

KIC 007116166

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})
007116166-01	OBS	No	0.566755	131.842431	23.2	3.667	10.8	5.1	1.01	6148	0.50	6944.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007116166-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_KIC_POS—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.

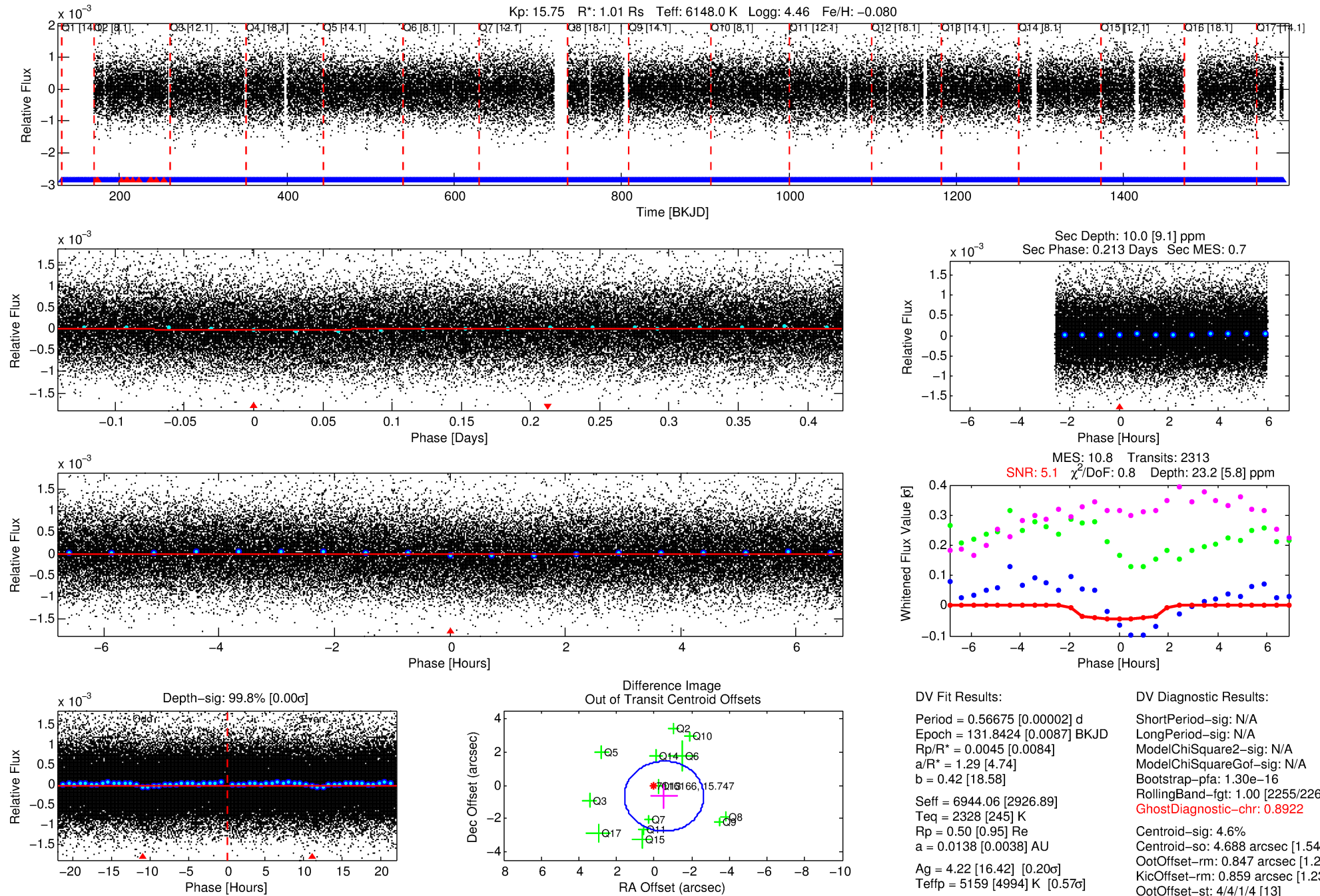
Ephemeris Match Information For 007116166-01

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
007116166-01	7116166	RR-Lyr-pri	7198959	1:1	522.9	73	-110	7.86	15.74	27100.00	Direct-PRF	0	1.41	23.95

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

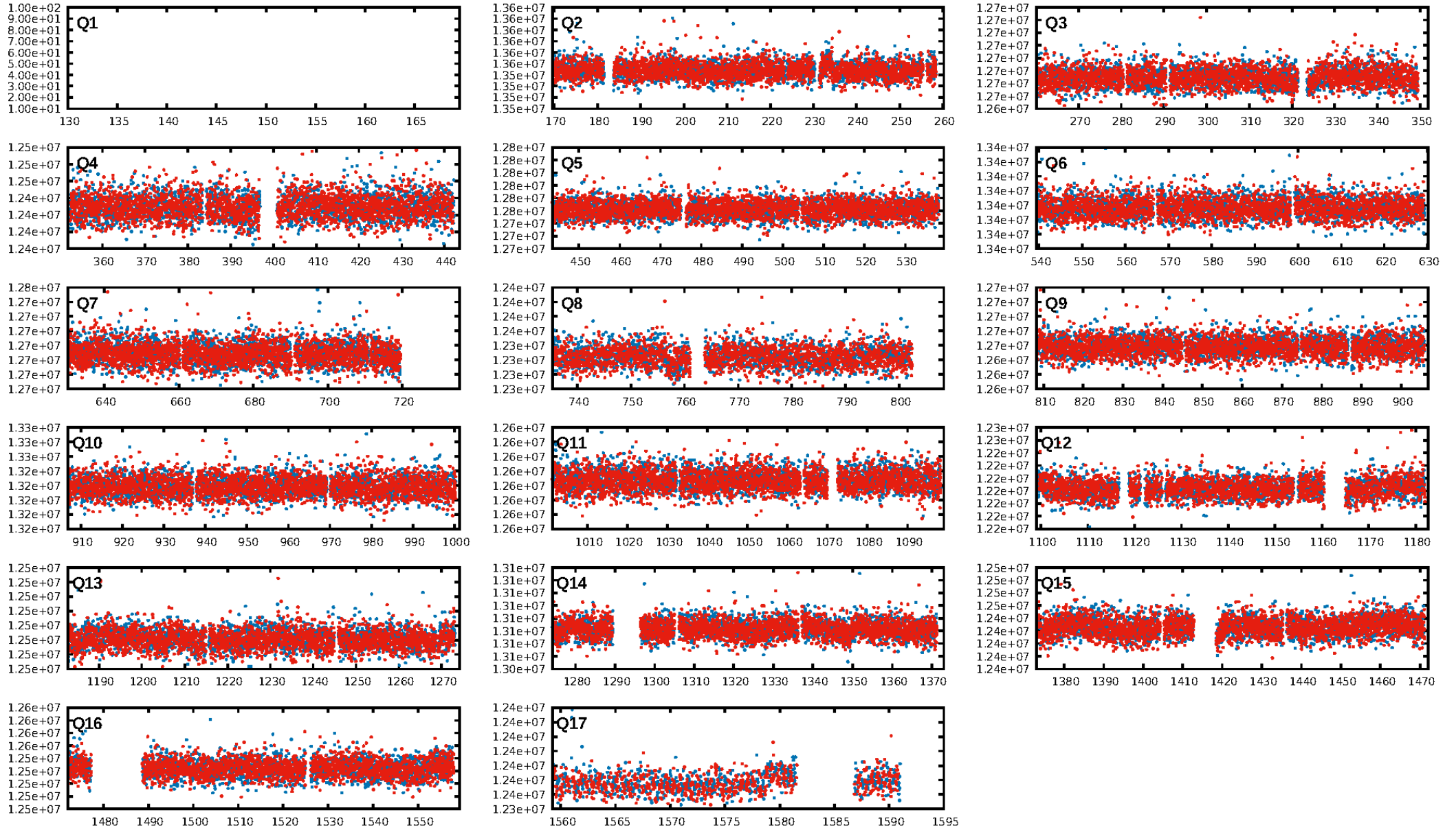
KIC: 7116166 Candidate: 1 of 1 Period: 0.567 d



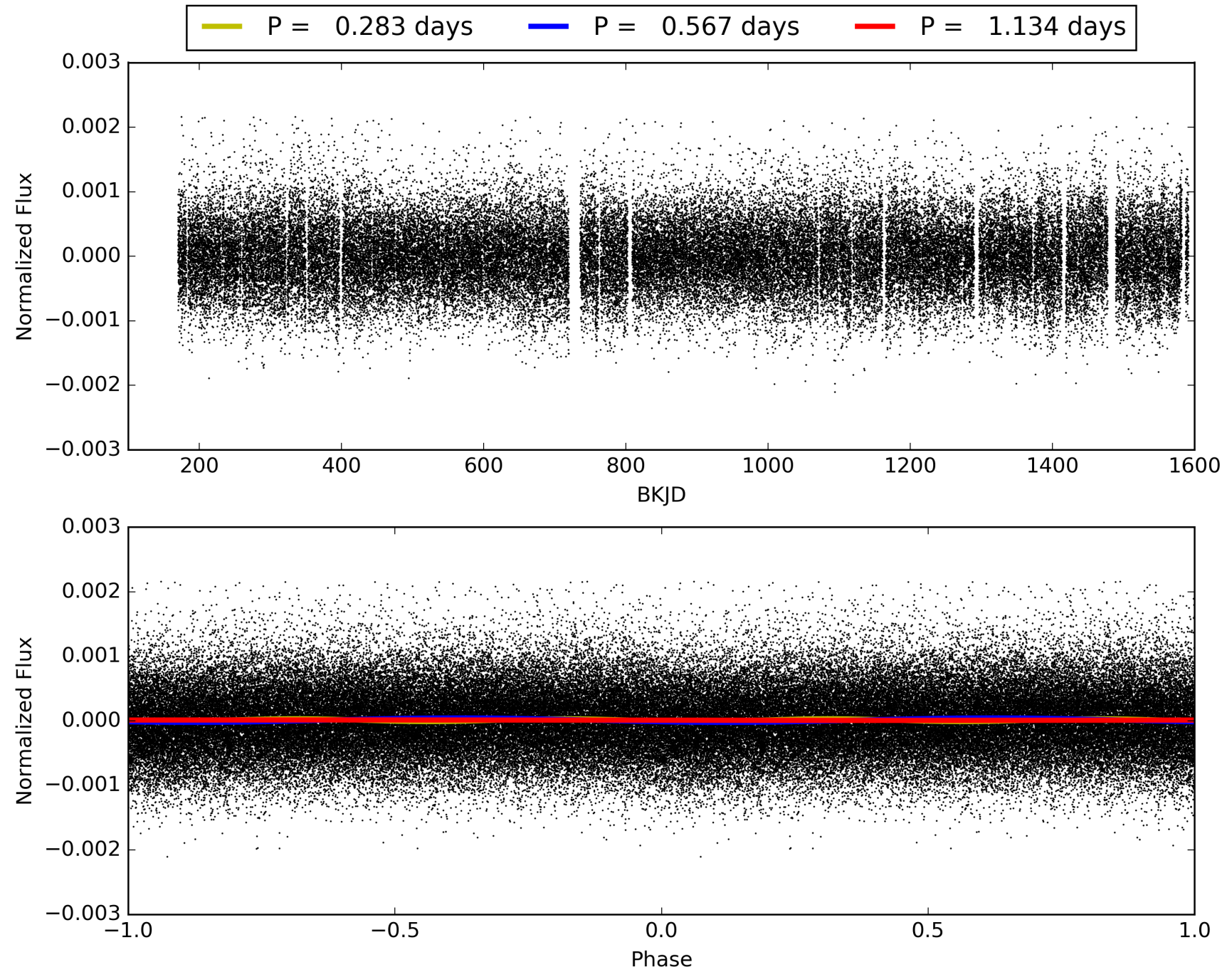
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:53:36 Z

