

KIC 002971415

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})
002971415-01	OBS	No	7.354018	138.686578	34.9	42.800	8.8	9.2	1.59	6370	1.03	631.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002971415-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

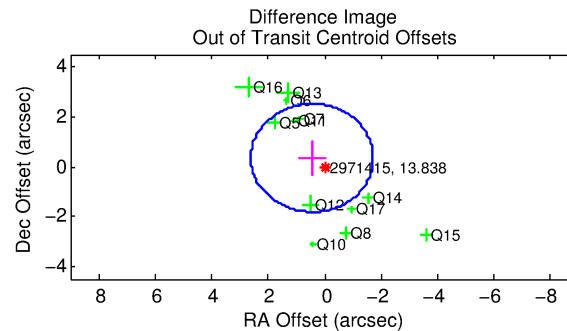
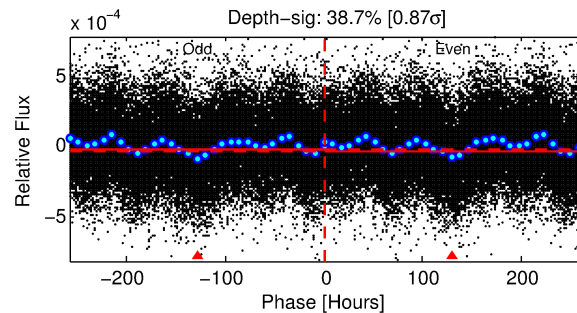
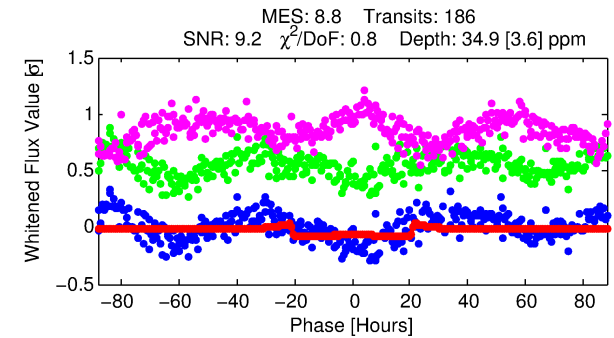
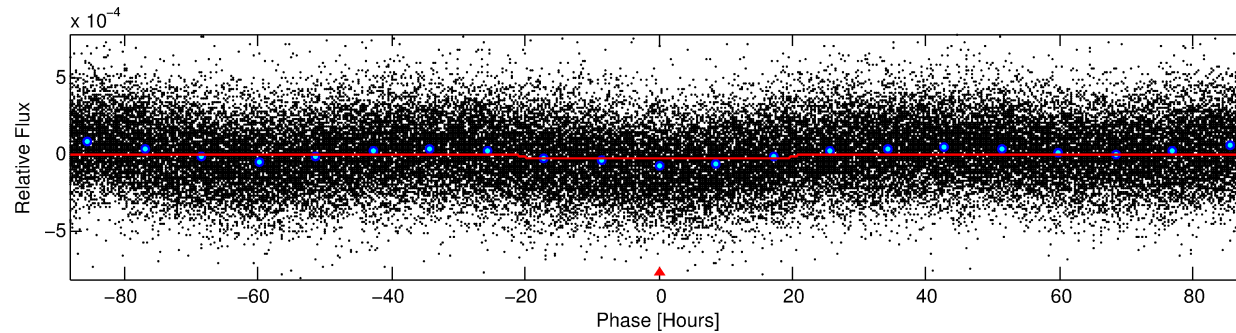
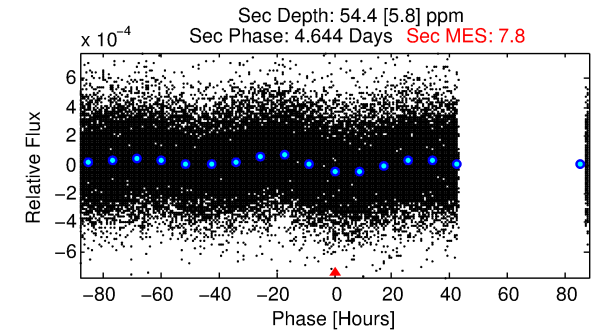
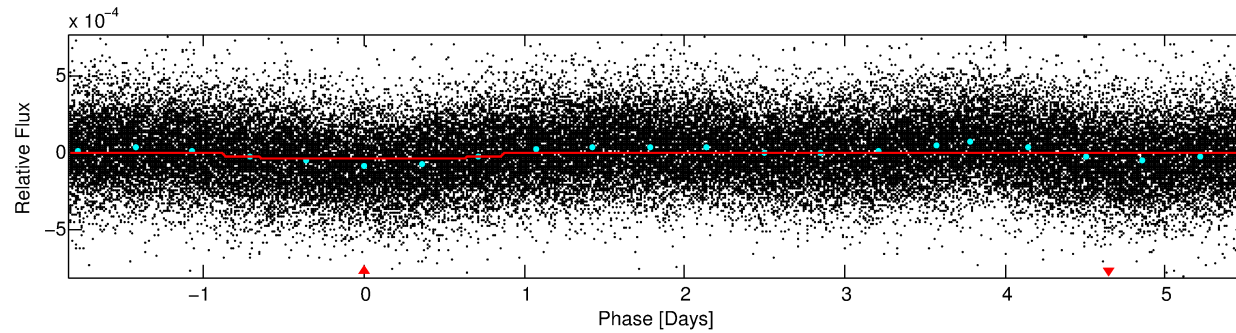
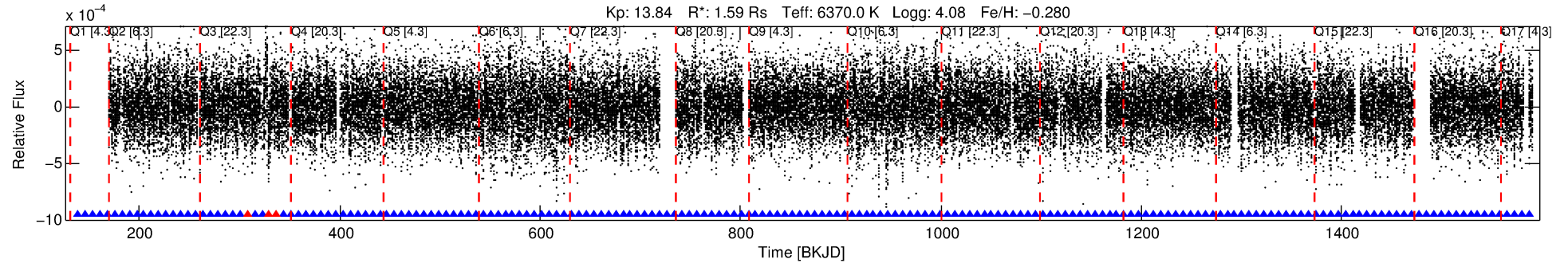
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002971415-01

No Significant Match Found

DV One-Page Summary

KIC: 2971415 Candidate: 1 of 1 Period: 7.354 d



DV Fit Results:

Period = 7.35402 [0.00025] d
Epoch = 138.6866 [0.0275] BKJD
Rp/R* = 0.0060 [0.0008]
a/R* = 1.19 [0.24]
b = 0.80 [0.31]
Seff = 631.91 [326.64]
Teq = 1278 [165] K
Rp = 1.03 [0.35] Re
a = 0.0767 [0.0237] AU
Ag = 164.62 [93.93] [1.74σ]
Teffp = 7080 [557] K [9.99σ]

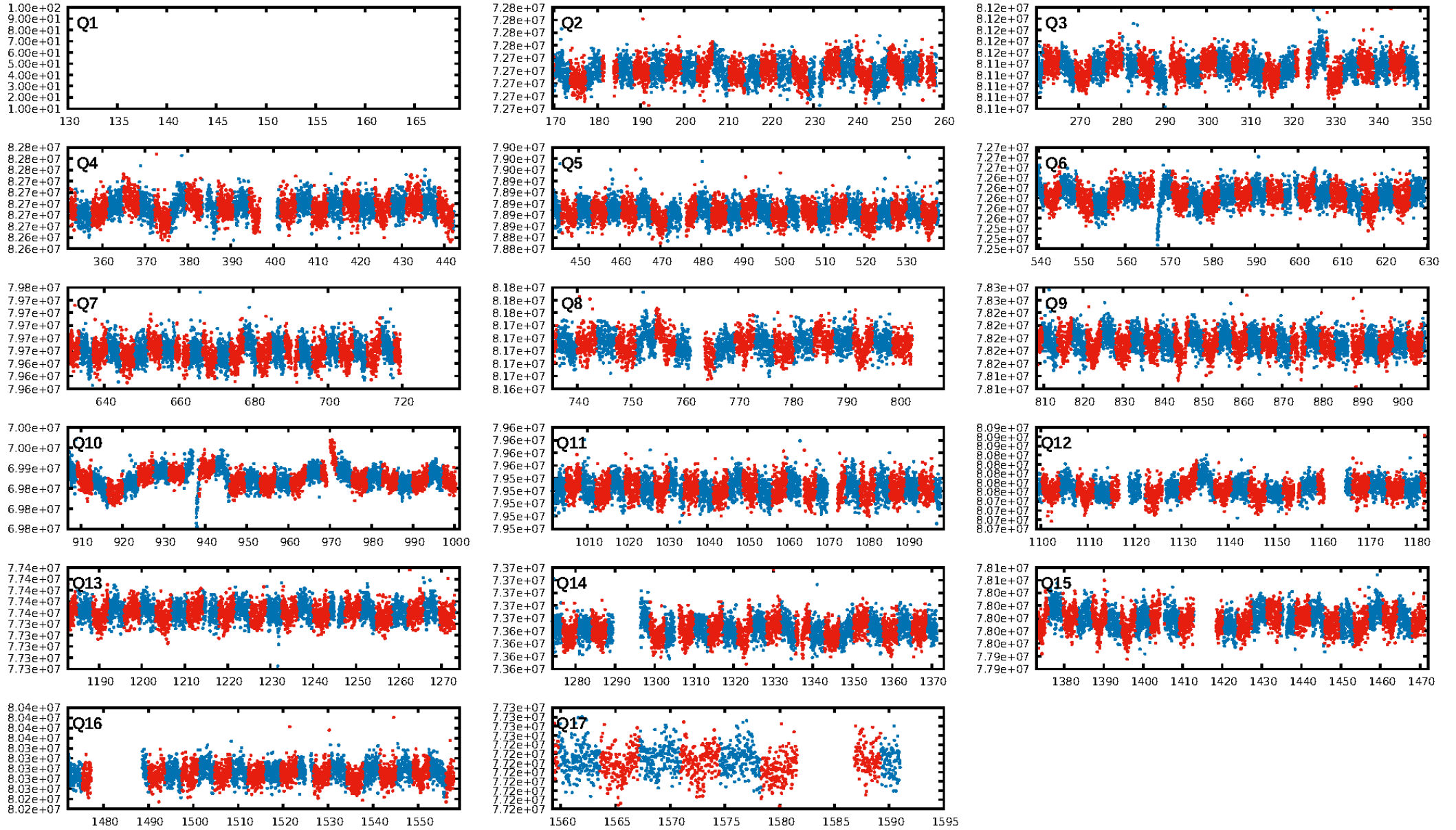
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.02e-22
RollingBand-fgt: 0.98 [179/182]
GhostDiagnostic-chr: 2.017
Centroid-sig: 0.3%
Centroid-so: 1.265 arcsec [1.55σ]
OotOffset-rm: 0.568 arcsec [0.79σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-rm: 0.556 arcsec [0.77σ]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [16/16]

