KIC 006523058

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 ($S_\oplus$)
006523058-01	OBS	4549.01	2.048155	132.175067	163.8	1.925	10.0	10.4	0.86	5799	1.20	776.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006523058-01	OBS	PC	0.98	0	0	0	0	CENT_KIC_POS

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.

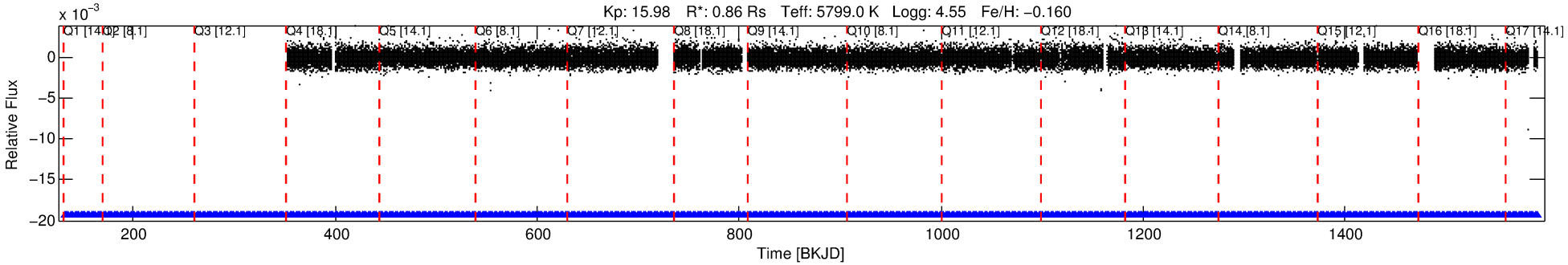
Ephemeris Match Information For 006523058-01

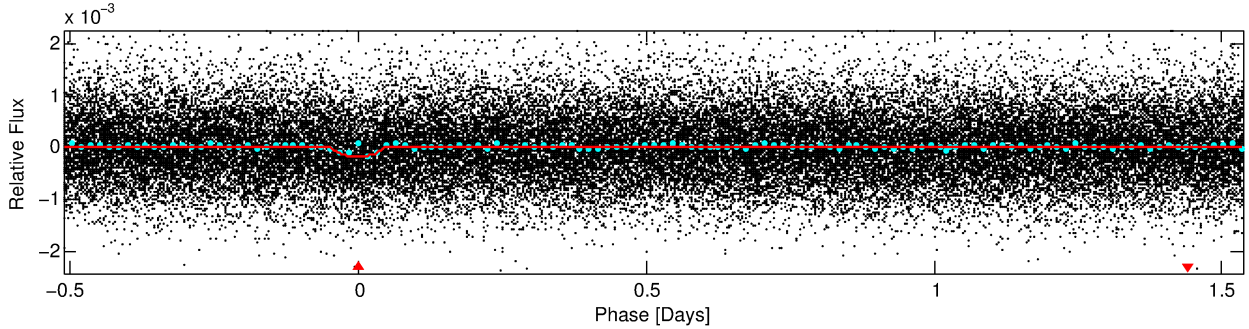
No Significant Match Found

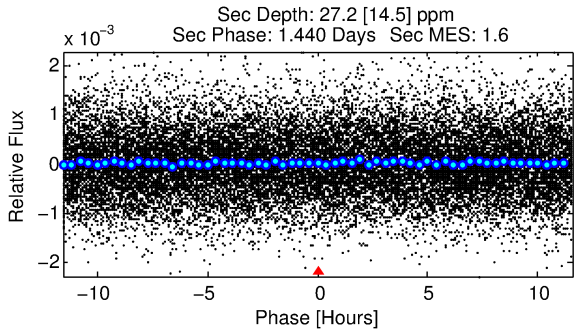
DV One-Page Summary

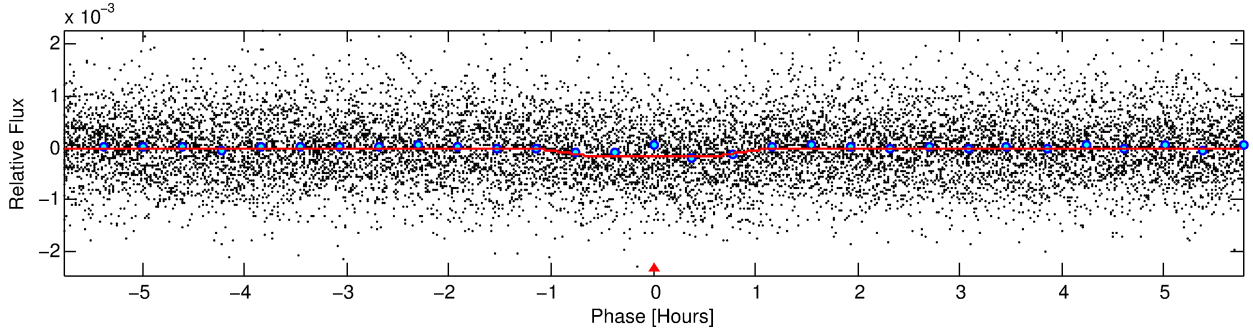
KIC: 6523058 Candidate: 1 of 1 Period: 2.048 d
KOI: K04549.01 Corr: 0.973

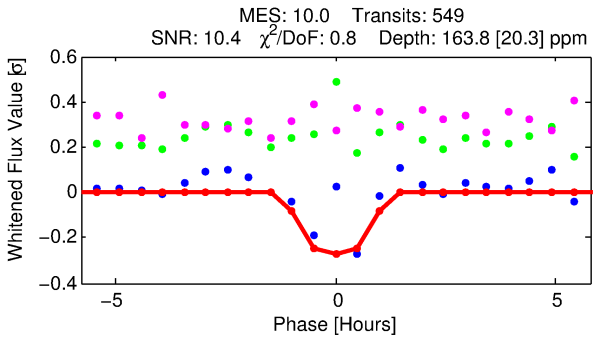
Kp: 15.98 R*: 0.86 Rs Teff: 5799.0 K Logg: 4.55 Fe/H: −0.160

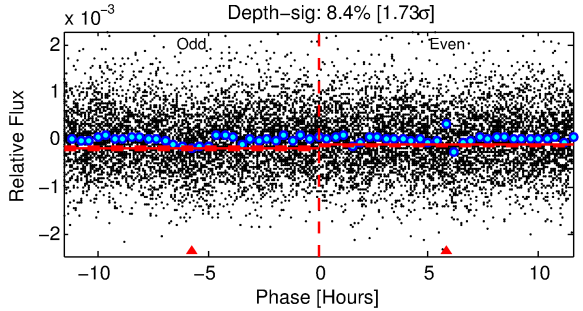


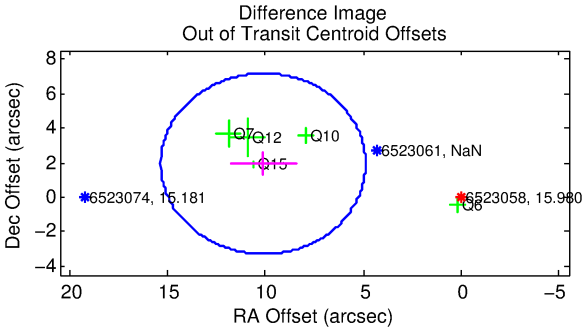












DV Fit Results:

Period = 2.04816 [0.00001] d
Epoch = 132.1751 [0.0032] BKJD
Rp/R* = 0.0128 [0.0113]
a/R* = 5.59 [21.95]
b = 0.75 [2.40]

Seff = 776.52 [296.73]
Teq = 1346 [129] K
Rp = 1.20 [1.12] Re
a = 0.0311 [0.0076] AU

Ag = 10.07 [19.01] [0.48σ]
Teffp = 3707 [1724] K [1.37σ]

DV Diagnostic Results:

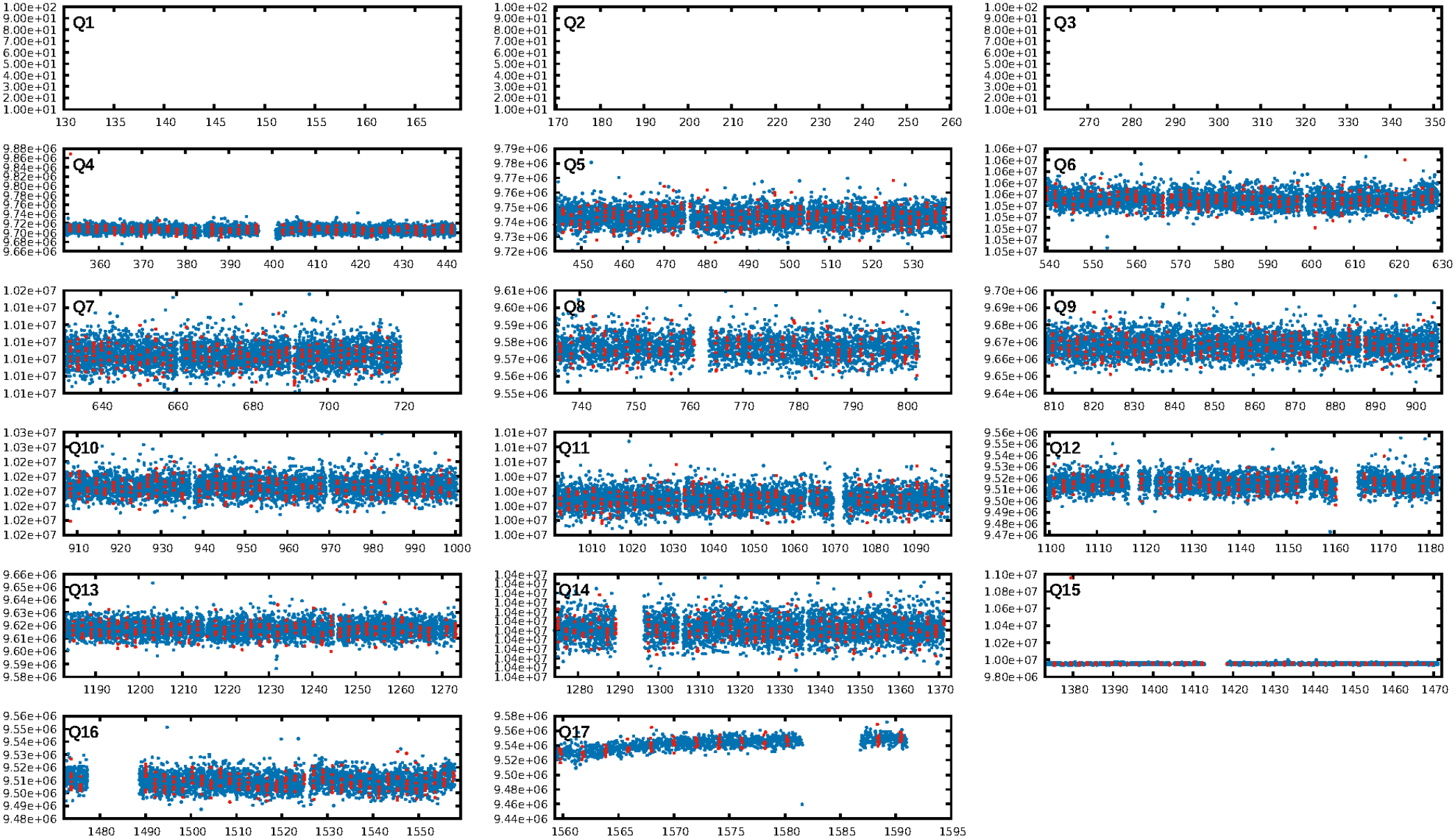
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 1.68e−23
RollingBand−fgt: 1.00 [536/536]
GhostDiagnostic−chr: −22.9

