KIC 009282930

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 ($S_\oplus$)
009282930-01	OBS	No	486.231661	338.068394	343.8	11.205	7.2	6.6	0.87	5753	1.74	0.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009282930-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

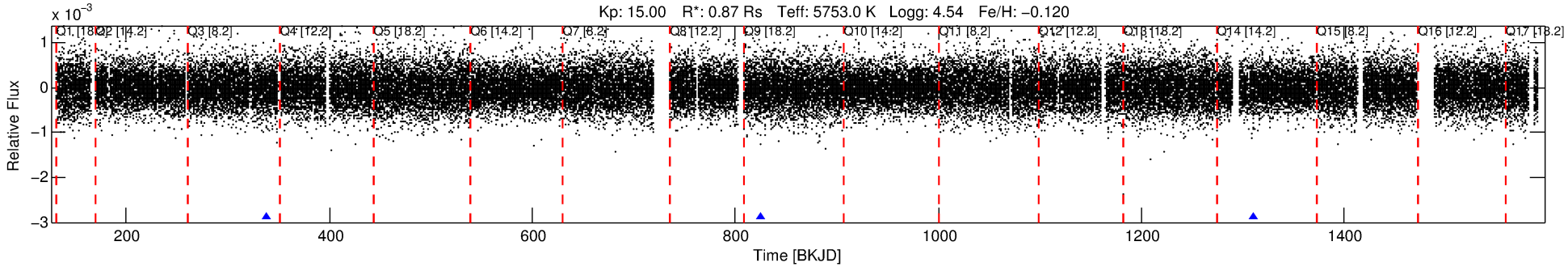
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

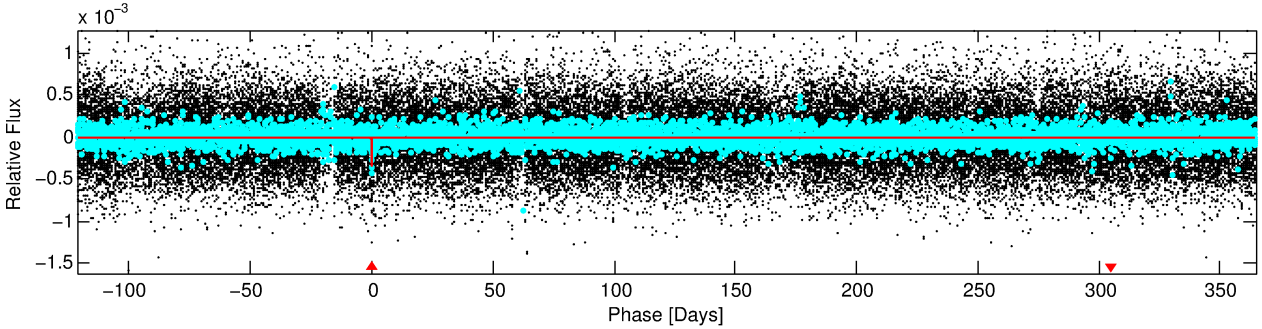
Ephemeris Match Information For 009282930-01

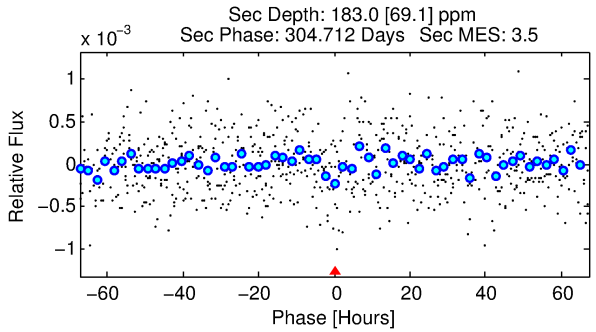
No Significant Match Found

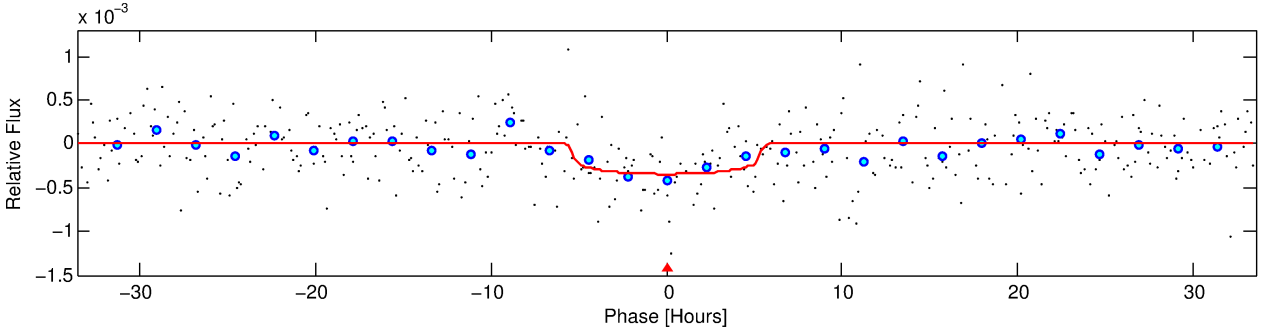
DV One-Page Summary

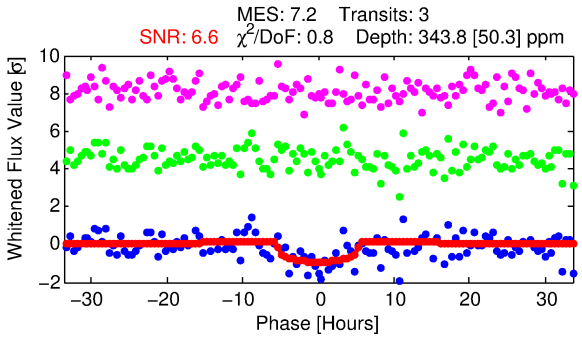
KIC: 9282930 Candidate: 1 of 1 Period: 486.232 d

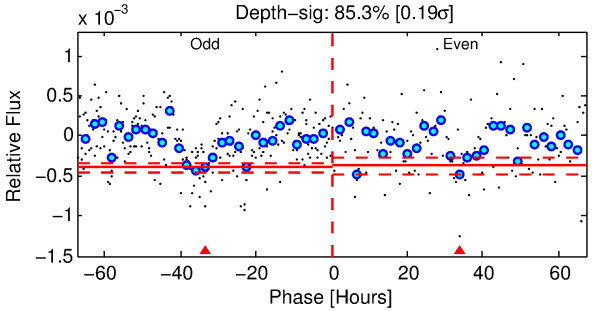


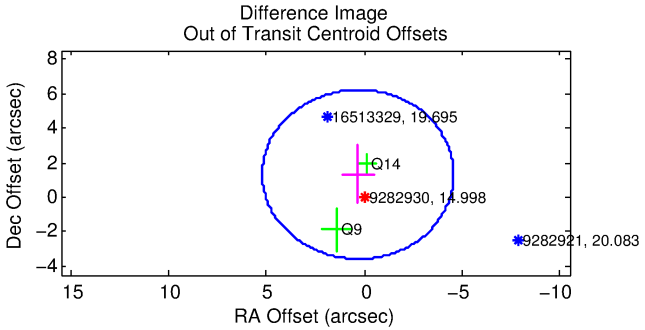












DV Fit Results:

Period = 486.23166 [0.01514] d
Epoch = 338.0684 [0.0227] BKJD
Rp/R* = 0.0183 [0.0147]
a/R* = 234.48 [846.24]
b = 0.73 [2.31]

Seff = 0.52 [0.20]
Teq = 217 [21] K
Rp = 1.74 [1.49] Re
a = 1.1902 [0.3040] AU

Ag = 47195.75 [79919.50] [0.59σ]
Teffp = 4942 [2046] K [2.31σ]

DV Diagnostic Results:

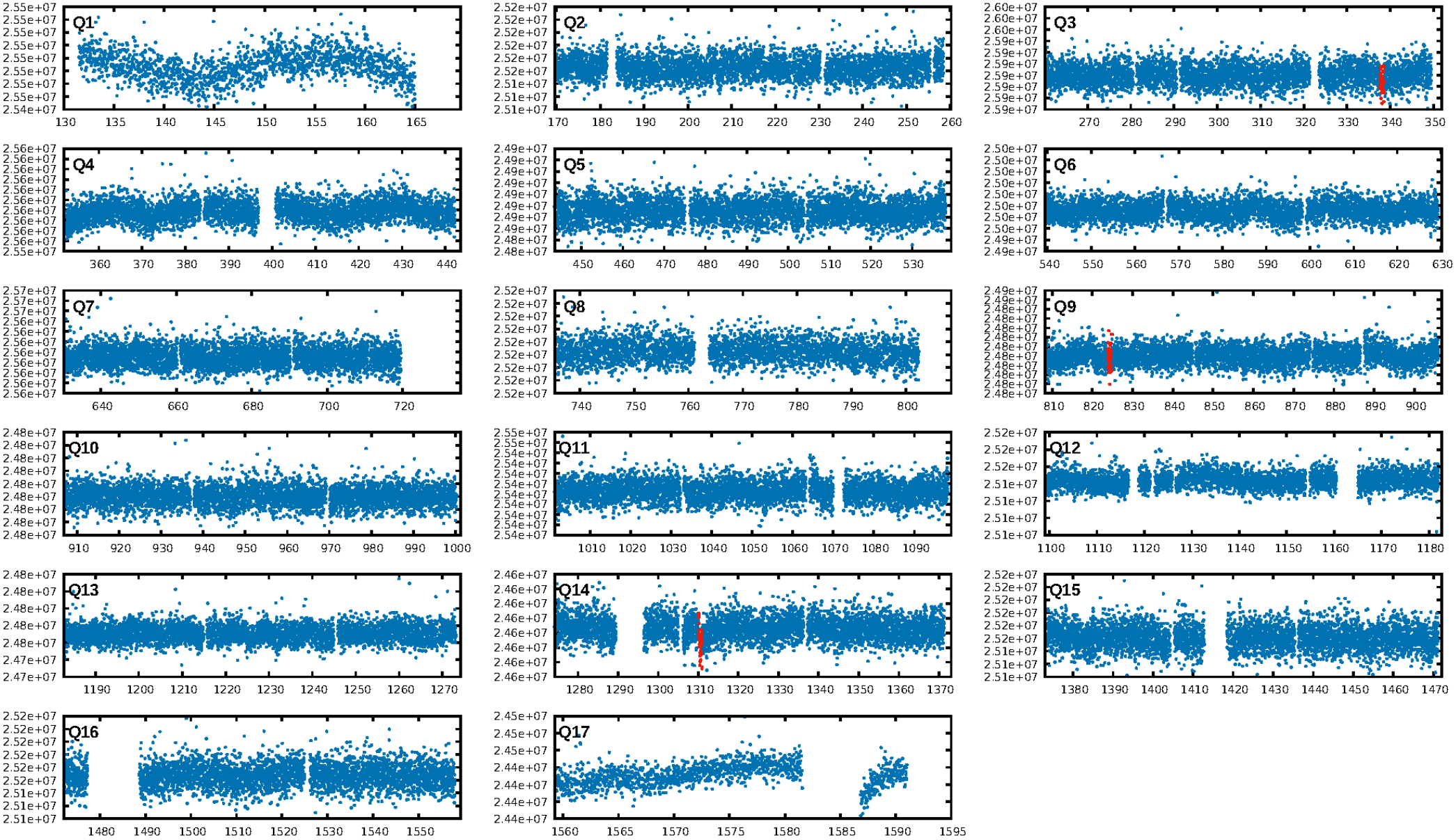
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 22.6%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 4.83e−16
RollingBand−fgt: 1.00 [3/3]
GhostDiagnostic−chr: 4.787

