

KIC 004851881

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})
004851881-01	OBS	No	0.785074	131.702626	40.3	3.422	8.8	3.6	1.56	7568	1.16	20064.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004851881-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

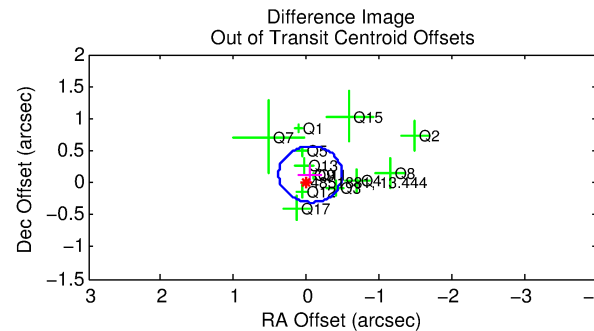
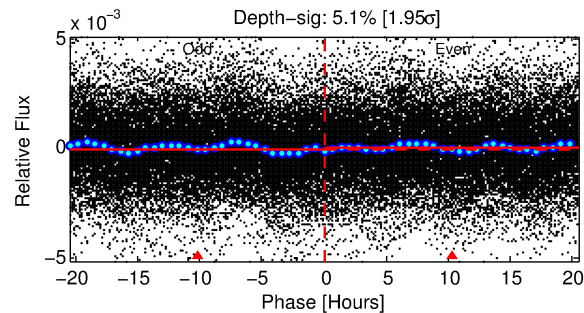
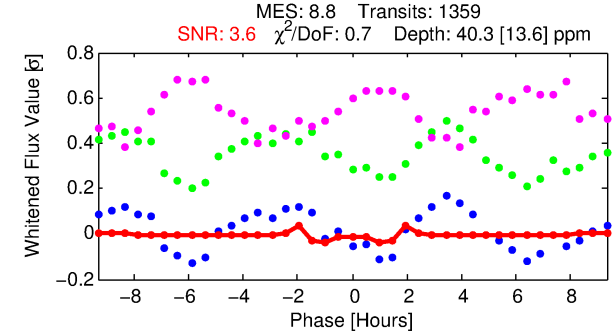
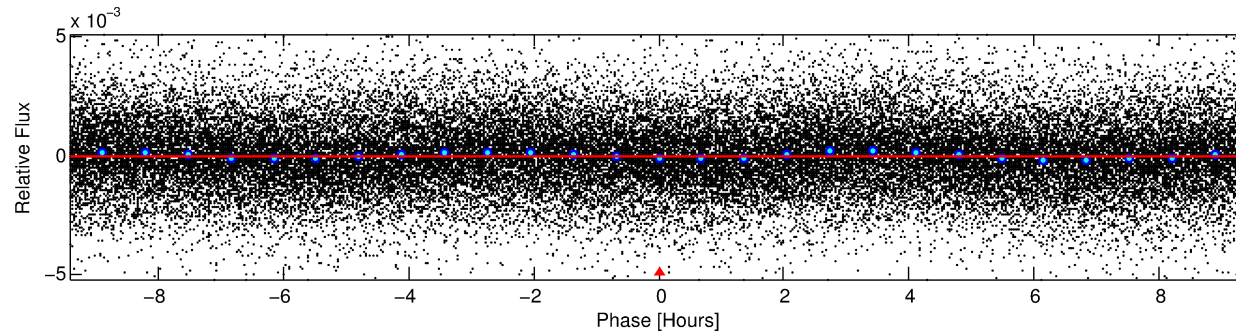
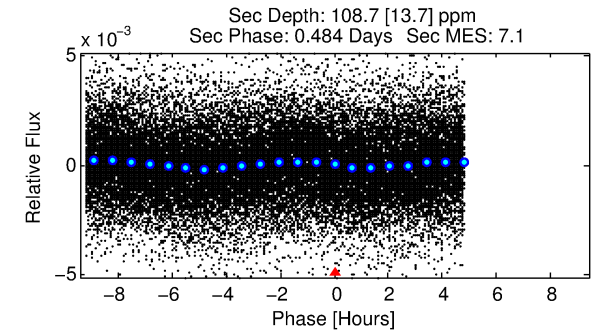
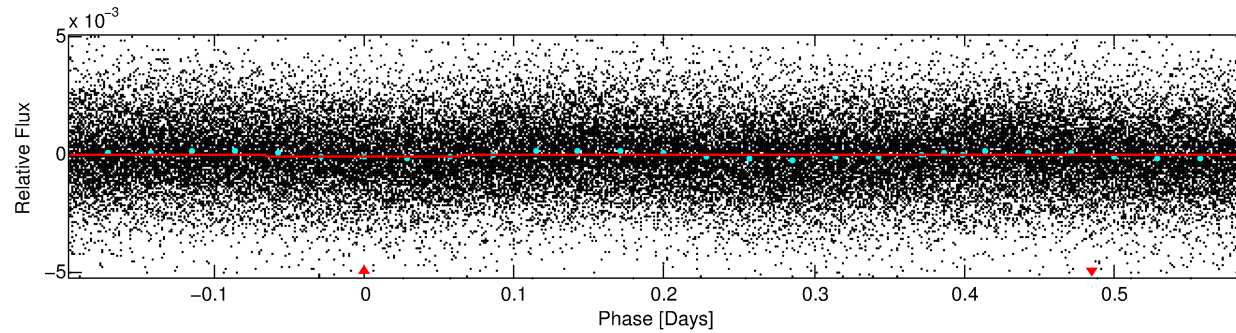
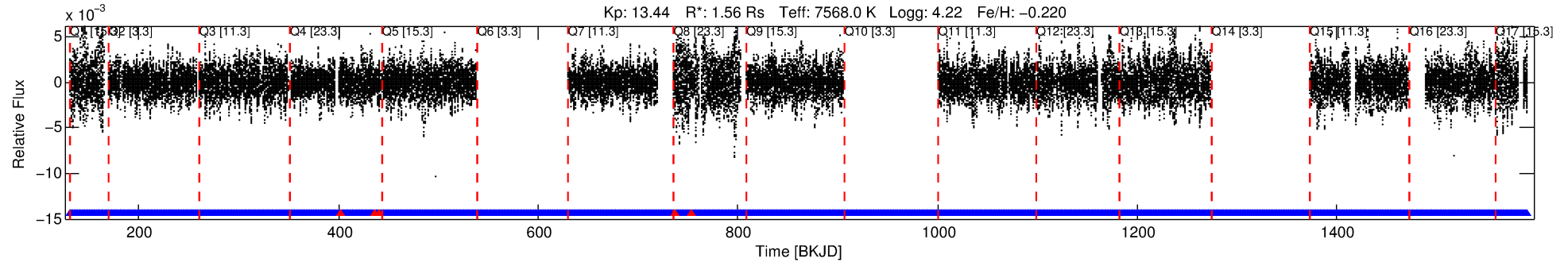
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004851881-01

No Significant Match Found

DV One-Page Summary

KIC: 4851881 Candidate: 1 of 1 Period: 0.785 d



DV Fit Results:

Period = 0.78507 [0.00003] d
Epoch = 131.7026 [0.0030] BKJD
Rp/R* = 0.0068 [0.0024]
a/R* = 1.22 [0.77]
b = 0.90 [0.40]
Seff = 20064.54 [7921.60]
Teff = 3035 [300] K
Rp = 1.16 [0.55] Re
a = 0.0189 [0.0048] AU
Ag = 15.93 [12.90] [1.16σ]
Teffp = 9374 [1747] K [3.58σ]

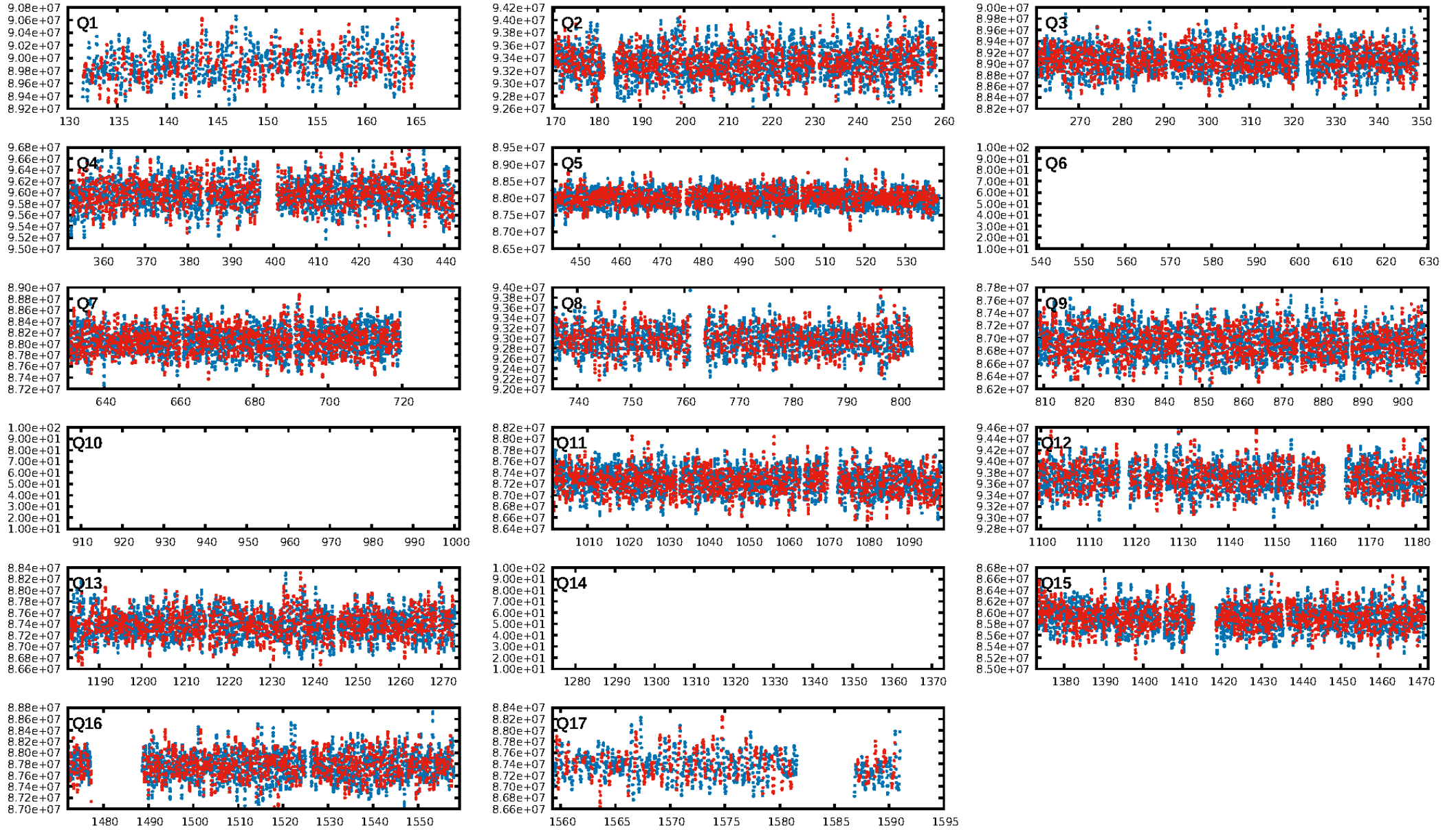
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.44e-13
RollingBand-fgt: 1.00 [1278/1283]
GhostDiagnostic-chr: -3.062
Centroid-sig: 8.7%
Centroid-so: 0.783 arcsec [0.93σ]
OotOffset-rm: 0.142 arcsec [0.98σ]
KicOffset-rm: 0.304 arcsec [2.44σ]
OotOffset-st: 1/4/3/5 [13]
KicOffset-st: 1/4/3/5 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [14/14]

