

KIC 007988303

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})
007988303-01	OBS	No	0.581139	131.607745	44.7	1.759	9.3	12.4	3.22	5213	2.59	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007988303-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—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.

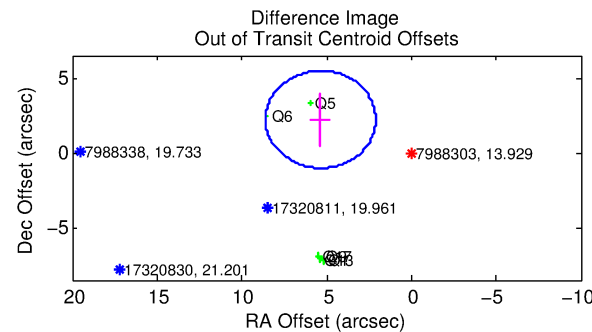
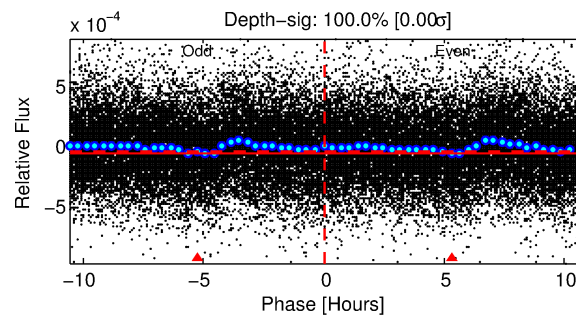
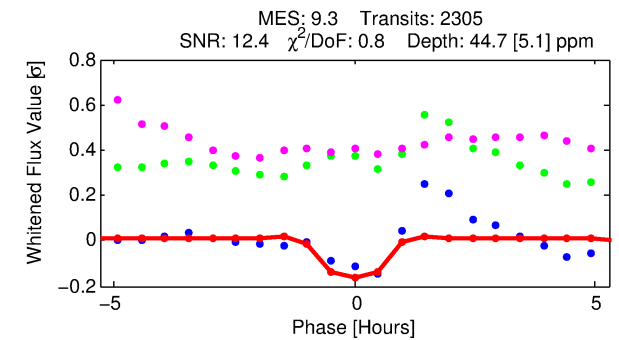
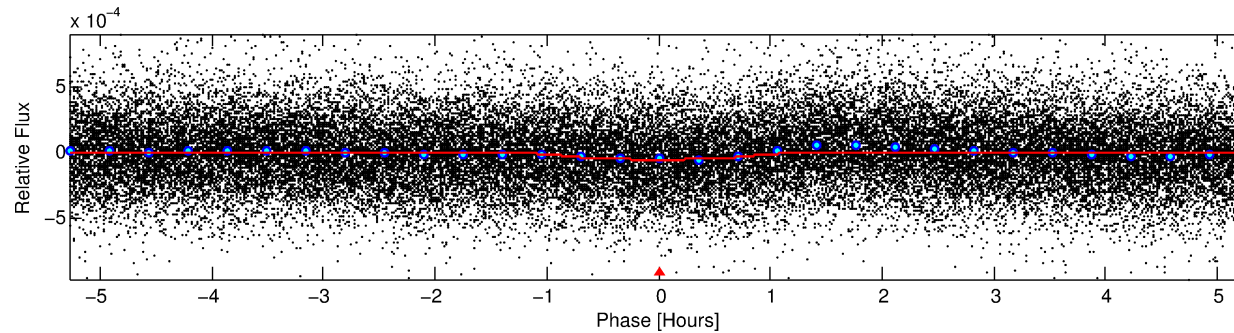
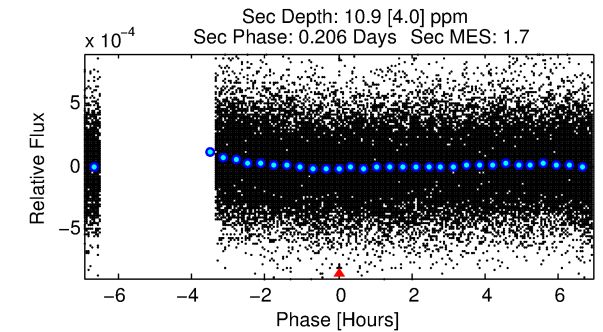
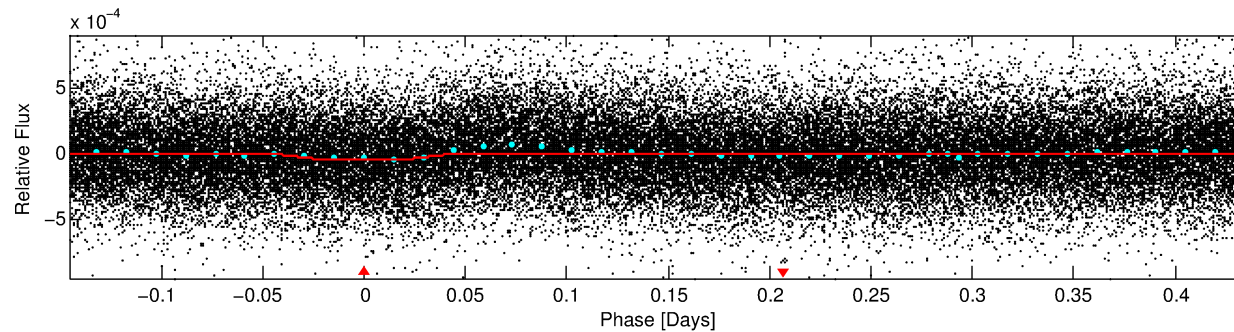
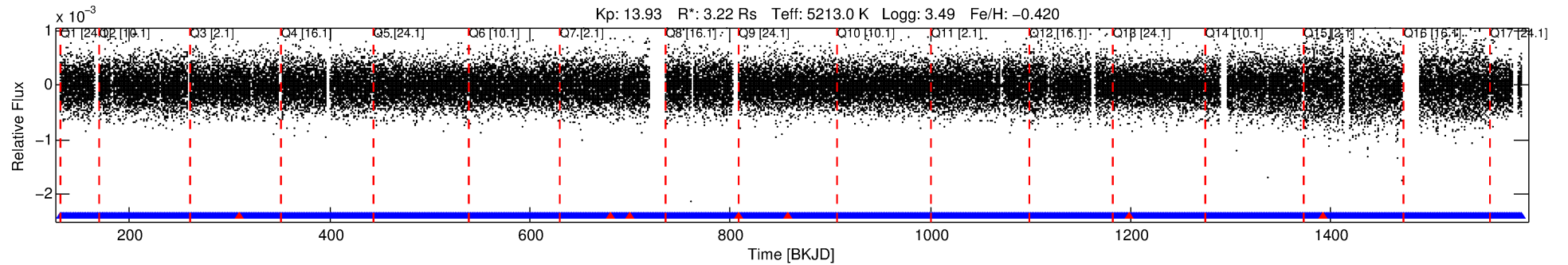
Ephemeris Match Information For 007988303-01

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
007988303-01	7988303	007988343-02	7988343	1:2	29.0	-4	7	14.49	13.93	62.20	Direct-PRF	0	0.31	0.05

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: 7988303 Candidate: 1 of 1 Period: 0.581 d



DV Fit Results:

Period = 0.58114 [0.00001] d
Epoch = 131.6077 [0.0018] BKJD
Rp/R* = 0.0074 [0.0041]
a/R* = 1.48 [1.98]
b = 0.90 [0.54]
Seff = N/A
Teq = N/A
Rp = 2.59 [1.88] Re
a = N/A
Ag = N/A
Teff = N/A

