KIC 009287646

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 ($S_\oplus$)
009287646-01	OBS	No	2.558896	132.873906	23.5	20.241	8.7	10.7	1.03	6258	0.56	1028.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009287646-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_MEAS

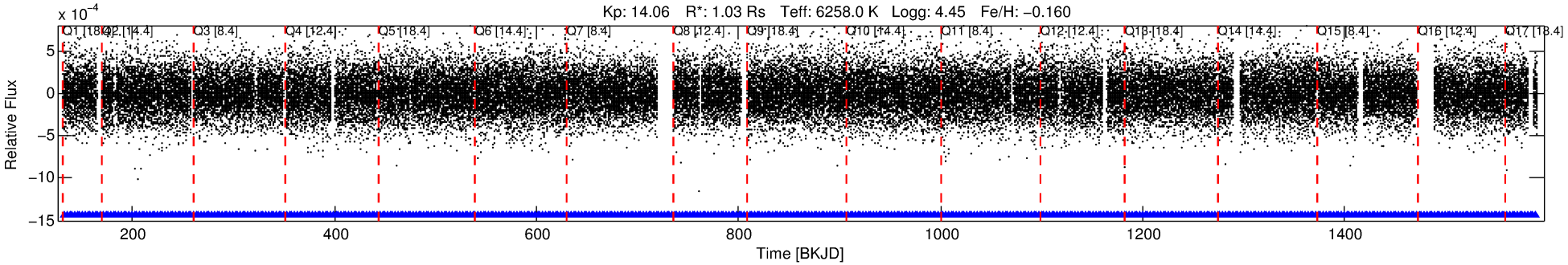
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

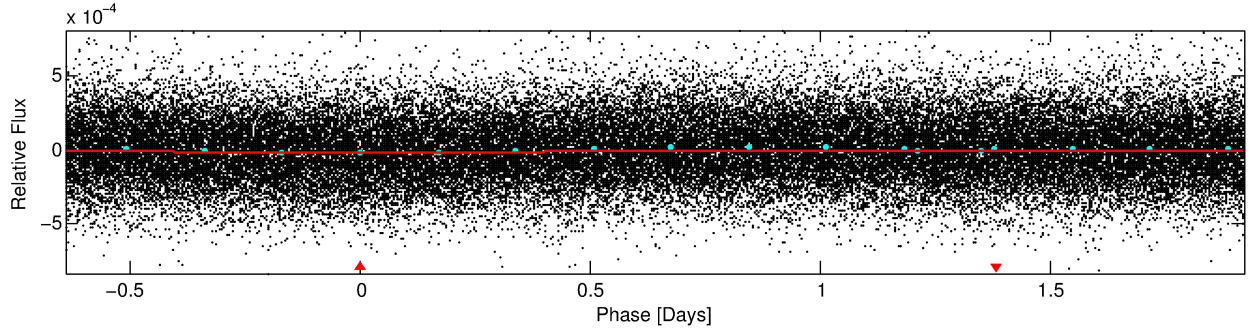
Ephemeris Match Information For 009287646-01

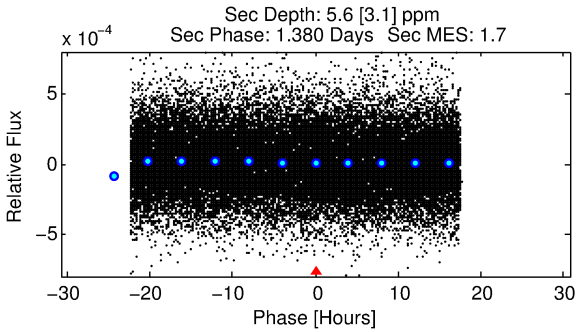
No Significant Match Found

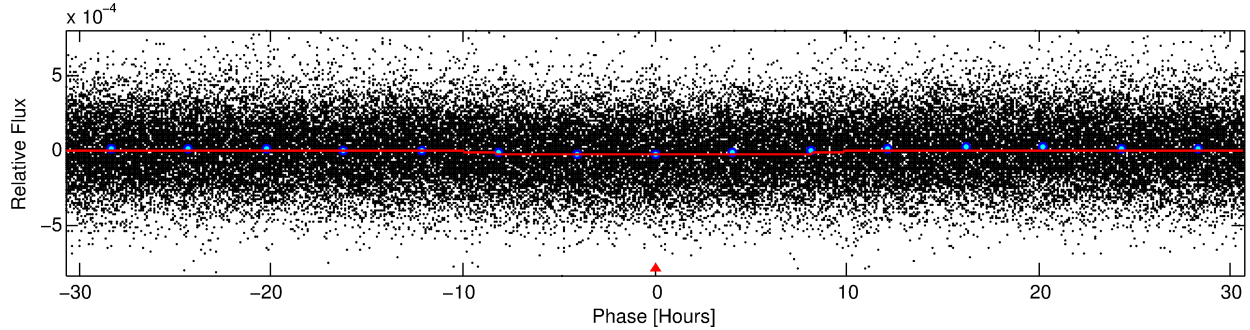
DV One-Page Summary

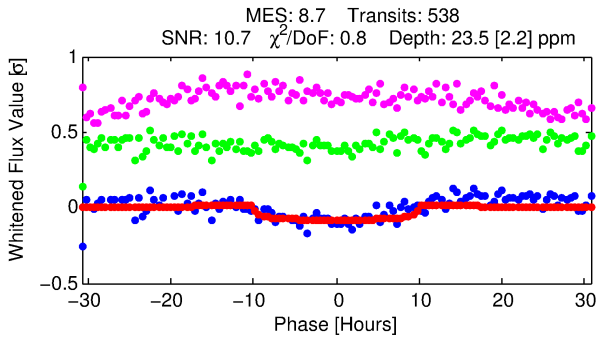
KIC: 9287646 Candidate: 1 of 1 Period: 2.559 d

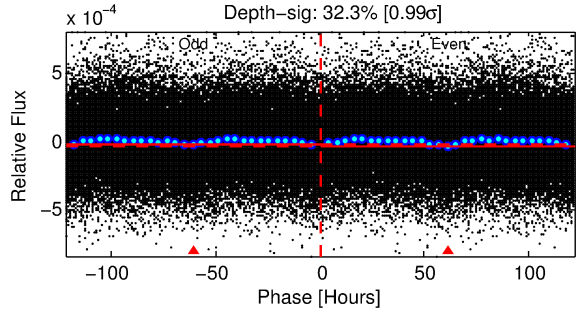


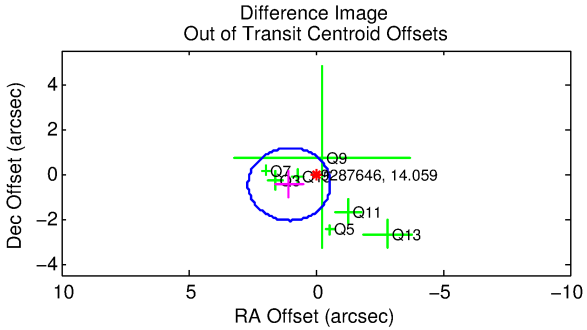












DV Fit Results:

Period = 2.55890 [0.00005] d
Epoch = 132.8739 [0.0137] BKJD
Rp/R* = 0.0050 [0.0017]
a/R* = 1.06 [0.23]
b = 0.82 [0.76]

Seff = 1028.19 [439.24]
Teq = 1444 [154] K
Rp = 0.56 [0.27] Re
a = 0.0377 [0.0104] AU

Ag = 14.09 [13.79] [0.95σ]
Teffp = 4325 [973] K [2.92σ]

DV Diagnostic Results:

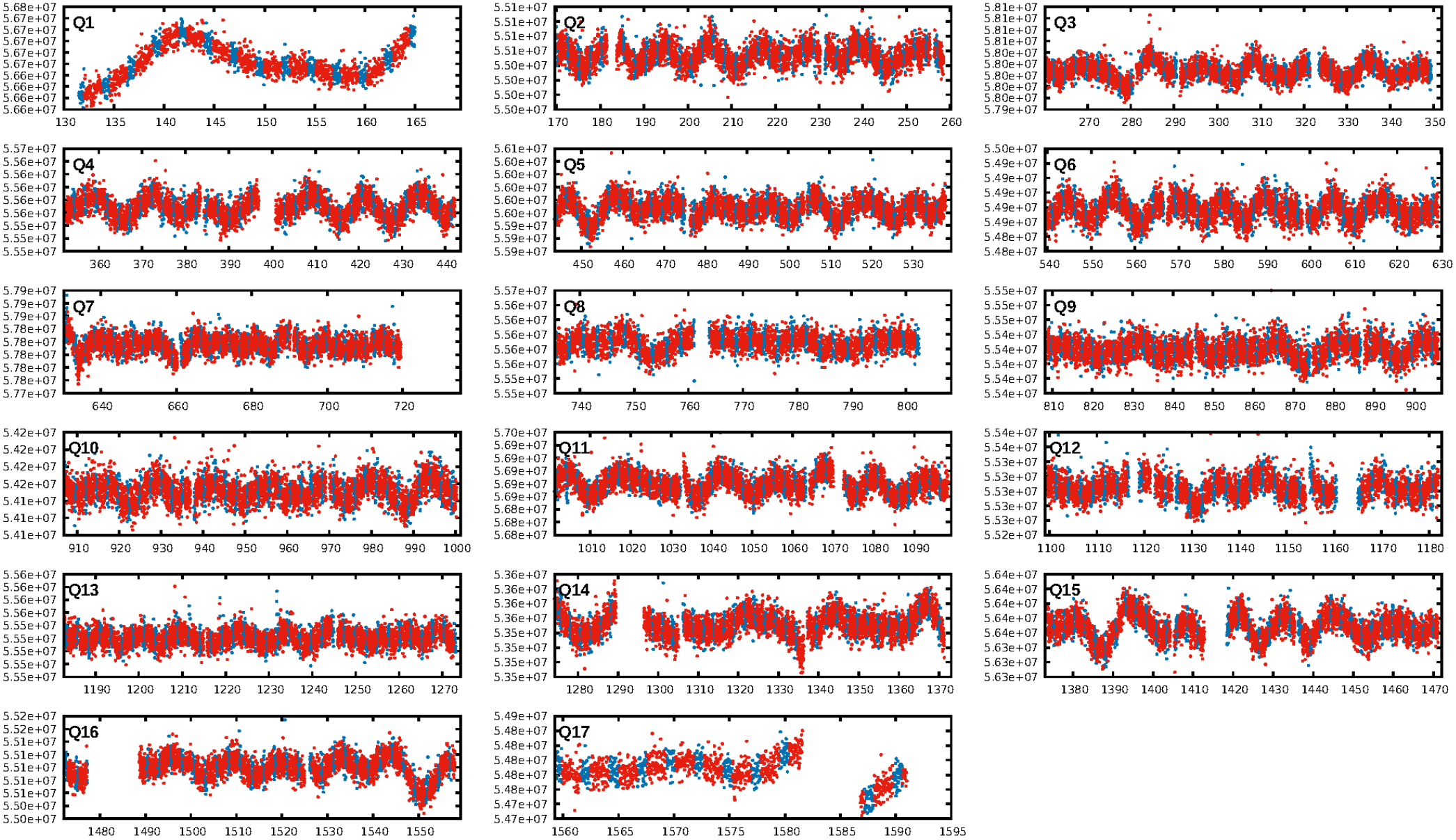
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [515/515]
GhostDiagnostic−chr: −61.96

