

KIC 008227661

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})
008227661-01	OBS	2826.01	1.853717	132.677528	311.6	2.228	16.5	17.0	0.12	2661	0.24	3.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008227661-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_ALT—CENT_RESOLVED_OFFSET

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.

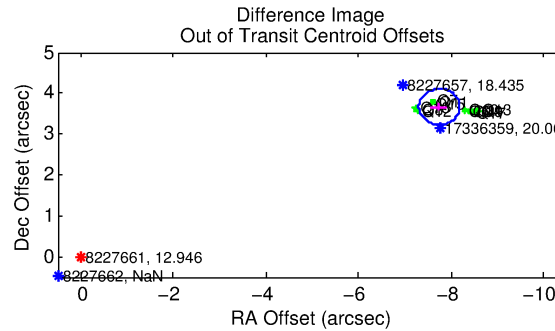
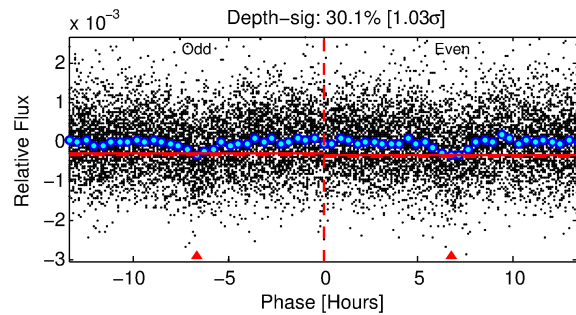
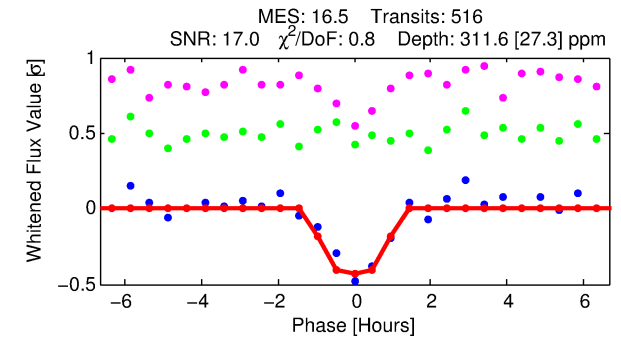
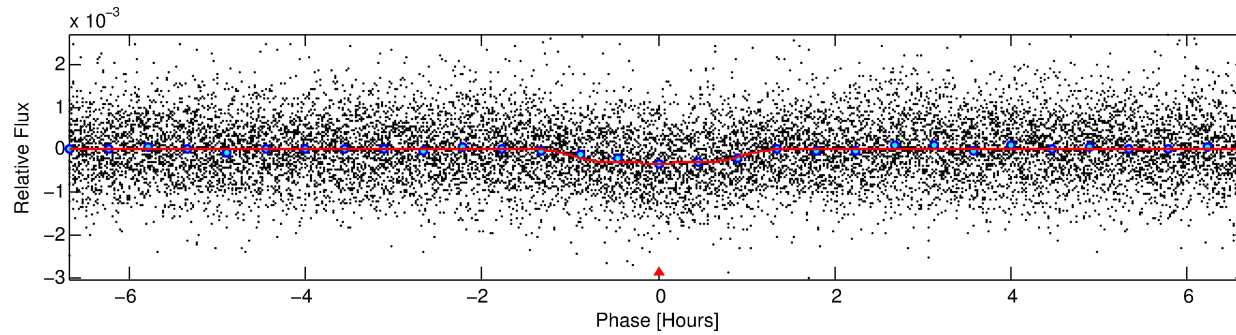
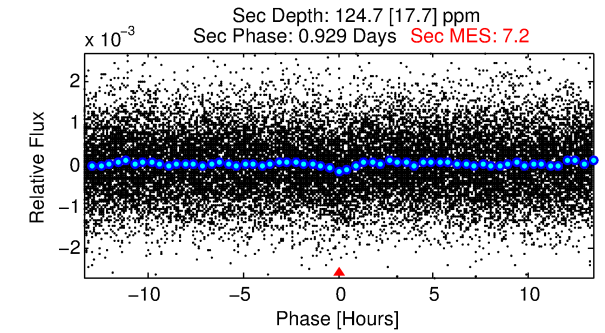
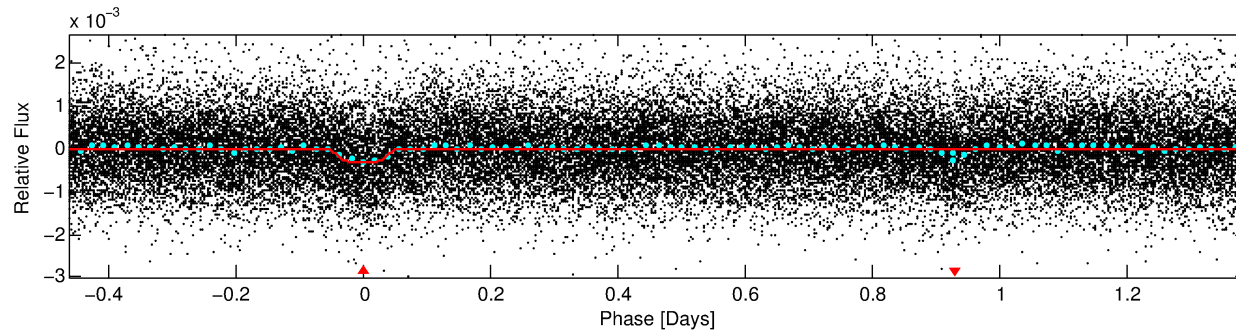
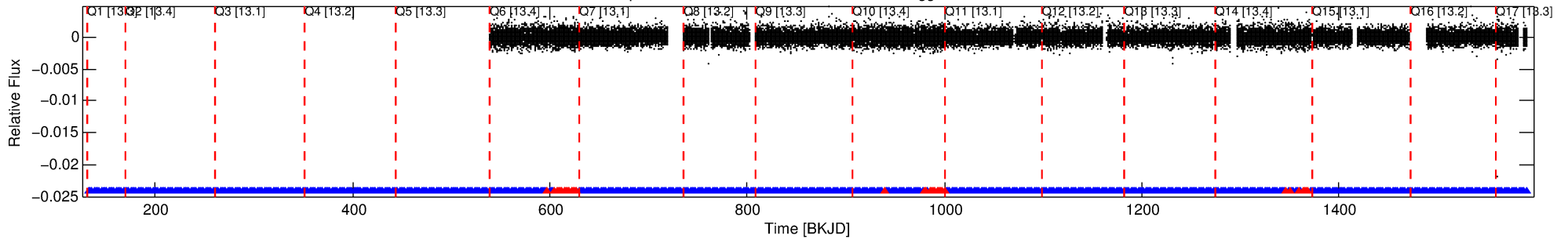
Ephemeris Match Information For 008227661-01

No Significant Match Found

DV One-Page Summary

KIC: 8227661 Candidate: 1 of 1 Period: 1.854 d
KOI: K02826 Corr: No Ephemeris Match

Kp: 12.95 R*: 0.12 Rs Teff: 2661.0 K Logg: 5.28 Fe/H: 0.000



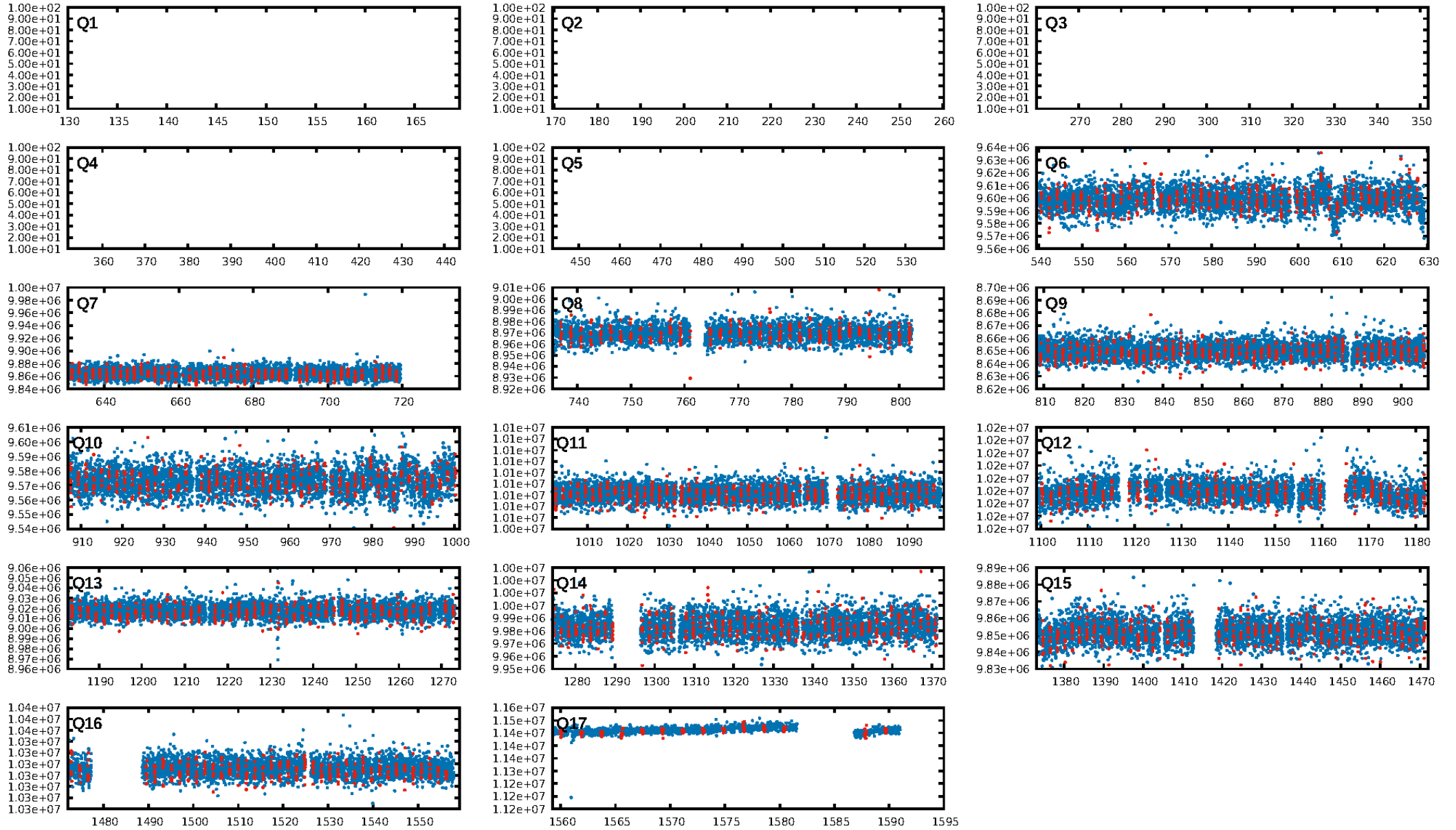
DV Fit Results:

Period = 1.85372 [0.00001] d
Epoch = 132.6775 [0.0021] BKJD
Rp/R* = 0.0193 [0.0075]
a/R* = 3.21 [4.83]
b = 0.90 [0.37]
Seff = 3.35 [0.00]
Teq = 345 [0] K
Rp = 0.24 [0.09] Re
a = 0.0134 [0.0000] AU
Ag = 208.37 [164.81] [1.26σ]
Teff = 2026 [401] K [4.20σ]

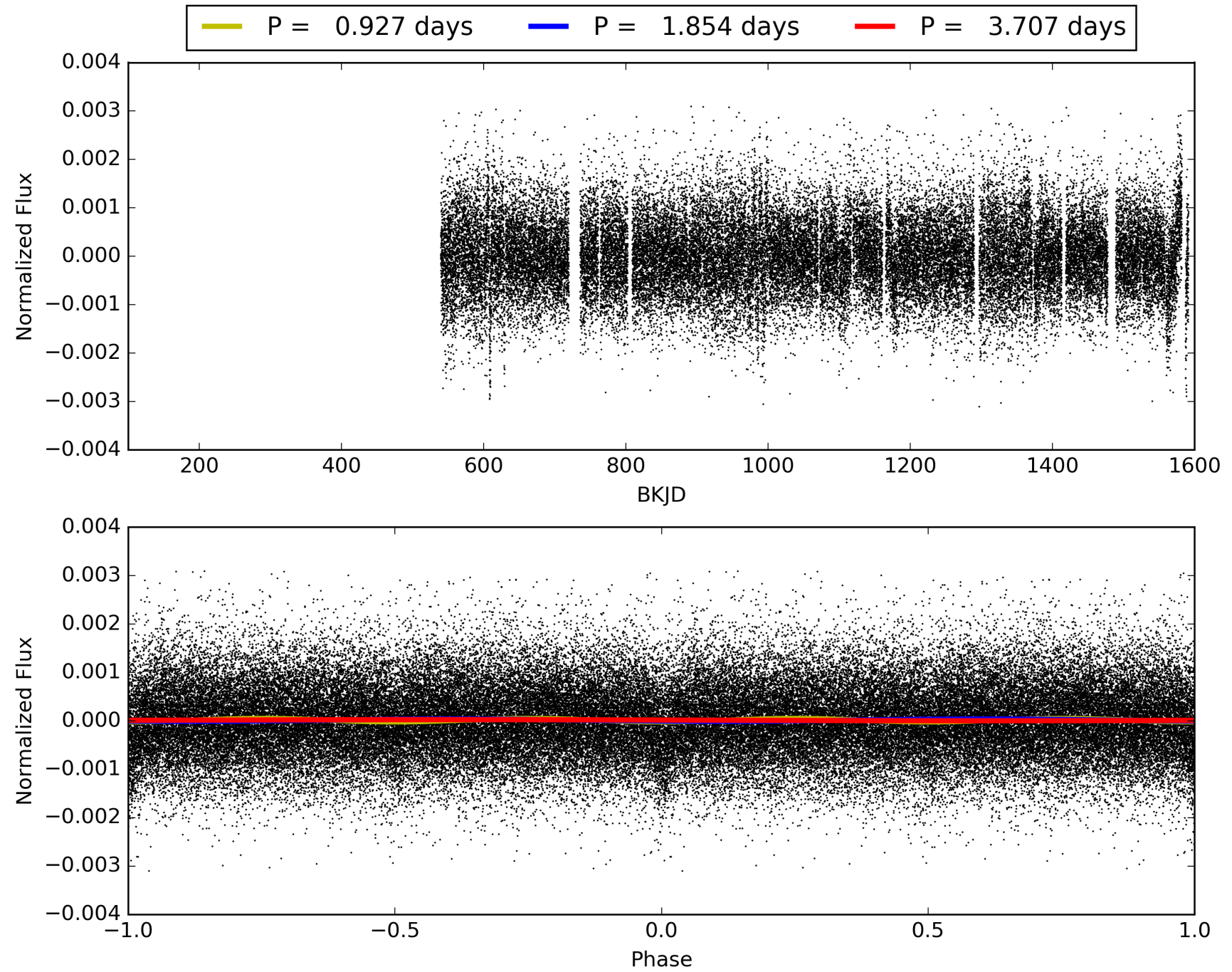
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.79e-59
RollingBand-fgt: 0.93 [469/502]
GhostDiagnostic-chr: -0.6689
Centroid-sig: 0.0%
Centroid-so: 18.455 arcsec [23.08σ]
OotOffset-rm: 8.563 arcsec [58.28σ]
KicOffset-rm: 8.429 arcsec [122.62σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [12/12]