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

TCE 007116166-01, PDC Light Curves

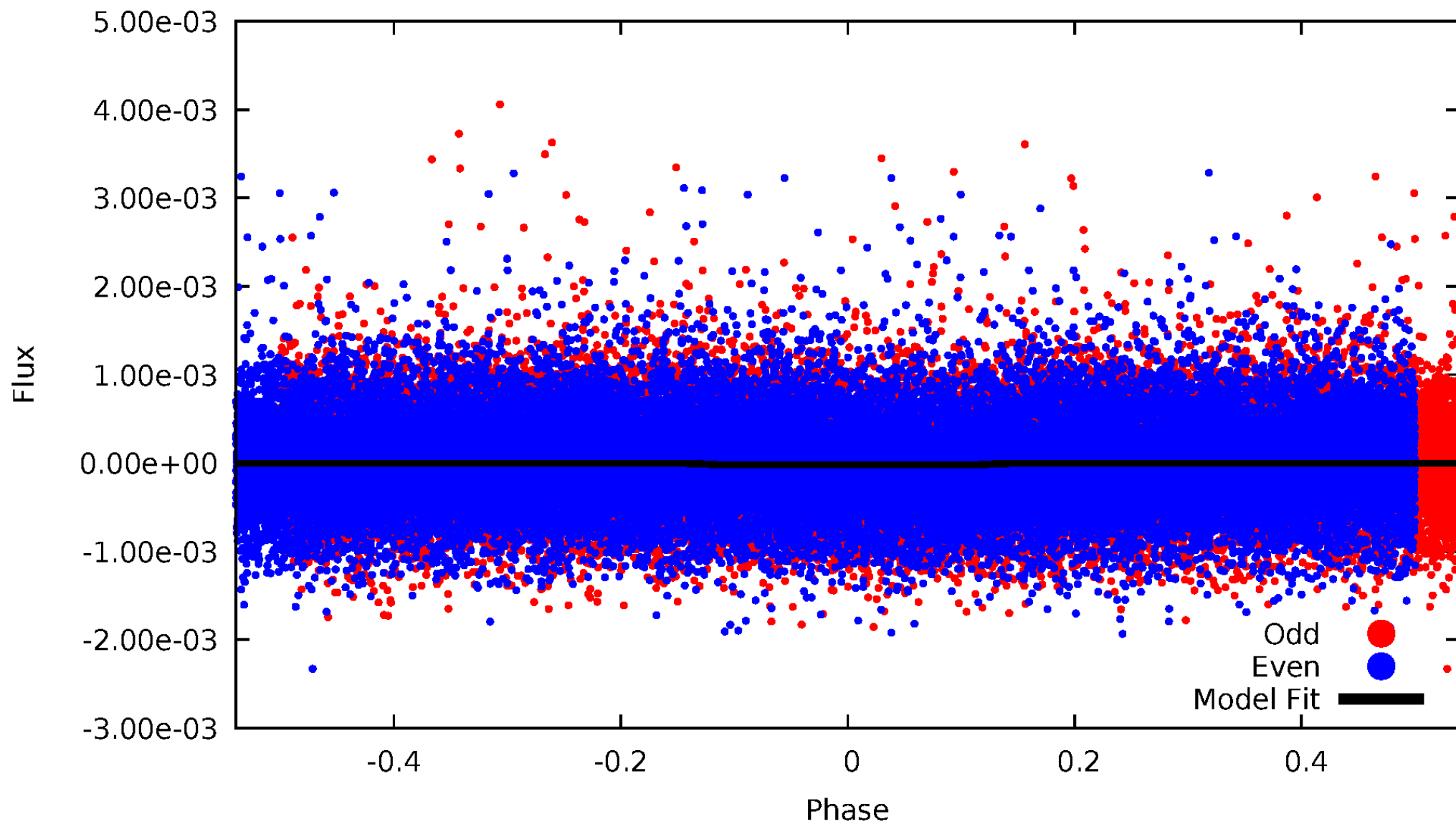


TCE 007116166-01



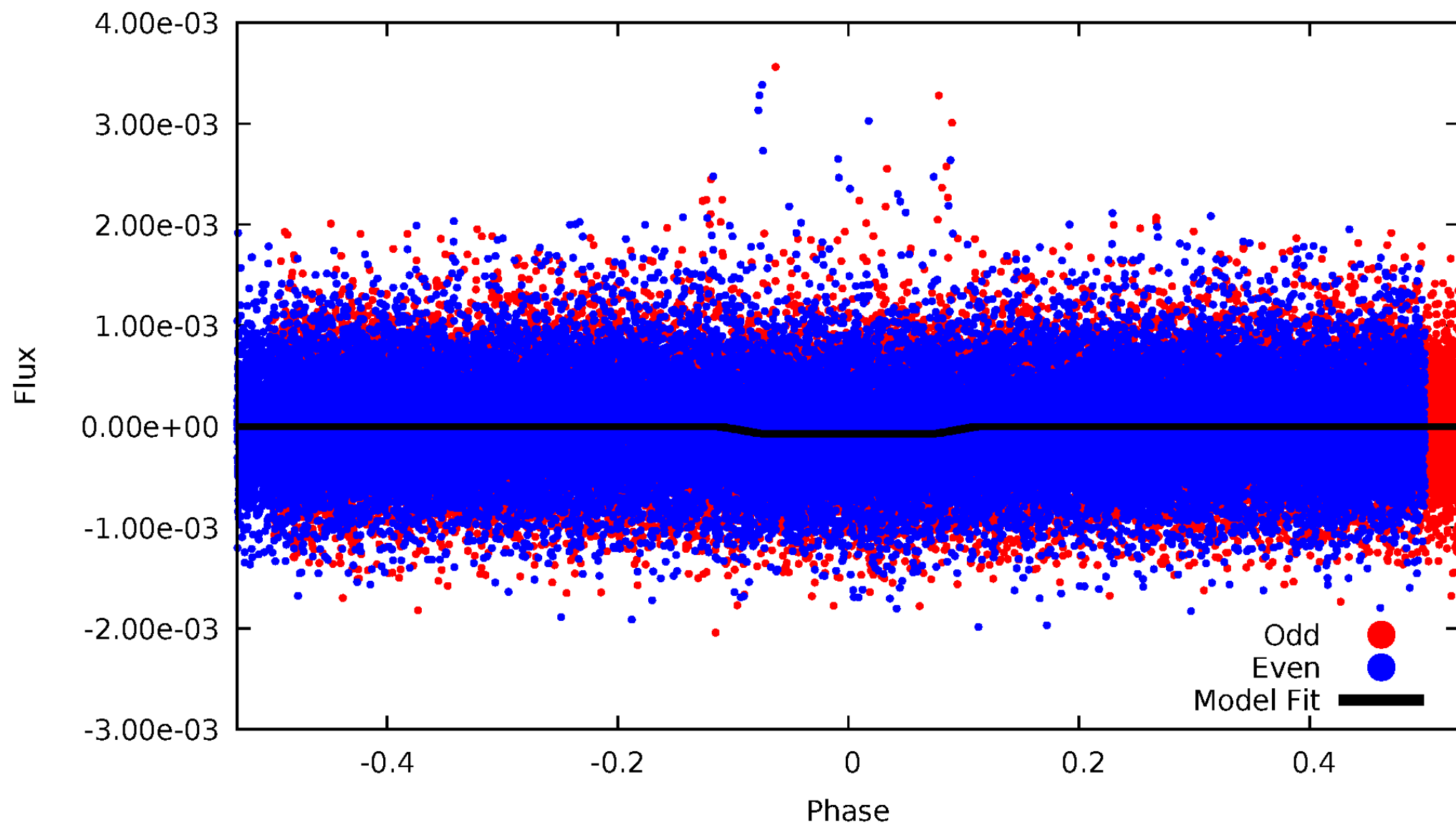
DV Odd/Even

TCE 007116166-01



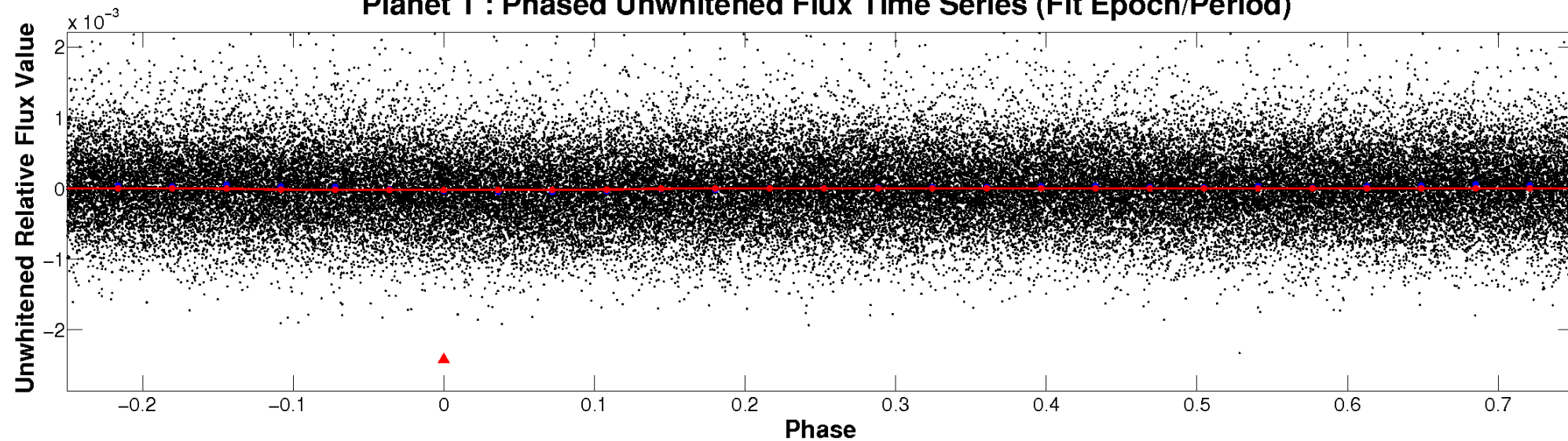
ALT Odd/Even

TCE 007116166-01

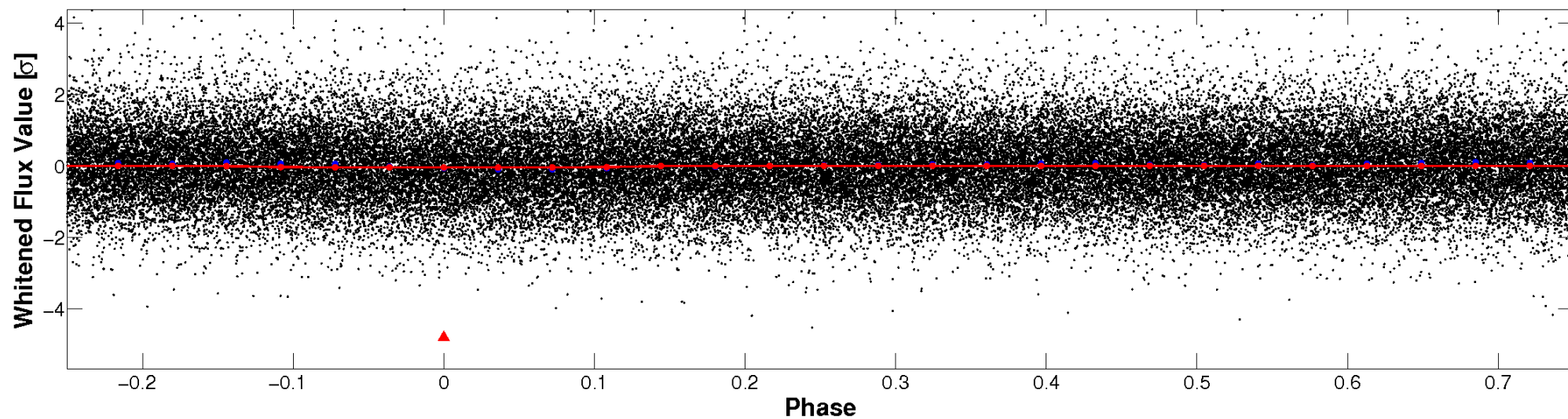


