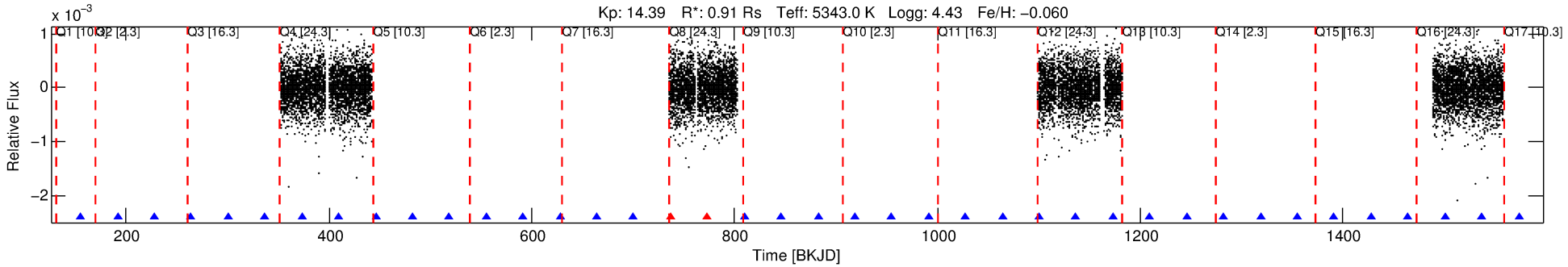
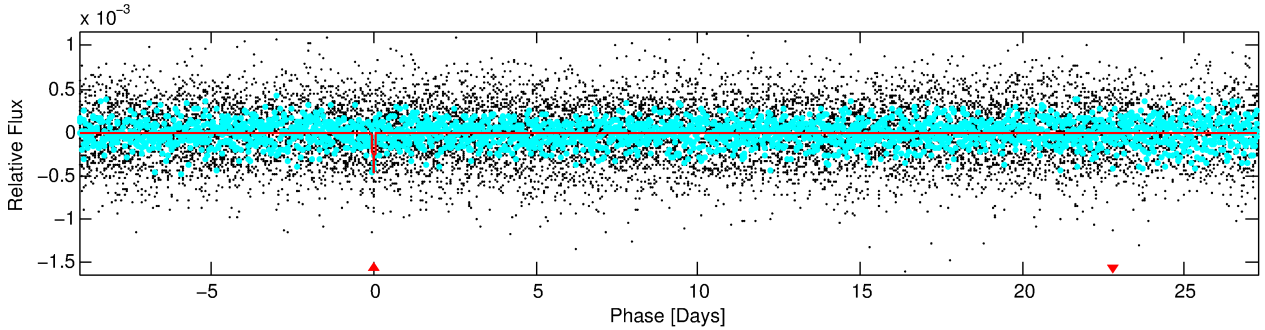
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

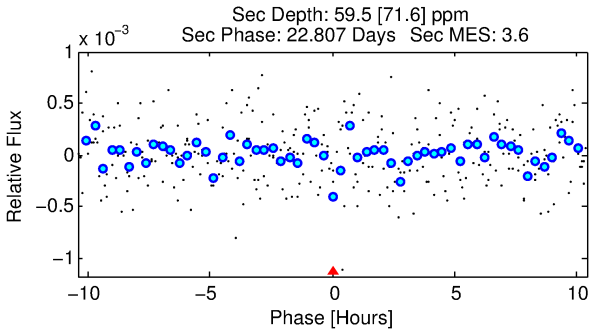
DV One-Page Summary

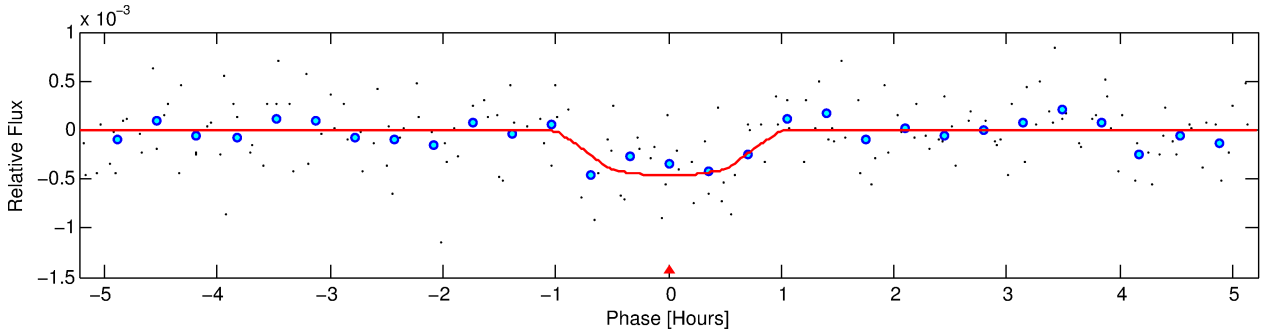
KIC: 2167920 Candidate: 1 of 1 Period: 36.357 d

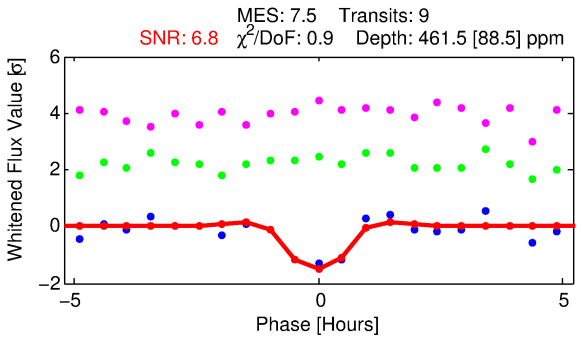
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

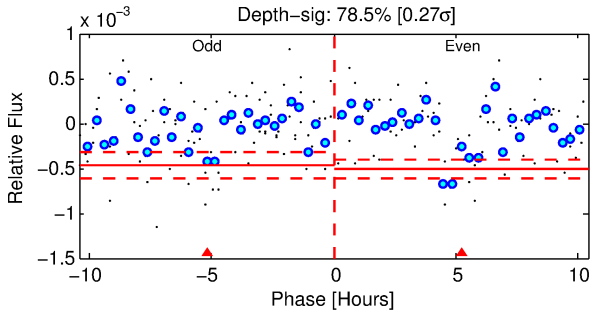


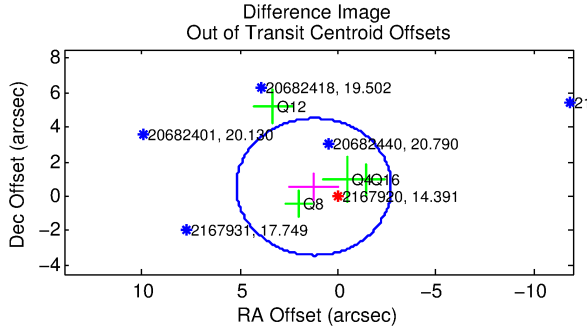












DV Fit Results:

Period = 36.35654 [0.00037] d
Epoch = 155.3036 [0.0087] BKJD
Rp/R* = 0.0238 [0.0247]
a/R* = 77.68 [334.88]
b = 0.90 [0.94]

Seff = 14.95 [7.13]
Teq = 501 [60] K
Rp = 2.35 [2.54] Re
a = 0.2002 [0.0577] AU

Ag = 237.16 [579.33] [0.41σ]
Teffp = 3042 [1828] K [1.39σ]

DV Diagnostic Results:

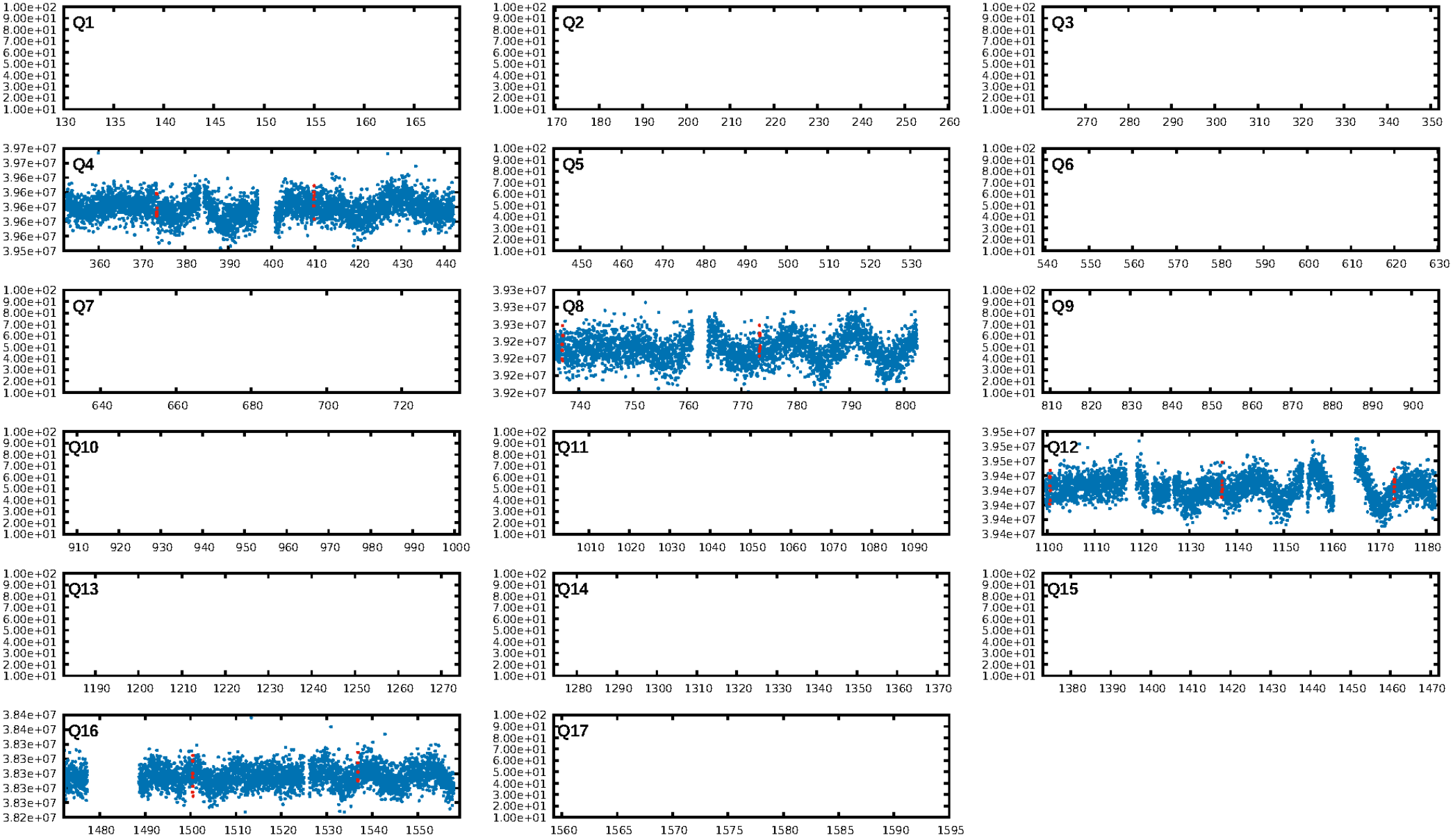
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 91.3%
ModelChiSquareGof−sig: 96.5%
Bootstrap−pfa: 1.66e−12
RollingBand−fgt: 0.78 [7/9]
GhostDiagnostic−chr: 2.039

