

KIC 007281411

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
007281411-01	OBS	4339.01	0.566749	131.844888	31.4	3.724	11.4	5.1	0.64	5277	0.37	2154.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007281411-01	OBS	FP	0.00	1	0	0	1	LPP_DV—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 007281411-01

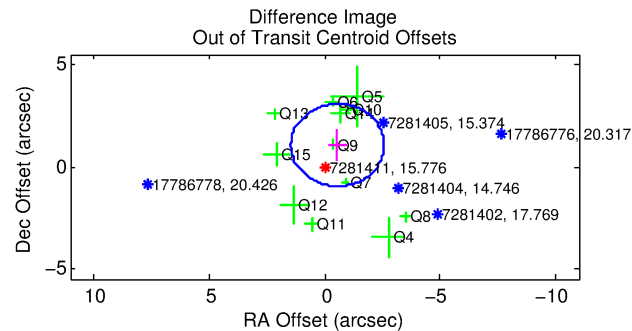
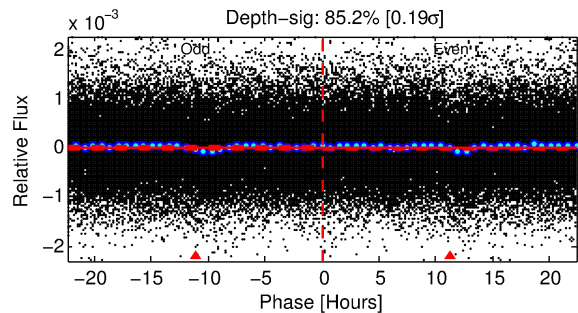
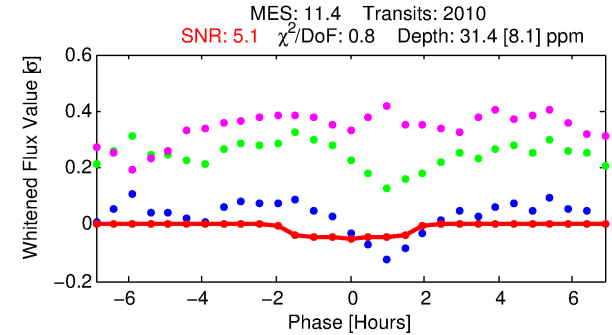
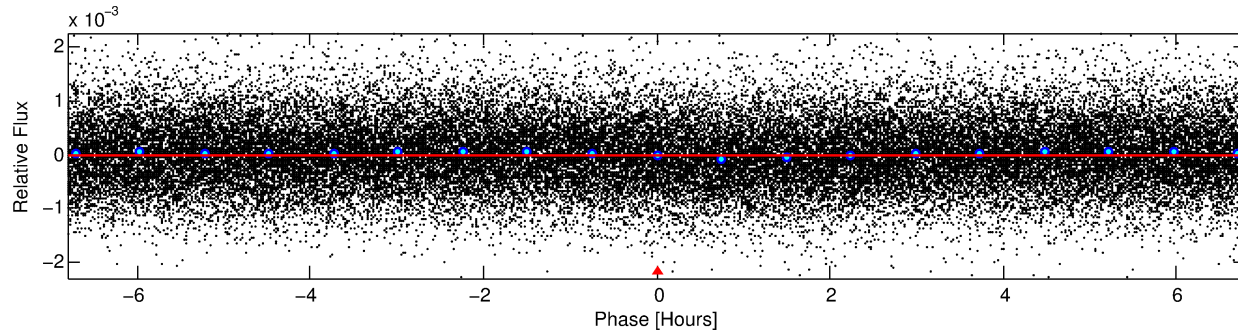
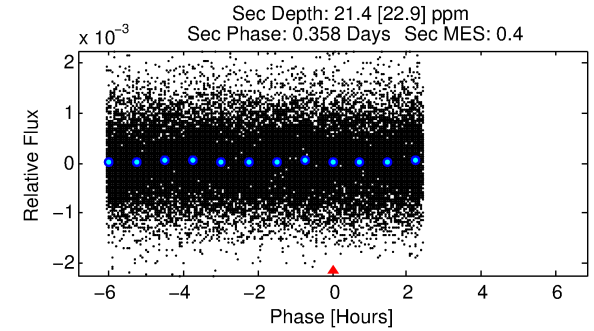
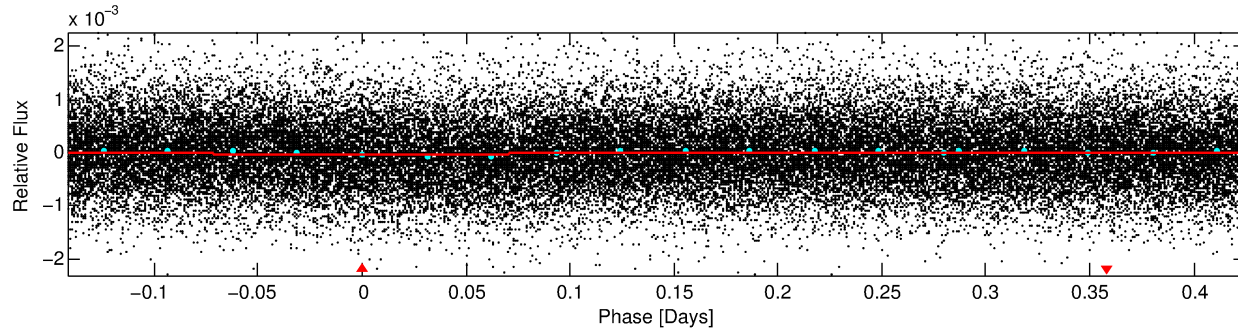
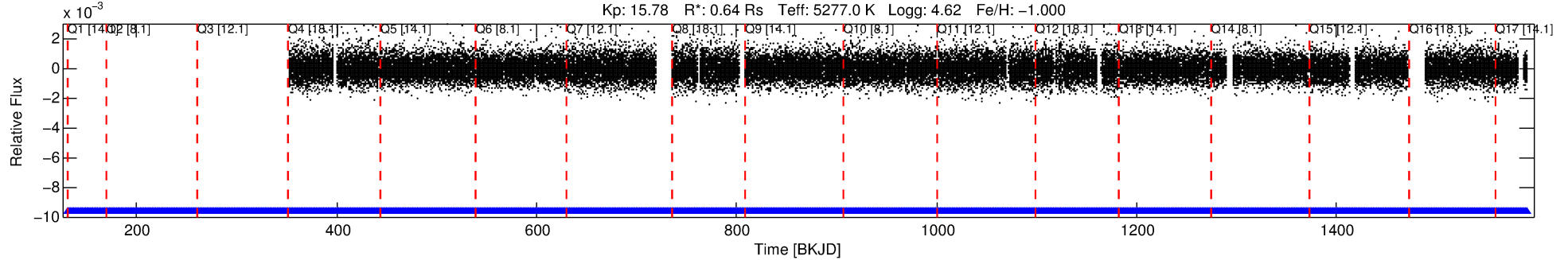
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
007281411-01	7281411	RR-Lyr-pri	7198959	1:1	602.9	45	144	7.86	15.77	20106.00	Direct-PRF	0	0.17	23.73

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol 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 σ_P < 5.0 and σ_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: 7281411 Candidate: 1 of 1 Period: 0.567 d
KOI: K04339 Corr: No Ephemeris Match

Kp: 15.78 R*: 0.64 Rs Teff: 5277.0 K Logg: 4.62 Fe/H: -1.000



DV Fit Results:

Period = 0.56675 [0.00002] d
Epoch = 131.8449 [0.0086] BKJD
Rp/R* = 0.0053 [0.0099]
a/R* = 1.24 [3.56]
b = 0.56 [10.45]
Seff = 2154.64 [415.08]
Teq = 1737 [84] K
Rp = 0.37 [0.69] Re
a = 0.0115 [0.0009] AU
Ag = 11.34 [44.11] [0.23σ]
Teffp = 4929 [4795] K [0.67σ]

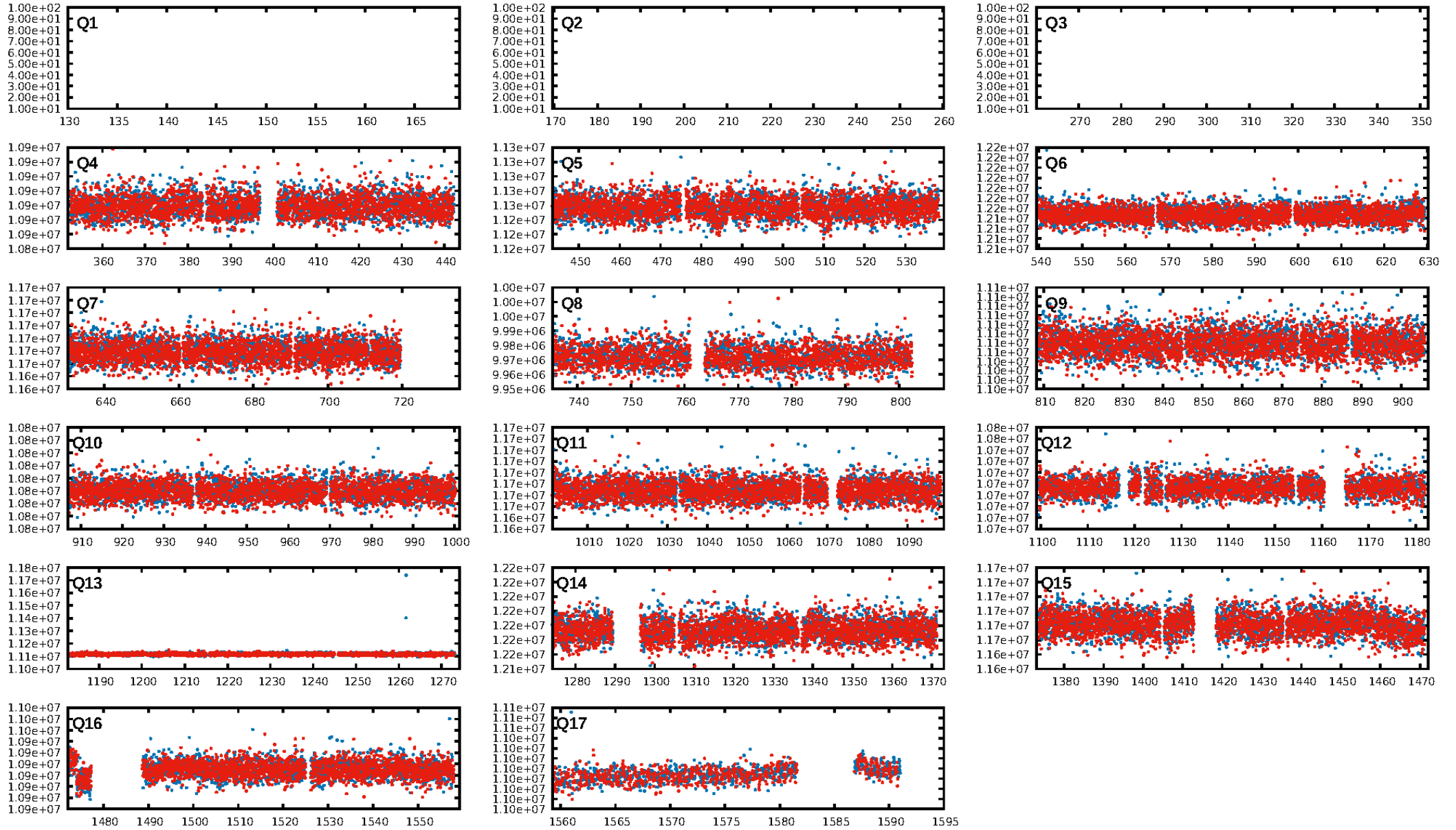
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.27e-21
RollingBand-fgt: 1.00 [1963/1963]
GhostDiagnostic-chr: -0.4105
Centroid-sig: 0.0%
Centroid-so: 9.443 arcsec [4.25σ]
OotOffset-rm: 1.195 arcsec [1.78σ]
KicOffset-rm: 1.203 arcsec [1.98σ]
OotOffset-st: 3/3/3 [12]
KicOffset-st: 3/3/3 [12]
DiffImageQuality-fgm: 0.17 [2/12]
DiffImageOverlap-fno: 1.00 [14/14]