Non-Whitened Vs. Whitened Light Curve

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

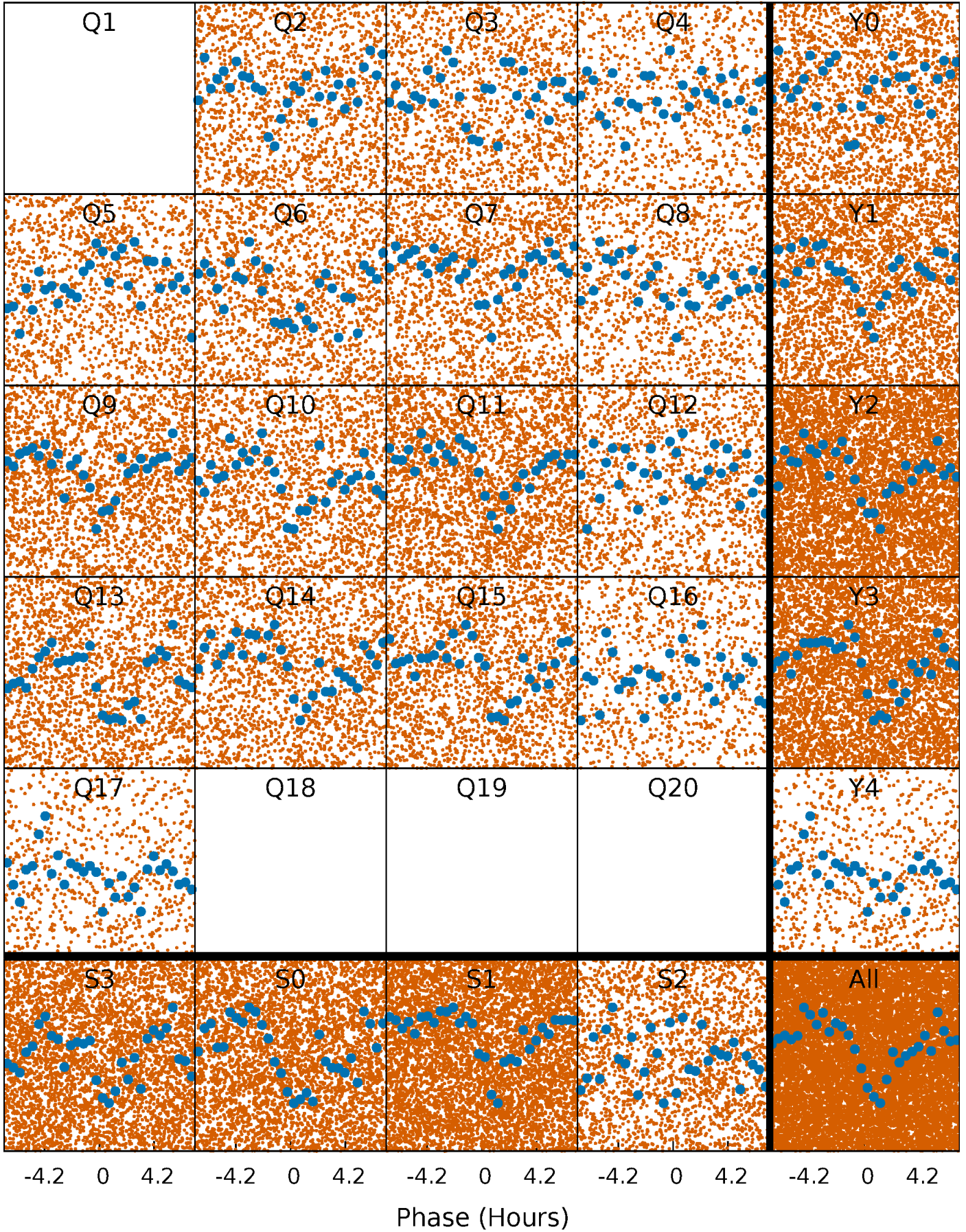


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



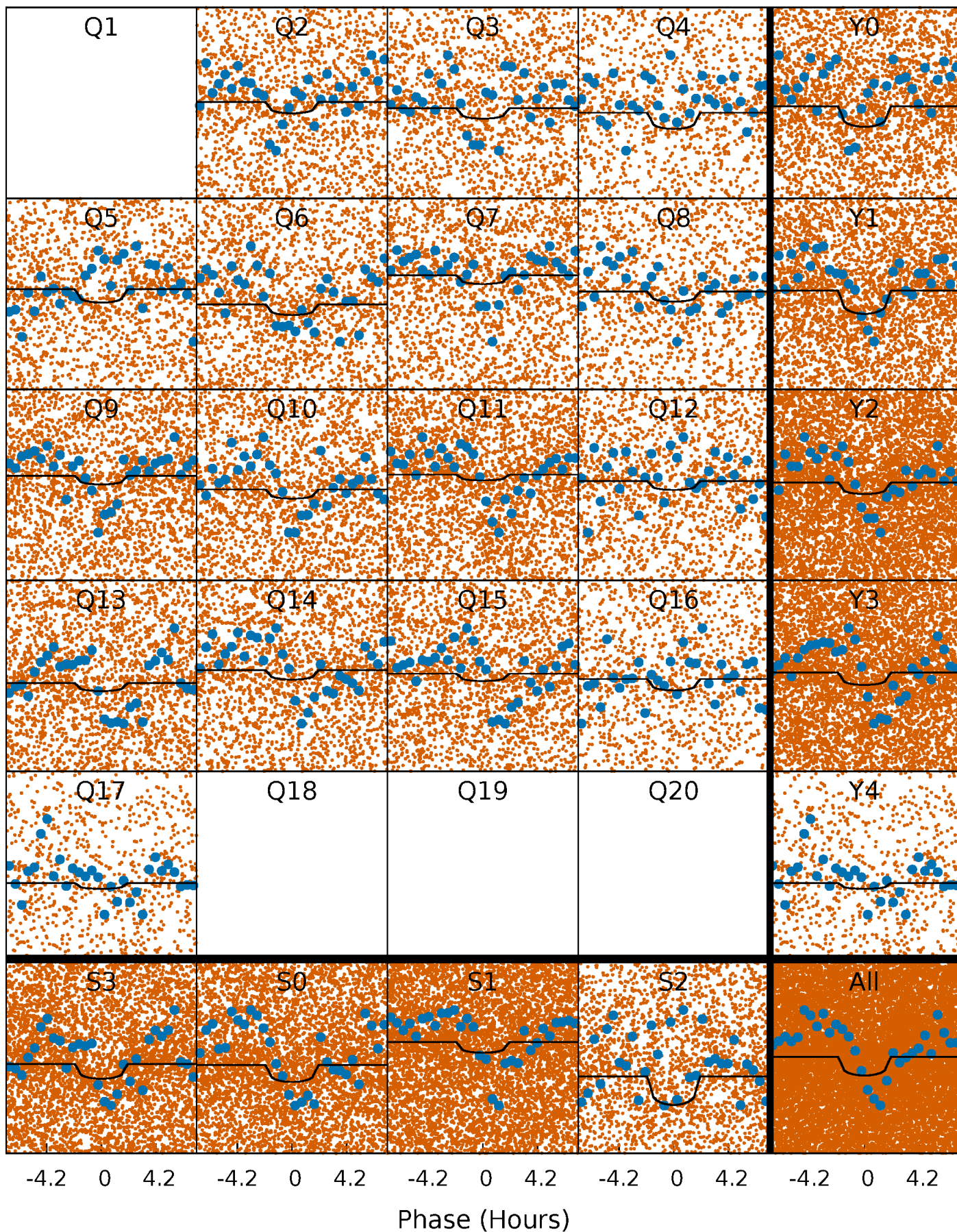
PDC Quarter-Phased Transit Curves

TCE 007116166-01 P= 0.566755 Days $T_0=131.842431$ (BKJD)



