

KIC 005820218

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})
005820218-01	OBS	1048.01	3.411768	133.179875	601.4	3.054	30.4	34.5	0.56	3995	2.53	51.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005820218-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_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 005820218-01

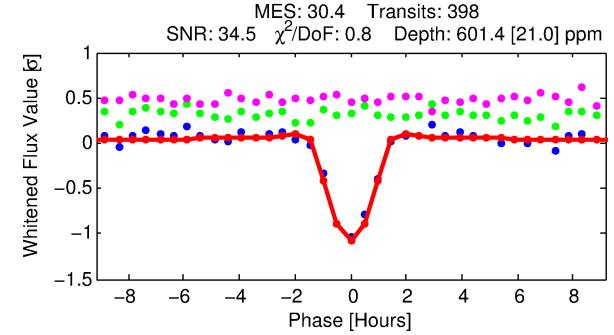
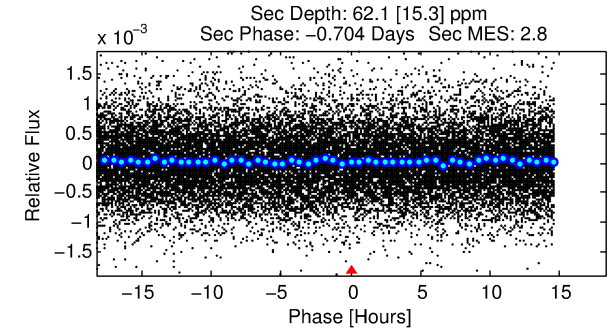
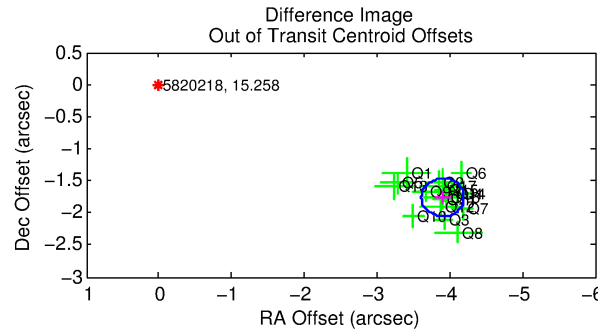
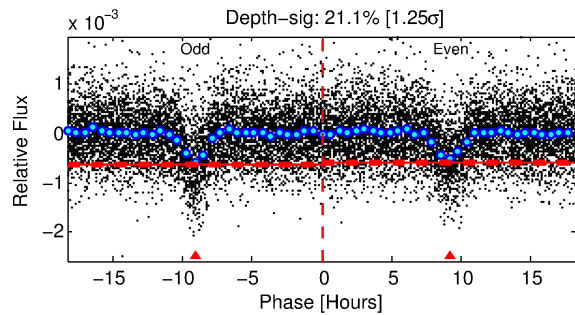
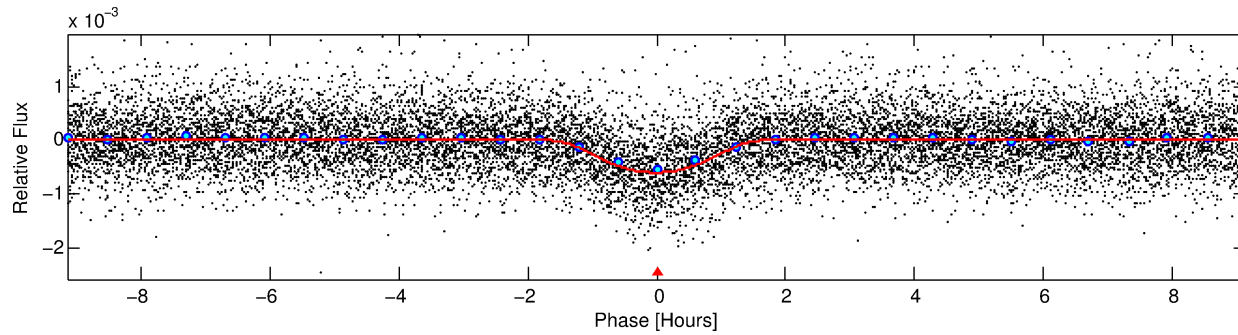
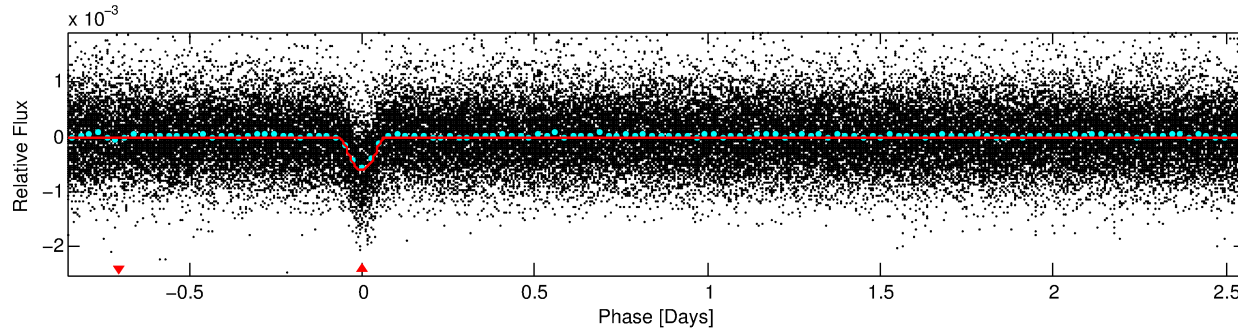
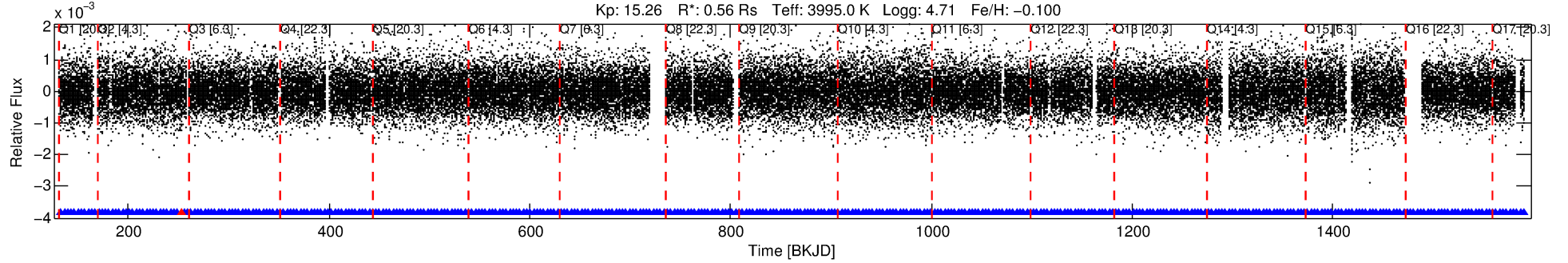
No Significant Match Found

DV One-Page Summary

KIC: 5820218 Candidate: 1 of 1 Period: 3.412 d

KOI: K01048.01 Corr: 0.988

Kp: 15.26 R*: 0.56 Rs Teff: 3995.0 K Logg: 4.71 Fe/H: -0.100



DV Fit Results:

Period = 3.41177 [0.00001] d
Epoch = 133.1799 [0.0016] BKJD
Rp/R* = 0.0413 [0.0338]
a/R* = 2.87 [0.58]
b = 0.99 [0.05]
Seff = 51.96 [10.49]
Teq = 685 [35] K
Rp = 2.53 [2.10] Re
a = 0.0372 [0.0041] AU
Ag = 7.39 [12.27] [0.52σ]
Teff = 1745 [725] K [1.46σ]

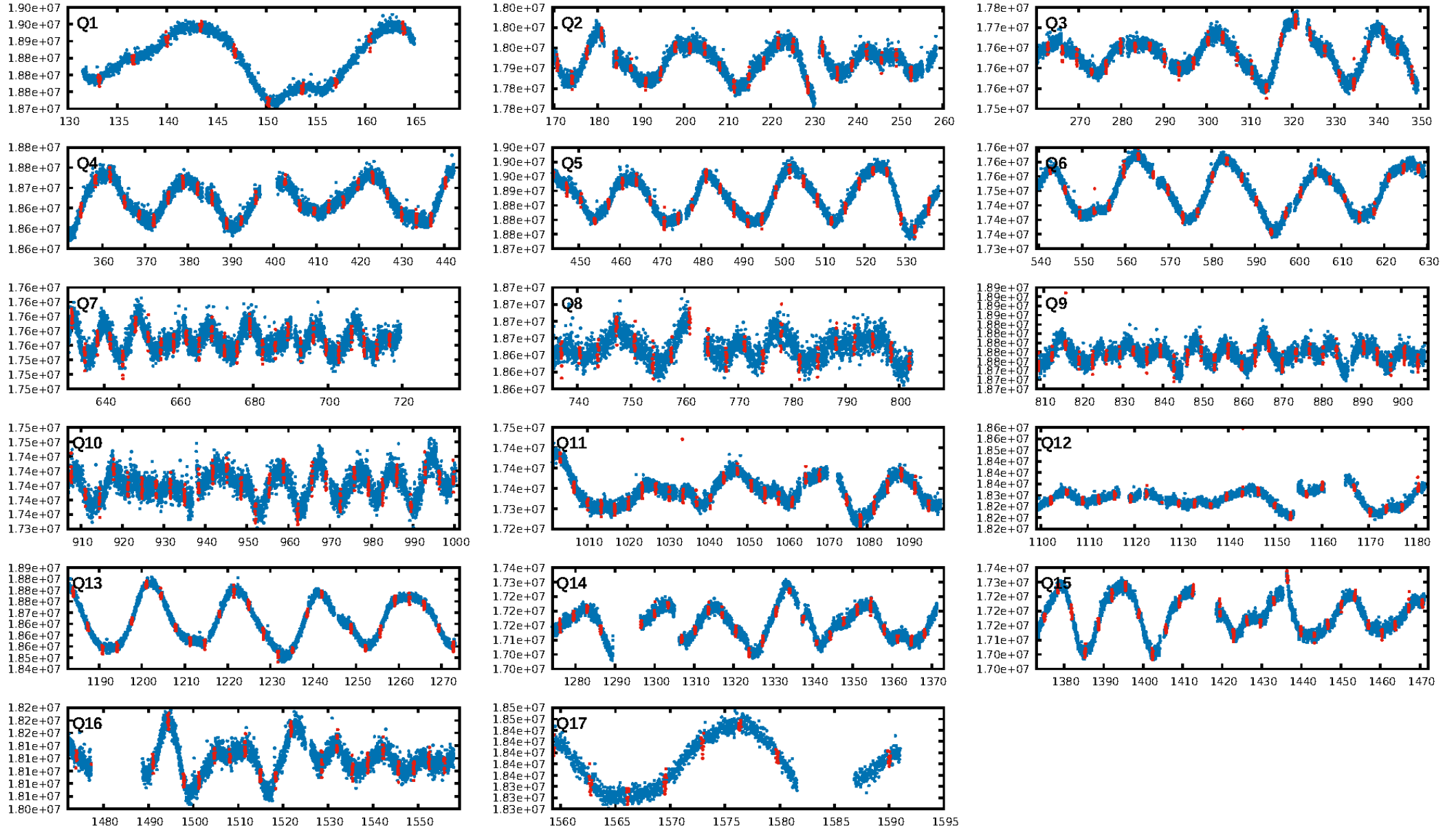
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.85e-193
RollingBand-fgt: 1.00 [379/380]
GhostDiagnostic-chr: 0.3681
Centroid-sig: 0.0%
Centroid-so: 5.223 arcsec [14.57σ]
OotOffset-rm: 4.279 arcsec [43.60σ]
KicOffset-rm: 4.441 arcsec [42.63σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