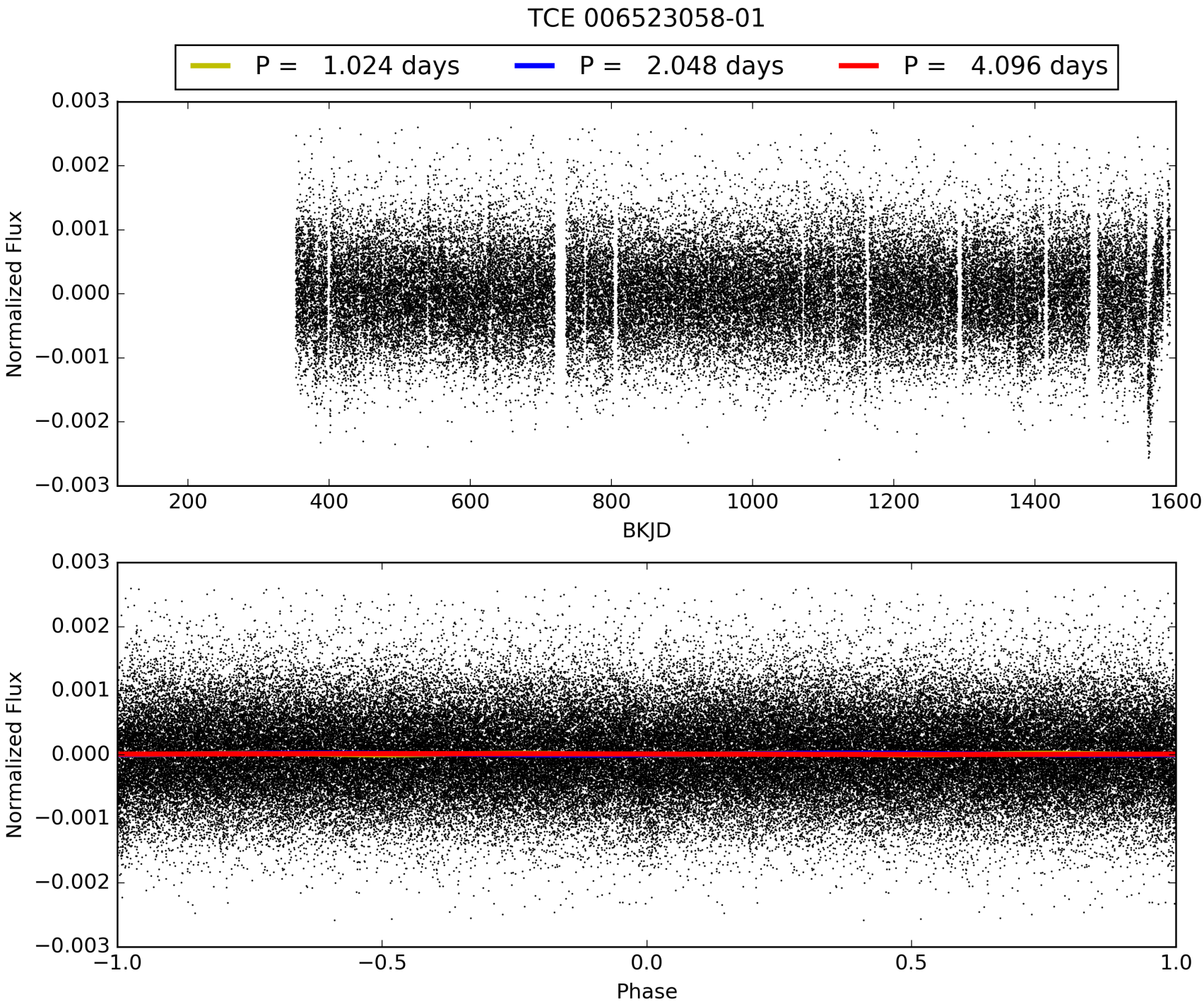
Centroid−sig: 6.8%
Centroid−so: 0.988 arcsec [0.83σ]
OotOffset−rm: 10.299 arcsec [5.91σ]
KicOffset−rm: 0.797 arcsec [0.56σ]
OotOffset−st: 2/2/1/0 [5]
KicOffset−st: 2/2/1/2 [7]
DiffImageQuality−fgm: 0.43 [3/7]
DiffImageOverlap−fno: 1.00 [14/14]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29−Jan−2016 09:50:19 Z

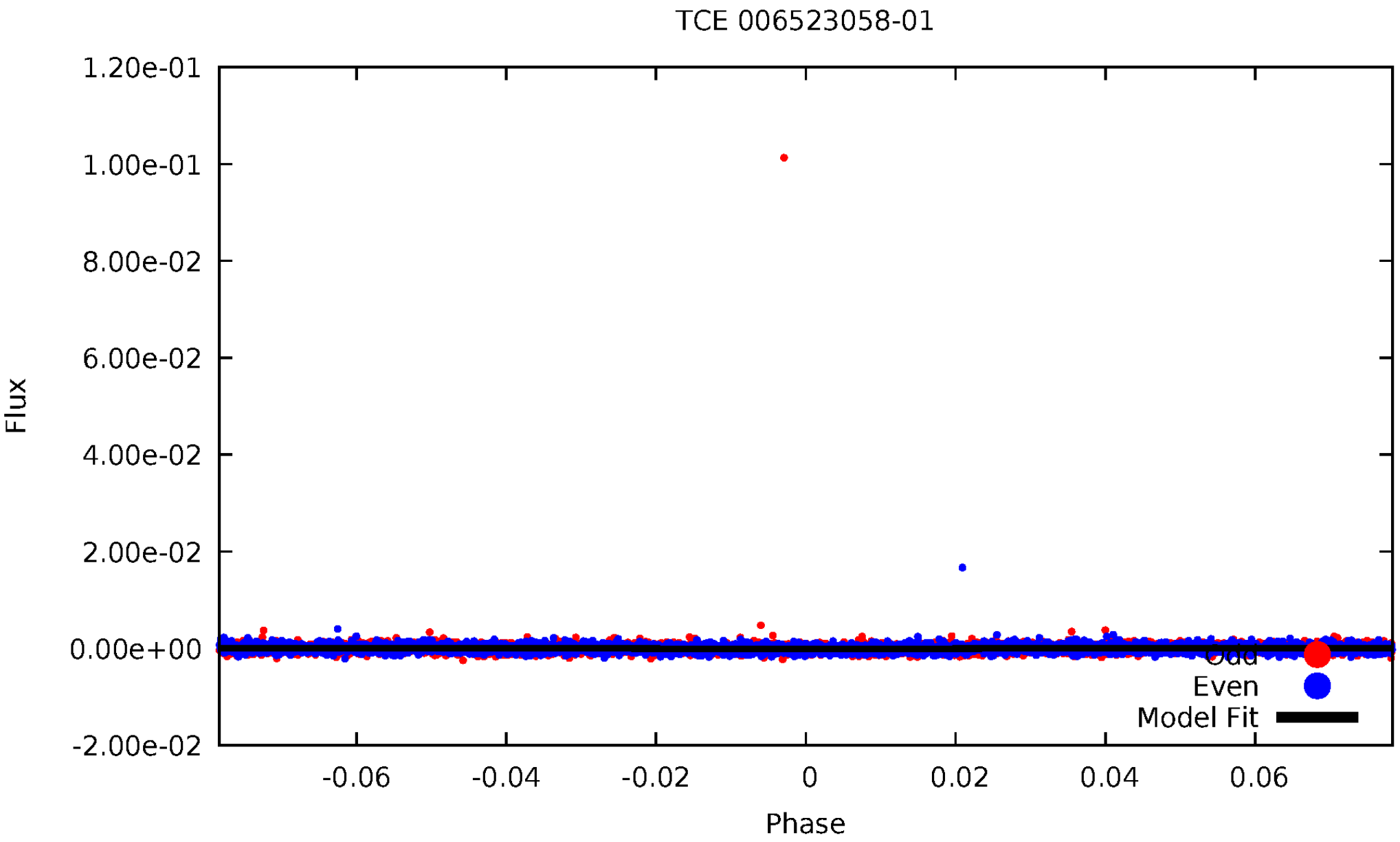
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006523058-01, PDC Light Curves




TCE 006523058-01
P = 1.024 days
P = 2.048 days
P = 4.096 days
Normalized Flux
BKJD
Phase