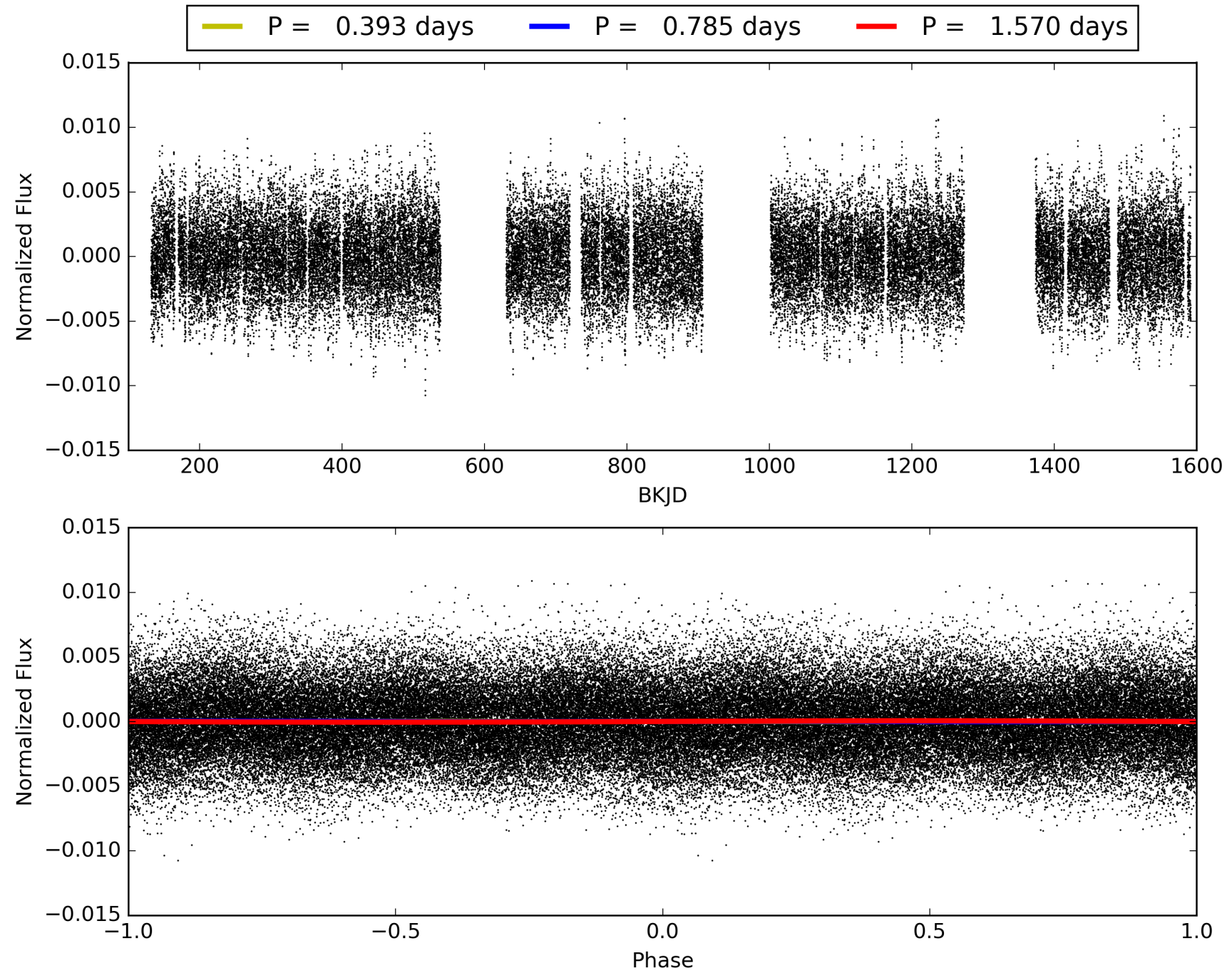
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:48:44 Z

