

KIC 004851072

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})
004851072-01	OBS	No	1.235109	132.008953	38.6	5.866	7.3	8.0	0.92	5865	0.64	1744.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004851072-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH

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.

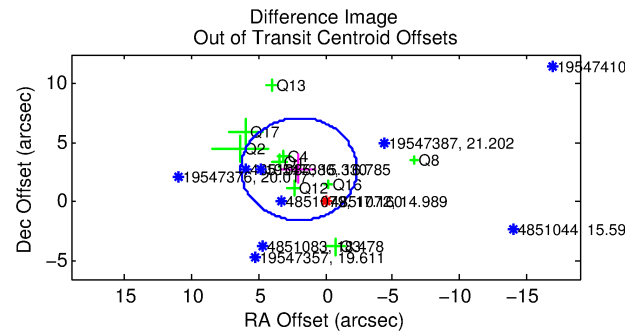
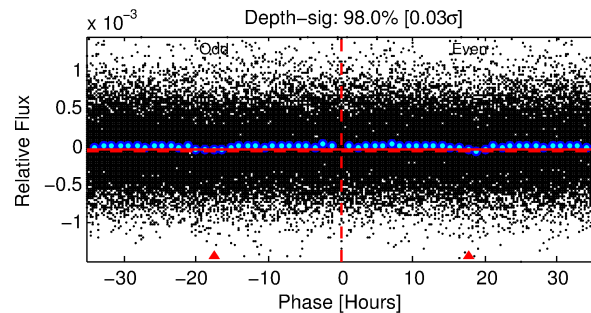
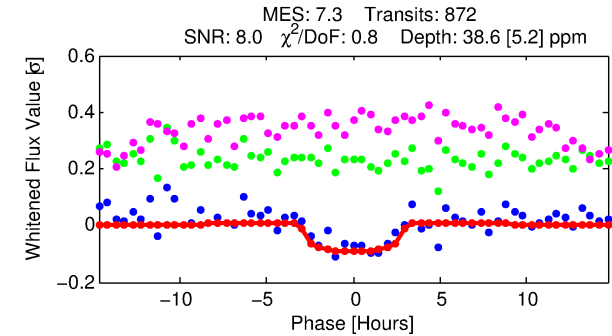
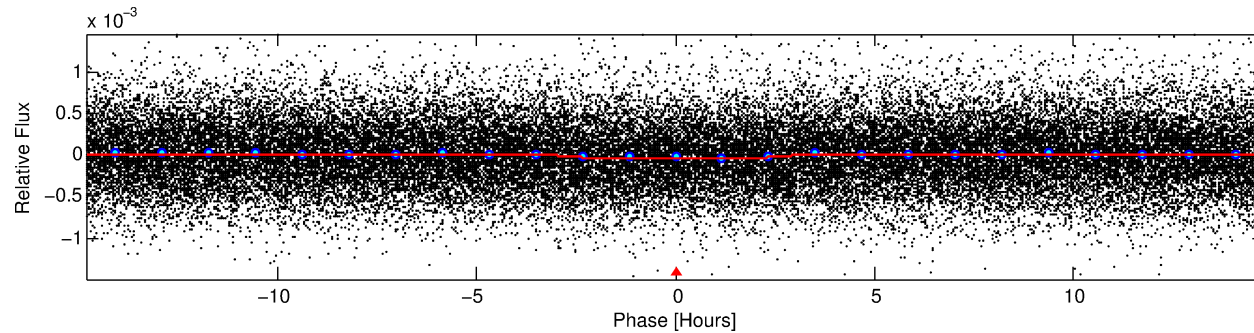
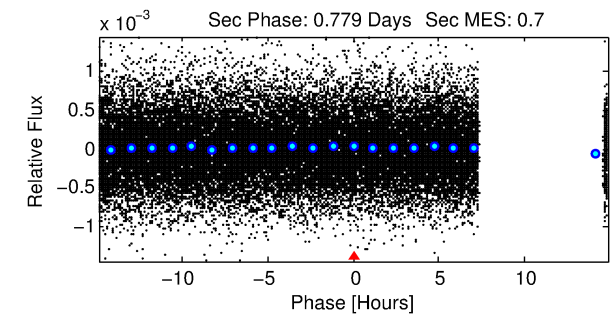
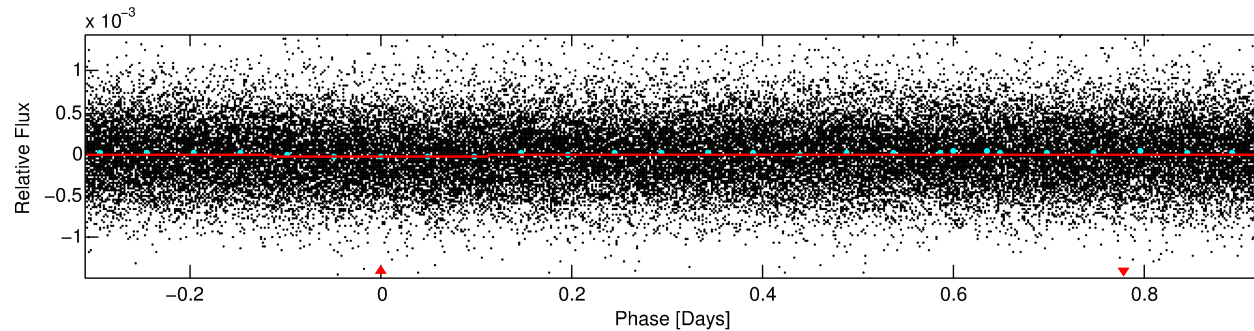
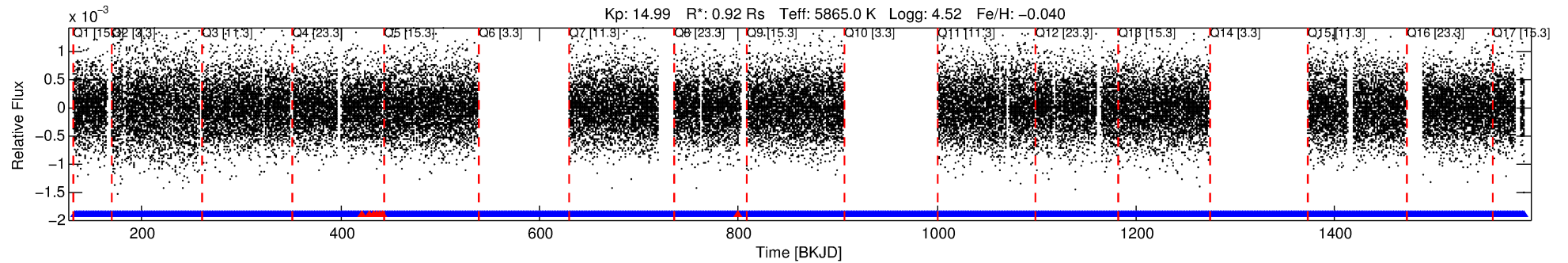
Ephemeris Match Information For 004851072-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
004851072-01	4851072	004851217-pri	4851217	1:2	124.2	31	2	11.11	14.99	5076.90	Direct-PRF	0	4.23	0.51

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 4851072 Candidate: 1 of 1 Period: 1.235 d



DV Fit Results:

Period = 1.23511 [0.00002] d
Epoch = 132.0090 [0.0078] BKJD
Rp/R* = 0.0064 [0.0052]
a/R* = 1.28 [1.93]
b = 0.83 [1.45]
Seff = 1744.17 [596.29]
Teff = 1648 [141] K
Rp = 0.64 [0.55] Re
a = 0.0226 [0.0049] AU
Ag = N/A
Teffp = N/A

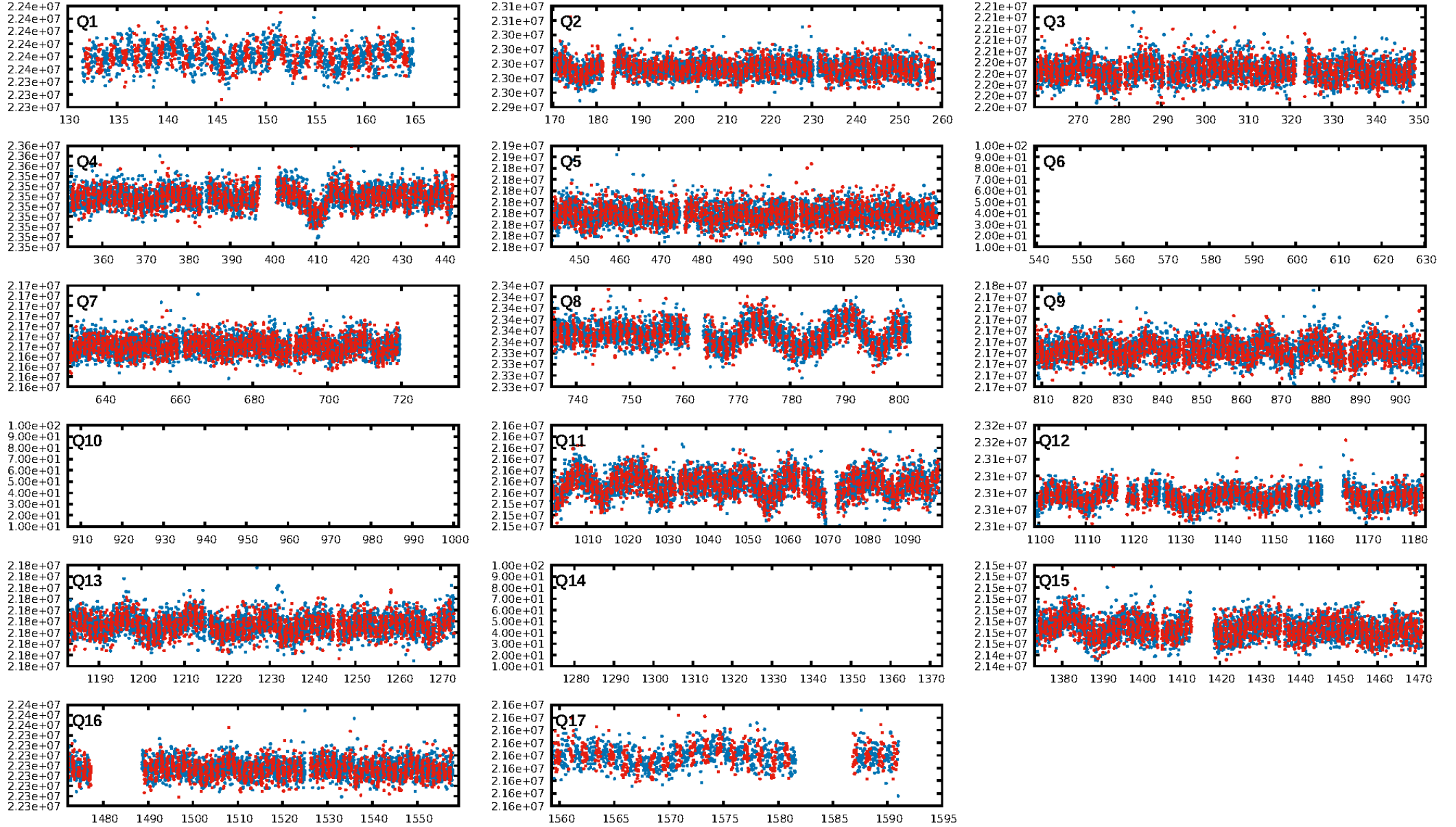
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.49e-11
RollingBand-fgt: 0.99 [815/823]
GhostDiagnostic-chr: 4.583
Centroid-sig: 95.0%
Centroid-so: 0.631 arcsec [0.39 σ]
OotOffset-rm: 3.416 arcsec [2.37 σ]
KicOffset-rm: 3.517 arcsec [2.59 σ]
OotOffset-st: 1/1/4/3 [9]
KicOffset-st: 1/1/4/3 [9]
DiffImageQuality-fgm: 0.22 [2/9]
DiffImageOverlap-fno: 1.00 [14/14]