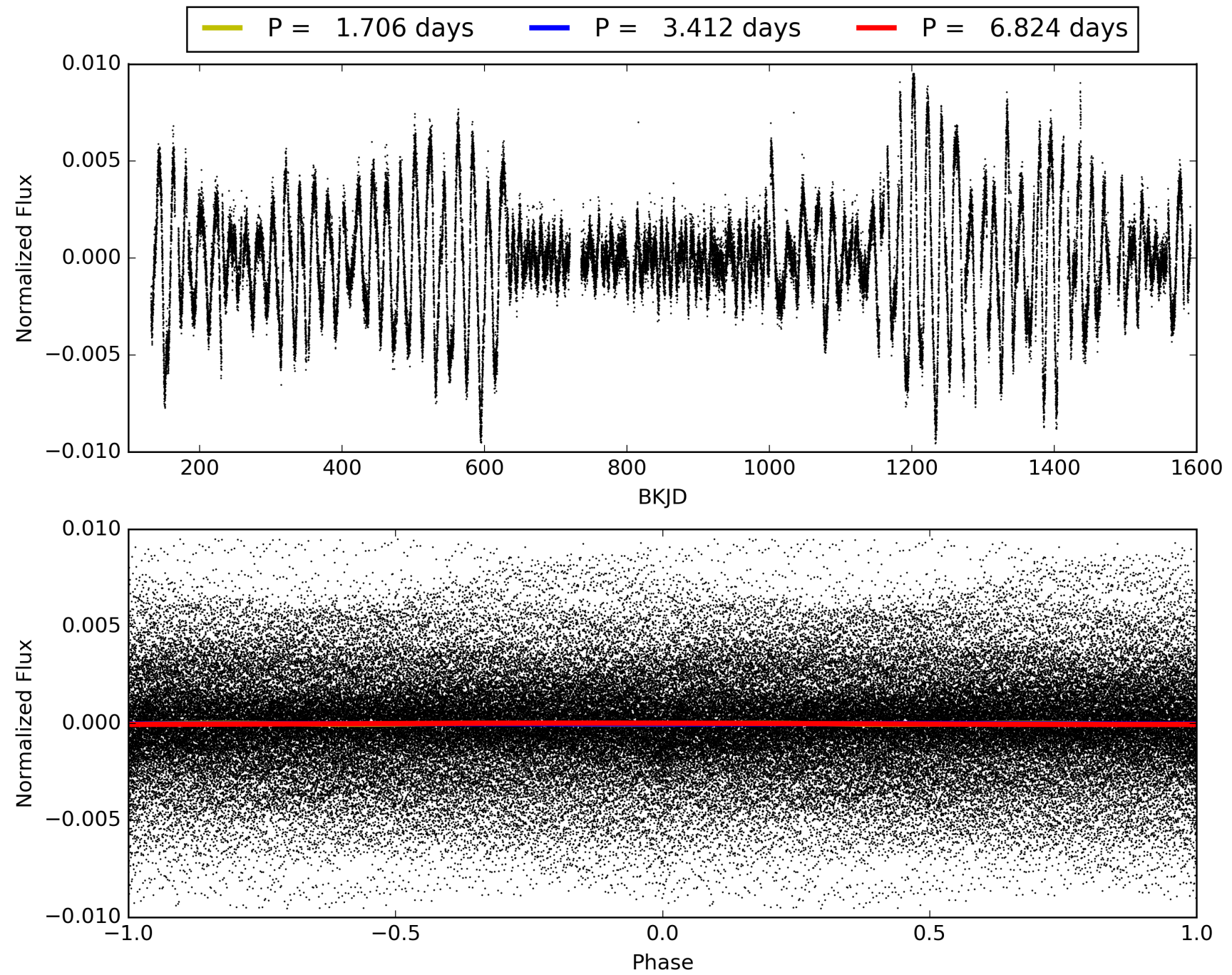
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:13:02 Z

