KIC 008963394

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 ($S_\oplus$)
008963394-01	OBS	No	30.707824	147.552654	36590.1	5.331	31.1	35.1	1.62	6170	52.87	92.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008963394-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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.

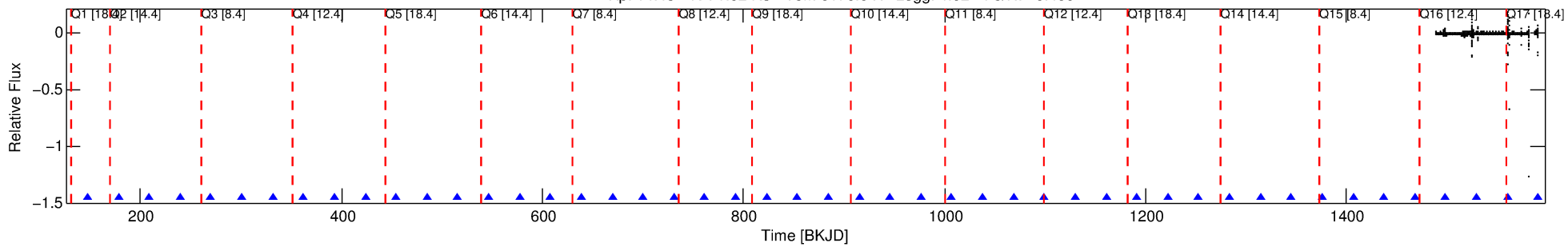
Ephemeris Match Information For 008963394-01

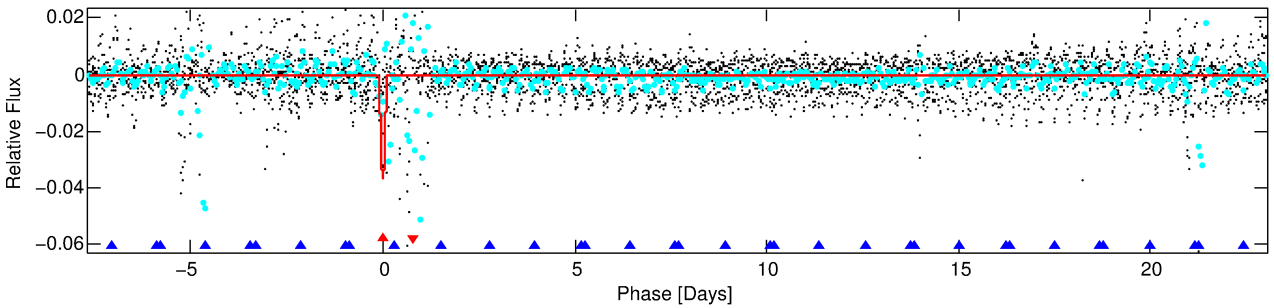
No Significant Match Found

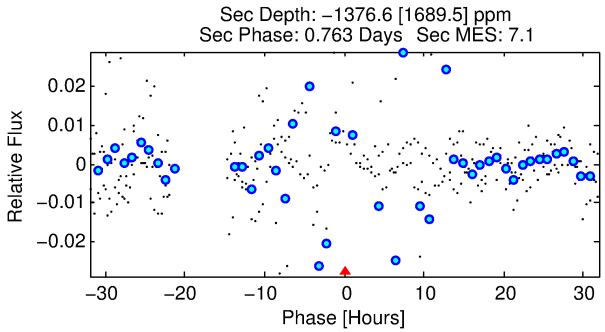
DV One-Page Summary

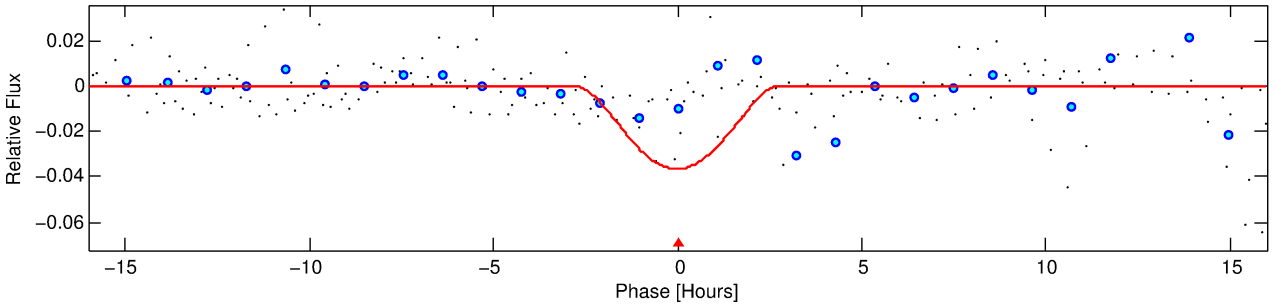
KIC: 8963394 Candidate: 1 of 2 Period: 30.708 d

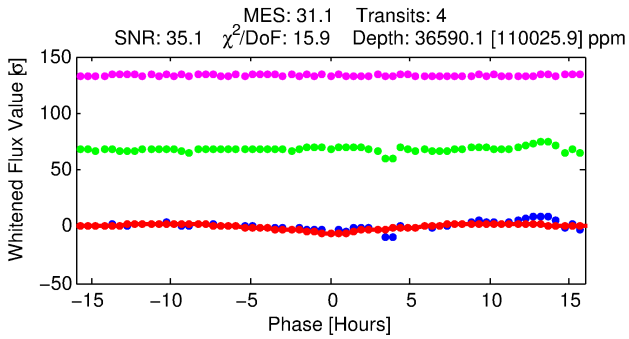
Kp: 14.48 R*: 1.62 Rs Teff: 6170.0 K Logg: 4.02 Fe/H: −0.460

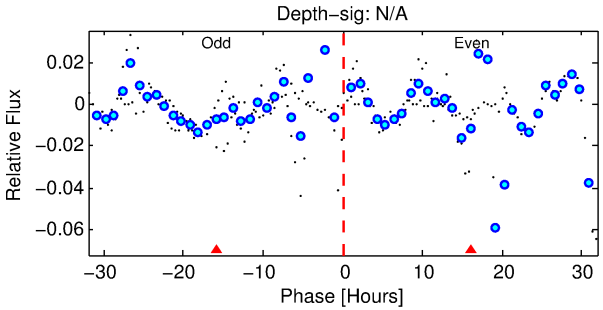


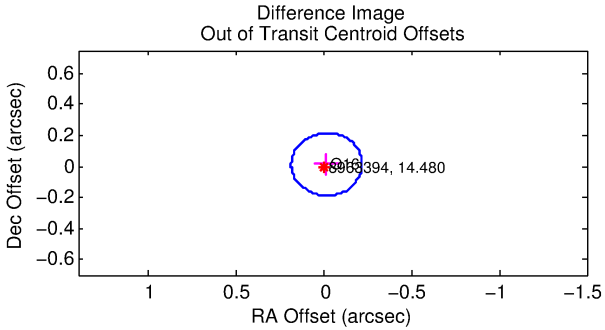












DV Fit Results:

Period = 30.70782 [0.01140] d
Epoch = 147.5527 [0.5162] BKJD
Rp/R* = 0.2989 [2.3417]
a/R* = 36.68 [15.57]
b = 1.00 [2.61]

Seff = 92.94 [65.15]
Teq = 792 [139] K
Rp = 52.87 [414.74] Re
a = 0.1916 [0.0789] AU

Ag = N/A
Teffp = N/A

DV Diagnostic Results:

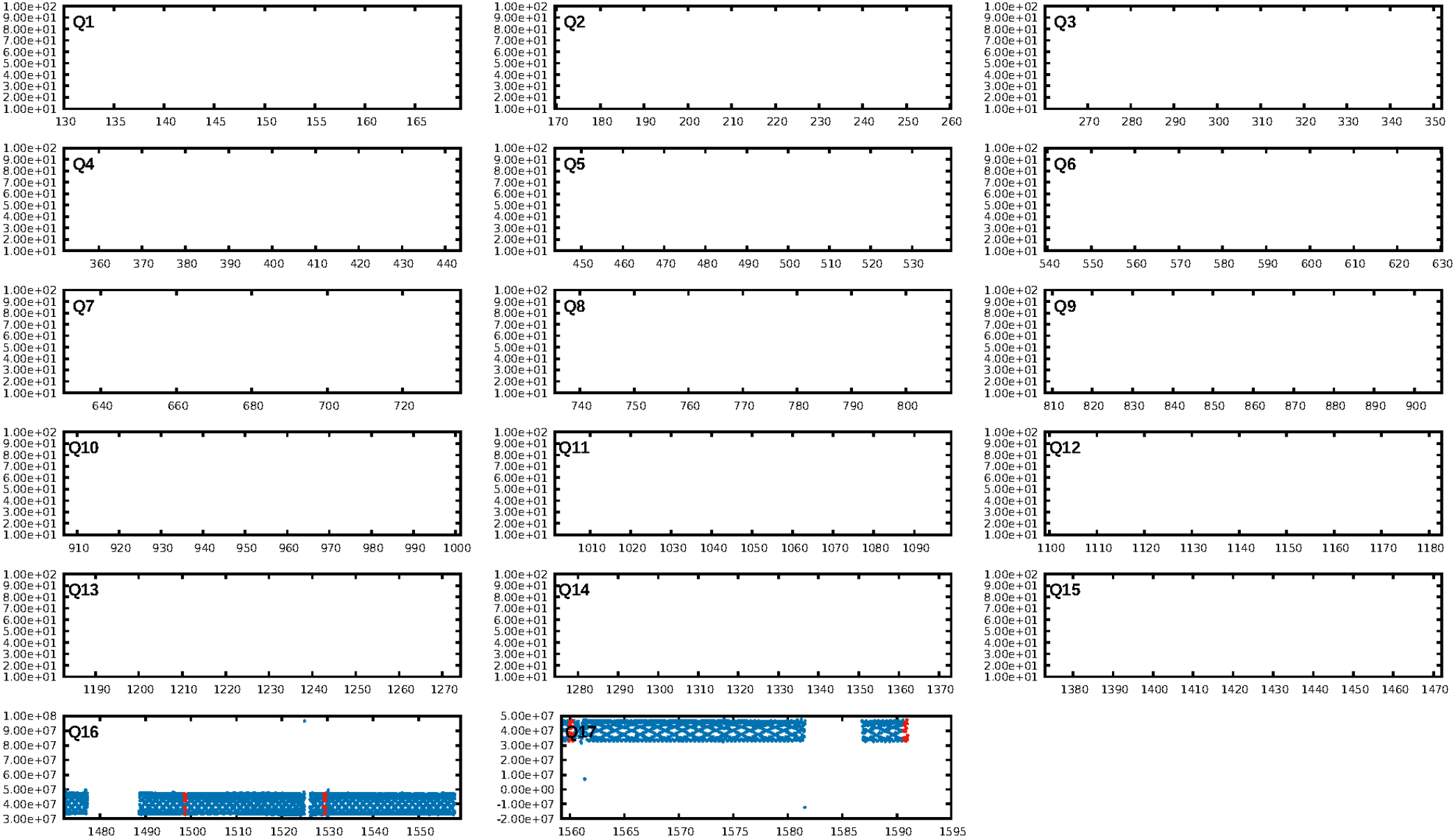
ShortPeriod−sig: N/A
LongPeriod−sig: 100.0% [38.05σ]
ModelChiSquare2−sig: 0.0%
ModelChiSquareGof−sig: 0.0%
Bootstrap−pfa: 2.38e−70
RollingBand−fgt: 1.00 [2/2]
GhostDiagnostic−chr: −0.09607

