KIC 009207547

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 ($S_\oplus$)
009207547-01	OBS	No	575.595383	306.407191	1330.4	23.502	9.8	9.6	86.69	3541	357.35	484.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009207547-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

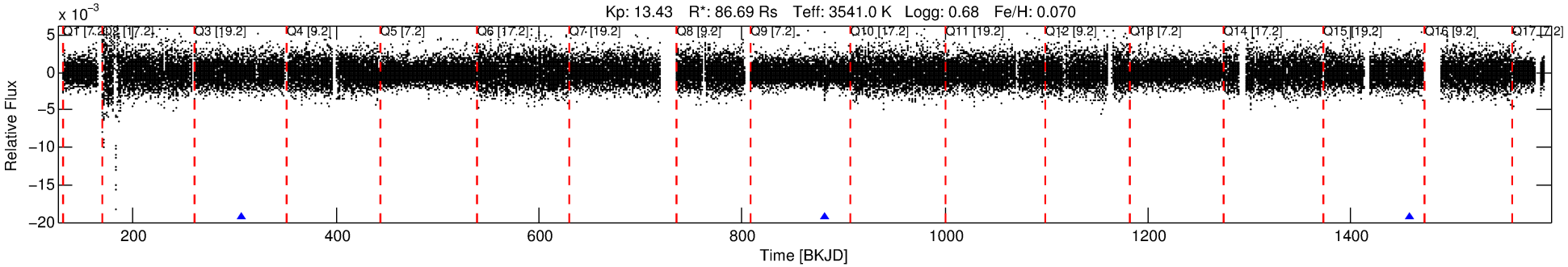
Ephemeris Match Information For 009207547-01

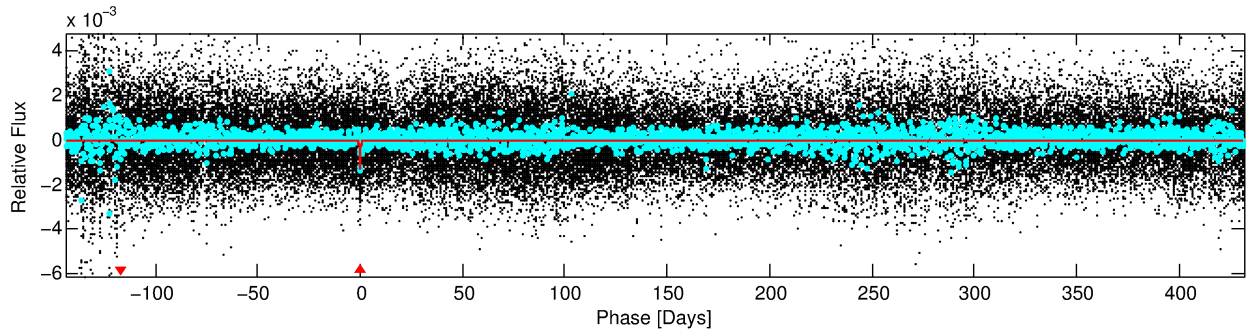
No Significant Match Found

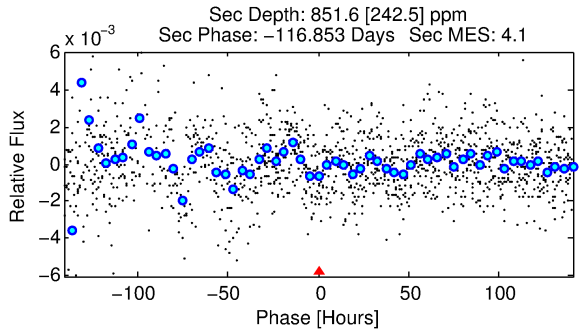
DV One-Page Summary

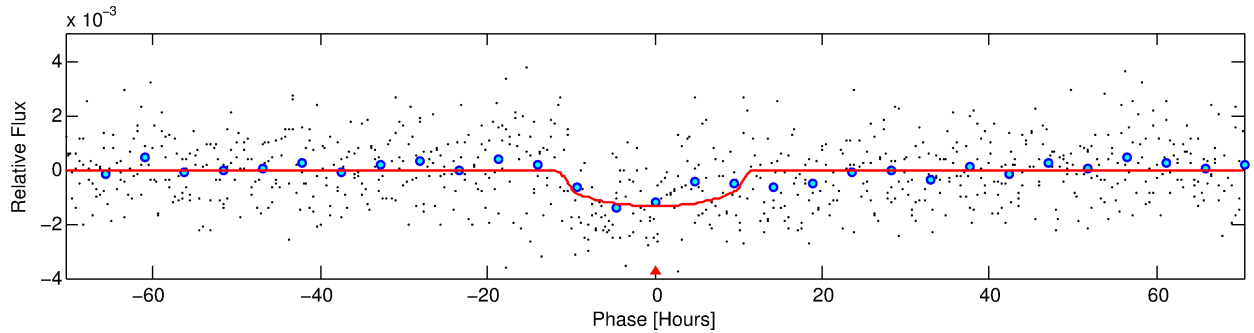
KIC: 9207547 Candidate: 1 of 1 Period: 575.595 d

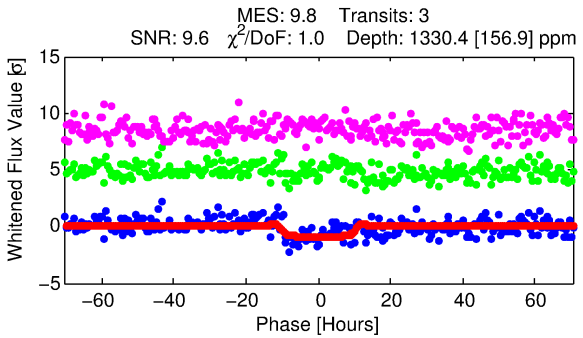
Kp: 13.43 R*: 86.69 Rs Teff: 3541.0 K Logg: 0.68 Fe/H: 0.070

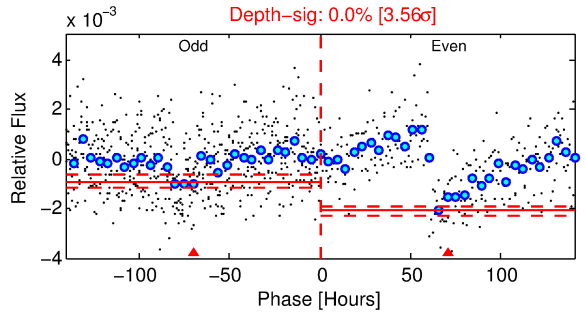


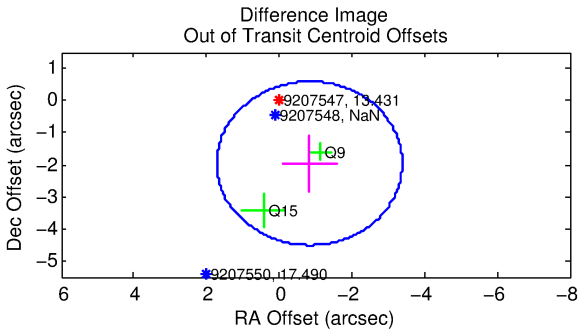












DV Fit Results:

Period = 575.59538 [0.03311] d
Epoch = 306.4072 [0.0413] BKJD
Rp/R* = 0.0378 [0.0119]
a/R* = 127.61 [102.67]
b = 0.78 [0.41]

Seff = 484.41 [247.78]
Teq = 1196 [153] K
Rp = 357.35 [169.00] Re
a = 1.4782 [0.4710] AU

Ag = 8.02 [6.79] [1.03σ]
Teffp = 3112 [550] K [3.36σ]

DV Diagnostic Results:

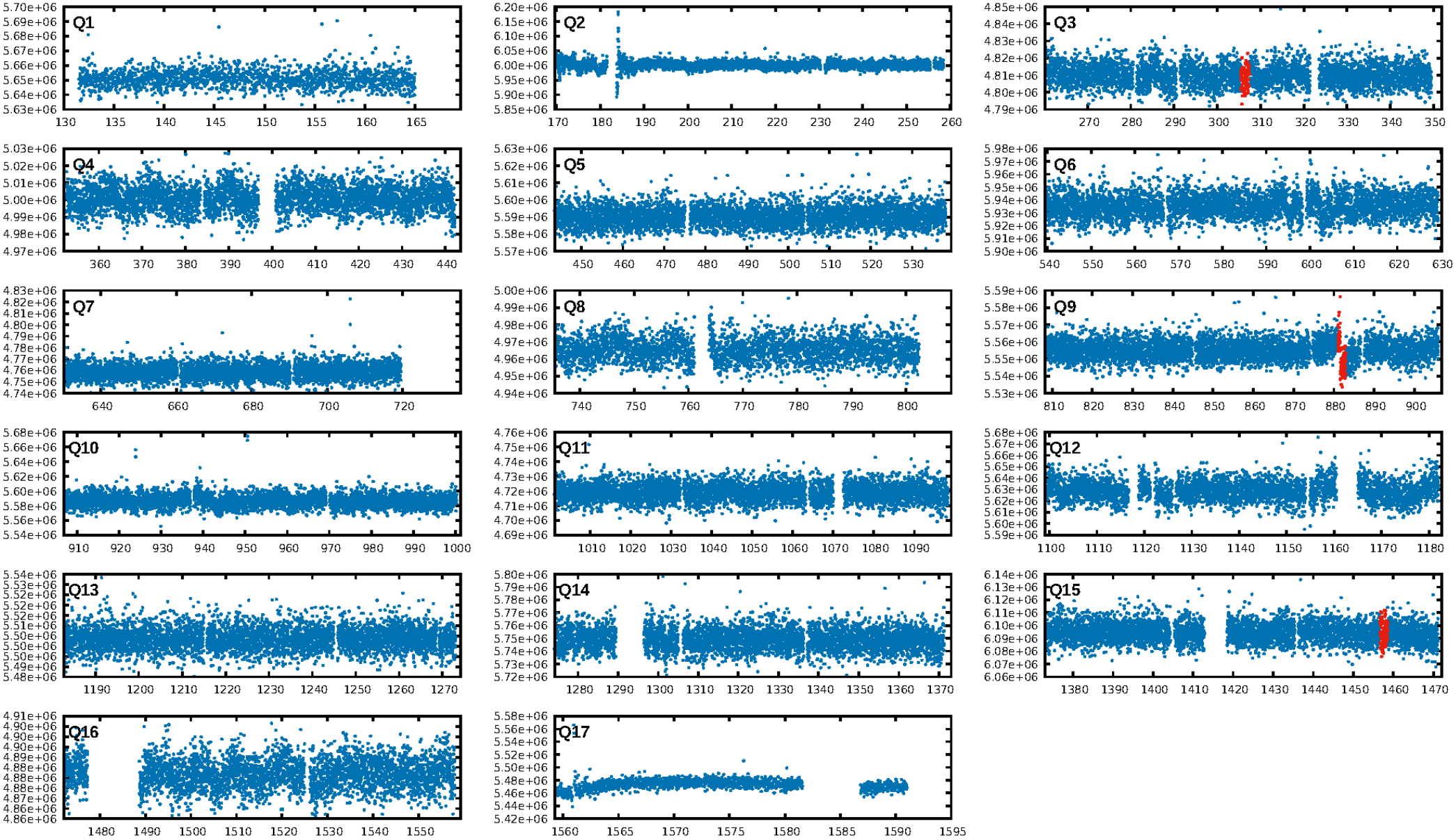
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 0.0%
ModelChiSquareGof−sig: 98.4%
Bootstrap−pfa: 3.06e−19
RollingBand−fgt: 1.00 [3/3]
GhostDiagnostic−chr: −3.303

