KIC 006364067

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 ($S_\oplus$)
006364067-01	OBS	4221.01	5.243577	132.730968	122.5	12.065	15.8	16.3	0.93	5804	1.29	262.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006364067-01	OBS	FP	0.00	0	0	1	1	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 006364067-01

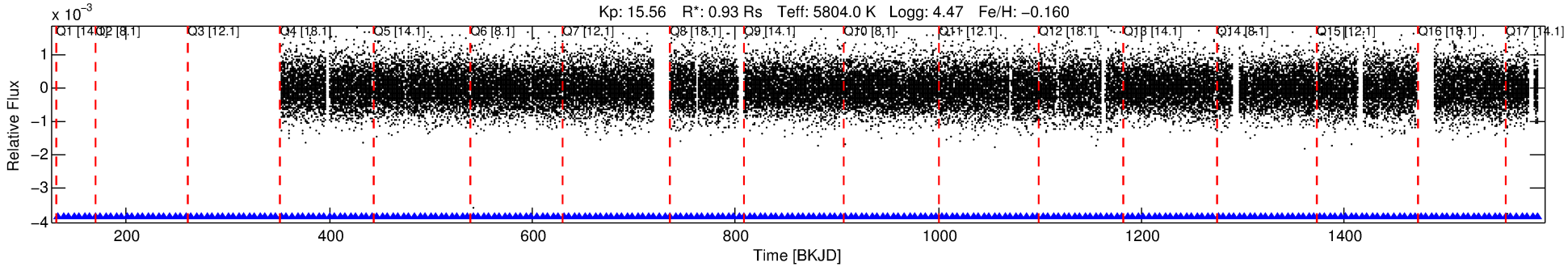
TCE (1)	KIC	Parent (2)	Parent KIC	P_1:P_2	Dist (″)	ΔRow	ΔCol	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
006364067-01	6364067	TT-Lyr-pri	6364290	1:1	202.3	-33	-39	9.49	15.56	7001.00	Direct-PRF	0	1.41	1.52

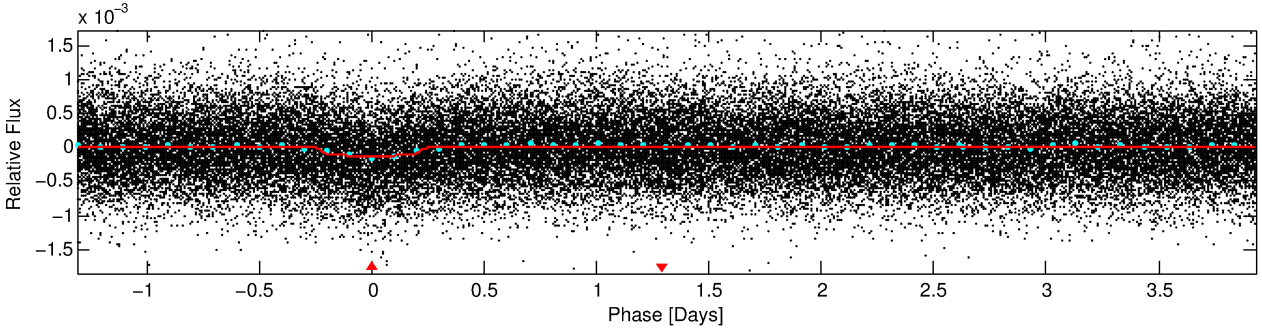
Notes: P_1:P_2 is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth dividied by the child's. σ_P and σ_T are the significance of the match 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.

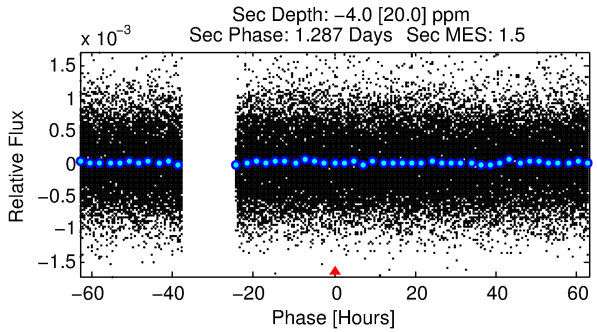
DV One-Page Summary

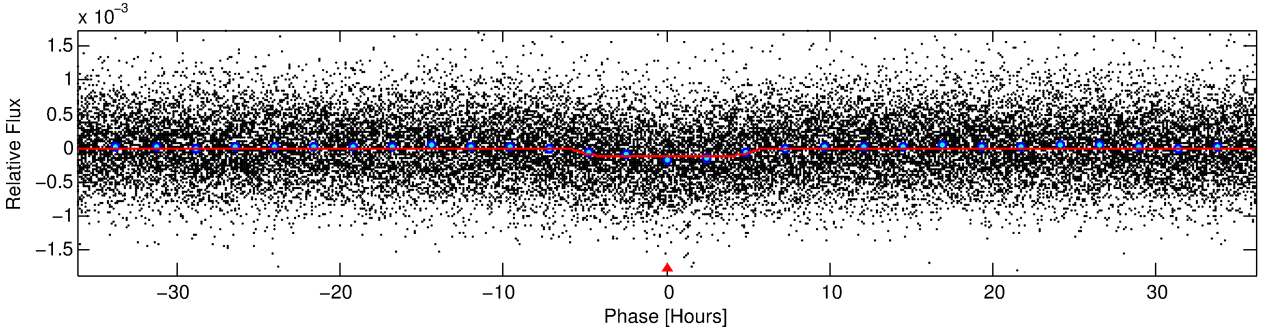
KIC: 6364067 Candidate: 1 of 1 Period: 5.244 d
KOI: K04221.01 Corr: 0.812

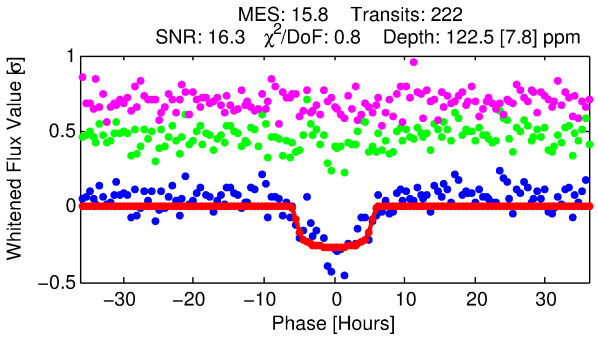
Kp: 15.56 R*: 0.93 Rs Teff: 5804.0 K Logg: 4.47 Fe/H: −0.160

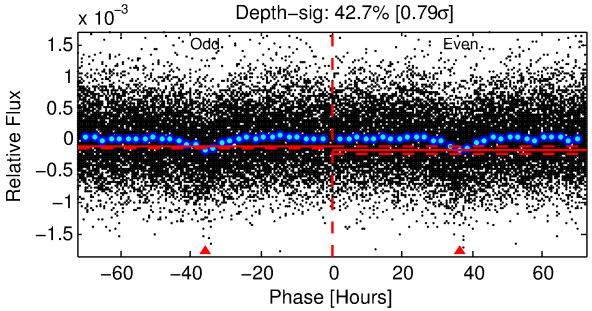


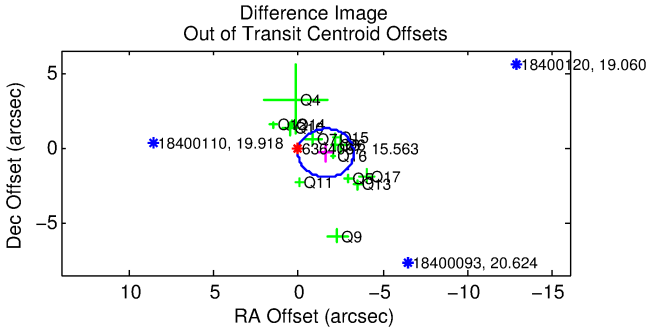












DV Fit Results:

Period = 5.24358 [0.00011] d
Epoch = 132.7310 [0.0177] BKJD
Rp/R* = 0.0128 [0.0010]
a/R* = 1.53 [0.31]
b = 0.95 [0.04]

Seff = 262.43 [100.03]
Teq = 1026 [98] K
Rp = 1.29 [0.39] Re
a = 0.0577 [0.0142] AU

Ag = N/A
Teffp = N/A

DV Diagnostic Results:

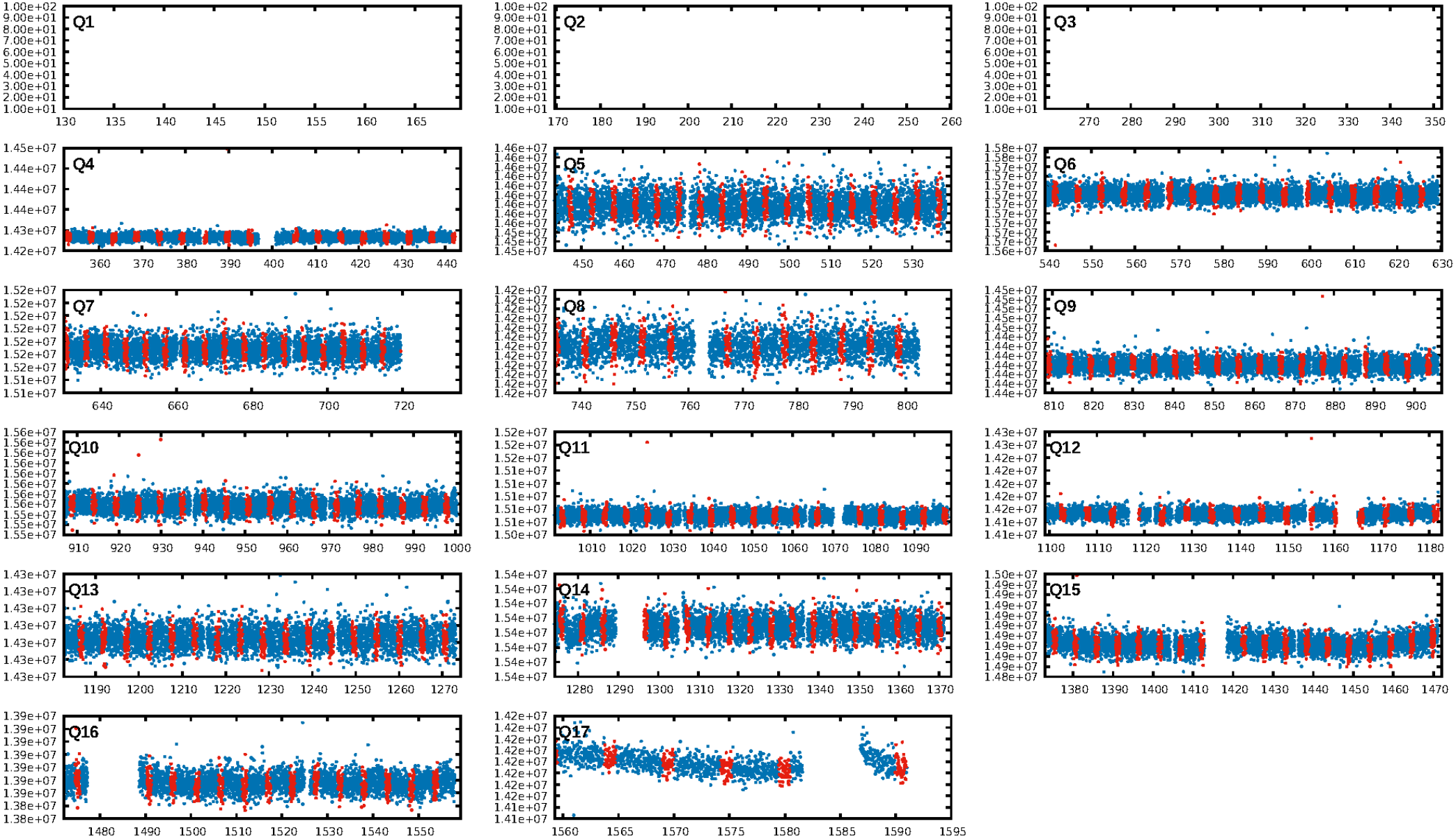
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 2.15e−51
RollingBand−fgt: 1.00 [217/217]
GhostDiagnostic−chr: 0.1182

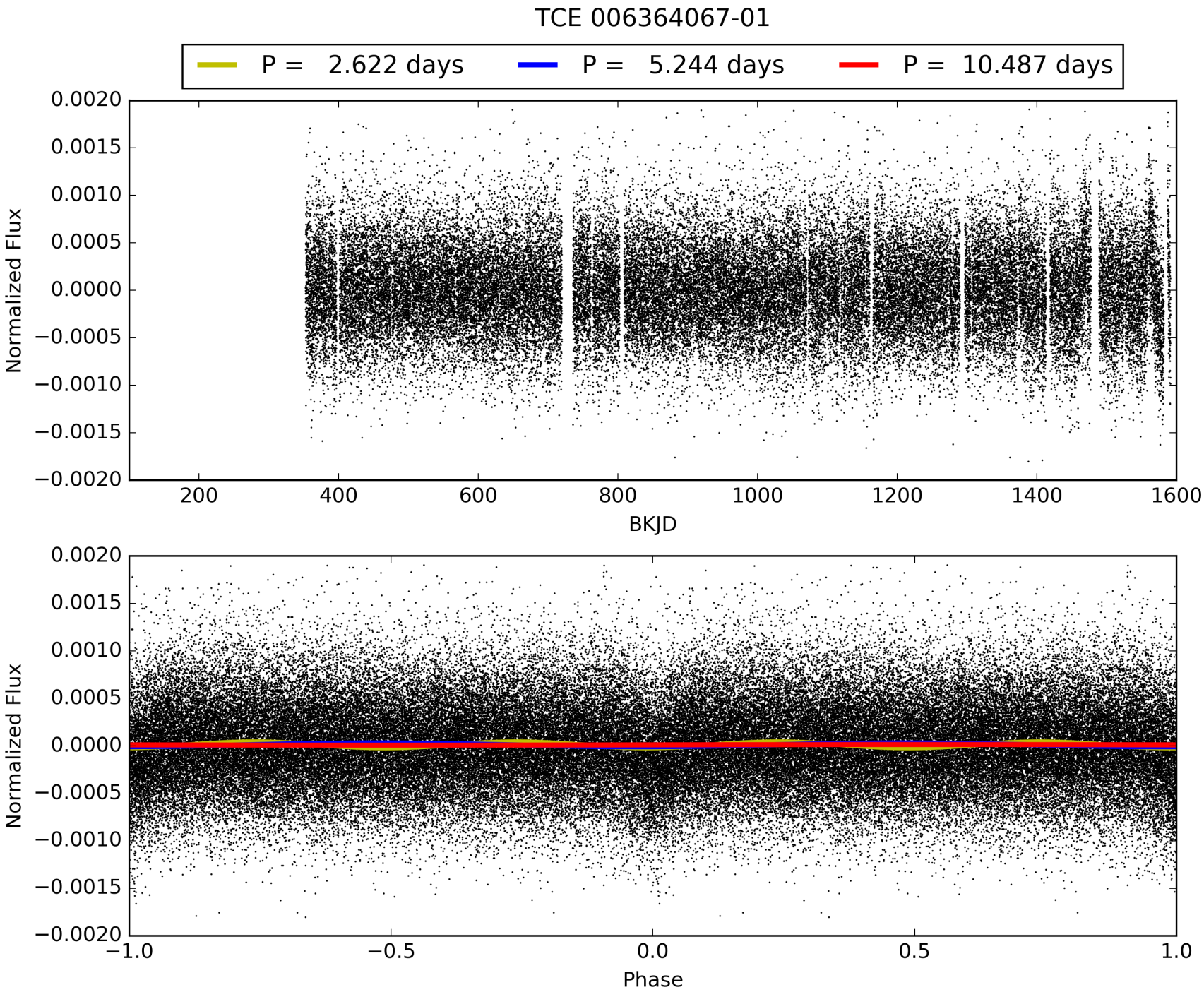
Centroid−sig: 49.8%
Centroid−so: 1.051 arcsec [1.07σ]
OotOffset−rm: 1.643 arcsec [3.02σ]
KicOffset−rm: 1.669 arcsec [3.18σ]
OotOffset−st: 3/3/4/4 [14]
KicOffset−st: 3/3/4/4 [14]
DiffImageQuality−fgm: 0.07 [1/14]
DiffImageOverlap−fno: 1.00 [14/14]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29−Jan−2016 08:05:01 Z

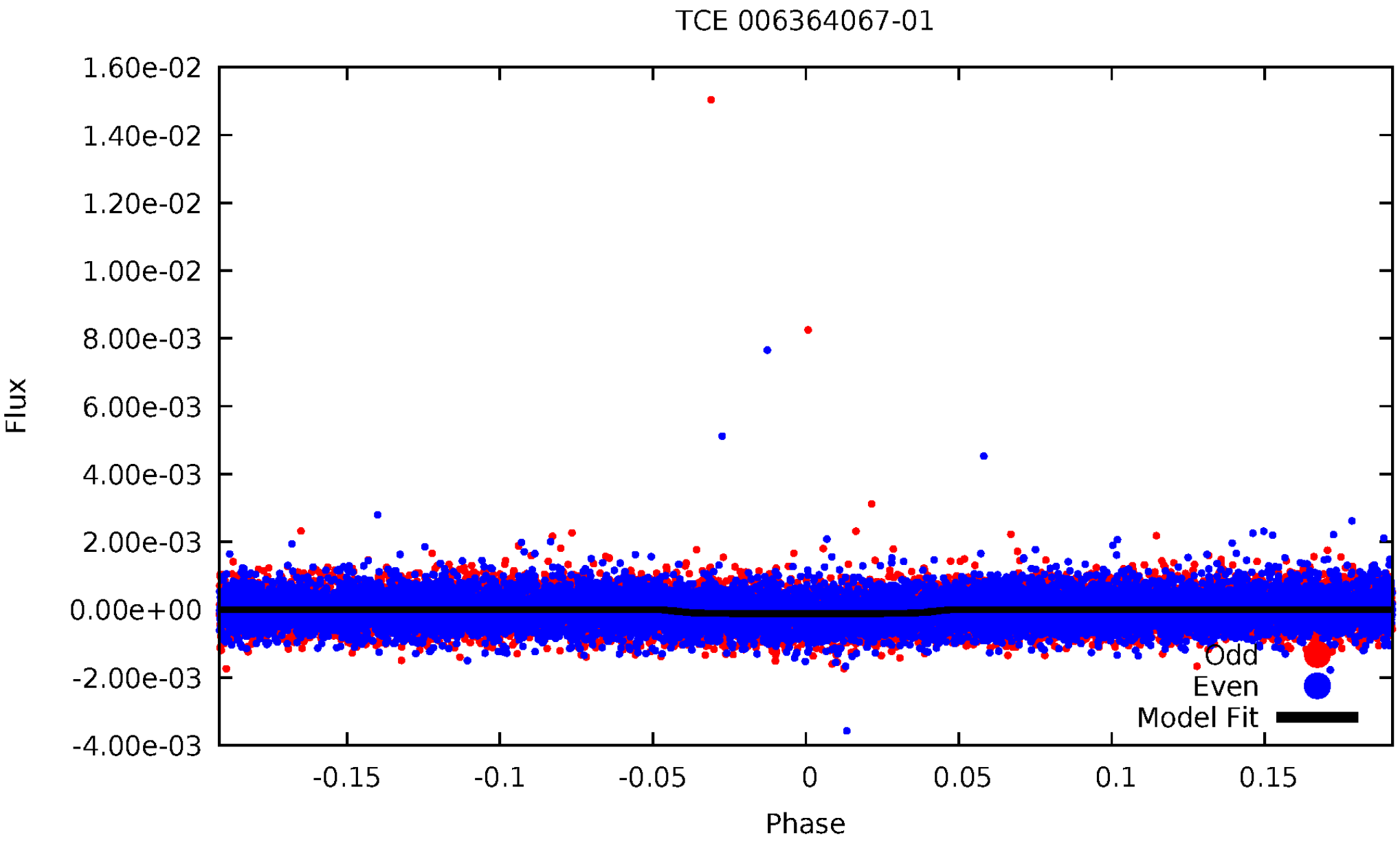
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006364067-01, PDC Light Curves