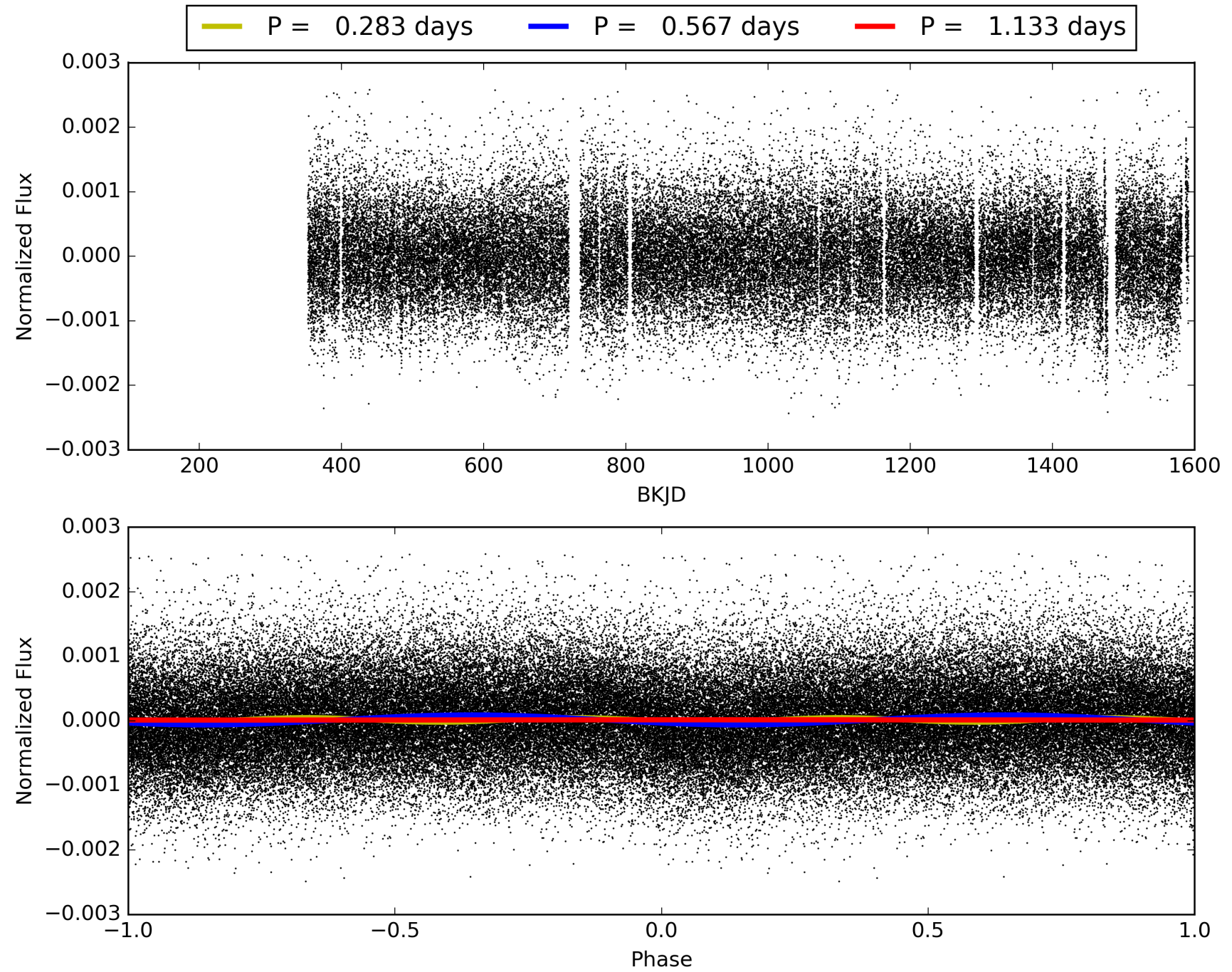
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:02:34 Z