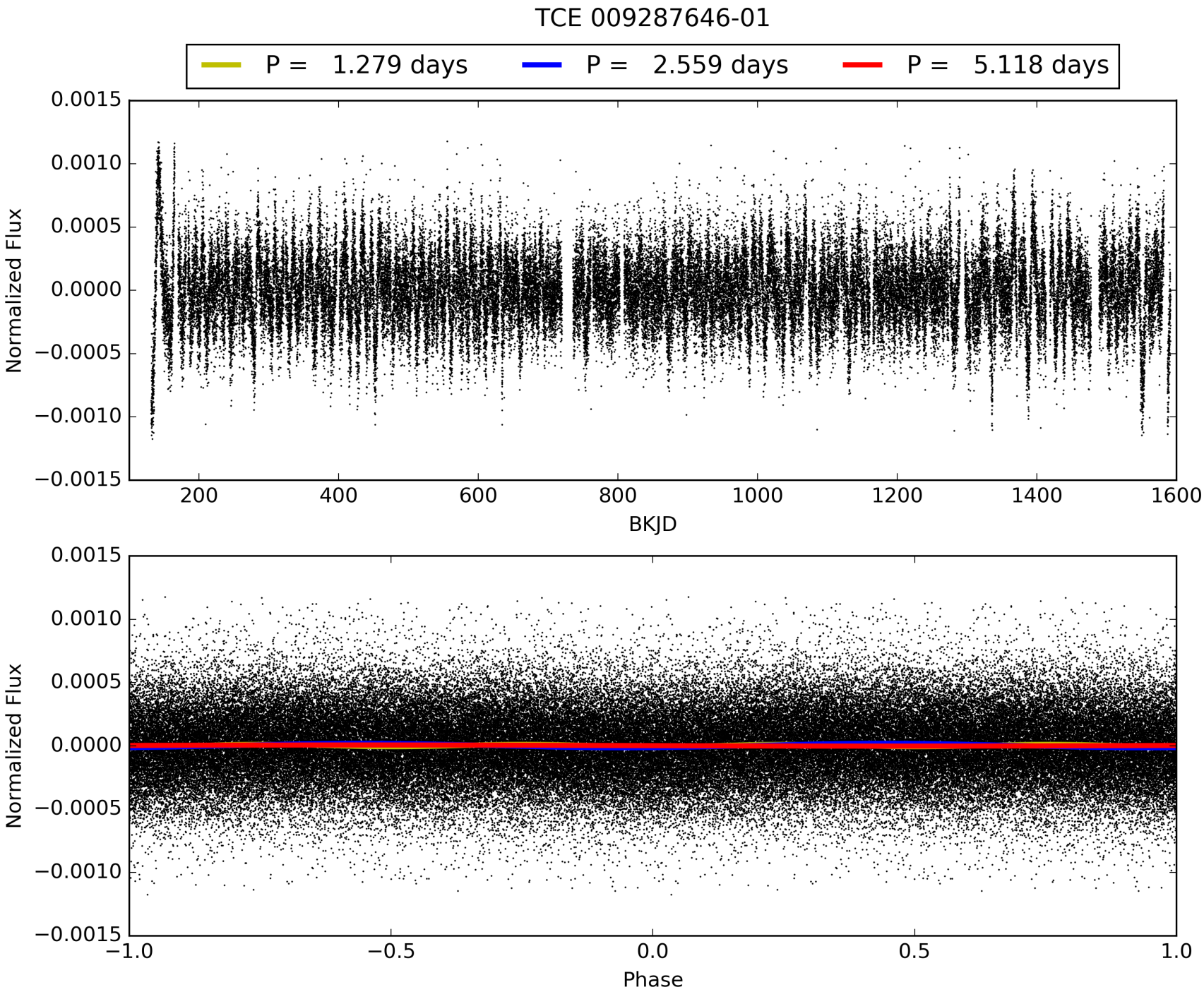
Centroid−sig: 0.1%
Centroid−so: 2.355 arcsec [2.21σ]
OotOffset−rm: 1.137 arcsec [2.11σ]
KicOffset−rm: 1.247 arcsec [2.30σ]
OotOffset−st: 0/4/0/3 [7]
KicOffset−st: 0/4/0/3 [7]
DiffImageQuality−fgm: 0.57 [4/7]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 01:31:50 Z

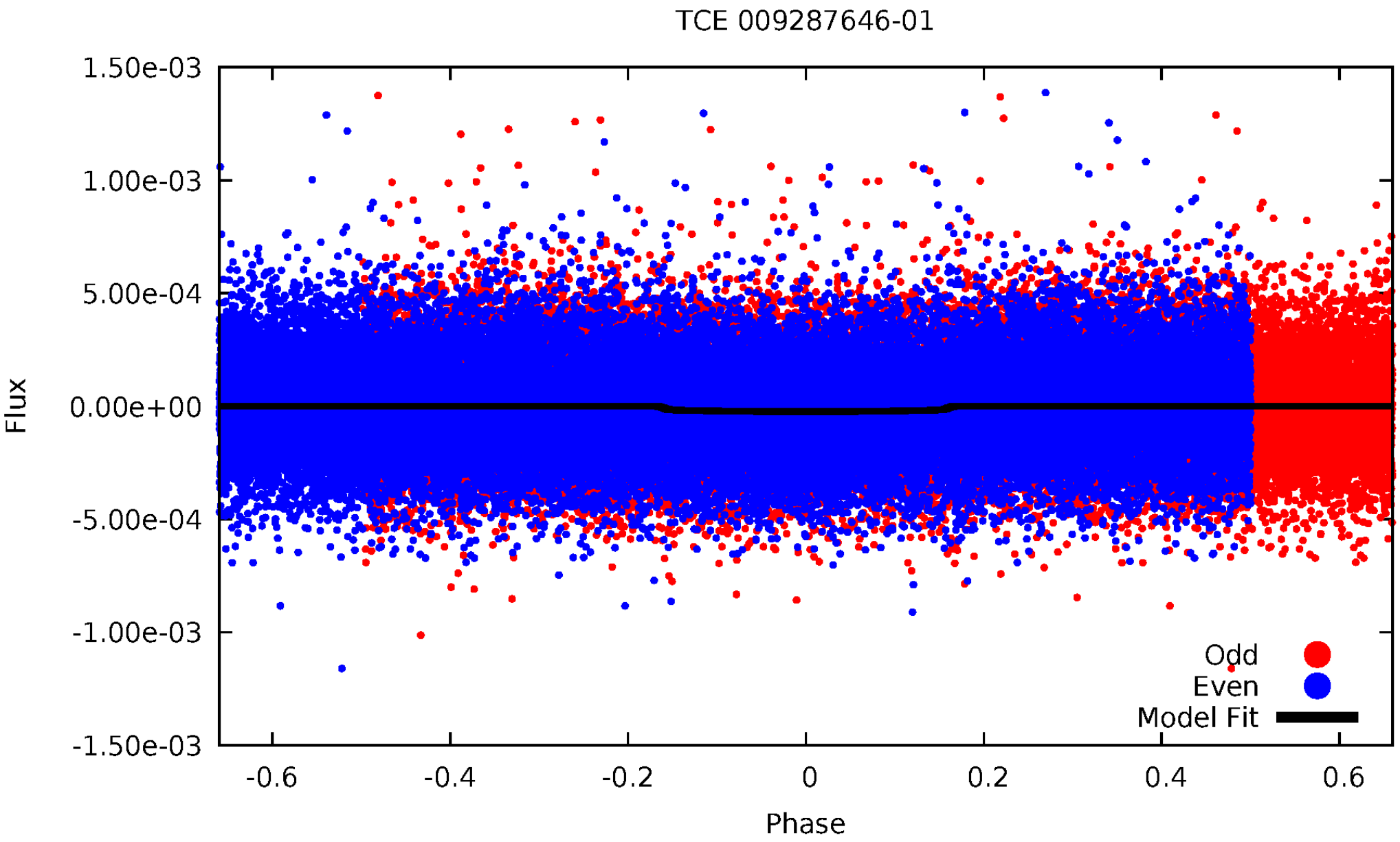
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009287646-01, PDC Light Curves

