

KIC 006842807

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})
006842807-01	OBS	2921.01	16.614785	137.328138	349.8	3.587	9.2	11.0	0.80	5295	2.03	31.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006842807-01	OBS	PC	0.94	0	0	0	0	NO_COMMENT

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 006842807-01

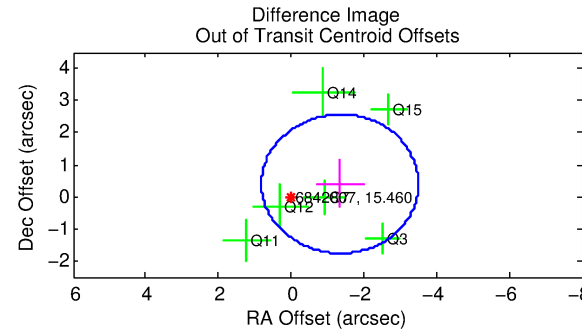
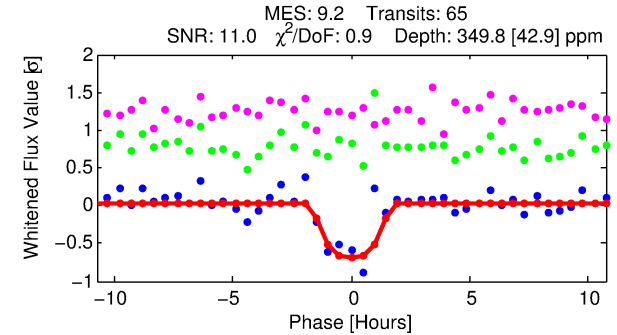
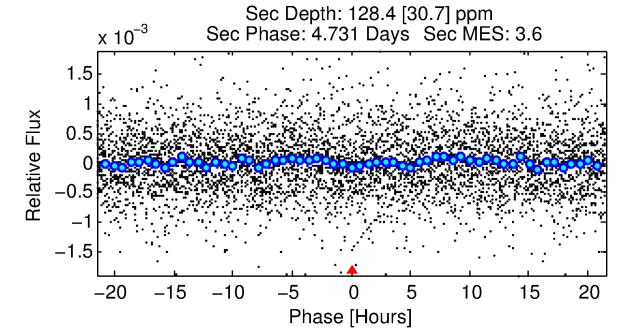
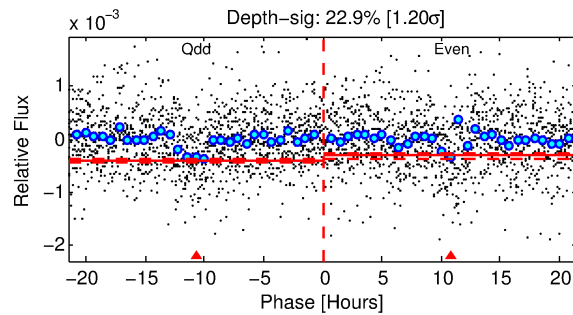
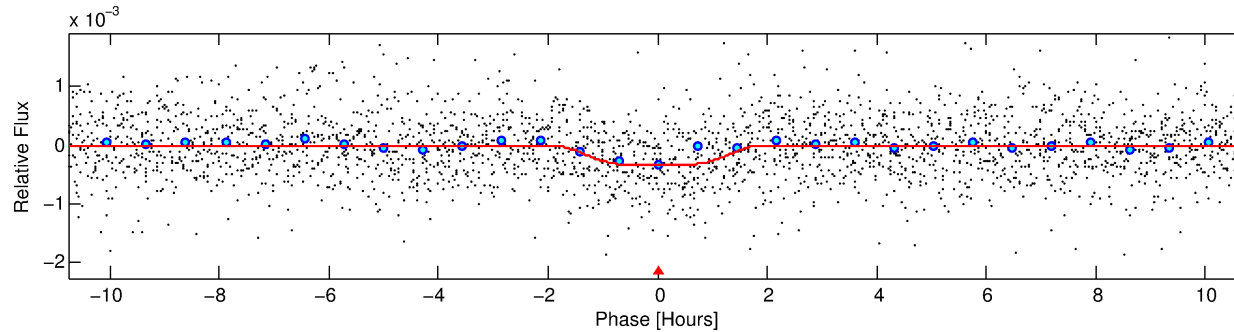
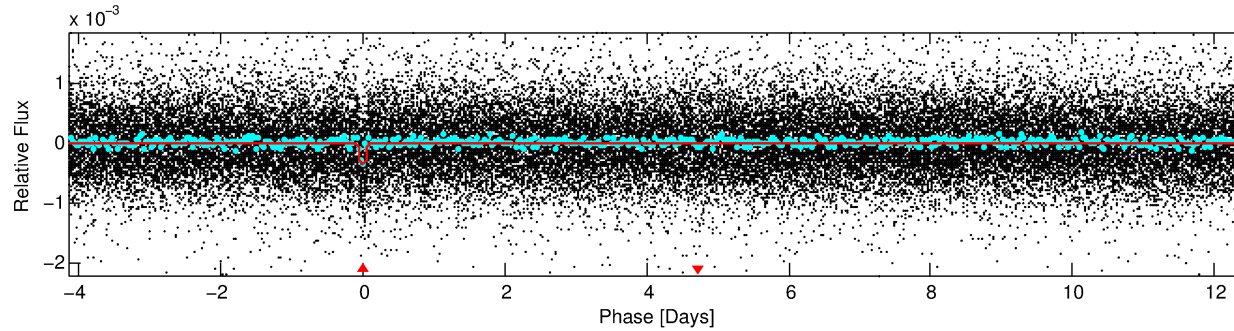
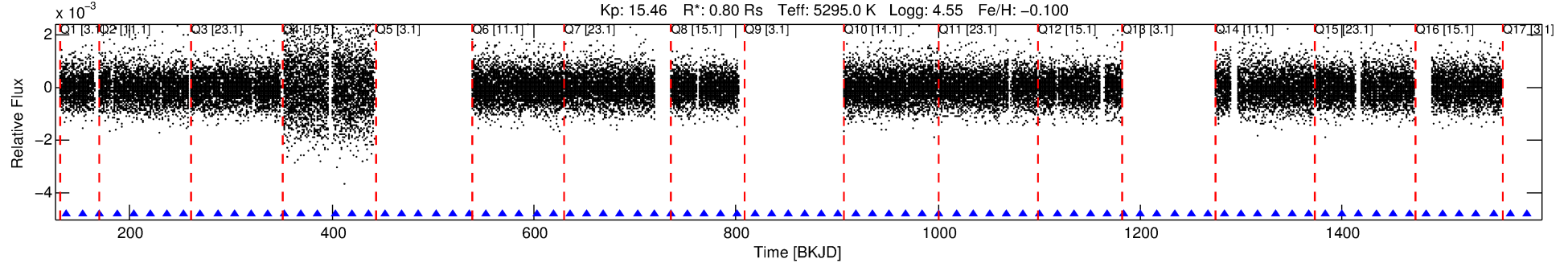
No Significant Match Found

DV One-Page Summary

KIC: 6842807 Candidate: 1 of 1 Period: 16.615 d

KOI: K02921.01 Corr: 0.867

Kp: 15.46 R*: 0.80 Rs Teff: 5295.0 K Logg: 4.55 Fe/H: -0.100



DV Fit Results:

Period = 16.61478 [0.00016] d
Epoch = 137.3281 [0.0080] BKJD
Rp/R* = 0.0232 [0.0025]
a/R* = 11.84 [3.47]
b = 0.97 [0.02]
Seff = 31.56 [6.84]
Teq = 604 [33] K
Rp = 2.03 [0.38] Re
a = 0.1195 [0.0151] AU
Ag = 246.03 [90.35] [2.71σ]
Teffp = 3701 [316] K [9.74σ]

