KIC 009243826

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 ($S_\oplus$)
009243826-01	OBS	No	2.406228	132.525694	8.3	19.723	8.4	6.0	2.68	6471	0.83	6845.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009243826-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS

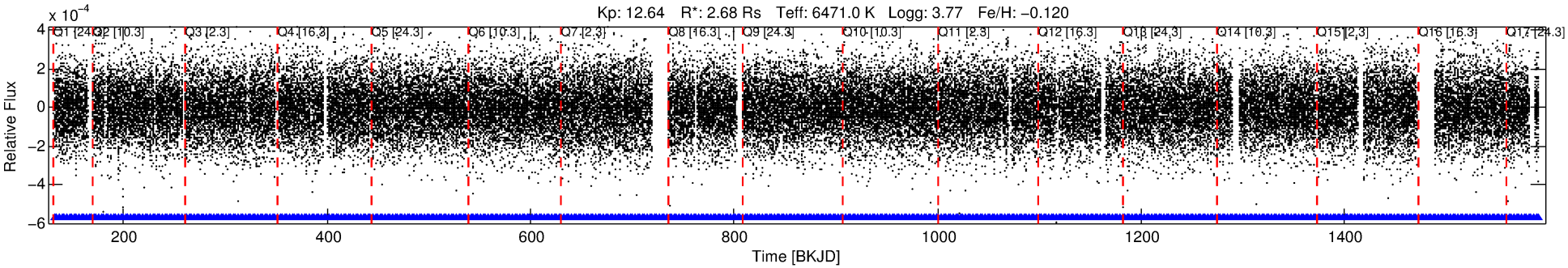
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

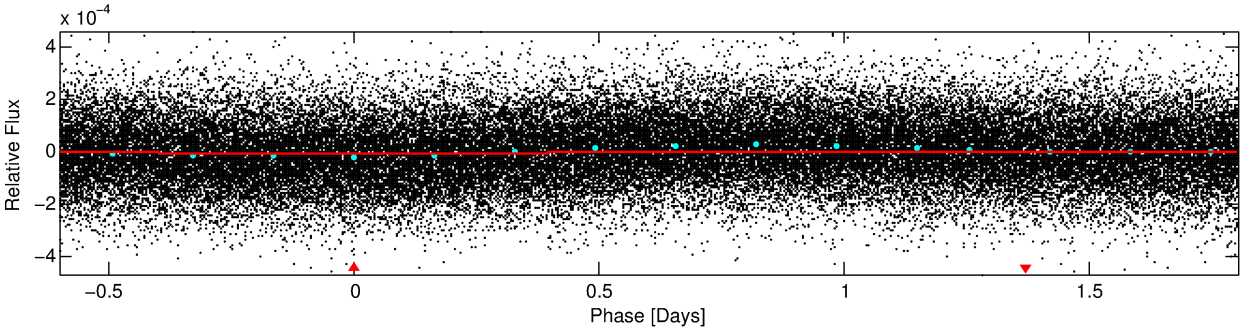
Ephemeris Match Information For 009243826-01

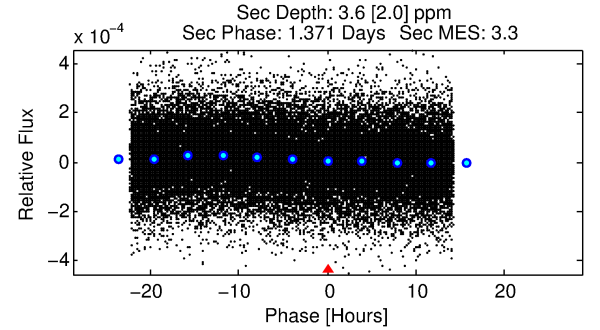
No Significant Match Found

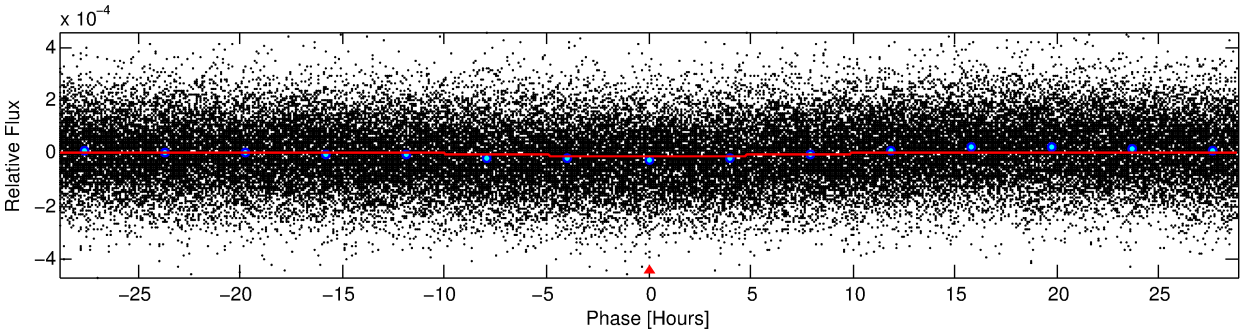
DV One-Page Summary

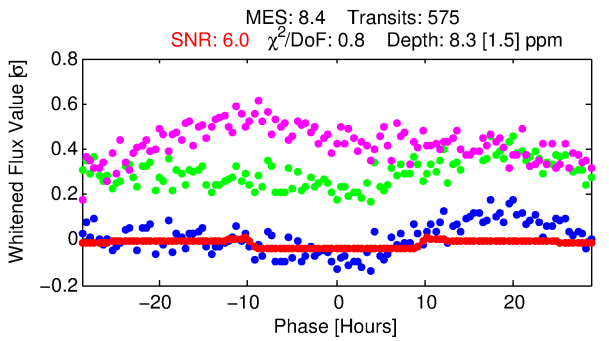
KIC: 9243826 Candidate: 1 of 1 Period: 2.406 d

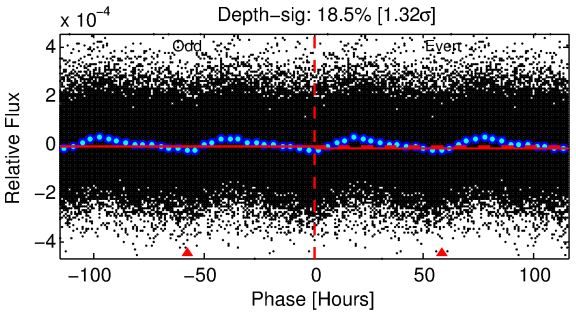


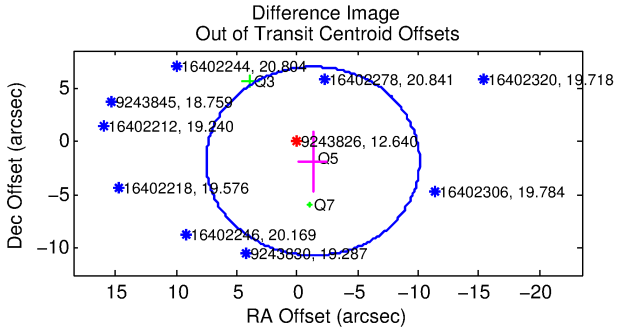












DV Fit Results:

Period = 2.40623 [0.00008] d
Epoch = 132.5257 [0.0181] BKJD
Rp/R* = 0.0028 [0.0026]
a/R* = 1.07 [0.70]
b = 0.74 [3.28]

Seff = 6845.60 [3634.04]
Teq = 2319 [308] K
Rp = 0.83 [0.84] Re
a = 0.0406 [0.0137] AU

Ag = 4.71 [9.46] [0.39σ]
Teffp = 5283 [2570] K [1.14σ]

DV Diagnostic Results:

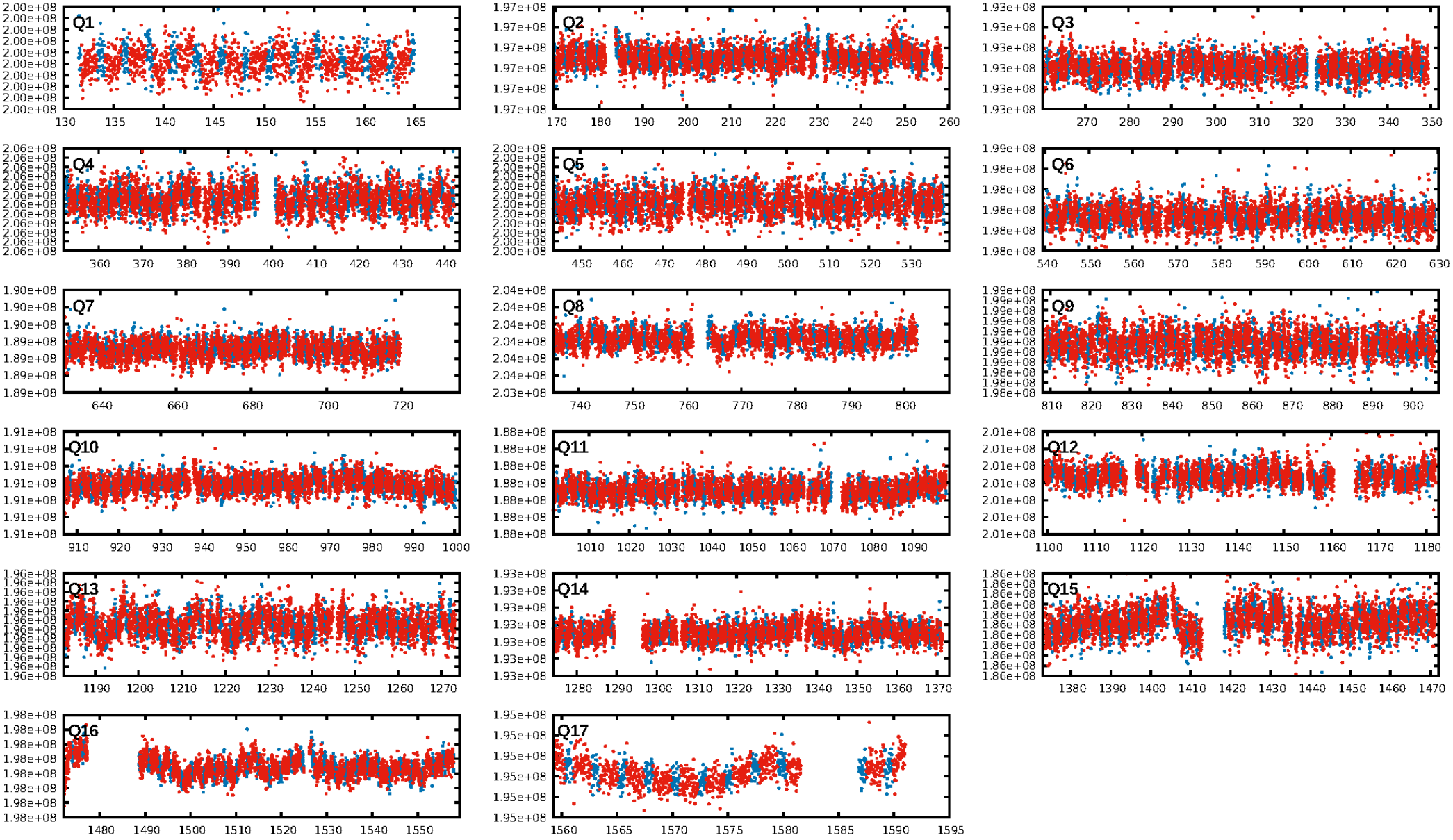
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [549/549]
GhostDiagnostic−chr: 2.783

