

KIC 010415227

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})
010415227-01	OBS	2562.01	2.932259	133.762597	159.3	4.076	11.9	12.7	0.97	6106	1.44	701.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010415227-01	OBS	FP	0.00	0	0	1	0	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 010415227-01

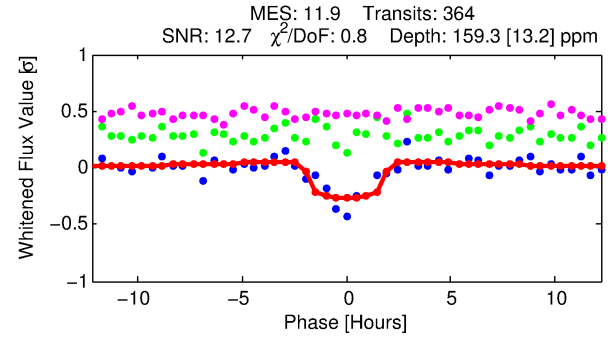
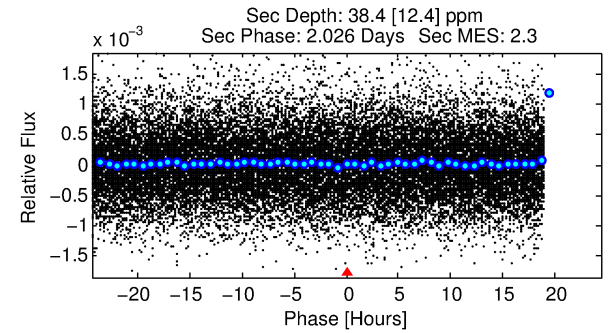
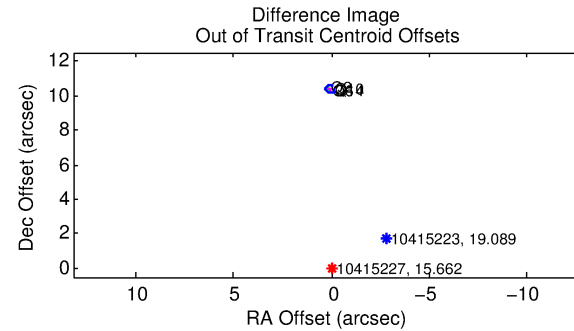
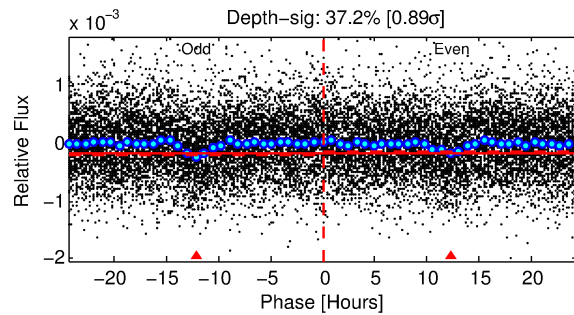
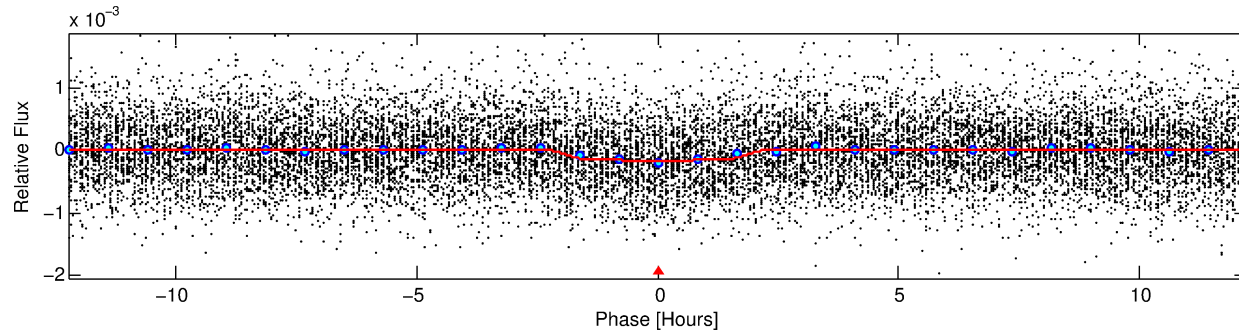
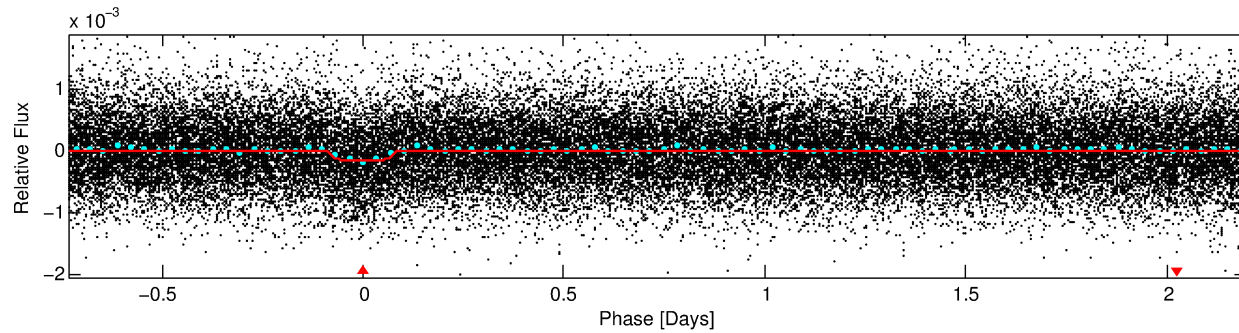
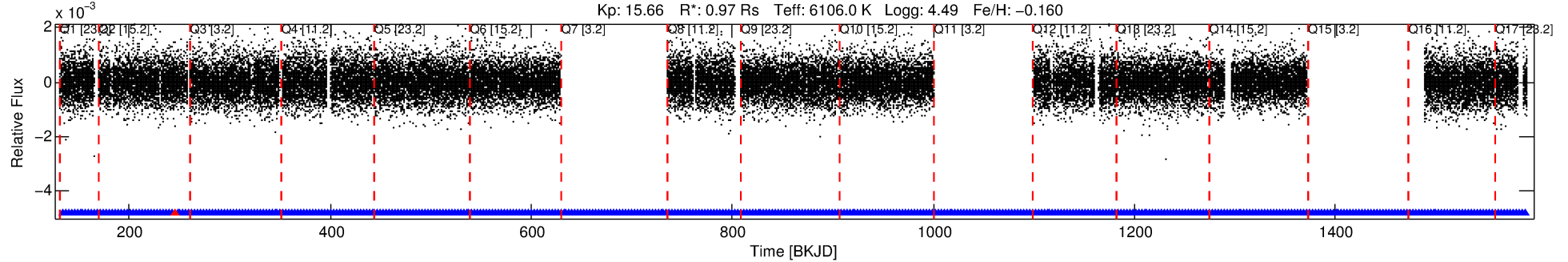
No Significant Match Found

DV One-Page Summary

KIC: 10415227 Candidate: 1 of 1 Period: 2.932 d

KOI: K02562.01 Corr: 0.931

Kp: 15.66 R*: 0.97 Rs Teff: 6106.0 K Logg: 4.49 Fe/H: -0.160



DV Fit Results:

Period = 2.93226 [0.00002] d
Epoch = 133.7626 [0.0040] BKJD
Rp/R* = 0.0136 [0.0040]
a/R* = 2.73 [3.61]
b = 0.90 [0.33]
Seff = 701.95 [270.64]
Teq = 1313 [127] K
Rp = 1.43 [0.59] Re
a = 0.0407 [0.0100] AU
Ag = 17.00 [12.83] [1.25σ]
Teffp = 4121 [704] K [3.93σ]