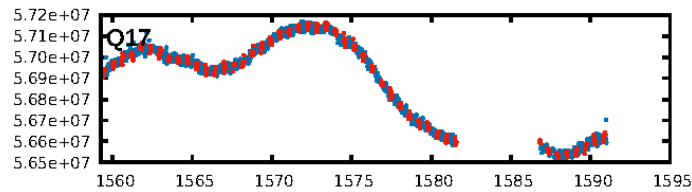
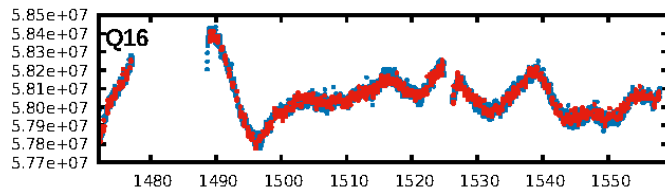
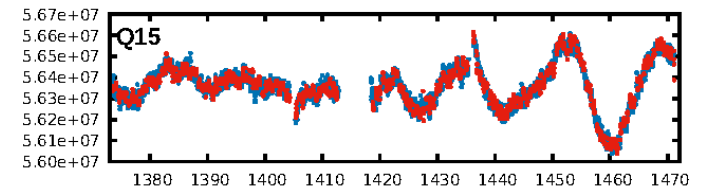
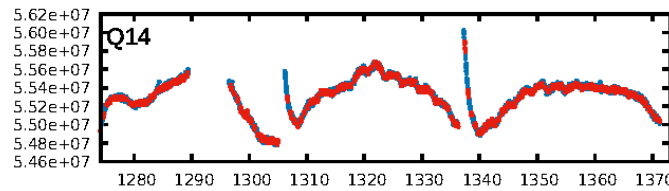
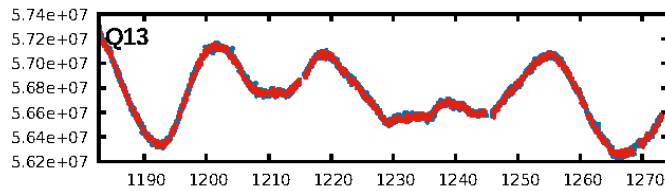
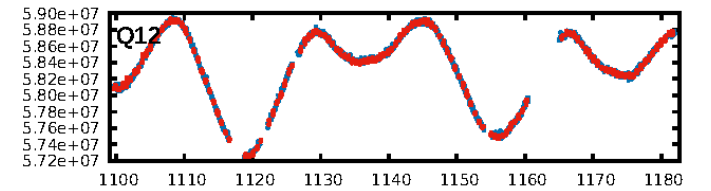
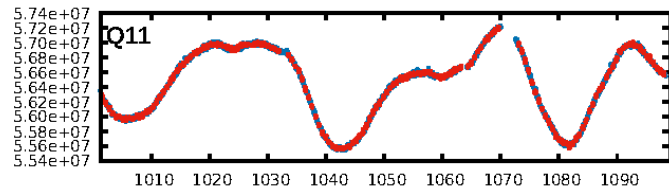
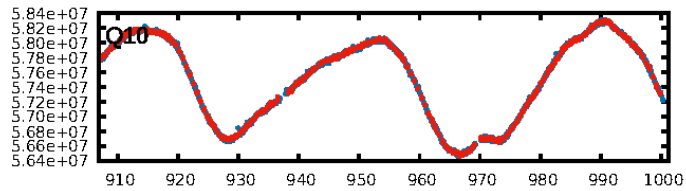
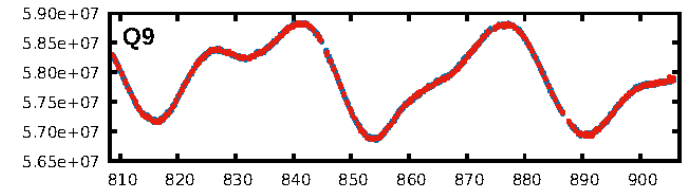
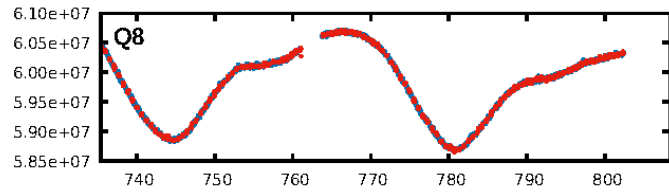
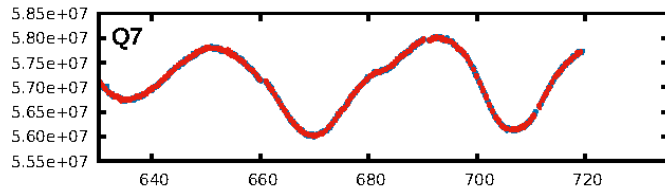
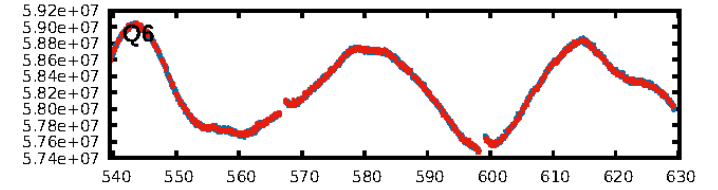
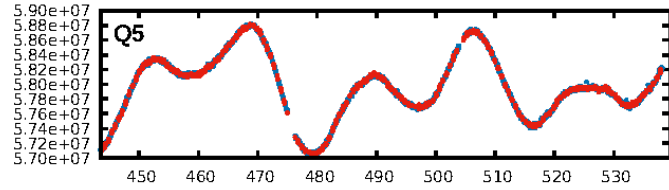
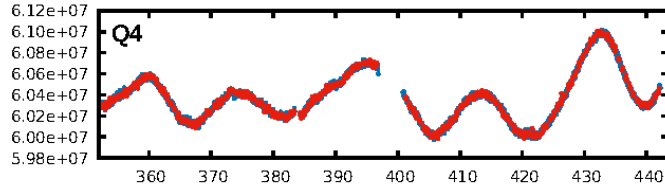
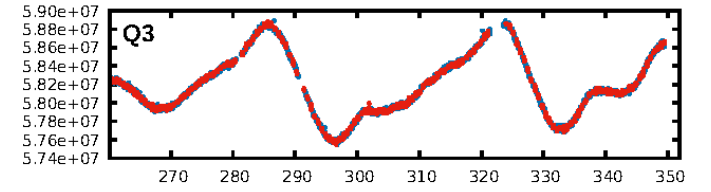
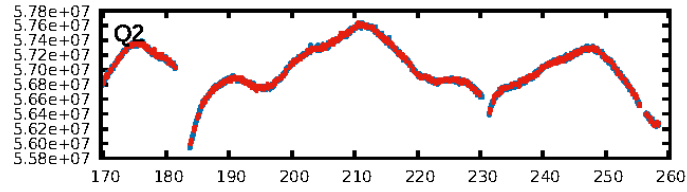
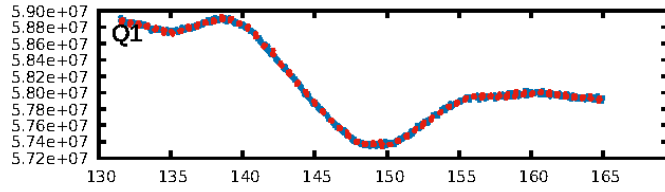
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.79e-18
RollingBand-fgt: 1.00 [2194/2201]
GhostDiagnostic-chr: -0.7387
Centroid-sig: 0.0%
Centroid-so: 1.446 arcsec [1.76σ]
OotOffset-rm: 5.797 arcsec [5.36σ]
KicOffset-rm: 12.574 arcsec [29.55σ]
OotOffset-st: 1/0/0/5 [6]
KicOffset-st: 1/0/0/5 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 1.00 [17/17]

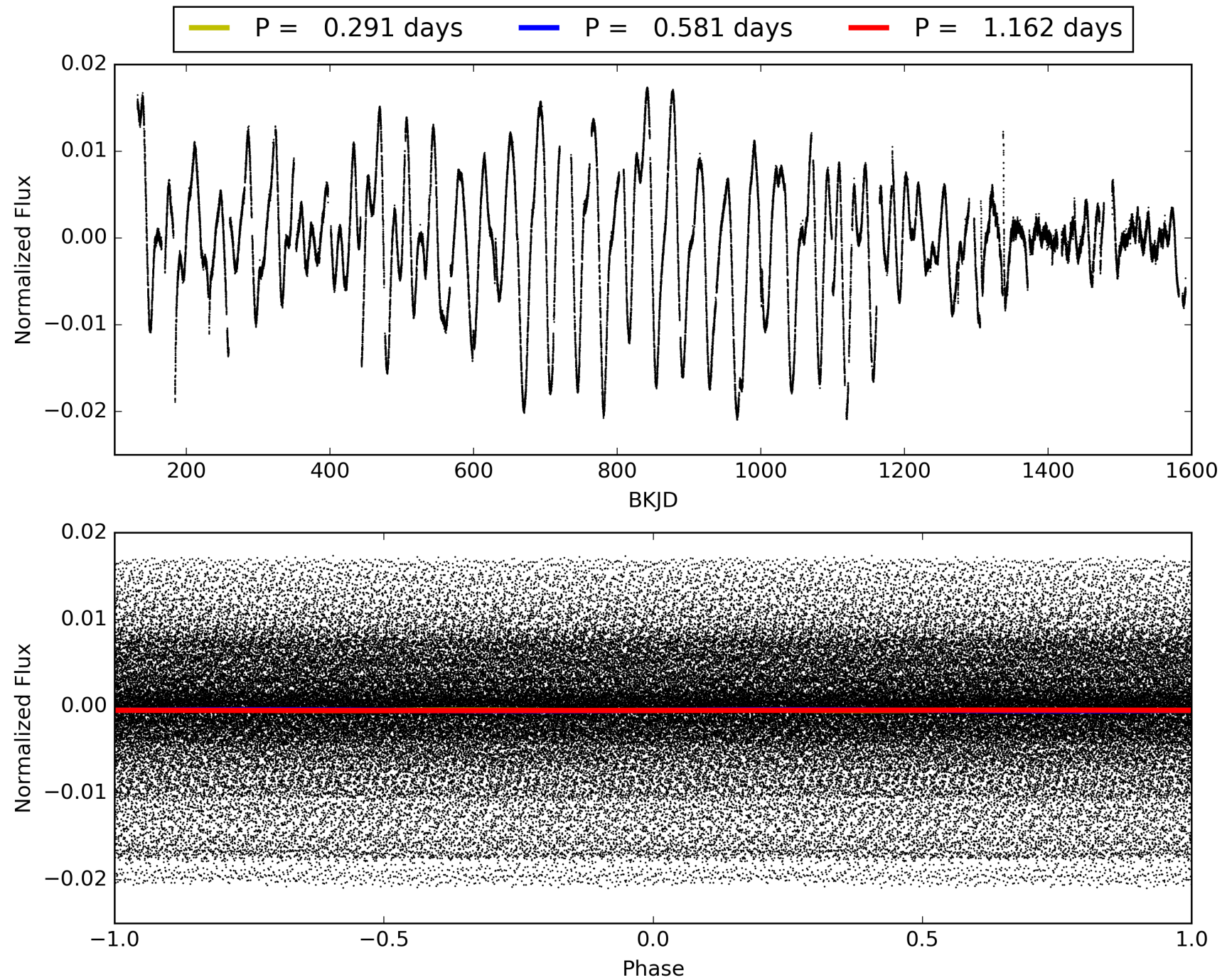
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007988303-01, PDC Light Curves

