

KIC 004813750

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})
004813750-01	OBS	5088.01	49.178363	165.760826	418.6	5.988	7.6	8.1	0.84	5674	1.87	11.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004813750-01	OBS	PC	0.63	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 004813750-01

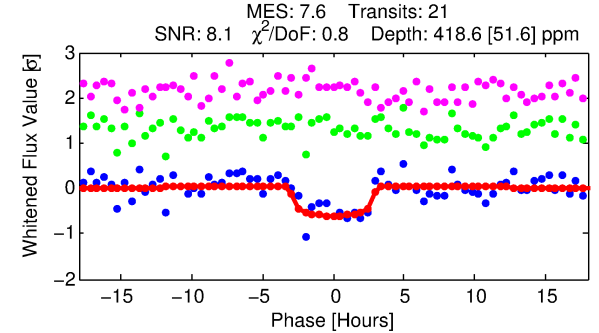
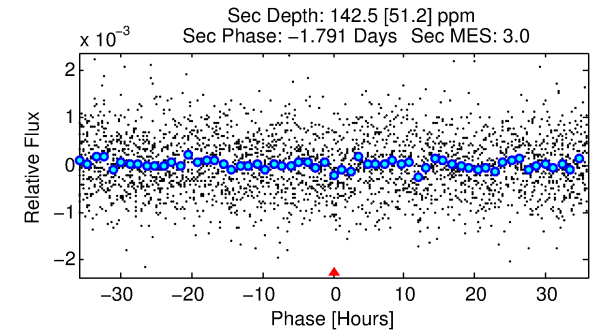
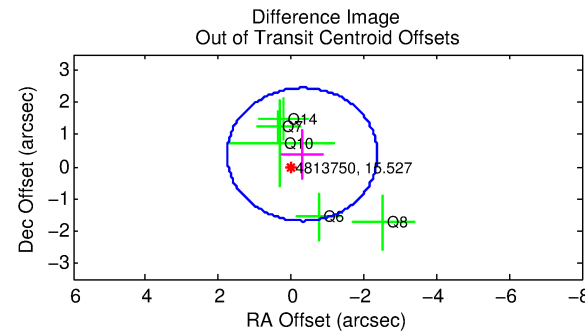
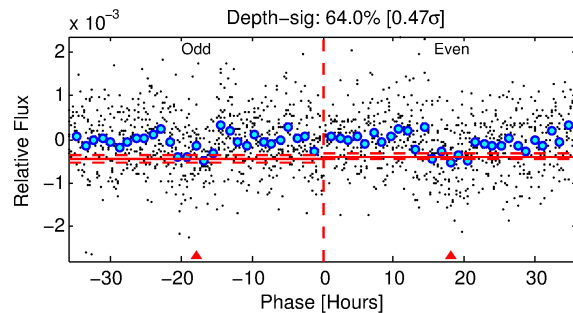
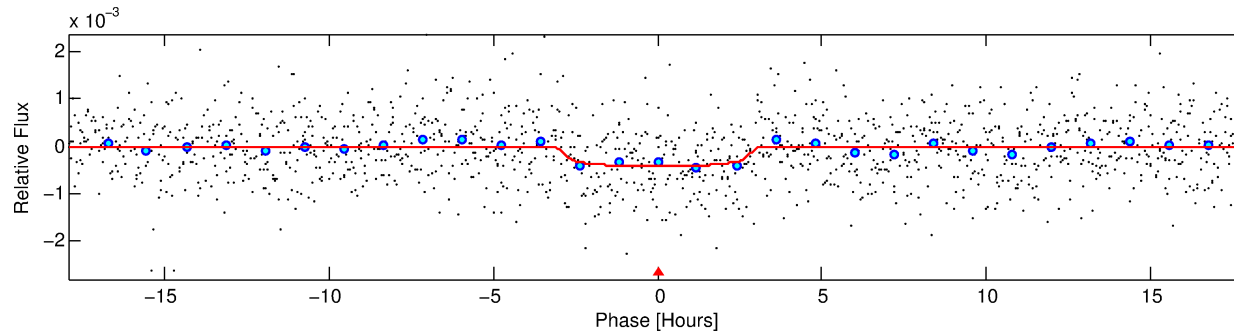
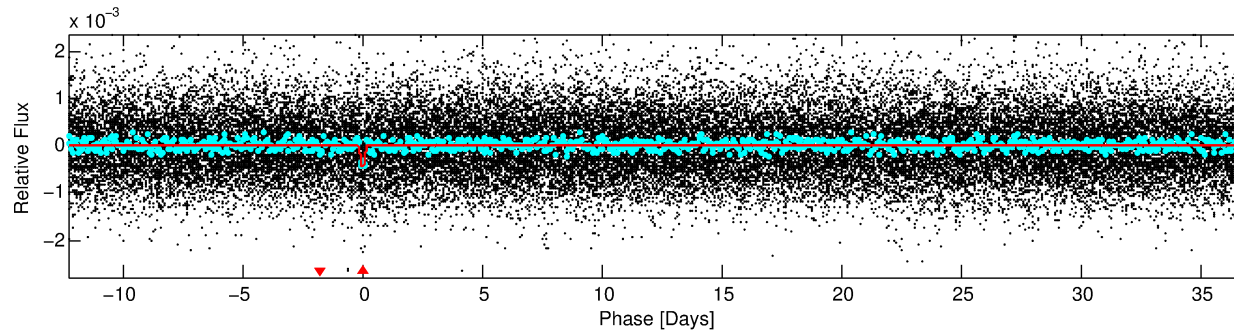
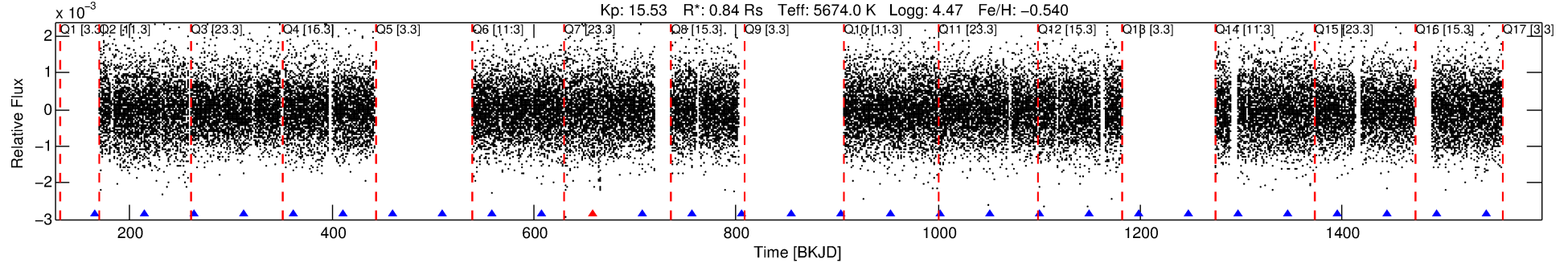
No Significant Match Found

DV One-Page Summary

KIC: 4813750 Candidate: 1 of 1 Period: 49.178 d

KOI: K05088.01 Corr: 0.976

Kp: 15.53 R*: 0.84 Rs Teff: 5674.0 K Logg: 4.47 Fe/H: -0.540



DV Fit Results:

Period = 49.17836 [0.00078] d
Epoch = 165.7608 [0.0133] BKJD
Rp/R* = 0.0204 [0.0157]
a/R* = 43.17 [156.23]
b = 0.75 [2.10]
Seff = 11.34 [3.32]
Teq = 468 [34] K
Rp = 1.87 [1.49] Re
a = 0.2401 [0.0433] AU
Ag = 1298.22 [2077.43] [0.62σ]
Teffp = 4343 [1718] K [2.26σ]