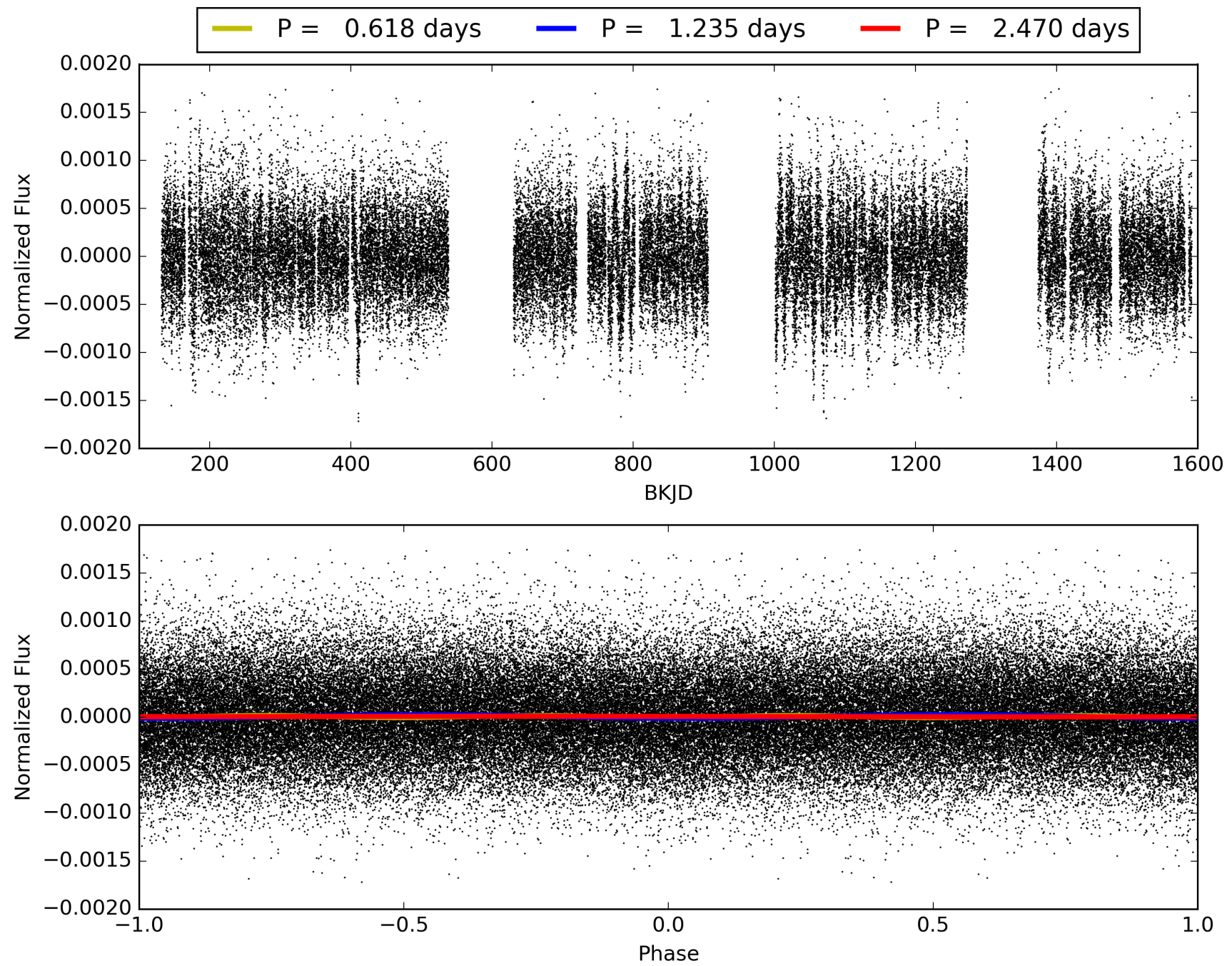
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:34:56 Z