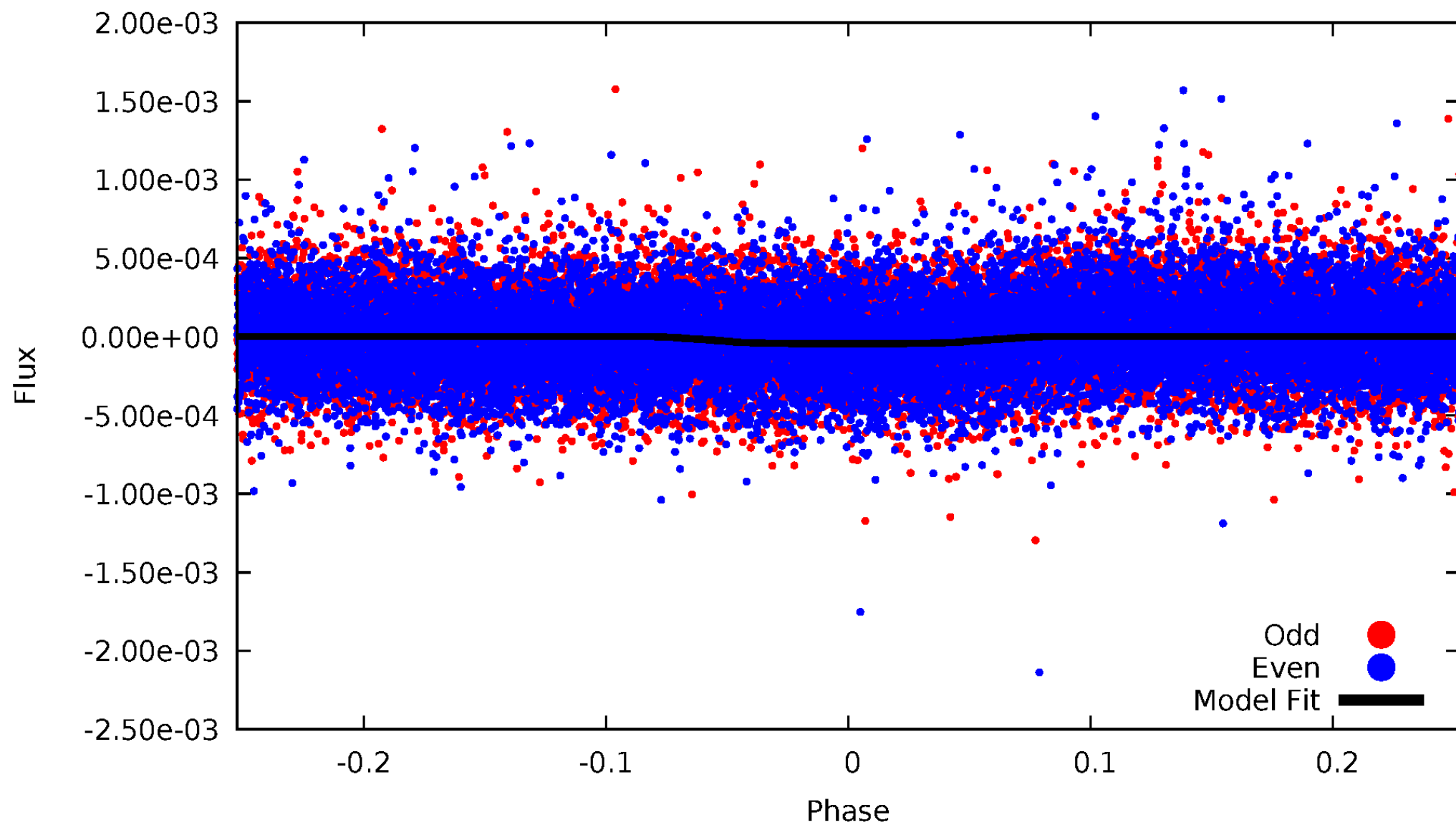


TCE 007988303-01



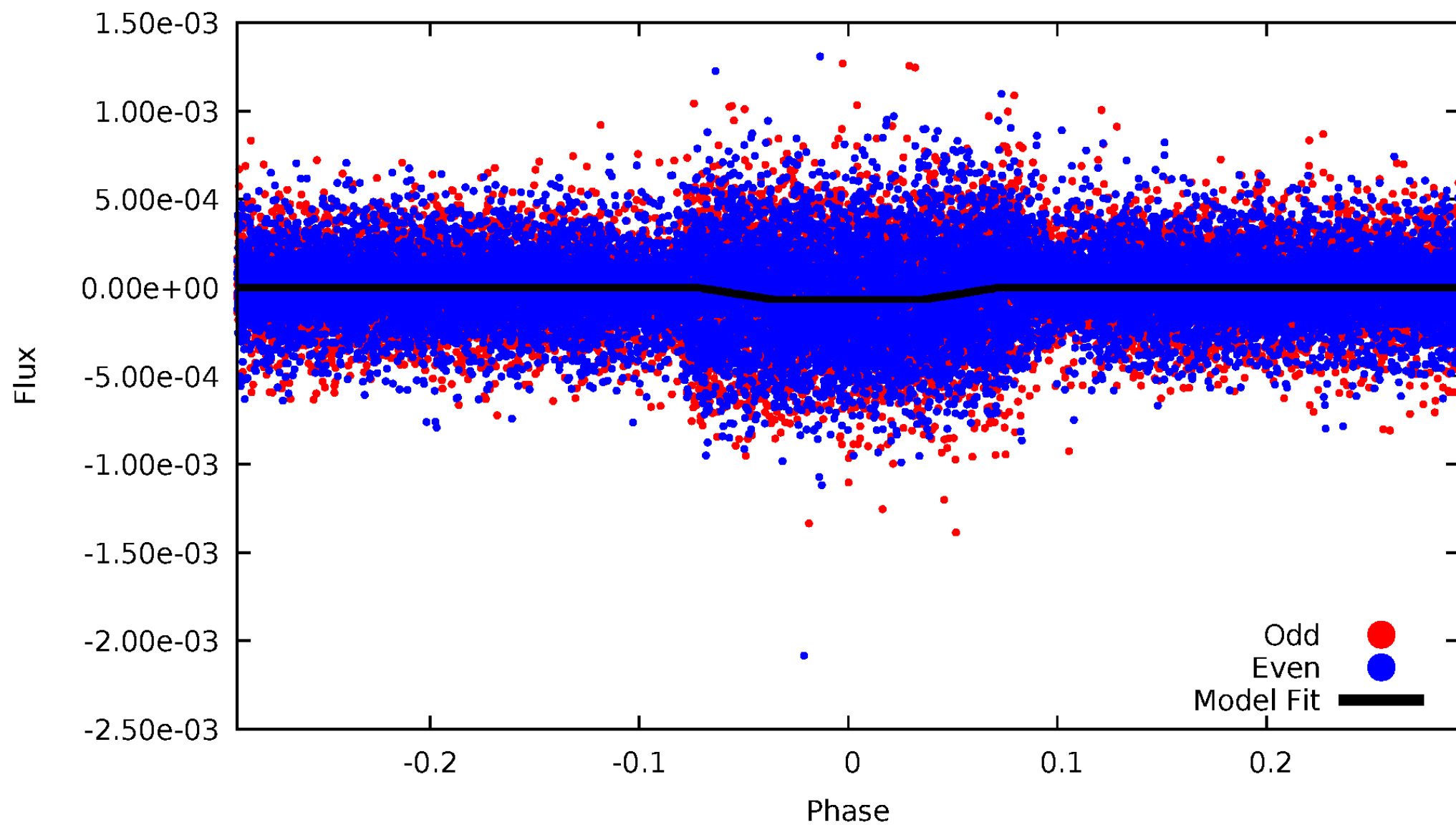
DV Odd/Even

TCE 007988303-01

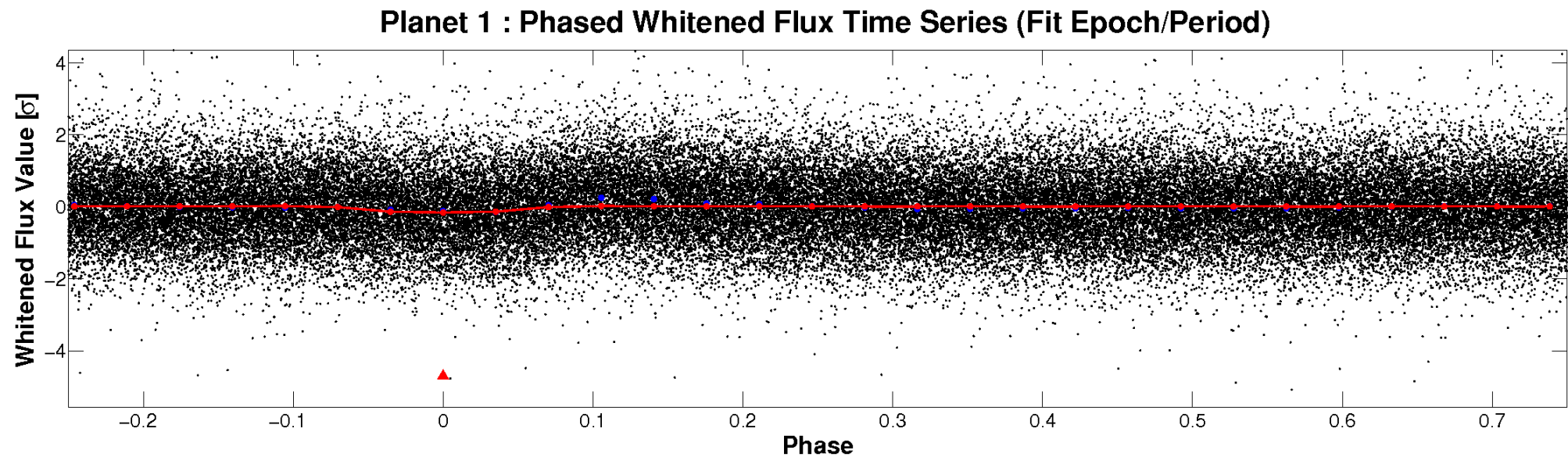
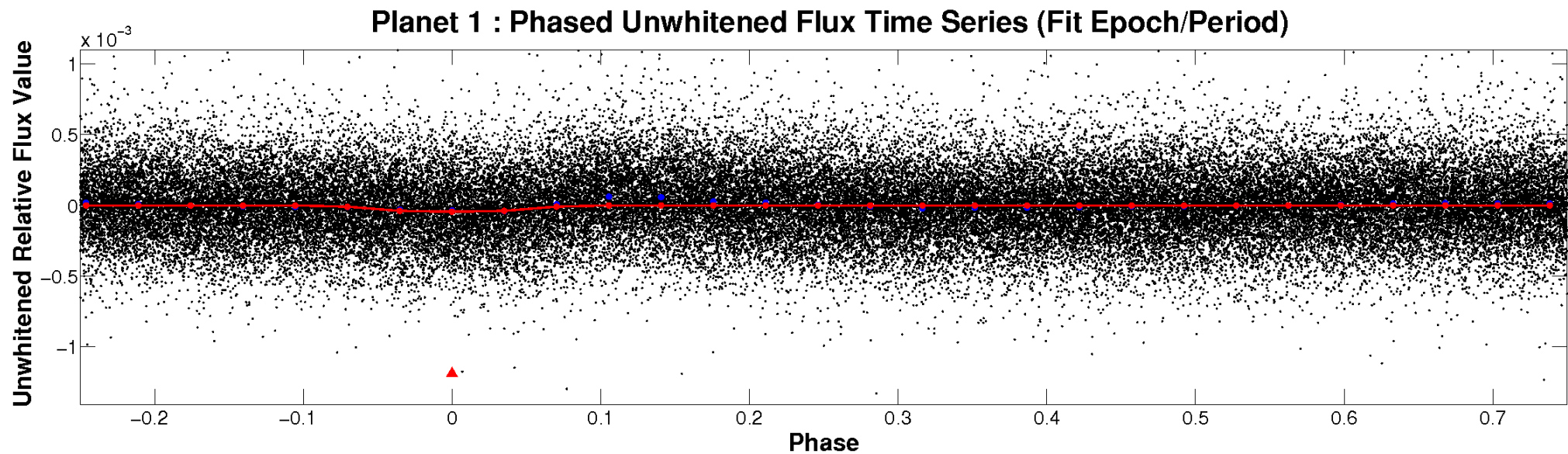


