

KIC 007812990

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})
007812990-01	OBS	No	2.804889	133.783367	21.2	29.576	10.3	12.7	1.03	6184	0.50	872.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007812990-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_MEAS

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

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

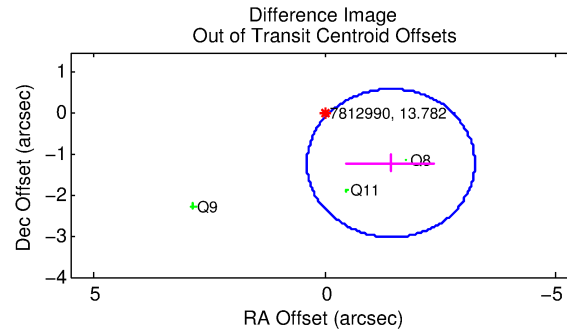
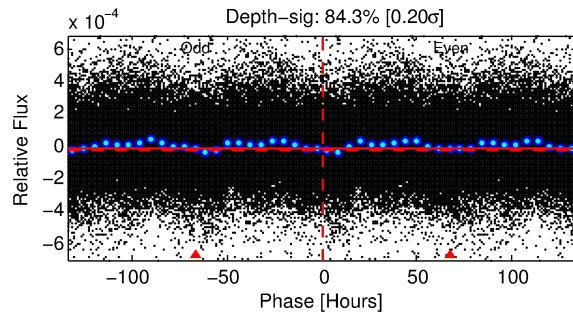
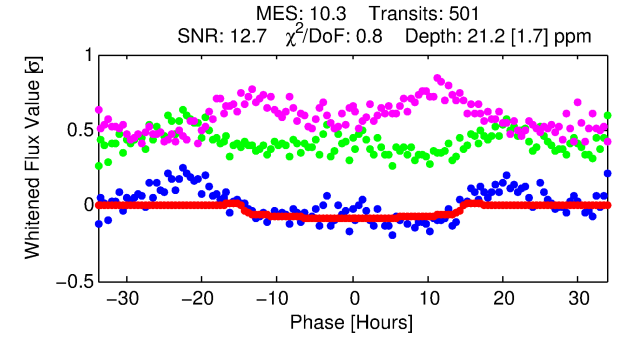
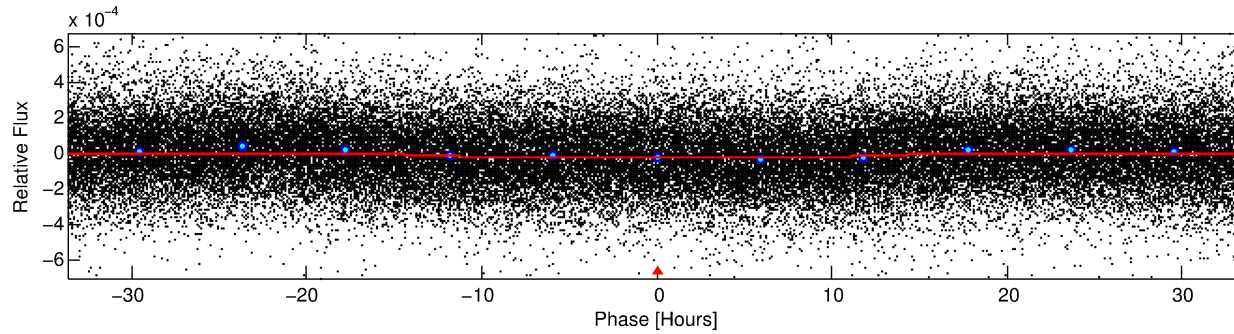
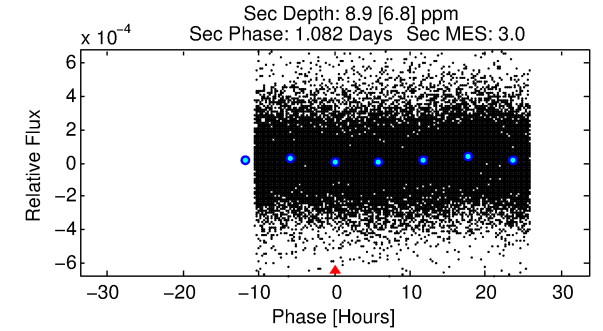
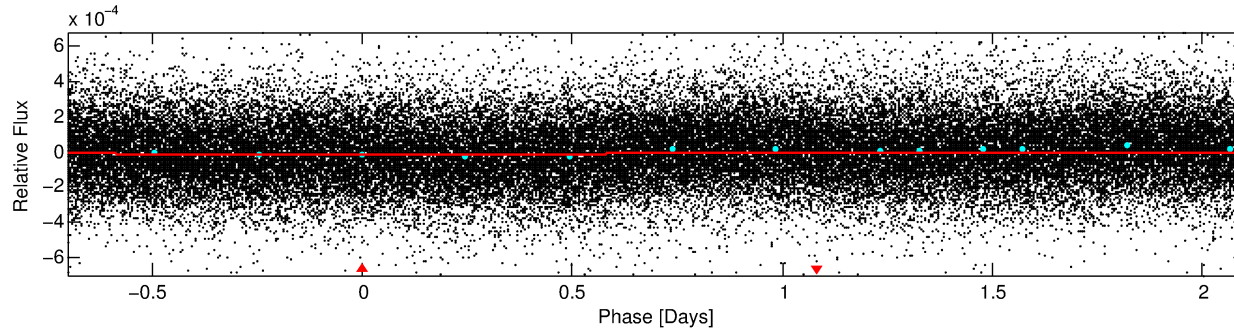
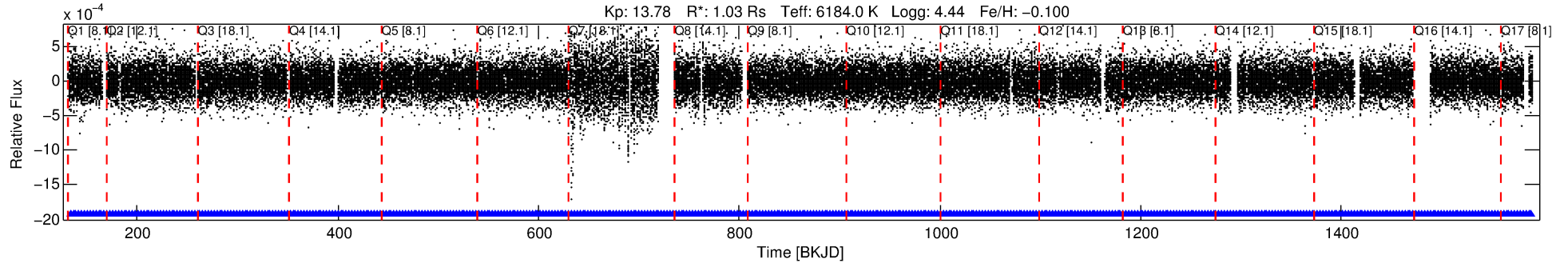
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007812990-01

No Significant Match Found

DV One-Page Summary

KIC: 7812990 Candidate: 1 of 1 Period: 2.805 d
KOI: K05431 Corr: No Ephemeris Match



DV Fit Results:

Period = 2.80489 [0.00007] d
Epoch = 133.7834 [0.0178] BKJD
Rp/R* = 0.0044 [0.0014]
a/R* = 1.02 [0.05]
b = 0.63 [1.51]
Seff = 872.46 [369.56]
Teq = 1386 [147] K
Rp = 0.50 [0.23] Re
a = 0.0398 [0.0112] AU
Ag = 31.27 [32.99] [0.92σ]
Teffp = 5067 [1246] K [2.93σ]

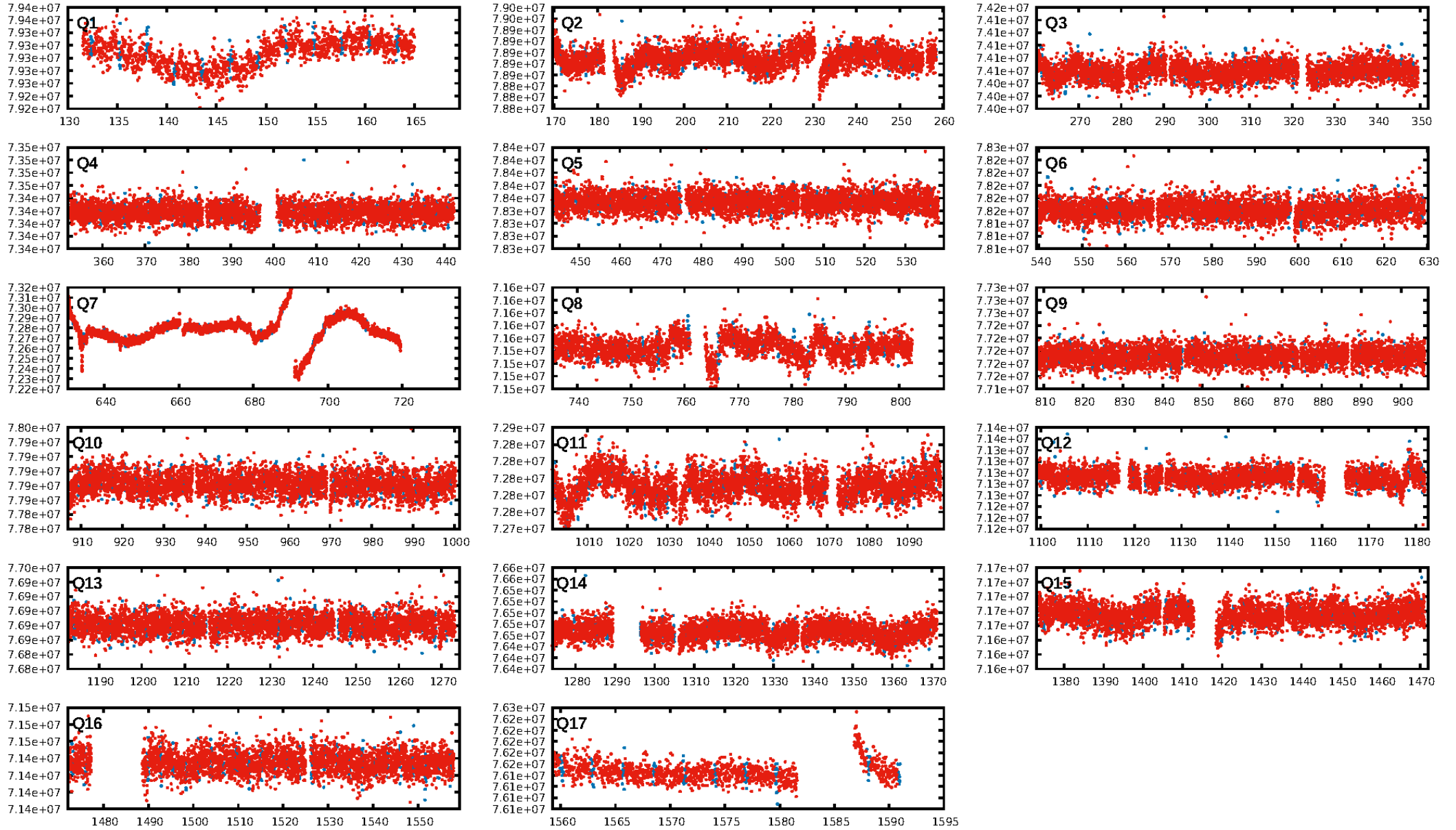
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [477/477]
GhostDiagnostic-chr: 0.4437
Centroid-sig: 0.0%
Centroid-so: 6.837 arcsec [8.85σ]
OotOffset-rm: 1.877 arcsec [3.10σ]
KicOffset-rm: 1.640 arcsec [2.06σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [17/17]