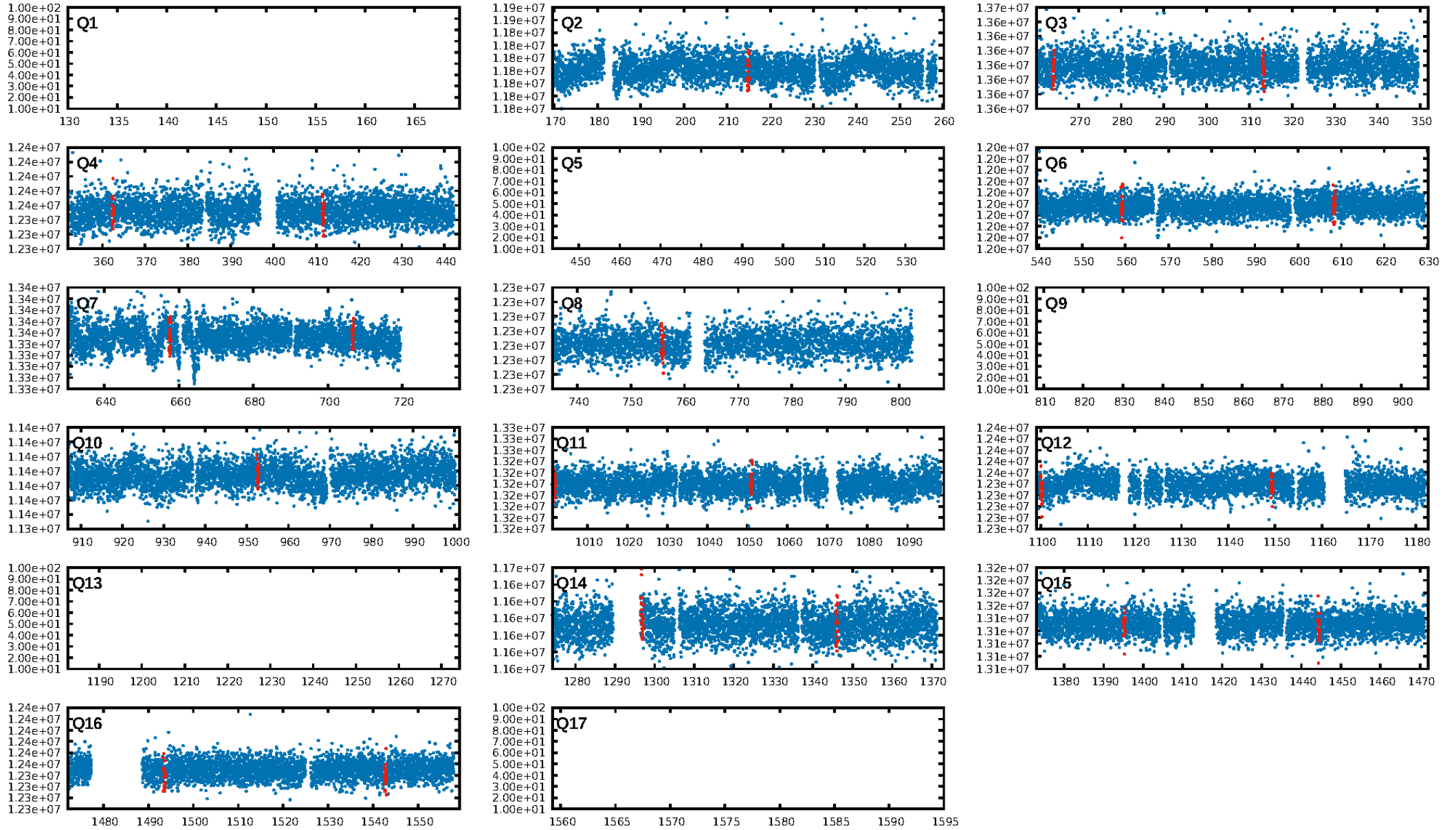
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.09e-14
RollingBand-fgt: 0.95 [20/21]
GhostDiagnostic-chr: 1.125
Centroid-sig: 3.9%
Centroid-so: 3.563 arcsec [1.98σ]
OotOffset-rm: 0.487 arcsec [0.70σ]
KicOffset-rm: 0.753 arcsec [1.19σ]
OotOffset-st: 3/1/1/0 [5]
KicOffset-st: 3/1/1/0 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 1.00 [12/12]

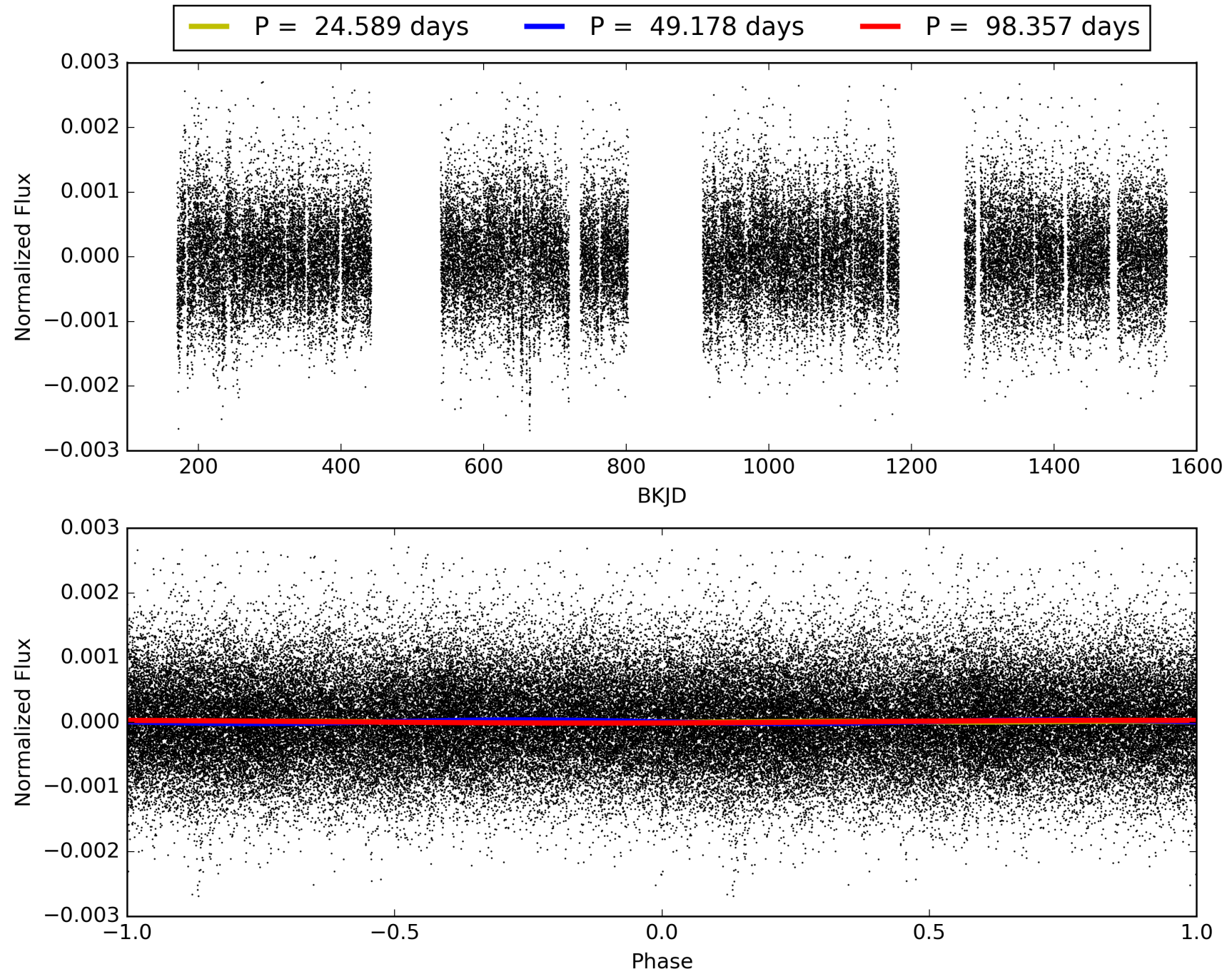
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:21:33 Z