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

TCE 007281411-01, PDC Light Curves

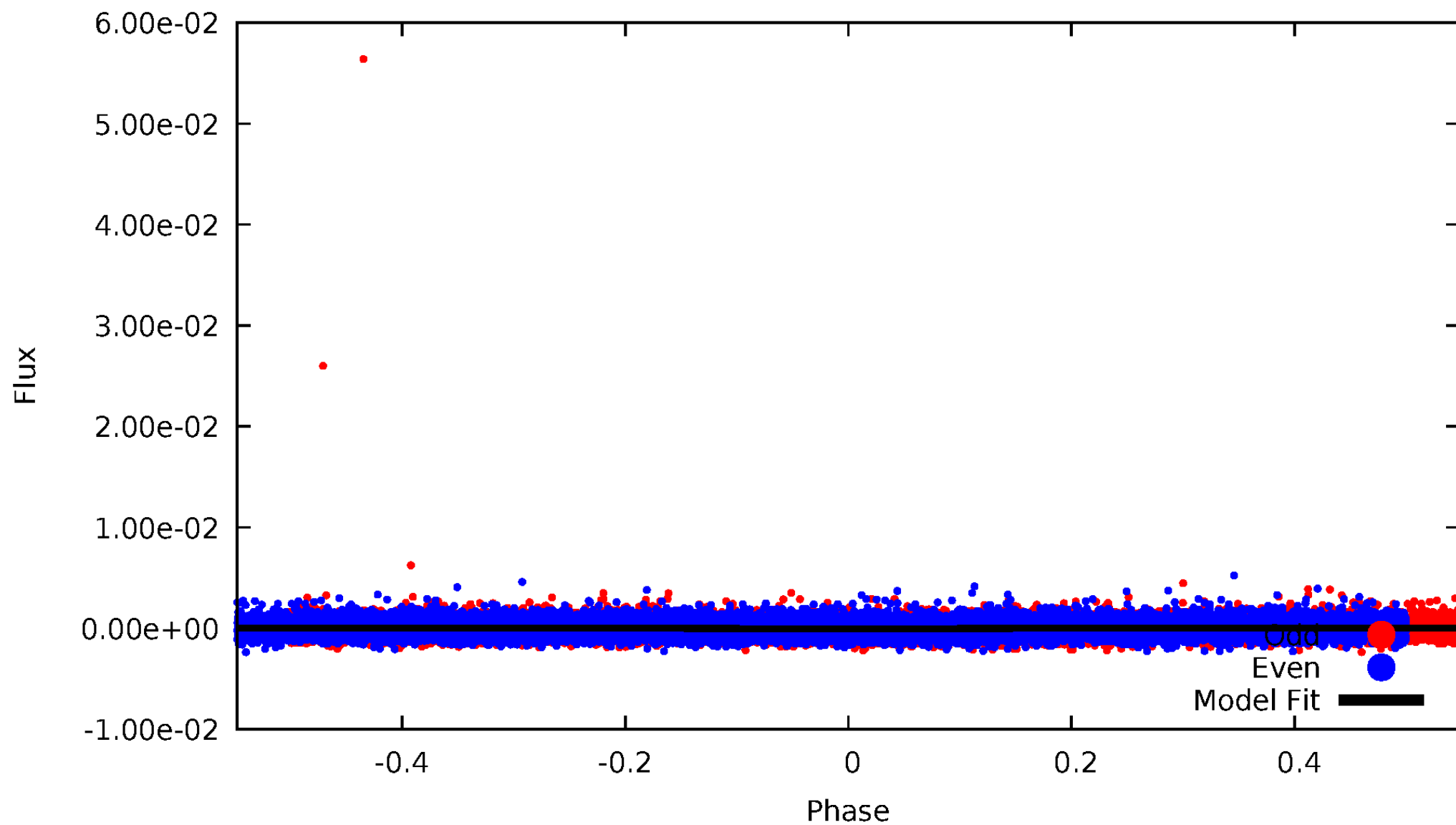


TCE 007281411-01



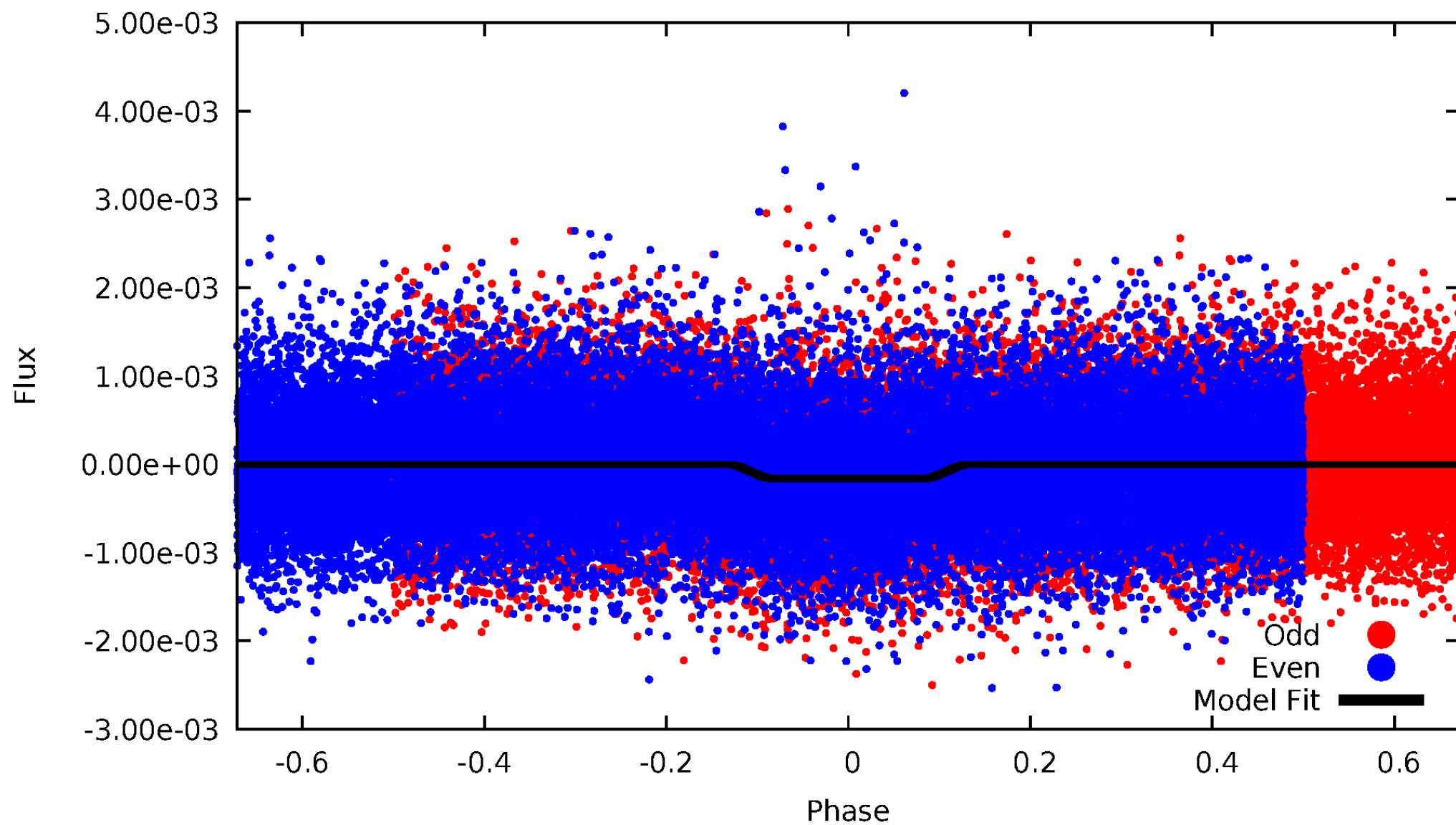
DV Odd/Even

TCE 007281411-01



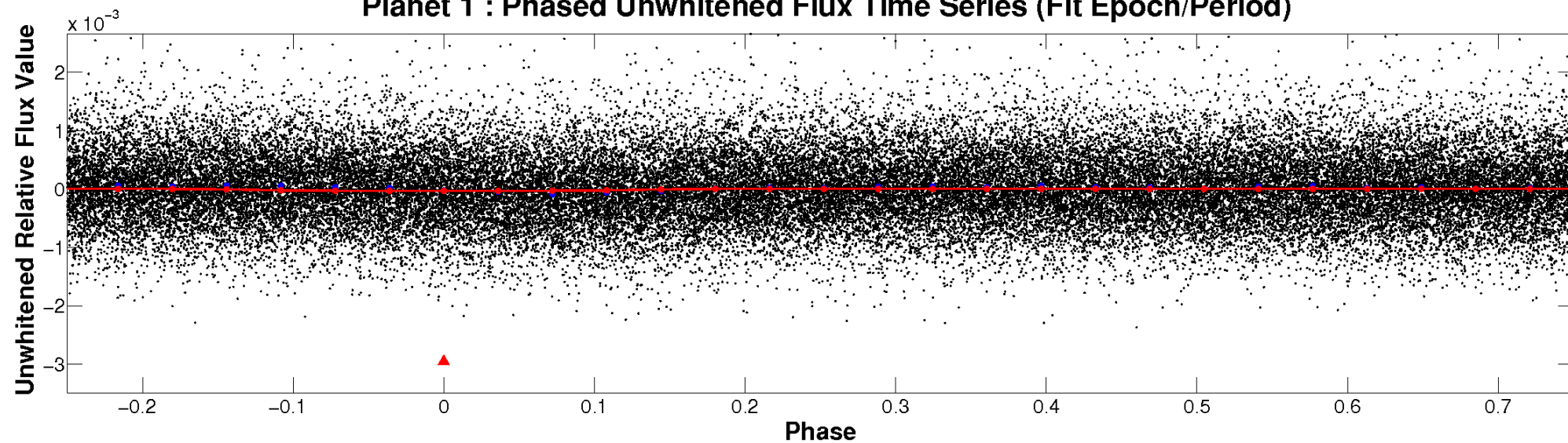
ALT Odd/Even

TCE 007281411-01

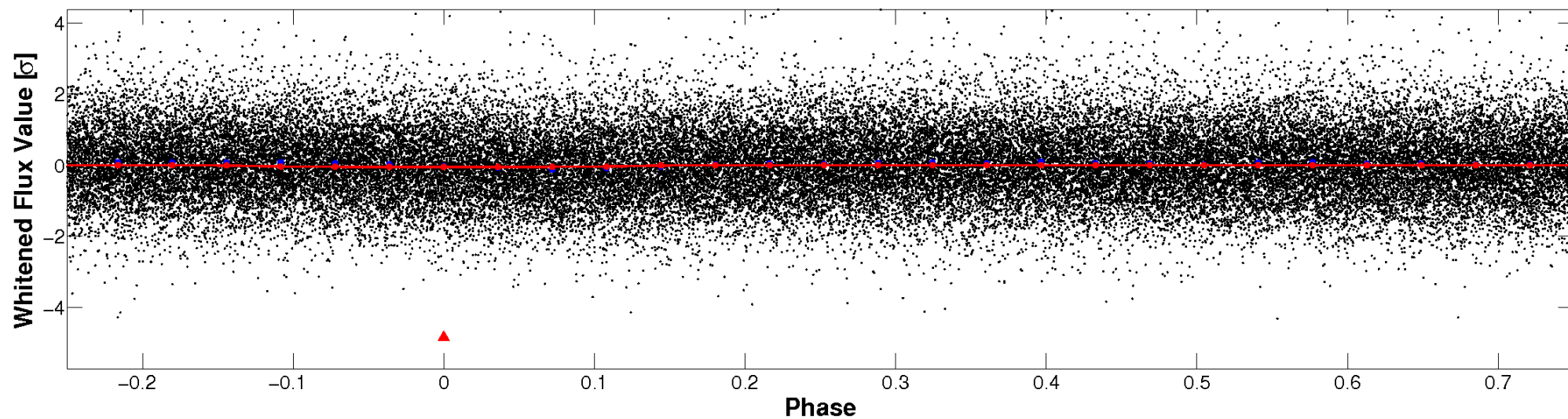


Non-Whitened Vs. Whitened Light Curve

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

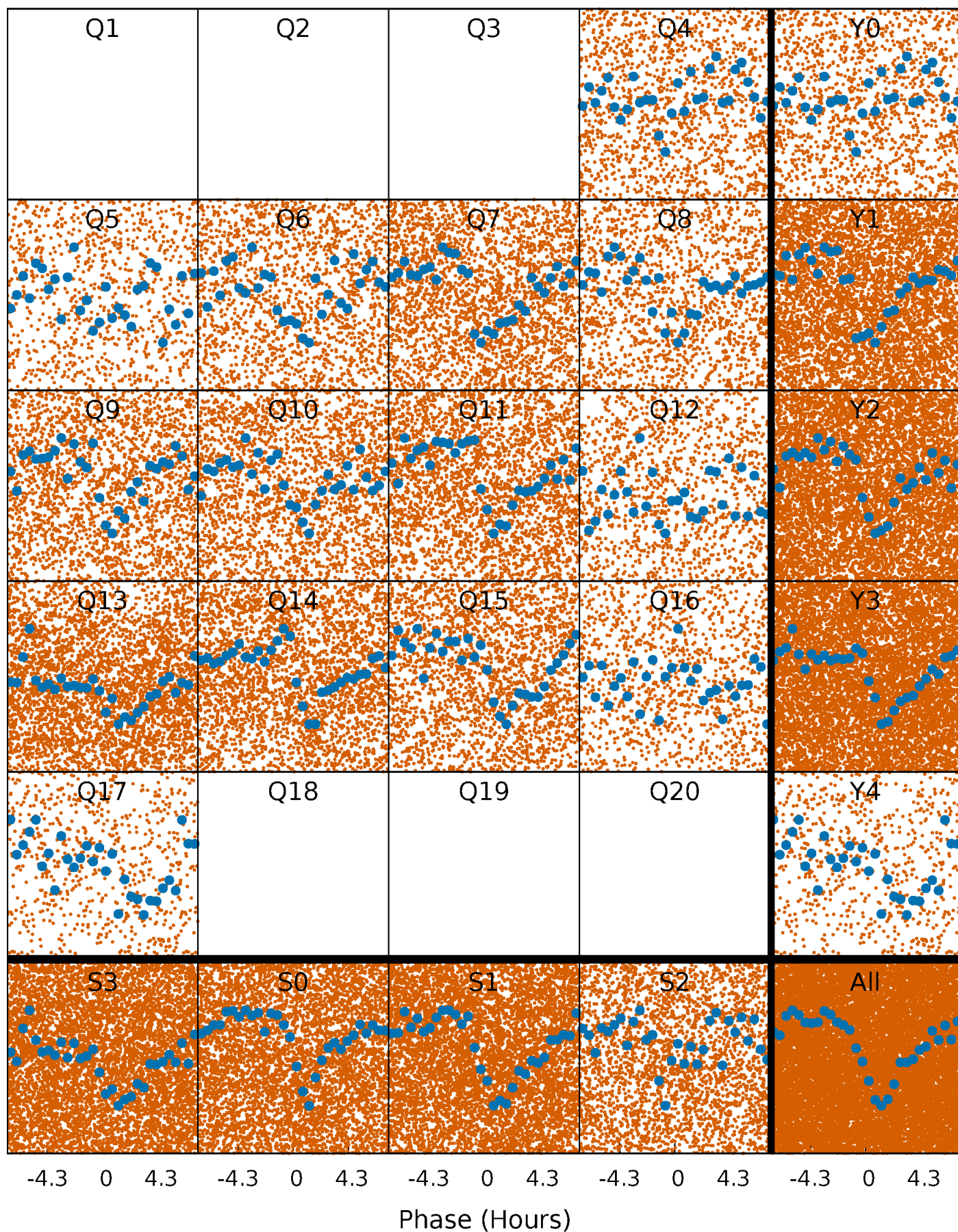