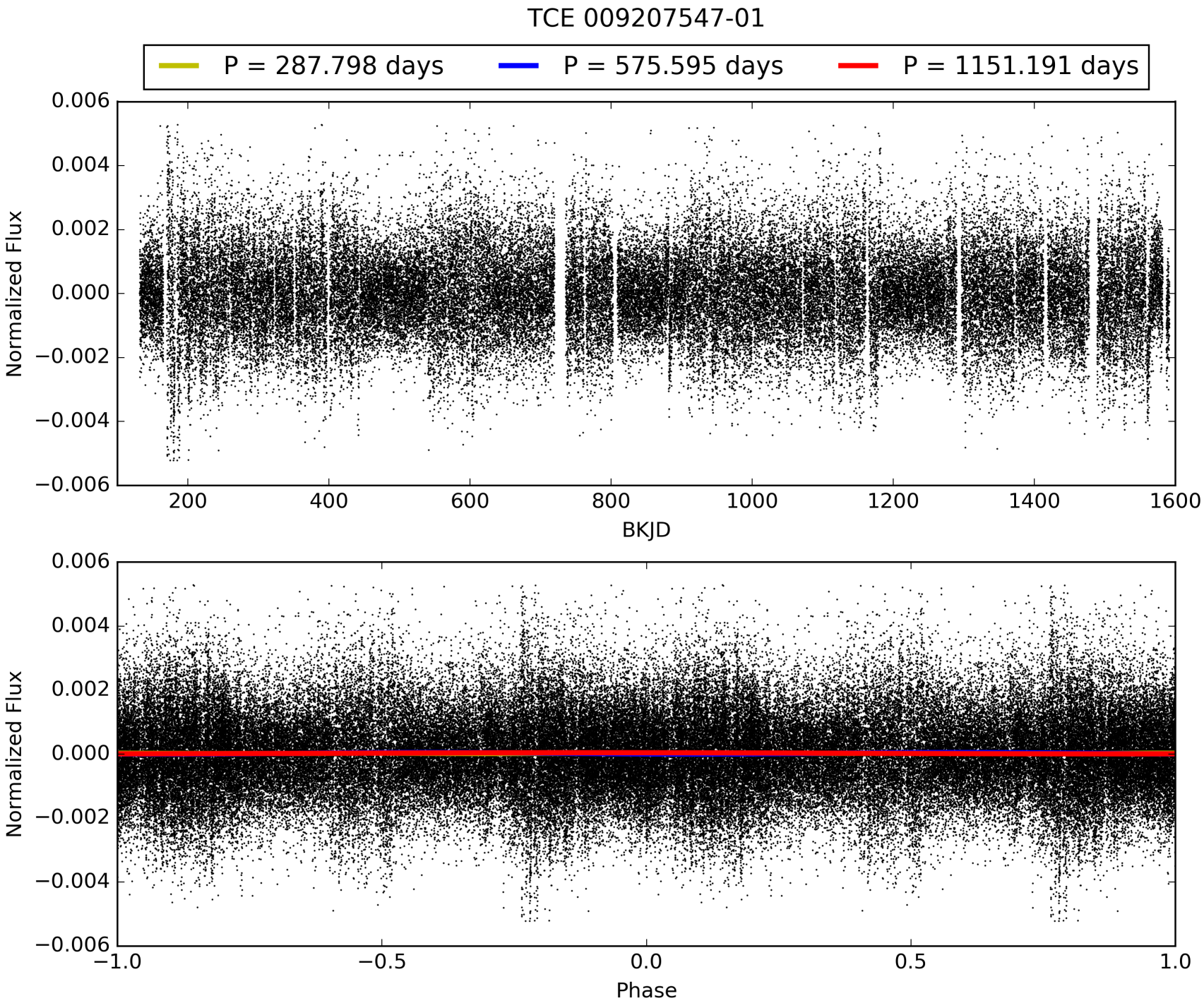
Centroid−sig: 48.2%
Centroid−so: 0.901 arcsec [0.76σ]
OotOffset−rm: 2.129 arcsec [2.50σ]
KicOffset−rm: 2.280 arcsec [2.75σ]
OotOffset−st: 0/1/0/1 [2]
KicOffset−st: 0/1/0/1 [2]
DiffImageQuality−fgm: 0.50 [1/2]
DiffImageOverlap−fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28−Jan−2016 21:04:41 Z

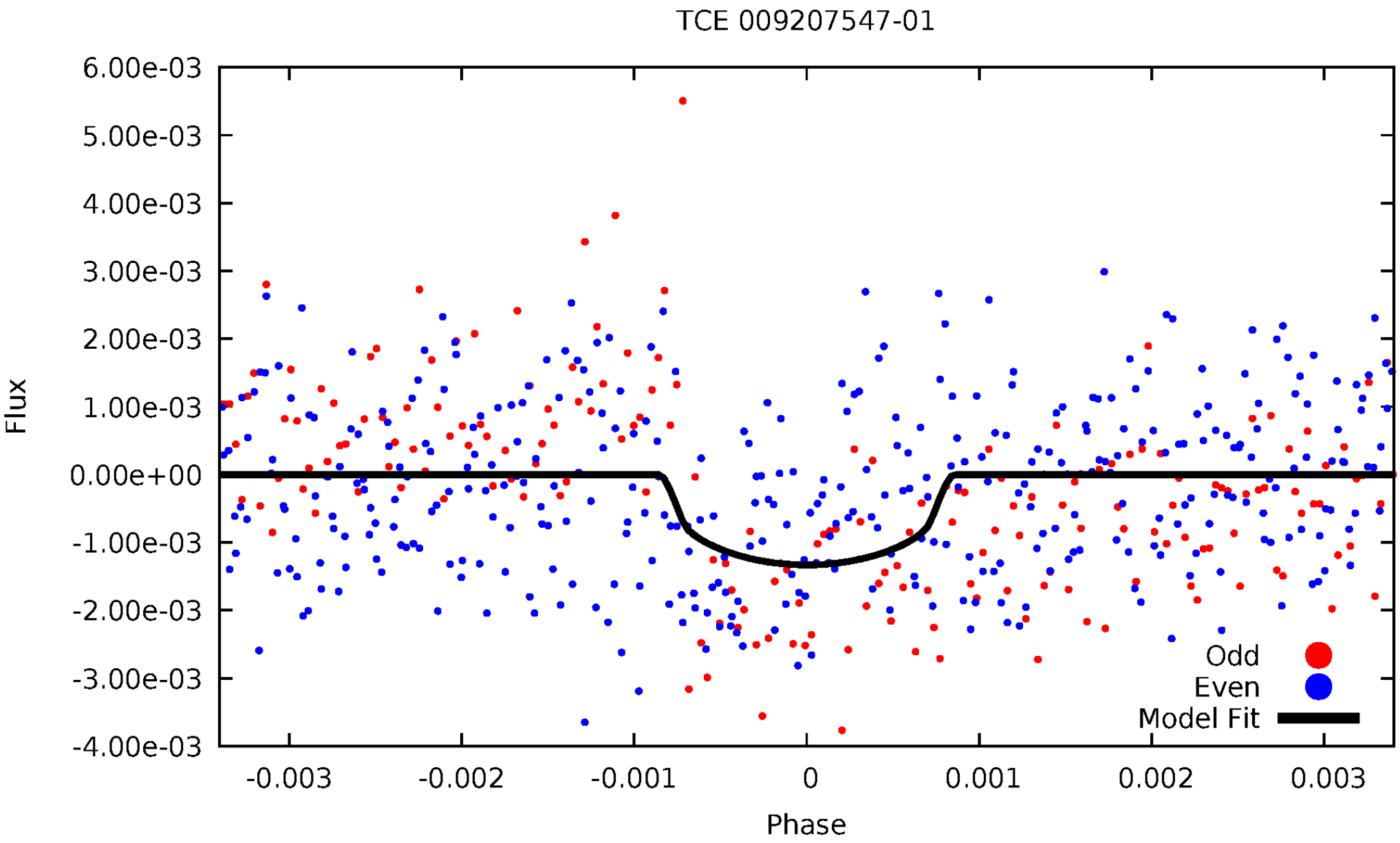
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009207547-01, PDC Light Curves