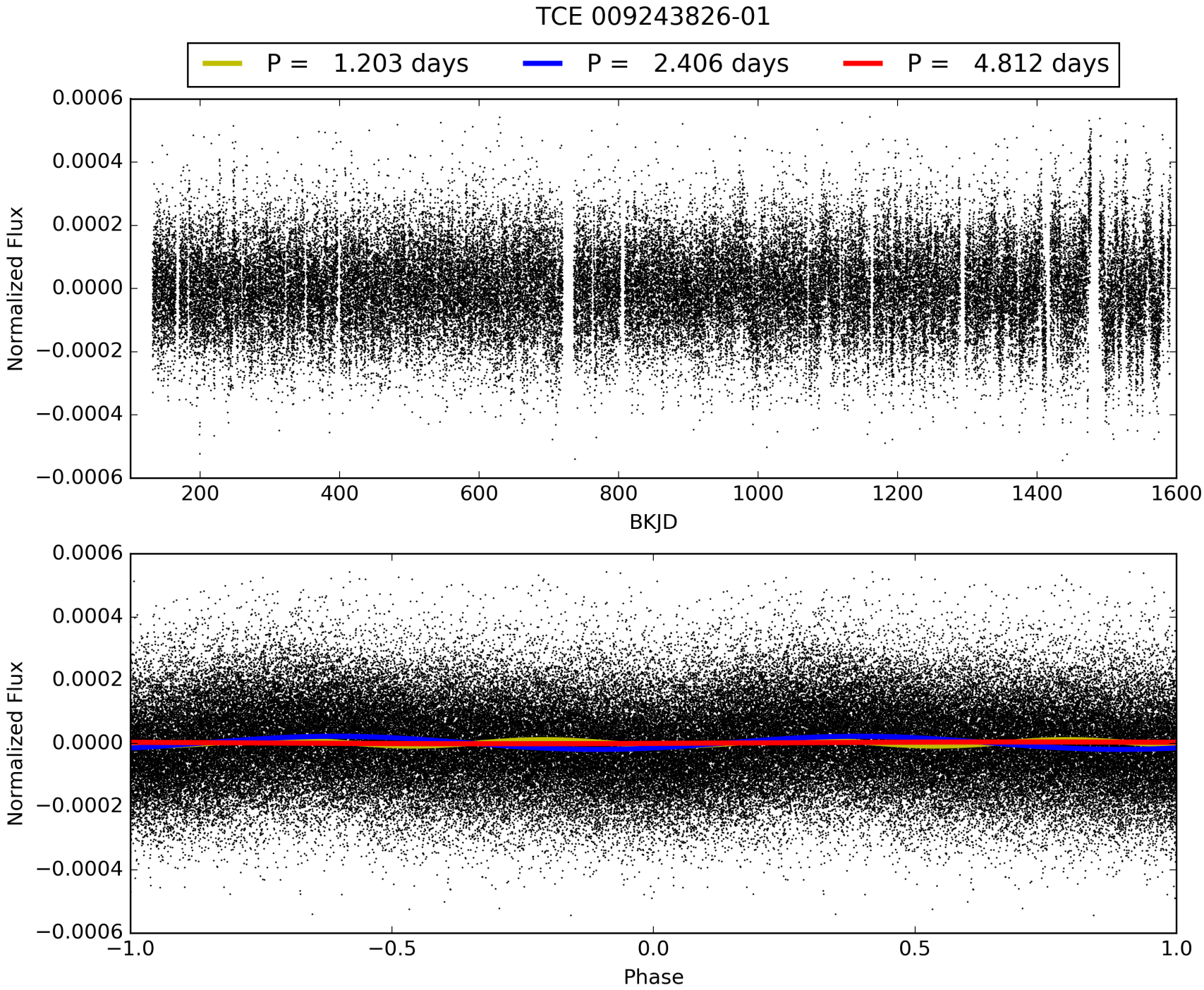
Centroid−sig: 0.1%
Centroid−so: 3.636 arcsec [2.01σ]
OotOffset−rm: 2.262 arcsec [0.77σ]
KicOffset−rm: 2.246 arcsec [0.66σ]
OotOffset−st: 0/2/0/1 [3]
KicOffset−st: 0/2/0/1 [3]
DiffImageQuality−fgm: 0.00 [0/3]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 31−Jan−2016 04:44:06 Z

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

TCE 009243826-01, PDC Light Curves

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P = 2.406 days
P = 4.812 days
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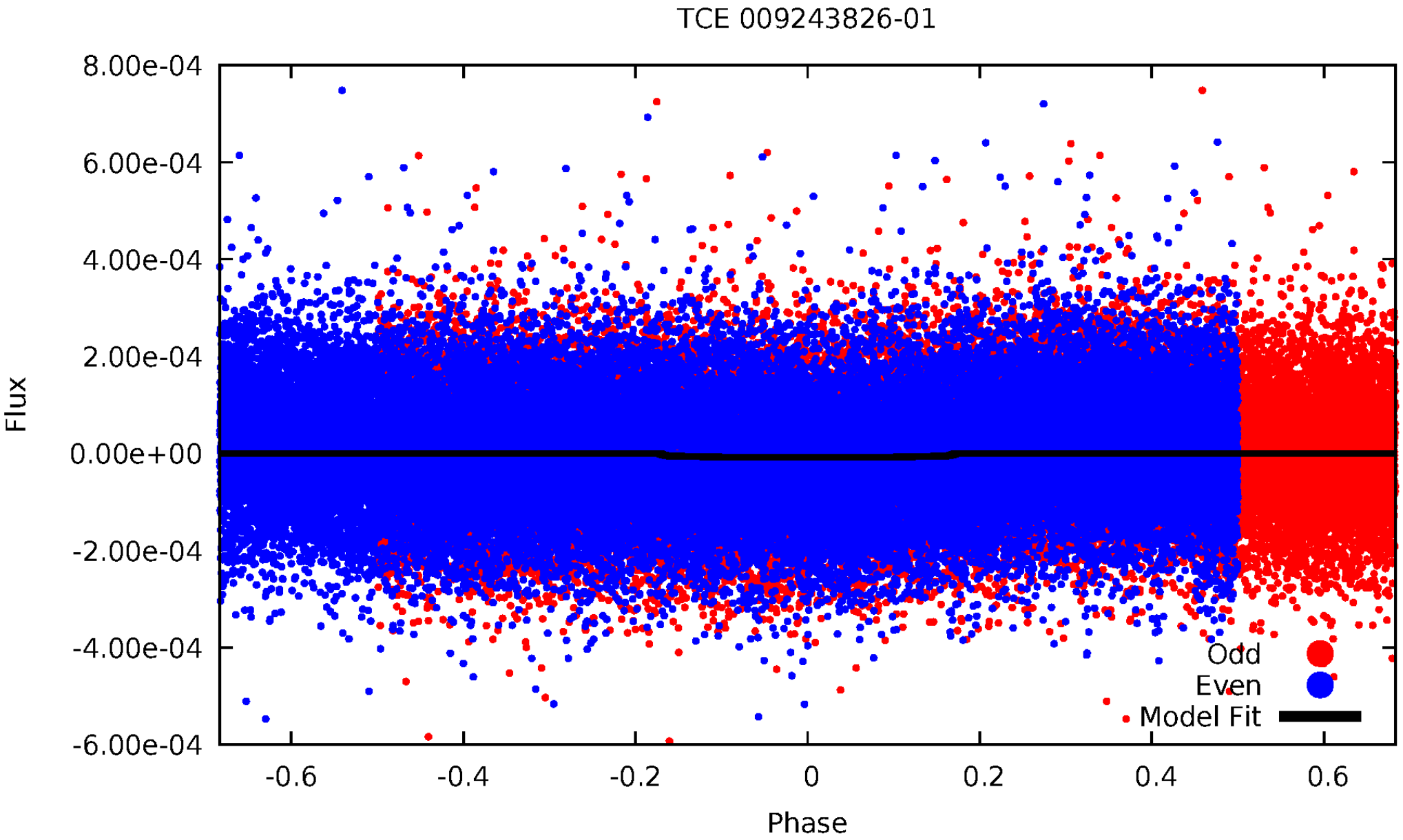
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
−1.0
−0.5
0.0
0.5
1.0
Phase

