

KIC 004271474

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})
004271474-01	OBS	3324.01	21.863555	145.236391	816.8	3.627	13.7	14.3	0.79	5383	2.48	21.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004271474-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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 004271474-01

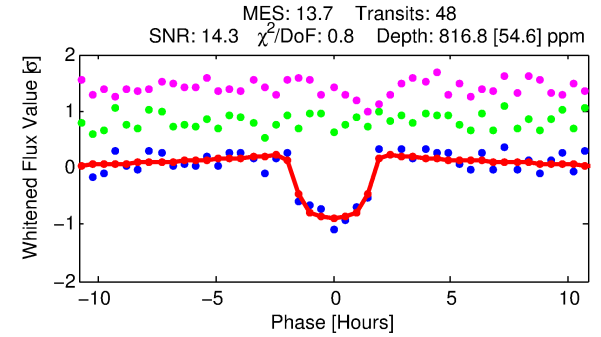
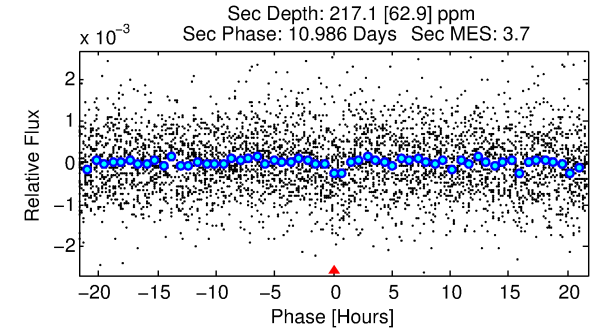
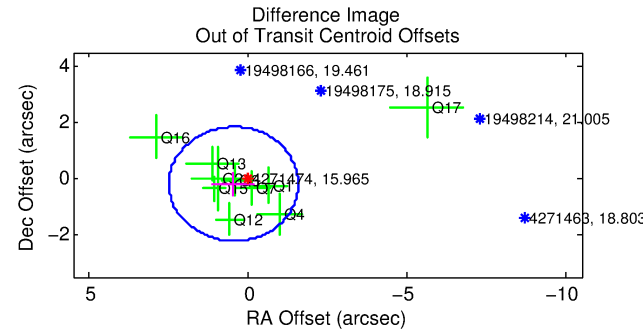
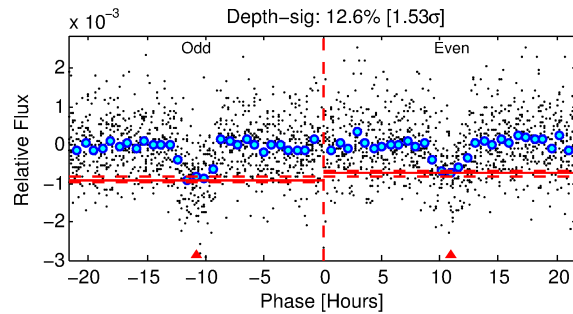
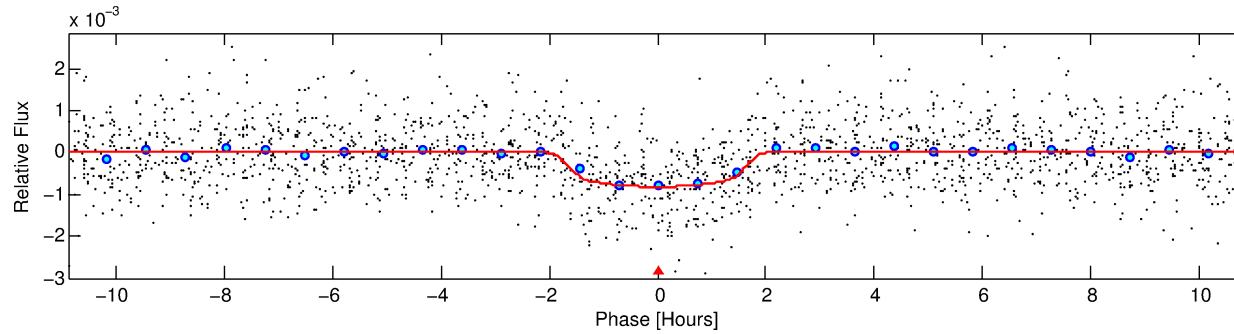
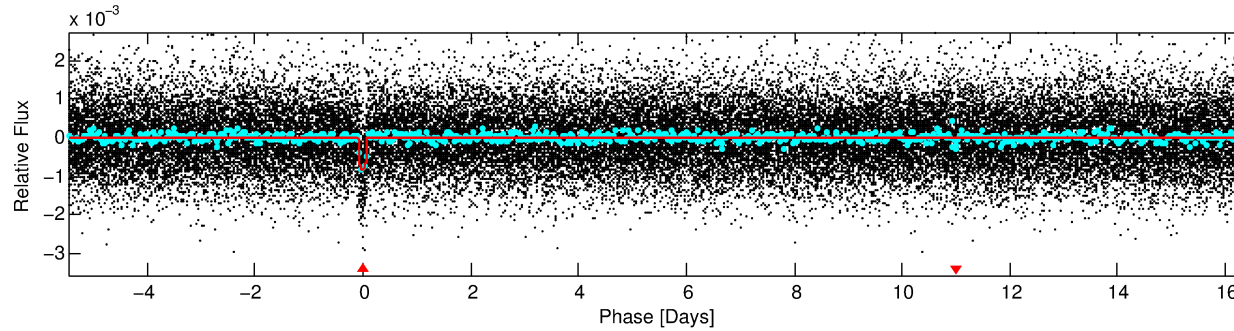
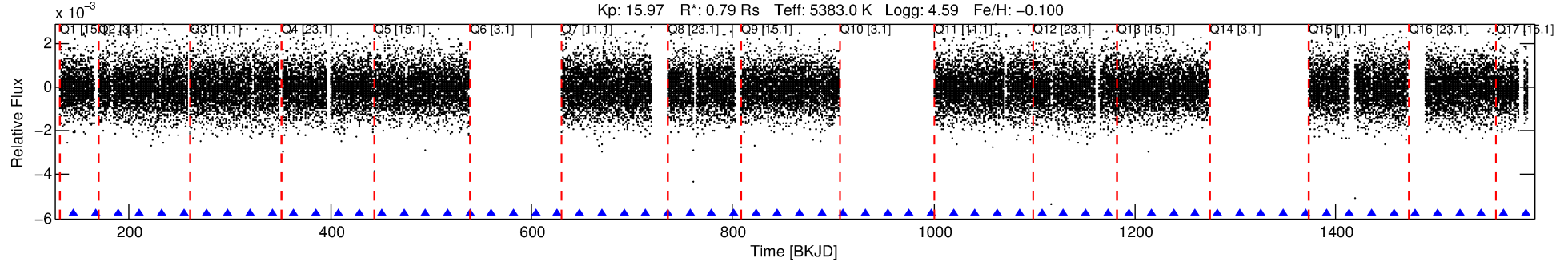
No Significant Match Found

DV One-Page Summary

KIC: 4271474 Candidate: 1 of 1 Period: 21.864 d

KOI: K03324.01 Corr: 0.982

Kp: 15.97 R*: 0.79 Rs Teff: 5383.0 K Logg: 4.59 Fe/H: -0.100



DV Fit Results:

Period = 21.86356 [0.00012] d
Epoch = 145.2364 [0.0045] BKJD
Rp/R* = 0.0288 [0.0167]
a/R* = 31.38 [72.29]
b = 0.77 [1.24]
Seff = 21.81 [5.50]
Teq = 551 [35] K
Rp = 2.48 [1.51] Re
a = 0.1465 [0.0227] AU
Ag = 418.07 [507.73] [0.82σ]
Teffp = 3853 [1156] K [2.86σ]

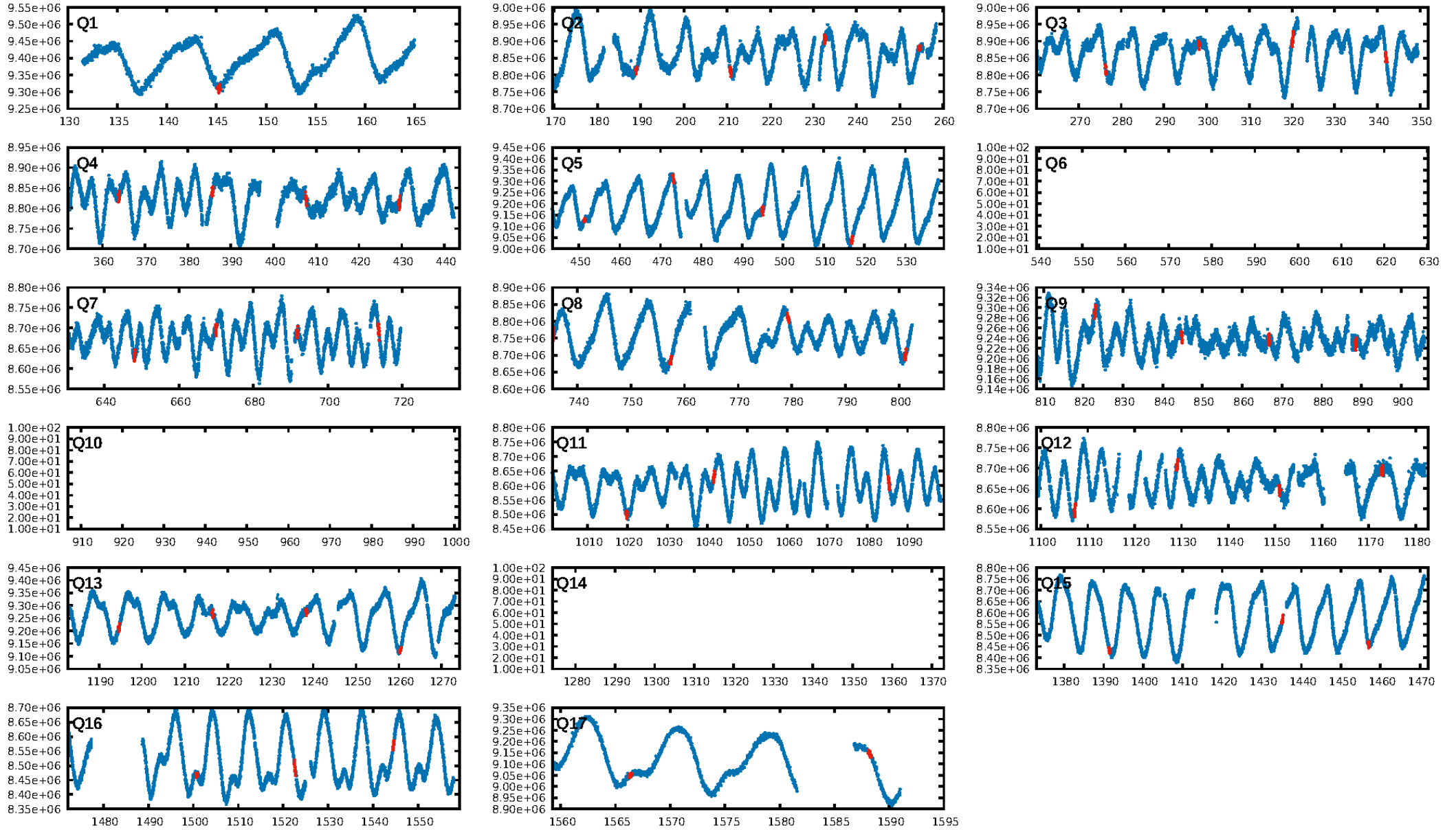
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 92.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.09e-41
RollingBand-fgt: 1.00 [45/45]
GhostDiagnostic-chr: 1.585
Centroid-sig: 8.5%
Centroid-so: 0.543 arcsec [0.63σ]
OotOffset-rm: 0.491 arcsec [0.72σ]
KicOffset-rm: 0.307 arcsec [0.45σ]
OotOffset-st: 1/4/3/2 [10]
KicOffset-st: 1/4/3/2 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 1.00 [14/14]

