KIC 009005047

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 ($S_\oplus$)
009005047-01	OBS	No	1.316706	132.575830	6.0	9.597	10.3	11.7	4.97	10670	1.26	226188.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009005047-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET

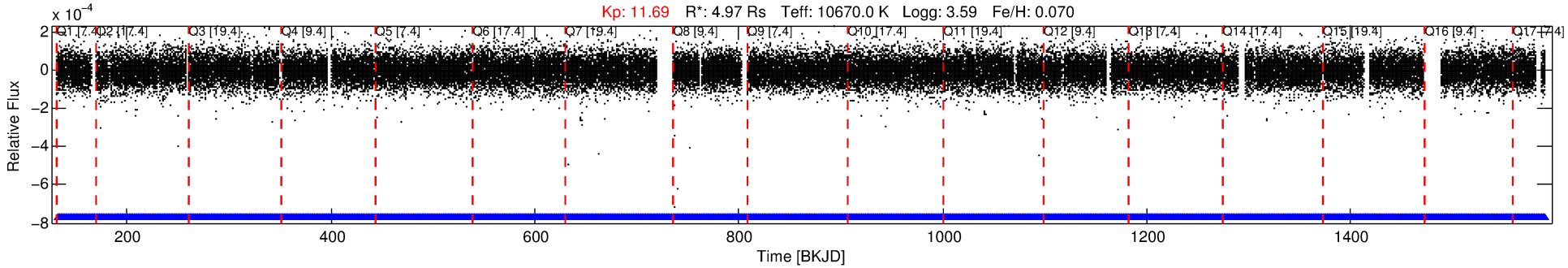
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

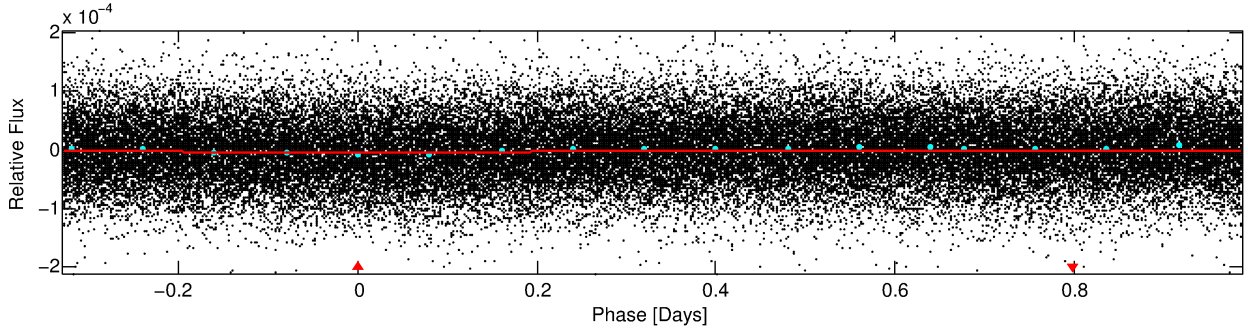
Ephemeris Match Information For 009005047-01

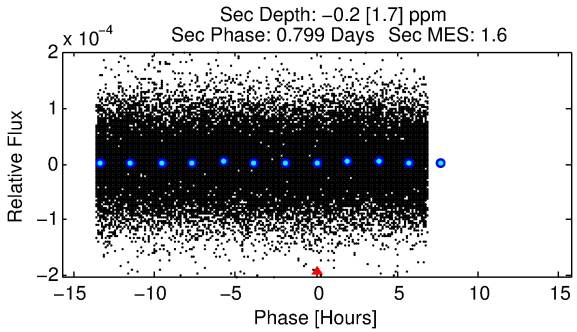
No Significant Match Found

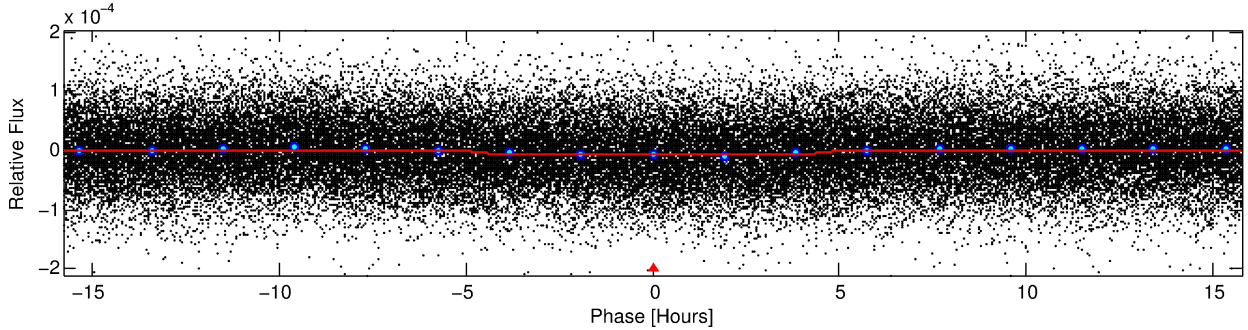
DV One-Page Summary

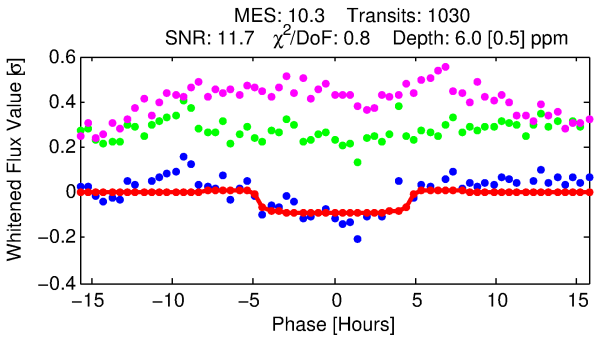
KIC: 9005047 Candidate: 1 of 1 Period: 1.317 d

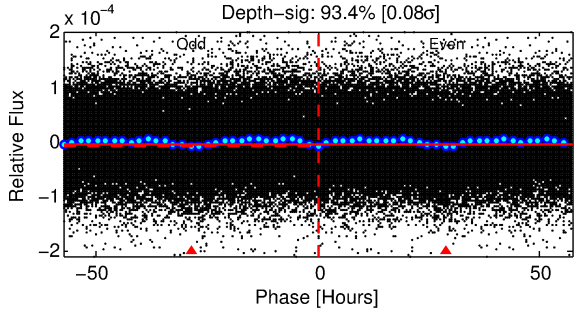


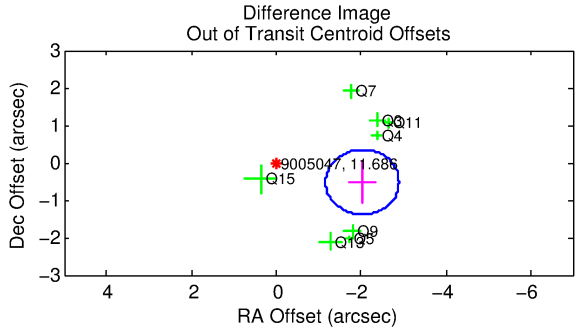












DV Fit Results:

Period = 1.31671 [0.00002] d
Epoch = 132.5758 [0.0062] BKJD
Rp/R* = 0.0023 [0.0010]
a/R* = 1.20 [1.16]
b = 0.37 [7.51]

Seff = 226188.79 [179954.23]
Teq = 5561 [1106] K
Rp = 1.26 [0.82] Re
a = 0.0356 [0.0172] AU

Ag = N/A
Teffp = N/A

DV Diagnostic Results:

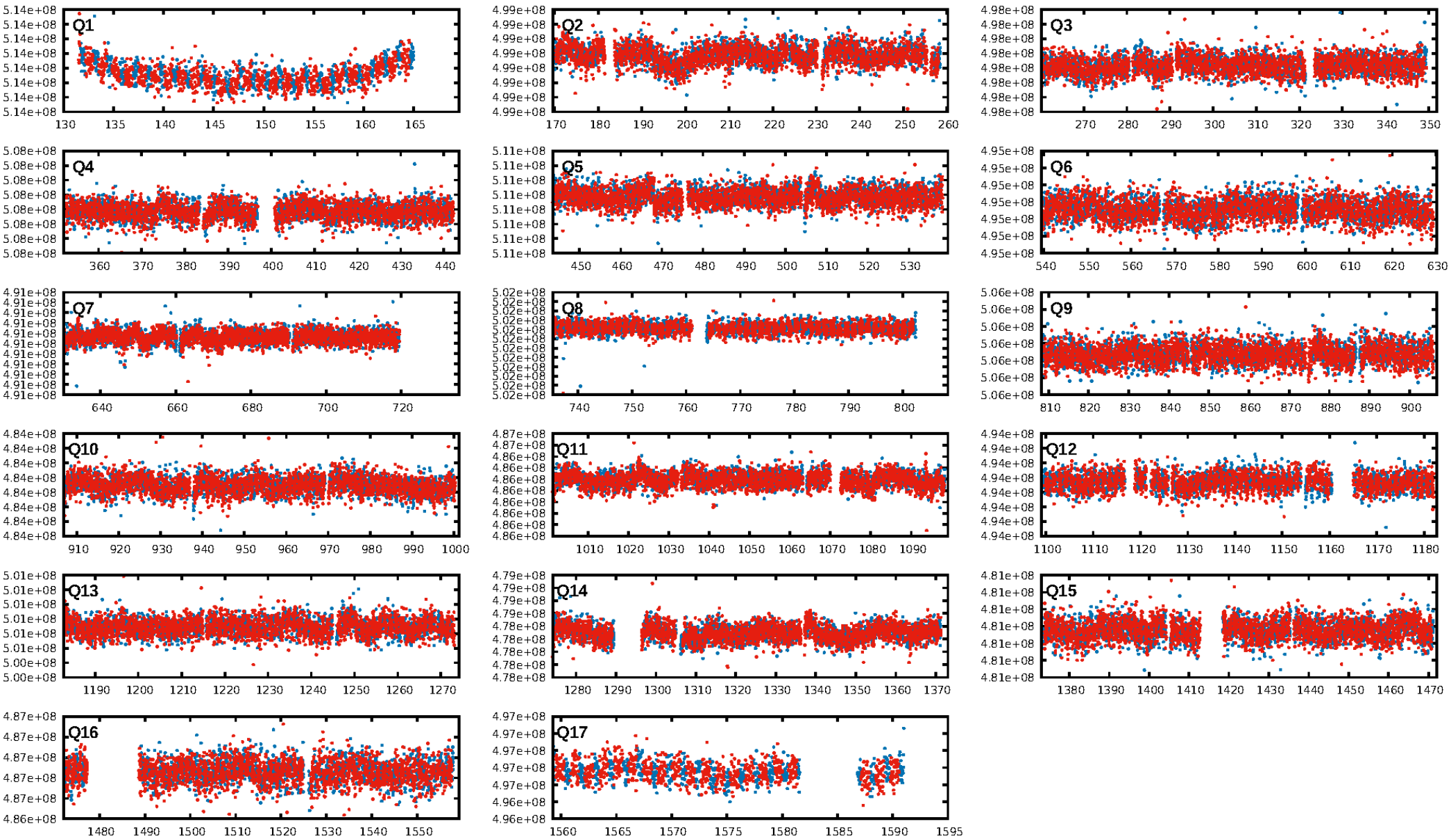
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 4.31e−58
RollingBand−fgt: 1.00 [985/985]
GhostDiagnostic−chr: 8.43