TCE 006364067-01
P = 2.622 days
P = 5.244 days
P = 10.487 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even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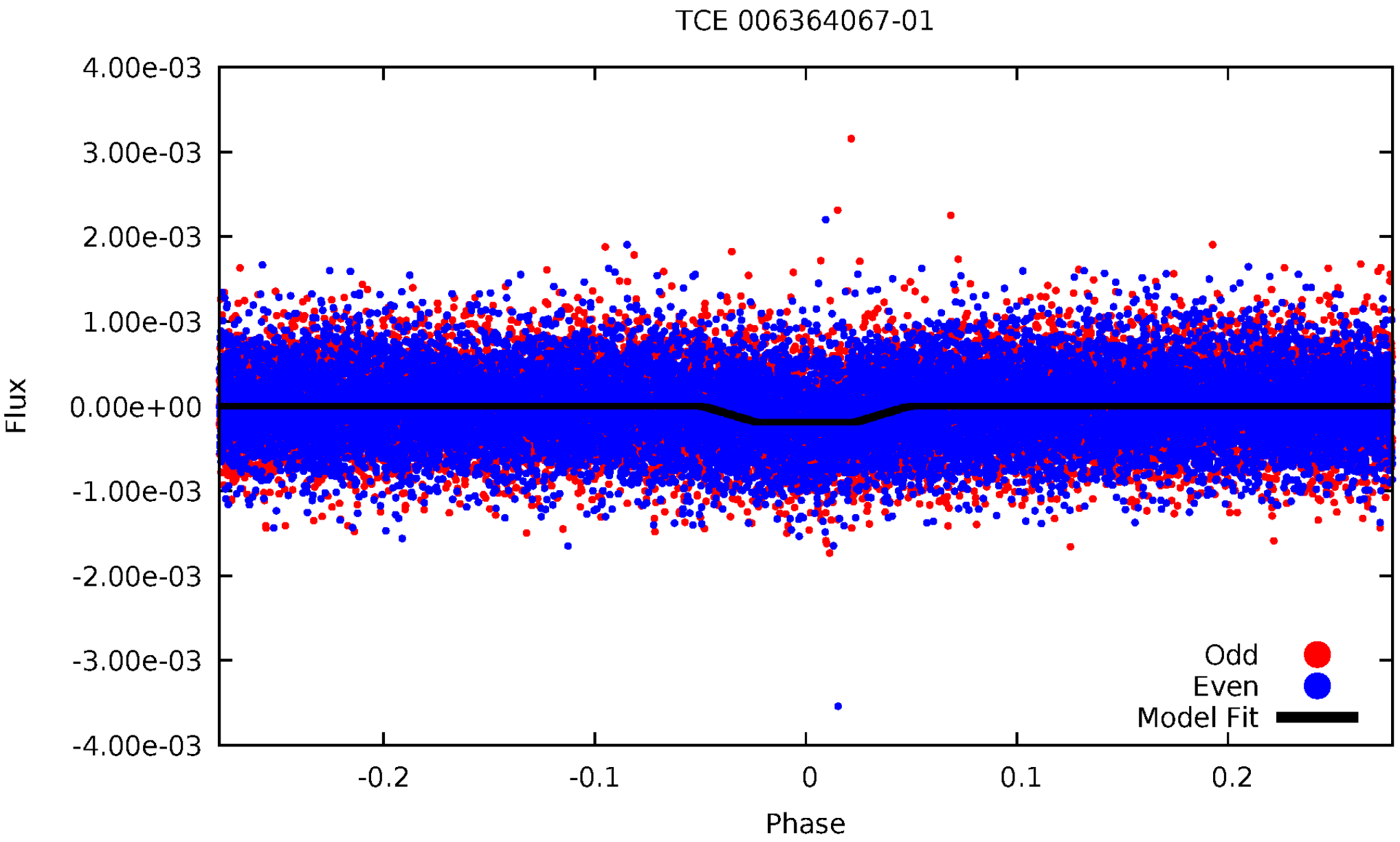
1.40e-02
1.20e-02
1.00e-02
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
Flux
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
Phase
Odd
Even
Model Fit

ALT Odd/Even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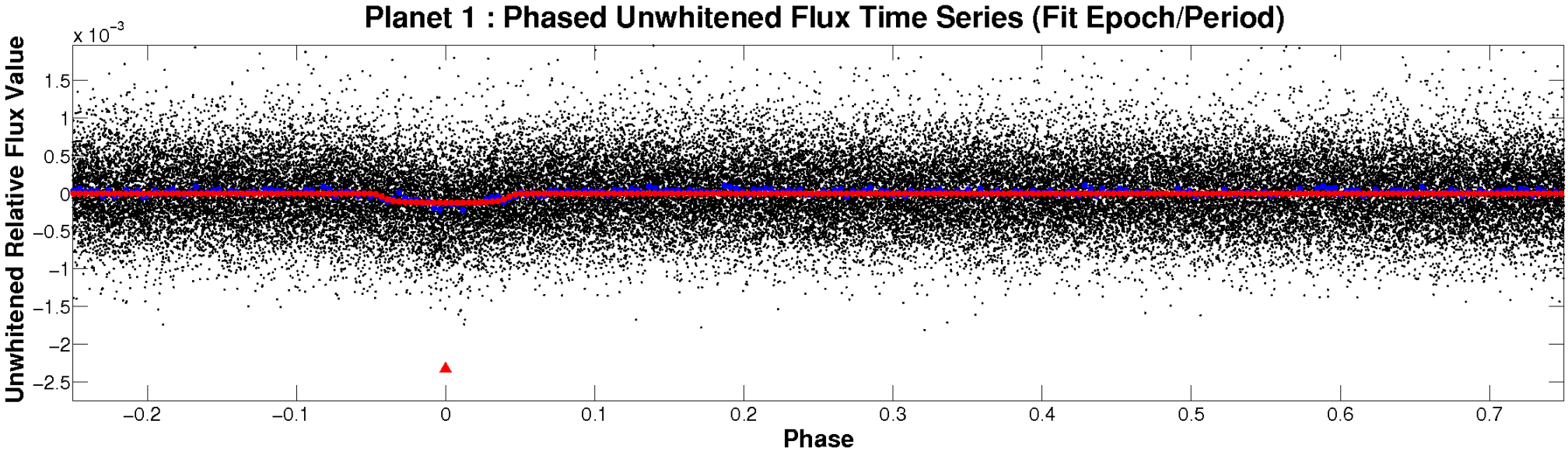
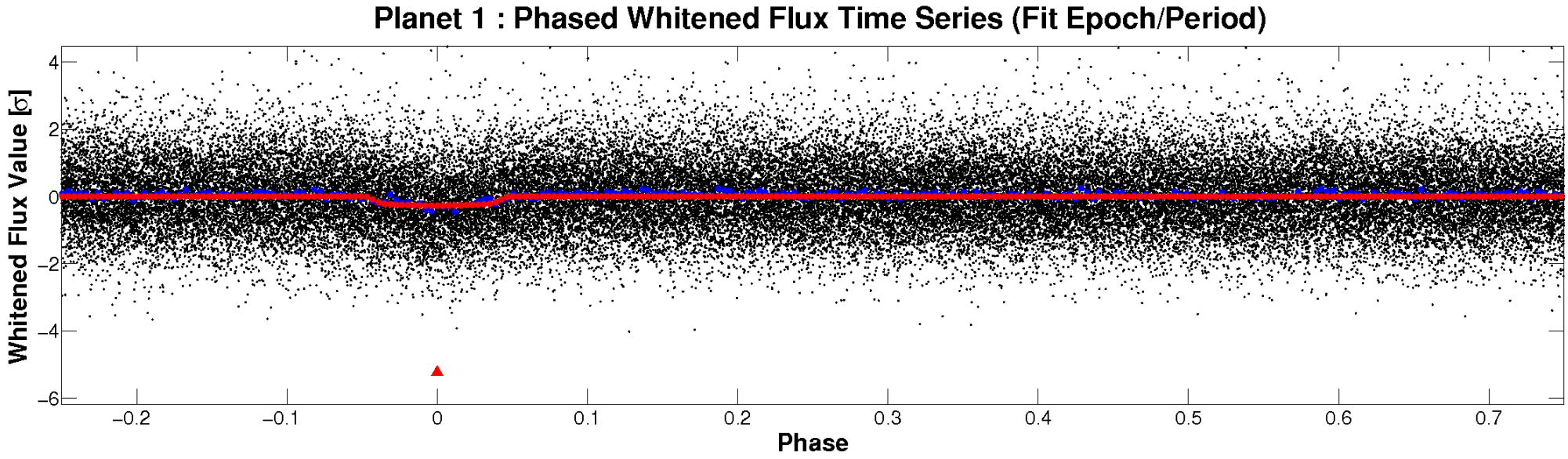
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
Flux
-0.2
-0.1
0
0.1
0.2
Phase
Odd
Even
Model Fit

