

KIC 009958055

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})
009958055-01	OBS	No	0.703662	131.641402	9.3	5.472	9.2	6.2	1.64	6593	0.52	15775.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009958055-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL — LPP_DV — CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

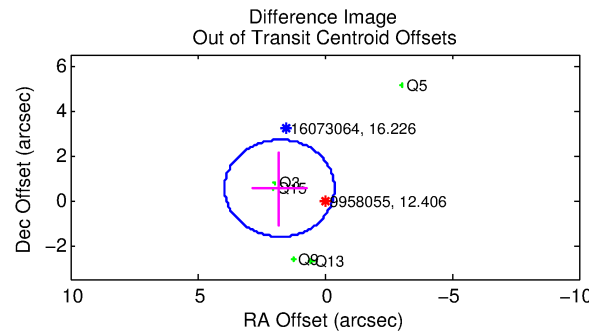
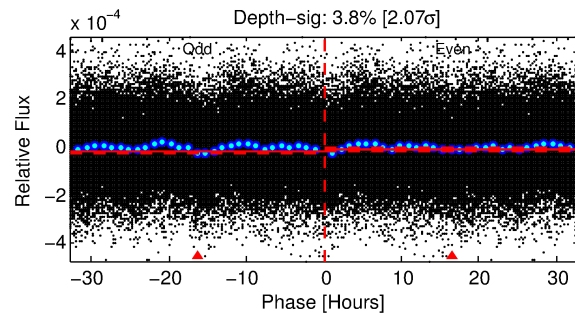
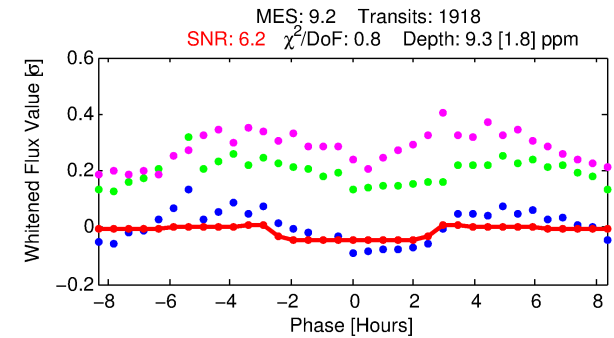
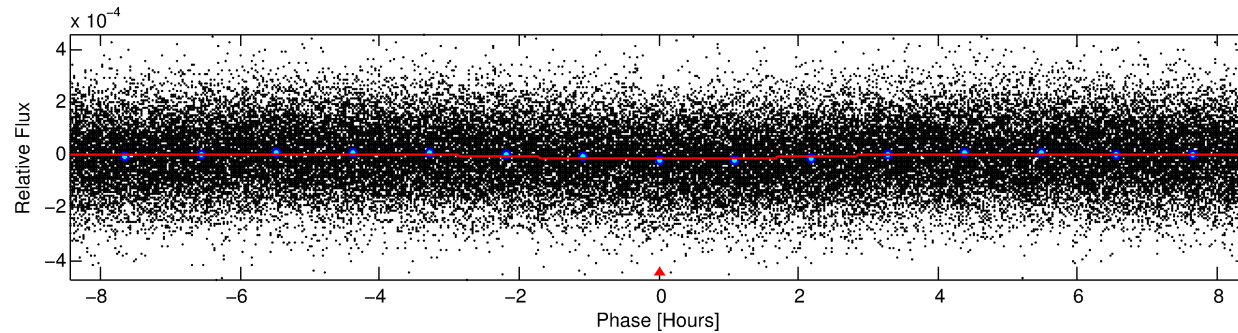
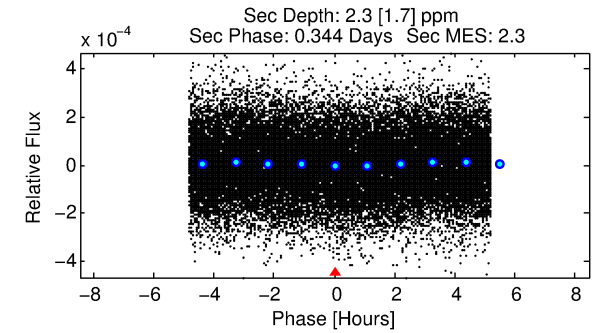
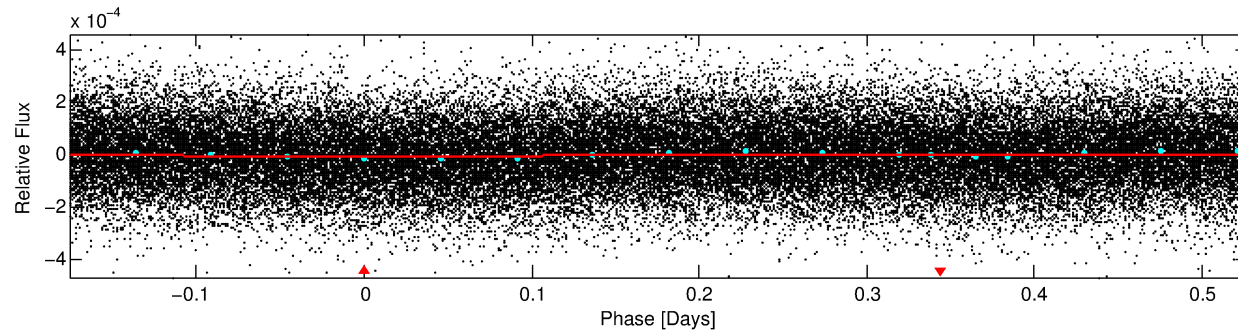
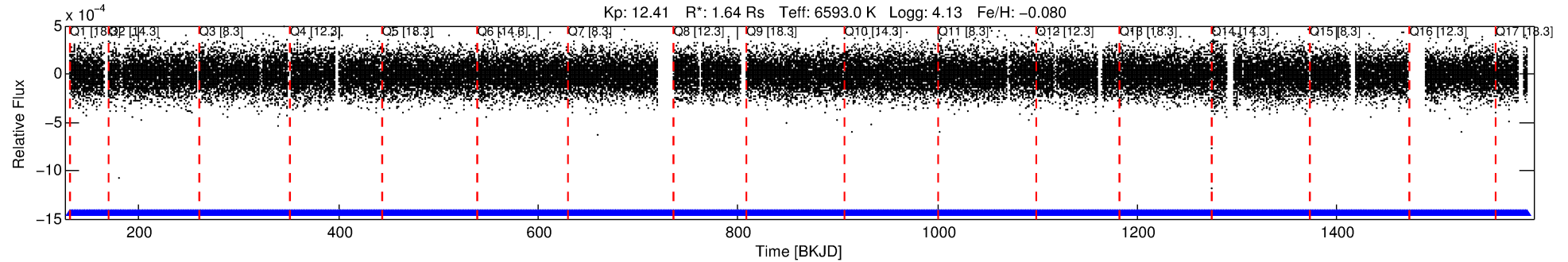
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009958055-01

No Significant Match Found

DV One-Page Summary

KIC: 9958055 Candidate: 1 of 1 Period: 0.704 d



DV Fit Results:

Period = 0.70366 [0.00002] d
Epoch = 131.6414 [0.0061] BKJD
Rp/R* = 0.0029 [0.0023]
a/R* = 1.14 [1.13]
b = 0.50 [6.60]
Seff = 15775.05 [6067.18]
Teq = 2858 [275] K
Rp = 0.52 [0.44] Re
a = 0.0170 [0.0043] AU
Ag = 1.35 [2.44] [0.14σ]
Teffp = 4760 [2124] K [0.89σ]

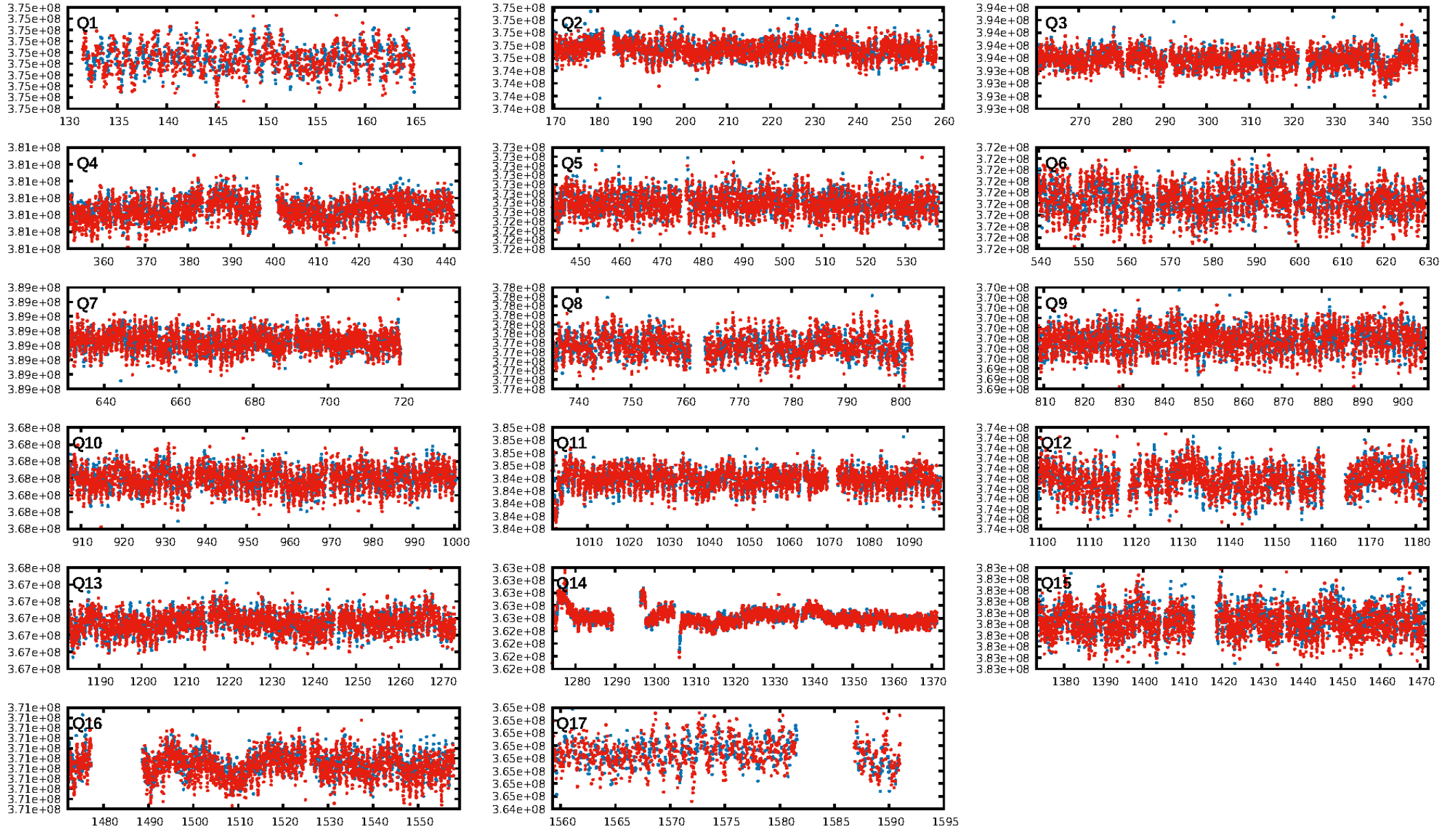
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1831/1831]
GhostDiagnostic-chr: 3.462
Centroid-sig: 26.6%
Centroid-so: 0.740 arcsec [1.05σ]
OotOffset-rm: 1.857 arcsec [2.58σ]
KicOffset-rm: 1.880 arcsec [2.94σ]
OotOffset-st: 0/2/0/3 [5]
KicOffset-st: 0/2/0/3 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 1.00 [17/17]

