KIC 008127586

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 ($S_\oplus$)
008127586-01	OBS	1752.01	16.609485	147.613368	282.1	3.167	10.7	11.5	1.05	6047	1.93	81.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008127586-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

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 008127586-01

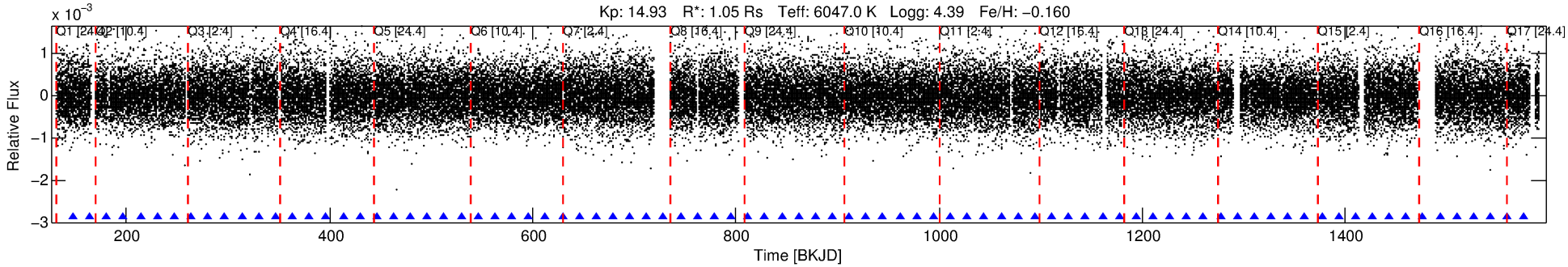
TCE (1)	KIC	Parent (2)	Parent KIC	P_1:P_2	Dist (″)	ΔRow	ΔCol	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008127586-01	8127586	1919.01	8127607	1:1	19.7	3	3	14.66	14.93	2.37	Direct-PRF	0	0.49	0.13

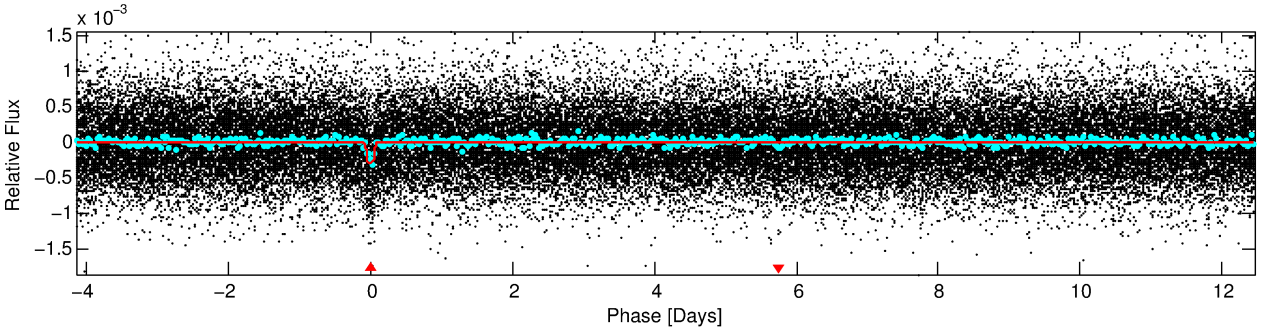
Notes: P_1:P_2 is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth dividied by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should recieve extra scrutiny, especially if the period ratio is very large.

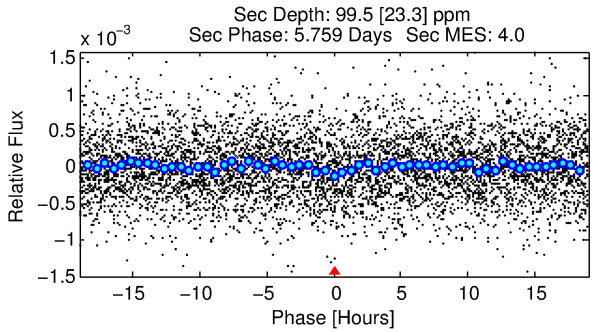
DV One-Page Summary

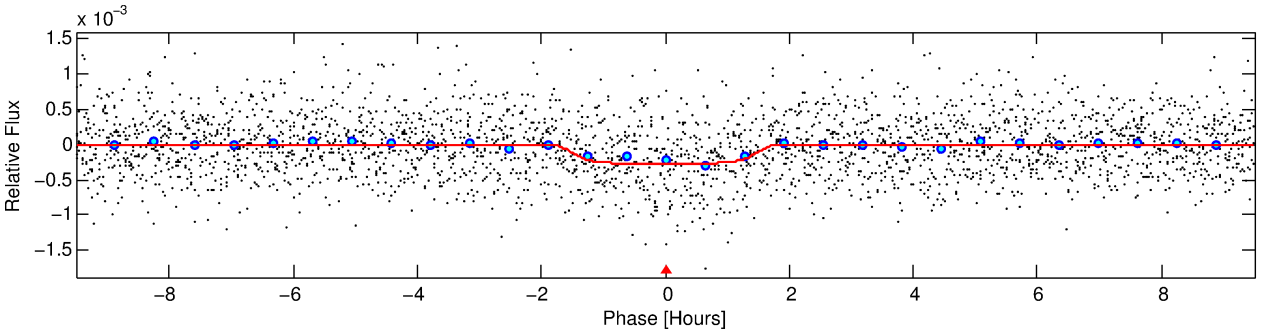
KIC: 8127586 Candidate: 1 of 1 Period: 16.609 d
KOI: K01752.01 Corr: 0.969

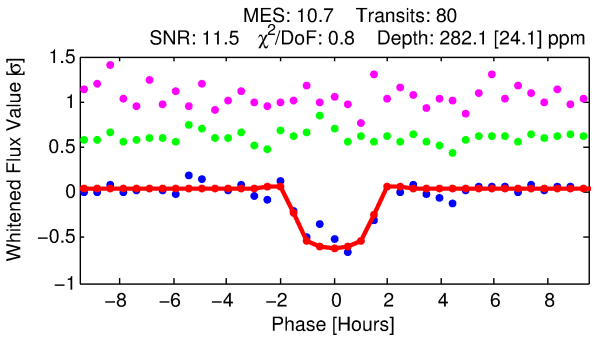
Kp: 14.93 R*: 1.05 Rs Teff: 6047.0 K Logg: 4.39 Fe/H: −0.160

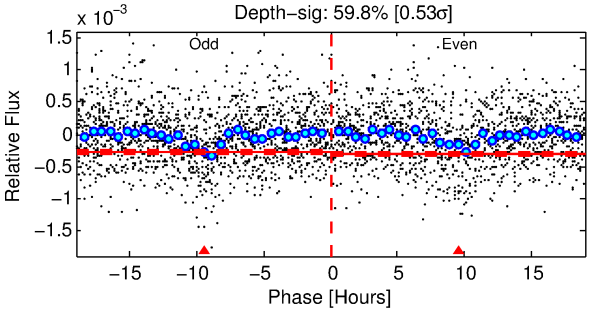


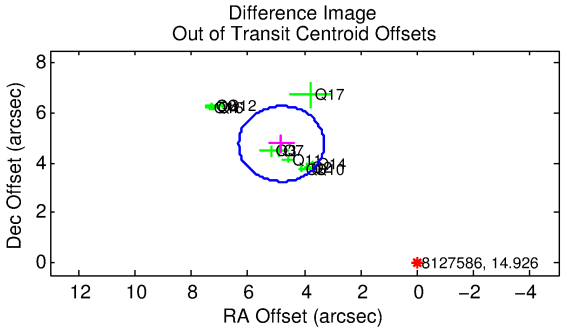












DV Fit Results:

Period = 16.60948 [0.00012] d
Epoch = 147.6134 [0.0059] BKJD
Rp/R* = 0.0169 [0.0122]
a/R* = 26.33 [93.88]
b = 0.78 [1.85]

Seff = 81.42 [31.63]
Teq = 766 [74] K
Rp = 1.93 [1.51] Re
a = 0.1274 [0.0323] AU

Ag = 237.29 [356.67] [0.66σ]
Teffp = 4648 [1703] K [2.28σ]

DV Diagnostic Results:

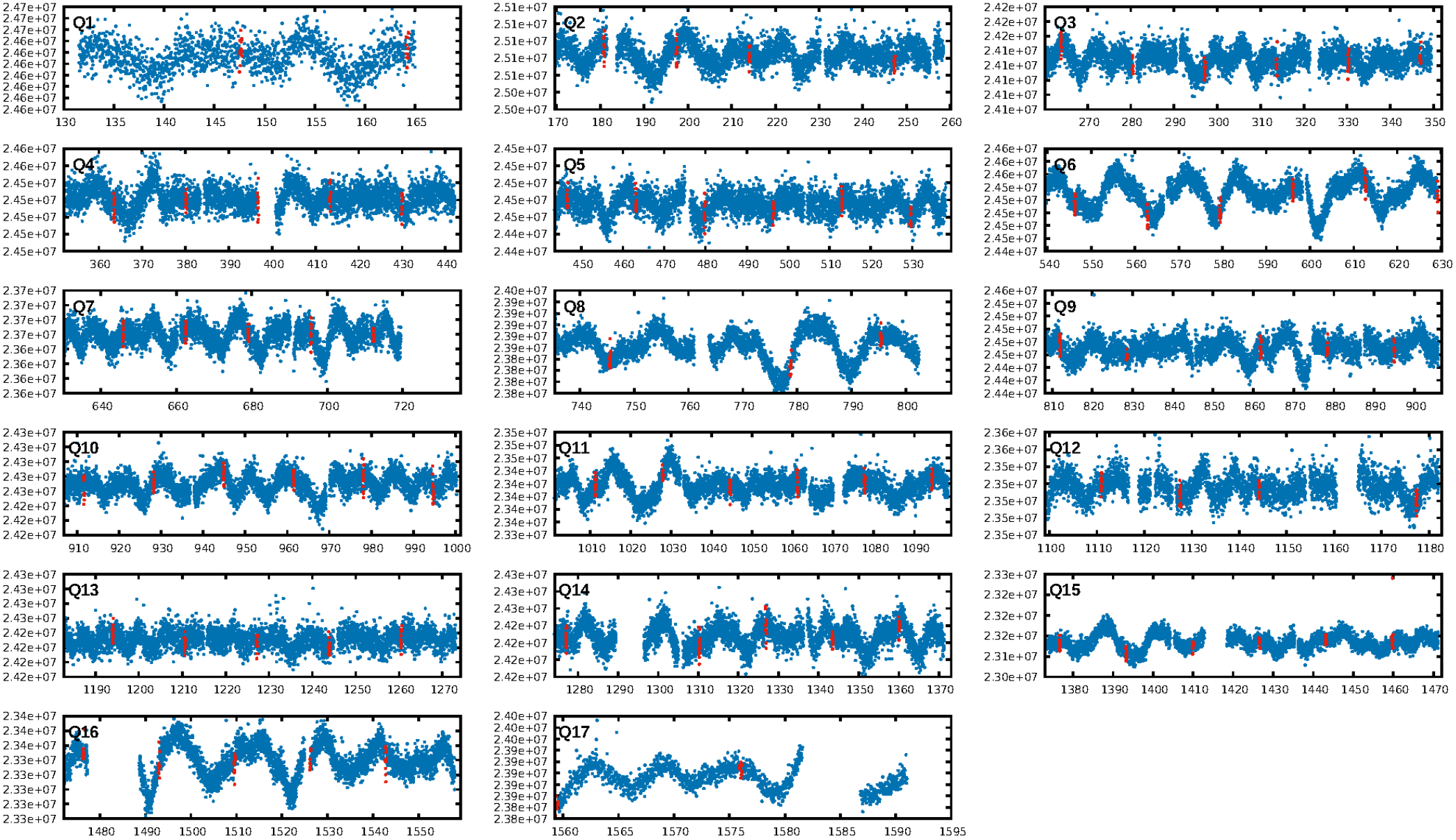
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 42.2%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 3.59e−26
RollingBand−fgt: 1.00 [76/76]
GhostDiagnostic−chr: −0.02897

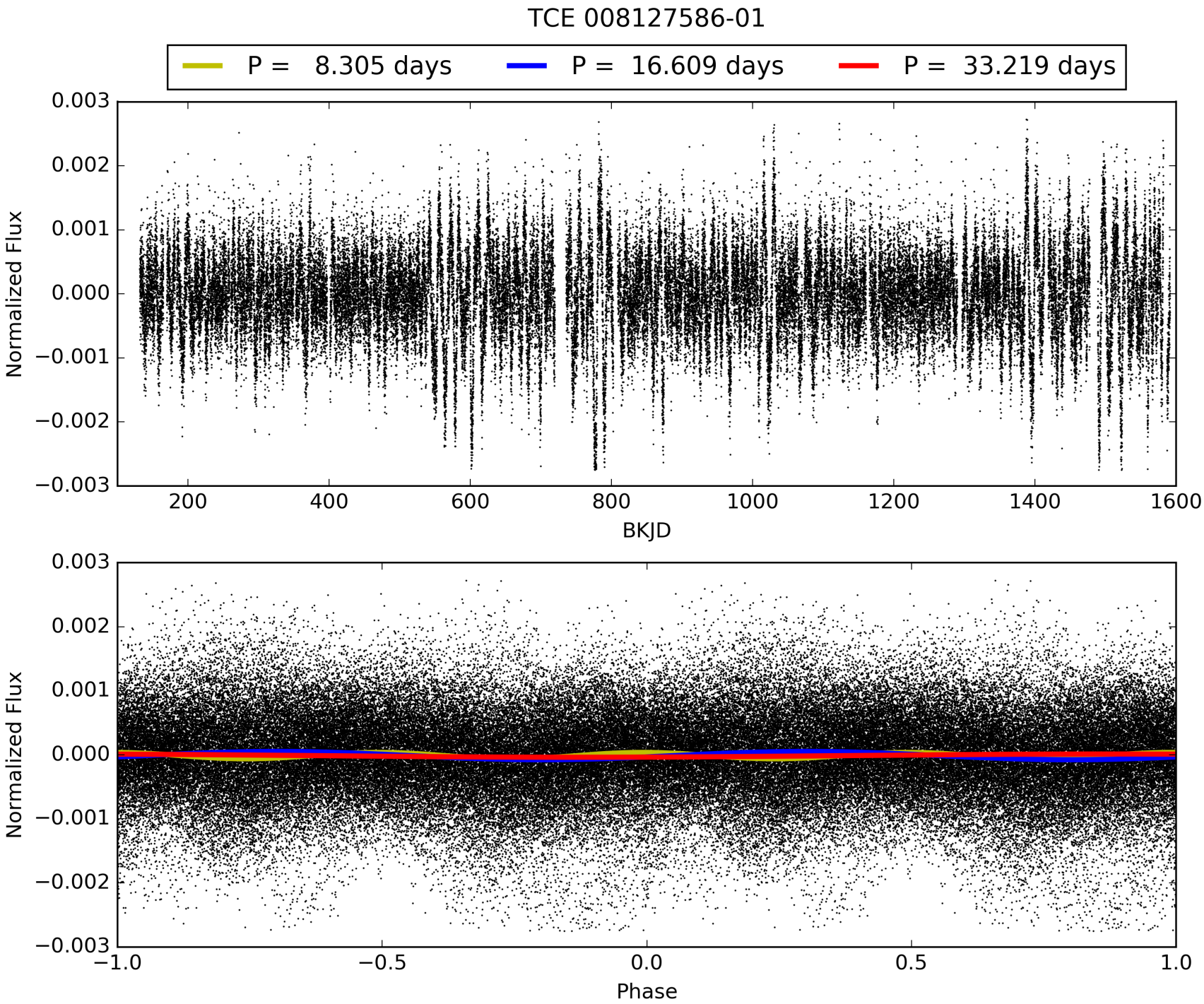
Centroid−sig: 0.0%
Centroid−so: 20.014 arcsec [17.74σ]
OotOffset−rm: 6.759 arcsec [13.42σ]
KicOffset−rm: 6.666 arcsec [12.85σ]
OotOffset−st: 4/3/4/1 [12]
KicOffset−st: 4/3/4/1 [12]
DiffImageQuality−fgm: 0.92 [11/12]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 29−Jan−2016 20:13:46 Z

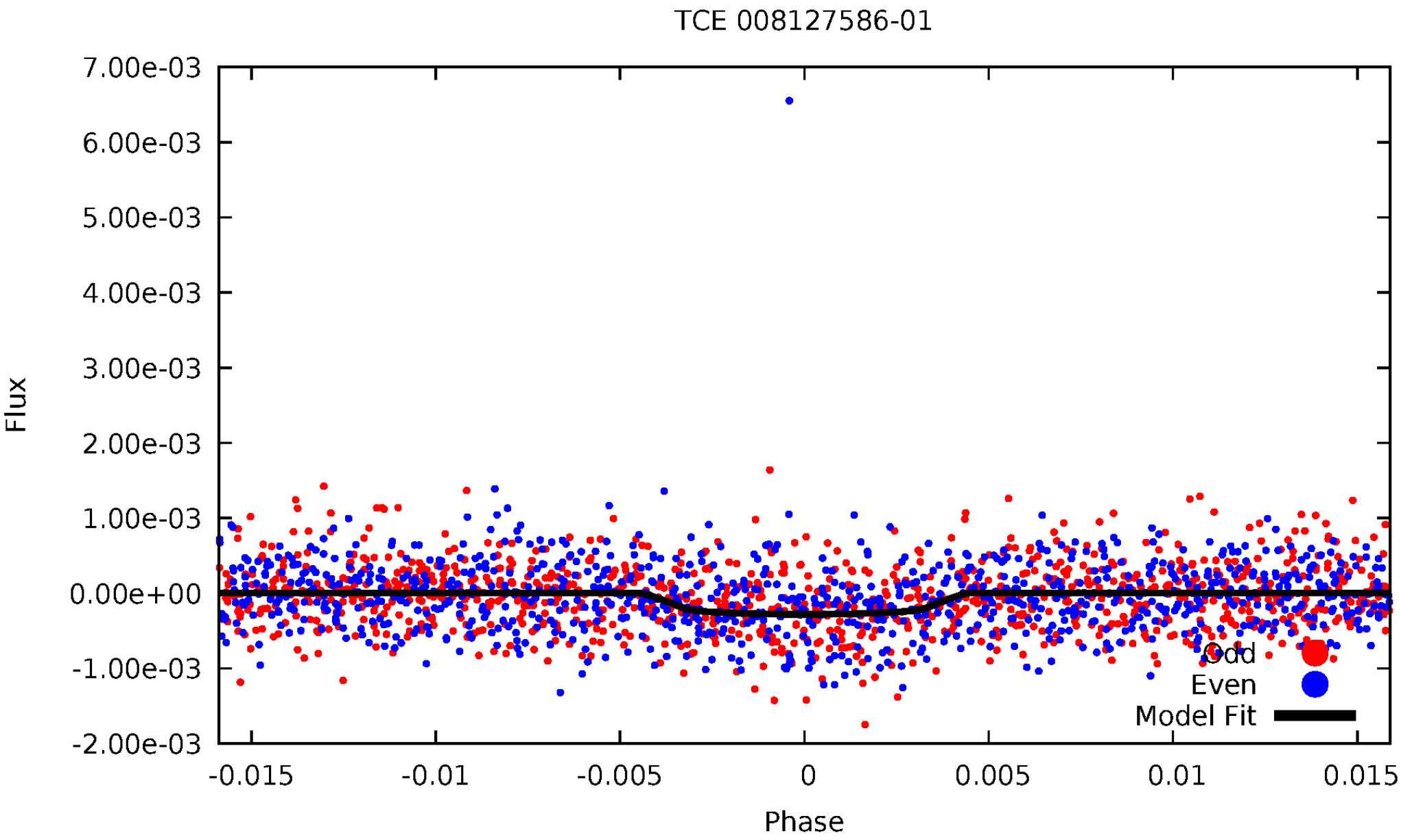
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008127586-01, PDC Light Curves