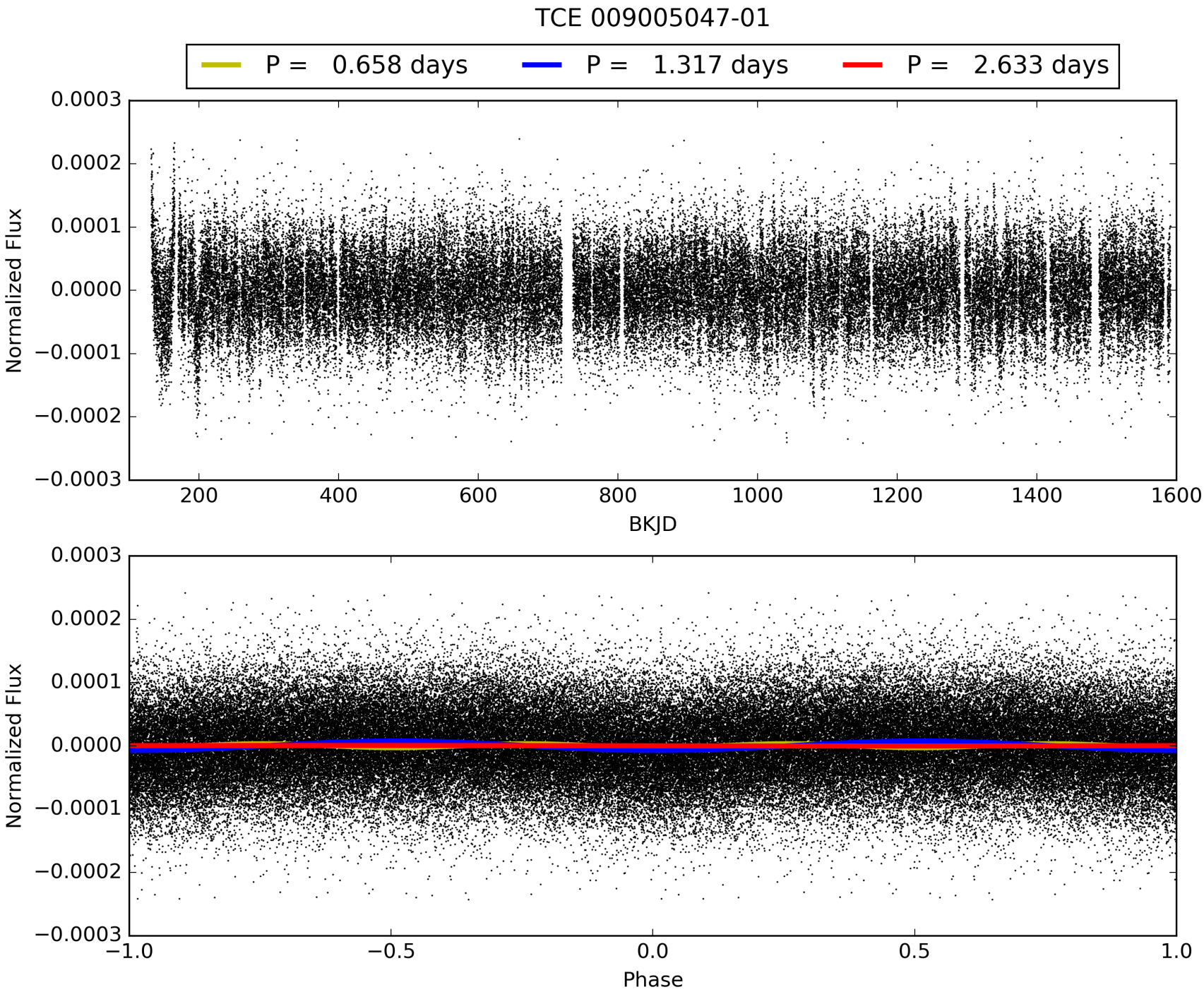
Centroid−sig: 71.2%
Centroid−so: 0.465 arcsec [0.45σ]
OotOffset−rm: 2.097 arcsec [7.26σ]
KicOffset−rm: 2.050 arcsec [7.06σ]
OotOffset−st: 0/4/1/3 [8]
KicOffset−st: 0/4/1/3 [8]
DiffImageQuality−fgm: 1.00 [8/8]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 05:41:59 Z

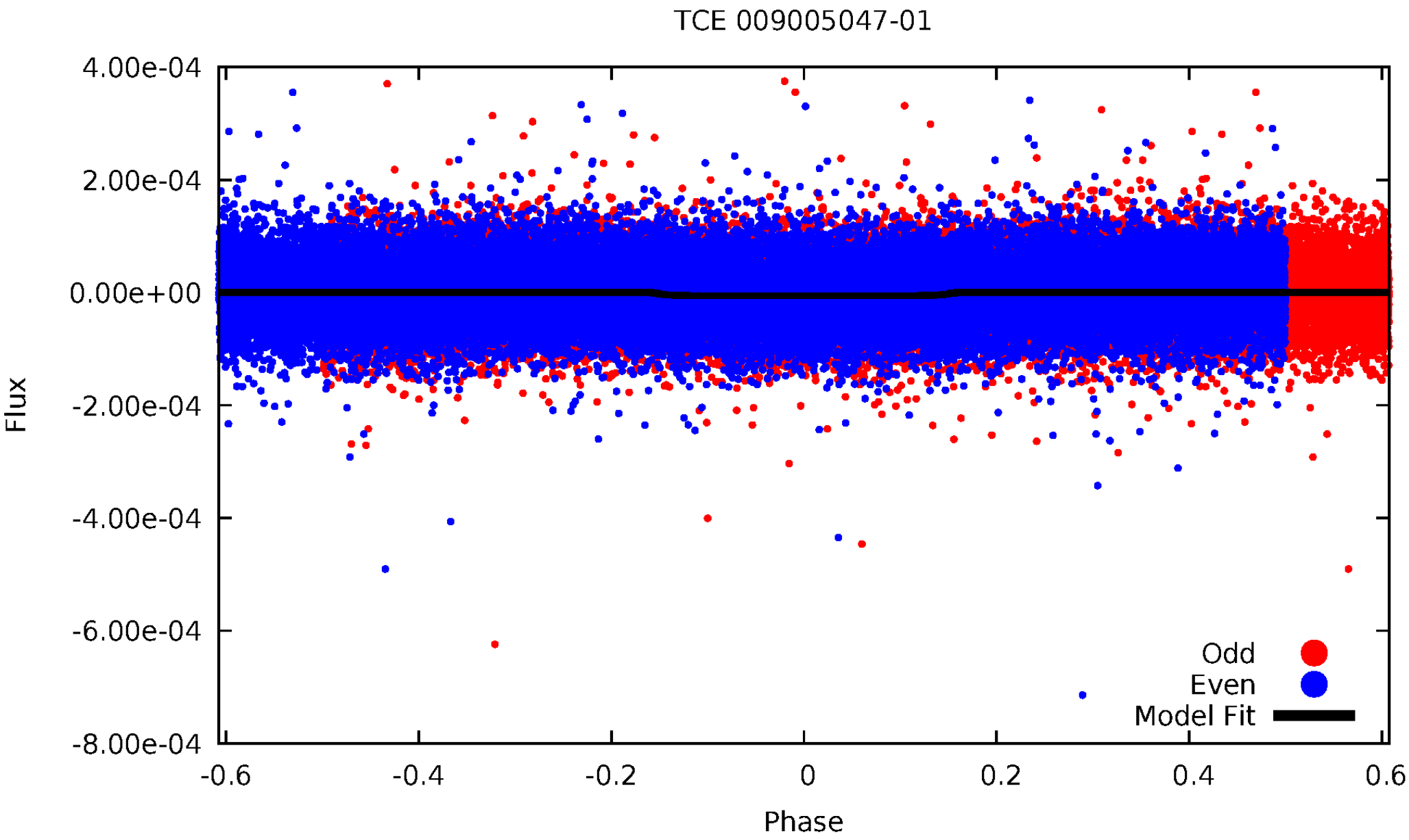
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009005047-01, PDC Light Curves

