

KIC 008631751

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})
008631751-01	OBS	2453.01	1.530514	131.866528	588.9	0.596	12.5	25.9	0.26	3462	0.69	32.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008631751-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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

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

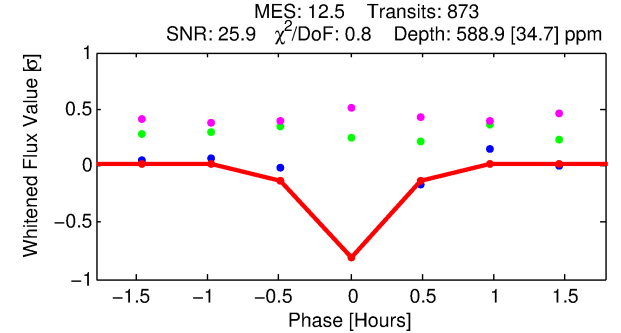
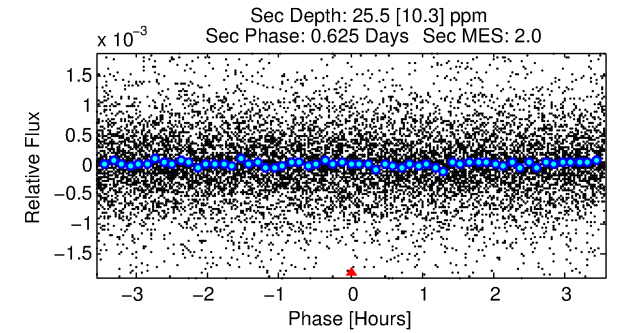
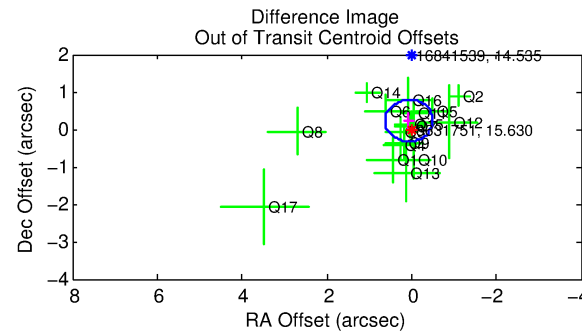
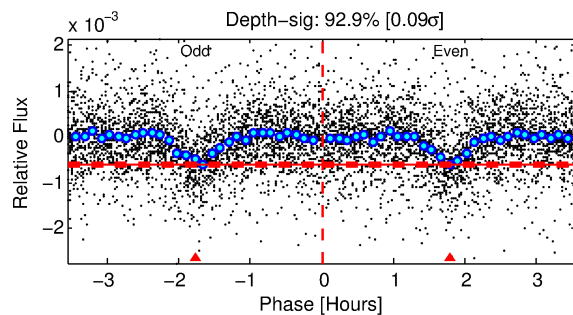
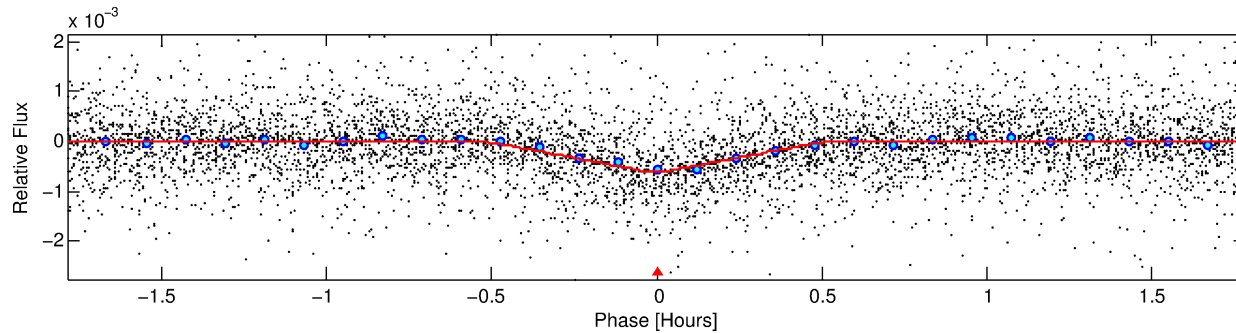
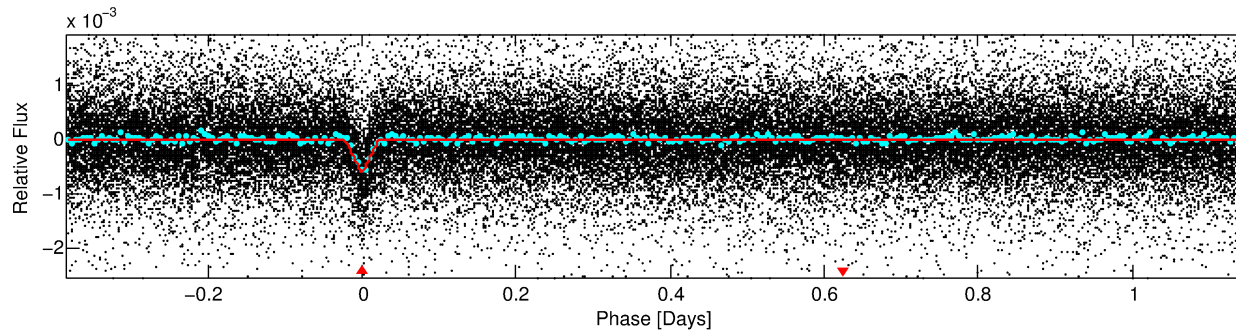
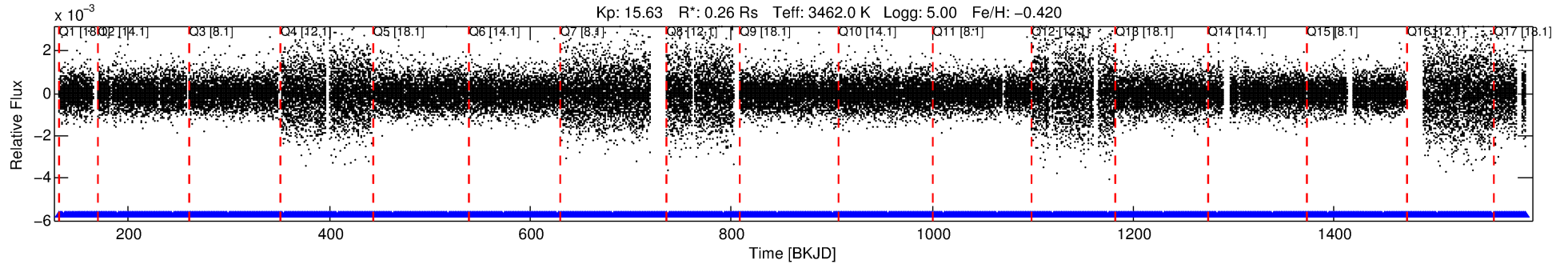
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008631751-01

No Significant Match Found

DV One-Page Summary

KIC: 8631751 Candidate: 1 of 1 Period: 1.531 d
KOI: K02453.01 Corr: 0.956



DV Fit Results:

Period = 1.53051 [0.00000] d
Epoch = 131.8665 [0.0005] BKJD
Rp/R^{*} = 0.0245 [0.0052]
a/R^{*} = 14.71 [14.96]
b = 0.70 [0.75]
Seff = 32.46 [6.24]
Teq = 609 [29] K
Rp = 0.69 [0.21] Re
a = 0.0163 [0.0024] AU
Ag = 7.79 [4.76] [1.43σ]
Teff = 1572 [233] K [4.10σ]

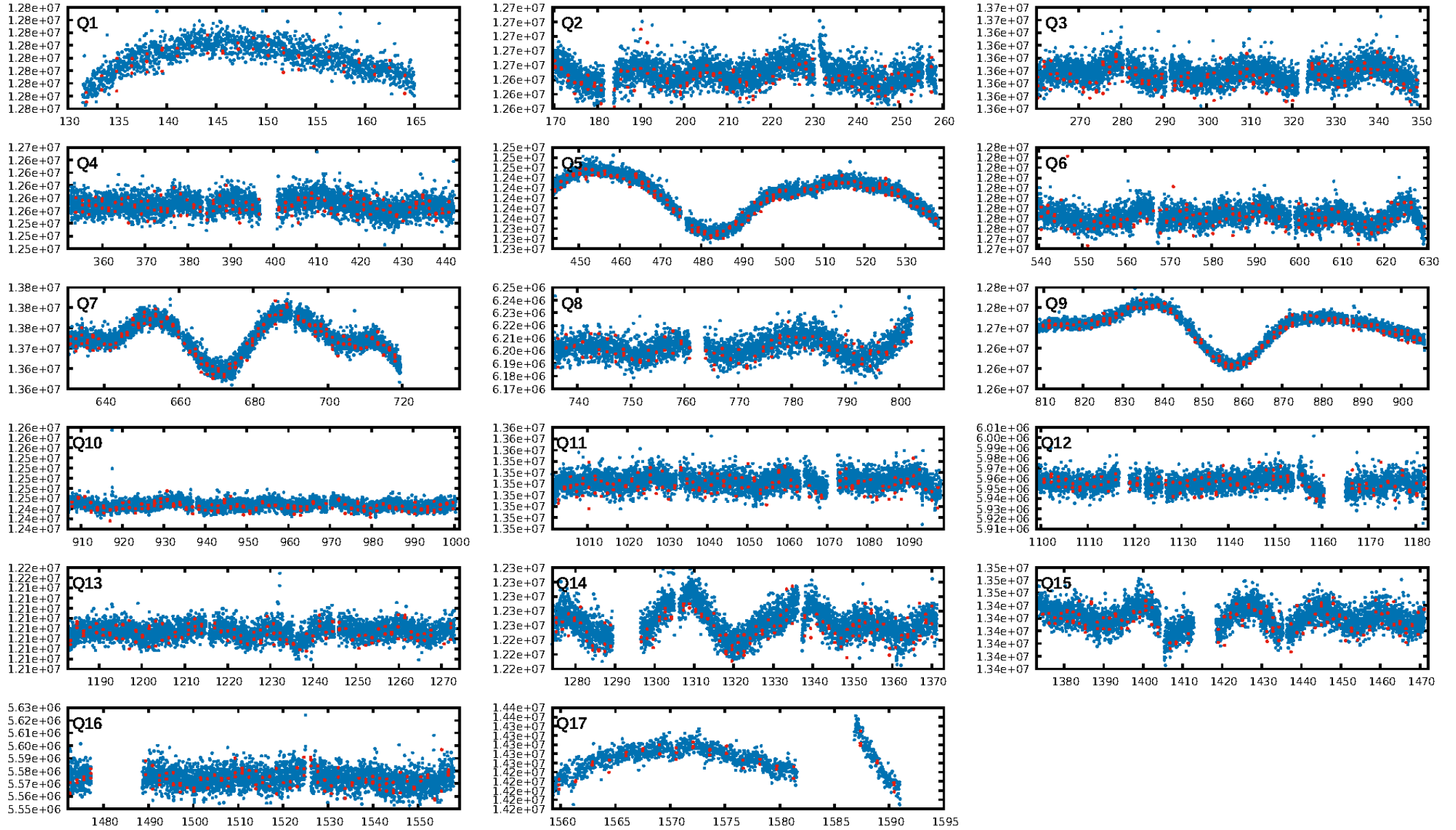
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.07e-34
RollingBand-fgt: 1.00 [833/833]
GhostDiagnostic-chr: 2.069
Centroid-sig: 24.7%
Centroid-so: 1.194 arcsec [3.34σ]
OotOffset-rm: 0.238 arcsec [1.28σ]
KicOffset-rm: 2.415 arcsec [12.15σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

