

KIC 002302758

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})
002302758-01	OBS	7629.01	0.542122	131.983153	69.2	1.577	13.6	14.5	1.00	5875	0.99	5936.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002302758-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—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.

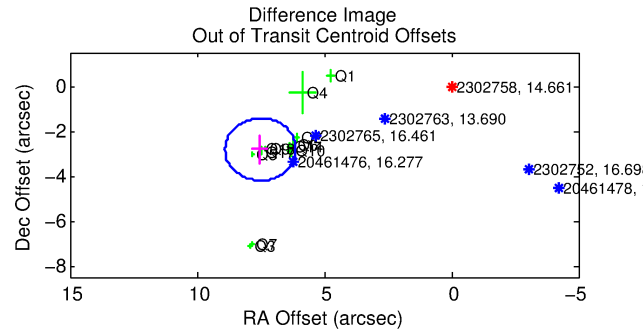
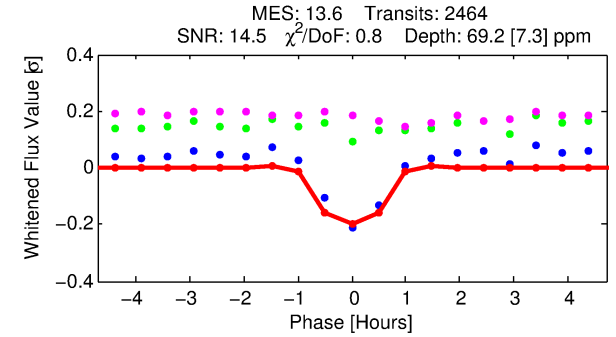
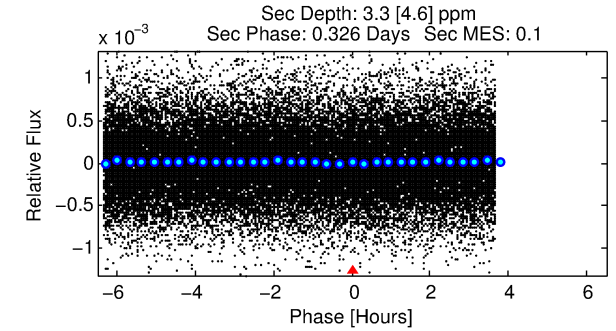
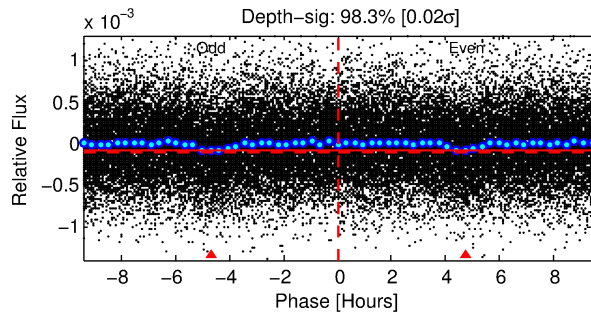
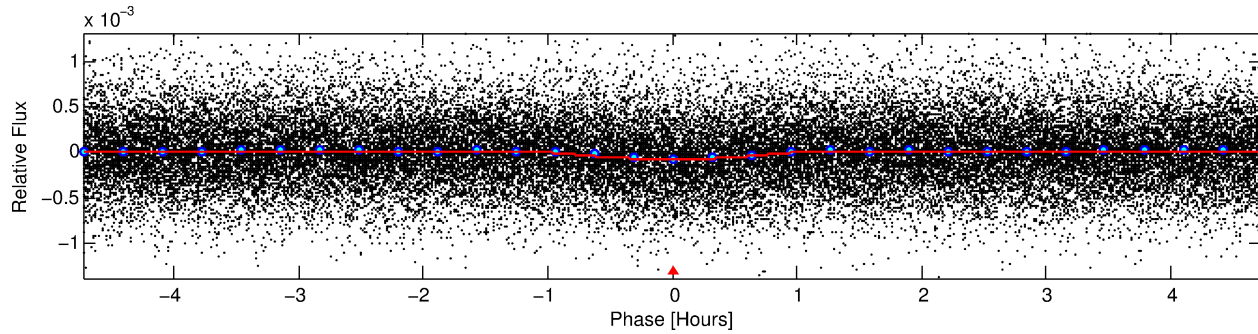
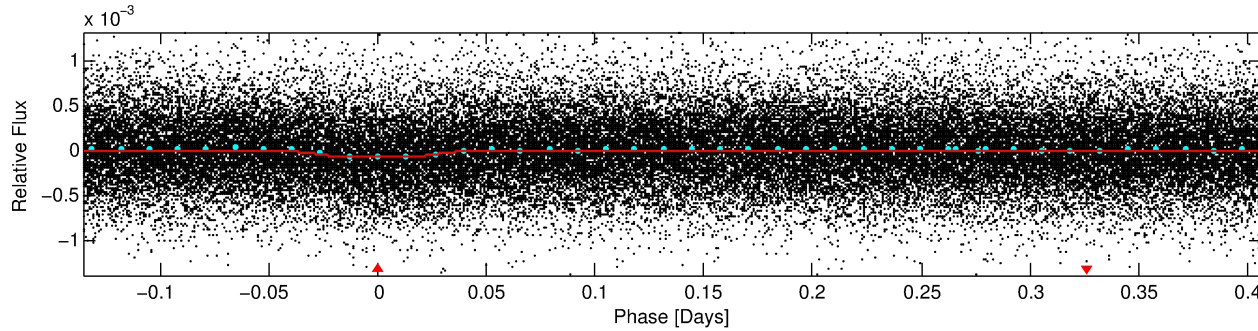
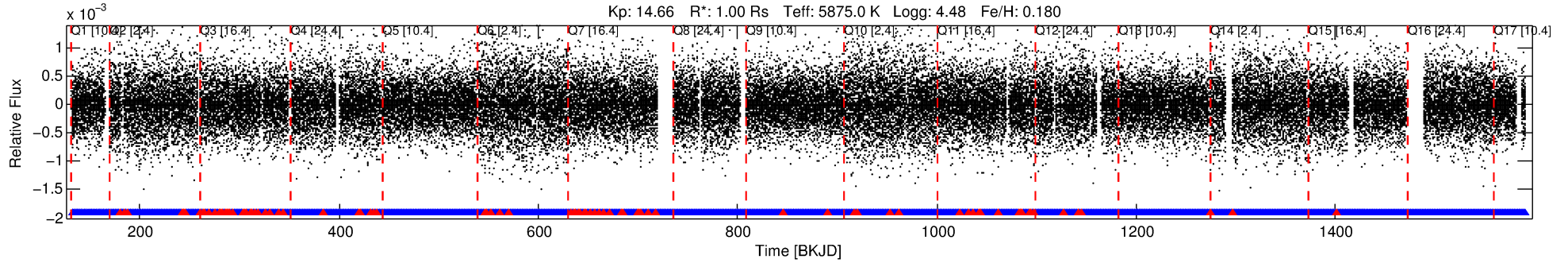
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002302758-01

No Significant Match Found

DV One-Page Summary

KIC: 2302758 Candidate: 1 of 1 Period: 0.542 d



DV Fit Results:

Period = 0.54212 [0.00001] d
Epoch = 131.9832 [0.0016] BKJD
Rp/R* = 0.0091 [0.0048]
a/R* = 1.51 [2.18]
b = 0.90 [0.54]
Seff = 5936.78 [1292.92]
Teff = 2238 [122] K
Rp = 0.99 [0.55] Re
a = 0.0134 [0.0018] AU
Ag = 0.33 [0.58] [-1.16σ]
Teffp = 2617 [1159] K [0.32σ]

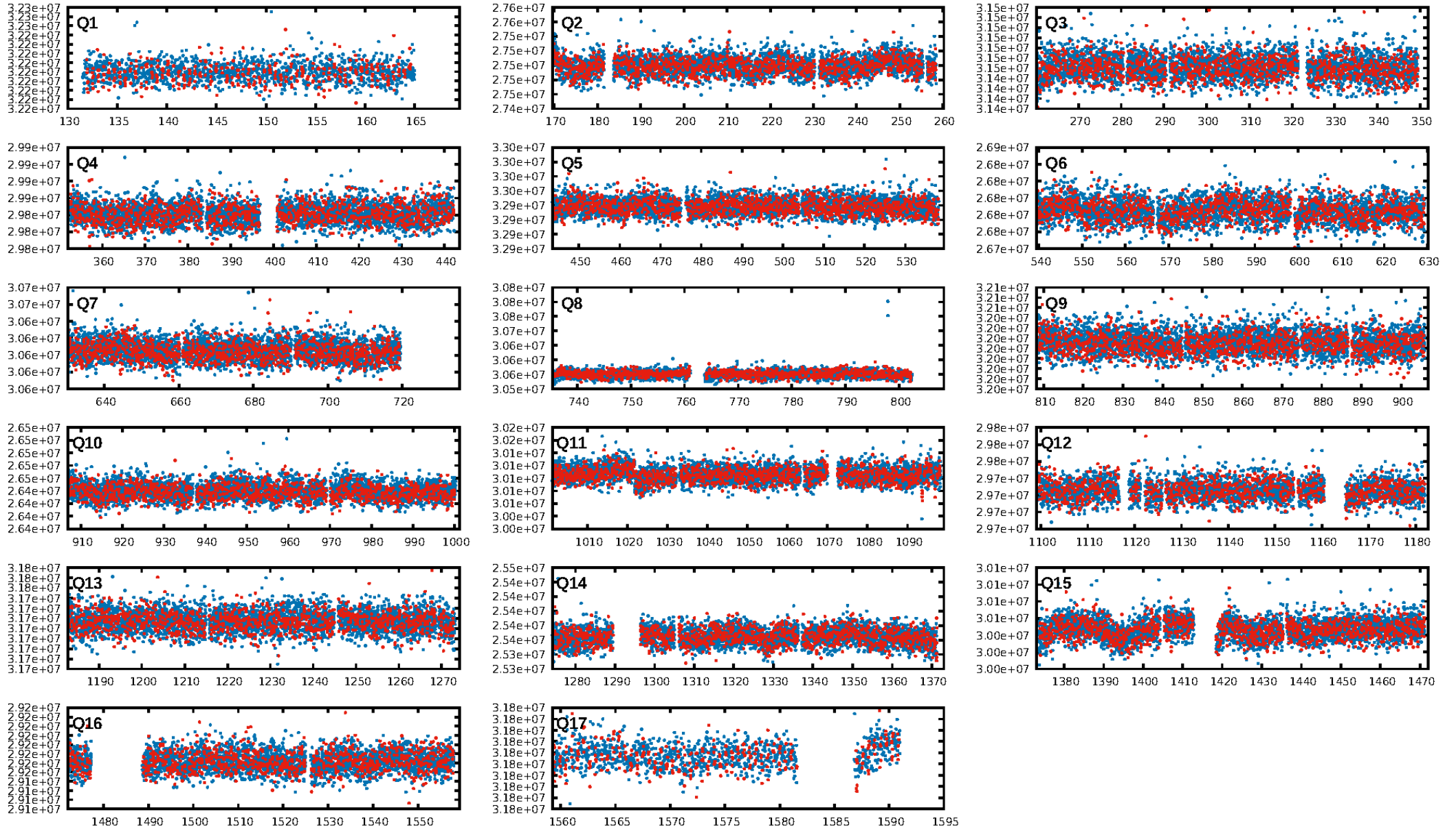
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.09e-40
RollingBand-fgt: 0.96 [2268/2353]
GhostDiagnostic-chr: -0.4532
Centroid-sig: 0.0%
Centroid-so: 9.387 arcsec [11.40σ]
OotOffset-rm: 8.022 arcsec [17.32σ]
KicOffset-rm: 8.232 arcsec [20.55σ]
OotOffset-st: 4/2/1/5 [12]
KicOffset-st: 4/2/1/5 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [17/17]

