

KIC 005458845

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})
005458845-01	OBS	No	3.512191	132.474875	26.9	25.180	9.8	13.2	1.11	6348	0.58	890.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005458845-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_FEW_DIFFS—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.

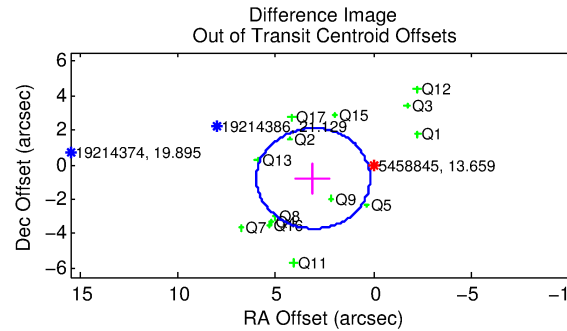
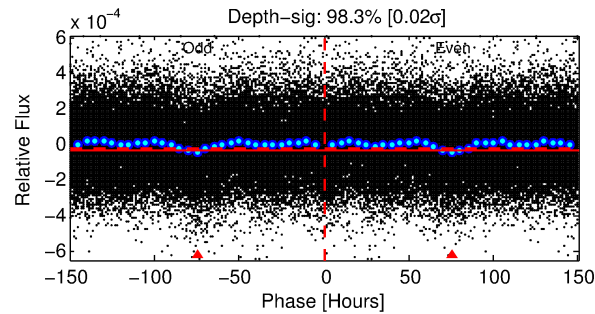
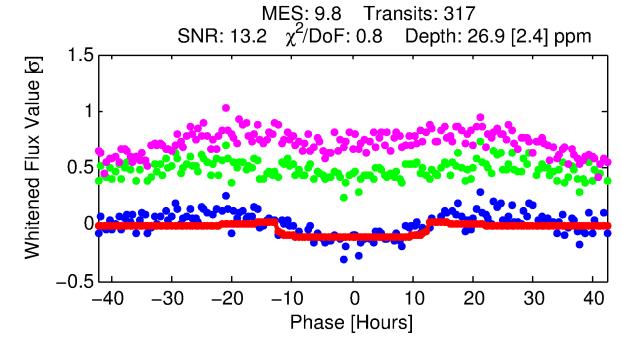
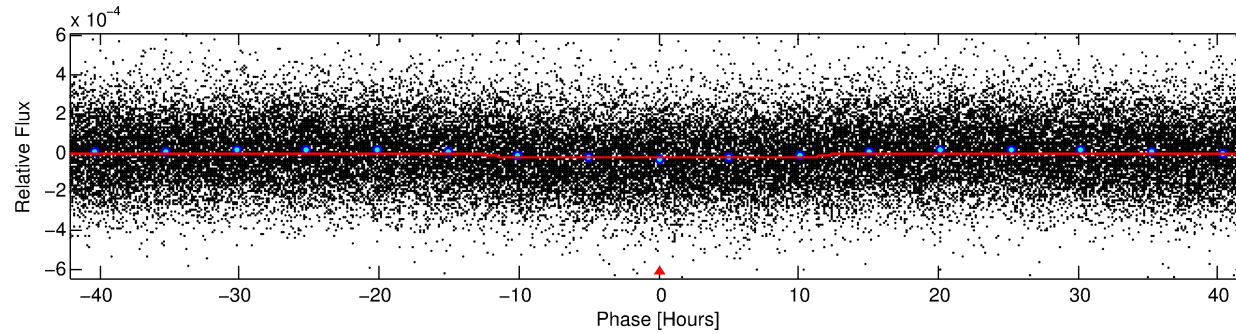
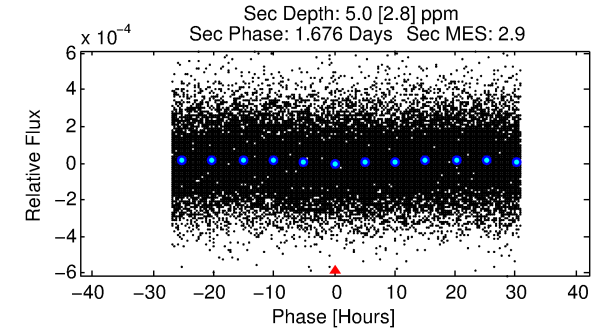
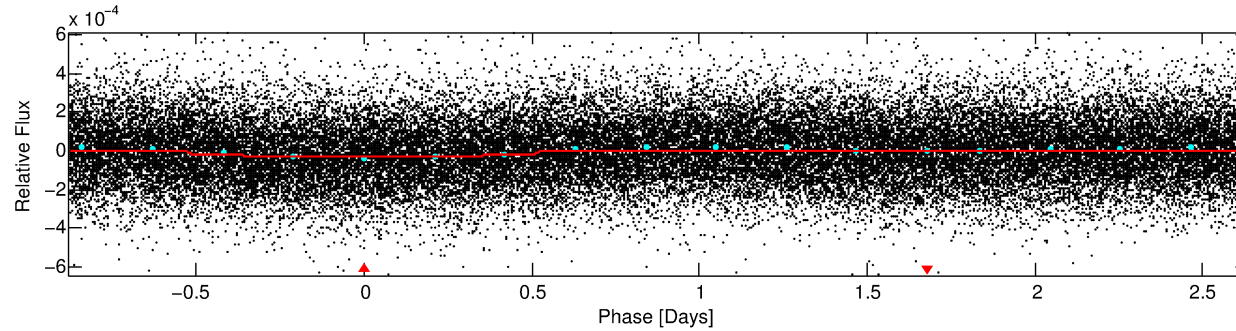
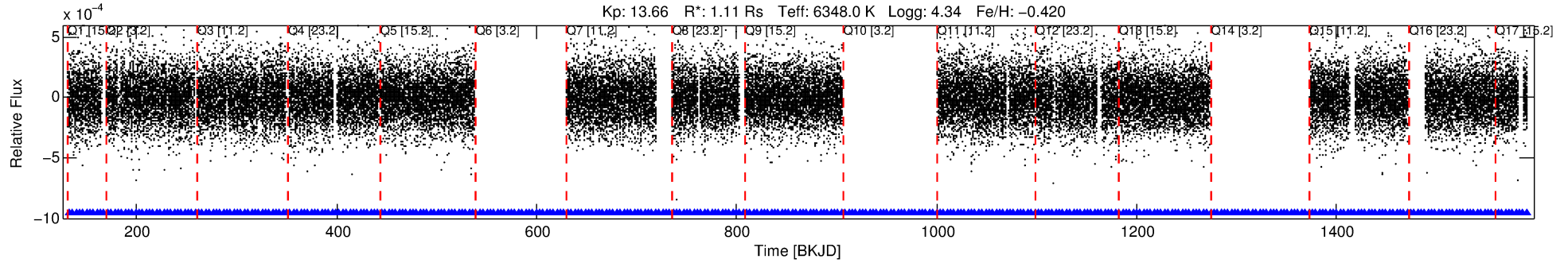
Ephemeris Match Information For 005458845-01

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
005458845-01	5458845	005458779-01	5458779	1:1	54.0	9	-10	15.80	13.66	1.78	Direct-PRF	1	0.14	0.04

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: 5458845 Candidate: 1 of 1 Period: 3.512 d



DV Fit Results:

Period = 3.51219 [0.00006] d
Epoch = 132.4749 [0.0119] BKJD
Rp/R* = 0.0048 [0.0032]
a/R* = 1.24 [1.54]
b = 0.07 [49.42]
Seff = 890.27 [329.07]
Teq = 1393 [129] K
Rp = 0.58 [0.42] Re
a = 0.0451 [0.0109] AU
Ag = 16.70 [24.57] [0.64σ]
Teff = 4353 [1563] K [1.89σ]

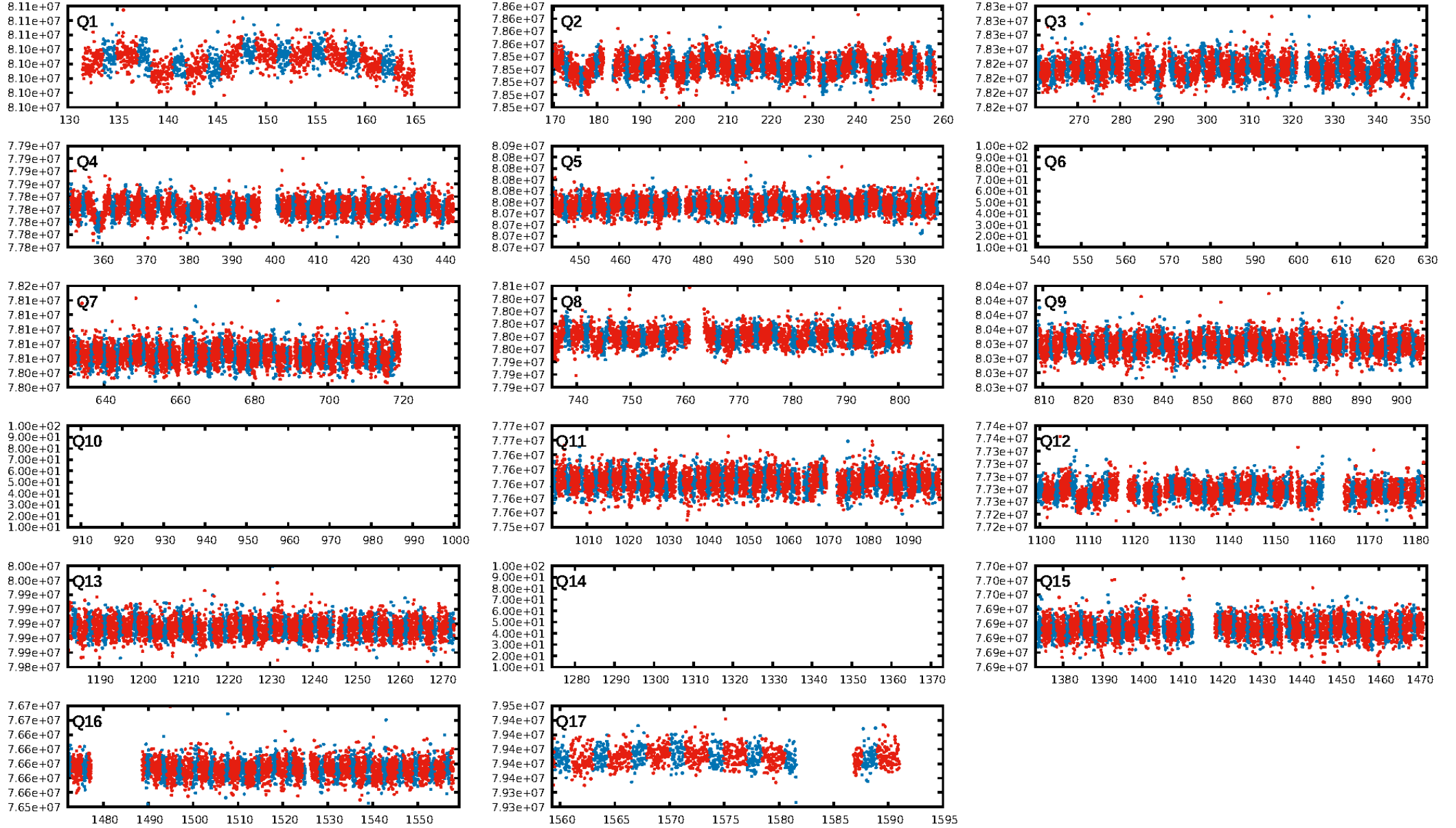
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [299/299]
GhostDiagnostic-chr: 0.1152
Centroid-sig: 0.7%
Centroid-so: 1.835 arcsec [2.21σ]
OotOffset-rm: 3.183 arcsec [3.29σ]
KicOffset-rm: 3.190 arcsec [3.60σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.14 [2/14]
DiffImageOverlap-fno: 1.00 [14/14]