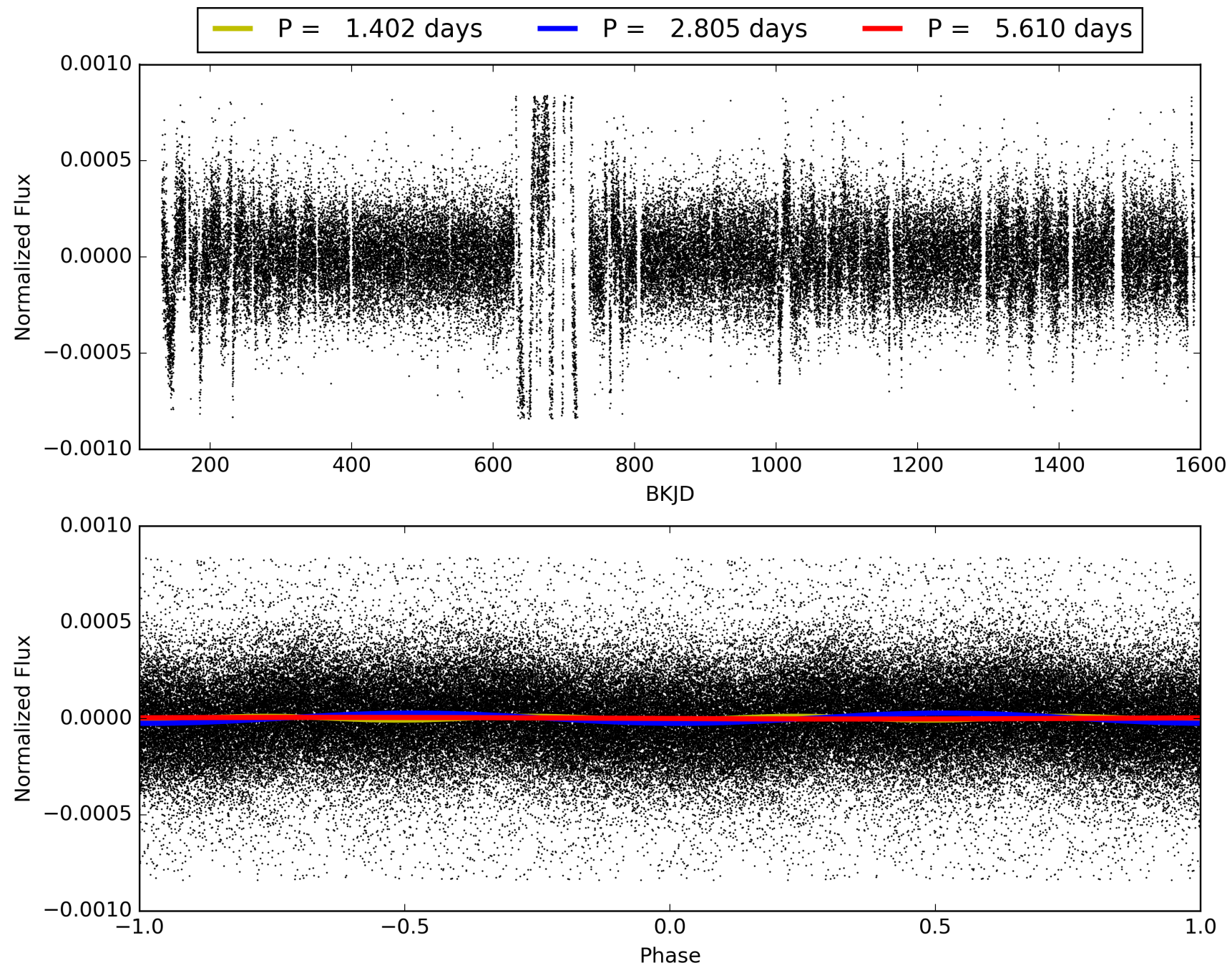
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:30:56 Z

