

KIC 008162128

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})
008162128-01	OBS	No	610.134100	208.963557	352.1	9.903	8.1	7.1	1.02	6208	2.04	0.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008162128-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

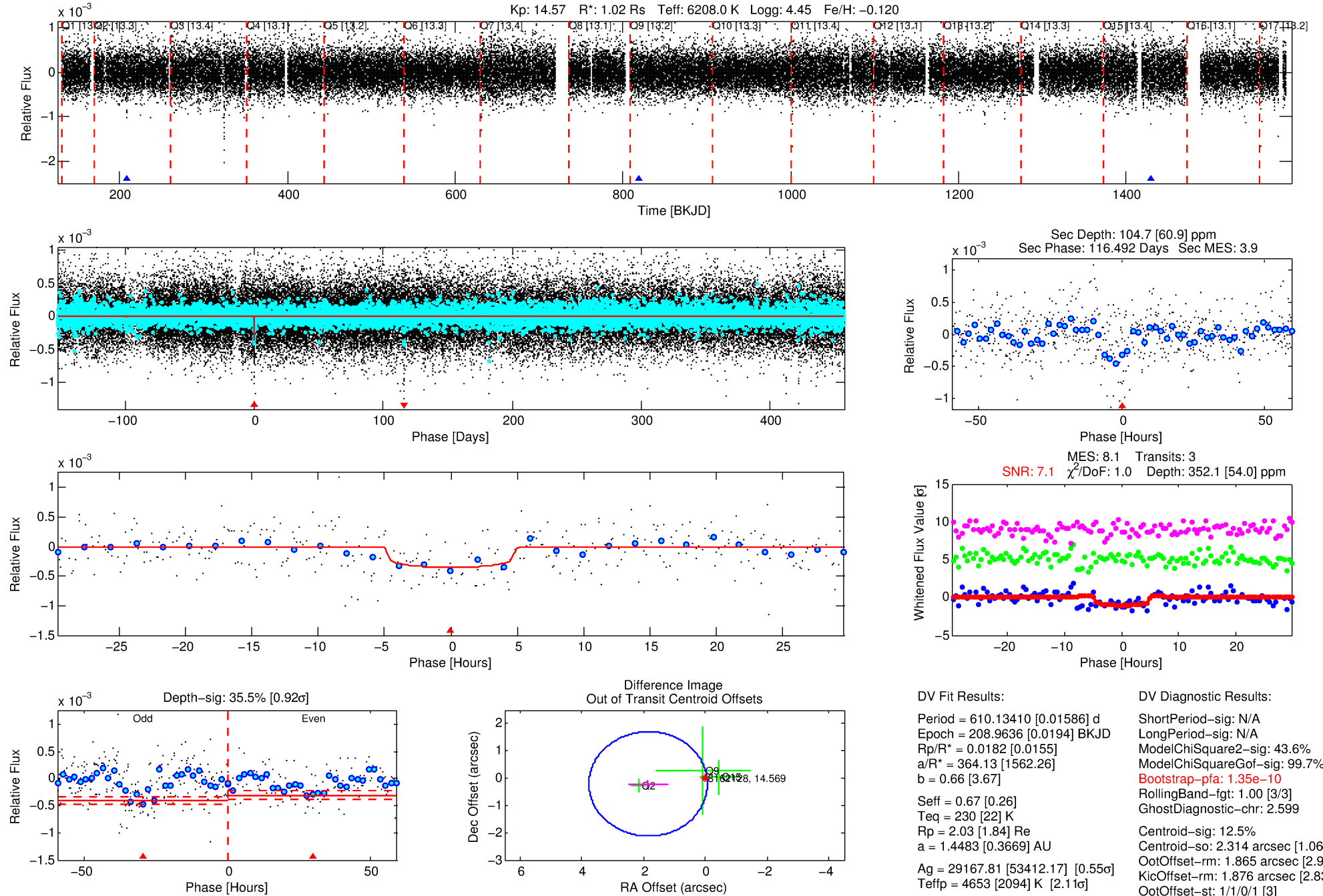
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008162128-01

No Significant Match Found

DV One-Page Summary

KIC: 8162128 Candidate: 1 of 1 Period: 610.134 d



DV Fit Results:

Period = 610.13410 [0.01586] d
Epoch = 208.9636 [0.0194] BKJD
Rp/R* = 0.0182 [0.0155]
a/R* = 364.13 [1562.26]
b = 0.66 [3.67]
Seff = 0.67 [0.26]
Teff = 230 [22] K
Rp = 2.03 [1.84] Re
a = 1.4483 [0.3669] AU
Ag = 29167.81 [53412.17] [0.55 σ]
Teffp = 4653 [2094] K [2.11 σ]

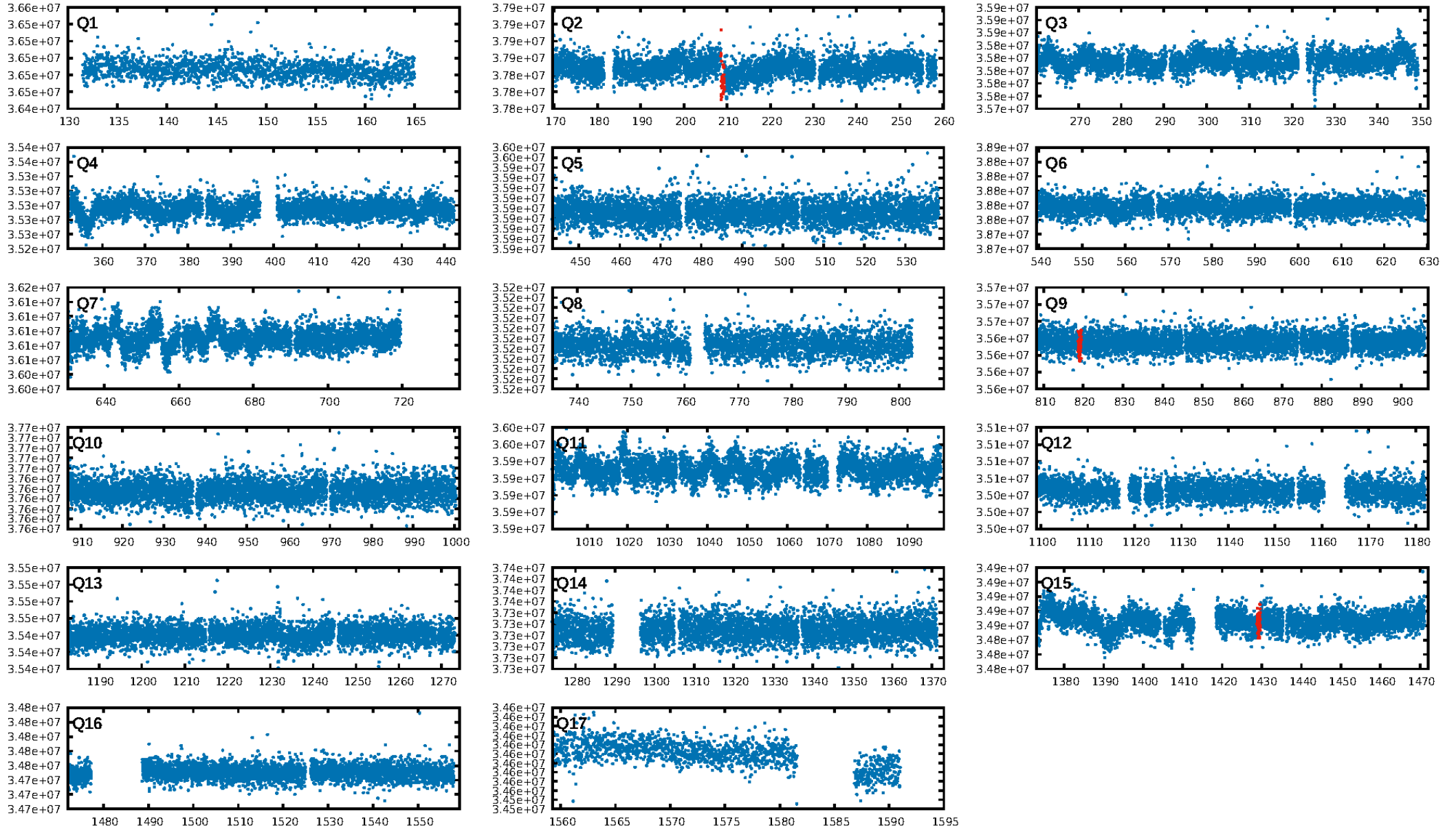
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 43.6%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 1.35e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.599
Centroid-sig: 12.5%
Centroid-so: 2.314 arcsec [1.06 σ]
OotOffset-rm: 1.865 arcsec [2.92 σ]
KicOffset-rm: 1.876 arcsec [2.83 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

