

KIC 004276821

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})
004276821-01	OBS	No	0.537775	131.908715	28.5	3.670	7.4	4.7	1.38	10090	0.80	71080.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004276821-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS

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

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

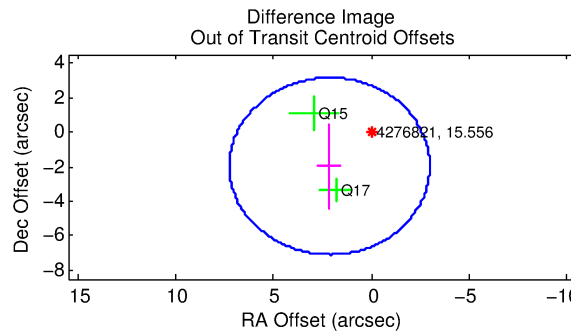
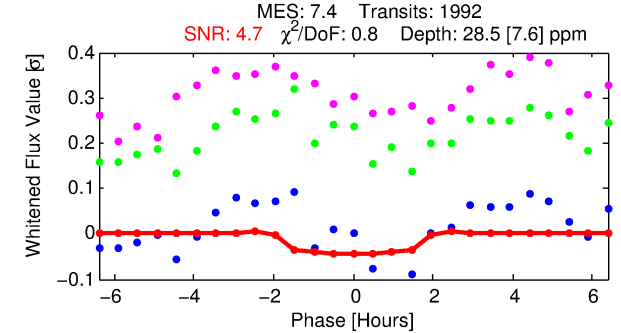
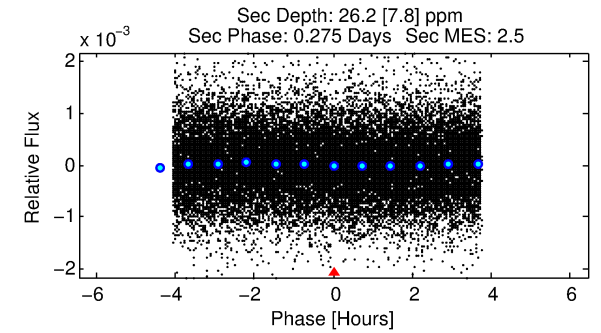
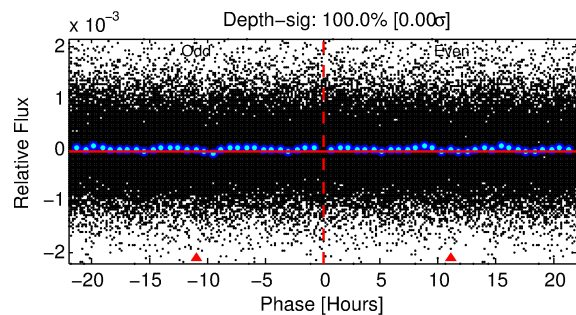
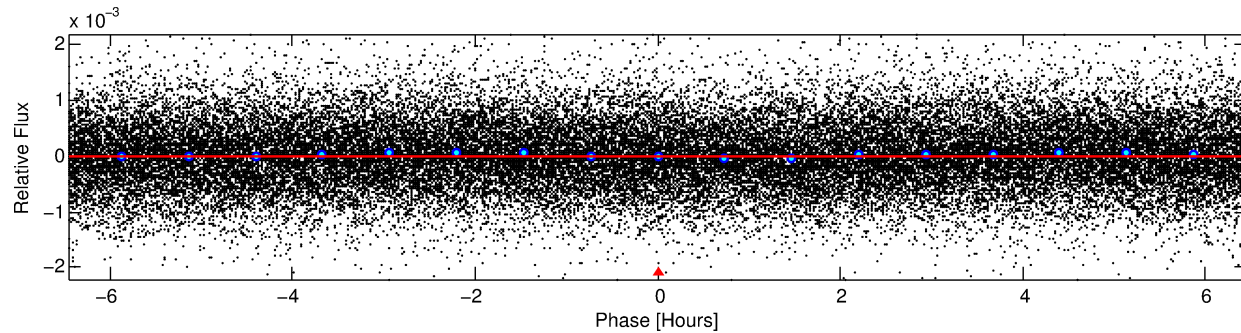
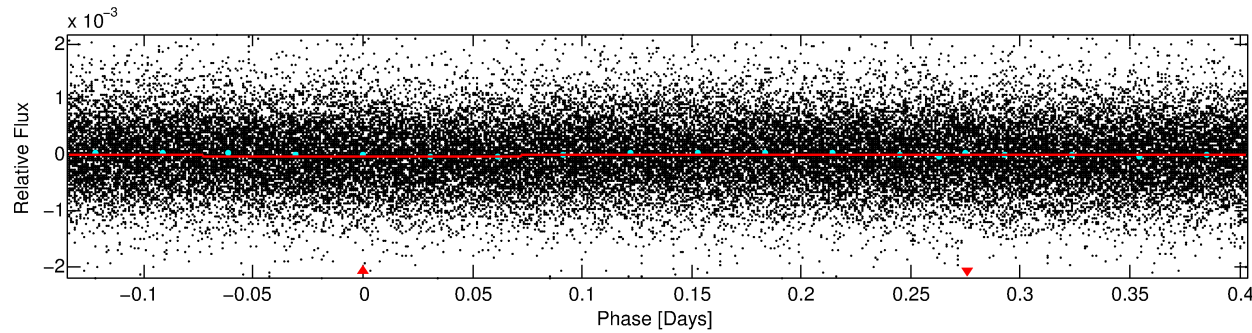
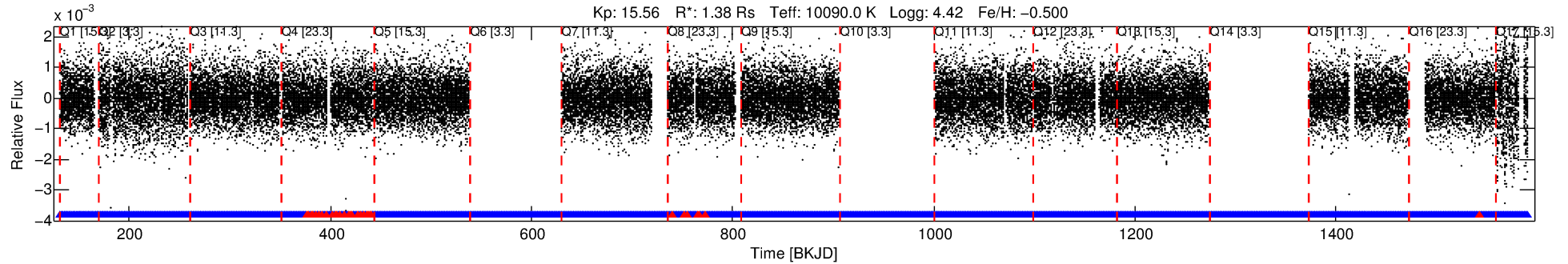
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004276821-01

No Significant Match Found

DV One-Page Summary

KIC: 4276821 Candidate: 1 of 1 Period: 0.538 d



DV Fit Results:

Period = 0.53777 [0.00002] d
Epoch = 131.9087 [0.0080] BKJD
Rp/R* = 0.0053 [0.0055]
a/R* = 1.16 [2.37]
b = 0.70 [5.84]
Seff = 71080.27 [17902.54]
Teq = 4164 [262] K
Rp = 0.80 [0.84] Re
a = 0.0158 [0.0020] AU
Ag = 5.70 [12.17] [0.39σ]
Teffp = 9947 [5304] K [1.09σ]

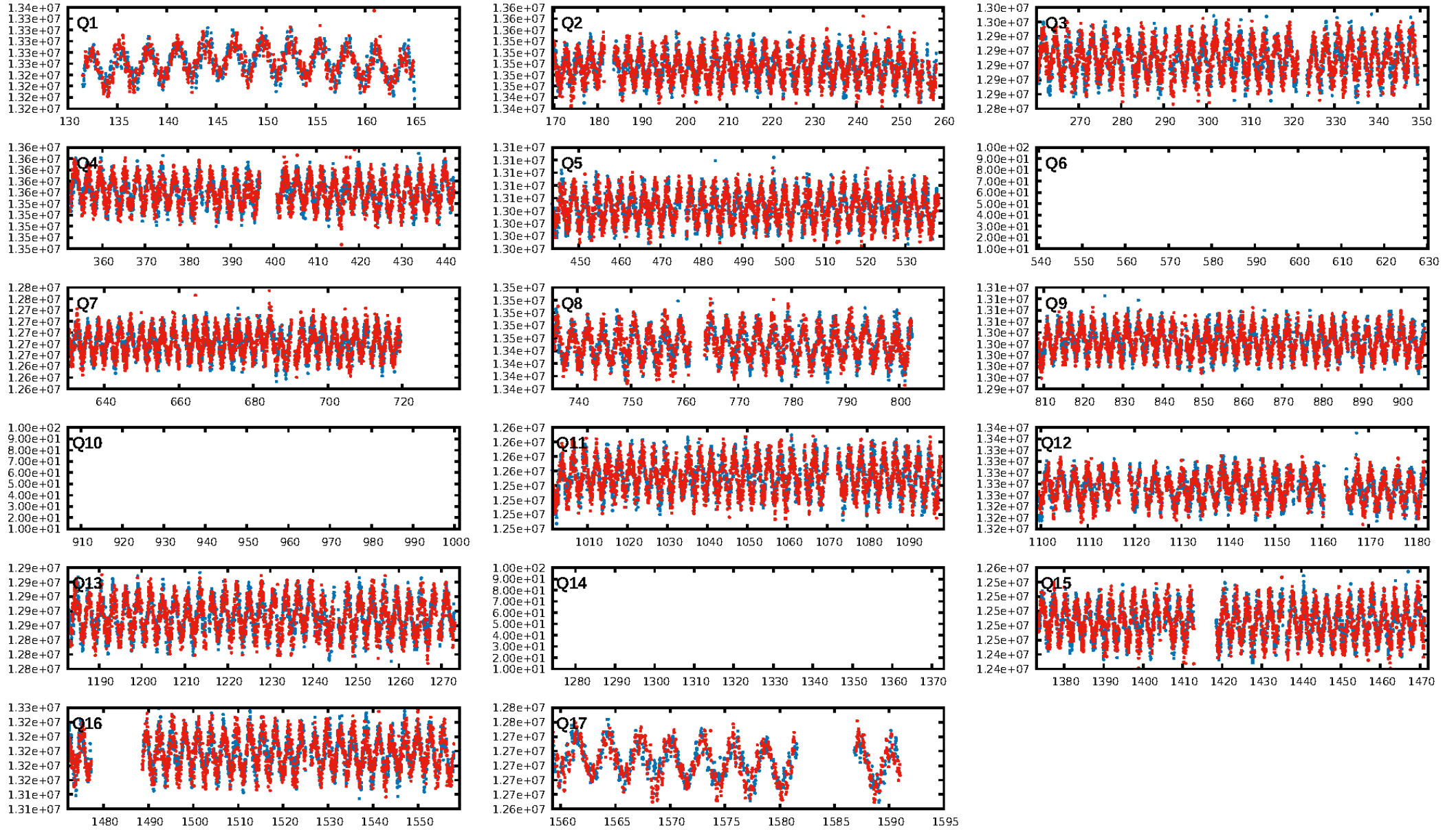
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.52e-09
RollingBand-fgt: 0.98 [1845/1880]
GhostDiagnostic-chr: 1.148
Centroid-sig: 1.8%
Centroid-so: 5.489 arcsec [1.82σ]
OotOffset-rm: 2.912 arcsec [1.71σ]
KicOffset-rm: 2.838 arcsec [1.62σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [14/14]

