

KIC 011616663

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})
011616663-01	OBS	7464.01	7.294474	136.149586	91.6	28.172	13.0	16.9	0.95	5900	0.95	173.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011616663-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_UNCERTAIN—HALO_GHOST—EPHEM_MATCH

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.

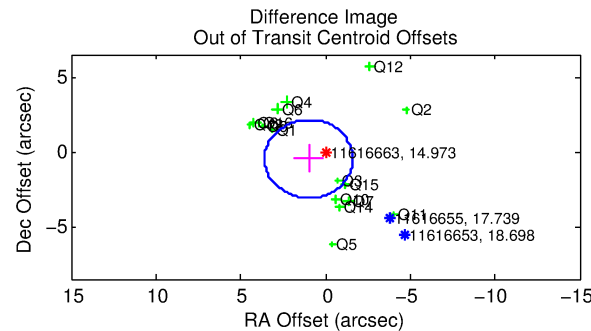
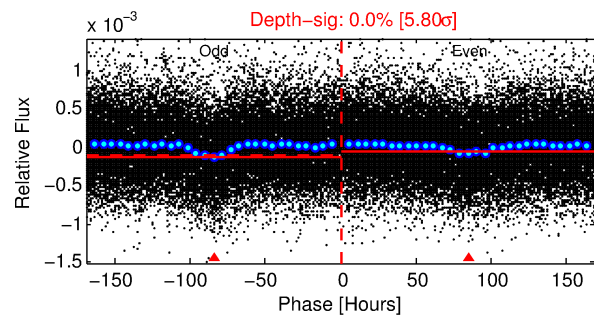
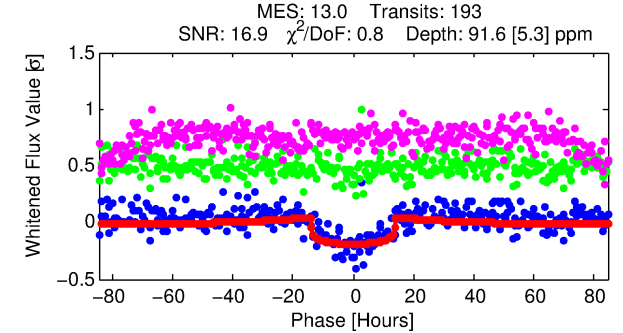
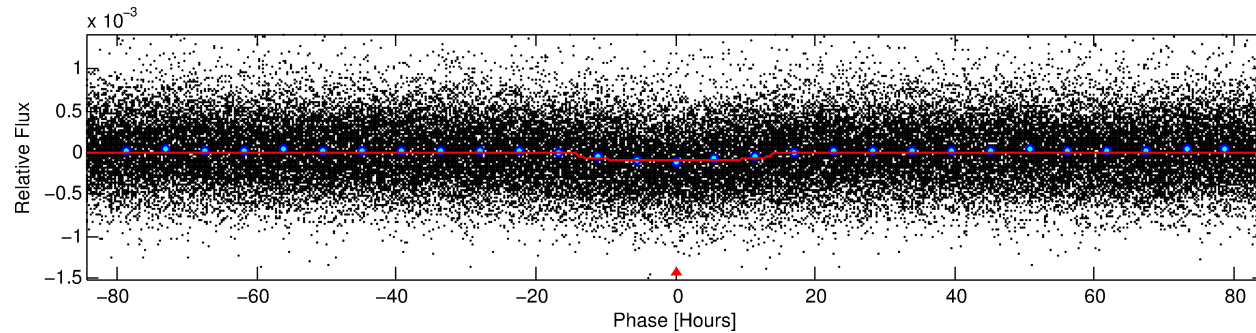
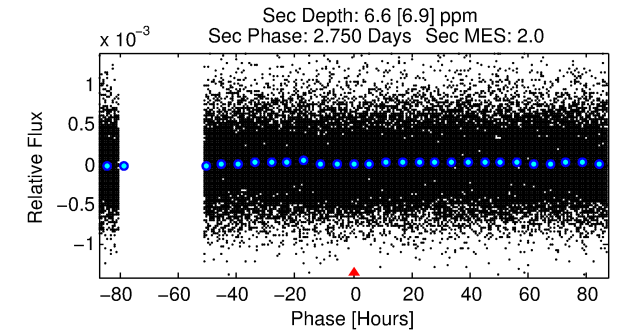
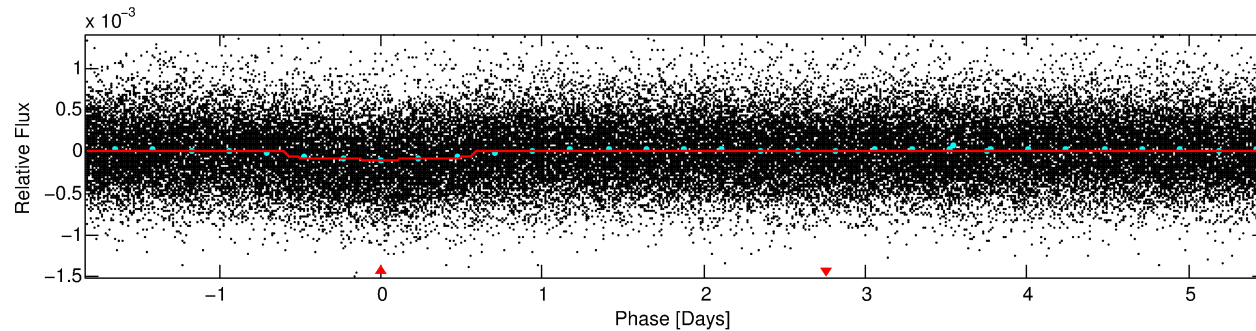
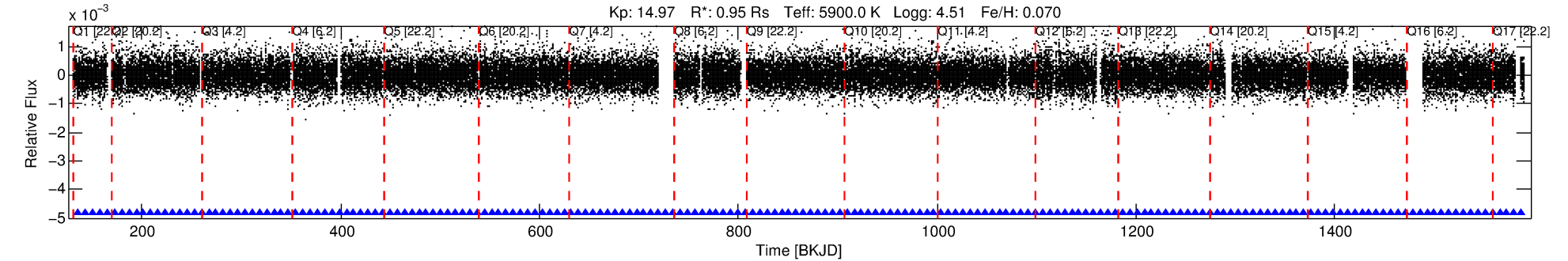
Ephemeris Match Information For 011616663-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist ($''$)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
011616663-01	11616663	7463.01	11616631	1:1	40.1	2	10	15.85	14.97	1.30	Direct-PRF	1	0.56	1.36

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 11616663 Candidate: 1 of 1 Period: 7.294 d
KOI: K07464.01 Corr: 0.948



DV Fit Results:

Period = 7.29447 [0.00014] d
Epoch = 136.1496 [0.0152] BKJD
Rp/R* = 0.0092 [0.0021]
a/R* = 1.74 [1.20]
b = 0.63 [0.98]
Seff = 173.69 [58.80]
Teq = 926 [78] K
Rp = 0.95 [0.32] Re
a = 0.0752 [0.0161] AU
Ag = 22.50 [26.63] [0.81σ]
Teffp = 3117 [894] K [2.44σ]

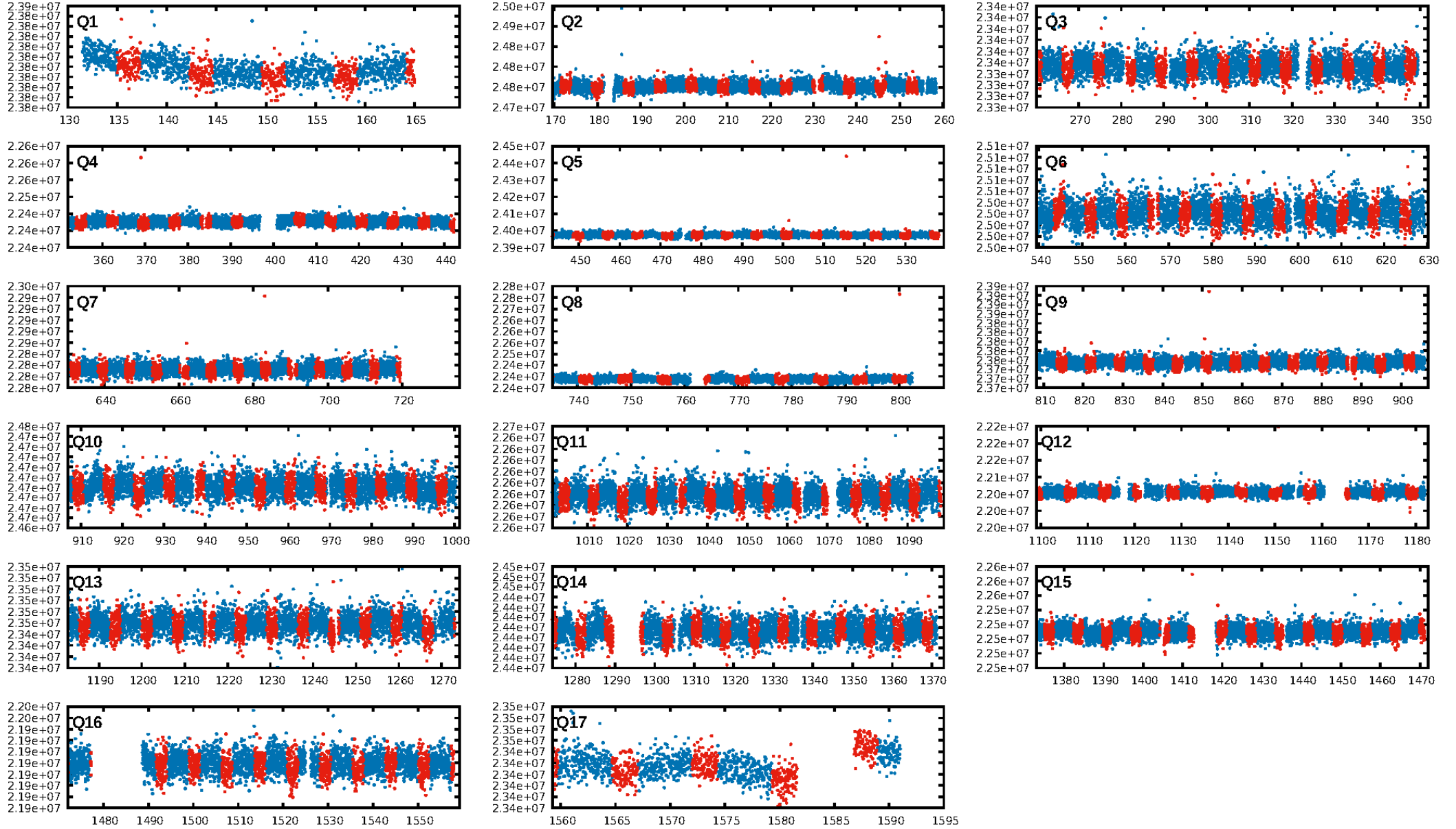
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 86.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.63e-40
RollingBand-fgt: 1.00 [184/184]
GhostDiagnostic-chr: 0.1329
Centroid-sig: 0.0%
Centroid-so: 2.503 arcsec [3.07σ]
OotOffset-rm: 1.103 arcsec [1.27σ]
KicOffset-rm: 1.050 arcsec [1.21σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.06 [1/16]
DiffImageOverlap-fno: 1.00 [17/17]