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

TCE 004851881-01, PDC Light Curves

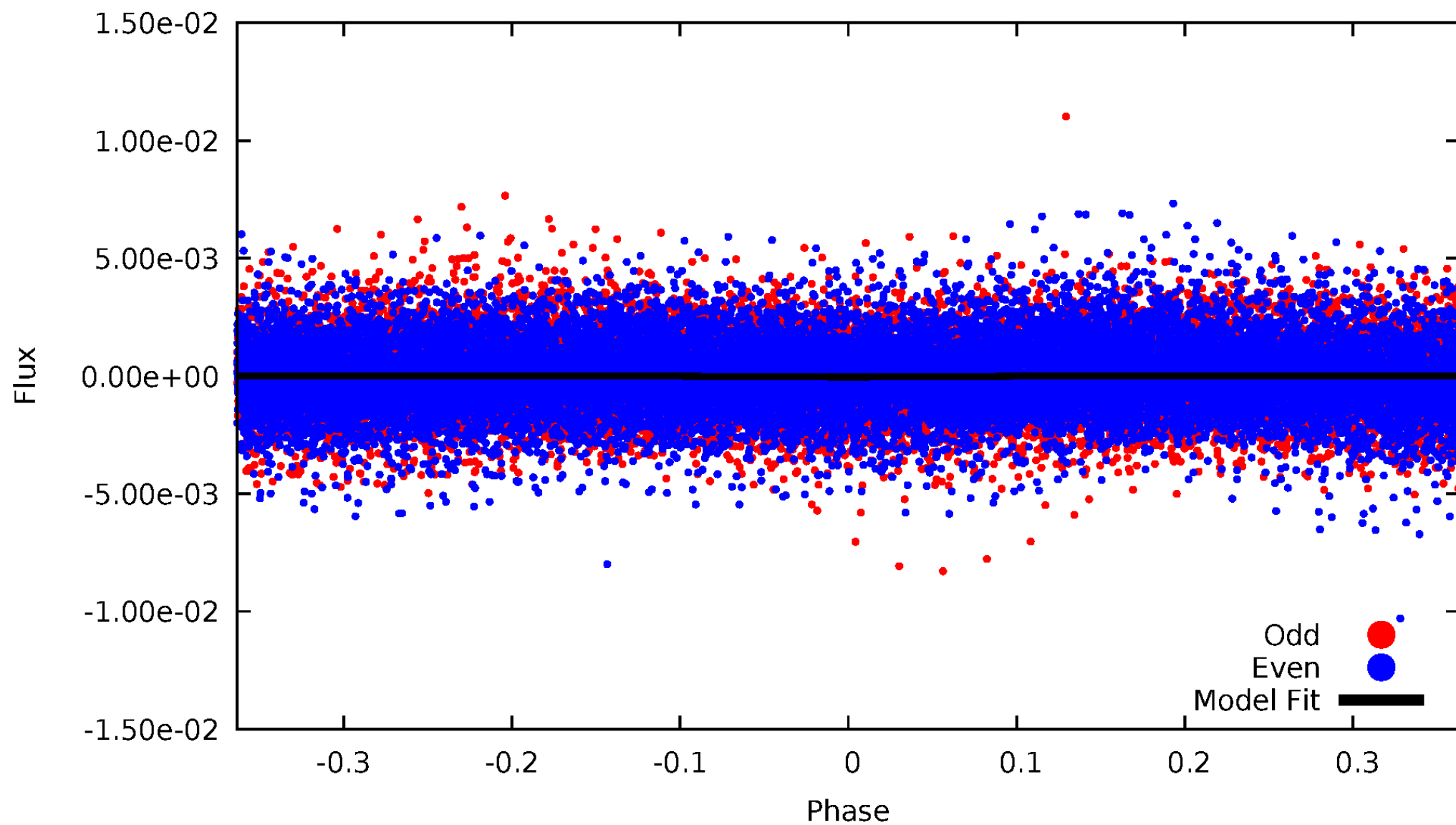


TCE 004851881-01



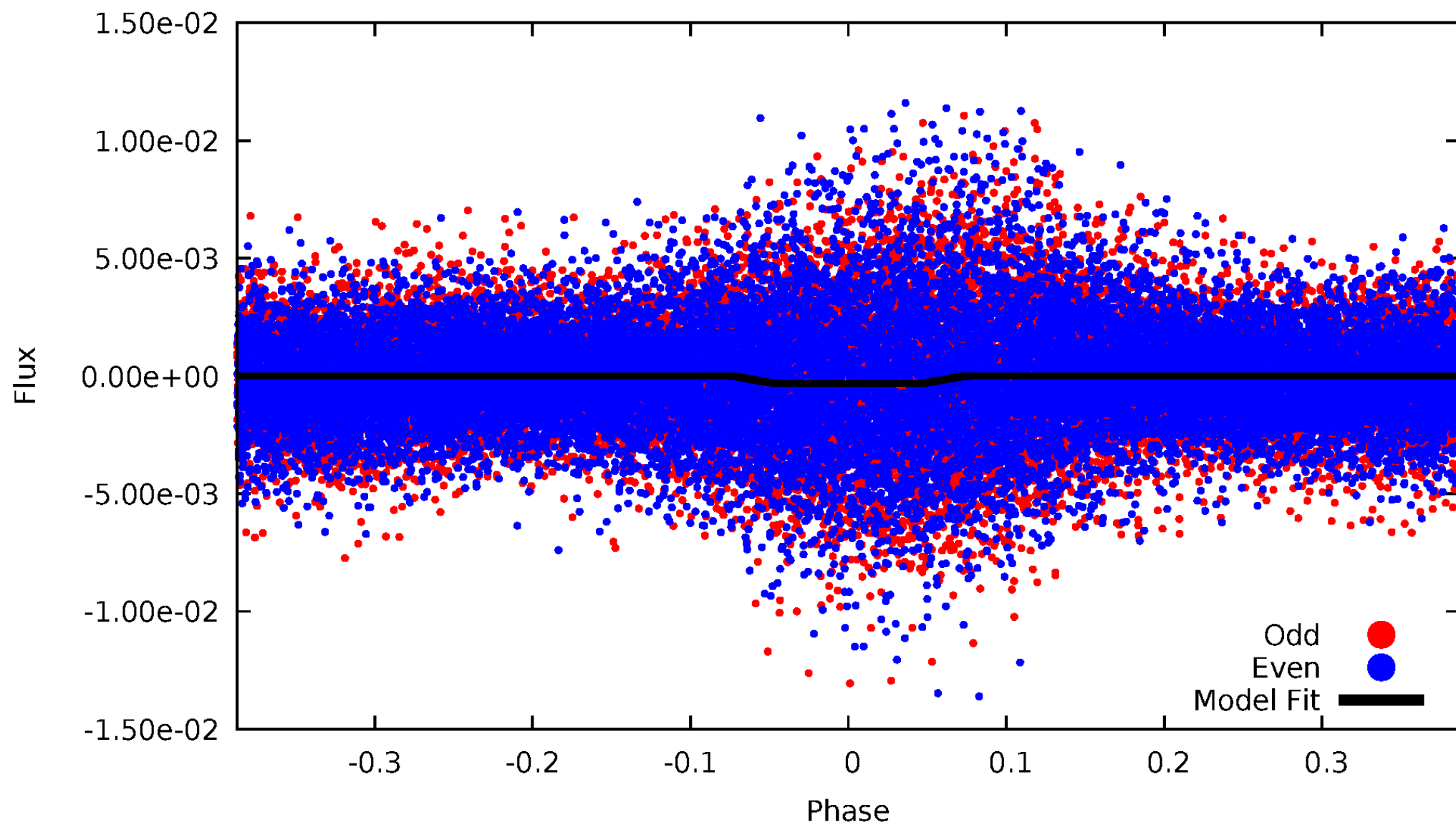
DV Odd/Even

TCE 004851881-01



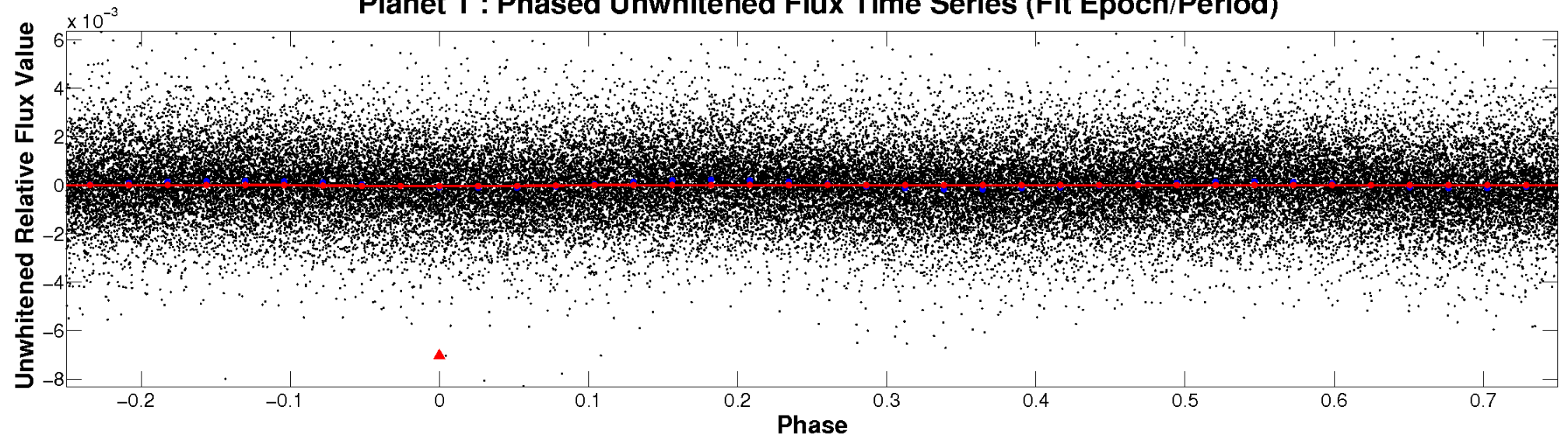
ALT Odd/Even

TCE 004851881-01

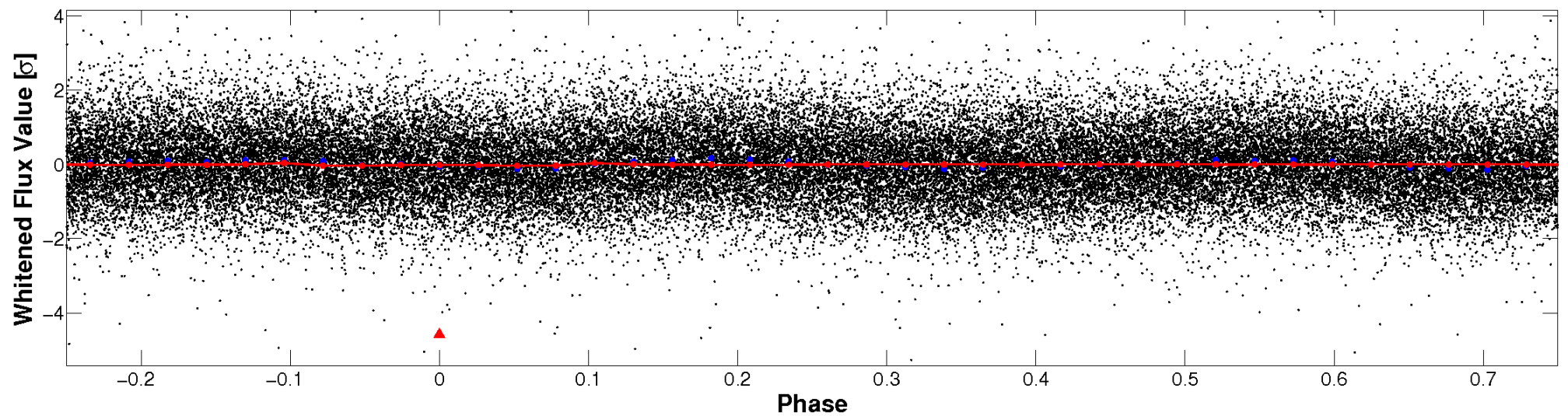


Non-Whitened Vs. Whitened Light Curve

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

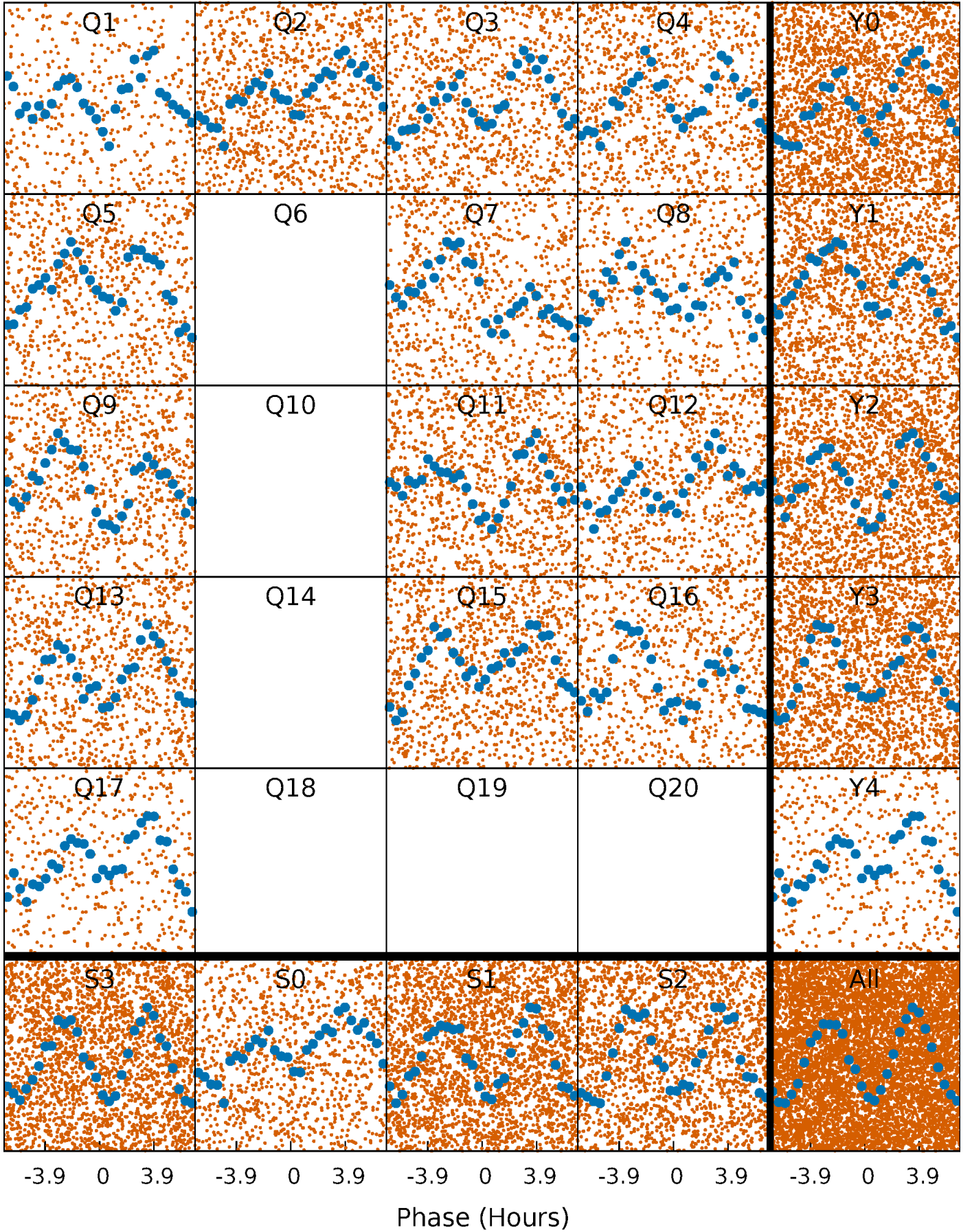