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



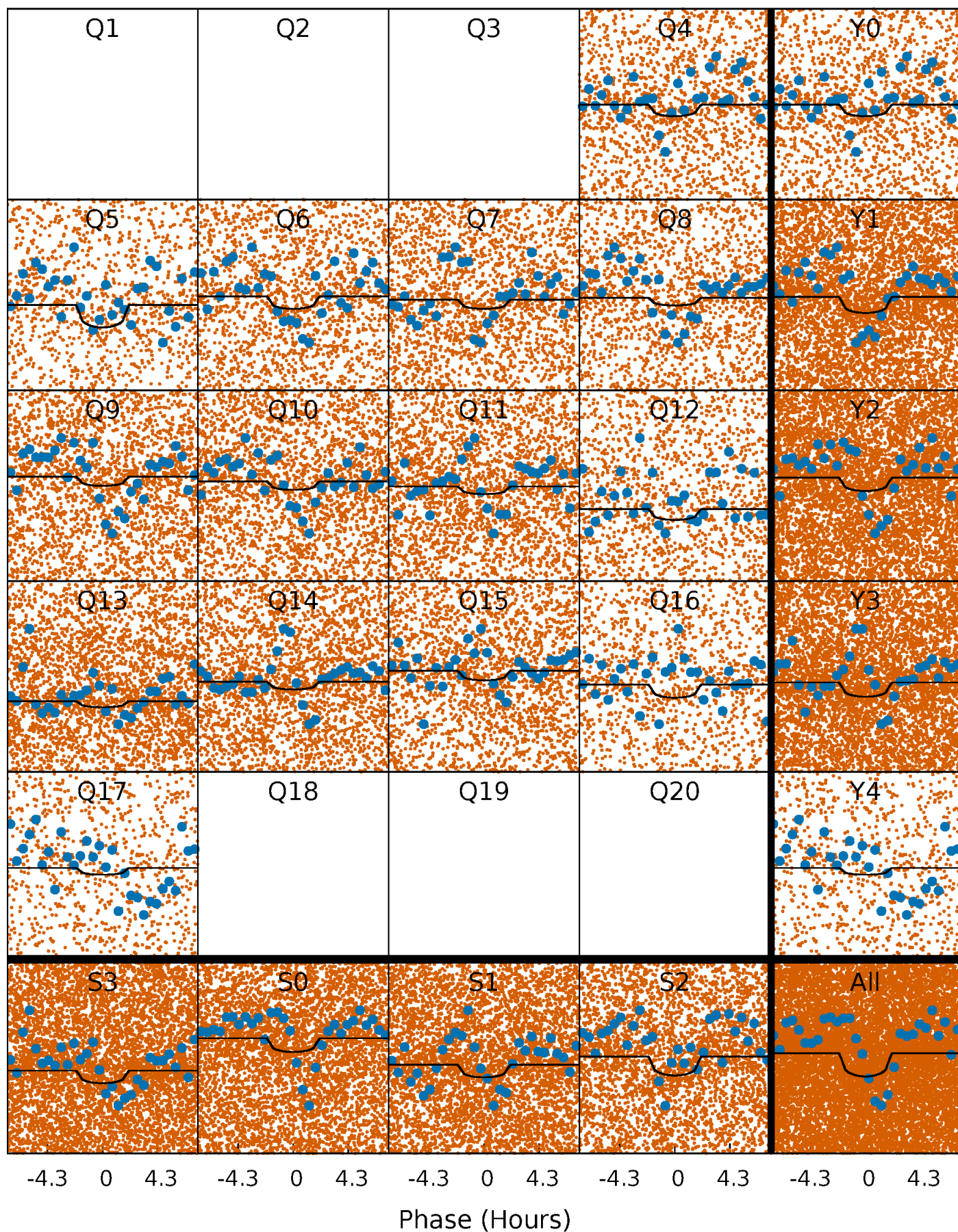
PDC Quarter-Phased Transit Curves

TCE 007281411-01 P= 0.566749 Days $T_0=131.844888$ (BKJD)



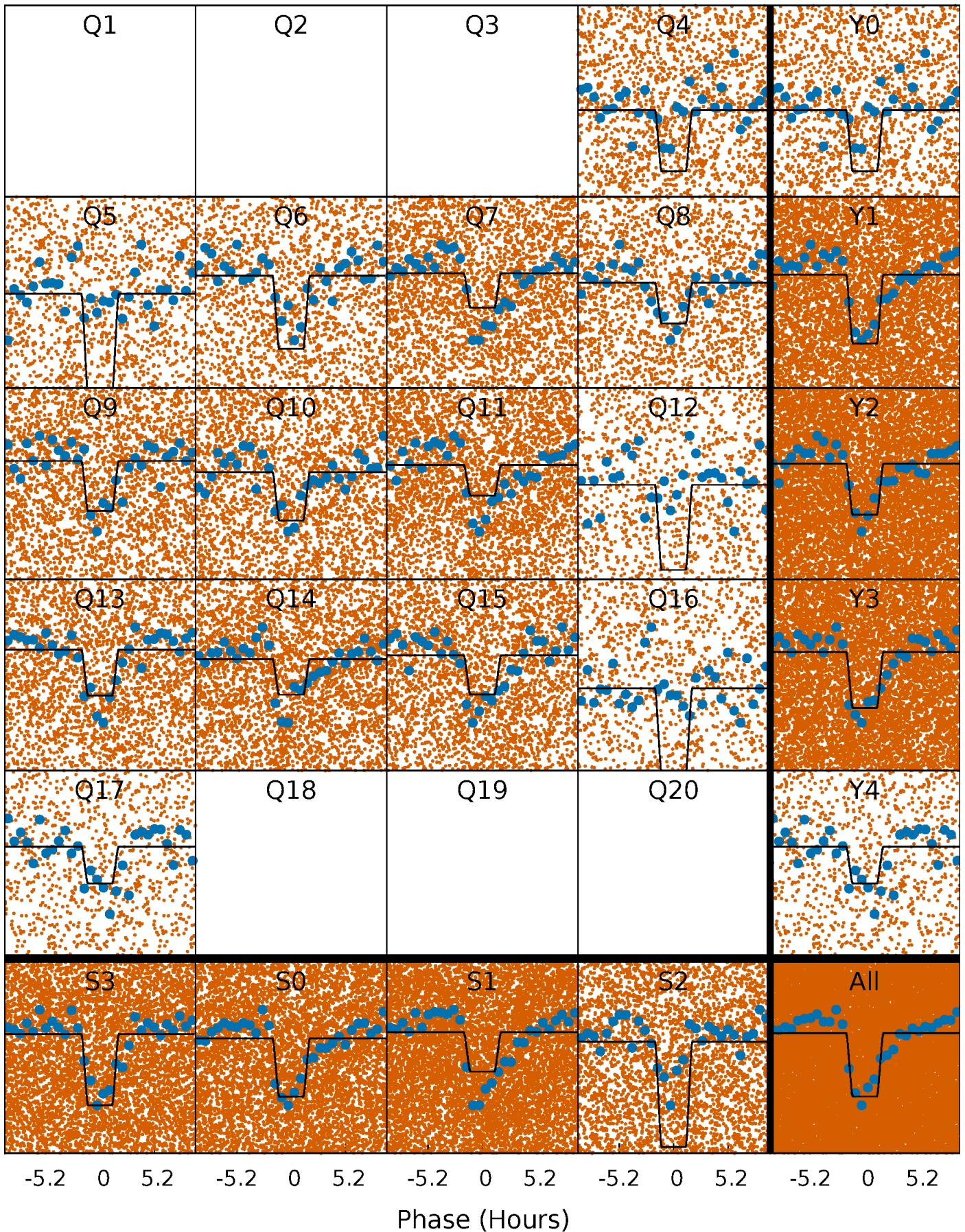
DV Quarter-Phased Transit Curves

TCE 007281411-01 P= 0.566749 Days $T_0=131.844888$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

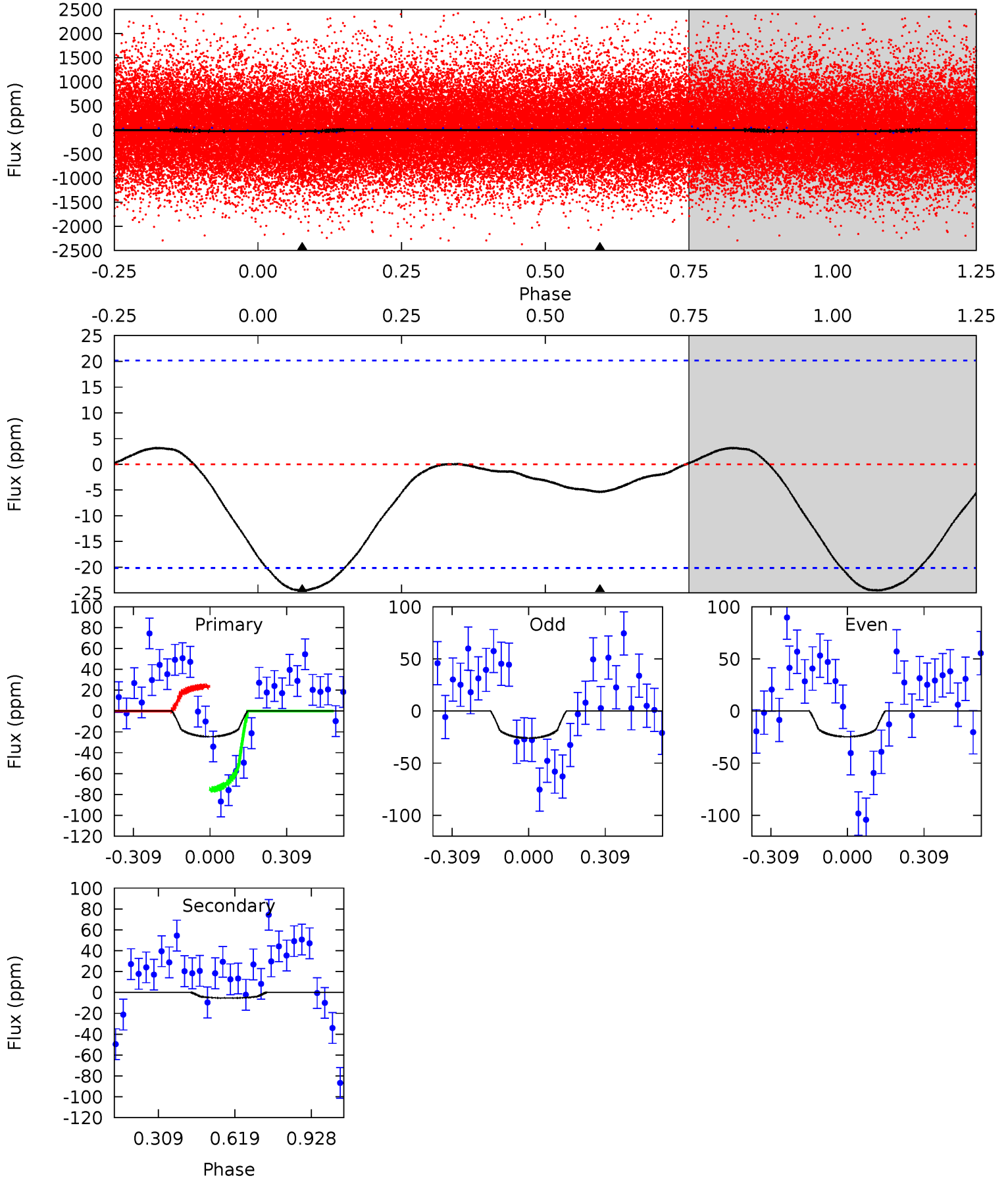
TCE 007281411-01 P= 0.566808 Days $T_0=131.806920$ (BKJD)