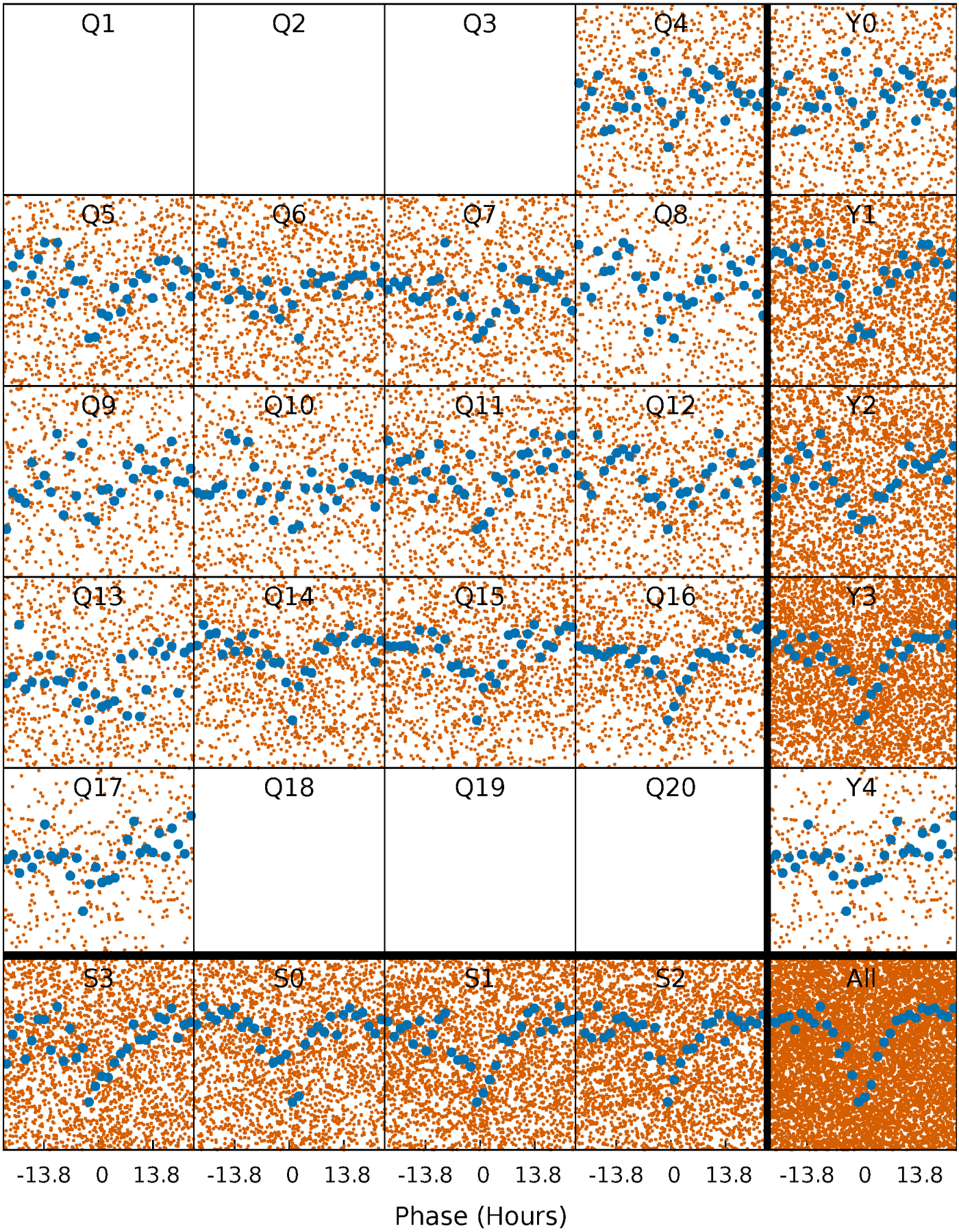
Non-Whitened Vs. Whitened Light Curve





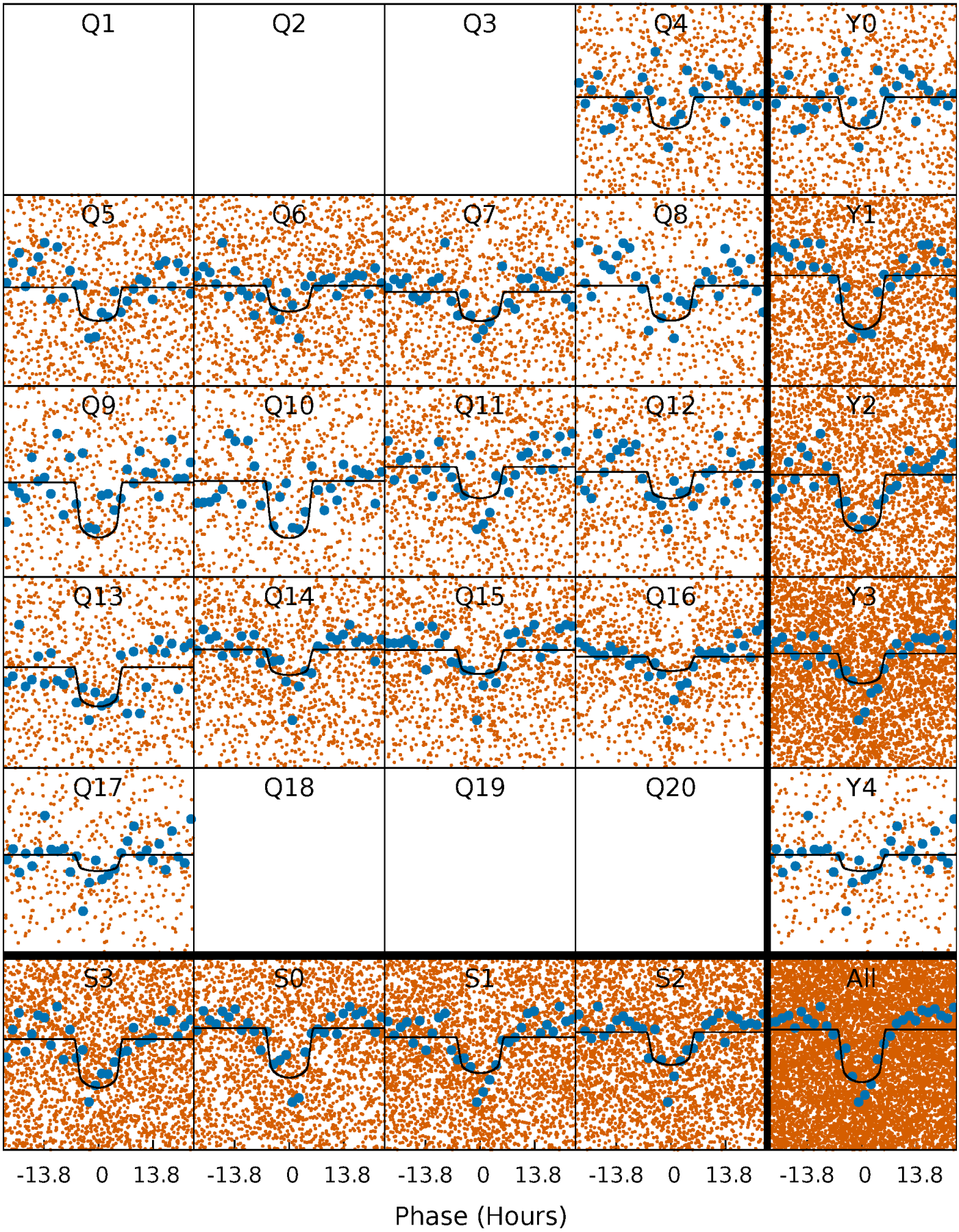
PDC Quarter-Phased Transit Curves

TCE 006364067-01 P= 5.243577 Days T_0=132.730968 (BKJD)



