

KIC 007031781

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})
007031781-01	OBS	No	0.566795	131.798560	84.3	1.562	9.9	9.2	0.87	5356	0.89	3502.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031781-01	OBS	FP	0.00	1	0	1	1	LPP_DV—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.

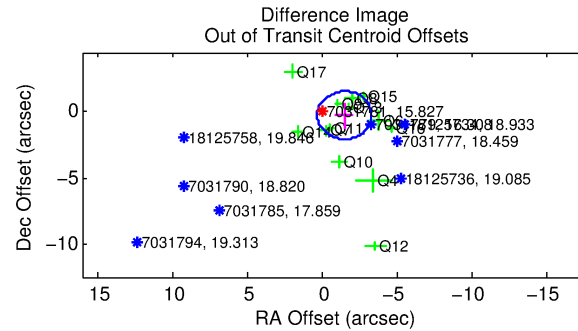
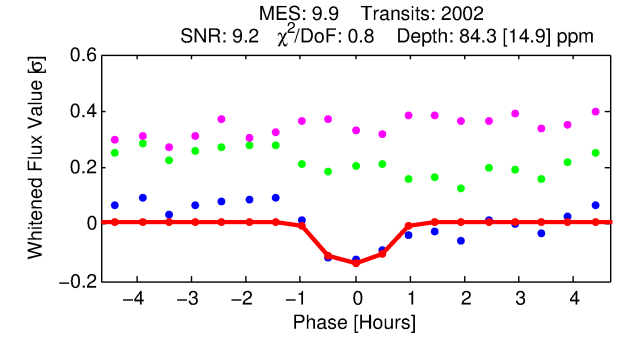
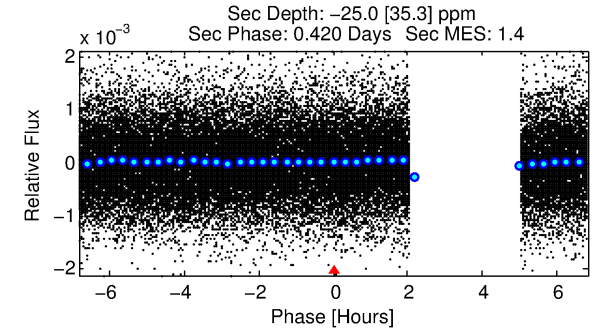
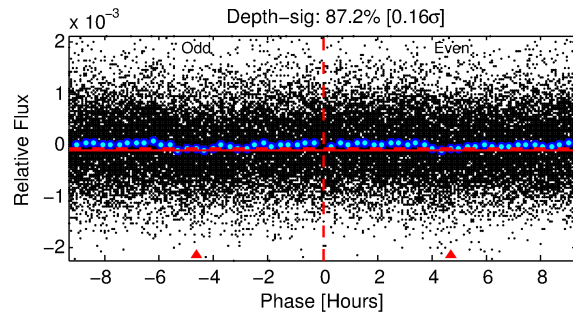
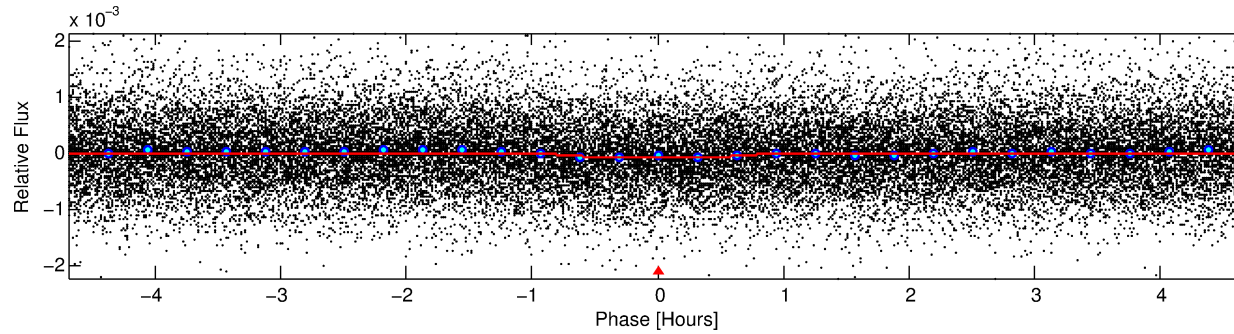
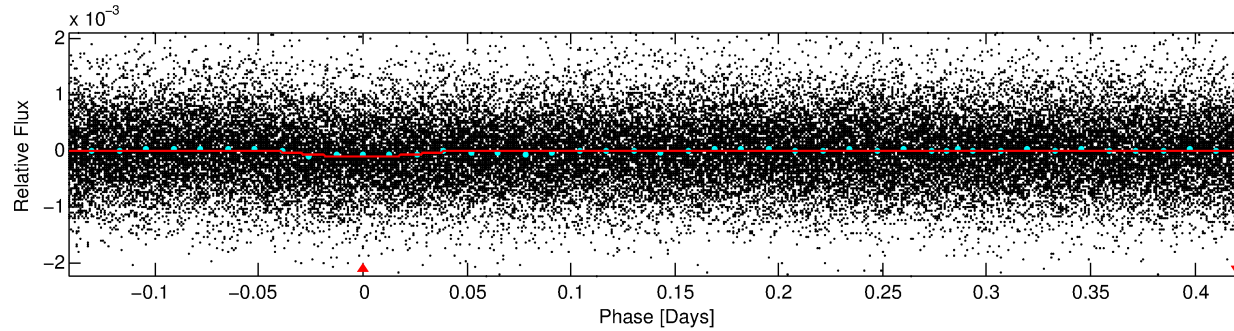
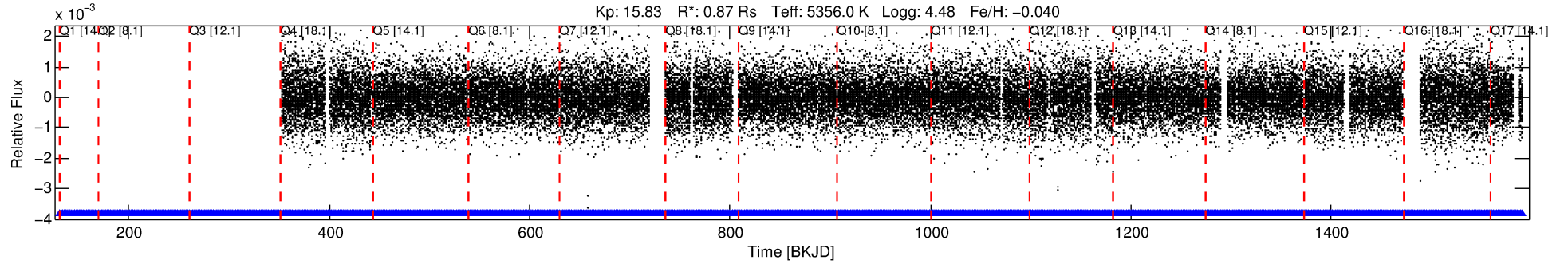
Ephemeris Match Information For 007031781-01

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
007031781-01	7031781	RR-Lyr-pri	7198959	1:1	960.1	127	-206	7.86	15.82	7420.20	Direct-PRF	0	0.51	21.47

Notes: $P_1:P_2$ 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. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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: 7031781 Candidate: 1 of 1 Period: 0.567 d



DV Fit Results:

Period = 0.56680 [0.00001] d
Epoch = 131.7986 [0.0025] BKJD
Rp/R* = 0.0094 [0.0056]
a/R* = 1.91 [3.27]
b = 0.80 [1.07]
Seff = 3502.42 [1021.70]
Teq = 1962 [143] K
Rp = 0.89 [0.56] Re
a = 0.0126 [0.0021] AU
Ag = N/A
Teffp = N/A