TCE 008227661-01, PDC Light Curves

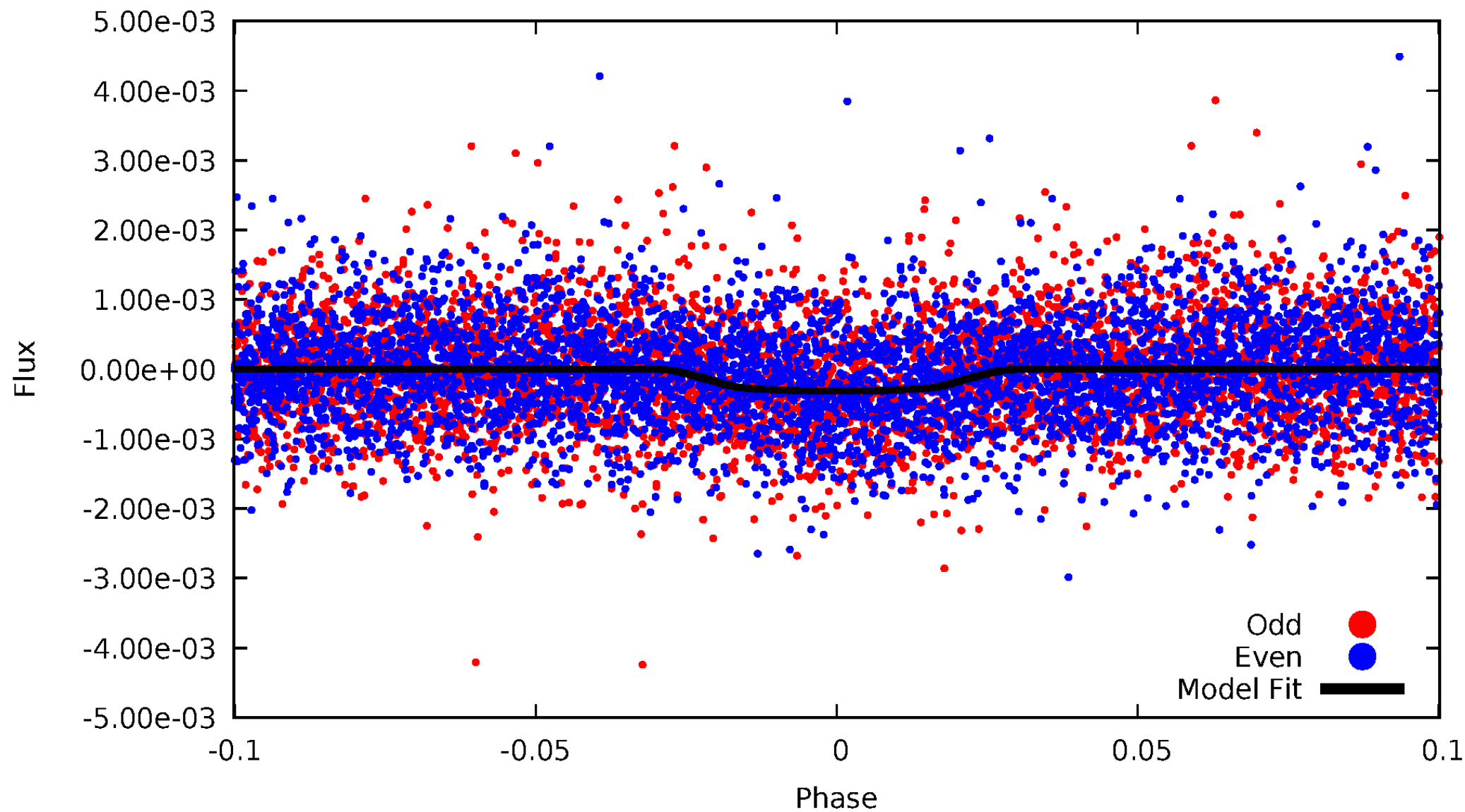


TCE 008227661-01



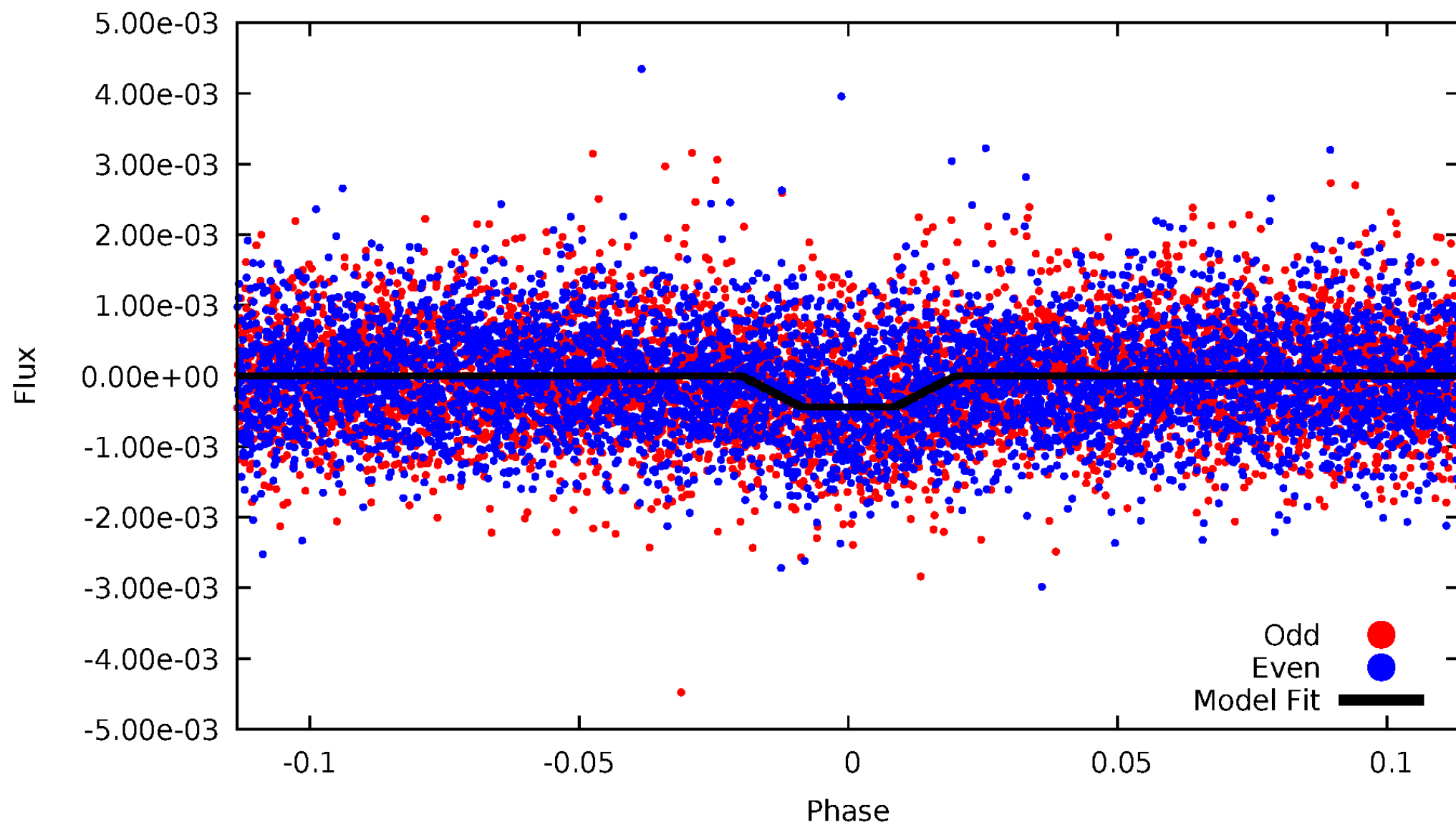
DV Odd/Even

TCE 008227661-01



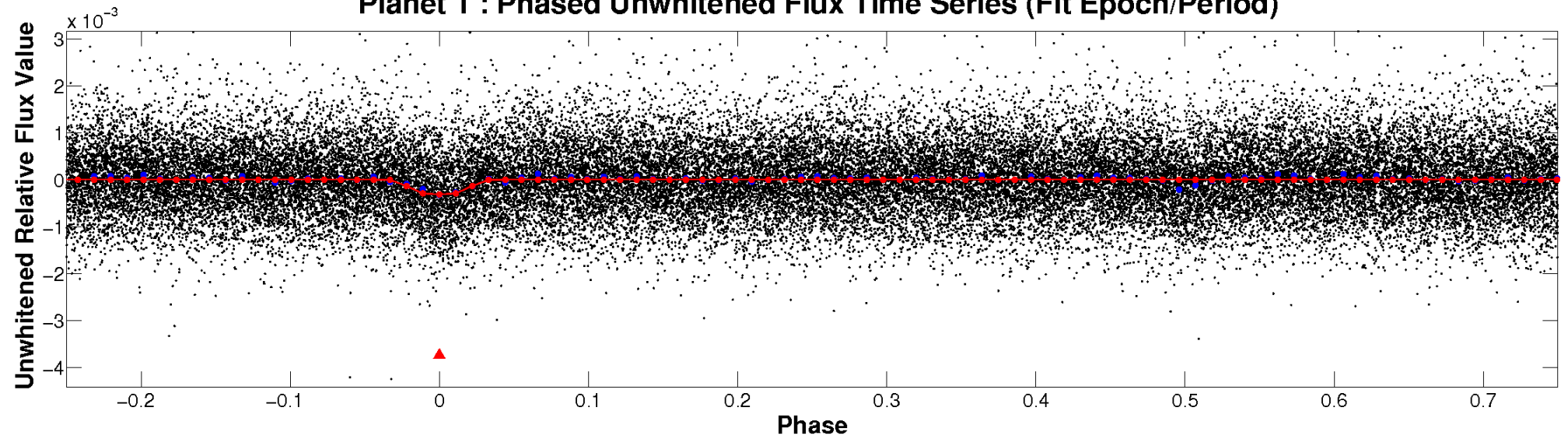
ALT Odd/Even

TCE 008227661-01

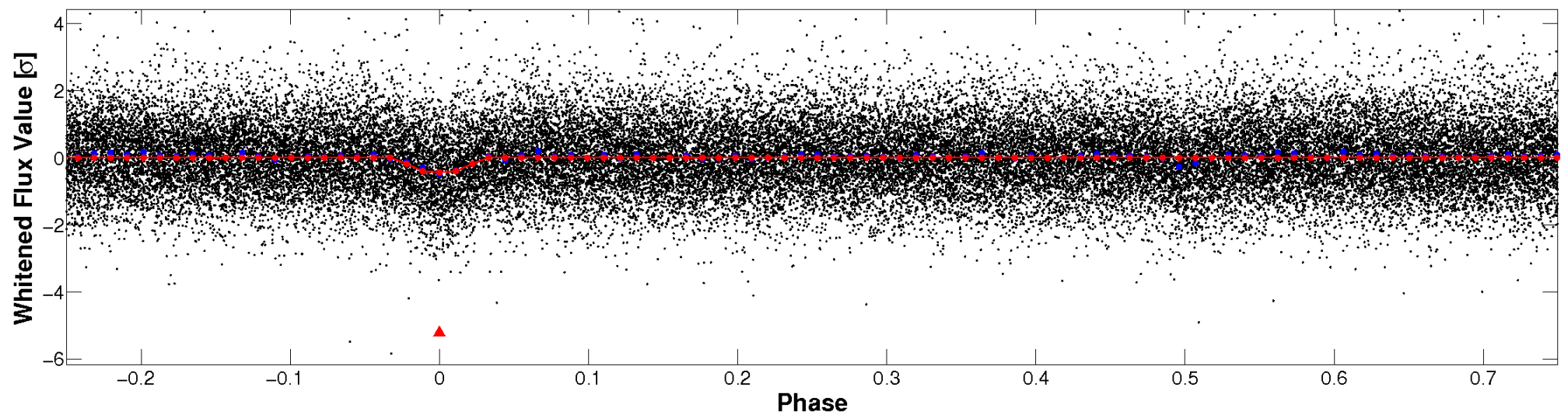


Non-Whitened Vs. Whitened Light Curve

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