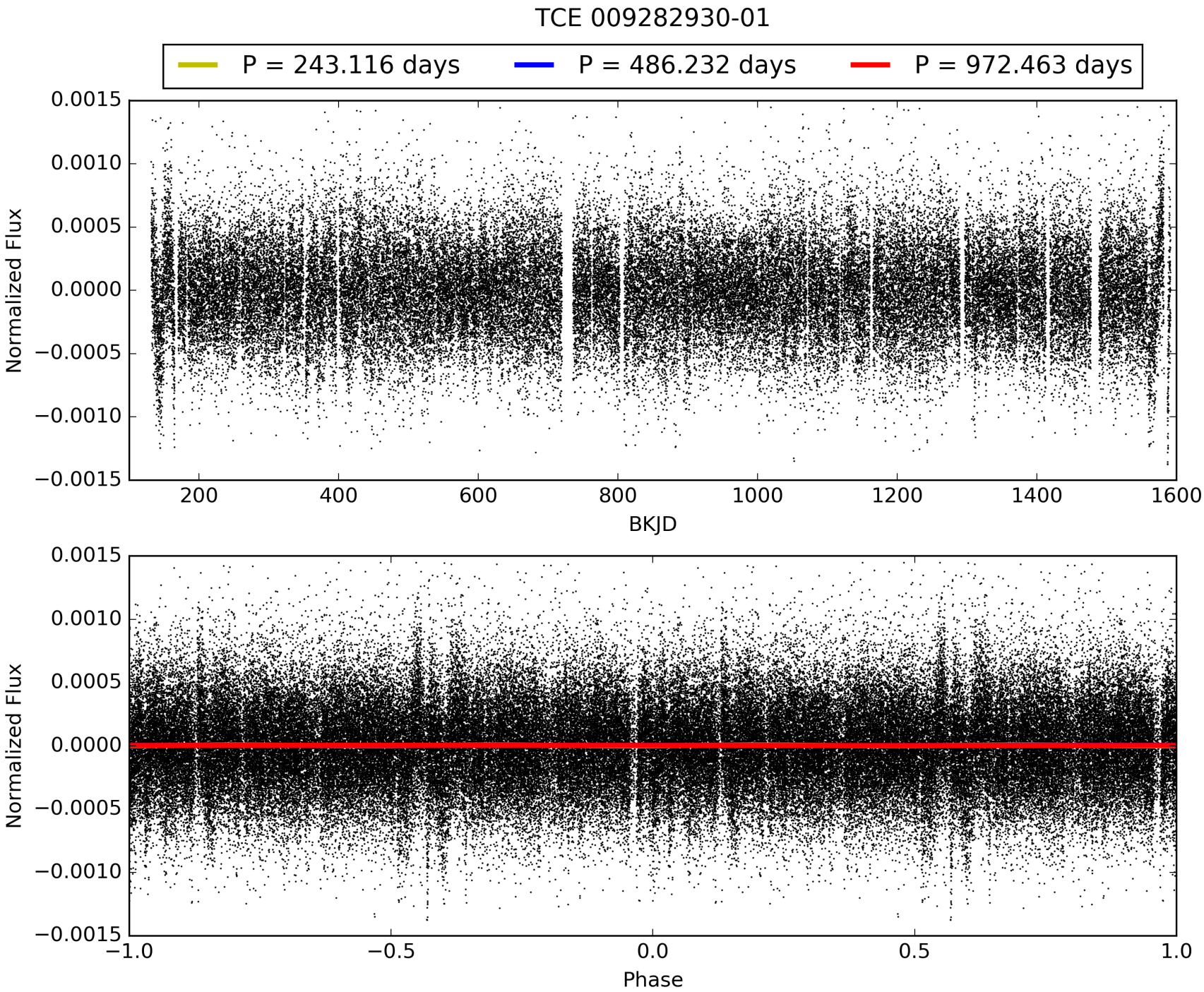
Centroid−sig: 88.6%
Centroid−so: 0.576 arcsec [0.28σ]
OotOffset−rm: 1.356 arcsec [0.83σ]
KicOffset−rm: 1.257 arcsec [0.77σ]
OotOffset−st: 1/0/0/1 [2]
KicOffset−st: 1/0/0/1 [2]
DiffImageQuality−fgm: 1.00 [2/2]
DiffImageOverlap−fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 13:17:00 Z

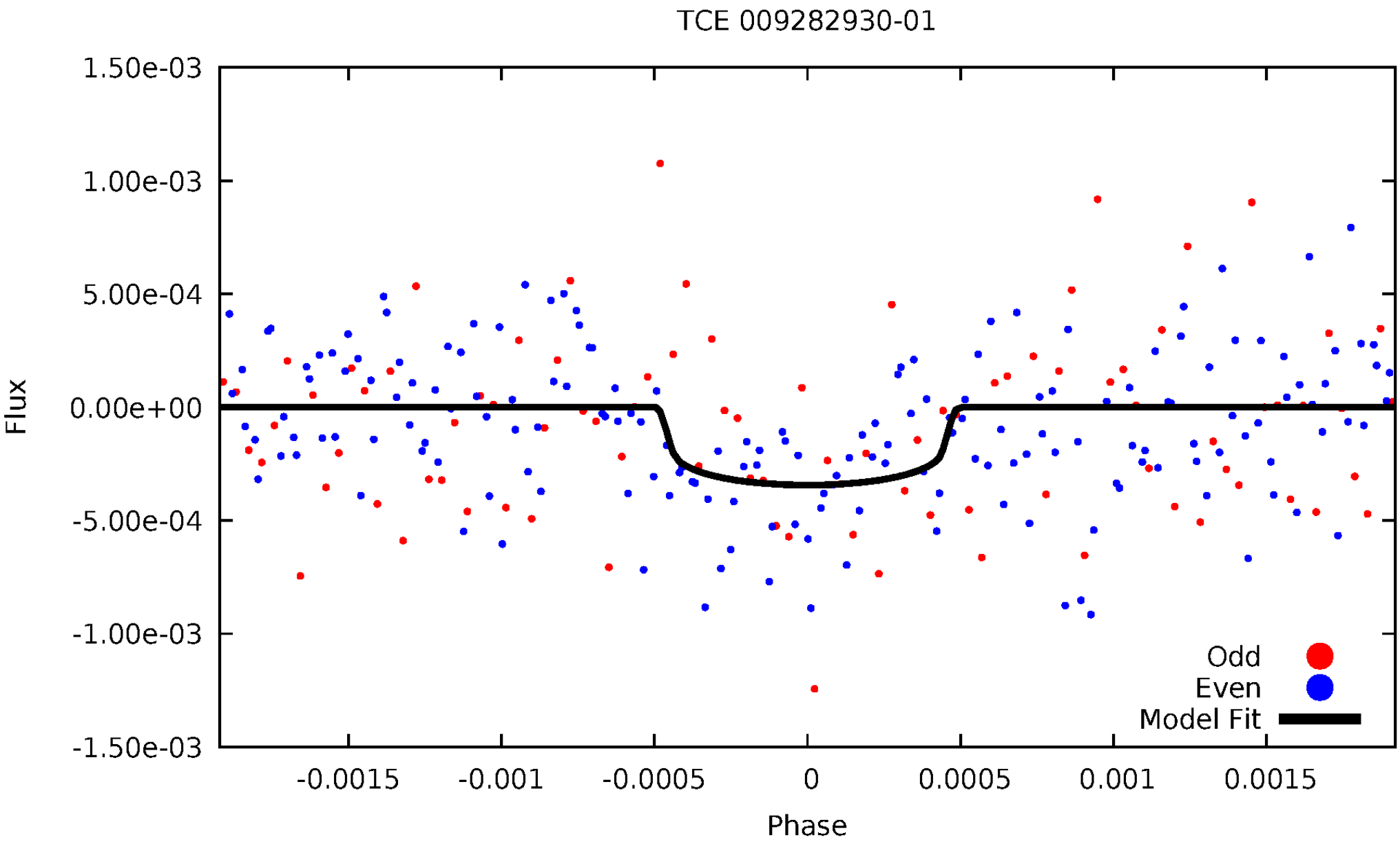
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009282930-01, PDC Light Curves