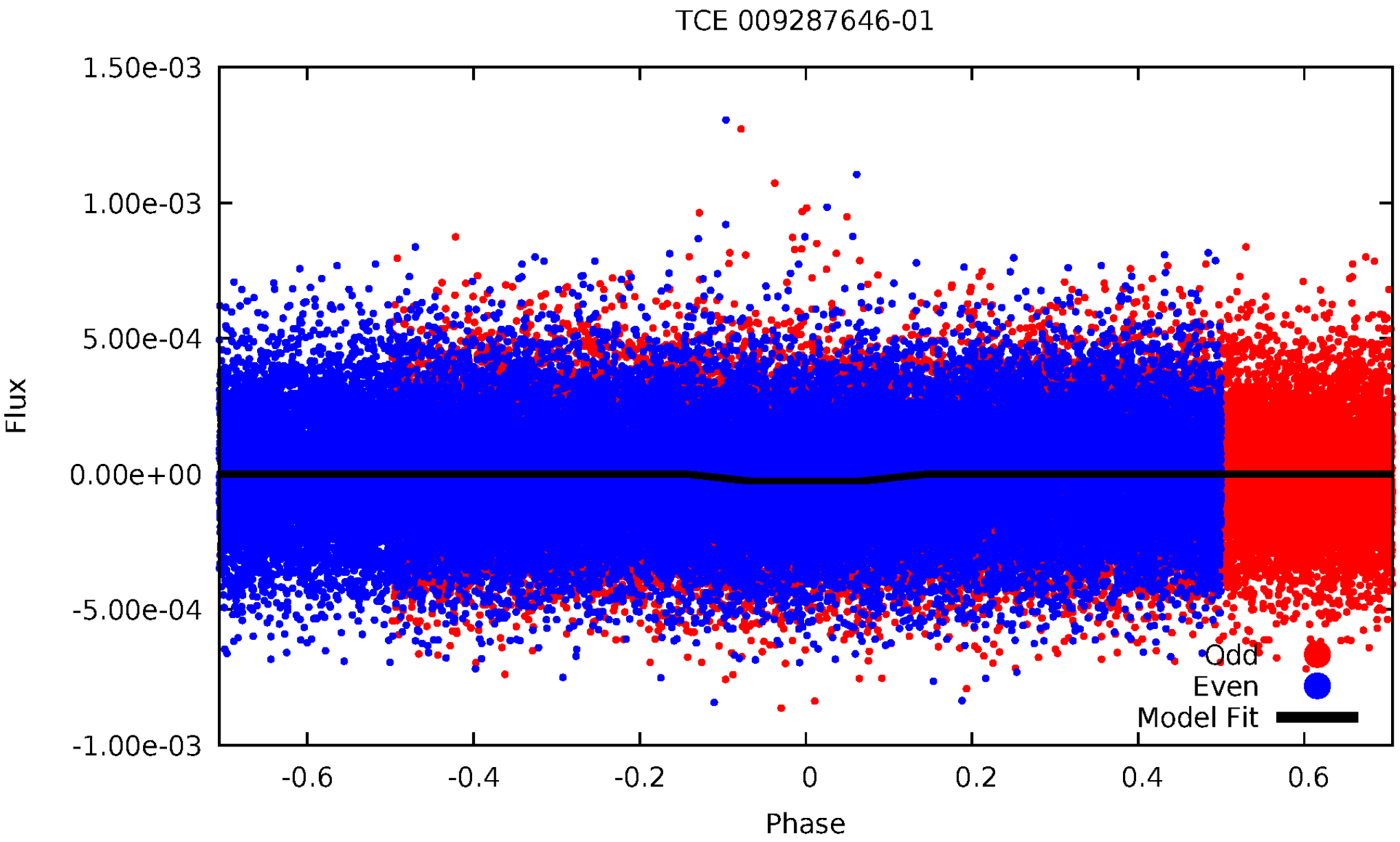



TCE 009287646-01
P = 1.279 days
P = 2.559 days
P = 5.118 days
Normalized Flux
BKJD
Phase

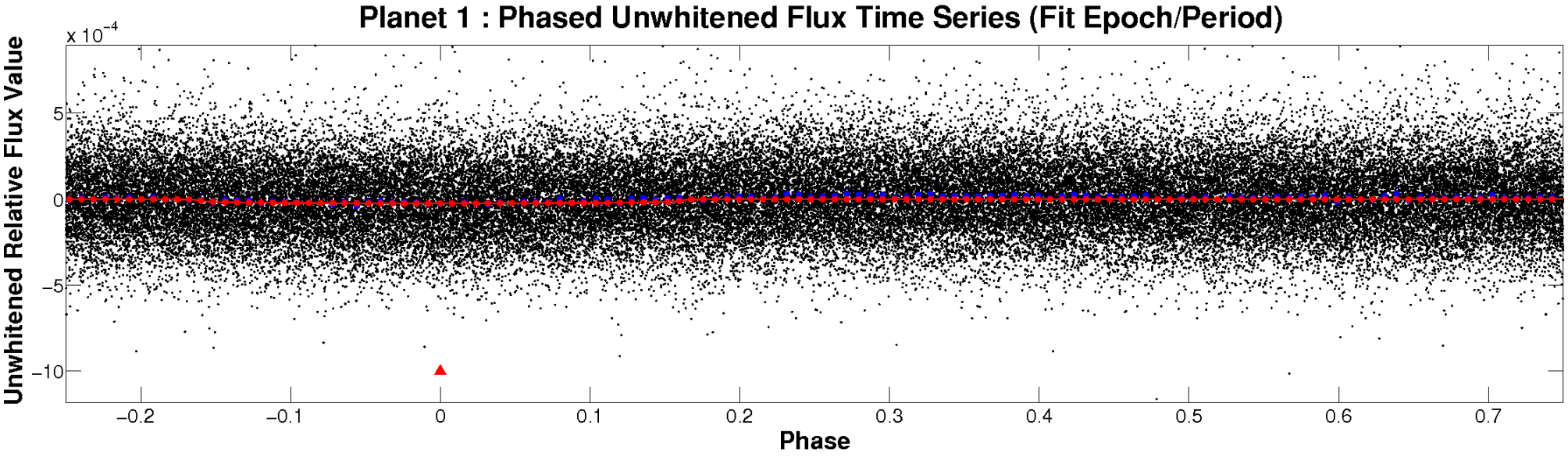
DV Odd/Even

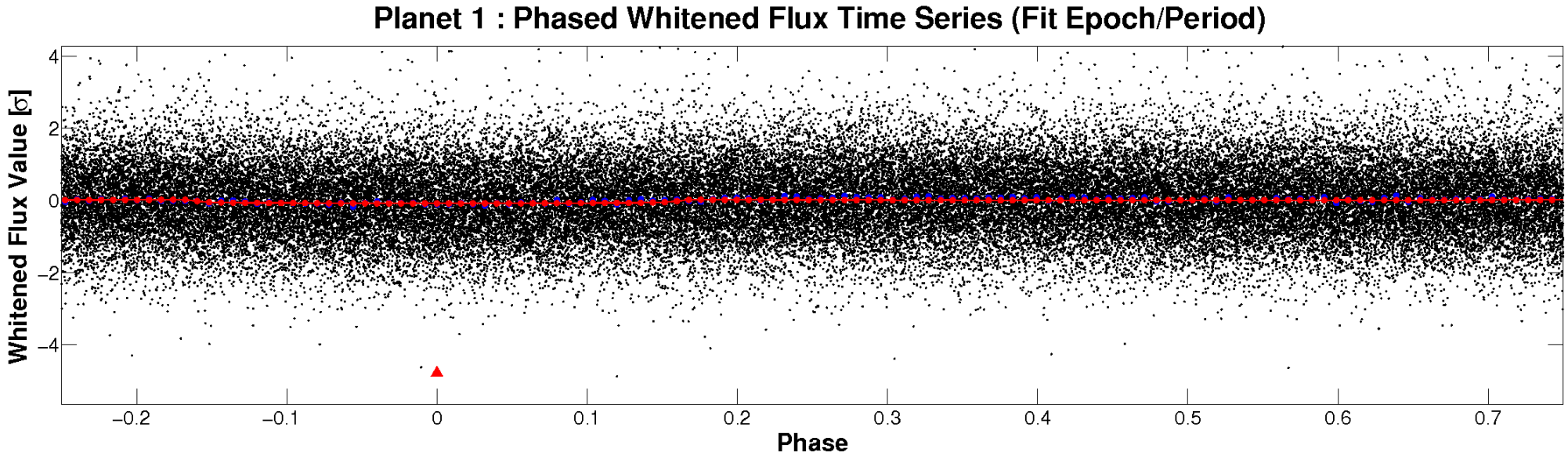

TCE 009287646-01
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009287646-01
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
Flux
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
Phase
Odd
Even
Model Fit

