KIC 009008427

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 ($S_\oplus$)
009008427-01	OBS	No	0.585038	131.747347	10.9	4.032	8.7	11.2	1.26	6567	0.49	13800.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009008427-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

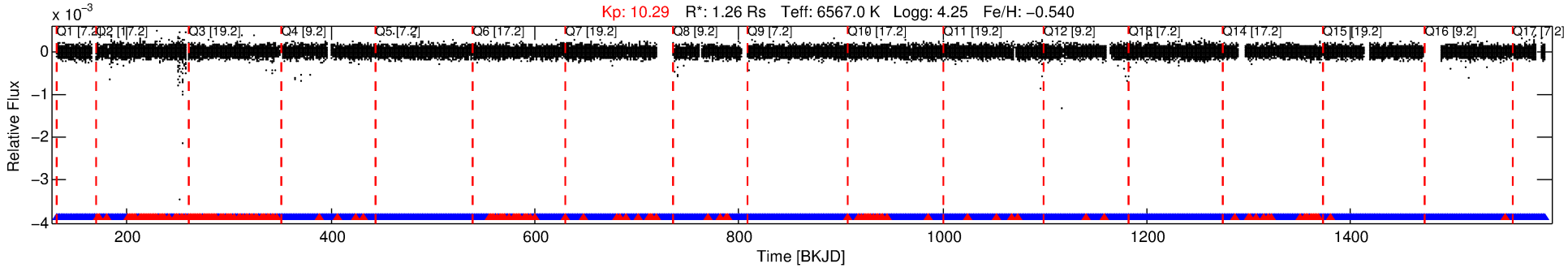
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

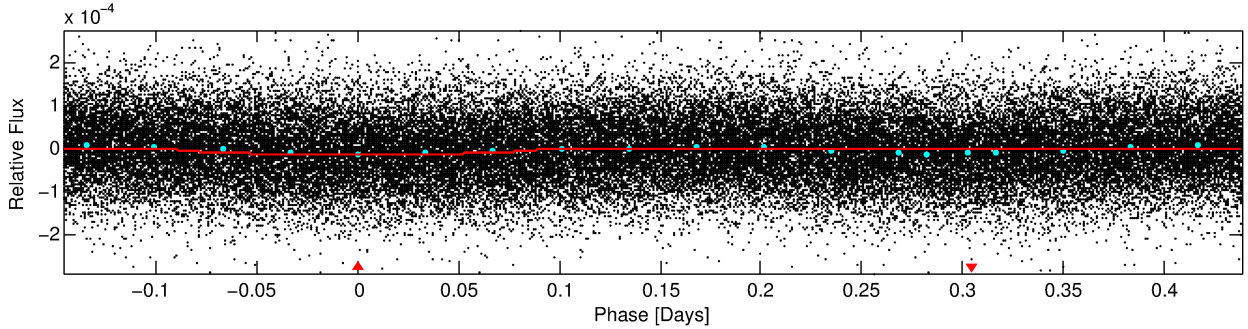
Ephemeris Match Information For 009008427-01

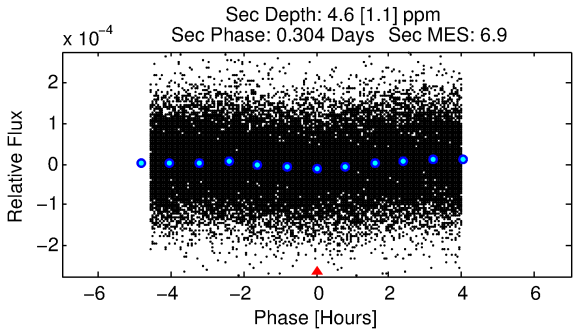
No Significant Match Found

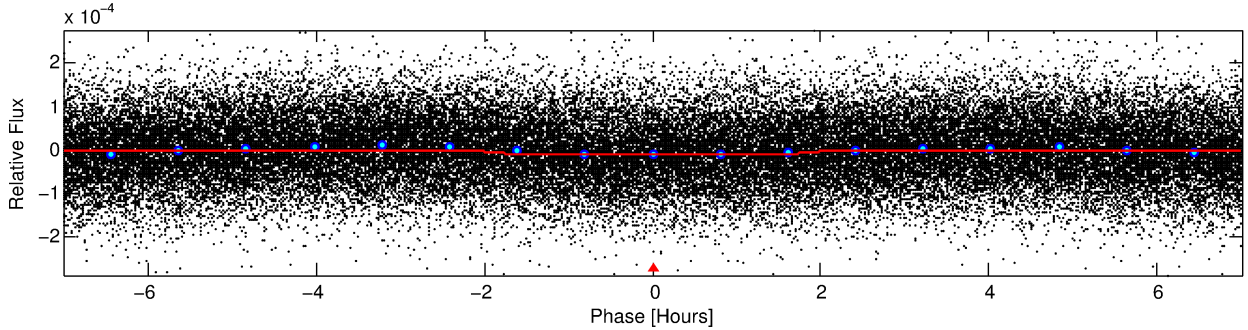
DV One-Page Summary

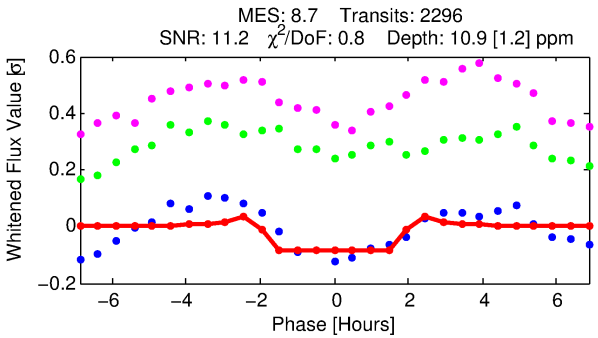
KIC: 9008427 Candidate: 1 of 1 Period: 0.585 d

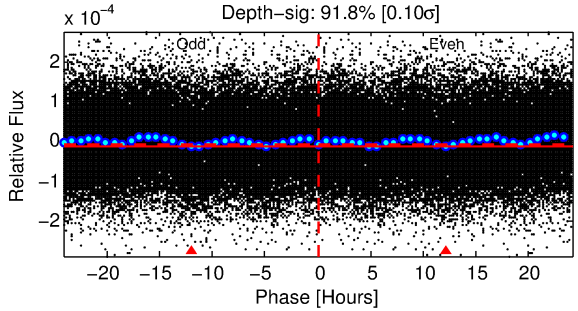


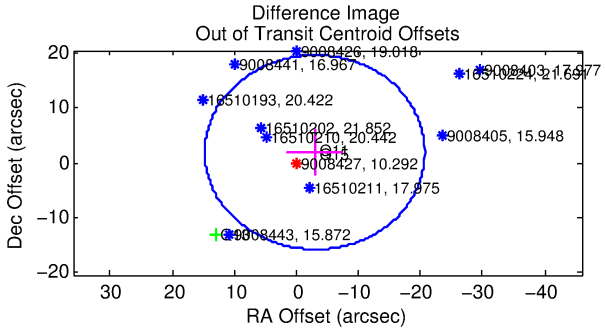












DV Fit Results:

Period = 0.58504 [0.00001] d
Epoch = 131.7473 [0.0024] BKJD
Rp/R* = 0.0035 [0.0013]
a/R* = 1.06 [0.26]
b = 0.90 [0.46]

Seff = 13800.79 [4828.89]
Teq = 2764 [242] K
Rp = 0.49 [0.22] Re
a = 0.0138 [0.0030] AU

Ag = 2.07 [1.70] [0.63σ]
Teffp = 5124 [996] K [2.30σ]

DV Diagnostic Results:

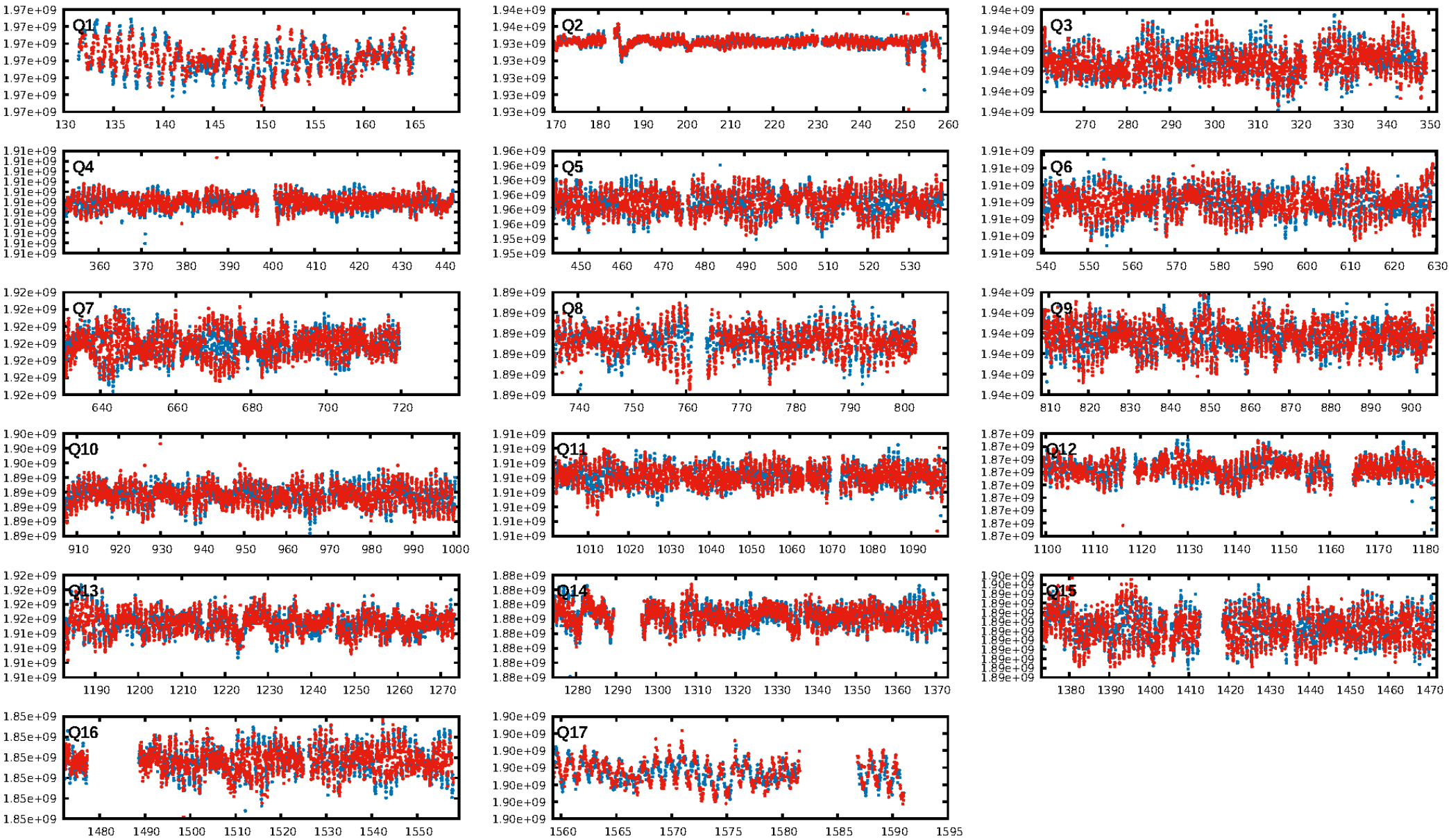
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 1.81e−11
RollingBand−fgt: 0.90 [1982/2193]
GhostDiagnostic−chr: 2.998

