KIC 008124735

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 ($S_\oplus$)
008124735-01	OBS	No	3.402991	133.785488	120.1	7.462	7.6	7.7	0.59	4970	0.78	138.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008124735-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

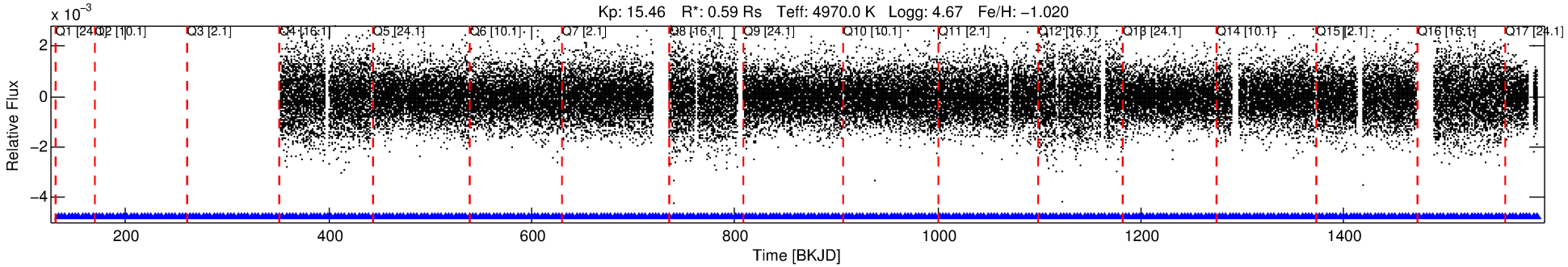
Ephemeris Match Information For 008124735-01

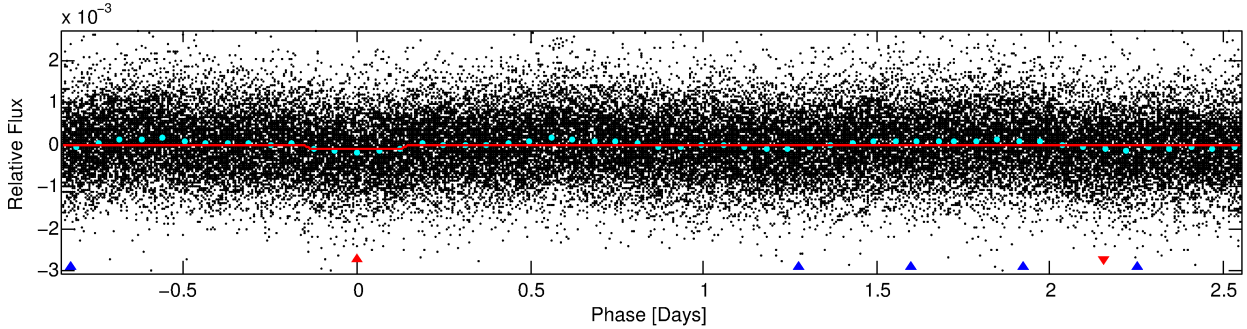
No Significant Match Found

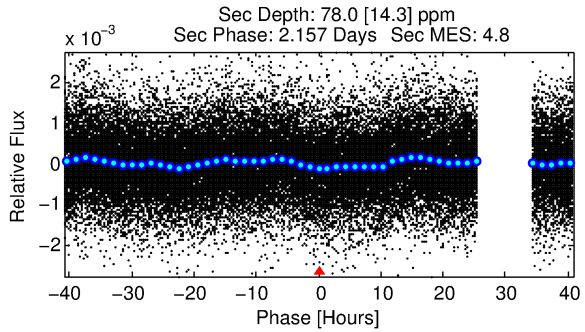
DV One-Page Summary

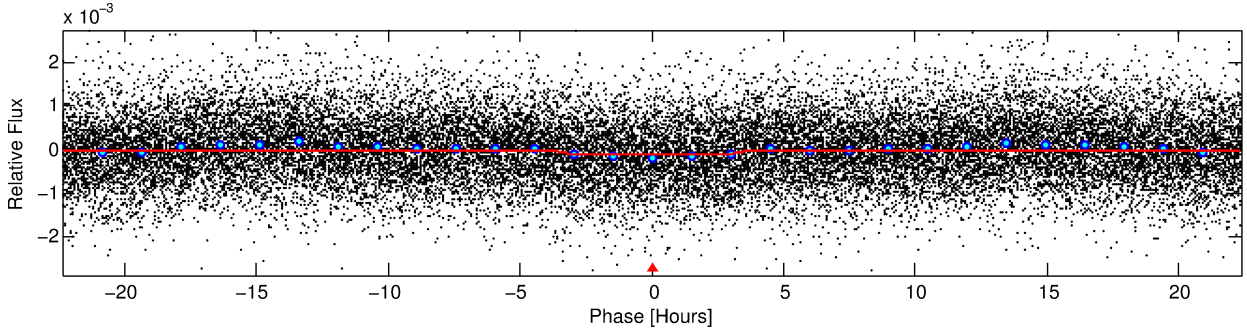
KIC: 8124735 Candidate: 1 of 2 Period: 3.403 d

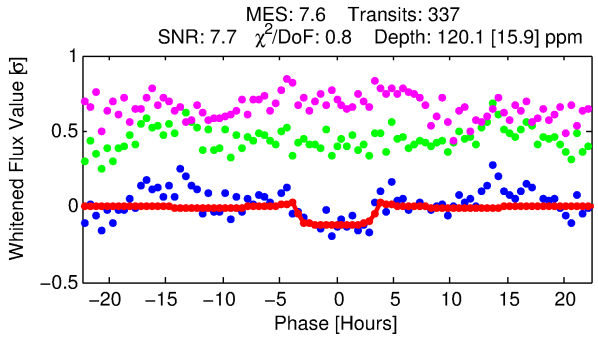
Kp: 15.46 R*: 0.59 Rs Teff: 4970.0 K Logg: 4.67 Fe/H: −1.020

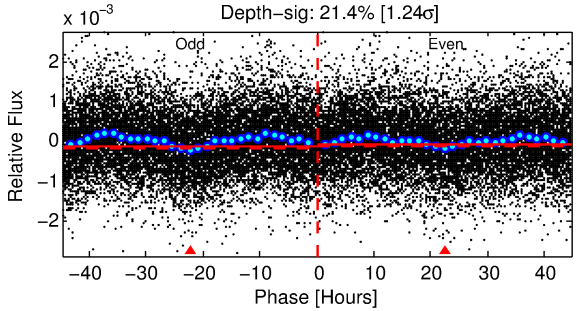


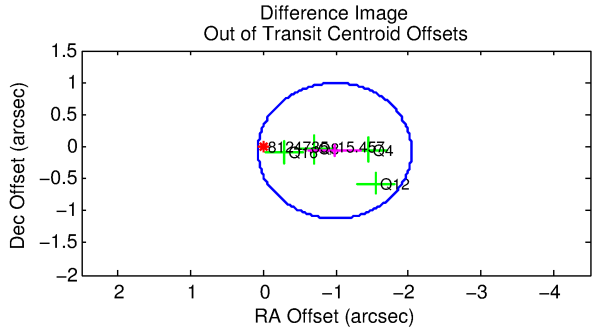












DV Fit Results:

Period = 3.40299 [0.00005] d
Epoch = 133.7855 [0.0104] BKJD
Rp/R* = 0.0120 [0.0043]
a/R* = 1.88 [2.06]
b = 0.90 [0.34]

Seff = 138.54 [24.47]
Teq = 875 [39] K
Rp = 0.77 [0.28] Re
a = 0.0371 [0.0026] AU

Ag = 98.52 [72.86] [1.34σ]
Teffp = 4261 [795] K [4.26σ]

DV Diagnostic Results:

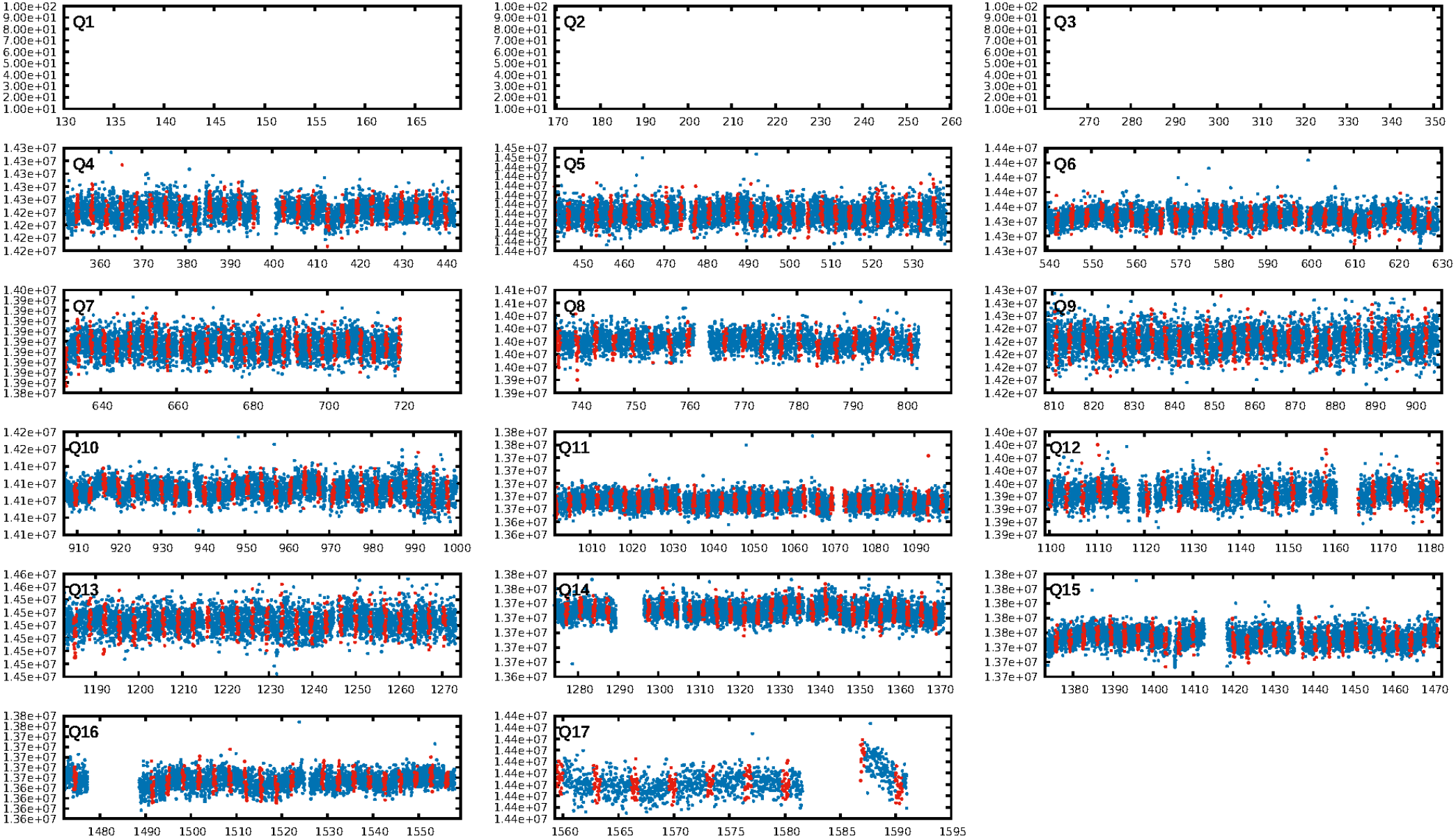
ShortPeriod−sig: N/A
LongPeriod−sig: 100.0% [699.19σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 2.42e−13
RollingBand−fgt: 1.00 [328/328]
GhostDiagnostic−chr: −0.47

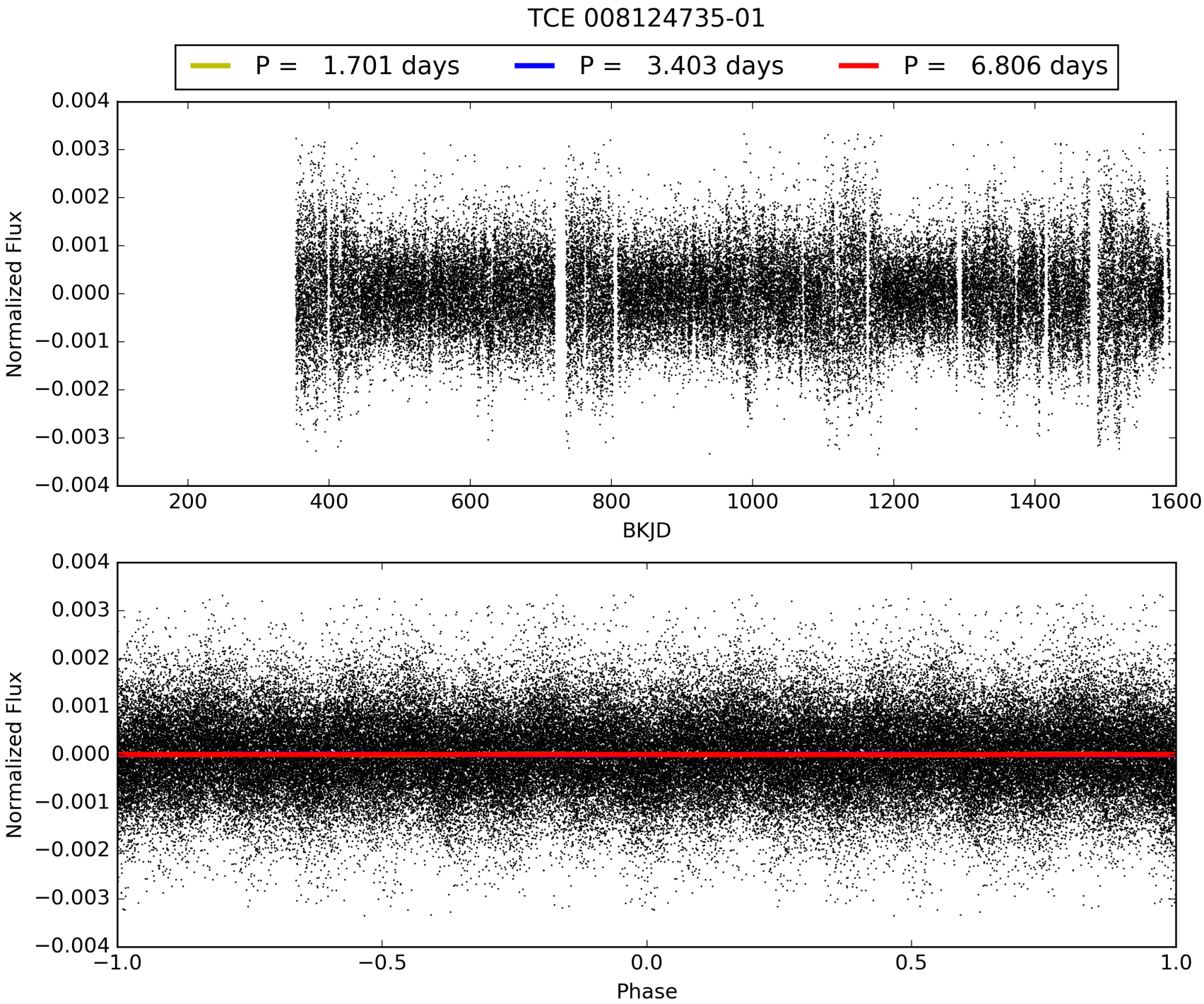
Centroid−sig: 1.2%
Centroid−so: 3.947 arcsec [6.23σ]
OotOffset−rm: 0.989 arcsec [2.81σ]
KicOffset−rm: 5.207 arcsec [19.68σ]
OotOffset−st: 0/0/4/0 [4]
KicOffset−st: 0/0/4/0 [4]
DiffImageQuality−fgm: 1.00 [4/4]
DiffImageOverlap−fno: 1.00 [14/14]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 19:59:30 Z

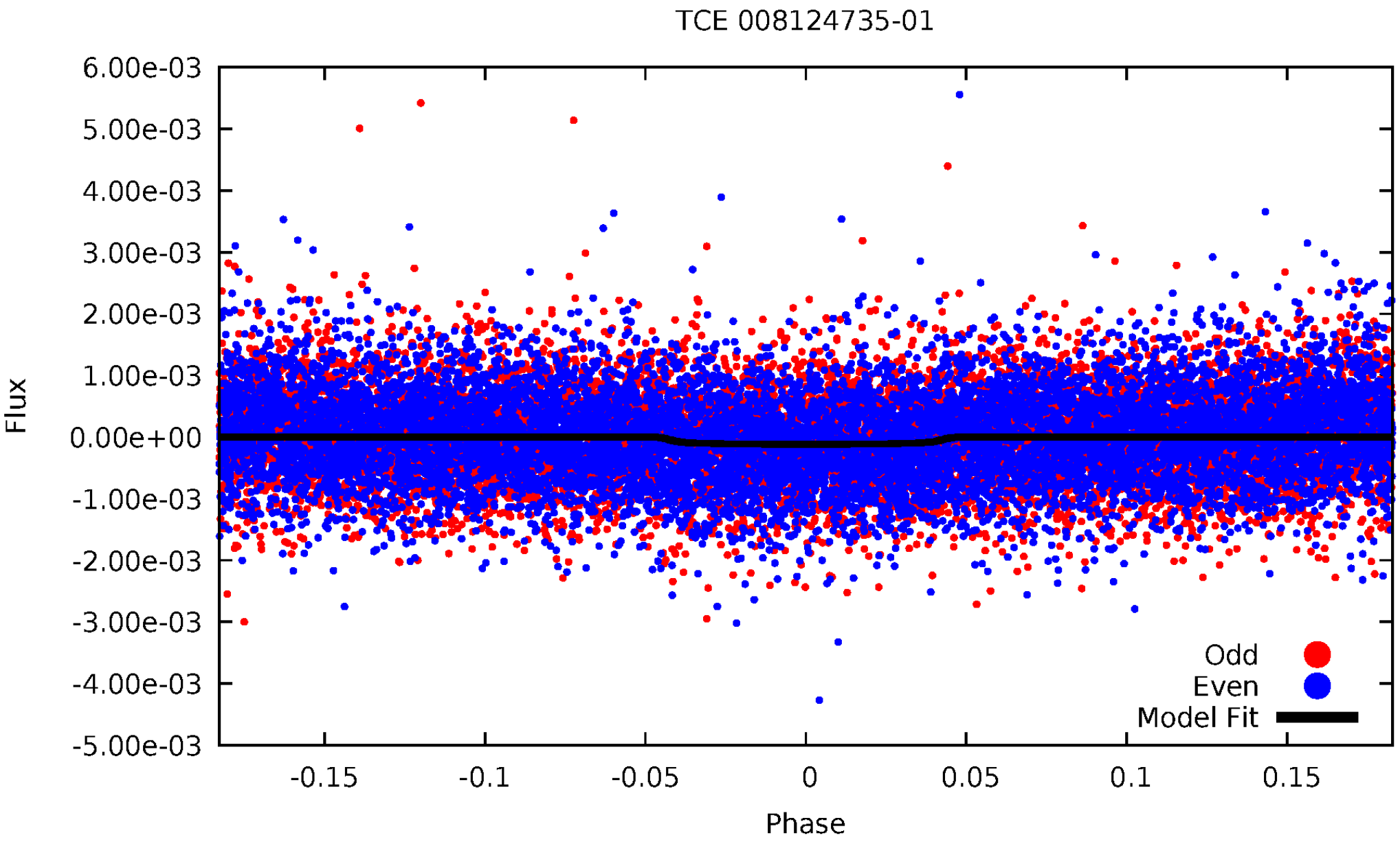
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008124735-01, PDC Light Curves