TCE 008127586-01
P = 8.305 days
P = 16.609 days
P = 33.219 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even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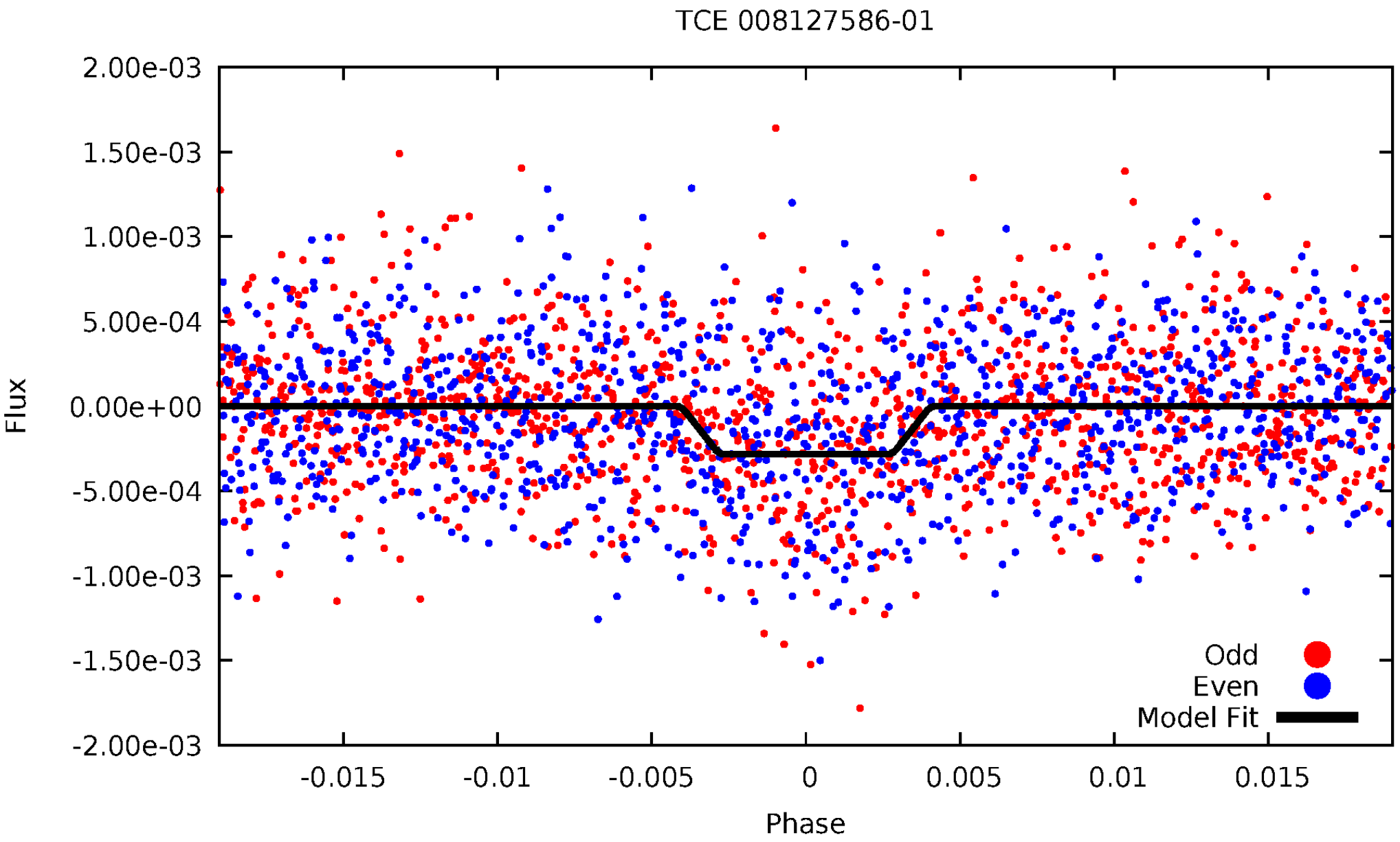
7.00e-03
6.00e-03
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
Flux
-0.015
-0.01
-0.005
0
0.005
0.01
0.015
Phase
Odd
Even
Model Fit

ALT Odd/Even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5.00e-04
0.00e+00
-5.00e-04
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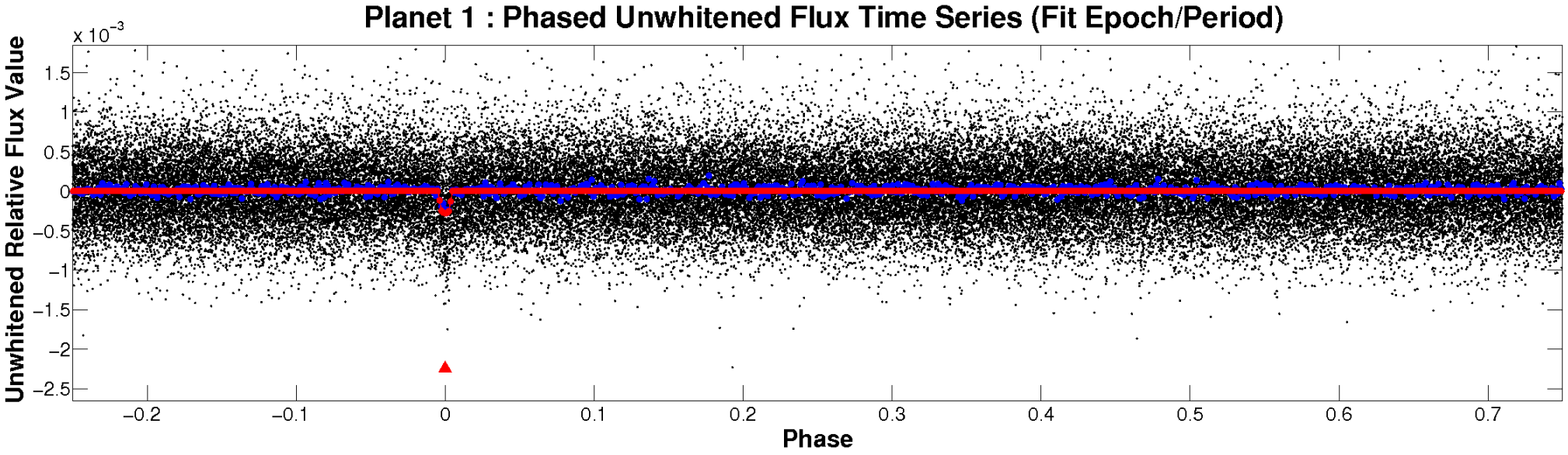
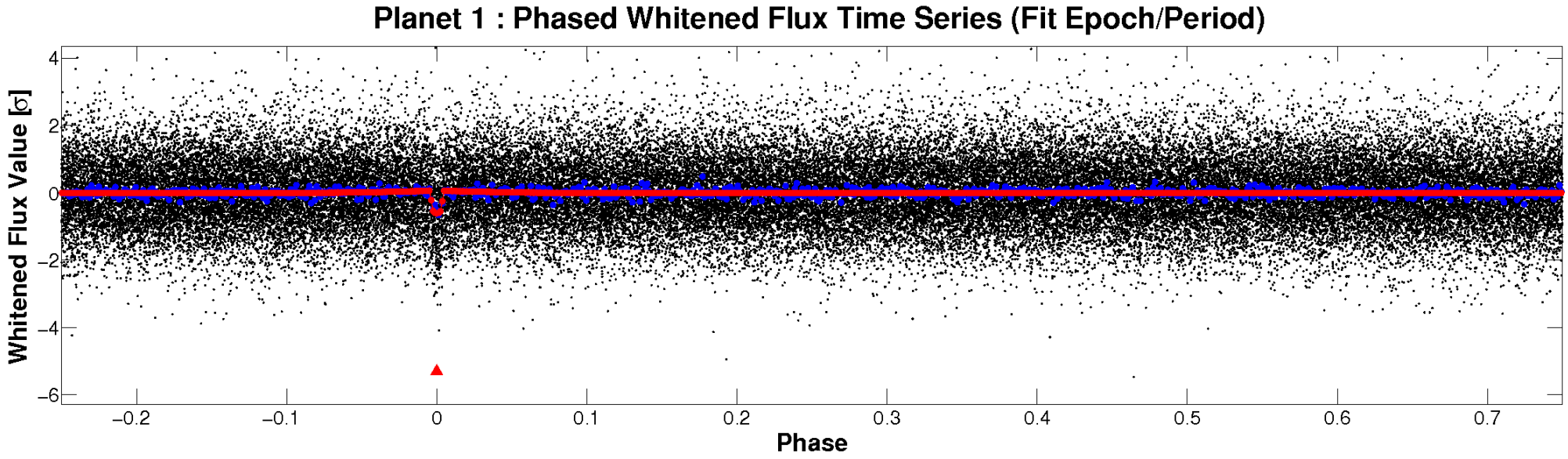
-1.50e-03
-2.00e-03
Flux
-0.015
-0.01
-0.005
0
0.005
0.01
0.015
Phase
Odd
Even
Model Fit