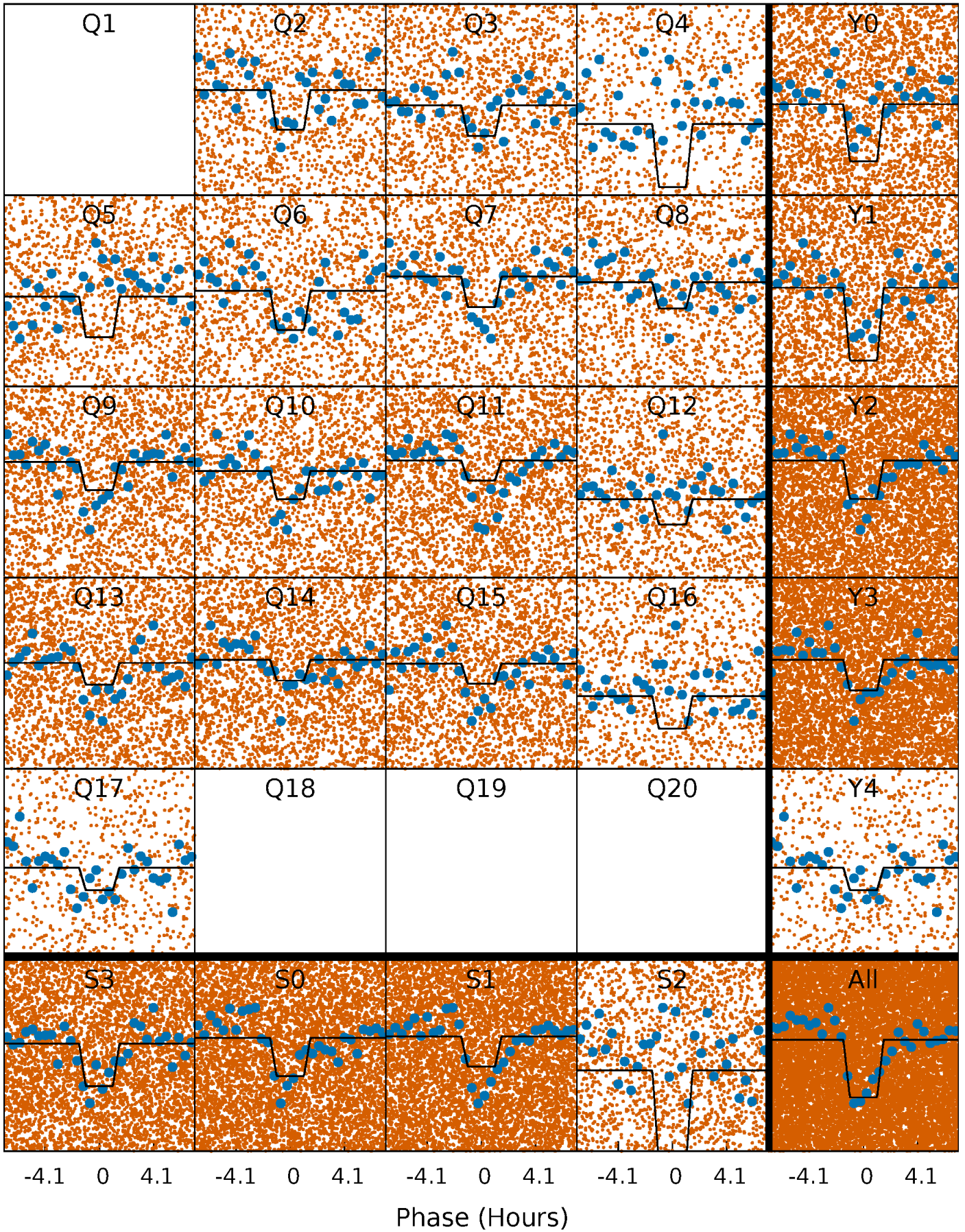
DV Quarter-Phased Transit Curves

TCE 007116166-01 P= 0.566755 Days $T_0=131.842431$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

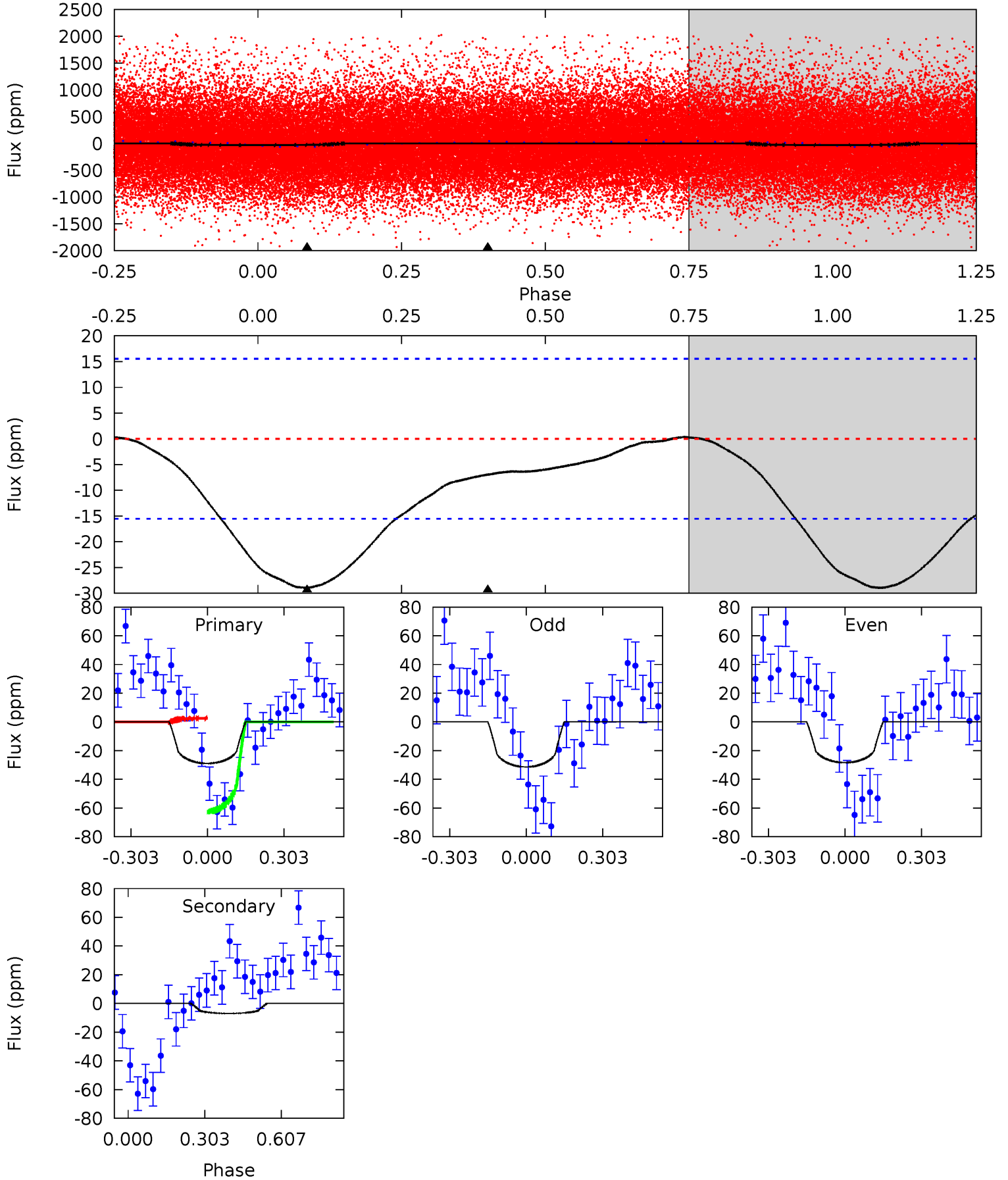
TCE 007116166-01 P= 0.566801 Days $T_0=131.809222$ (BKJD)



DV Model-Shift Uniqueness Test

007116166-01, P = 0.566755 Days, E = 131.842431 Days

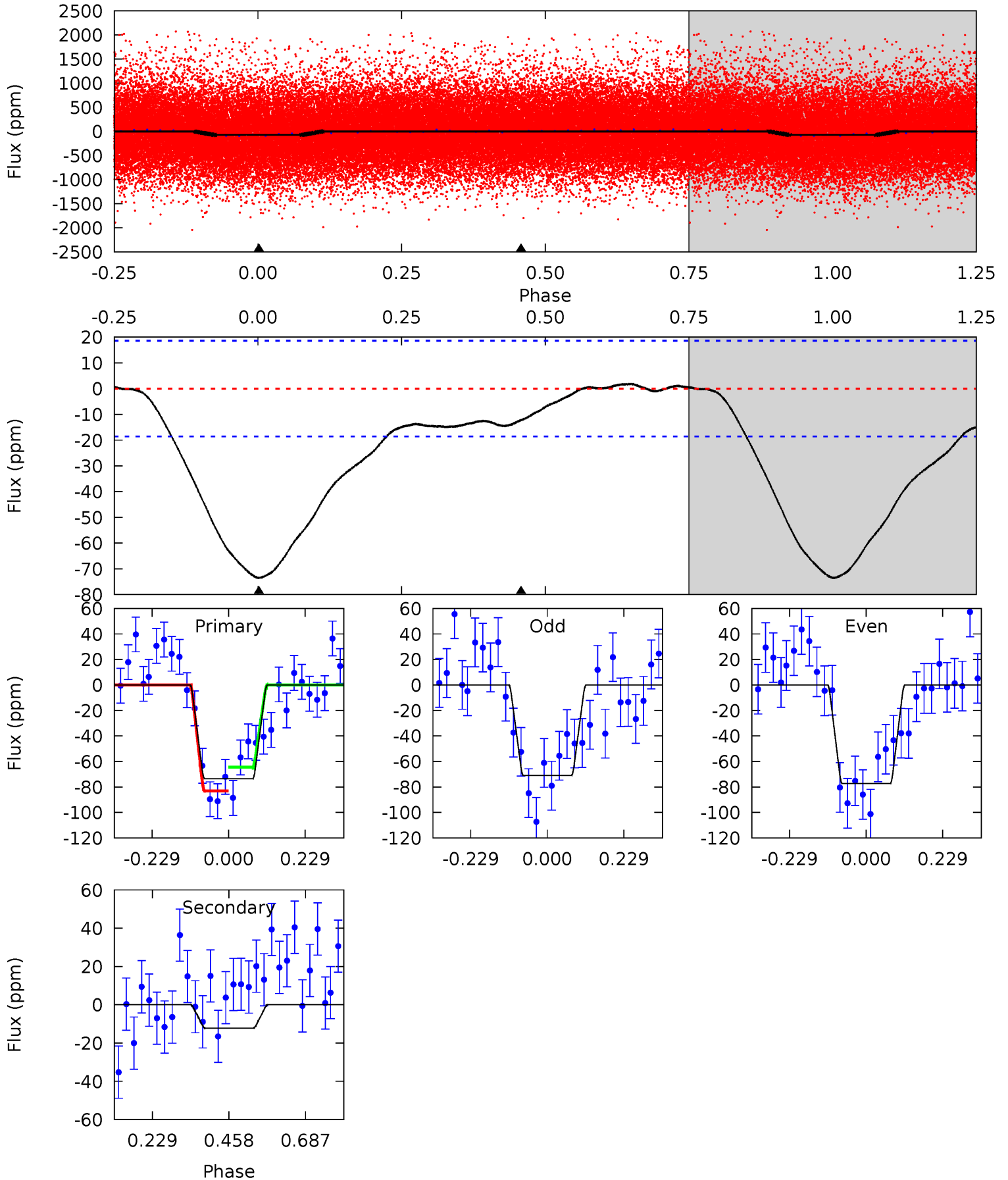
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.06	1.94	0	0	4.33	1.03	0.08	8.06	8.06	1.94	1.94	0.42	0.79	0.01	8.16