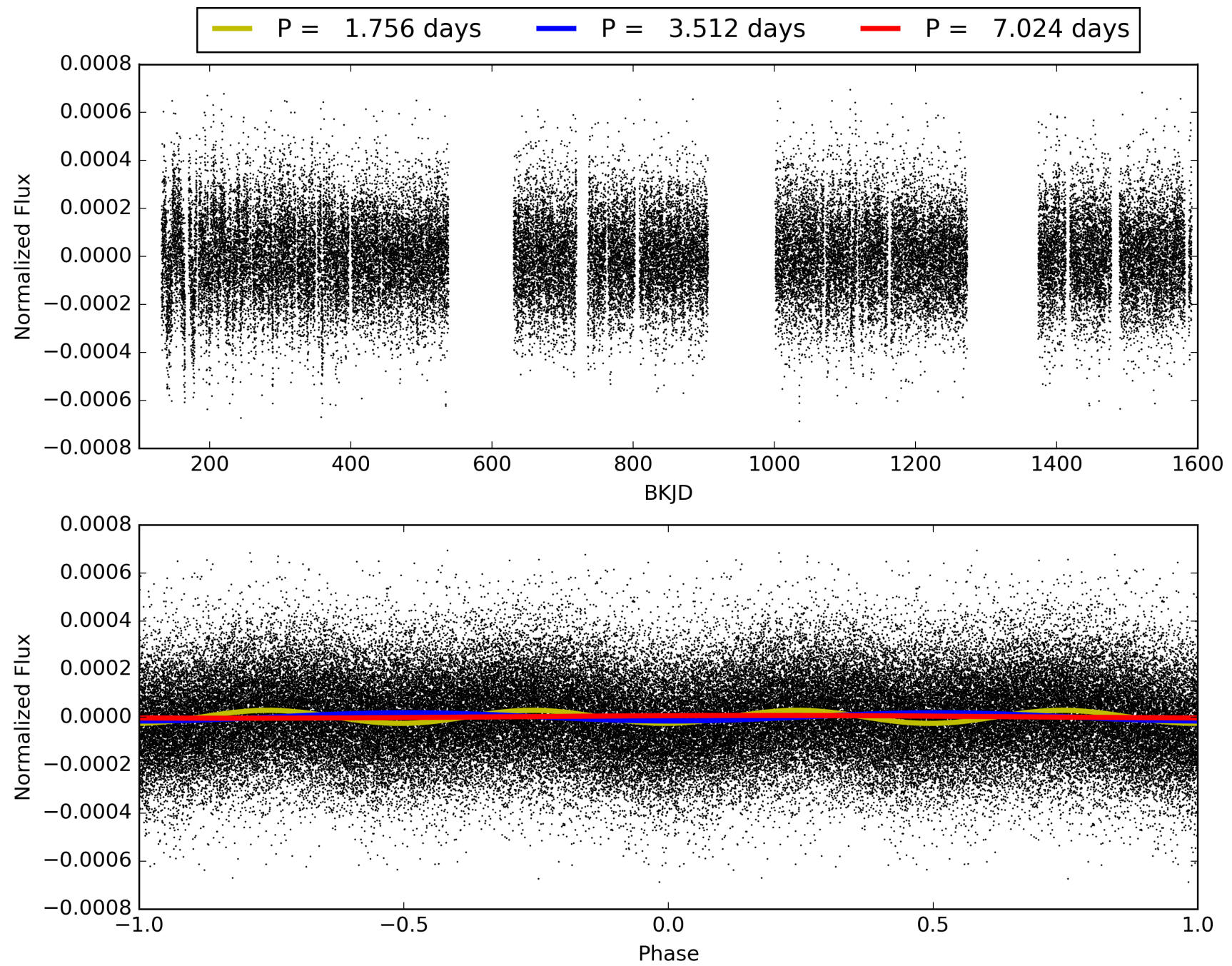
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:04:54 Z