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

TCE 004813750-01, PDC Light Curves

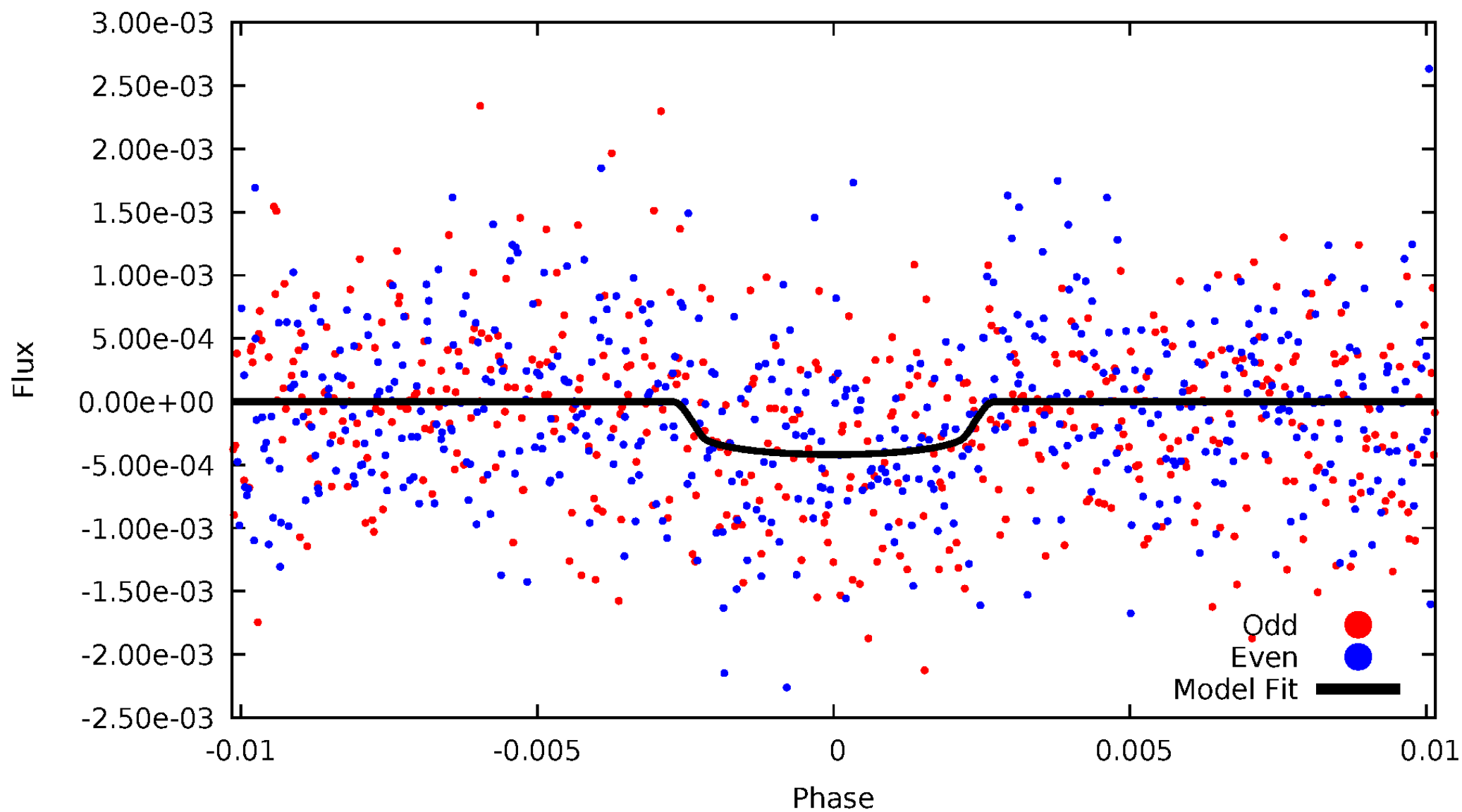


TCE 004813750-01



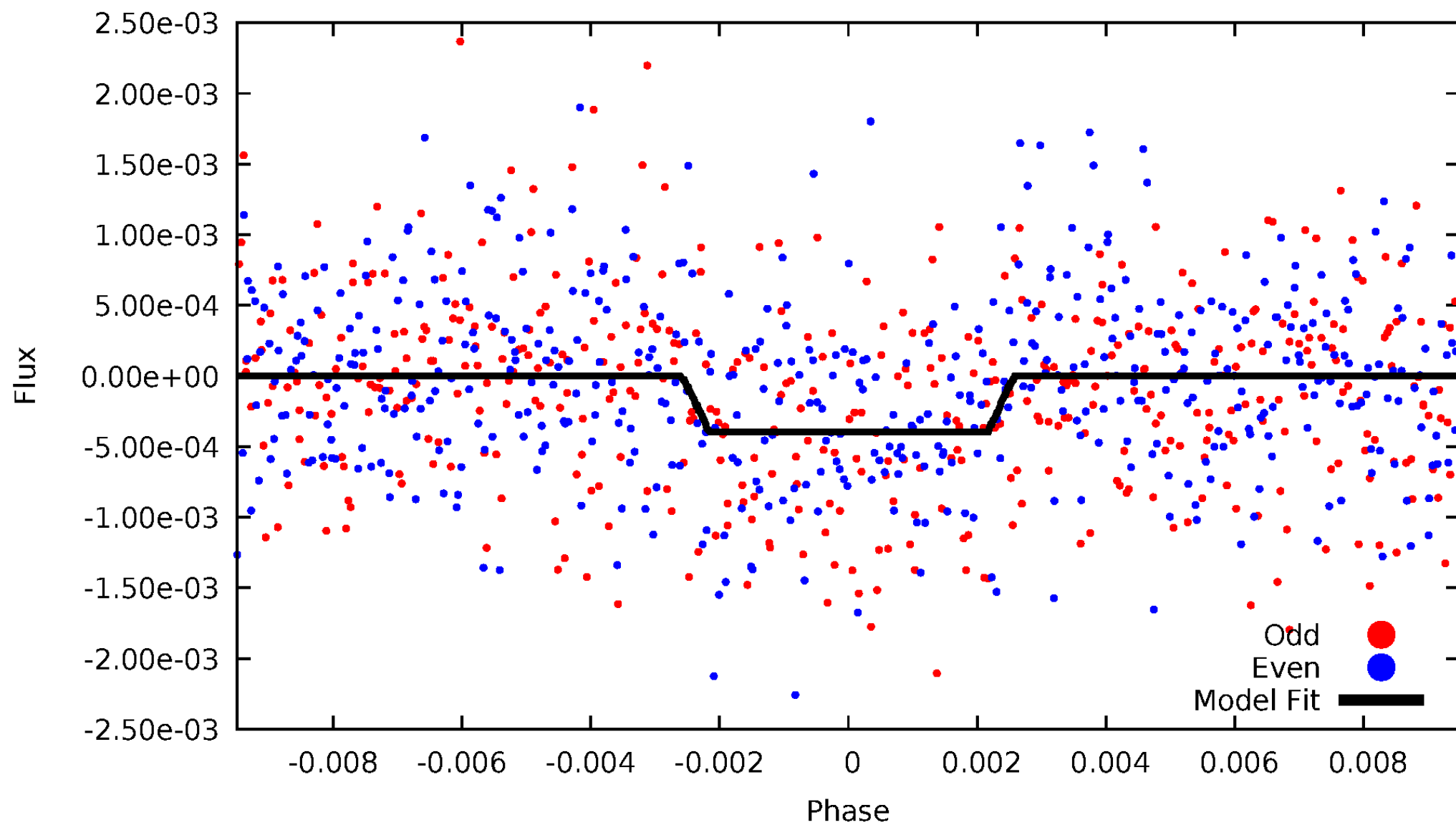
DV Odd/Even

TCE 004813750-01

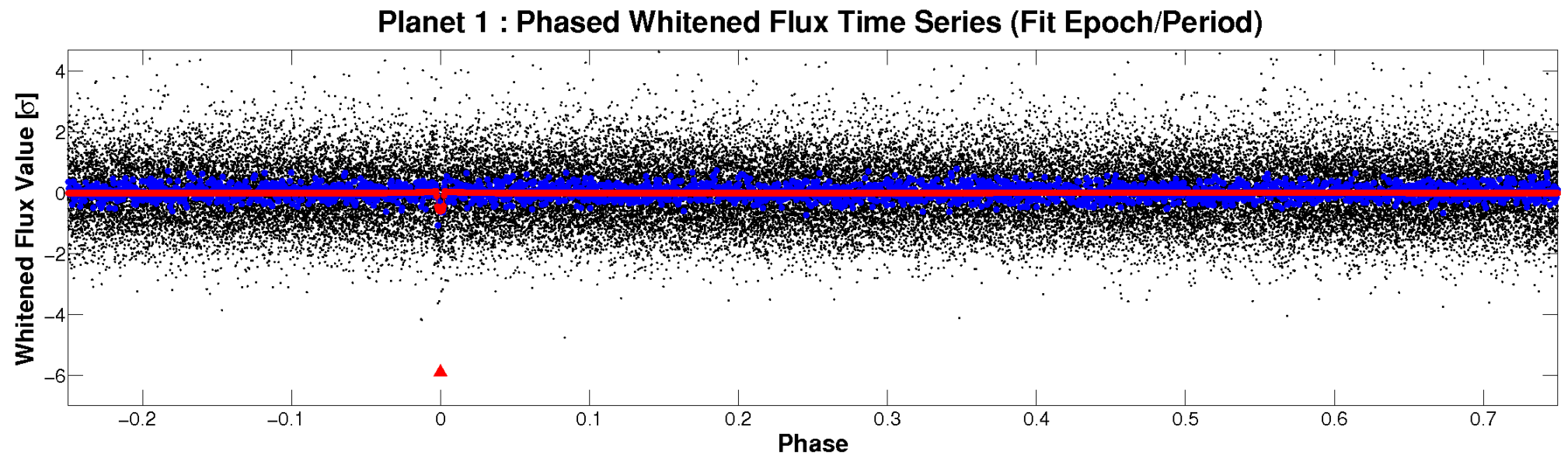
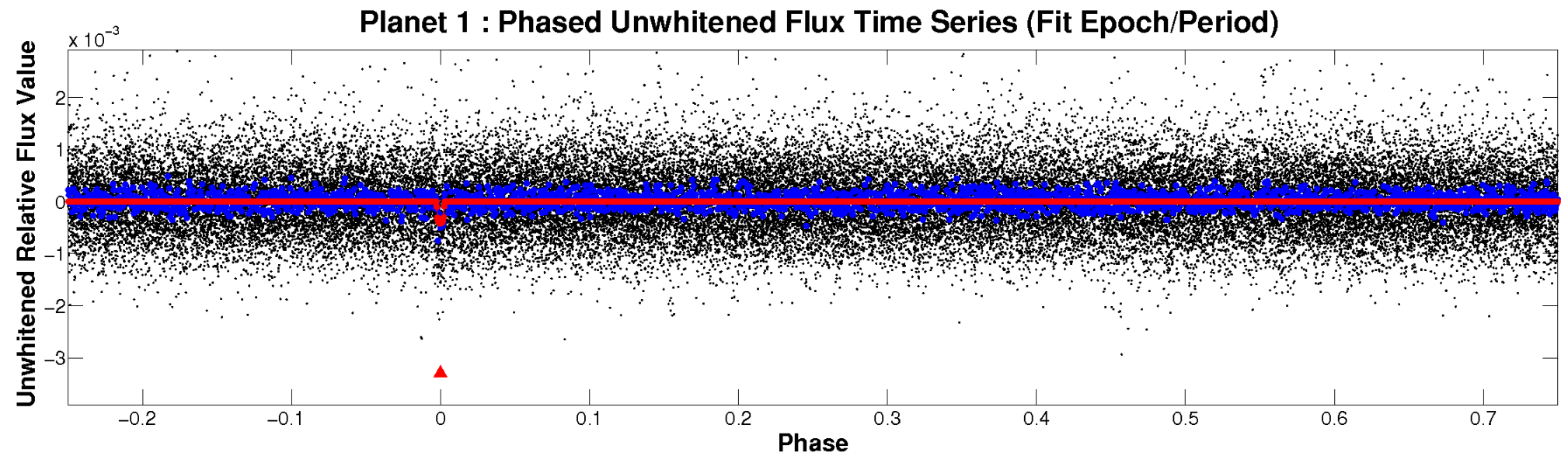