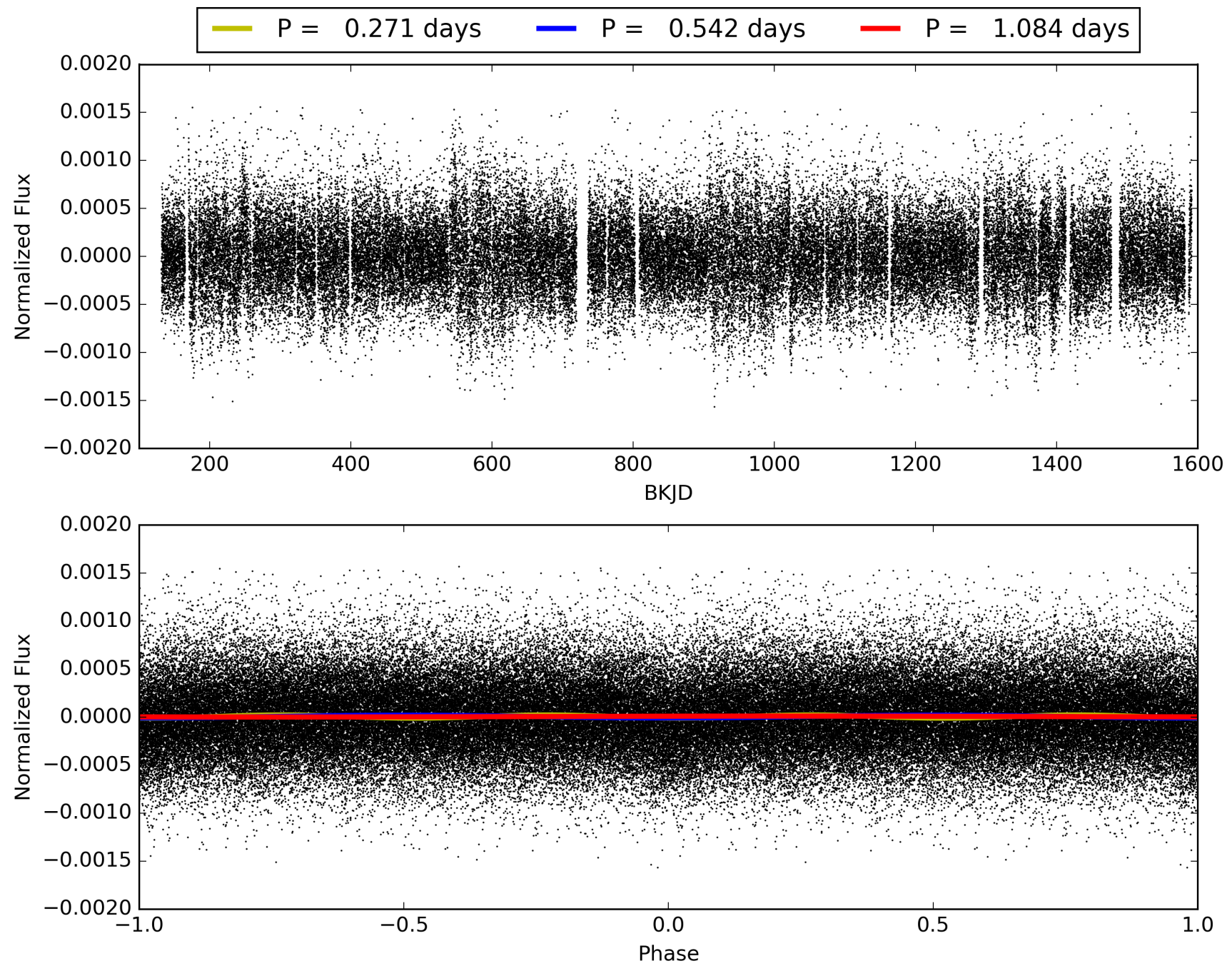
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:30:08 Z