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



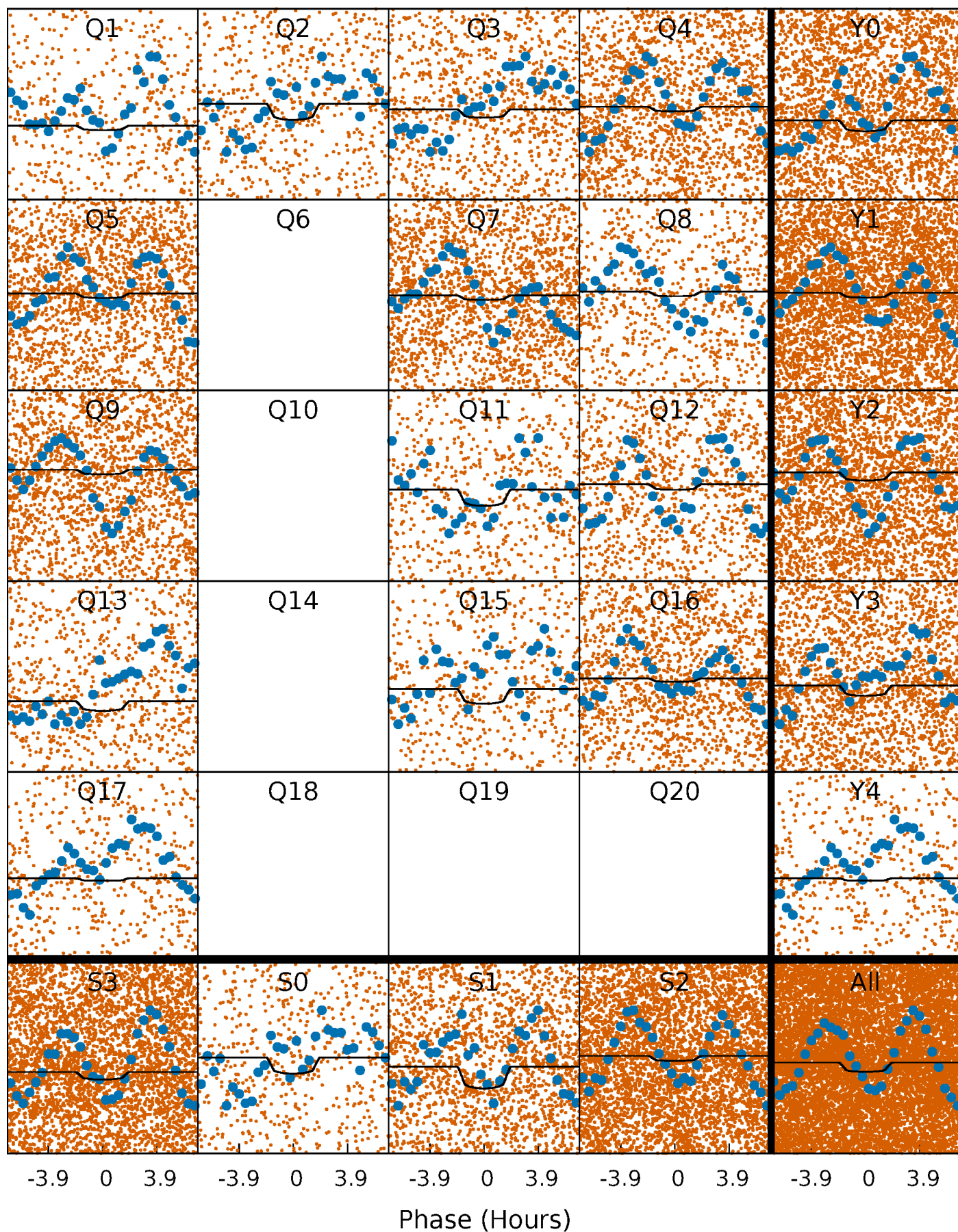
PDC Quarter-Phased Transit Curves

TCE 004851881-01 P= 0.785074 Days $T_0=131.702626$ (BKJD)



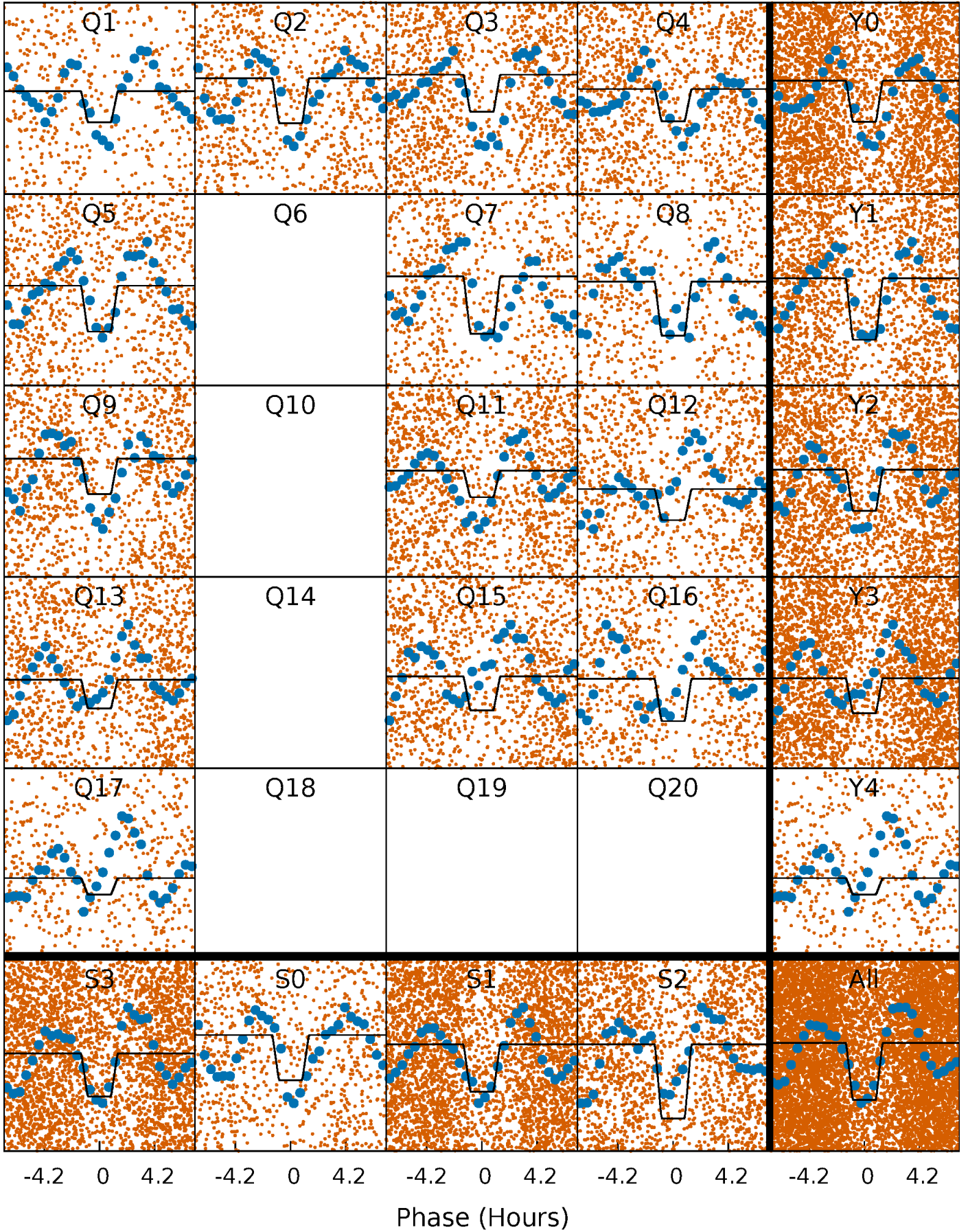
DV Quarter-Phased Transit Curves

TCE 004851881-01 P= 0.785074 Days $T_0=131.702626$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

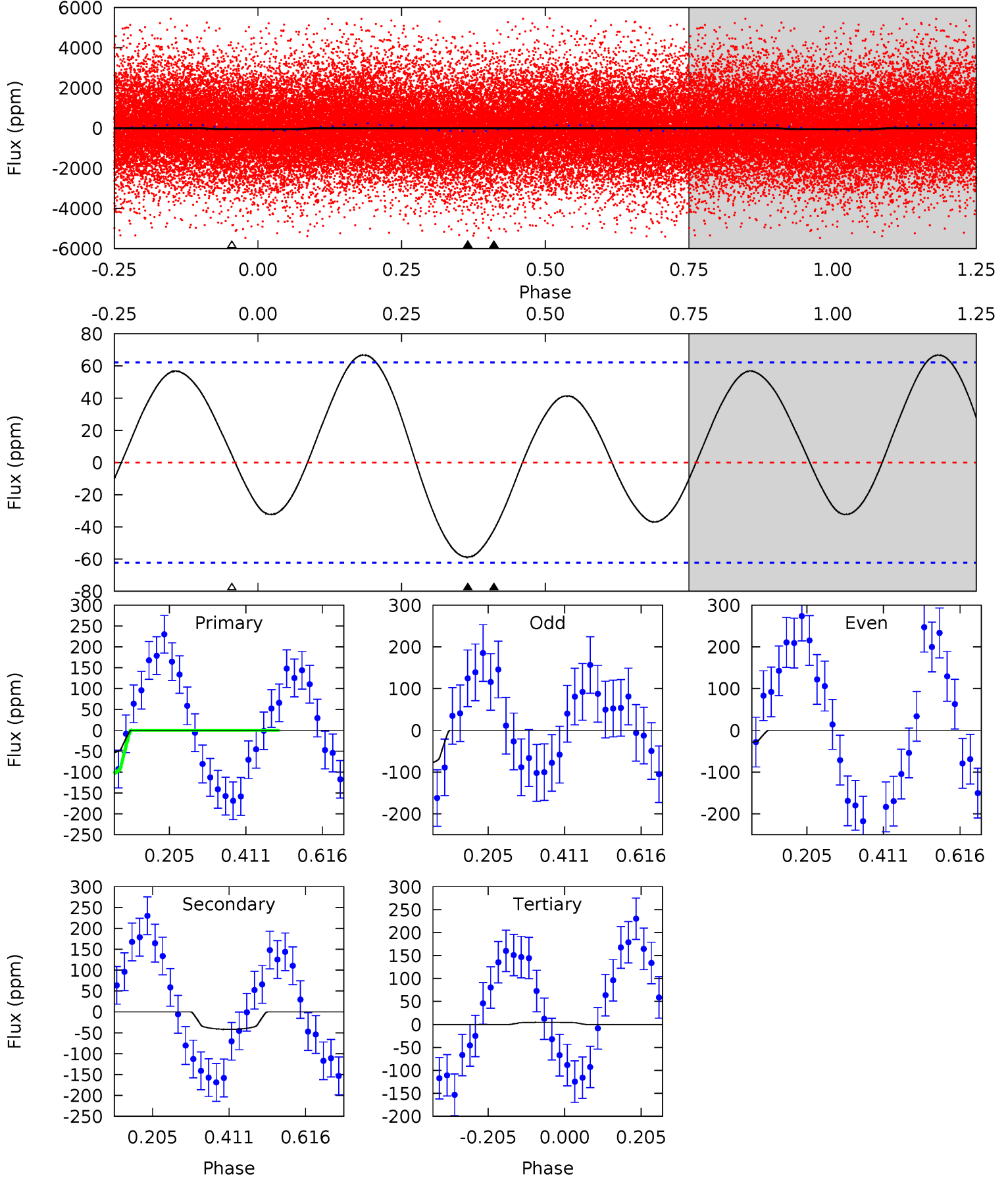
TCE 004851881-01 P= 0.785117 Days $T_0=131.689113$ (BKJD)



