

KIC 012554634

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})
012554634-01	OBS	4714.01	2.049588	132.331301	144.3	1.111	9.2	8.9	0.78	5356	1.13	496.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012554634-01	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.

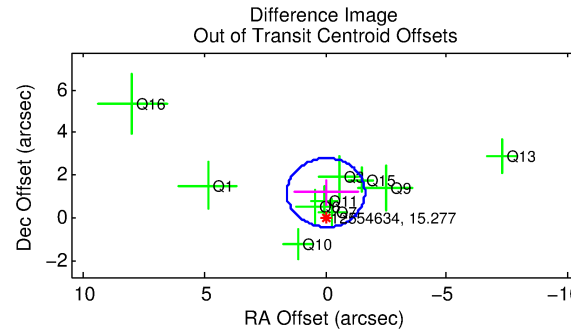
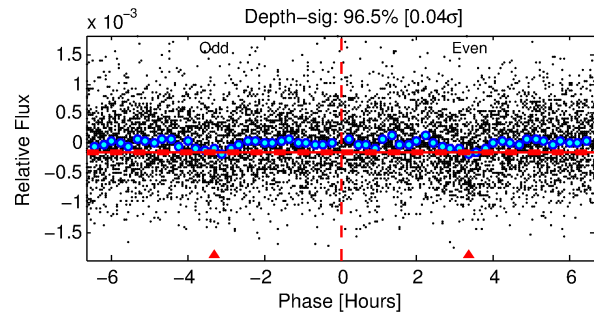
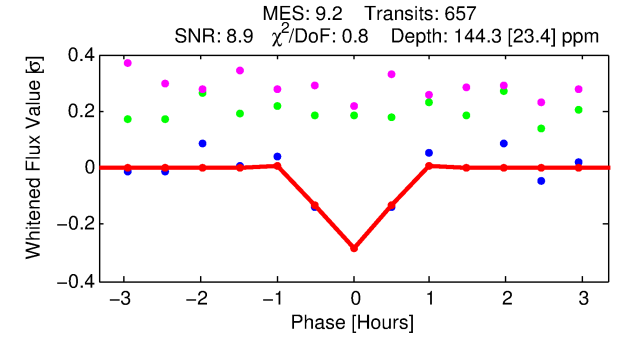
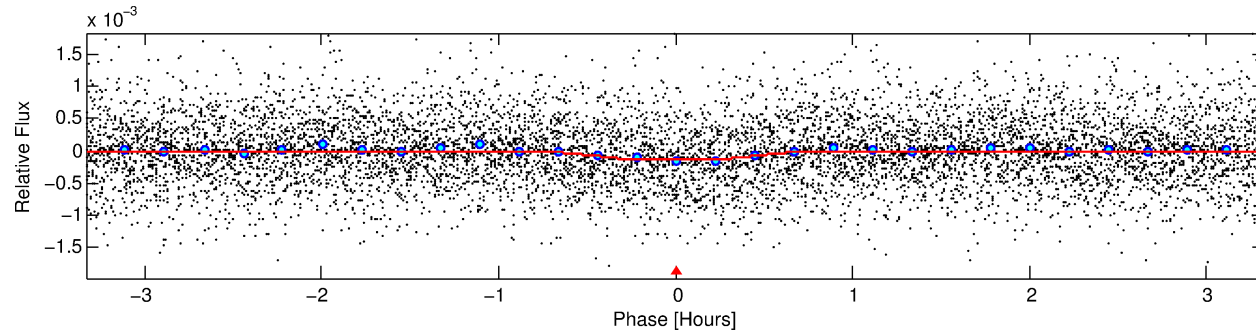
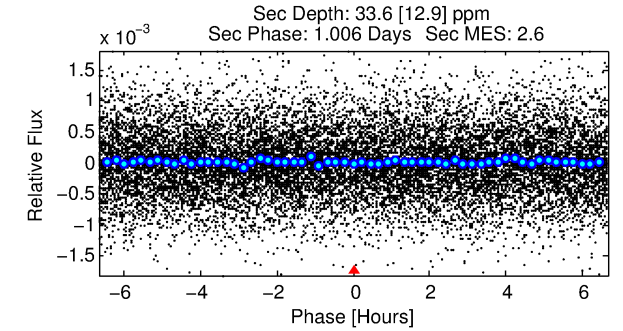
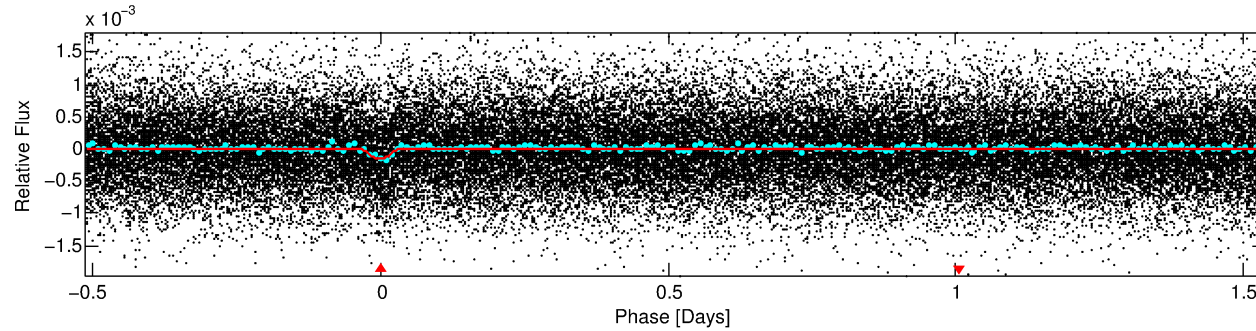
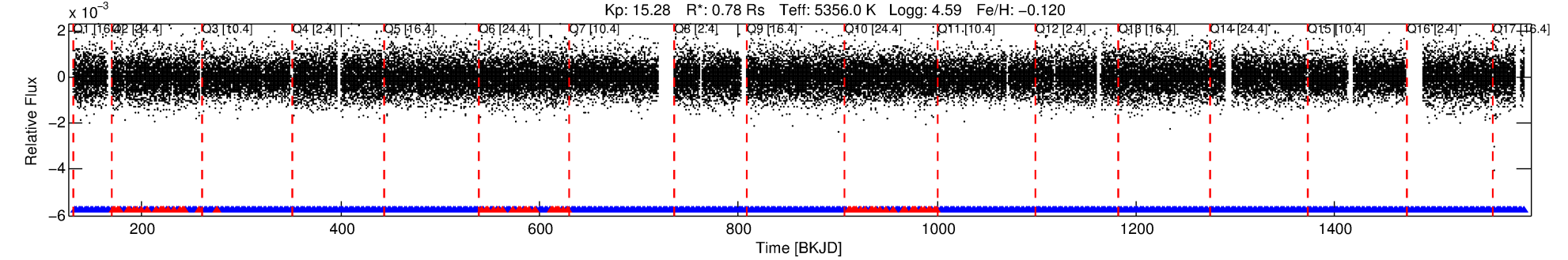
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012554634-01

No Significant Match Found

DV One-Page Summary

KIC: 12554634 Candidate: 1 of 1 Period: 2.050 d
KOI: K04714.01 Corr: 0.950



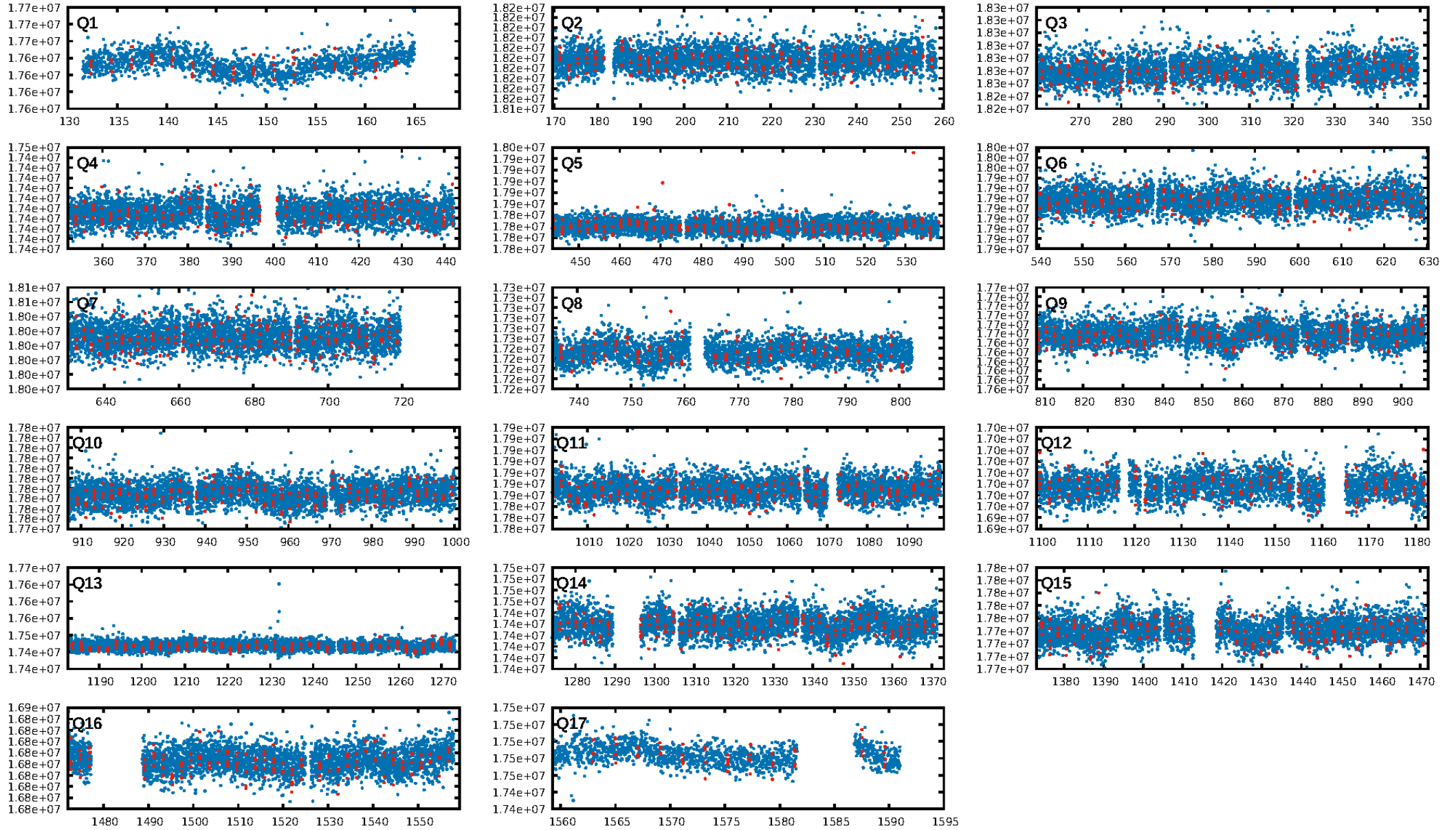
DV Fit Results:

Period = 2.04959 [0.00001] d
Epoch = 132.3313 [0.0022] BKJD
Rp/R* = 0.0133 [0.0156]
a/R* = 6.68 [33.28]
b = 0.90 [1.13]
Seff = 496.70 [118.15]
Teff = 1204 [72] K
Rp = 1.13 [1.34] Re
a = 0.0301 [0.0043] AU
Ag = 12.99 [30.99] [0.39σ]
Teffp = 3533 [2103] K [1.11σ]