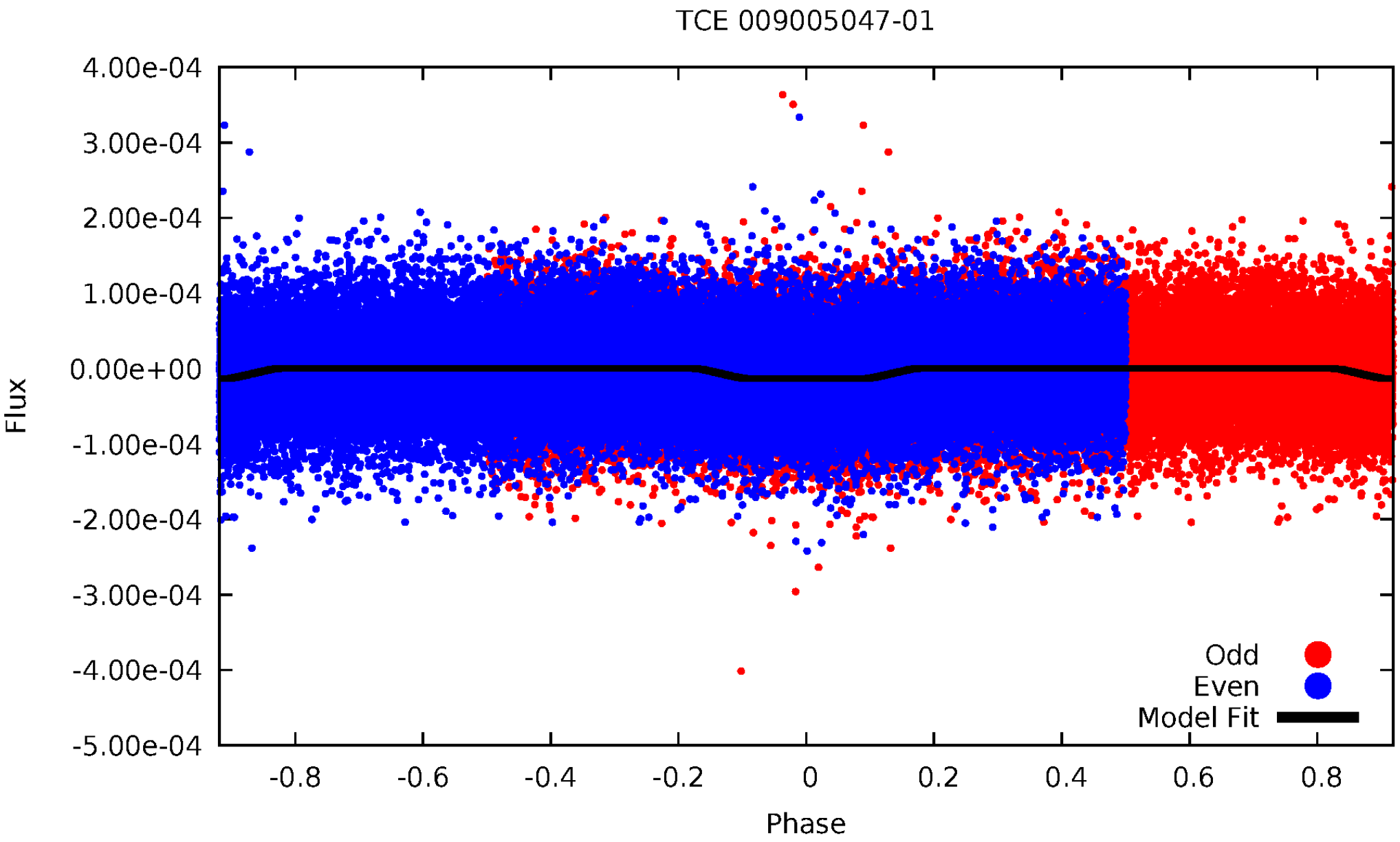



TCE 009005047-01
P = 0.658 days
P = 1.317 days
P = 2.633 days
Normalized Flux
0.0003
0.0002
0.0001
0.0000
−0.0001
−0.0002
−0.0003
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0003
0.0002
0.0001
0.0000
−0.0001
−0.0002
−0.0003
−1.0
−0.5
0.0
0.5
1.0
Phase

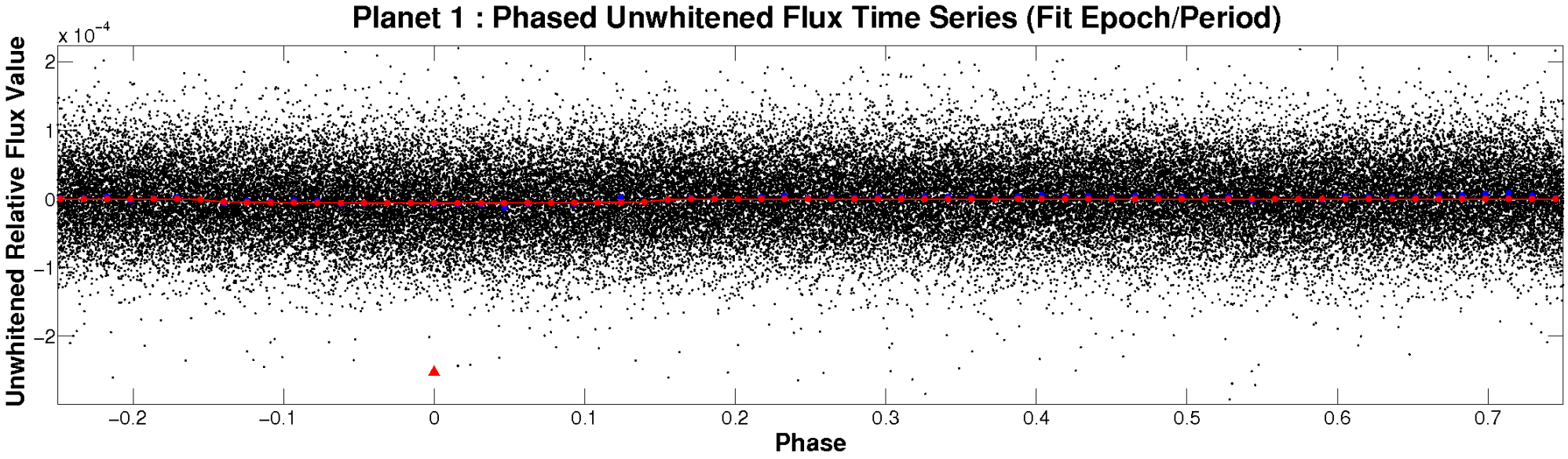
DV Odd/Even

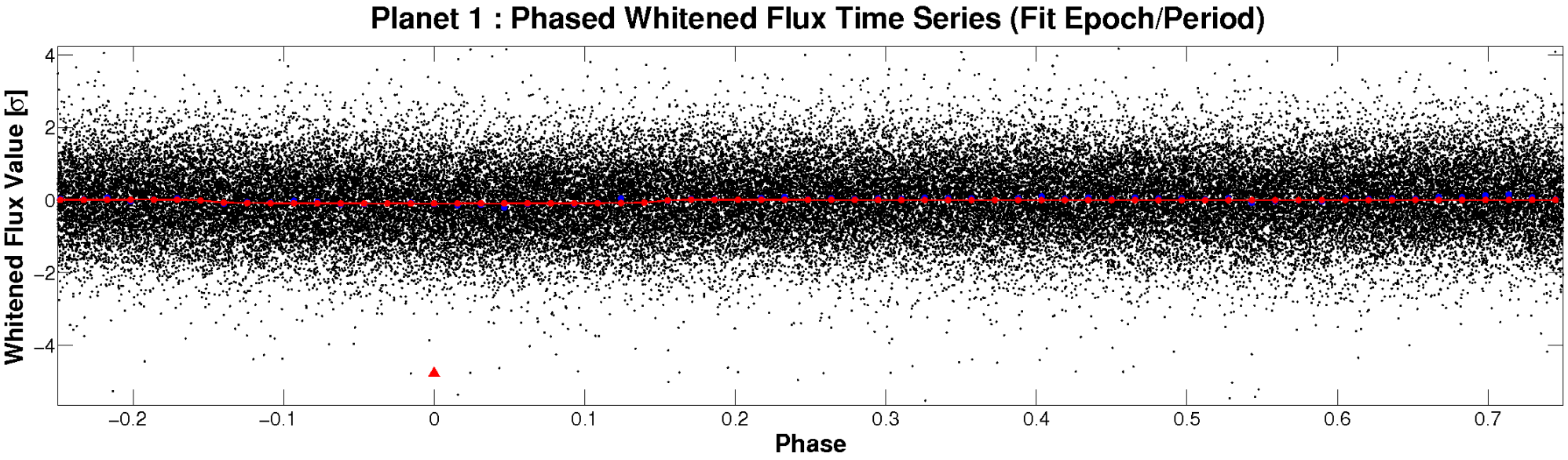

TCE 009005047-01
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
Flux
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009005047-01
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
Flux
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
0.8
Phase
Odd
Even
Model Fit