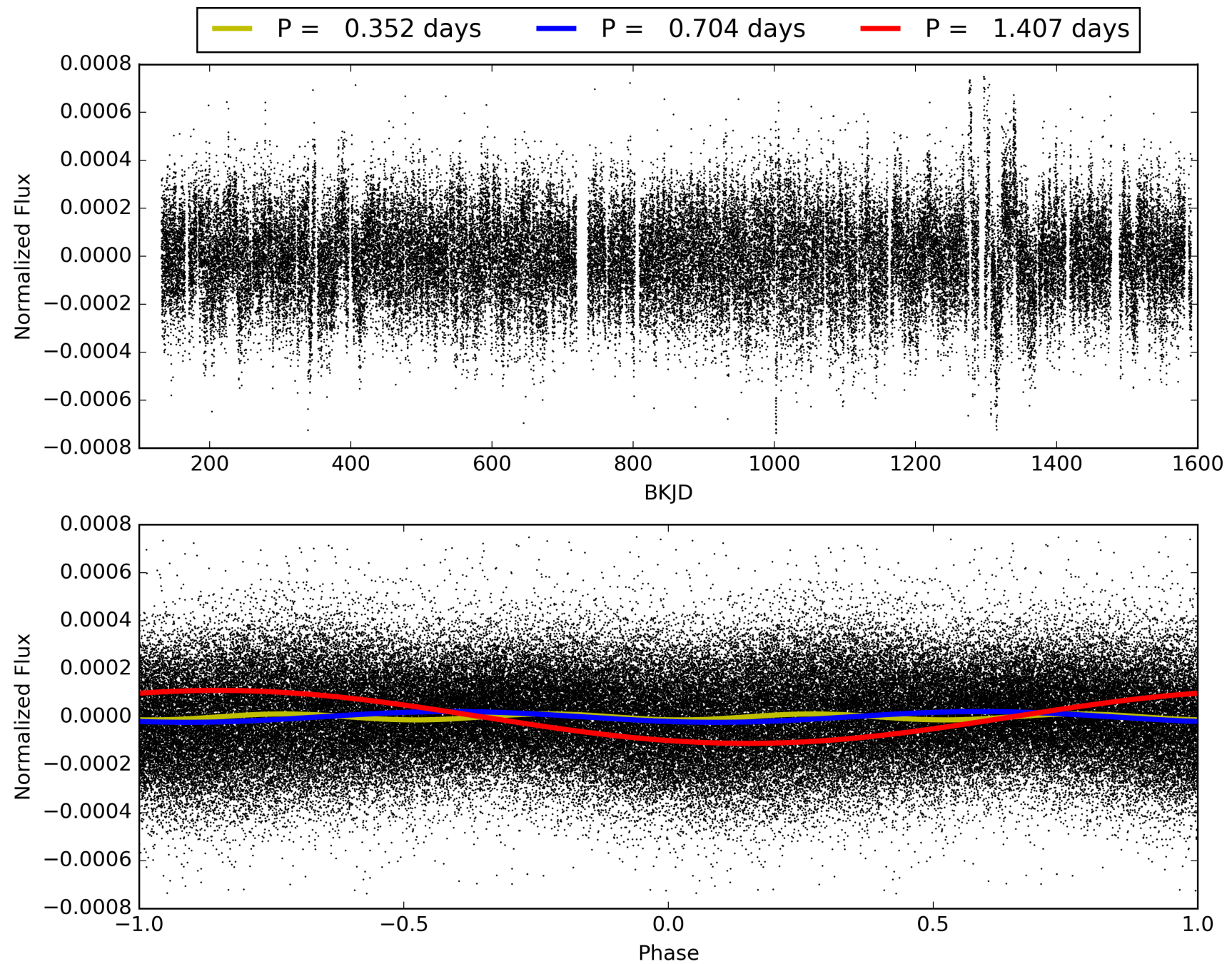
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:40:19 Z