ALT Odd/Even

TCE 004813750-01

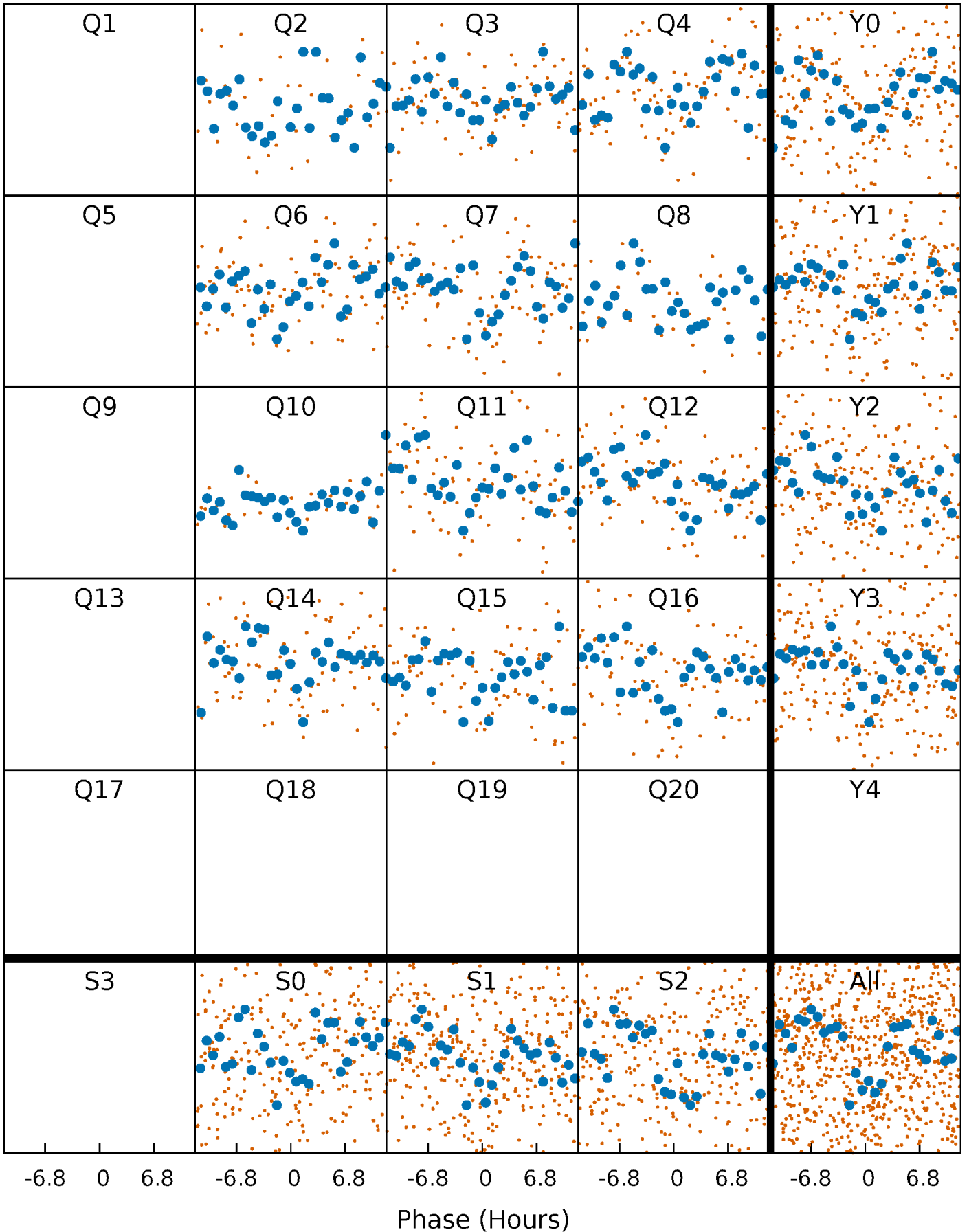


Non-Whitened Vs. Whitened Light Curve



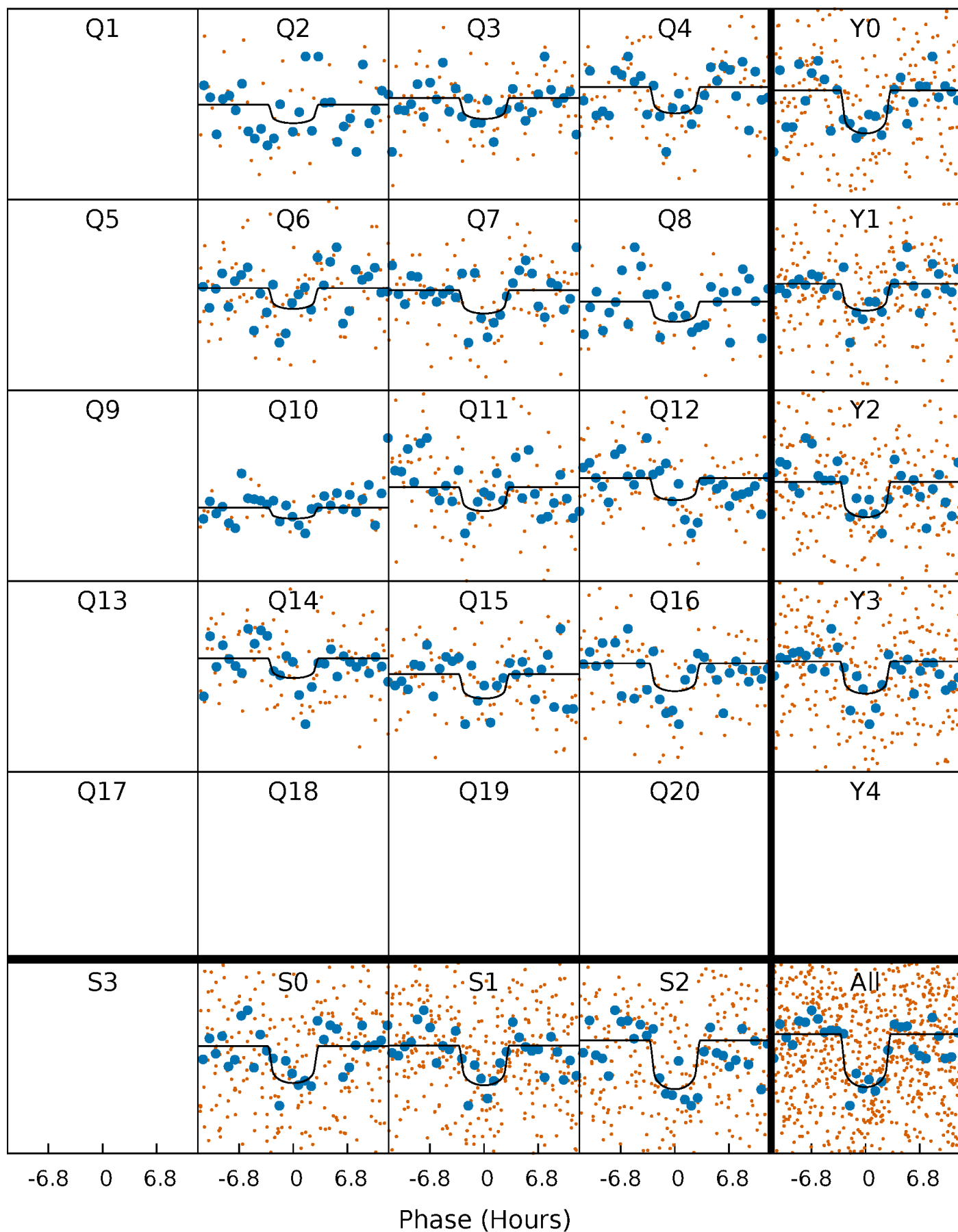
PDC Quarter-Phased Transit Curves

TCE 004813750-01 P= 49.178363 Days $T_0=165.760826$ (BKJD)