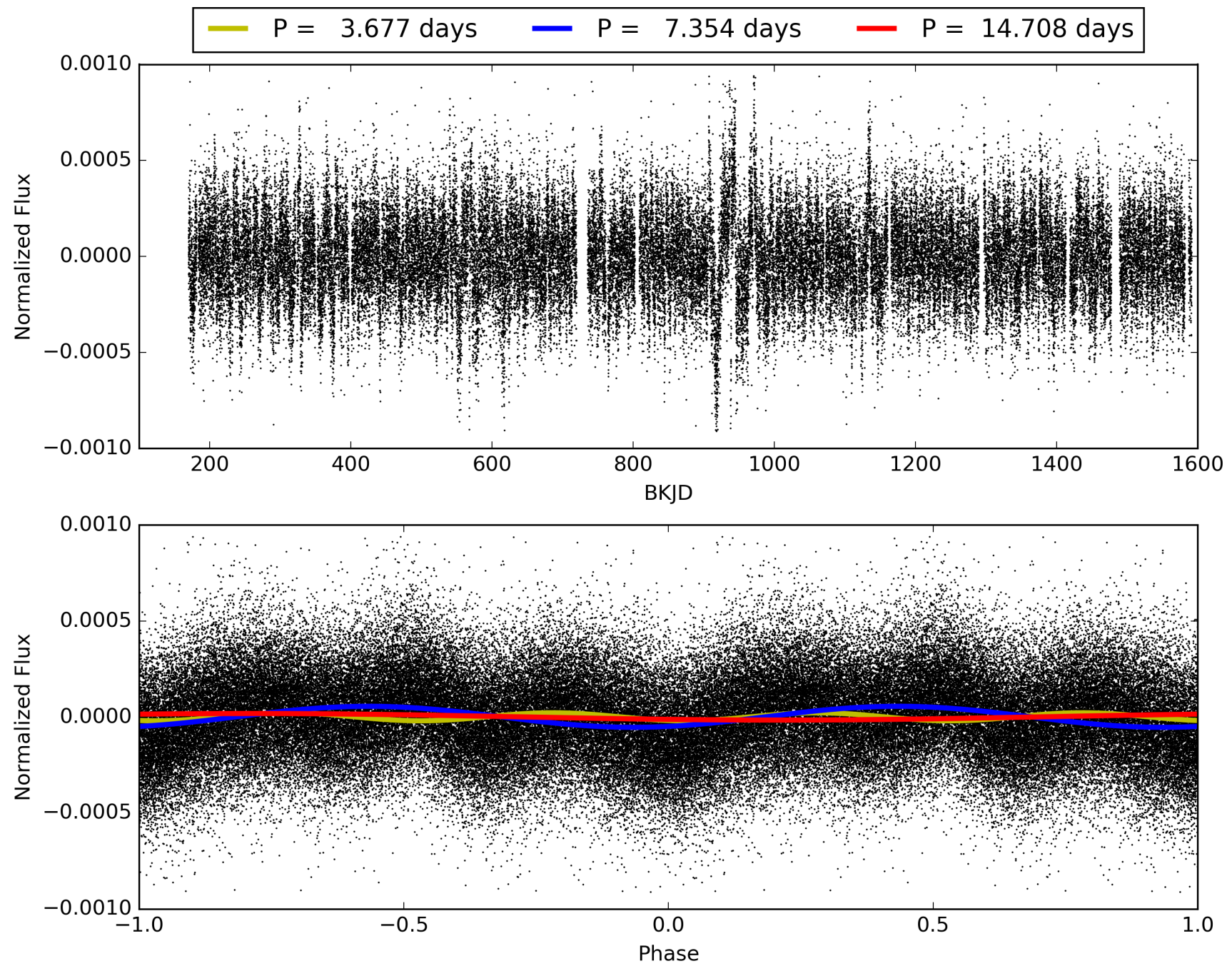
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:47:21 Z