ALT Odd/Even

TCE 007988303-01

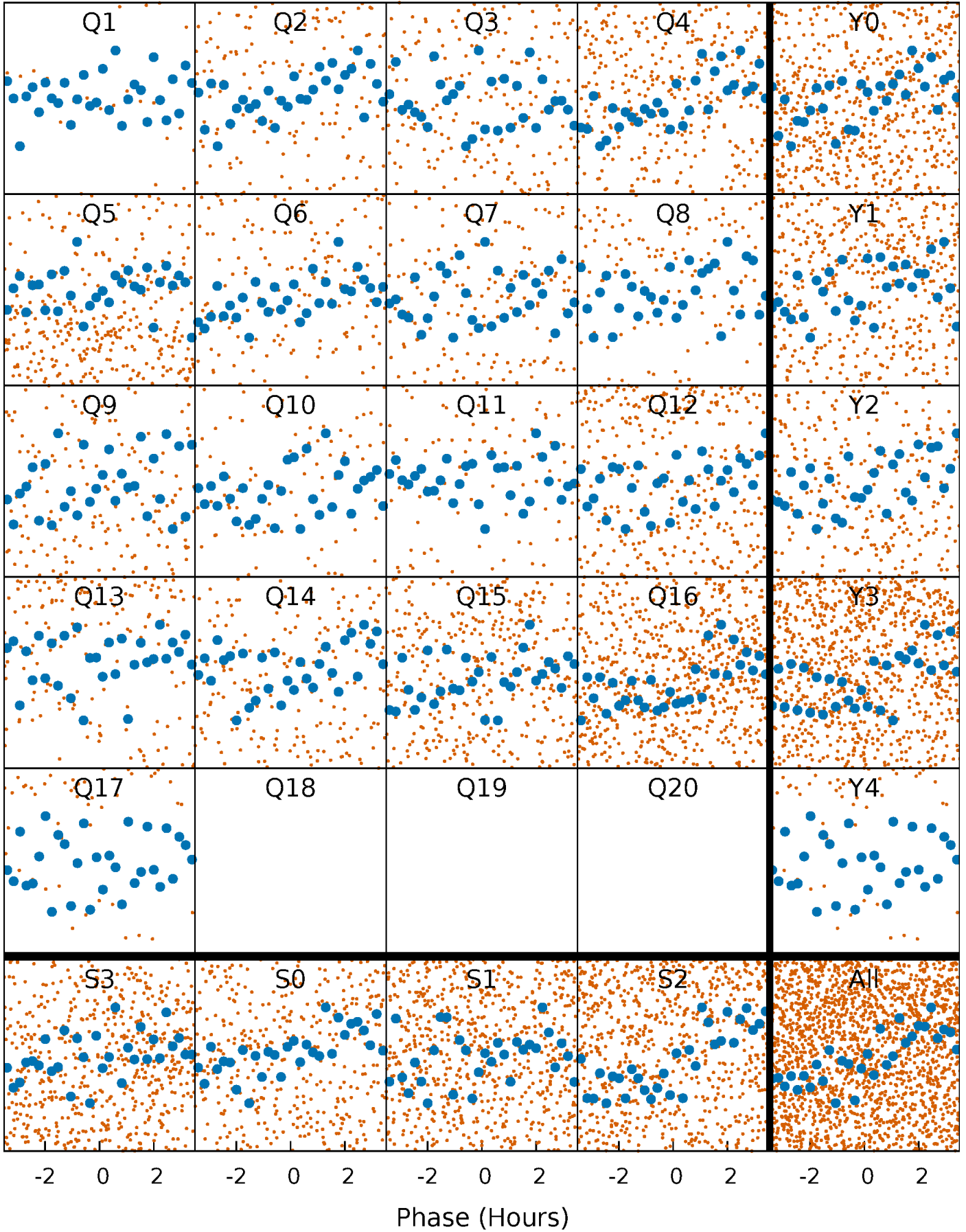


Non-Whitened Vs. Whitened Light Curve



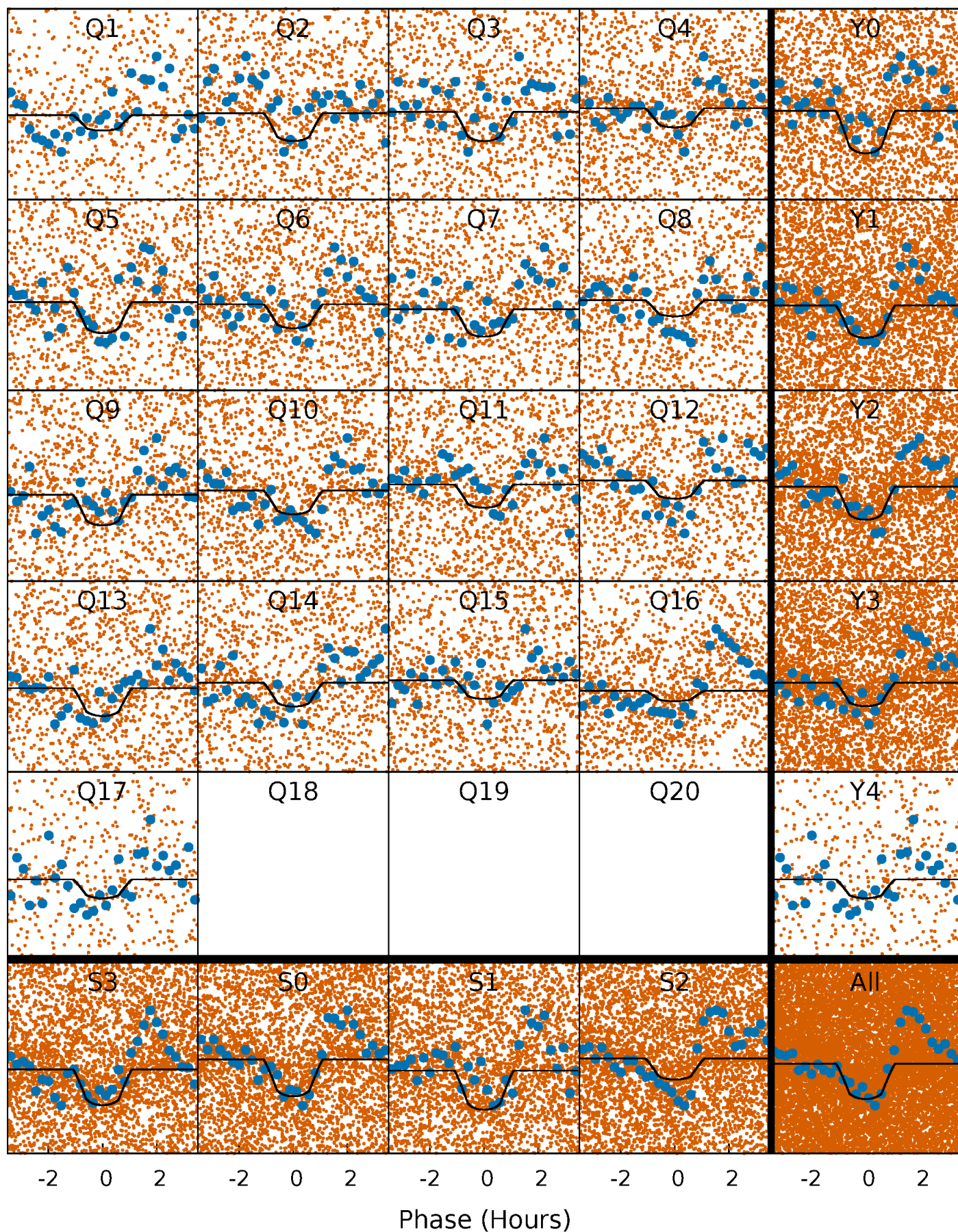
PDC Quarter-Phased Transit Curves

TCE 007988303-01 P= 0.581139 Days $T_0=131.607745$ (BKJD)