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

TCE 005458845-01, PDC Light Curves

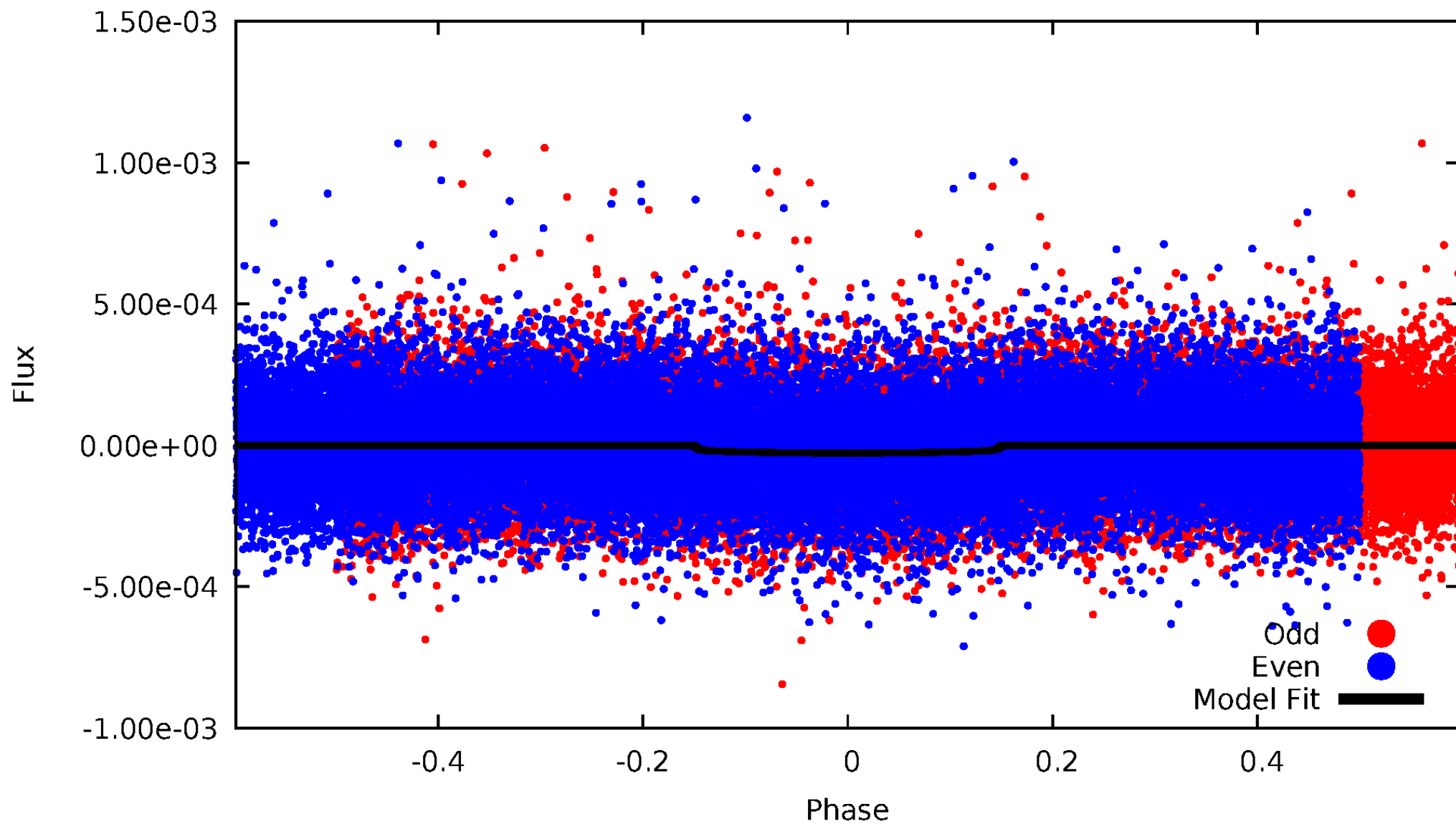


TCE 005458845-01



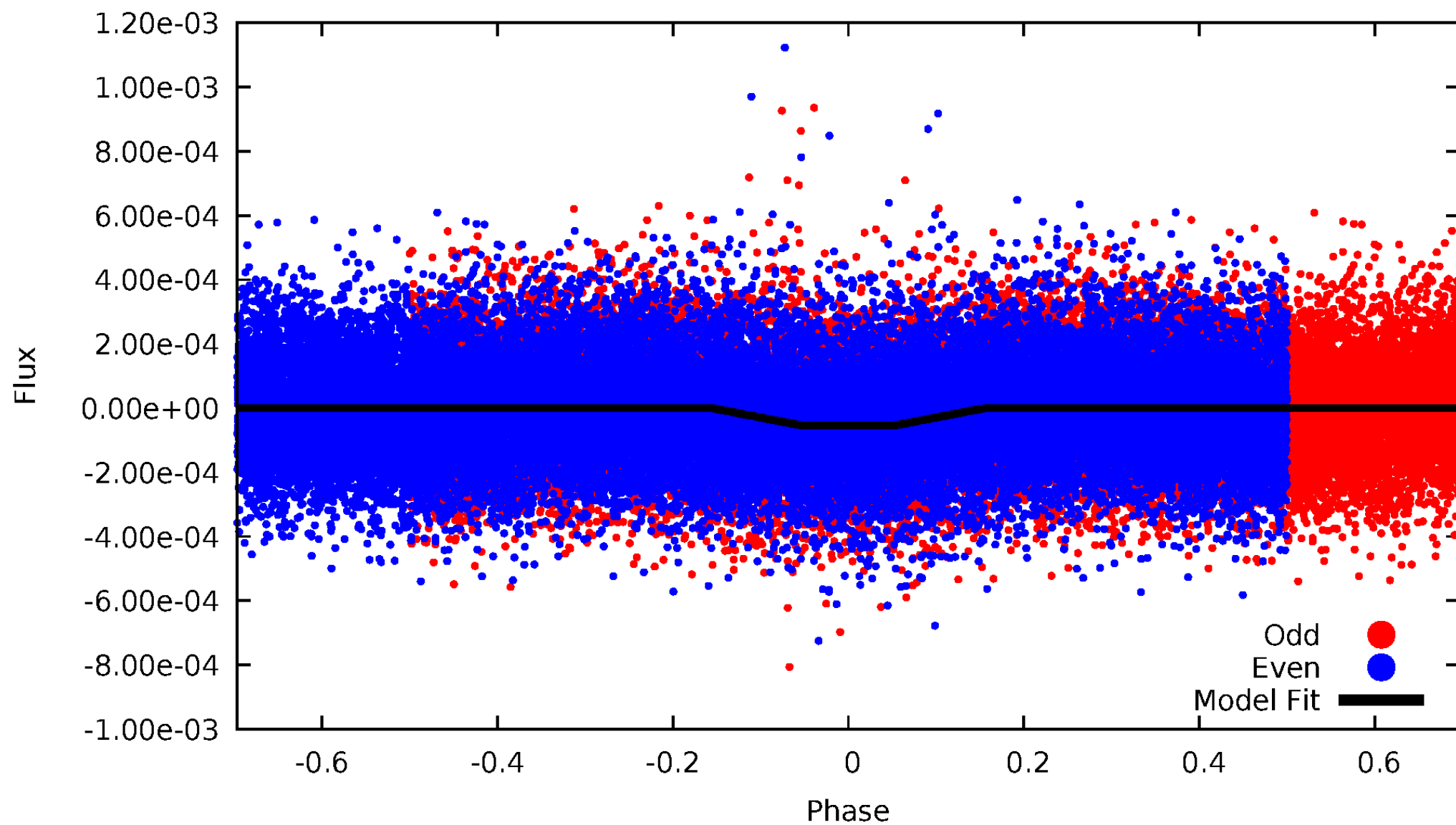
DV Odd/Even

TCE 005458845-01



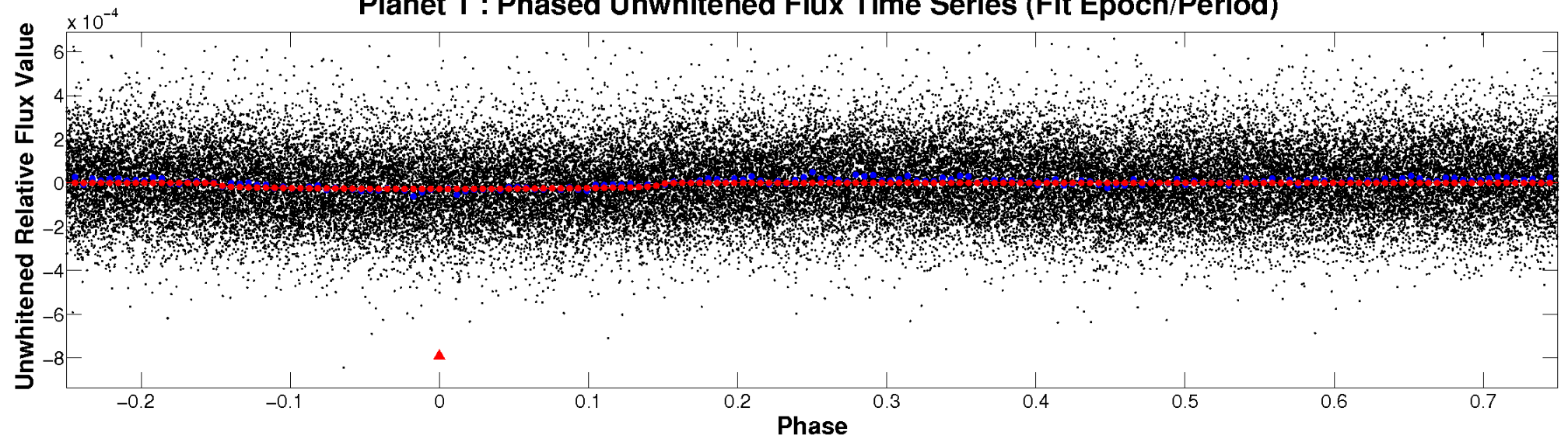
ALT Odd/Even

TCE 005458845-01

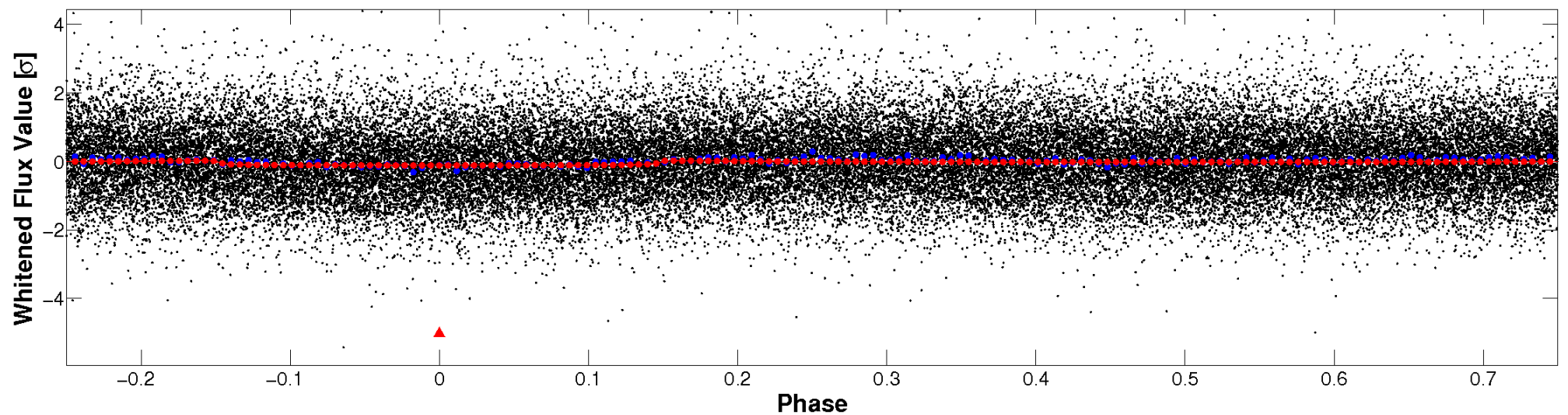


Non-Whitened Vs. Whitened Light Curve

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

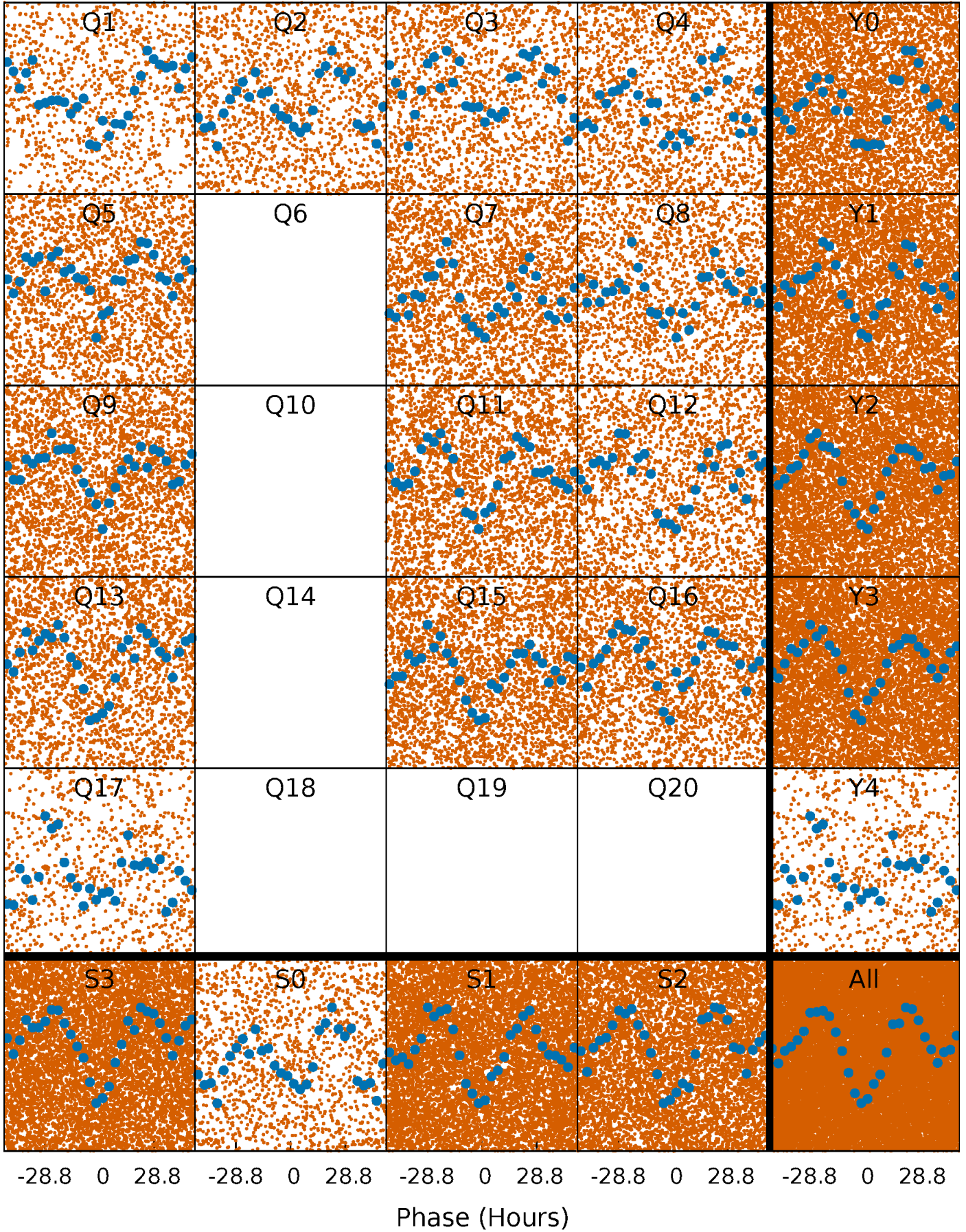