DV Model-Shift Uniqueness Test

007281411-01, P = 0.566749 Days, E = 131.844888 Days

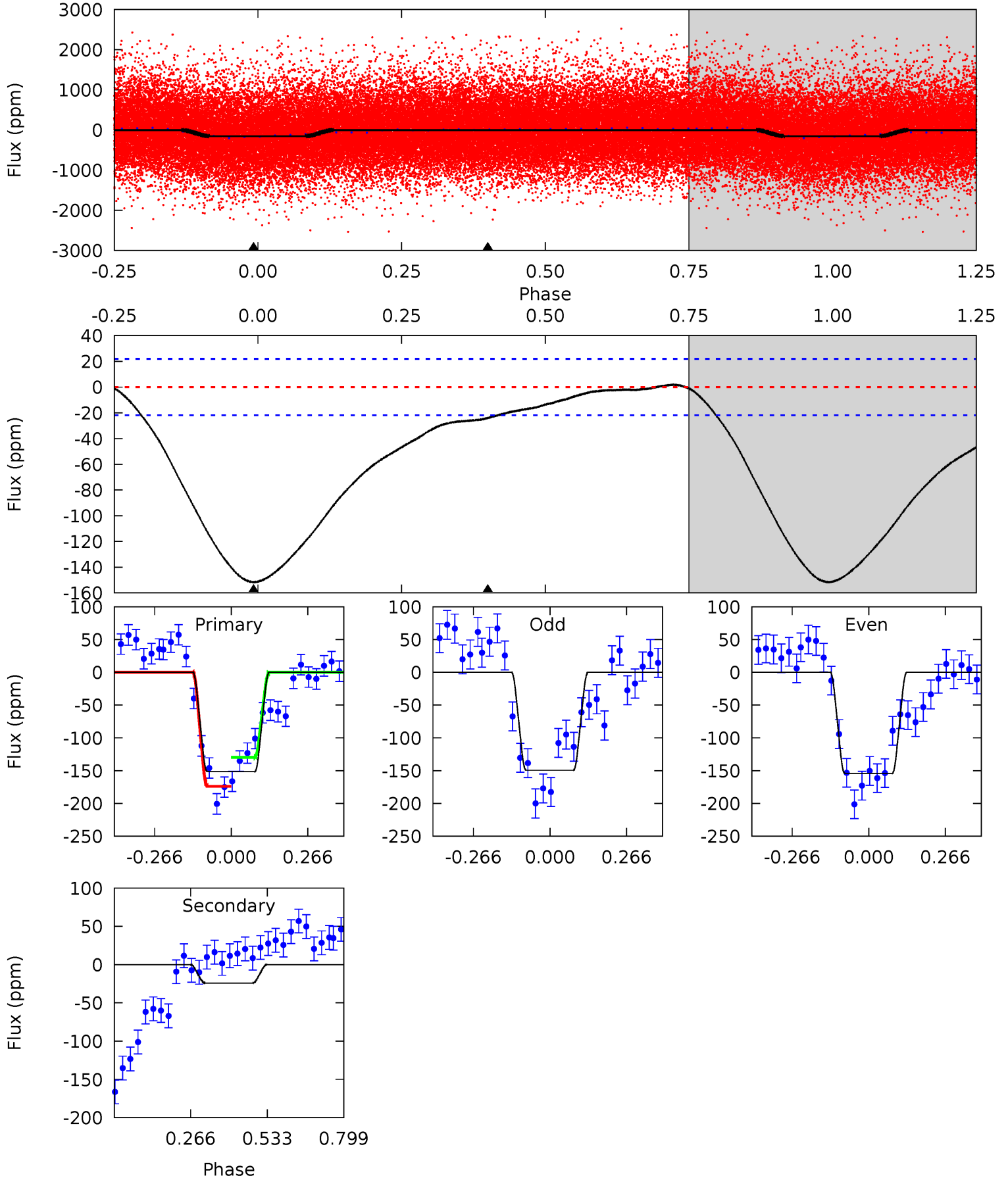
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.25	1.16	0	0	4.32	1.02	0.32	5.25	5.25	1.16	1.16	0.14	0.91	0.11	5.59



Alt Model-Shift Uniqueness Test

007281411-01, P = 0.566808 Days, E = 131.806920 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.2	4.80	0	0	4.35	1.11	0.28	30.2	30.2	4.80	4.80	0.48	0.95	0.01	4.40



Stellar Parameters For KIC 007281411

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5277^{+202}_{-183}	$4.625^{+0.066}_{-0.048}$	$-1.000^{+0.300}_{-0.300}$	$0.640^{+0.056}_{-0.051}$	$0.628^{+0.065}_{-0.023}$	$3.384^{+0.867}_{-0.576}$
	+4%/-3%	+1%/-1%	+30%/-30%	+9%/-8%	+10%/-4%	+26%/-17%
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 007281411-01 / KOI 4339.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5 ± 5	$0.63^{+0.57}_{-0.43}$	2426^{+105}_{-93}	2961^{+1628}_{-5612}	$0.832^{+7.340}_{-0.763}$
Alt.	-24 ± 5	$0.96^{+0.68}_{-0.52}$	2423^{+100}_{-103}	3488^{+1249}_{-697}	$1.928^{+7.454}_{-1.271}$

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

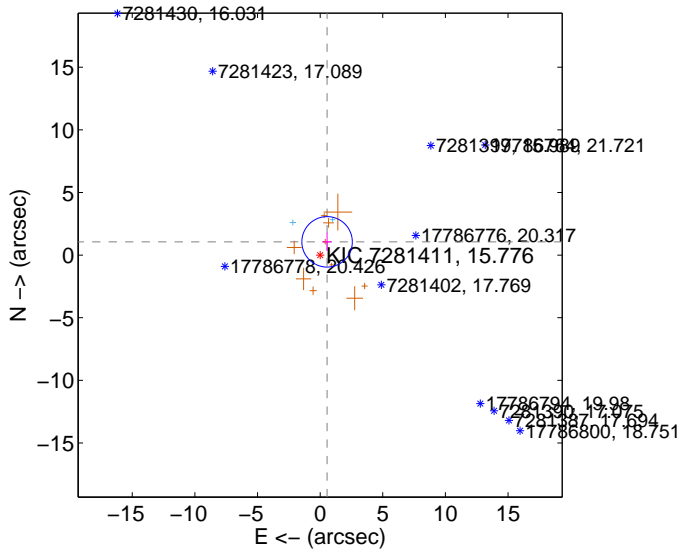
Supplemental centroid analysis for 007281411-01. Kepler magnitude: 15.78. Transit SNR 5.07

There are 2 quarters with good PRF difference image offsets

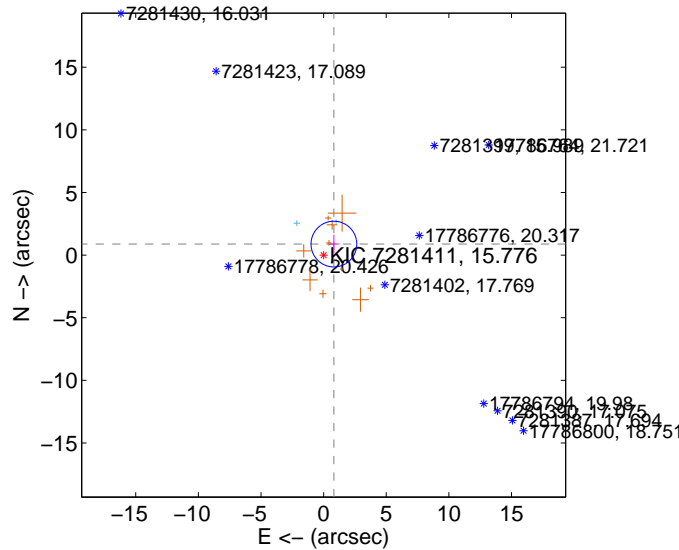
The direct PRF centroid is offset from the target star catalog position by about 0.56 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.195 ± 0.672	1.78	-0.554 ± 0.381	1.058 ± 0.731
PRF-fit source offset from KIC position	1.203 ± 0.609	1.98	-0.820 ± 0.399	0.880 ± 0.744
photometric centroid source offset	9.44 ± 2.22	4.25	-0.24 ± 2.46	9.44 ± 2.22

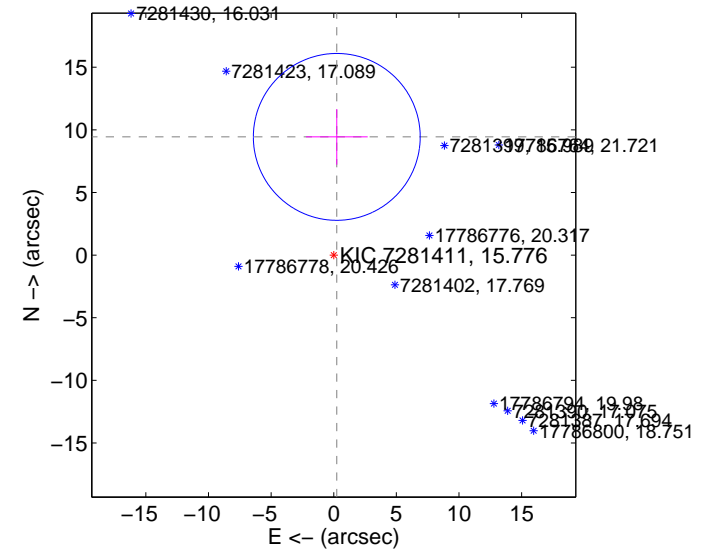
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