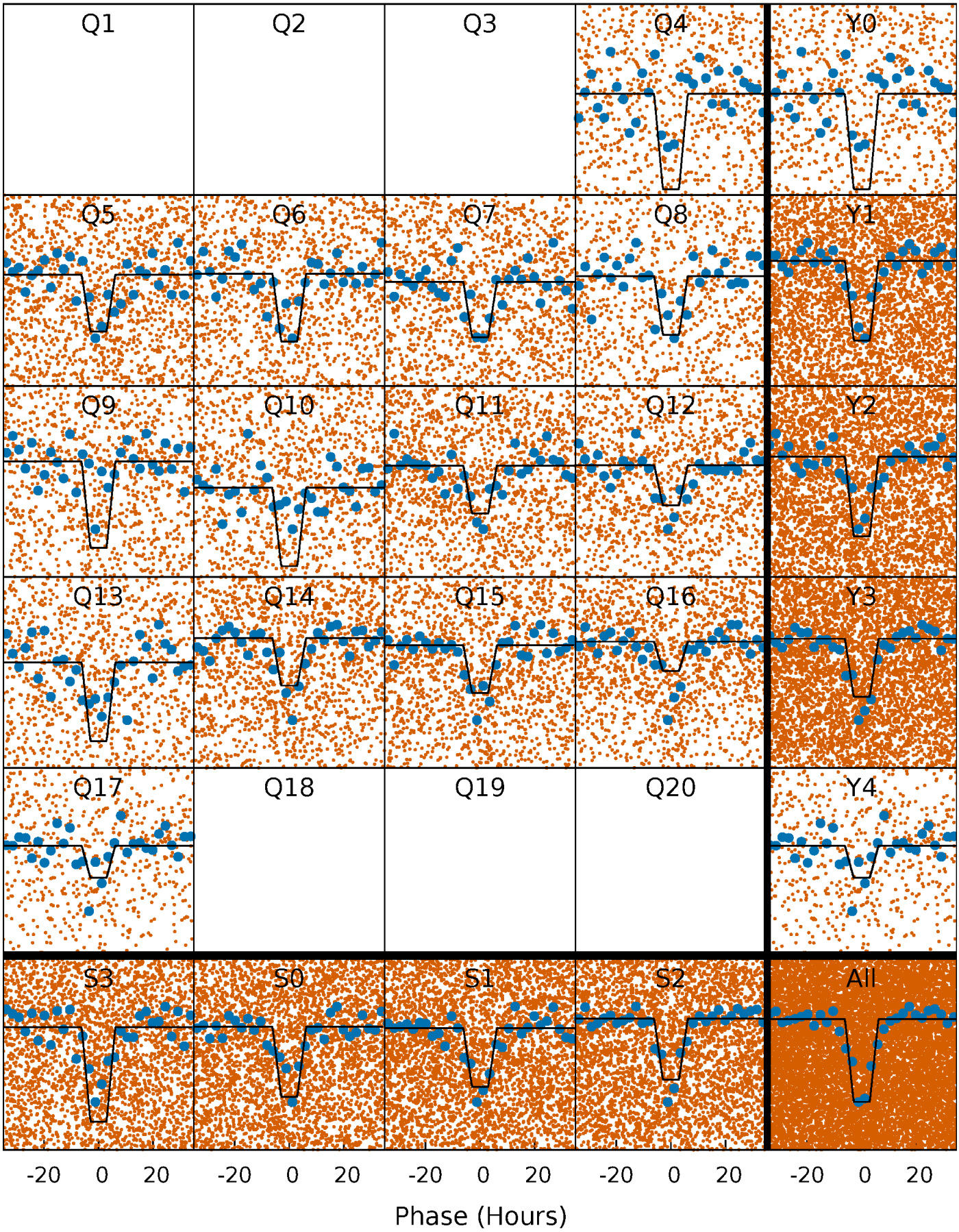
DV Quarter-Phased Transit Curves

TCE 006364067-01 P= 5.243577 Days T_0=132.730968 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

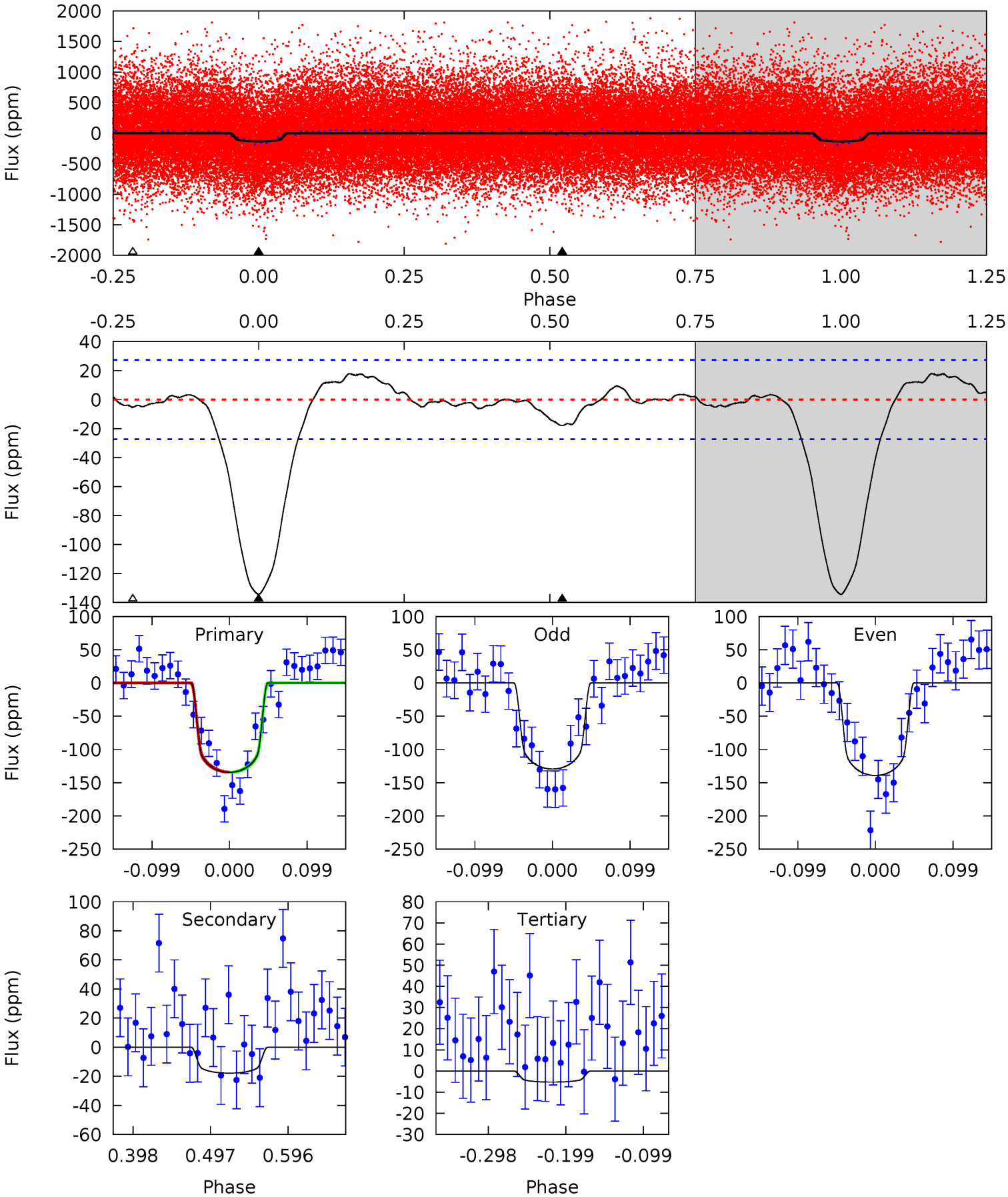
TCE 006364067-01 P= 5.243719 Days T_0=132.709555 (BKJD)



DV Model-Shift Uniqueness Test

006364067-01, P = 5.243577 Days, E = 132.730968 Days

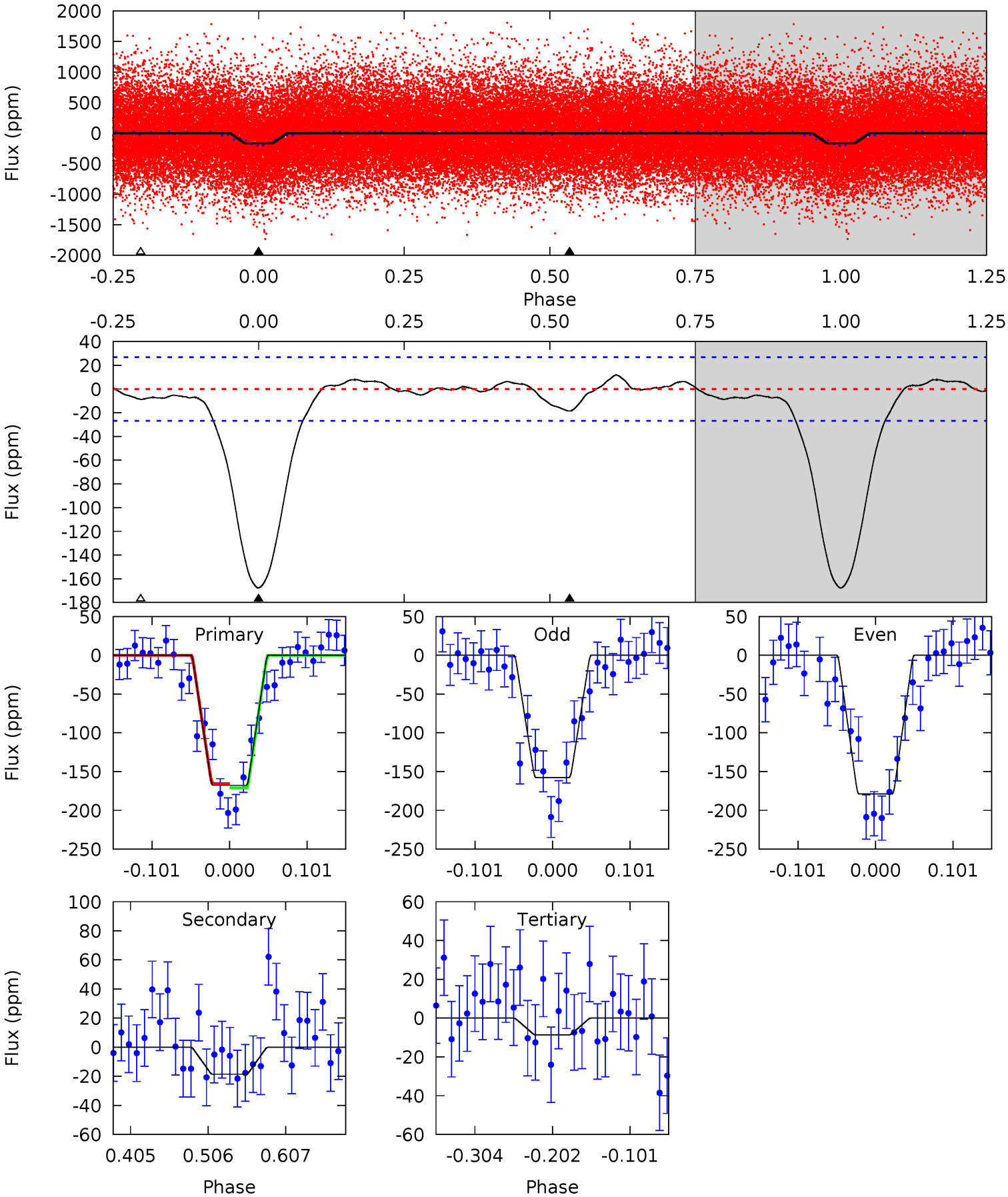
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	2.98	0.88	0	4.57	1.65	1.11	21.5	22.4	2.10	2.98	0.82	0.97	0.12	0.04