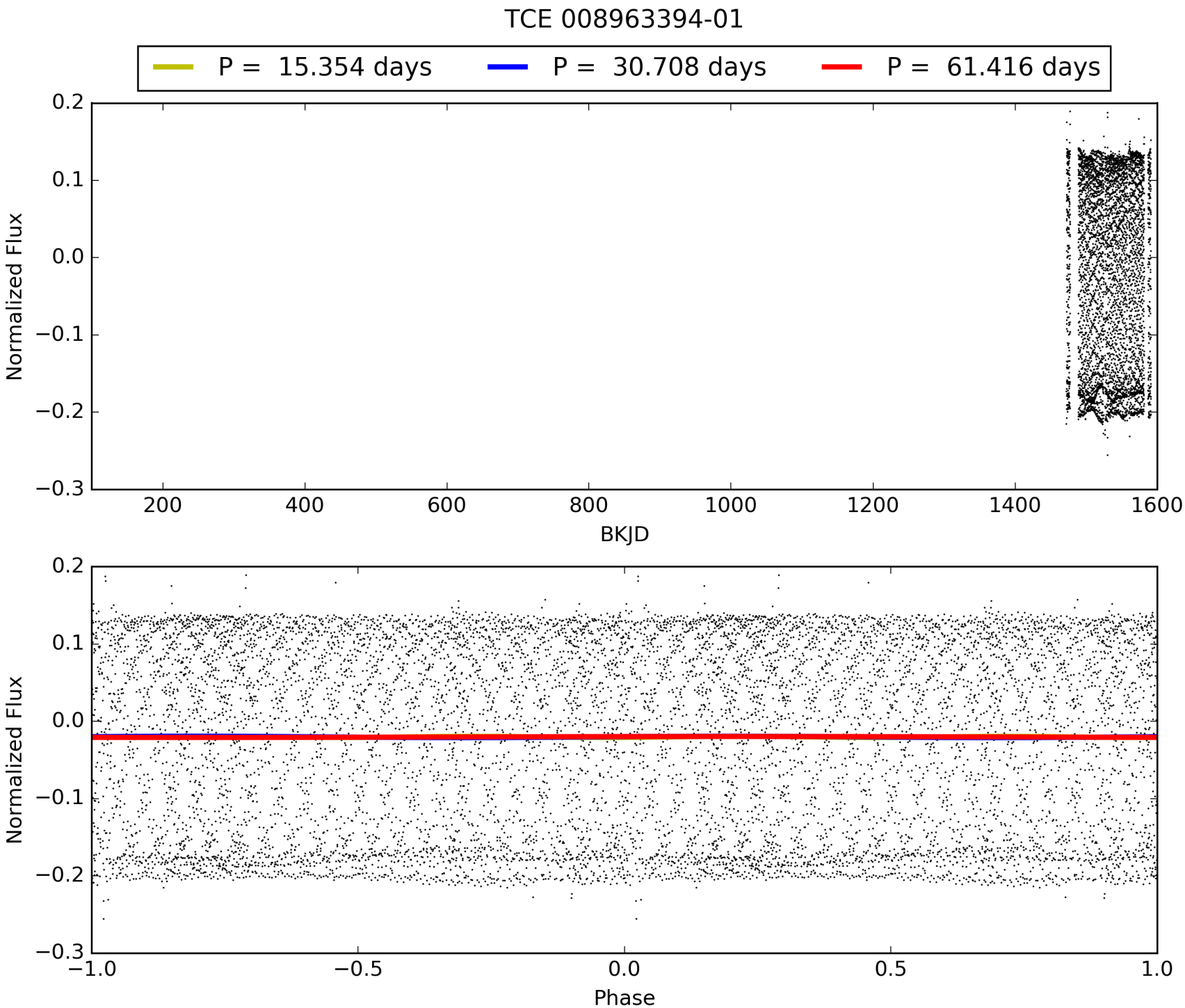
Centroid−sig: 1.2%
Centroid−so: 0.513 arcsec [12.03σ]
OotOffset−rm: 0.021 arcsec [0.31σ]
KicOffset−rm: 0.156 arcsec [2.31σ]
OotOffset−st: 0/0/1/0 [1]
KicOffset−st: 0/0/1/0 [1]
DiffImageQuality−fgm: 0.00 [0/1]
DiffImageOverlap−fno: 1.00 [1/1]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 03:20:49 Z

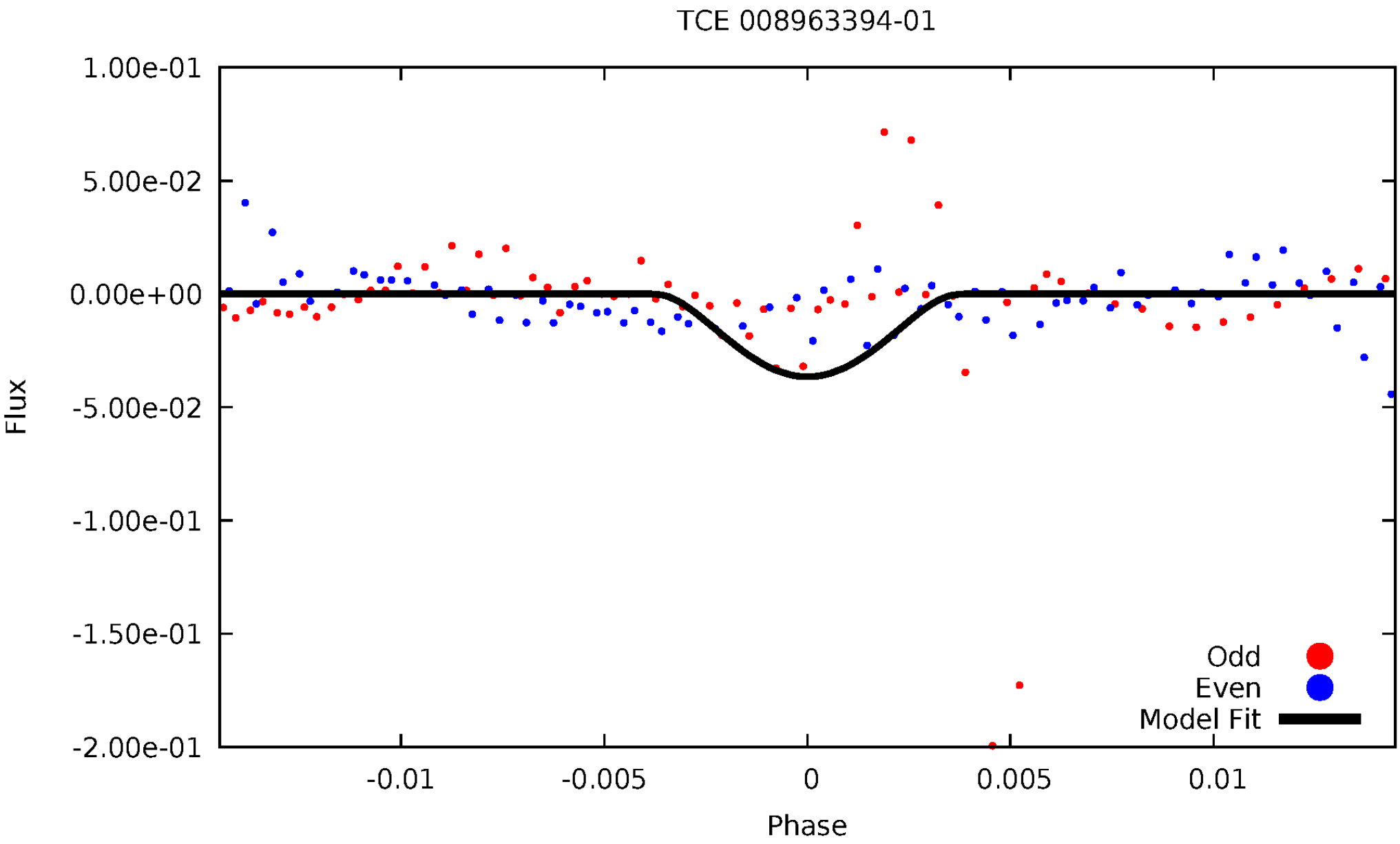
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008963394-01, PDC Light Curves

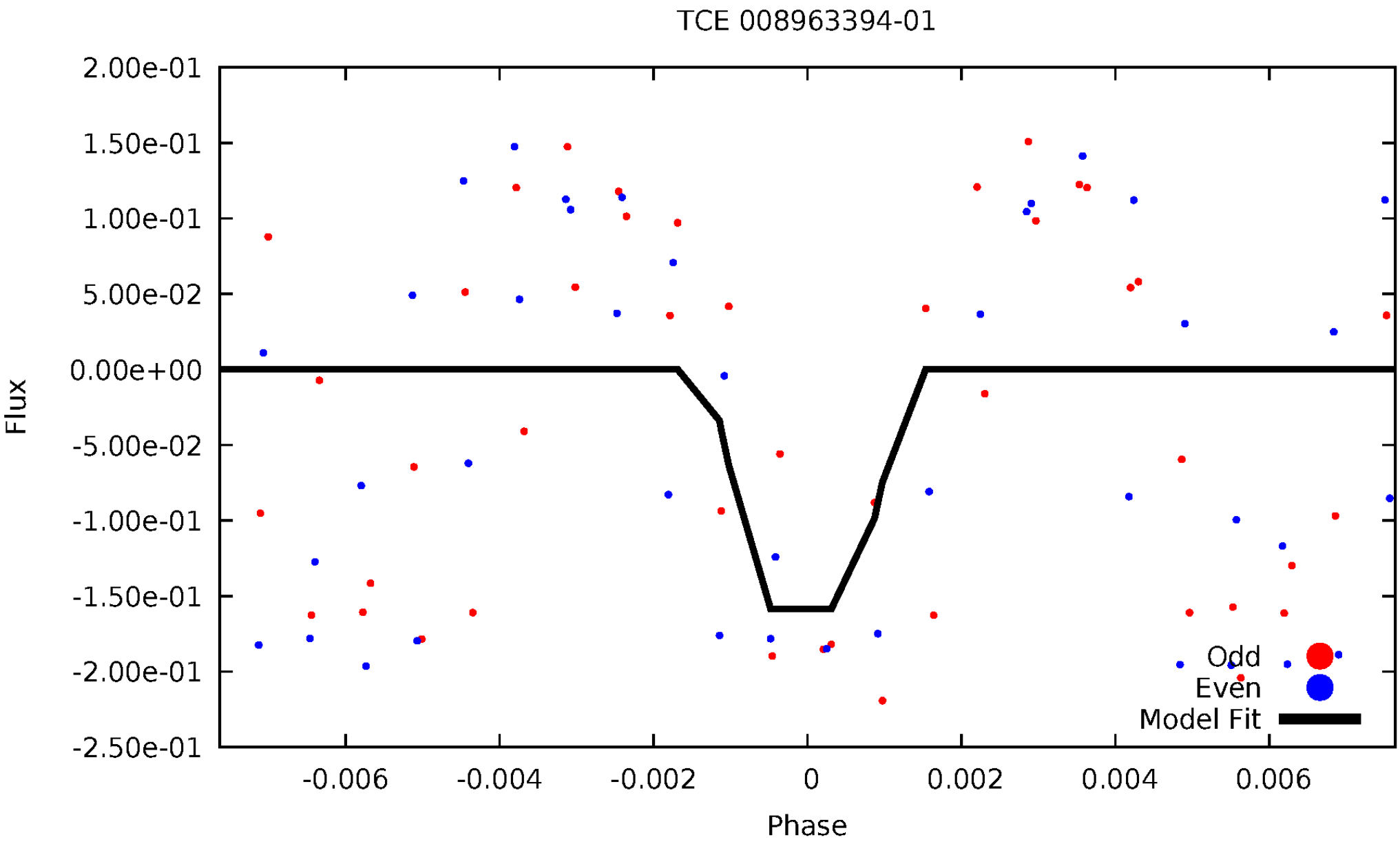



TCE 008963394-01
P = 15.354 days
P = 30.708 days
P = 61.416 days
Normalized Flux
BKJD
Normalized Flux
Phase