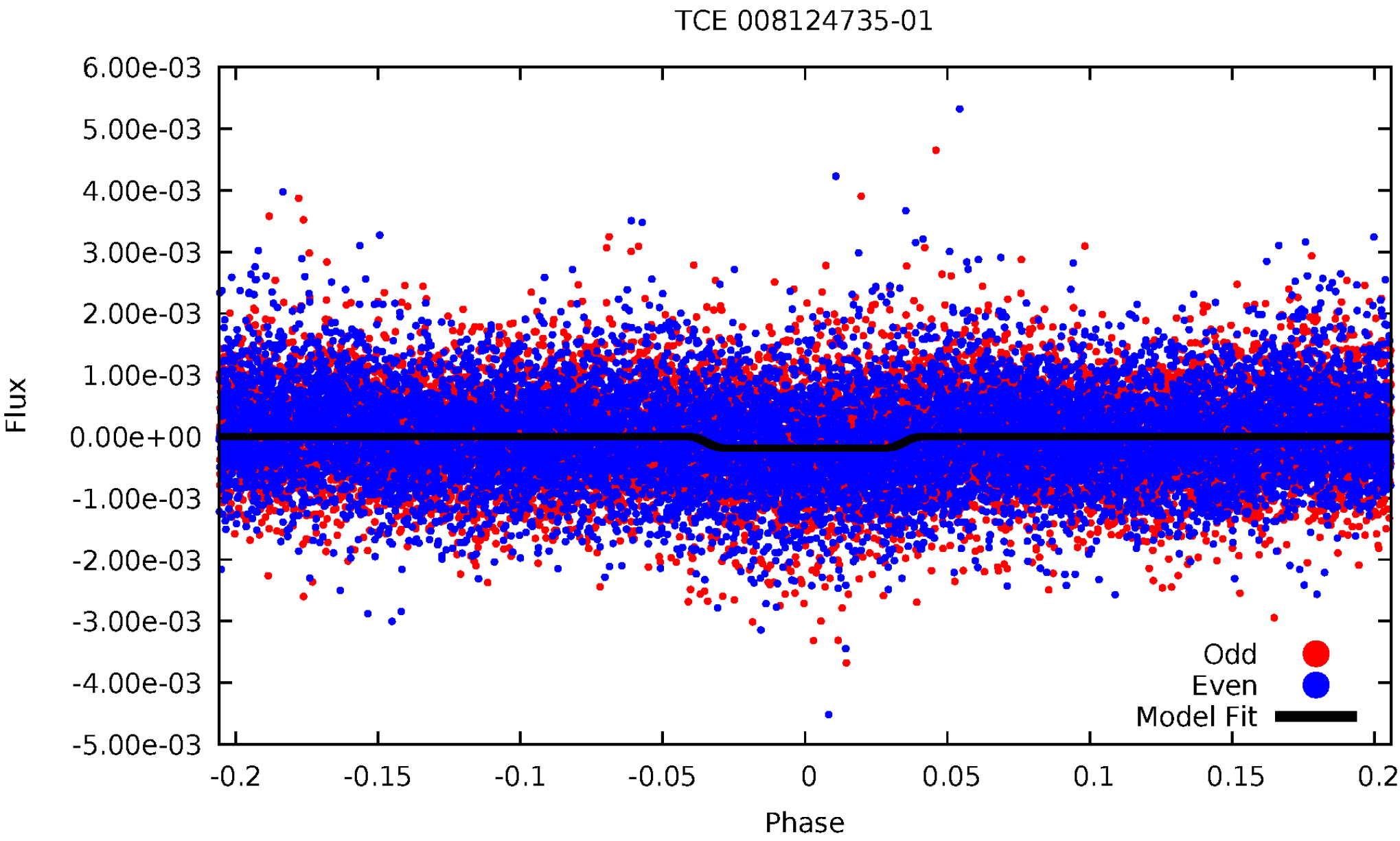



TCE 008124735-01
P = 1.701 days
P = 3.403 days
P = 6.806 days
Normalized Flux
BKJD
Normalized Flux
Phase

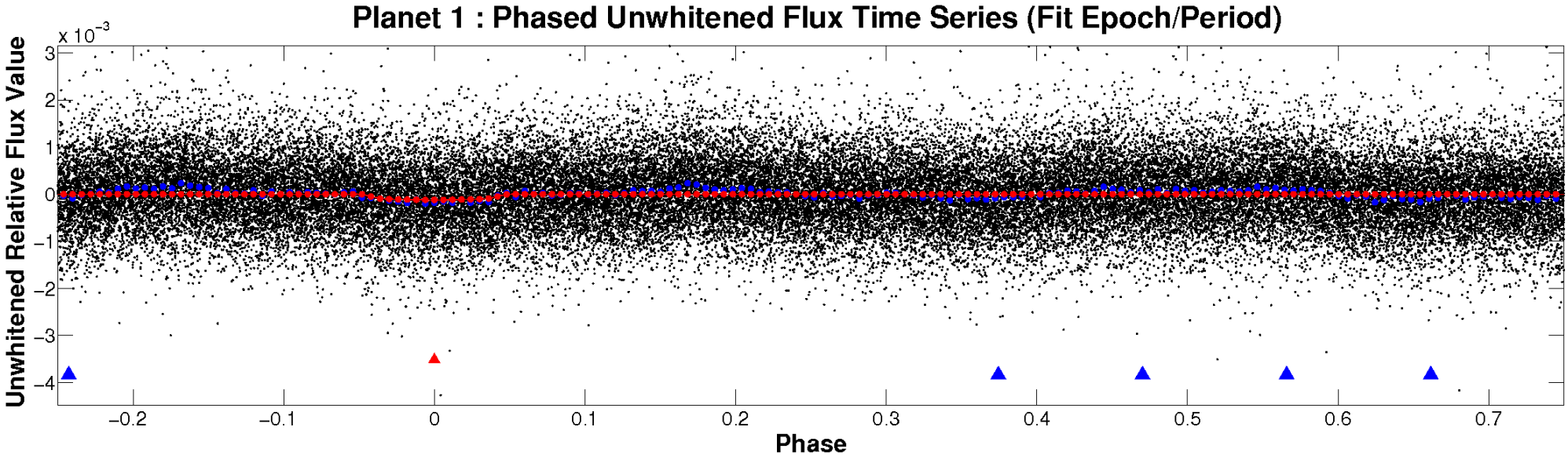
DV Odd/Even

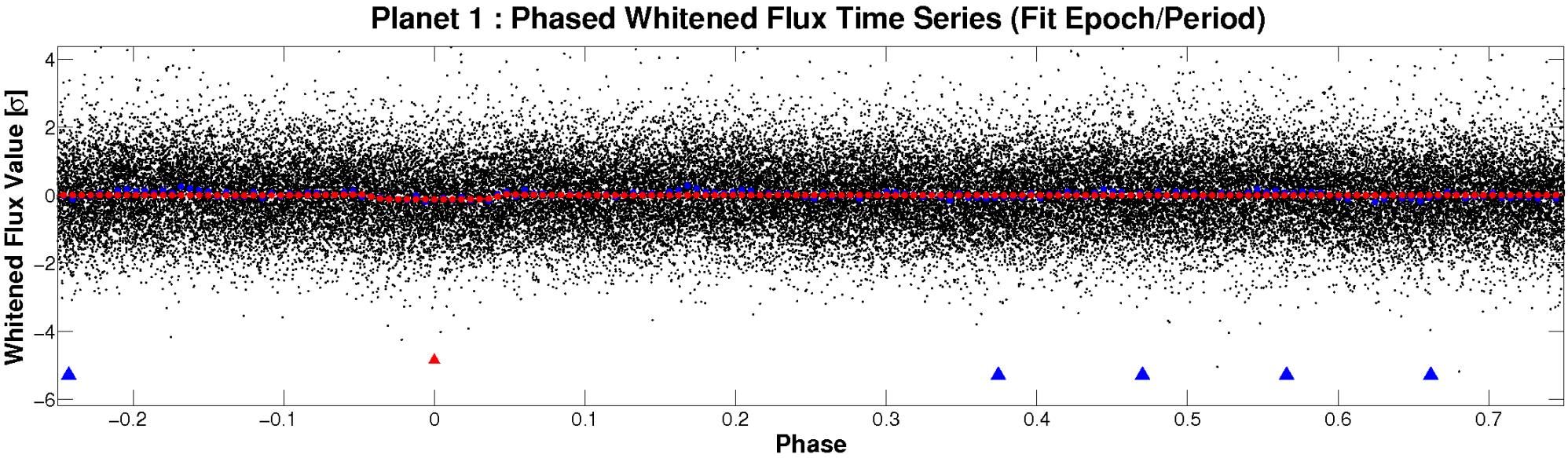

TCE 008124735-01
6.00e-03
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
-5.00e-03
Flux
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008124735-01
6.00e-03
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
-5.00e-03
Flux
-0.2
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
0.2
Phase
Odd
Even
Model Fit