Alt Model-Shift Uniqueness Test

007116166-01, P = 0.566801 Days, E = 131.809222 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	2.90	0	0	4.39	1.20	1.09	17.4	17.4	2.90	2.90	0.75	1.05	0.02	2.21



Stellar Parameters For KIC 007116166

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6148^{+193}_{-236}	$4.461^{+0.056}_{-0.210}$	$-0.080^{+0.250}_{-0.350}$	$1.015^{+0.341}_{-0.114}$	$1.083^{+0.139}_{-0.153}$	$1.457^{+0.429}_{-0.792}$
	+3%/-4%	+1%/-5%	+312%/-438%	+34%/-11%	+13%/-14%	+29%/-54%
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 007116166-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7 ± 4	$0.95^{+0.86}_{-0.67}$	3325^{+260}_{-195}	3435^{+2757}_{-6345}	$0.696^{+7.131}_{-0.520}$
Alt.	-12 ± 4	$1.18^{+0.97}_{-0.72}$	3323^{+255}_{-184}	3639^{+1998}_{-6302}	$0.852^{+4.977}_{-0.614}$

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

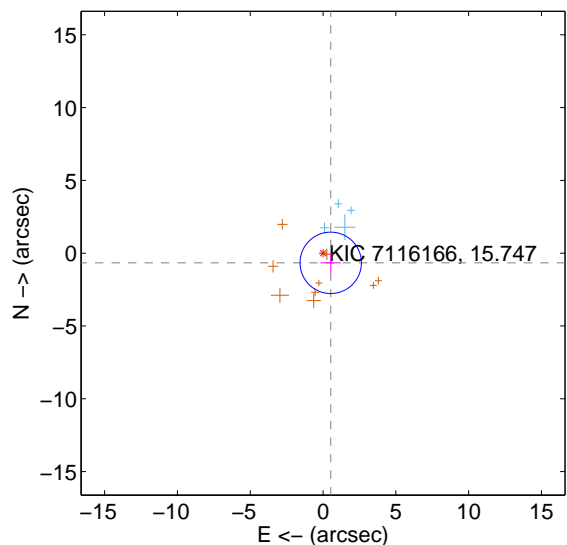
Supplemental centroid analysis for 007116166-01. Kepler magnitude: 15.75. Transit SNR 5.06

There are 4 quarters with good PRF difference image offsets

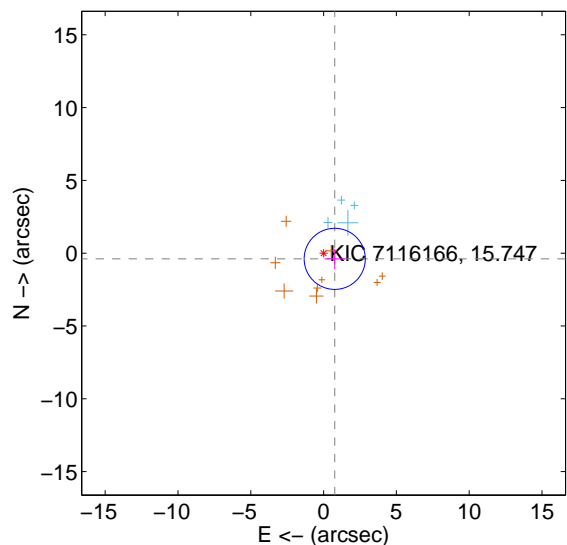
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.847 ± 0.702	1.21	-0.527 ± 0.705	-0.663 ± 0.701
PRF-fit source offset from KIC position	0.859 ± 0.699	1.23	-0.765 ± 0.698	-0.390 ± 0.703
photometric centroid source offset	4.69 ± 3.05	1.54	-2.08 ± 3.21	4.20 ± 3.01

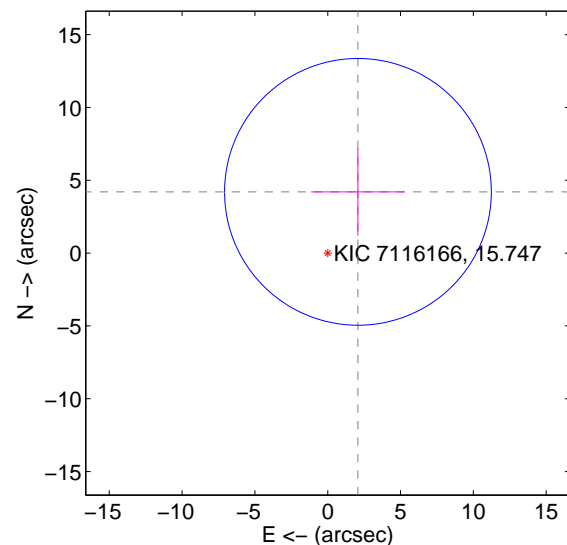
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