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

TCE 002971415-01, PDC Light Curves

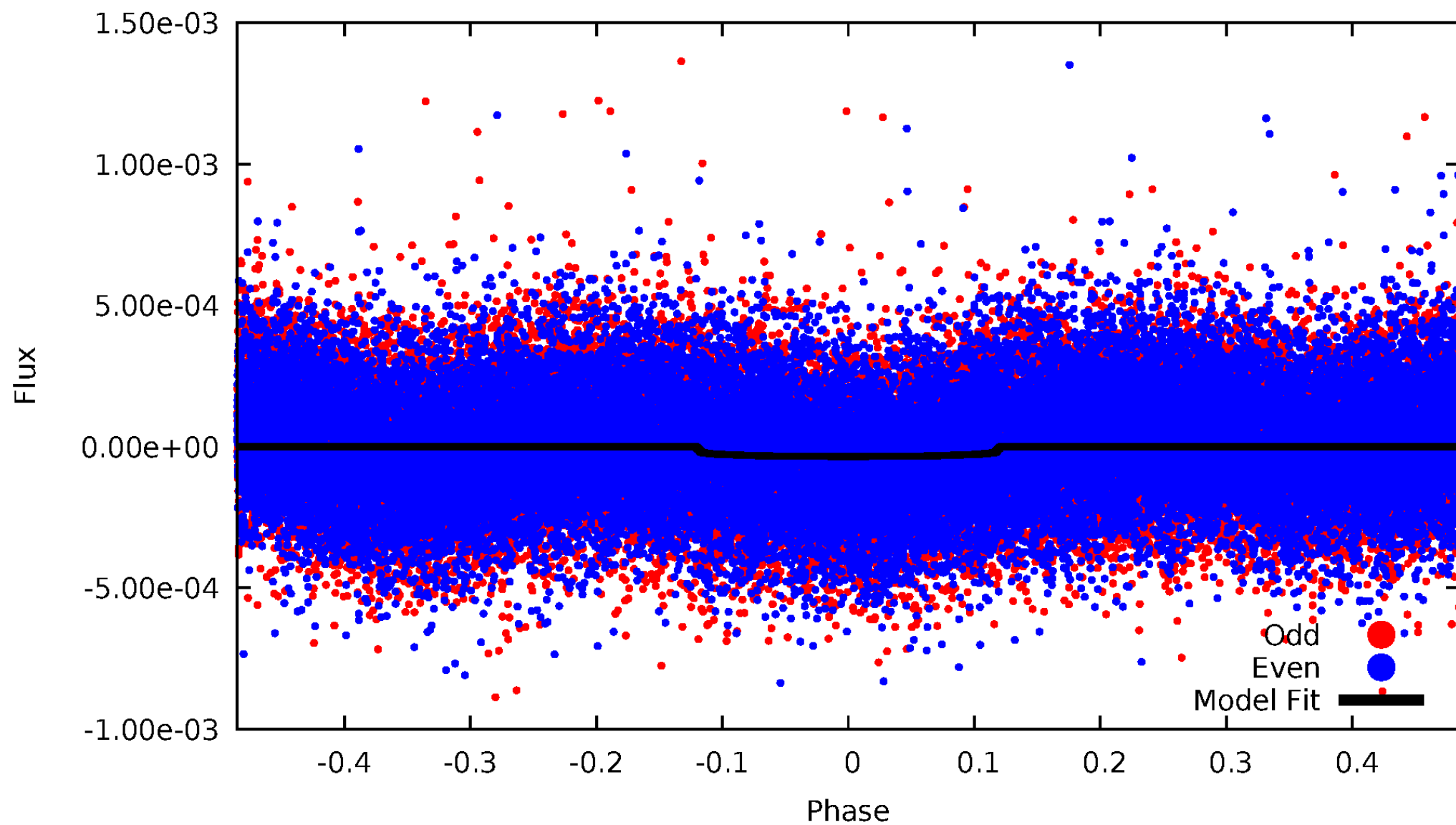


TCE 002971415-01



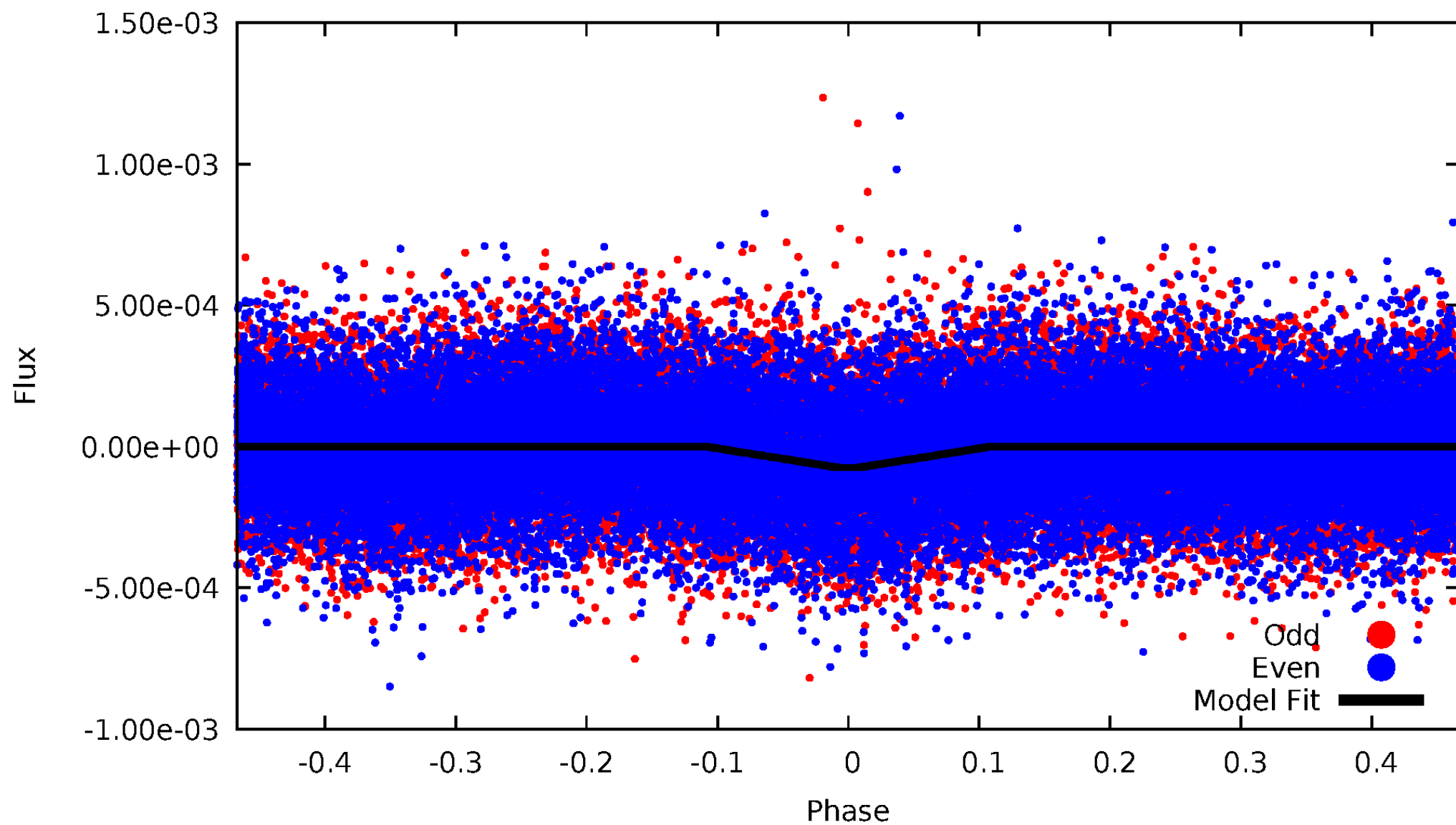
DV Odd/Even

TCE 002971415-01

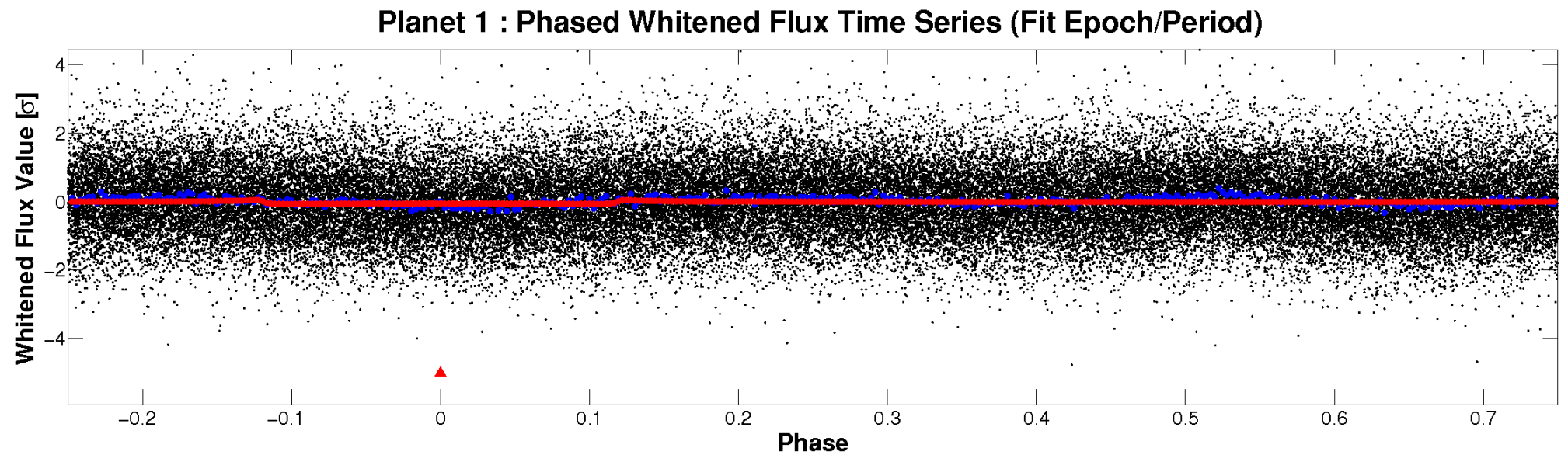
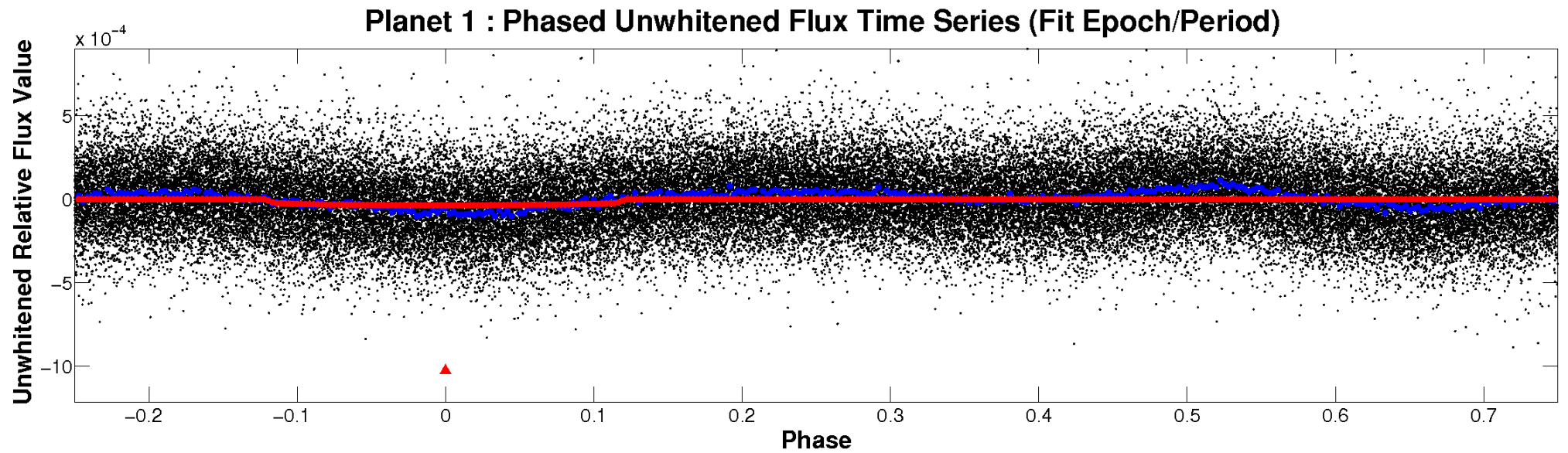


