

KIC 005121044

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})
005121044-01	OBS	No	1.462352	132.565808	28.0	7.767	8.7	8.2	1.16	6381	0.63	2789.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005121044-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET

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

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

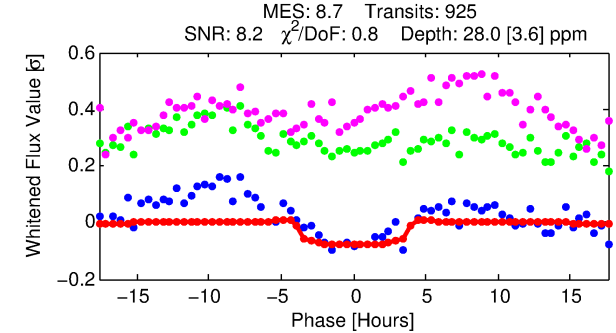
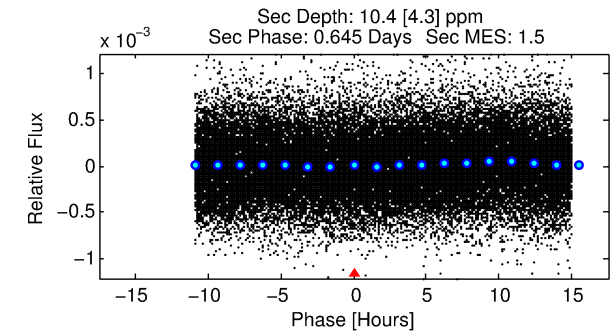
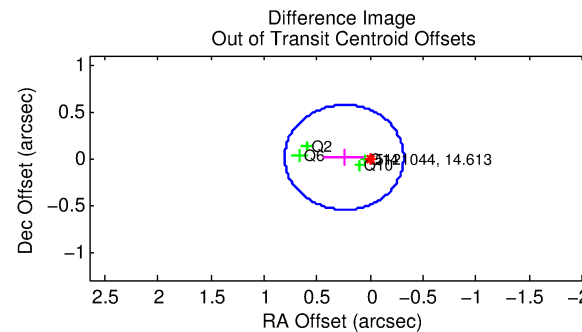
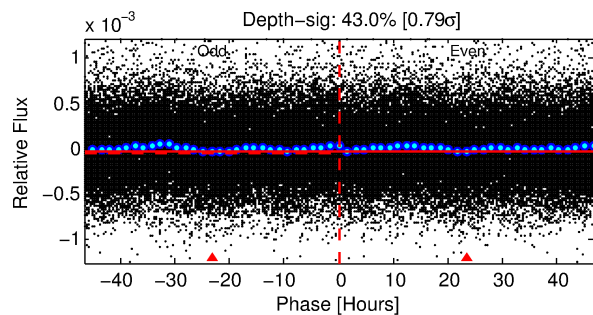
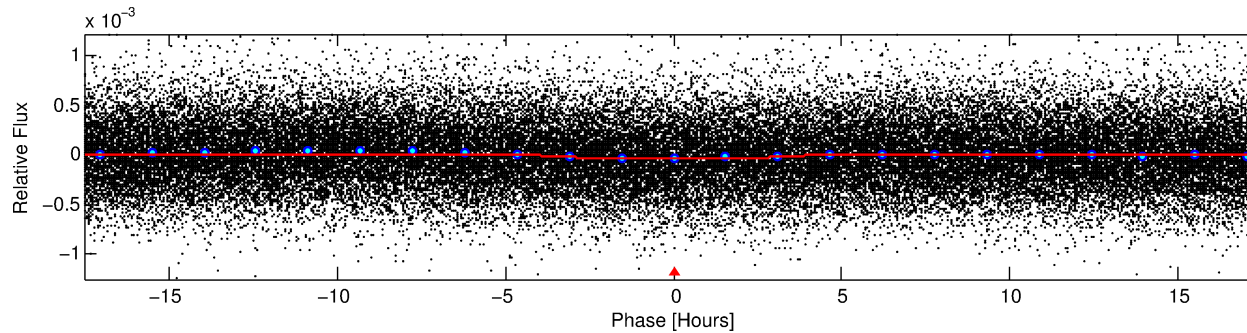
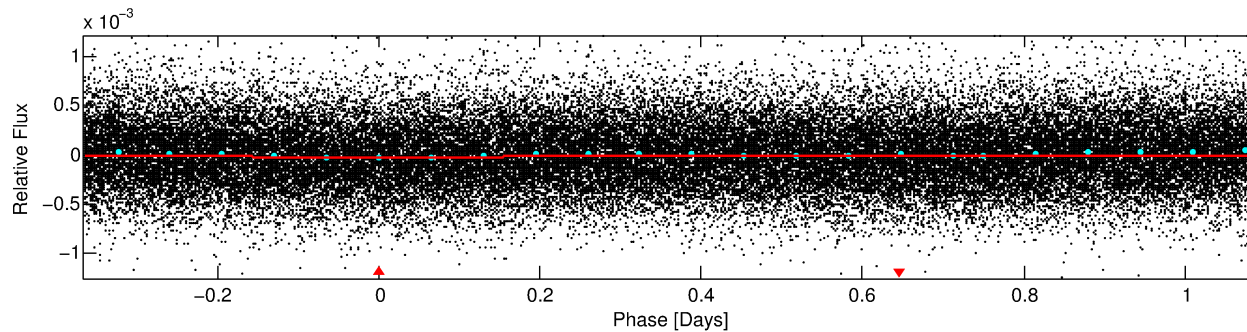
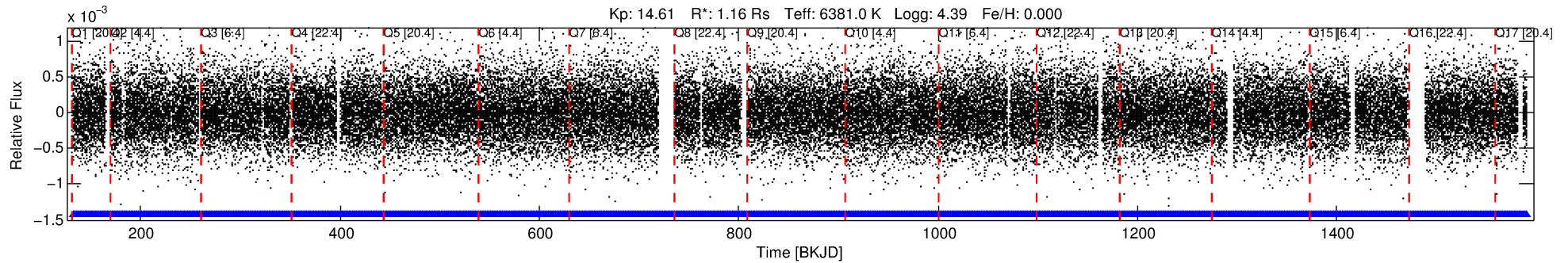
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005121044-01

No Significant Match Found

DV One-Page Summary

KIC: 5121044 Candidate: 1 of 1 Period: 1.462 d



DV Fit Results:

Period = 1.46235 [0.00003] d
Epoch = 132.5658 [0.0093] BKJD
Rp/R* = 0.0050 [0.0053]
a/R* = 1.47 [4.37]
b = 0.45 [9.82]
Seff = 2789.45 [1162.86]
Teq = 1853 [193] K
Rp = 0.63 [0.70] Re
a = 0.0267 [0.0074] AU
Ag = 10.36 [22.94] [0.41 σ]
Teffp = 5140 [2807] K [1.17 σ]

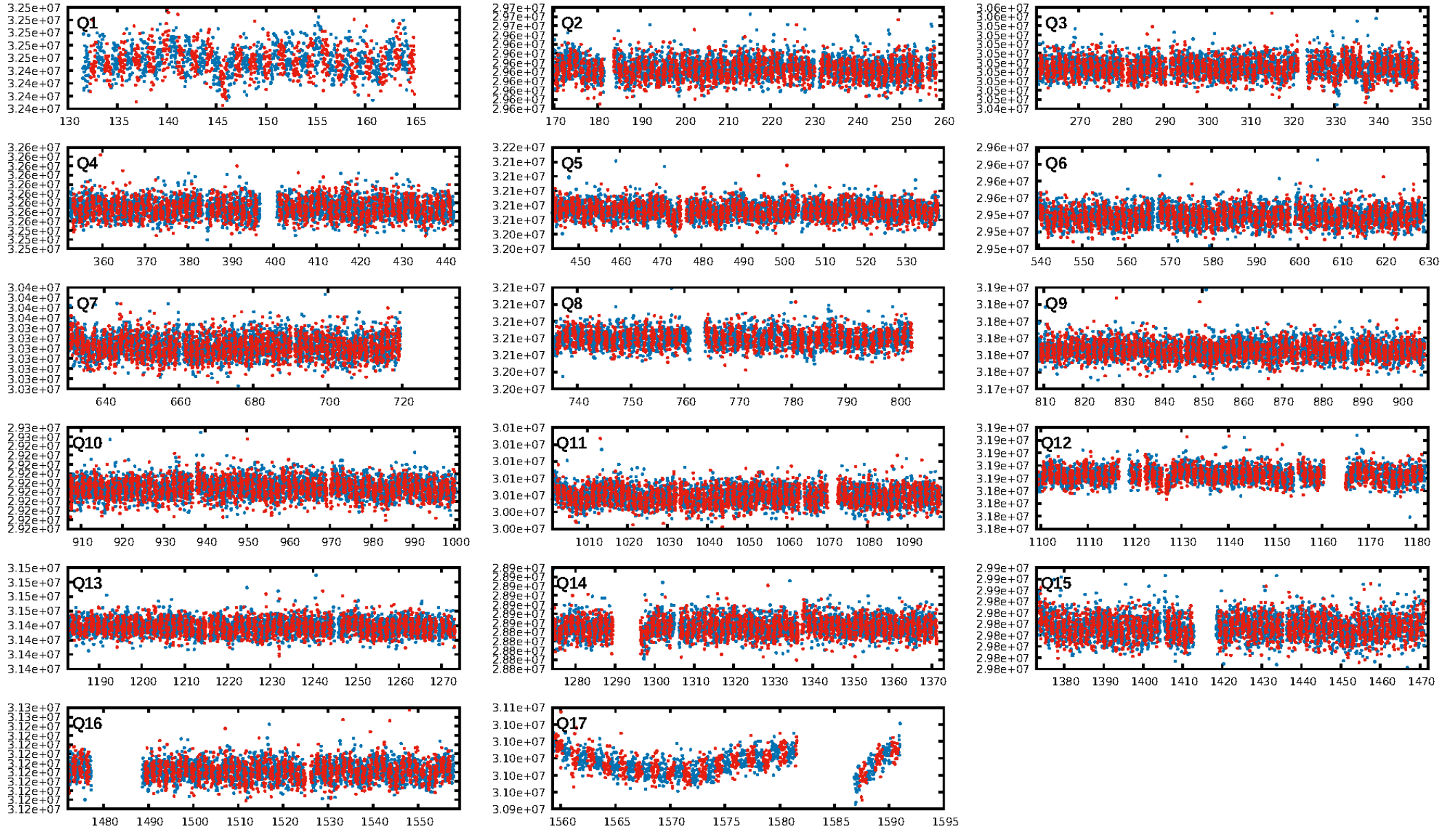
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.52e-15
RollingBand-fgt: 1.00 [884/884]
GhostDiagnostic-chr: -1.344
Centroid-sig: 0.0%
Centroid-so: 5.956 arcsec [4.45 σ]
OotOffset-rm: 0.244 arcsec [1.31 σ]
OotOffset-st: 4/0/0/0 [4]
KicOffset-rm: 6.210 arcsec [26.85 σ]
KicOffset-st: 4/0/0/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [17/17]