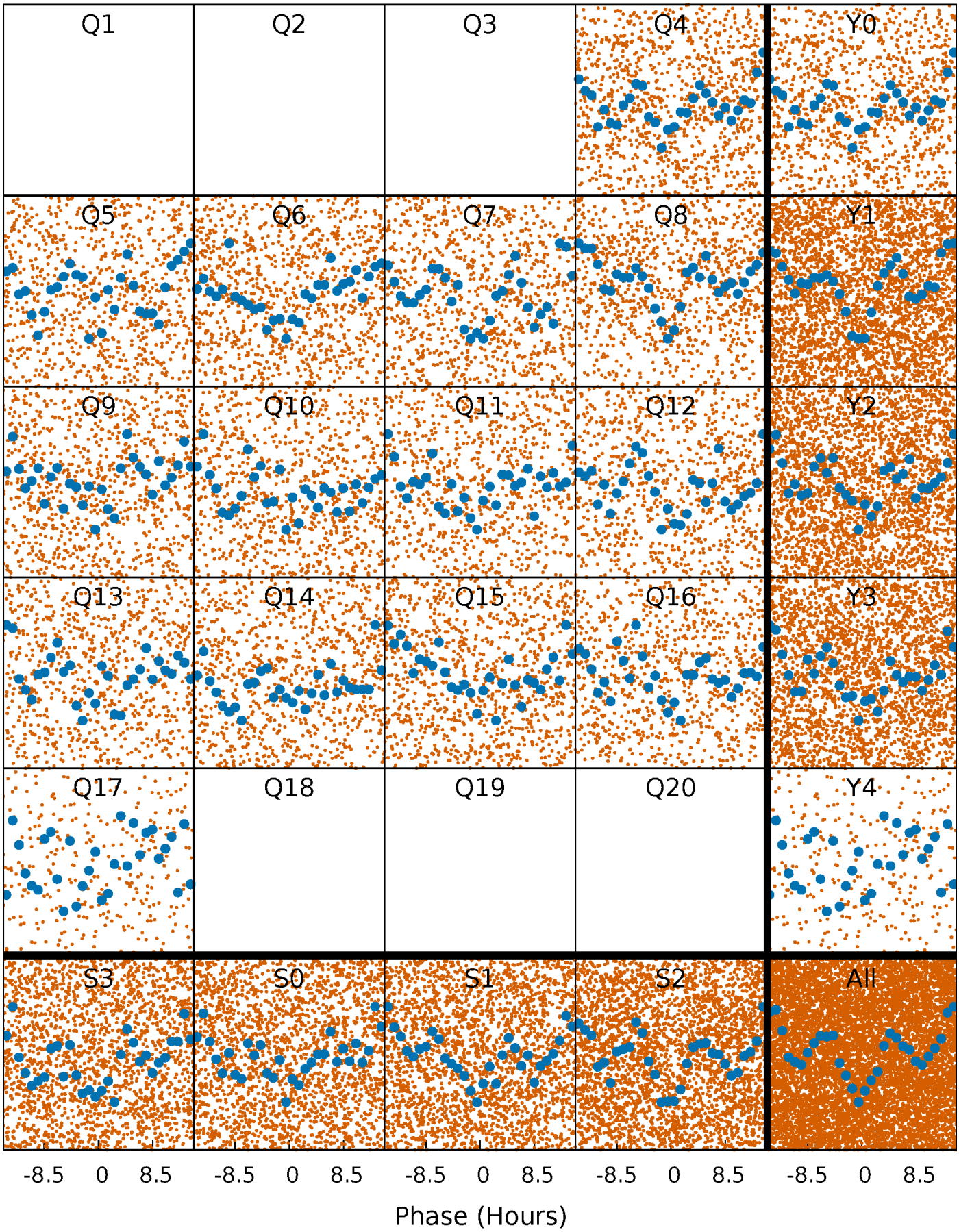
Non-Whitened Vs. Whitened Light Curve





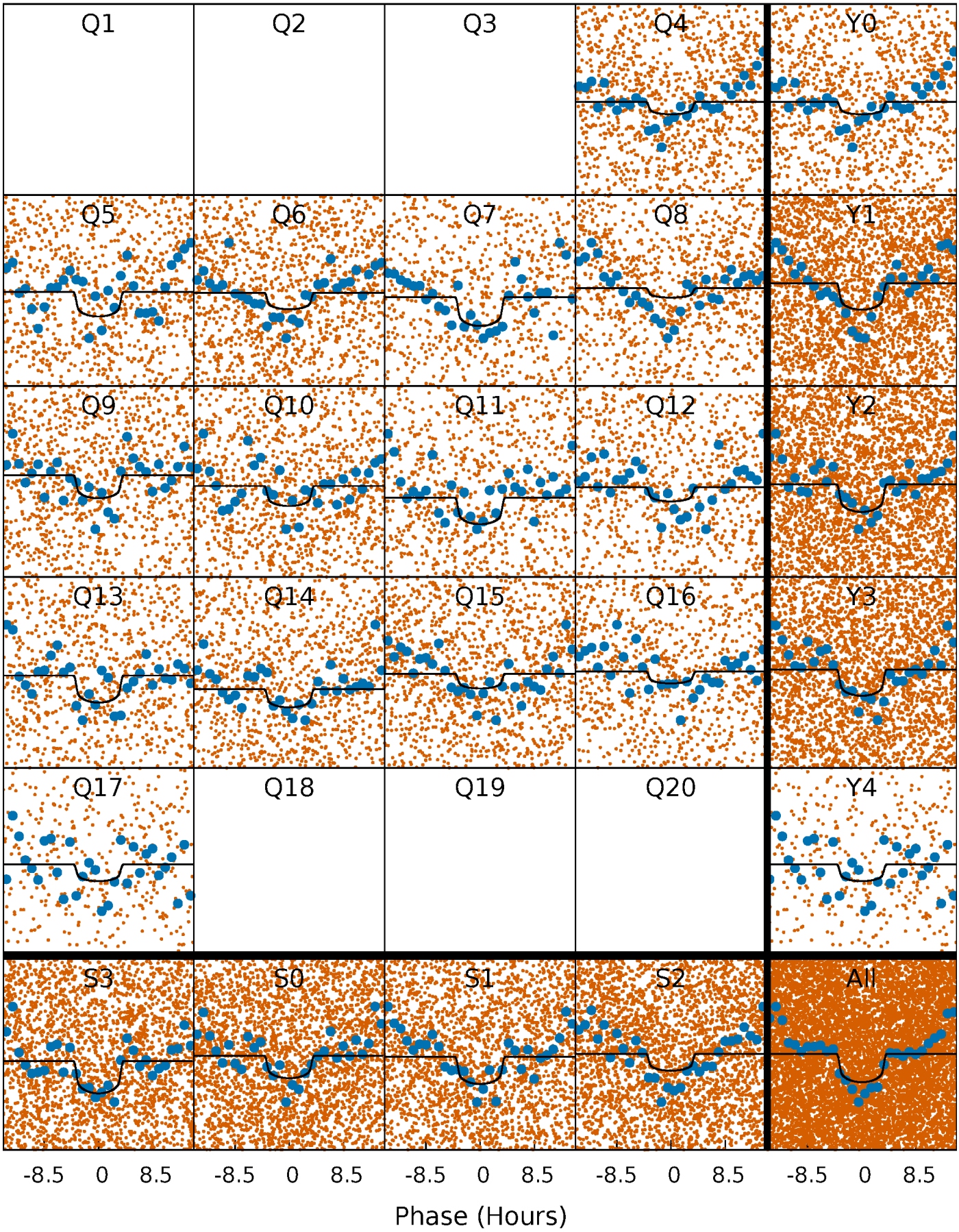
PDC Quarter-Phased Transit Curves

TCE 008124735-01 P= 3.402991 Days T_0=133.785488 (BKJD)



