

KIC 003643155

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})
003643155-01	OBS	No	3.414362	133.797460	63.6	22.327	7.8	7.8	0.79	5559	0.62	296.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003643155-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

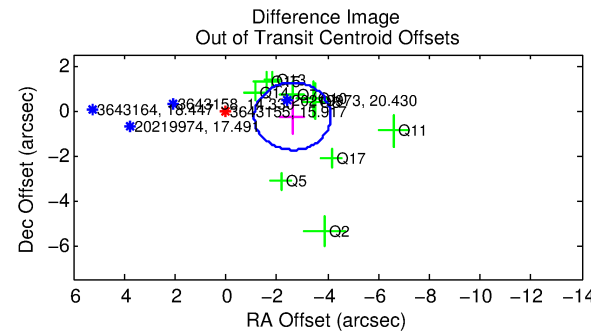
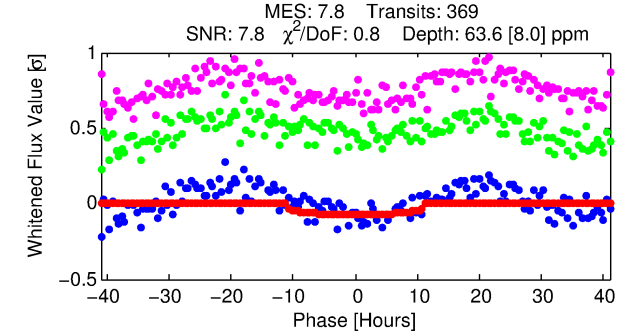
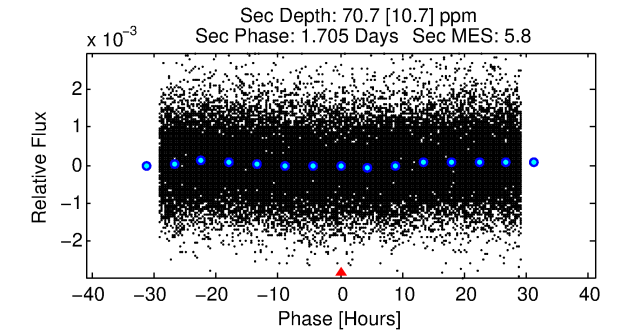
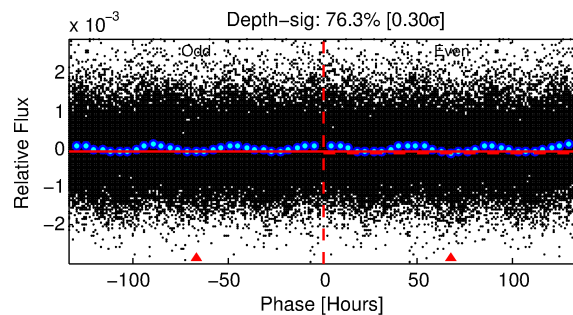
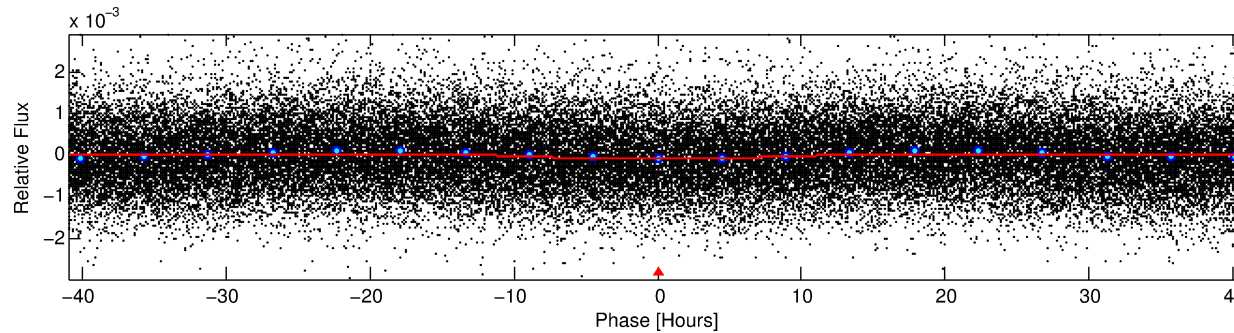
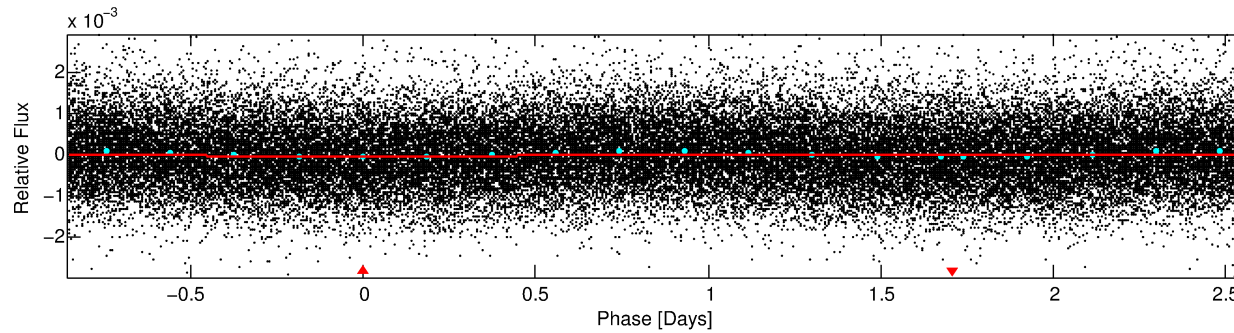
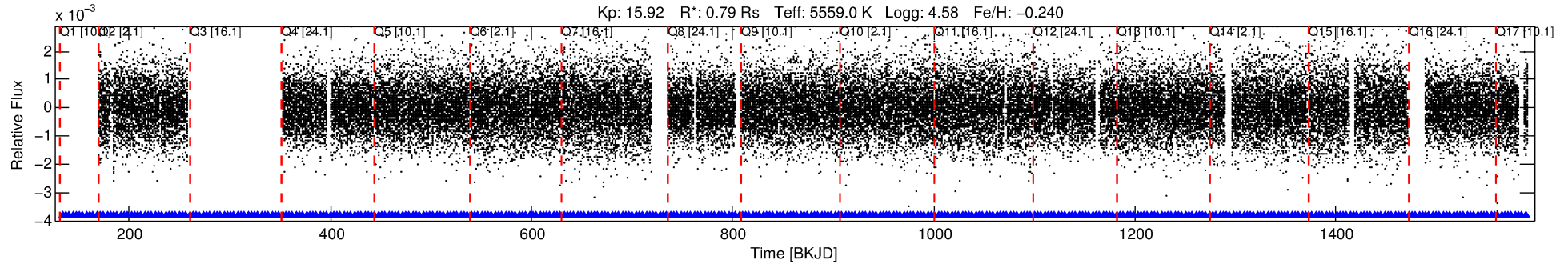
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003643155-01

No Significant Match Found

DV One-Page Summary

KIC: 3643155 Candidate: 1 of 1 Period: 3.414 d



DV Fit Results:

Period = 3.41436 [0.00013] d
Epoch = 133.7975 [0.0263] BKJD
Rp/R* = 0.0072 [0.0128]
a/R* = 1.33 [4.43]
b = 0.00 [10885.50]
Seff = 296.84 [90.68]
Teff = 1058 [81] K
Rp = 0.62 [1.11] Re
a = 0.0424 [0.0083] AU
Ag = 181.33 [645.13] [0.28 σ]
Teffp = 6005 [5327] K [0.93 σ]

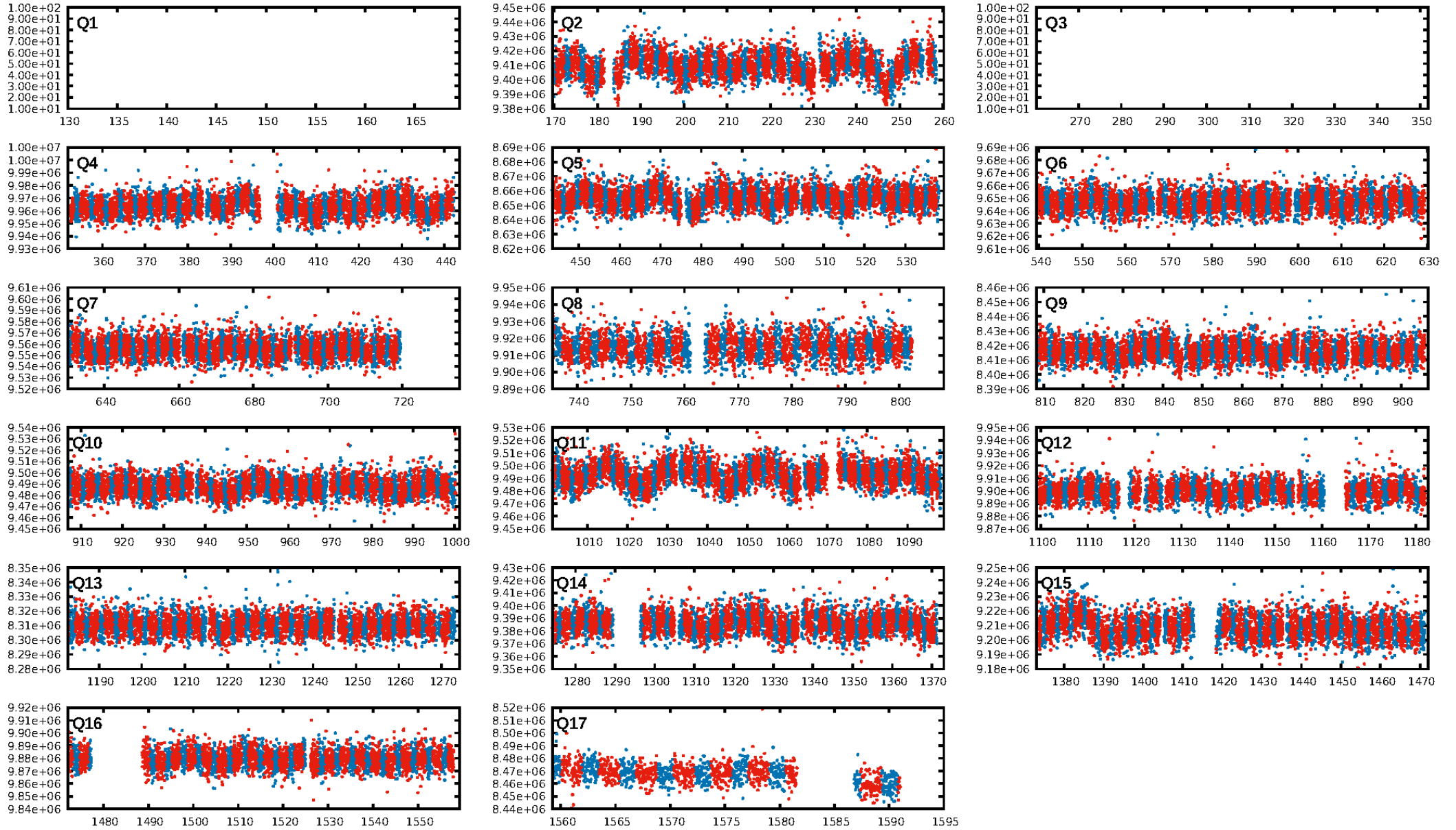
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.67e-19
RollingBand-fgt: 1.00 [361/361]
GhostDiagnostic-chr: 2.529
Centroid-sig: 0.0%
Centroid-so: 2.989 arcsec [2.13 σ]
OotOffset-rm: 2.631 arcsec [5.26 σ]
KicOffset-rm: 2.103 arcsec [4.00 σ]
OotOffset-st: 3/3/1/3 [10]
KicOffset-st: 3/3/1/3 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 1.00 [15/15]