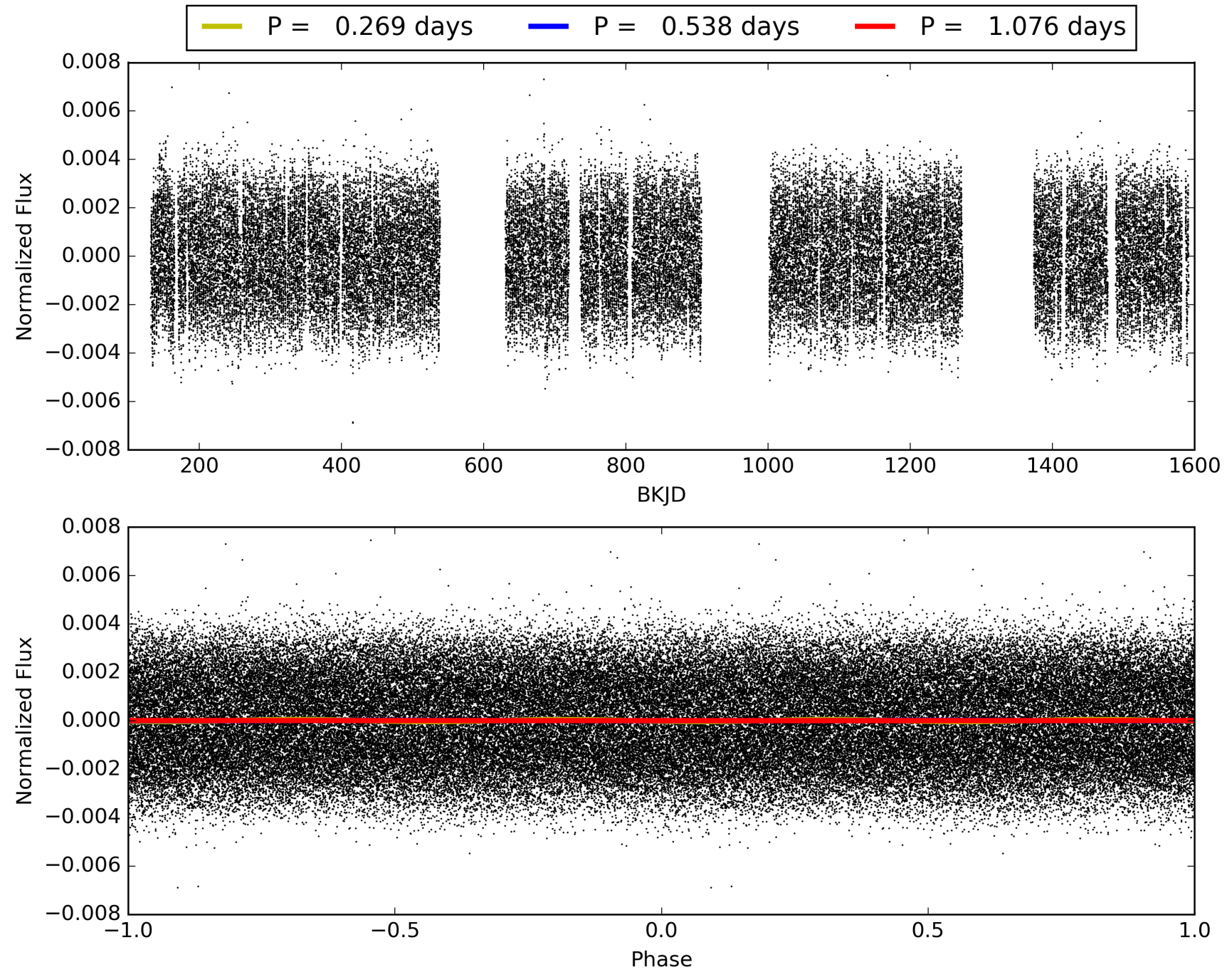
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:31:43 Z