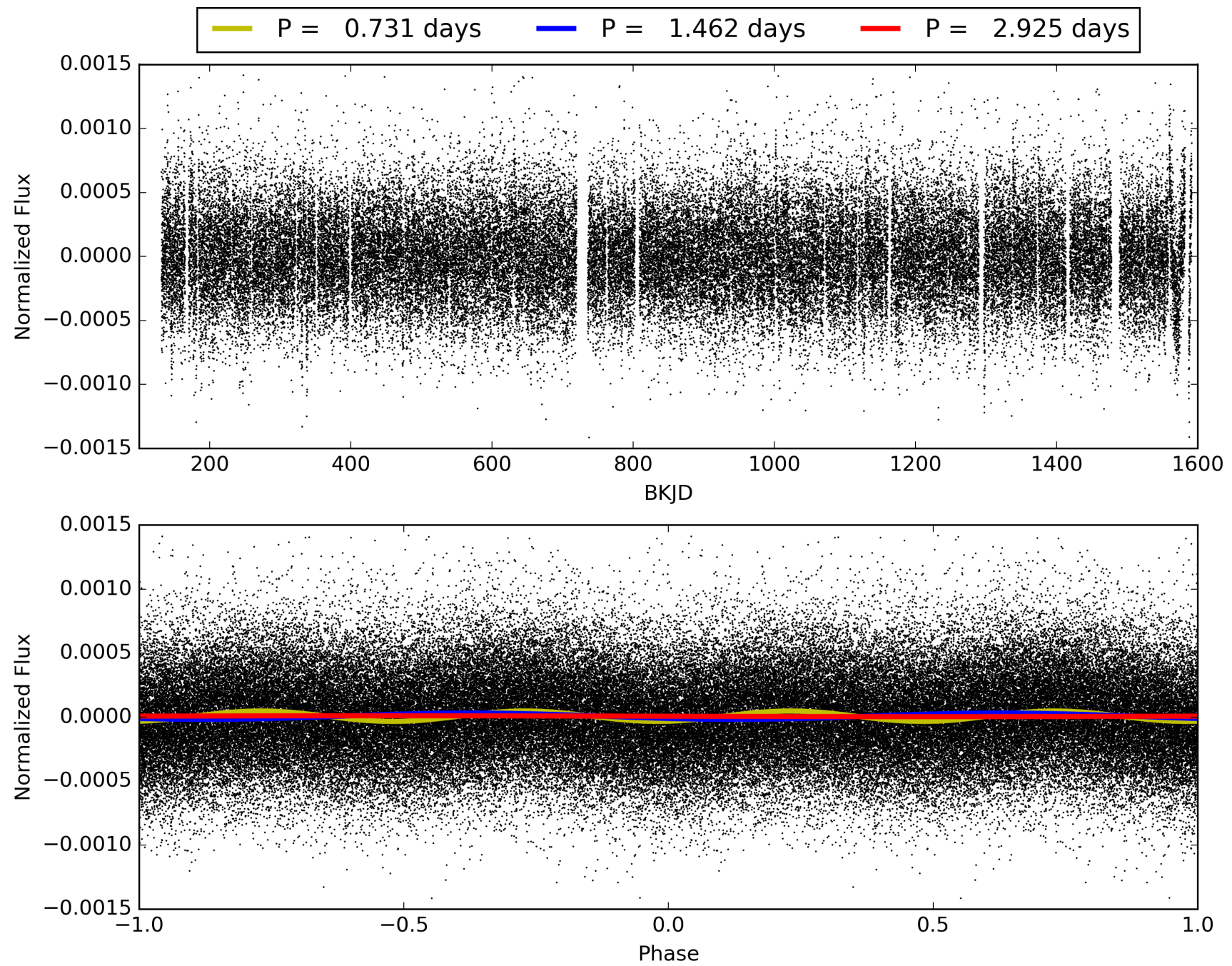
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:53:15 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005121044-01, PDC Light Curves