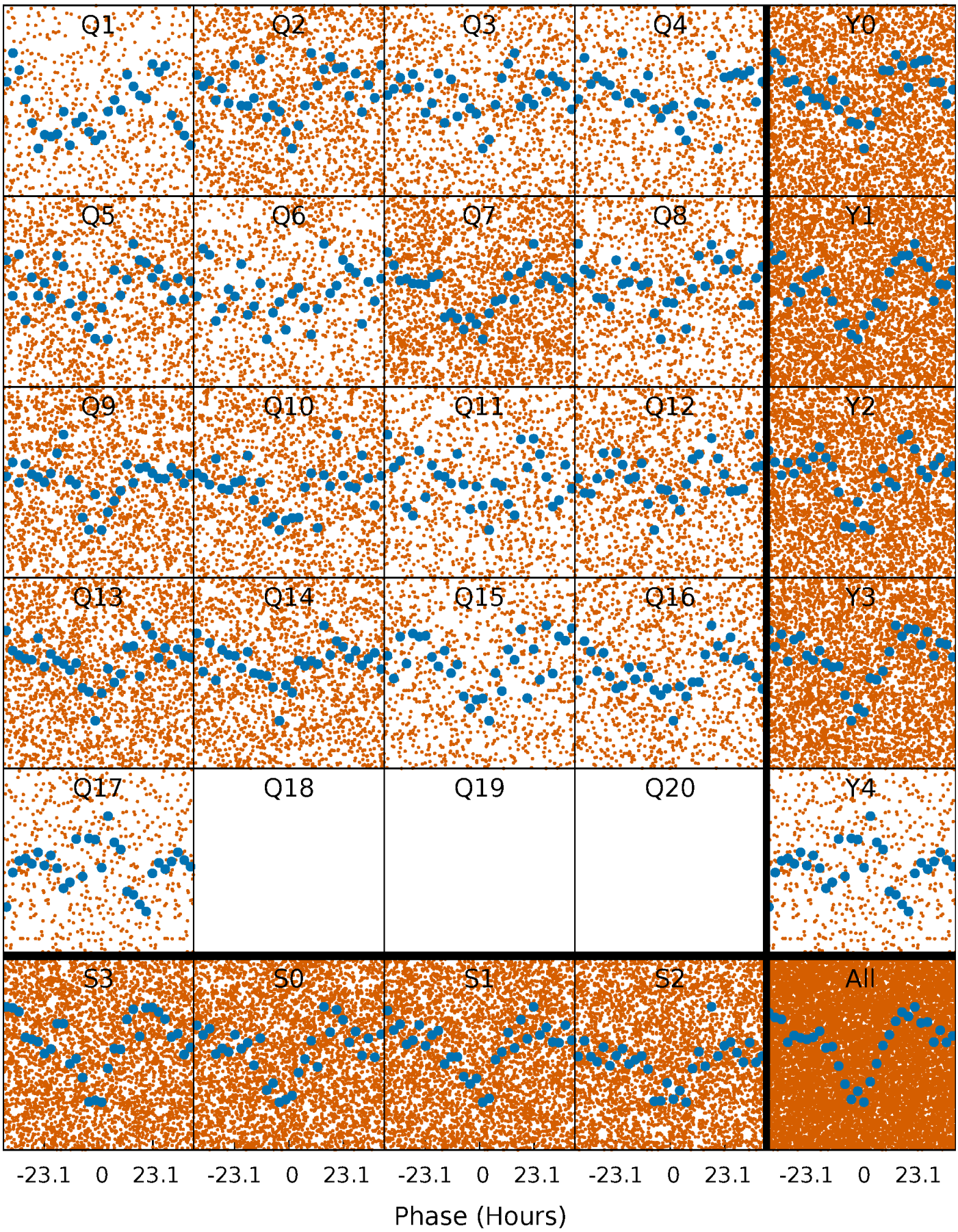
Non-Whitened Vs. Whitened Light Curve





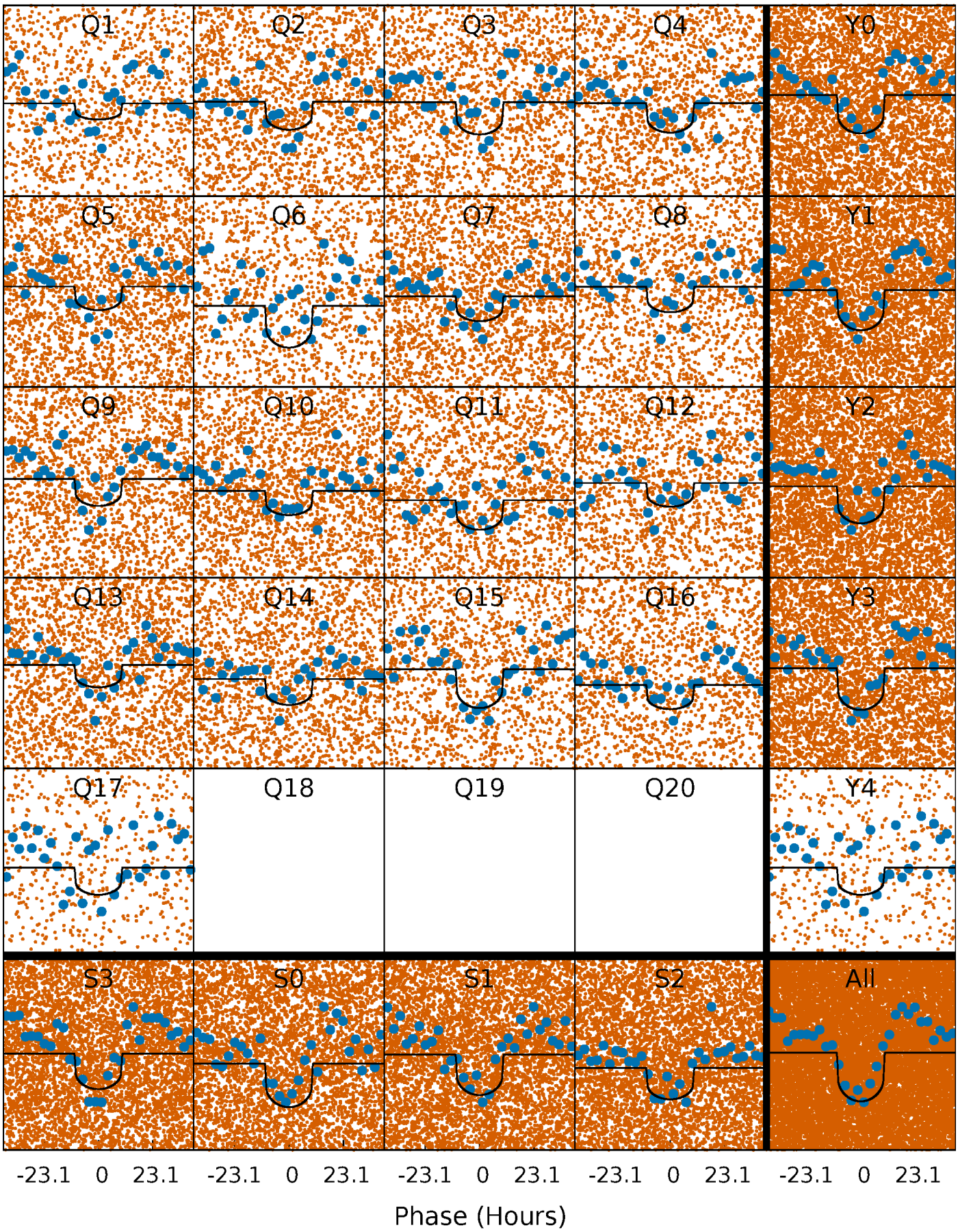
PDC Quarter-Phased Transit Curves

TCE 009287646-01 P= 2.558896 Days T_0=132.873906 (BKJD)



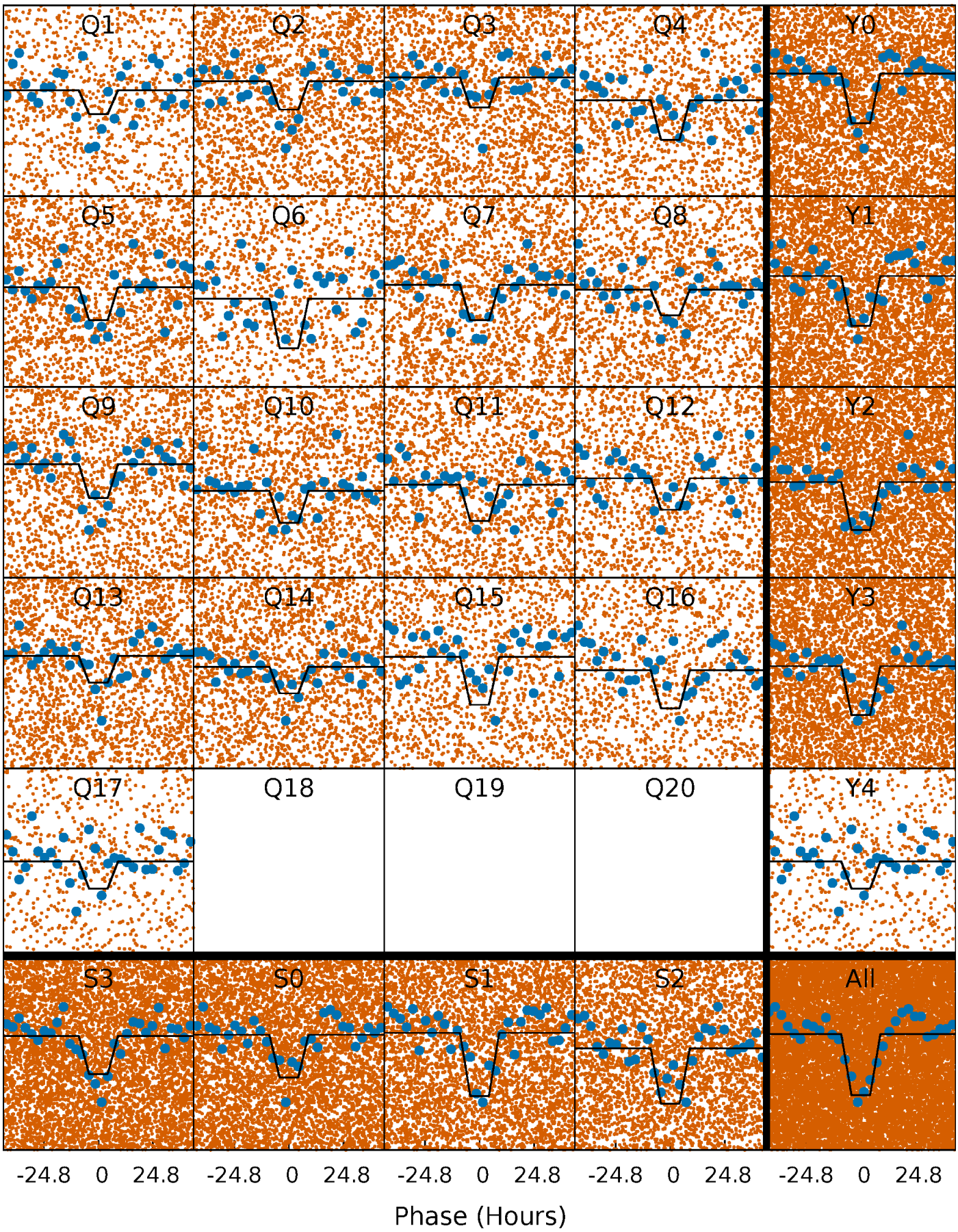
DV Quarter-Phased Transit Curves

TCE 009287646-01 P= 2.558896 Days T_0=132.873906 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