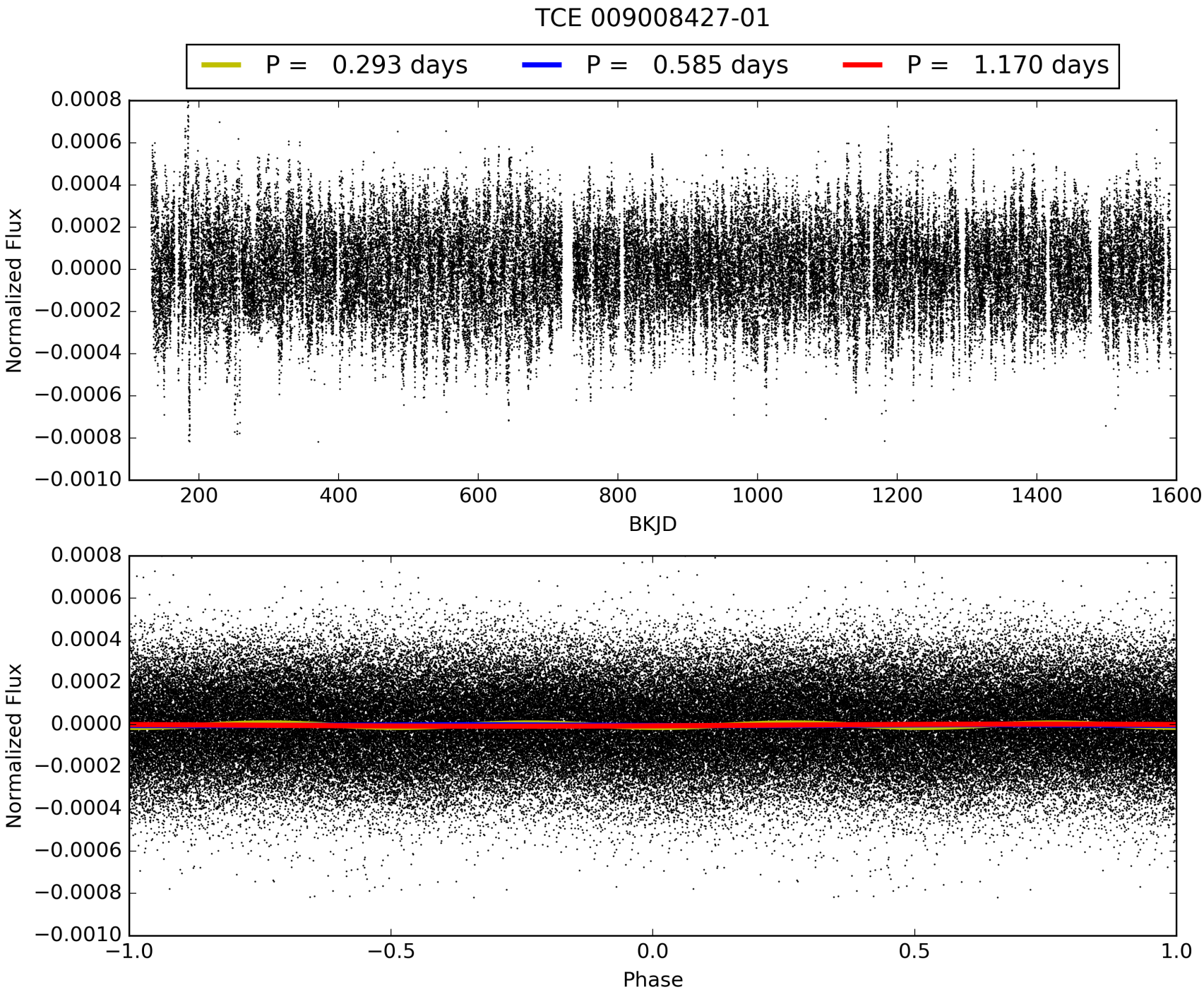
Centroid−sig: 88.2%
Centroid−so: 0.354 arcsec [0.64σ]
OotOffset−rm: 3.523 arcsec [0.60σ]
KicOffset−rm: 2.836 arcsec [0.61σ]
OotOffset−st: 0/2/0/1 [3]
KicOffset−st: 0/2/0/1 [3]
DiffImageQuality−fgm: 0.33 [1/3]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29−Jan−2016 08:37:48 Z

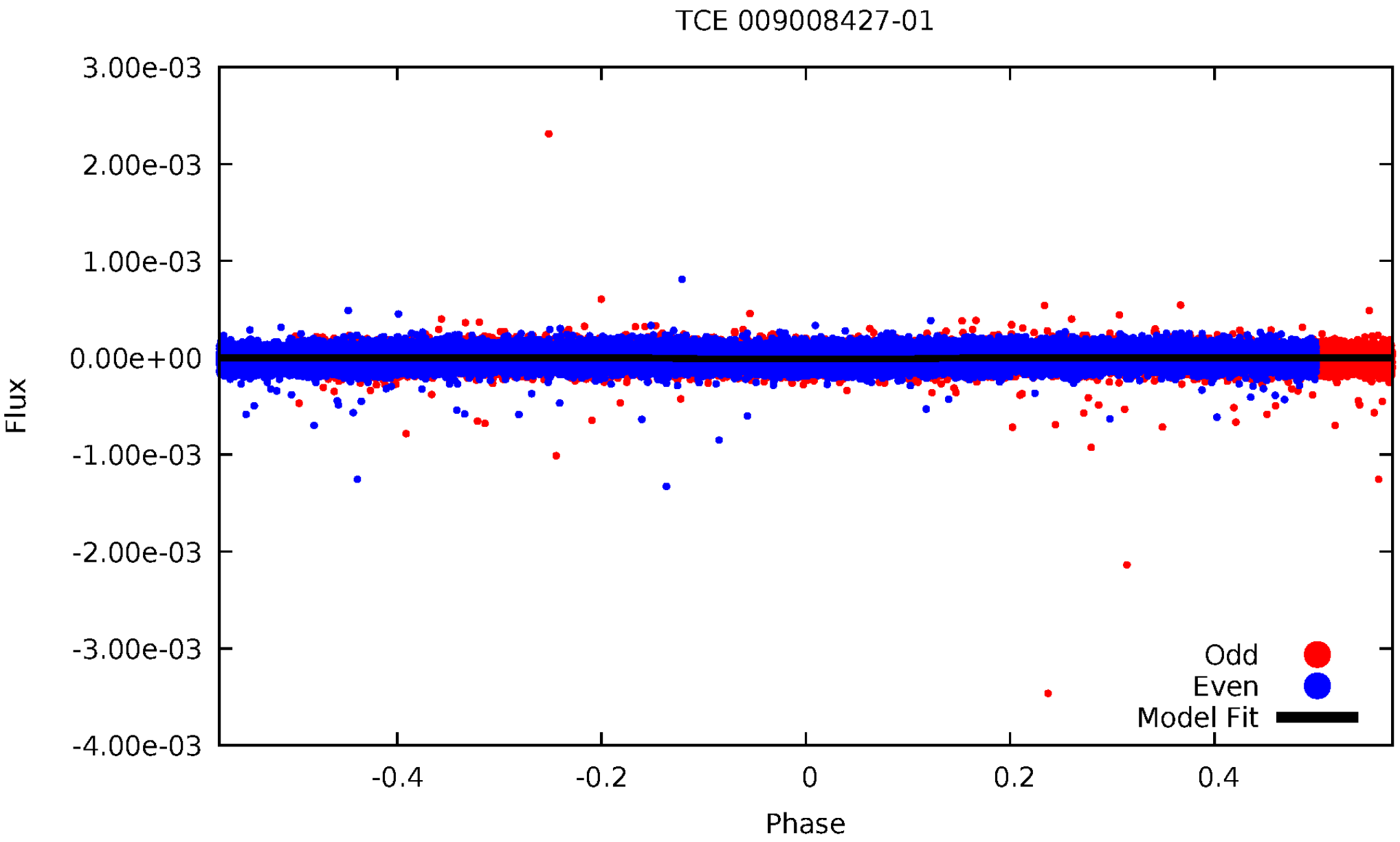
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009008427-01, PDC Light Curves

