KIC 009206877

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 ($S_\oplus$)
009206877-01	OBS	No	285.084674	350.649314	389.4	17.401	7.6	5.4	0.87	5606	1.89	1.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009206877-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_DV—MOD_TER_DV—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.

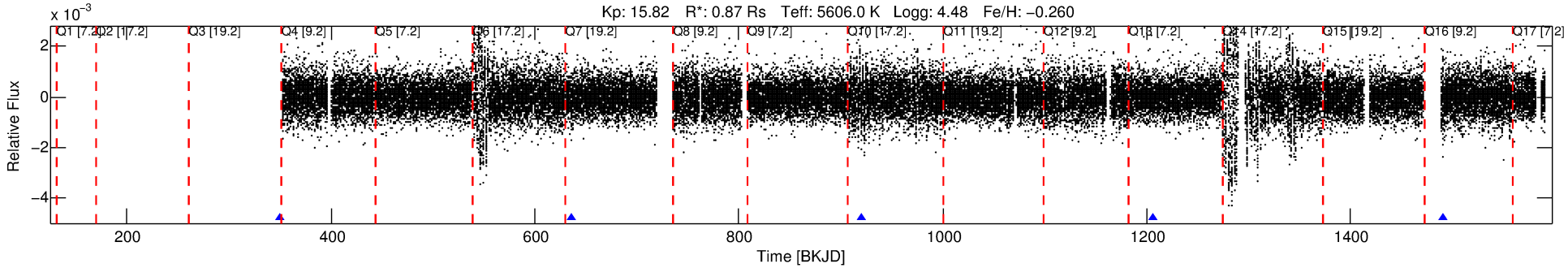
Ephemeris Match Information For 009206877-01

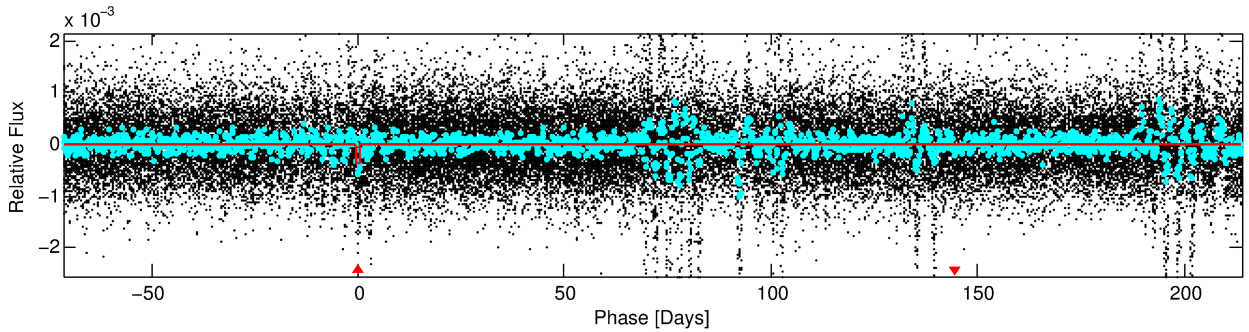
No Significant Match Found

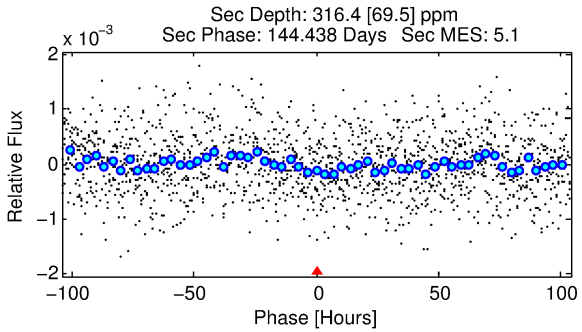
DV One-Page Summary

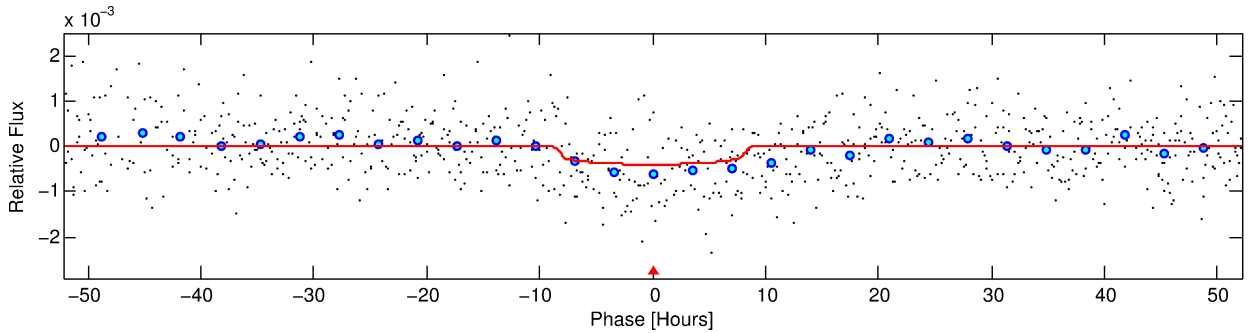
KIC: 9206877 Candidate: 1 of 1 Period: 285.085 d

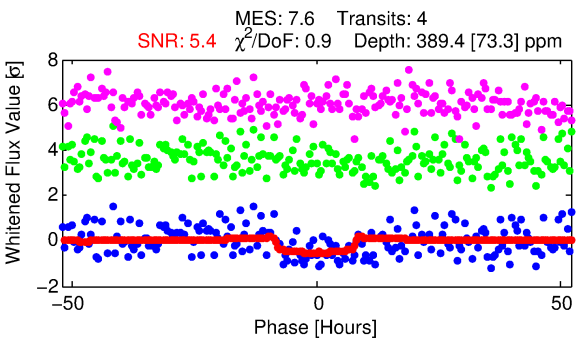
Kp: 15.82 R*: 0.87 Rs Teff: 5606.0 K Logg: 4.48 Fe/H: −0.260

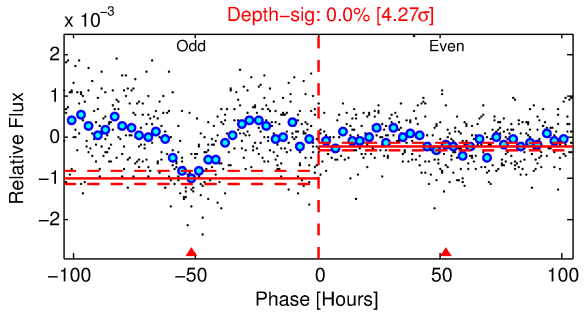


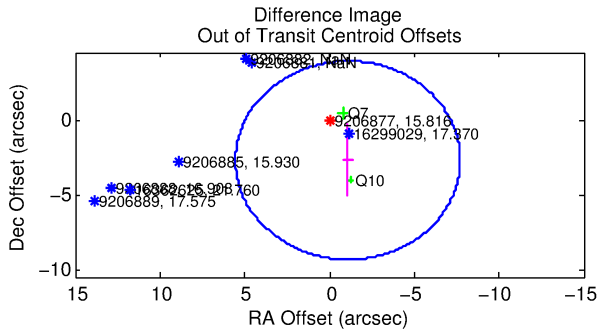












DV Fit Results:

Period = 285.08467 [0.01970] d
Epoch = 350.6493 [0.0523] BKJD
Rp/R* = 0.0199 [0.0076]
a/R* = 81.70 [133.00]
b = 0.78 [0.81]

Seff = 1.05 [0.34]
Teq = 258 [21] K
Rp = 1.89 [0.85] Re
a = 0.7980 [0.1624] AU

Ag = 31071.42 [26311.99] [1.18σ]
Teffp = 5298 [1065] K [4.73σ]

DV Diagnostic Results:

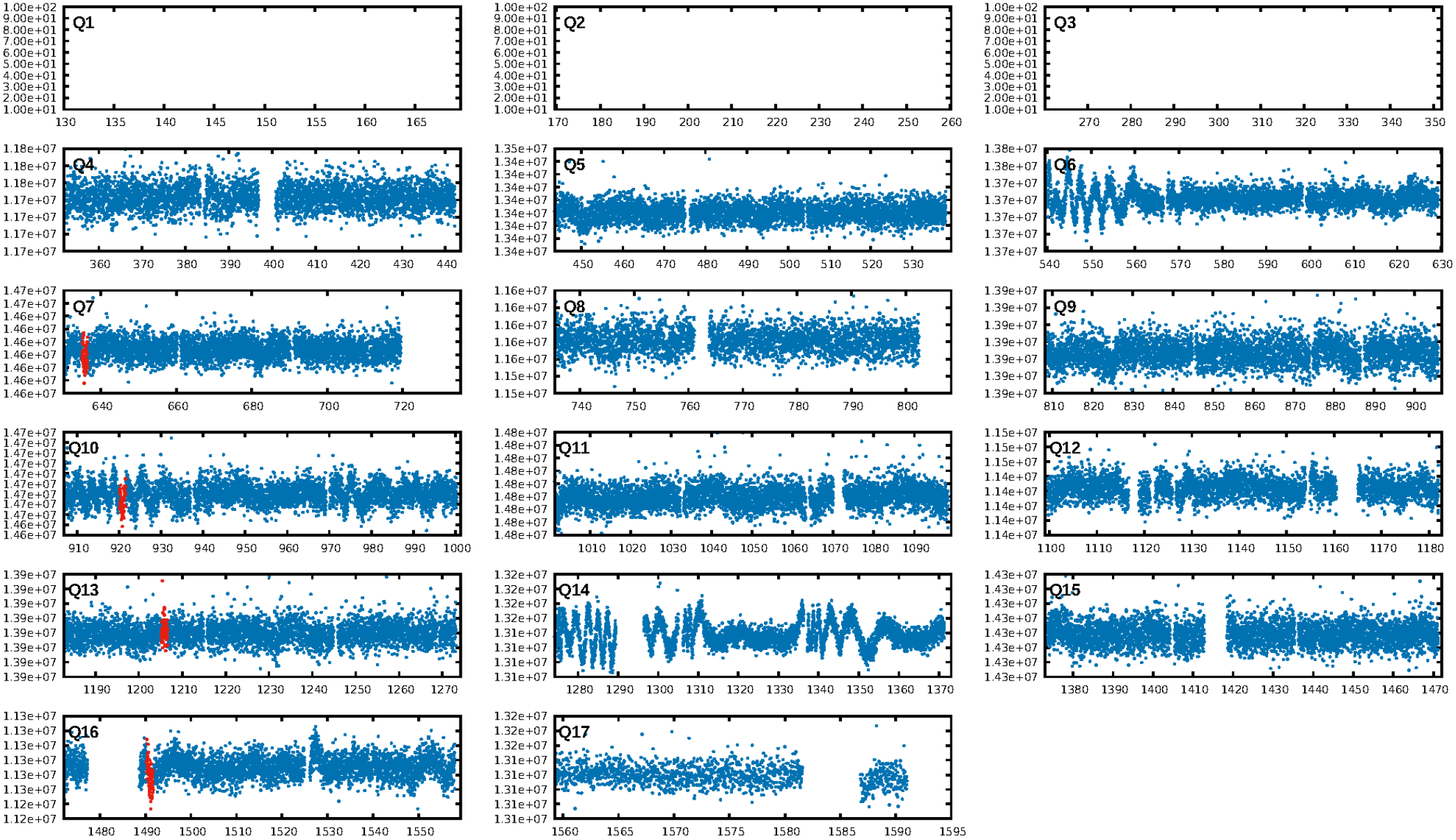
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 0.0%
ModelChiSquareGof−sig: 98.7%
Bootstrap−pfa: 1.30e−08
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: −2.829

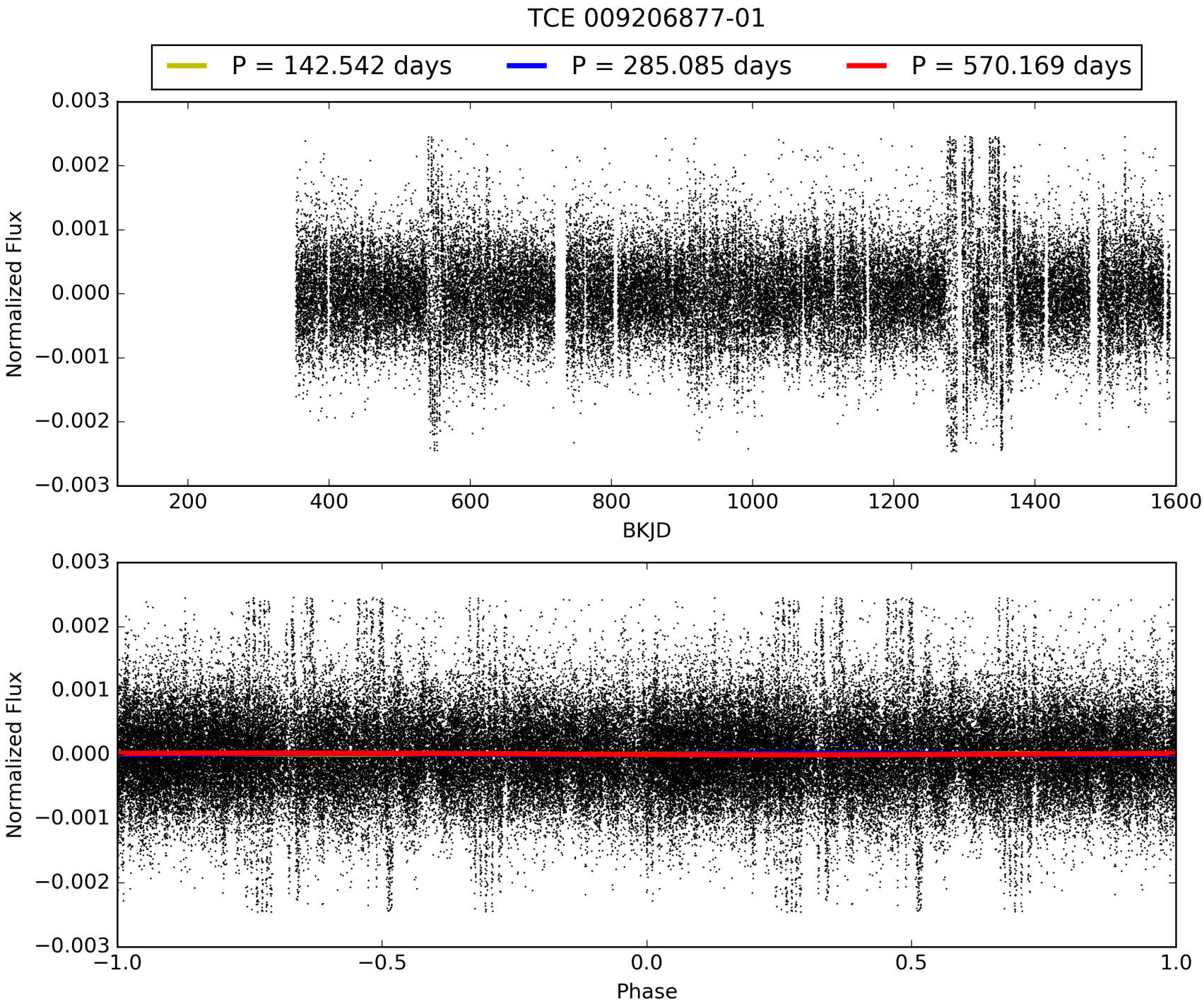
Centroid−sig: 2.7%
Centroid−so: 3.174 arcsec [1.80σ]
OotOffset−rm: 2.917 arcsec [1.32σ]
KicOffset−rm: 2.422 arcsec [1.17σ]
OotOffset−st: 1/1/0/0 [2]
KicOffset−st: 1/1/0/0 [2]
DiffImageQuality−fgm: 0.50 [1/2]
DiffImageOverlap−fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28−Jan−2016 20:25:18 Z

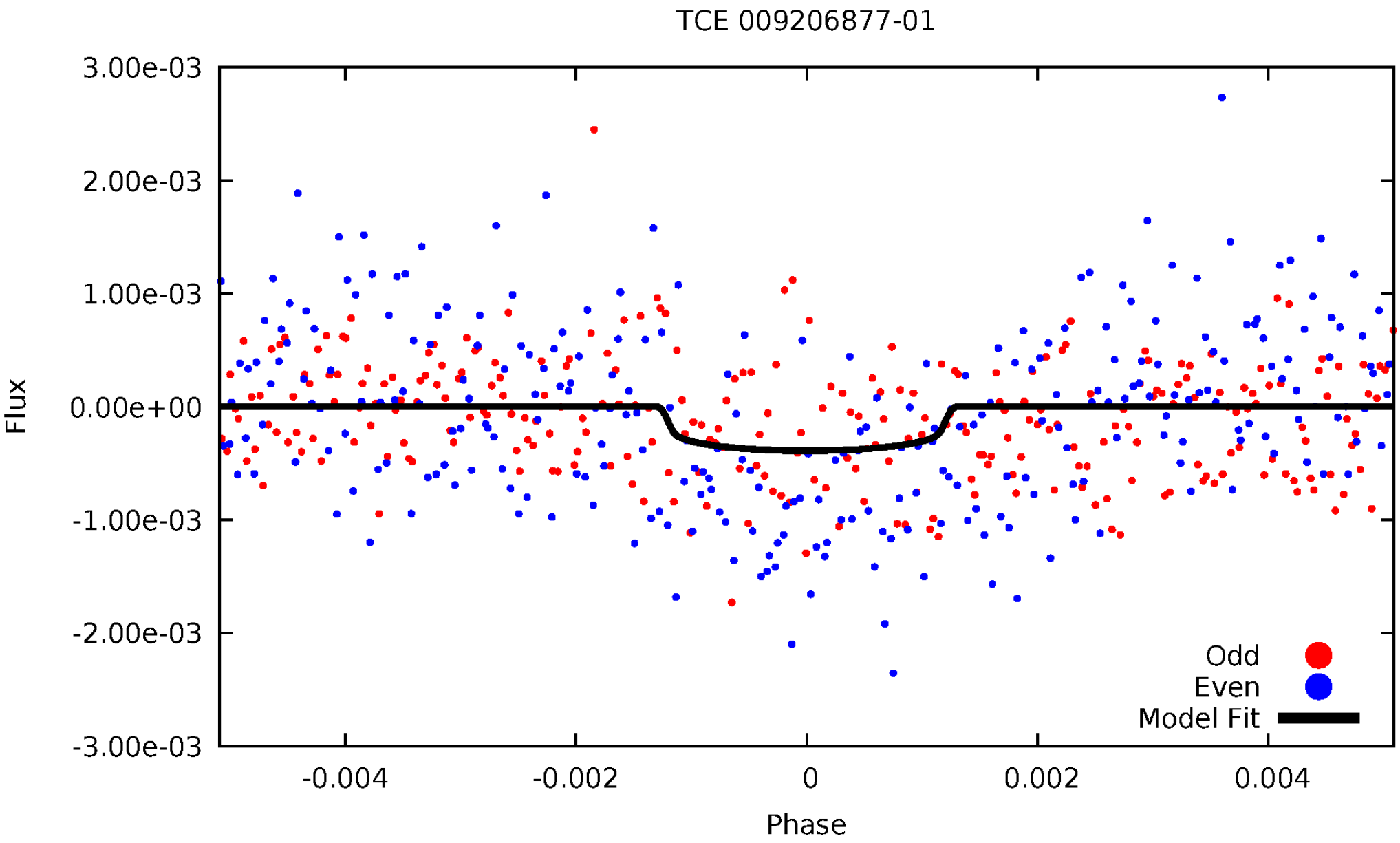
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009206877-01, PDC Light Curves

