KIC 009597058

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 ($S_\oplus$)
009597058-01	OBS	1819.01	12.057084	135.414201	528.6	2.502	43.6	48.7	0.83	5365	2.34	53.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009597058-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

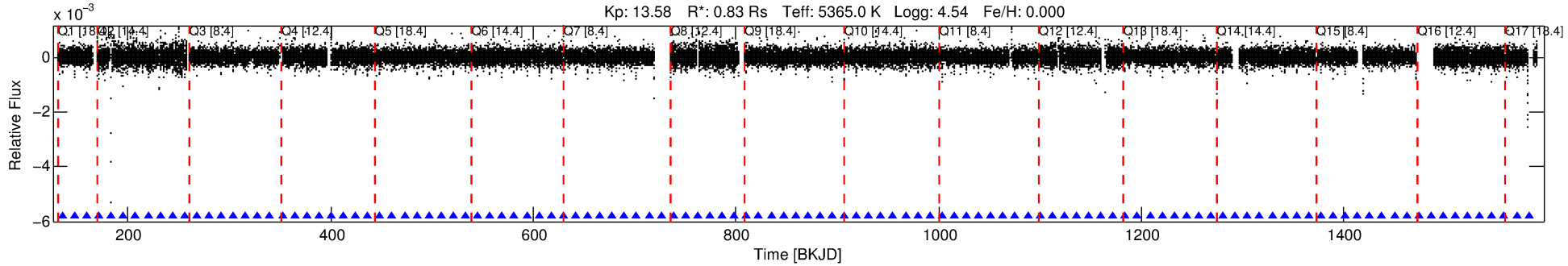
Ephemeris Match Information For 009597058-01

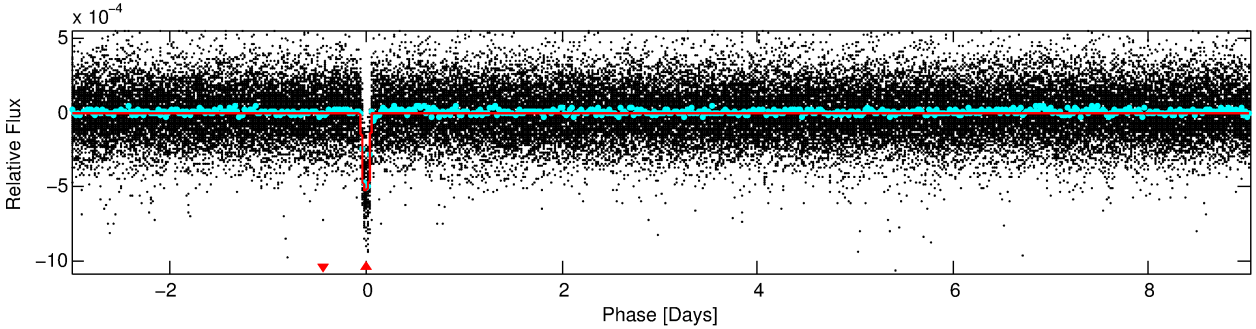
No Significant Match Found

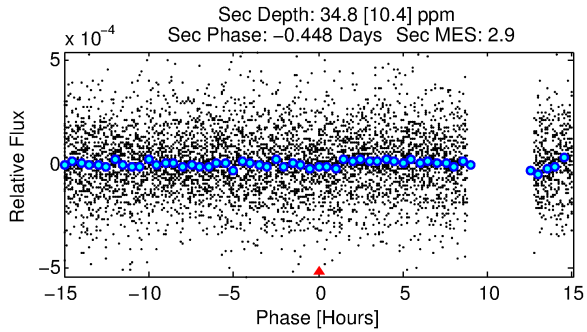
DV One-Page Summary

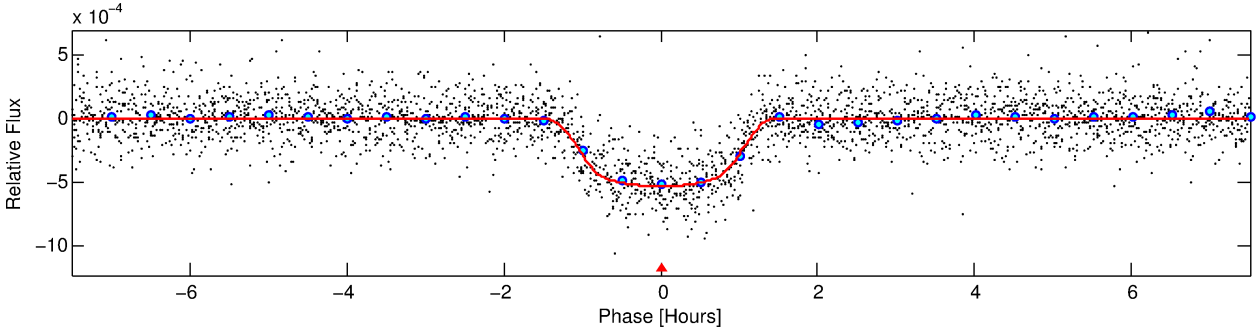
KIC: 9597058 Candidate: 1 of 1 Period: 12.057 d
KOI: K01819.01 Corr: 0.950

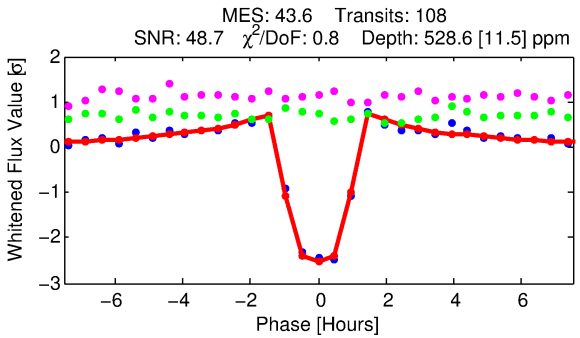
Kp: 13.58 R*: 0.83 Rs Teff: 5365.0 K Logg: 4.54 Fe/H: 0.000

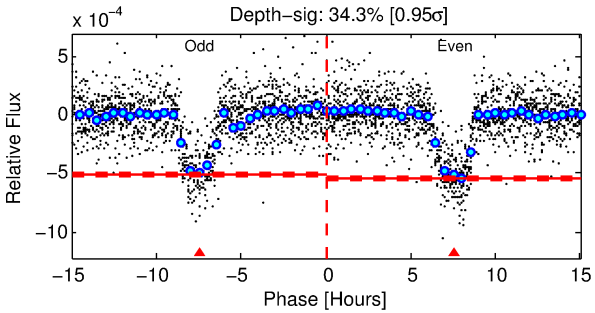


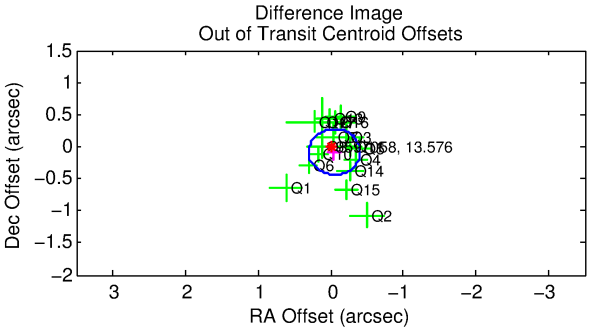












DV Fit Results:

Period = 12.05708 [0.00002] d
Epoch = 135.4142 [0.0010] BKJD
Rp/R* = 0.0257 [0.0015]
a/R* = 17.46 [4.26]
b = 0.91 [0.05]

Seff = 53.33 [8.47]
Teq = 689 [27] K
Rp = 2.34 [0.27] Re
a = 0.0984 [0.0089] AU

Ag = 33.94 [11.87] [2.78σ]
Teffp = 2571 [213] K [8.76σ]

DV Diagnostic Results:

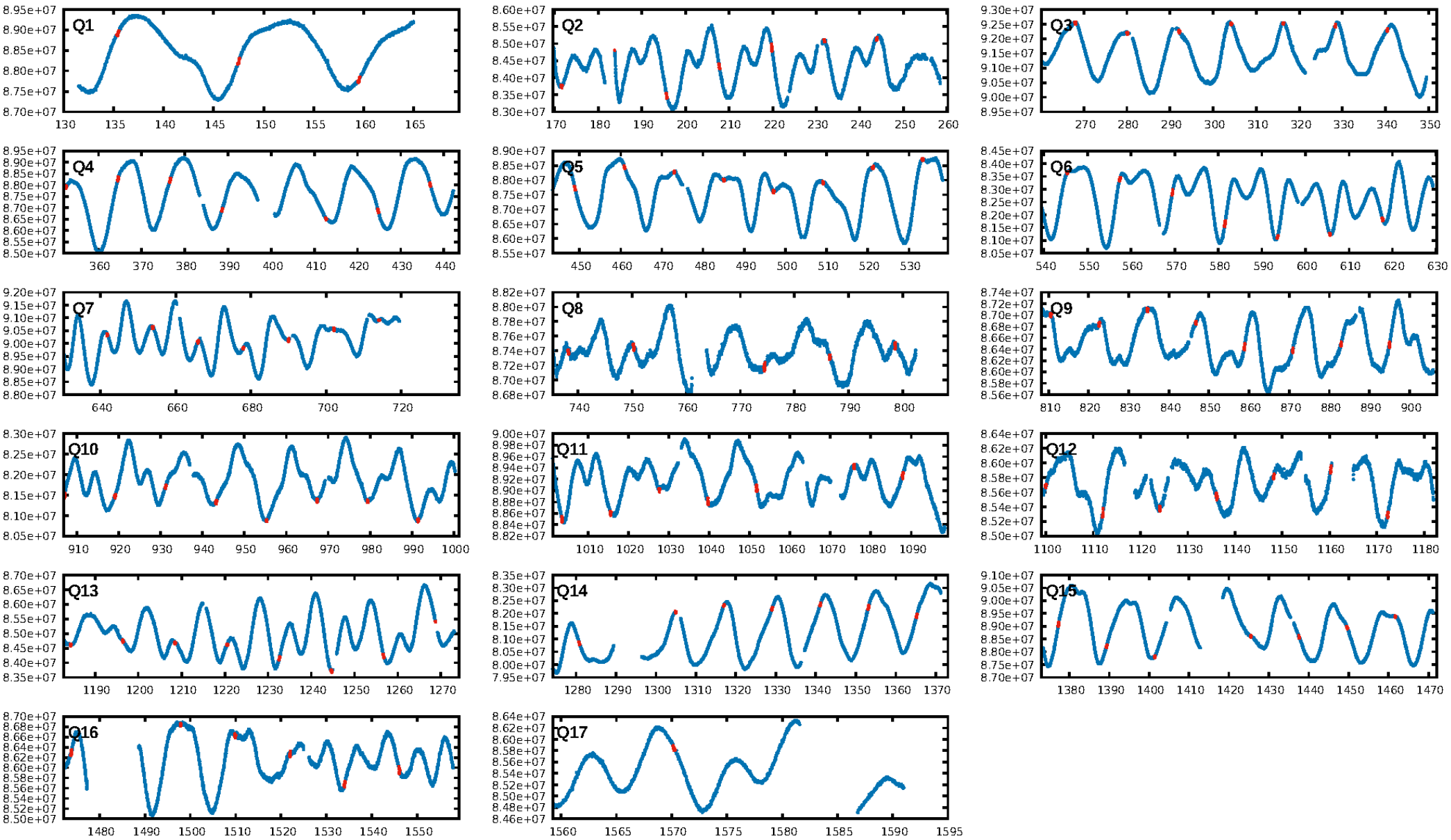
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 99.9%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 0.00e+00
RollingBand−fgt: 1.00 [104/104]
GhostDiagnostic−chr: 8.462

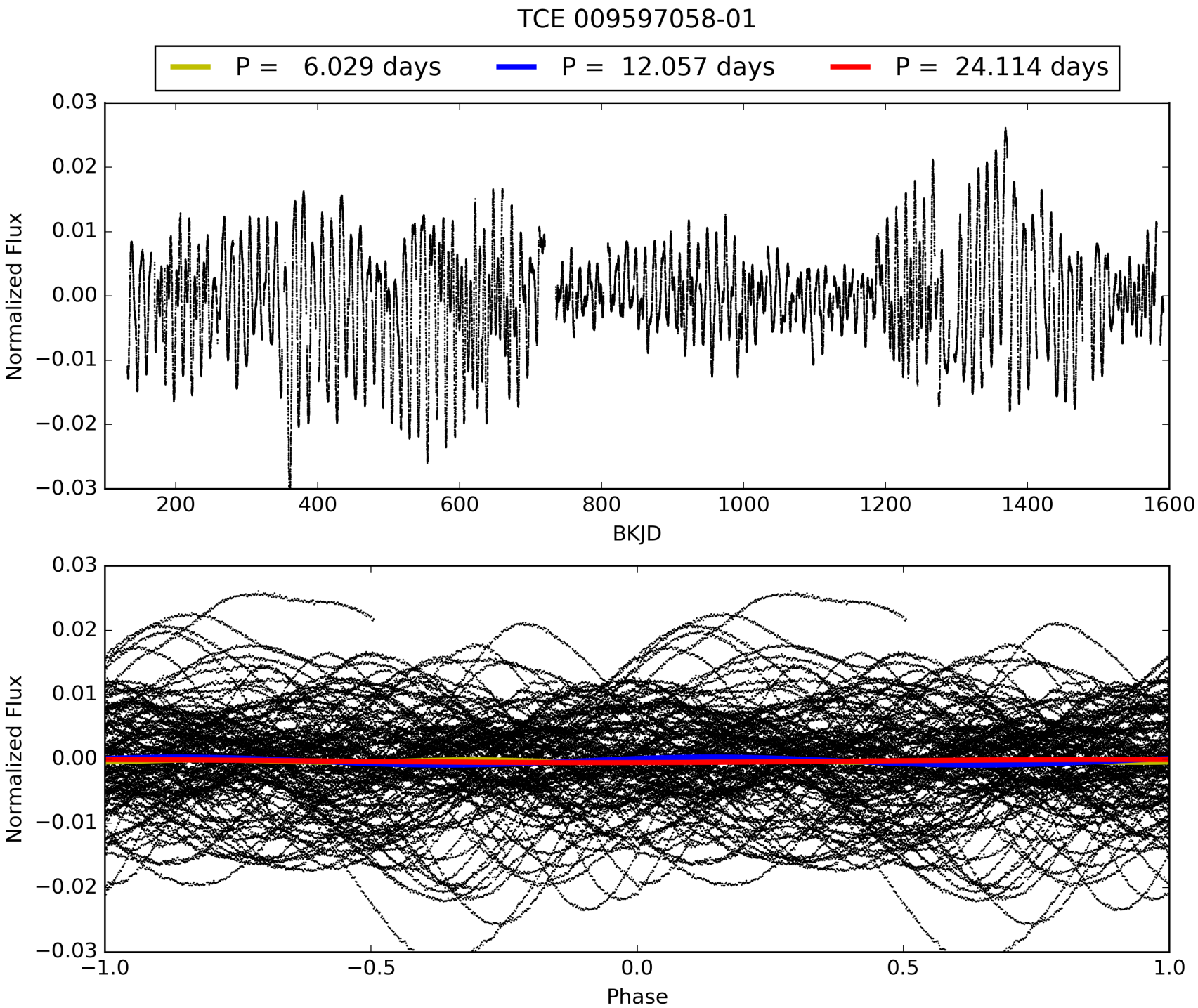
Centroid−sig: 54.8%
Centroid−so: 0.088 arcsec [0.39σ]
OotOffset−rm: 0.096 arcsec [0.81σ]
KicOffset−rm: 0.056 arcsec [0.55σ]
OotOffset−st: 4/4/4/5 [17]
KicOffset−st: 4/4/4/5 [17]
DiffImageQuality−fgm: 1.00 [17/17]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 01:48:25 Z

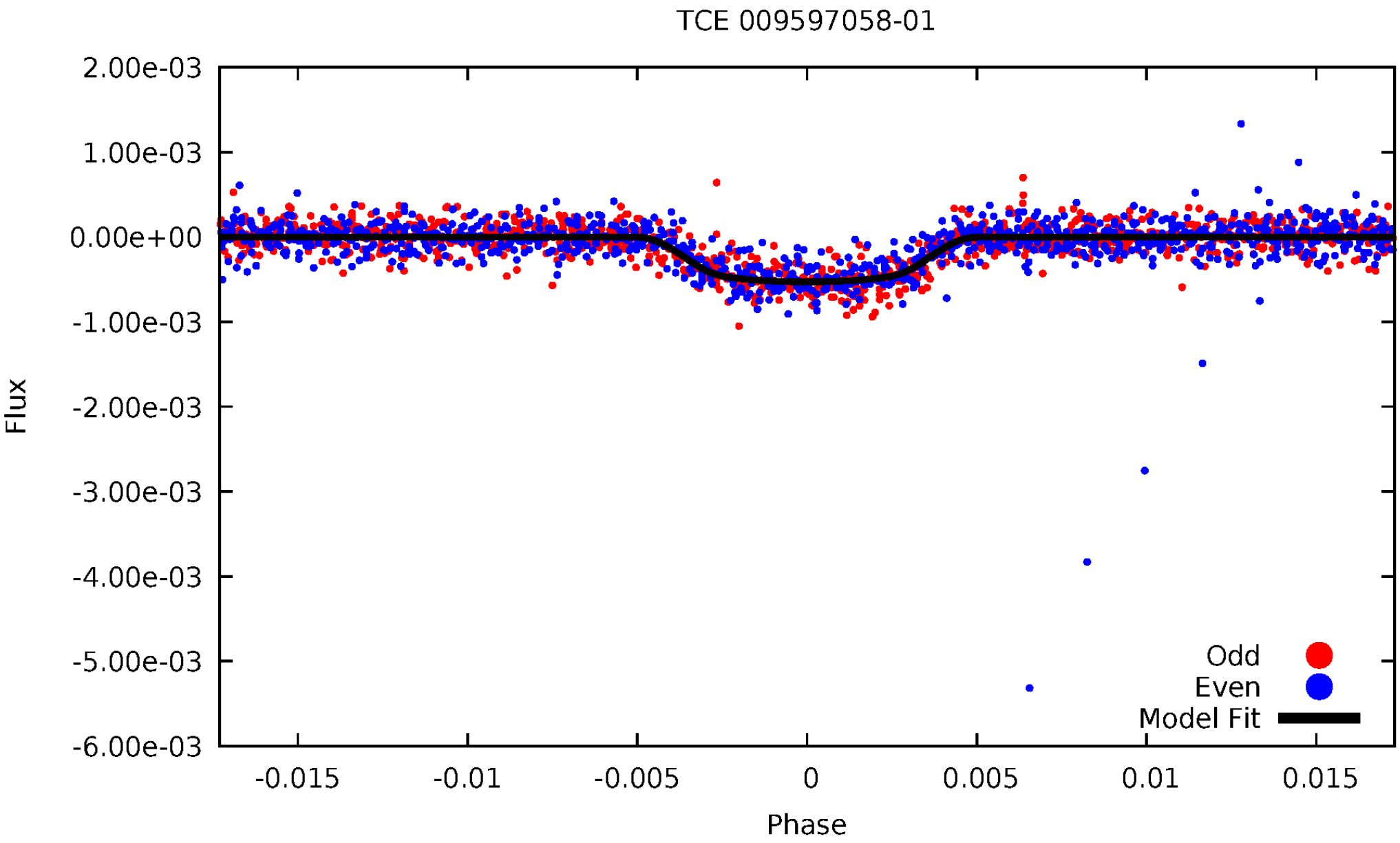
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009597058-01, PDC Light Curves