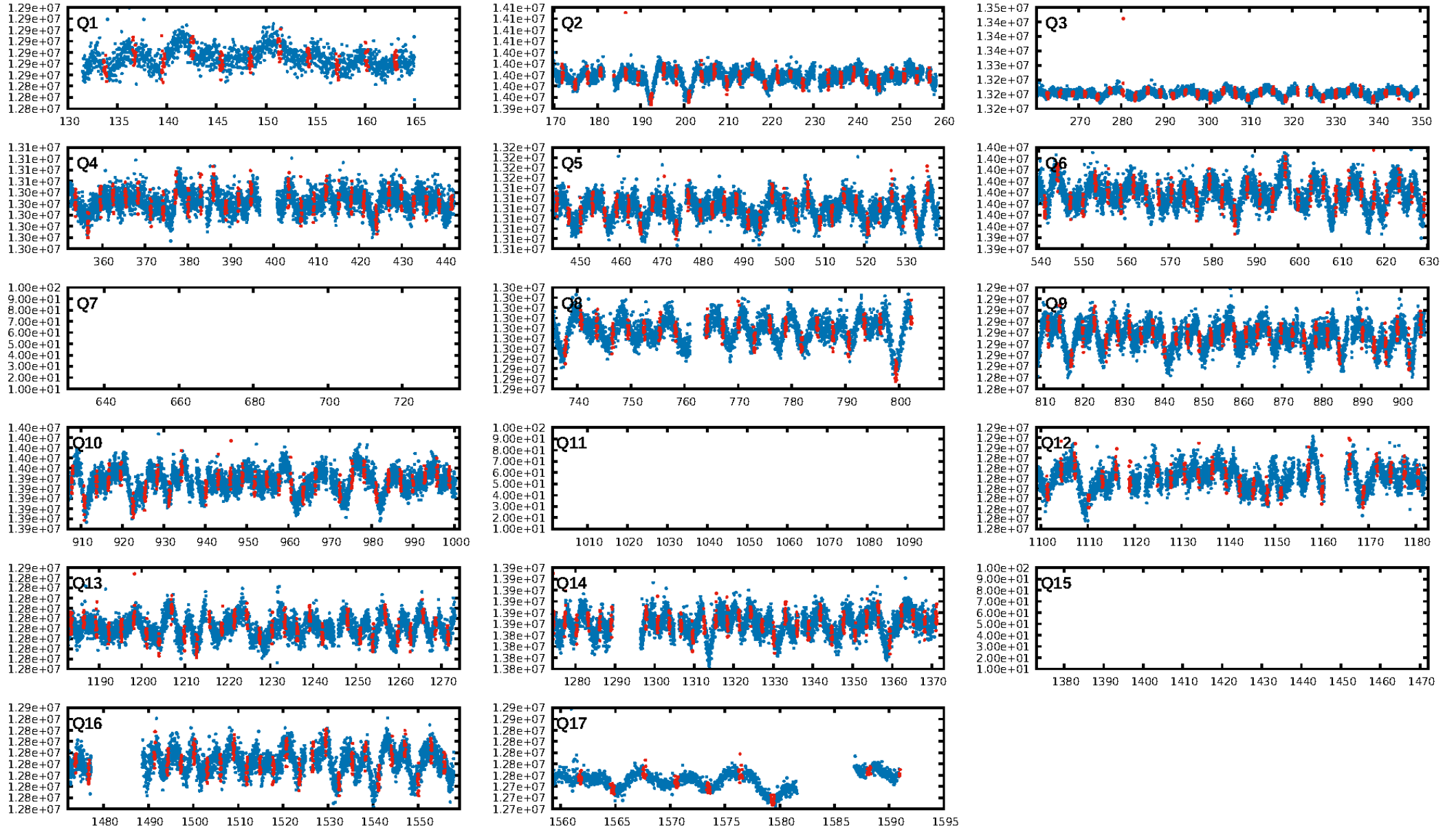
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.32e-34
RollingBand-fgt: 1.00 [343/344]
GhostDiagnostic-chr: -0.482
Centroid-sig: 0.0%
Centroid-so: 20.236 arcsec [18.78σ]
OotOffset-rm: 10.354 arcsec [134.24σ]
KicOffset-rm: 10.551 arcsec [138.92σ]
OotOffset-st: 4/0/0/0 [4]
KicOffset-st: 4/0/0/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [14/14]

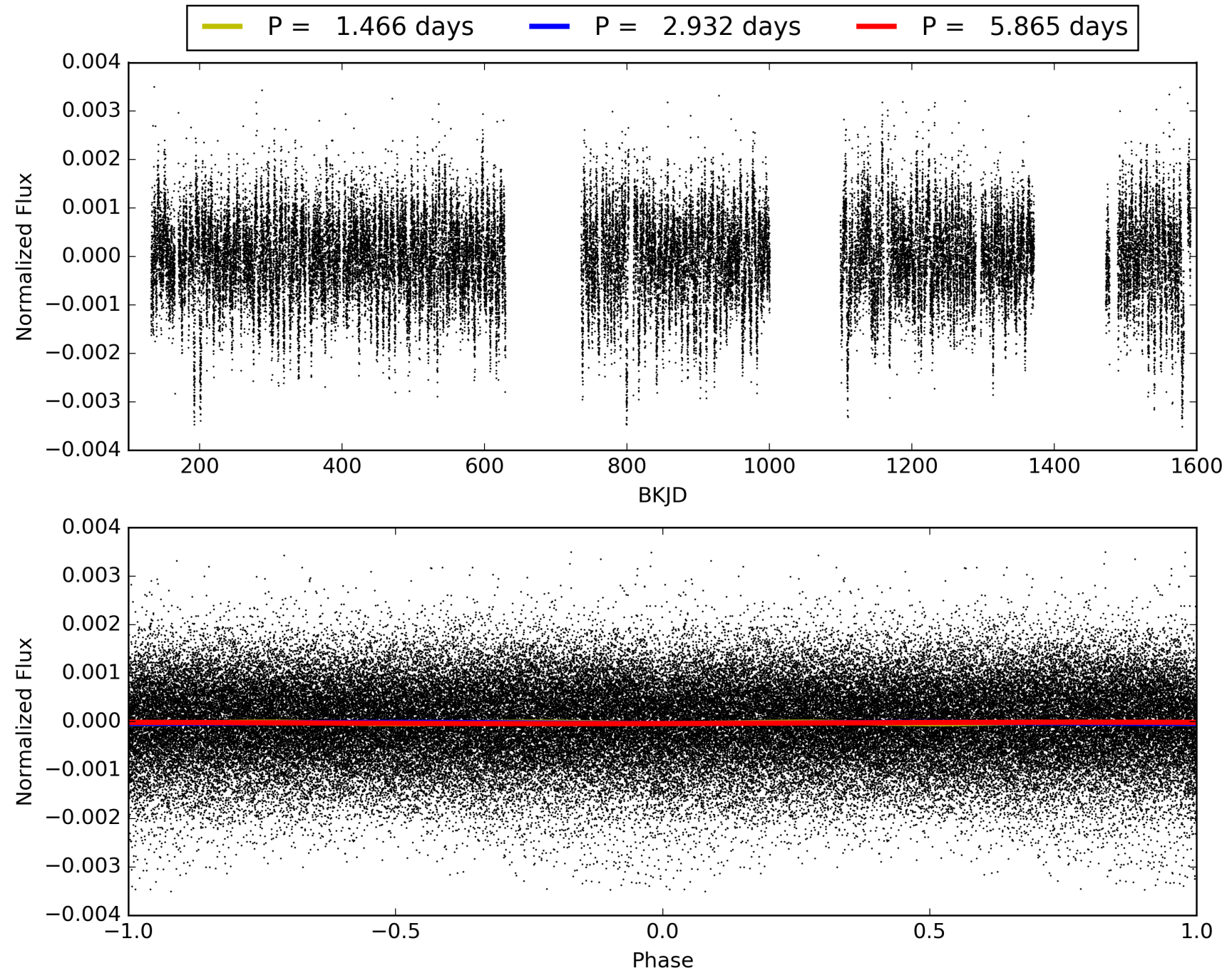
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:04:30 Z