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

TCE 004851072-01, PDC Light Curves

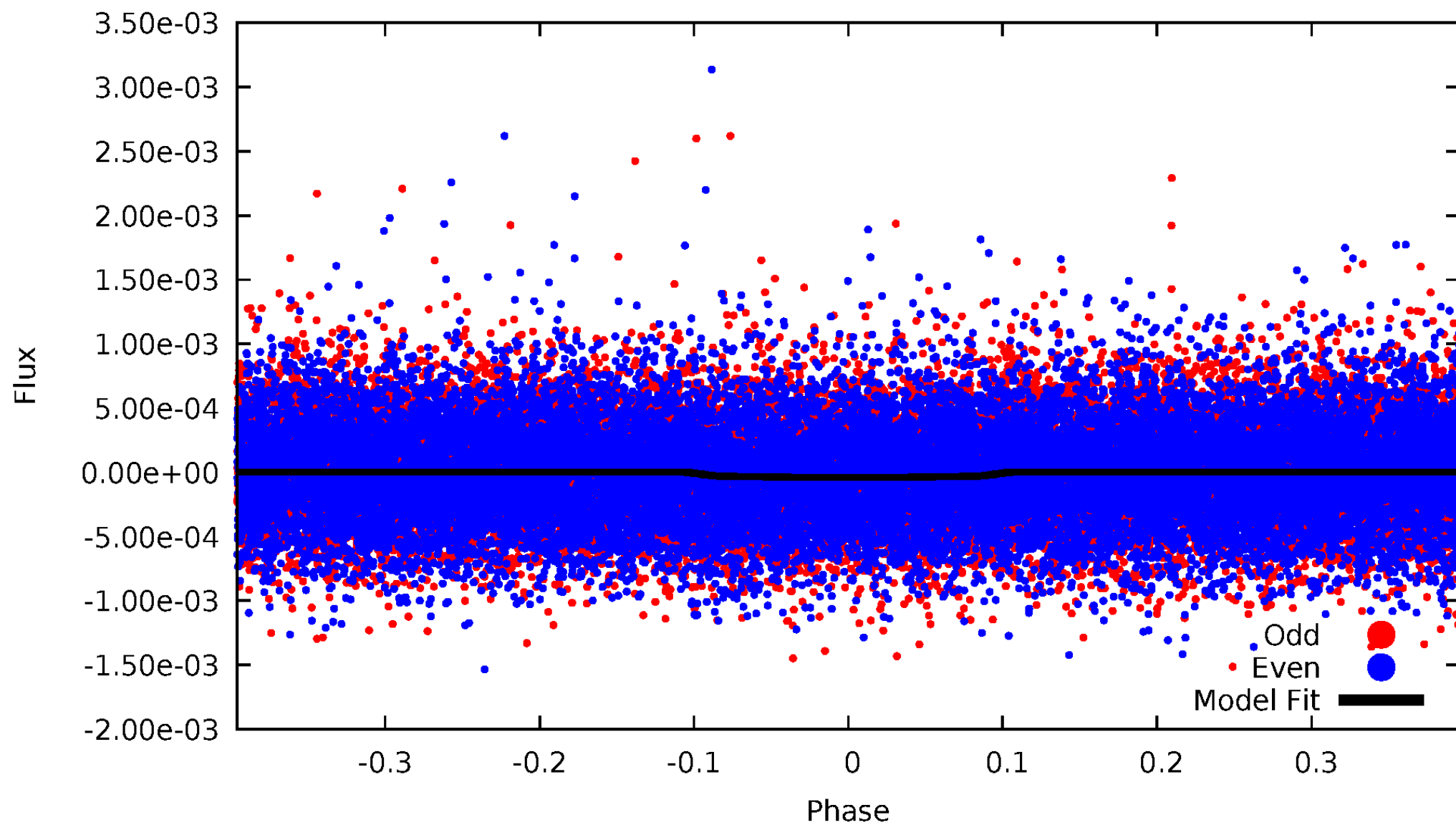


TCE 004851072-01



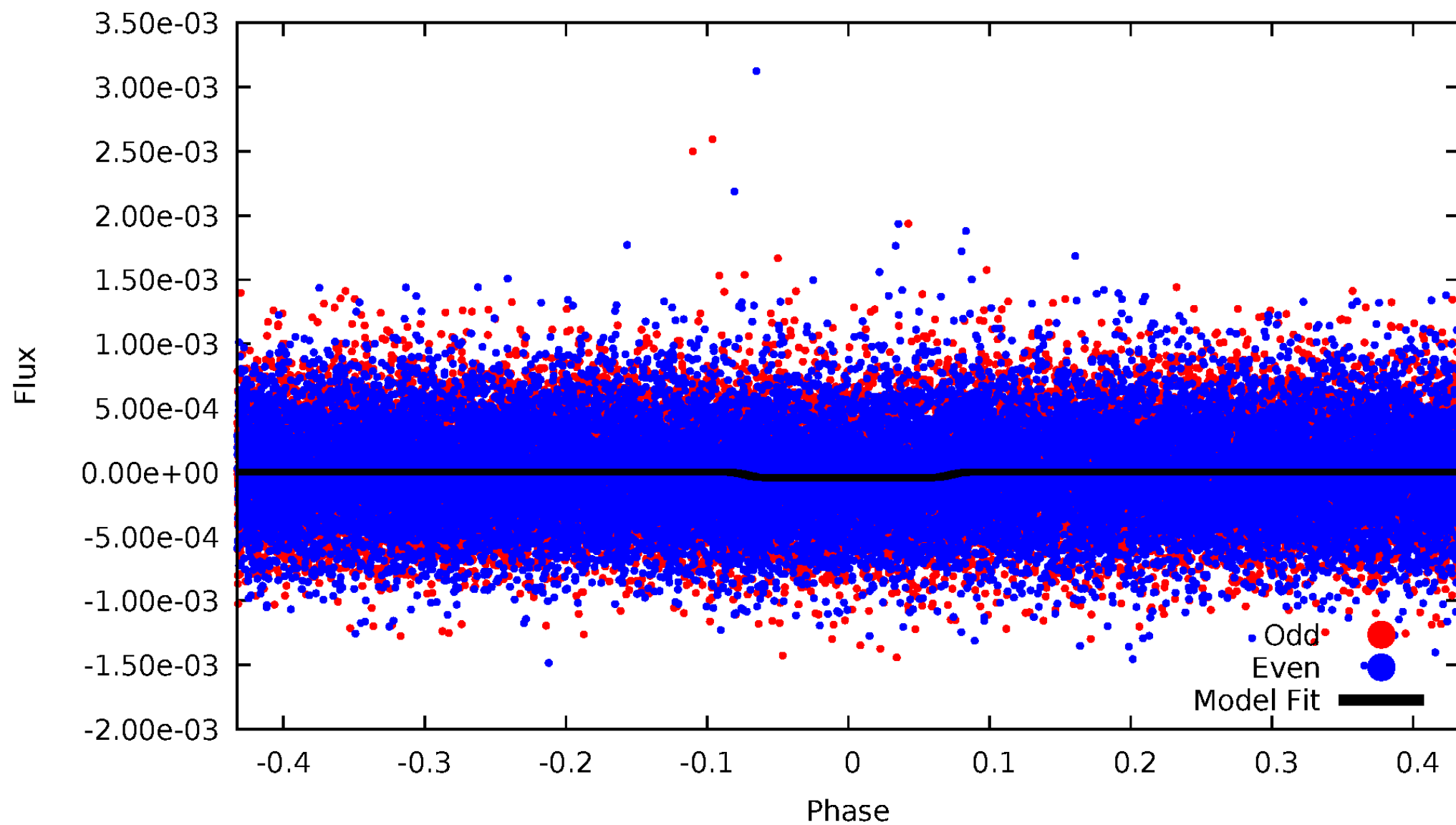
DV Odd/Even

TCE 004851072-01

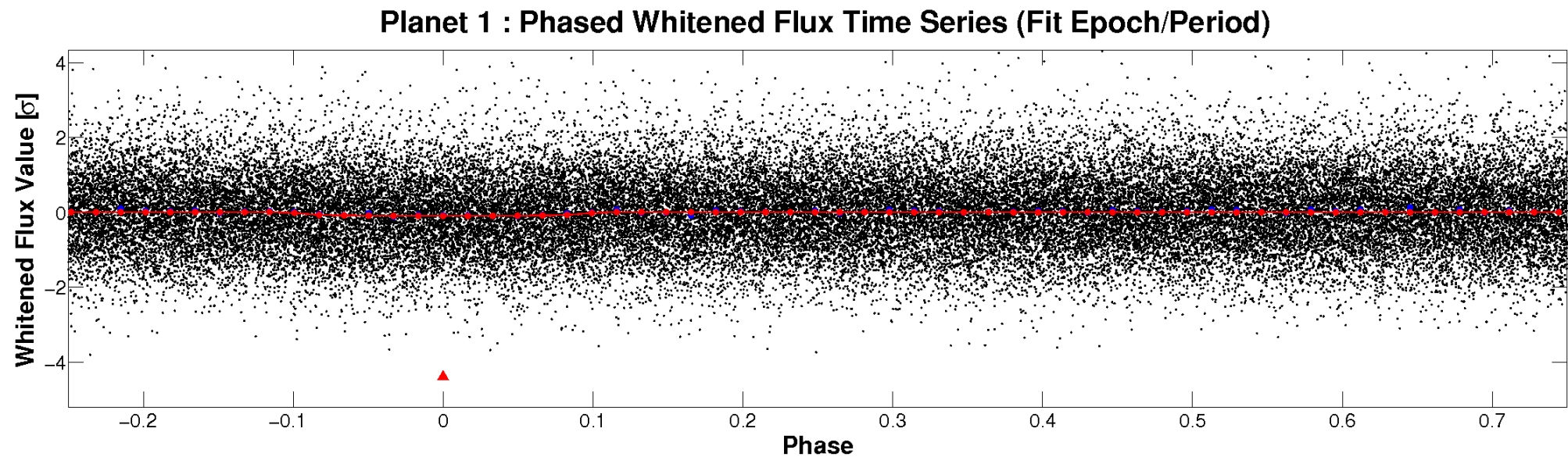
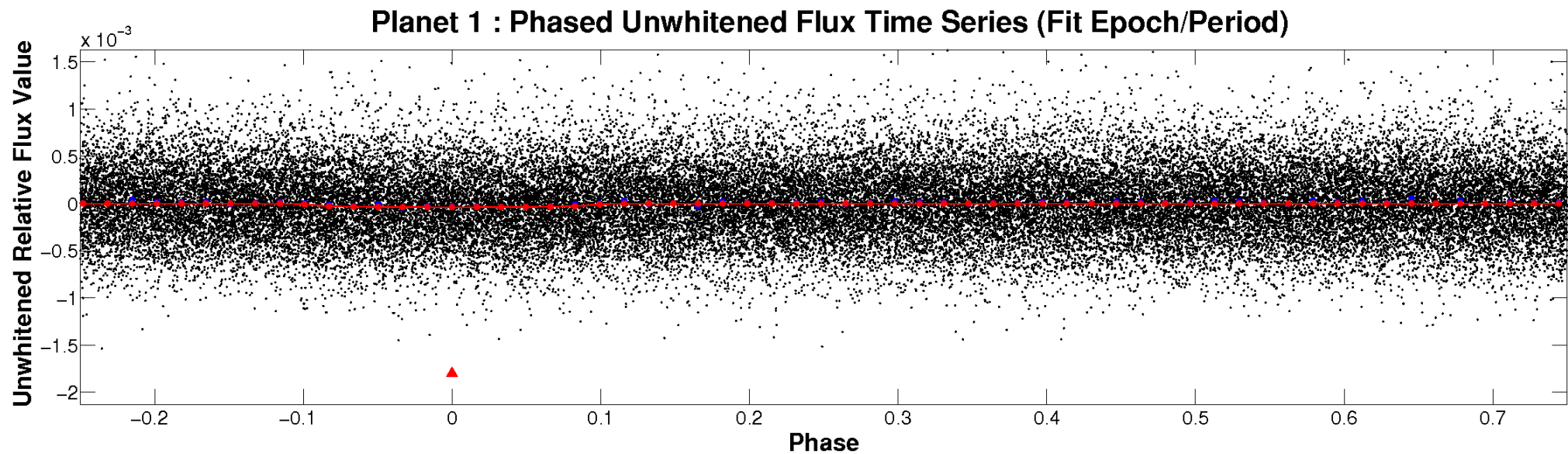


ALT Odd/Even

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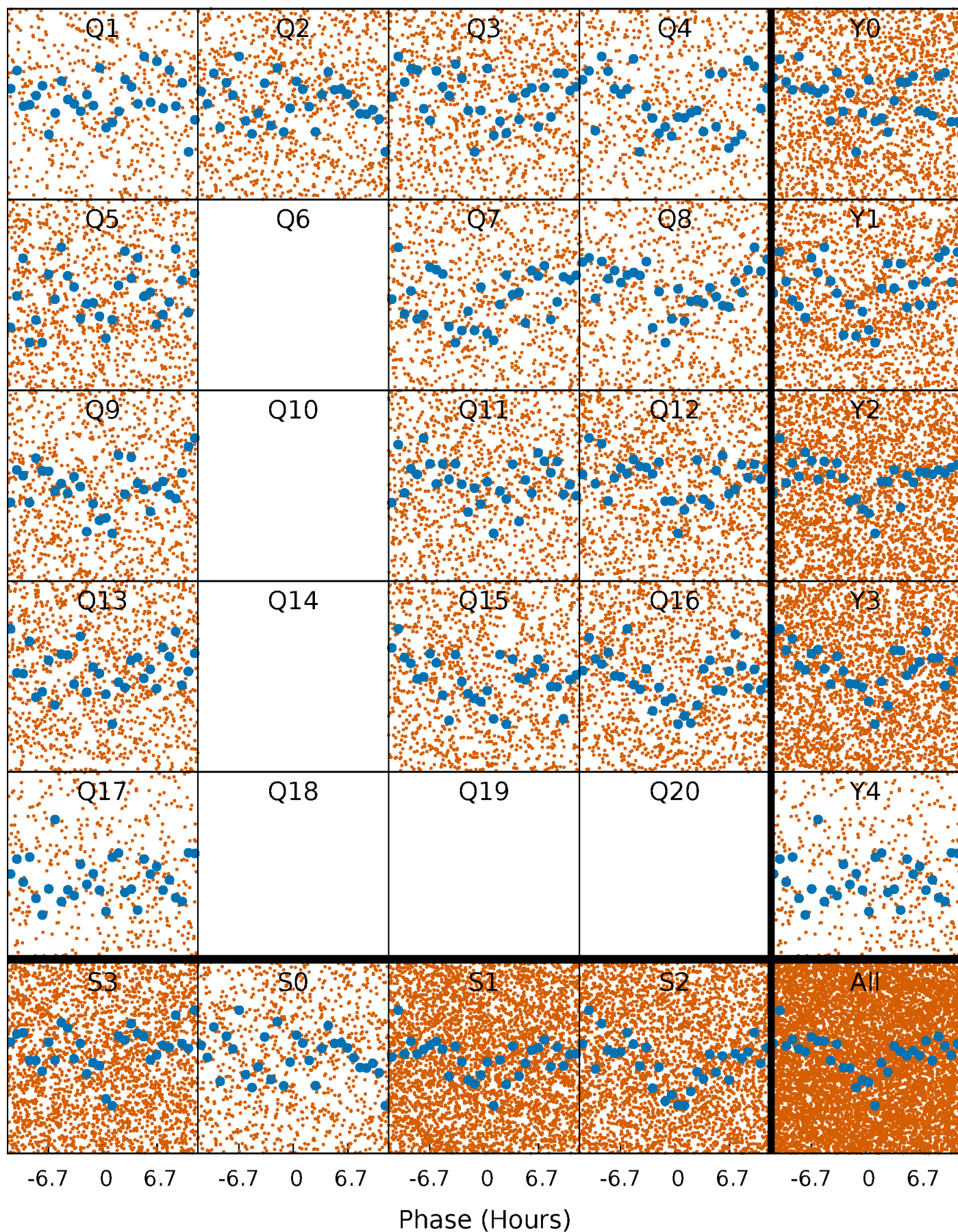