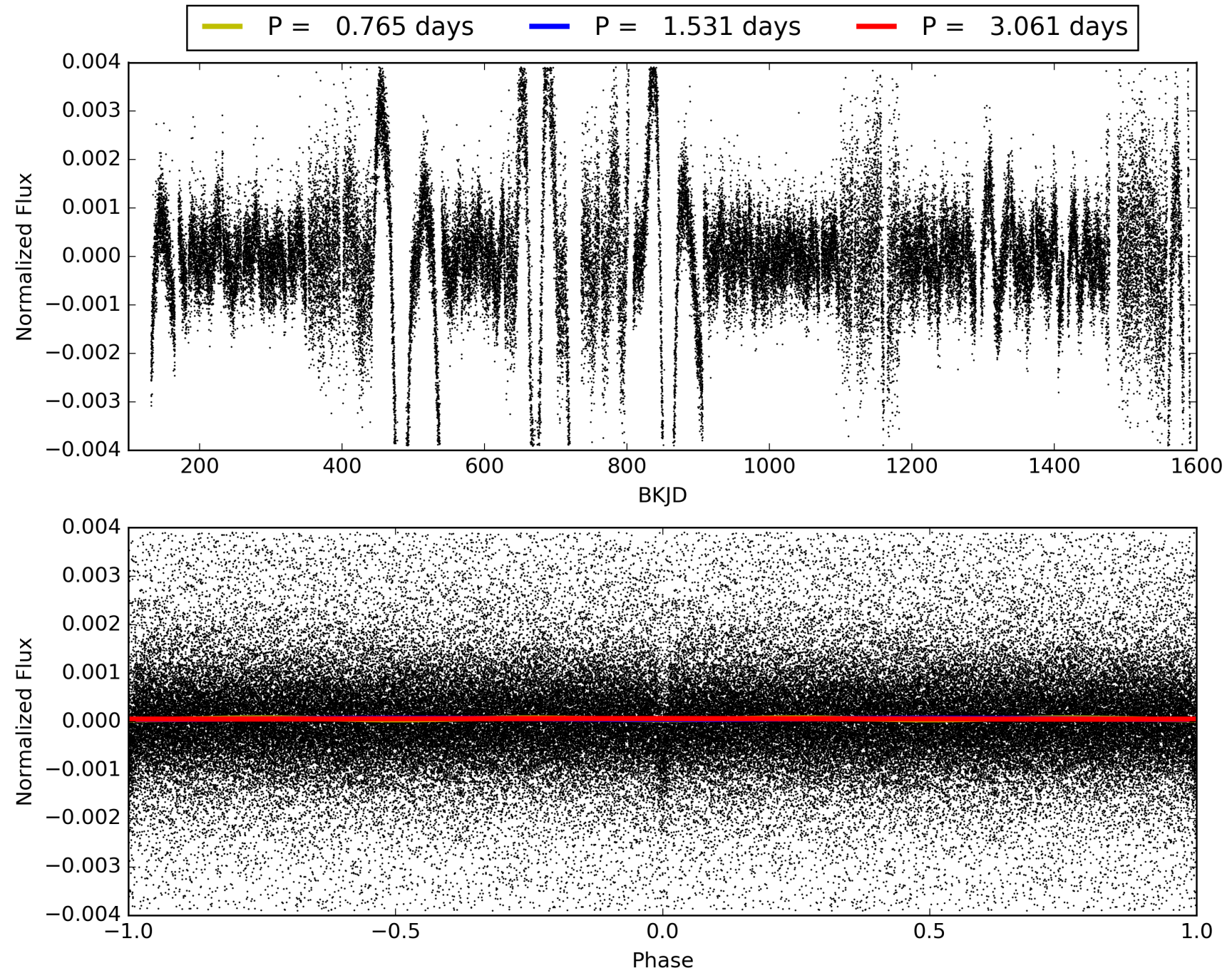
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:53:43 Z