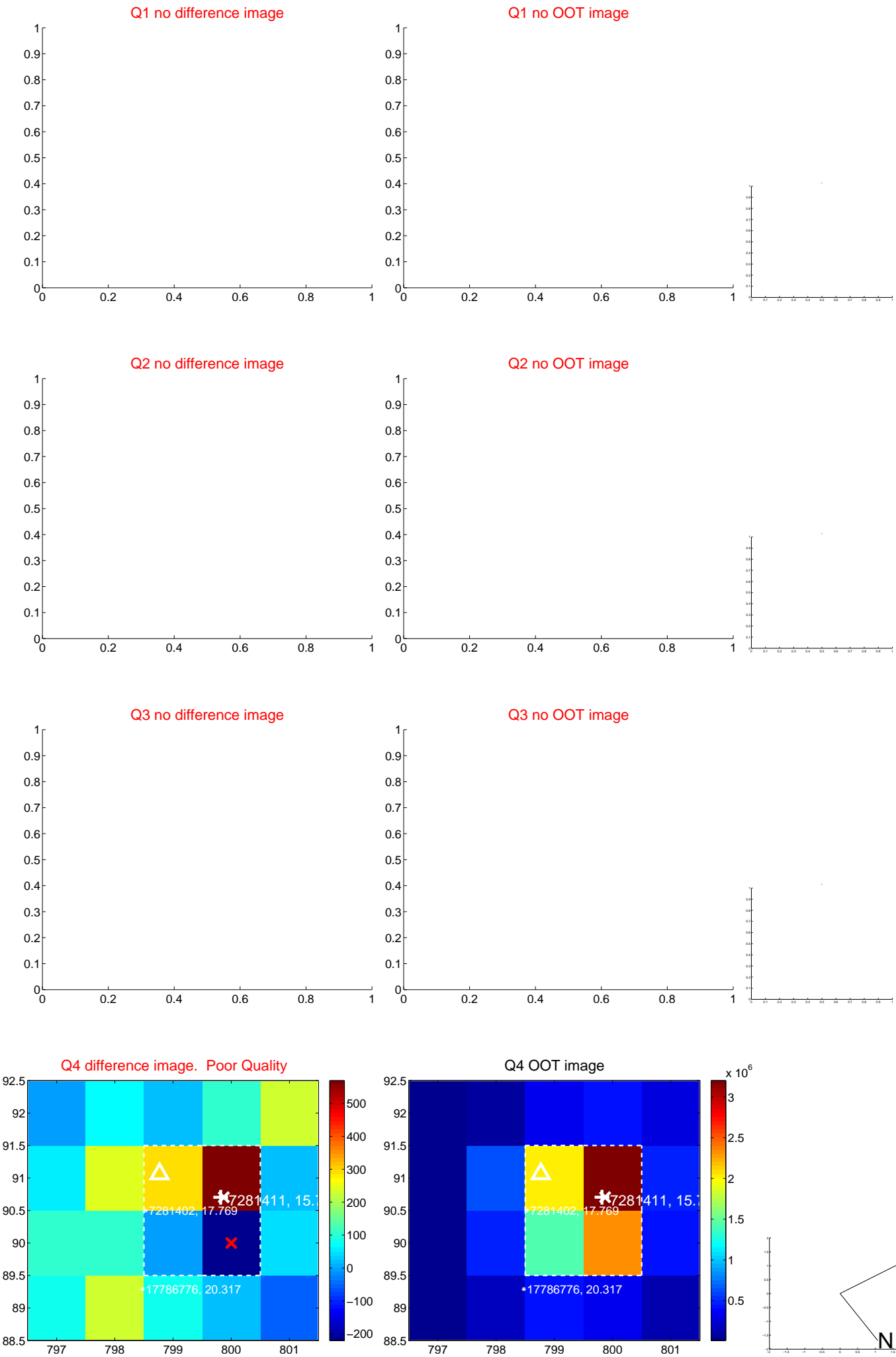


offset from photometric centroids

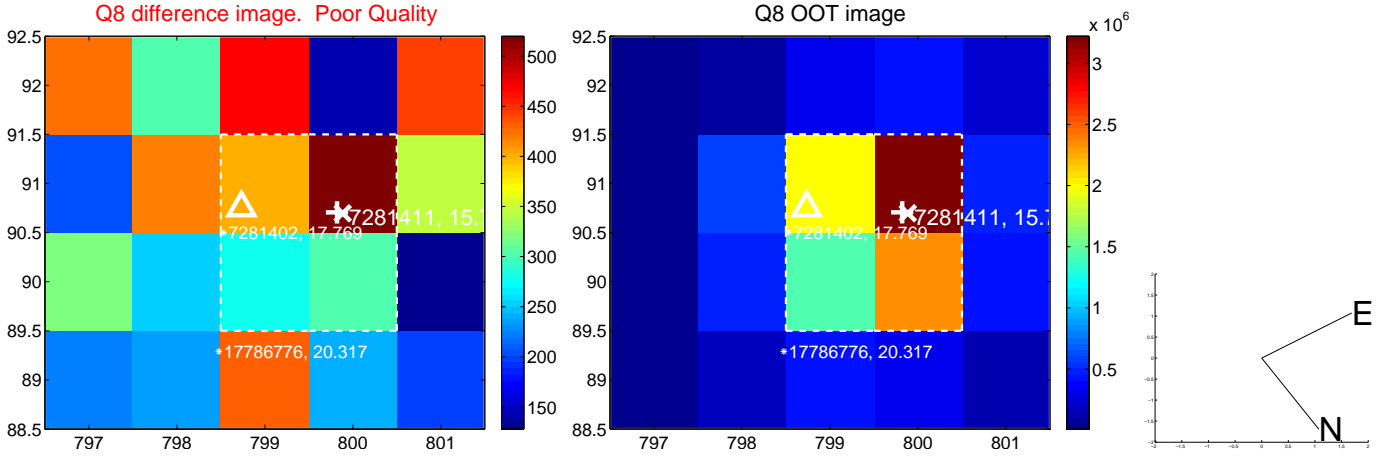
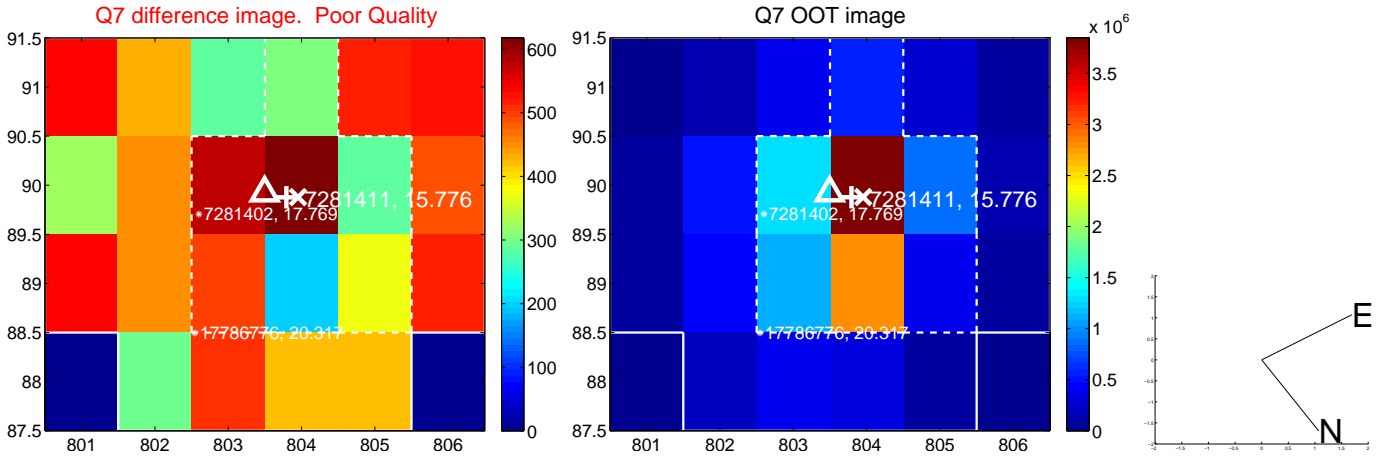
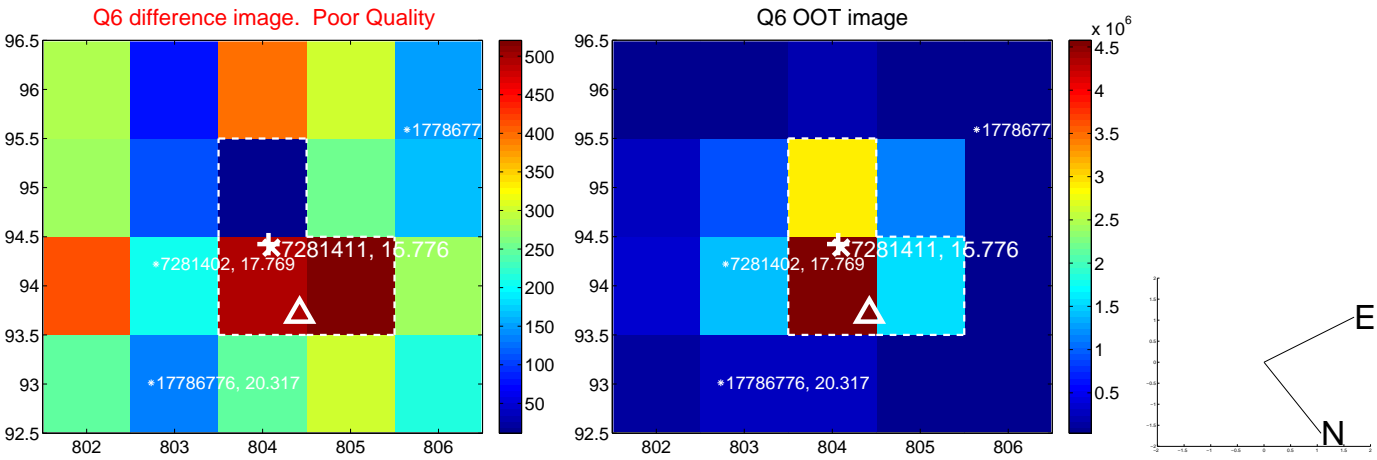
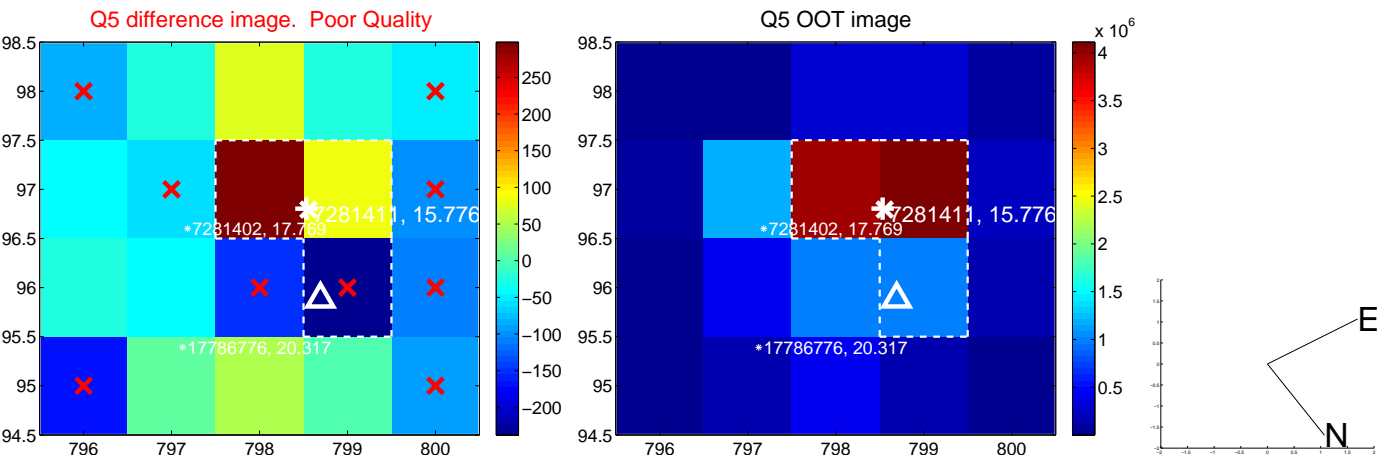