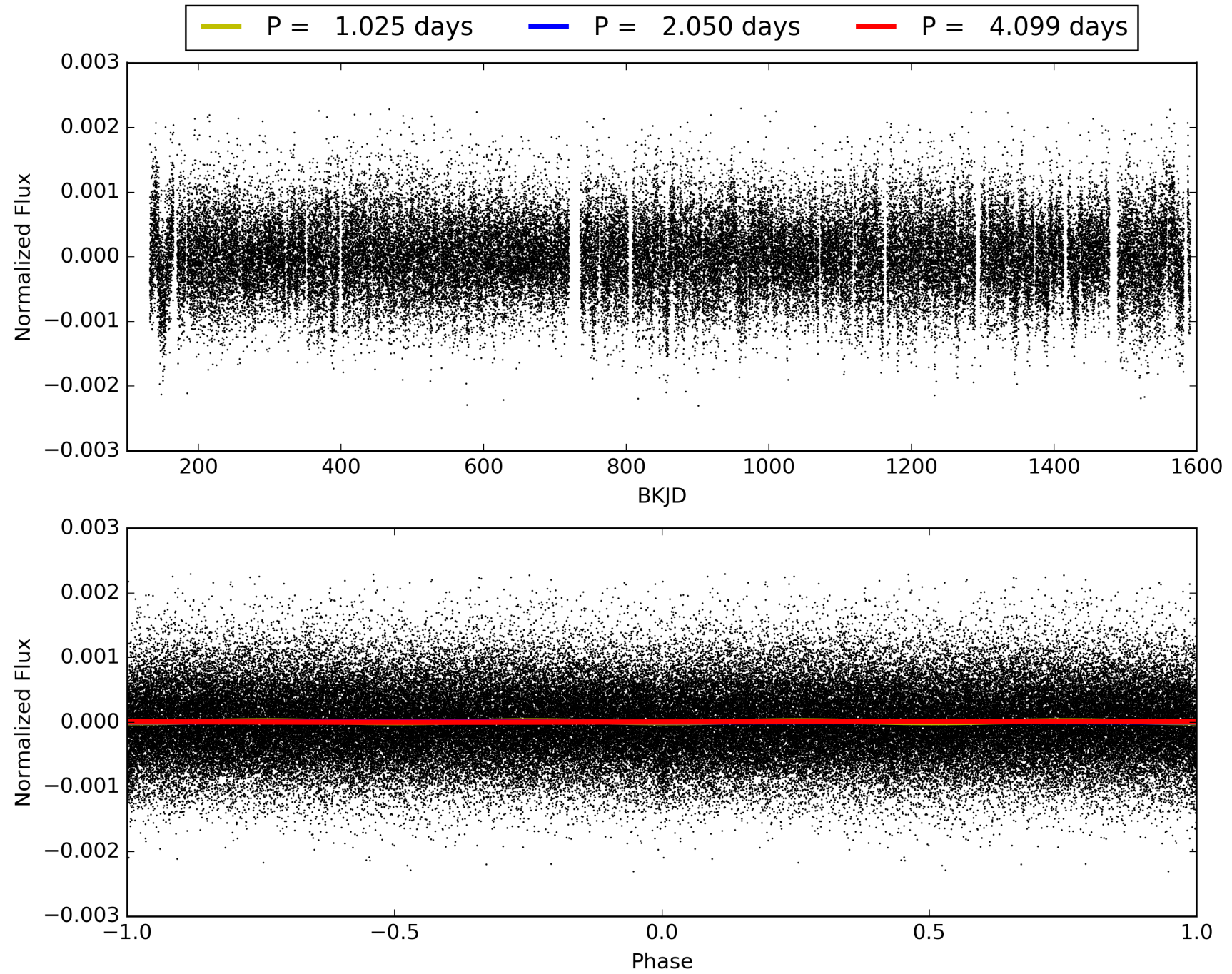
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.67e-20
RollingBand-fgt: 0.90 [564/629]
GhostDiagnostic-chr: 1.193
Centroid-sig: 0.0%
Centroid-so: 3.578 arcsec [2.41σ]
OotOffset-rm: 1.190 arcsec [2.22σ]
KicOffset-rm: 1.202 arcsec [2.41σ]
OotOffset-st: 2/4/1/3 [10]
KicOffset-st: 2/4/1/3 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012554634-01, PDC Light Curves