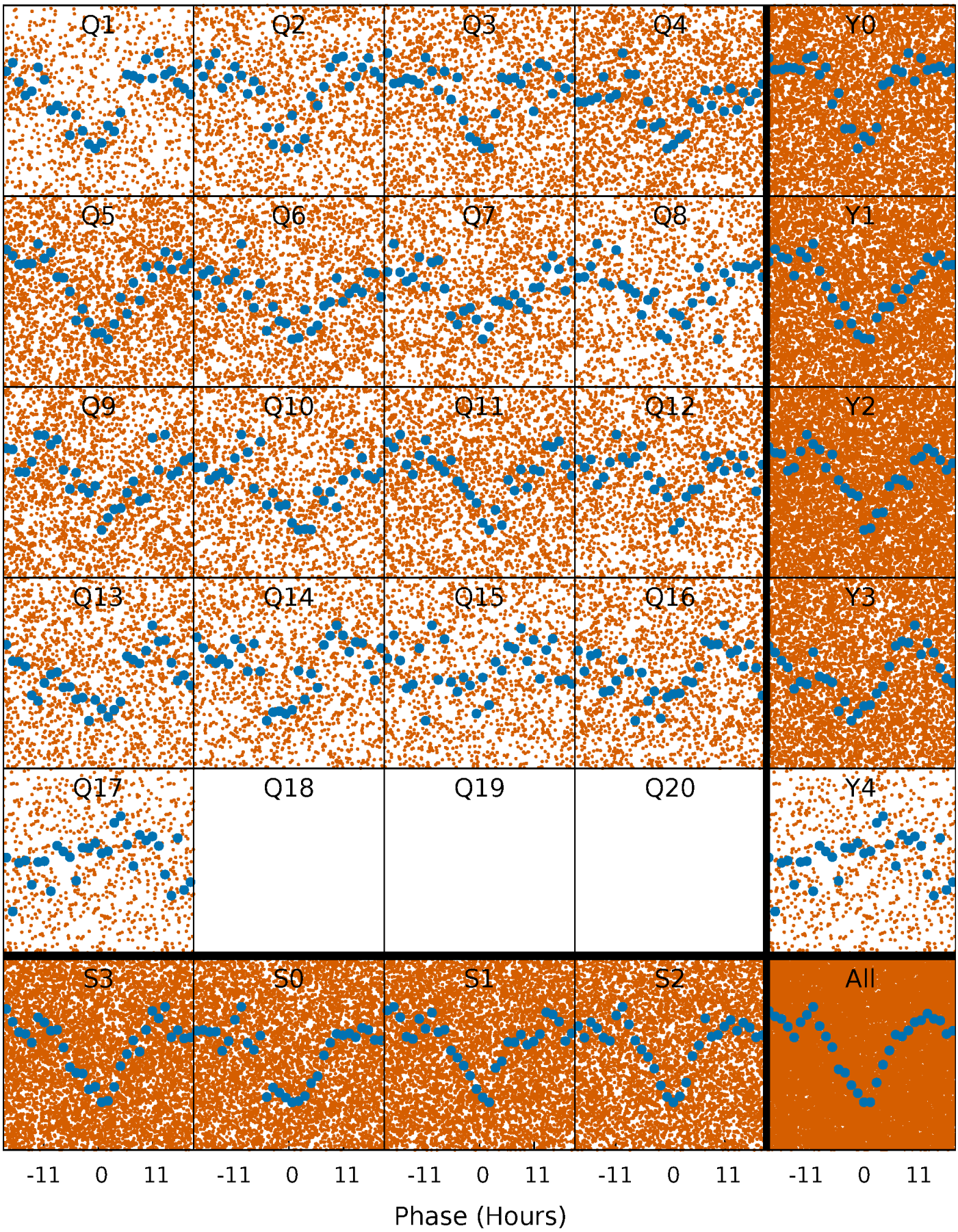
Non-Whitened Vs. Whitened Light Curve





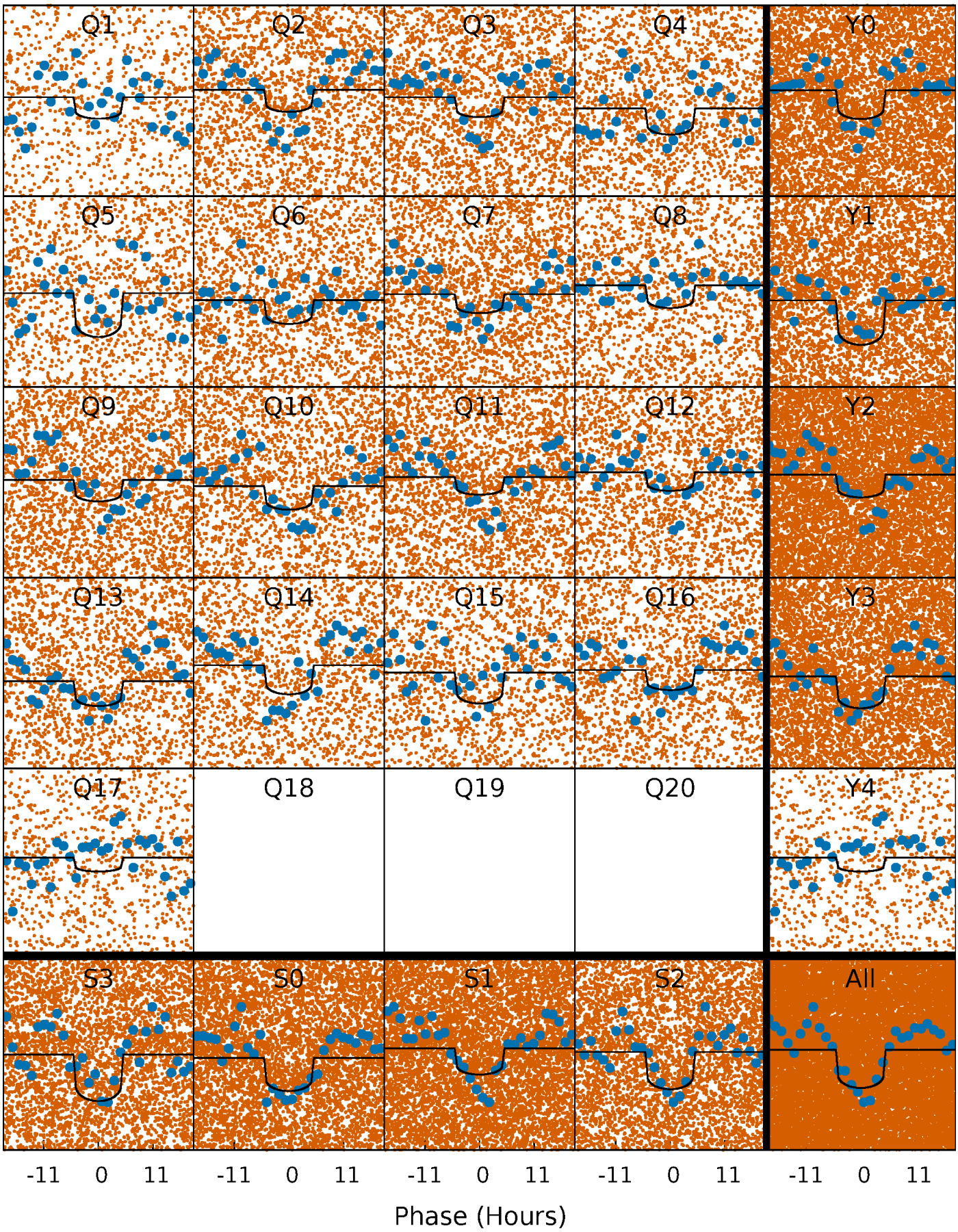
PDC Quarter-Phased Transit Curves

TCE 009005047-01 P= 1.316706 Days T_0=132.575829 (BKJD)



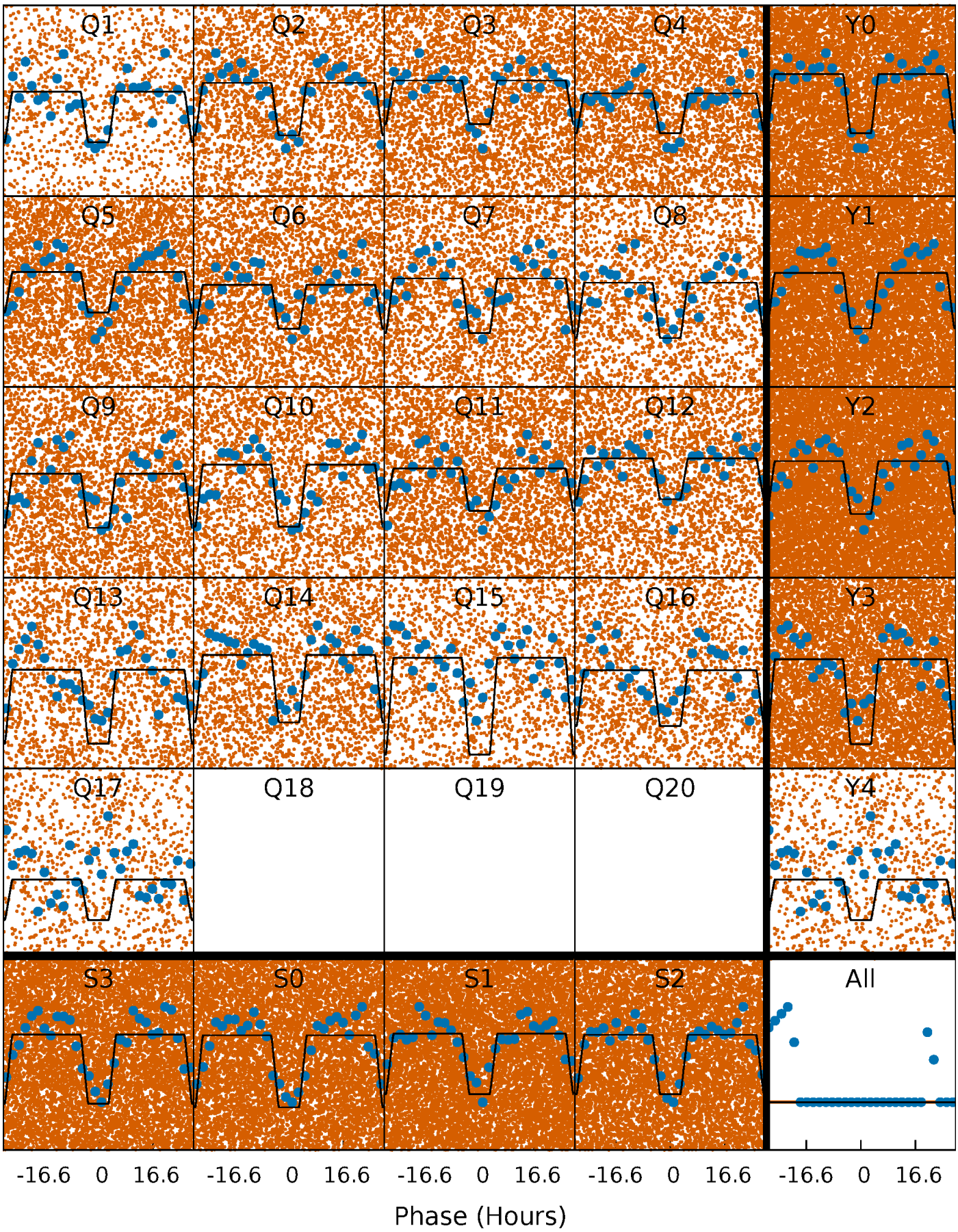
DV Quarter-Phased Transit Curves

TCE 009005047-01 P= 1.316706 Days T_0=132.575829 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

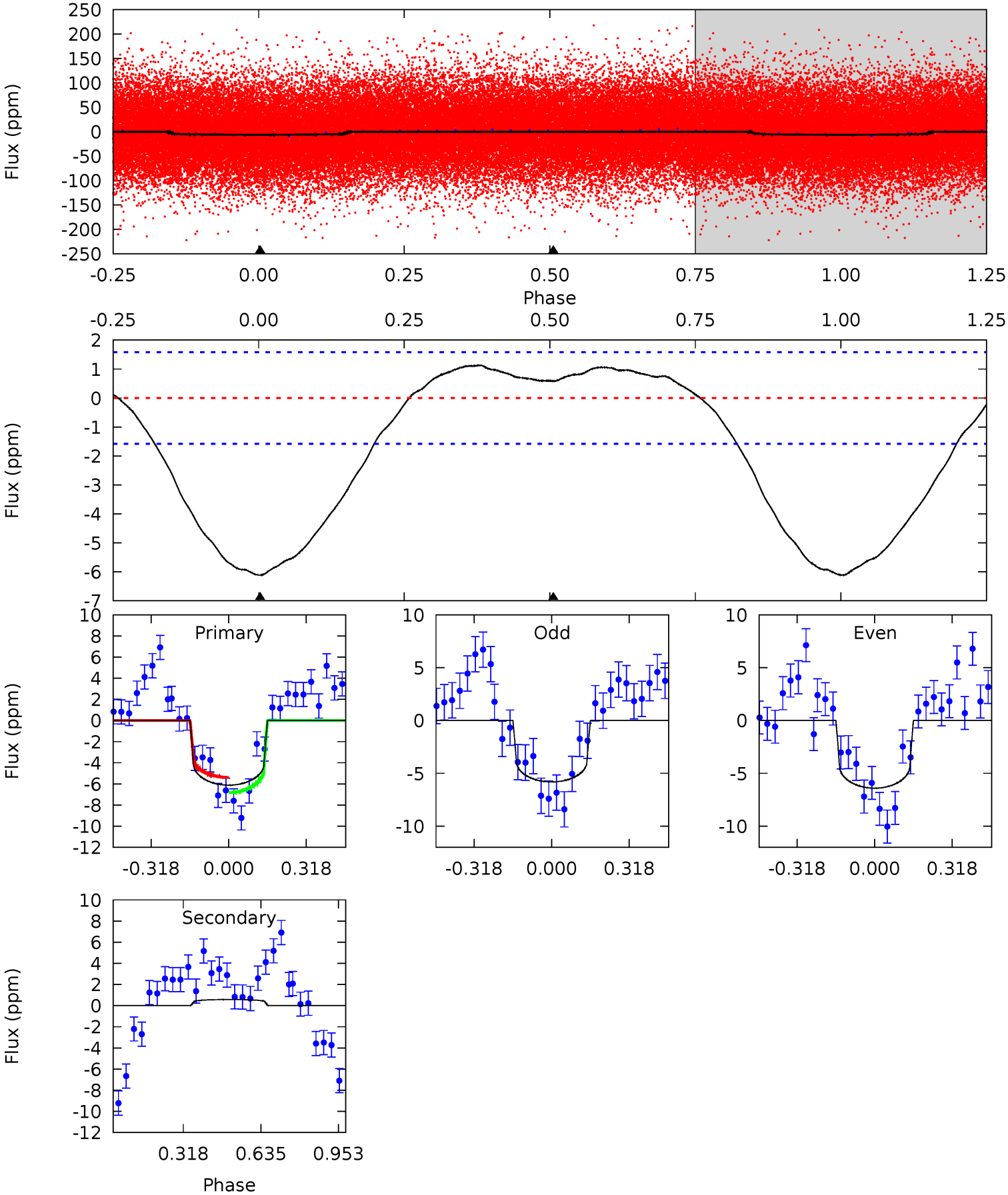
TCE 009005047-01 P= 1.316730 Days T_0=132.576577 (BKJD)