Alt Model-Shift Uniqueness Test

006364067-01, P = 5.243719 Days, E = 132.709555 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.5	3.16	1.47	0	4.56	1.64	0.78	27.1	28.5	1.69	3.16	1.81	1.04	0.07	0.45



Stellar Parameters For KIC 006364067

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5804^{+172}_{-190}	$4.473^{+0.078}_{-0.195}$	$-0.160^{+0.300}_{-0.300}$	$0.927^{+0.273}_{-0.117}$	$0.932^{+0.123}_{-0.100}$	$1.648^{+0.572}_{-0.827}$
	+3%/-3%	+2%/-4%	+188%/-188%	+29%/-13%	+13%/-11%	+35%/-50%
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 006364067-01 / KOI 4221.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18±6	$1.34^{+0.22}_{-0.16}$	1457^{+101}_{-81}	3720^{+213}_{-259}	18^{+8}_{-7}
Alt.	-19±6	$1.44^{+0.24}_{-0.15}$	1454^{+100}_{-72}	3658^{+211}_{-256}	16^{+7}_{-6}

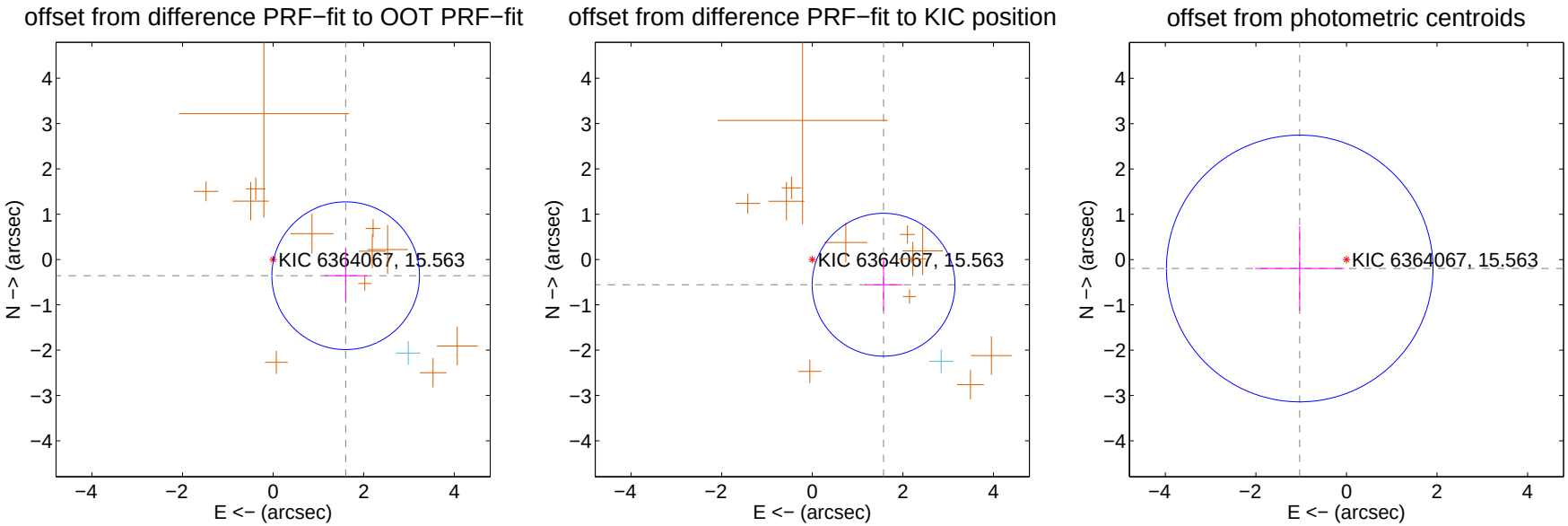
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

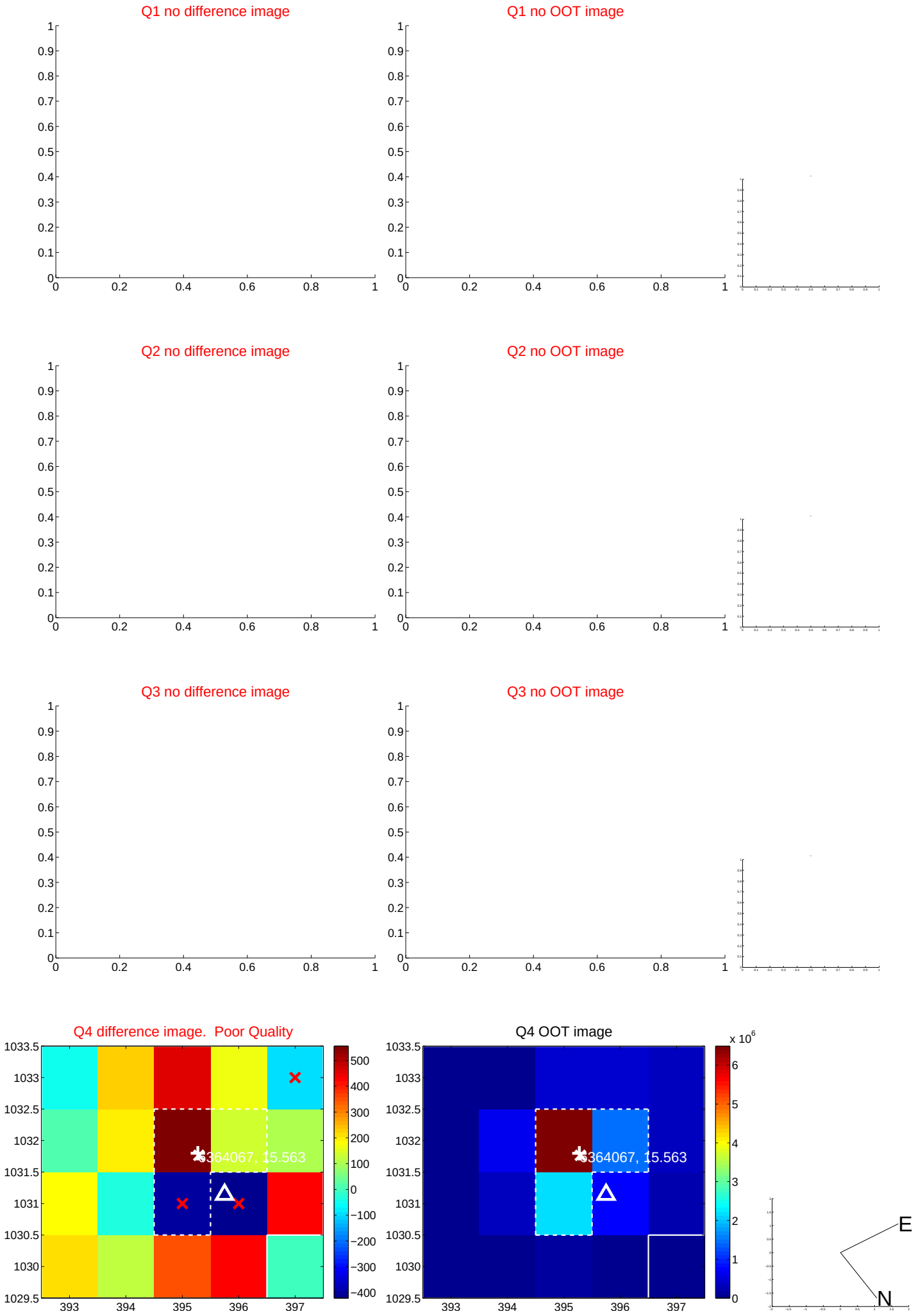
Supplemental centroid analysis for 006364067-01. Kepler magnitude: 15.56. Transit SNR 16.25
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.643 ± 0.543	3.02	-1.603 ± 0.467	-0.358 ± 0.600
PRF-fit source offset from KIC position	1.669 ± 0.525	3.18	-1.574 ± 0.413	-0.556 ± 0.582
photometric centroid source offset	1.05 ± 0.98	1.07	1.03 ± 0.98	-0.20 ± 0.93