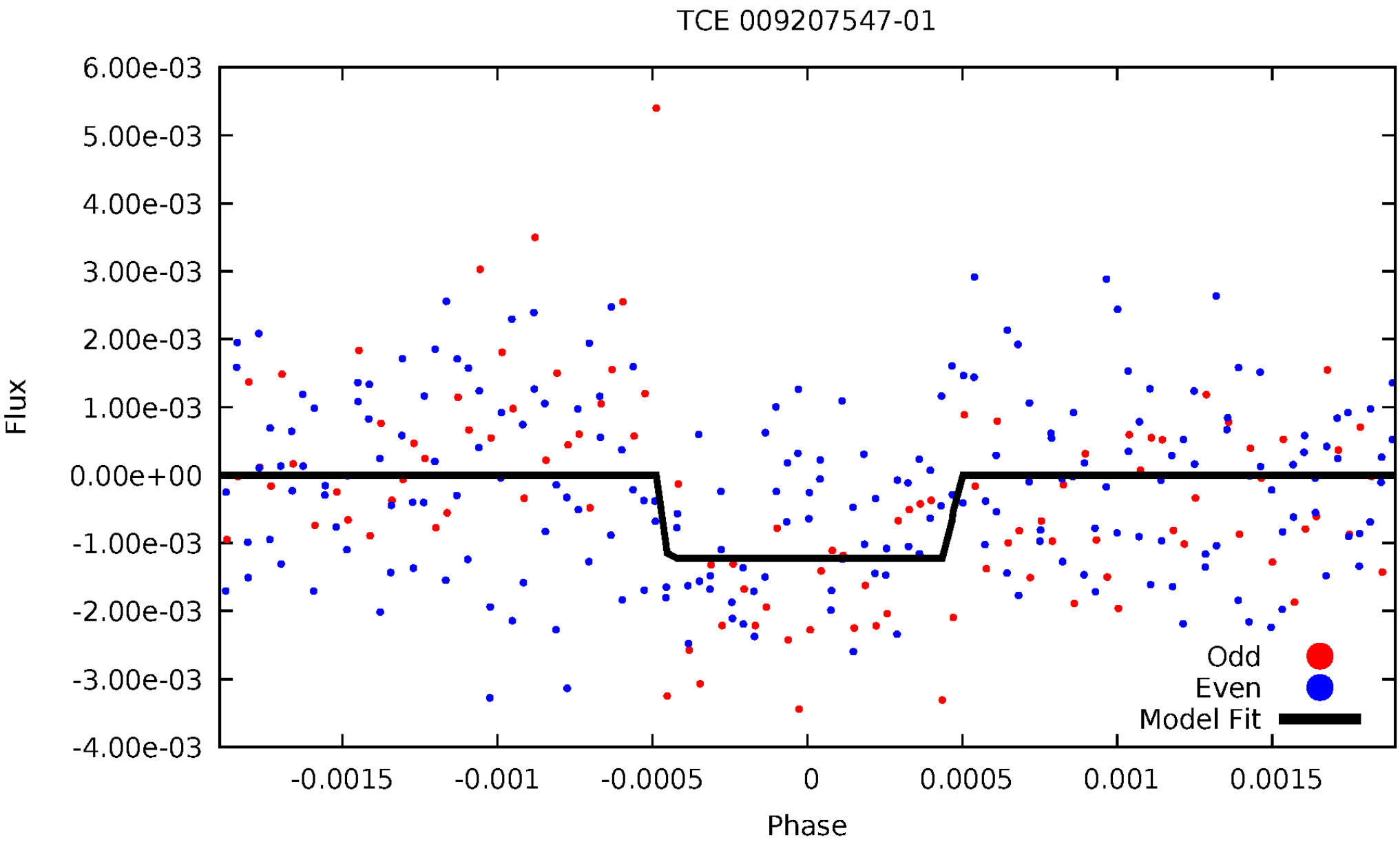



TCE 009207547-01
P = 287.798 days
P = 575.595 days
P = 1151.191 days
Normalized Flux
0.006
0.004
0.002
0.000
−0.002
−0.004
−0.006
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.006
0.004
0.002
0.000
−0.002
−0.004
−0.006
−1.0
−0.5
0.0
0.5
1.0
Phase

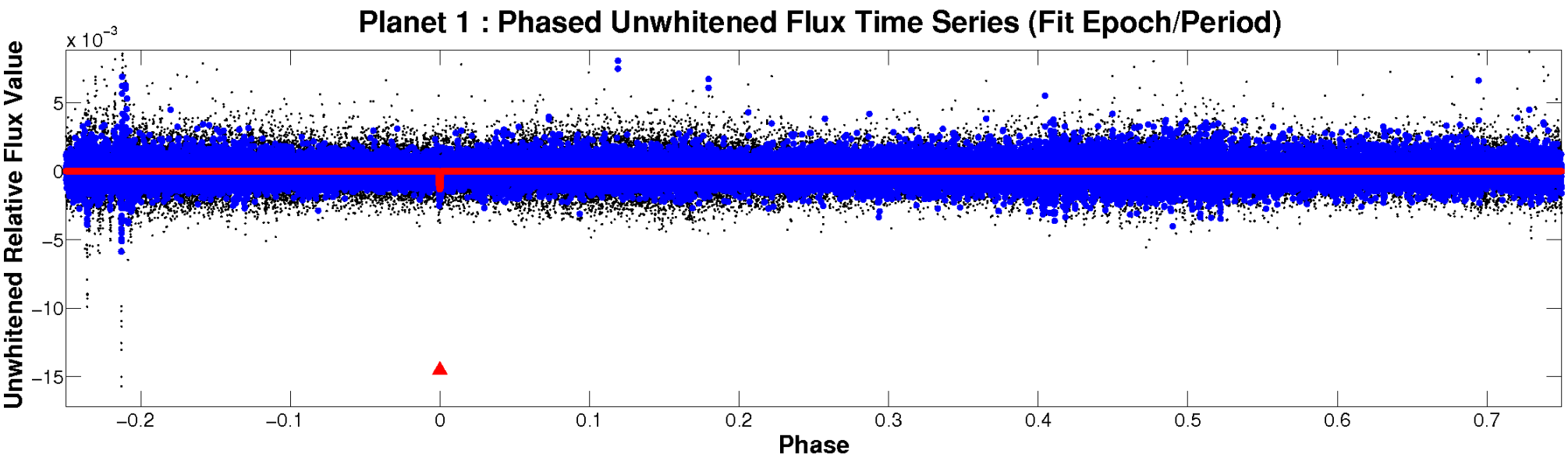
DV Odd/Even

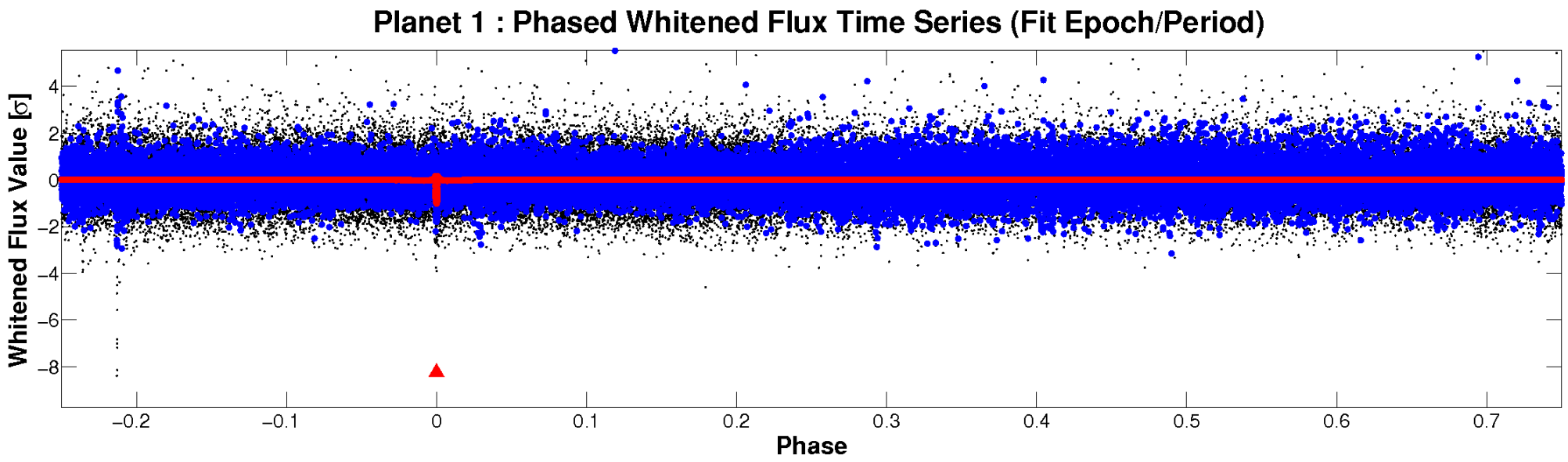

TCE 009207547-01
6.00e-03
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009207547-01
6.00e-03
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
Flux
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
Phase
Odd
Even
Model Fit