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



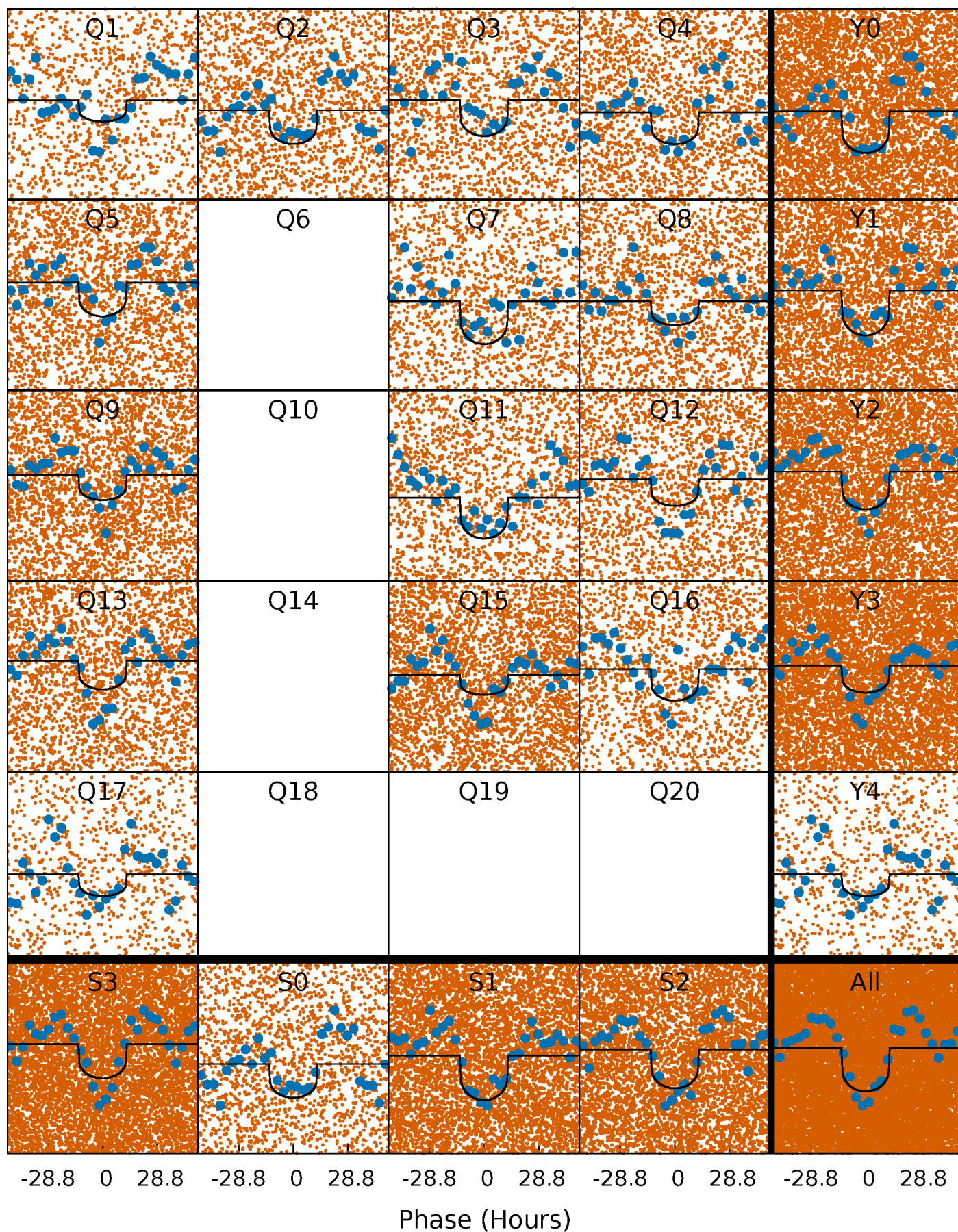
PDC Quarter-Phased Transit Curves

TCE 005458845-01 P= 3.512191 Days $T_0=132.474875$ (BKJD)



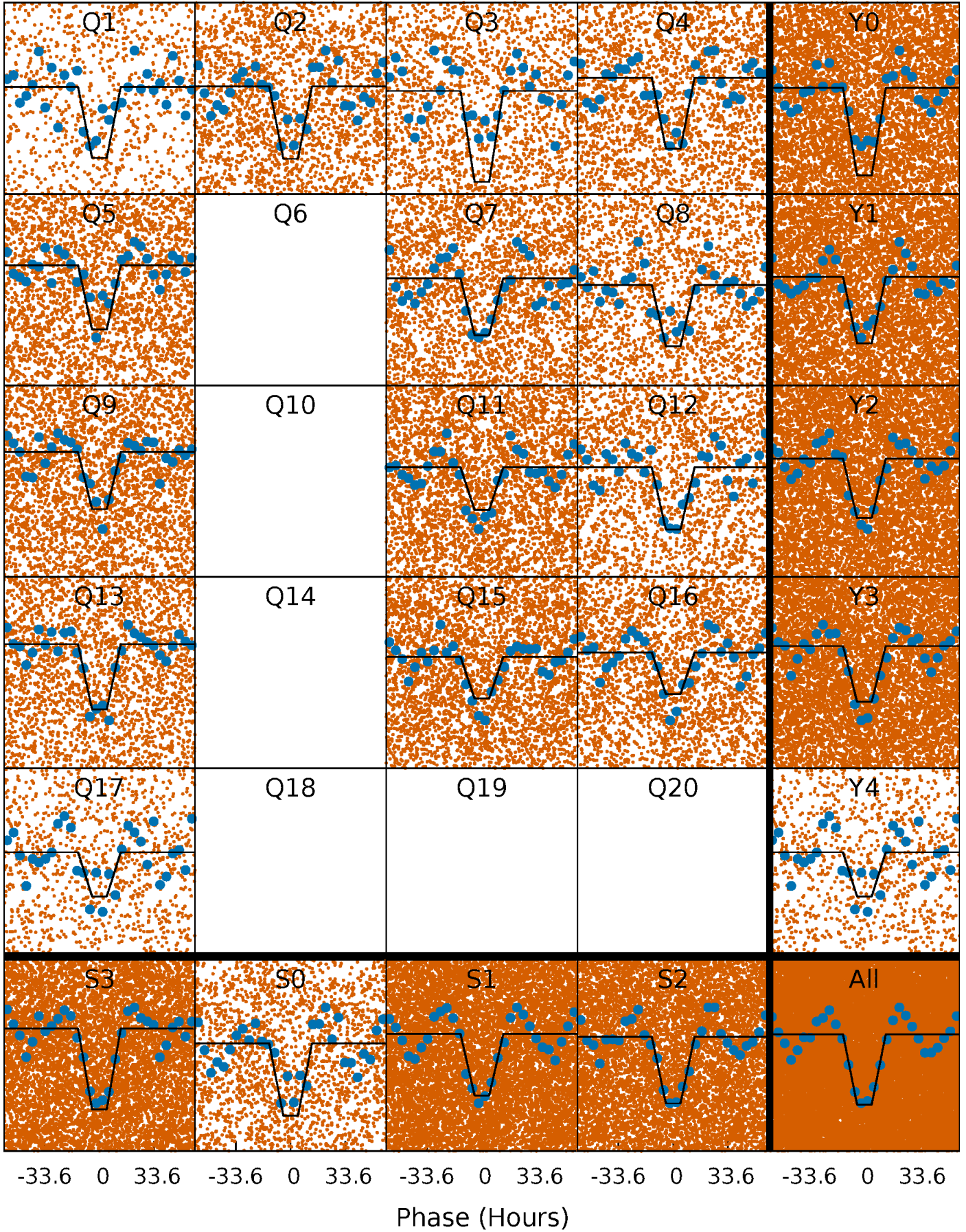
DV Quarter-Phased Transit Curves

TCE 005458845-01 P= 3.512191 Days $T_0=132.474875$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

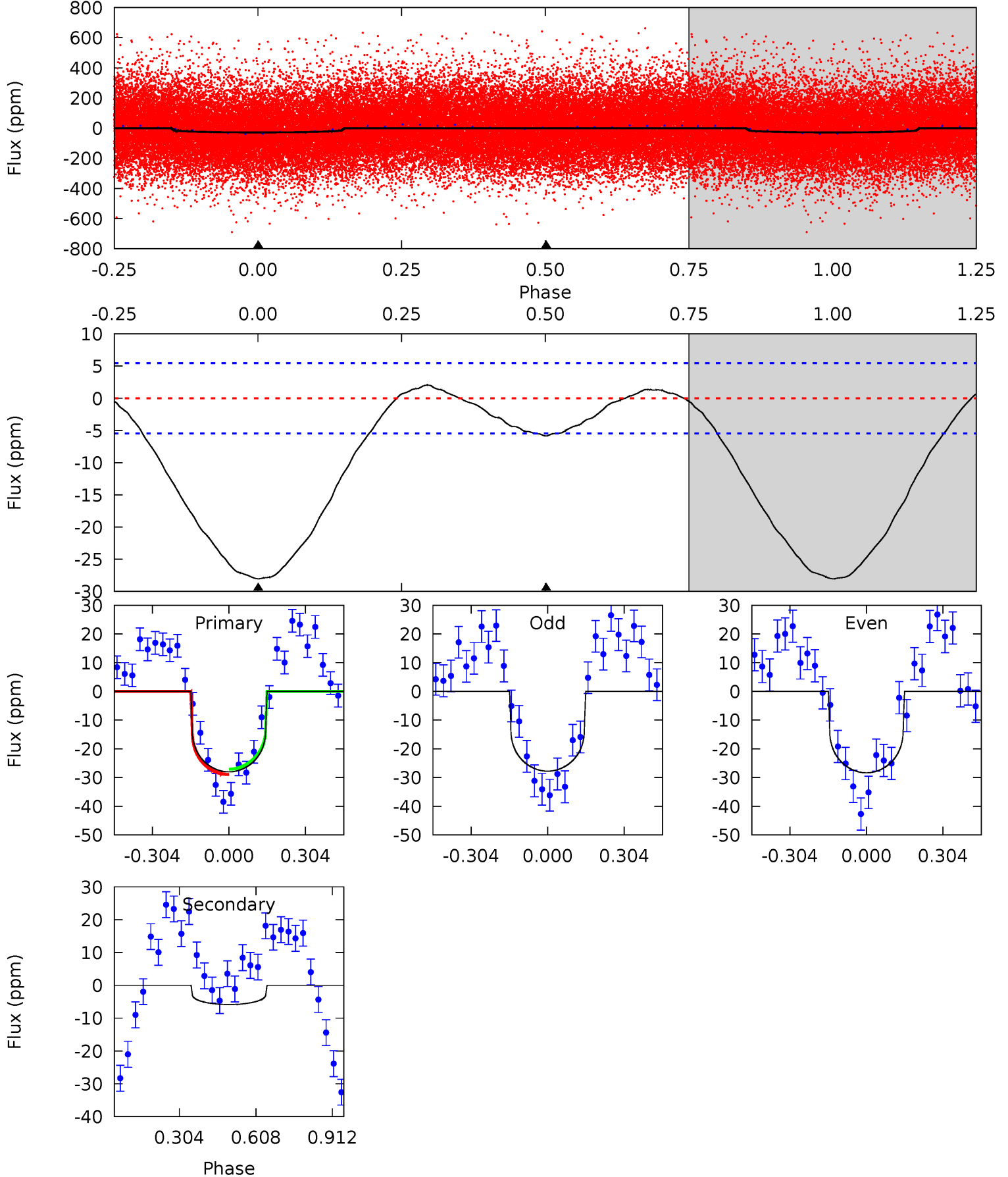
TCE 005458845-01 P= 3.511715 Days $T_0=132.567711$ (BKJD)