DV Odd/Even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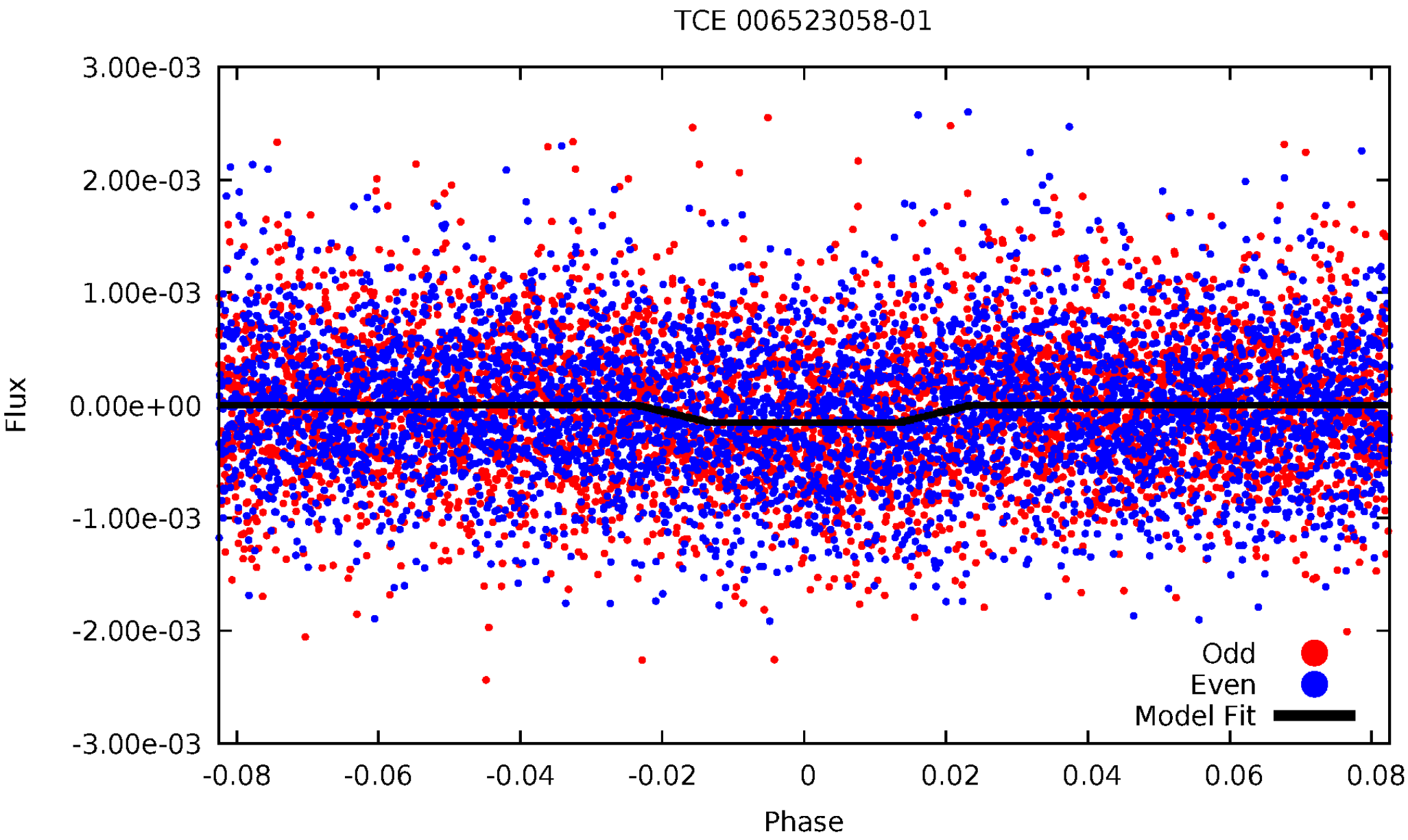
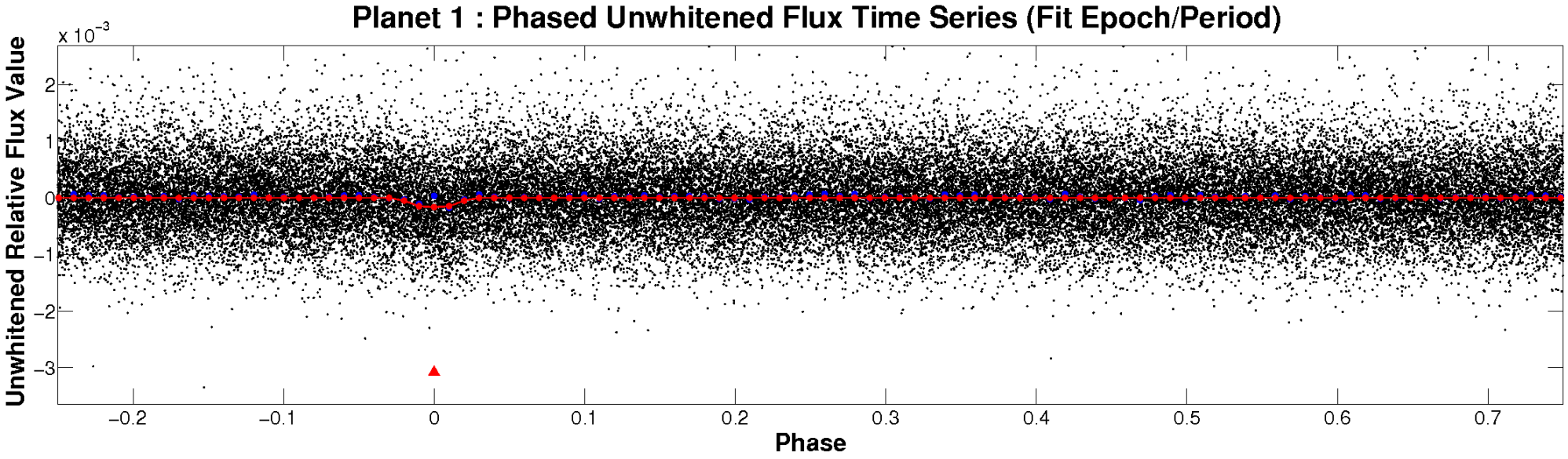
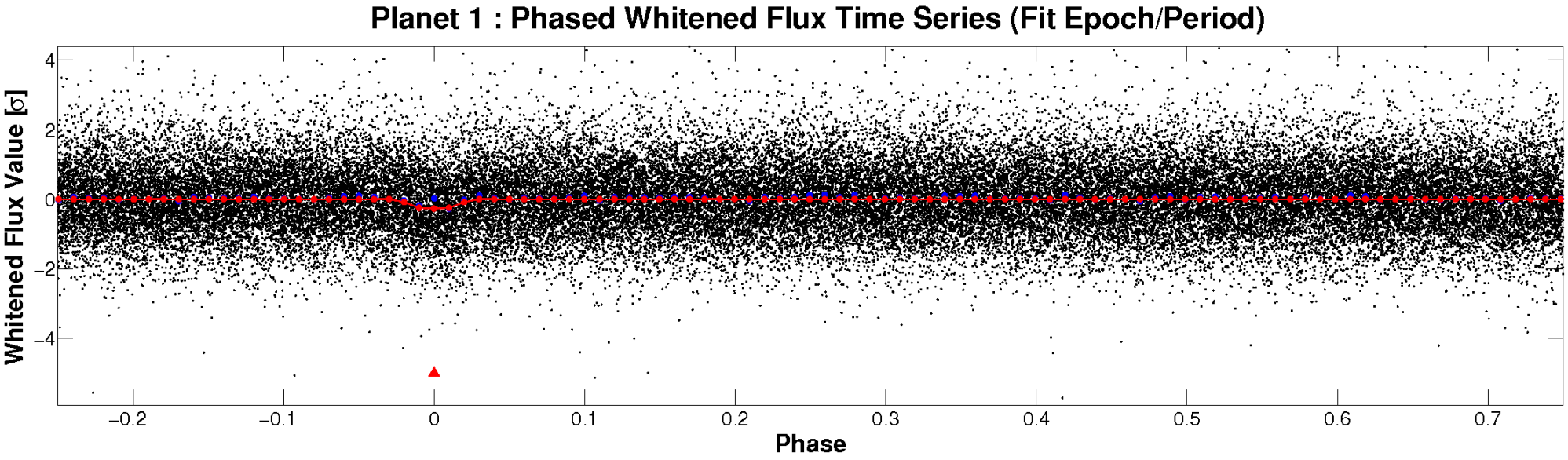
1.20e-01
1.00e-01
8.00e-02
6.00e-02
4.00e-02
2.00e-02
0.00e+00
-2.00e-02
Flux
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006523058-01
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
Flux
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
Phase
Odd
Even
Model Fit