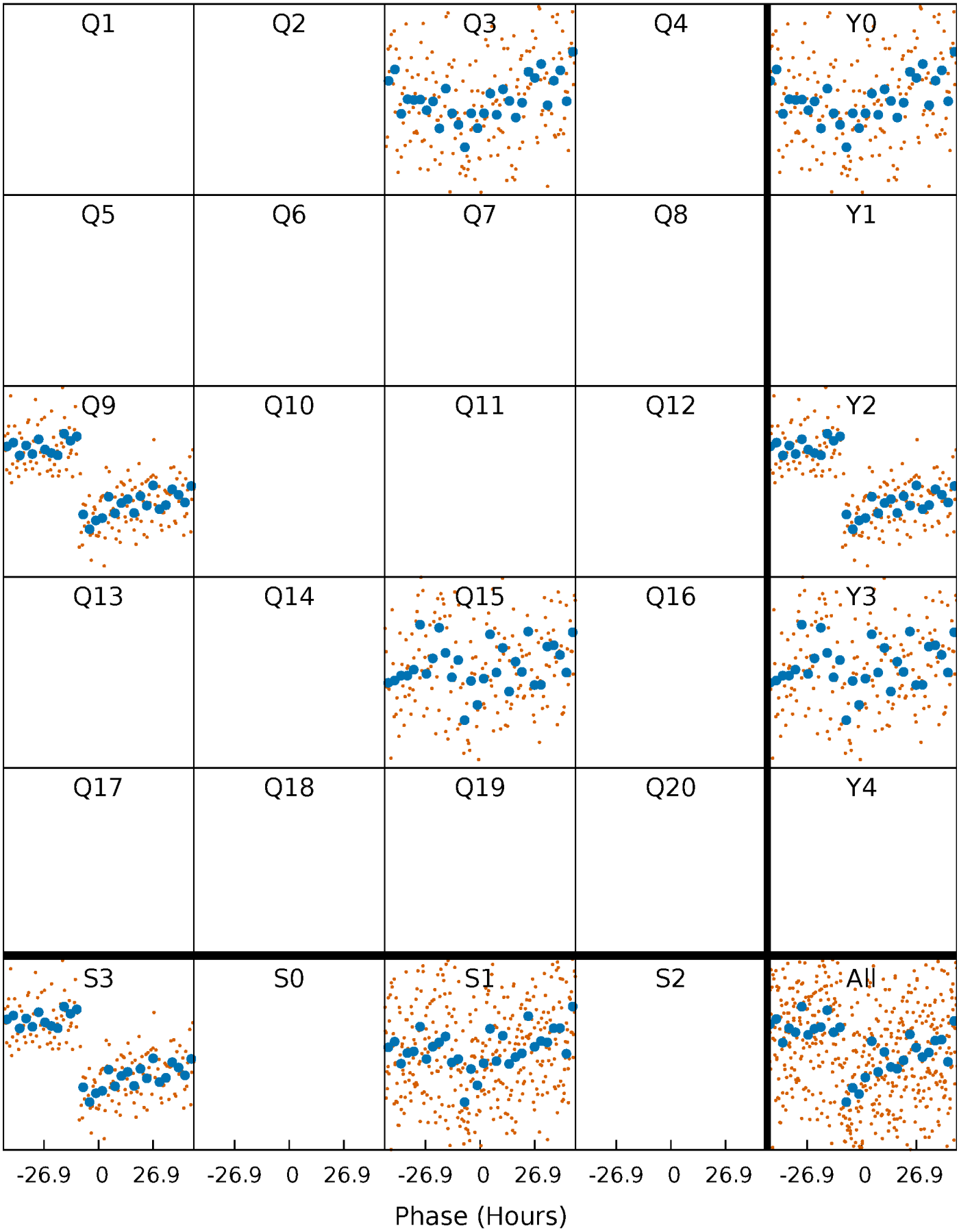
Non-Whitened Vs. Whitened Light Curve





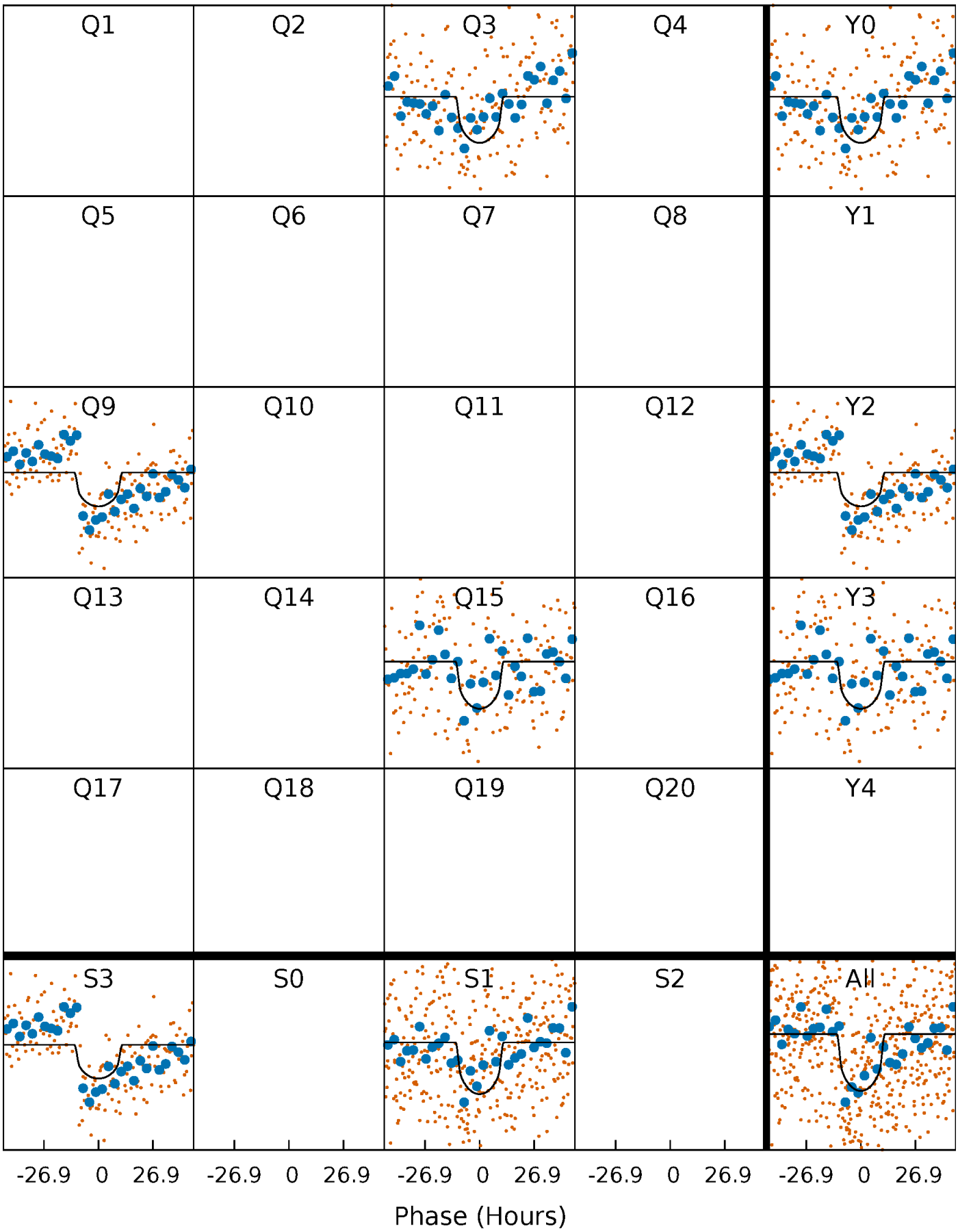
PDC Quarter-Phased Transit Curves

TCE 009207547-01 P=575.595383 Days T_0=306.407191 (BKJD)



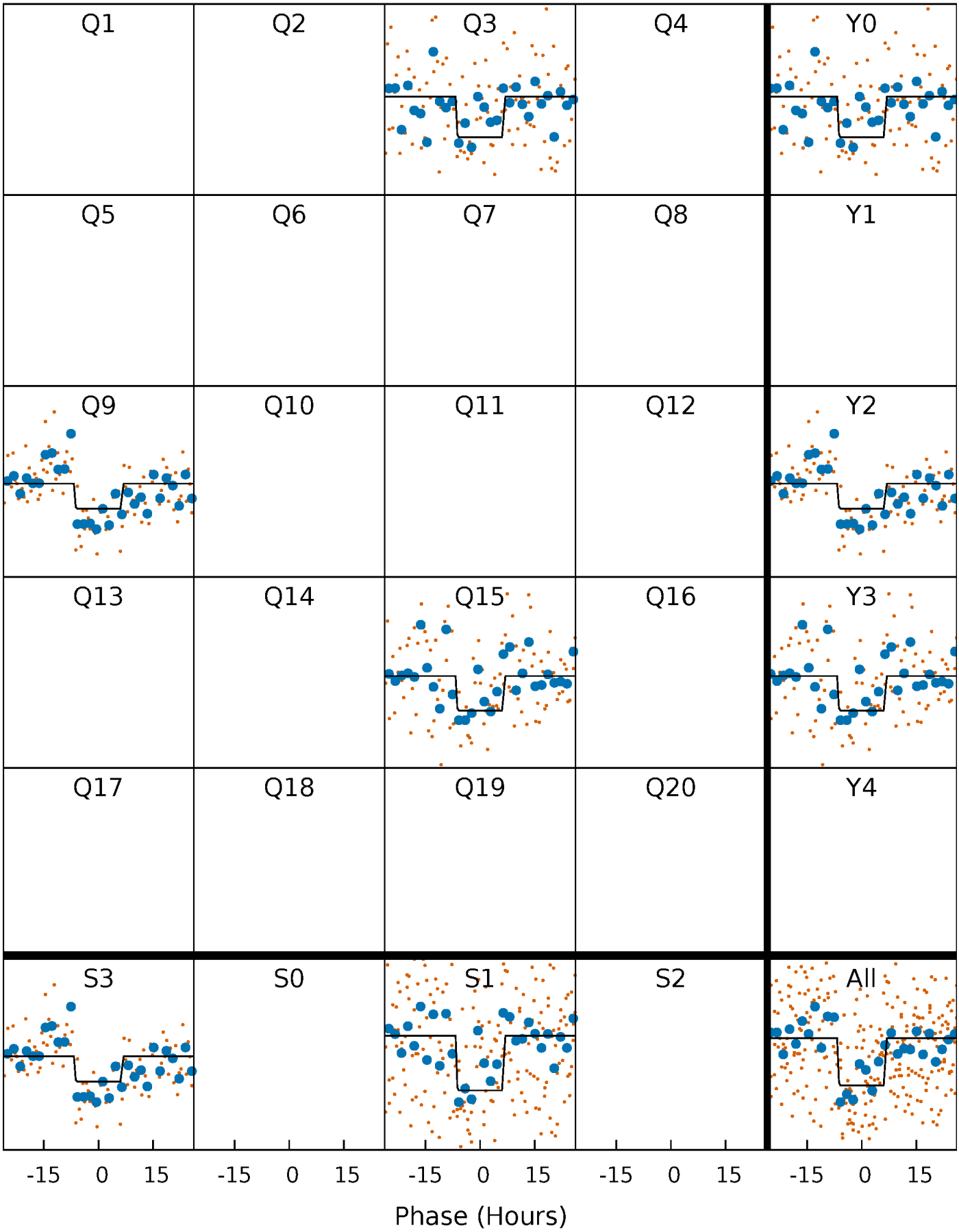
DV Quarter-Phased Transit Curves

TCE 009207547-01 P=575.595383 Days T_0=306.407191 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