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

TCE 005820218-01, PDC Light Curves

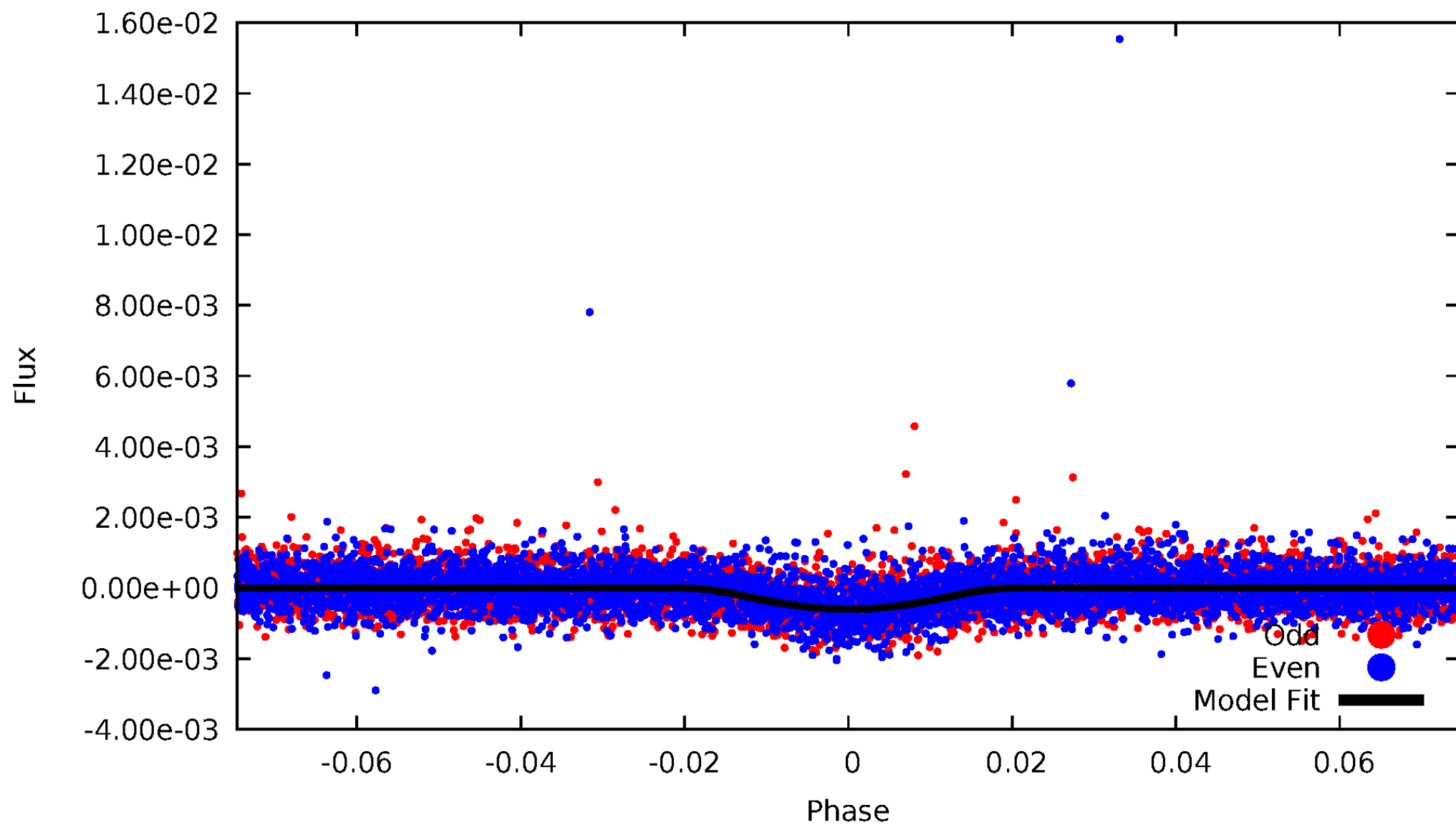


TCE 005820218-01



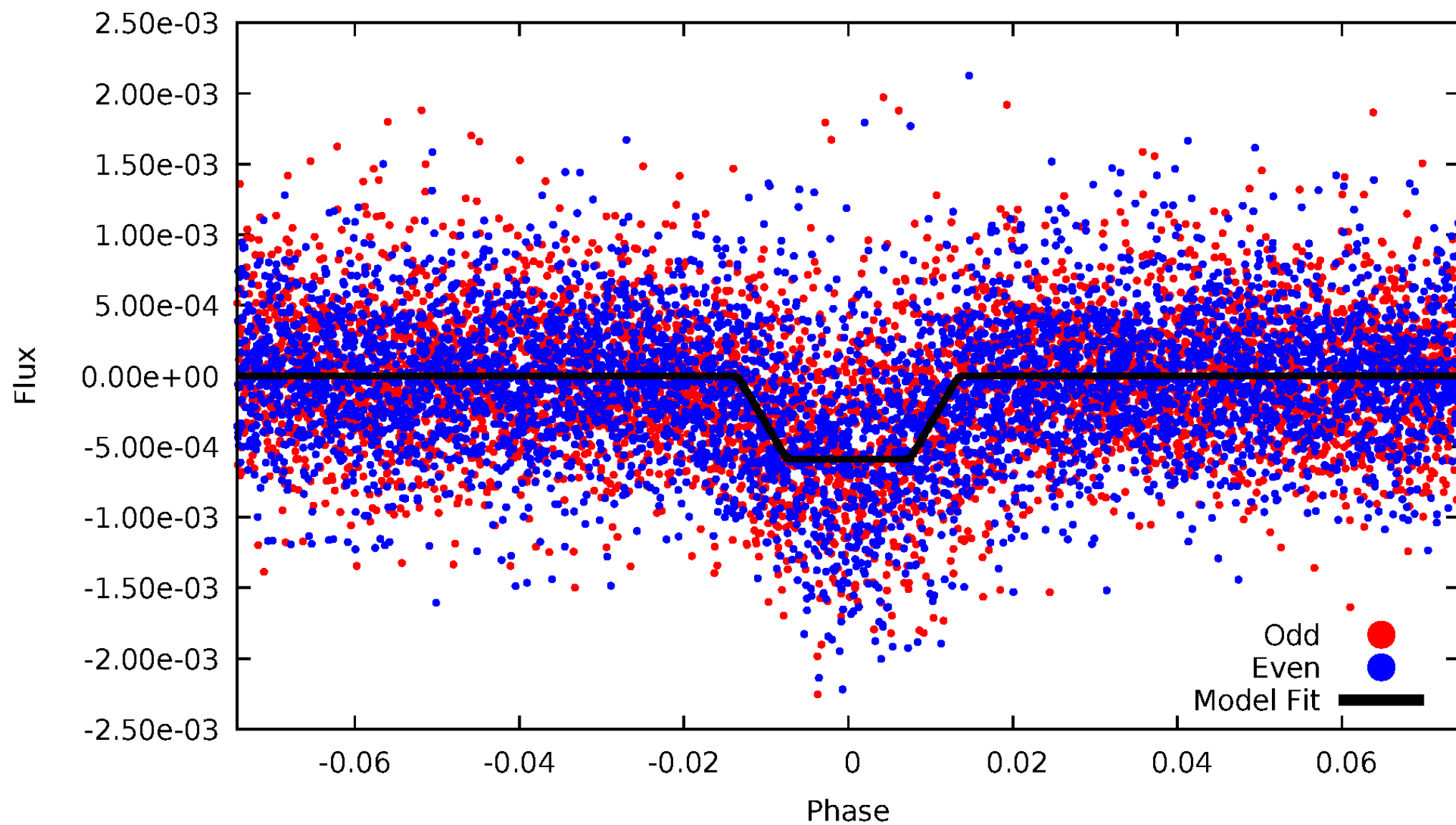
DV Odd/Even

TCE 005820218-01



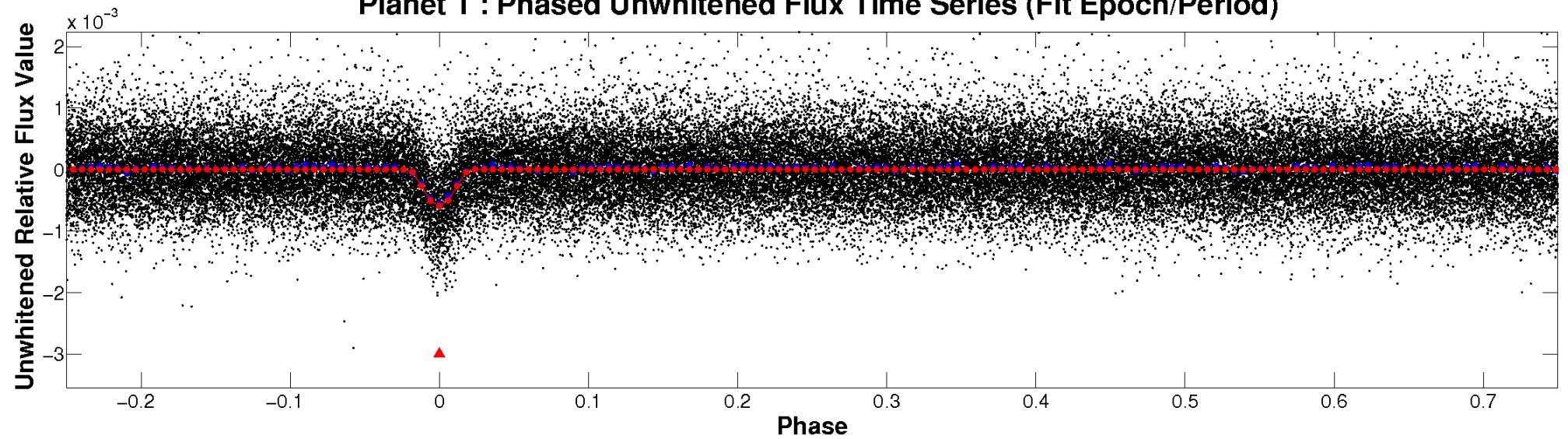
ALT Odd/Even

TCE 005820218-01

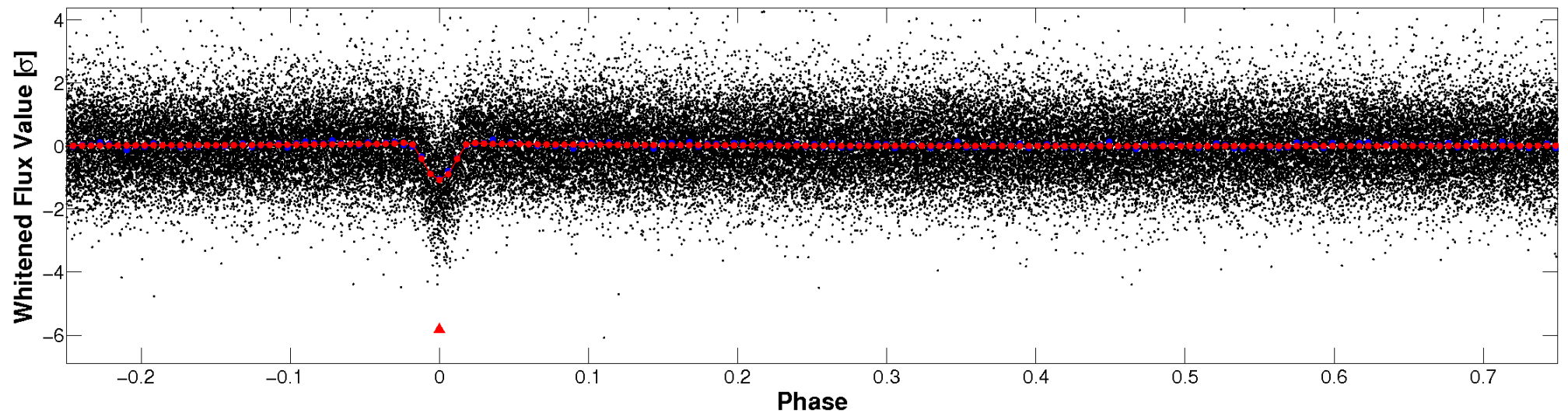


Non-Whitened Vs. Whitened Light Curve

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

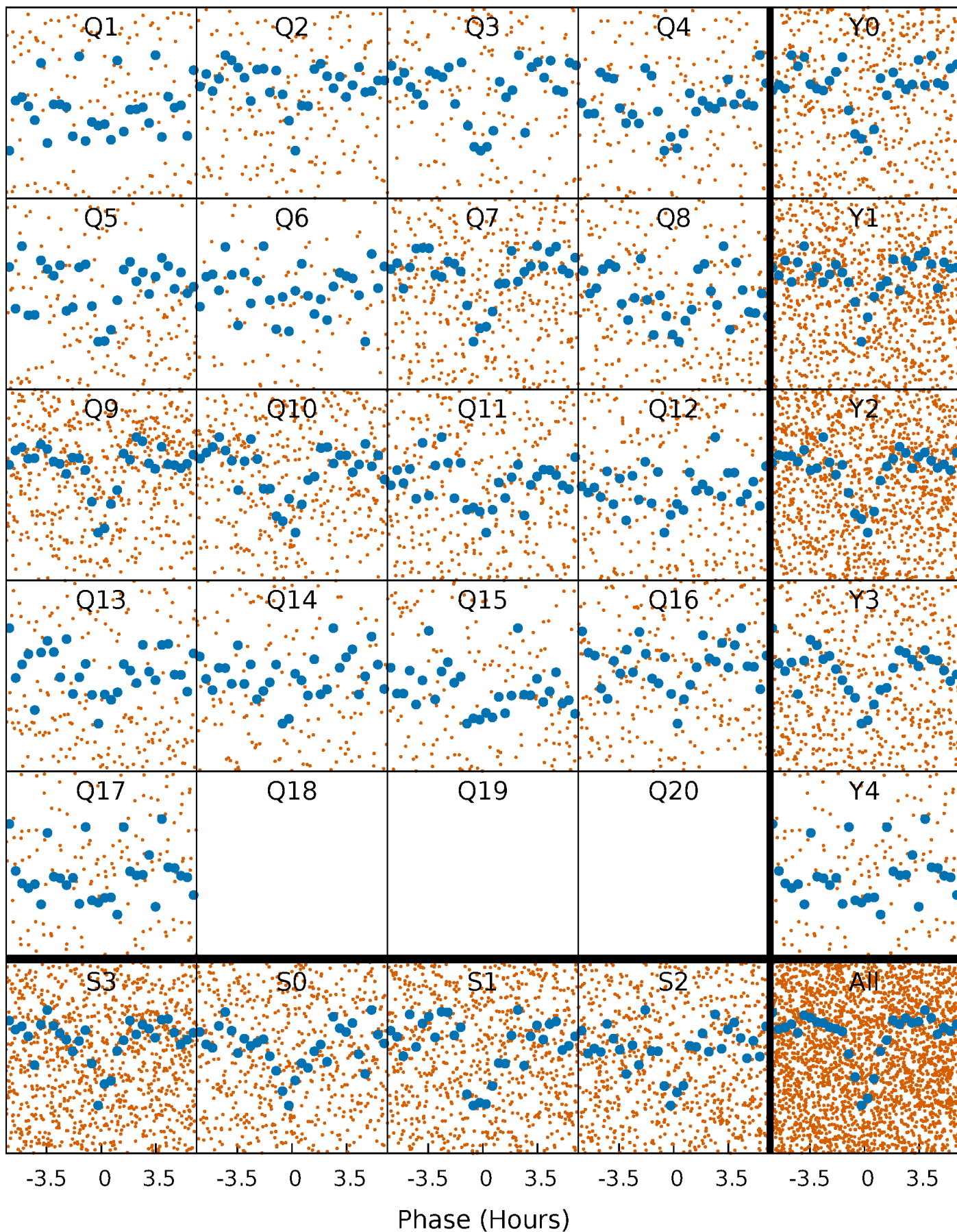