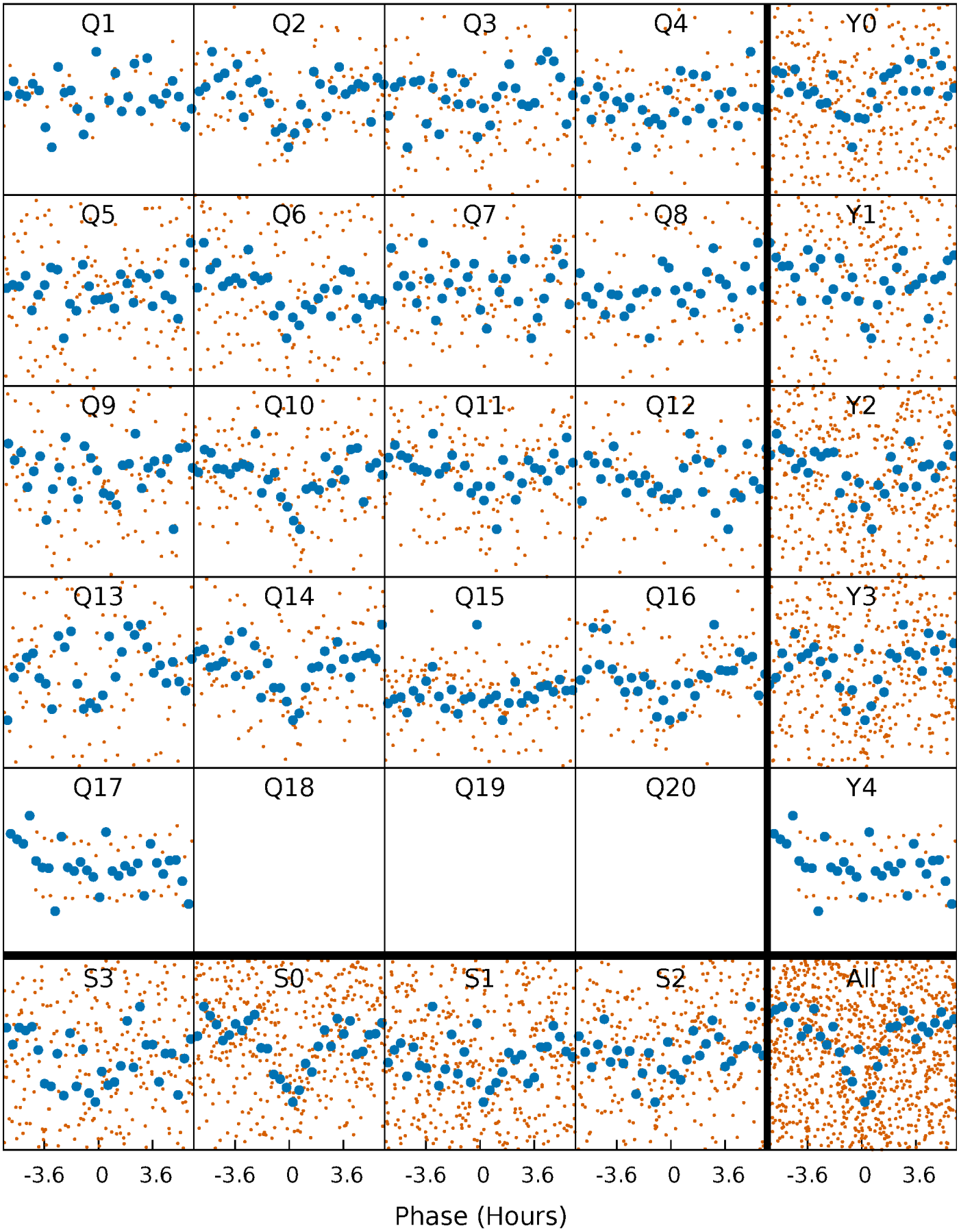
Non-Whitened Vs. Whitened Light Curve





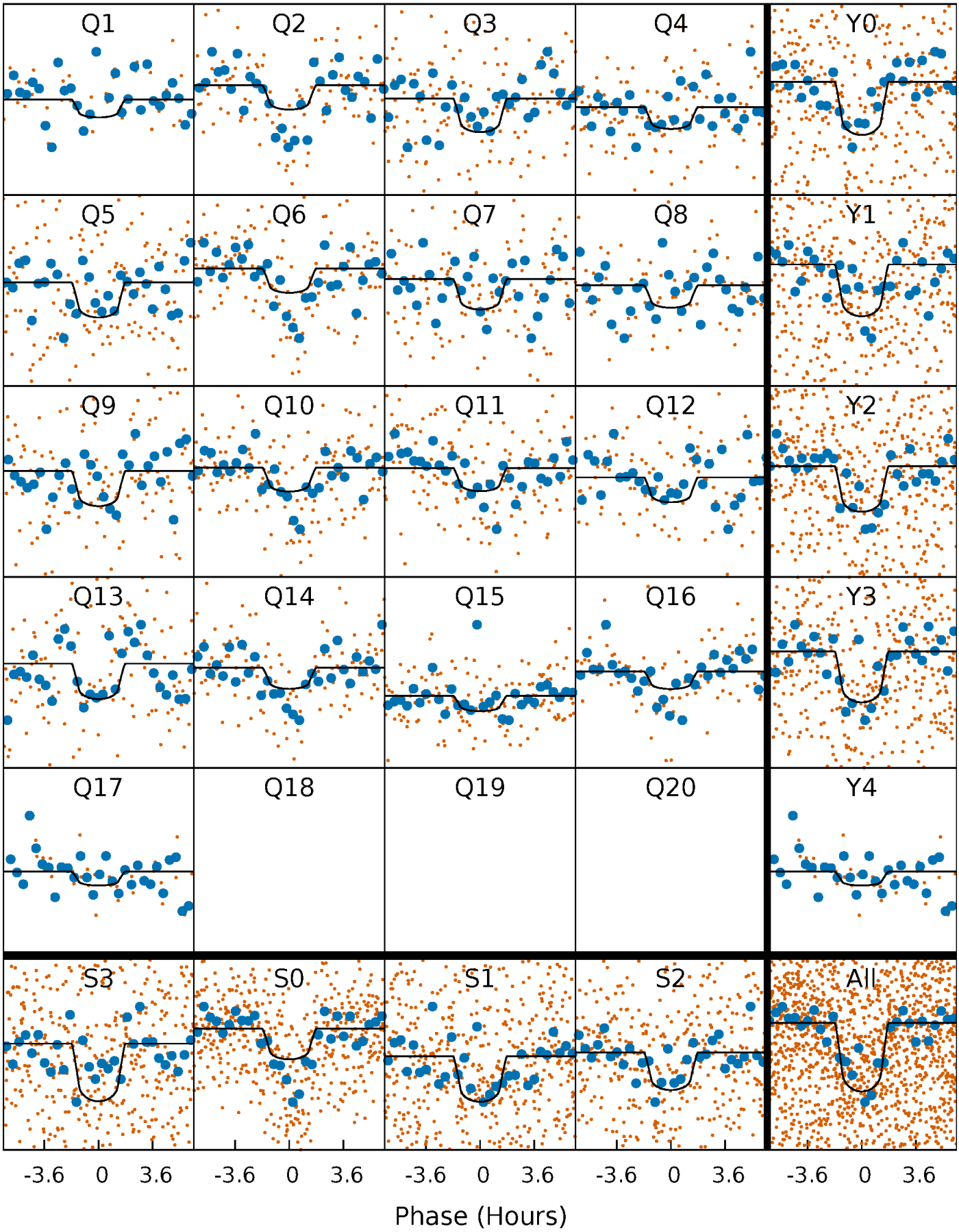
PDC Quarter-Phased Transit Curves

TCE 008127586-01 P= 16.609485 Days T_0=147.613369 (BKJD)