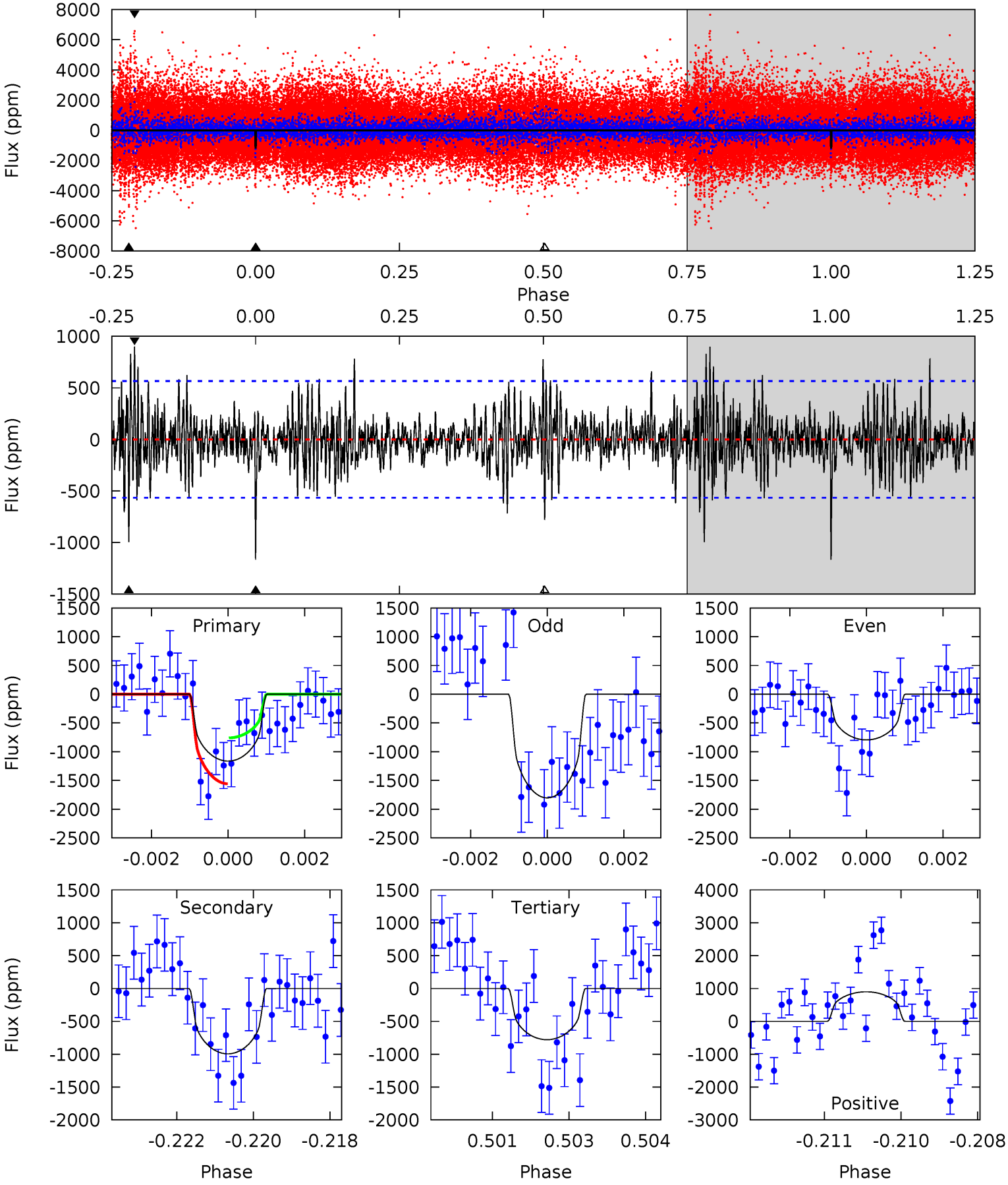
TCE 009207547-01 P=575.613385 Days T_0=306.256906 (BKJD)



DV Model-Shift Uniqueness Test

009207547-01, P = 575.595383 Days, E = 306.407191 Days

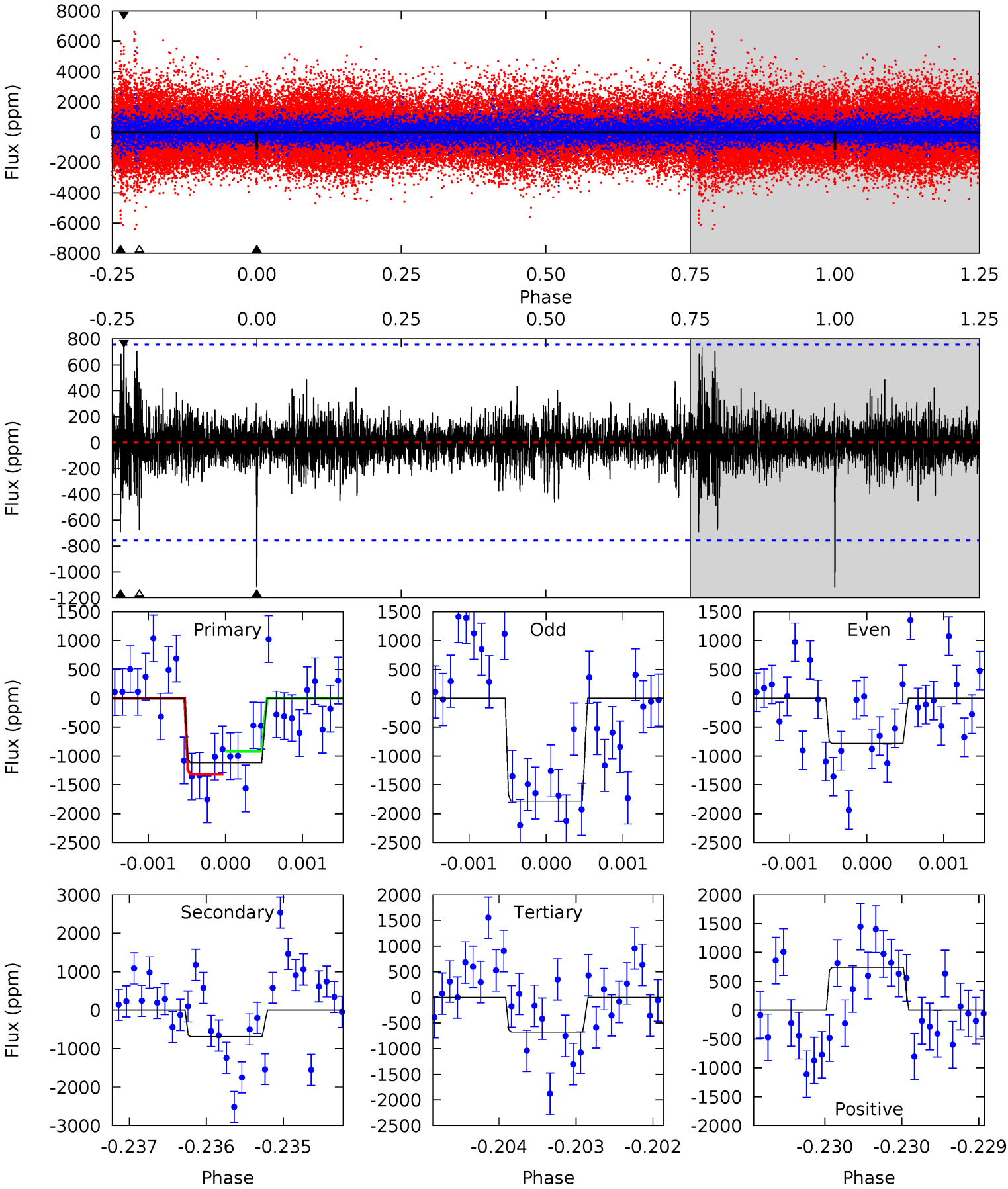
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	9.42	7.38	8.51	5.36	3.14	1.87	3.65	2.51	2.04	0.90	4.44	1.34	0.44	3.78



Alt Model-Shift Uniqueness Test

009207547-01, P = 575.613385 Days, E = 306.256906 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.07	5.00	4.89	5.35	5.47	3.31	0.86	3.18	2.72	0.11	-0.35	3.40	1.28	0.40	1.45



Stellar Parameters For KIC 009207547

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	3541^{+130}_{-107}	$0.676^{+0.280}_{-0.229}$	$0.070^{+0.250}_{-0.250}$	$86.687^{+30.590}_{-25.028}$	$1.298^{+0.272}_{-0.245}$	$0.000^{+0.000}_{-0.000}$
	+4%/-3%	+41%/-34%	+357%/-357%	+35%/-29%	+21%/-19%	+143%/-55%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009207547-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-994±106	$348.27^{+143.57}_{-118.61}$	1679^{+150}_{-164}	3344^{+449}_{-299}	$9.985^{+13.044}_{-5.005}$
Alt.	-692±138	$313.13^{+147.56}_{-118.81}$	1663^{+152}_{-145}	3240^{+489}_{-313}	$8.263^{+12.913}_{-4.492}$

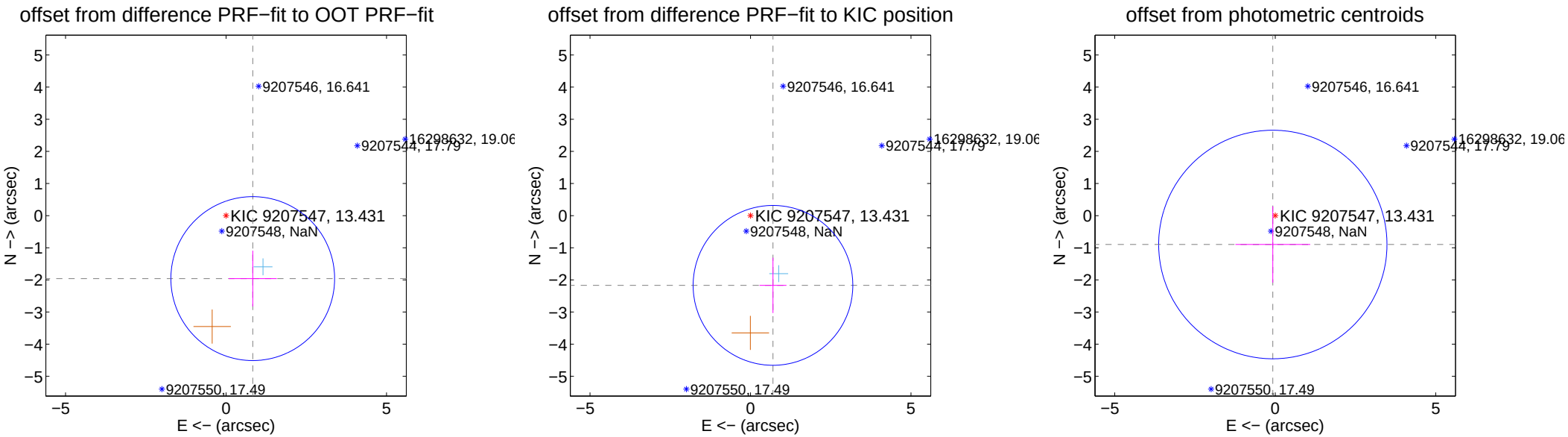
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