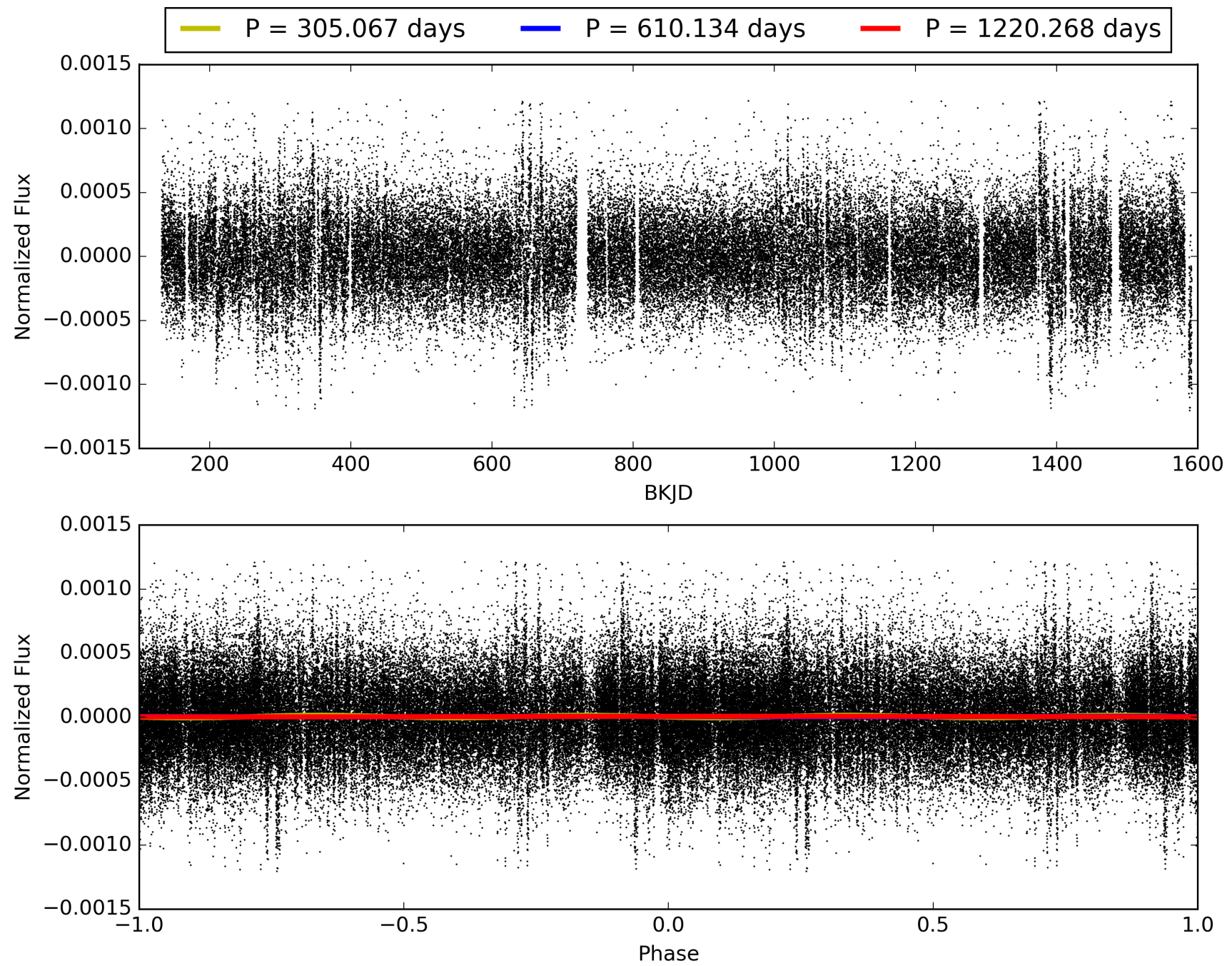
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:40:22 Z