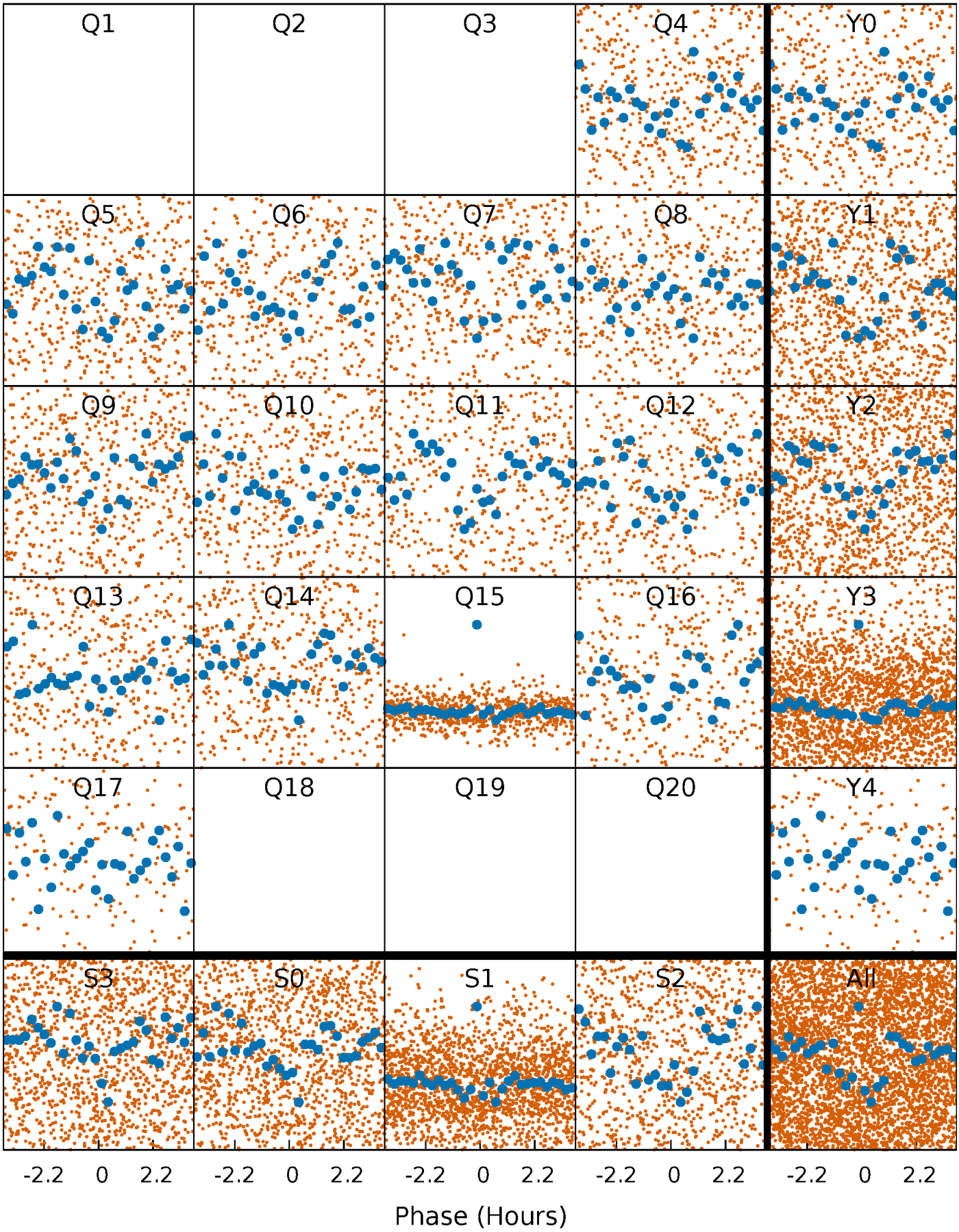
Non-Whitened Vs. Whitened Light Curve





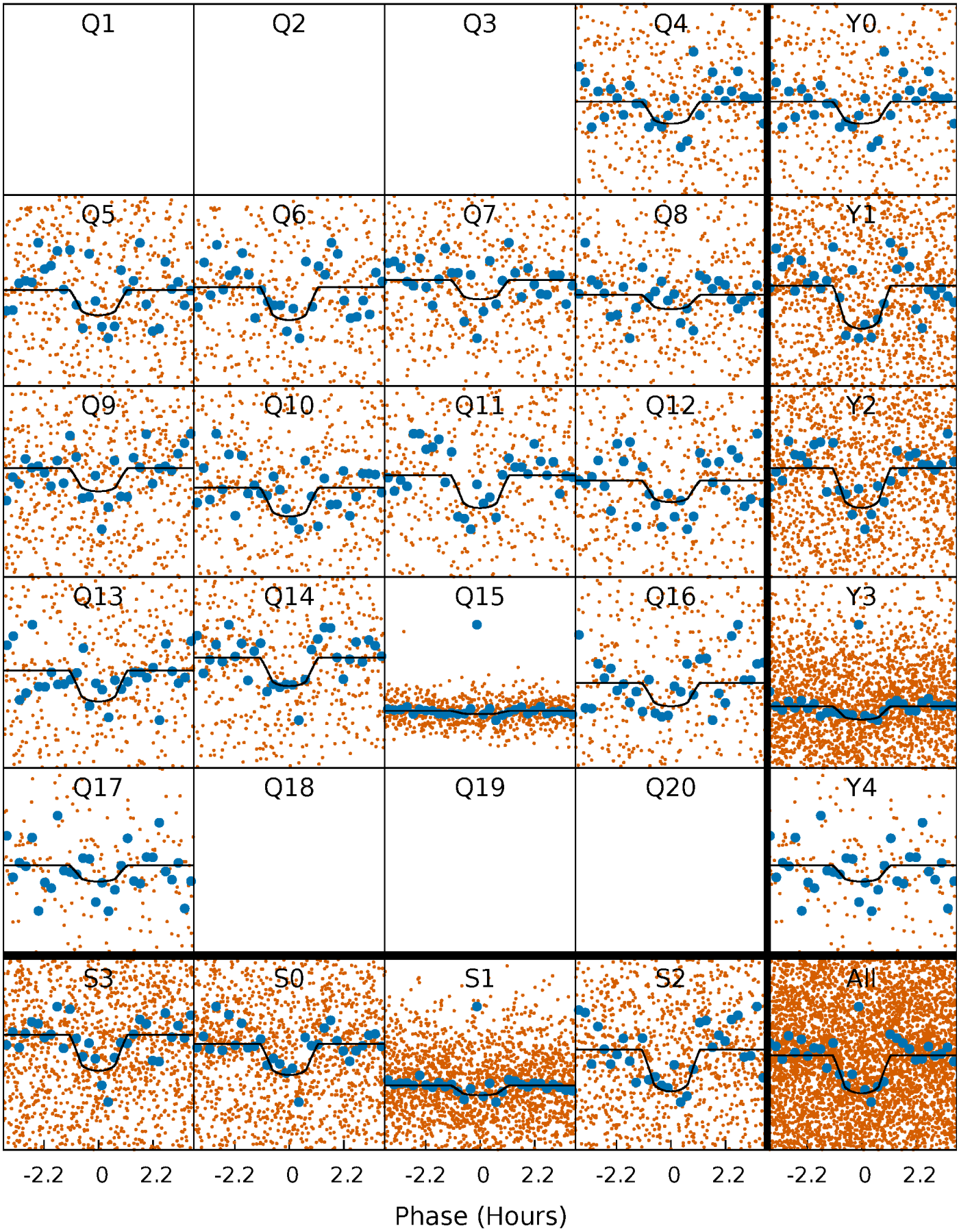
PDC Quarter-Phased Transit Curves

TCE 006523058-01 P= 2.048155 Days T_0=132.175067 (BKJD)



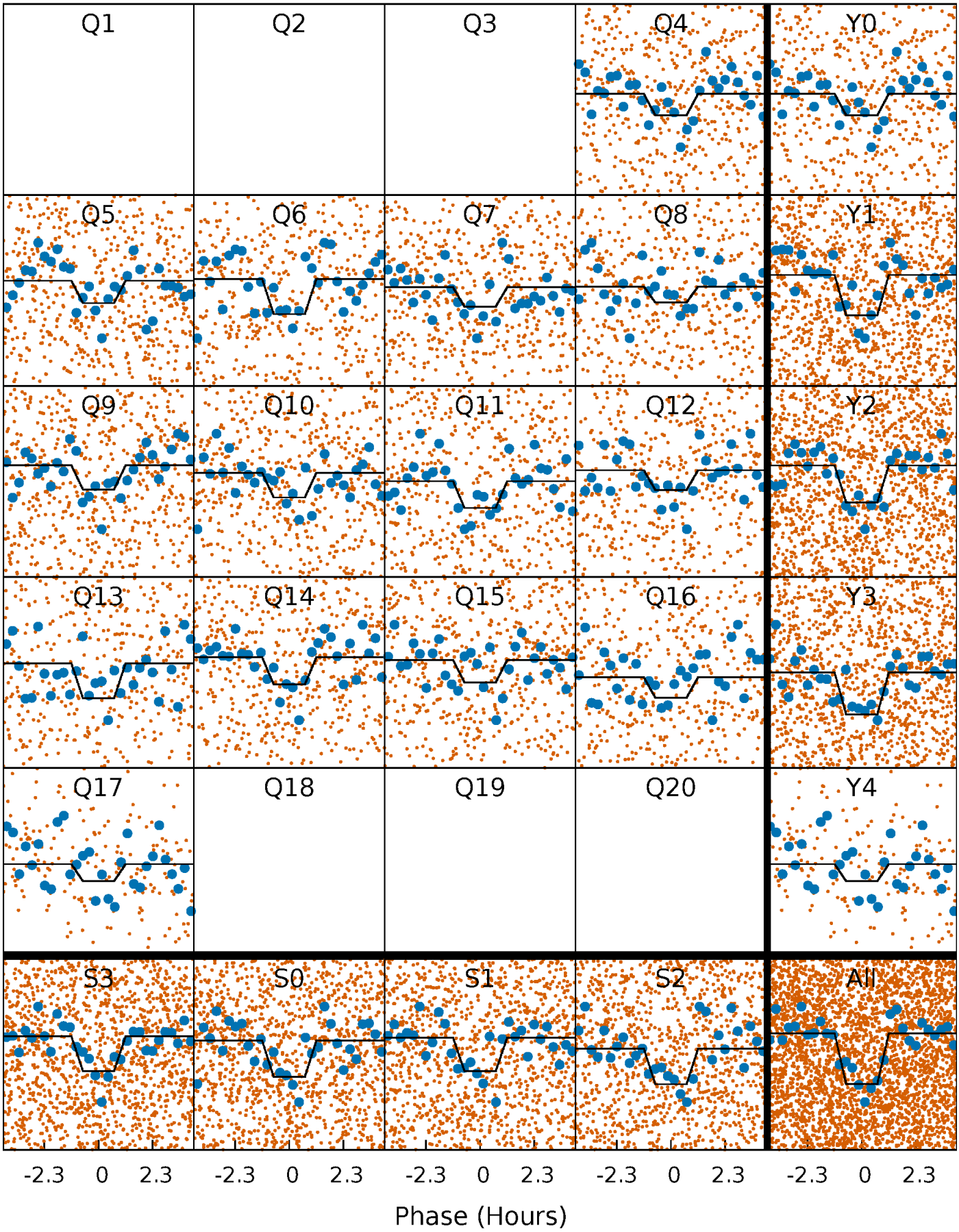
DV Quarter-Phased Transit Curves

TCE 006523058-01 P= 2.048155 Days T_0=132.175067 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