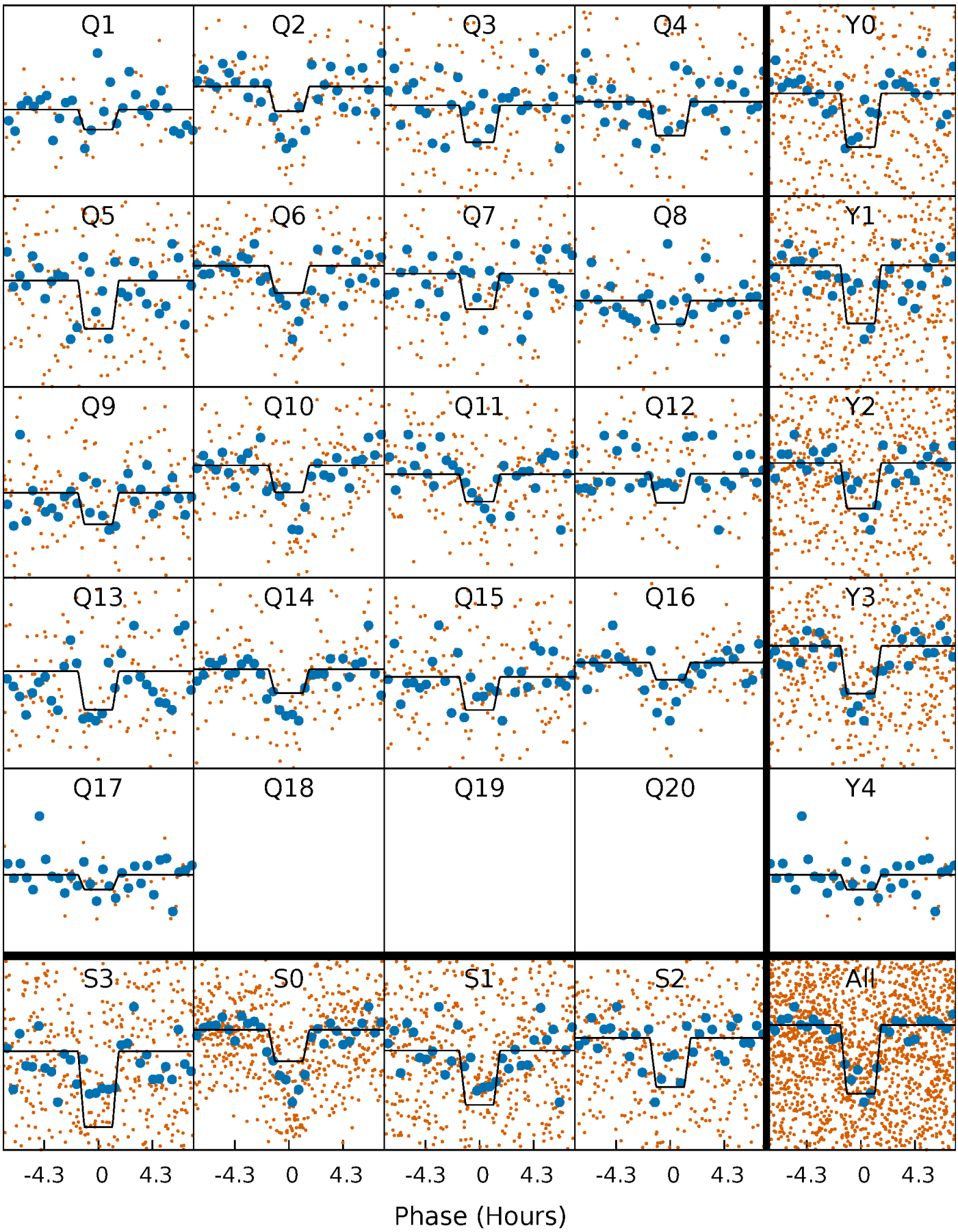
DV Quarter-Phased Transit Curves

TCE 008127586-01 P= 16.609485 Days T_0=147.613369 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

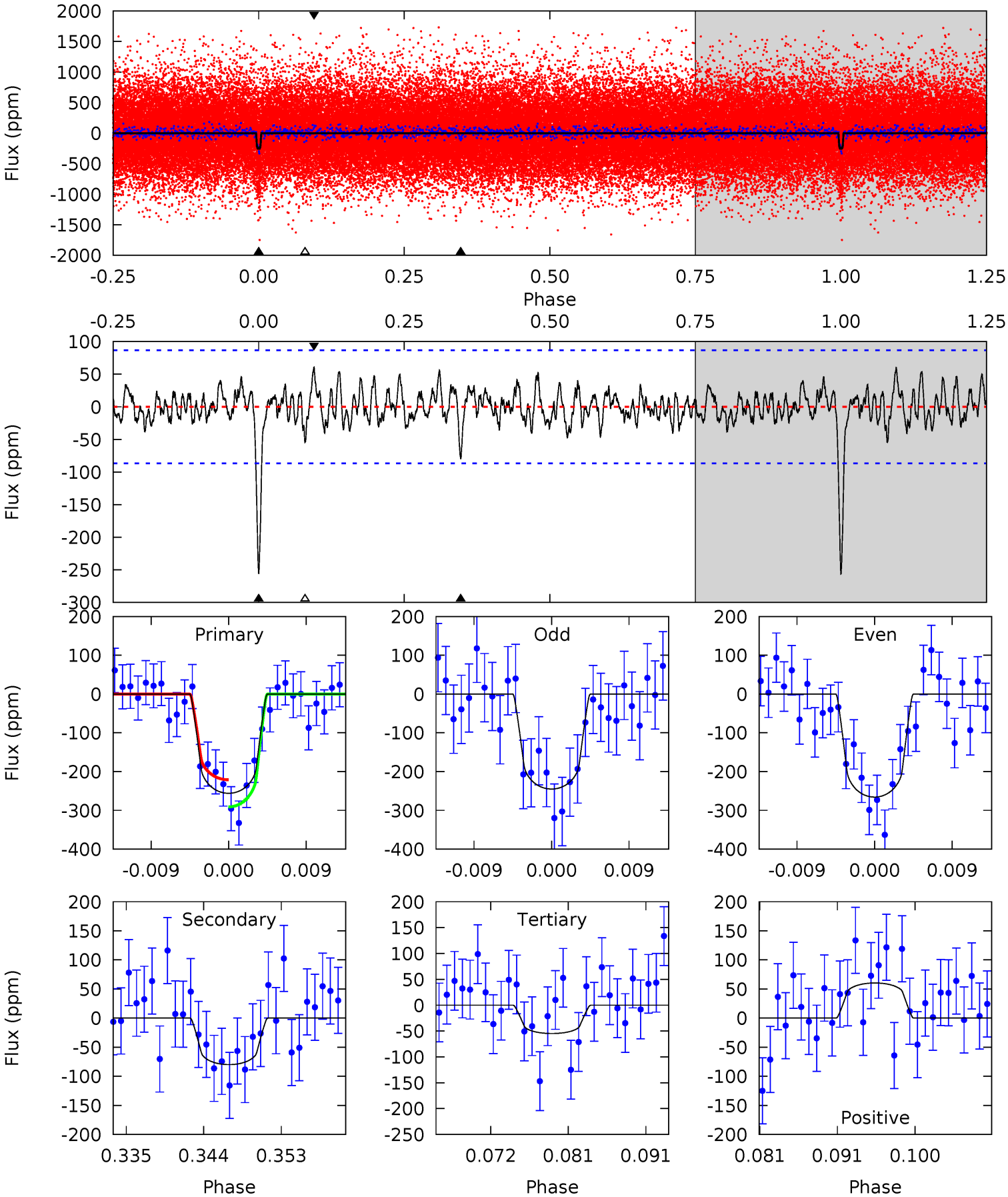
TCE 008127586-01 P= 16.609434 Days T_0=147.615754 (BKJD)



DV Model-Shift Uniqueness Test

008127586-01, P = 16.609485 Days, E = 131.003884 Days

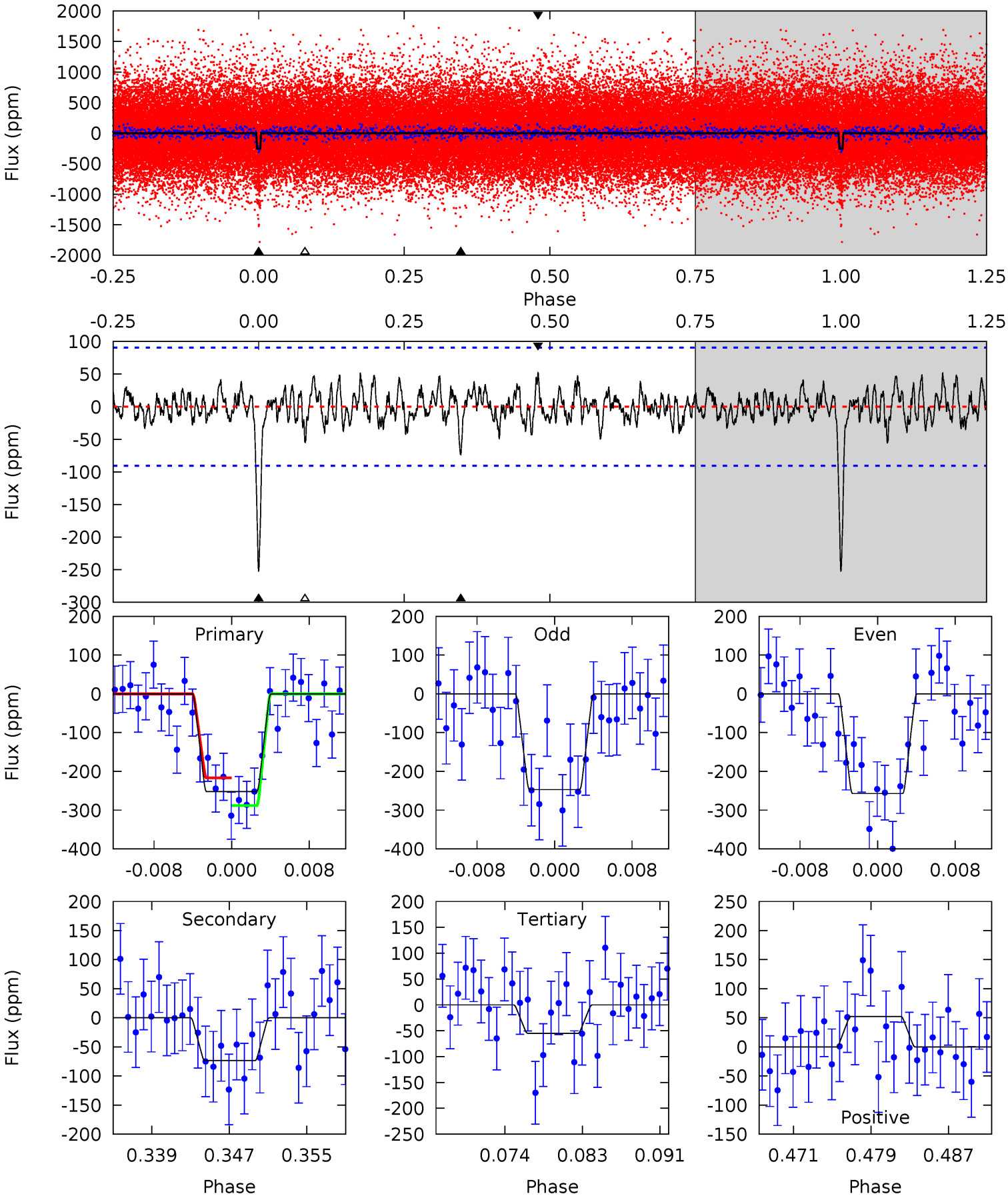
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	4.65	3.19	3.51	5.05	2.61	1.14	11.7	11.4	1.46	1.14	0.60	0.99	0.19	2.03