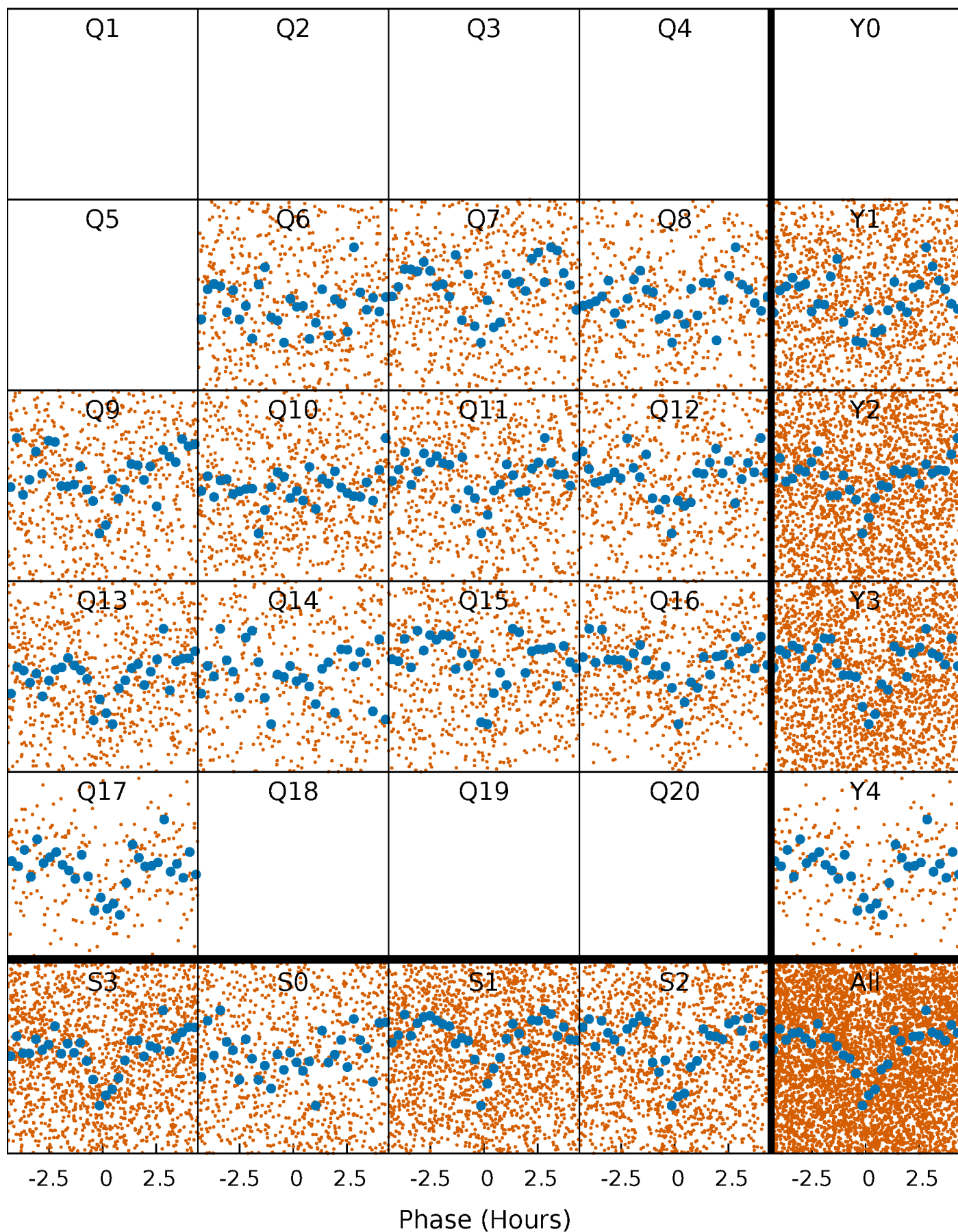


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



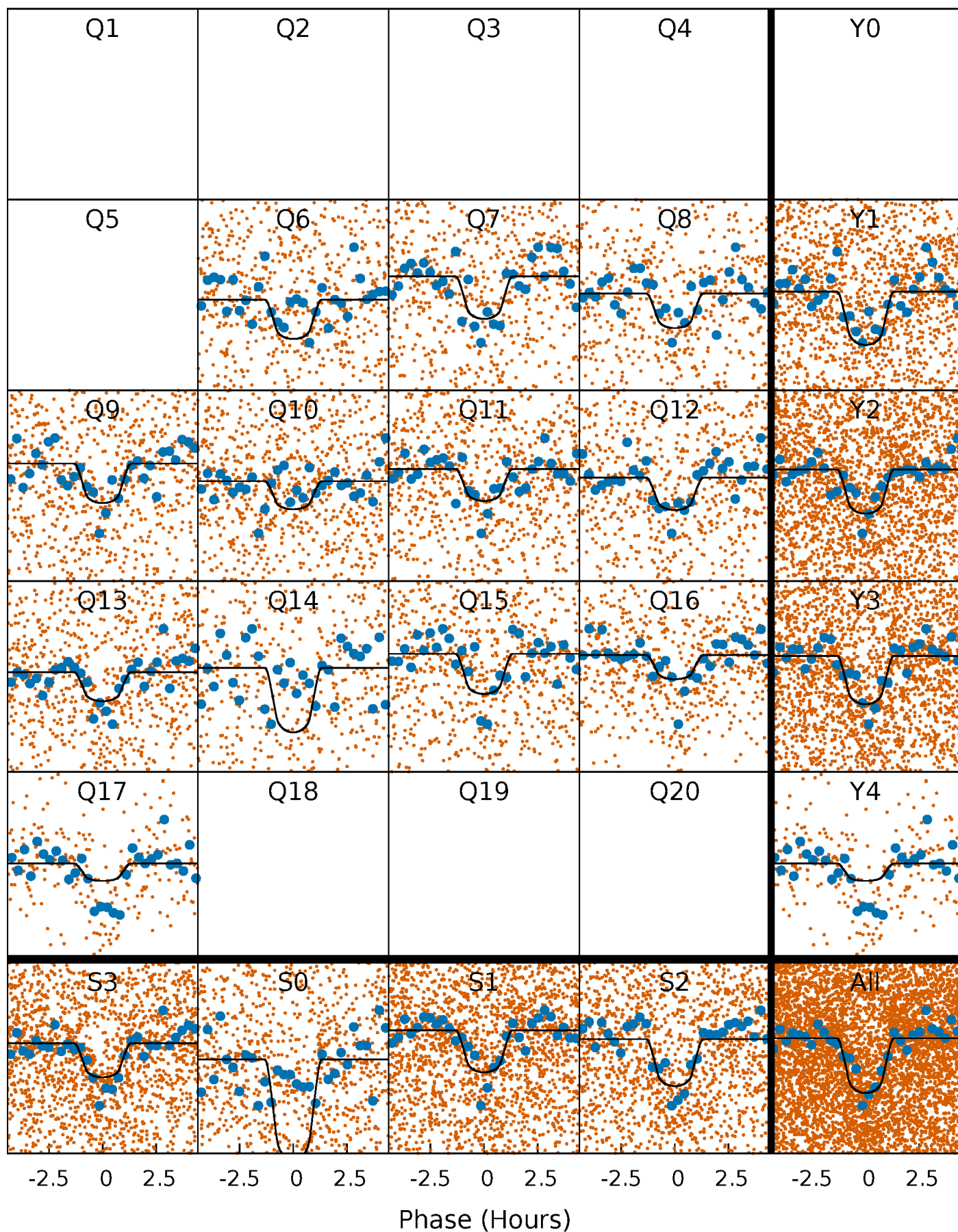
PDC Quarter-Phased Transit Curves

TCE 008227661-01 P= 1.853717 Days $T_0=132.677528$ (BKJD)



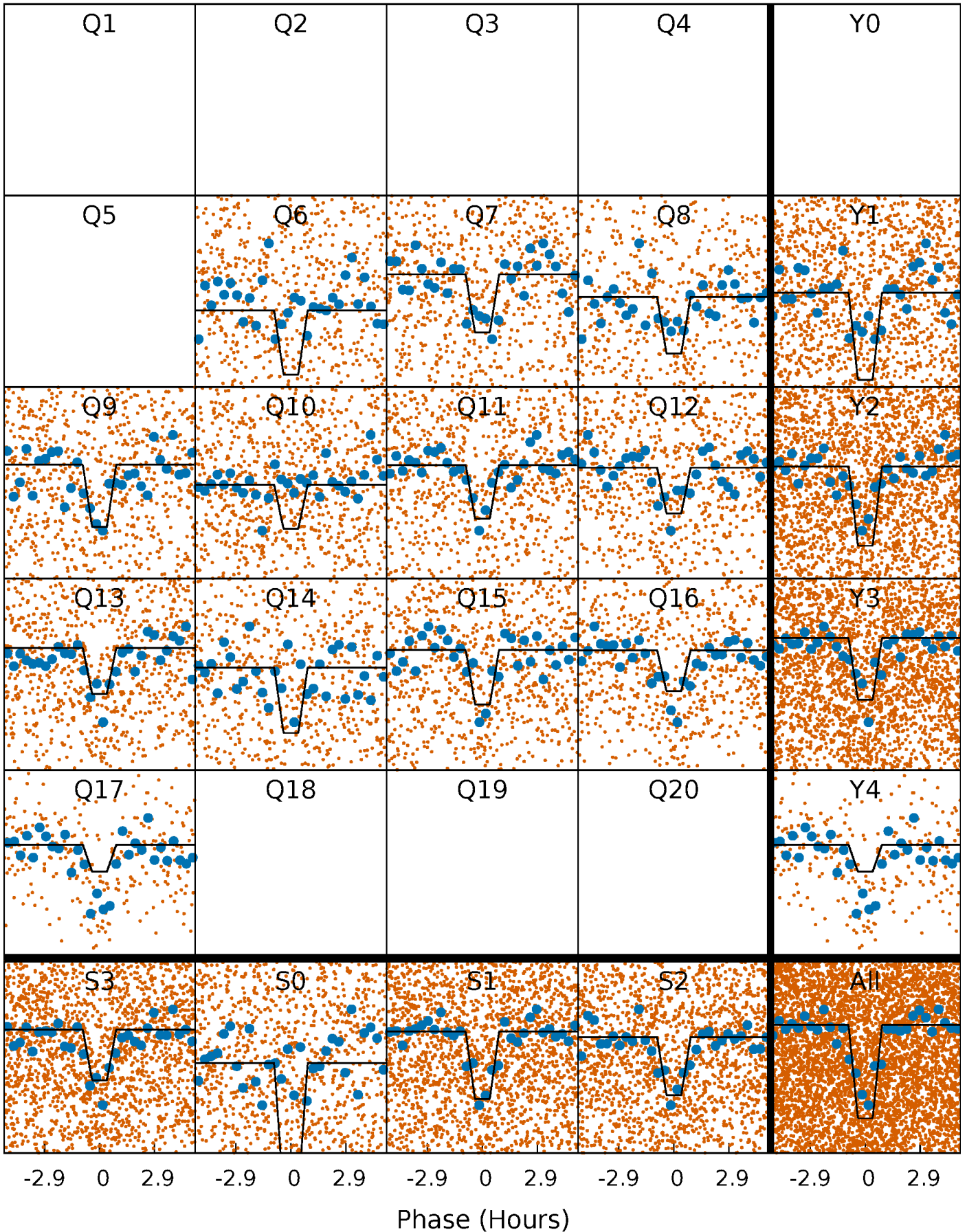
DV Quarter-Phased Transit Curves

TCE 008227661-01 P= 1.853717 Days $T_0=132.677528$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