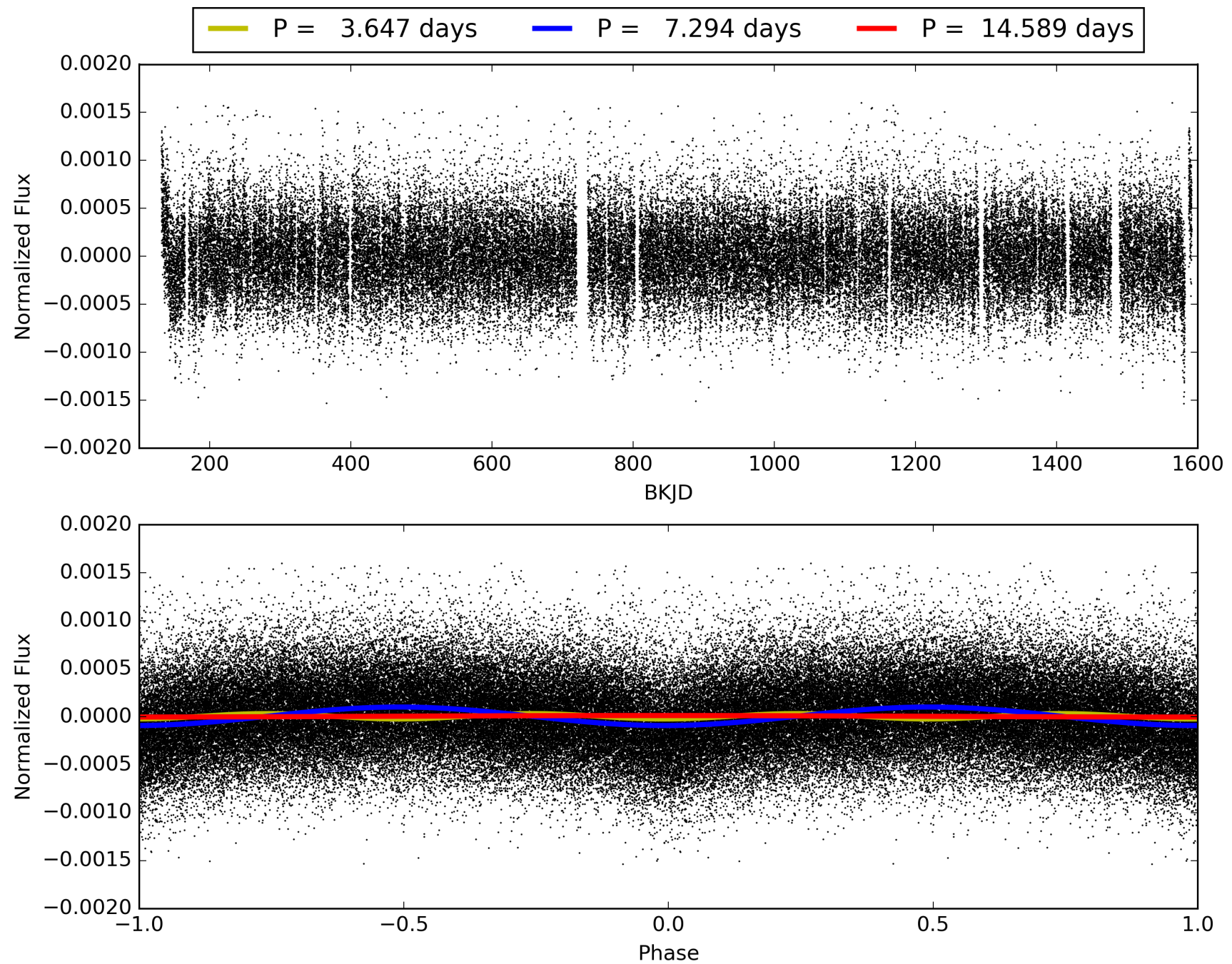
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:53:00 Z