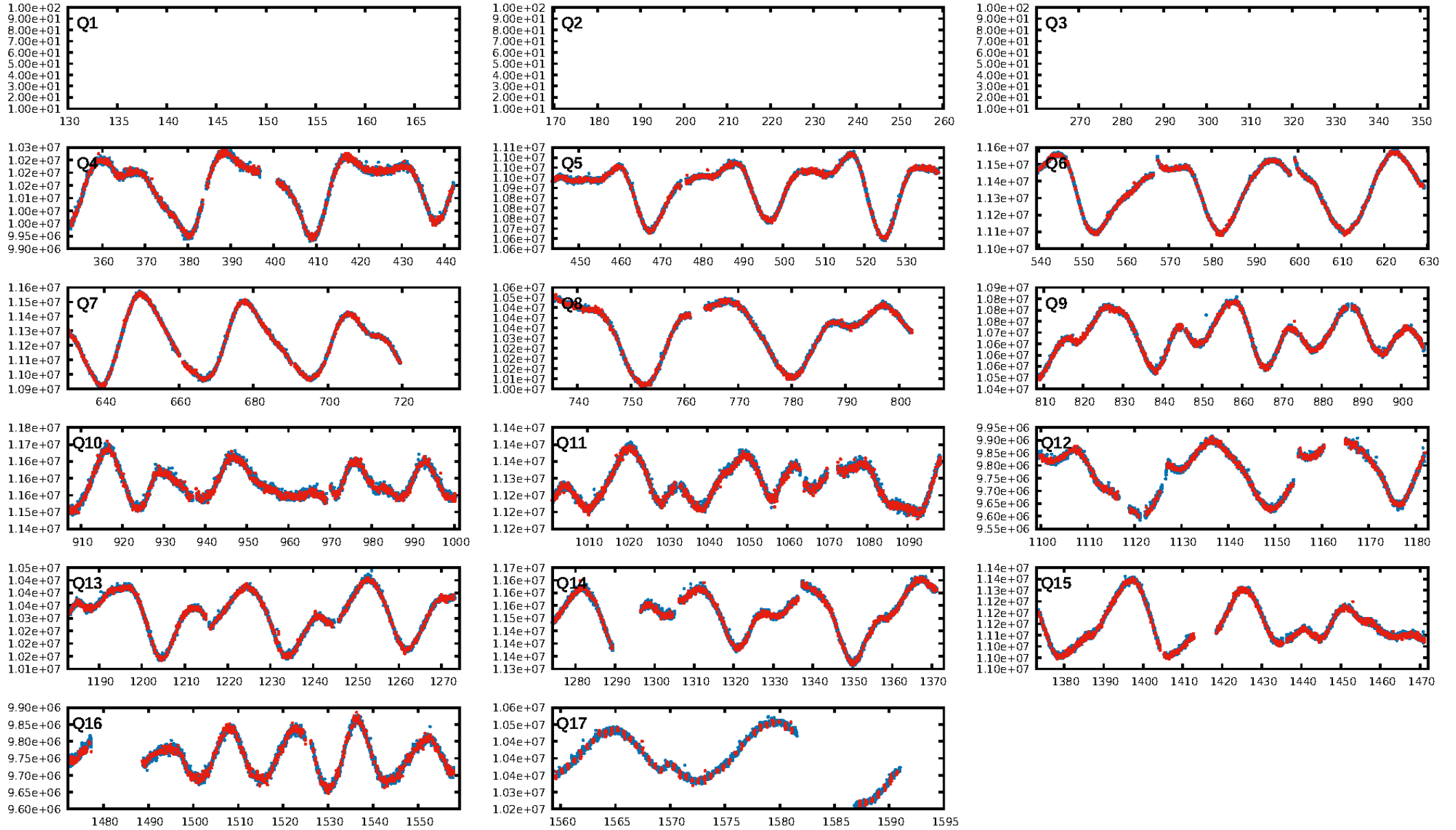
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.43e-23
RollingBand-fgt: 1.00 [1956/1956]
GhostDiagnostic-chr: -0.1454
Centroid-sig: 8.7%
Centroid-so: 1.504 arcsec [1.18 σ]
OotOffset-rm: 1.540 arcsec [2.55 σ]
KicOffset-rm: 1.813 arcsec [2.77 σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.08 [1/13]
DiffImageOverlap-fno: 1.00 [14/14]

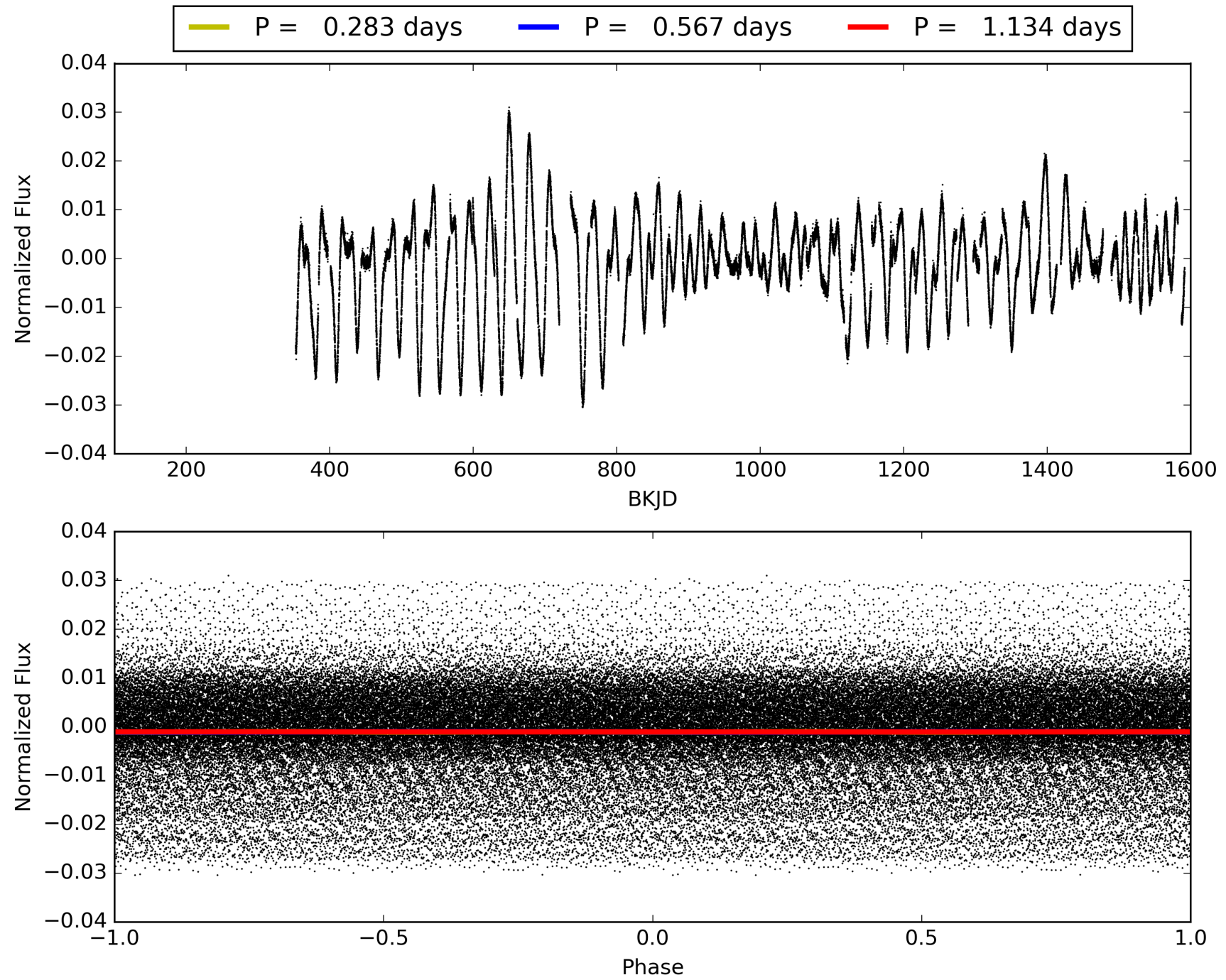
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:40:22 Z

