KIC 009266231

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 ($S_\oplus$)
009266231-01	OBS	No	427.647431	238.498593	464.1	10.193	9.9	5.2	0.68	4508	1.47	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009266231-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

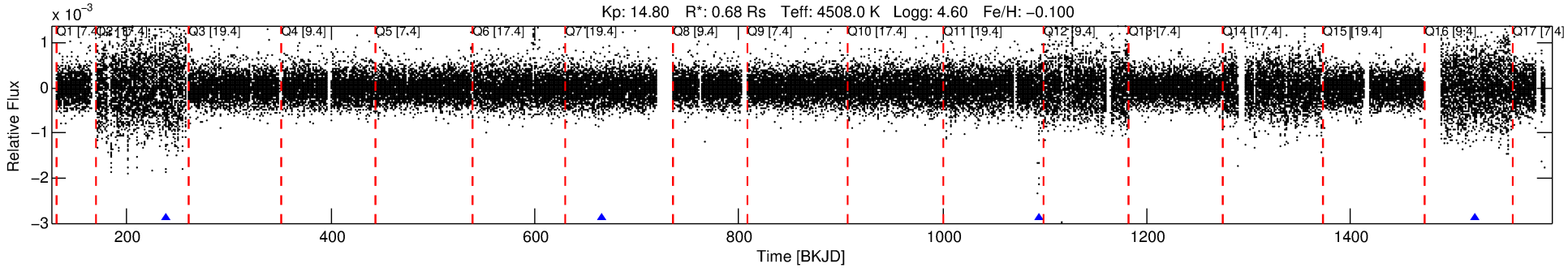
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

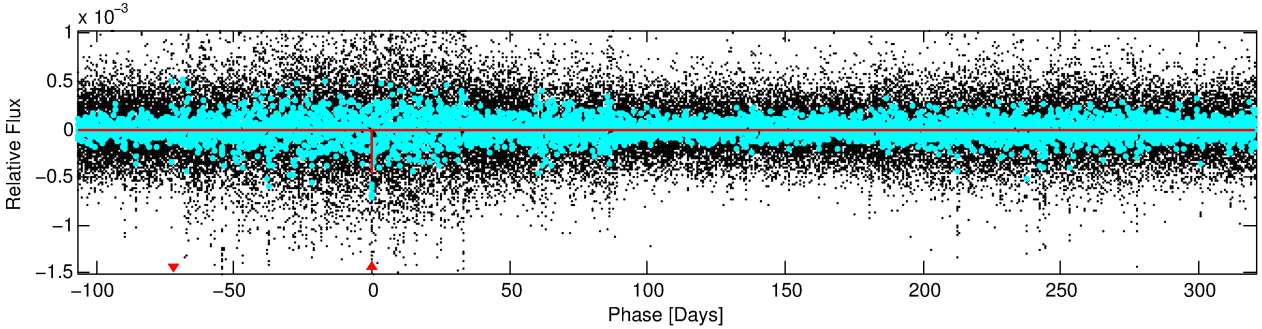
Ephemeris Match Information For 009266231-01

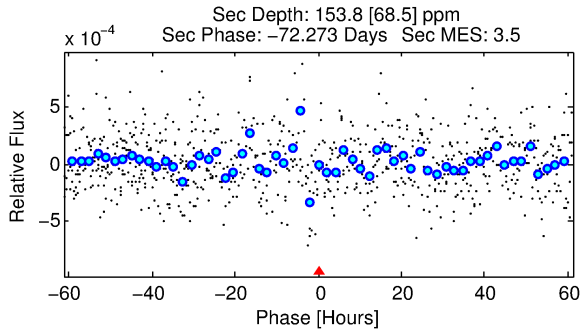
No Significant Match Found

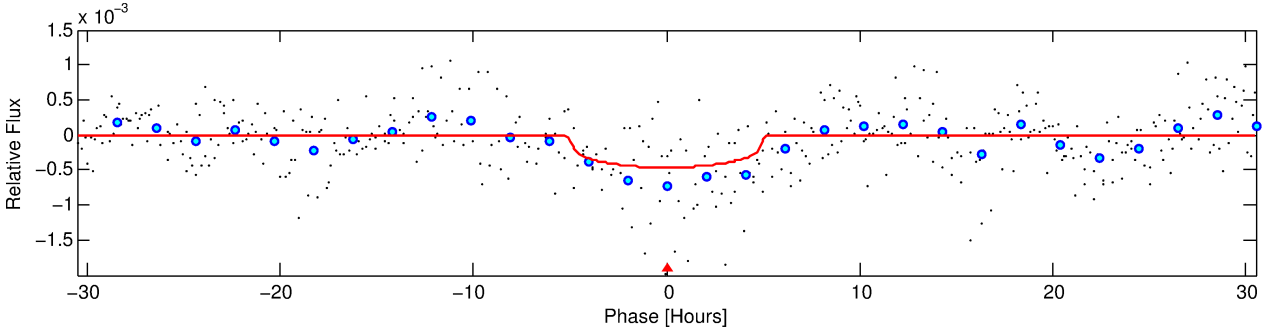
DV One-Page Summary

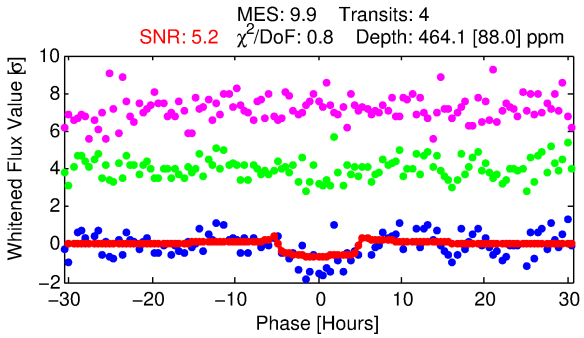
KIC: 9266231 Candidate: 1 of 1 Period: 427.647 d

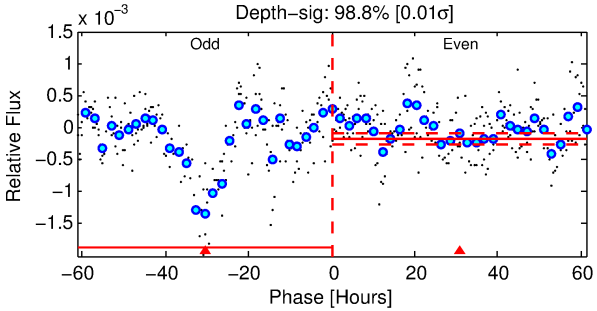


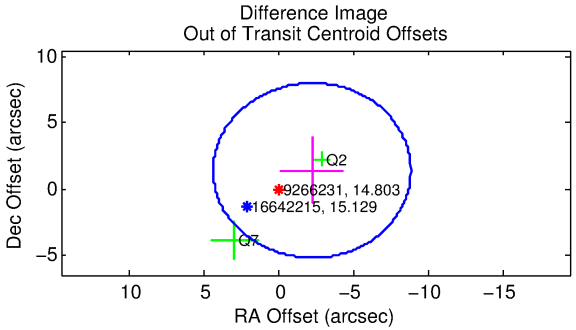












DV Fit Results:

Period = 427.64743 [0.00853] d
Epoch = 238.4986 [0.0177] BKJD
Rp/R* = 0.0199 [0.0216]
a/R* = 281.46 [935.25]
b = 0.52 [4.76]

Seff = 0.18 [0.03]
Teq = 166 [6] K
Rp = 1.46 [1.60] Re
a = 0.9699 [0.0664] AU

Ag = 37108.87 [82571.68] [0.45σ]
Teffp = 3563 [1983] K [1.71σ]

DV Diagnostic Results:

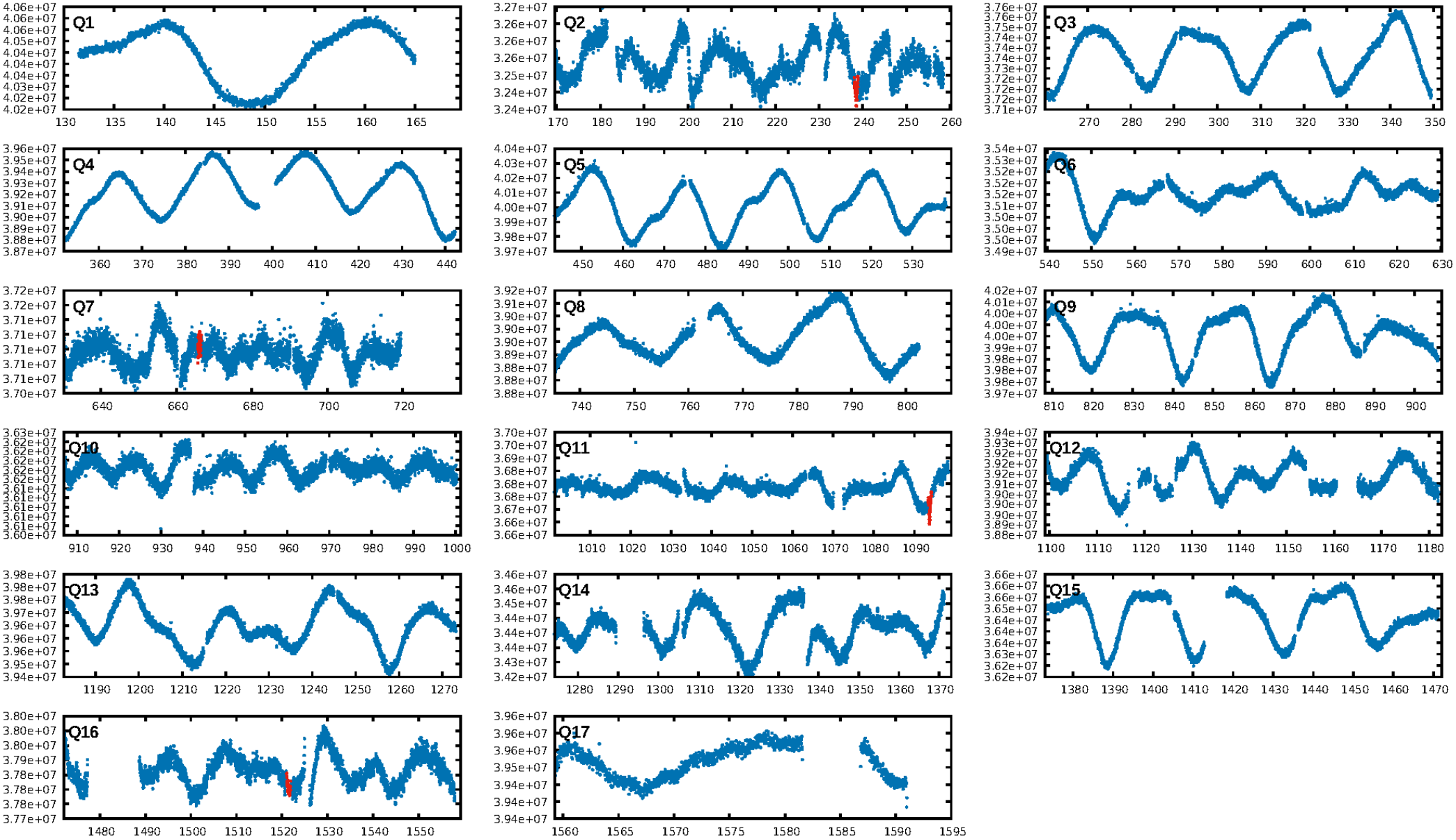
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 0.0%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 5.91e−14
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: 10.61