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

TCE 010415227-01, PDC Light Curves

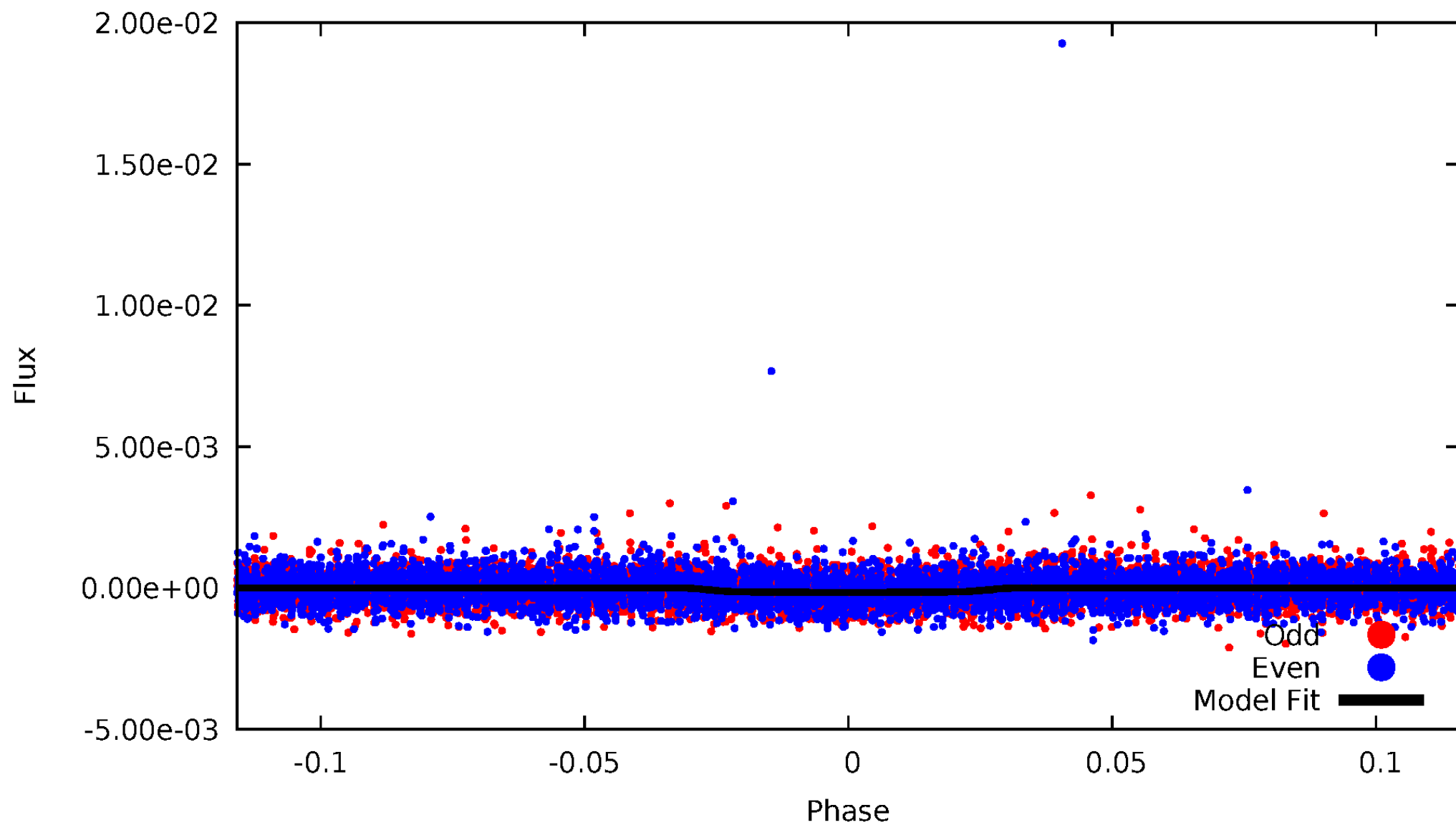


TCE 010415227-01



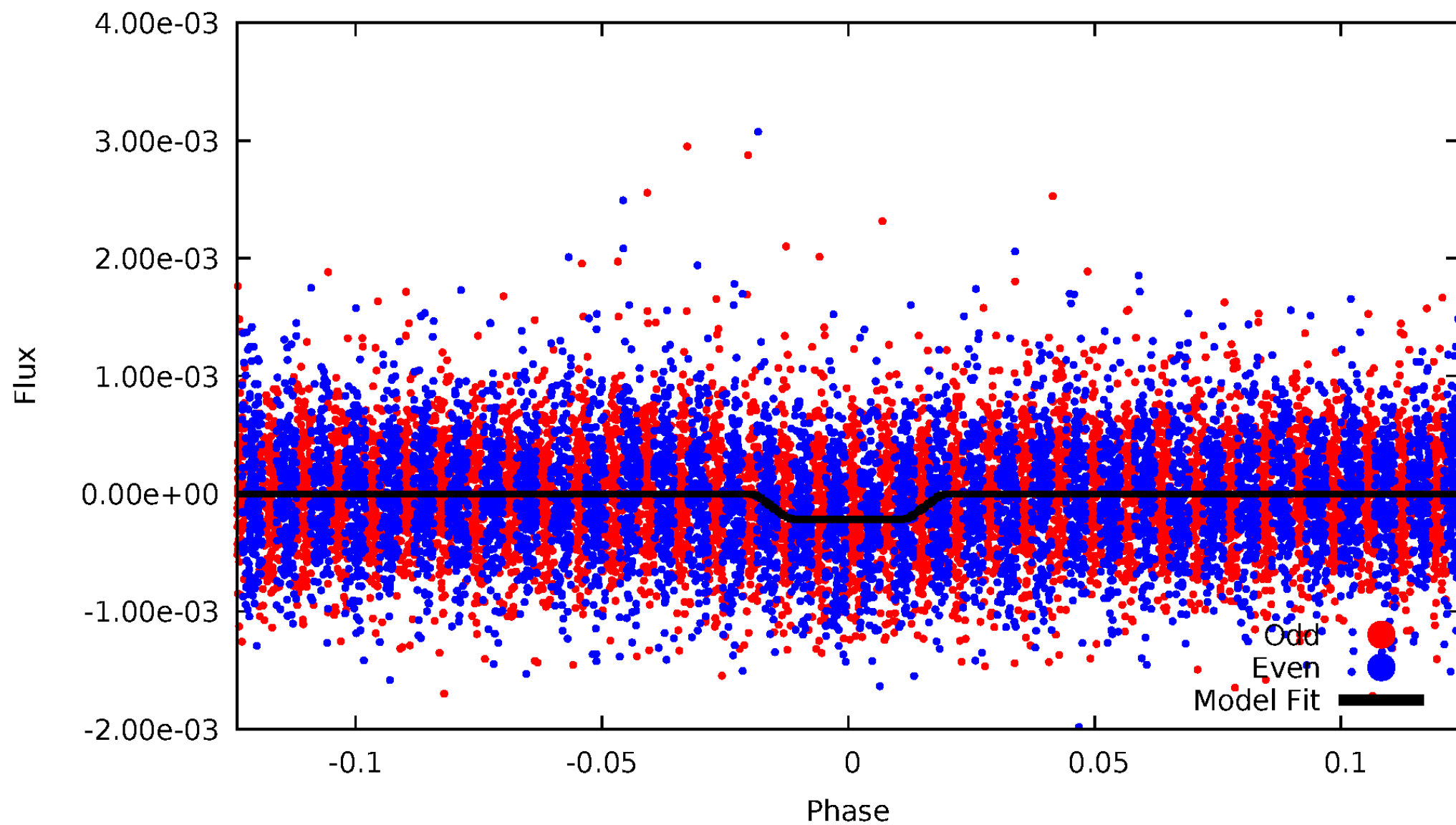
DV Odd/Even

TCE 010415227-01



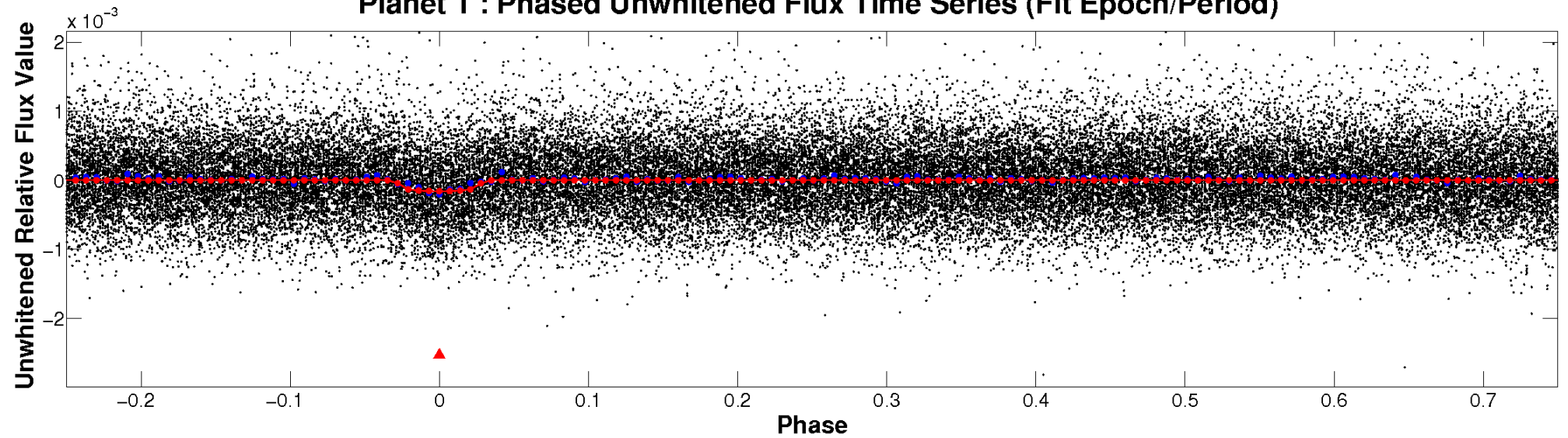
ALT Odd/Even

TCE 010415227-01

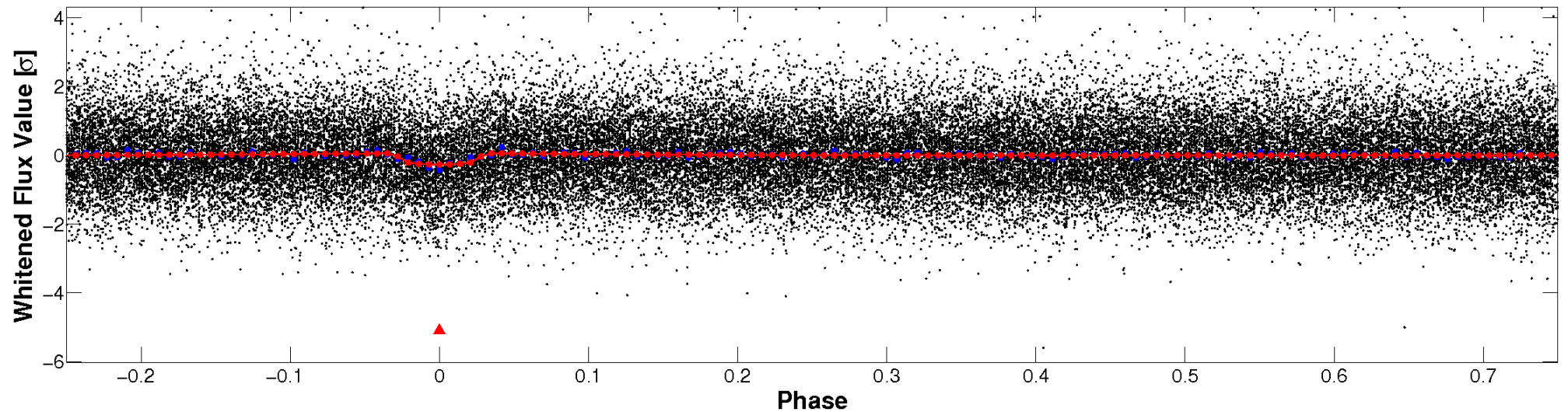


