KIC 009283156

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 ($S_\oplus$)
009283156-01	OBS	2657.01	5.224031	132.850407	47.5	2.690	13.2	14.4	0.84	5487	0.62	185.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009283156-01	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.

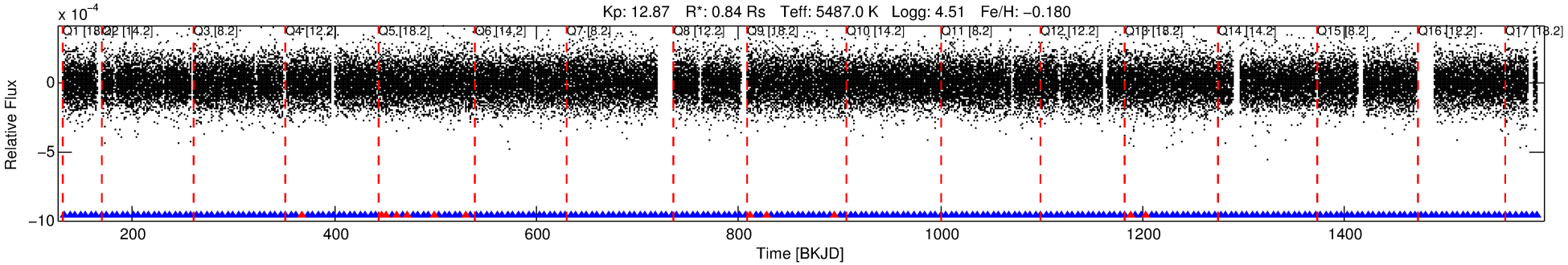
Ephemeris Match Information For 009283156-01

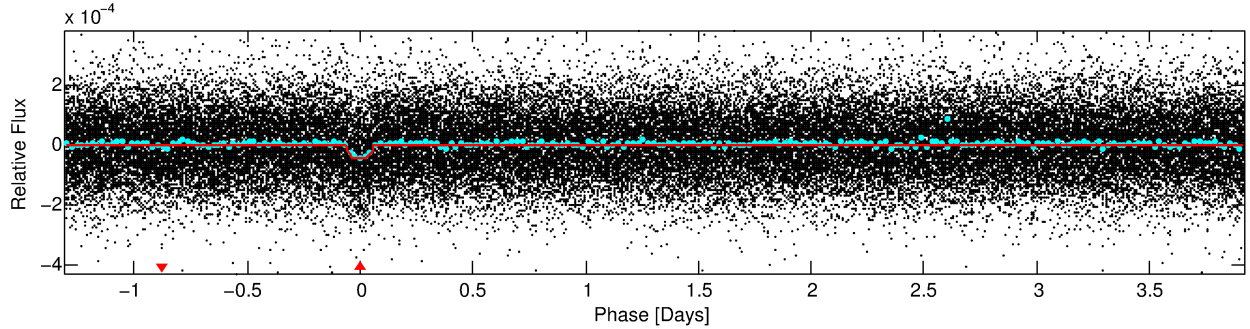
No Significant Match Found

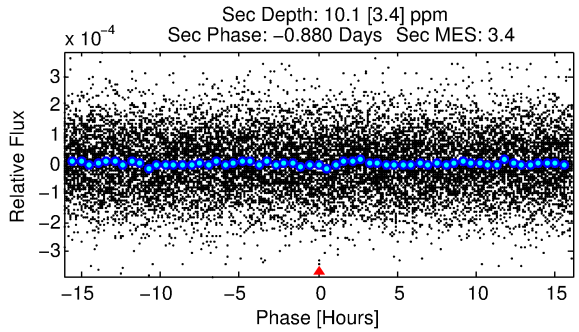
DV One-Page Summary

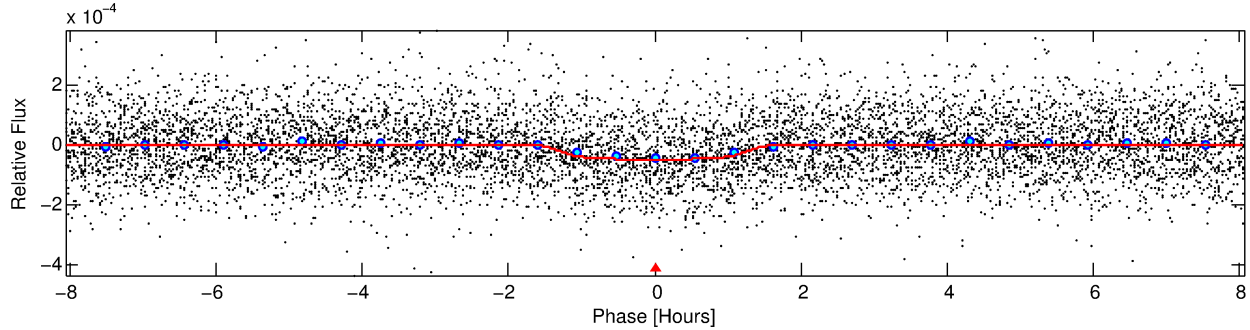
KIC: 9283156 Candidate: 1 of 1 Period: 5.224 d
KOI: K02657.01 Corr: 0.975

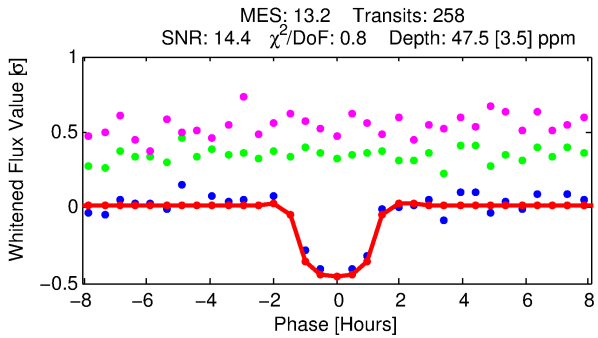
Kp: 12.87 R*: 0.84 Rs Teff: 5487.0 K Logg: 4.51 Fe/H: −0.180

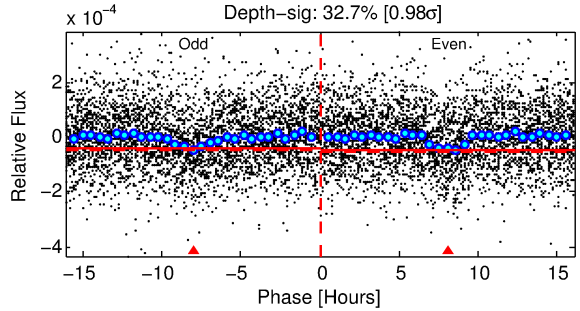


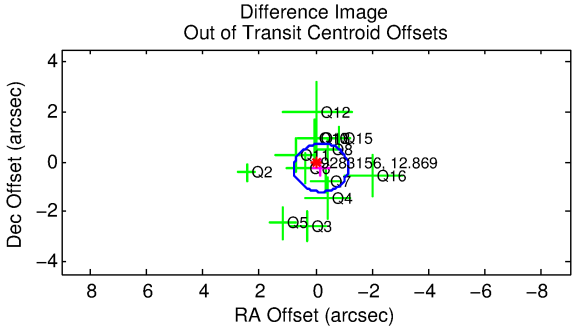












DV Fit Results:

Period = 5.22403 [0.00003] d
Epoch = 132.8504 [0.0036] BKJD
Rp/R* = 0.0068 [0.0019]
a/R* = 10.47 [12.15]
b = 0.72 [0.80]

Seff = 185.81 [29.28]
Teq = 941 [37] K
Rp = 0.62 [0.19] Re
a = 0.0555 [0.0050] AU

Ag = 44.19 [29.74] [1.45σ]
Teffp = 3753 [623] K [4.51σ]

DV Diagnostic Results:

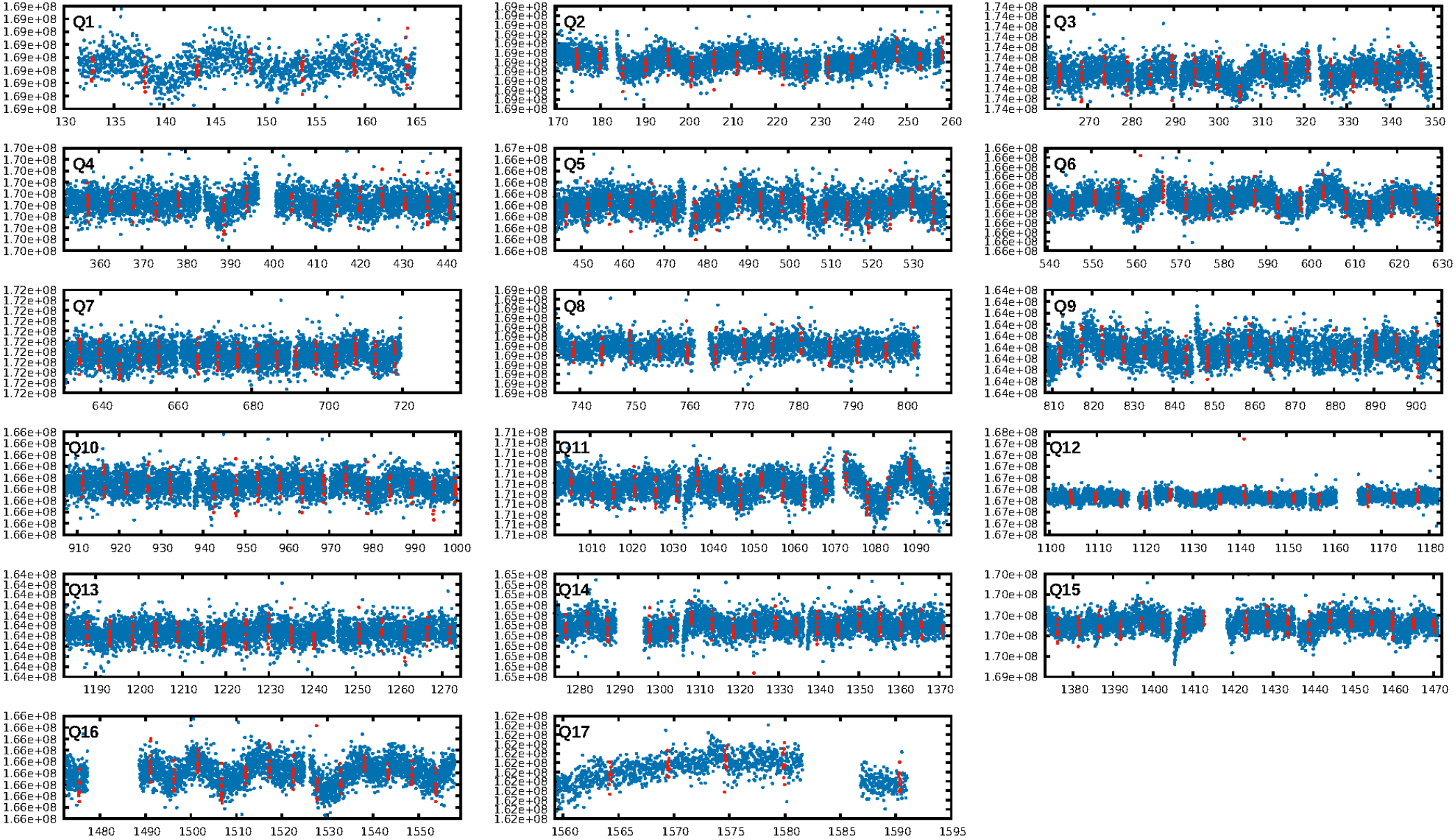
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 1.11e−38
RollingBand−fgt: 0.95 [234/246]
GhostDiagnostic−chr: −9.185