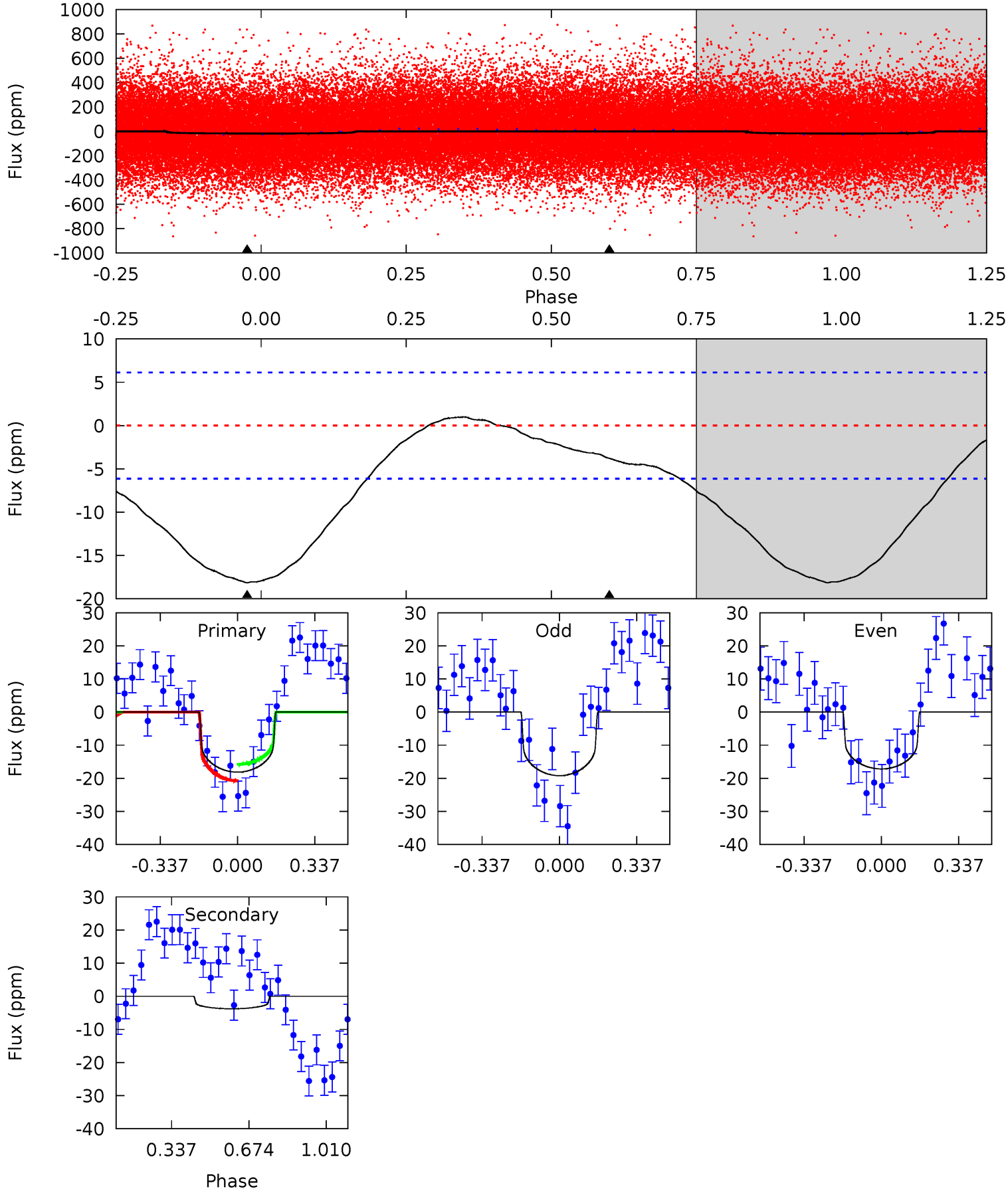
TCE 009287646-01 P= 2.558432 Days T_0=132.958713 (BKJD)



DV Model-Shift Uniqueness Test

009287646-01, P = 2.558896 Days, E = 130.315010 Days

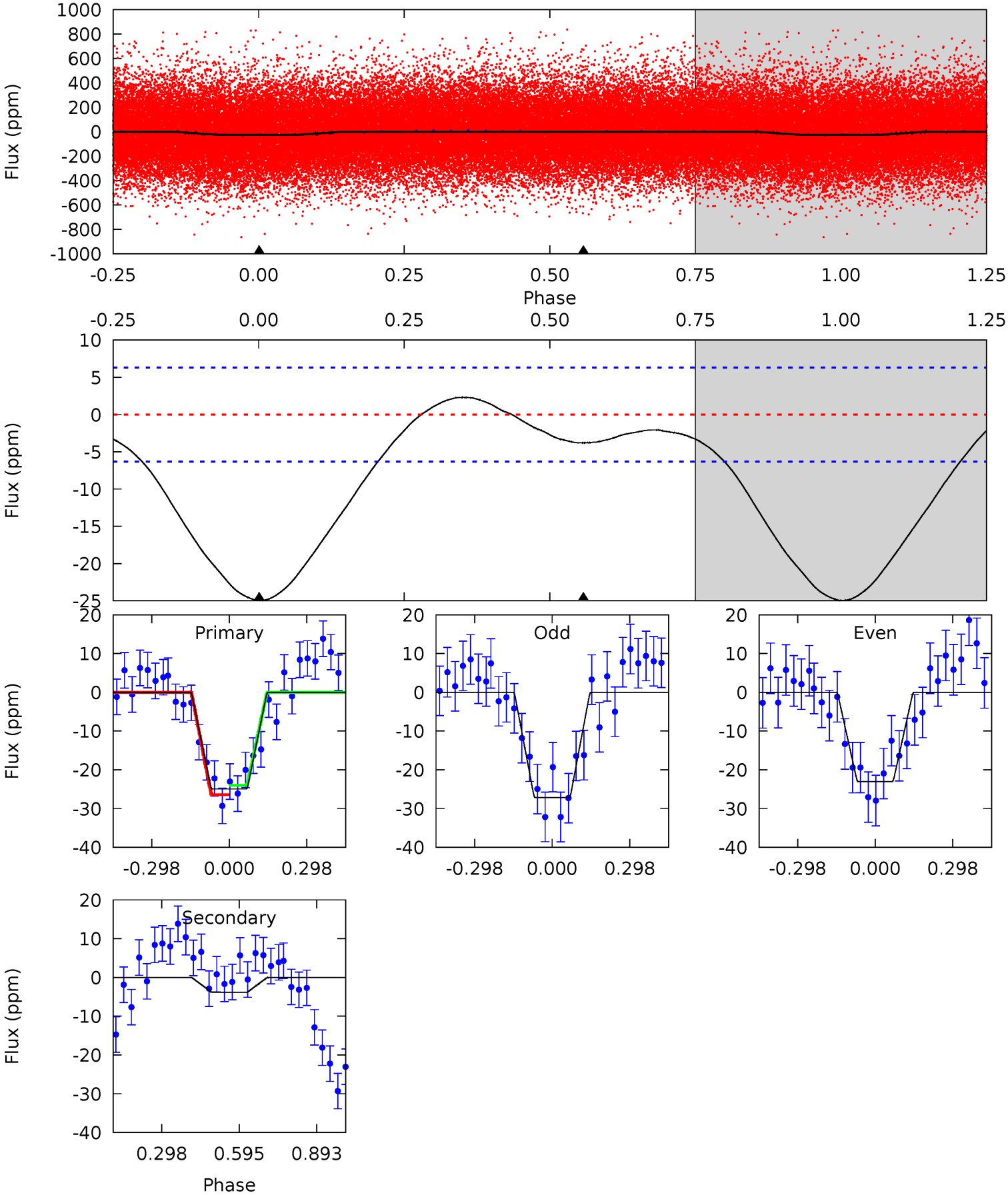
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	2.66	0	0	4.30	0.96	0.69	12.7	12.7	2.66	2.66	0.71	0.92	0.05	1.76



Alt Model-Shift Uniqueness Test

009287646-01, P = 2.558432 Days, E = 130.400281 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	2.61	0	0	4.33	1.04	1.22	17.1	17.1	2.61	2.61	1.42	1.04	0.08	0.82