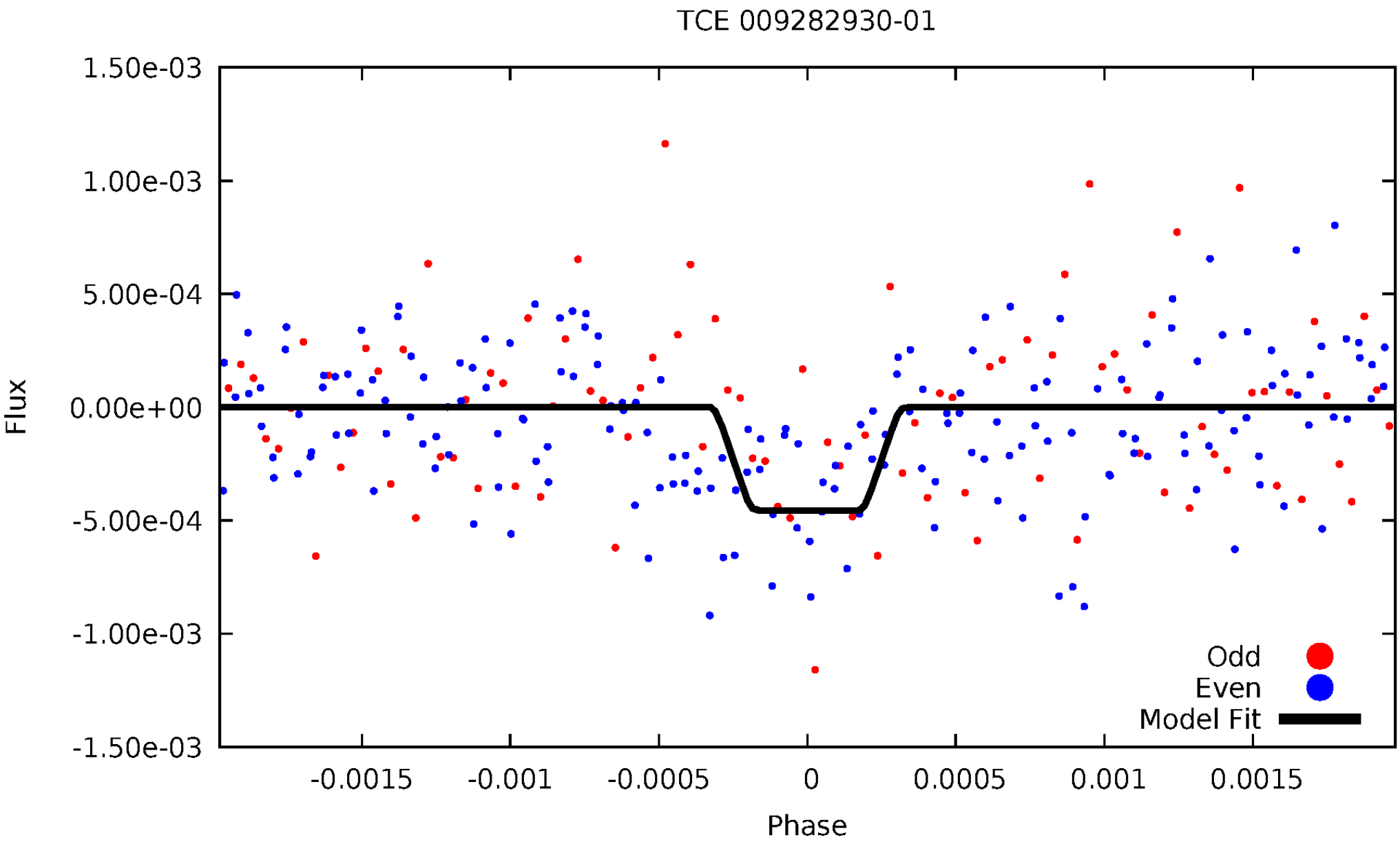



TCE 009282930-01
P = 243.116 days
P = 486.232 days
P = 972.463 days
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
−1.0
−0.5
0.0
0.5
1.0
Phase

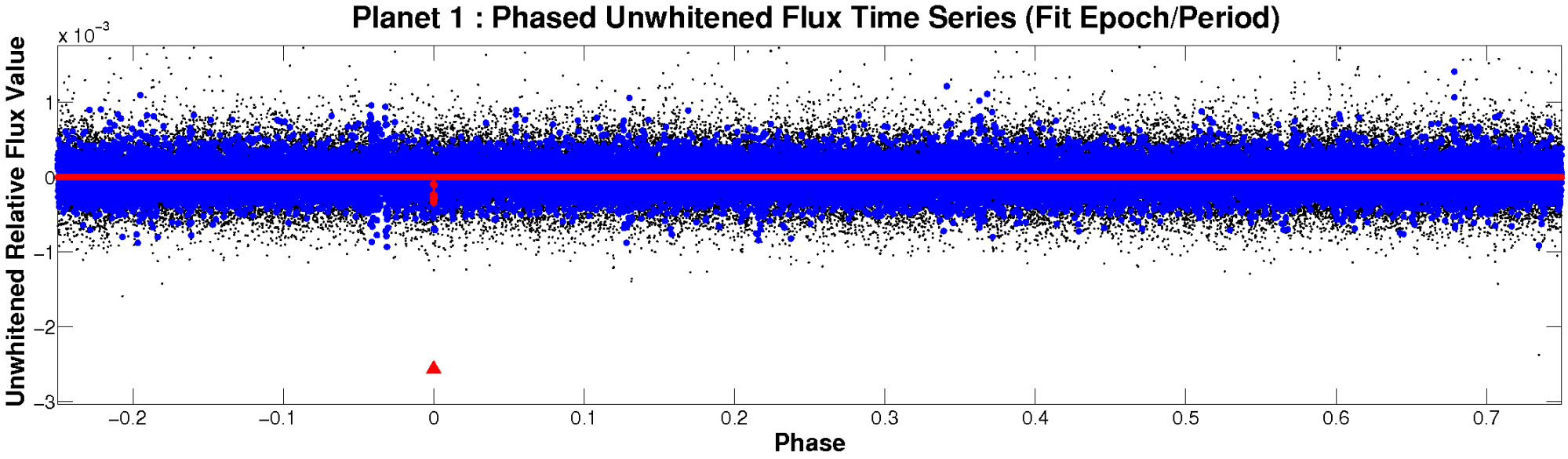
DV Odd/Even

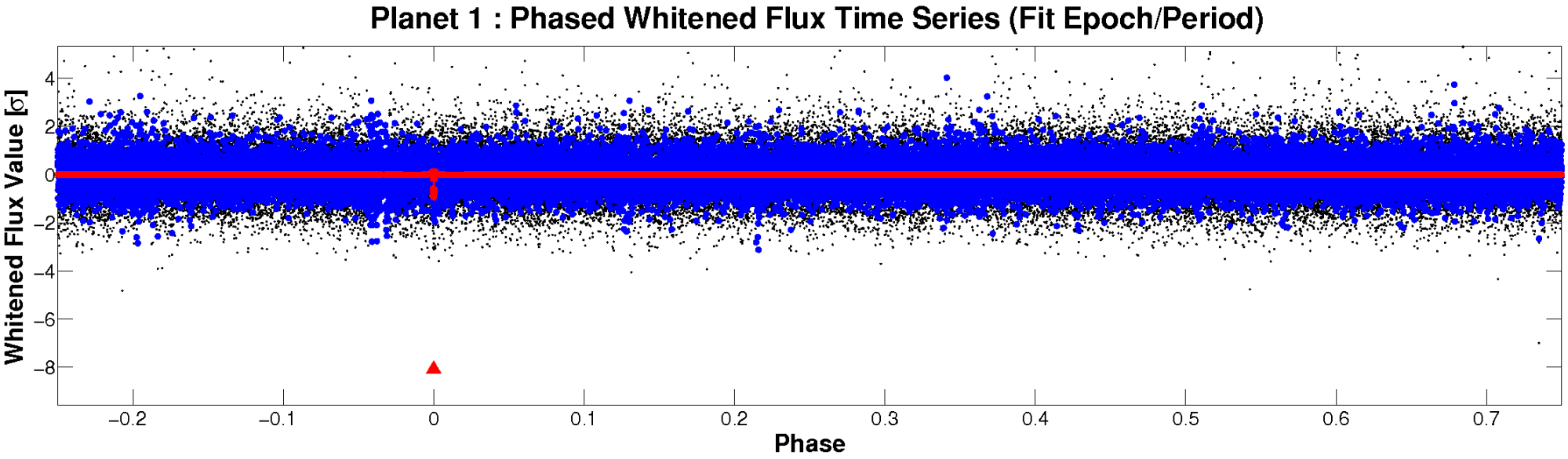

TCE 009282930-01
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009282930-01
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
Phase
Odd
Even
Model Fit