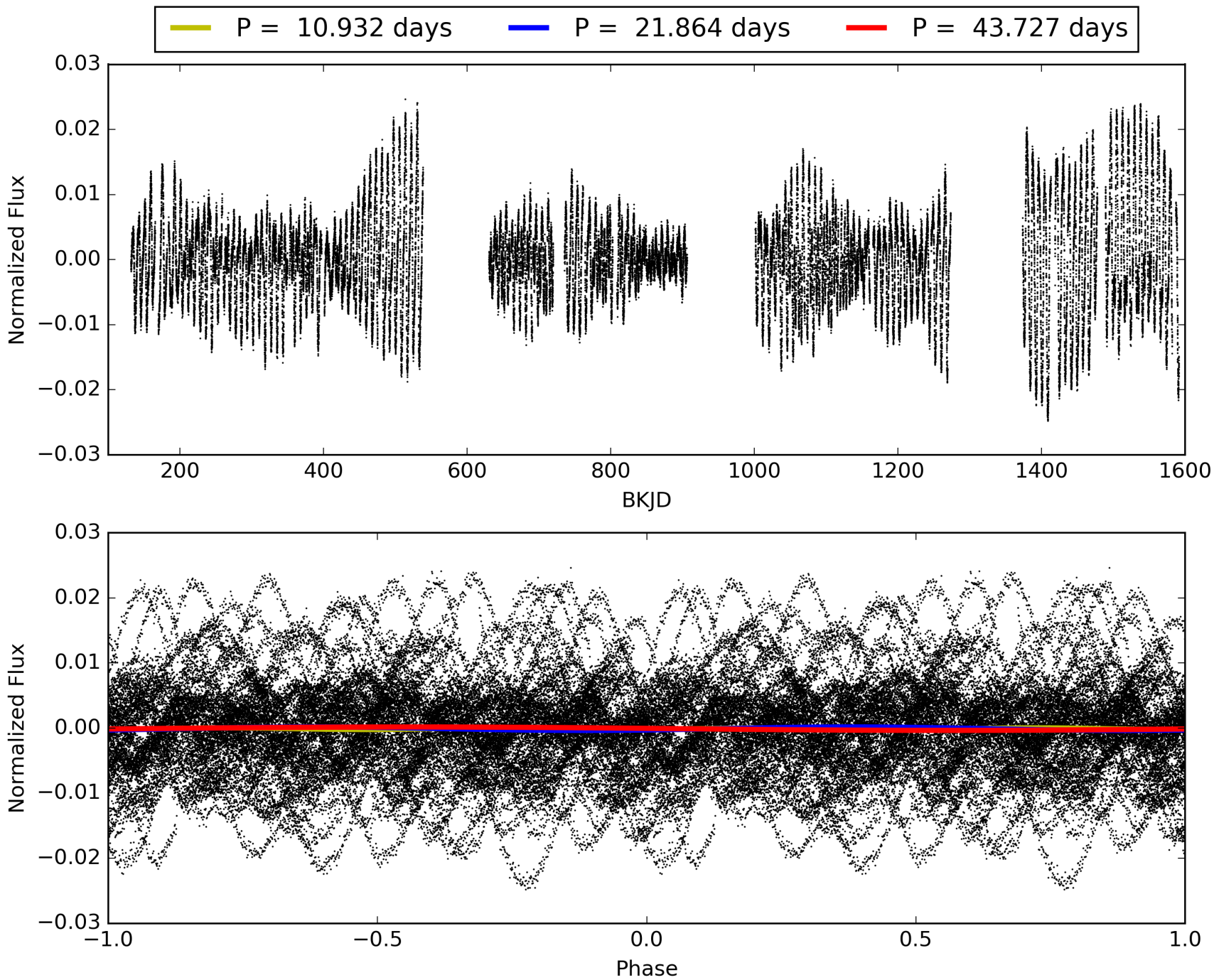
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:24:39 Z