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



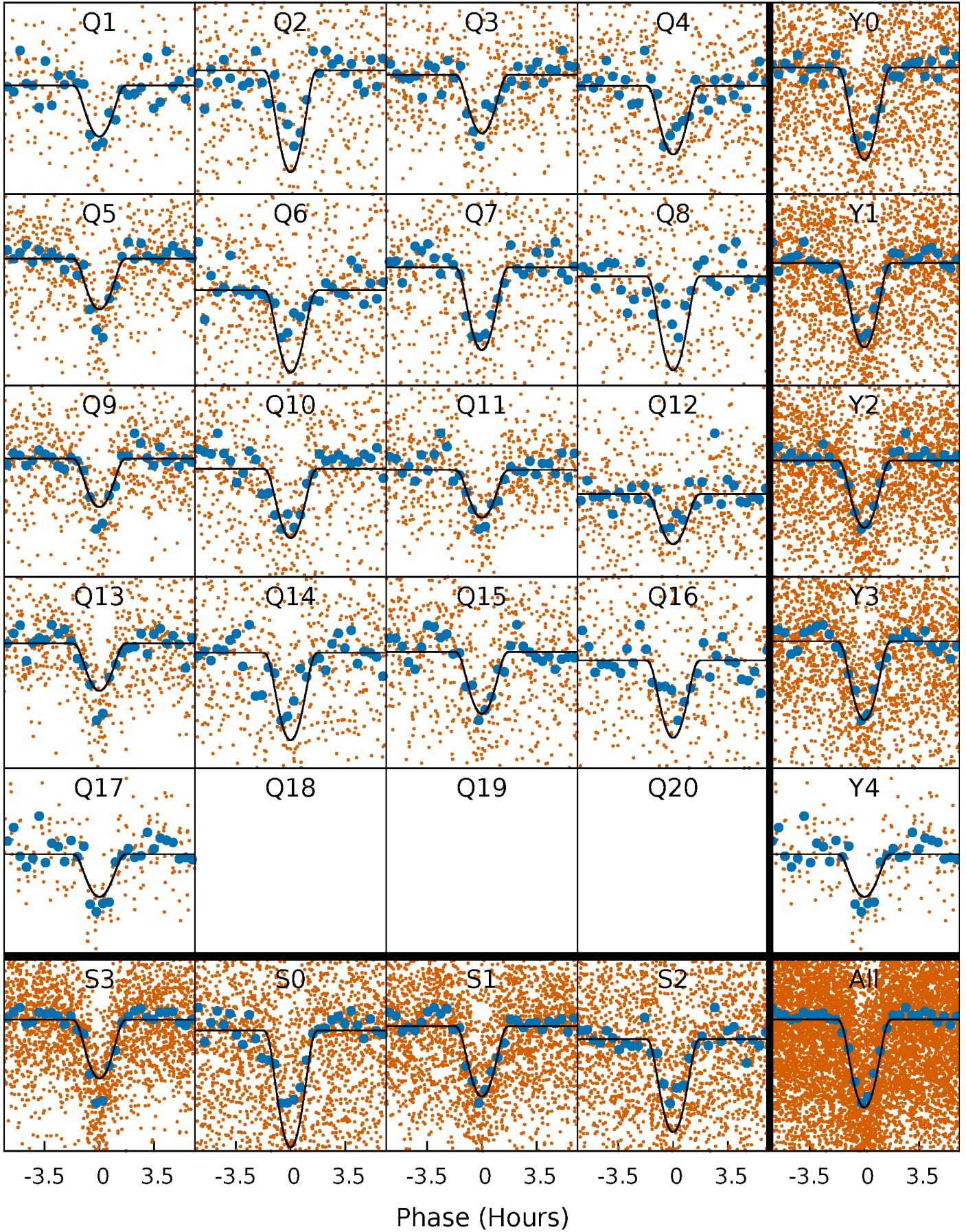
PDC Quarter-Phased Transit Curves

TCE 005820218-01 P= 3.411768 Days $T_0=133.179875$ (BKJD)



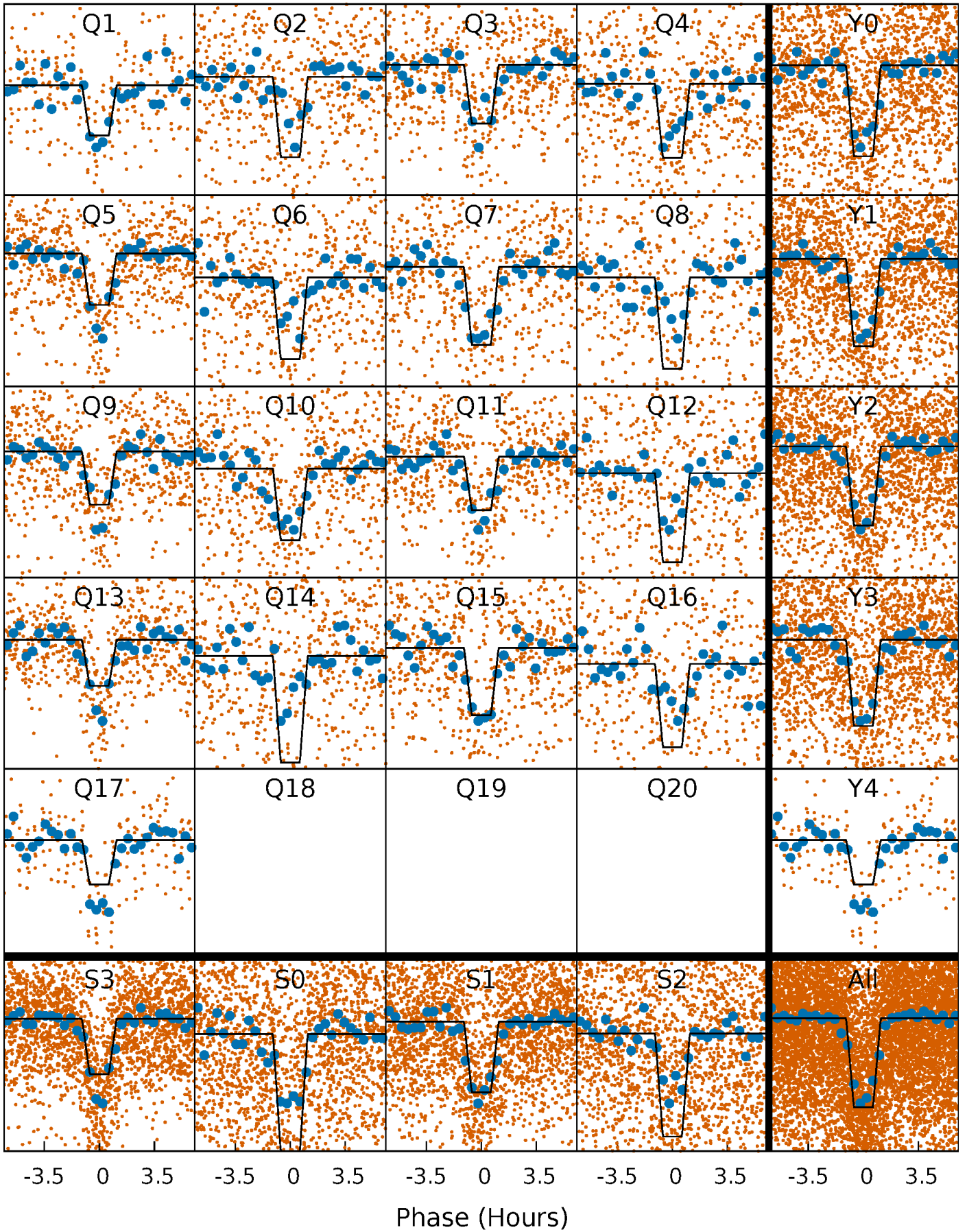
DV Quarter-Phased Transit Curves

TCE 005820218-01 P= 3.411768 Days $T_0=133.179875$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

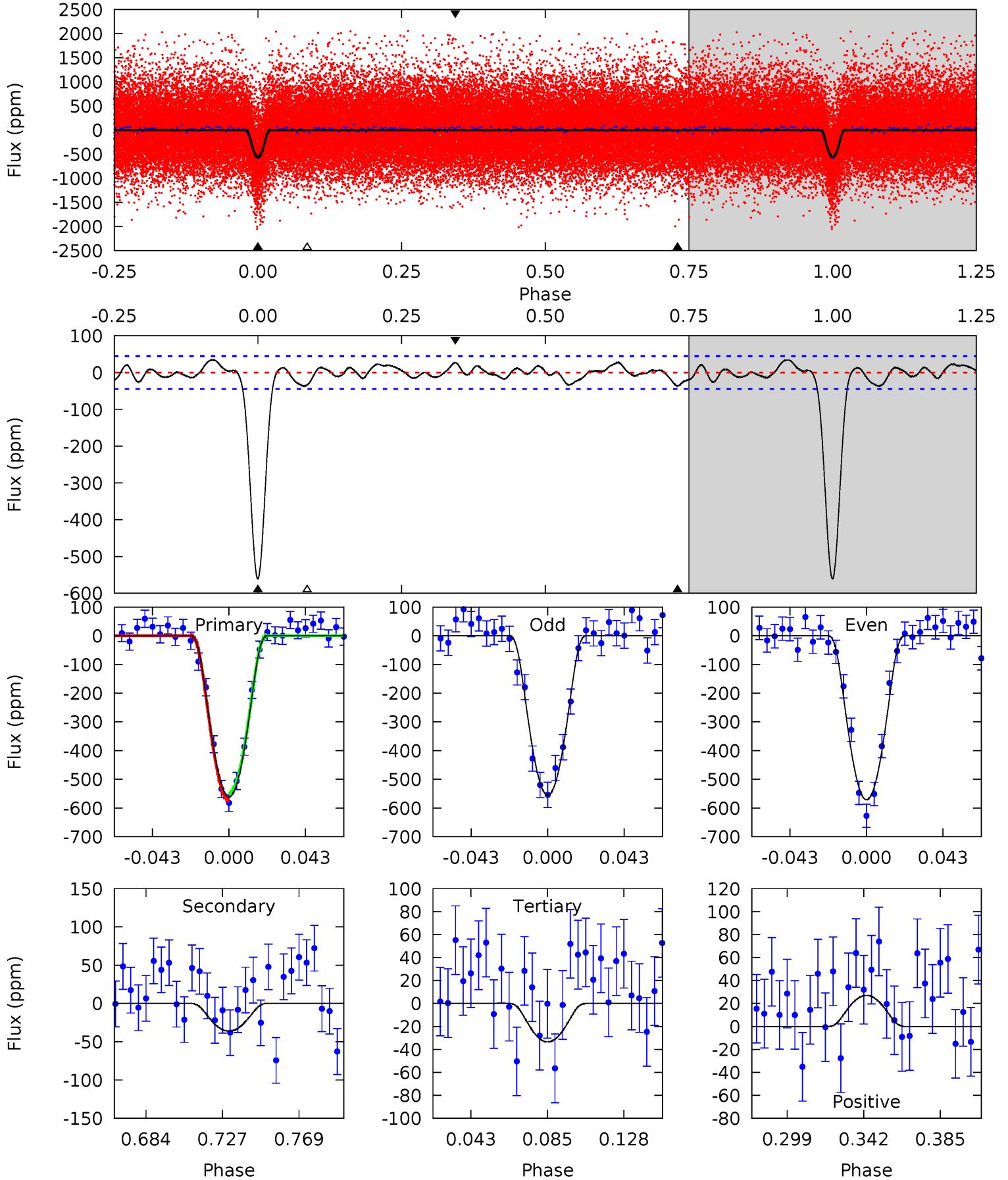
TCE 005820218-01 P= 3.411760 Days $T_0=133.180441$ (BKJD)