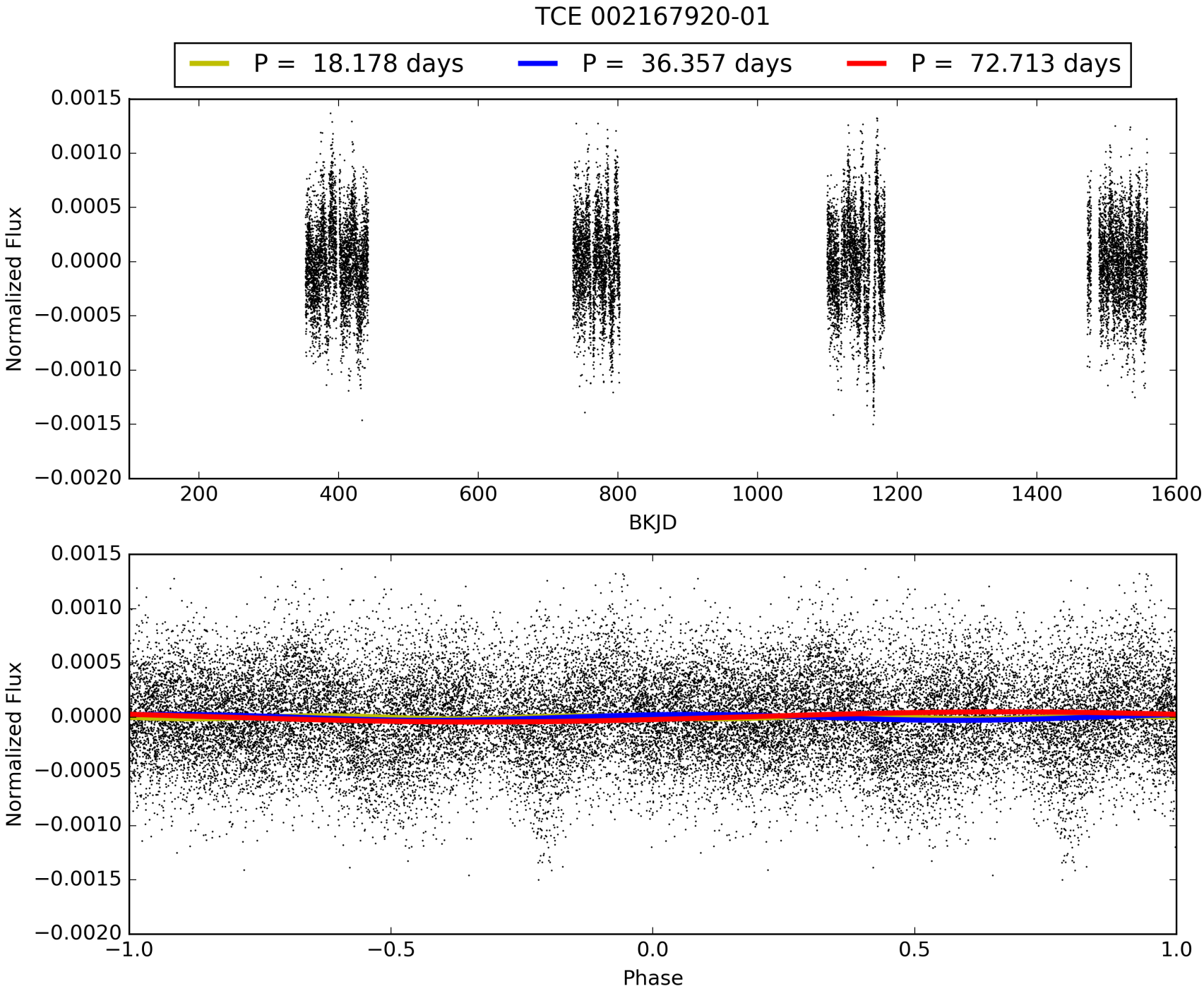
Centroid−sig: 0.9%
Centroid−so: 4.109 arcsec [2.02σ]
OotOffset−rm: 1.348 arcsec [1.02σ]
KicOffset−rm: 0.839 arcsec [0.72σ]
OotOffset−st: 0/0/4/0 [4]
KicOffset−st: 0/0/4/0 [4]
DiffImageQuality−fgm: 0.00 [0/4]
DiffImageOverlap−fno: 1.00 [4/4]

Software Revision: svn+ssh://murzim/repo/soc/branches/integ/ksop−2320@61025 −− Date Generated: 11−Mar−2016 03:17:49 Z

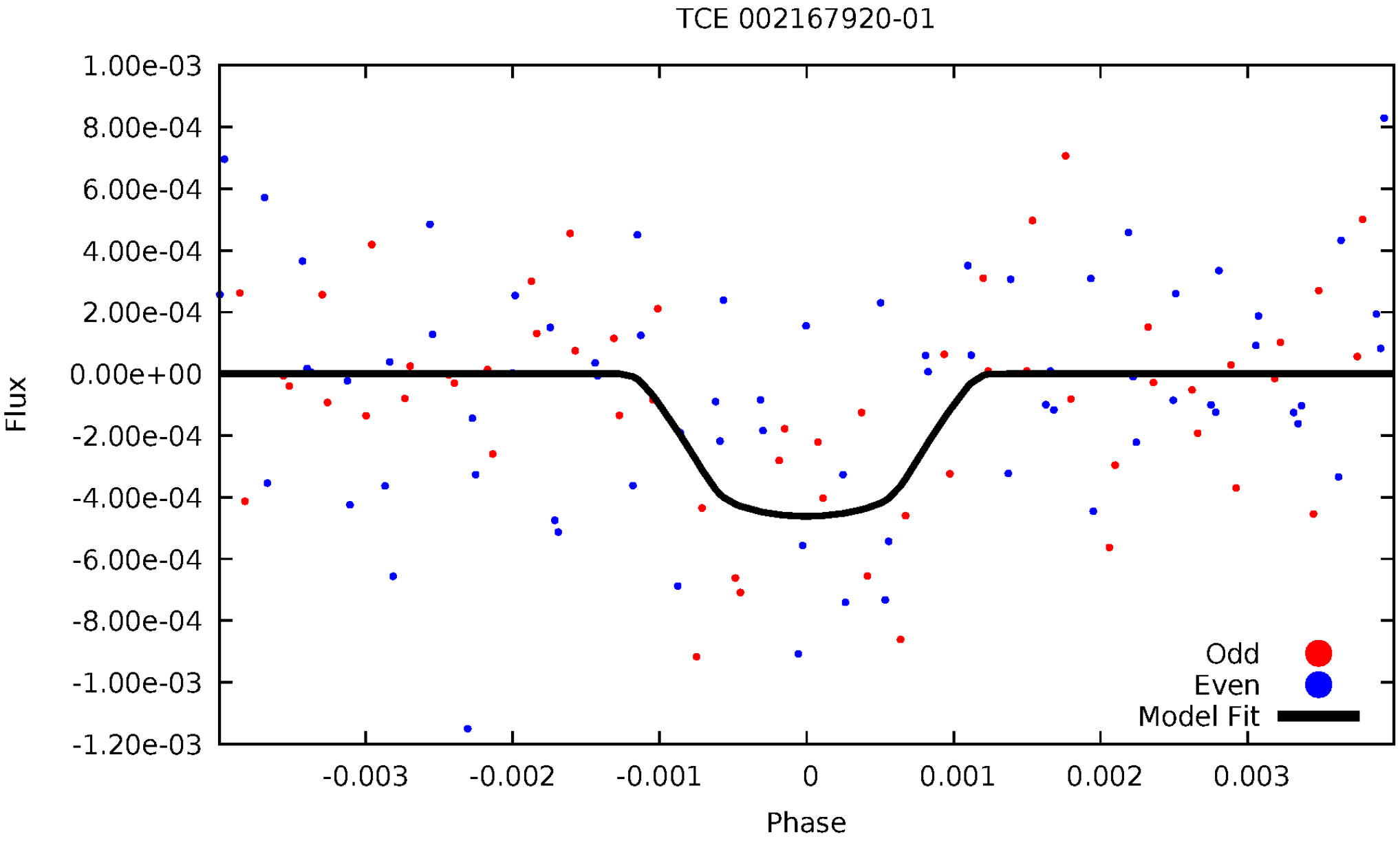
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 002167920-01, PDC Light Curves

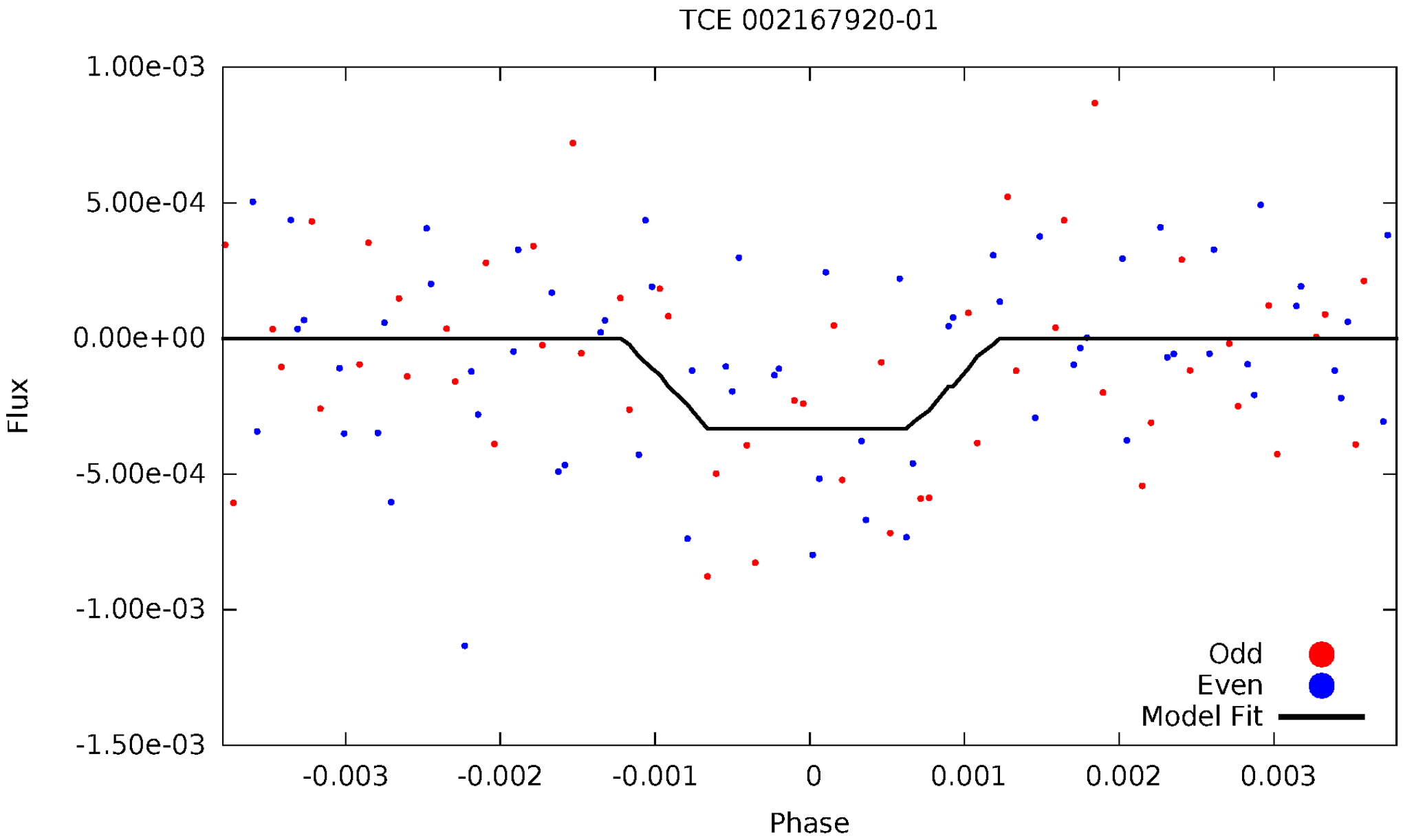



TCE 002167920-01
P = 18.178 days
P = 36.357 days
P = 72.713 days
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
−0.0020
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
−0.0020
−1.0
−0.5
0.0
0.5
1.0
Phase