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

TCE 007031781-01, PDC Light Curves

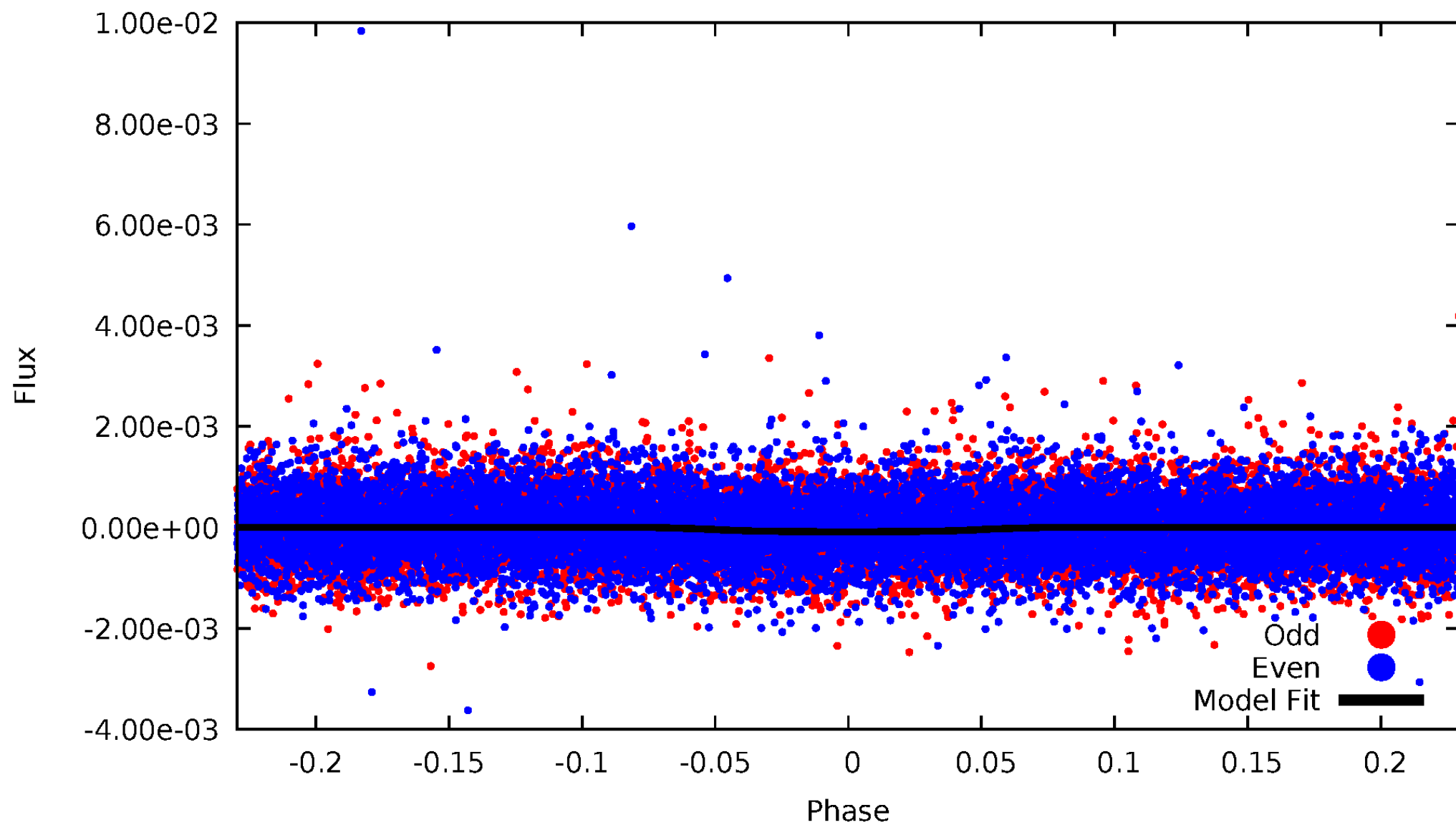


TCE 007031781-01



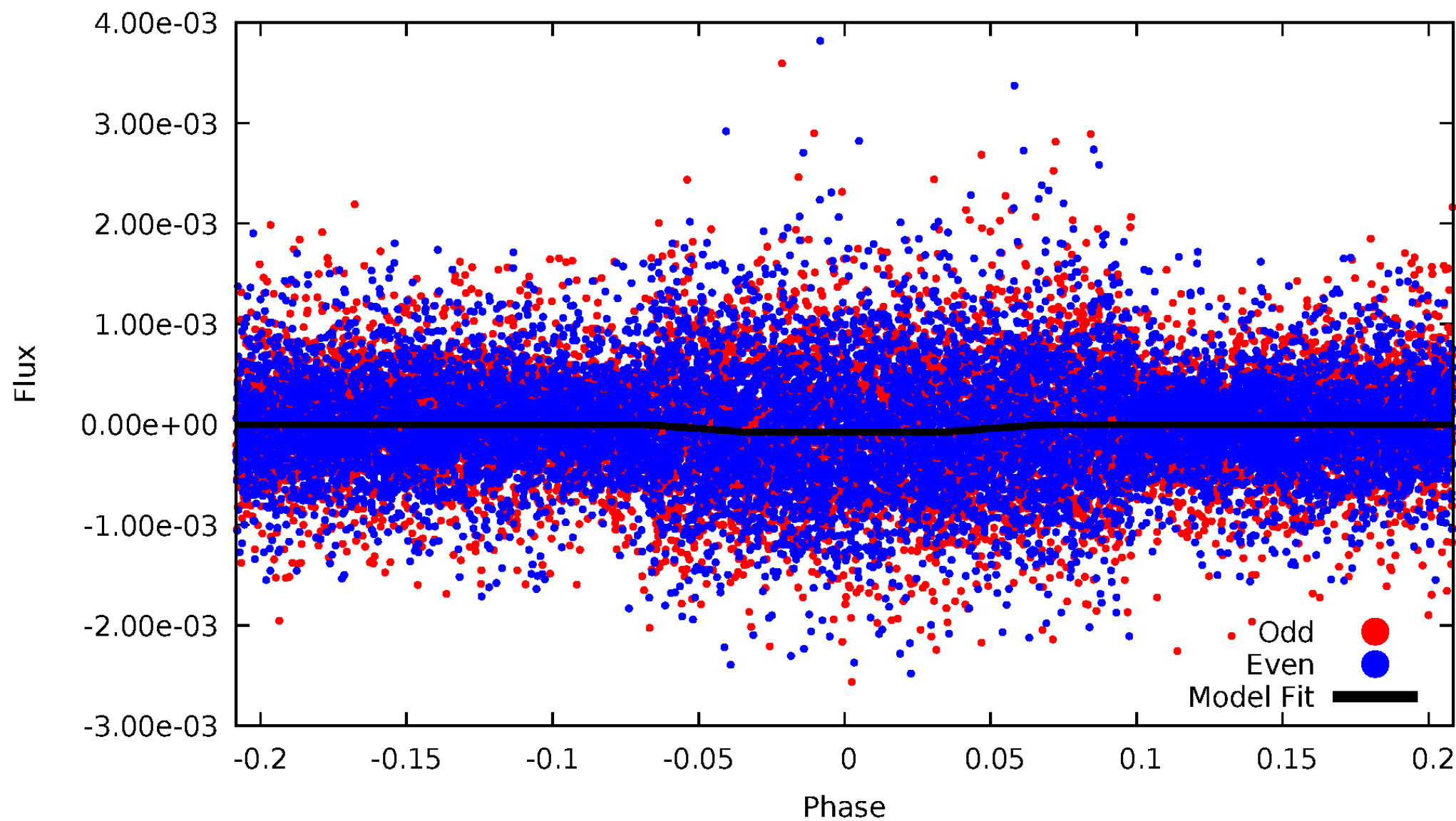
DV Odd/Even

TCE 007031781-01

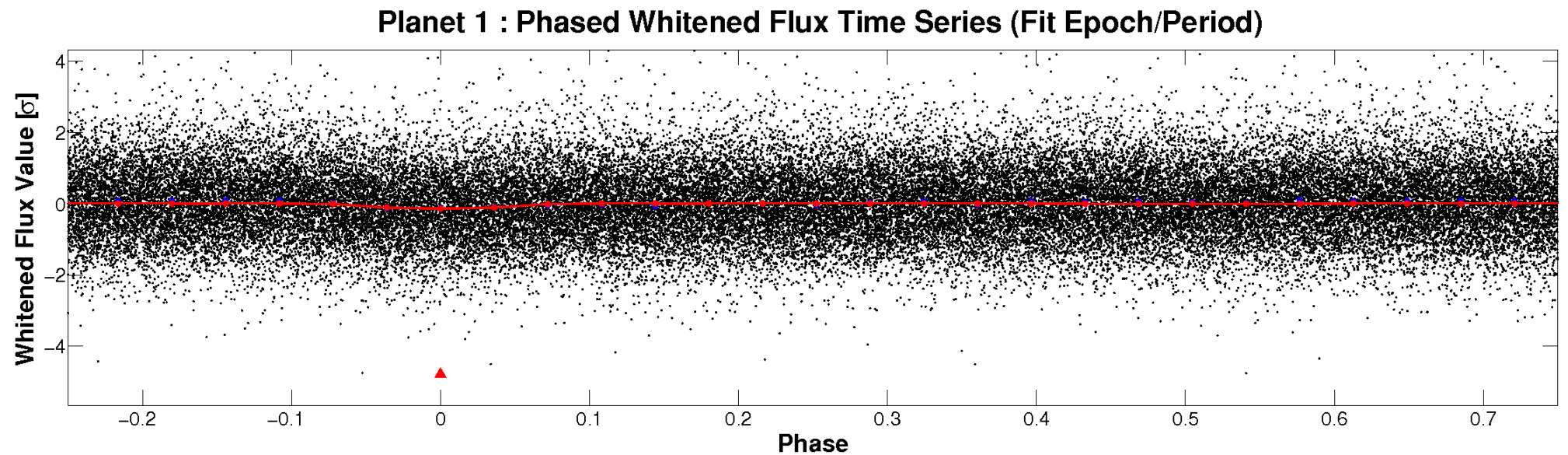
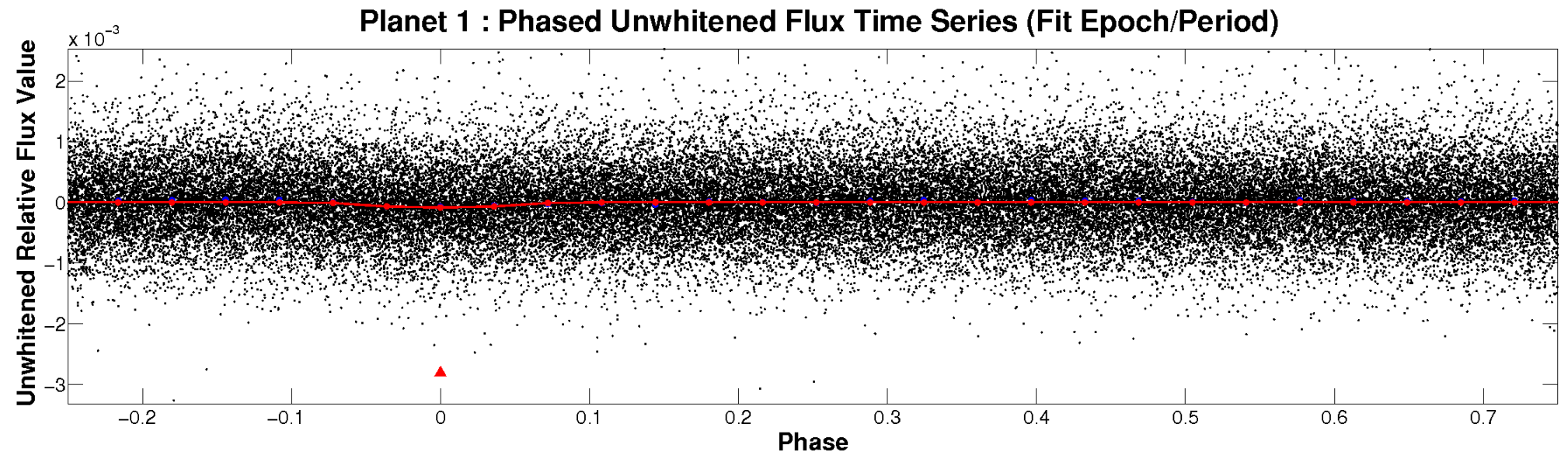