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

TCE 004276821-01, PDC Light Curves

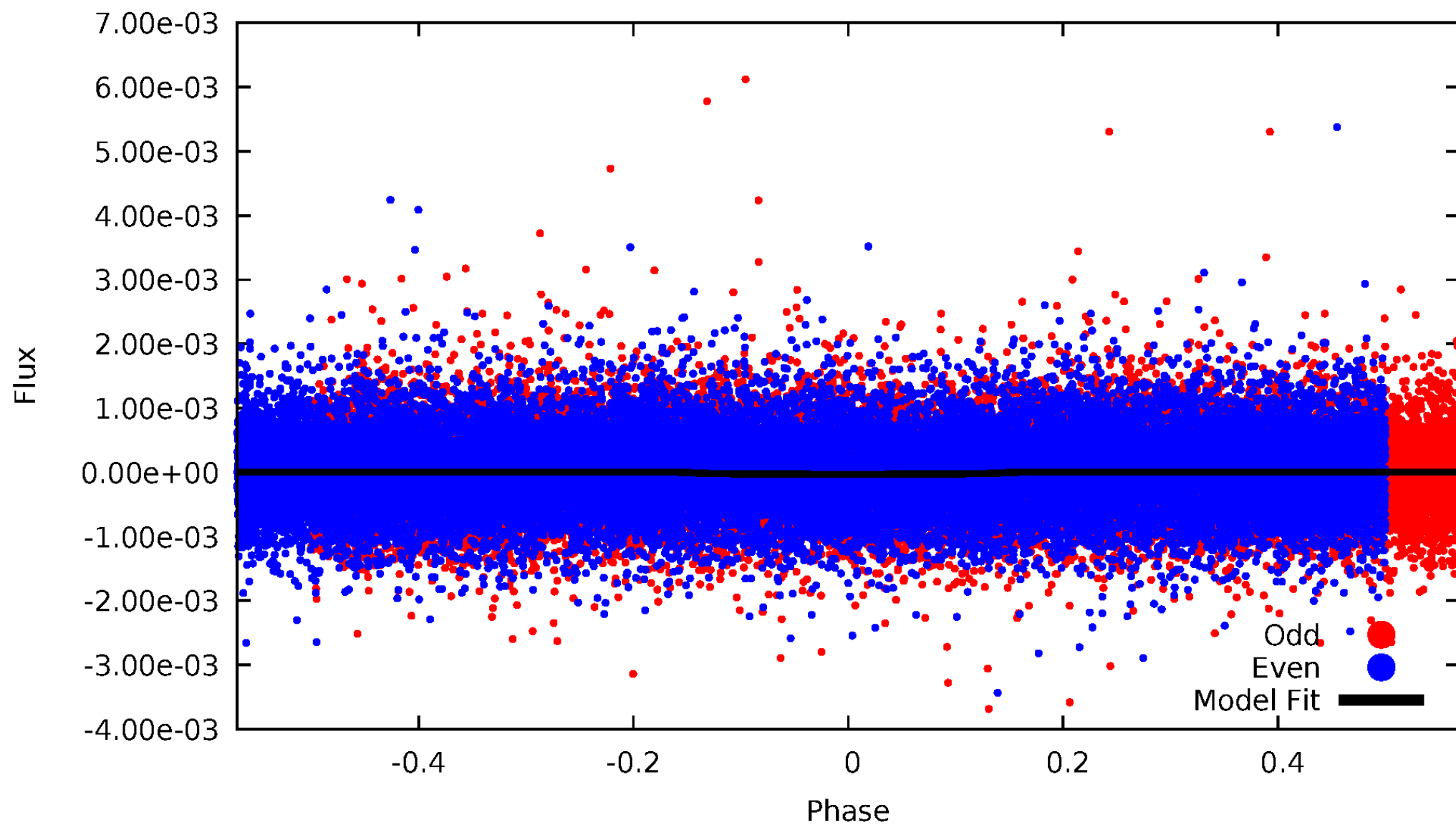


TCE 004276821-01



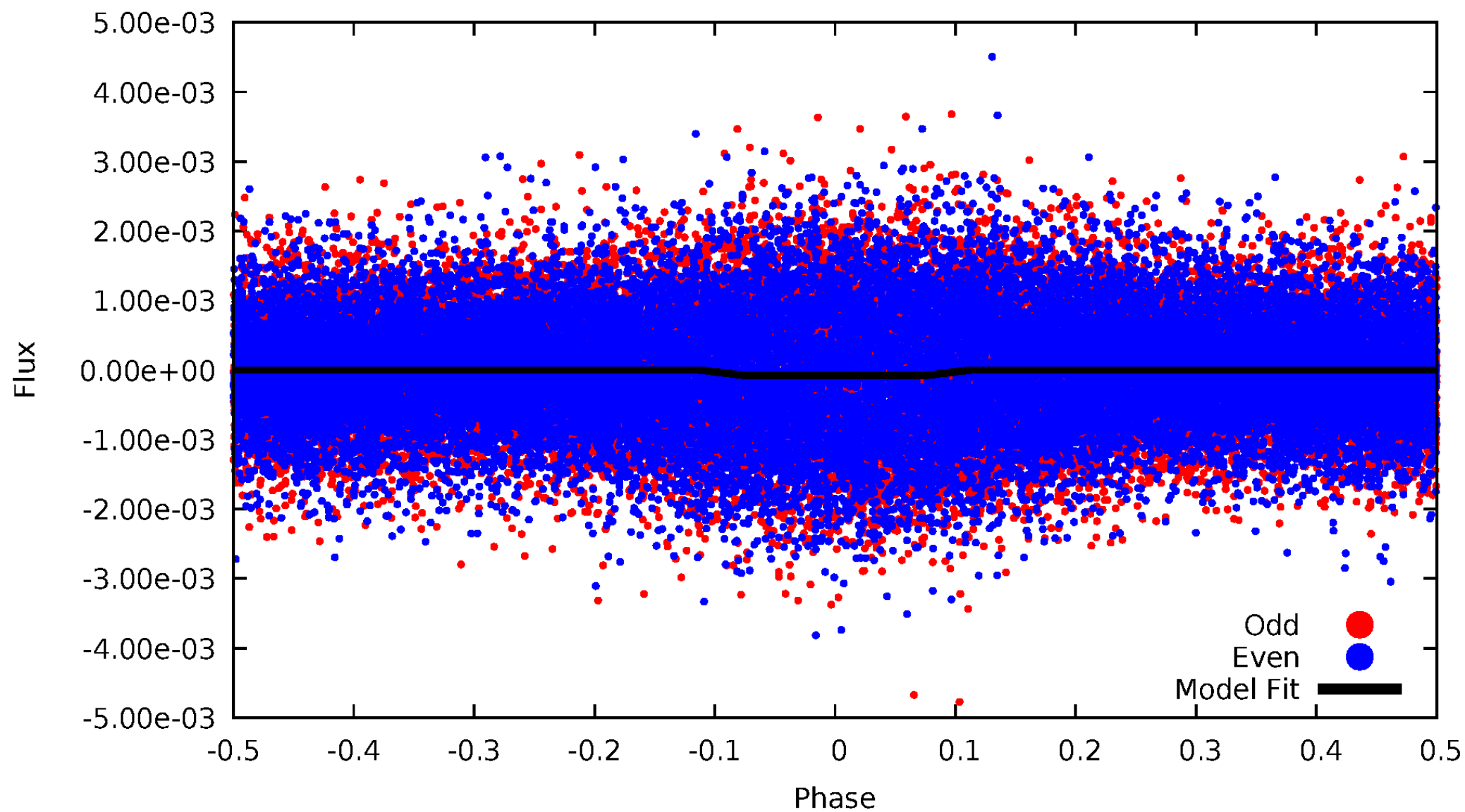
DV Odd/Even

TCE 004276821-01

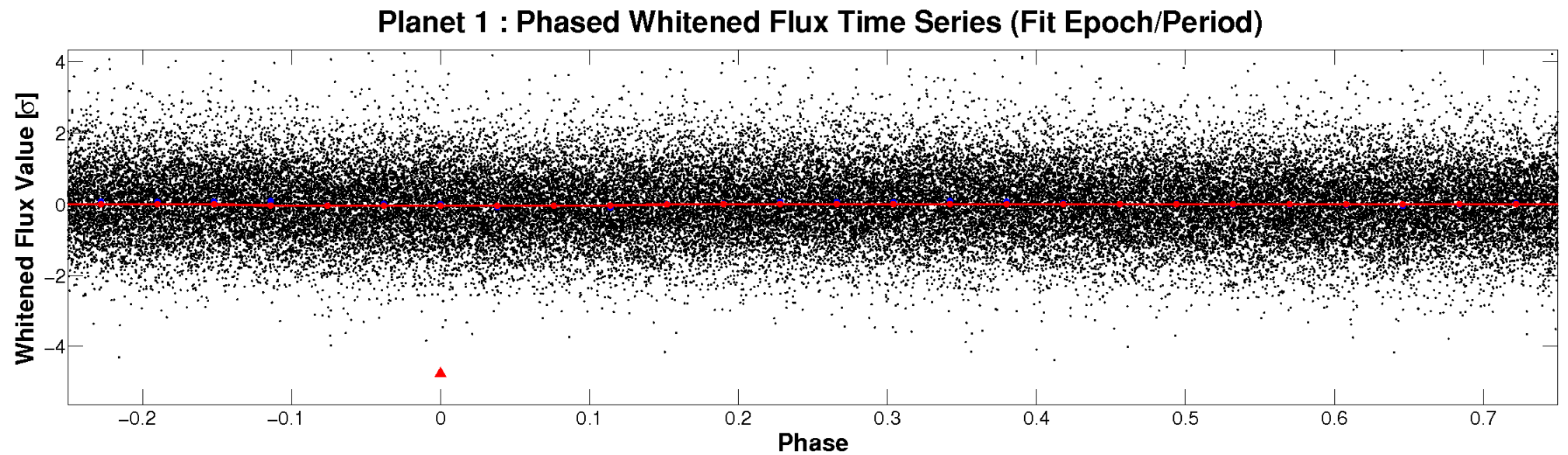
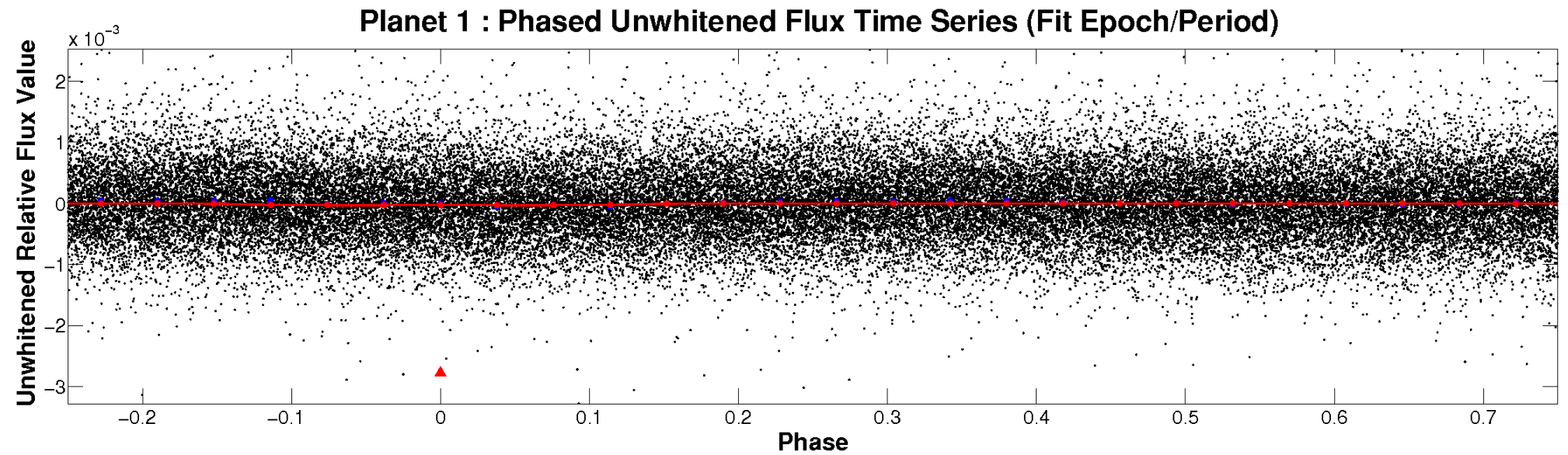