Non-Whitened Vs. Whitened Light Curve



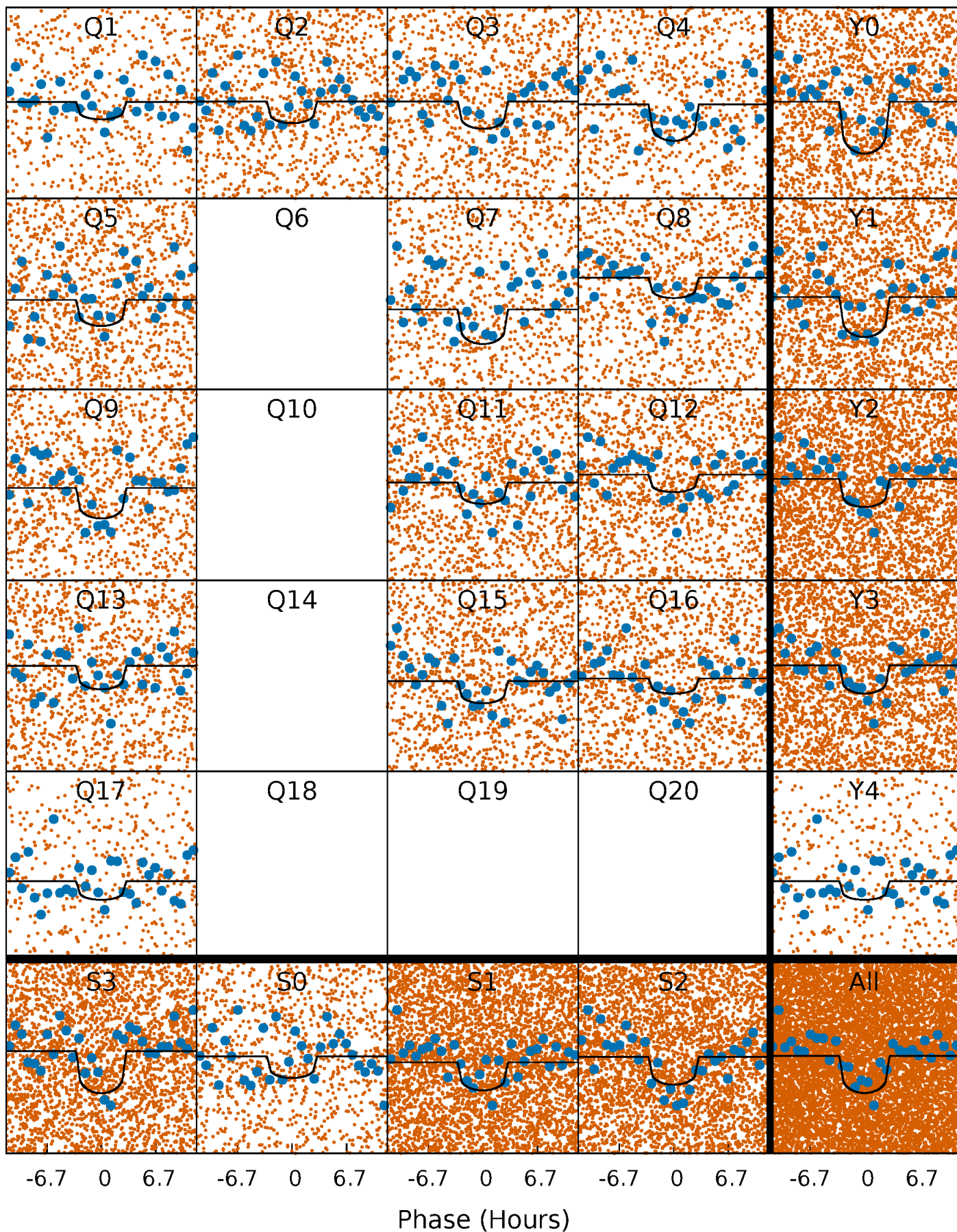
PDC Quarter-Phased Transit Curves

TCE 004851072-01 P= 1.235109 Days $T_0=132.008953$ (BKJD)



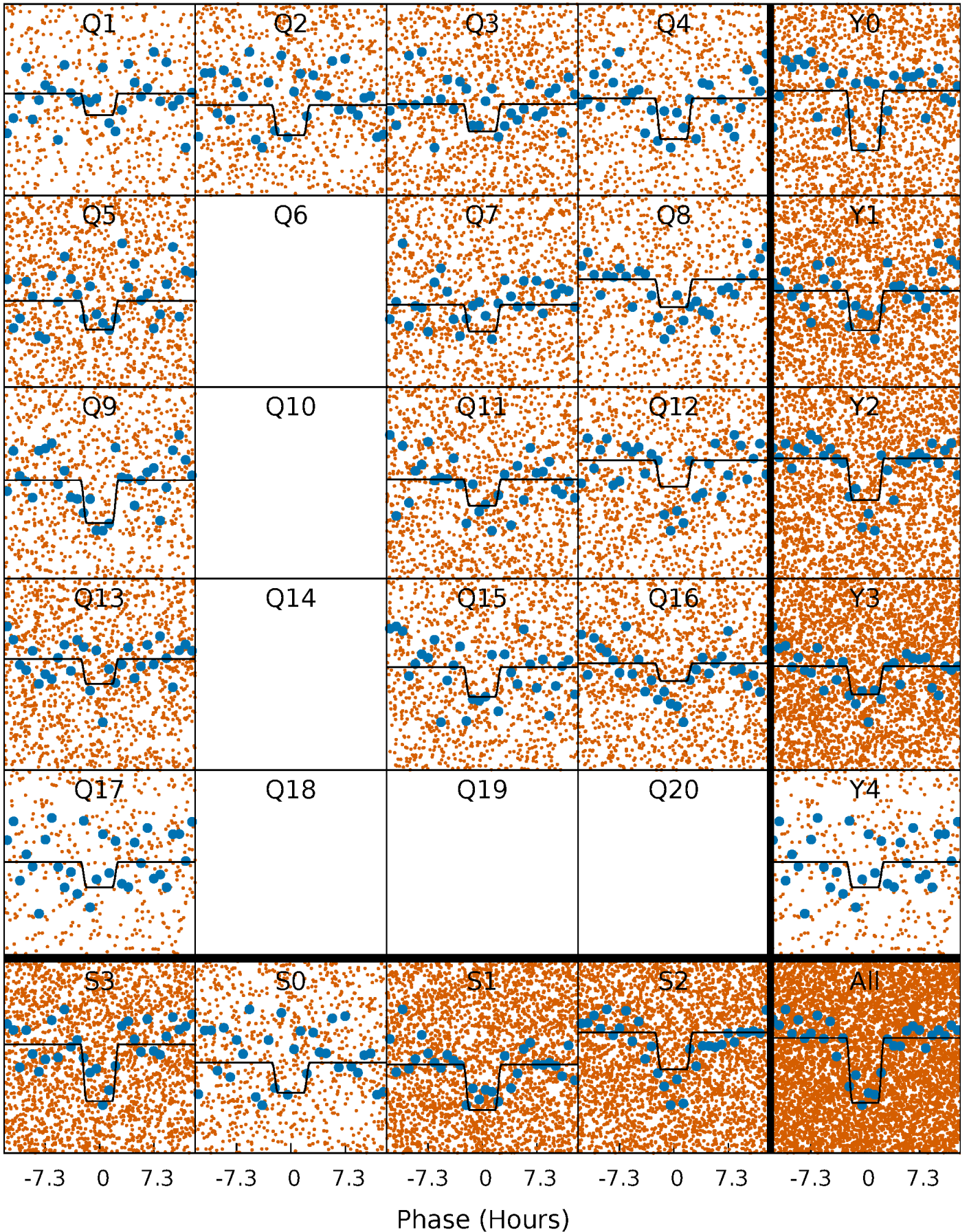
DV Quarter-Phased Transit Curves

TCE 004851072-01 P= 1.235109 Days $T_0=132.008953$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

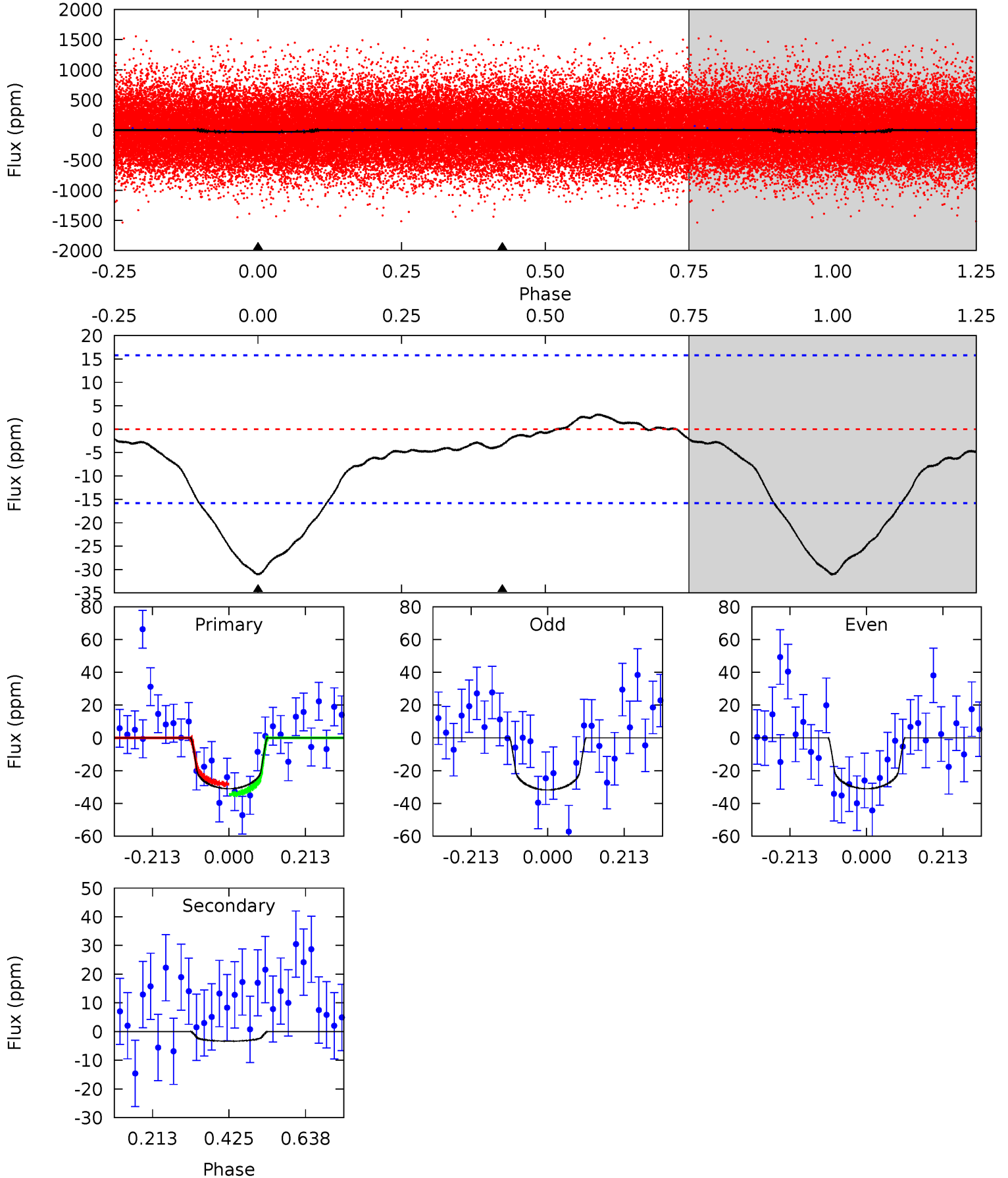
TCE 004851072-01 P= 1.235163 Days $T_0=131.978095$ (BKJD)