ALT Odd/Even

TCE 002971415-01

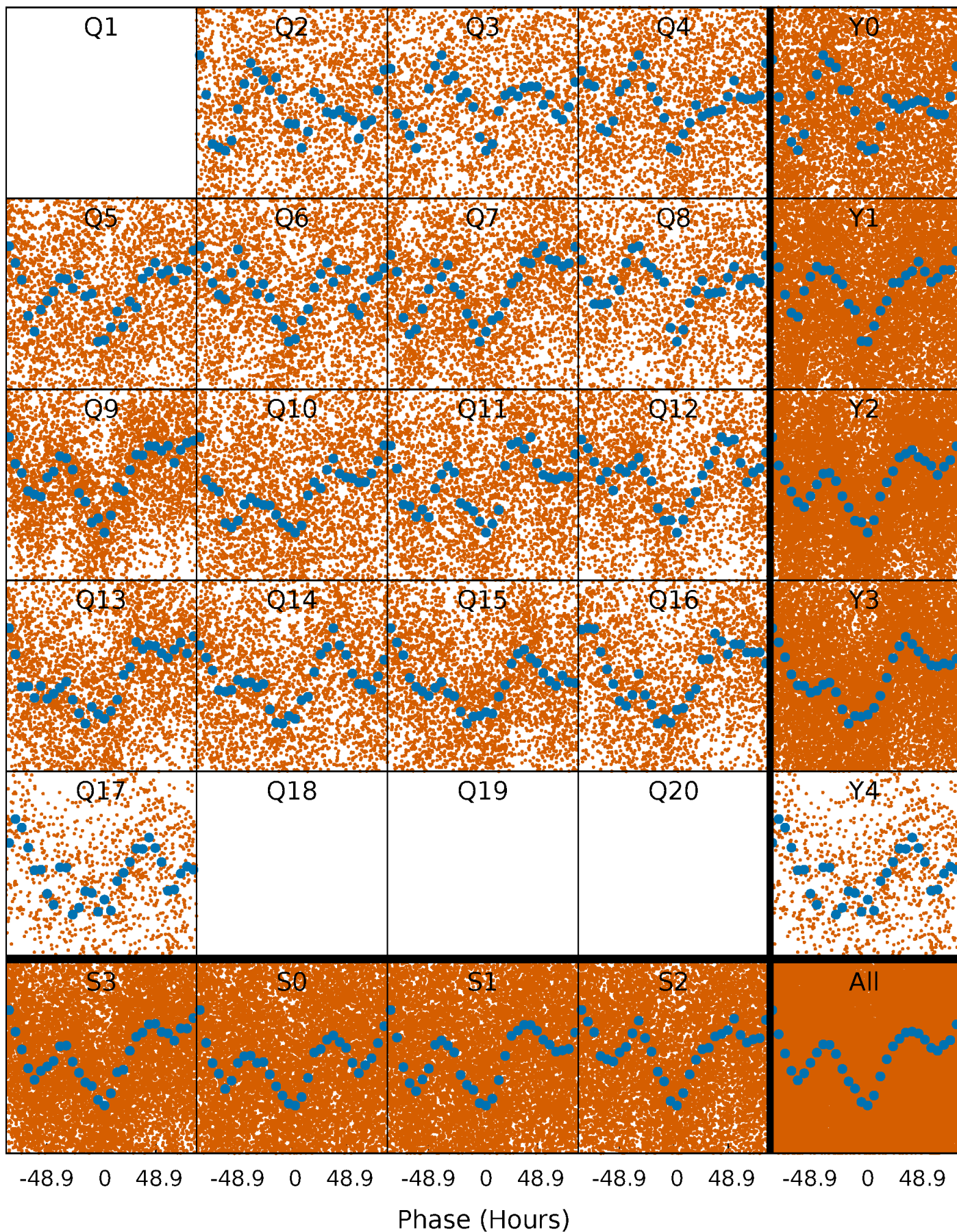


Non-Whitened Vs. Whitened Light Curve



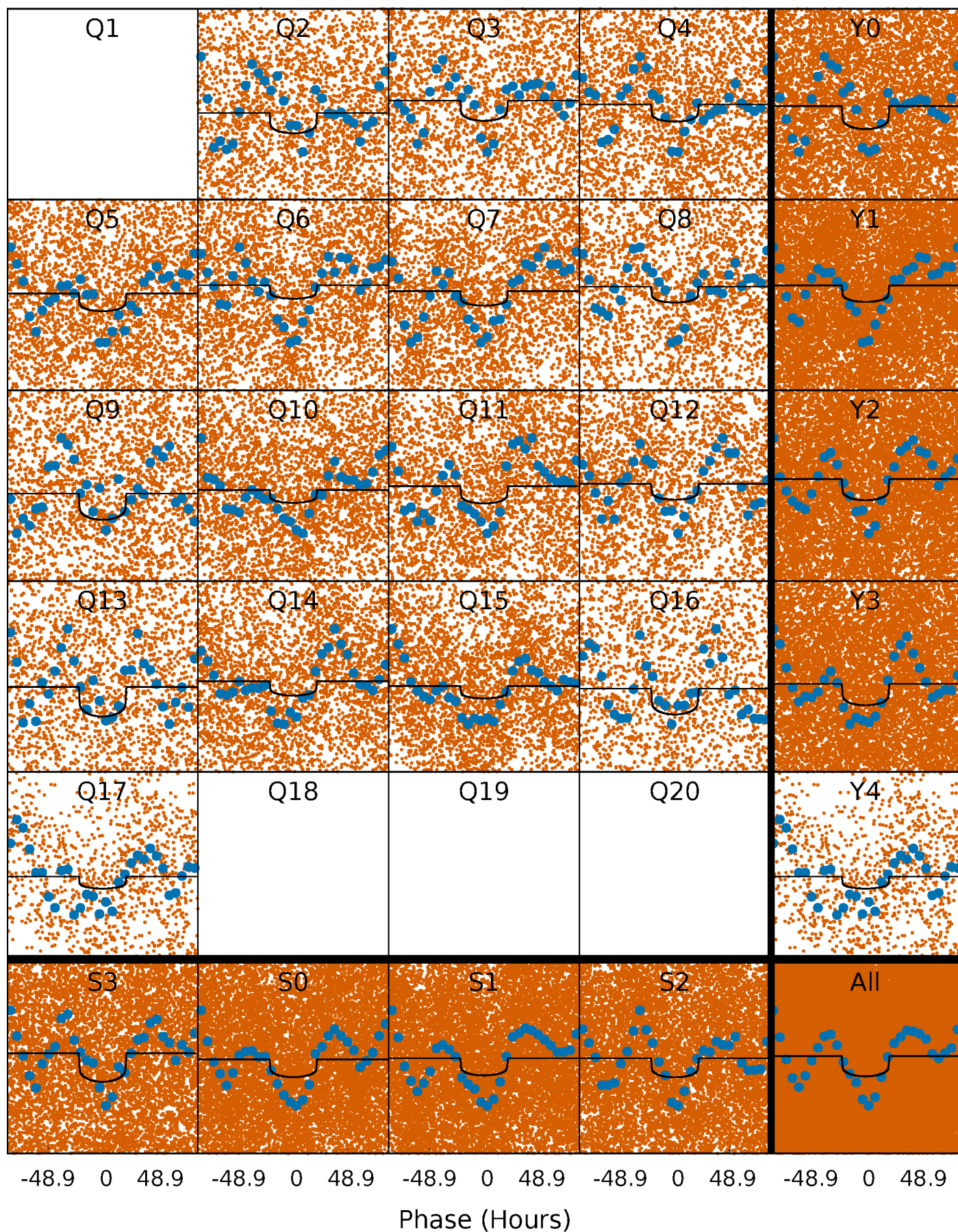
PDC Quarter-Phased Transit Curves

TCE 002971415-01 P= 7.354018 Days $T_0=138.686578$ (BKJD)



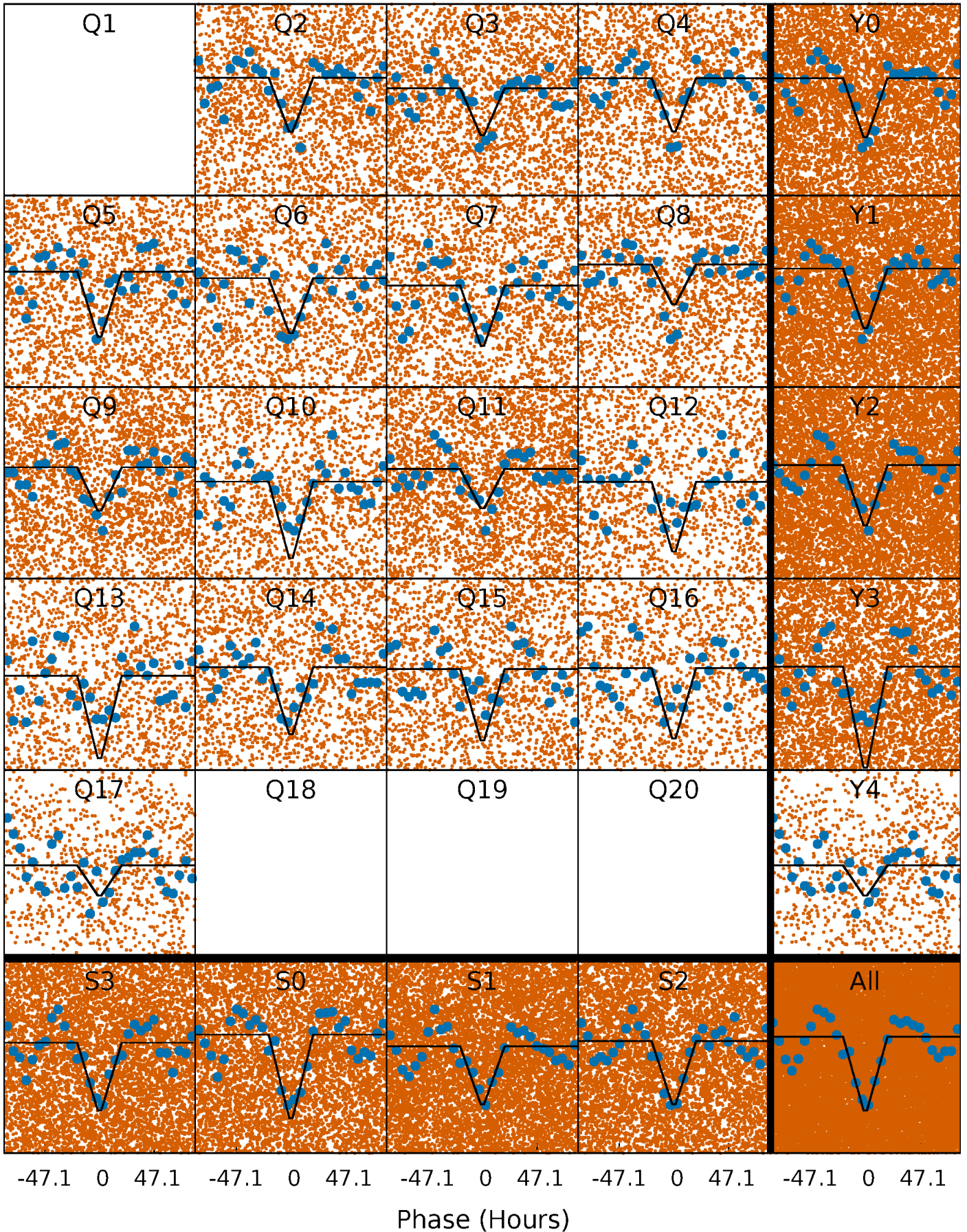
DV Quarter-Phased Transit Curves

TCE 002971415-01 P= 7.354018 Days $T_0=138.686578$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