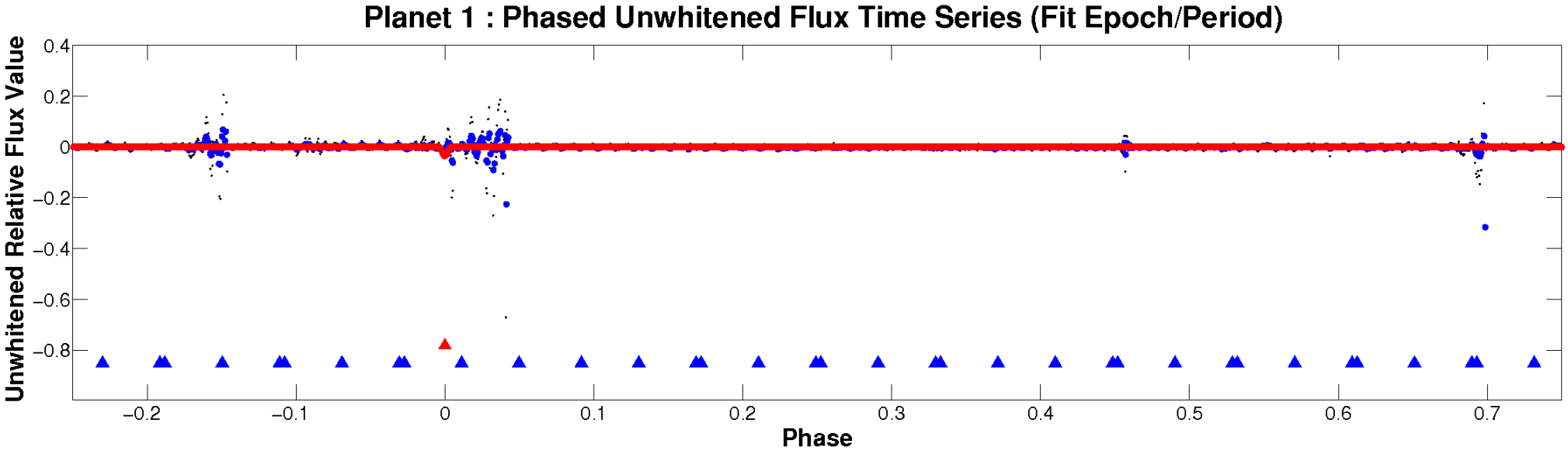
DV Odd/Even

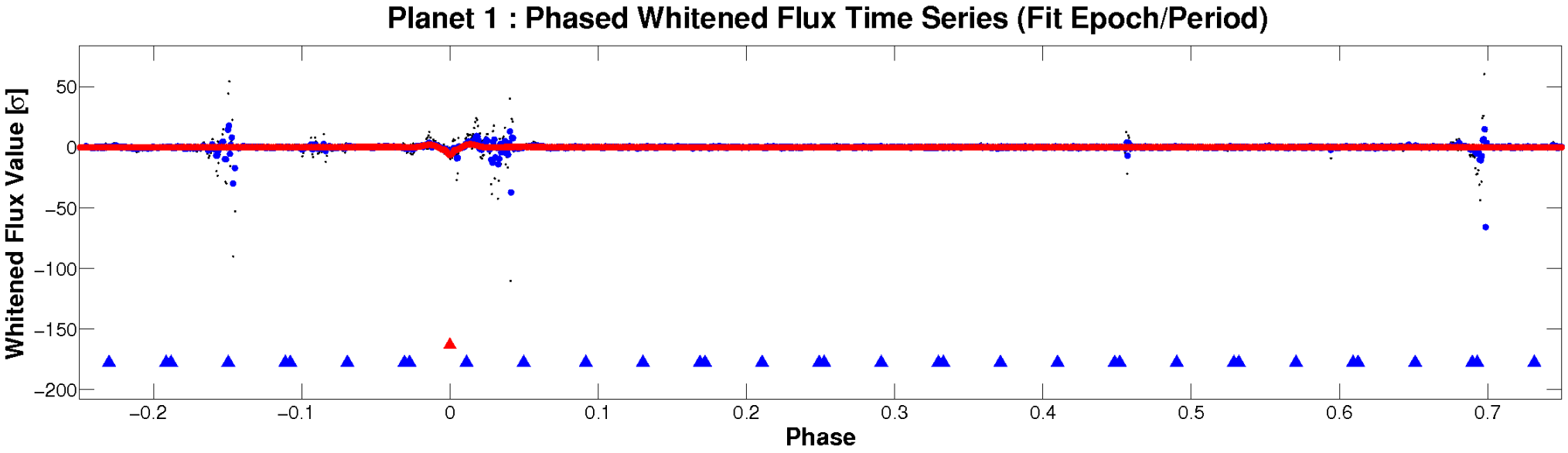

TCE 008963394-01
1.00e-01
5.00e-02
0.00e+00
-5.00e-02
-1.00e-01
-1.50e-01
-2.00e-01
Flux
-0.01
-0.005
0
0.005
0.01
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008963394-01
2.00e-01
1.50e-01
1.00e-01
5.00e-02
0.00e+00
-5.00e-02
-1.00e-01
-1.50e-01
-2.00e-01
-2.50e-01
Flux
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit

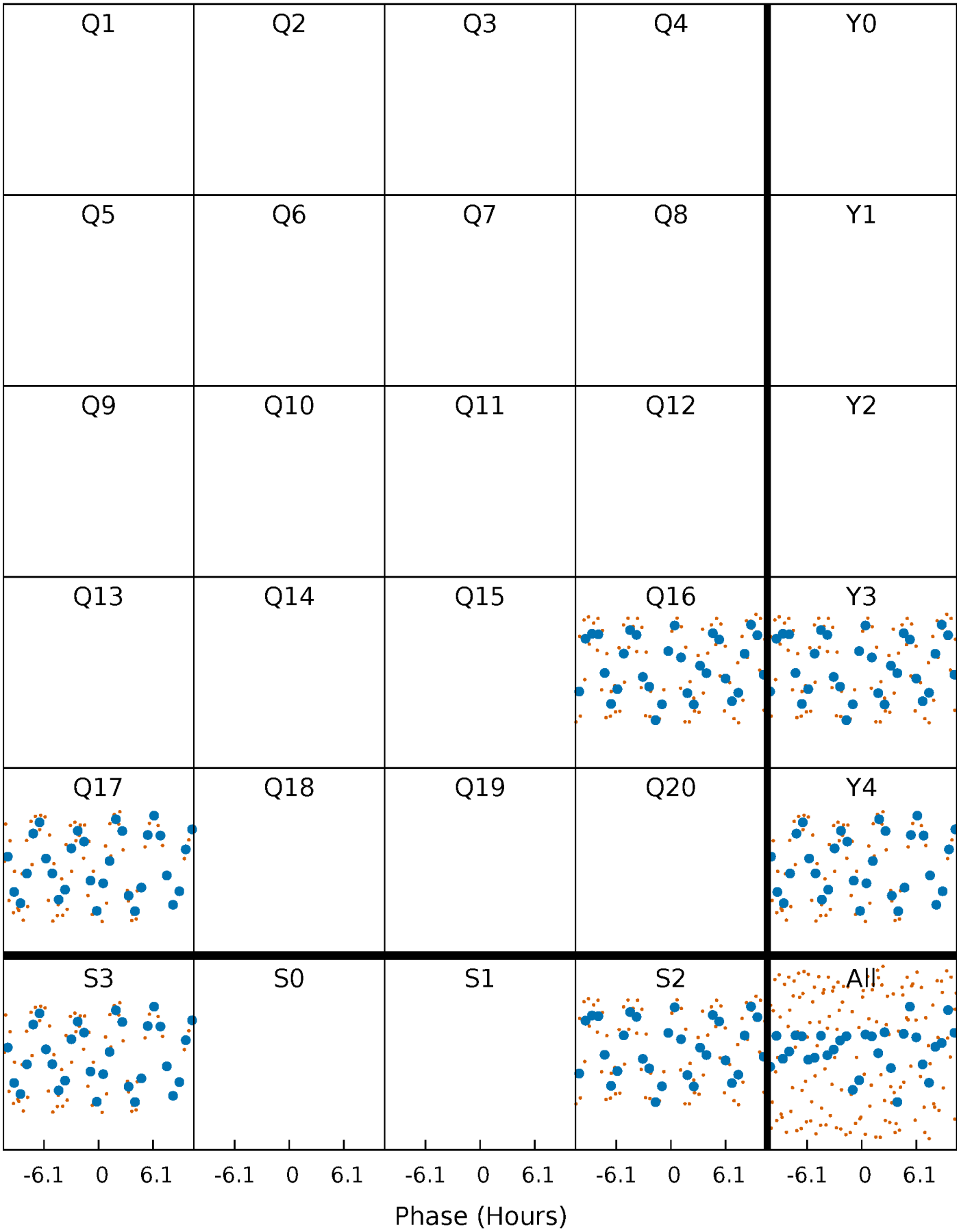
Non-Whitened Vs. Whitened Light Curve





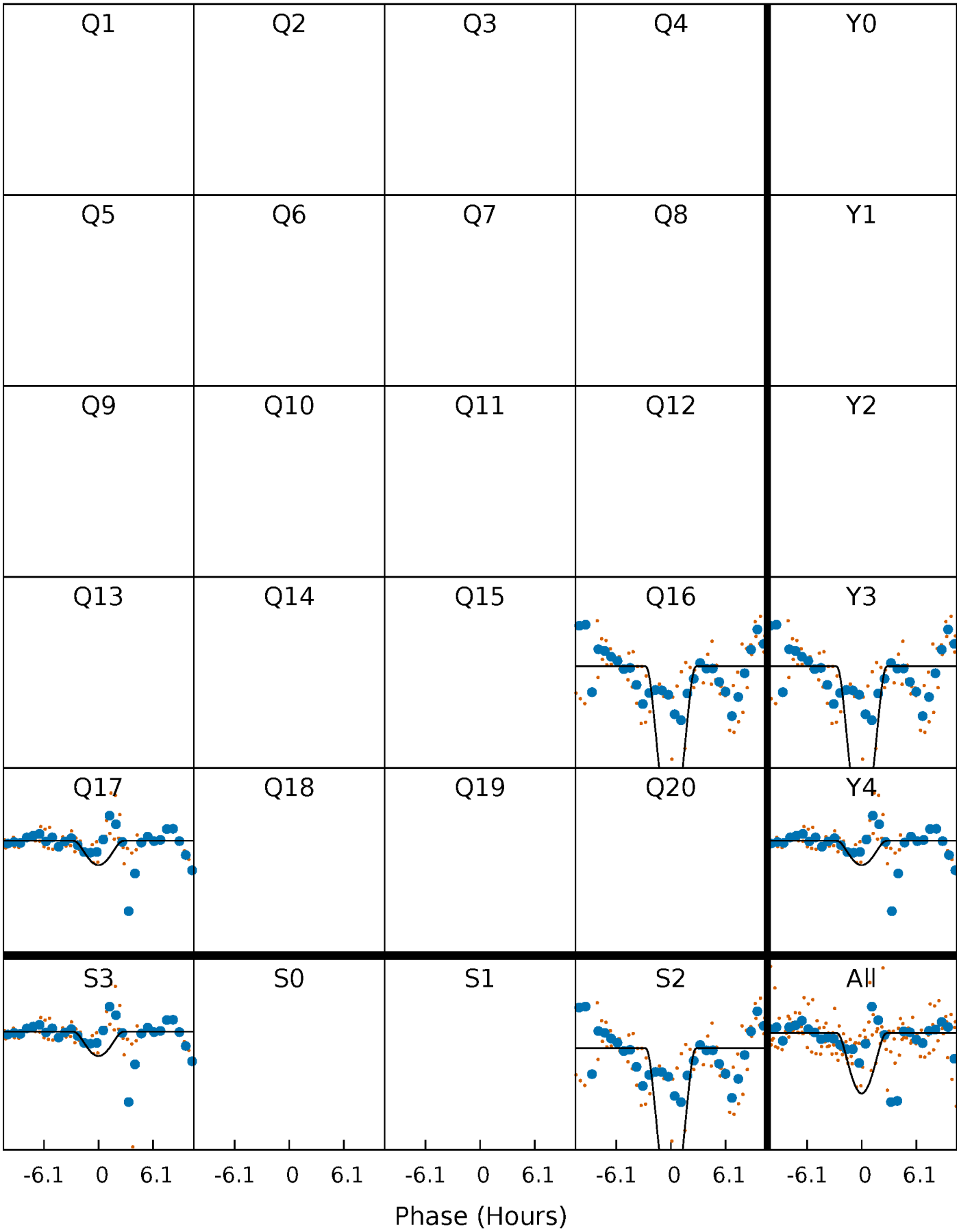
PDC Quarter-Phased Transit Curves

TCE 008963394-01 P= 30.707824 Days T_0=147.552654 (BKJD)



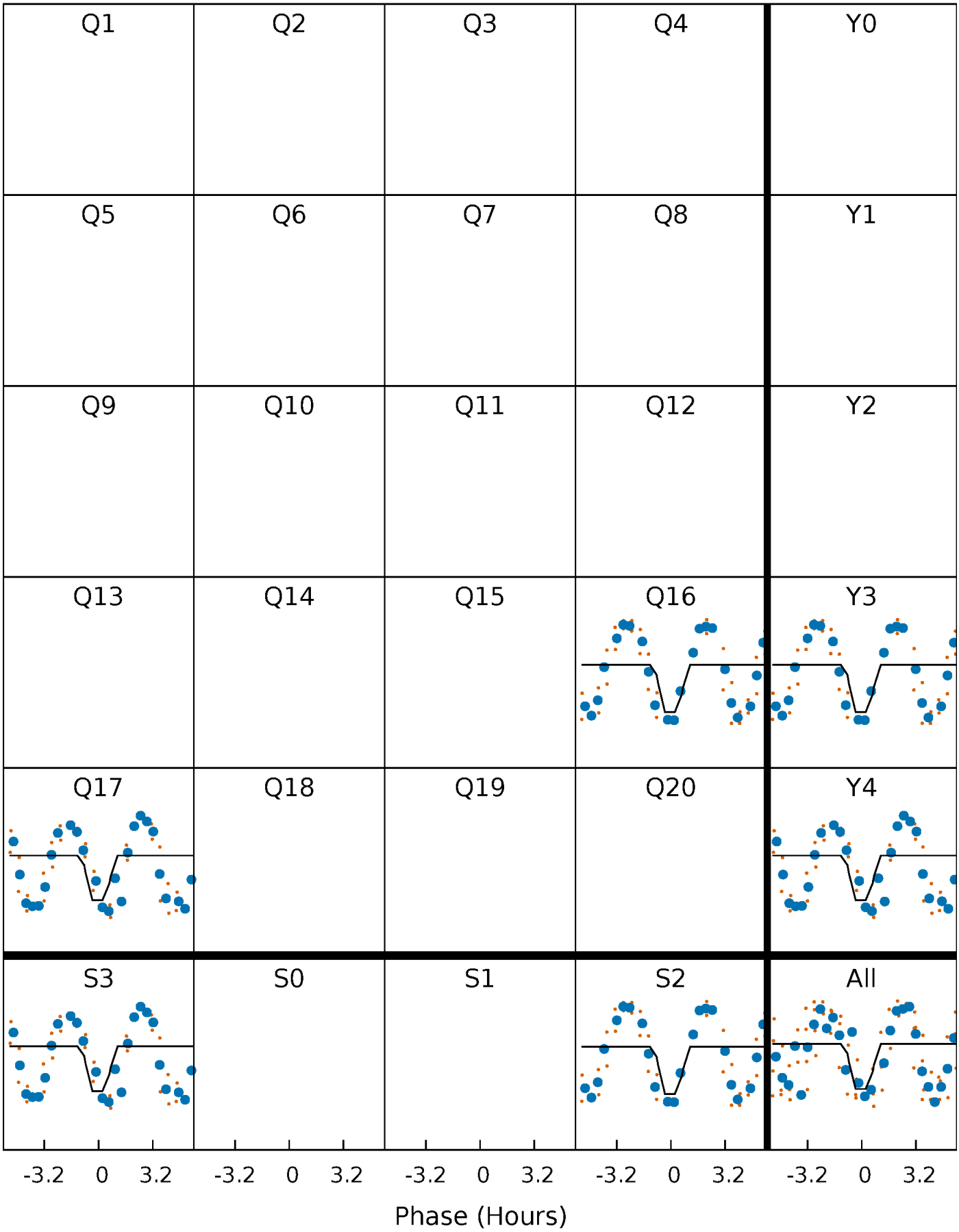
DV Quarter-Phased Transit Curves

TCE 008963394-01 P= 30.707824 Days T_0=147.552654 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

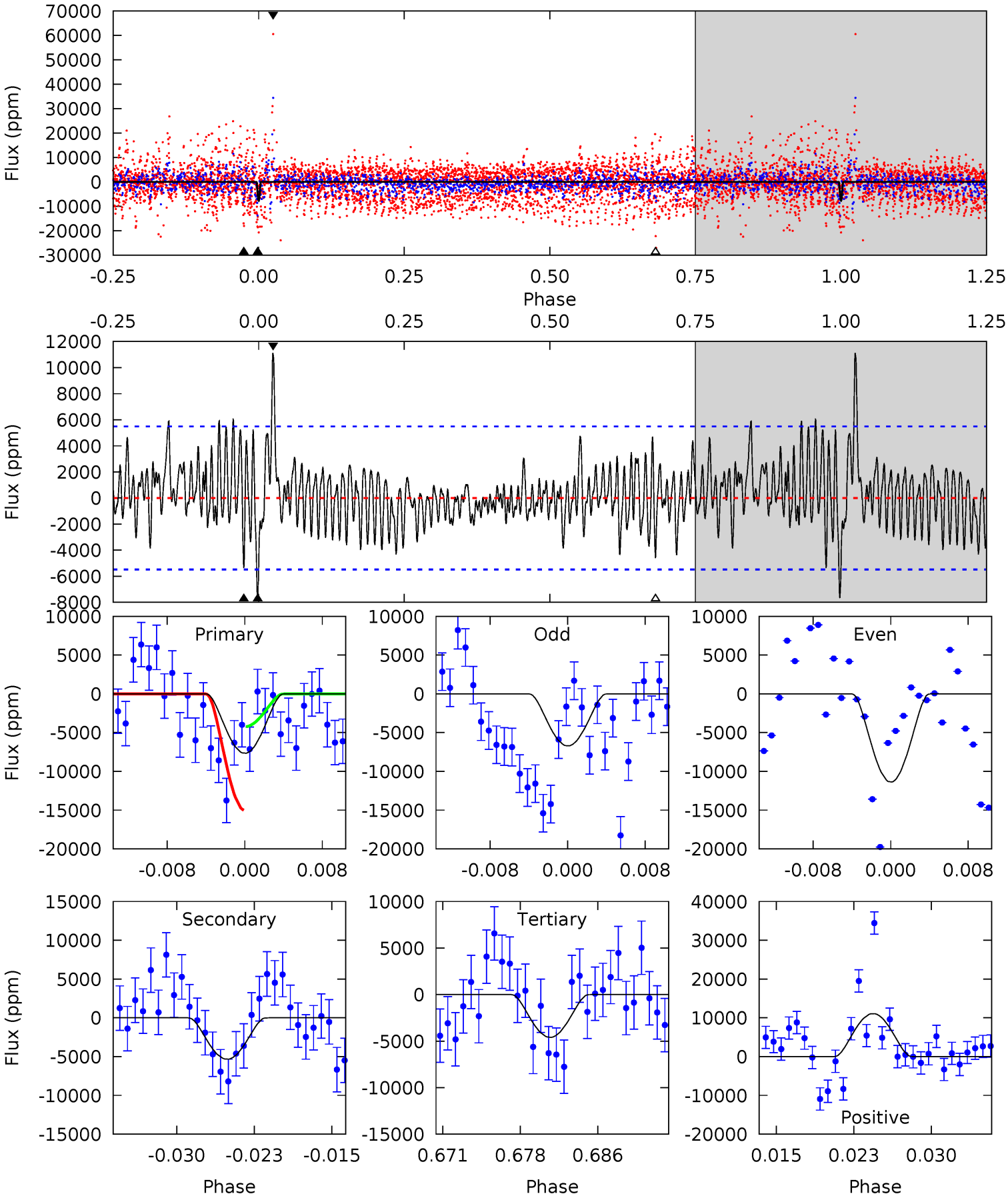
TCE 008963394-01 P= 30.731366 Days T_0=146.433501 (BKJD)



