

KIC 007466270

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})
007466270-01	OBS	2959.01	16.155836	140.232513	706.4	3.748	15.3	15.2	0.53	4504	2.05	10.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007466270-01	OBS	PC	0.78	0	0	0	0	CENT_KIC_POS

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 007466270-01

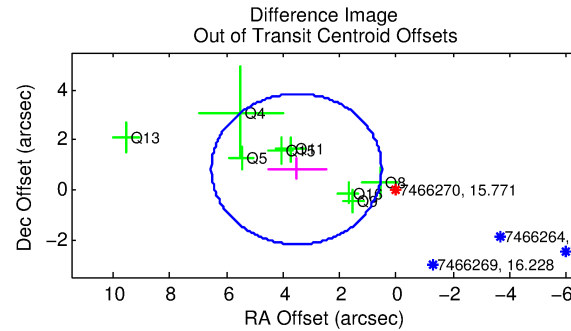
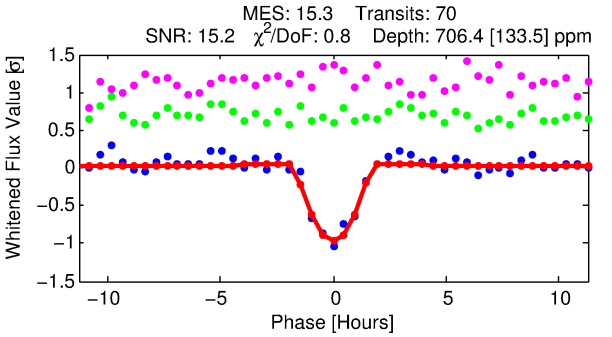
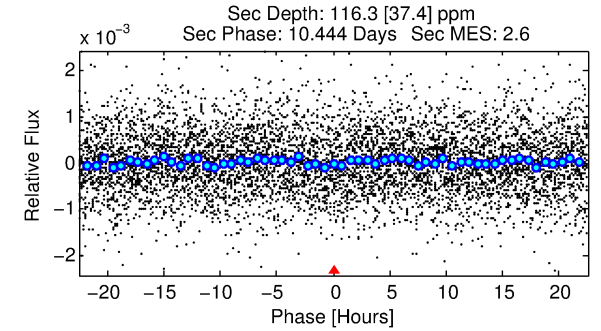
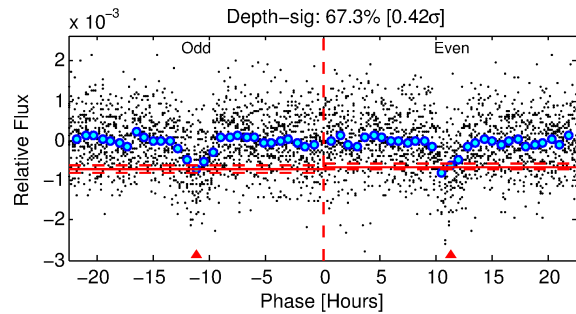
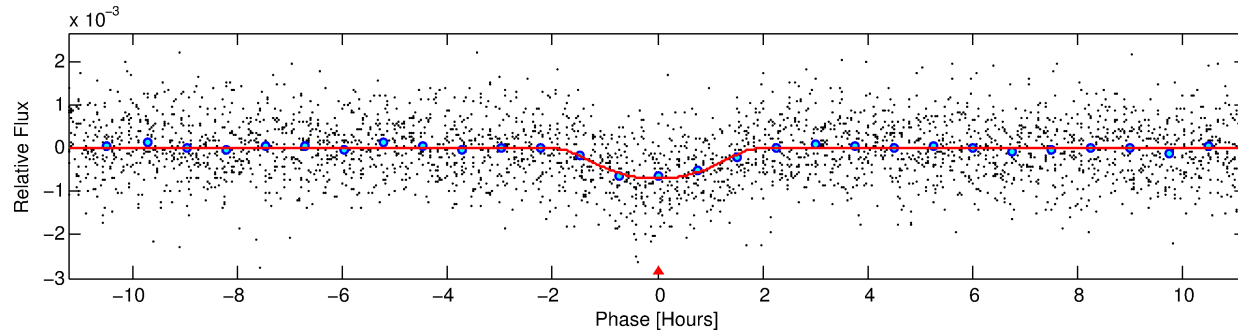
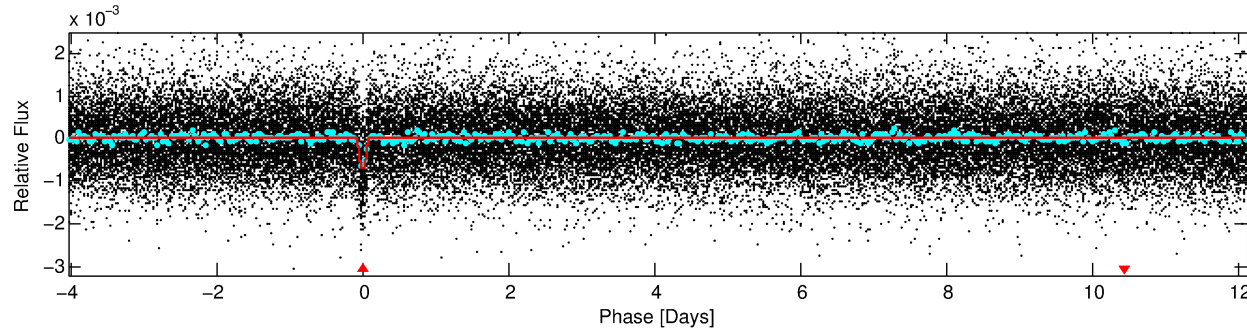
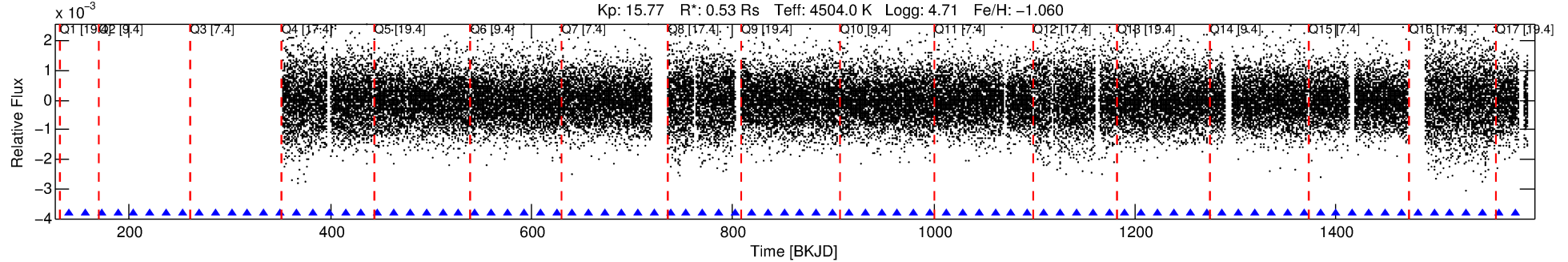
No Significant Match Found

DV One-Page Summary

KIC: 7466270 Candidate: 1 of 1 Period: 16.156 d

KOI: K02959.01 Corr: 0.970

Kp: 15.77 R*: 0.53 Rs Teff: 4504.0 K Logg: 4.71 Fe/H: -1.060



DV Fit Results:

Period = 16.15584 [0.00014] d
Epoch = 140.2325 [0.0077] BKJD
Rp/R* = 0.0355 [0.0162]
a/R* = 11.62 [3.15]
b = 0.97 [0.04]
Seff = 10.12 [1.93]
Teq = 455 [22] K
Rp = 2.05 [0.96] Re
a = 0.1012 [0.0074] AU
Ag = 155.35 [151.62] [1.02σ]
Teffp = 2482 [610] K [3.32σ]