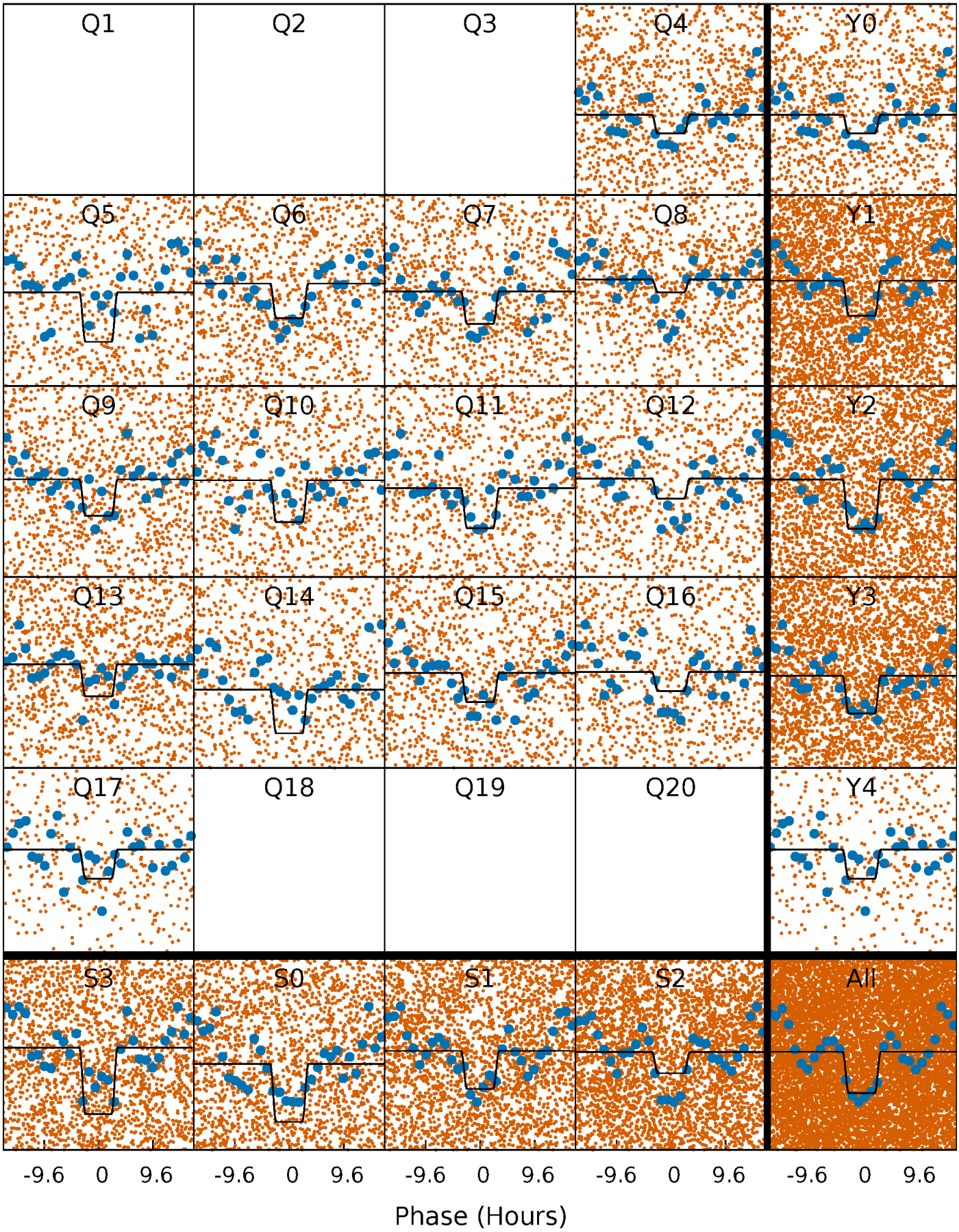
DV Quarter-Phased Transit Curves

TCE 008124735-01 P= 3.402991 Days T_0=133.785488 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

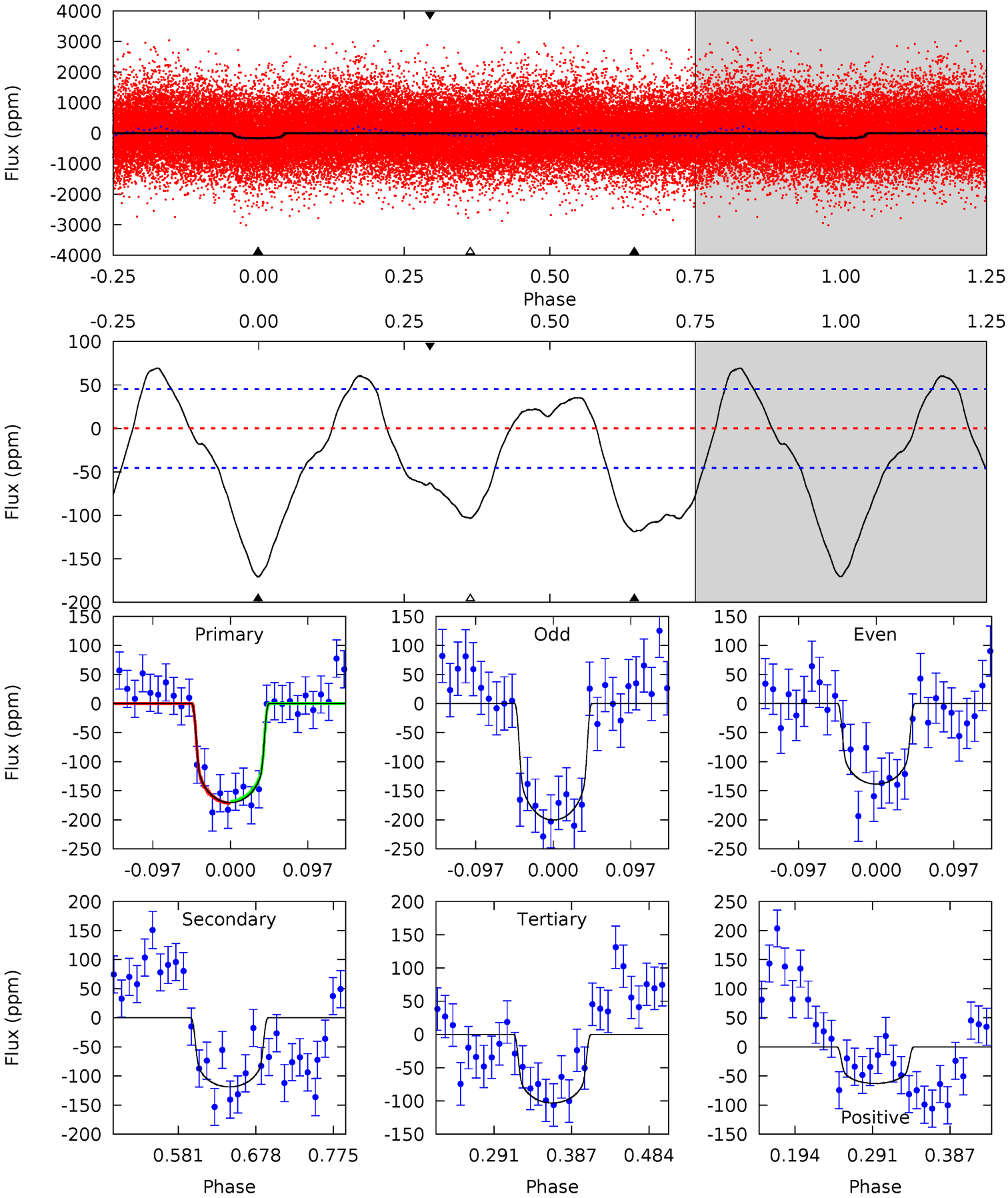
TCE 008124735-01 P= 3.403058 Days T_0=133.759205 (BKJD)



DV Model-Shift Uniqueness Test

008124735-01, P = 3.402991 Days, E = 133.785488 Days

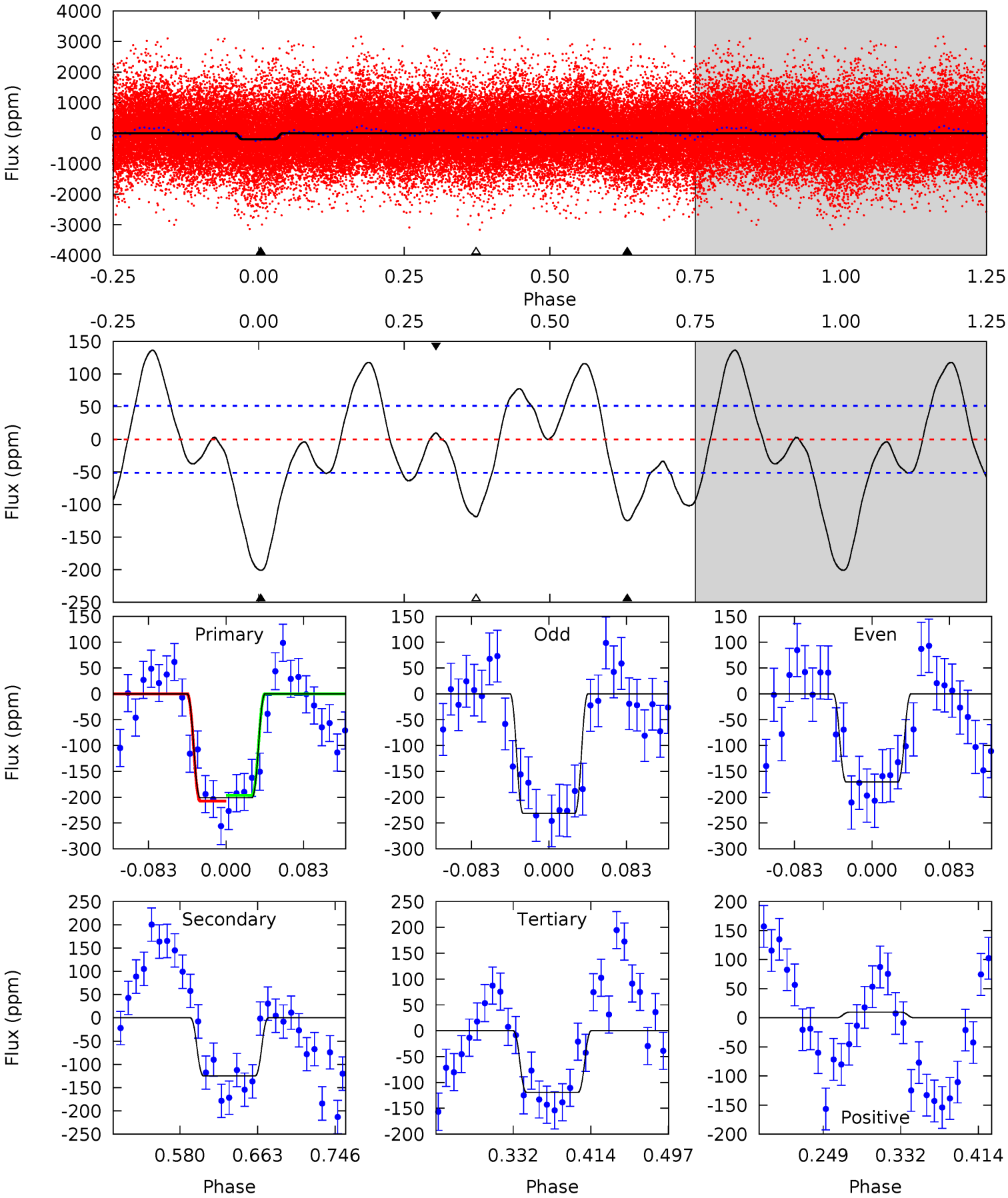
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	12.0	10.4	-6.33	4.57	1.66	5.05	6.78	23.5	1.58	18.3	3.12	1.20	0.29	0.16



