KIC 009146242

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 ($S_\oplus$)
009146242-01	OBS	No	373.603304	365.469194	323.4	16.054	7.3	6.8	0.92	6025	1.73	1.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009146242-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

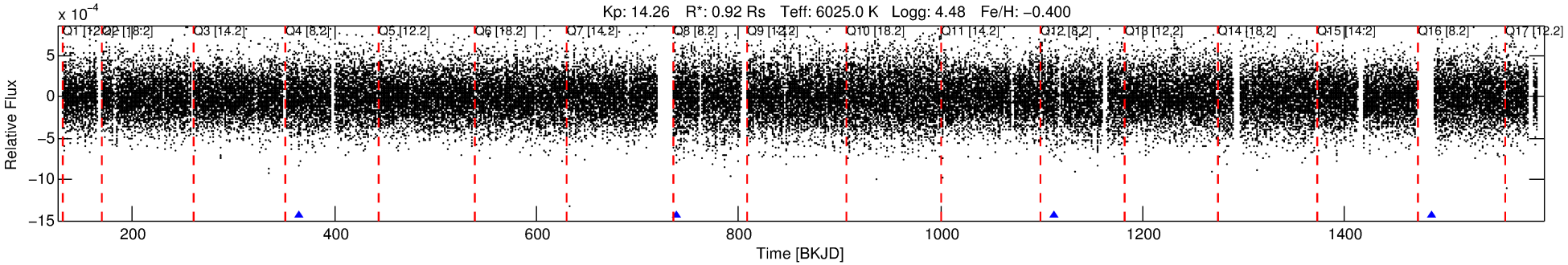
Ephemeris Match Information For 009146242-01

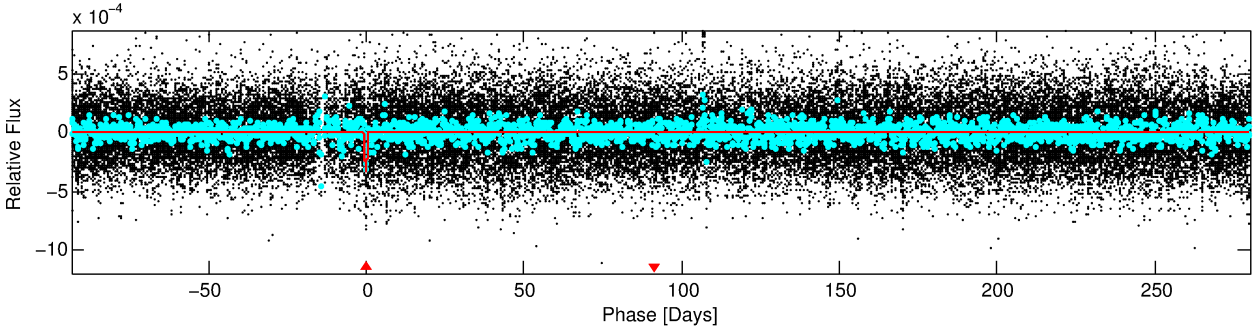
No Significant Match Found

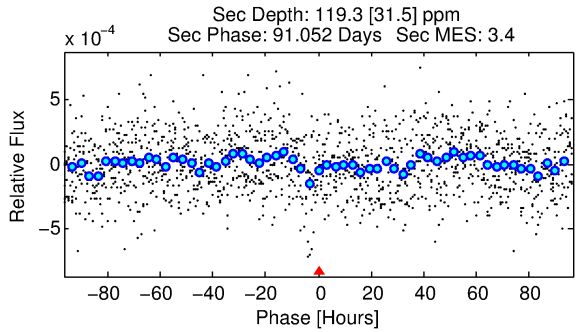
DV One-Page Summary

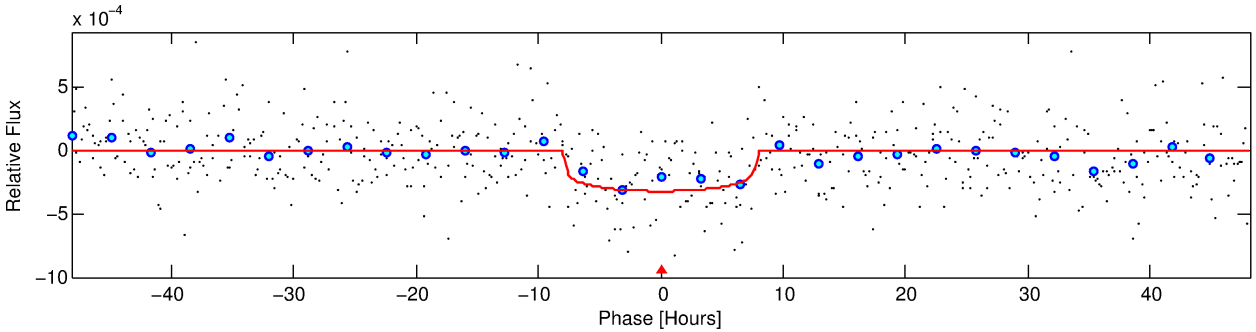
KIC: 9146242 Candidate: 1 of 1 Period: 373.603 d

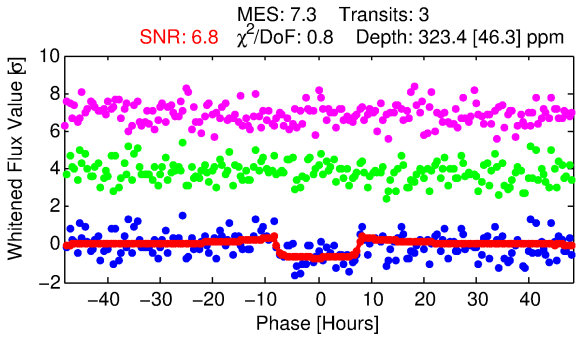
Kp: 14.26 R*: 0.92 Rs Teff: 6025.0 K Logg: 4.48 Fe/H: −0.400

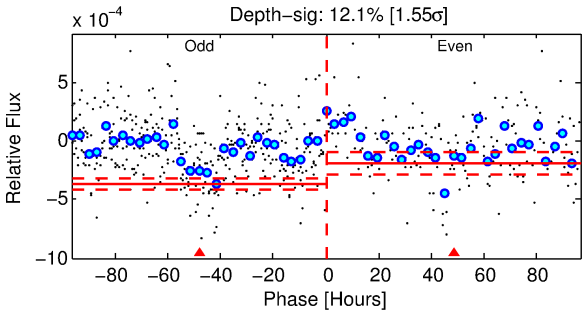


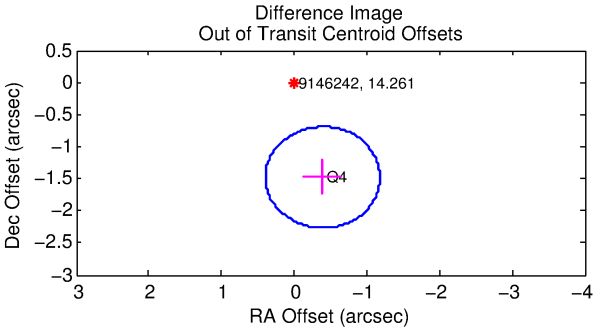












DV Fit Results:

Period = 373.60330 [0.01378] d
Epoch = 365.4692 [0.0173] BKJD
Rp/R* = 0.0173 [0.0068]
a/R* = 143.18 [275.61]
b = 0.62 [1.91]

Seff = 1.01 [0.38]
Teq = 256 [24] K
Rp = 1.73 [0.83] Re
a = 0.9876 [0.2351] AU

Ag = 21472.77 [19289.80] [1.11σ]
Teffp = 4788 [1000] K [4.53σ]

DV Diagnostic Results:

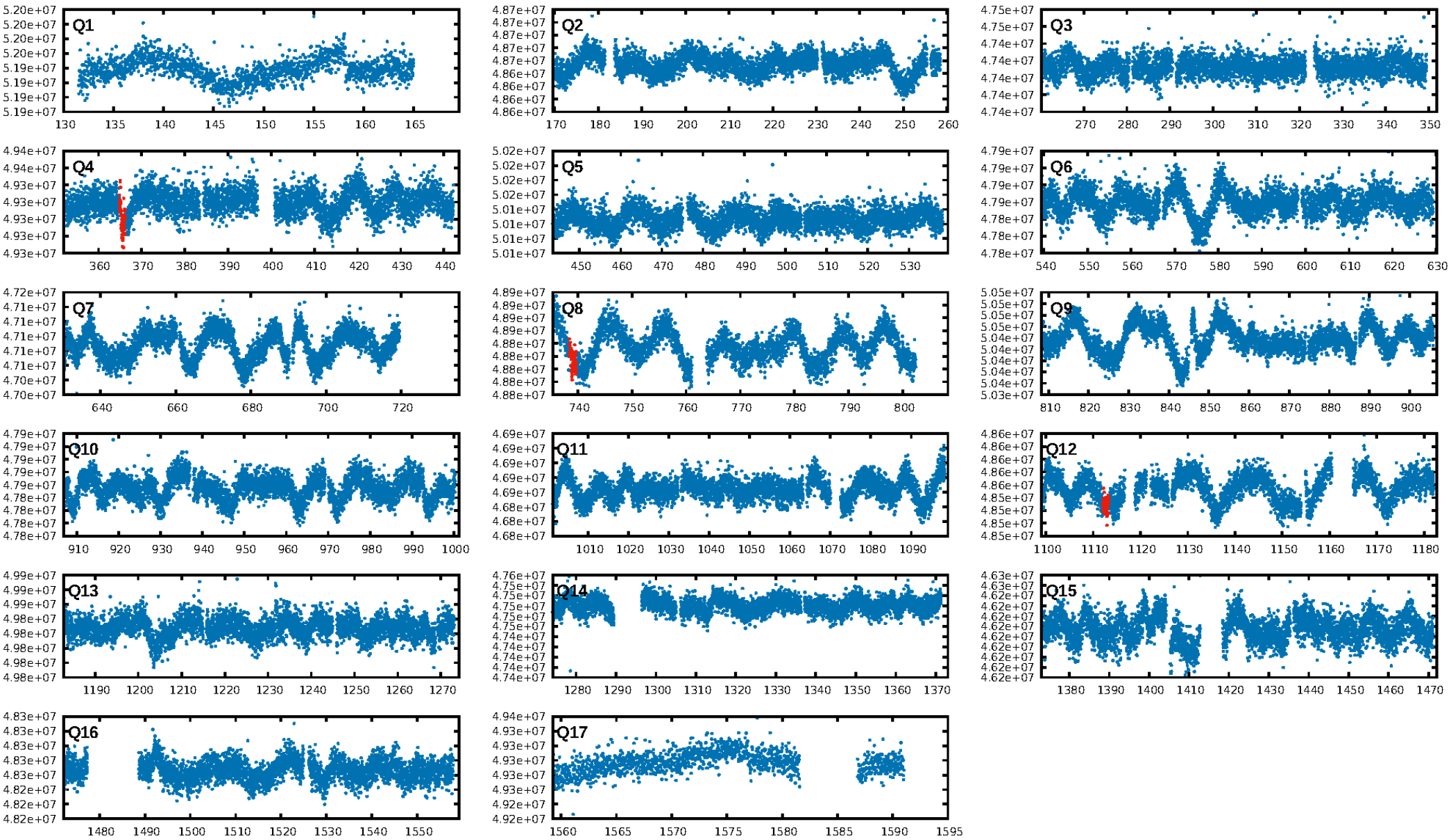
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 6.7%
ModelChiSquareGof−sig: 99.9%
Bootstrap−pfa: 1.02e−09
RollingBand−fgt: 1.00 [3/3]
GhostDiagnostic−chr: 4.59