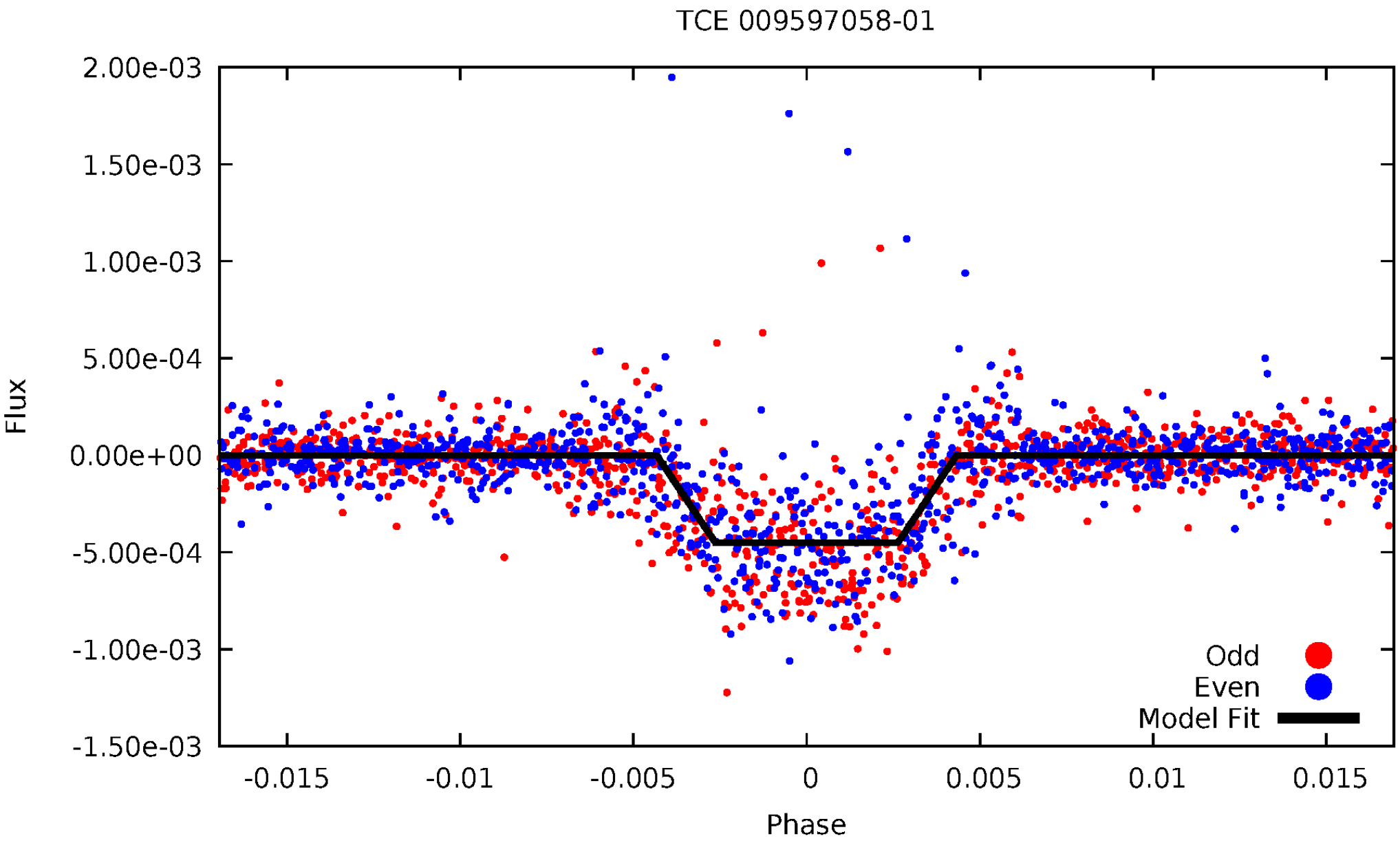



TCE 009597058-01
P = 6.029 days
P = 12.057 days
P = 24.114 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even


TCE 009597058-01
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
-5.00e-03
-6.00e-03
Flux
-0.015
-0.01
-0.005
0
0.005
0.01
0.015
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009597058-01
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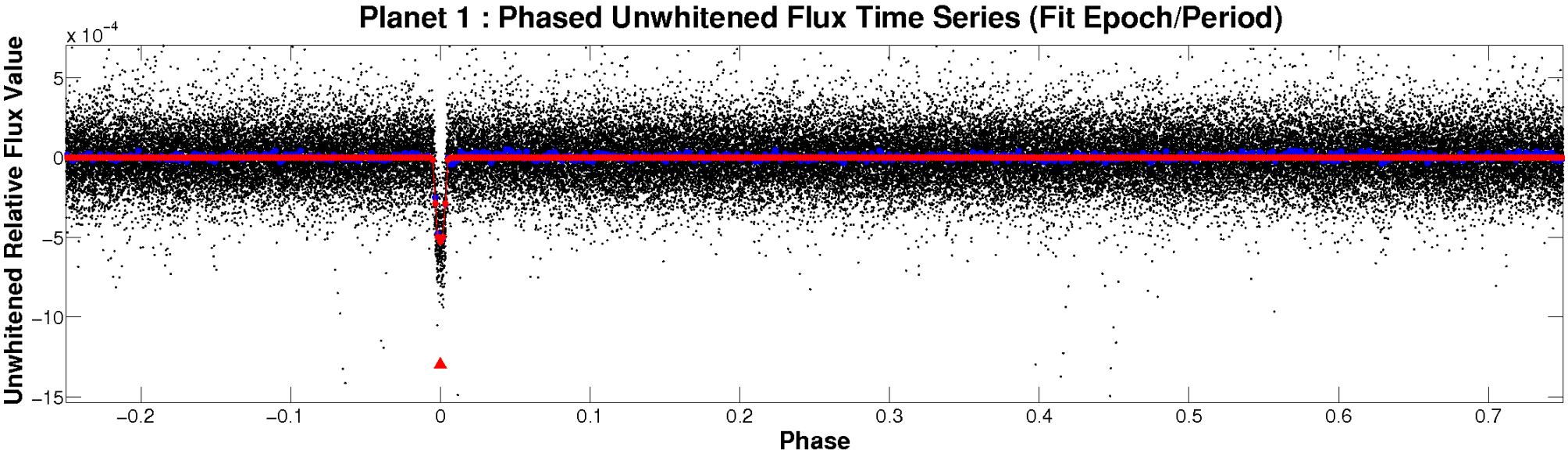
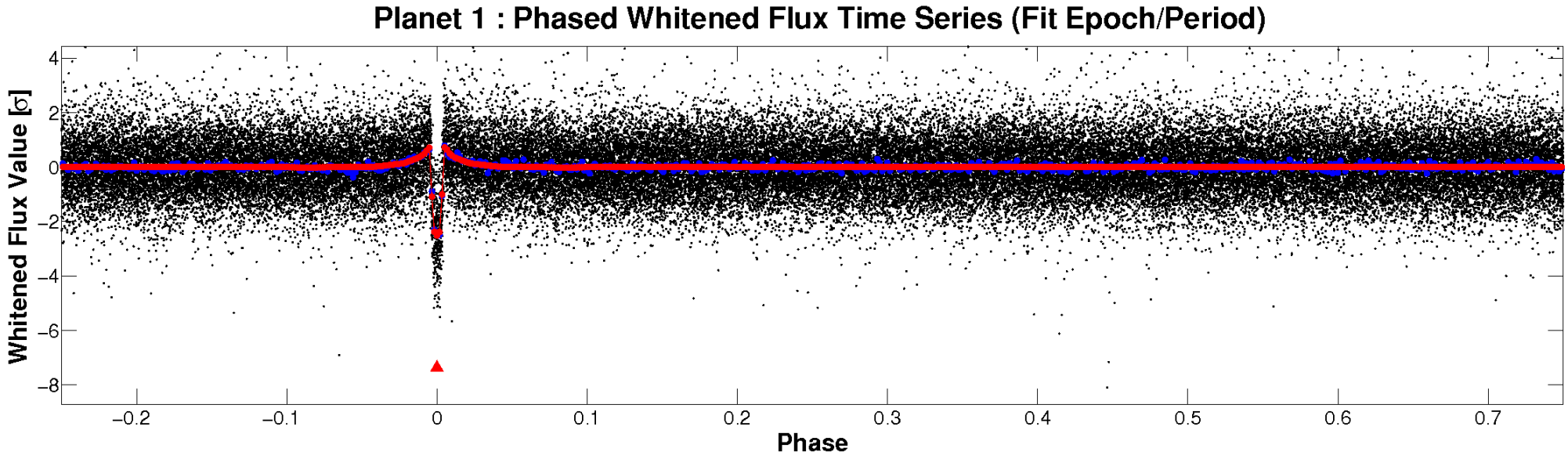
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.015
-0.01
-0.005
0
0.005
0.01
0.015
Phase
Odd
Even
Model Fit