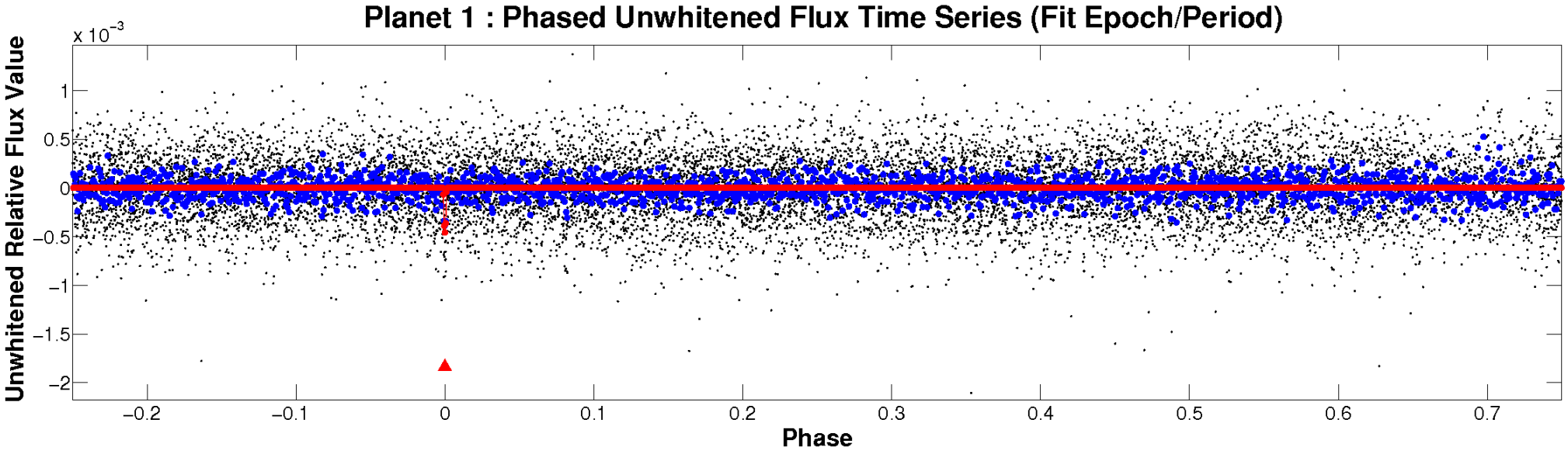
DV Odd/Even

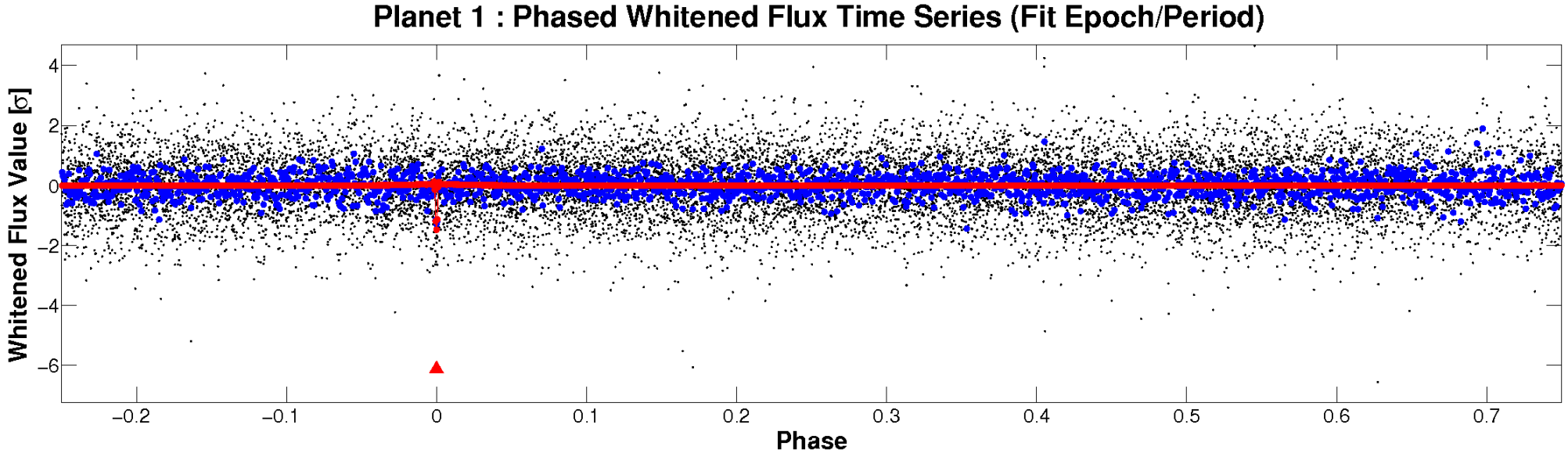

TCE 002167920-01
1.00e-03
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
-1.20e-03
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 002167920-01
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