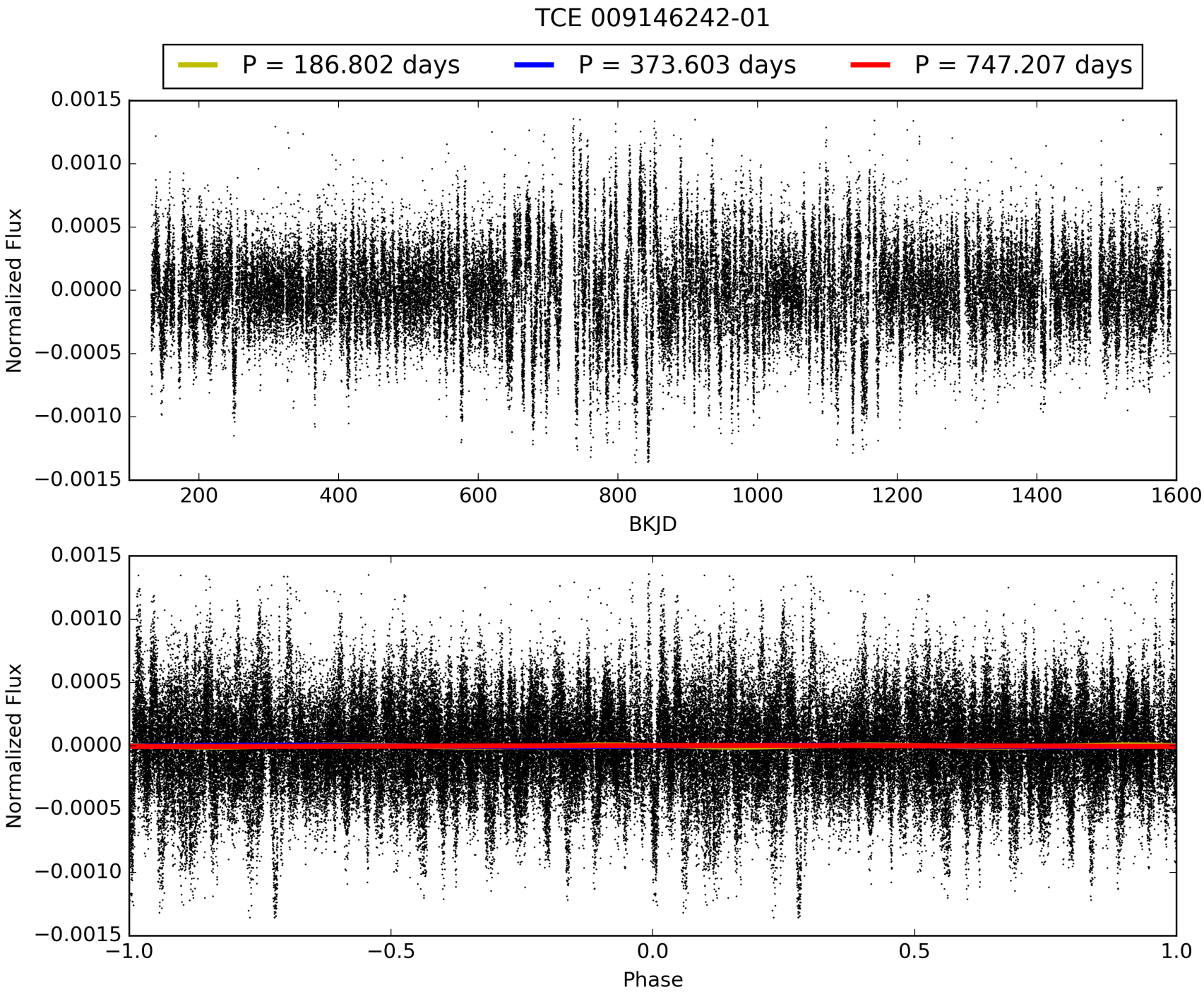
Centroid−sig: 2.1%
Centroid−so: 2.098 arcsec [1.83σ]
OotOffset−rm: 1.529 arcsec [5.82σ]
KicOffset−rm: 1.596 arcsec [6.07σ]
OotOffset−st: 0/0/1/0 [1]
KicOffset−st: 0/0/1/0 [1]
DiffImageQuality−fgm: 1.00 [1/1]
DiffImageOverlap−fno: 1.00 [2/2]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28−Jan−2016 20:31:44 Z

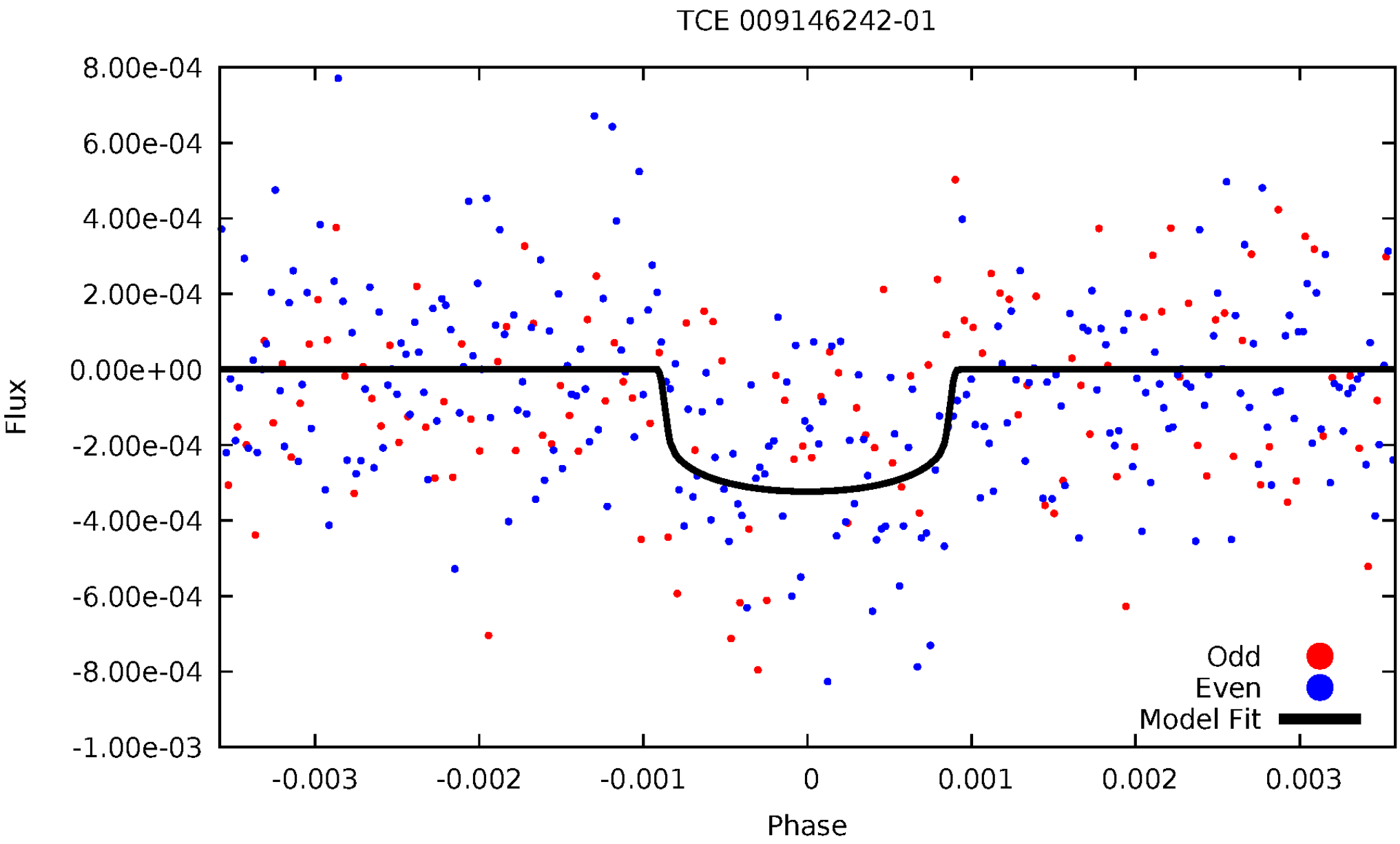
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009146242-01, PDC Light Curves