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

TCE 011616663-01, PDC Light Curves

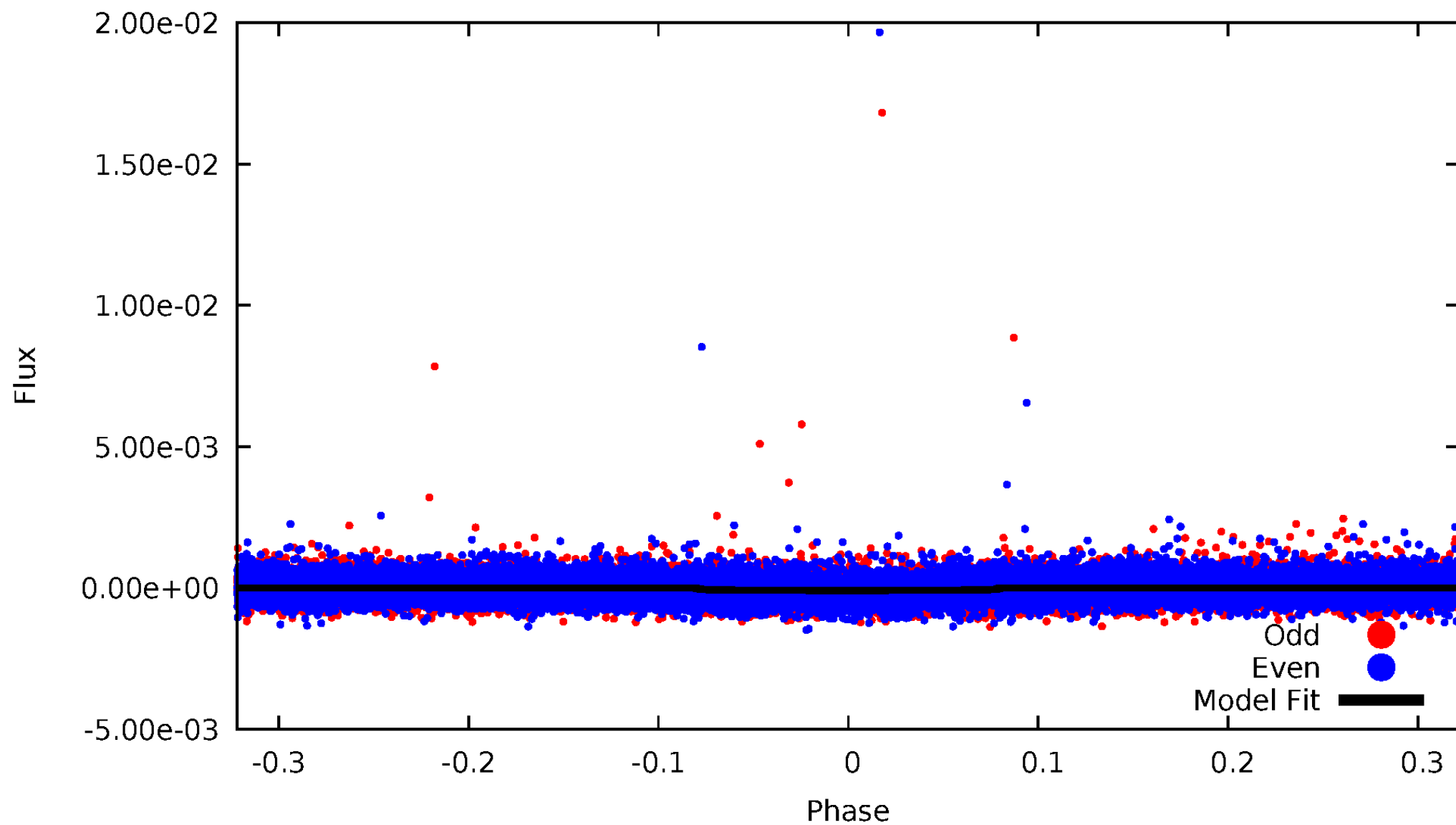


TCE 011616663-01



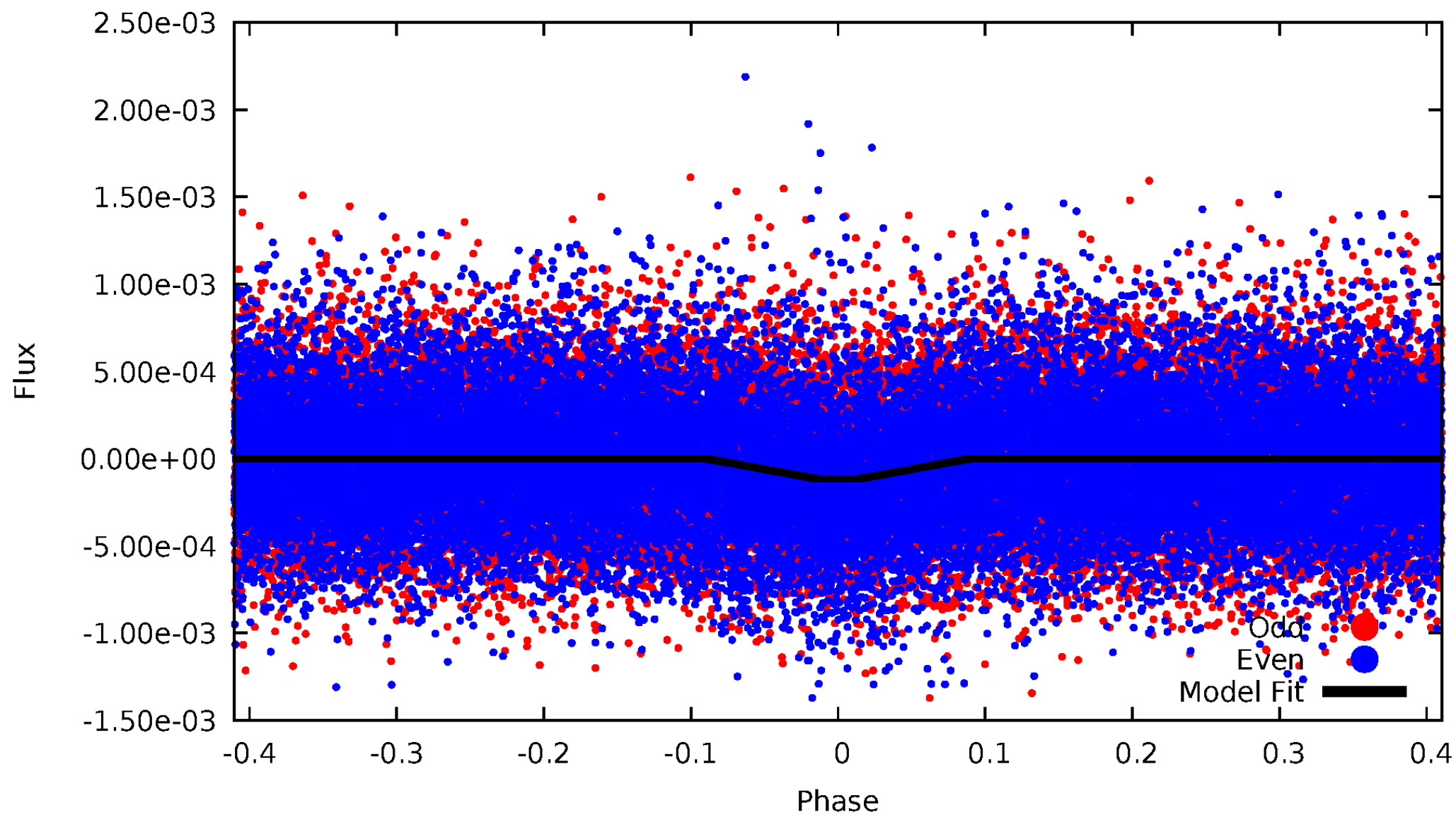
DV Odd/Even

TCE 011616663-01



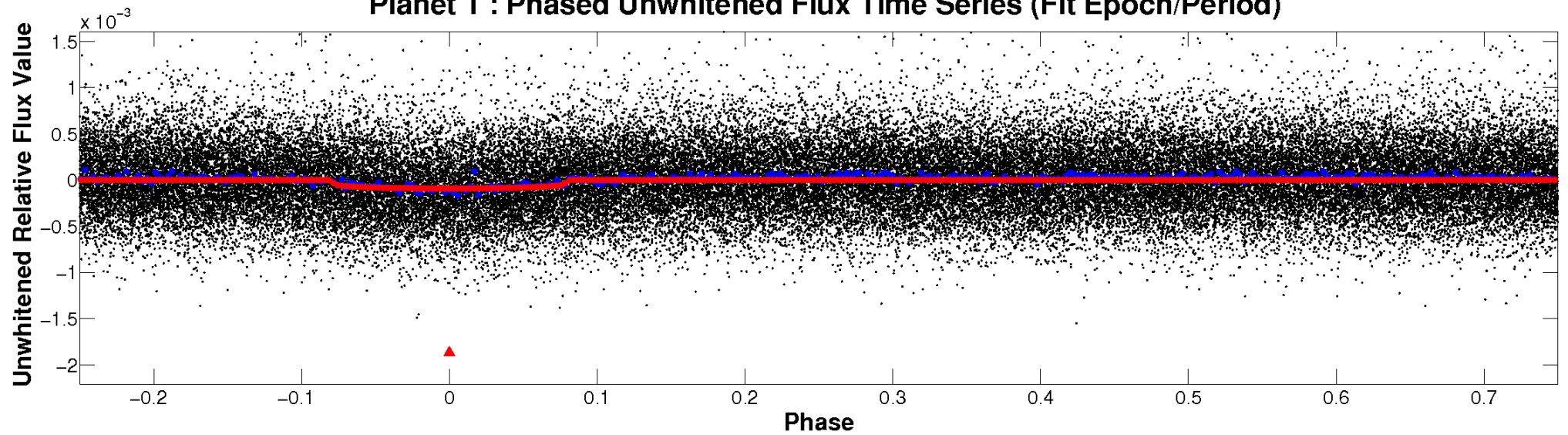
ALT Odd/Even

TCE 011616663-01

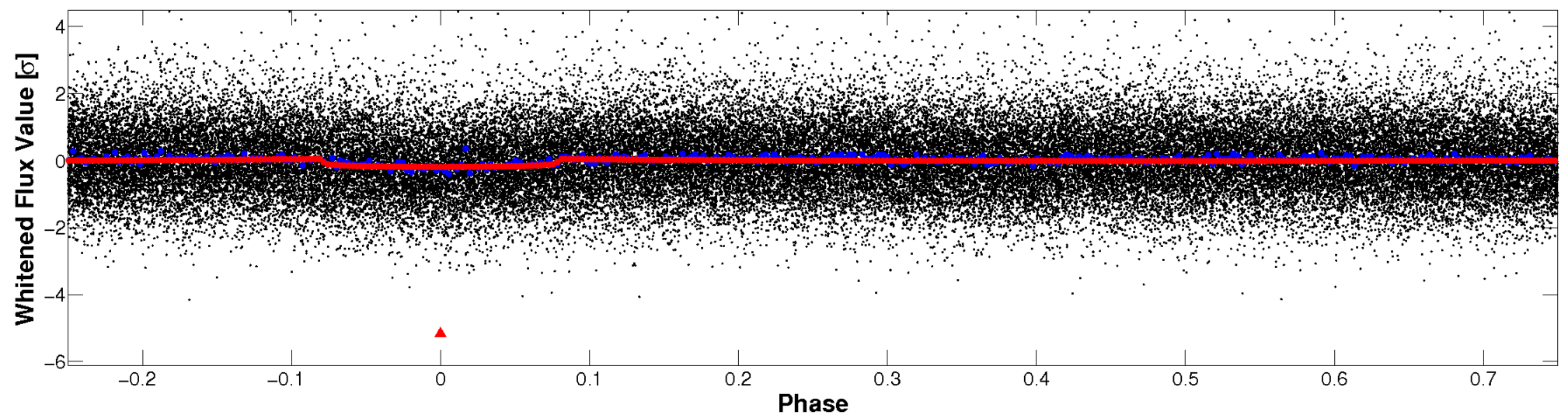


Non-Whitened Vs. Whitened Light Curve

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

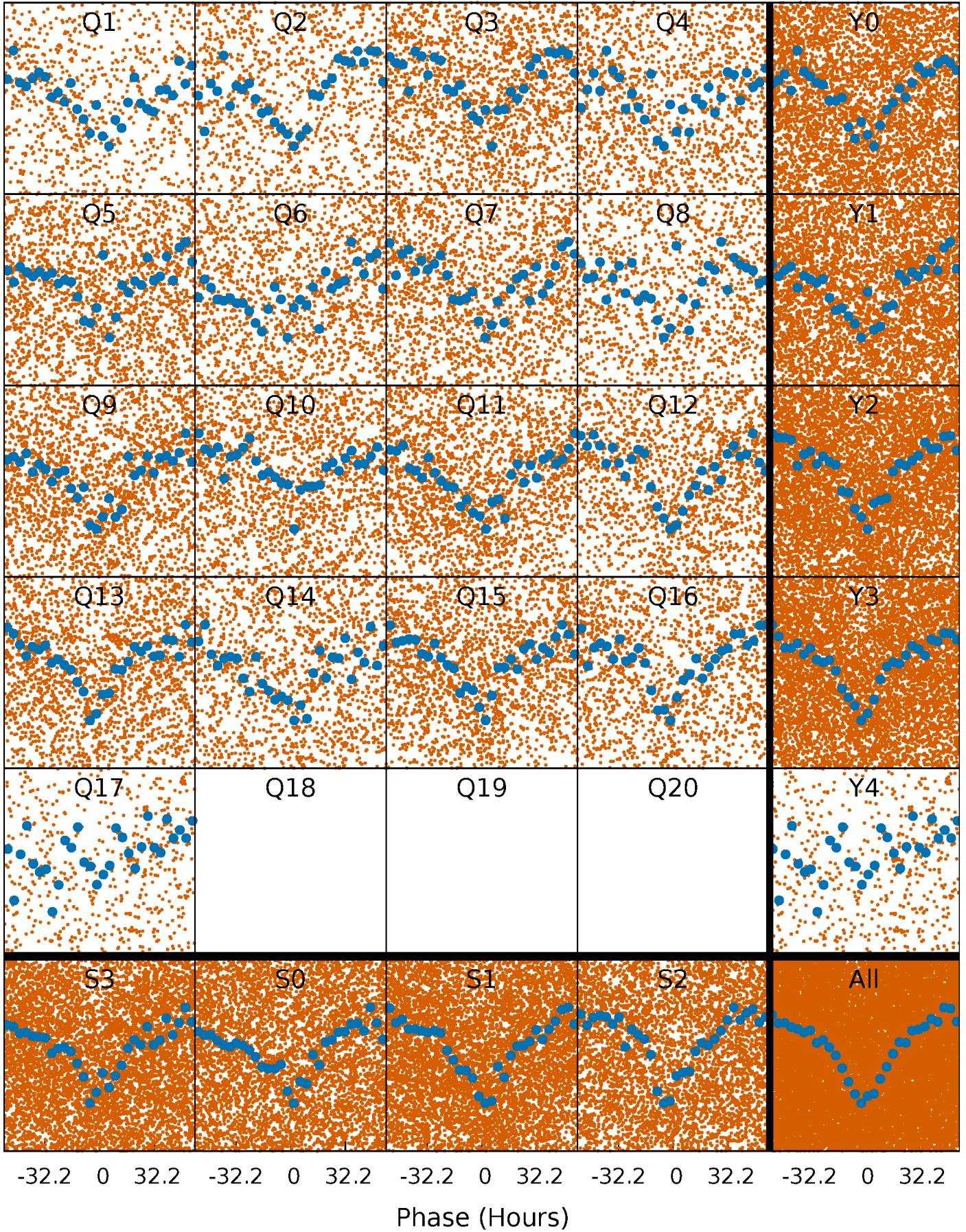


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



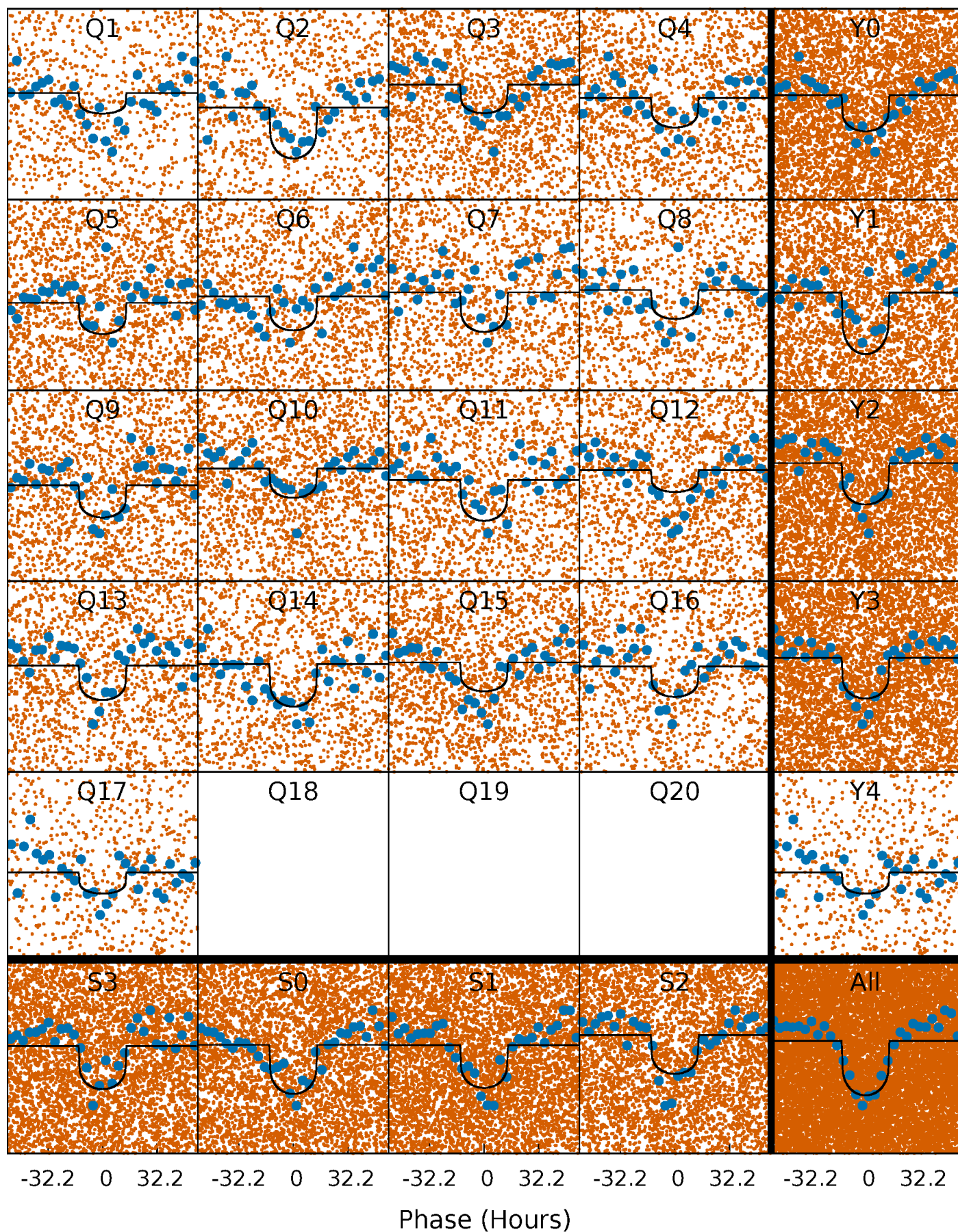
PDC Quarter-Phased Transit Curves

TCE 011616663-01 P= 7.294474 Days $T_0=136.149586$ (BKJD)