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

TCE 007812990-01, PDC Light Curves

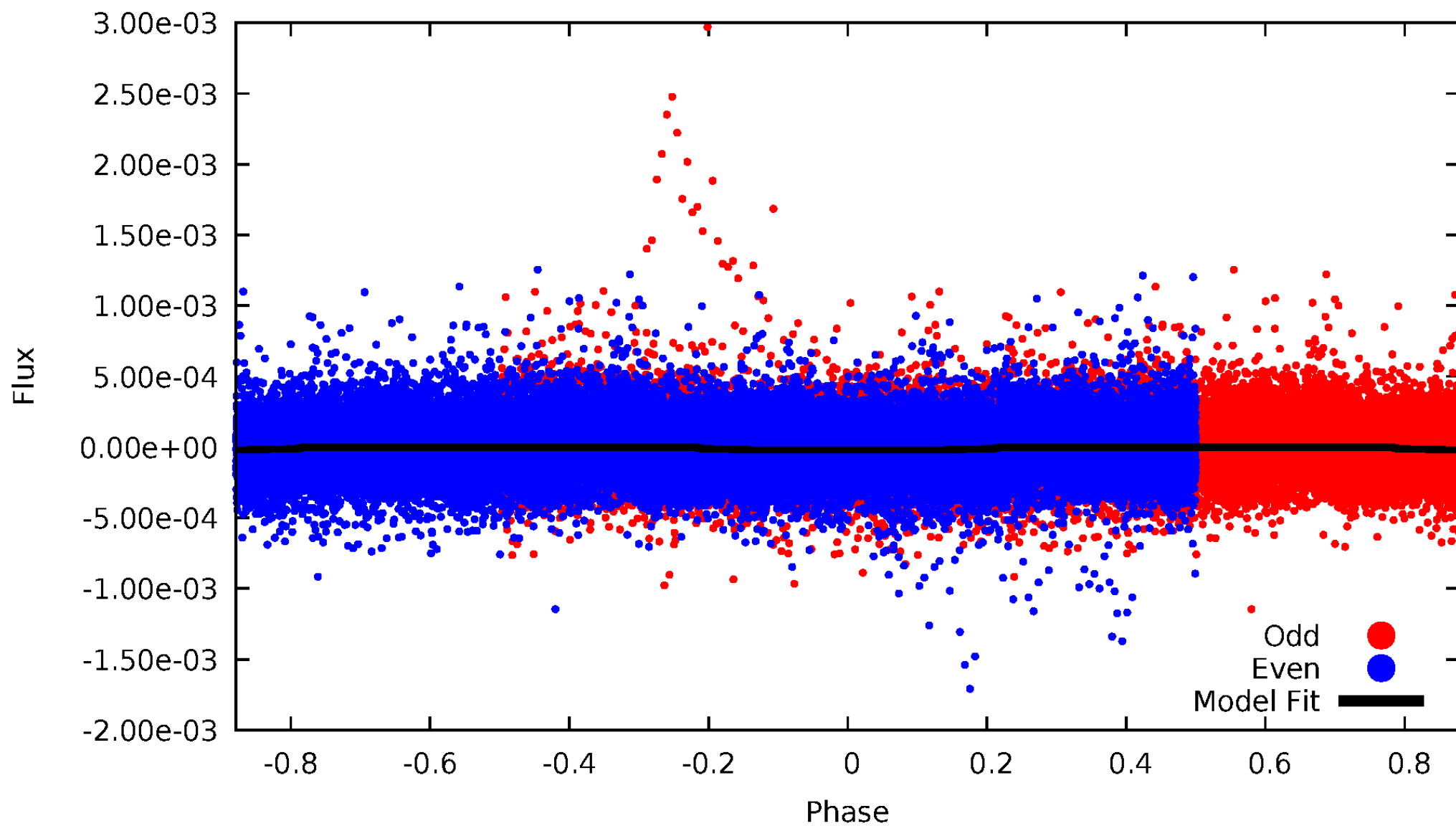


TCE 007812990-01



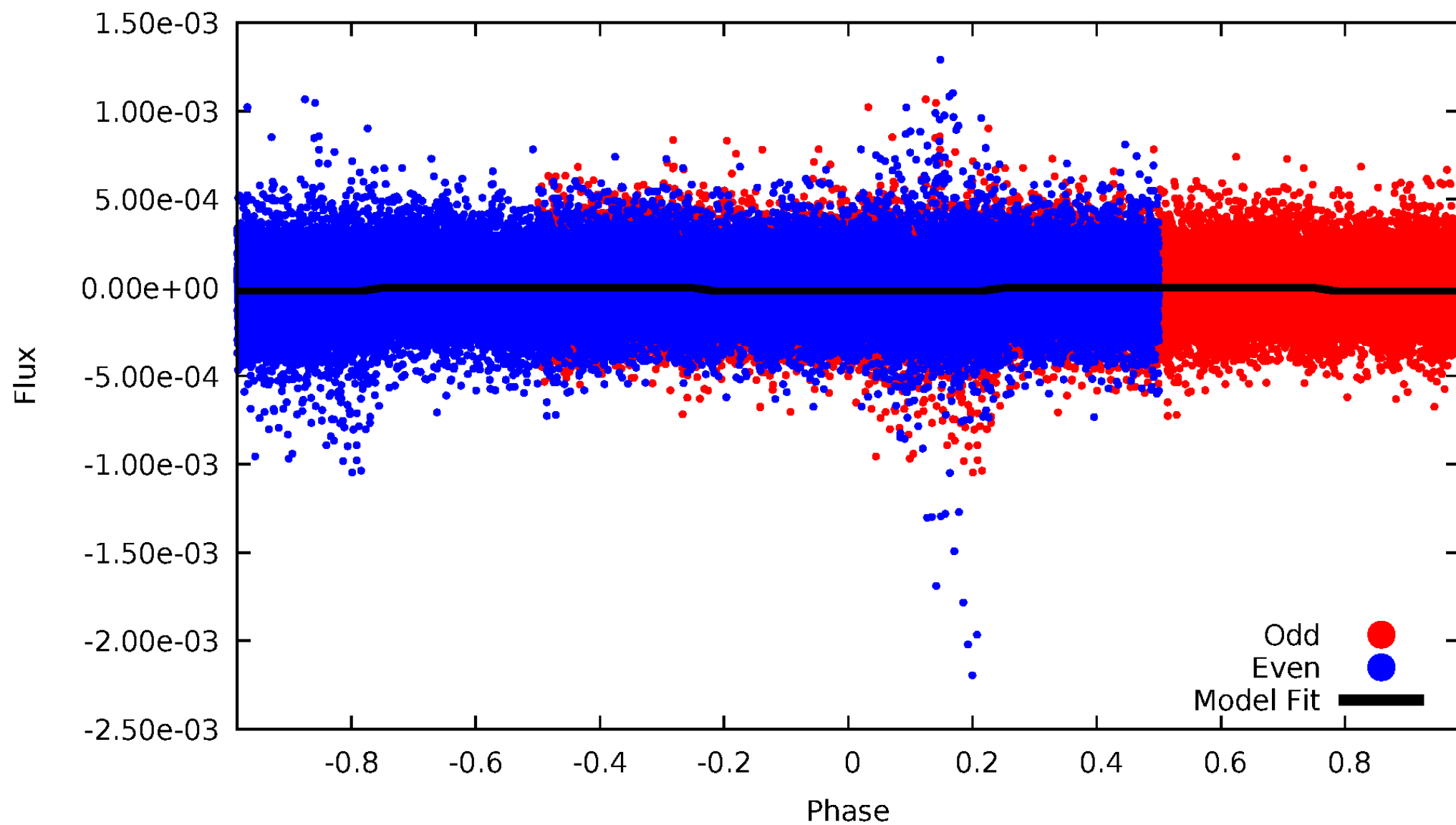
DV Odd/Even

TCE 007812990-01



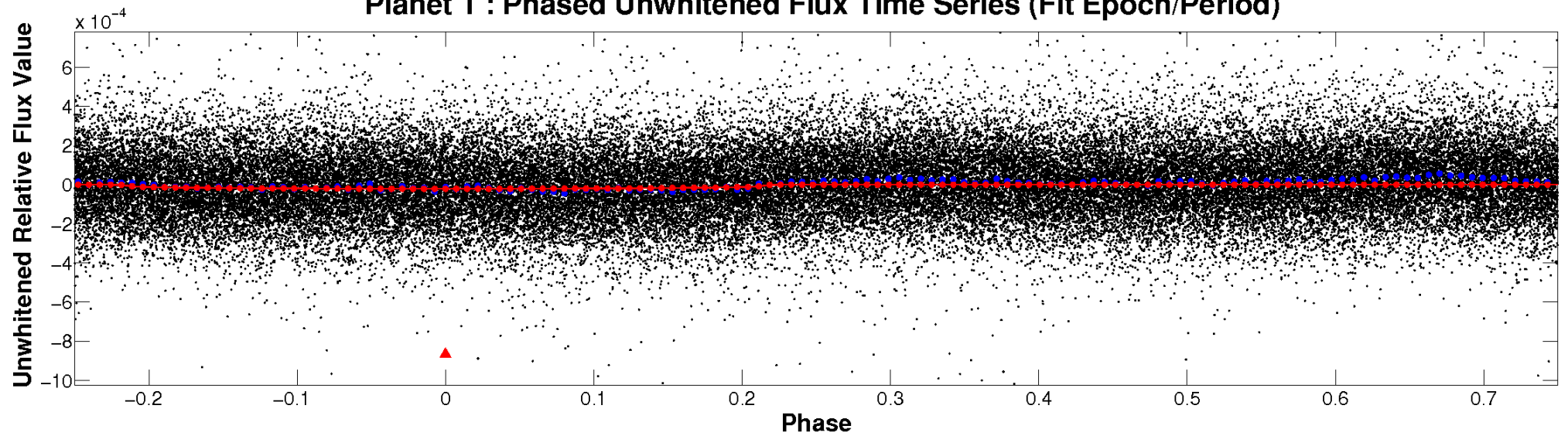
ALT Odd/Even

TCE 007812990-01

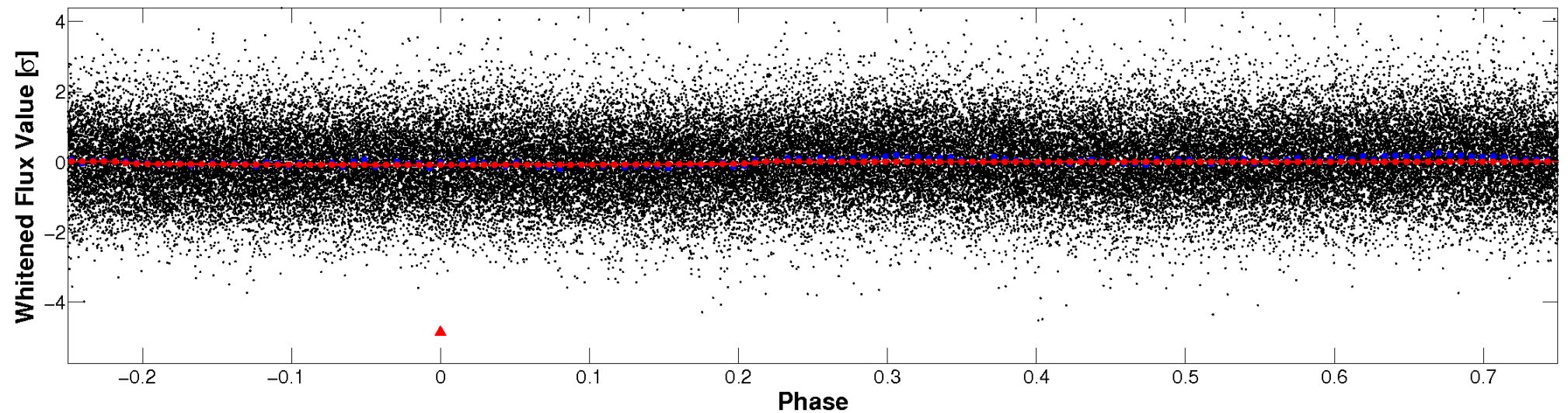


Non-Whitened Vs. Whitened Light Curve

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

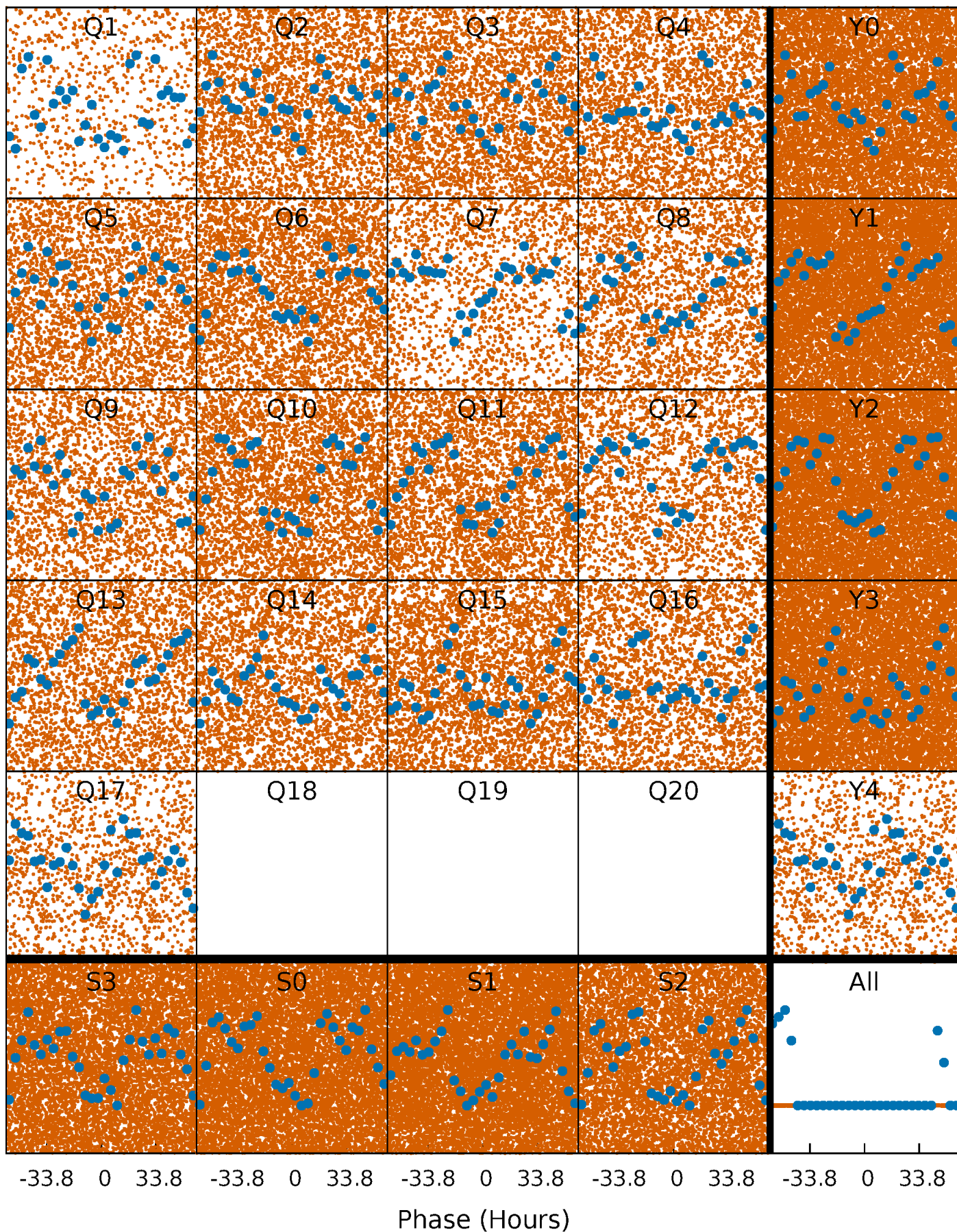


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



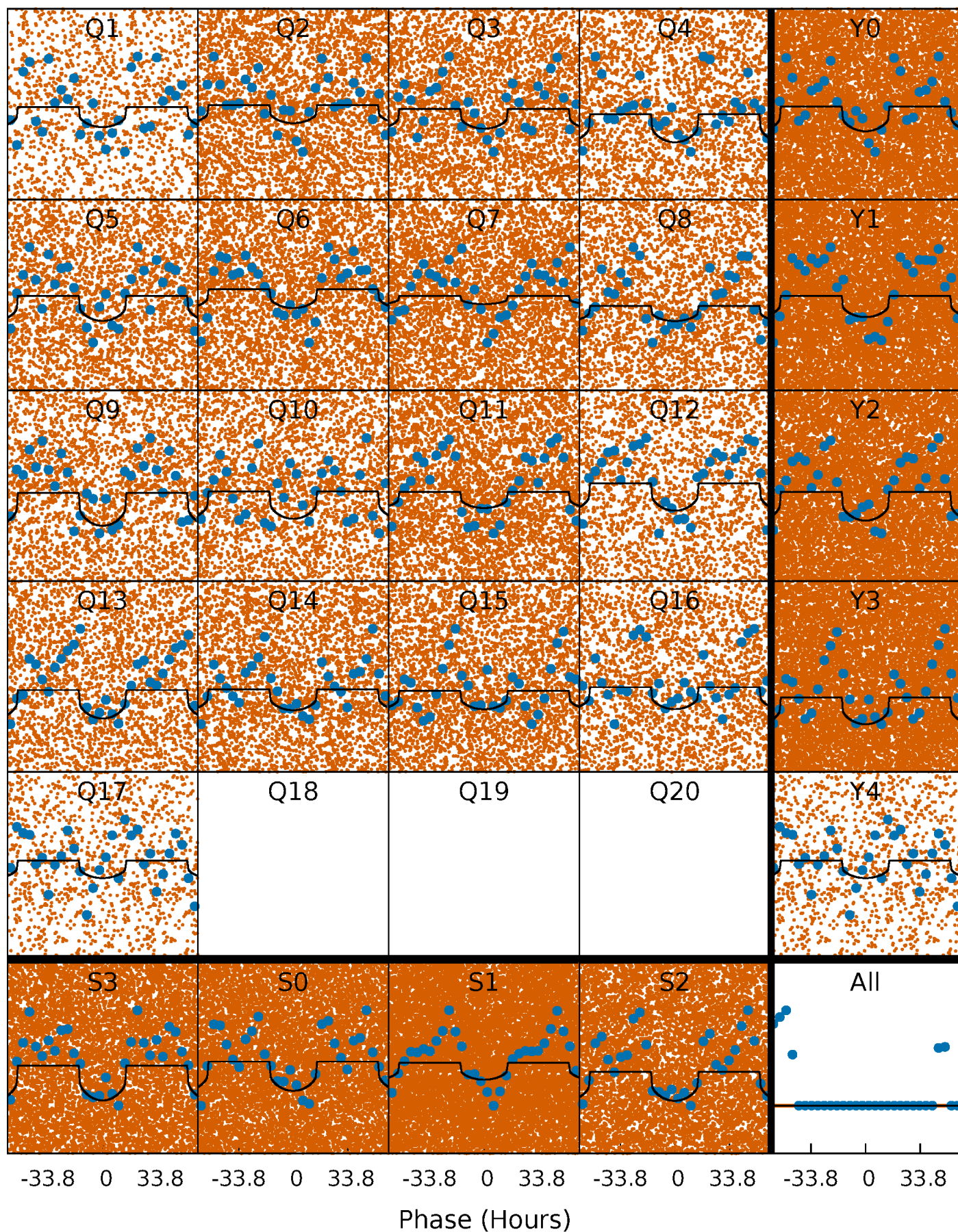
PDC Quarter-Phased Transit Curves

TCE 007812990-01 P= 2.804889 Days $T_0=133.783367$ (BKJD)