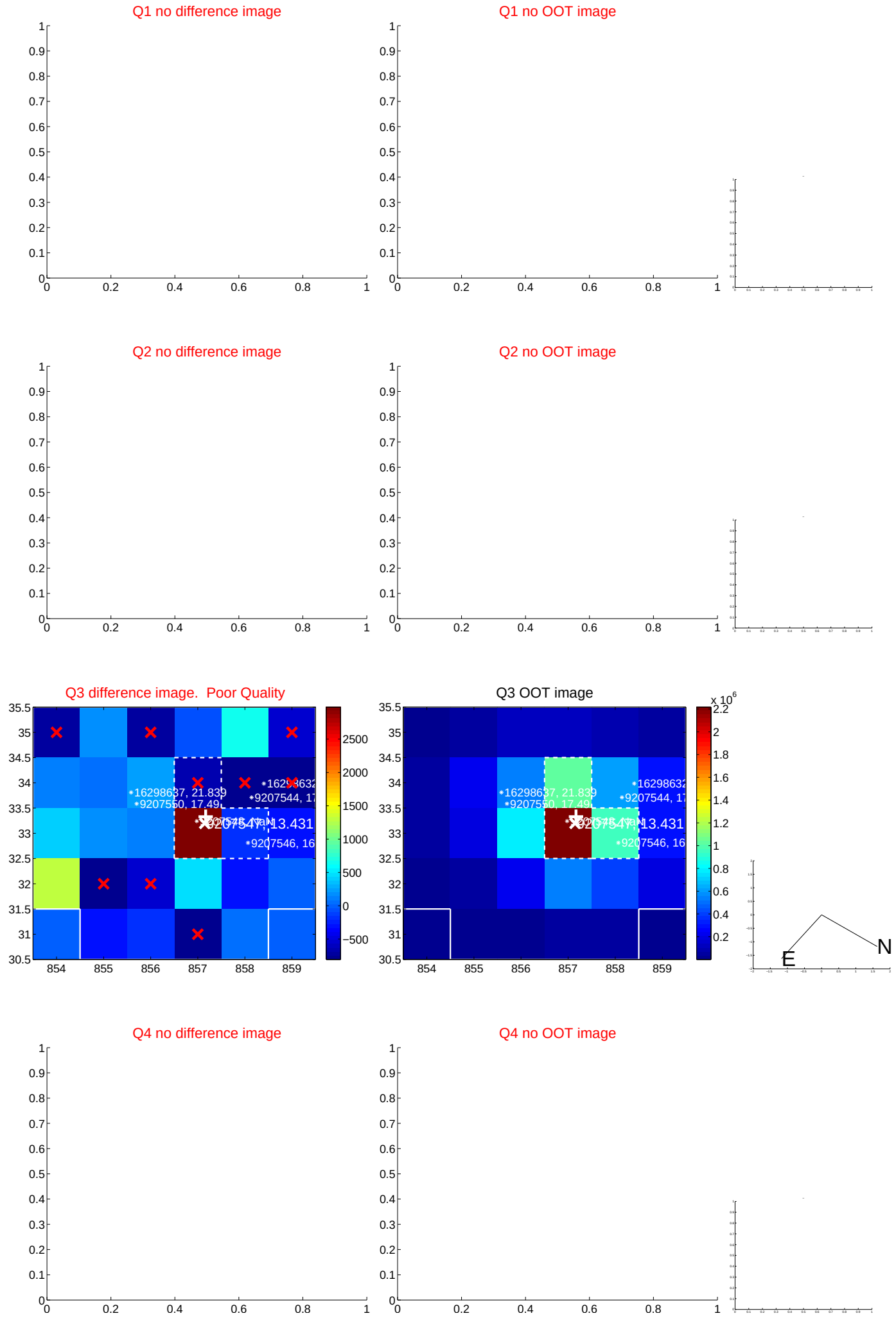
Supplemental centroid analysis for 009207547-01. Kepler magnitude: 13.43. Transit SNR 9.63
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.129 ± 0.850	2.50	-0.832 ± 0.747	-1.959 ± 0.868
PRF-fit source offset from KIC position	2.280 ± 0.829	2.75	-0.700 ± 0.421	-2.170 ± 0.861
photometric centroid source offset	0.90 ± 1.19	0.76	0.08 ± 1.17	-0.90 ± 1.19

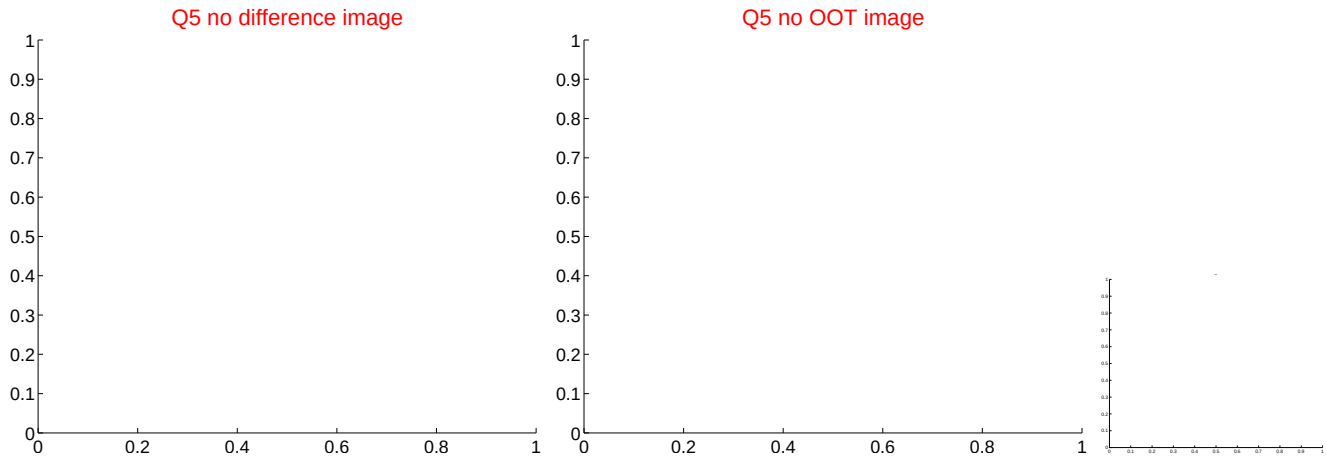


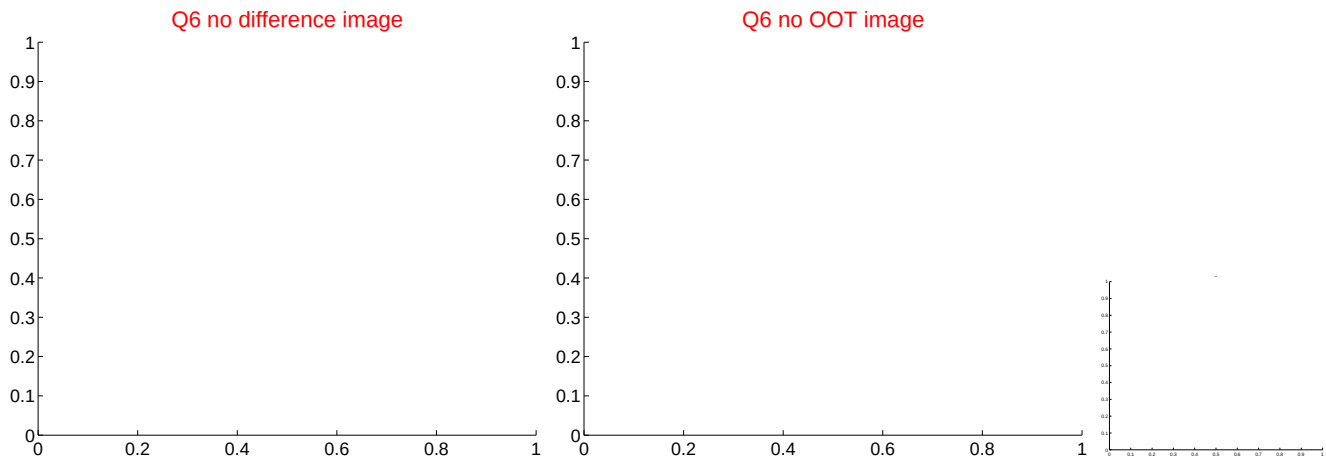
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

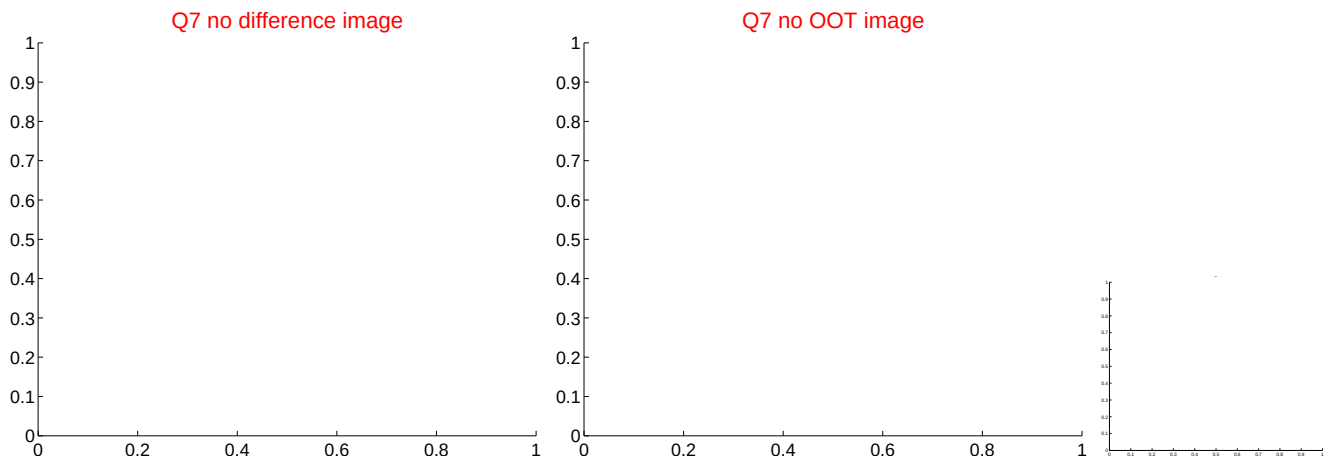
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