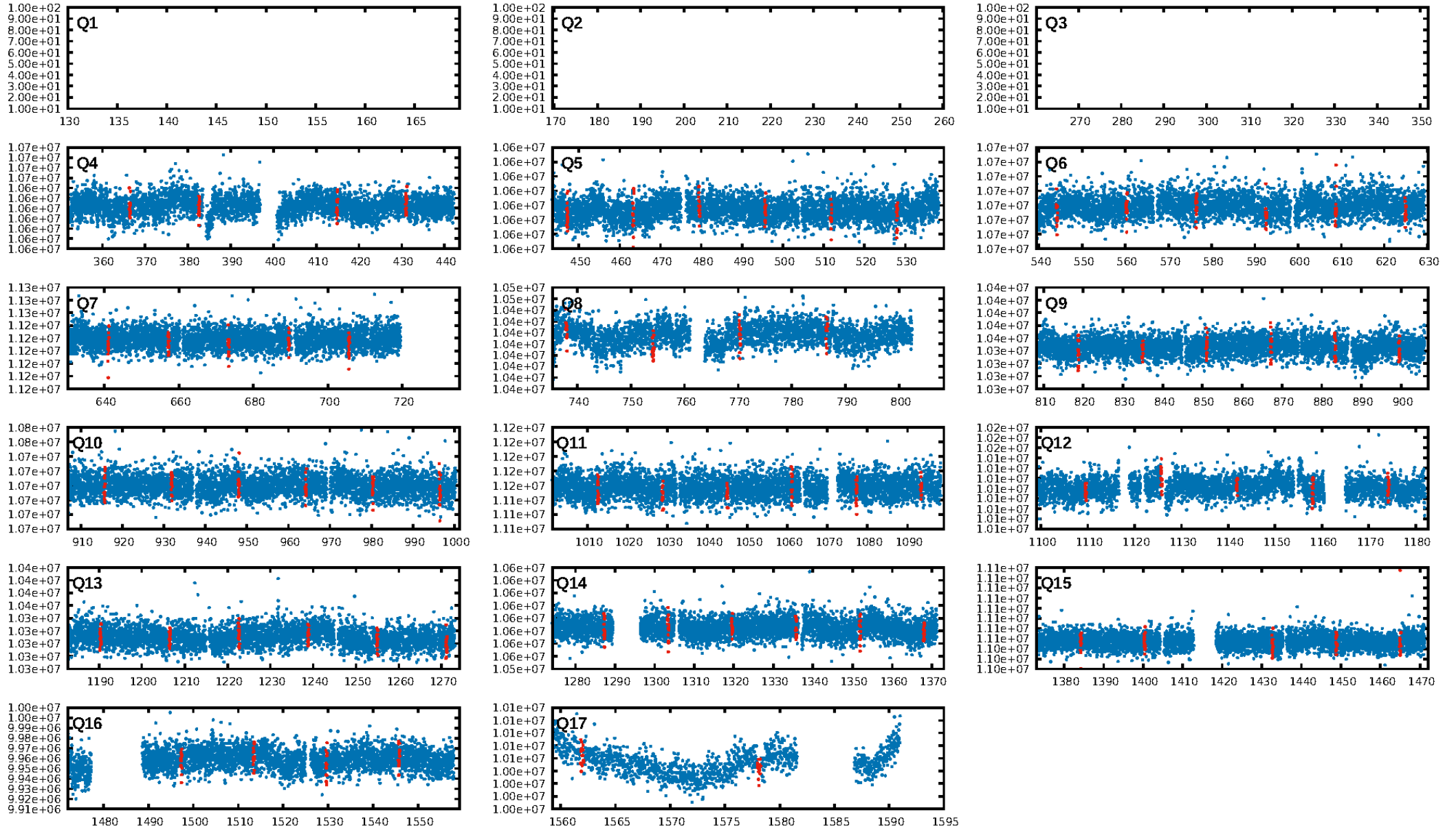
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.57e-52
RollingBand-fgt: 1.00 [68/68]
GhostDiagnostic-chr: 85.91
Centroid-sig: 0.0%
Centroid-so: 2.383 arcsec [7.68σ]
OotOffset-rm: 3.617 arcsec [3.60σ]
KicOffset-rm: 0.693 arcsec [2.16σ]
OotOffset-st: 0/2/3/3 [8]
KicOffset-st: 3/2/3/3 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 1.00 [14/14]

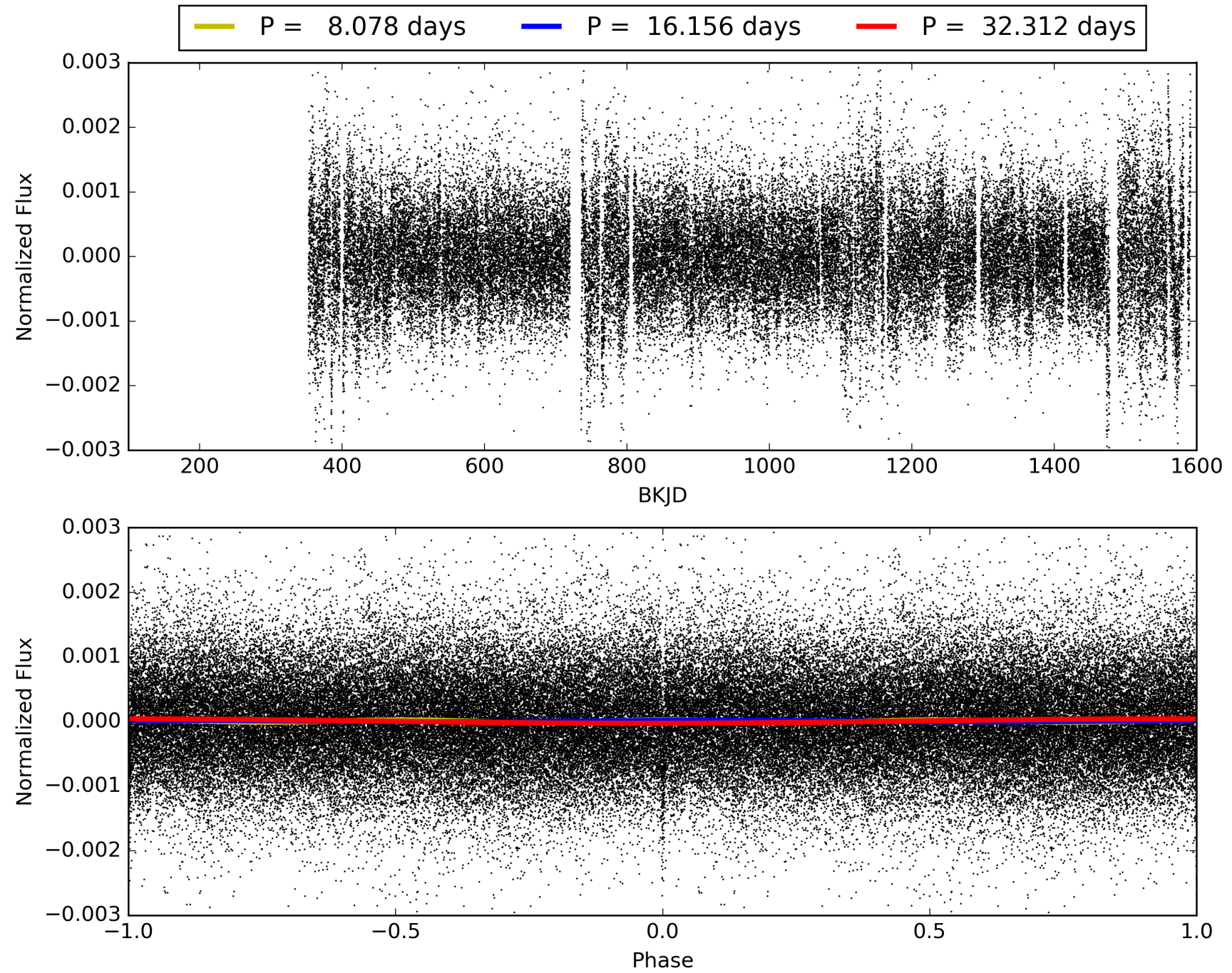
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:48:01 Z