ALT Odd/Even

TCE 004276821-01

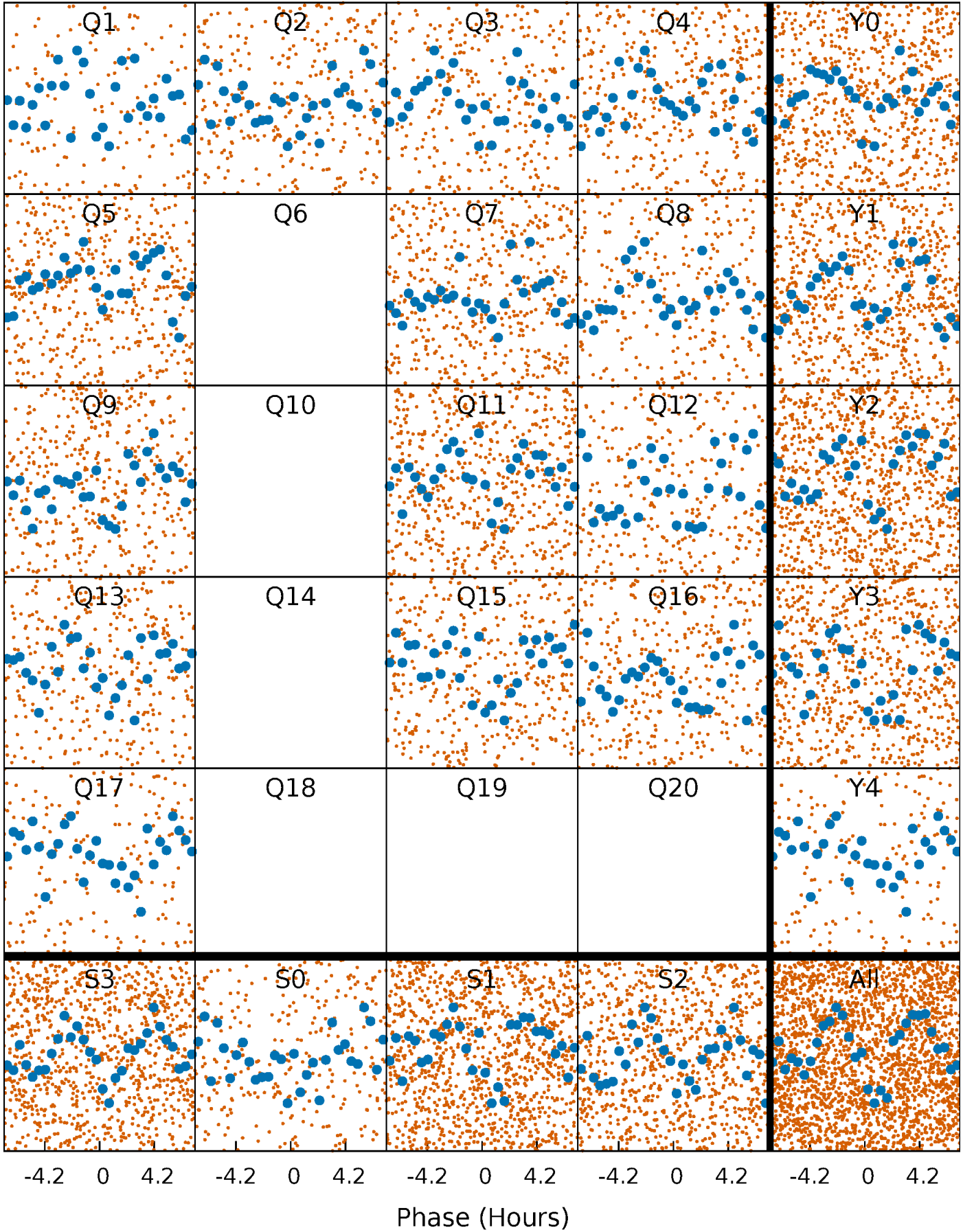


Non-Whitened Vs. Whitened Light Curve



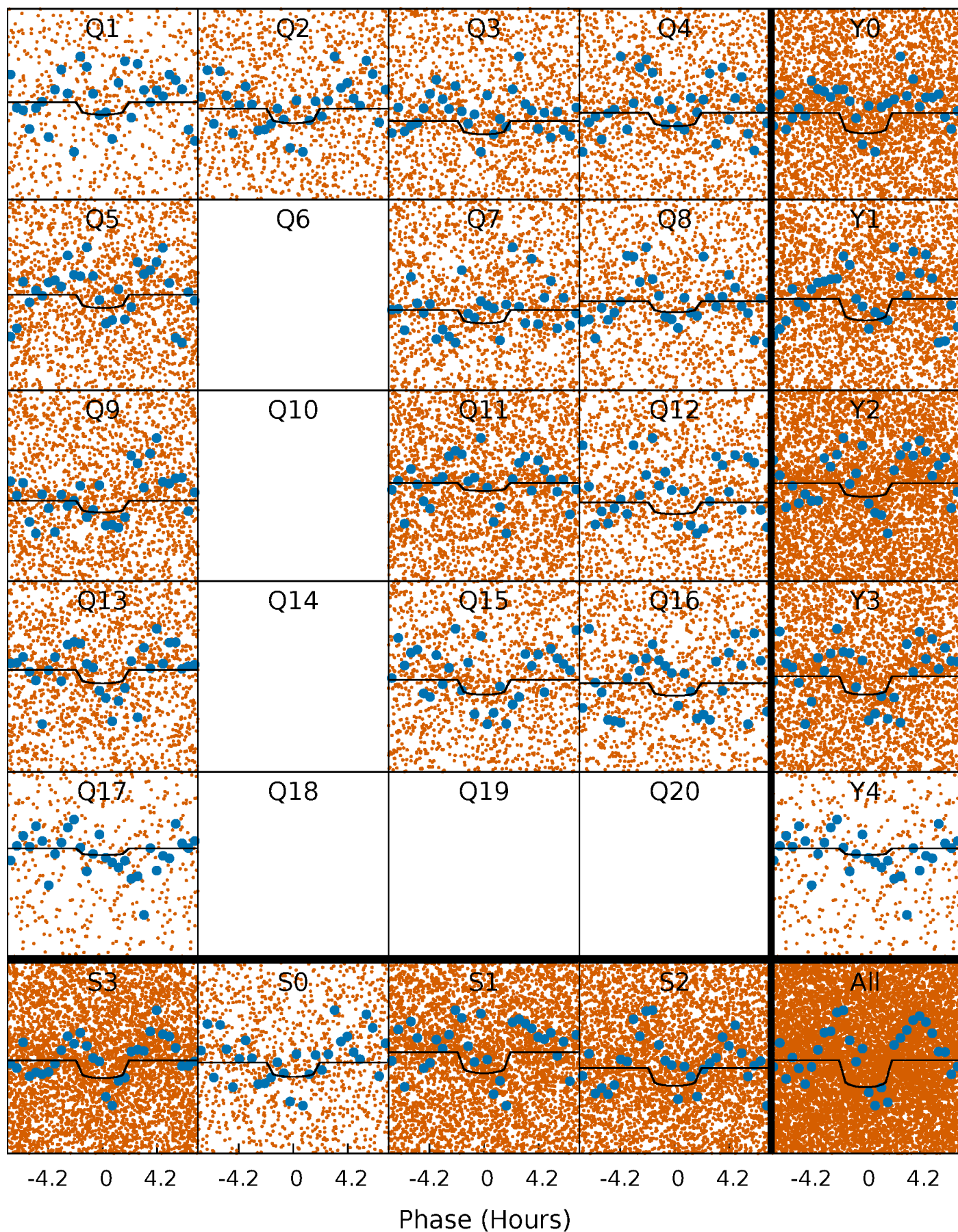
PDC Quarter-Phased Transit Curves

TCE 004276821-01 P= 0.537775 Days $T_0=131.908715$ (BKJD)



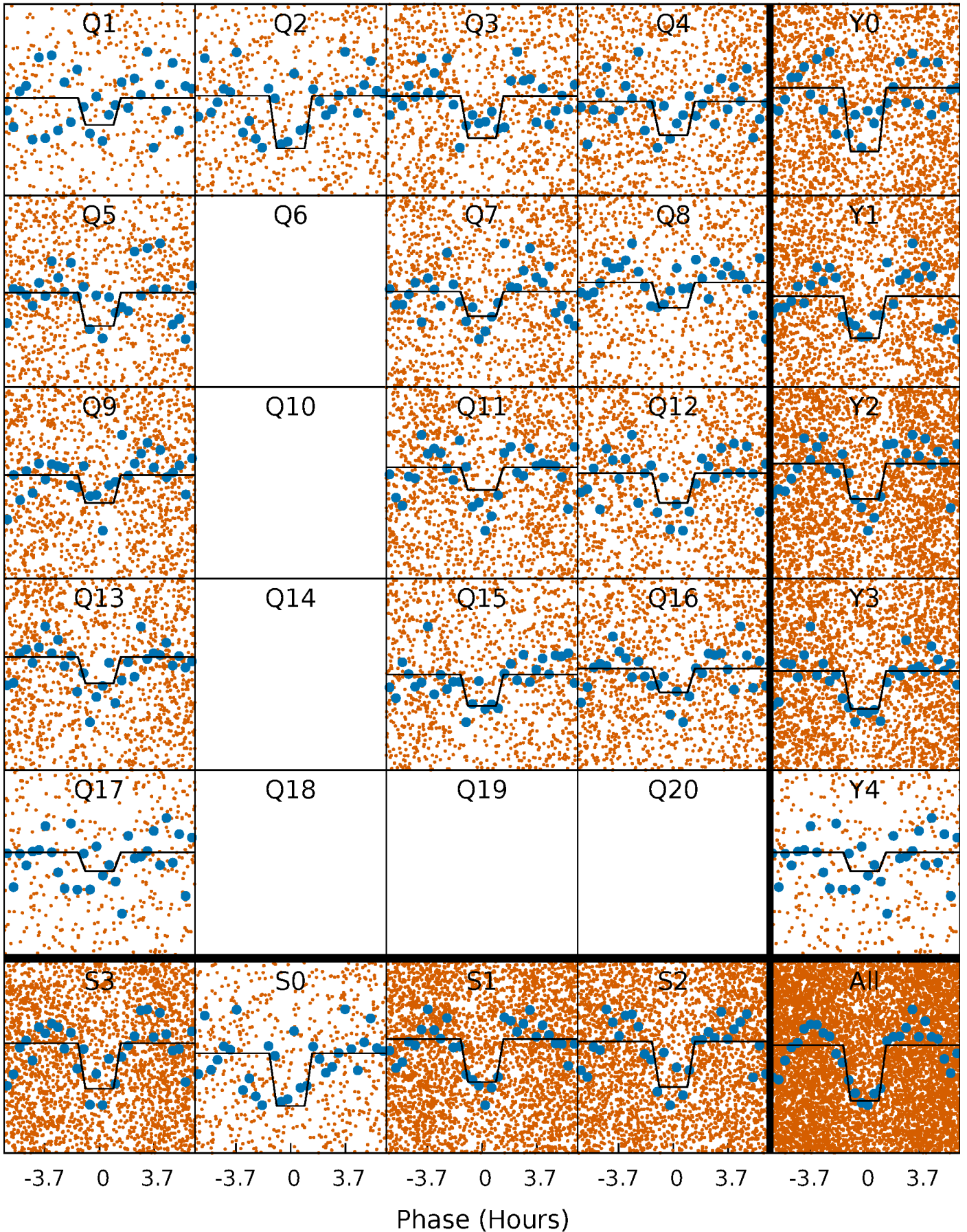
DV Quarter-Phased Transit Curves

TCE 004276821-01 P= 0.537775 Days $T_0=131.908715$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

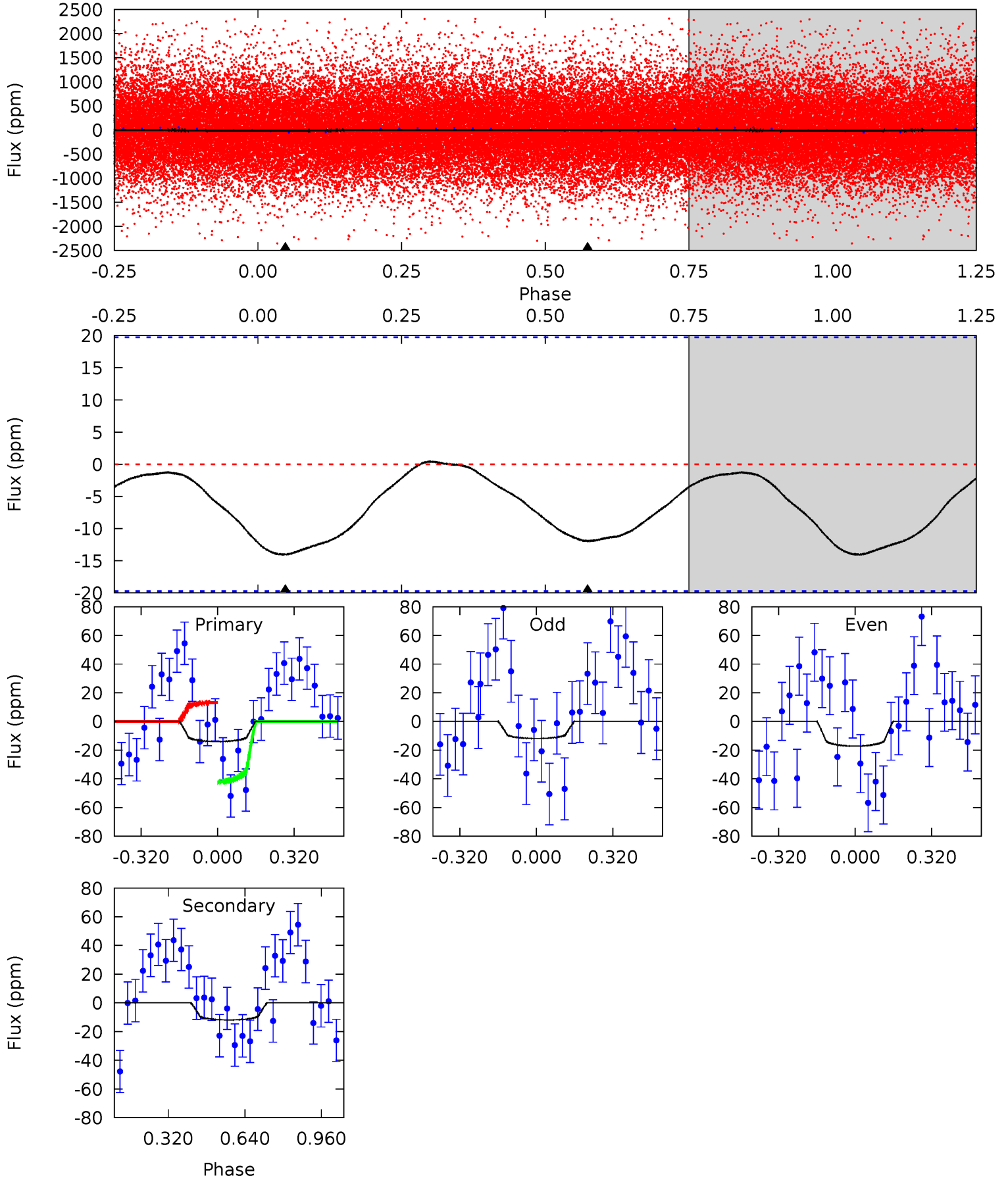
TCE 004276821-01 P= 0.537802 Days $T_0=131.909303$ (BKJD)