ALT Odd/Even

TCE 007031781-01

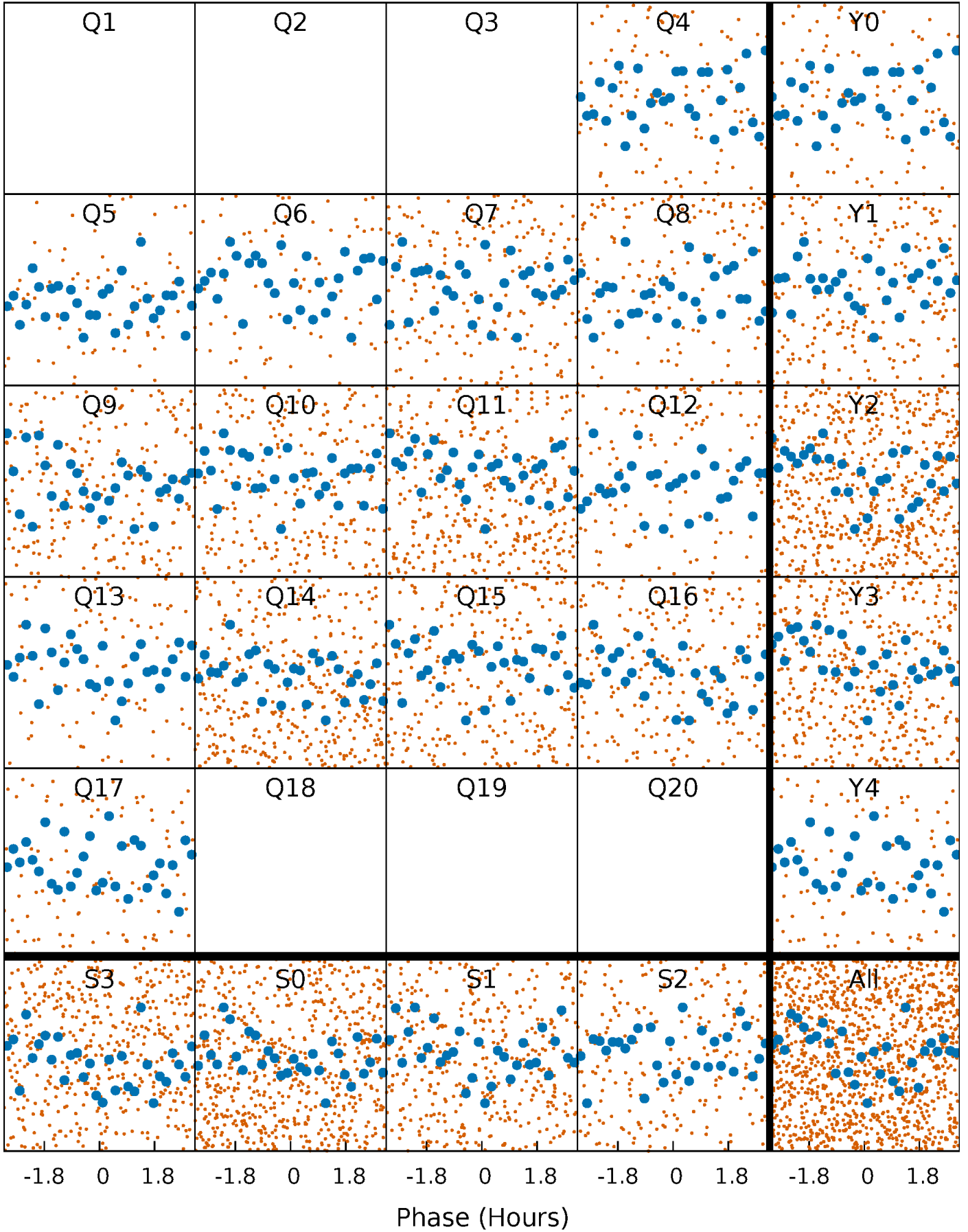


Non-Whitened Vs. Whitened Light Curve



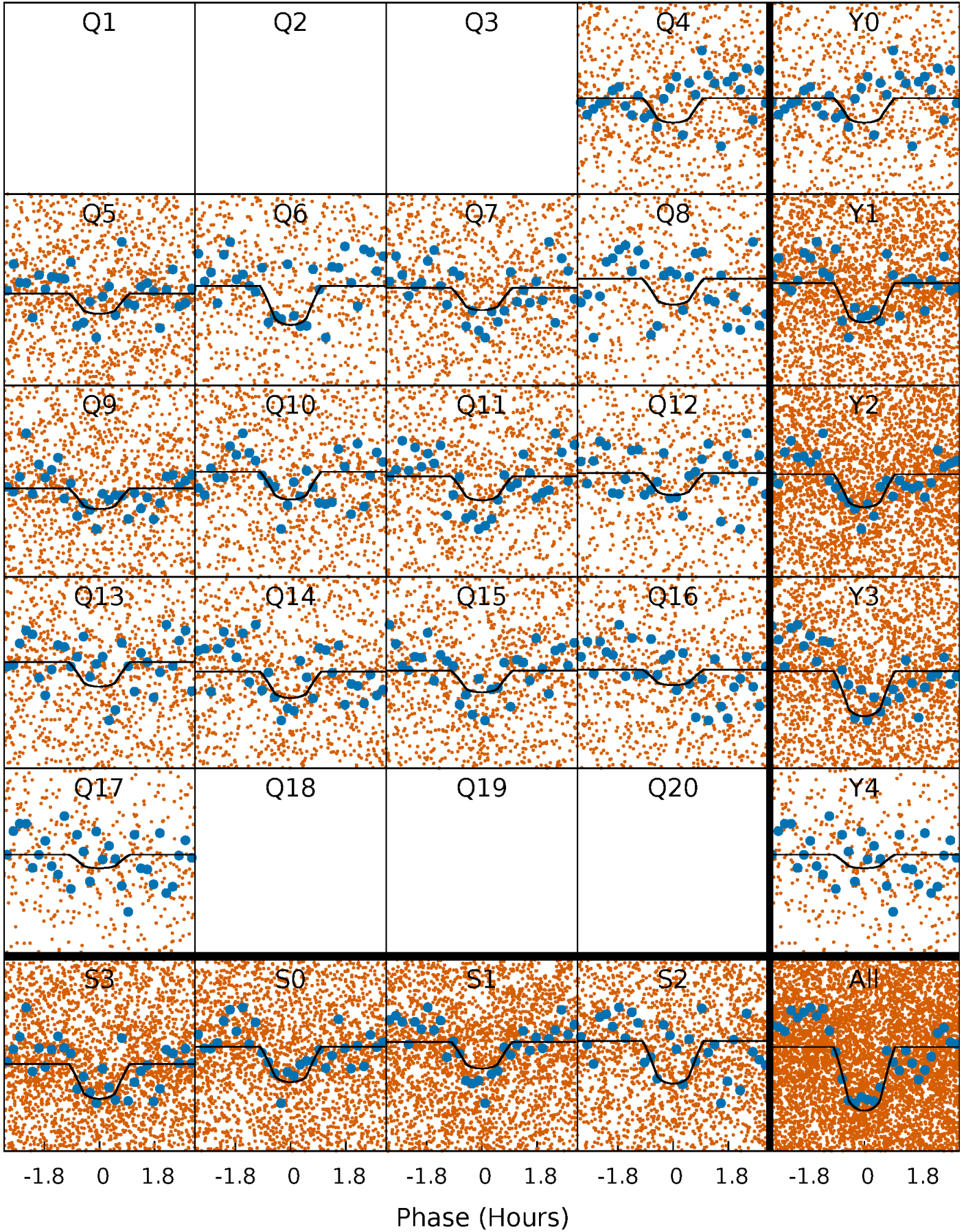
PDC Quarter-Phased Transit Curves

TCE 007031781-01 P= 0.566795 Days $T_0=131.798560$ (BKJD)



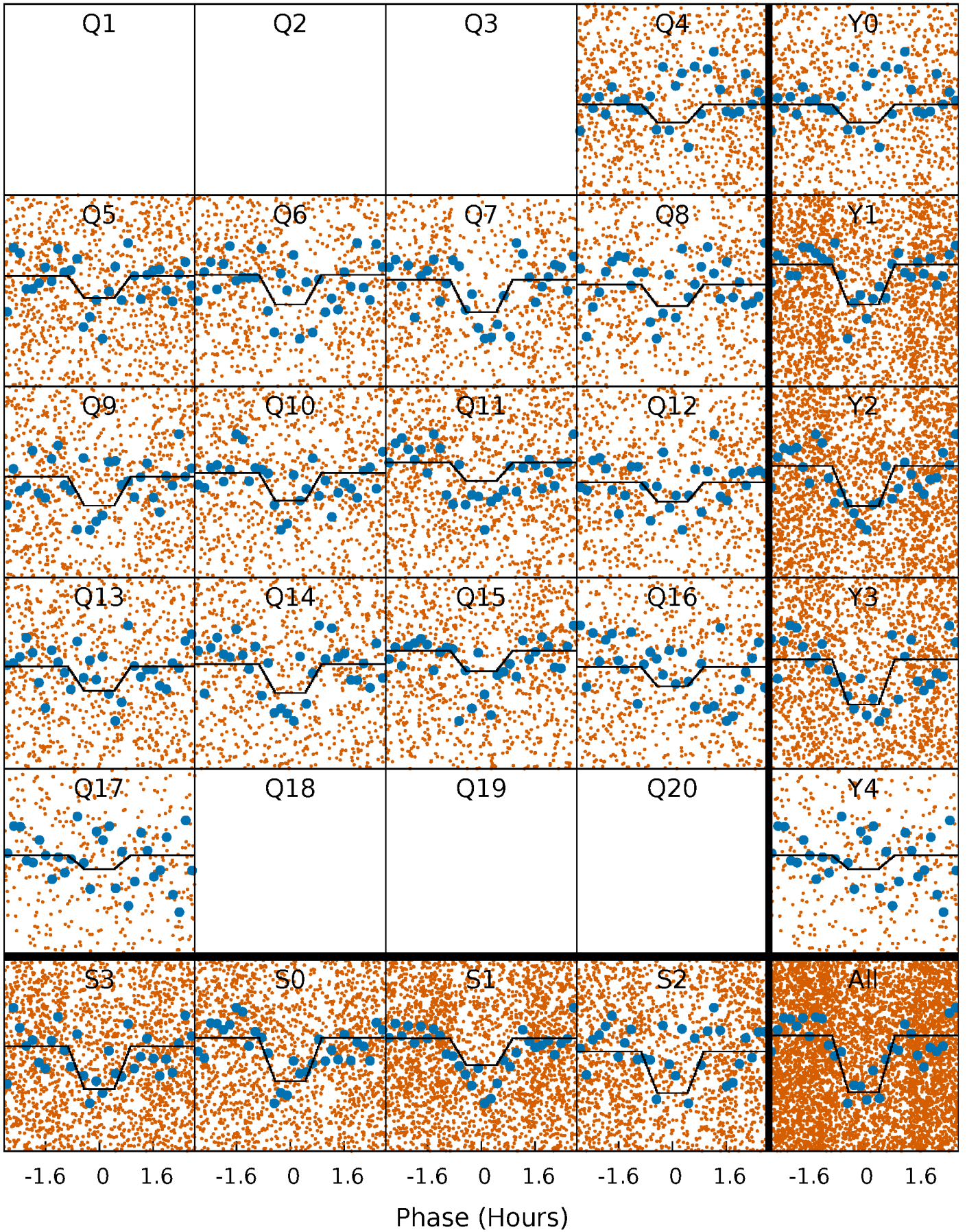
DV Quarter-Phased Transit Curves

TCE 007031781-01 P= 0.566795 Days $T_0=131.798560$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

