

KIC 008129631

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})
008129631-01	OBS	No	0.808111	131.685524	52.8	1.784	26.9	39.7	2.09	10155	1.74	79850.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008129631-01	OBS	FP	0.00	1	0	0	1	LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED—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.

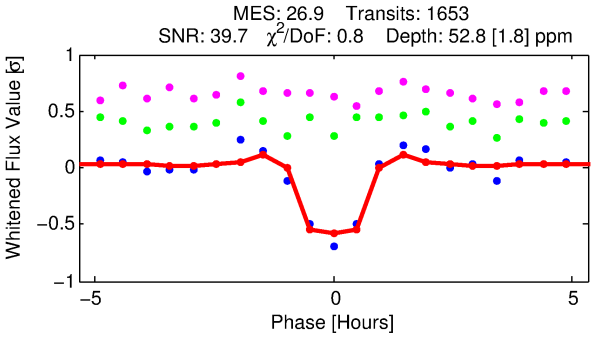
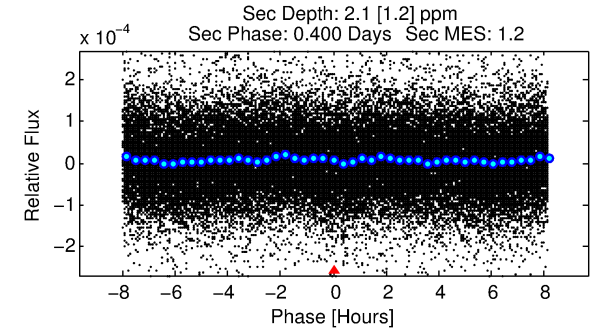
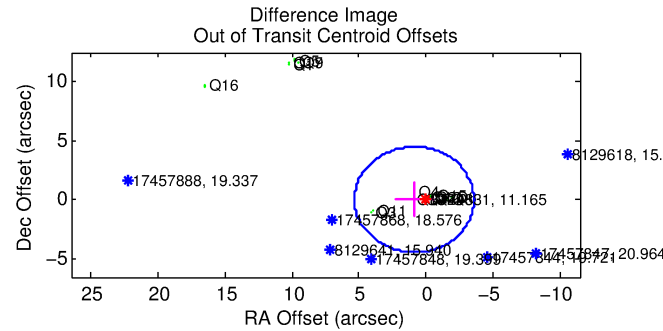
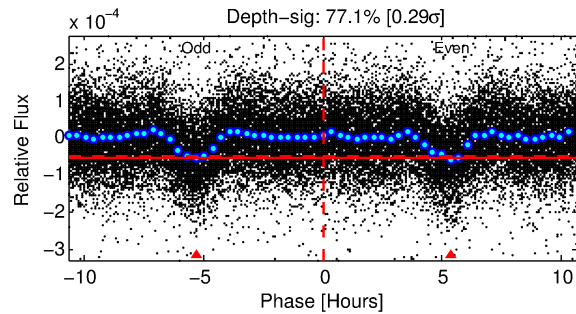
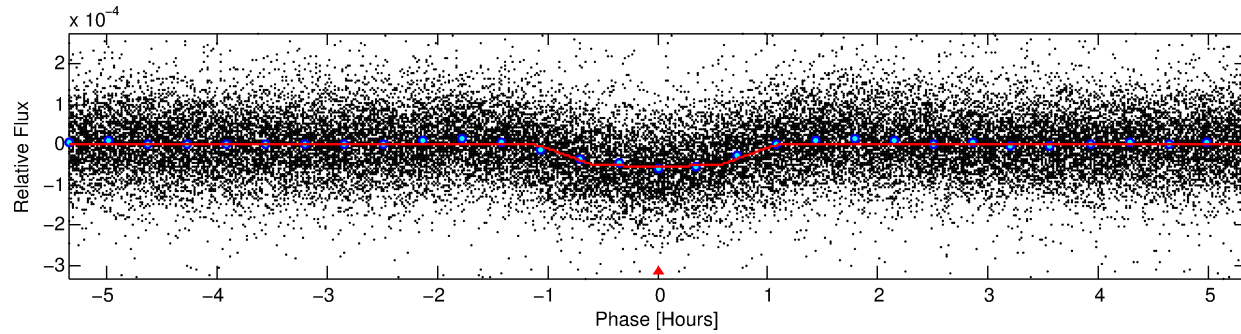
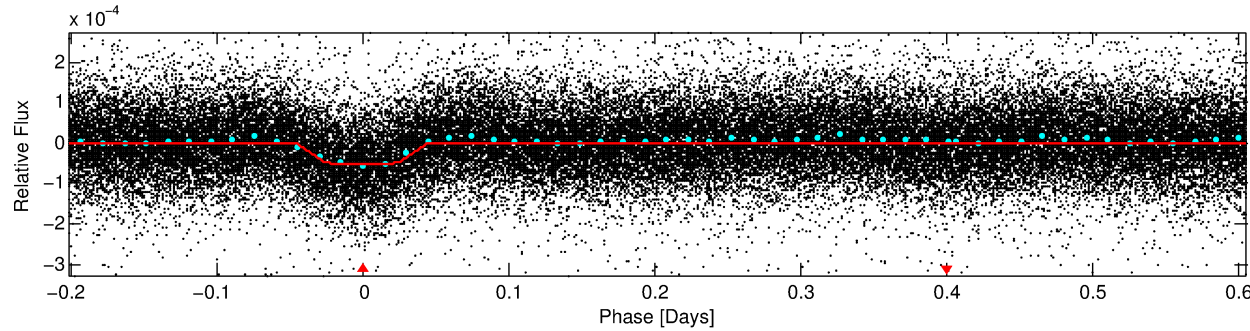
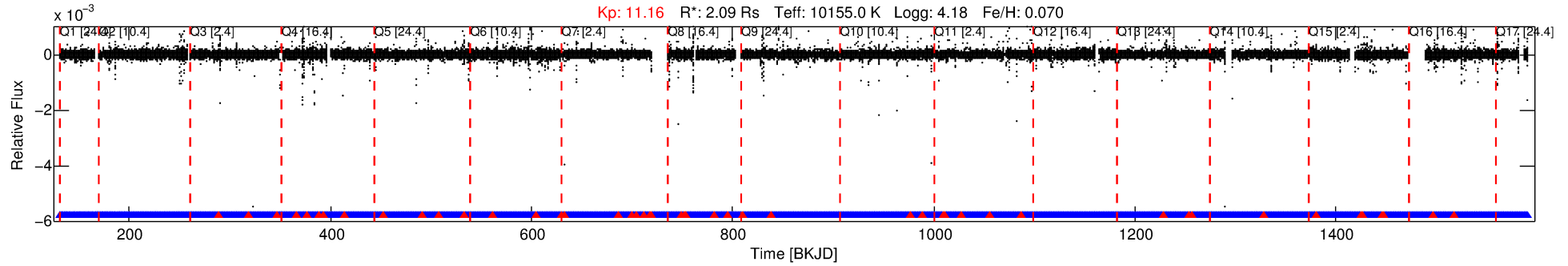
Ephemeris Match Information For 008129631-01

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
008129631-01	8129631	008129641-01	8129641	1:1	8.3	1	1	15.94	11.16	22.06	Direct-PRF	0	3.34	2.17

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: 8129631 Candidate: 1 of 1 Period: 0.808 d



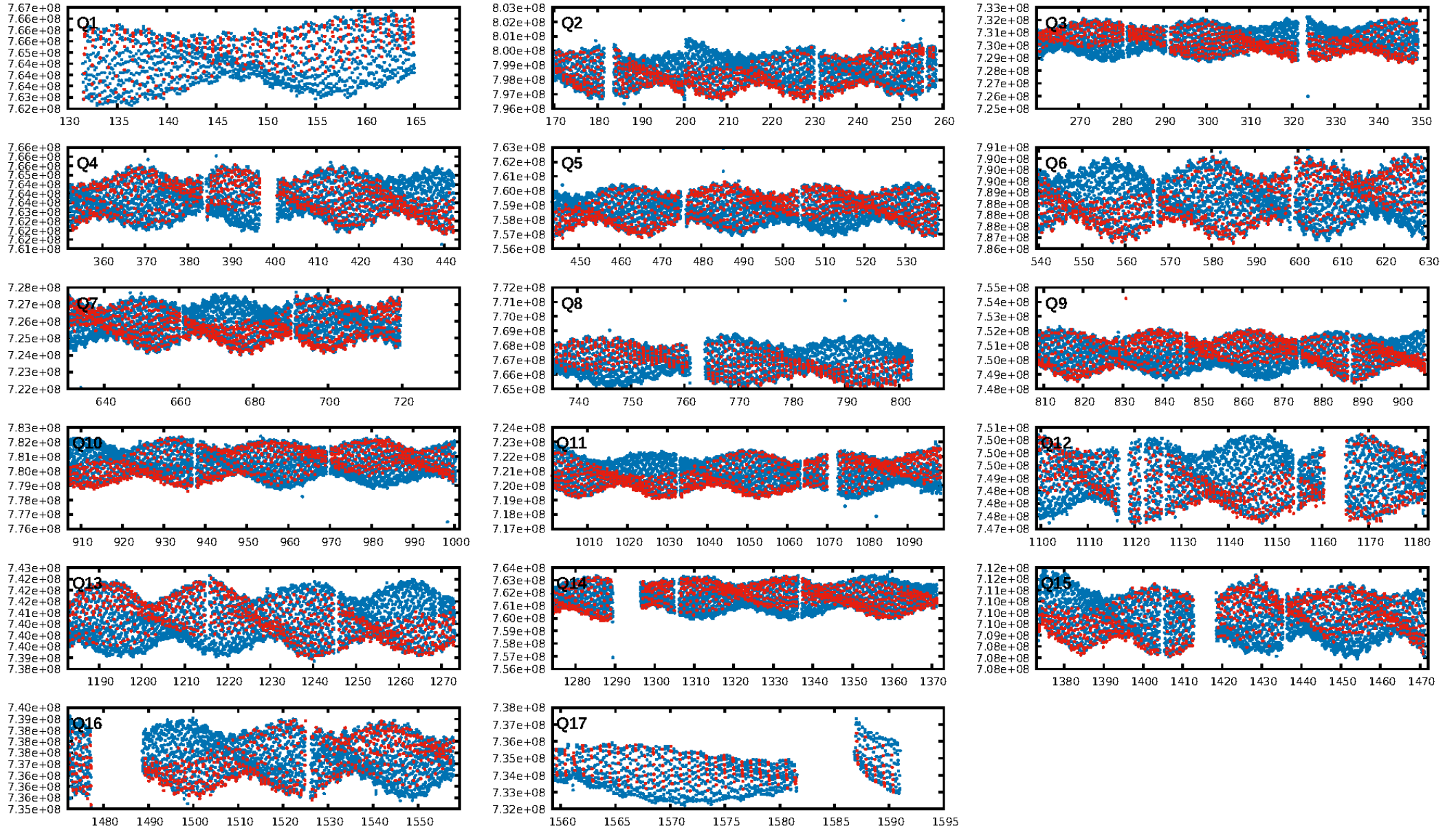
DV Fit Results:

Period = 0.80811 [0.00000] d
Epoch = 131.6855 [0.0005] BKJD
Rp/R* = 0.0076 [0.0005]
a/R* = 1.83 [0.68]
b = 0.90 [0.11]
Seff = 79850.62 [37266.28]
Teq = 4286 [500] K
Rp = 1.74 [0.65] Re
a = 0.0228 [0.0069] AU
Ag = 0.20 [0.14] [-5.58 σ]
Teffp = 4442 [649] K [0.19 σ]

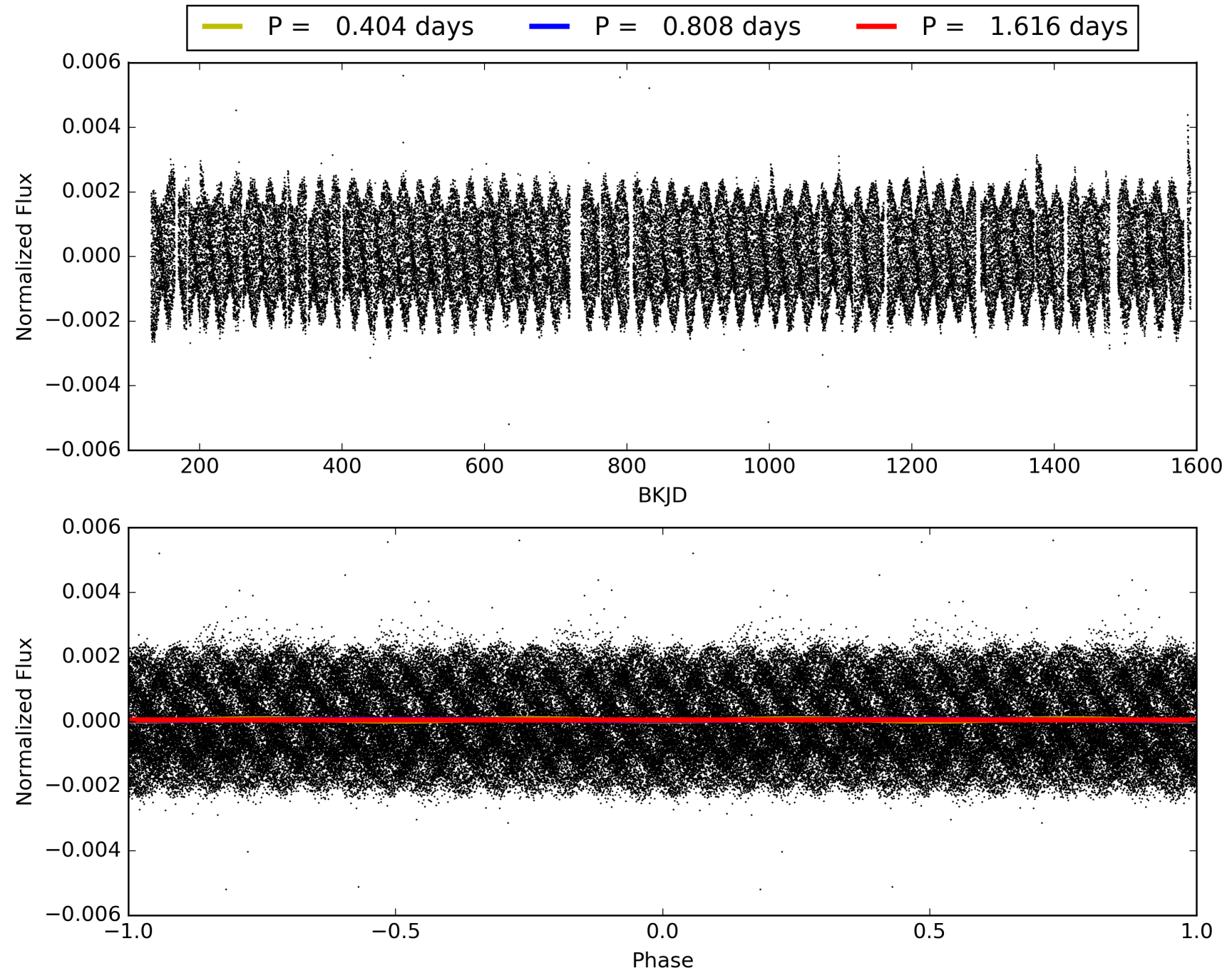
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.88e-81
RollingBand-fgt: 0.97 [1531/1578]
GhostDiagnostic-chr: 1.027
Centroid-sig: 0.0%
Centroid-so: 1.718 arcsec [6.26 σ]
OotOffset-rm: 0.885 arcsec [0.59 σ]
KicOffset-rm: 0.370 arcsec [0.80 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.38 [6/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008129631-01, PDC Light Curves