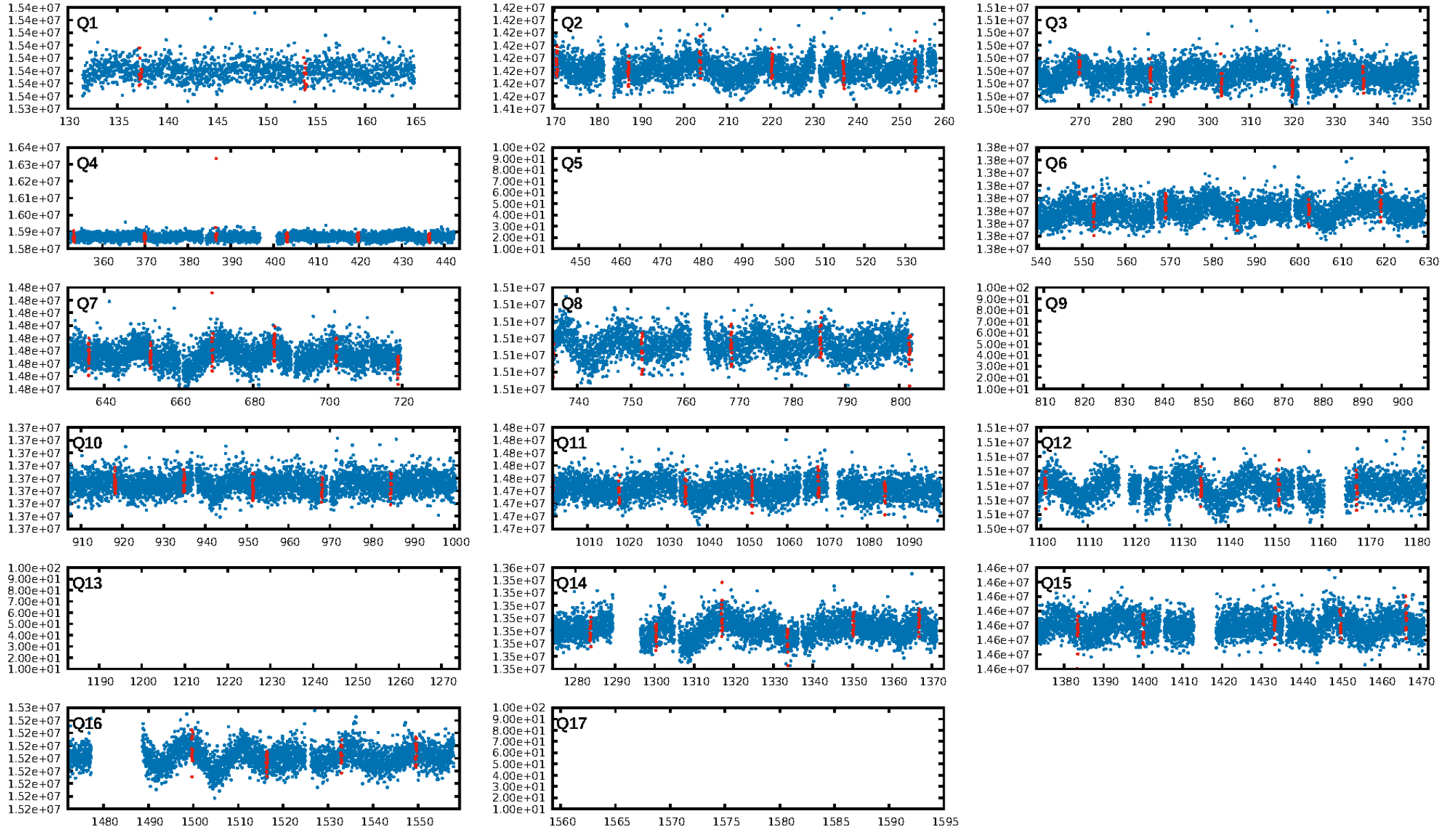
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.46e-20
RollingBand-fgt: 1.00 [63/63]
GhostDiagnostic-chr: 2.973
Centroid-sig: 7.7%
Centroid-so: 1.706 arcsec [1.44σ]
OotOffset-rm: 1.402 arcsec [1.95σ]
KicOffset-rm: 1.554 arcsec [2.17σ]
OotOffset-st: 1/4/1/0 [6]
KicOffset-st: 1/4/1/0 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 1.00 [13/13]

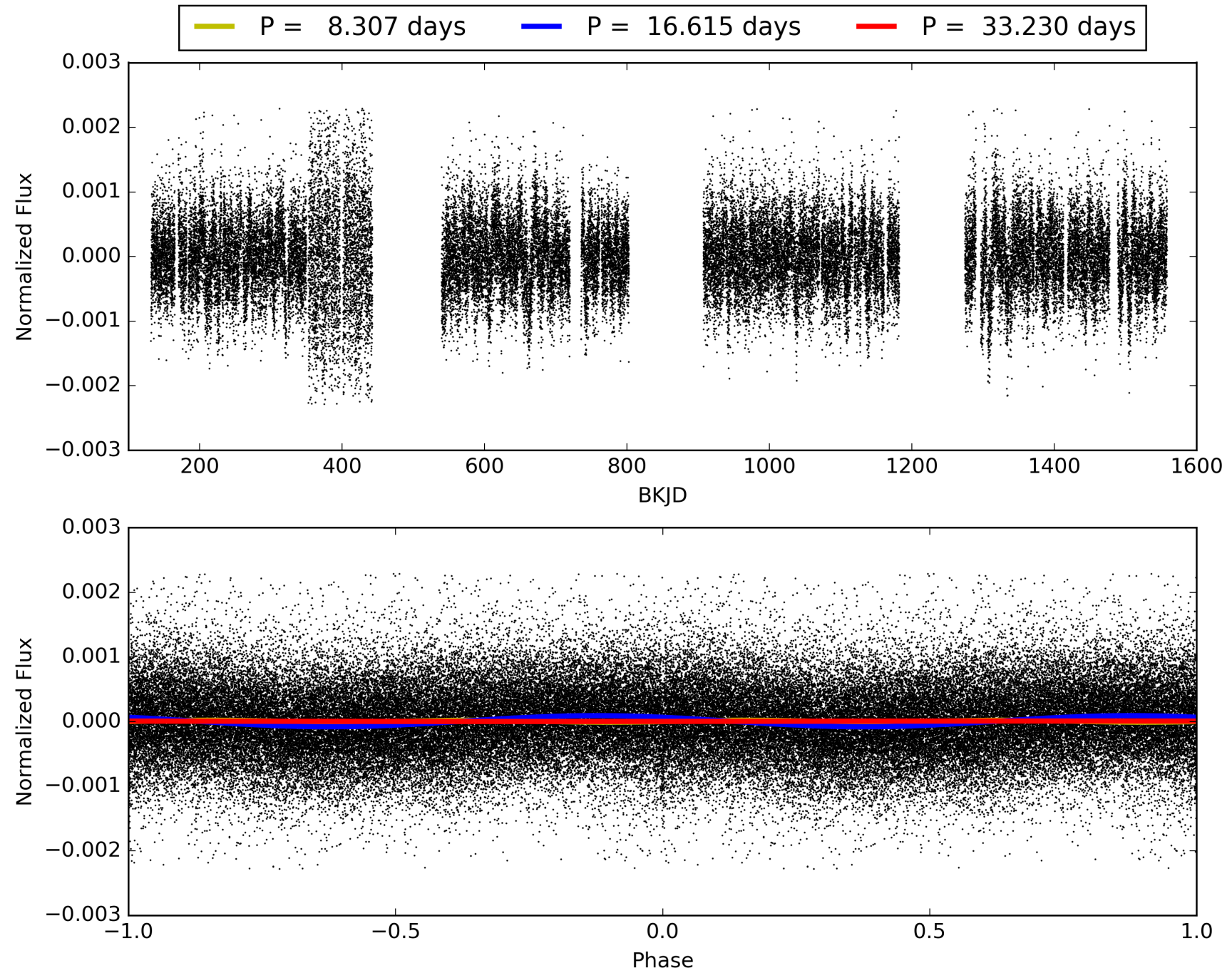
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:41:22 Z