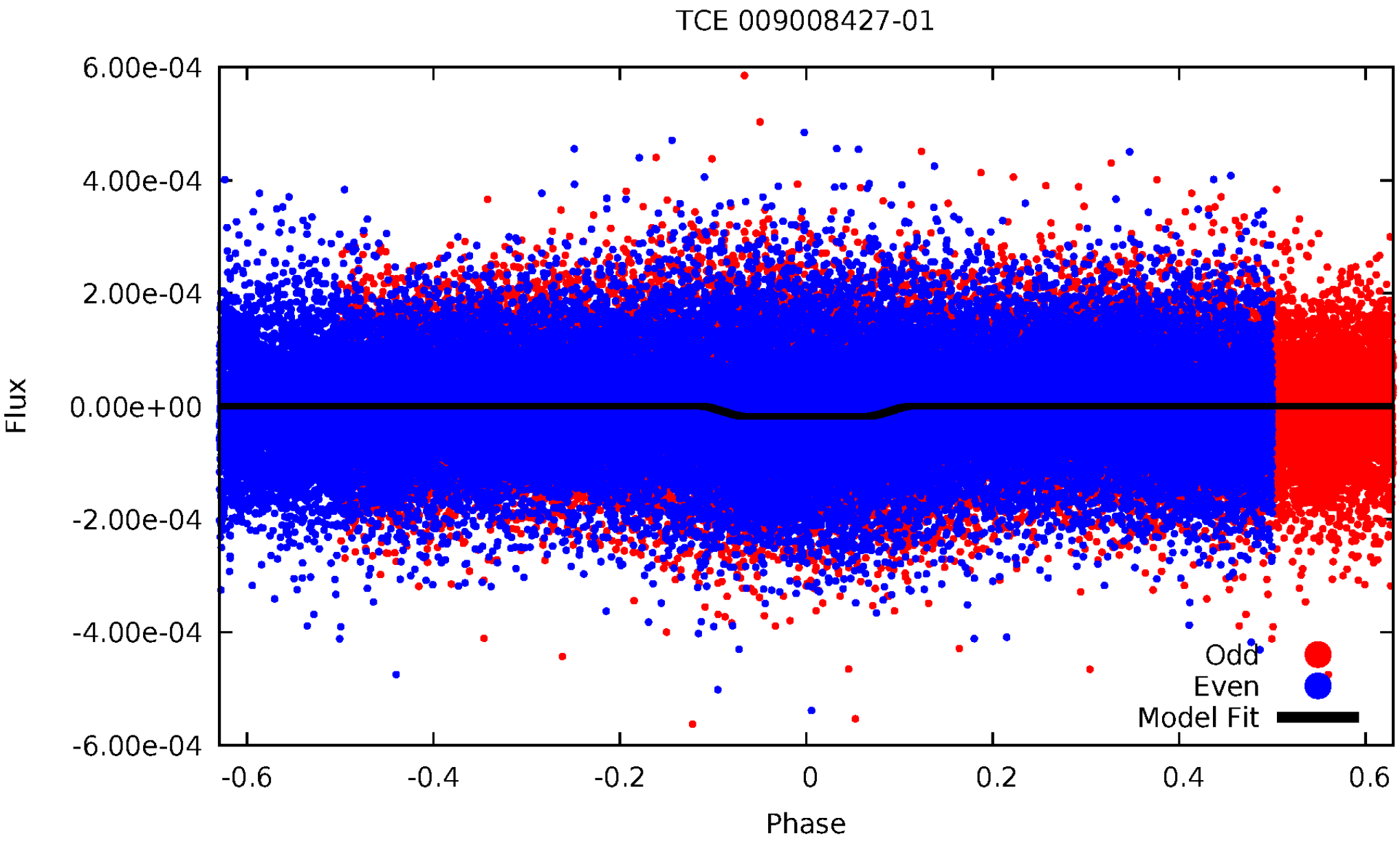



TCE 009008427-01
P = 0.293 days
P = 0.585 days
P = 1.170 days
Normalized Flux
BKJD
Normalized Flux
Phase

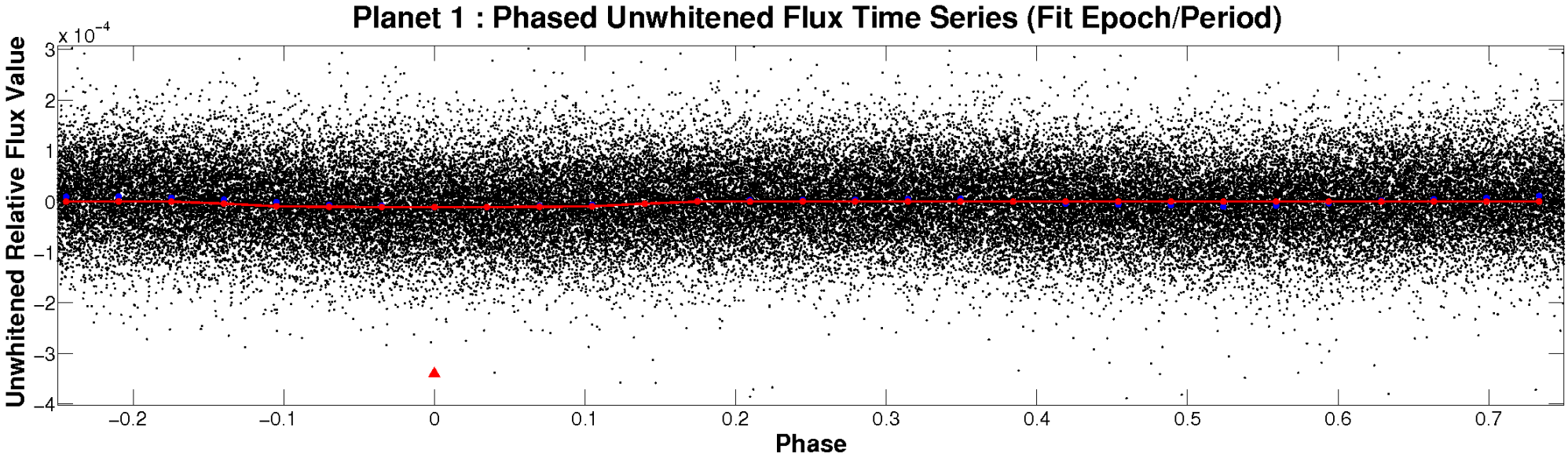
DV Odd/Even

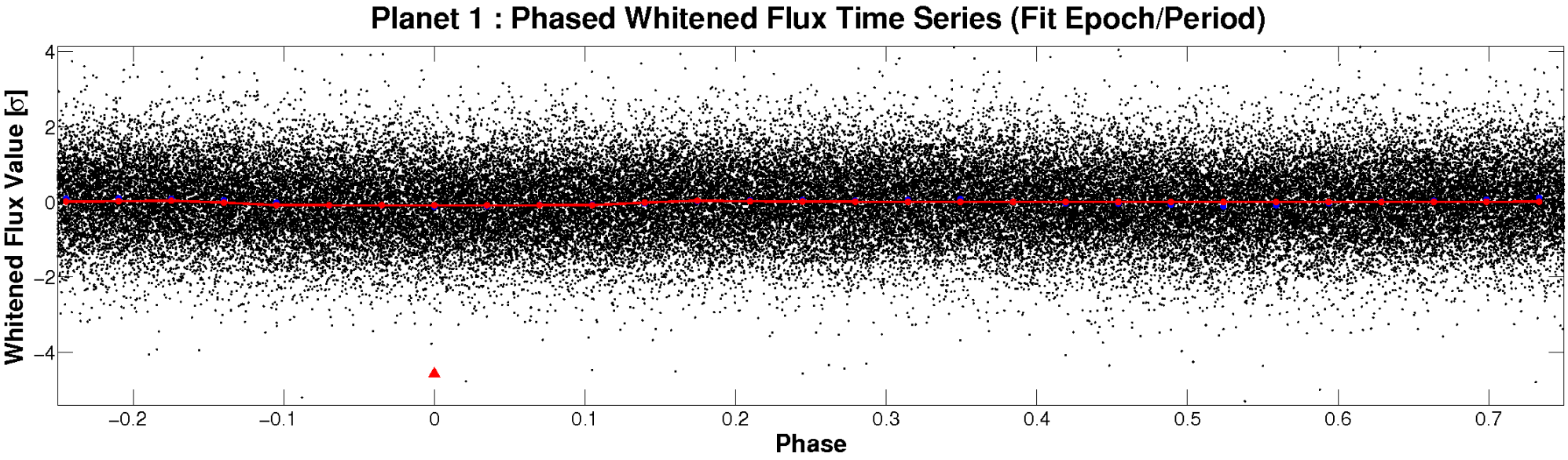

TCE 009008427-01
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
Flux
-0.4
-0.2
0
0.2
0.4
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009008427-01
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
Flux
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
Phase
Odd
Even
Model Fit