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

TCE 008162128-01, PDC Light Curves

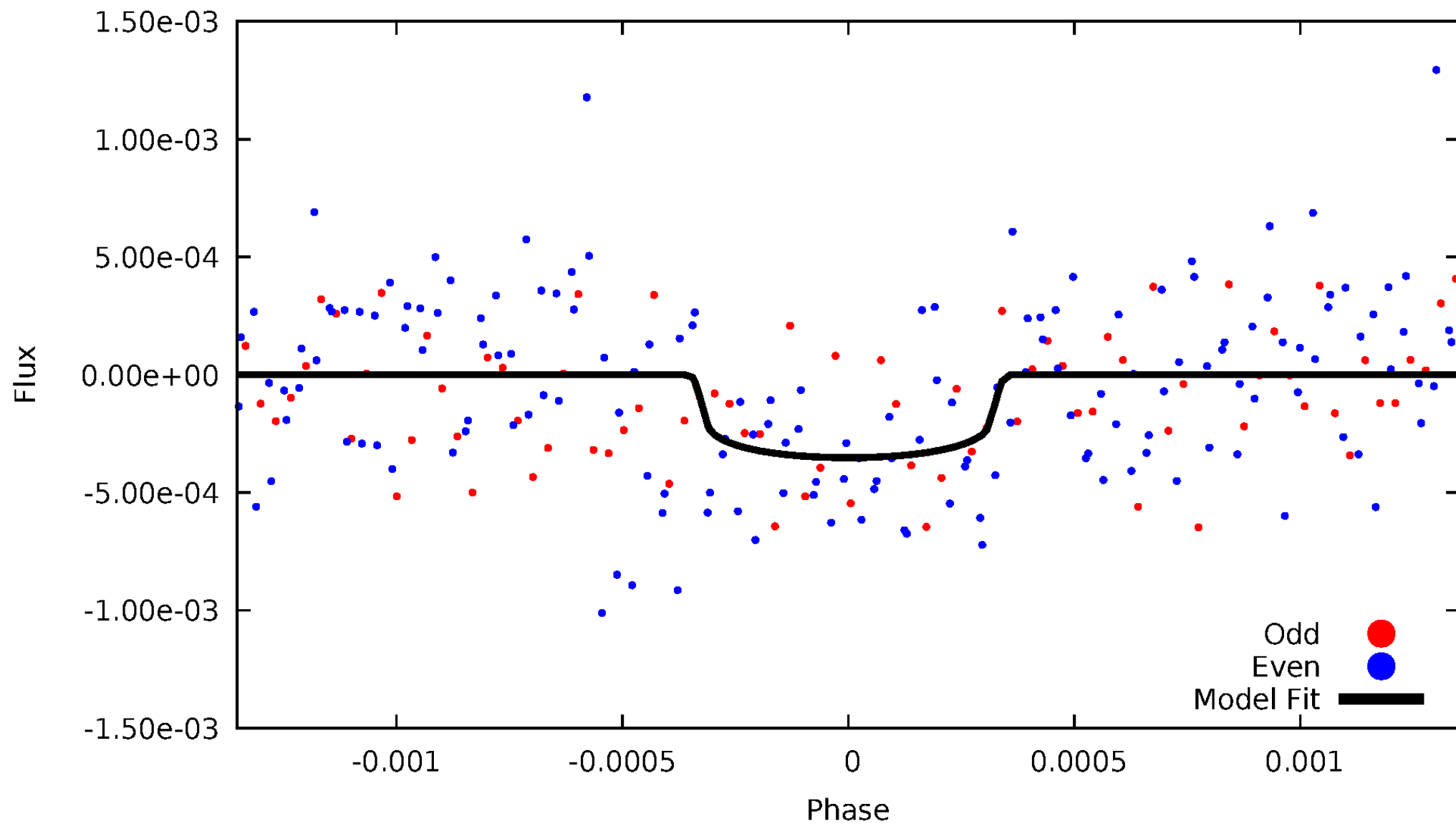


TCE 008162128-01



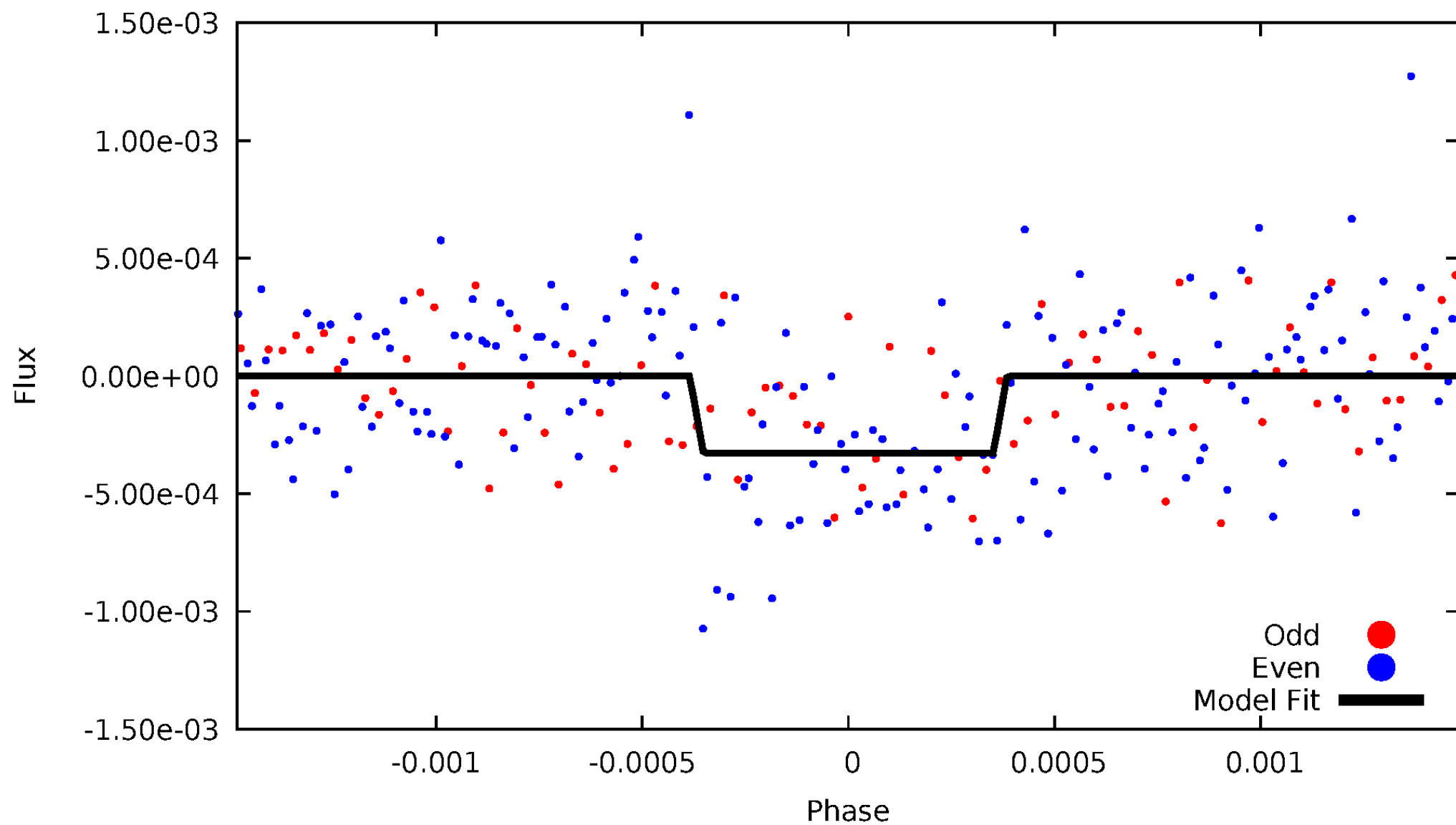
DV Odd/Even

TCE 008162128-01



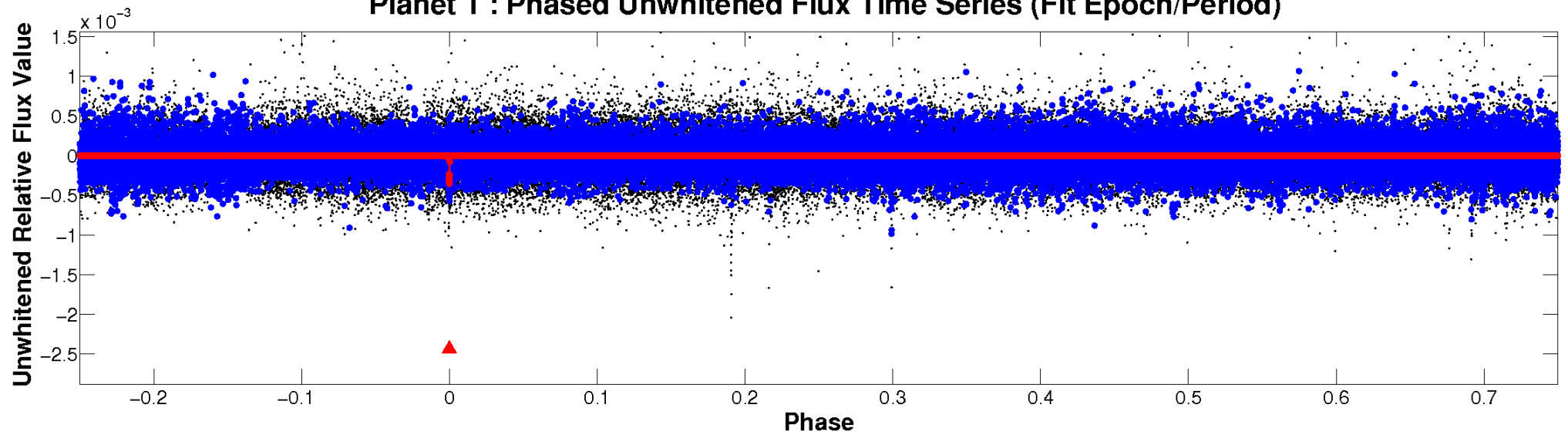
ALT Odd/Even

TCE 008162128-01