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

TCE 008631751-01, PDC Light Curves

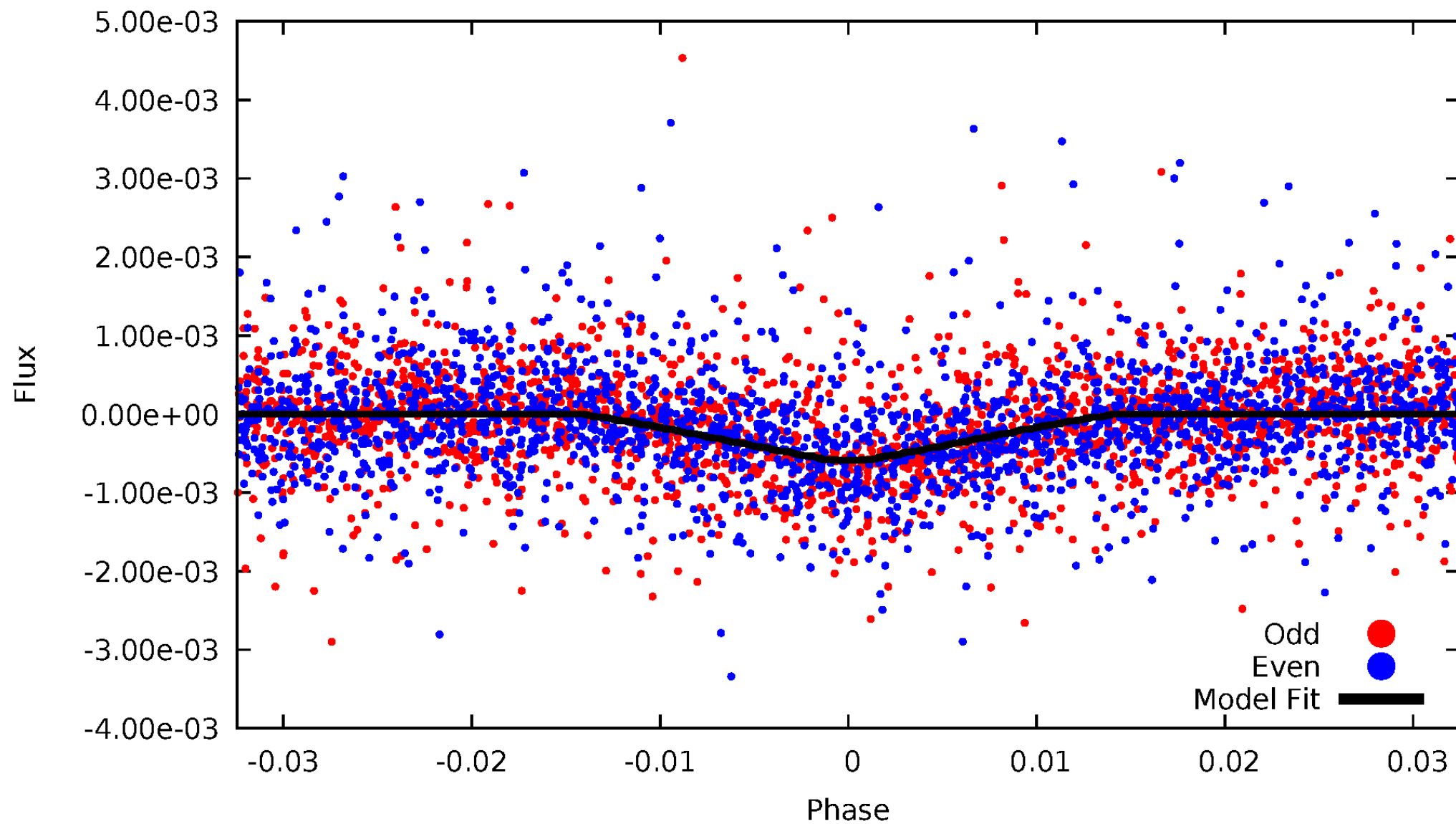


TCE 008631751-01



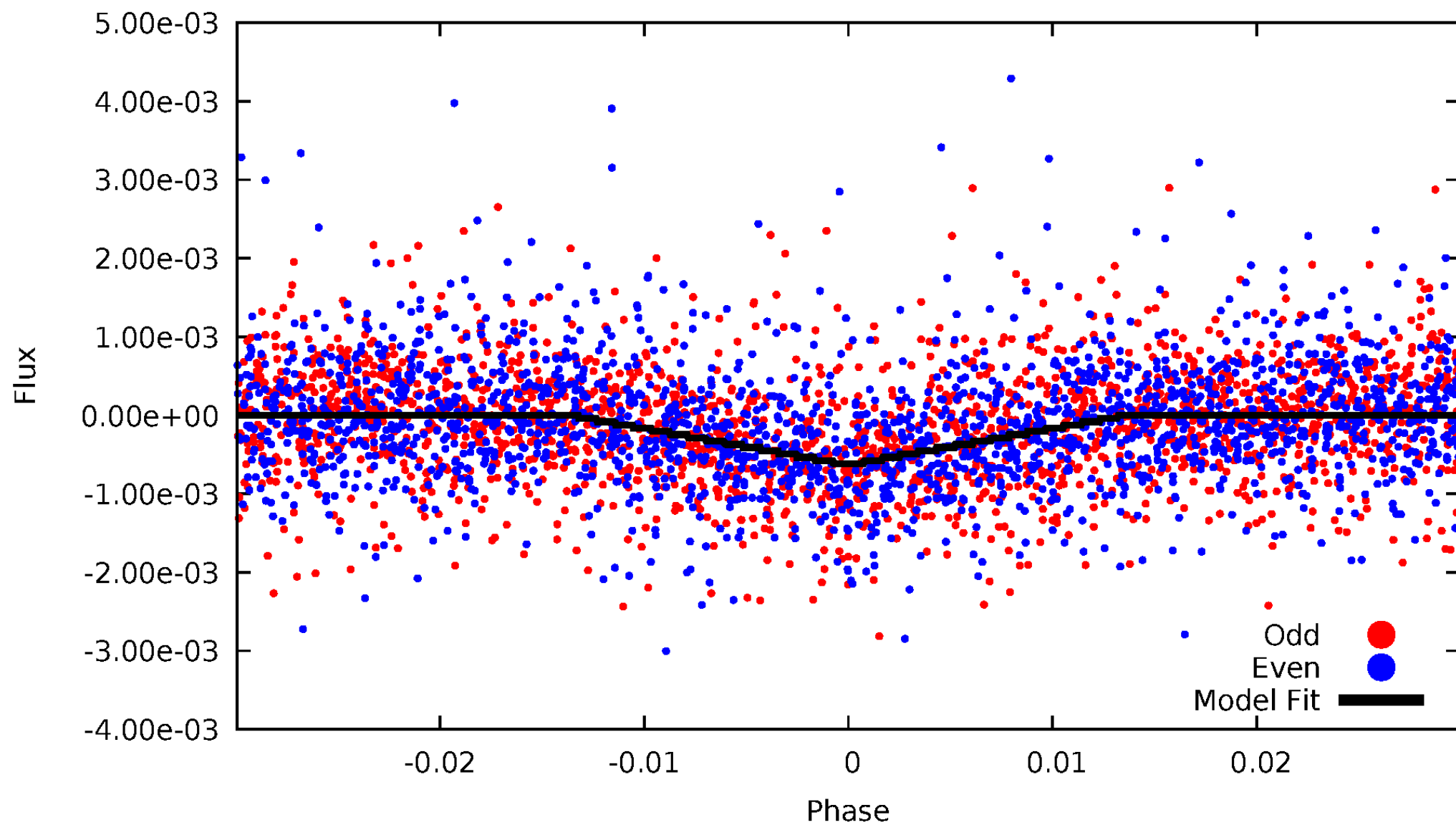
DV Odd/Even

TCE 008631751-01



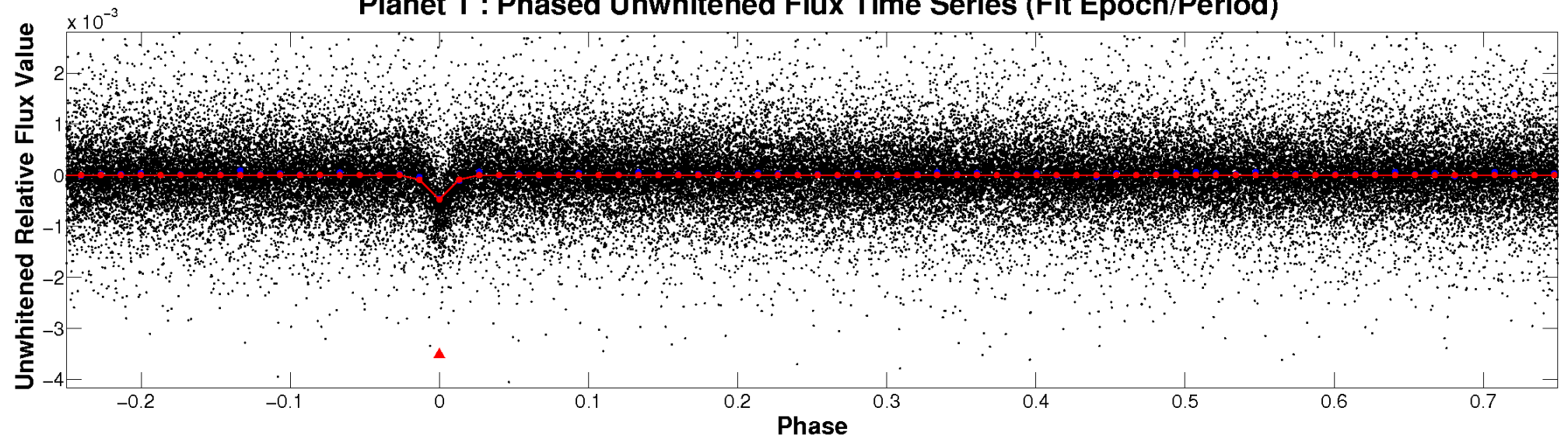
ALT Odd/Even

TCE 008631751-01

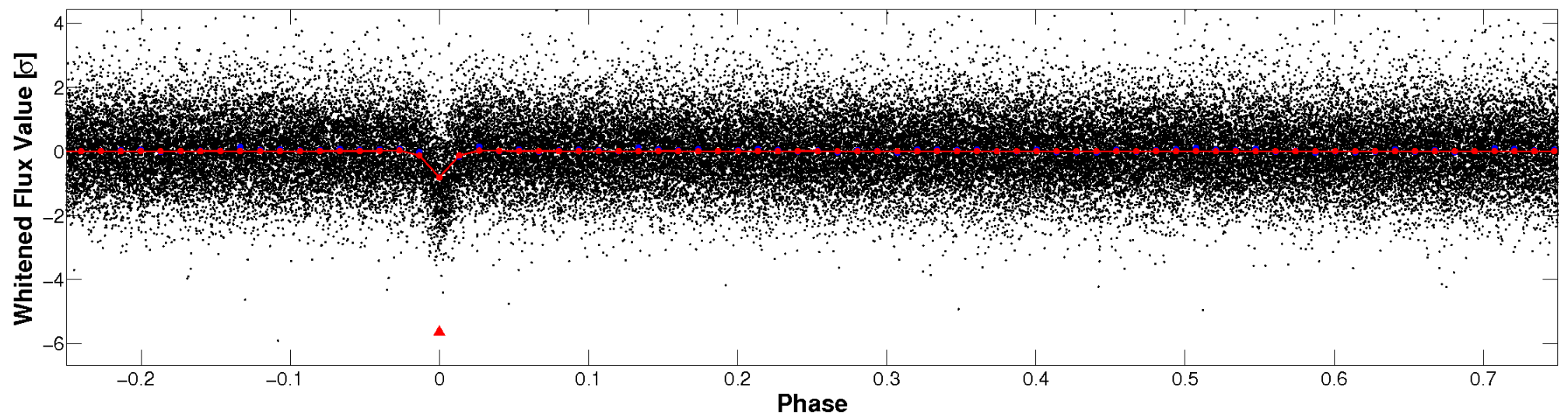


Non-Whitened Vs. Whitened Light Curve

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

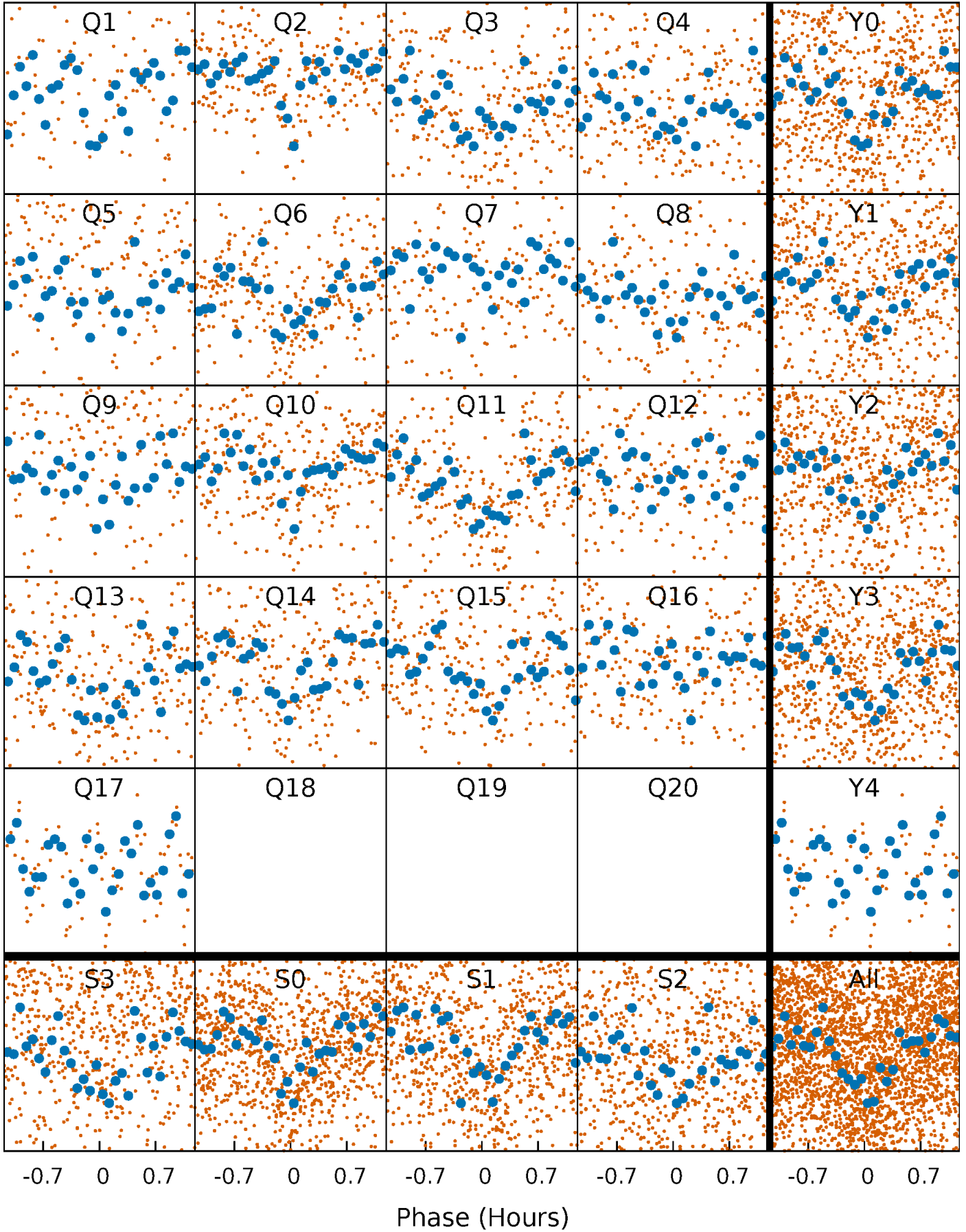


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



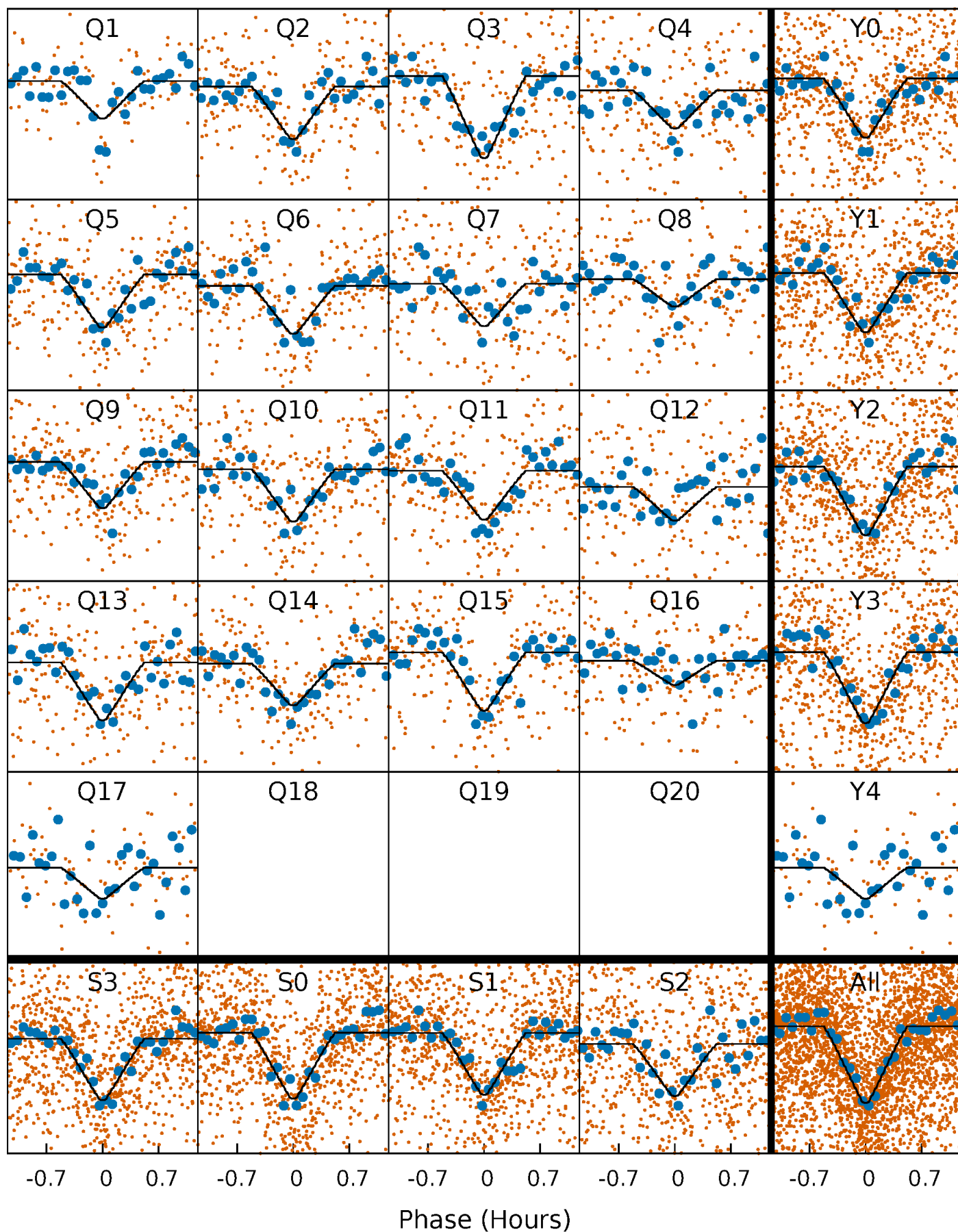
PDC Quarter-Phased Transit Curves

TCE 008631751-01 P= 1.530514 Days $T_0=131.866527$ (BKJD)