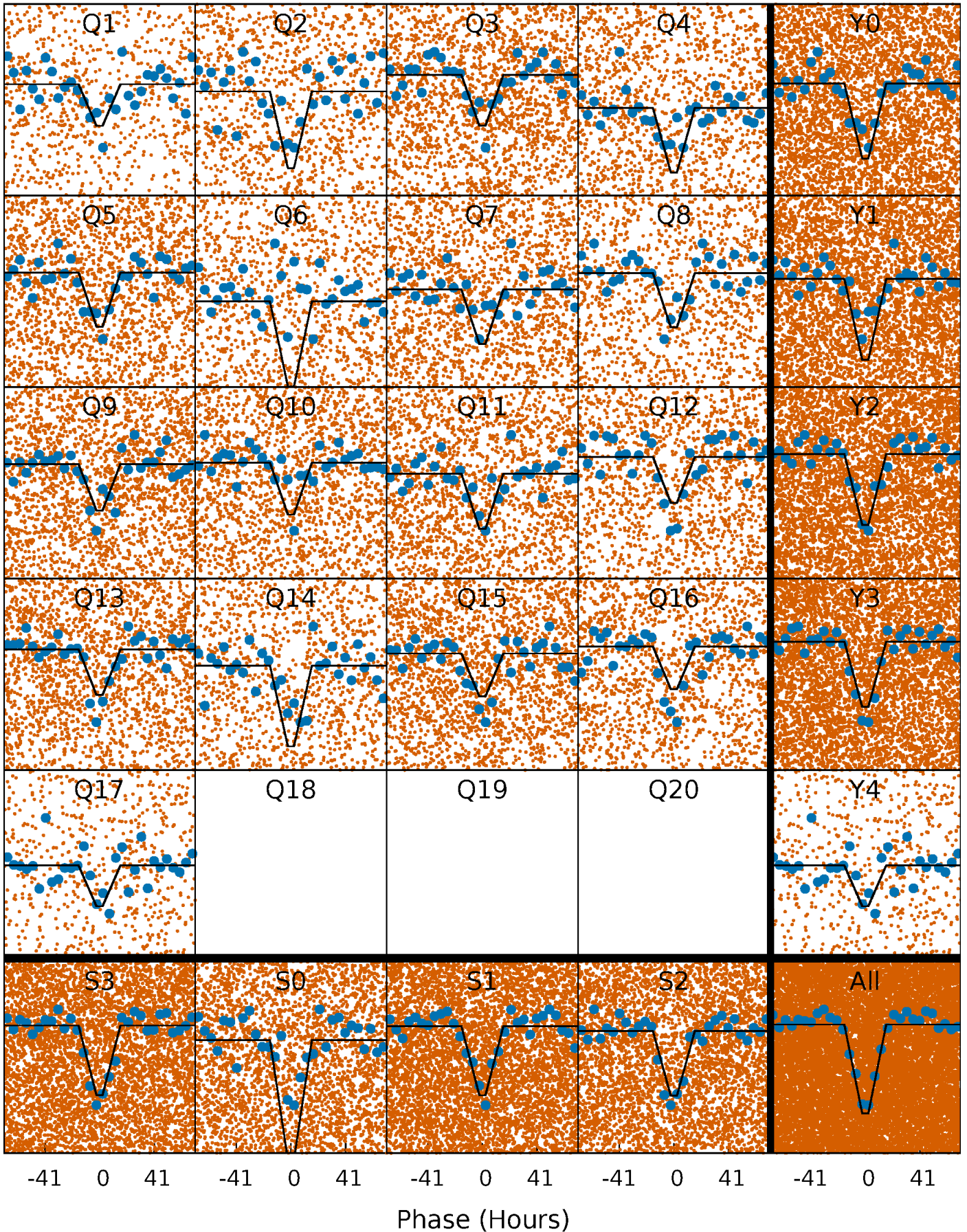
DV Quarter-Phased Transit Curves

TCE 011616663-01 P= 7.294474 Days $T_0=136.149586$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

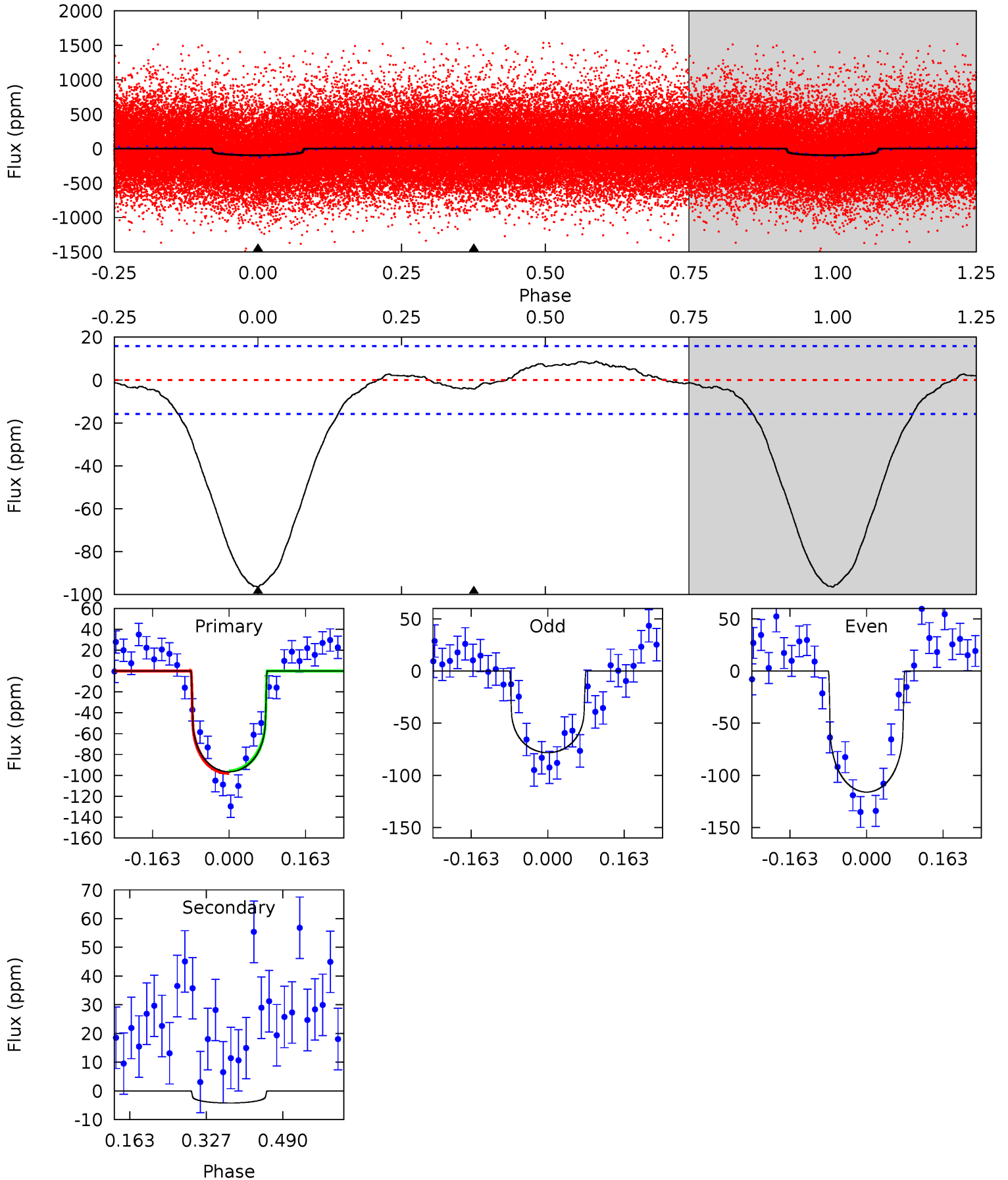
TCE 011616663-01 P= 7.293209 Days $T_0=136.293681$ (BKJD)



DV Model-Shift Uniqueness Test

011616663-01, P = 7.294474 Days, E = 128.855112 Days

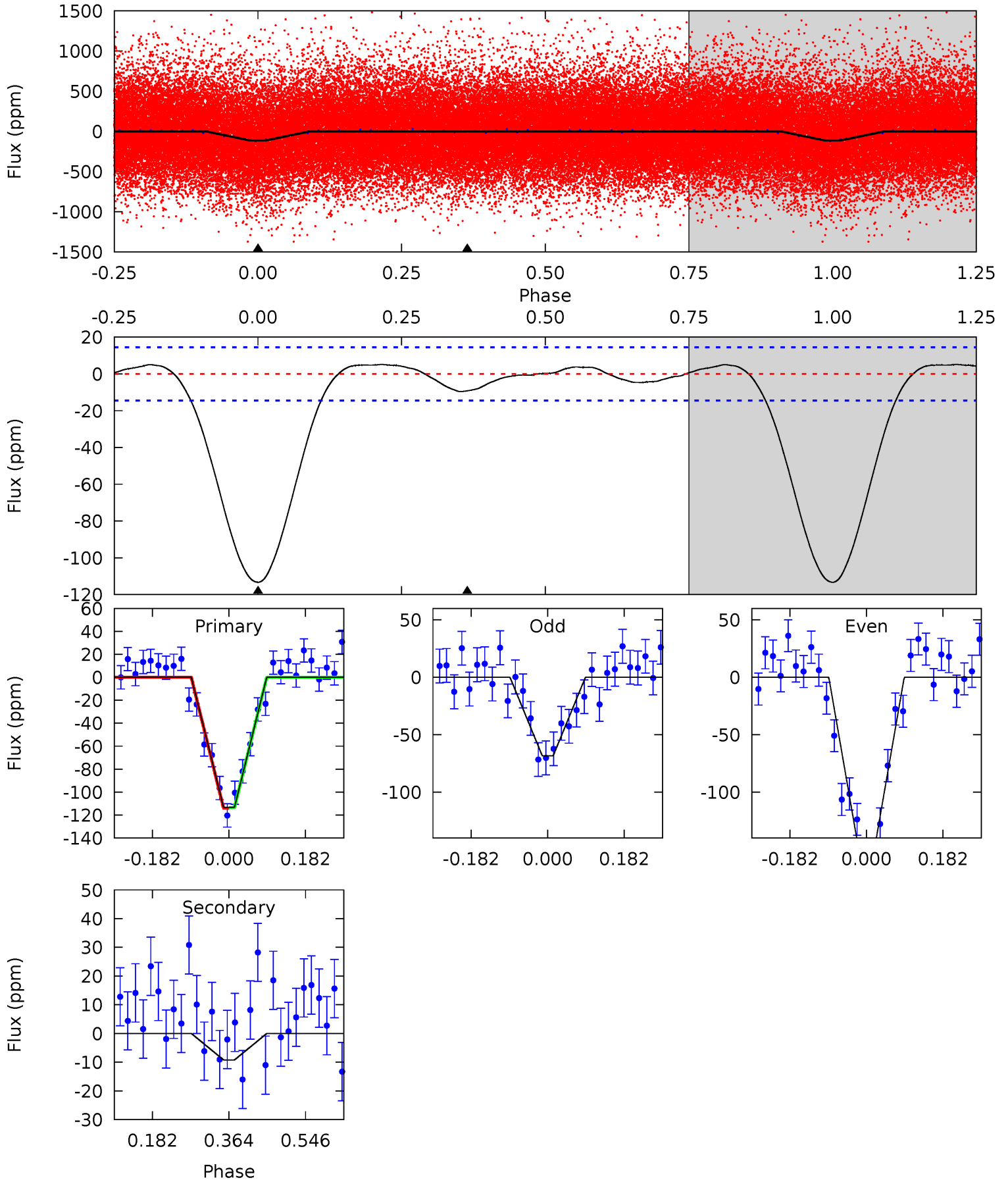
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.2	1.19	0	0	4.46	1.39	1.36	27.2	27.2	1.19	1.19	5.32	0.94	0.08	0.33