DV Model-Shift Uniqueness Test

004851072-01, P = 1.235109 Days, E = 130.773844 Days

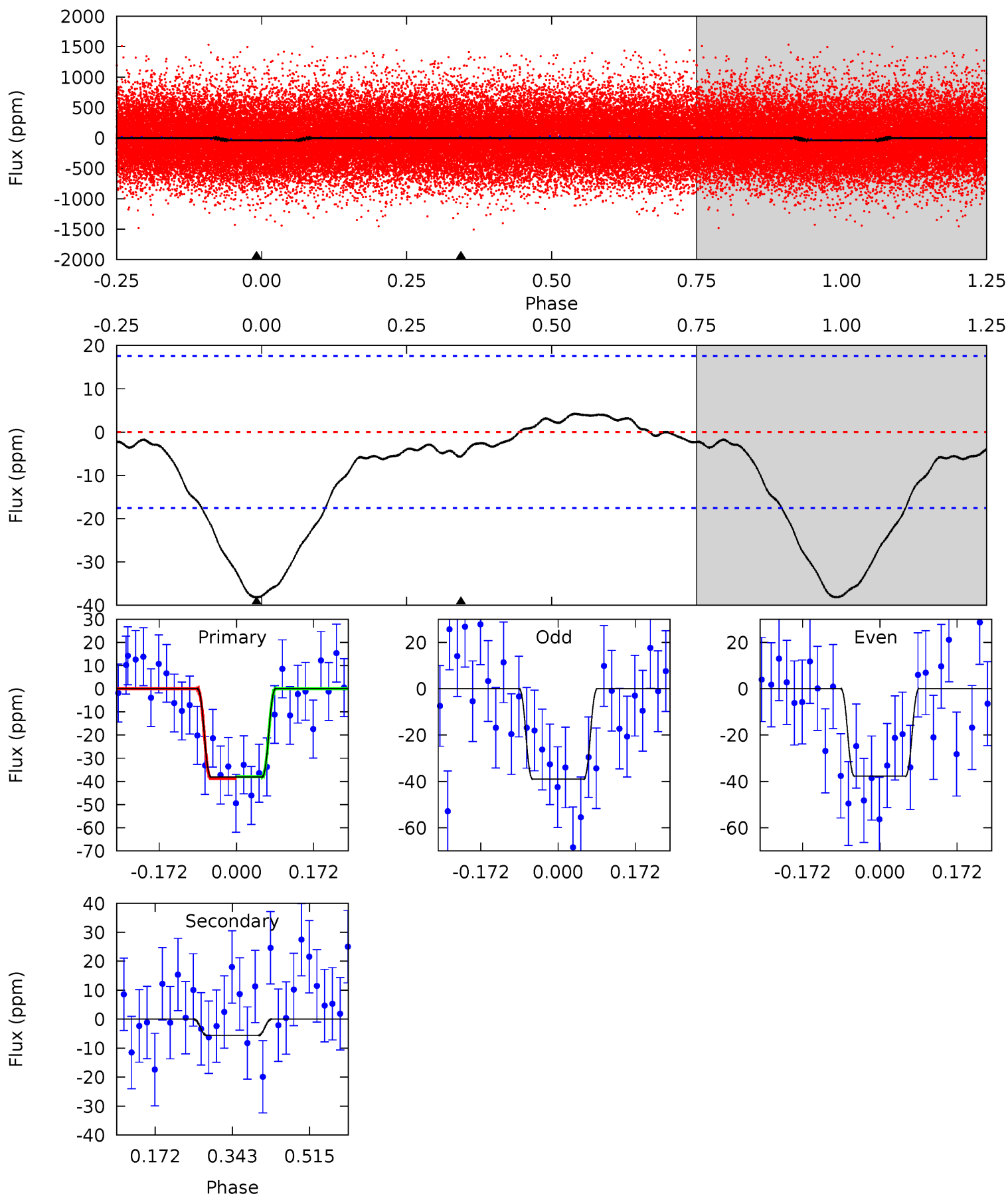
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.65	0.93	0	0	4.40	1.25	0.41	8.65	8.65	0.93	0.93	0.11	1.27	0.09	0.88



Alt Model-Shift Uniqueness Test

004851072-01, P = 1.235163 Days, E = 130.742932 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.66	1.42	0	0	4.45	1.37	0.72	9.66	9.66	1.42	1.42	0.17	0.88	0.10	0.10



Stellar Parameters For KIC 004851072

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5865^{+163}_{-184}	$4.518^{+0.044}_{-0.176}$	$-0.040^{+0.250}_{-0.300}$	$0.918^{+0.231}_{-0.093}$	$1.012^{+0.116}_{-0.127}$	$1.842^{+0.414}_{-0.881}$
	+3%/-3%	+1%/-4%	+625%/-750%	+25%/-10%	+11%/-13%	+22%/-48%
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 004851072-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3 ± 4	$0.75^{+0.48}_{-0.44}$	2348^{+138}_{-107}	3158^{+1395}_{-6031}	$1.243^{+6.866}_{-1.441}$
Alt.	-6 ± 4	$0.74^{+0.52}_{-0.41}$	2349^{+129}_{-106}	3571^{+1509}_{-1077}	$2.279^{+10.798}_{-1.818}$

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

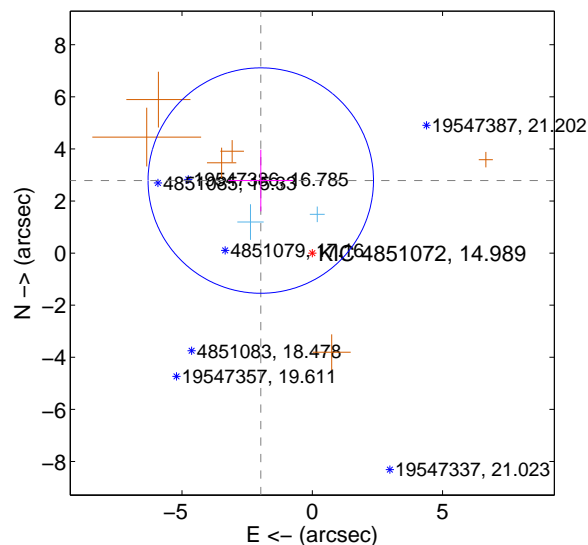
Supplemental centroid analysis for 004851072-01. Kepler magnitude: 14.99. Transit SNR 8.04

There are 2 quarters with good PRF difference image offsets

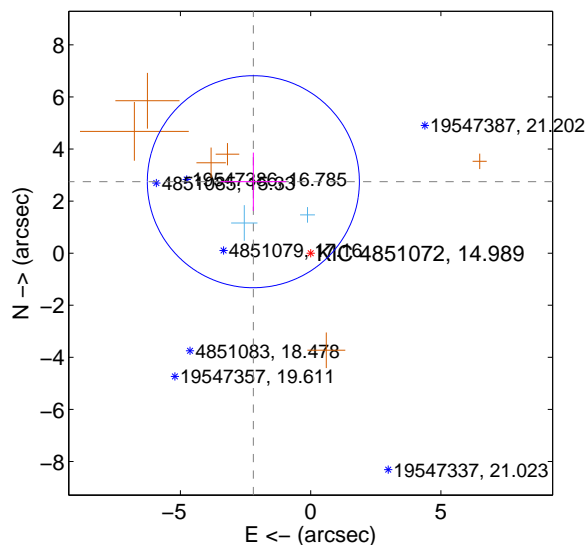
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.416 ± 1.442	2.37	1.978 ± 1.240	2.785 ± 1.182
PRF-fit source offset from KIC position	3.517 ± 1.357	2.59	2.201 ± 1.261	2.744 ± 1.118
photometric centroid source offset	0.63 ± 1.60	0.39	0.63 ± 1.60	0.04 ± 1.40

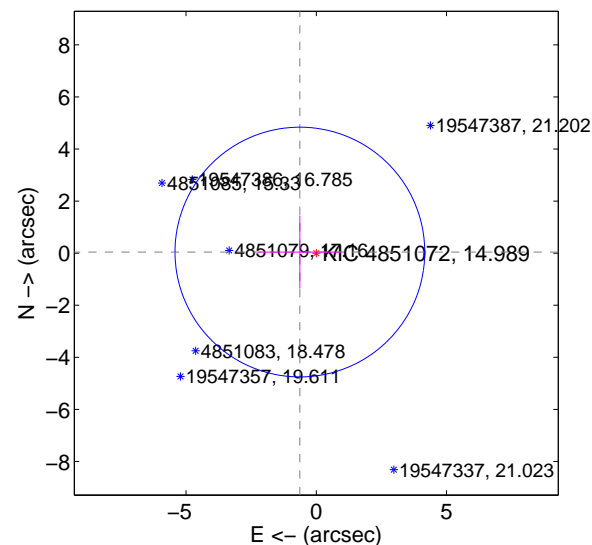
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