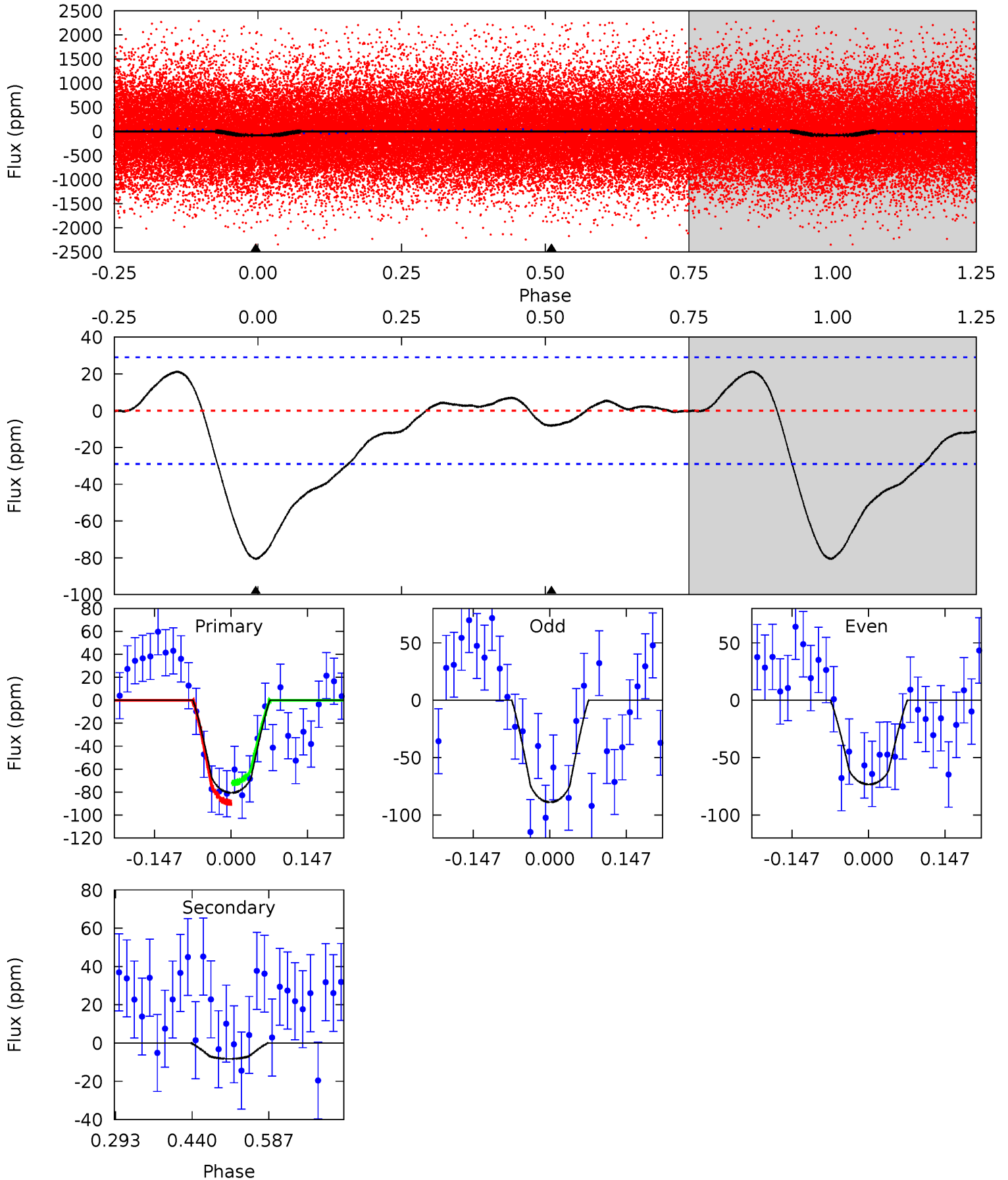
TCE 007031781-01 P= 0.566798 Days $T_0=131.789693$ (BKJD)



DV Model-Shift Uniqueness Test

007031781-01, P = 0.566795 Days, E = 131.798560 Days

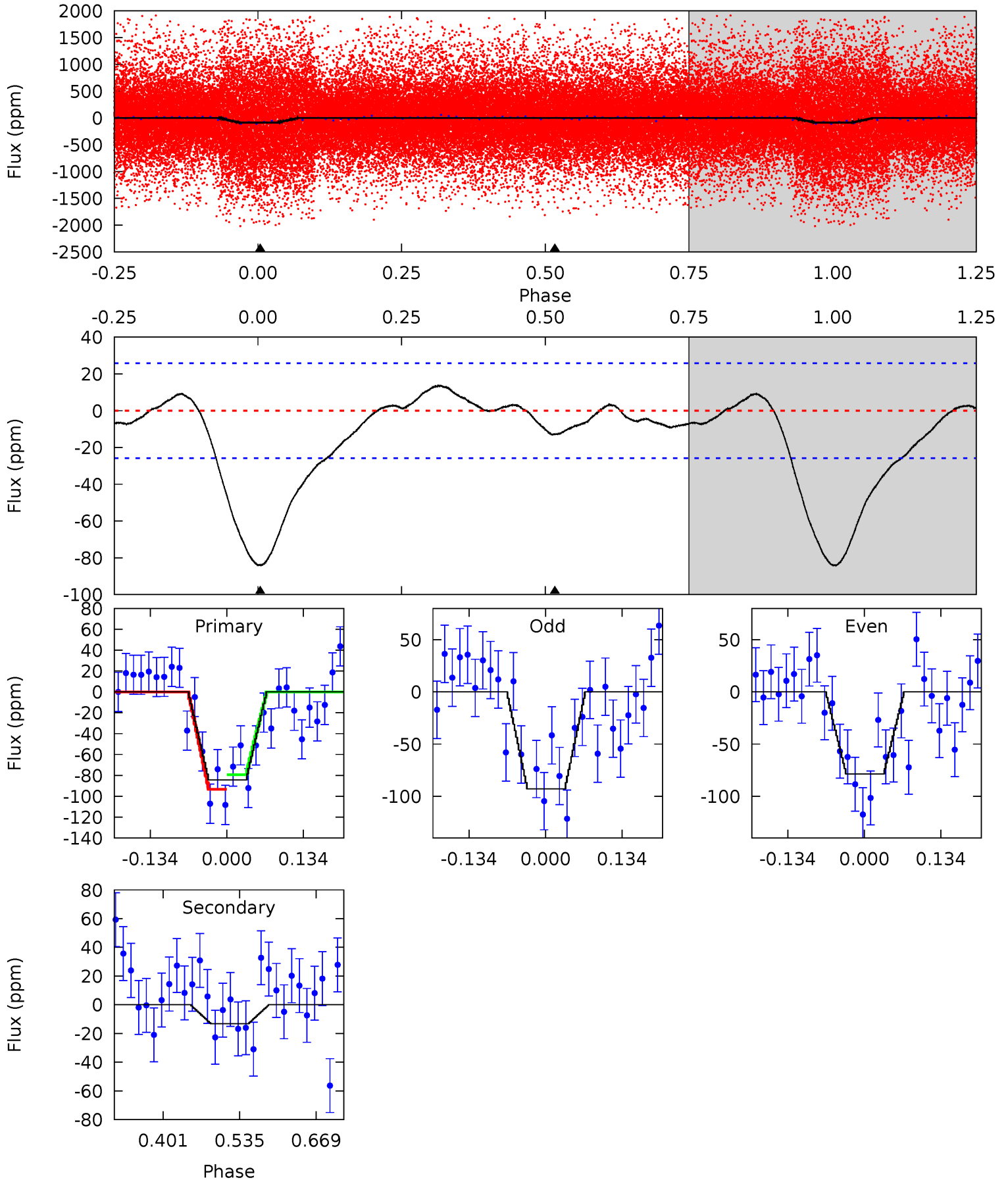
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	1.27	0	0	4.48	1.45	1.75	12.5	12.5	1.27	1.27	1.20	0.88	0.21	1.32



Alt Model-Shift Uniqueness Test

007031781-01, P = 0.566798 Days, E = 131.789693 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	2.31	0	0	4.50	1.50	1.37	14.7	14.7	2.31	2.31	1.24	0.77	0.14	1.22