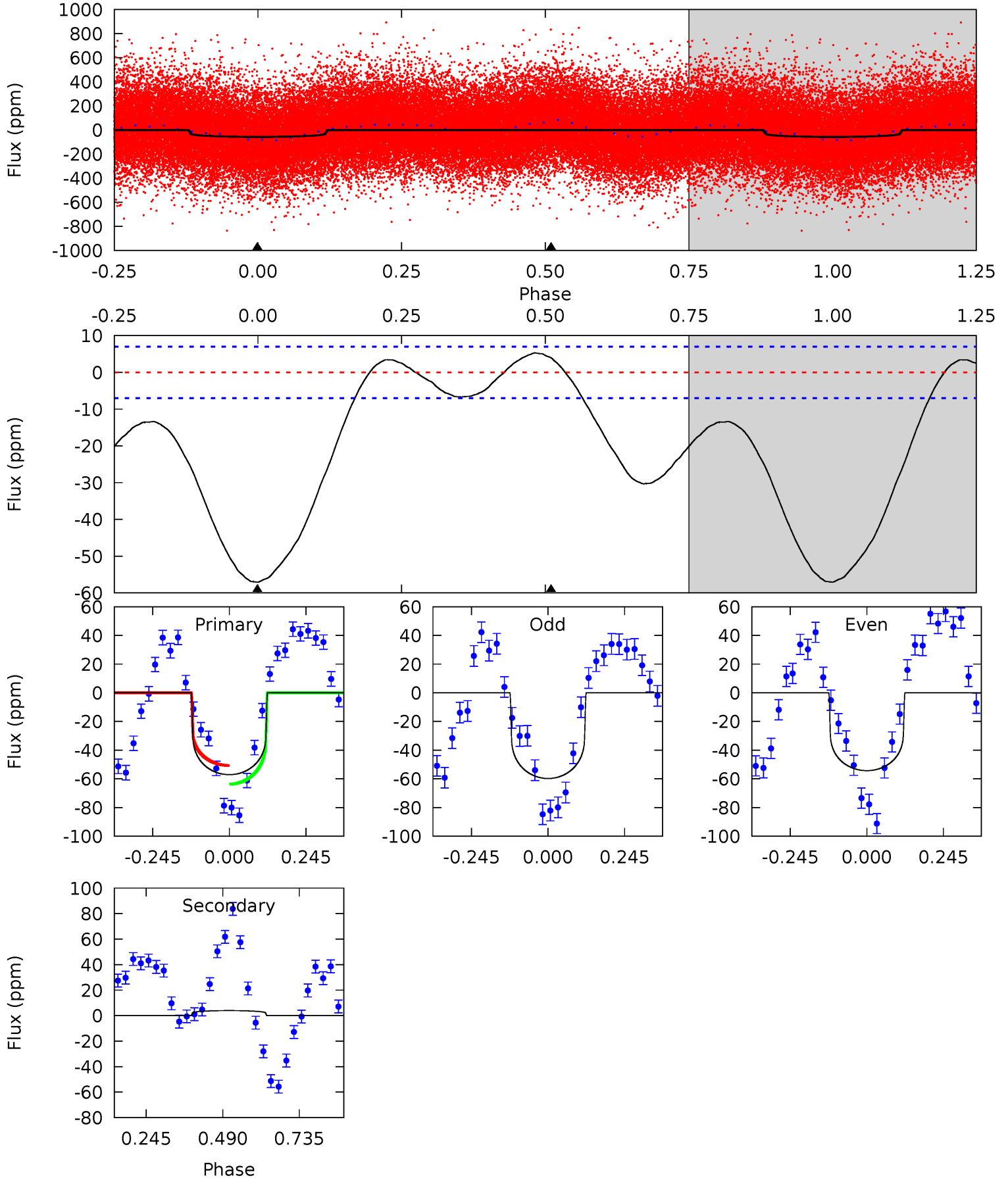
TCE 002971415-01 P= 7.354538 Days $T_0=138.735340$ (BKJD)



DV Model-Shift Uniqueness Test

002971415-01, P = 7.354018 Days, E = 138.686578 Days

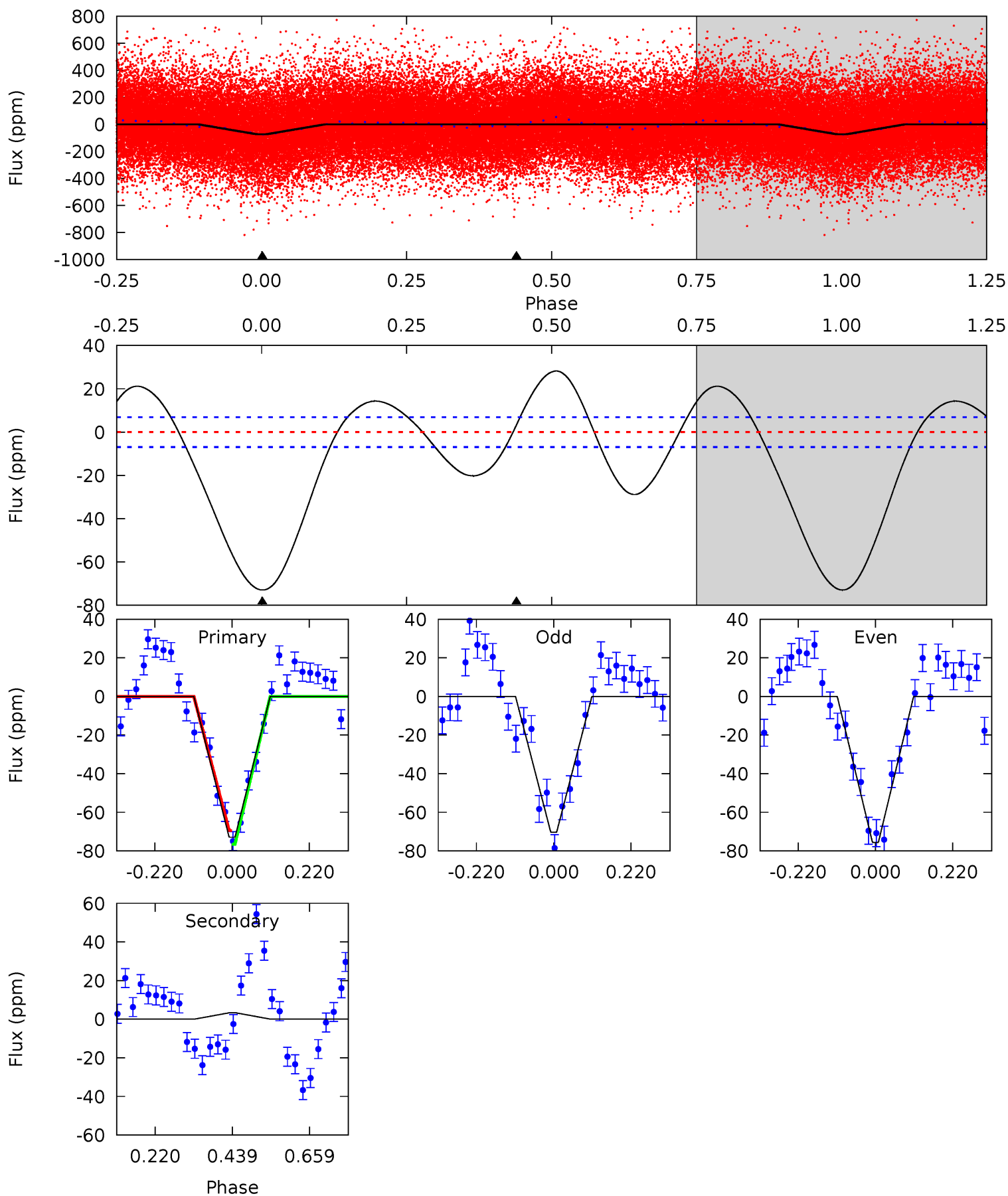
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.6	-2.46	0	0	4.37	1.16	6.49	35.6	35.6	-2.46	-2.46	1.71	1.00	0.09	4.00



Alt Model-Shift Uniqueness Test

002971415-01, P = 7.354538 Days, E = 138.735340 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.4	-2.13	0	0	4.40	1.23	10.1	46.4	46.4	-2.13	-2.13	1.69	0.99	0.28	2.27



Stellar Parameters For KIC 002971415

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6370^{+181}_{-227}	$4.083^{+0.293}_{-0.158}$	$-0.280^{+0.250}_{-0.300}$	$1.588^{+0.457}_{-0.503}$	$1.113^{+0.192}_{-0.157}$	$0.391^{+0.688}_{-0.178}$
	+3%/-4%	+7%/-4%	+89%/-107%	+29%/-32%	+17%/-14%	+176%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 002971415-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	4 ± 2	$0.99^{+0.24}_{-0.20}$	1754^{+141}_{-160}	-4015^{+341}_{-316}	$-13.064^{+5.981}_{-9.371}$
Alt.	3 ± 2	$1.46^{+0.28}_{-0.26}$	1764^{+143}_{-157}	-3444^{+294}_{-266}	$-4.959^{+2.547}_{-3.637}$