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

TCE 007466270-01, PDC Light Curves

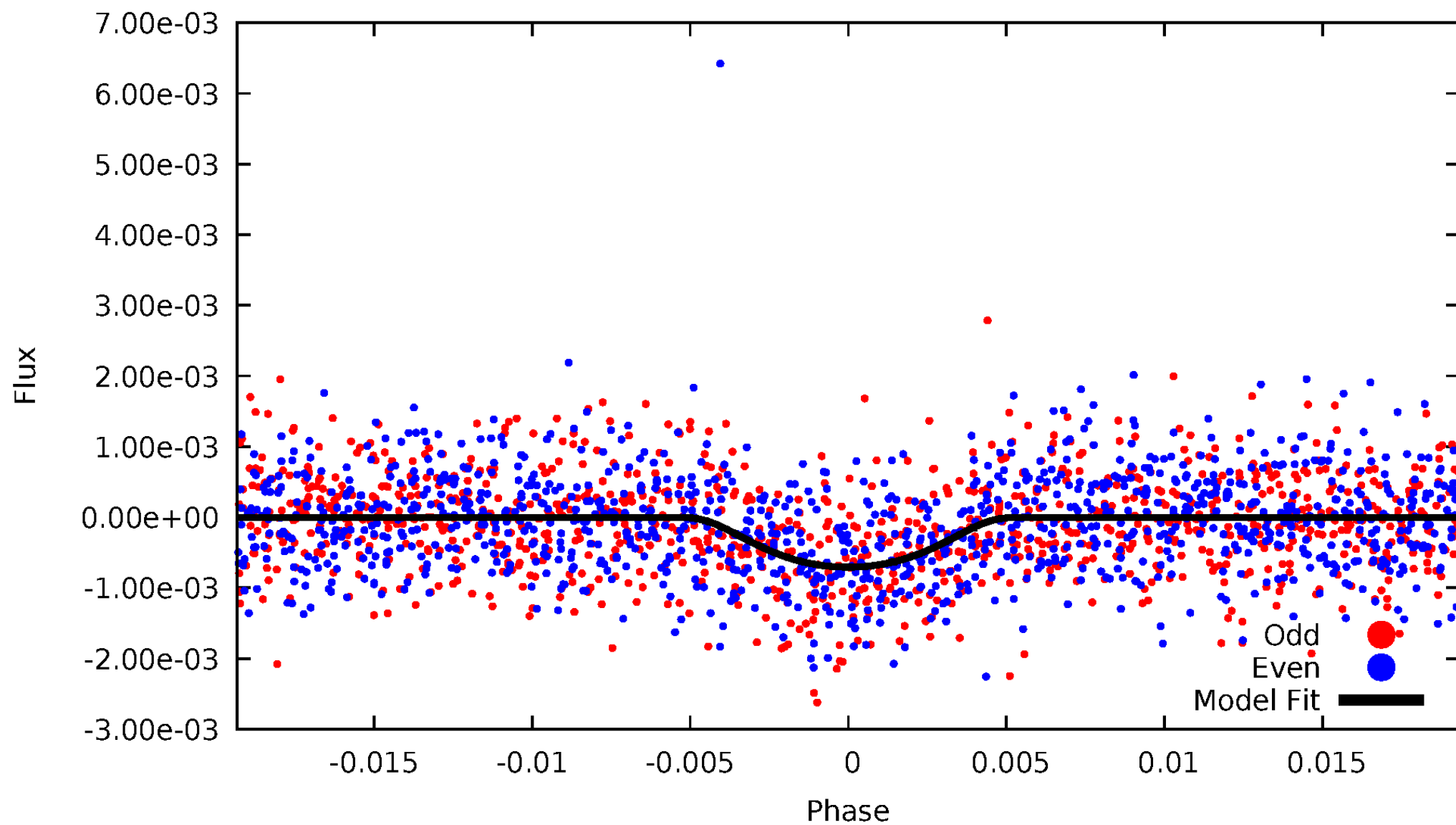


TCE 007466270-01



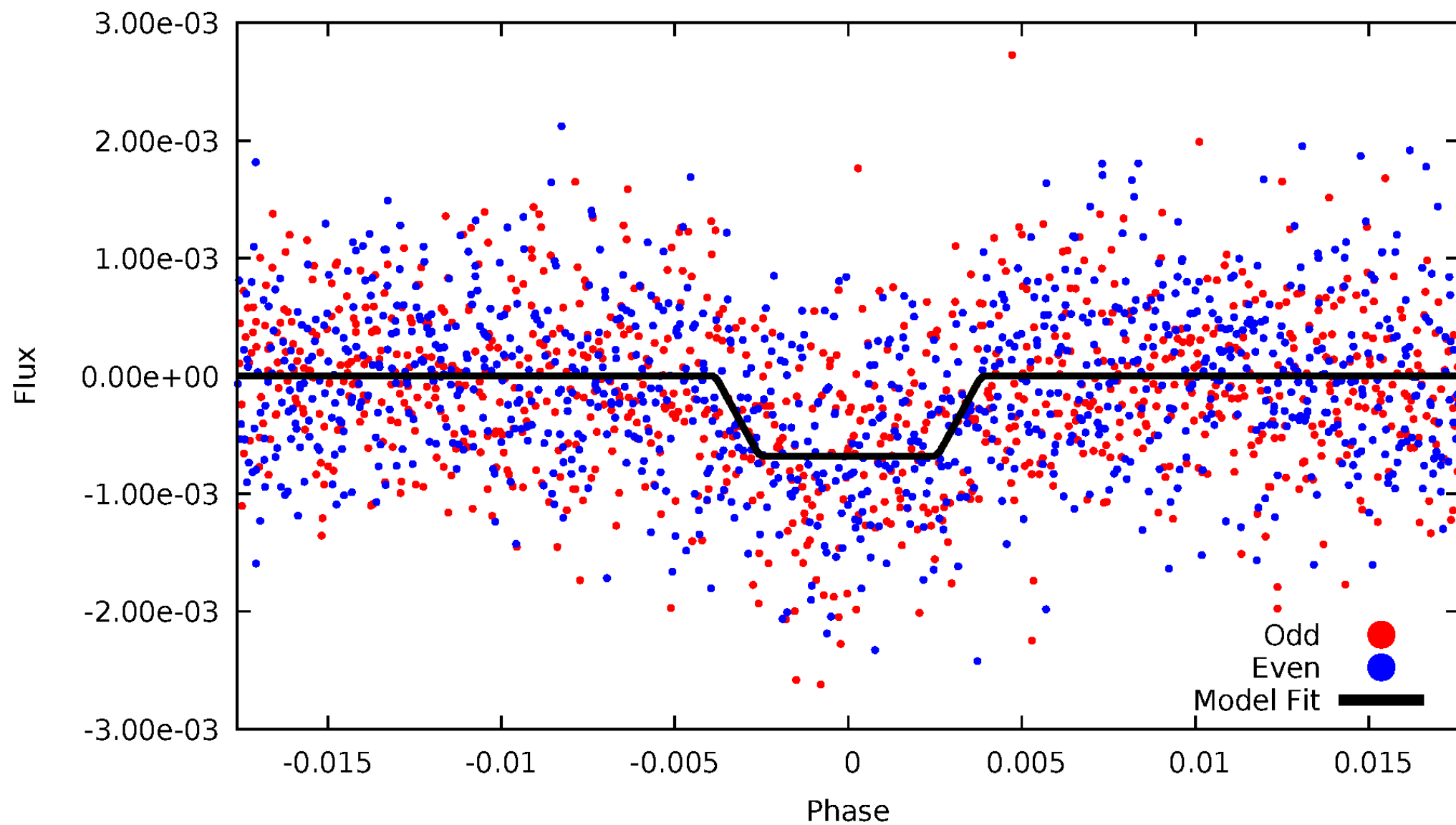
DV Odd/Even

TCE 007466270-01



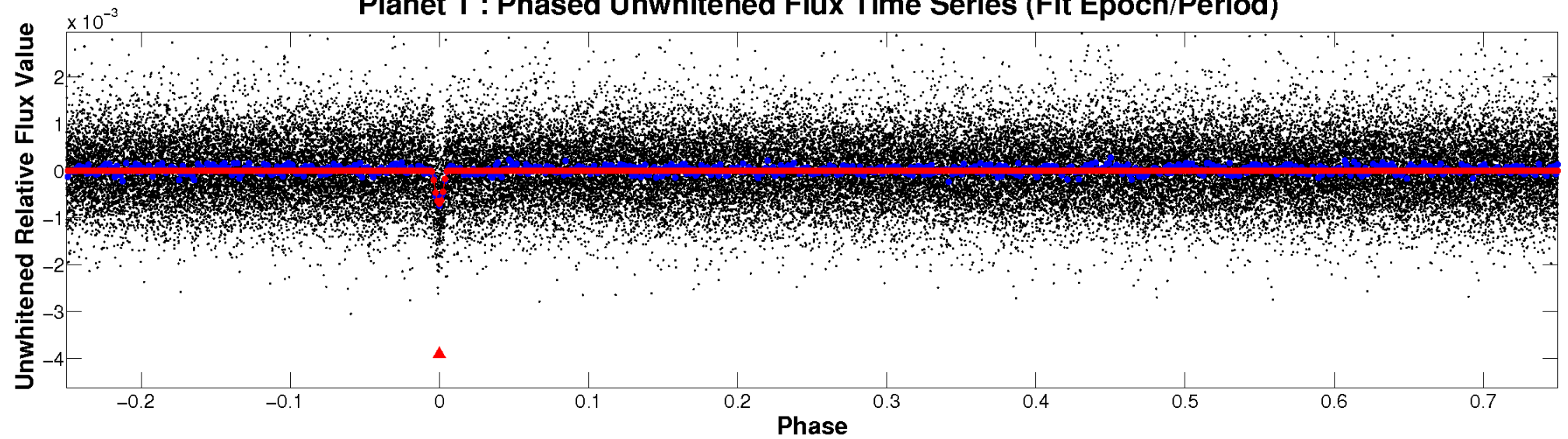
ALT Odd/Even

TCE 007466270-01

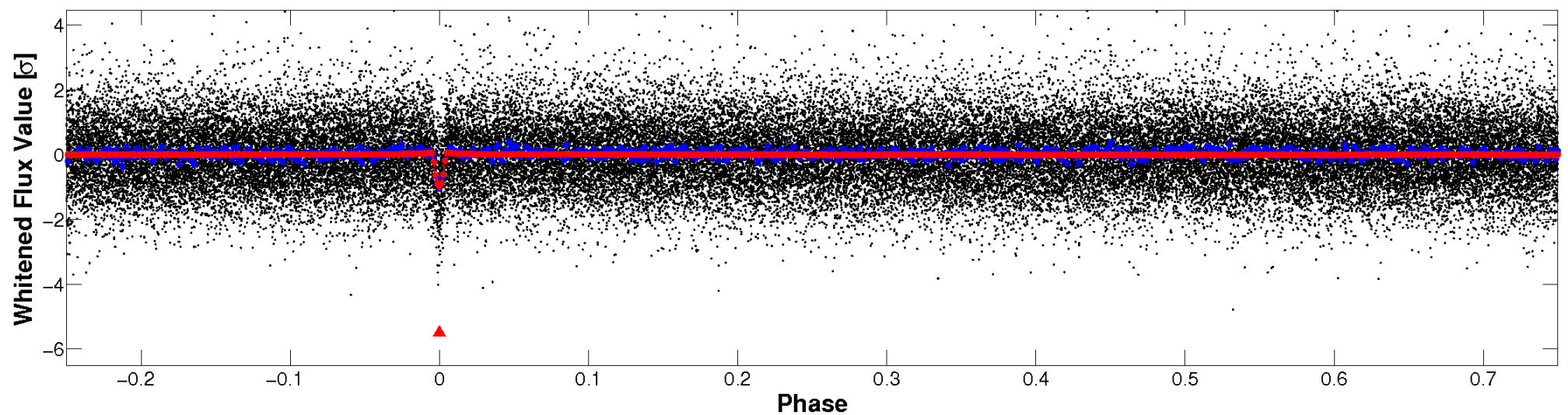