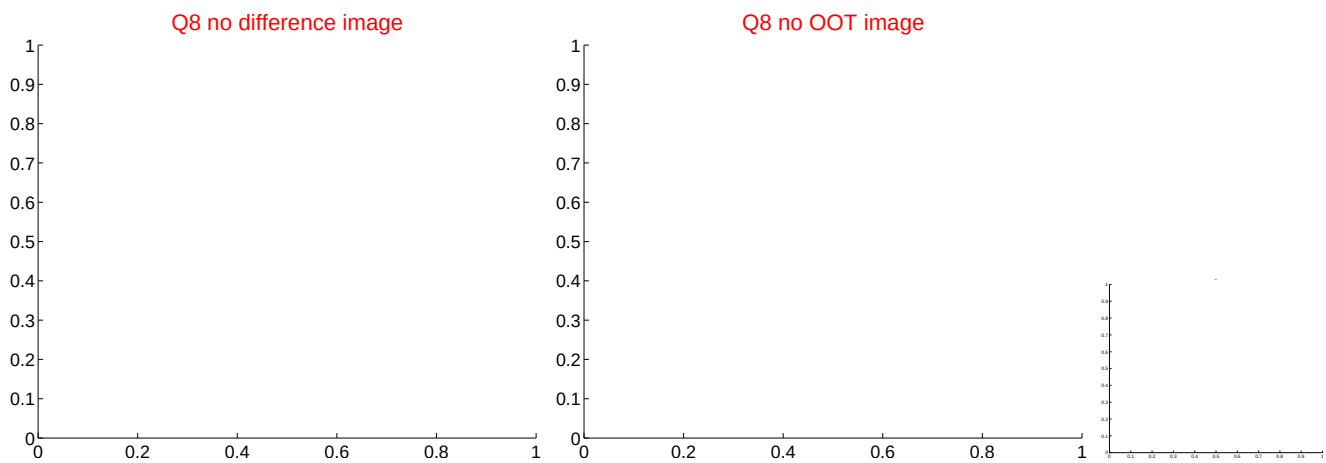


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

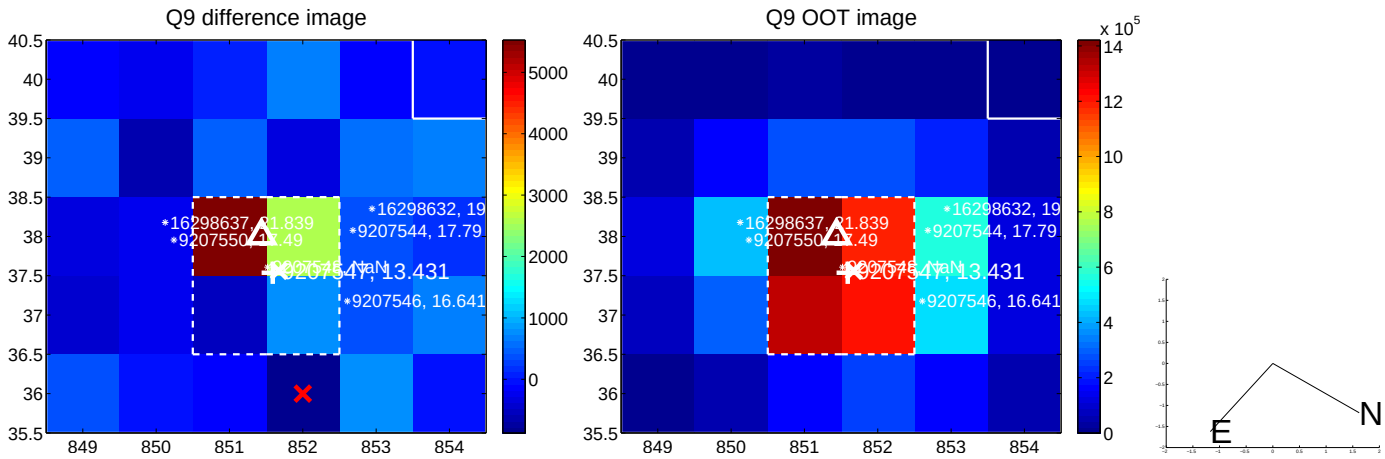


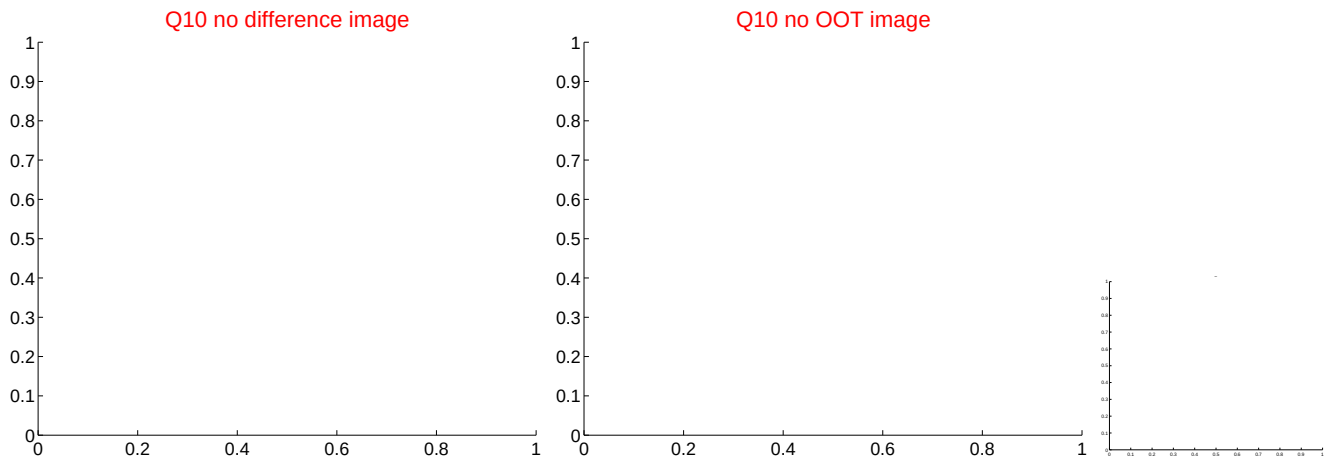


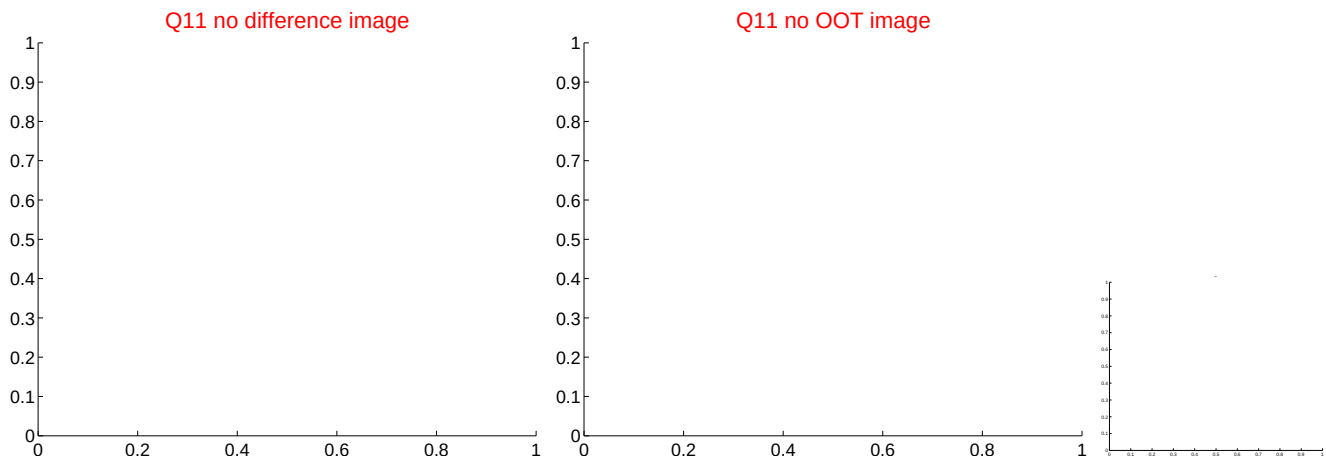


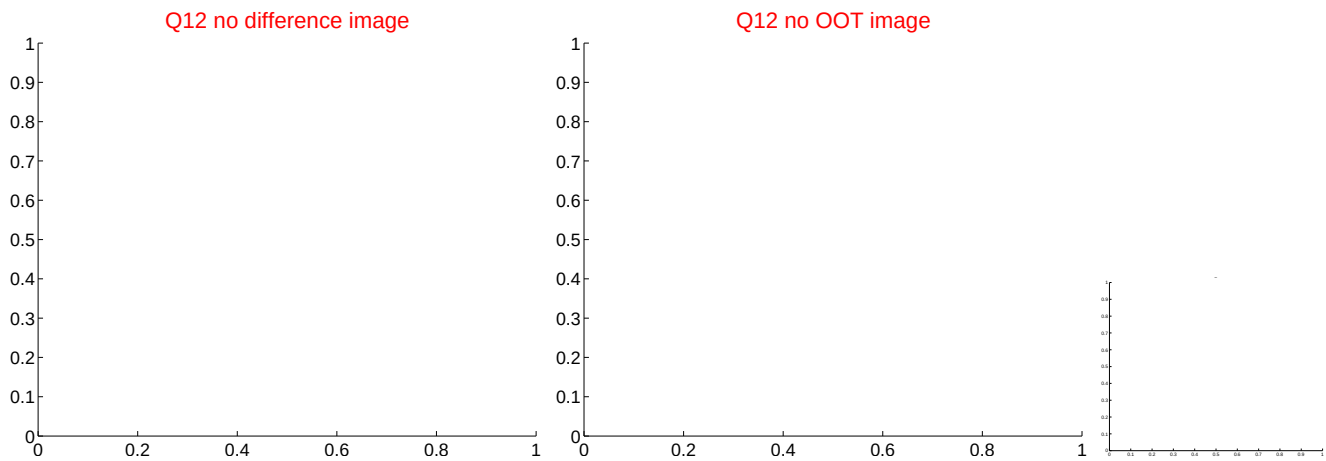


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

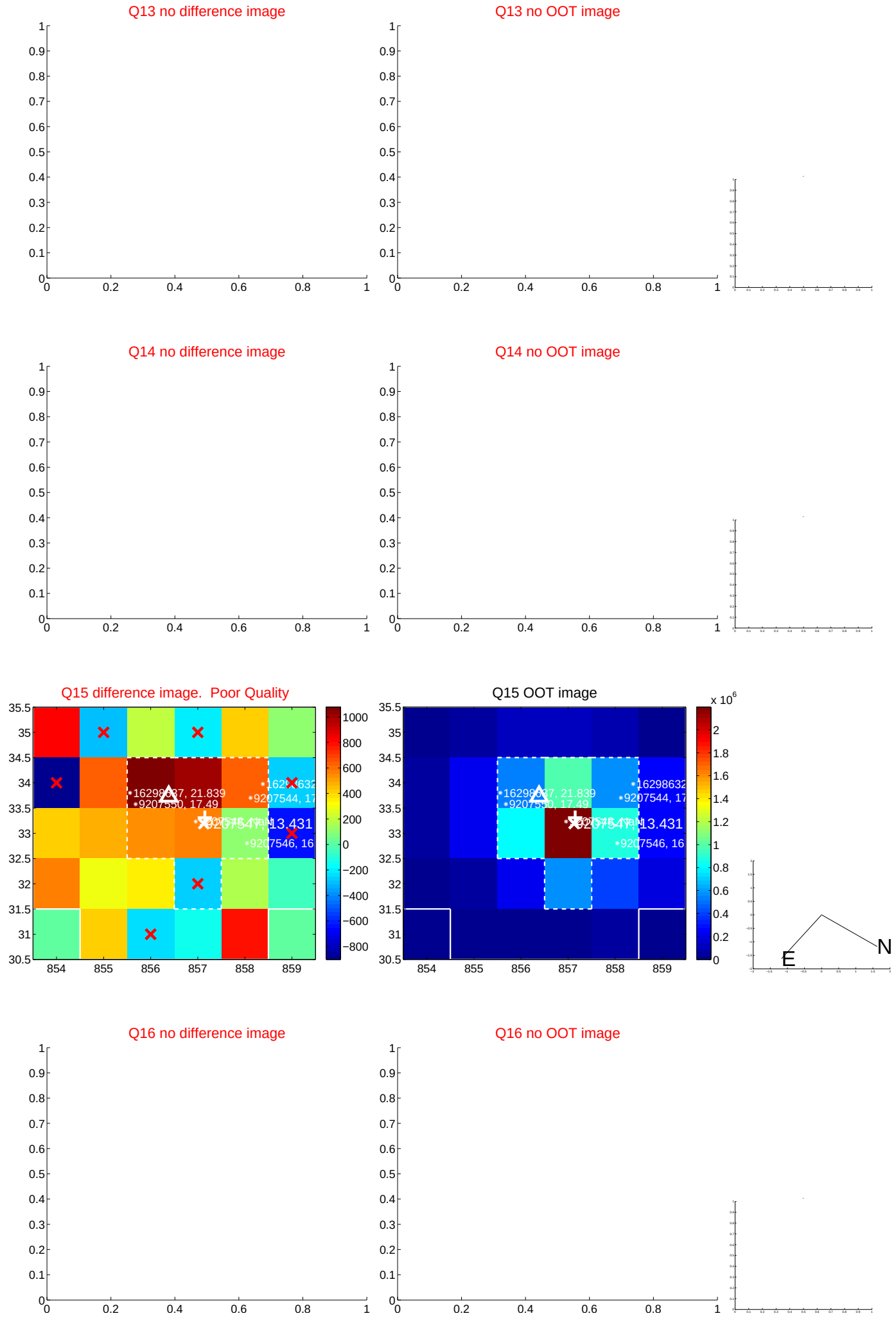