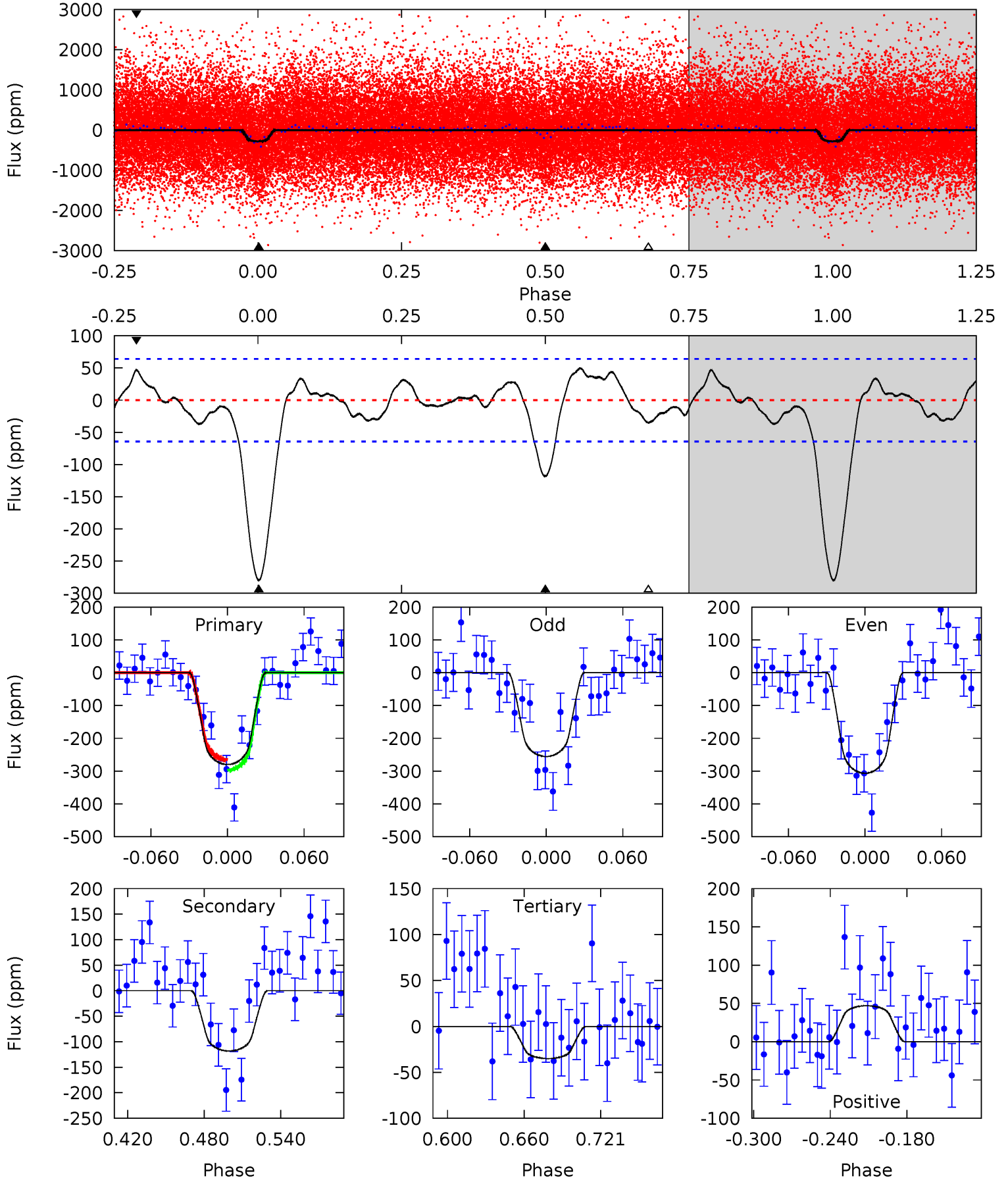
TCE 008227661-01 P= 1.853741 Days $T_0=132.667053$ (BKJD)



DV Model-Shift Uniqueness Test

008227661-01, P = 1.853717 Days, E = 132.677528 Days

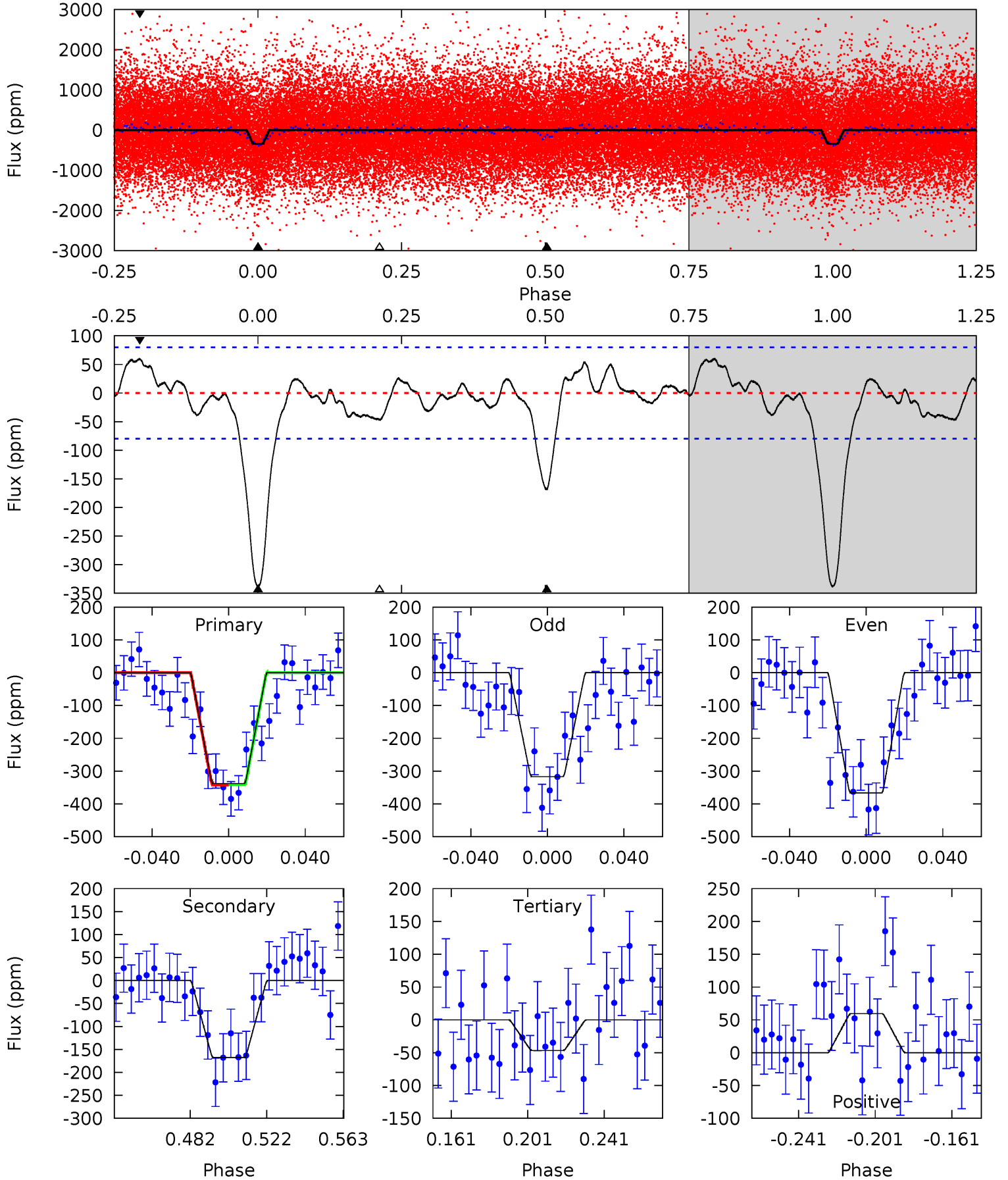
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	8.61	2.55	3.42	4.67	1.88	1.58	17.8	17.0	6.06	5.19	1.87	0.93	0.15	1.19



Alt Model-Shift Uniqueness Test

008227661-01, P = 1.853741 Days, E = 132.667053 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	10.00	2.78	3.55	4.75	2.05	1.46	17.3	16.6	7.21	6.45	1.47	0.98	0.15	0.03



Stellar Parameters For KIC 008227661

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	2661^{+1}_{-1}	$5.283^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$0.116^{+1.000}_{-1.000}$	$0.094^{+1.000}_{-1.000}$	$85.200^{+1.000}_{-1.000}$
	+0%/-0%	+19%/-19%	+inf%/-inf%	+862%/-862%	+1064%/-1064%	+1%/-1%
Source	PHO54	PHO54	PHO54	BTSL		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008227661-01 / KOI 2826.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-118 ± 14	$0.29^{+0.16}_{-0.13}$	494^{+52}_{-51}	2316^{+313}_{-241}	177^{+301}_{-92}
Alt.	-168 ± 17	$0.30^{+0.17}_{-0.13}$	494^{+47}_{-53}	2357^{+320}_{-219}	211^{+349}_{-98}