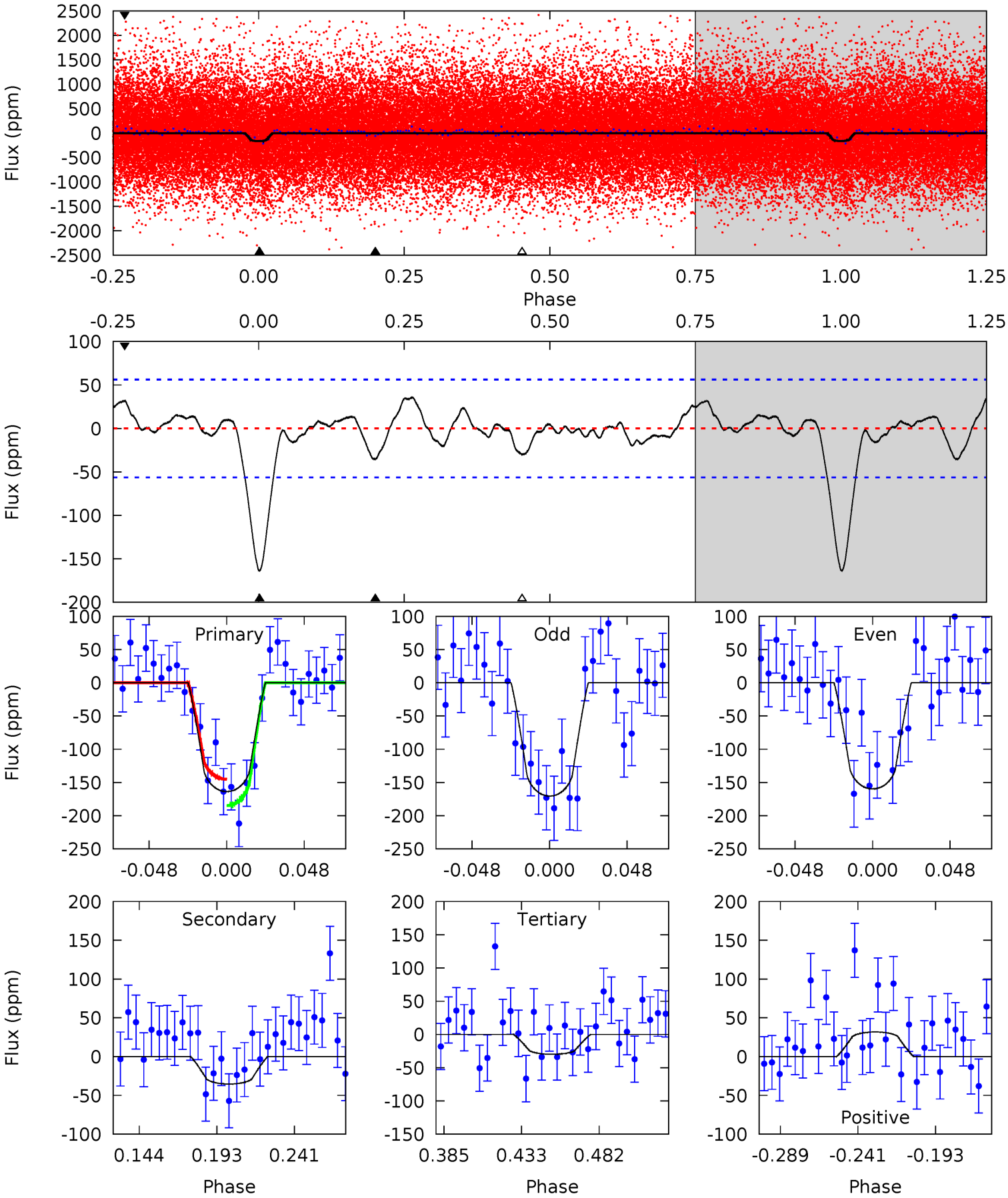
TCE 006523058-01 P= 2.048141 Days T_0=132.182794 (BKJD)



DV Model-Shift Uniqueness Test

006523058-01, P = 2.048155 Days, E = 132.175067 Days

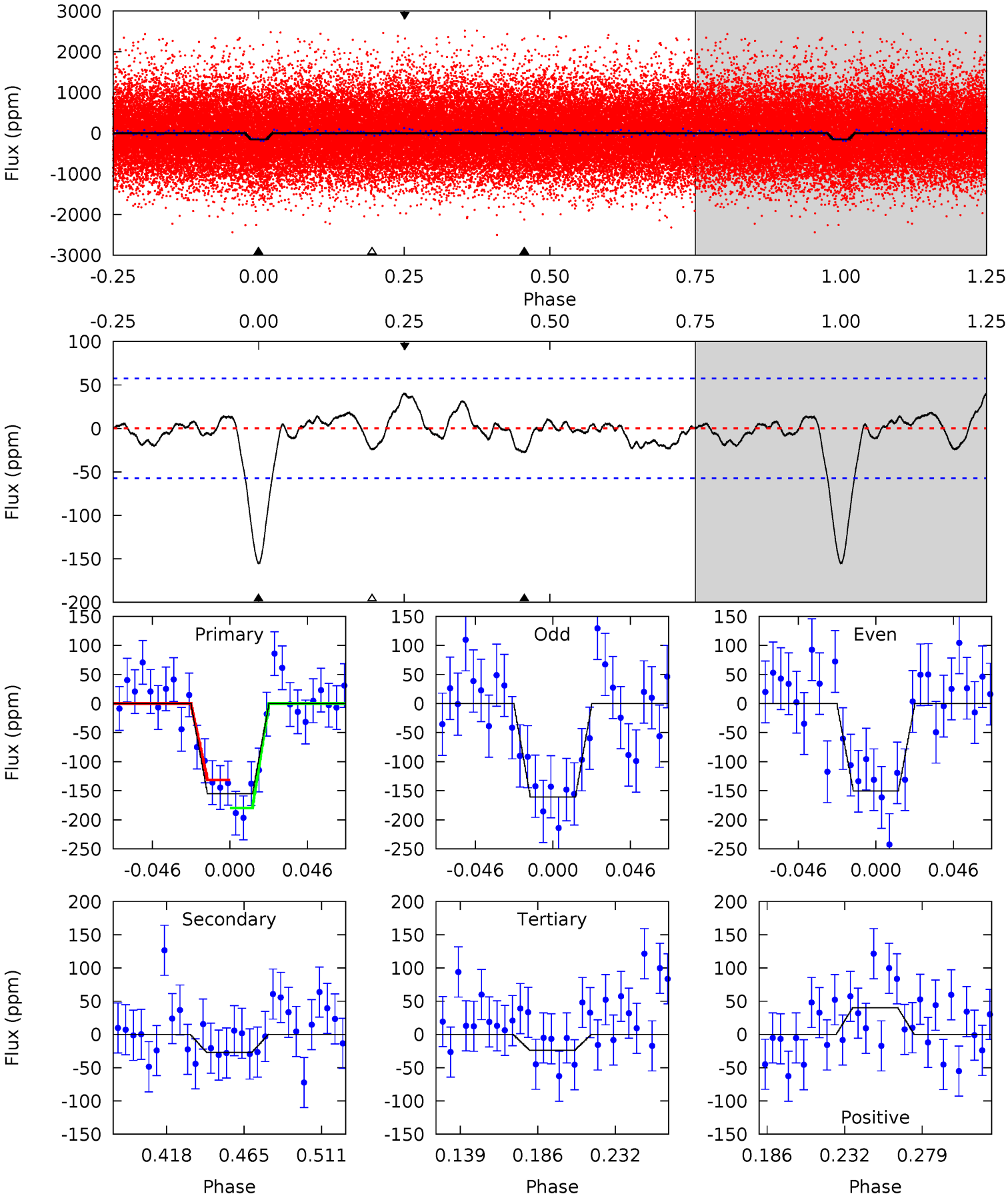
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	2.97	2.50	2.66	4.72	1.98	1.10	11.2	11.1	0.46	0.30	0.45	0.50	0.18	1.66



Alt Model-Shift Uniqueness Test

006523058-01, P = 2.048141 Days, E = 132.182794 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	2.24	1.97	3.31	4.72	1.99	1.11	10.8	9.46	0.27	-1.08	0.44	0.96	0.21	1.97



Stellar Parameters For KIC 006523058

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5799^{+172}_{-207}	$4.548^{+0.036}_{-0.192}$	$-0.160^{+0.300}_{-0.300}$	$0.860^{+0.254}_{-0.085}$	$0.955^{+0.109}_{-0.121}$	$2.112^{+0.420}_{-1.093}$
	+3%/-4%	+1%/-4%	+188%/-188%	+30%/-10%	+11%/-13%	+20%/-52%
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 006523058-01 / KOI 4549.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-35±12	$1.48^{+1.04}_{-0.90}$	1931^{+126}_{-93}	3915^{+1928}_{-708}	$8.065^{+44.750}_{-5.554}$
Alt.	-27±12	$1.38^{+1.08}_{-0.86}$	1932^{+123}_{-97}	3790^{+1783}_{-747}	$6.494^{+37.078}_{-4.609}$

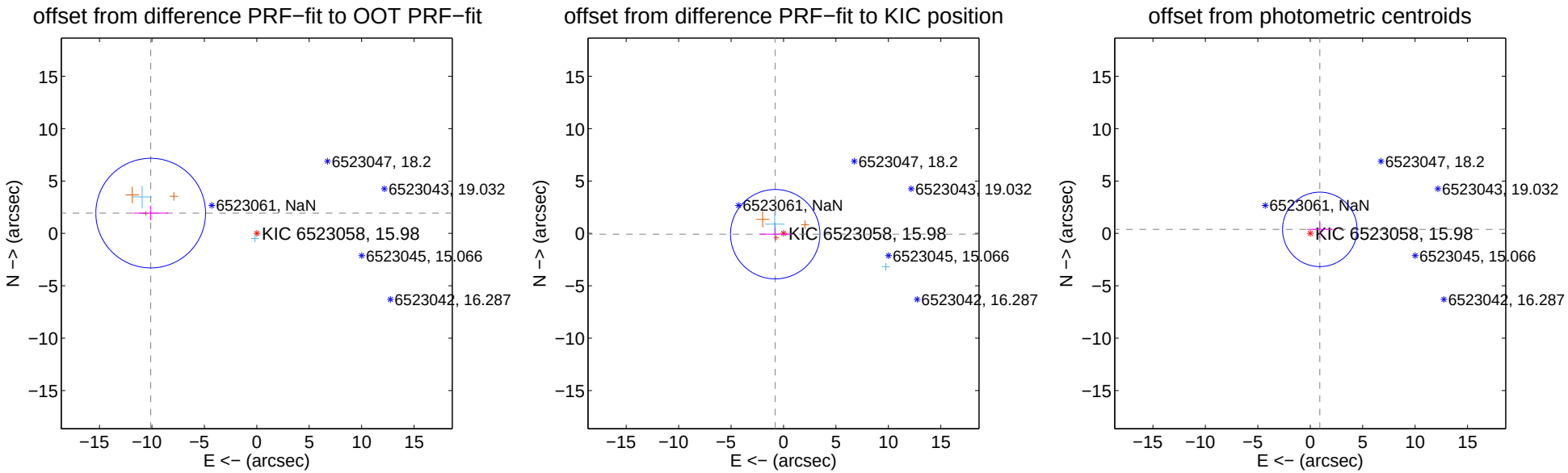
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