Non-Whitened Vs. Whitened Light Curve

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

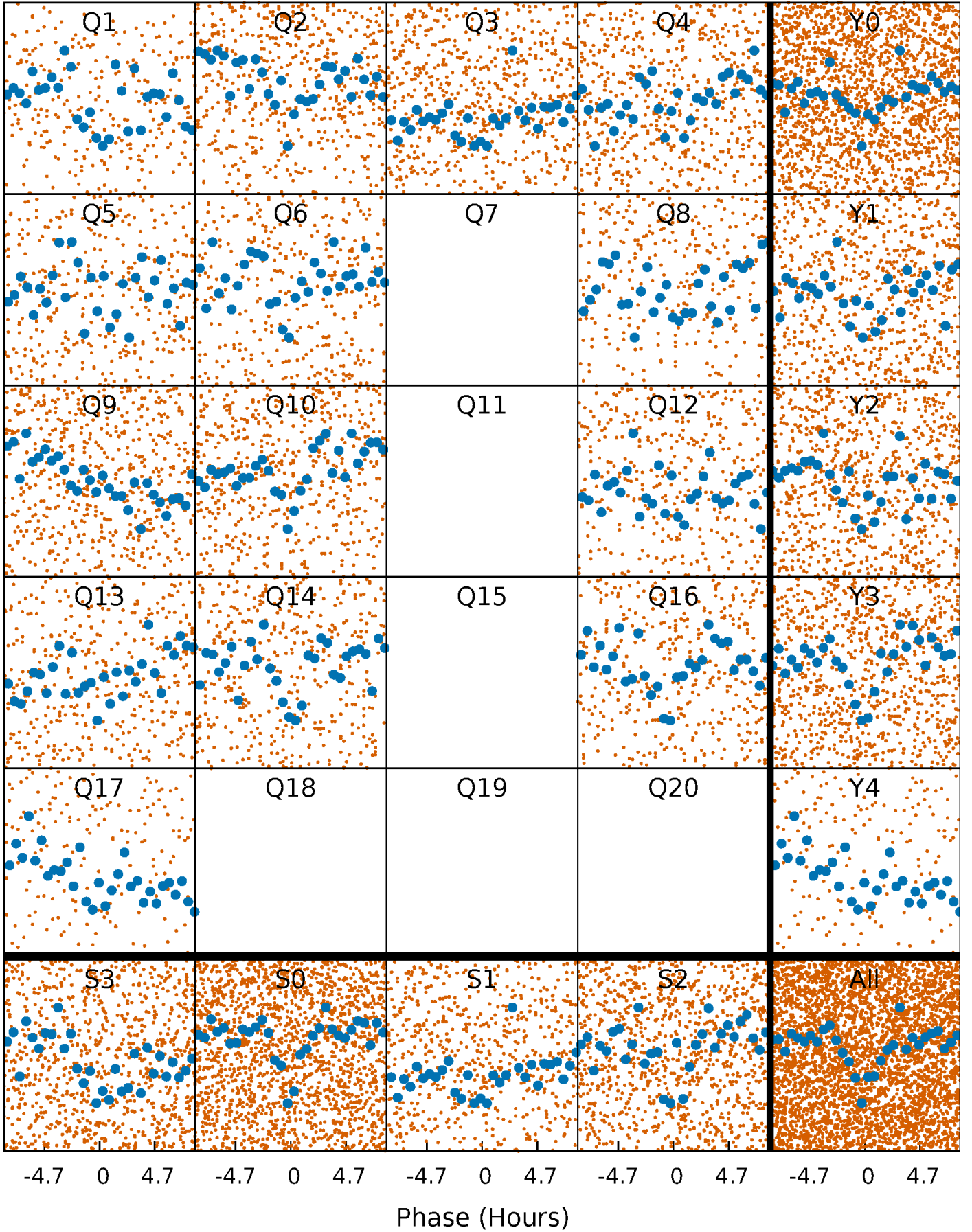


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



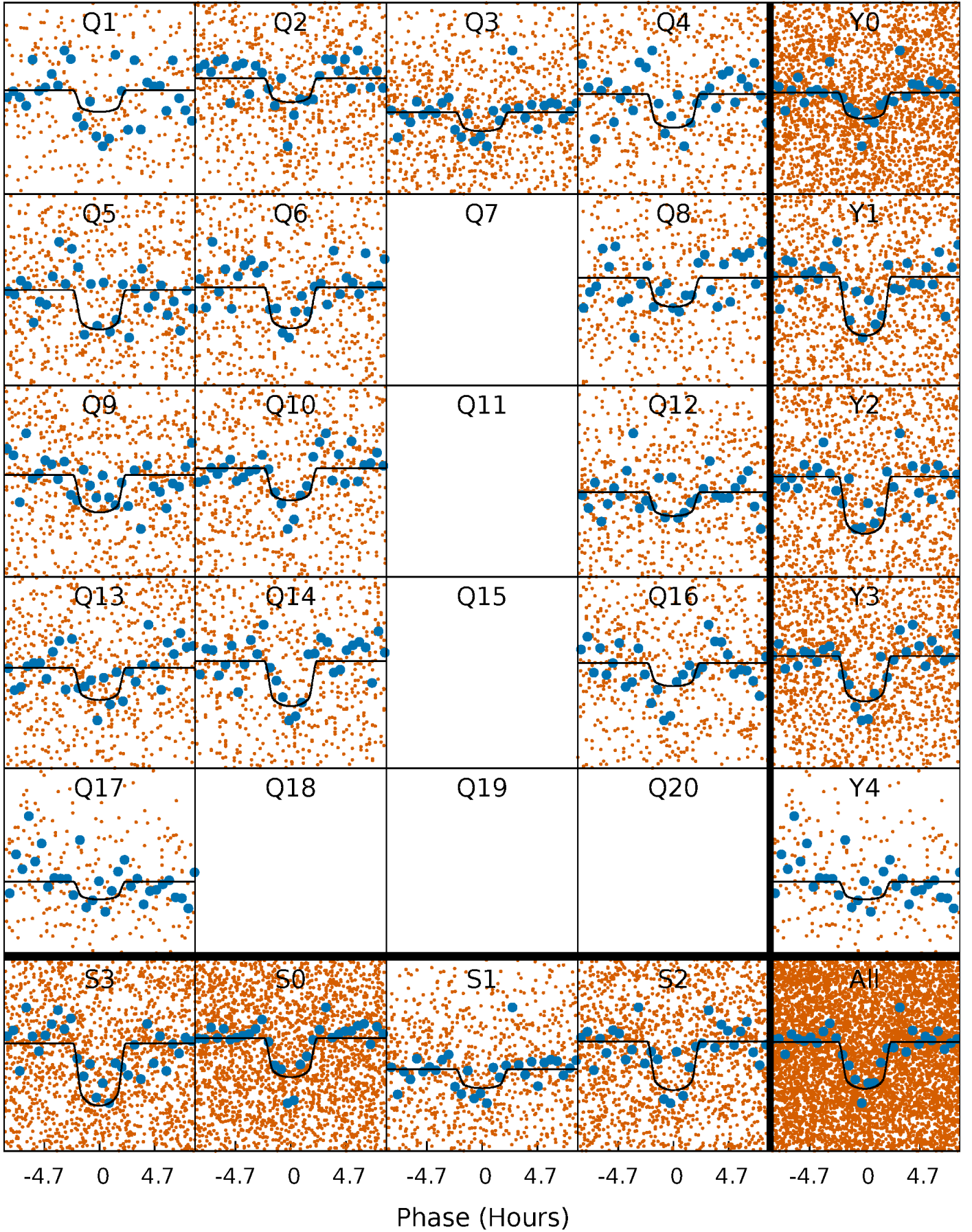
PDC Quarter-Phased Transit Curves

TCE 010415227-01 P= 2.932259 Days $T_0=133.762597$ (BKJD)