DV Model-Shift Uniqueness Test

008963394-01, P = 30.707824 Days, E = 147.552654 Days

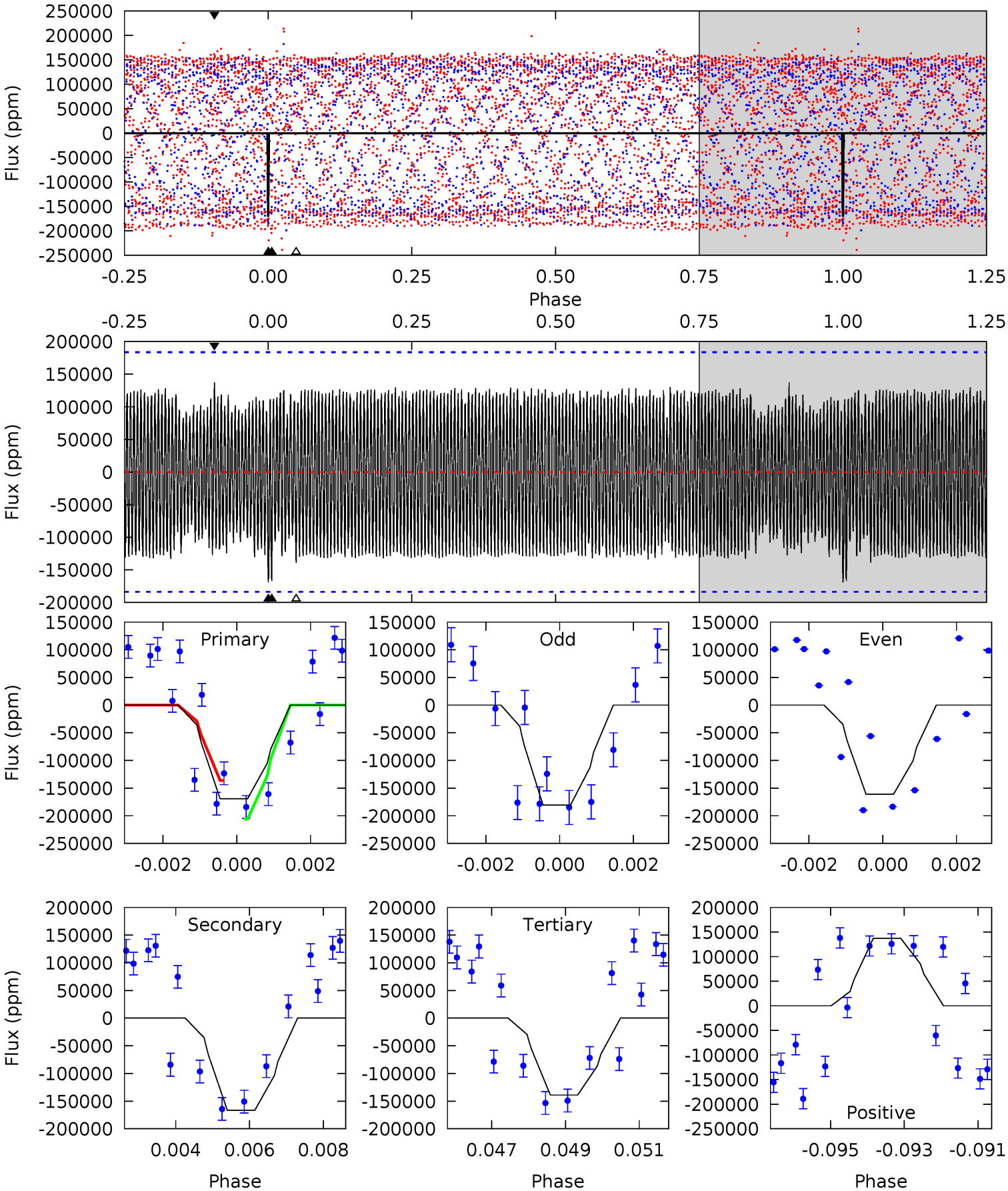
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.09	4.94	4.25	10.3	5.08	2.67	1.74	2.84	-3.17	0.68	-5.33	1.66	2.11	0.59	5.13



Alt Model-Shift Uniqueness Test

008963394-01, P = 30.731366 Days, E = 146.433501 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.90	4.82	4.02	3.97	5.32	3.07	2.40	0.88	0.92	0.80	0.85	0.28	0.98	0.45	1.00



Stellar Parameters For KIC 008963394

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6170^{+219}_{-219}	$4.016^{+0.413}_{-0.138}$	$-0.460^{+0.300}_{-0.300}$	$1.621^{+0.427}_{-0.640}$	$0.993^{+0.158}_{-0.129}$	$0.329^{+1.093}_{-0.141}$
	+4%/-4%	+10%/-3%	+65%/-65%	+26%/-39%	+16%/-13%	+333%/-43%
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 008963394-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5333±1080	$272.01^{+311.58}_{-191.28}$	1084^{+88}_{-122}	2170^{+883}_{-821}	$1.459^{+15.466}_{-1.154}$
Alt.	-166630±34562	$281.10^{+333.02}_{-192.30}$	1082^{+89}_{-117}	3572^{+2095}_{-705}	52^{+519}_{-41}

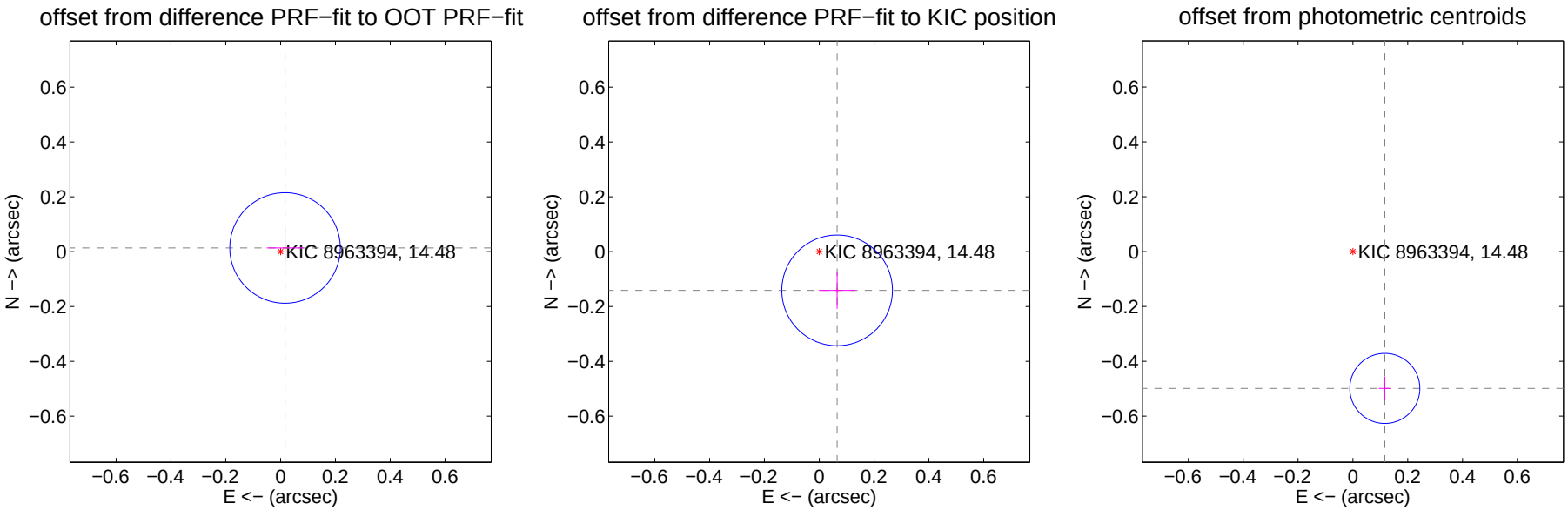
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

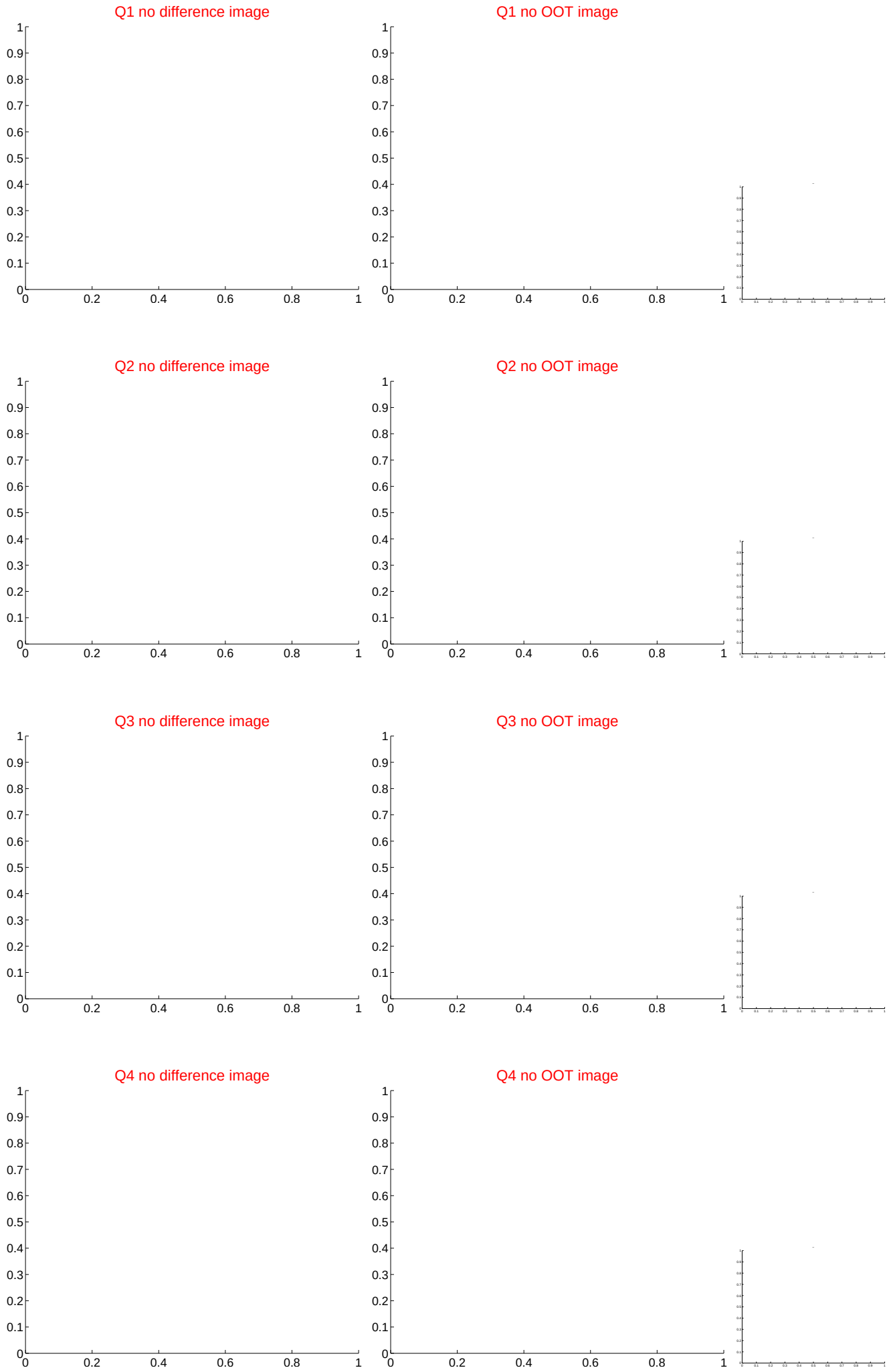
Supplemental centroid analysis for 008963394-01. Kepler magnitude: 14.48. Transit SNR 35.11
There are 0 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.021 ± 0.067	0.31	-0.016 ± 0.067	0.014 ± 0.067
PRF-fit source offset from KIC position	0.156 ± 0.067	2.31	-0.065 ± 0.067	-0.141 ± 0.067
photometric centroid source offset	0.51 ± 0.04	12.03	-0.12 ± 0.02	-0.50 ± 0.04

