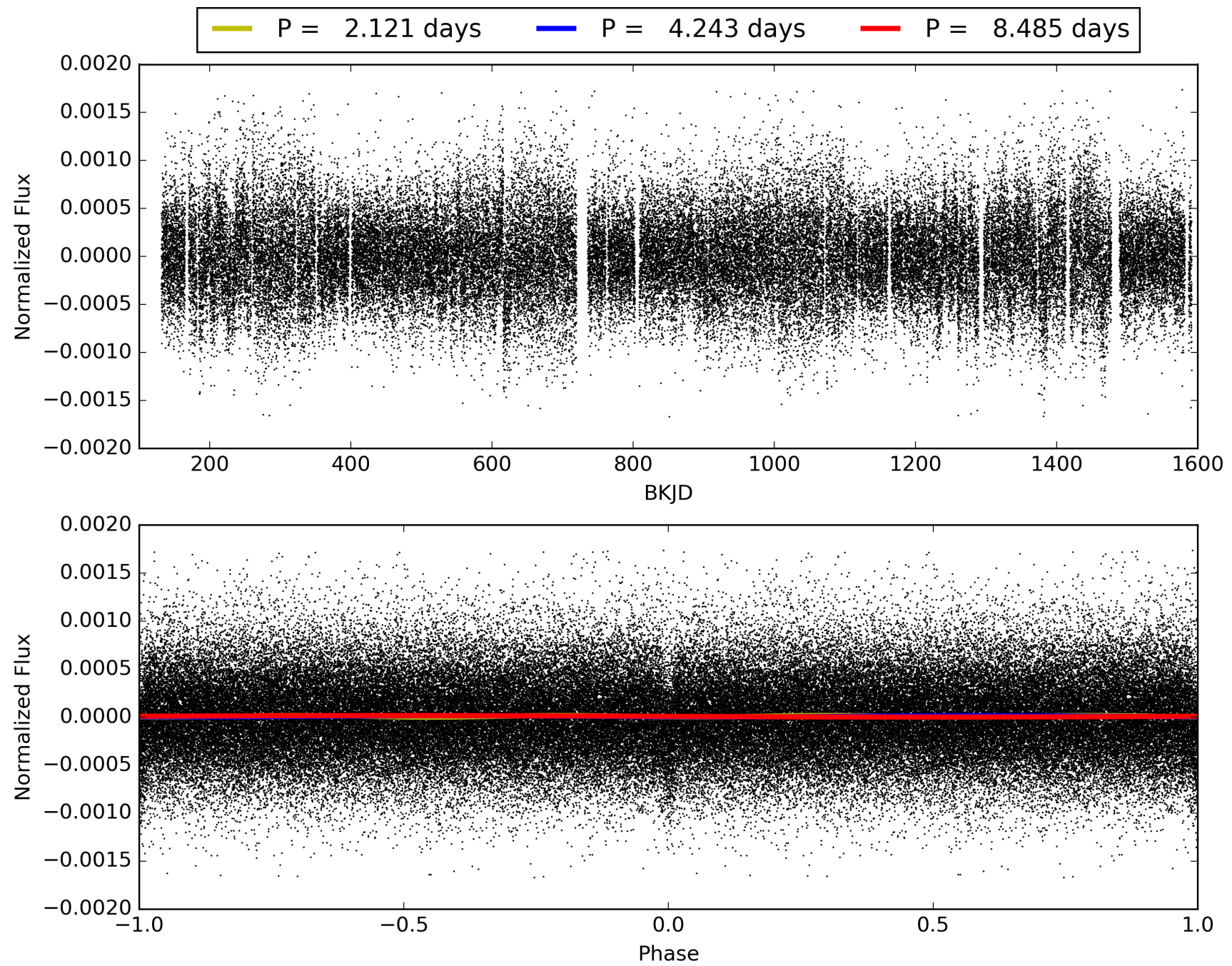
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.94e-46
RollingBand-fgt: 1.00 [304/305]
GhostDiagnostic-chr: 1.201
Centroid-sig: N/A
Centroid-so: 0.902 arcsec [1.09σ]
OotOffset-rm: 0.361 arcsec [1.20σ]
KicOffset-rm: 0.219 arcsec [0.64σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 003955817-01, PDC Light Curves