DV Model-Shift Uniqueness Test

004276821-01, P = 0.537775 Days, E = 131.370940 Days

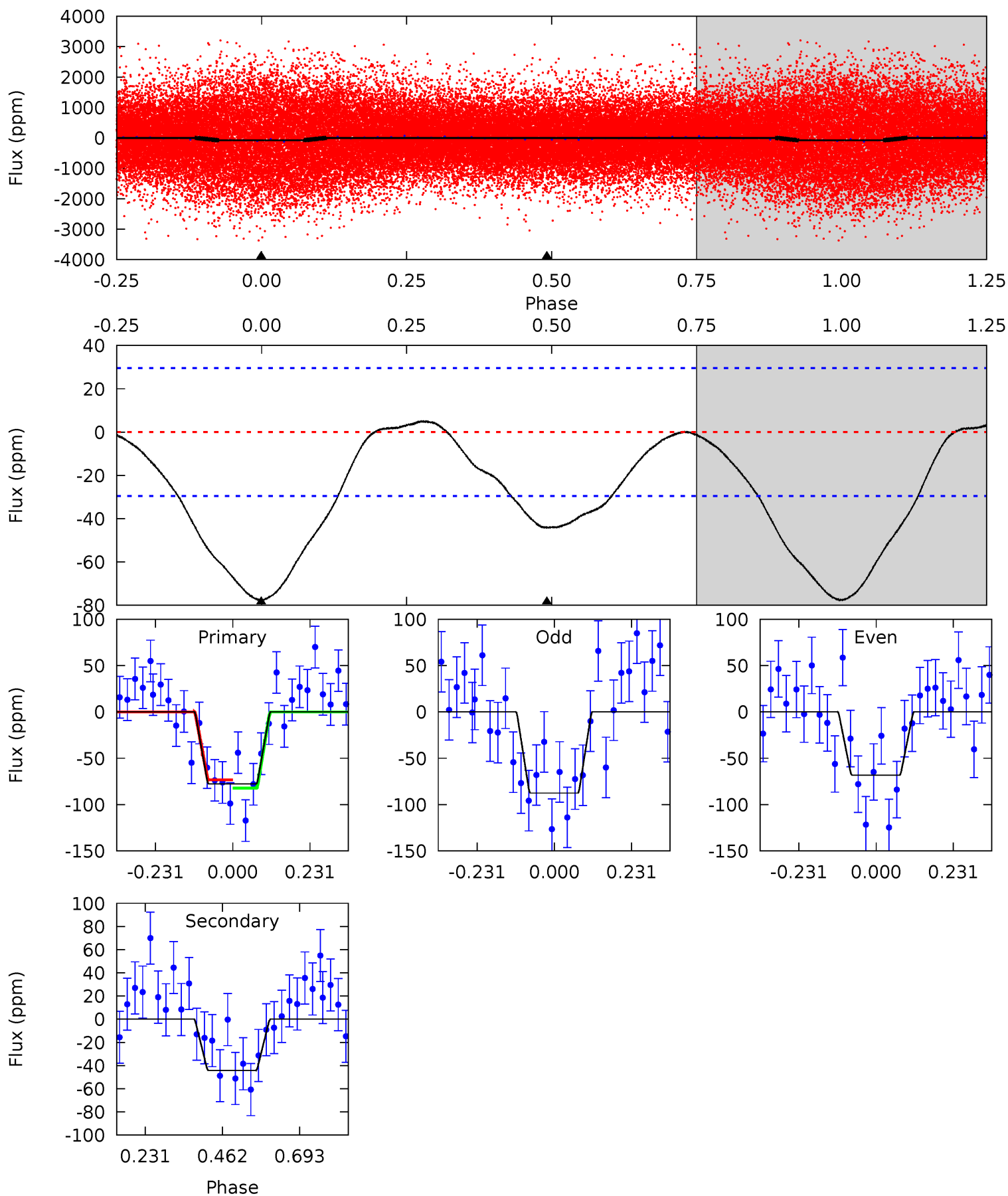
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.07	2.61	0	0	4.31	0.99	0.17	3.07	3.07	2.61	2.61	0.58	0.92	0.03	3.17



Alt Model-Shift Uniqueness Test

004276821-01, P = 0.537802 Days, E = 131.371501 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	6.56	0	0	4.39	1.20	0.38	11.5	11.5	6.56	6.56	1.46	2.38	0.06	0.66



Stellar Parameters For KIC 004276821

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10090^{+319}_{-425}	$4.417^{+0.066}_{-0.104}$	$-0.500^{+0.050}_{-0.500}$	$1.384^{+0.203}_{-0.148}$	$1.826^{+0.129}_{-0.203}$	$0.971^{+0.346}_{-0.326}$
	+3%/-4%	+1%/-2%	+10%/-100%	+15%/-11%	+7%/-11%	+36%/-34%
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 004276821-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-12 ± 5	$0.93^{+0.76}_{-0.62}$	5816^{+290}_{-262}	6500^{+8818}_{-2370}	$1.763^{+14.223}_{-1.270}$
Alt.	-44 ± 7	$1.47^{+0.84}_{-0.78}$	5848^{+287}_{-291}	7583^{+5870}_{-1925}	$2.771^{+9.153}_{-1.663}$

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

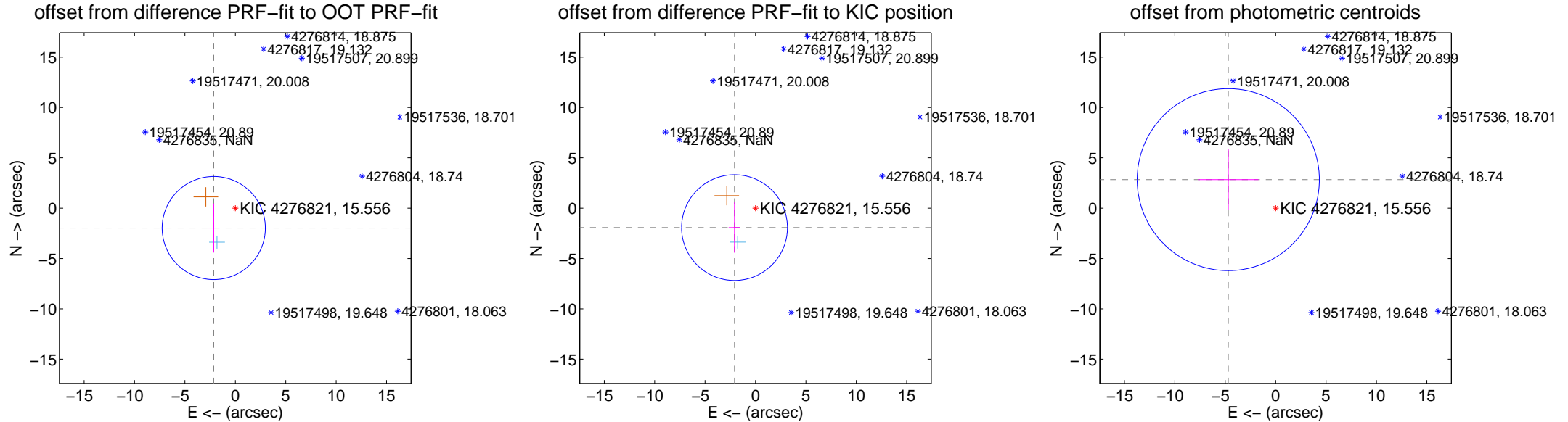
DV Centroid Data

Supplemental centroid analysis for 004276821-01. Kepler magnitude: 15.56. Transit SNR 4.74

There are 1 quarters with good PRF difference image offsets

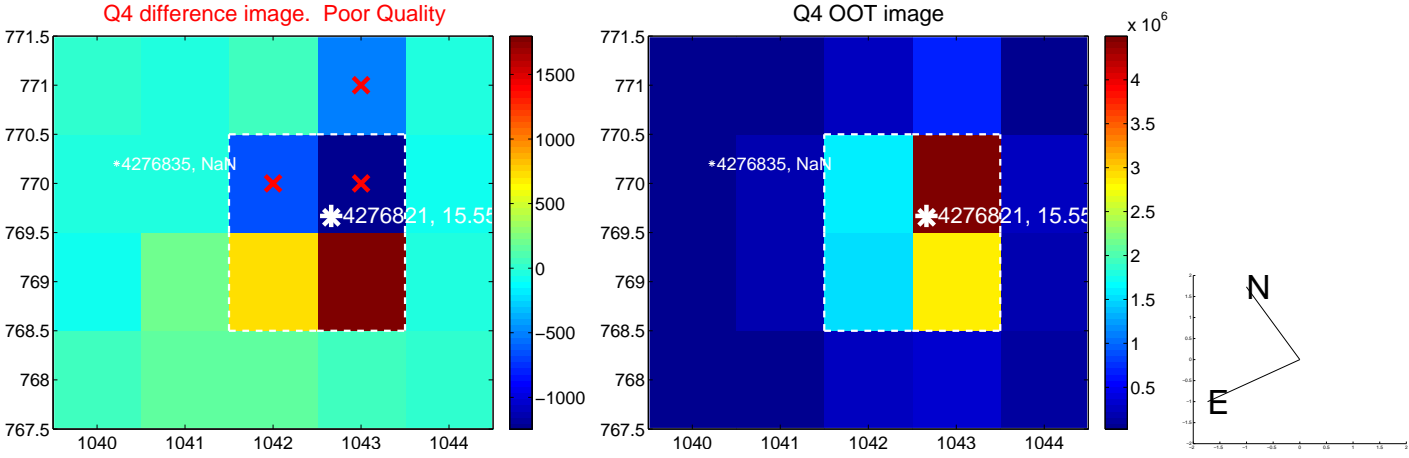
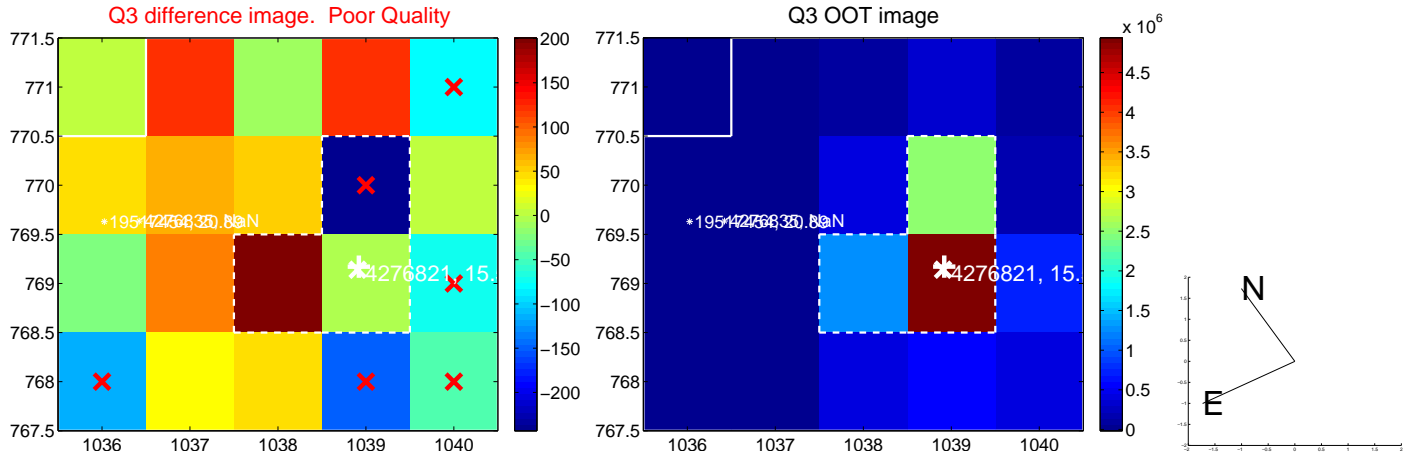
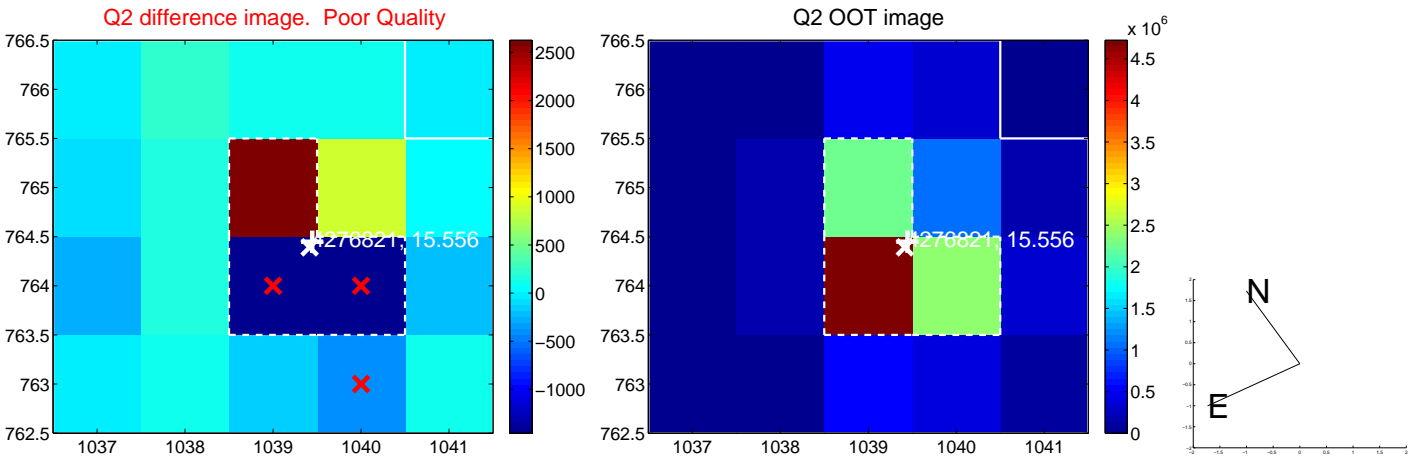
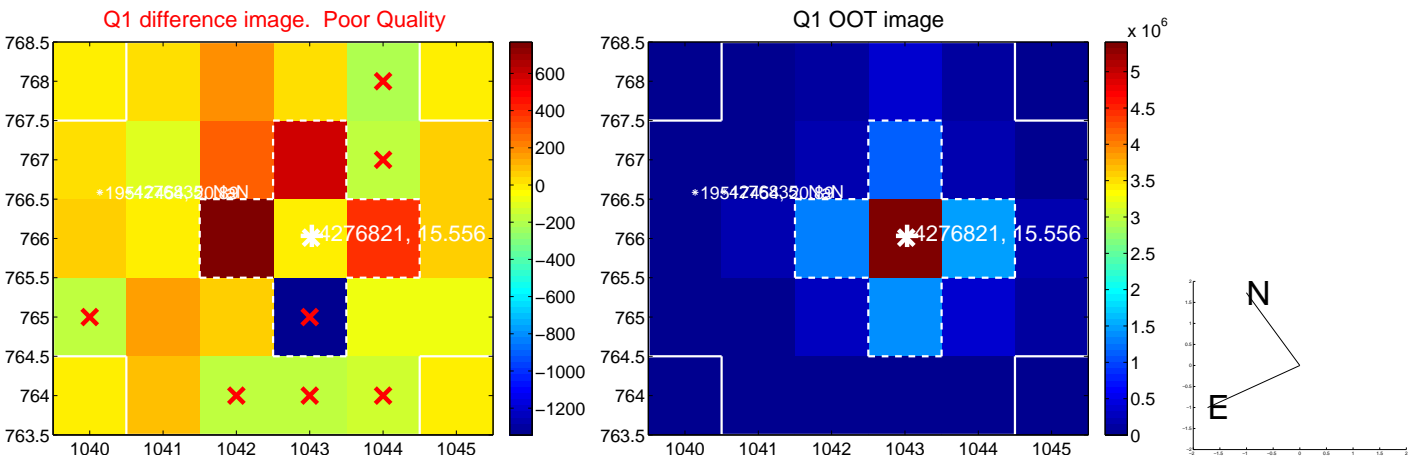
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.912 ± 1.707	1.71	2.142 ± 0.591	-1.972 ± 2.436
PRF-fit source offset from KIC position	2.838 ± 1.751	1.62	2.082 ± 0.577	-1.929 ± 2.500
photometric centroid source offset	5.49 ± 3.01	1.82	4.70 ± 3.00	2.83 ± 3.05