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

TCE 002302758-01, PDC Light Curves

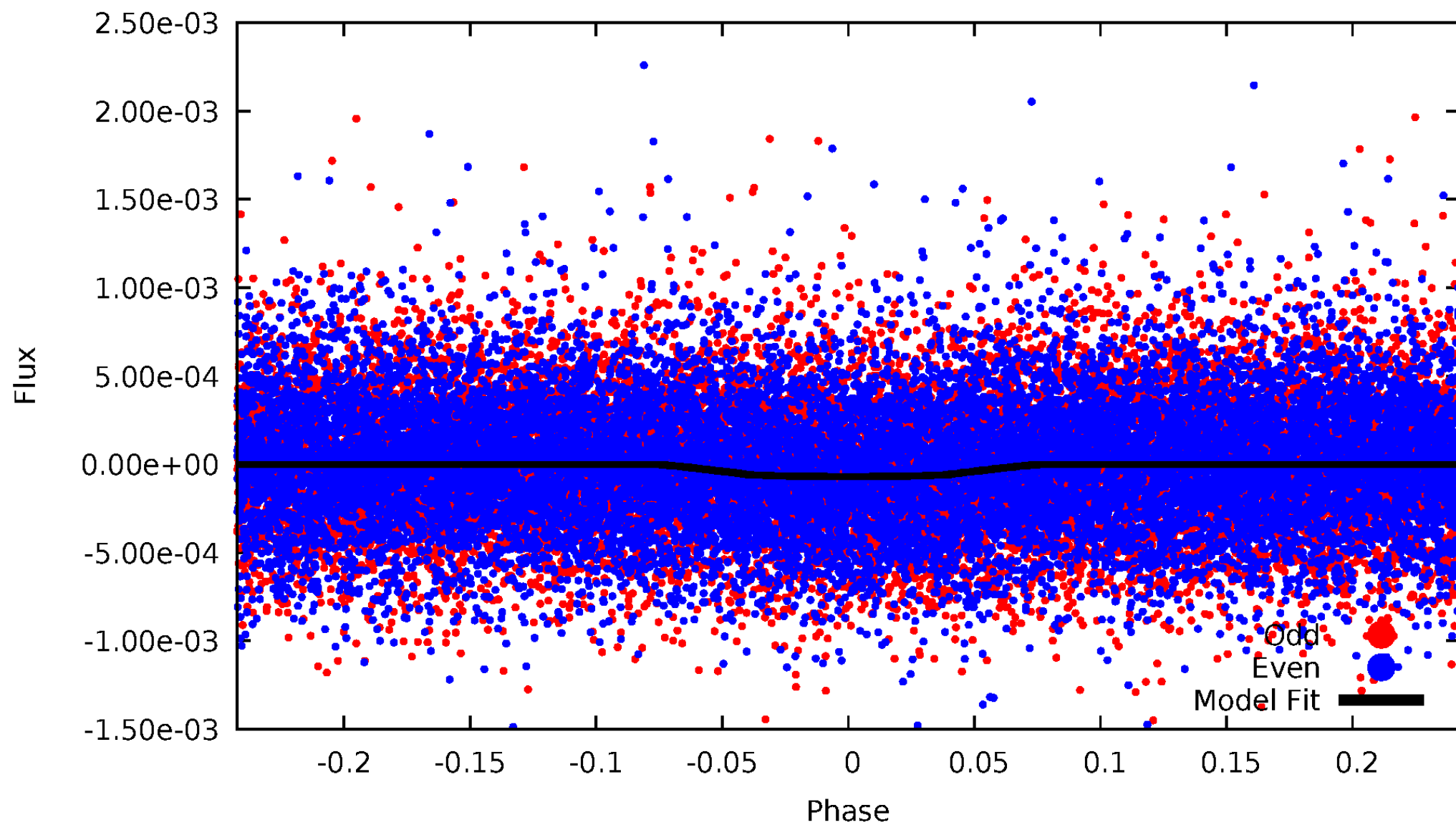


TCE 002302758-01



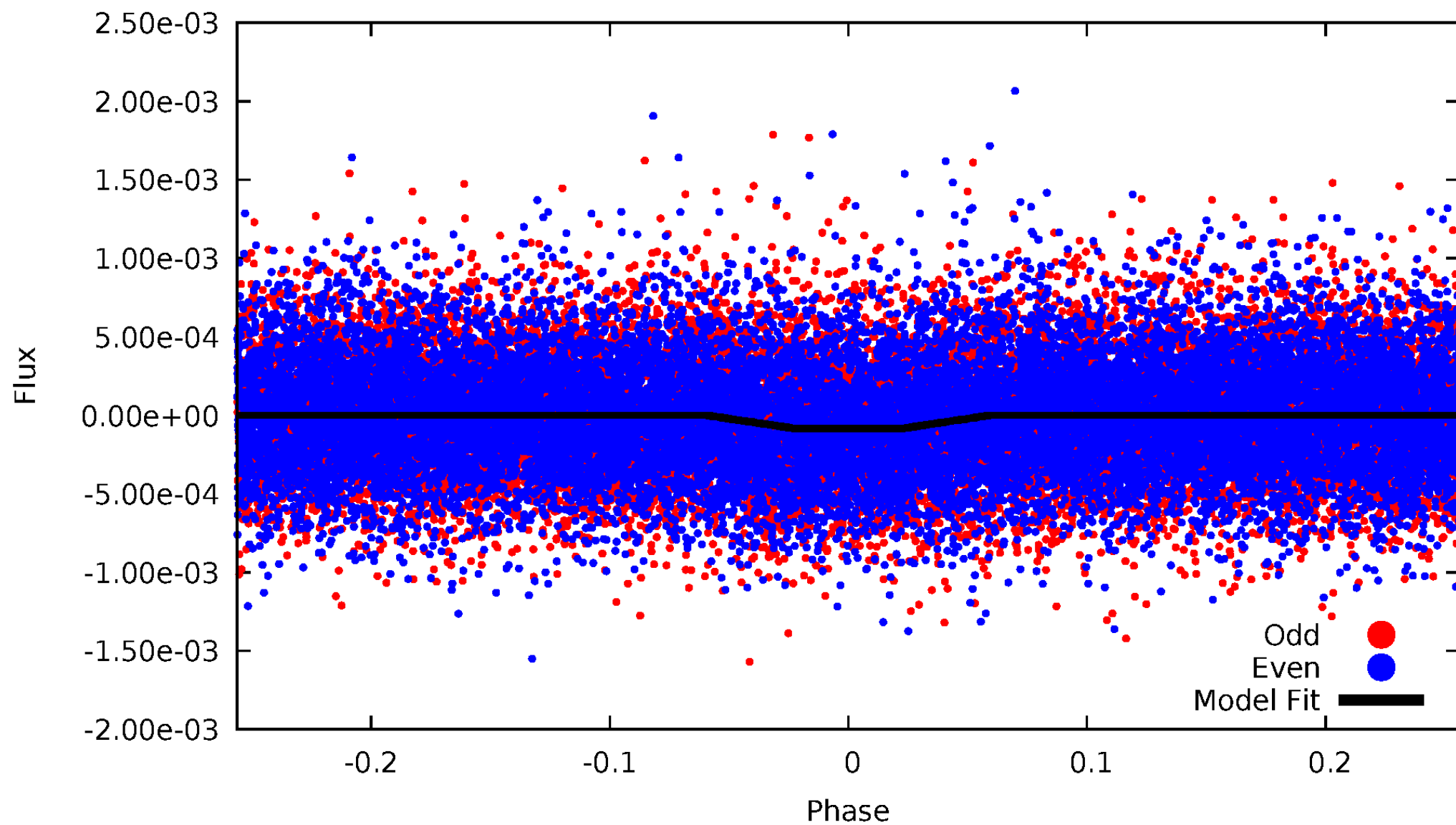
DV Odd/Even

TCE 002302758-01



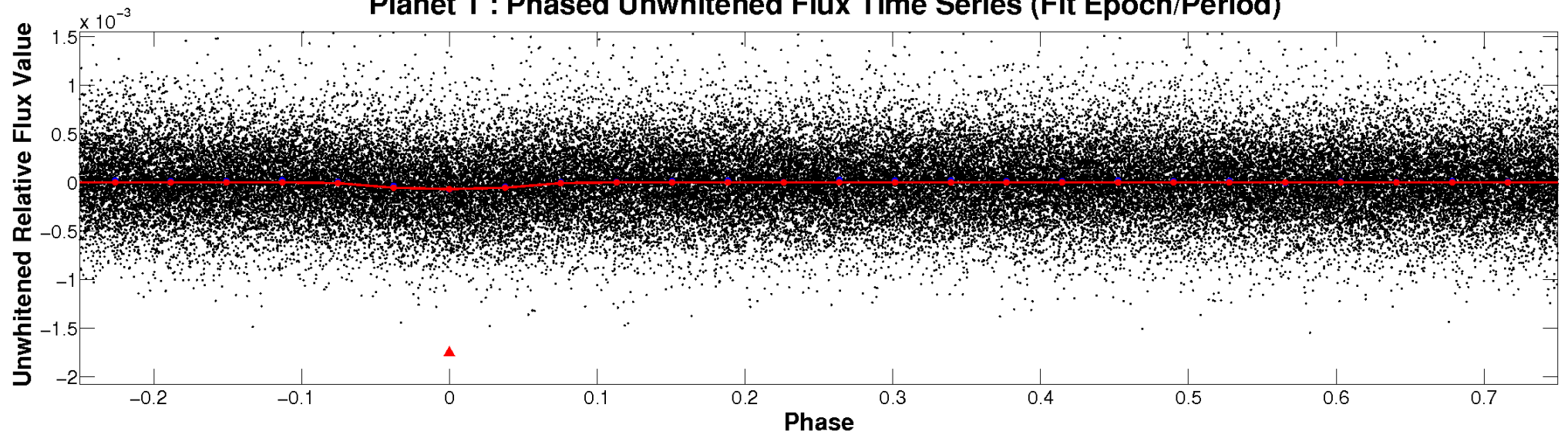
ALT Odd/Even

TCE 002302758-01

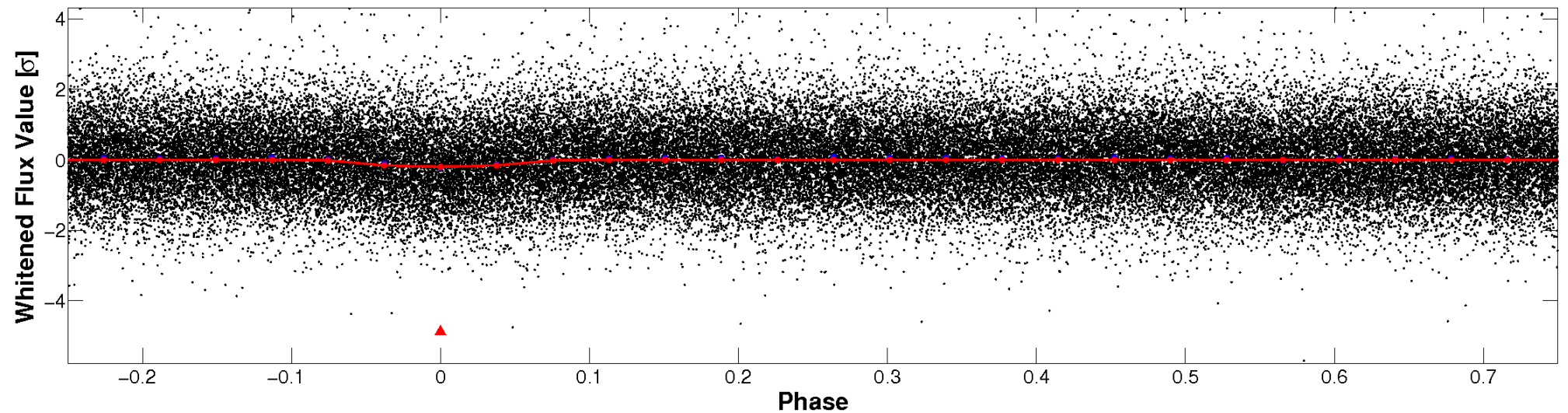


Non-Whitened Vs. Whitened Light Curve

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

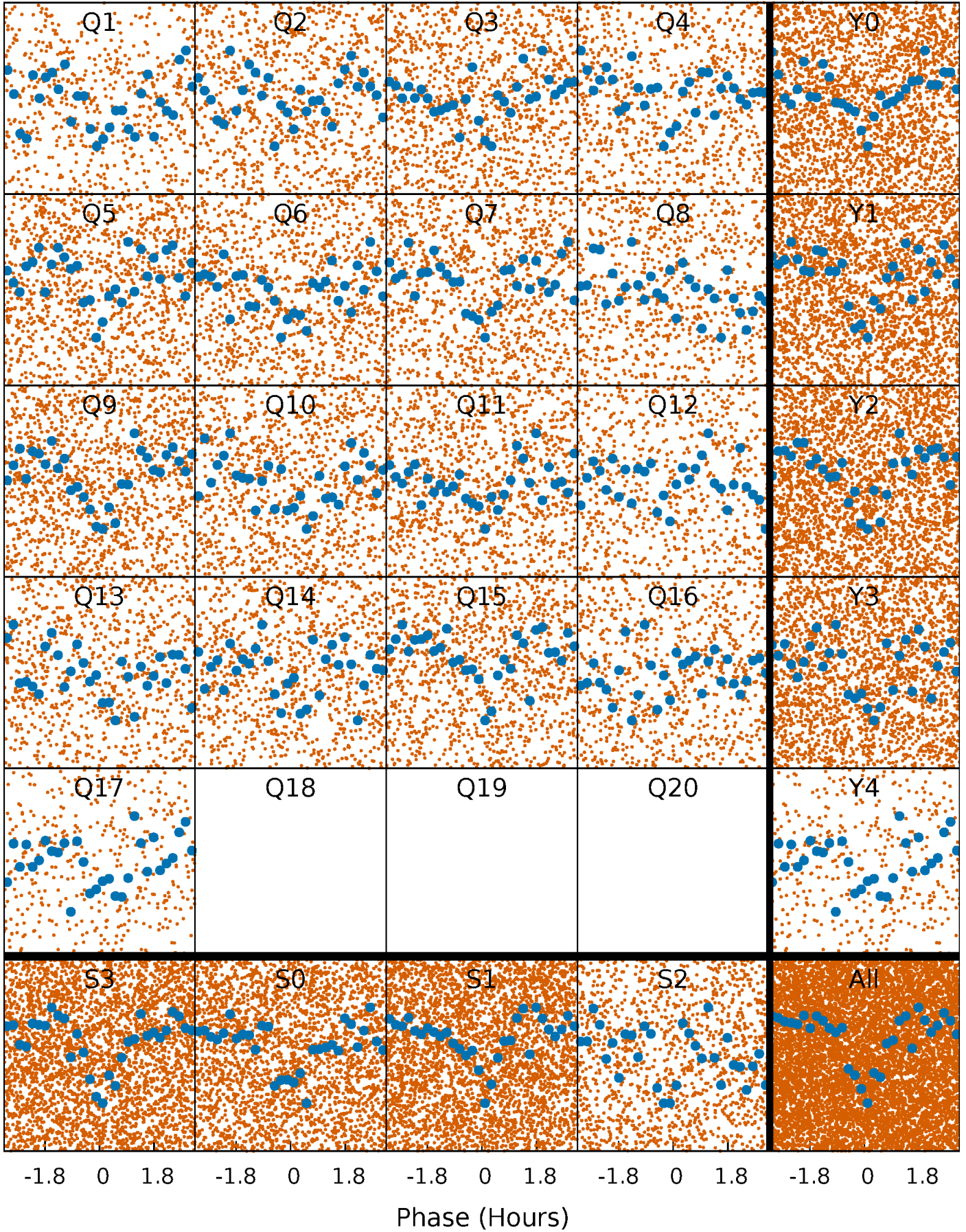