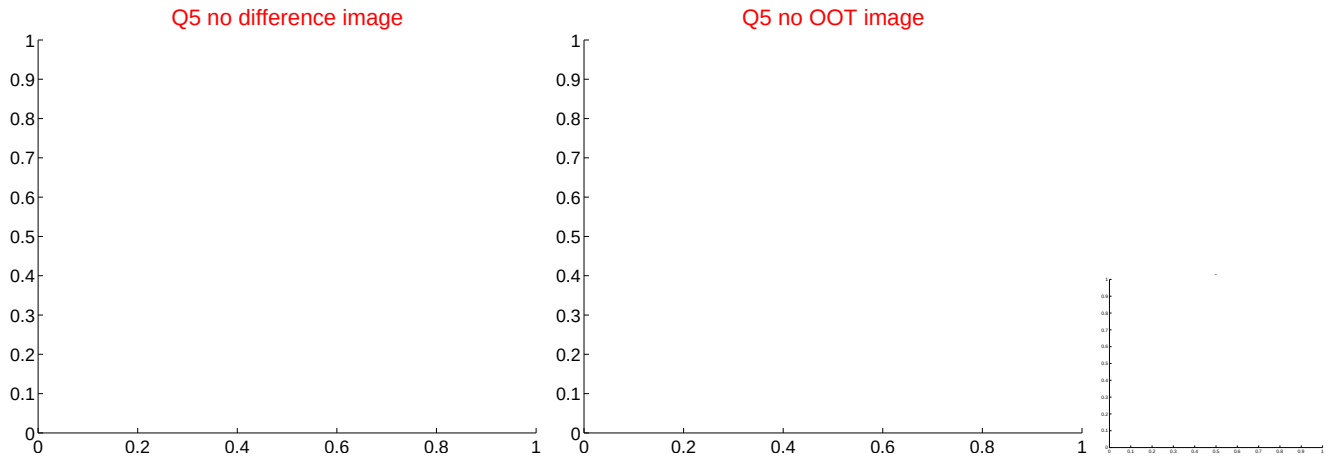


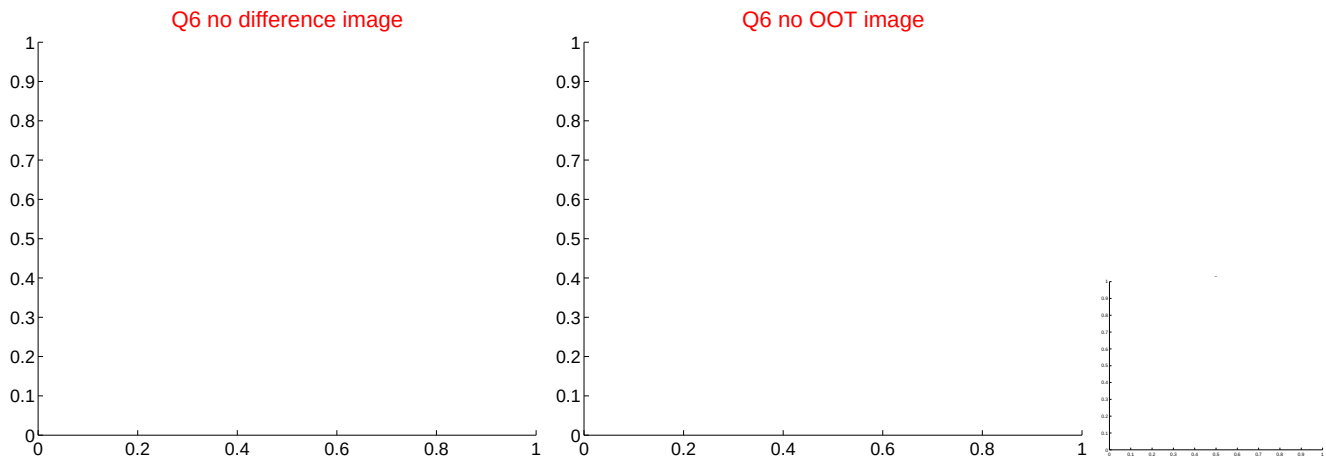
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

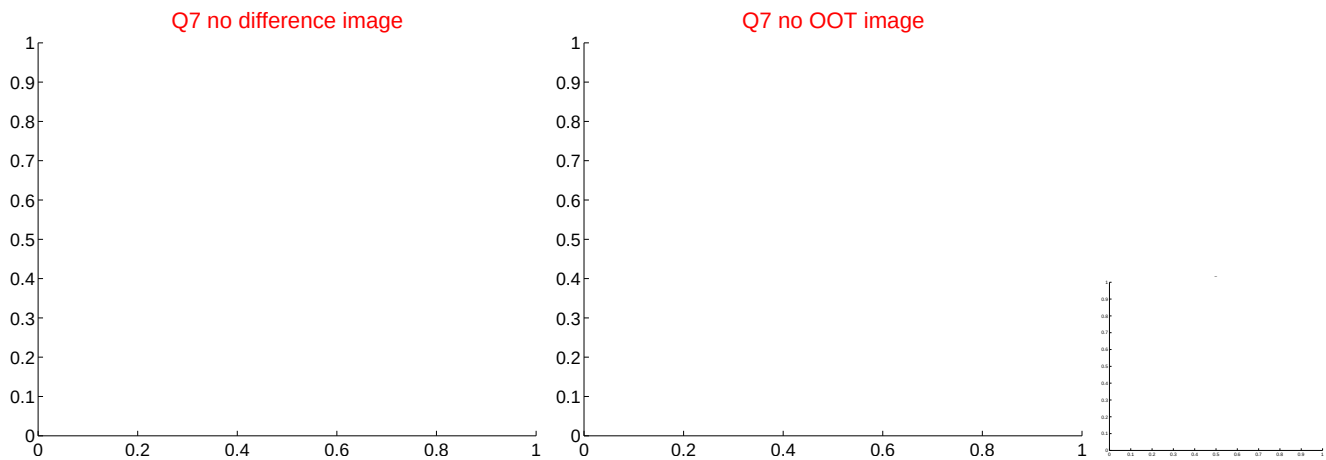
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