Non-Whitened Vs. Whitened Light Curve

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

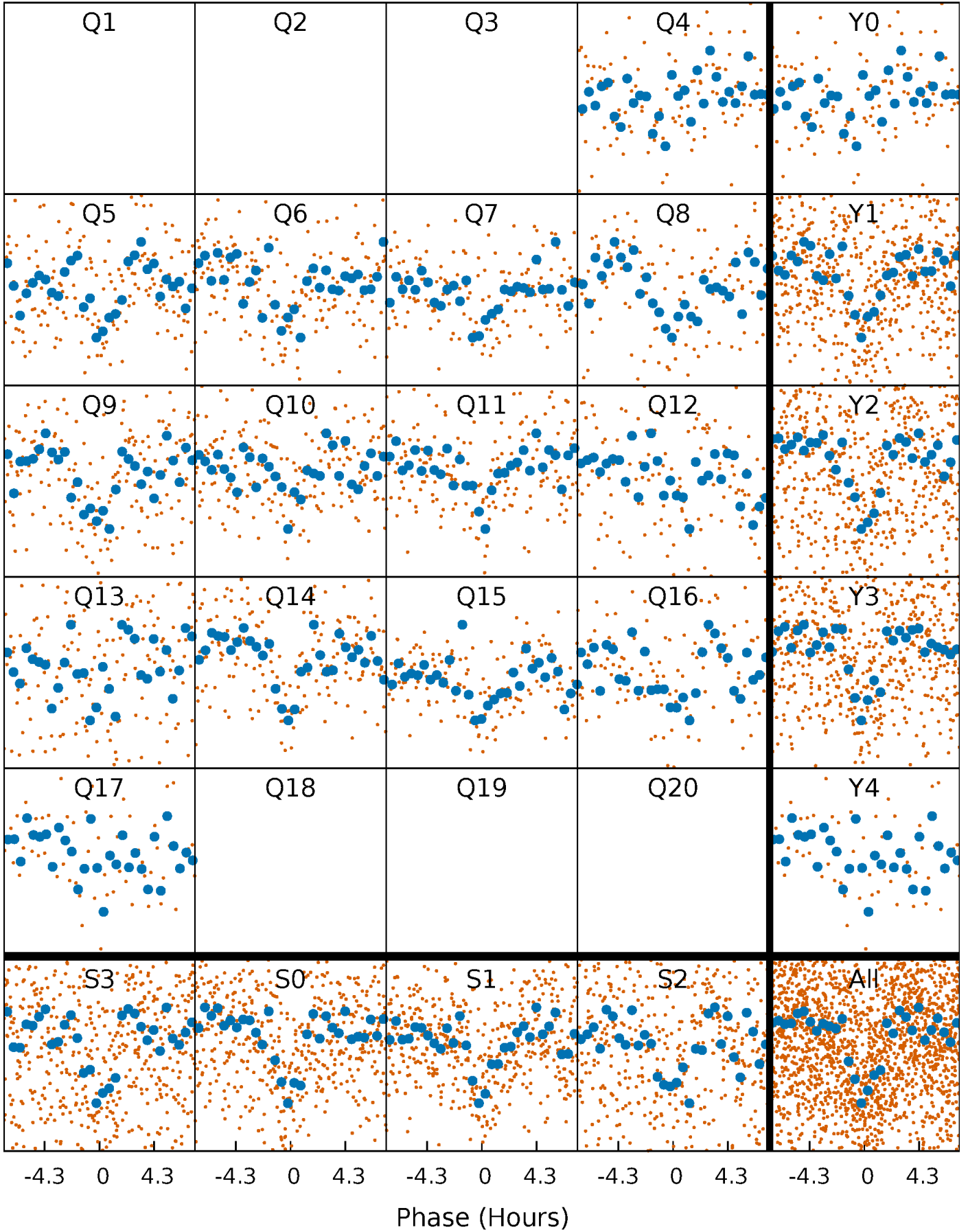


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



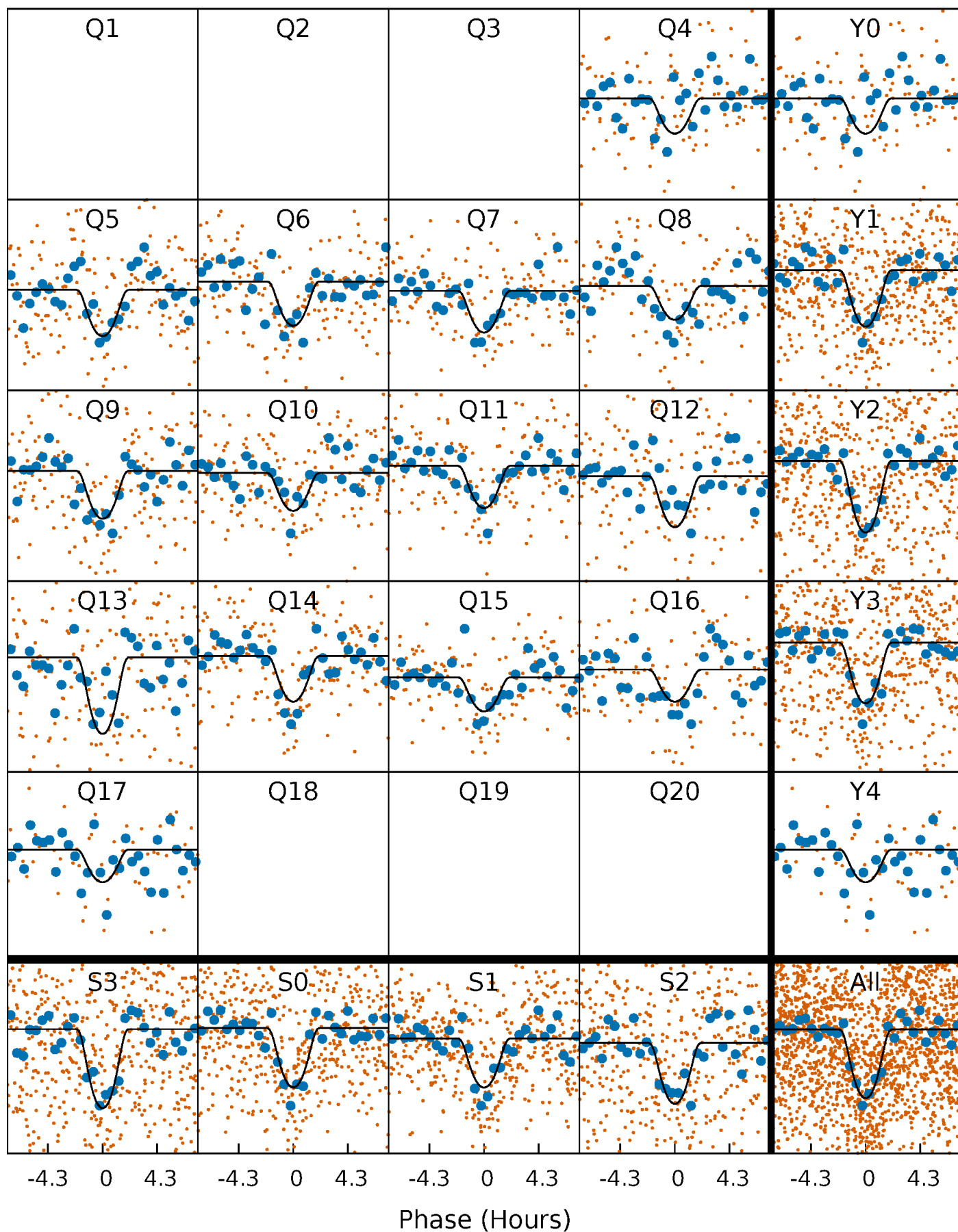
PDC Quarter-Phased Transit Curves

TCE 007466270-01 P= 16.155836 Days $T_0=140.232513$ (BKJD)