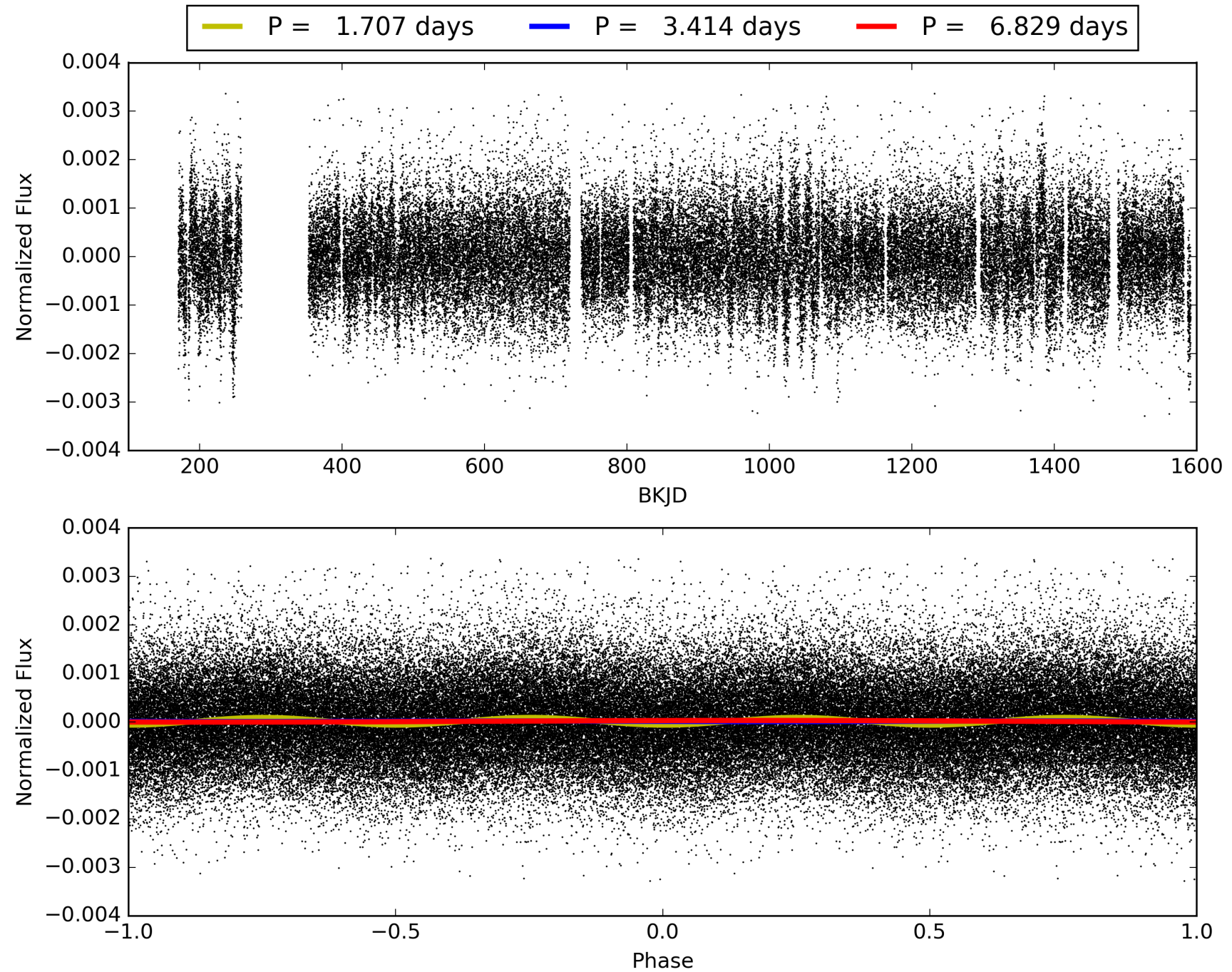
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:26:14 Z