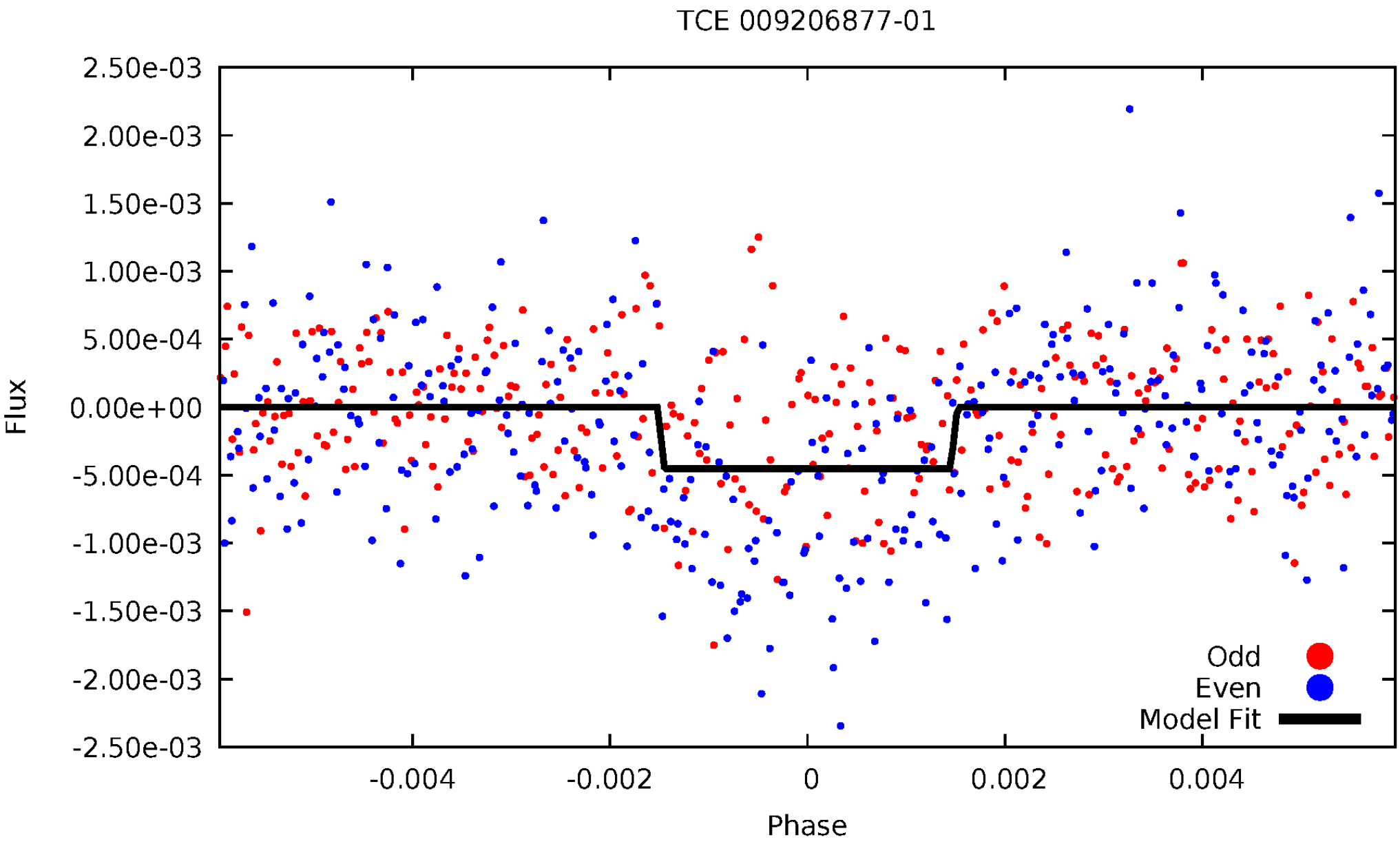



TCE 009206877-01
P = 142.542 days
P = 285.085 days
P = 570.169 days
Normalized Flux
BKJD
Normalized Flux
Phase