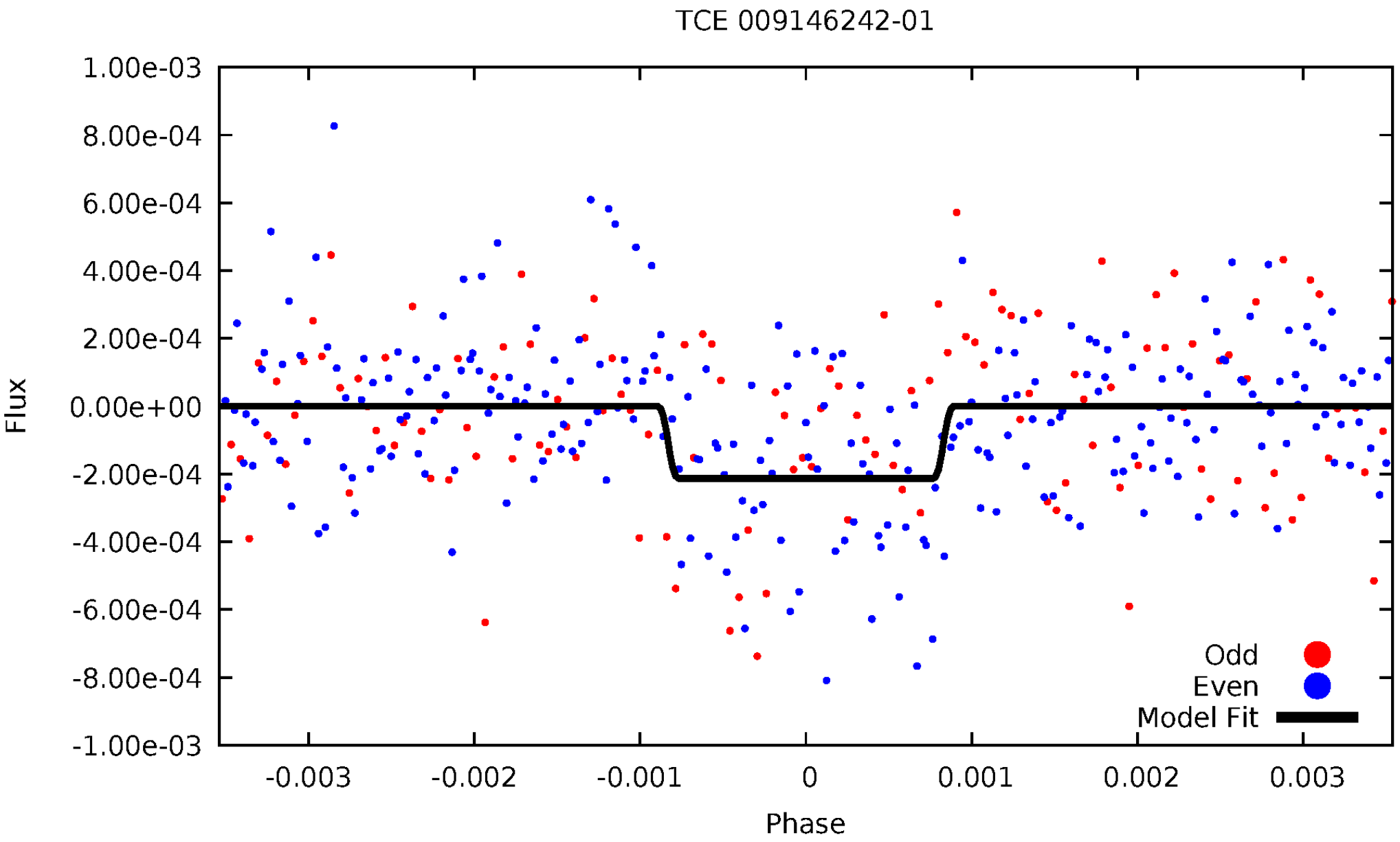



TCE 009146242-01
P = 186.802 days
P = 373.603 days
P = 747.207 days
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
−1.0
−0.5
0.0
0.5
1.0
Phase

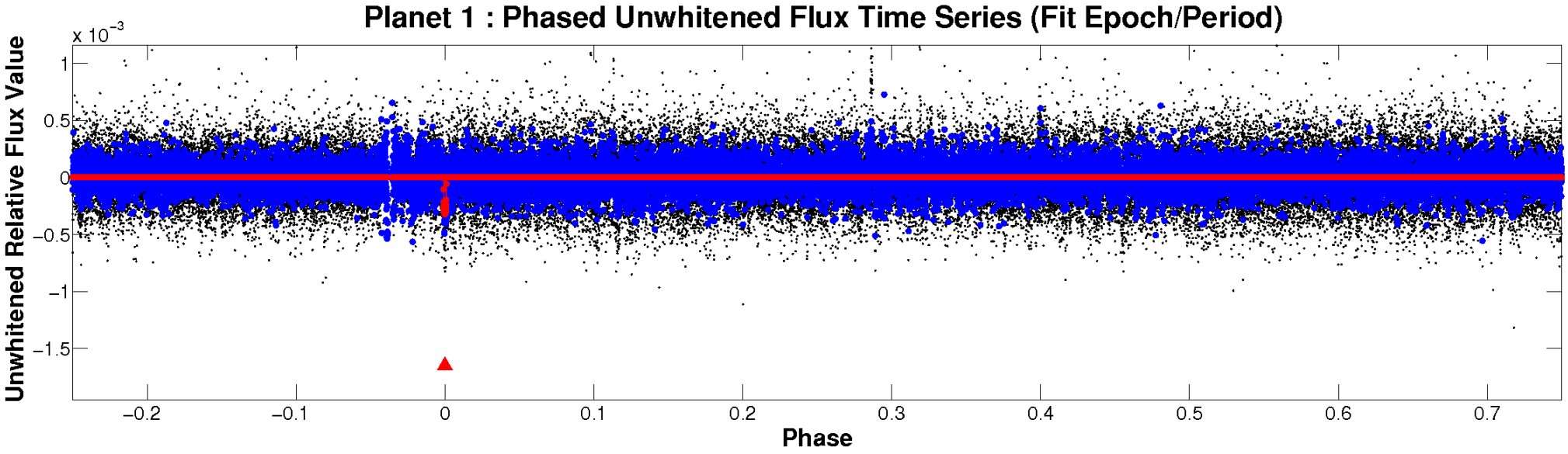
DV Odd/Even

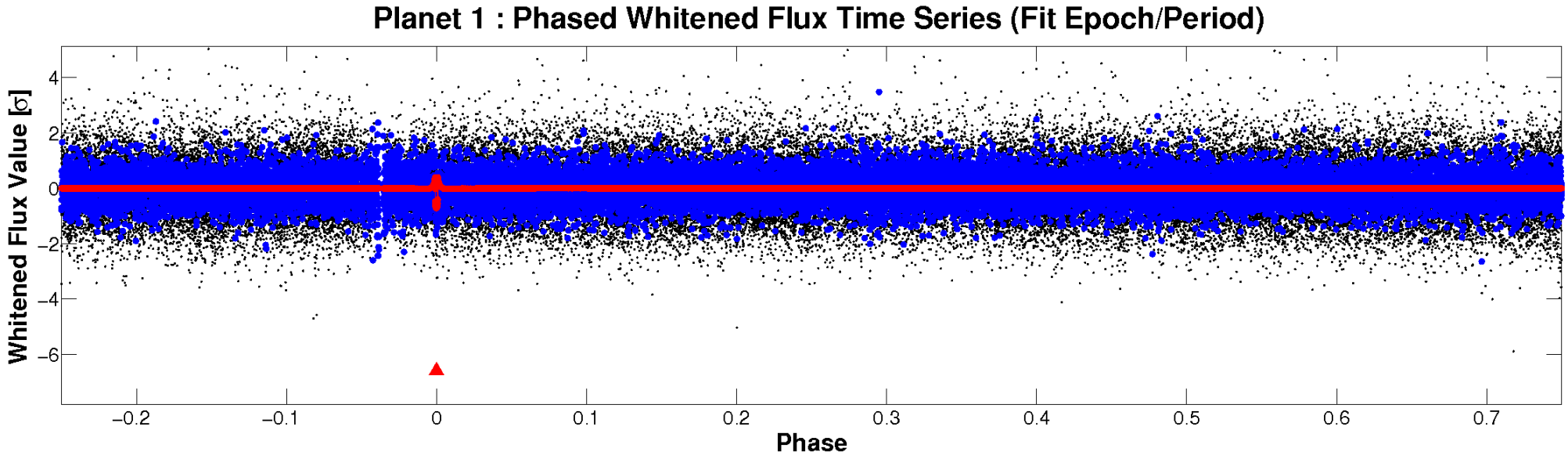

TCE 009146242-01
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009146242-01
1.00e-03
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

Non-Whitened Vs. Whitened Light Curve



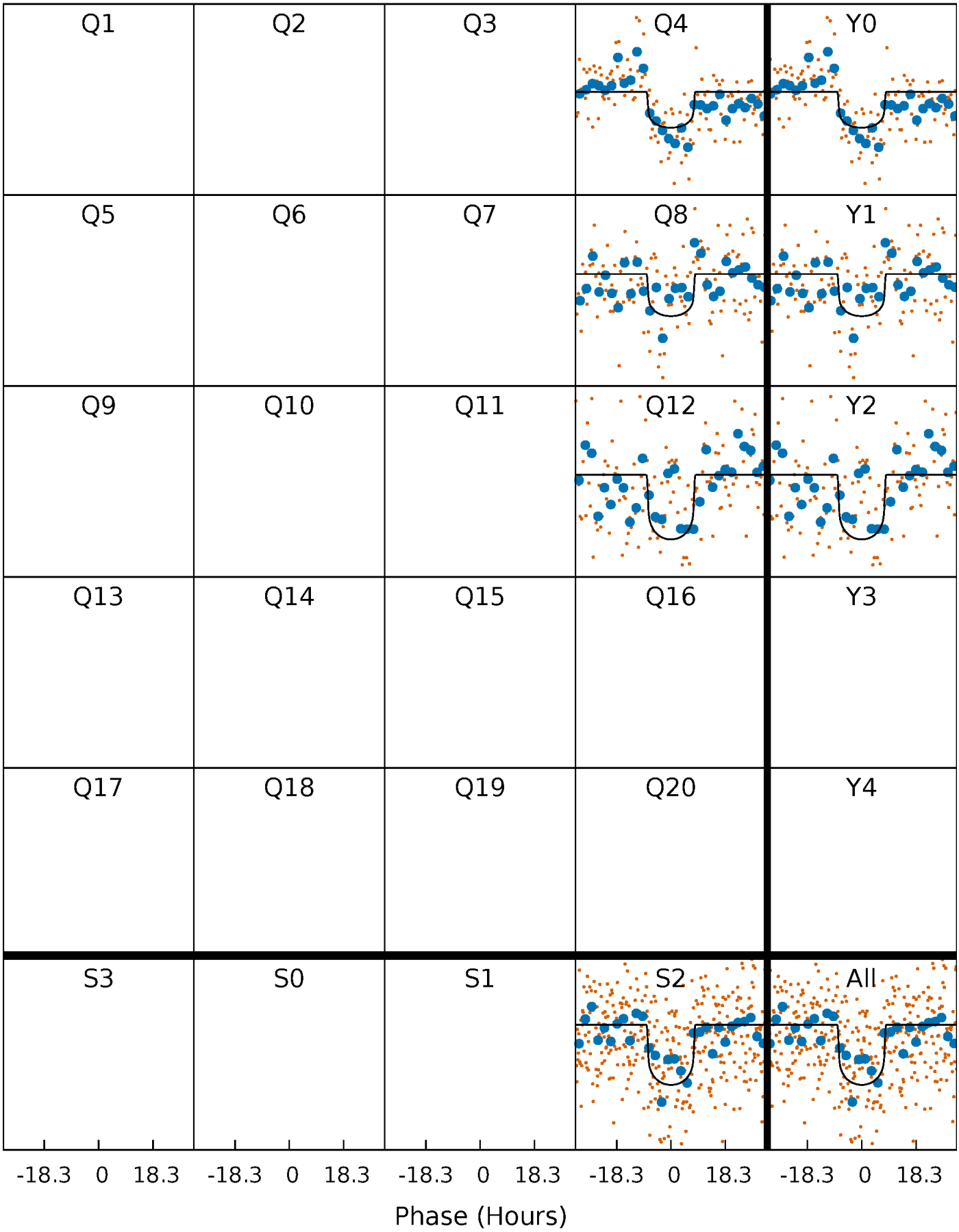


PDC Quarter-Phased Transit Curves

TCE 009146242-01 P=373.603304 Days T_0=365.469194 (BKJD)