Stellar Parameters For KIC 007031781

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5356^{+204}_{-185}	$4.480^{+0.092}_{-0.138}$	$-0.040^{+0.300}_{-0.300}$	$0.869^{+0.170}_{-0.099}$	$0.834^{+0.104}_{-0.070}$	$1.789^{+0.691}_{-0.696}$
	+4%/-3%	+2%/-3%	+750%/-750%	+20%/-11%	+12%/-8%	+39%/-39%
Source	KIC0	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 007031781-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-8 ± 6	$0.92^{+0.55}_{-0.50}$	2762^{+161}_{-155}	3072^{+1307}_{-5850}	$0.722^{+3.022}_{-0.613}$
Alt.	-13 ± 6	$0.92^{+0.48}_{-0.45}$	2758^{+154}_{-136}	3507^{+1264}_{-770}	$1.276^{+4.211}_{-0.798}$

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 $A_{obs} \gg 1.0$

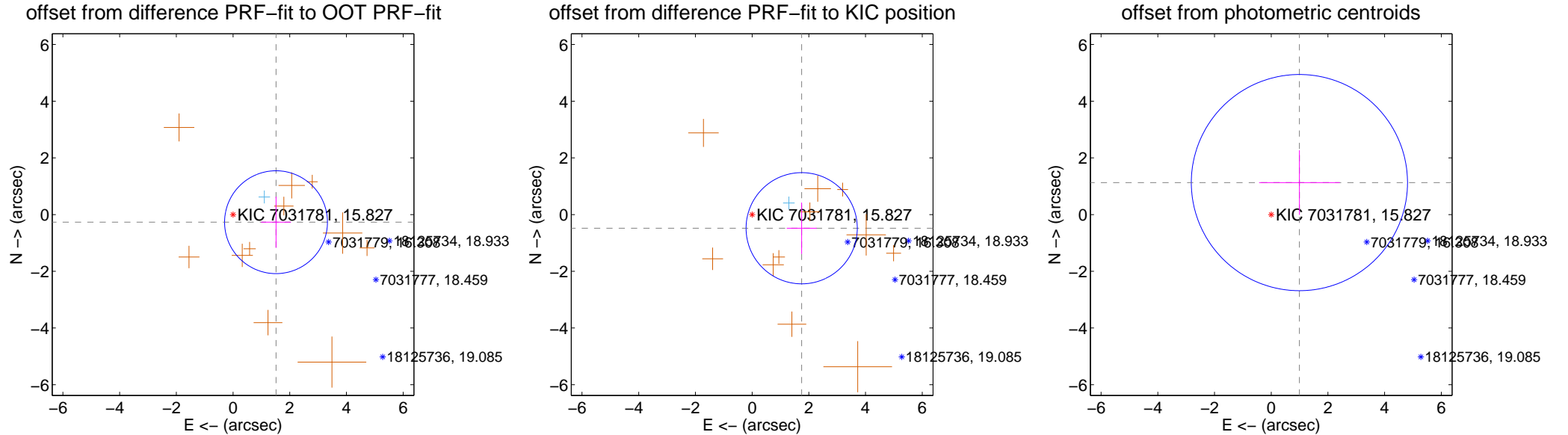
DV Centroid Data

Supplemental centroid analysis for 007031781-01. Kepler magnitude: 15.83. Transit SNR 9.18

There are 1 quarters with good PRF difference image offsets

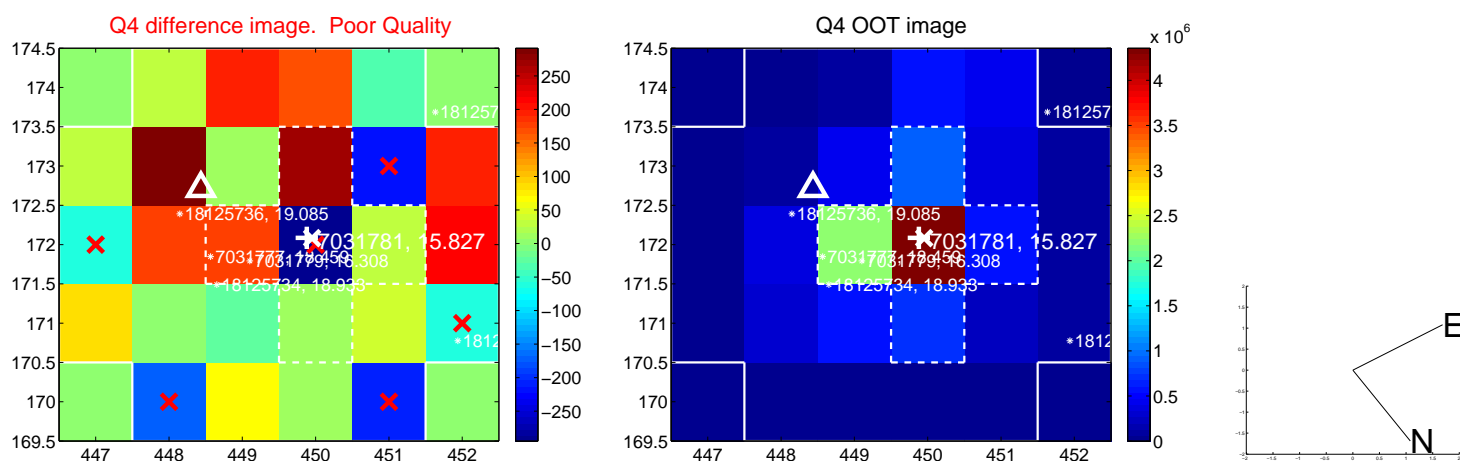
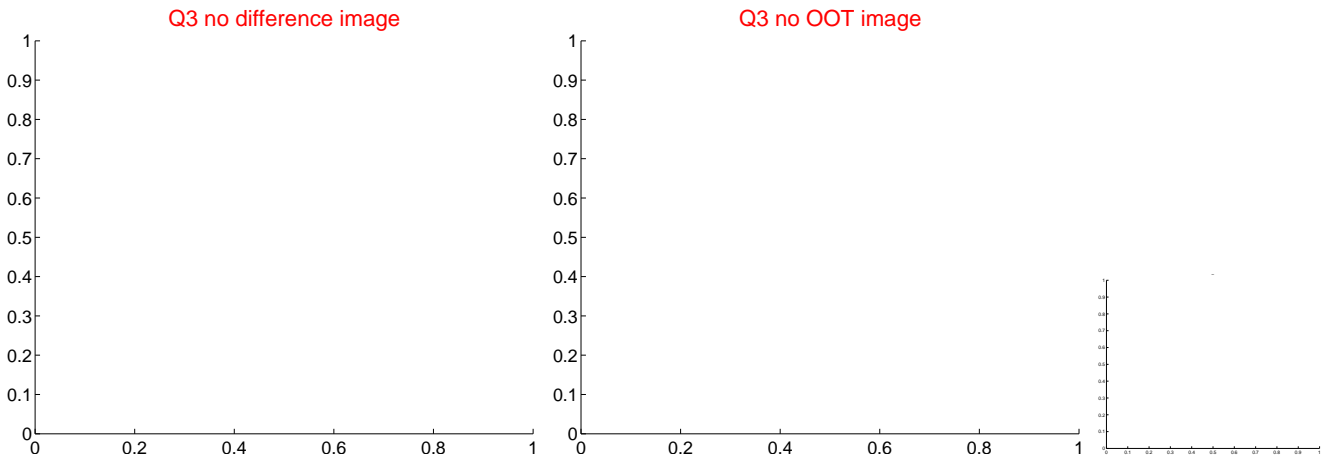
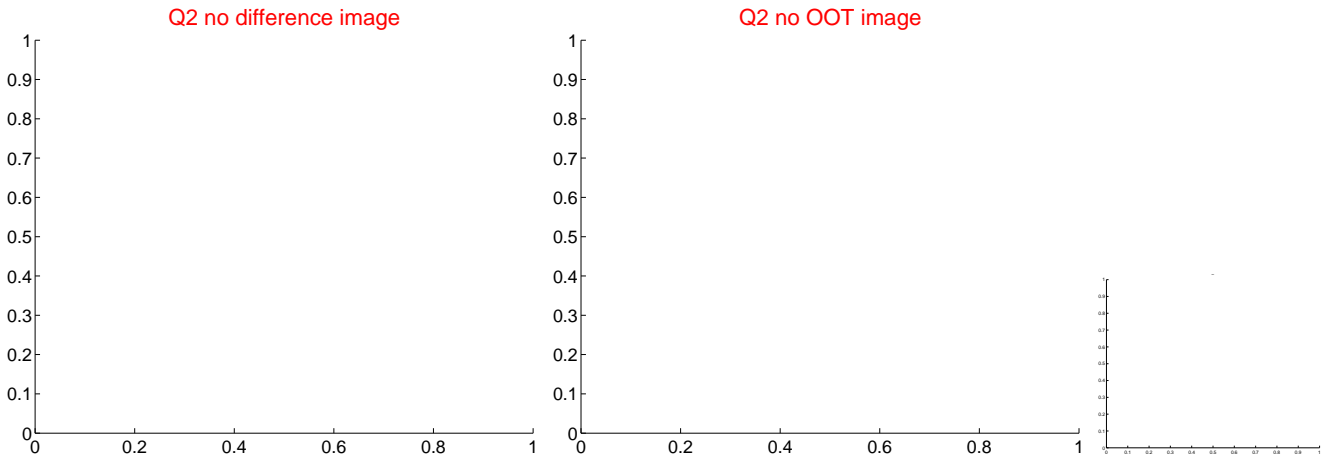
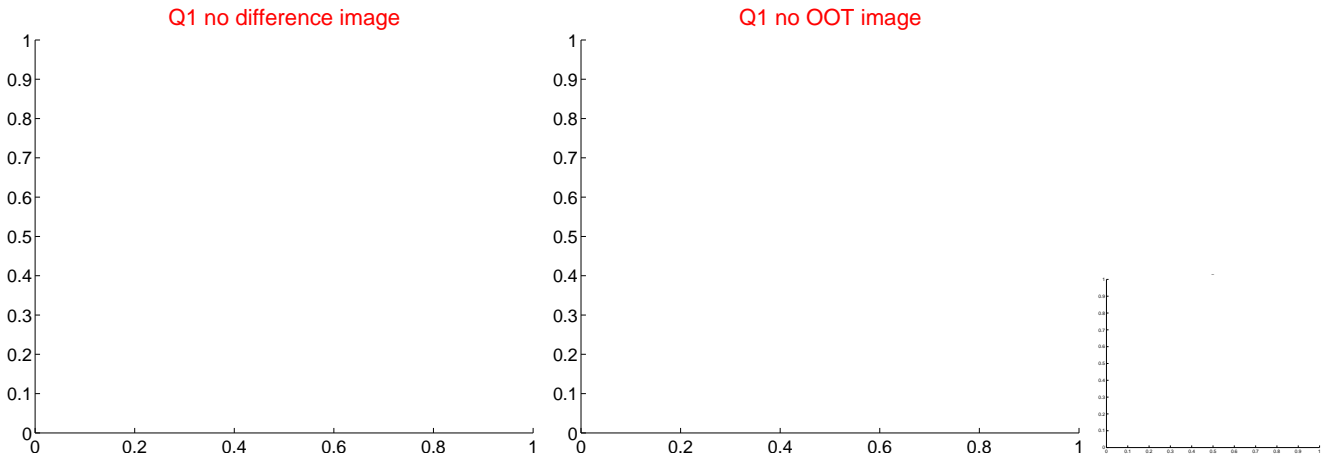
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.540 ± 0.605	2.55	-1.516 ± 0.526	-0.268 ± 0.901
PRF-fit source offset from KIC position	1.813 ± 0.654	2.77	-1.748 ± 0.527	-0.481 ± 0.907
photometric centroid source offset	1.50 ± 1.27	1.18	-0.99 ± 1.42	1.13 ± 1.14