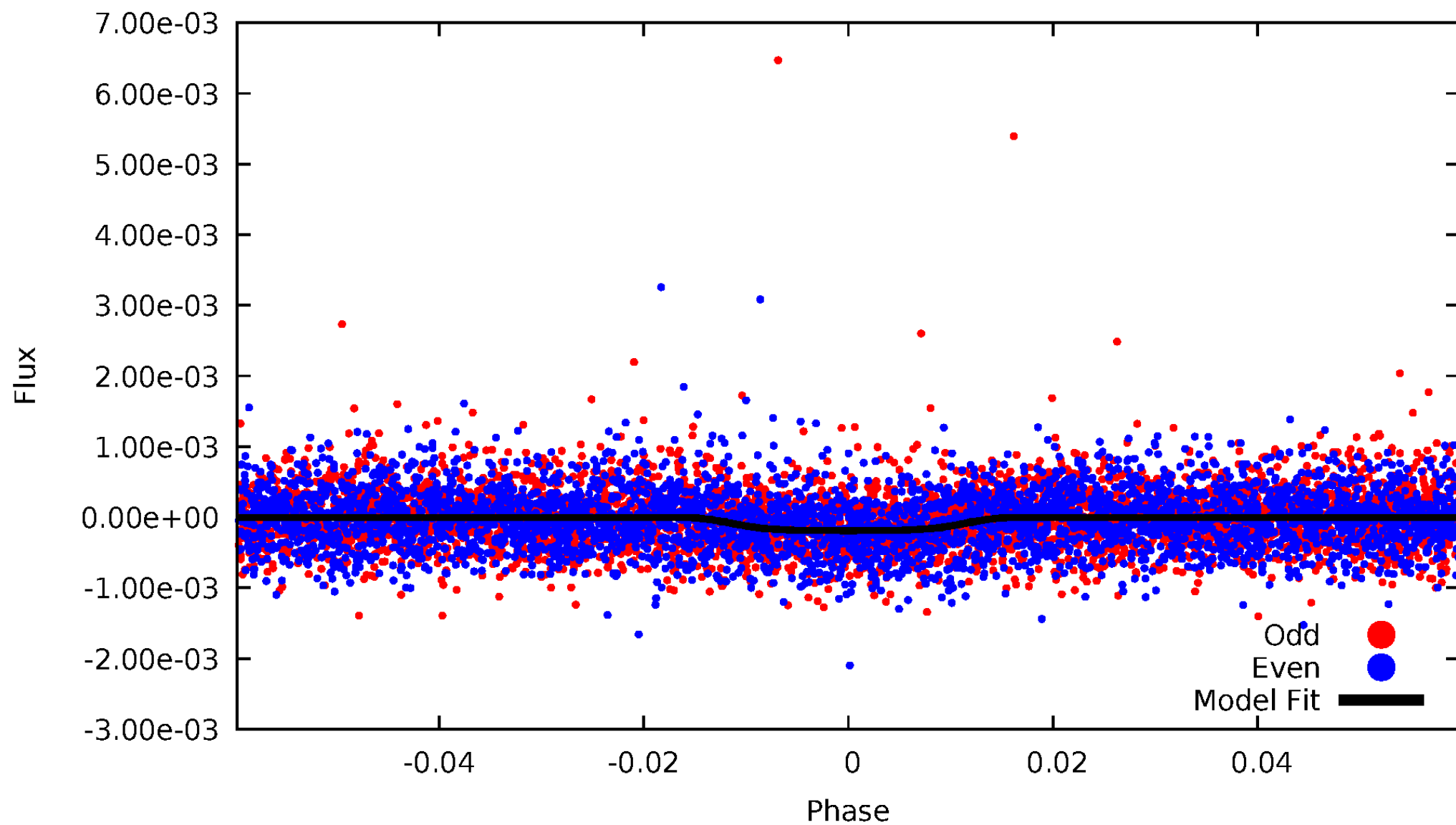


TCE 003955817-01



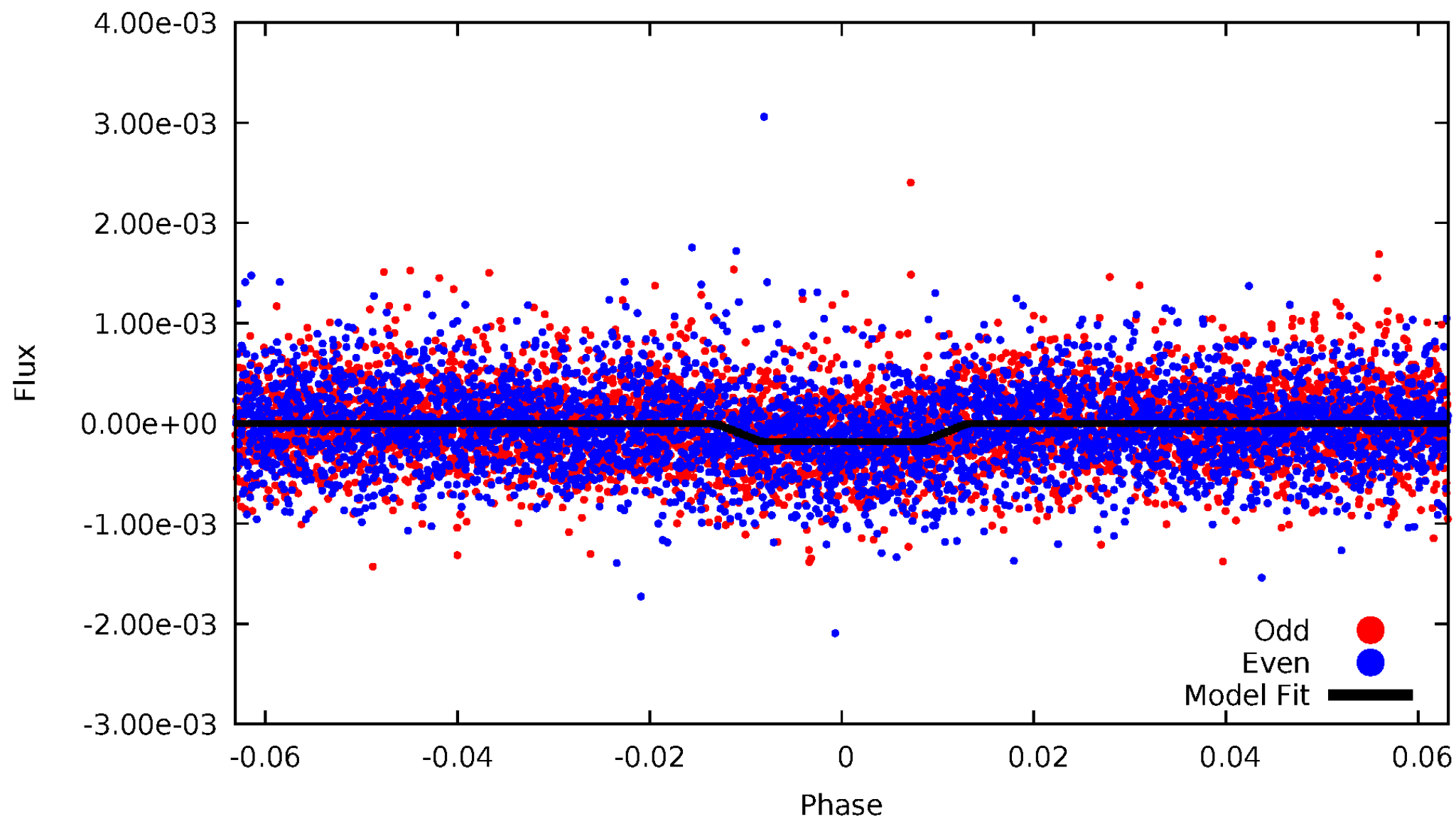
DV Odd/Even

TCE 003955817-01



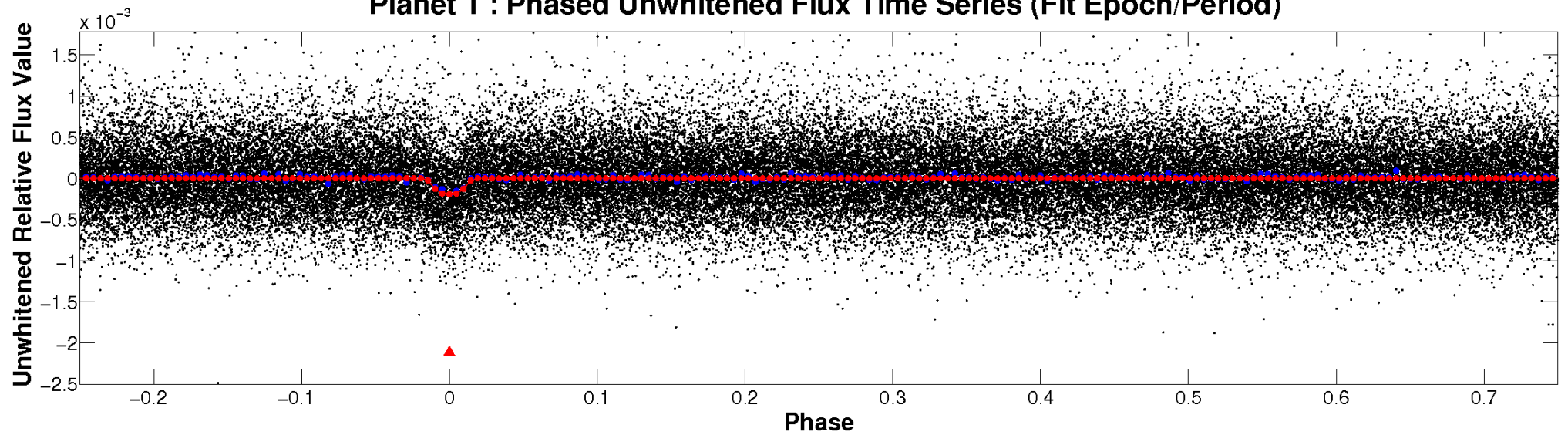
ALT Odd/Even

TCE 003955817-01

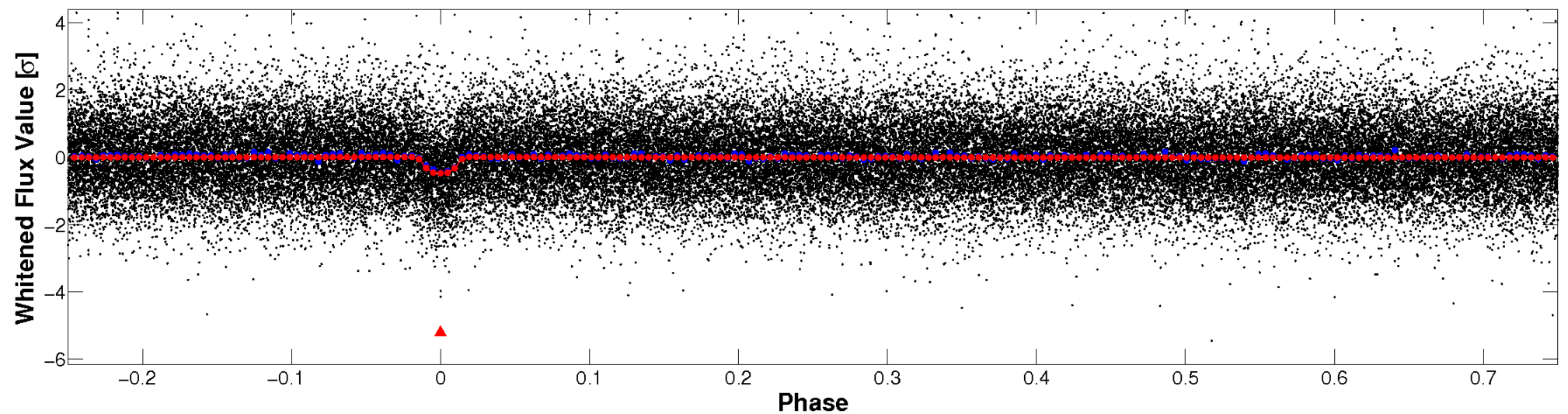


Non-Whitened Vs. Whitened Light Curve

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

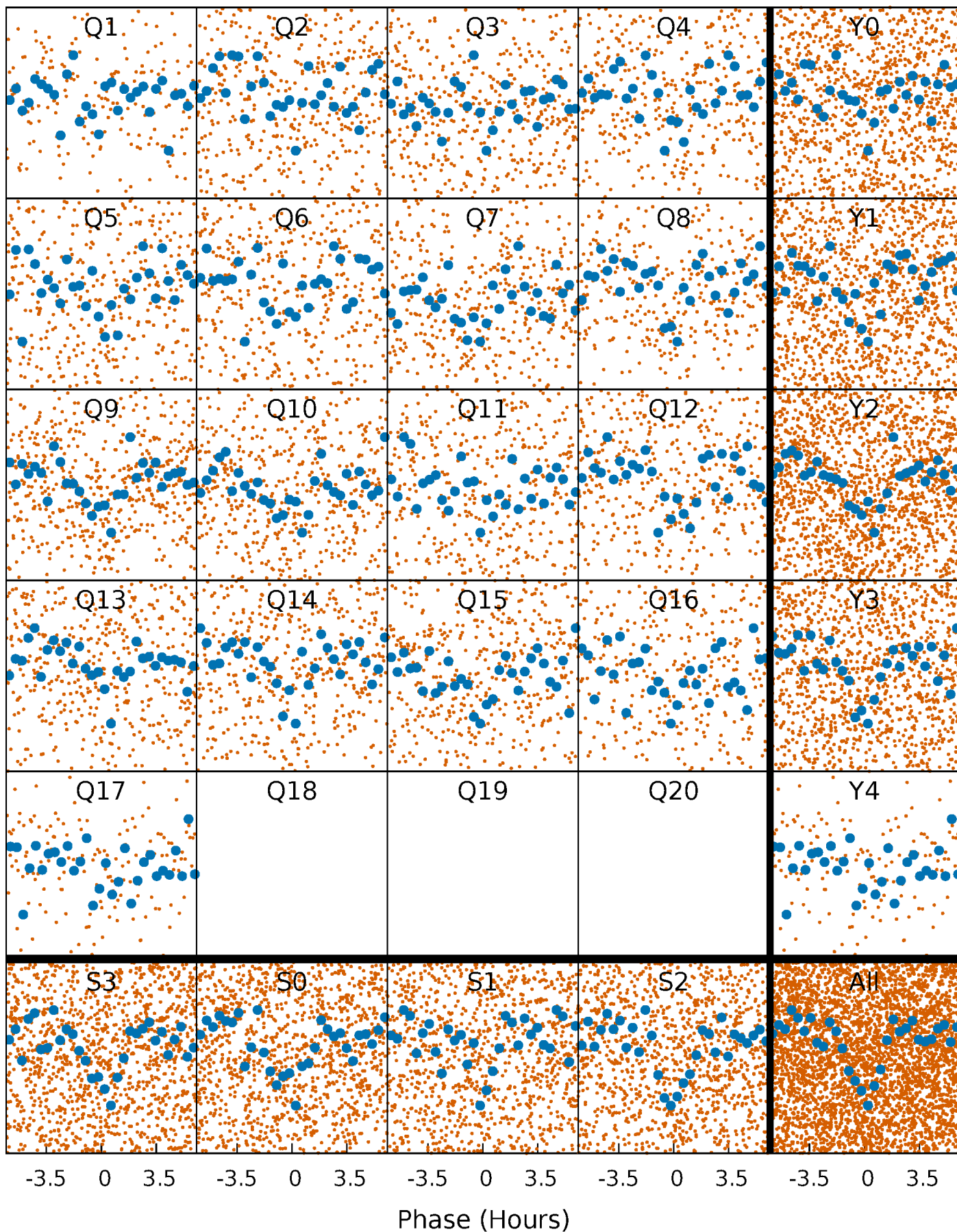


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