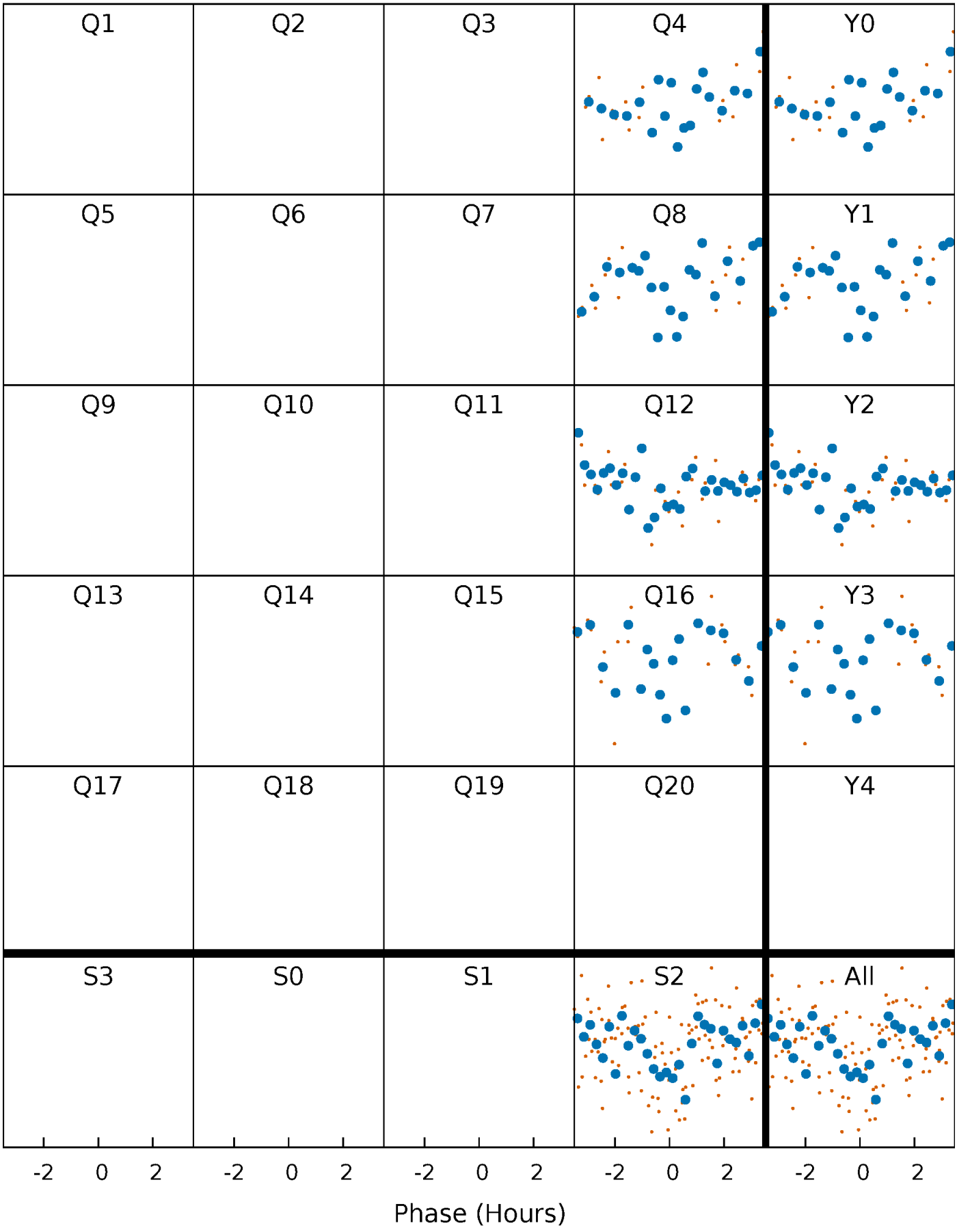
Non-Whitened Vs. Whitened Light Curve





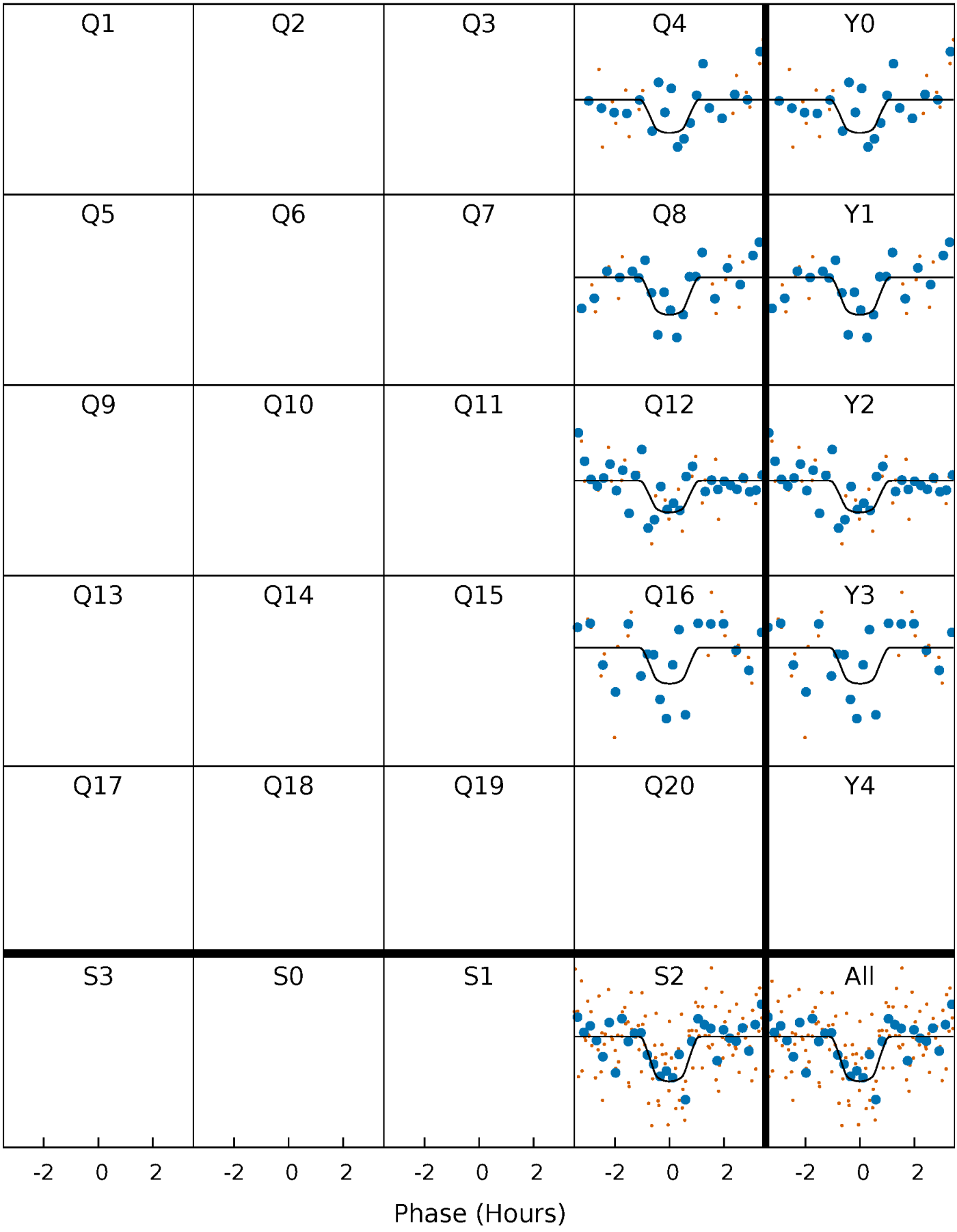
PDC Quarter-Phased Transit Curves

TCE 002167920-01 P= 36.356545 Days T_0=155.303591 (BKJD)



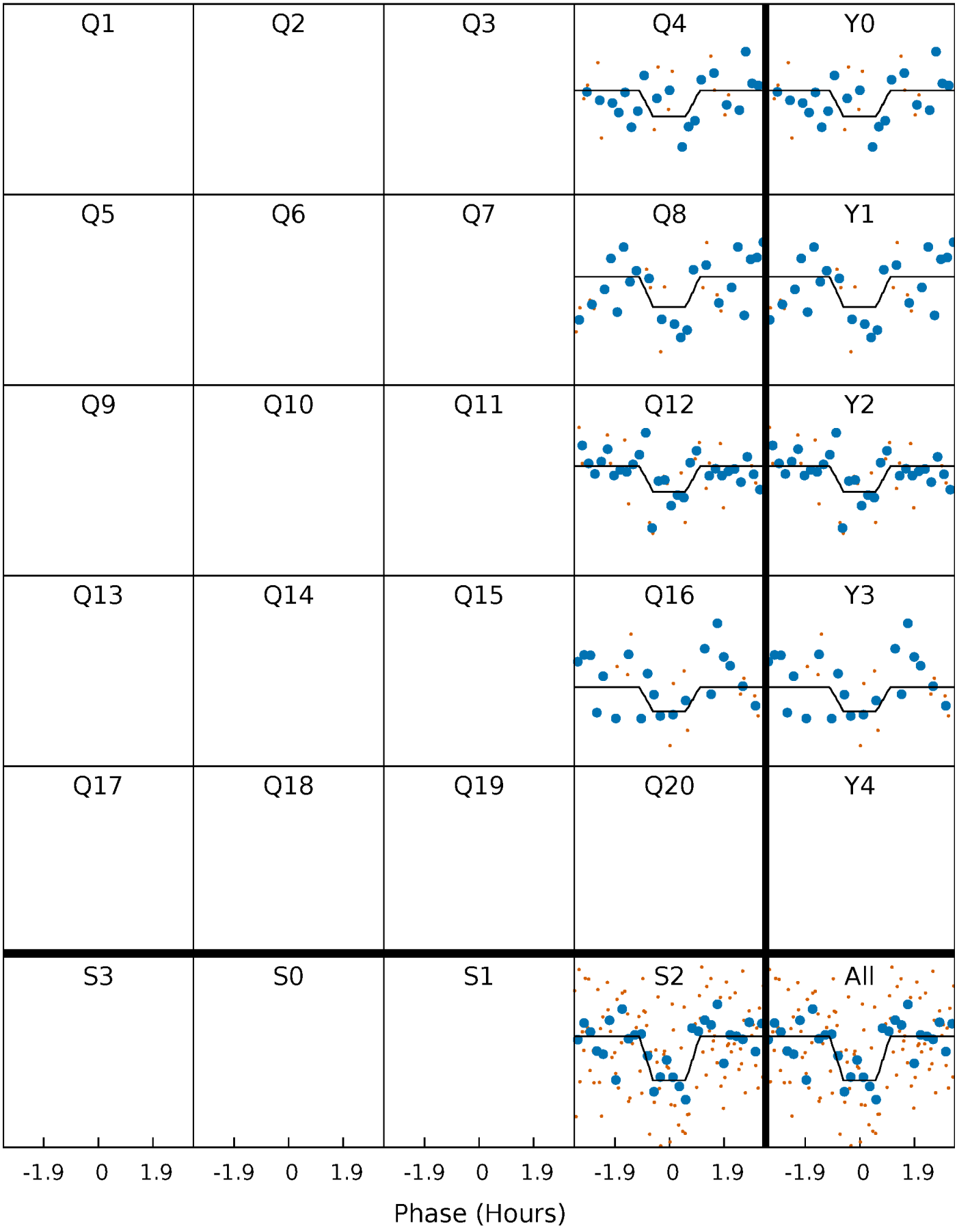
DV Quarter-Phased Transit Curves

TCE 002167920-01 P= 36.356545 Days T_0=155.303591 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

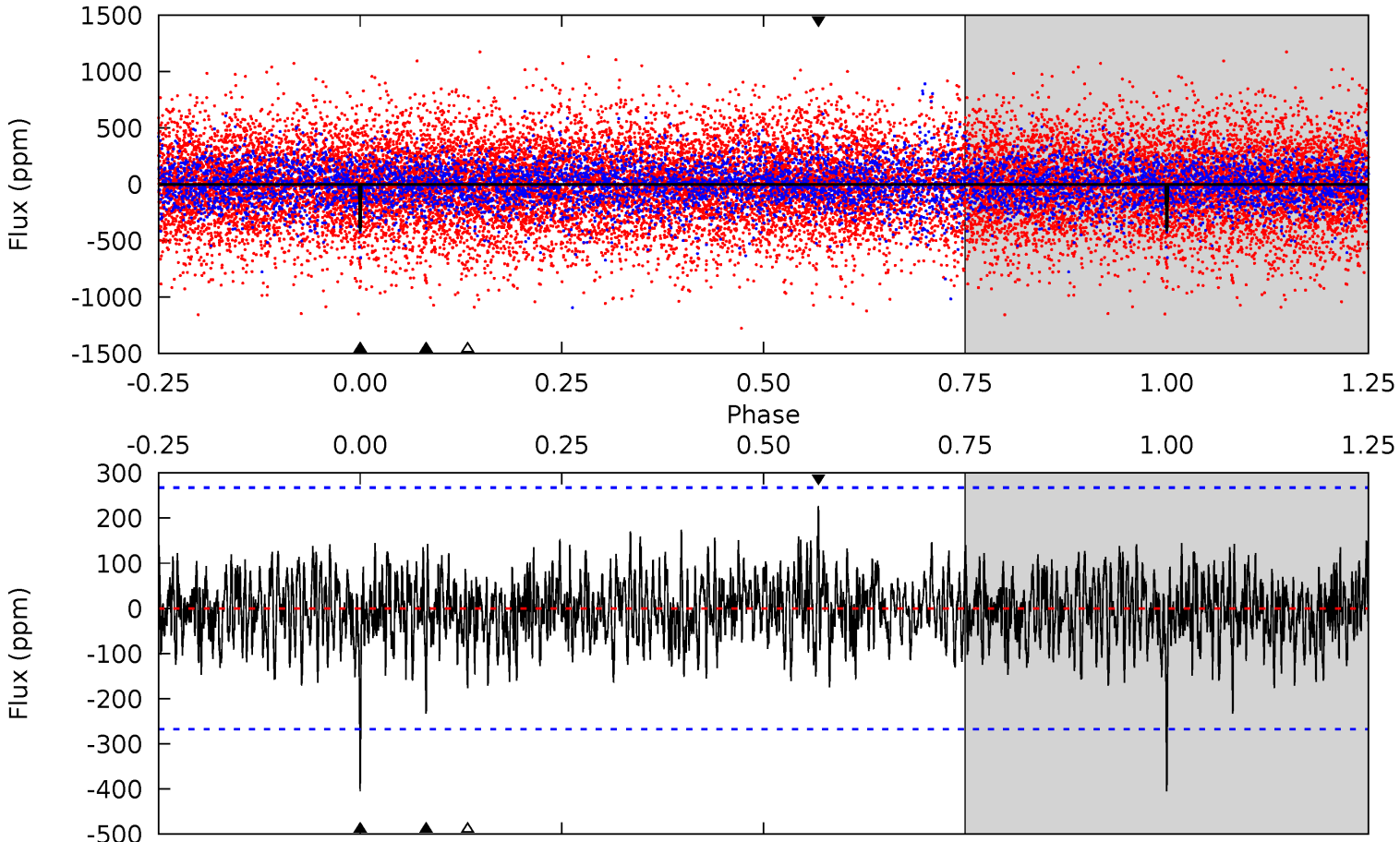
TCE 002167920-01 P= 36.356580 Days T_0=155.299463 (BKJD)