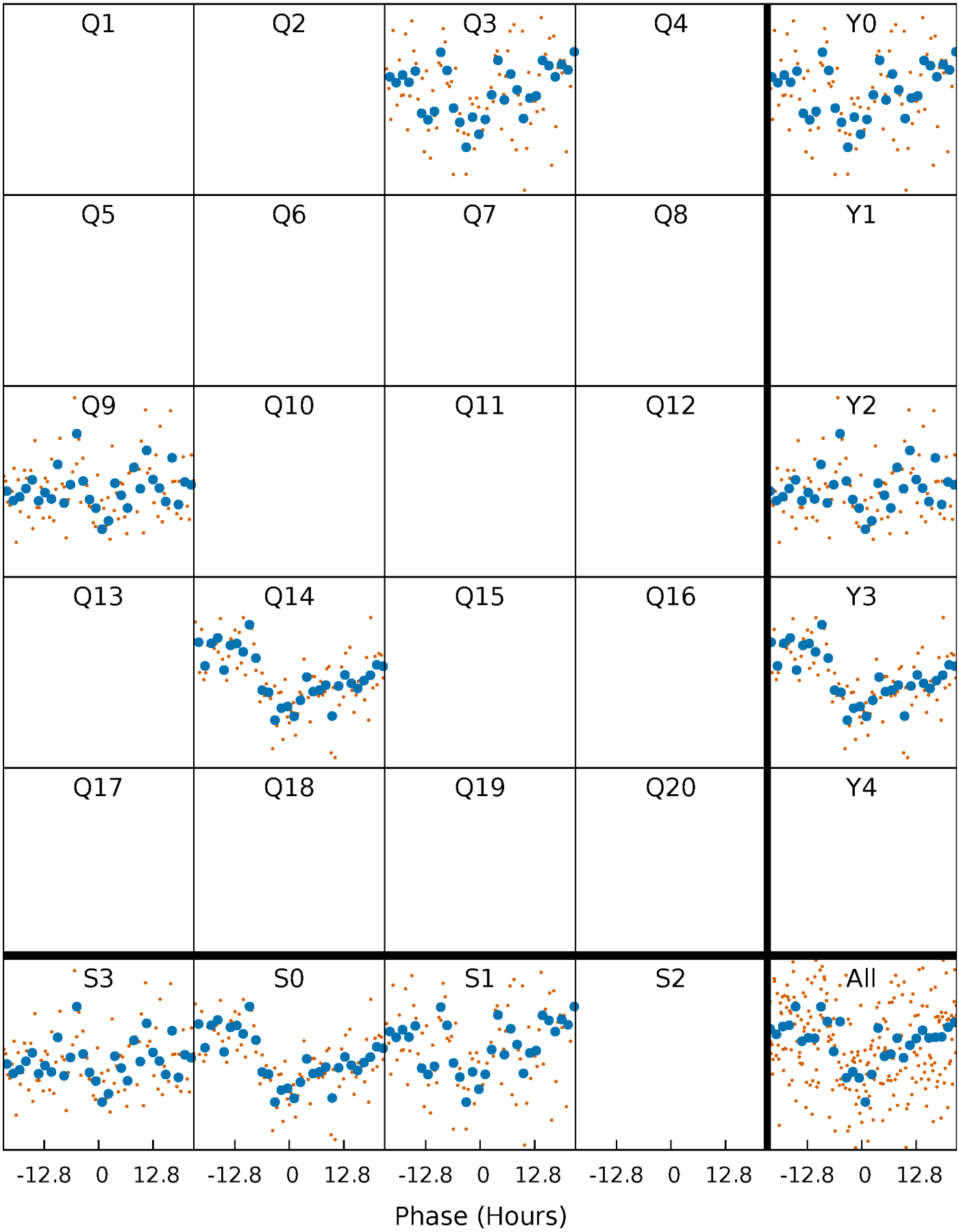
Non-Whitened Vs. Whitened Light Curve





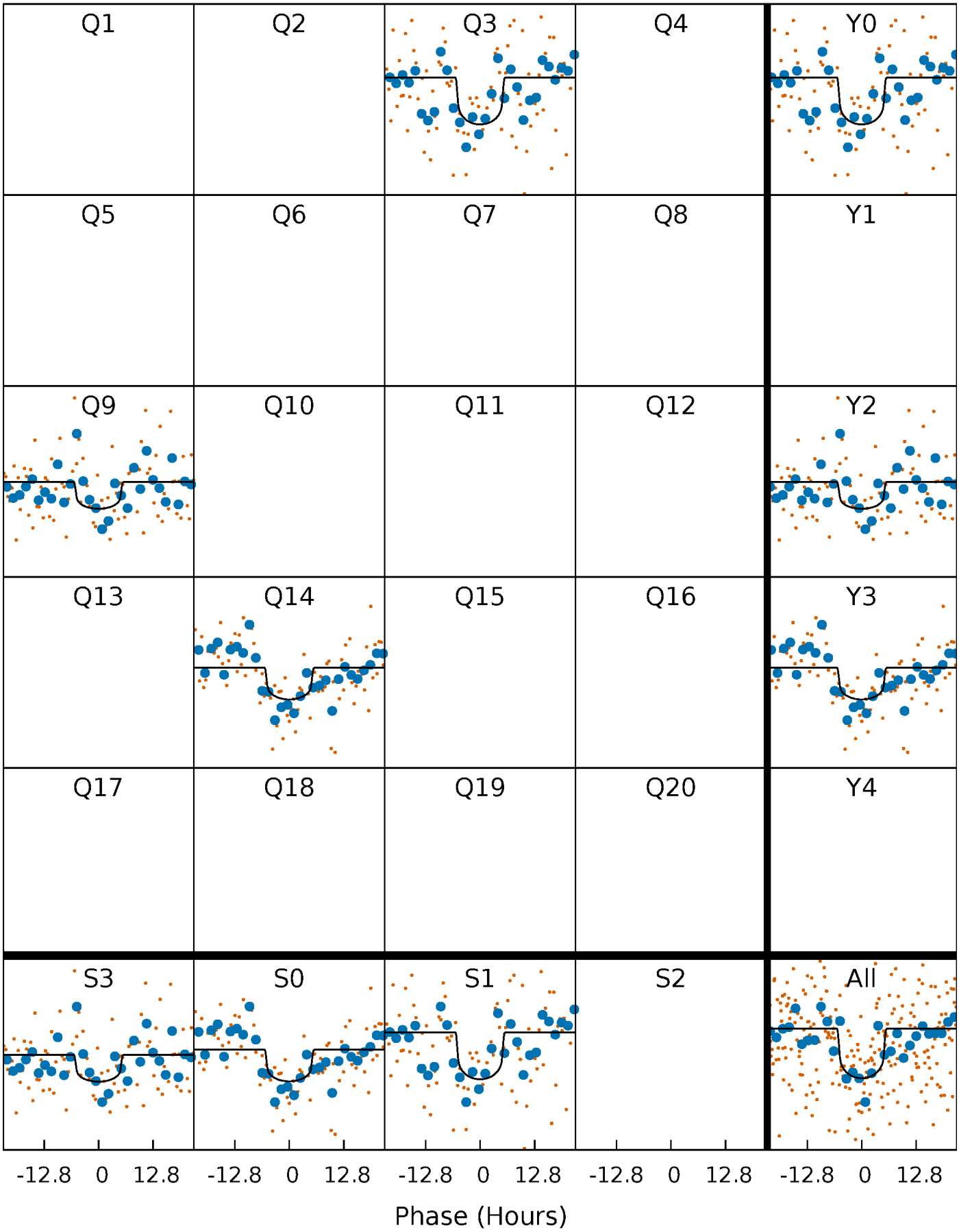
PDC Quarter-Phased Transit Curves

TCE 009282930-01 P=486.231661 Days T_0=338.068394 (BKJD)



DV Quarter-Phased Transit Curves

TCE 009282930-01 P=486.231661 Days T_0=338.068394 (BKJD)



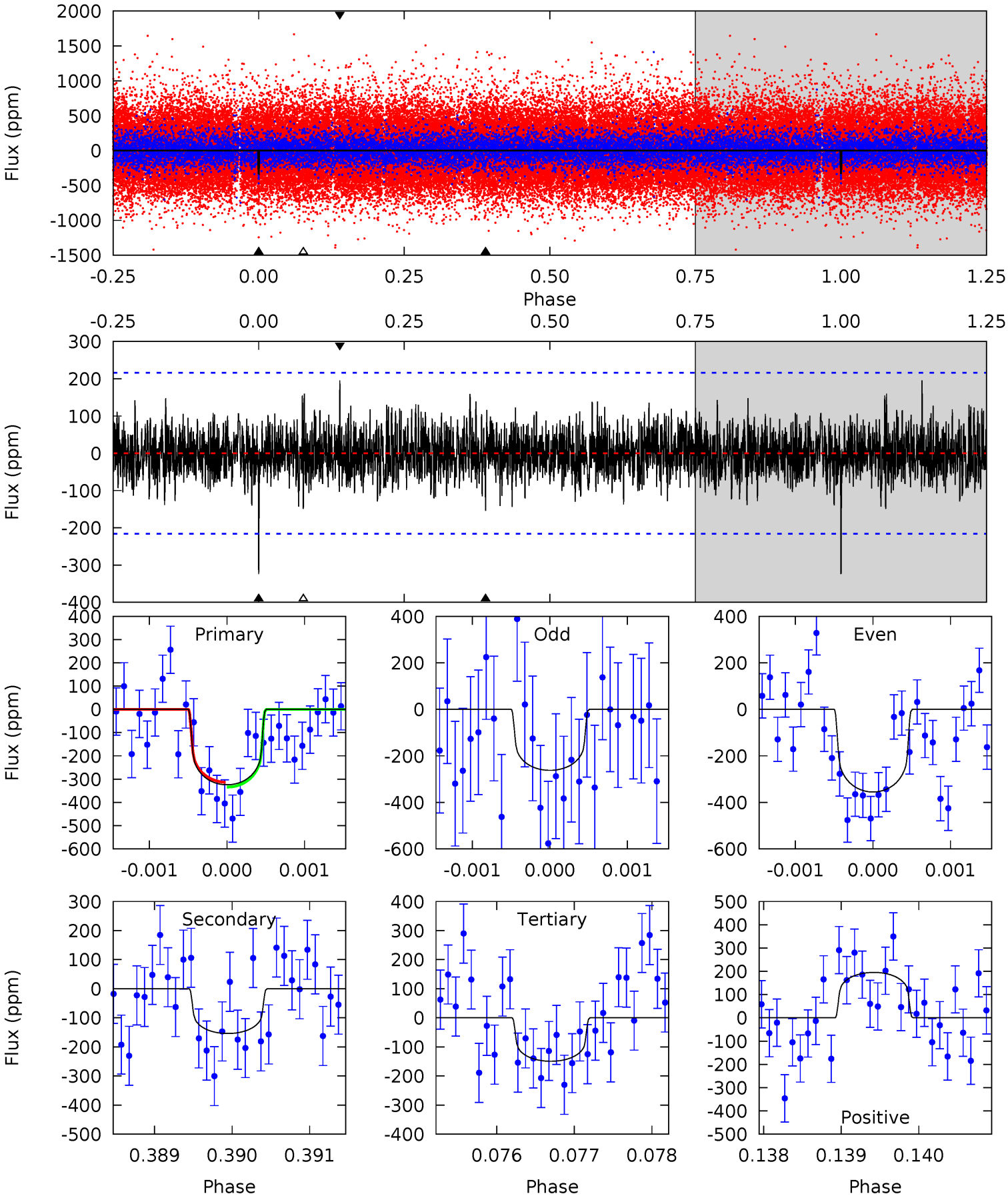
Alt. Detrend Quarter-Phased Transit Curves