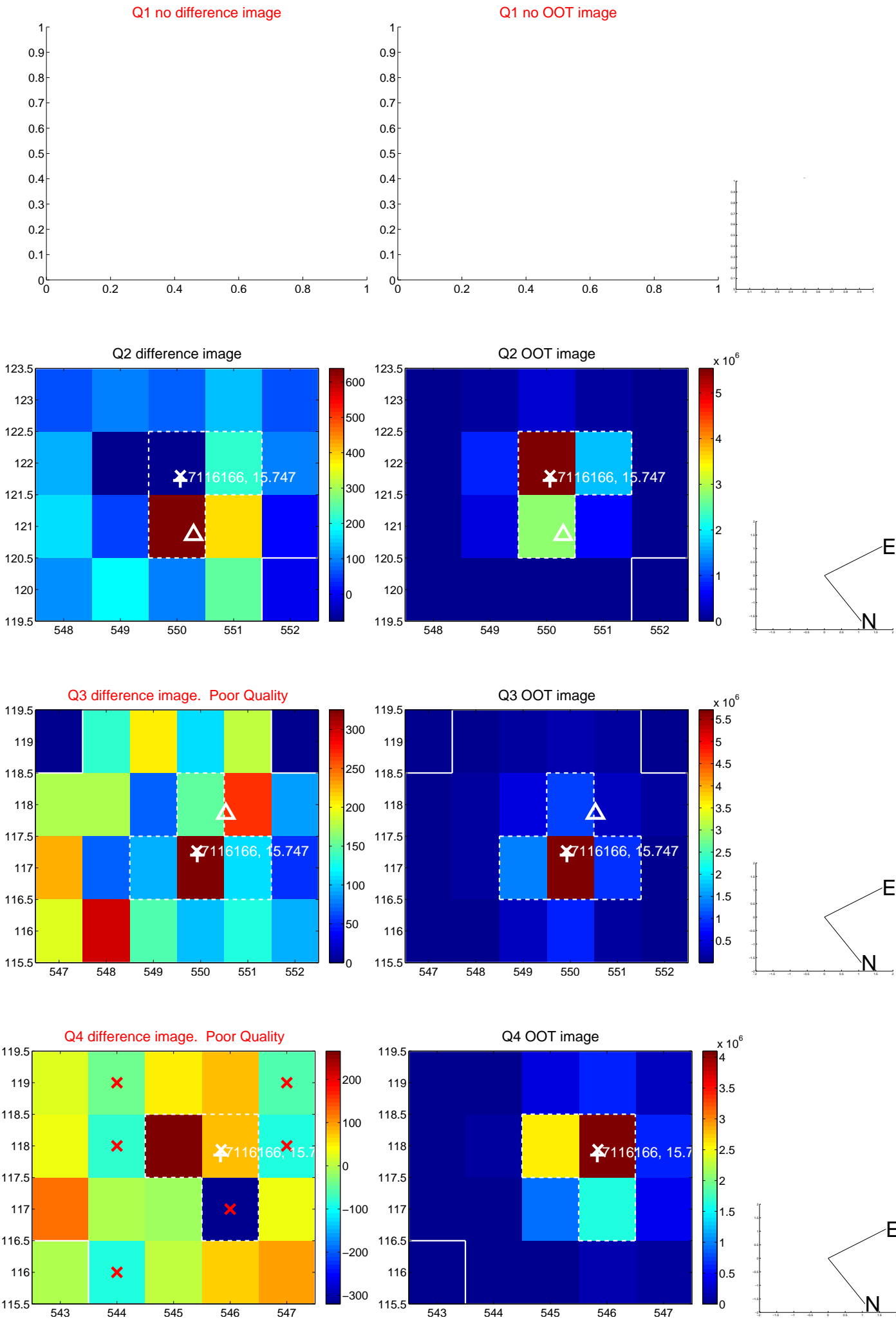


offset from photometric centroids

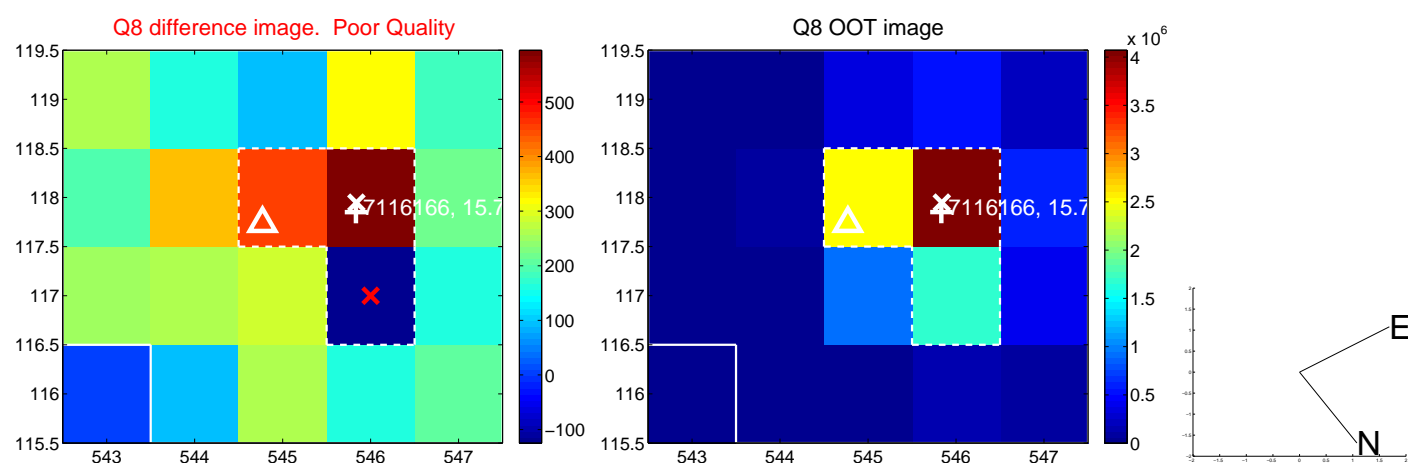
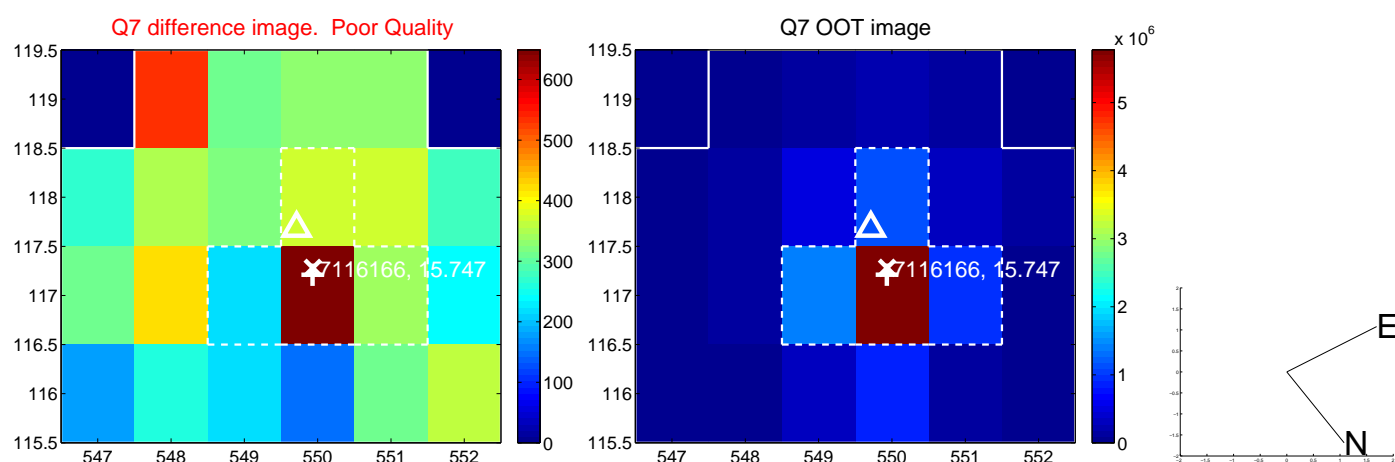
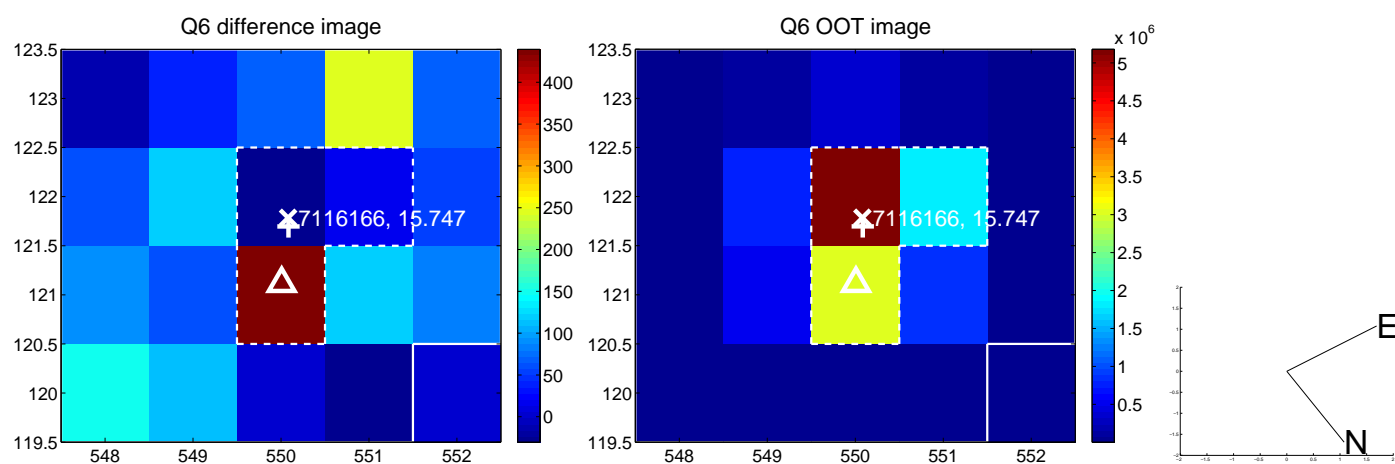
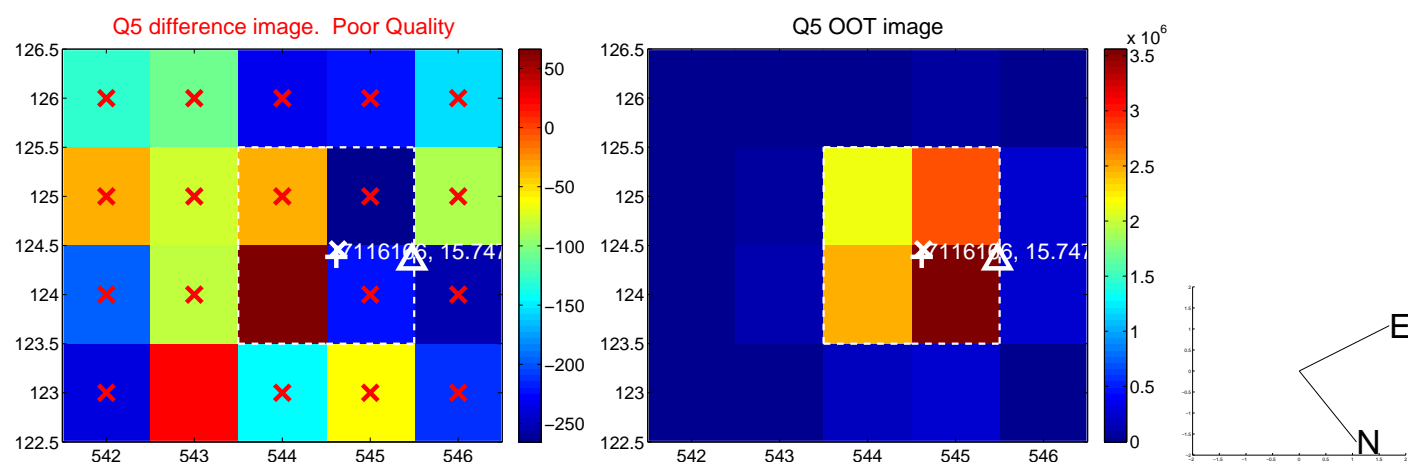