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

TCE 006842807-01, PDC Light Curves

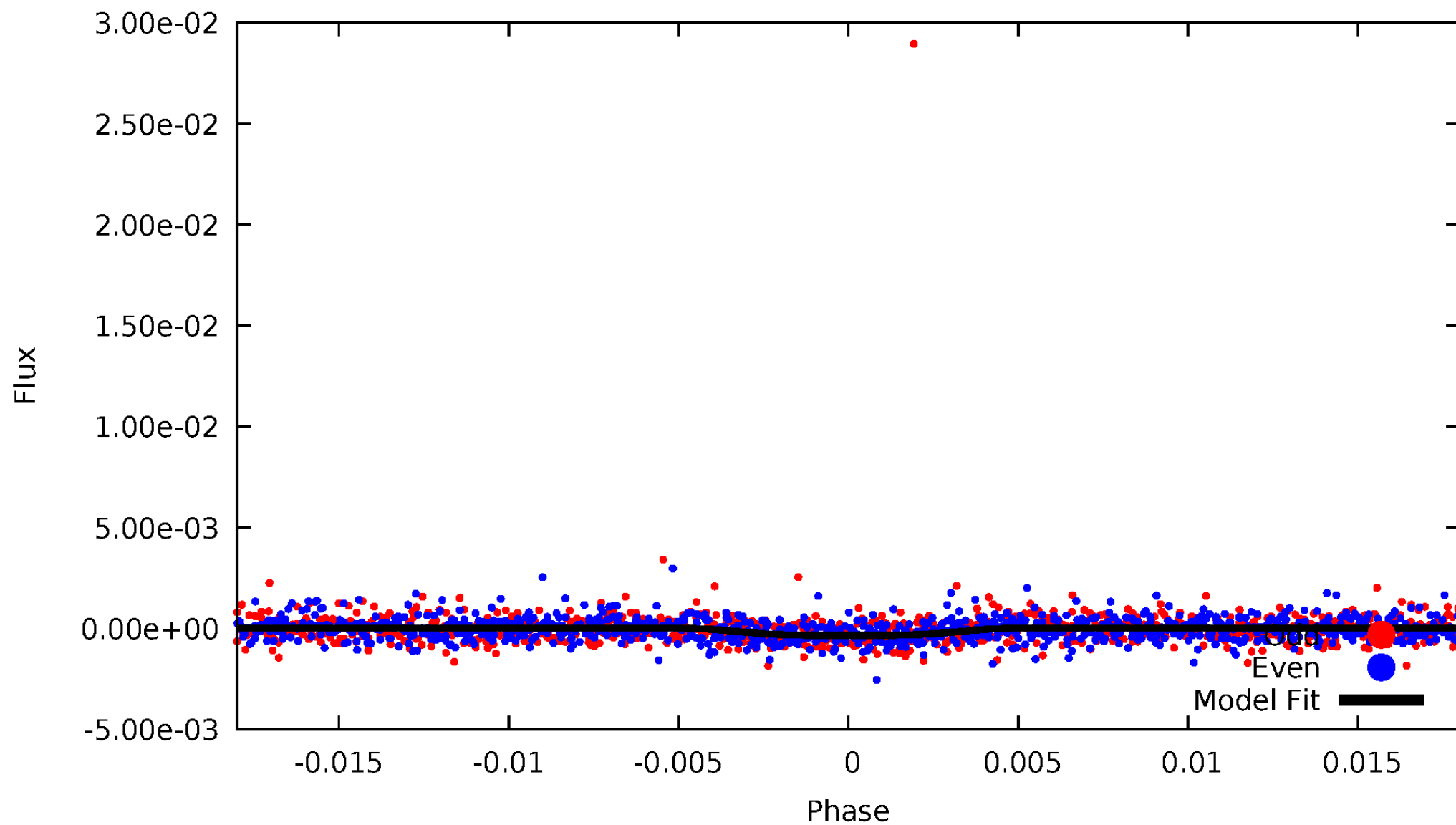


TCE 006842807-01



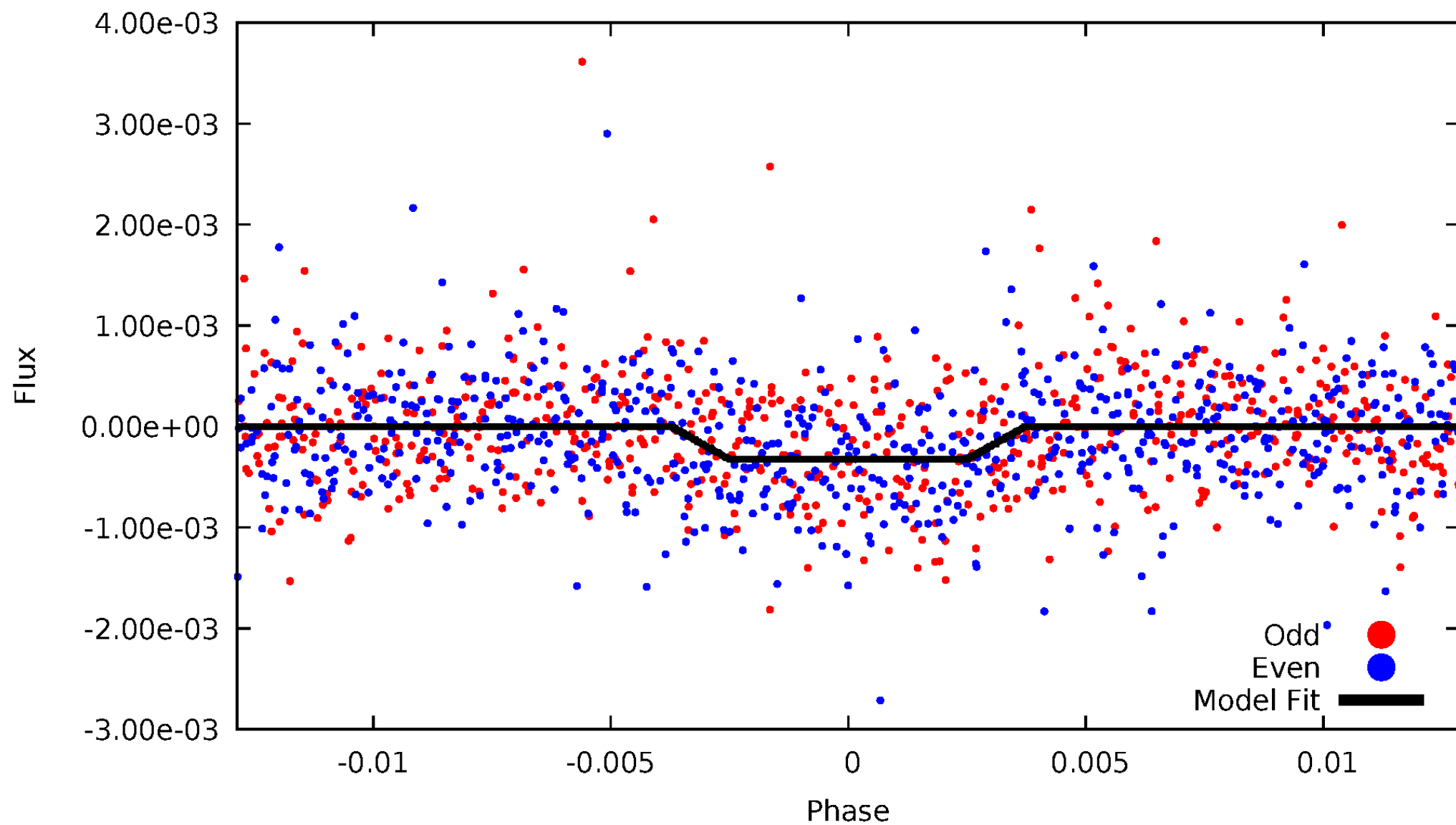
DV Odd/Even

TCE 006842807-01



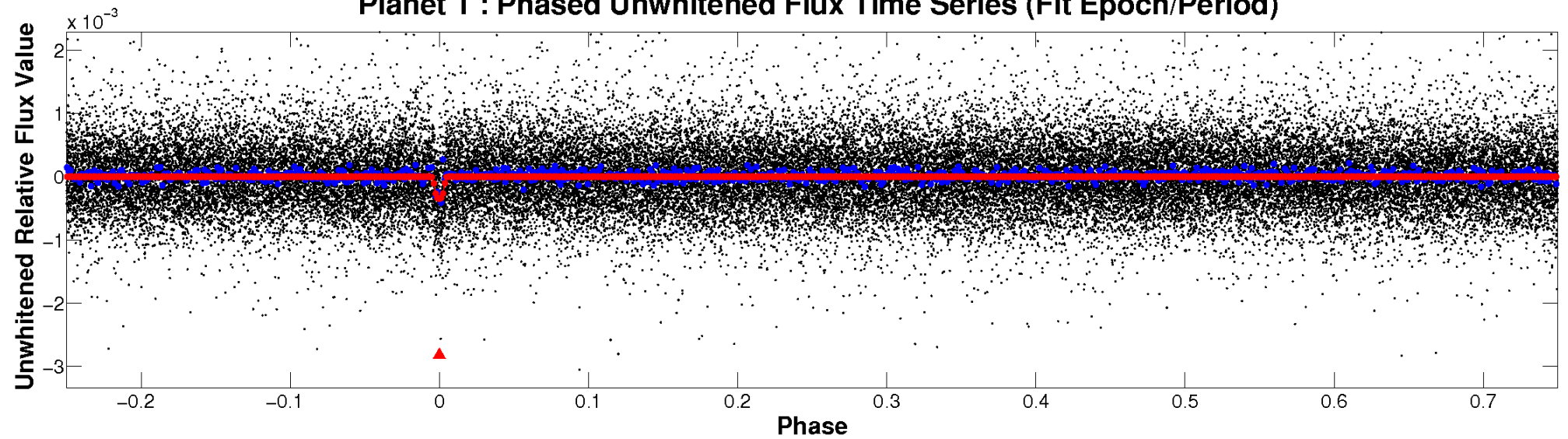
ALT Odd/Even

TCE 006842807-01

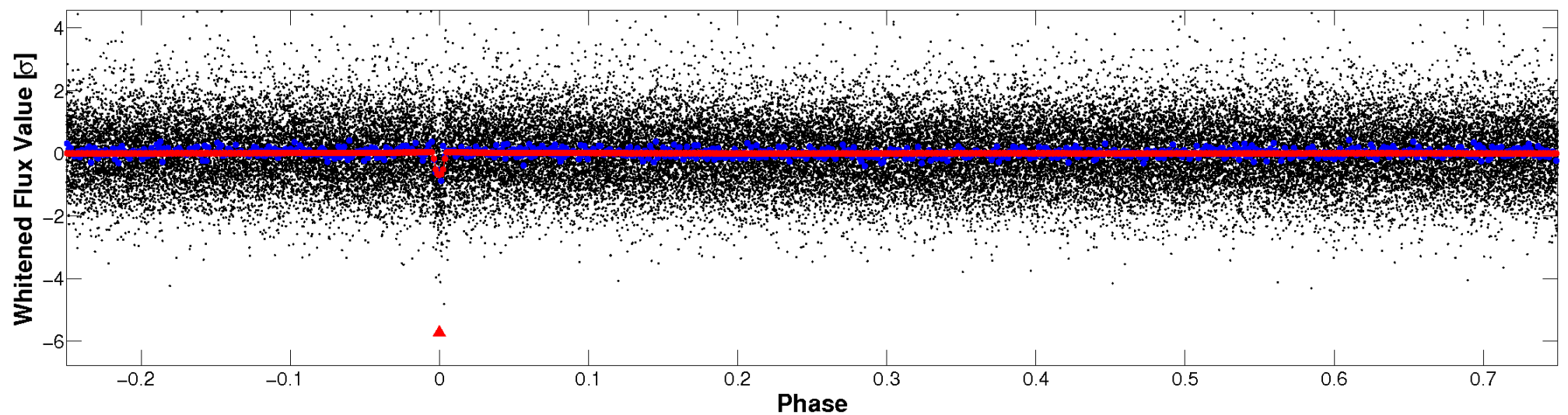