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

TCE 009958055-01, PDC Light Curves

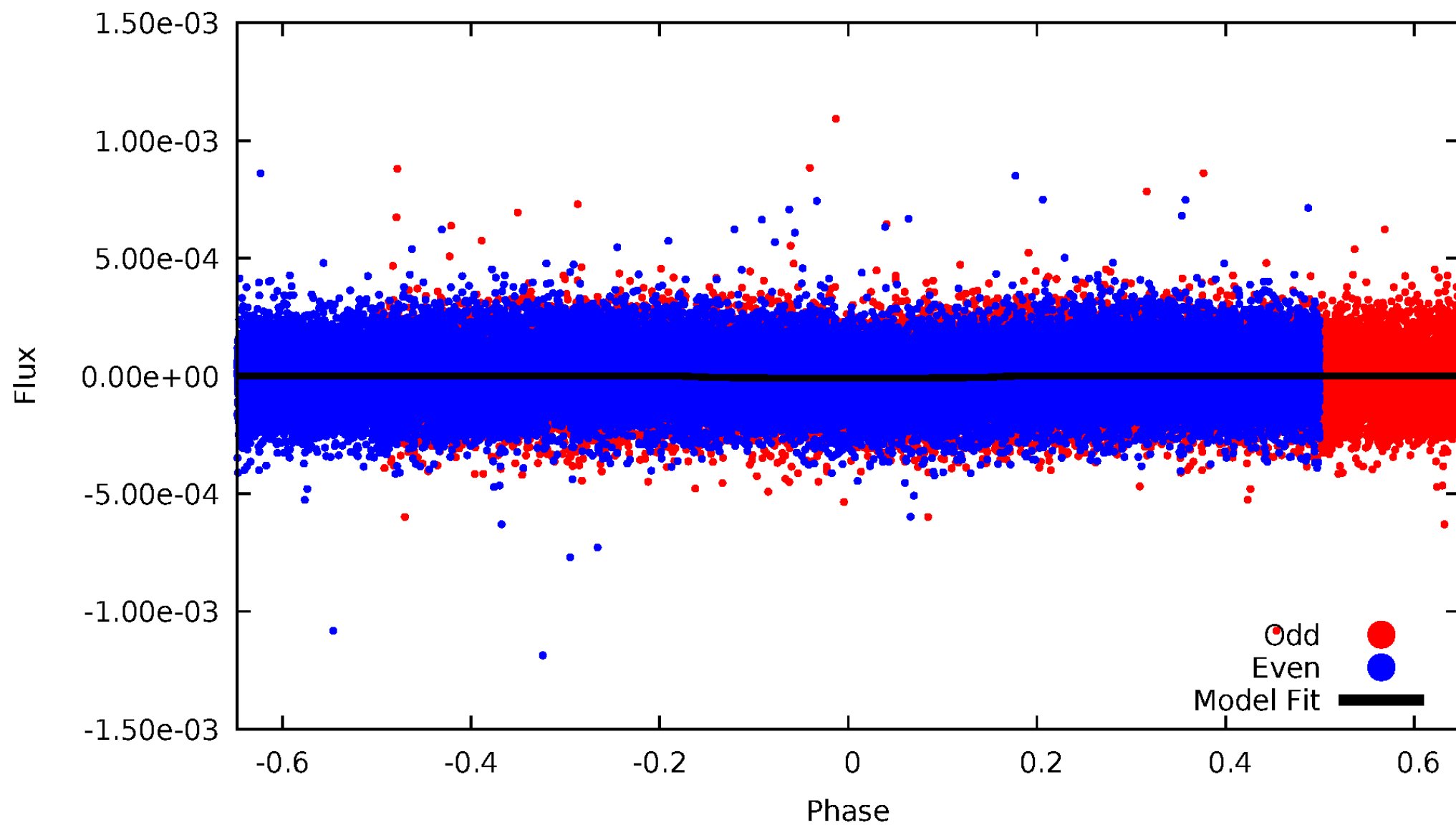


TCE 009958055-01



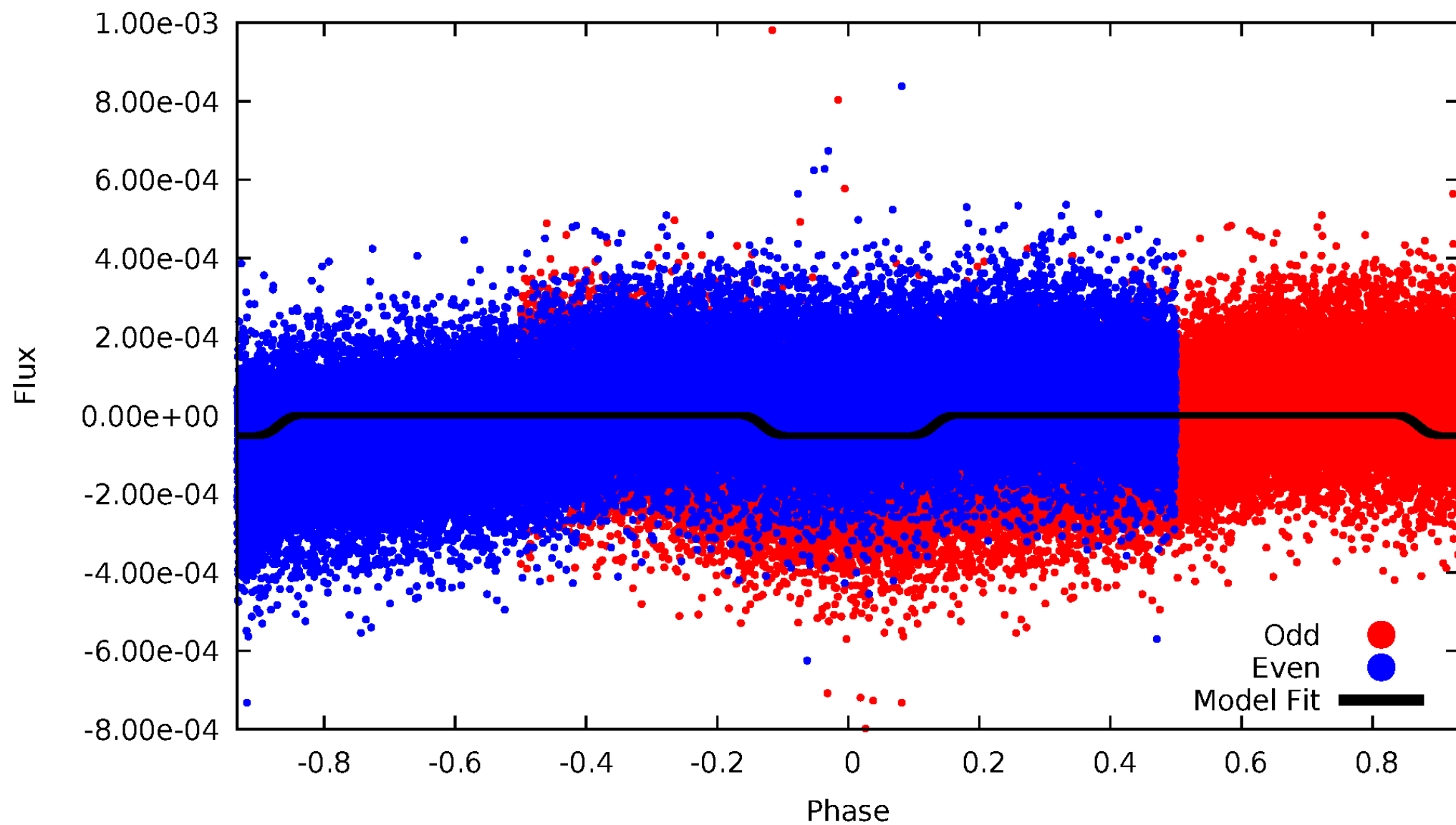
DV Odd/Even

TCE 009958055-01



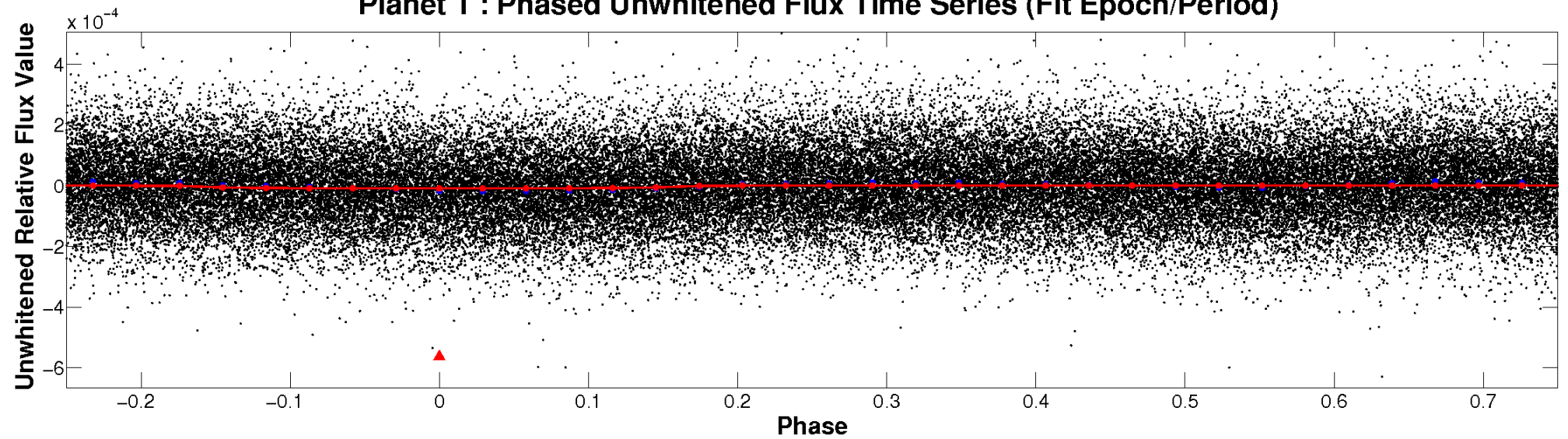
ALT Odd/Even

TCE 009958055-01

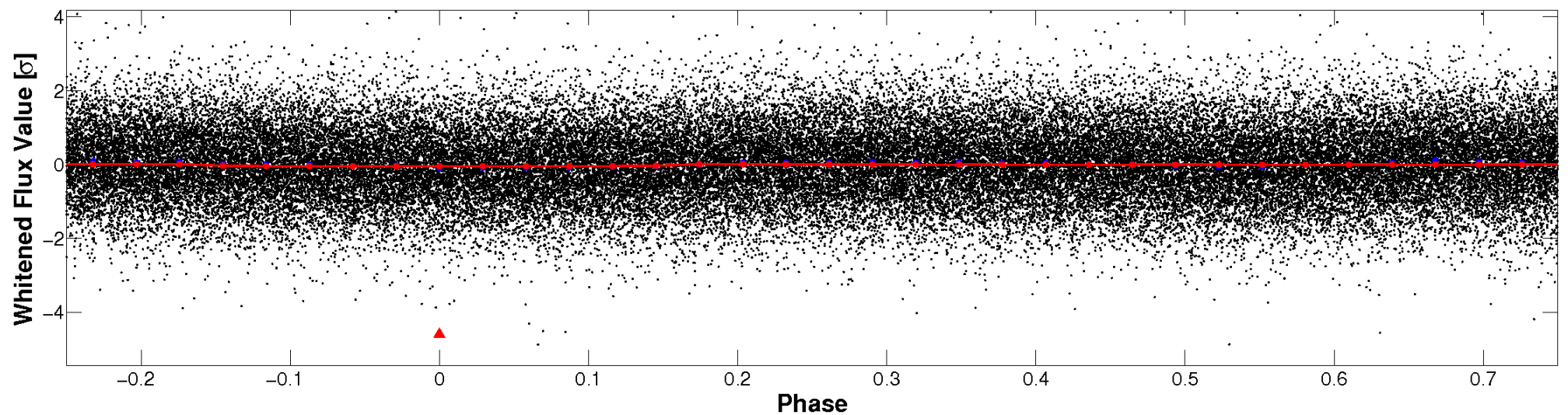


Non-Whitened Vs. Whitened Light Curve

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