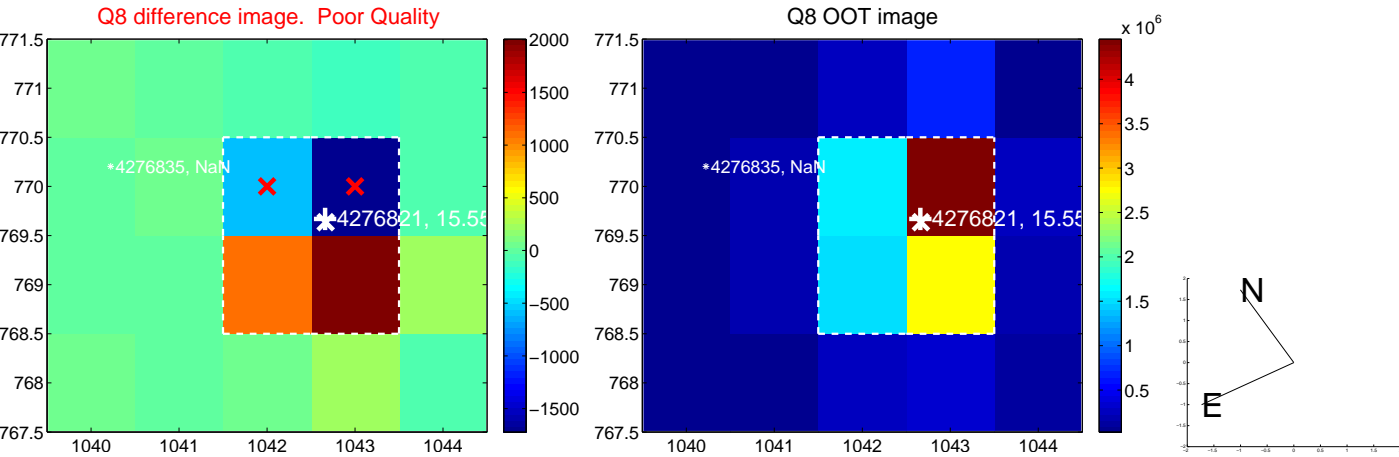
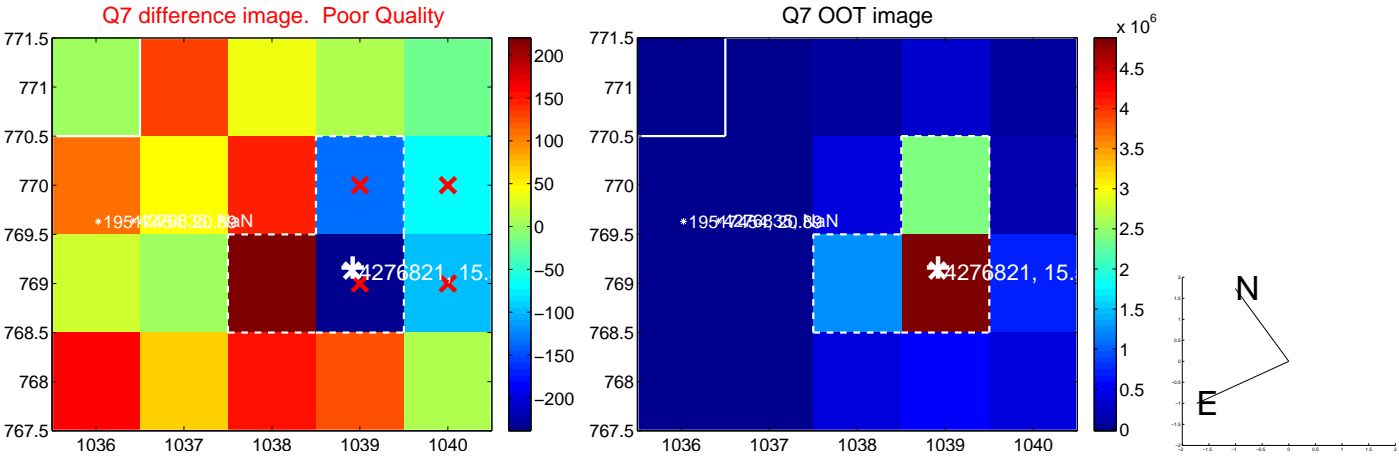
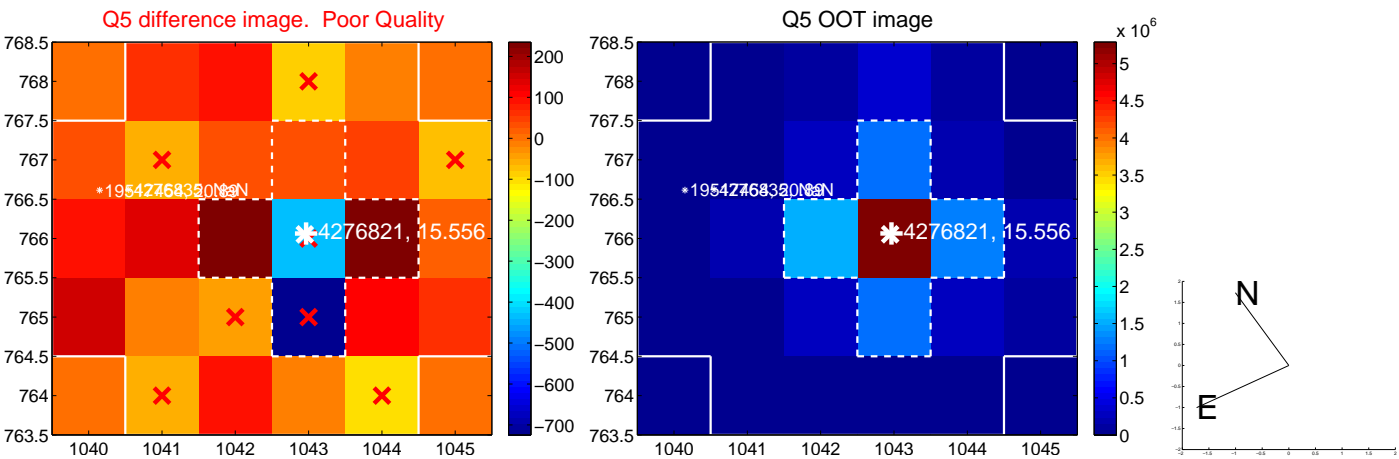