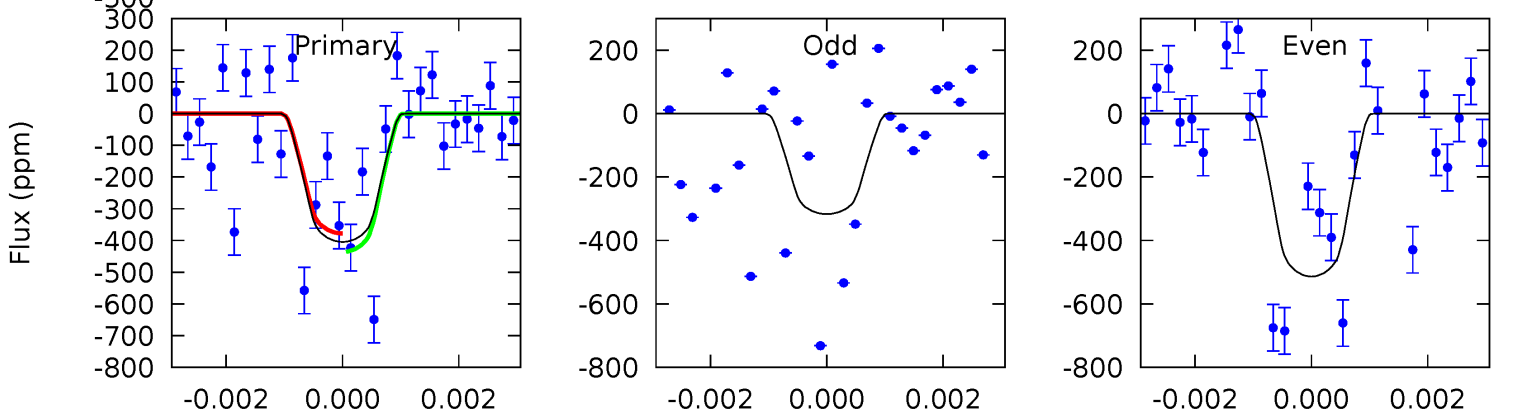


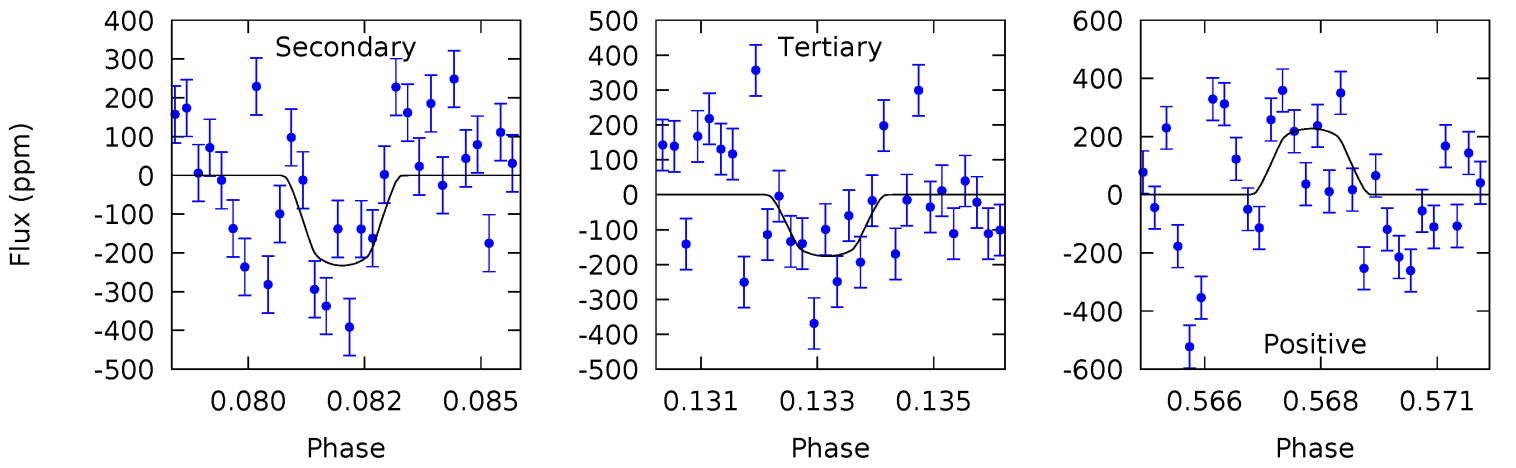
DV Model-Shift Uniqueness Test

002167920-01, P = 36.356545 Days, E = 155.303591 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.00	4.60	3.48	4.49	5.29	3.03	1.22	4.52	3.51	1.12	0.11	1.97	0.96	0.36	0.57



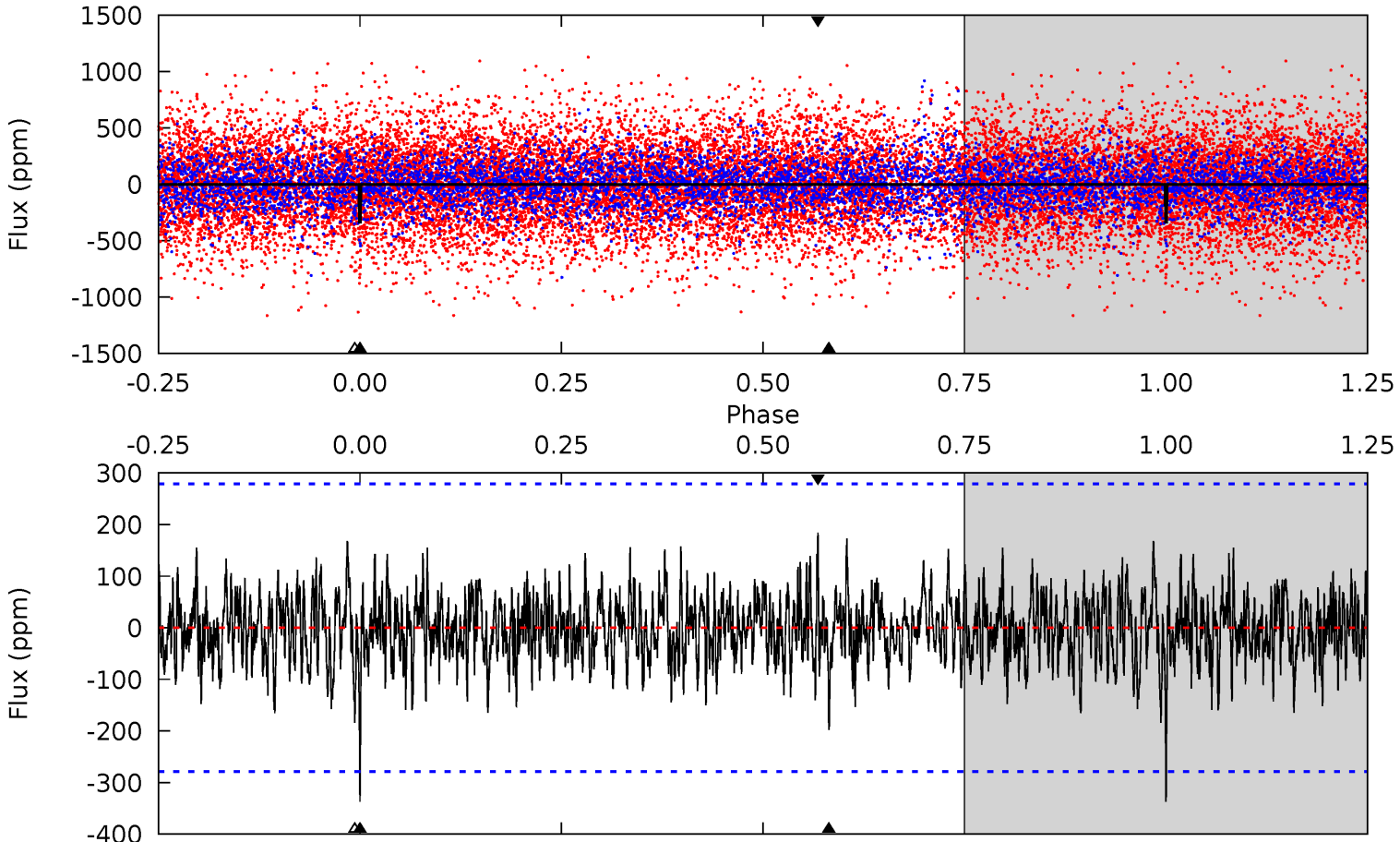


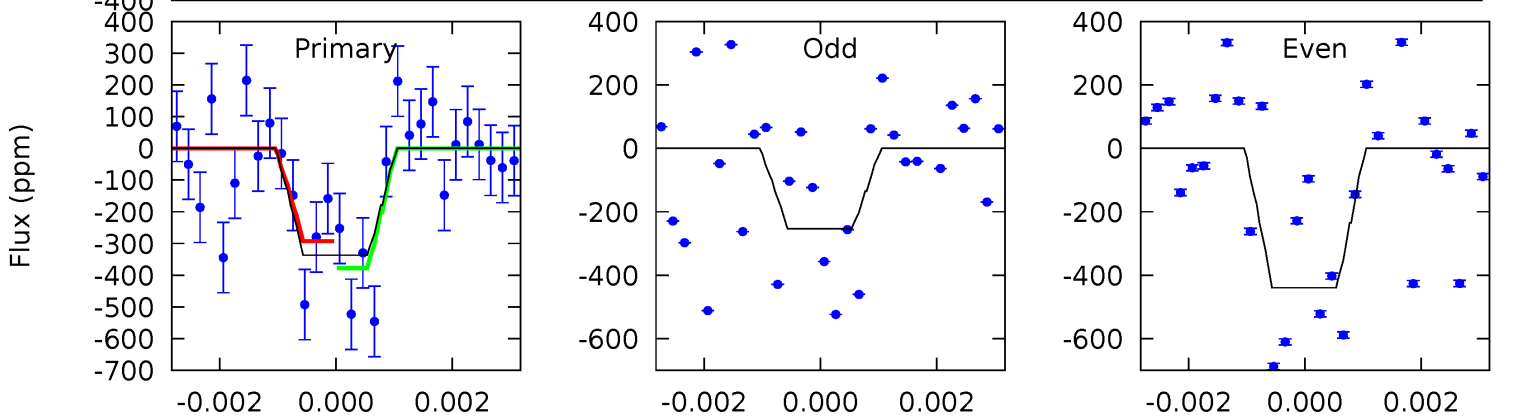


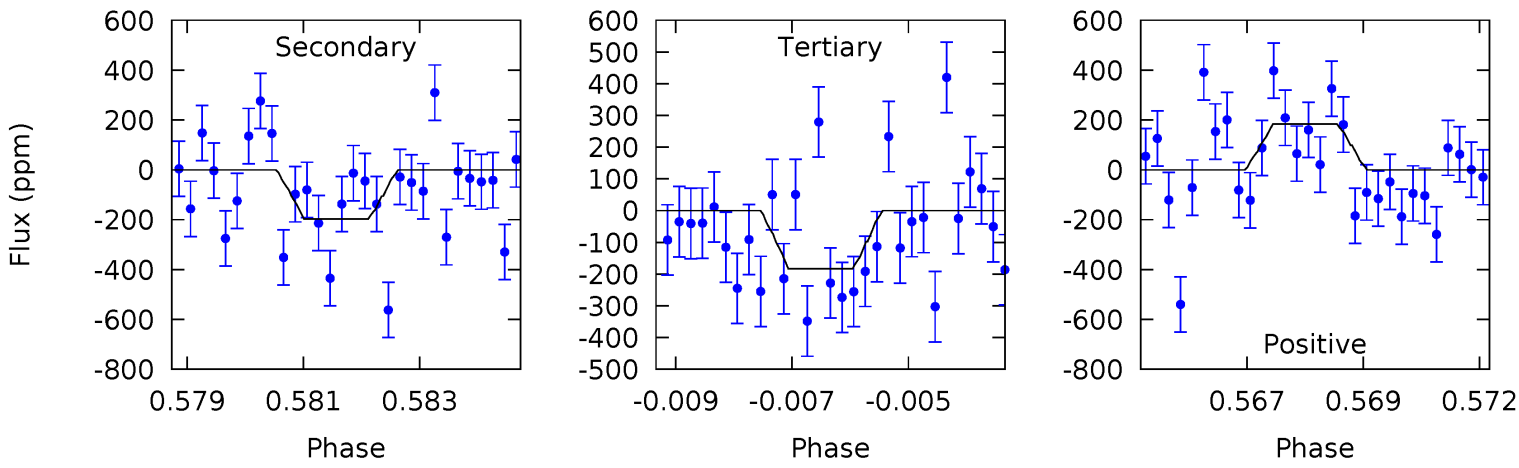
Alt Model-Shift Uniqueness Test

002167920-01, P = 36.356580 Days, E = 155.299463 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.40	3.76	3.49	3.50	5.30	3.04	1.08	2.91	2.91	0.27	0.27	1.76	0.92	0.35	0.81