Alt Model-Shift Uniqueness Test

011616663-01, P = 7.293209 Days, E = 129.000472 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.6	2.81	0	0	4.44	1.33	0.99	34.6	34.6	2.81	2.81	14.3	0.97	0.04	0.10



Stellar Parameters For KIC 011616663

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5900^{+158}_{-176}	$4.509^{+0.044}_{-0.176}$	$0.070^{+0.250}_{-0.350}$	$0.951^{+0.236}_{-0.084}$	$1.065^{+0.102}_{-0.140}$	$1.745^{+0.384}_{-0.781}$
	+3%/-3%	+1%/-4%	+357%/-500%	+25%/-9%	+10%/-13%	+22%/-45%
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 011616663-01 / KOI 7464.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 4	$0.99^{+0.26}_{-0.23}$	1313^{+83}_{-55}	3268^{+509}_{-670}	12^{+18}_{-9}
Alt.	-9 ± 3	$1.17^{+0.27}_{-0.24}$	1319^{+82}_{-58}	3551^{+339}_{-316}	19^{+14}_{-9}

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

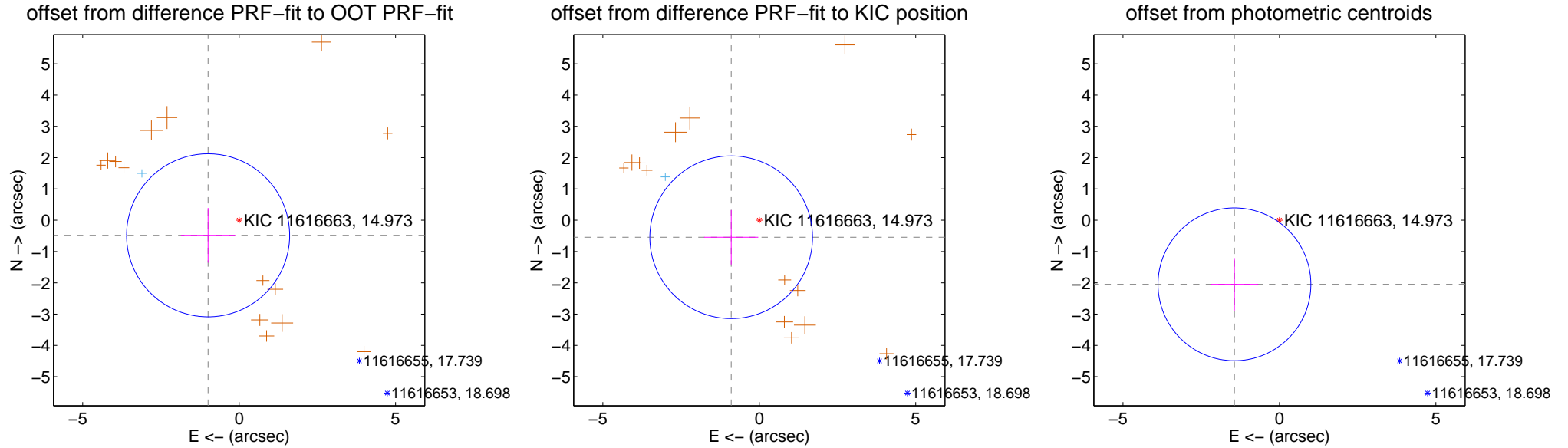
DV Centroid Data

Supplemental centroid analysis for 011616663-01. Kepler magnitude: 14.97. Transit SNR 16.88

There are 1 quarters with good PRF difference image offsets

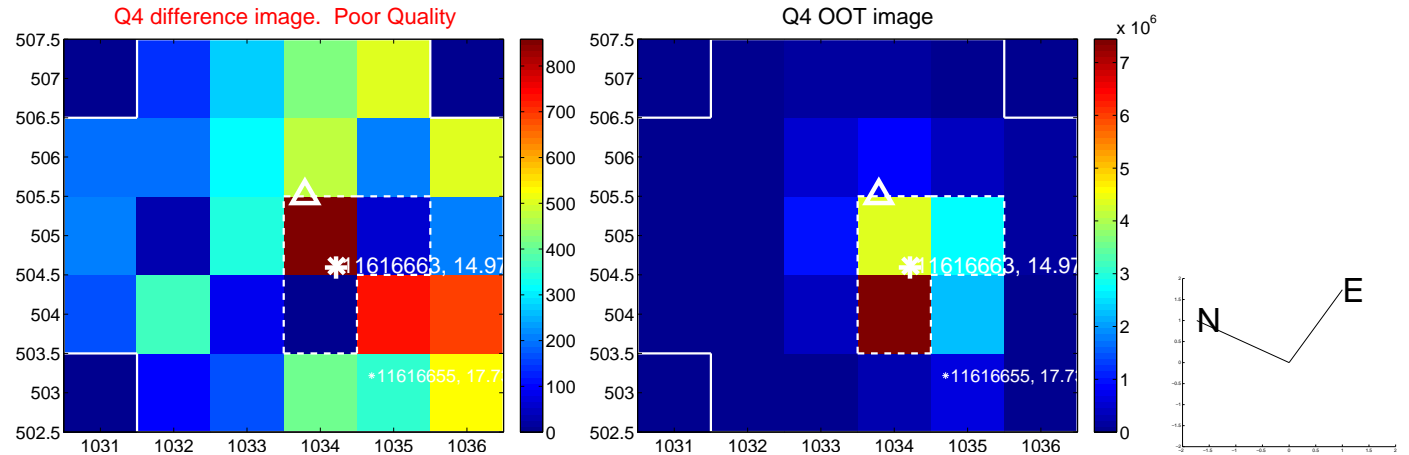
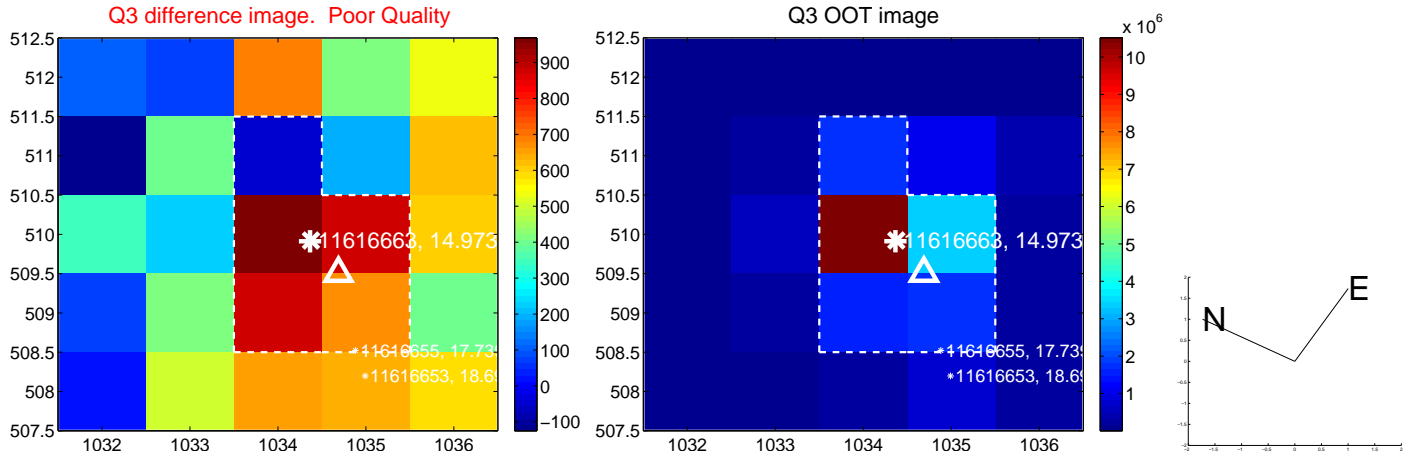
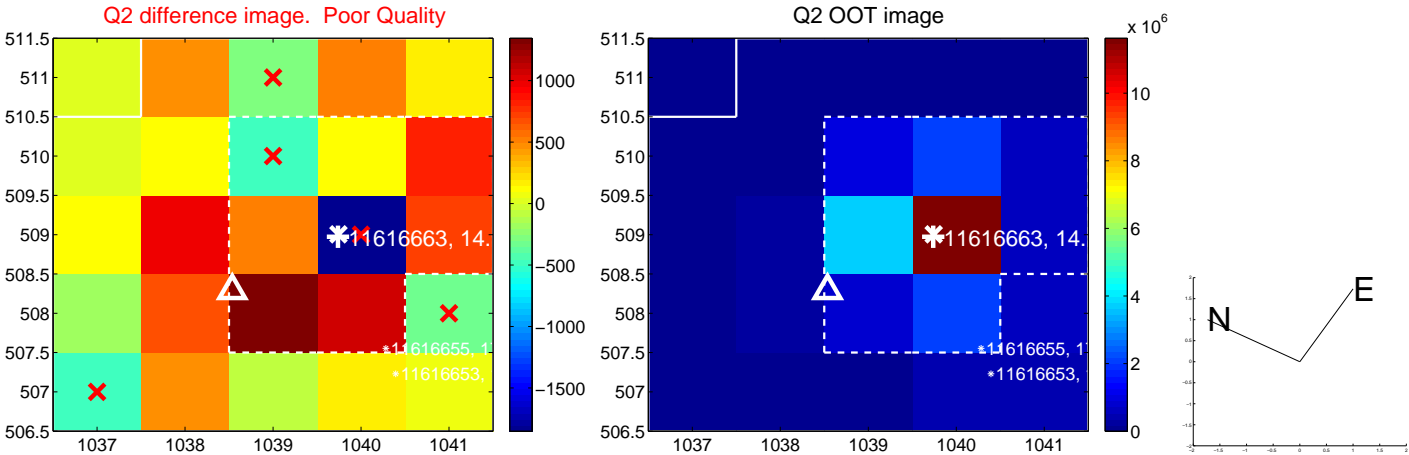
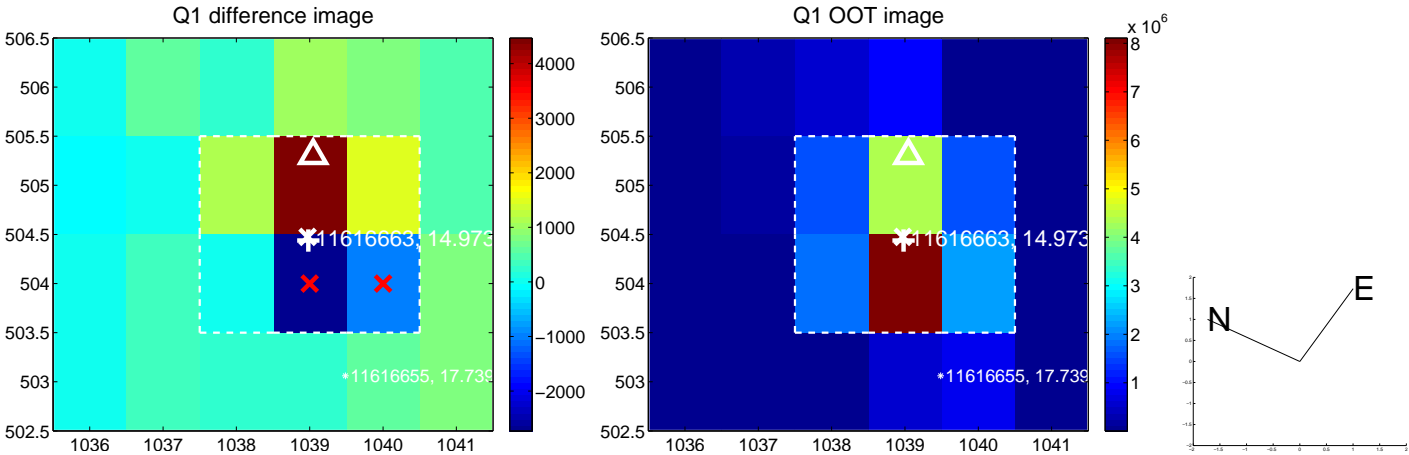
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.103 ± 0.869	1.27	0.992 ± 0.867	-0.482 ± 0.874
PRF-fit source offset from KIC position	1.050 ± 0.867	1.21	0.898 ± 0.865	-0.544 ± 0.869
photometric centroid source offset	2.50 ± 0.81	3.07	1.44 ± 0.76	-2.05 ± 0.84