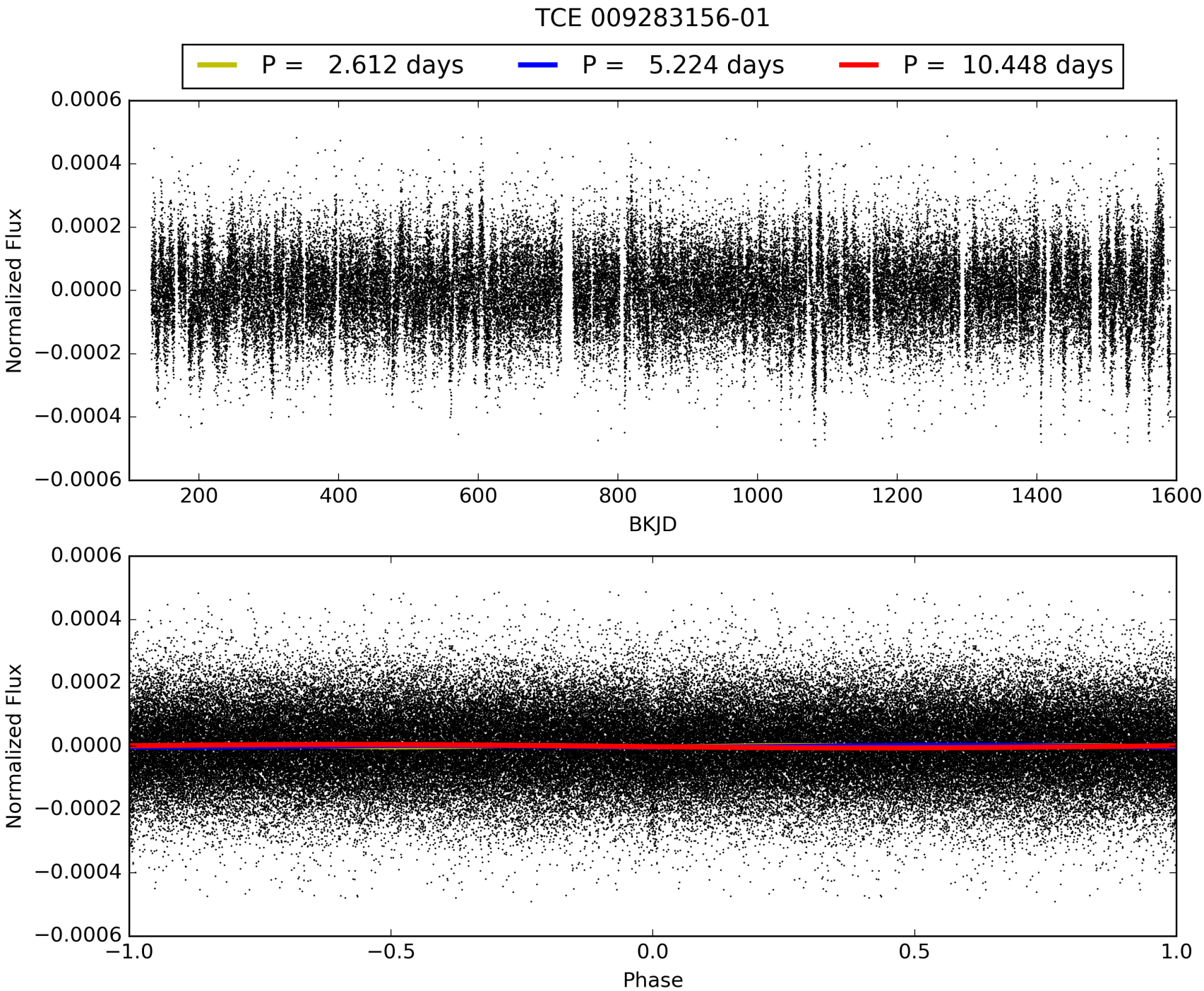
Centroid−sig: 5.5%
Centroid−so: 1.809 arcsec [1.99σ]
OotOffset−rm: 0.309 arcsec [0.96σ]
KicOffset−rm: 0.371 arcsec [1.18σ]
OotOffset−st: 3/4/4/2 [13]
KicOffset−st: 3/4/4/2 [13]
DiffImageQuality−fgm: 0.85 [11/13]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 30−Jan−2016 13:52:38 Z