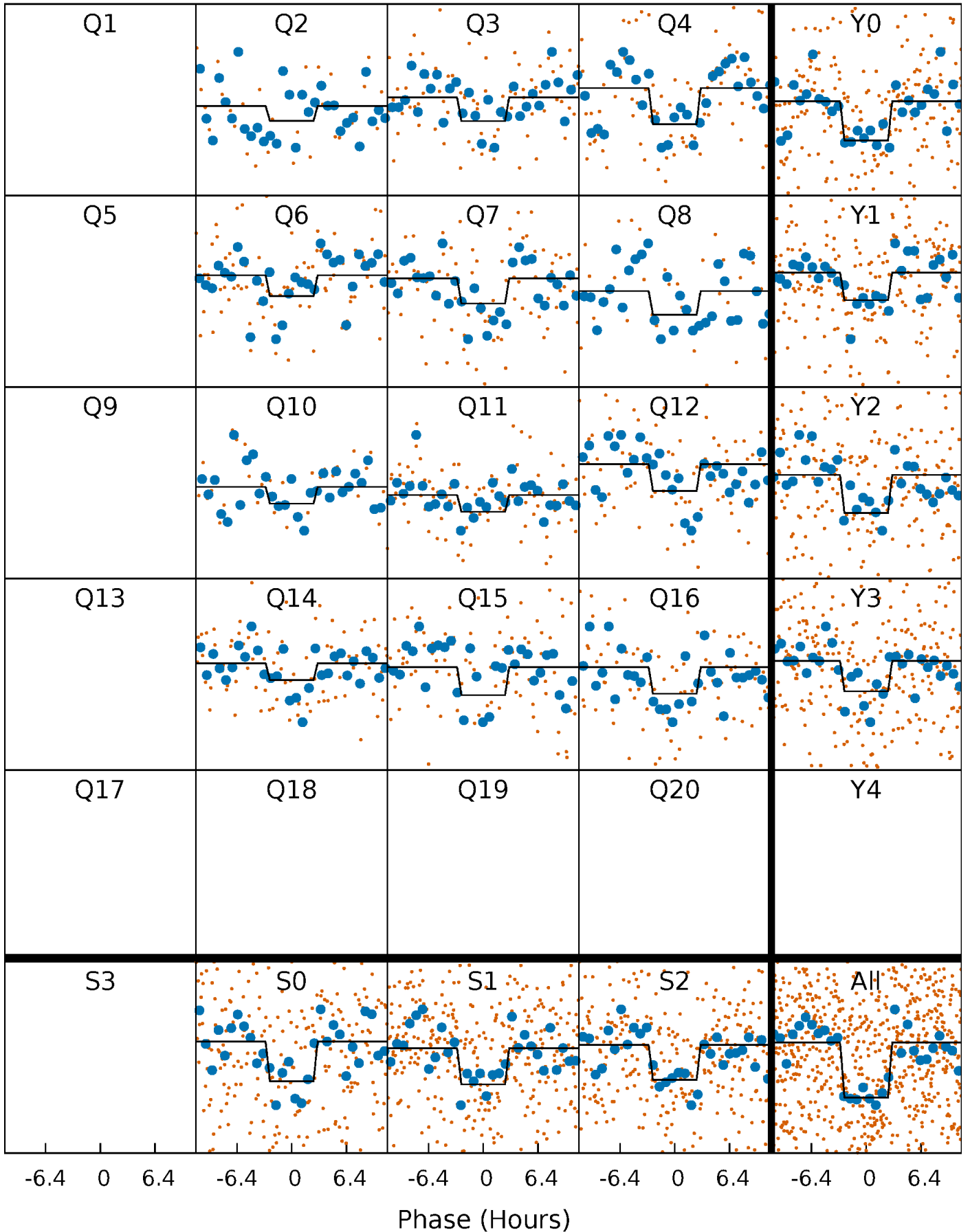
DV Quarter-Phased Transit Curves

TCE 004813750-01 P= 49.178363 Days $T_0=165.760826$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

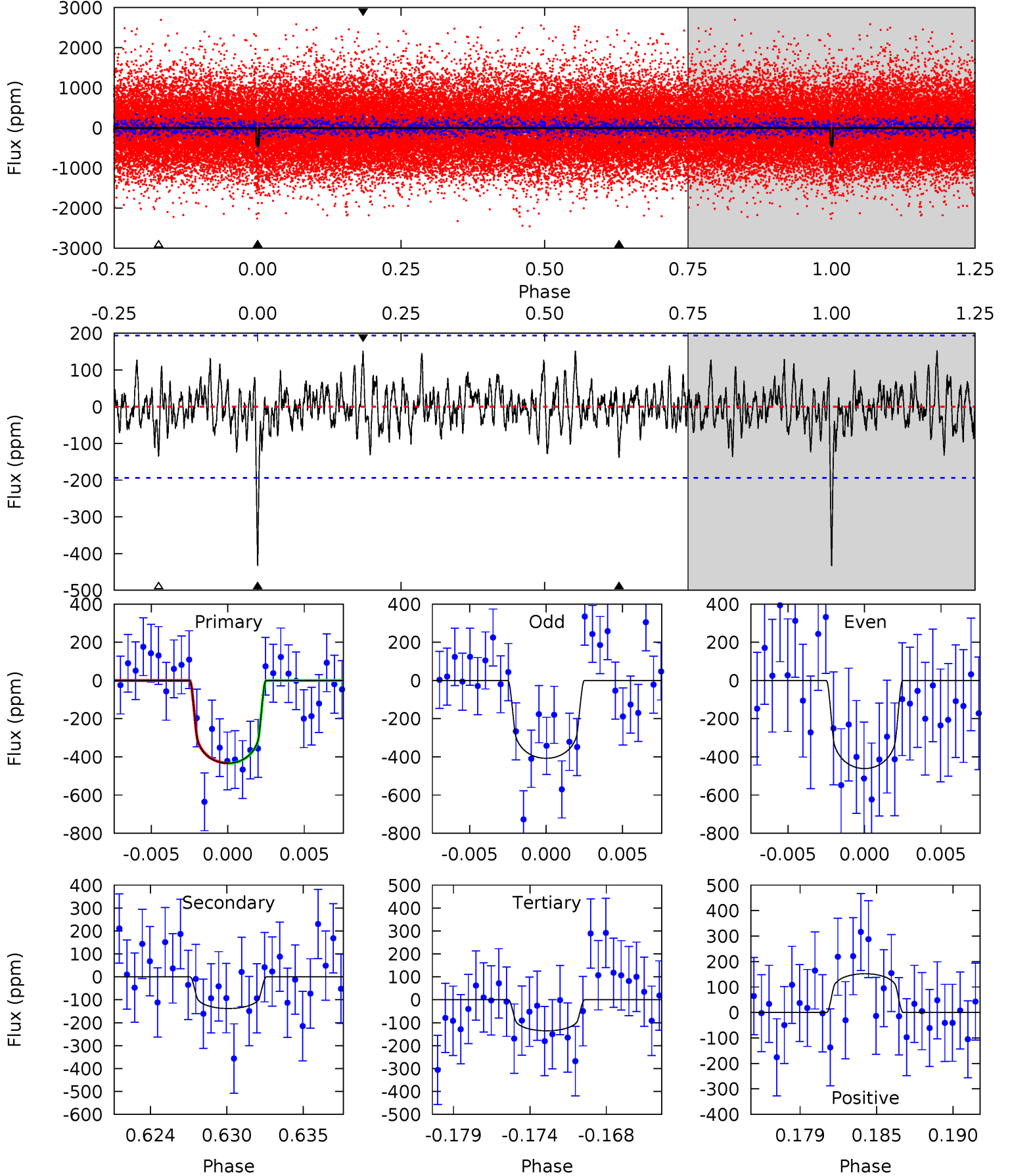
TCE 004813750-01 P= 49.178945 Days $T_0=165.757772$ (BKJD)