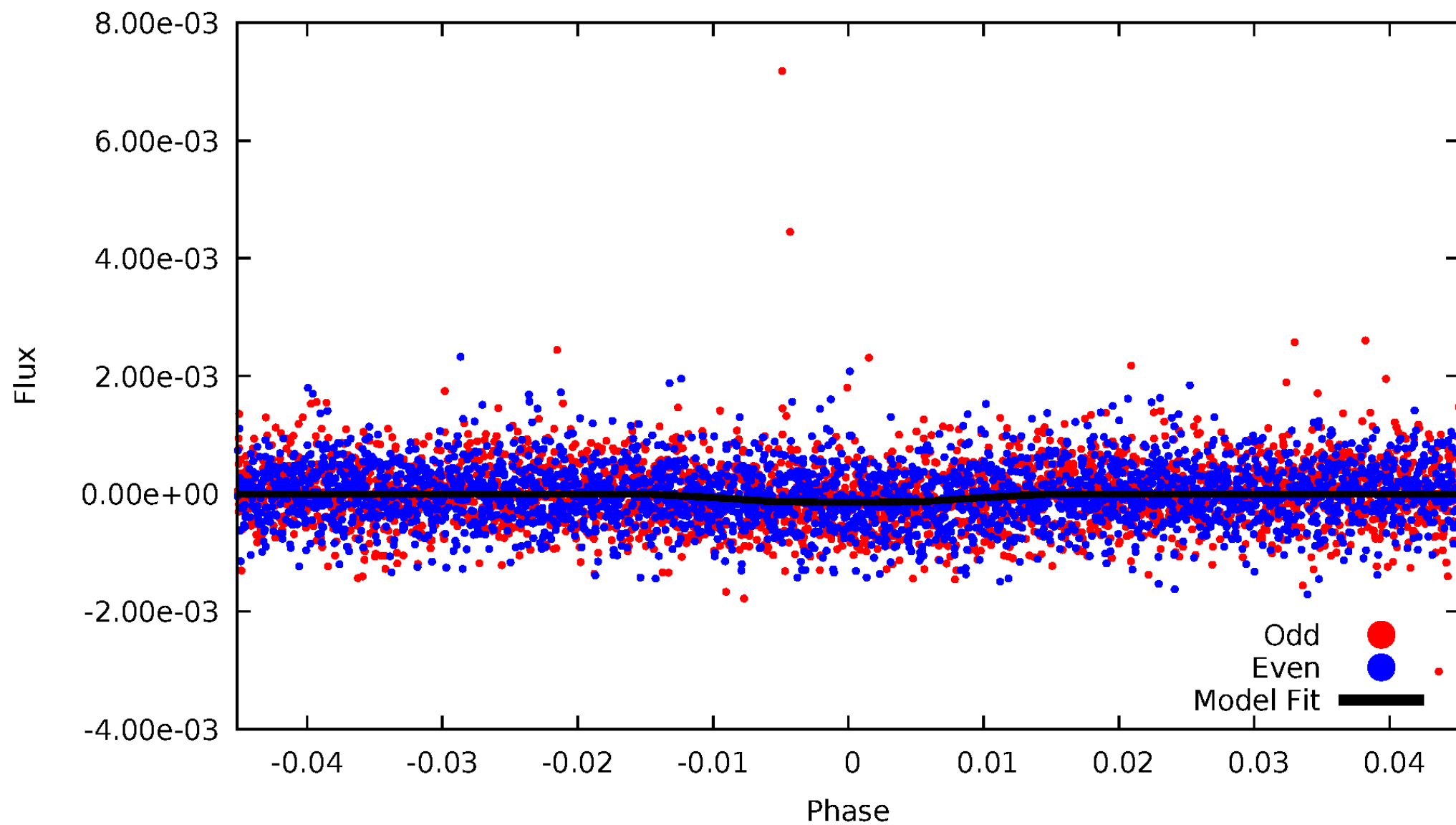


TCE 012554634-01



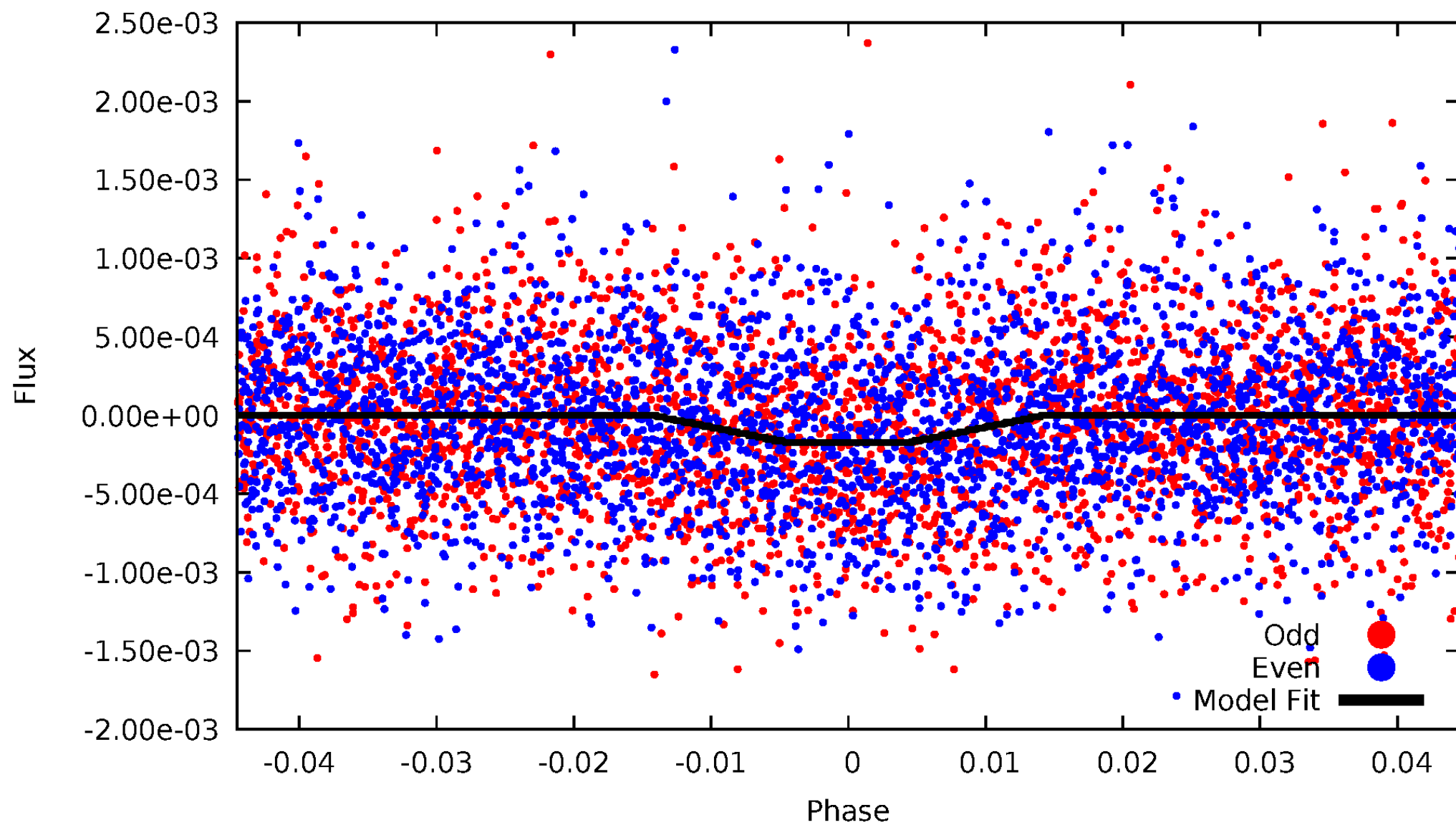
DV Odd/Even

TCE 012554634-01



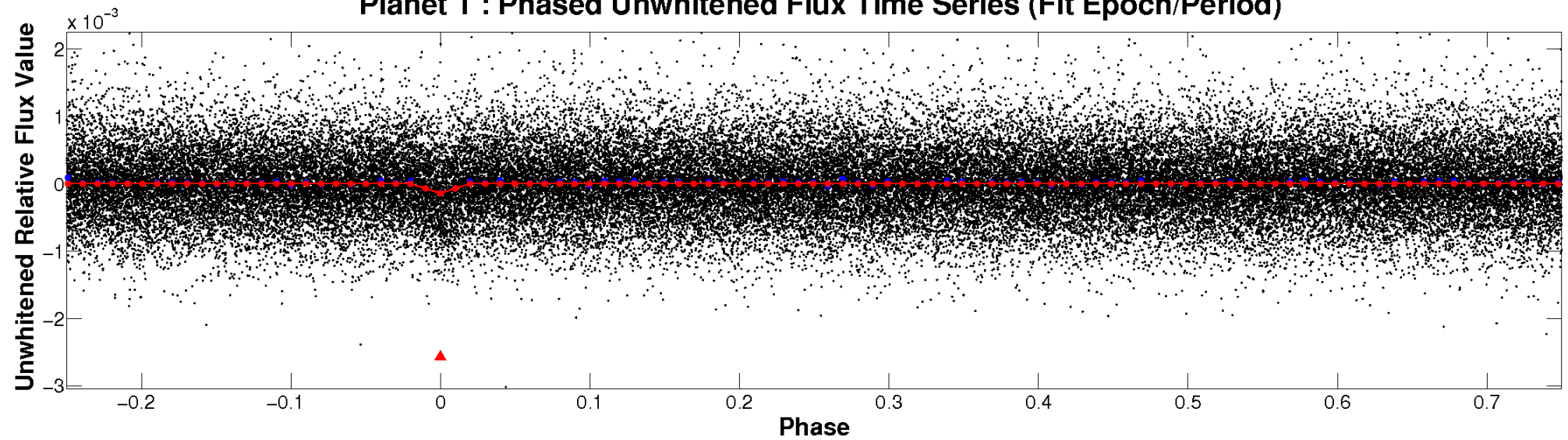
ALT Odd/Even

TCE 012554634-01

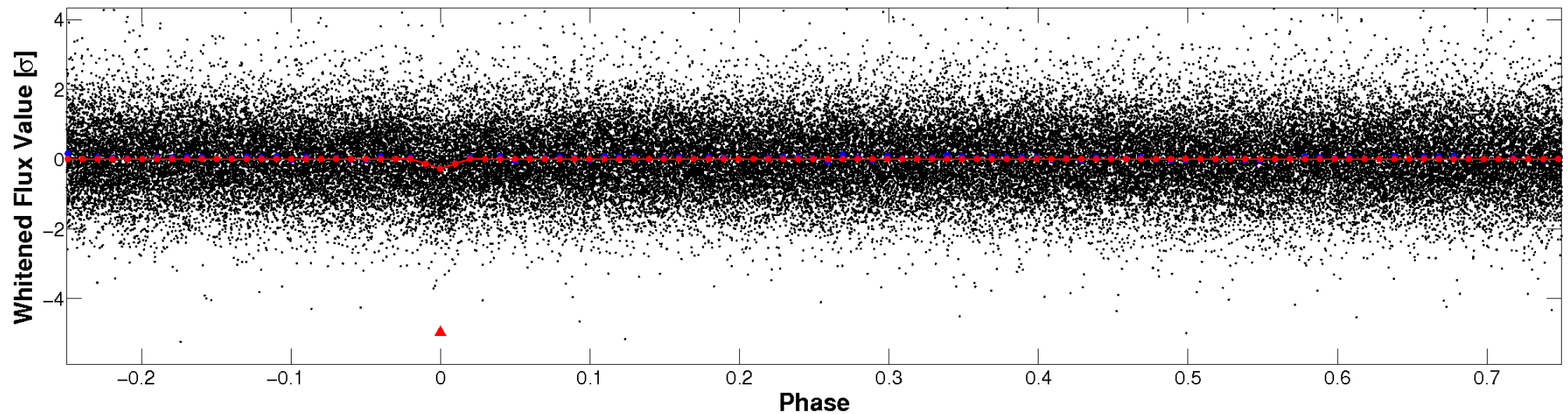


Non-Whitened Vs. Whitened Light Curve

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

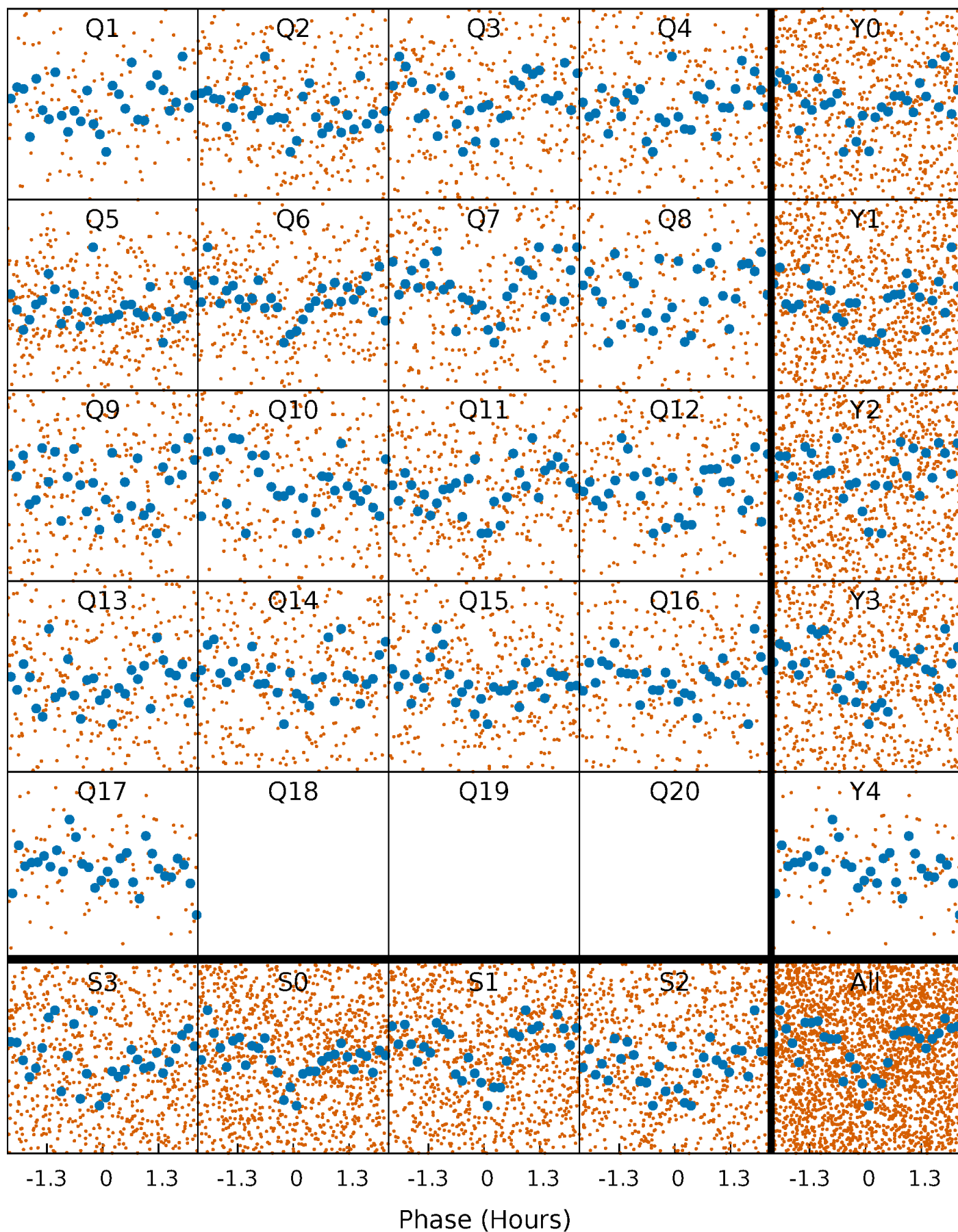


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



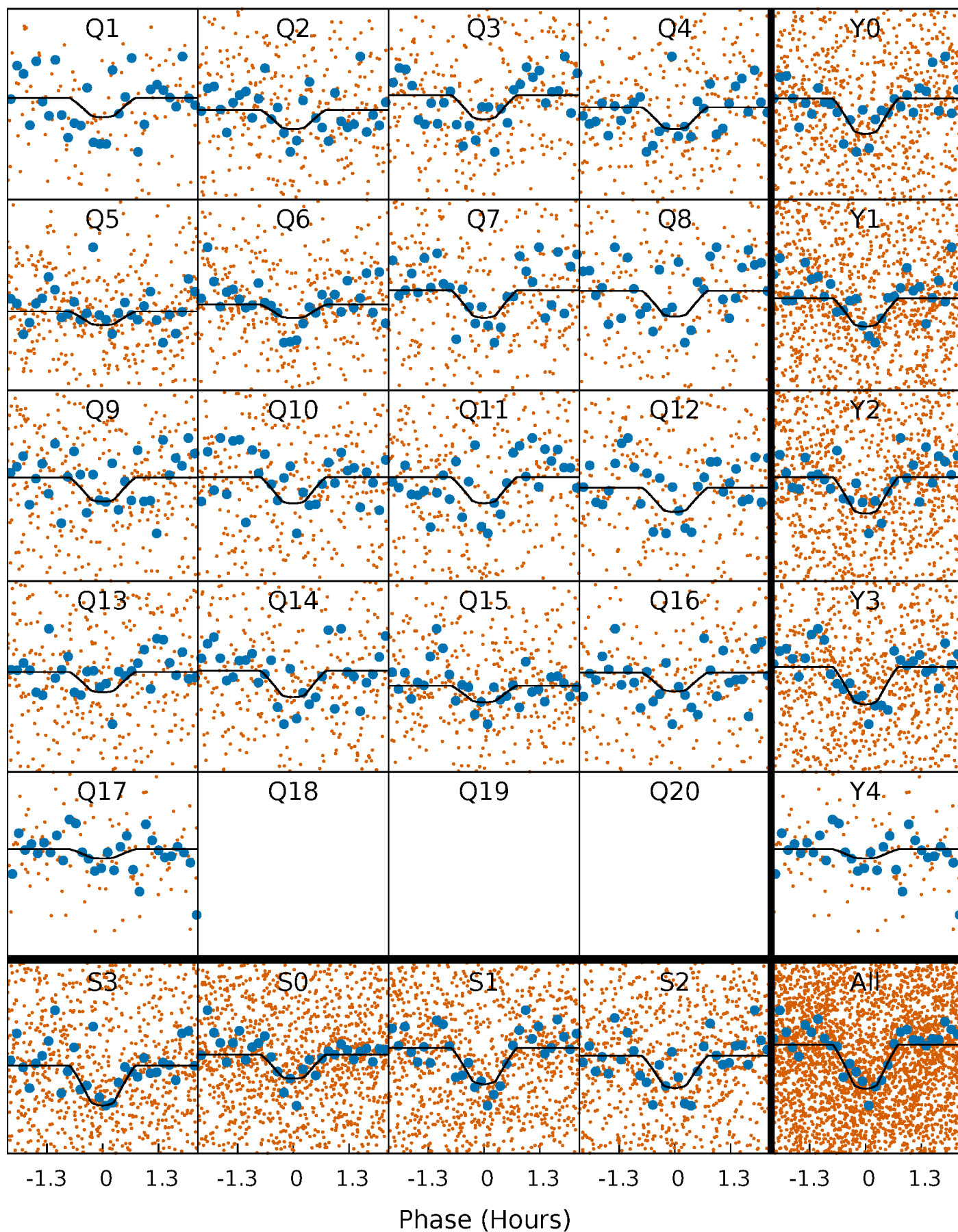
PDC Quarter-Phased Transit Curves

TCE 012554634-01 P= 2.049588 Days $T_0=132.331301$ (BKJD)