DV Model-Shift Uniqueness Test

005820218-01, P = 3.411768 Days, E = 129.768107 Days

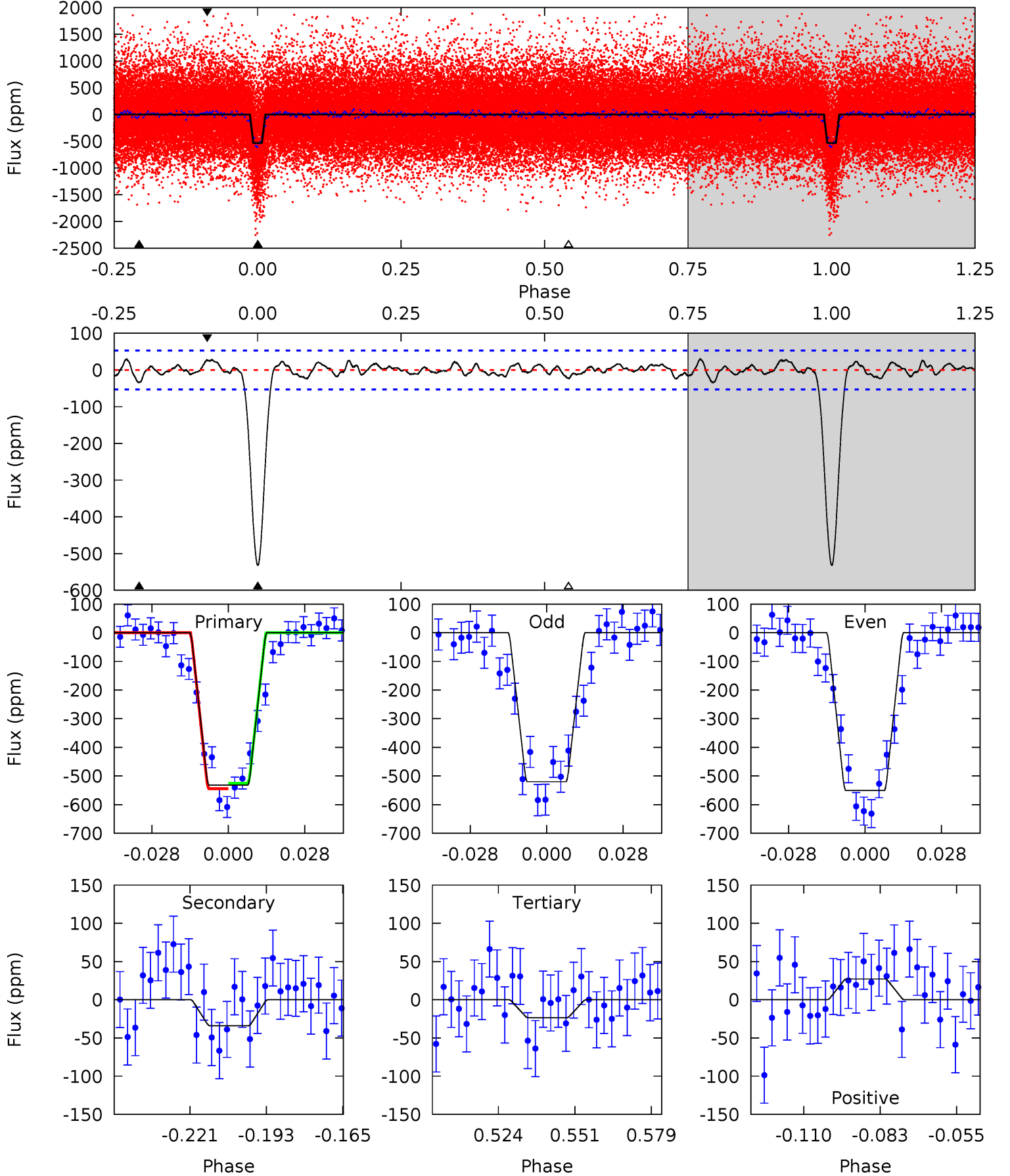
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.3	3.83	3.54	2.86	4.74	2.03	1.52	55.8	56.5	0.29	0.97	0.86	0.96	0.06	1.29



Alt Model-Shift Uniqueness Test

005820218-01, P = 3.411760 Days, E = 129.768681 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.5	3.09	2.14	2.48	4.83	2.20	1.01	46.3	46.0	0.95	0.61	1.38	0.99	0.05	0.87



Stellar Parameters For KIC 005820218

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3995^{+126}_{-140}	$4.710^{+0.071}_{-0.044}$	$-0.100^{+0.350}_{-0.450}$	$0.561^{+0.054}_{-0.081}$	$0.582^{+0.059}_{-0.088}$	$4.638^{+1.799}_{-0.750}$
	+3%/-4%	+2%/-1%	+350%/-450%	+10%/-14%	+10%/-15%	+39%/-16%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 005820218-01 / KOI 1048.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-36 ± 9	$2.67^{+2.03}_{-1.64}$	951^{+38}_{-37}	2258^{+603}_{-320}	$3.775^{+21.548}_{-2.635}$
Alt.	-34 ± 11	$2.14^{+1.72}_{-1.42}$	952^{+37}_{-42}	2358^{+839}_{-330}	$5.586^{+47.649}_{-4.009}$

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

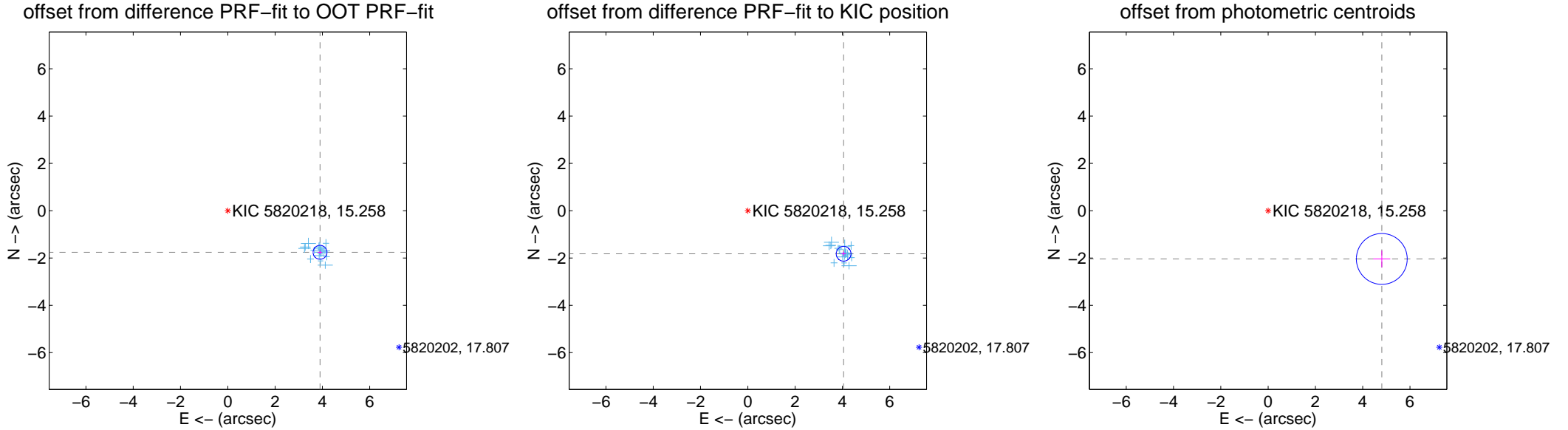
DV Centroid Data

Supplemental centroid analysis for 005820218-01. Kepler magnitude: 15.26. Transit SNR 34.53