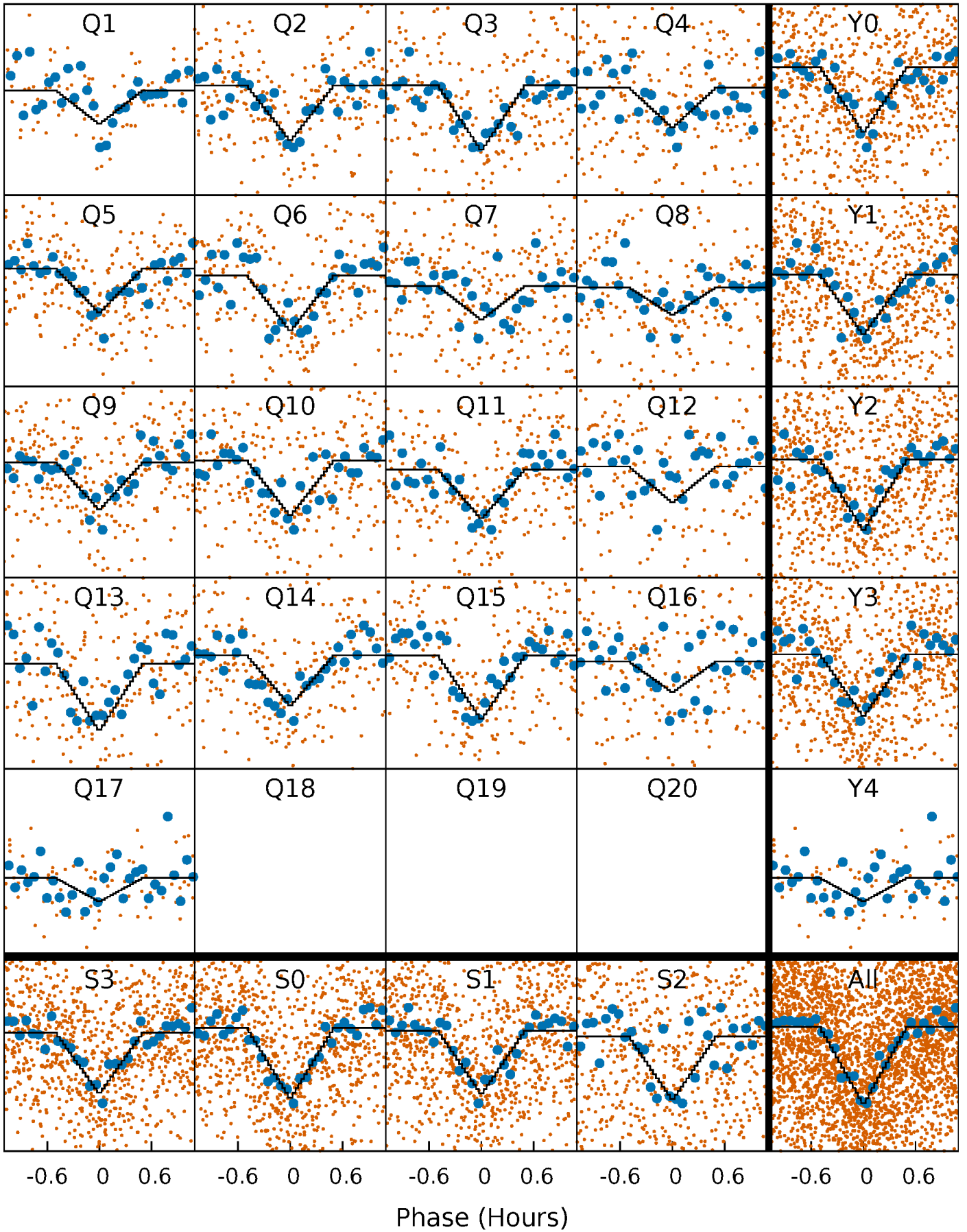
DV Quarter-Phased Transit Curves

TCE 008631751-01 P= 1.530514 Days $T_0=131.866527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

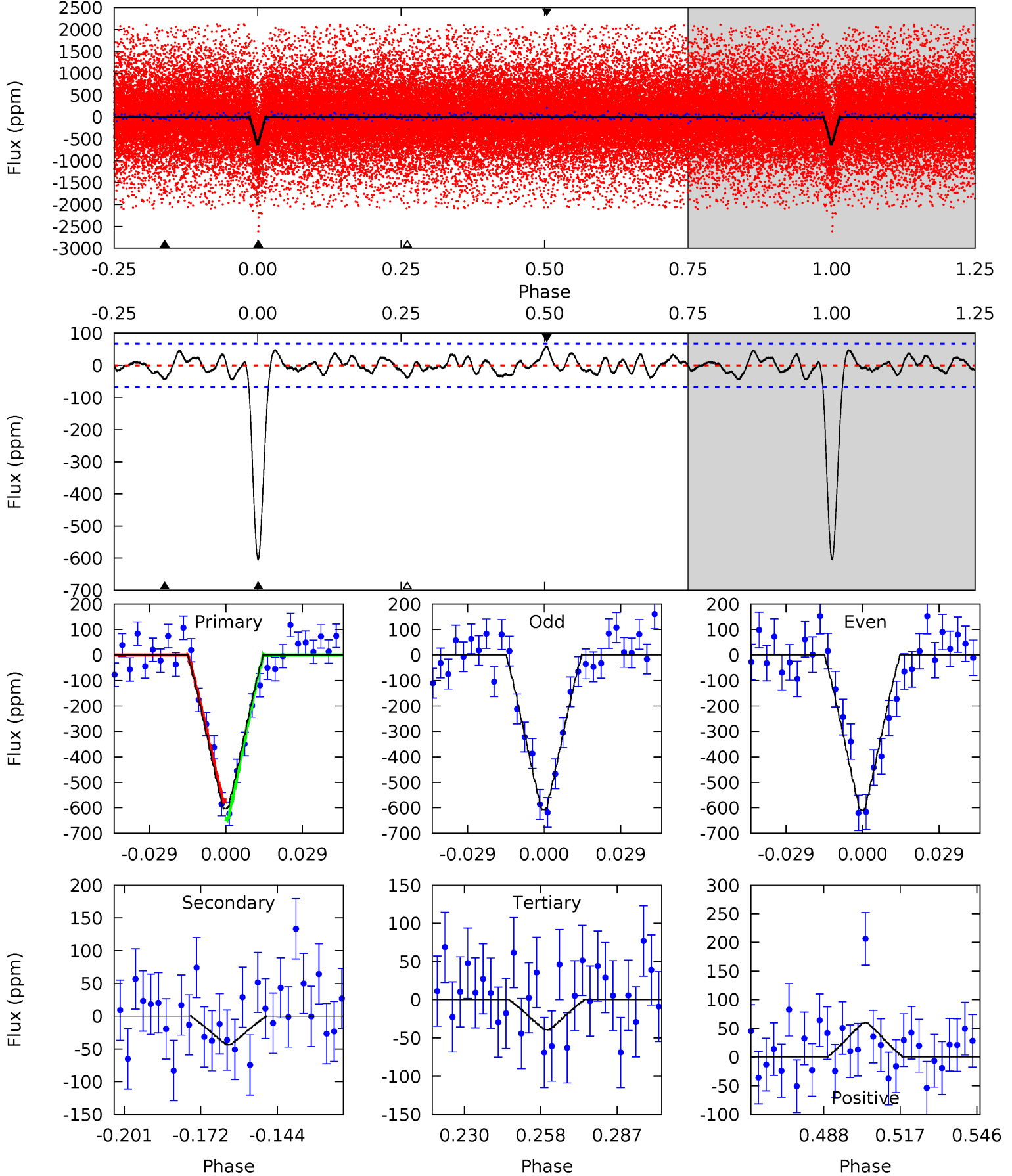
TCE 008631751-01 P= 1.530521 Days $T_0=131.864691$ (BKJD)



DV Model-Shift Uniqueness Test

008631751-01, P = 1.530514 Days, E = 130.336013 Days

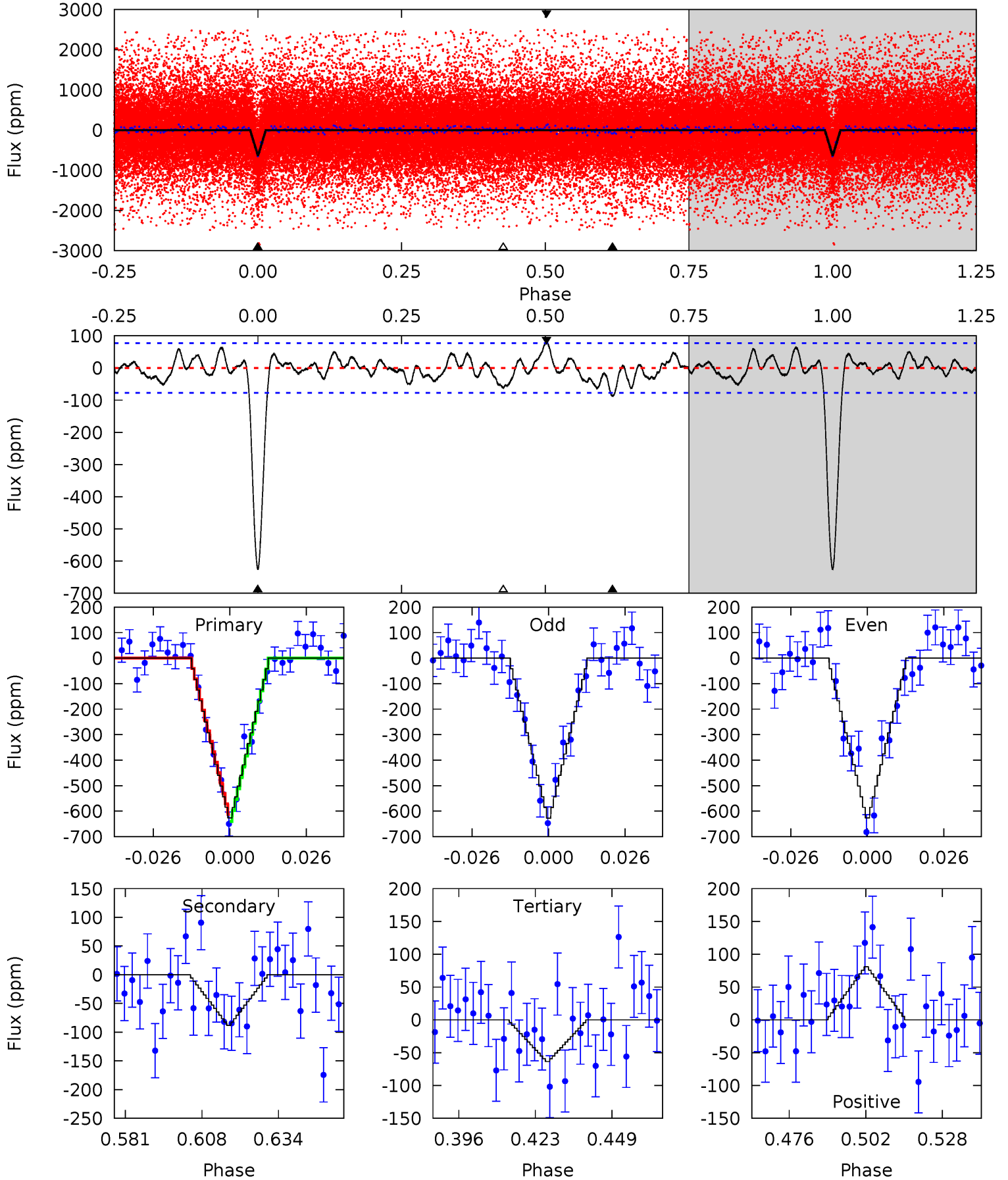
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.1	3.09	2.80	4.25	4.82	2.19	1.39	40.3	38.8	0.29	-1.16	0.07	0.93	0.09	2.69