Non-Whitened Vs. Whitened Light Curve

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

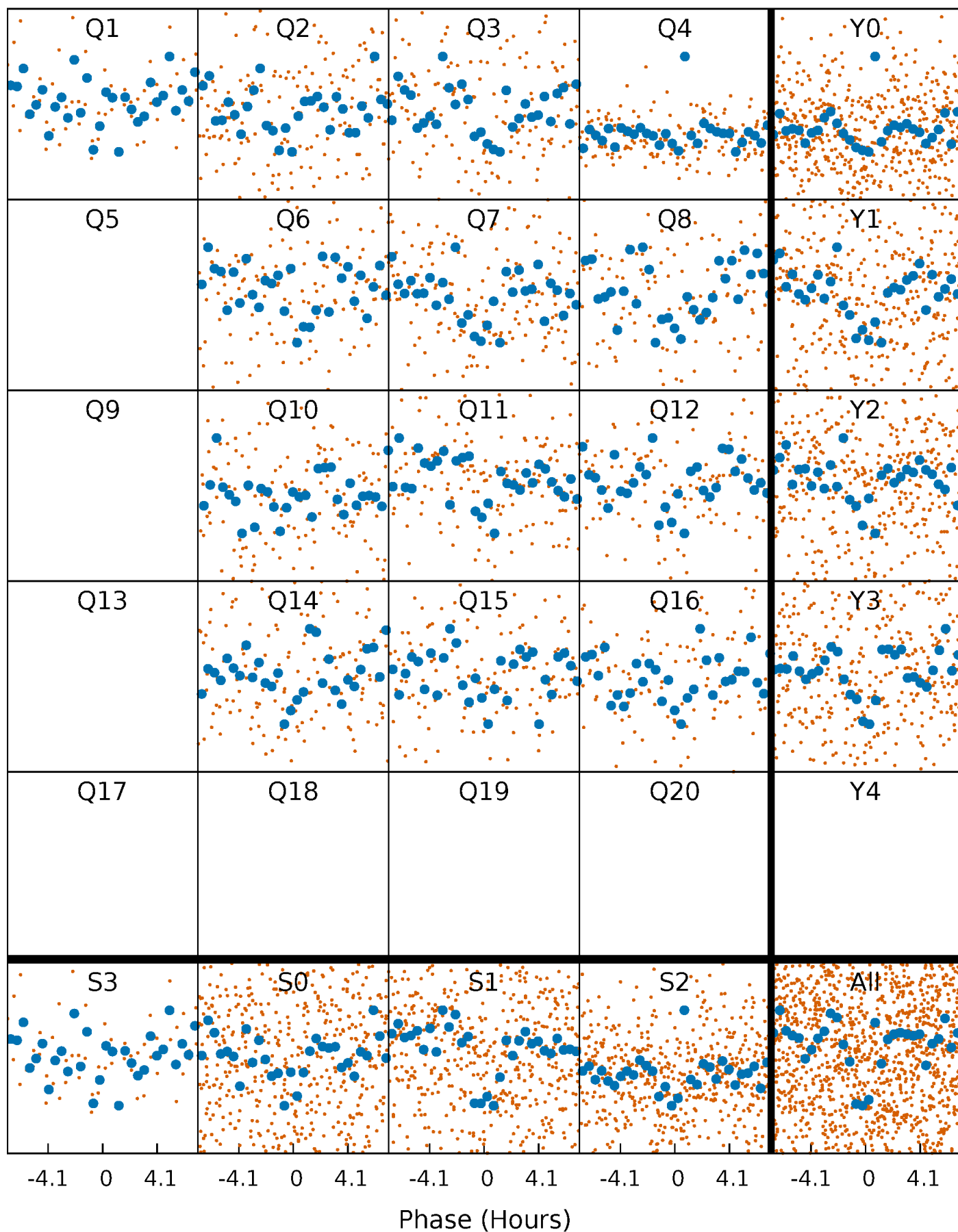


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



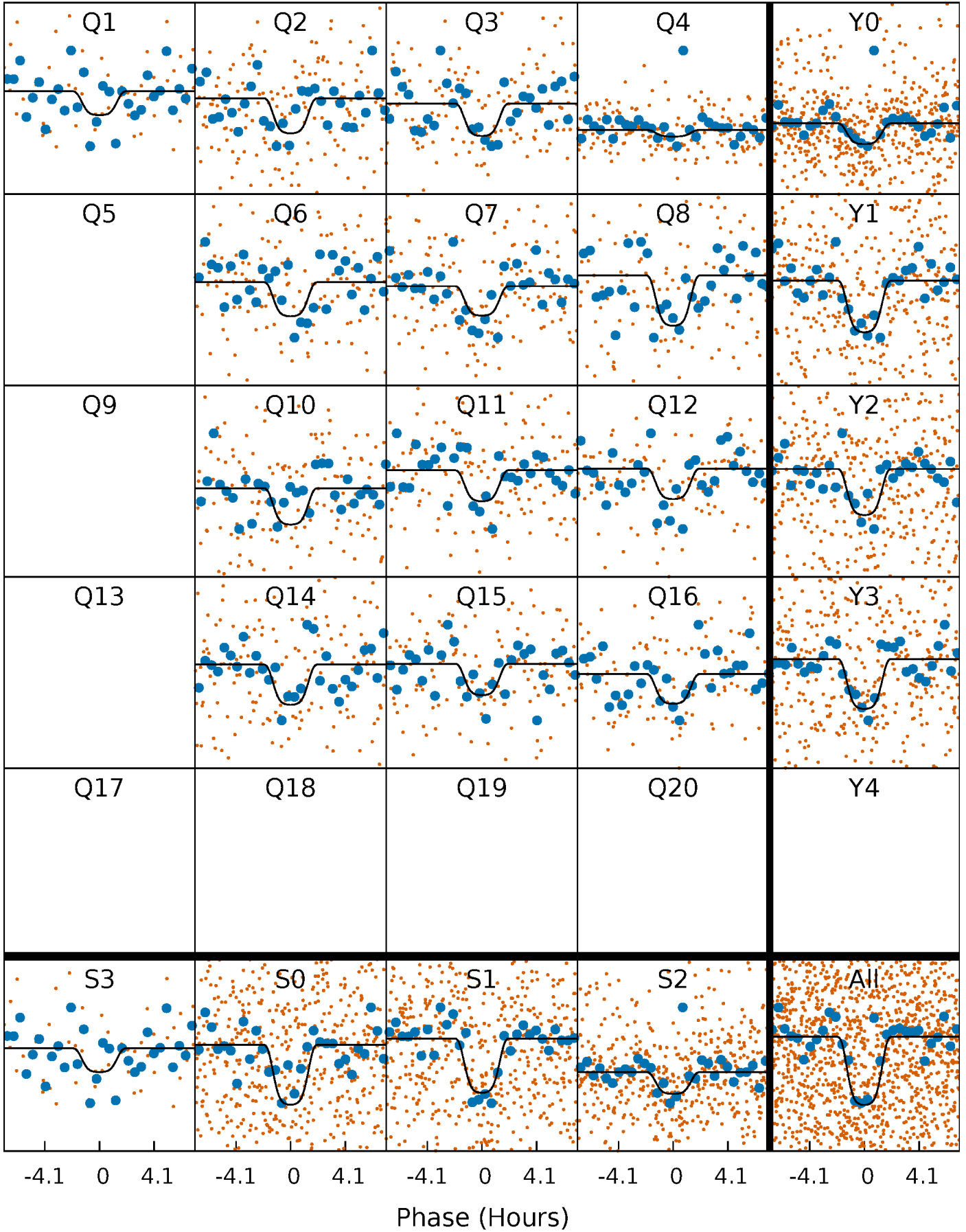
PDC Quarter-Phased Transit Curves

TCE 006842807-01 P= 16.614785 Days $T_0=137.328138$ (BKJD)