There are 17 quarters with good PRF difference image offsets

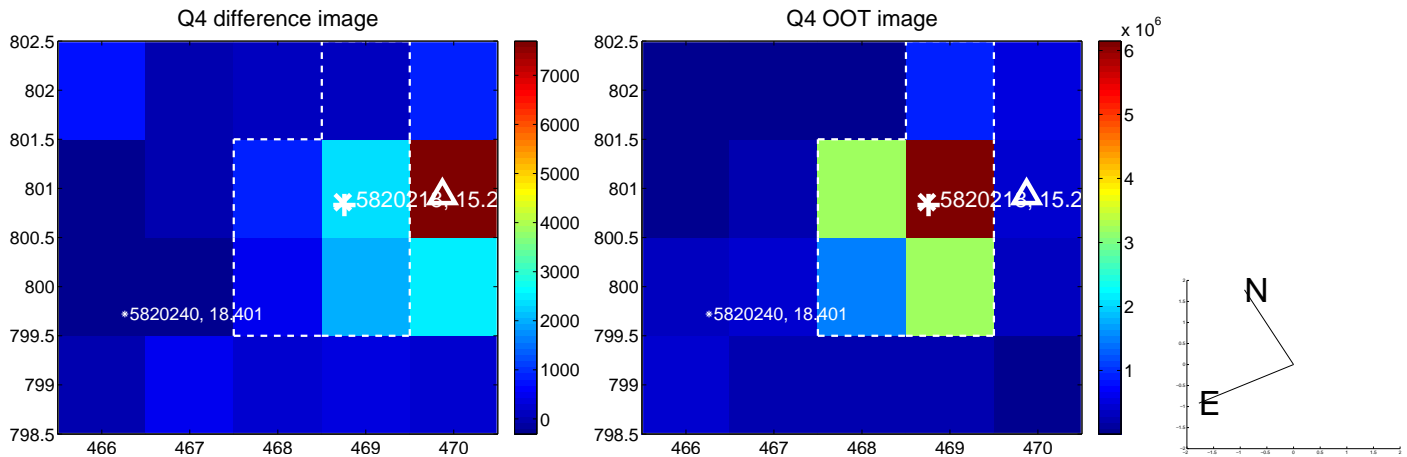
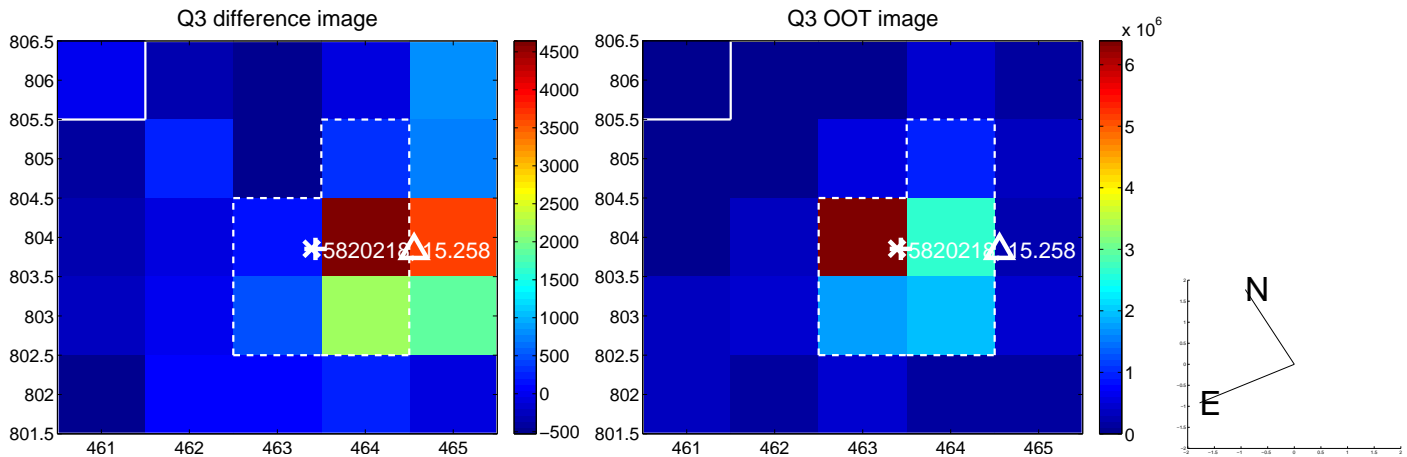
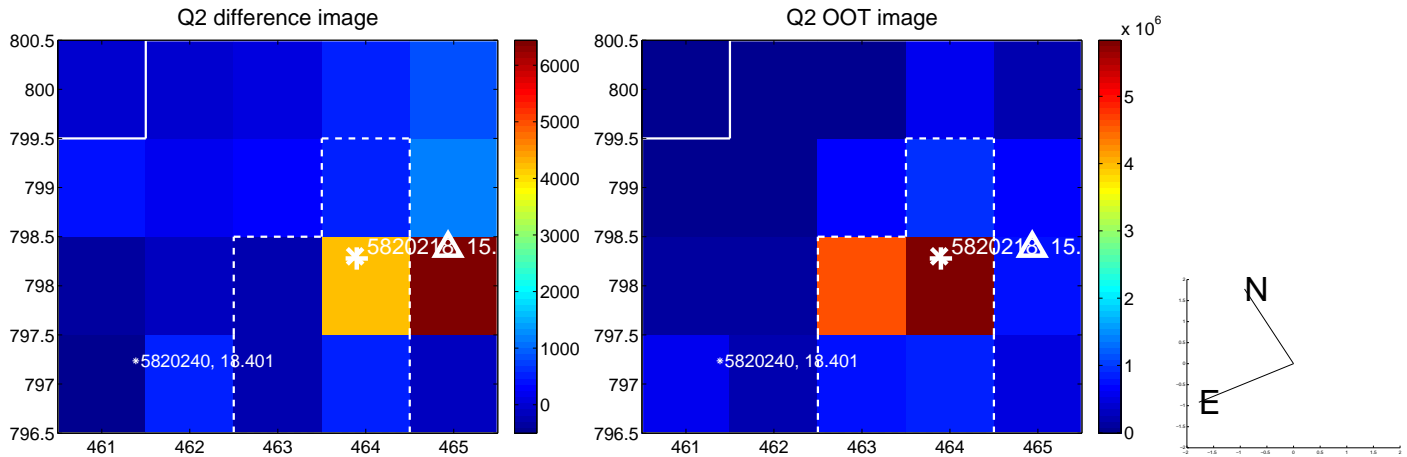
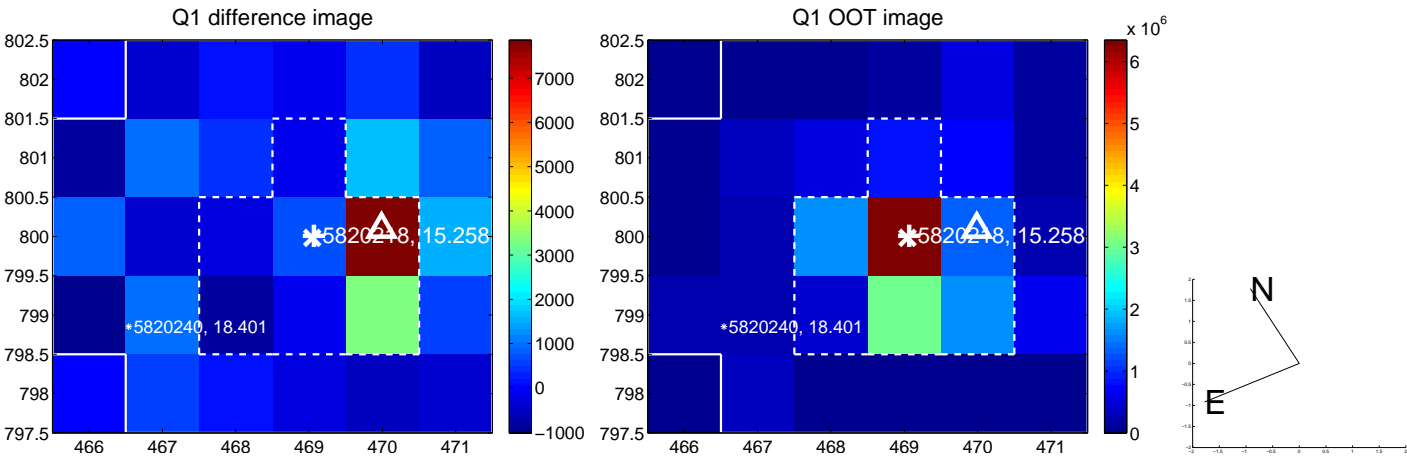
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.279 ± 0.098	43.60	-3.900 ± 0.095	-1.760 ± 0.089
PRF-fit source offset from KIC position	4.441 ± 0.104	42.63	-4.051 ± 0.096	-1.821 ± 0.095
photometric centroid source offset	5.22 ± 0.36	14.57	-4.81 ± 0.36	-2.04 ± 0.35