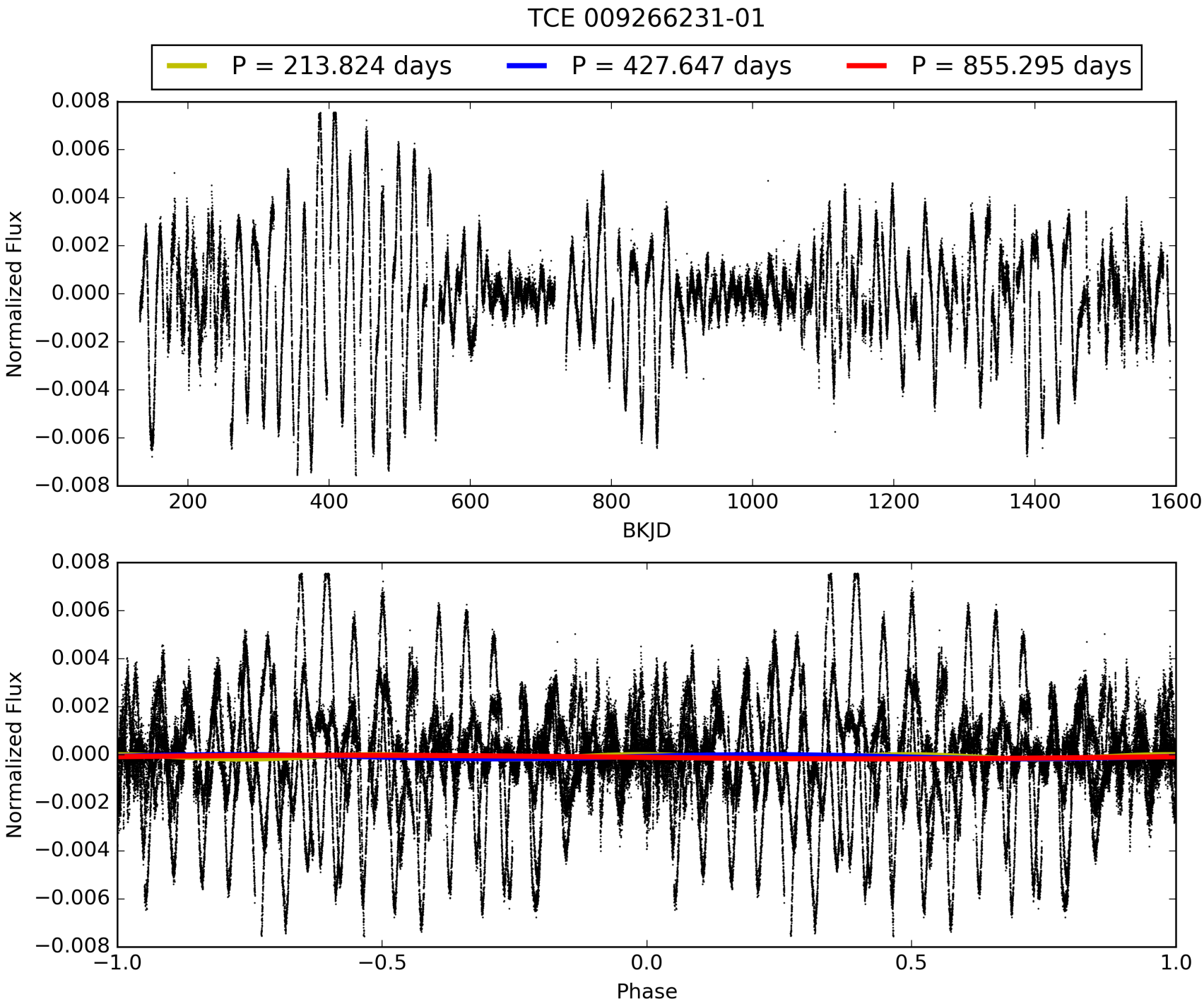
Centroid−sig: 1.1%
Centroid−so: 1.876 arcsec [1.88σ]
OotOffset−rm: 2.671 arcsec [1.21σ]
KicOffset−rm: 2.121 arcsec [0.66σ]
OotOffset−st: 1/1/0/0 [2]
KicOffset−st: 1/1/0/0 [2]
DiffImageQuality−fgm: 0.50 [1/2]
DiffImageOverlap−fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 22:55:09 Z

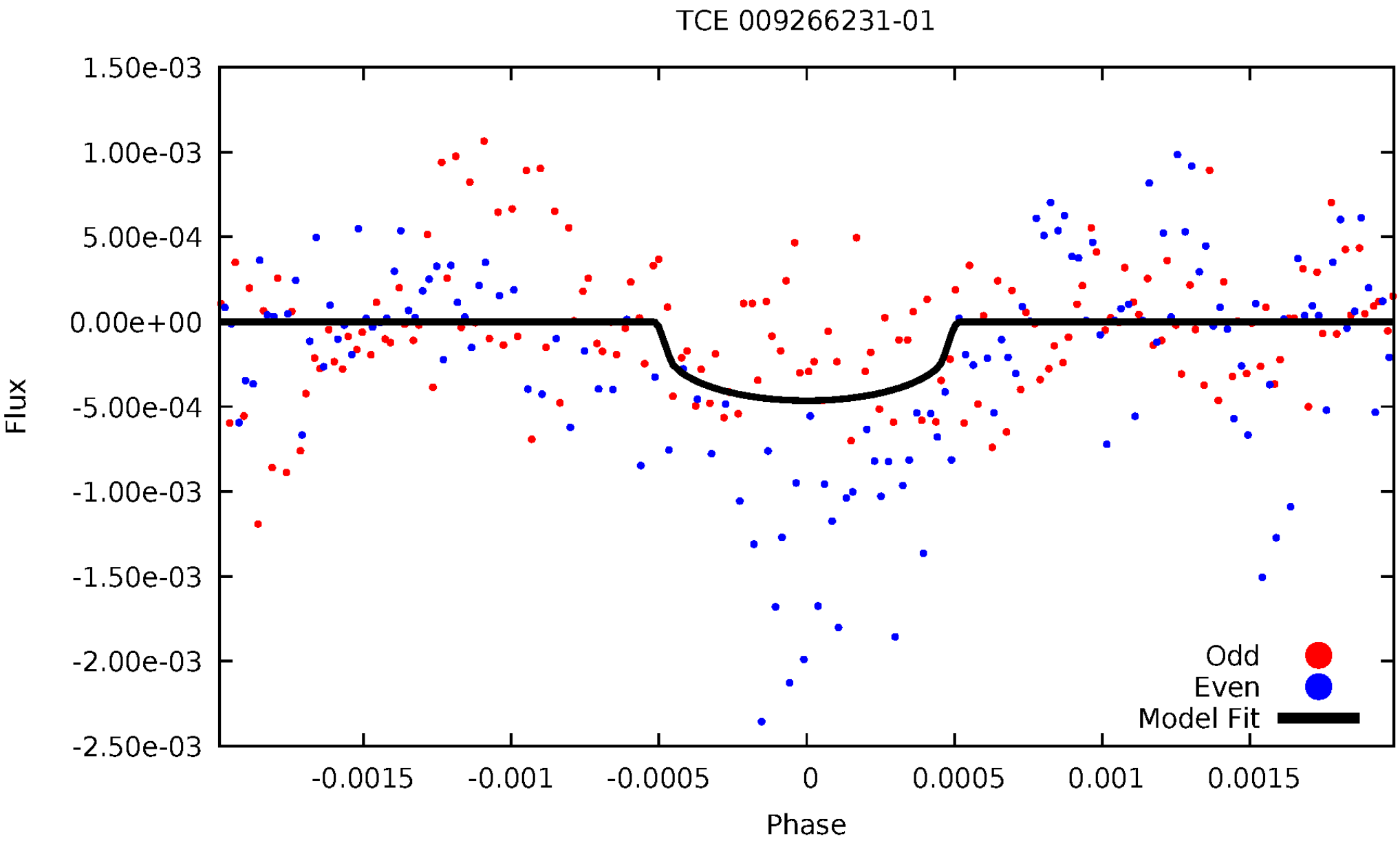
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009266231-01, PDC Light Curves