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

TCE 009283156-01, PDC Light Curves

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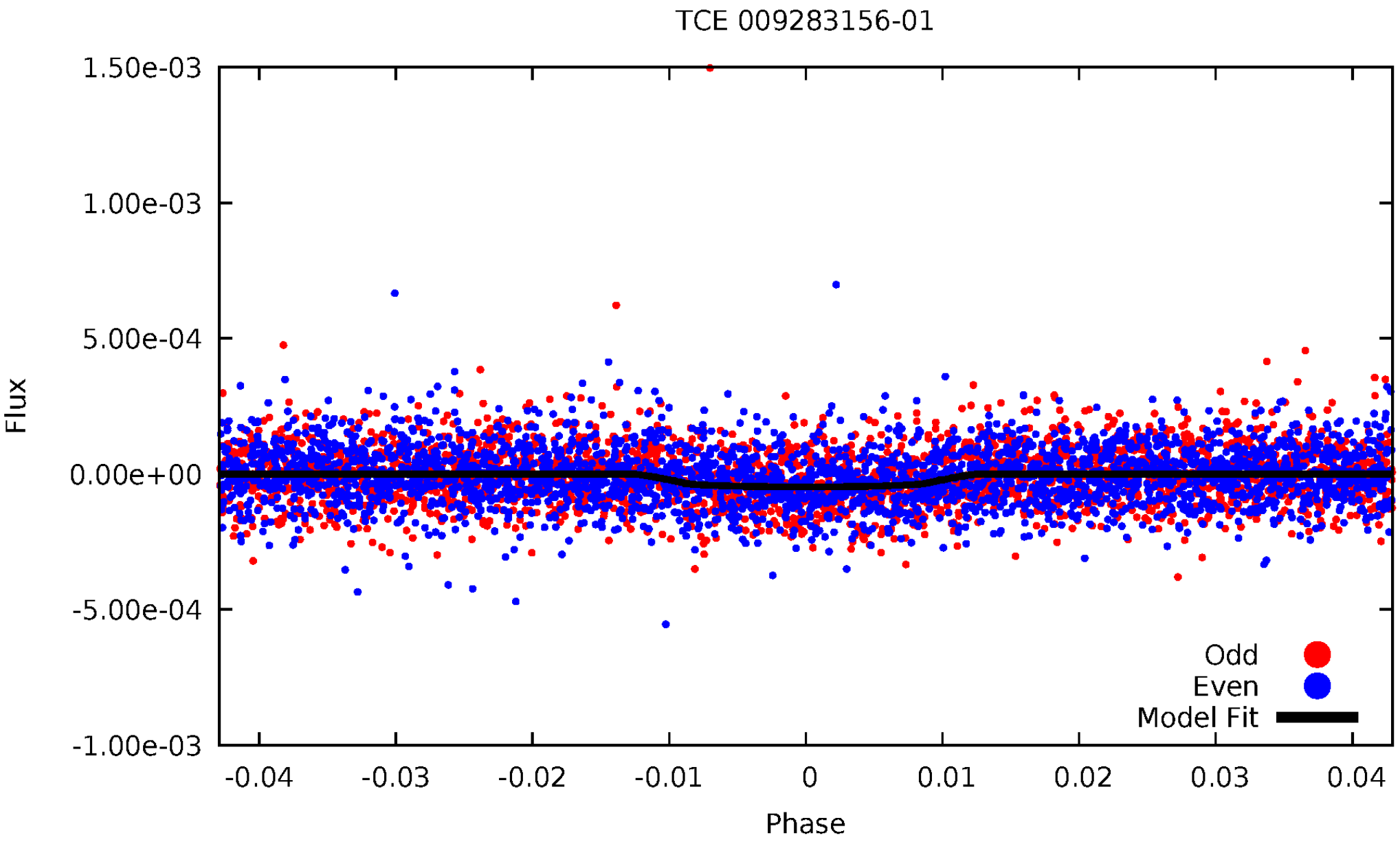
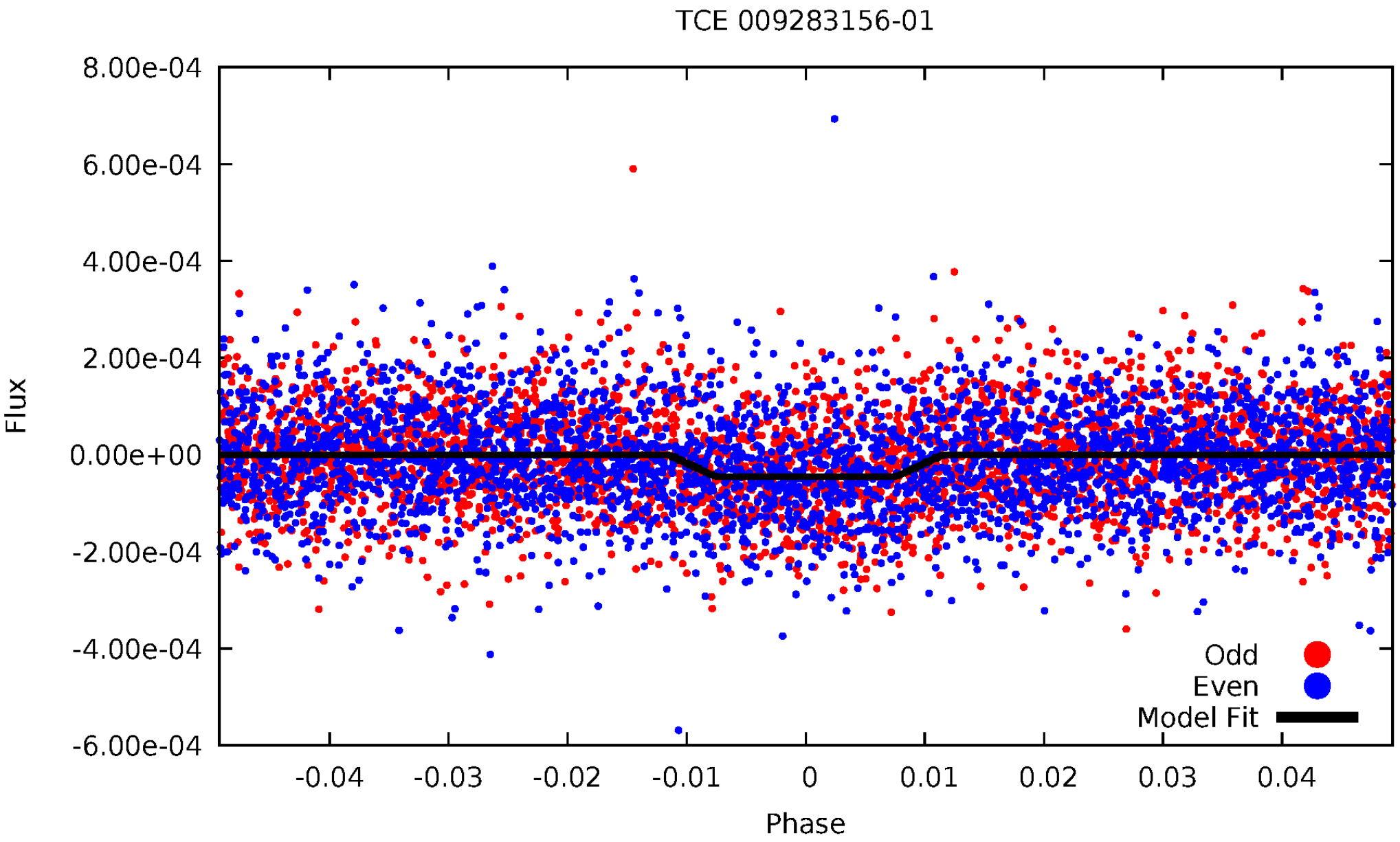
P = 2.612 days
P = 5.224 days
P = 10.448 days
Normalized Flux
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
−1.0
−0.5
0.0
0.5
1.0
Phase

DV Odd/Even


TCE 009283156-01
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
Flux
-0.04
-0.03
-0.02
-0.01
0
0.01
0.02
0.03
0.04
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009283156-01
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
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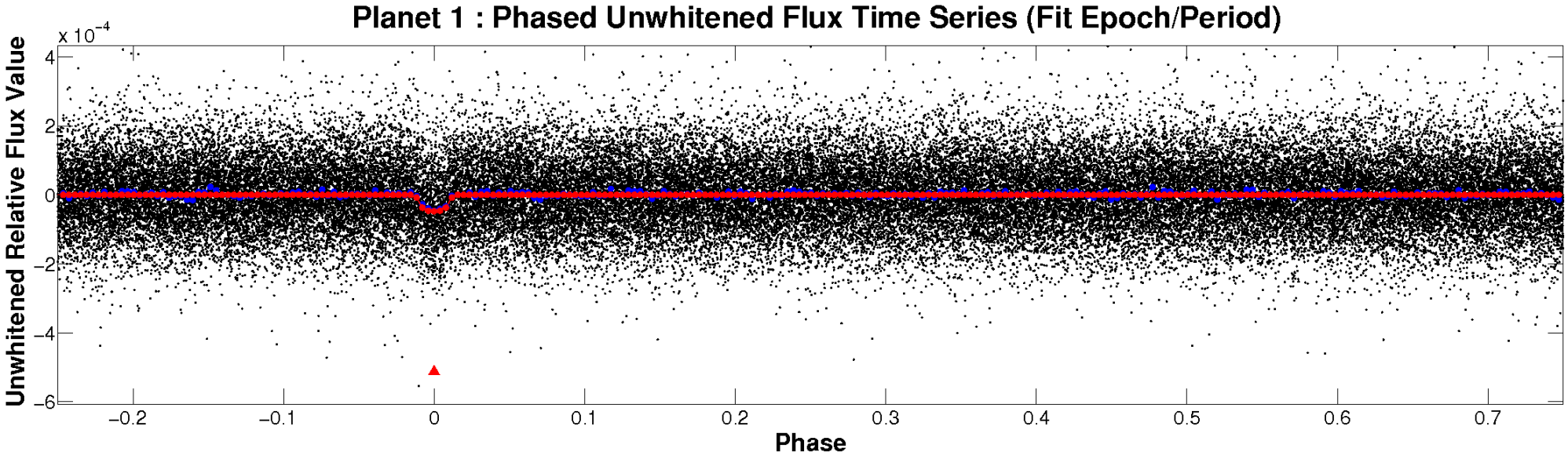
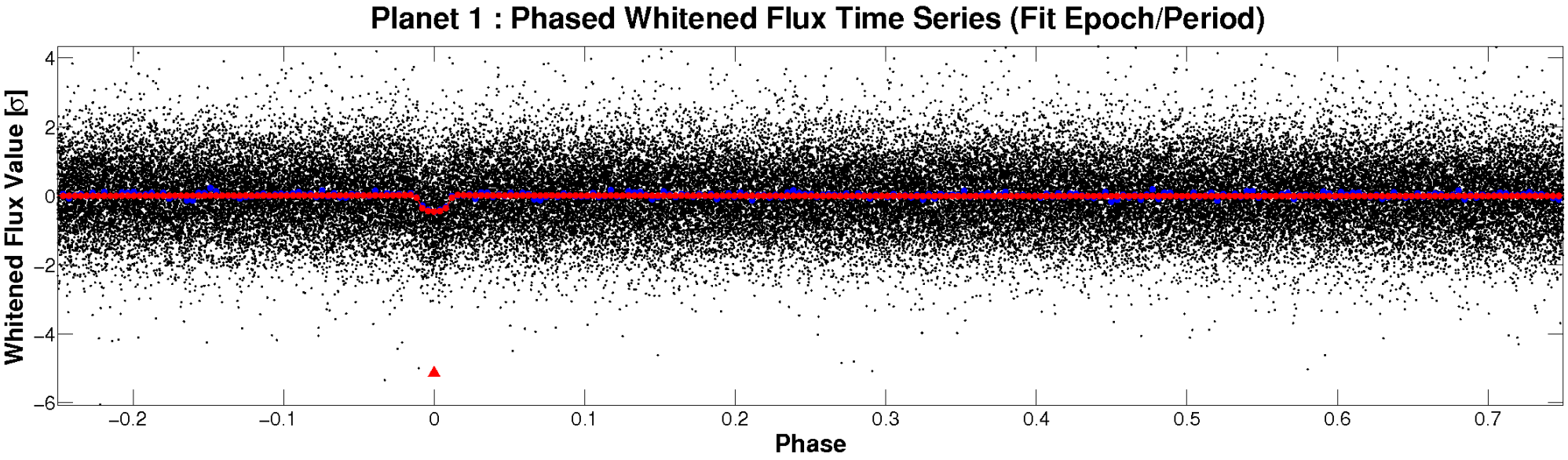
-6.00e-04
Flux
-0.04
-0.03
-0.02
-0.01
0
0.01
0.02
0.03
0.04
Phase
Odd
Even
Model Fit