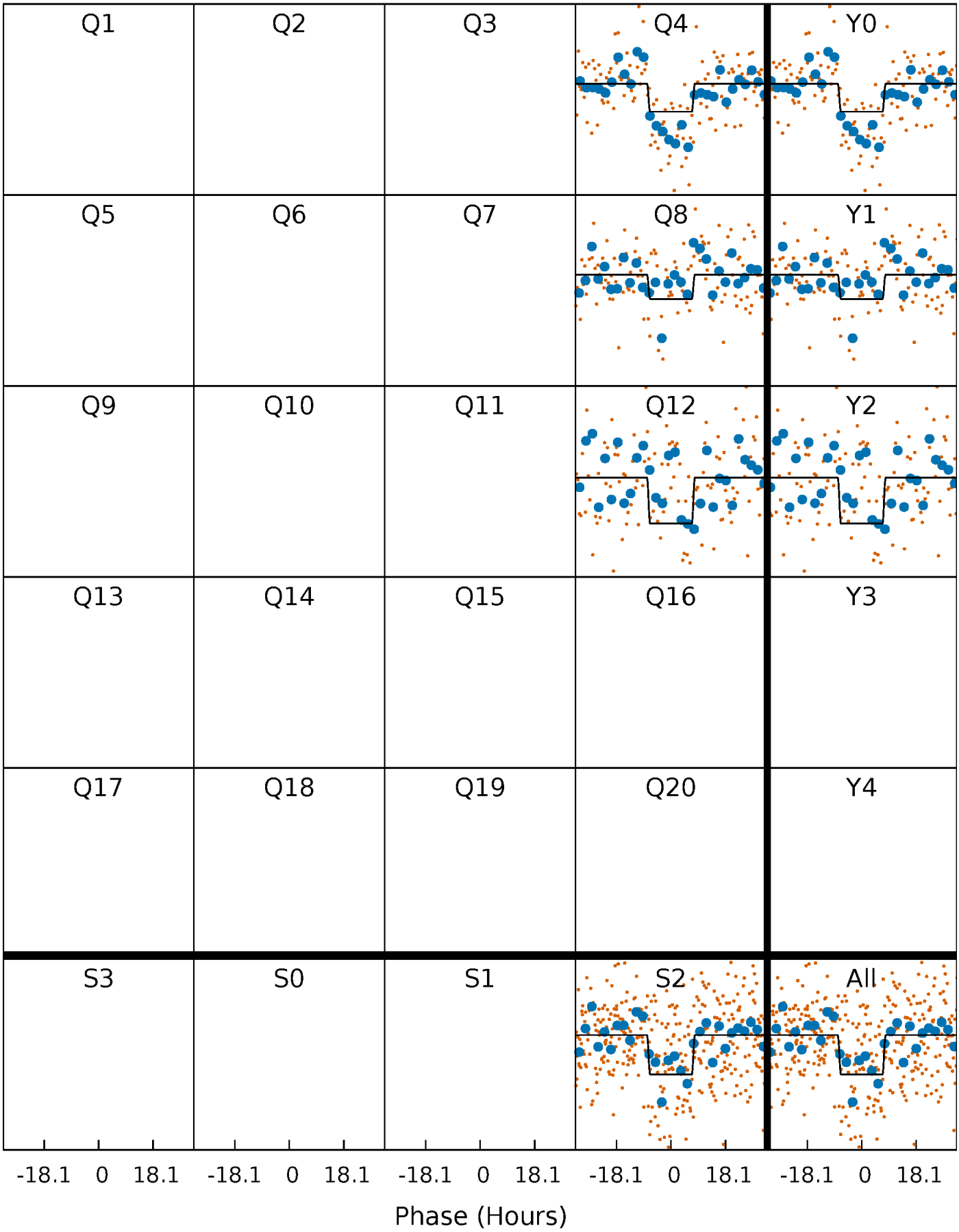
DV Quarter-Phased Transit Curves

TCE 009146242-01 P=373.603304 Days T_0=365.469194 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

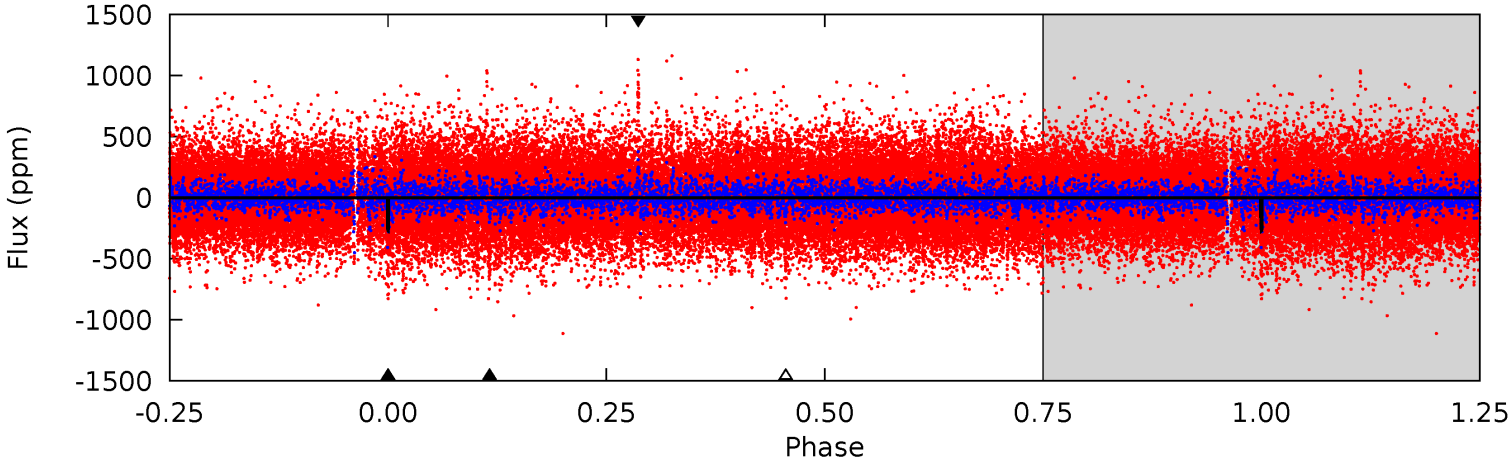
TCE 009146242-01 P=373.600400 Days T_0=365.468878 (BKJD)