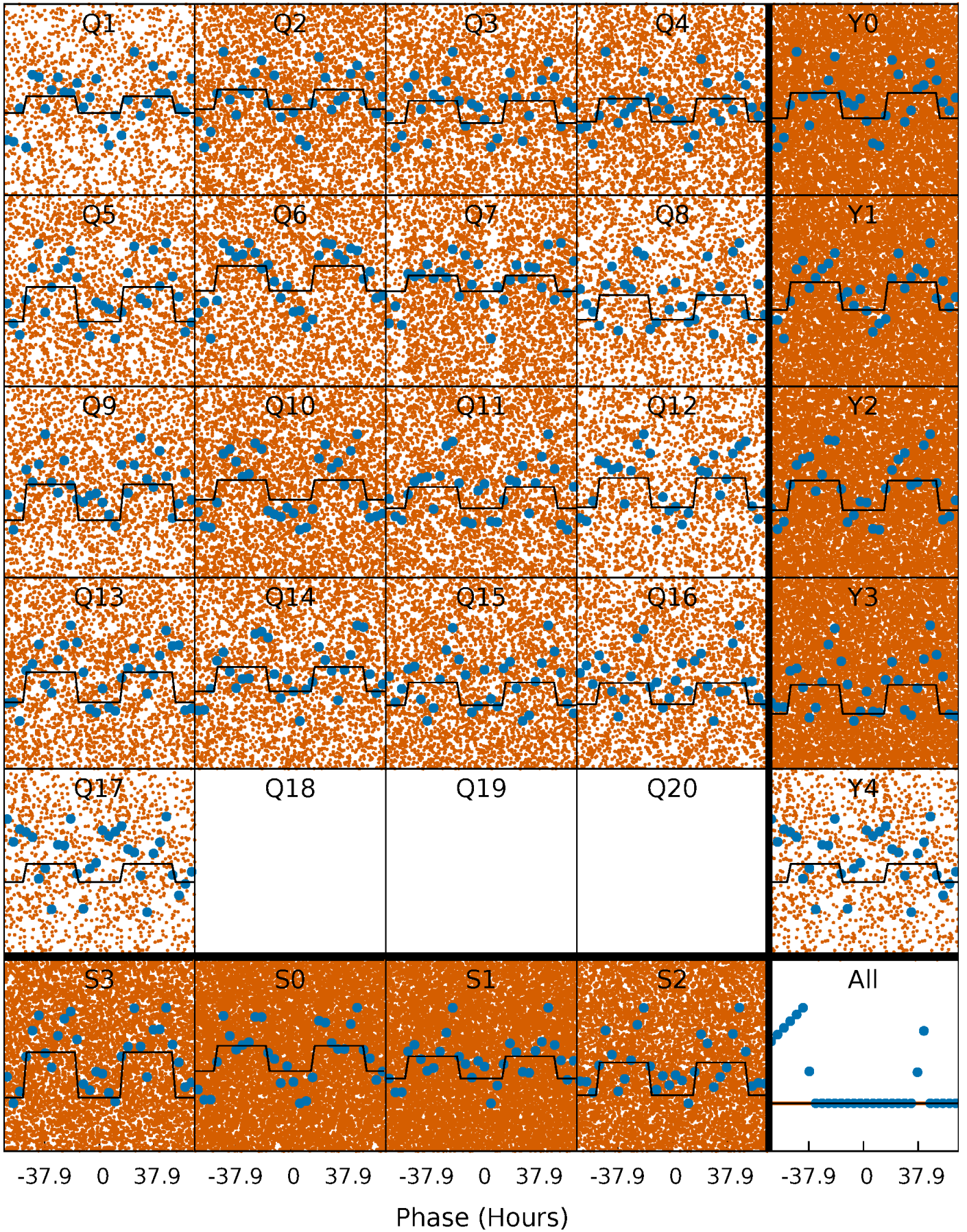
DV Quarter-Phased Transit Curves

TCE 007812990-01 P= 2.804889 Days $T_0=133.783367$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

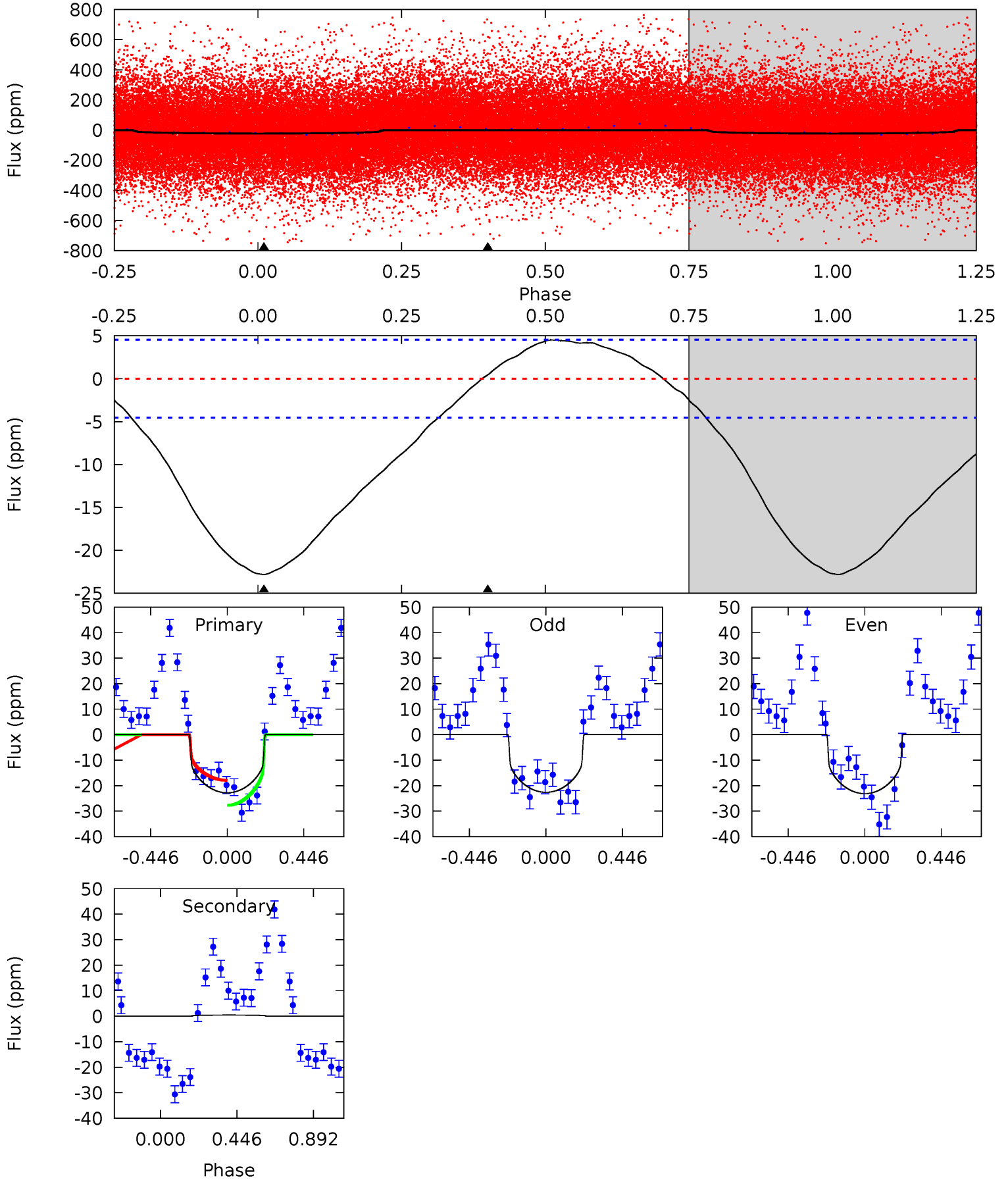
TCE 007812990-01 P= 2.805207 Days $T_0=133.658880$ (BKJD)



DV Model-Shift Uniqueness Test

007812990-01, P = 2.804889 Days, E = 130.978478 Days

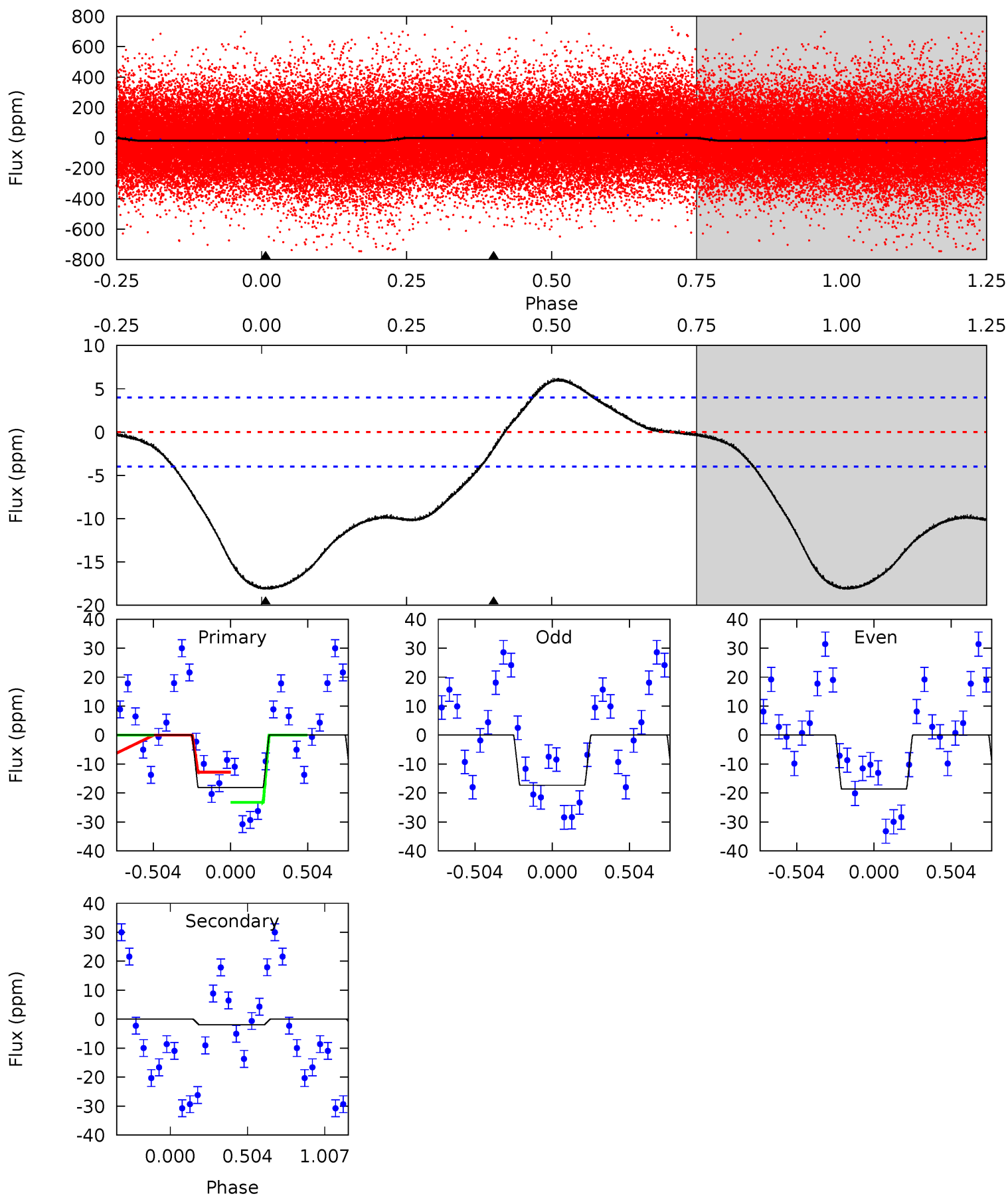
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.3	-0.42	0	0	4.24	0.76	1.37	21.3	21.3	-0.42	-0.42	0.24	1.07	0.17	4.74