DV Model-Shift Uniqueness Test

004813750-01, $P = 49.178363$ Days, $E = 165.760826$ Days

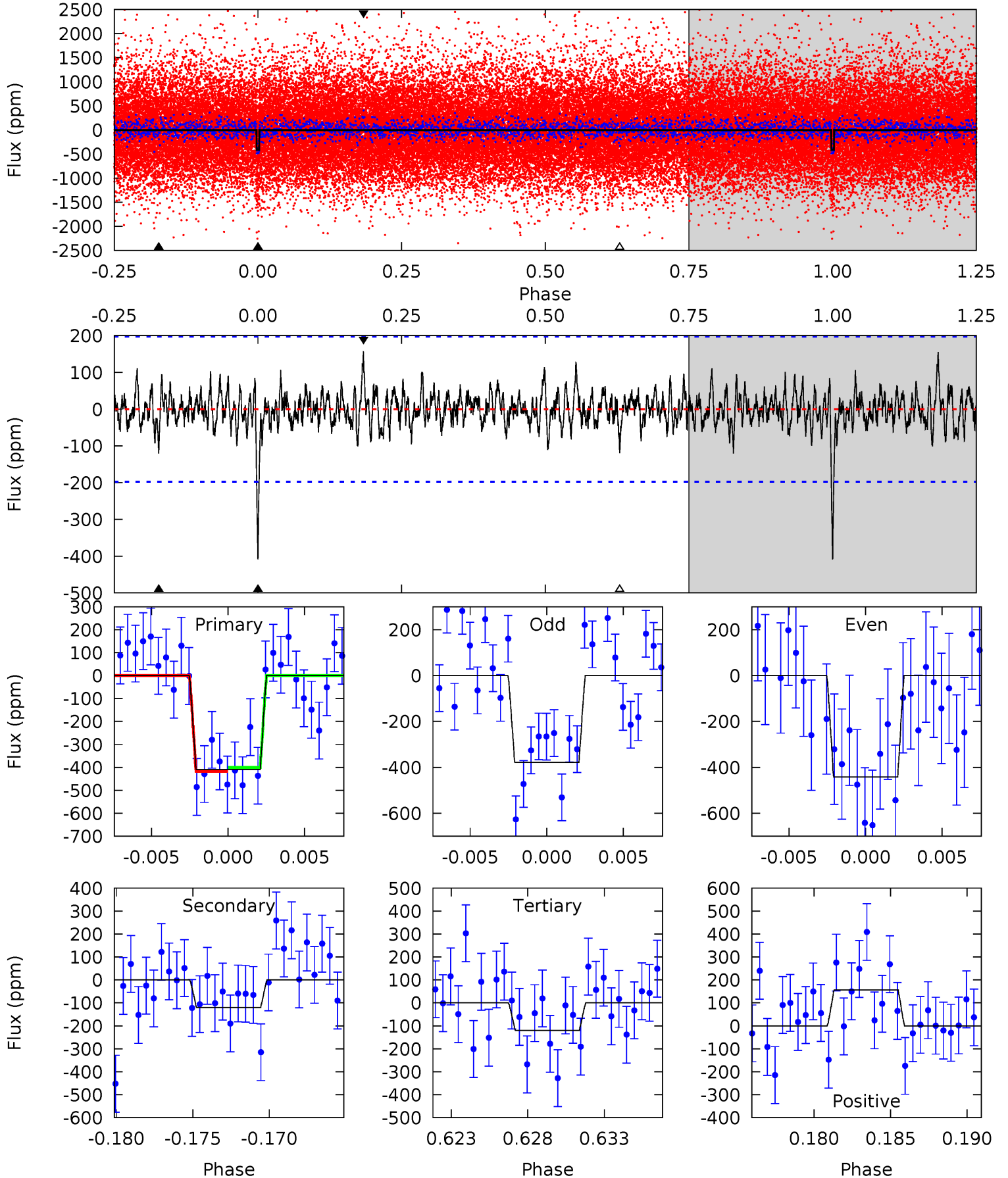
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	3.67	3.59	4.04	5.14	2.78	1.18	7.91	7.46	0.08	-0.37	0.71	1.16	0.26	0.03



Alt Model-Shift Uniqueness Test

004813750-01, P = 49.178945 Days, E = 165.757772 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	3.14	3.12	4.06	5.15	2.80	0.98	7.55	6.60	0.02	-0.92	0.82	1.04	0.28	0.22



Stellar Parameters For KIC 004813750

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5674^{+170}_{-170}	$4.473^{+0.121}_{-0.148}$	$-0.540^{+0.350}_{-0.300}$	$0.839^{+0.176}_{-0.117}$	$0.764^{+0.112}_{-0.048}$	$1.822^{+0.960}_{-0.735}$
	+3%/-3%	+3%/-3%	+65%/-56%	+21%/-14%	+15%/-6%	+53%/-40%
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 004813750-01 / KOI 5088.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-138 ± 38	$2.08^{+1.44}_{-1.18}$	656^{+40}_{-35}	4311^{+1872}_{-742}	978^{+4176}_{-649}
Alt.	-120 ± 38	$2.05^{+1.43}_{-1.23}$	656^{+37}_{-35}	4292^{+1937}_{-812}	966^{+4644}_{-671}

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

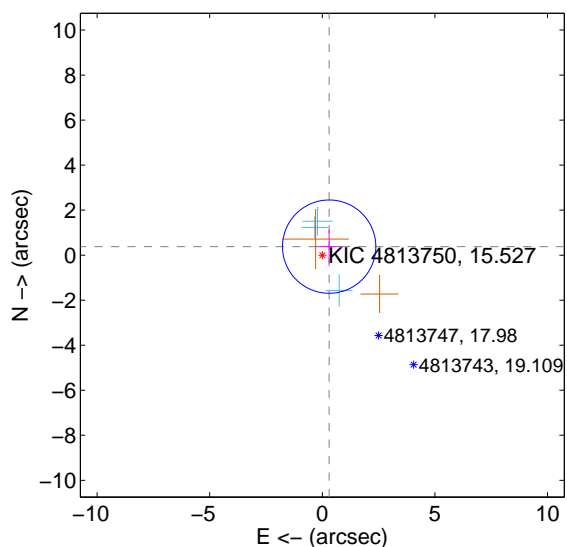
Supplemental centroid analysis for 004813750-01. Kepler magnitude: 15.53. Transit SNR 8.06

There are 3 quarters with good PRF difference image offsets

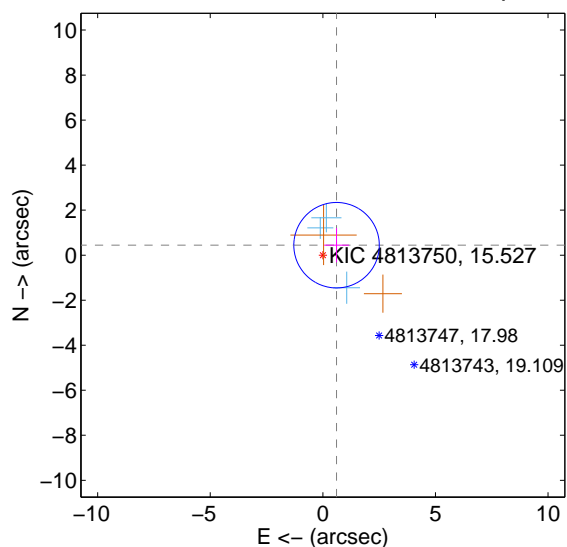
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.487 ± 0.691	0.70	-0.305 ± 0.571	0.379 ± 0.758
PRF-fit source offset from KIC position	0.753 ± 0.633	1.19	-0.609 ± 0.553	0.443 ± 0.762
photometric centroid source offset	3.56 ± 1.80	1.98	-3.50 ± 1.80	0.68 ± 1.72

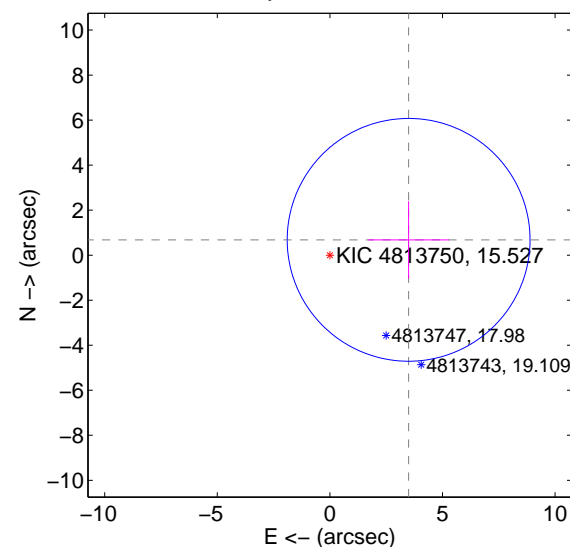
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