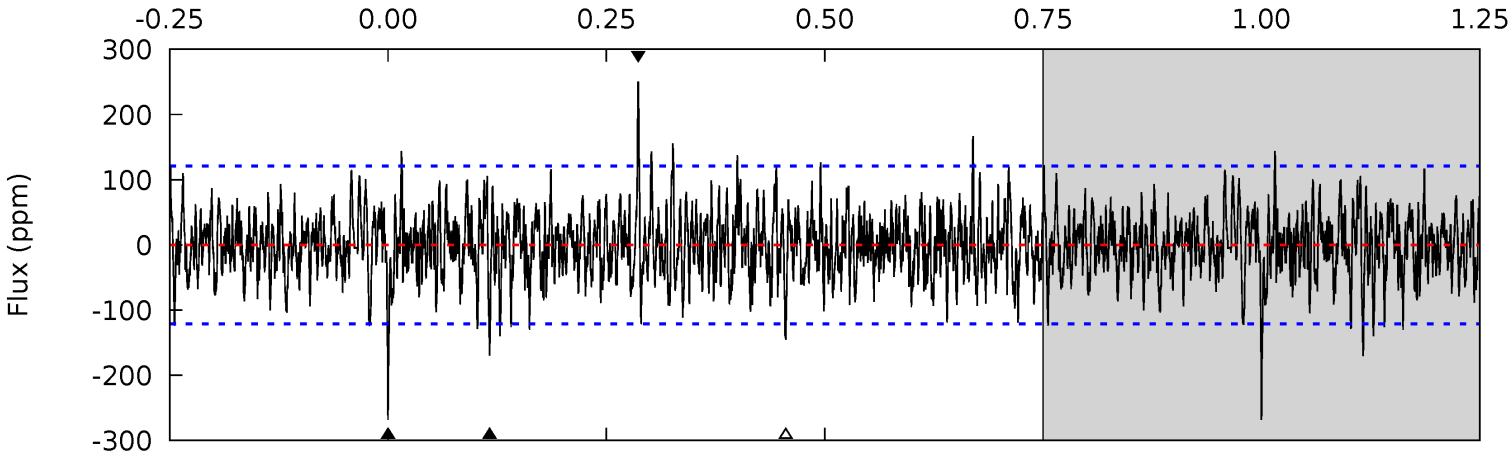


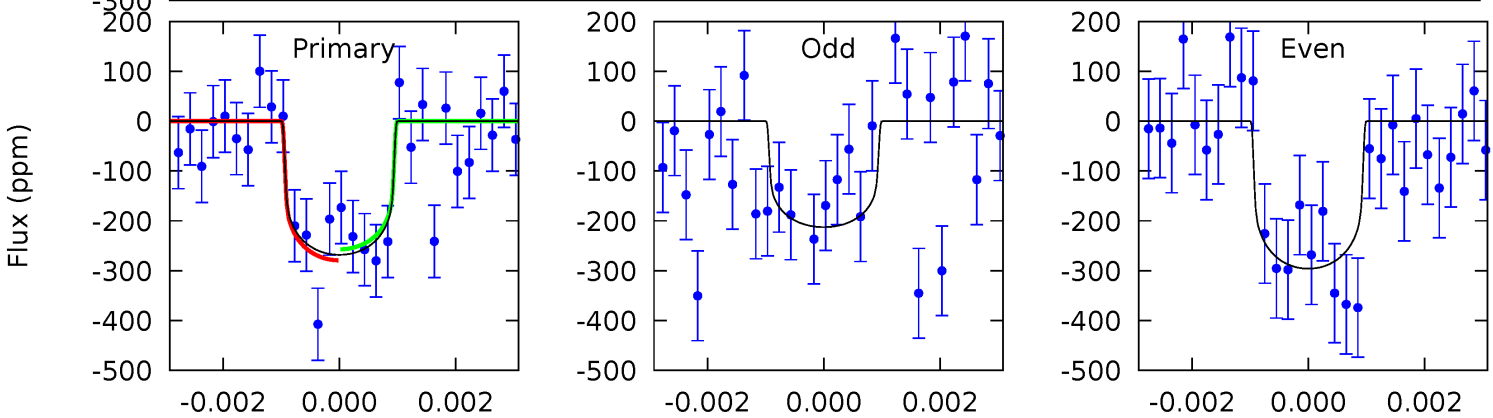
DV Model-Shift Uniqueness Test

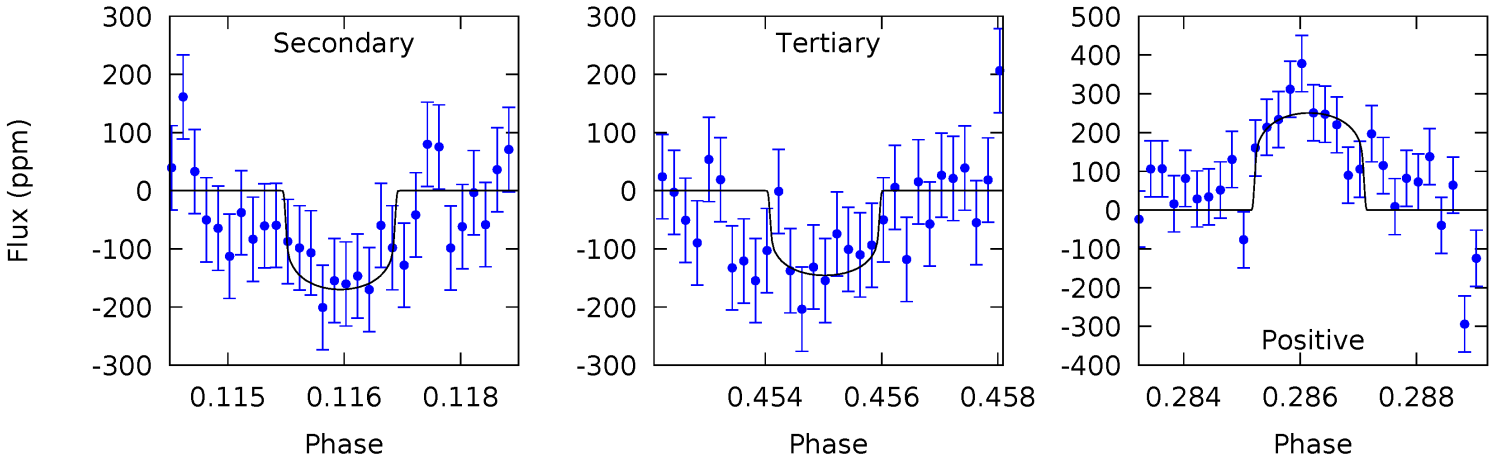
009146242-01, P = 373.603304 Days, E = 365.469194 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	7.49	6.42	11.1	5.34	3.11	1.95	5.42	0.78	1.07	-3.57	1.72	1.26	0.48	0.49





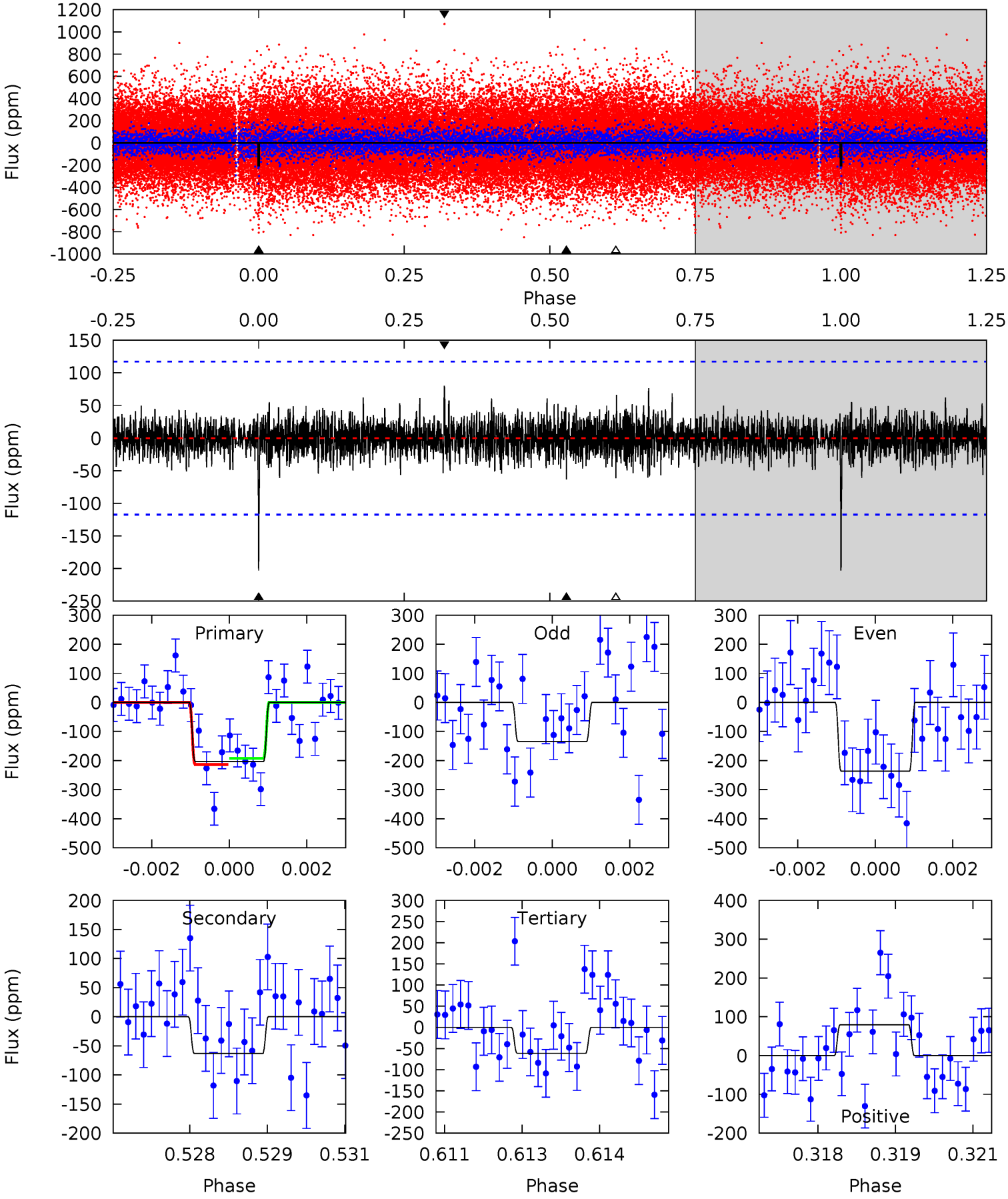




Alt Model-Shift Uniqueness Test

009146242-01, P = 373.600400 Days, E = 365.468878 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.25	2.89	2.80	3.63	5.35	3.13	0.84	6.45	5.63	0.09	-0.74	2.21	1.50	0.28	0.49



Stellar Parameters For KIC 009146242

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6025^{+161}_{-179}	$4.479^{+0.078}_{-0.195}$	$-0.400^{+0.300}_{-0.300}$	$0.915^{+0.254}_{-0.091}$	$0.921^{+0.109}_{-0.098}$	$1.691^{+0.565}_{-0.826}$
	+3%/-3%	+2%/-4%	+75%/-75%	+28%/-10%	+12%/-11%	+33%/-49%
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 009146242-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-170±23	$1.81^{+0.78}_{-0.69}$	361^{+25}_{-17}	5240^{+1433}_{-714}	27760^{+45022}_{-14256}
Alt.	-63±22	$1.51^{+0.69}_{-0.65}$	362^{+24}_{-18}	4569^{+1303}_{-682}	14351^{+33124}_{-8590}

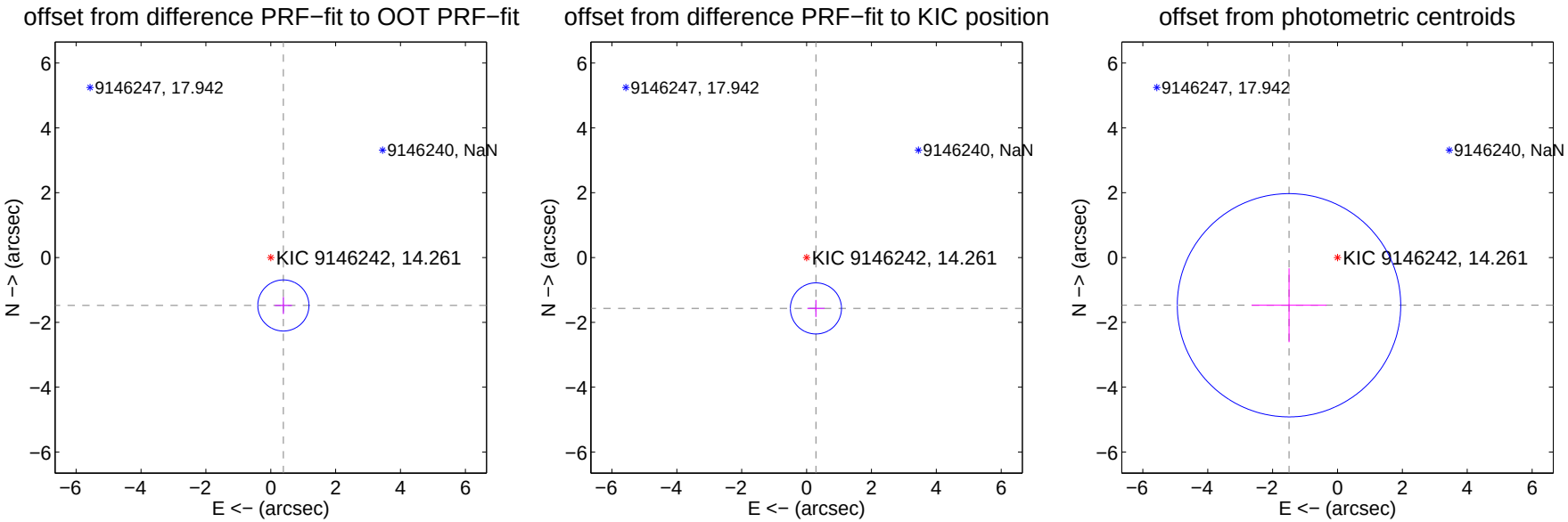
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