DV Odd/Even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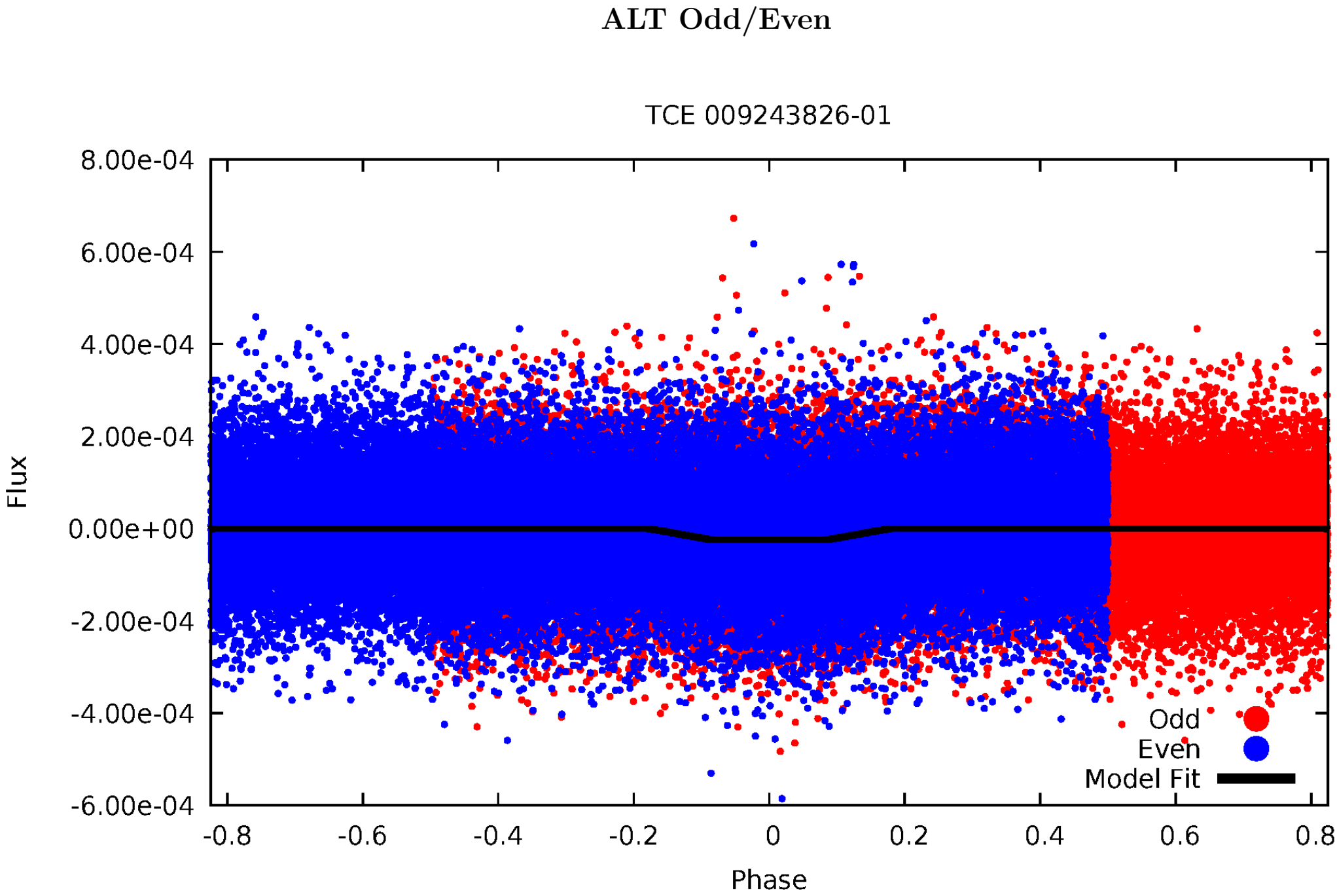
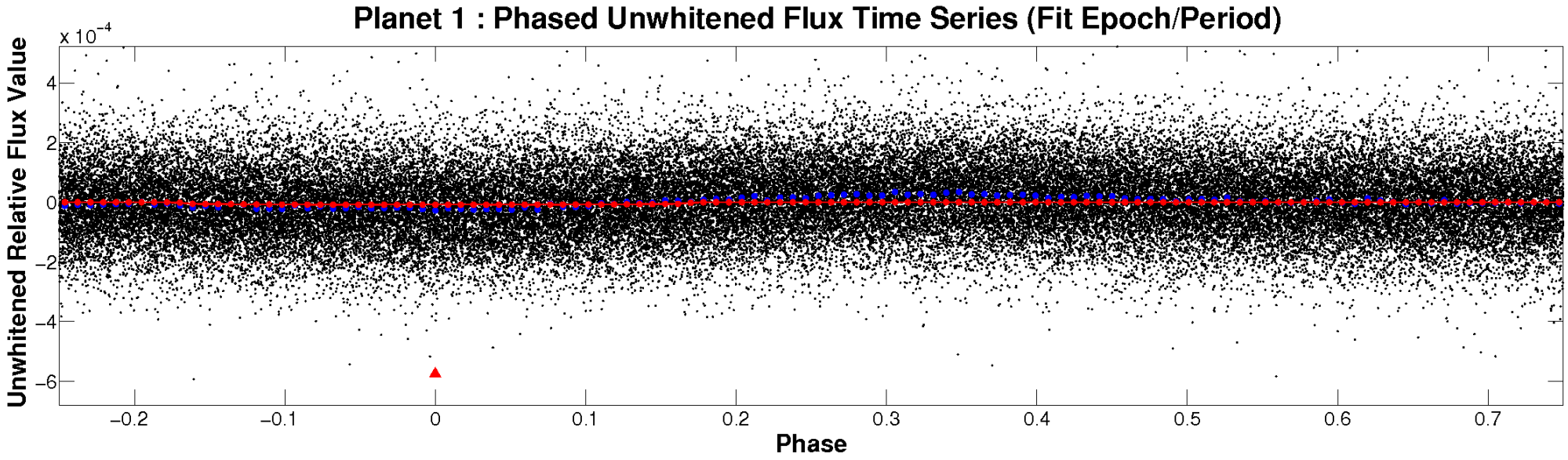
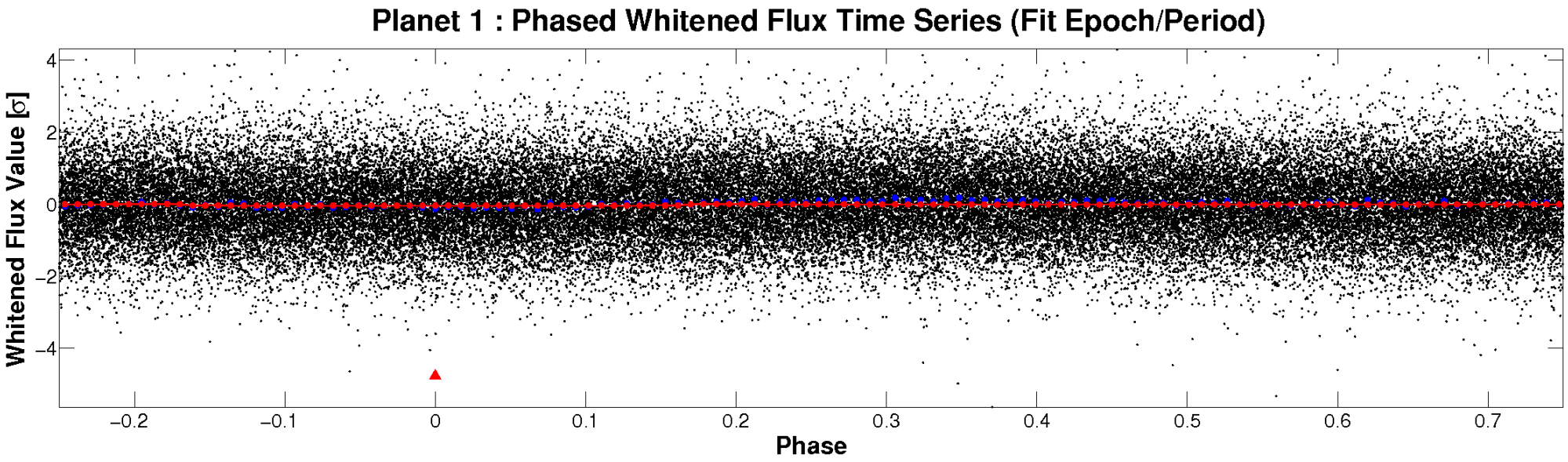
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
Flux
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 009243826-01
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
Flux
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
0.8
Phase
Odd
Even
Model Fit

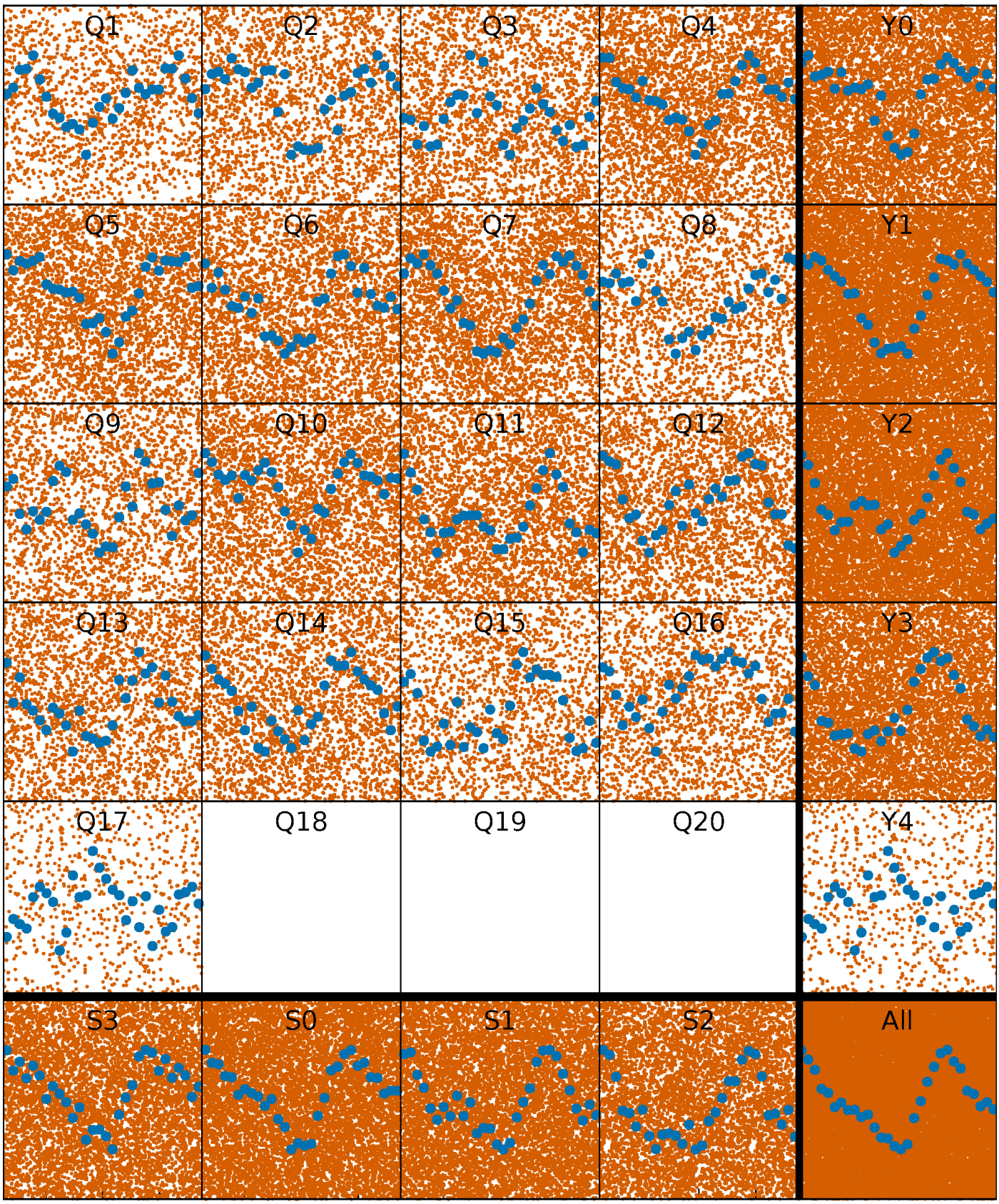
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 009243826-01 P= 2.406228 Days T_0=132.525694 (BKJD)