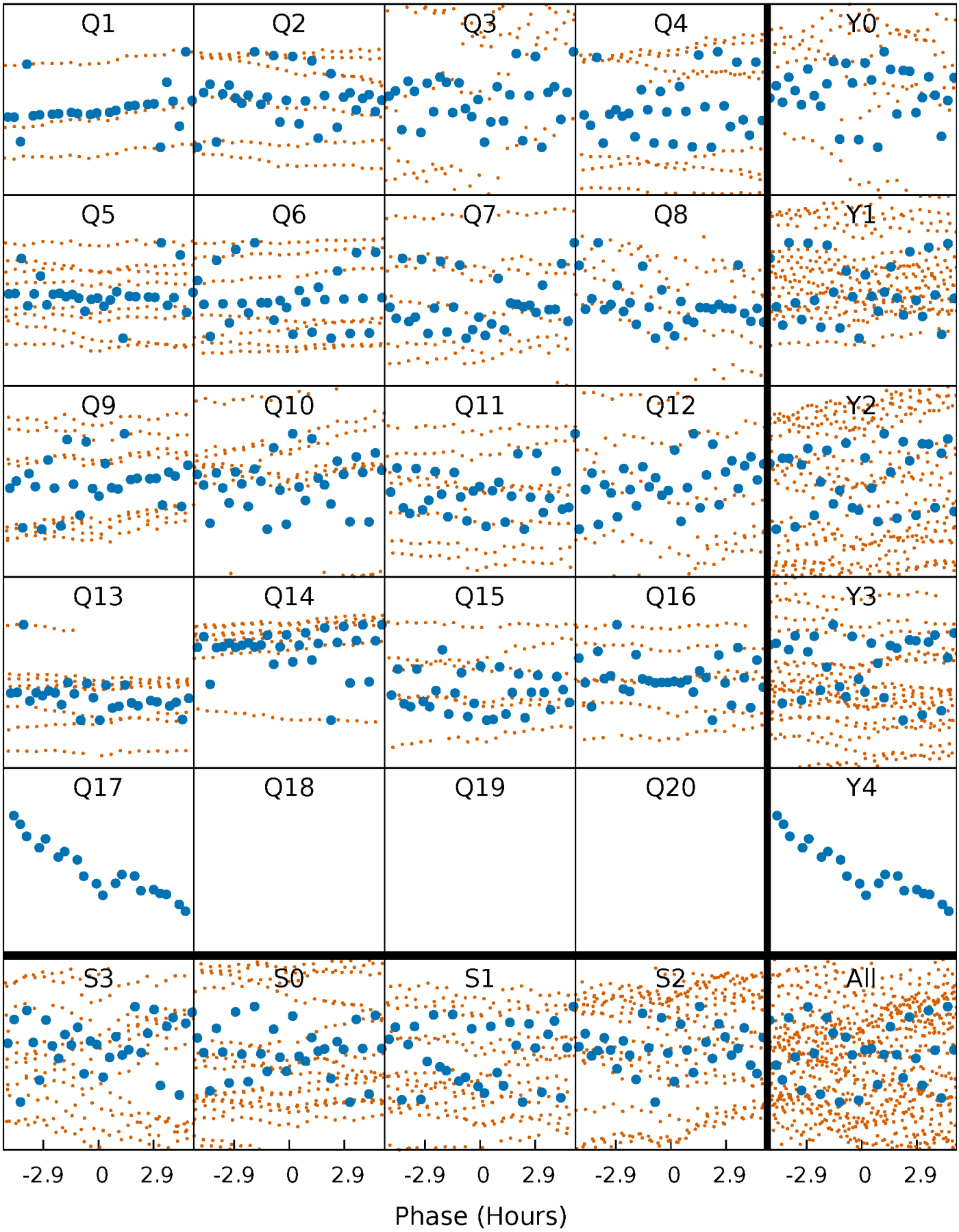
Non-Whitened Vs. Whitened Light Curve





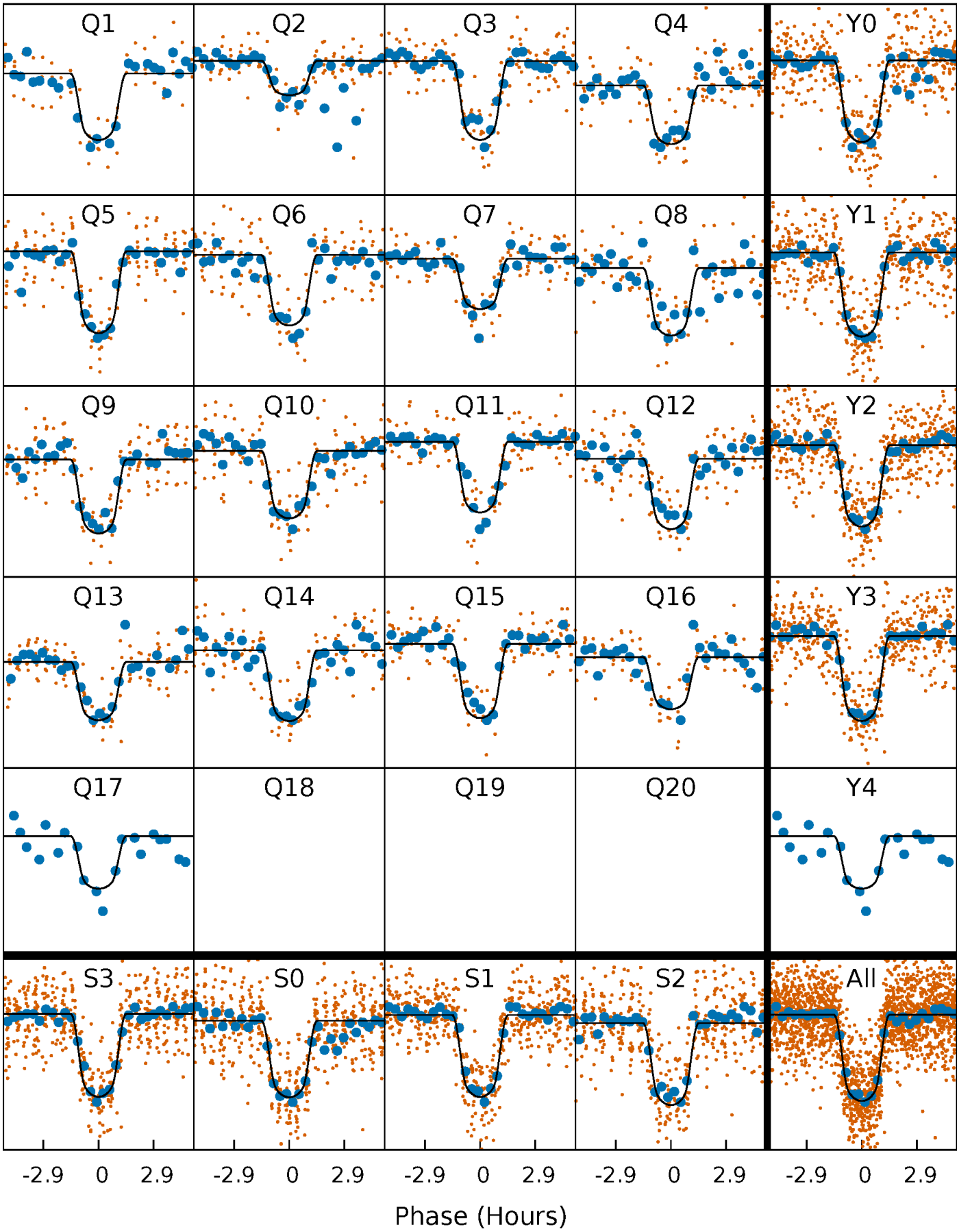
PDC Quarter-Phased Transit Curves

TCE 009597058-01 P= 12.057084 Days T_0=135.414201 (BKJD)