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

TCE 003643155-01, PDC Light Curves

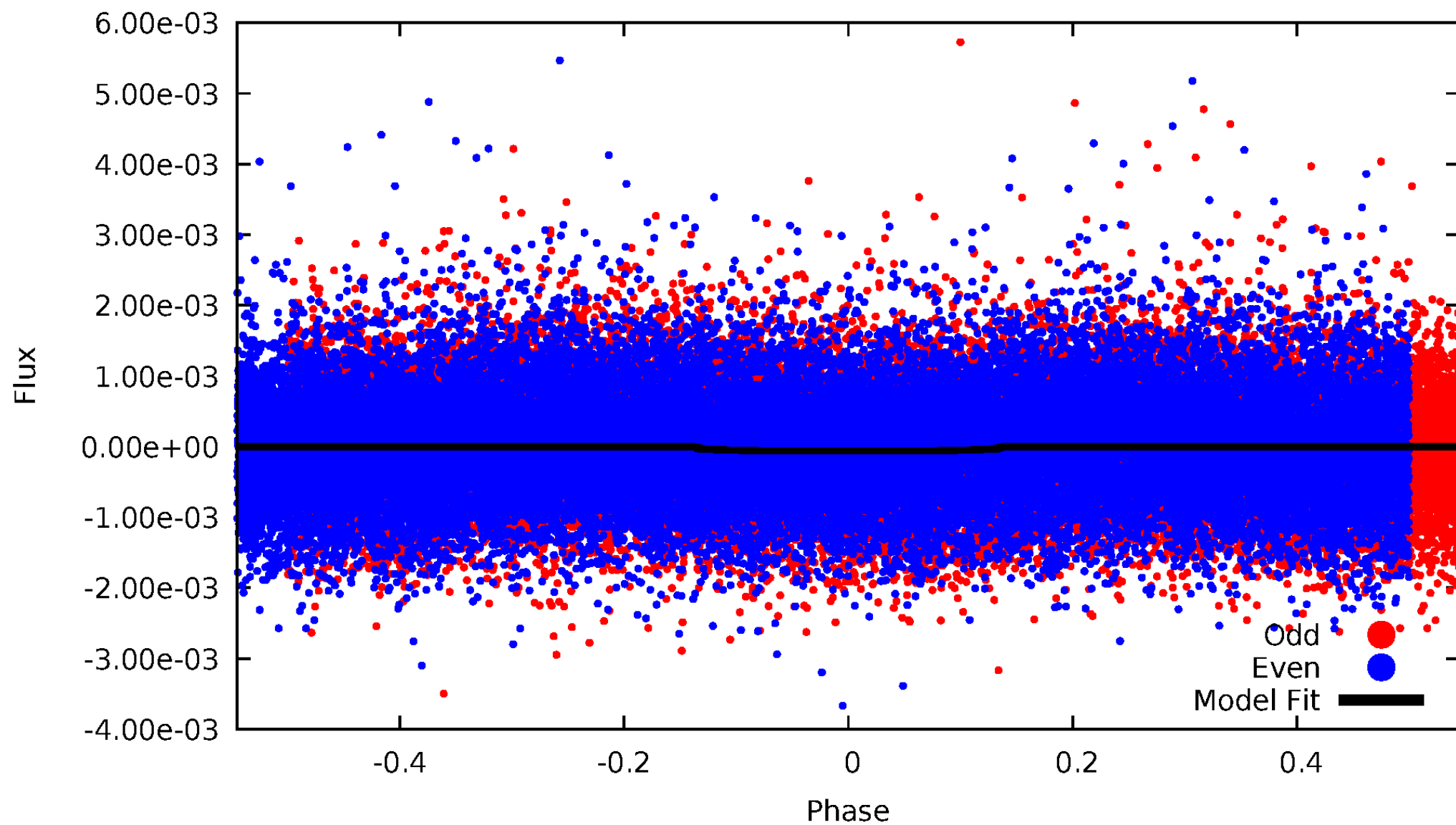


TCE 003643155-01



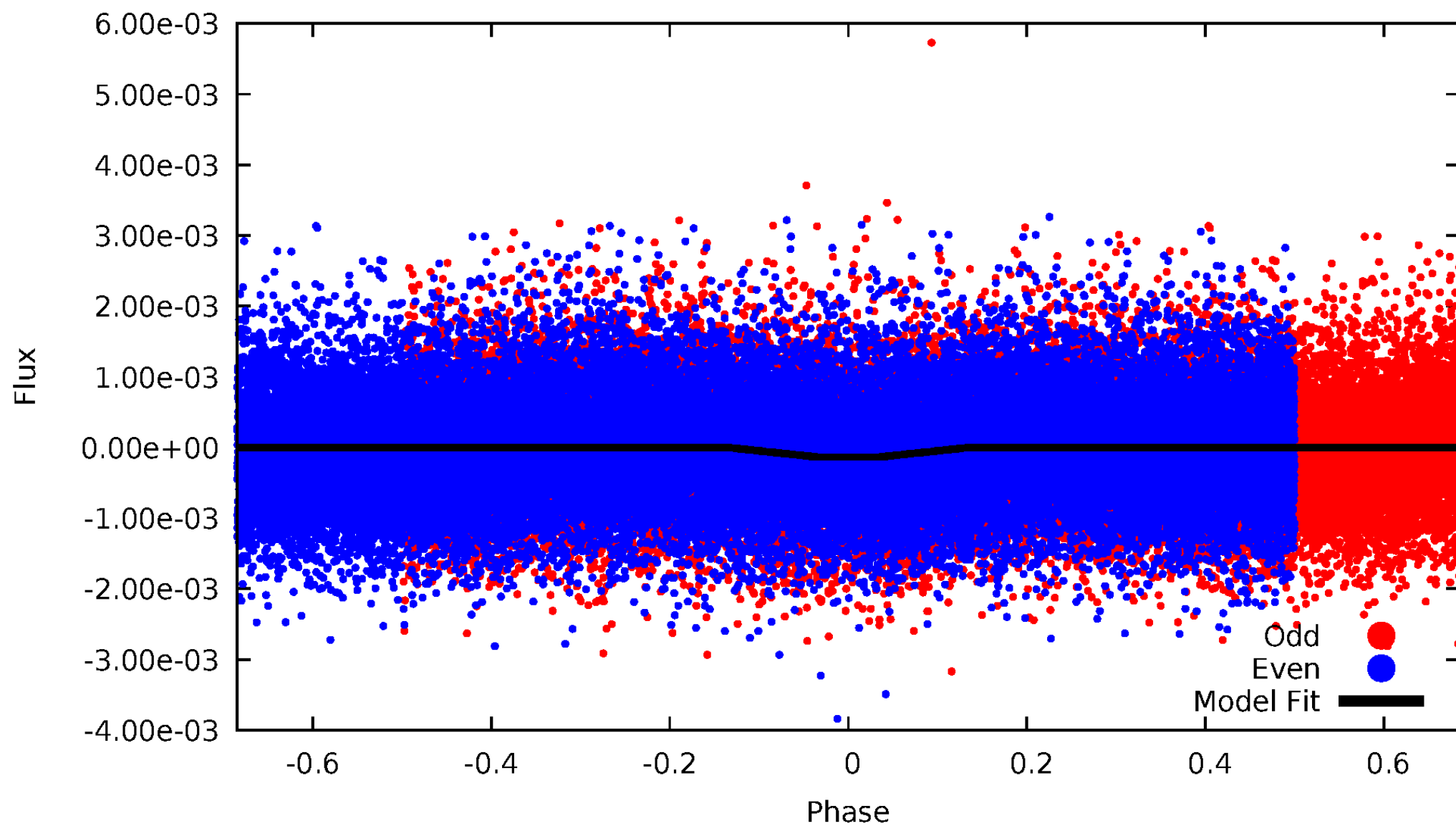
DV Odd/Even

TCE 003643155-01



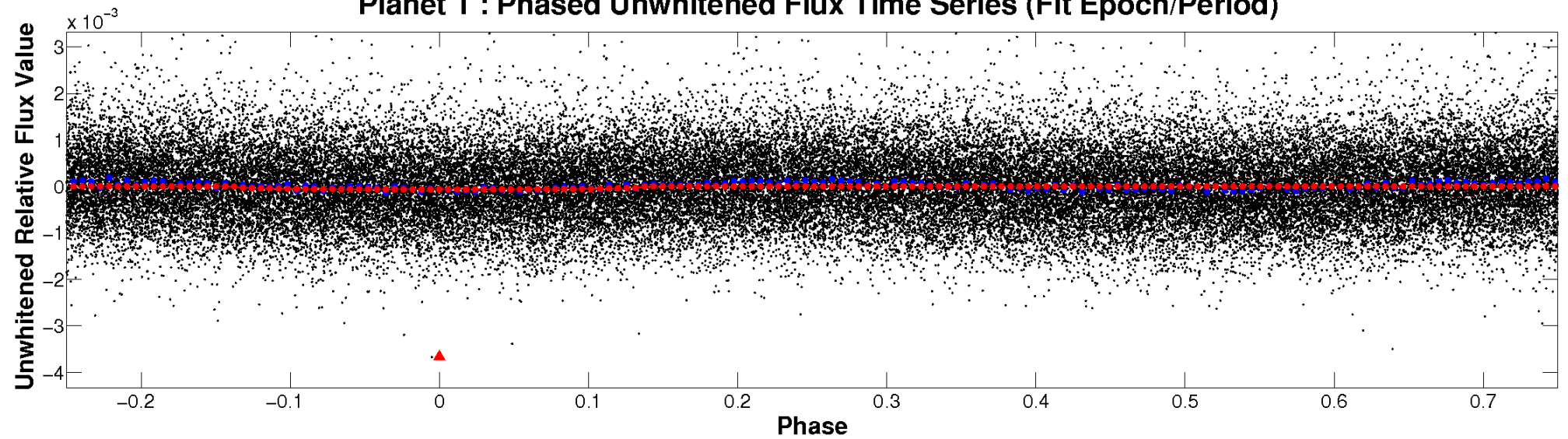
ALT Odd/Even

TCE 003643155-01

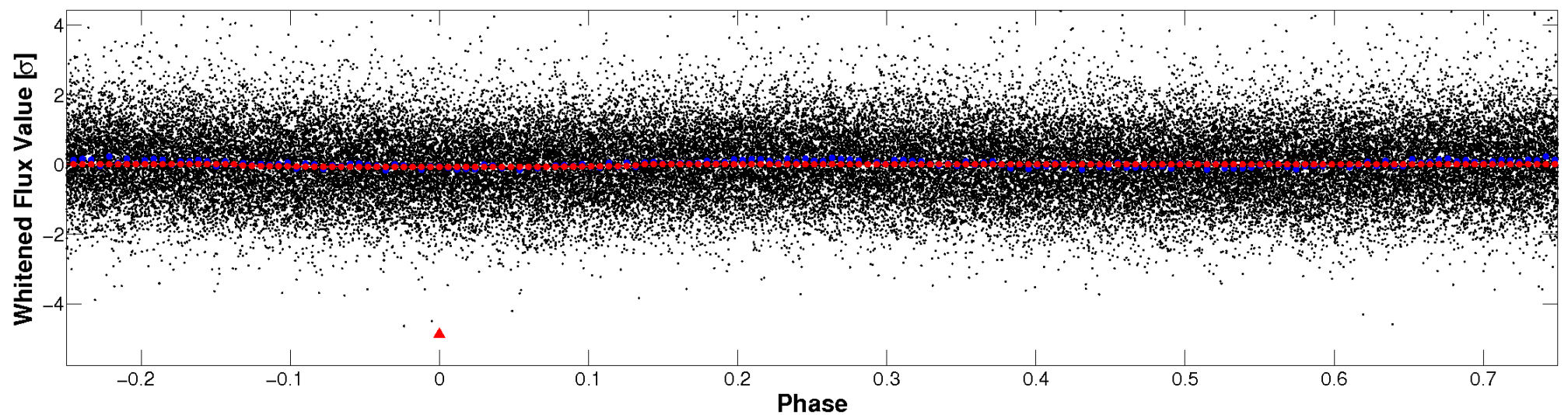


Non-Whitened Vs. Whitened Light Curve

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