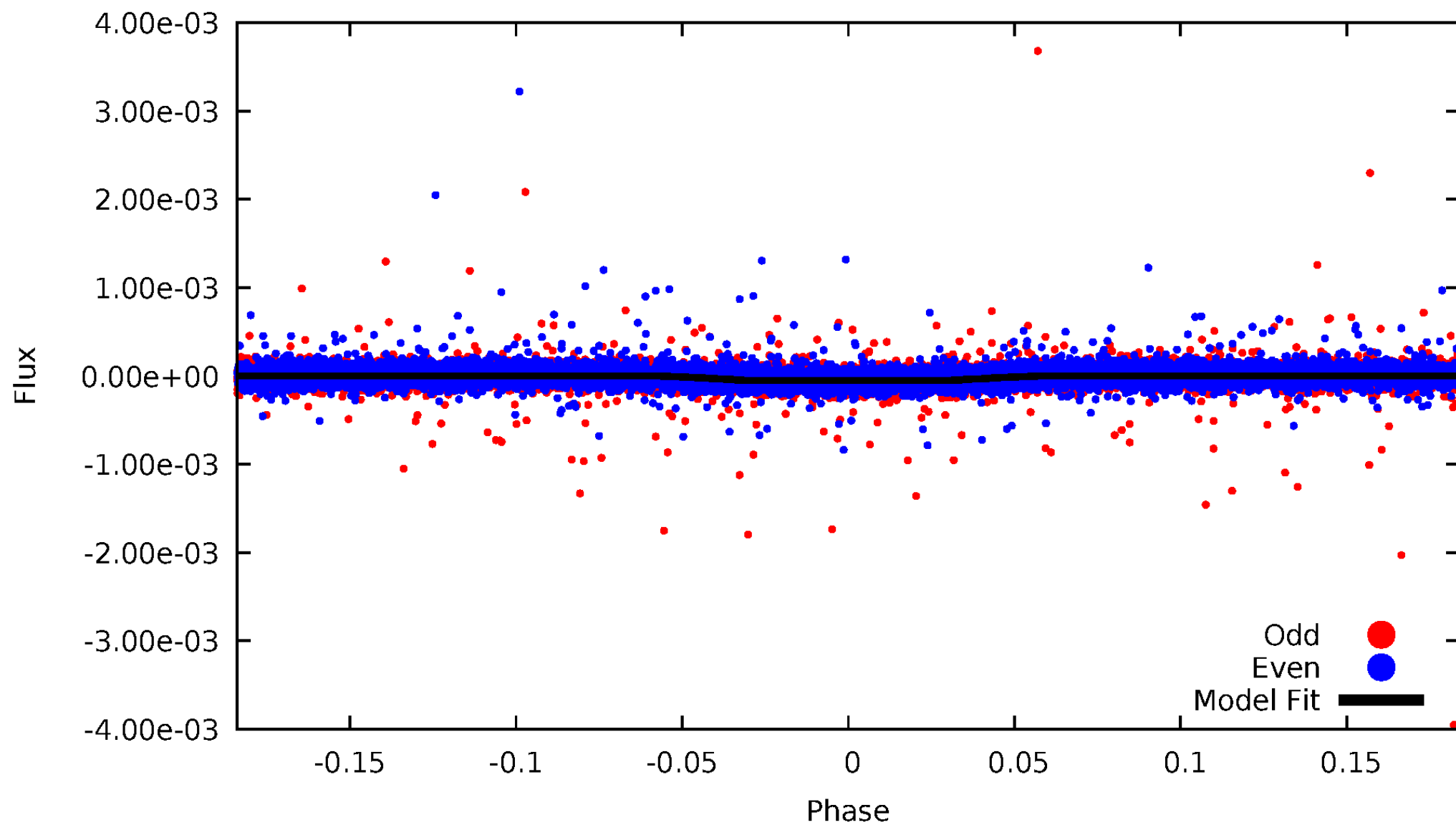


TCE 008129631-01



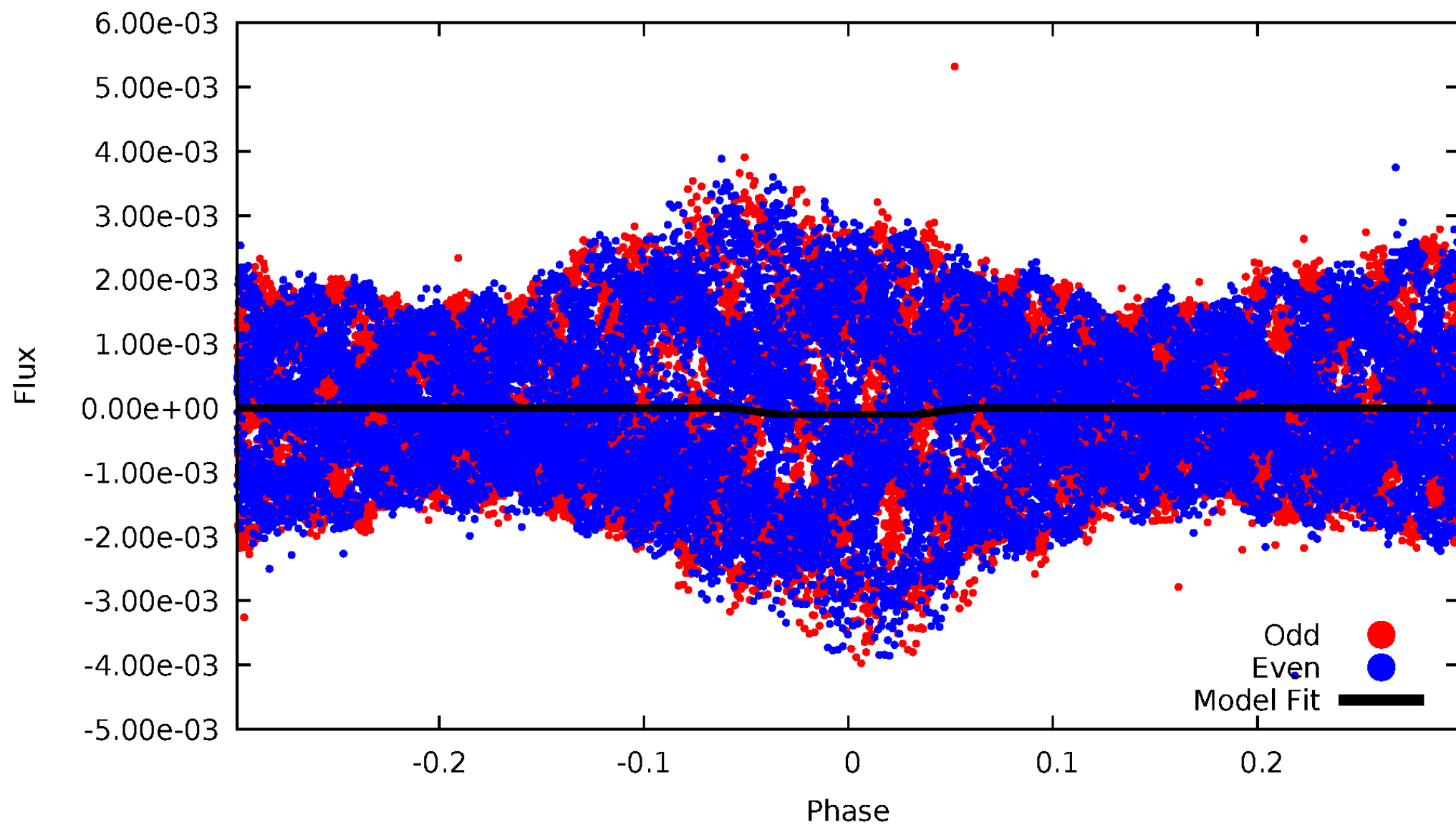
DV Odd/Even

TCE 008129631-01



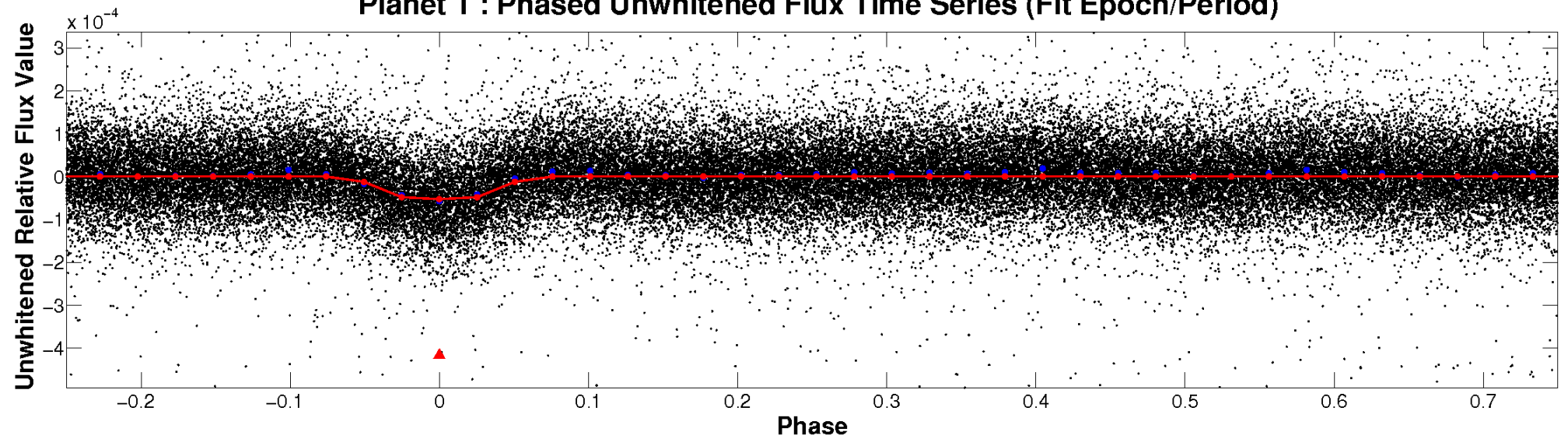
ALT Odd/Even

TCE 008129631-01

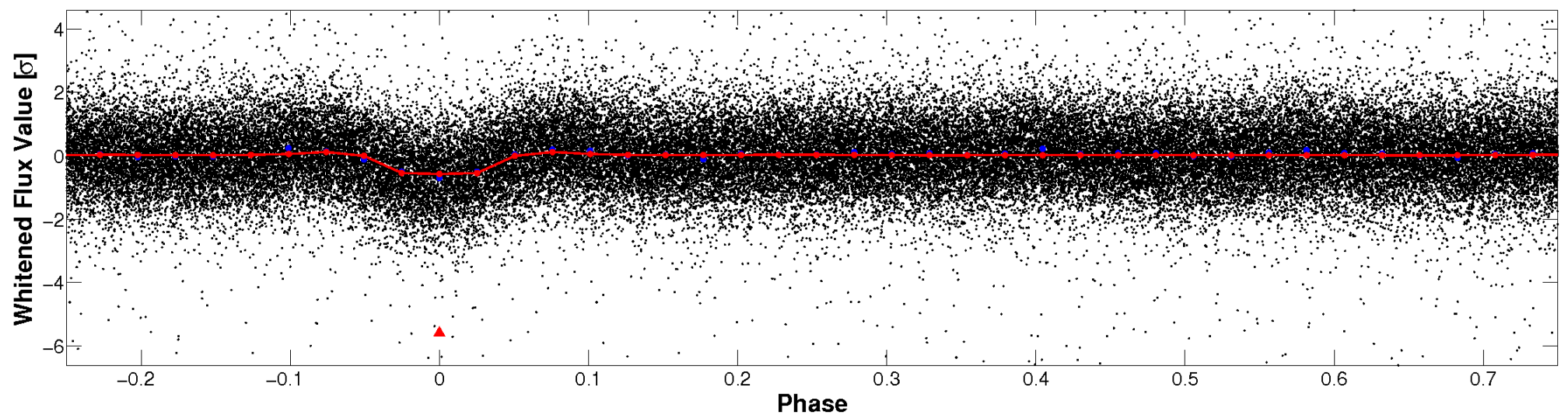


Non-Whitened Vs. Whitened Light Curve

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

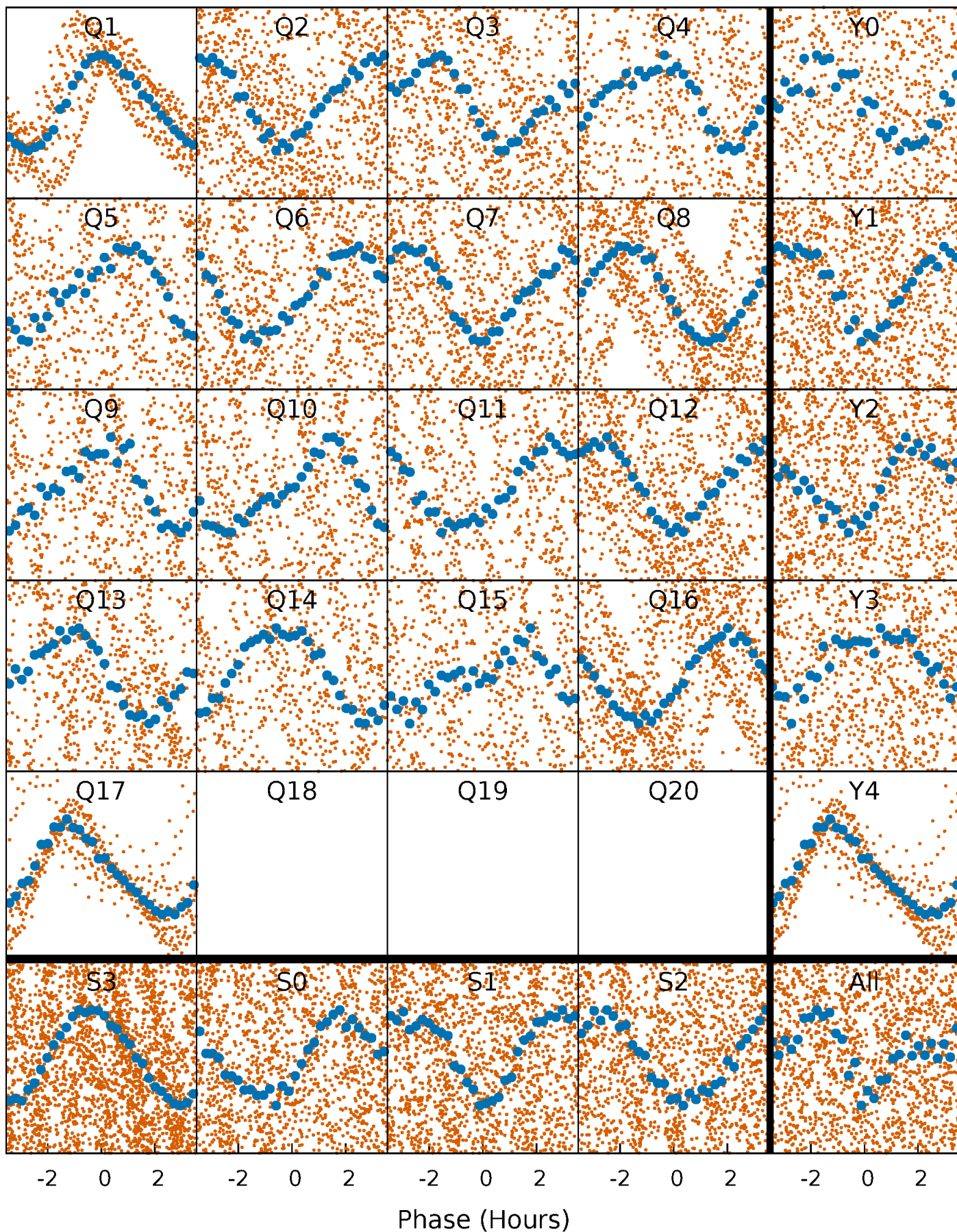