Alt Model-Shift Uniqueness Test

008127586-01, P = 16.609434 Days, E = 131.006320 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	4.12	3.07	2.92	5.06	2.64	1.04	11.0	11.2	1.04	1.20	0.28	0.90	0.17	1.99



Stellar Parameters For KIC 008127586

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6047^{+189}_{-210}	$4.395^{+0.105}_{-0.195}$	$-0.160^{+0.300}_{-0.300}$	$1.050^{+0.323}_{-0.162}$	$0.998^{+0.156}_{-0.117}$	$1.215^{+0.560}_{-0.608}$
	+3%/-3%	+2%/-4%	+188%/-188%	+31%/-15%	+16%/-12%	+46%/-50%
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 008127586-01 / KOI 1752.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-80±17	$2.16^{+1.41}_{-1.23}$	1082^{+89}_{-61}	4454^{+1826}_{-766}	153^{+590}_{-98}
Alt.	-74±18	$2.04^{+1.48}_{-1.20}$	1080^{+83}_{-57}	4446^{+2083}_{-755}	157^{+668}_{-108}

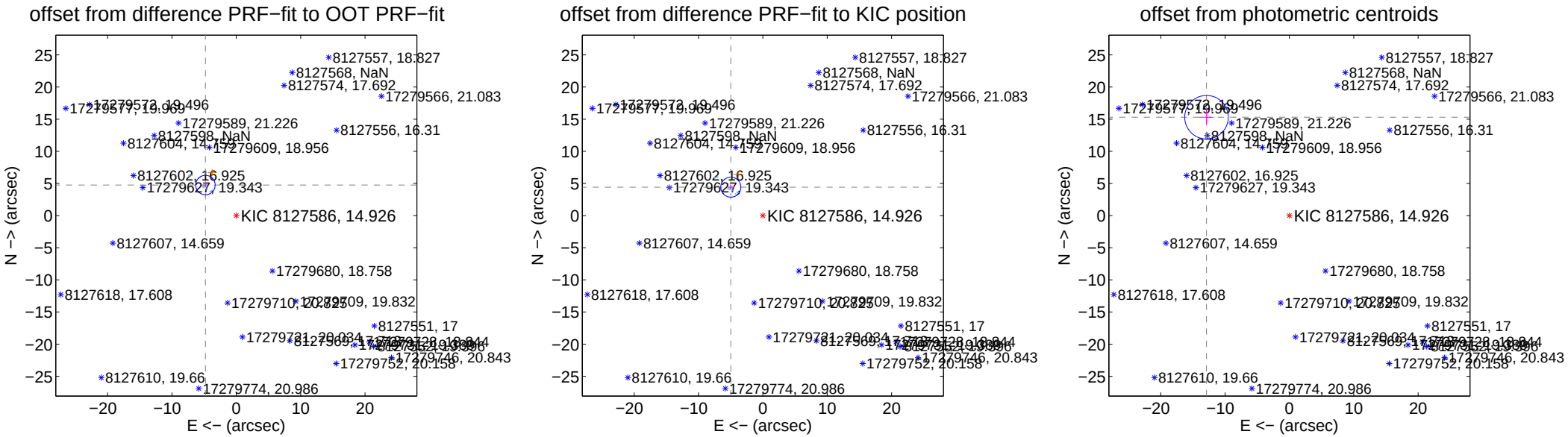
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

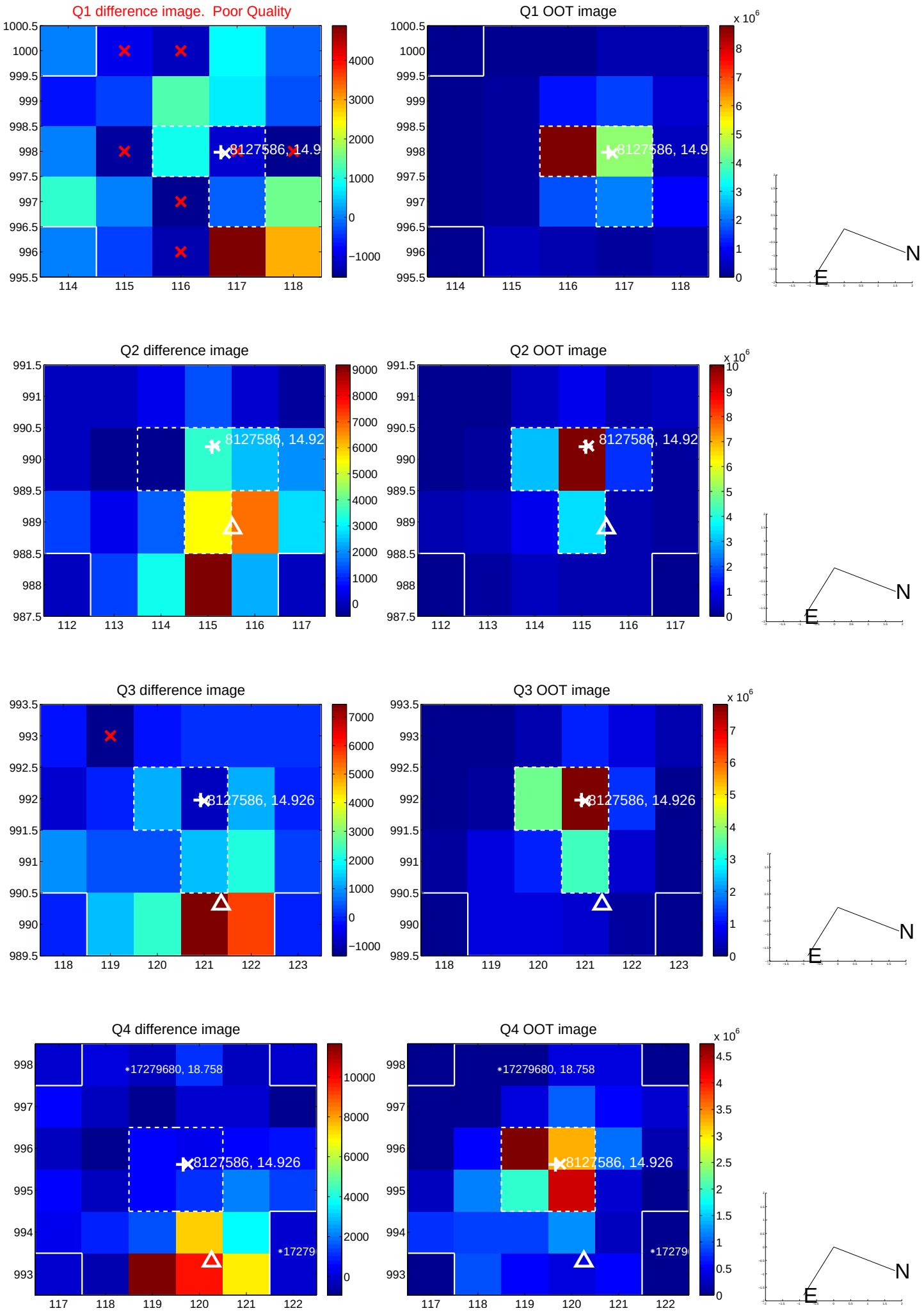
Supplemental centroid analysis for 008127586-01. Kepler magnitude: 14.93. Transit SNR 11.52
There are 11 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.759 ± 0.504	13.42	4.806 ± 0.444	4.753 ± 0.327
PRF-fit source offset from KIC position	6.666 ± 0.519	12.85	4.989 ± 0.436	4.422 ± 0.355
photometric centroid source offset	20.01 ± 1.13	17.74	12.90 ± 1.14	15.30 ± 1.12