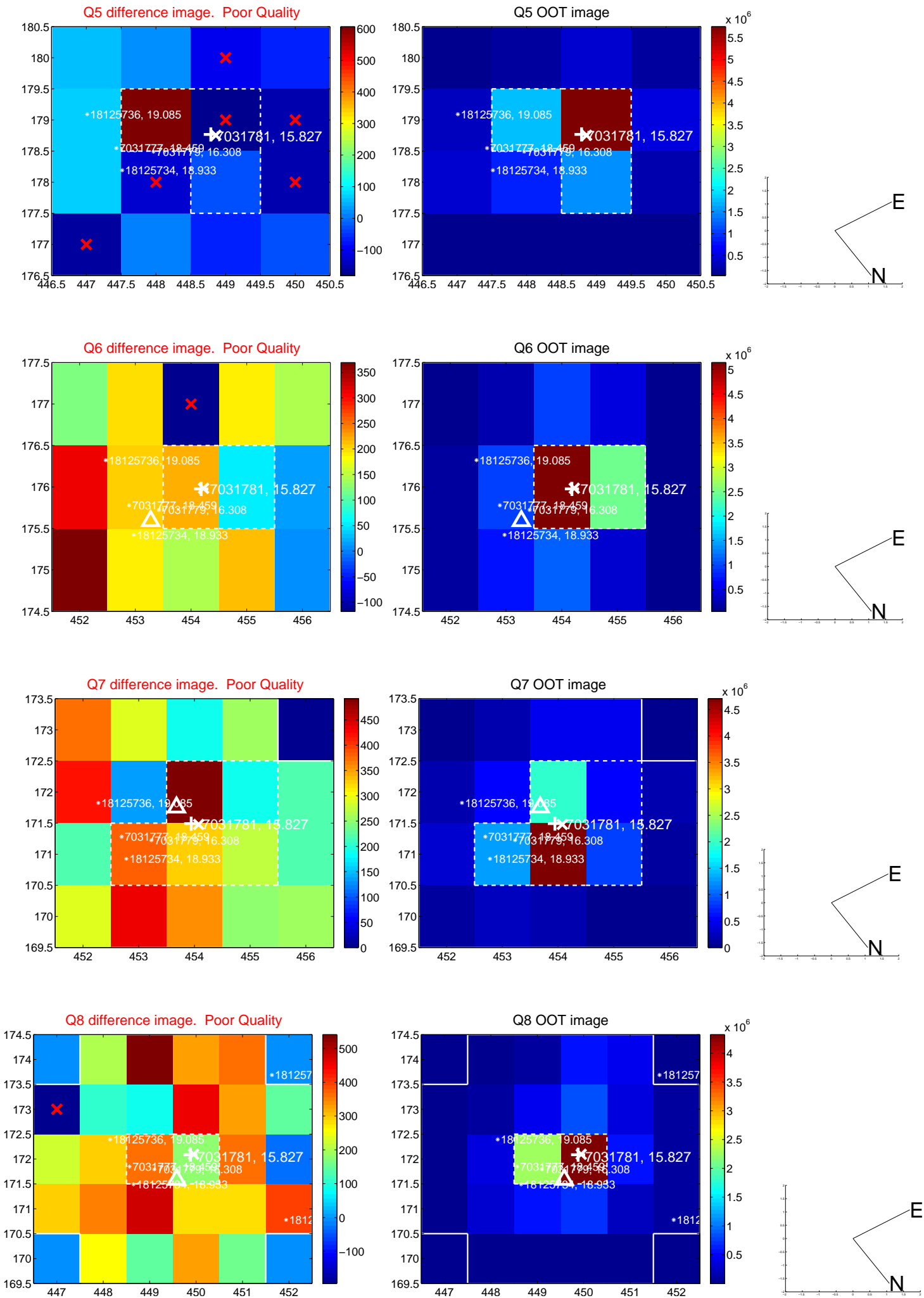


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

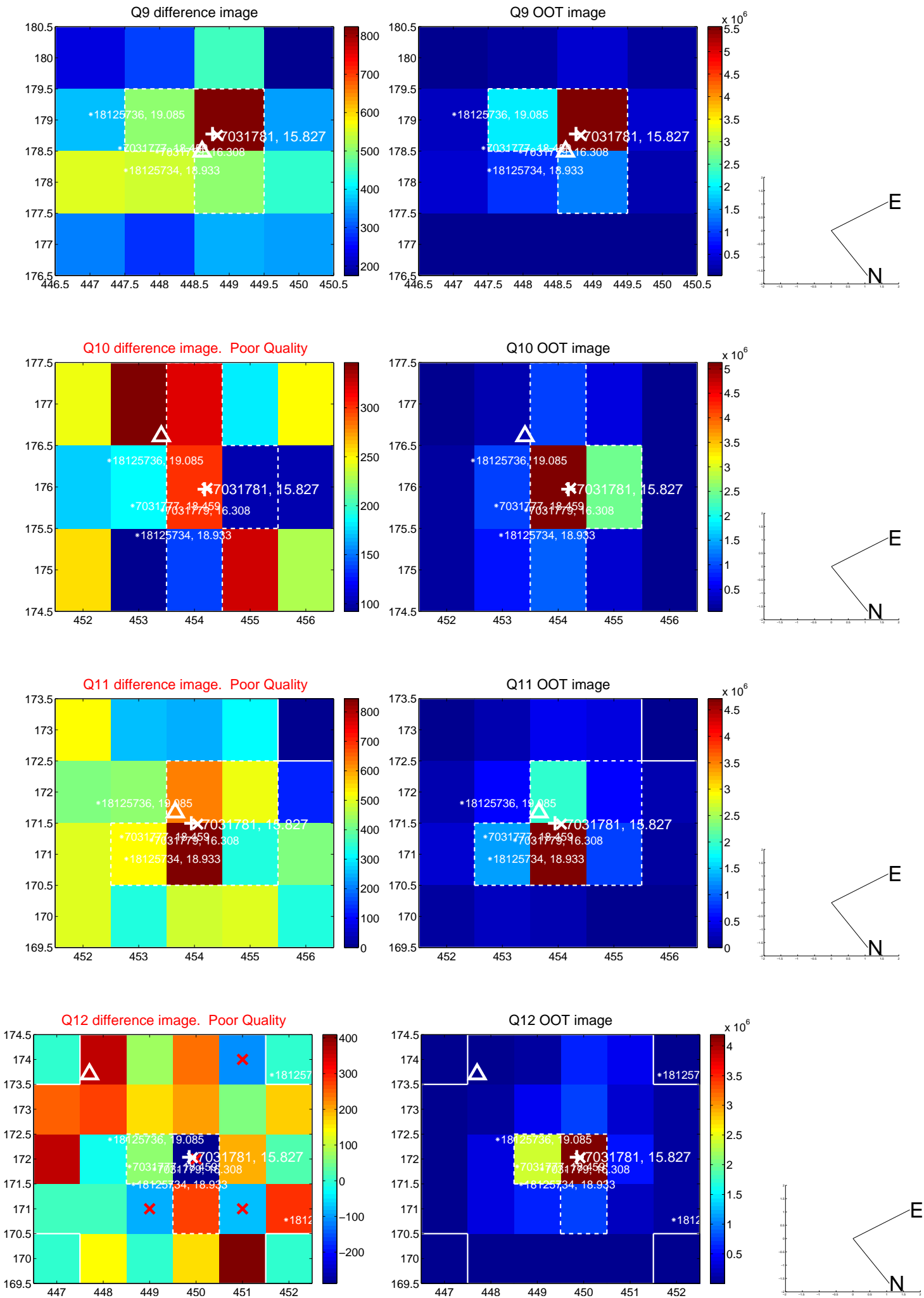
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