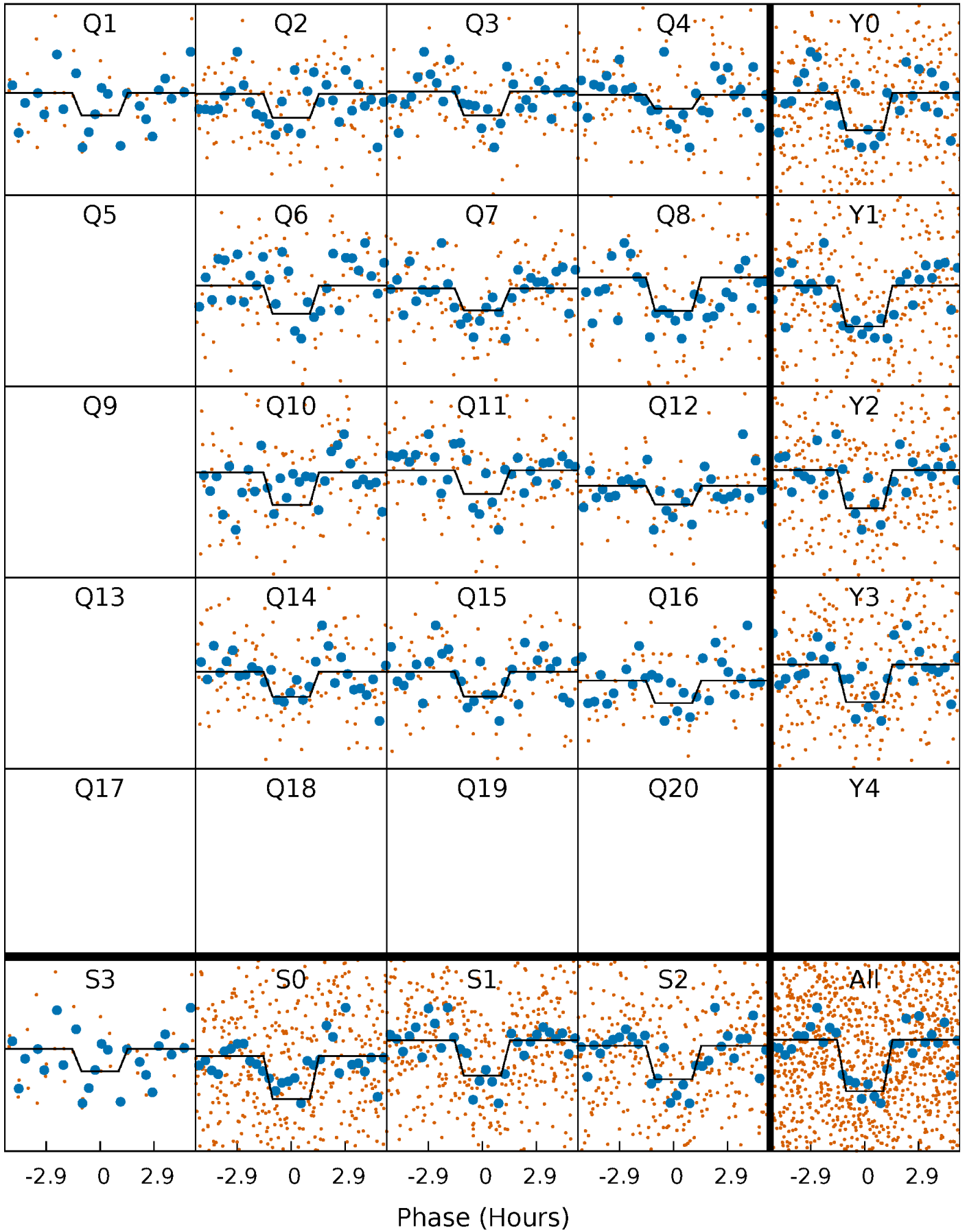
DV Quarter-Phased Transit Curves

TCE 006842807-01 P= 16.614785 Days $T_0=137.328138$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

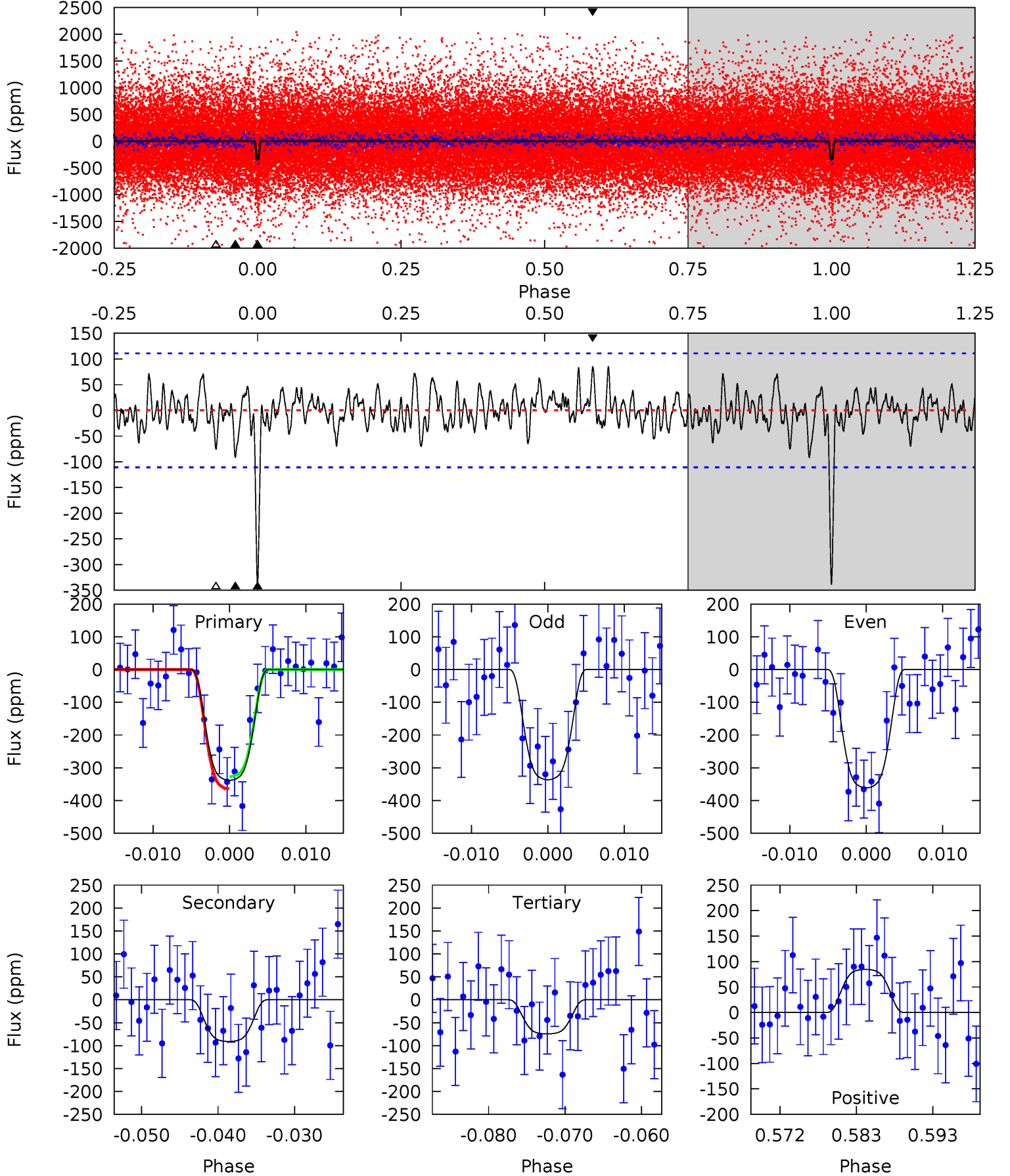
TCE 006842807-01 P= 16.614548 Days $T_0=137.334107$ (BKJD)



DV Model-Shift Uniqueness Test

006842807-01, $P = 16.614785$ Days, $E = 120.713353$ Days

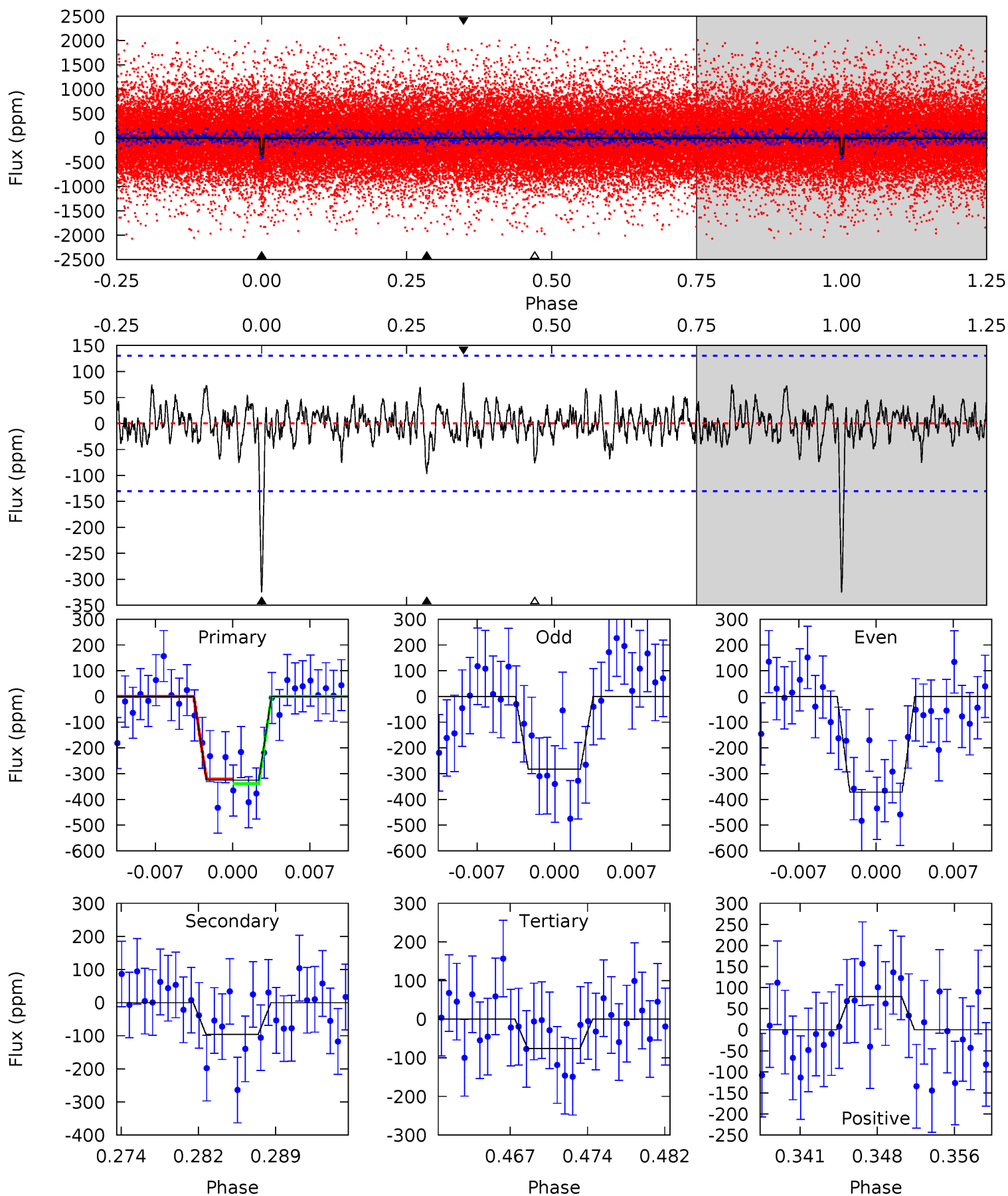
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	4.13	3.38	3.84	5.03	2.57	1.25	12.0	11.5	0.75	0.29	0.56	0.80	0.20	0.85