Alt Model-Shift Uniqueness Test

008124735-01, P = 3.403058 Days, E = 133.759205 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	11.1	10.6	0.87	4.60	1.73	5.91	7.32	17.1	0.49	10.3	2.71	1.27	0.40	0.49



Stellar Parameters For KIC 008124735

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	4970^{+177}_{-177}	$4.665^{+0.059}_{-0.036}$	$-1.020^{+0.300}_{-0.300}$	$0.591^{+0.046}_{-0.041}$	$0.589^{+0.050}_{-0.025}$	$4.021^{+0.921}_{-0.576}$
	+4%/-4%	+1%/-1%	+29%/-29%	+8%/-7%	+8%/-4%	+23%/-14%
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 008124735-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-119±10	$0.76^{+0.29}_{-0.29}$	1213^{+49}_{-48}	4782^{+1109}_{-566}	155^{+236}_{-71}
Alt.	-125±11	$0.89^{+0.27}_{-0.28}$	1215^{+49}_{-45}	4543^{+795}_{-440}	120^{+130}_{-49}

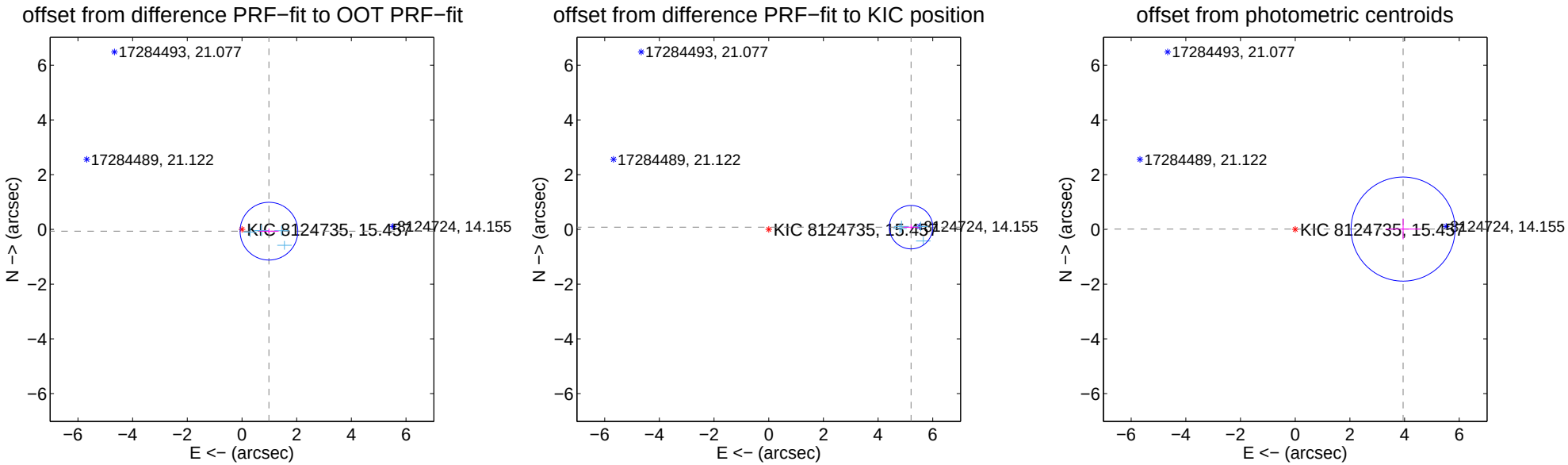
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

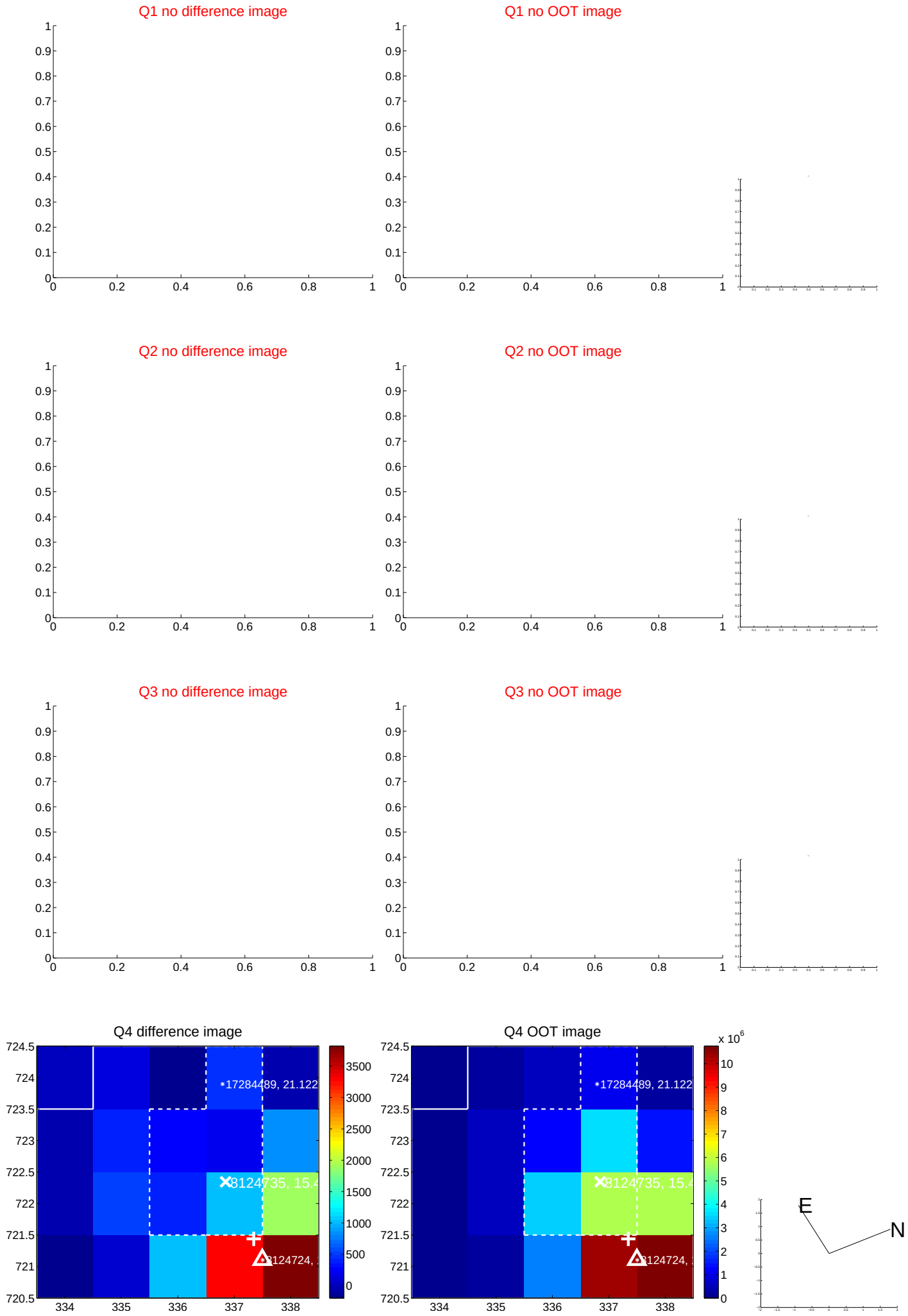
Supplemental centroid analysis for 008124735-01. Kepler magnitude: 15.46. Transit SNR 7.69
There are 4 quarters with good PRF difference image offsets
The OOT PRF centroid is offset from the target star catalog position by about 4.51 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.989 ± 0.352	2.81	-0.987 ± 0.353	-0.065 ± 0.093
PRF-fit source offset from KIC position	5.207 ± 0.265	19.68	-5.207 ± 0.265	0.082 ± 0.093
photometric centroid source offset	3.95 ± 0.63	6.23	-3.95 ± 0.63	0.01 ± 0.38