Alt Model-Shift Uniqueness Test

007812990-01, P = 2.805207 Days, E = 130.853673 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	2.07	0	0	4.21	0.67	0.30	19.1	19.1	2.07	2.07	0.68	1.02	0.26	5.52



Stellar Parameters For KIC 007812990

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6184^{+166}_{-203}	$4.444^{+0.058}_{-0.217}$	$-0.100^{+0.250}_{-0.350}$	$1.028^{+0.349}_{-0.116}$	$1.067^{+0.155}_{-0.141}$	$1.382^{+0.419}_{-0.757}$
	+3%/-3%	+1%/-5%	+250%/-350%	+34%/-11%	+15%/-13%	+30%/-55%
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 007812990-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1	$0.53^{+0.18}_{-0.17}$	1983^{+132}_{-109}	-3127^{+6221}_{-722}	$-1.338^{+3.177}_{-4.906}$
Alt.	-2 ± 1	$0.52^{+0.20}_{-0.17}$	1974^{+149}_{-99}	3718^{+679}_{-476}	$5.553^{+8.110}_{-3.205}$

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 $A_{obs} \gg 1.0$

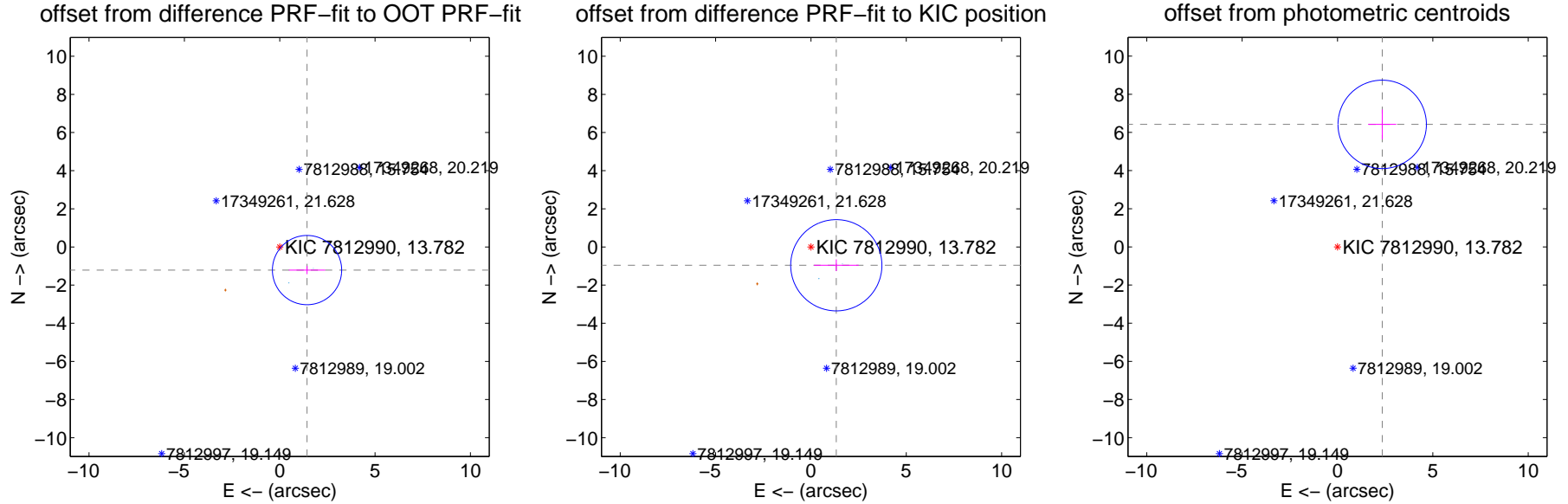
DV Centroid Data

Supplemental centroid analysis for 007812990-01. Kepler magnitude: 13.78. Transit SNR 12.72

There are 2 quarters with good PRF difference image offsets

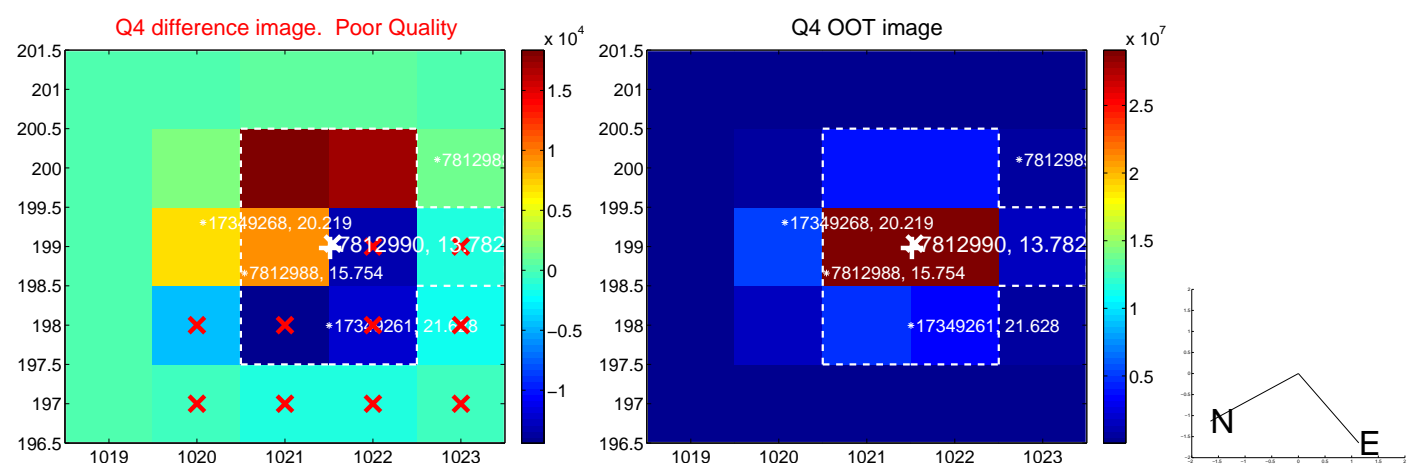
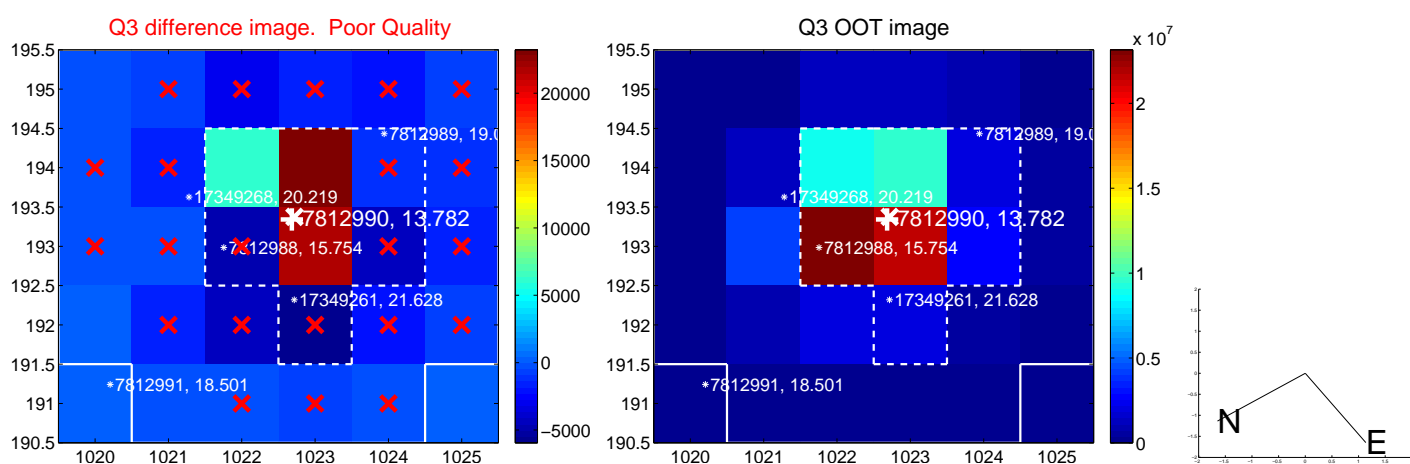
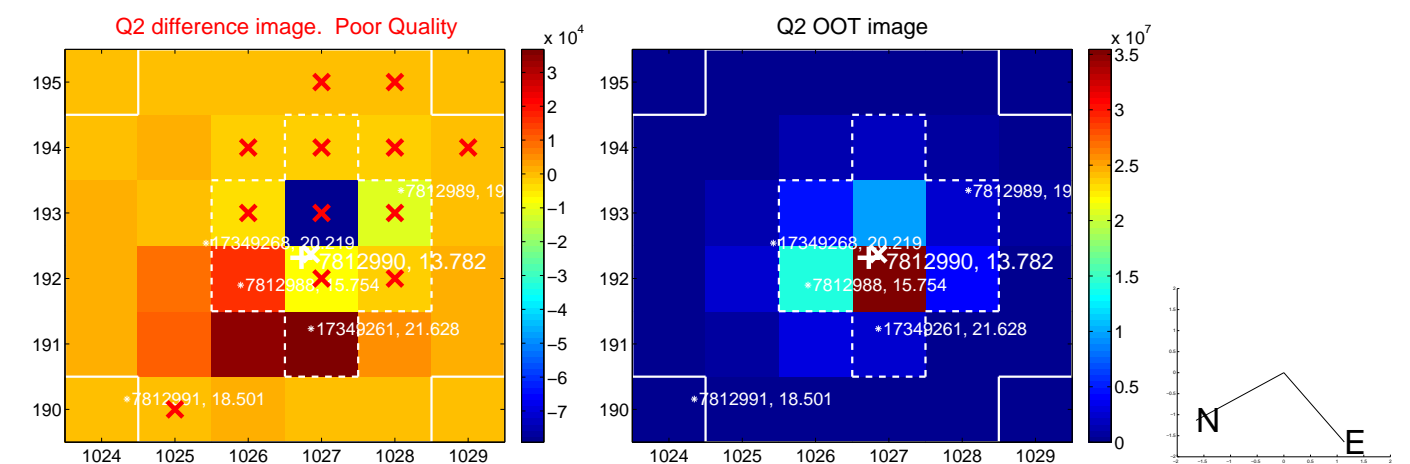
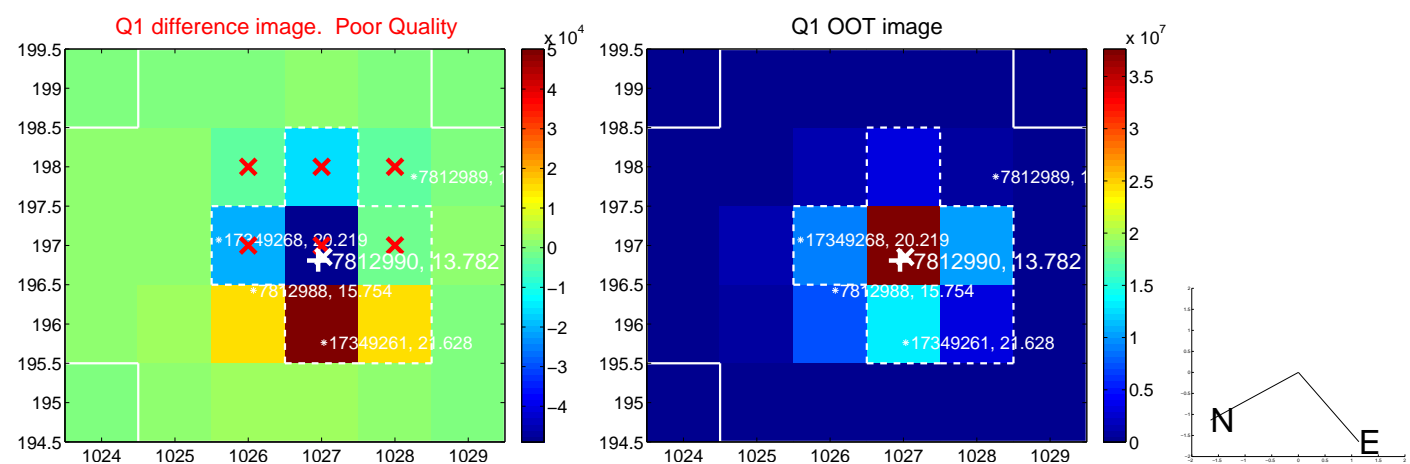
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.877 ± 0.605	3.10	-1.432 ± 0.953	-1.213 ± 0.215
PRF-fit source offset from KIC position	1.640 ± 0.797	2.06	-1.330 ± 1.171	-0.960 ± 0.305
photometric centroid source offset	6.84 ± 0.77	8.85	-2.35 ± 0.74	6.42 ± 0.78