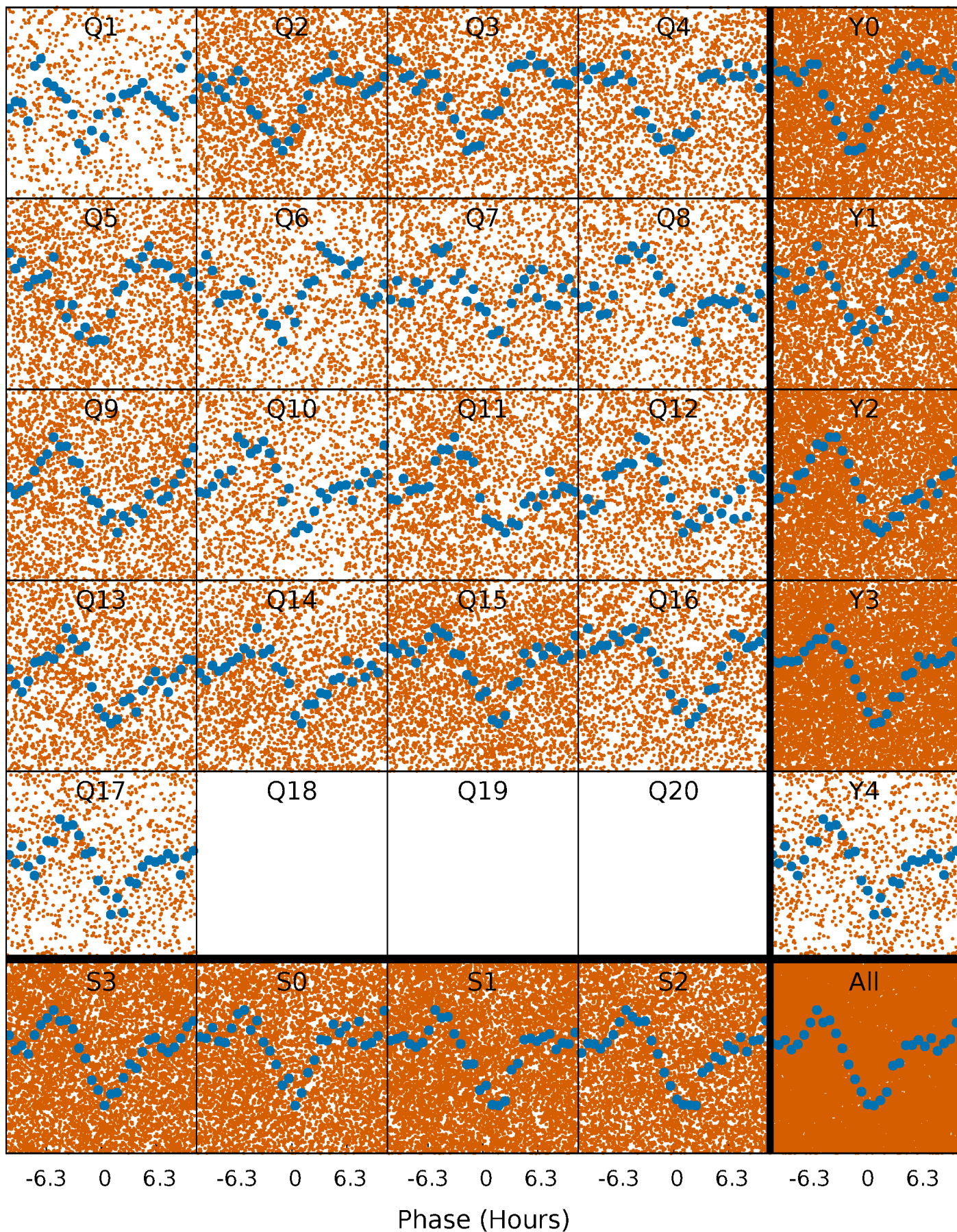


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



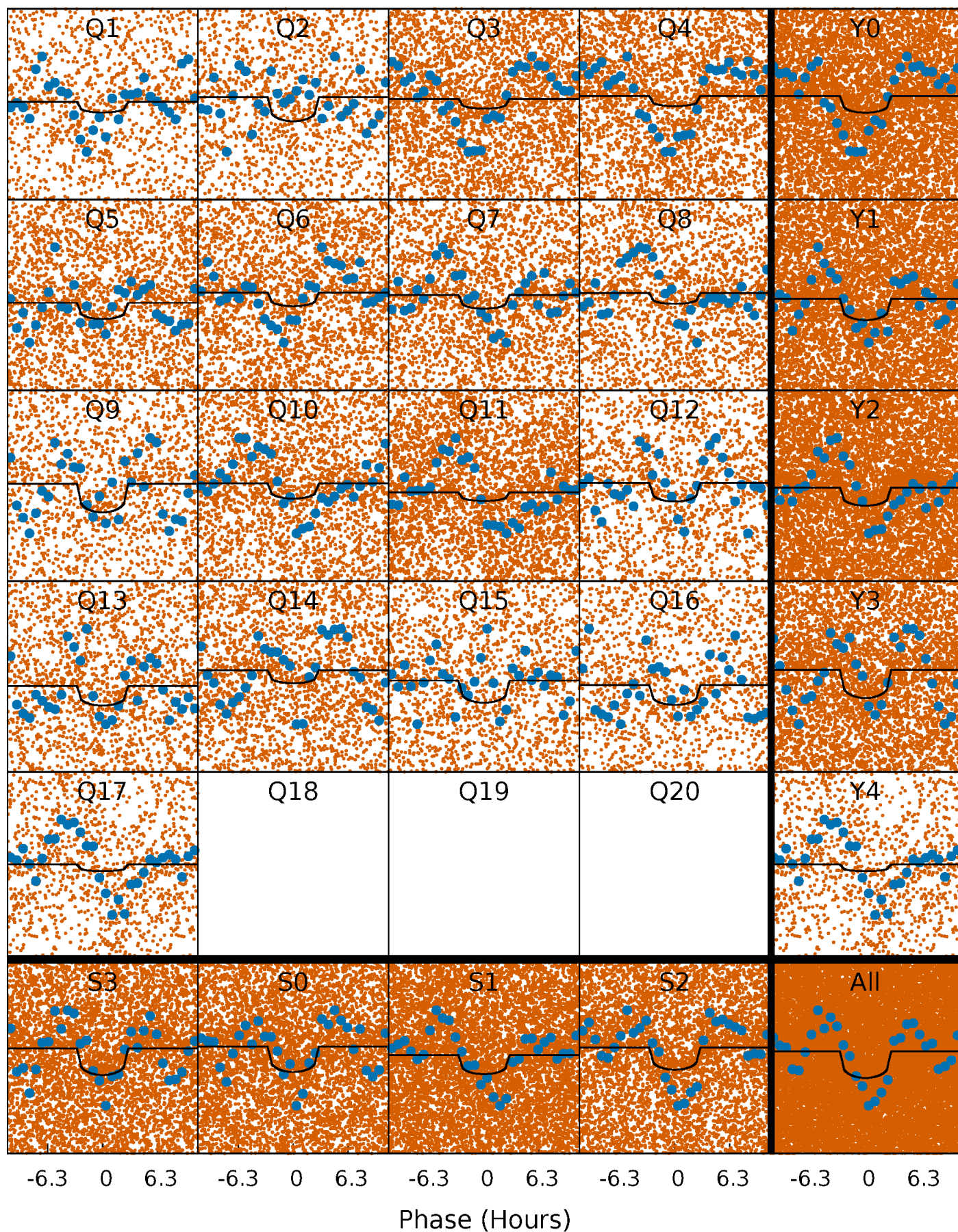
PDC Quarter-Phased Transit Curves

TCE 009958055-01 P= 0.703662 Days $T_0=131.641402$ (BKJD)



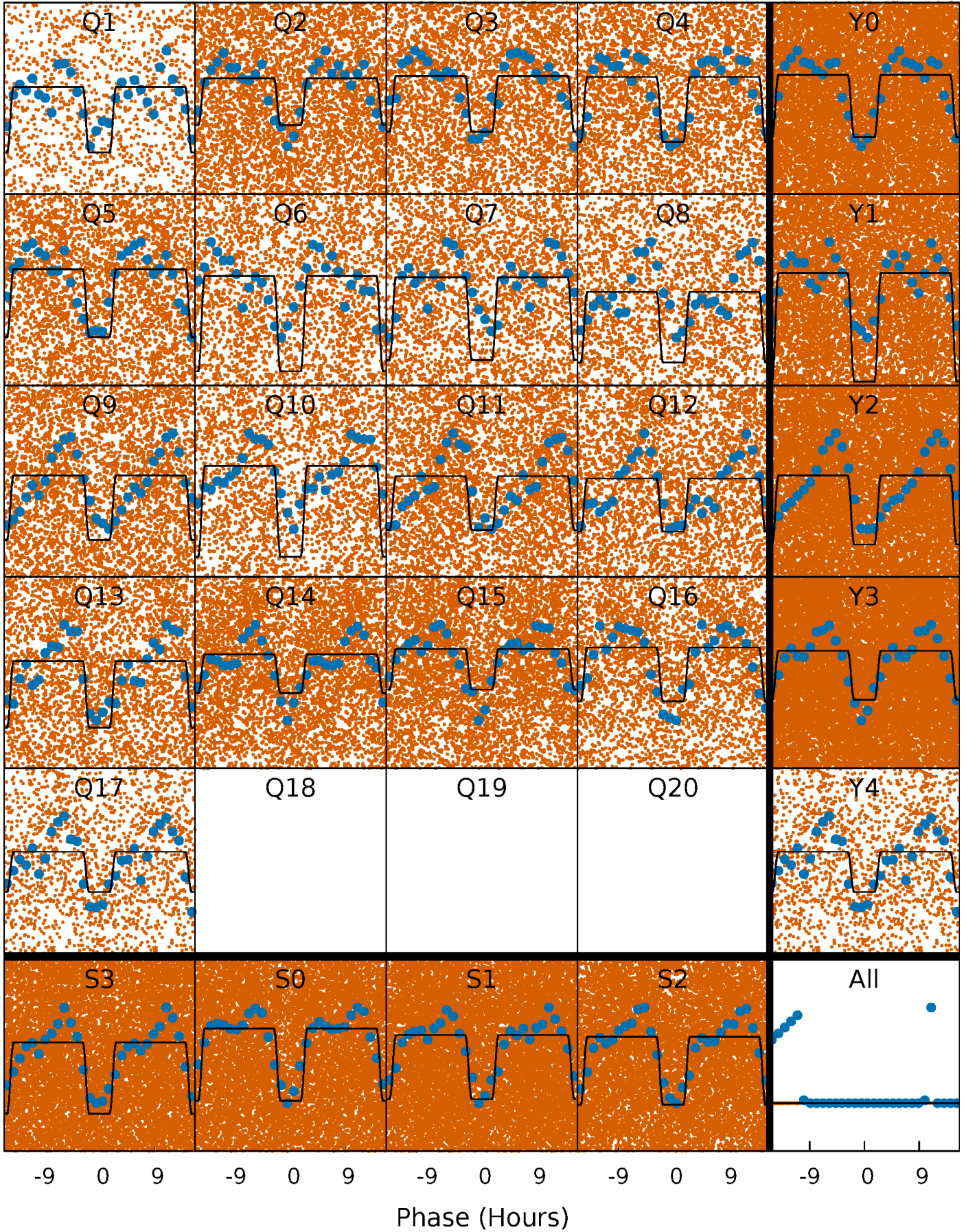
DV Quarter-Phased Transit Curves

TCE 009958055-01 P= 0.703662 Days $T_0=131.641402$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