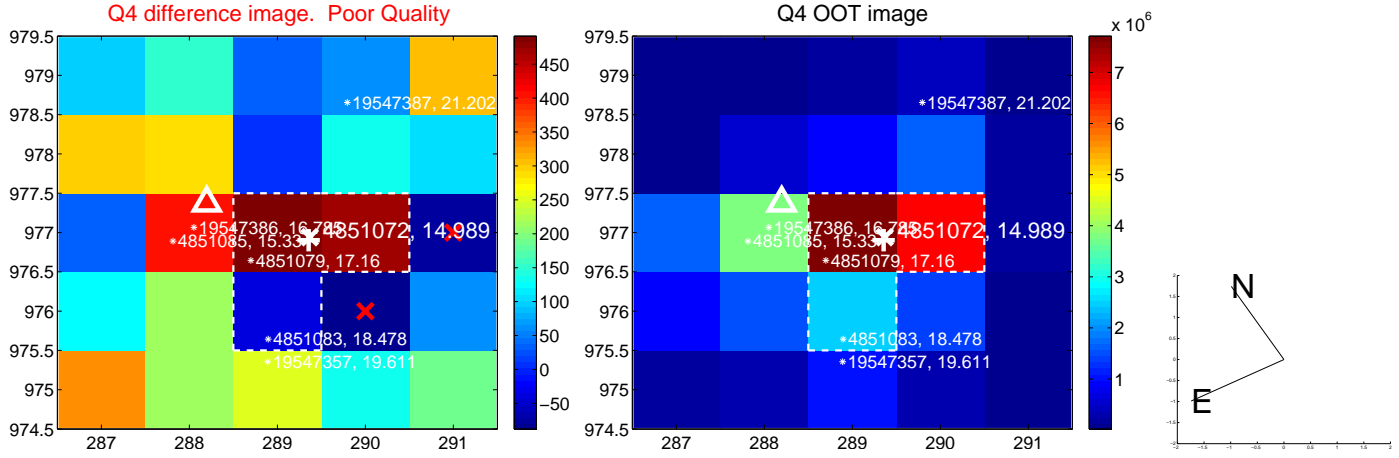
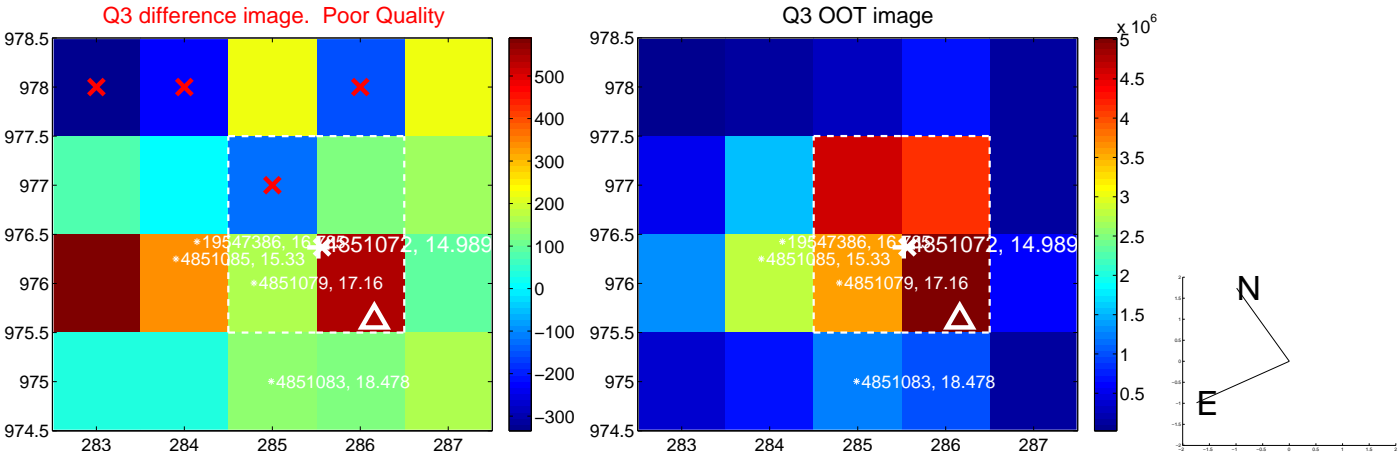
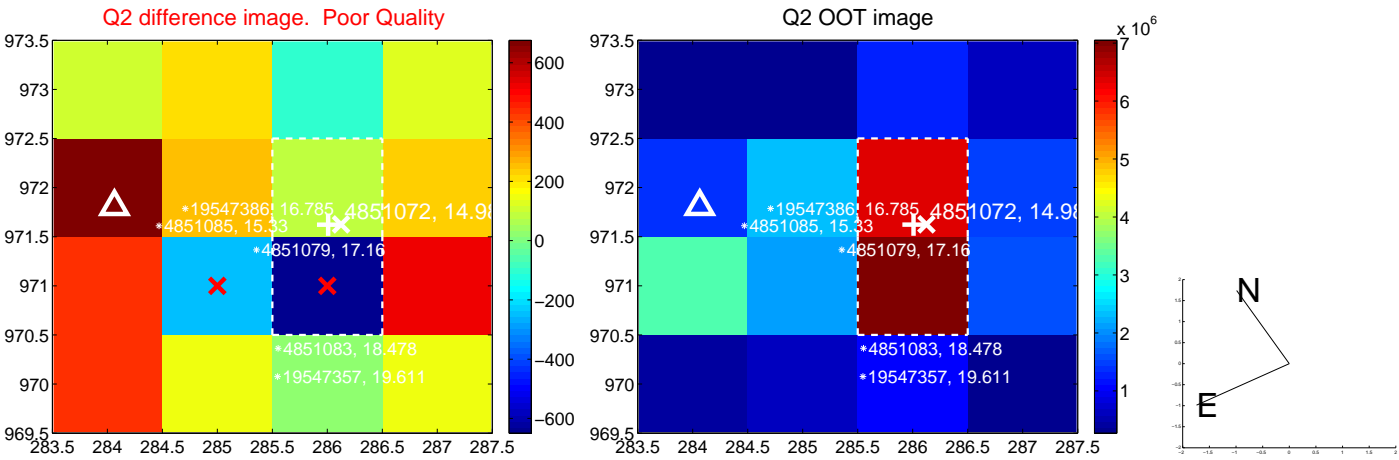
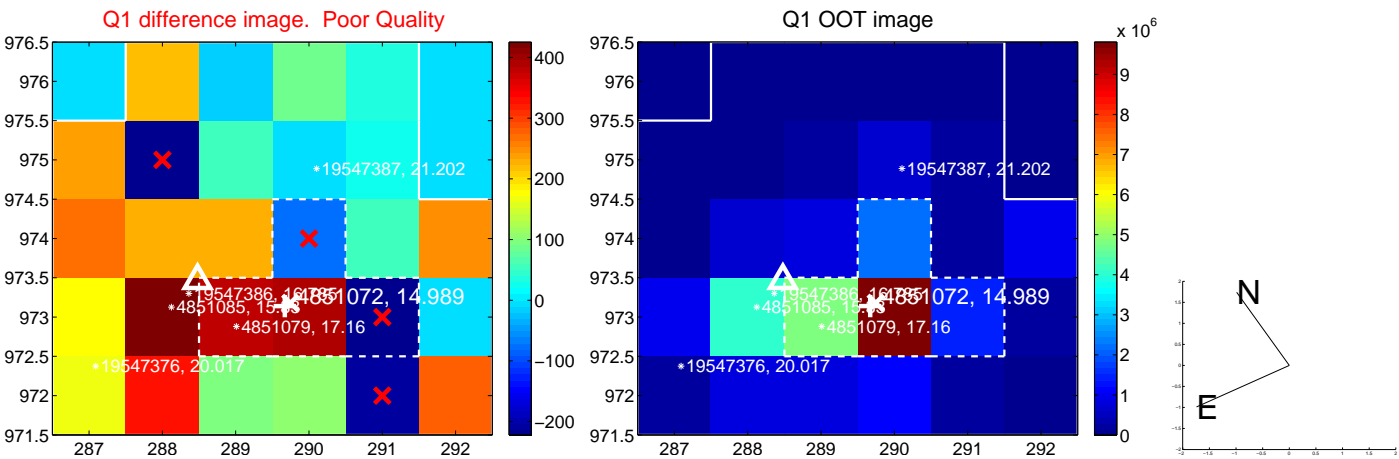


offset from photometric centroids

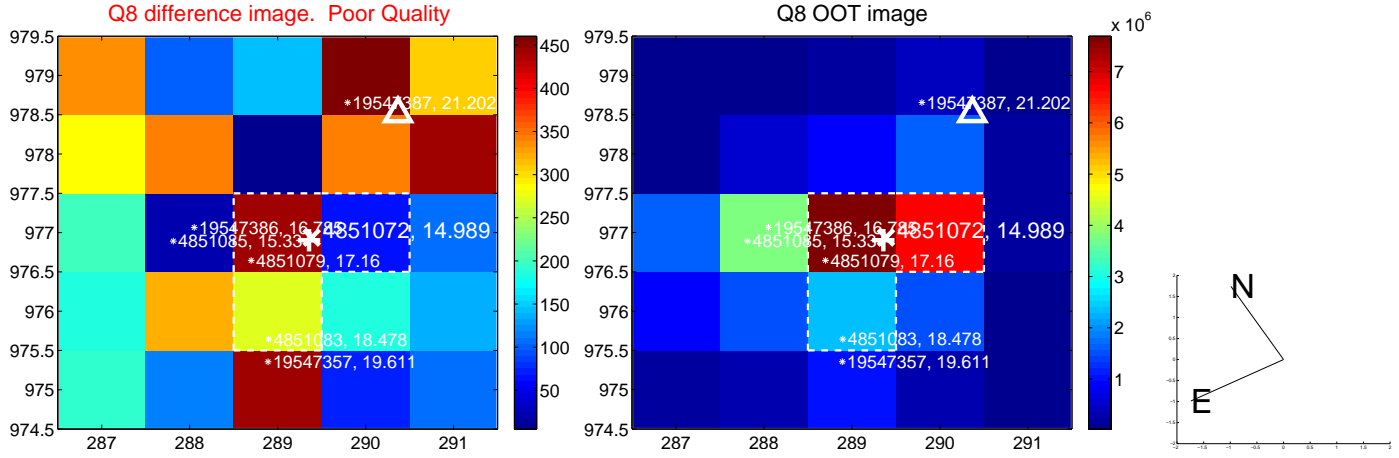
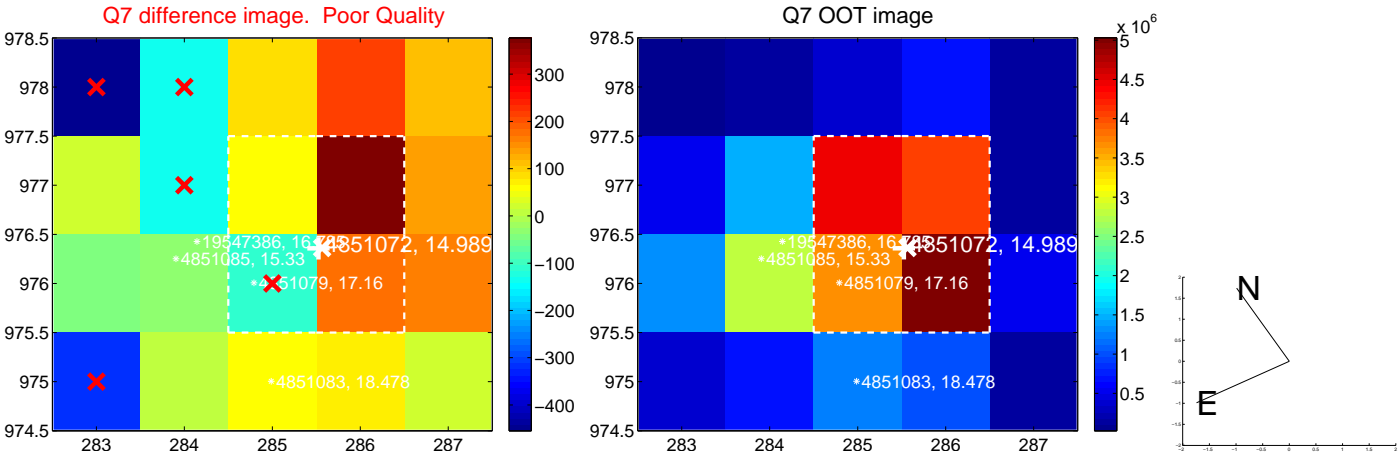
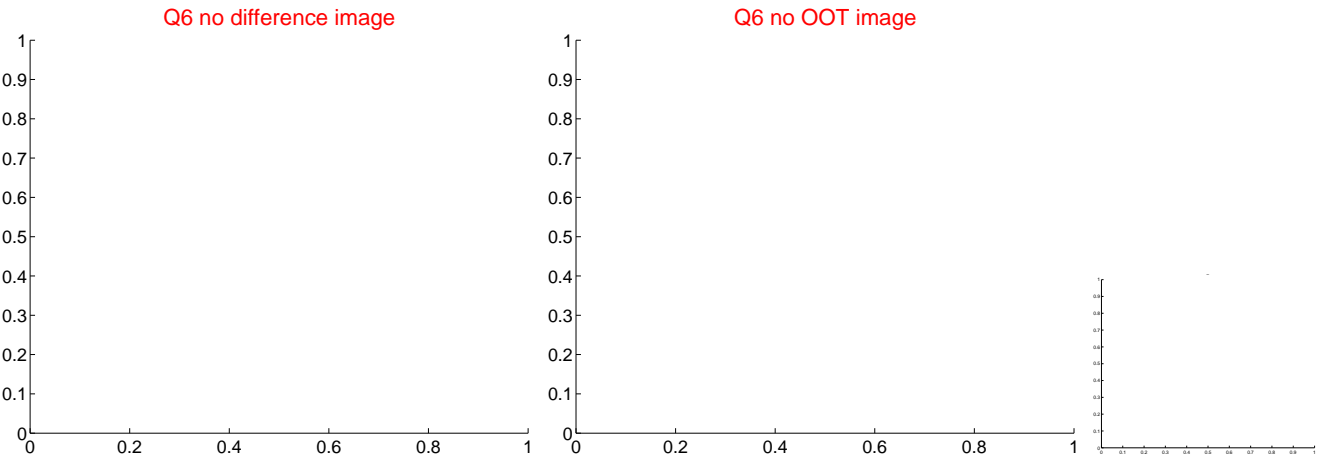
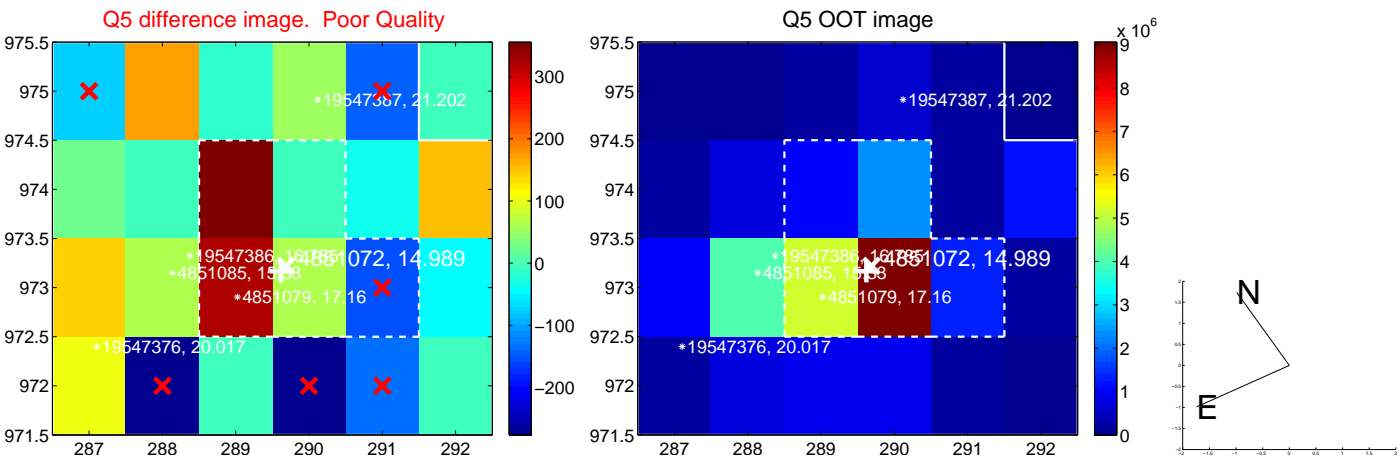