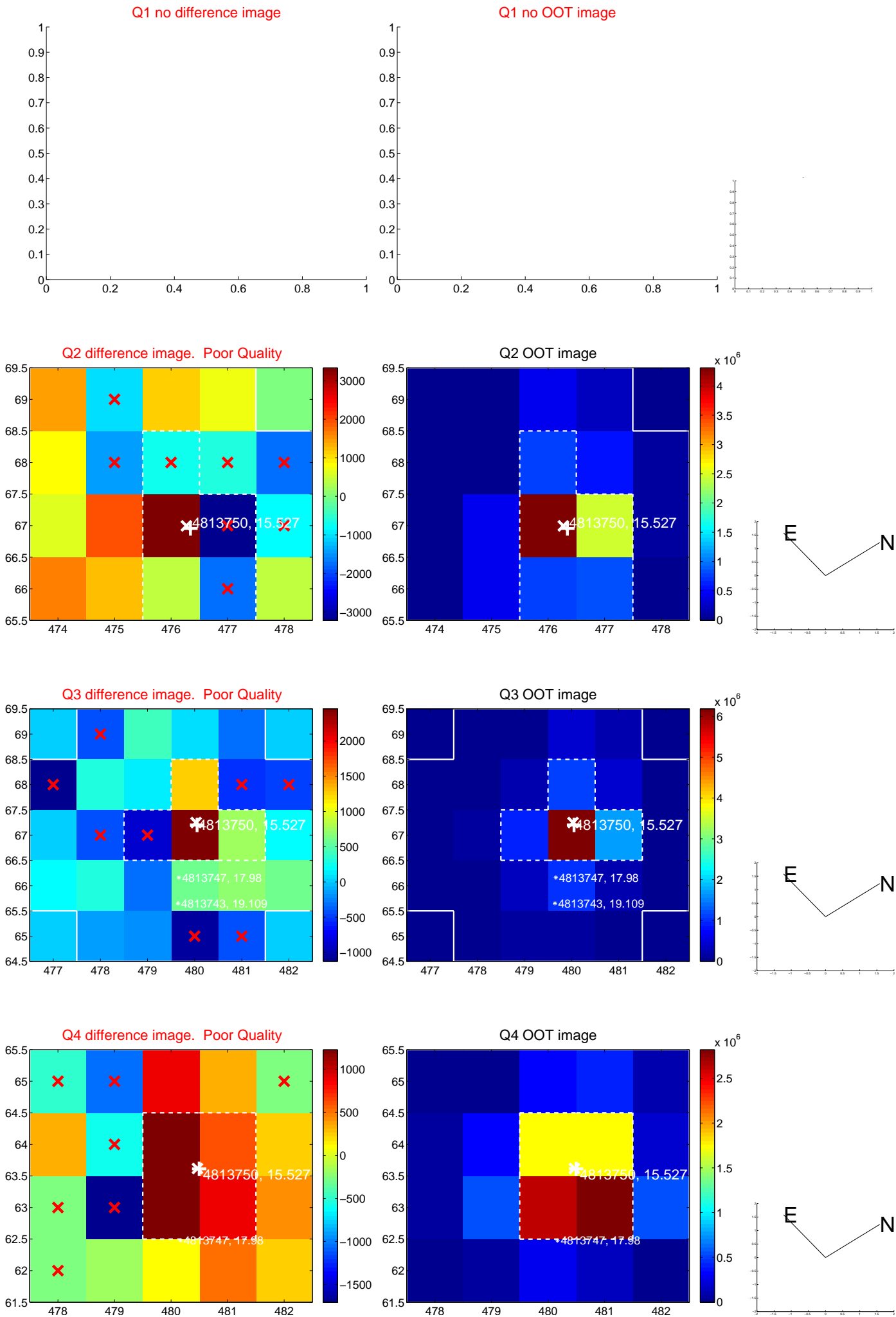


offset from photometric centroids

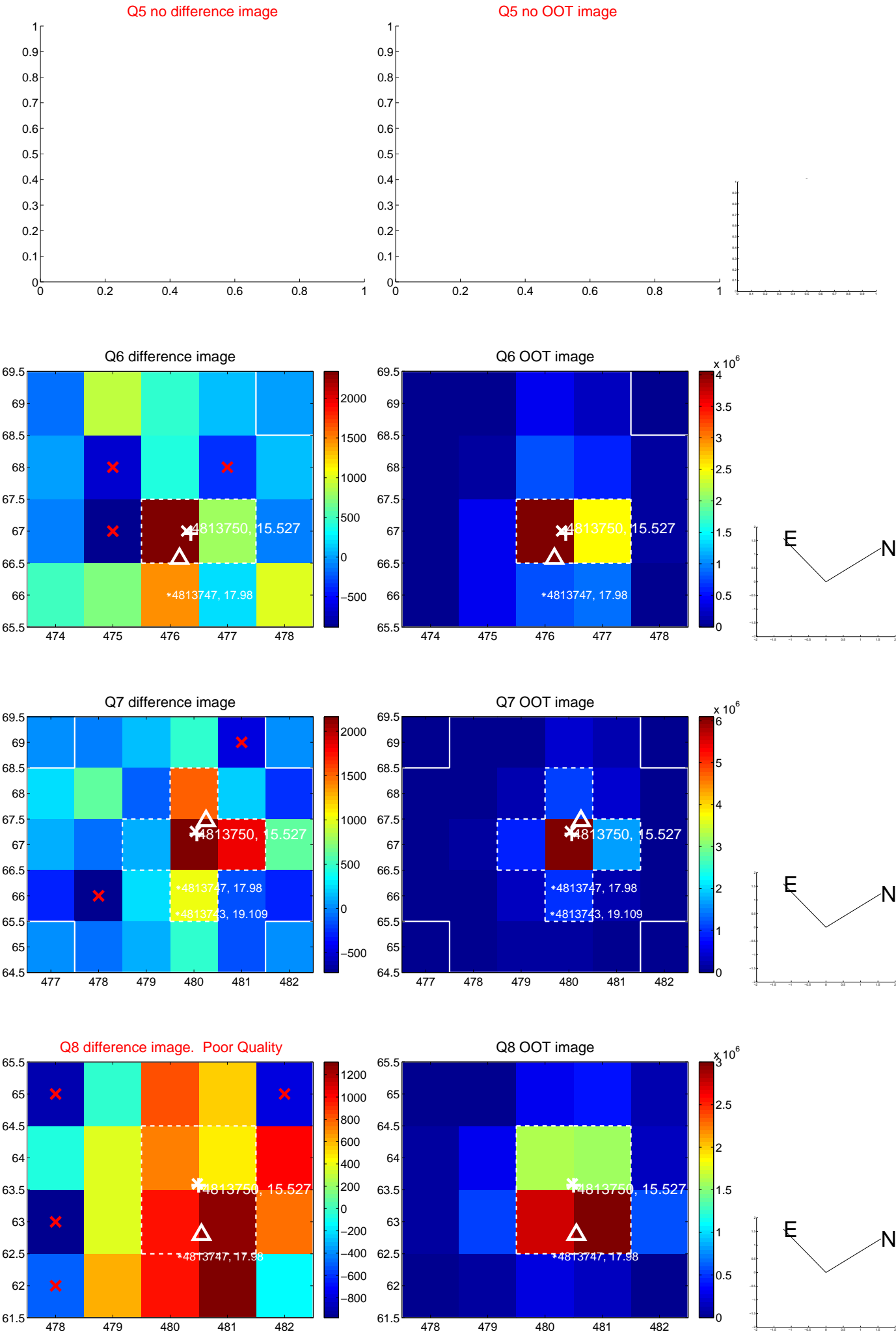


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

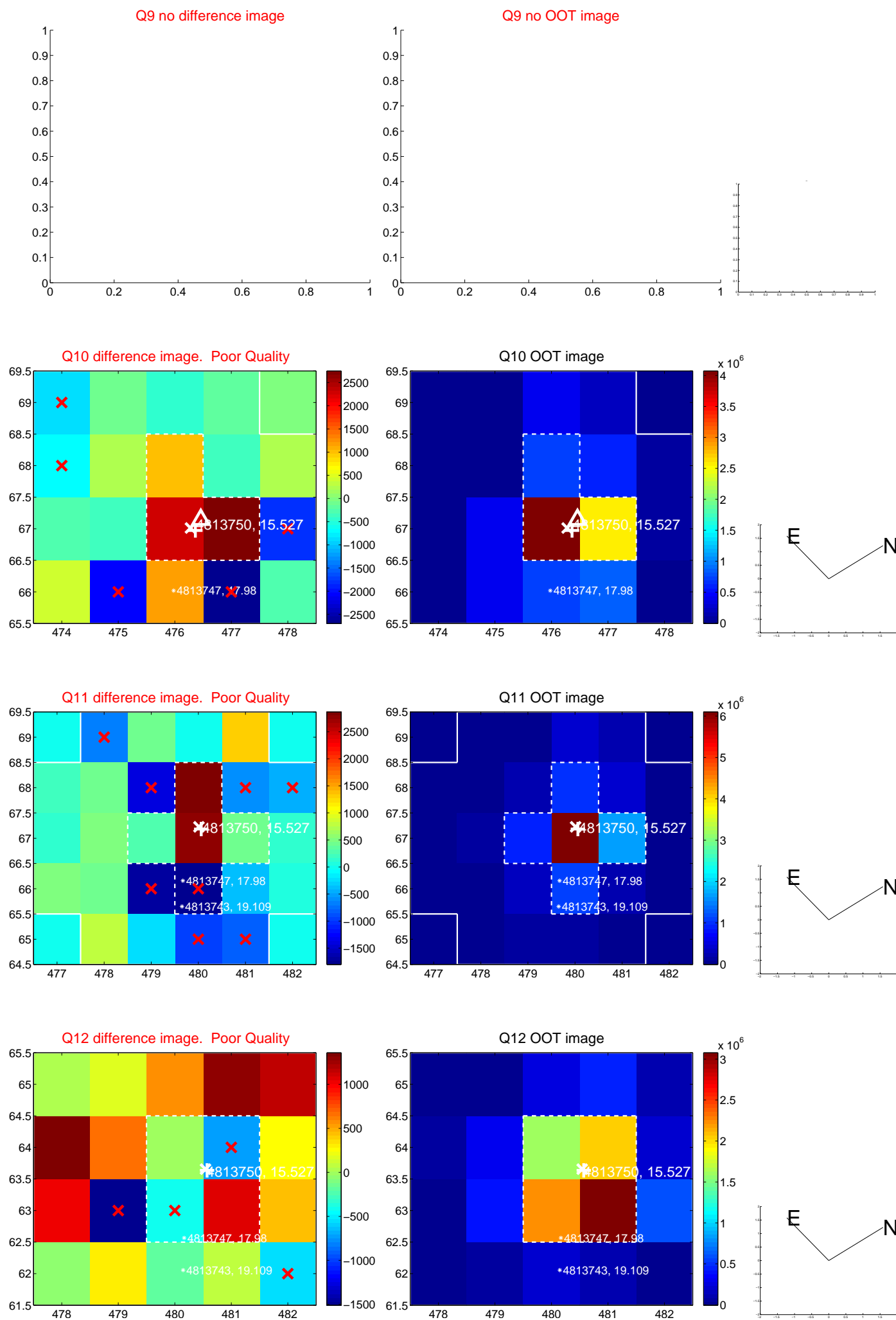
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