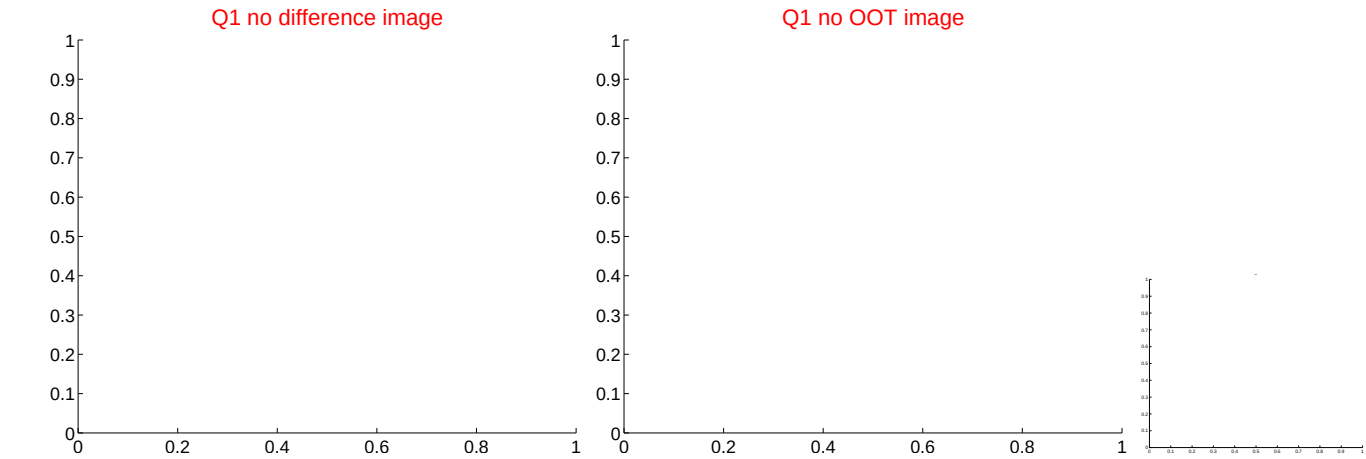
Supplemental centroid analysis for 006523058-01. Kepler magnitude: 15.98. Transit SNR 10.45
There are 3 quarters with good PRF difference image offsets
The OOT PRF centroid is offset from the target star catalog position by about 10.17 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

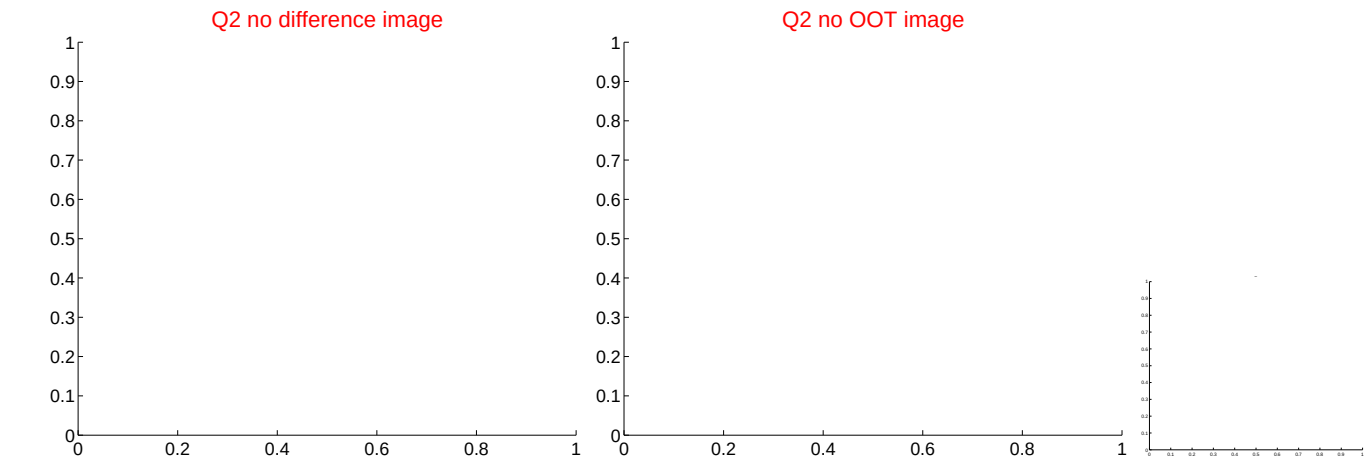
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.299 ± 1.743	5.91	10.115 ± 1.680	1.937 ± 0.686
PRF-fit source offset from KIC position	0.797 ± 1.421	0.56	0.793 ± 1.473	-0.073 ± 0.582
photometric centroid source offset	0.99 ± 1.18	0.83	-0.91 ± 1.24	0.38 ± 0.83

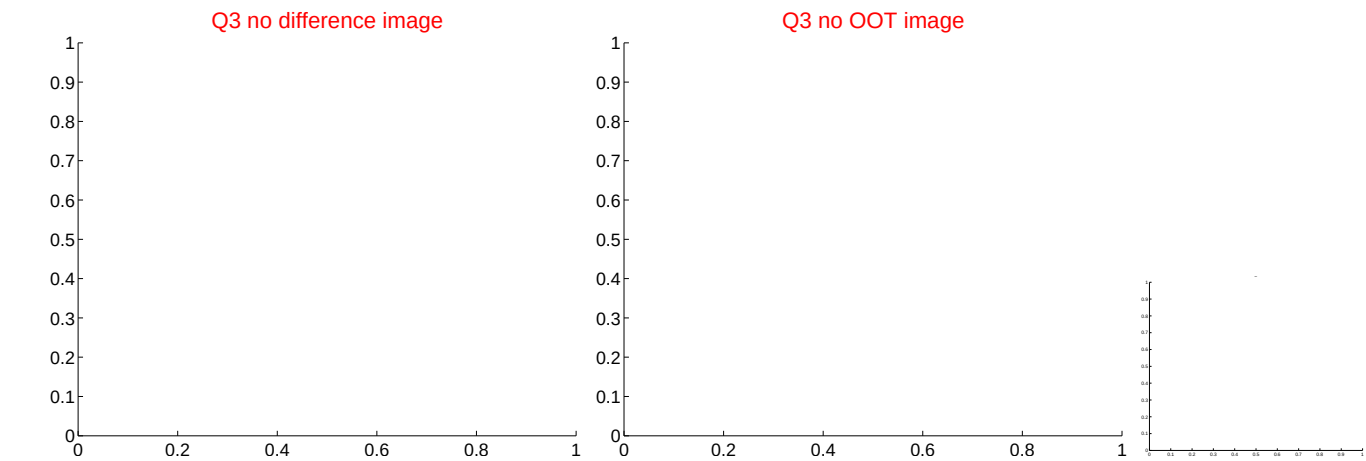


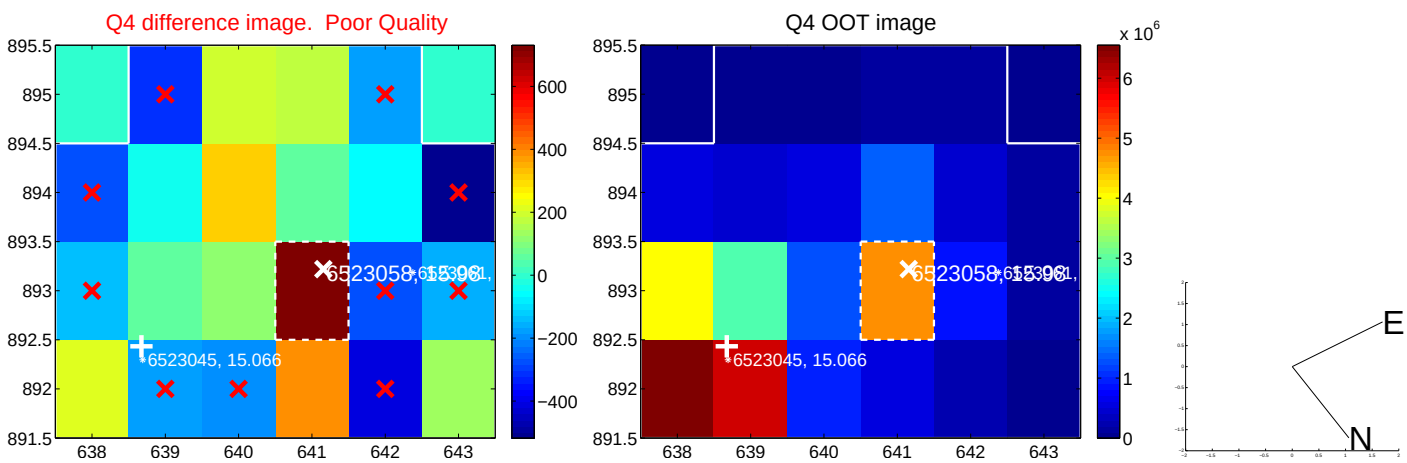
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