DV Model-Shift Uniqueness Test

004851881-01, $P = 0.785074$ Days, $E = 130.917552$ Days

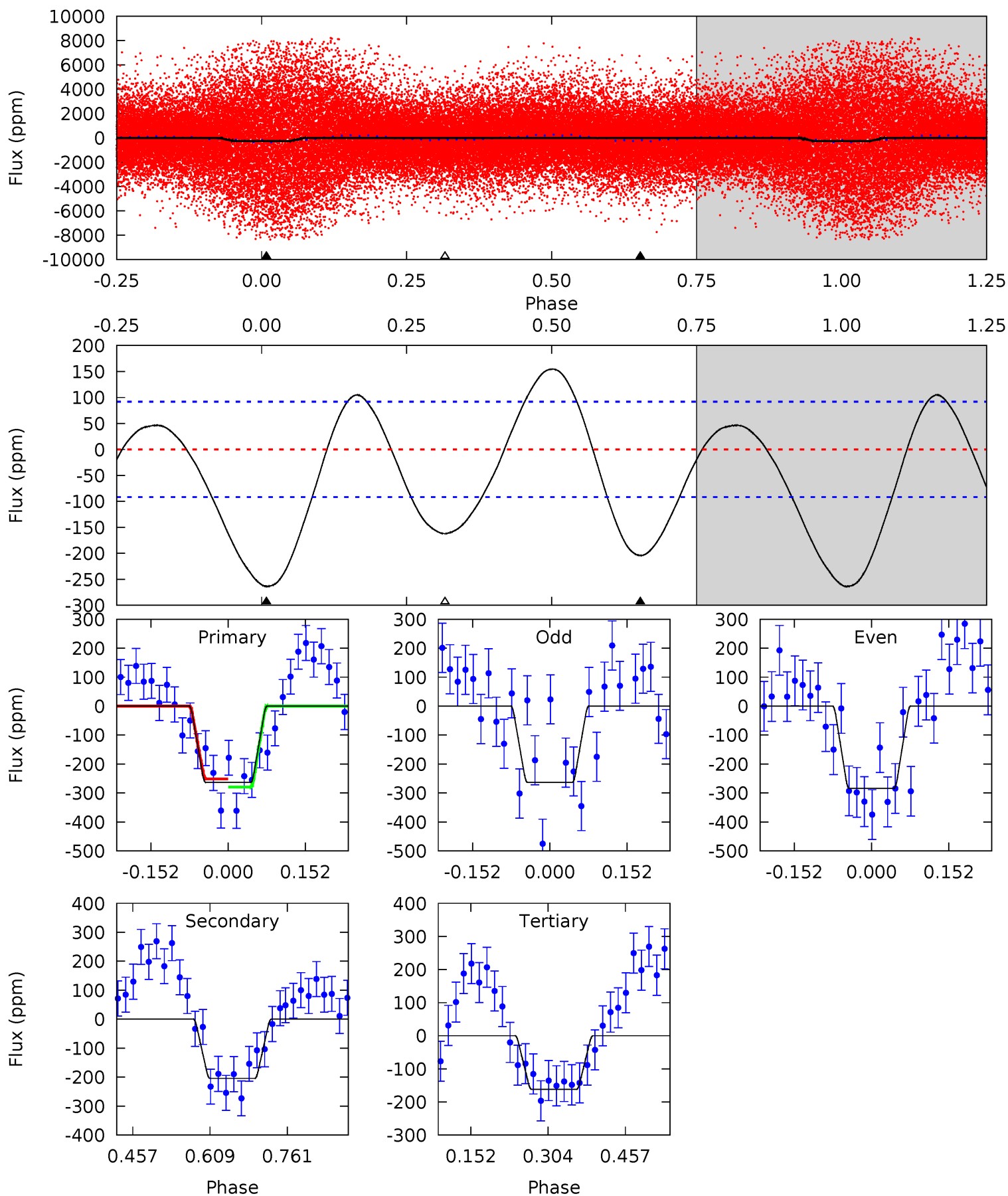
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.17	2.97	-0.33	0	4.41	1.27	2.27	4.50	4.17	3.30	2.97	1.88	1.76	0.53	3.95



Alt Model-Shift Uniqueness Test

004851881-01, P = 0.785117 Days, E = 130.903996 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	9.97	7.91	0	4.48	1.43	4.87	4.97	12.9	2.06	9.97	0.51	1.64	0.37	0.69



Stellar Parameters For KIC 004851881

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7568^{+237}_{-316}	$4.216^{+0.102}_{-0.189}$	$-0.220^{+0.200}_{-0.350}$	$1.564^{+0.491}_{-0.264}$	$1.465^{+0.219}_{-0.219}$	$0.540^{+0.266}_{-0.282}$
	+3%/-4%	+2%/-4%	+91%/-159%	+31%/-17%	+15%/-15%	+49%/-52%
Source	KIC0	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 004851881-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-42 ± 14	$1.17^{+0.50}_{-0.42}$	4287^{+319}_{-277}	7230^{+2528}_{-1410}	$5.861^{+8.976}_{-3.244}$
Alt.	-204 ± 20	$3.04^{+0.62}_{-0.51}$	4269^{+351}_{-276}	6573^{+642}_{-527}	$4.212^{+1.985}_{-1.284}$

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 $A_{obs} \gg 1.0$

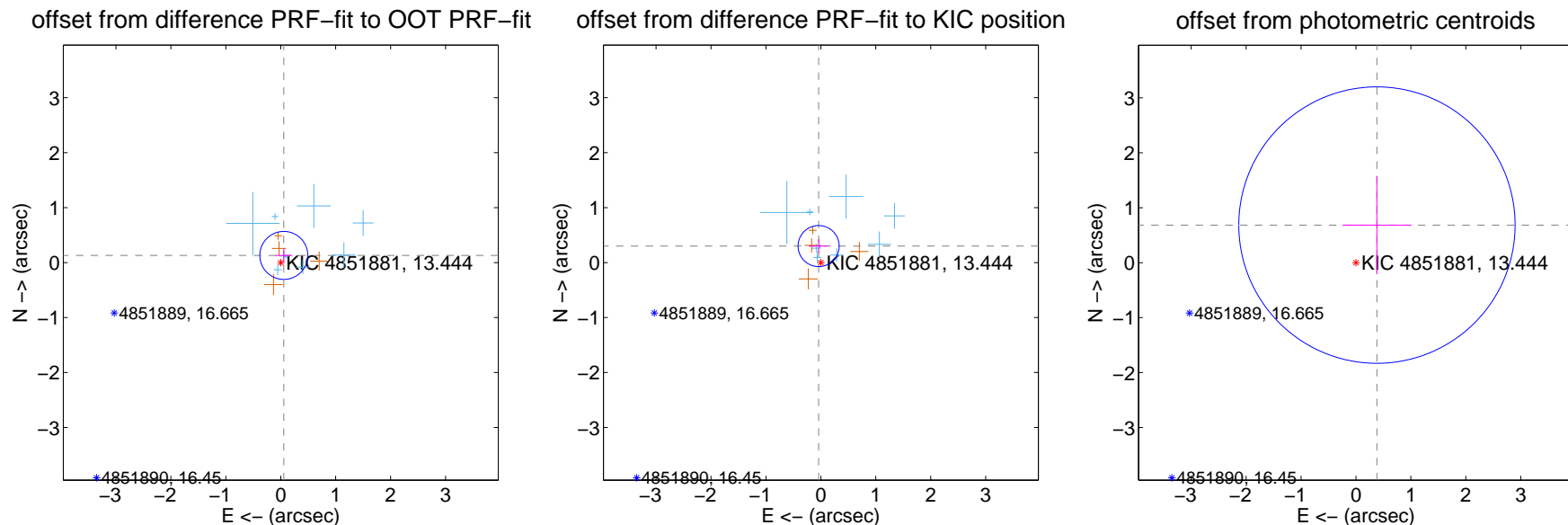
DV Centroid Data

Supplemental centroid analysis for 004851881-01. Kepler magnitude: 13.44. Transit SNR 3.64