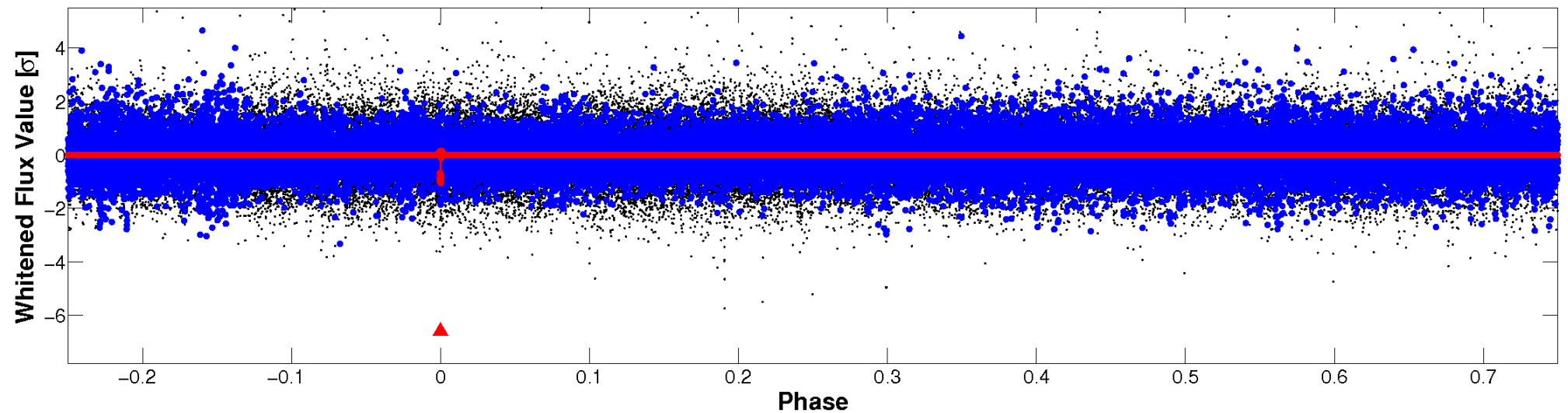


Non-Whitened Vs. Whitened Light Curve

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

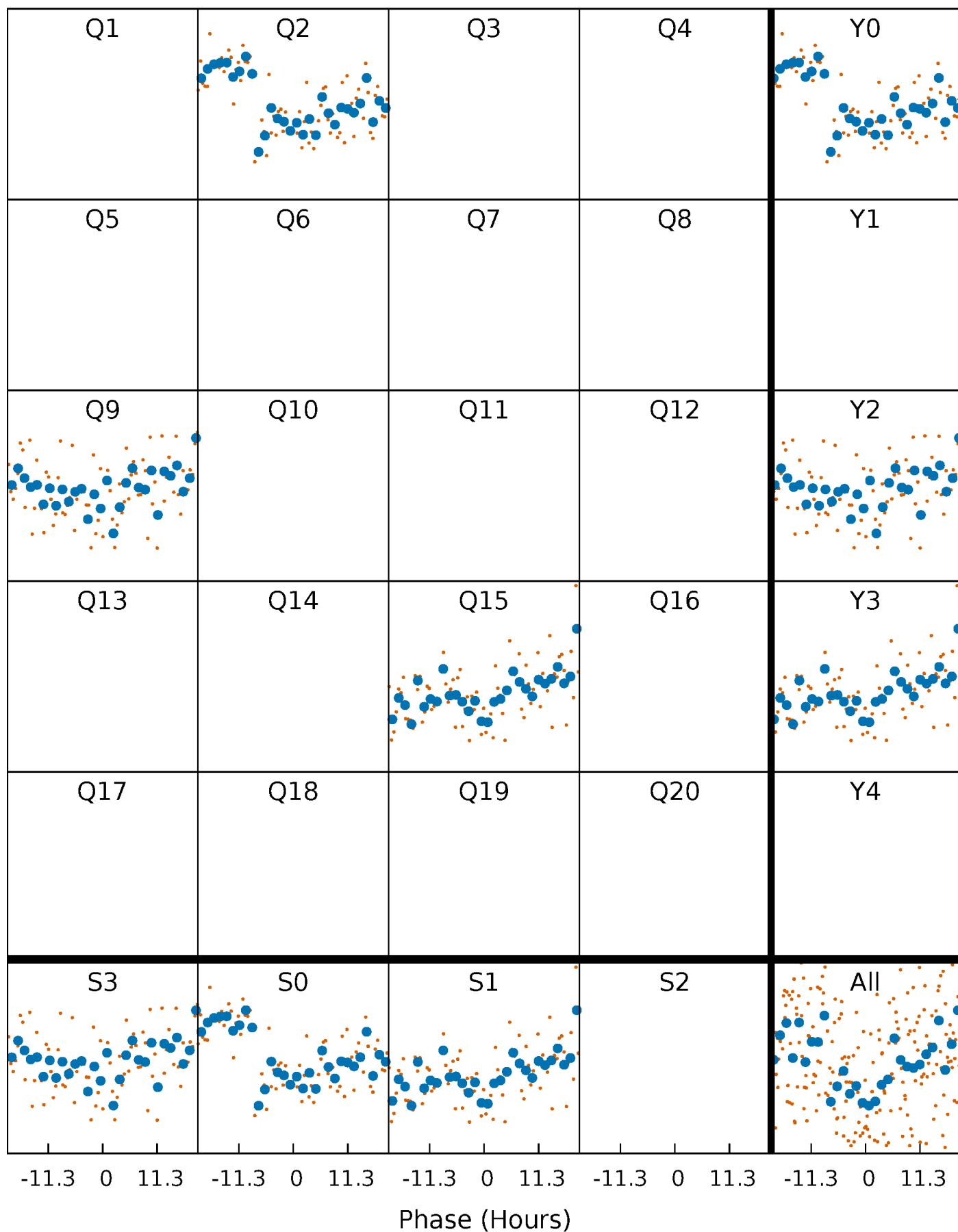


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



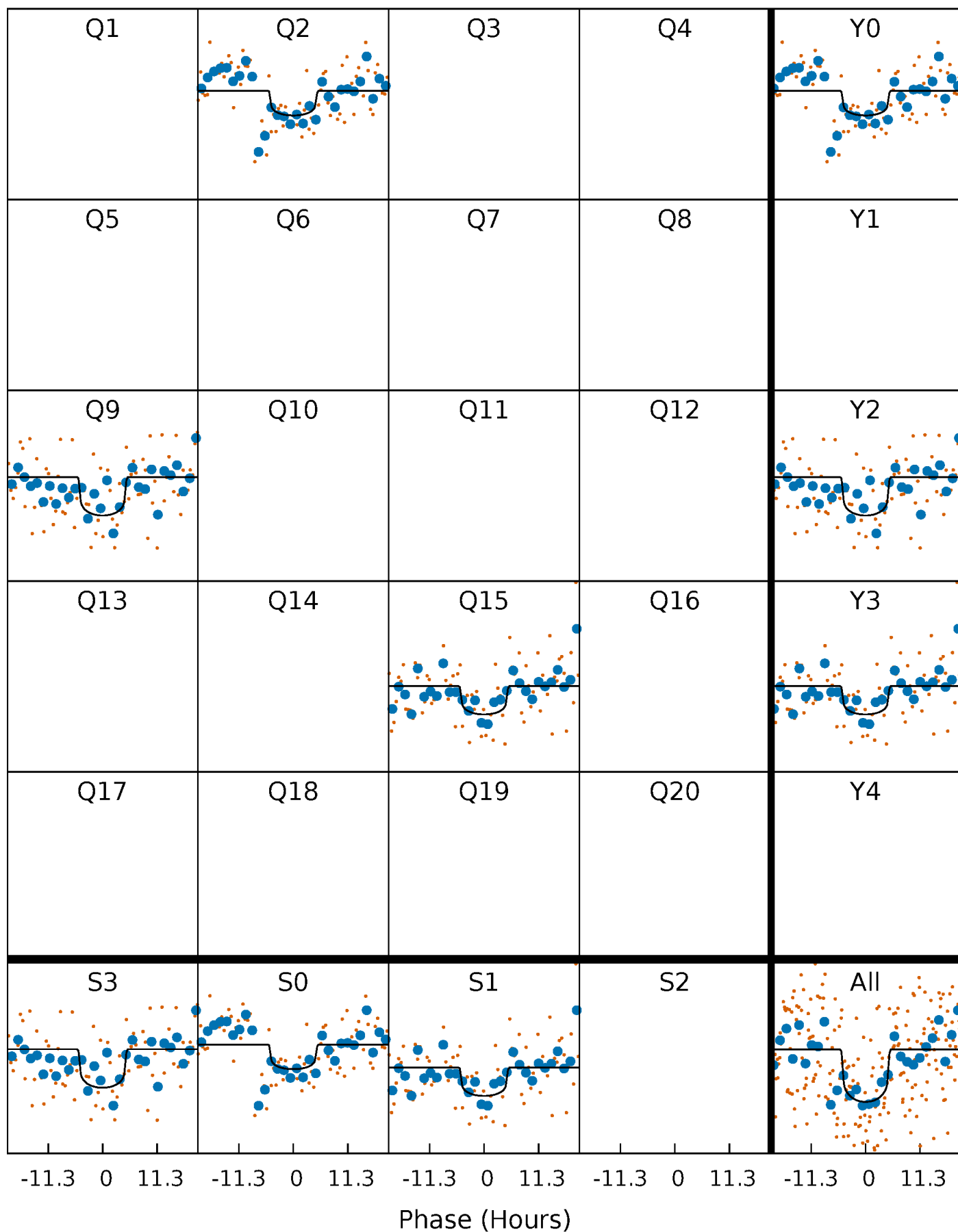
PDC Quarter-Phased Transit Curves