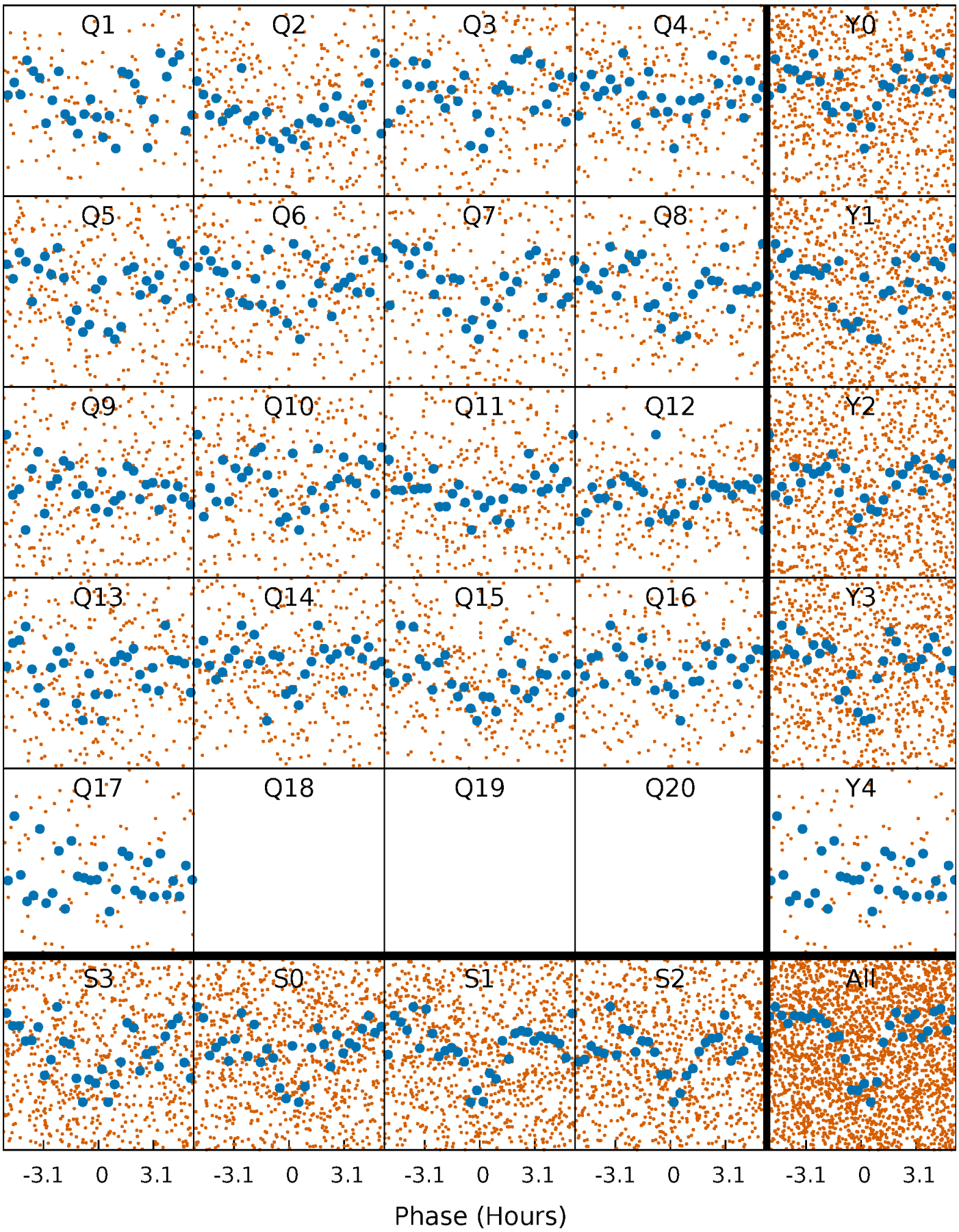
Non-Whitened Vs. Whitened Light Curve





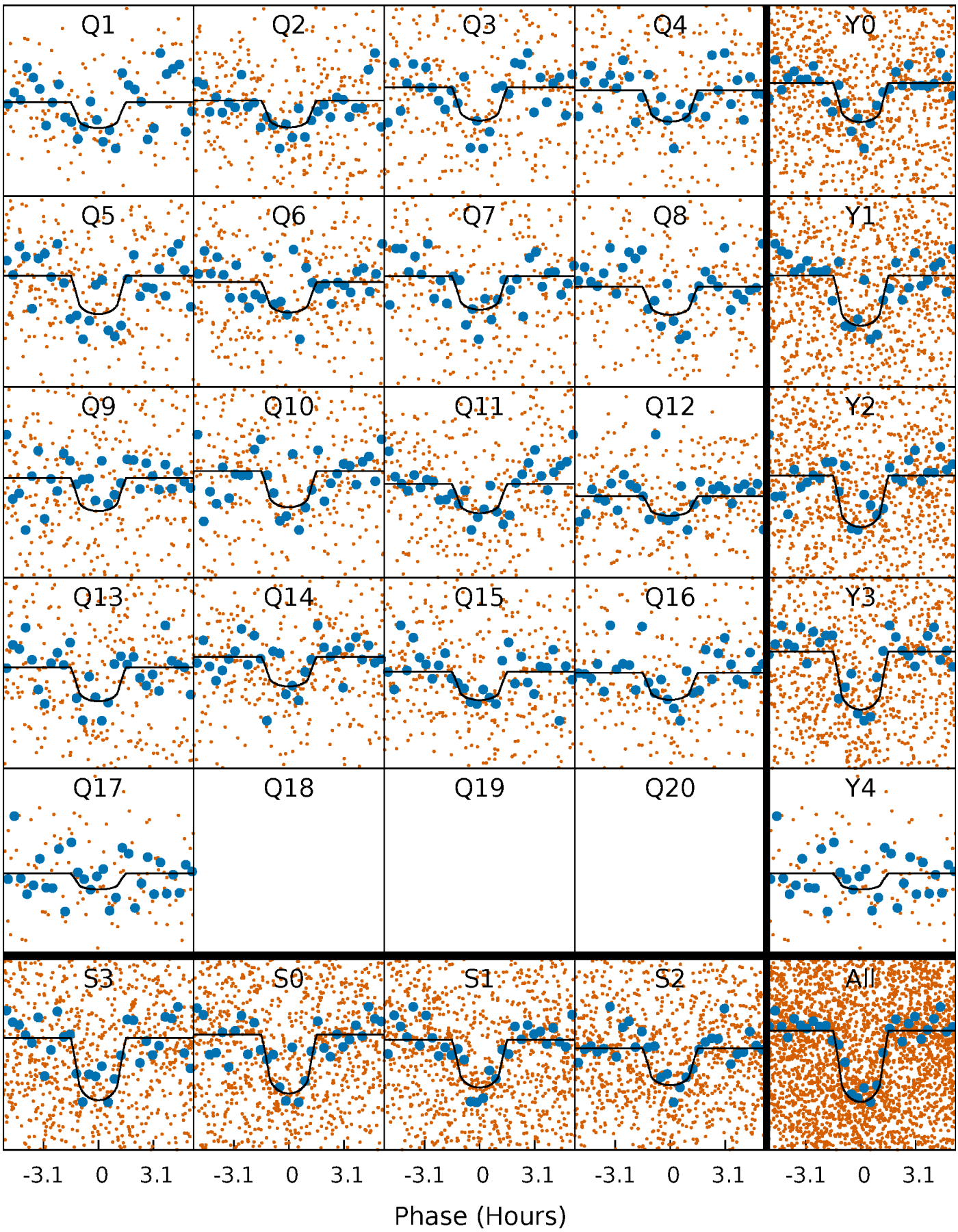
PDC Quarter-Phased Transit Curves

TCE 009283156-01 P= 5.224031 Days T_0=132.850407 (BKJD)