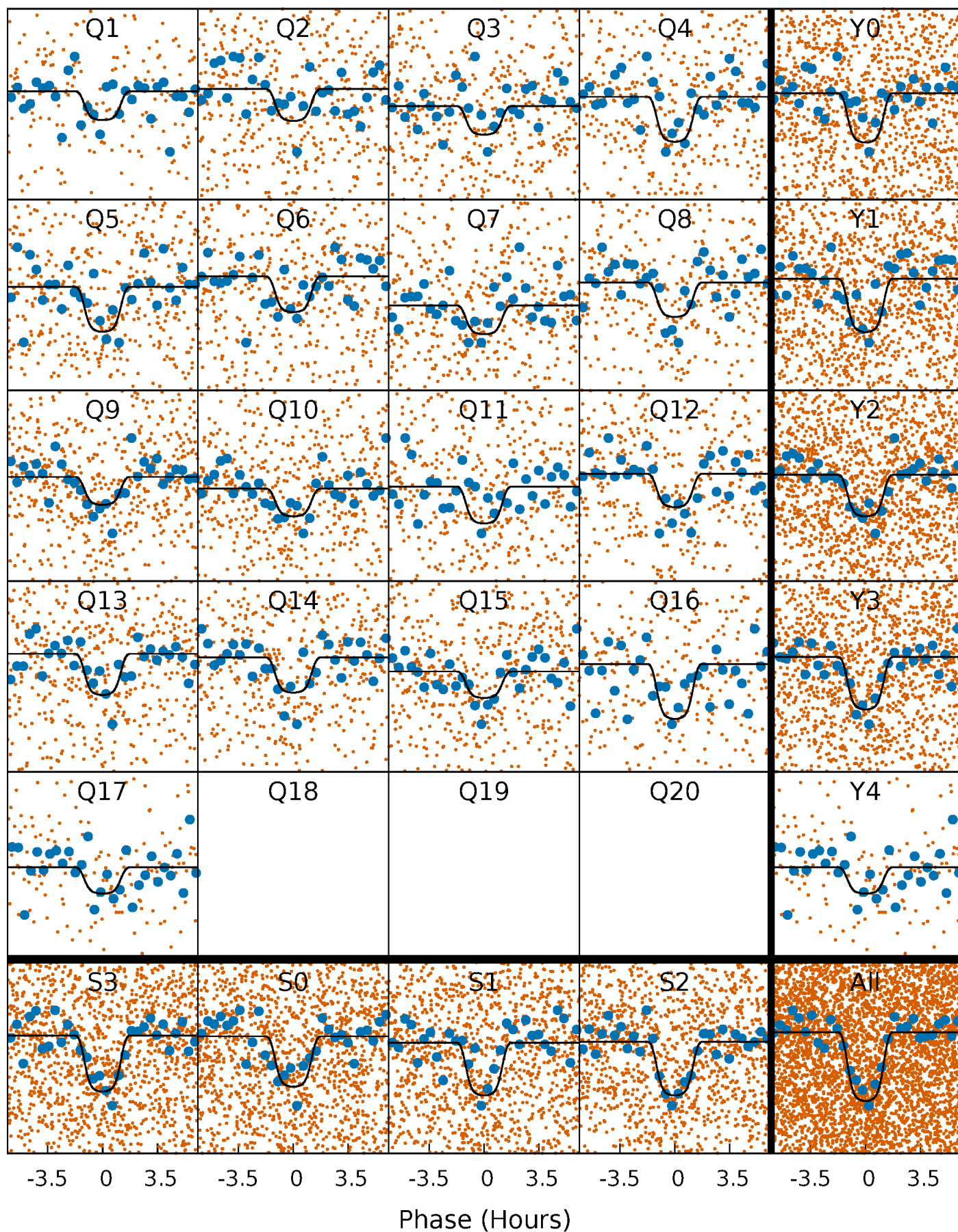
PDC Quarter-Phased Transit Curves

TCE 003955817-01 P= 4.242587 Days $T_0=135.036526$ (BKJD)



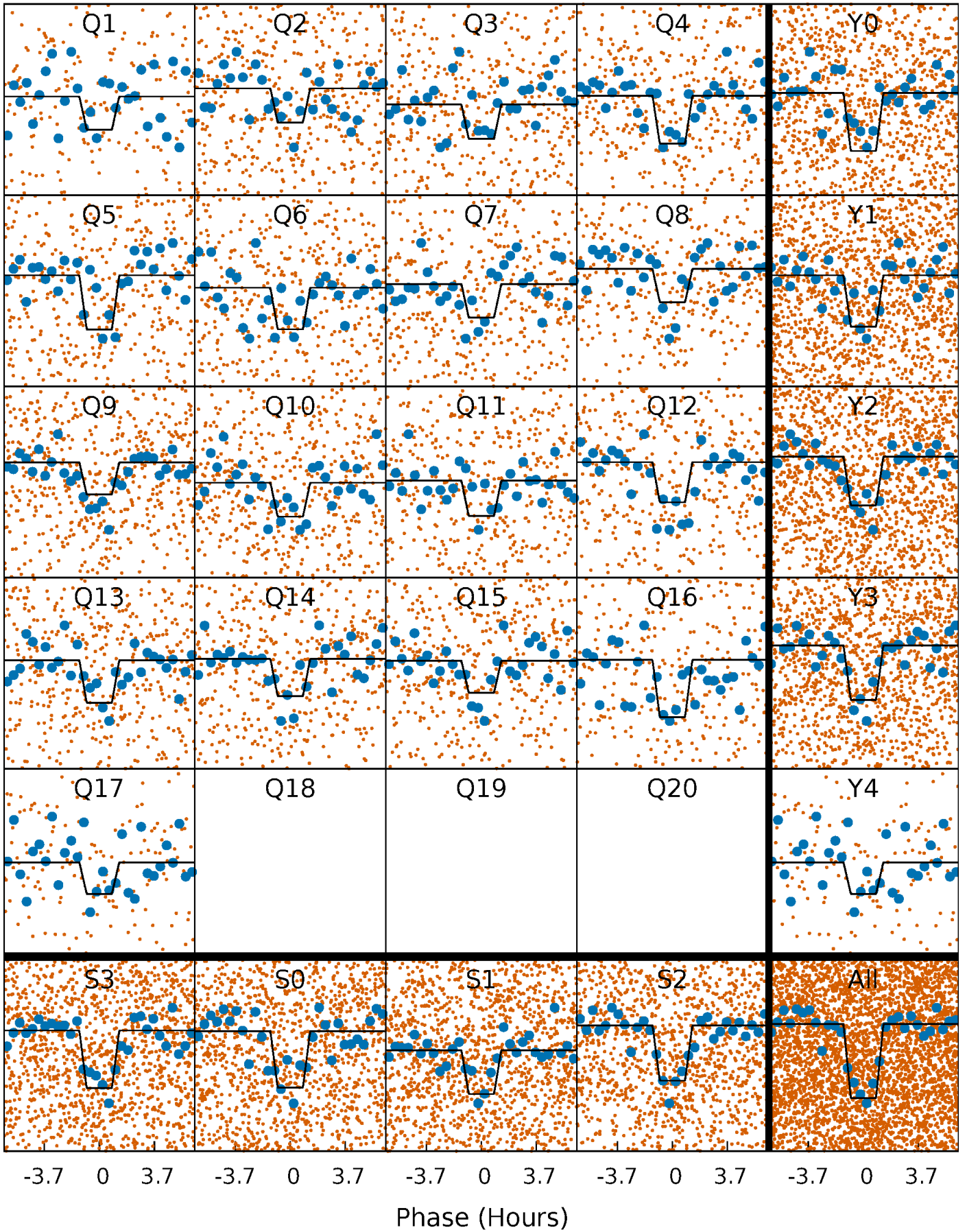
DV Quarter-Phased Transit Curves

TCE 003955817-01 P= 4.242587 Days $T_0=135.036526$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

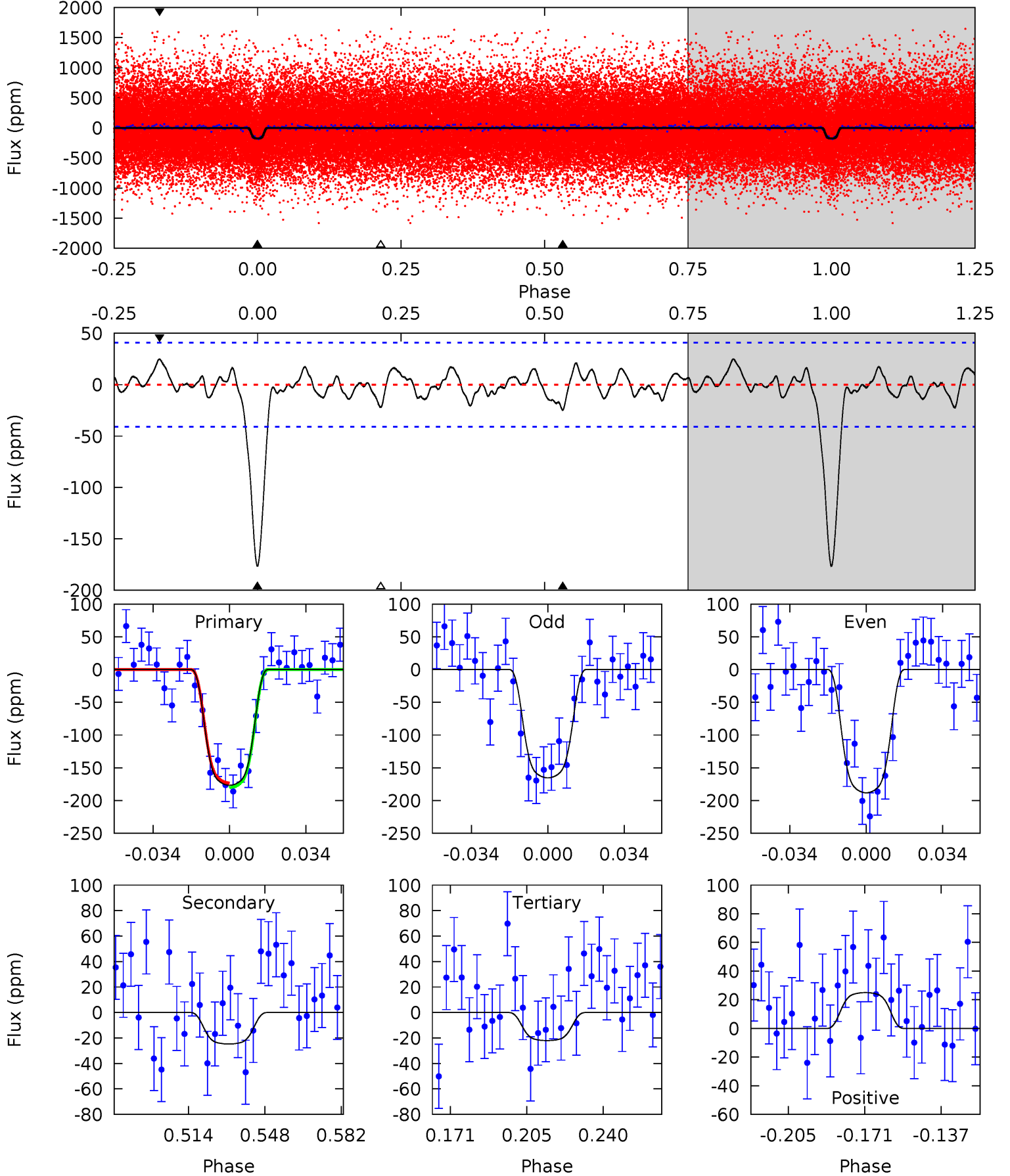
TCE 003955817-01 P= 4.242608 Days $T_0=135.033533$ (BKJD)