Stellar Parameters For KIC 002167920

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5343^{+185}_{-185}	$4.432^{+0.133}_{-0.266}$	$-0.060^{+0.300}_{-0.300}$	$0.906^{+0.276}_{-0.127}$	$0.809^{+0.115}_{-0.067}$	$1.534^{+0.881}_{-0.867}$
	+3%/-3%	+3%/-6%	+500%/-500%	+30%/-14%	+14%/-8%	+57%/-57%
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 002167920-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-233±51	$2.96^{+2.44}_{-1.82}$	711^{+62}_{-44}	4107^{+2167}_{-717}	574^{+3575}_{-399}
Alt.	-198±53	$2.46^{+2.35}_{-1.57}$	710^{+60}_{-44}	4274^{+2540}_{-871}	685^{+4796}_{-514}

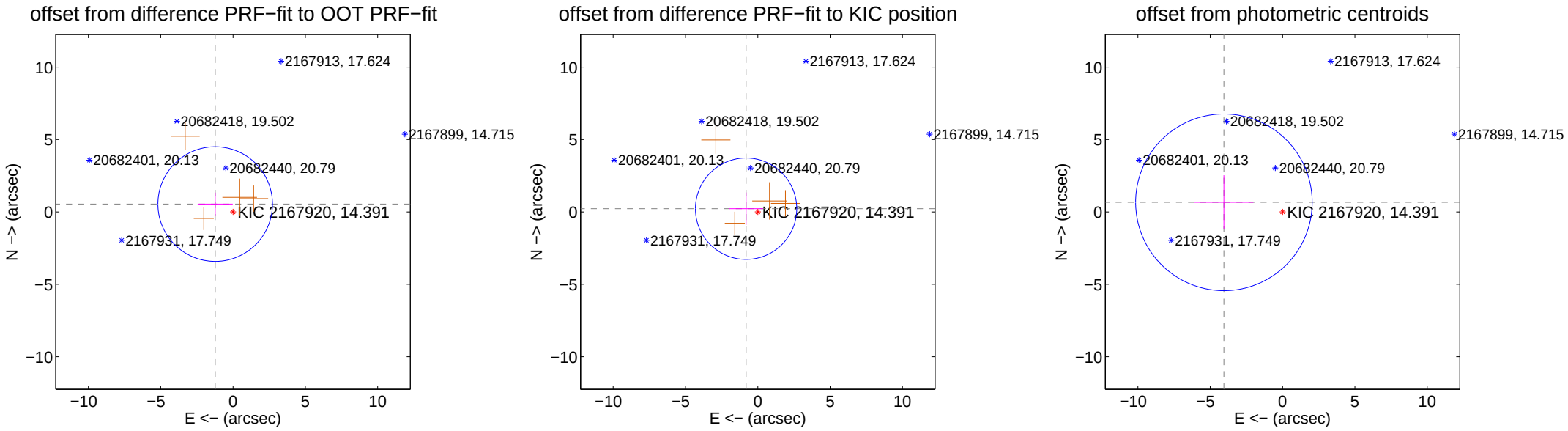
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

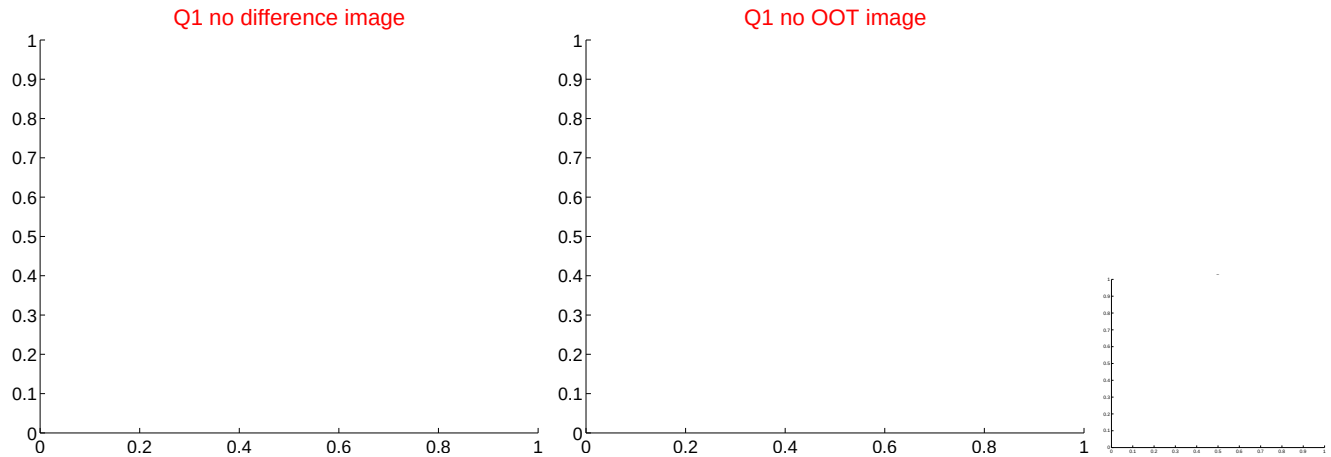
Supplemental centroid analysis for 002167920-01. Kepler magnitude: 14.39. Transit SNR 6.75
There are 0 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.59 arcsec

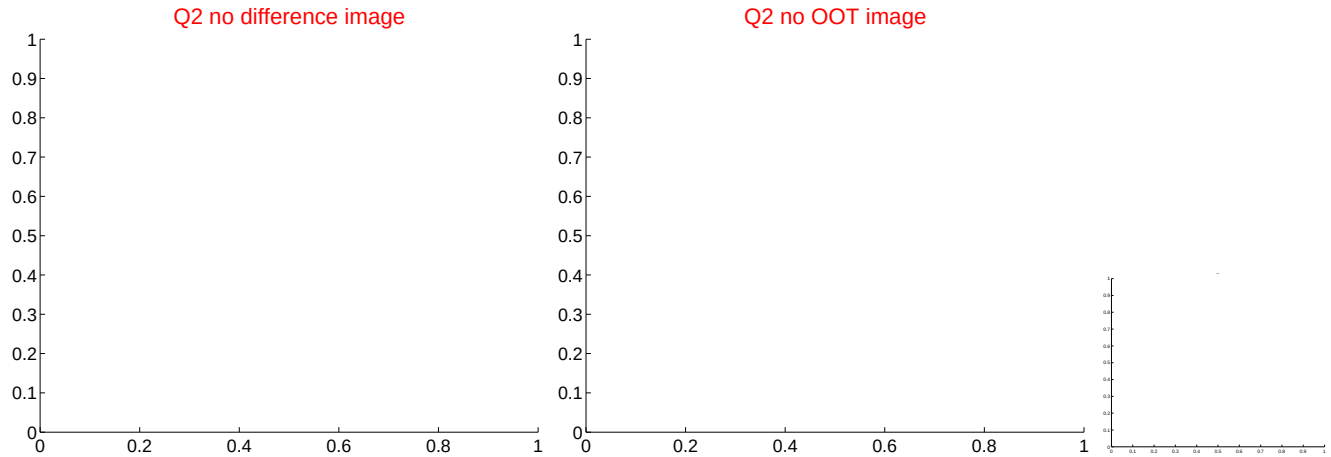
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.348 ± 1.320	1.02	1.234 ± 1.212	0.542 ± 0.789
PRF-fit source offset from KIC position	0.839 ± 1.167	0.72	0.809 ± 1.171	0.222 ± 1.120
photometric centroid source offset	4.11 ± 2.03	2.02	4.05 ± 2.04	0.66 ± 1.87

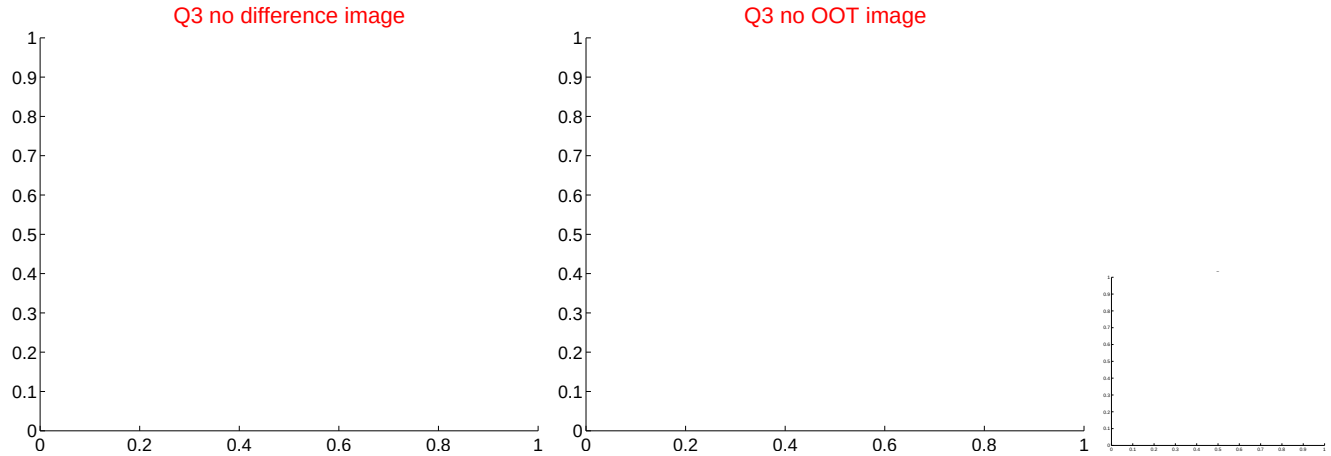


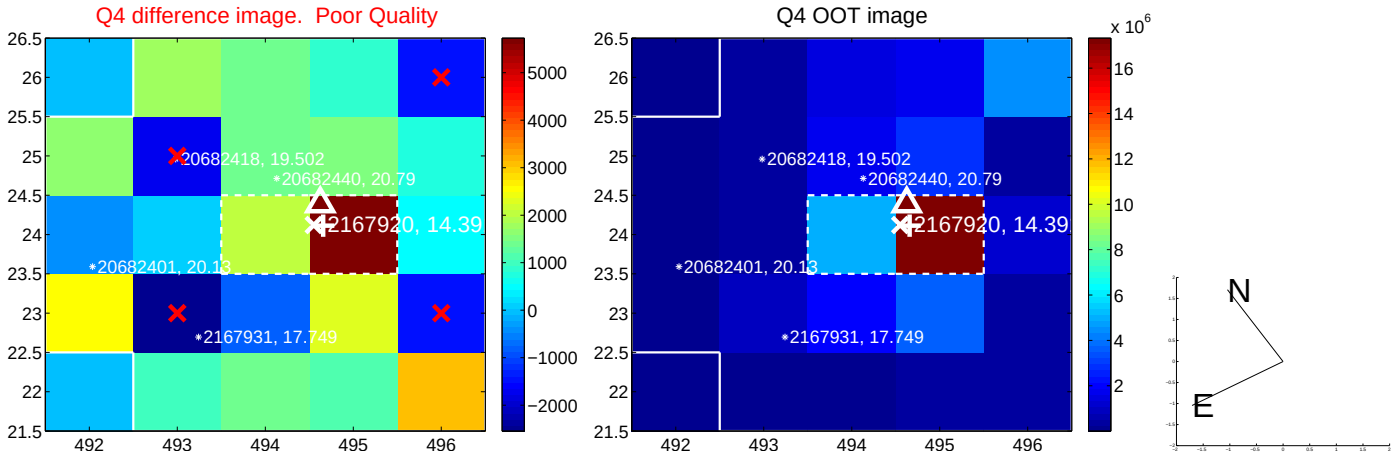
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