DV Model-Shift Uniqueness Test

005458845-01, P = 3.512191 Days, E = 128.962684 Days

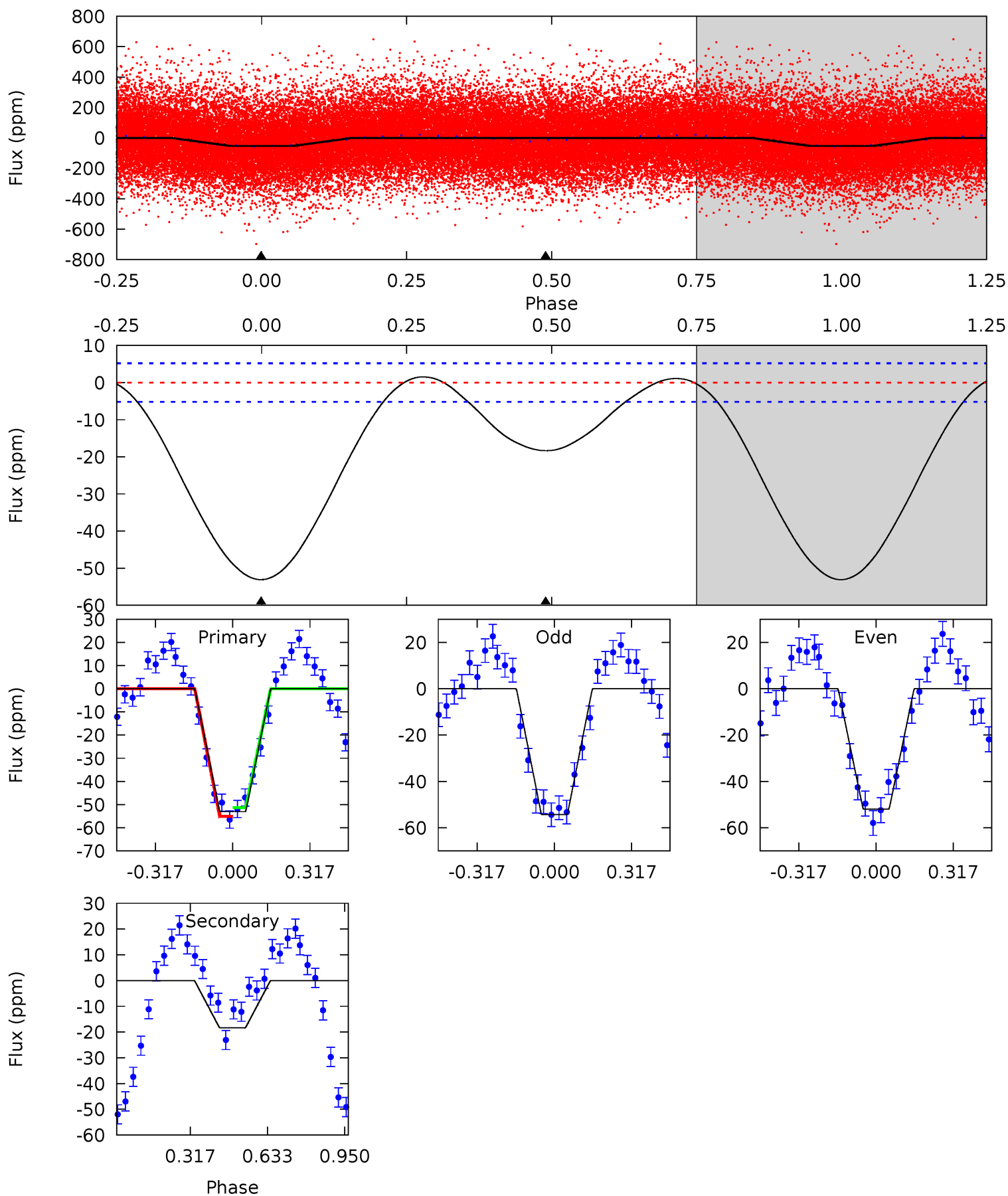
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.3	4.66	0	0	4.33	1.03	0.89	22.3	22.3	4.66	4.66	0.22	0.95	0.07	0.74



Alt Model-Shift Uniqueness Test

005458845-01, P = 3.511715 Days, E = 129.055996 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.2	15.3	0	0	4.32	1.00	1.03	44.2	44.2	15.3	15.3	0.97	0.86	0.03	1.55



Stellar Parameters For KIC 005458845

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6348^{+171}_{-209}	$4.339^{+0.124}_{-0.186}$	$-0.420^{+0.300}_{-0.300}$	$1.115^{+0.325}_{-0.175}$	$0.987^{+0.145}_{-0.106}$	$1.004^{+0.580}_{-0.500}$
	+3%/-3%	+3%/-4%	+71%/-71%	+29%/-16%	+15%/-11%	+58%/-50%
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 005458845-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6 ± 1	$0.62^{+0.40}_{-0.32}$	1960^{+136}_{-114}	4552^{+1937}_{-776}	17^{+60}_{-11}
Alt.	-18 ± 1	$0.92^{+0.41}_{-0.37}$	1951^{+135}_{-113}	4898^{+1313}_{-652}	25^{+44}_{-13}

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

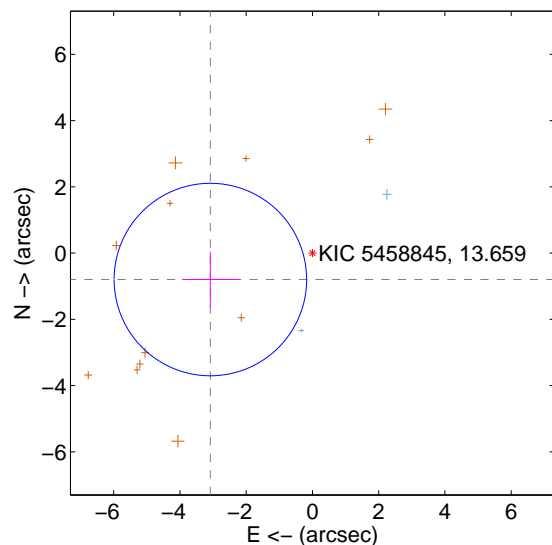
Supplemental centroid analysis for 005458845-01. Kepler magnitude: 13.66. Transit SNR 13.20

There are 2 quarters with good PRF difference image offsets

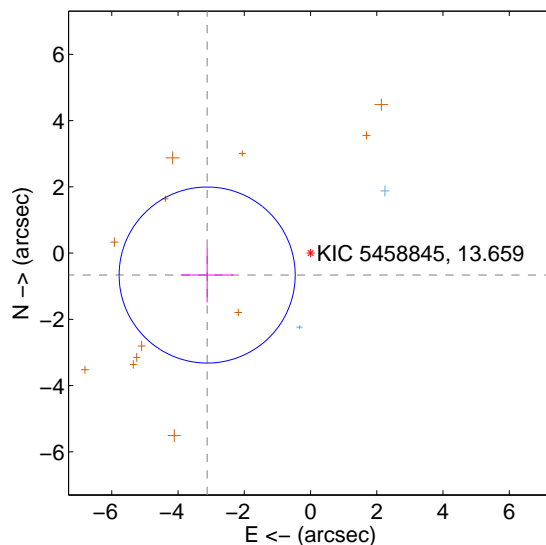
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.183 ± 0.968	3.29	3.081 ± 0.856	-0.799 ± 0.840
PRF-fit source offset from KIC position	3.190 ± 0.886	3.60	3.120 ± 0.794	-0.662 ± 0.825
photometric centroid source offset	1.83 ± 0.83	2.21	1.78 ± 0.83	-0.44 ± 0.87

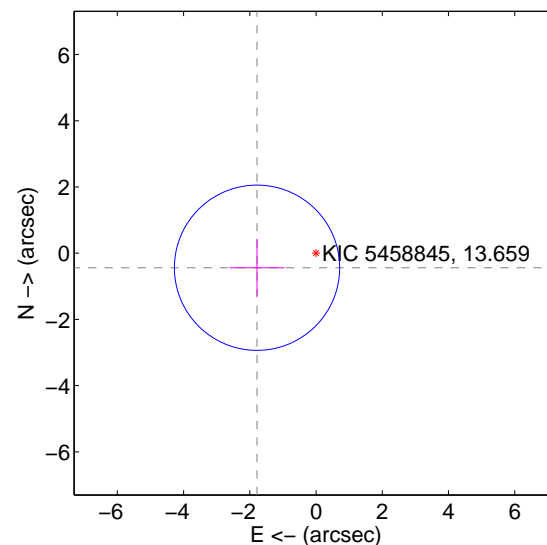
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