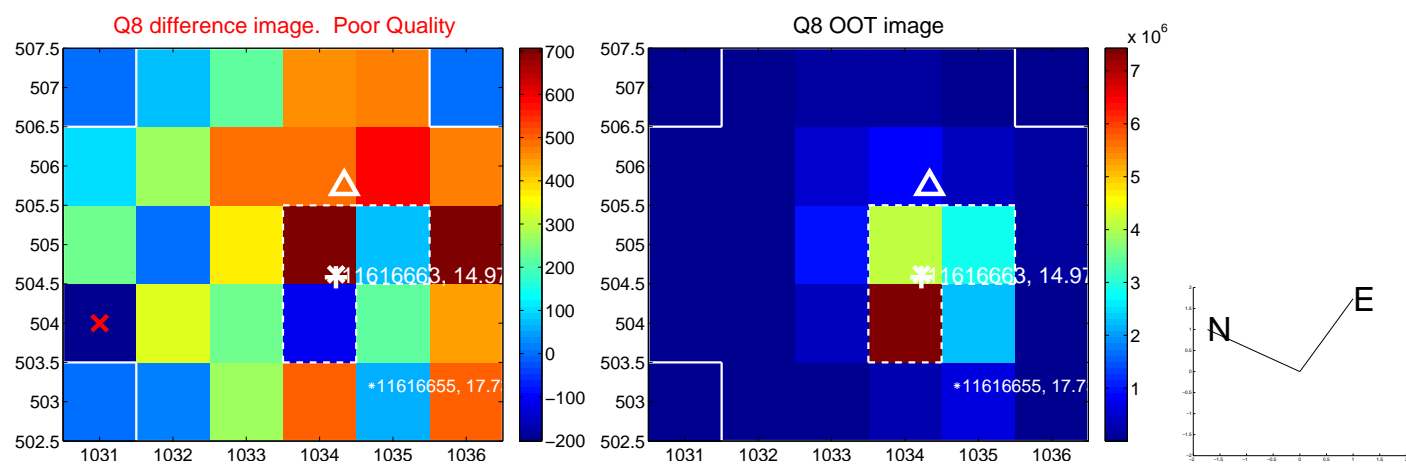
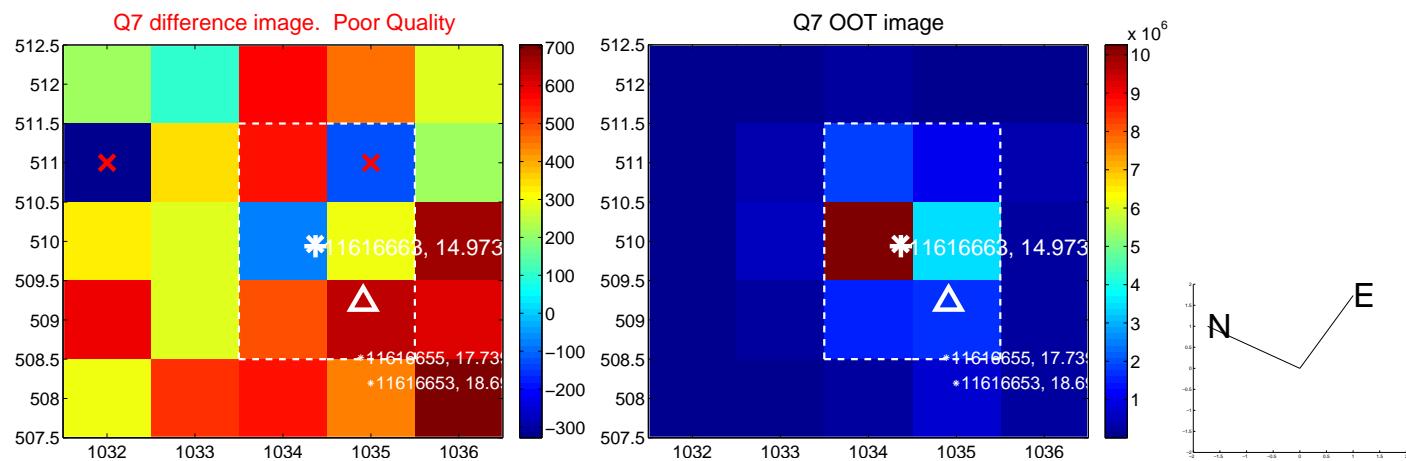
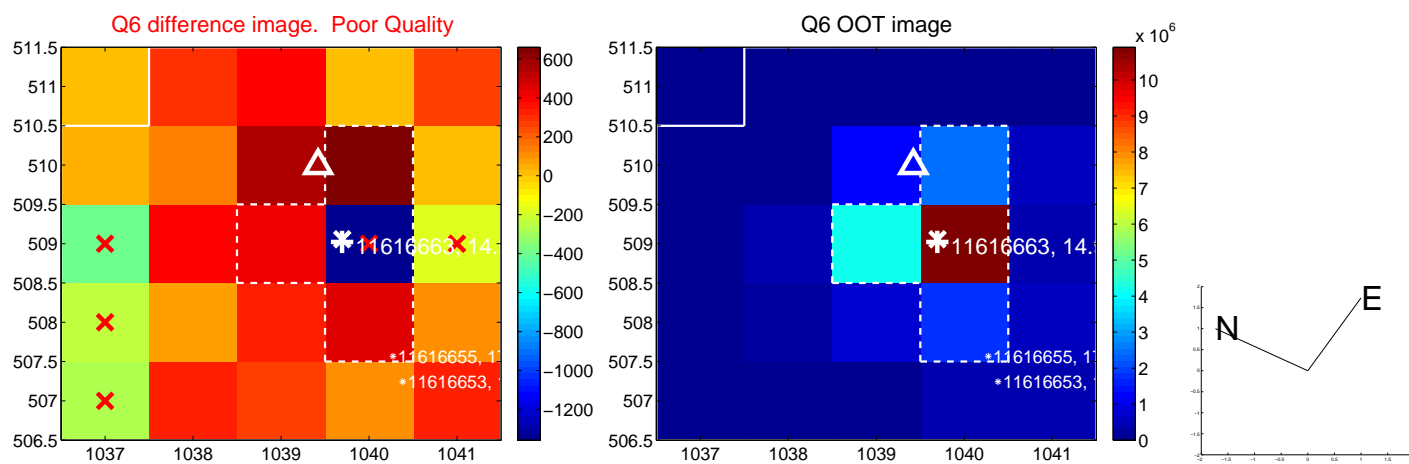
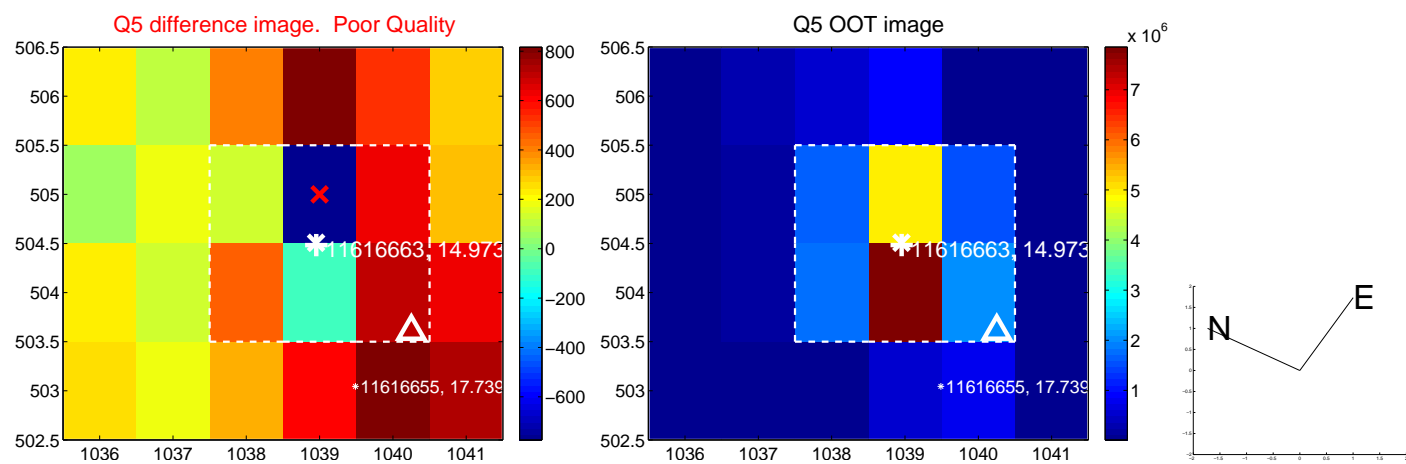