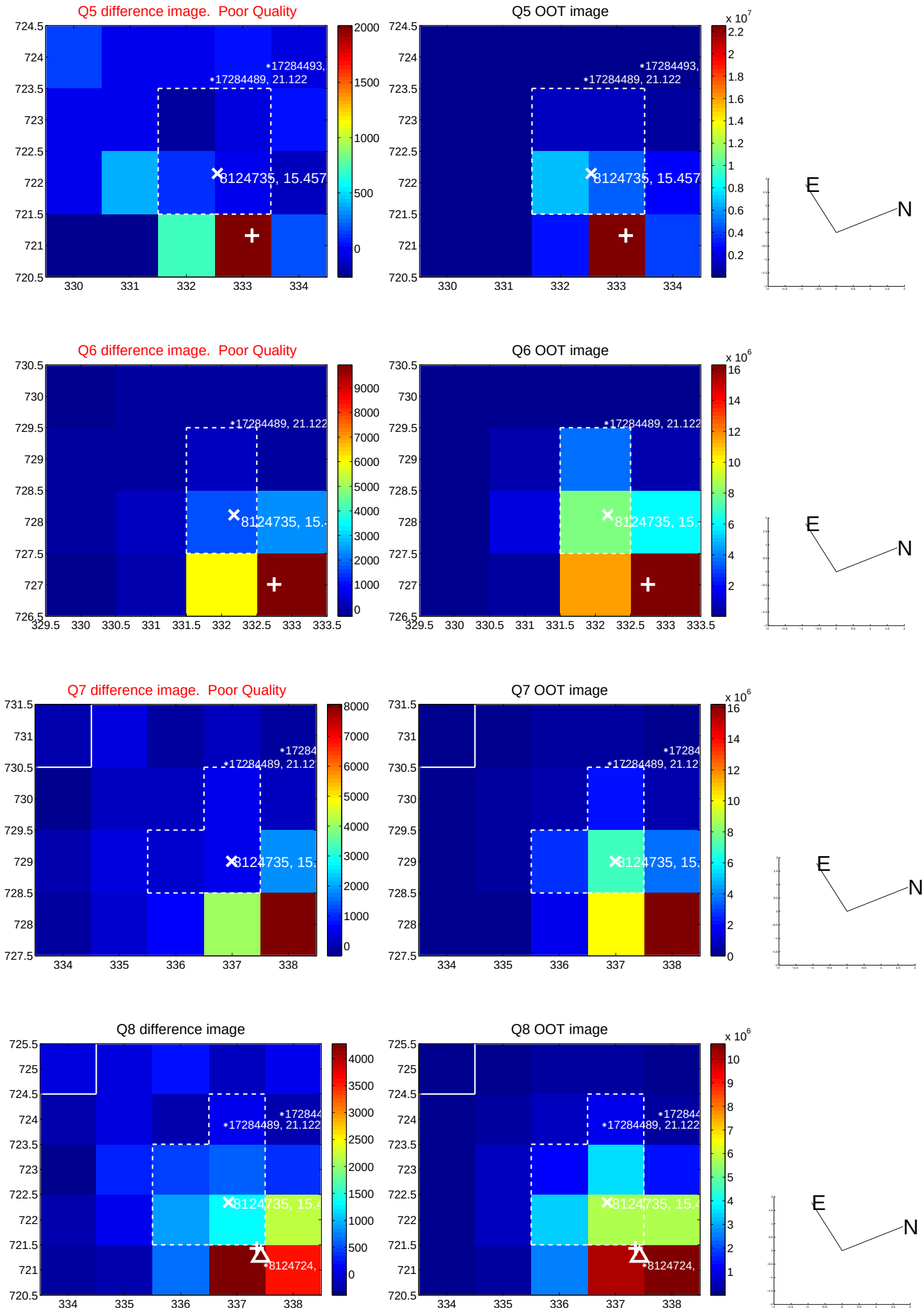


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



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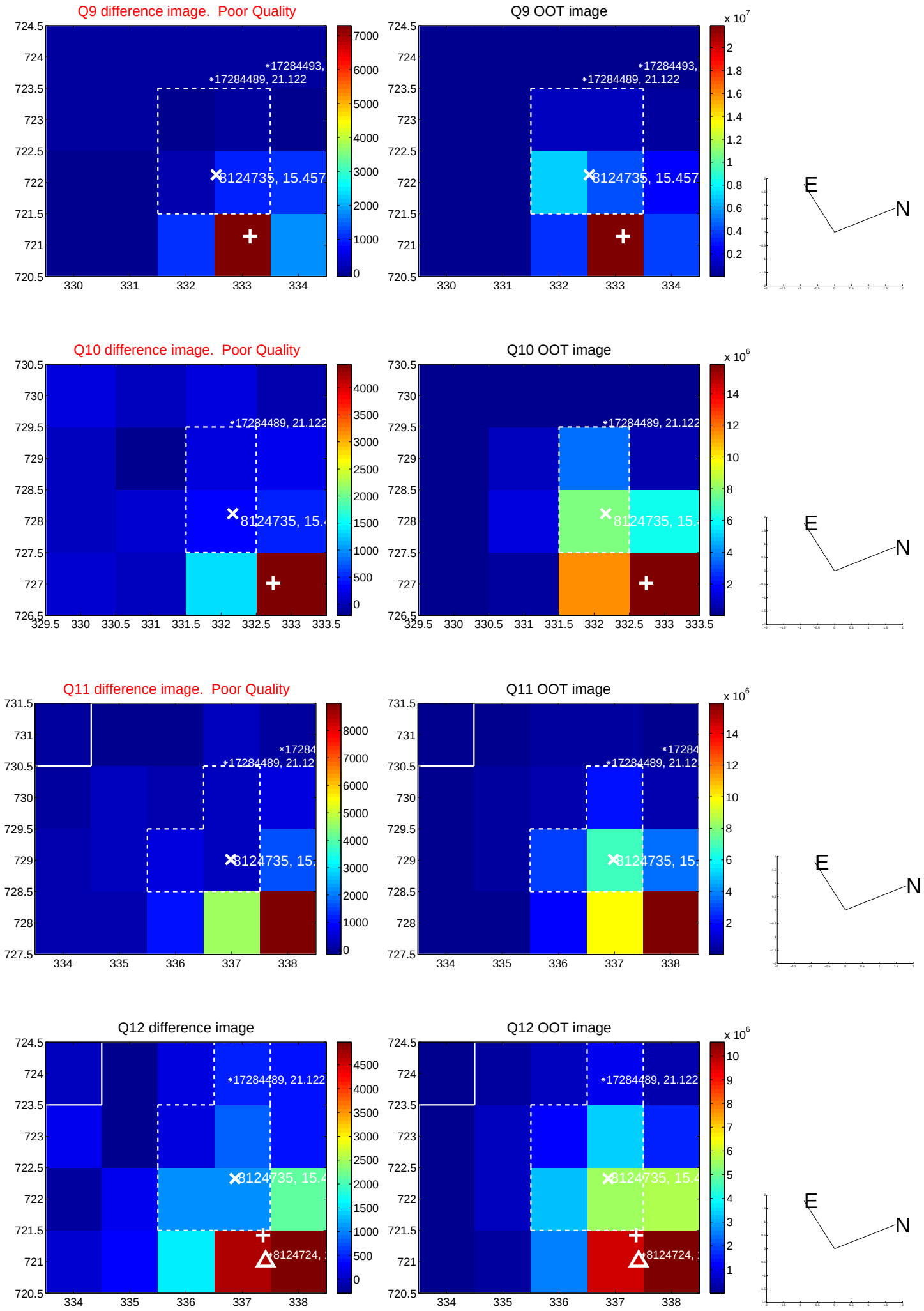
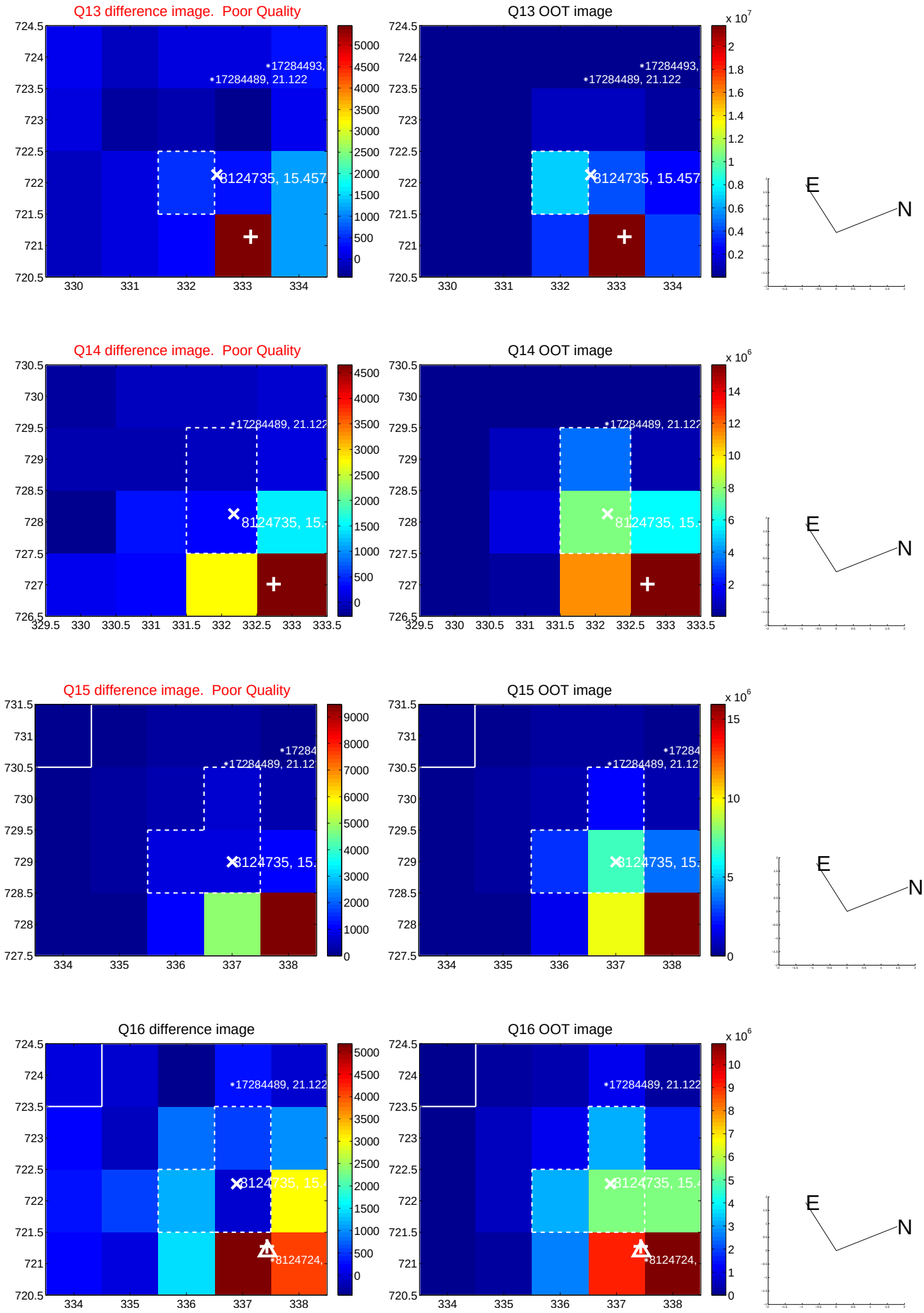
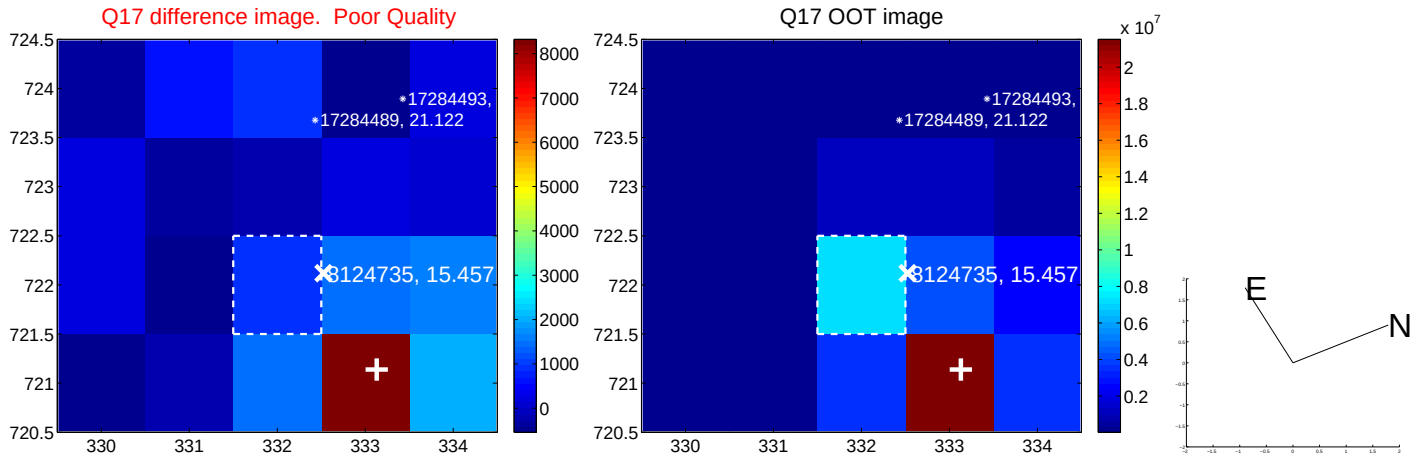
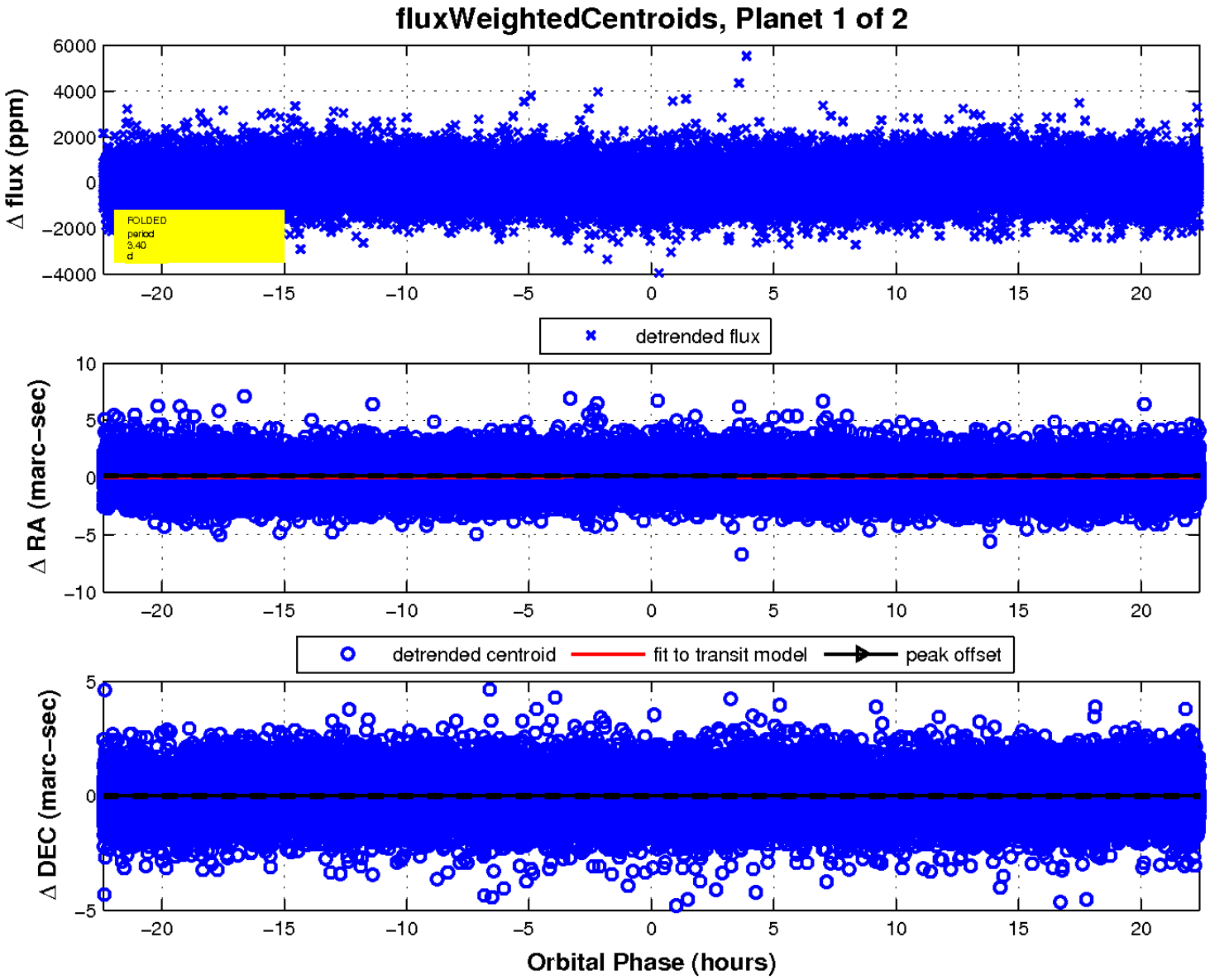