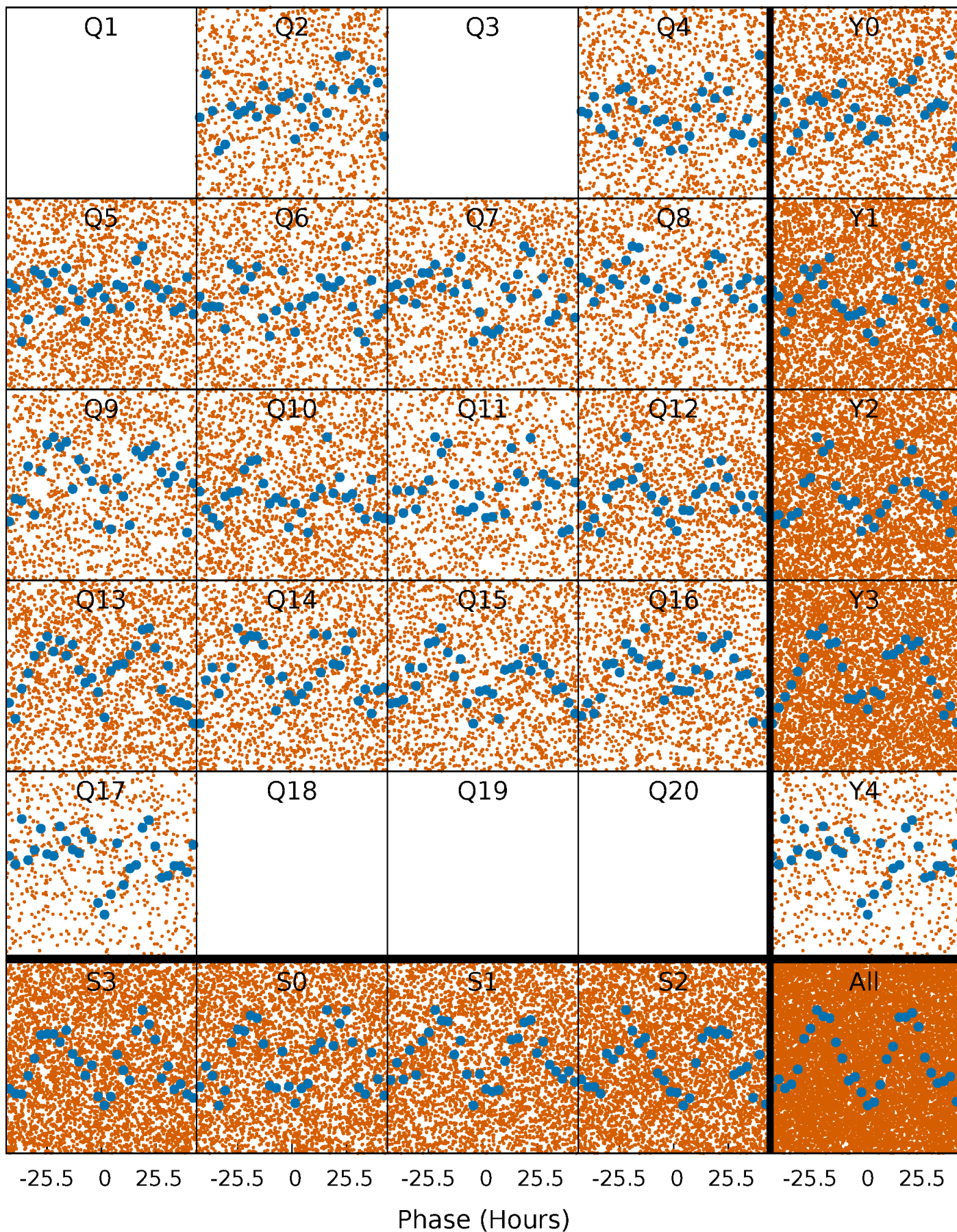


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



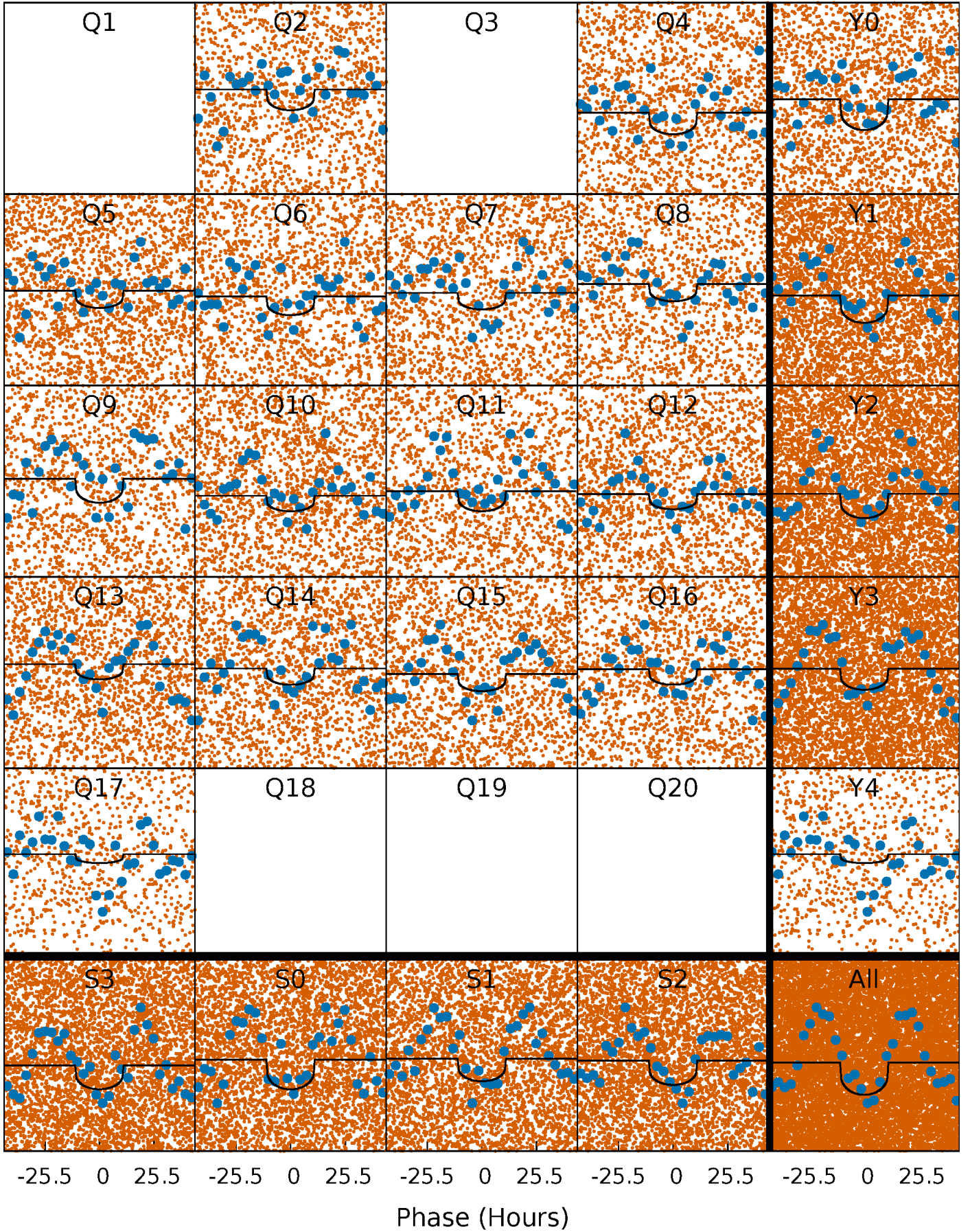
PDC Quarter-Phased Transit Curves

TCE 003643155-01 P= 3.414362 Days $T_0=133.797460$ (BKJD)



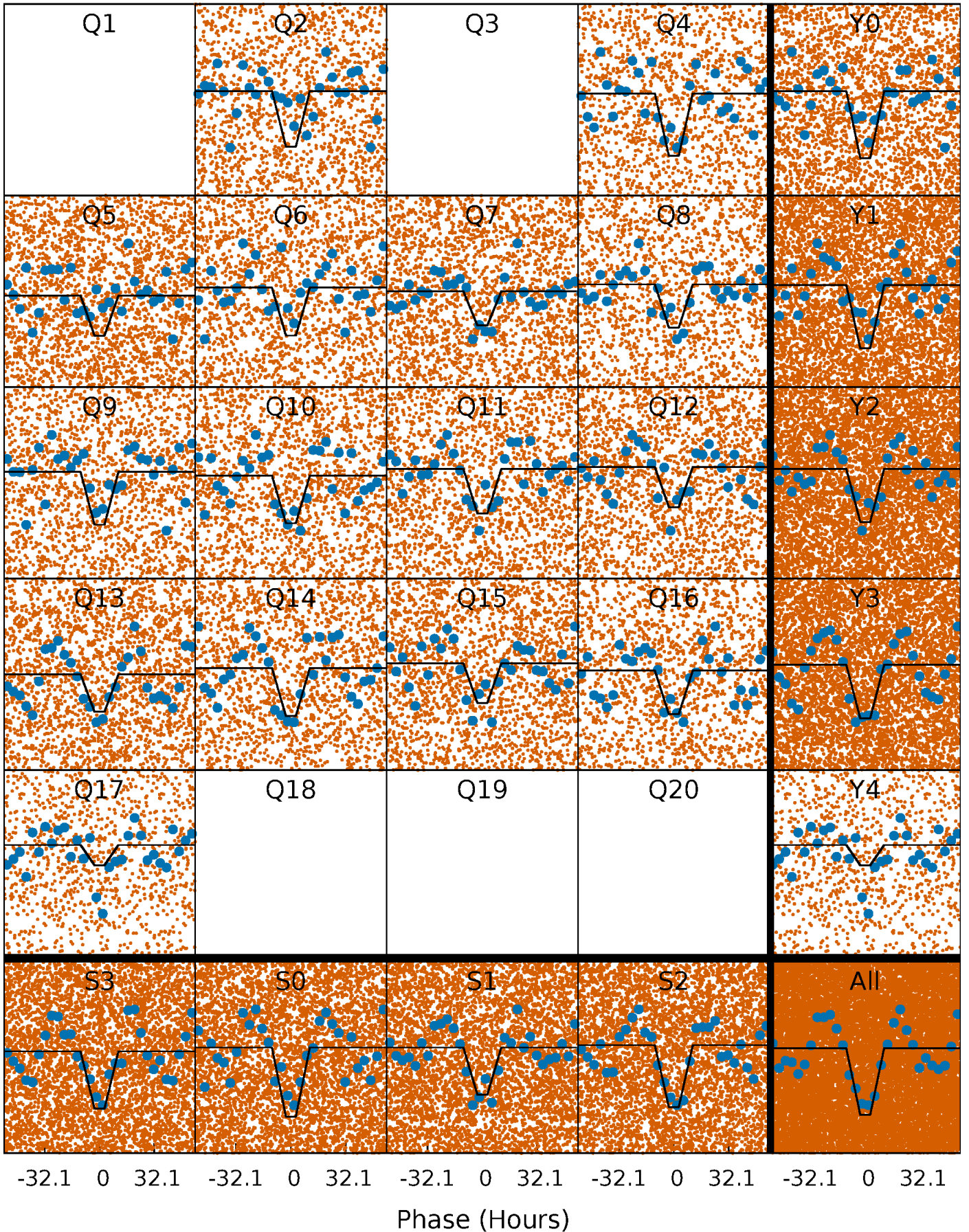
DV Quarter-Phased Transit Curves

TCE 003643155-01 P= 3.414362 Days $T_0=133.797460$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