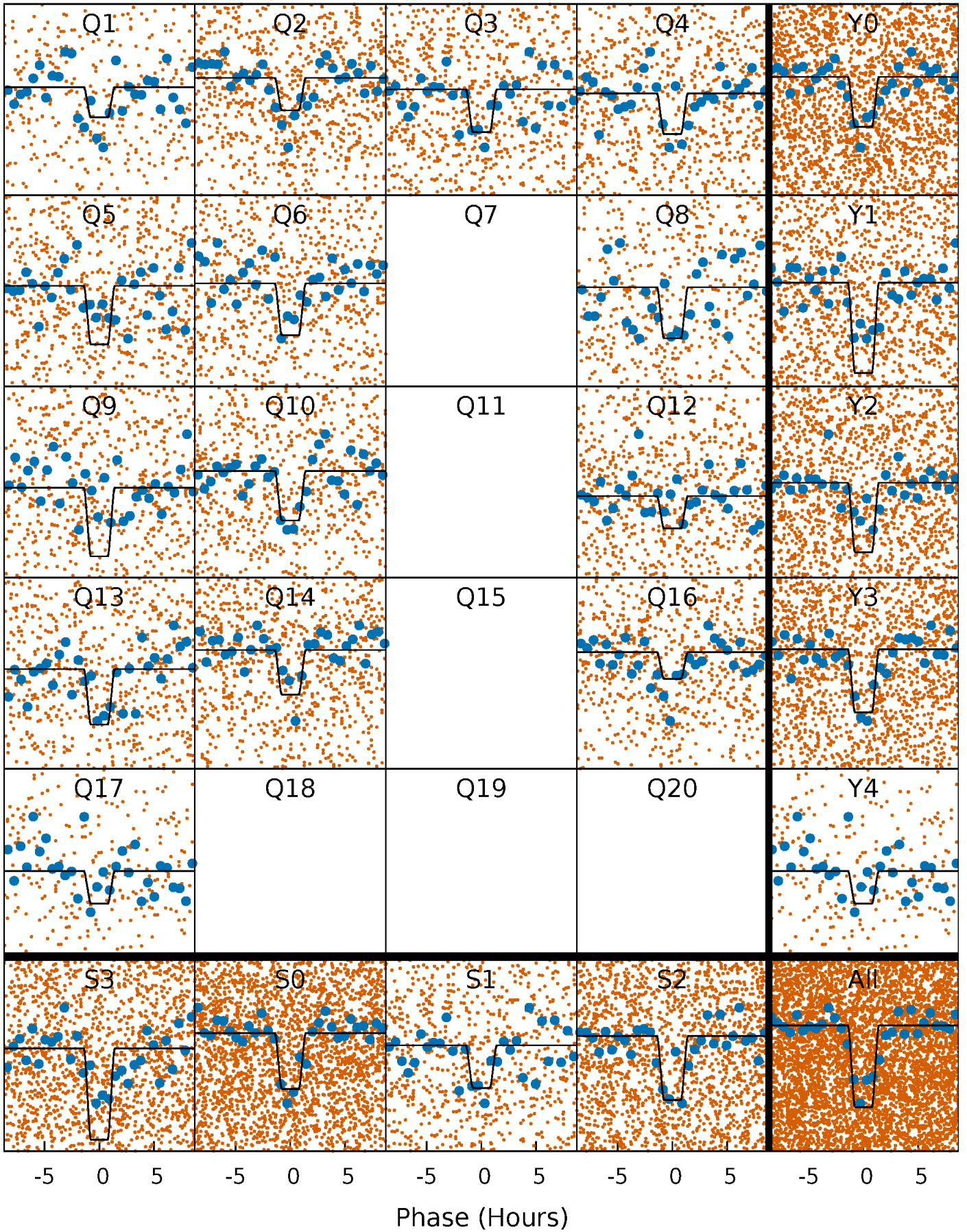
DV Quarter-Phased Transit Curves

TCE 010415227-01 P= 2.932259 Days $T_0=133.762597$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

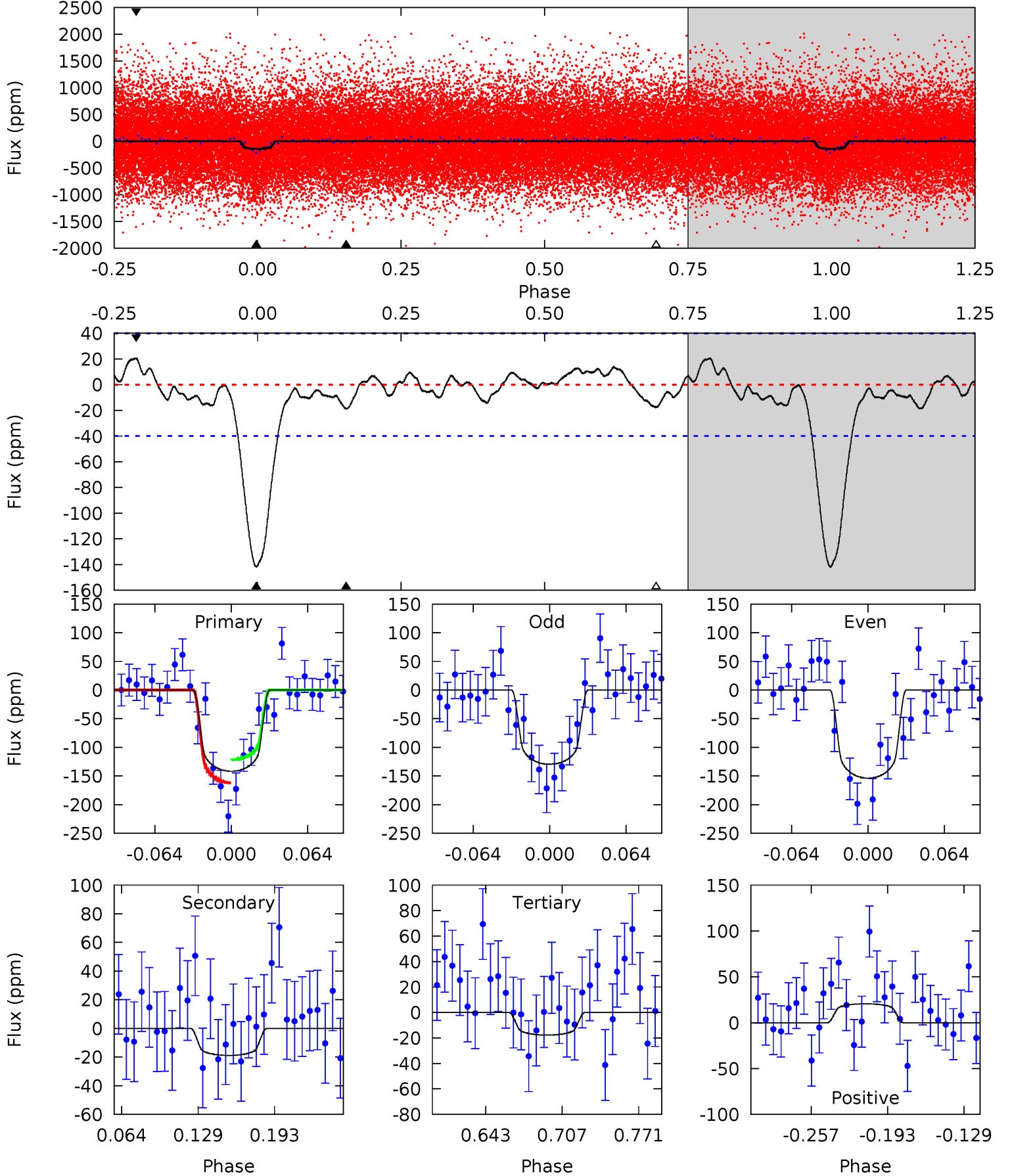
TCE 010415227-01 P= 2.932238 Days $T_0=133.762885$ (BKJD)



DV Model-Shift Uniqueness Test

010415227-01, P = 2.932259 Days, E = 130.830338 Days

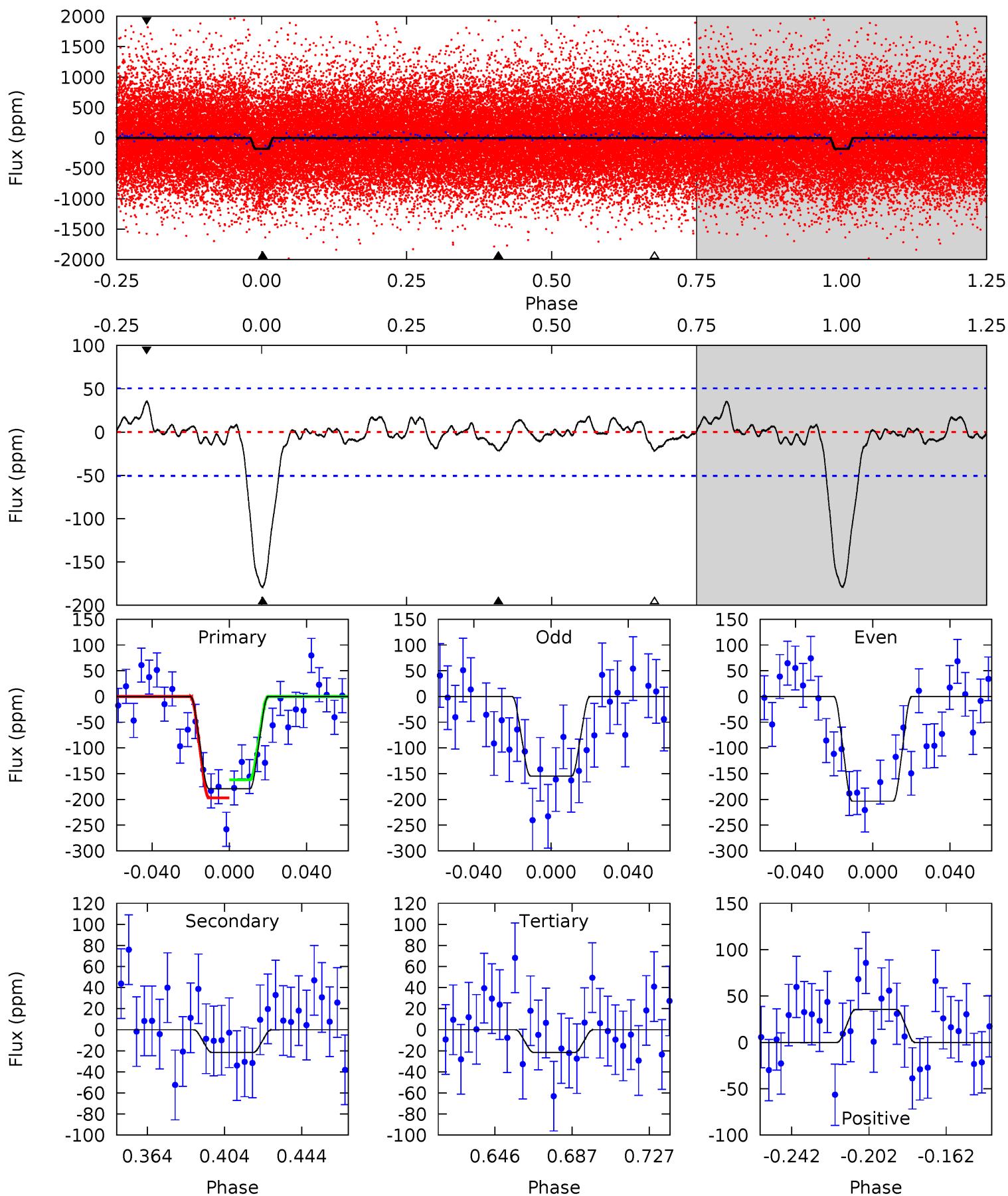
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	2.20	2.07	2.40	4.66	1.85	1.02	14.5	14.1	0.13	-0.20	1.42	1.08	0.13	2.37