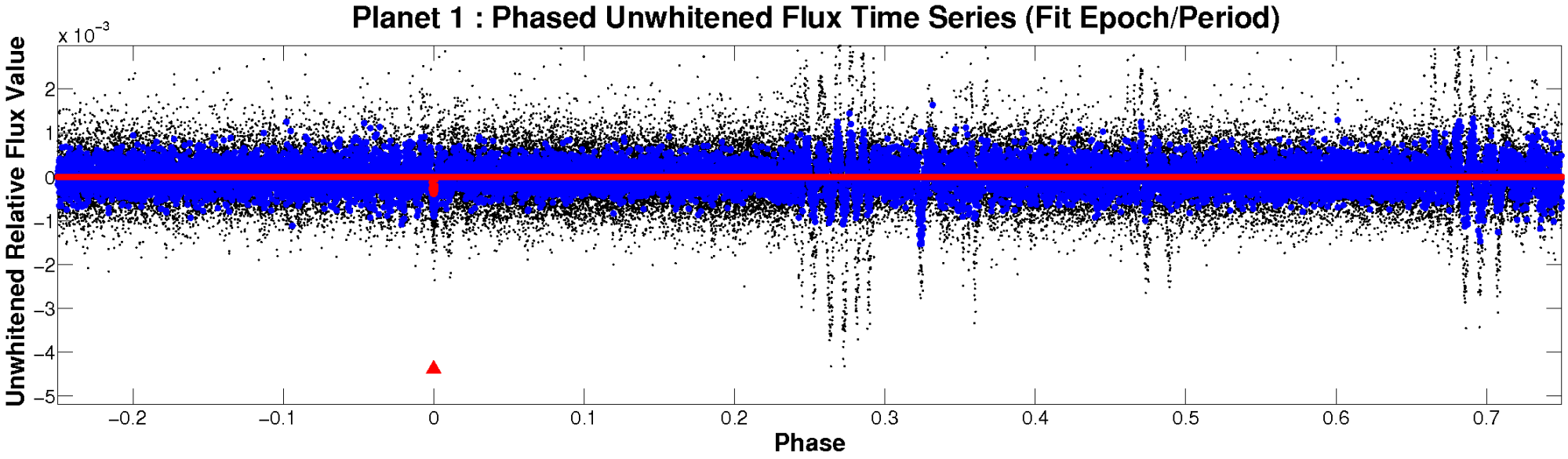
DV Odd/Even

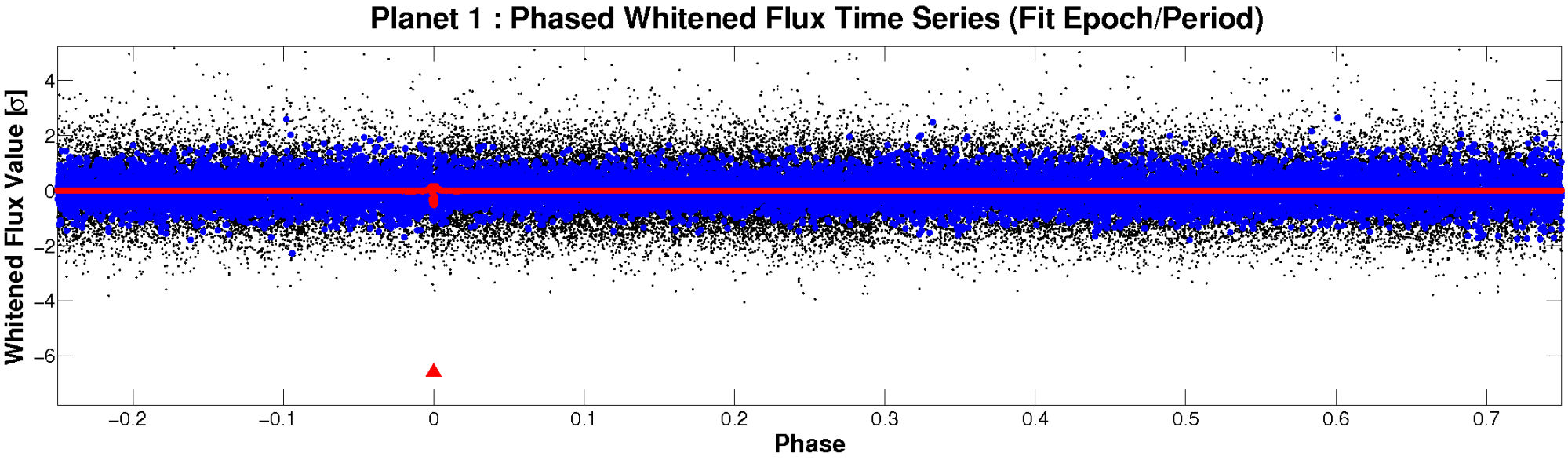

TCE 009206877-01
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009206877-01
2.50e-03
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

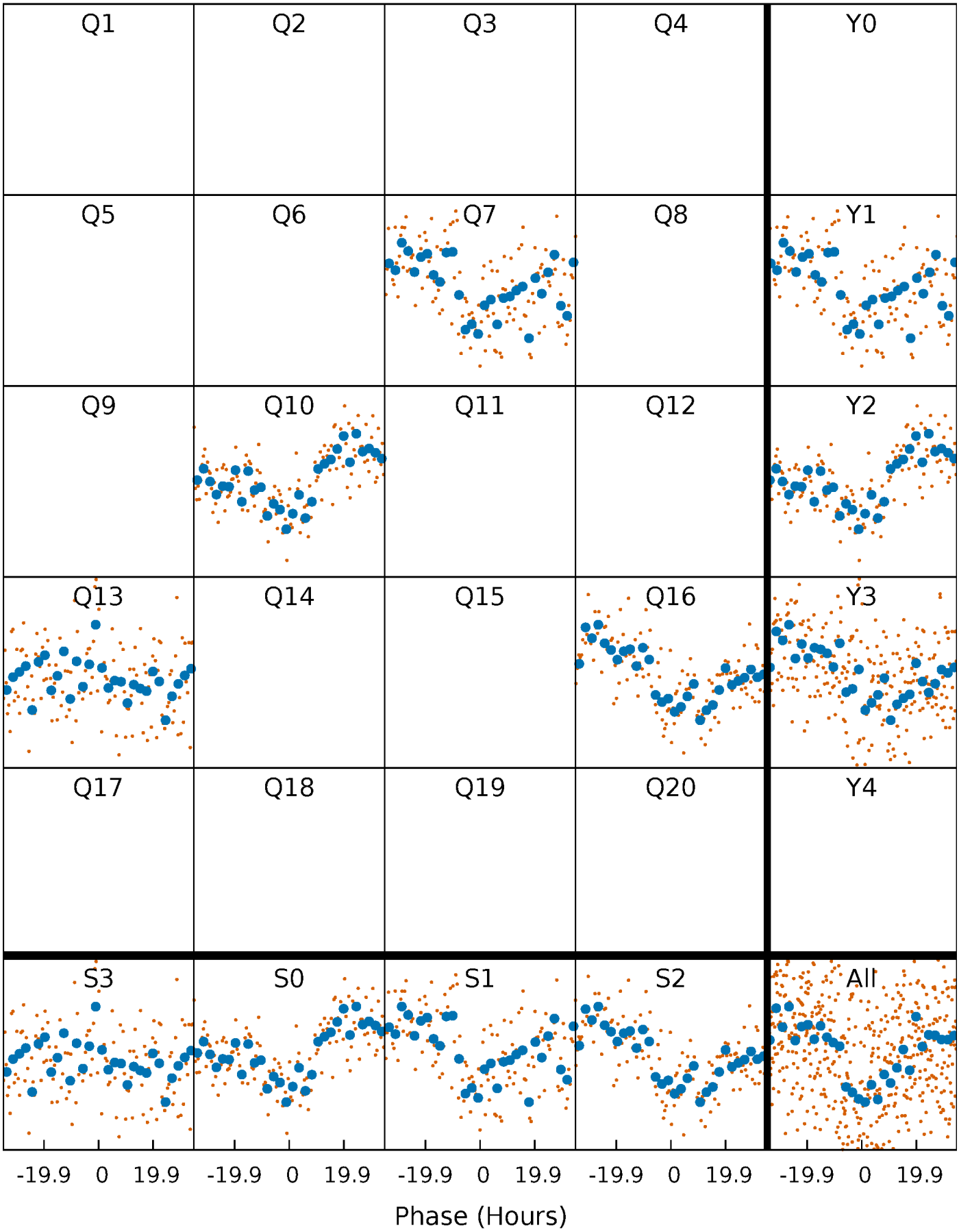
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 009206877-01 P=285.084674 Days T_0=350.649314 (BKJD)

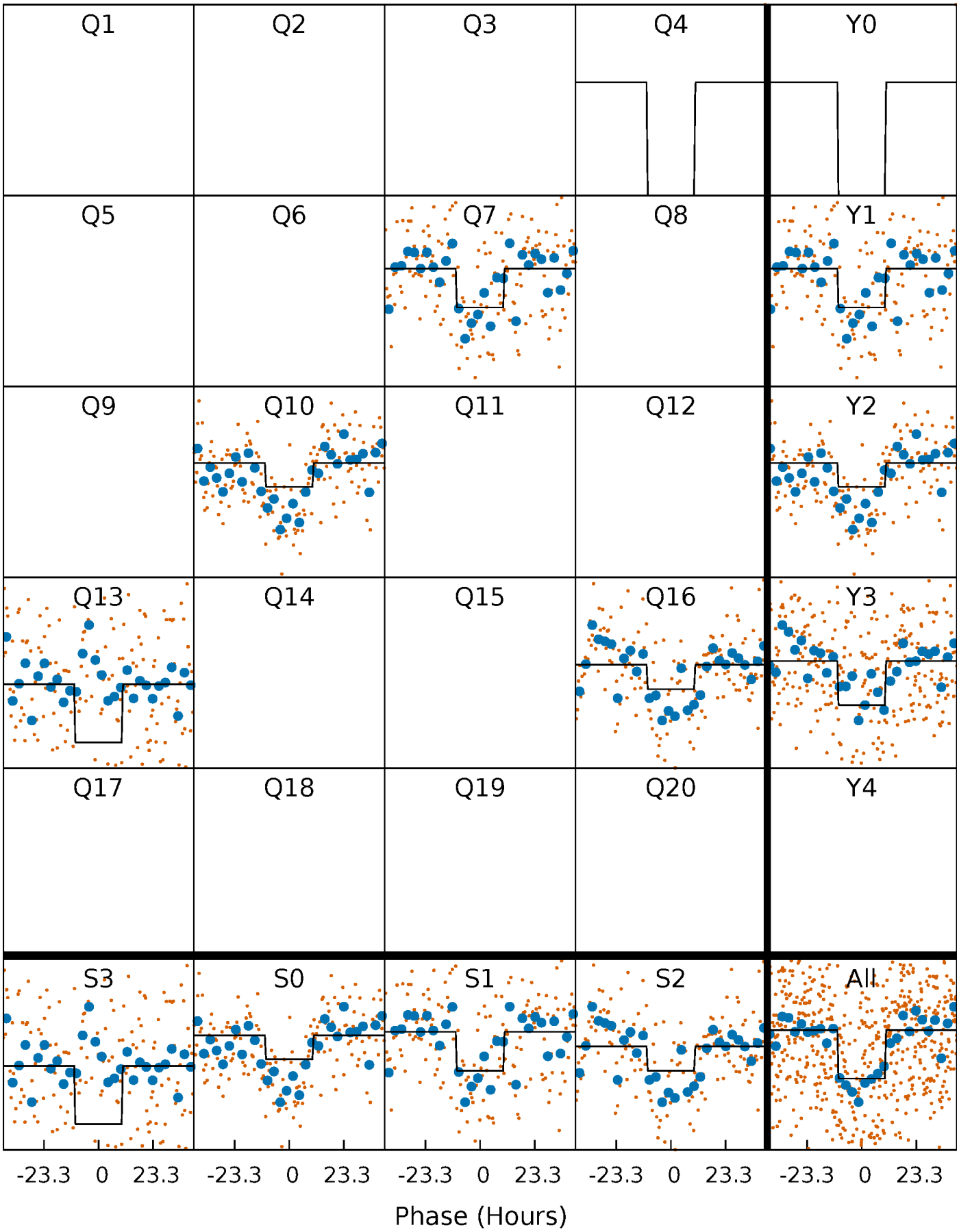


DV Quarter-Phased Transit Curves

TCE 009206877-01 P=285.084674 Days T_0=350.649314 (BKJD)