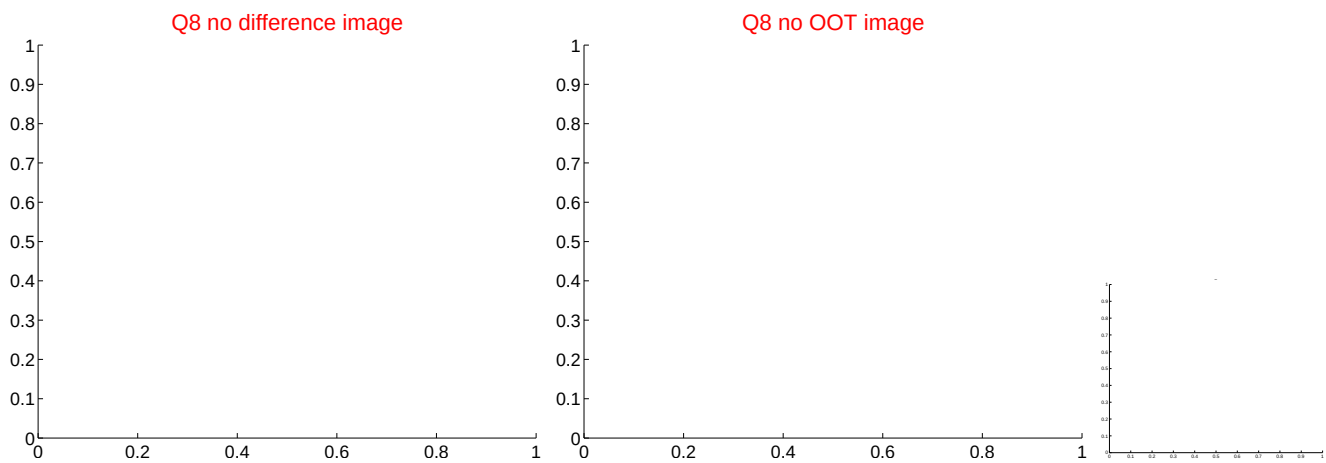


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

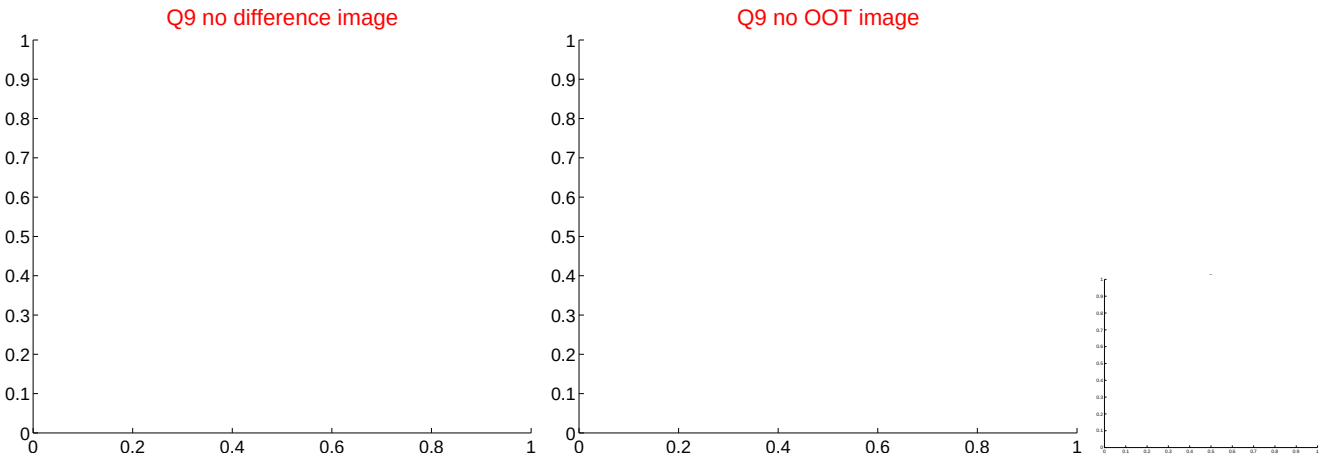


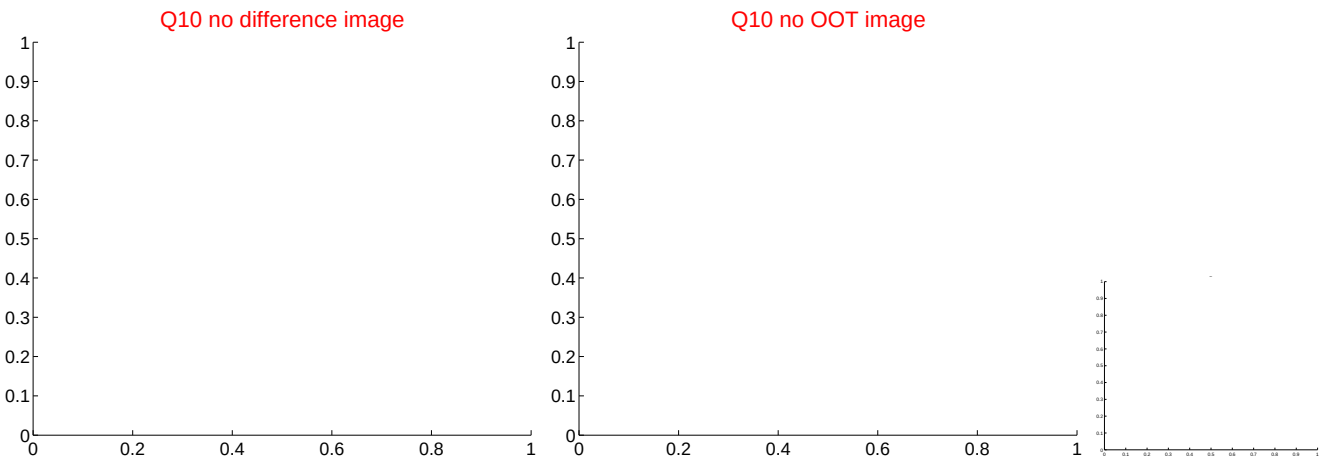


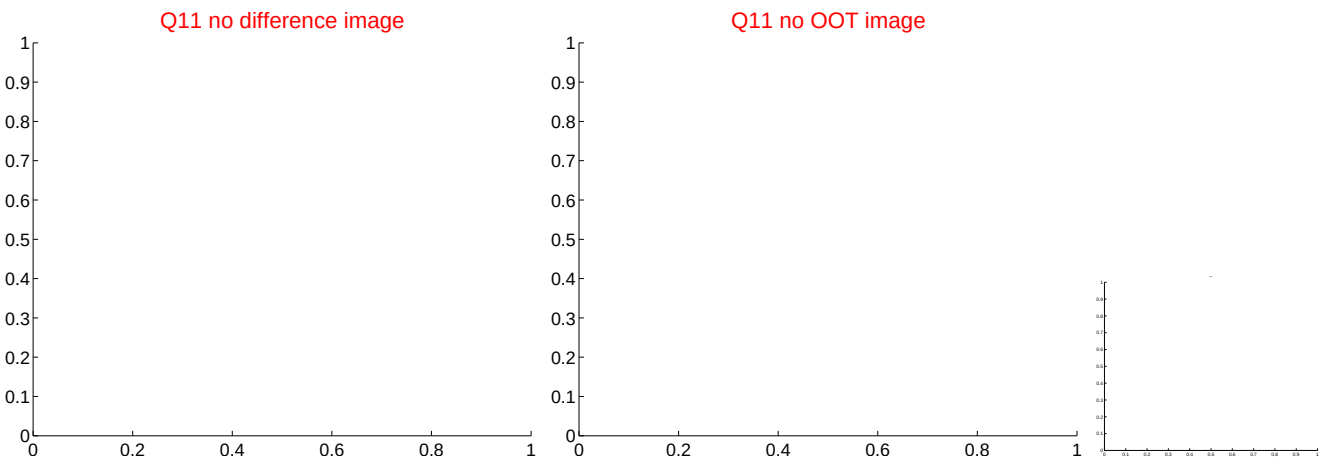


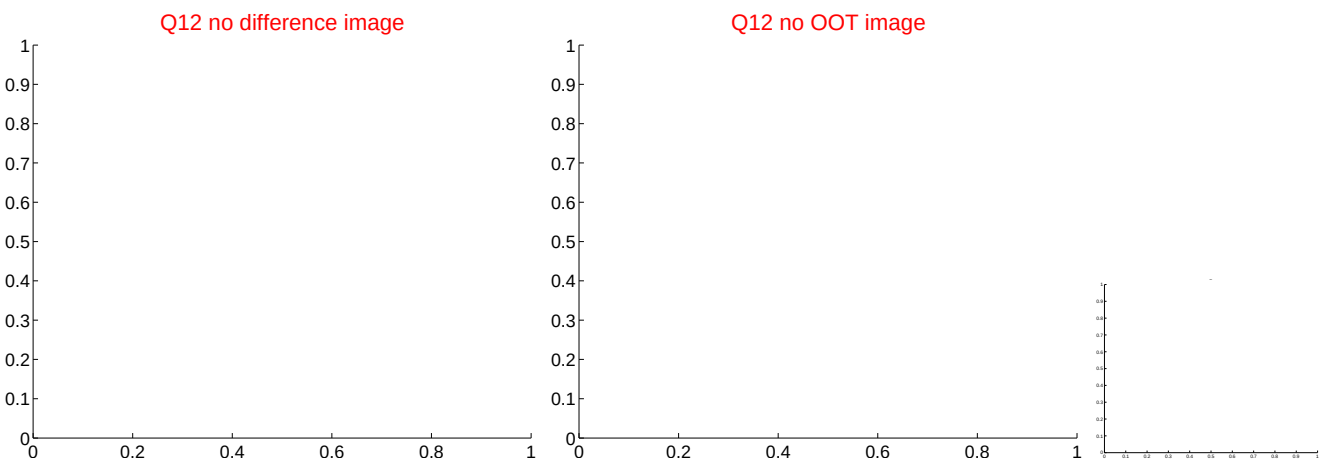


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

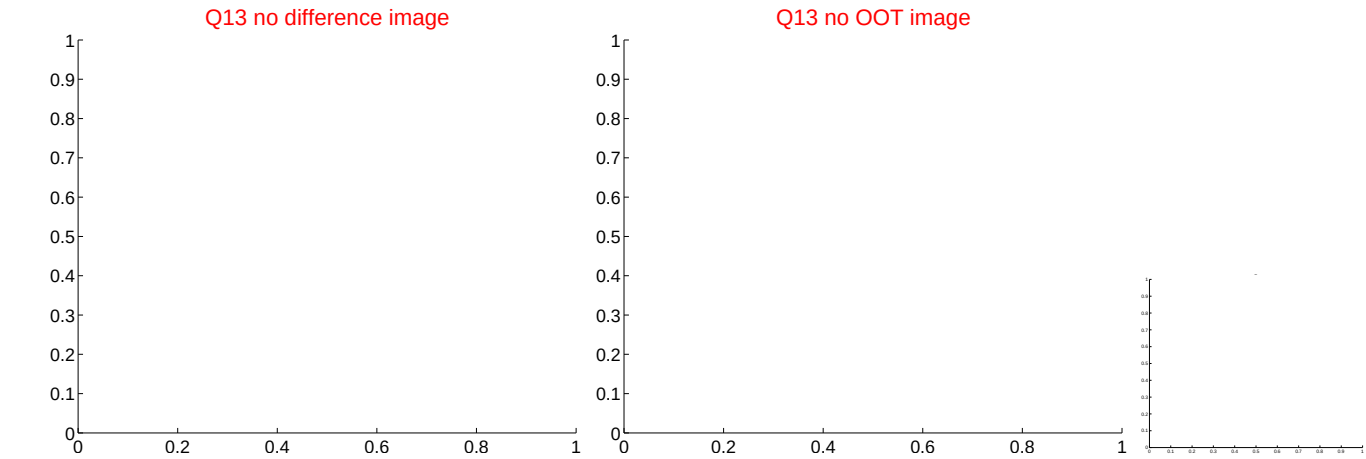


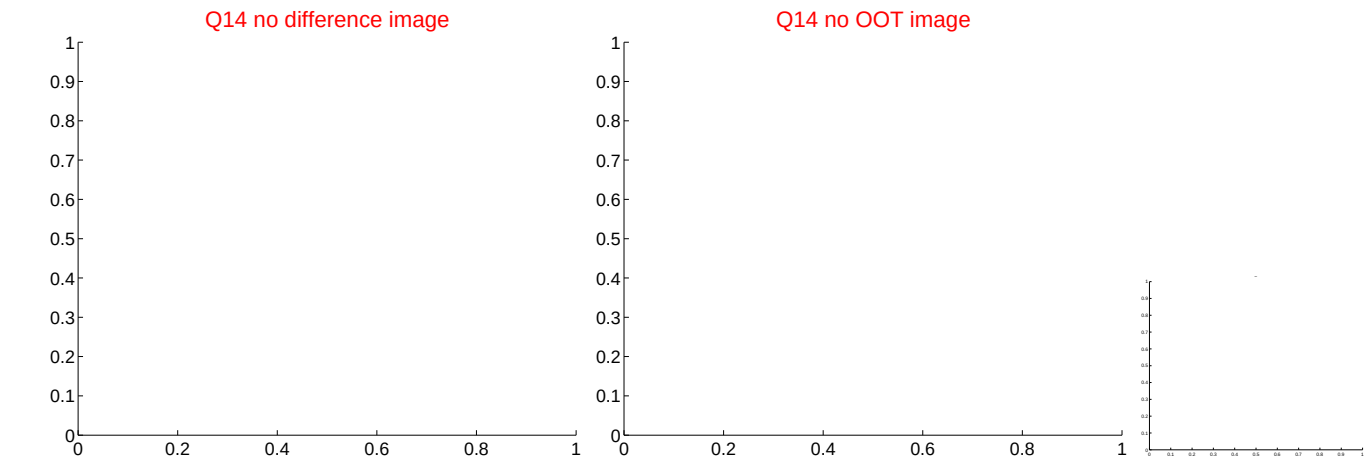