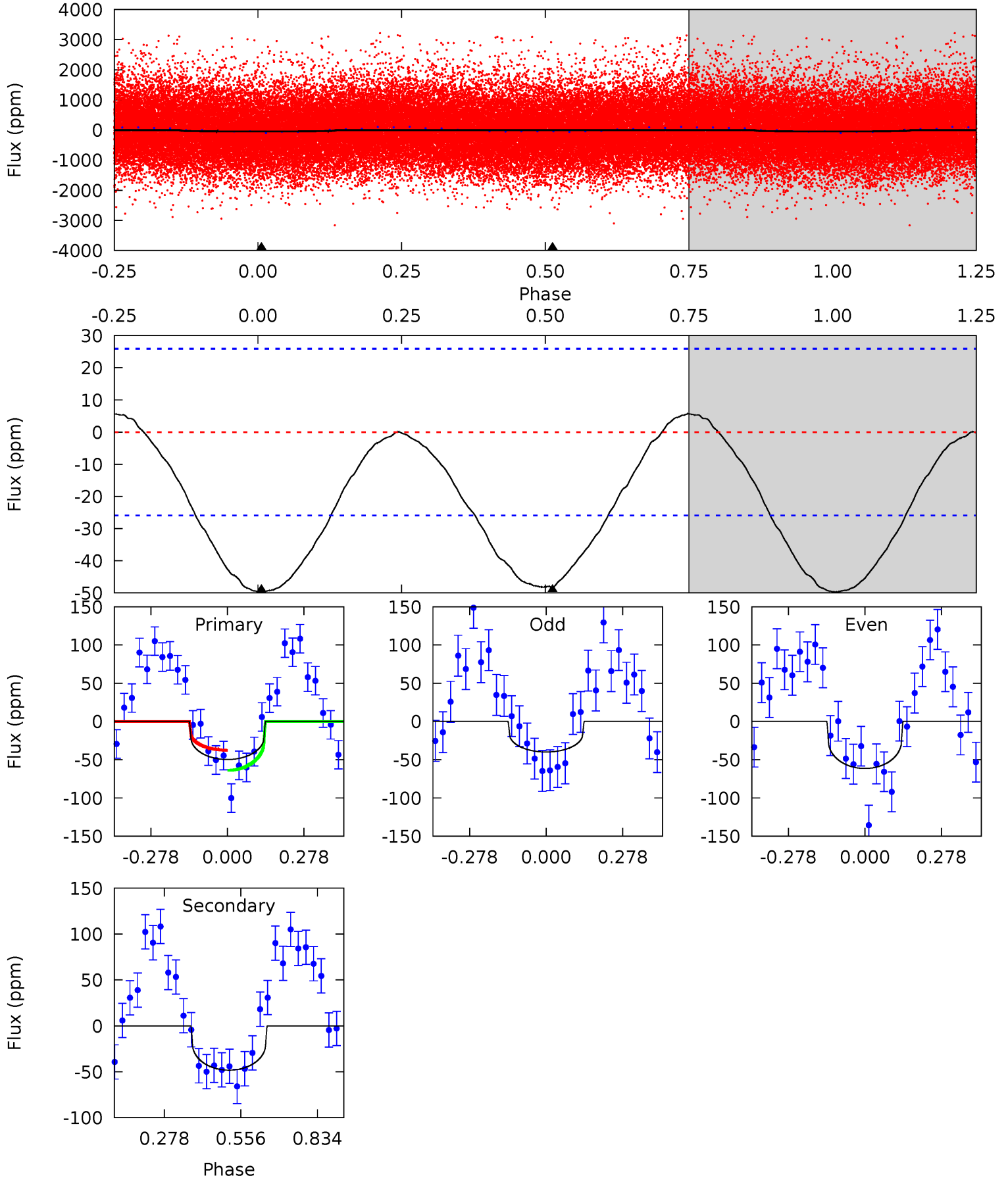
TCE 003643155-01 P= 3.414214 Days $T_0=133.882751$ (BKJD)



DV Model-Shift Uniqueness Test

003643155-01, P = 3.414362 Days, E = 133.797460 Days

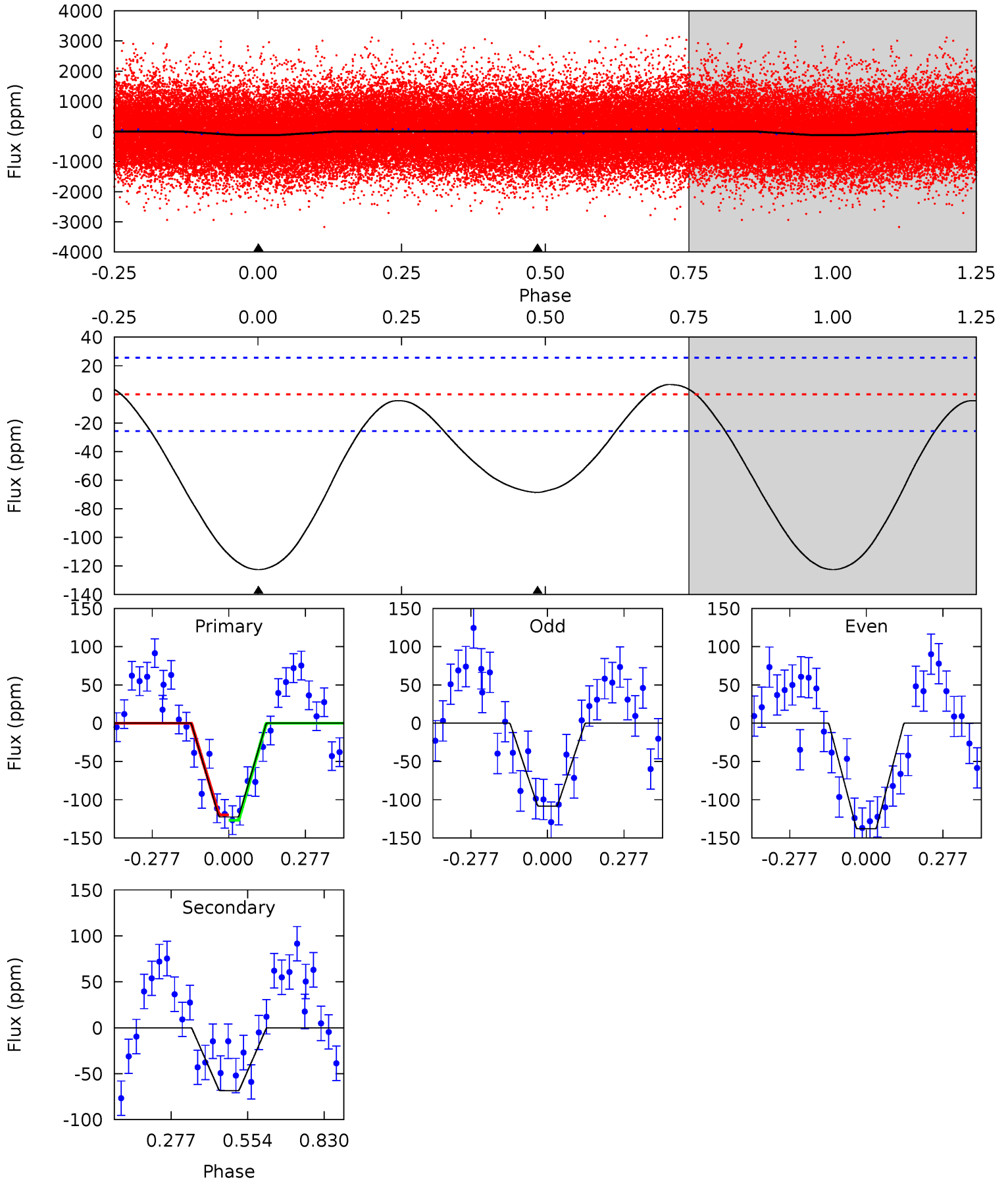
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.34	8.10	0	0	4.35	1.09	0.58	8.34	8.34	8.10	8.10	1.81	1.06	0.10	2.25



Alt Model-Shift Uniqueness Test

003643155-01, P = 3.414214 Days, E = 133.882751 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	11.6	0	0	4.35	1.09	0.84	20.7	20.7	11.6	11.6	2.51	0.92	0.05	0.60



Stellar Parameters For KIC 003643155

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5559^{+167}_{-167}	$4.583^{+0.038}_{-0.152}$	$-0.240^{+0.300}_{-0.300}$	$0.789^{+0.185}_{-0.074}$	$0.876^{+0.090}_{-0.100}$	$2.508^{+0.498}_{-1.110}$
	+3%/-3%	+1%/-3%	+125%/-125%	+23%/-9%	+10%/-11%	+20%/-44%
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 003643155-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-48 ± 6	$1.07^{+1.04}_{-0.70}$	1510^{+86}_{-66}	4415^{+2841}_{-932}	41^{+306}_{-31}
Alt.	-68 ± 6	$1.29^{+1.05}_{-0.84}$	1509^{+89}_{-65}	4411^{+2718}_{-816}	41^{+279}_{-28}

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

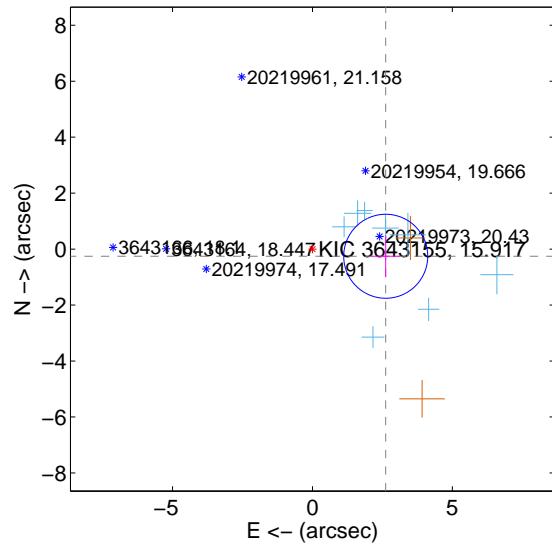
Supplemental centroid analysis for 003643155-01. Kepler magnitude: 15.92. Transit SNR 7.85