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

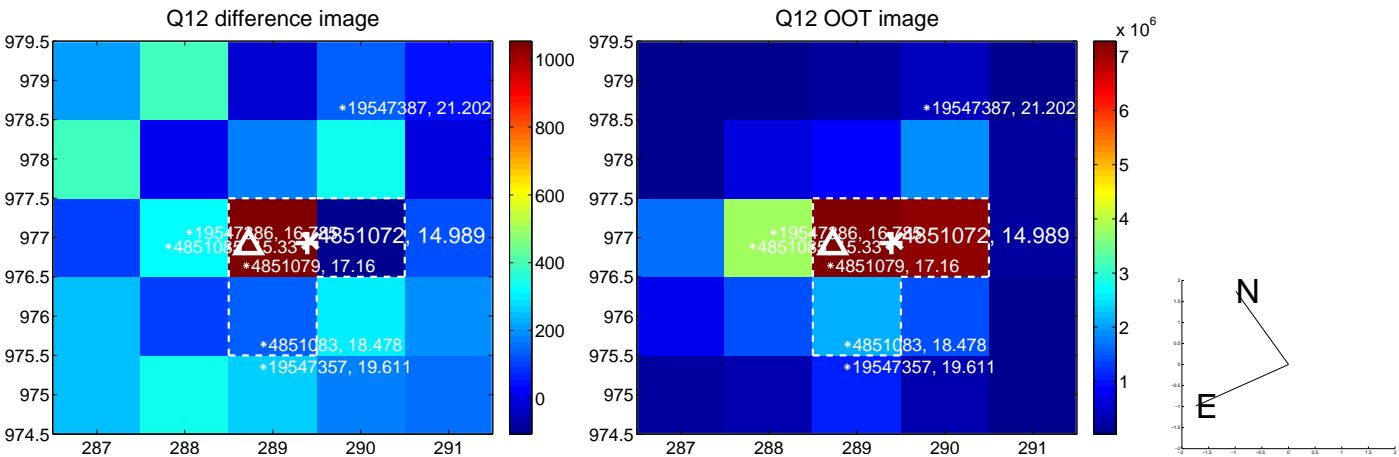
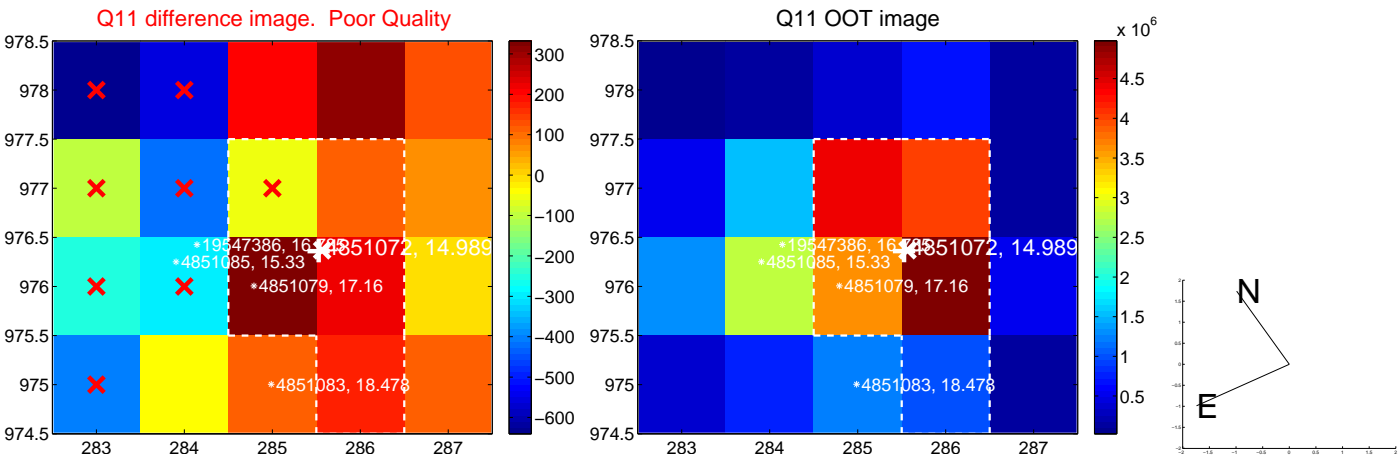
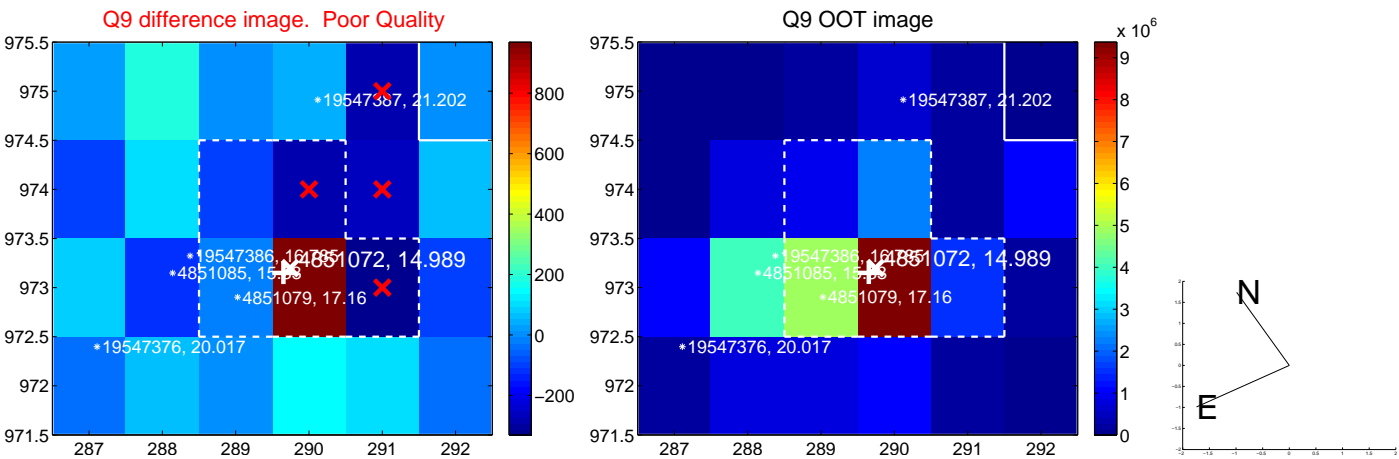
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