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

TCE 004271474-01, PDC Light Curves

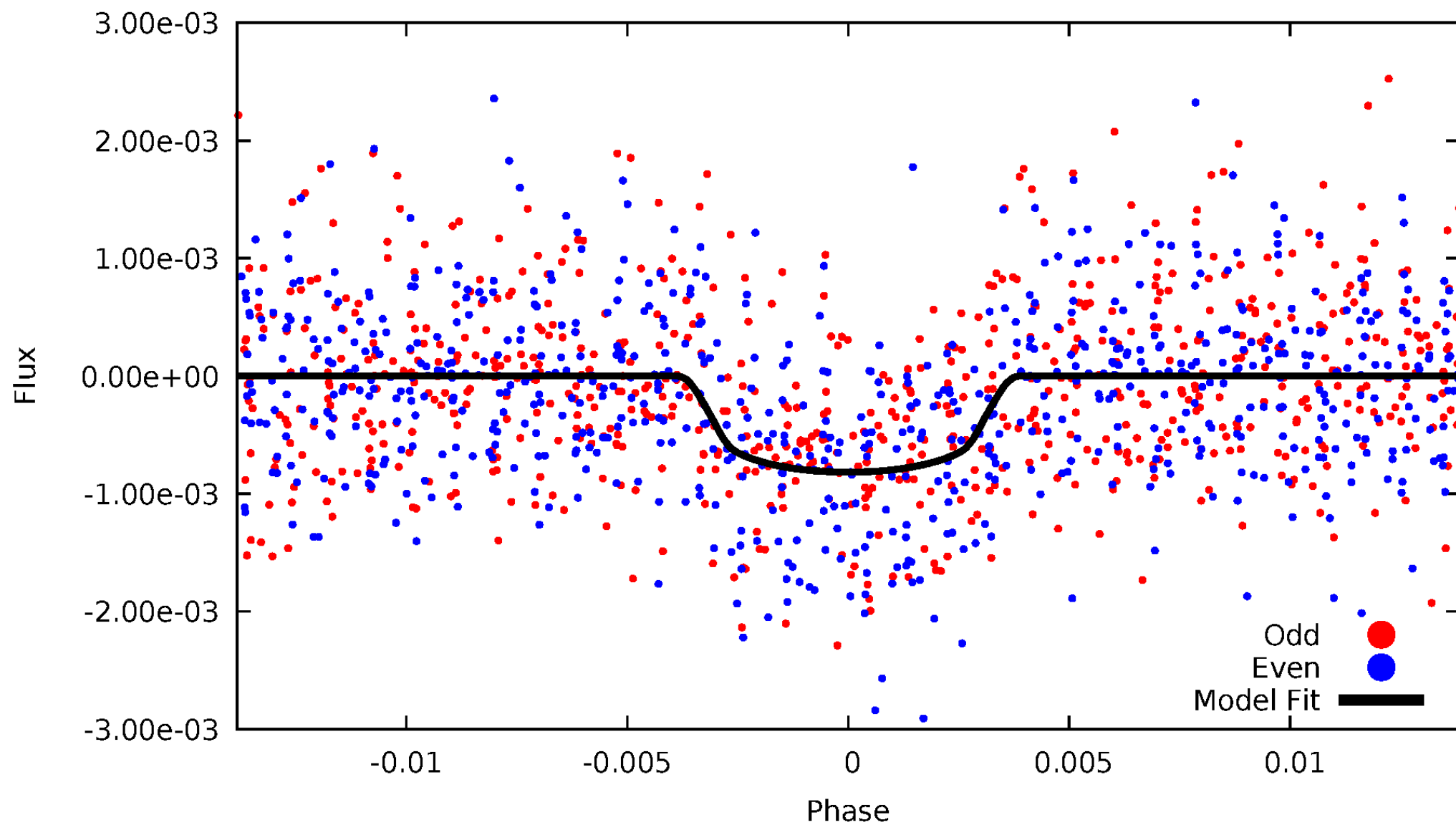


TCE 004271474-01



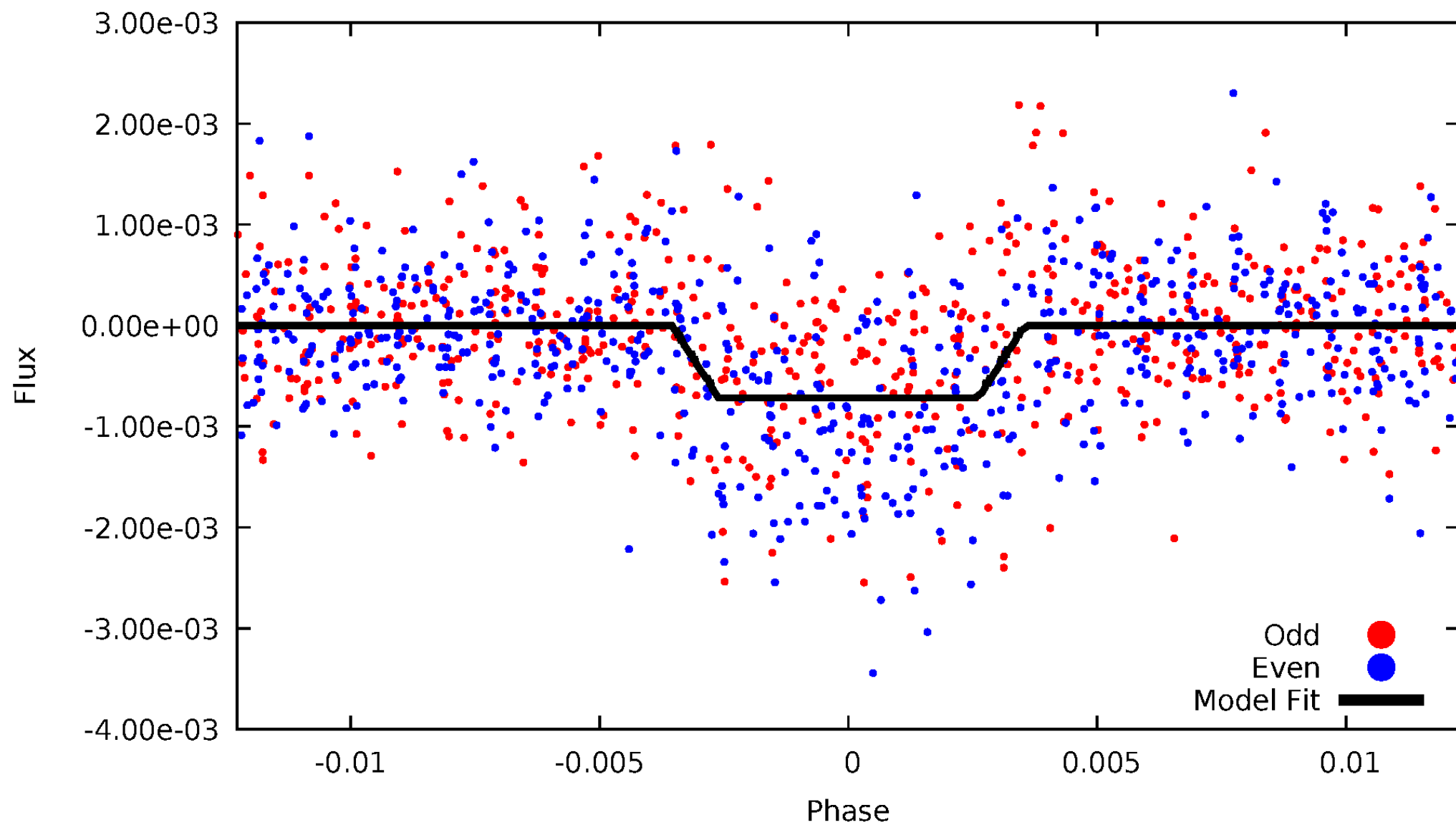
DV Odd/Even

TCE 004271474-01



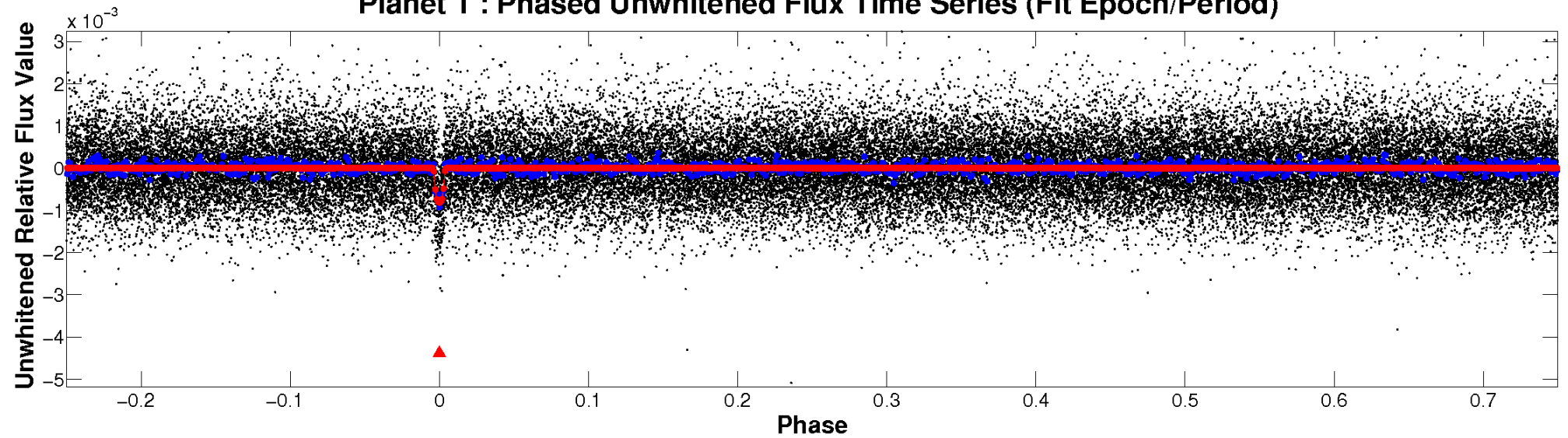
ALT Odd/Even

TCE 004271474-01

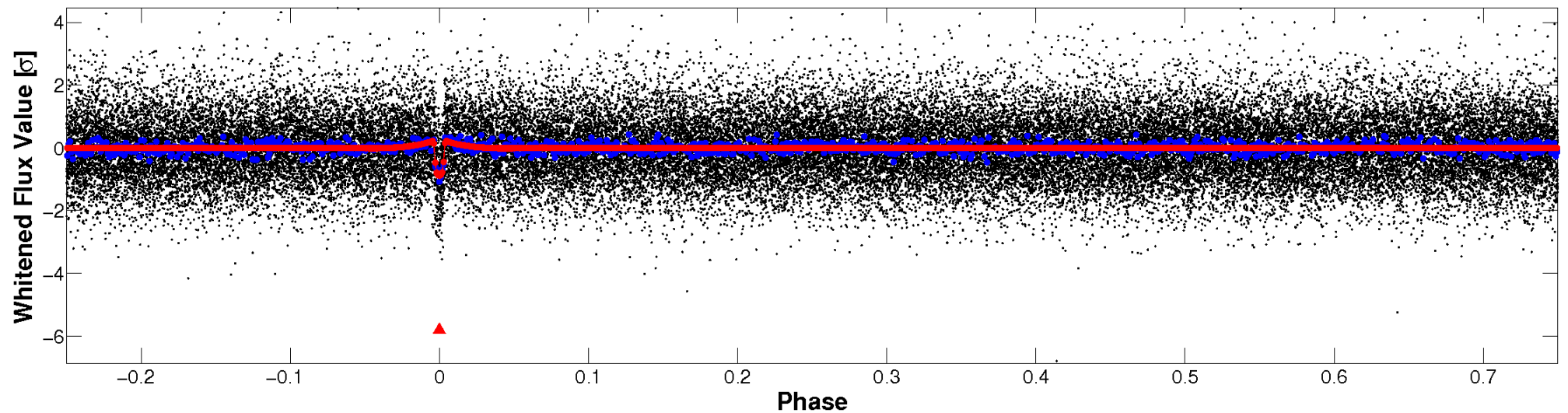


Non-Whitened Vs. Whitened Light Curve

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

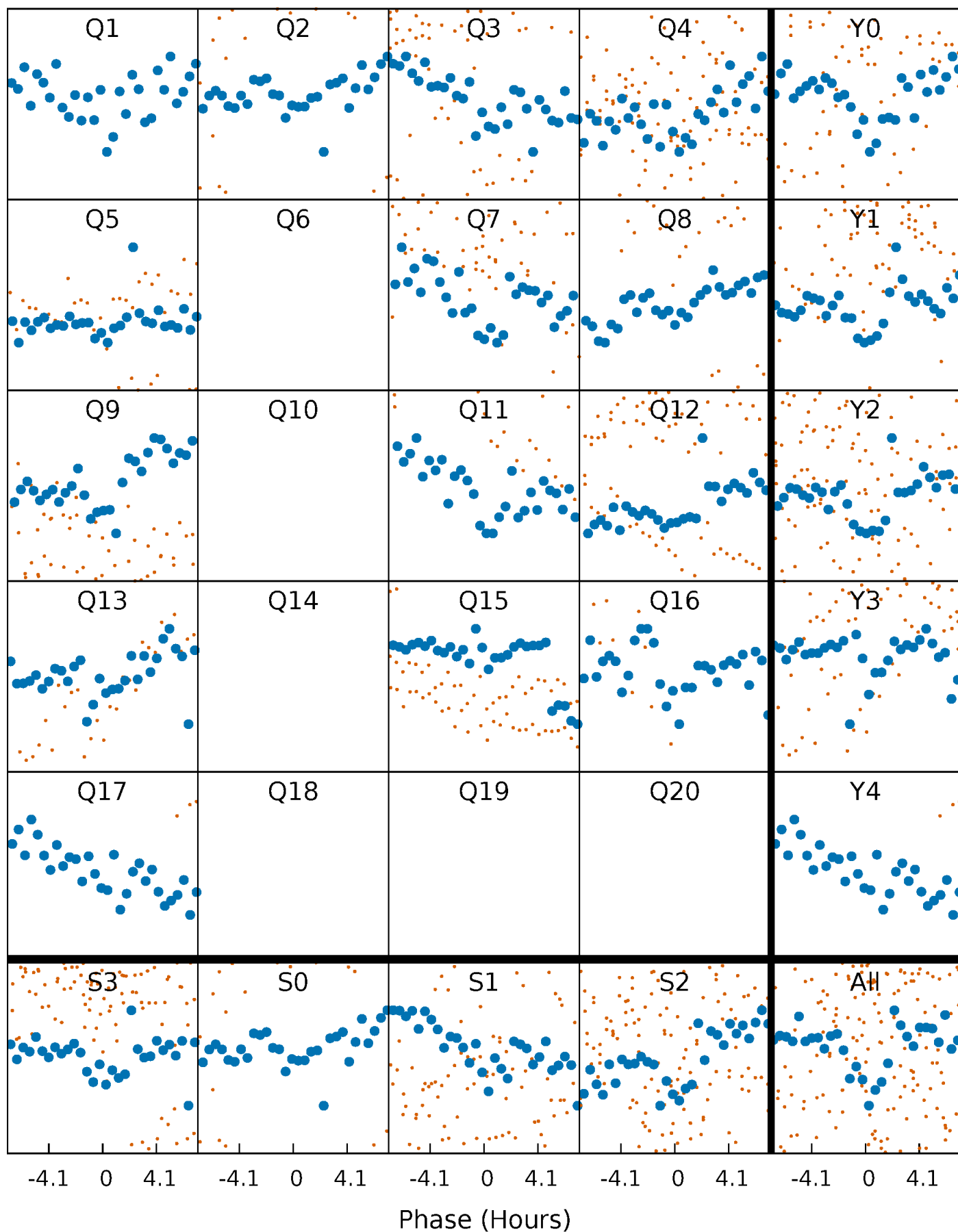


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



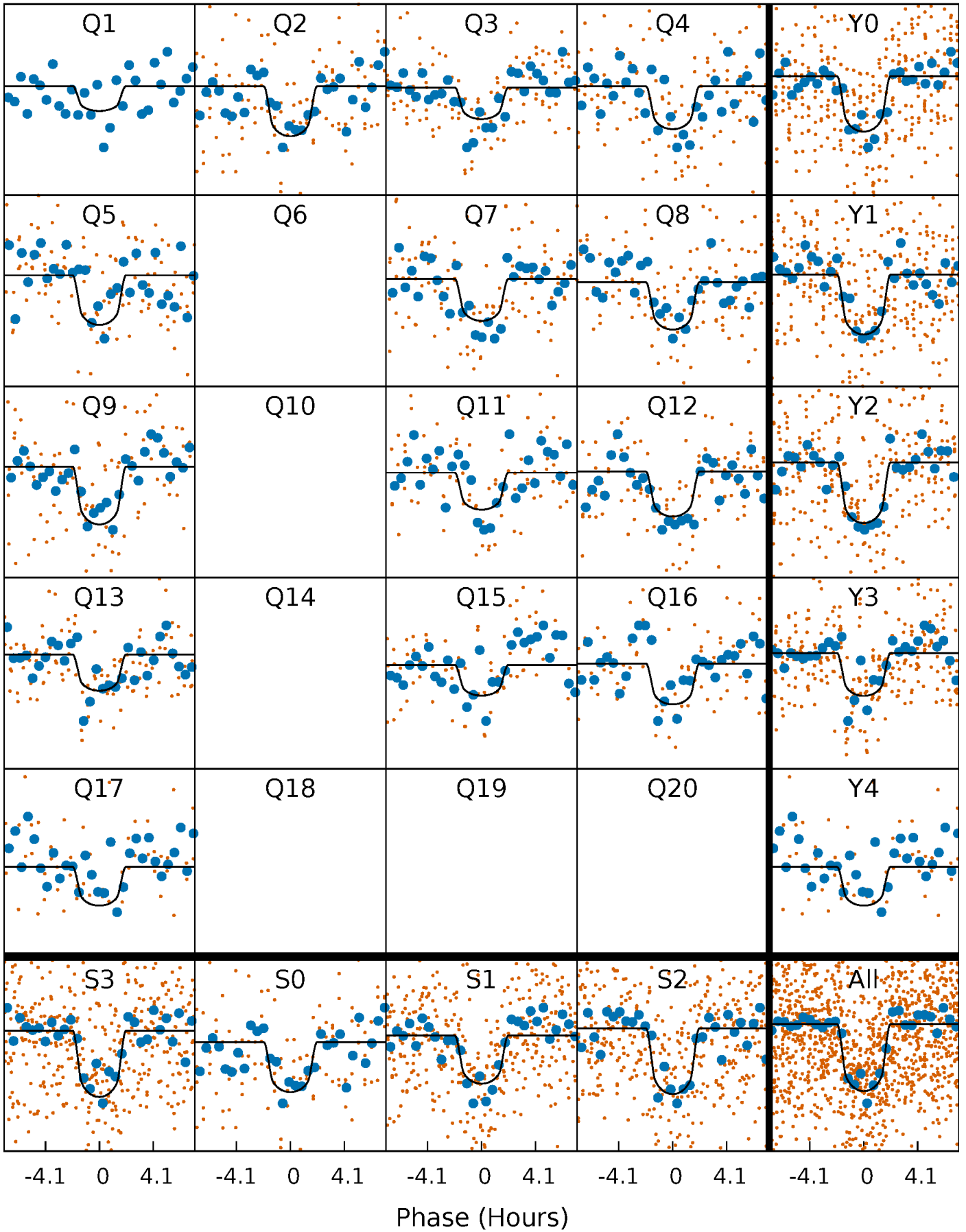
PDC Quarter-Phased Transit Curves

TCE 004271474-01 P= 21.863555 Days $T_0=145.236391$ (BKJD)