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

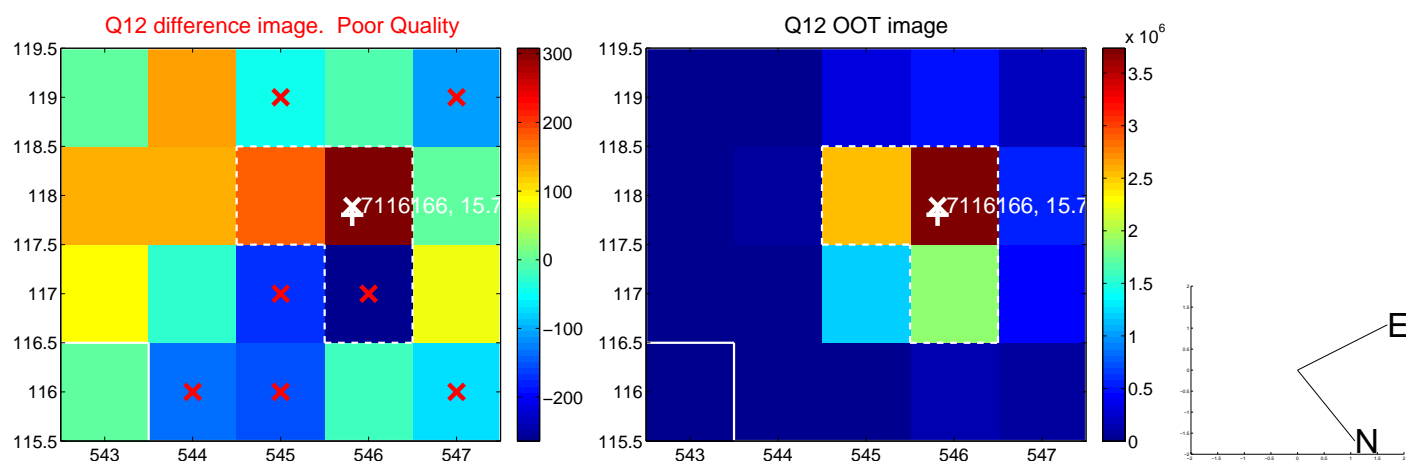
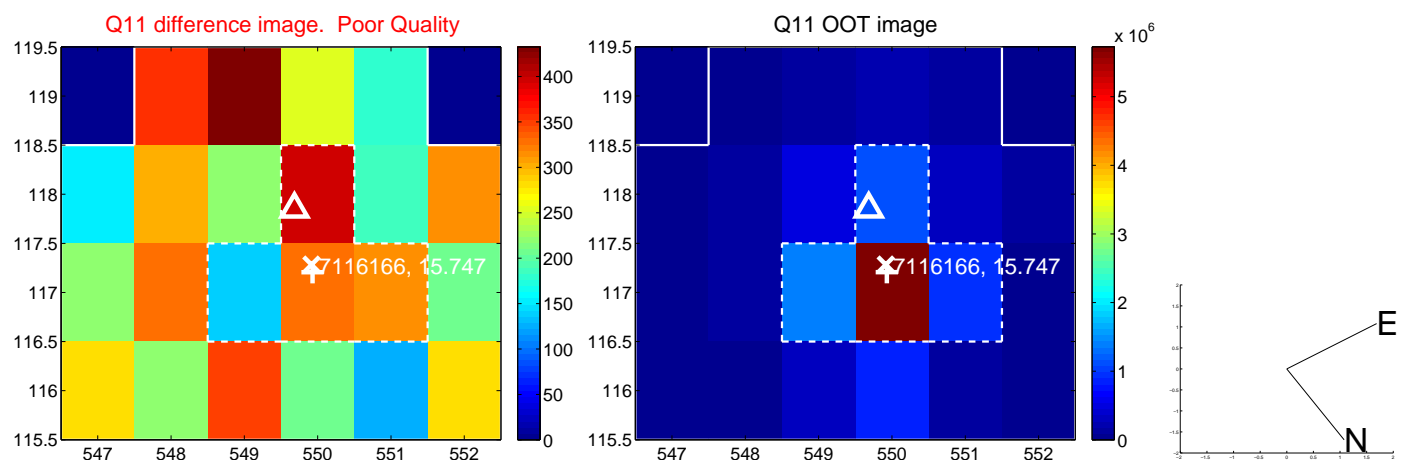
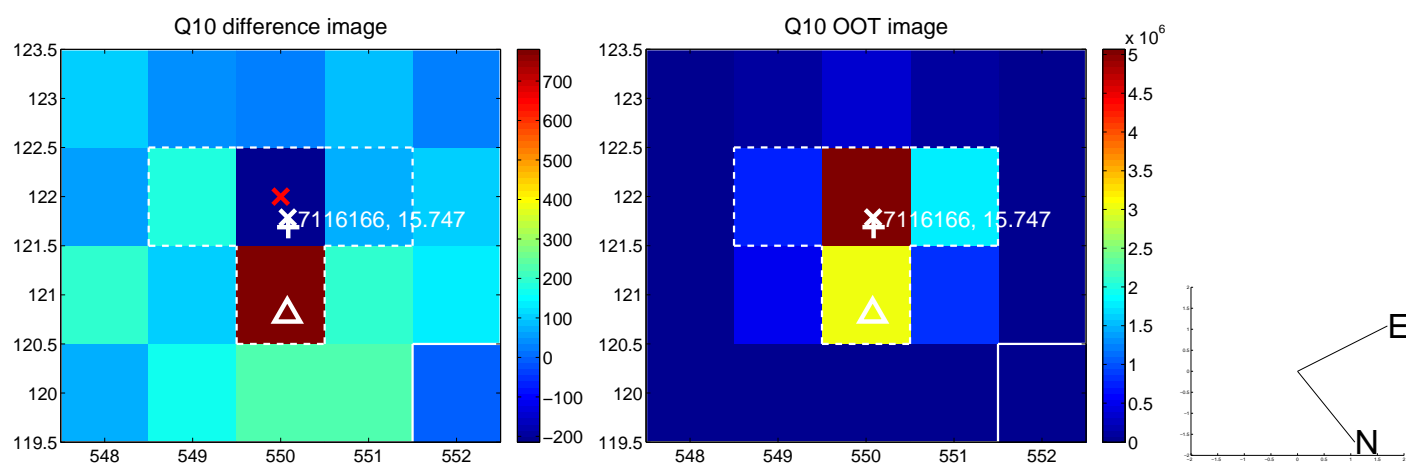
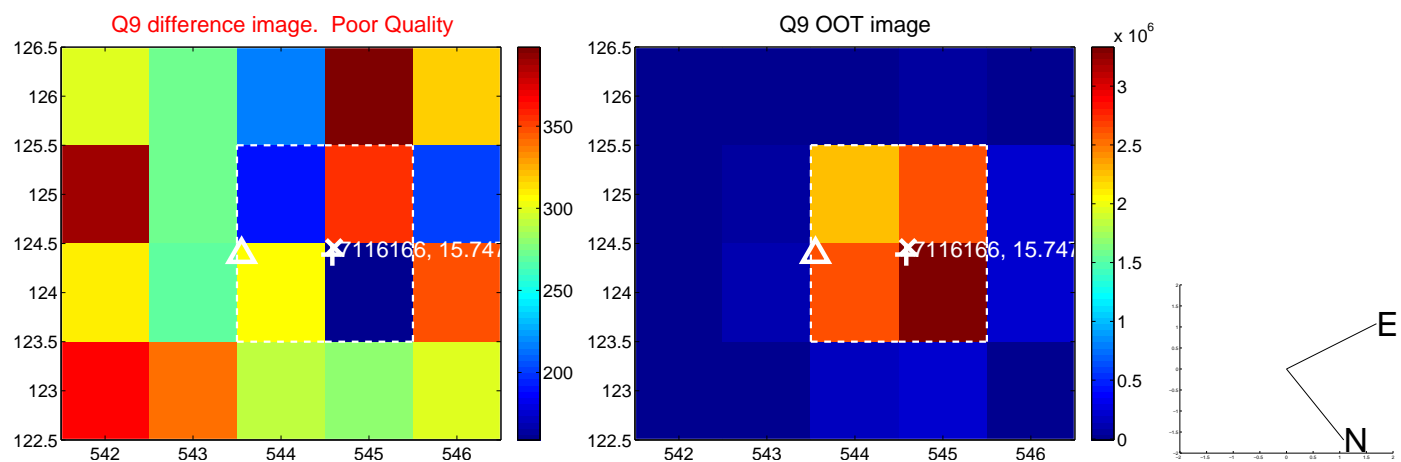
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