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



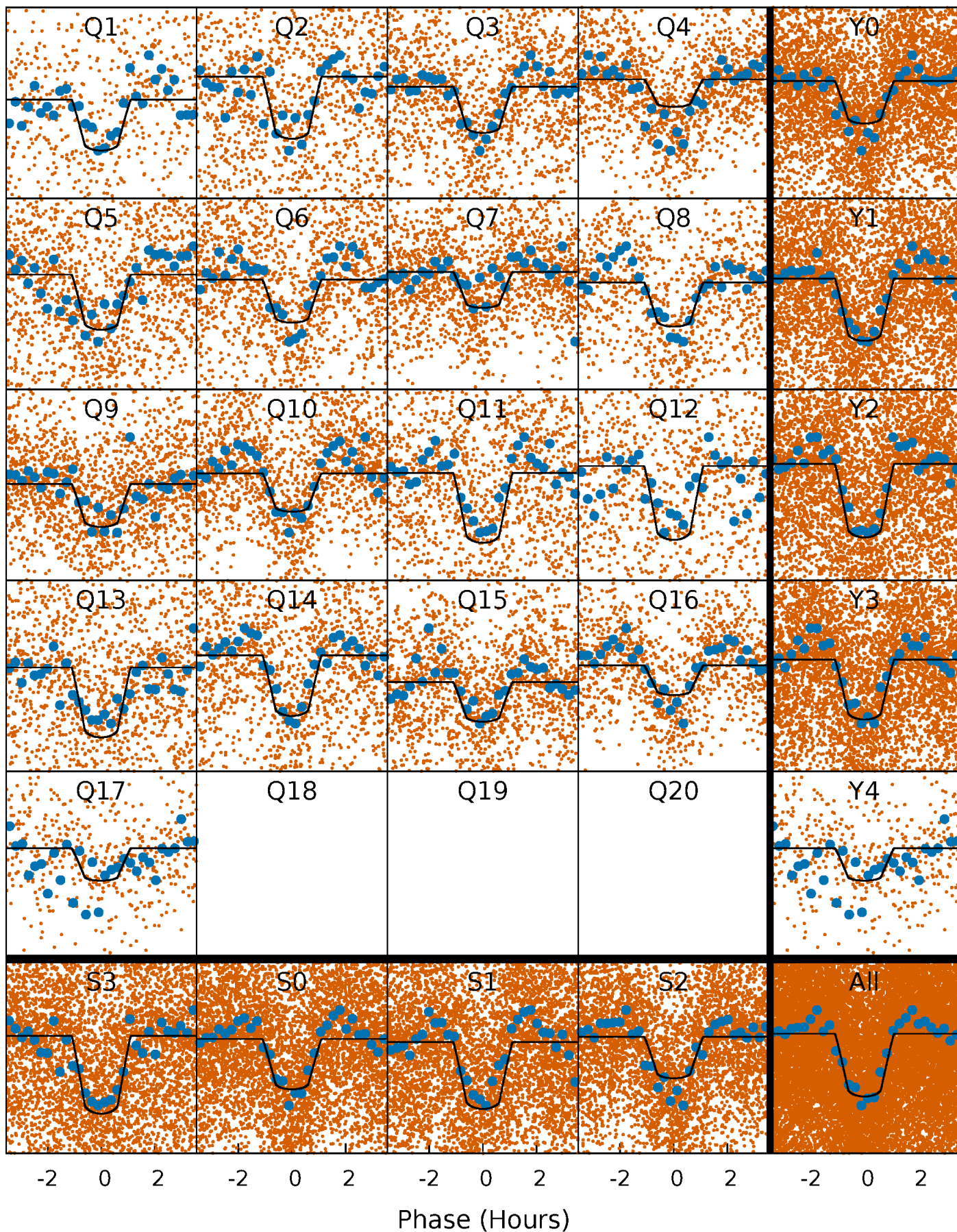
PDC Quarter-Phased Transit Curves

TCE 008129631-01 P= 0.808111 Days $T_0=131.685524$ (BKJD)



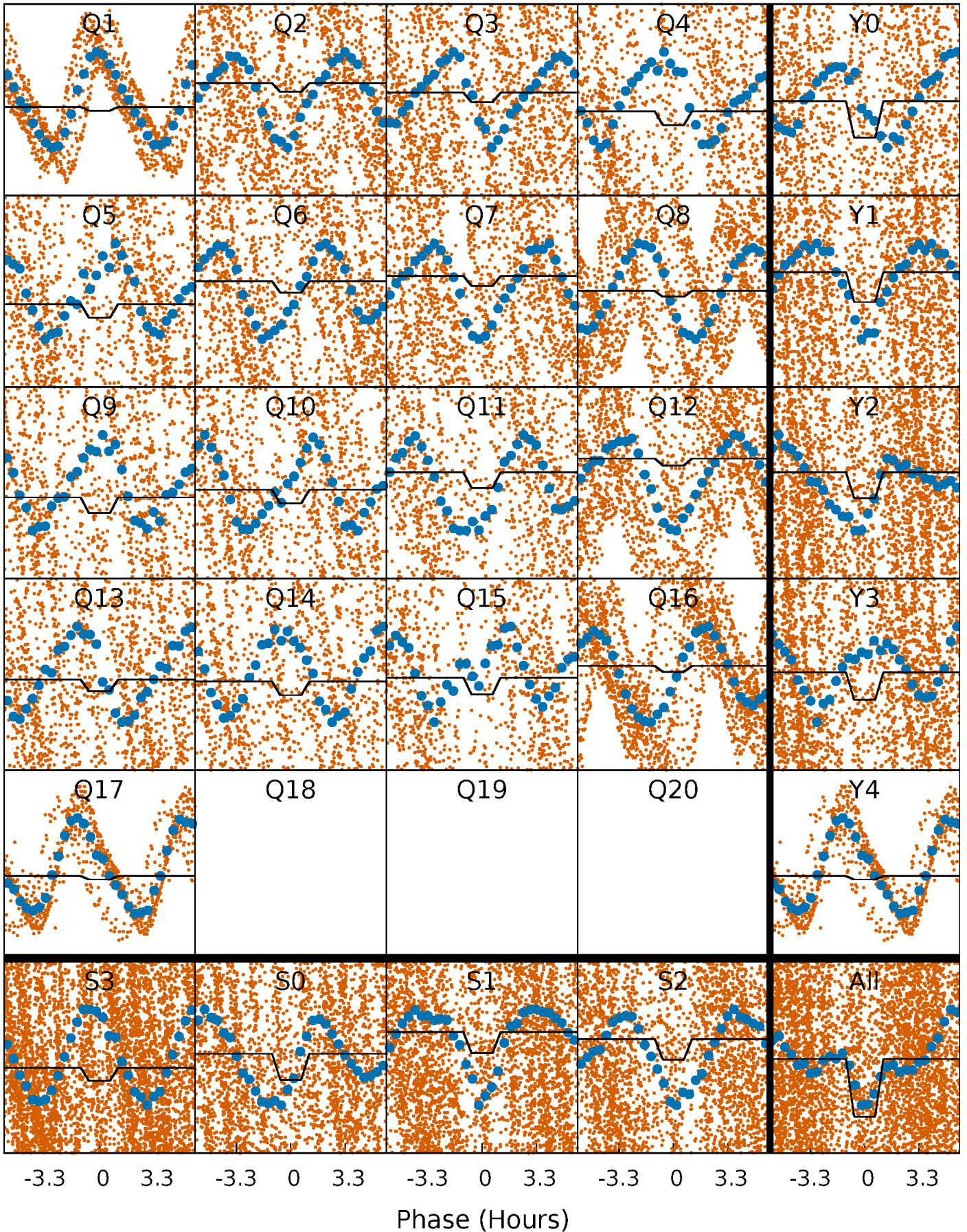
DV Quarter-Phased Transit Curves

TCE 008129631-01 P= 0.808111 Days $T_0=131.685524$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