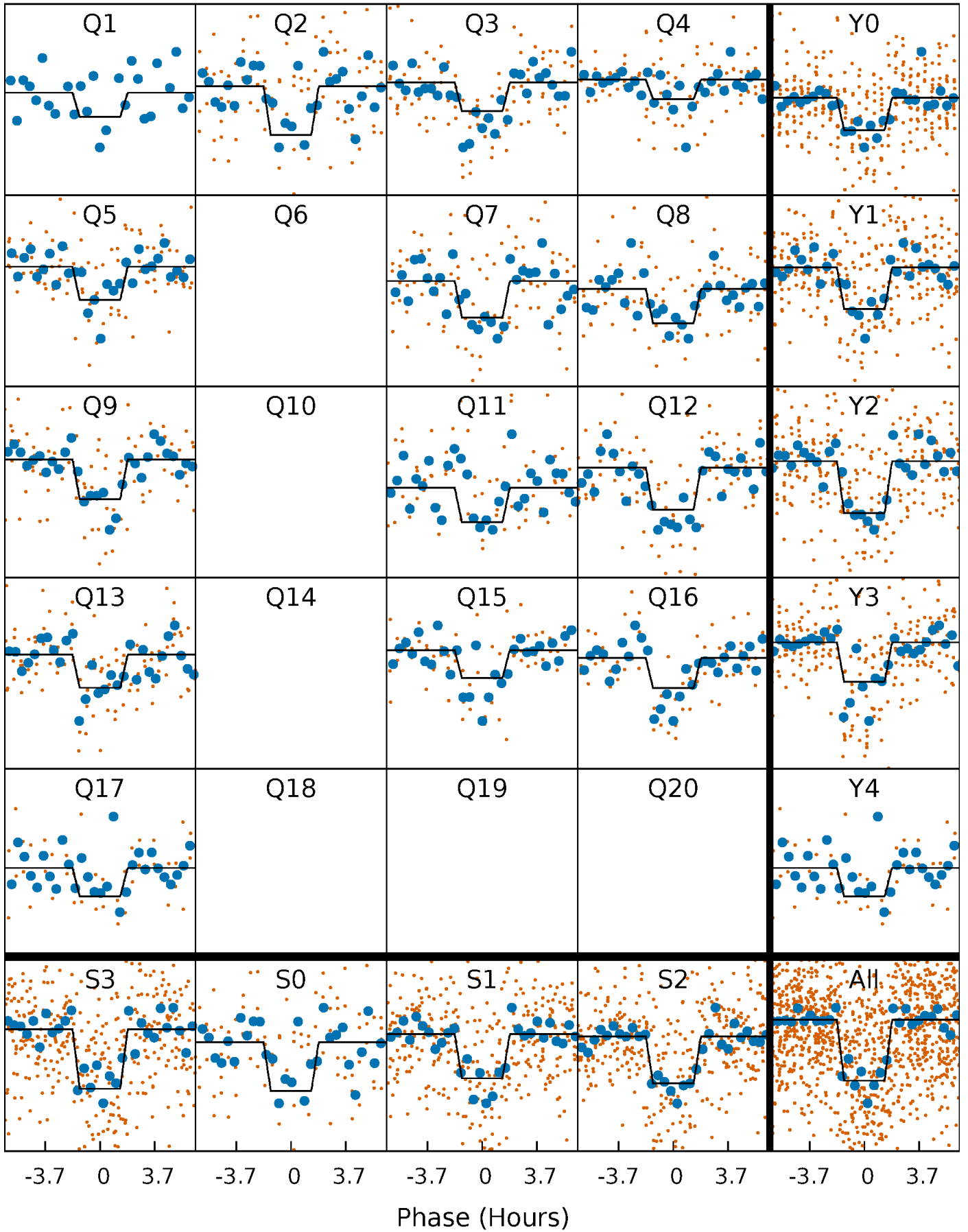
DV Quarter-Phased Transit Curves

TCE 004271474-01 P= 21.863555 Days $T_0=145.236391$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

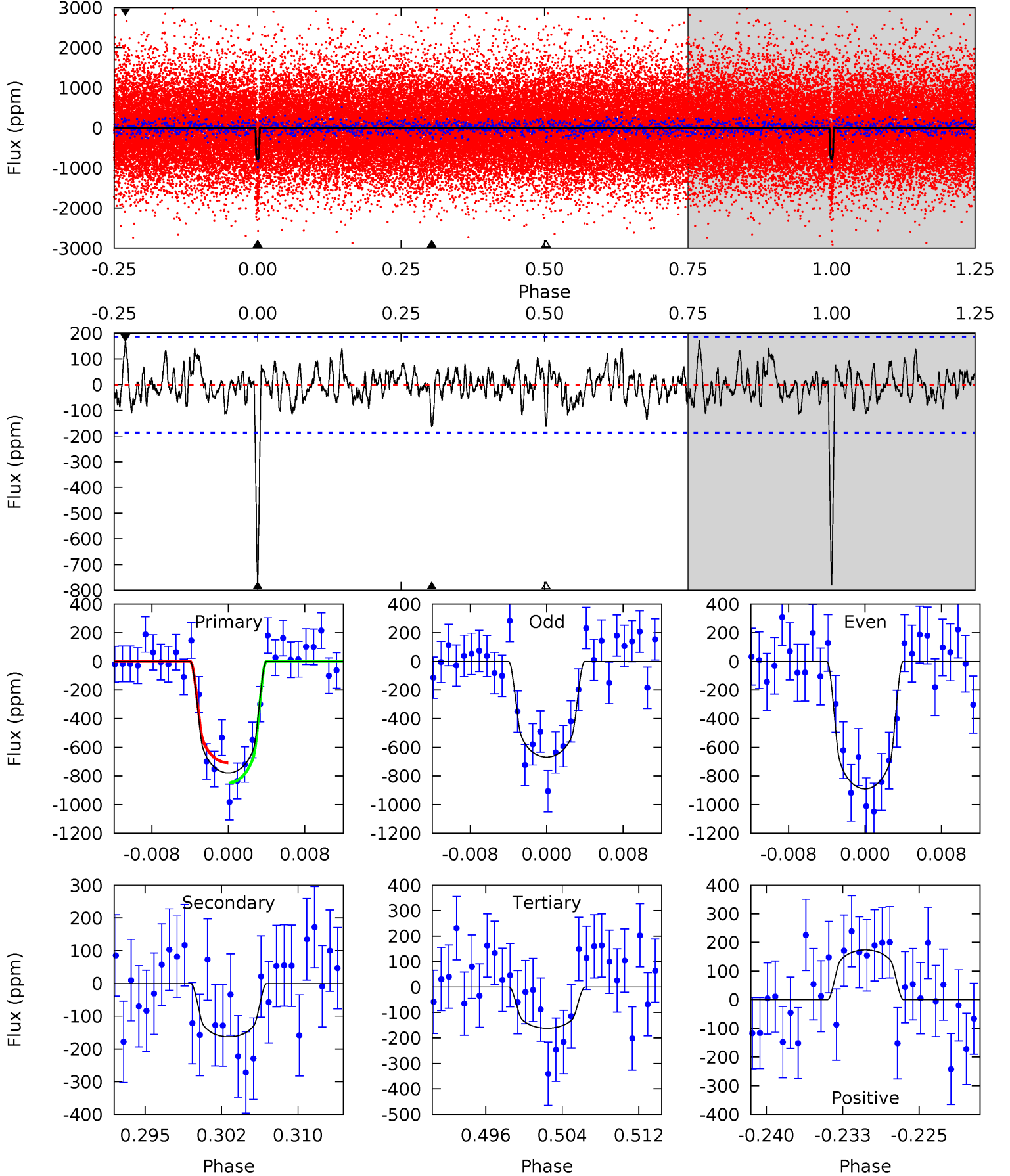
TCE 004271474-01 P= 21.863547 Days $T_0=145.238955$ (BKJD)



DV Model-Shift Uniqueness Test

004271474-01, P = 21.863555 Days, E = 123.372836 Days

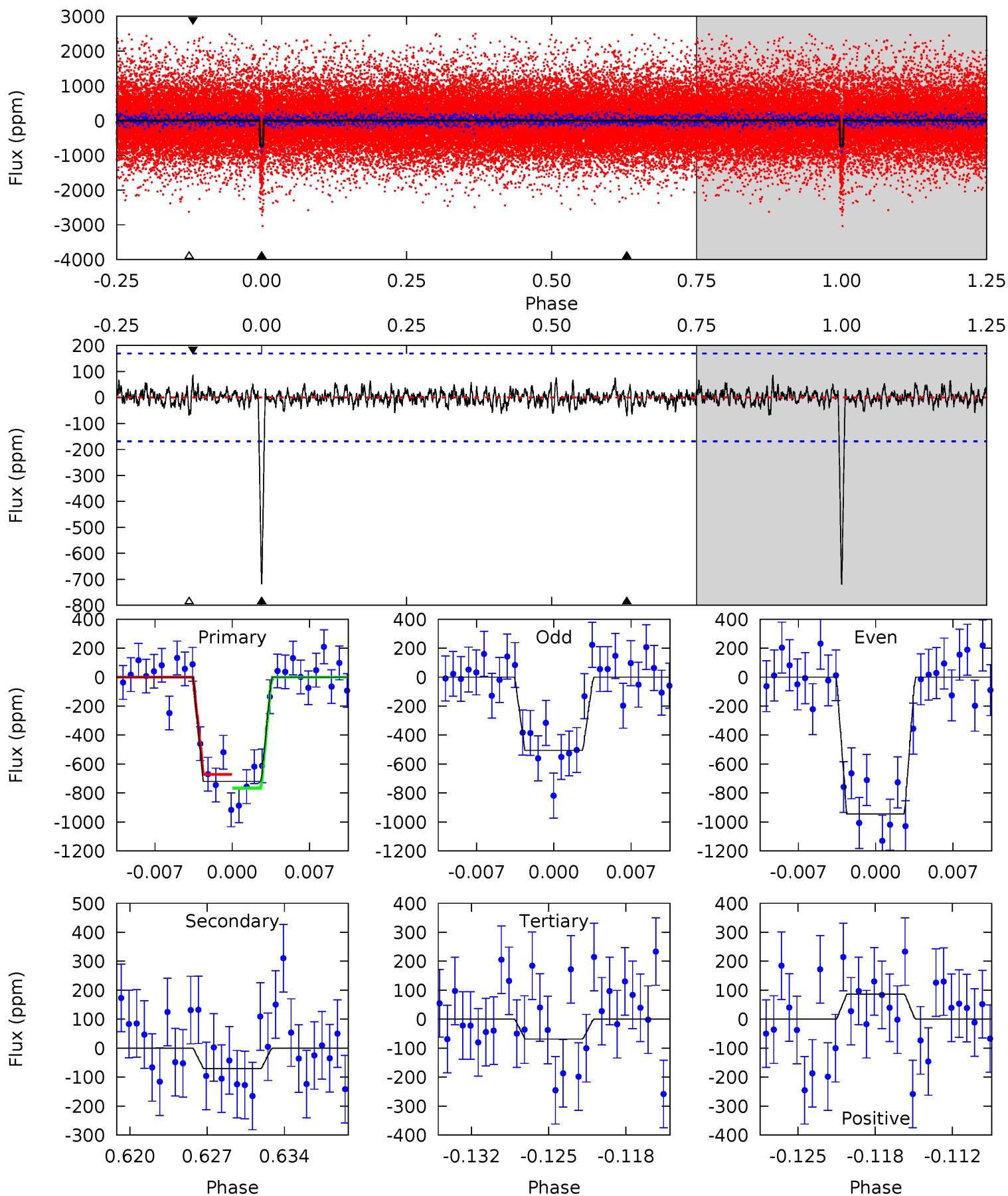
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	4.45	4.40	4.74	5.07	2.66	1.37	16.8	16.5	0.05	-0.29	3.03	1.01	0.18	1.91