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

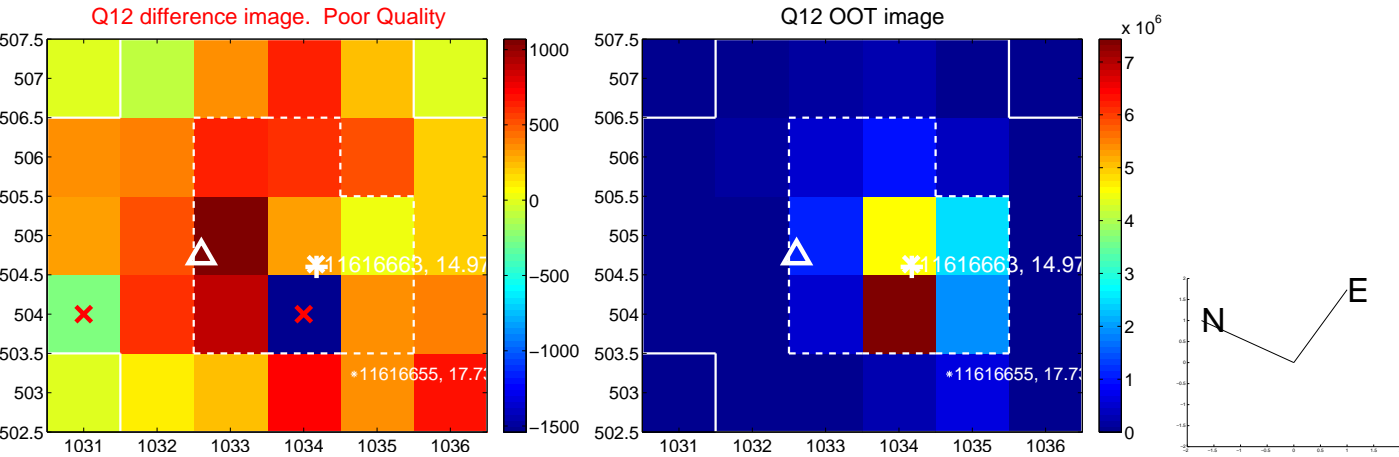
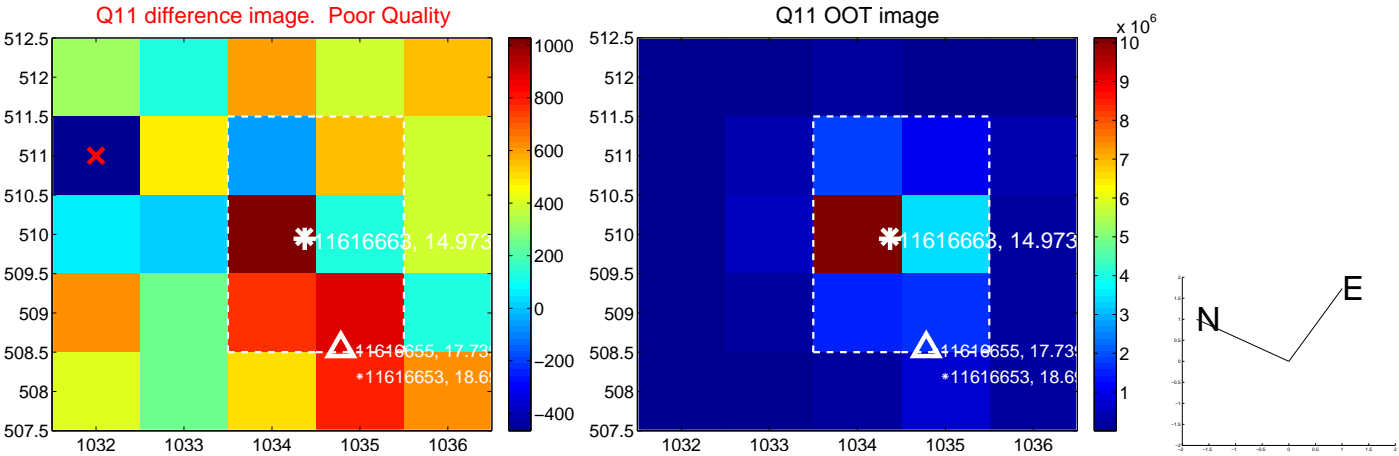
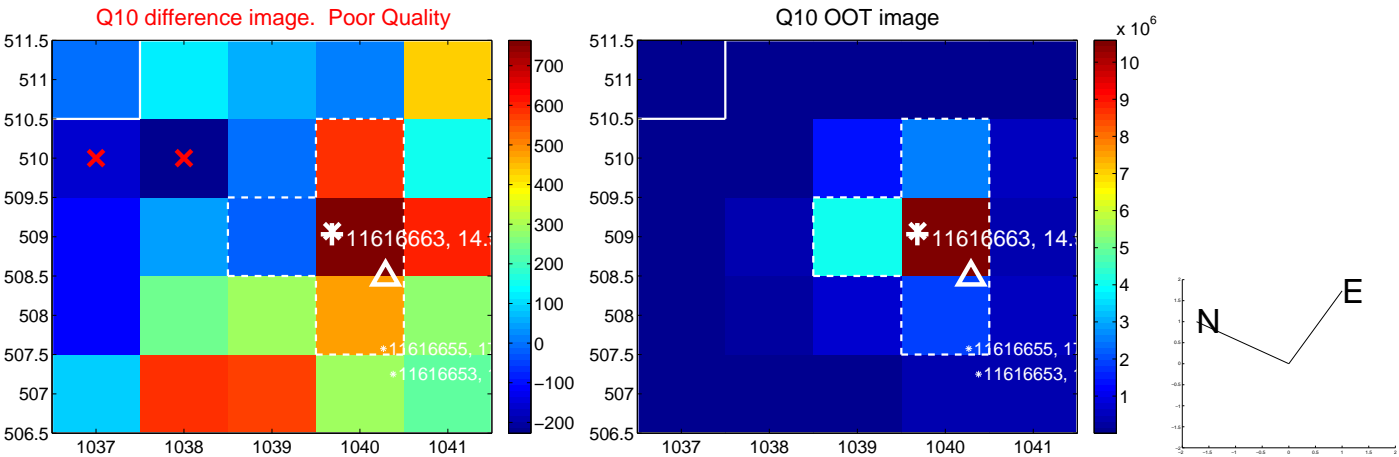
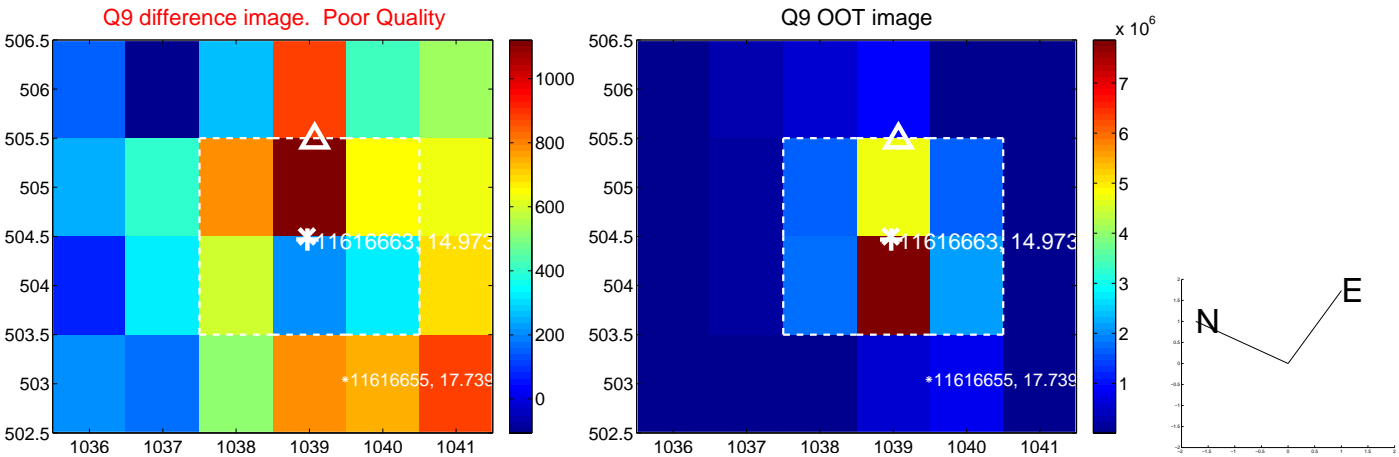
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