There are 9 quarters with good PRF difference image offsets

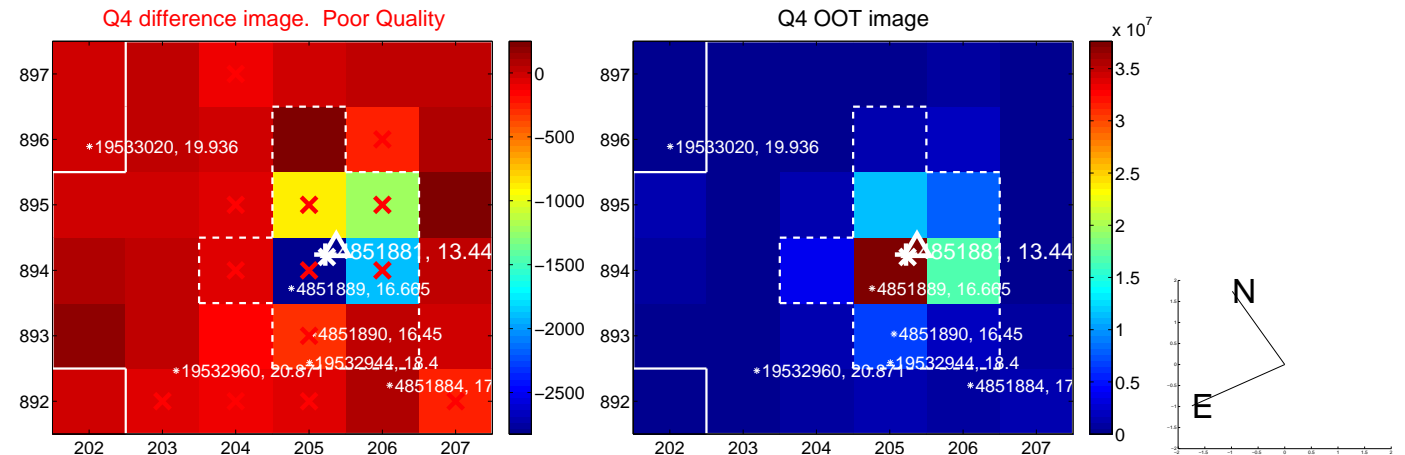
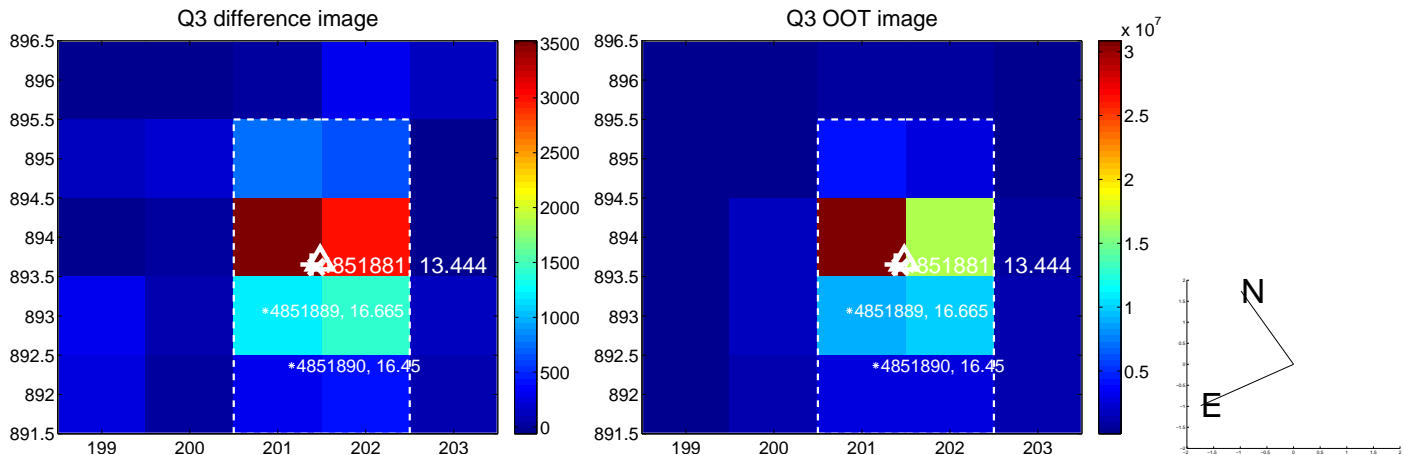
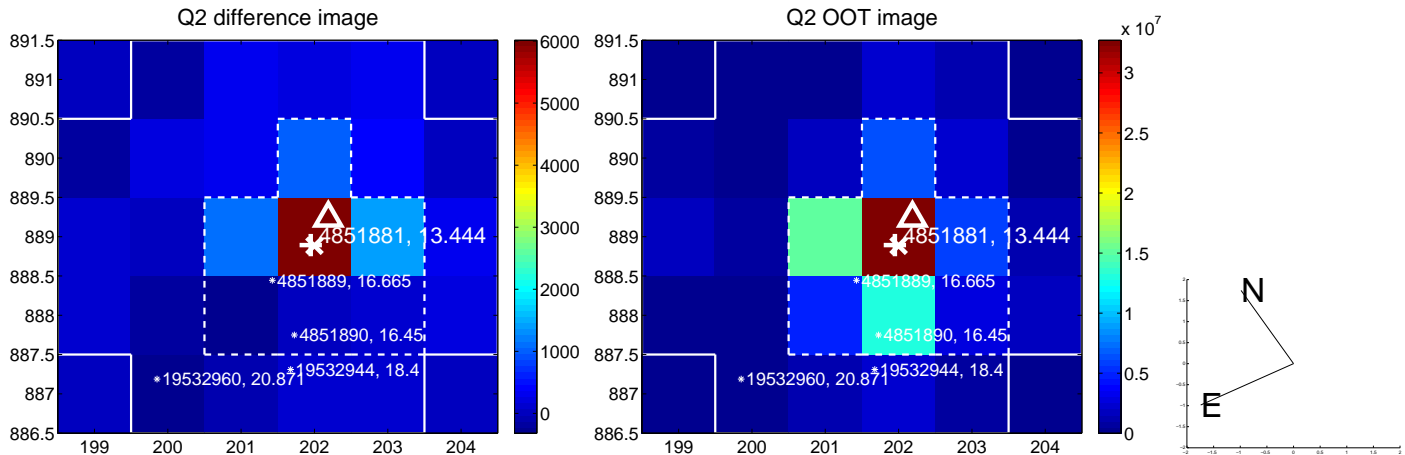
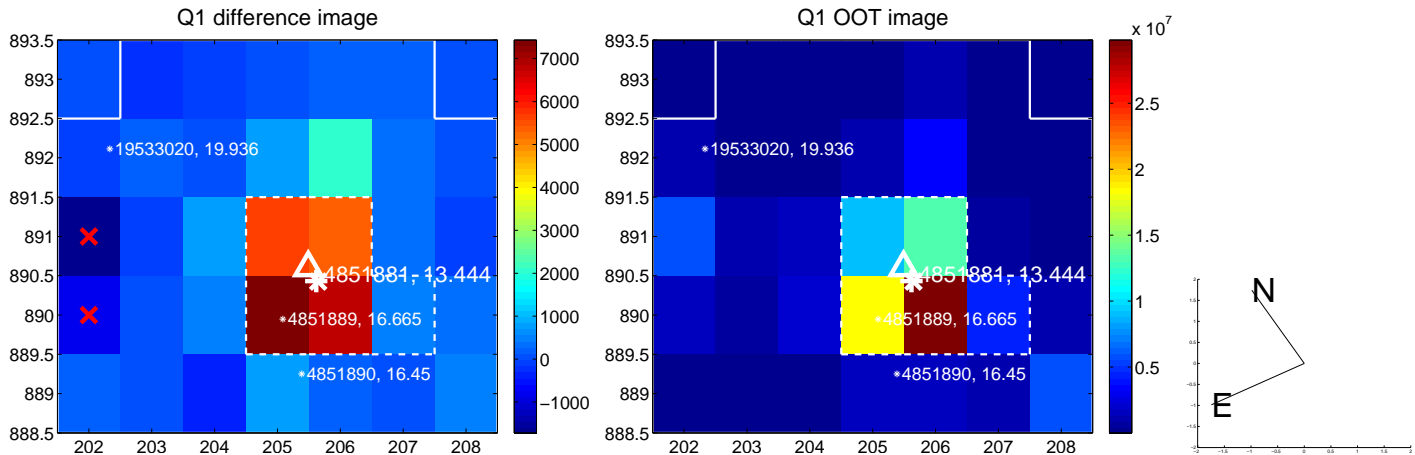
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.142 ± 0.146	0.98	-0.056 ± 0.154	0.131 ± 0.131
PRF-fit source offset from KIC position	0.304 ± 0.125	2.44	0.041 ± 0.176	0.301 ± 0.126
photometric centroid source offset	0.78 ± 0.84	0.93	-0.38 ± 0.63	0.68 ± 0.89

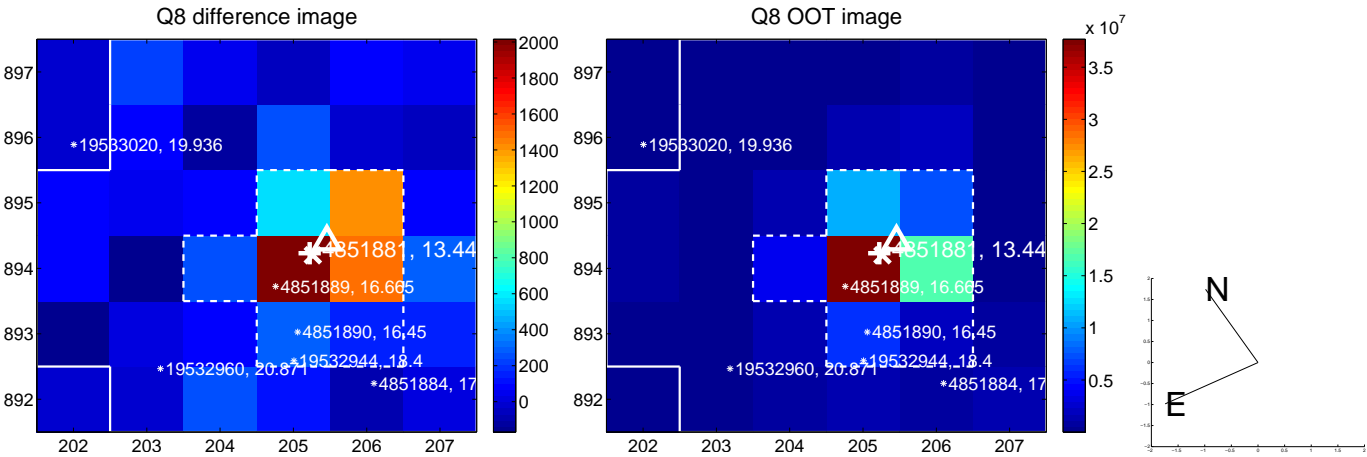
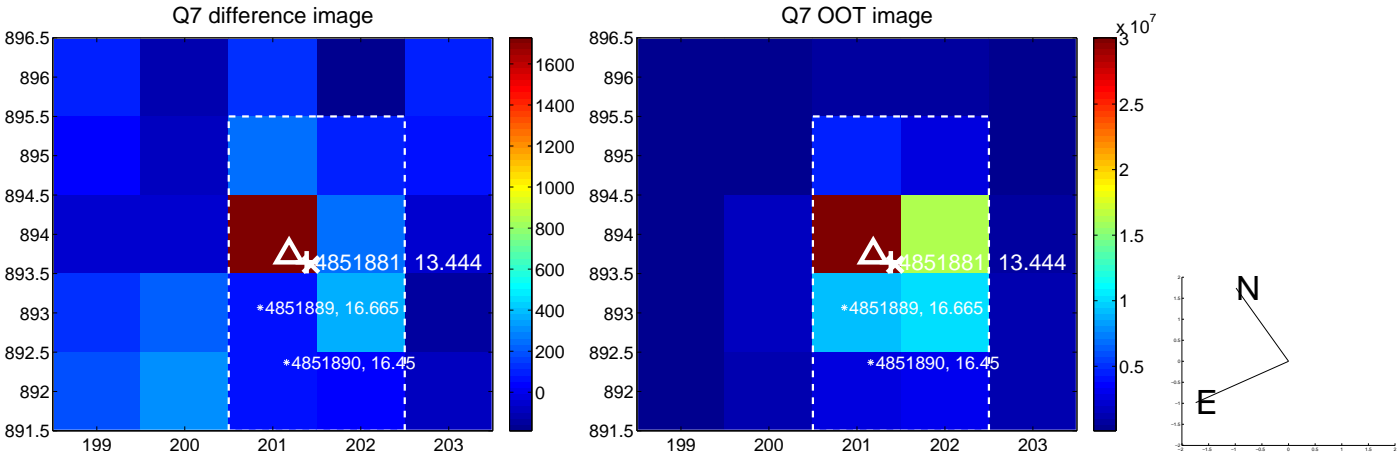
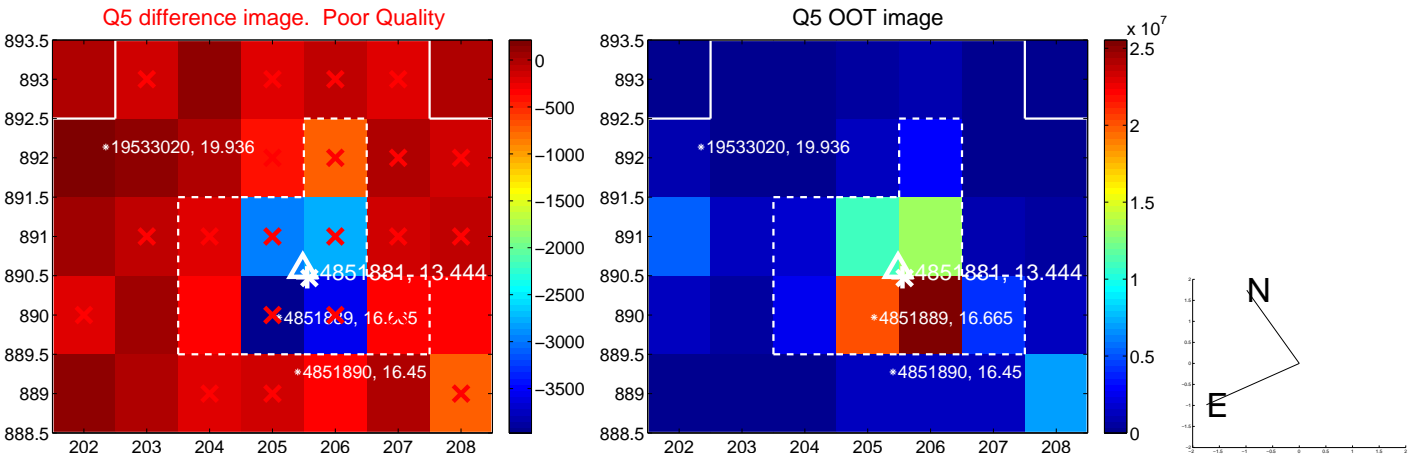