Alt Model-Shift Uniqueness Test

004271474-01, P = 21.863547 Days, E = 123.375408 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	2.12	2.06	2.61	5.10	2.70	0.65	19.6	19.0	0.06	-0.49	6.62	1.06	0.11	1.42



Stellar Parameters For KIC 004271474

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5383^{+160}_{-144}	$4.587^{+0.030}_{-0.120}$	$-0.100^{+0.300}_{-0.300}$	$0.789^{+0.147}_{-0.063}$	$0.885^{+0.072}_{-0.099}$	$2.537^{+0.413}_{-0.926}$
	+3%/-3%	+1%/-3%	+300%/-300%	+19%/-8%	+8%/-11%	+16%/-37%
Source	PHO1	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 004271474-01 / KOI 3324.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-163 ± 37	$2.76^{+1.38}_{-1.47}$	784^{+38}_{-30}	3822^{+1222}_{-486}	252^{+878}_{-144}
Alt.	-70 ± 33	$2.40^{+1.39}_{-1.26}$	783^{+38}_{-31}	3433^{+1116}_{-527}	137^{+562}_{-91}

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

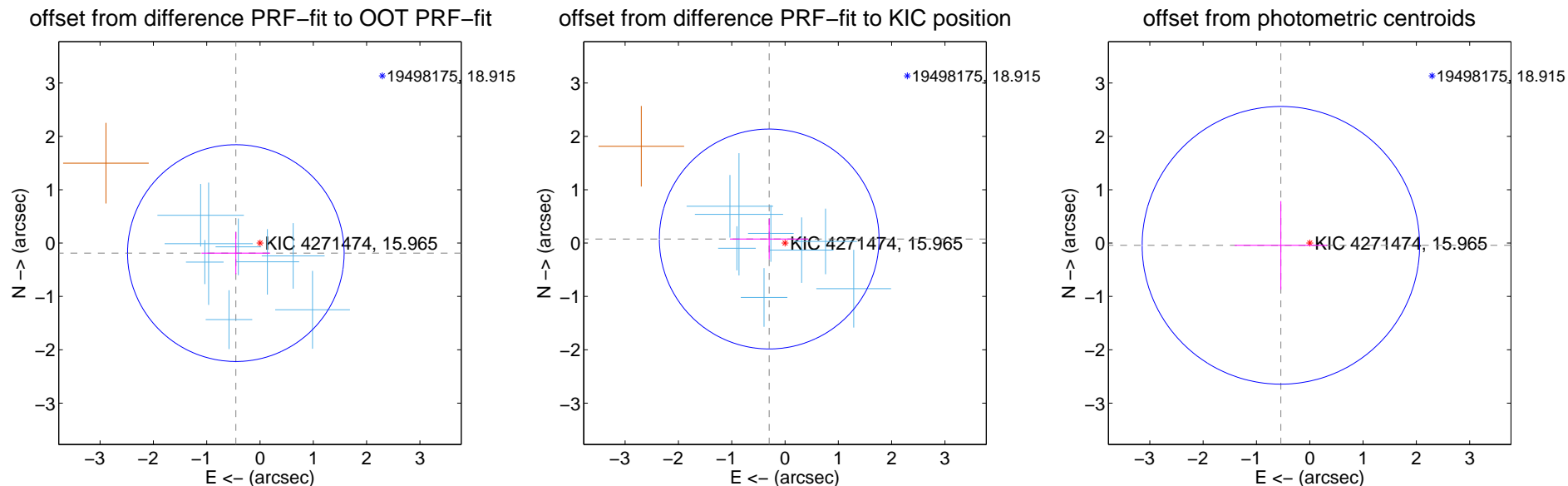
DV Centroid Data

Supplemental centroid analysis for 004271474-01. Kepler magnitude: 15.96. Transit SNR 14.27

There are 8 quarters with good PRF difference image offsets

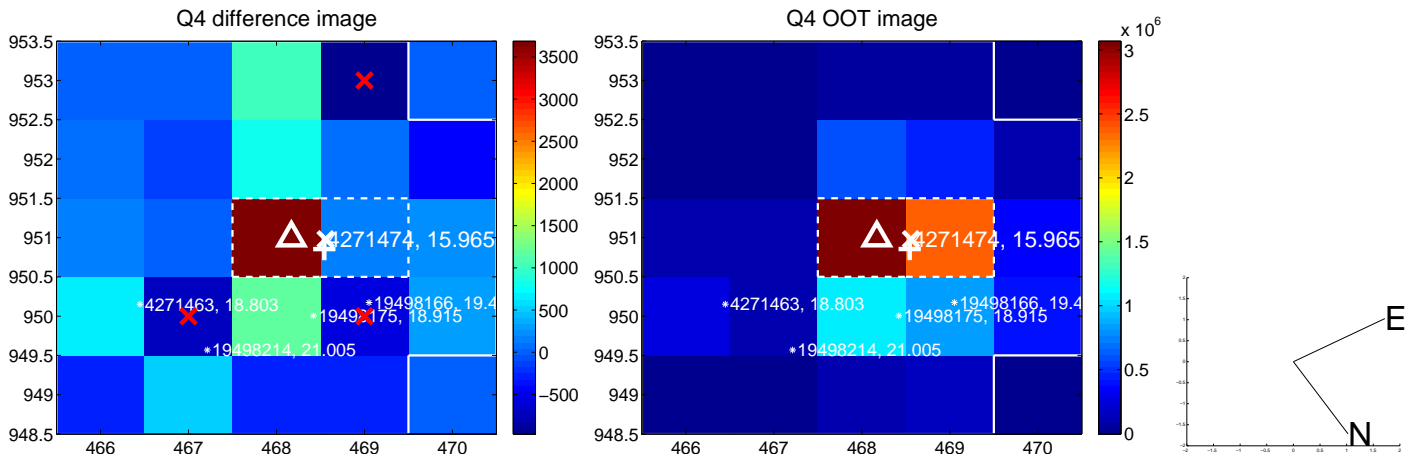
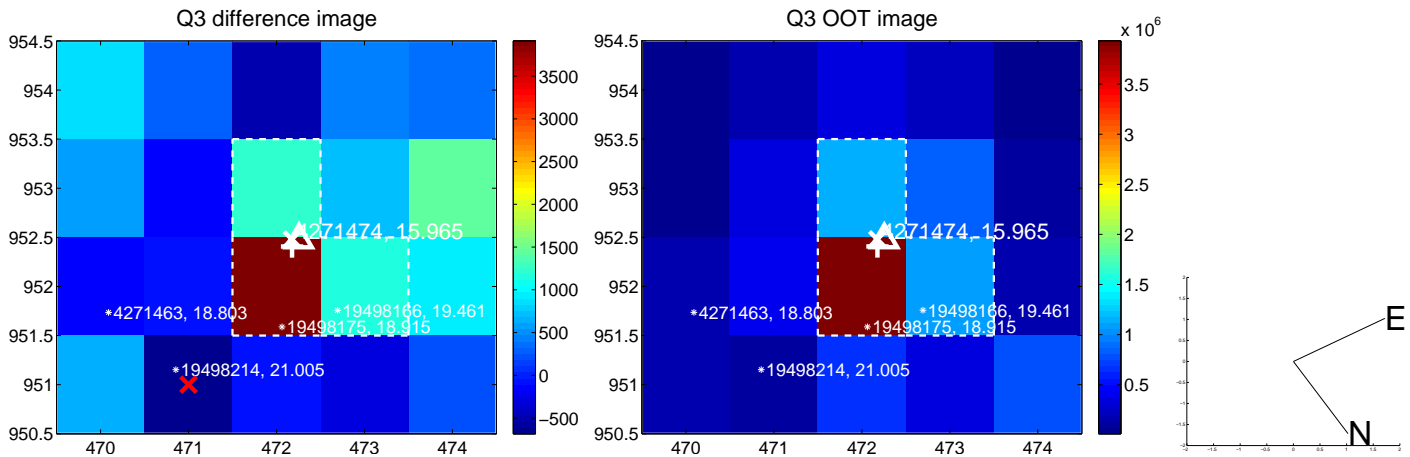
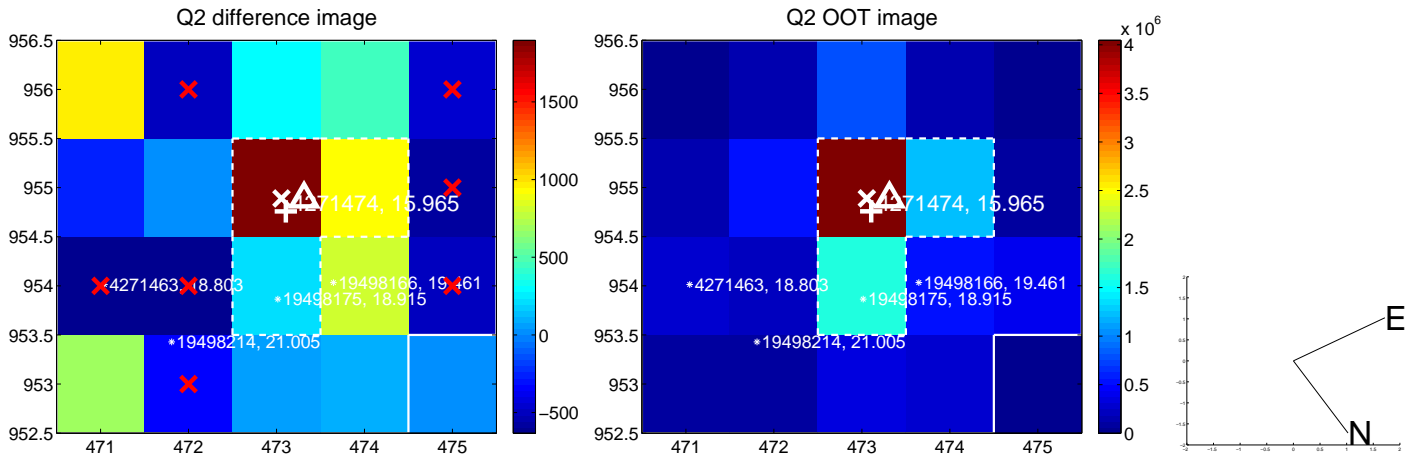
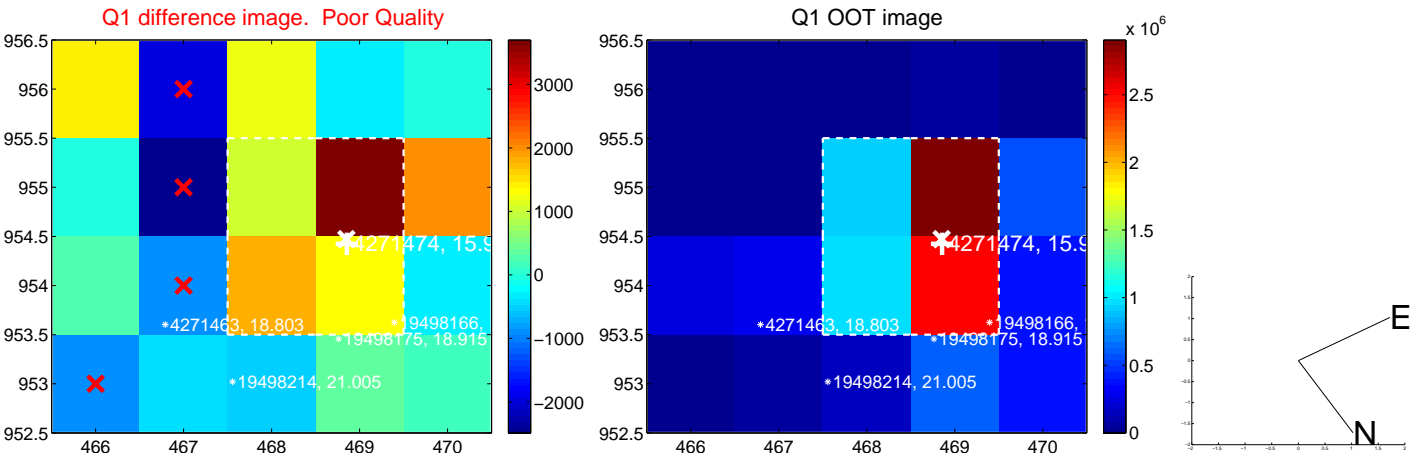
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.491 ± 0.677	0.72	0.453 ± 0.644	-0.188 ± 0.396
PRF-fit source offset from KIC position	0.307 ± 0.687	0.45	0.297 ± 0.737	0.076 ± 0.377
photometric centroid source offset	0.54 ± 0.87	0.63	0.54 ± 0.87	-0.04 ± 0.83