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

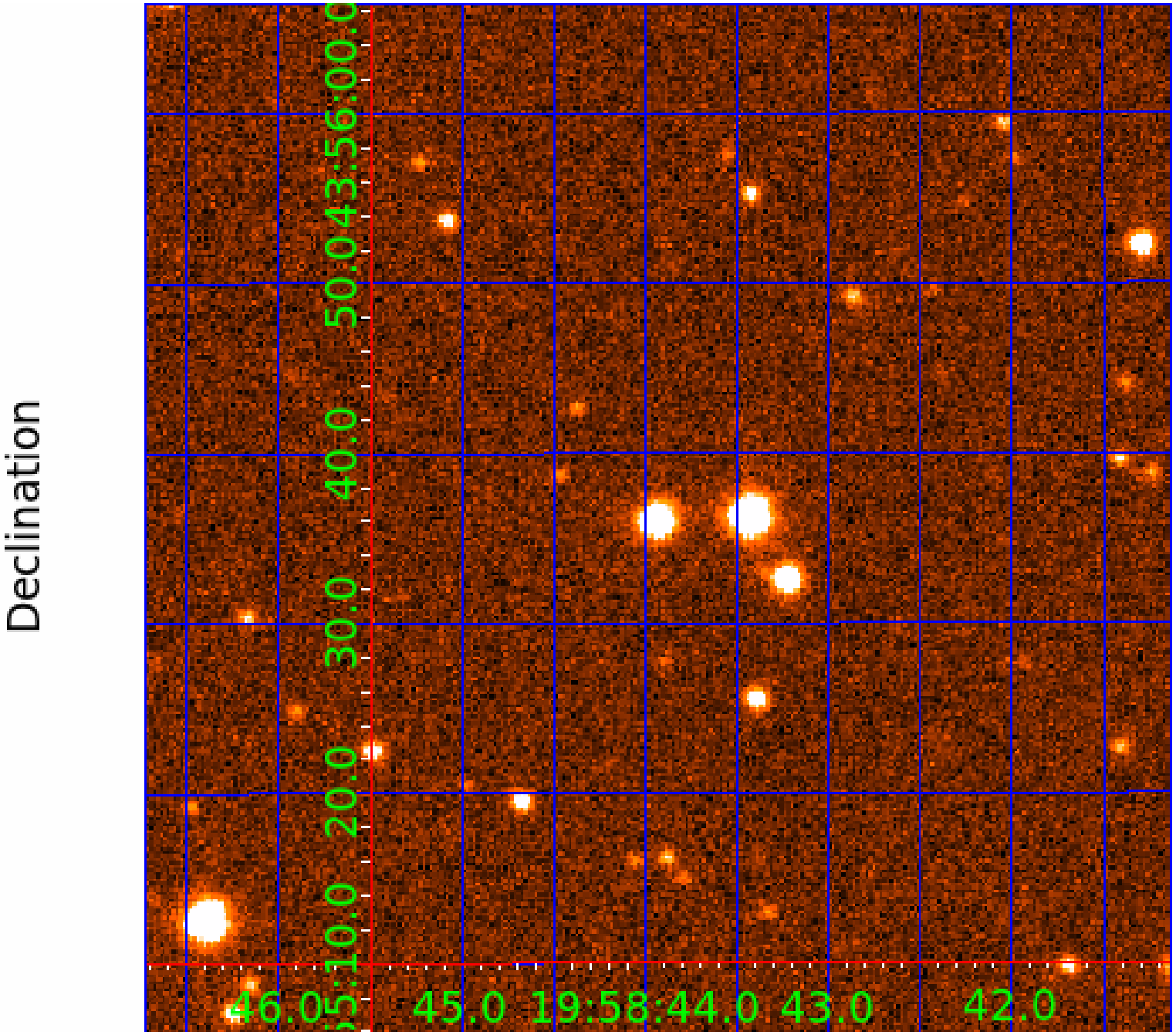


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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