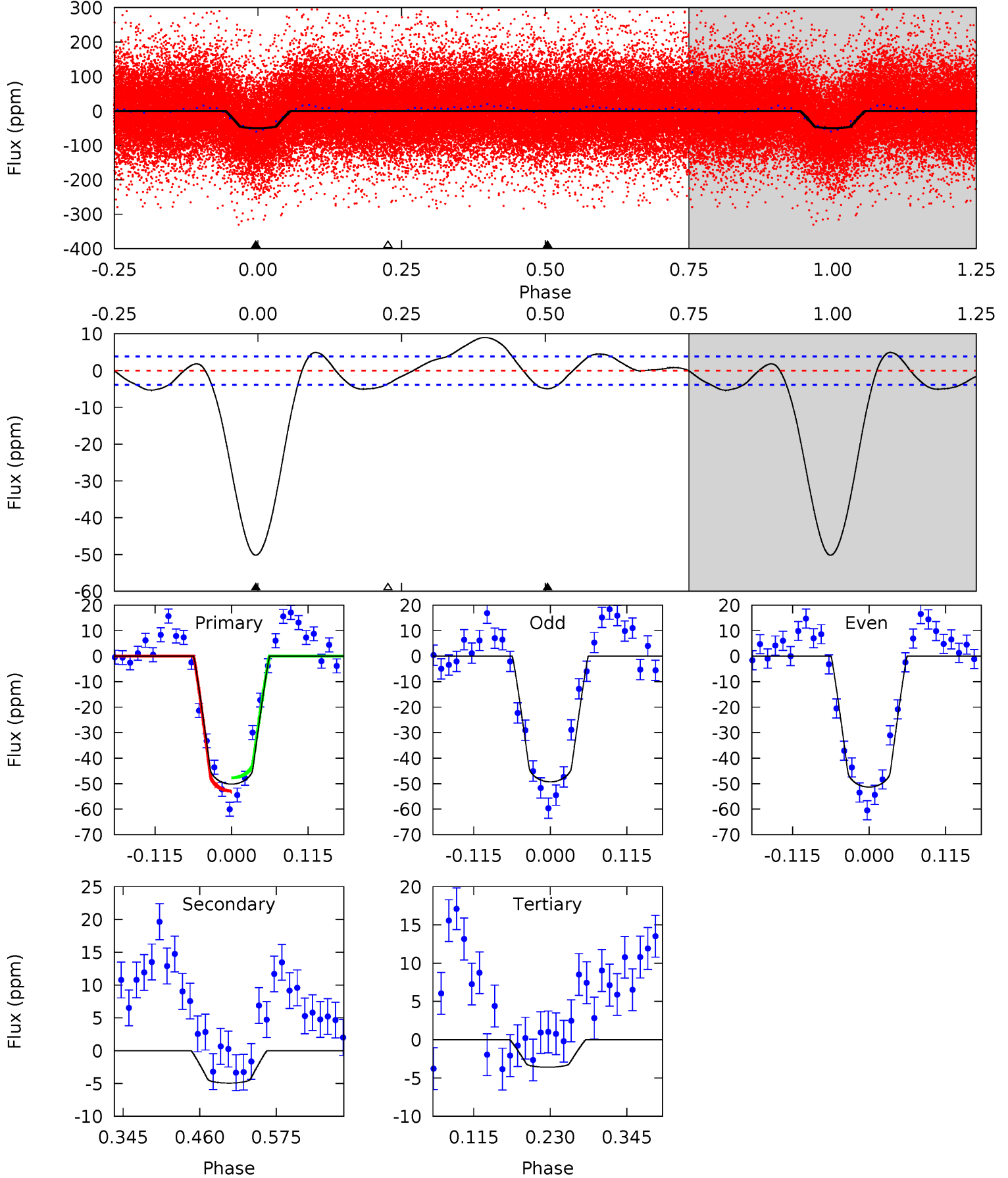
TCE 008129631-01 P= 0.808110 Days $T_0=131.690339$ (BKJD)



DV Model-Shift Uniqueness Test

008129631-01, P = 0.808111 Days, E = 130.877413 Days

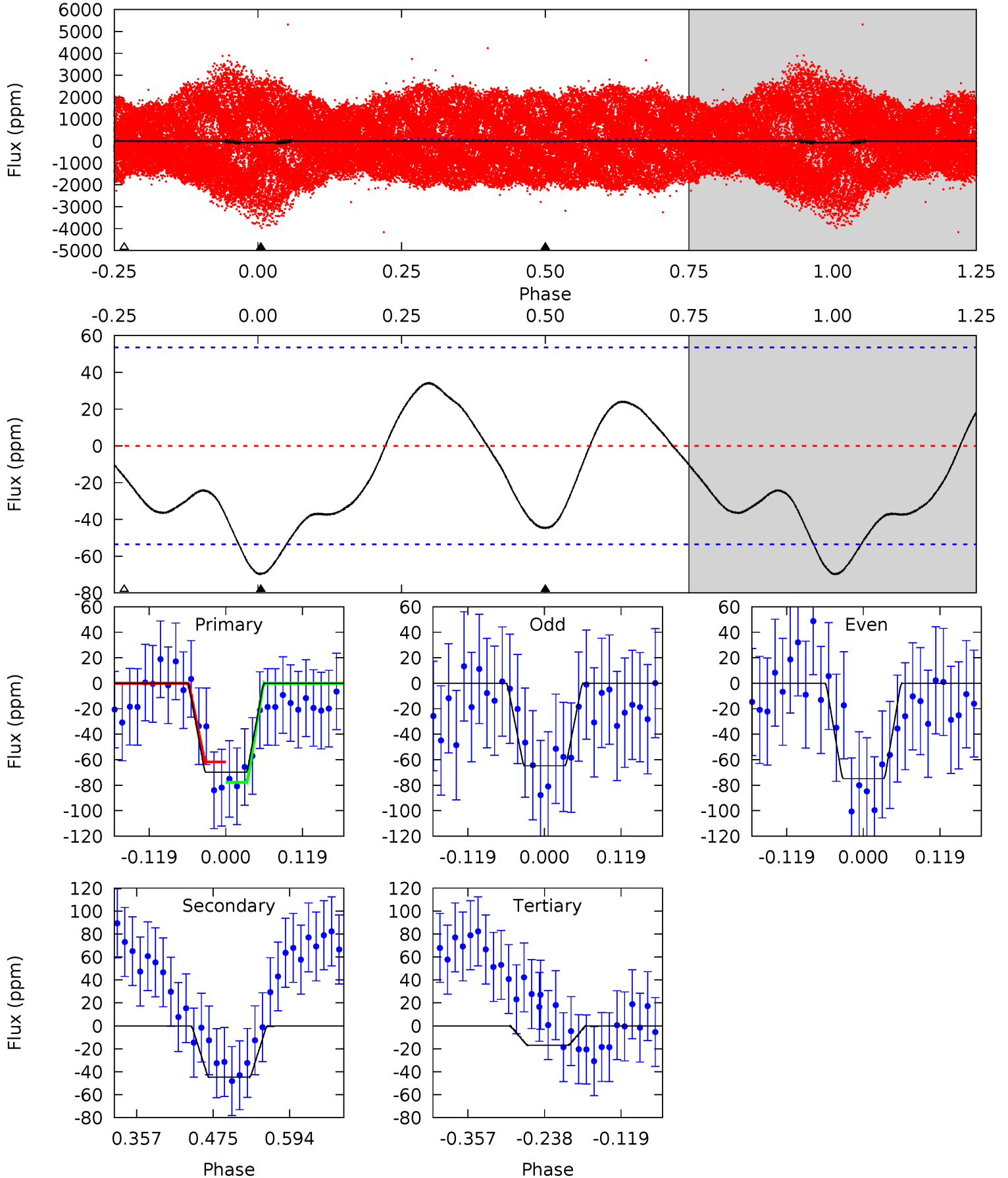
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.3	5.84	4.24	0	4.54	1.58	4.18	55.0	59.3	1.60	5.84	1.21	1.00	0.15	3.07



Alt Model-Shift Uniqueness Test

008129631-01, P = 0.808110 Days, E = 130.882229 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.90	3.78	1.42	0	4.53	1.56	2.07	4.48	5.90	2.36	3.78	0.43	0.24	0.33	0.68



Stellar Parameters For KIC 008129631

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10155^{+321}_{-429}	$4.183^{+0.176}_{-0.234}$	$0.070^{+0.150}_{-0.600}$	$2.089^{+0.769}_{-0.629}$	$2.426^{+0.410}_{-0.546}$	$0.375^{+0.394}_{-0.223}$
	+3%/-4%	+4%/-6%	+214%/-857%	+37%/-30%	+17%/-23%	+105%/-59%
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 008129631-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 1	$1.78^{+0.37}_{-0.31}$	6065^{+554}_{-512}	3987^{+586}_{-7016}	$0.431^{+0.194}_{-0.147}$
Alt.	-45 ± 12	$2.35^{+0.49}_{-0.38}$	6018^{+635}_{-482}	7359^{+688}_{-847}	$2.246^{+1.239}_{-0.864}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

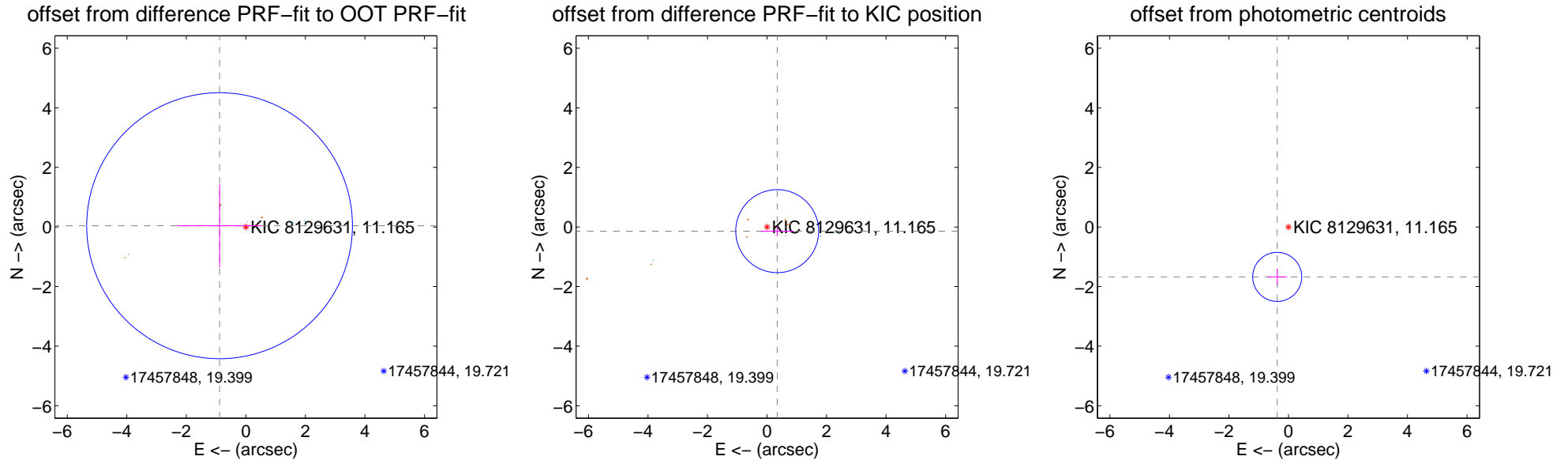
DV Centroid Data

Supplemental centroid analysis for 008129631-01. **Kepler magnitude: 11.16.** Transit SNR 39.72