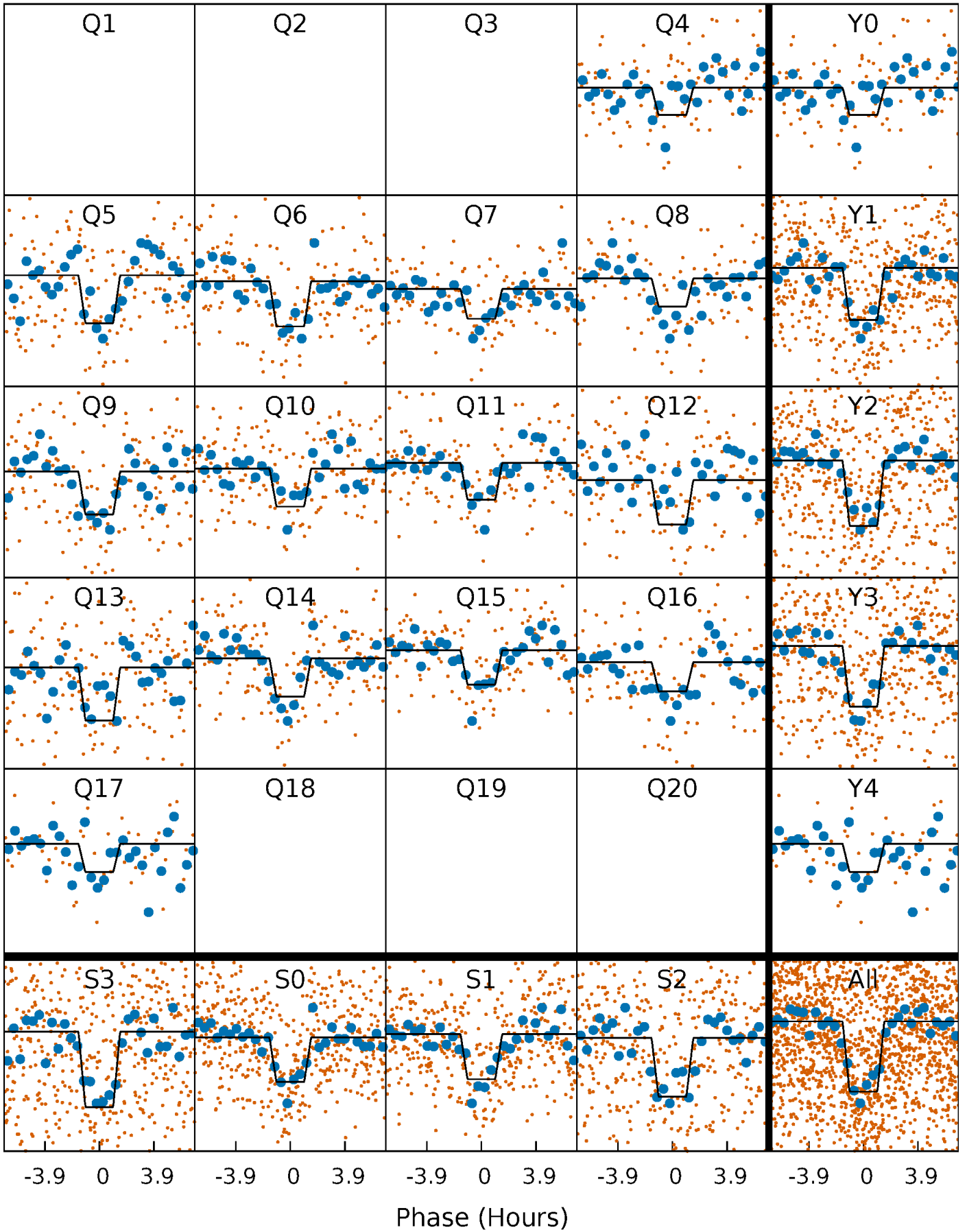
DV Quarter-Phased Transit Curves

TCE 007466270-01 P= 16.155836 Days $T_0=140.232513$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

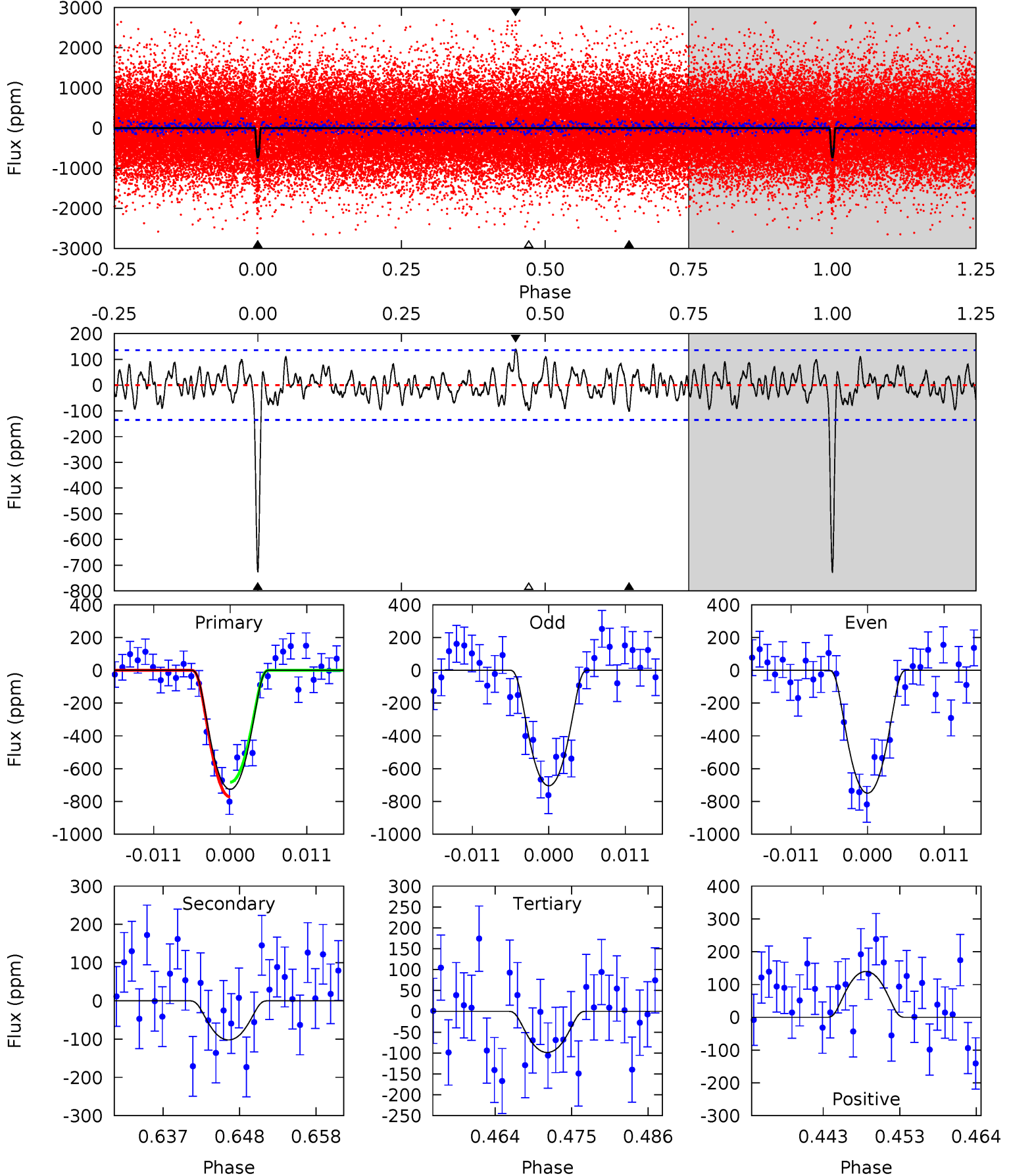
TCE 007466270-01 P= 16.156117 Days $T_0=140.219177$ (BKJD)



DV Model-Shift Uniqueness Test

007466270-01, P = 16.155836 Days, E = 140.232513 Days

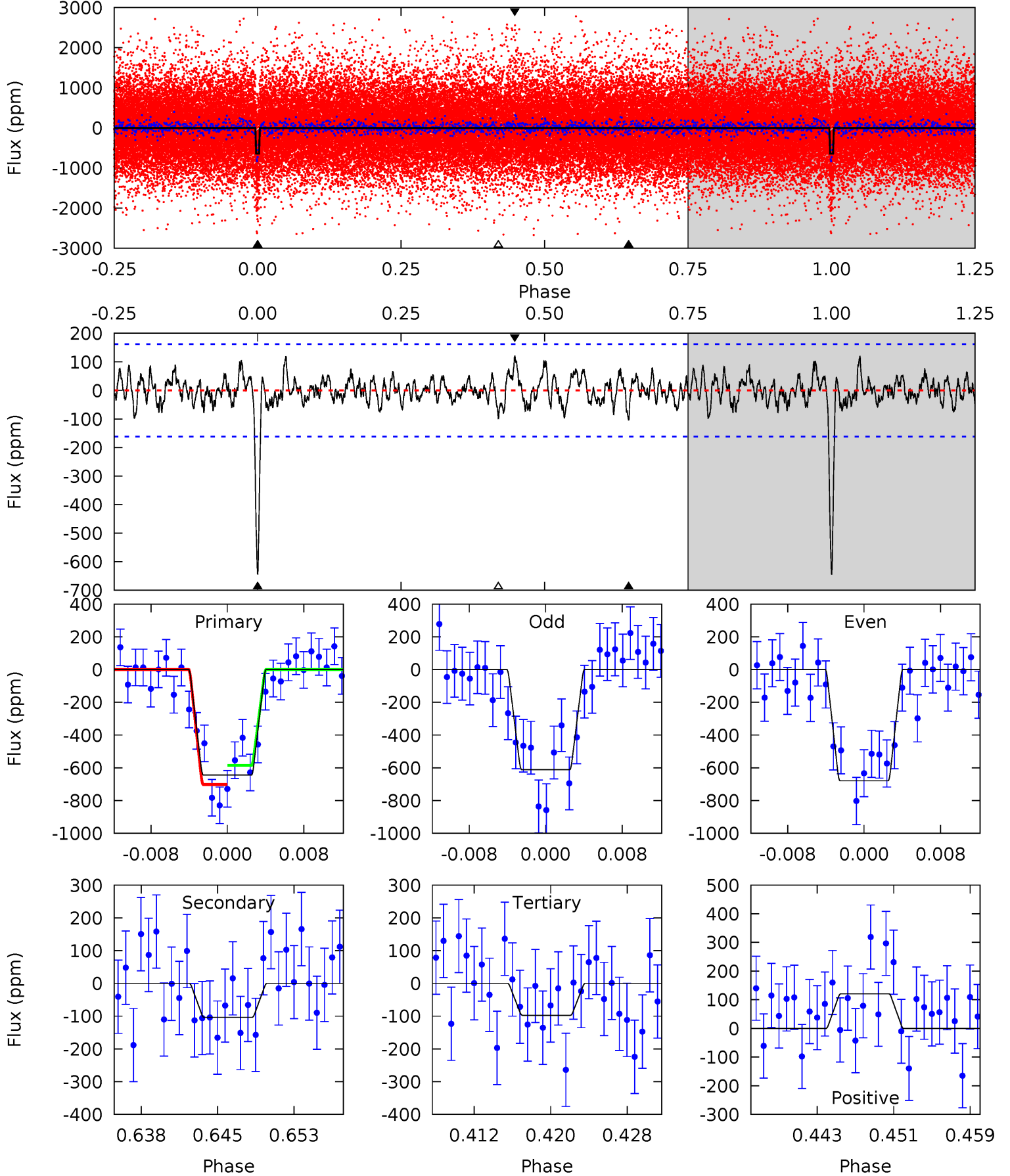
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.9	3.78	3.65	5.17	5.01	2.55	1.57	23.2	21.7	0.13	-1.39	0.83	1.04	0.16	1.67