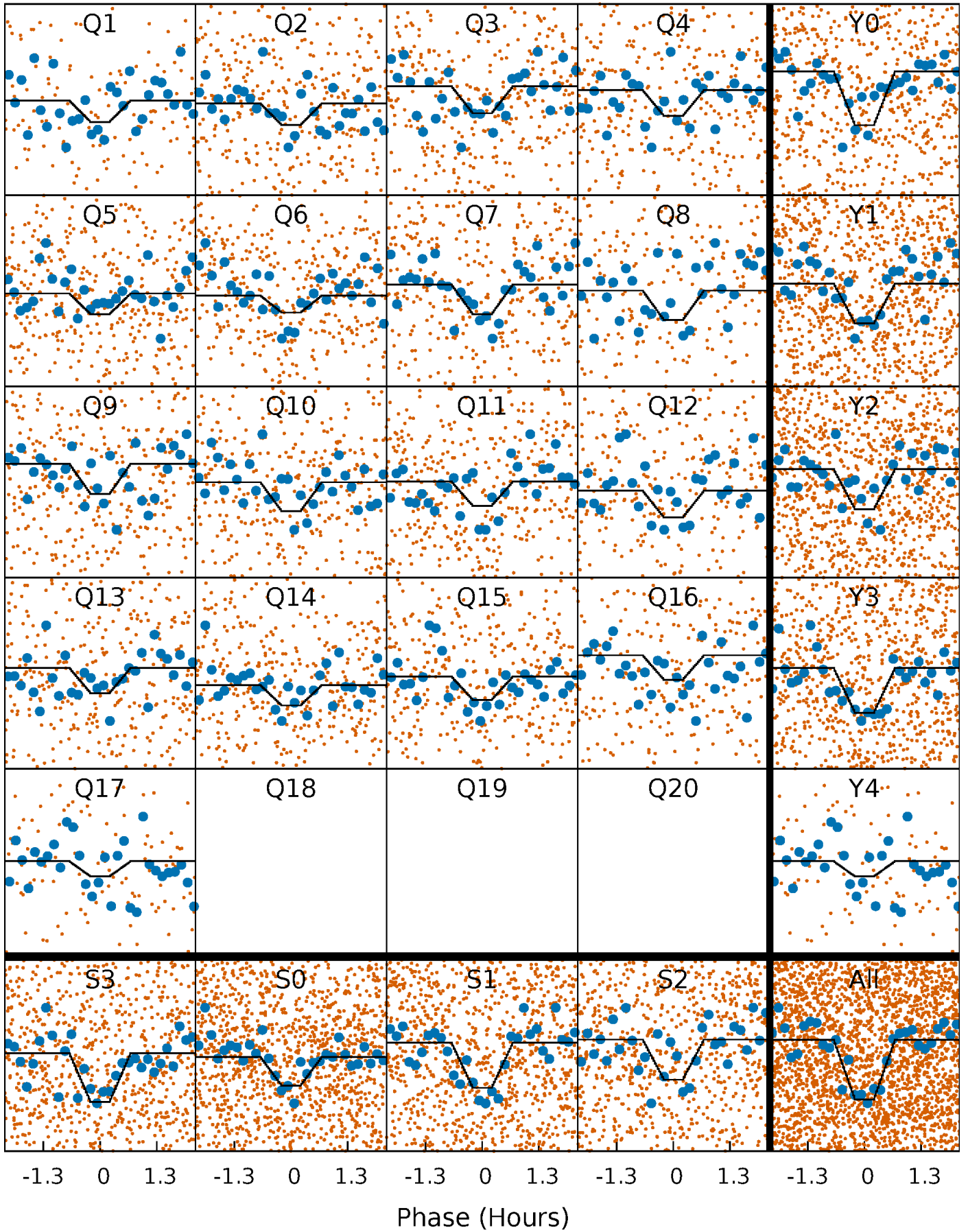
DV Quarter-Phased Transit Curves

TCE 012554634-01 P= 2.049588 Days $T_0=132.331301$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

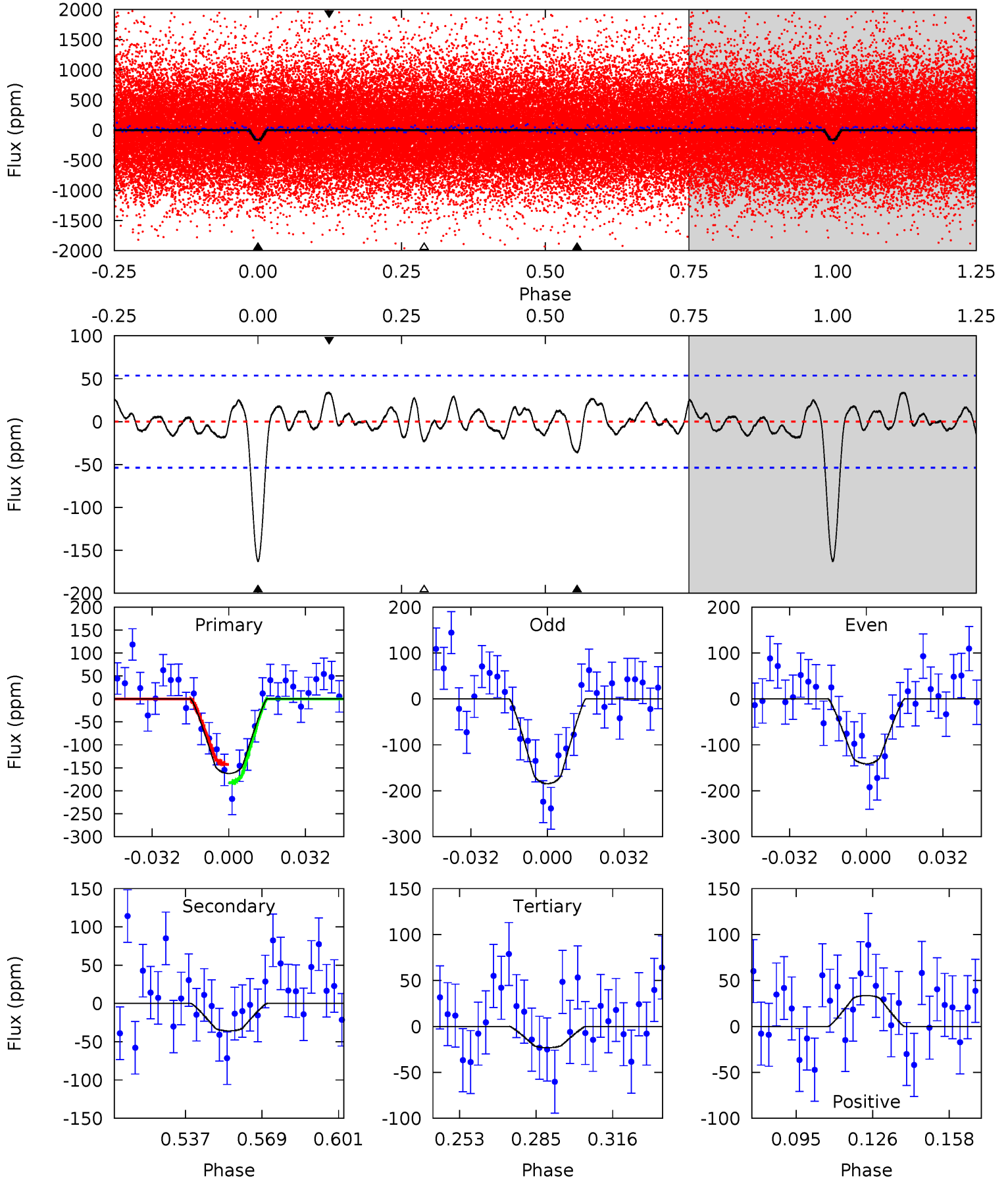
TCE 012554634-01 P= 2.049589 Days $T_0=132.331317$ (BKJD)



DV Model-Shift Uniqueness Test

012554634-01, P = 2.049588 Days, E = 130.281713 Days

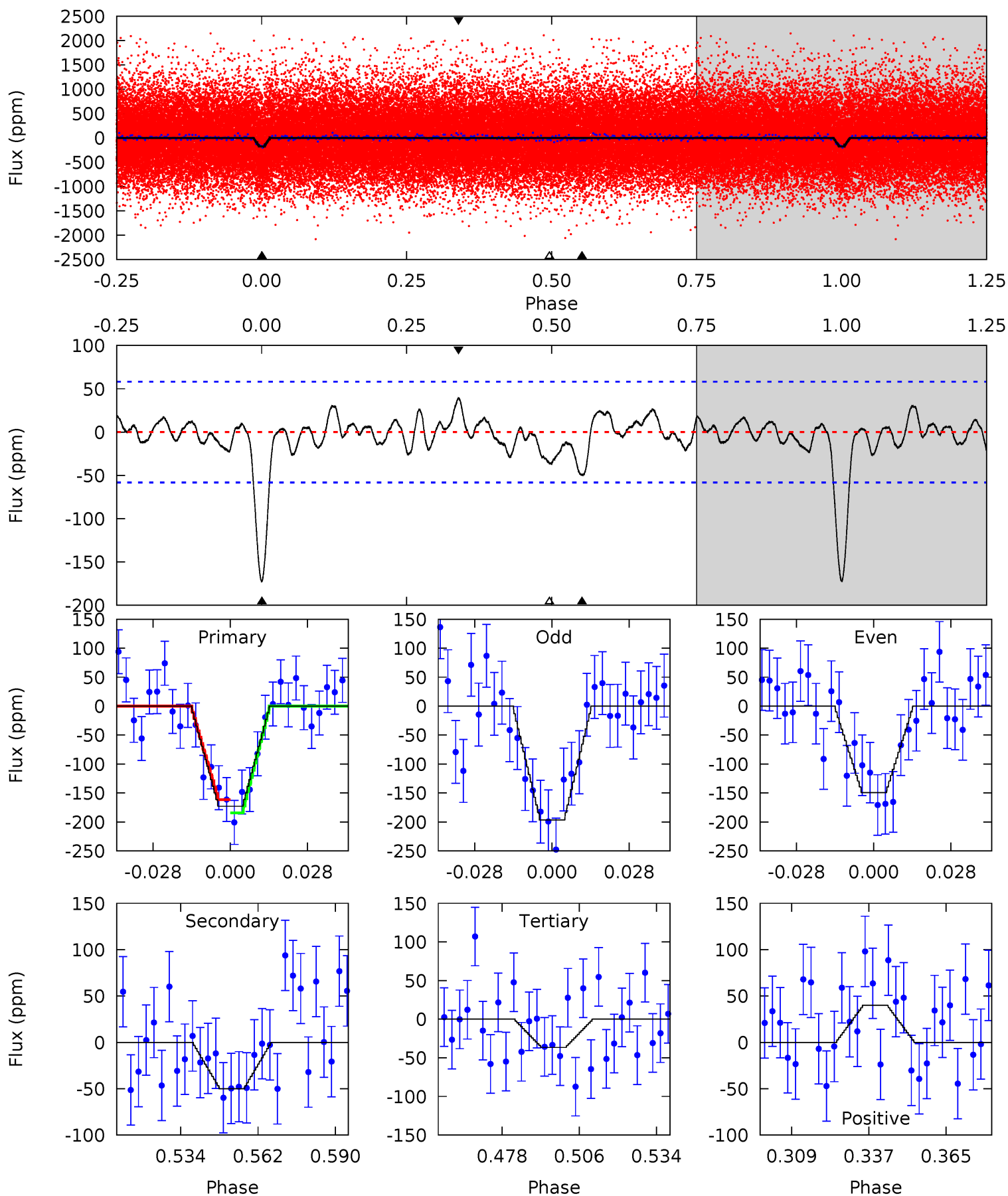
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	3.21	2.07	3.01	4.80	2.15	1.06	12.4	11.5	1.13	0.20	1.93	0.91	0.17	1.78