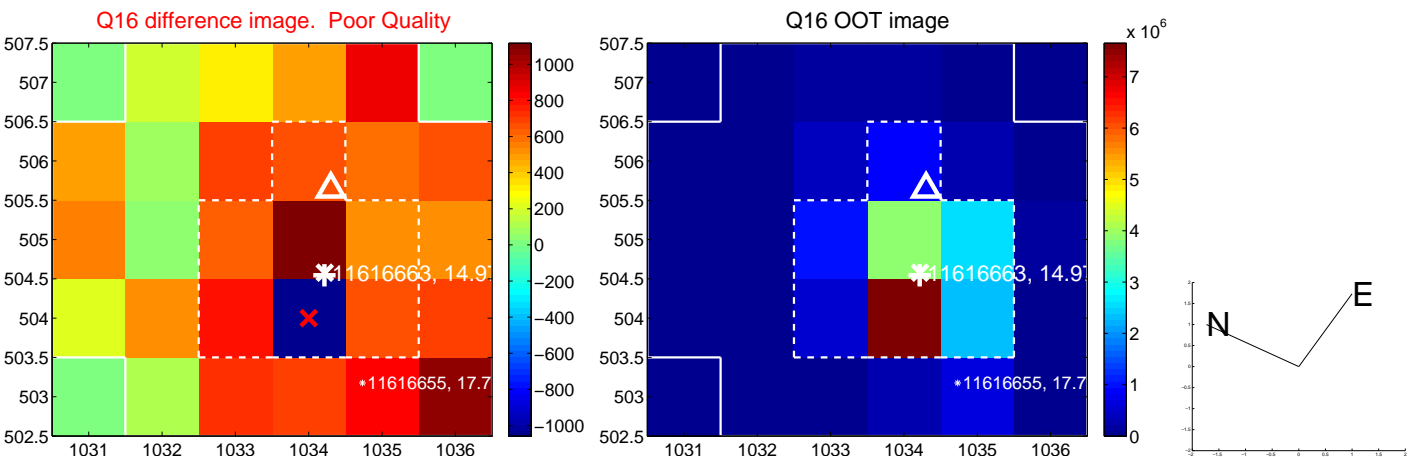
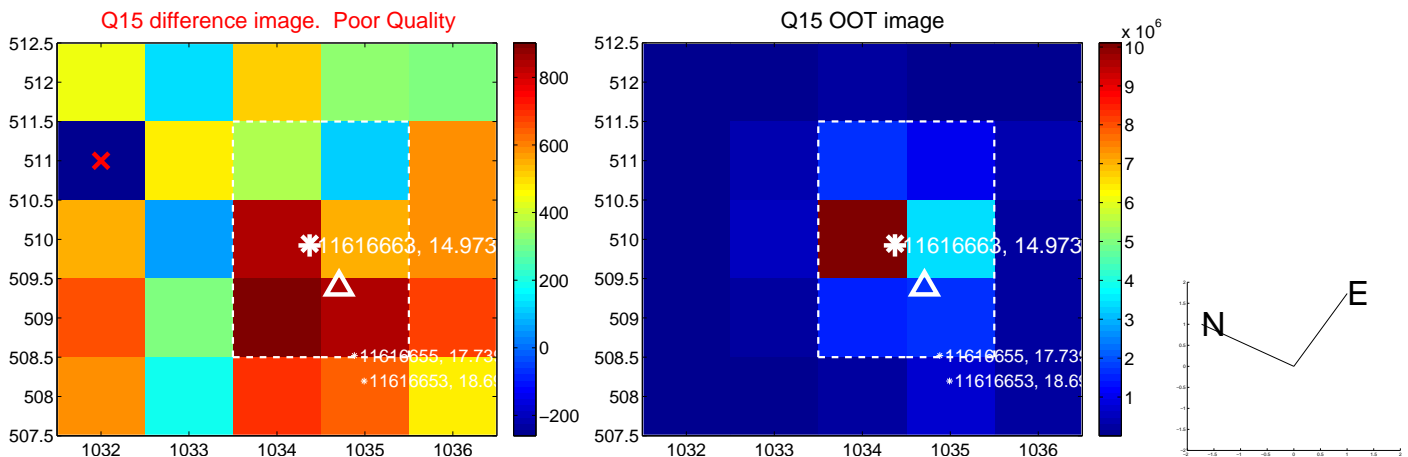
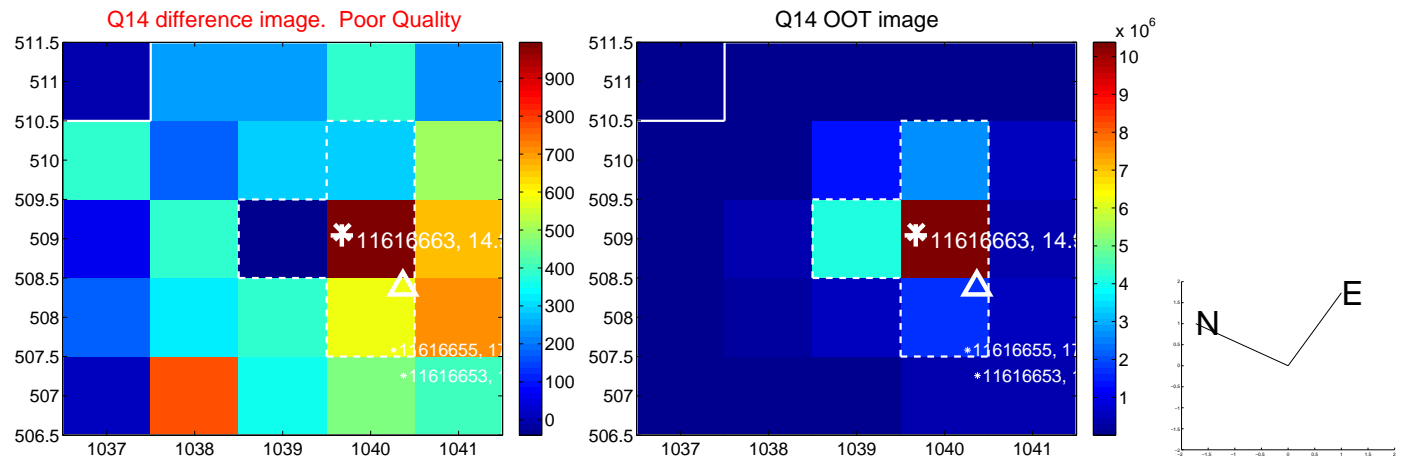
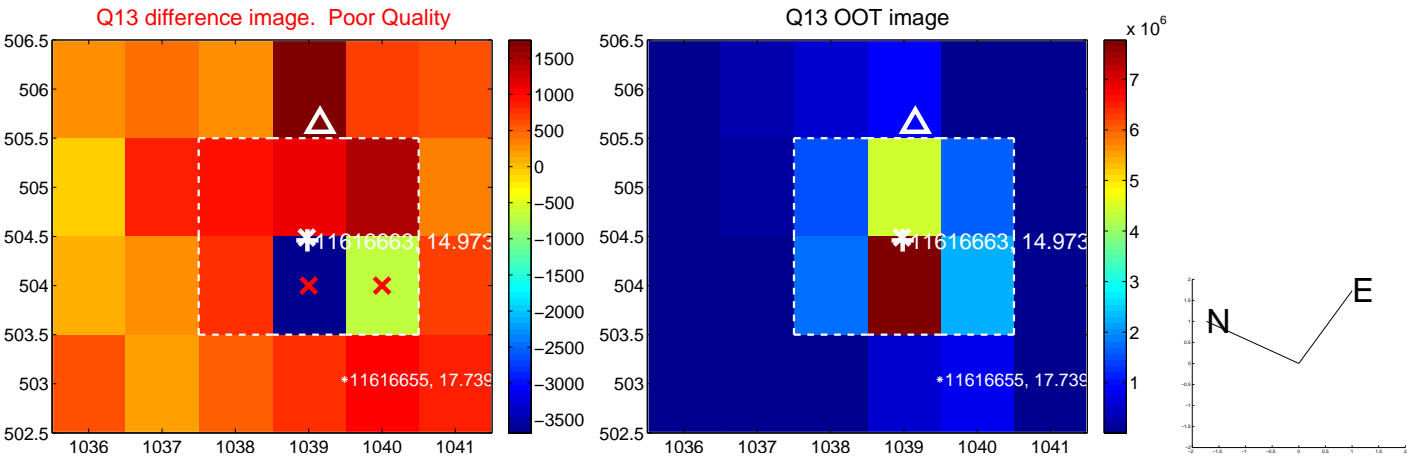
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



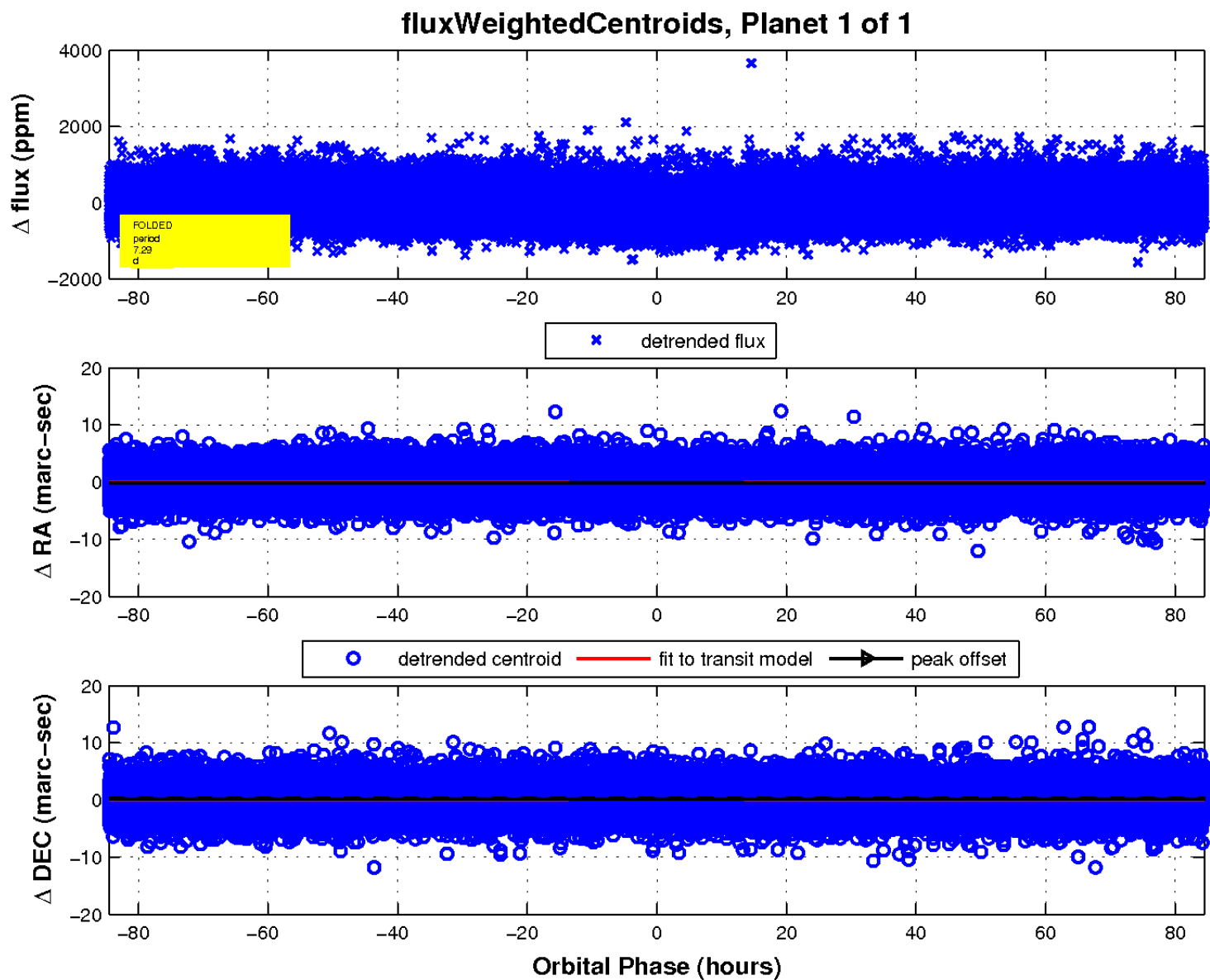
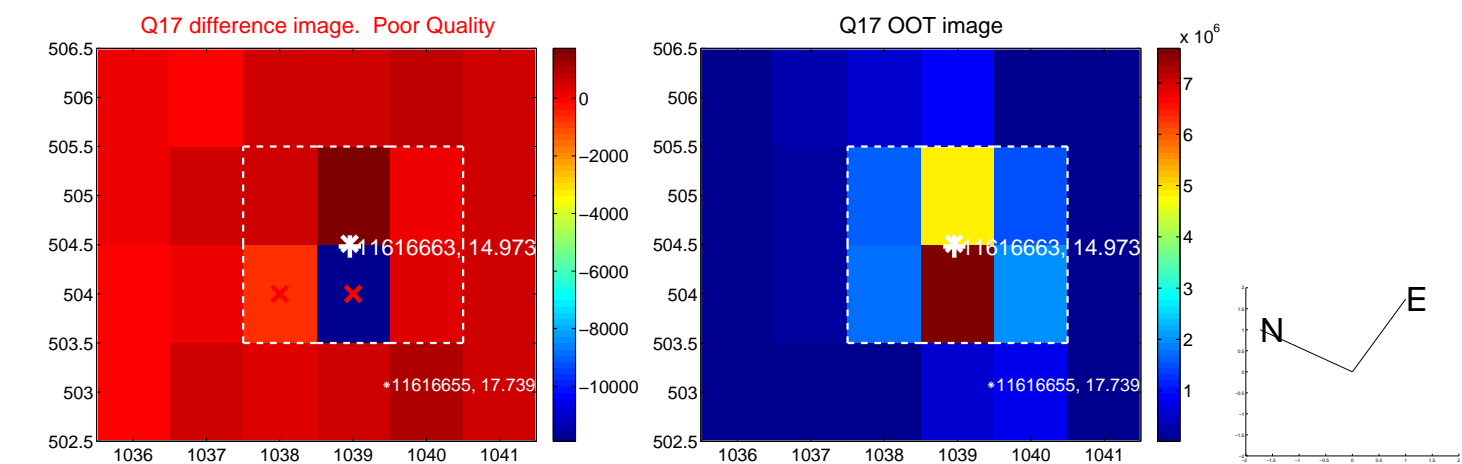
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