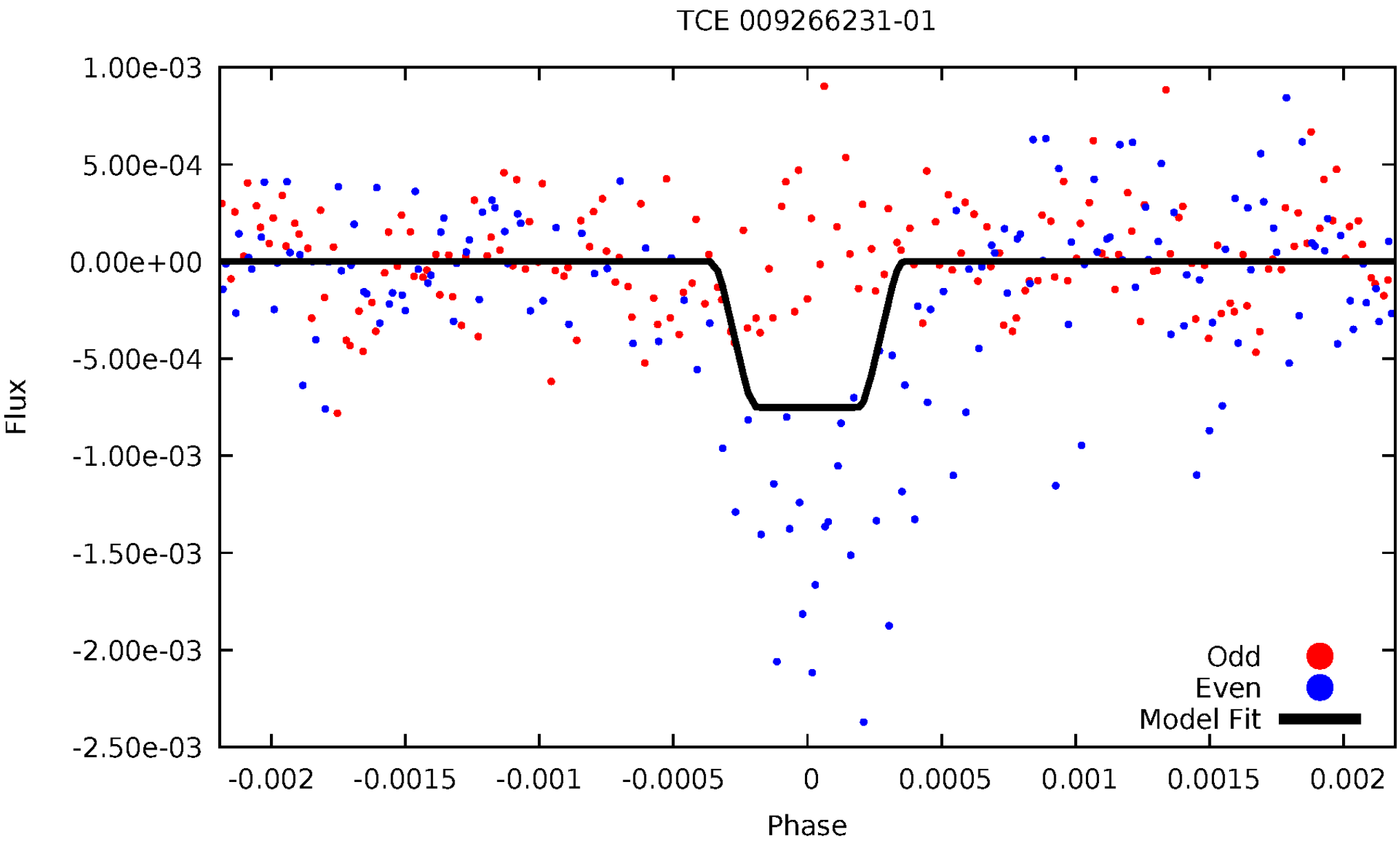



TCE 009266231-01
P = 213.824 days
P = 427.647 days
P = 855.295 days
Normalized Flux
BKJD
Normalized Flux
Phase

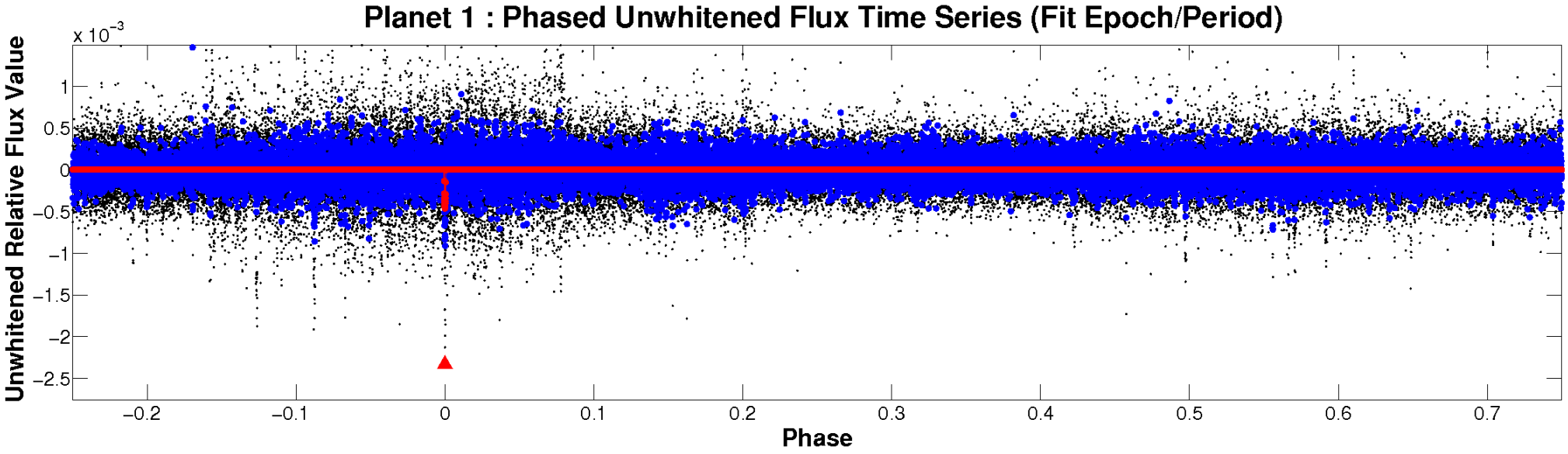
DV Odd/Even

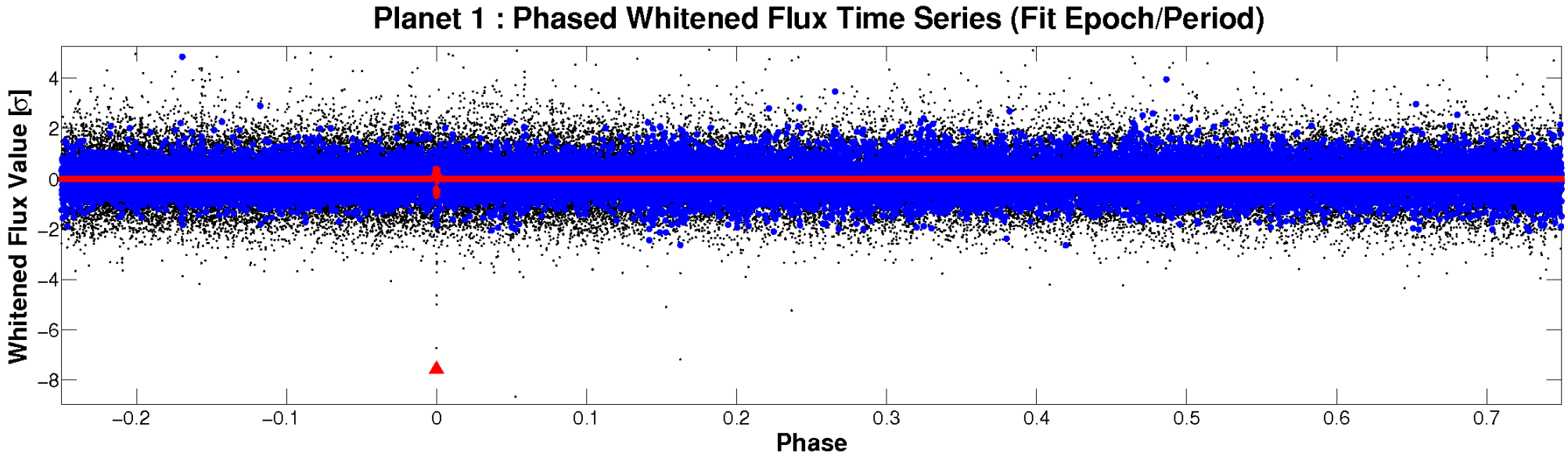

TCE 009266231-01
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009266231-01
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.002
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
0.002
Phase
Odd
Even
Model Fit