Alt Model-Shift Uniqueness Test

008631751-01, P = 1.530521 Days, E = 130.334170 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.2	5.52	3.97	5.07	4.84	2.22	1.71	35.2	34.1	1.55	0.45	0.01	0.92	0.11	0.88



Stellar Parameters For KIC 008631751

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3462^{+76}_{-69}	$5.004^{+0.065}_{-0.065}$	$-0.420^{+0.150}_{-0.100}$	$0.259^{+0.054}_{-0.044}$	$0.247^{+0.067}_{-0.045}$	$20.020^{+8.253}_{-5.843}$
	+2%/-2%	+1%/-1%	+36%/-24%	+21%/-17%	+27%/-18%	+41%/-29%
Source	SPE70	SPE60	SPE70	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008631751-01 / KOI 2453.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-43 ± 14	$0.69^{+0.17}_{-0.16}$	851^{+33}_{-31}	2406^{+186}_{-160}	13^{+11}_{-6}
Alt.	-88 ± 16	$0.71^{+0.18}_{-0.15}$	854^{+30}_{-30}	2628^{+188}_{-153}	26^{+17}_{-10}

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

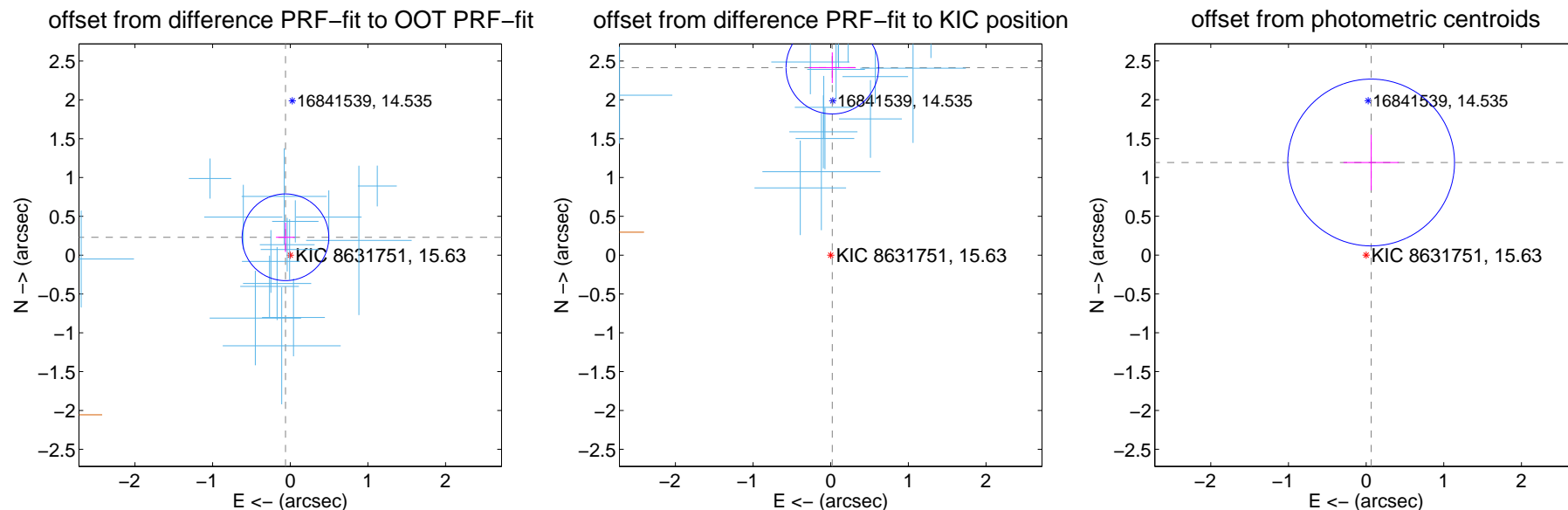
DV Centroid Data

Supplemental centroid analysis for 008631751-01. Kepler magnitude: 15.63. Transit SNR 25.93

There are 16 quarters with good PRF difference image offsets

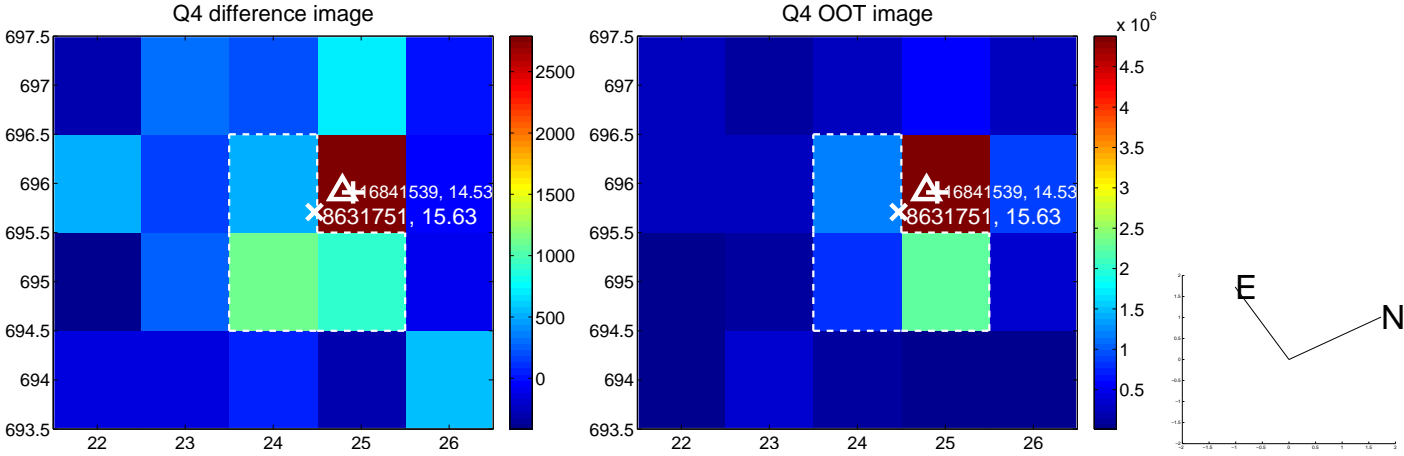
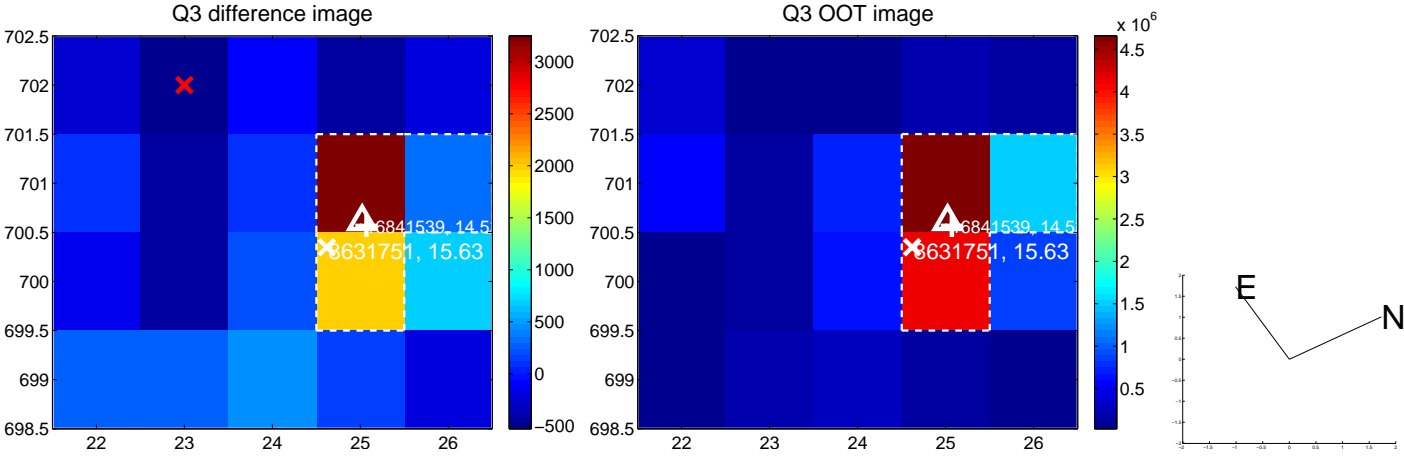
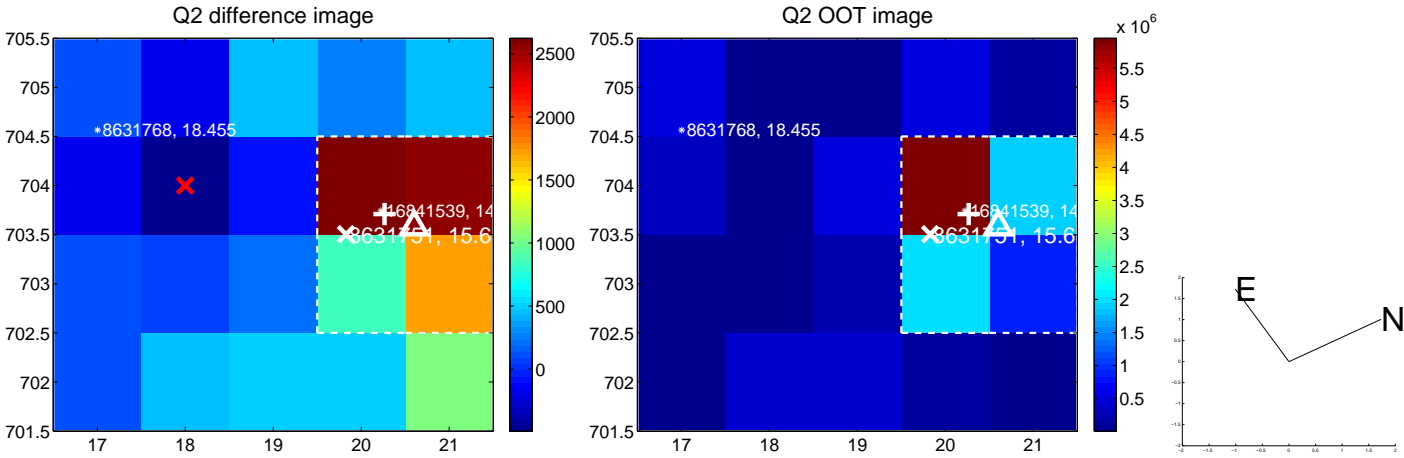
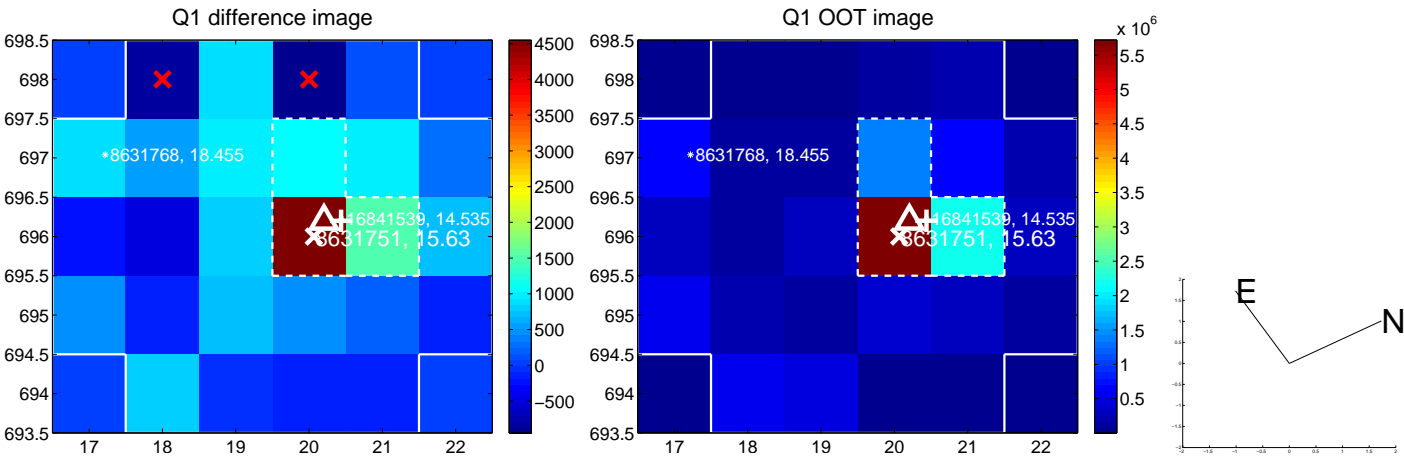
The OOT PRF centroid is offset from the target star catalog position by about 2.35 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.238 ± 0.186	1.28	0.062 ± 0.121	0.230 ± 0.190
PRF-fit source offset from KIC position	2.415 ± 0.199	12.15	-0.021 ± 0.302	2.415 ± 0.198
photometric centroid source offset	1.19 ± 0.36	3.34	-0.06 ± 0.36	1.19 ± 0.36