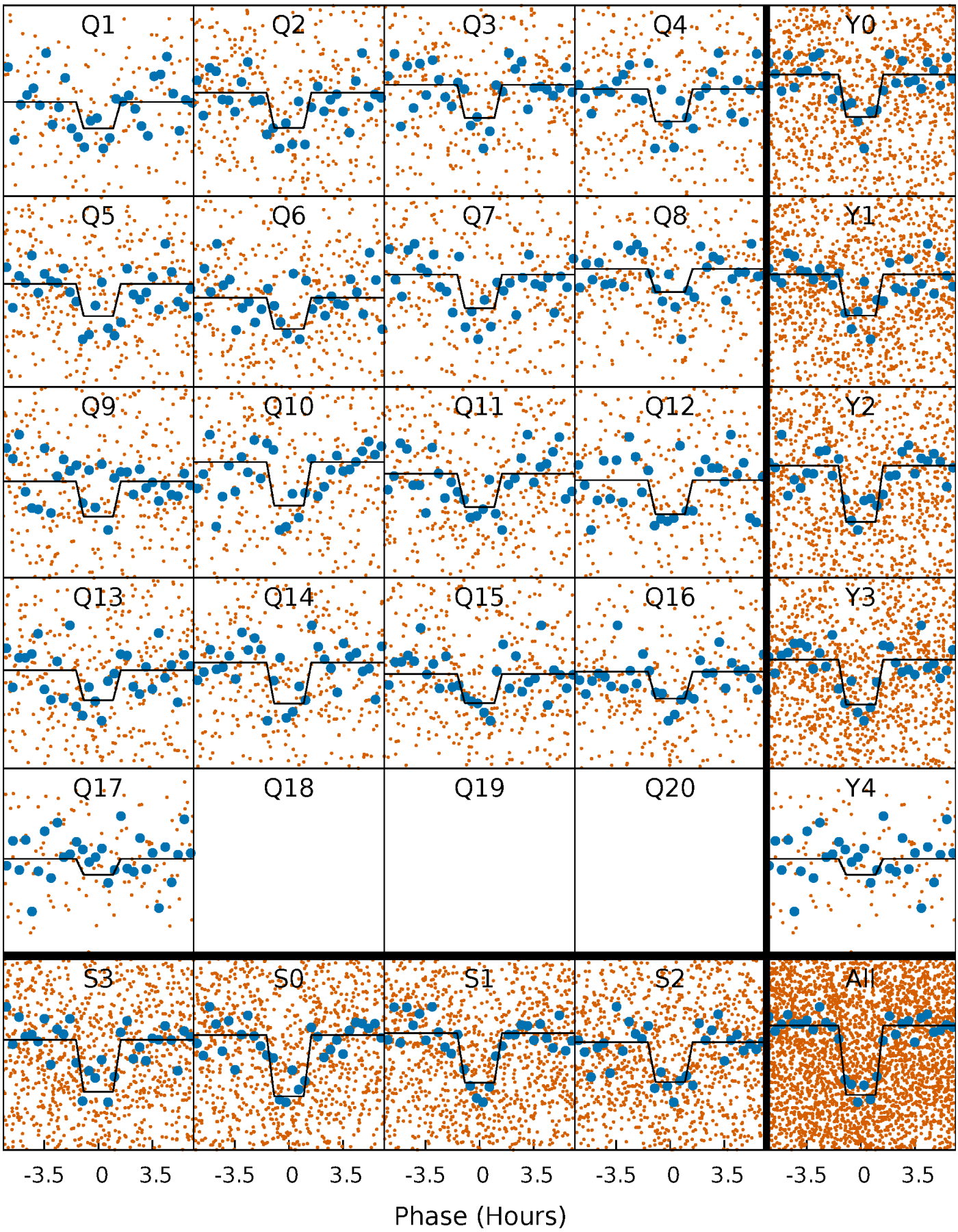
DV Quarter-Phased Transit Curves

TCE 009283156-01 P= 5.224031 Days T_0=132.850407 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

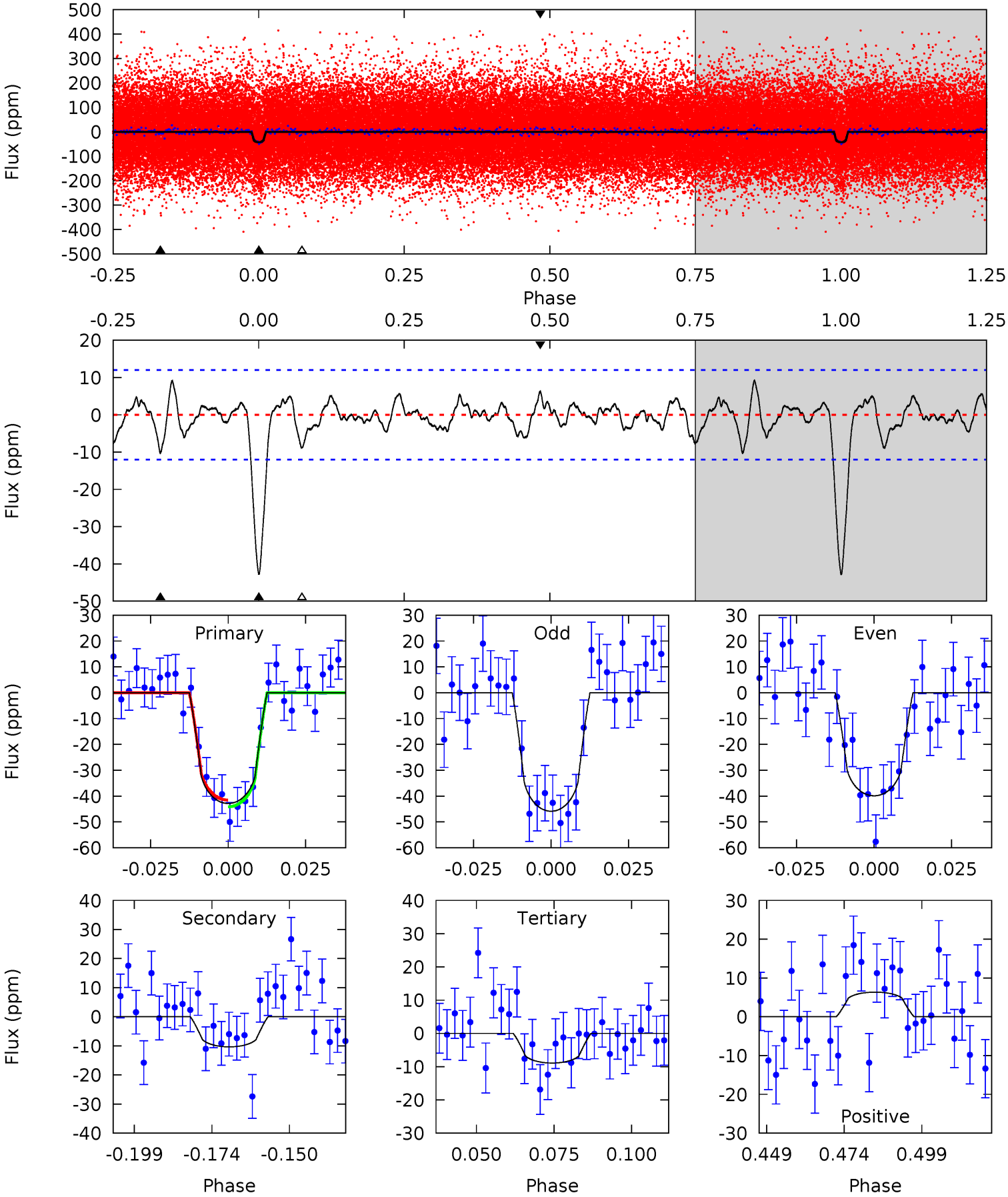
TCE 009283156-01 P= 5.224054 Days T_0=132.847557 (BKJD)



DV Model-Shift Uniqueness Test

009283156-01, P = 5.224031 Days, E = 127.626376 Days

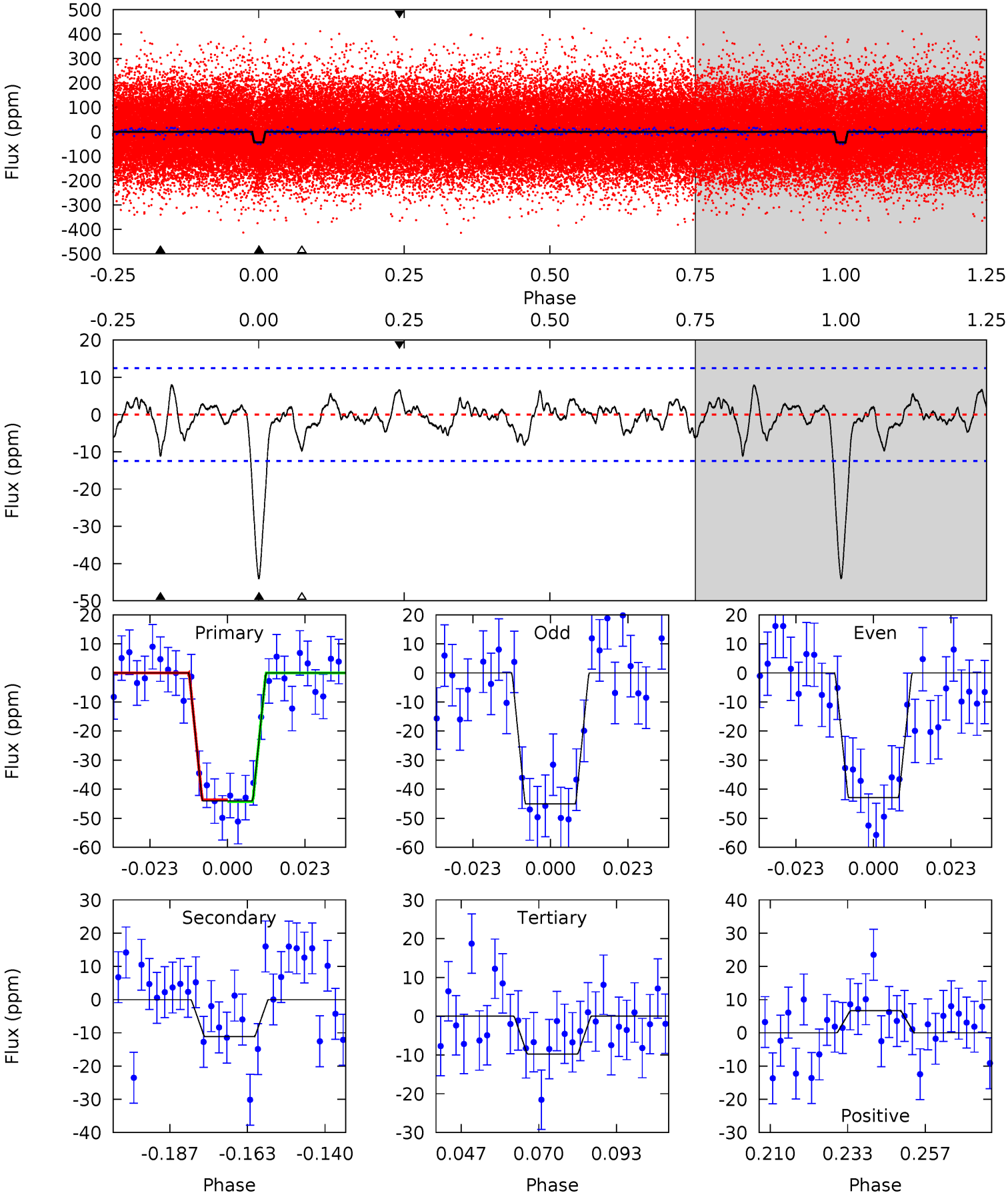
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	4.18	3.60	2.56	4.85	2.24	1.15	13.7	14.7	0.58	1.61	1.21	0.86	0.18	0.52