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 $A_{obs} \gg 1.0$

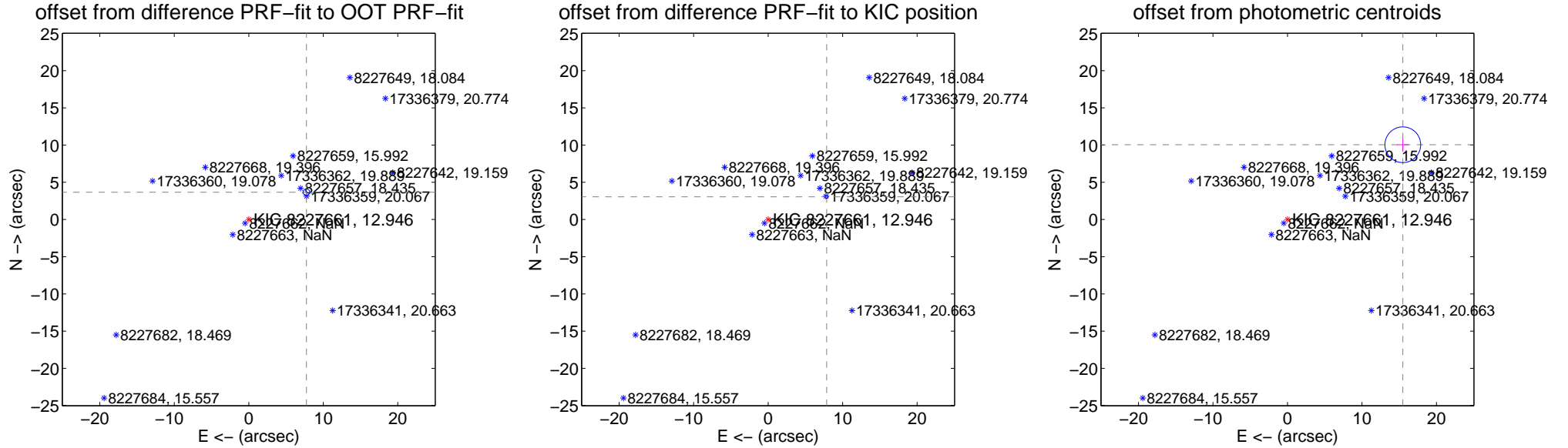
DV Centroid Data

Supplemental centroid analysis for 008227661-01. Kepler magnitude: 12.95. Transit SNR 16.97

There are 12 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.90 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.563 ± 0.147	58.28	-7.738 ± 0.164	3.667 ± 0.072
PRF-fit source offset from KIC position	8.429 ± 0.069	122.62	-7.857 ± 0.069	3.053 ± 0.068
photometric centroid source offset	18.45 ± 0.80	23.08	-15.48 ± 0.80	10.05 ± 0.79