Alt. Detrend Quarter-Phased Transit Curves

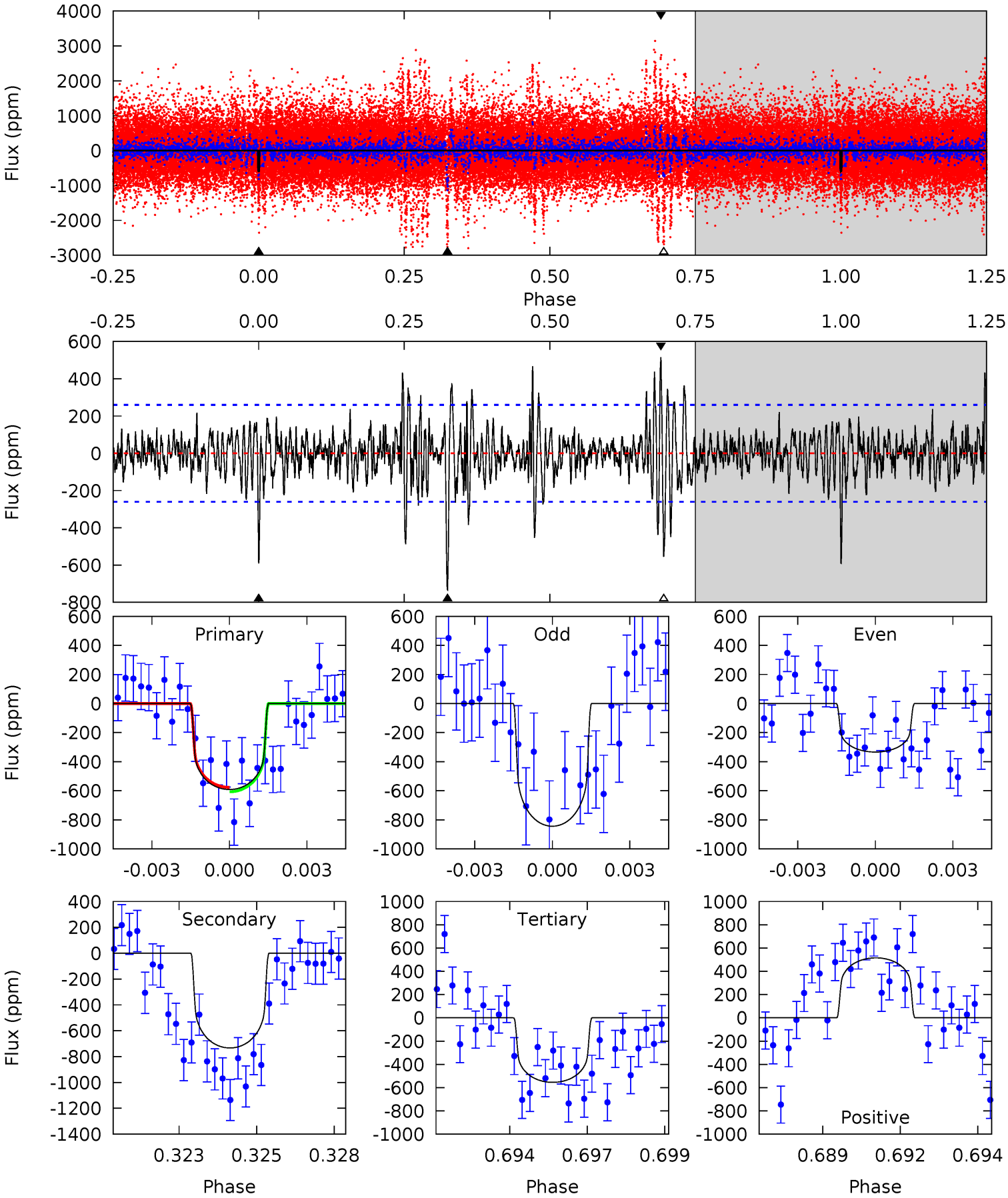
TCE 009206877-01 P=285.095840 Days T_0=350.722767 (BKJD)



DV Model-Shift Uniqueness Test

009206877-01, P = 285.084674 Days, E = 350.649314 Days

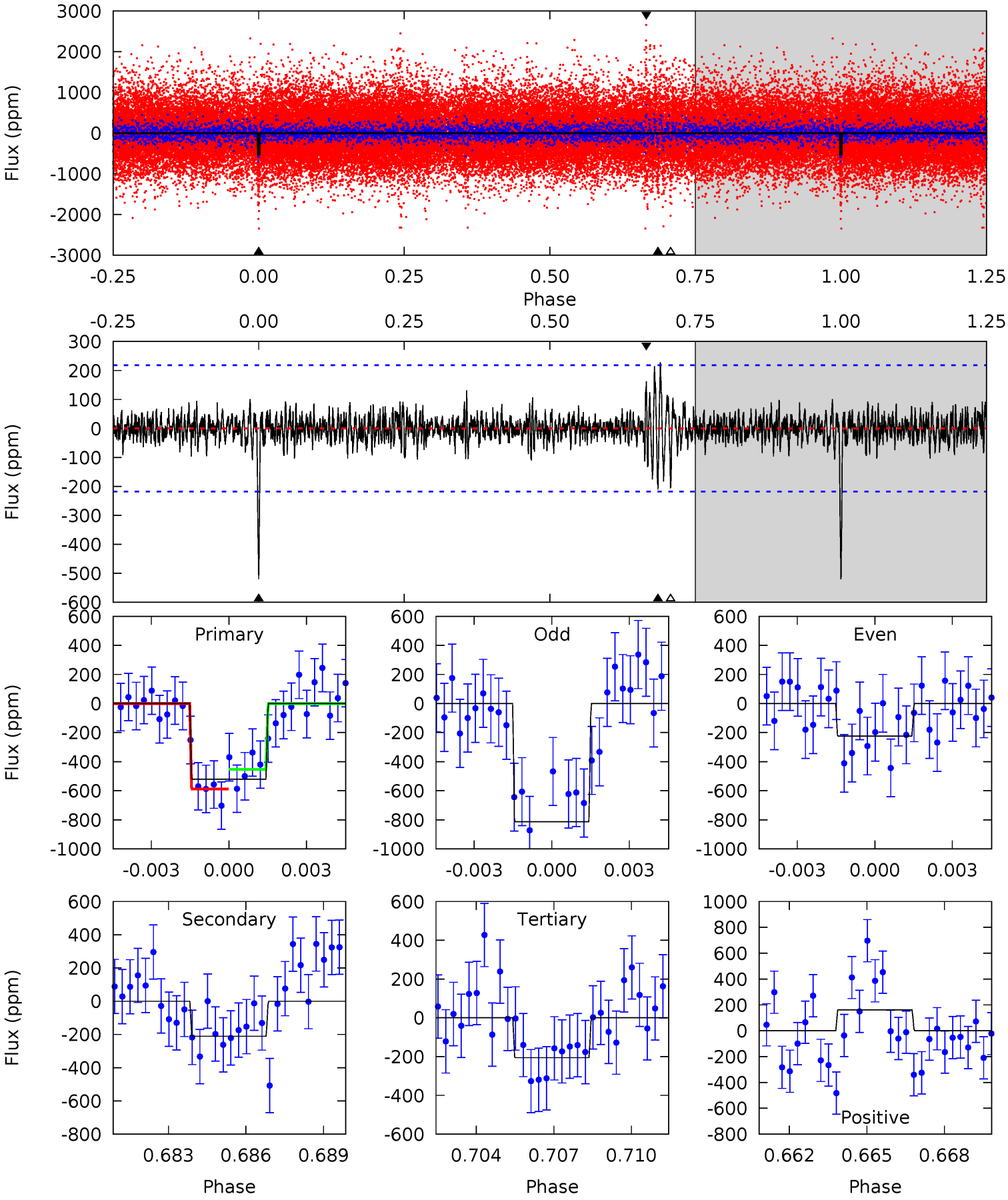
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	14.9	11.3	10.5	5.28	3.01	2.42	0.74	1.54	3.62	4.41	4.92	0.87	0.41	0.31



Alt Model-Shift Uniqueness Test

009206877-01, P = 285.095840 Days, E = 350.722767 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	5.08	4.95	3.91	5.25	2.97	0.93	7.59	8.63	0.13	1.17	7.12	0.81	0.30	1.62



Stellar Parameters For KIC 009206877

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5606^{+186}_{-186}	$4.481^{+0.088}_{-0.162}$	$-0.260^{+0.300}_{-0.300}$	$0.869^{+0.210}_{-0.113}$	$0.835^{+0.106}_{-0.080}$	$1.789^{+0.691}_{-0.818}$
	+3%/-3%	+2%/-4%	+115%/-115%	+24%/-13%	+13%/-10%	+39%/-46%
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 009206877-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-733±49	$1.94^{+0.79}_{-0.74}$	363^{+26}_{-19}	6483^{+2042}_{-970}	$67966^{+108049}_{-33715}$
Alt.	-211±41	$2.08^{+0.76}_{-0.74}$	366^{+22}_{-18}	4752^{+975}_{-595}	17040^{+24982}_{-8518}