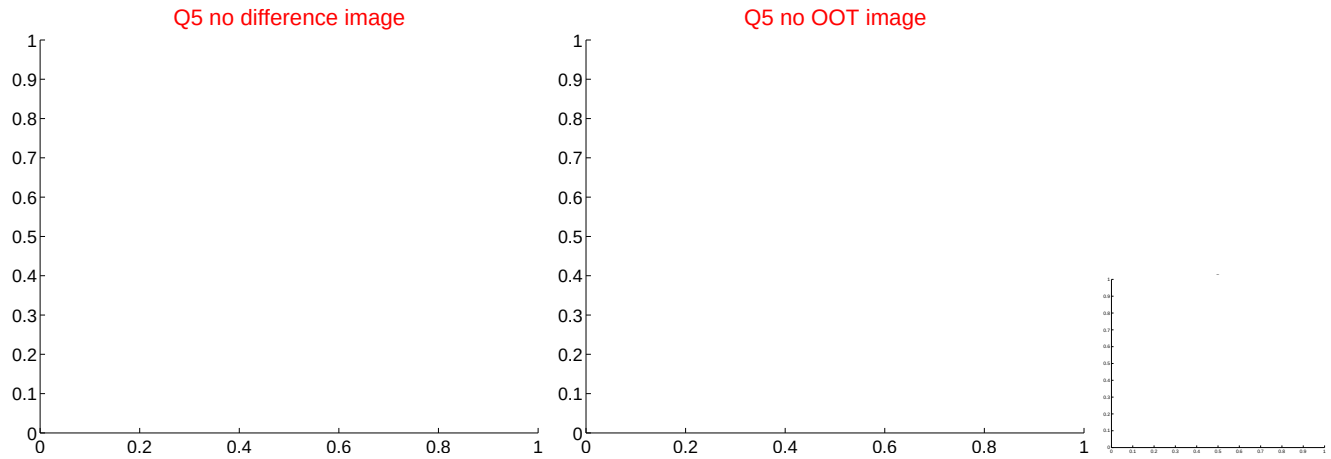


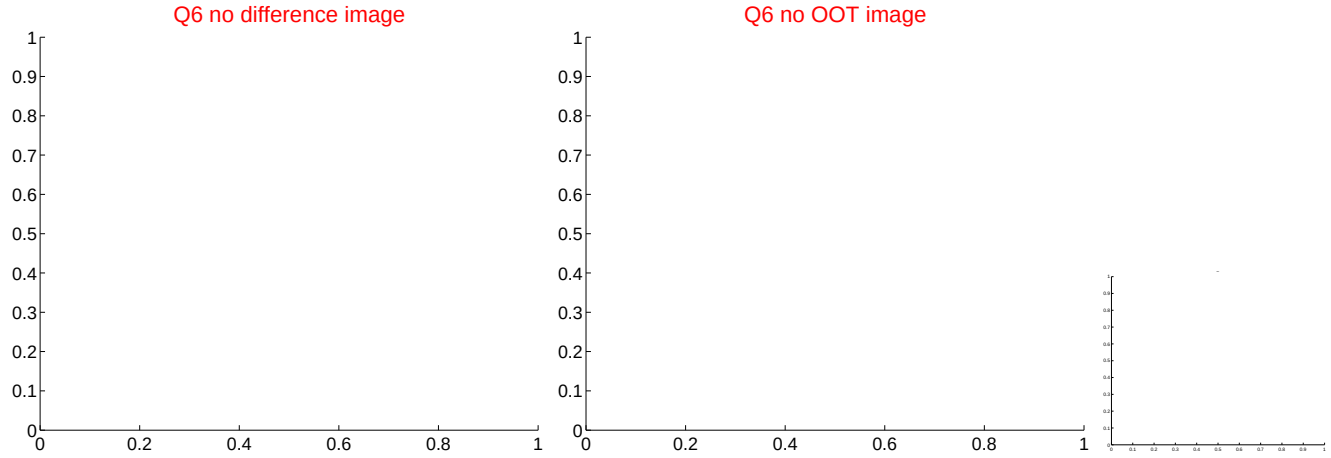


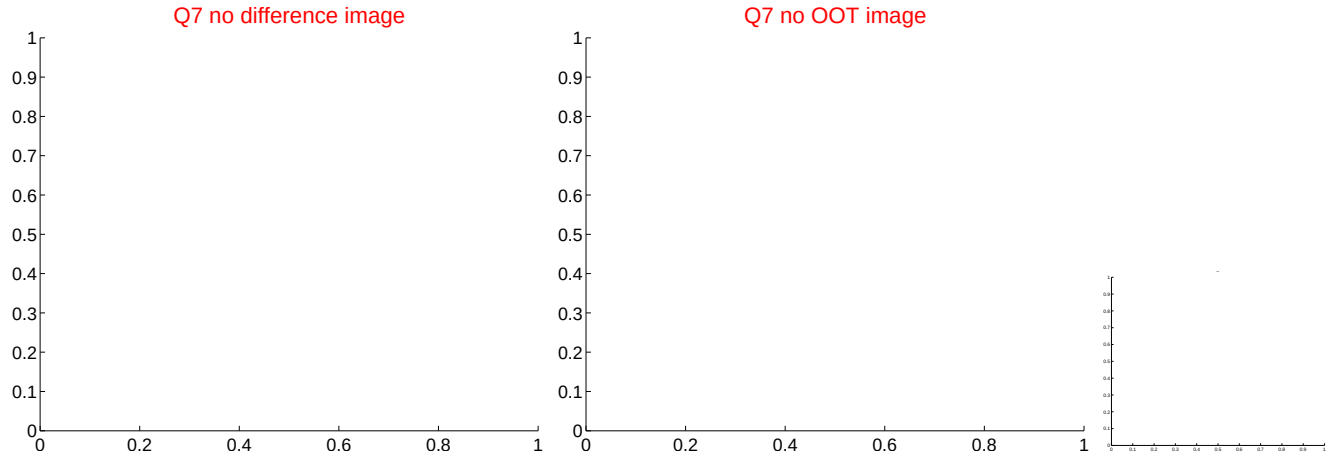


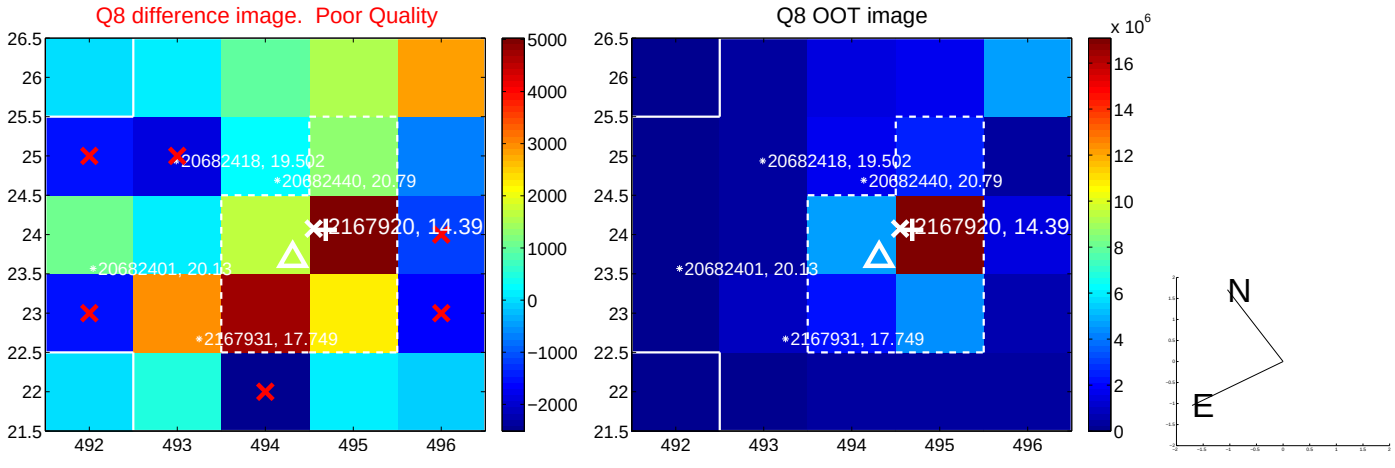


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

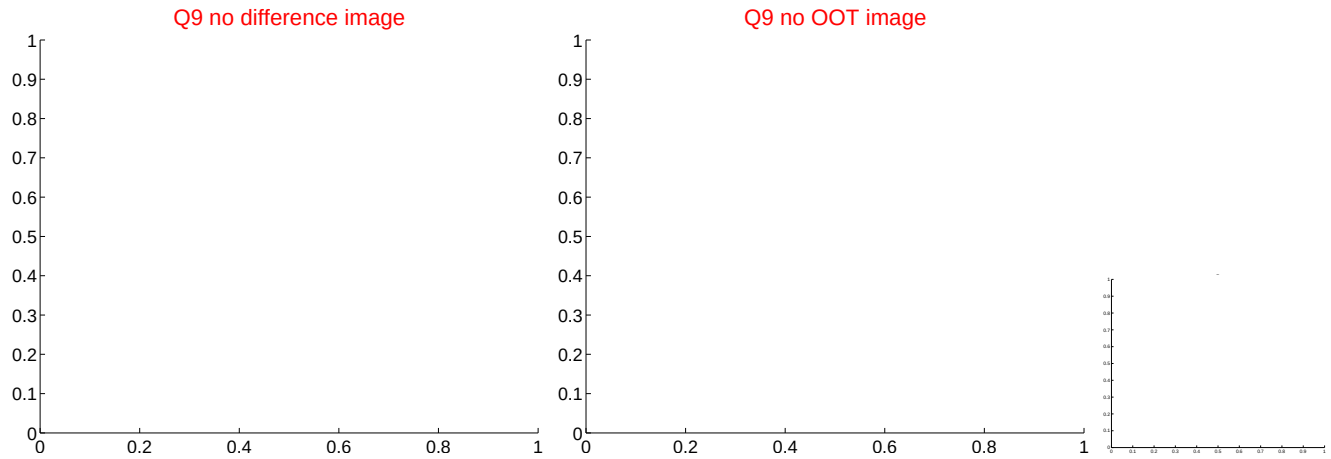