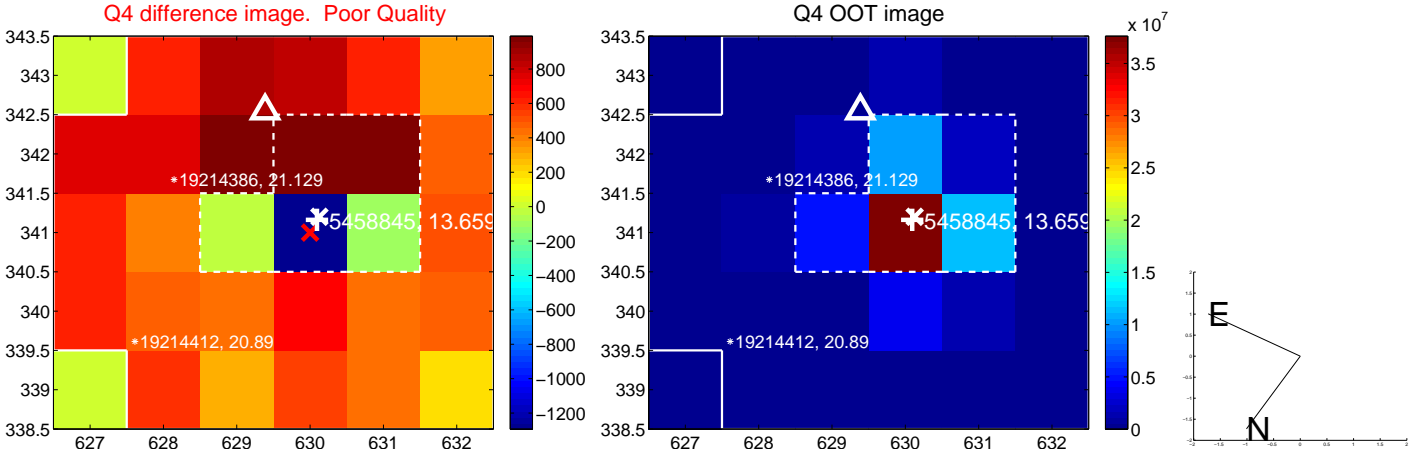
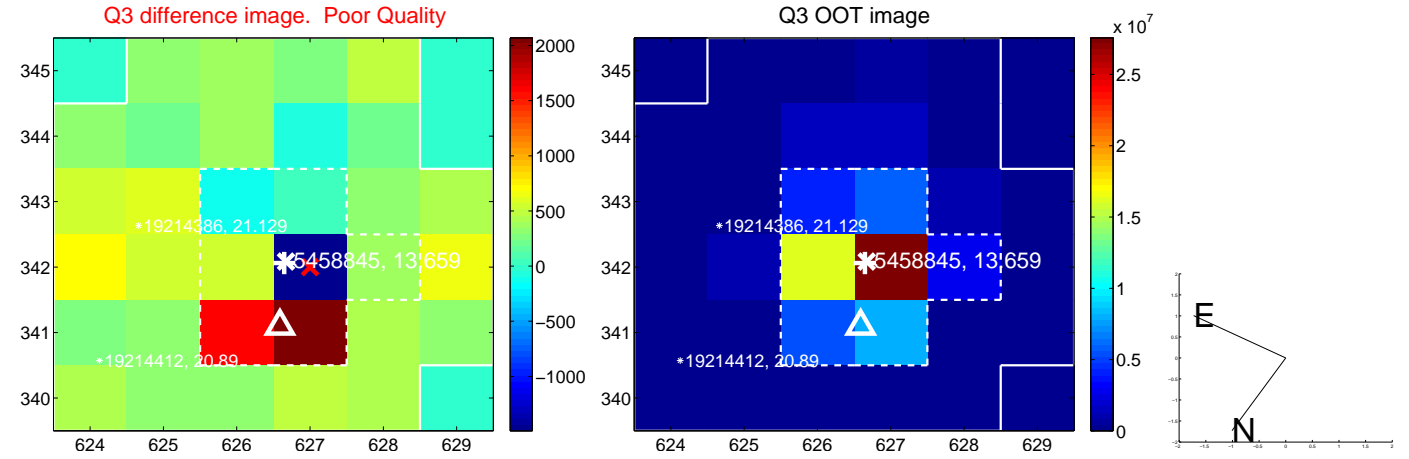
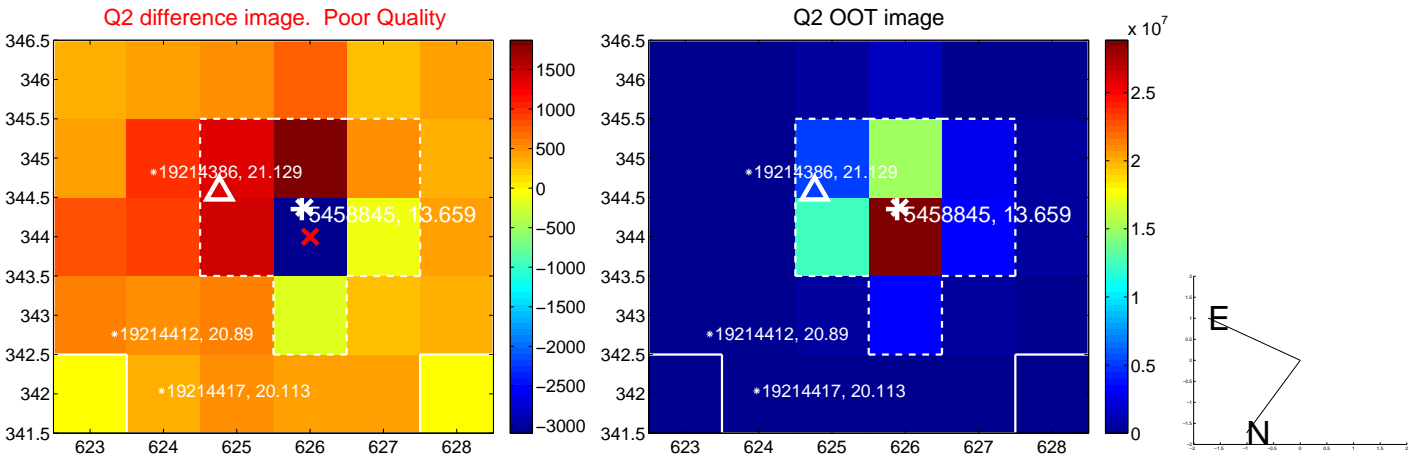
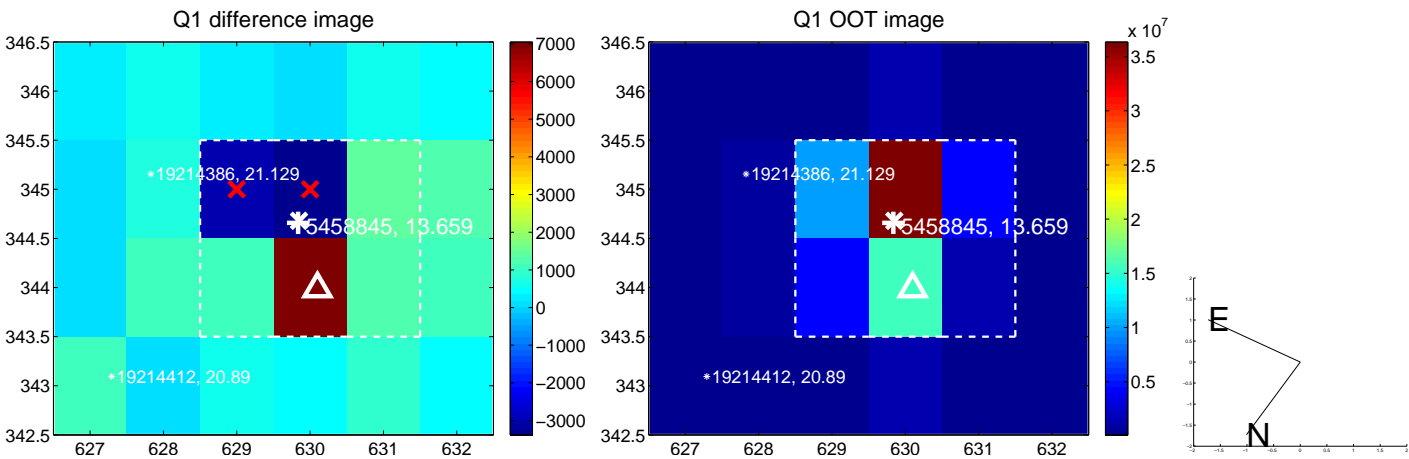


offset from photometric centroids

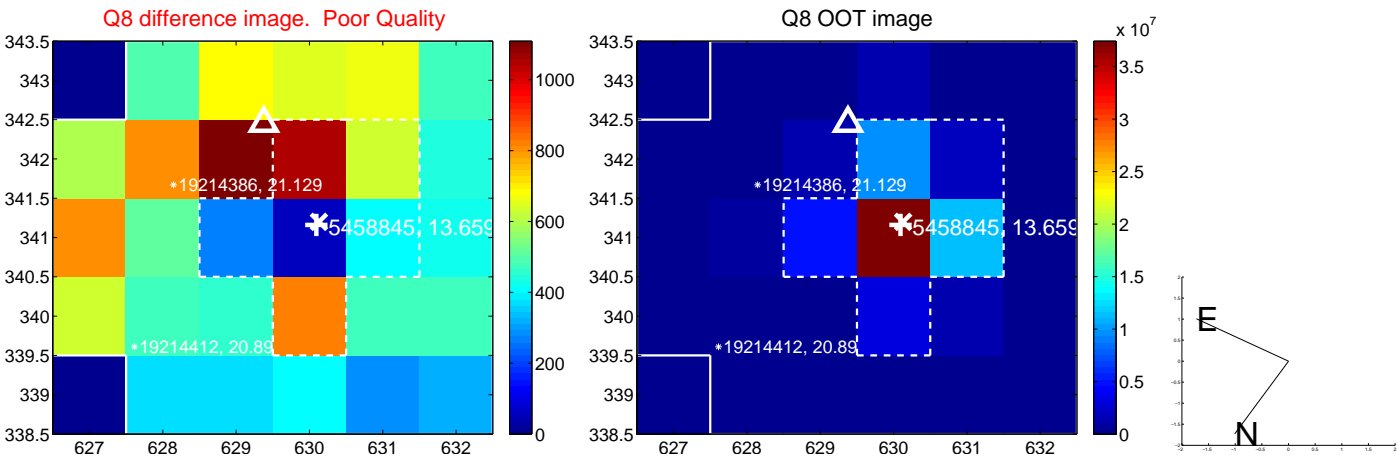
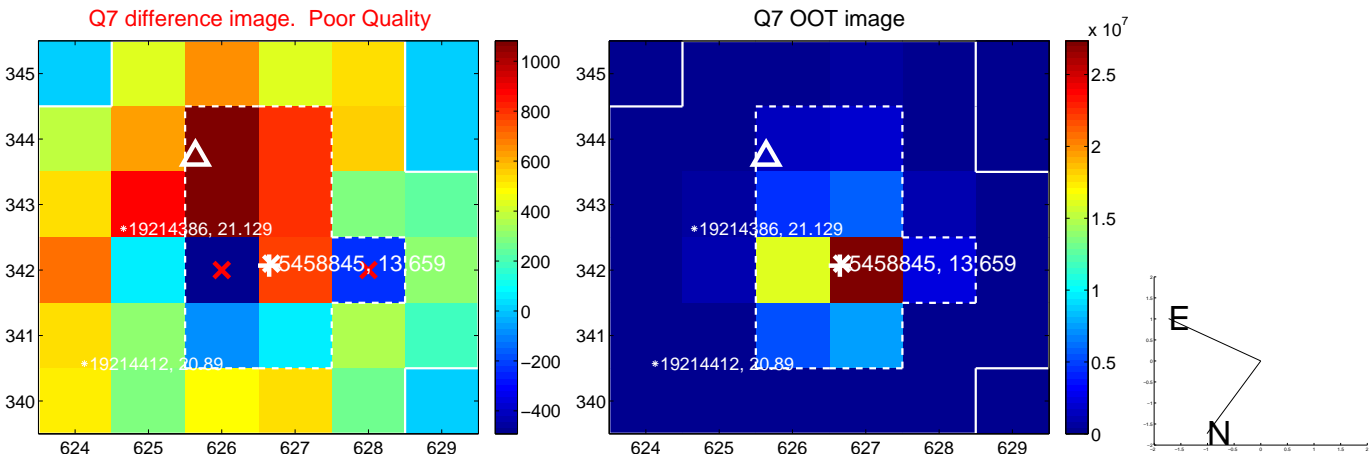
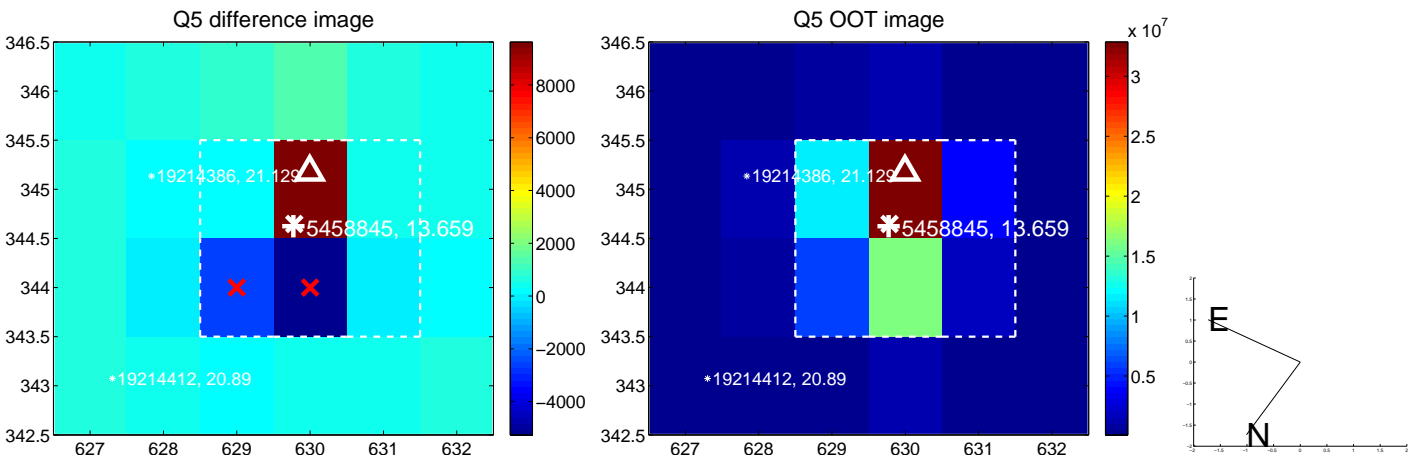