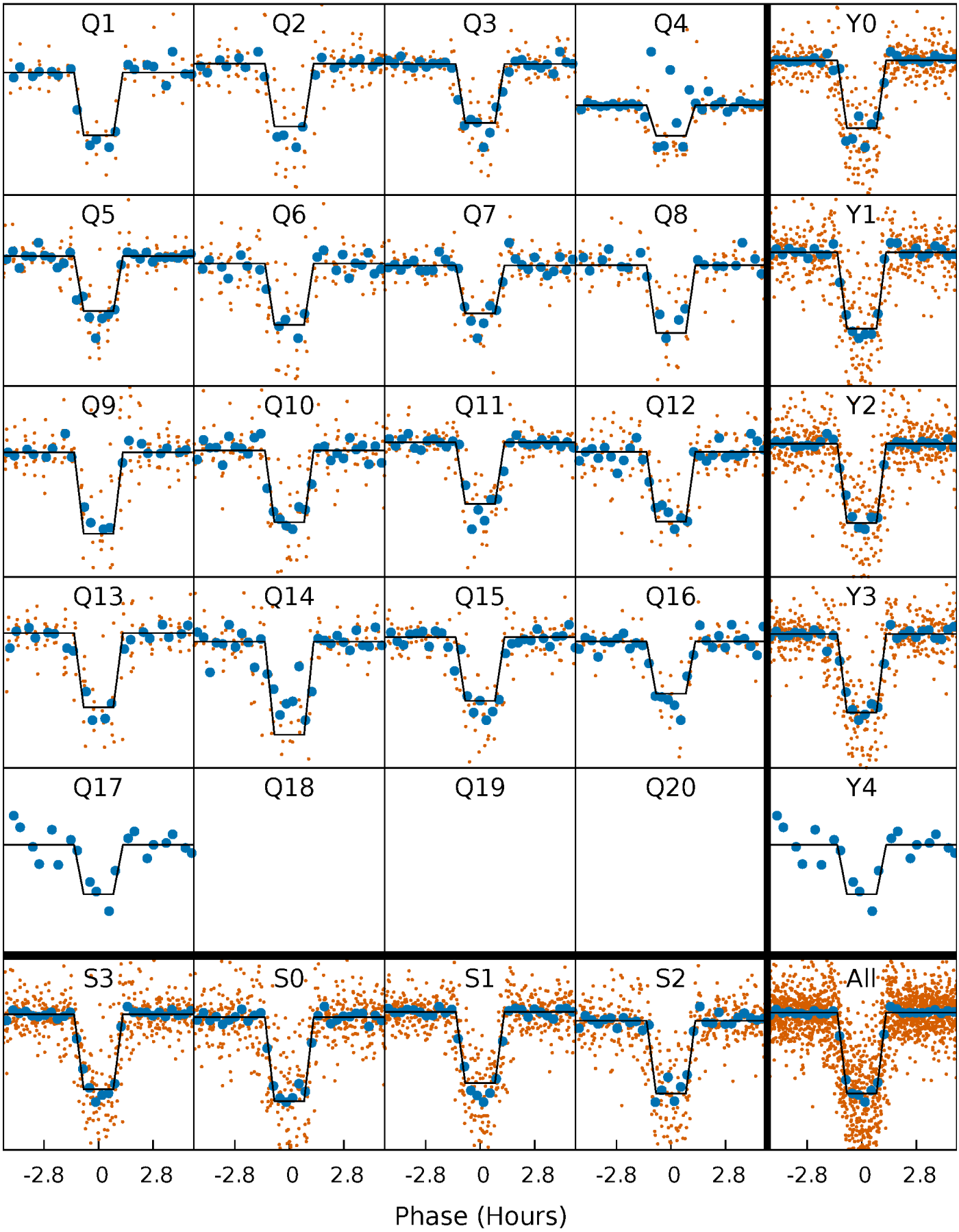
DV Quarter-Phased Transit Curves

TCE 009597058-01 P= 12.057084 Days T_0=135.414201 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

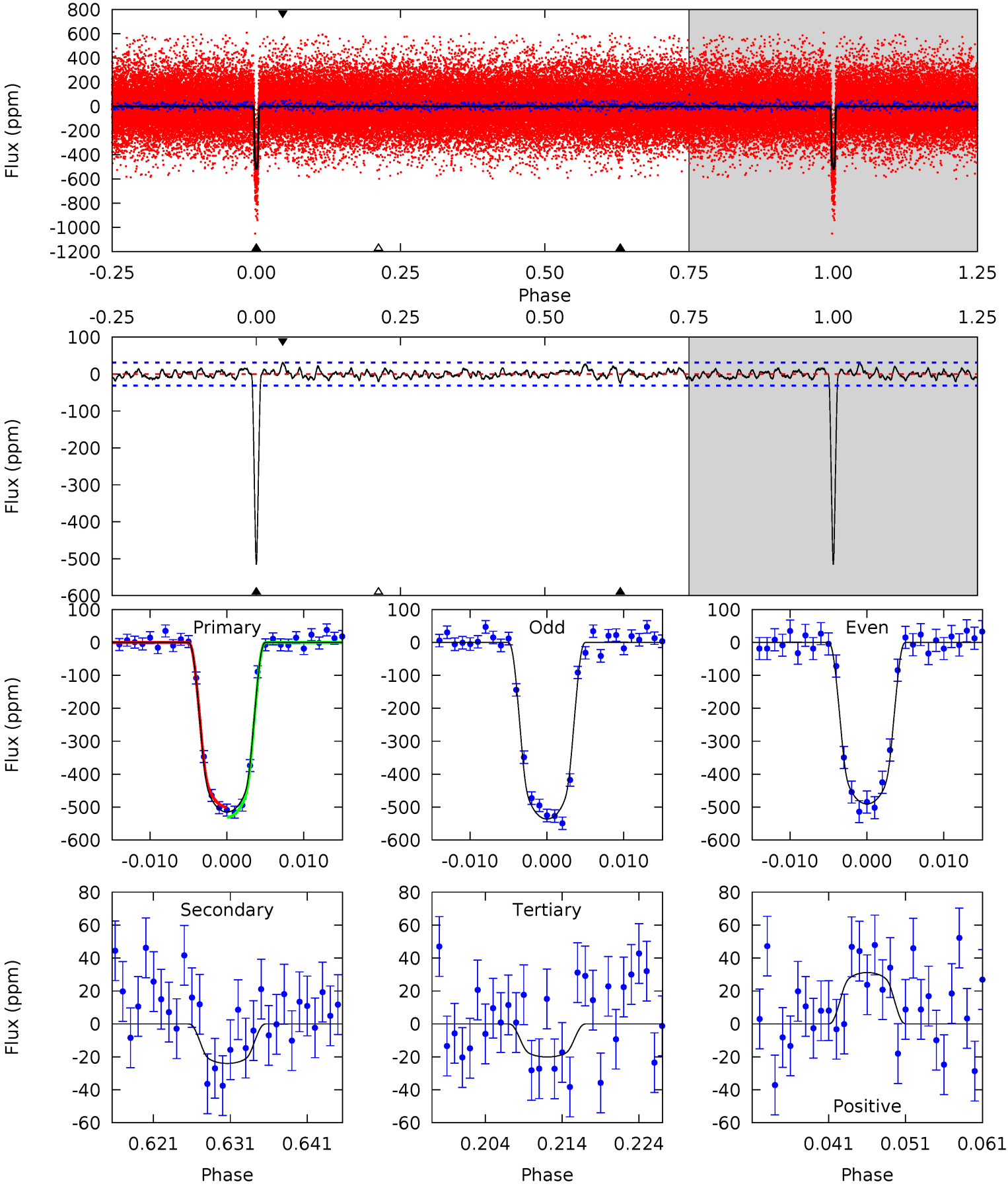
TCE 009597058-01 P= 12.057020 Days T_0=135.418090 (BKJD)



DV Model-Shift Uniqueness Test

009597058-01, P = 12.057084 Days, E = 123.357117 Days

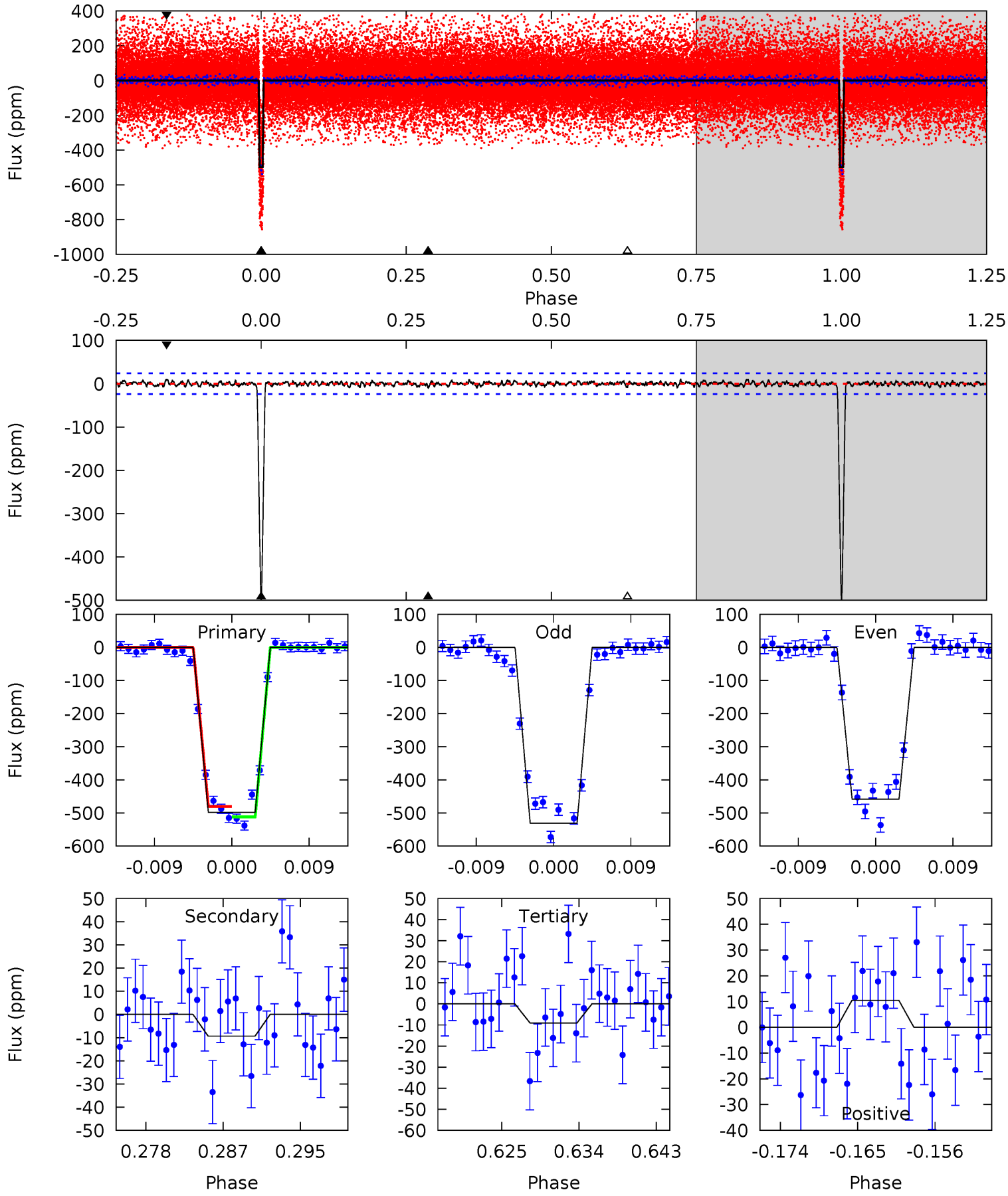
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
83.1	3.87	3.24	5.03	5.02	2.57	1.35	79.9	78.1	0.63	-1.16	3.71	0.98	0.06	2.53



Alt Model-Shift Uniqueness Test

009597058-01, P = 12.057020 Days, E = 123.361070 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
105.8	1.99	1.92	2.23	5.05	2.62	0.69	103.8	103.5	0.07	-0.24	7.74	0.96	0.02	3.39