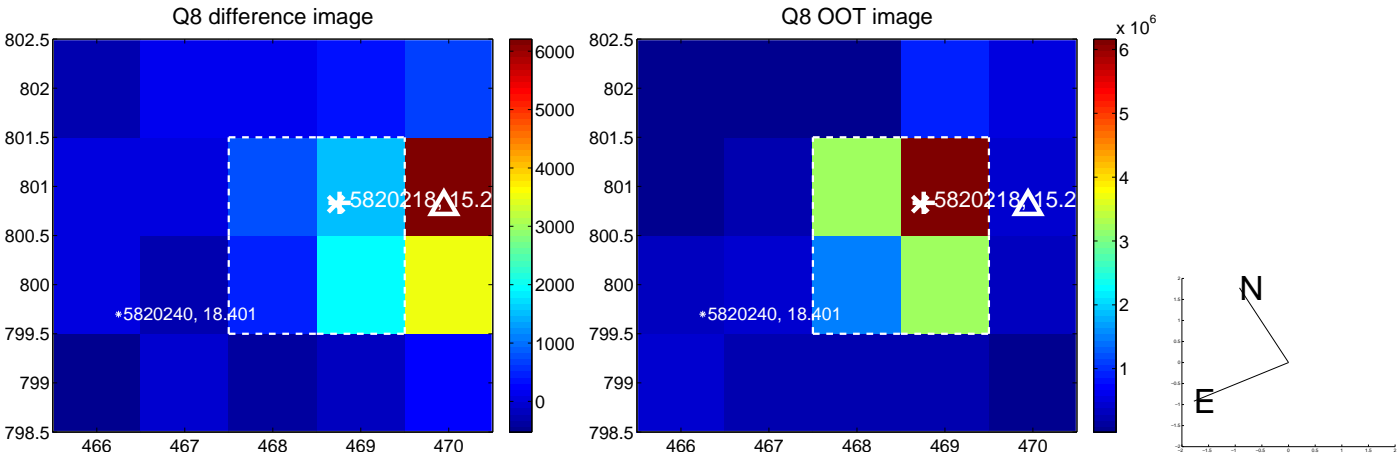
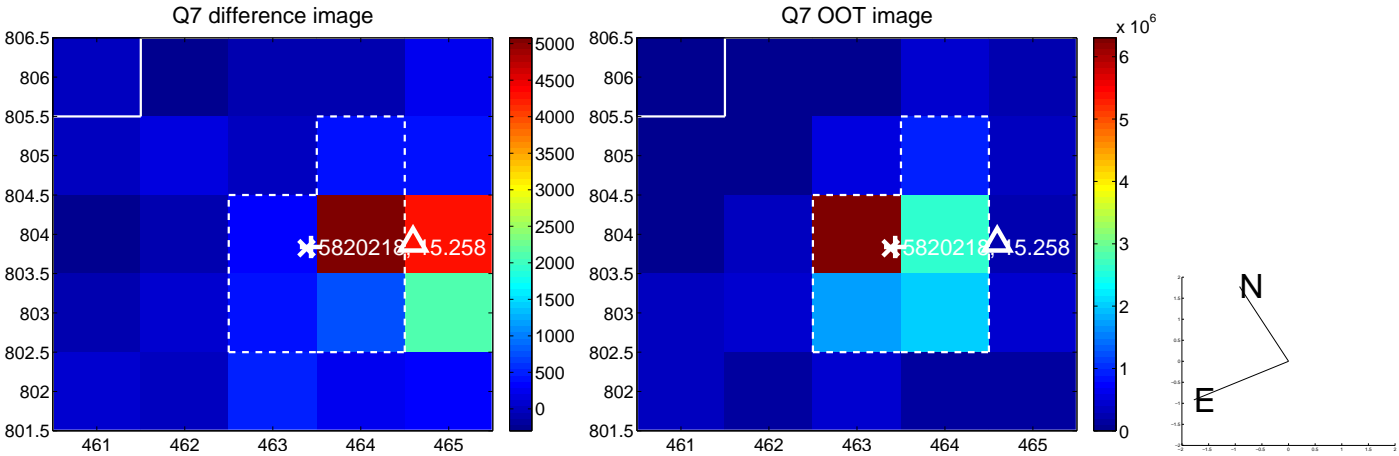
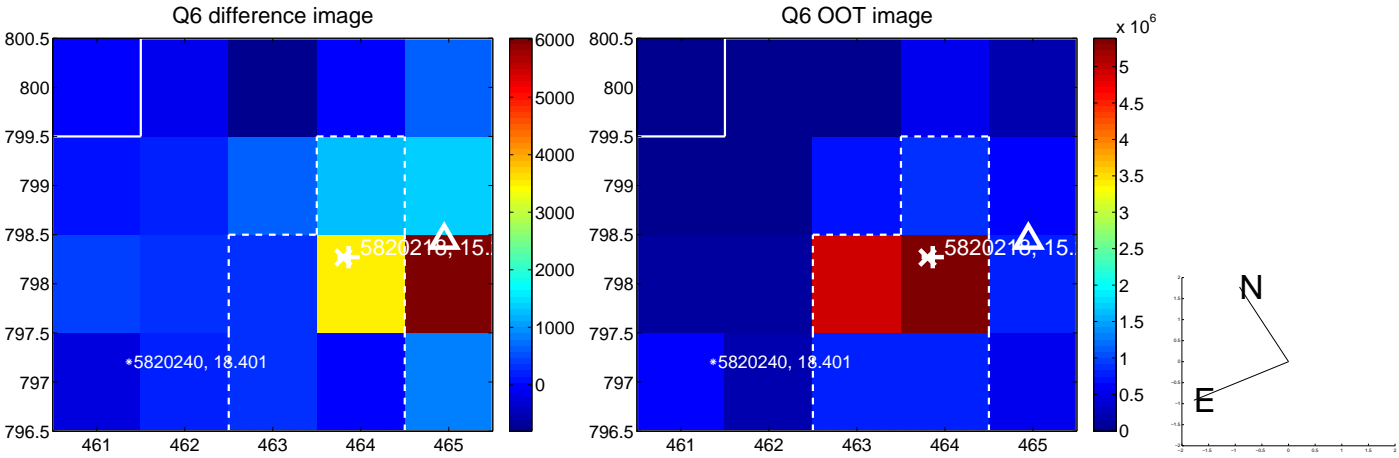
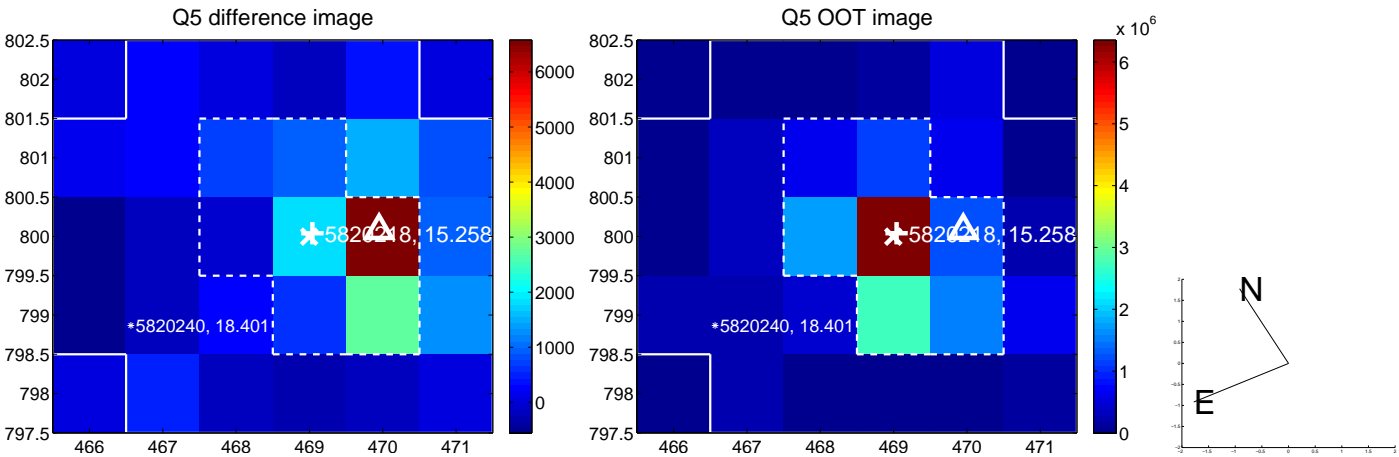


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

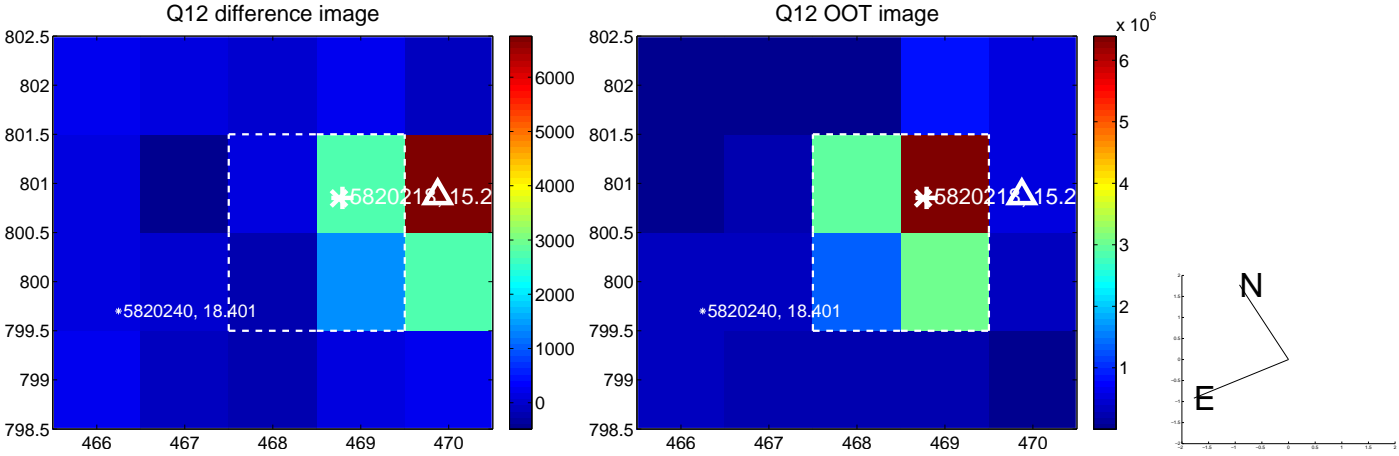
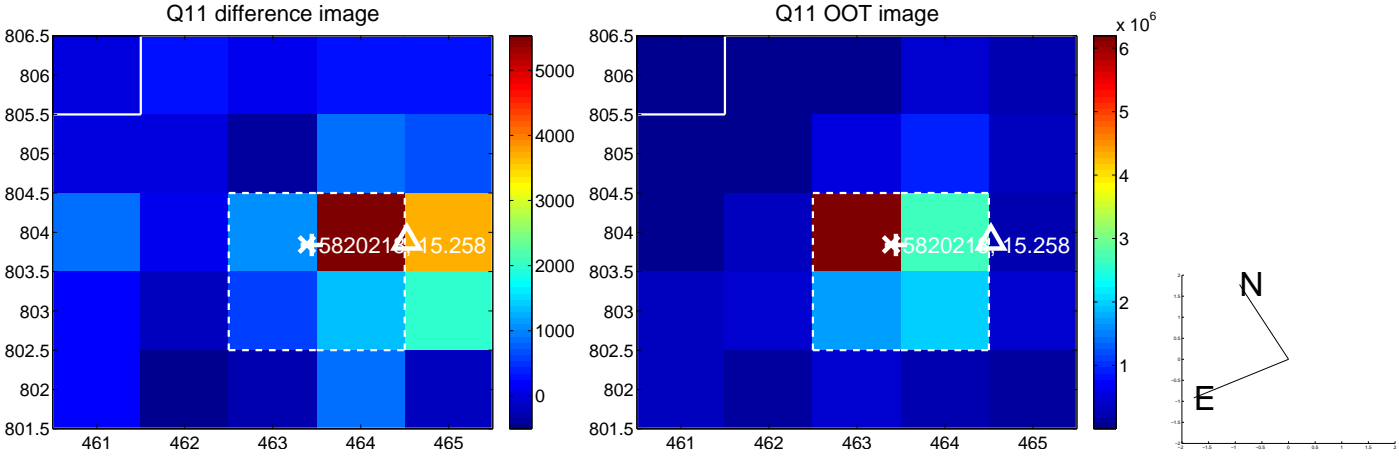
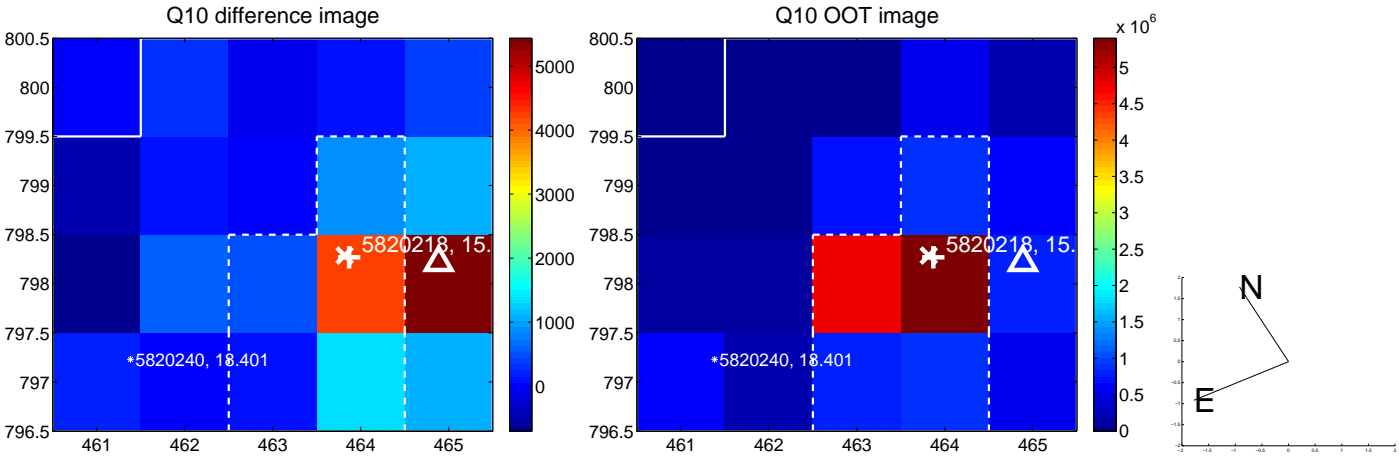
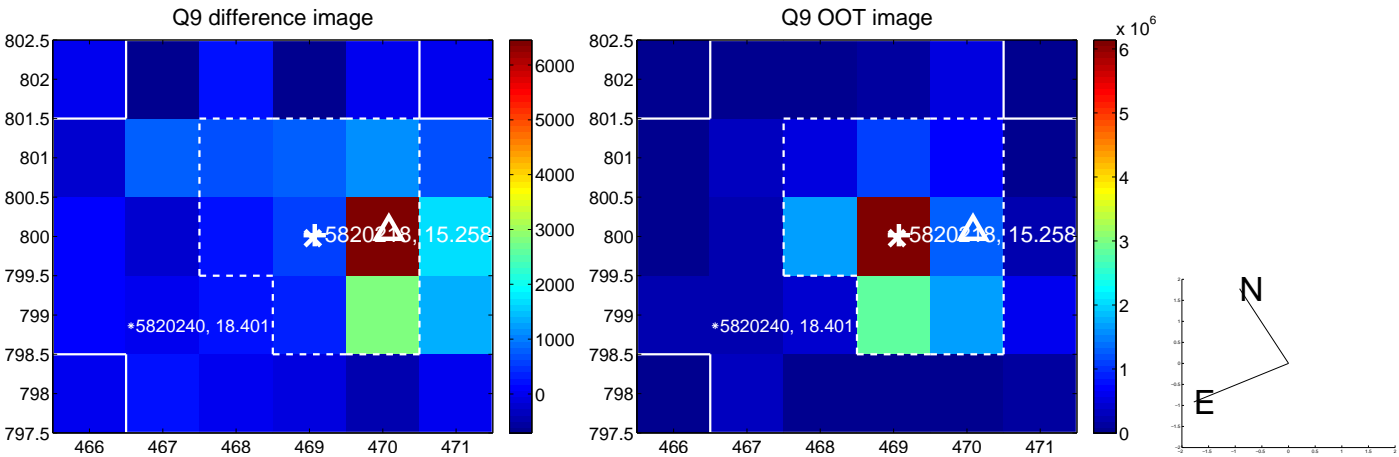
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