Alt Model-Shift Uniqueness Test

007466270-01, P = 16.156117 Days, E = 140.219177 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	3.25	3.05	3.78	5.07	2.66	1.20	17.1	16.4	0.20	-0.53	1.07	1.06	0.16	1.82



Stellar Parameters For KIC 007466270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4504^{+142}_{-178}	$4.713^{+0.058}_{-0.031}$	$-1.060^{+0.300}_{-0.300}$	$0.530^{+0.038}_{-0.046}$	$0.528^{+0.040}_{-0.033}$	$5.009^{+1.250}_{-0.692}$
	+3%/-4%	+1%/-1%	+28%/-28%	+7%/-9%	+8%/-6%	+25%/-14%
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 007466270-01 / KOI 2959.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-102 ± 27	$2.01^{+1.00}_{-0.85}$	631^{+23}_{-25}	2988^{+551}_{-330}	143^{+294}_{-82}
Alt.	-104 ± 32	$1.53^{+0.92}_{-0.79}$	633^{+21}_{-27}	3223^{+914}_{-419}	241^{+851}_{-147}

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

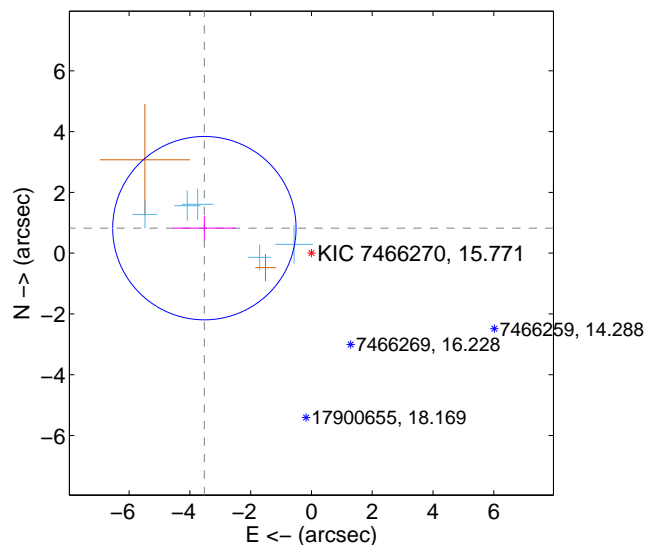
Supplemental centroid analysis for 007466270-01. Kepler magnitude: 15.77. Transit SNR 15.24

There are 6 quarters with good PRF difference image offsets

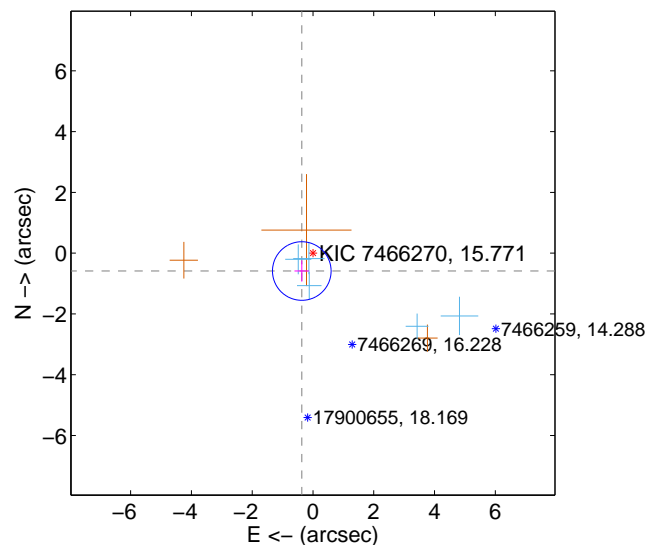
The OOT PRF centroid is offset from the target star catalog position by about 5.61 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.617 ± 1.005	3.60	3.522 ± 1.028	0.823 ± 0.406
PRF-fit source offset from KIC position	0.693 ± 0.321	2.16	0.368 ± 0.241	-0.587 ± 0.348
photometric centroid source offset	2.38 ± 0.31	7.68	-1.89 ± 0.35	-1.46 ± 0.23

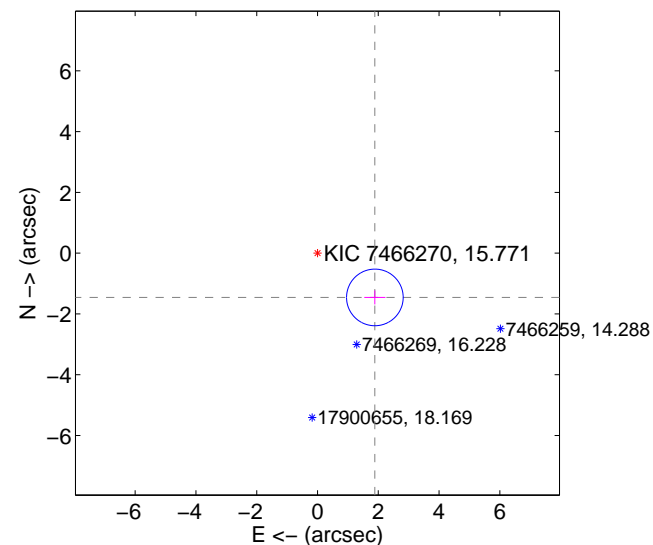
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