TCE 009282930-01 P=486.230183 Days T_0=338.068713 (BKJD)

DV Model-Shift Uniqueness Test

009282930-01, P = 486.231661 Days, E = 338.068394 Days

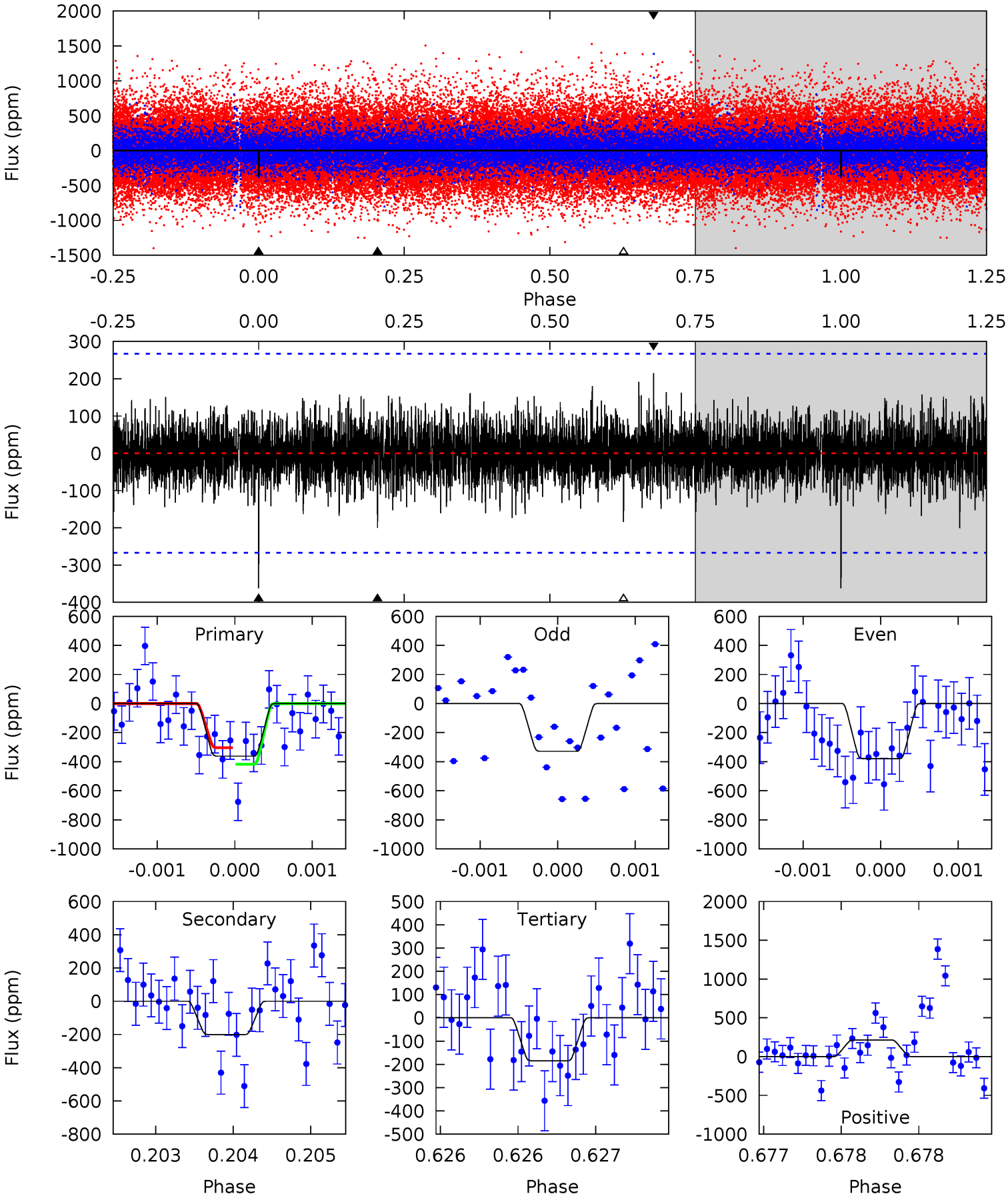
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.18	3.88	3.77	4.92	5.45	3.29	1.15	4.41	3.25	0.12	-1.04	1.12	1.10	0.38	0.26



Alt Model-Shift Uniqueness Test

009282930-01, P = 486.230183 Days, E = 338.068713 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.50	4.15	3.82	4.44	5.52	3.40	1.05	3.69	3.06	0.34	-0.29	0.50	1.10	0.37	1.17



Stellar Parameters For KIC 009282930

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5753^{+153}_{-170}	$4.538^{+0.036}_{-0.204}$	$-0.120^{+0.300}_{-0.300}$	$0.869^{+0.263}_{-0.082}$	$0.951^{+0.104}_{-0.115}$	$2.039^{+0.405}_{-1.055}$
	+3%/-3%	+1%/-4%	+250%/-250%	+30%/-9%	+11%/-12%	+20%/-52%
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 009282930-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-154±40	$1.99^{+1.41}_{-1.13}$	310^{+22}_{-13}	4688^{+2257}_{-861}	$29289^{+134641}_{-19573}$
Alt.	-201±48	$2.19^{+1.52}_{-1.18}$	311^{+22}_{-14}	4744^{+2084}_{-860}	$31574^{+119749}_{-20981}$

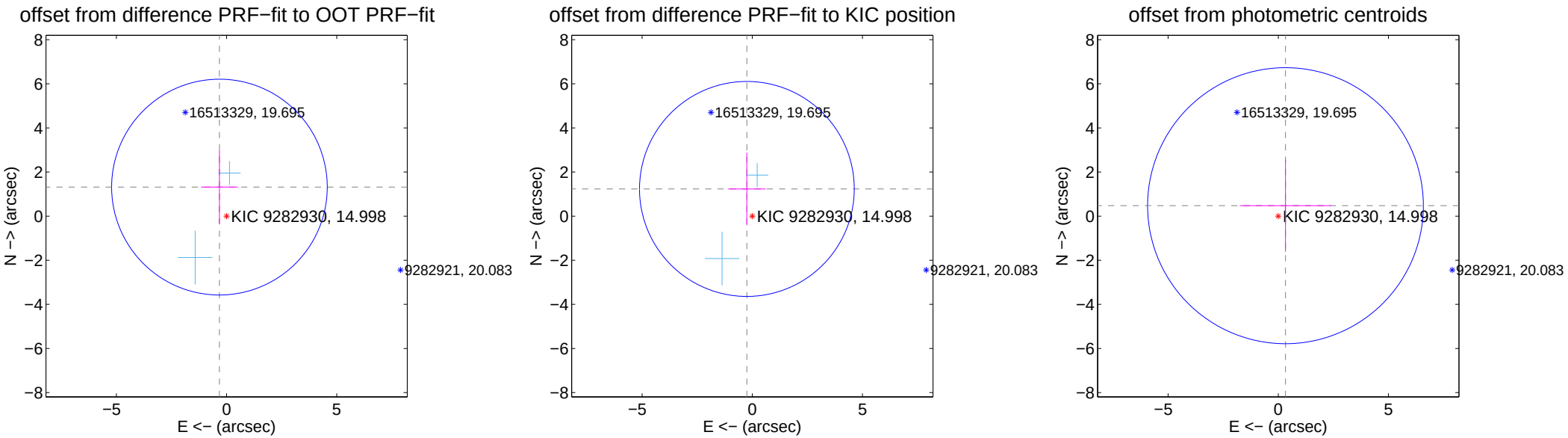
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

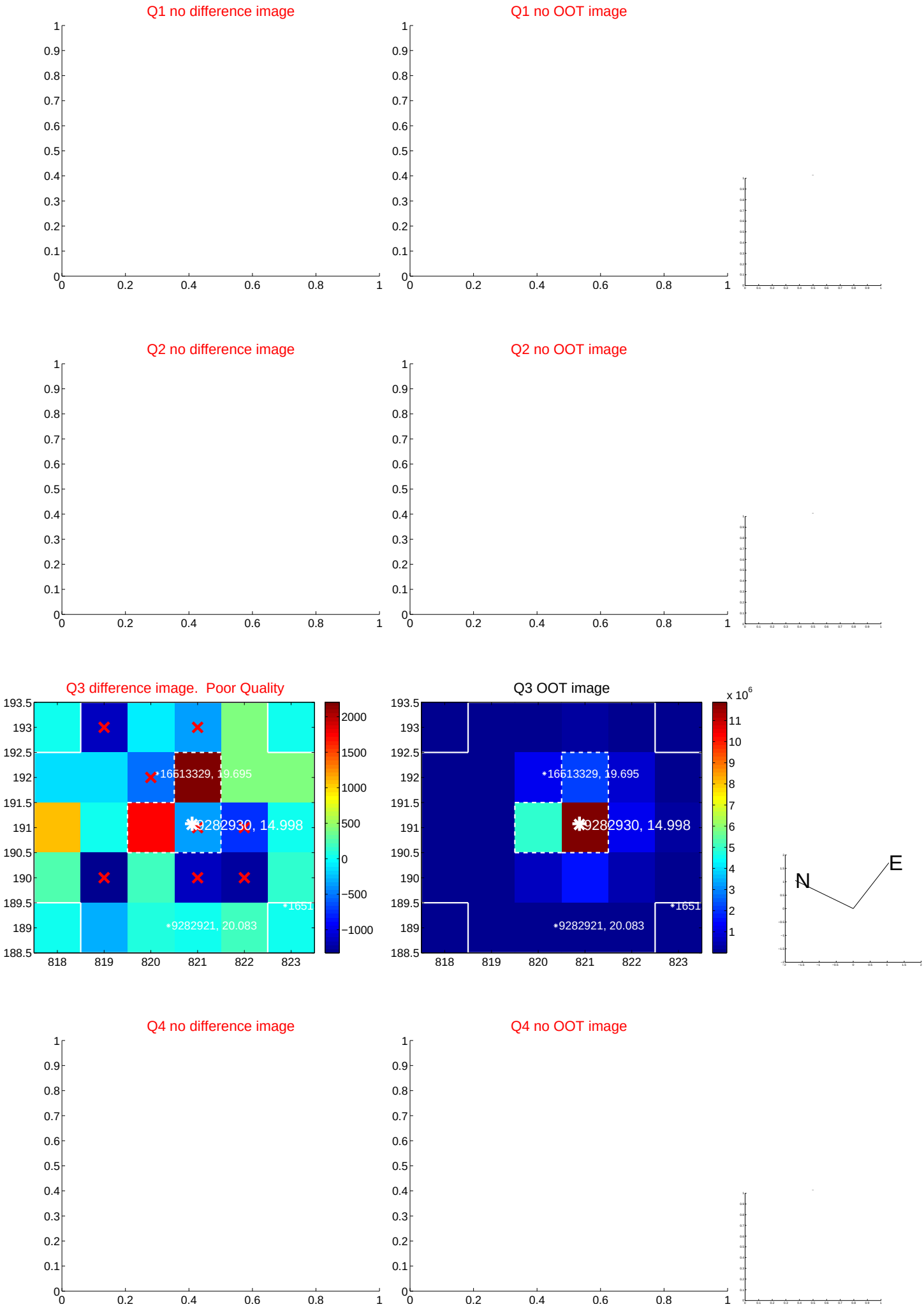
Supplemental centroid analysis for 009282930-01. Kepler magnitude: 15.00. Transit SNR 6.58
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.356 ± 1.631	0.83	0.324 ± 0.834	1.316 ± 1.667
PRF-fit source offset from KIC position	1.257 ± 1.624	0.77	0.245 ± 0.852	1.233 ± 1.647
photometric centroid source offset	0.58 ± 2.09	0.28	-0.33 ± 2.07	0.47 ± 2.09