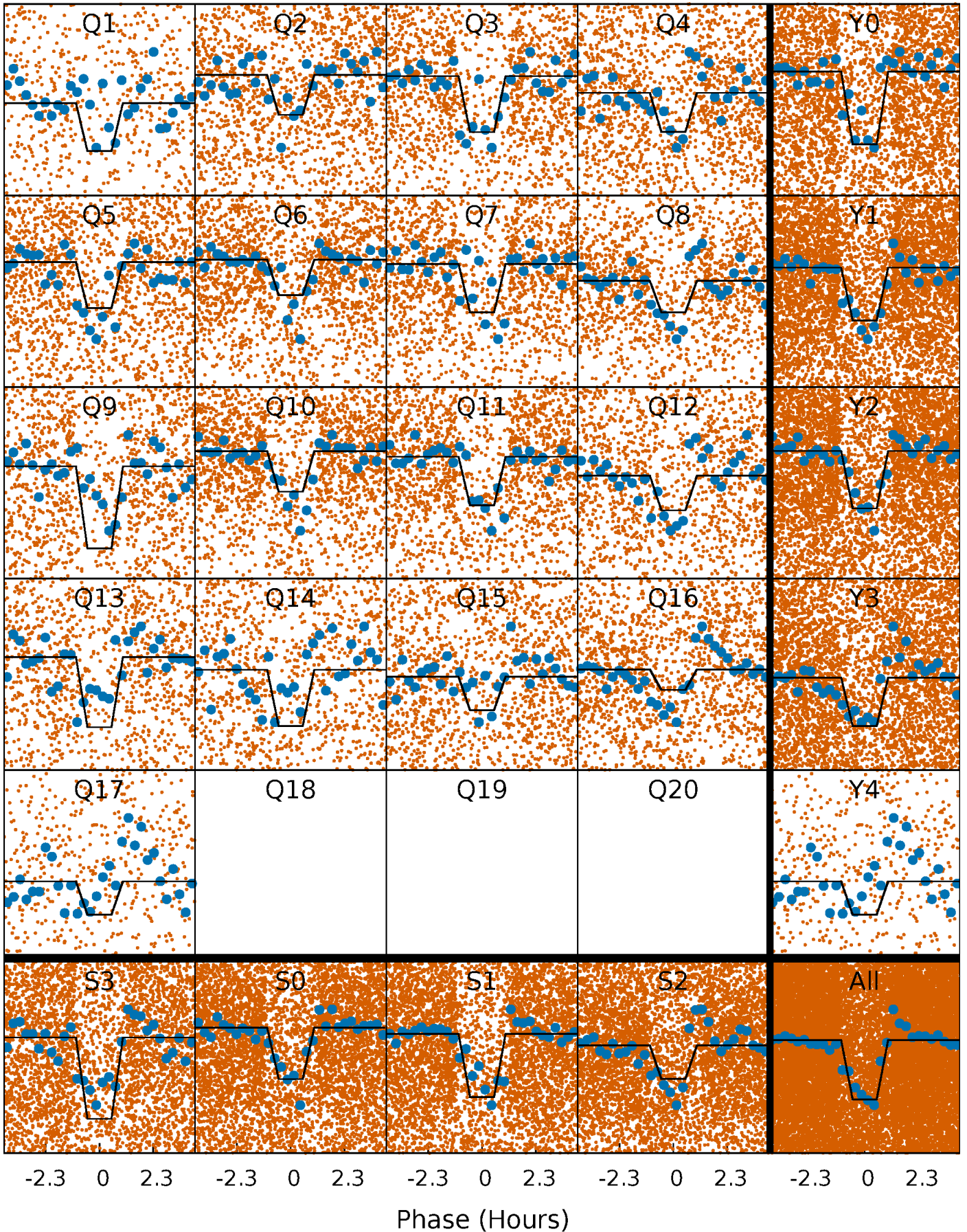
DV Quarter-Phased Transit Curves

TCE 007988303-01 P= 0.581139 Days $T_0=131.607745$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

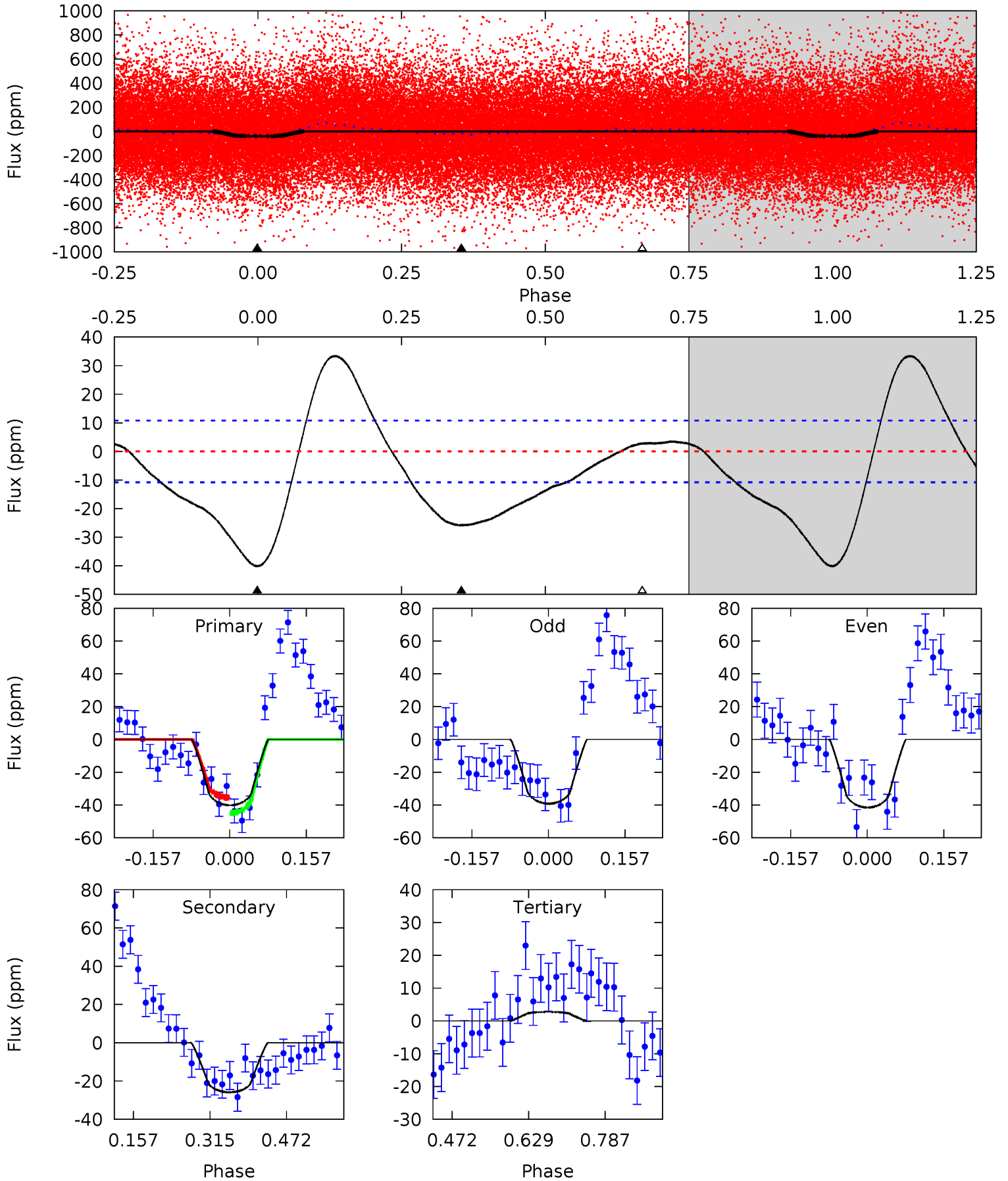
TCE 007988303-01 P= 0.581144 Days $T_0=131.612324$ (BKJD)



DV Model-Shift Uniqueness Test

007988303-01, P = 0.581139 Days, E = 131.026606 Days

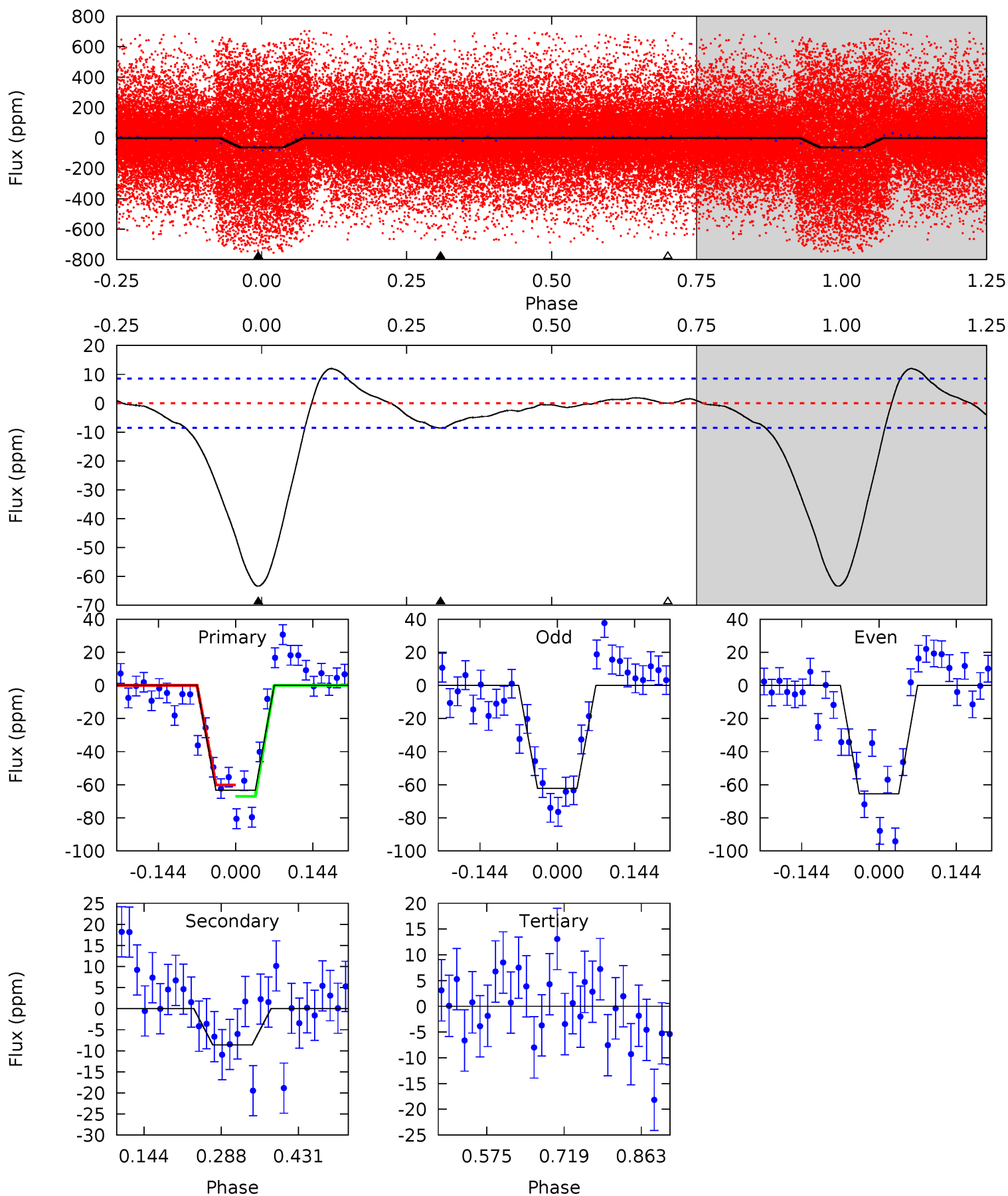
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	10.7	-1.13	0	4.47	1.41	3.89	17.8	16.6	11.8	10.7	0.48	1.00	0.45	1.92



Alt Model-Shift Uniqueness Test

007988303-01, P = 0.581144 Days, E = 131.031180 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.4	4.52	0	0	4.49	1.46	1.40	33.4	33.4	4.52	4.52	0.87	0.96	0.16	1.82