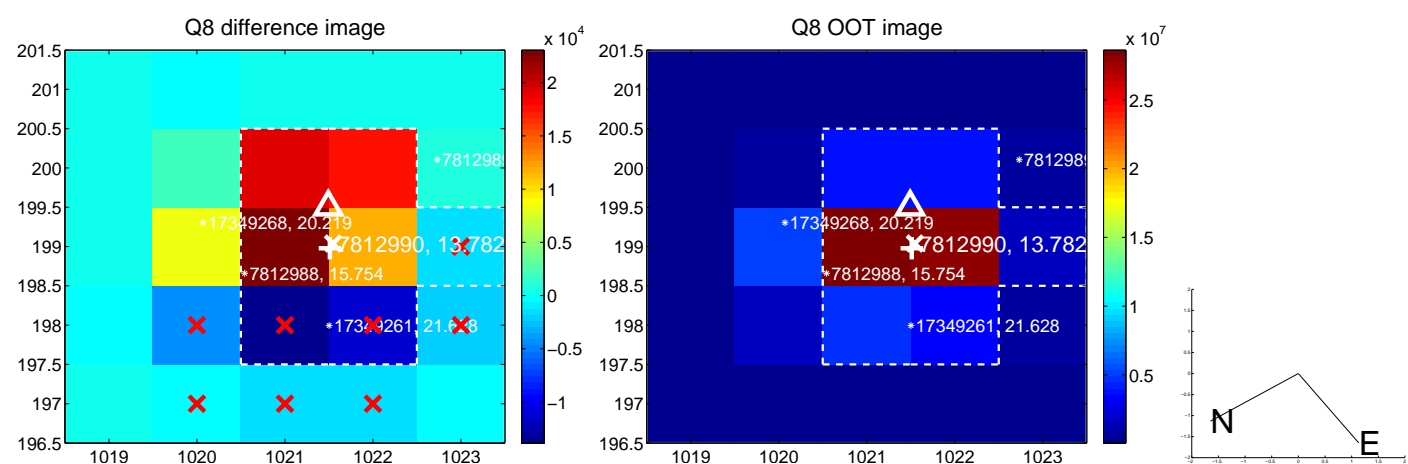
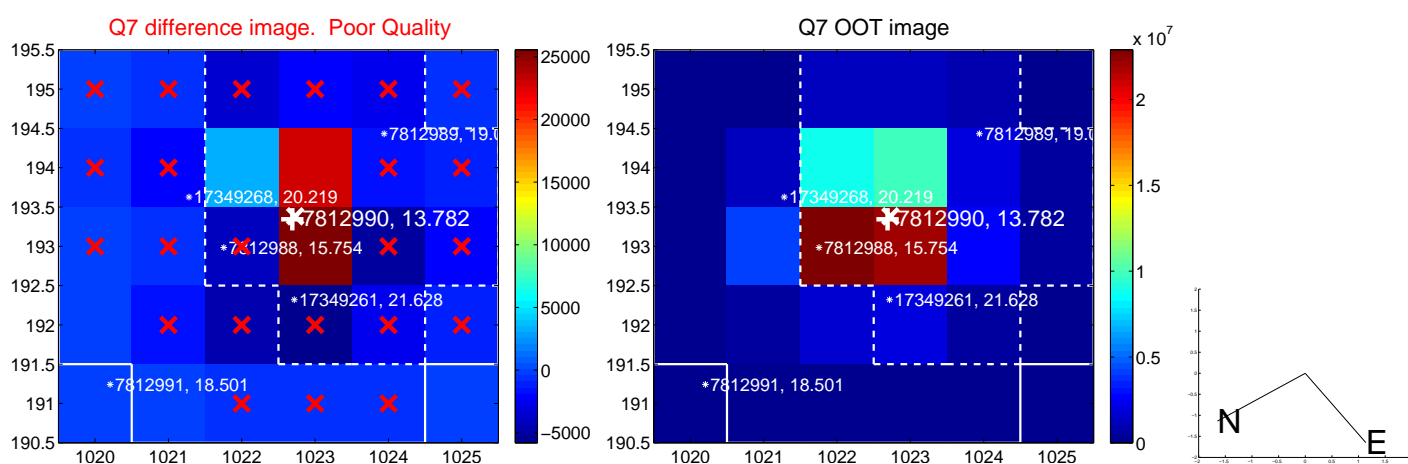
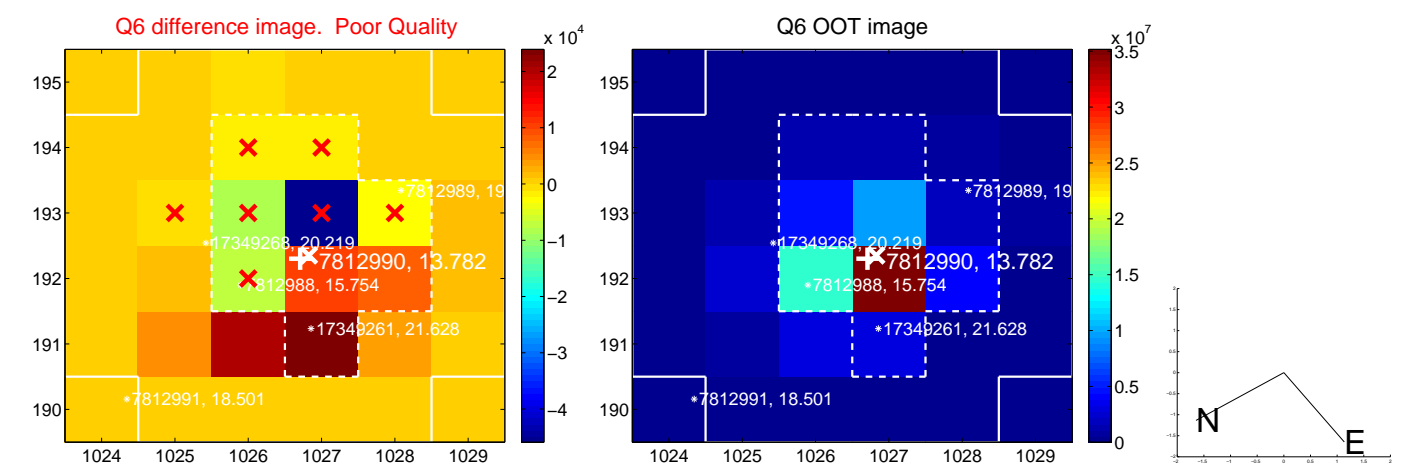
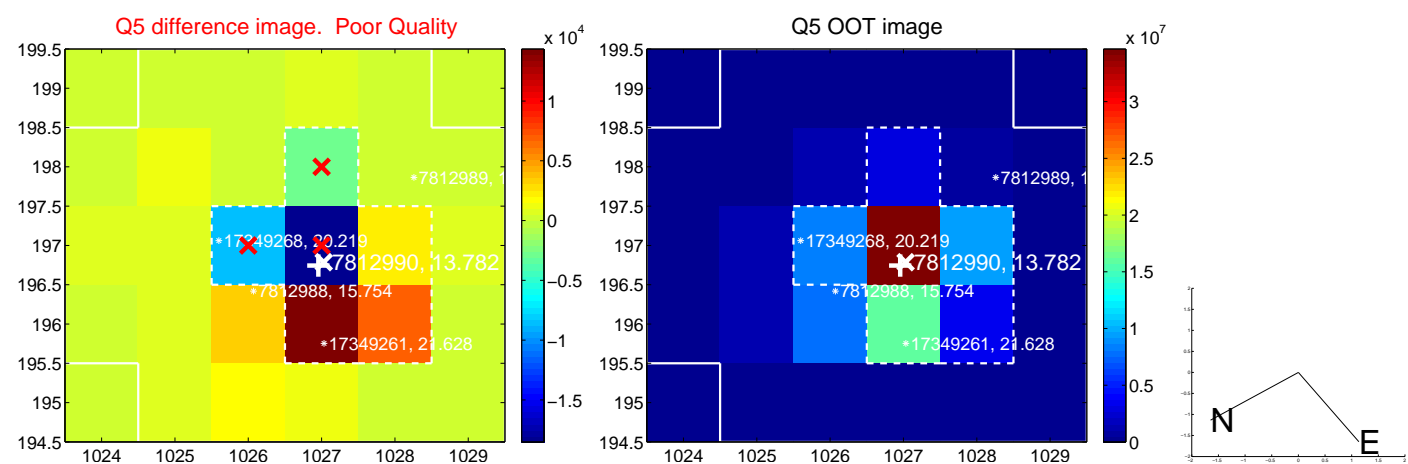