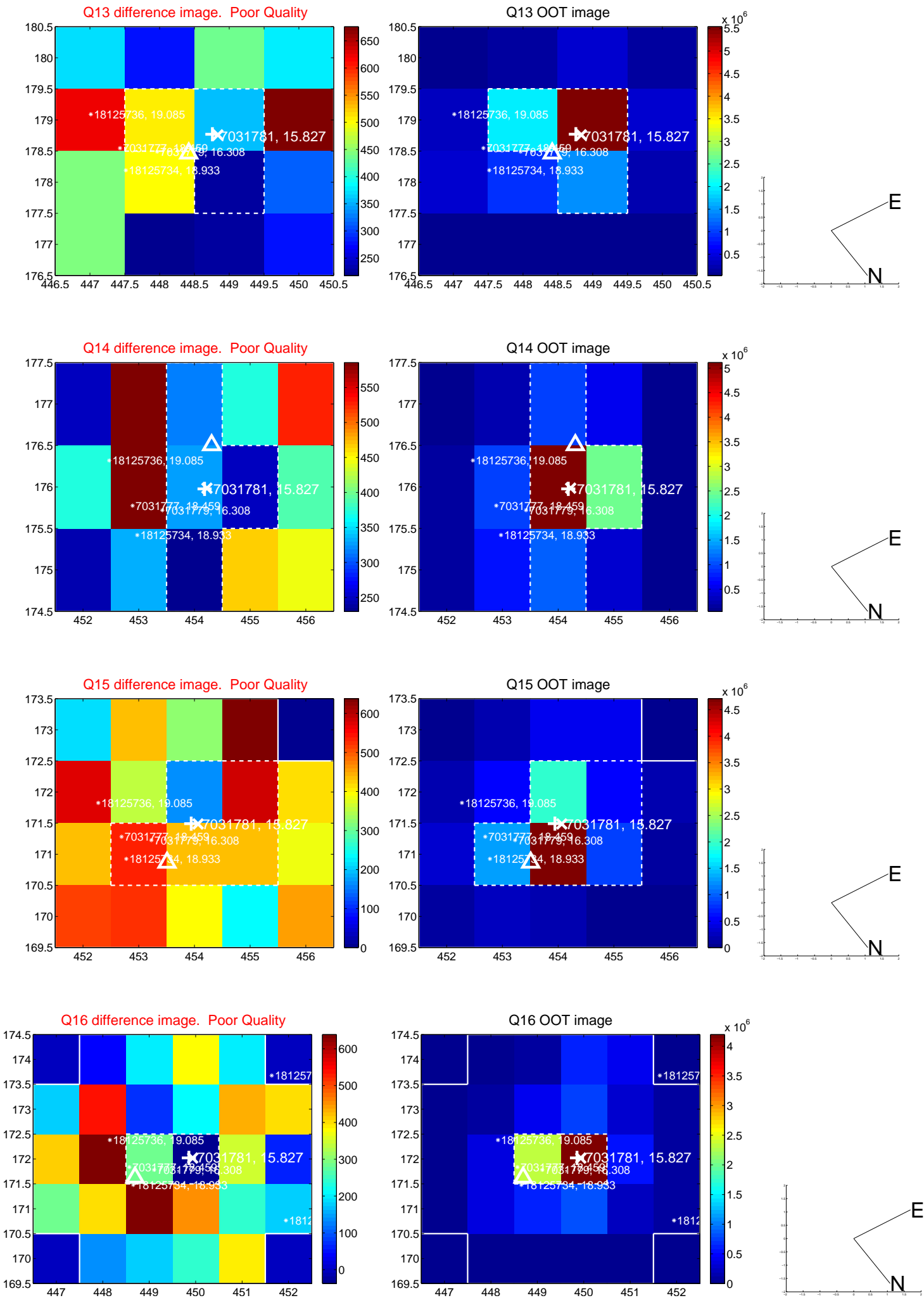
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



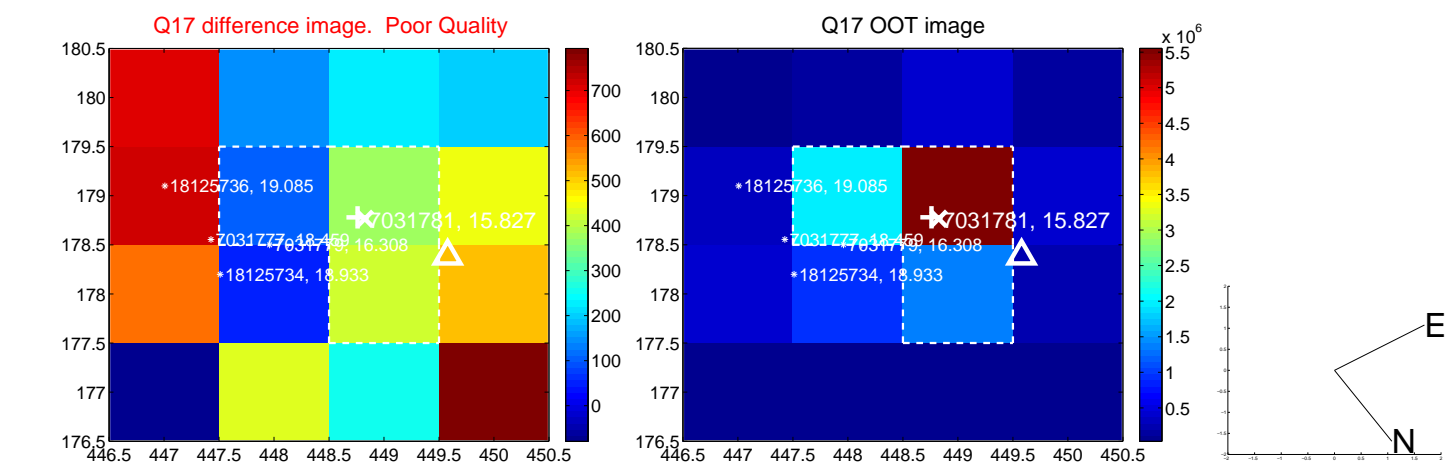
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



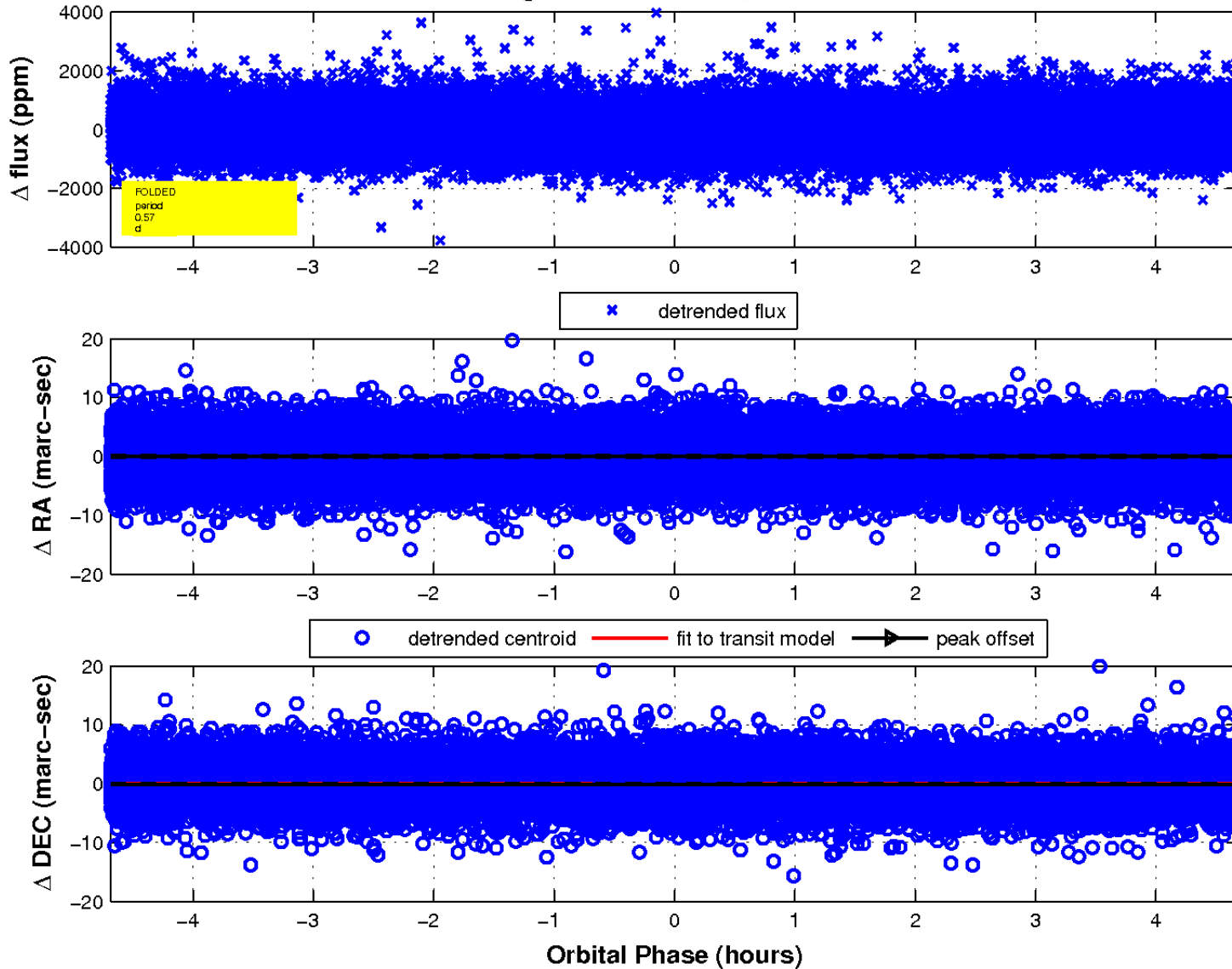
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