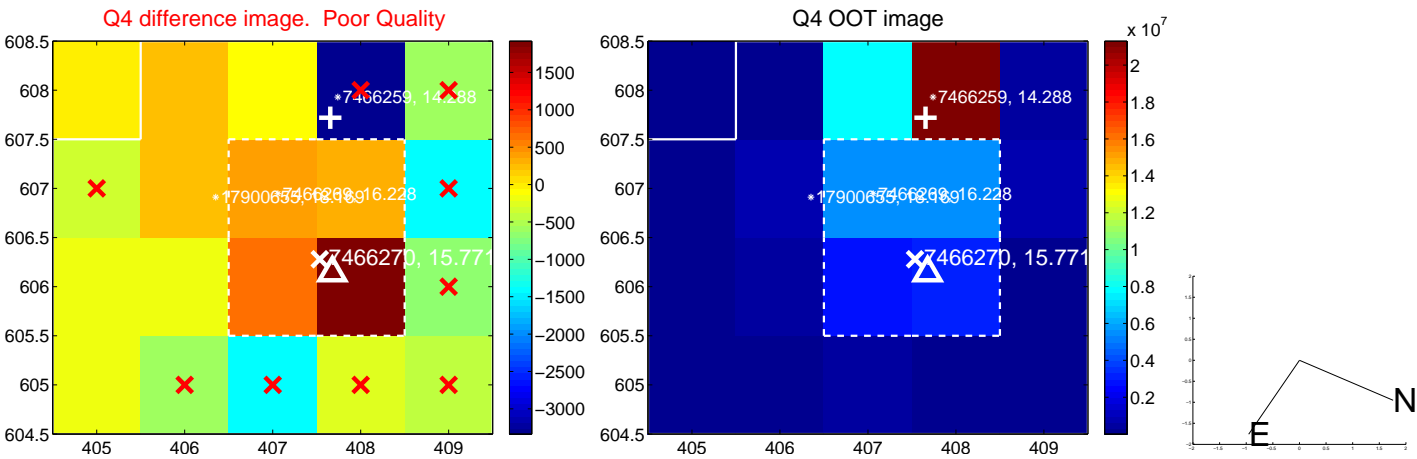


offset from photometric centroids

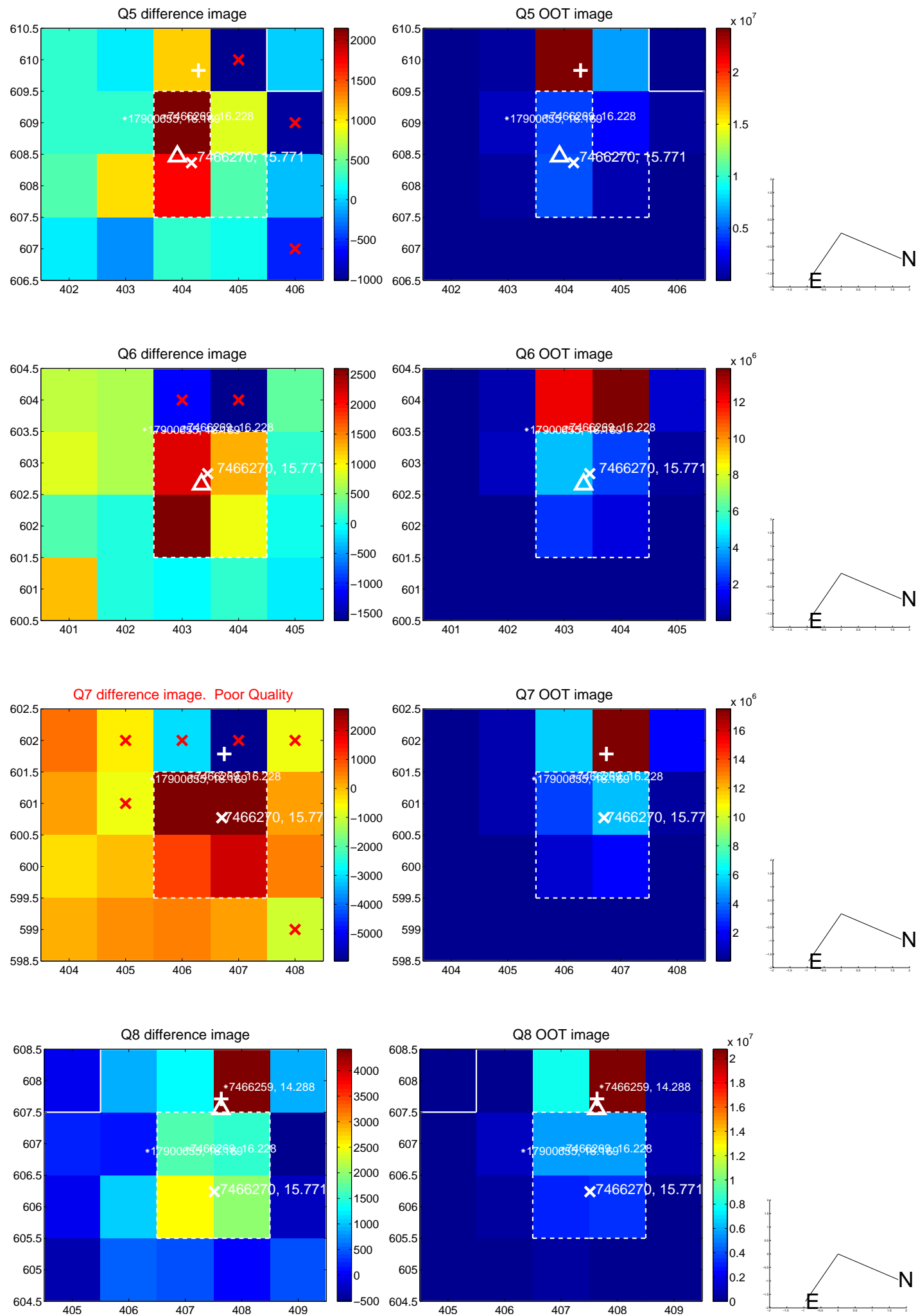


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

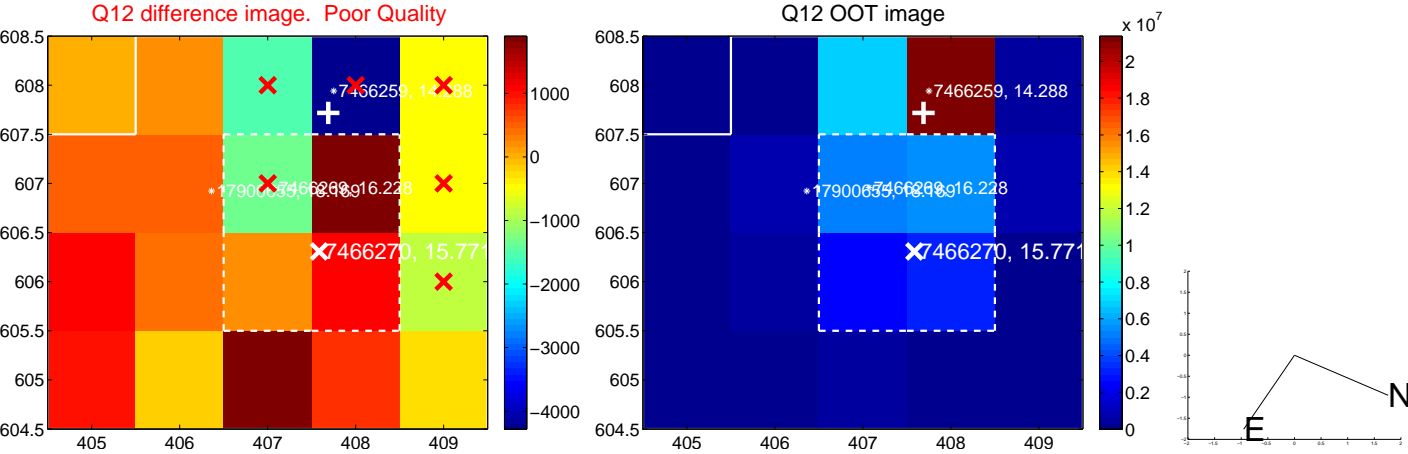
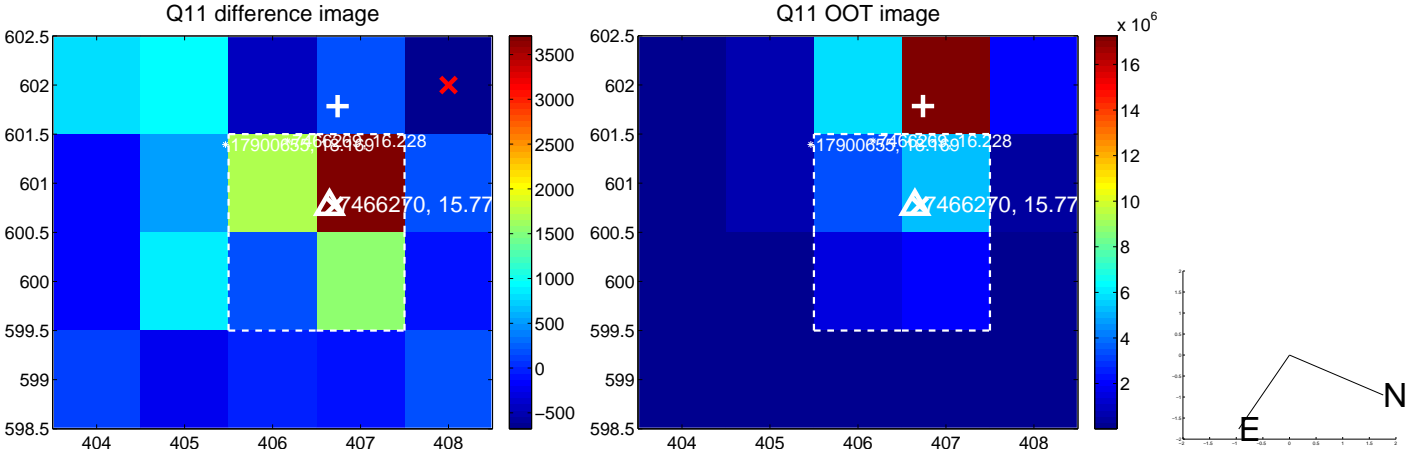
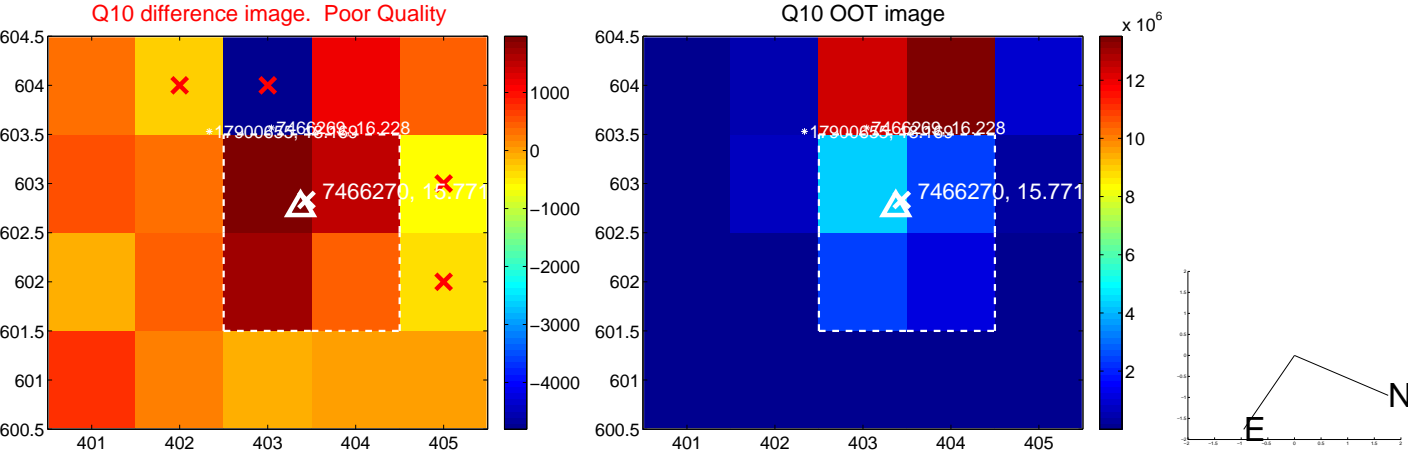
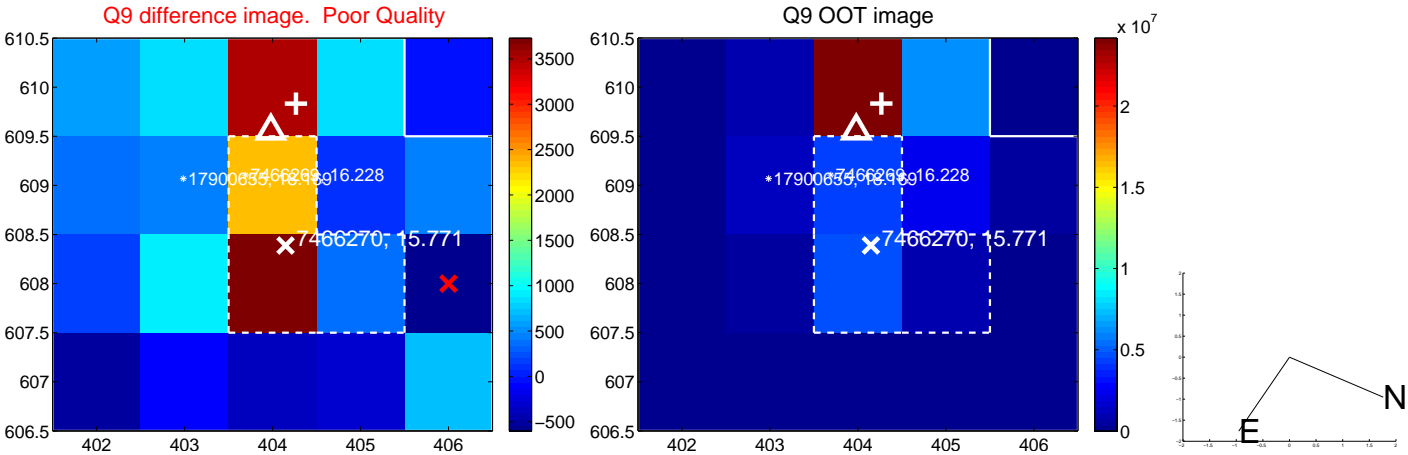
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