Stellar Parameters For KIC 009597058

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5365^{+107}_{-107}	$4.537^{+0.036}_{-0.078}$	$0.000^{+0.150}_{-0.150}$	$0.834^{+0.084}_{-0.045}$	$0.873^{+0.049}_{-0.054}$	$2.121^{+0.283}_{-0.505}$
	+2%/-2%	+1%/-2%	+inf%/-inf%	+10%/-5%	+6%/-6%	+13%/-24%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 009597058-01 / KOI 1819.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-24±6	$2.36^{+0.19}_{-0.16}$	969^{+32}_{-27}	2991^{+123}_{-135}	23^{+7}_{-6}
Alt.	-9±5	$1.96^{+0.16}_{-0.16}$	968^{+29}_{-27}	2755^{+191}_{-259}	13^{+7}_{-7}

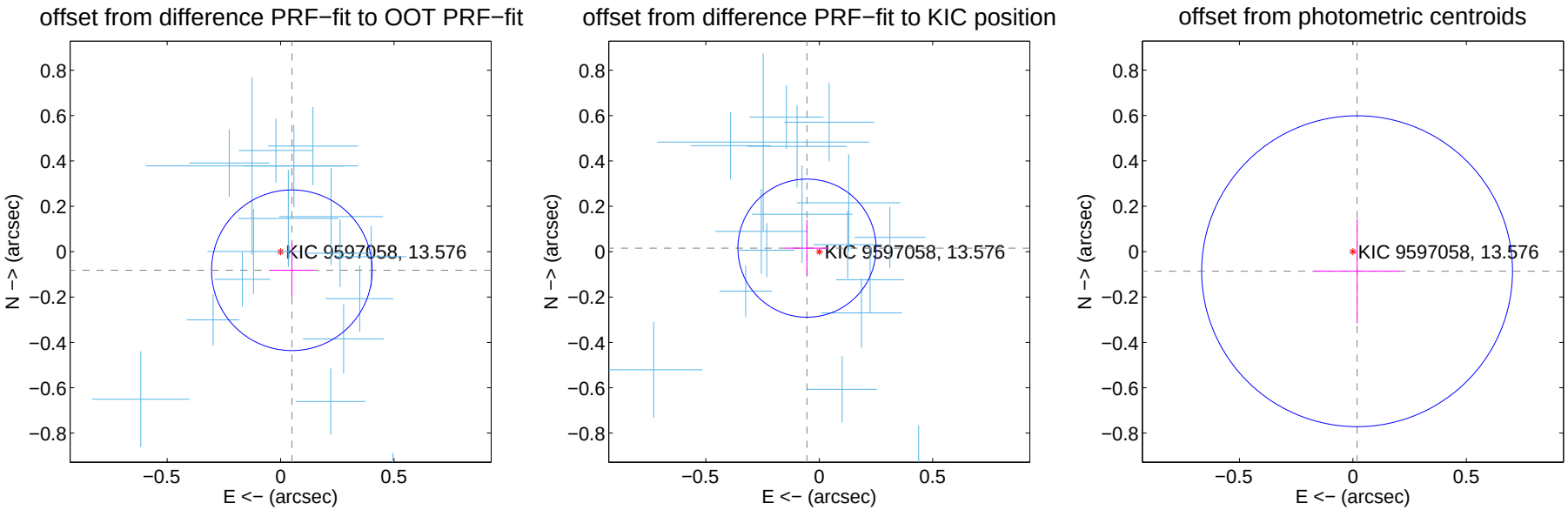
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

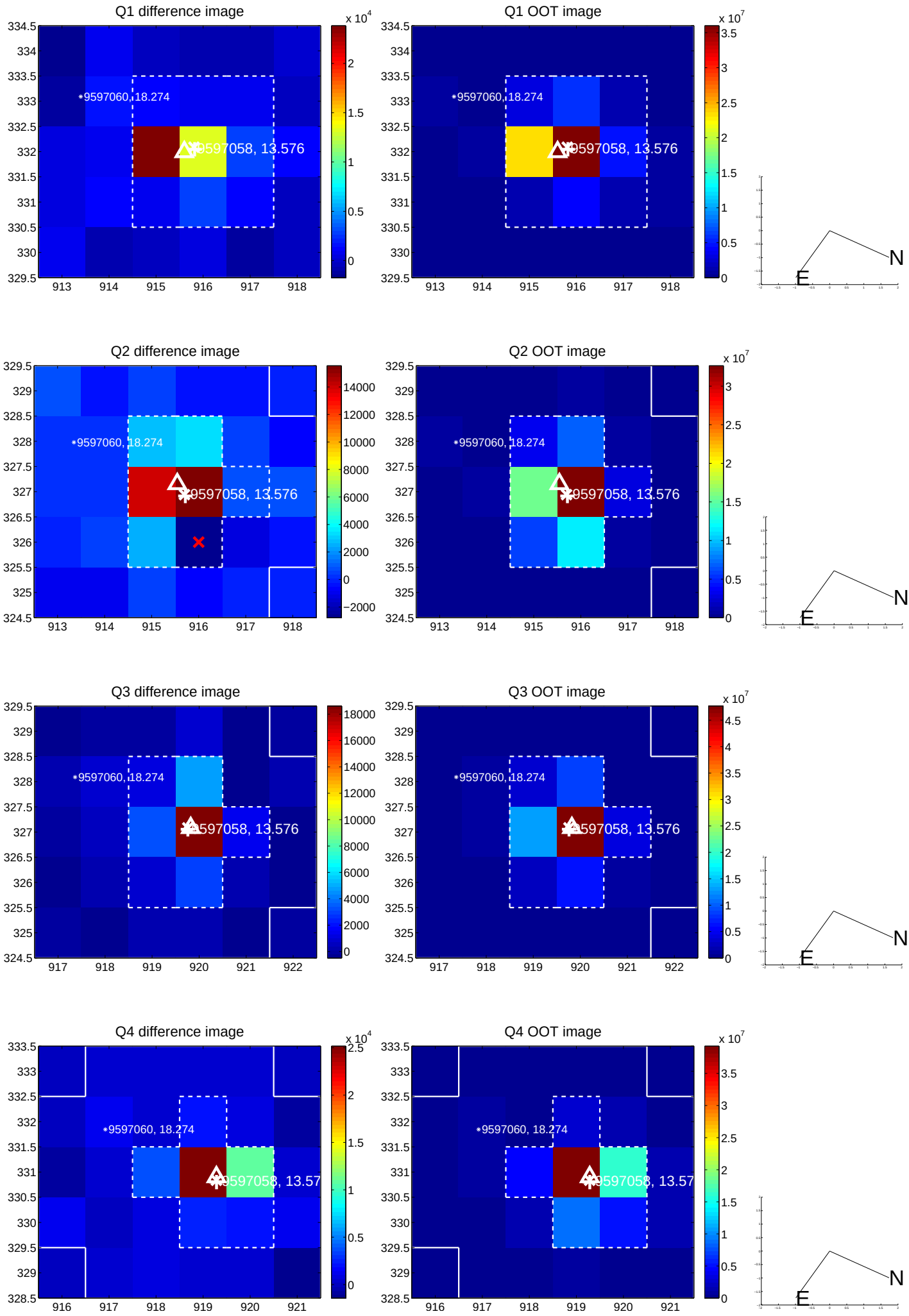
Supplemental centroid analysis for 009597058-01. Kepler magnitude: 13.58. Transit SNR 48.65
There are 17 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.096 ± 0.118	0.81	-0.050 ± 0.096	-0.082 ± 0.118
PRF-fit source offset from KIC position	0.056 ± 0.102	0.55	0.054 ± 0.094	0.015 ± 0.125
photometric centroid source offset	0.09 ± 0.23	0.39	-0.02 ± 0.19	-0.09 ± 0.23