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

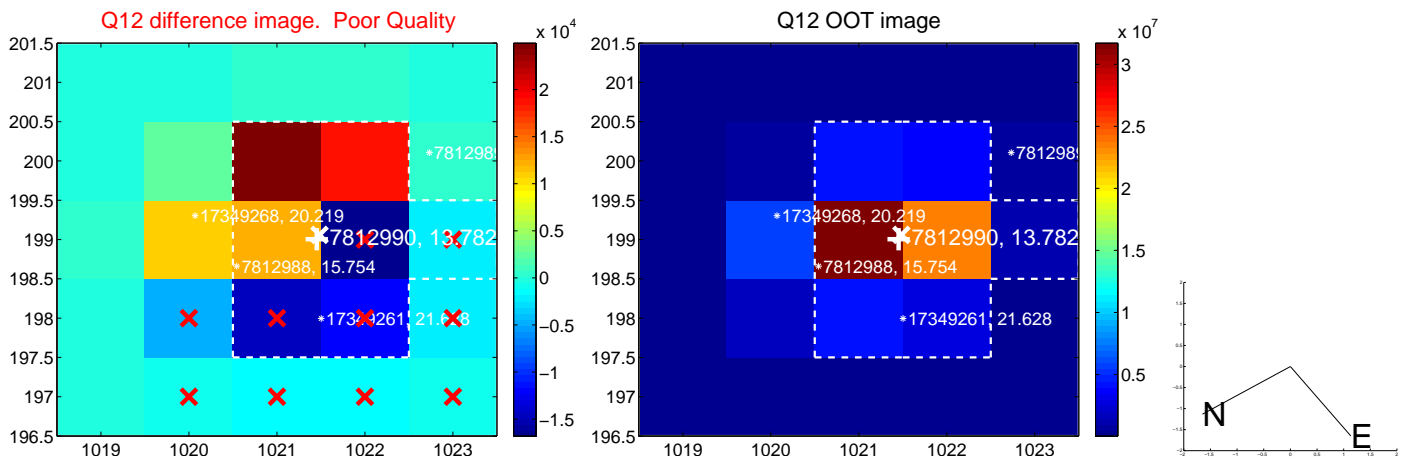
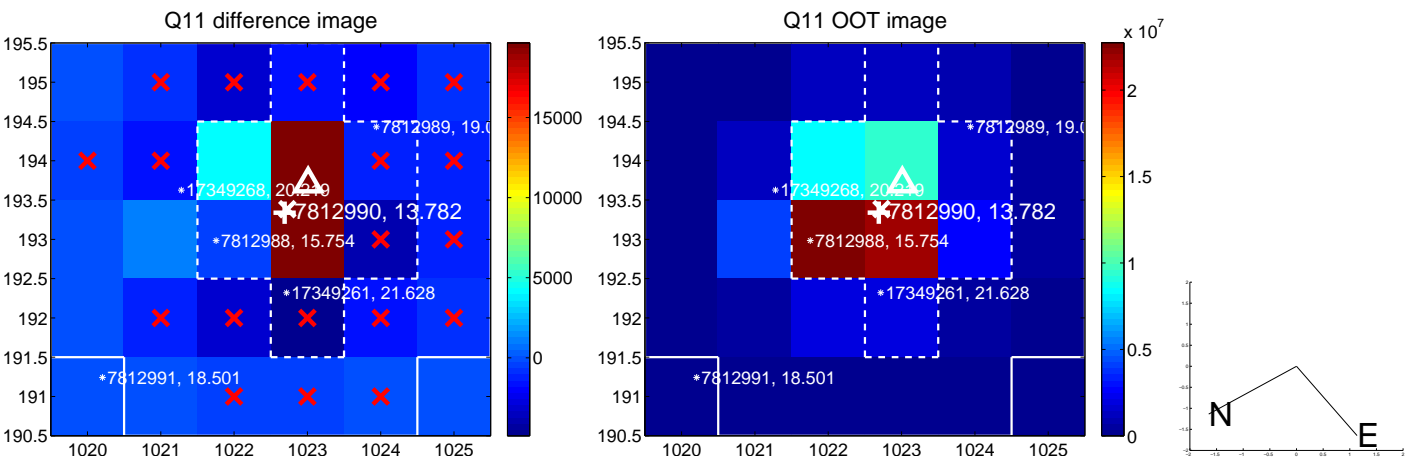
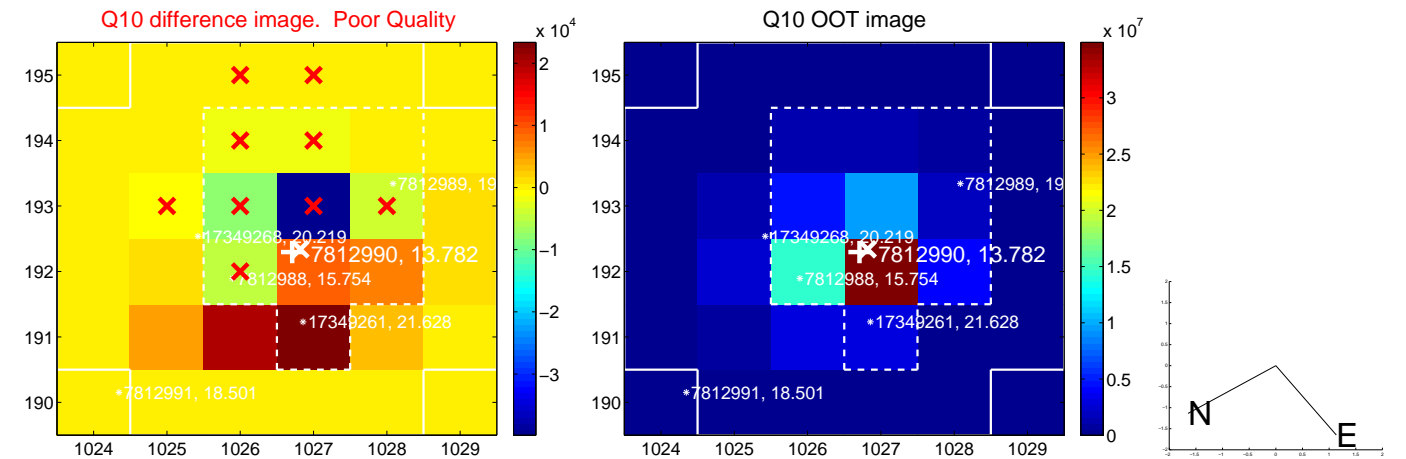
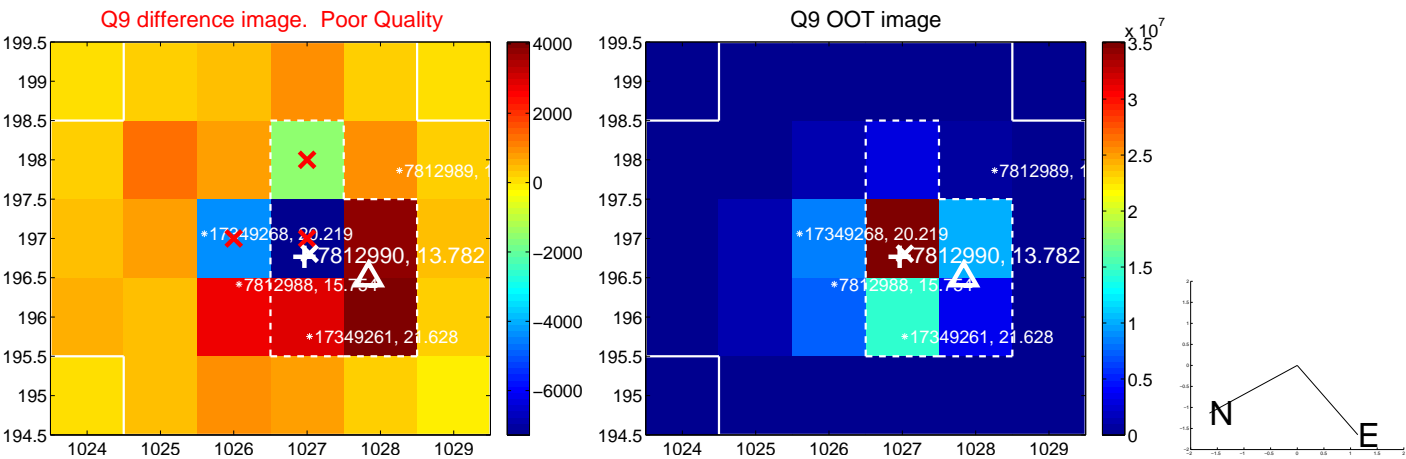
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