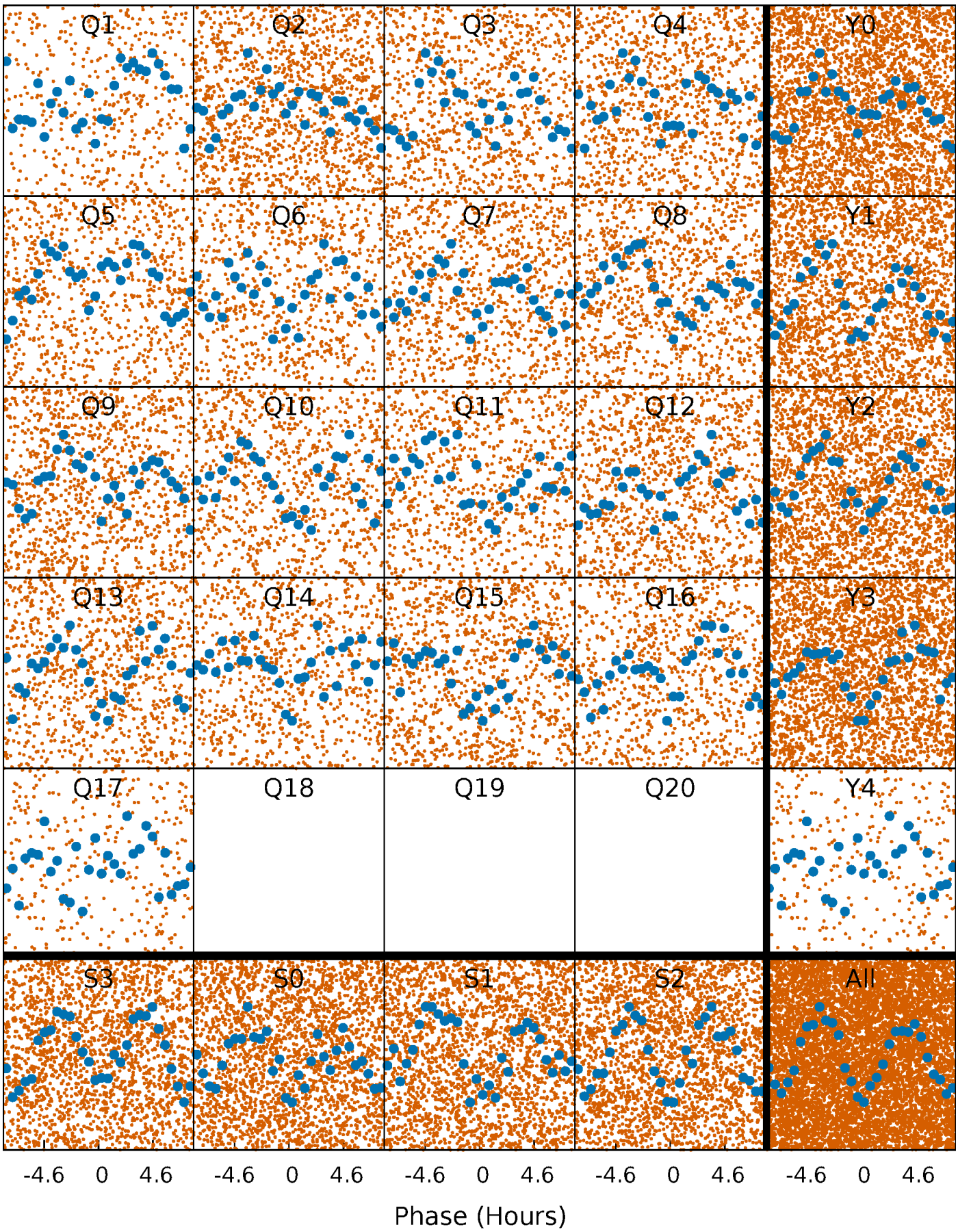
Non-Whitened Vs. Whitened Light Curve





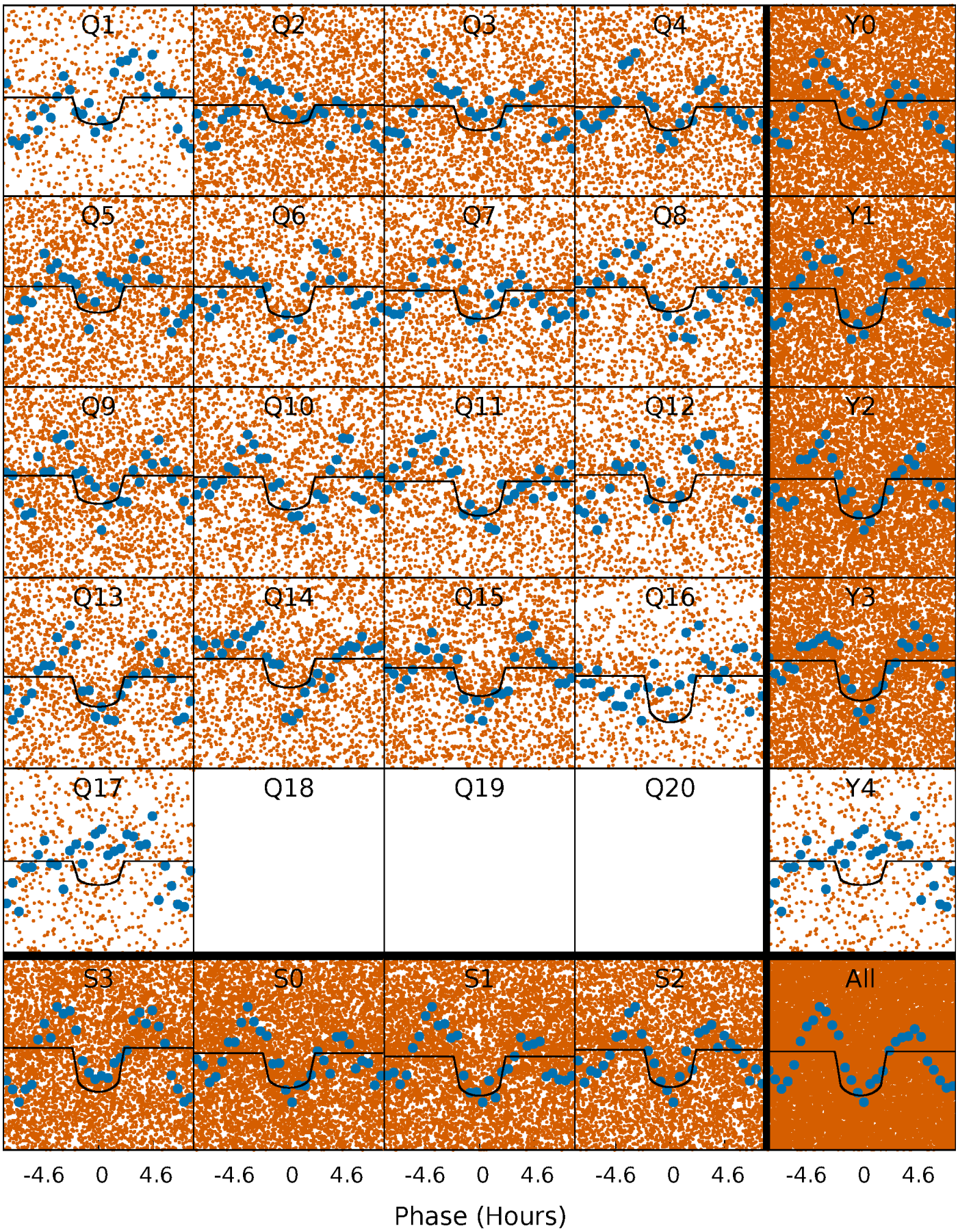
PDC Quarter-Phased Transit Curves

TCE 009008427-01 P= 0.585038 Days T_0=131.747347 (BKJD)