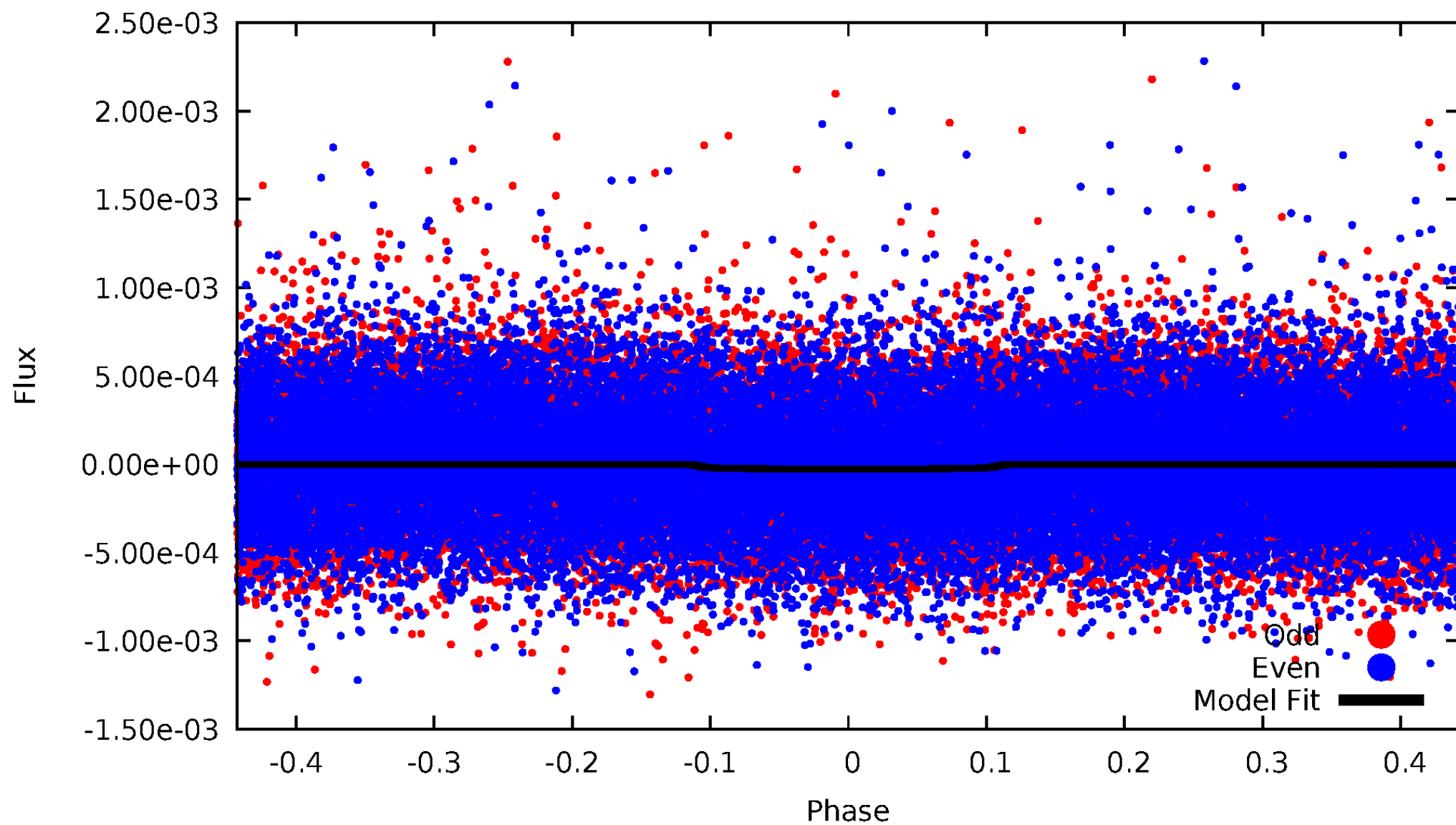


TCE 005121044-01



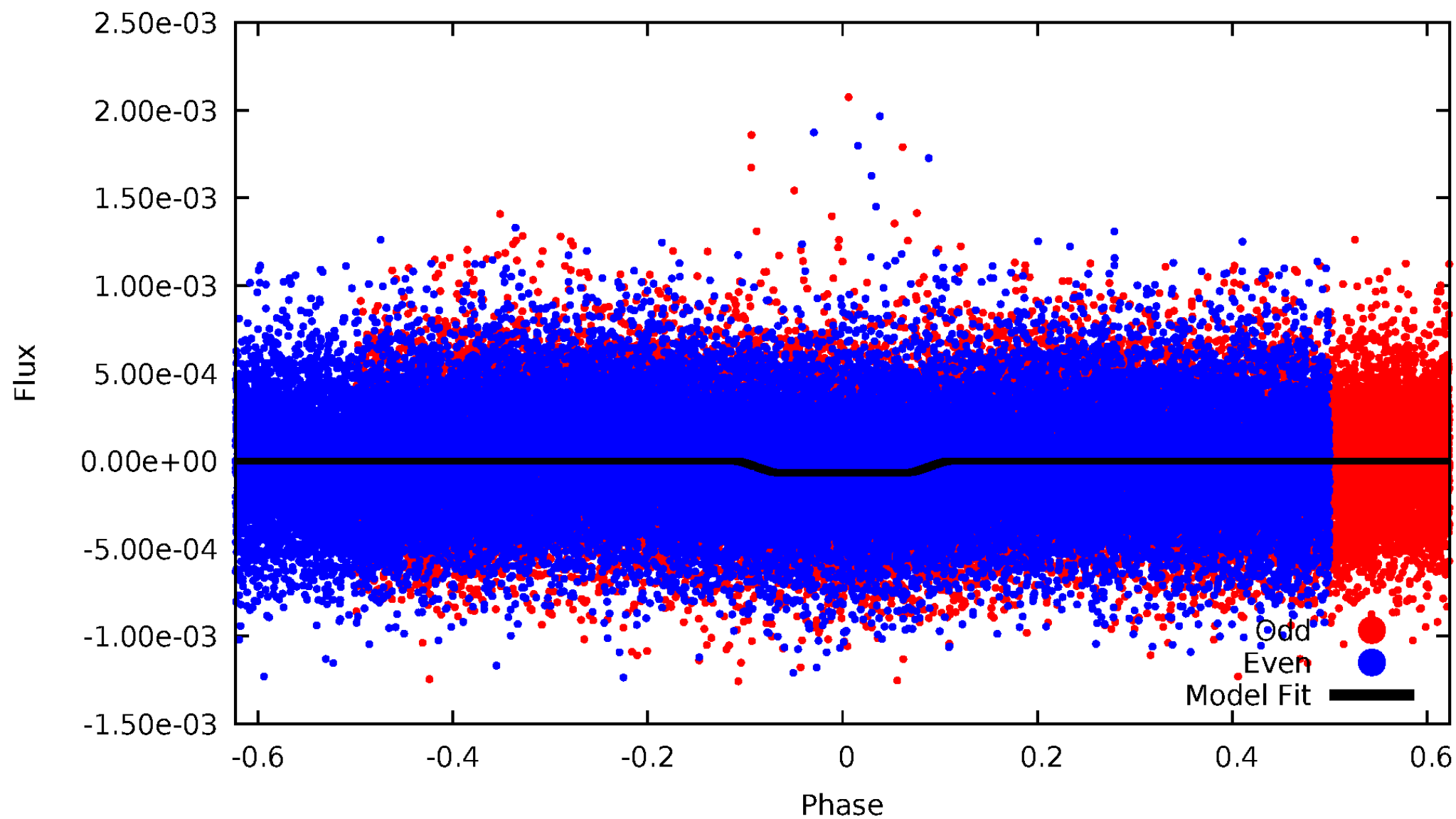
DV Odd/Even

TCE 005121044-01

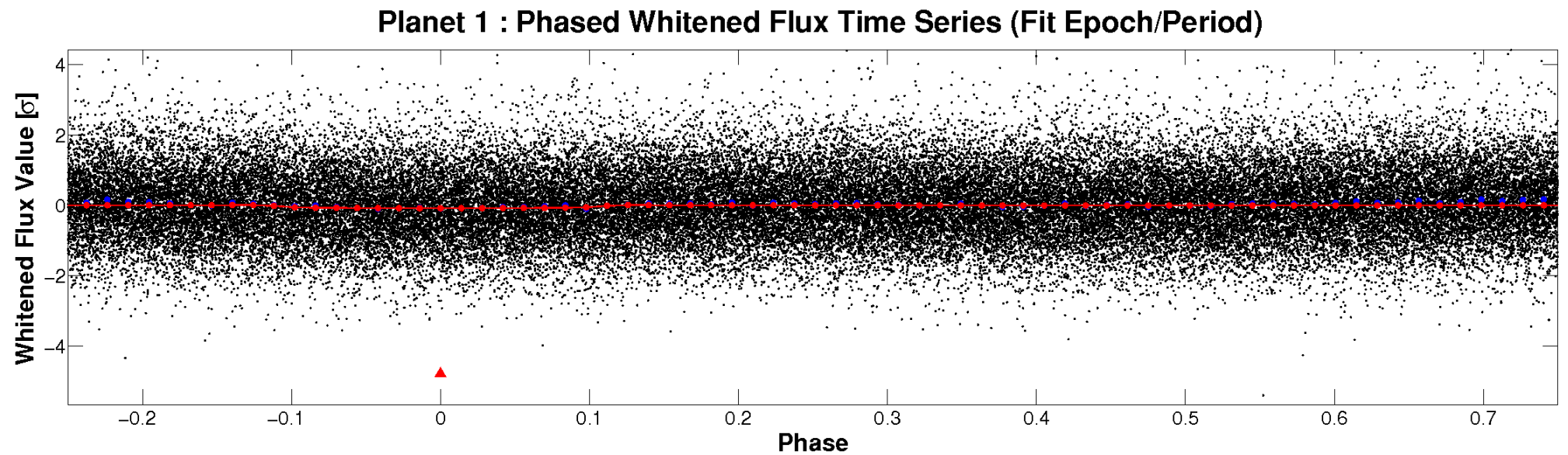
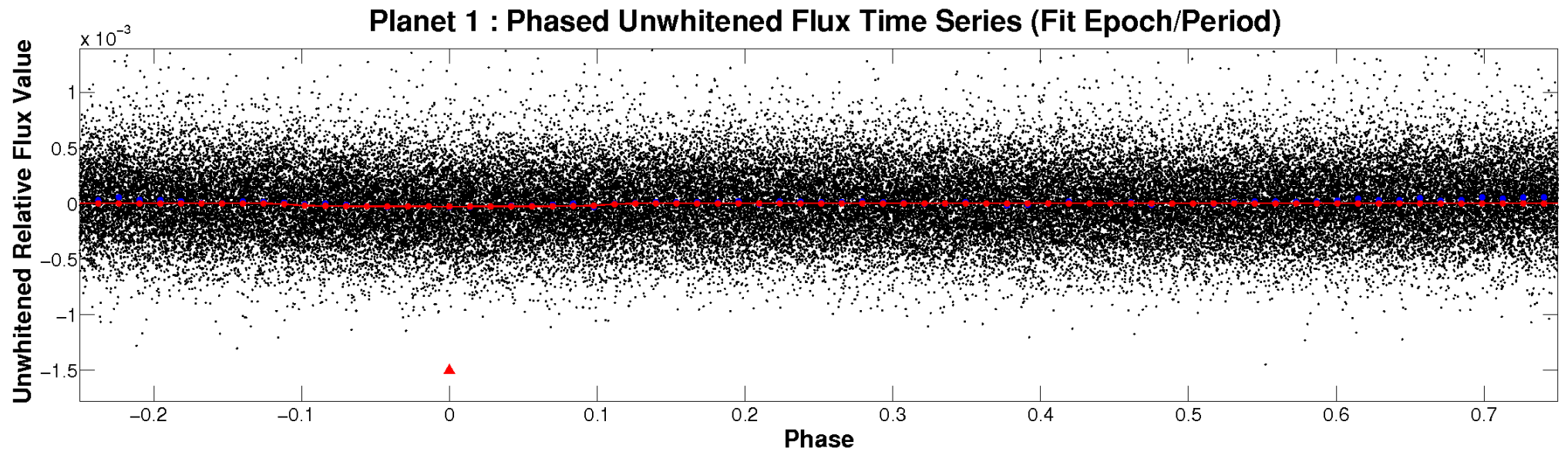


ALT Odd/Even

TCE 005121044-01

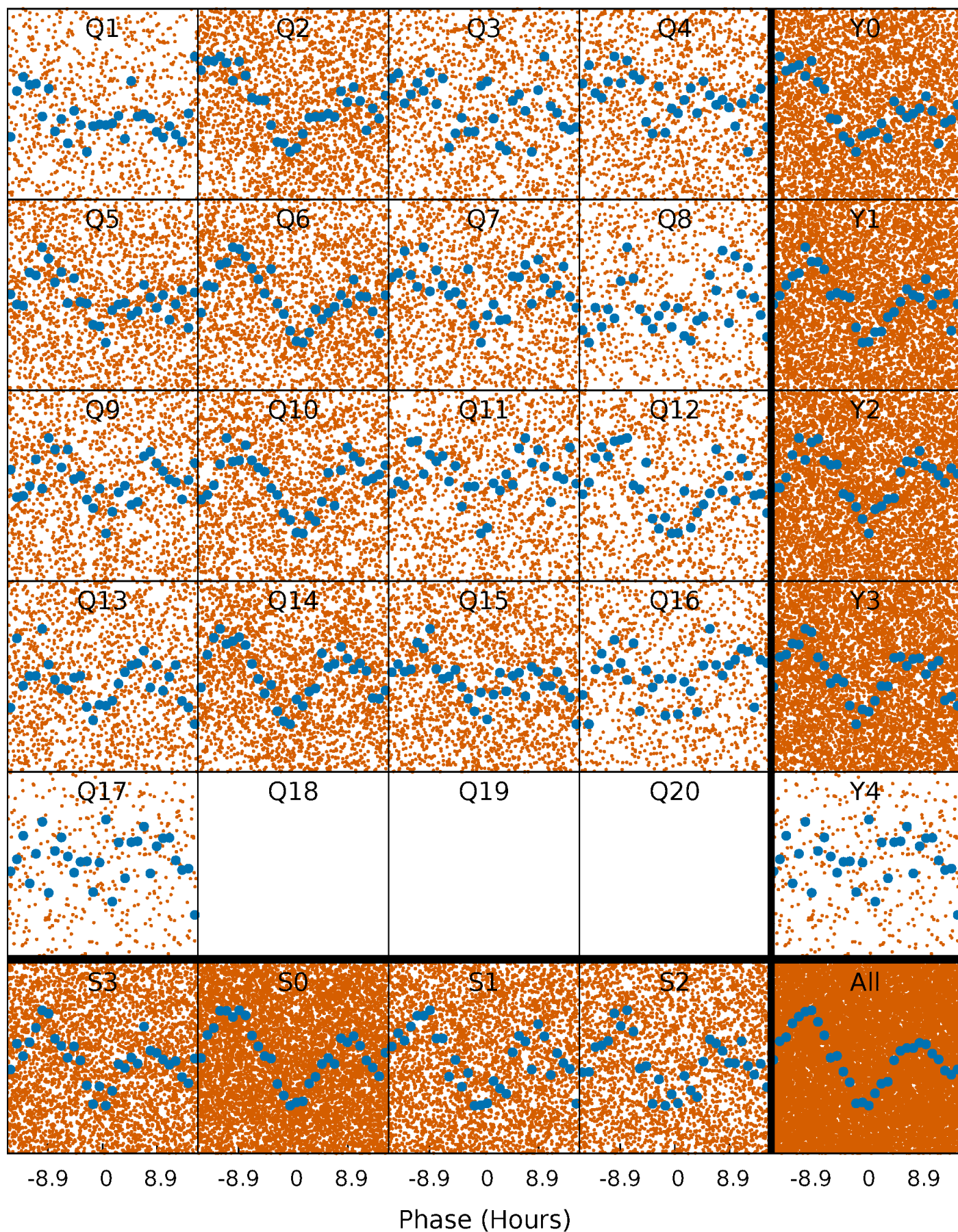


Non-Whitened Vs. Whitened Light Curve



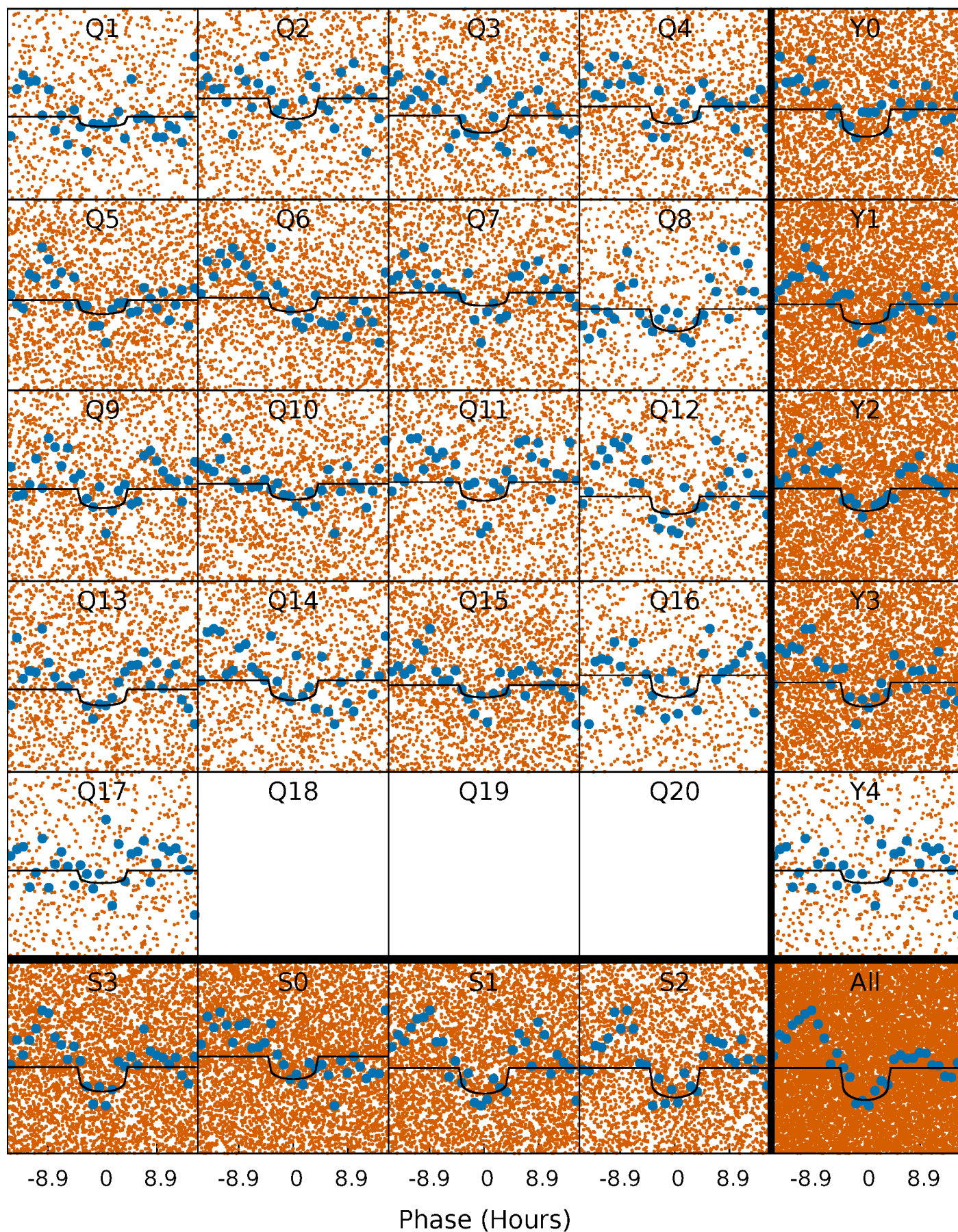
PDC Quarter-Phased Transit Curves

TCE 005121044-01 P= 1.462352 Days $T_0=132.565808$ (BKJD)