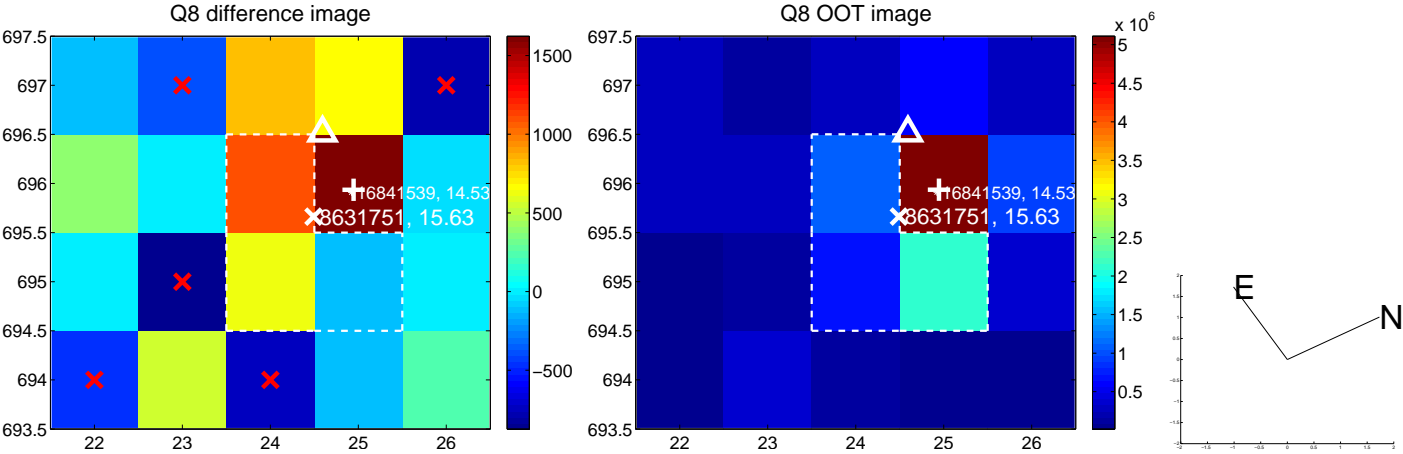
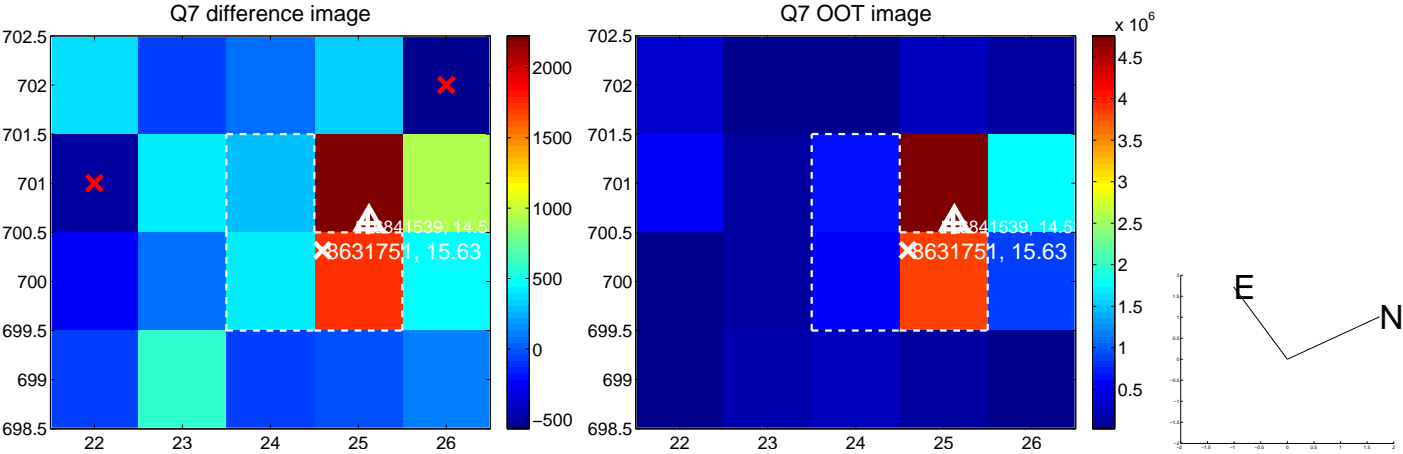
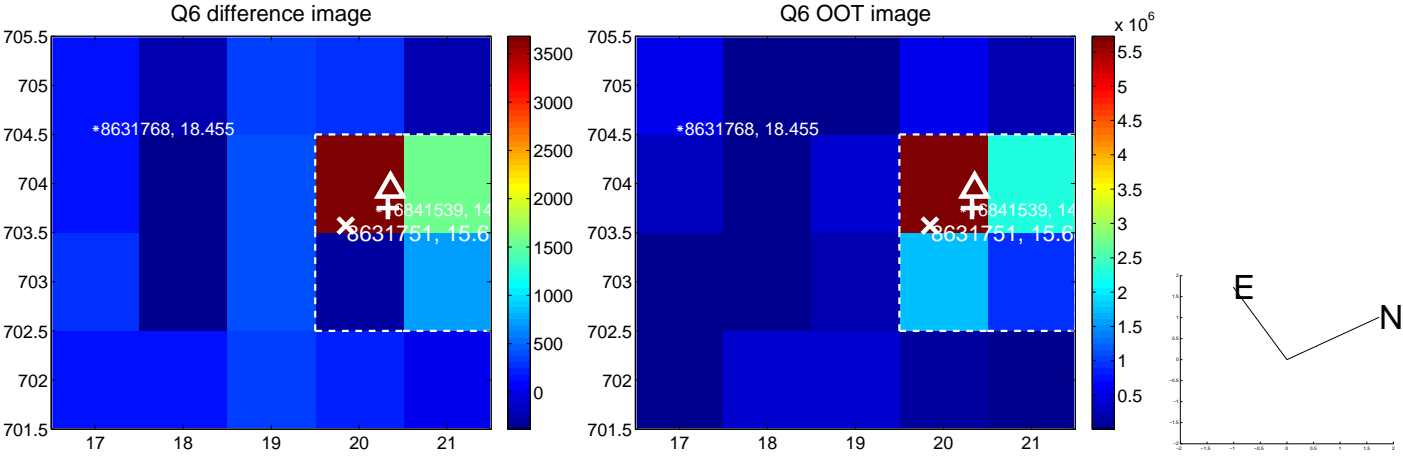
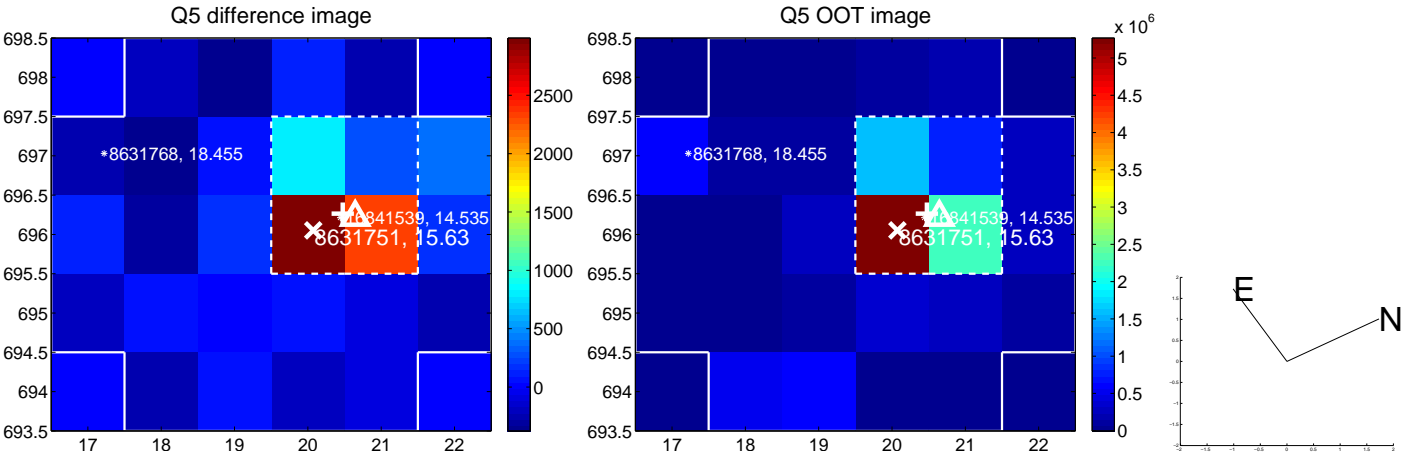