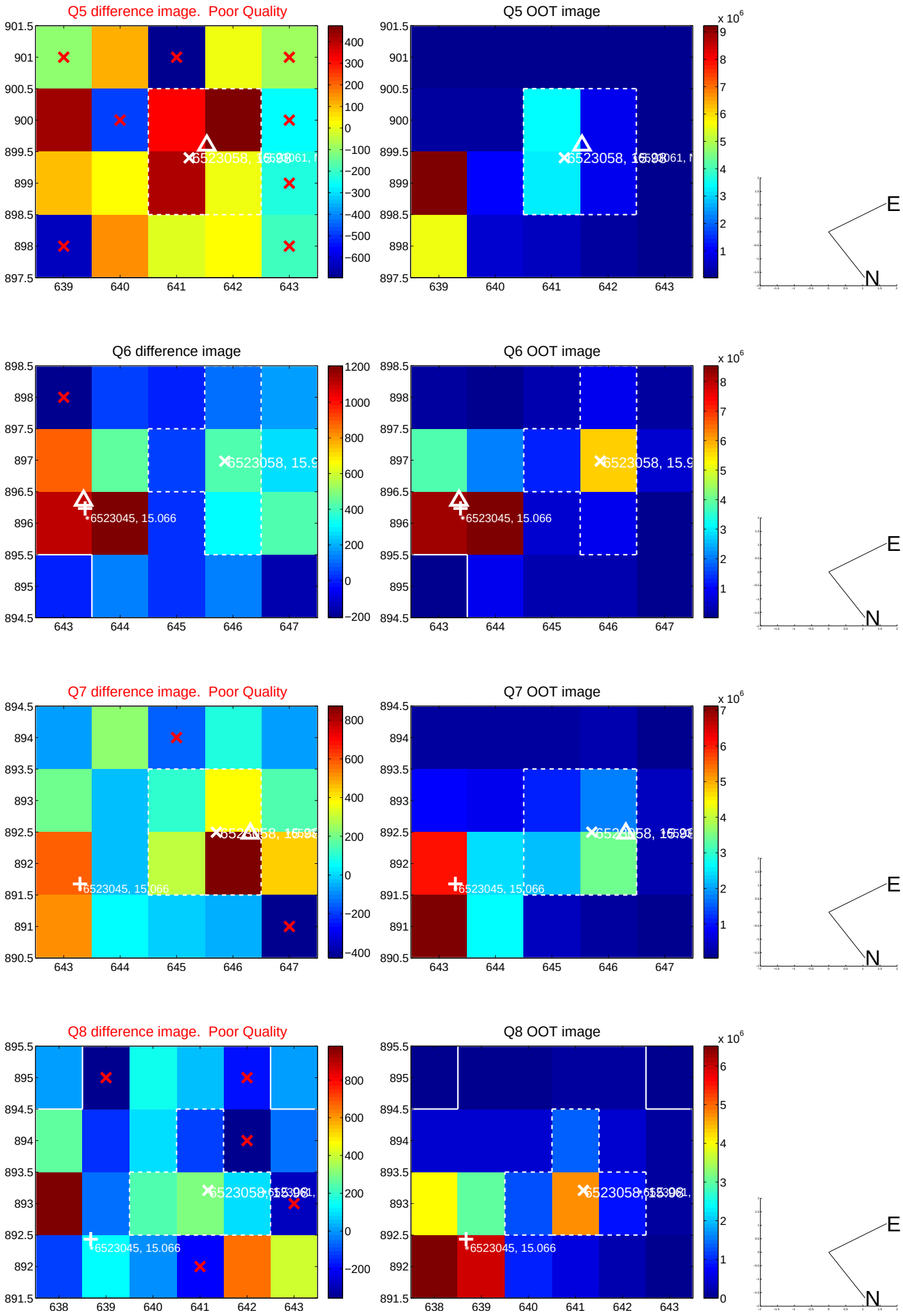




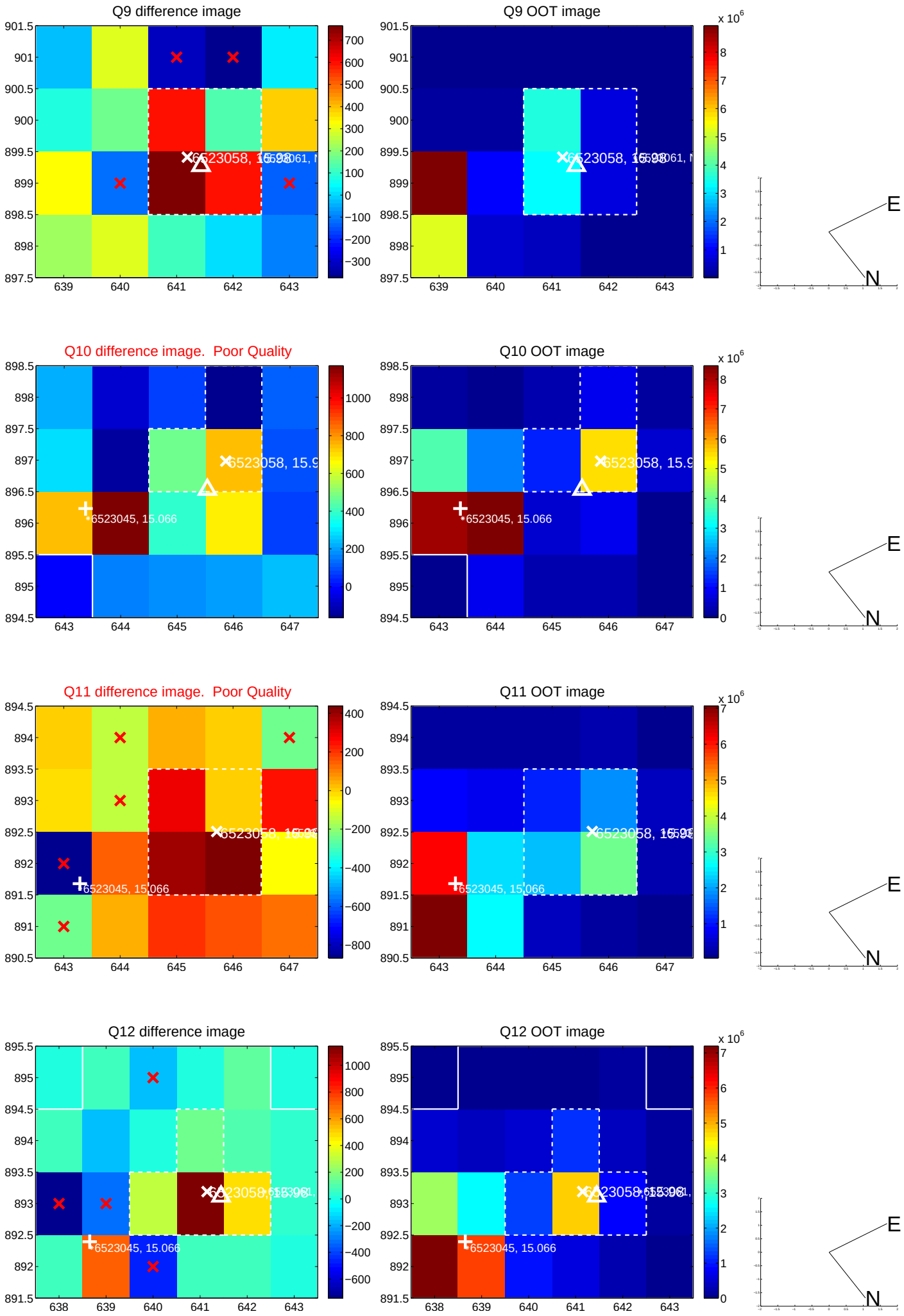




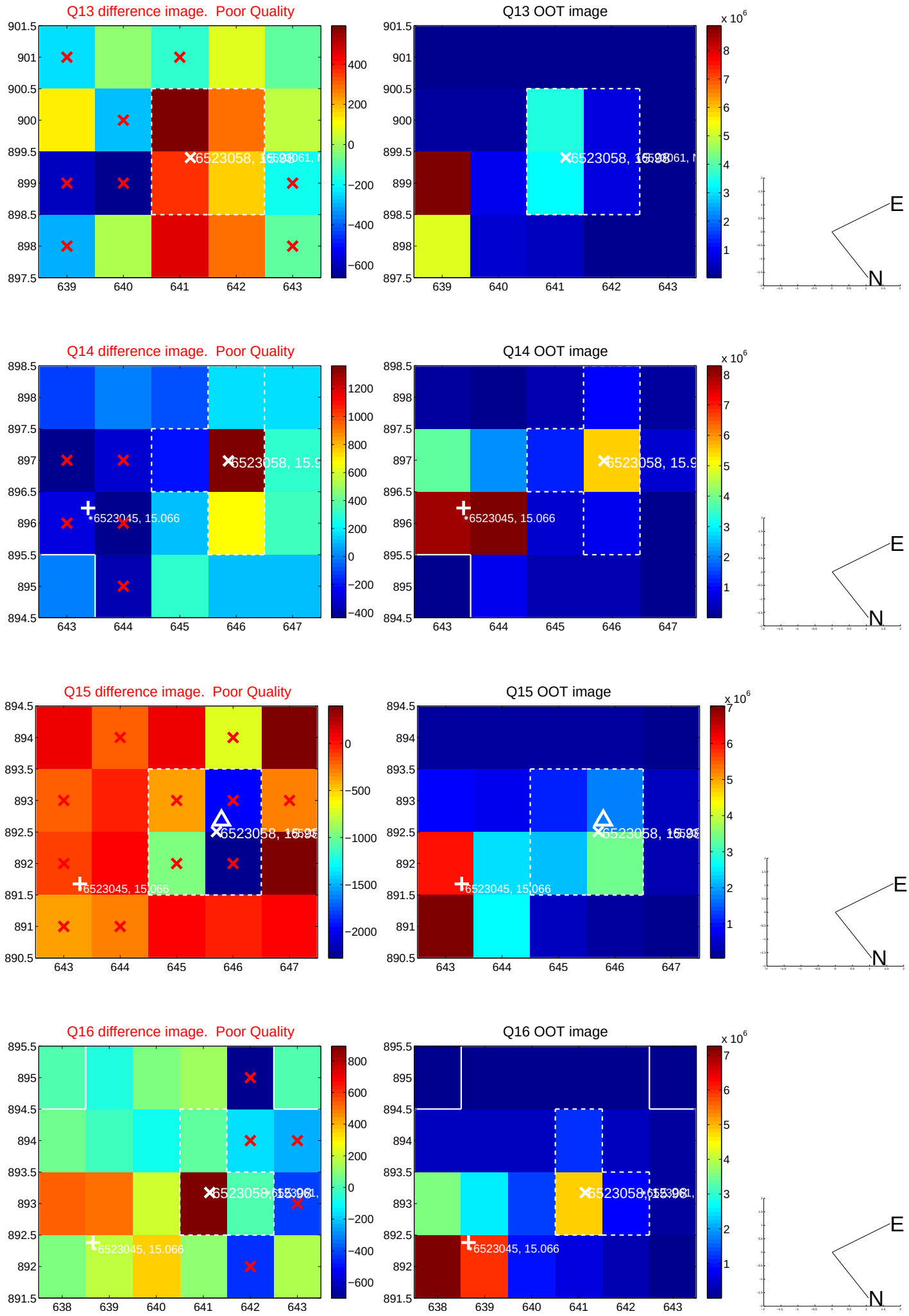
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