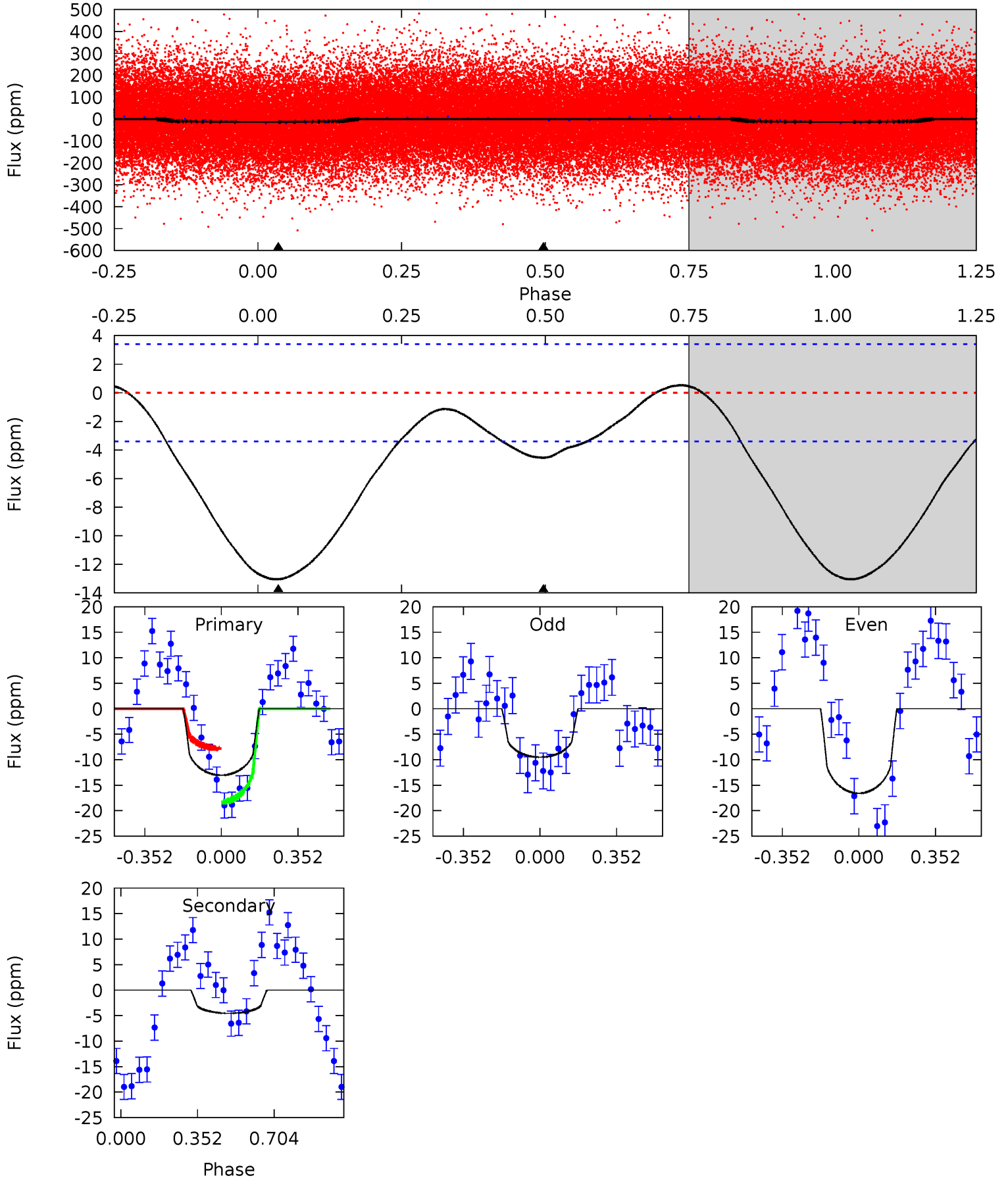
TCE 009958055-01 P= 0.703728 Days $T_0=131.600025$ (BKJD)



DV Model-Shift Uniqueness Test

009958055-01, P = 0.703662 Days, E = 130.937740 Days

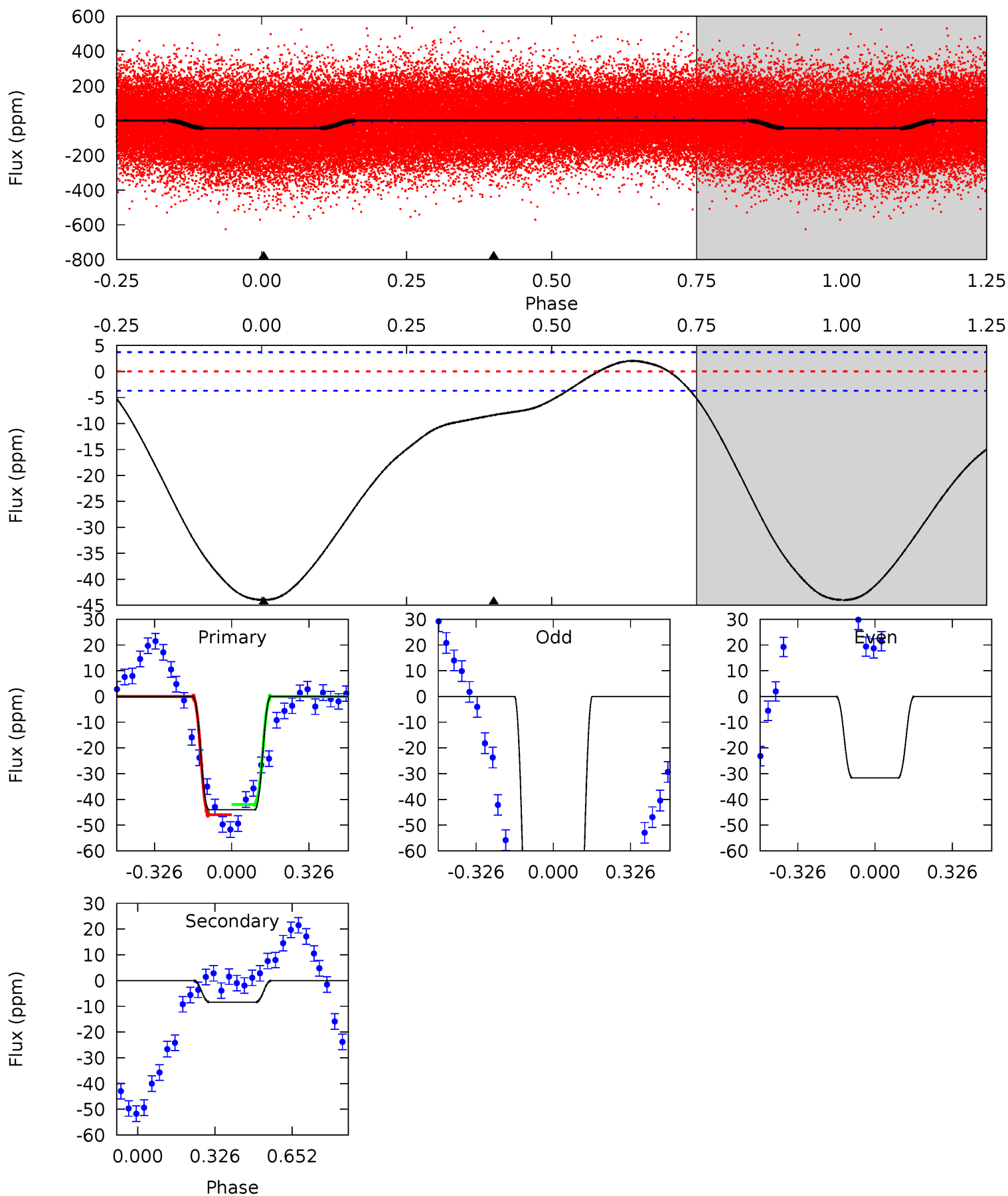
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	5.74	0	0	4.29	0.93	1.32	16.5	16.5	5.74	5.74	4.43	1.07	0.04	6.73



Alt Model-Shift Uniqueness Test

009958055-01, P = 0.703728 Days, E = 130.896297 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.1	9.75	0	0	4.31	0.98	2.56	51.1	51.1	9.75	9.75	50.3	0.95	0.04	2.00



Stellar Parameters For KIC 009958055

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6593^{+181}_{-241}	$4.129^{+0.190}_{-0.190}$	$-0.080^{+0.250}_{-0.300}$	$1.640^{+0.501}_{-0.410}$	$1.326^{+0.192}_{-0.235}$	$0.423^{+0.454}_{-0.222}$
	+3%/-4%	+5%/-5%	+312%/-375%	+31%/-25%	+14%/-18%	+107%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009958055-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5 ± 1	$0.58^{+0.43}_{-0.33}$	3993^{+300}_{-285}	5150^{+3225}_{-1269}	$2.113^{+9.978}_{-1.428}$
Alt.	-8 ± 1	$1.26^{+0.47}_{-0.41}$	3991^{+313}_{-280}	4080^{+820}_{-792}	$0.830^{+1.084}_{-0.398}$

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 $A_{obs} \gg 1.0$

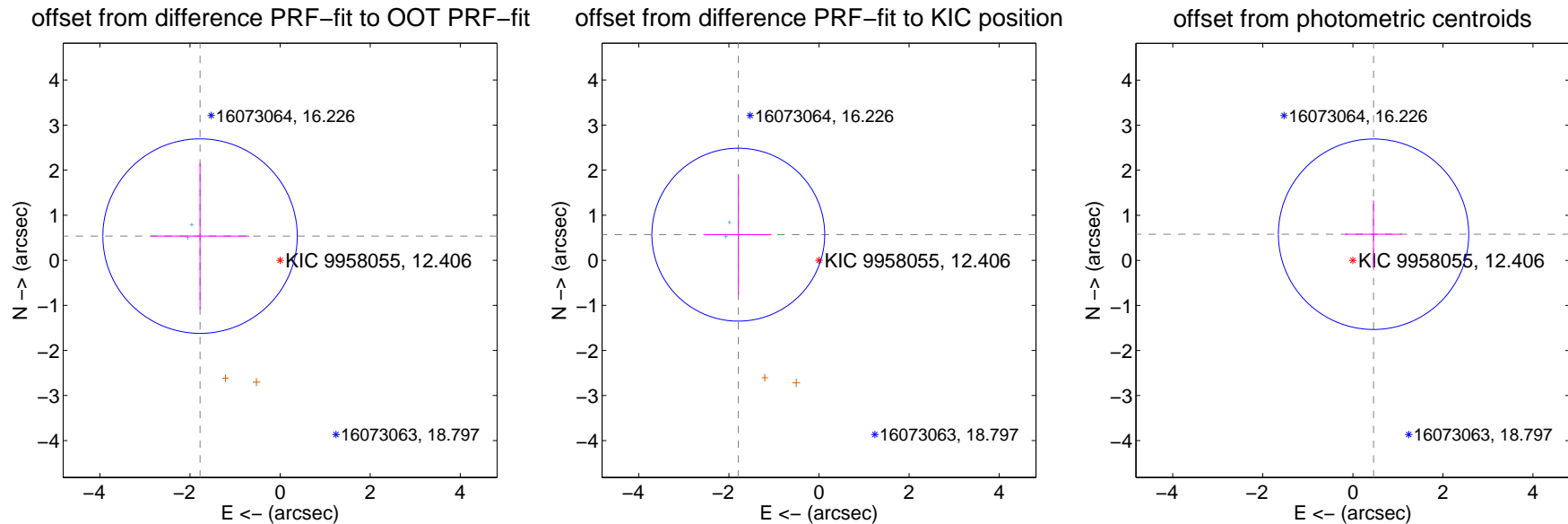
DV Centroid Data

Supplemental centroid analysis for 009958055-01. Kepler magnitude: 12.41. Transit SNR 6.22