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

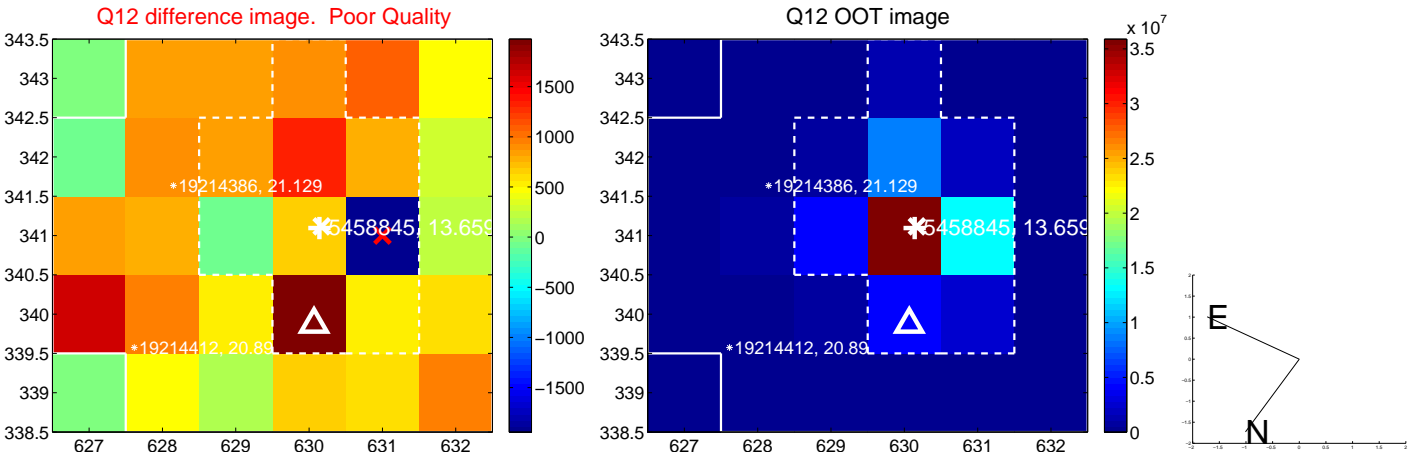
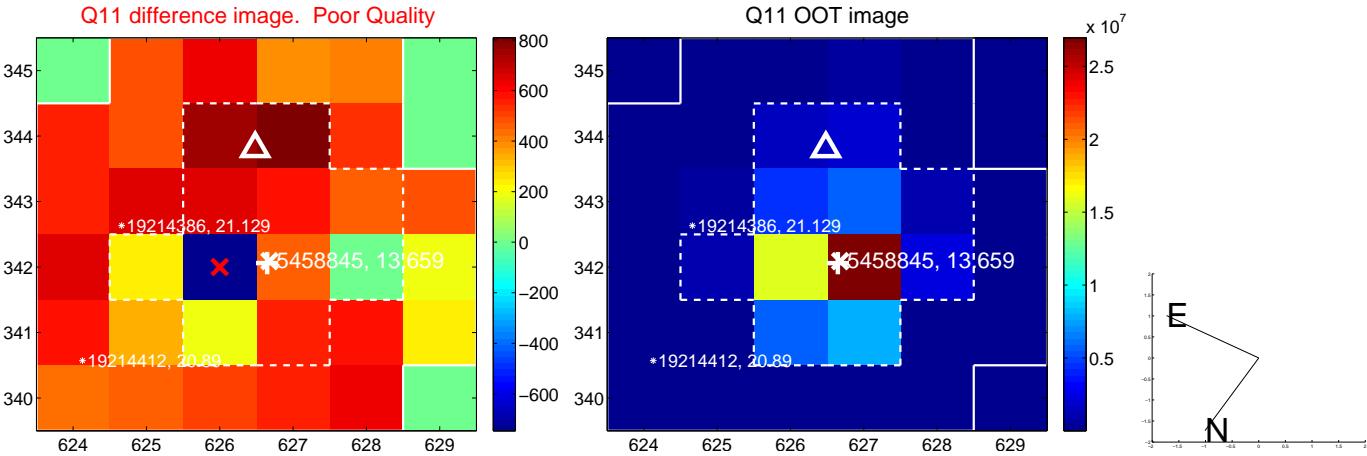
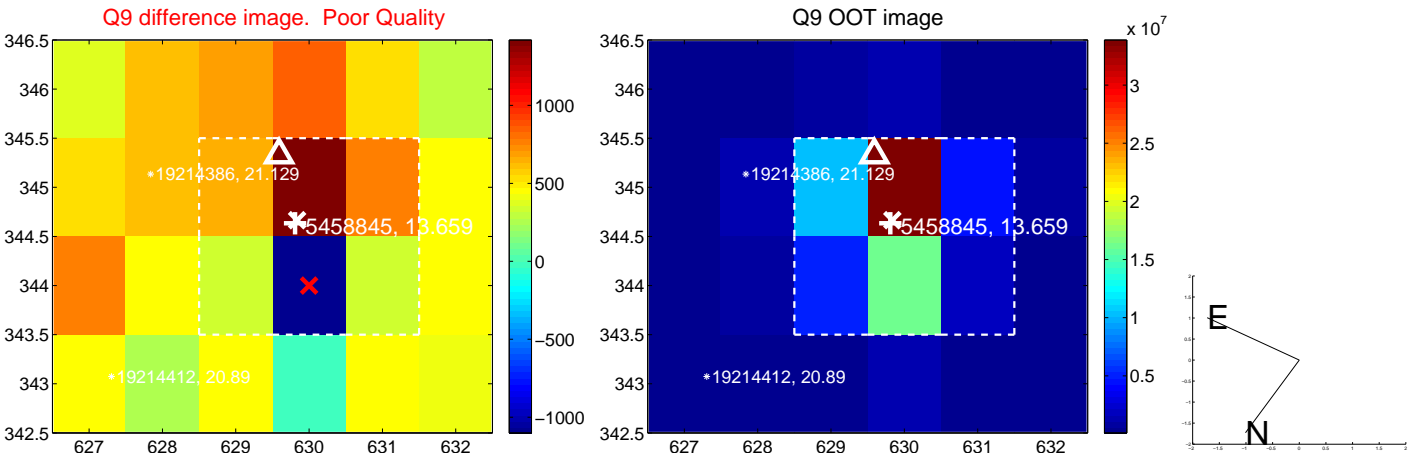
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