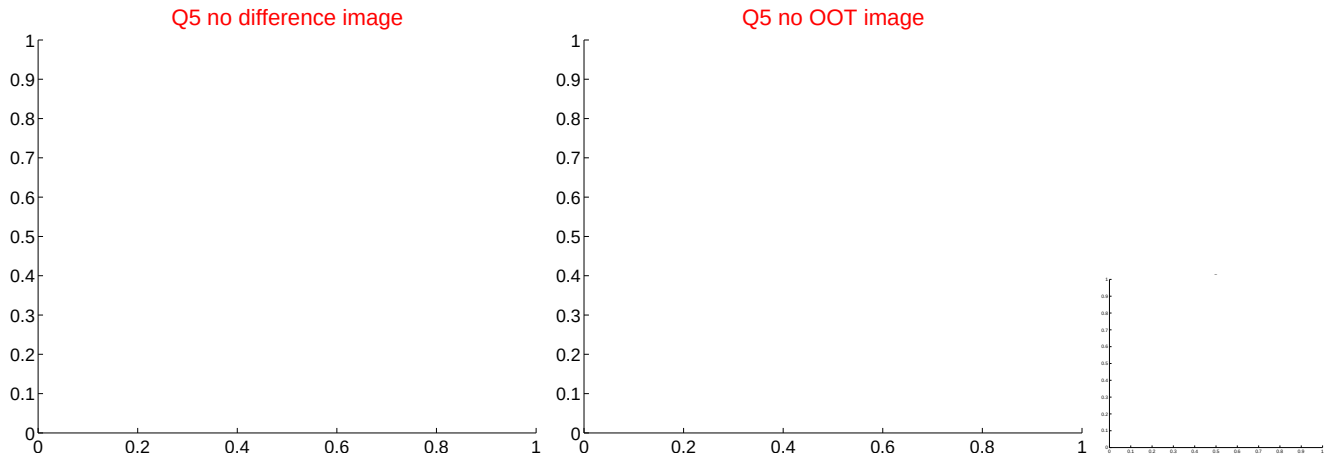


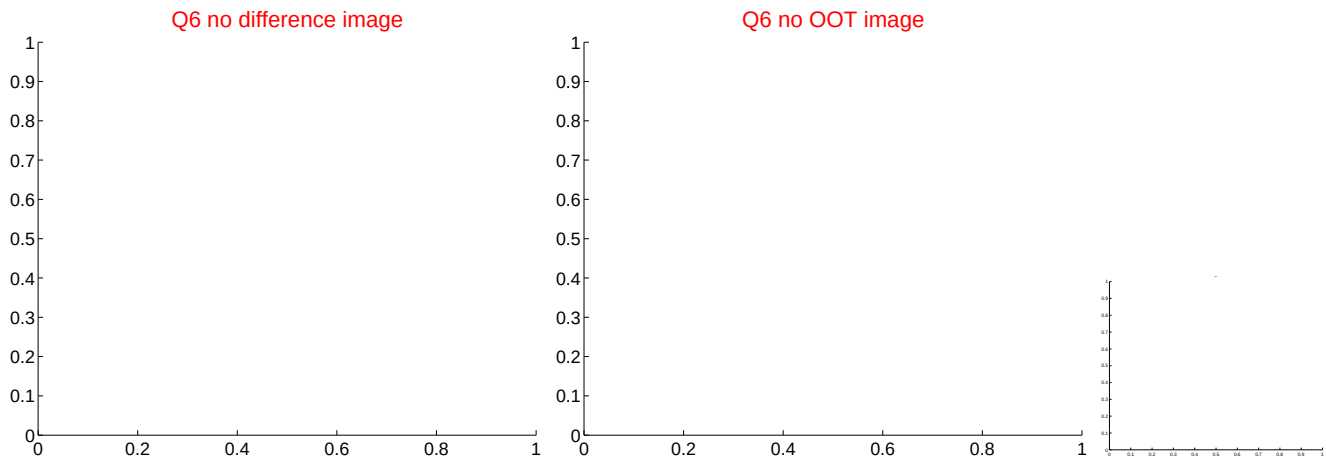
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

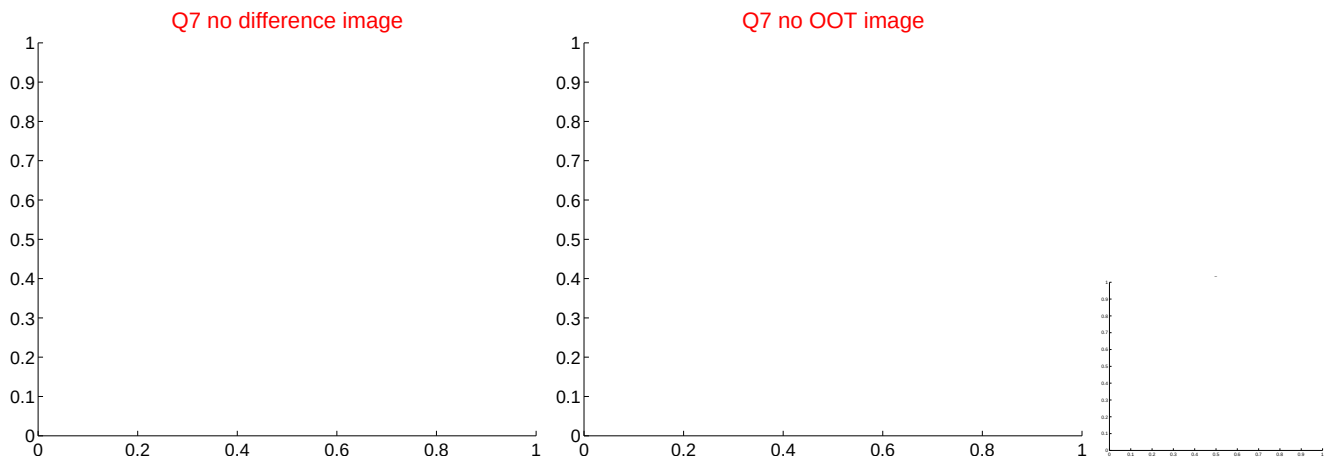
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