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

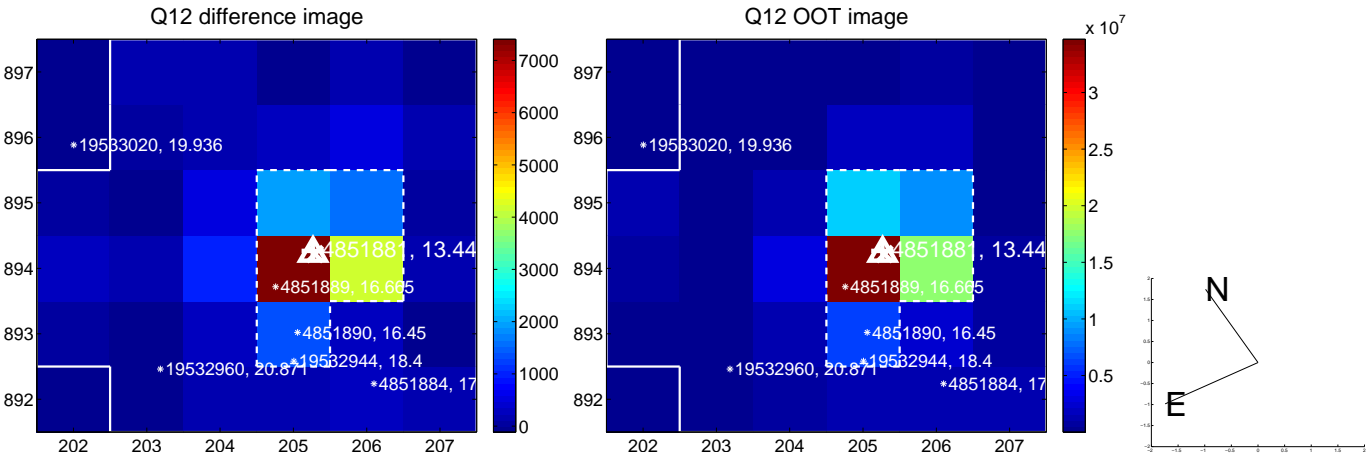
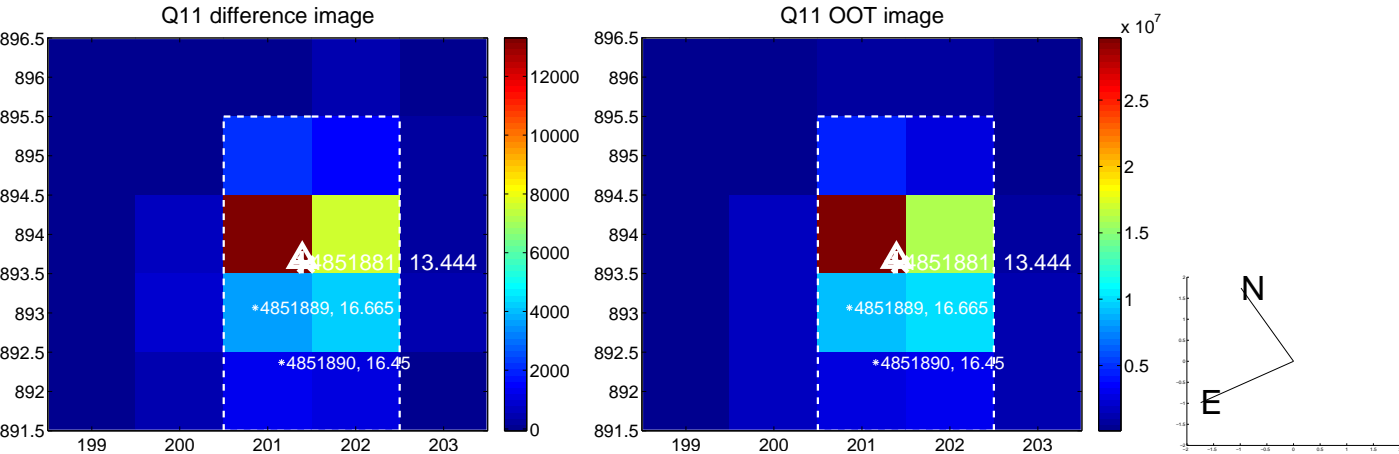
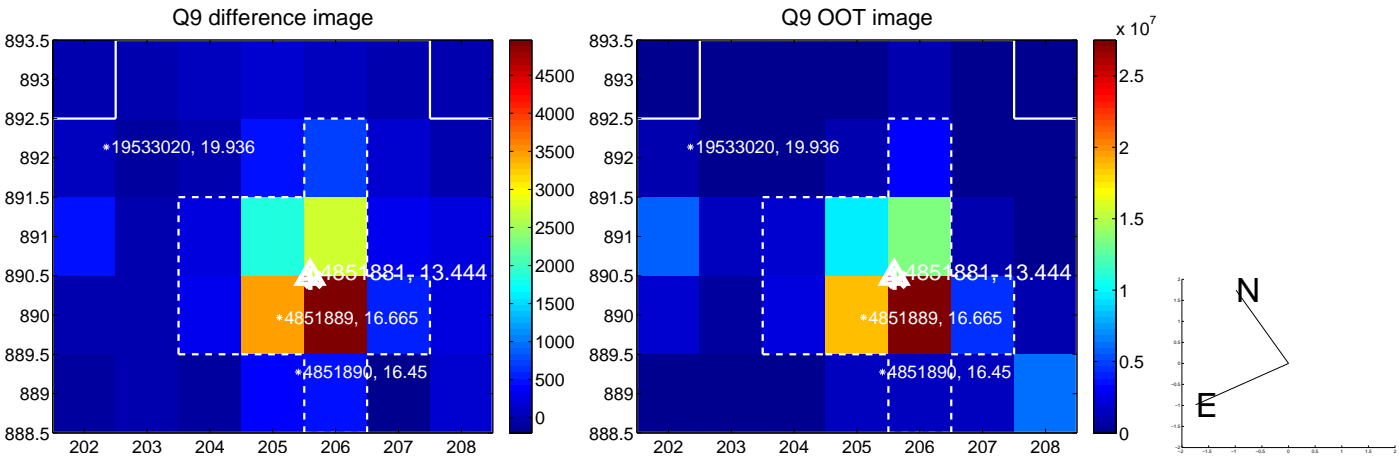
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