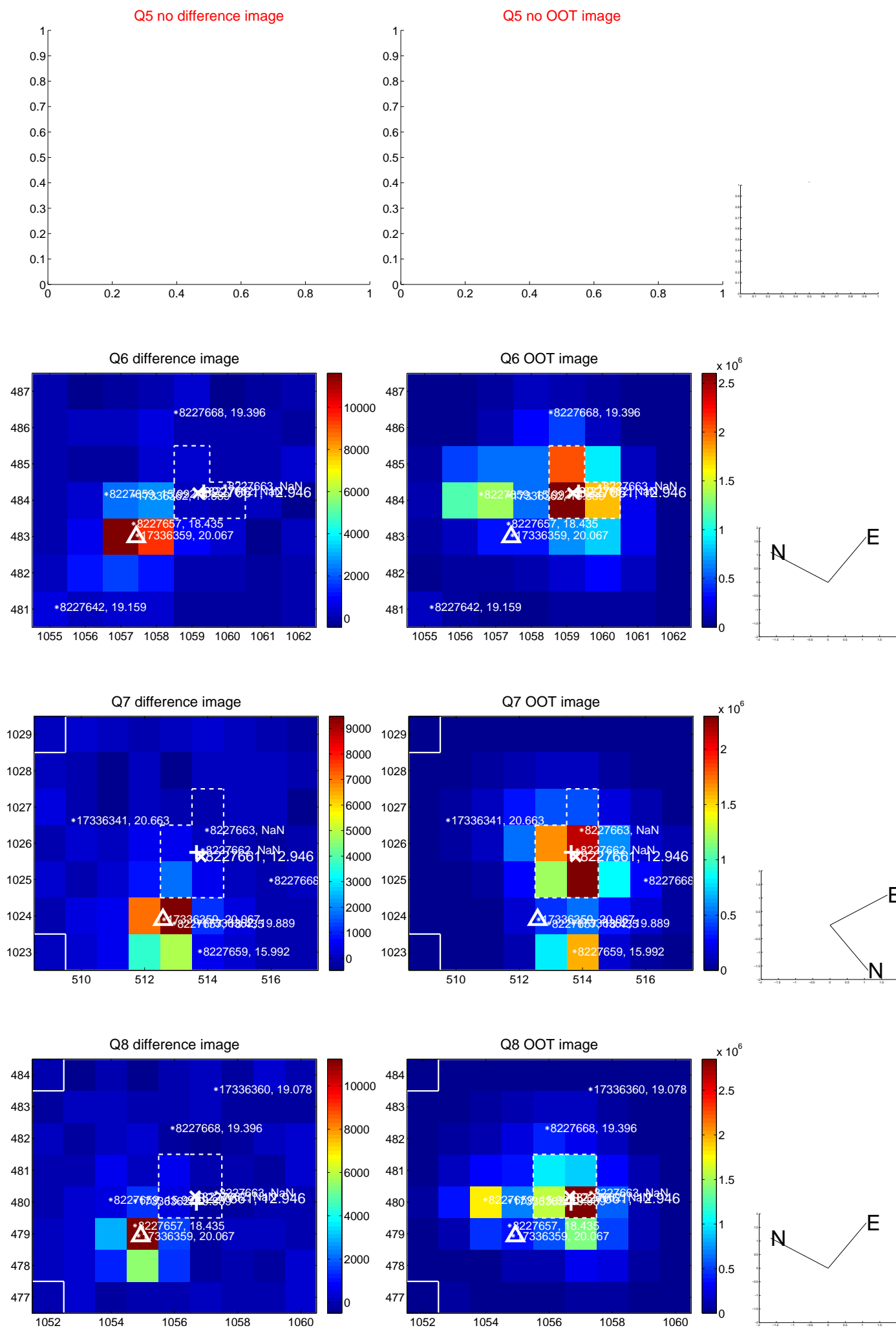


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

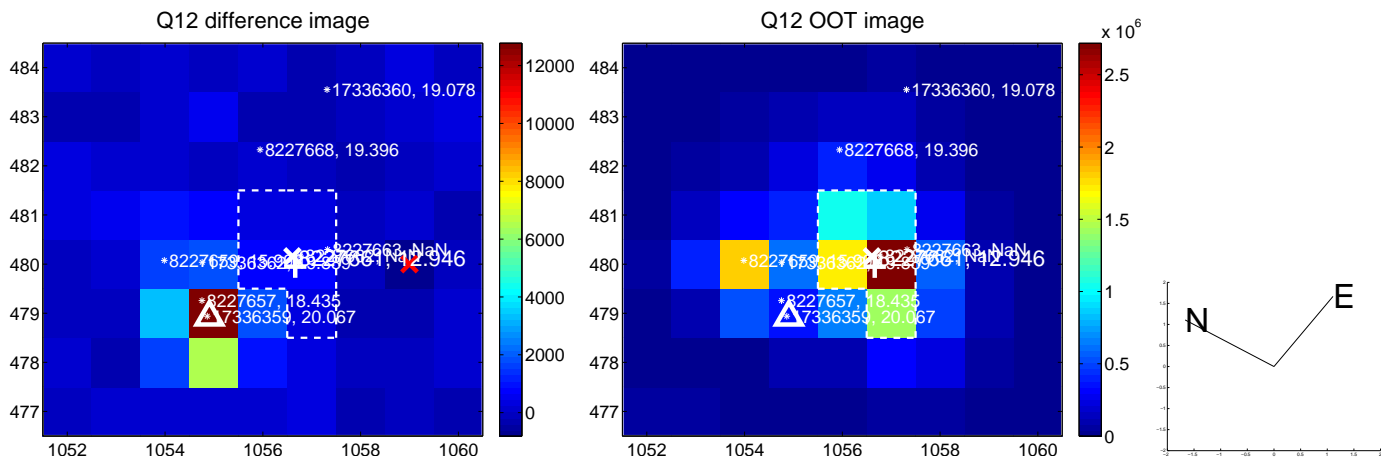
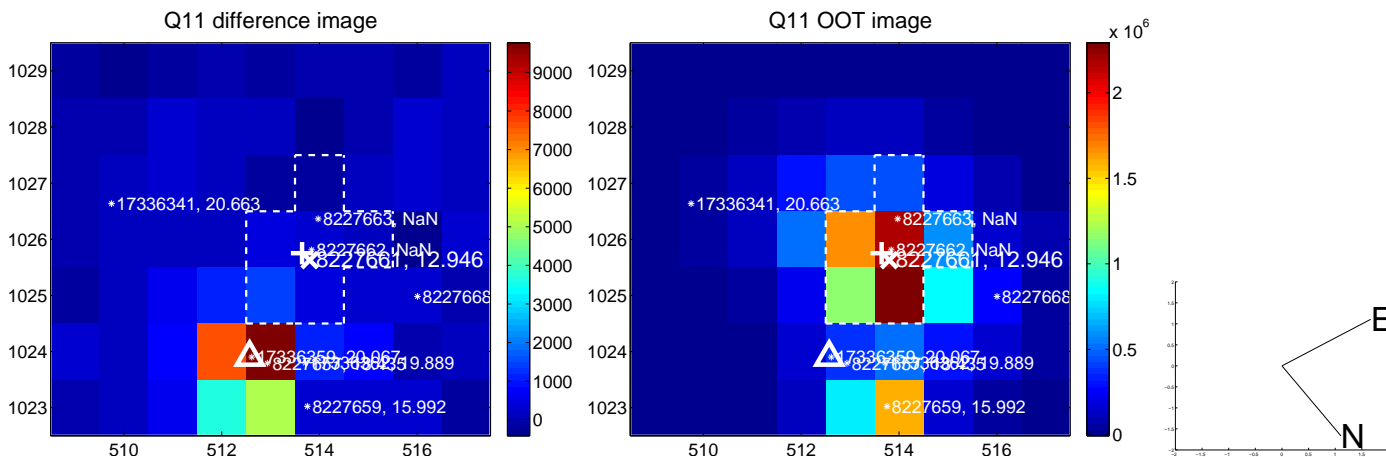
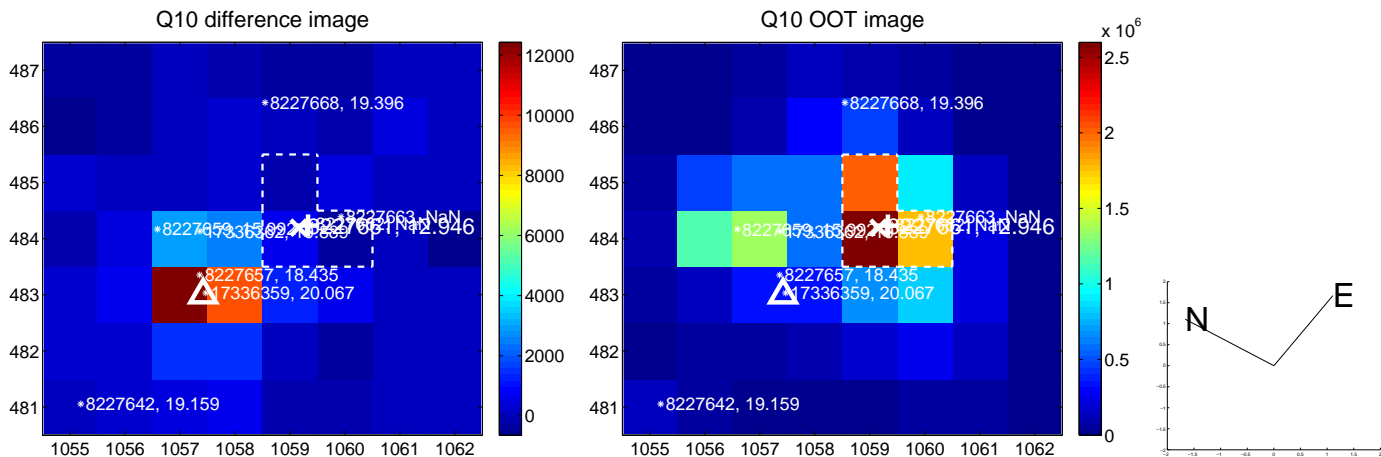
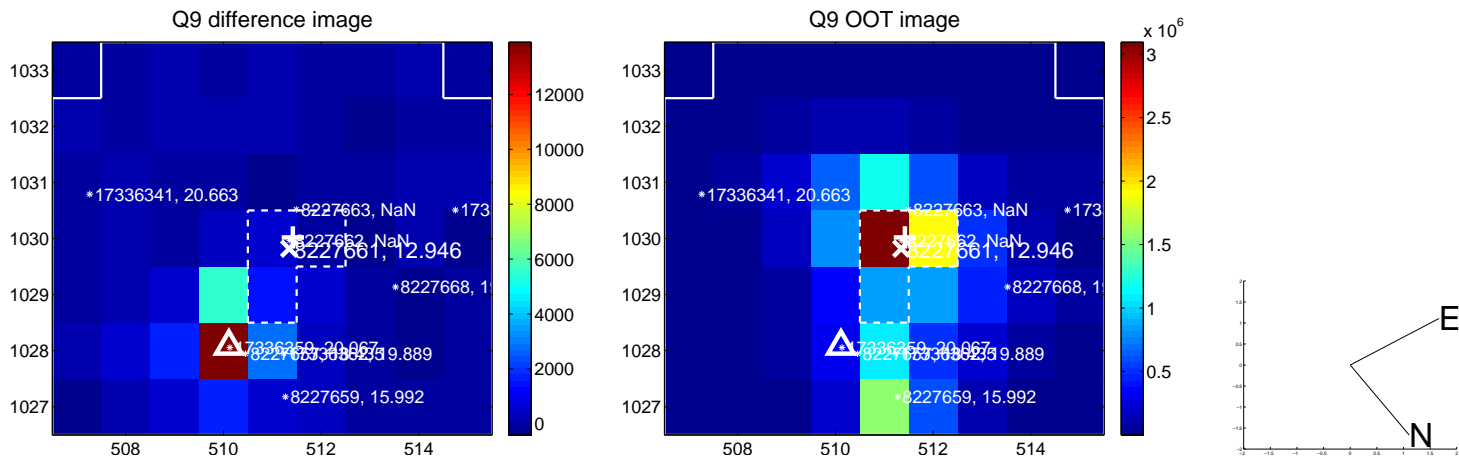
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



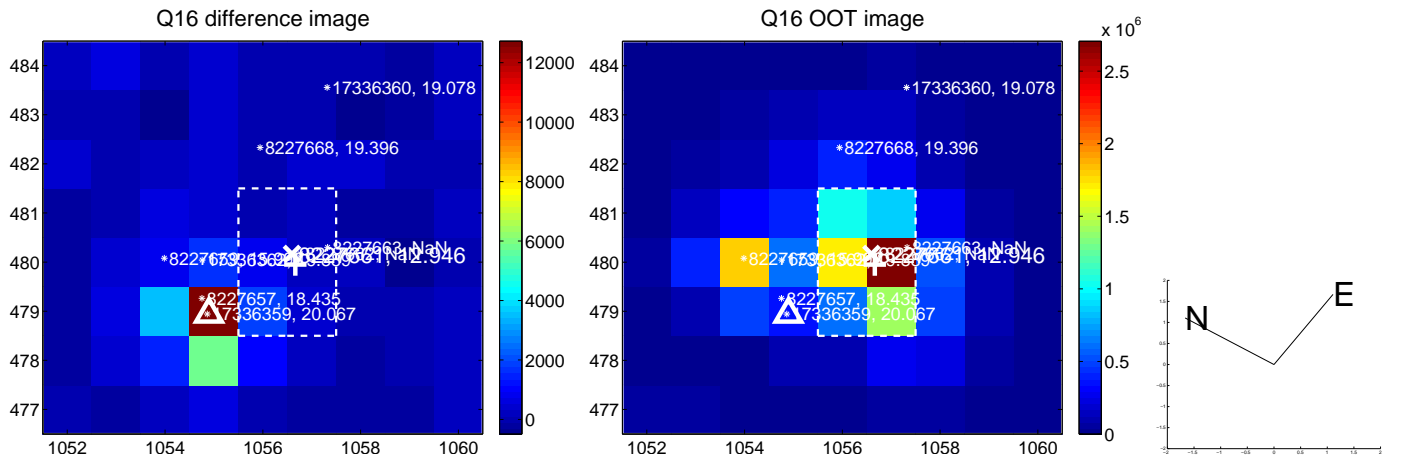
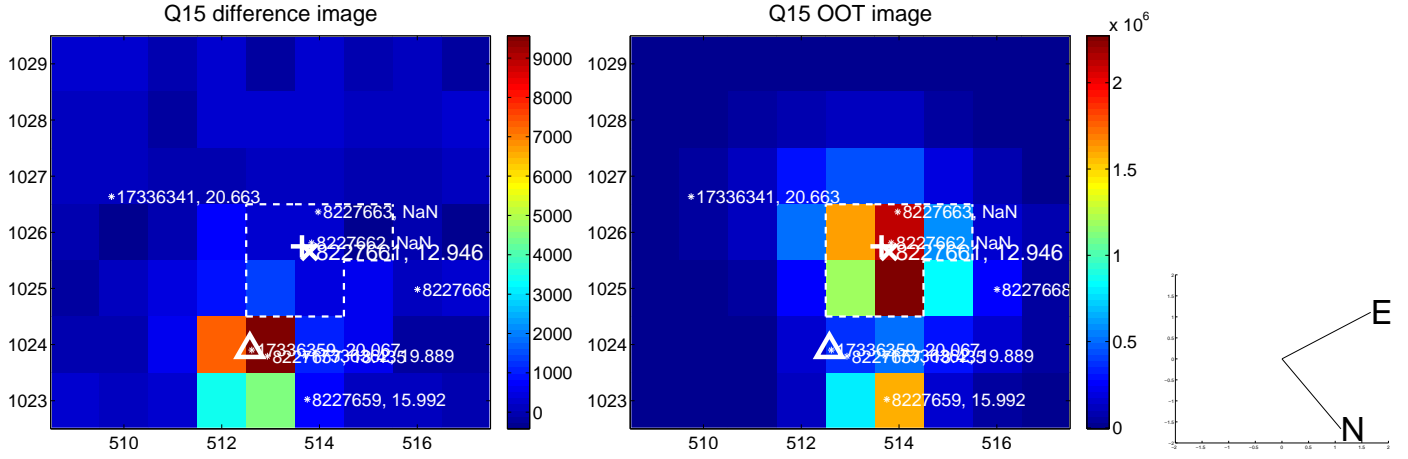
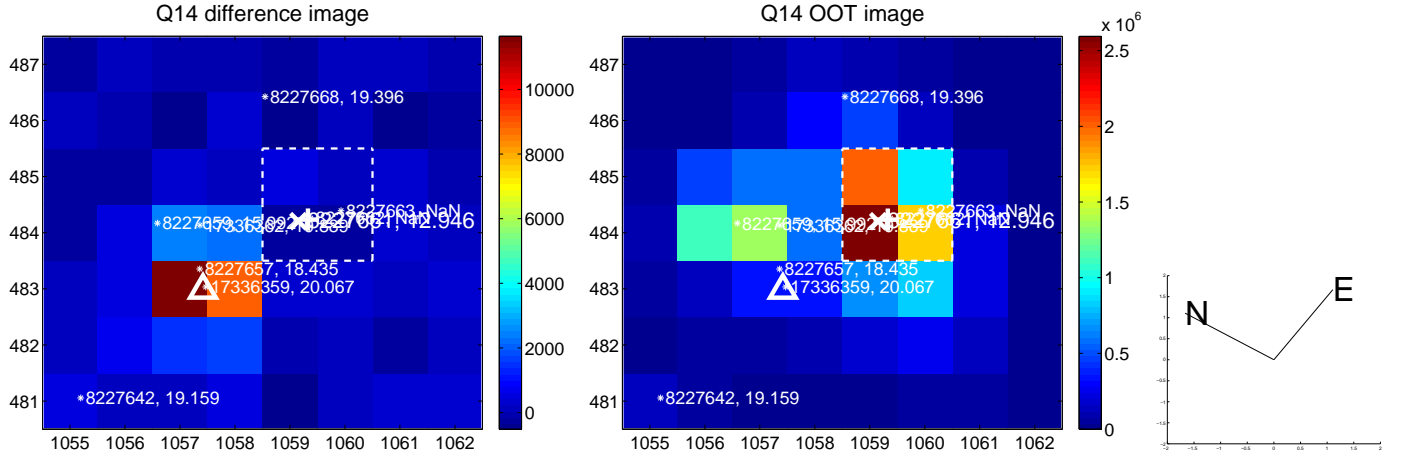
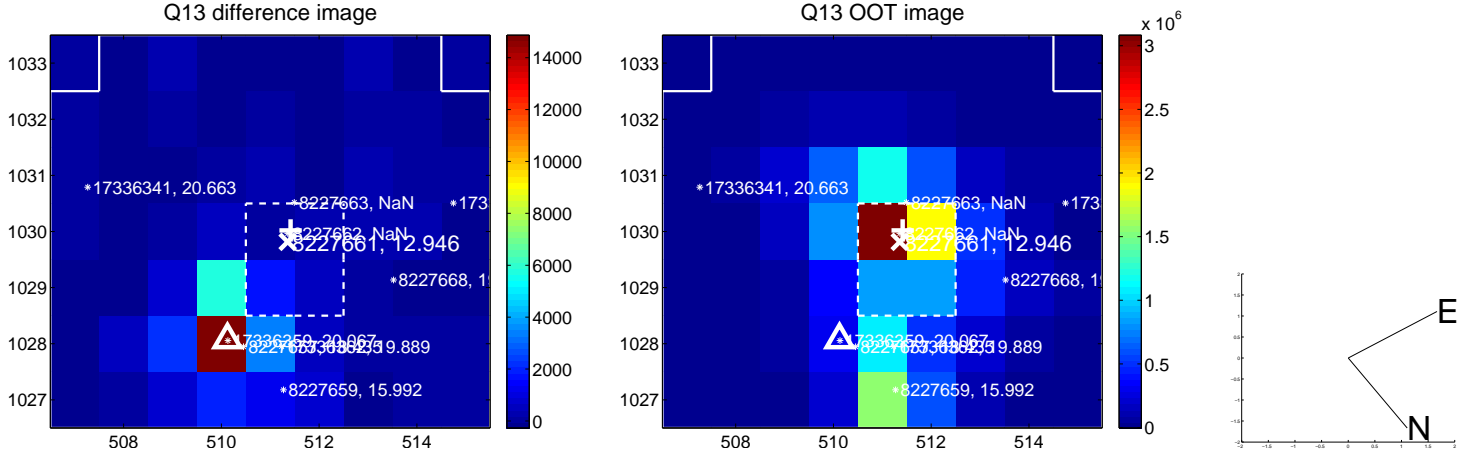
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