DV Model-Shift Uniqueness Test

003955817-01, P = 4.242587 Days, E = 130.793939 Days

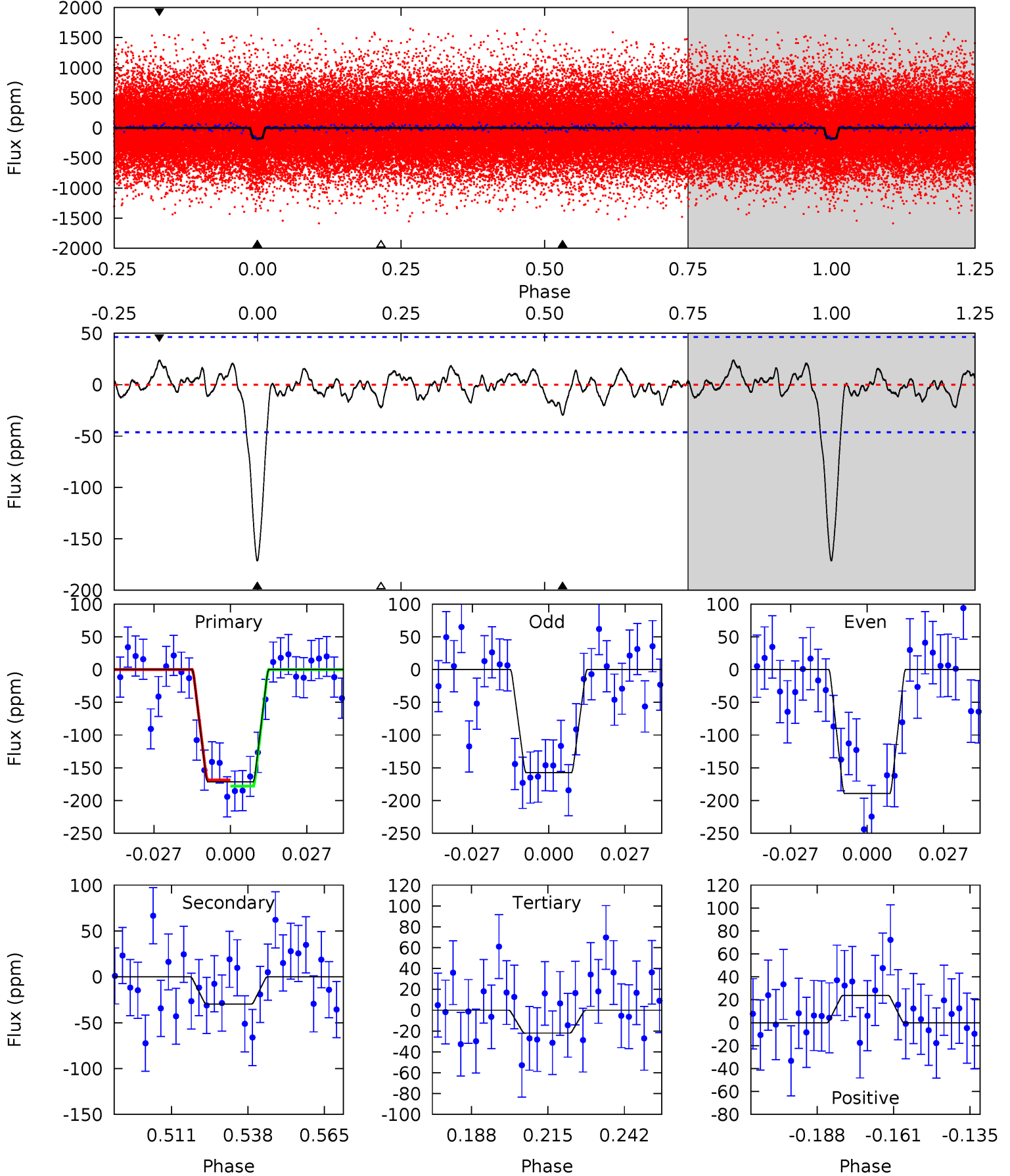
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	2.90	2.58	2.93	4.78	2.12	1.04	18.1	17.7	0.31	-0.03	1.34	0.92	0.12	0.40



Alt Model-Shift Uniqueness Test

003955817-01, P = 4.242608 Days, E = 130.790925 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	3.09	2.30	2.48	4.83	2.21	0.90	15.6	15.4	0.80	0.61	1.66	0.91	0.12	0.49



Stellar Parameters For KIC 003955817

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5072^{+81}_{-81}	$4.521^{+0.054}_{-0.036}$	$0.140^{+0.150}_{-0.150}$	$0.825^{+0.042}_{-0.047}$	$0.822^{+0.047}_{-0.034}$	$2.066^{+0.400}_{-0.279}$
	+2%/-2%	+1%/-1%	+107%/-107%	+5%/-6%	+6%/-4%	+19%/-13%
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 003955817-01 / KOI 4117.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-25 ± 9	$1.56^{+0.15}_{-0.14}$	1291^{+28}_{-26}	3217^{+196}_{-207}	12^{+6}_{-4}
Alt.	-30 ± 10	$1.22^{+0.14}_{-0.13}$	1291^{+29}_{-29}	3580^{+233}_{-244}	24^{+11}_{-9}

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 $A_{obs} \gg 1.0$

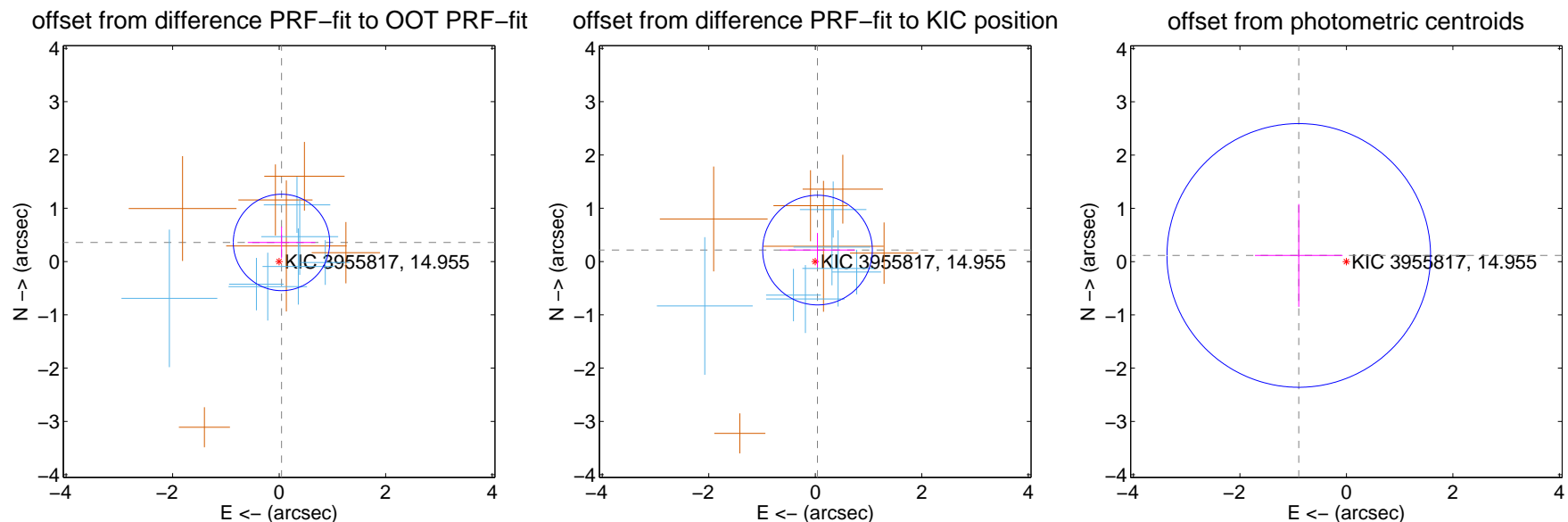
DV Centroid Data

Supplemental centroid analysis for 003955817-01. Kepler magnitude: 14.96. Transit SNR 15.96