TCE 008162128-01 P=610.134100 Days $T_0=208.963557$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008162128-01 P=610.134100 Days $T_0=208.963557$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

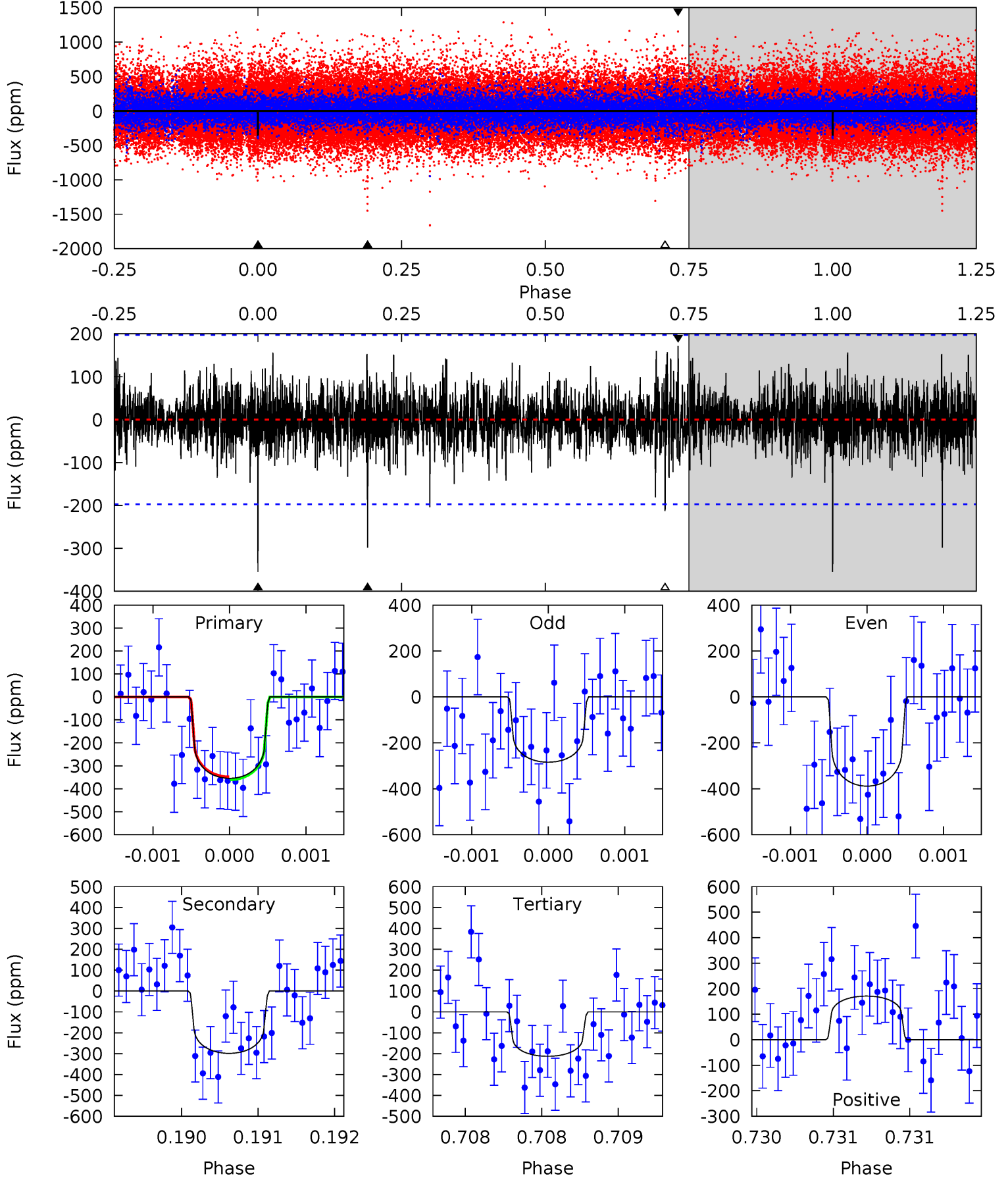
TCE 008162128-01 P=610.173346 Days $T_0=208.845778$ (BKJD)