There are 2 quarters with good PRF difference image offsets

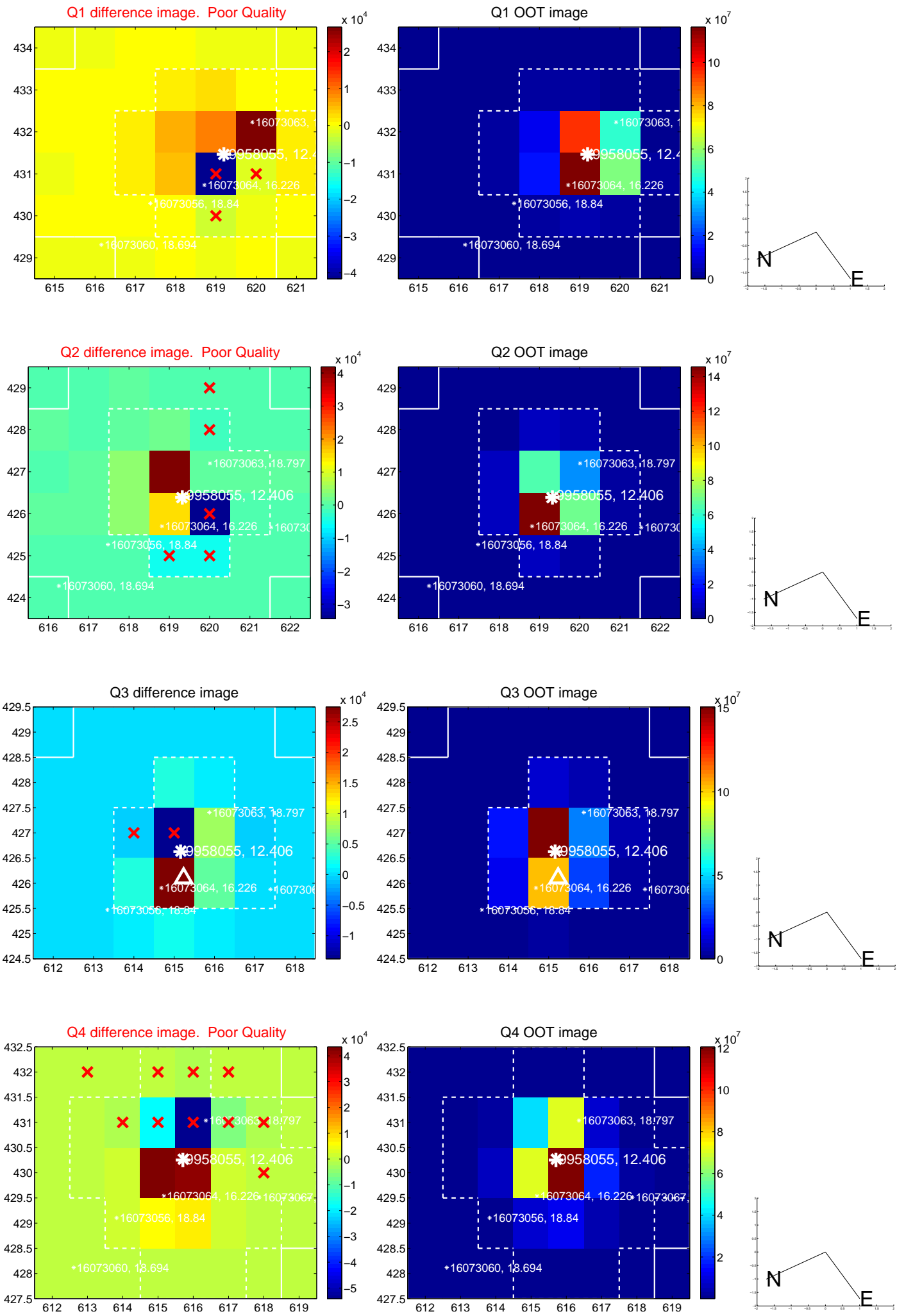
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.857 ± 0.719	2.58	1.777 ± 1.090	0.537 ± 1.622
PRF-fit source offset from KIC position	1.880 ± 0.640	2.94	1.792 ± 0.735	0.569 ± 1.335
photometric centroid source offset	0.74 ± 0.70	1.05	-0.46 ± 0.63	0.58 ± 0.75

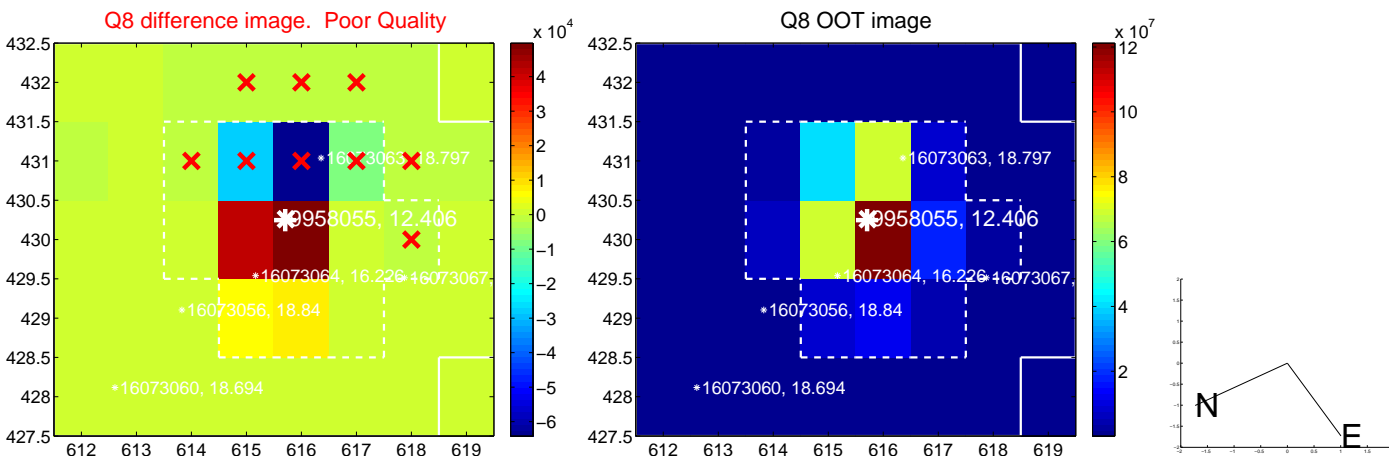
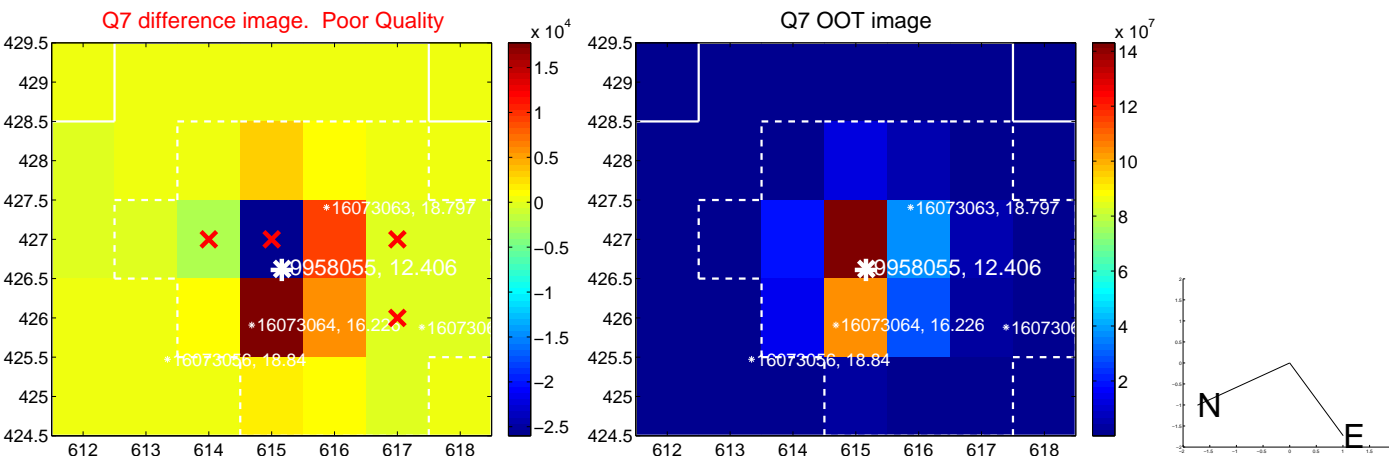
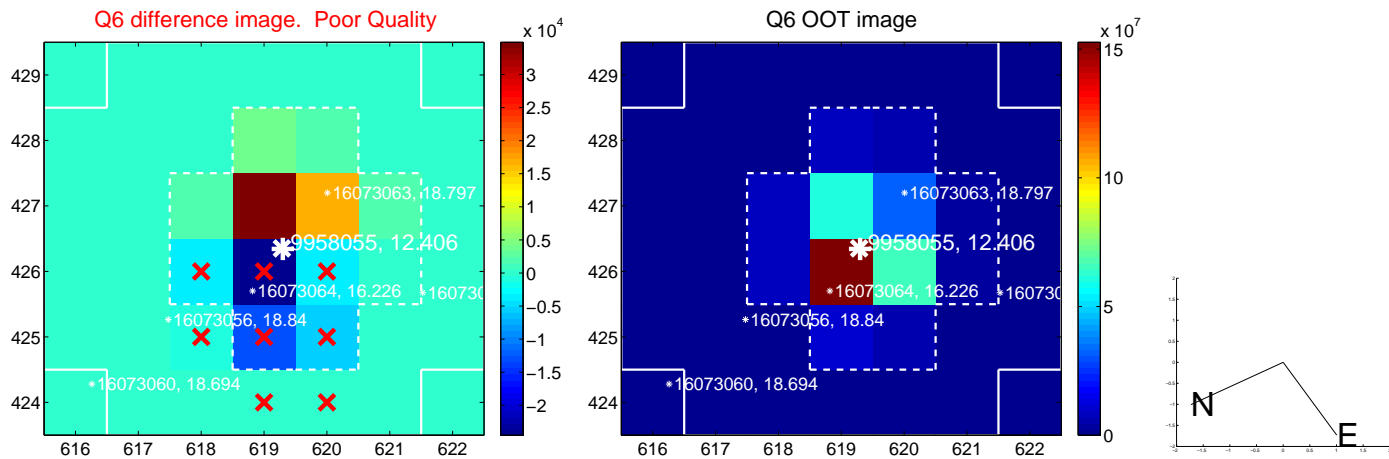
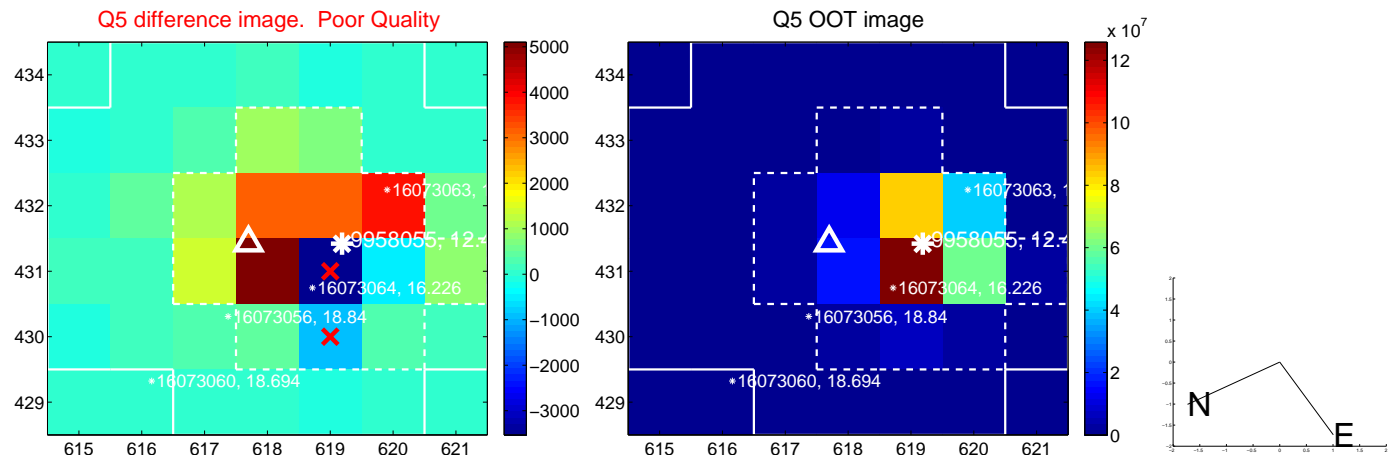