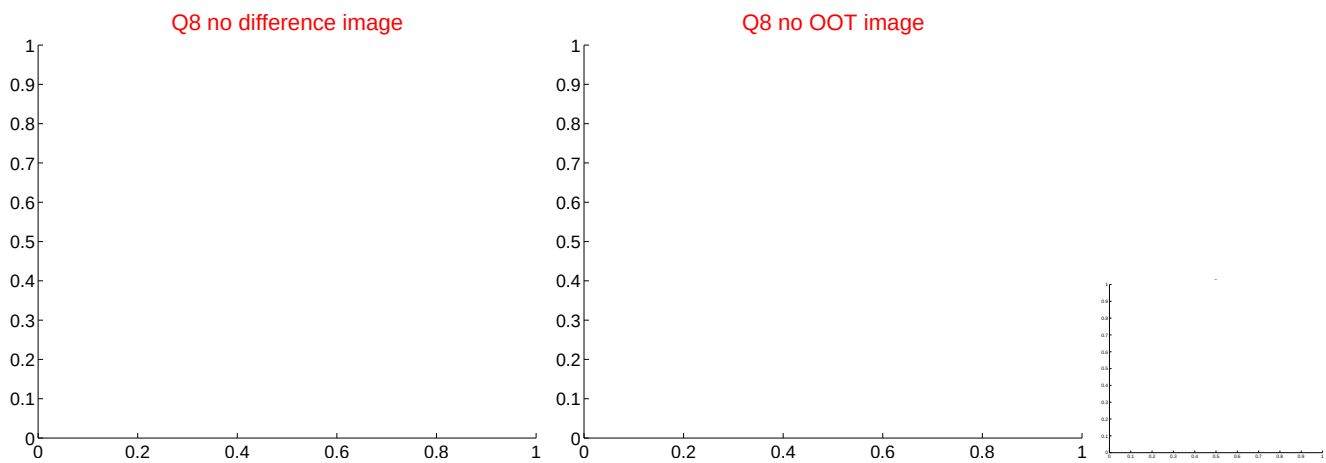


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

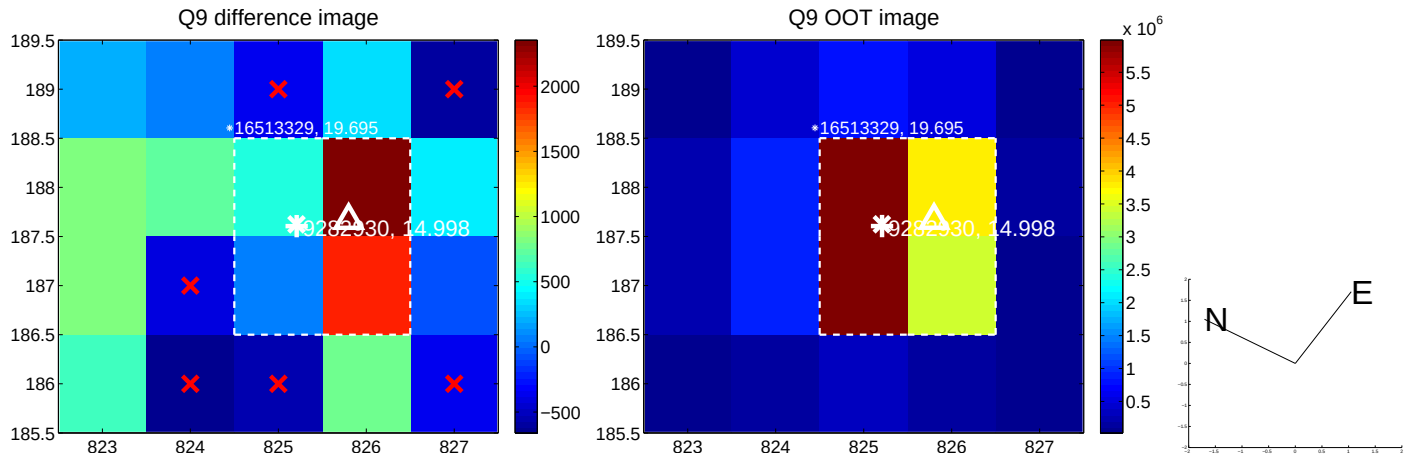


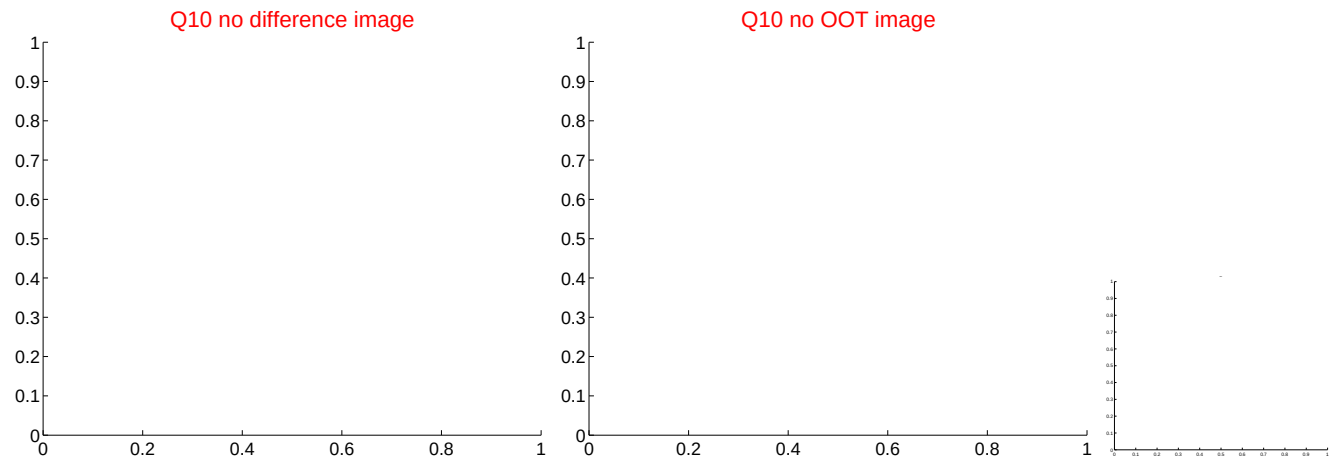


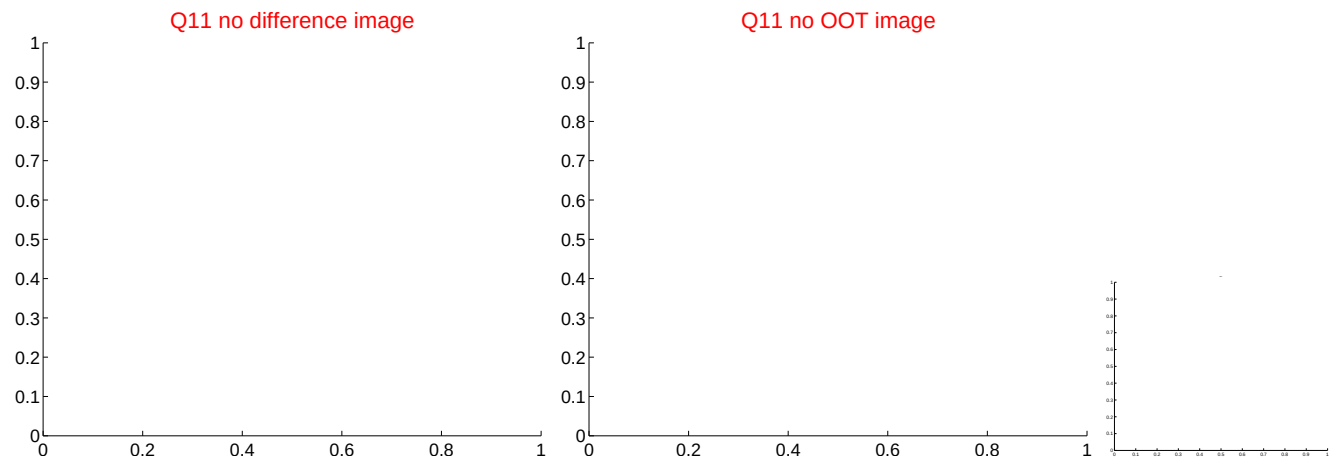


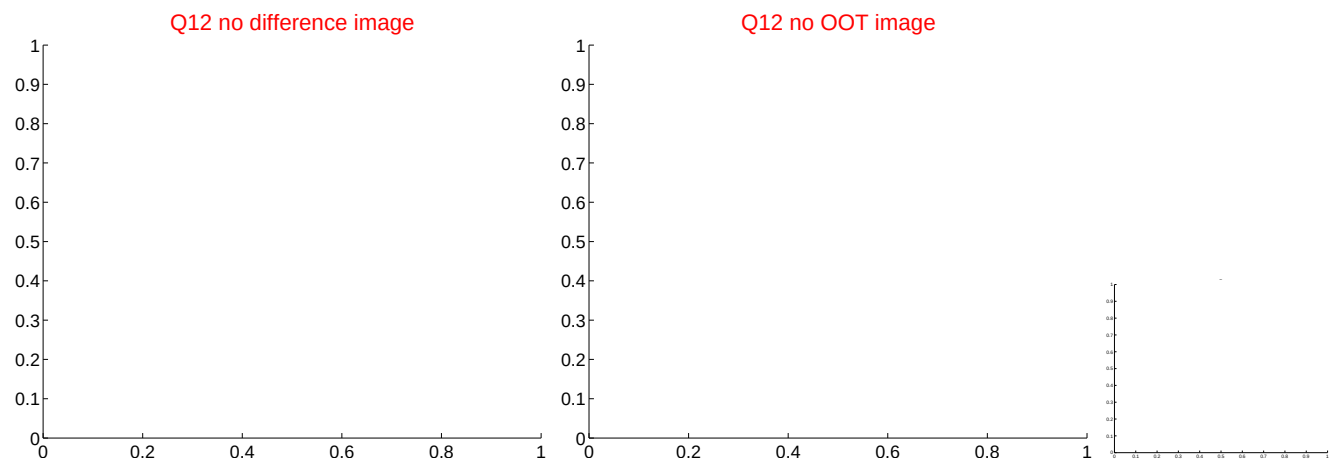


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