DV Model-Shift Uniqueness Test

008162128-01, P = 610.134100 Days, E = 208.963557 Days

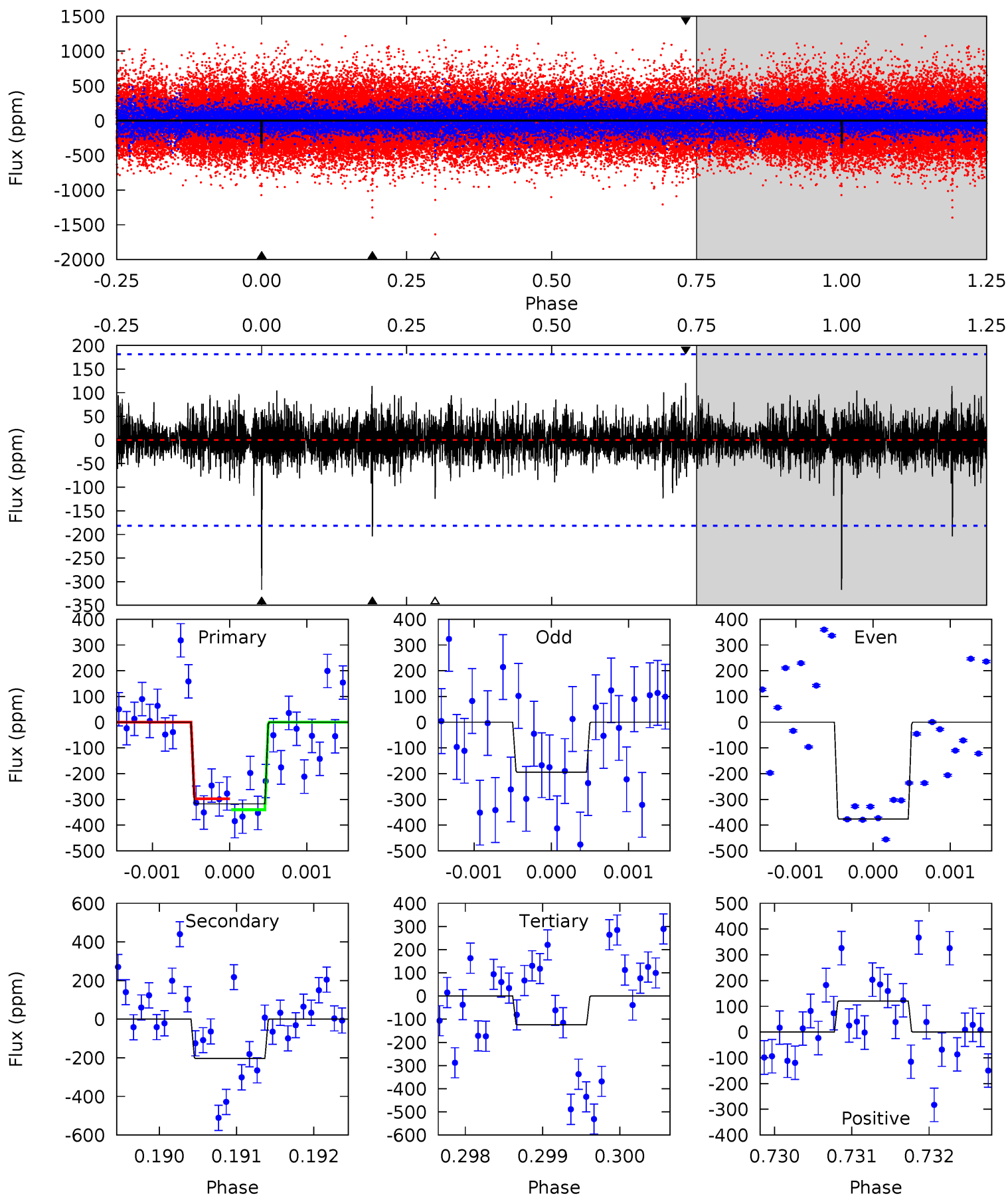
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.92	8.35	5.95	4.79	5.52	3.40	1.21	3.97	5.14	2.41	3.57	1.38	0.97	0.33	0.17



Alt Model-Shift Uniqueness Test

008162128-01, P = 610.173346 Days, E = 208.845778 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.61	6.17	3.77	3.66	5.50	3.36	0.83	5.85	5.96	2.40	2.51	2.62	1.33	0.28	0.65



Stellar Parameters For KIC 008162128

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6208^{+166}_{-203}	$4.454^{+0.052}_{-0.195}$	$-0.120^{+0.250}_{-0.300}$	$1.024^{+0.314}_{-0.105}$	$1.086^{+0.141}_{-0.141}$	$1.423^{+0.376}_{-0.716}$
	+3%/-3%	+1%/-4%	+208%/-250%	+31%/-10%	+13%/-13%	+26%/-50%
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 008162128-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-299 ± 36	$2.40^{+1.77}_{-1.55}$	328^{+23}_{-15}	5706^{+4897}_{-1213}	$59002^{+406990}_{-40088}$
Alt.	-204 ± 33	$2.36^{+1.63}_{-1.43}$	328^{+22}_{-16}	5245^{+3322}_{-964}	$40508^{+219825}_{-25894}$

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 $A_{obs} \gg 1.0$

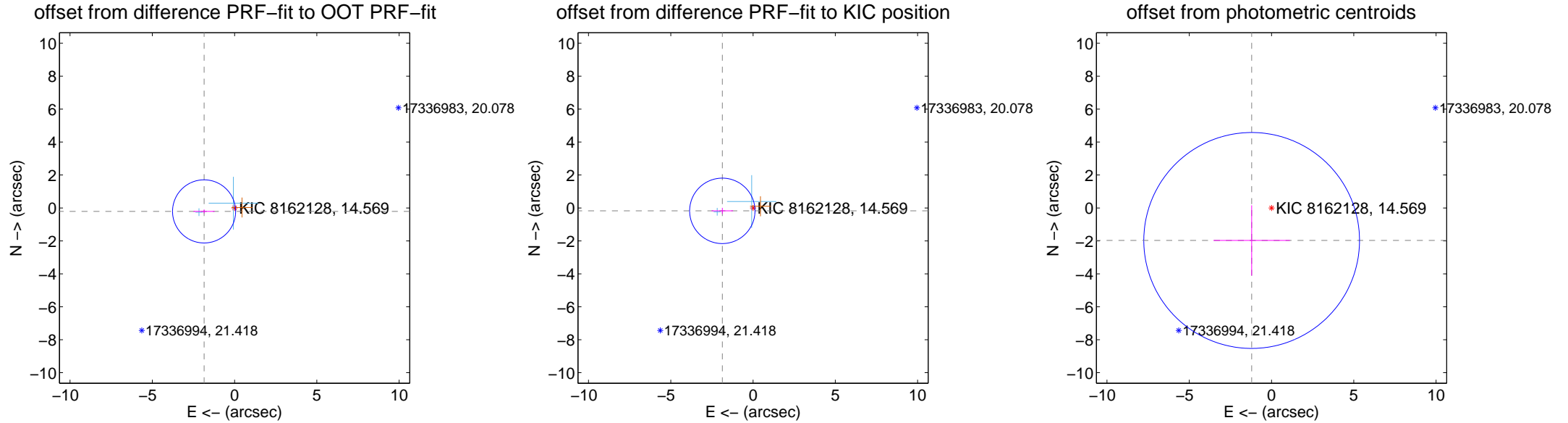
DV Centroid Data

Supplemental centroid analysis for 008162128-01. Kepler magnitude: 14.57. Transit SNR 7.10

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.865 ± 0.639	2.92	1.853 ± 0.643	-0.209 ± 0.117
PRF-fit source offset from KIC position	1.876 ± 0.662	2.83	1.868 ± 0.651	-0.176 ± 0.183
photometric centroid source offset	2.31 ± 2.19	1.06	1.21 ± 2.32	-1.97 ± 2.13