Alt Model-Shift Uniqueness Test

012554634-01, P = 2.049589 Days, E = 130.281728 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	4.16	3.03	3.31	4.82	2.20	1.17	11.3	11.0	1.12	0.85	1.97	0.95	0.19	0.95



Stellar Parameters For KIC 012554634

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5356^{+159}_{-159}	$4.589^{+0.035}_{-0.112}$	$-0.120^{+0.300}_{-0.300}$	$0.780^{+0.133}_{-0.061}$	$0.872^{+0.070}_{-0.104}$	$2.584^{+0.404}_{-0.916}$
	+3%/-3%	+1%/-2%	+250%/-250%	+17%/-8%	+8%/-12%	+16%/-35%
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 012554634-01 / KOI 4714.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-36 ± 11	$1.48^{+1.29}_{-0.95}$	1704^{+79}_{-61}	3541^{+1886}_{-628}	$7.418^{+58.209}_{-5.130}$
Alt.	-50 ± 12	$1.54^{+1.24}_{-0.95}$	1709^{+74}_{-68}	3746^{+1763}_{-654}	11^{+58}_{-7}

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

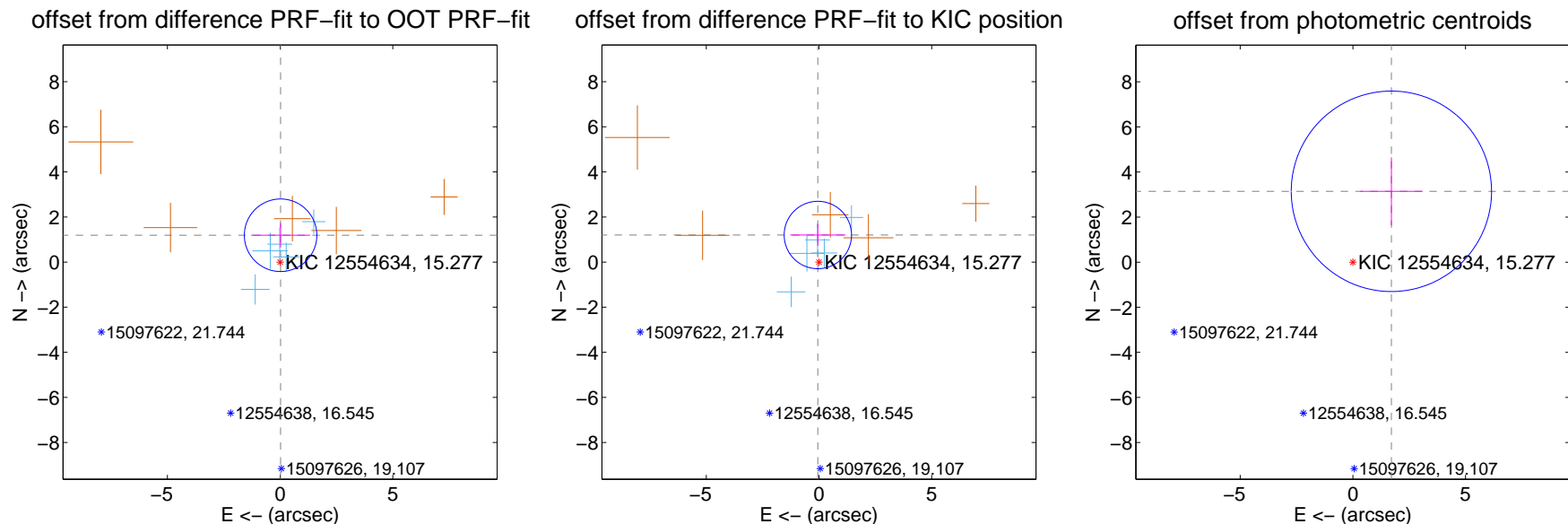
DV Centroid Data

Supplemental centroid analysis for 012554634-01. Kepler magnitude: 15.28. Transit SNR 8.88

There are 5 quarters with good PRF difference image offsets

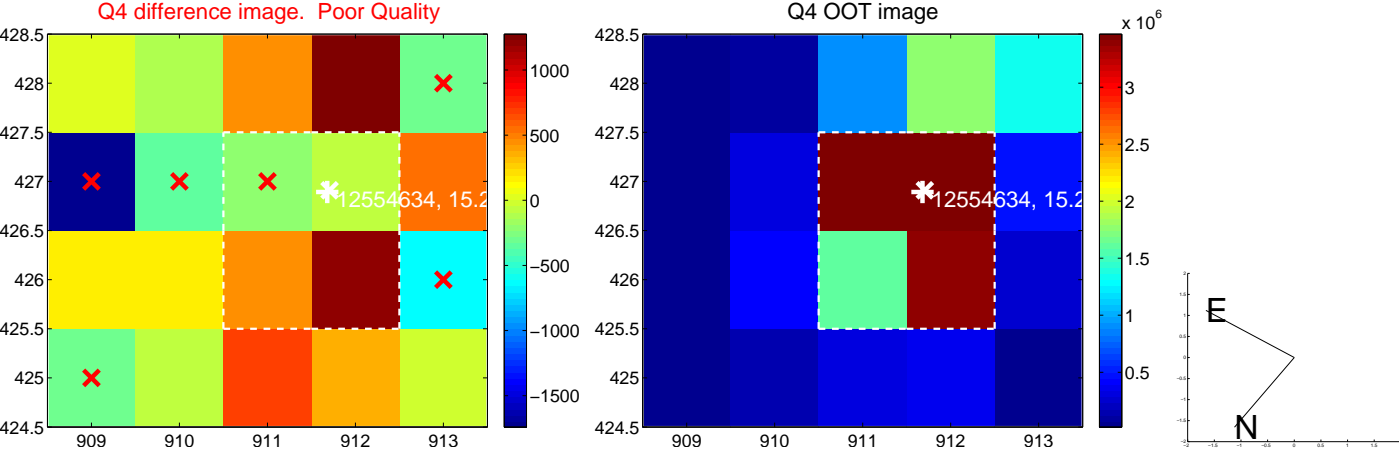
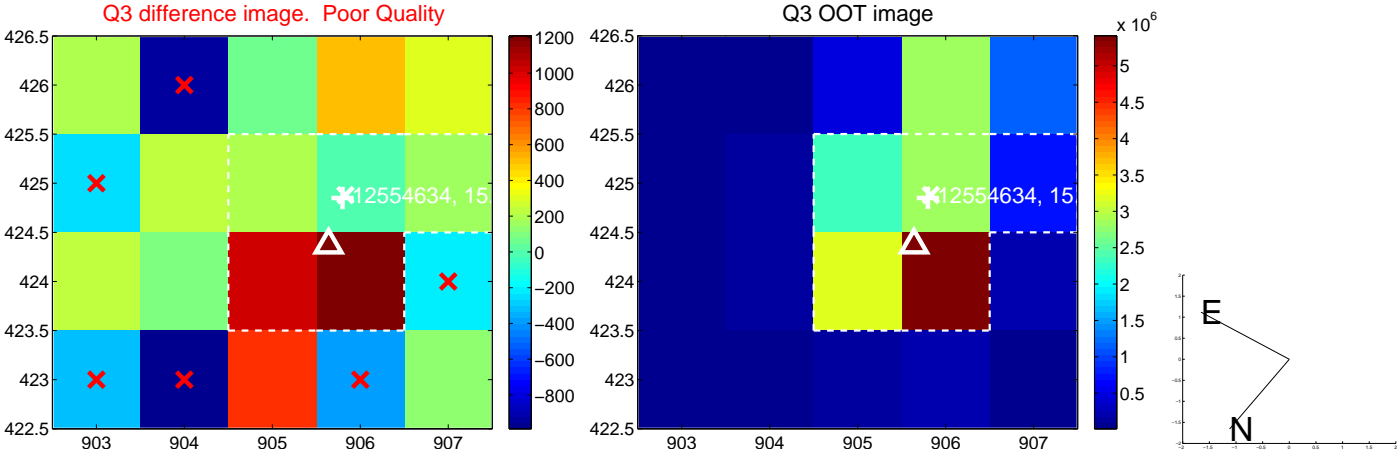
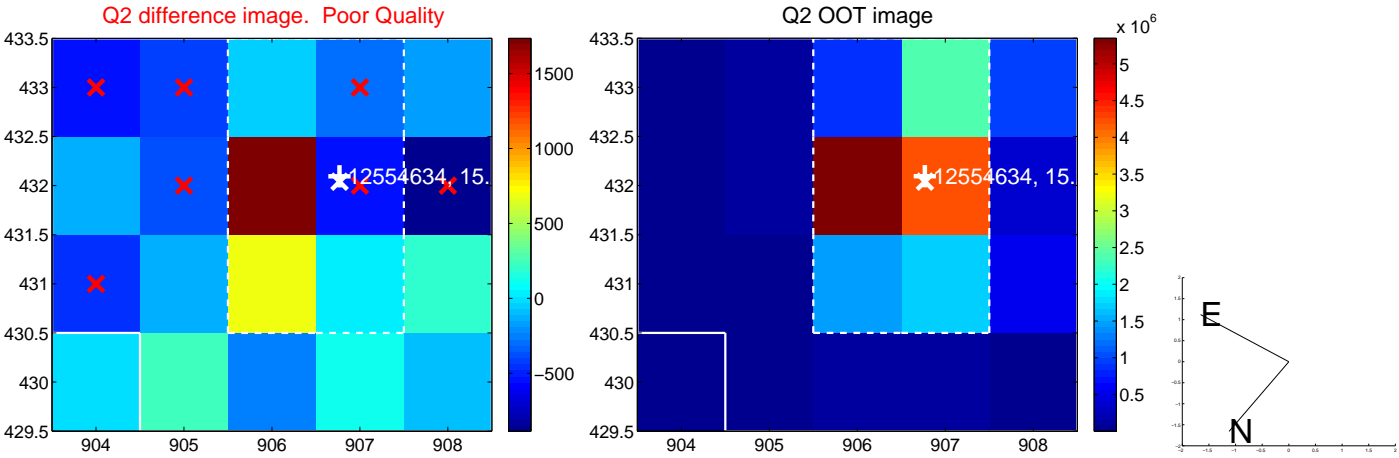
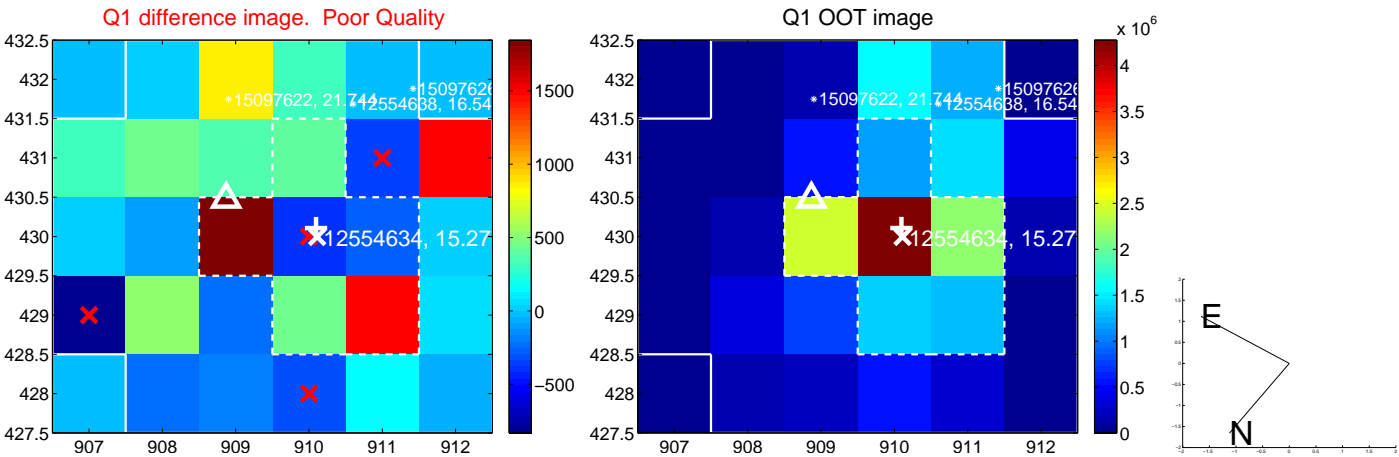
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.190 ± 0.536	2.22	-0.022 ± 1.311	1.190 ± 0.541
PRF-fit source offset from KIC position	1.202 ± 0.498	2.41	0.050 ± 1.226	1.201 ± 0.478
photometric centroid source offset	3.58 ± 1.48	2.41	-1.71 ± 1.39	3.14 ± 1.51