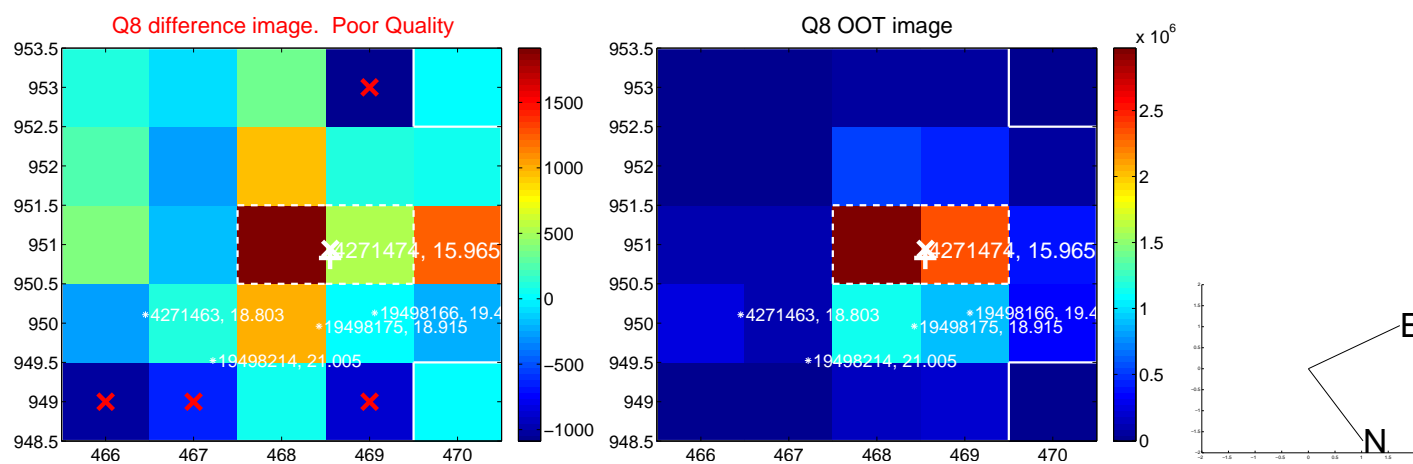
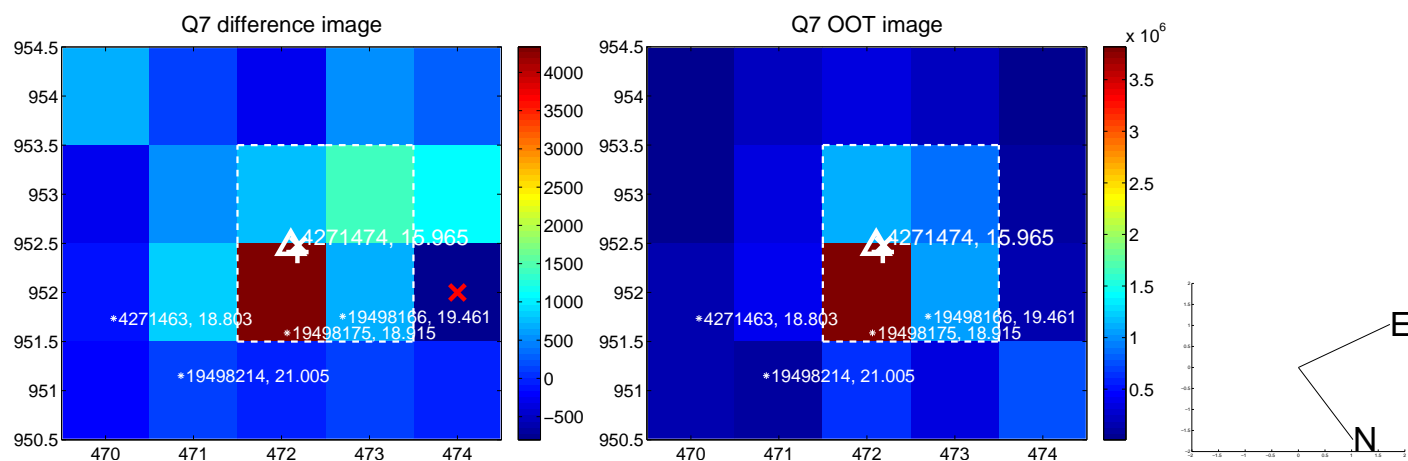
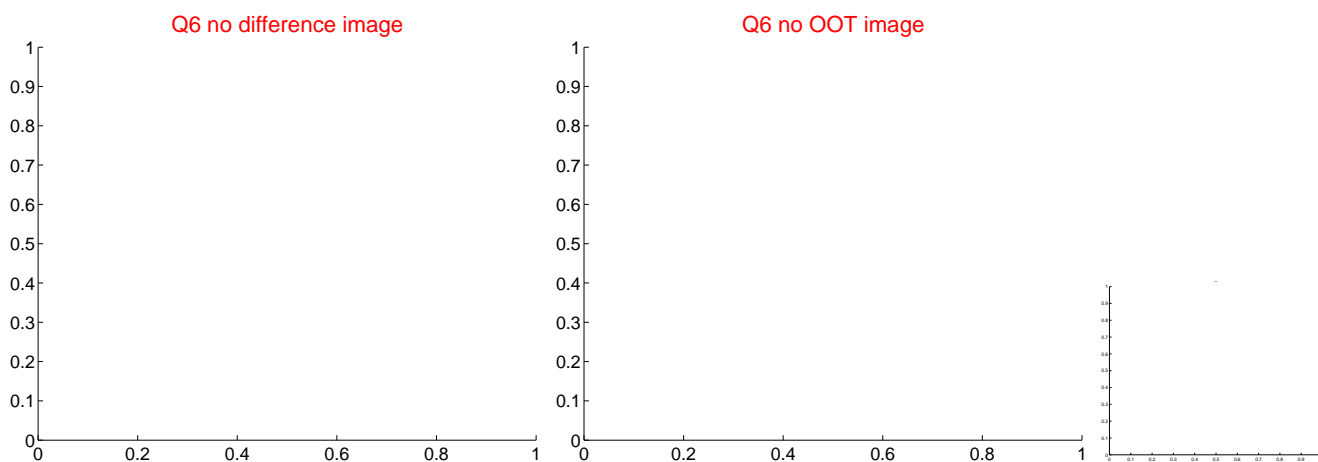
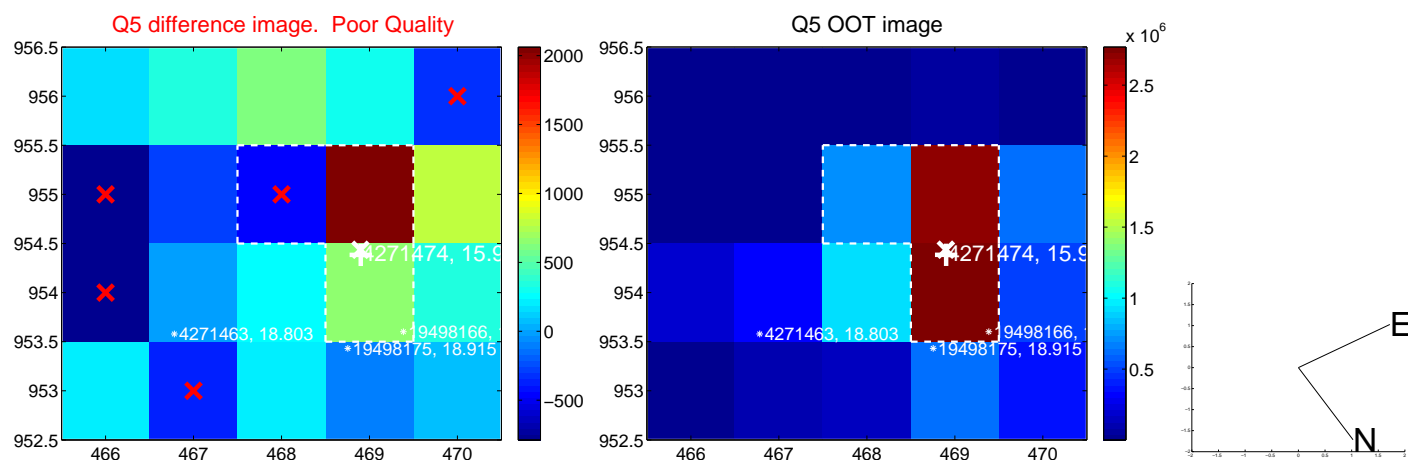