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

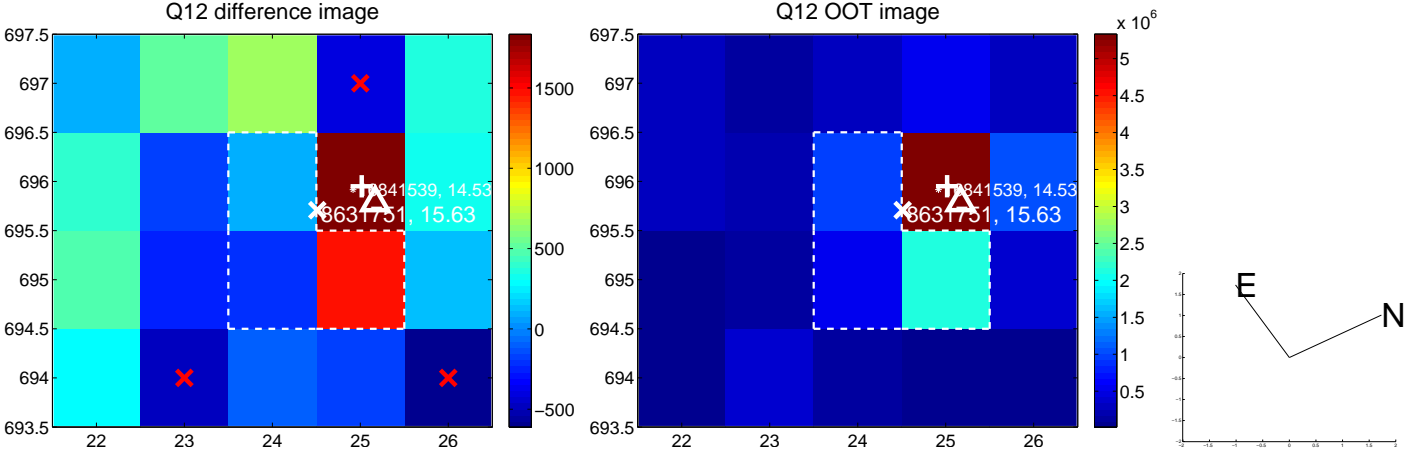
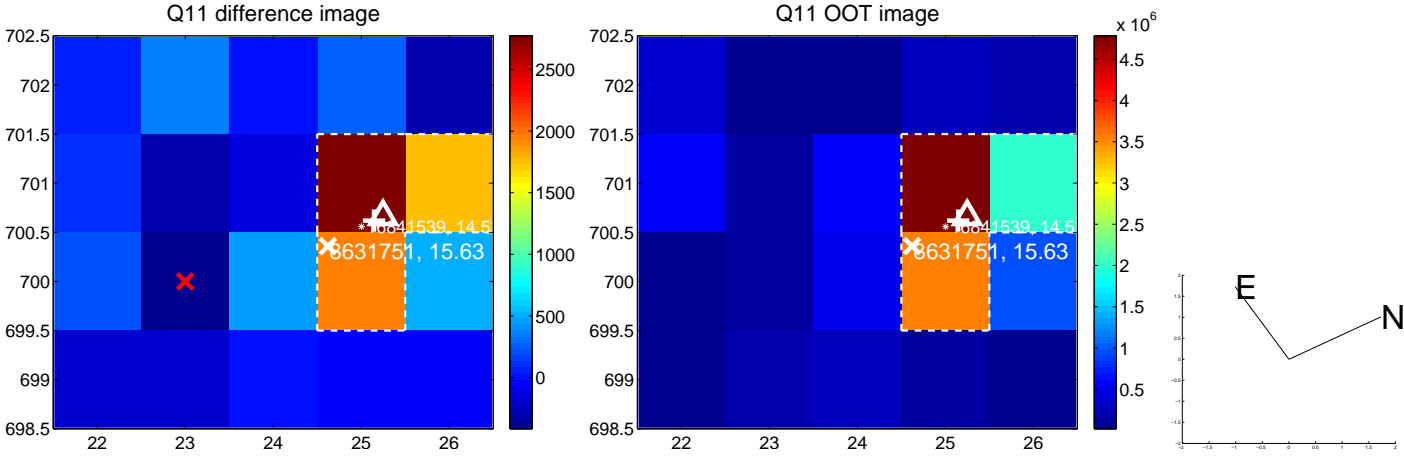
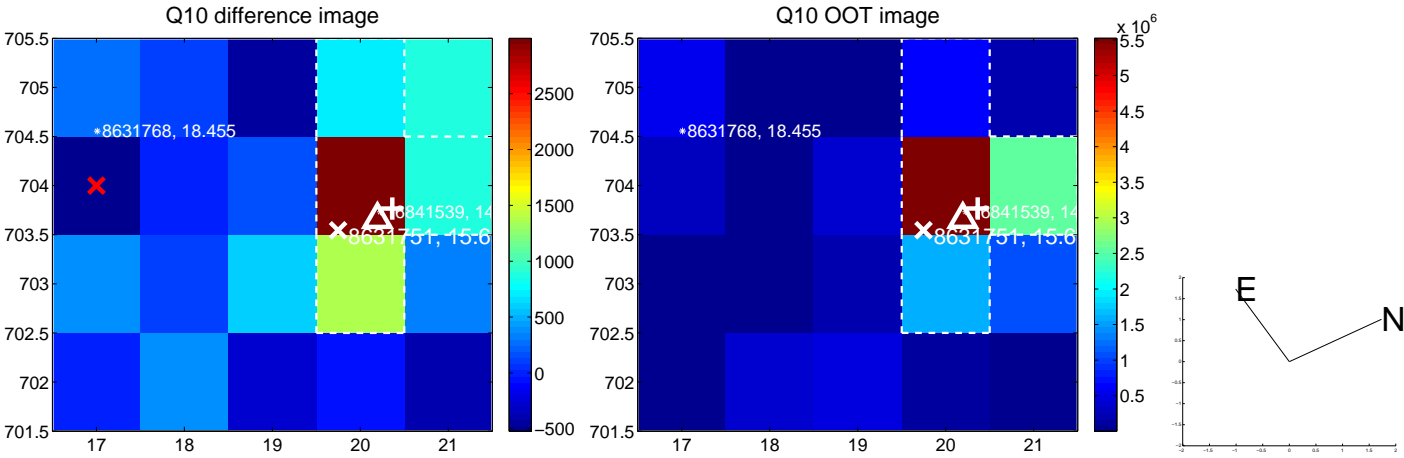
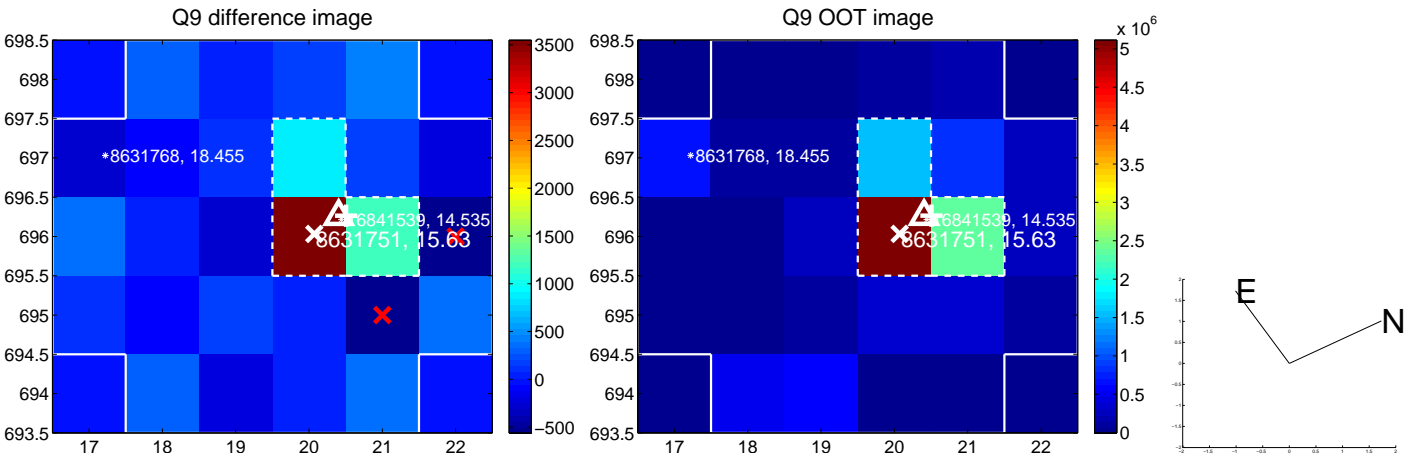
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