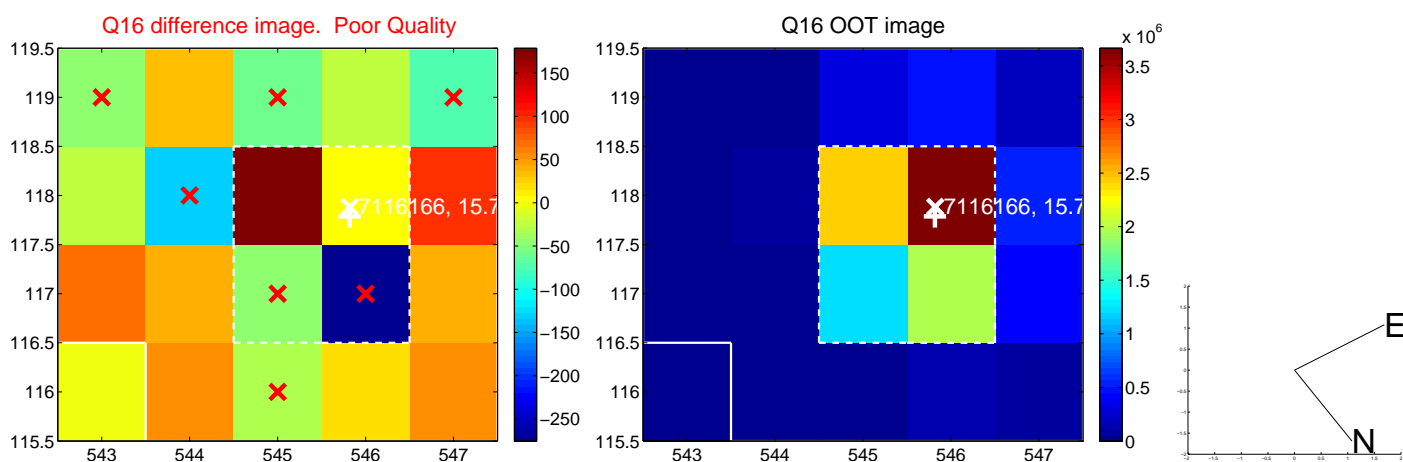
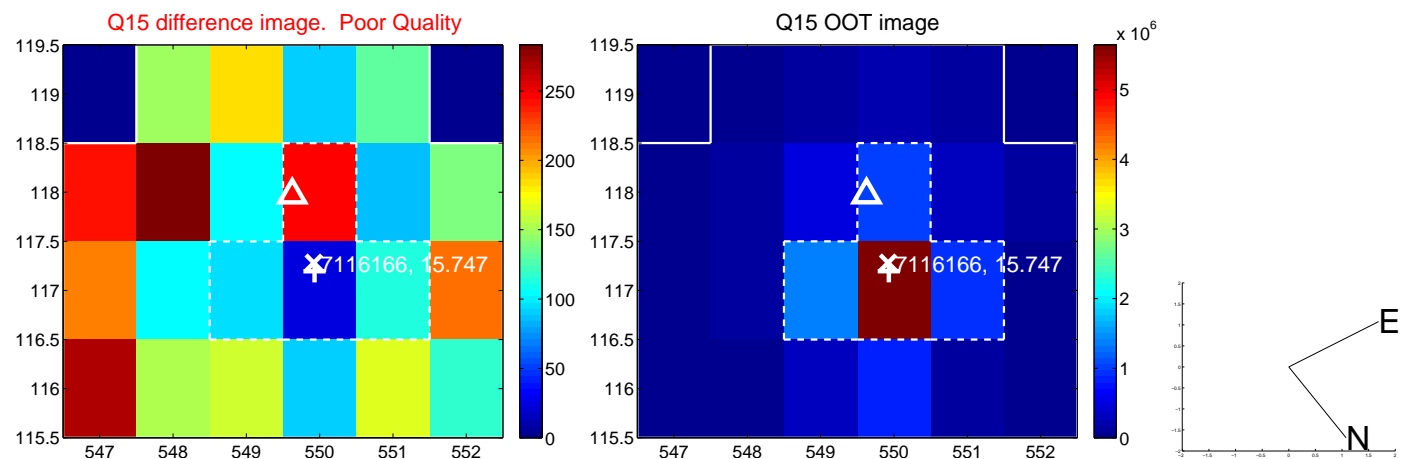
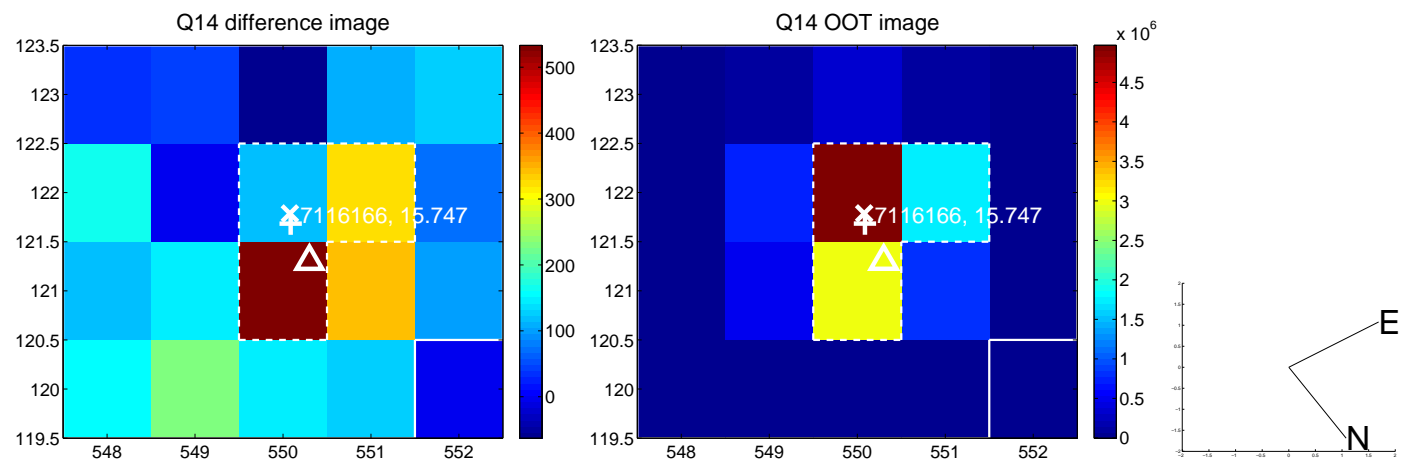
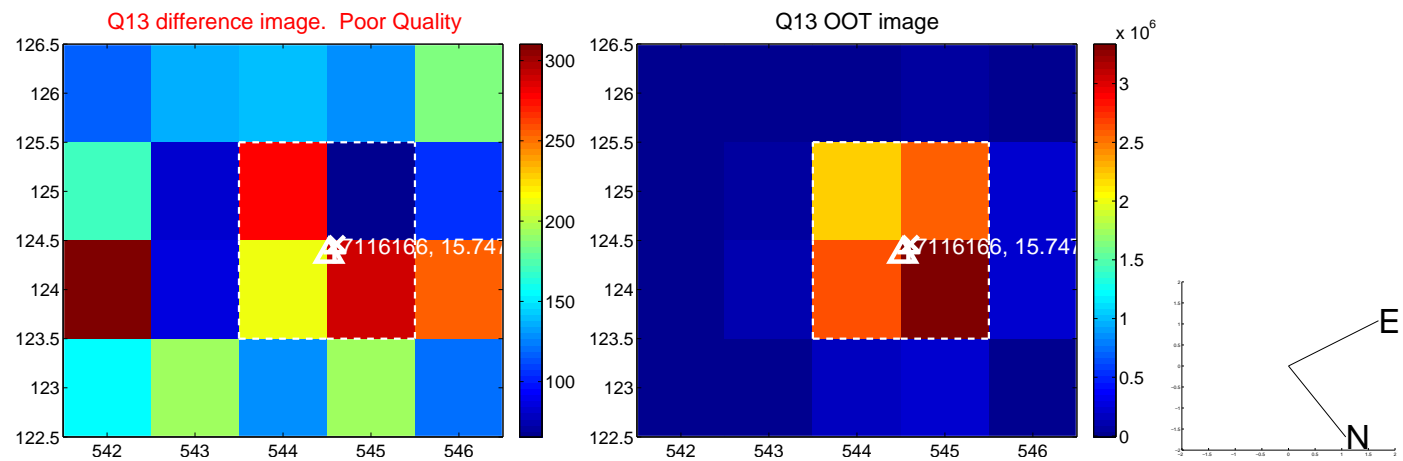
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



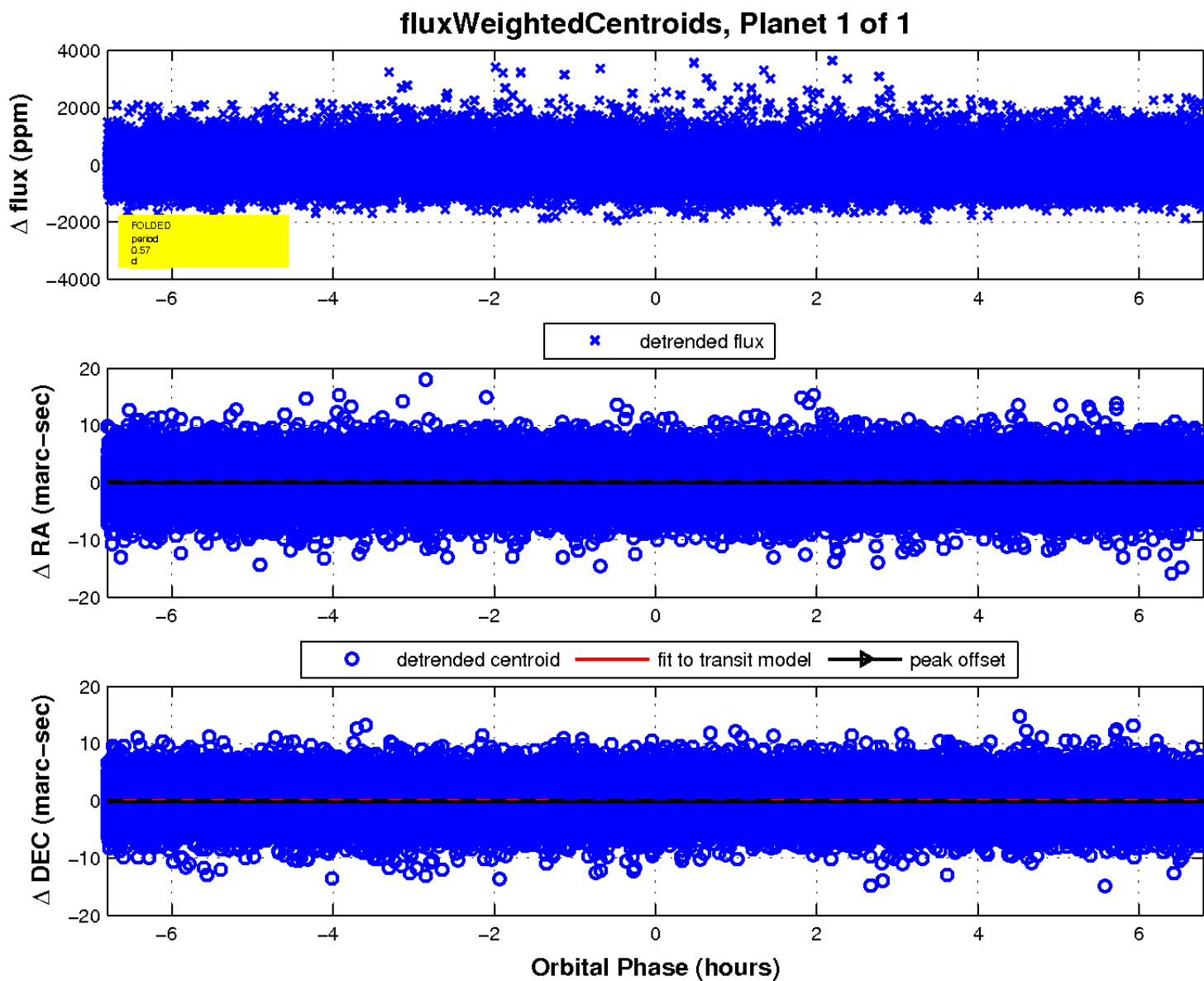
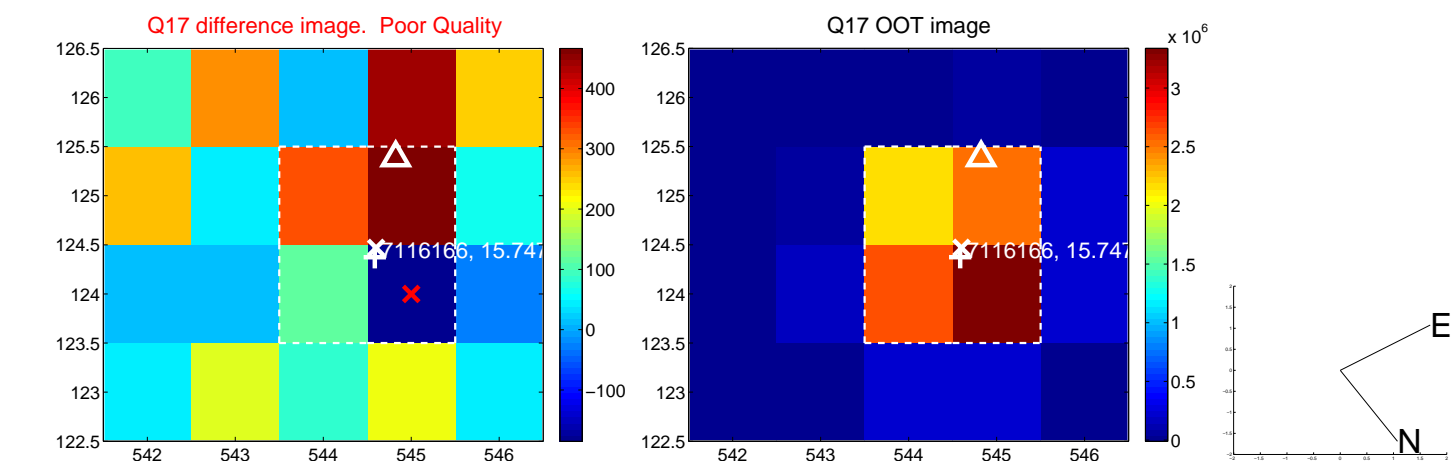
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UKIRT Image

Declination