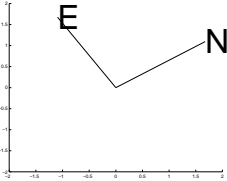
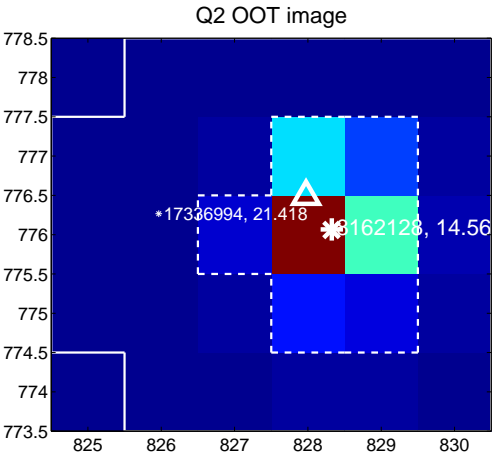
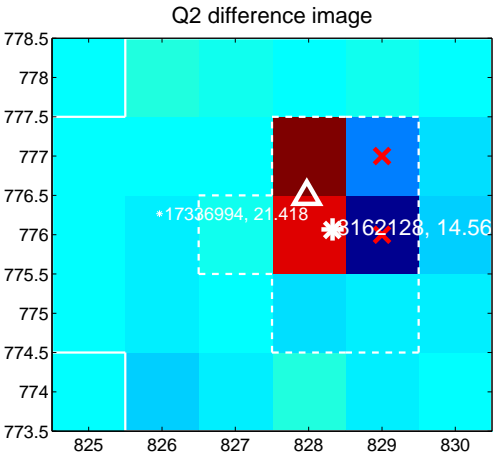
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