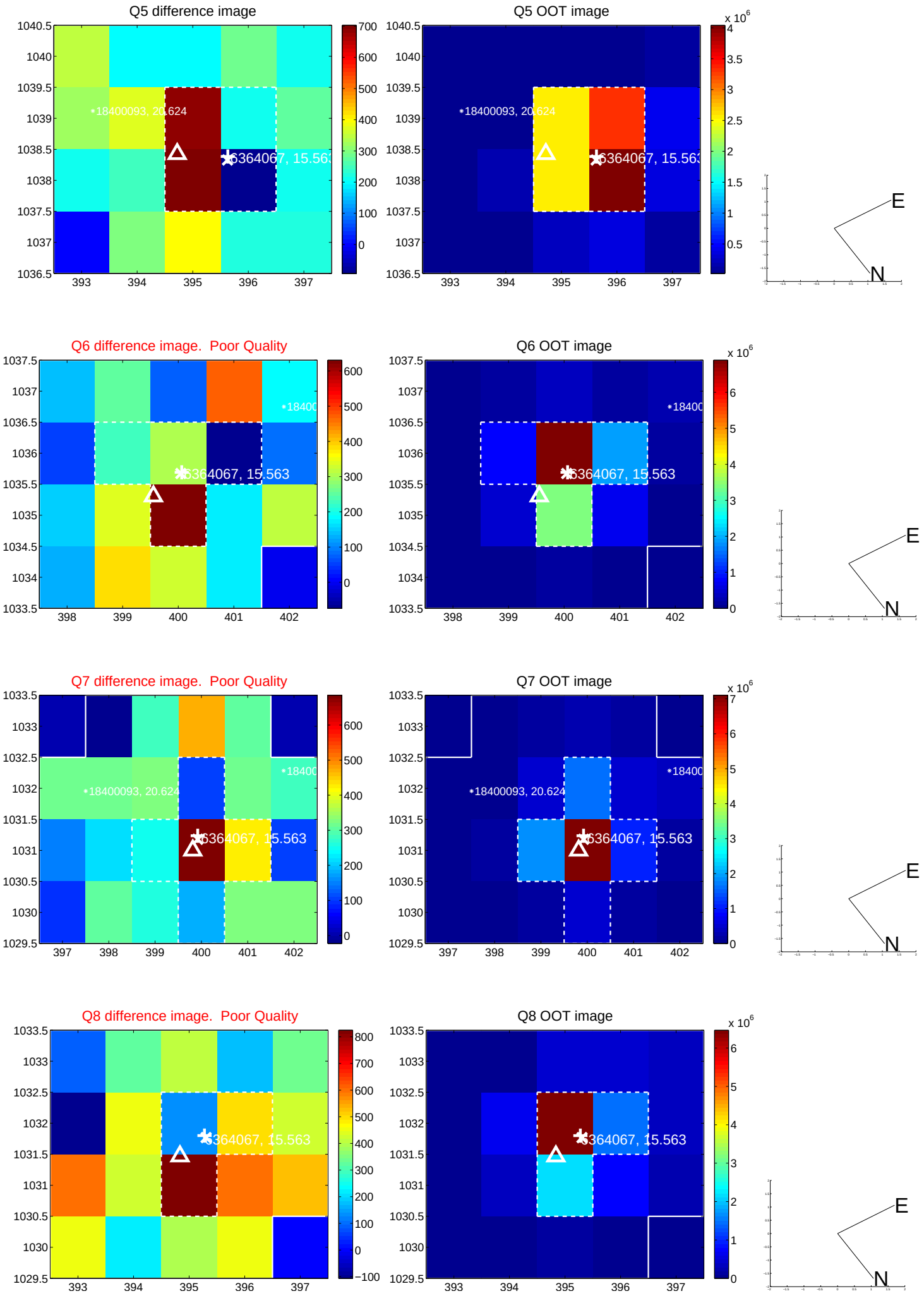


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

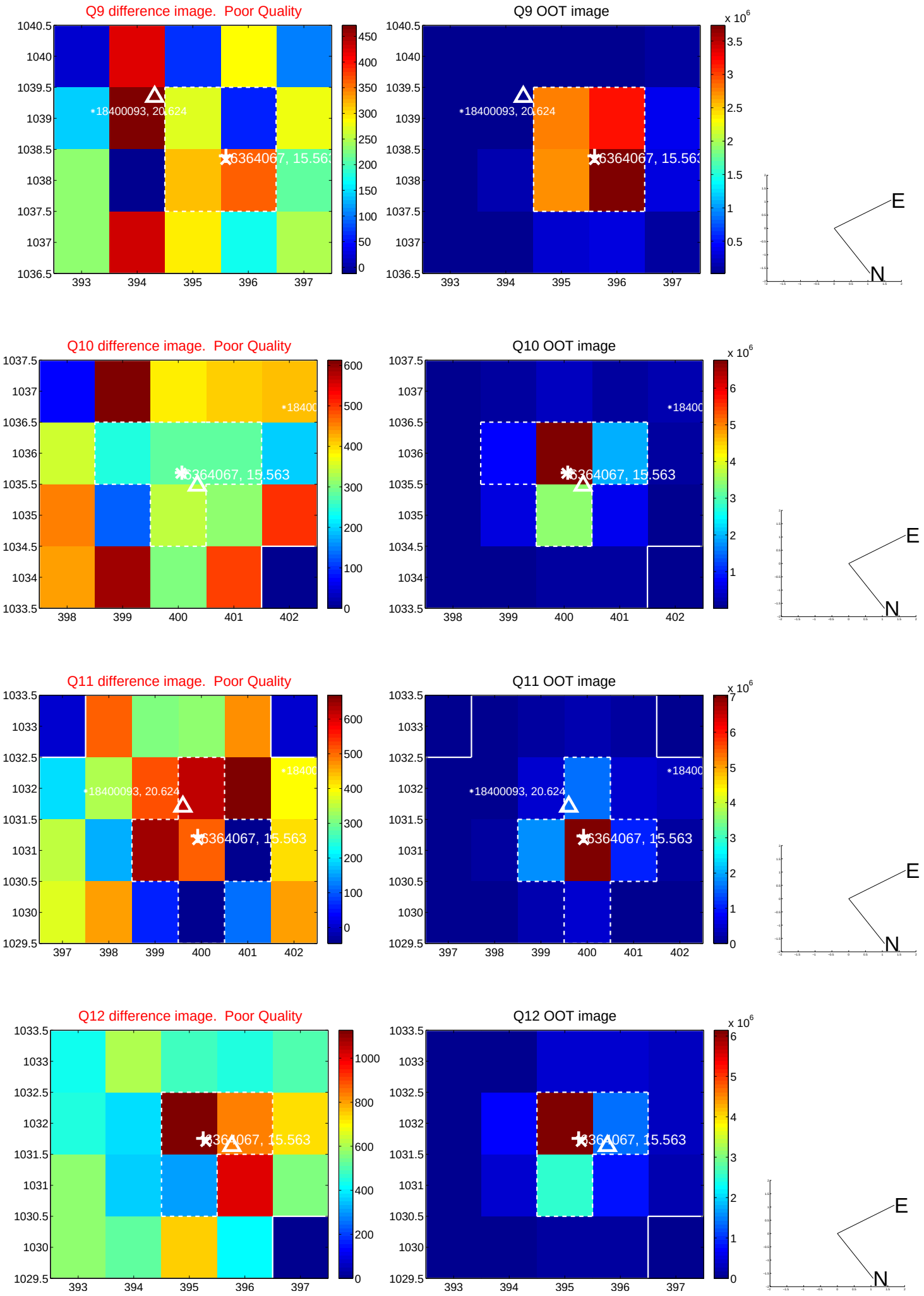
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



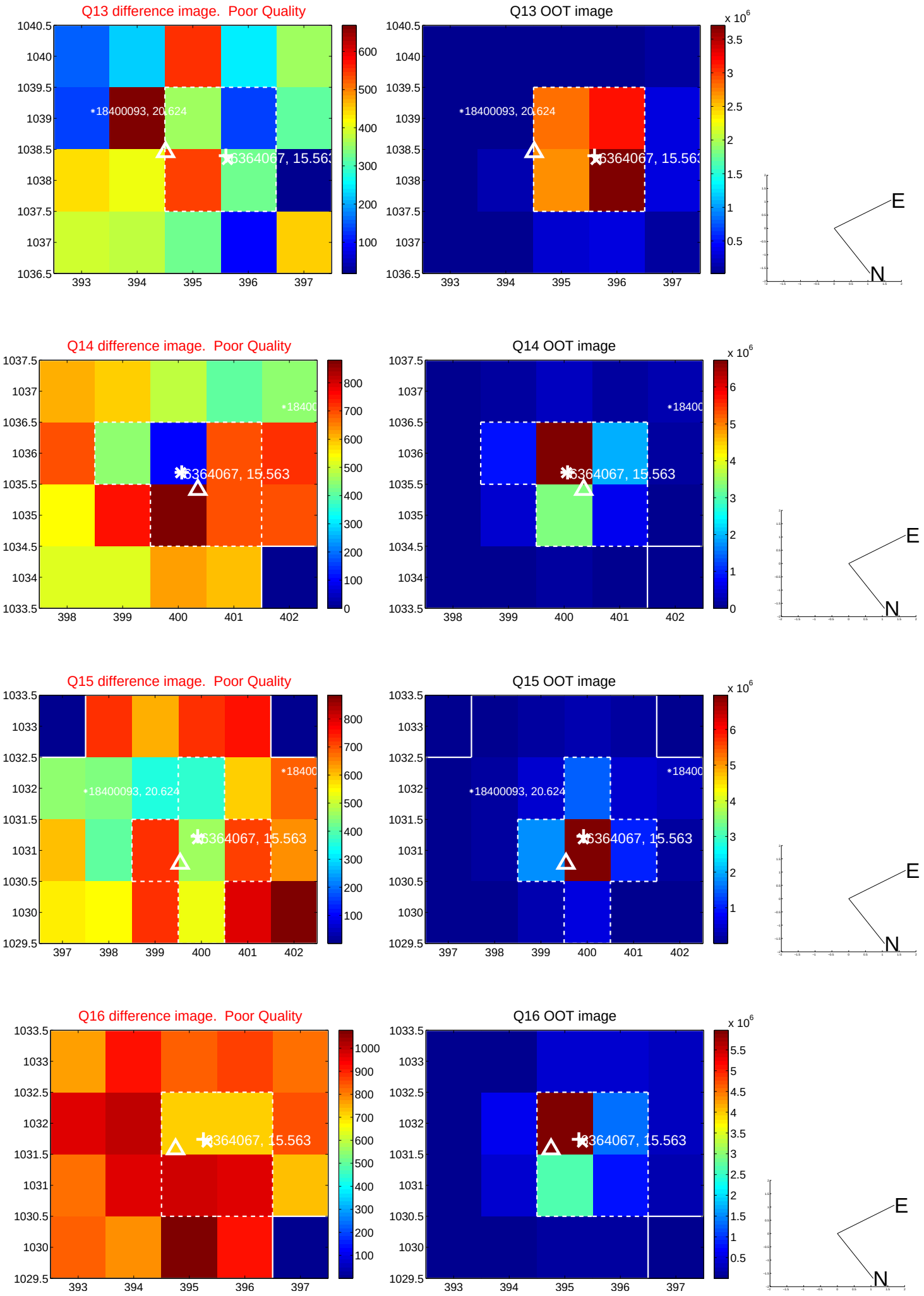
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