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



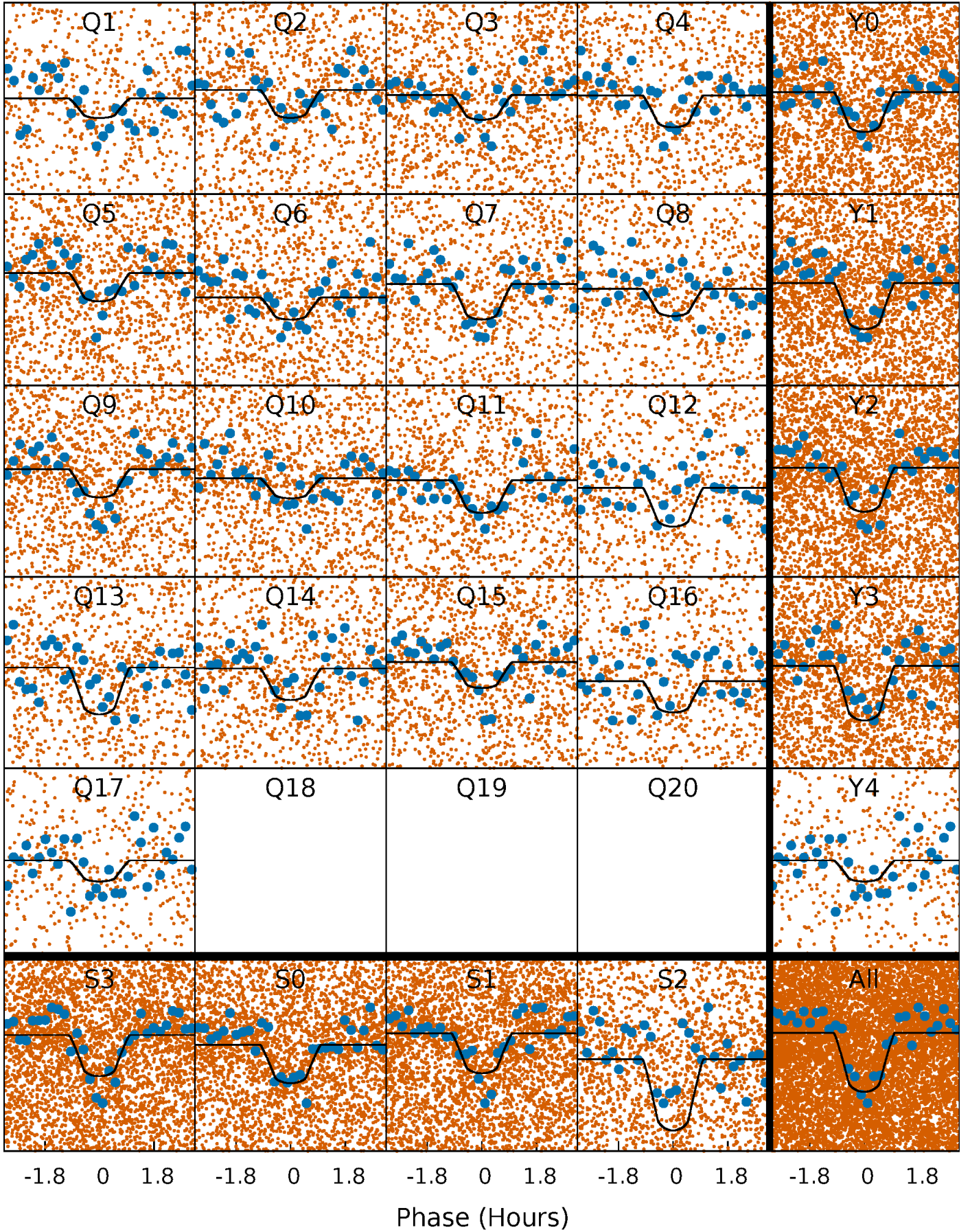
PDC Quarter-Phased Transit Curves

TCE 002302758-01 P= 0.542122 Days $T_0=131.983153$ (BKJD)



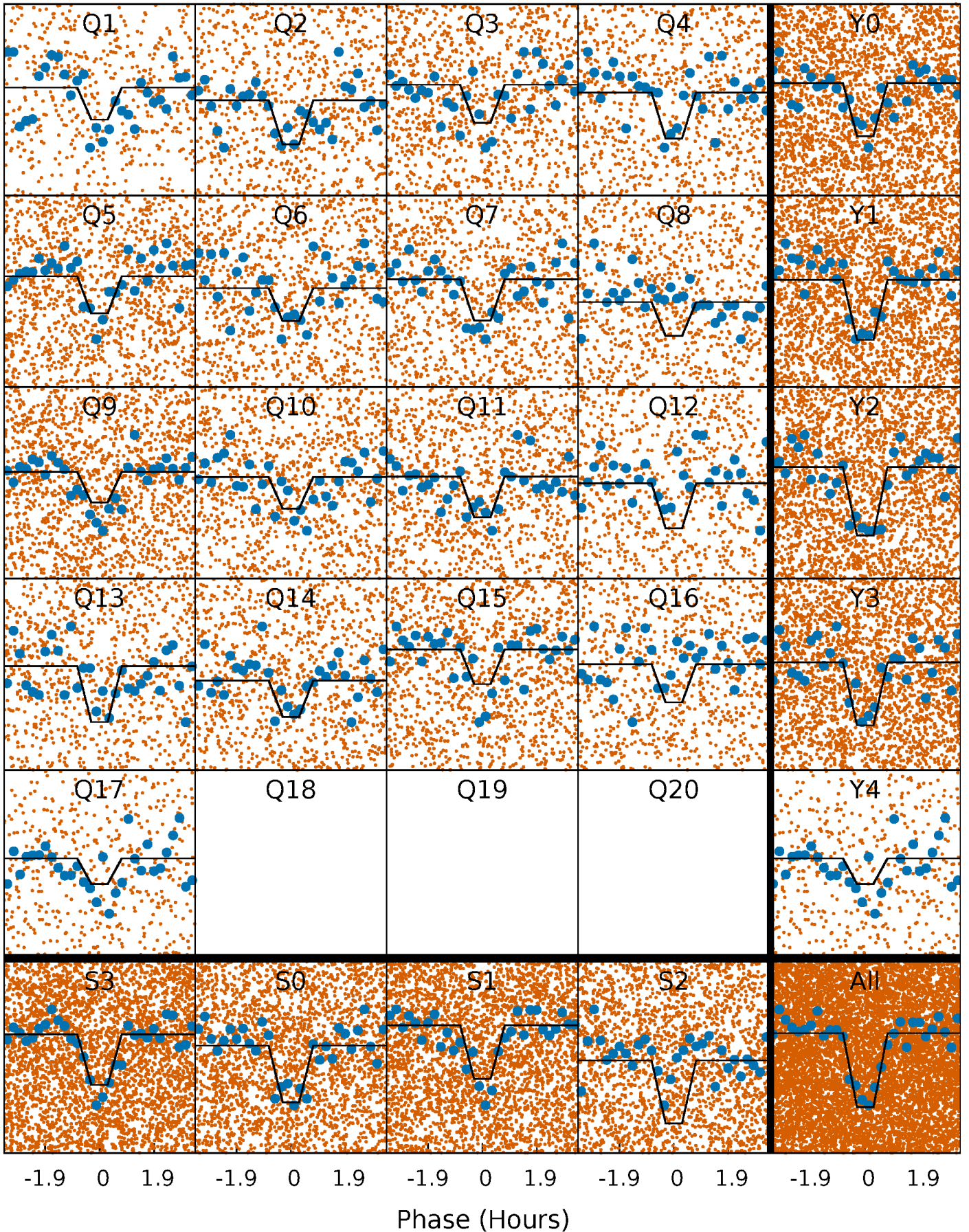
DV Quarter-Phased Transit Curves

TCE 002302758-01 P= 0.542122 Days $T_0=131.983153$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

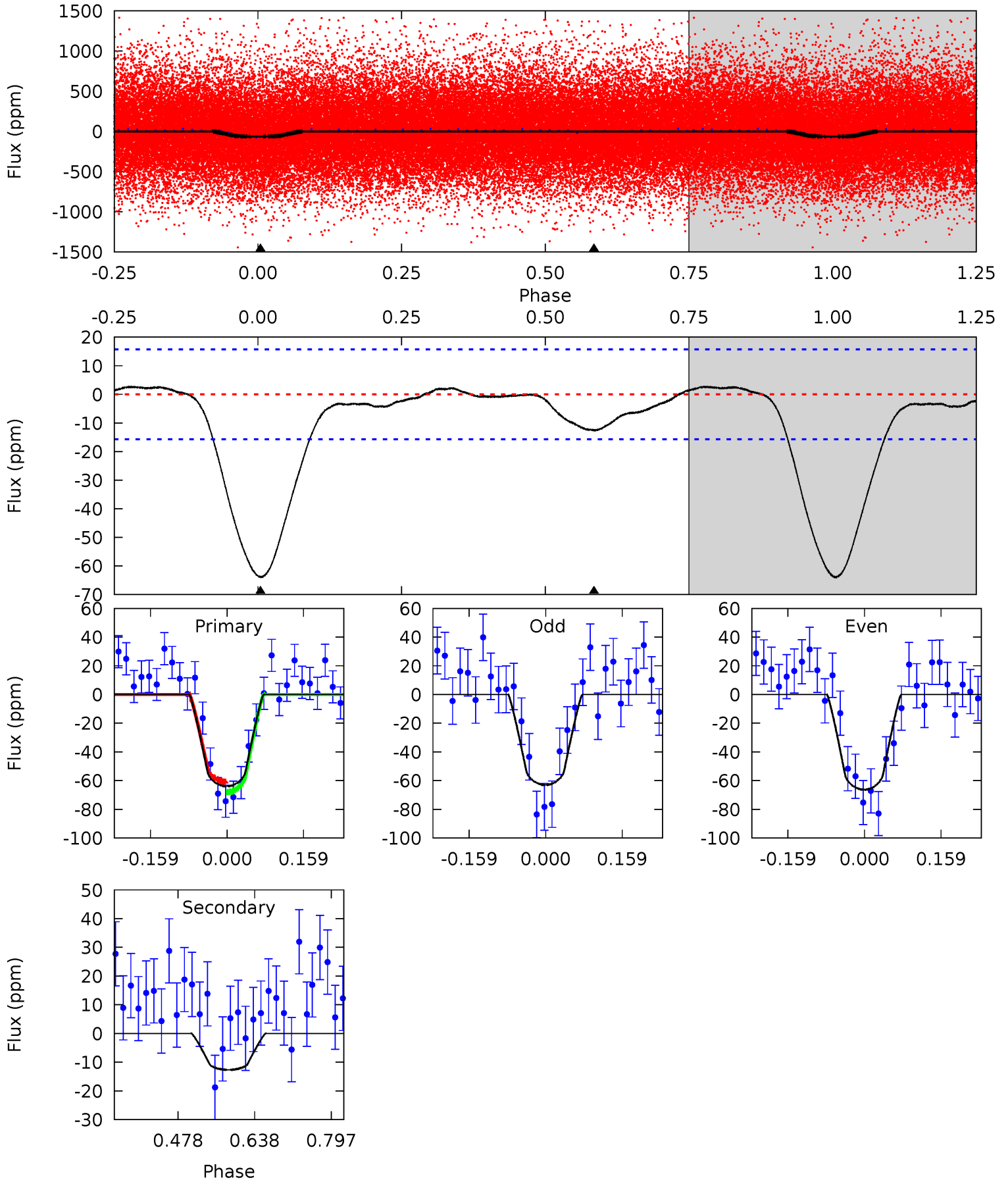
TCE 002302758-01 P= 0.542124 Days $T_0=131.982676$ (BKJD)