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

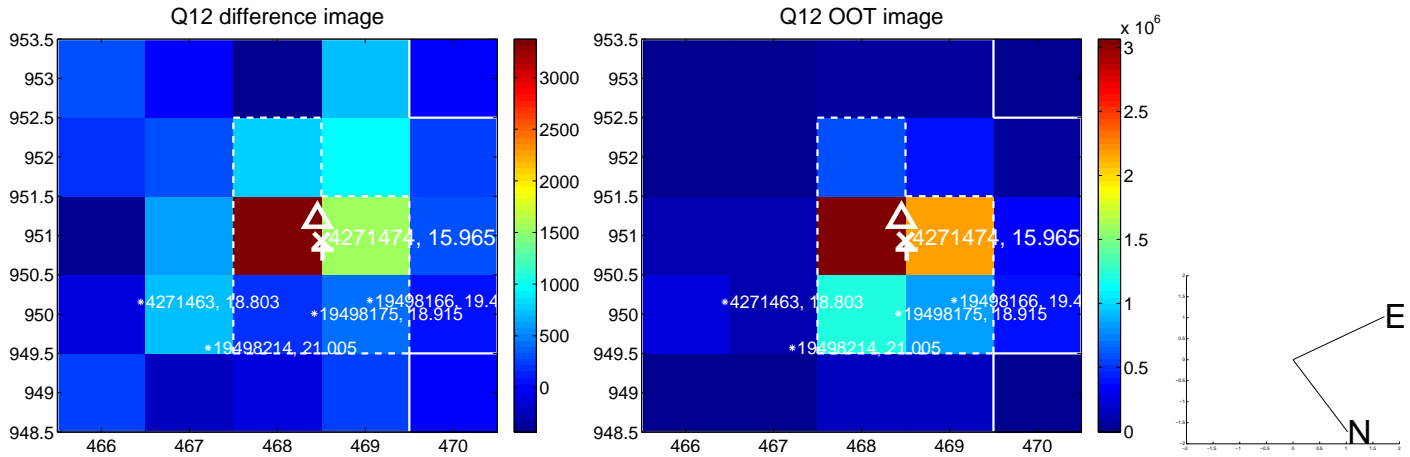
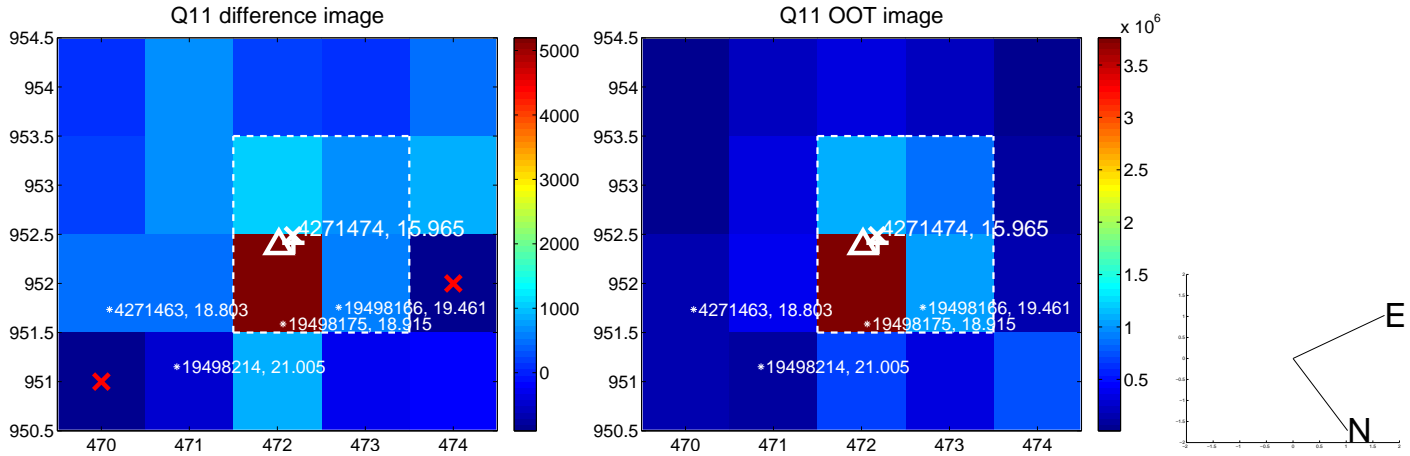
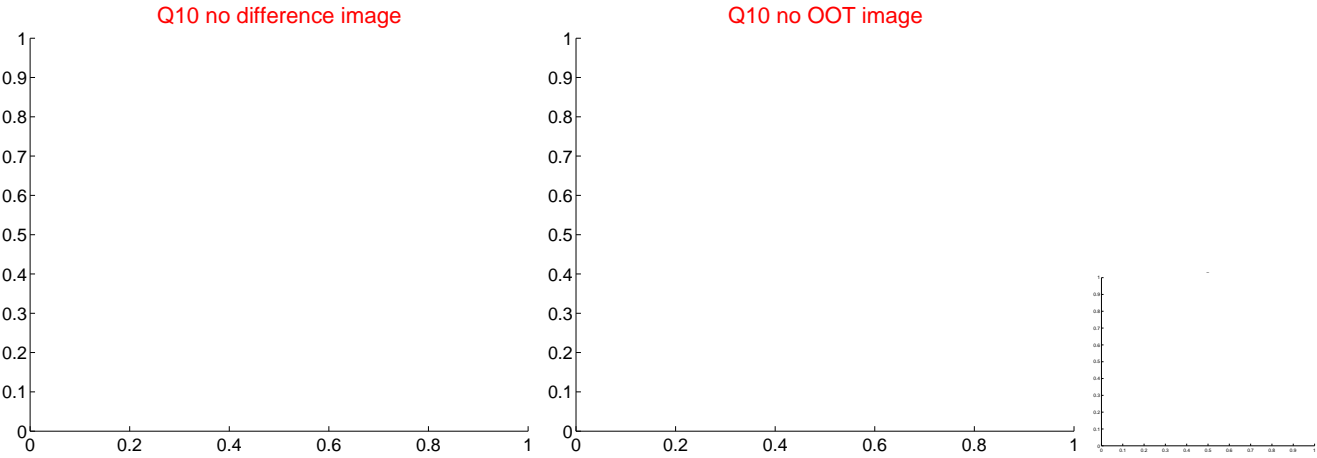
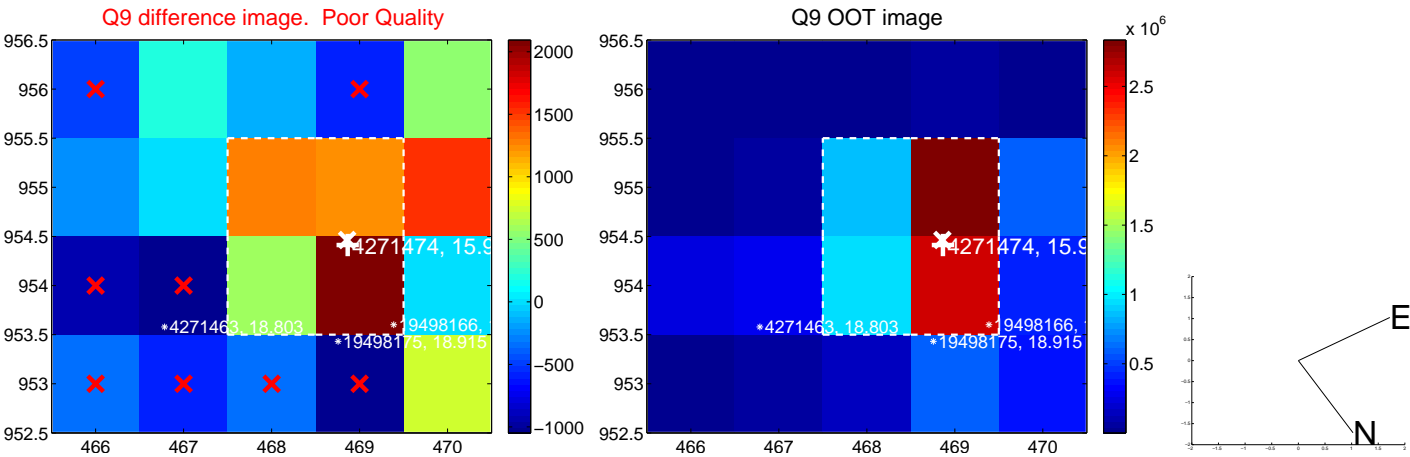
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