There are 7 quarters with good PRF difference image offsets

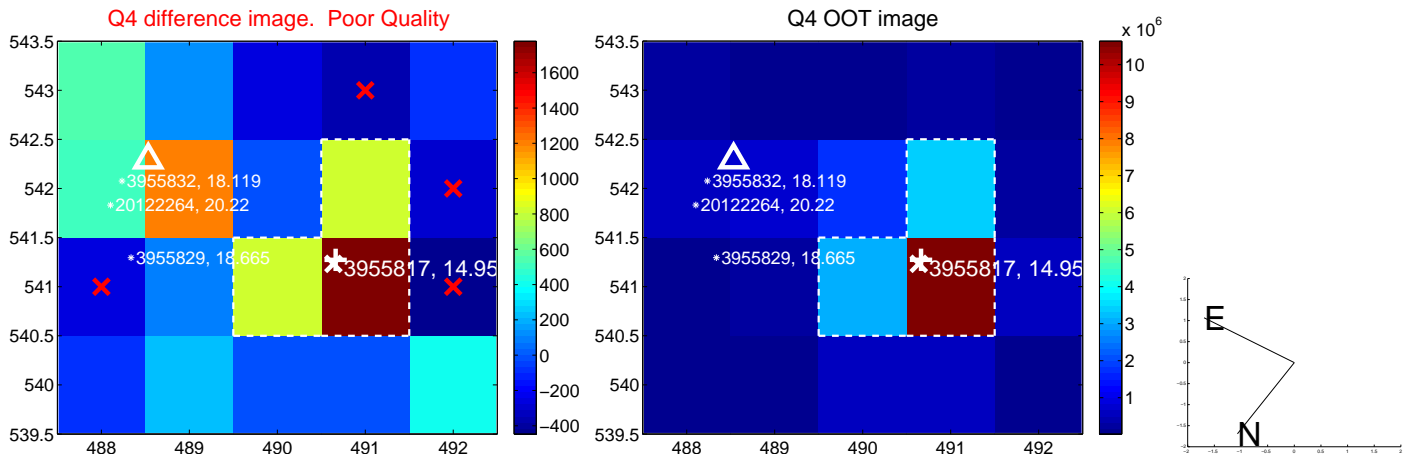
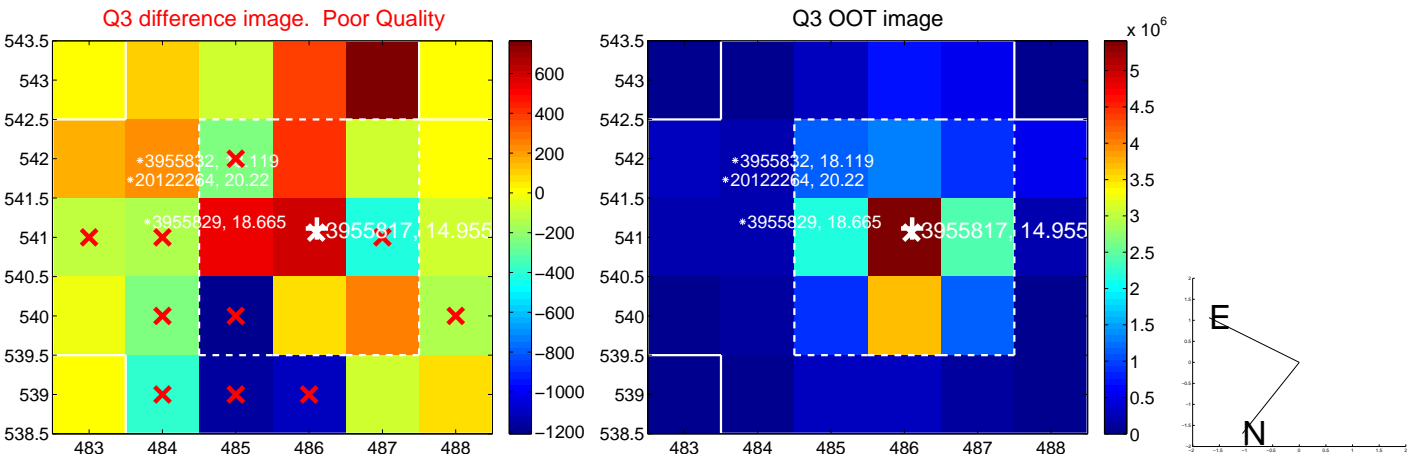
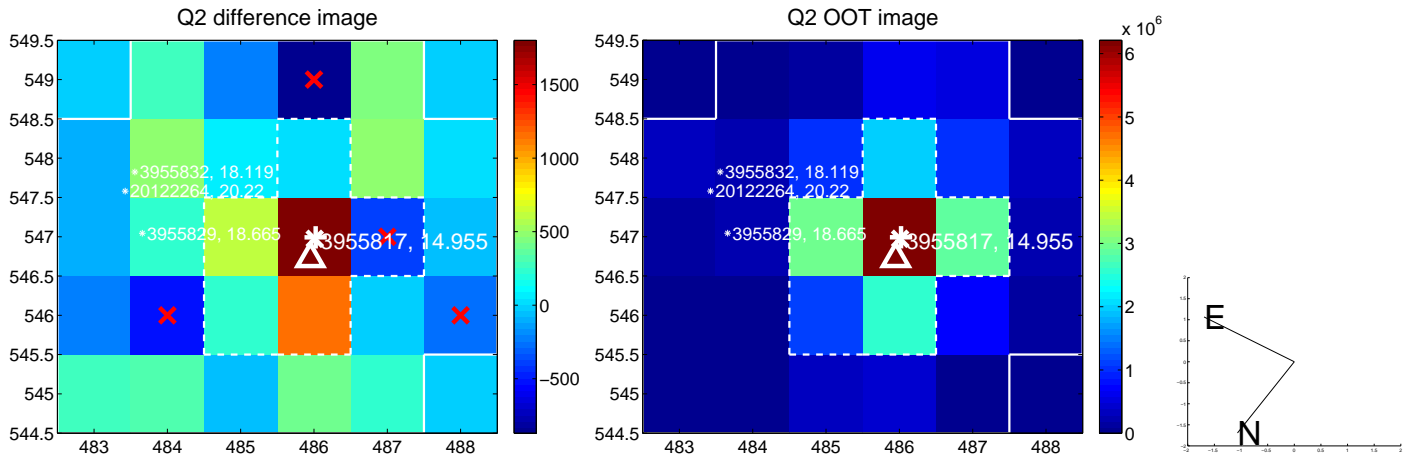
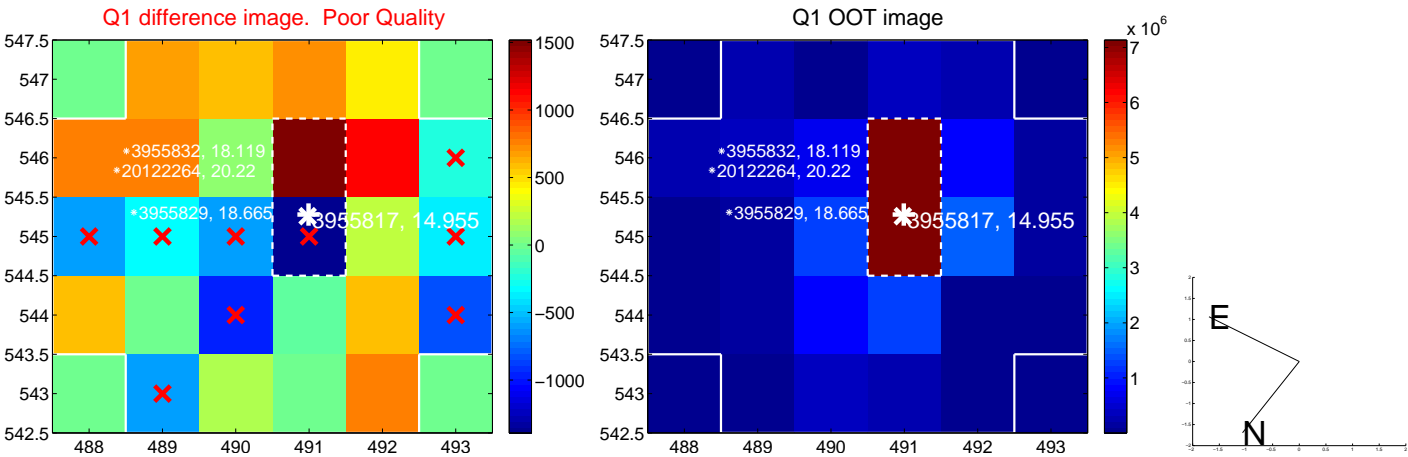
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.361 ± 0.302	1.20	-0.044 ± 0.634	0.358 ± 0.298
PRF-fit source offset from KIC position	0.219 ± 0.343	0.64	-0.042 ± 0.703	0.215 ± 0.321
photometric centroid source offset	0.90 ± 0.82	1.09	0.89 ± 0.82	0.12 ± 0.97