Stellar Parameters For KIC 007988303

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5213^{+142}_{-142}	$3.490^{+0.475}_{-0.256}$	$-0.420^{+0.300}_{-0.250}$	$3.217^{+1.208}_{-1.477}$	$1.166^{+0.190}_{-0.285}$	$0.049^{+0.228}_{-0.031}$
	+3%/-3%	+14%/-7%	+71%/-60%	+38%/-46%	+16%/-24%	+462%/-63%
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 007988303-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 2	$2.55^{+1.70}_{-1.30}$	4779^{+522}_{-604}	3558^{+1919}_{-7331}	$0.447^{+1.379}_{-0.286}$
Alt.	-9 ± 2	$2.64^{+1.70}_{-1.33}$	4778^{+525}_{-643}	-3600^{+7315}_{-602}	$0.140^{+0.420}_{-0.093}$

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 $A_{obs} \gg 1.0$

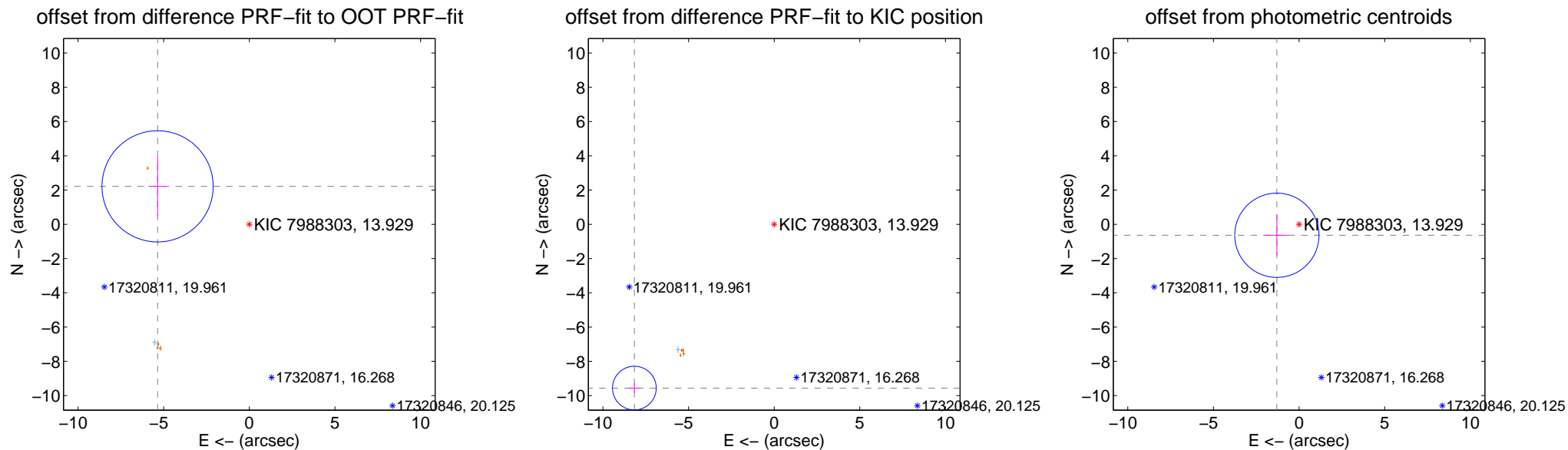
DV Centroid Data

Supplemental centroid analysis for 007988303-01. Kepler magnitude: 13.93. Transit SNR 12.36

There are 2 quarters with good PRF difference image offsets

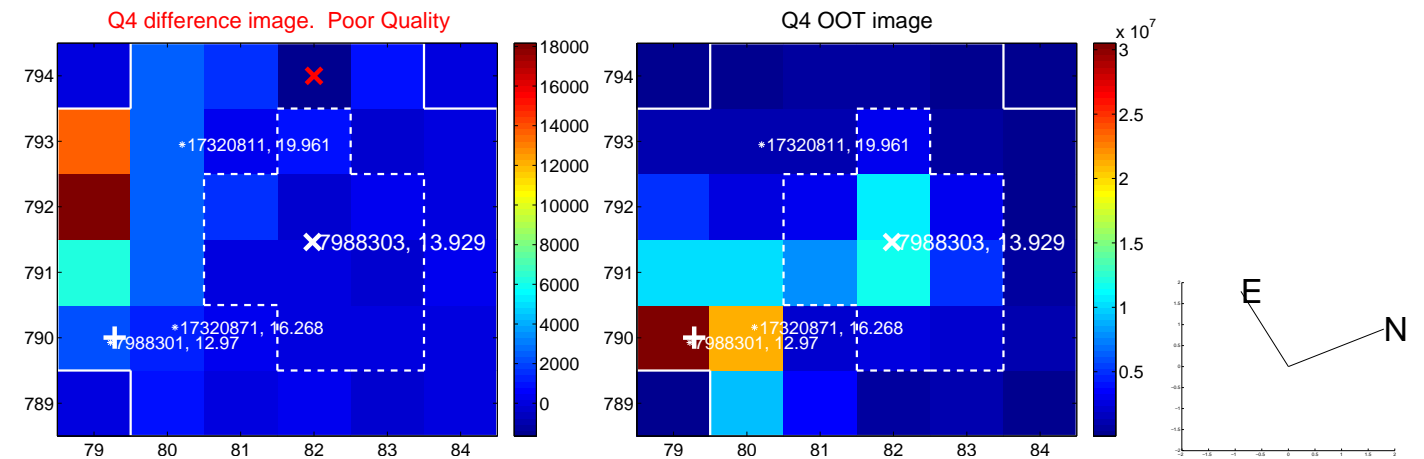
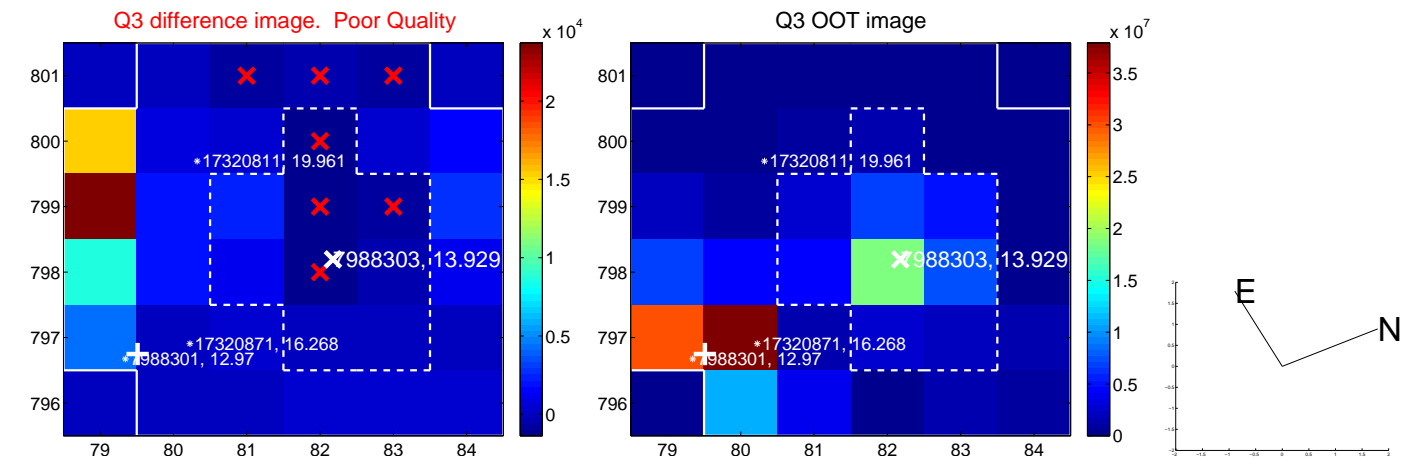
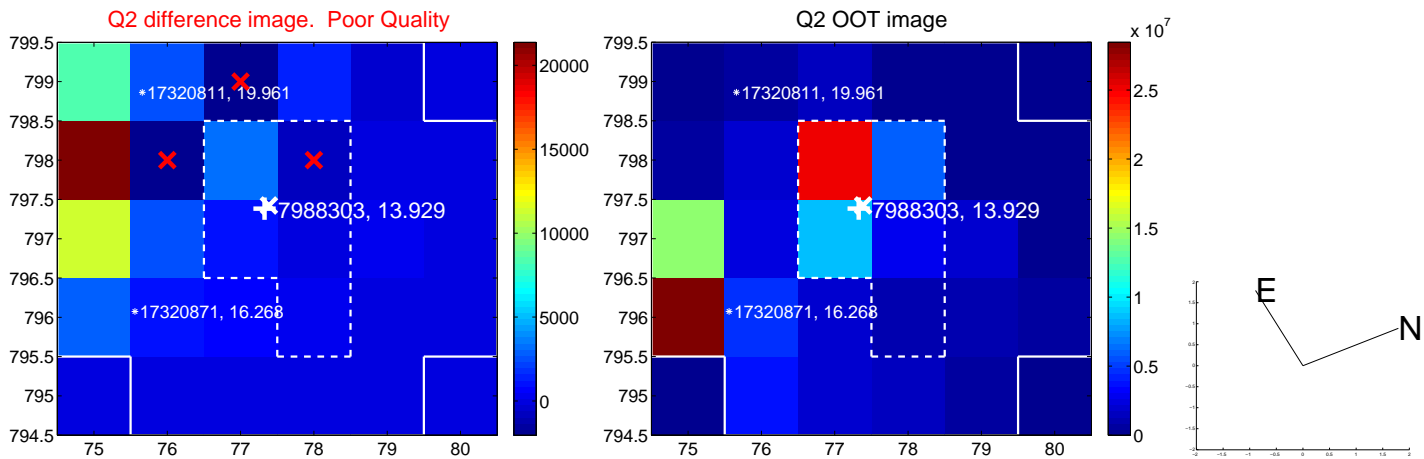
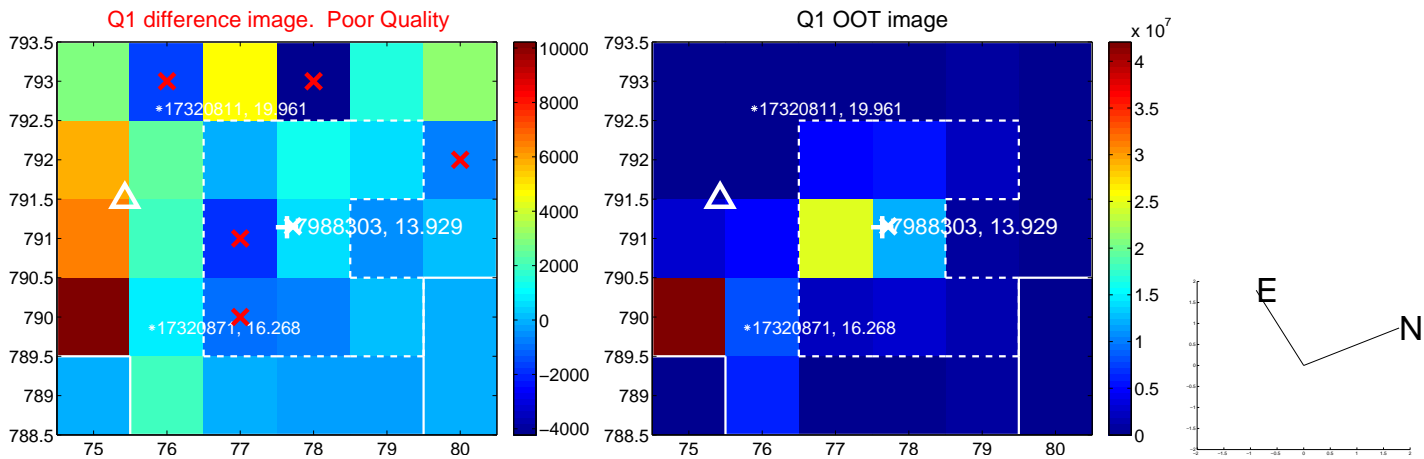
The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.797 ± 1.082	5.36	5.356 ± 0.533	2.216 ± 1.731
PRF-fit source offset from KIC position	12.574 ± 0.426	29.55	8.163 ± 0.344	-9.563 ± 0.276
photometric centroid source offset	1.45 ± 0.82	1.76	1.30 ± 0.70	-0.64 ± 1.18