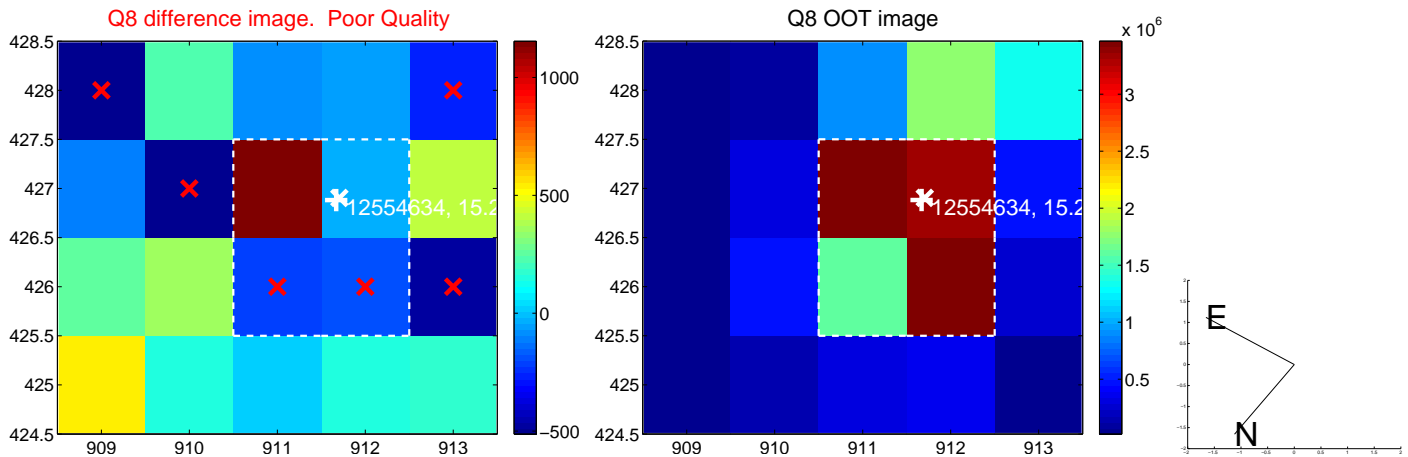
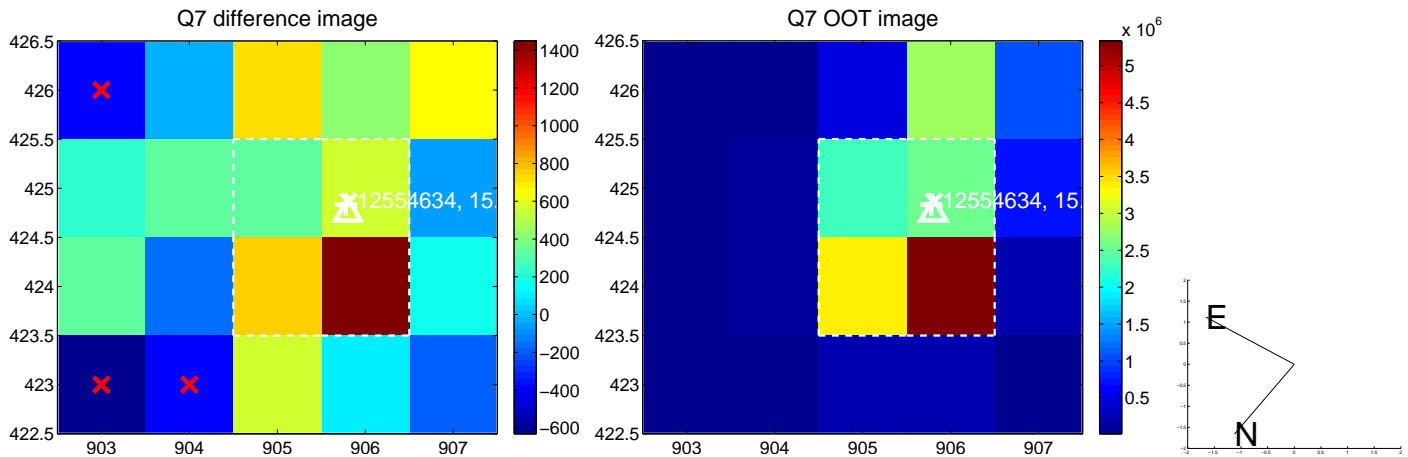
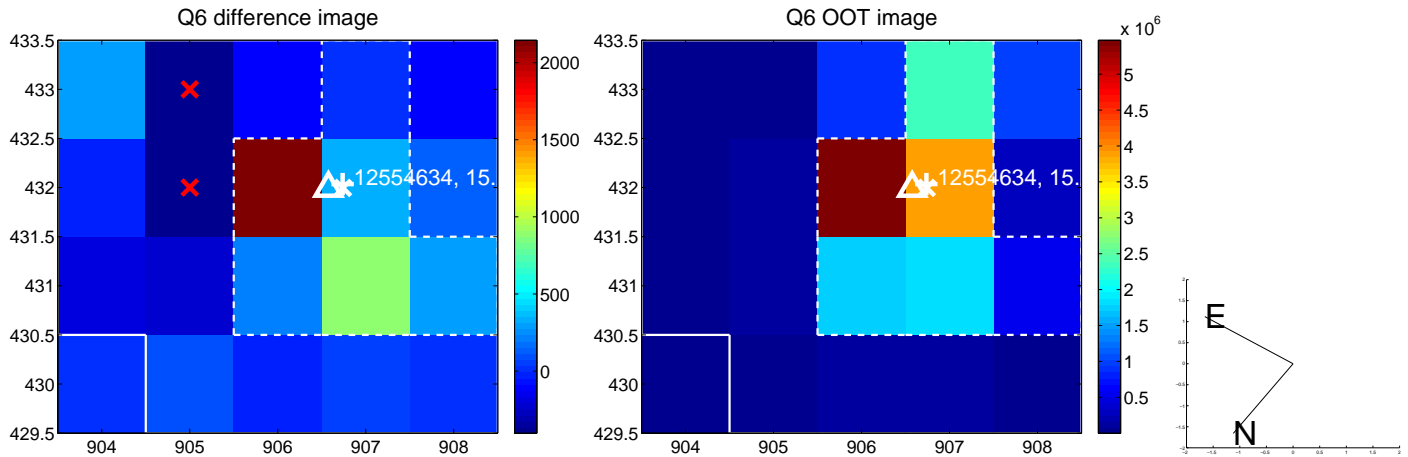
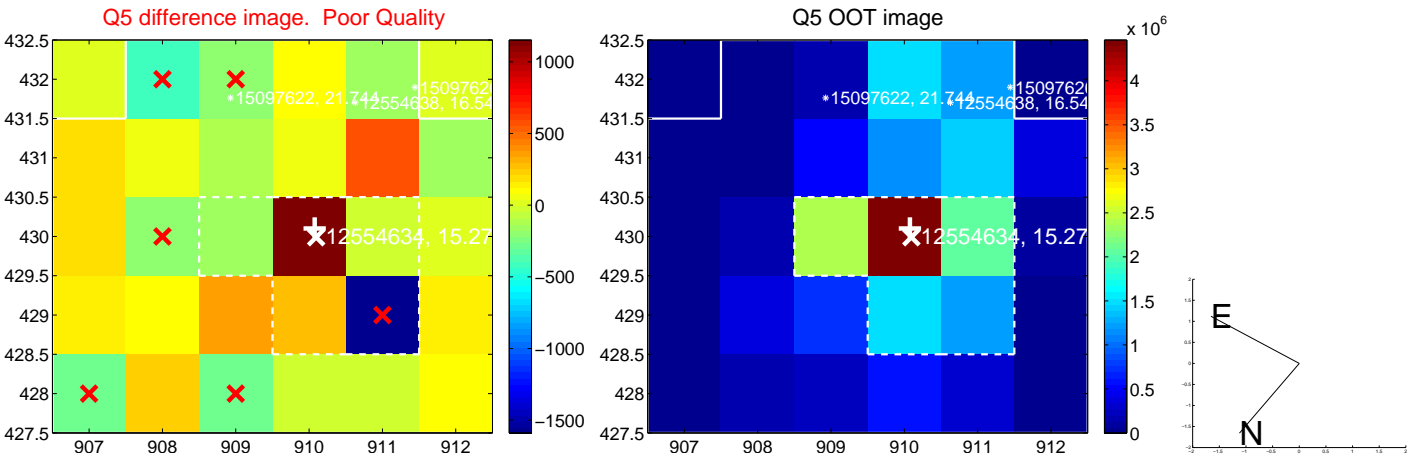