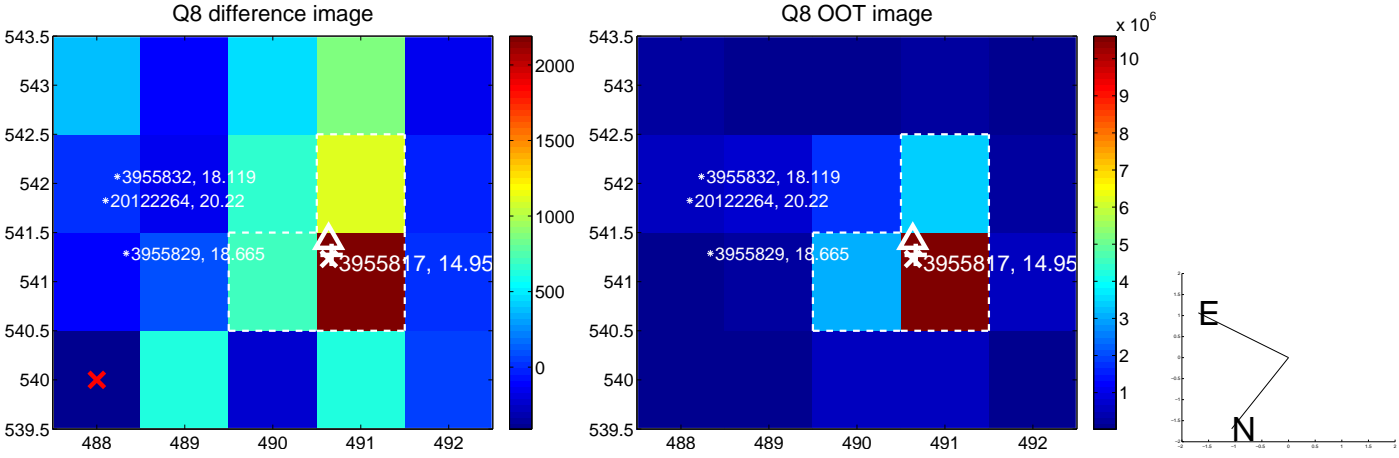
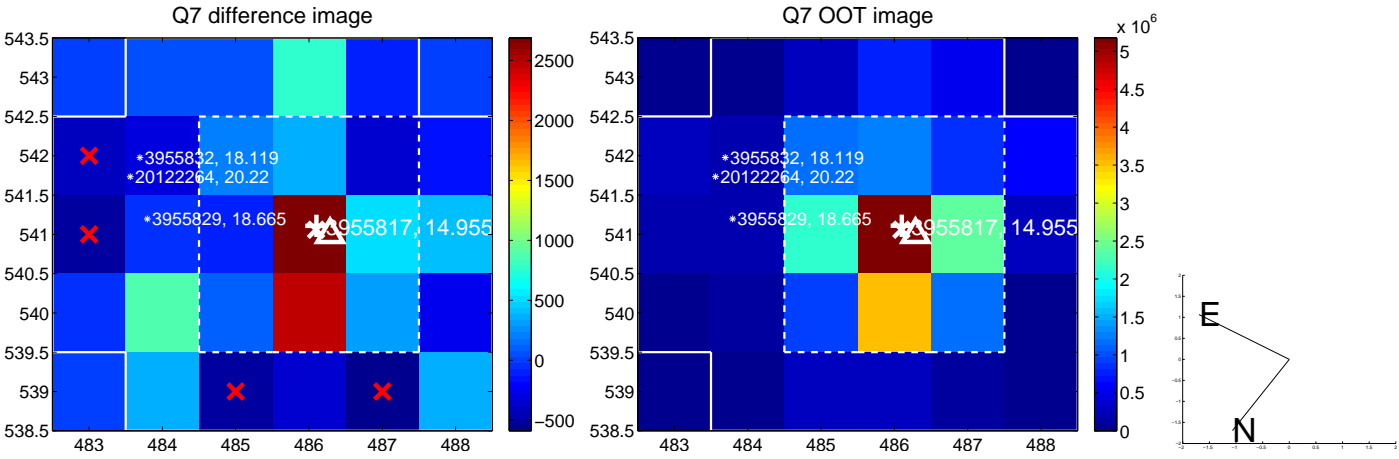
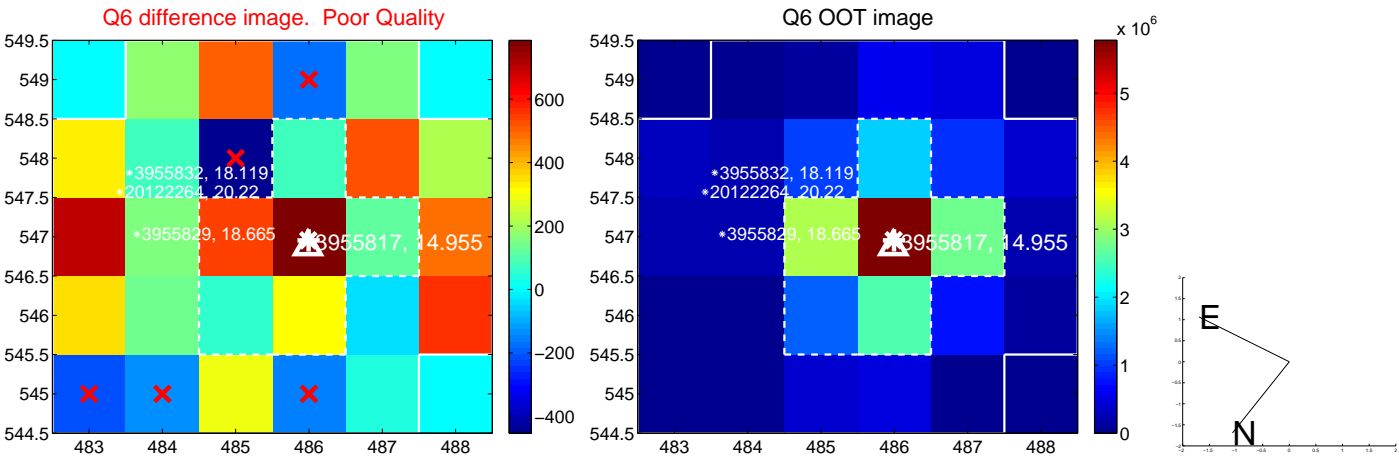
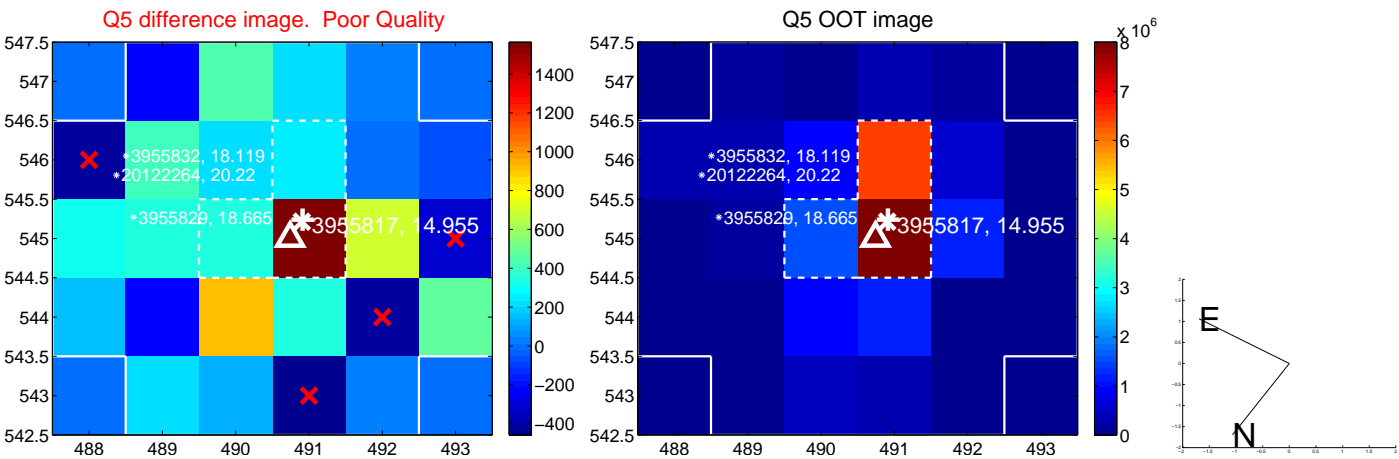