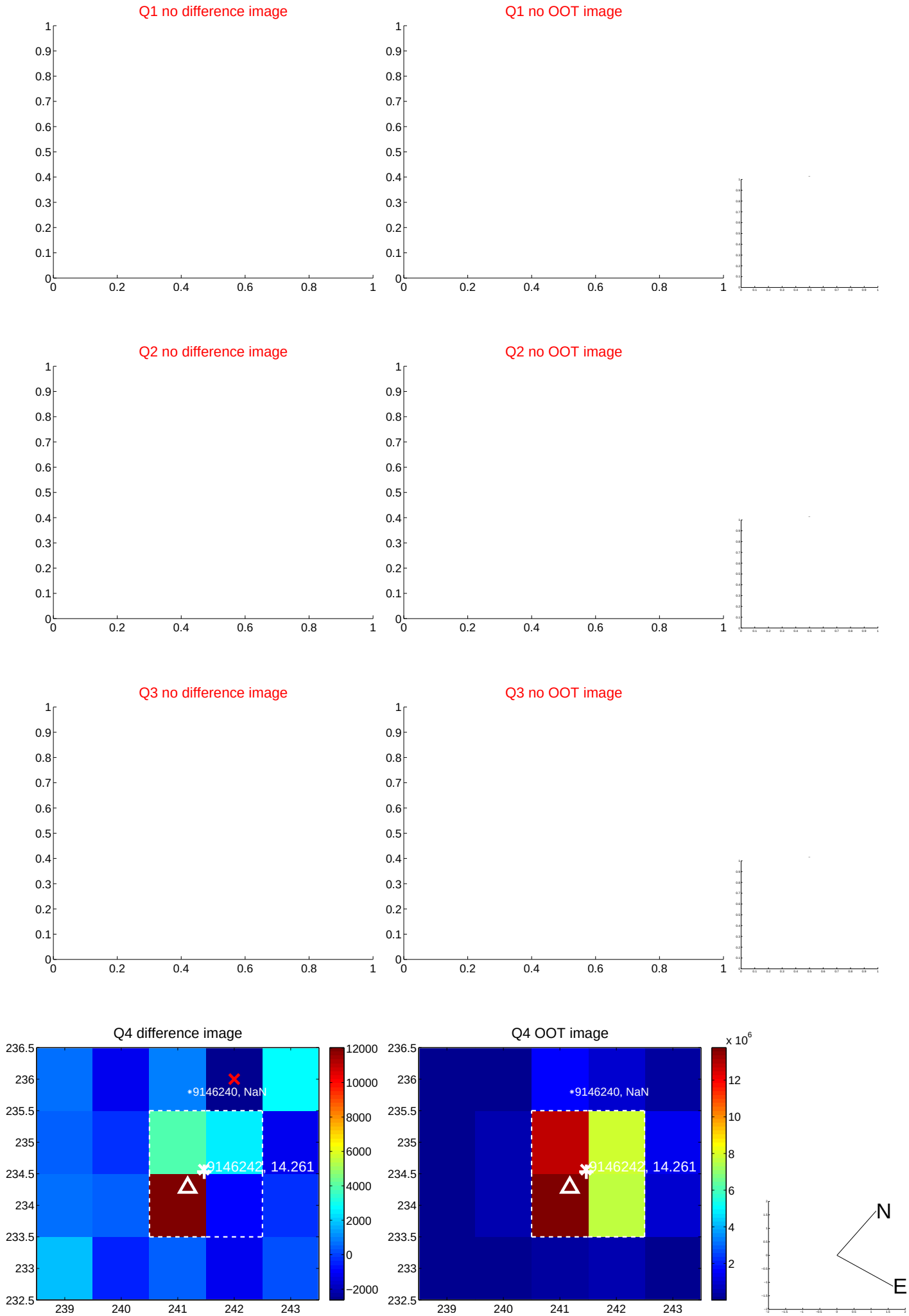
Supplemental centroid analysis for 009146242-01. Kepler magnitude: 14.26. Transit SNR 6.78
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.529 ± 0.263	5.82	-0.389 ± 0.265	-1.479 ± 0.263
PRF-fit source offset from KIC position	1.596 ± 0.263	6.07	-0.288 ± 0.265	-1.570 ± 0.263
photometric centroid source offset	2.10 ± 1.15	1.83	1.49 ± 1.16	-1.47 ± 1.14

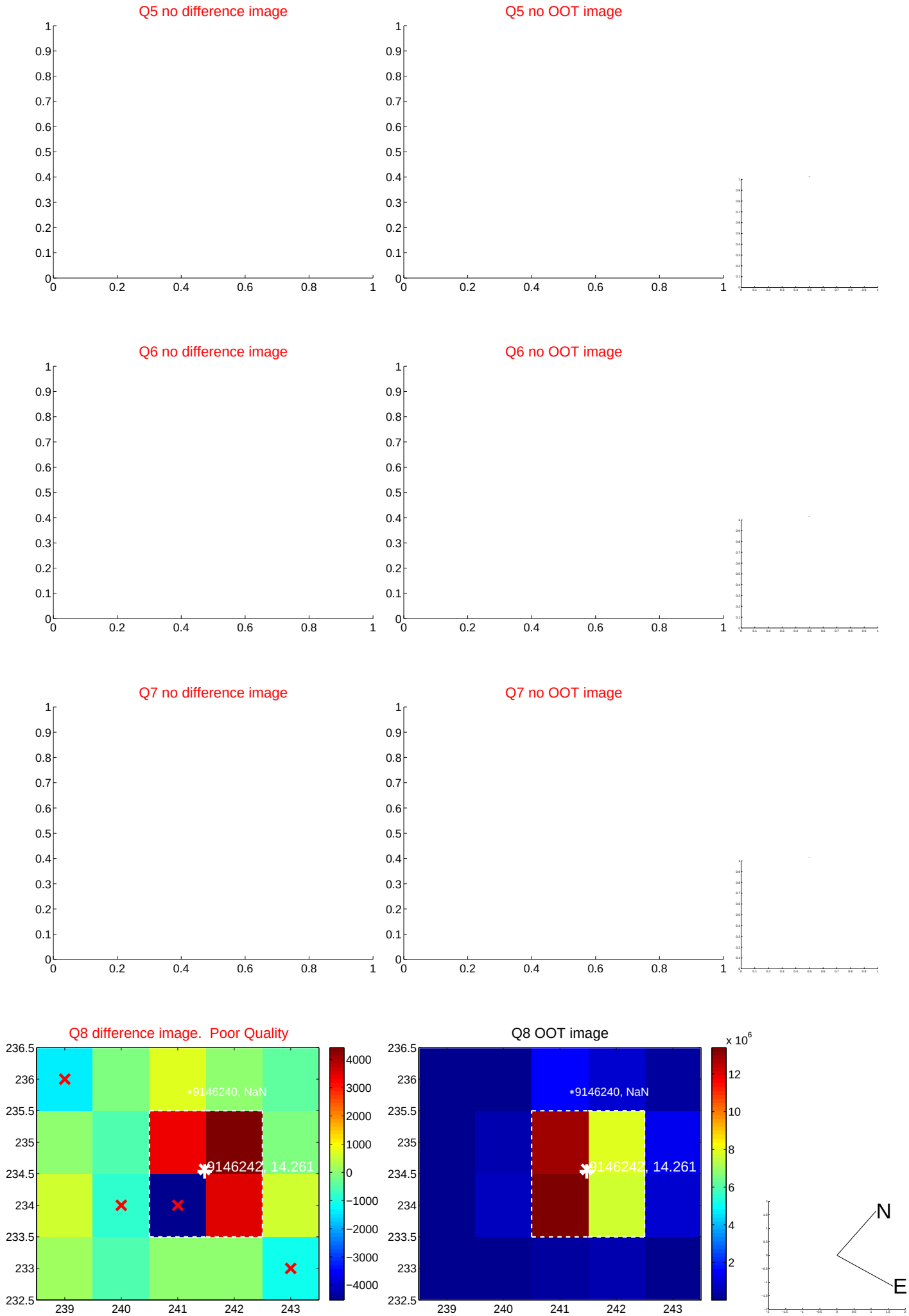


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

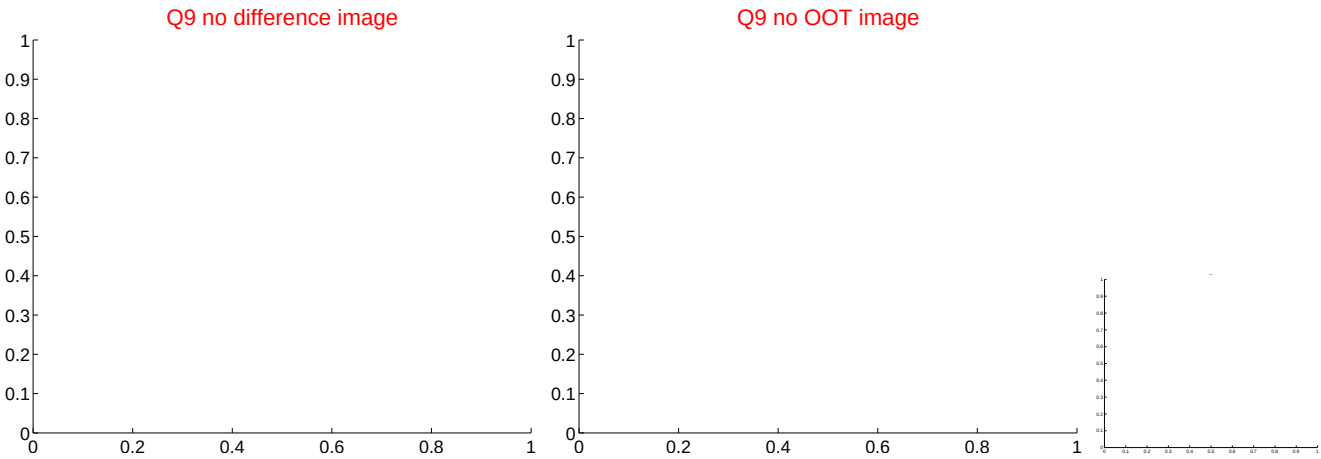
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