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 $A_{obs} \gg 1.0$

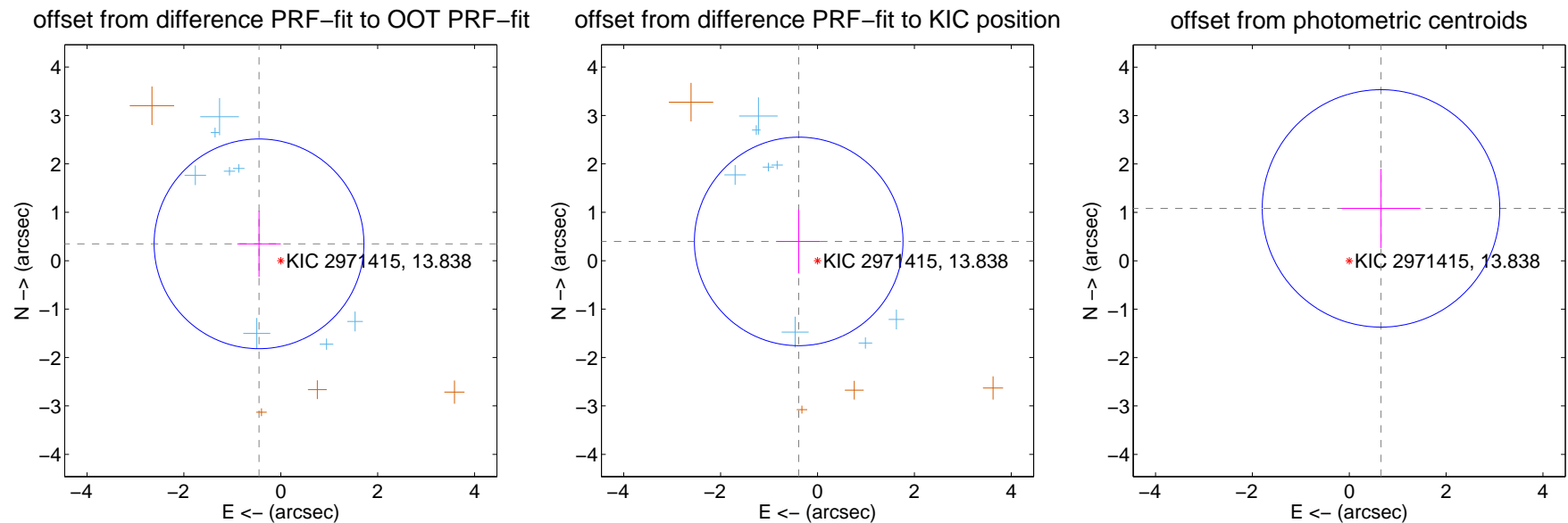
DV Centroid Data

Supplemental centroid analysis for 002971415-01. Kepler magnitude: 13.84. Transit SNR 9.20

There are 8 quarters with good PRF difference image offsets

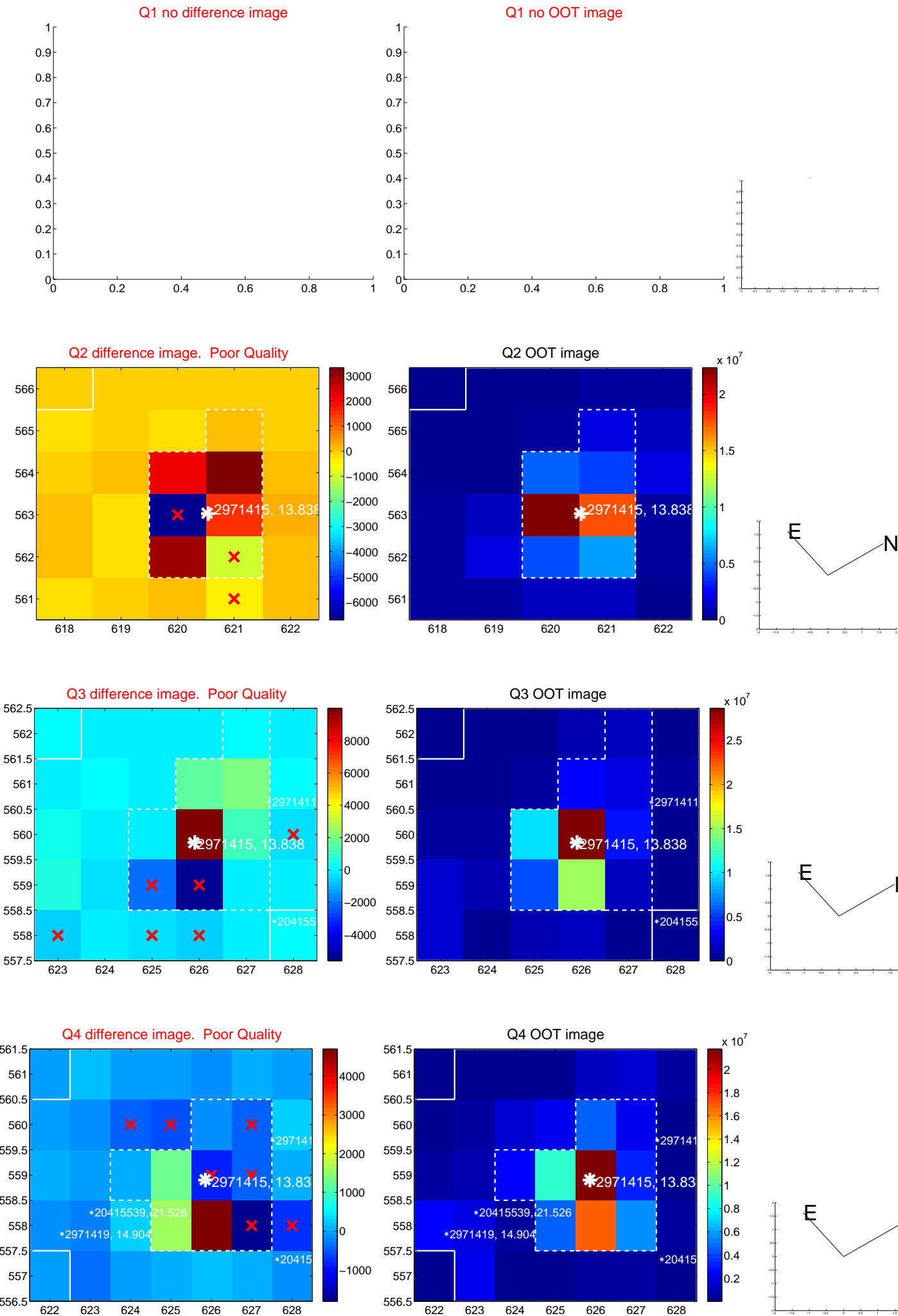
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.568 ± 0.722	0.79	0.449 ± 0.450	0.348 ± 0.681
PRF-fit source offset from KIC position	0.556 ± 0.718	0.77	0.388 ± 0.444	0.398 ± 0.660
photometric centroid source offset	1.27 ± 0.82	1.55	-0.66 ± 0.82	1.08 ± 0.82