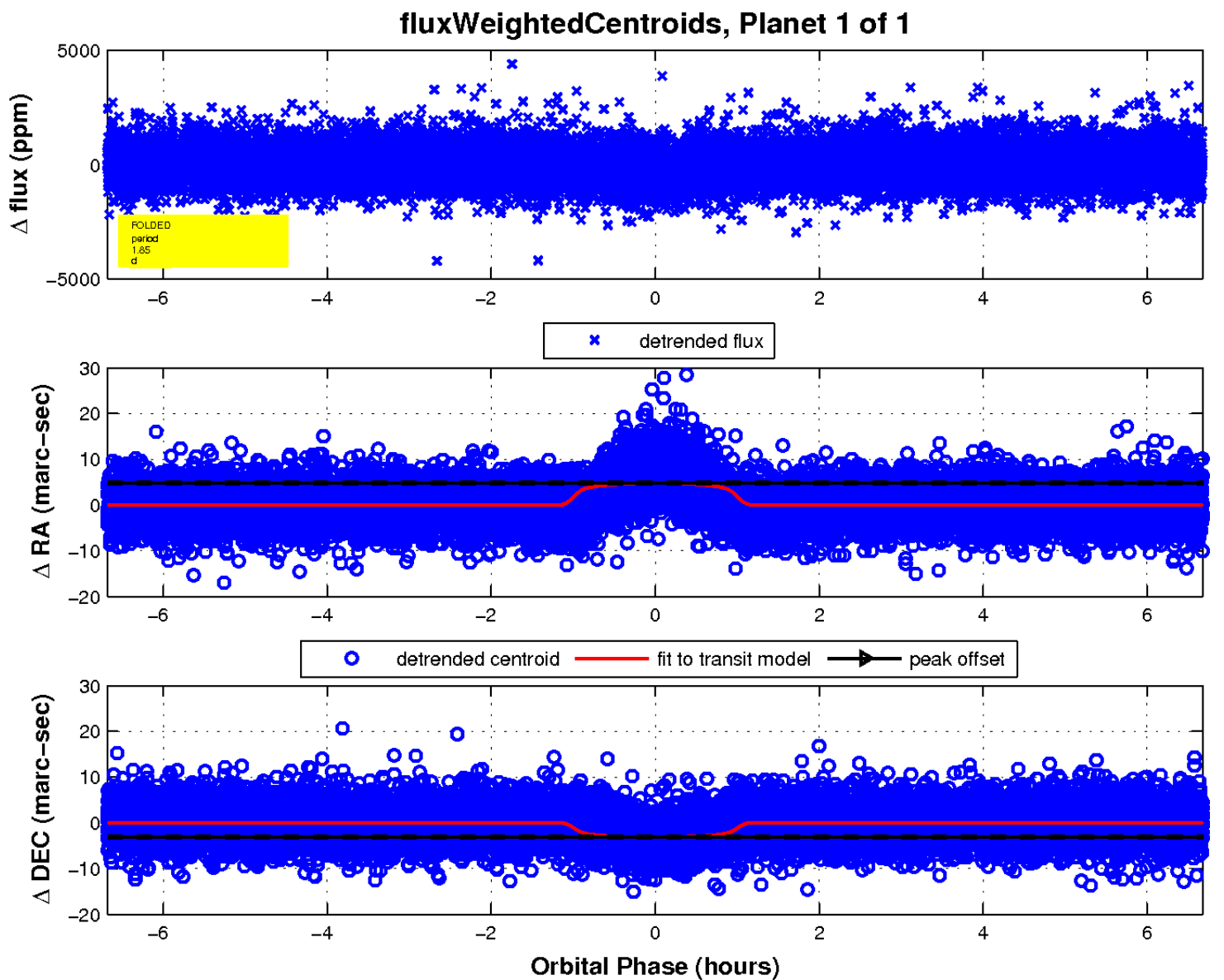
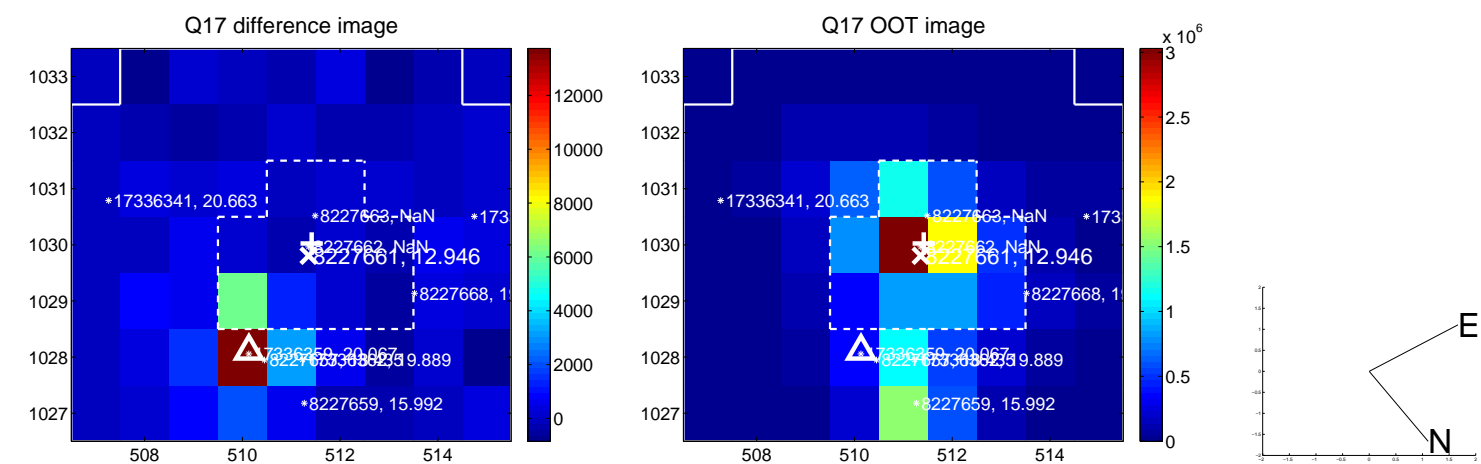
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



UKIRT Image