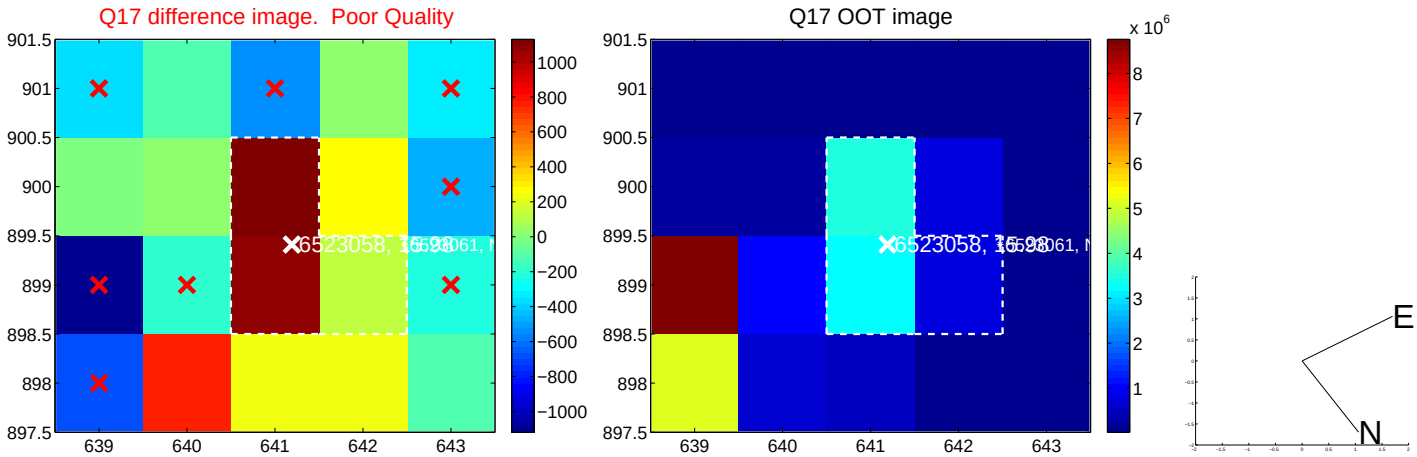
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

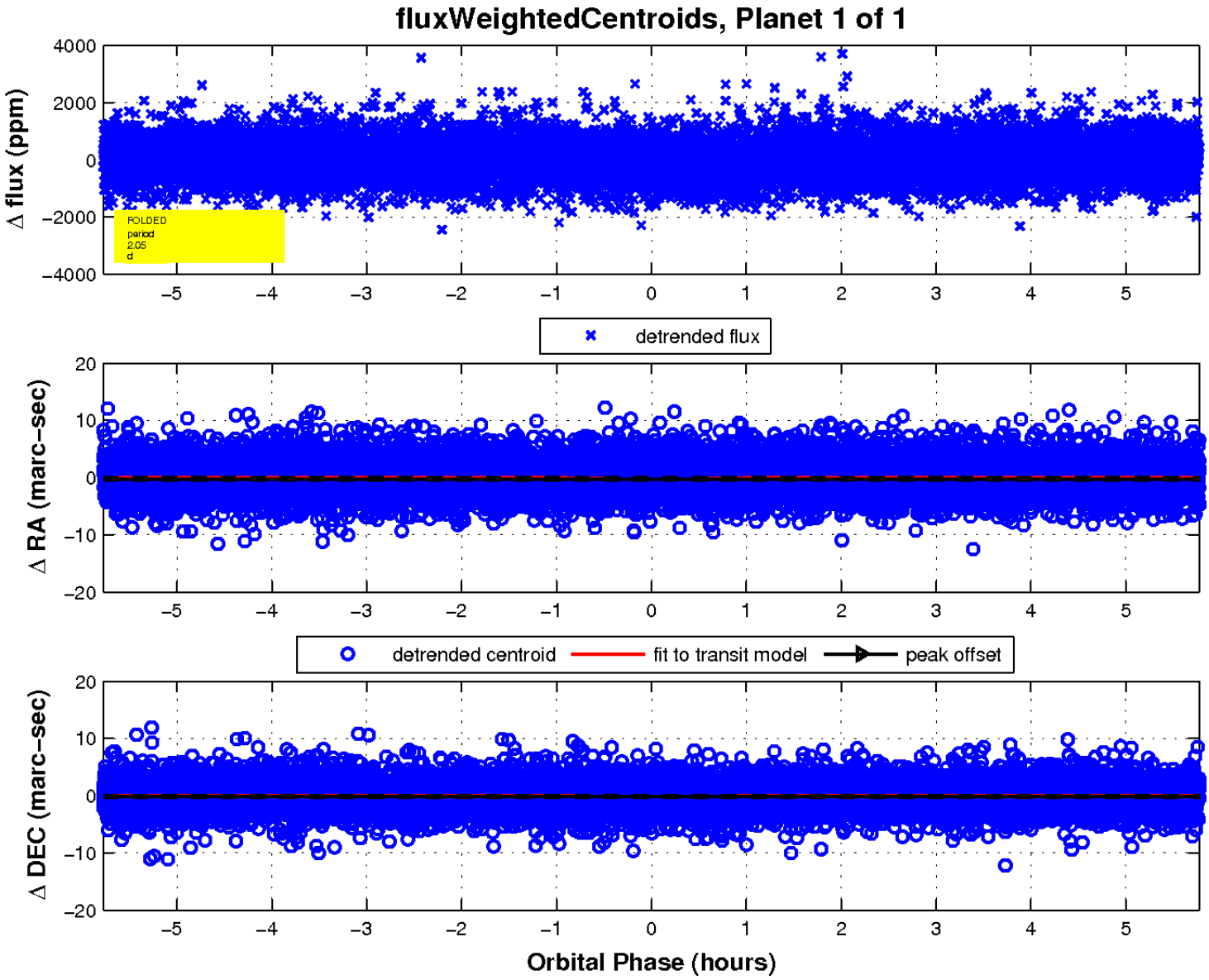


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

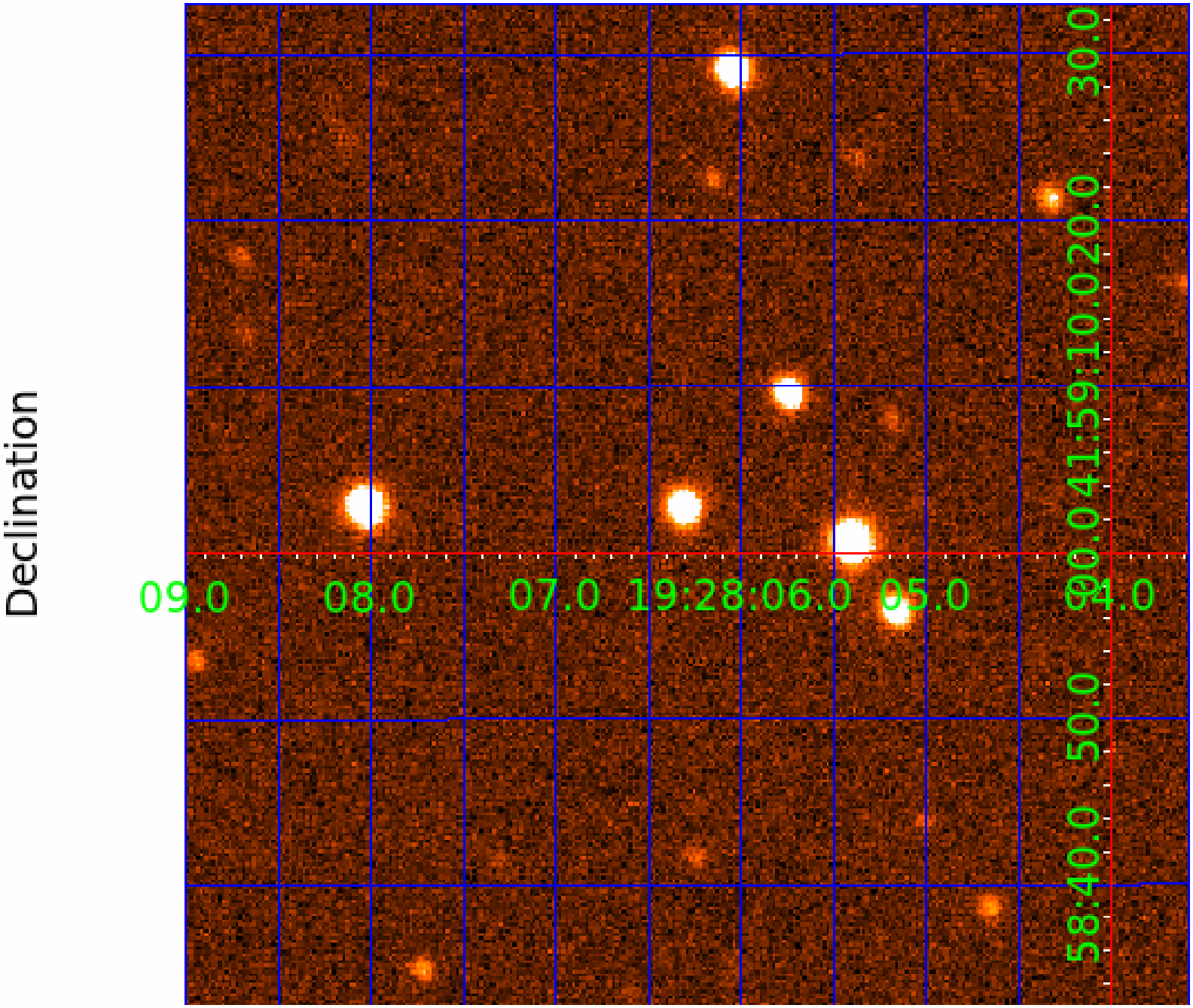


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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