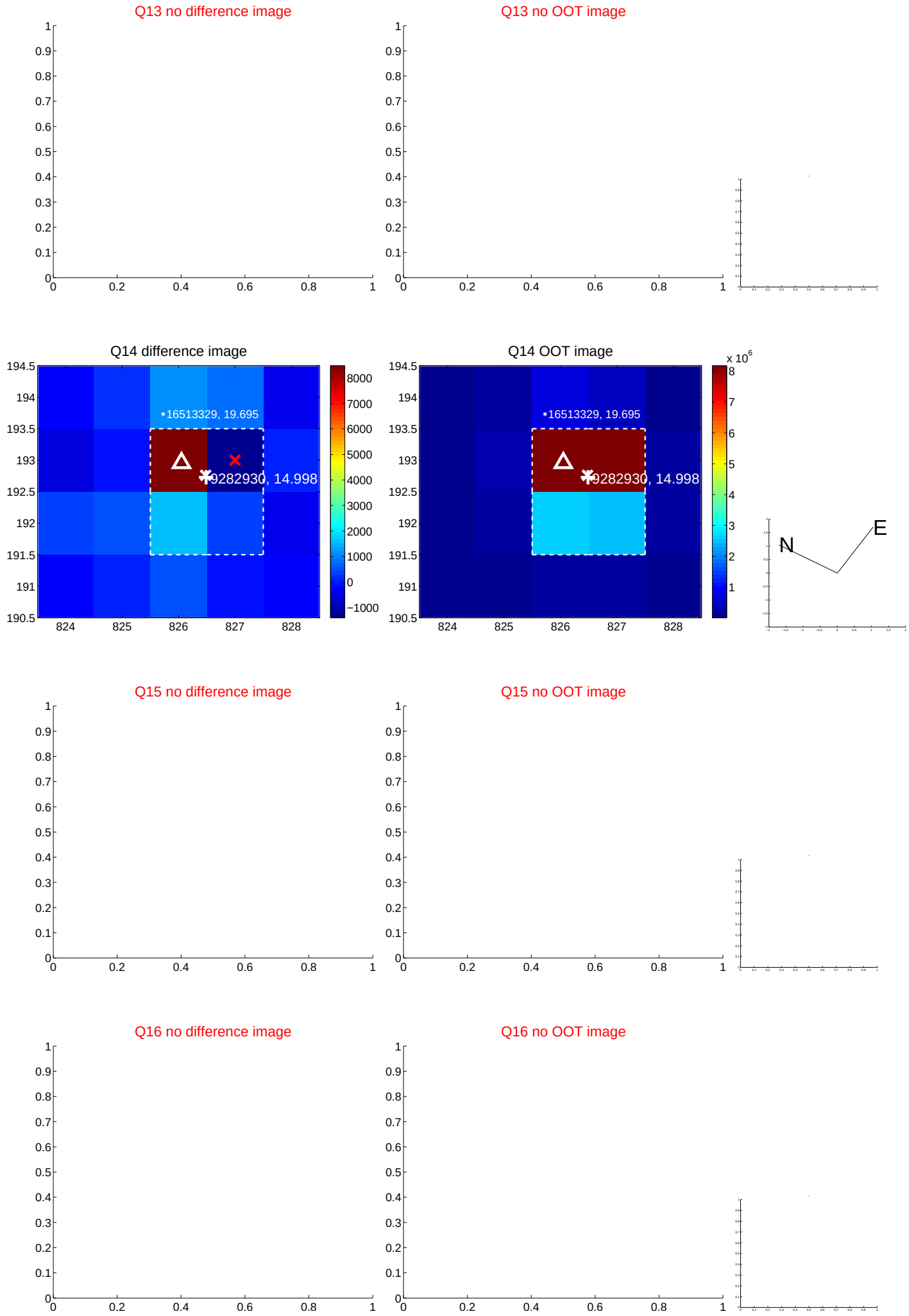




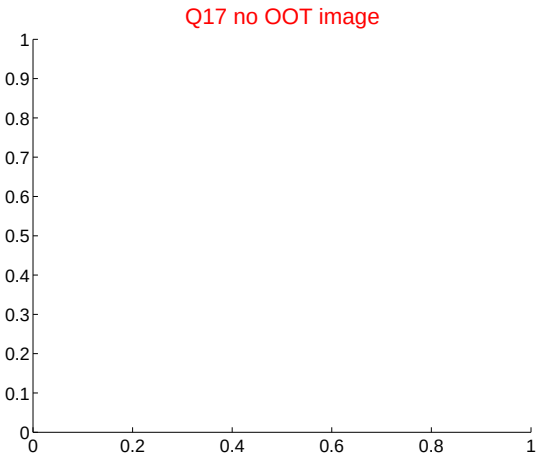


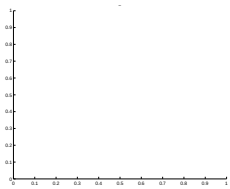


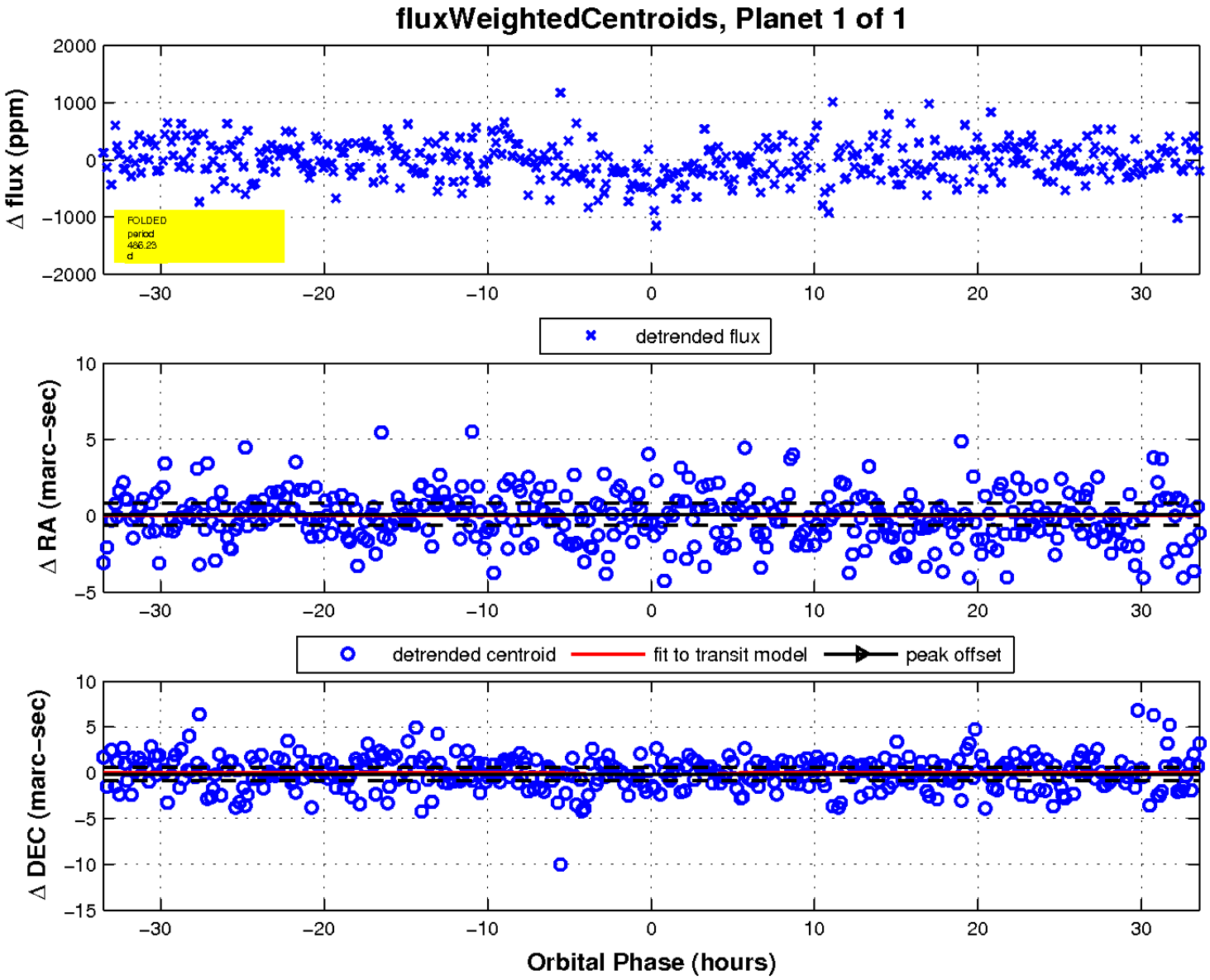
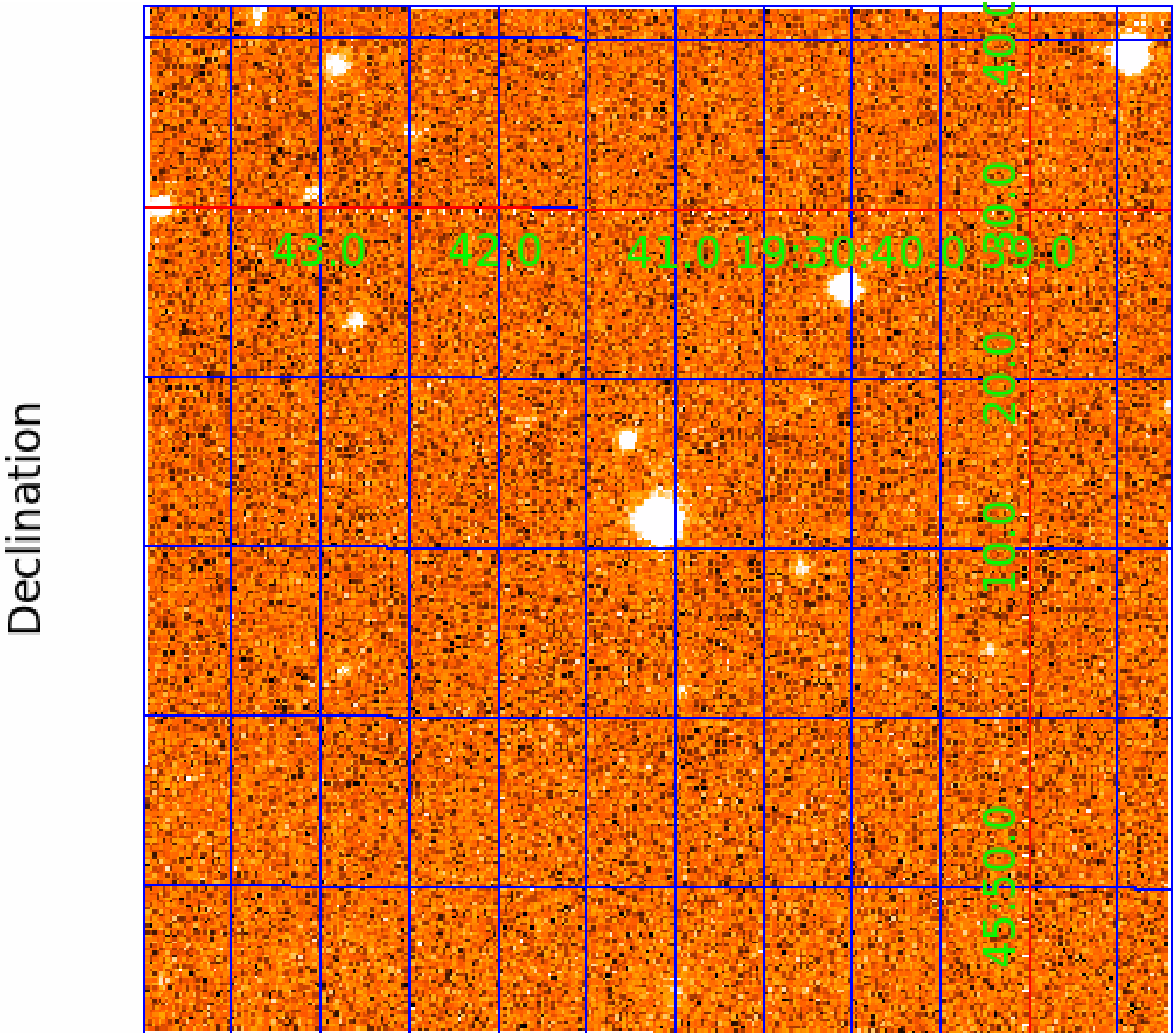
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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







UKIRT Image