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

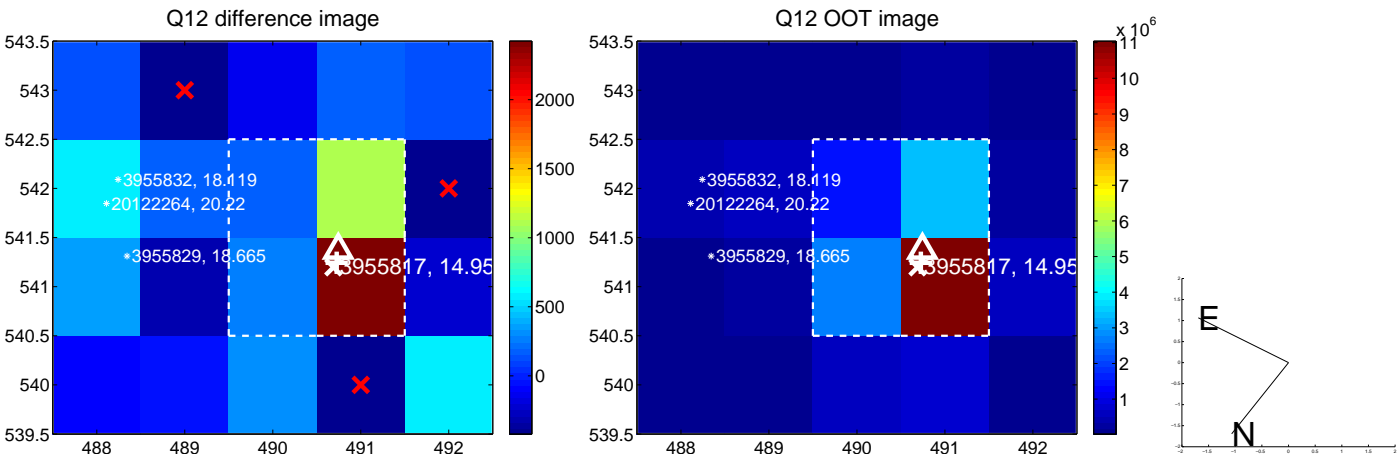
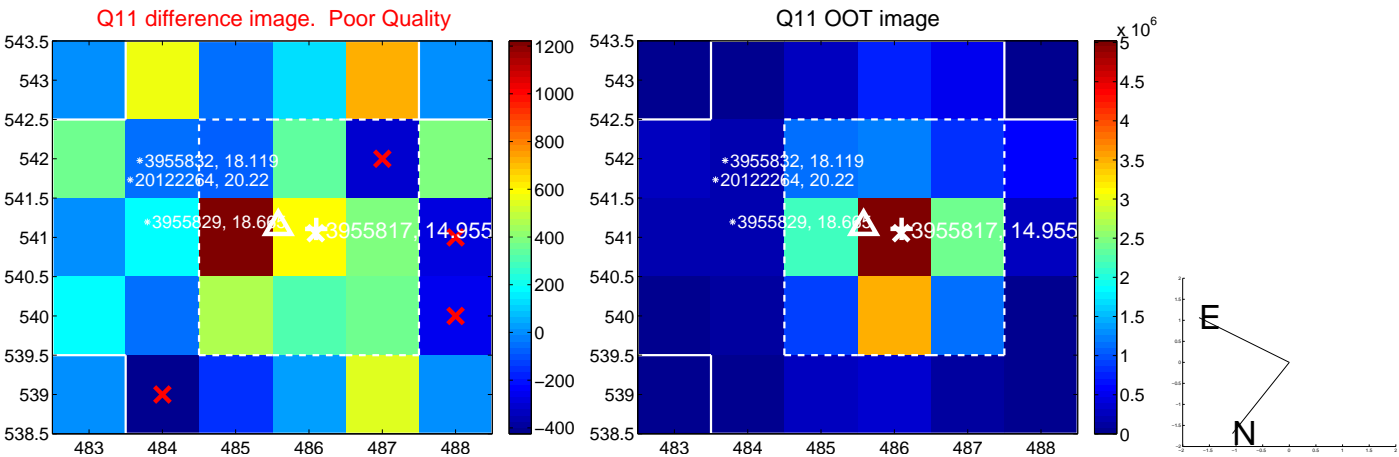
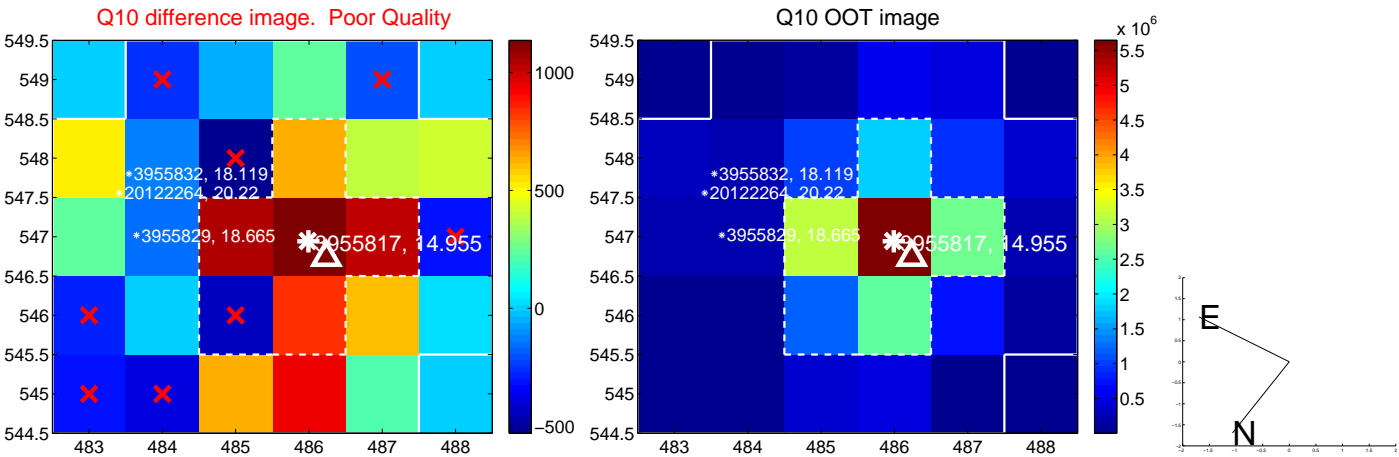
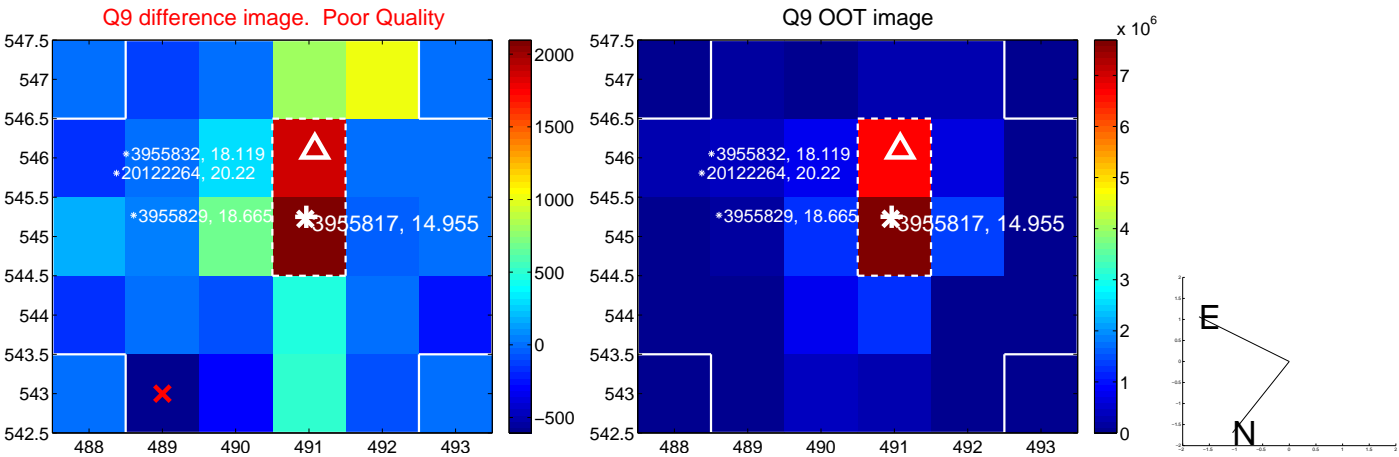
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