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

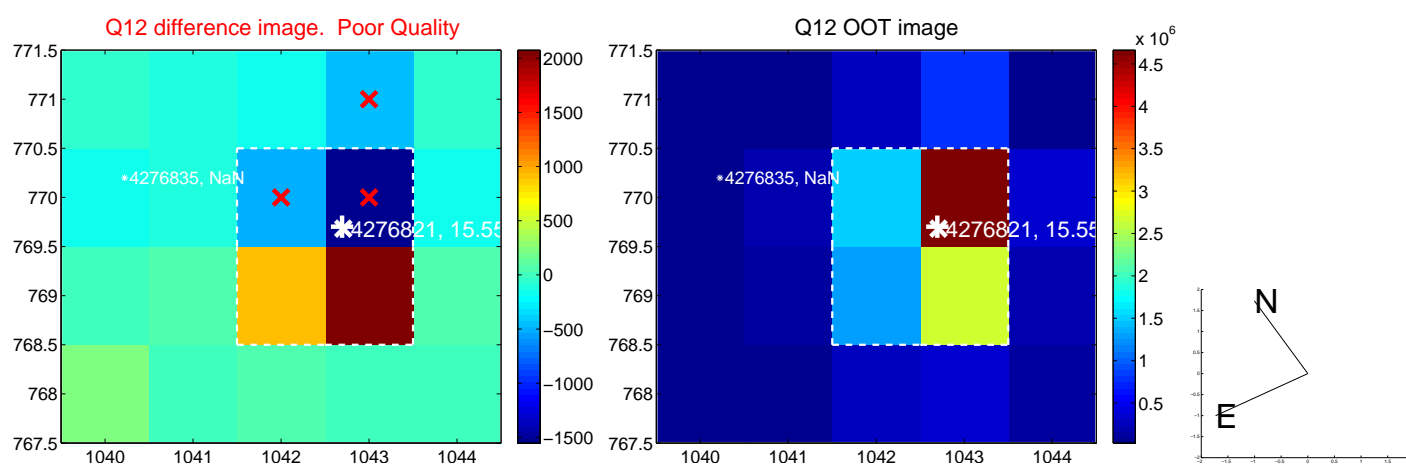
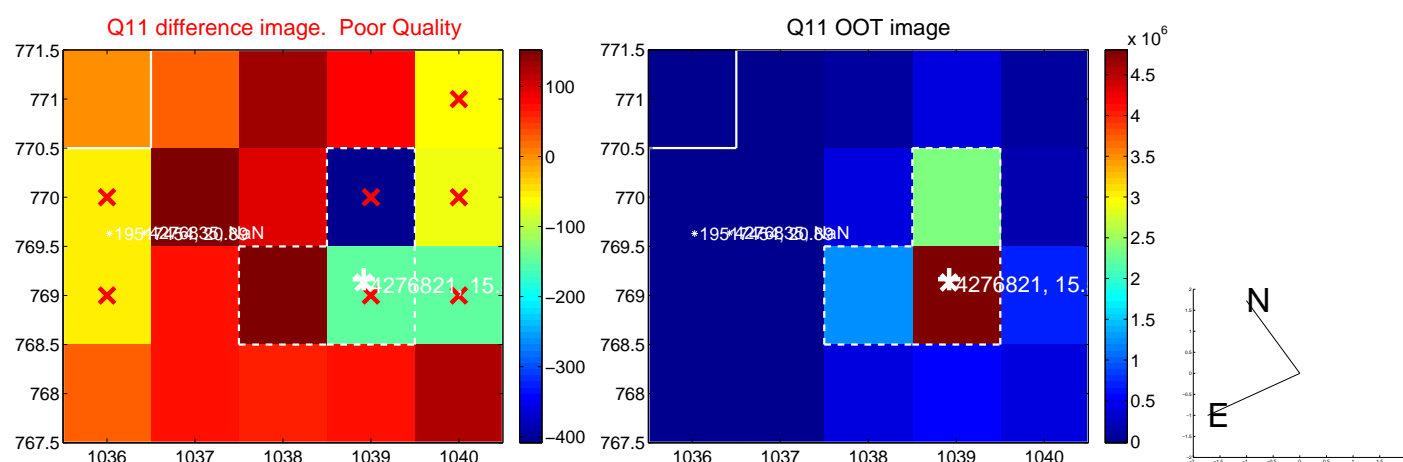
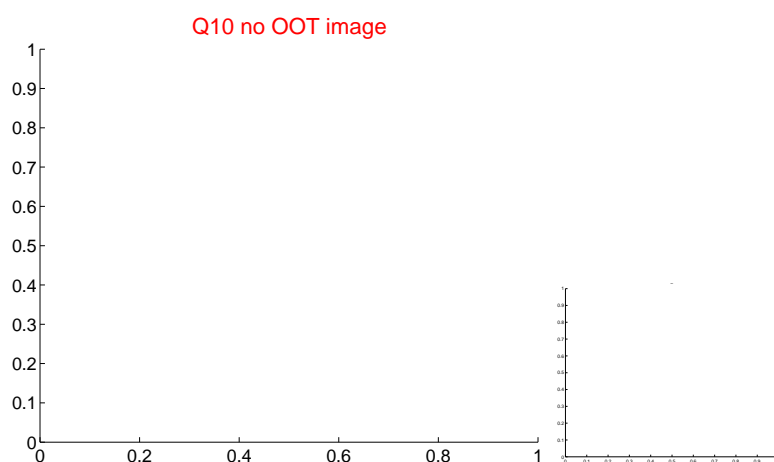
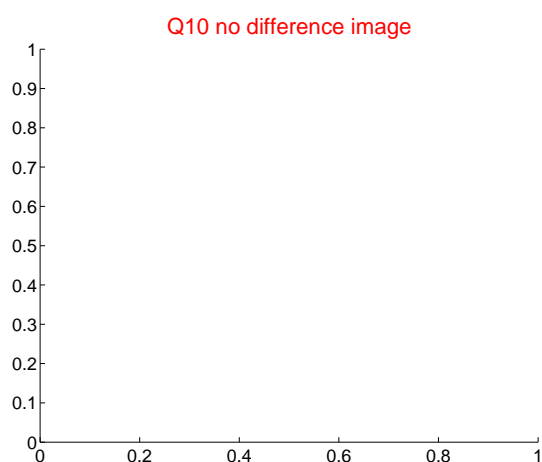
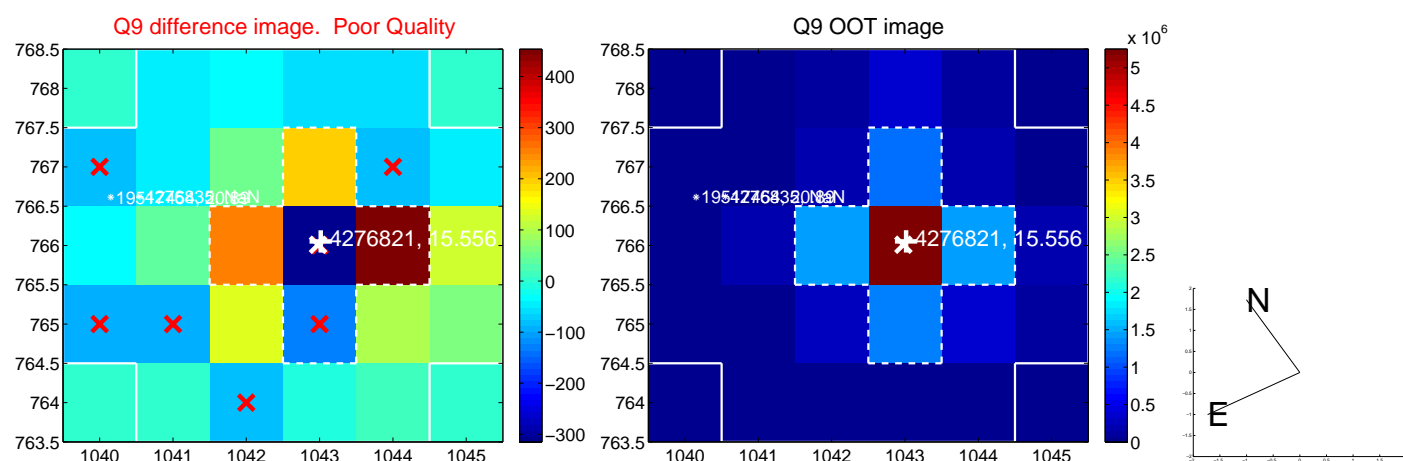
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