There are 8 quarters with good PRF difference image offsets

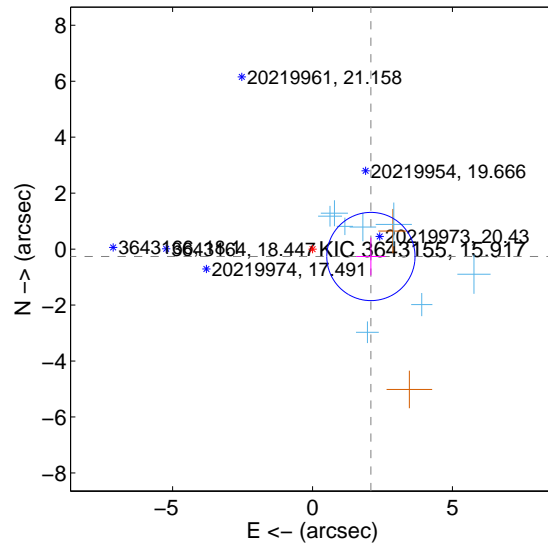
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.631 ± 0.500	5.26	-2.619 ± 0.497	-0.256 ± 0.748
PRF-fit source offset from KIC position	2.103 ± 0.525	4.00	-2.086 ± 0.523	-0.265 ± 0.676
photometric centroid source offset	2.99 ± 1.41	2.13	-2.45 ± 1.43	1.72 ± 1.35

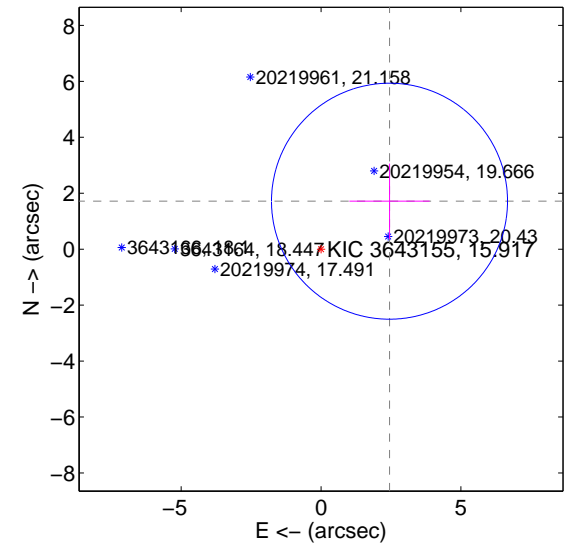
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



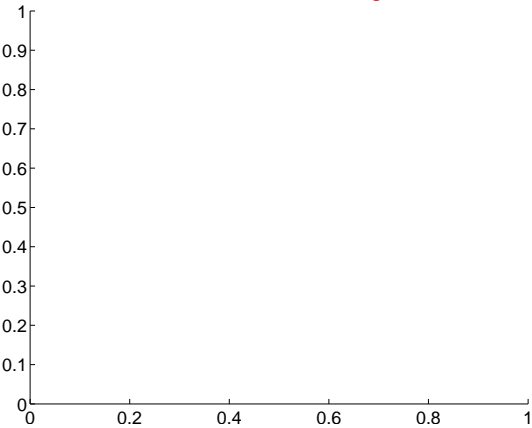
offset from photometric centroids



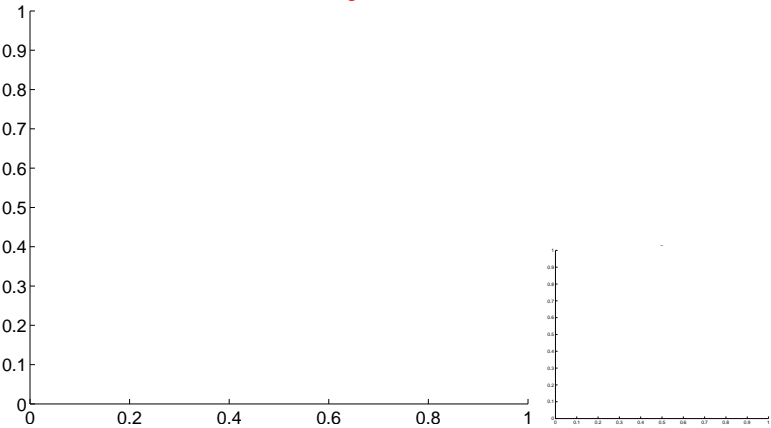
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