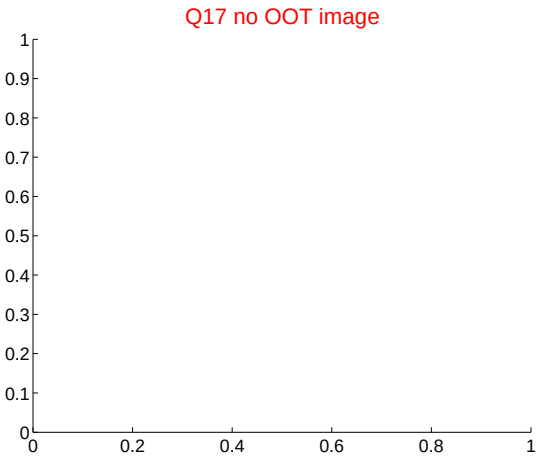


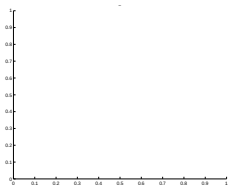


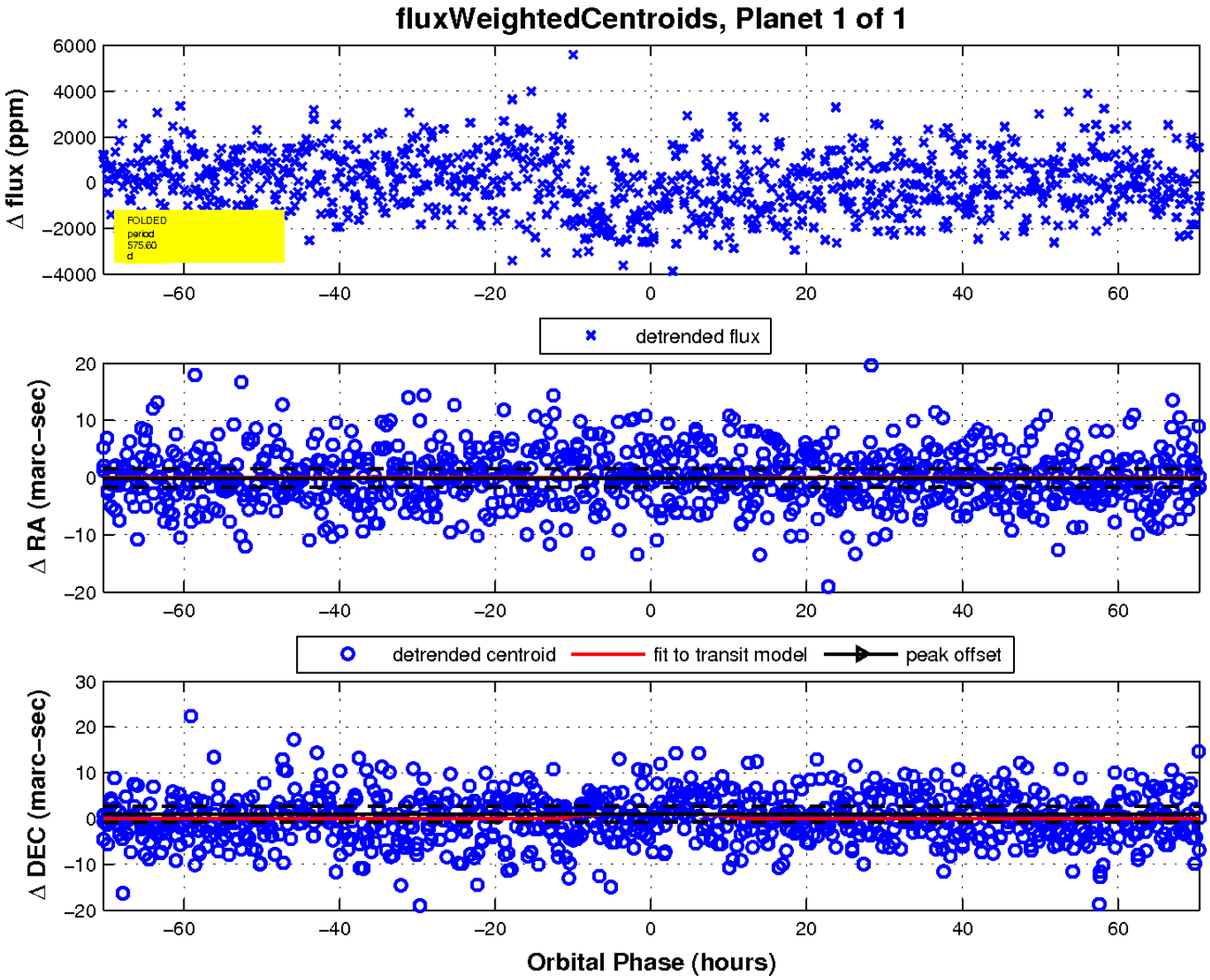
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



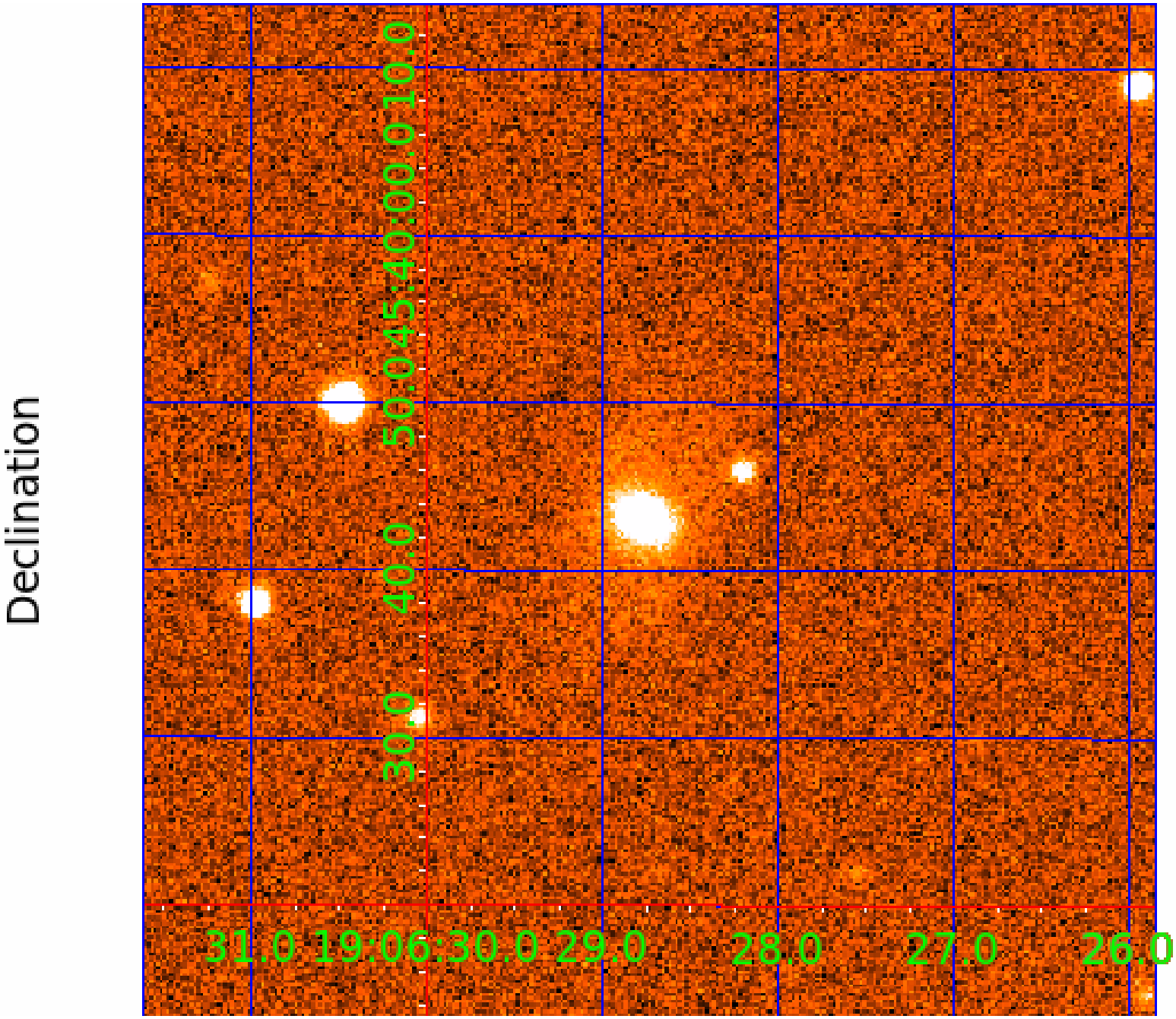
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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