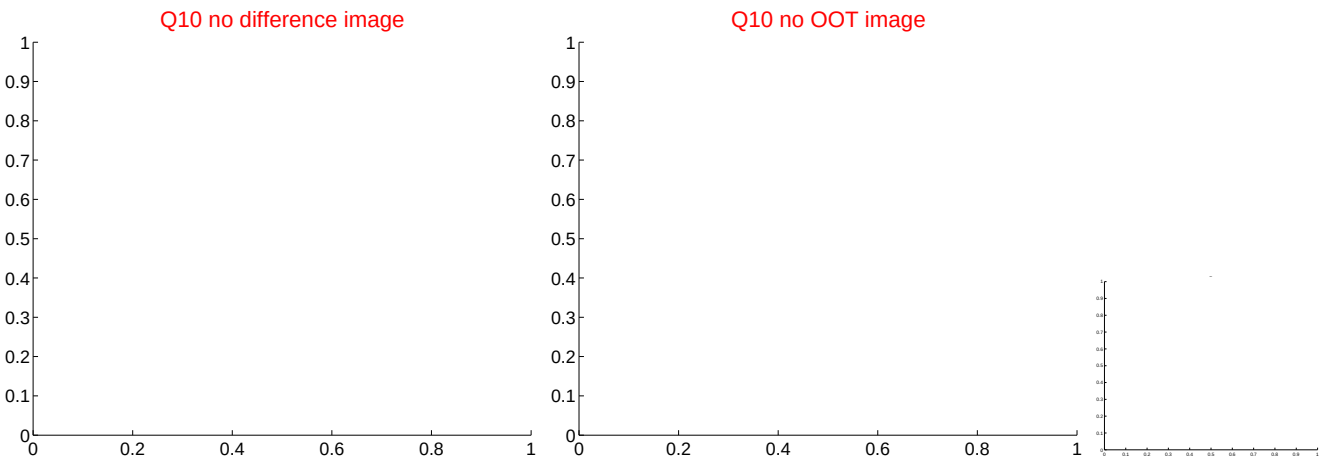


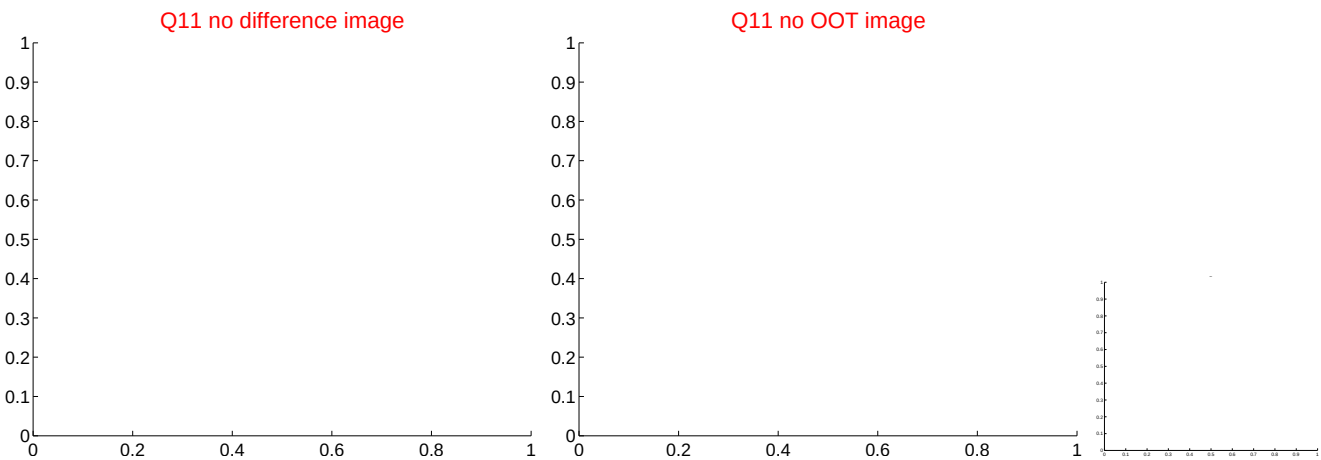
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