DV Quarter-Phased Transit Curves

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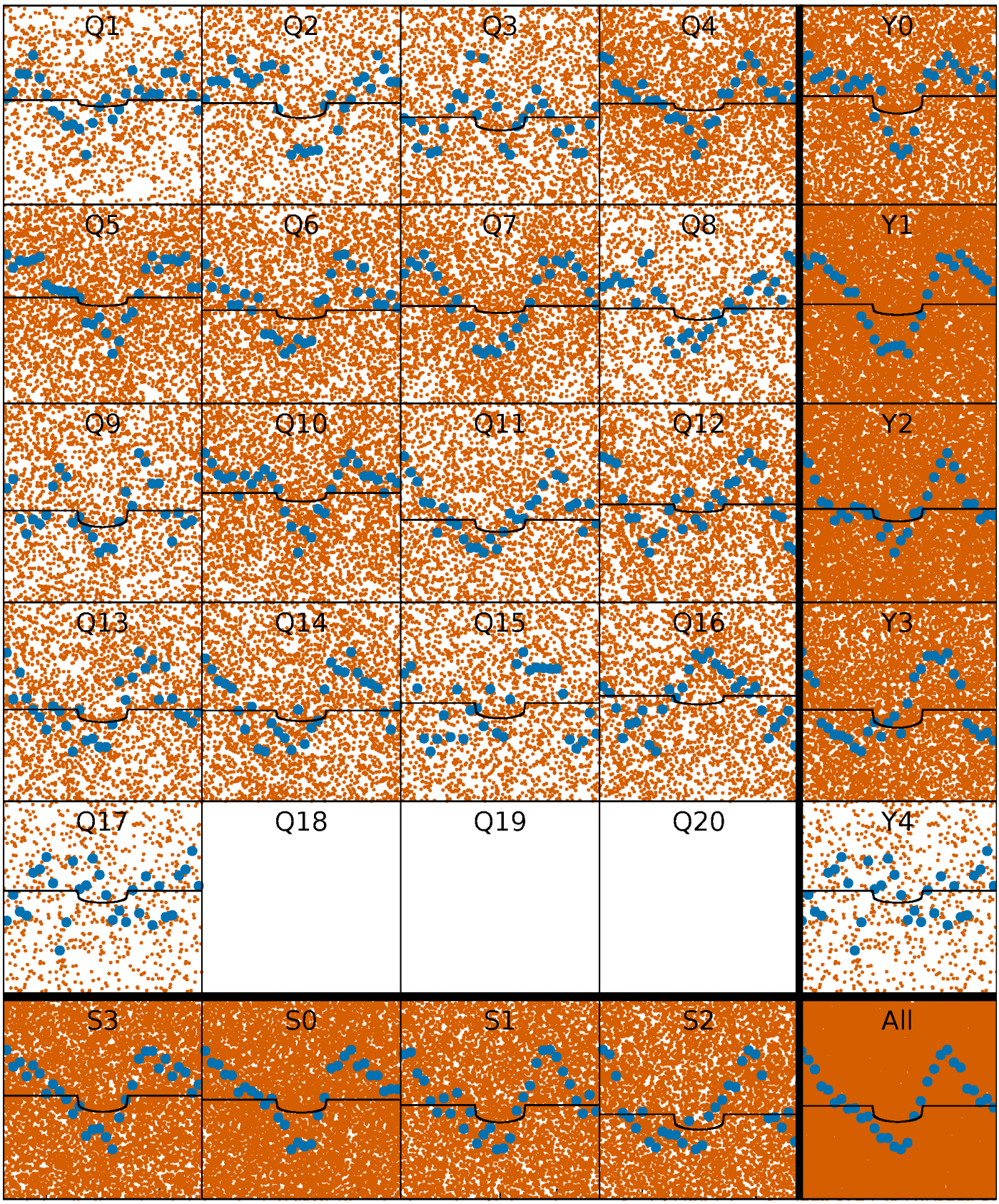
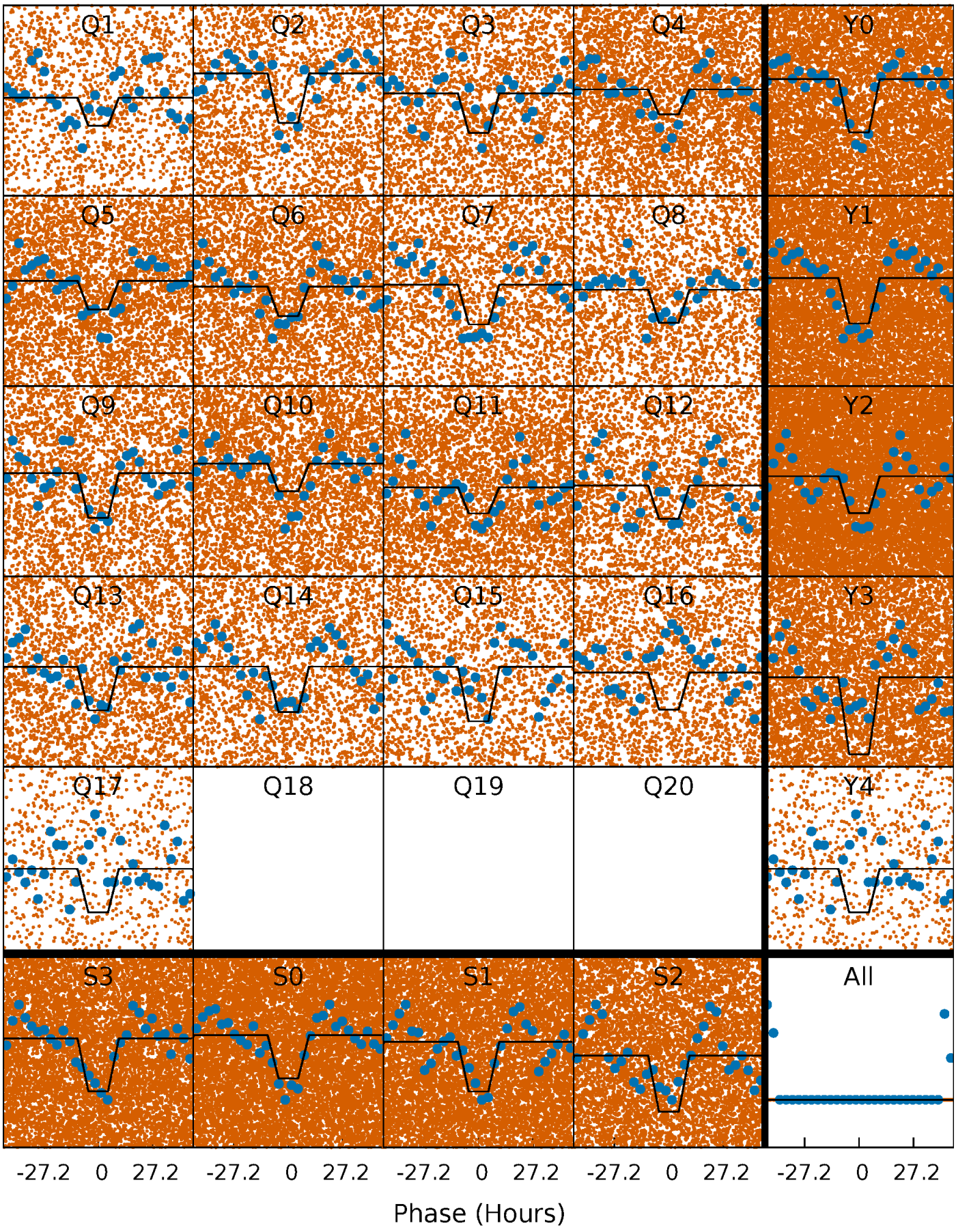


Alt. Detrend Quarter-Phased Transit Curves

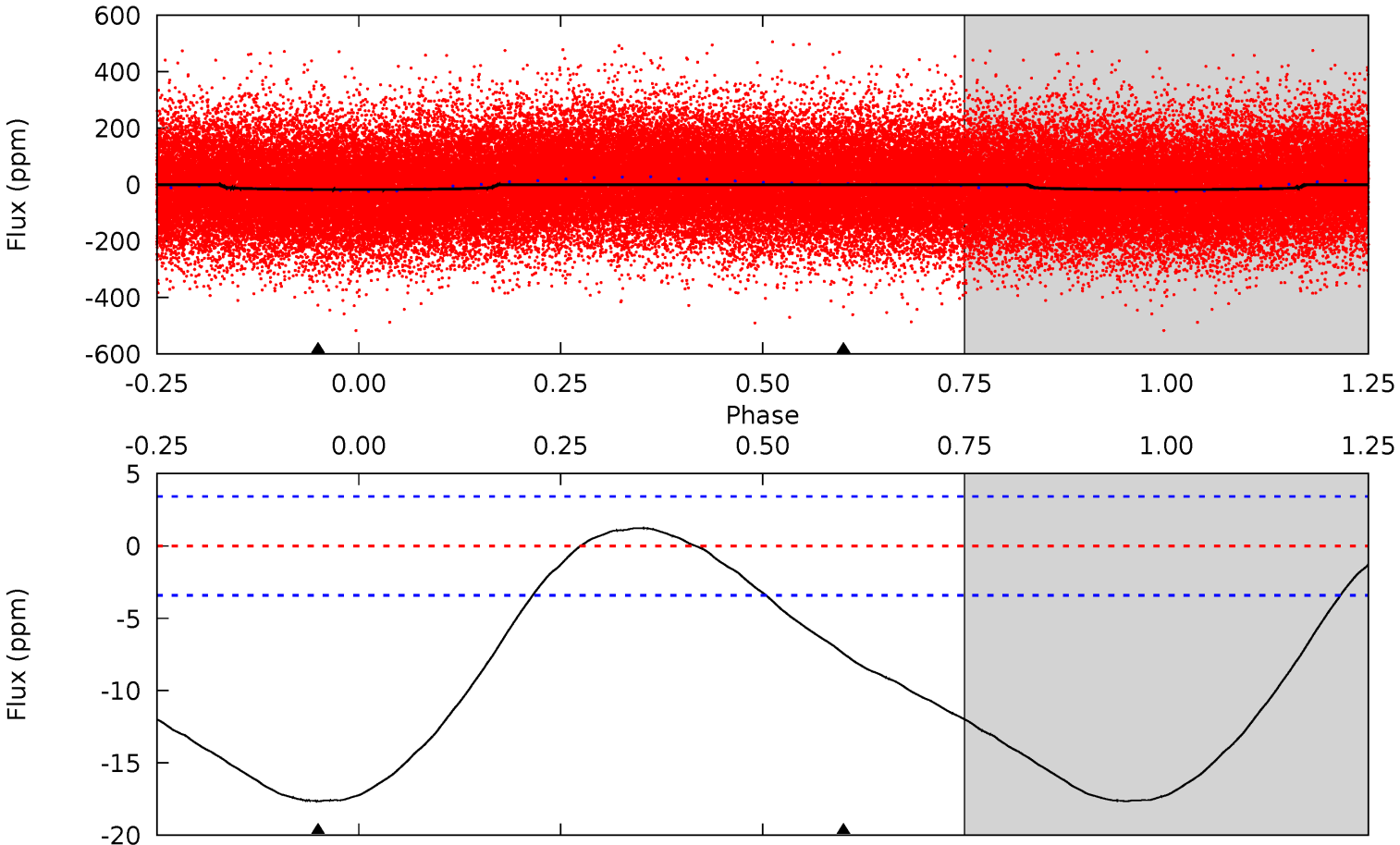
TCE 009243826-01 P= 2.405933 Days T_0=132.601374 (BKJD)

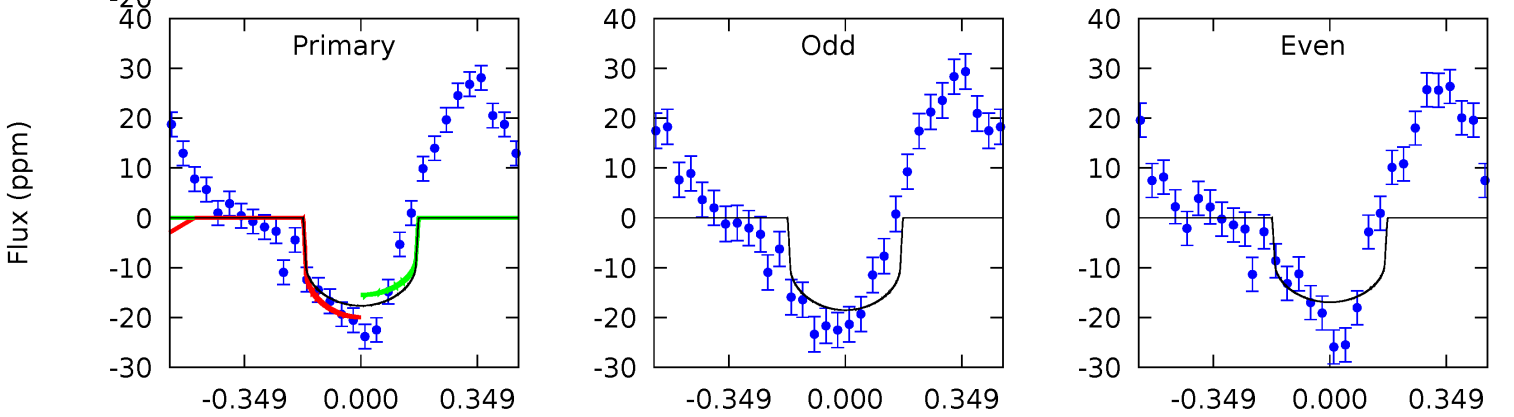


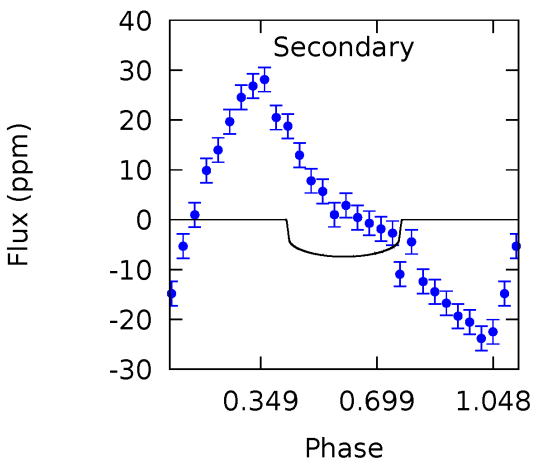
DV Model-Shift Uniqueness Test

009243826-01, P = 2.406228 Days, E = 130.119466 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	9.35	0	0	4.30	0.94	1.47	22.2	22.2	9.35	9.35	1.01	0.99	0.06	2.86