Stellar Parameters For KIC 009287646

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6258^{+169}_{-206}	$4.449^{+0.056}_{-0.224}$	$-0.160^{+0.250}_{-0.350}$	$1.031^{+0.335}_{-0.112}$	$1.087^{+0.158}_{-0.144}$	$1.398^{+0.419}_{-0.765}$
	+3%/-3%	+1%/-5%	+156%/-219%	+32%/-11%	+15%/-13%	+30%/-55%
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 009287646-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4±1	$0.59^{+0.22}_{-0.21}$	2063^{+151}_{-109}	4113^{+841}_{-532}	$8.089^{+11.812}_{-4.467}$
Alt.	-4±1	$0.59^{+0.21}_{-0.20}$	2051^{+145}_{-96}	4124^{+780}_{-570}	$7.911^{+11.888}_{-4.473}$

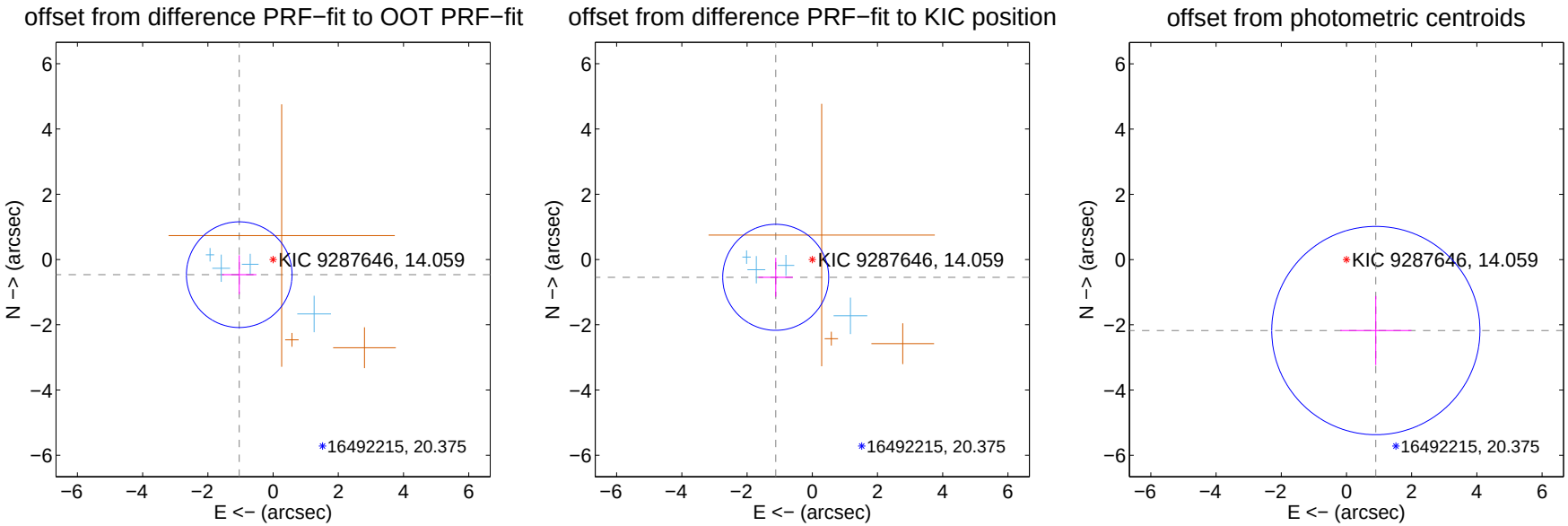
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

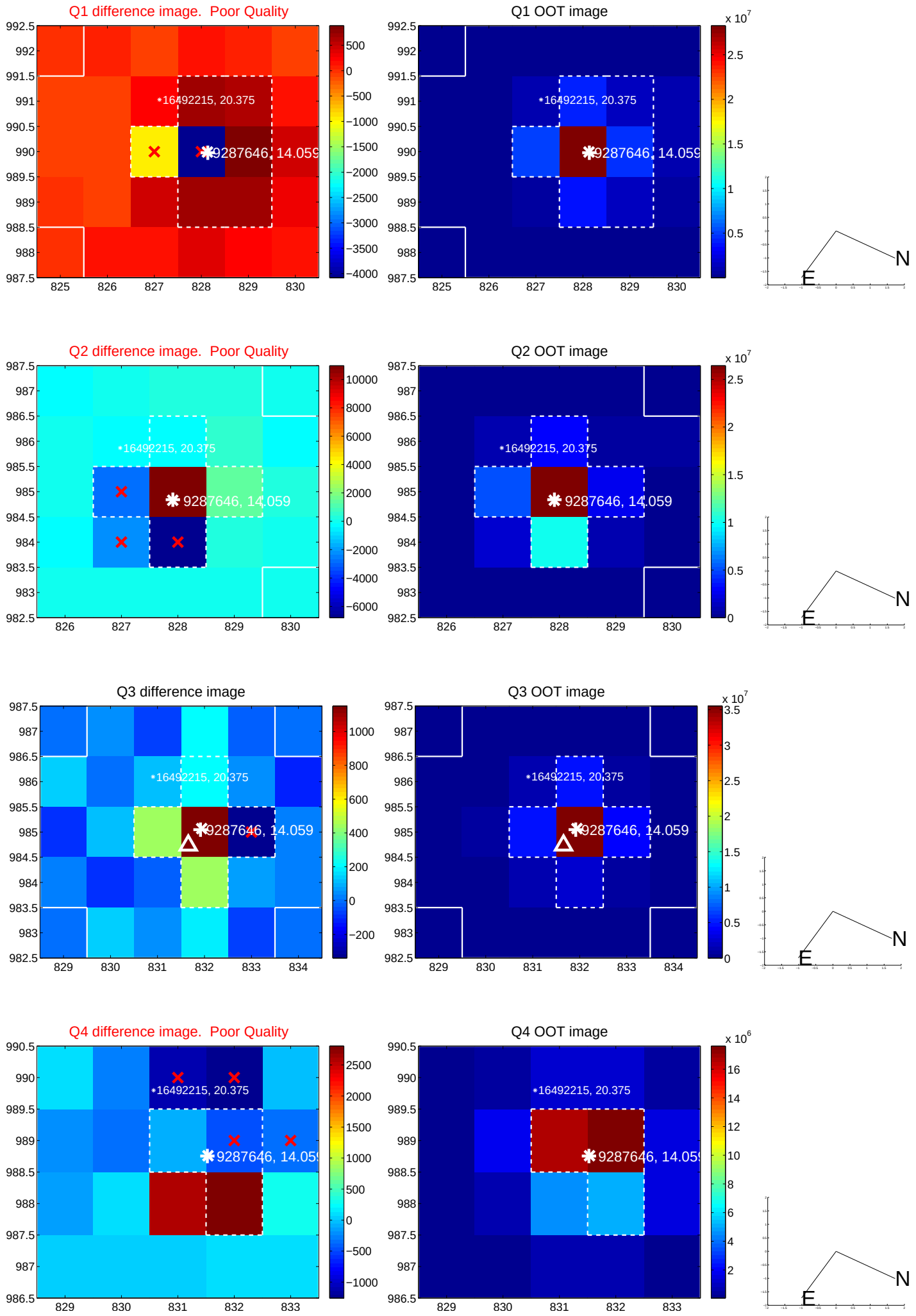
Supplemental centroid analysis for 009287646-01. Kepler magnitude: 14.06. Transit SNR 10.71
There are 4 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.137 ± 0.540	2.11	1.038 ± 0.528	-0.465 ± 0.597
PRF-fit source offset from KIC position	1.247 ± 0.542	2.30	1.121 ± 0.528	-0.546 ± 0.597
photometric centroid source offset	2.35 ± 1.06	2.21	-0.90 ± 1.09	-2.18 ± 1.06