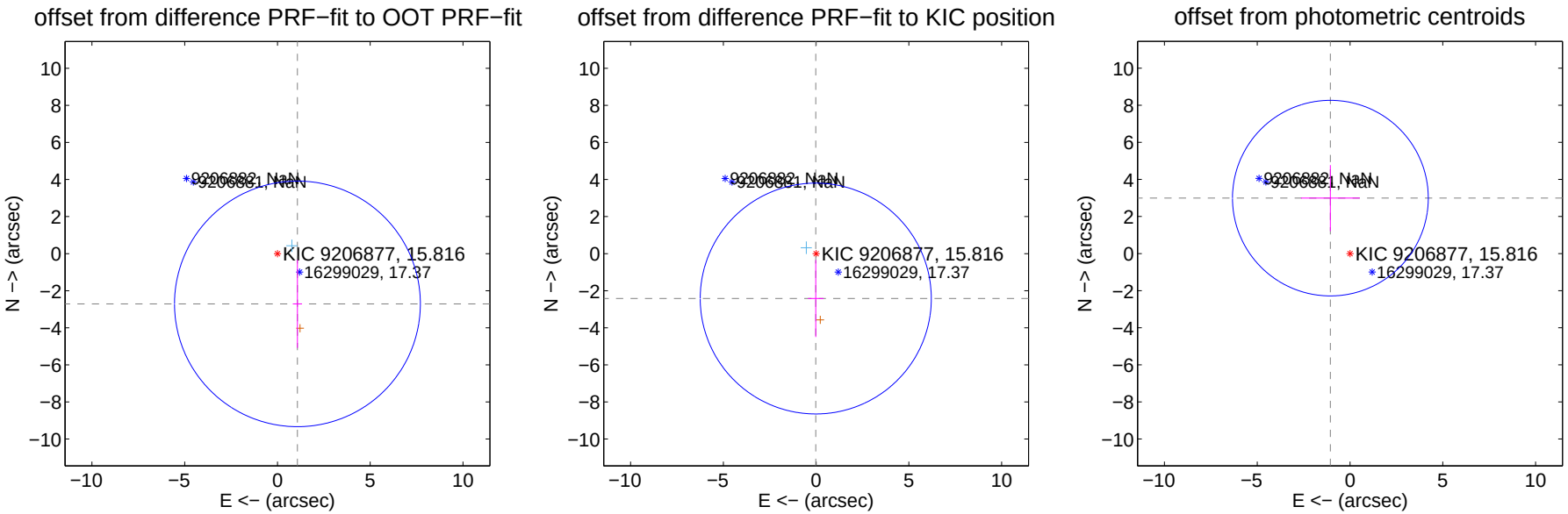
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

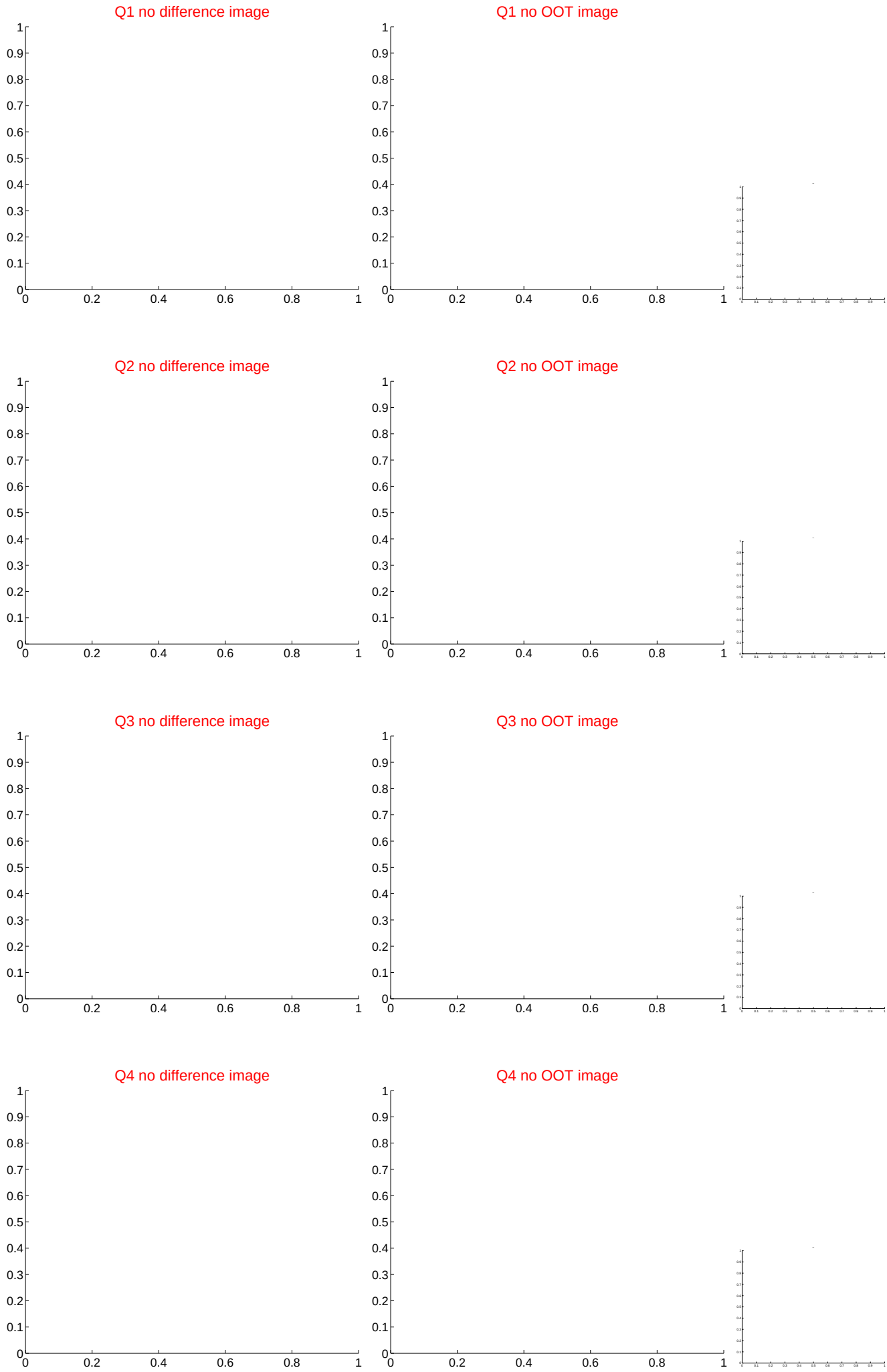
Supplemental centroid analysis for 009206877-01. Kepler magnitude: 15.82. Transit SNR 5.42
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 1.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.917 ± 2.209	1.32	-1.077 ± 0.251	-2.710 ± 2.375
PRF-fit source offset from KIC position	2.422 ± 2.076	1.17	0.019 ± 0.416	-2.422 ± 2.076
photometric centroid source offset	3.17 ± 1.76	1.80	1.06 ± 1.59	2.99 ± 1.78