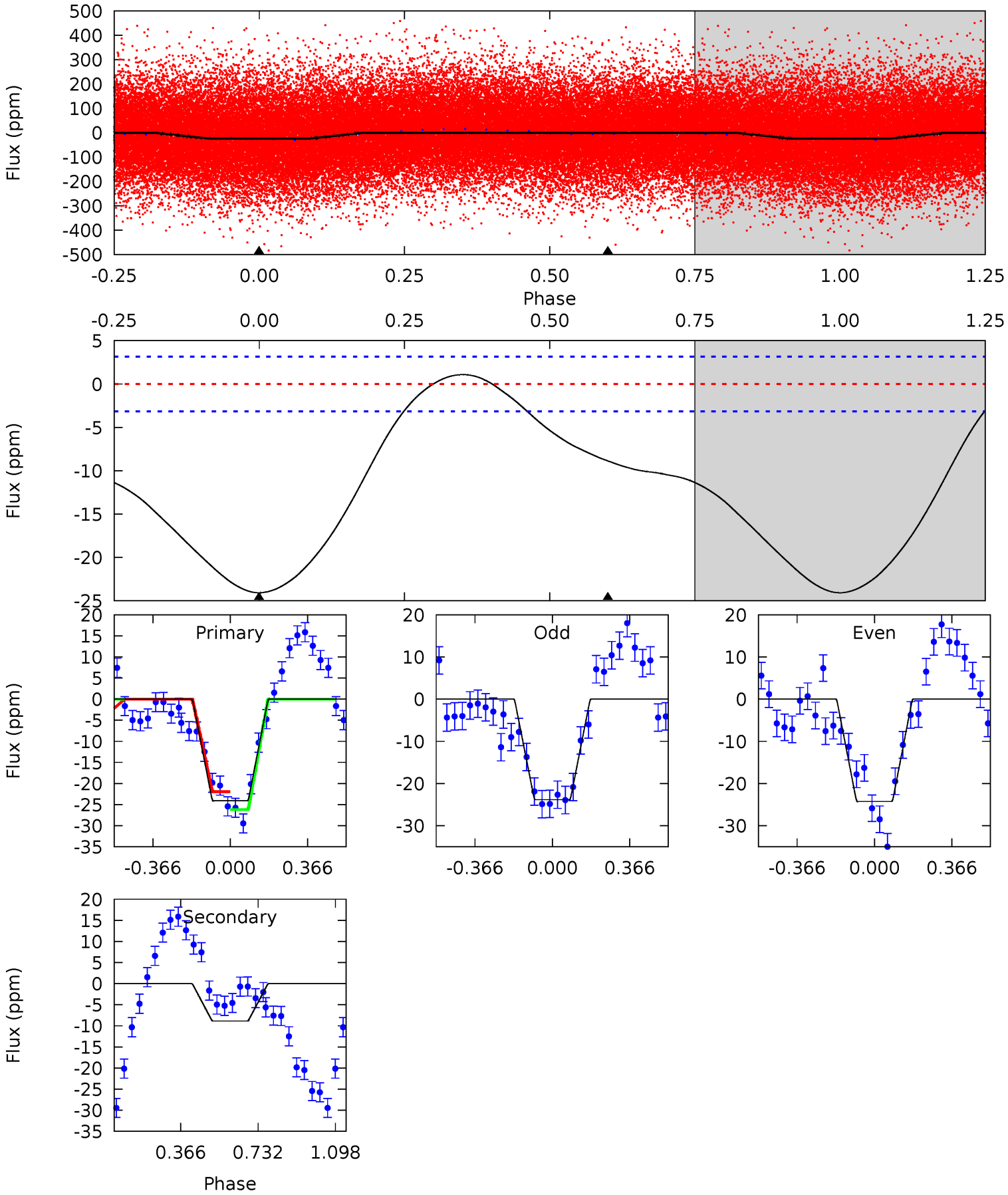




Alt Model-Shift Uniqueness Test

009243826-01, P = 2.405933 Days, E = 130.195441 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.8	12.1	0	0	4.28	0.90	1.72	32.8	32.8	12.1	12.1	0.29	1.19	0.04	2.87



Stellar Parameters For KIC 009243826

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6471^{+195}_{-215}	$3.770^{+0.292}_{-0.097}$	$-0.120^{+0.300}_{-0.250}$	$2.683^{+0.434}_{-1.012}$	$1.546^{+0.209}_{-0.339}$	$0.113^{+0.240}_{-0.036}$
	+3%/-3%	+8%/-3%	+250%/-208%	+16%/-38%	+14%/-22%	+213%/-32%
Source	PHO1	FLK73	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 009243826-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-7±1	$0.93^{+0.70}_{-0.59}$	3191^{+197}_{-259}	5753^{+4747}_{-1262}	$7.894^{+49.506}_{-5.267}$
Alt.	-9±1	$1.36^{+0.81}_{-0.69}$	3184^{+193}_{-285}	4970^{+2066}_{-851}	$4.379^{+13.274}_{-2.653}$

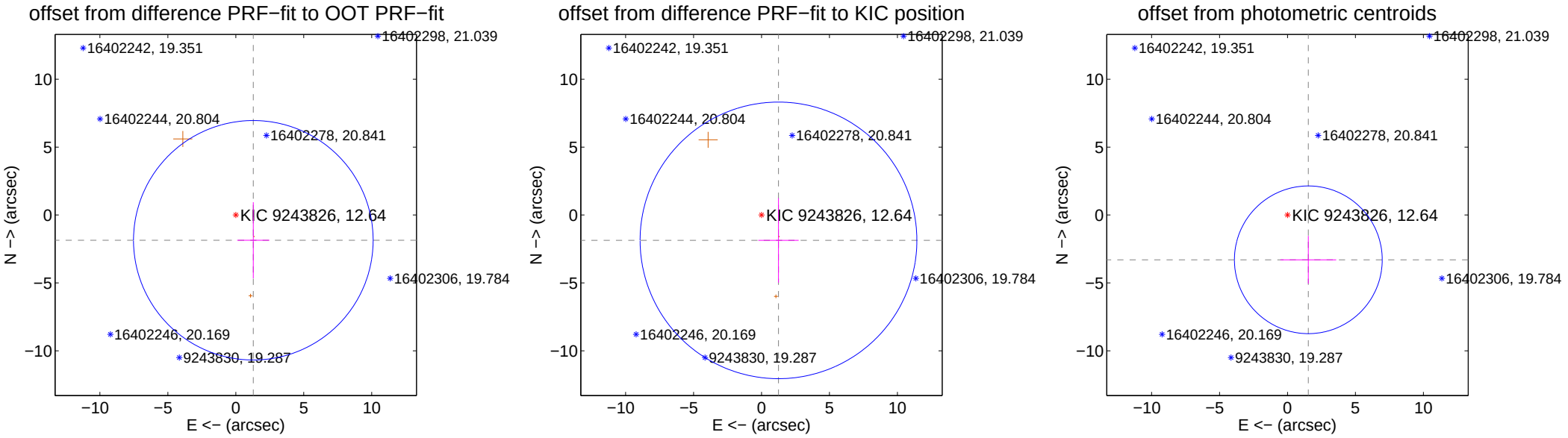
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

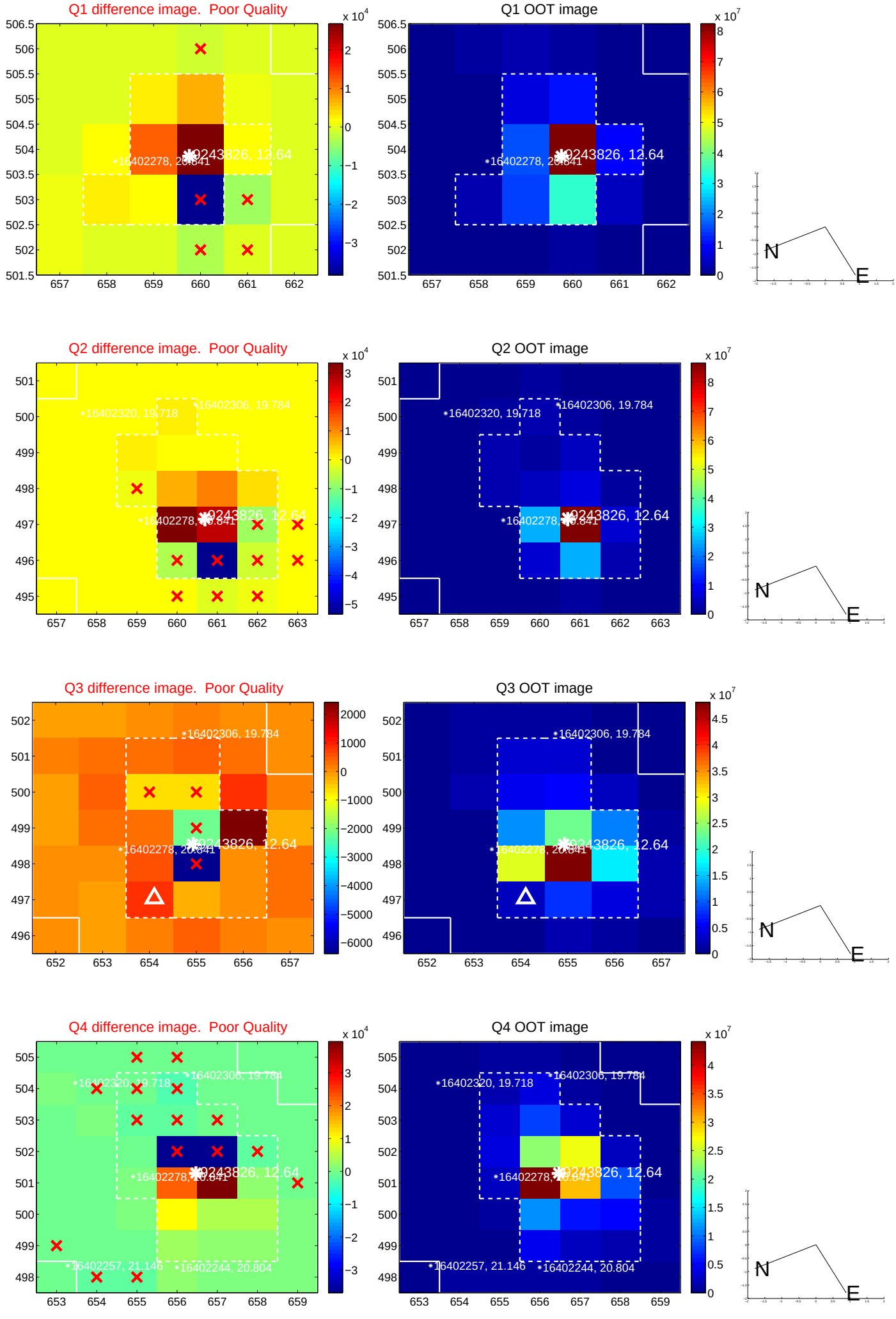
Supplemental centroid analysis for 009243826-01. Kepler magnitude: 12.64. Transit SNR 5.99
There are 0 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.262 ± 2.939	0.77	-1.289 ± 1.183	-1.859 ± 2.807
PRF-fit source offset from KIC position	2.246 ± 3.394	0.66	-1.248 ± 1.486	-1.867 ± 3.111
photometric centroid source offset	3.64 ± 1.81	2.01	-1.53 ± 2.05	-3.30 ± 1.76