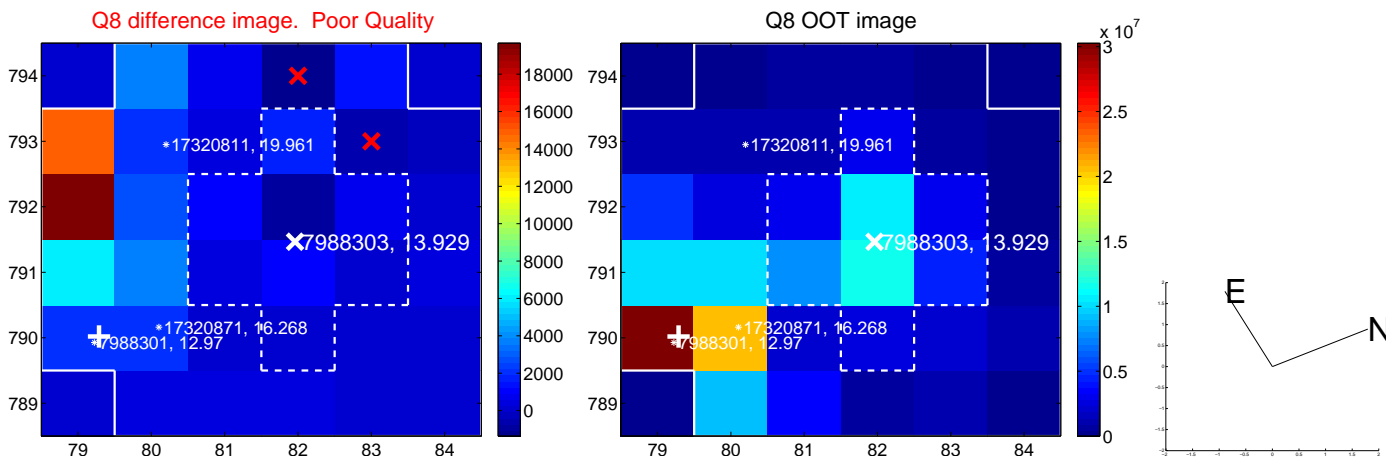
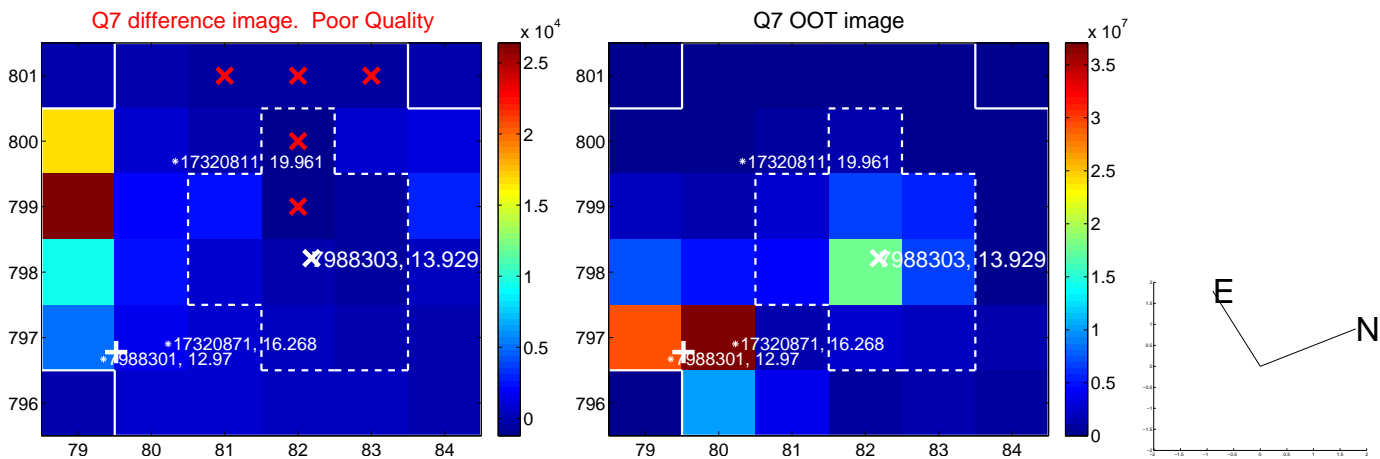
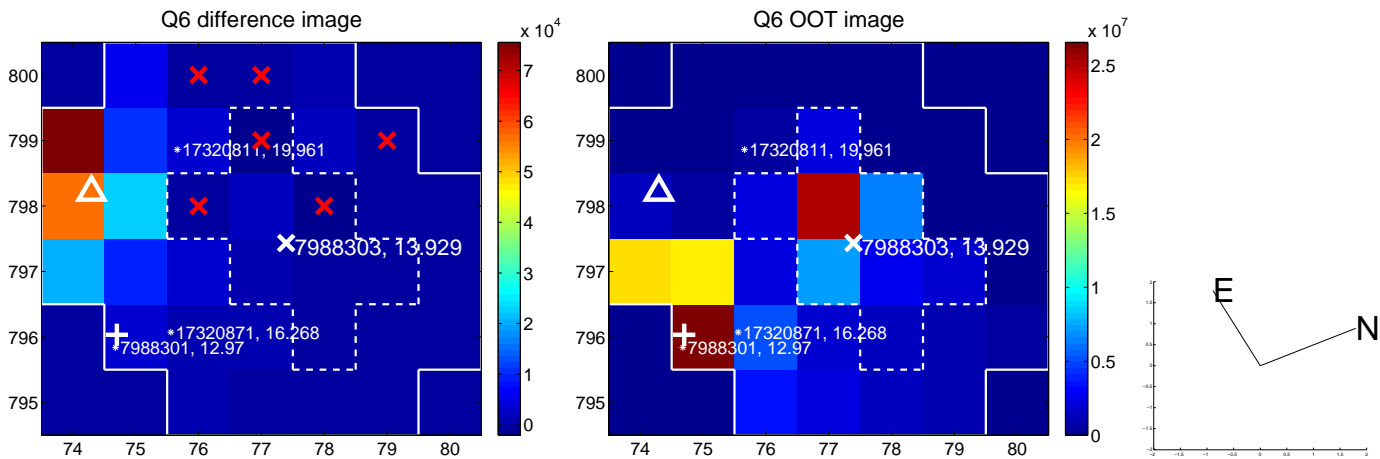
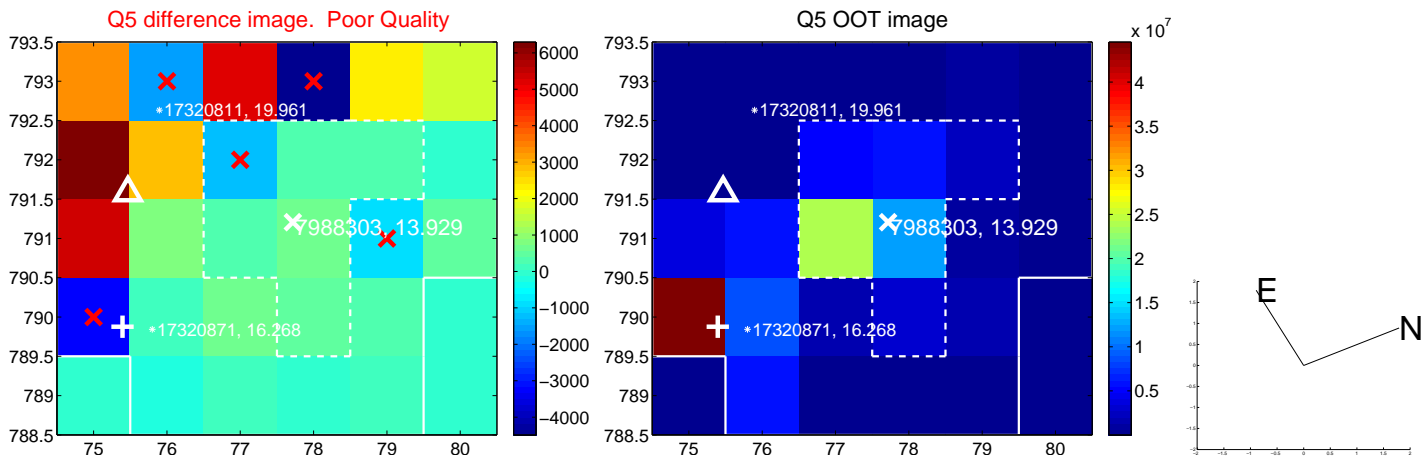