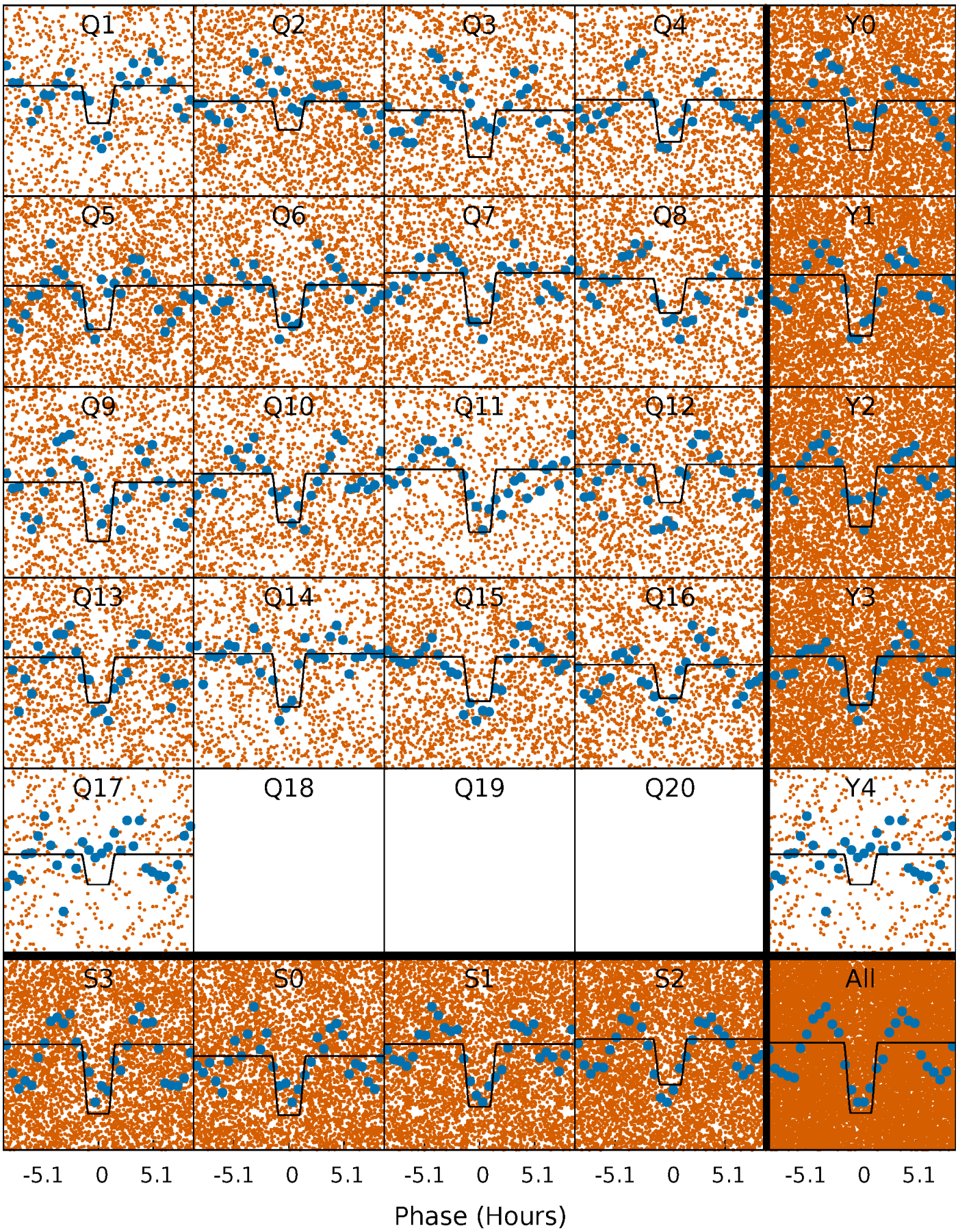
DV Quarter-Phased Transit Curves

TCE 009008427-01 P= 0.585038 Days T_0=131.747347 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

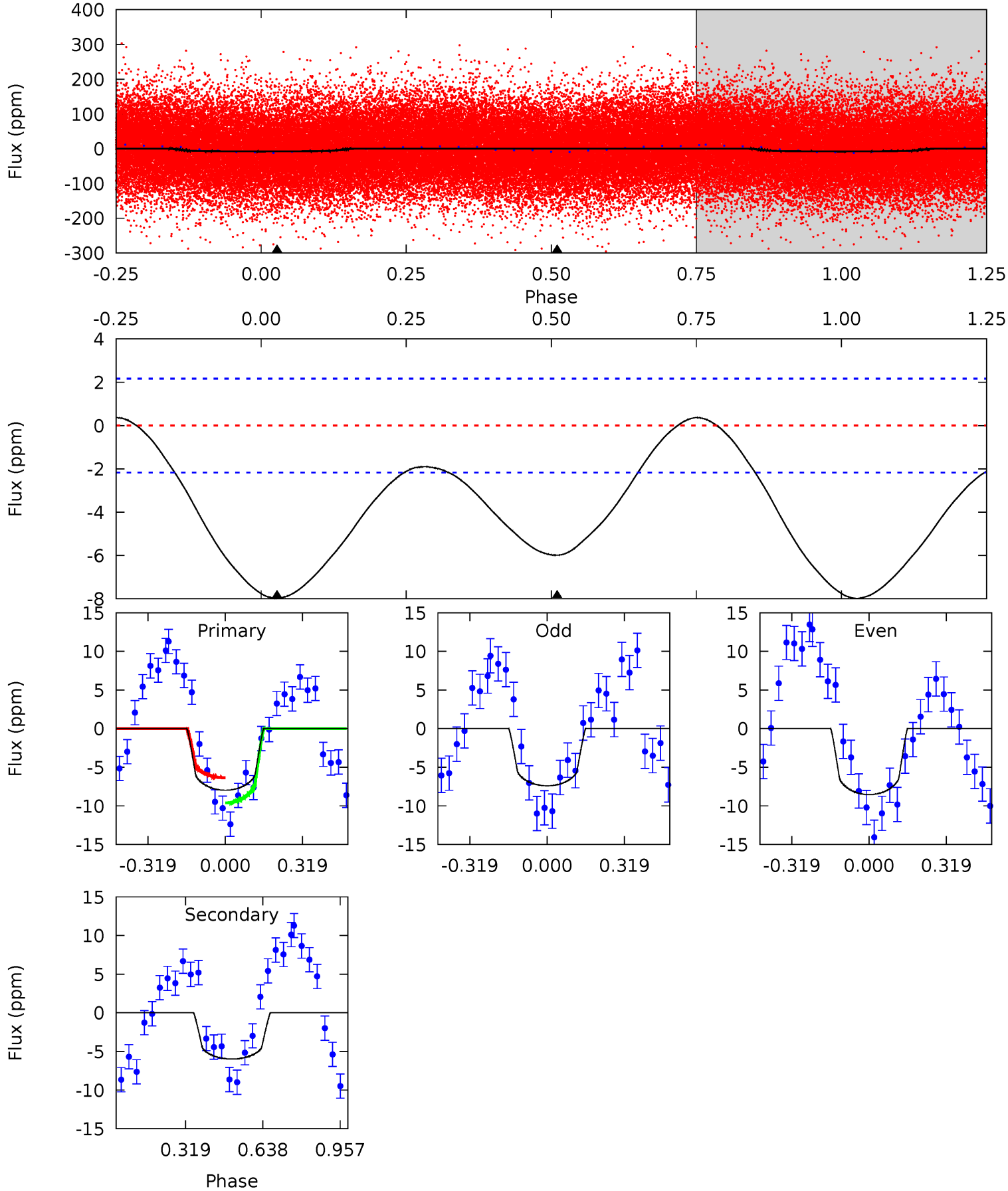
TCE 009008427-01 P= 0.585053 Days T_0=131.733883 (BKJD)



DV Model-Shift Uniqueness Test

009008427-01, P = 0.585038 Days, E = 131.162309 Days

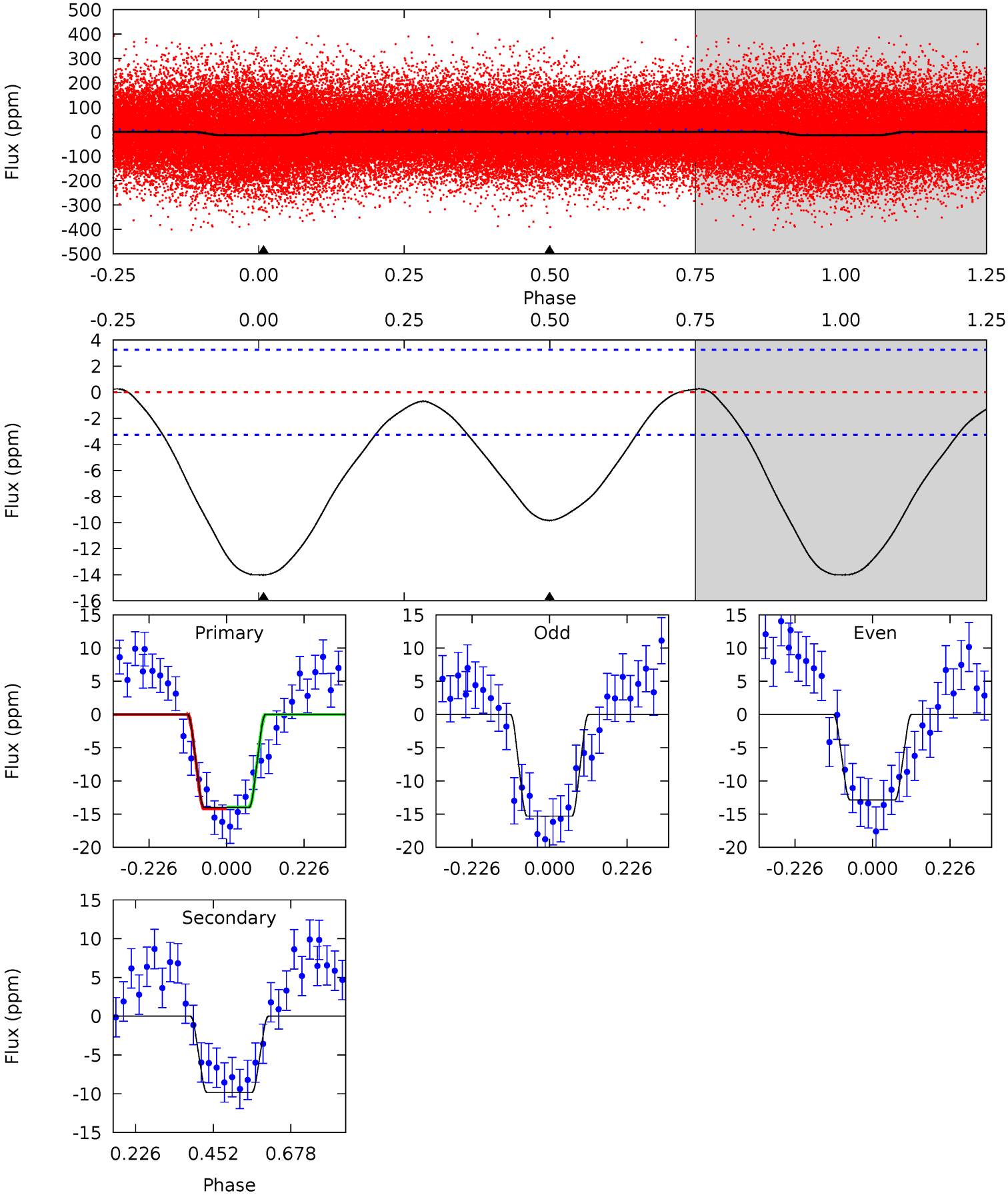
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.9	11.9	0	0	4.32	1.00	2.00	15.9	15.9	11.9	11.9	1.14	1.00	0.04	3.21