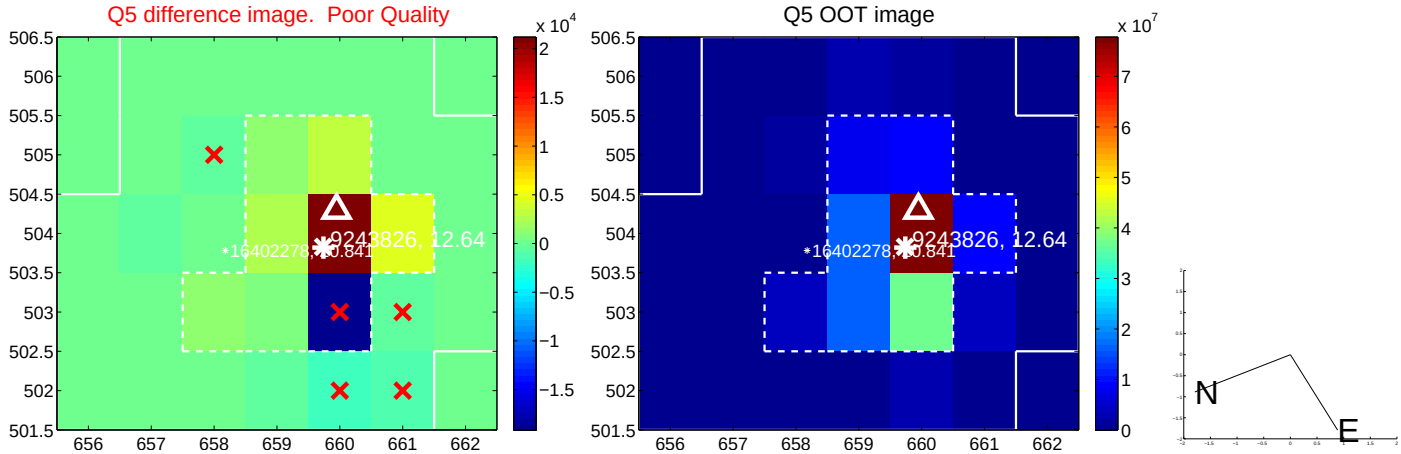


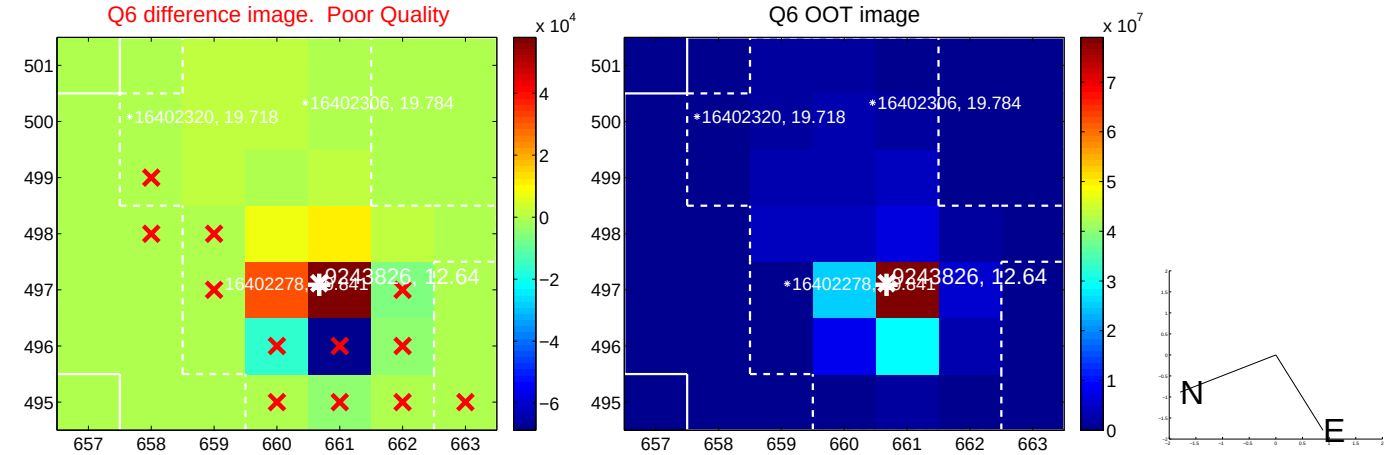
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

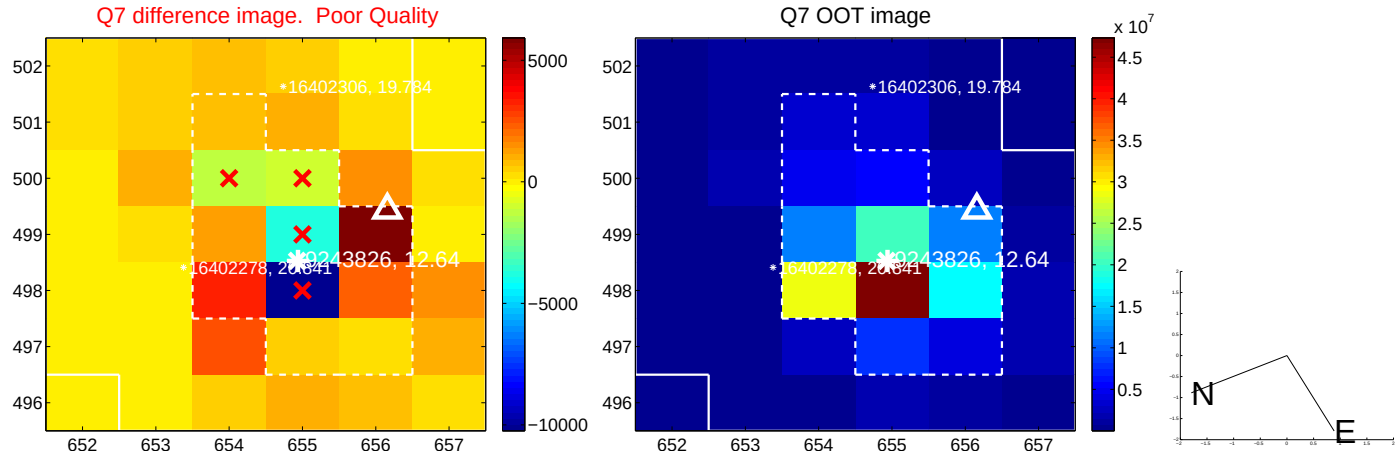
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