Alt Model-Shift Uniqueness Test

010415227-01, P = 2.932238 Days, E = 130.830647 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	2.03	2.03	3.33	4.75	2.05	0.90	14.8	13.5	0.00	-1.30	2.30	0.98	0.16	1.64



Stellar Parameters For KIC 010415227

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6106^{+189}_{-232}	$4.487^{+0.048}_{-0.192}$	$-0.160^{+0.300}_{-0.300}$	$0.966^{+0.285}_{-0.095}$	$1.043^{+0.142}_{-0.129}$	$1.631^{+0.428}_{-0.825}$
	+3%/-4%	+1%/-4%	+188%/-188%	+30%/-10%	+14%/-12%	+26%/-51%
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 010415227-01 / KOI 2562.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-19 ± 9	$1.52^{+0.47}_{-0.49}$	1872^{+126}_{-101}	3777^{+569}_{-474}	$7.181^{+8.396}_{-3.874}$
Alt.	-22 ± 11	$1.63^{+0.49}_{-0.43}$	1876^{+134}_{-96}	3745^{+601}_{-486}	$6.678^{+8.743}_{-3.566}$

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

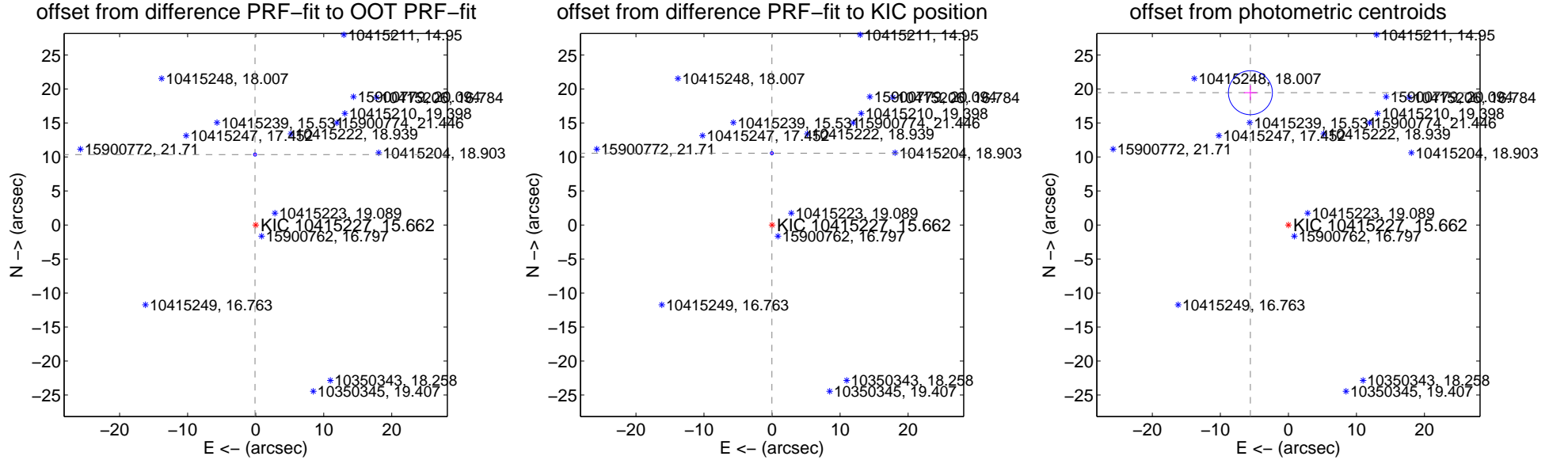
DV Centroid Data

Supplemental centroid analysis for 010415227-01. Kepler magnitude: 15.66. Transit SNR 12.68

There are 4 quarters with good PRF difference image offsets

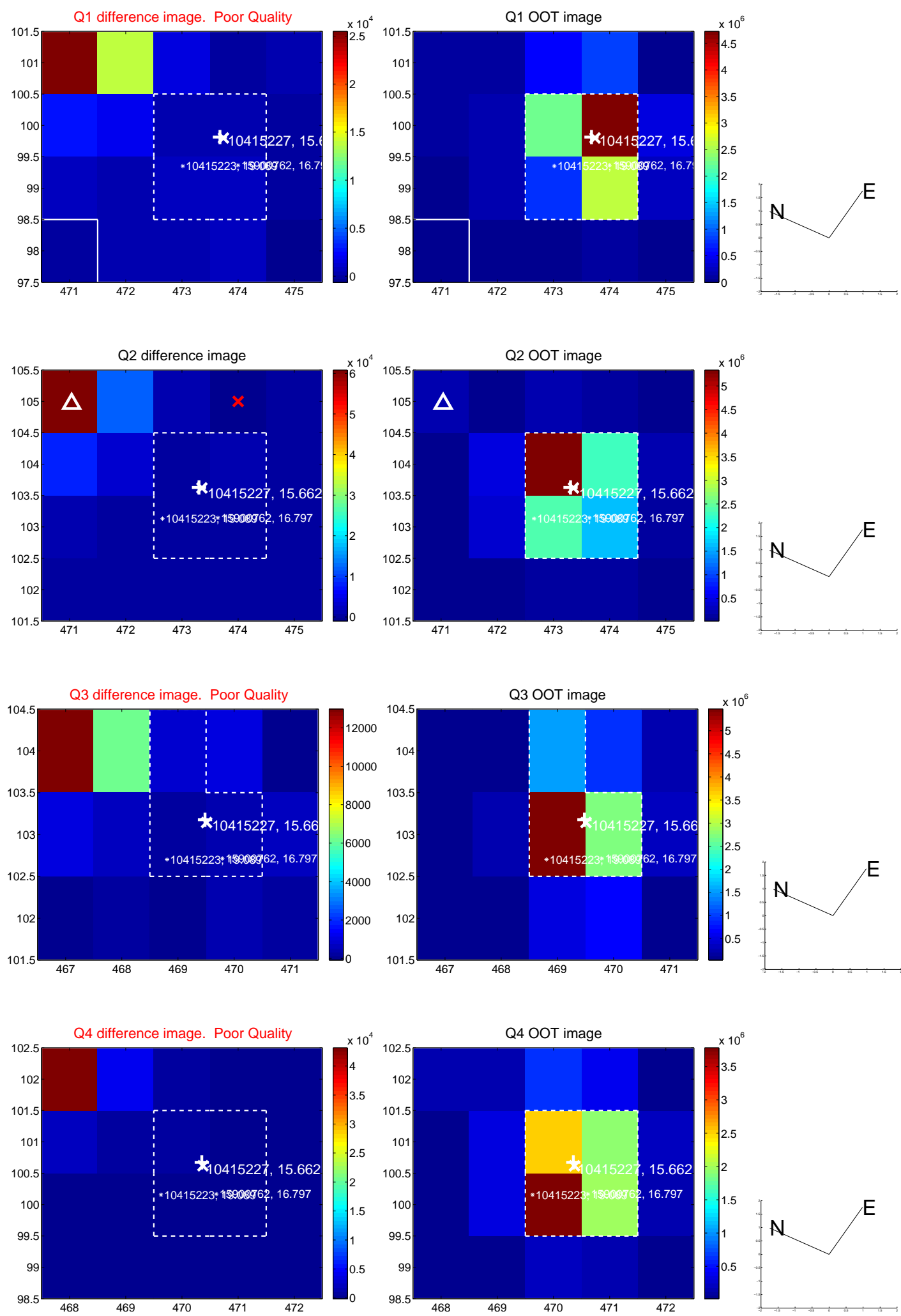
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.354 \pm 0.077	134.24	0.094 \pm 0.072	10.354 \pm 0.077
PRF-fit source offset from KIC position	10.551 \pm 0.076	138.92	0.026 \pm 0.083	10.551 \pm 0.076
photometric centroid source offset	20.24 \pm 1.08	18.78	5.58 \pm 0.97	19.45 \pm 1.09