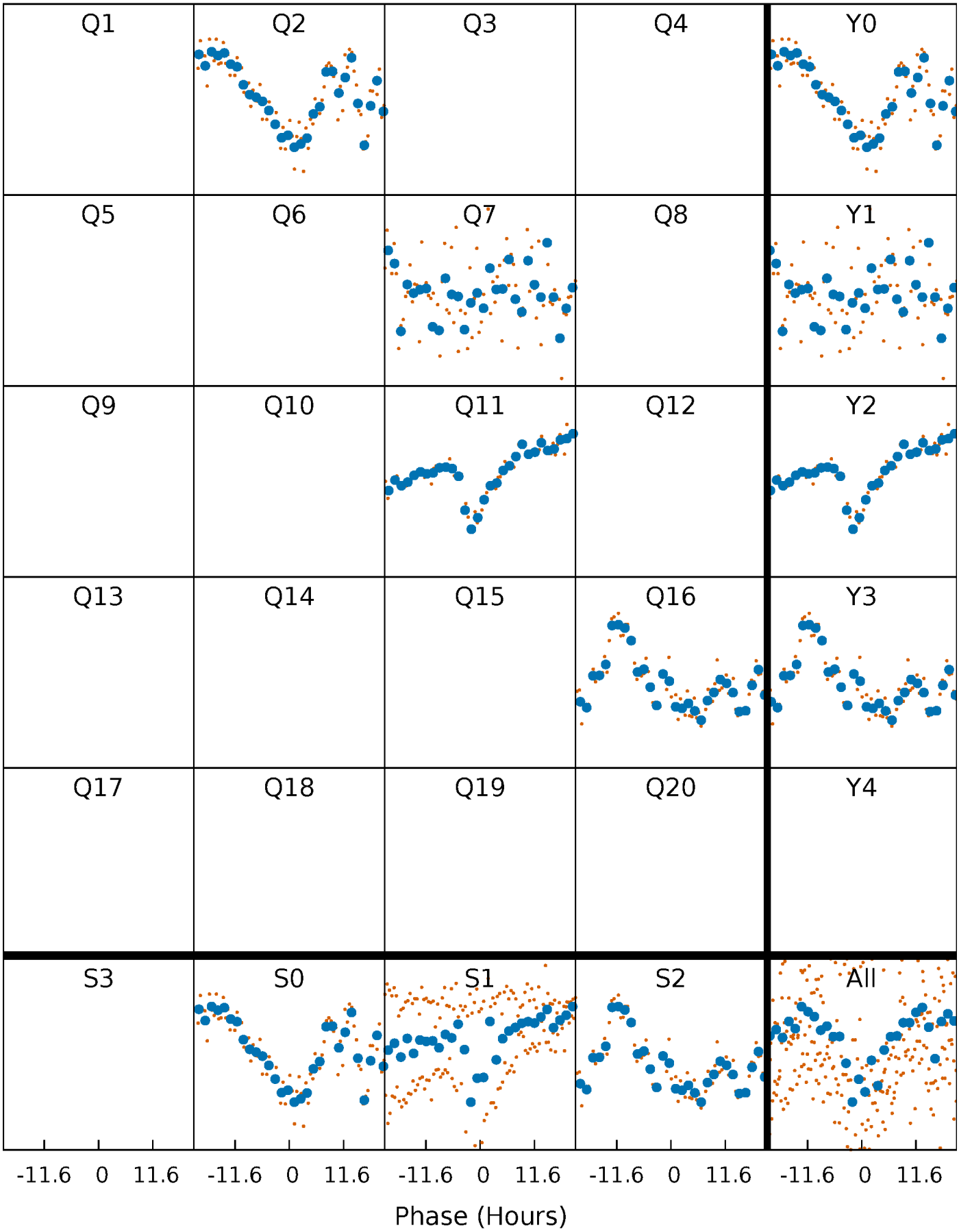
Non-Whitened Vs. Whitened Light Curve





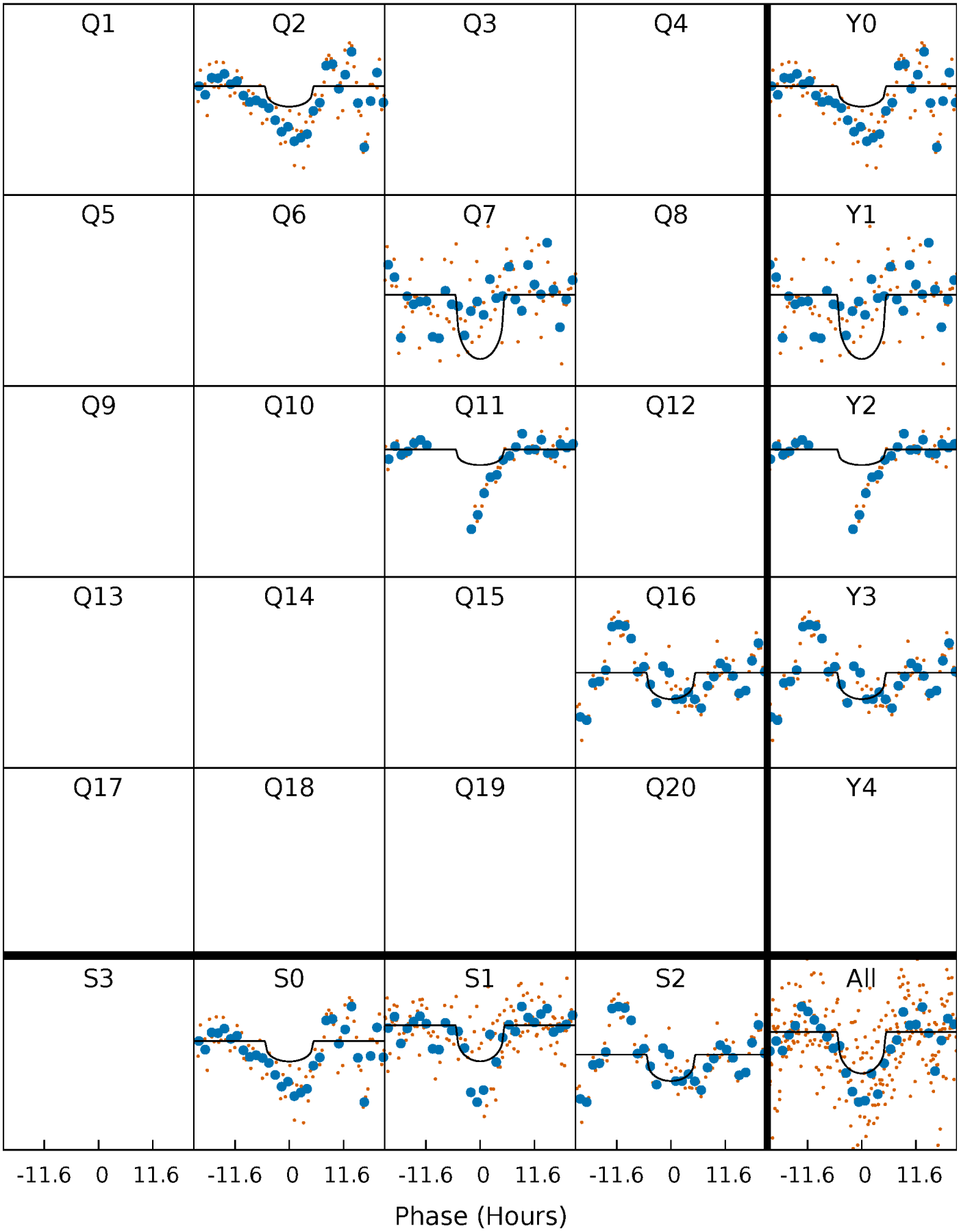
PDC Quarter-Phased Transit Curves

TCE 009266231-01 P=427.647431 Days T_0=238.498593 (BKJD)



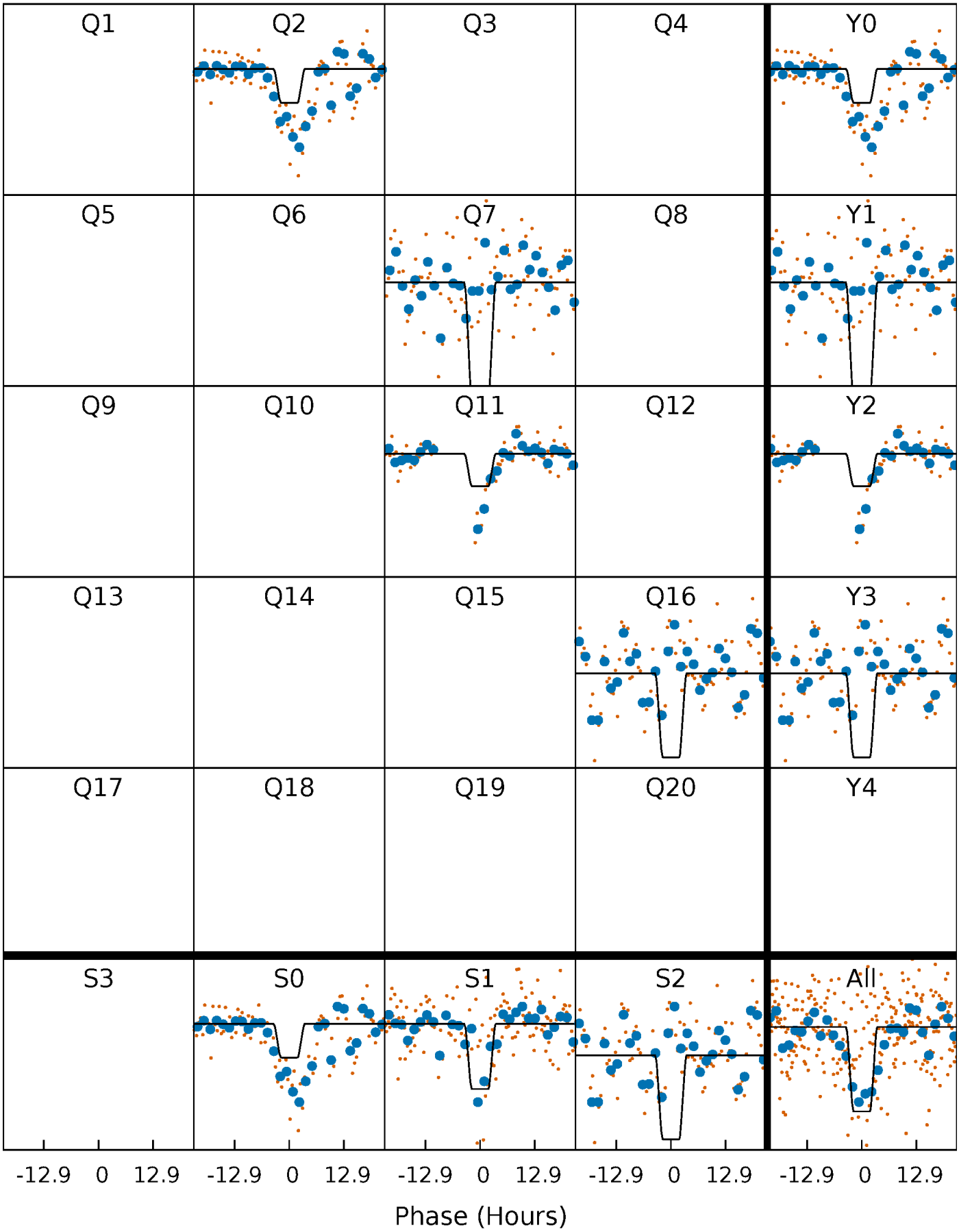
DV Quarter-Phased Transit Curves

TCE 009266231-01 P=427.647431 Days T_0=238.498593 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

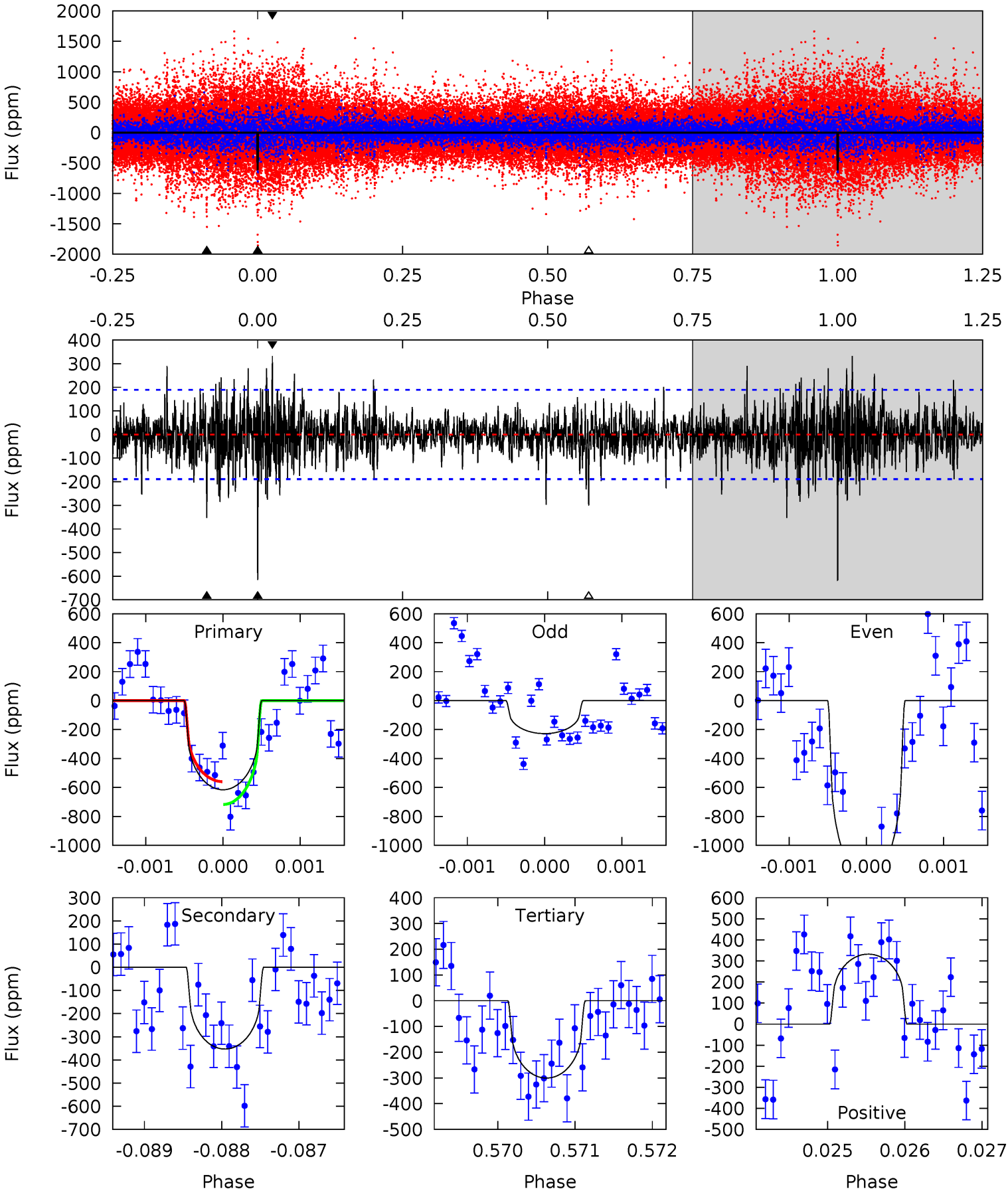
TCE 009266231-01 P=427.619921 Days T_0=238.537026 (BKJD)