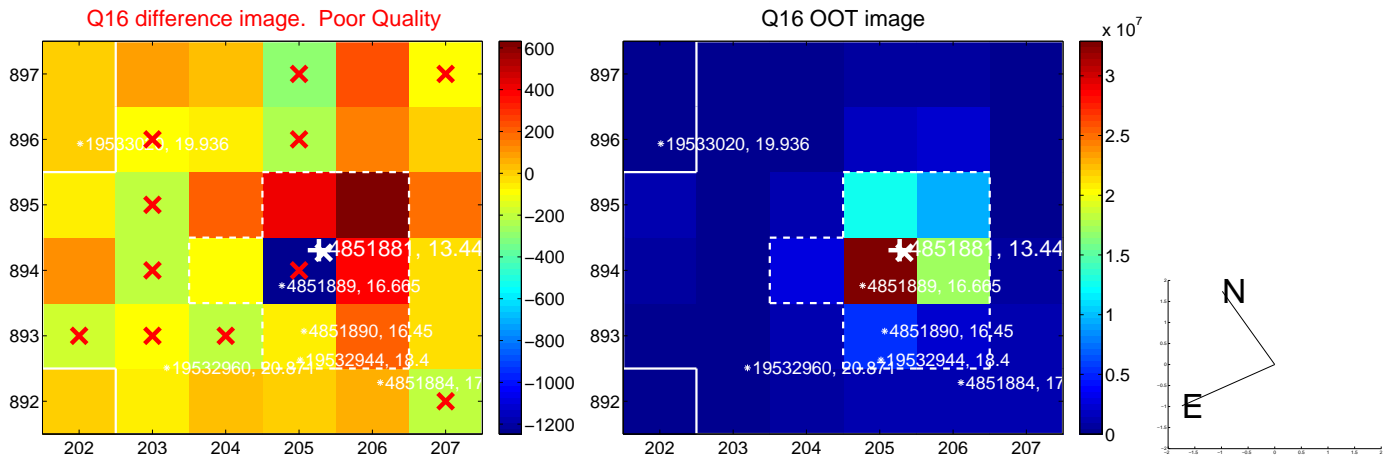
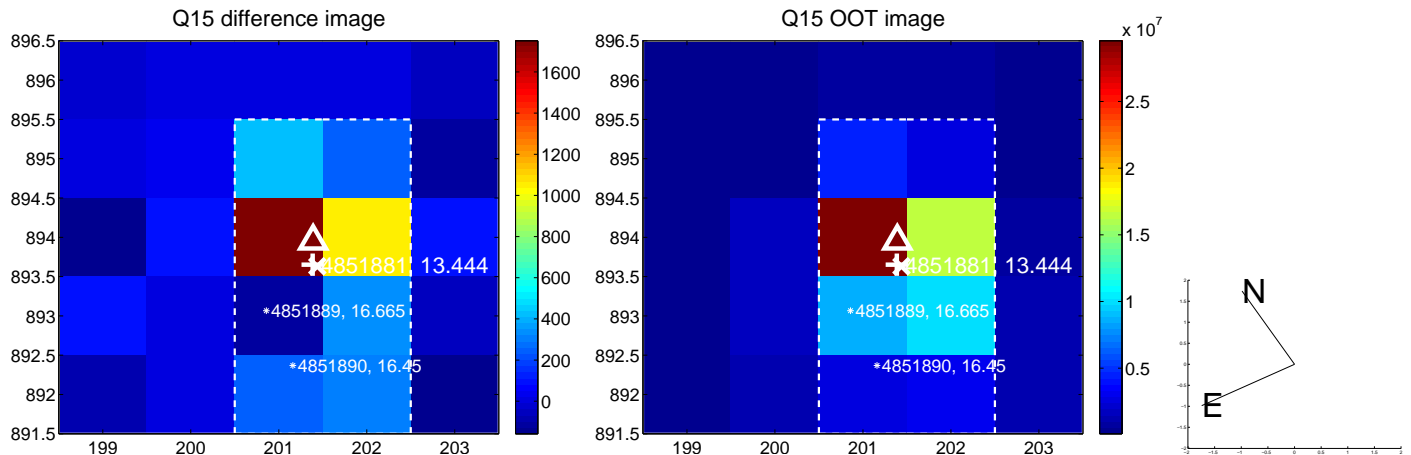
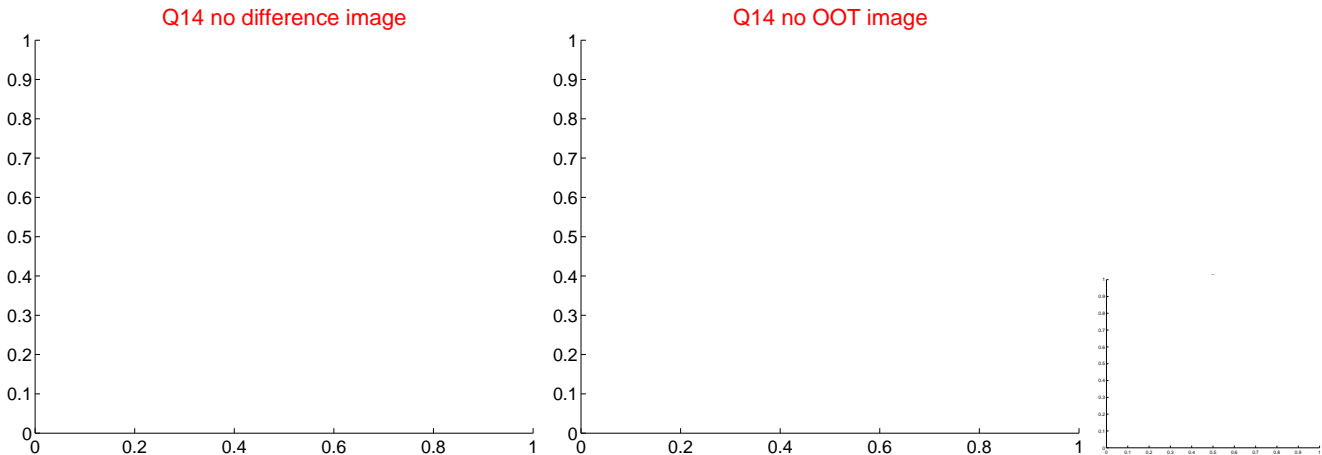
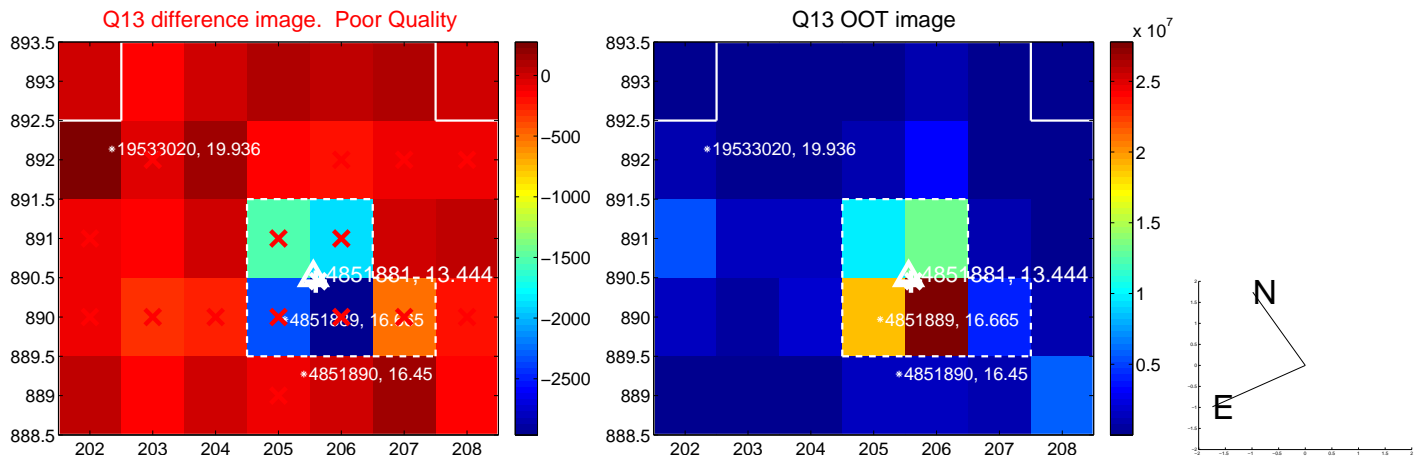
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



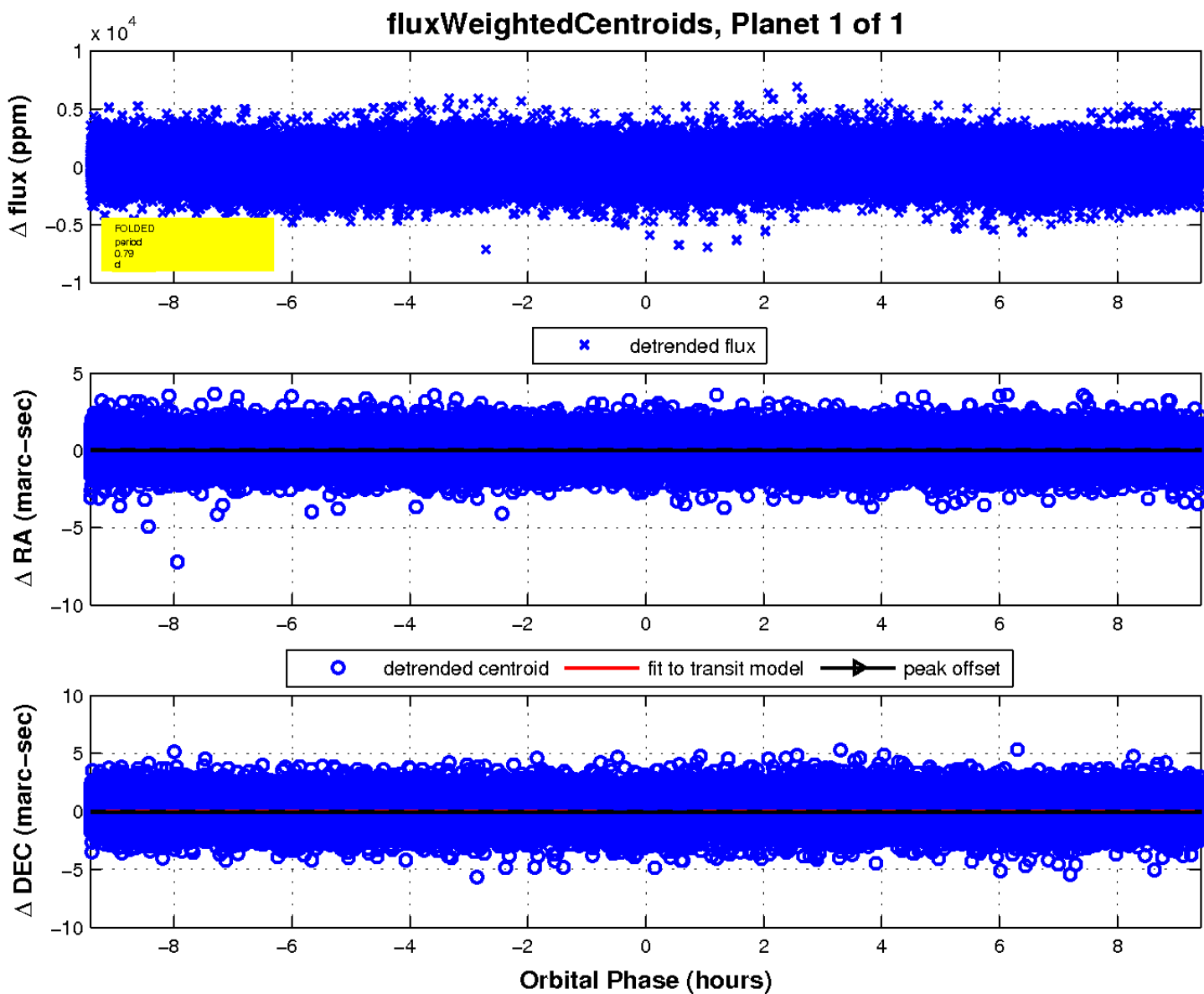
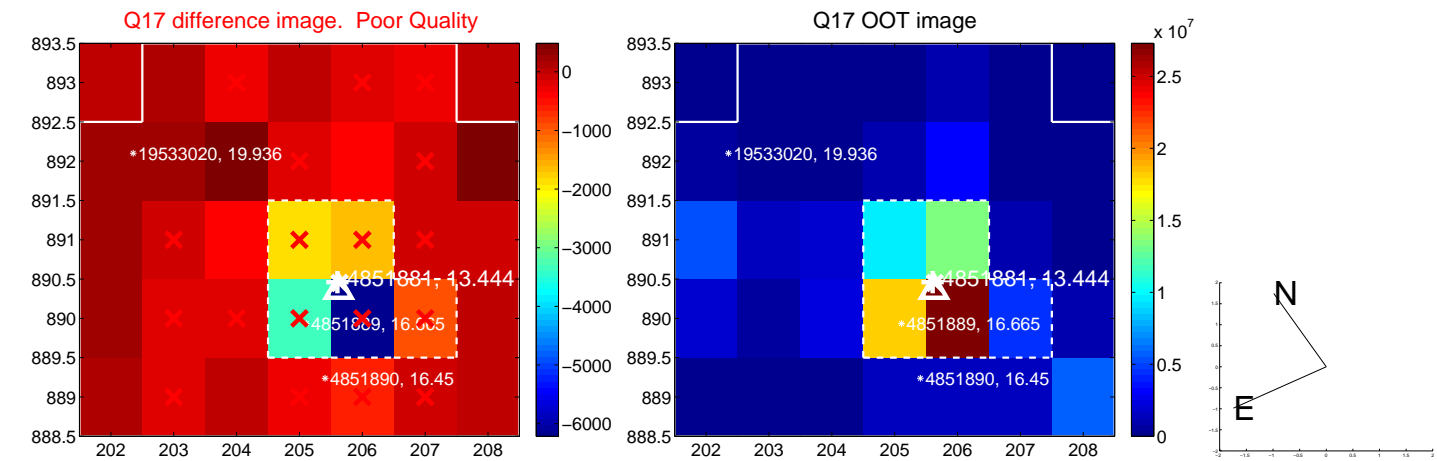
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