Alt Model-Shift Uniqueness Test

009008427-01, P = 0.585053 Days, E = 131.148830 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	13.2	0	0	4.39	1.21	0.94	18.9	18.9	13.2	13.2	1.64	0.73	0.02	0.18



Stellar Parameters For KIC 009008427

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6567^{+183}_{-252}	$4.251^{+0.170}_{-0.170}$	$-0.540^{+0.300}_{-0.300}$	$1.258^{+0.331}_{-0.271}$	$1.027^{+0.149}_{-0.122}$	$0.728^{+0.623}_{-0.331}$
	+3%/-4%	+4%/-4%	+56%/-56%	+26%/-22%	+15%/-12%	+86%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009008427-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6±1	$0.49^{+0.18}_{-0.18}$	3853^{+273}_{-276}	5283^{+1409}_{-767}	$2.581^{+3.747}_{-1.218}$
Alt.	-10±1	$0.58^{+0.20}_{-0.18}$	3854^{+275}_{-235}	5521^{+1163}_{-740}	$3.127^{+3.579}_{-1.395}$

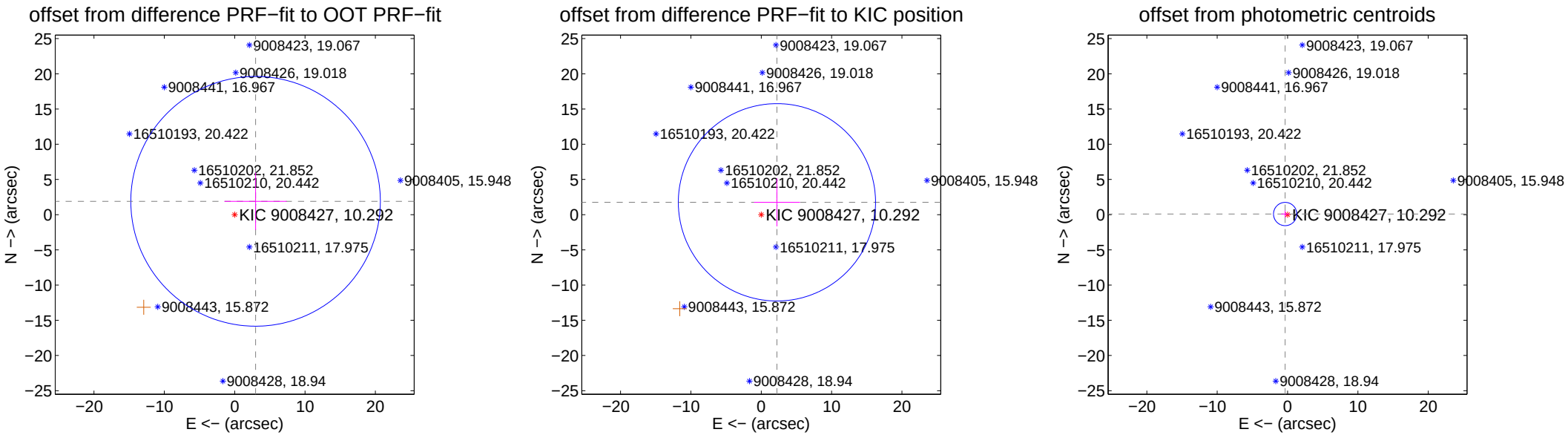
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

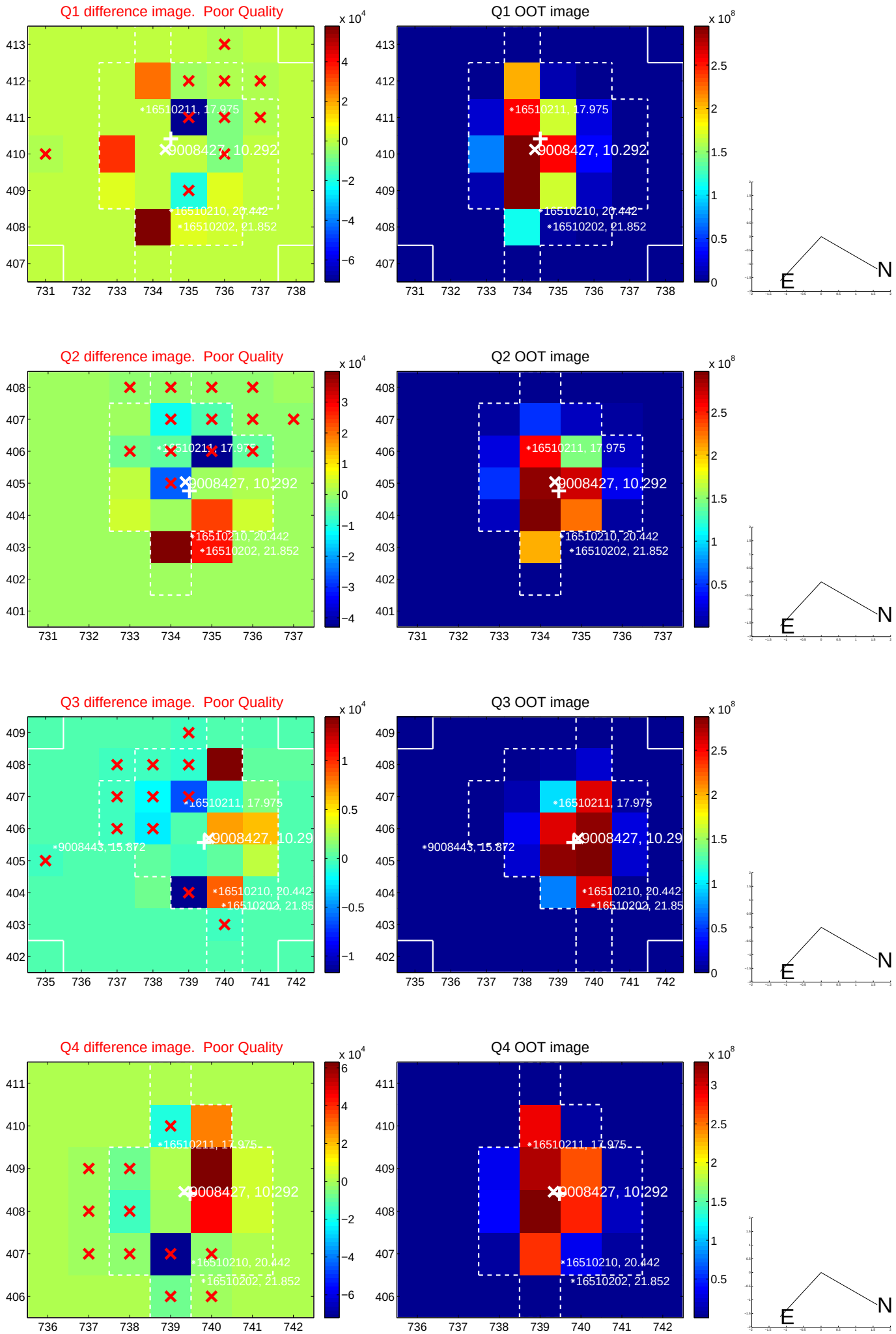
Supplemental centroid analysis for 009008427-01. Kepler magnitude: 10.29. Transit SNR 11.21
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.75 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.523 ± 5.910	0.60	-2.971 ± 4.420	1.893 ± 4.065
PRF-fit source offset from KIC position	2.836 ± 4.671	0.61	-2.231 ± 3.262	1.751 ± 3.412
photometric centroid source offset	0.35 ± 0.55	0.64	0.34 ± 0.56	0.09 ± 0.49