DV Model-Shift Uniqueness Test

009266231-01, P = 427.647431 Days, E = 238.498593 Days

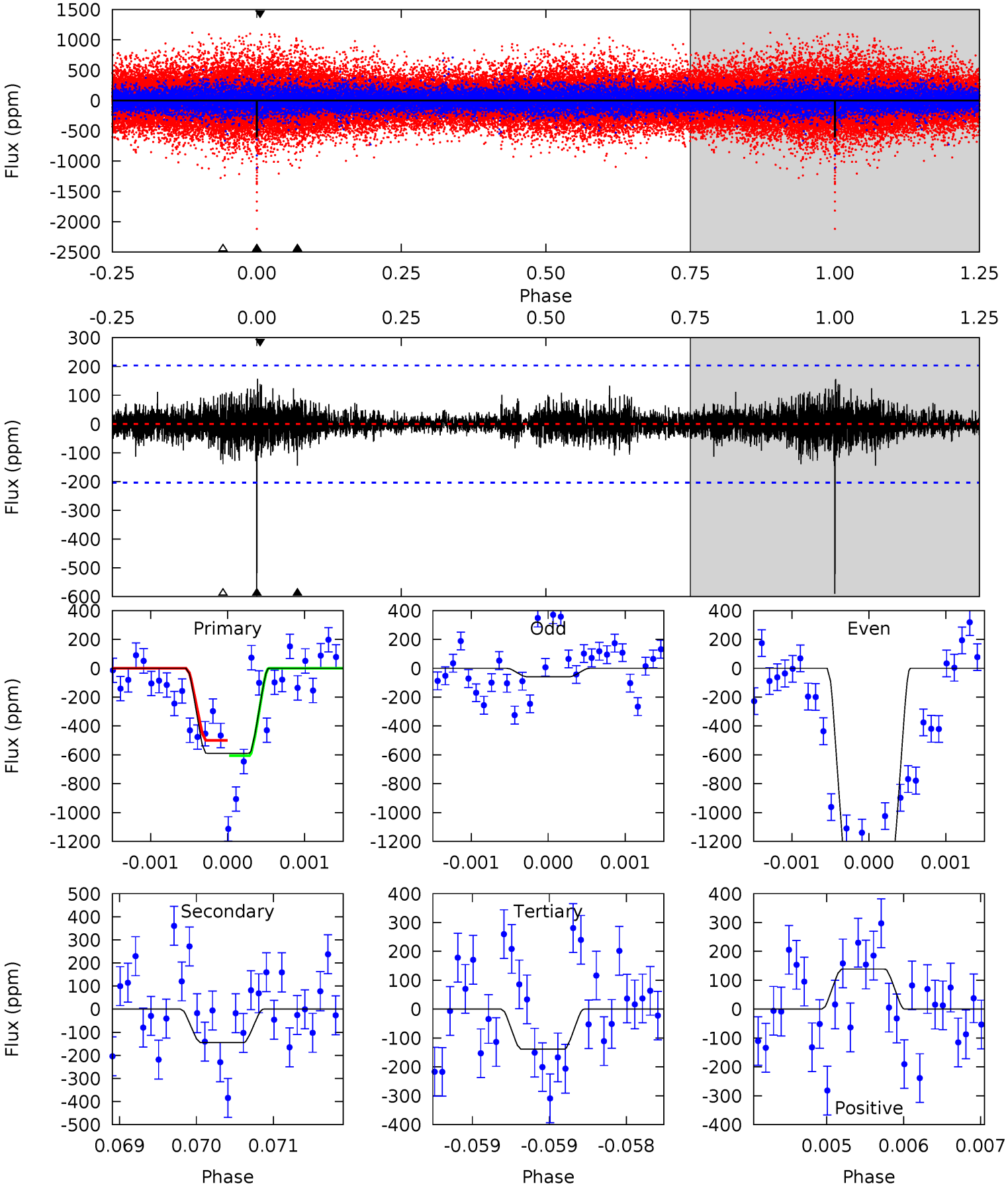
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.8	10.2	8.66	9.58	5.45	3.28	1.97	9.09	8.18	1.51	0.60	14.8	1.05	0.35	2.27



Alt Model-Shift Uniqueness Test

009266231-01, P = 427.619921 Days, E = 238.537026 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	3.93	3.76	3.77	5.52	3.40	0.80	12.2	12.2	0.17	0.16	19.7	1.00	0.21	1.38



Stellar Parameters For KIC 009266231

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	4508^{+134}_{-121}	$4.601^{+0.049}_{-0.024}$	$-0.100^{+0.300}_{-0.300}$	$0.676^{+0.043}_{-0.058}$	$0.665^{+0.072}_{-0.054}$	$3.034^{+0.705}_{-0.323}$
	+3%/-3%	+1%/-1%	+300%/-300%	+6%/-9%	+11%/-8%	+23%/-11%
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 009266231-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-353±35	$1.80^{+1.62}_{-1.16}$	231^{+8}_{-8}	4091^{+2265}_{-800}	$54555^{+403629}_{-38740}$
Alt.	-145±37	$2.26^{+1.41}_{-1.33}$	231^{+7}_{-7}	3251^{+1178}_{-421}	14057^{+77875}_{-8737}

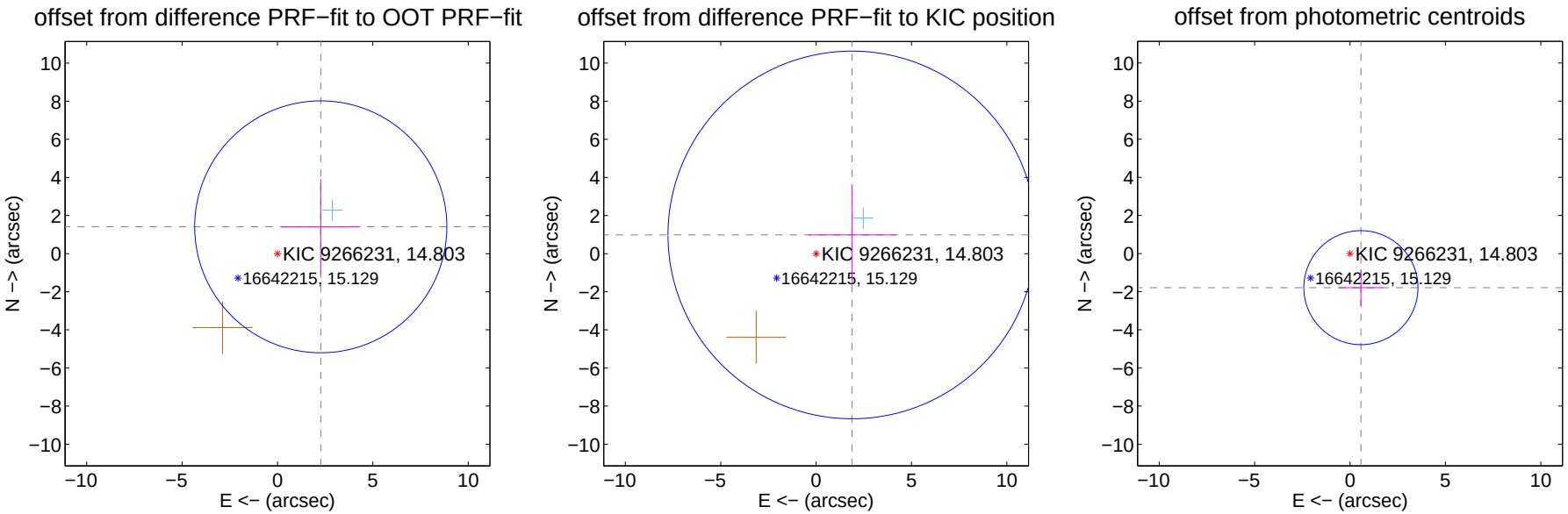
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