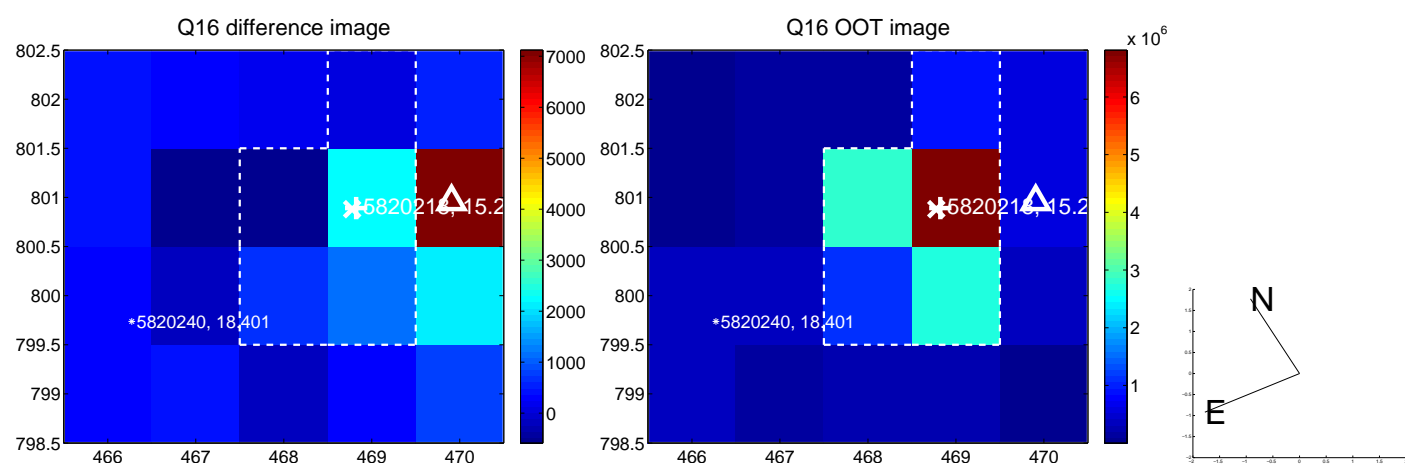
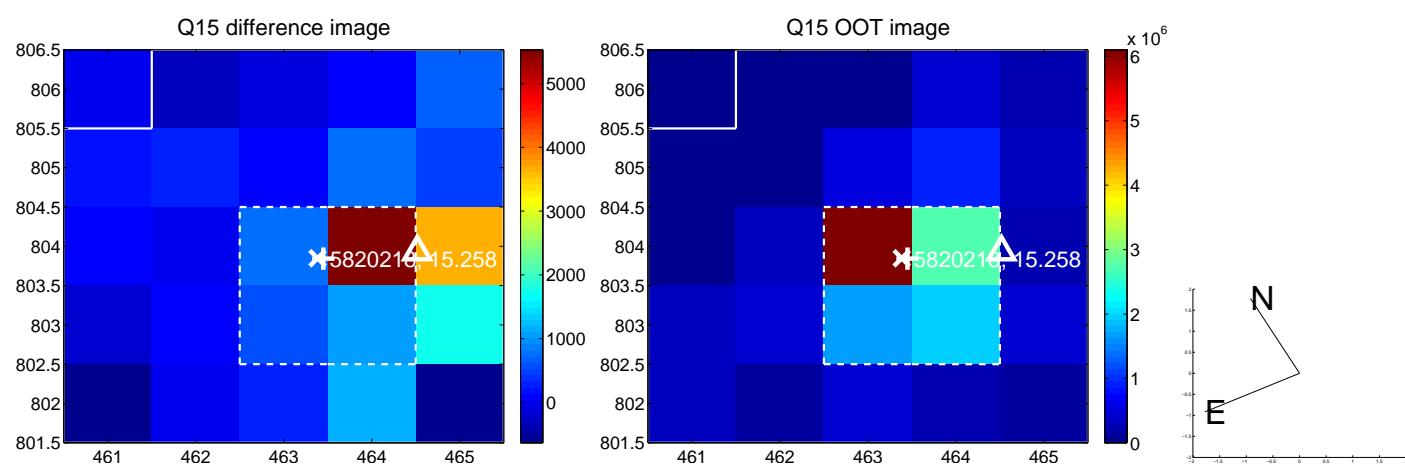
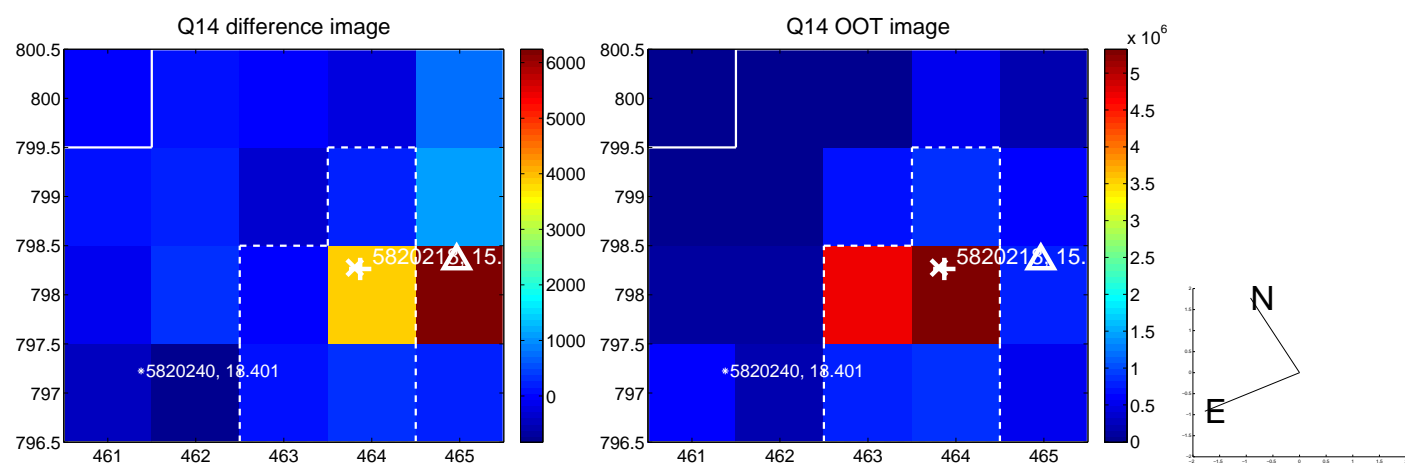
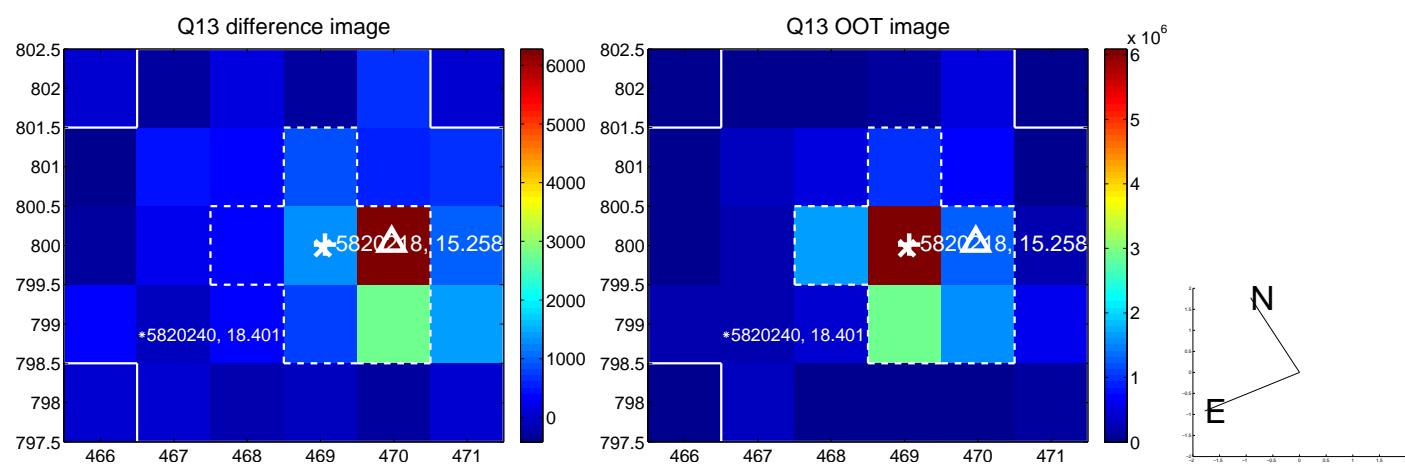
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