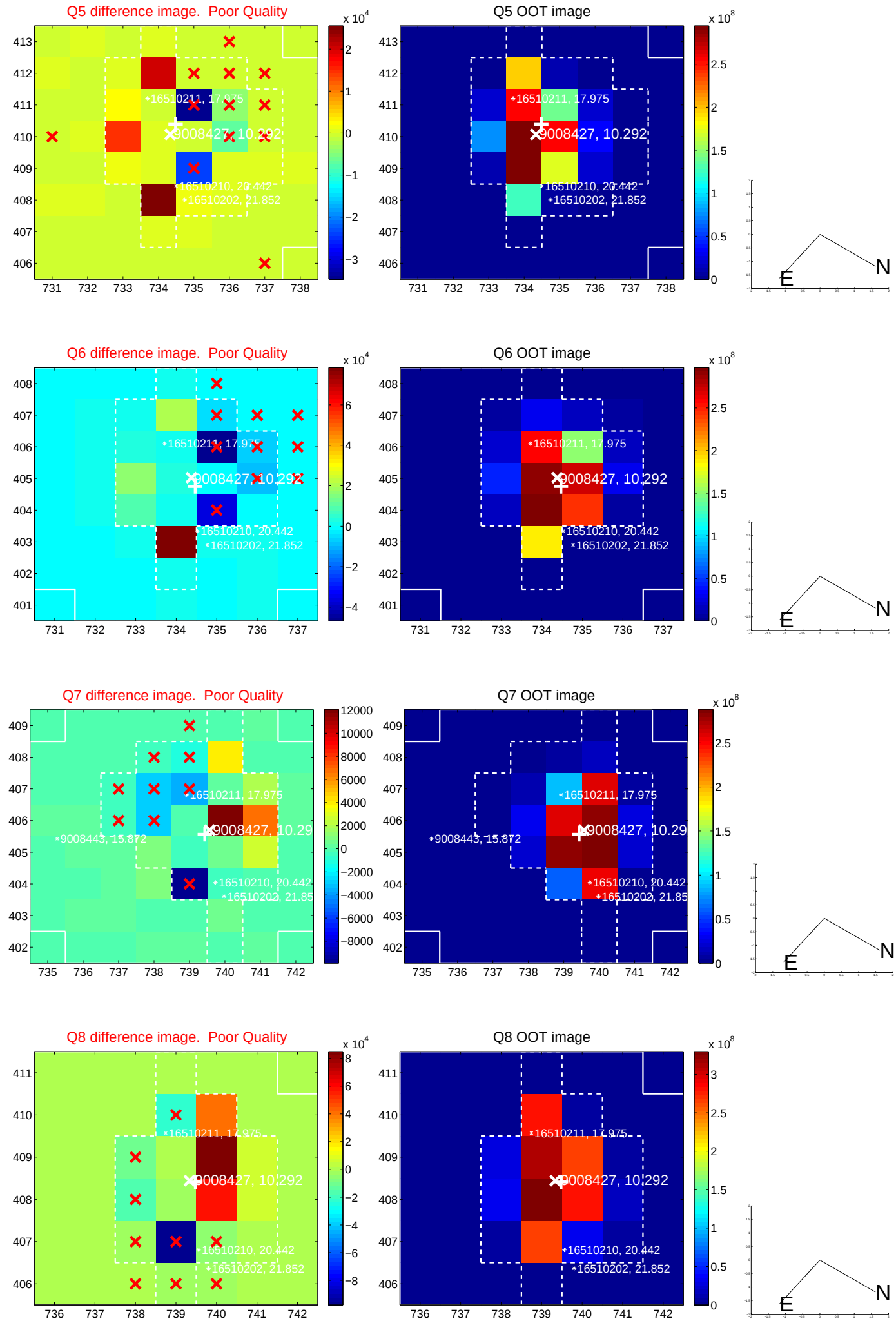


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

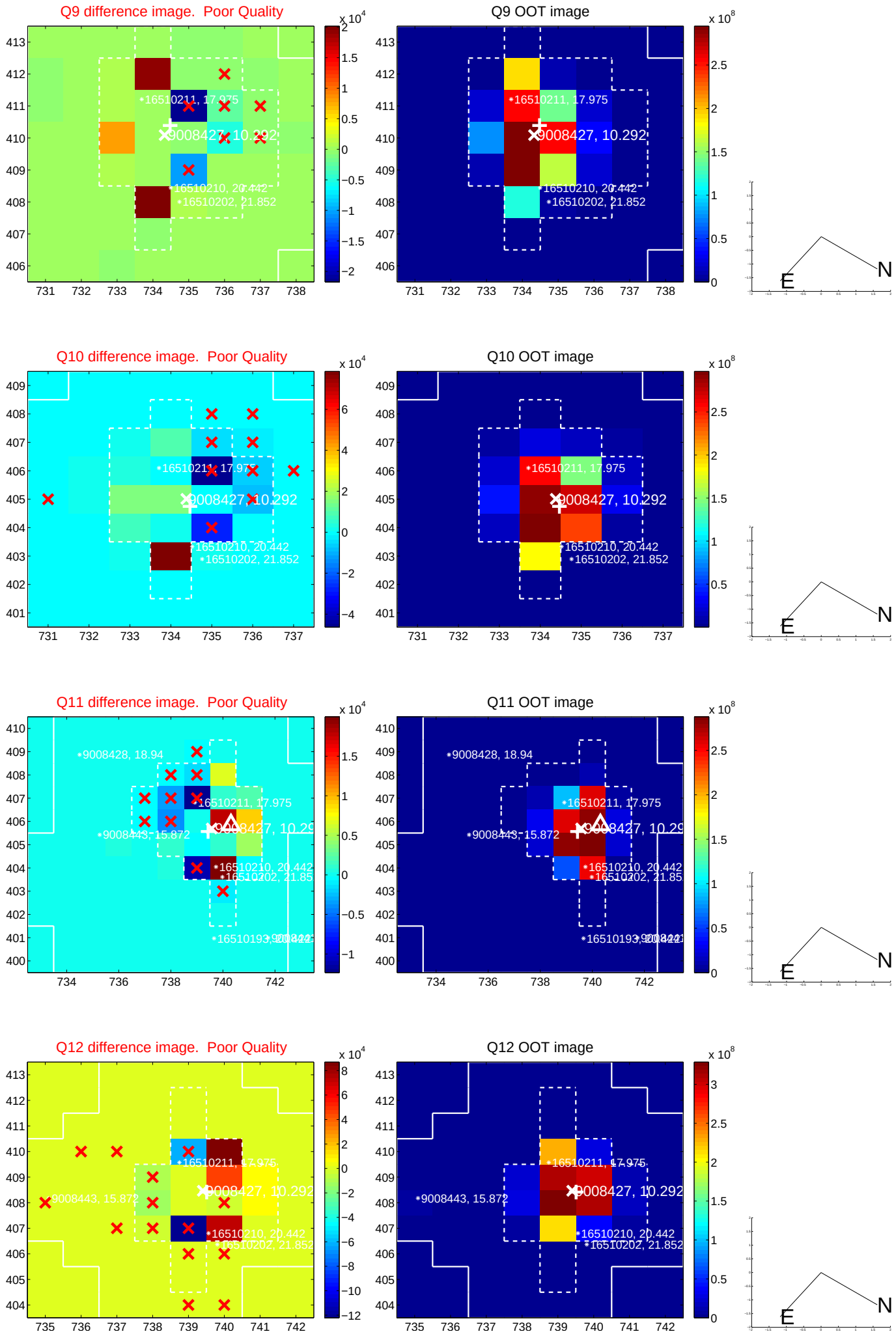
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



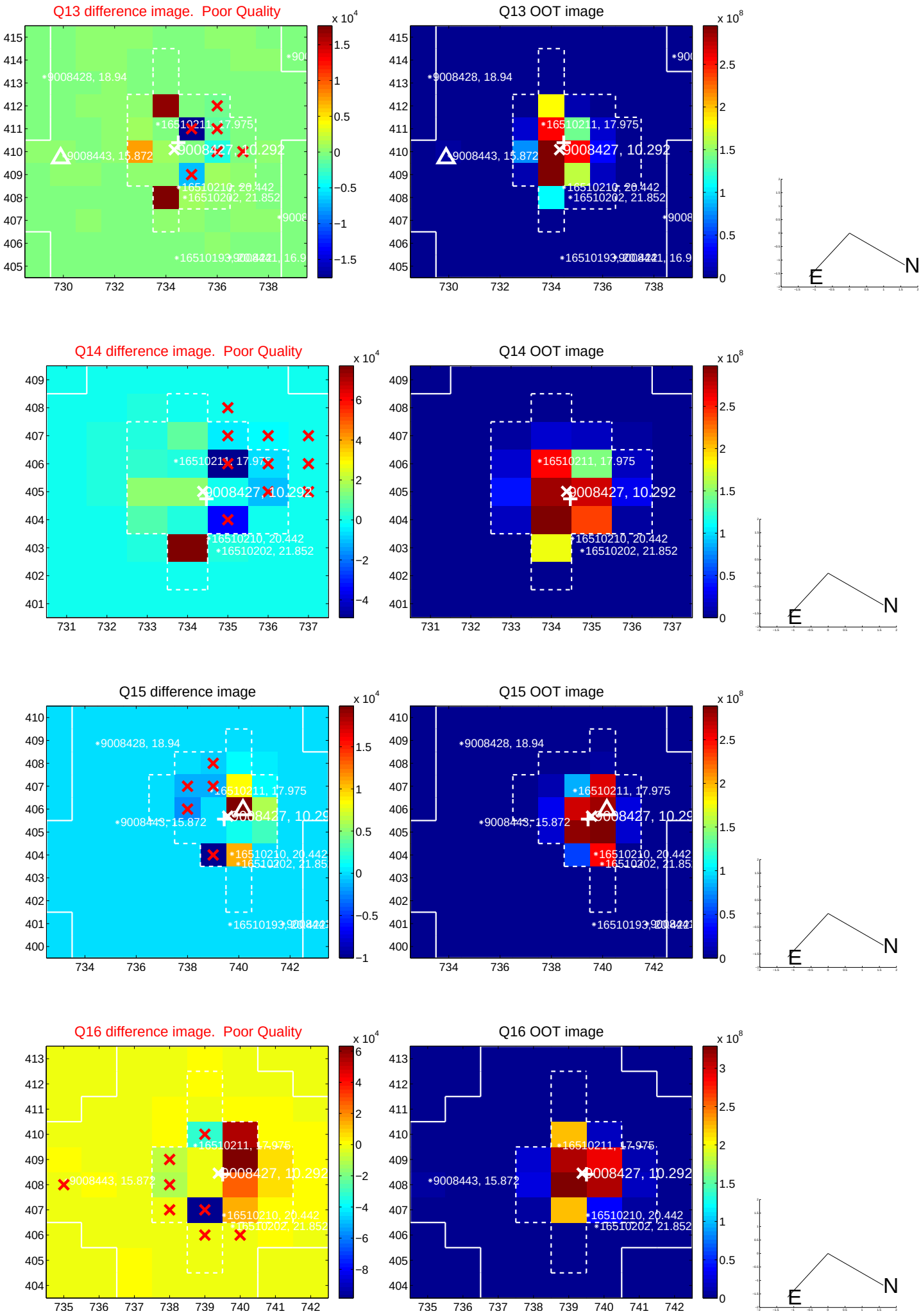
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