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

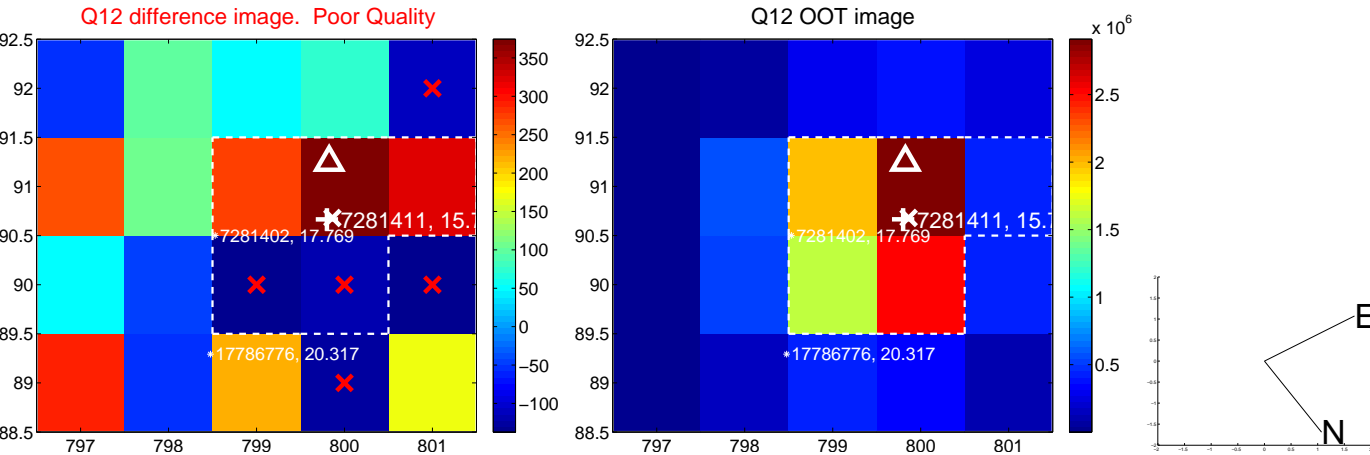
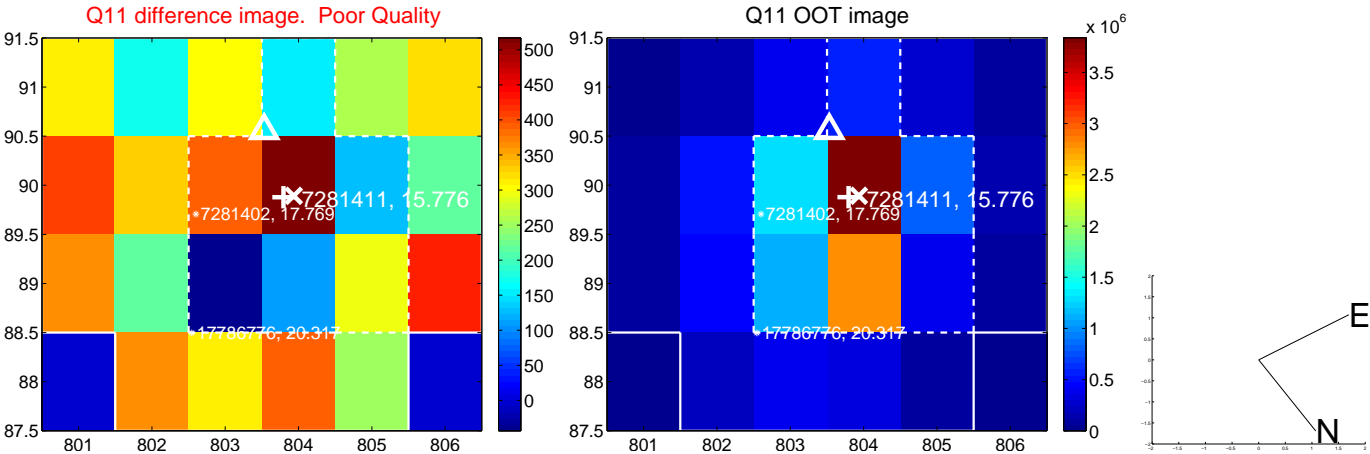
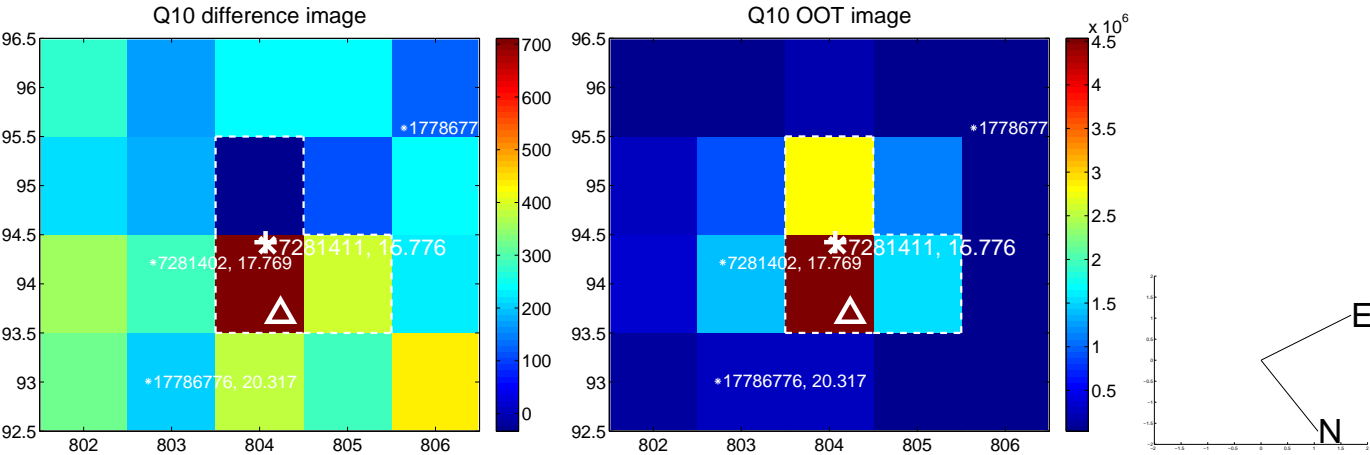
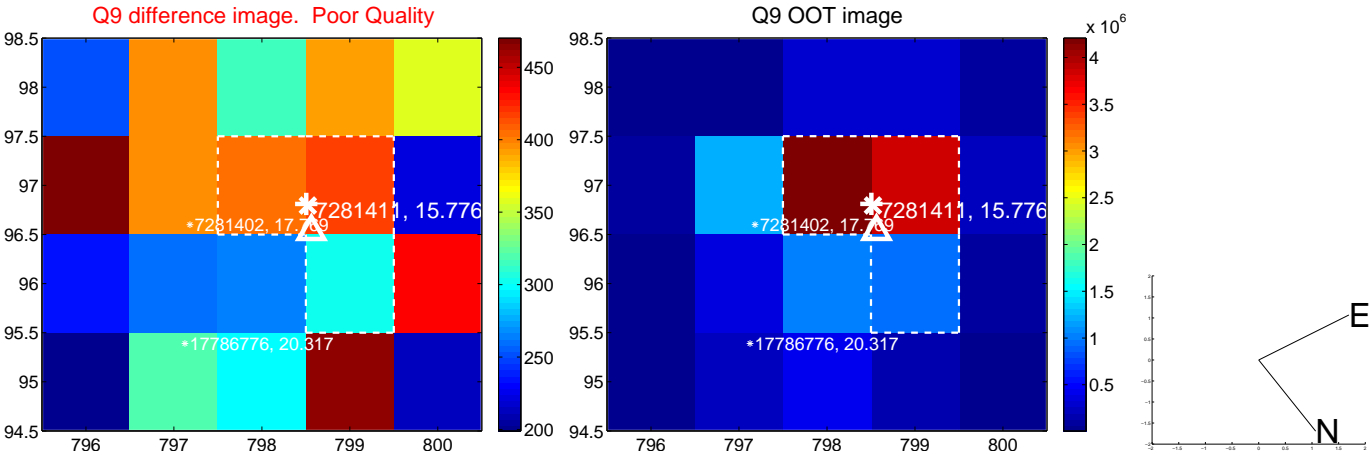
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