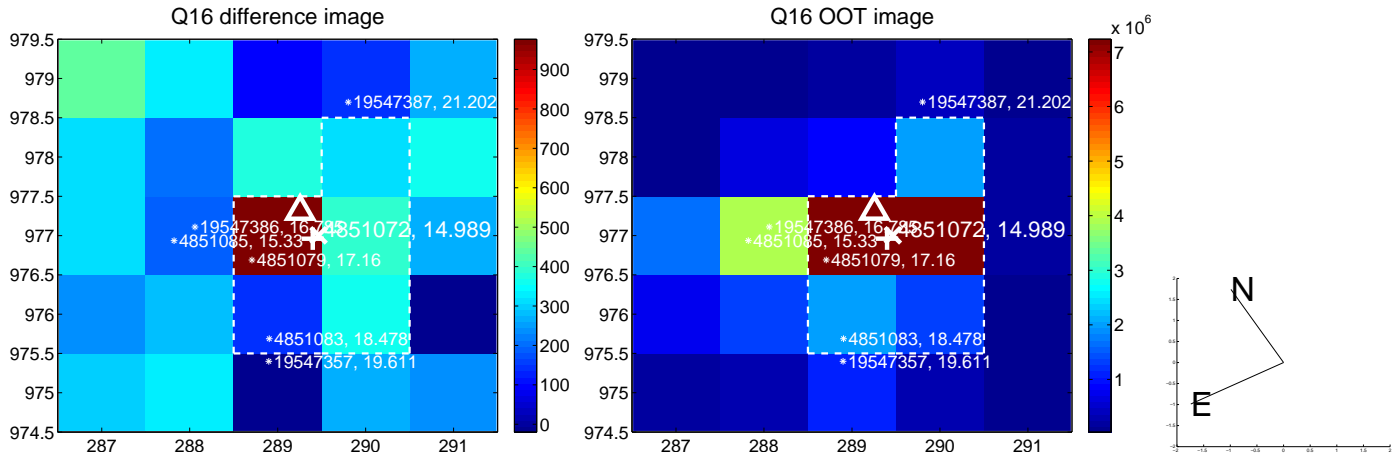
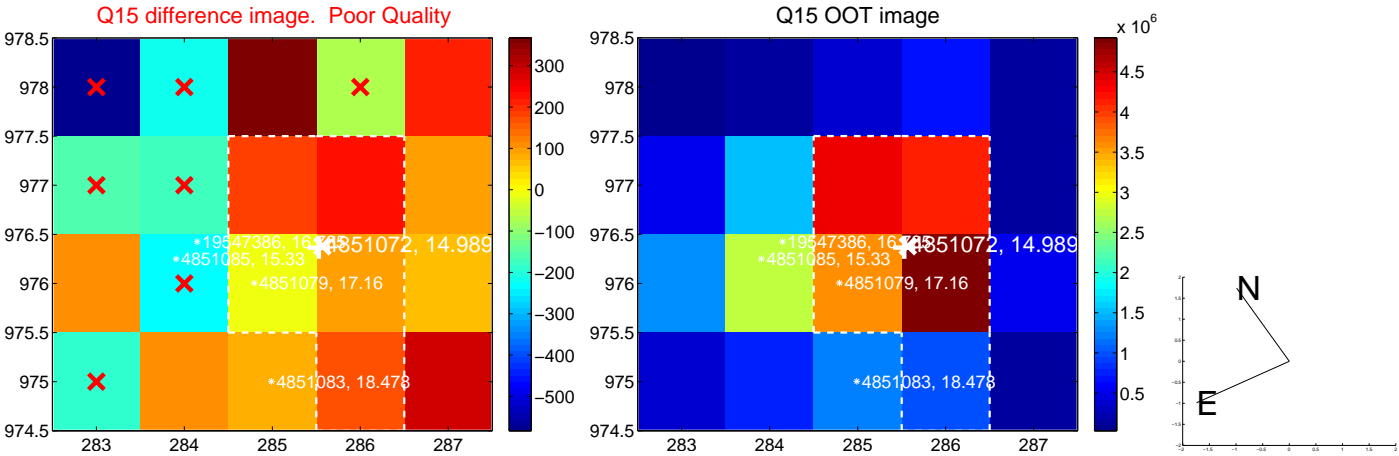
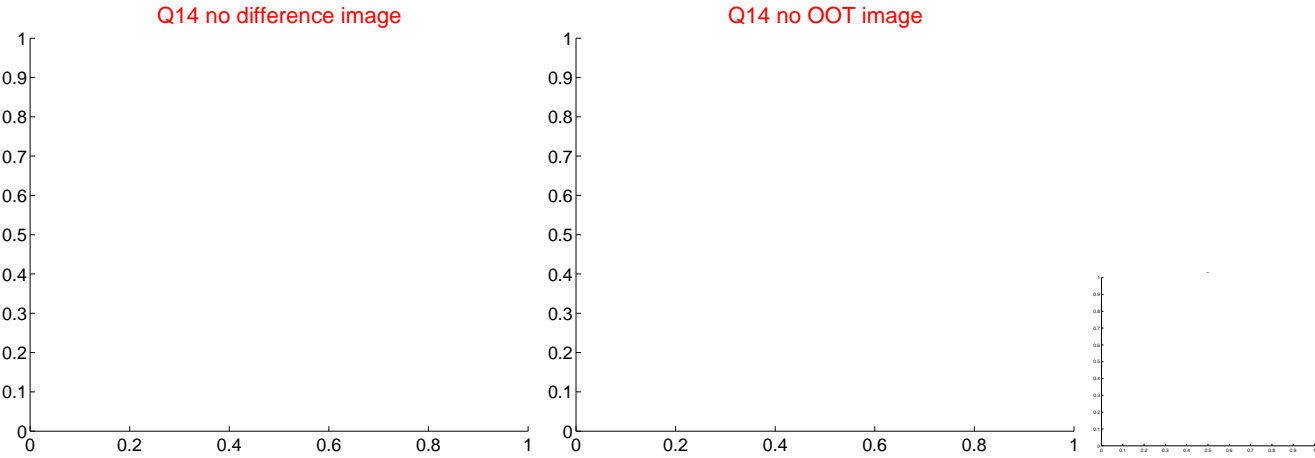
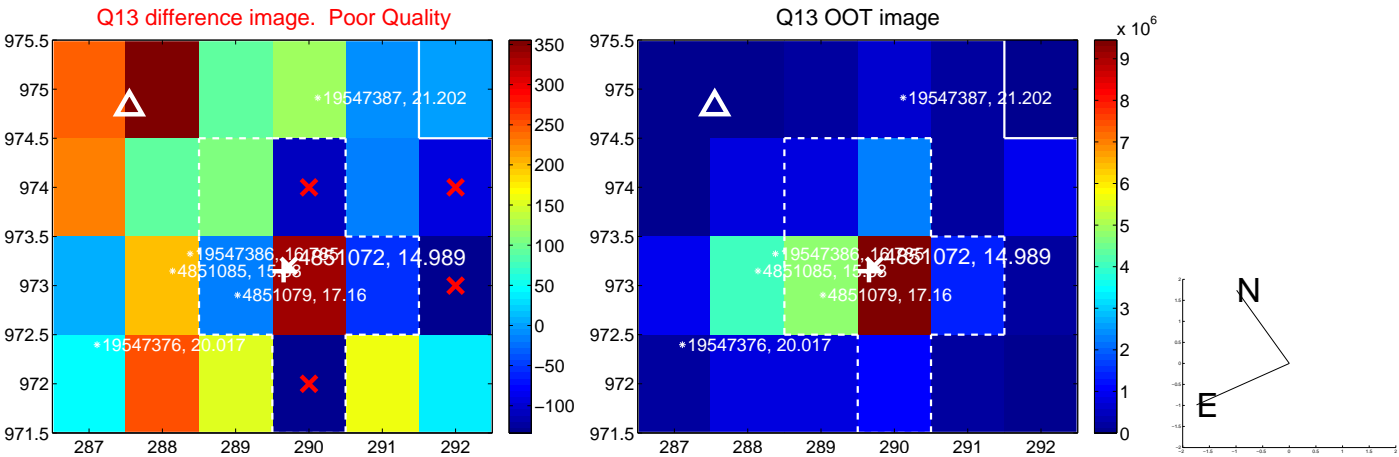
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



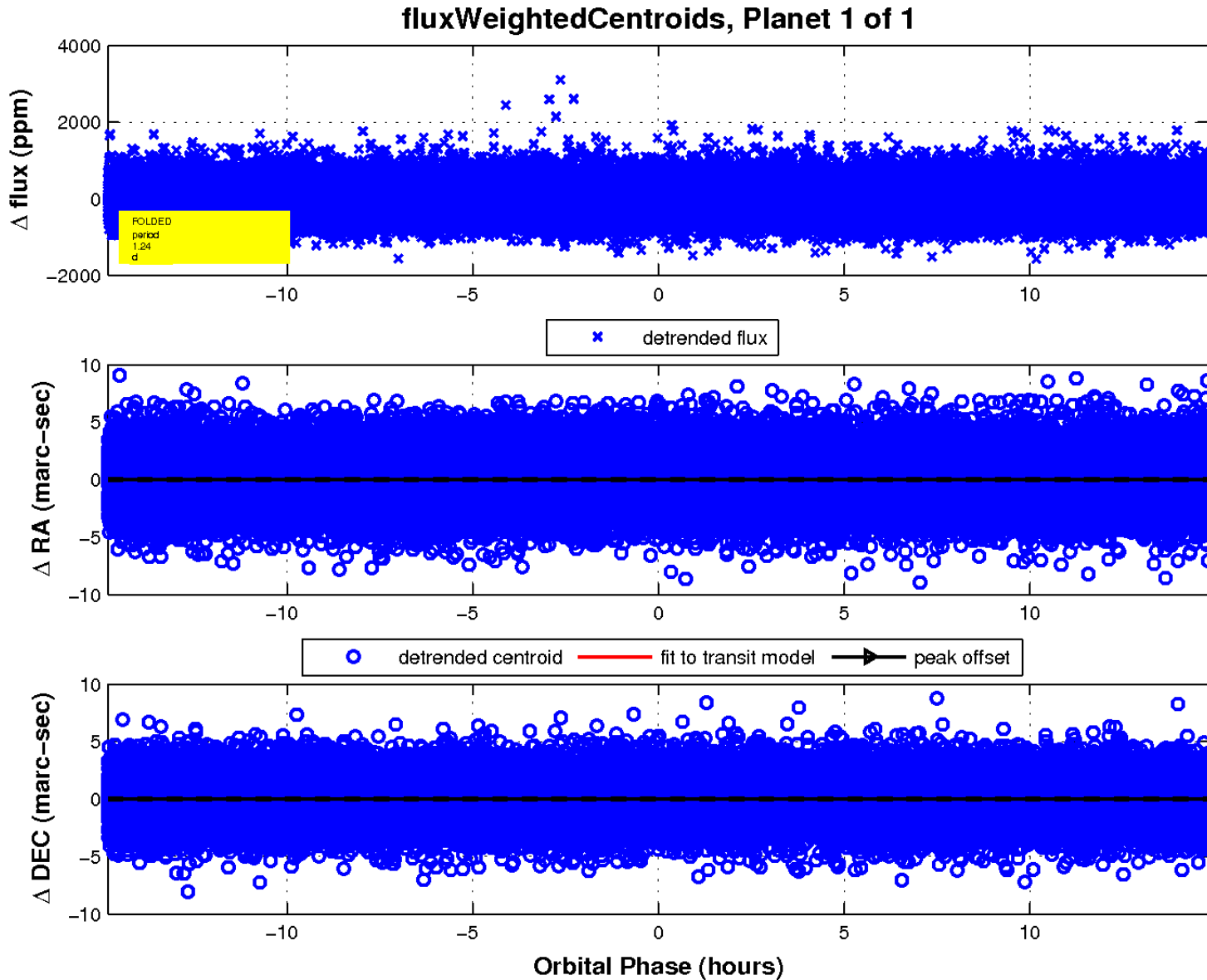
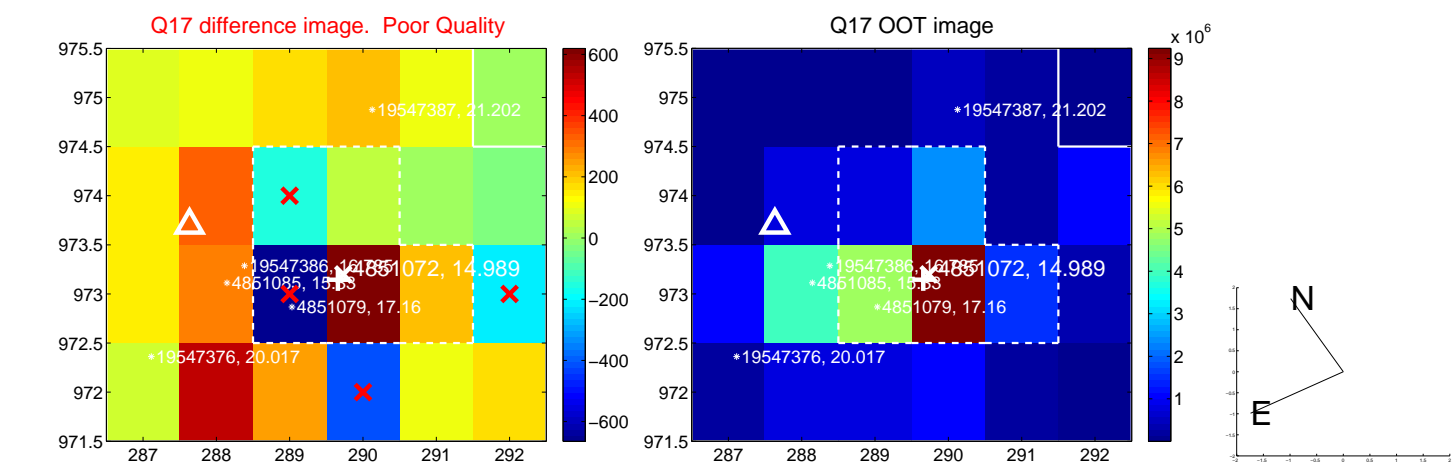
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