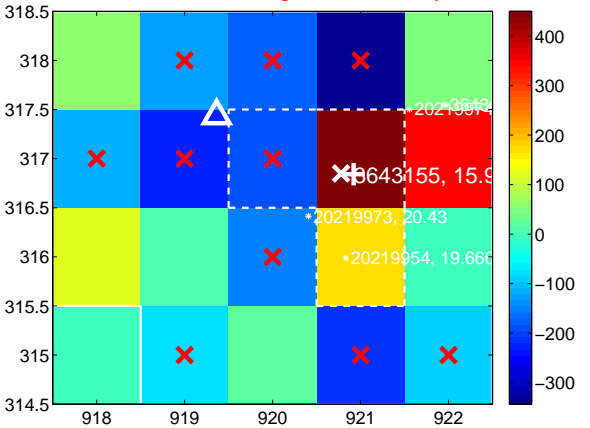
Q1 no difference image



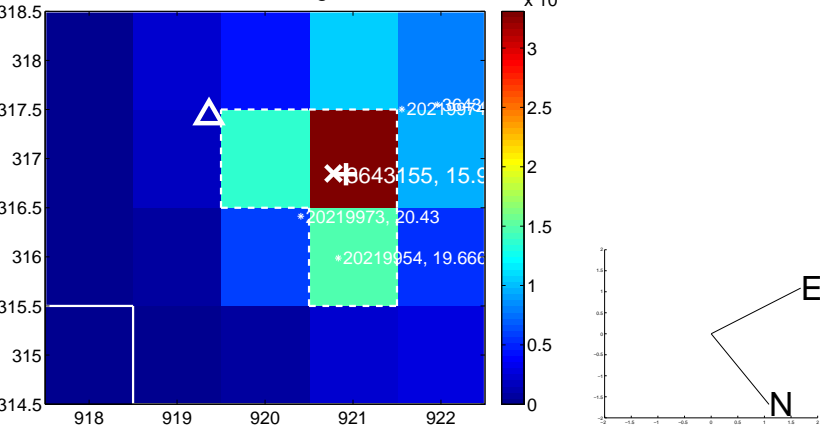
Q1 no OOT image



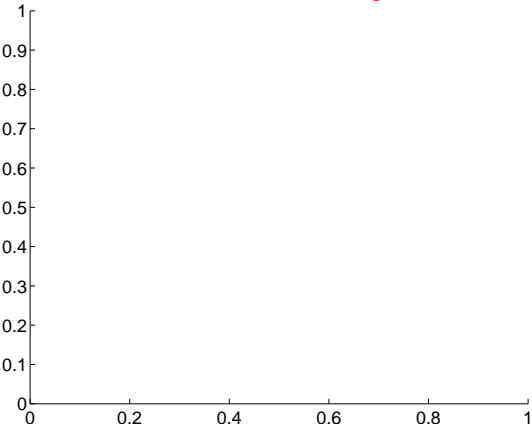
Q2 difference image. Poor Quality



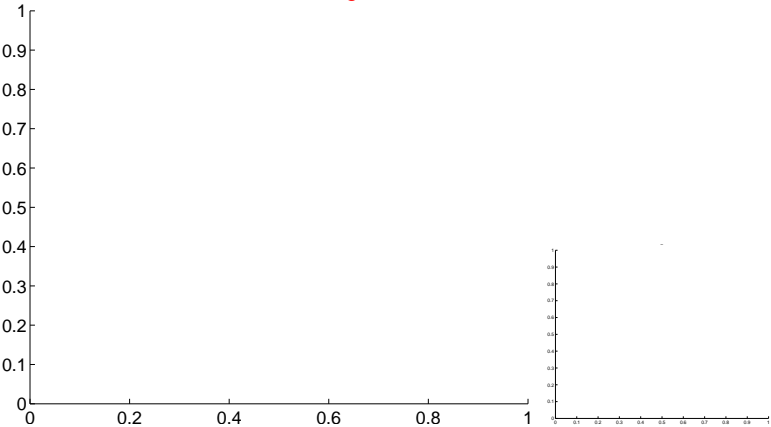
Q2 OOT image



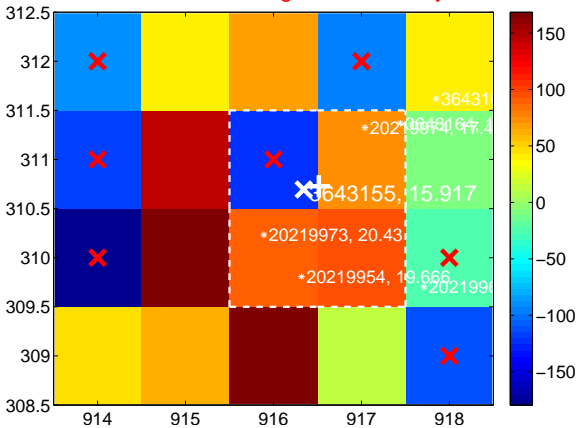
Q3 no difference image



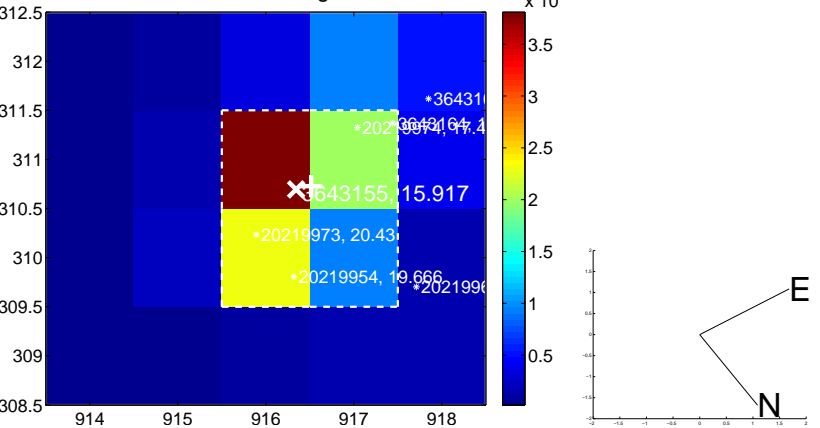
Q3 no OOT image



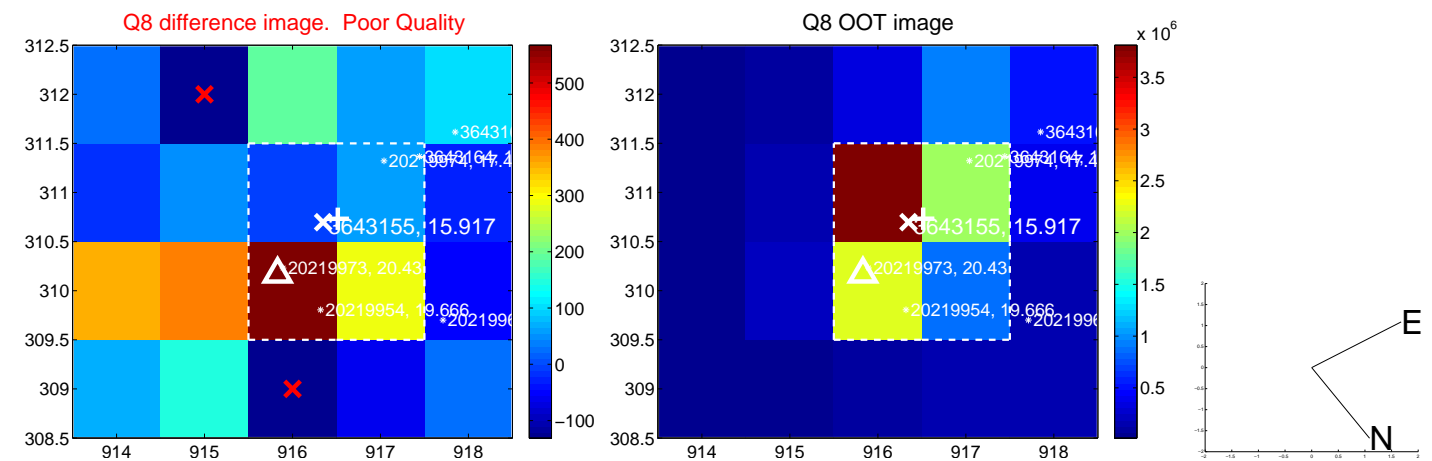
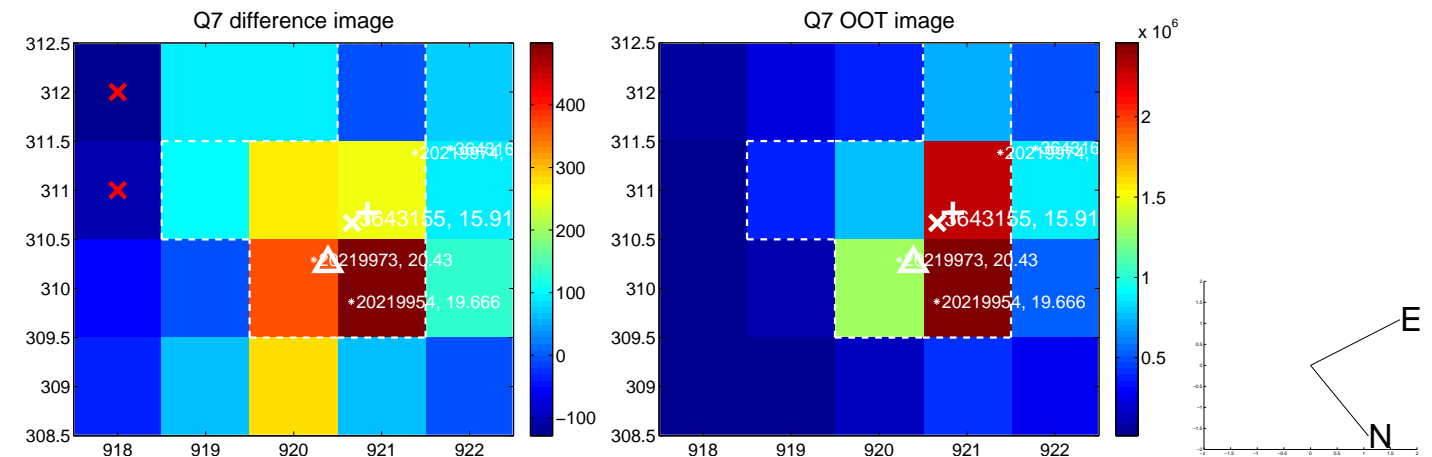
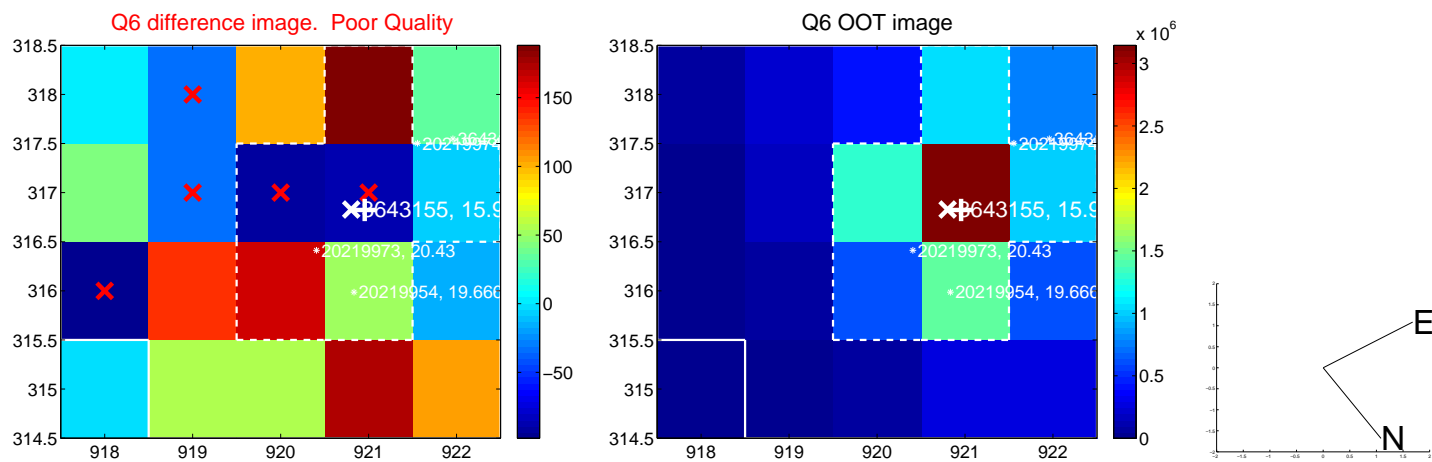
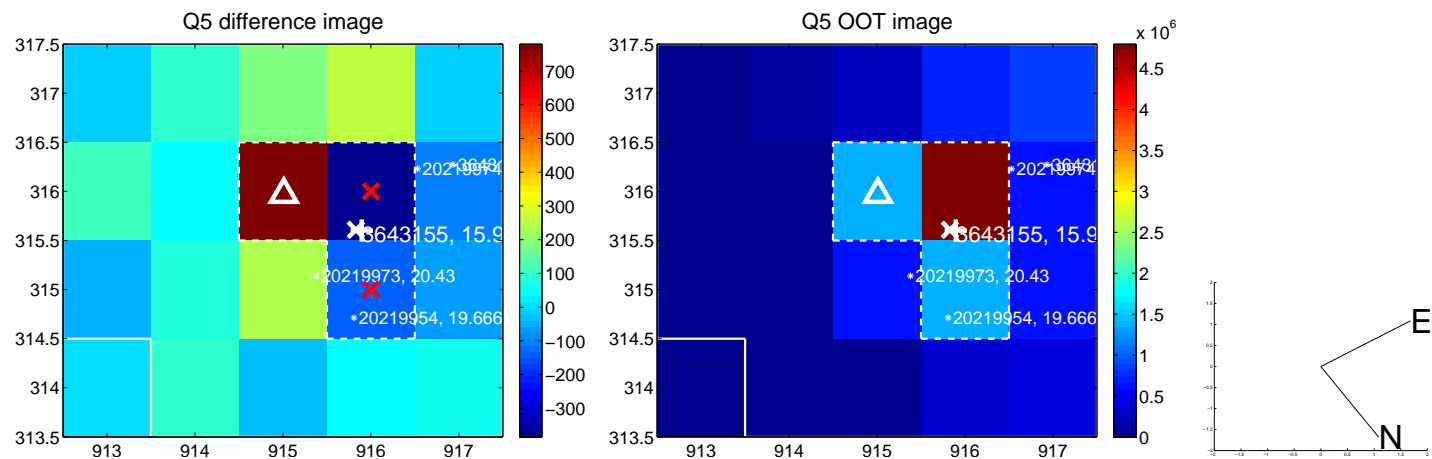
Q4 difference image. Poor Quality