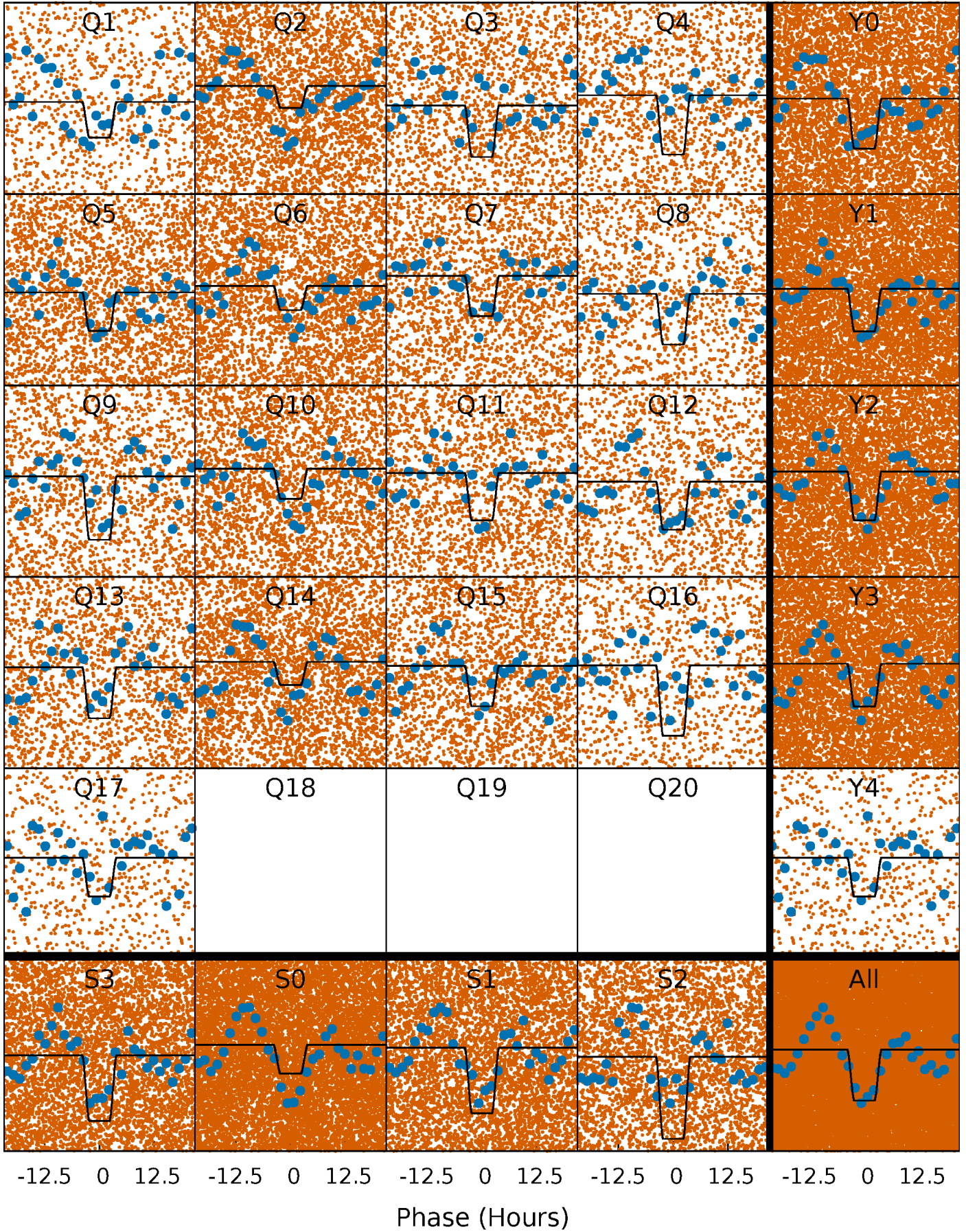
DV Quarter-Phased Transit Curves

TCE 005121044-01 P= 1.462352 Days $T_0=132.565808$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

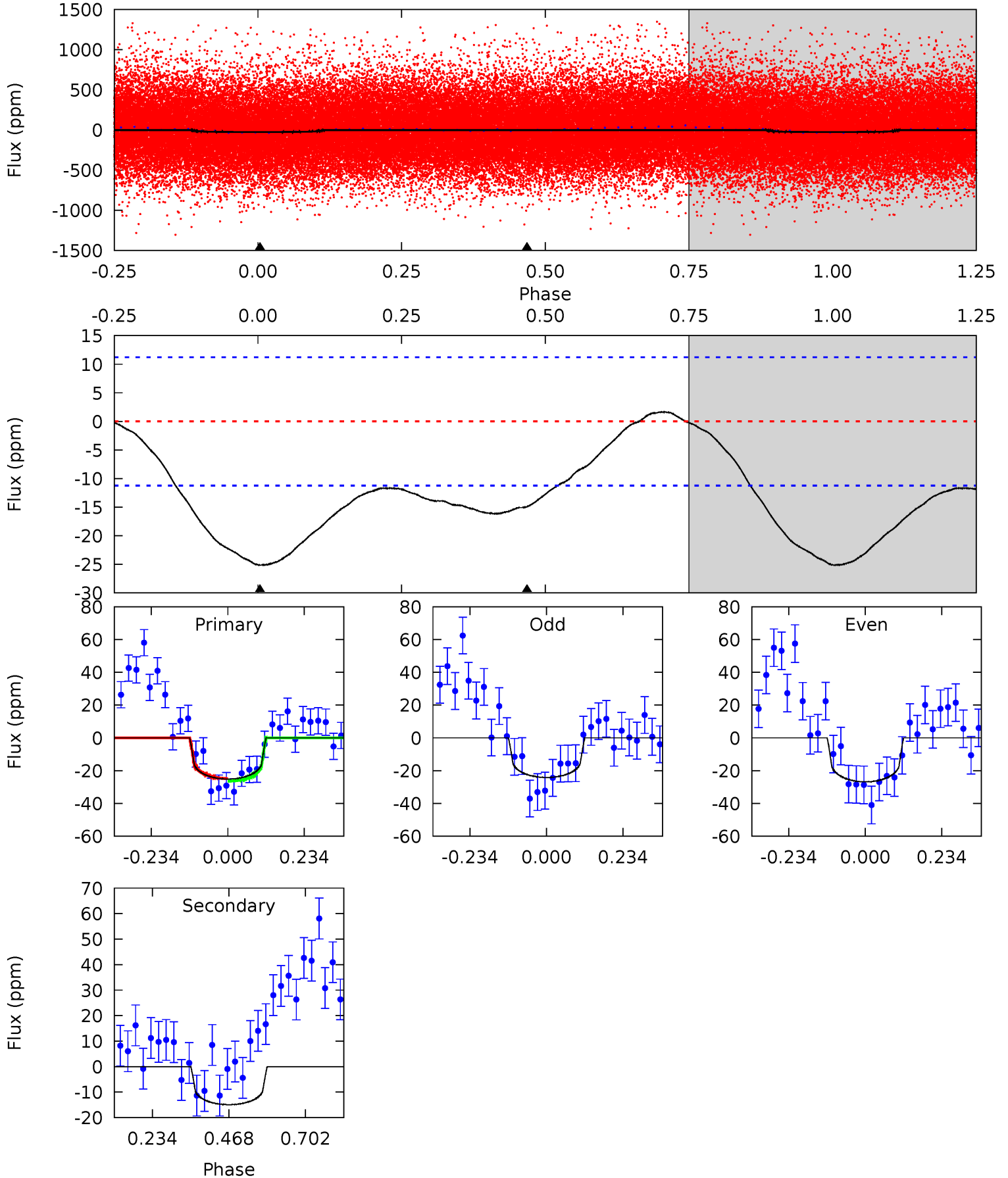
TCE 005121044-01 P= 1.462307 Days $T_0=132.586673$ (BKJD)



DV Model-Shift Uniqueness Test

005121044-01, P = 1.462352 Days, E = 131.103456 Days

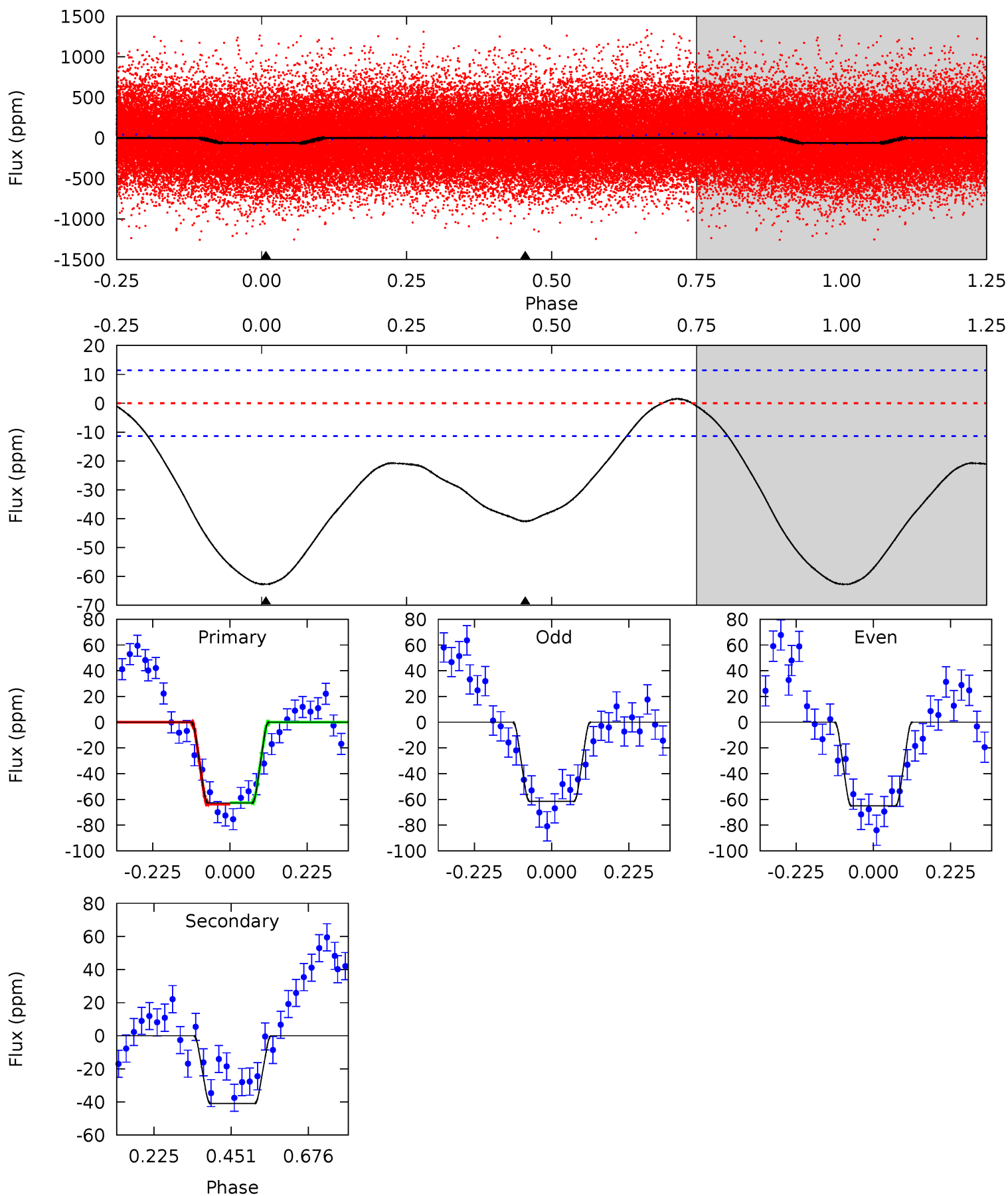
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.81	5.82	0	0	4.38	1.19	1.73	9.81	9.81	5.82	5.82	0.52	0.89	0.06	0.31