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

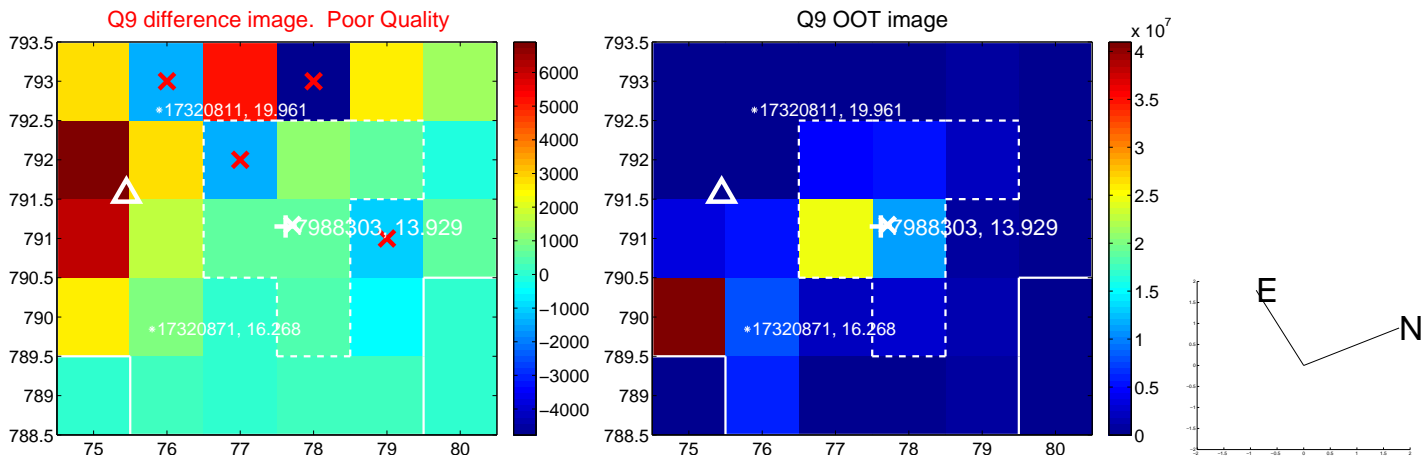
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



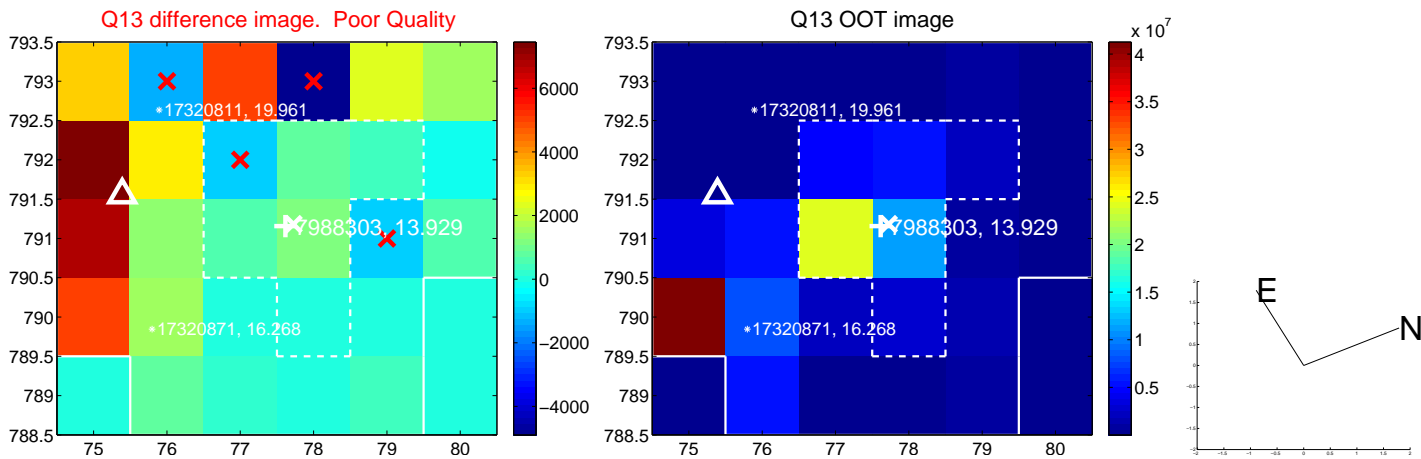
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



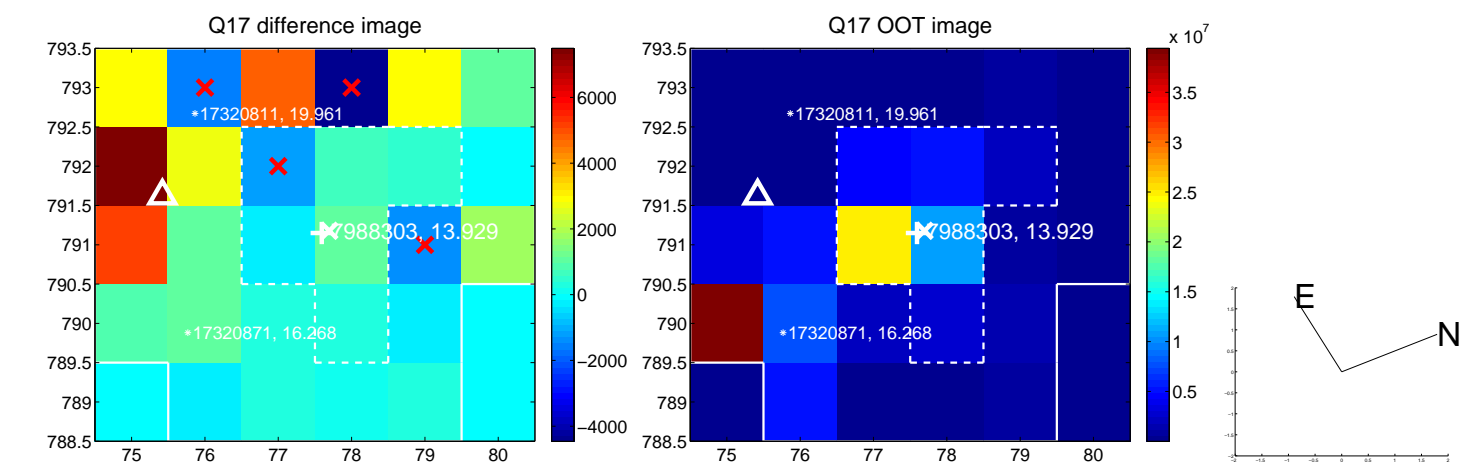
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



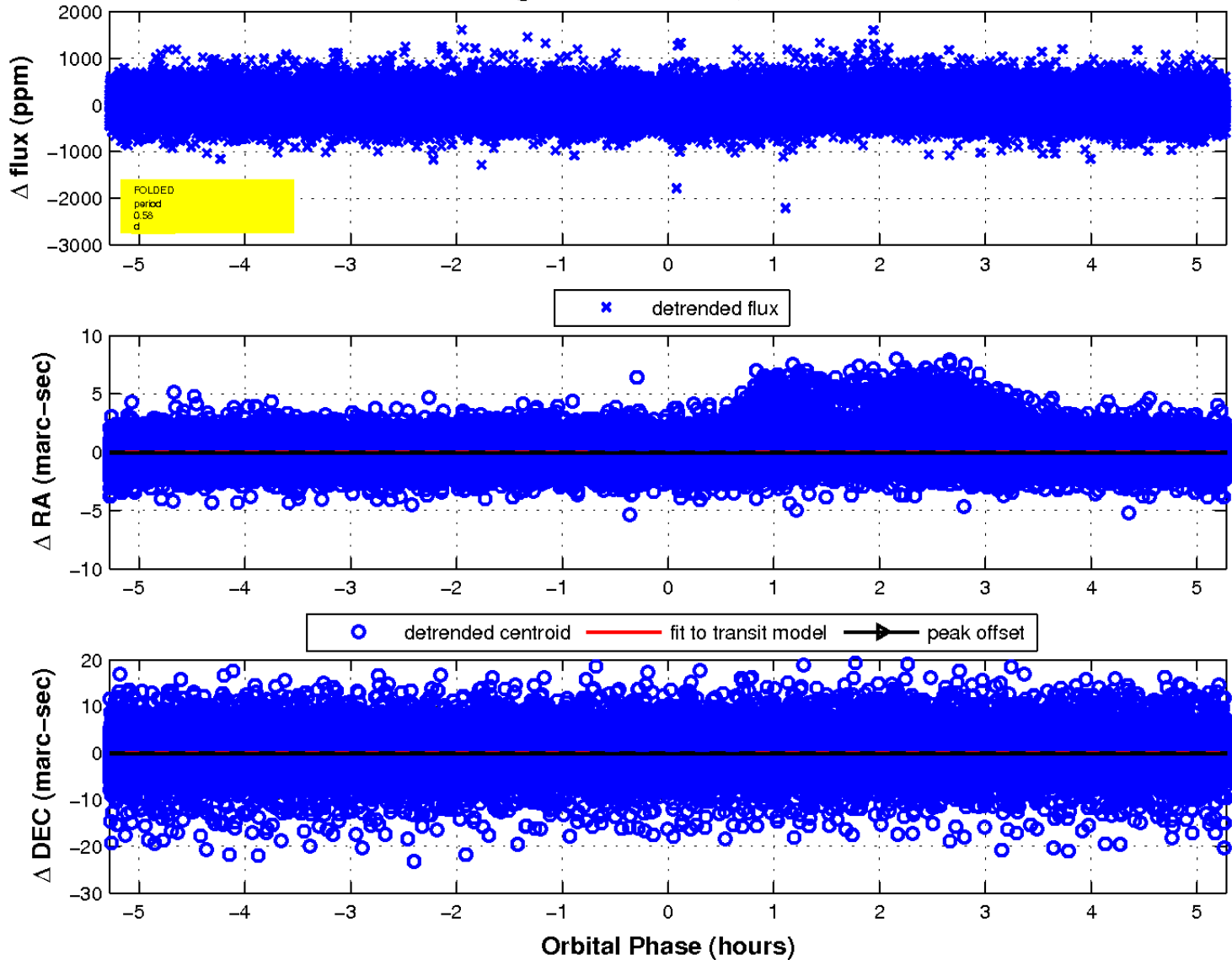
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