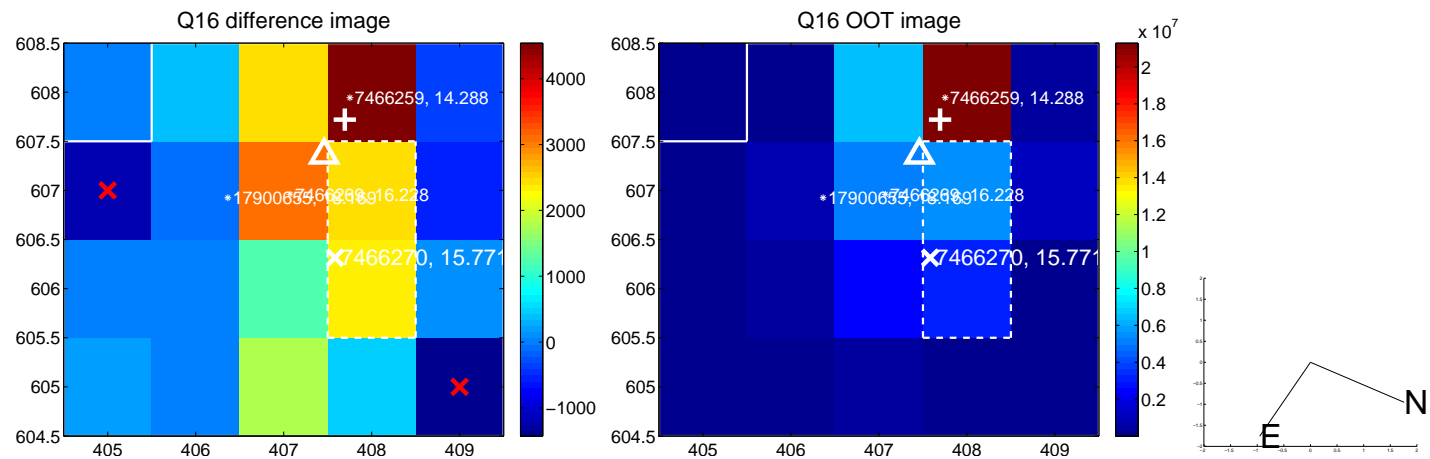
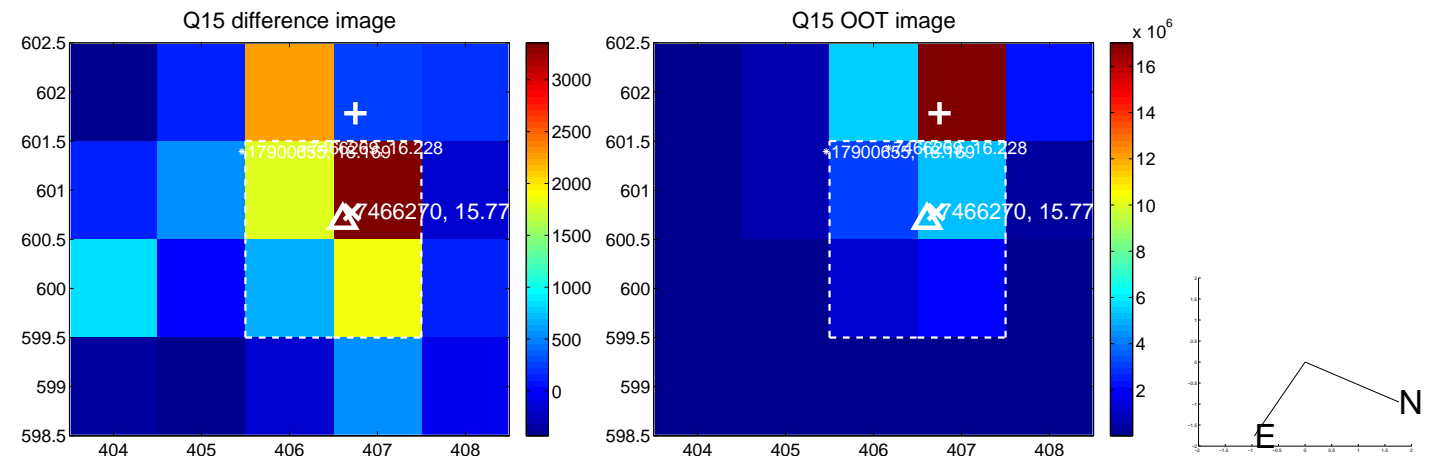
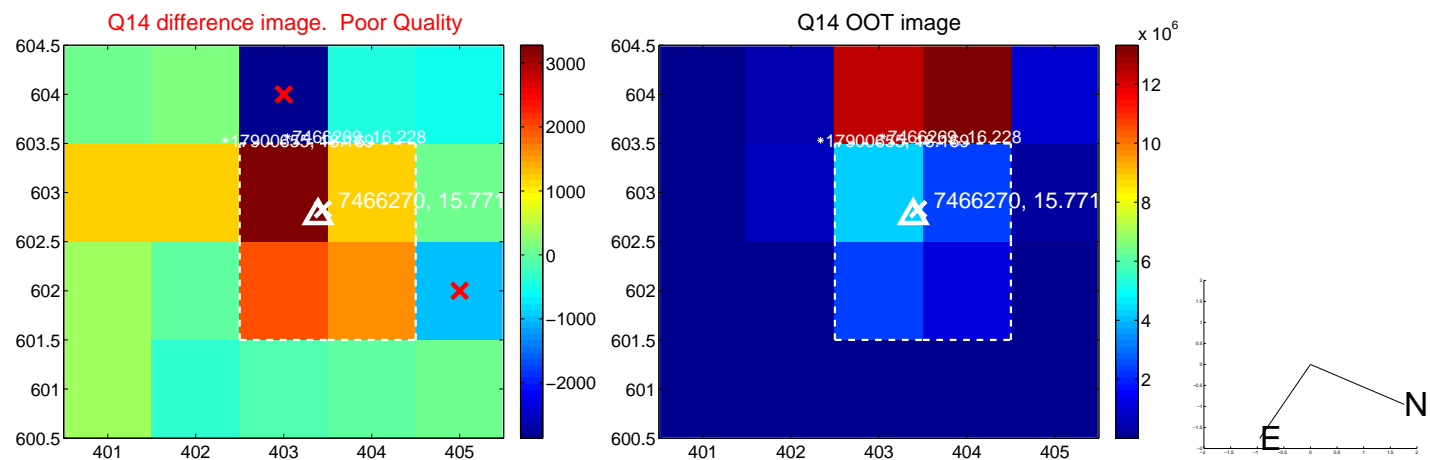
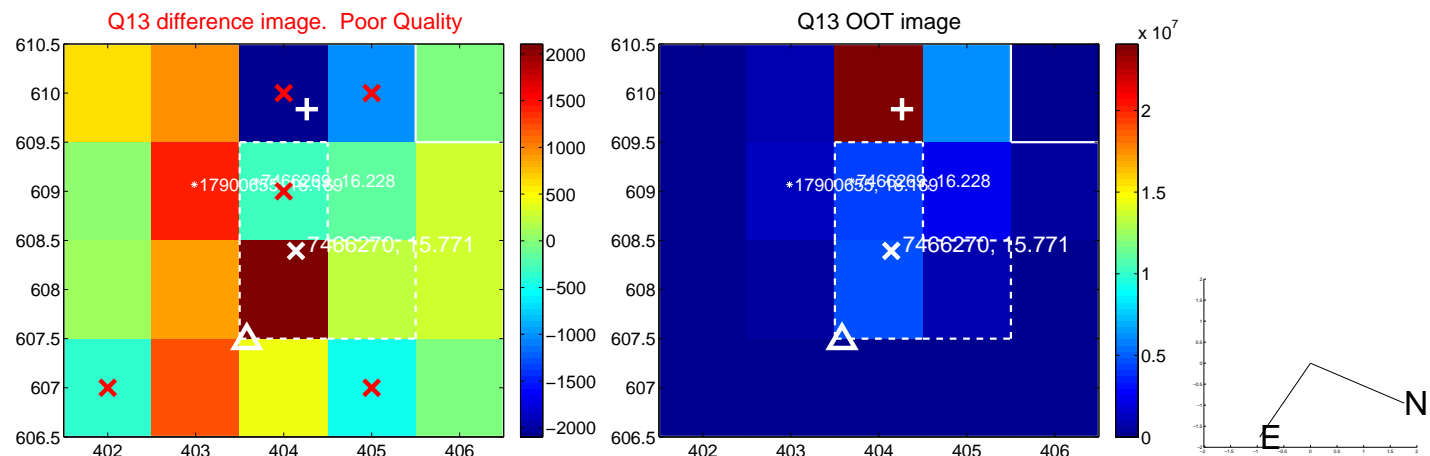
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