DV Model-Shift Uniqueness Test

009005047-01, P = 1.316706 Days, E = 131.259123 Days

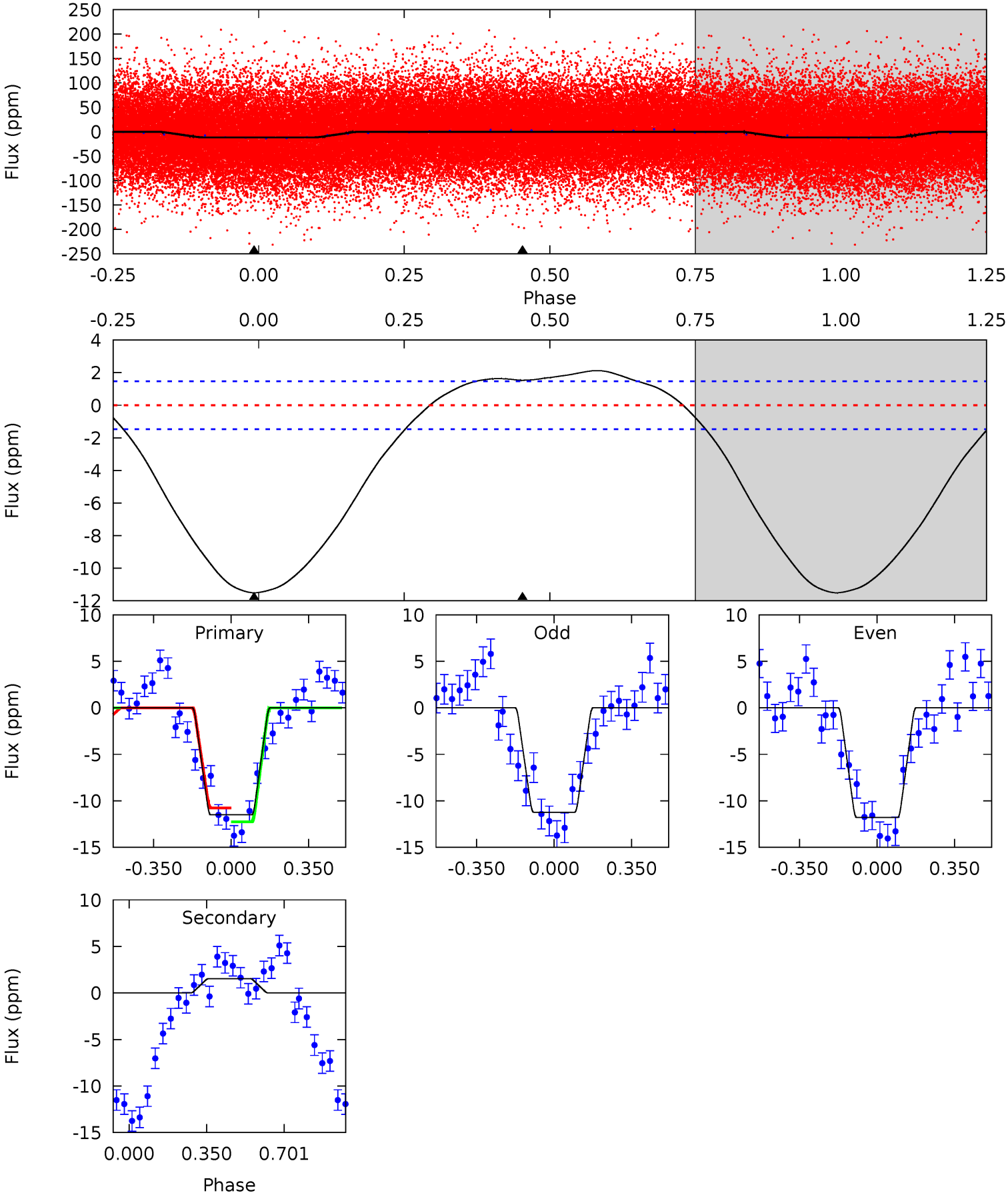
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	-1.59	0	0	4.32	1.00	0.89	16.7	16.7	-1.59	-1.59	0.81	1.03	0.16	1.97



Alt Model-Shift Uniqueness Test

009005047-01, P = 1.316730 Days, E = 131.259847 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.6	-4.48	0	0	4.29	0.93	3.39	33.6	33.6	-4.48	-4.48	0.83	1.03	0.16	2.14



Stellar Parameters For KIC 009005047

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	10670^{+332}_{-442}	$3.586^{+0.459}_{-0.051}$	$0.070^{+0.050}_{-0.600}$	$4.970^{+0.274}_{-2.462}$	$3.469^{+0.069}_{-0.937}$	$0.040^{+0.186}_{-0.007}$
	+3%/-4%	+13%/-1%	+71%/-857%	+6%/-50%	+2%/-27%	+467%/-18%
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 009005047-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	1±0	$1.11^{+0.56}_{-0.49}$	7482^{+514}_{-949}	-6476^{+757}_{-1621}	$-0.293^{+0.212}_{-0.758}$
Alt.	2±0	$1.73^{+0.59}_{-0.60}$	7531^{+463}_{-971}	-6670^{+551}_{-762}	$-0.346^{+0.162}_{-0.463}$

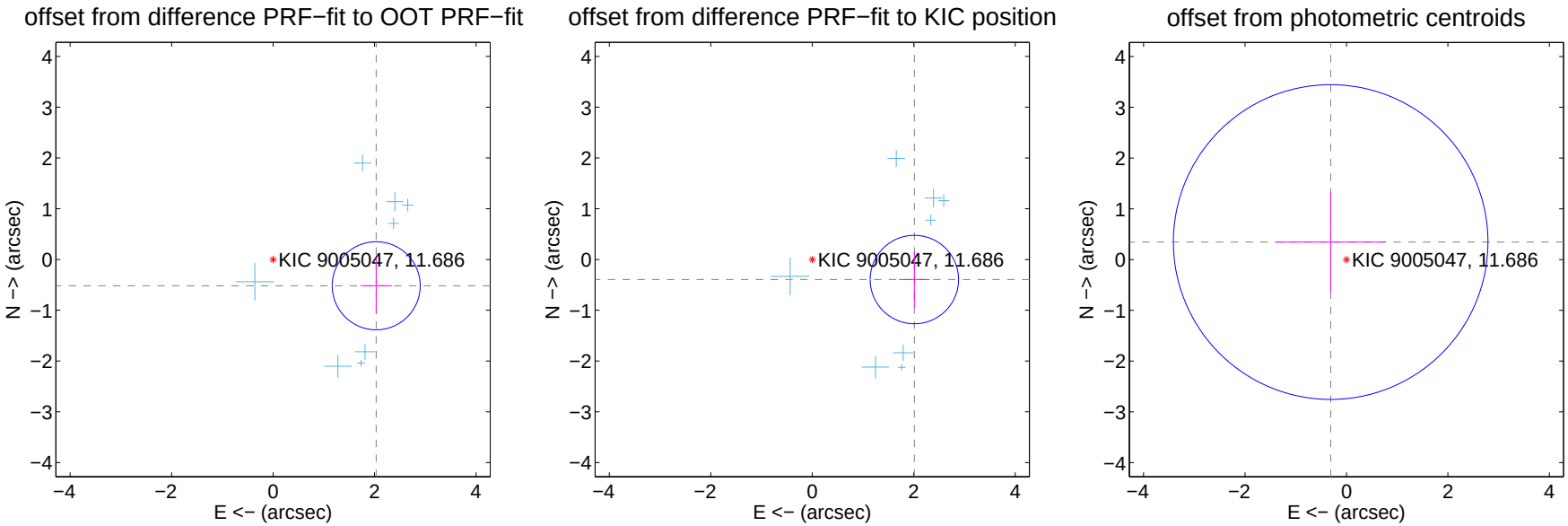
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

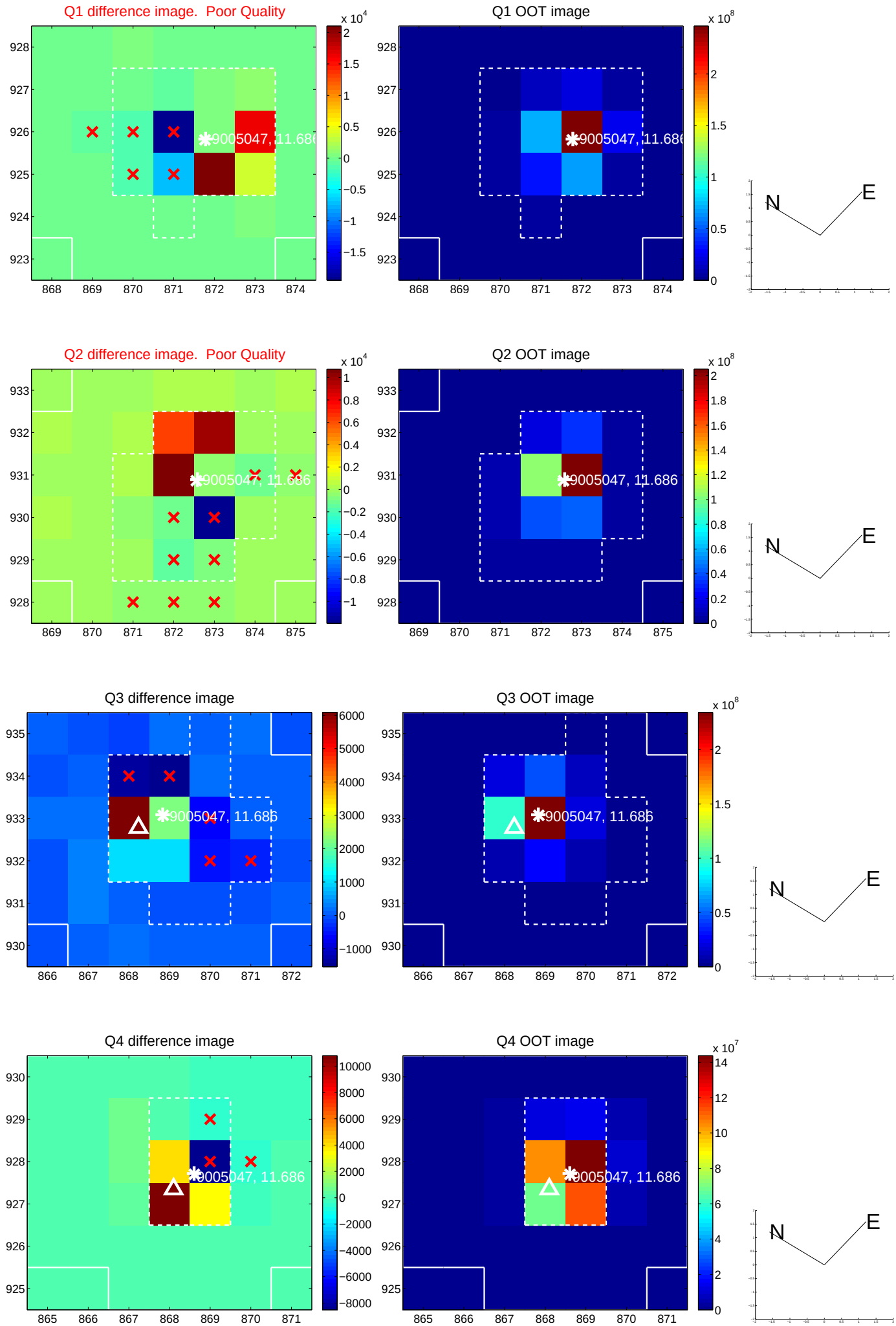
Supplemental centroid analysis for 009005047-01. Kepler magnitude: 11.69. Transit SNR 11.74
There are 8 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.097 ± 0.289	7.26	-2.032 ± 0.310	-0.517 ± 0.544
PRF-fit source offset from KIC position	2.050 ± 0.290	7.06	-2.011 ± 0.302	-0.395 ± 0.548
photometric centroid source offset	0.46 ± 1.03	0.45	0.31 ± 1.09	0.35 ± 0.99