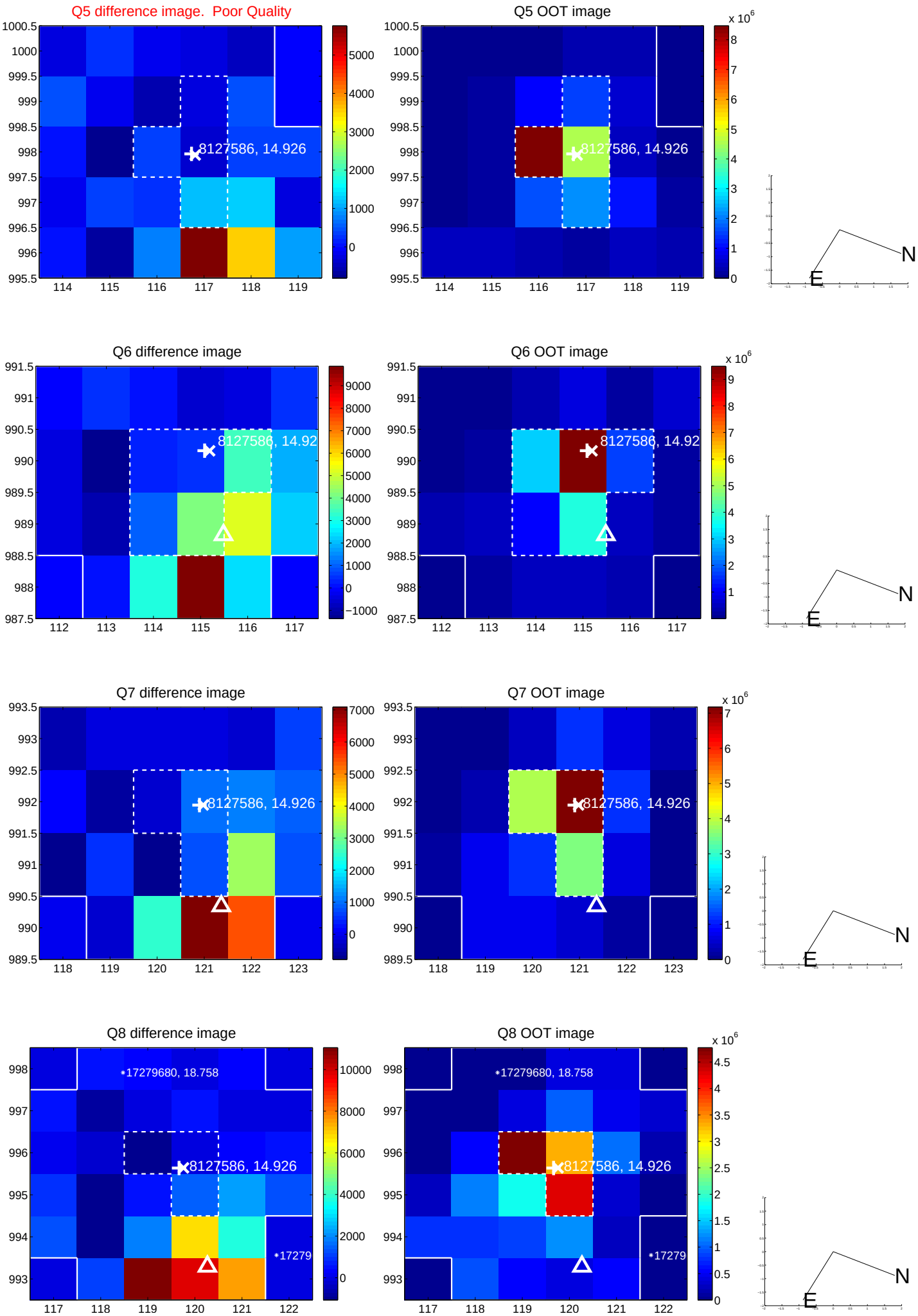


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

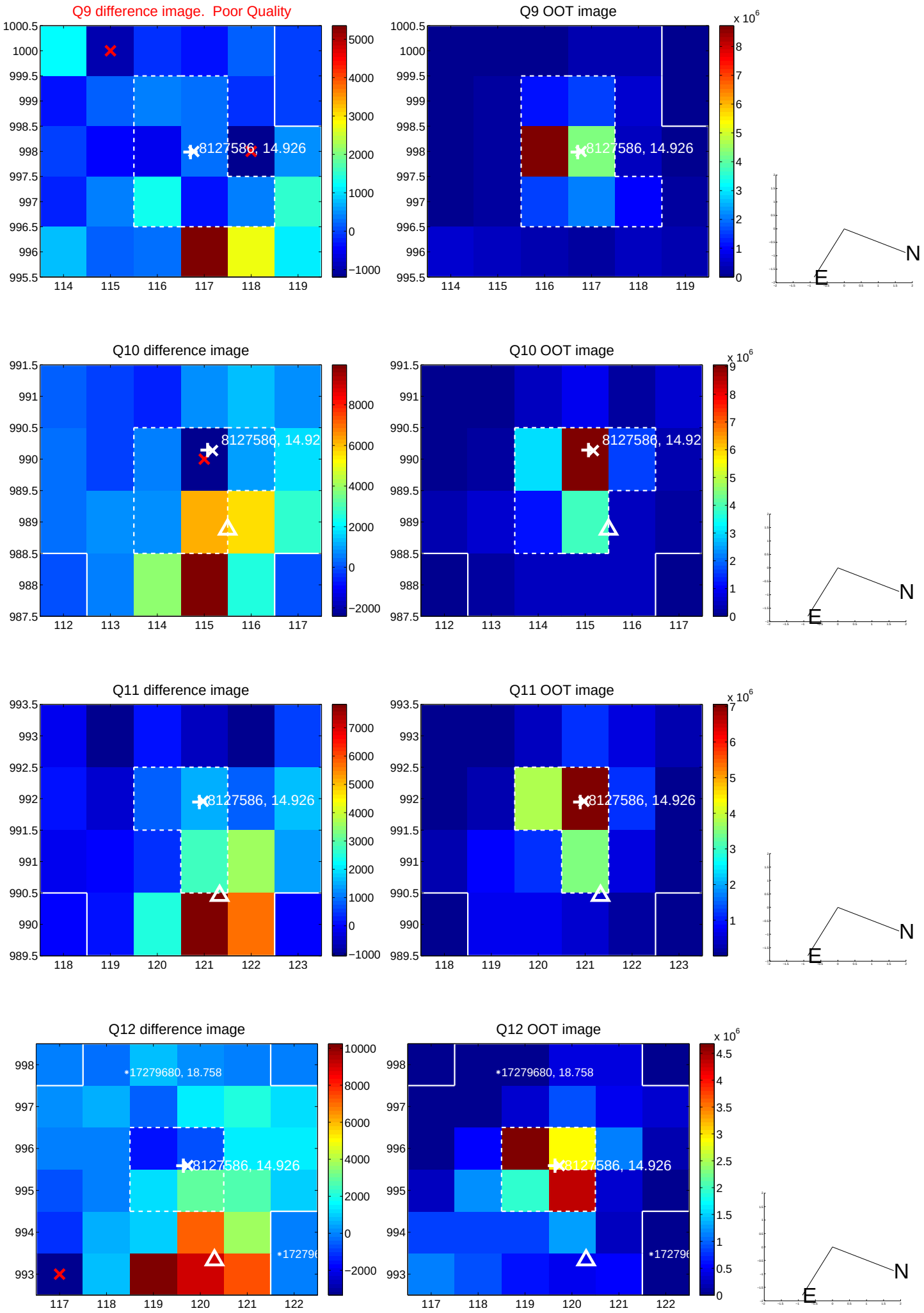
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



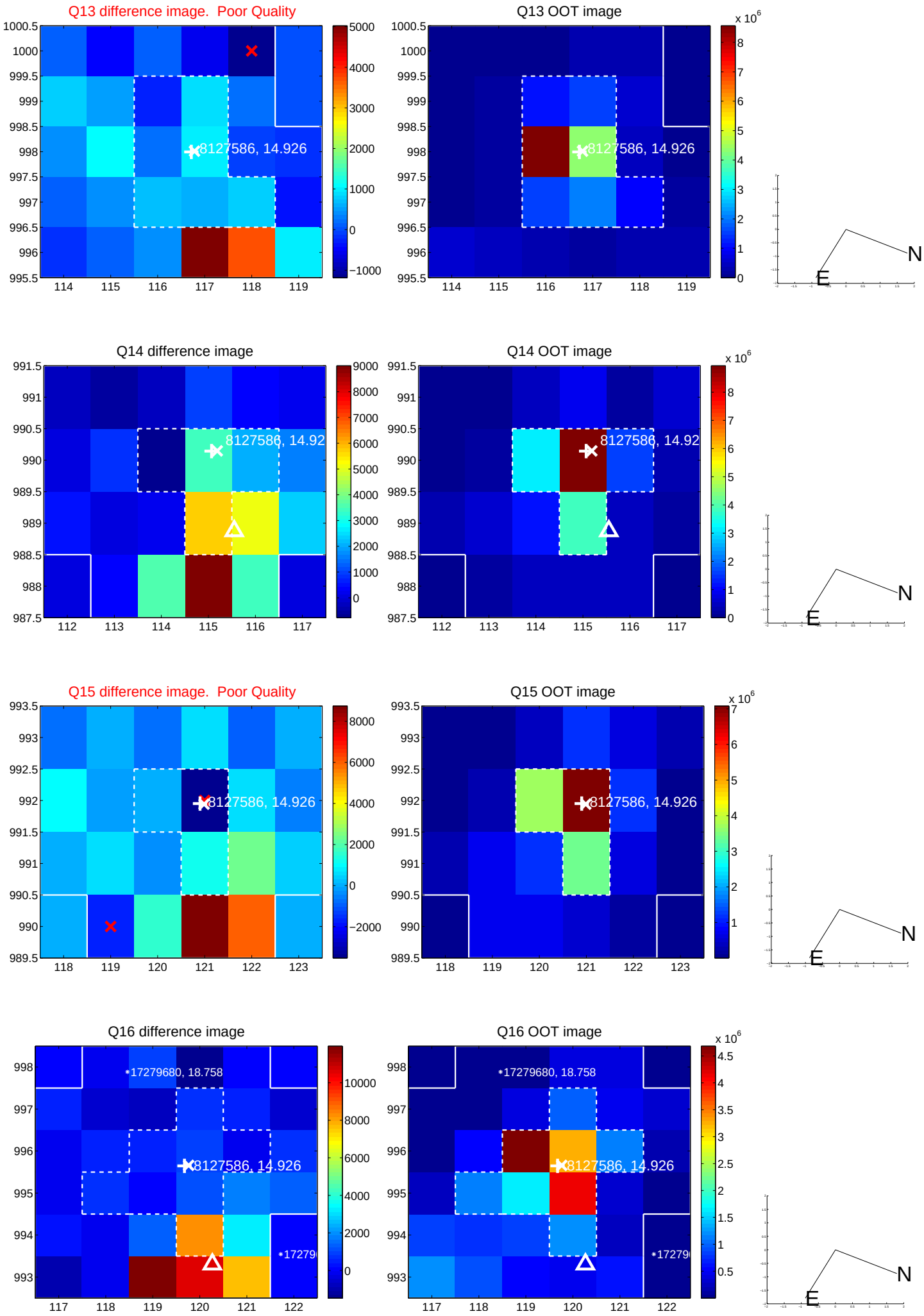
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