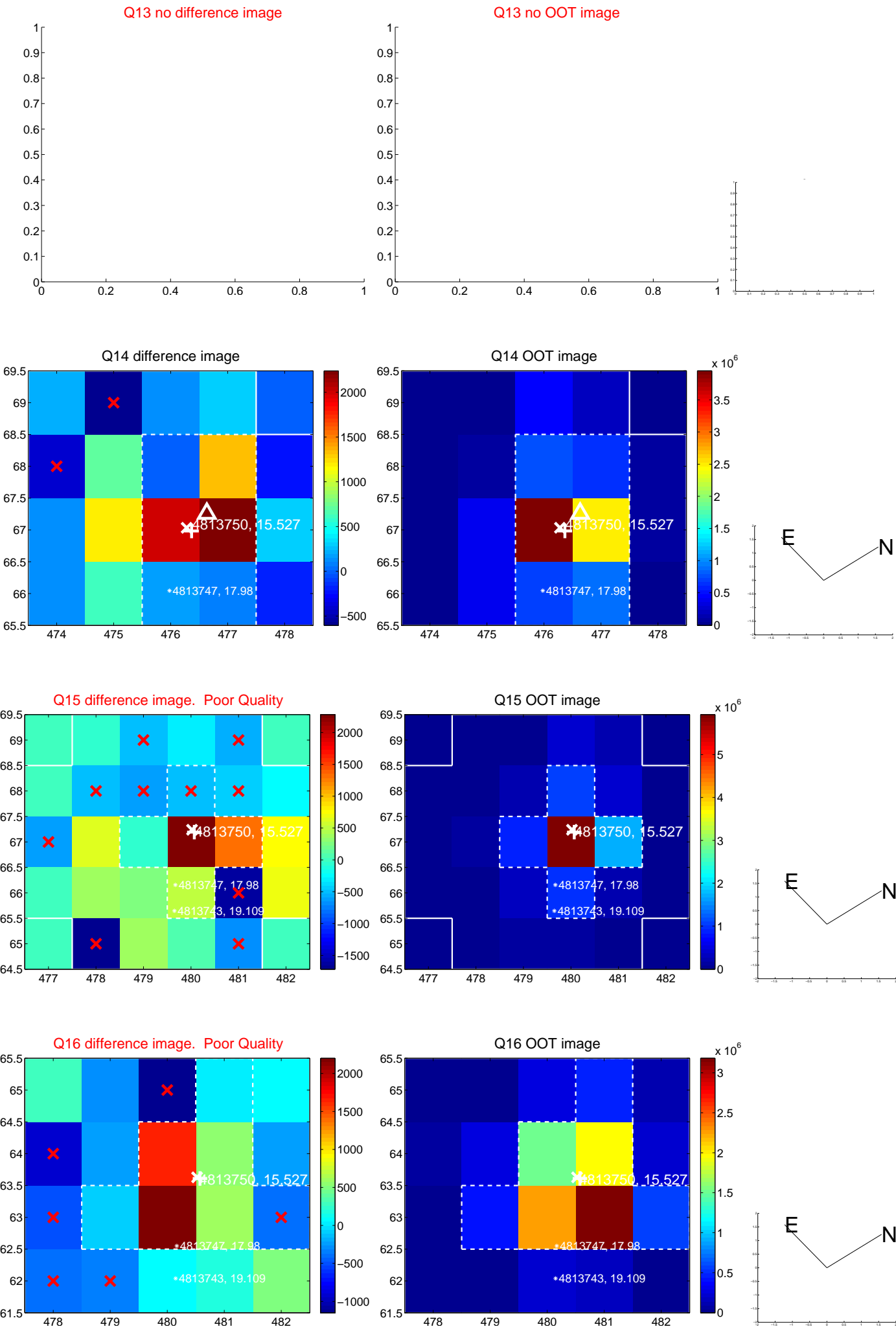
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



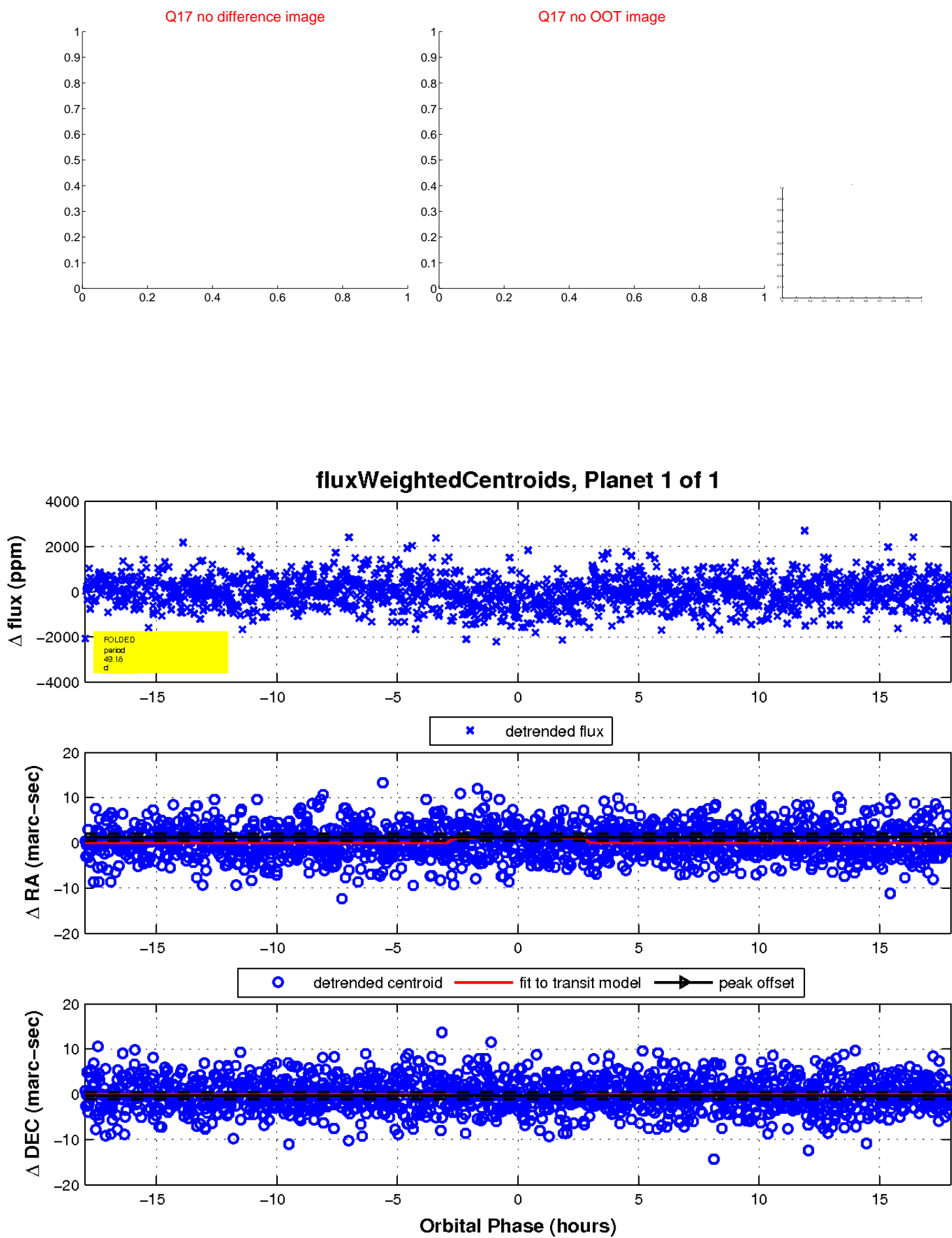
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