DV Model-Shift Uniqueness Test

002302758-01, P = 0.542122 Days, E = 131.441031 Days

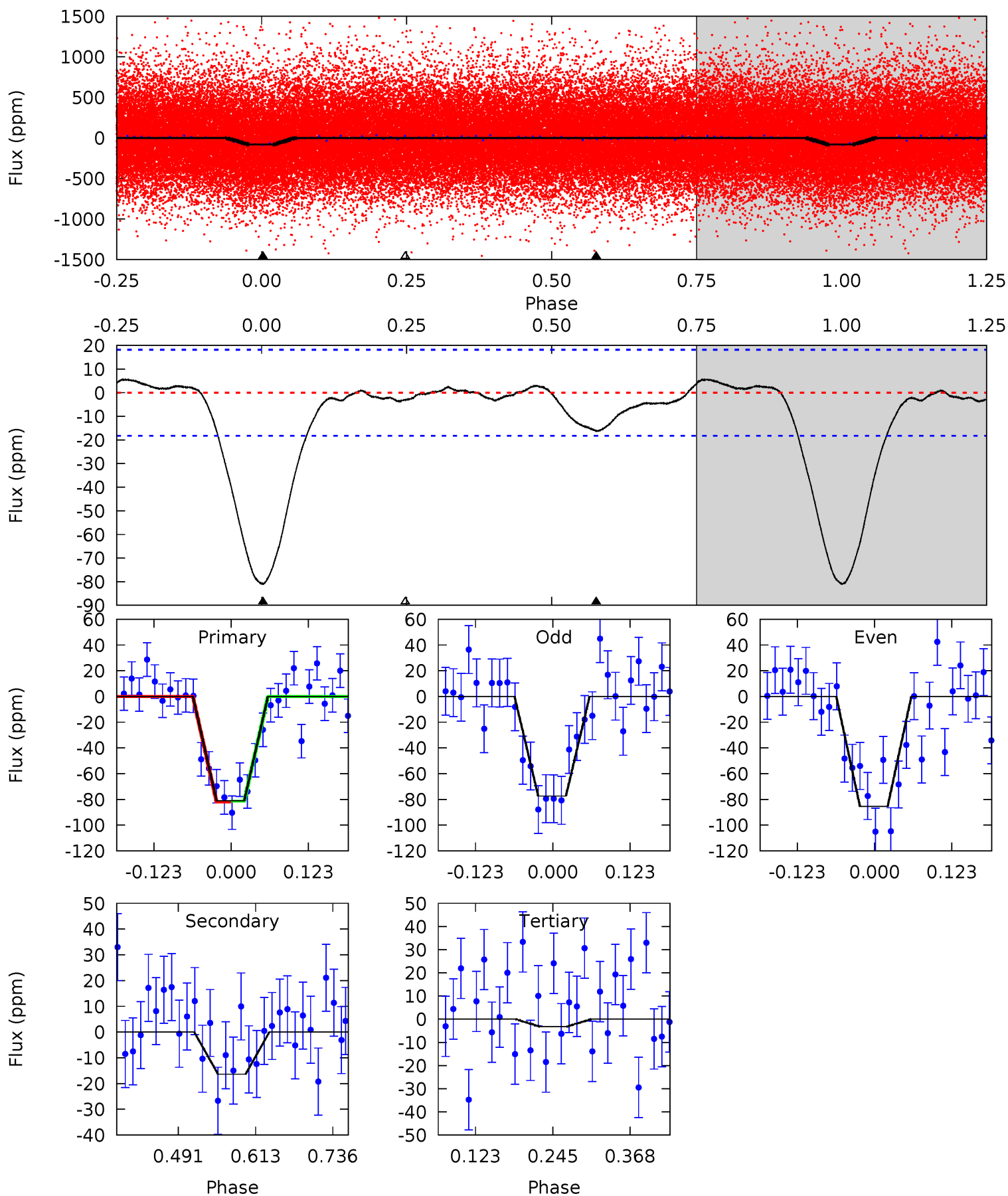
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	3.60	0	0	4.47	1.41	0.65	18.2	18.2	3.60	3.60	0.46	0.90	0.04	1.01



Alt Model-Shift Uniqueness Test

002302758-01, P = 0.542124 Days, E = 131.440552 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	4.06	0.79	0	4.52	1.54	0.62	19.3	20.1	3.27	4.06	1.01	0.91	0.07	0.09



Stellar Parameters For KIC 002302758

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5875^{+70}_{-88}	$4.476^{+0.030}_{-0.120}$	$0.180^{+0.150}_{-0.150}$	$0.998^{+0.149}_{-0.050}$	$1.088^{+0.051}_{-0.076}$	$1.540^{+0.173}_{-0.536}$
	+1%/-1%	+1%/-3%	+83%/-83%	+15%/-5%	+5%/-7%	+11%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 002302758-01 / KOI 7629.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 4	$1.04^{+0.52}_{-0.47}$	3158^{+109}_{-76}	3711^{+1243}_{-787}	$1.062^{+2.844}_{-0.601}$
Alt.	-16 ± 4	$1.02^{+0.52}_{-0.46}$	3160^{+118}_{-76}	3965^{+1312}_{-705}	$1.457^{+3.954}_{-0.823}$

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

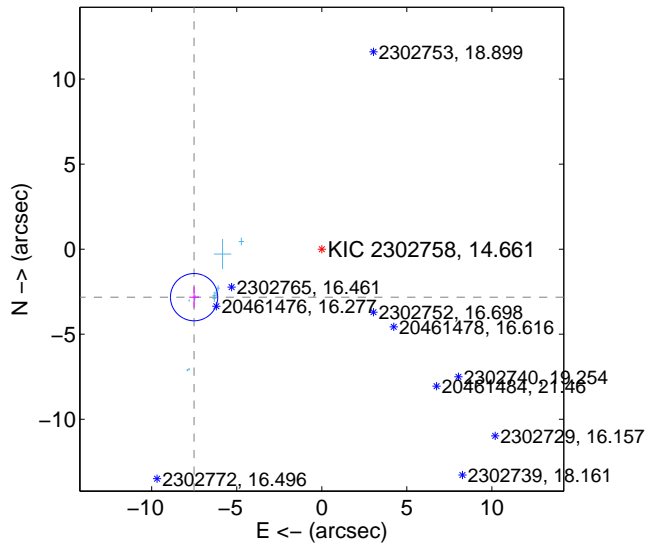
Supplemental centroid analysis for 002302758-01. Kepler magnitude: 14.66. Transit SNR 14.54

There are 12 quarters with good PRF difference image offsets

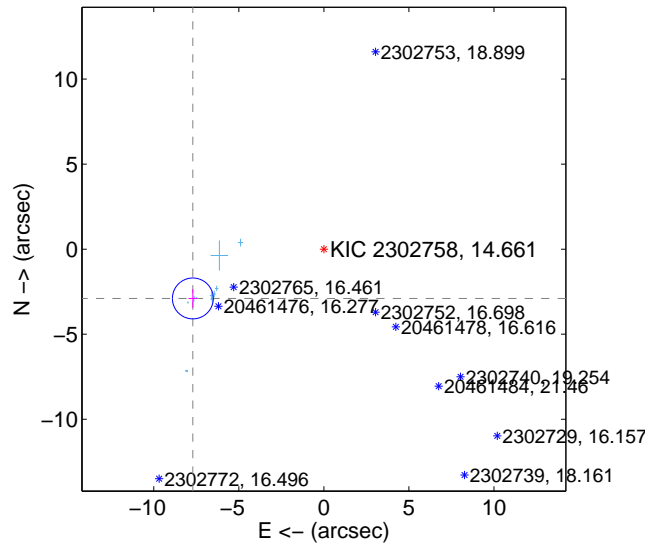
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.022 \pm 0.463	17.32	7.509 \pm 0.291	-2.822 \pm 0.616
PRF-fit source offset from KIC position	8.232 \pm 0.401	20.55	7.705 \pm 0.257	-2.897 \pm 0.549
photometric centroid source offset	9.39 \pm 0.82	11.40	4.08 \pm 0.79	-8.46 \pm 0.83

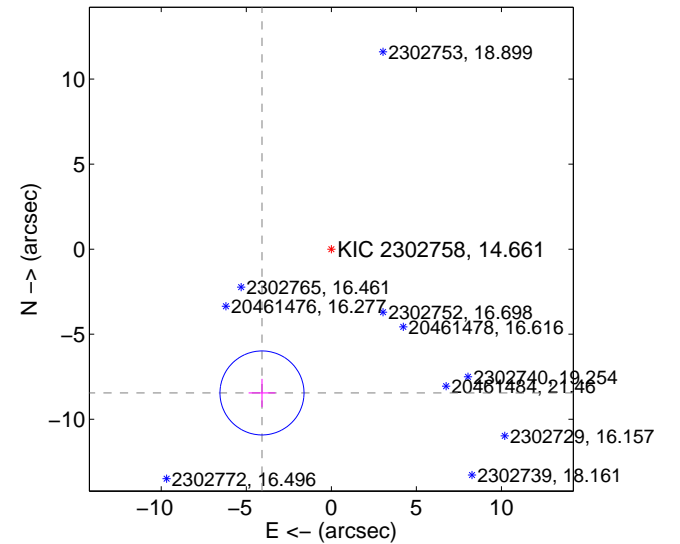
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