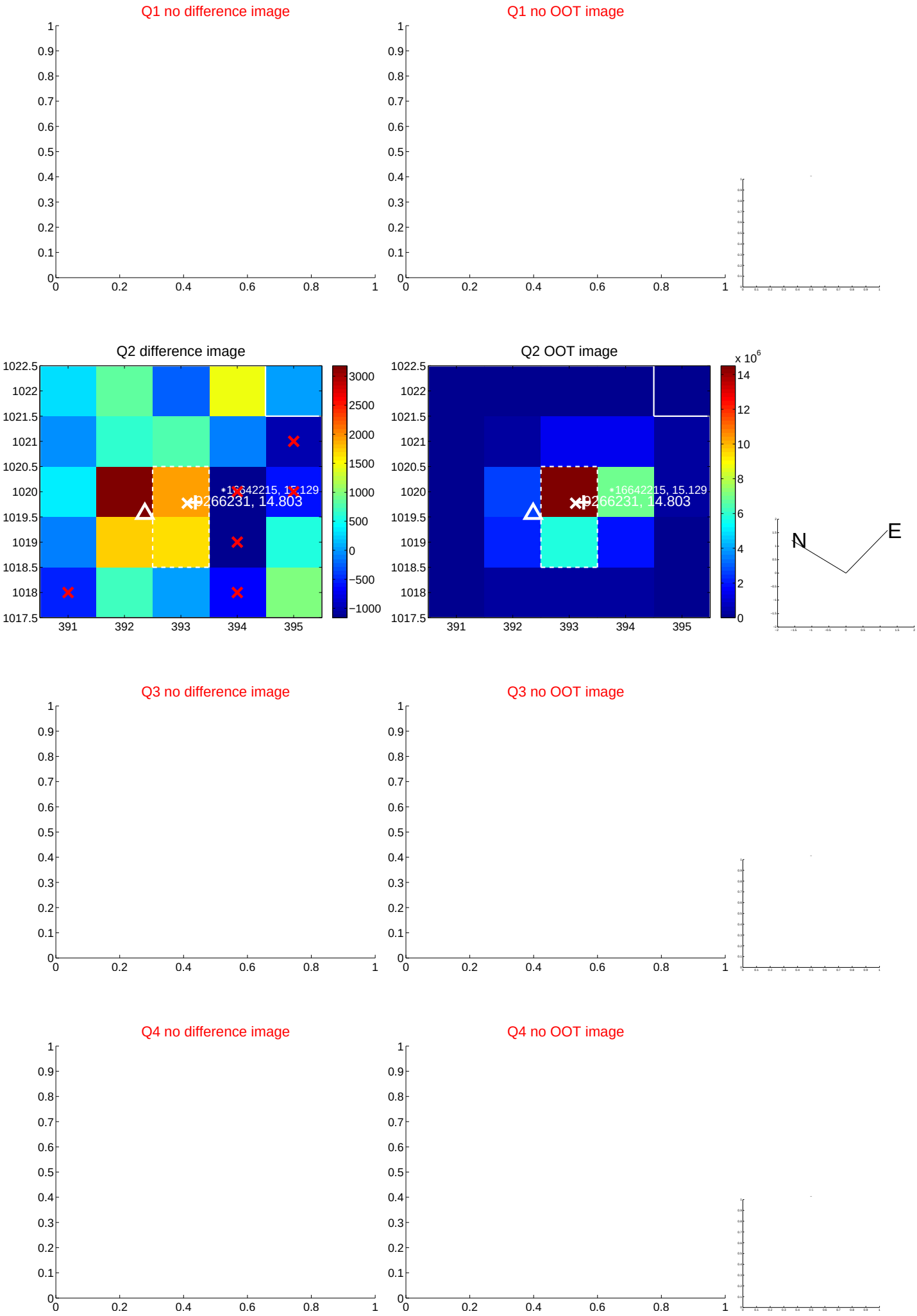
Supplemental centroid analysis for 009266231-01. Kepler magnitude: 14.80. Transit SNR 5.22
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.671 ± 2.203	1.21	-2.270 ± 2.072	1.408 ± 2.513
PRF-fit source offset from KIC position	2.121 ± 3.216	0.66	-1.880 ± 2.295	0.982 ± 2.553
photometric centroid source offset	1.88 ± 1.00	1.88	-0.57 ± 1.17	-1.79 ± 0.98

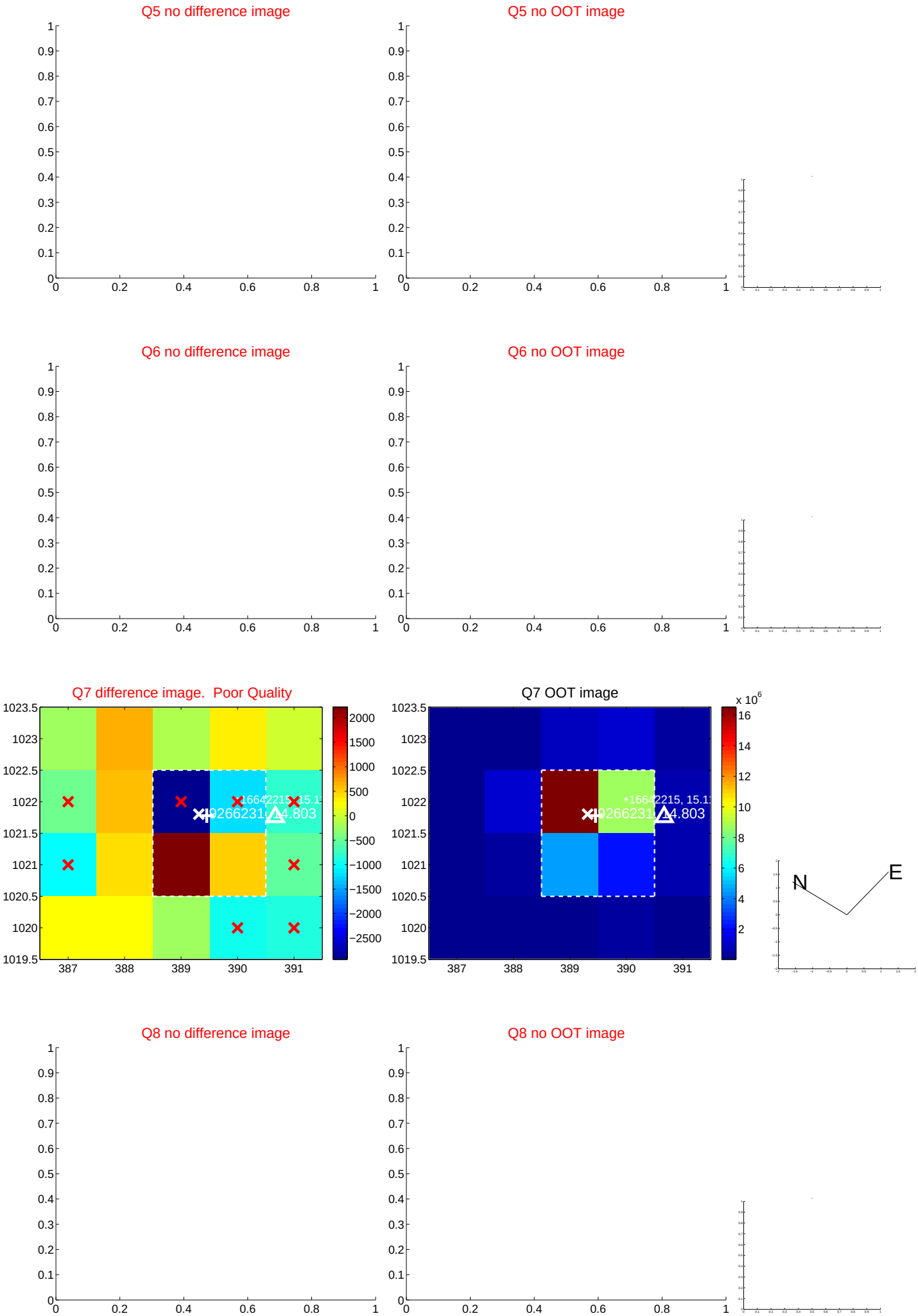


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

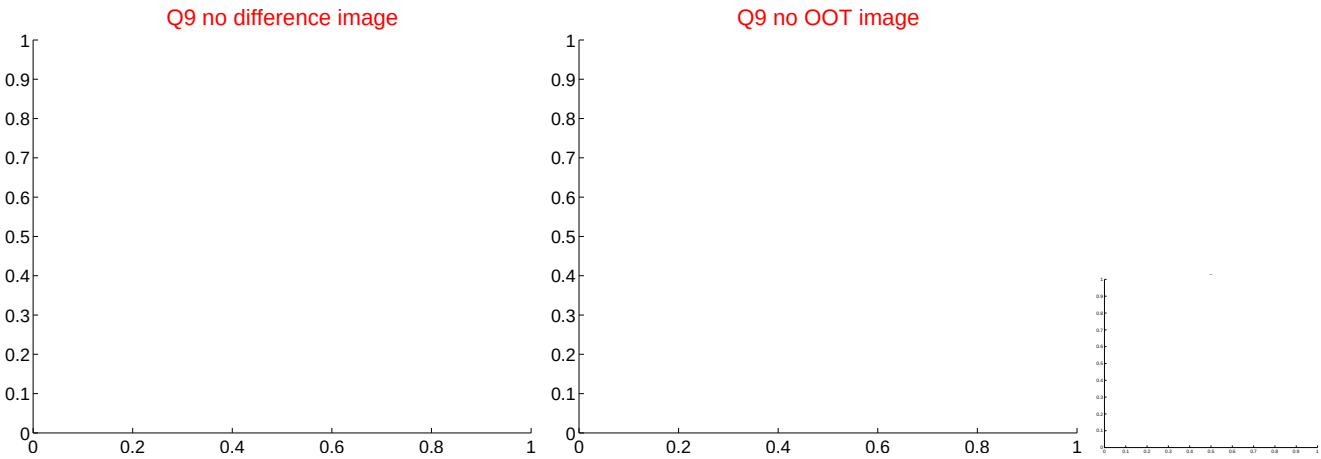
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