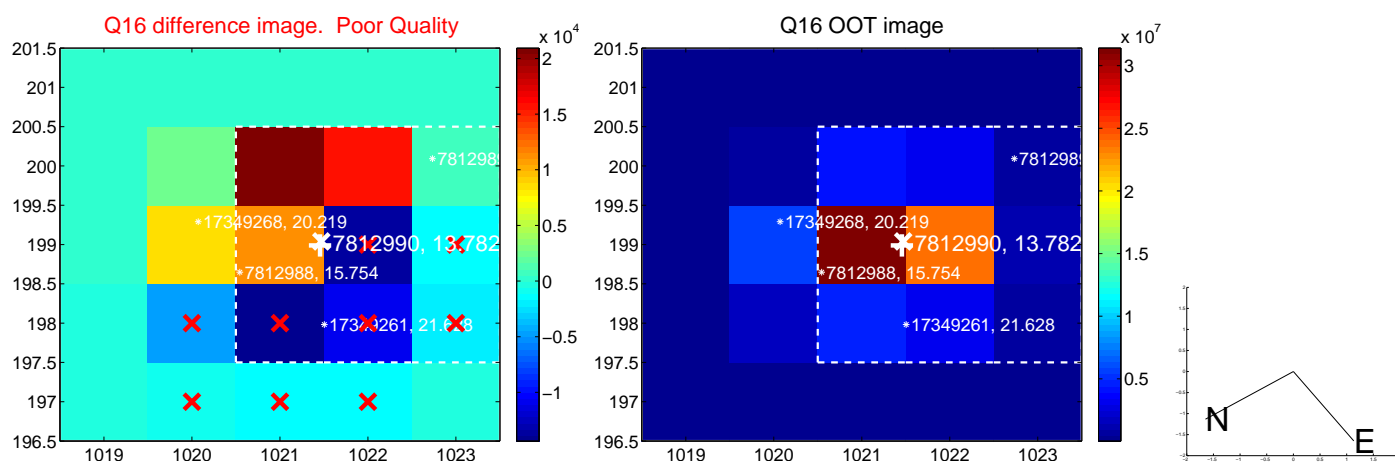
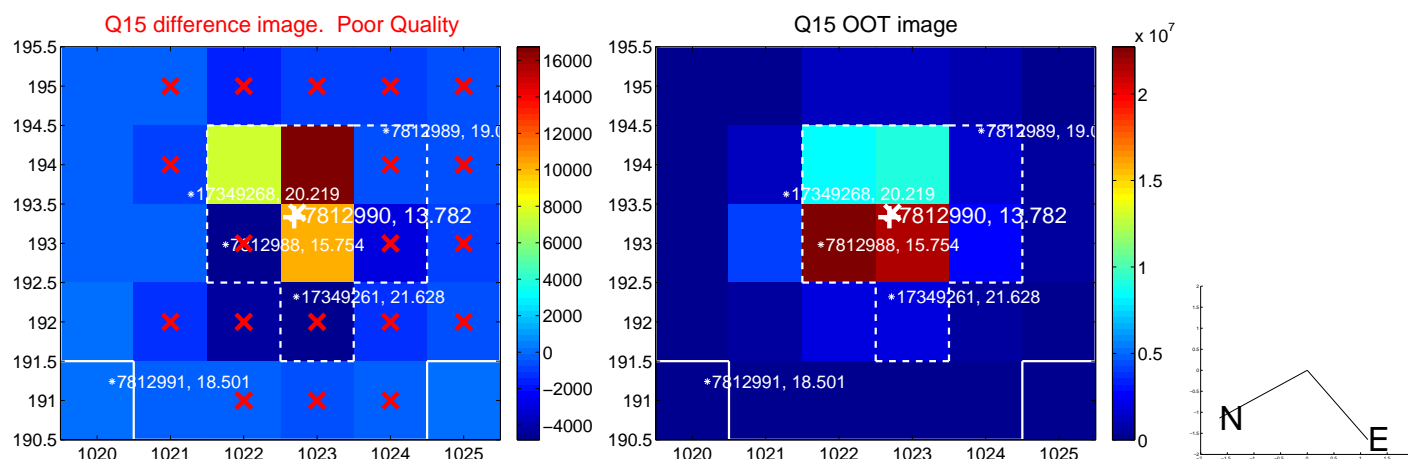
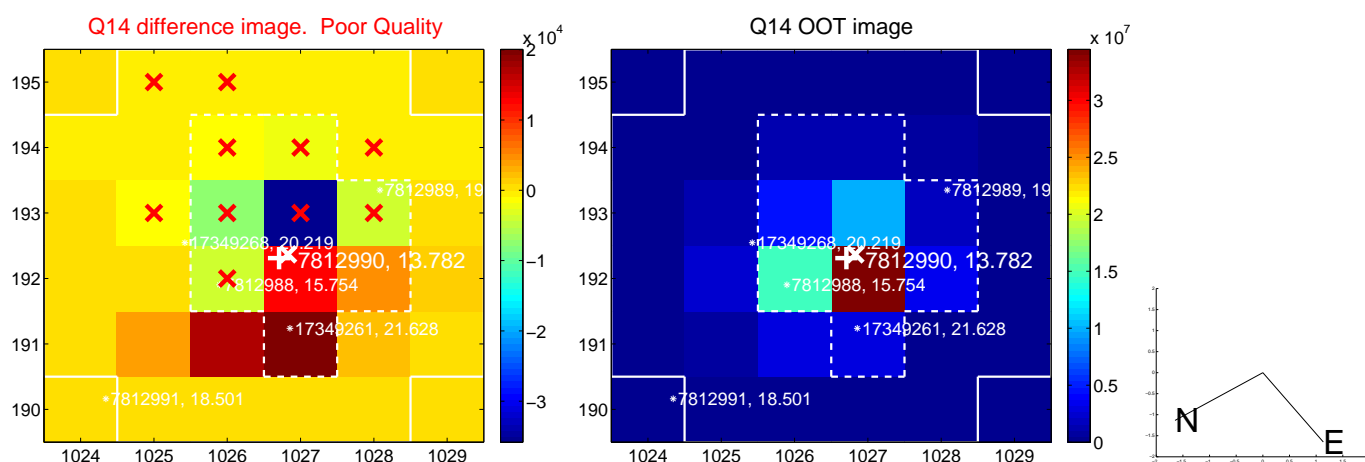
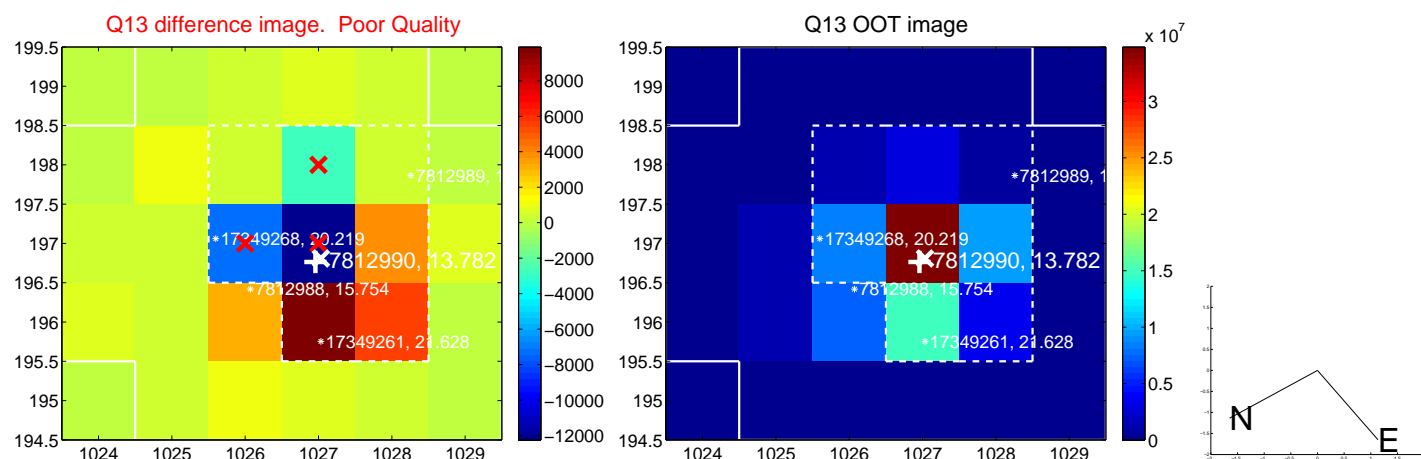
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



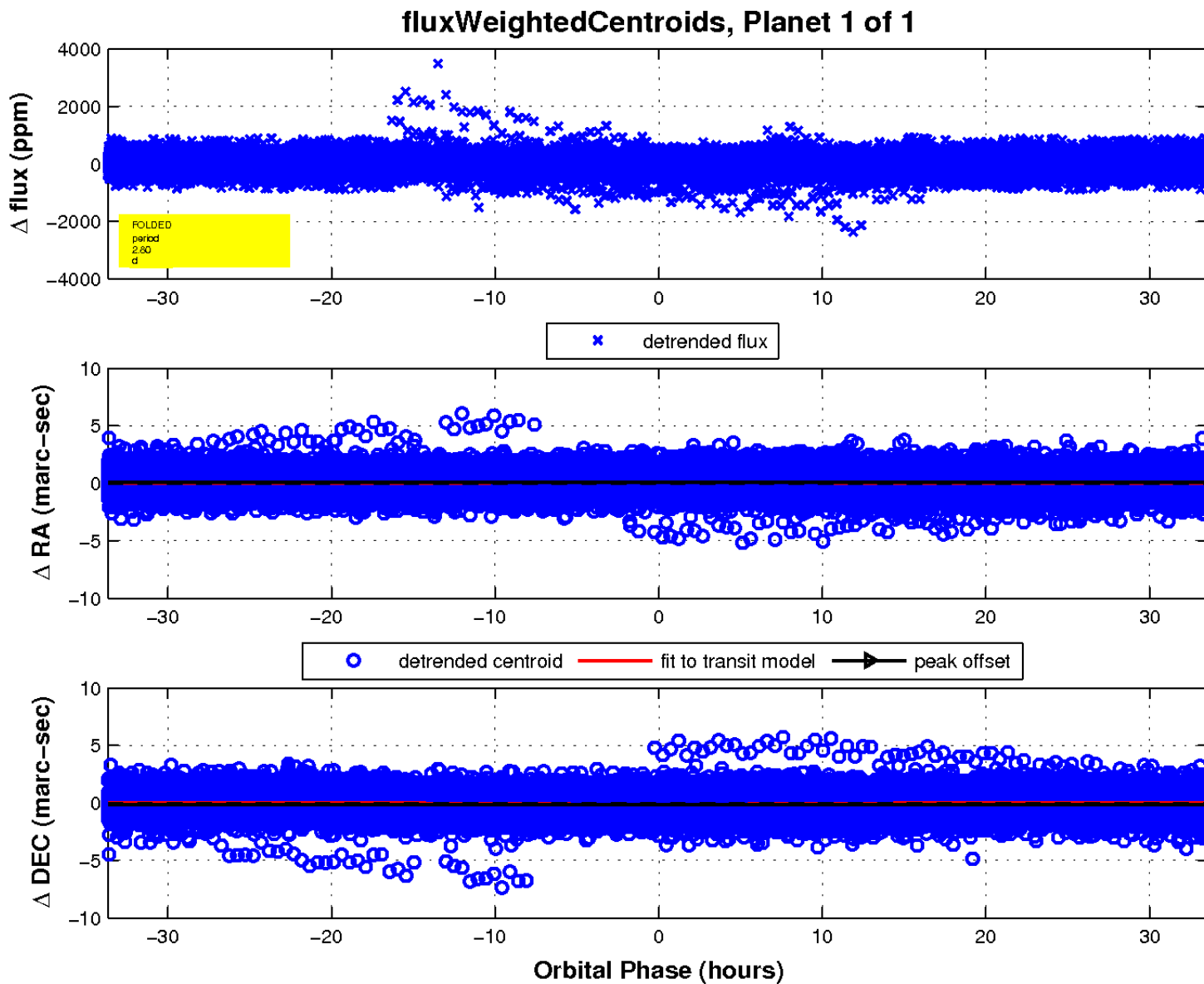
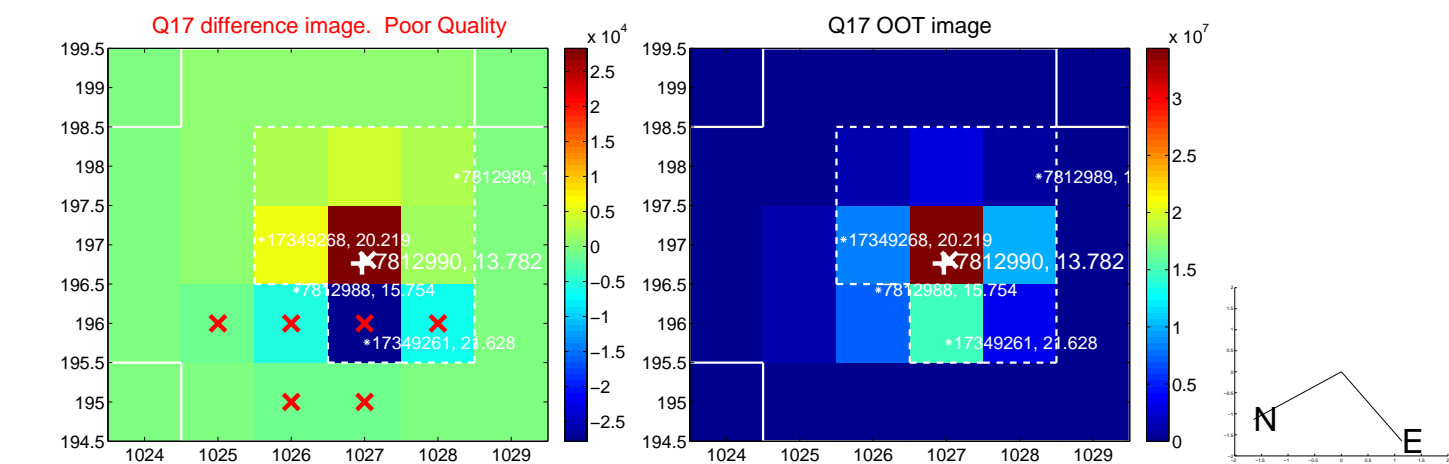
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