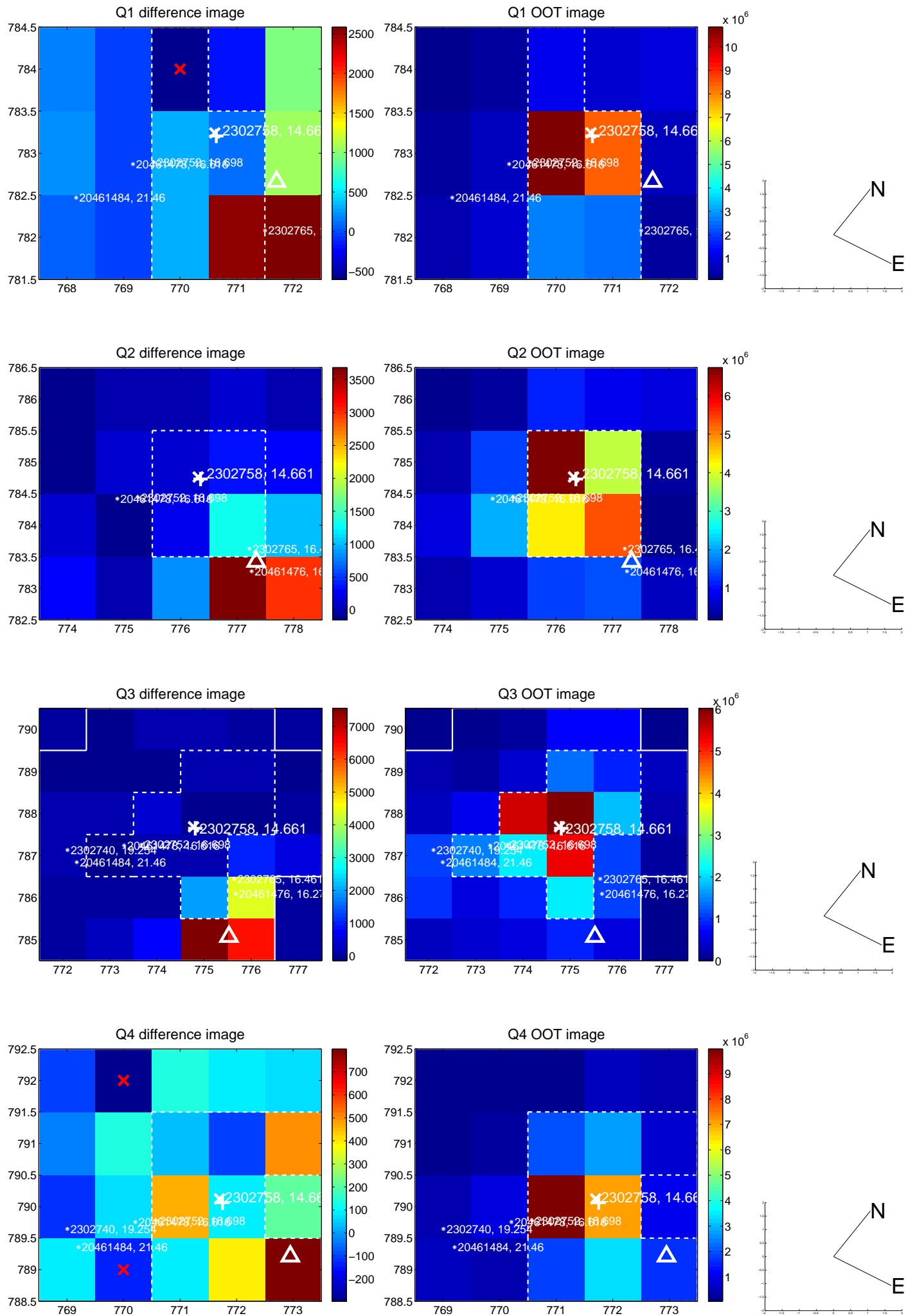


offset from photometric centroids

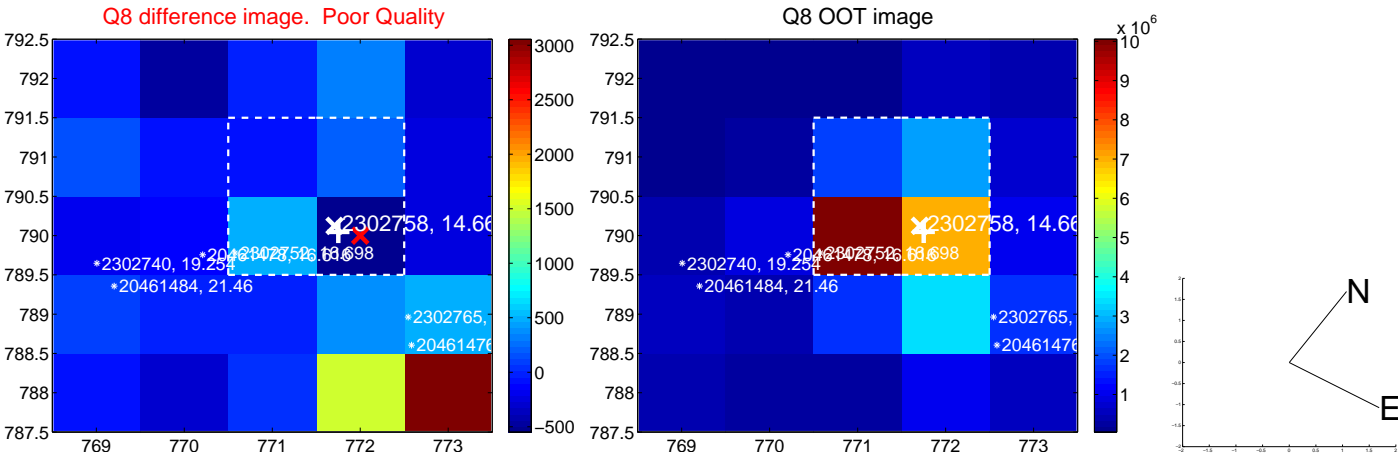
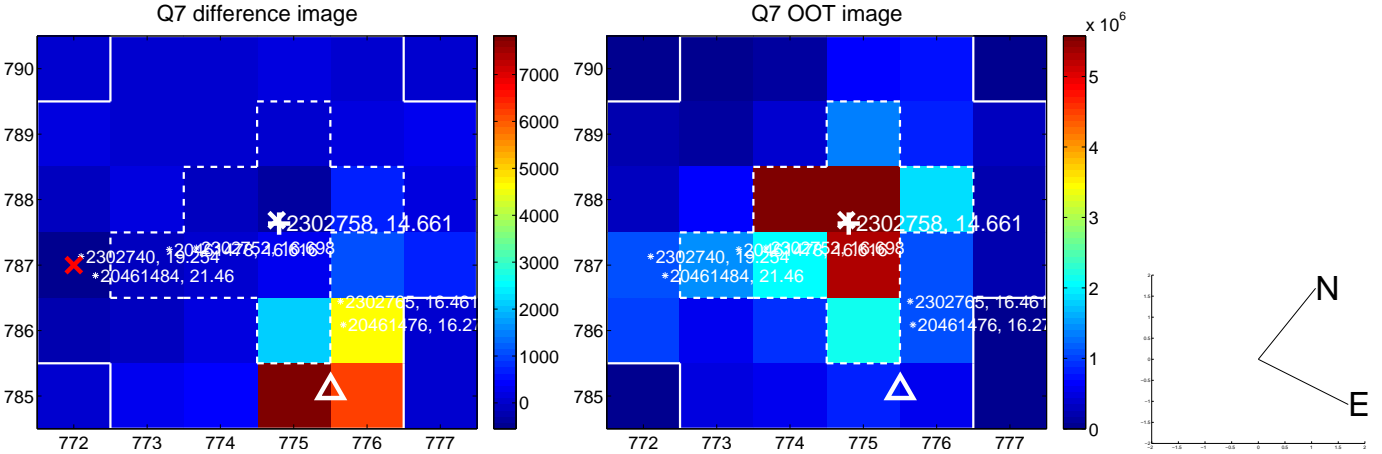
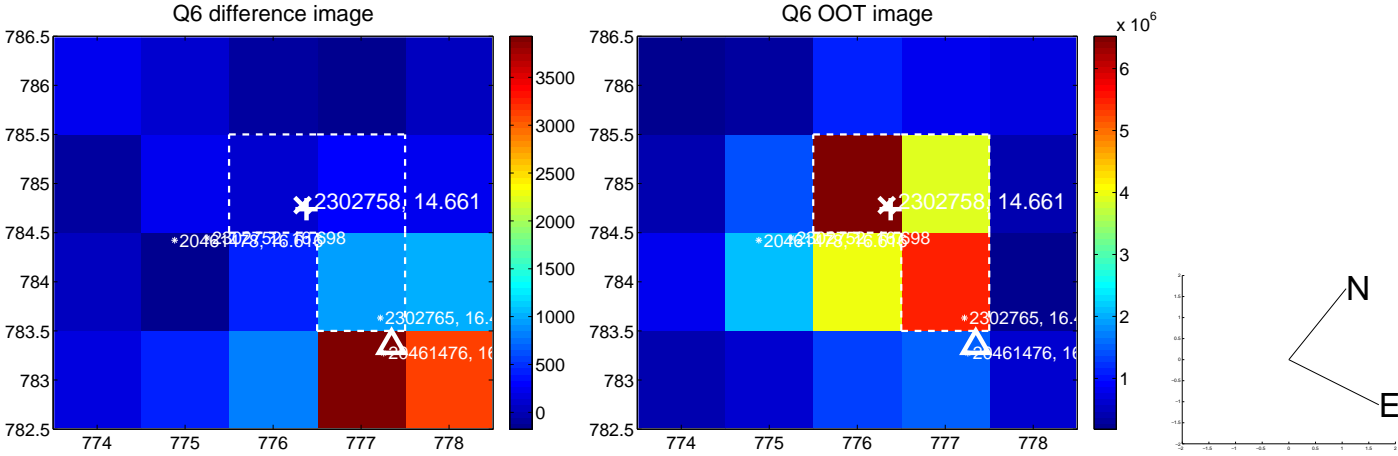
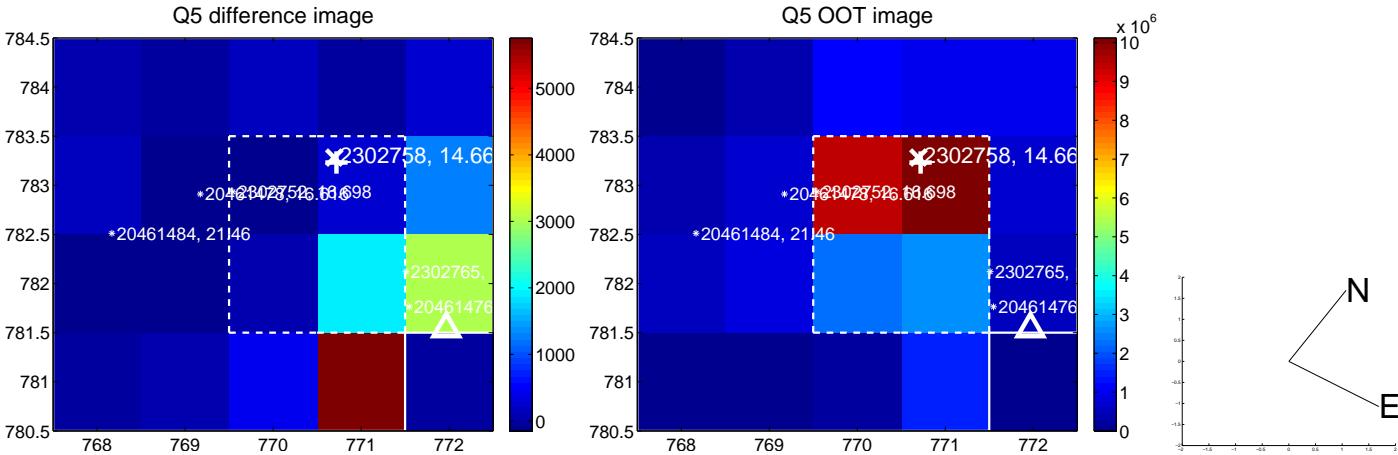