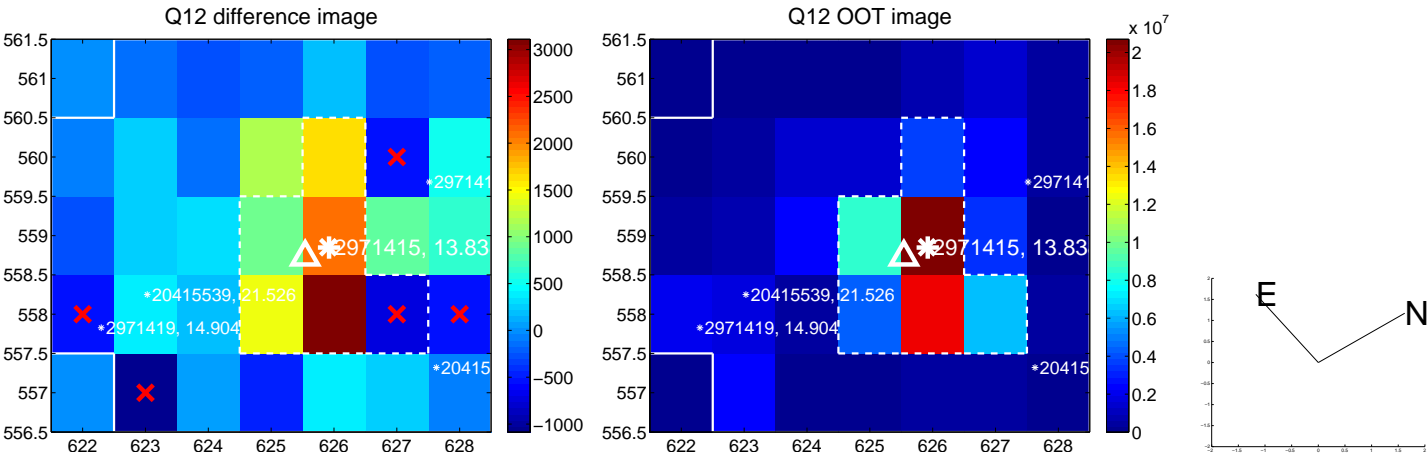
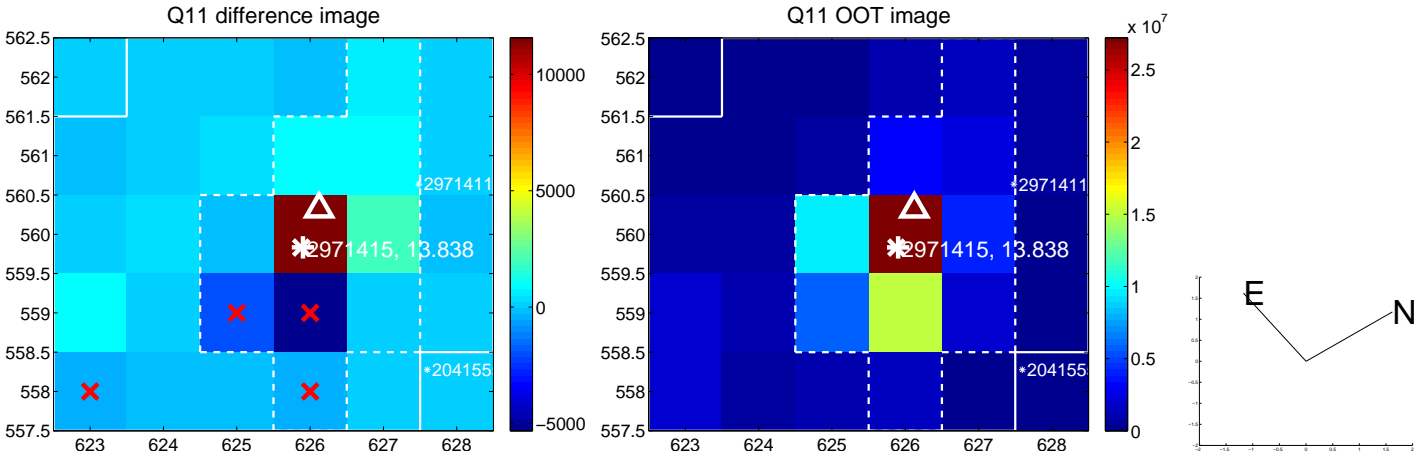
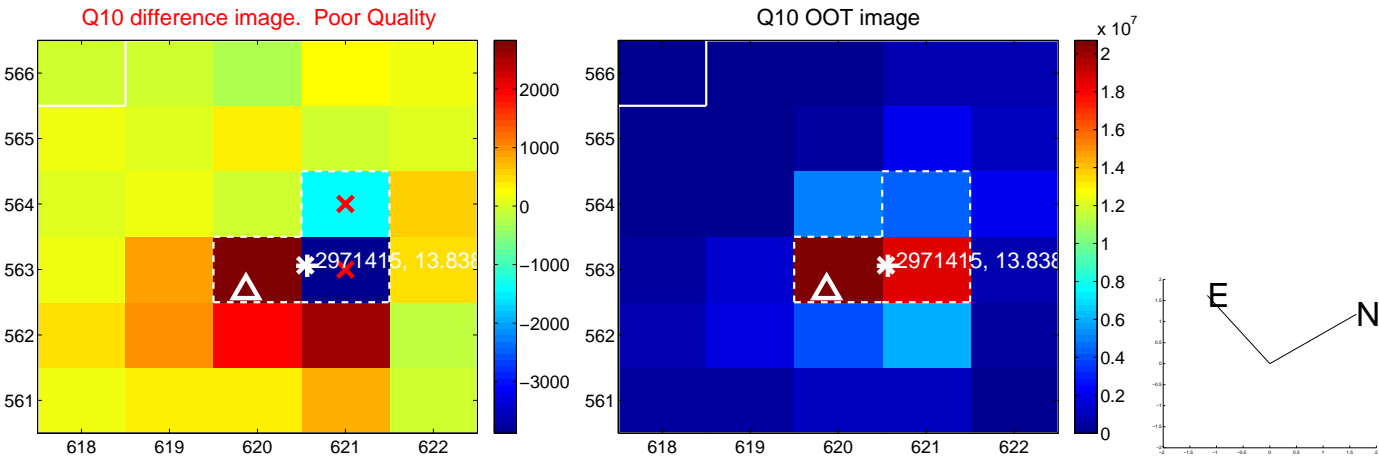
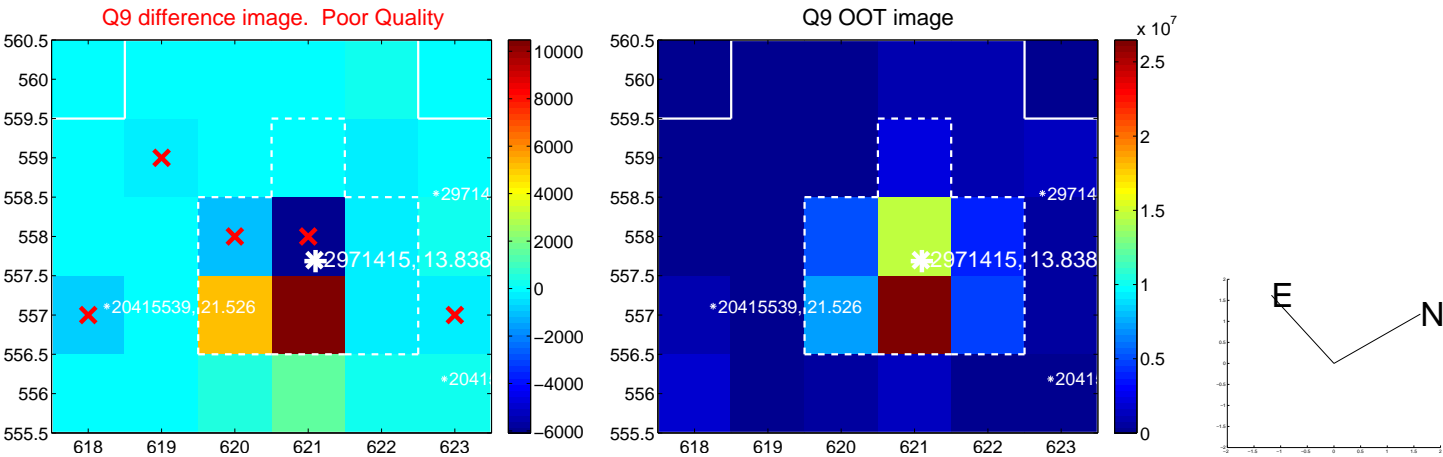


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

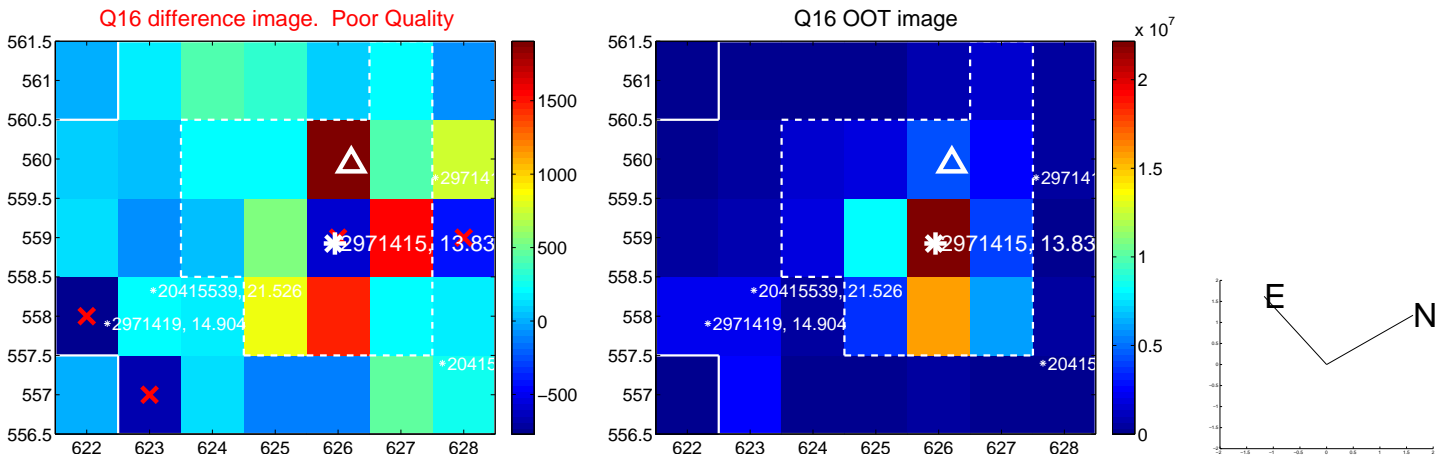
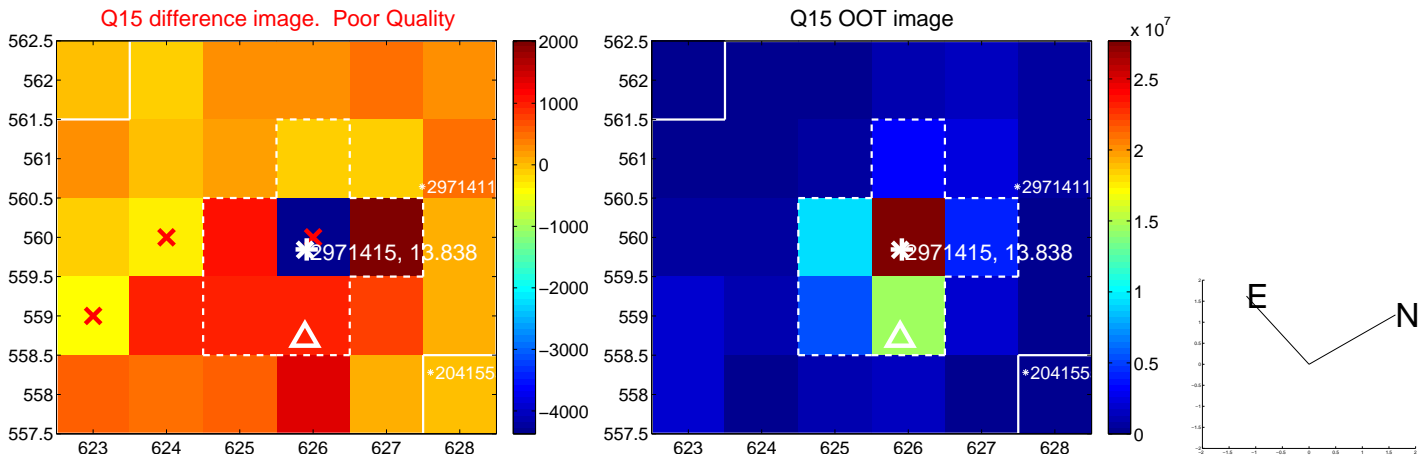
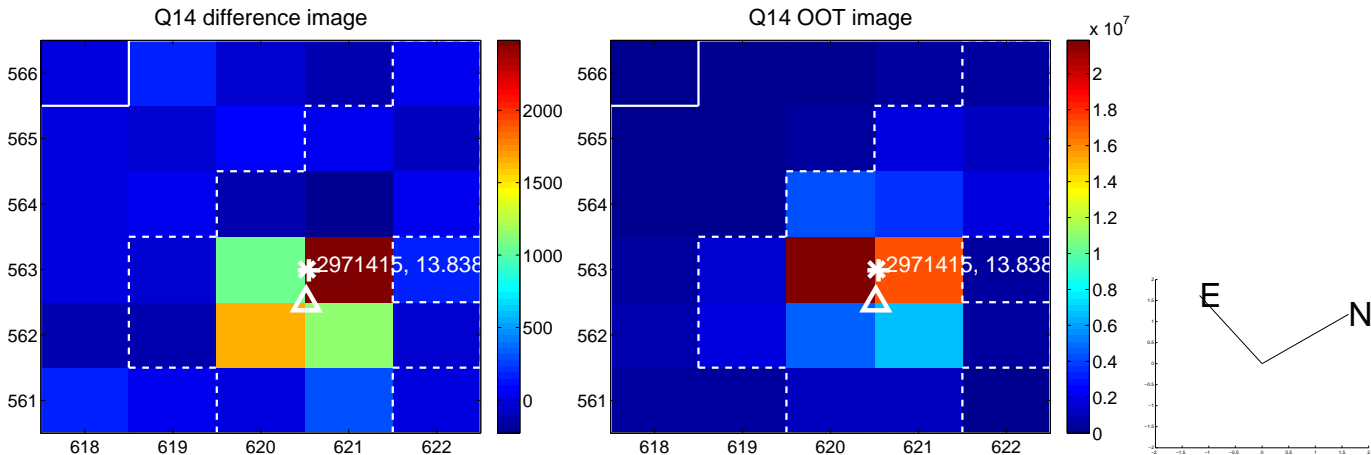
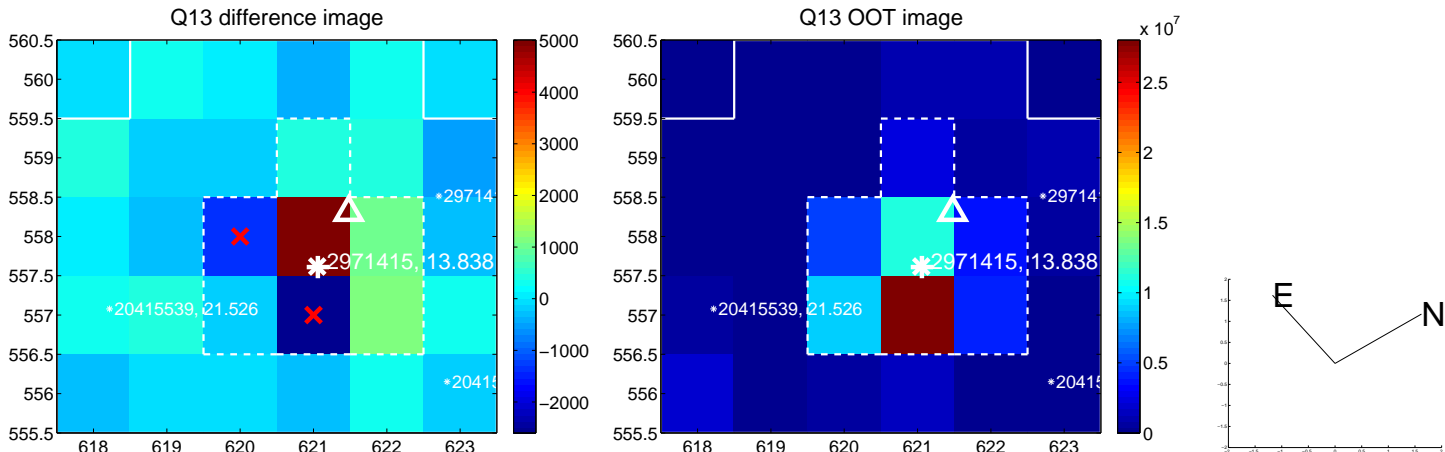
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