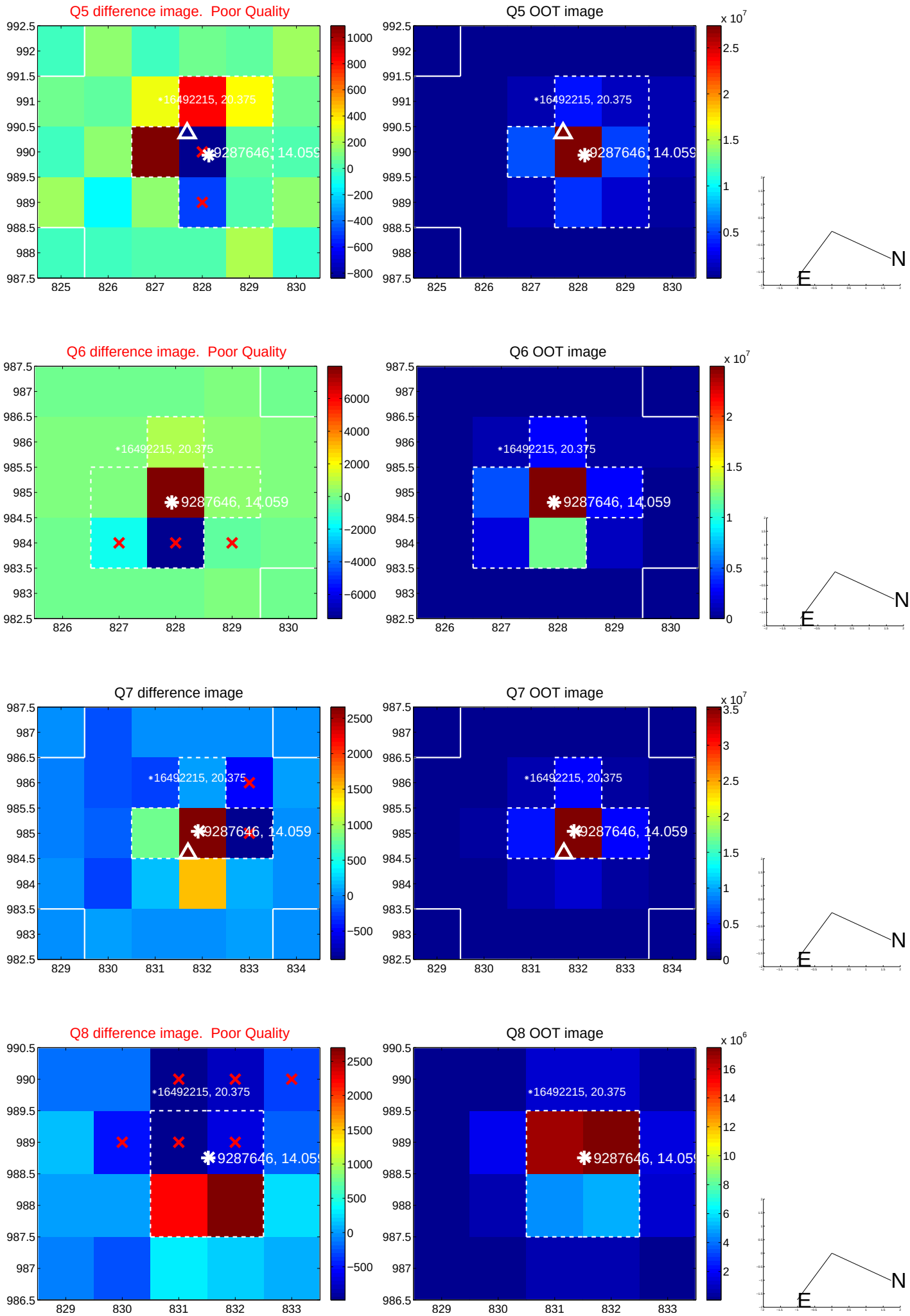


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

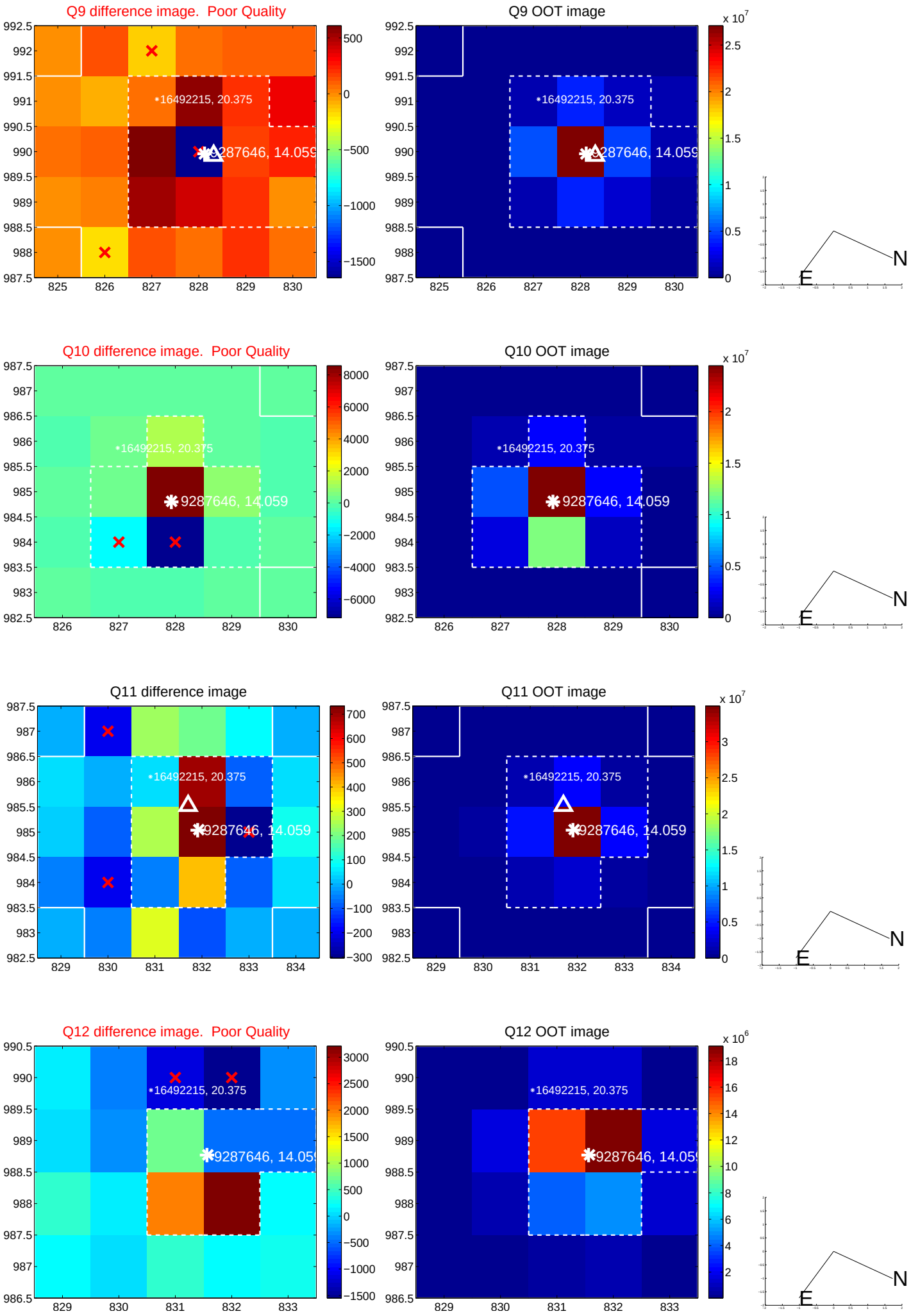
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



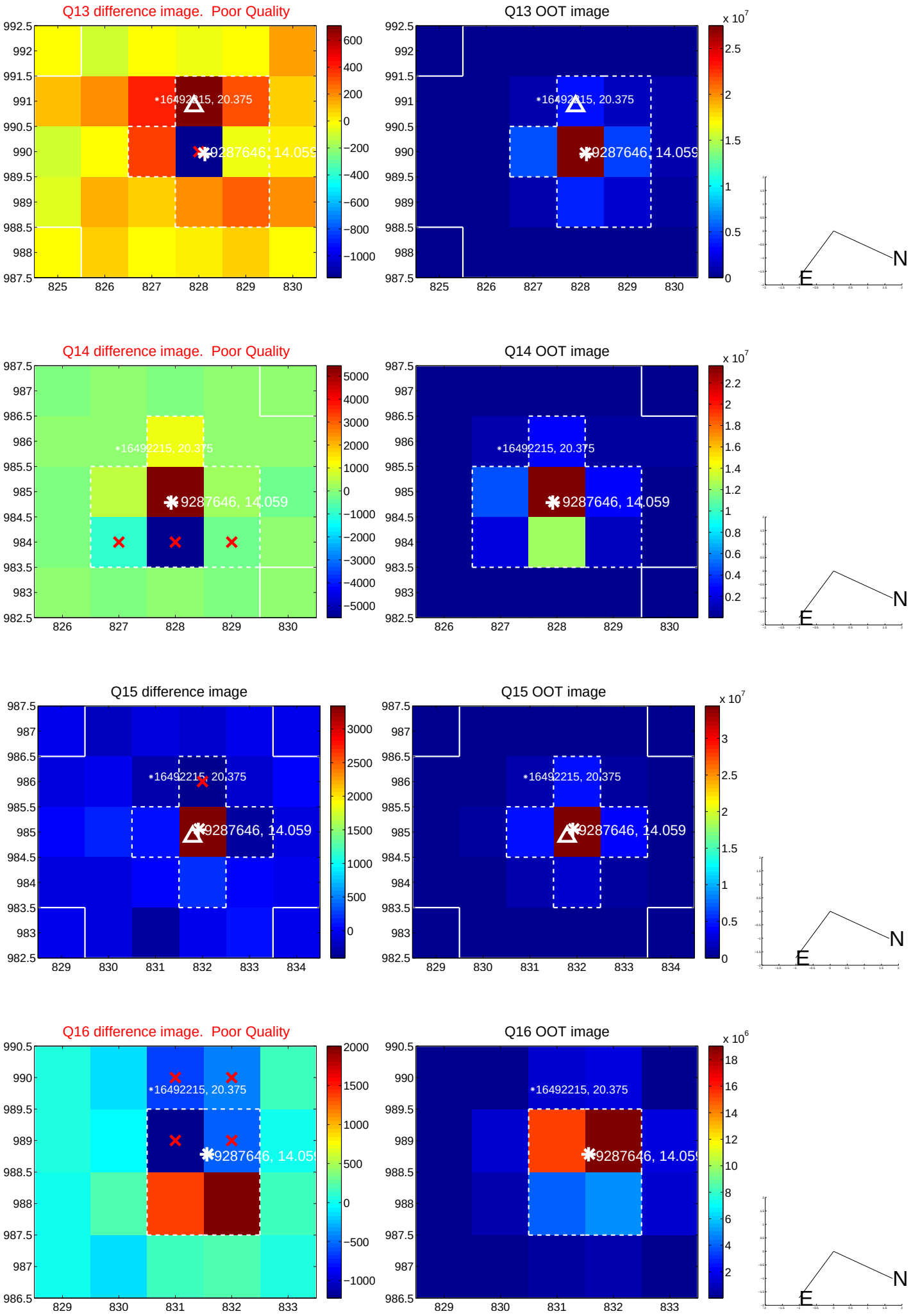
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