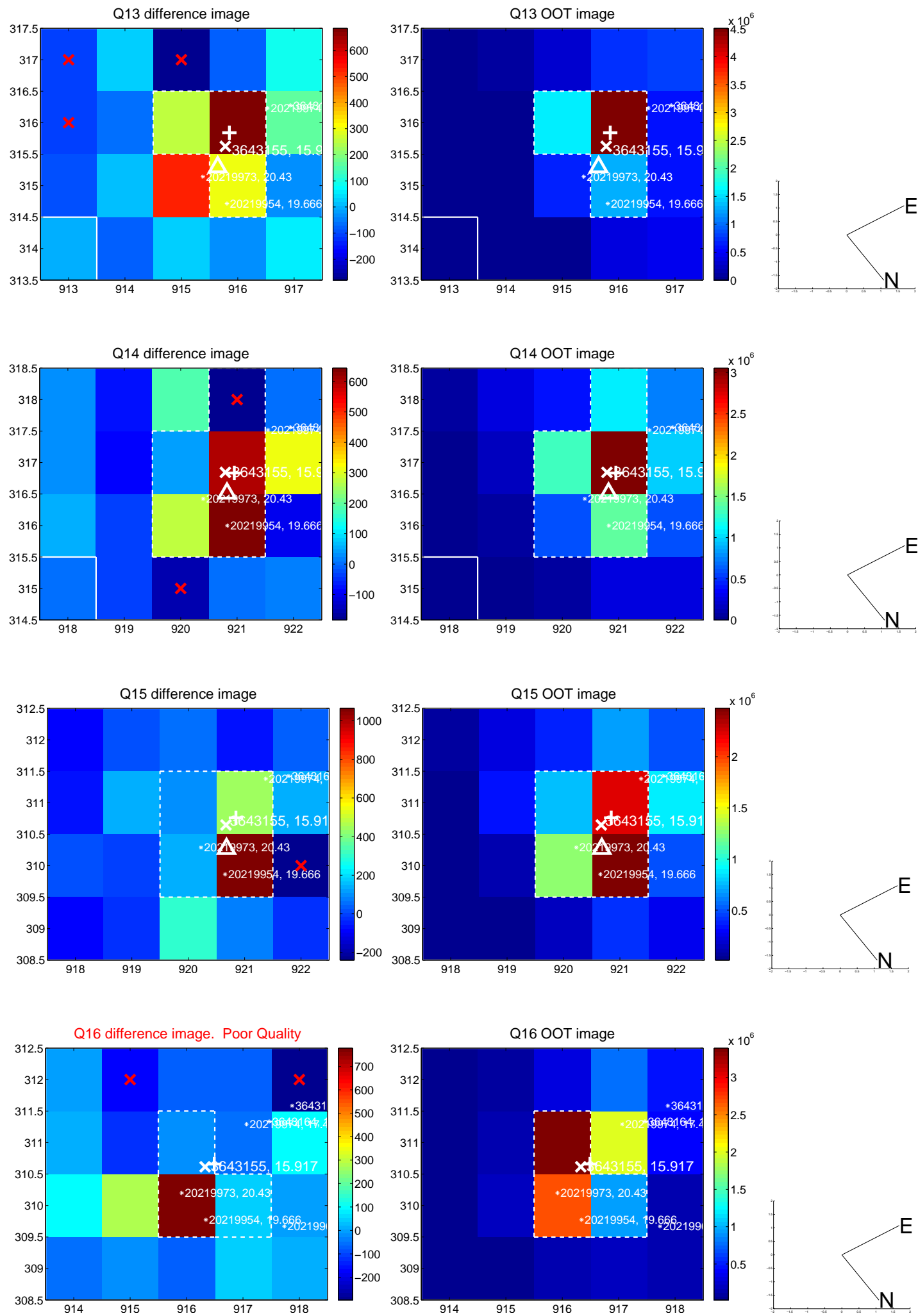
Q4 OOT image



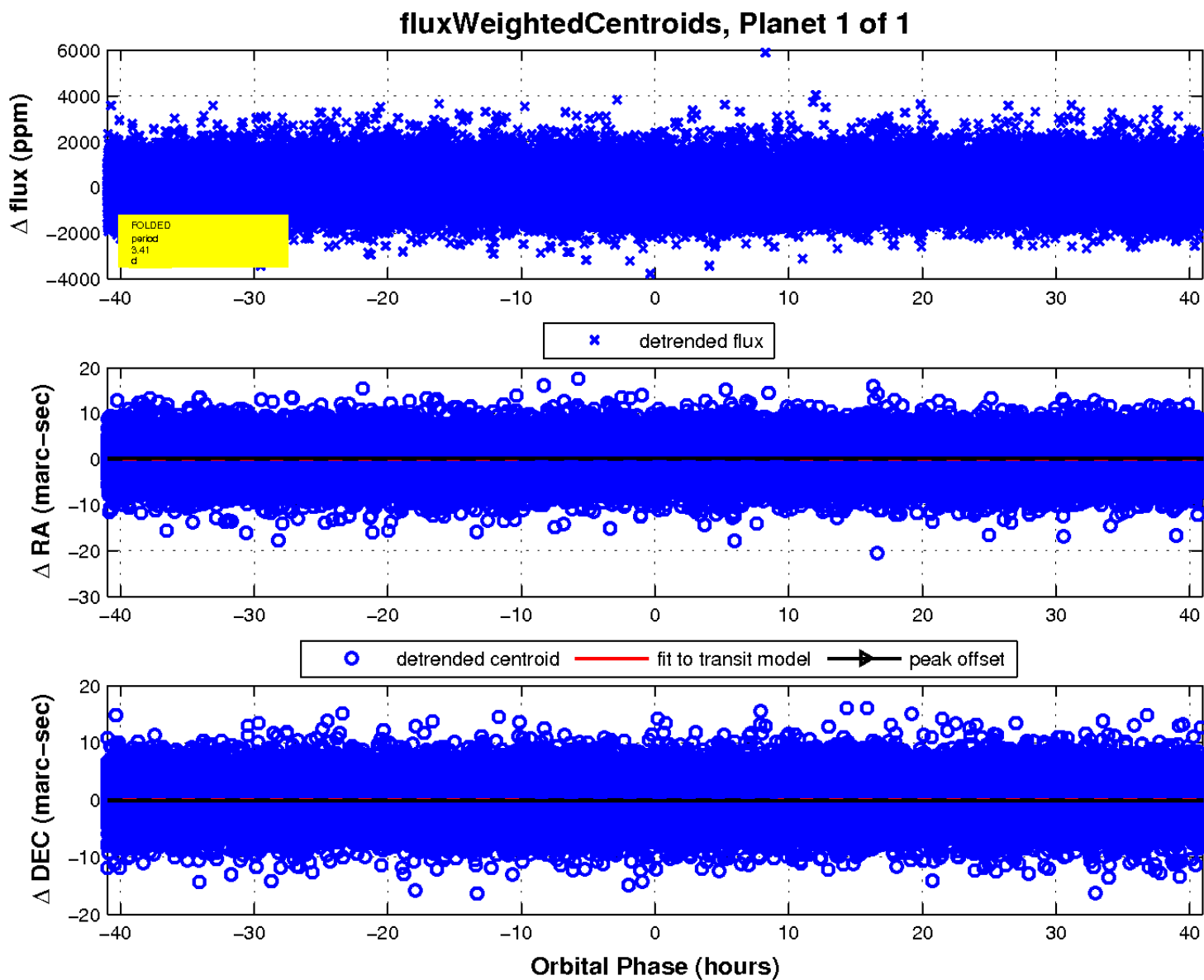
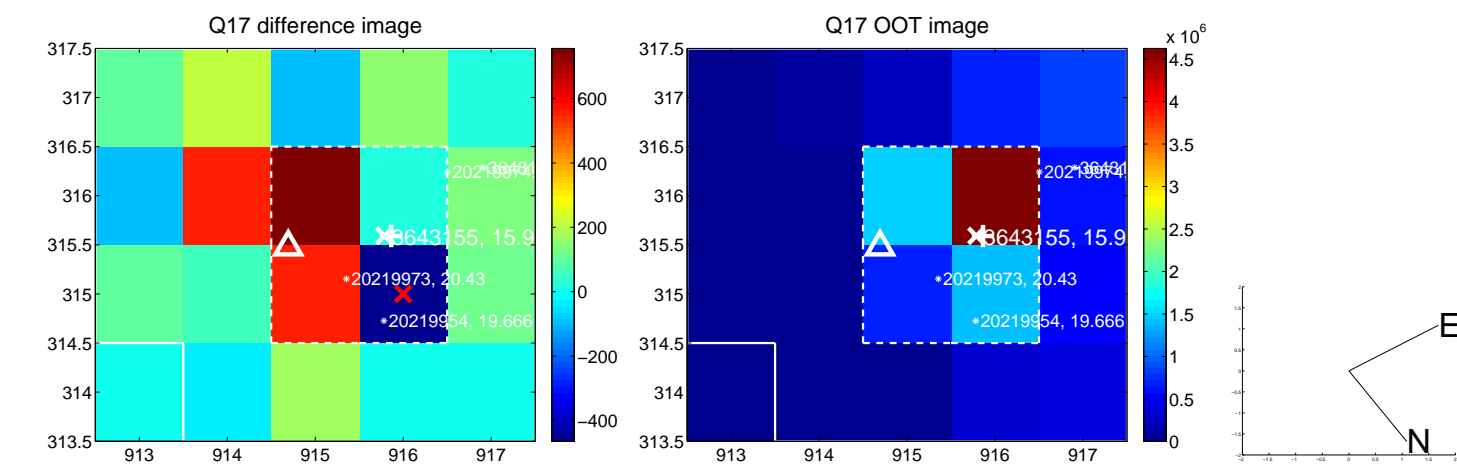
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