Alt Model-Shift Uniqueness Test

009283156-01, P = 5.224054 Days, E = 127.623503 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	4.34	3.80	2.60	4.86	2.27	1.12	13.4	14.6	0.54	1.74	0.42	0.97	0.15	0.11



Stellar Parameters For KIC 009283156

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5487^{+109}_{-109}	$4.512^{+0.056}_{-0.077}$	$-0.180^{+0.150}_{-0.150}$	$0.840^{+0.085}_{-0.059}$	$0.837^{+0.056}_{-0.046}$	$1.989^{+0.406}_{-0.485}$
	+2%/-2%	+1%/-2%	+83%/-83%	+10%/-7%	+7%/-5%	+20%/-24%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 009283156-01 / KOI 2657.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-10±2	$0.63^{+0.19}_{-0.19}$	1321^{+43}_{-40}	4071^{+571}_{-389}	46^{+46}_{-21}
Alt.	-11±3	$0.62^{+0.19}_{-0.19}$	1320^{+43}_{-39}	4098^{+611}_{-399}	47^{+51}_{-20}

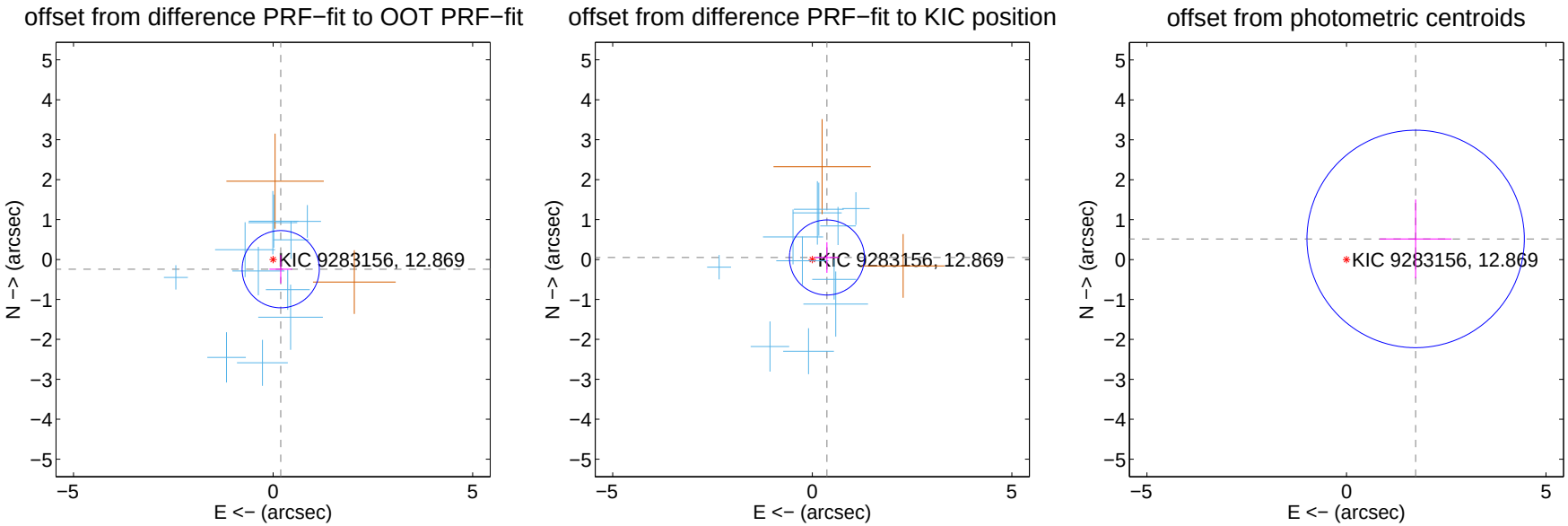
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

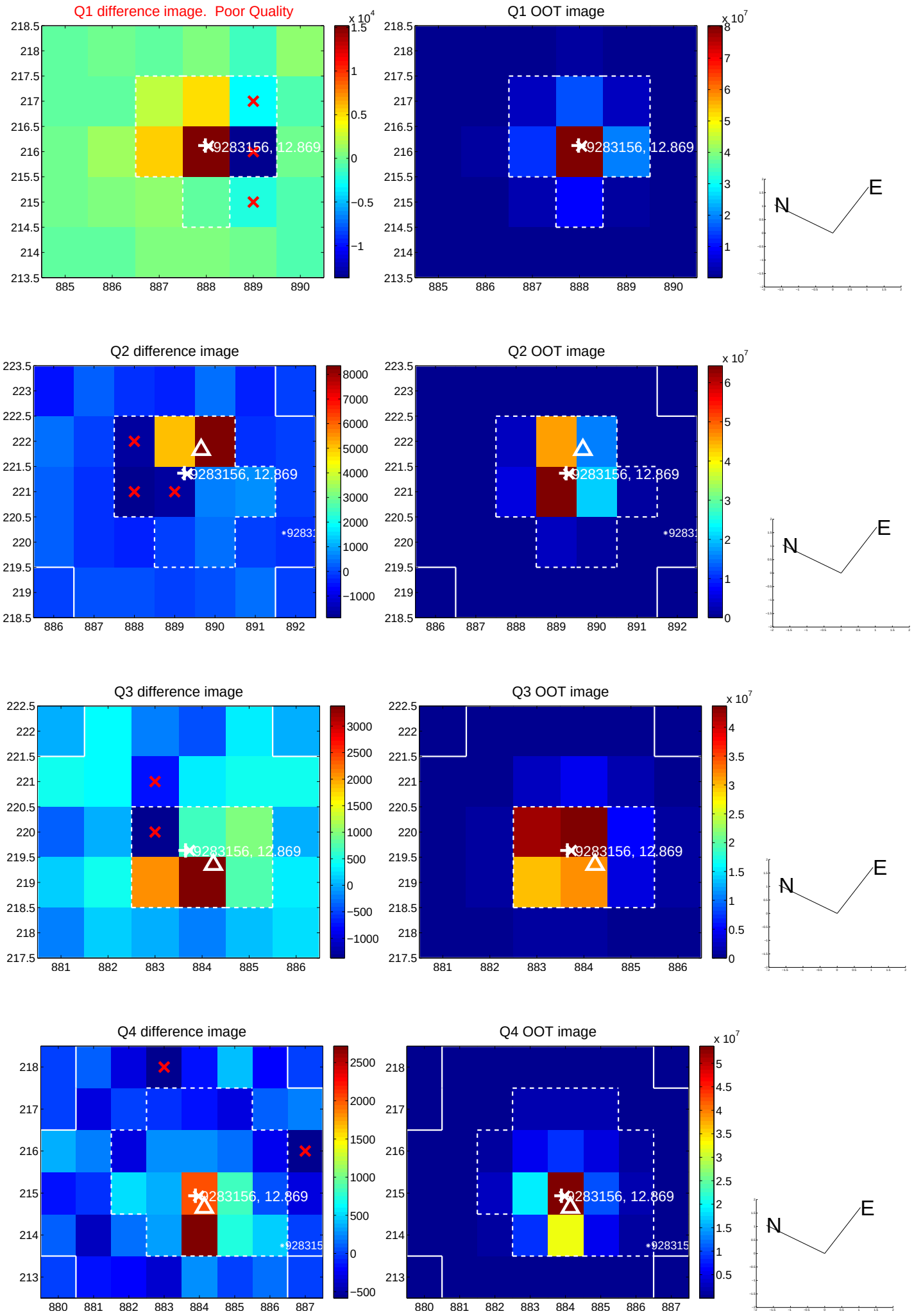
Supplemental centroid analysis for 009283156-01. Kepler magnitude: 12.87. Transit SNR 14.39
There are 11 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.309 ± 0.322	0.96	-0.191 ± 0.282	-0.243 ± 0.352
PRF-fit source offset from KIC position	0.371 ± 0.313	1.18	-0.367 ± 0.302	0.050 ± 0.384
photometric centroid source offset	1.81 ± 0.91	1.99	-1.73 ± 0.90	0.52 ± 0.99