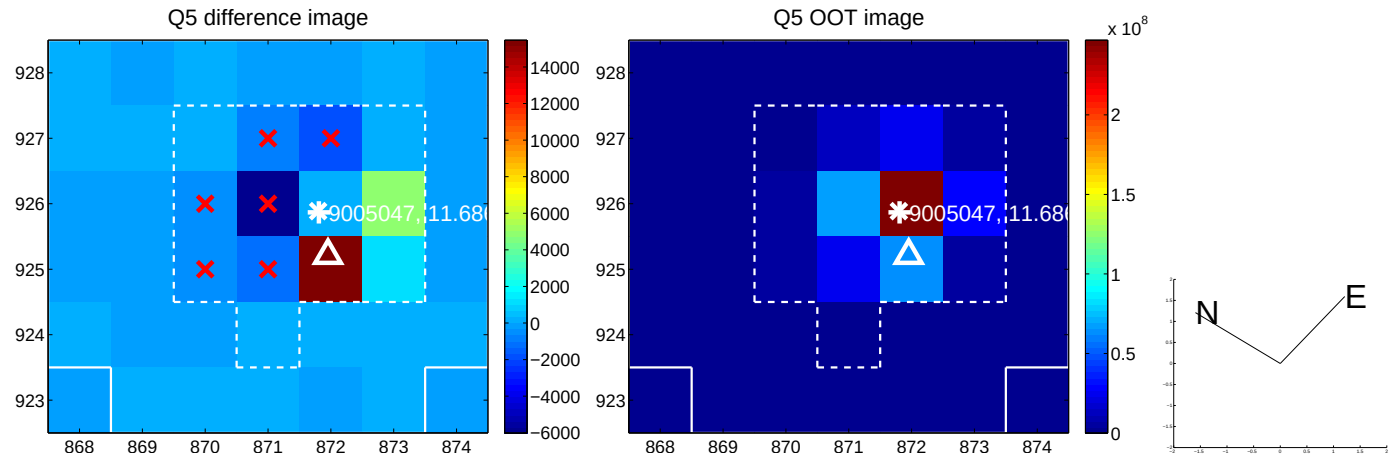


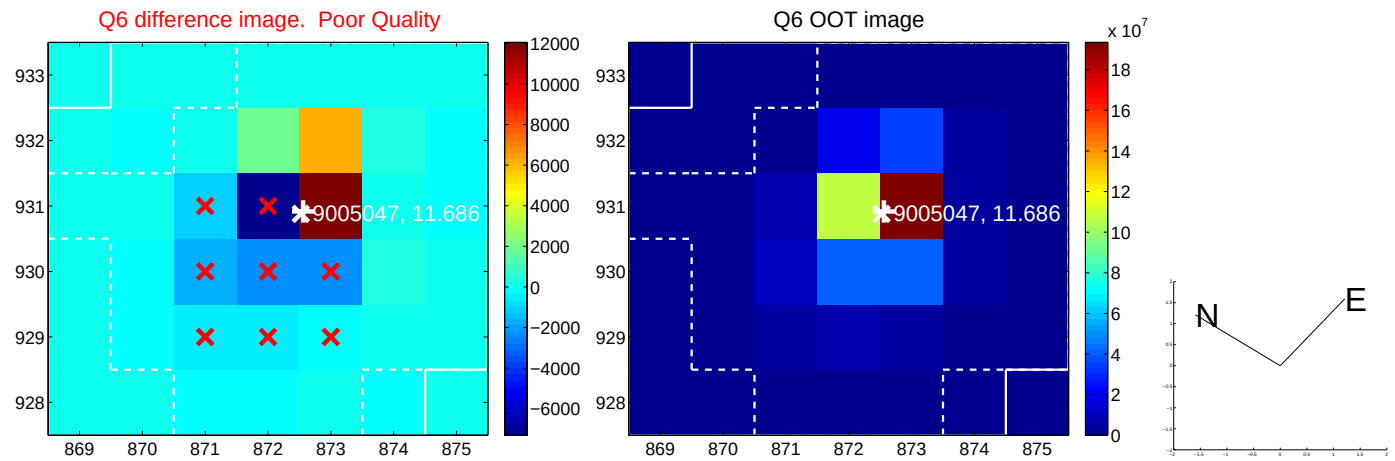
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

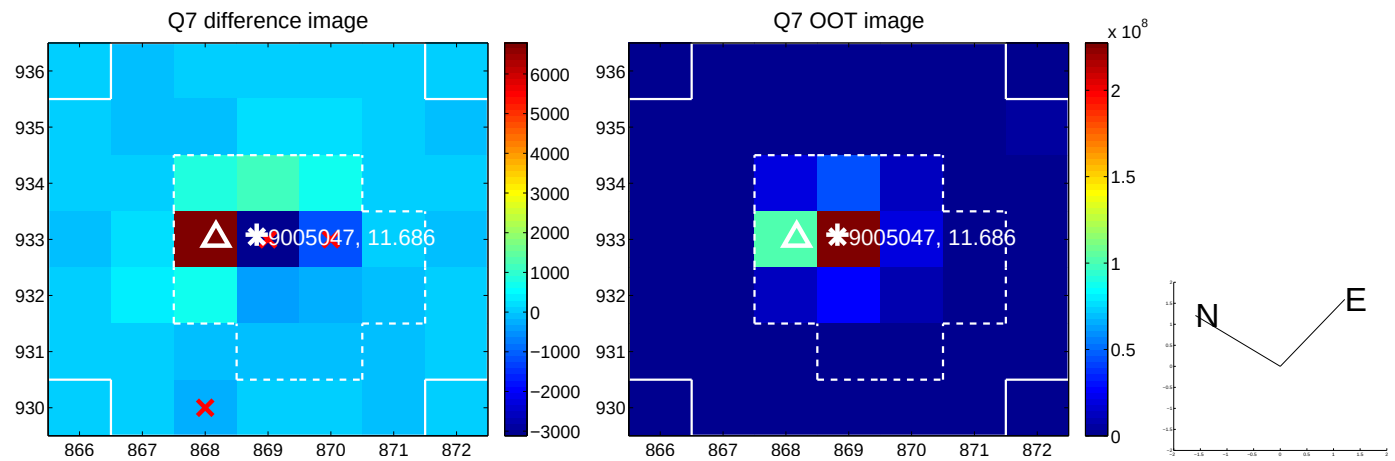
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