Alt Model-Shift Uniqueness Test

005121044-01, P = 1.462307 Days, E = 131.124366 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	15.8	0	0	4.39	1.21	0.82	24.2	24.2	15.8	15.8	0.67	1.04	0.02	0.19



Stellar Parameters For KIC 005121044

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6381^{+179}_{-224}	$4.386^{+0.070}_{-0.210}$	$0.000^{+0.250}_{-0.300}$	$1.158^{+0.389}_{-0.130}$	$1.192^{+0.169}_{-0.169}$	$1.080^{+0.385}_{-0.545}$
	+3%/-4%	+2%/-5%	+inf%/-inf%	+34%/-11%	+14%/-14%	+36%/-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 005121044-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-15 ± 3	$0.80^{+0.66}_{-0.51}$	2623^{+217}_{-133}	5135^{+3573}_{-1174}	$8.952^{+57.162}_{-6.247}$
Alt.	-41 ± 3	$1.12^{+0.69}_{-0.61}$	2630^{+192}_{-137}	5515^{+3066}_{-997}	13^{+48}_{-8}

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

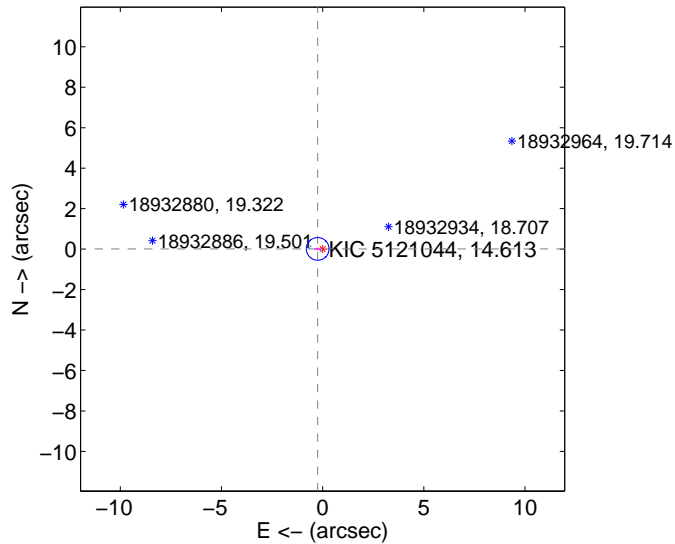
Supplemental centroid analysis for 005121044-01. Kepler magnitude: 14.61. Transit SNR 8.23

There are 4 quarters with good PRF difference image offsets

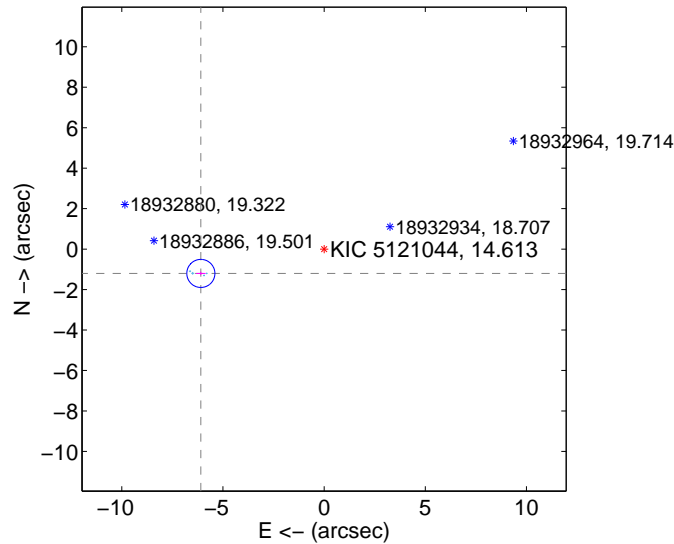
The OOT PRF centroid is offset from the target star catalog position by about 5.88 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.244 ± 0.187	1.31	0.244 ± 0.186	0.010 ± 0.073
PRF-fit source offset from KIC position	6.210 ± 0.231	26.85	6.093 ± 0.235	-1.202 ± 0.084
photometric centroid source offset	5.96 ± 1.34	4.45	4.70 ± 1.47	-3.66 ± 1.08

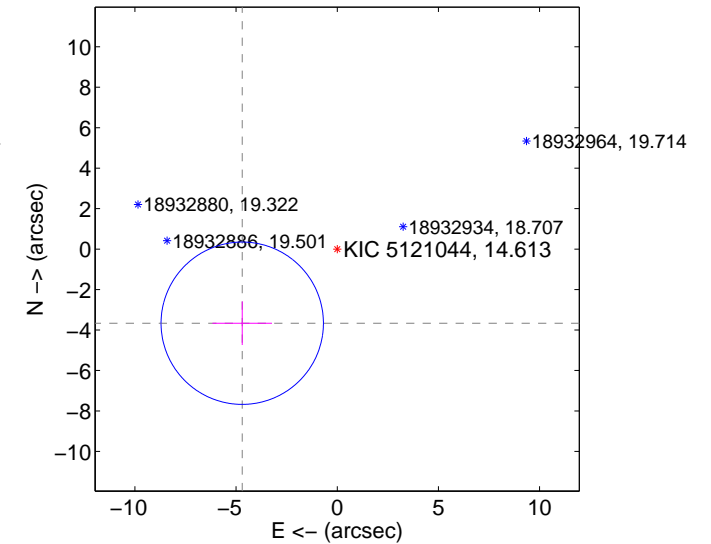
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

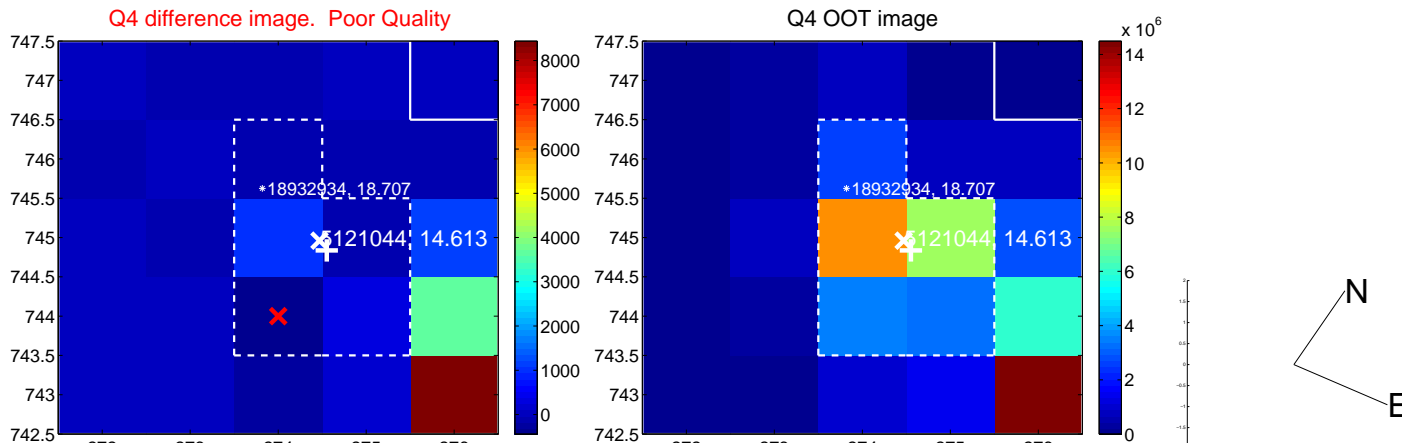
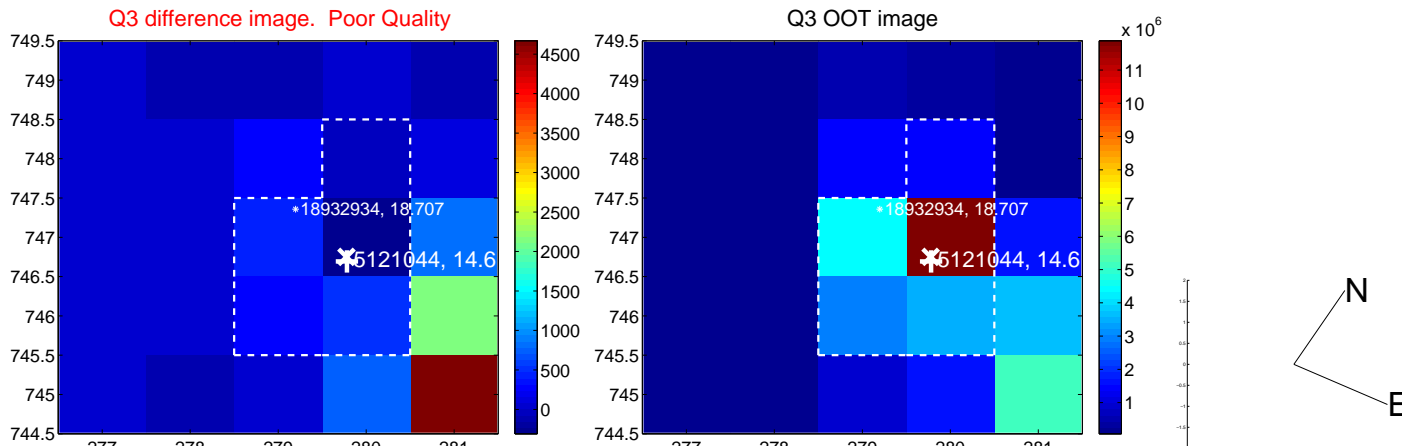
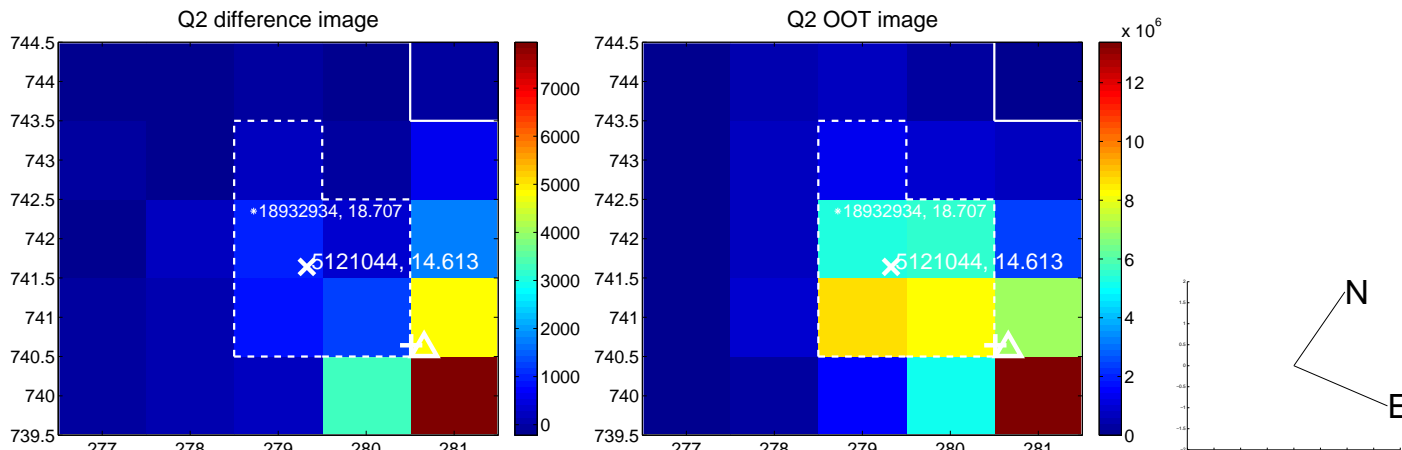
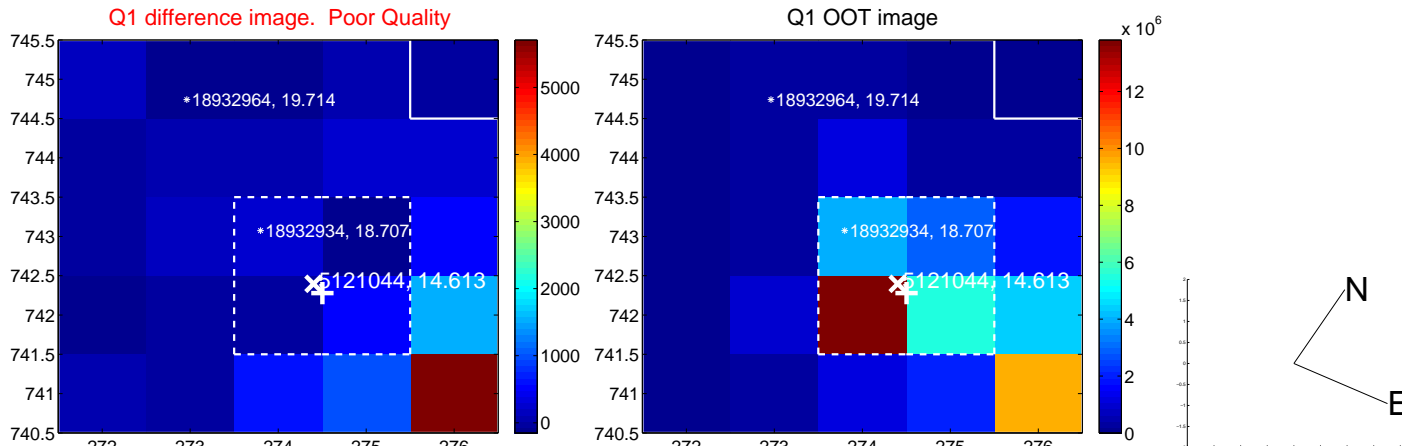