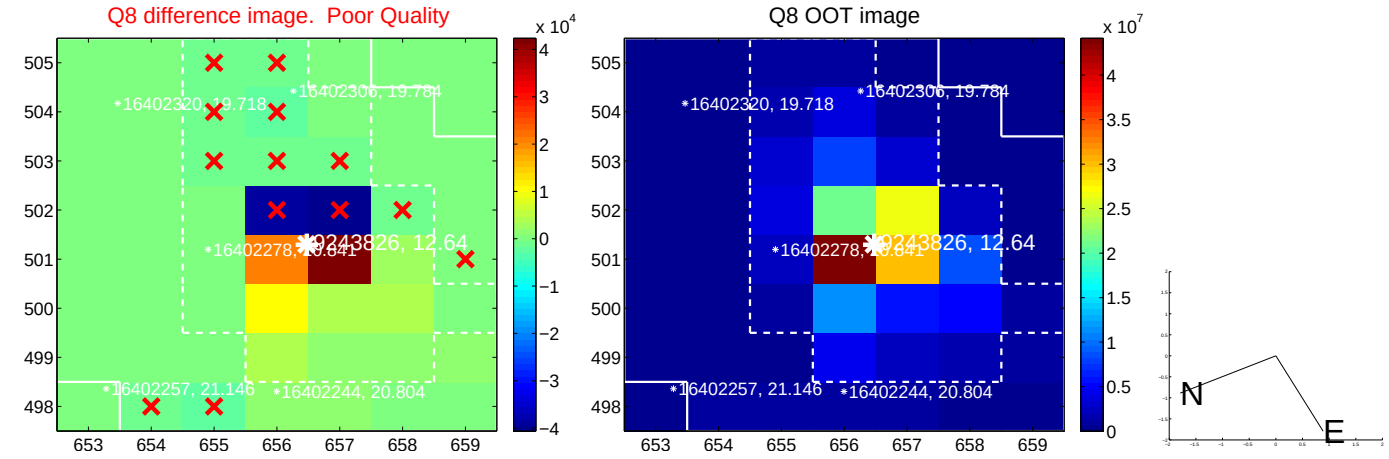


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

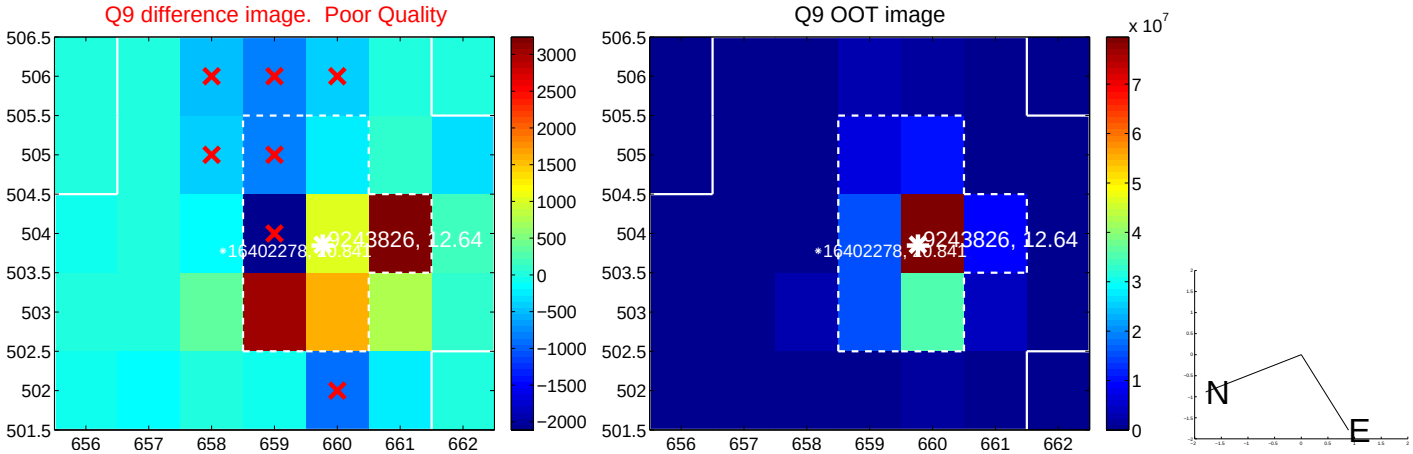


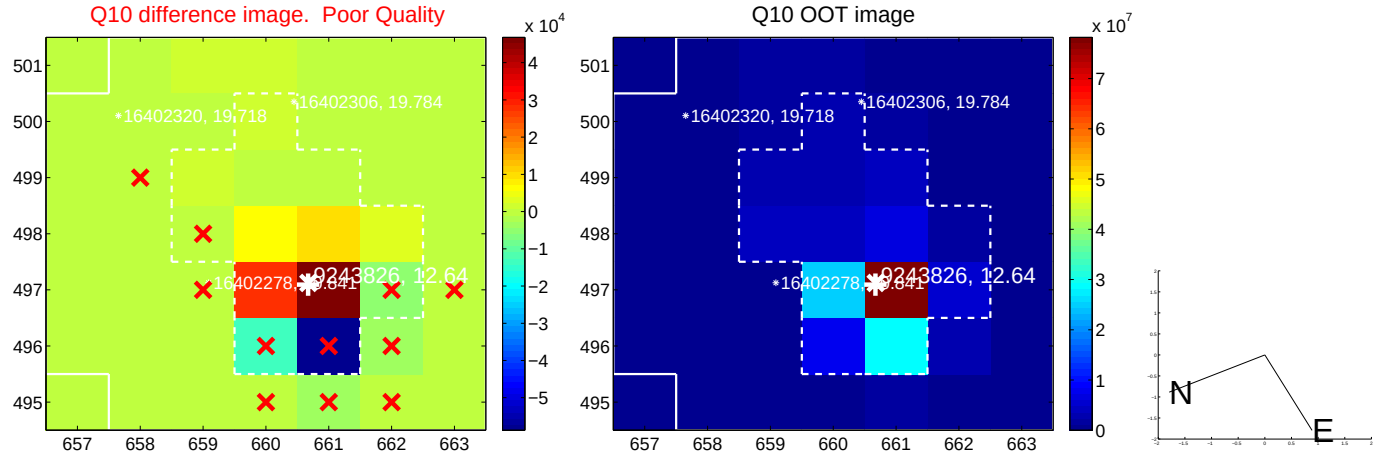


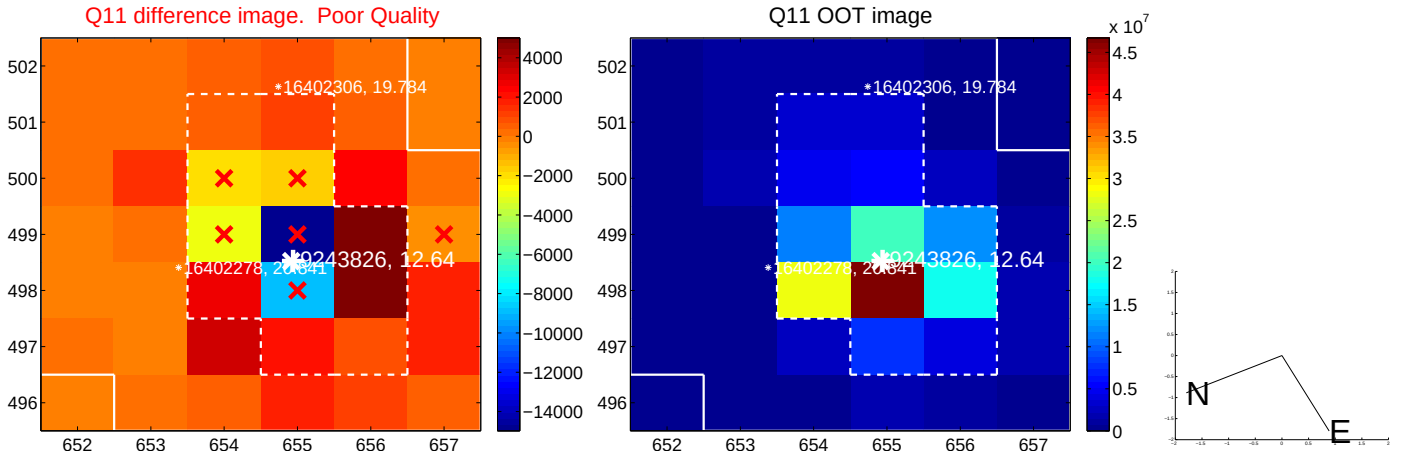


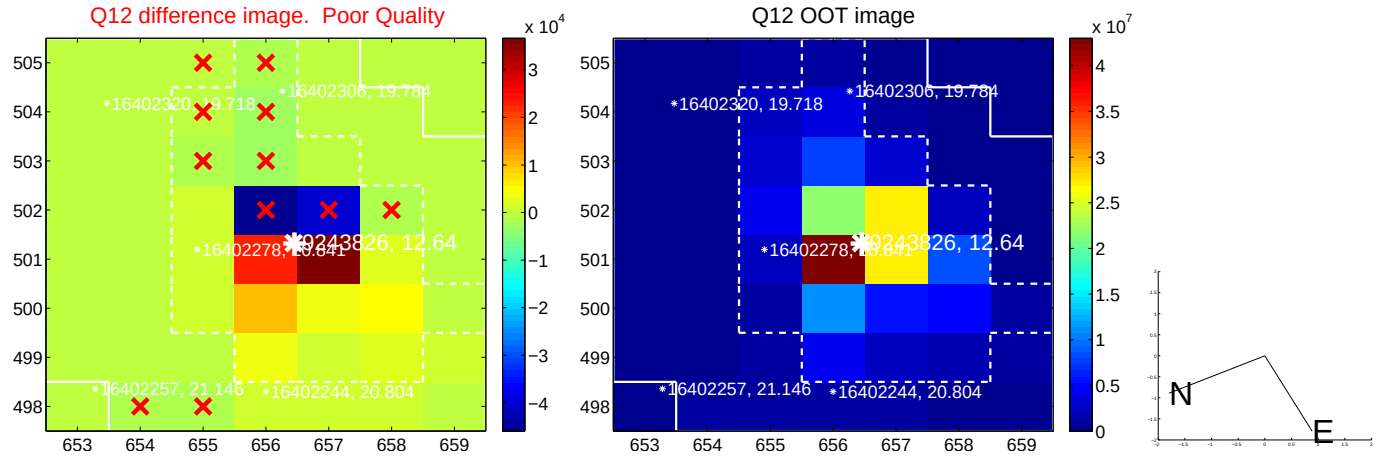


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

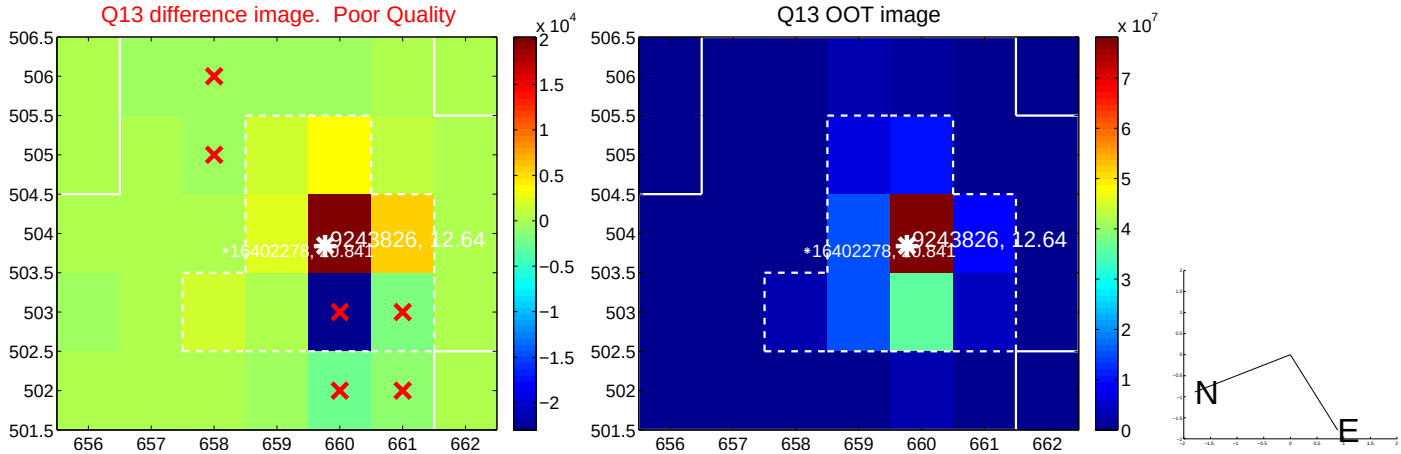


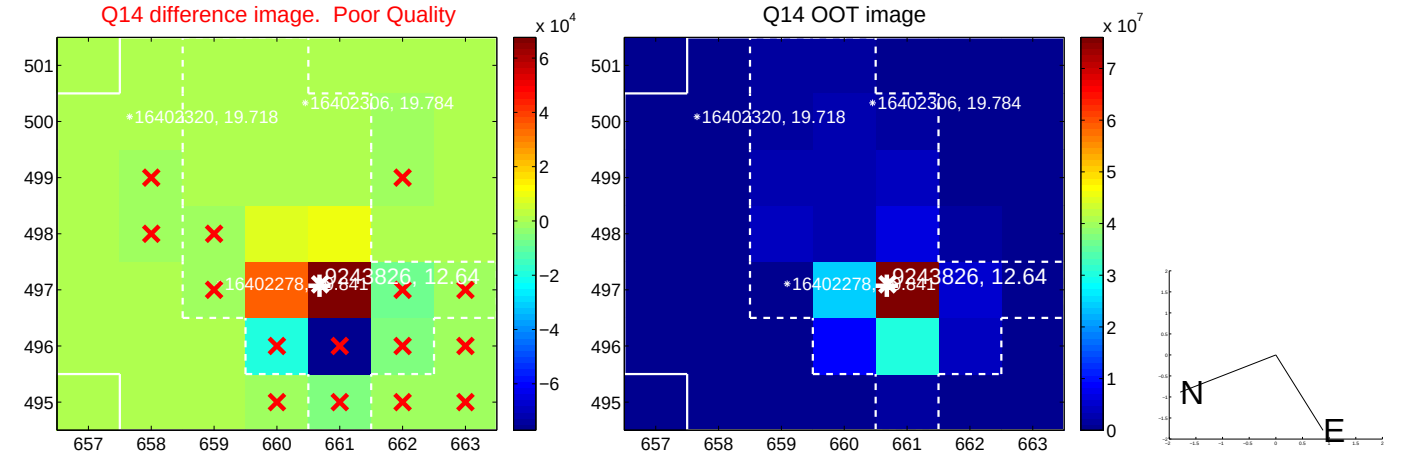