There are 6 quarters with good PRF difference image offsets

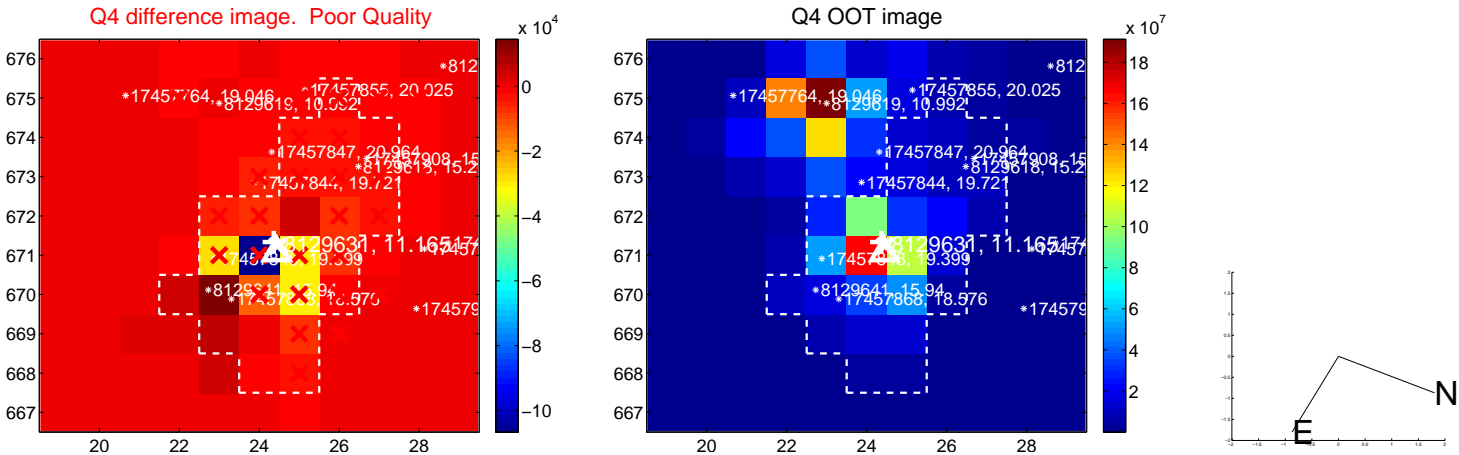
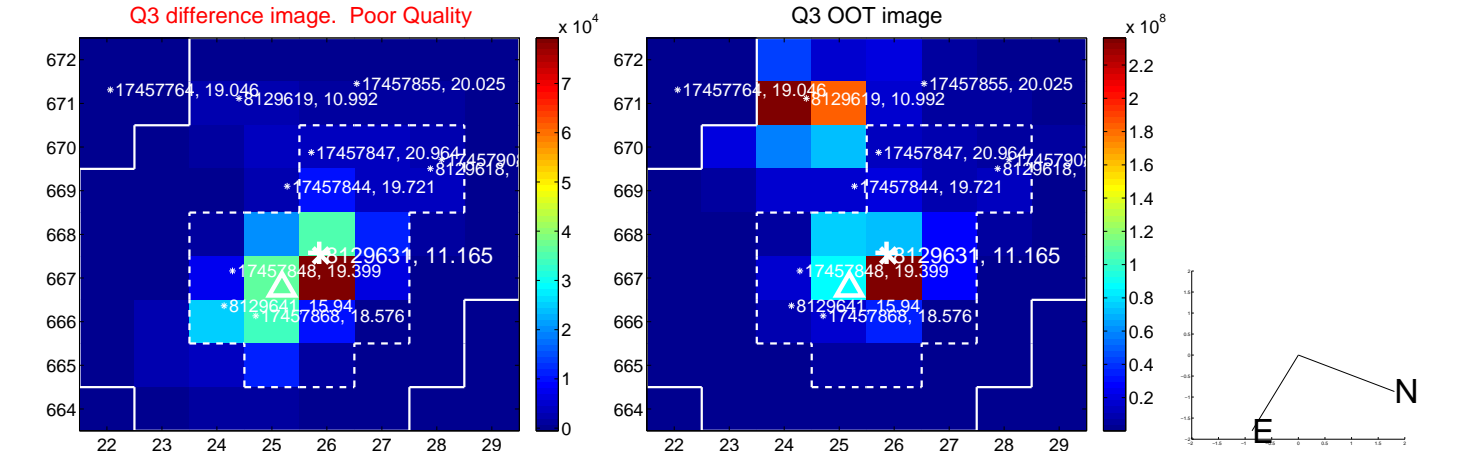
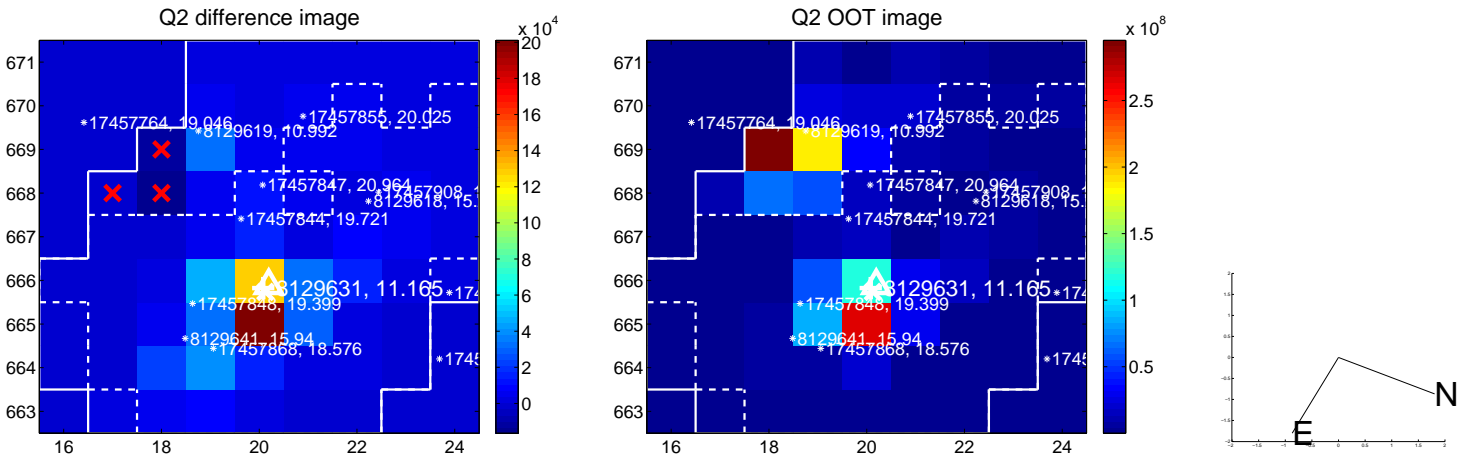
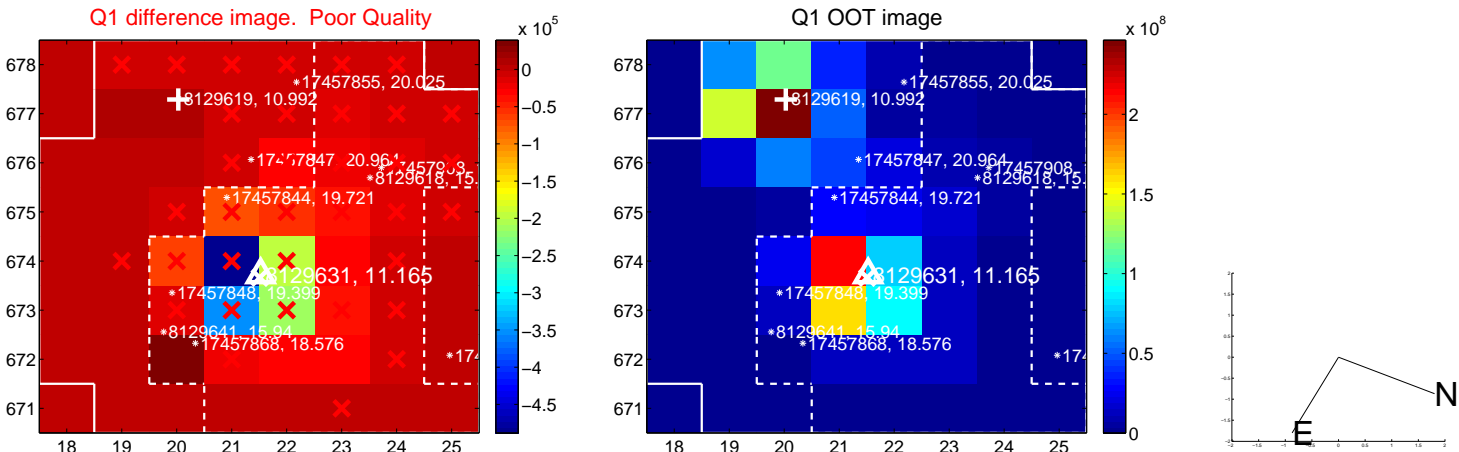
The OOT PRF centroid is offset from the target star catalog position by about 15.59 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.885 ± 1.488	0.59	0.884 ± 1.430	0.042 ± 1.392
PRF-fit source offset from KIC position	0.370 ± 0.464	0.80	-0.342 ± 0.551	-0.140 ± 0.157
photometric centroid source offset	1.72 ± 0.27	6.26	0.38 ± 0.33	-1.68 ± 0.27