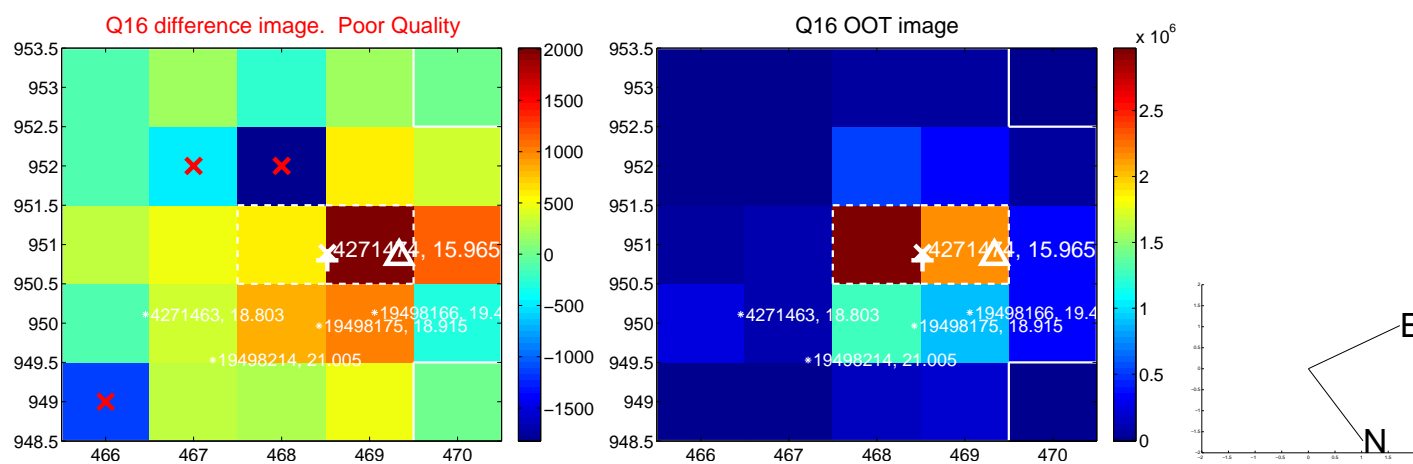
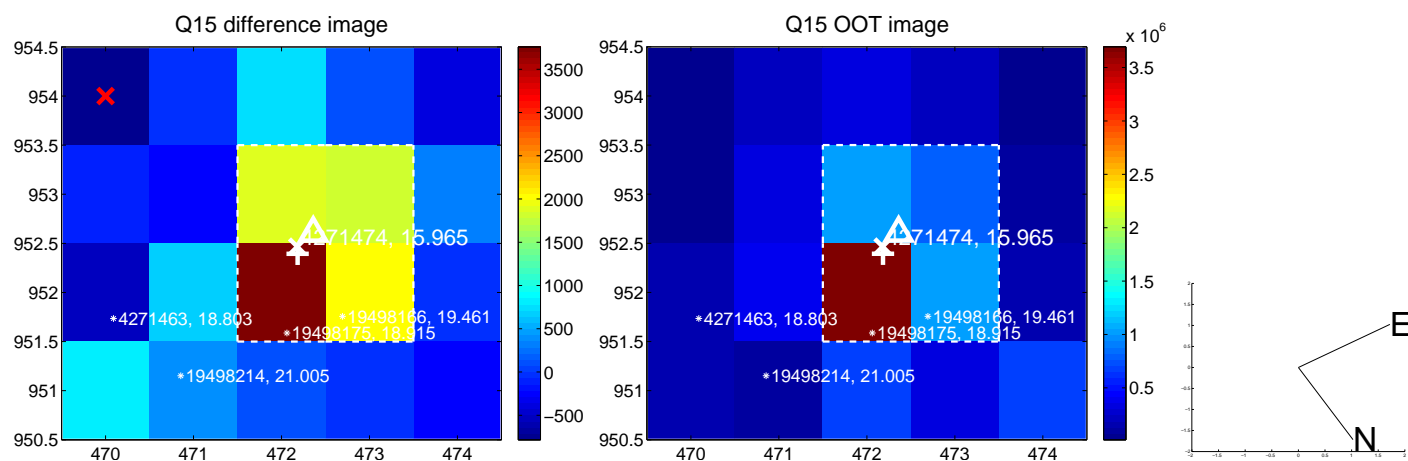
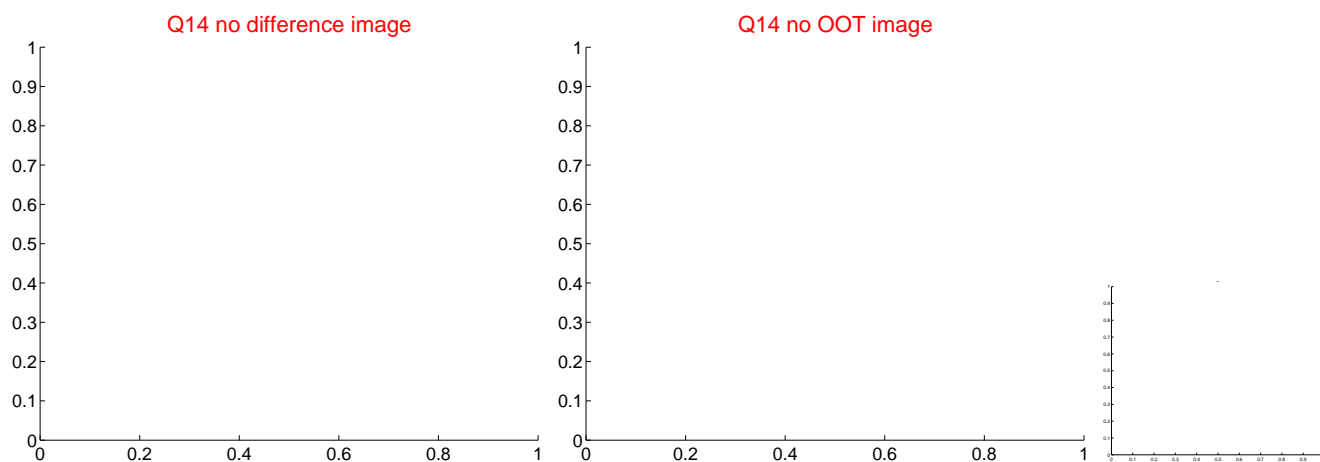
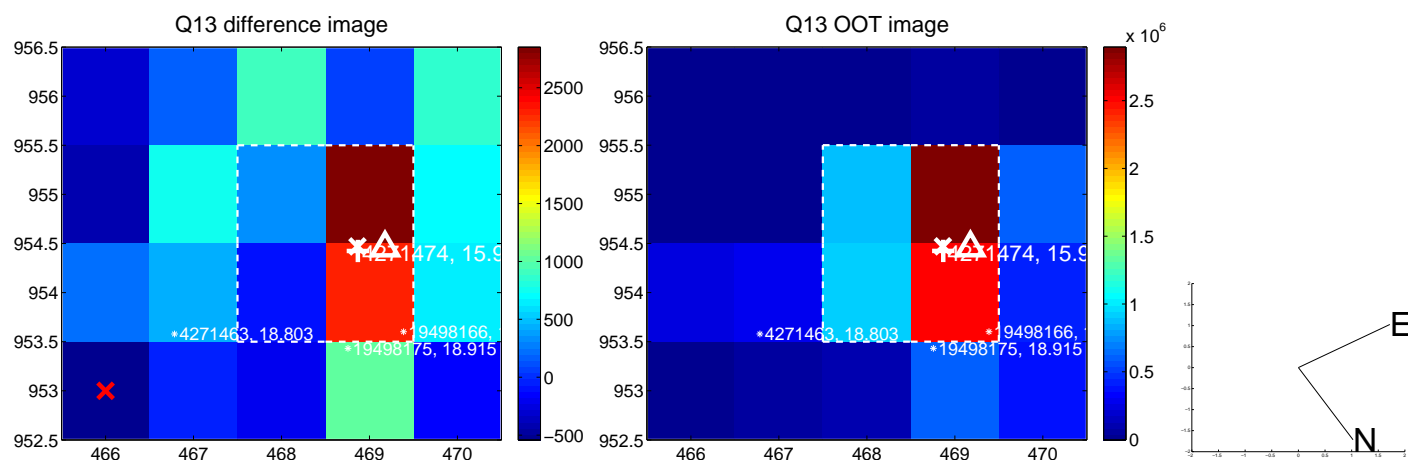
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



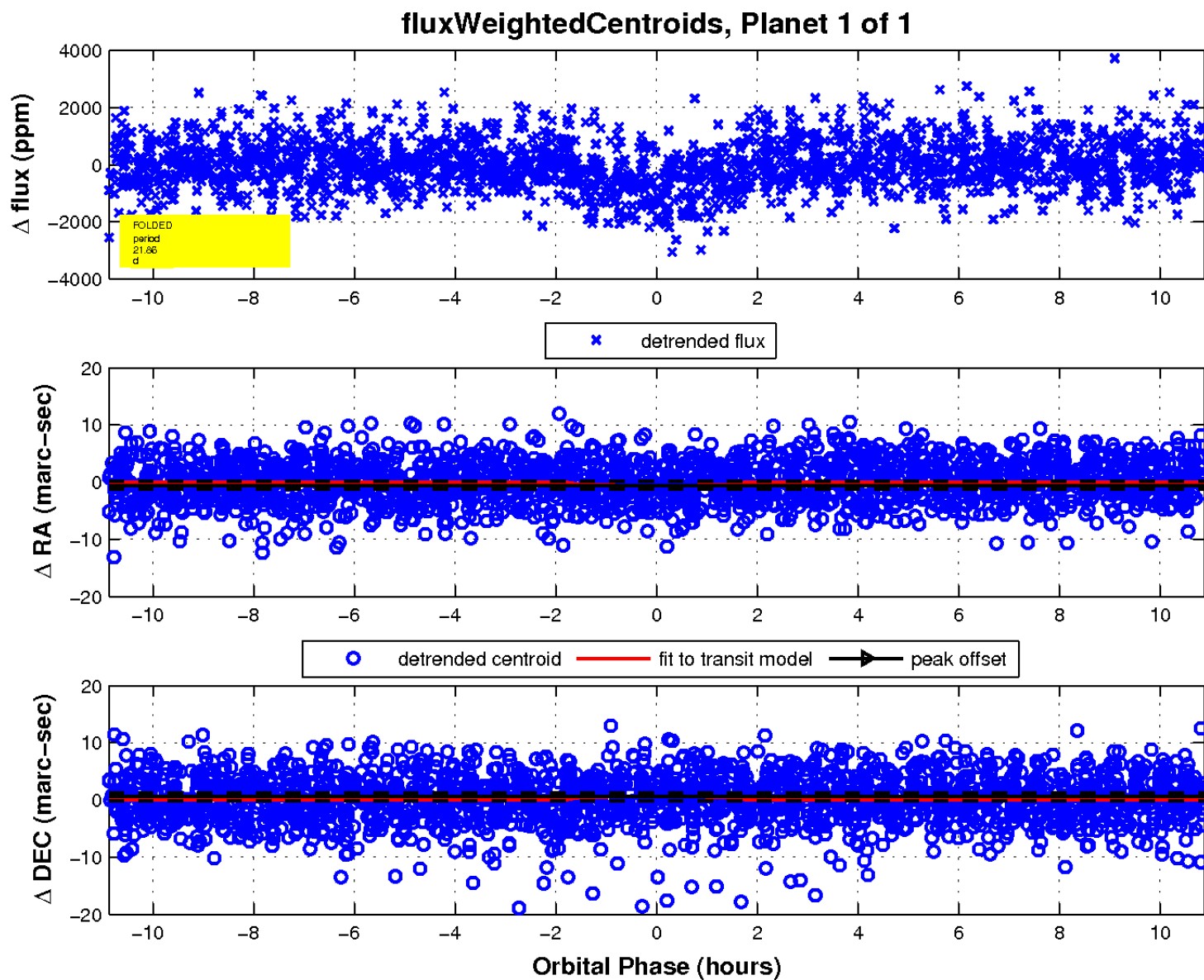
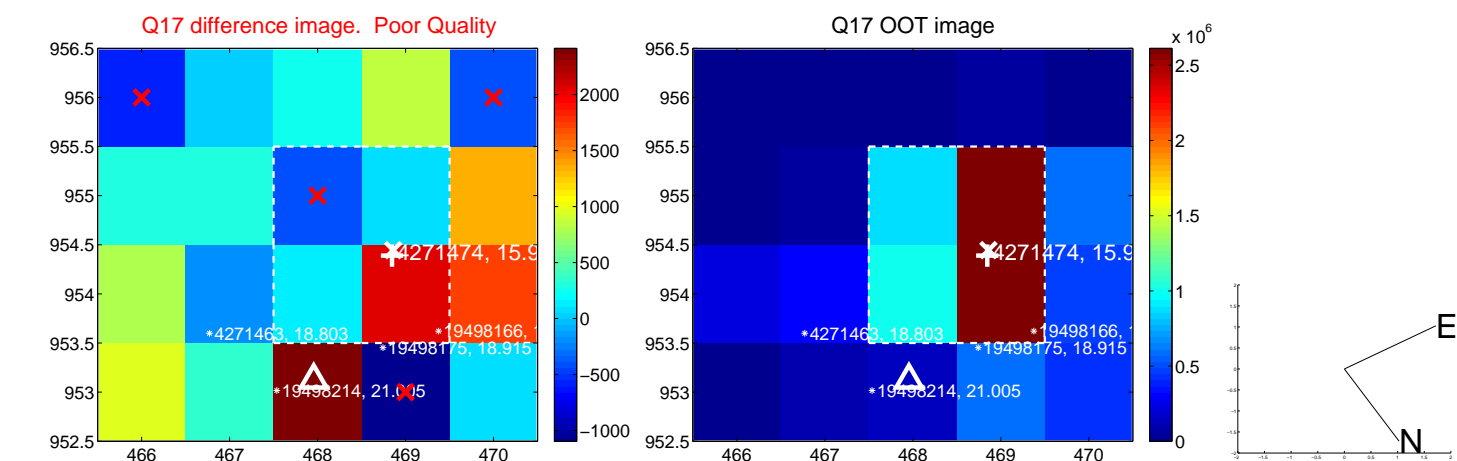
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UKIRT Image

Declination