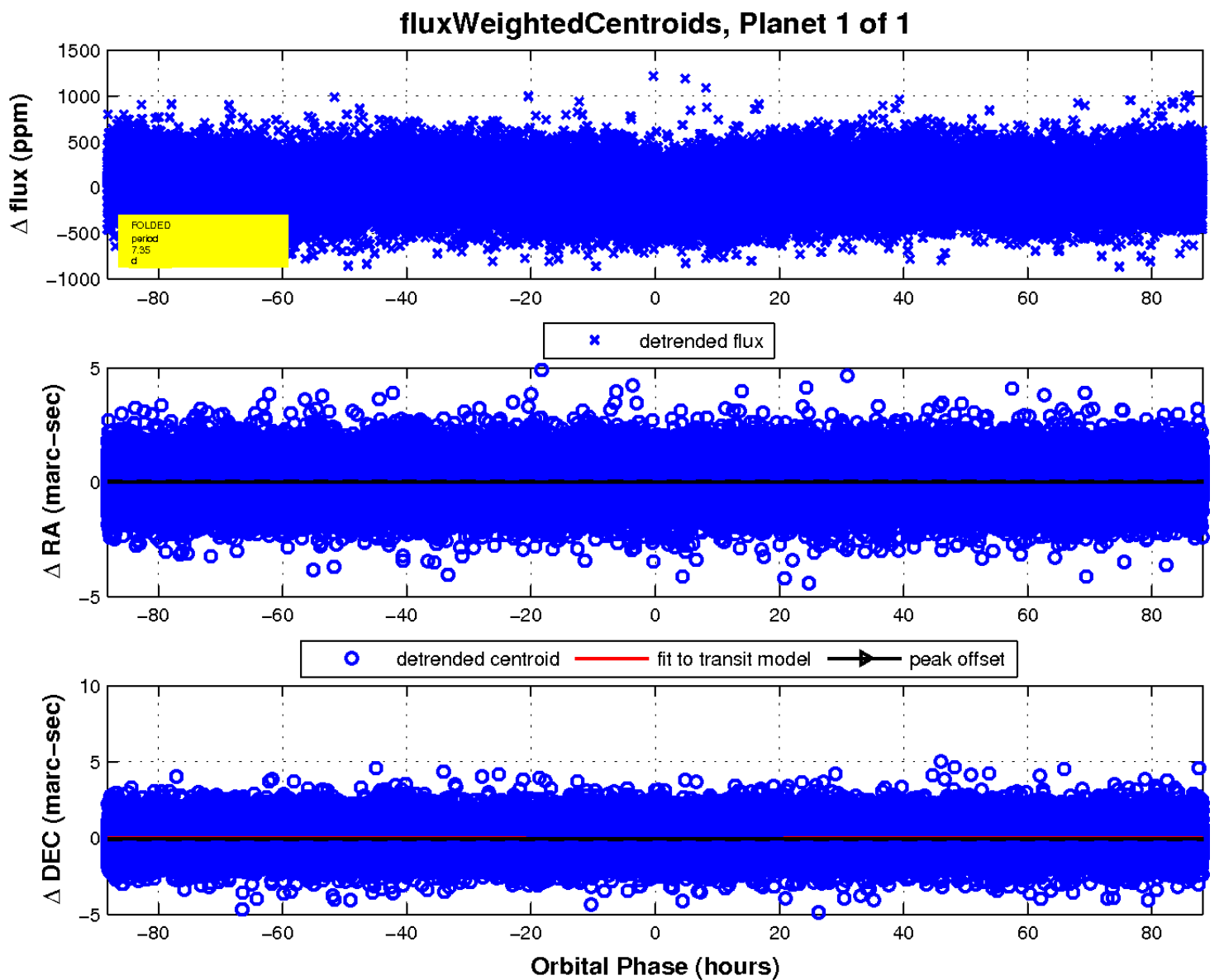
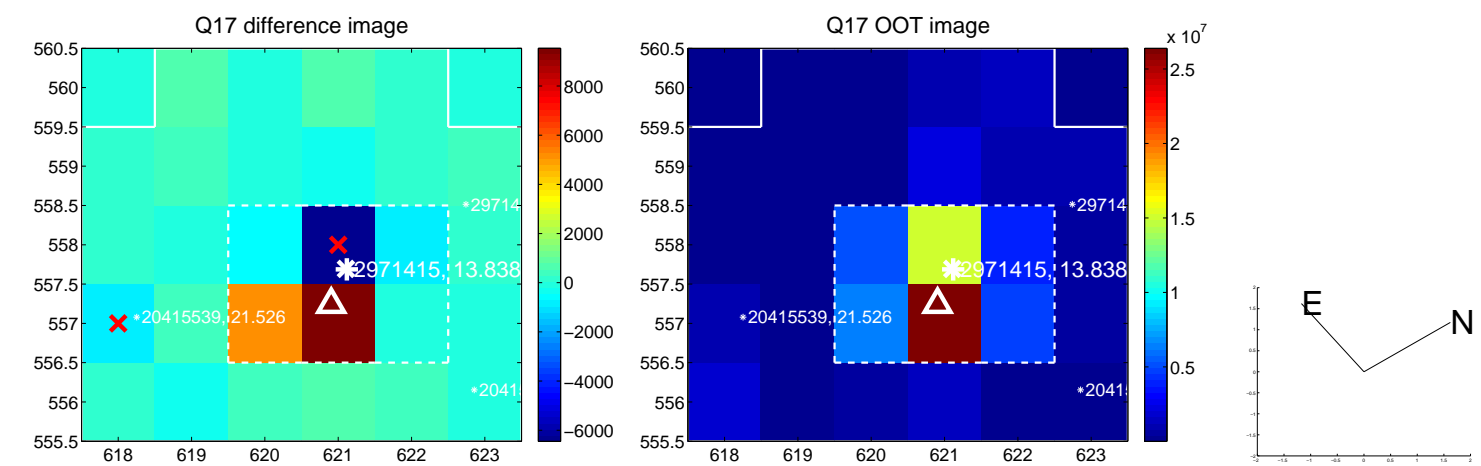
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