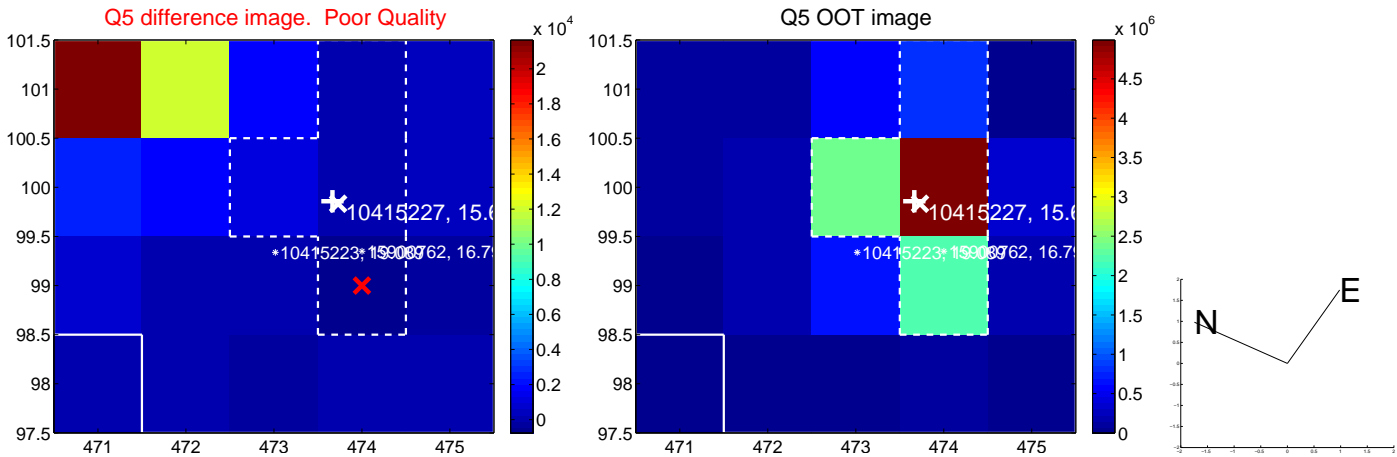


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

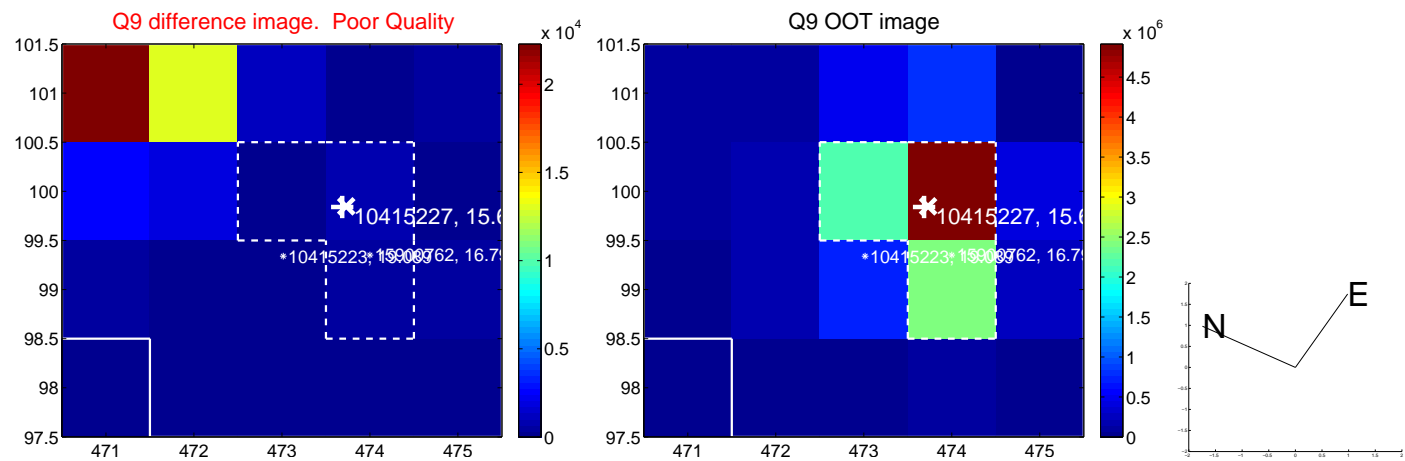
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



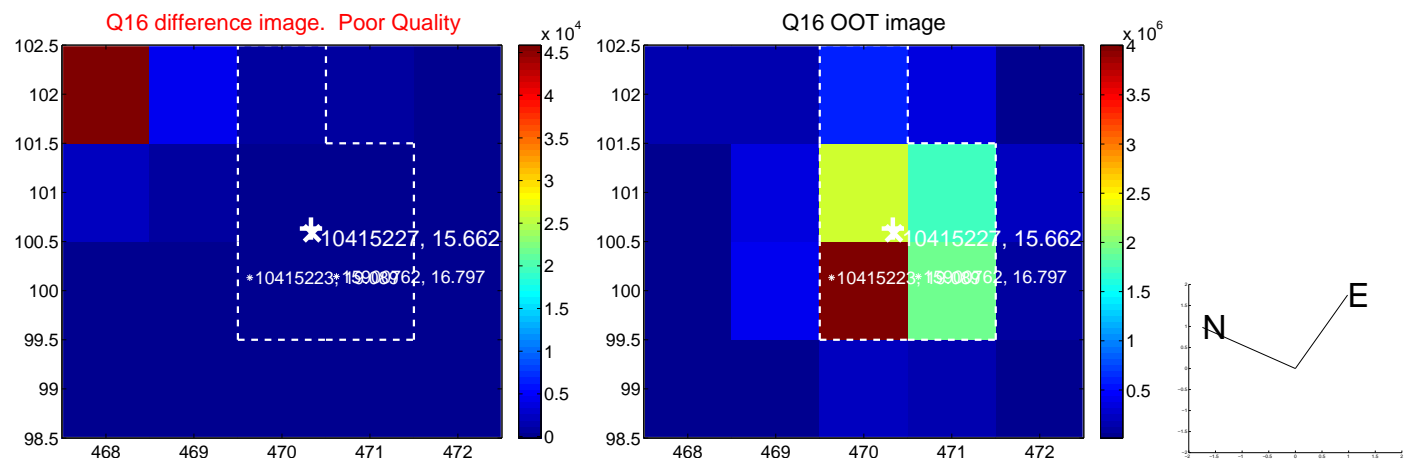
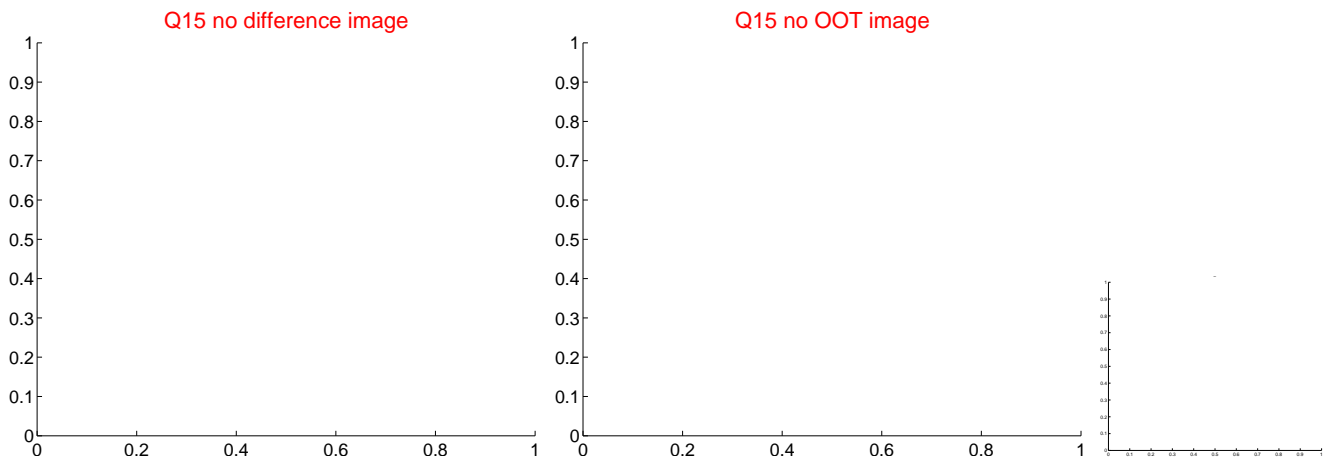
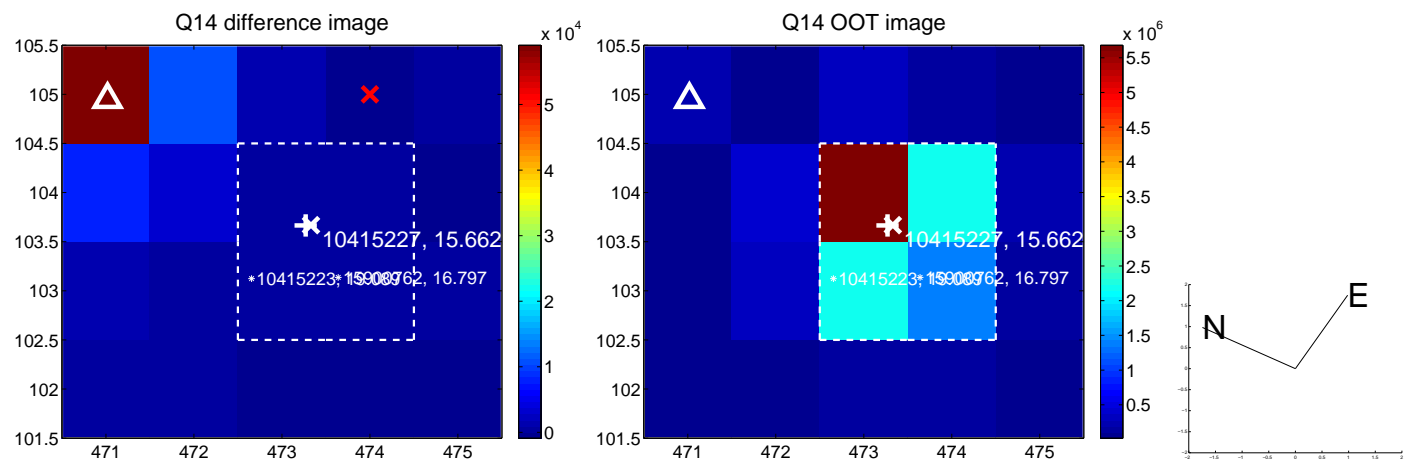
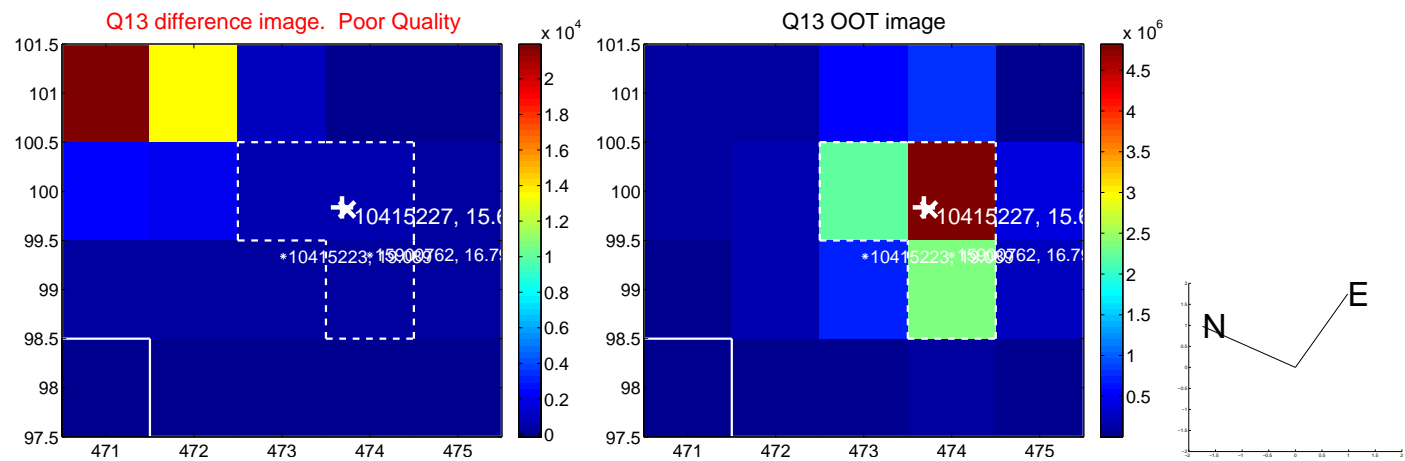
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