Alt Model-Shift Uniqueness Test

006842807-01, P = 16.614548 Days, E = 120.719559 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	3.74	2.97	3.05	5.08	2.68	1.00	9.70	9.61	0.78	0.69	1.74	1.04	0.19	0.35



Stellar Parameters For KIC 006842807

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5295^{+159}_{-143}	$4.548^{+0.052}_{-0.097}$	$-0.100^{+0.300}_{-0.300}$	$0.800^{+0.122}_{-0.082}$	$0.825^{+0.087}_{-0.078}$	$2.266^{+0.509}_{-0.712}$
	+3%/-3%	+1%/-2%	+300%/-300%	+15%/-10%	+11%/-9%	+22%/-31%
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 006842807-01 / KOI 2921.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-91 ± 22	$2.06^{+0.27}_{-0.24}$	853^{+37}_{-34}	3757^{+232}_{-204}	166^{+69}_{-47}
Alt.	-96 ± 26	$1.60^{+0.27}_{-0.23}$	853^{+39}_{-35}	4127^{+325}_{-290}	285^{+136}_{-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

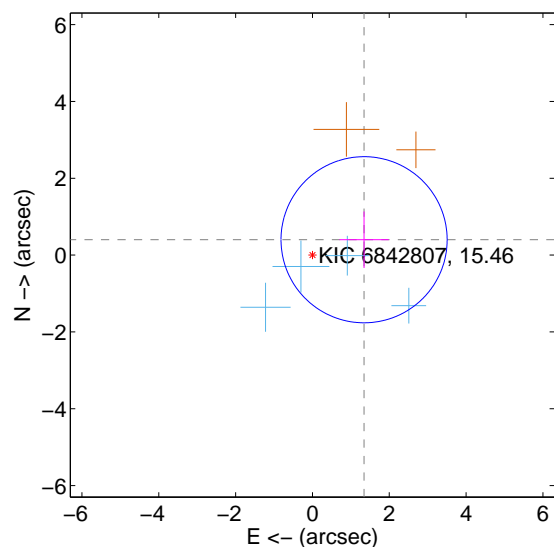
Supplemental centroid analysis for 006842807-01. Kepler magnitude: 15.46. Transit SNR 10.96

There are 4 quarters with good PRF difference image offsets

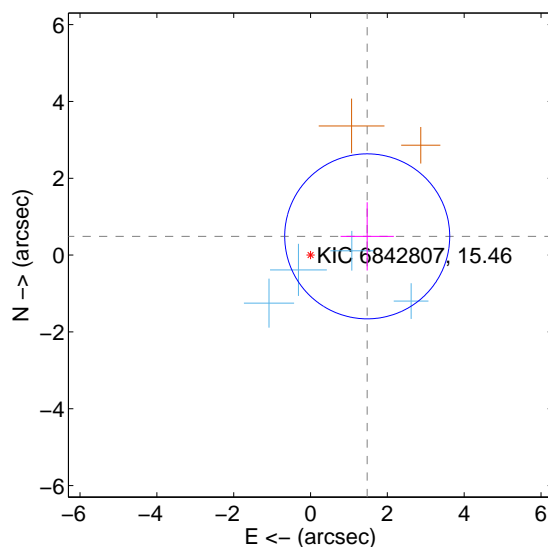
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.402 ± 0.721	1.95	-1.344 ± 0.642	0.400 ± 0.734
PRF-fit source offset from KIC position	1.554 ± 0.716	2.17	-1.475 ± 0.694	0.488 ± 0.889
photometric centroid source offset	1.71 ± 1.18	1.44	1.60 ± 1.17	-0.59 ± 1.26

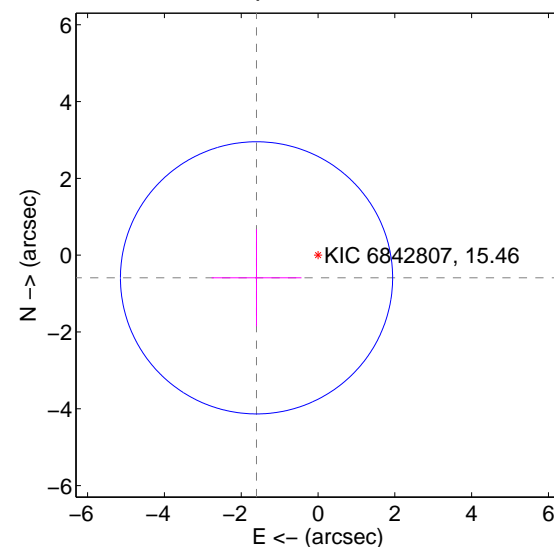
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

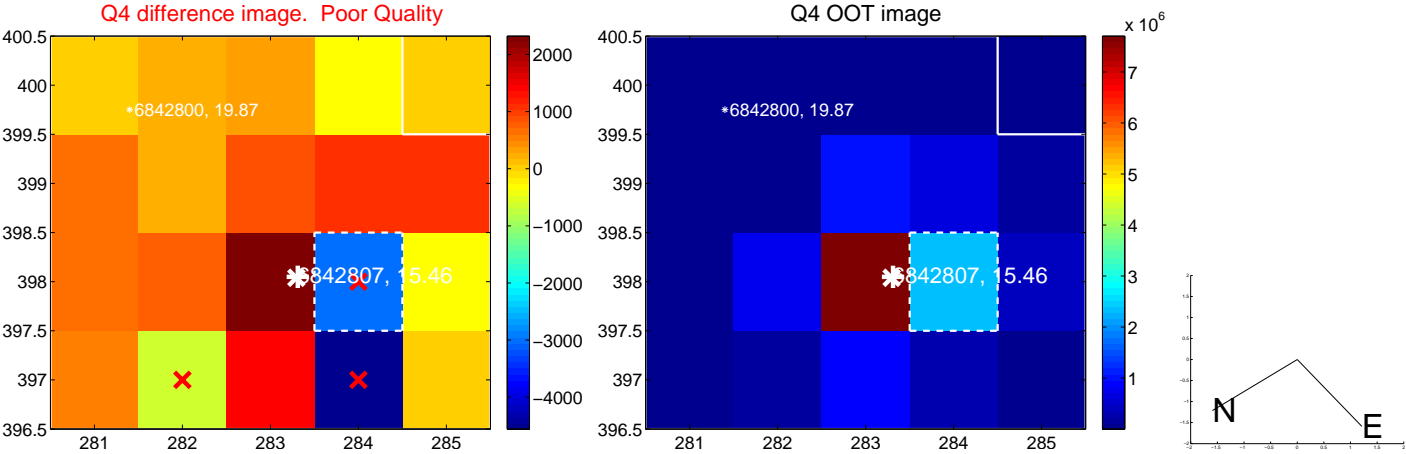
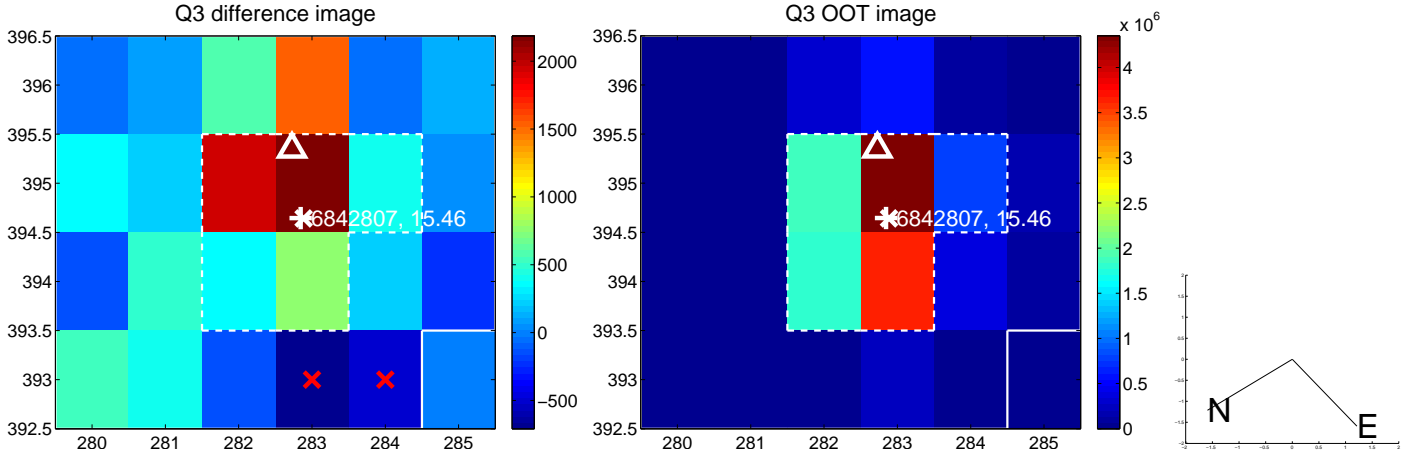
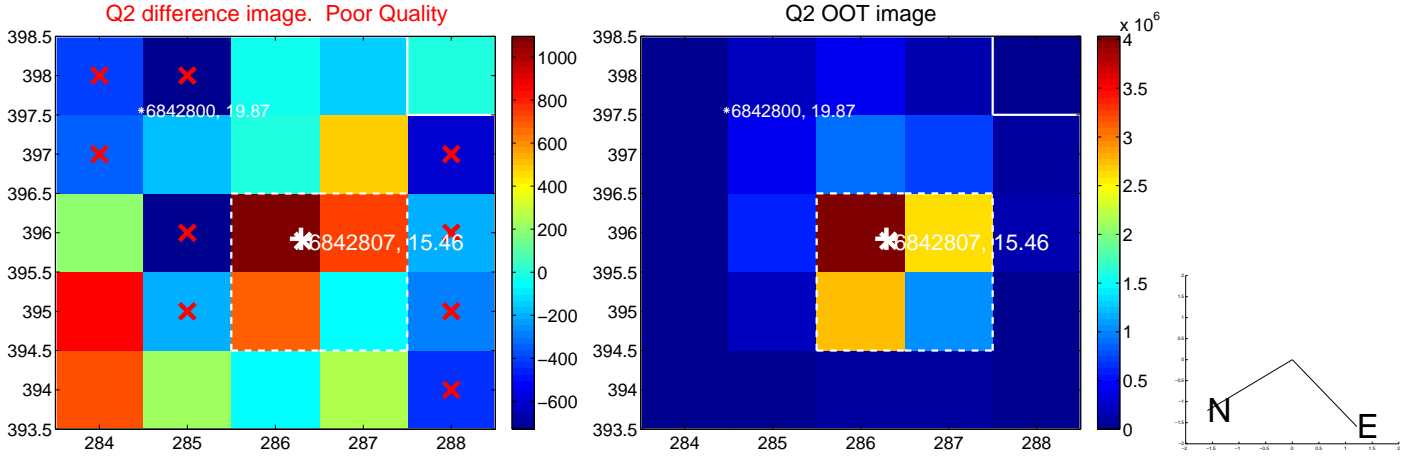
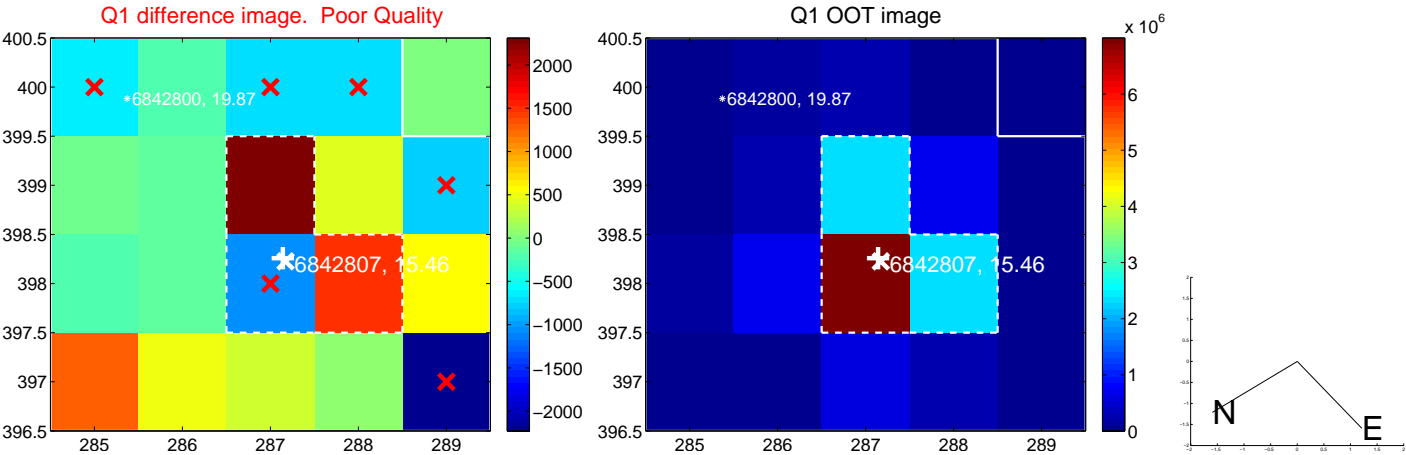