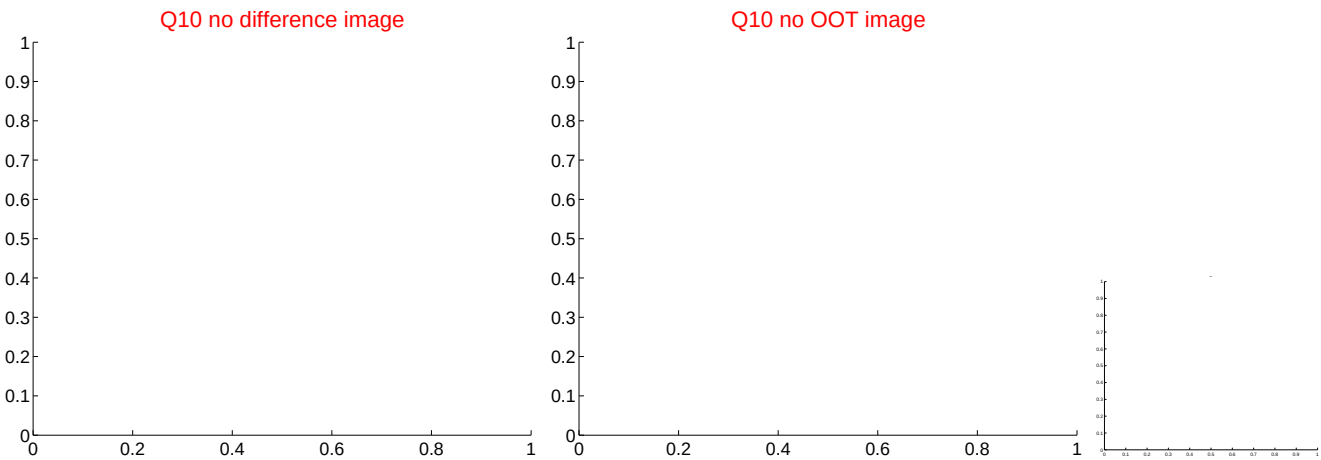


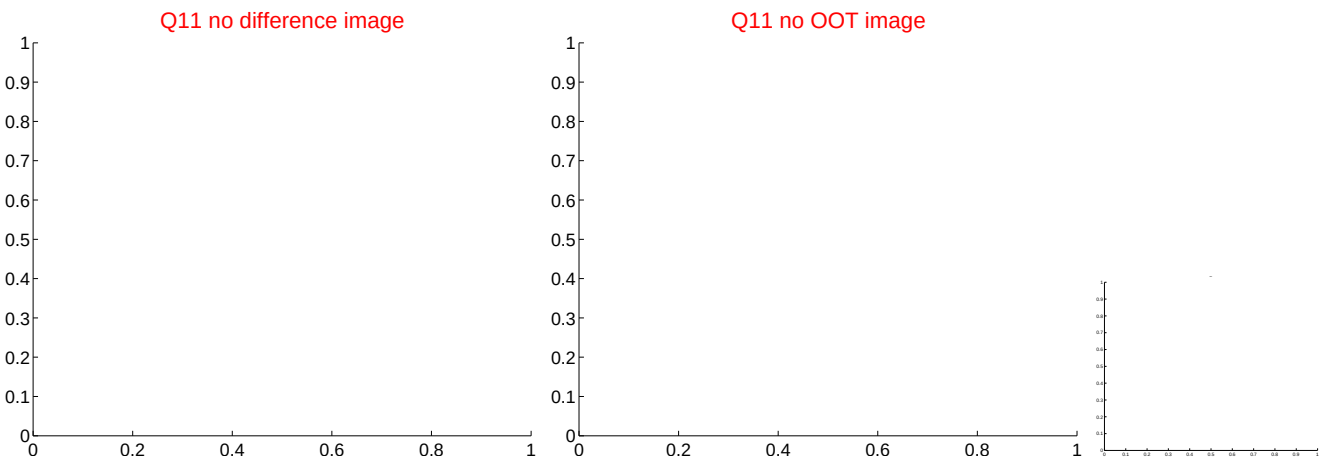
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