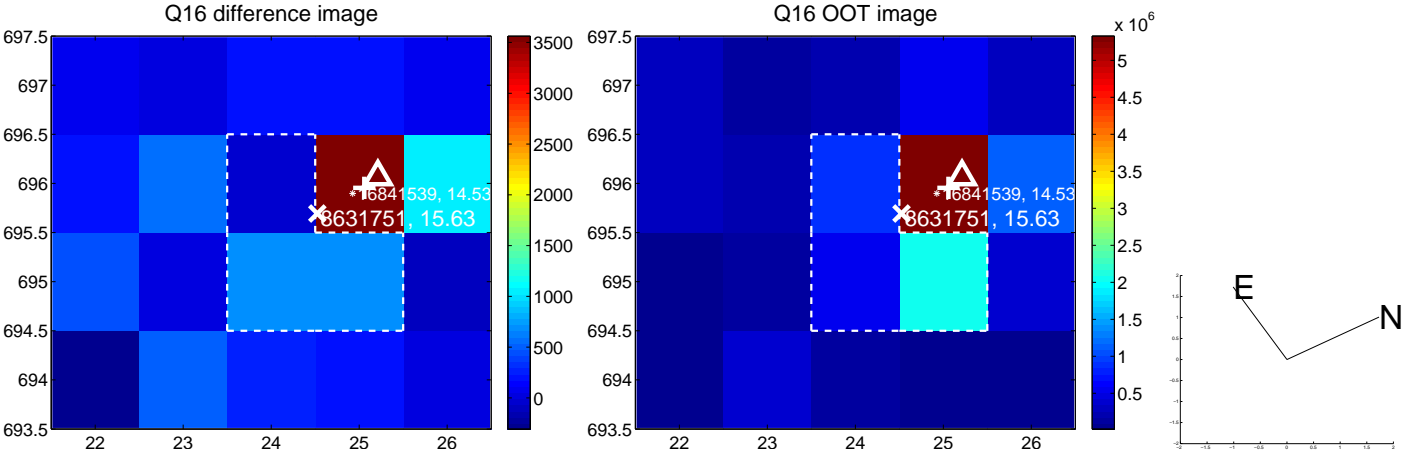
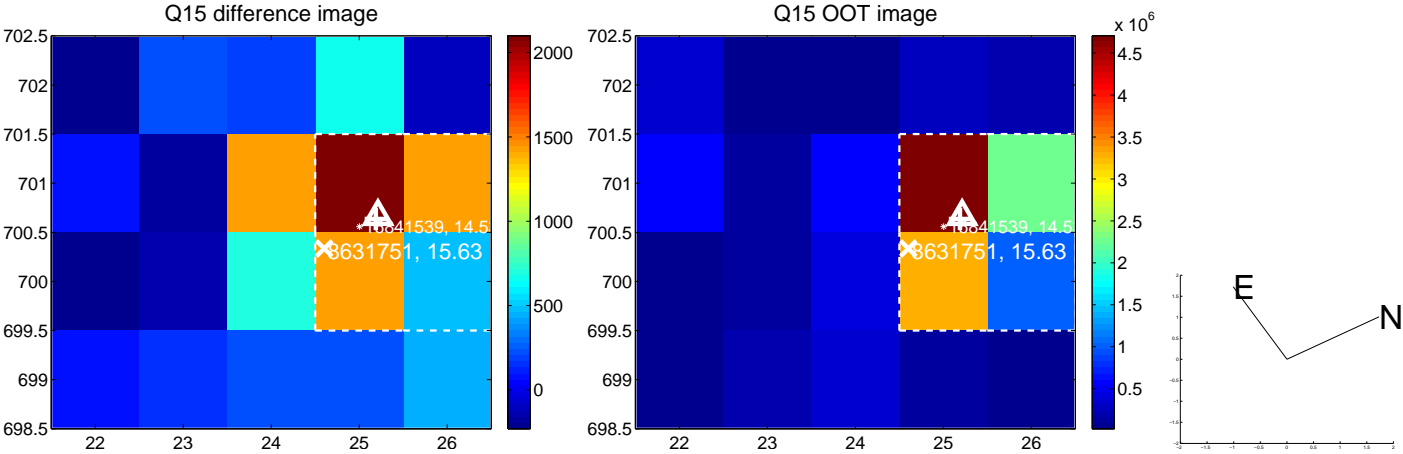
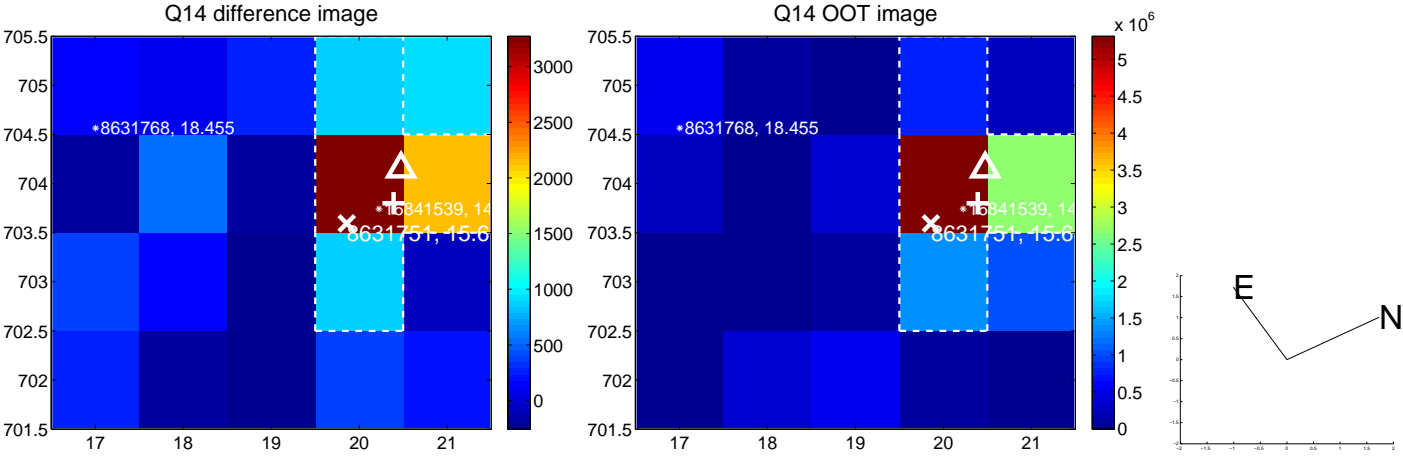
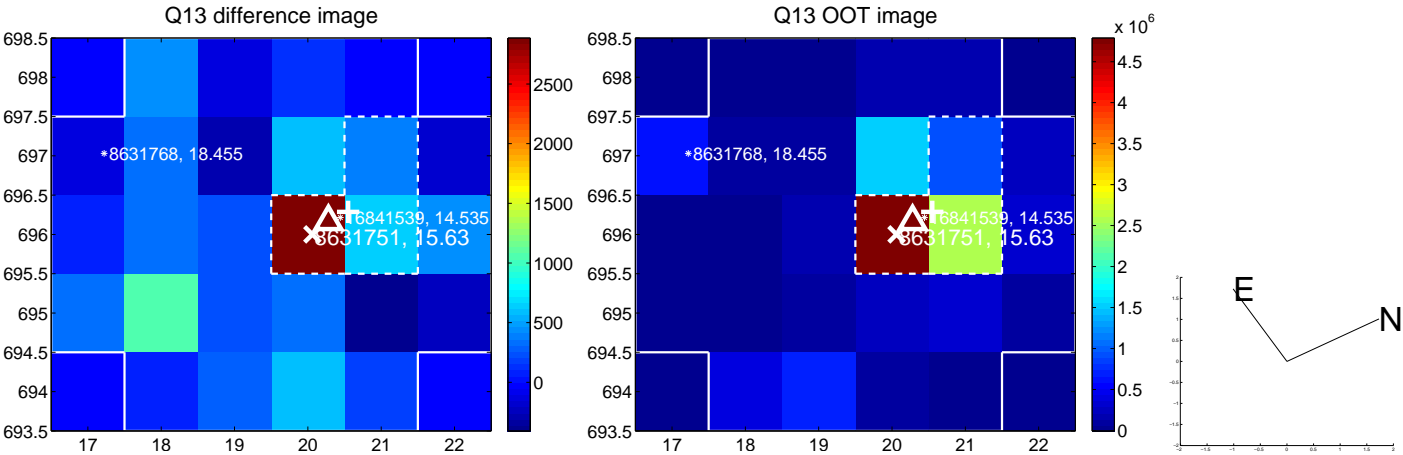
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



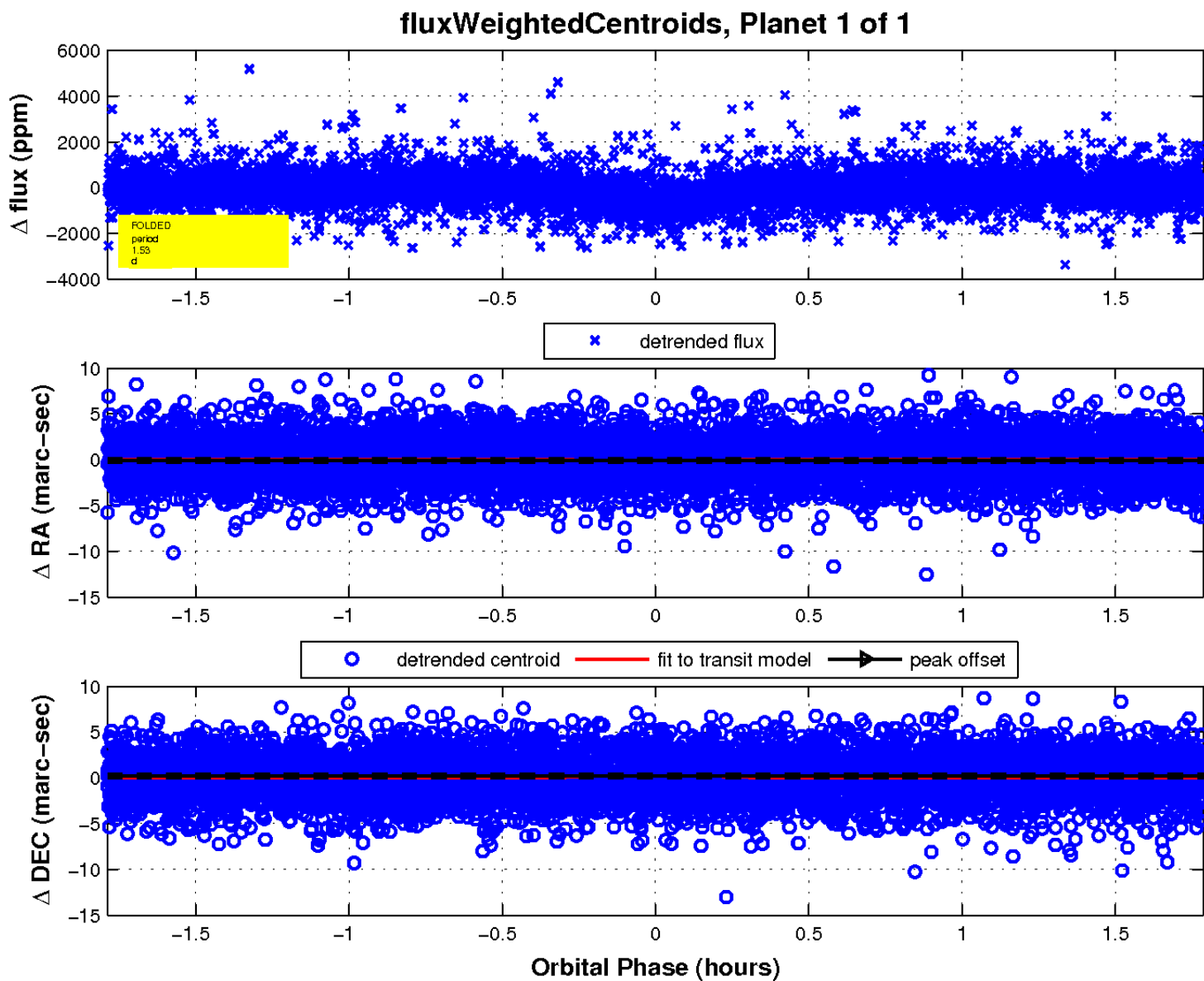
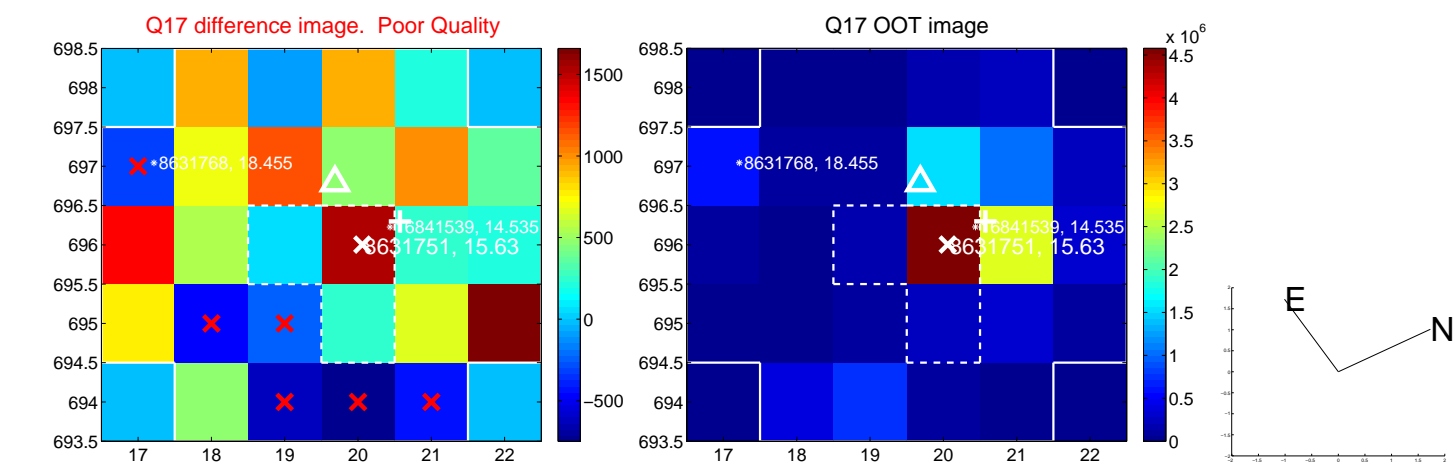
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UKIRT Image

Declination