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

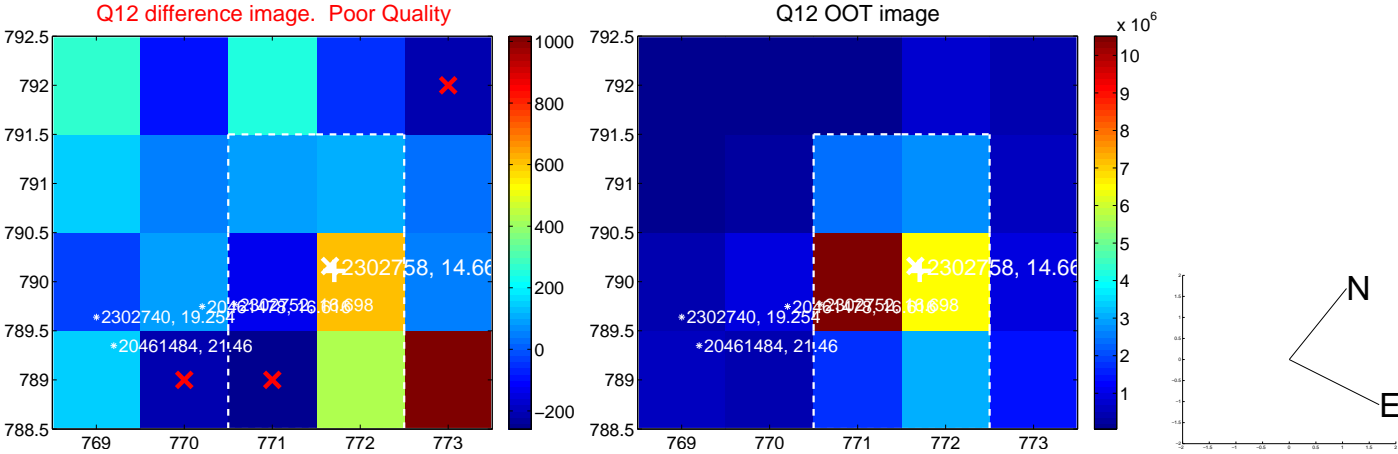
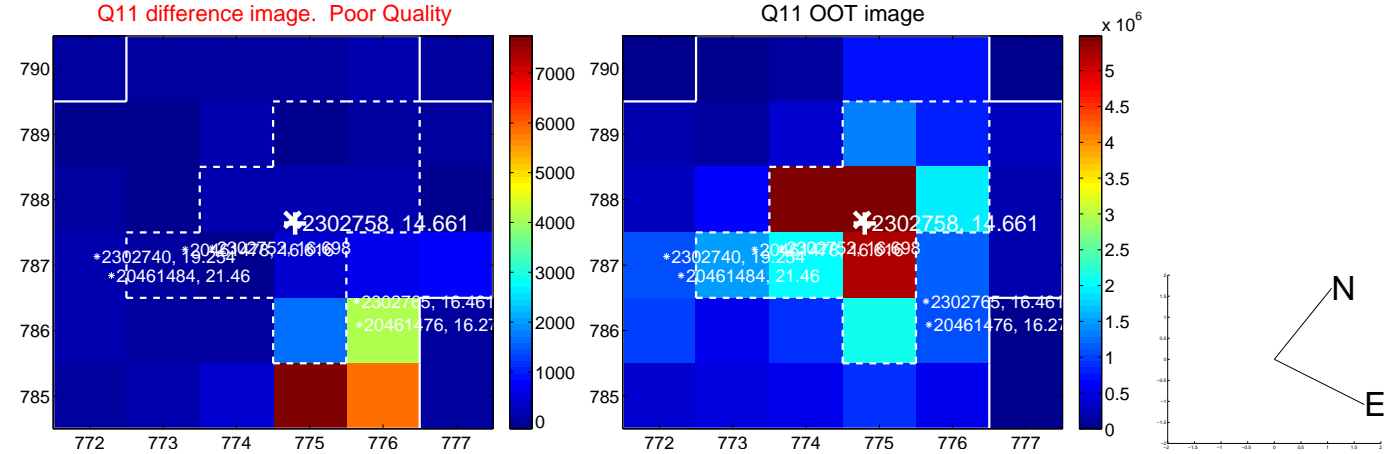
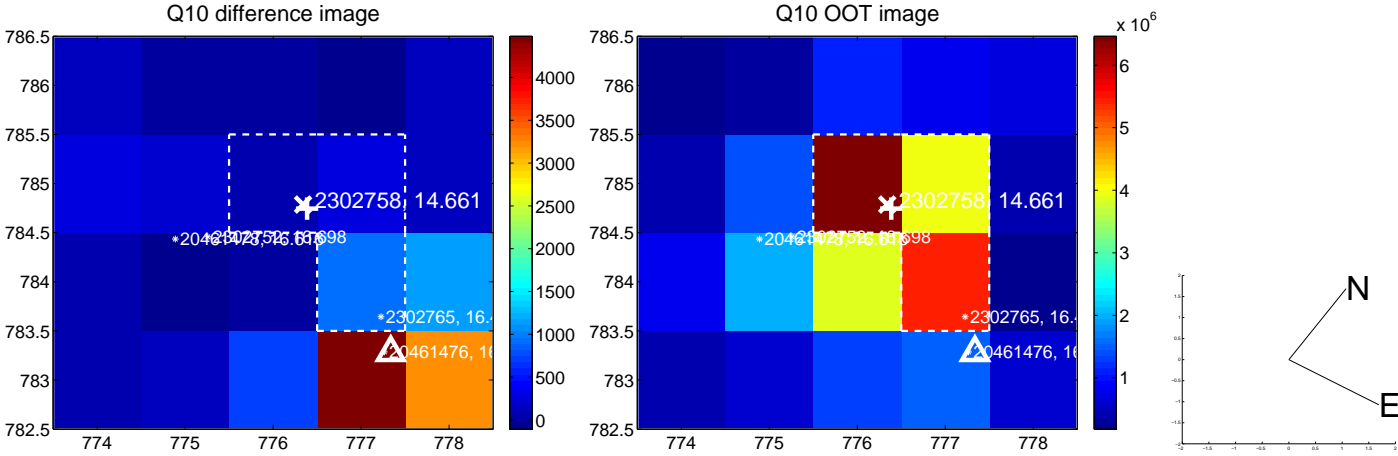
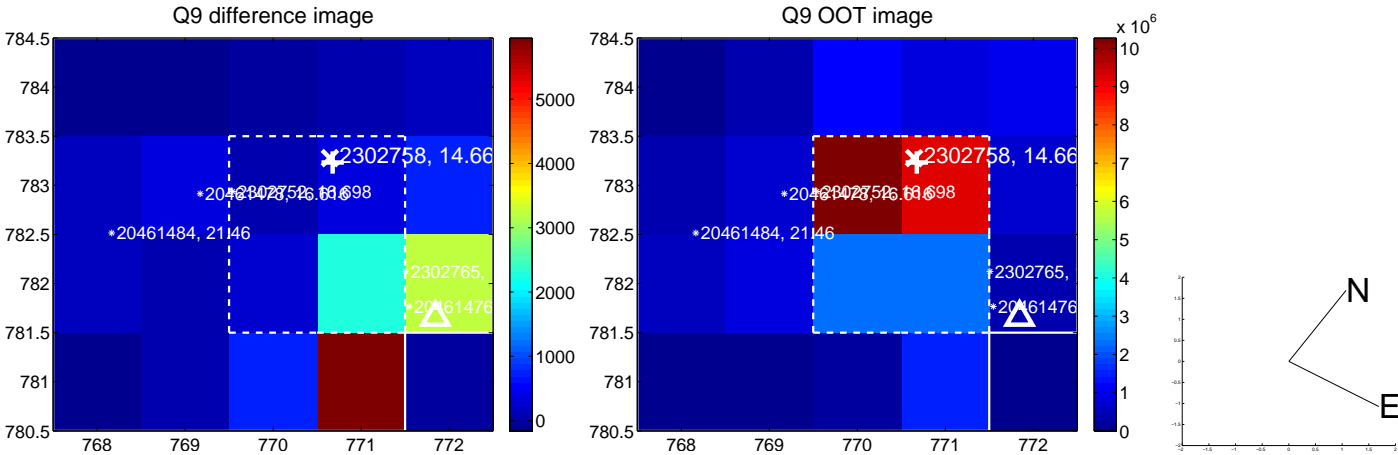
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