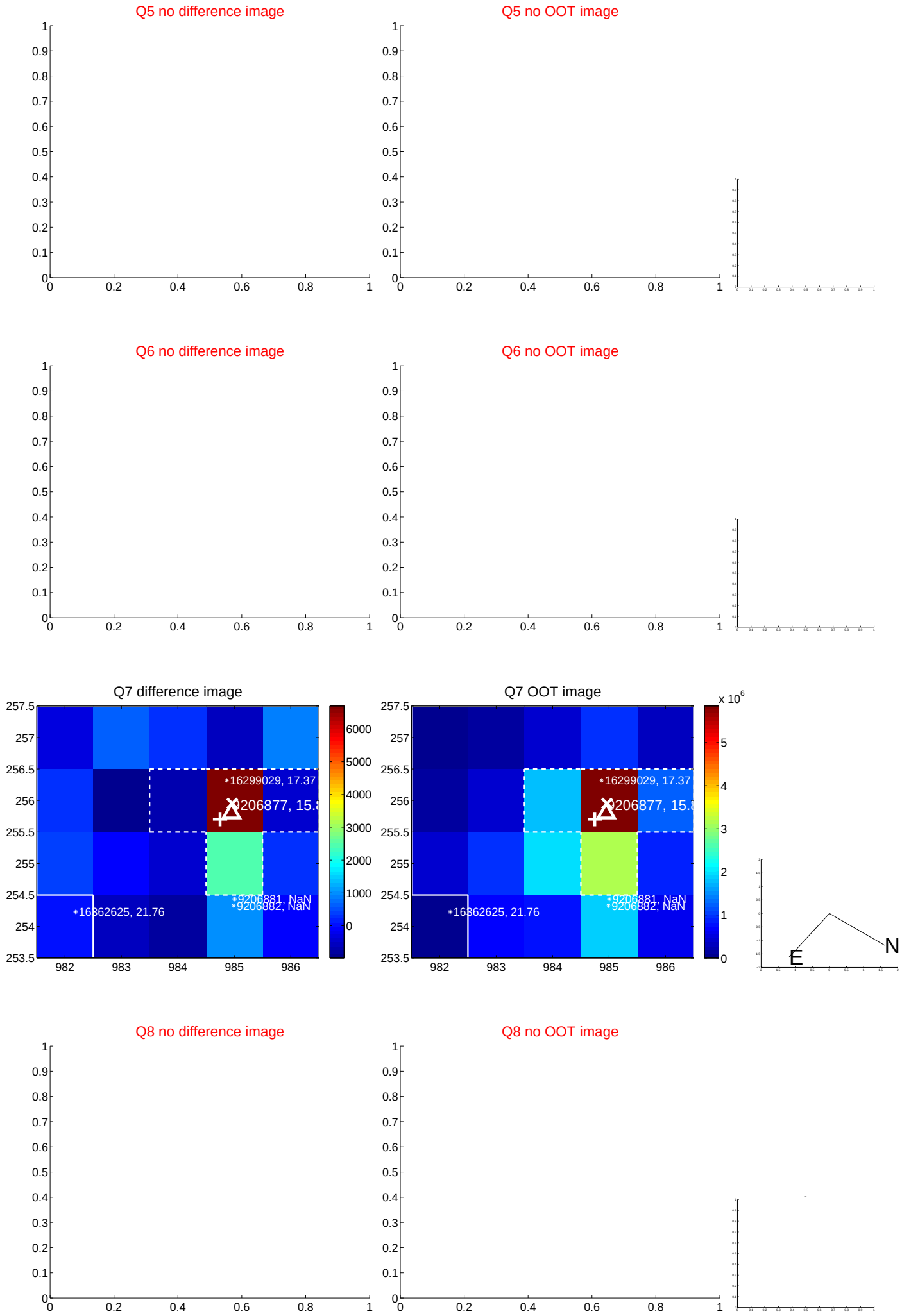


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

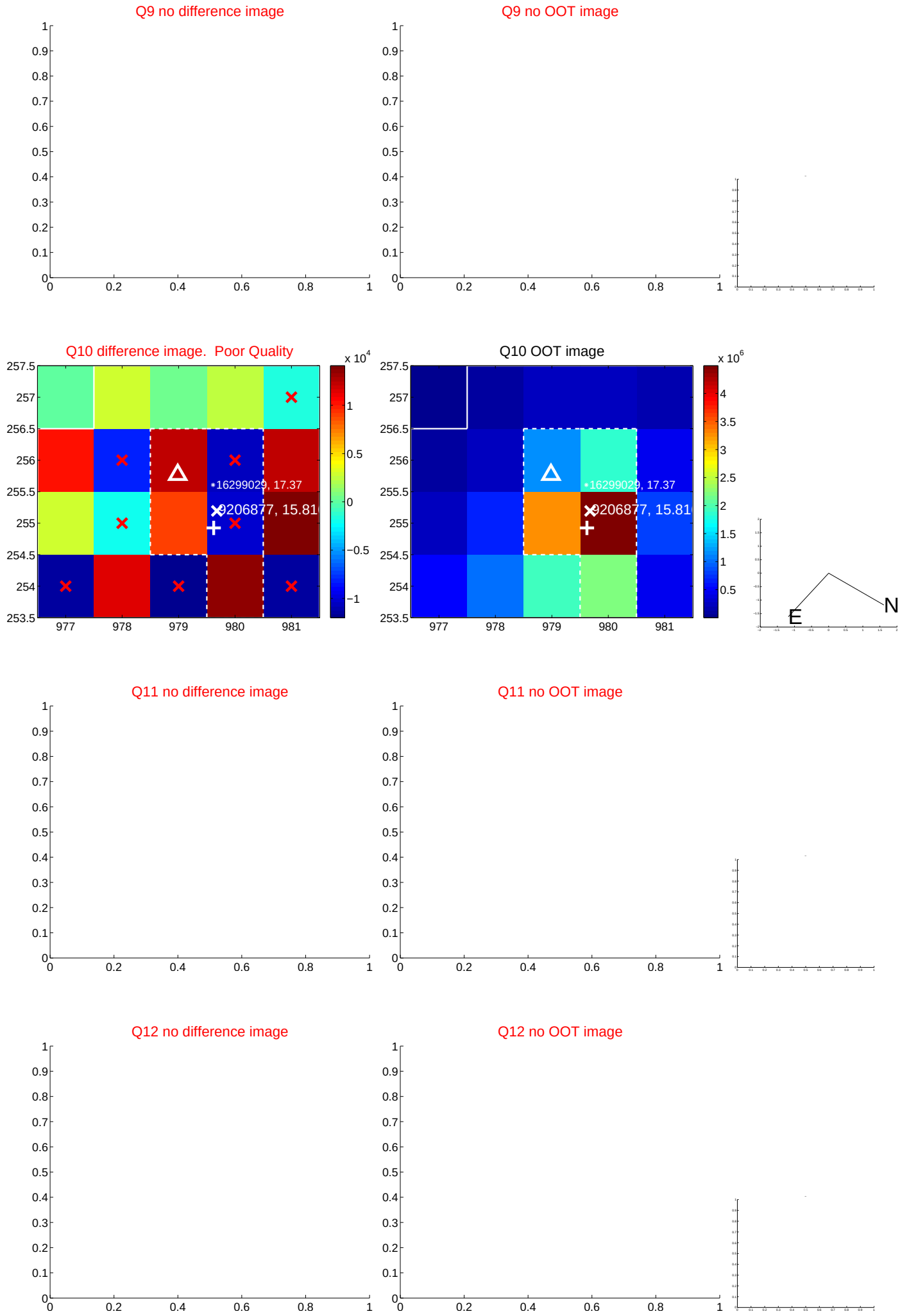
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



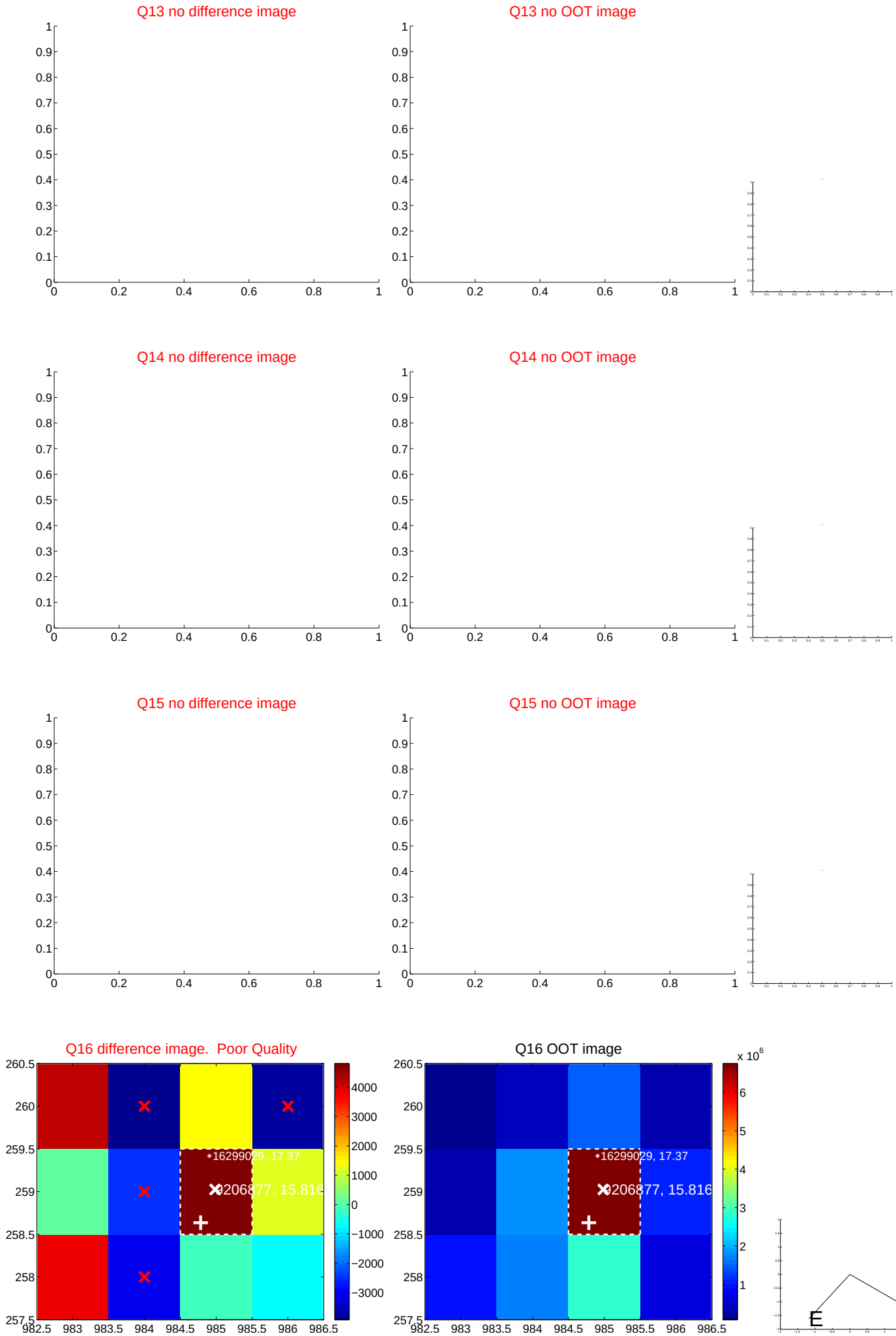
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