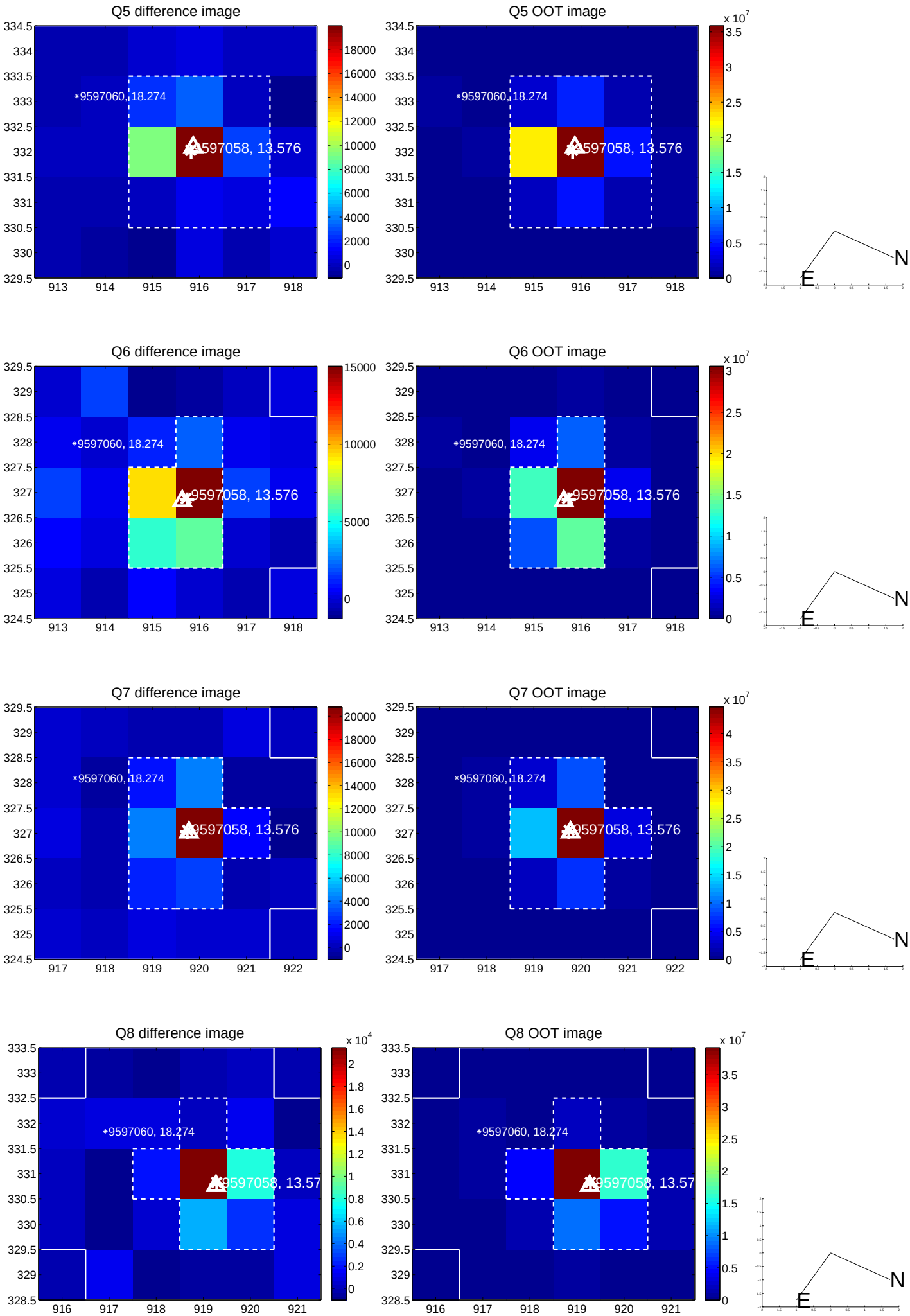


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

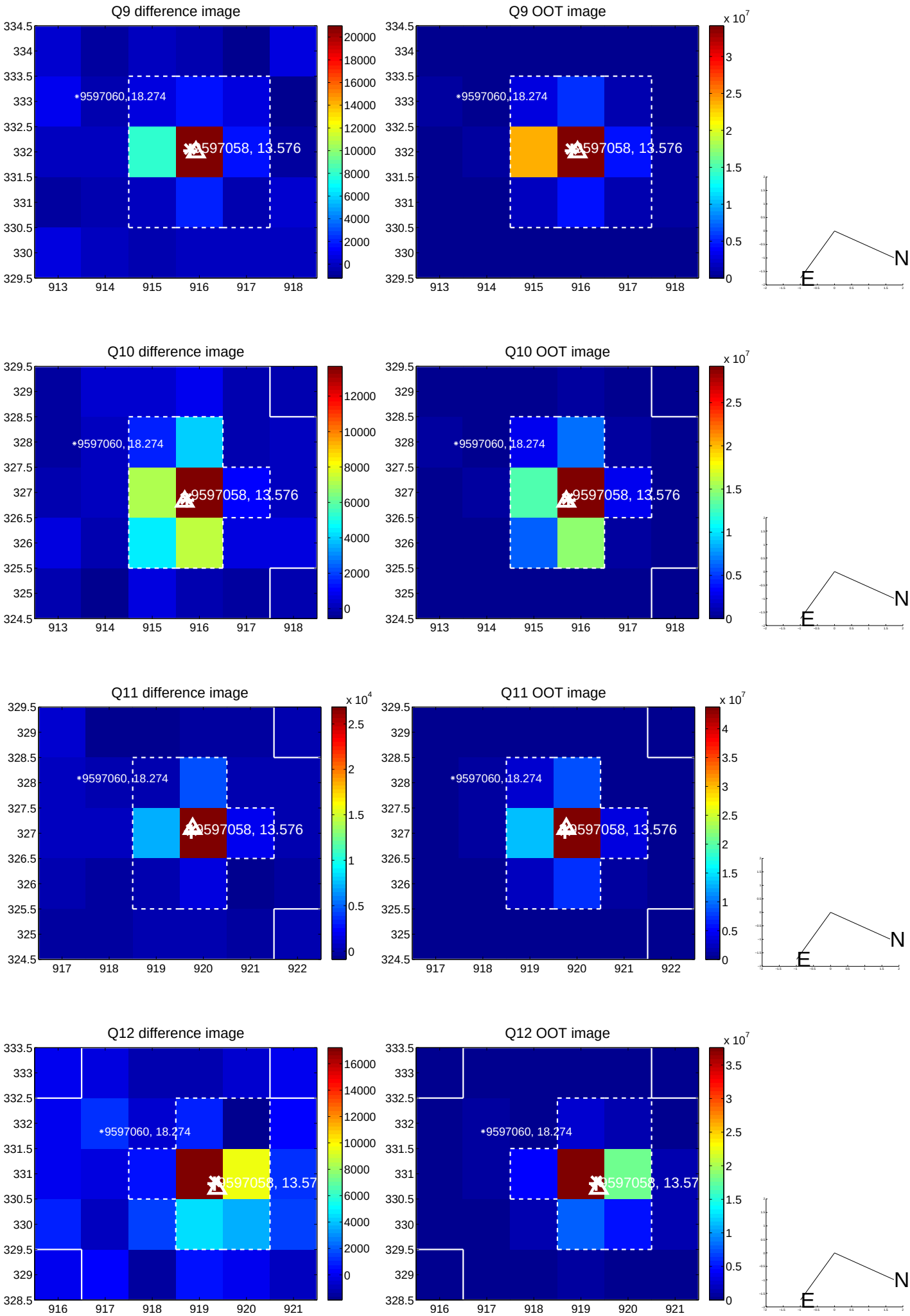
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



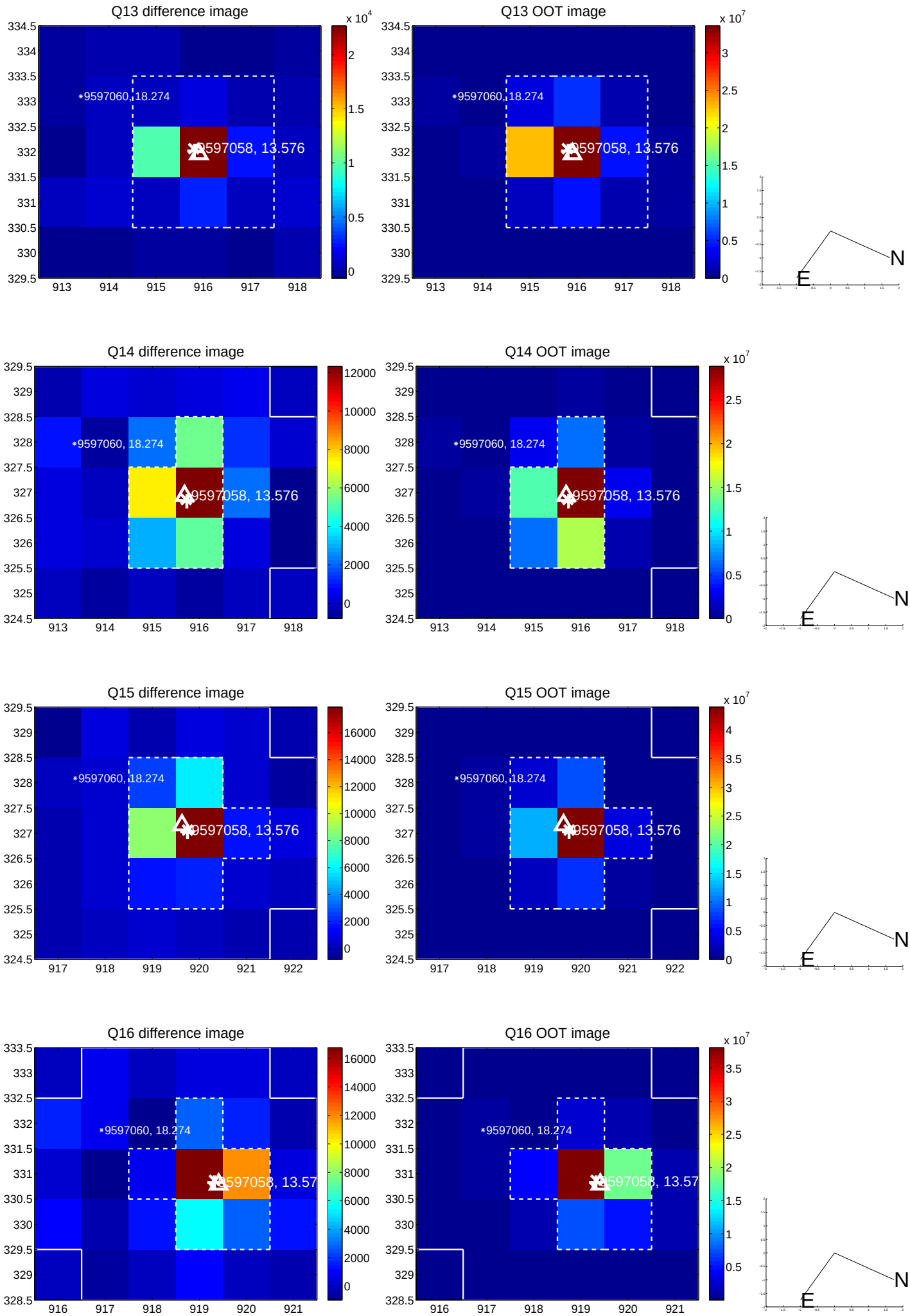
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