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

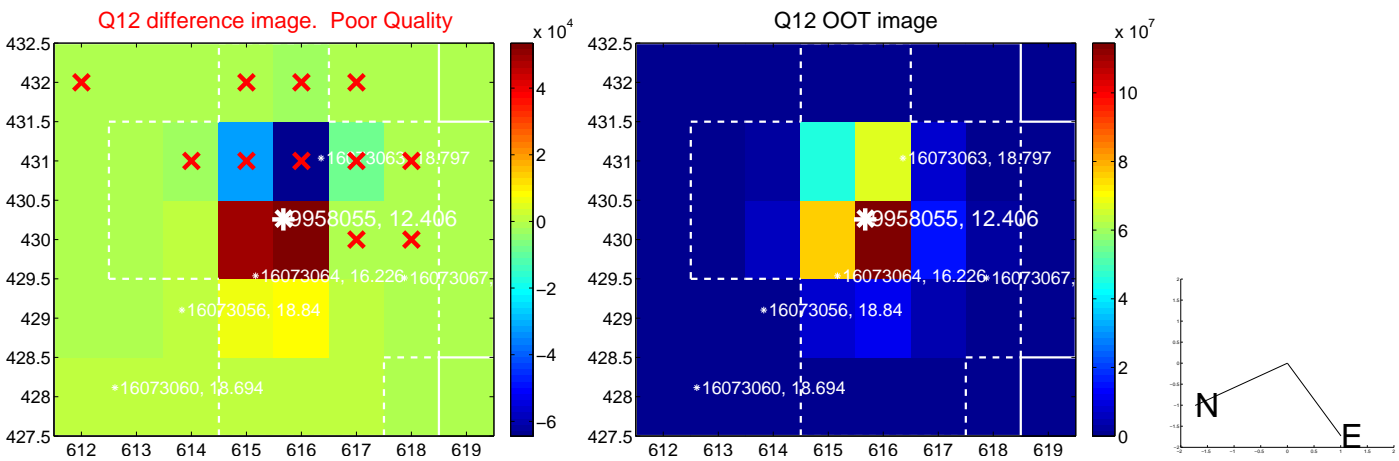
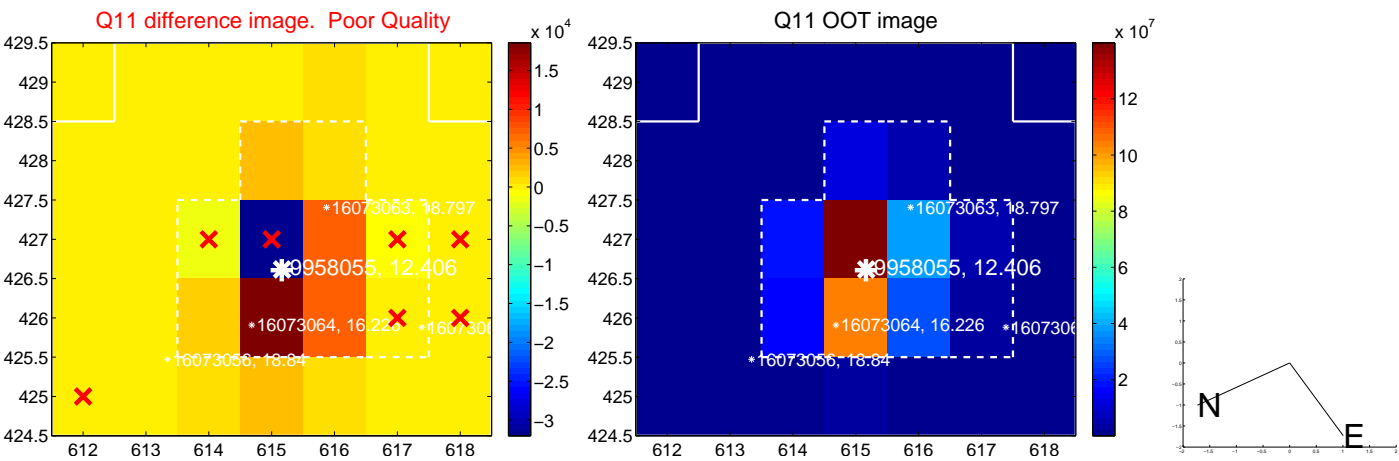
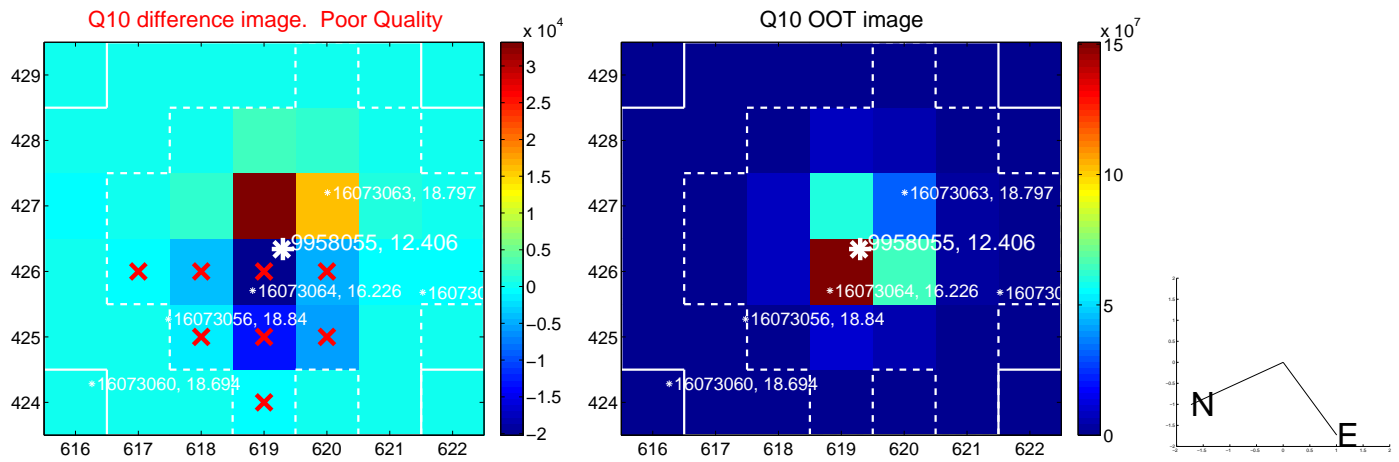
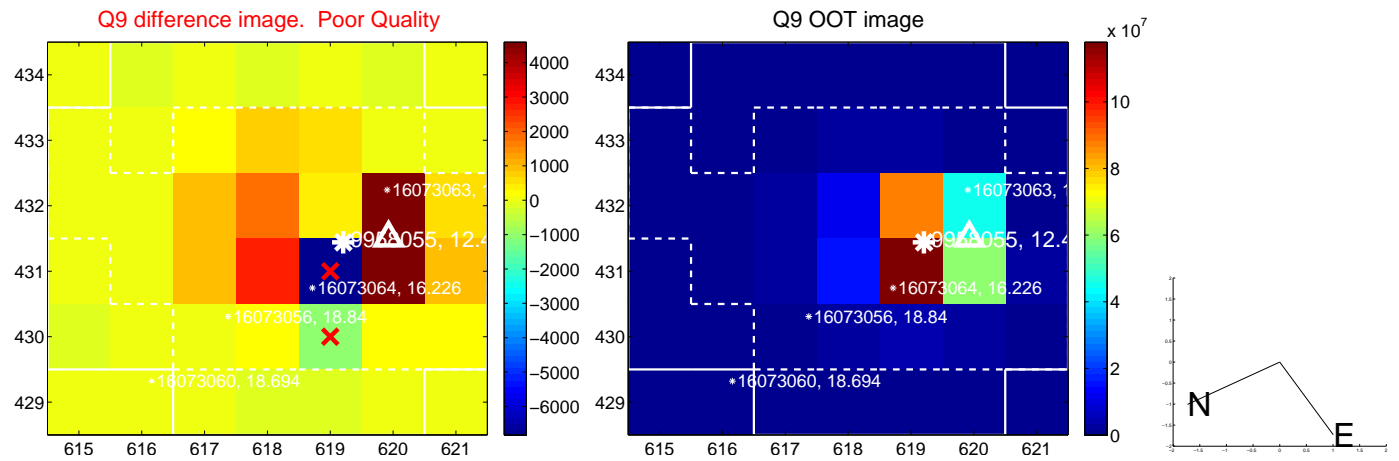
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