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

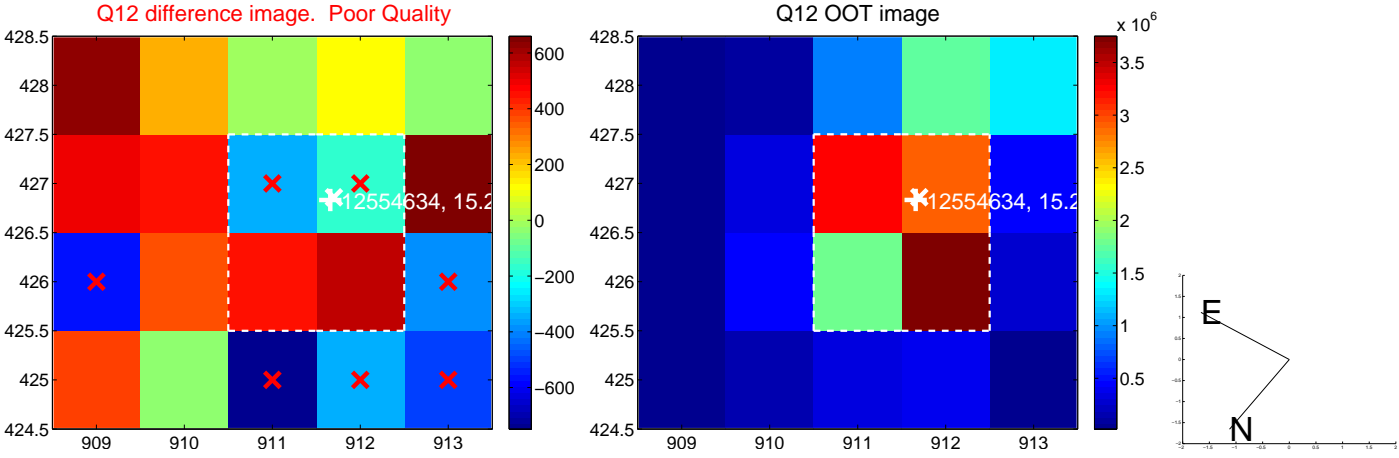
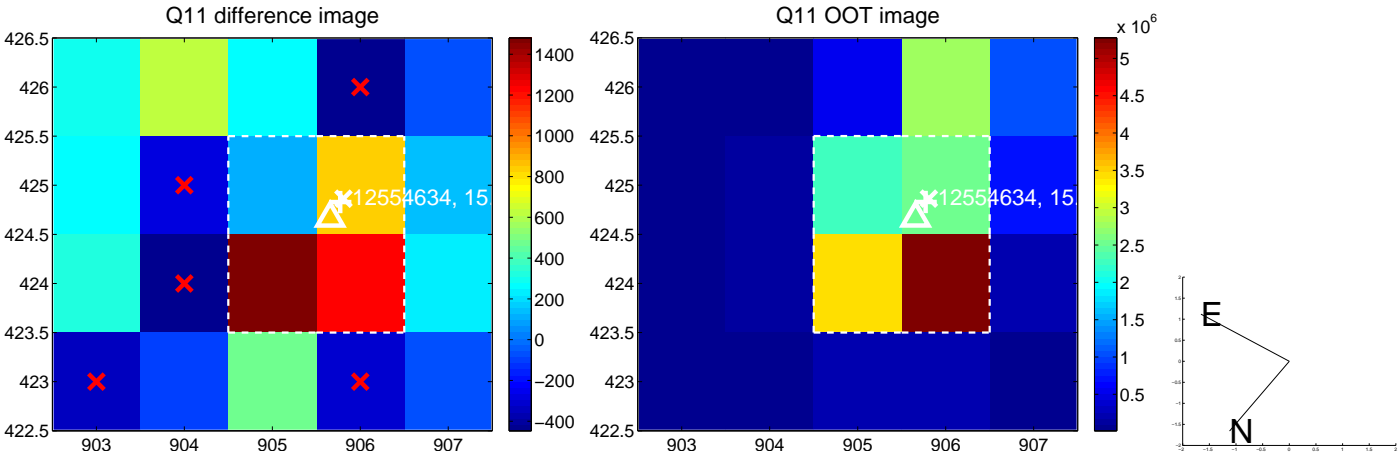
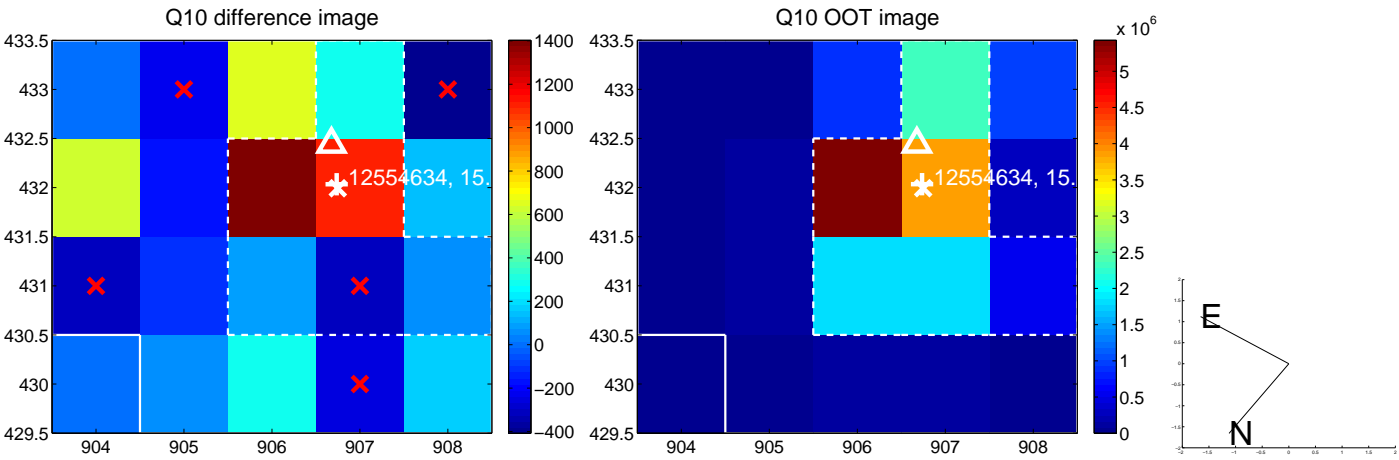
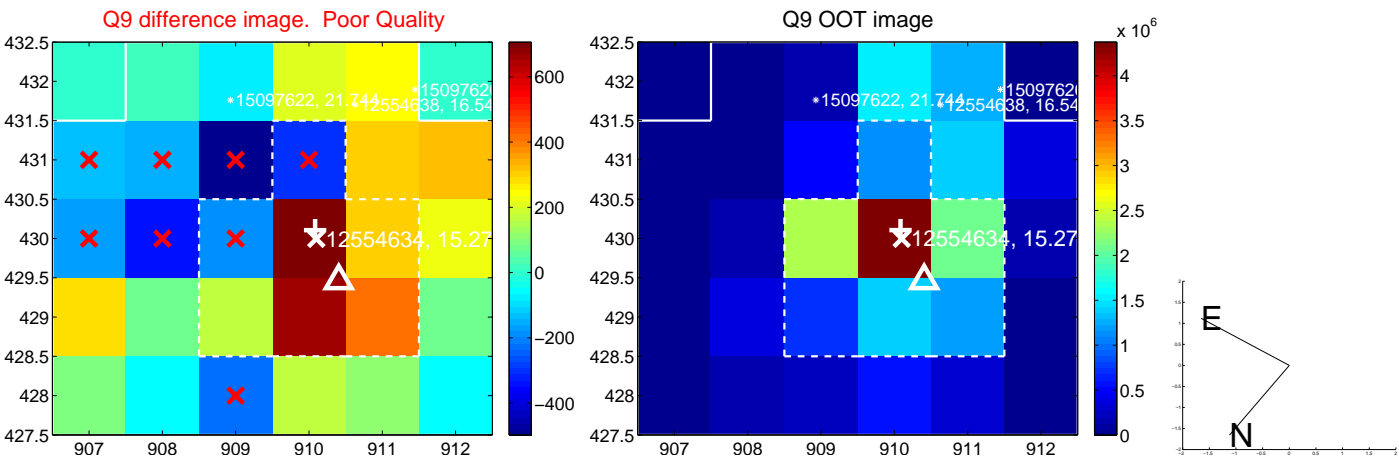
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