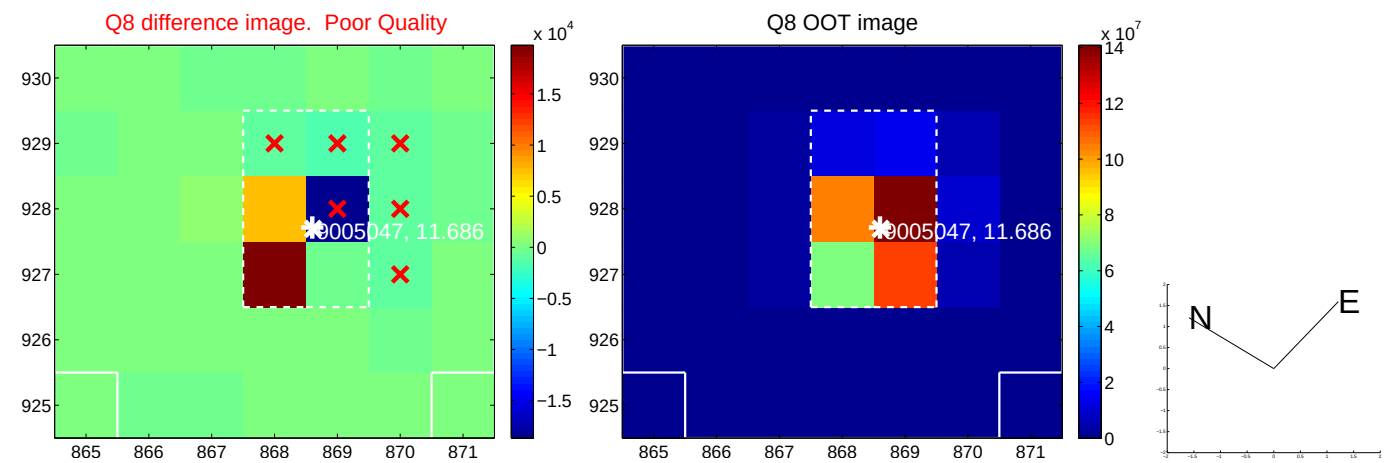


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

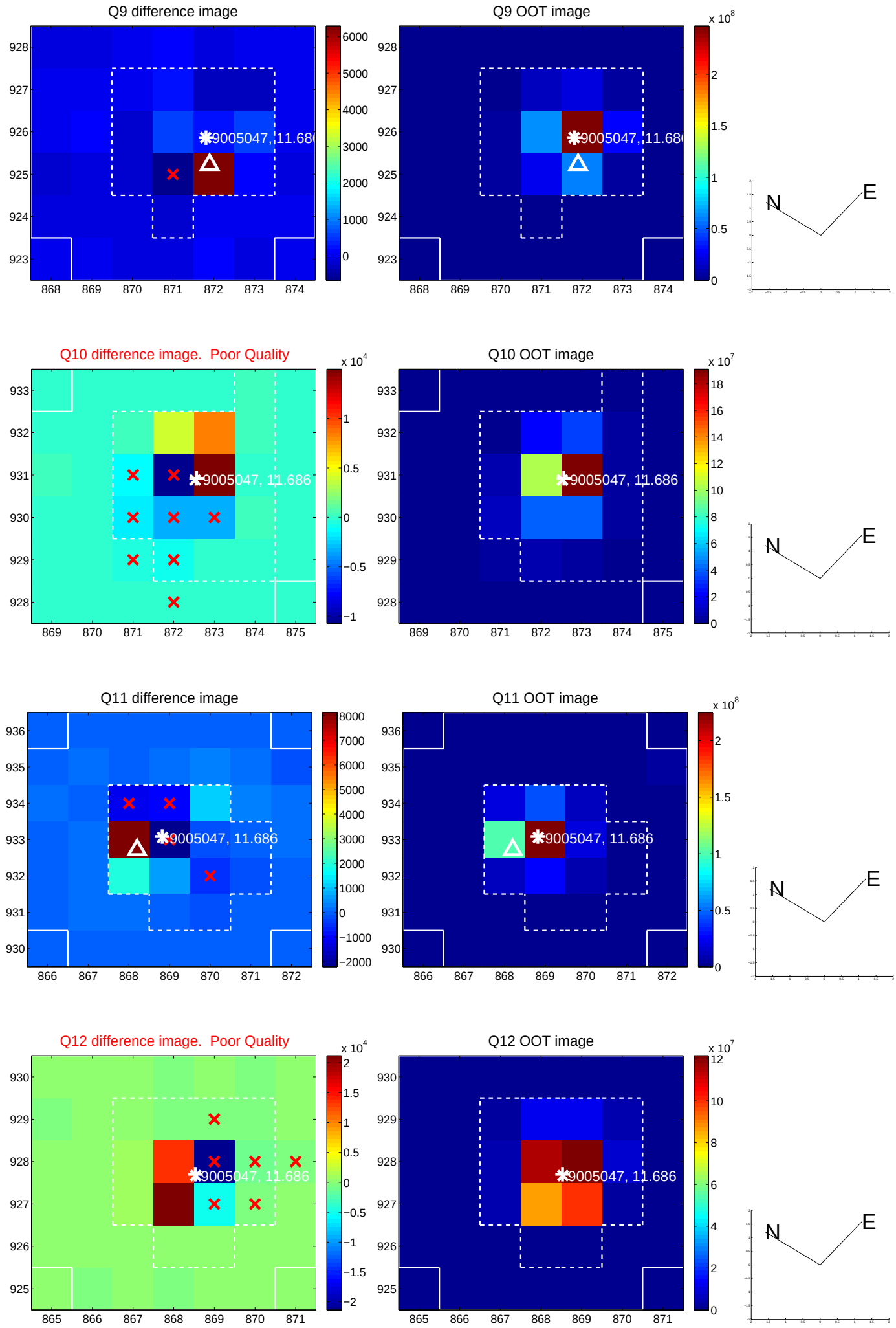




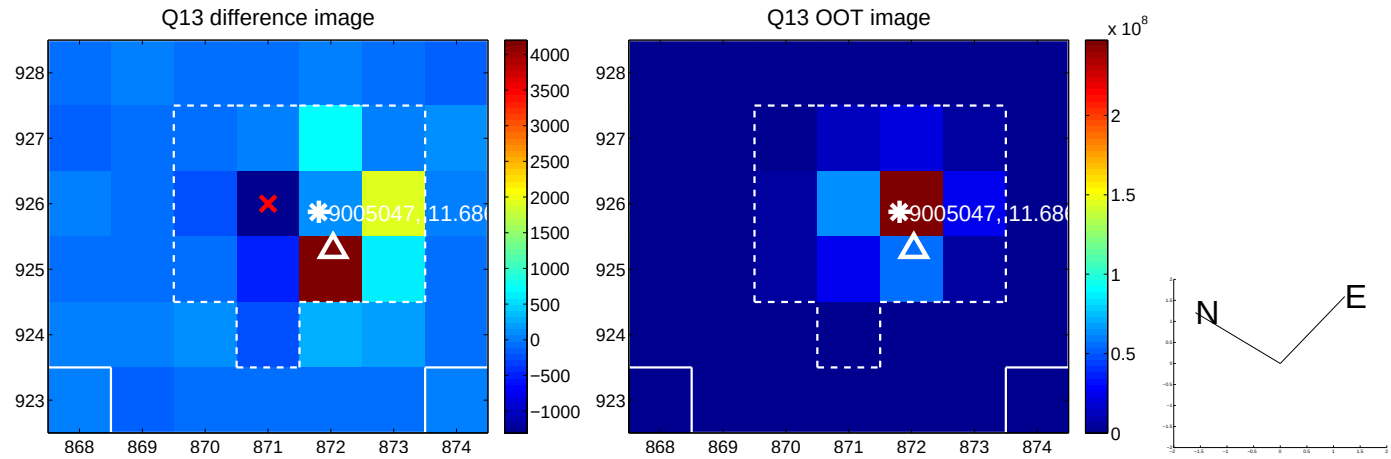


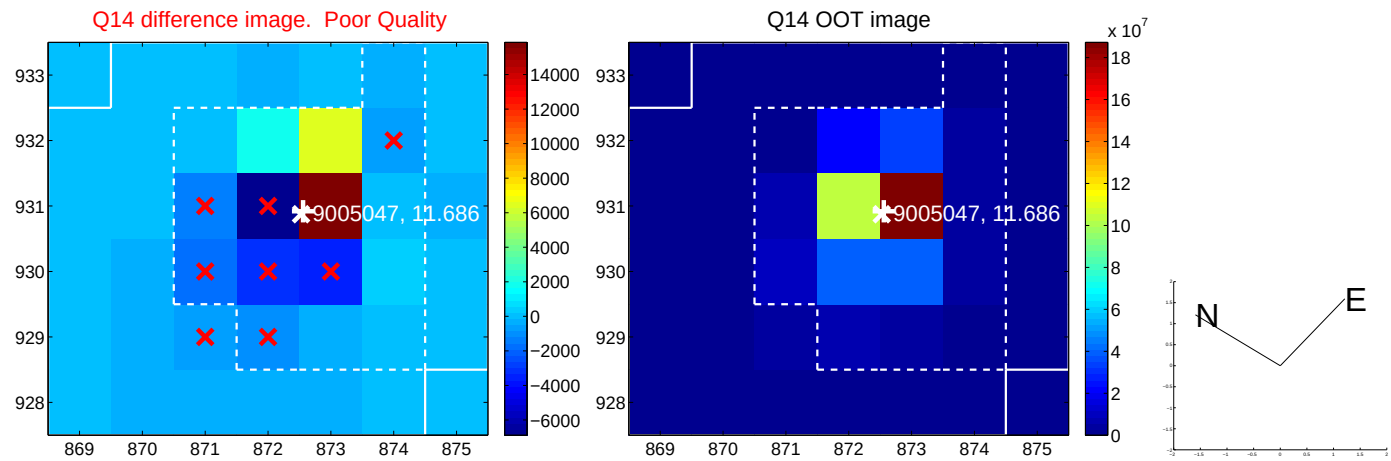


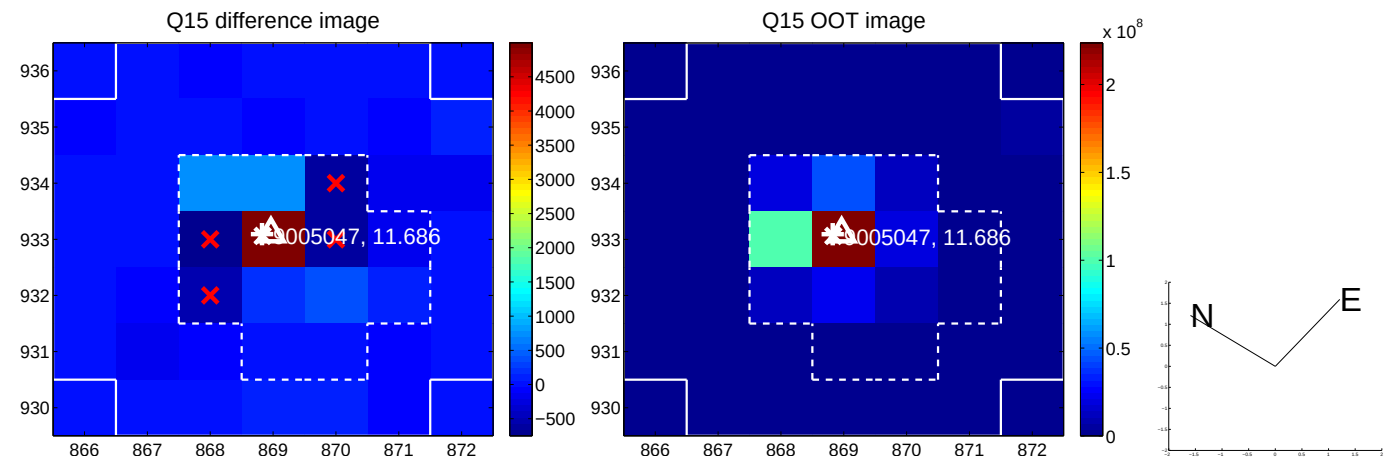
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