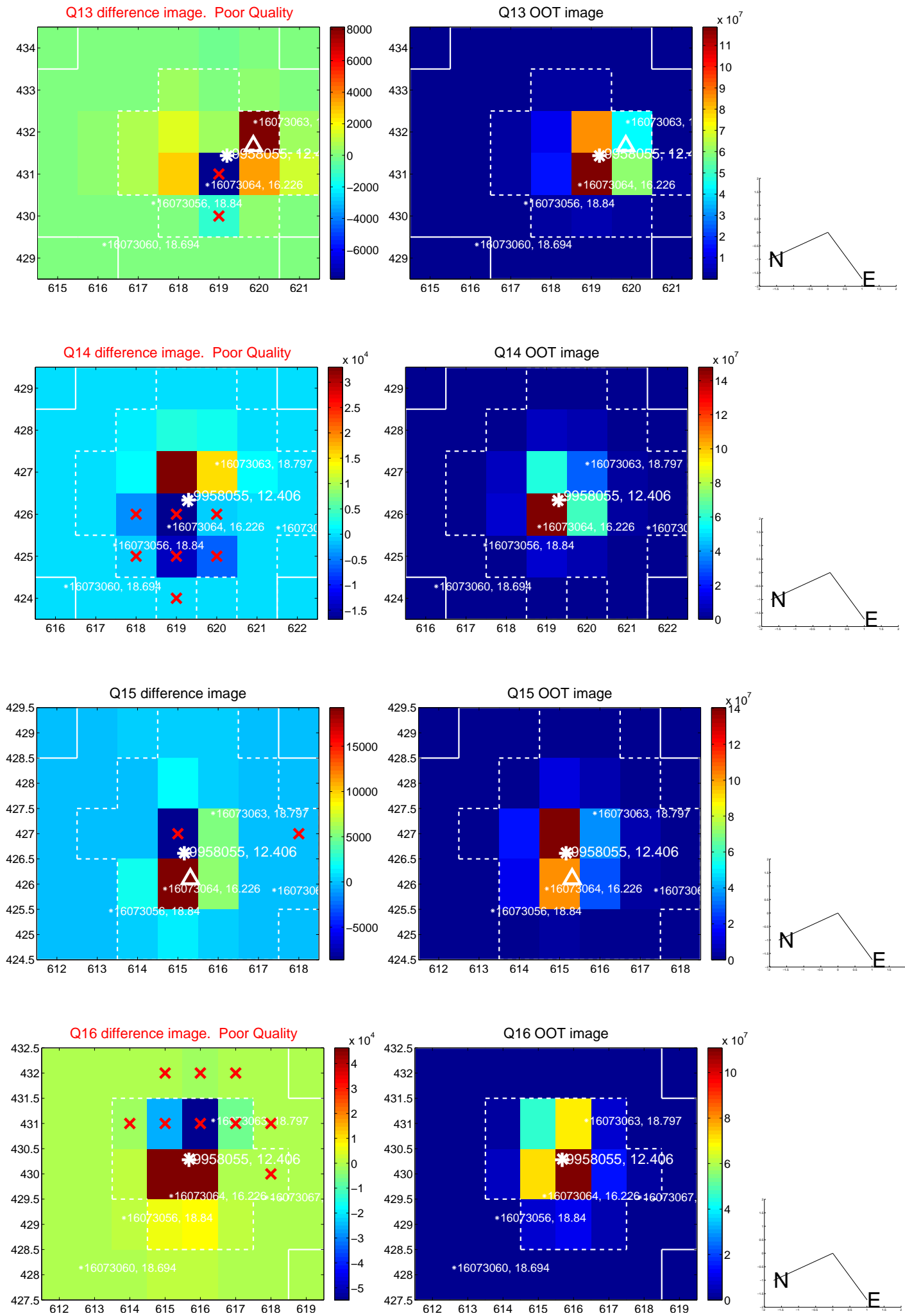
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



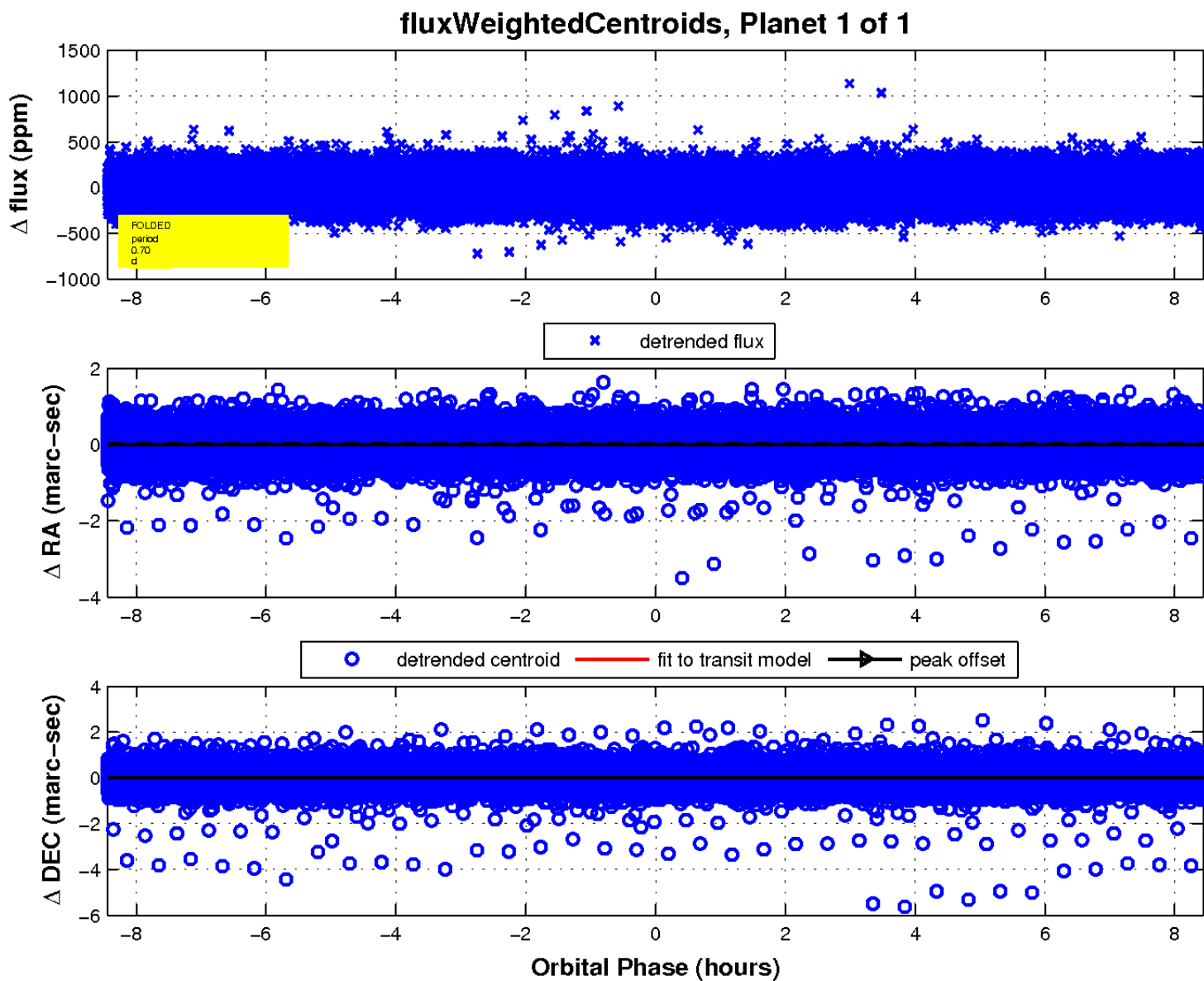
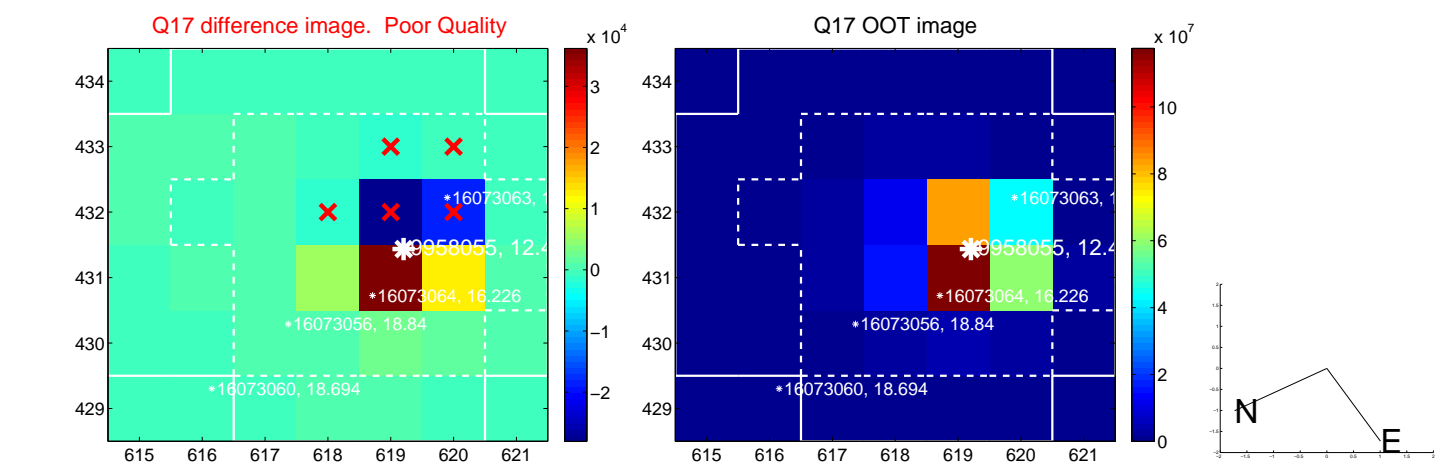
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