offset from photometric centroids

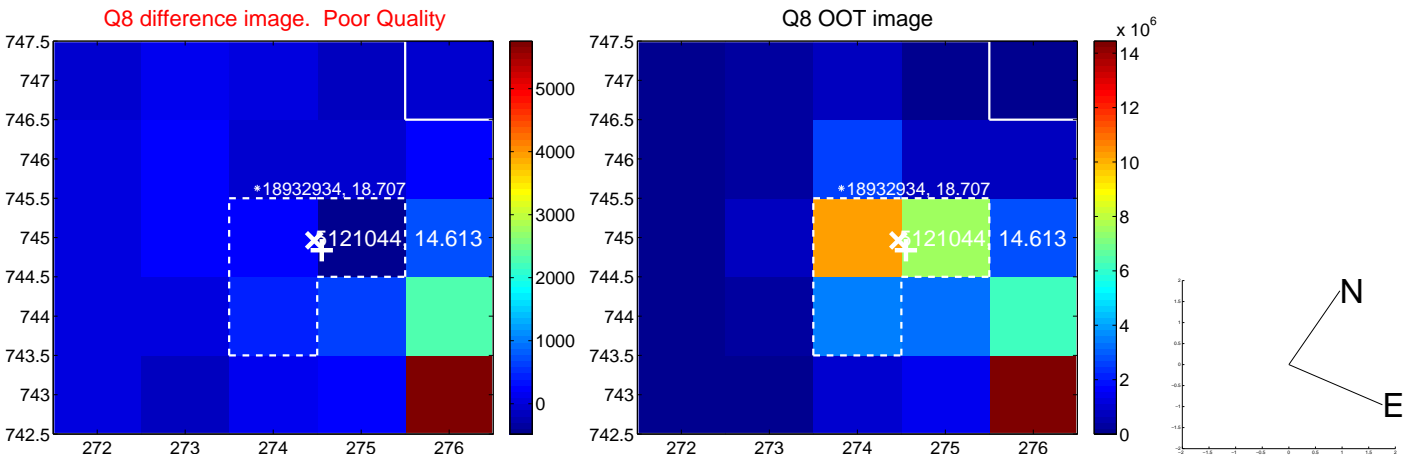
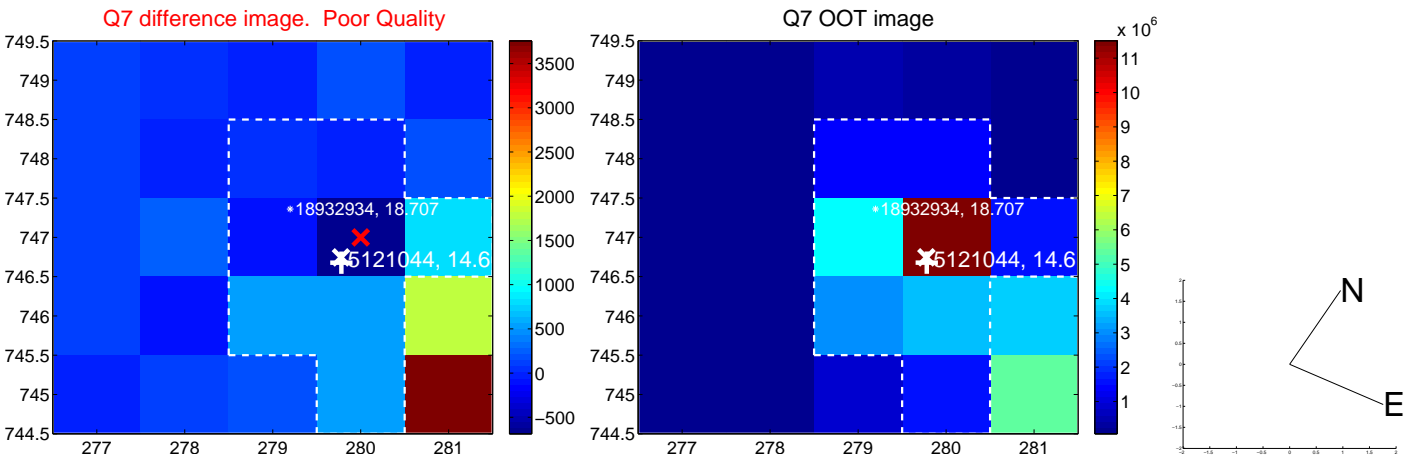
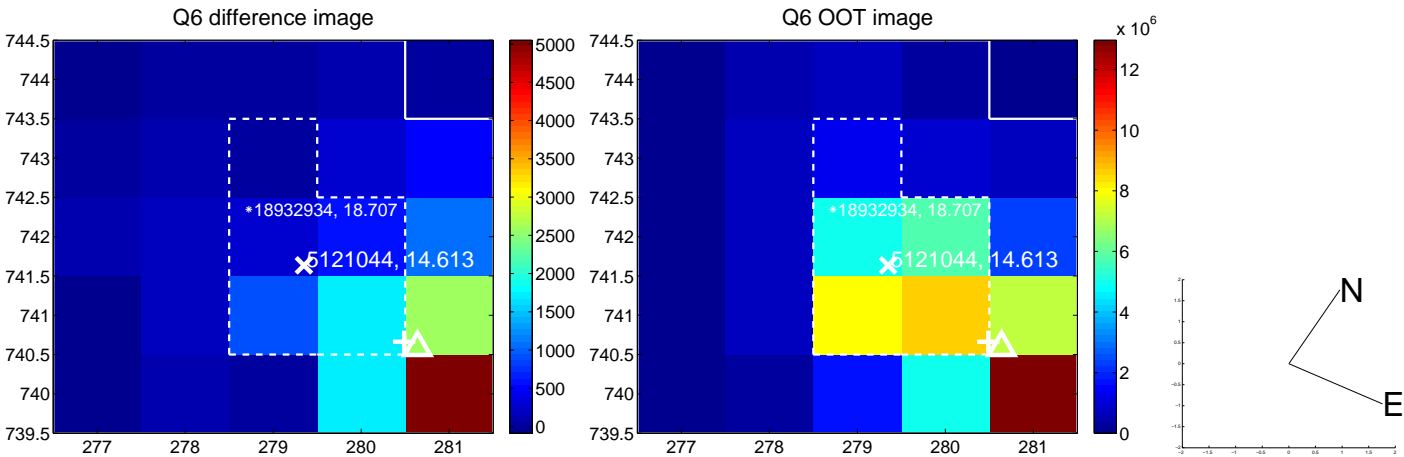
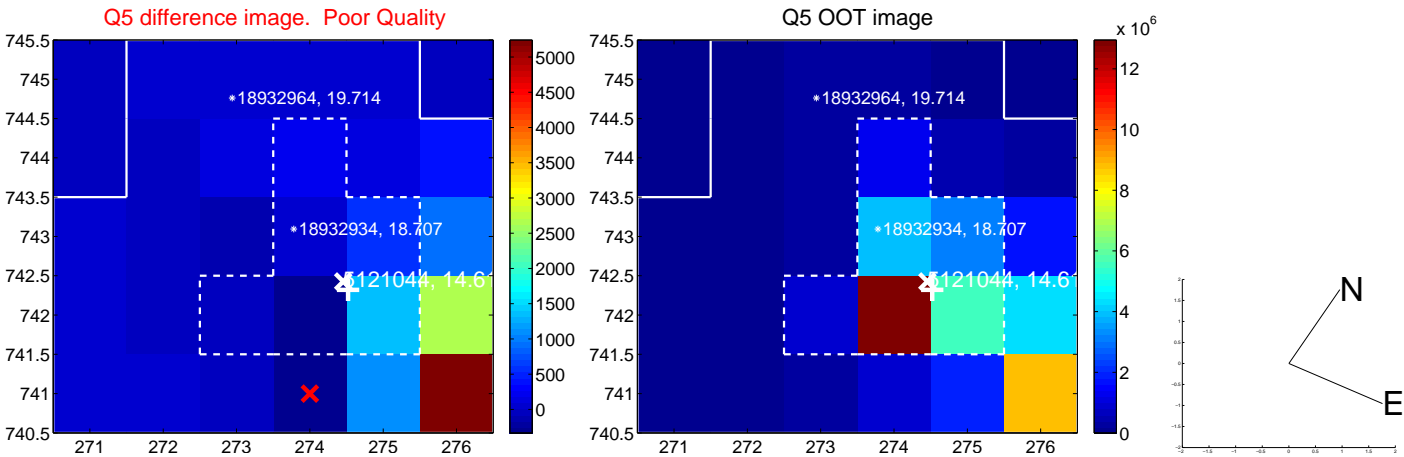