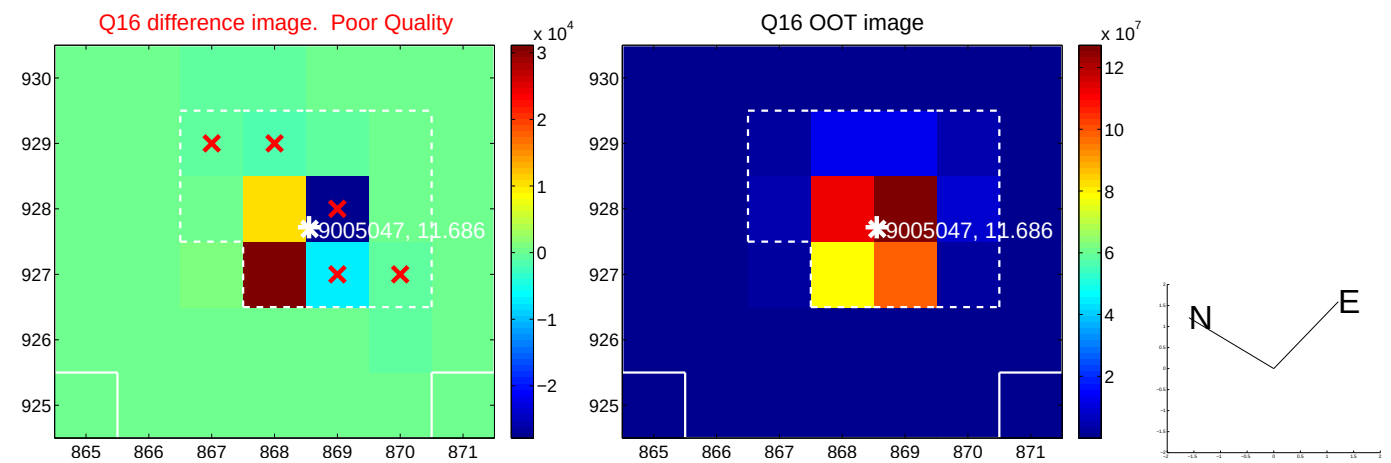


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

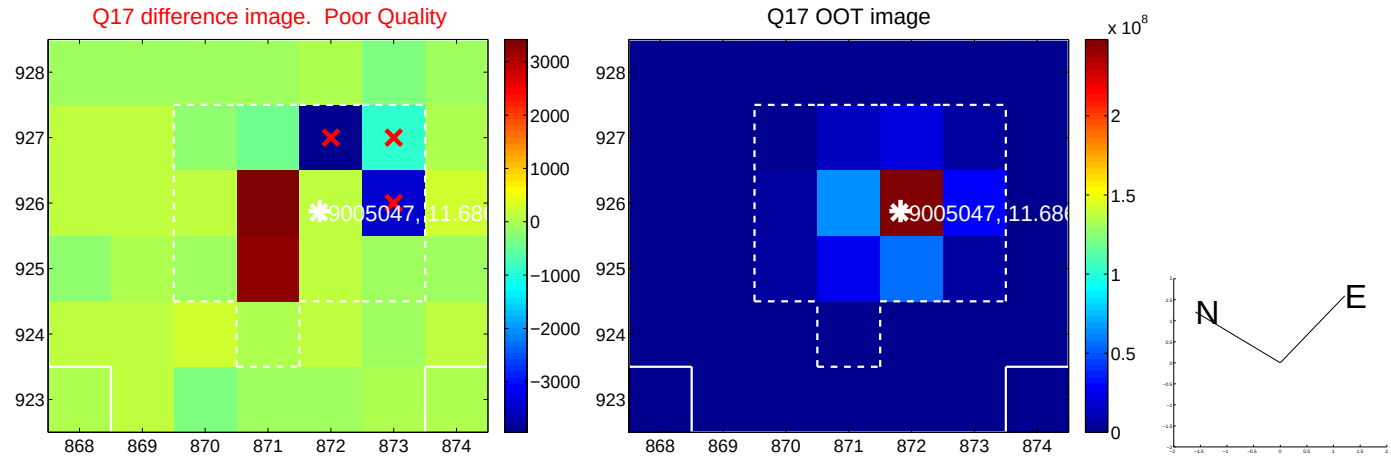


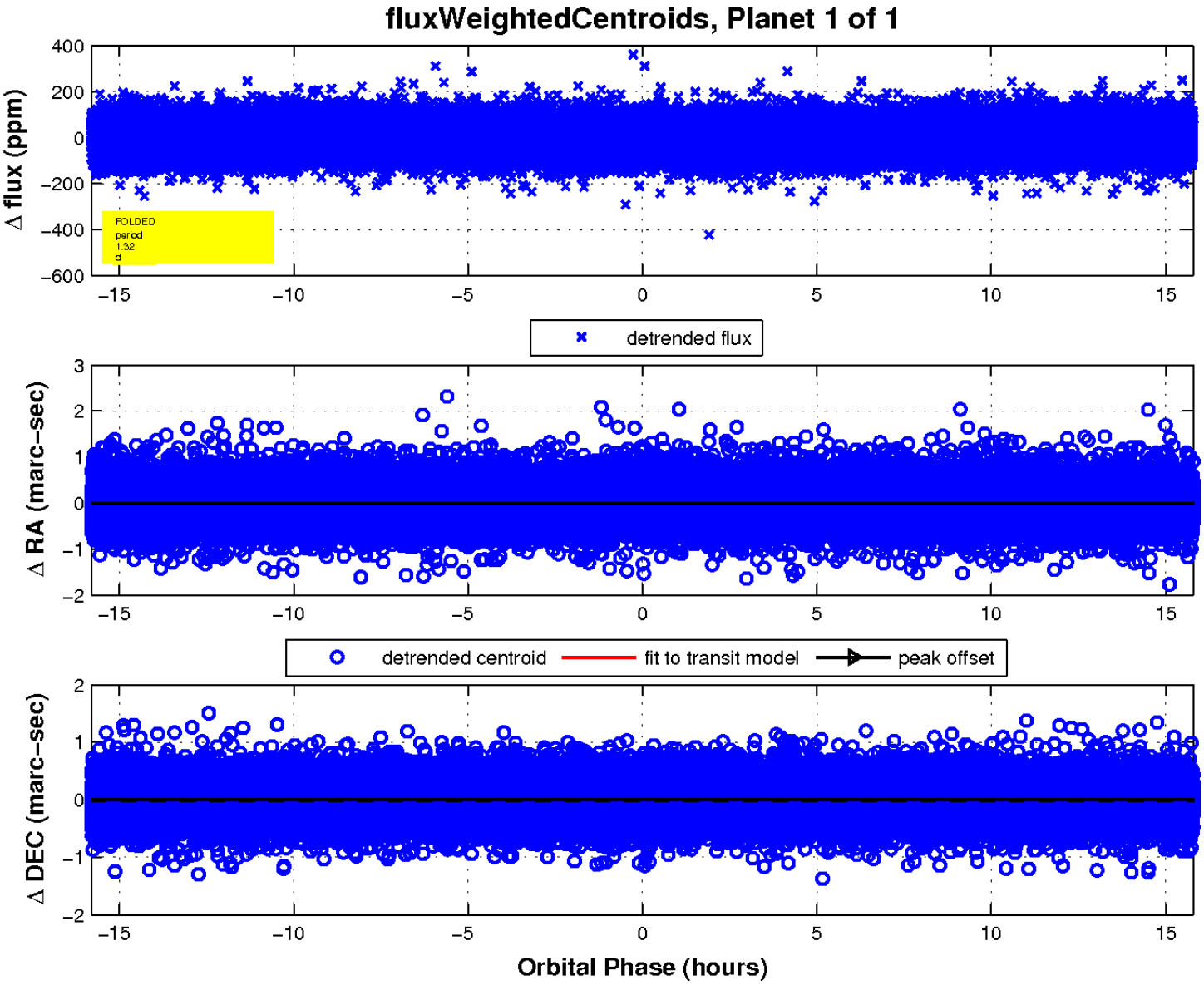




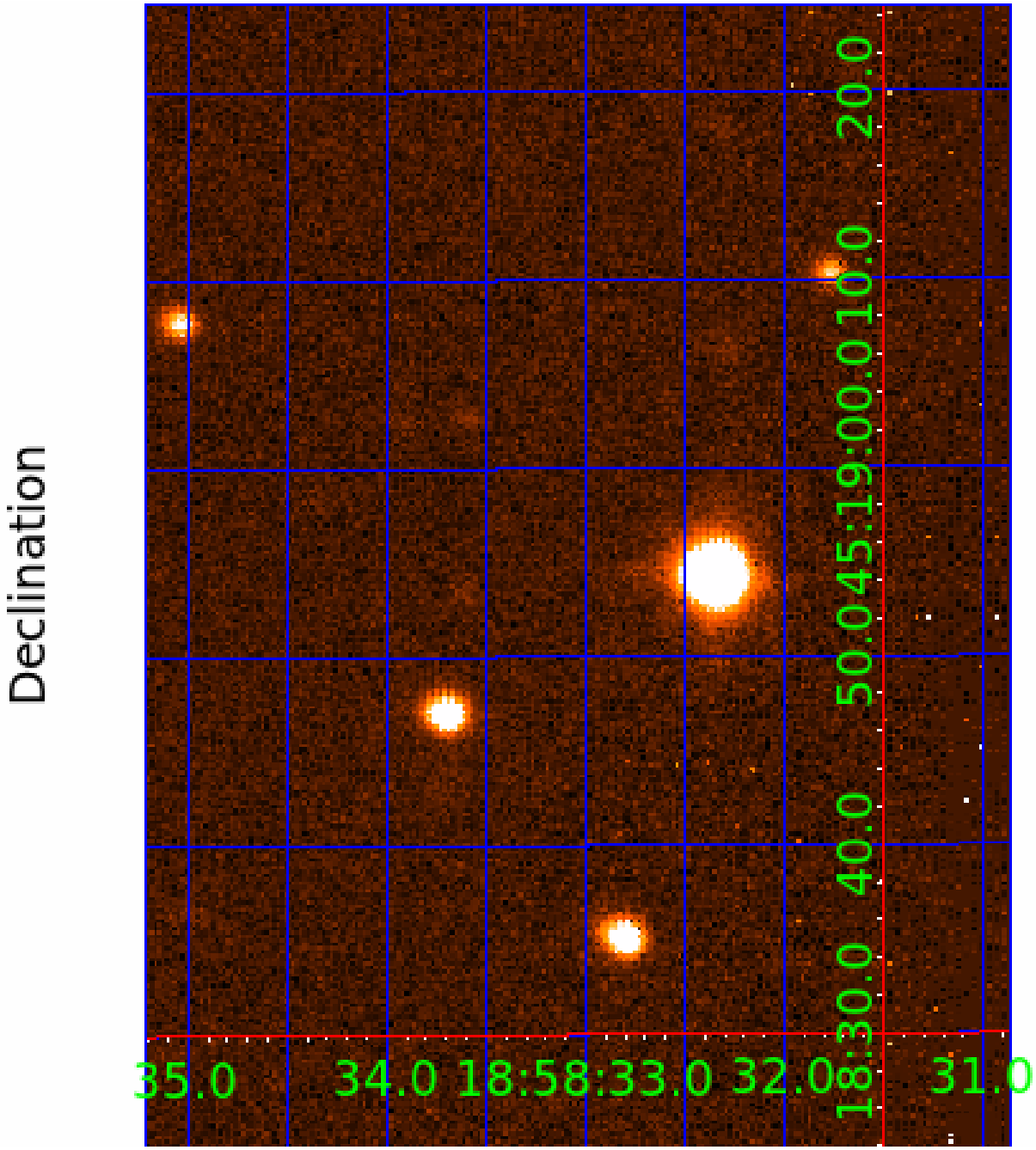


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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