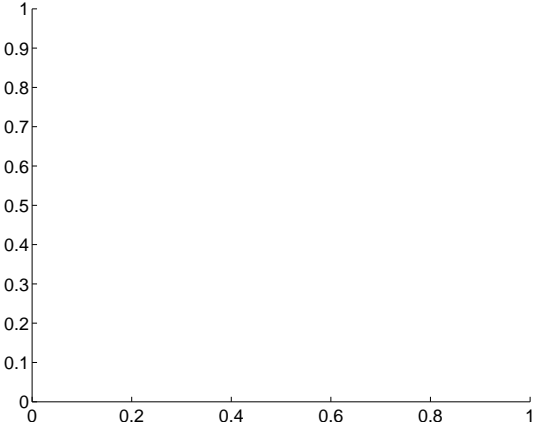
Q1 no difference image



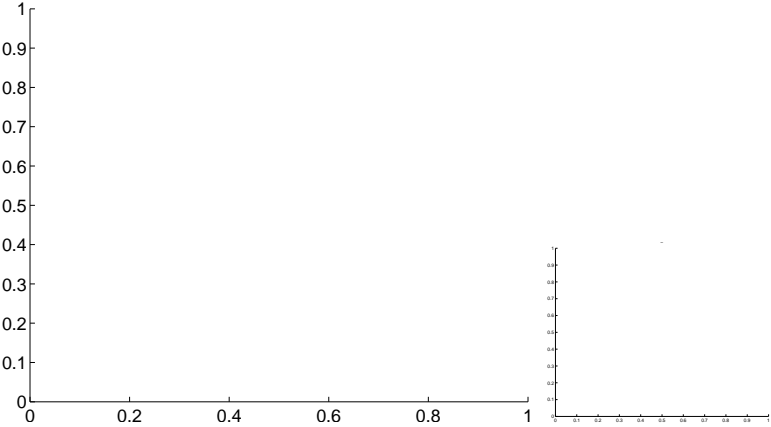
Q1 no OOT image



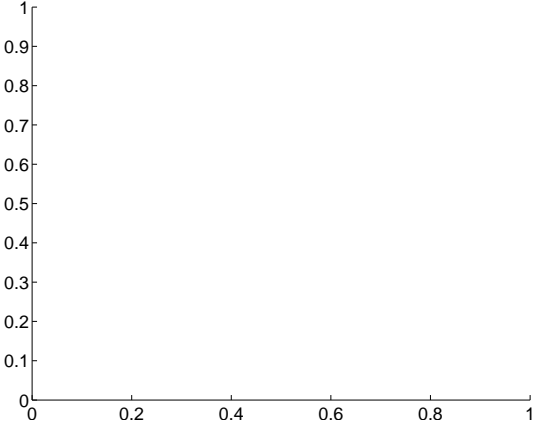
Q3 no difference image



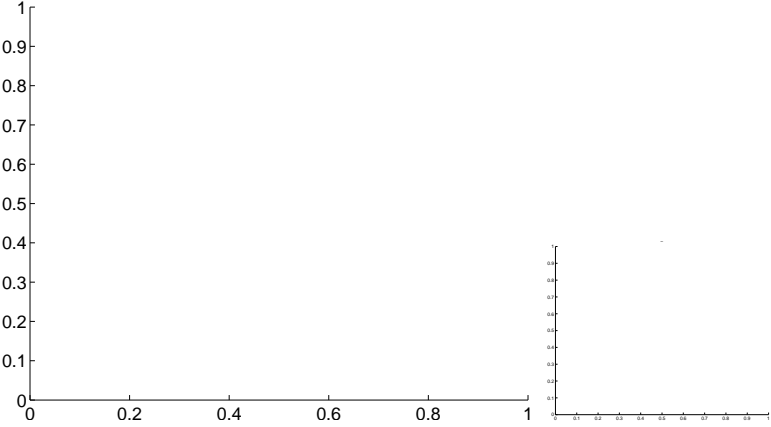
Q3 no OOT image



Q4 no difference image



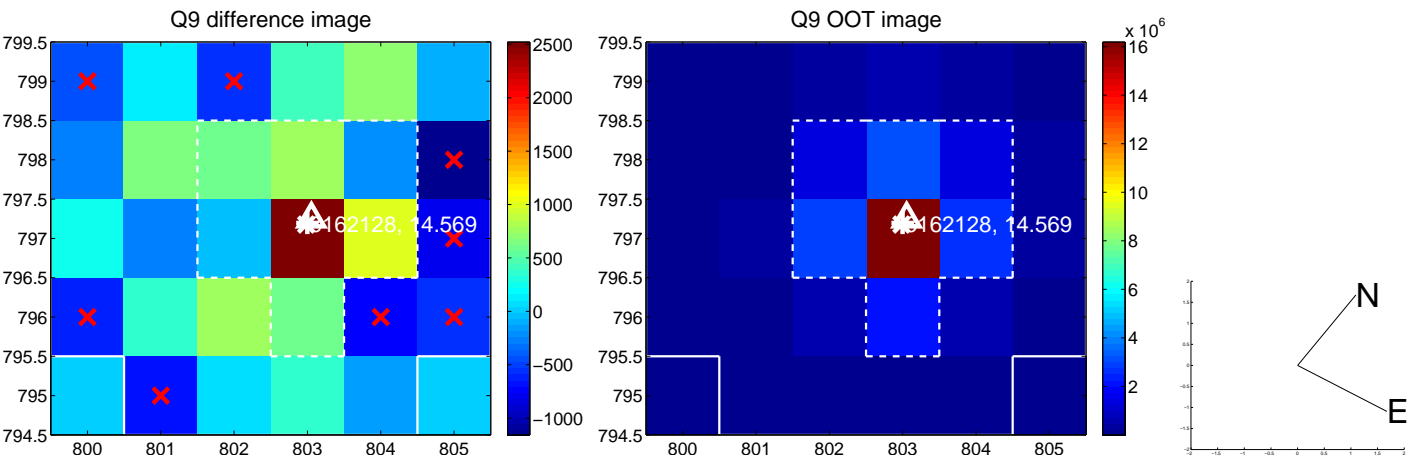
Q4 no OOT image



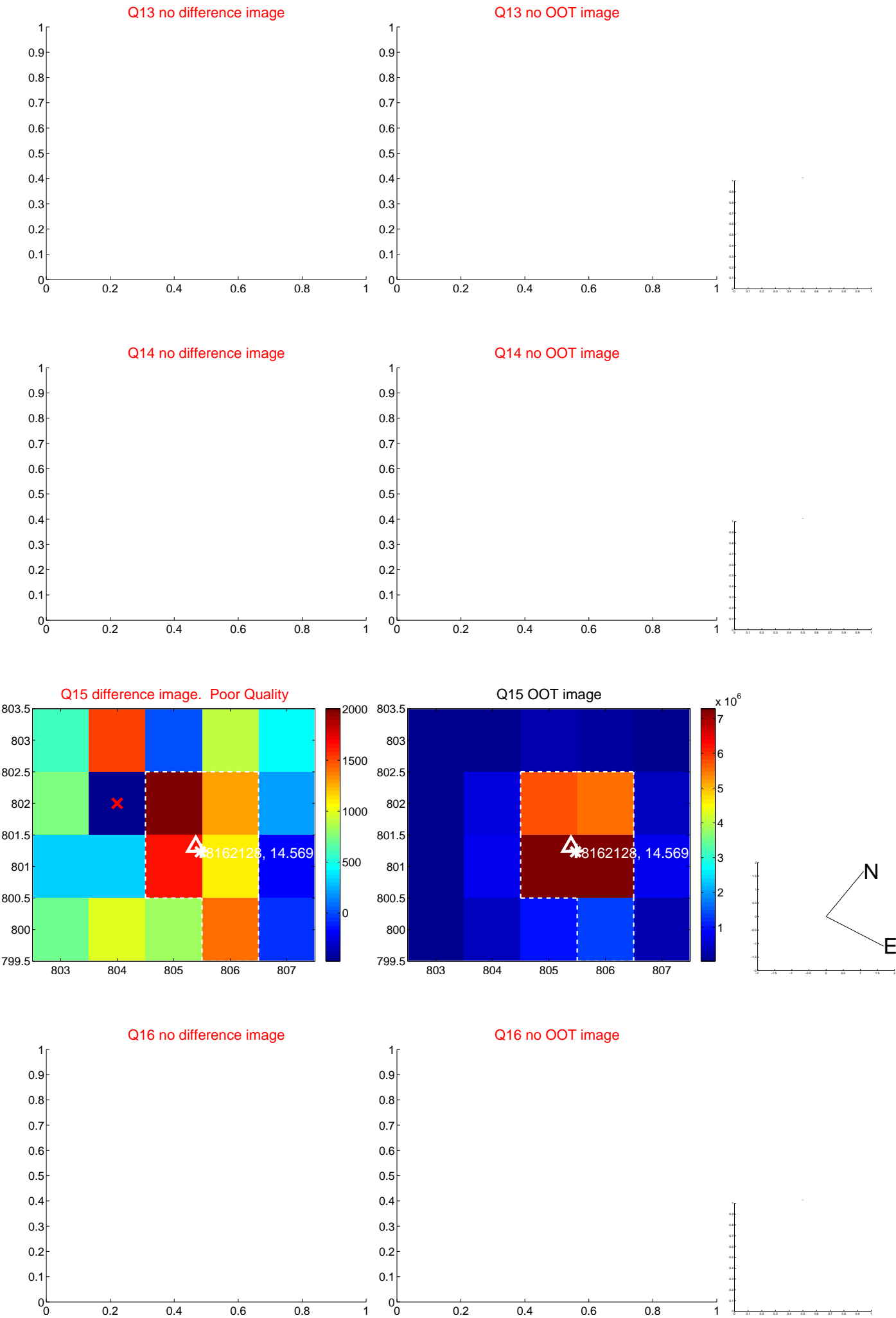
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



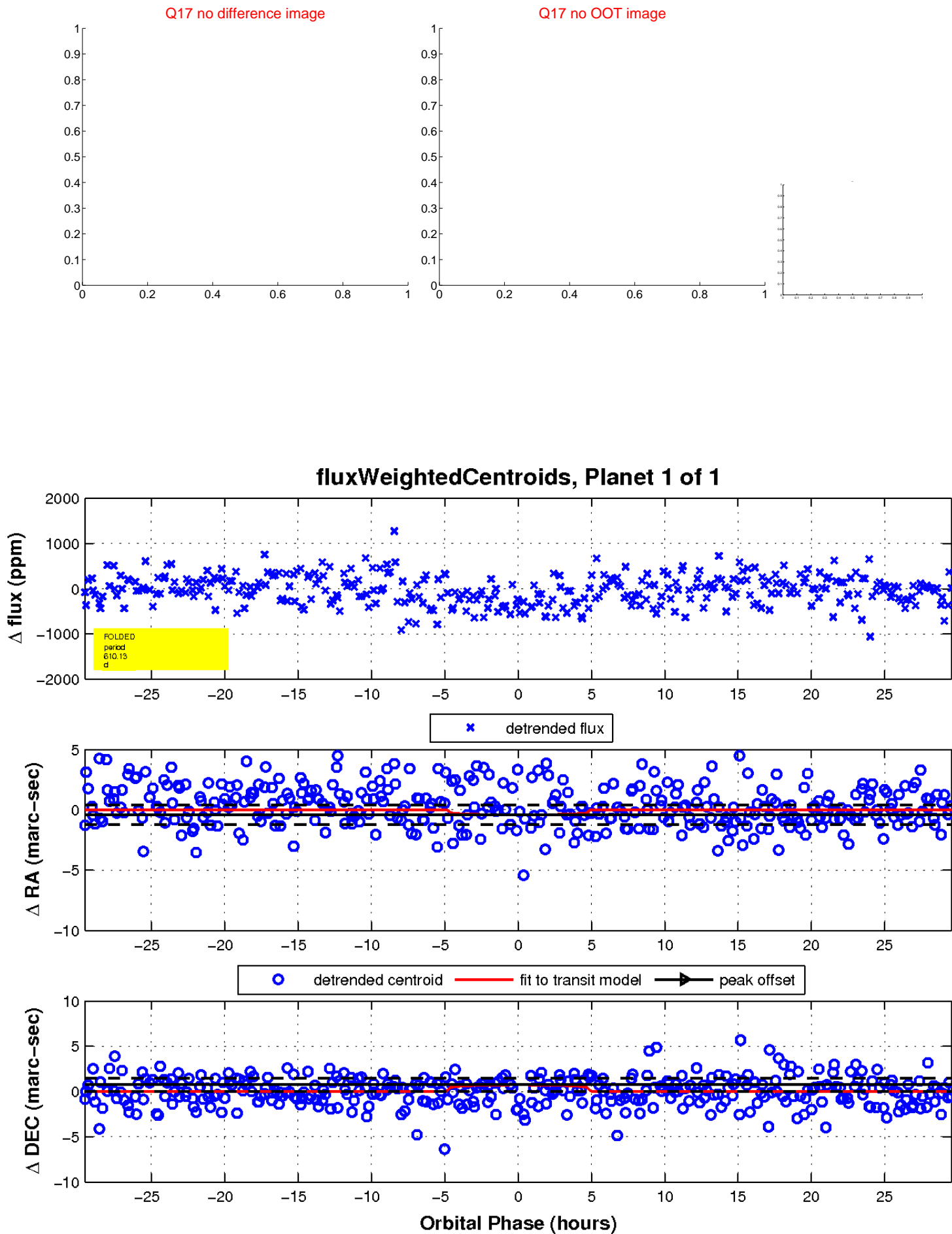
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