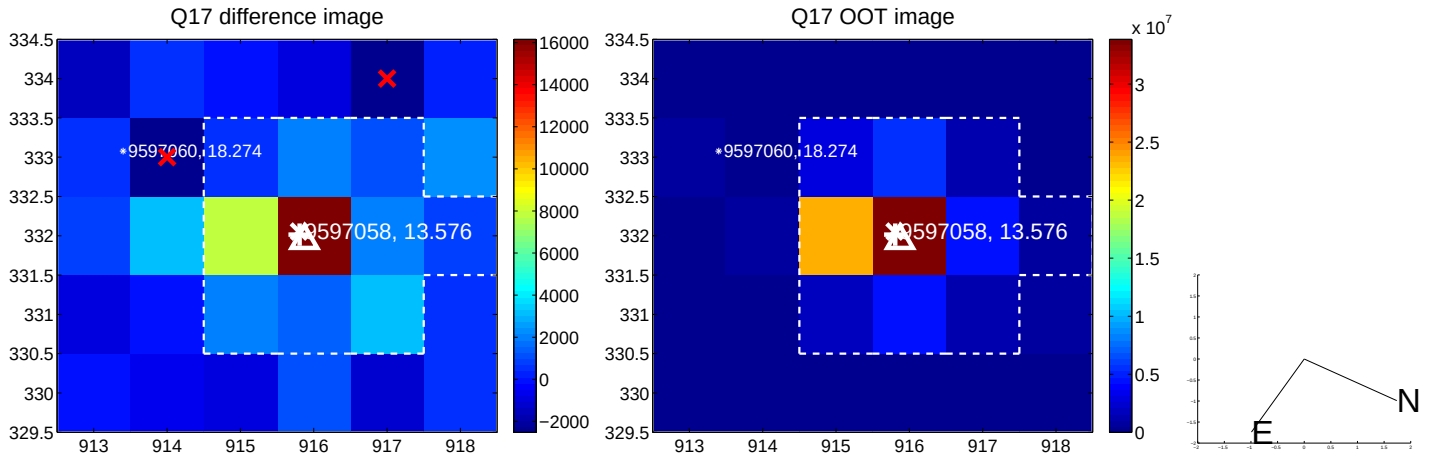
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

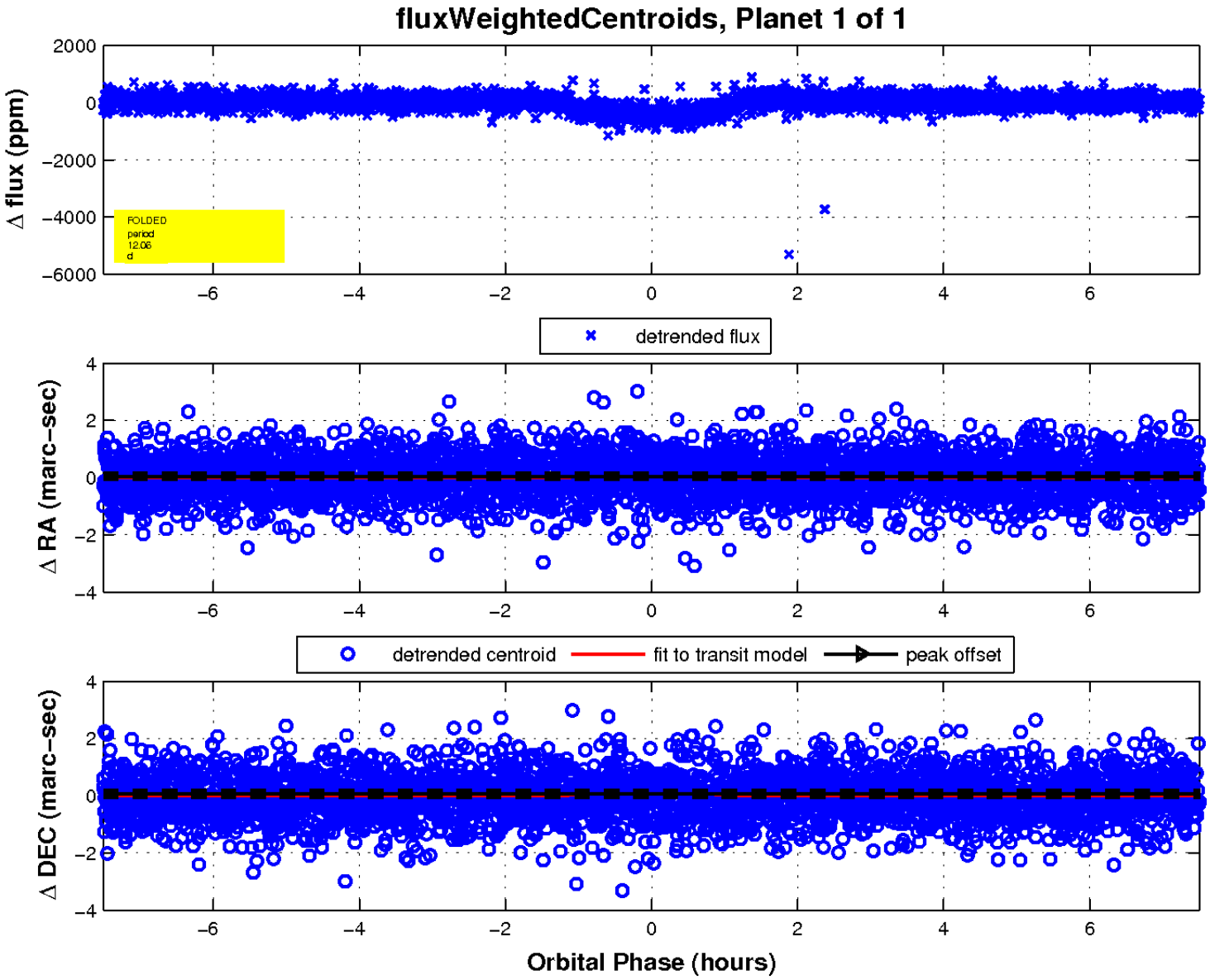


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

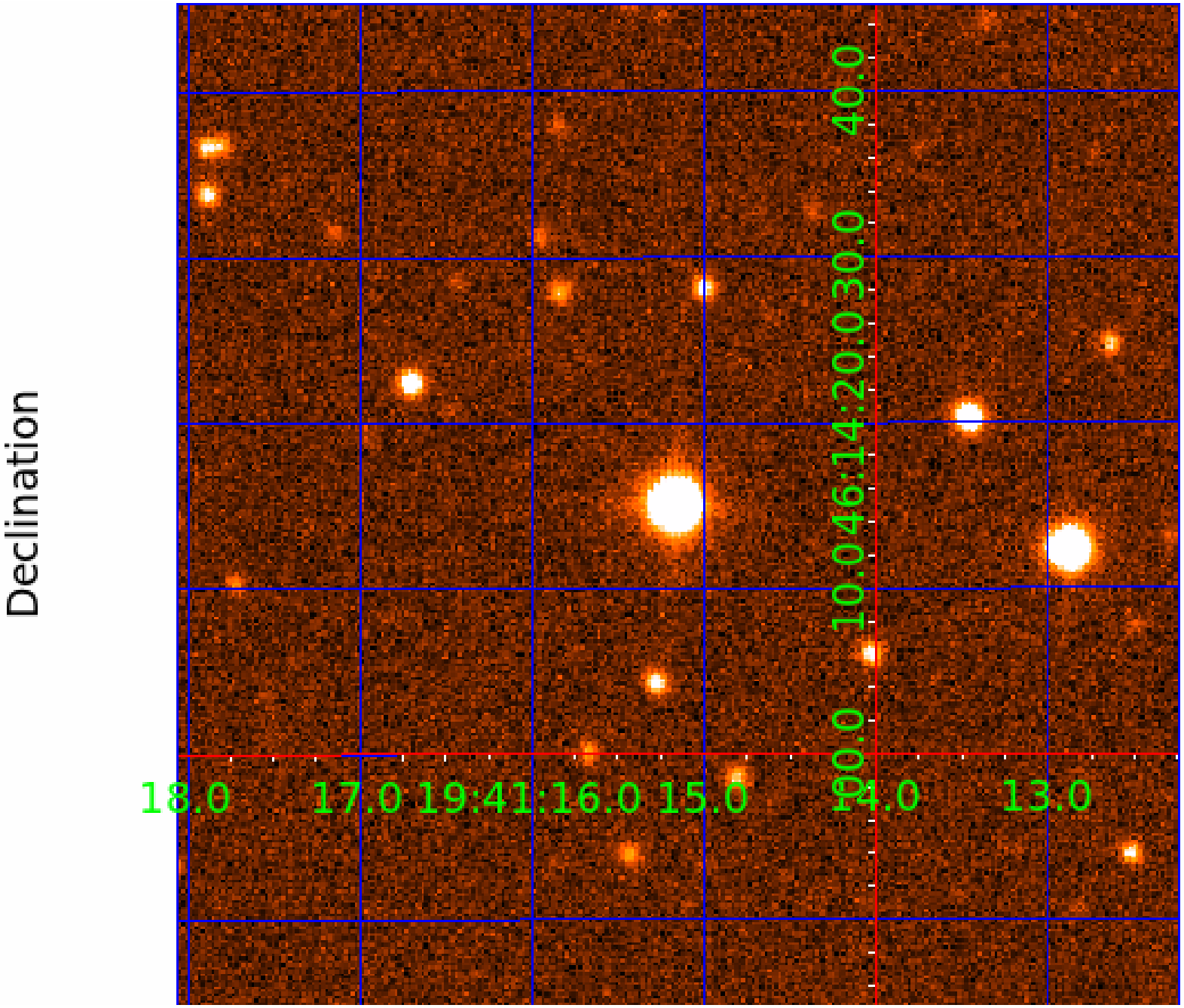


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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