offset from photometric centroids

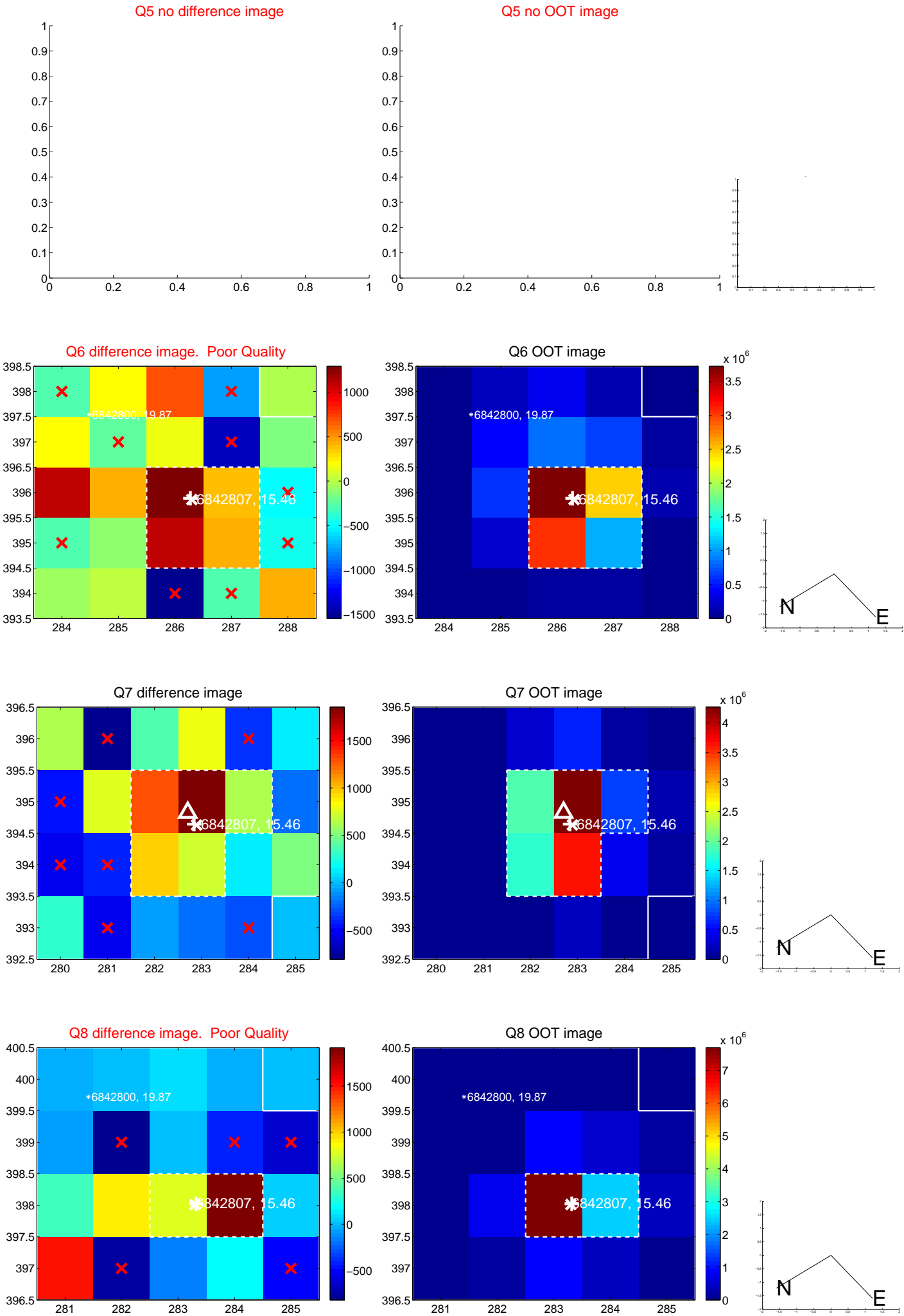


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

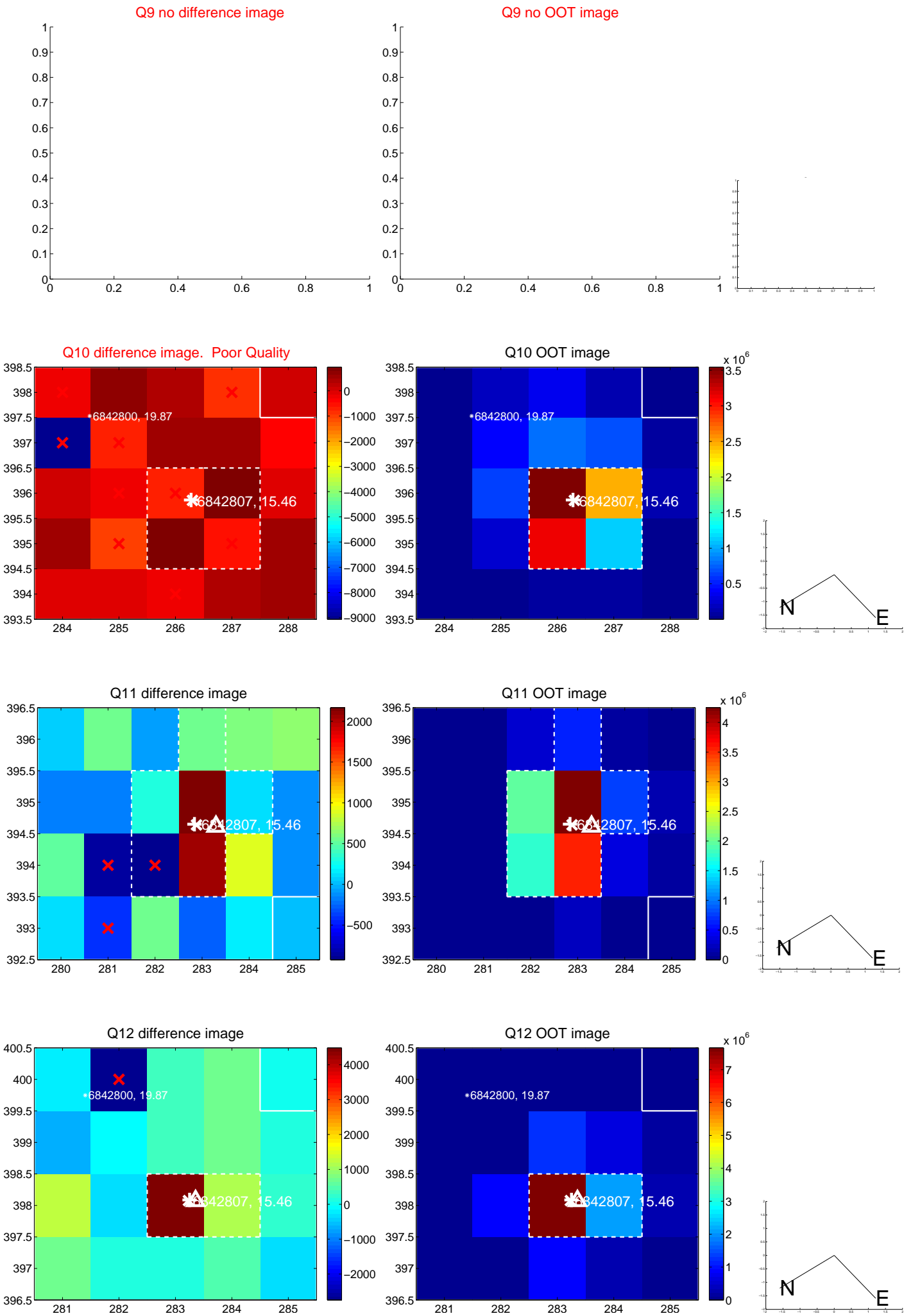
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