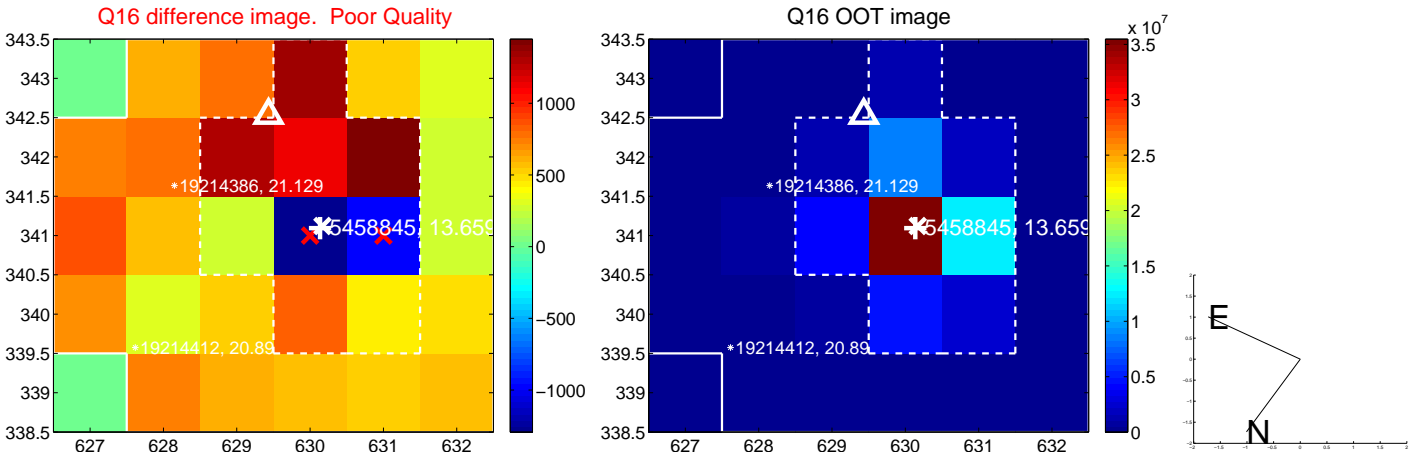
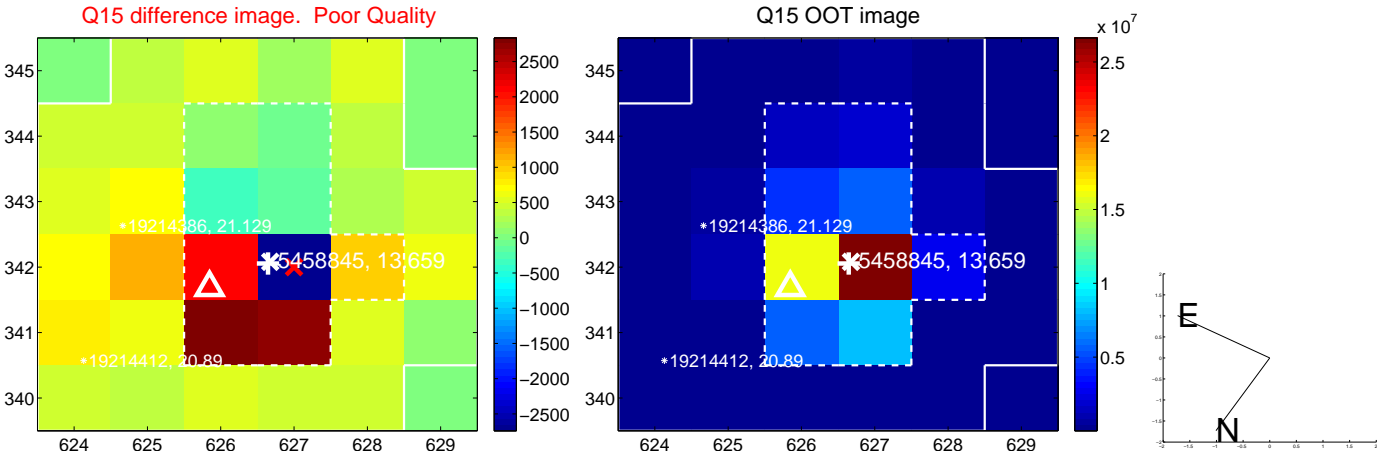
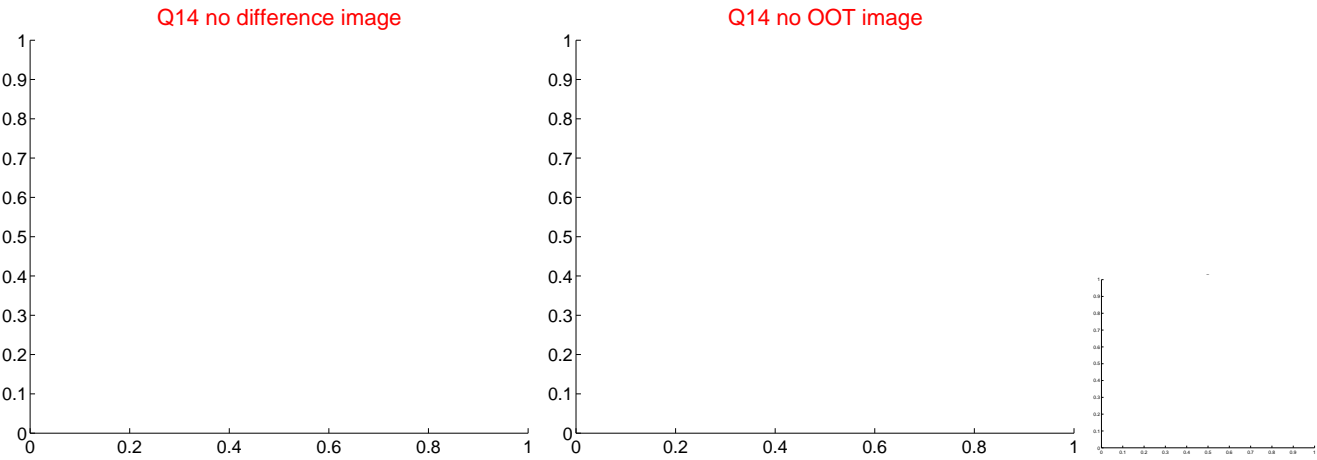
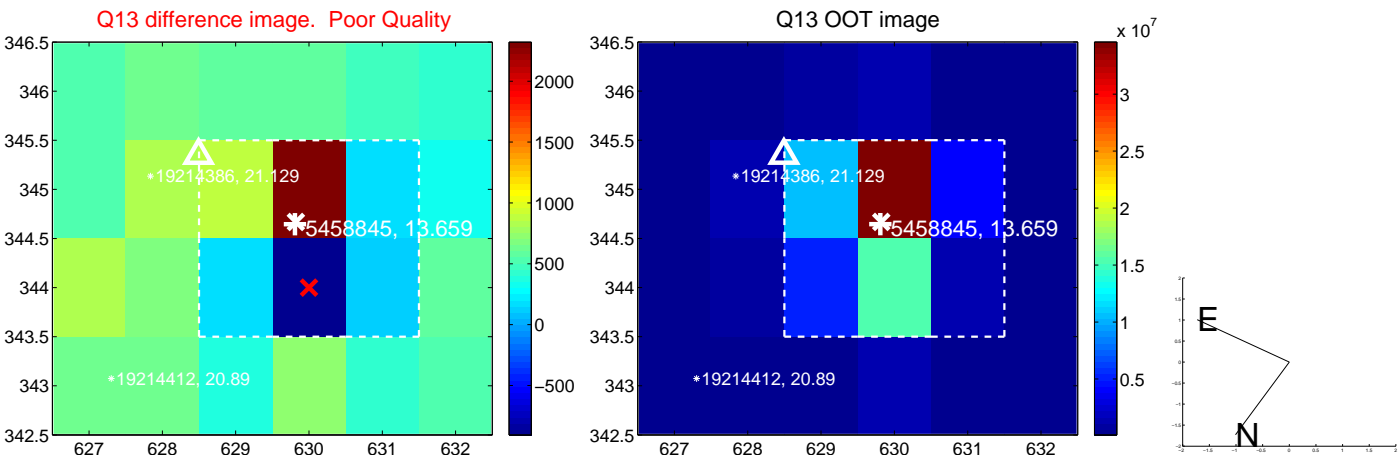
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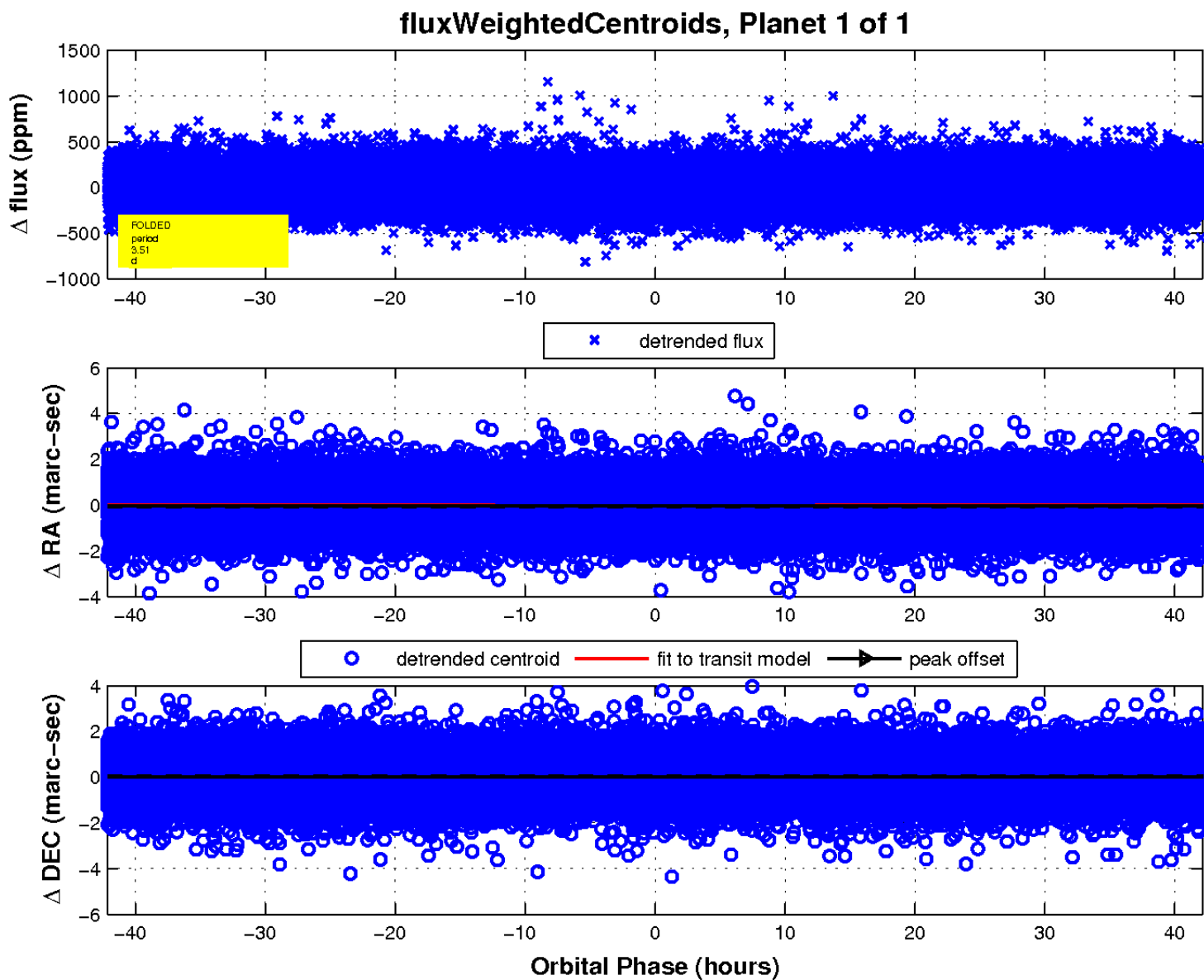
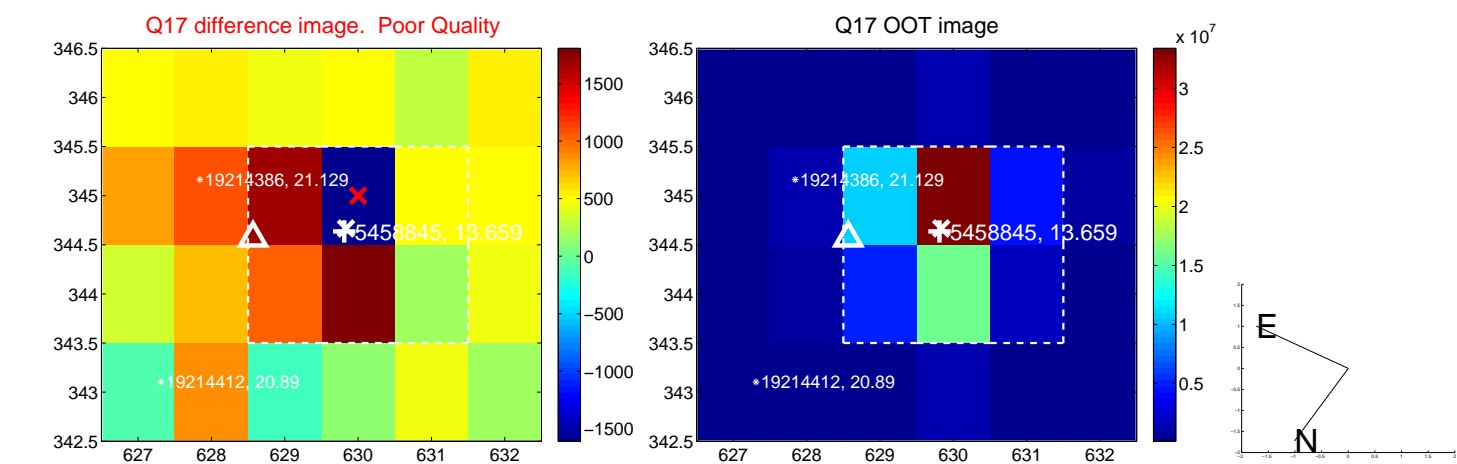
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