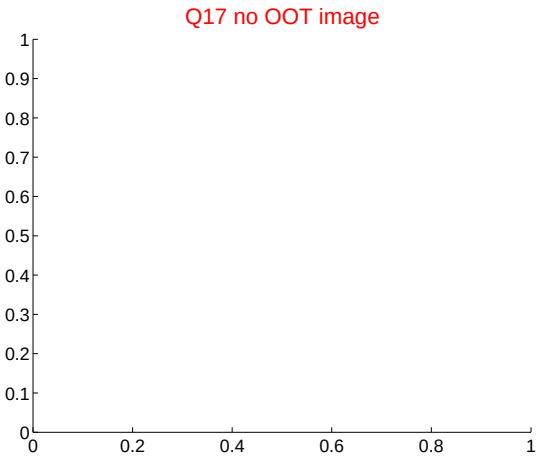
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

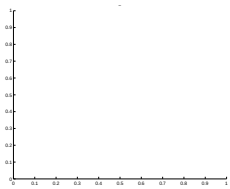


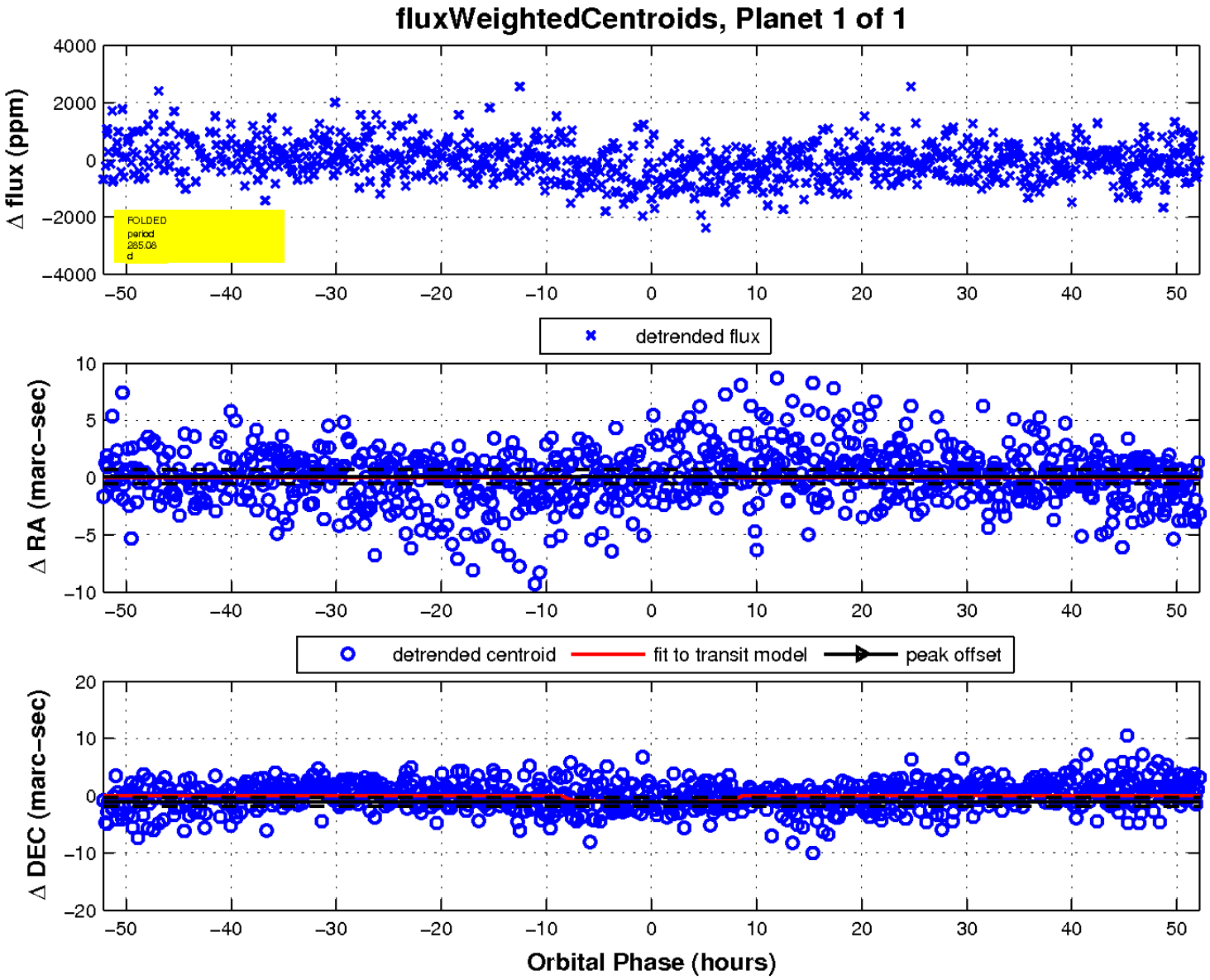
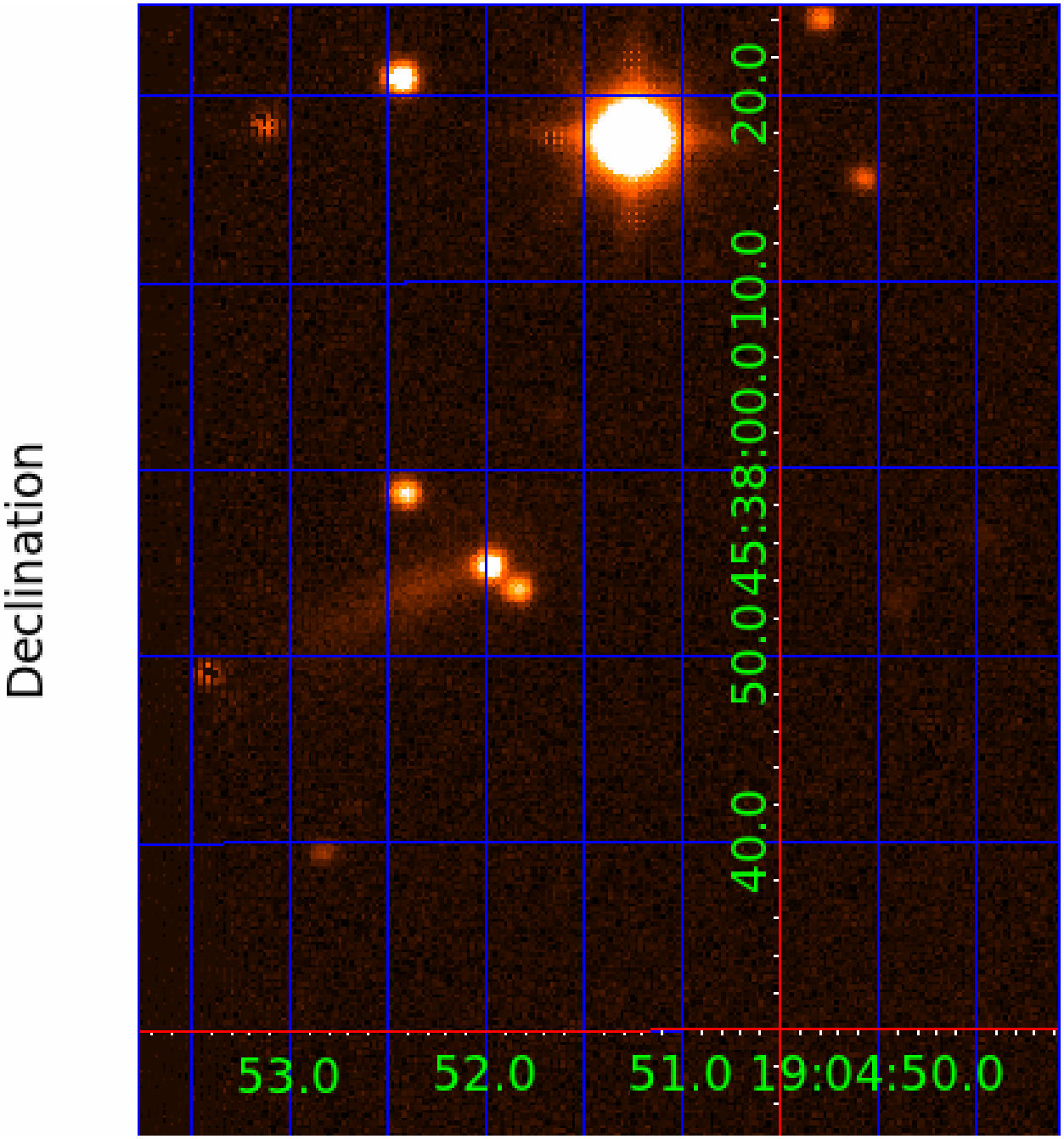
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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







UKIRT Image