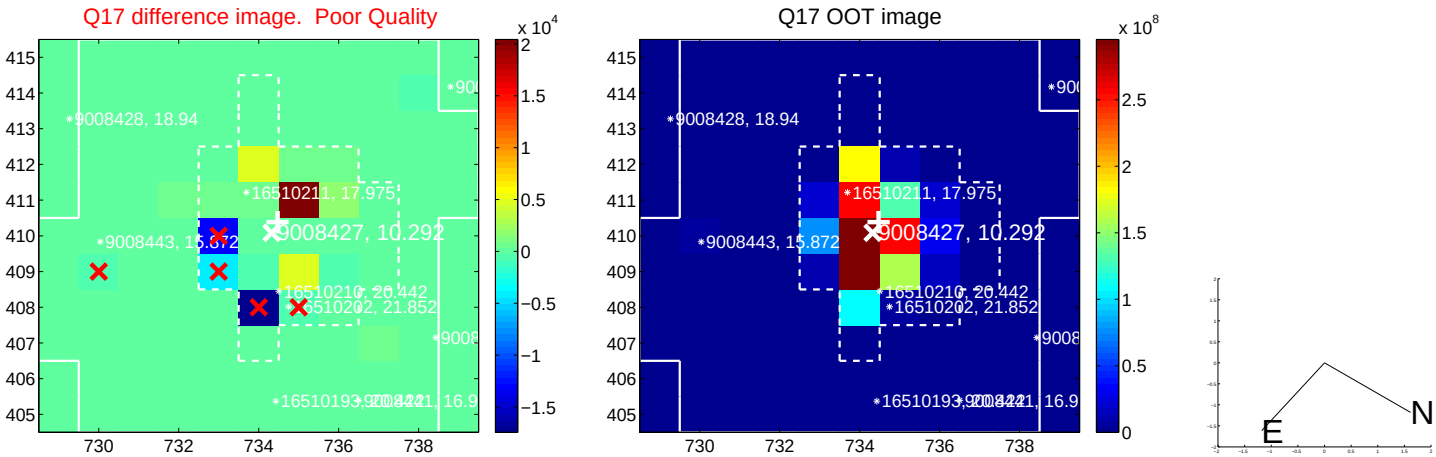
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

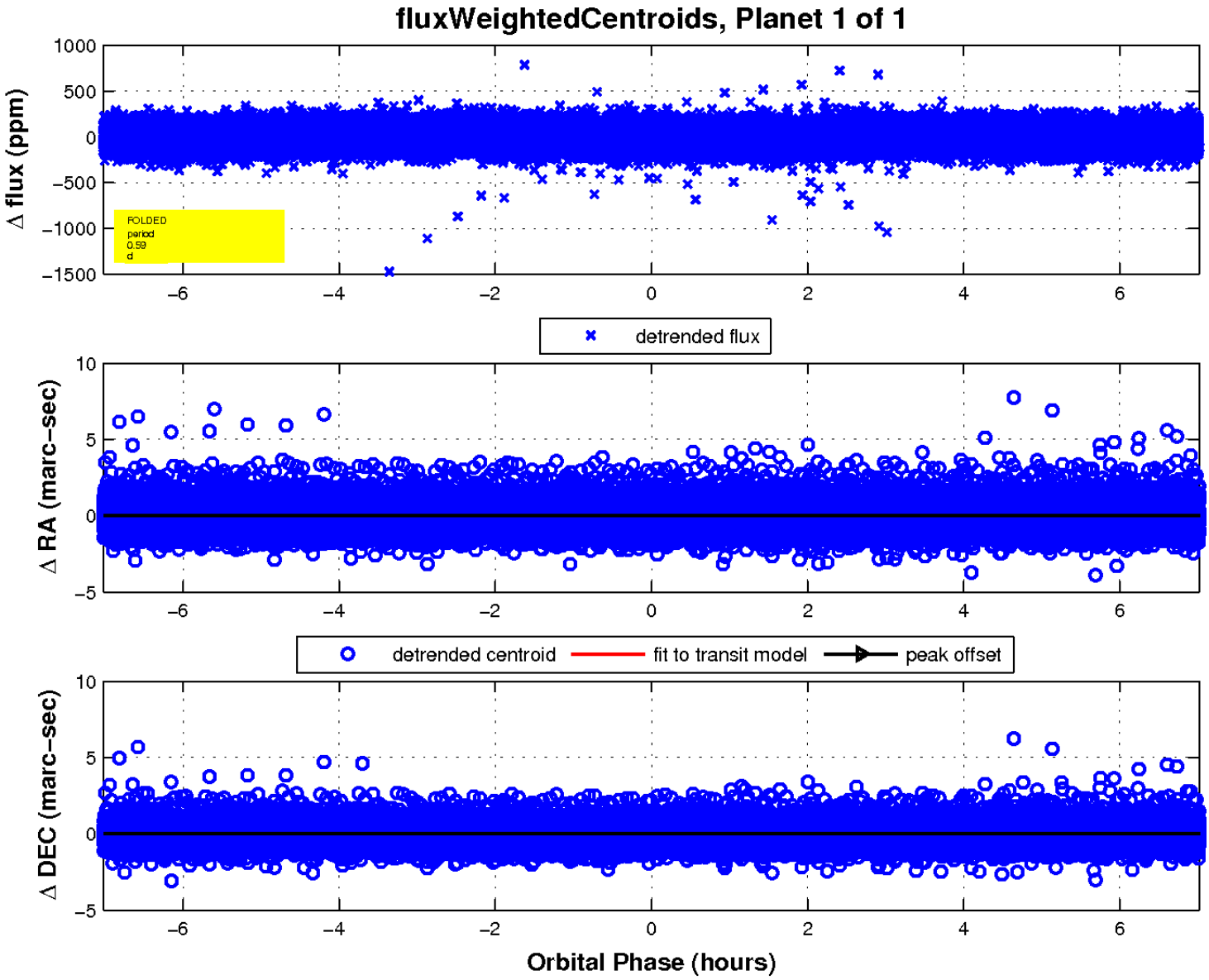
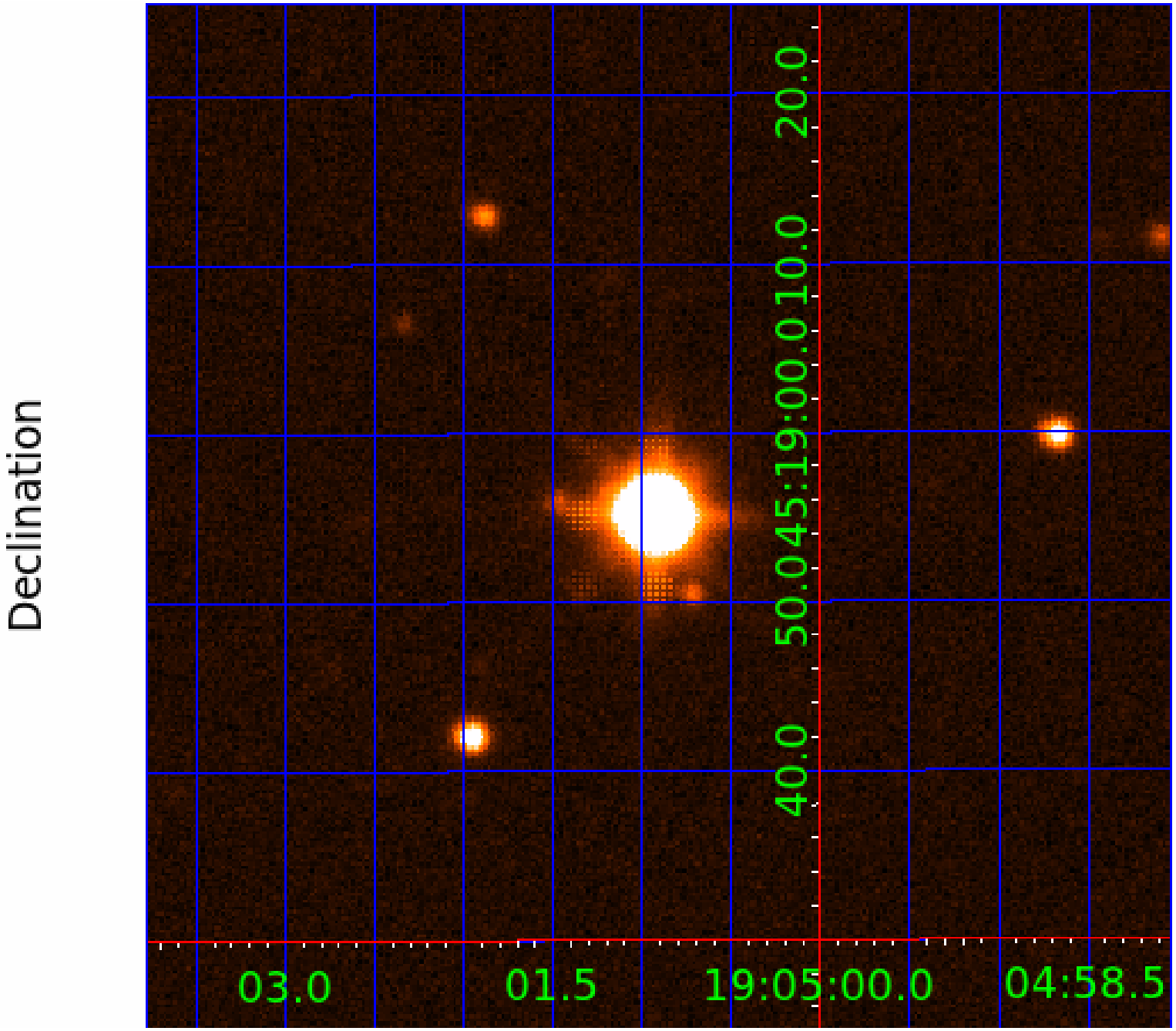


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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





UKIRT Image