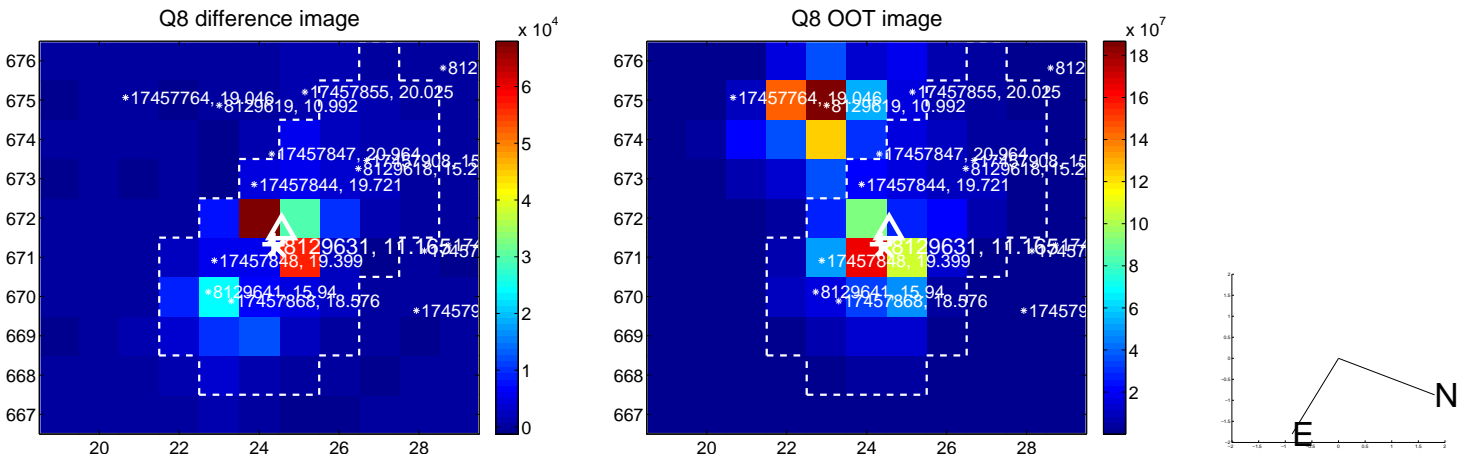
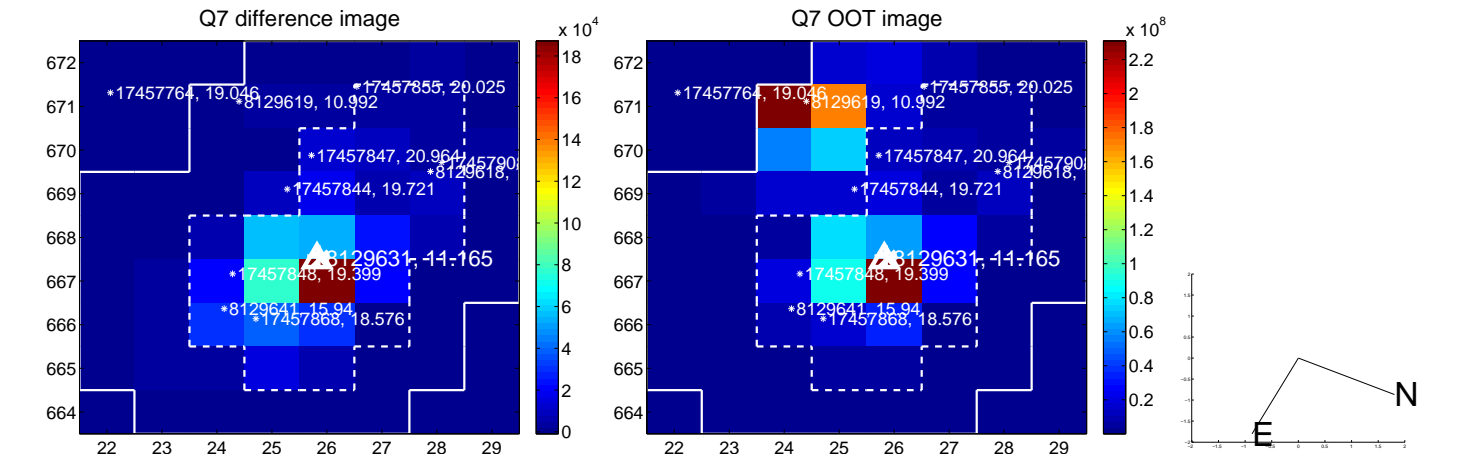
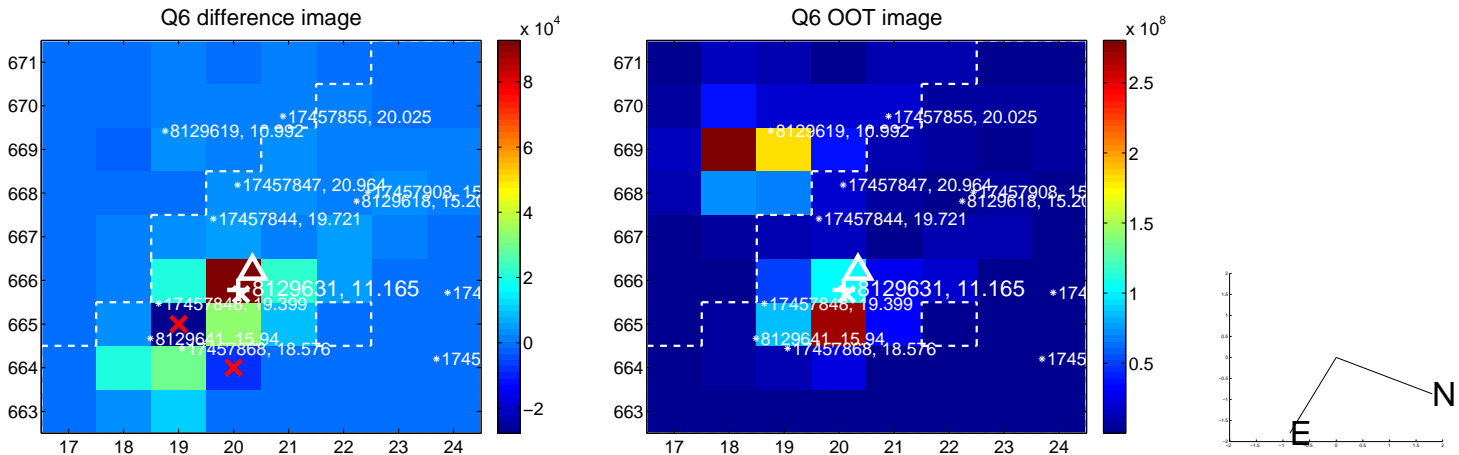
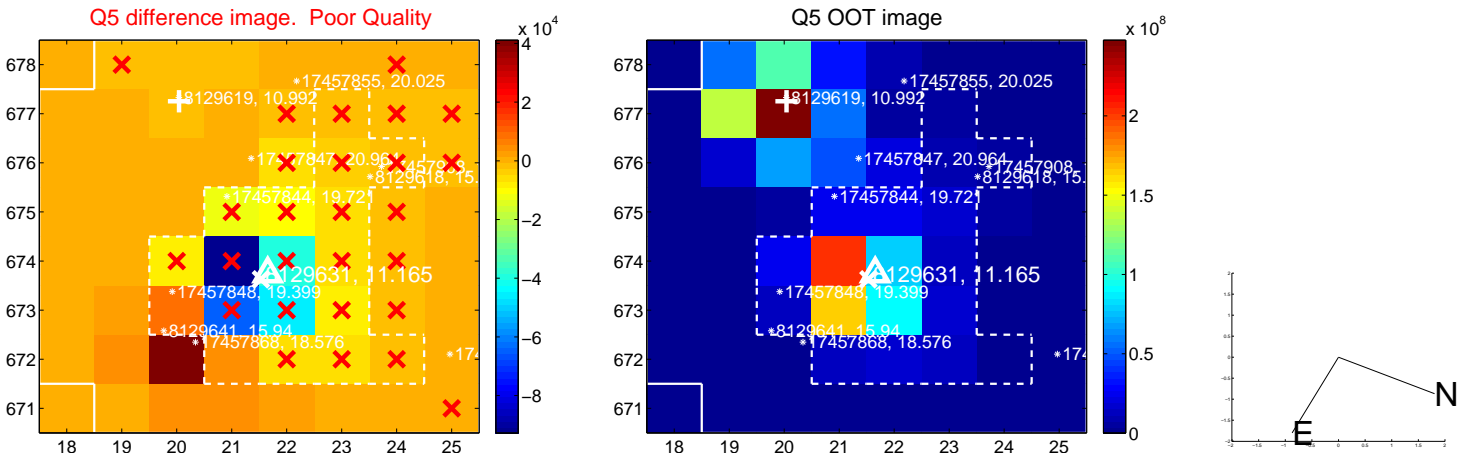