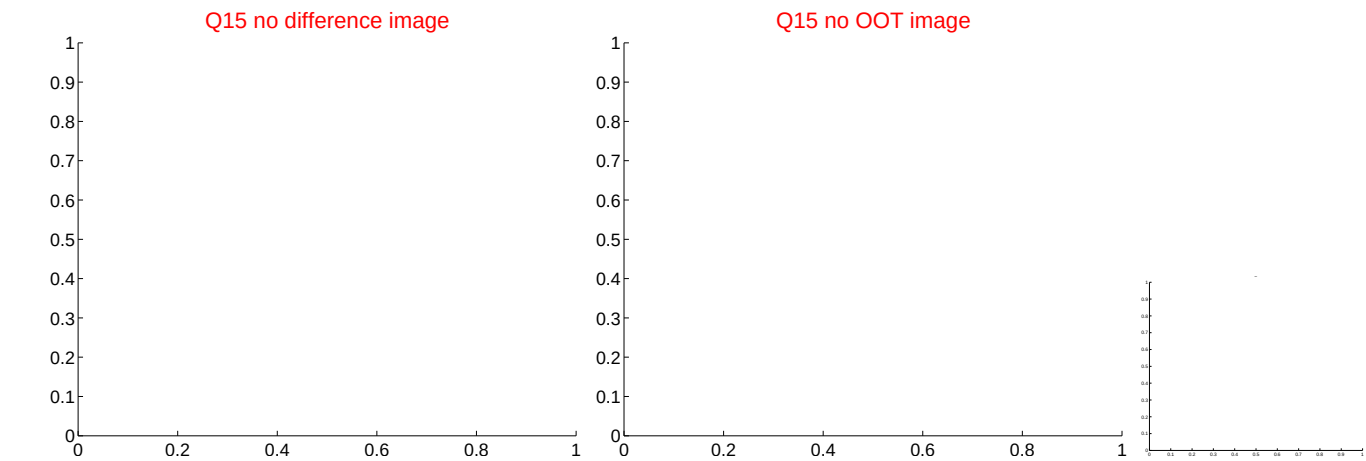


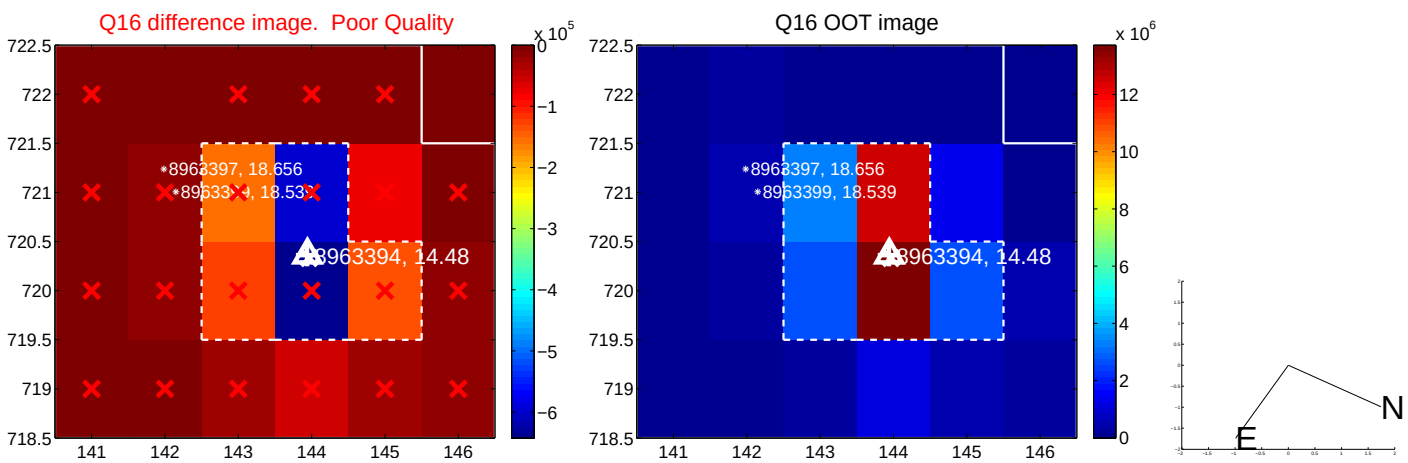


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

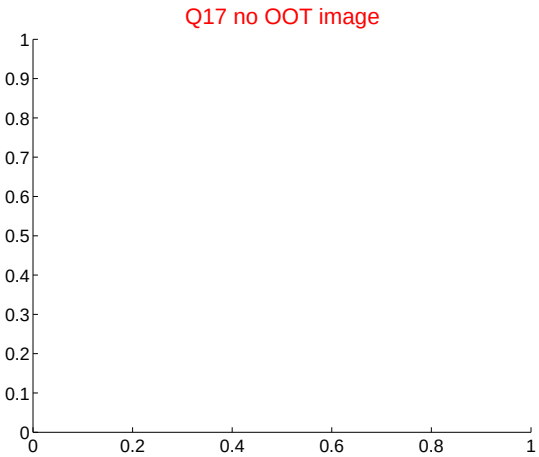


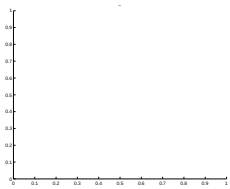


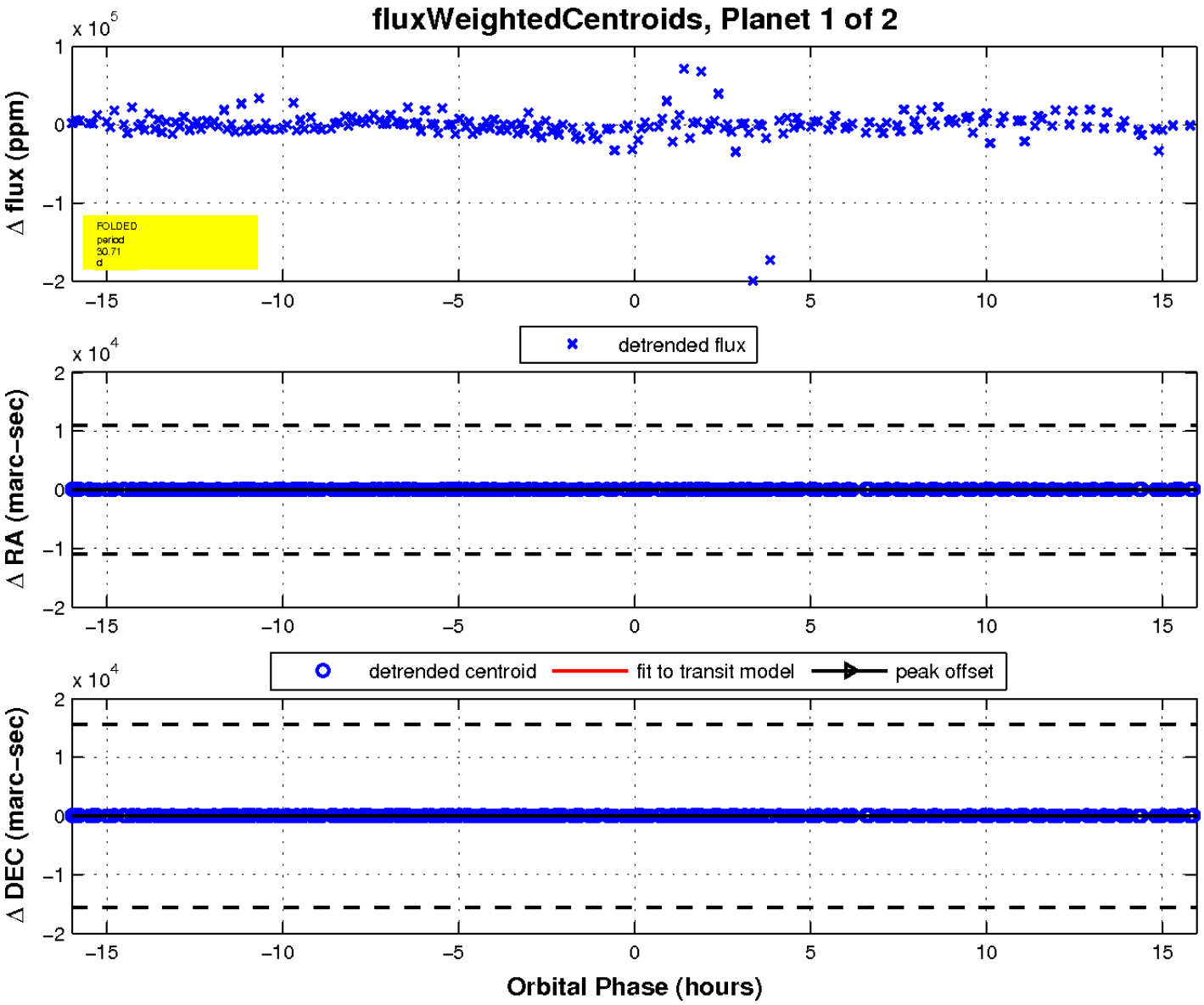
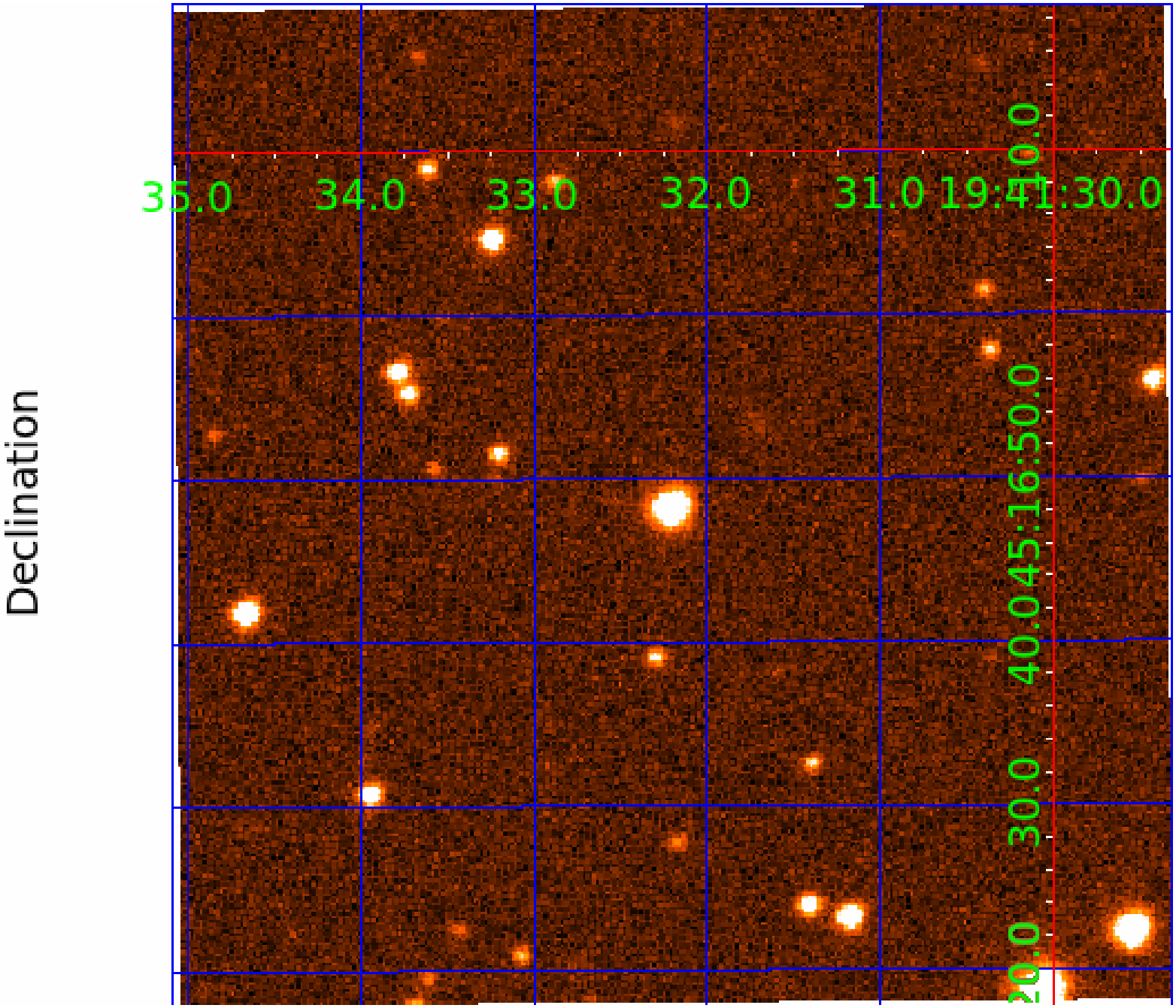




white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image