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

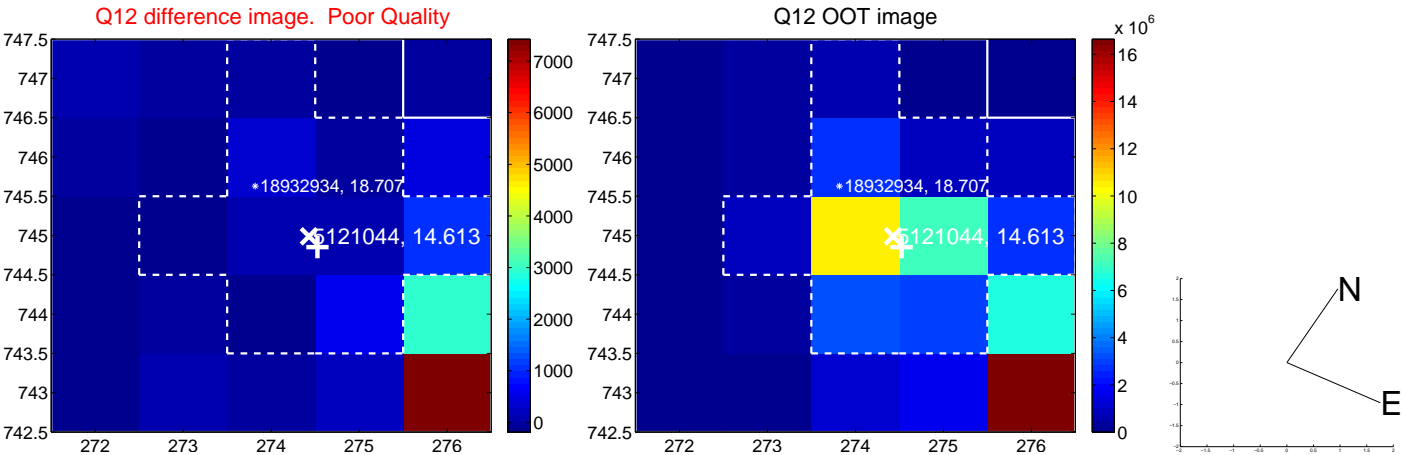
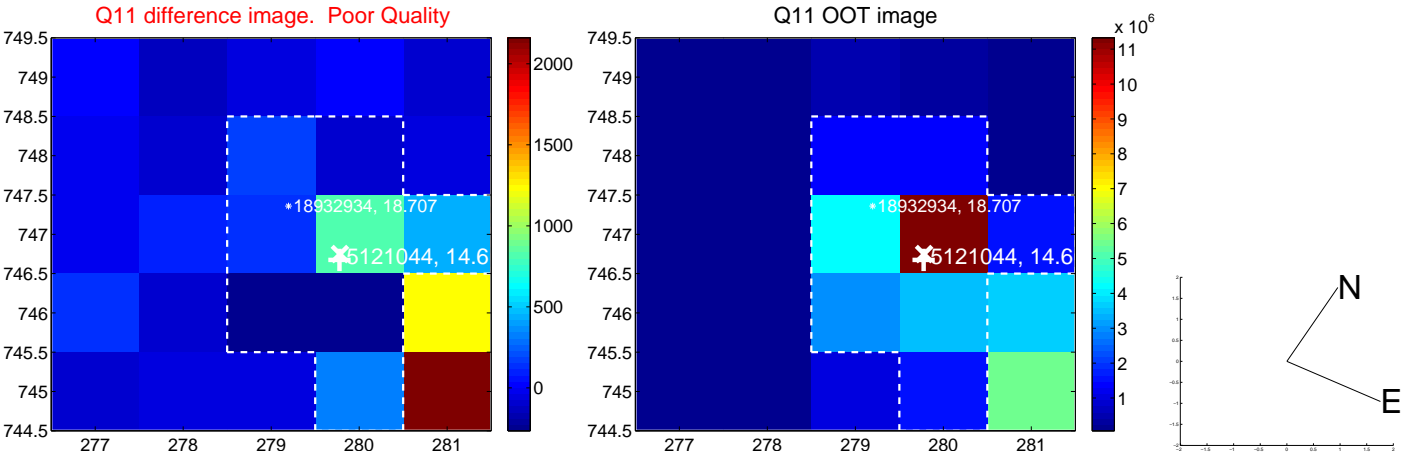
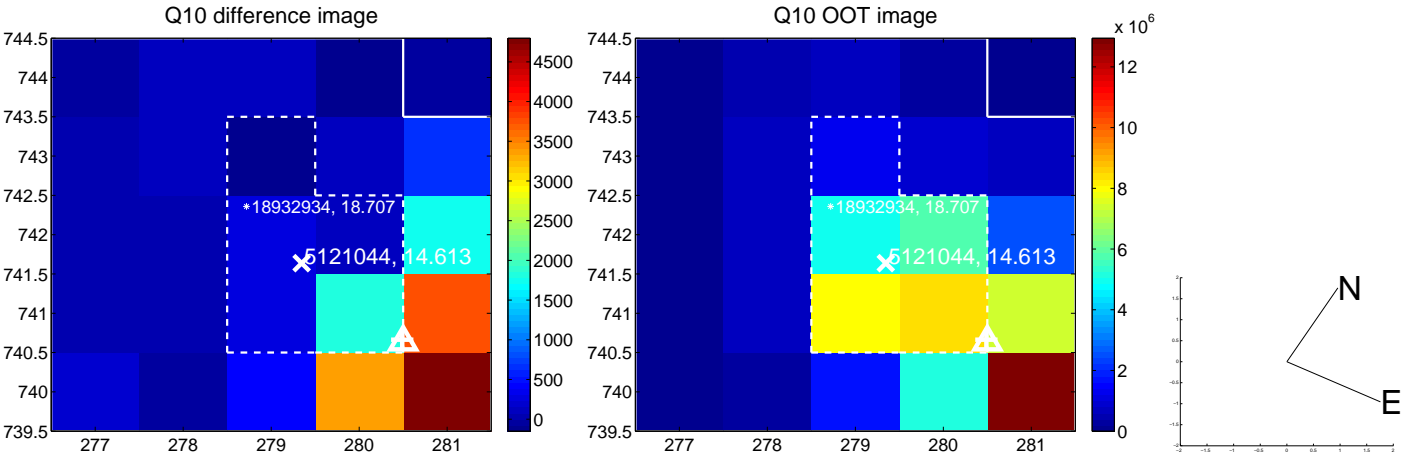
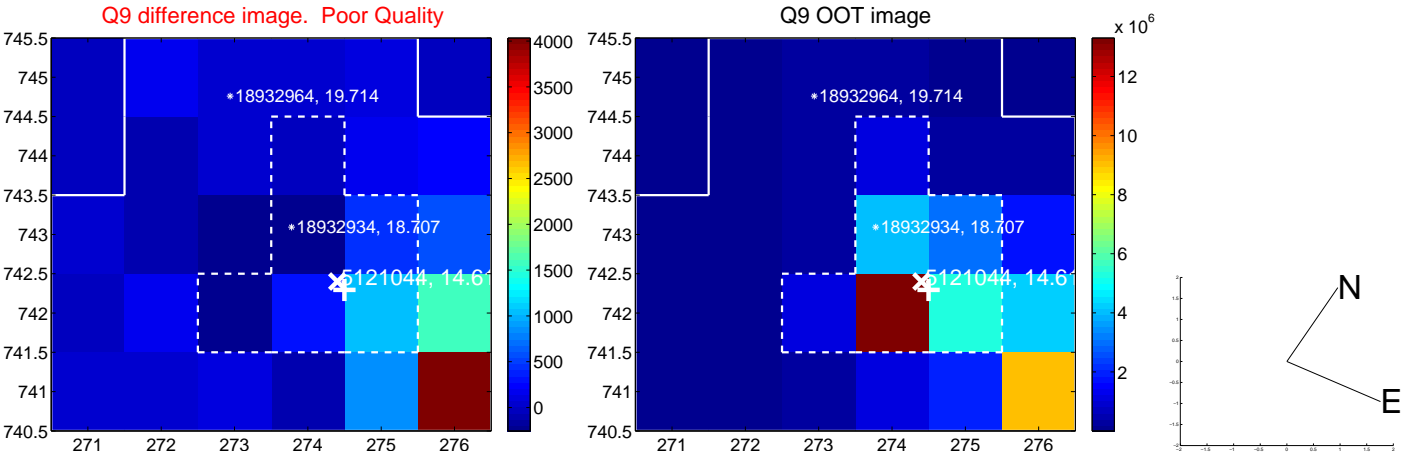
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