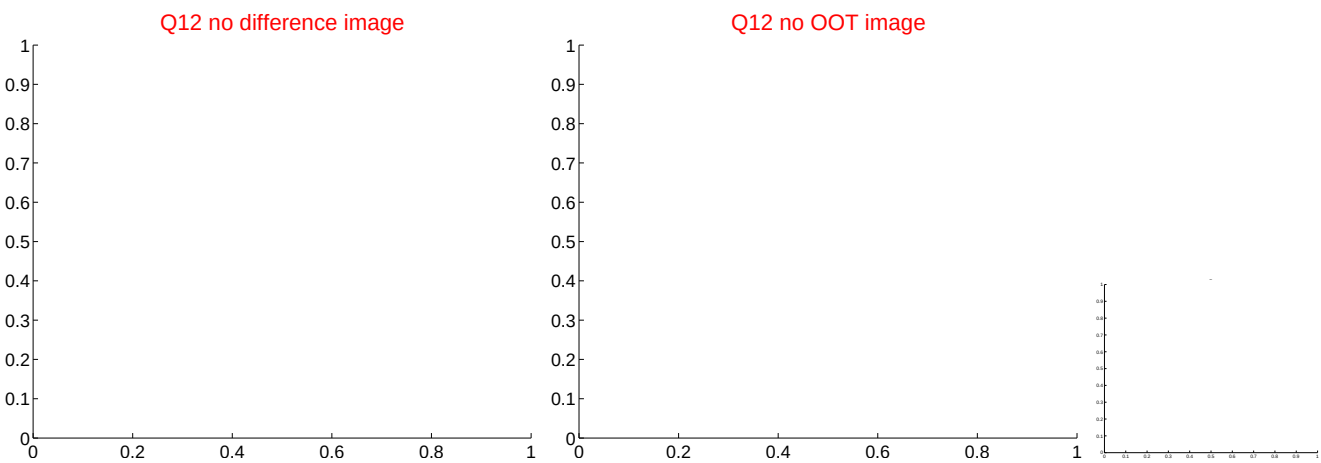


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

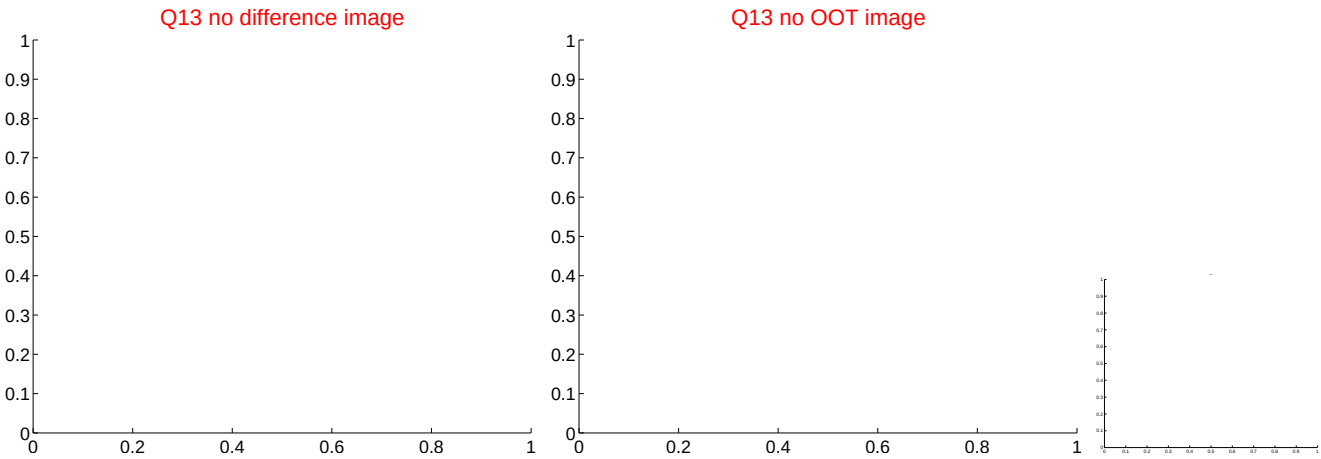


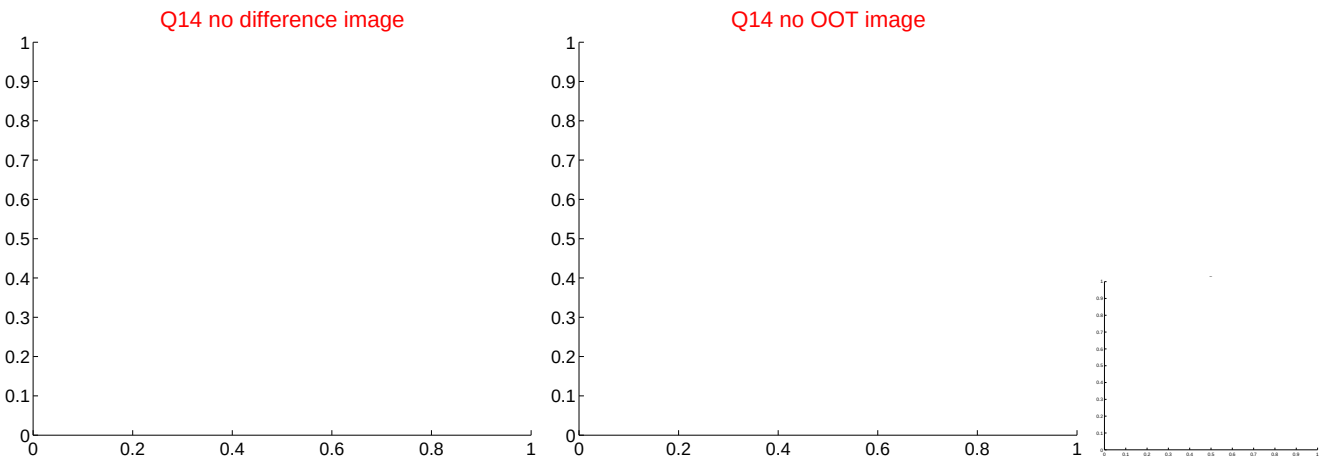


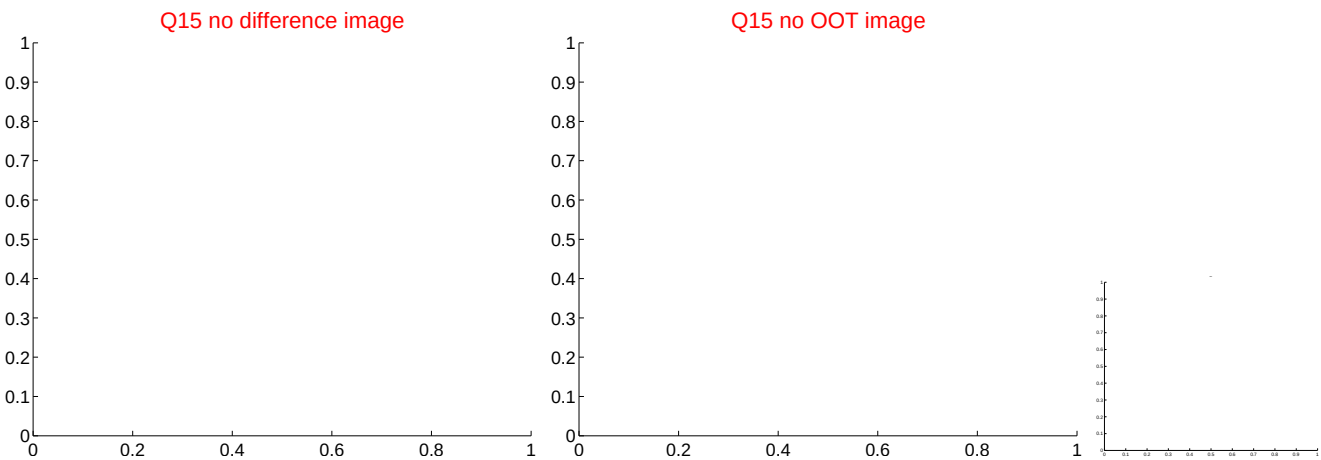


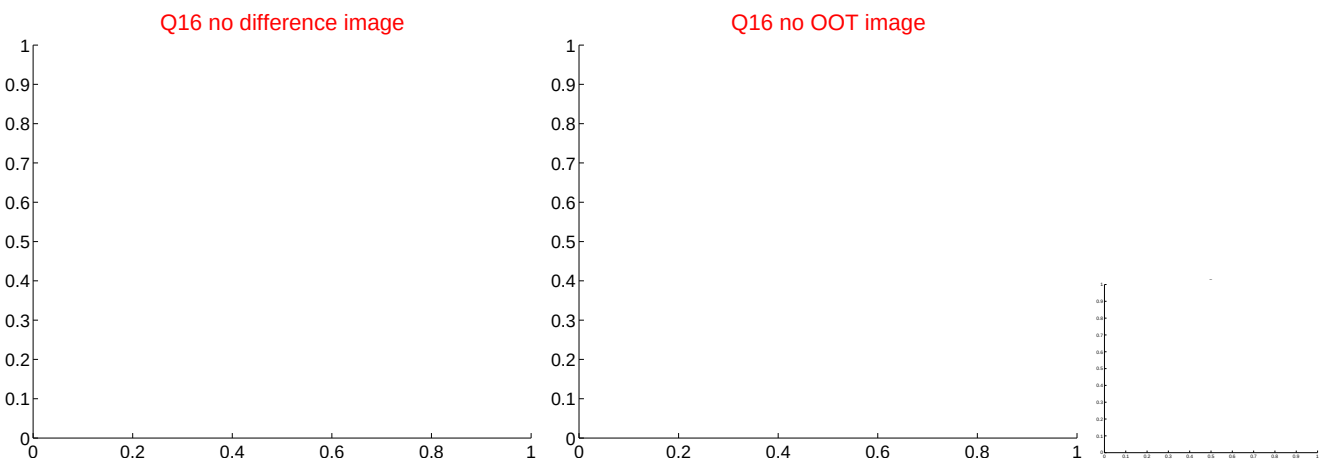


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

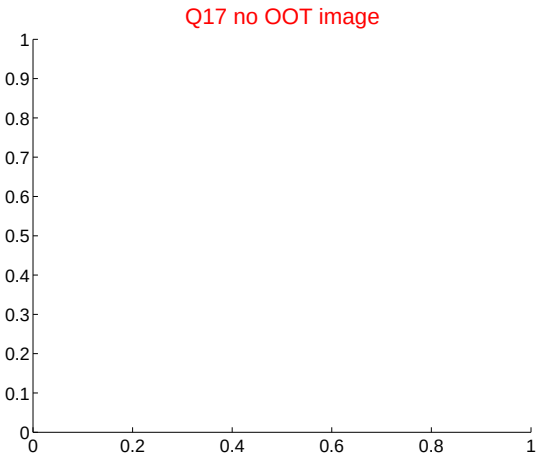


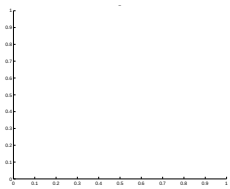


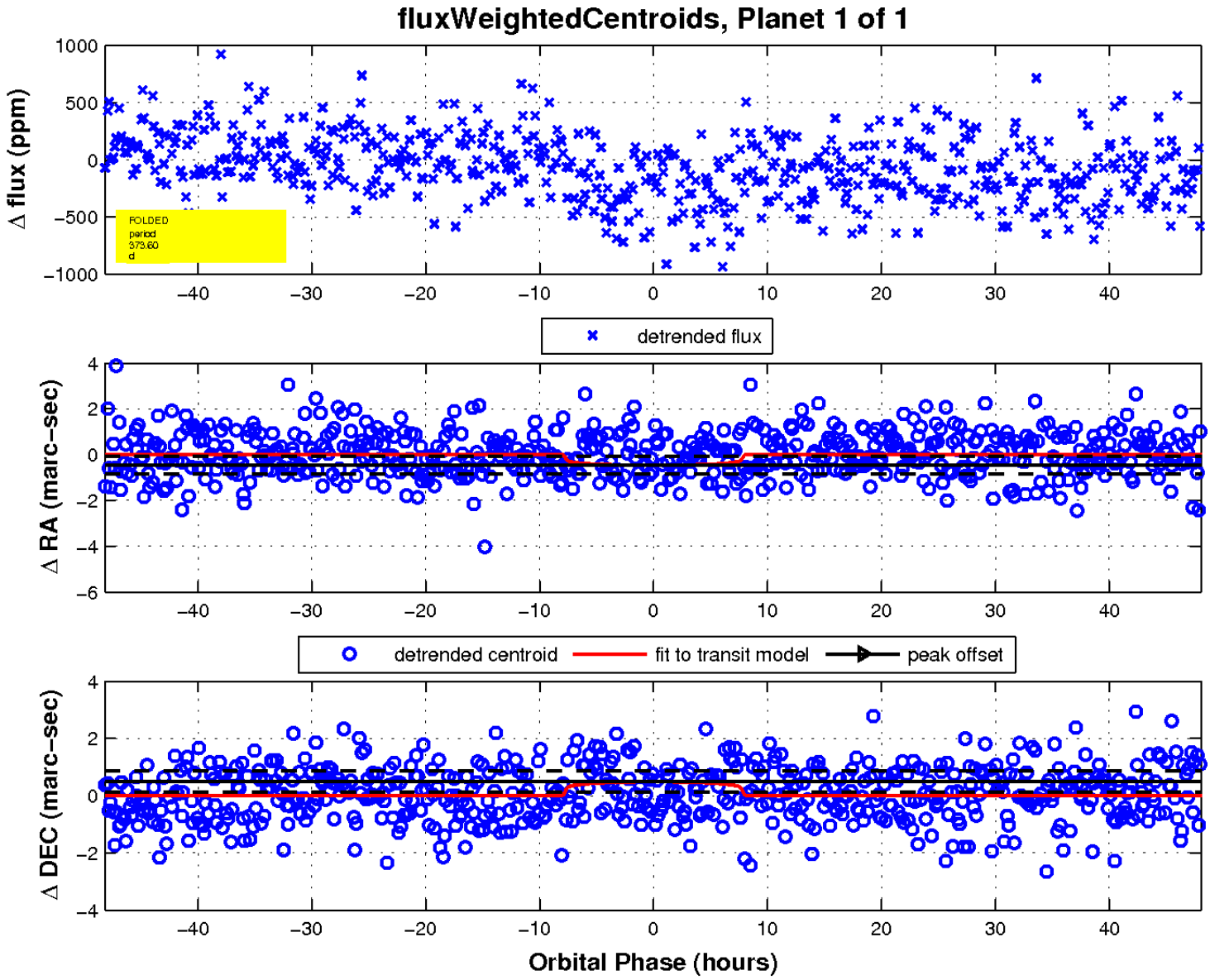




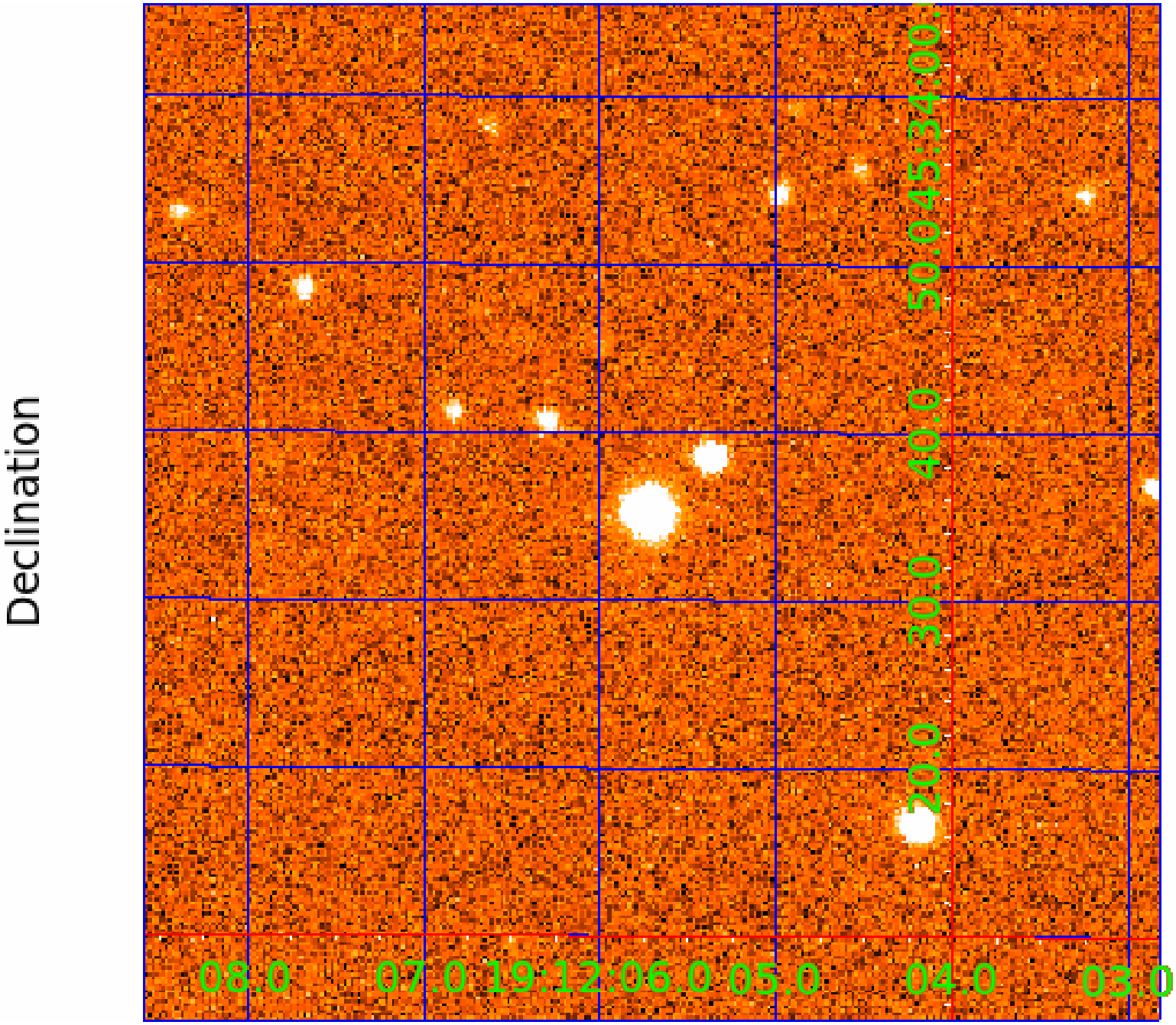
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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