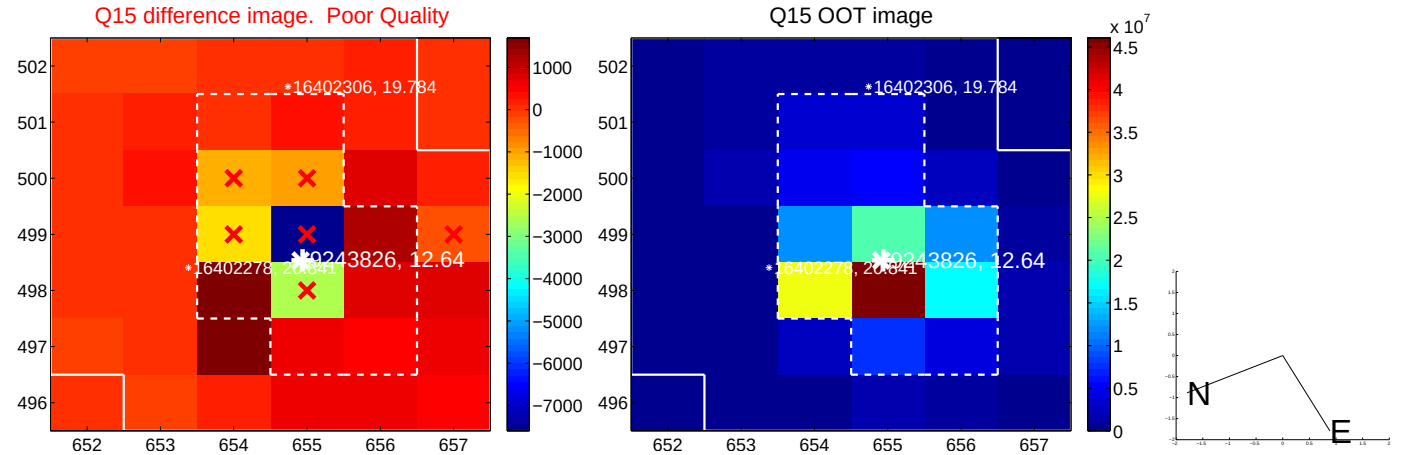


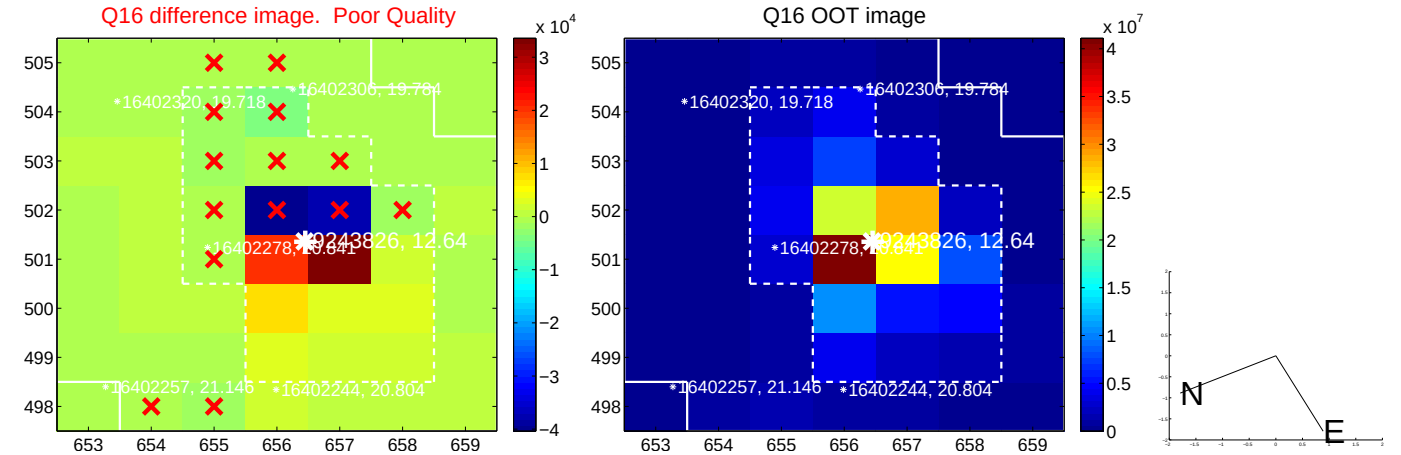


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

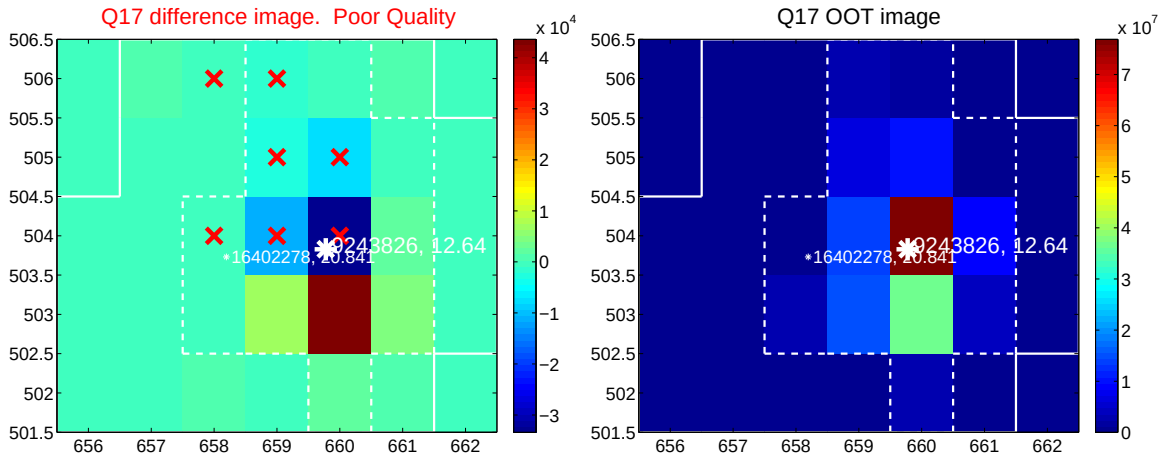


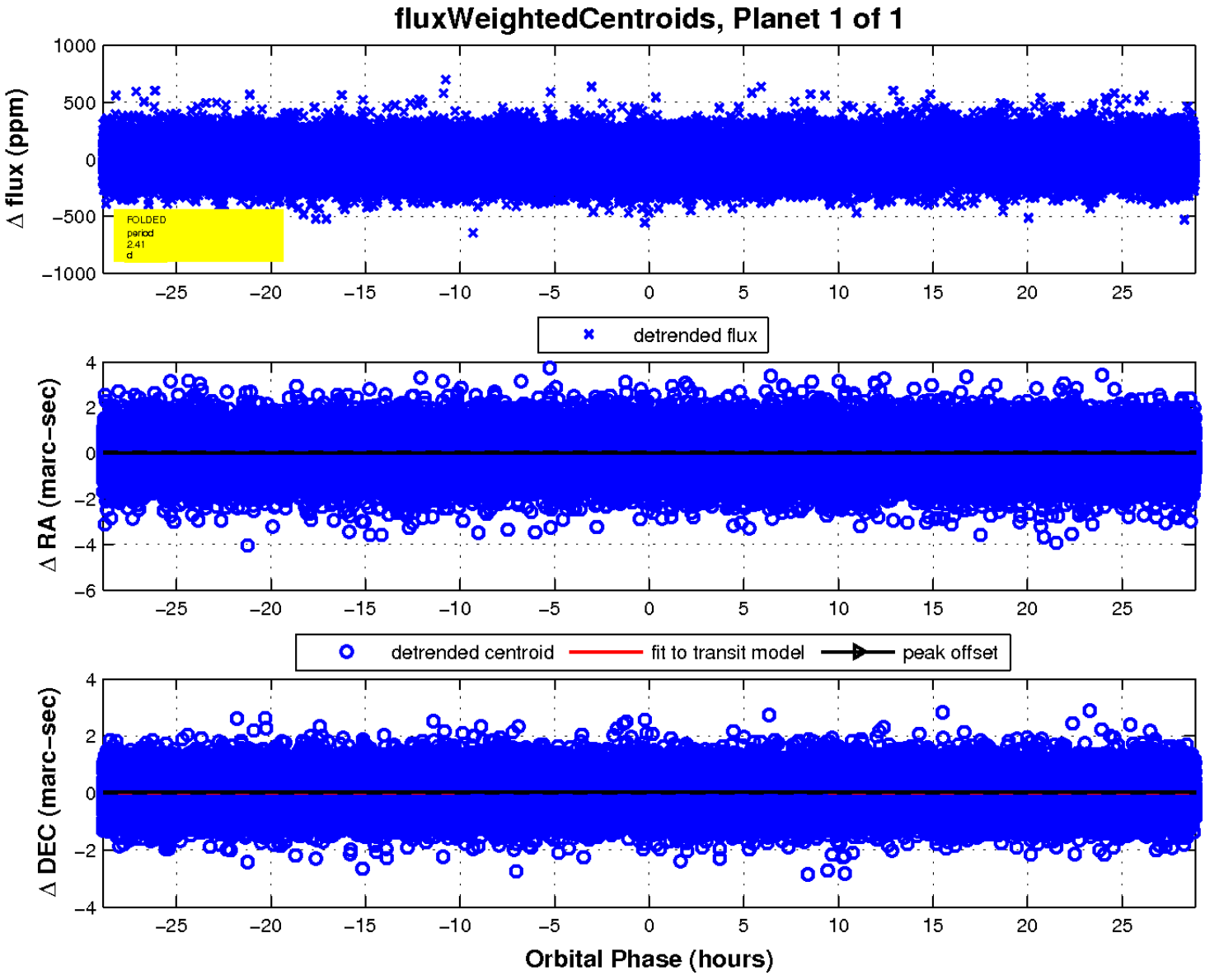




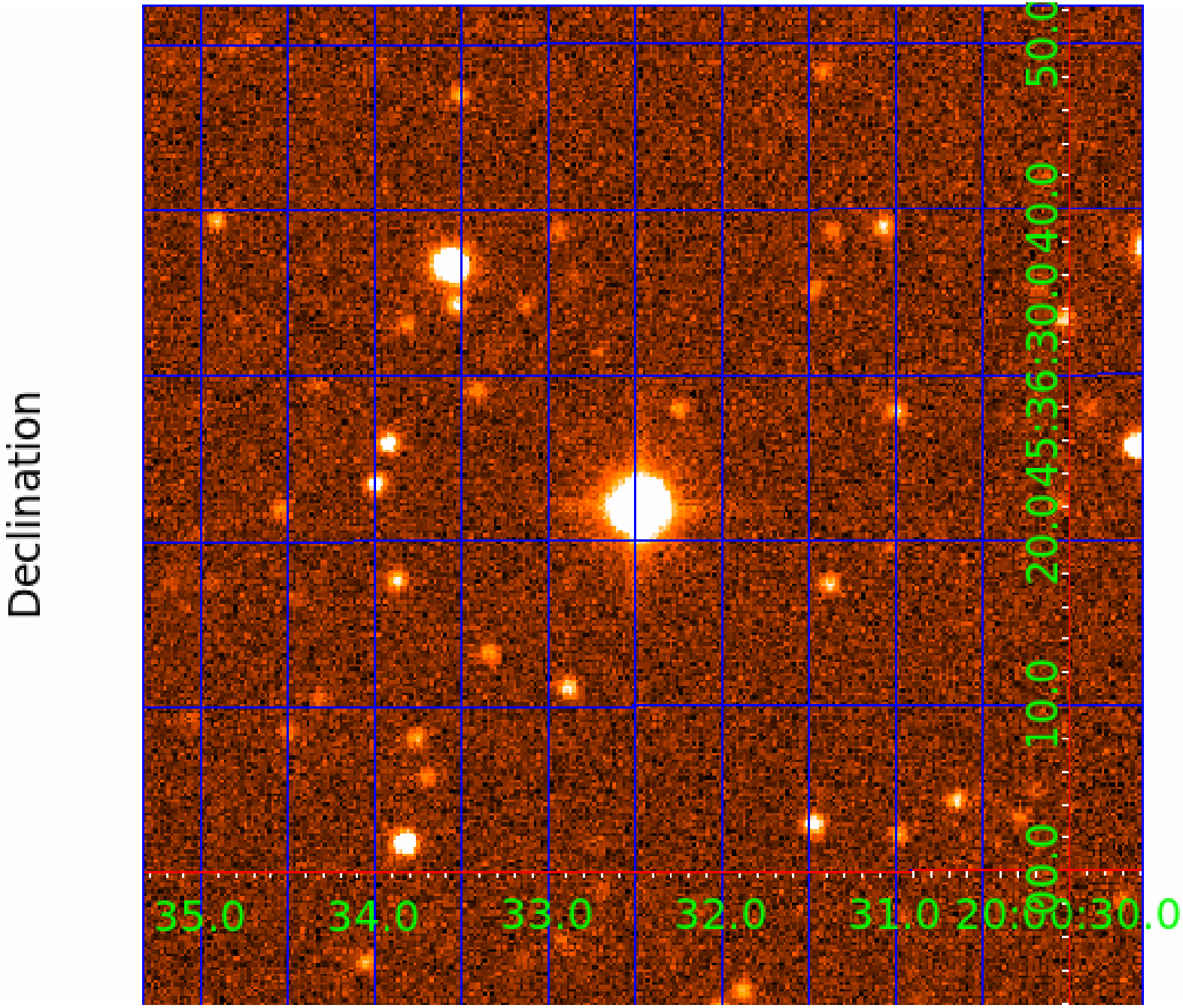


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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