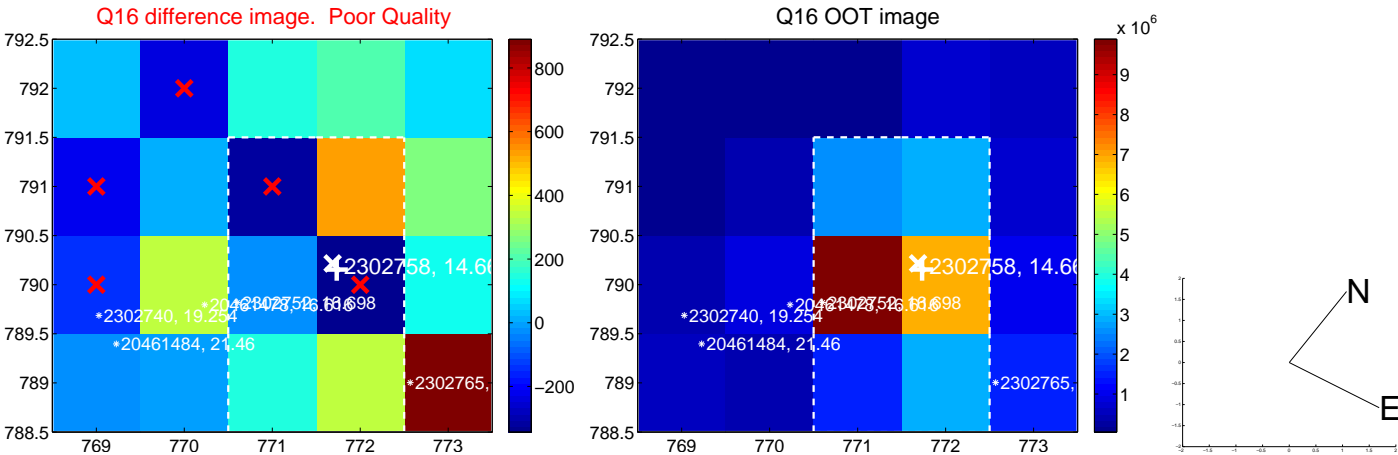
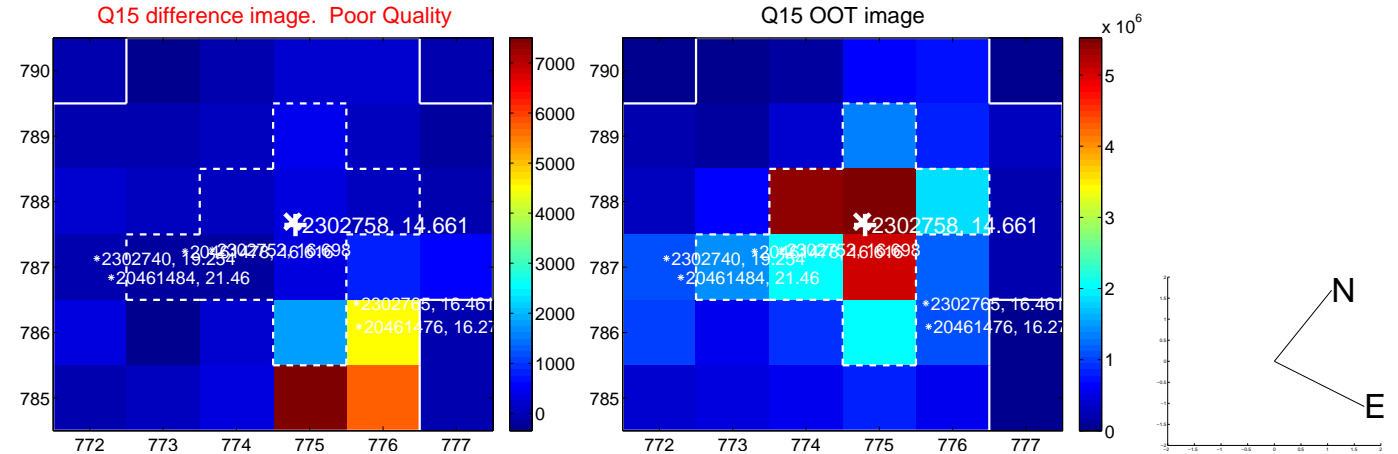
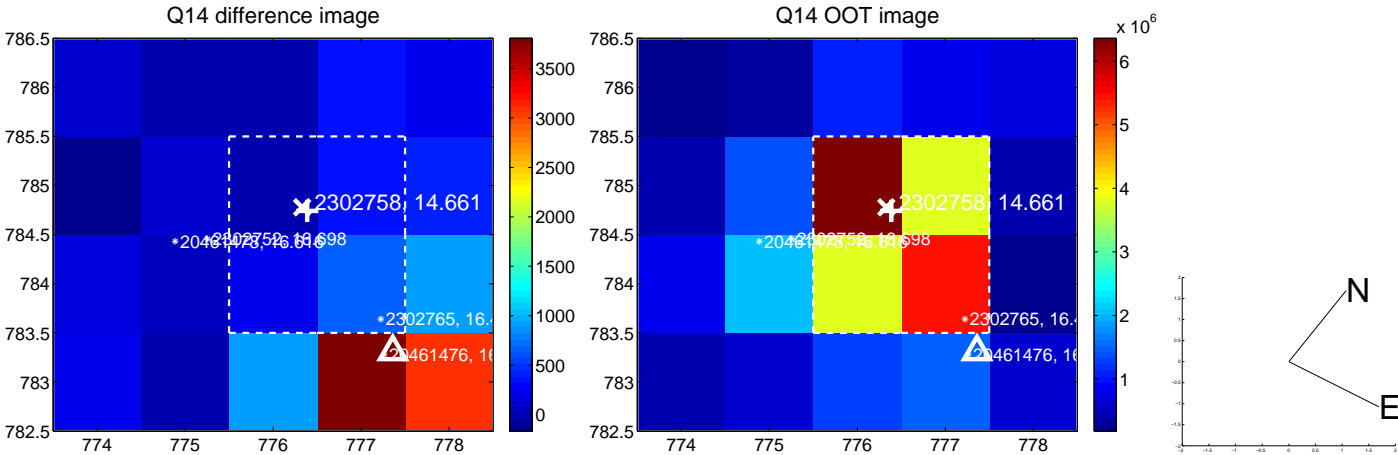
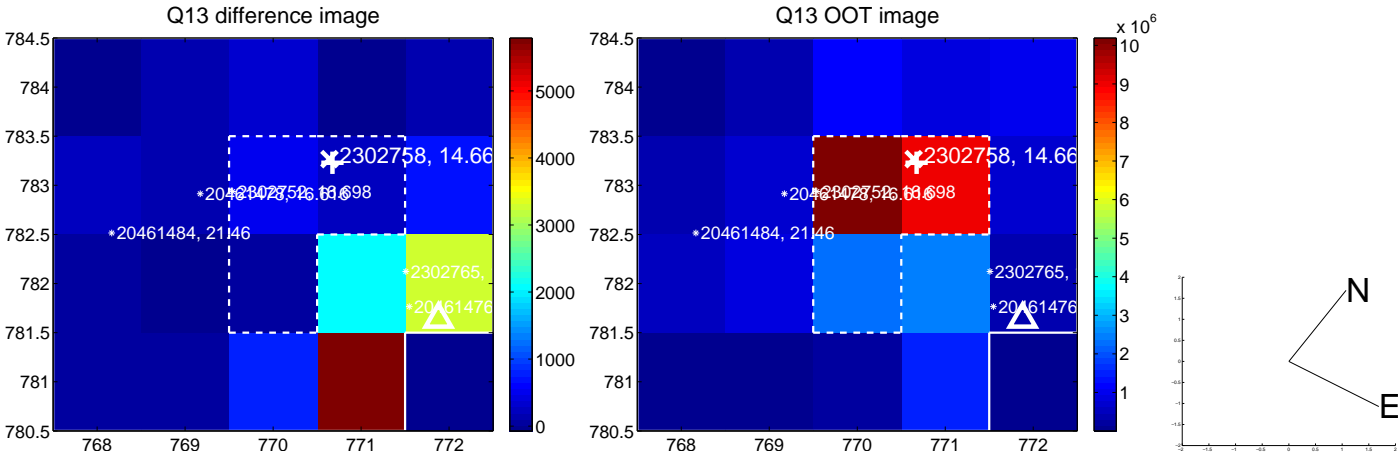
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



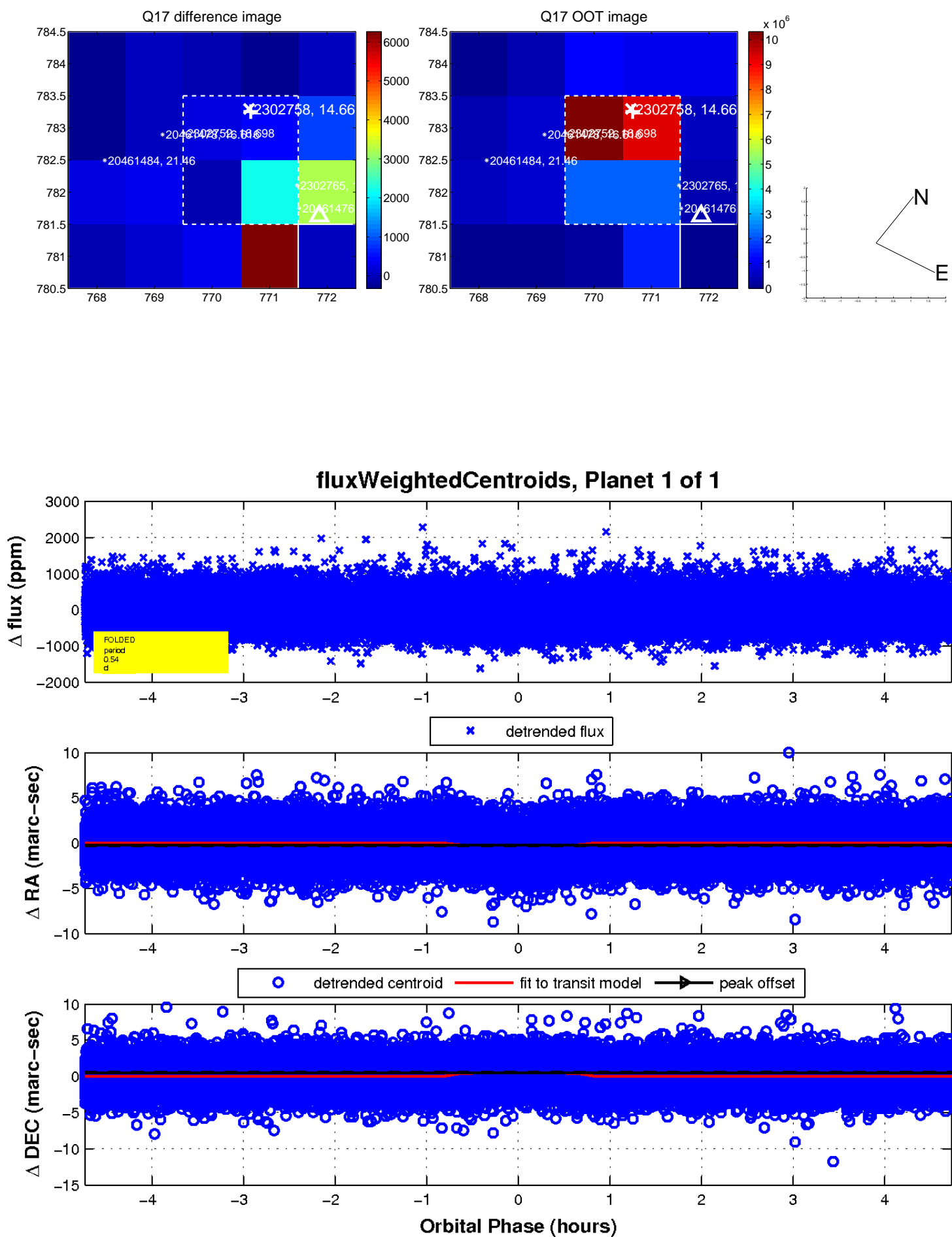
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