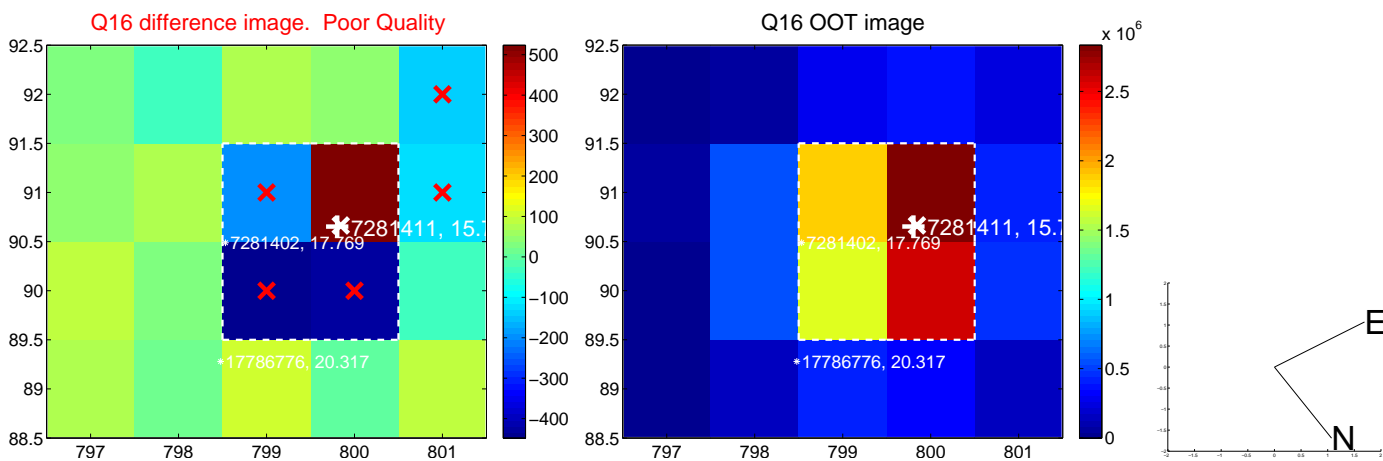
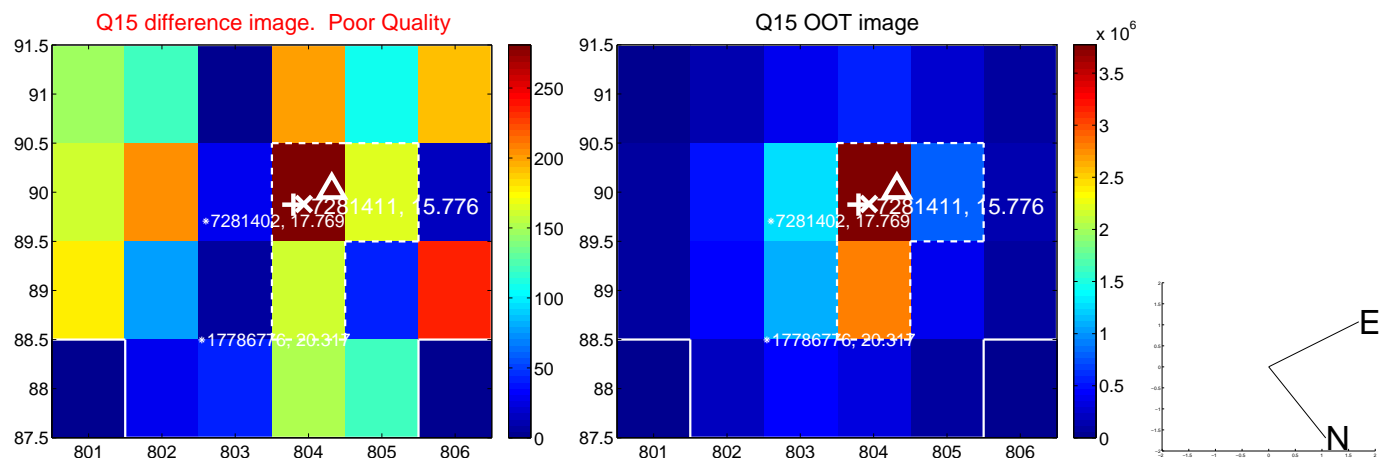
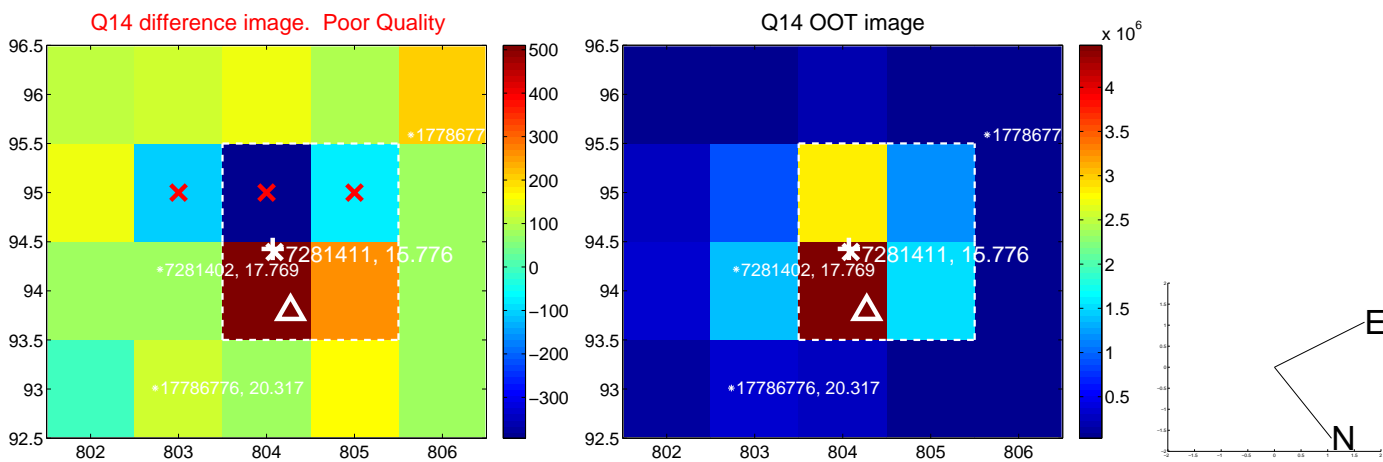
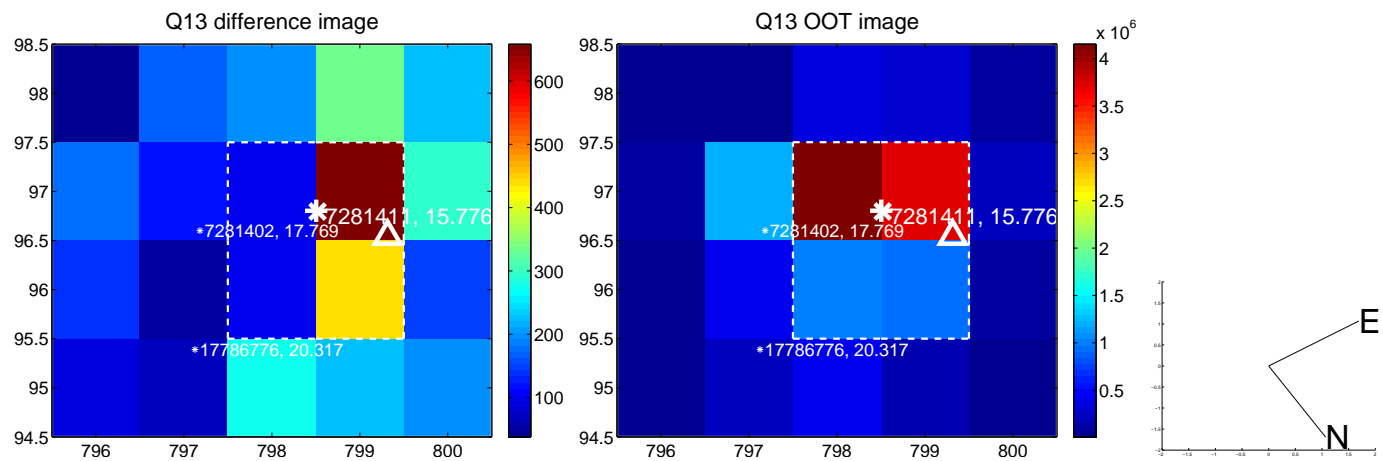
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



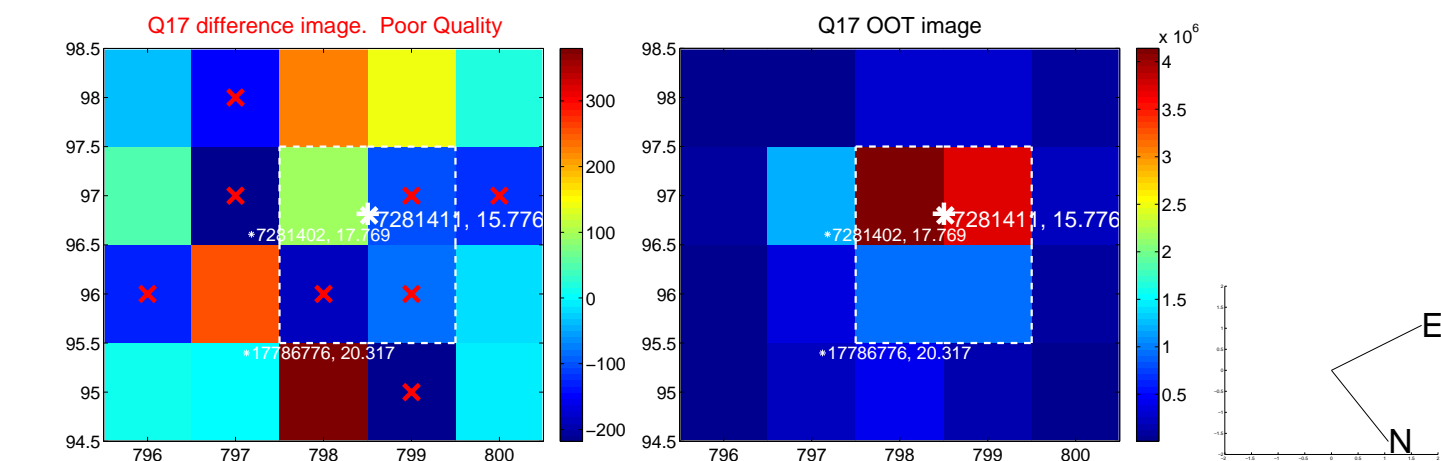
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



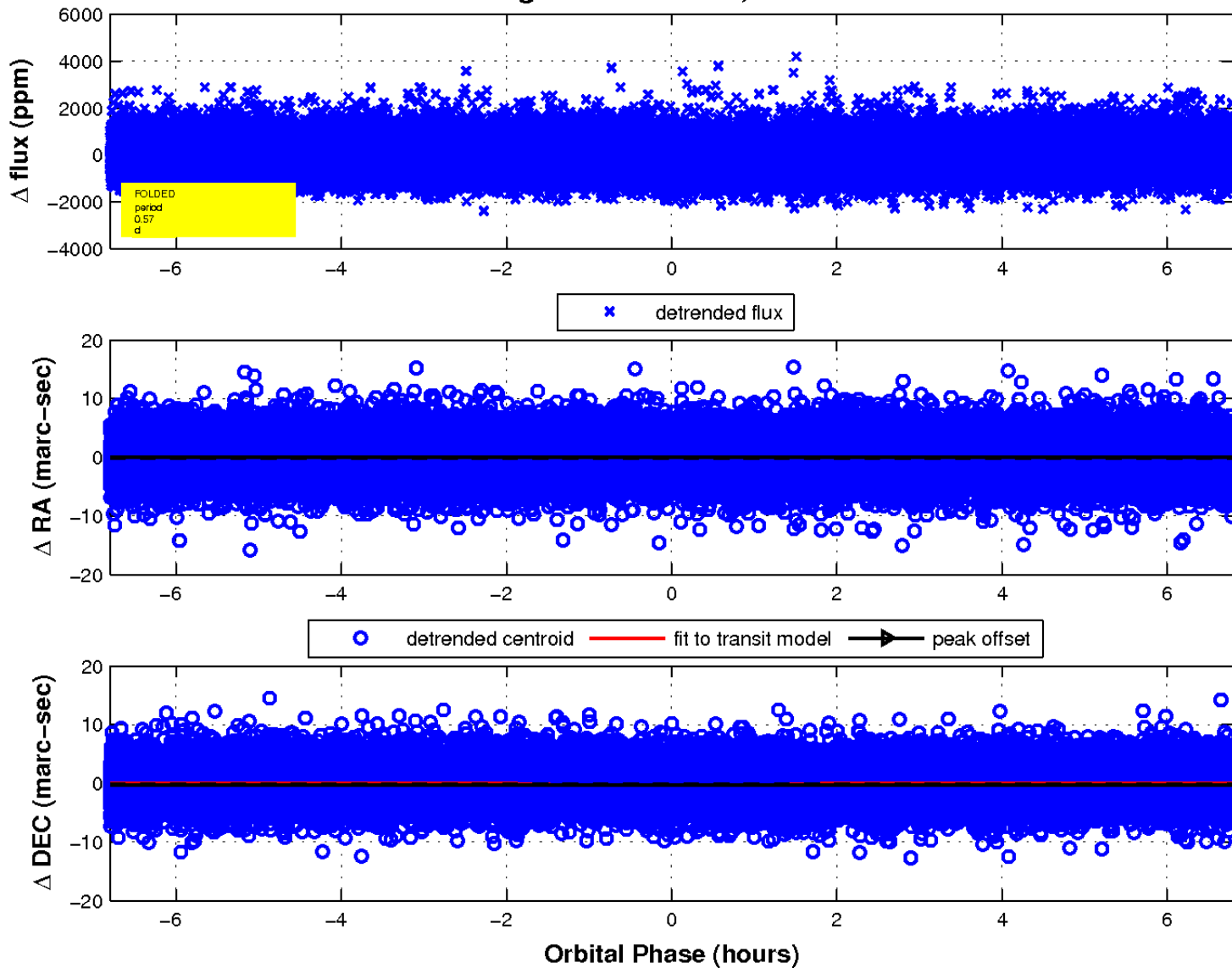
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