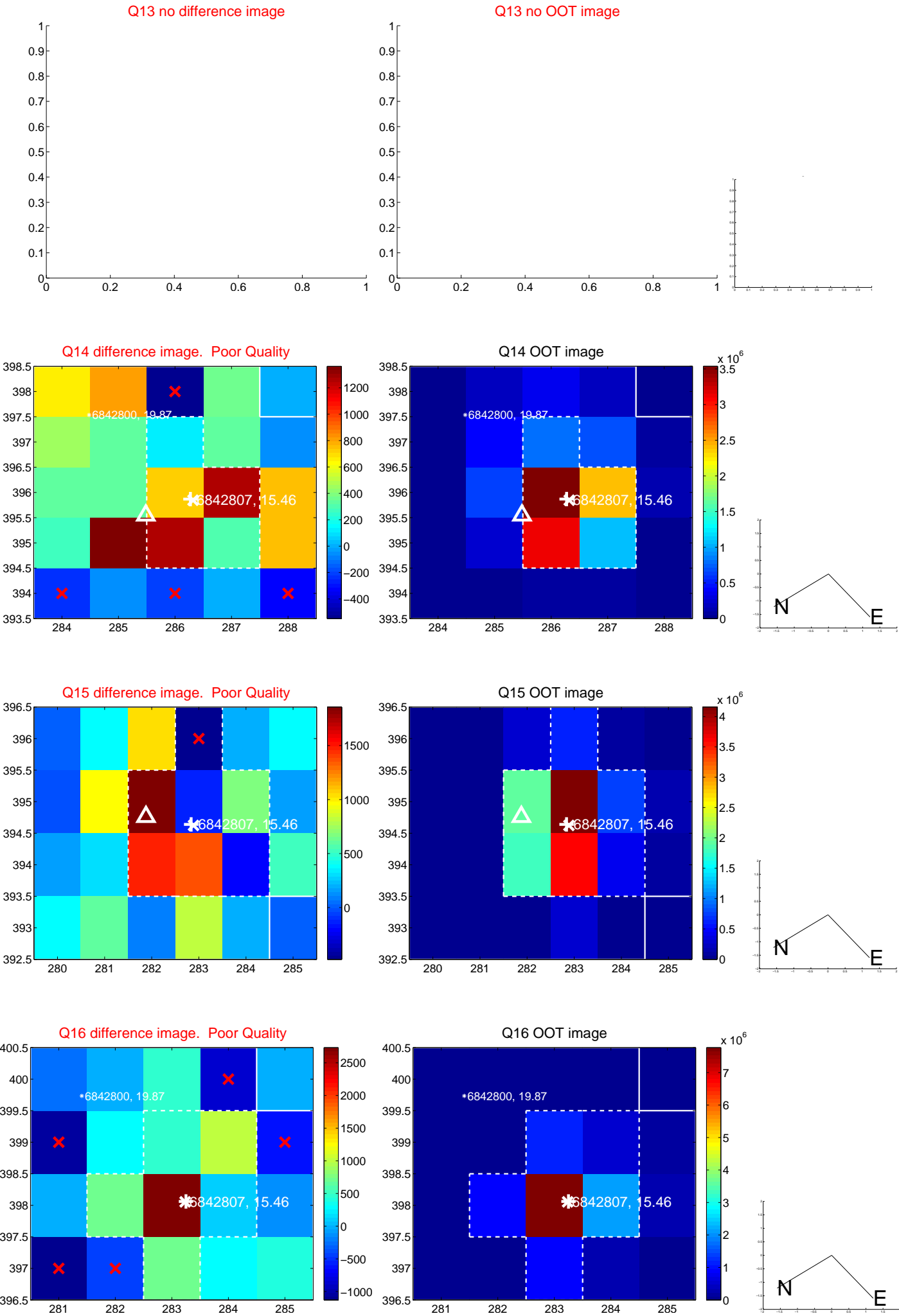
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



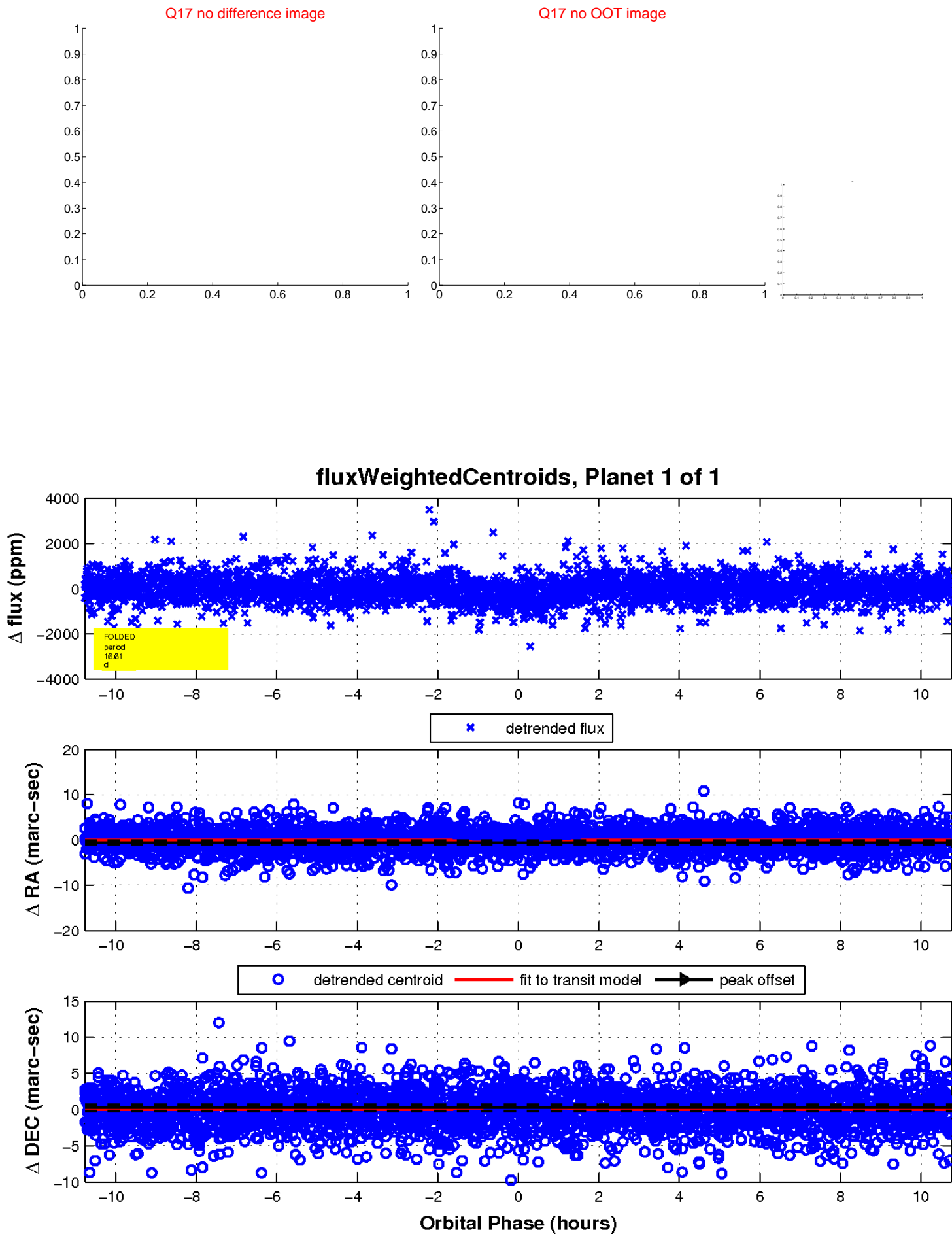
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