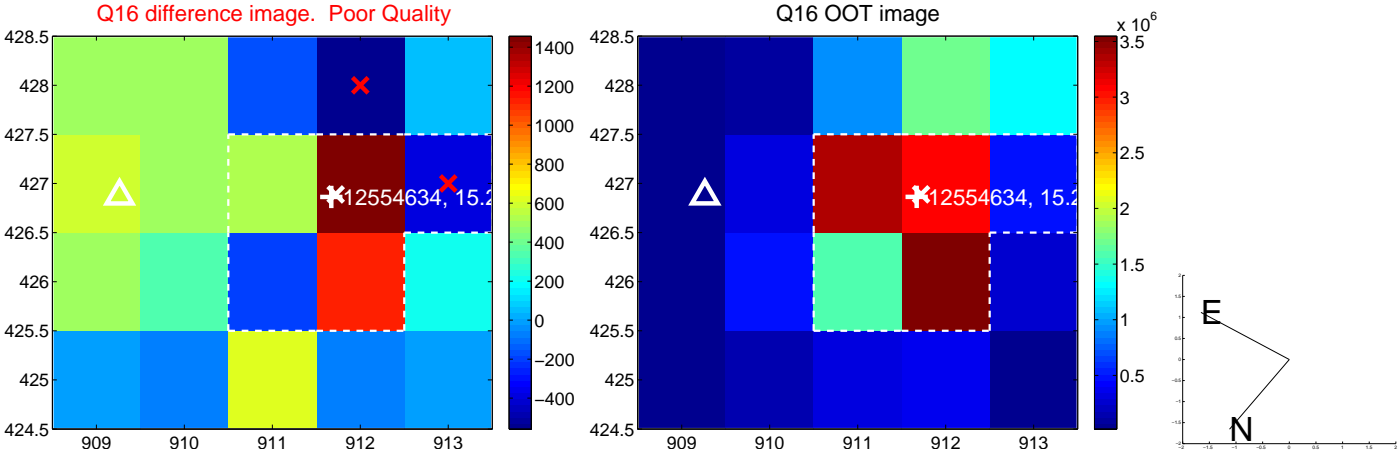
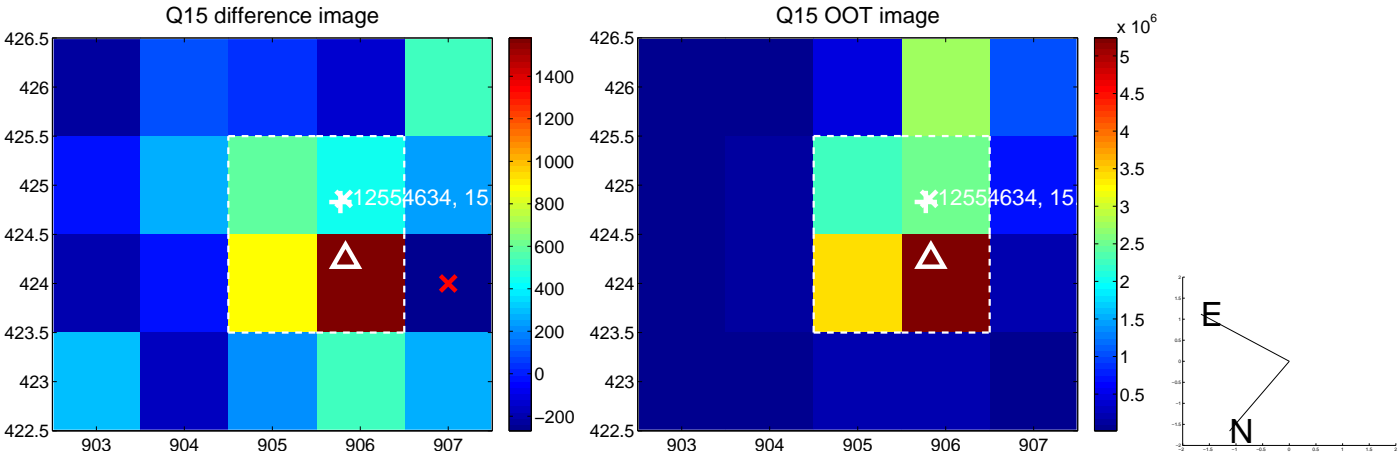
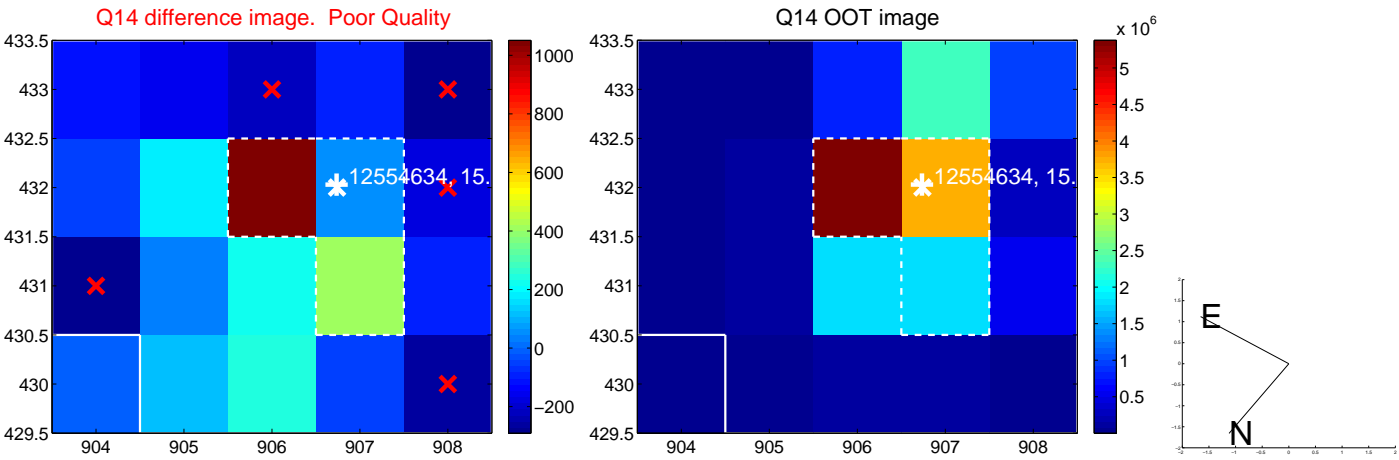
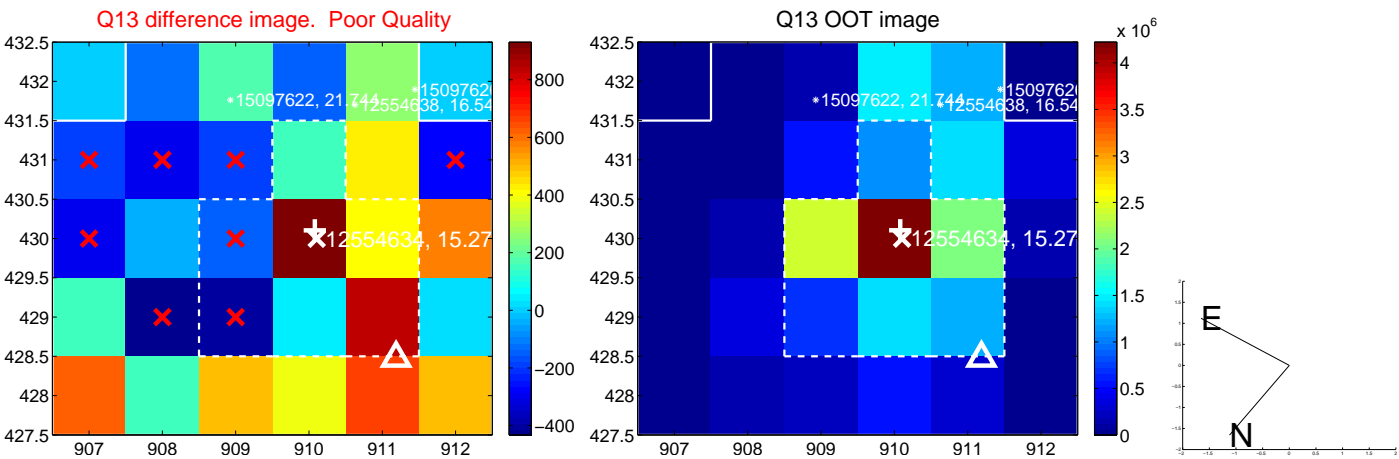
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



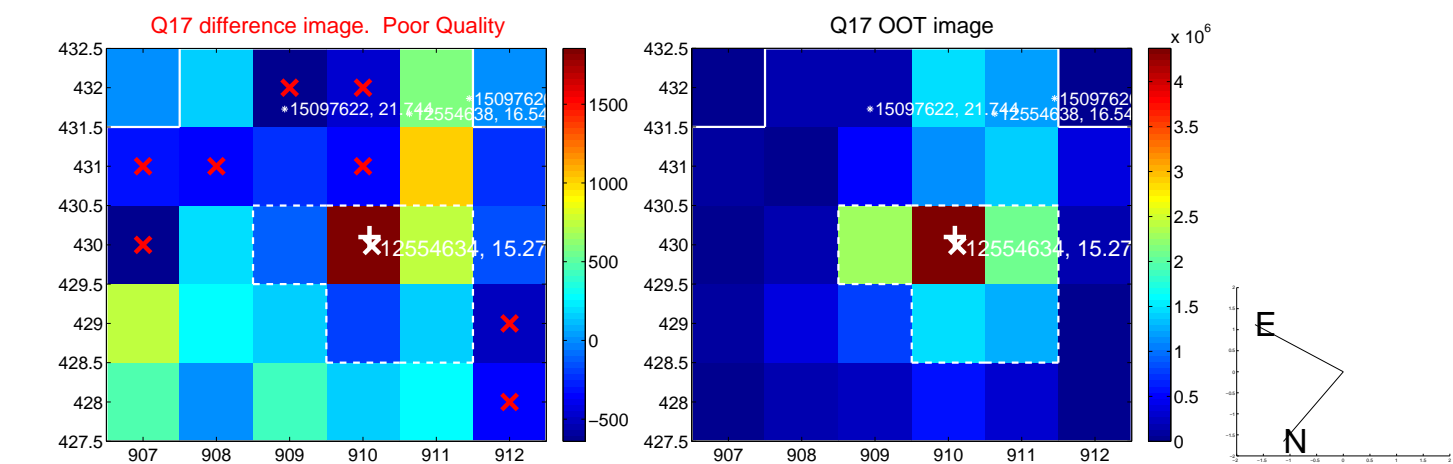
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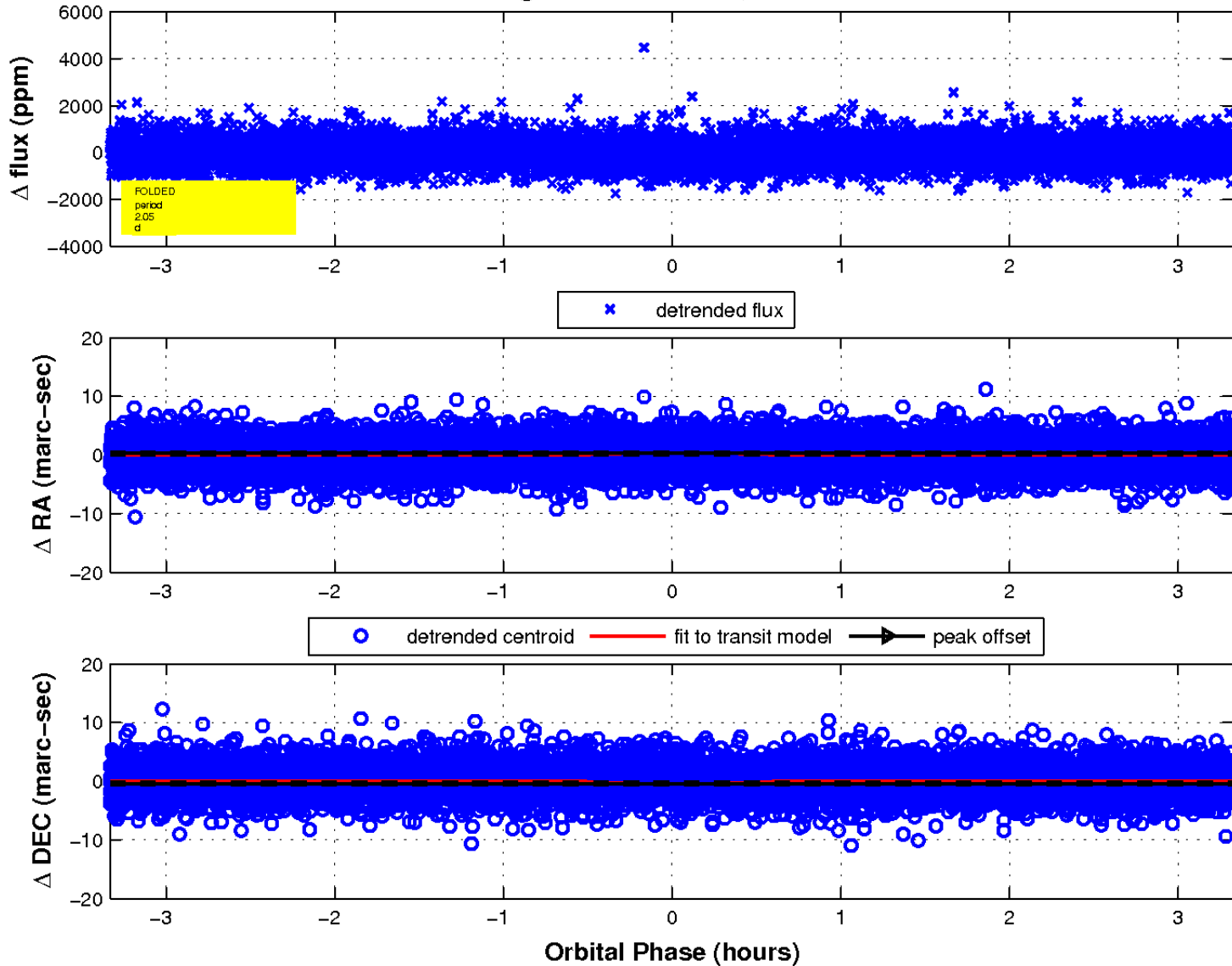
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