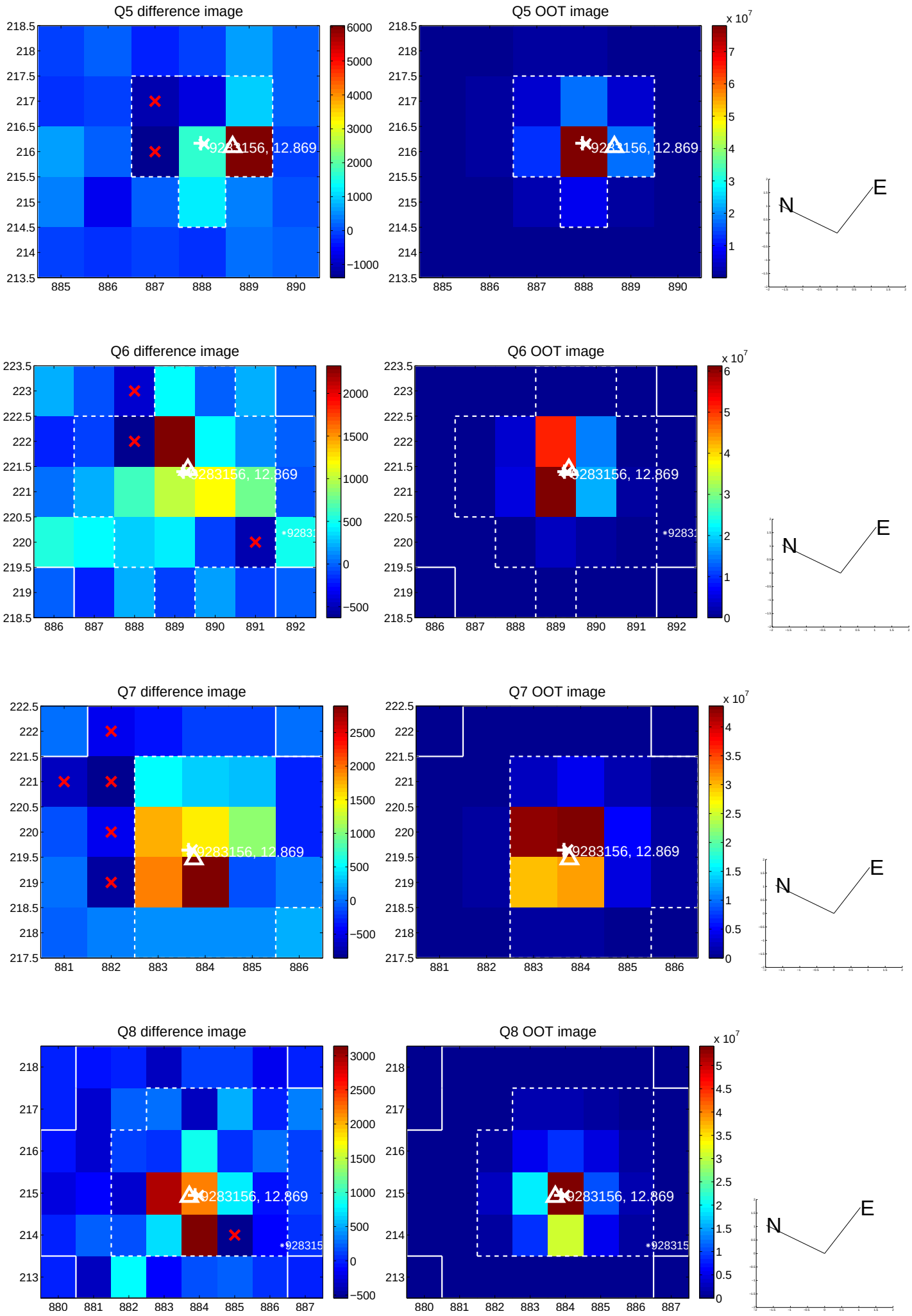


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

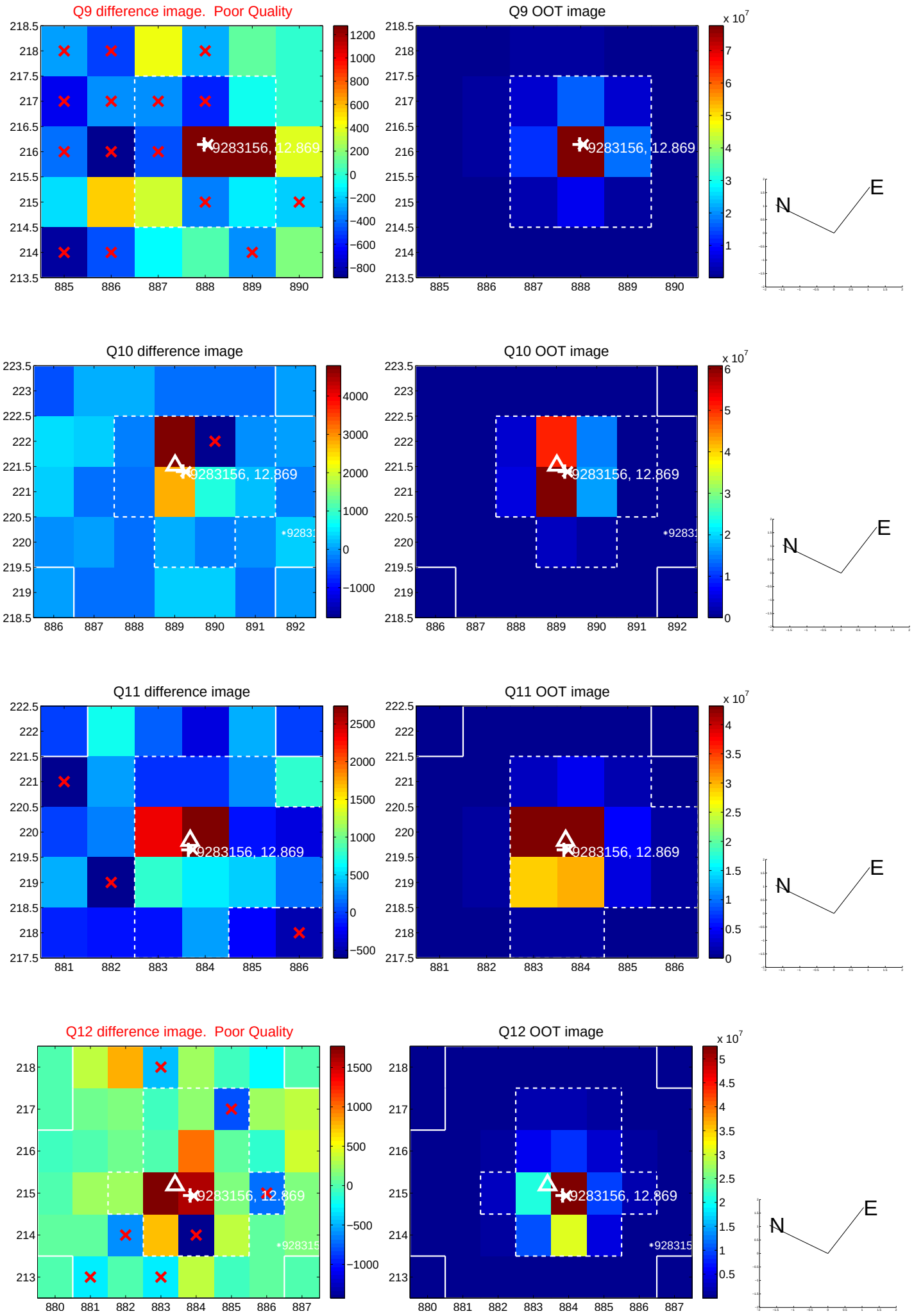
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



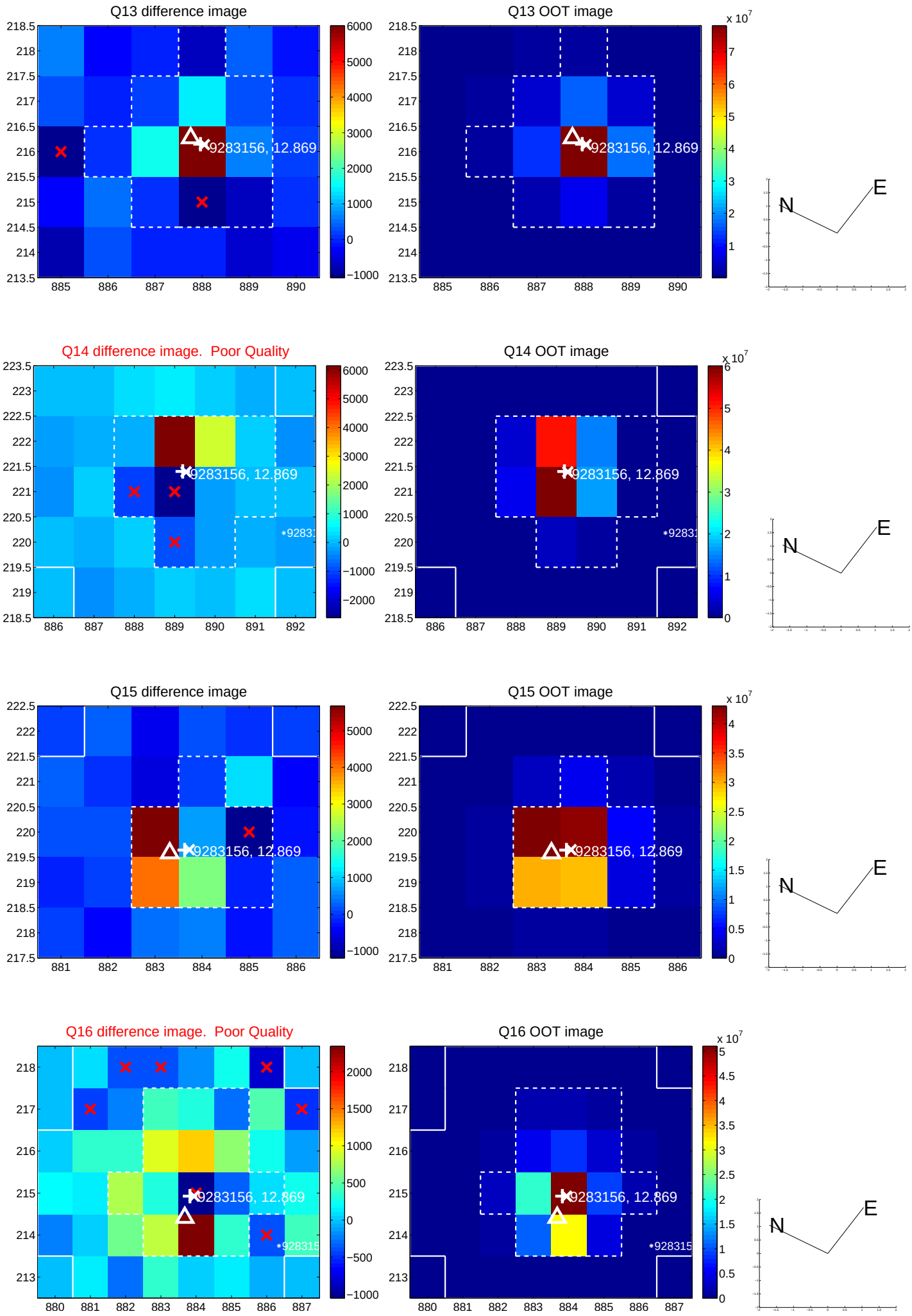
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