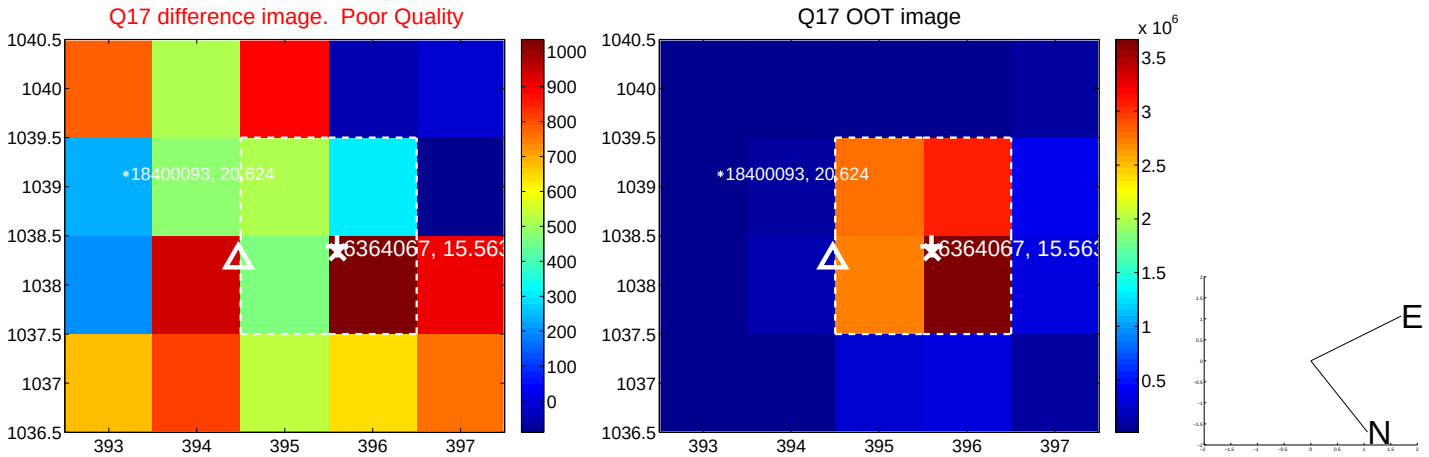
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

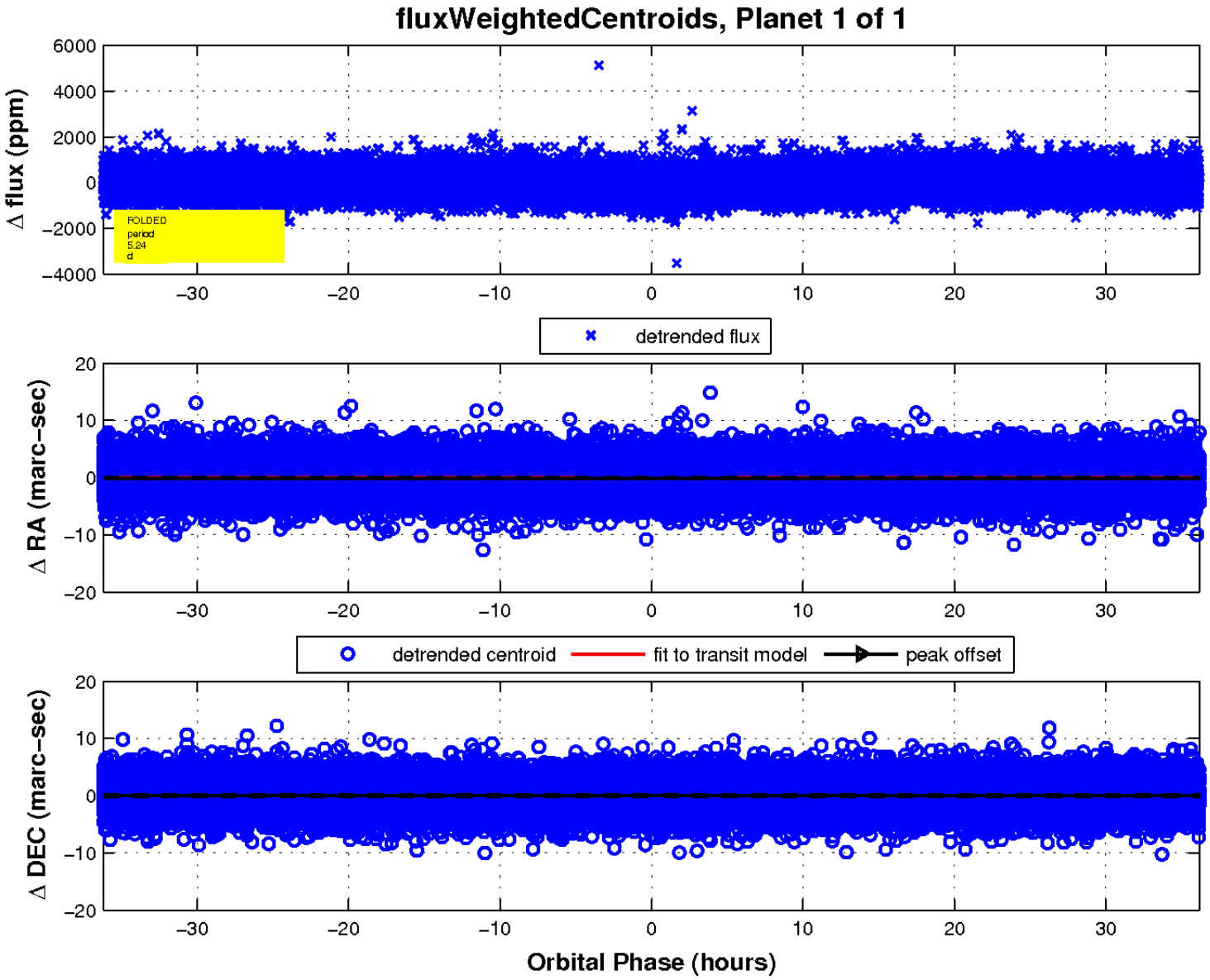


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

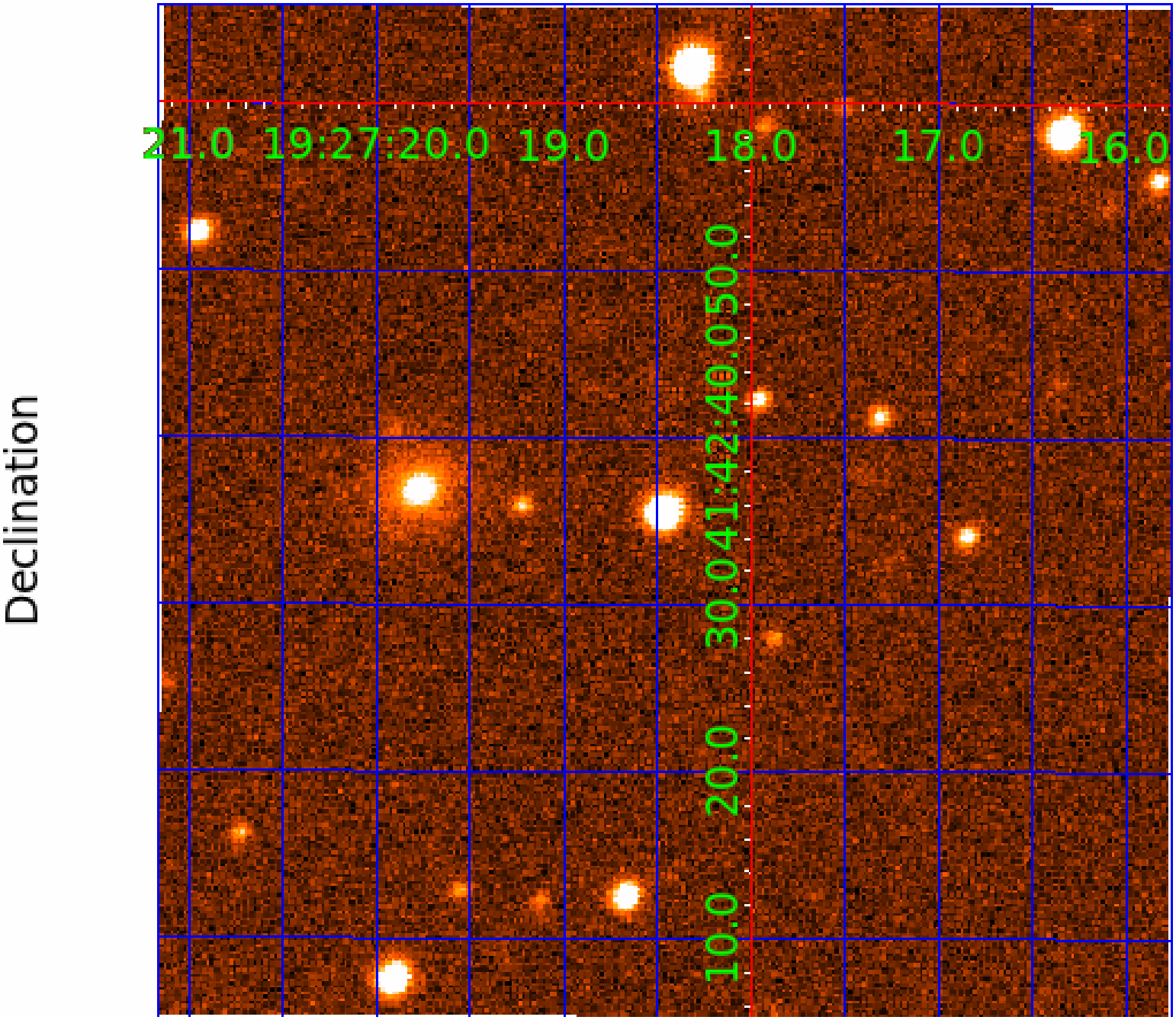


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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