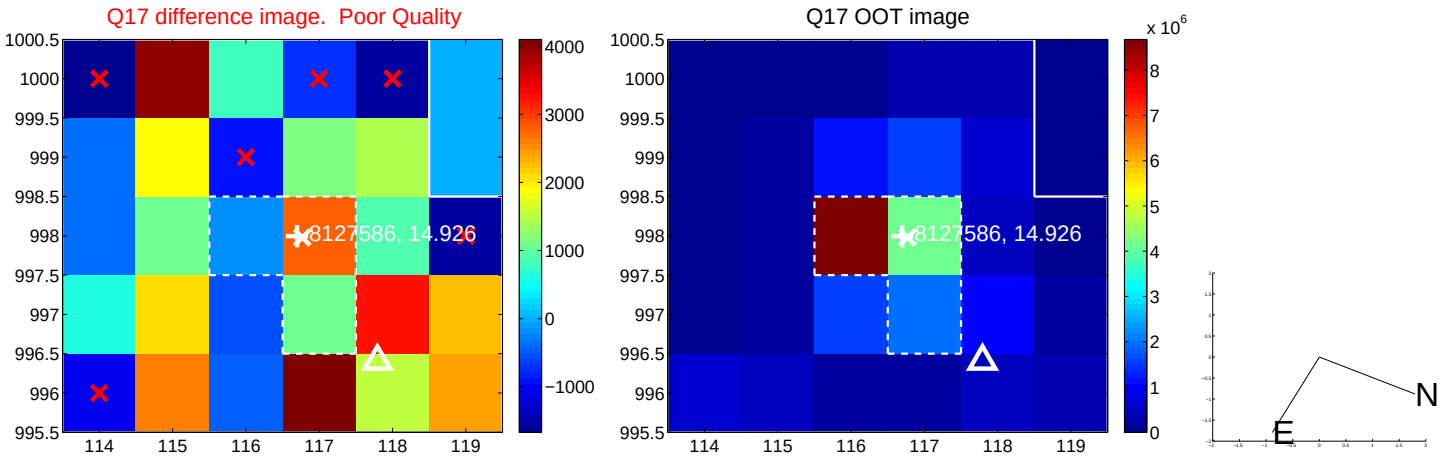
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

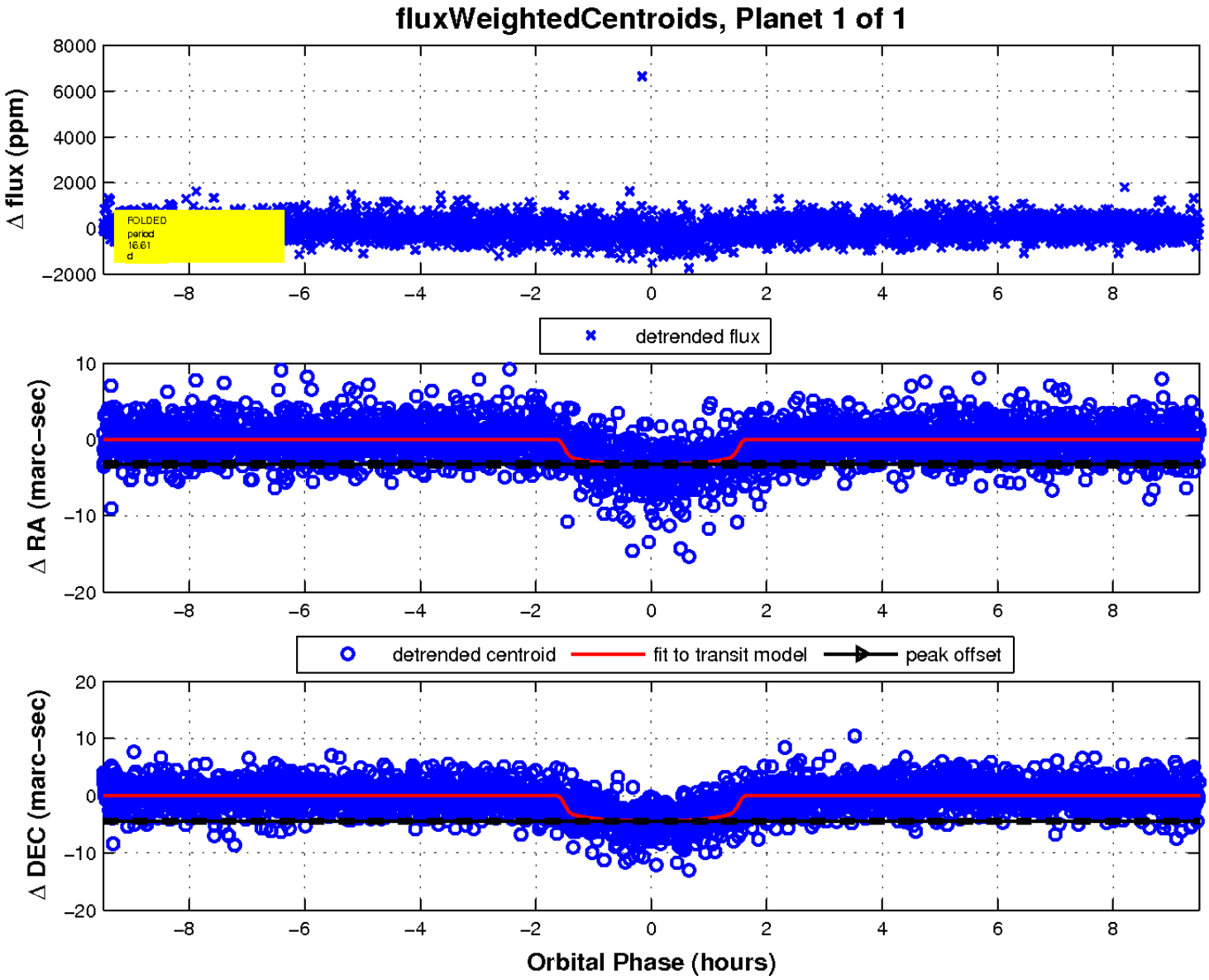


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

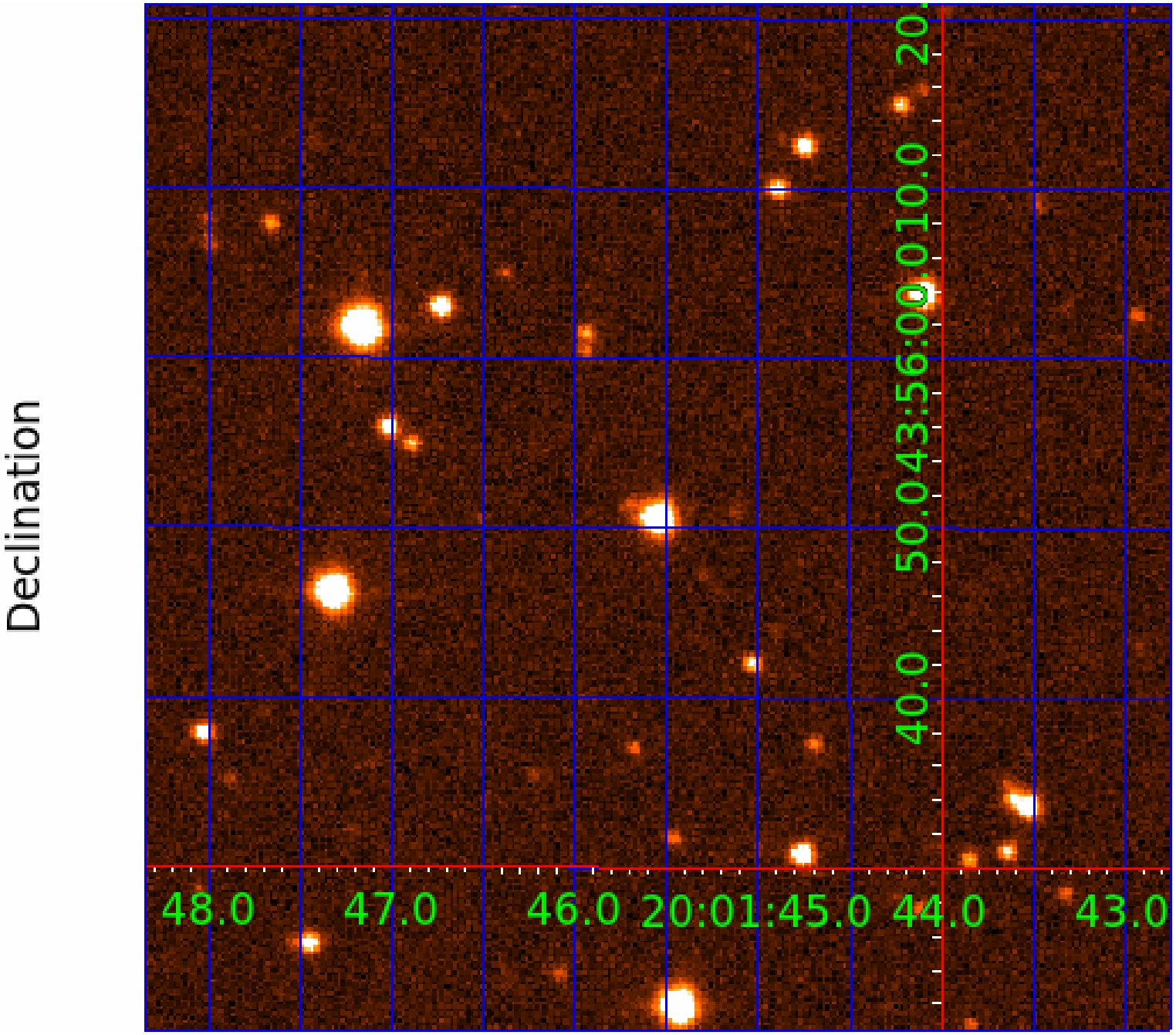


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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