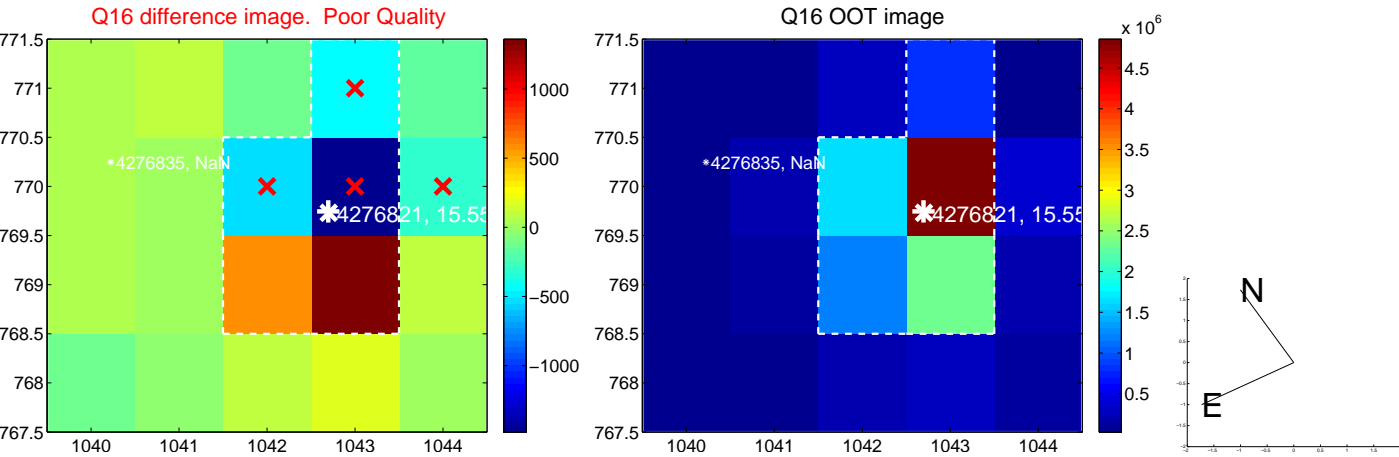
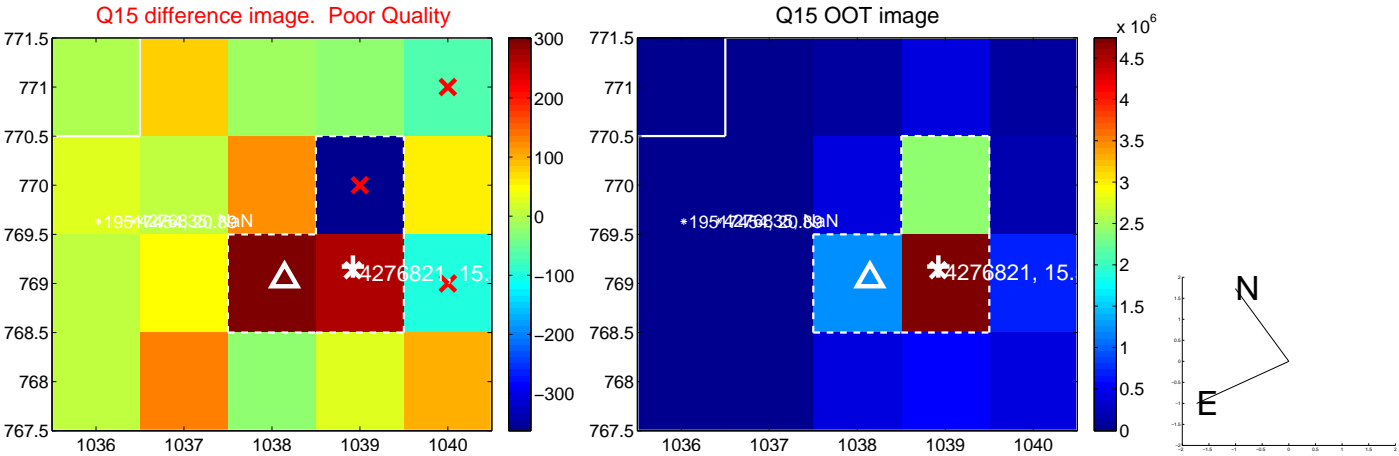
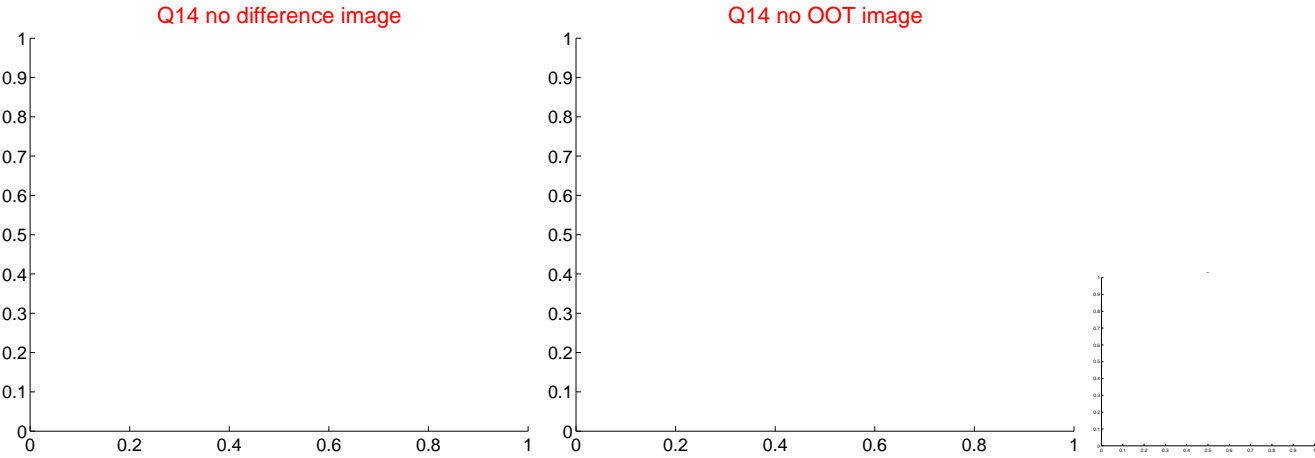
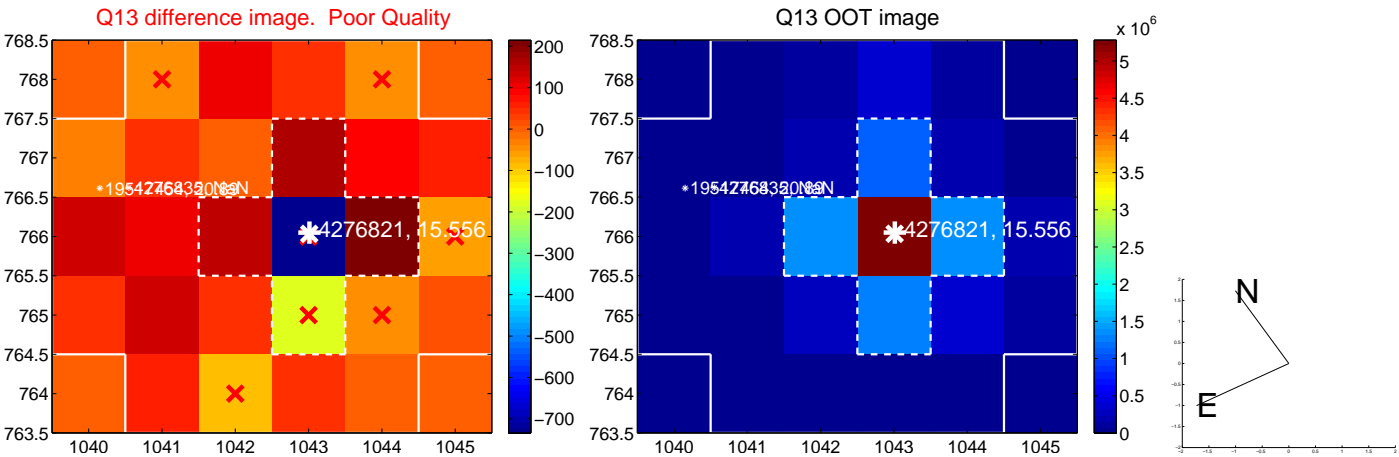
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



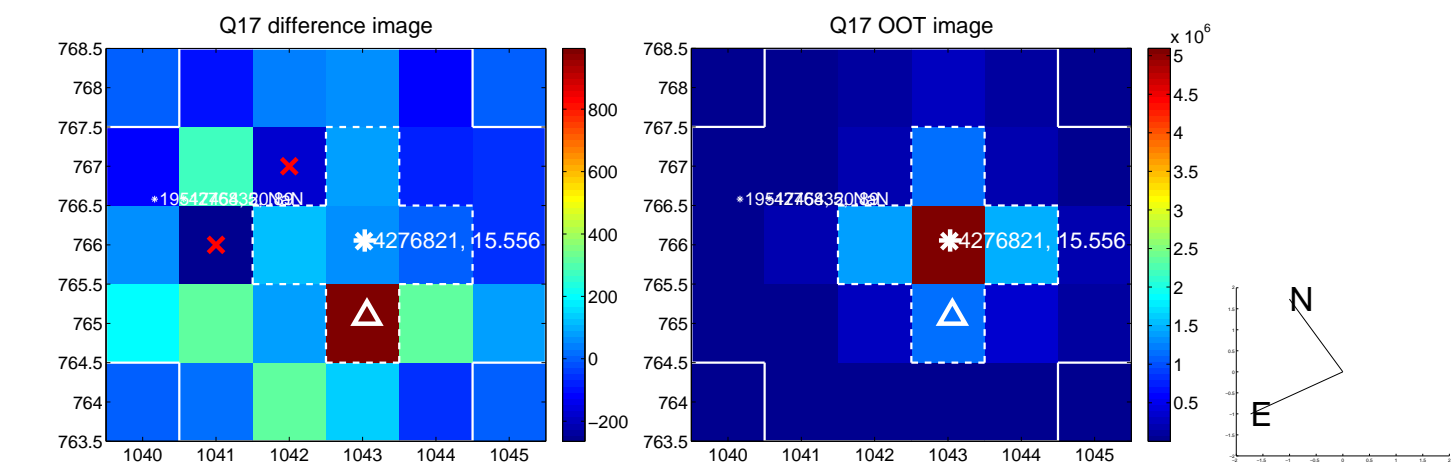
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



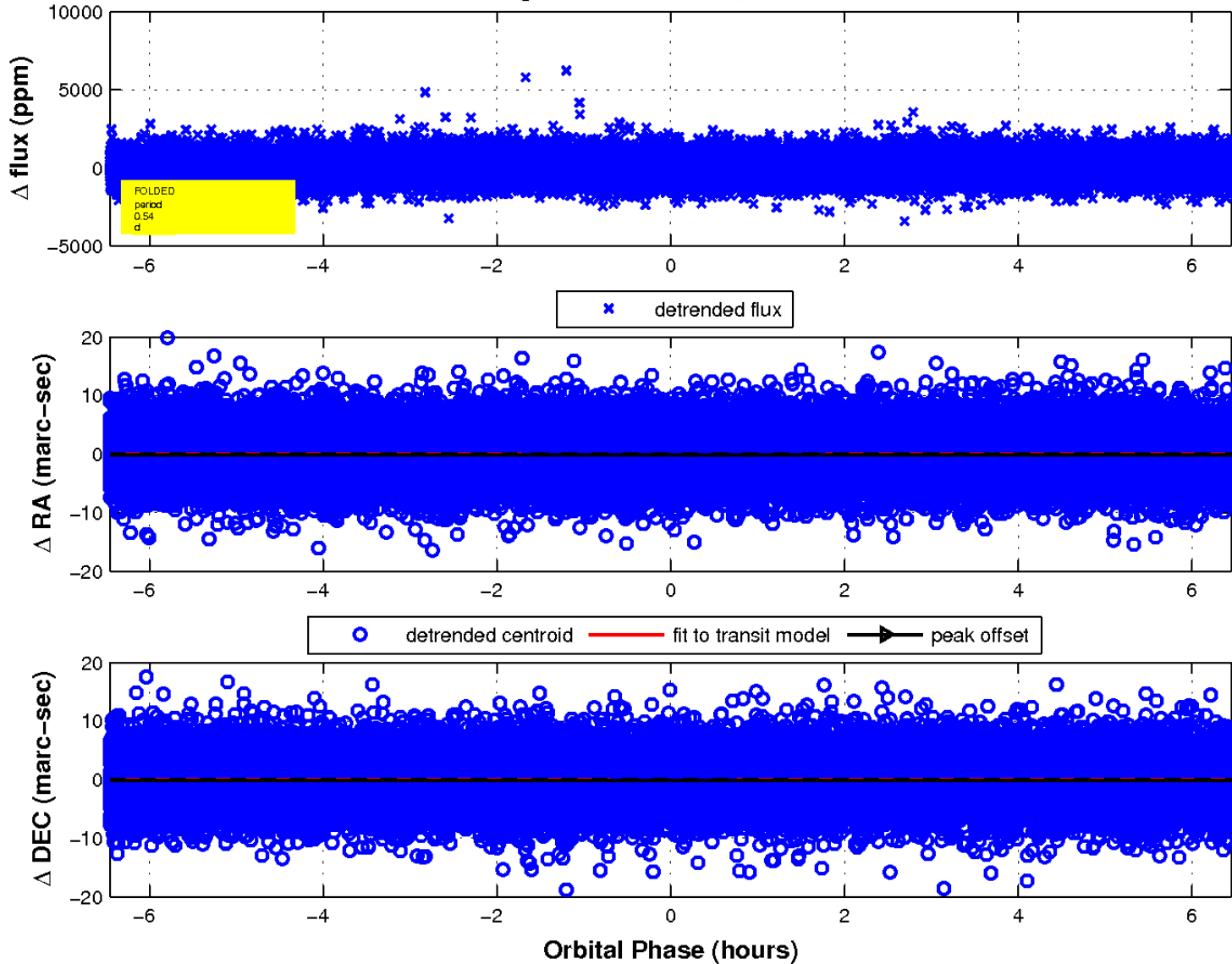
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