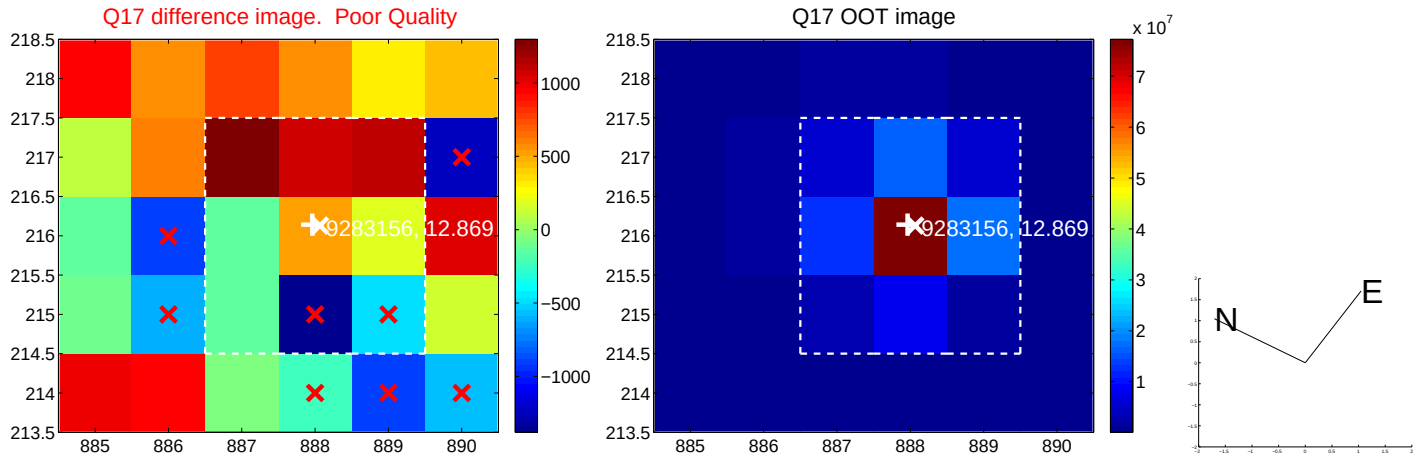
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

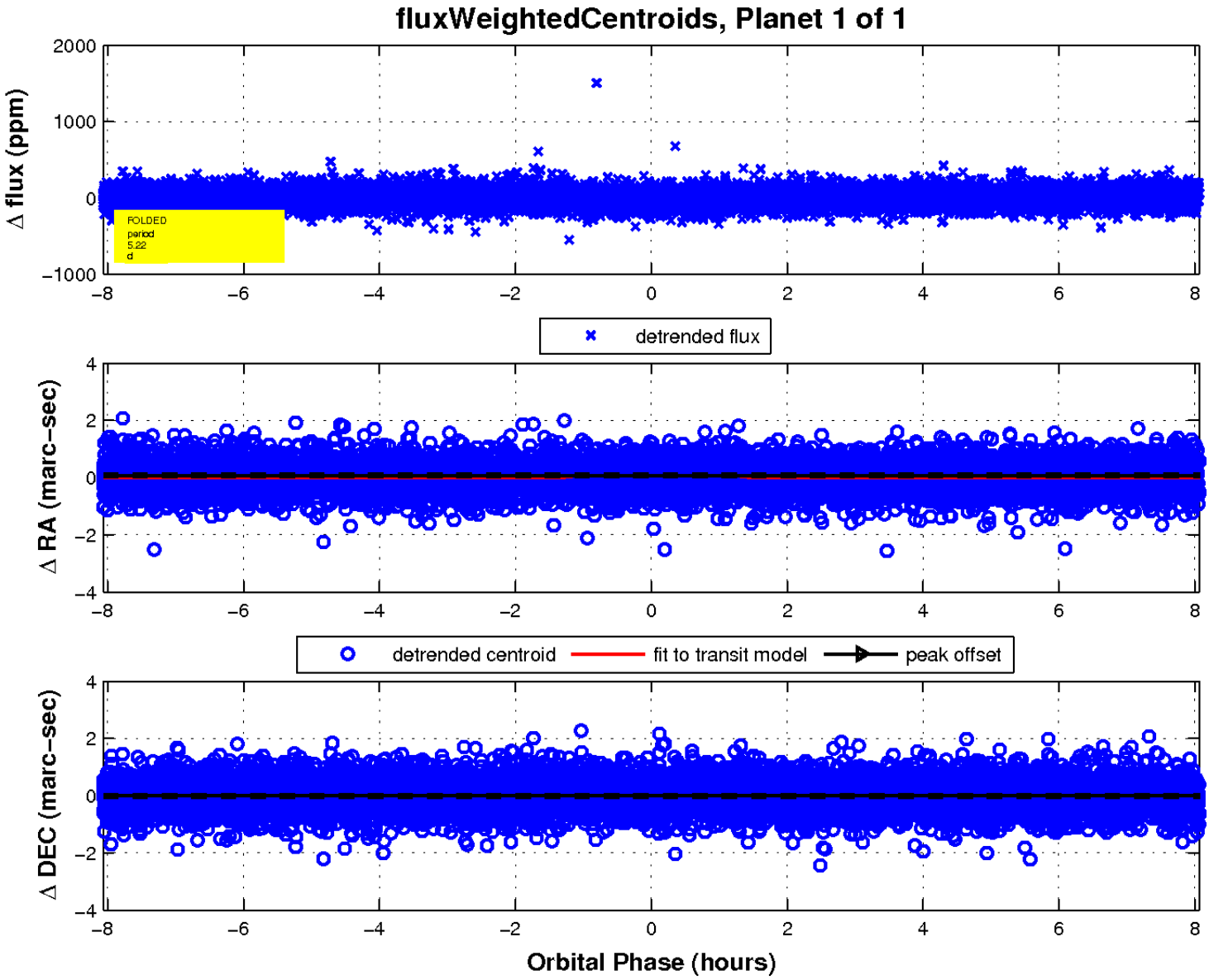


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

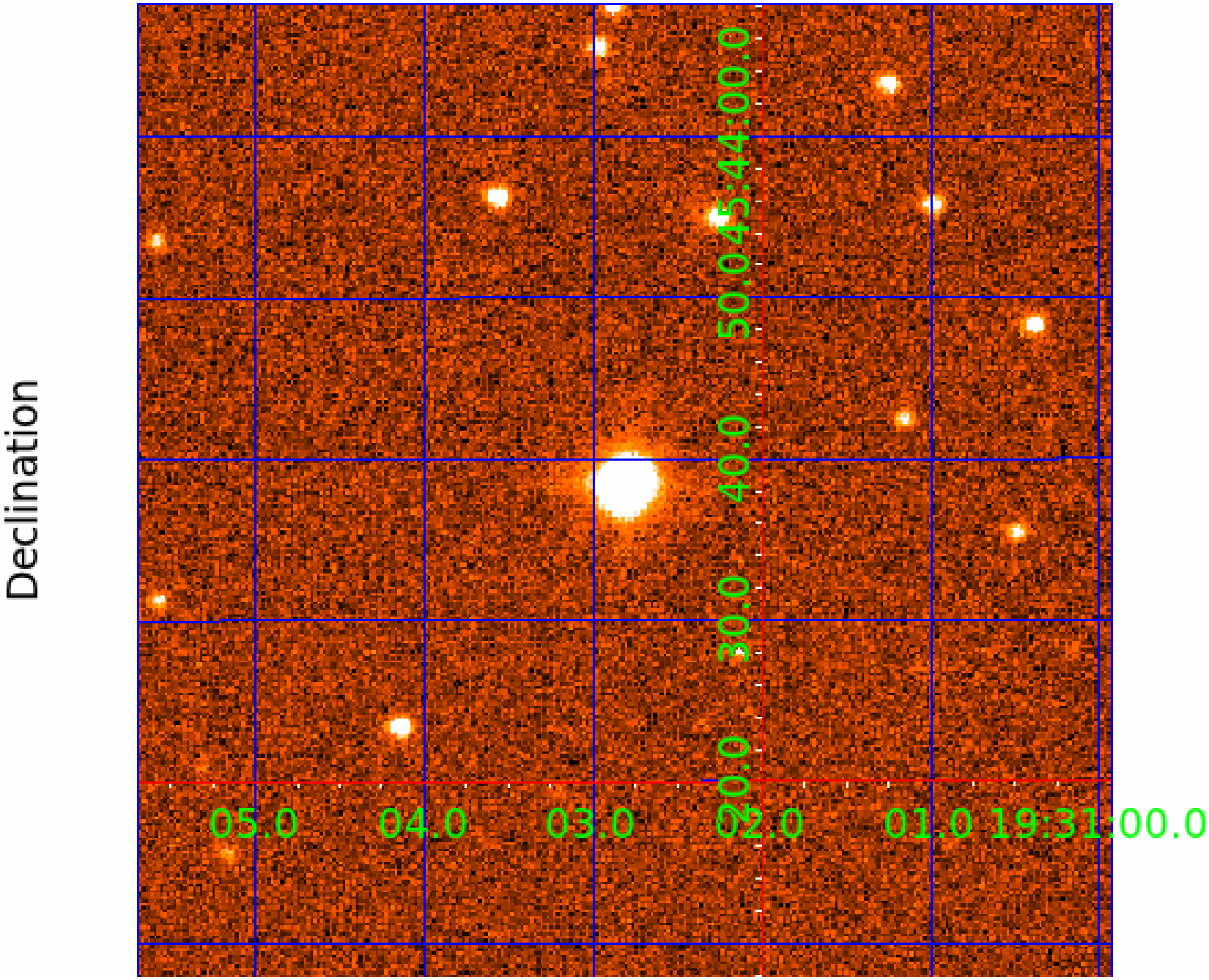


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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03.0
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01.0
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