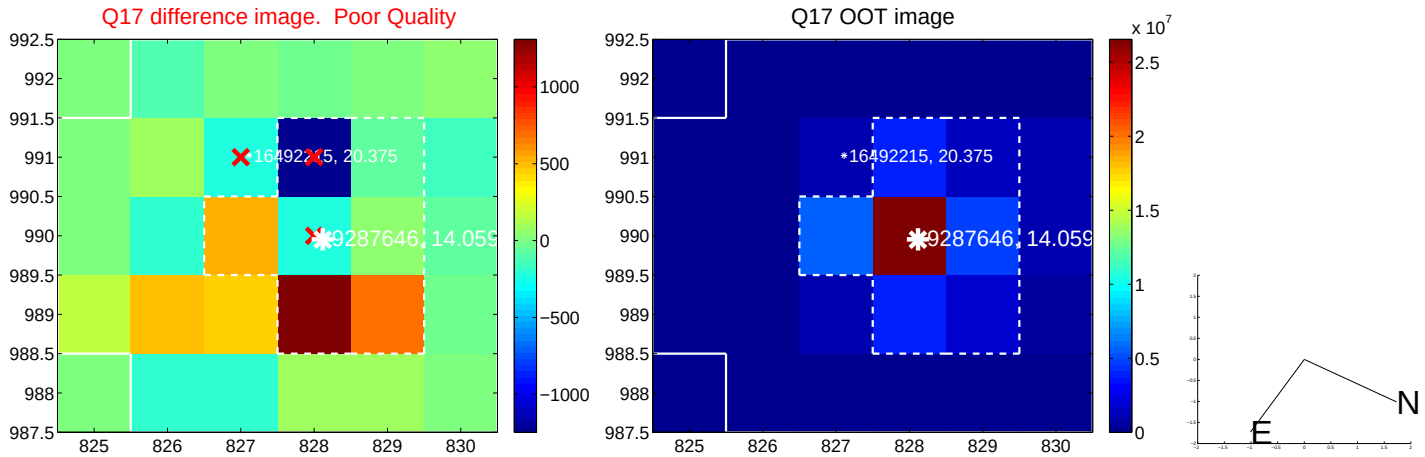
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

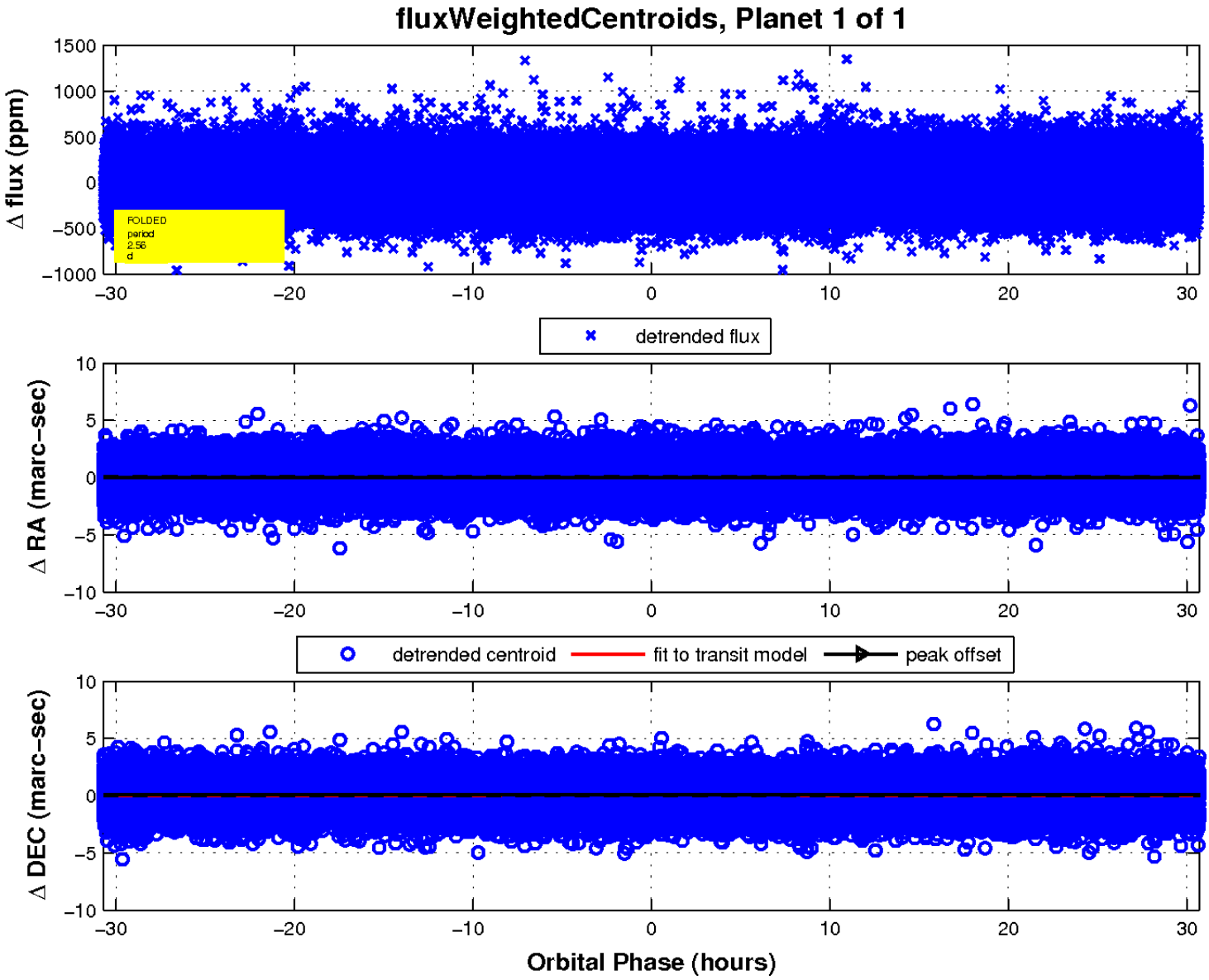


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

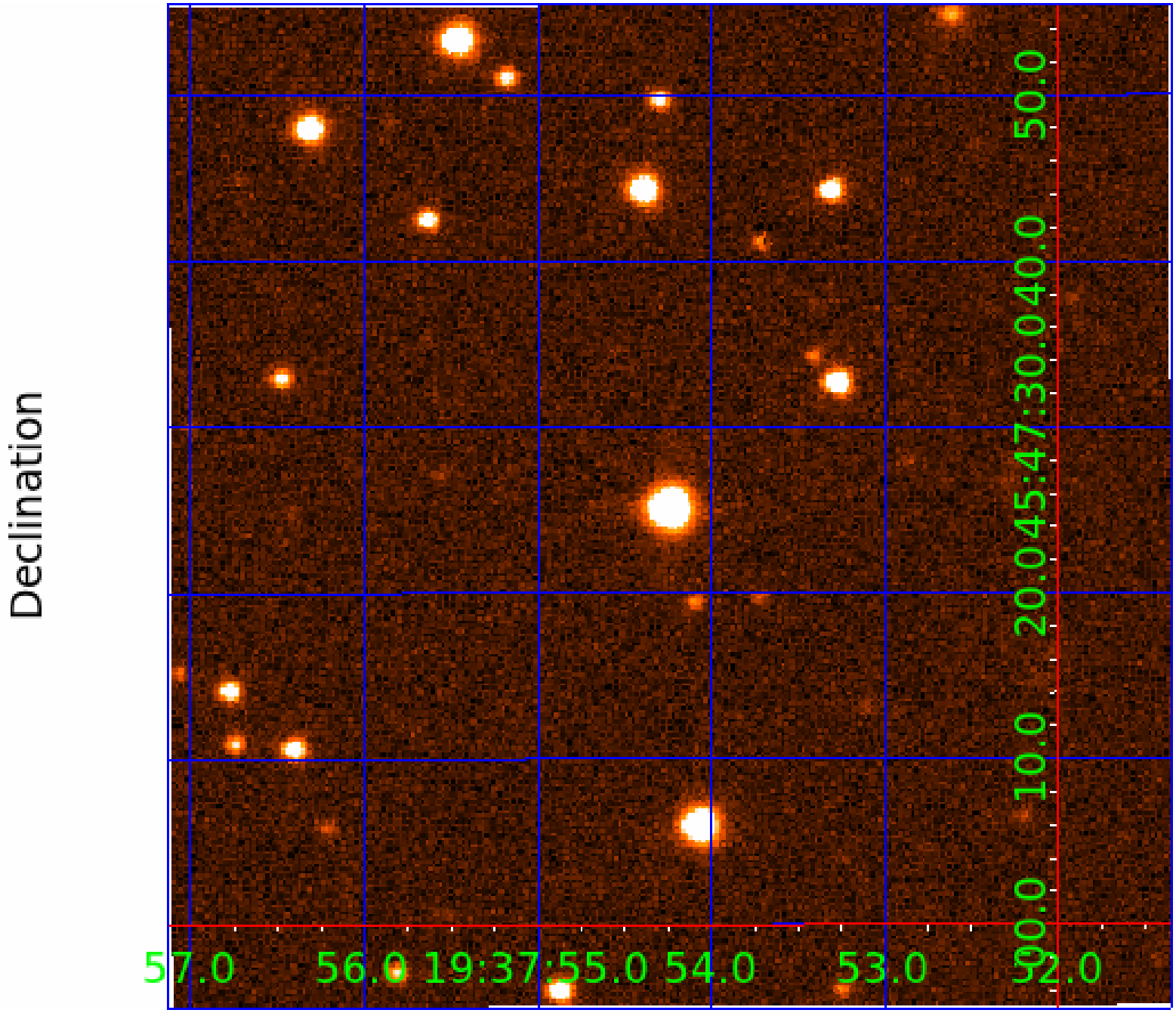


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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