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

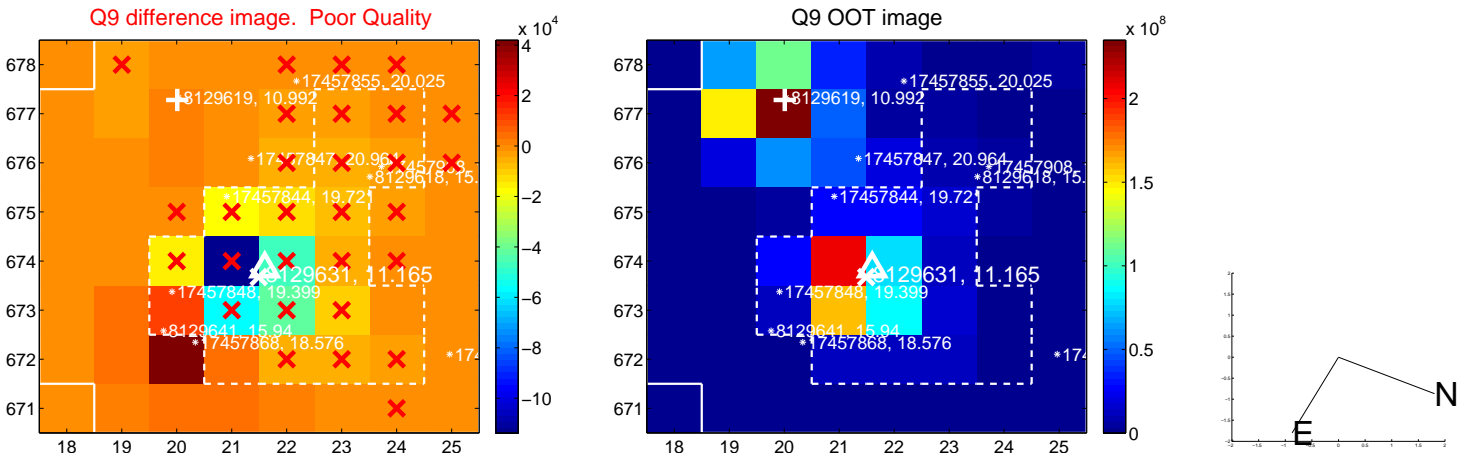
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



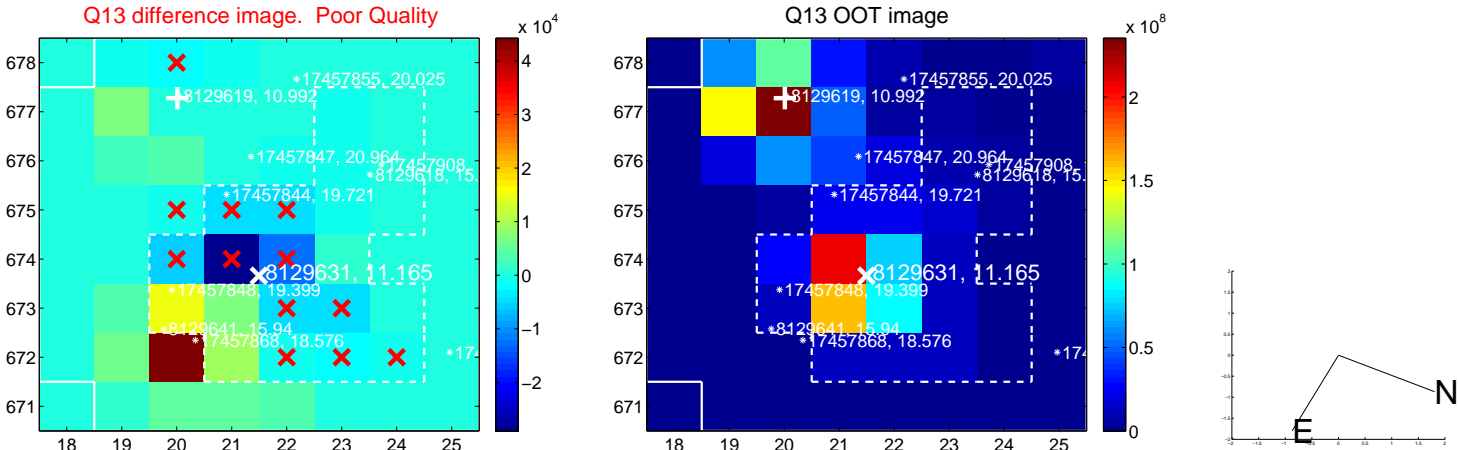
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



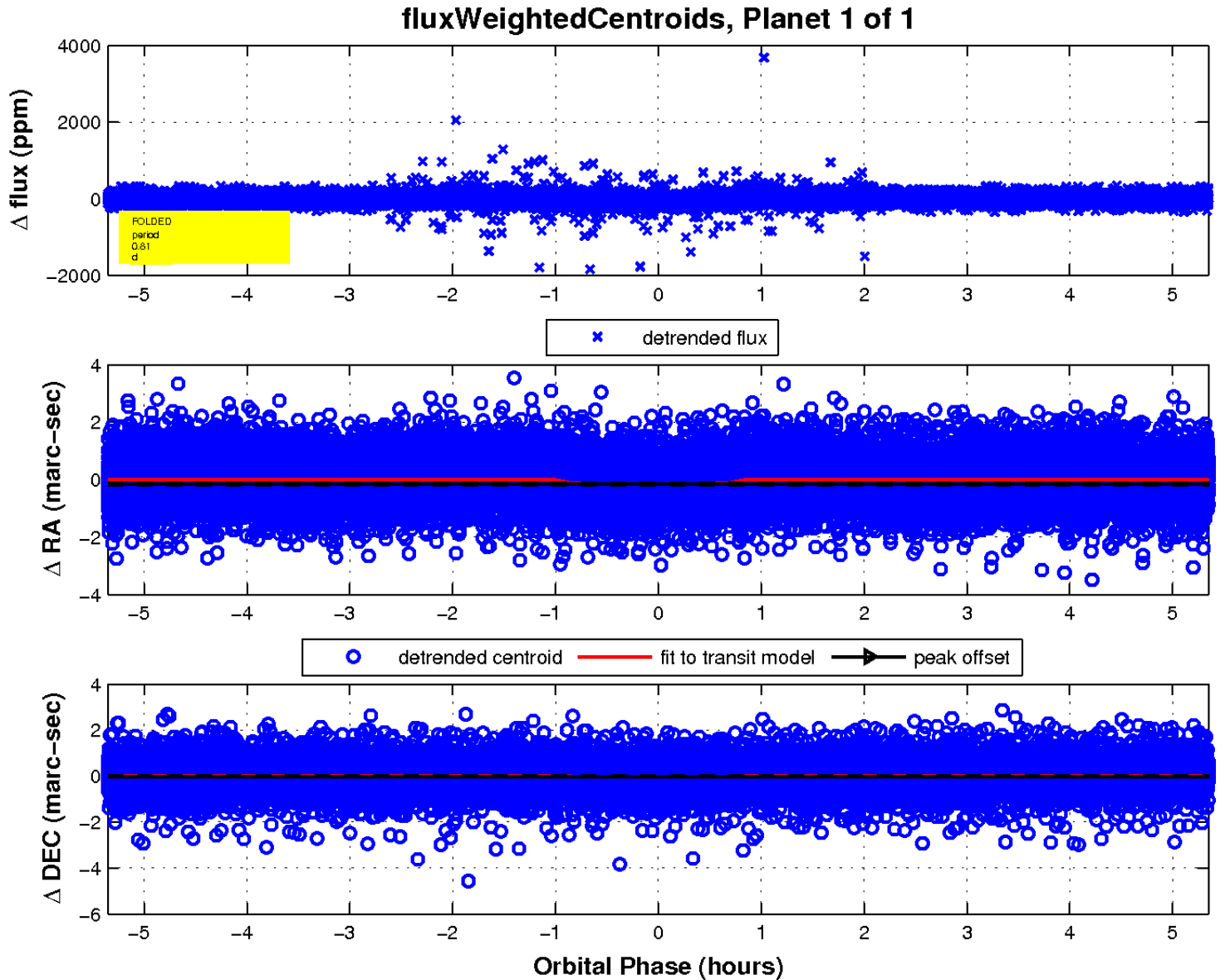
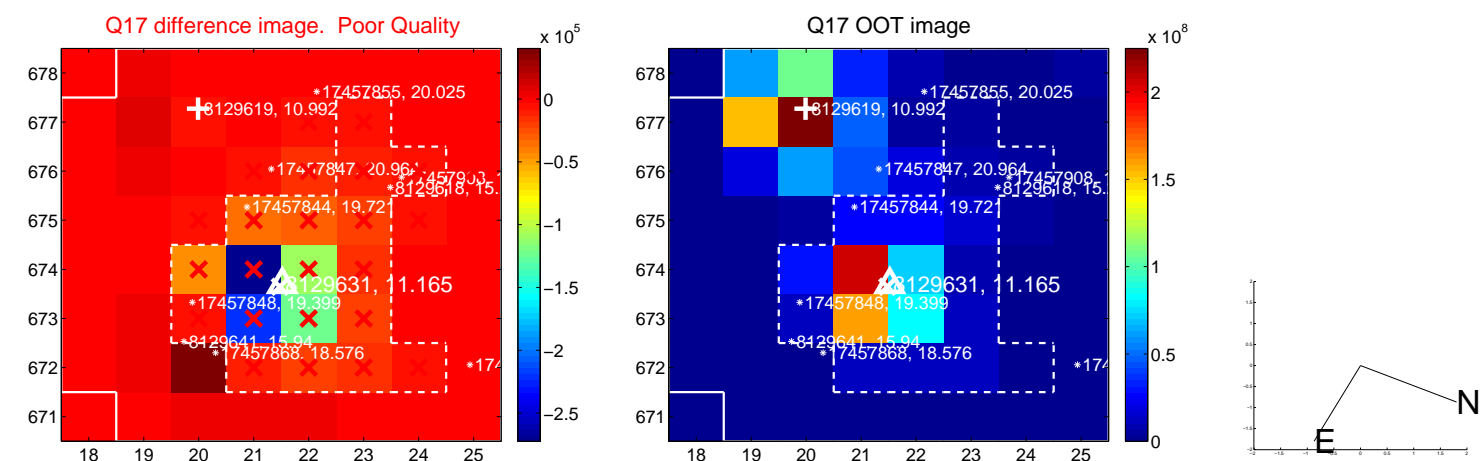
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