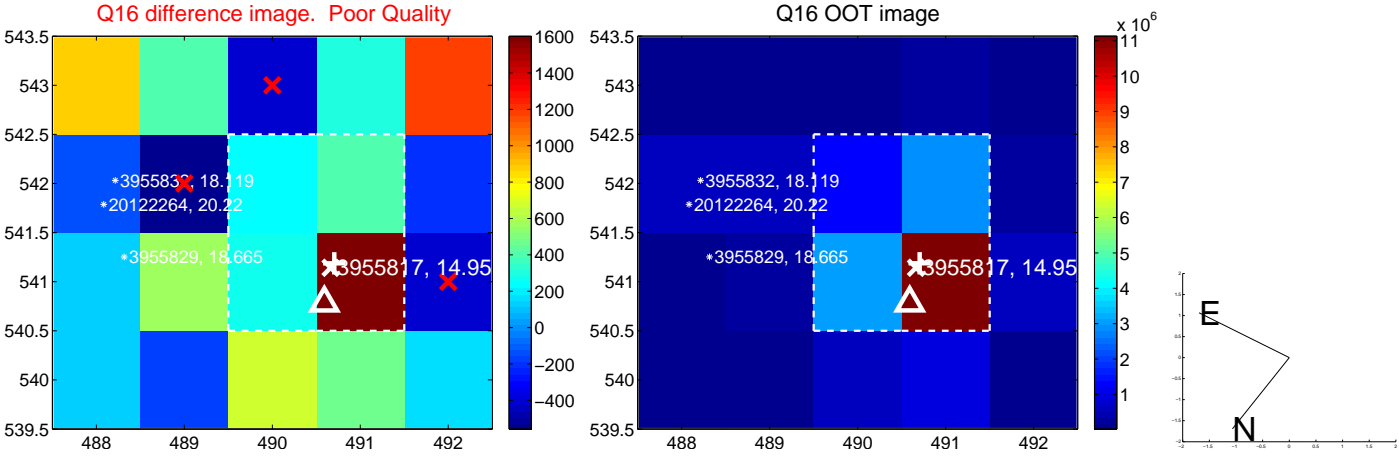
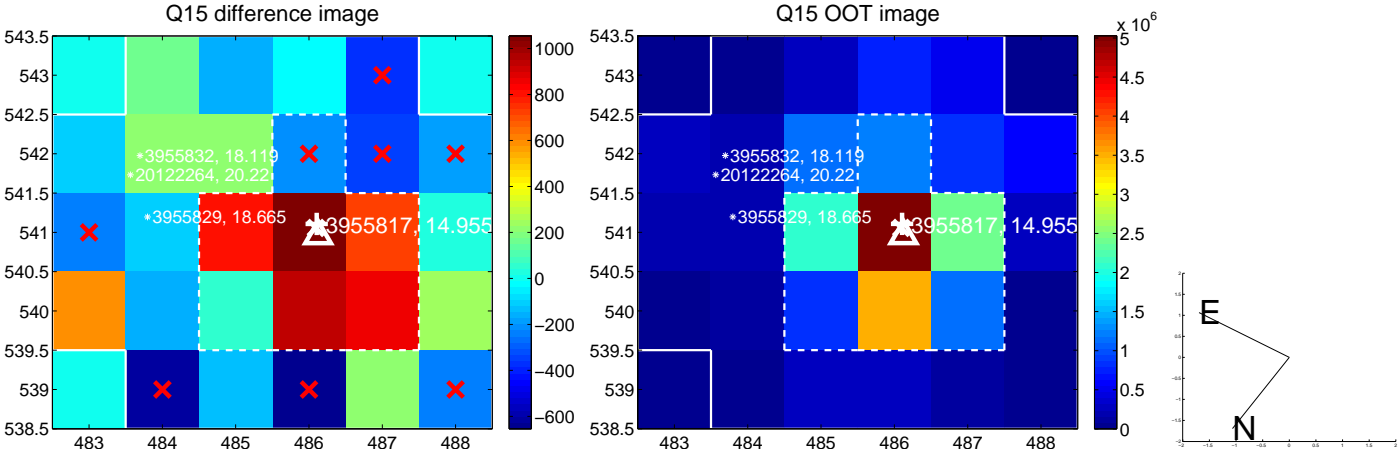
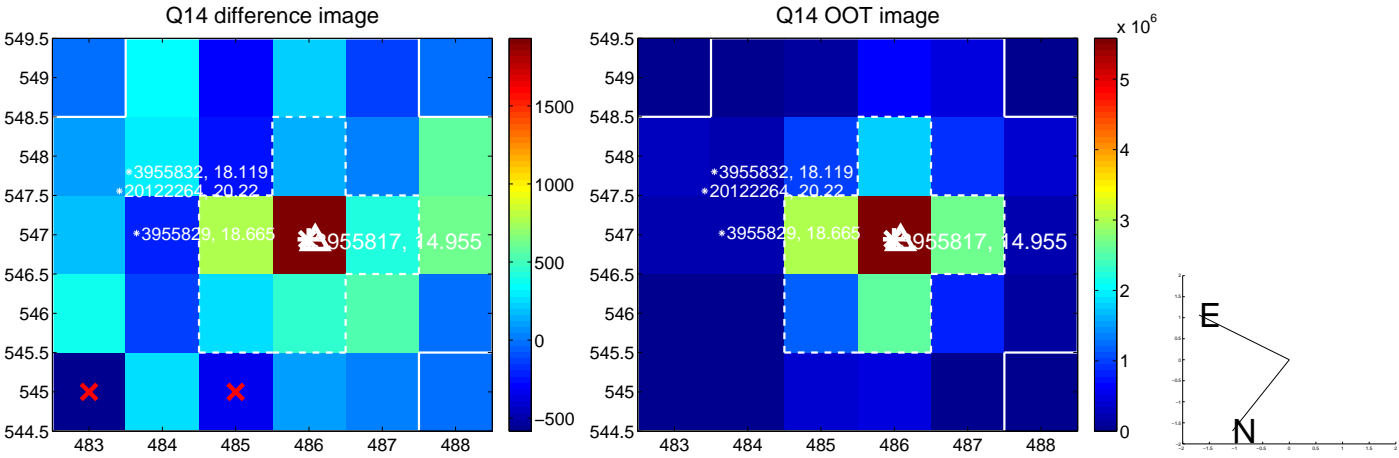
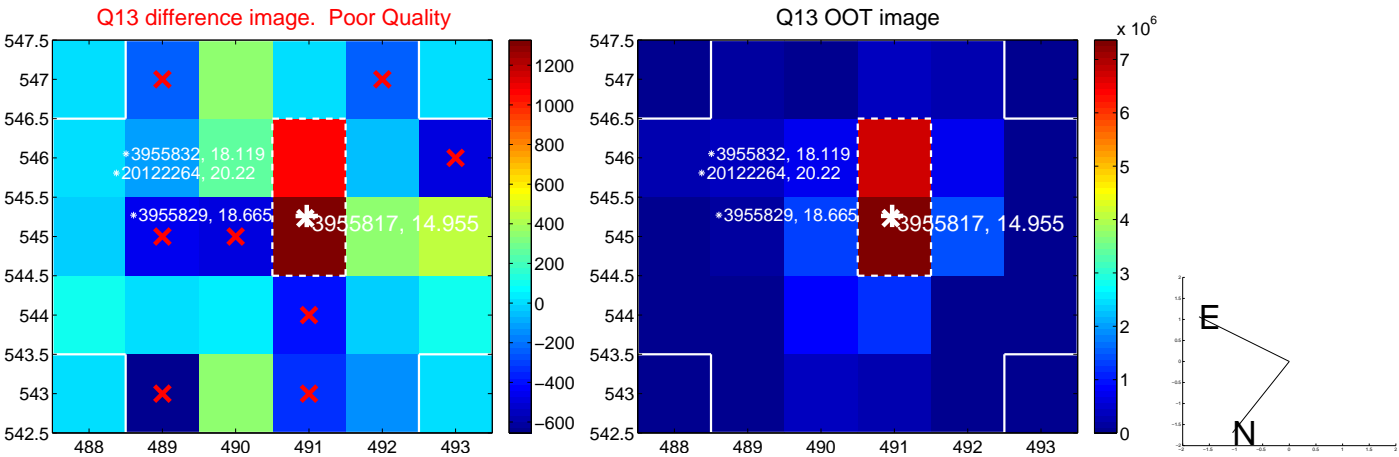
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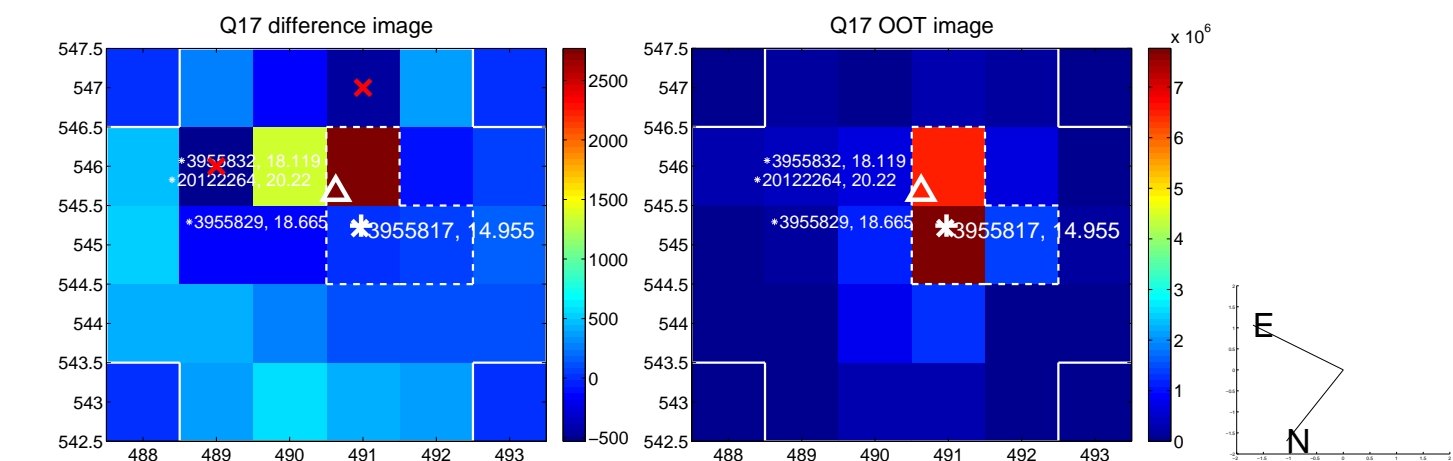
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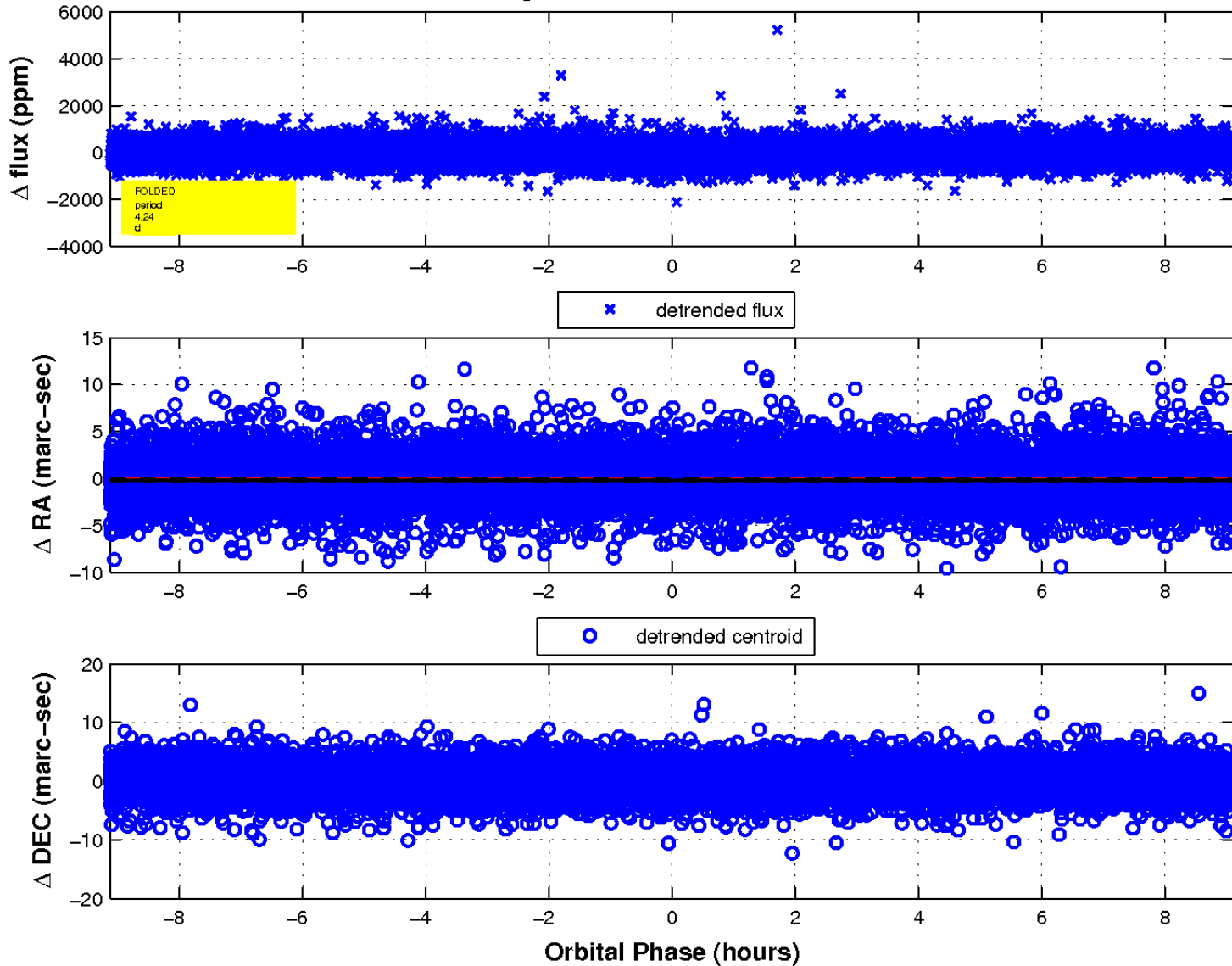
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