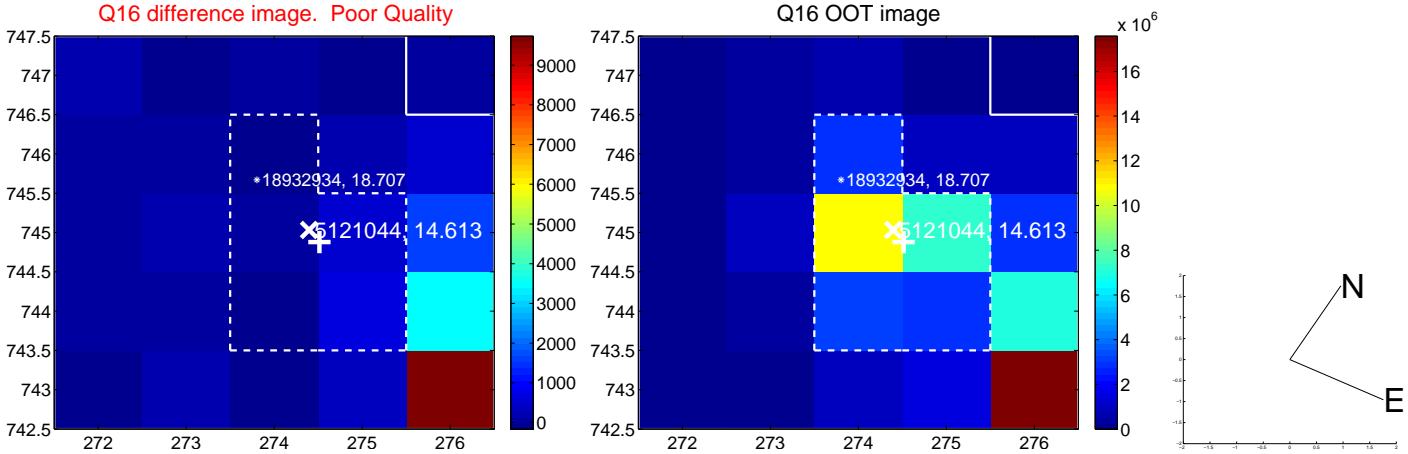
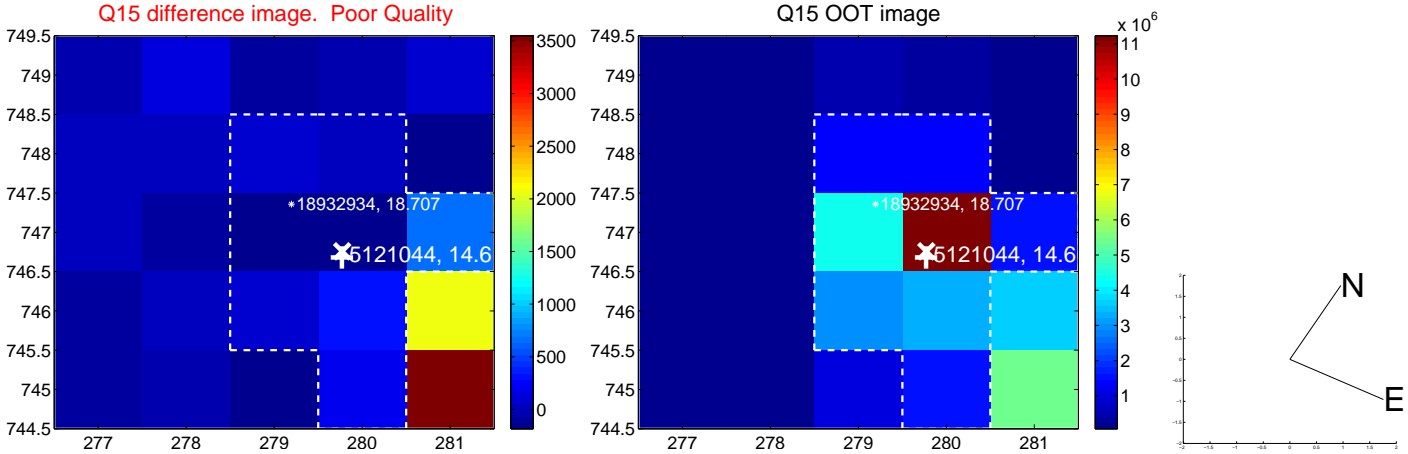
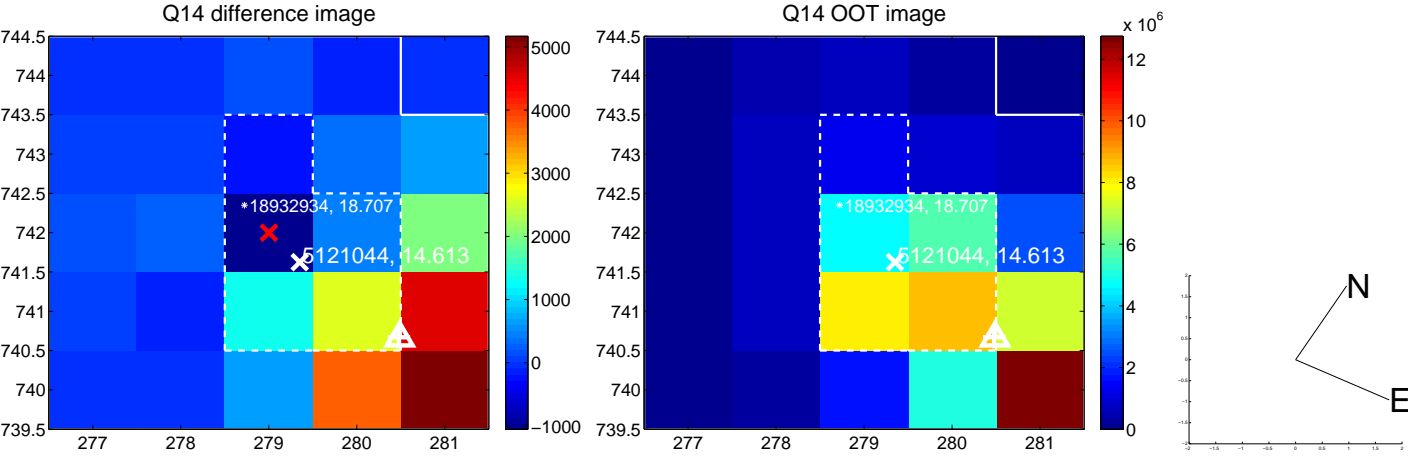
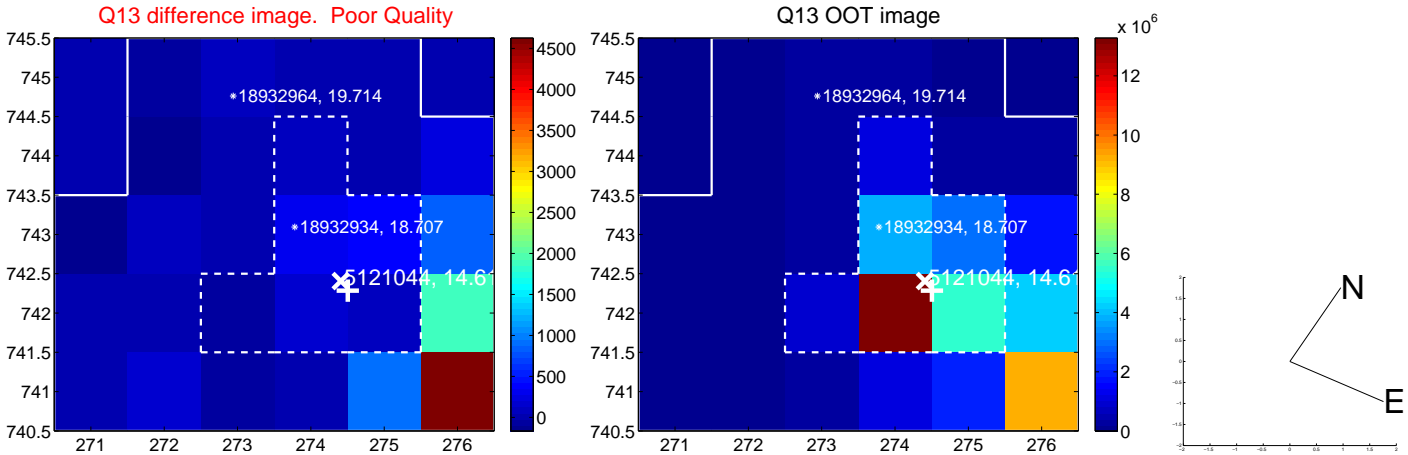
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



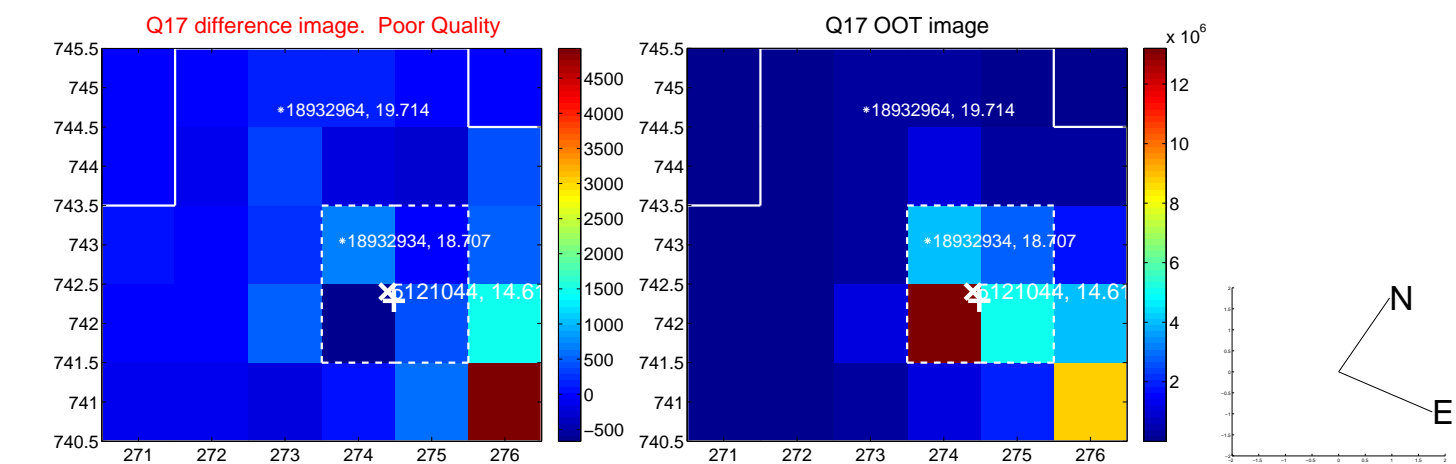
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



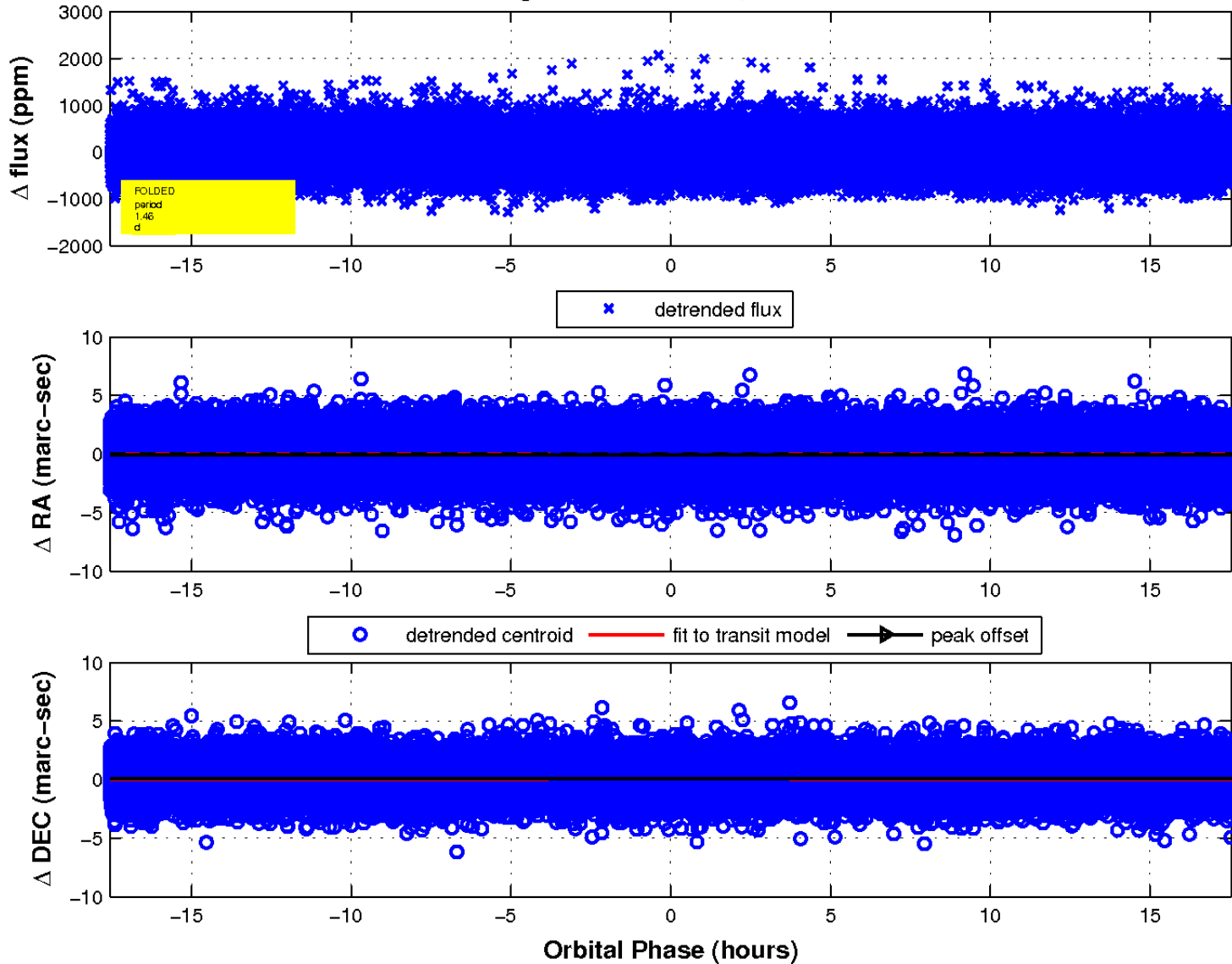
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