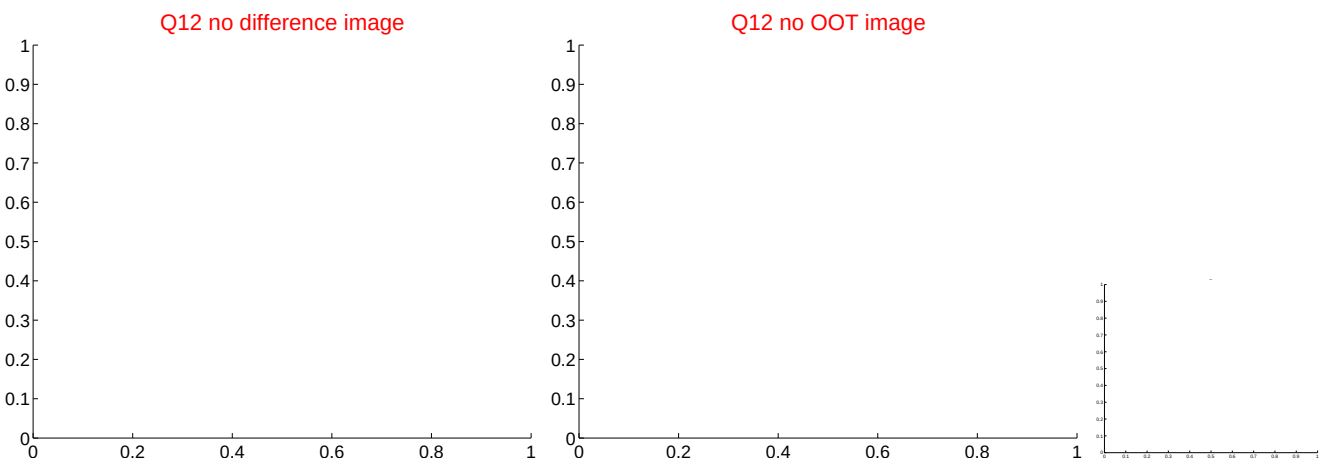


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

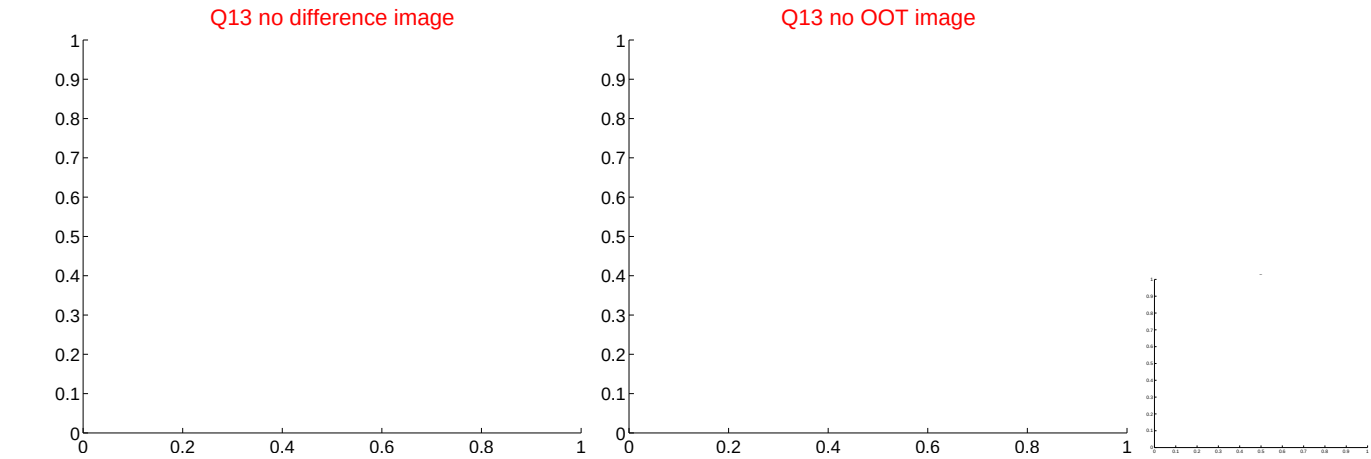


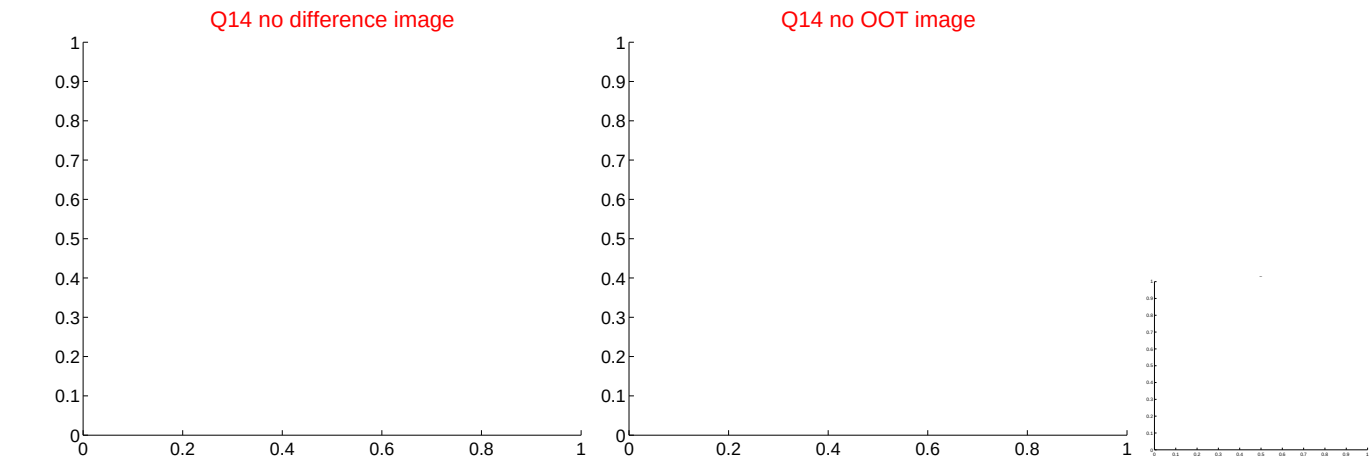


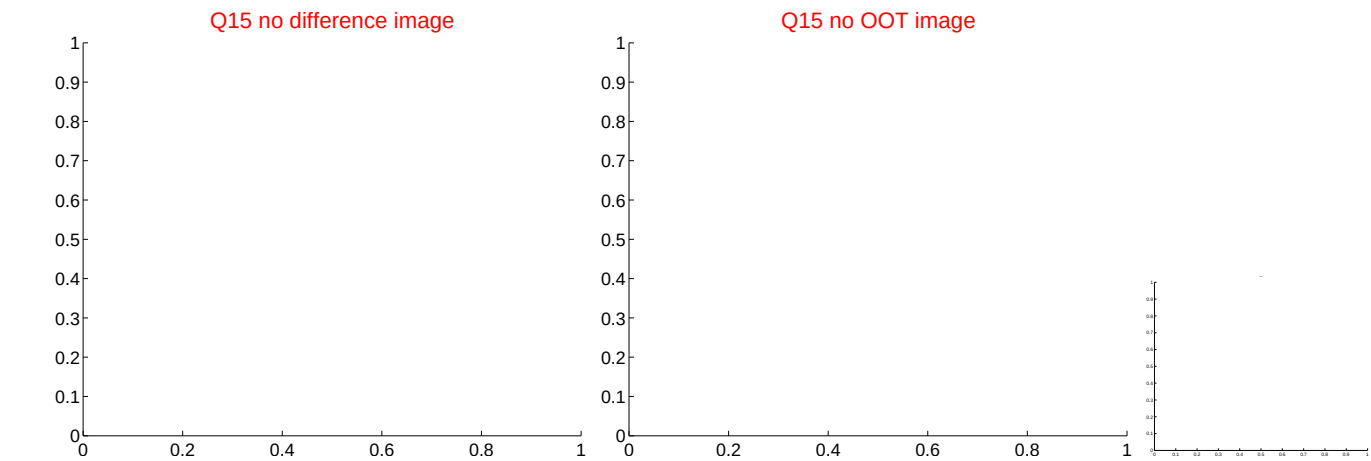


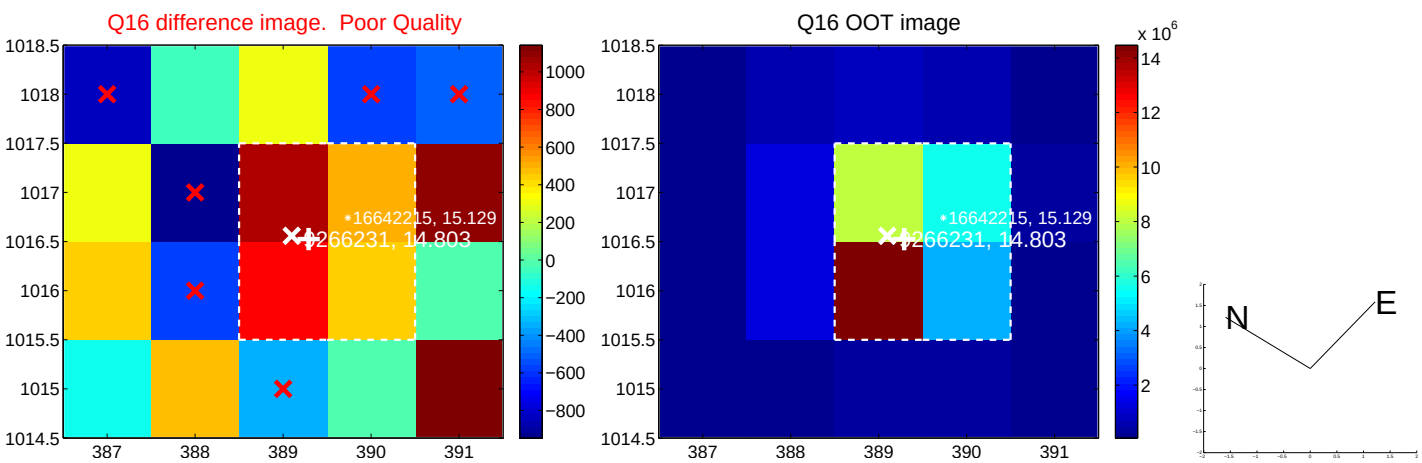


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

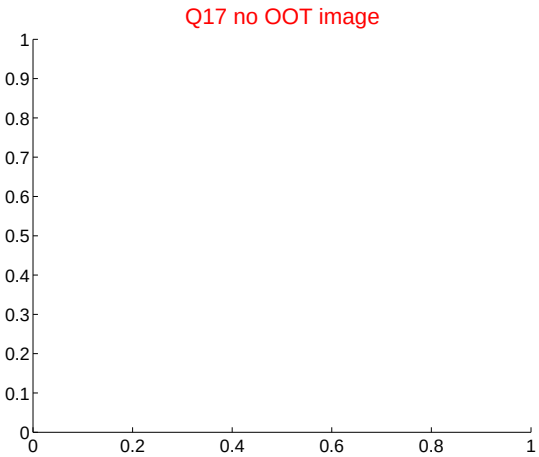


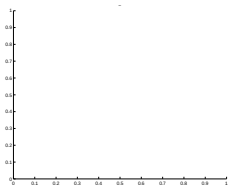


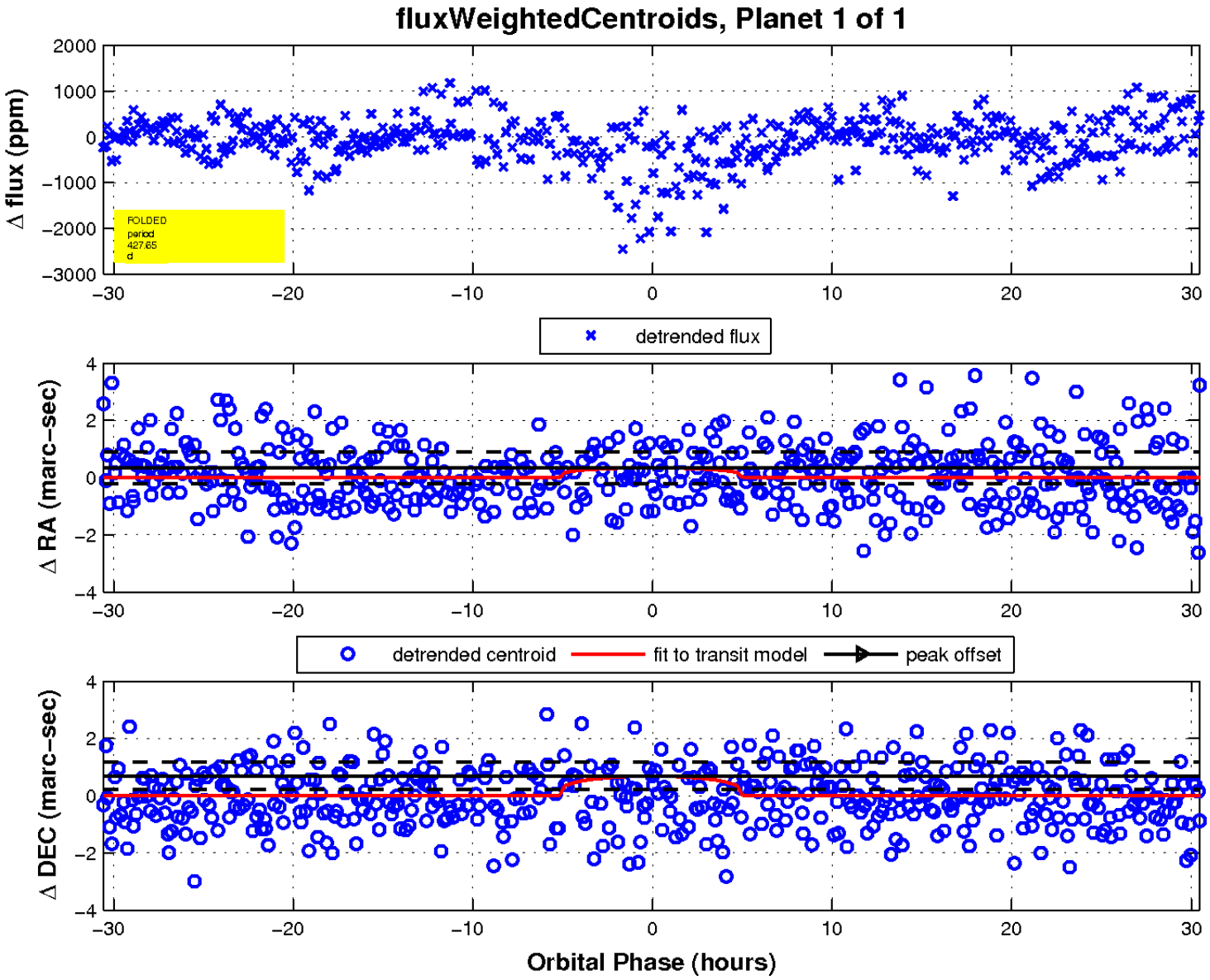




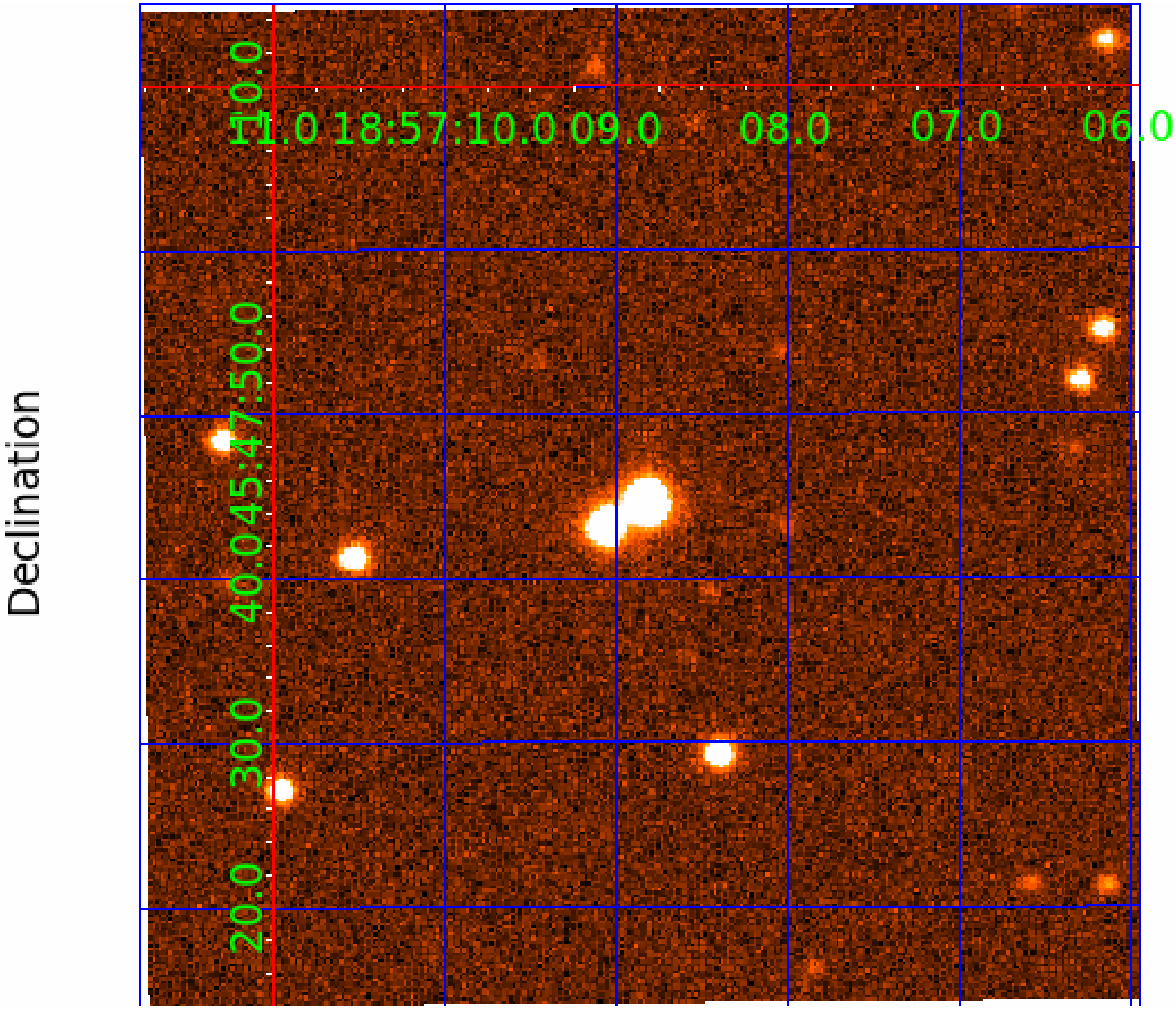
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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