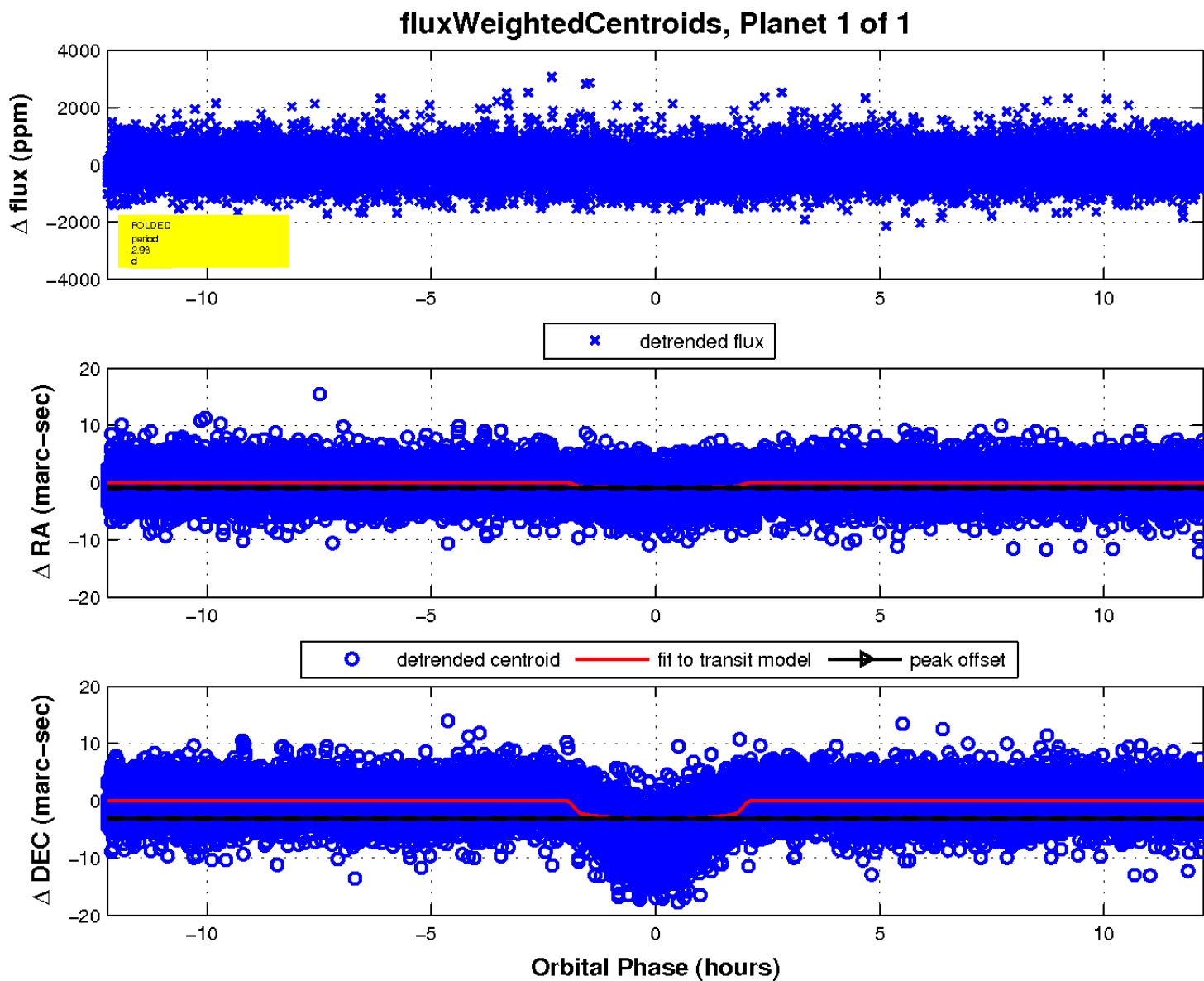
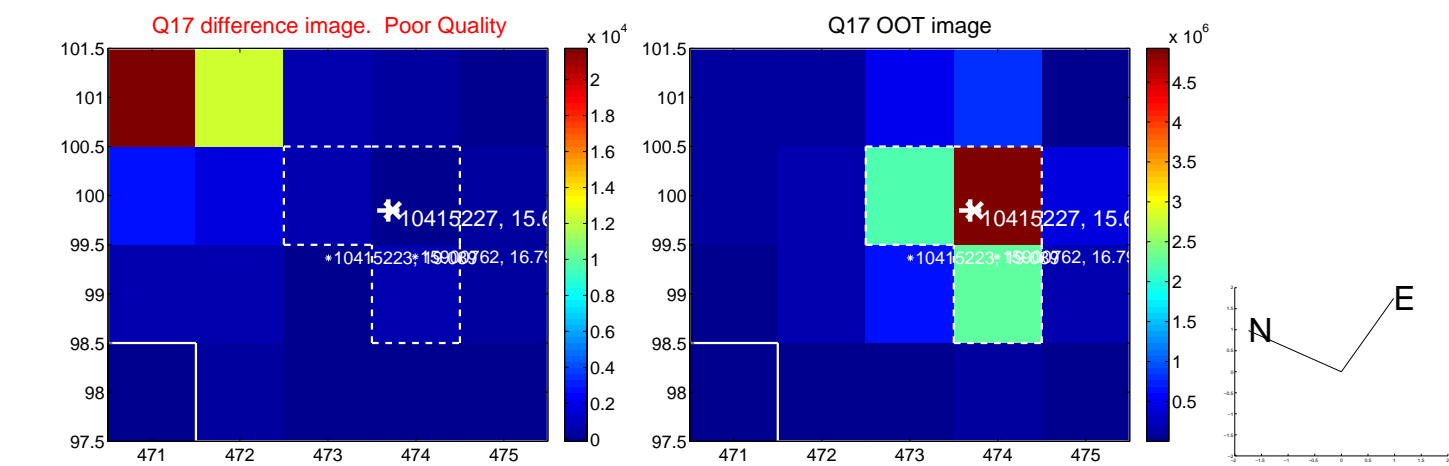
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UKIRT Image

Declination