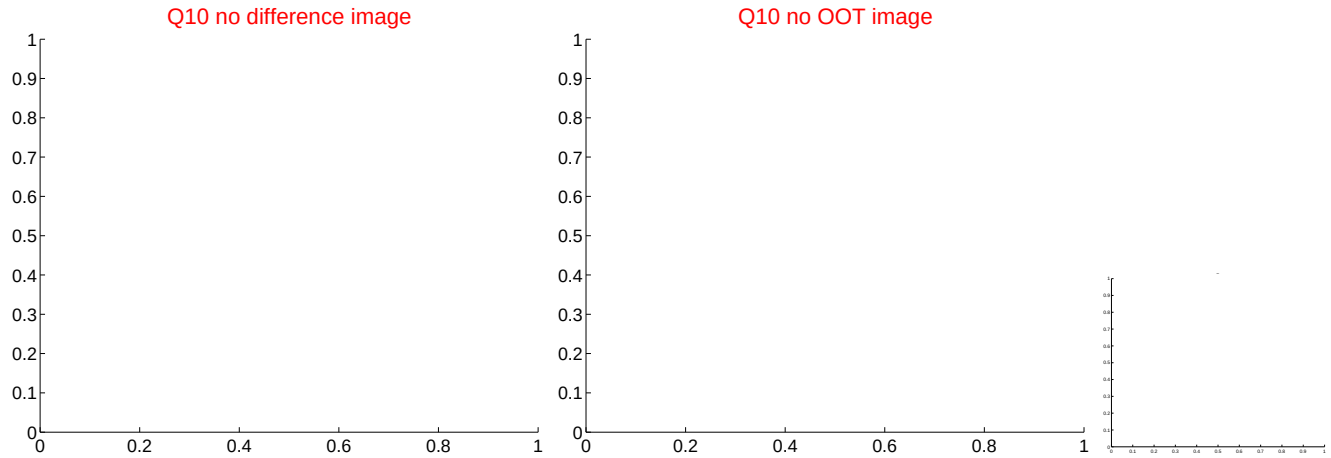


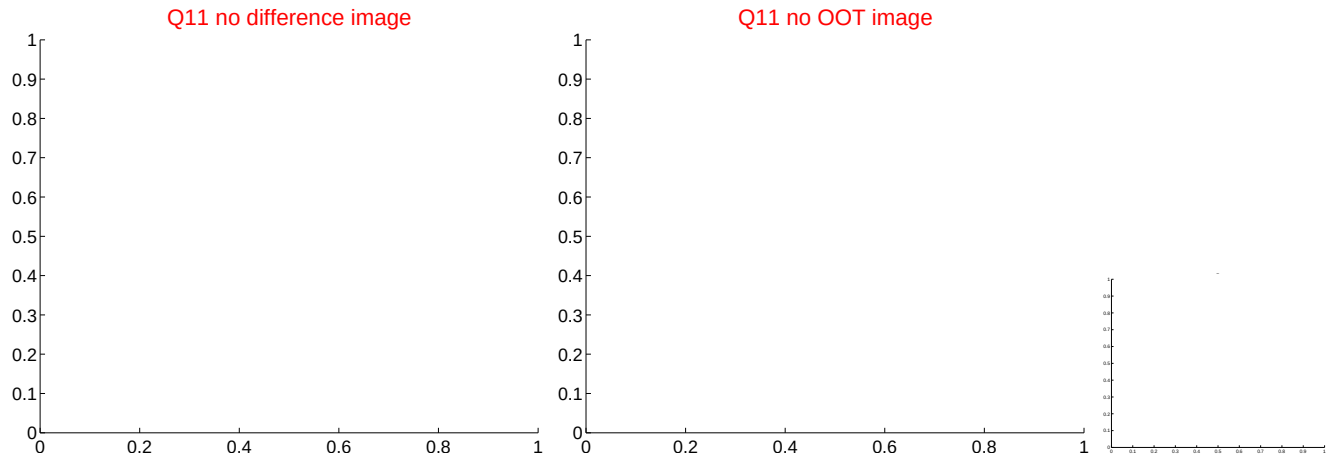


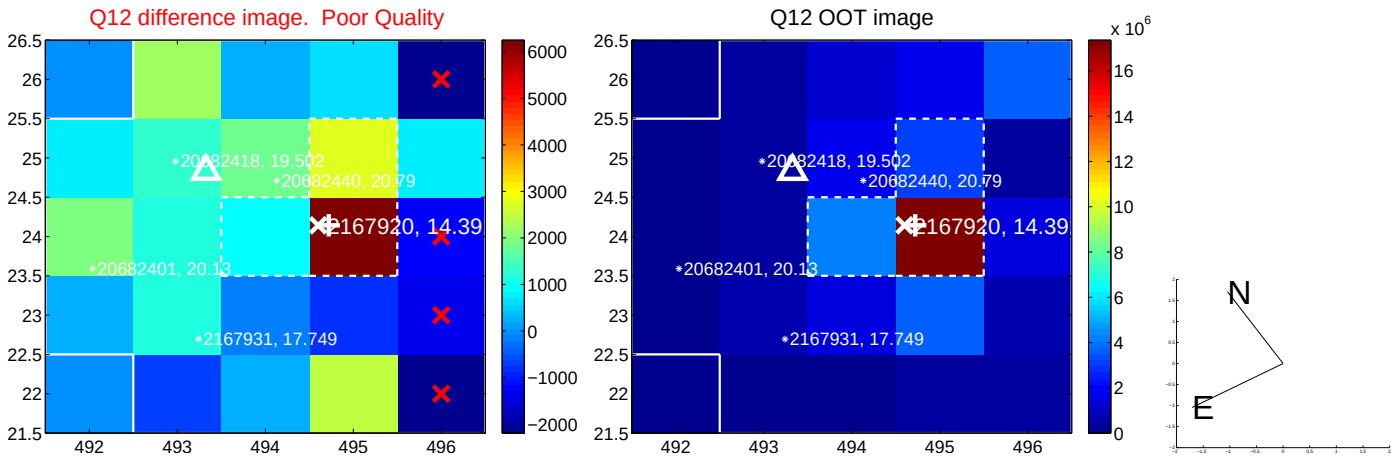


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

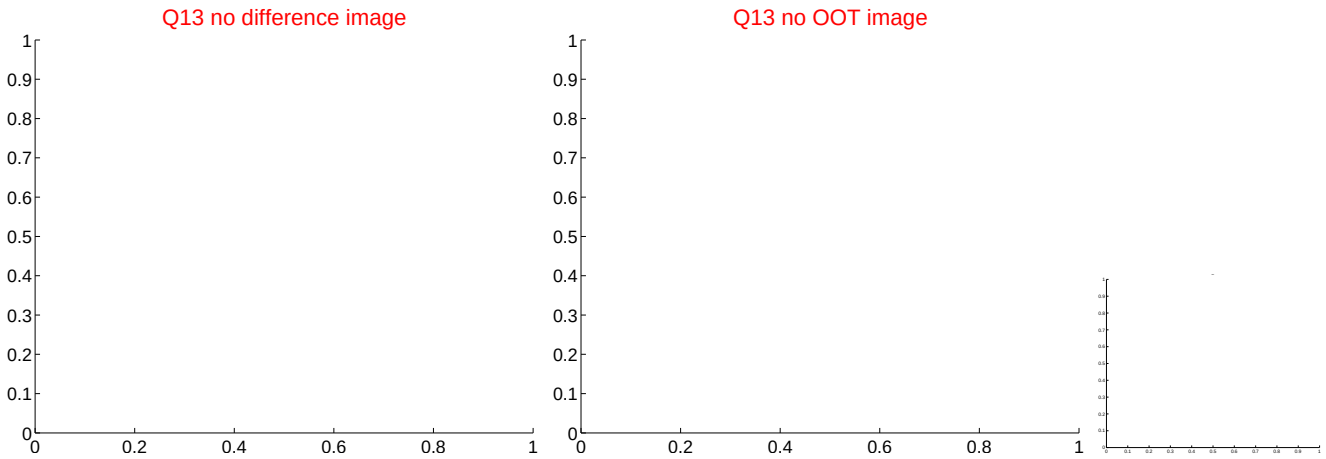


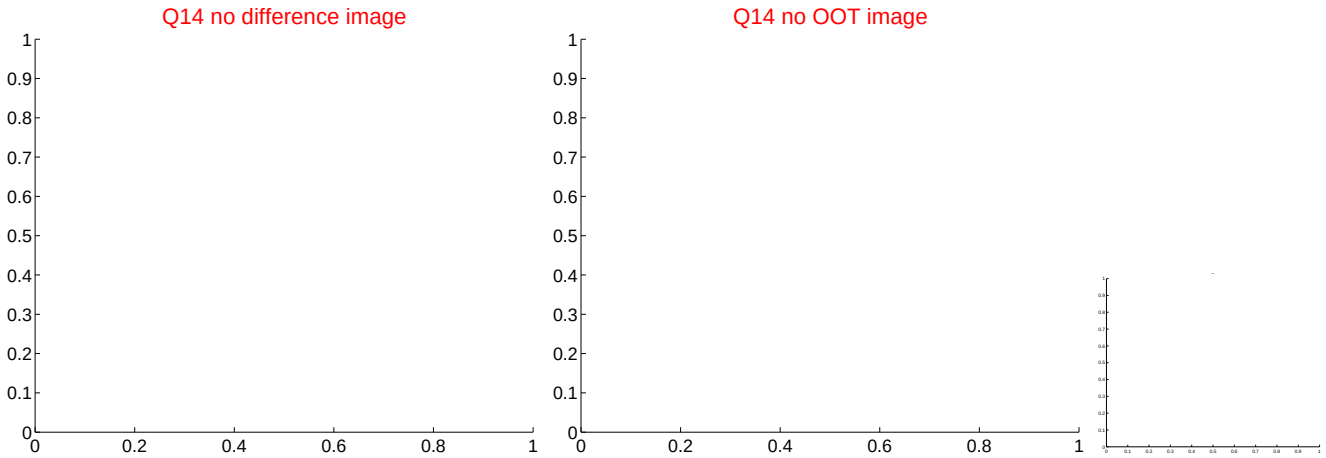


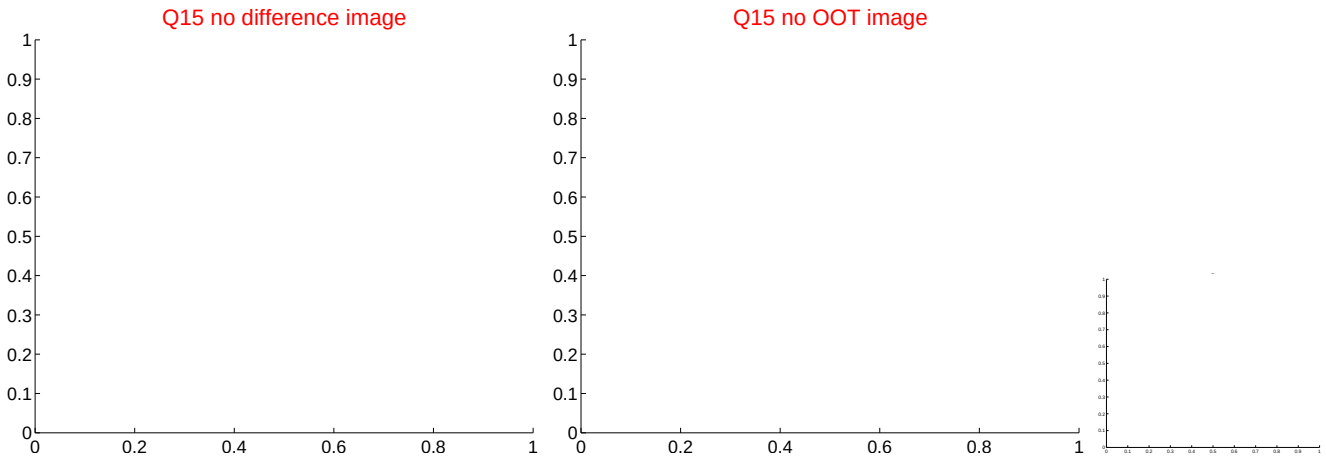


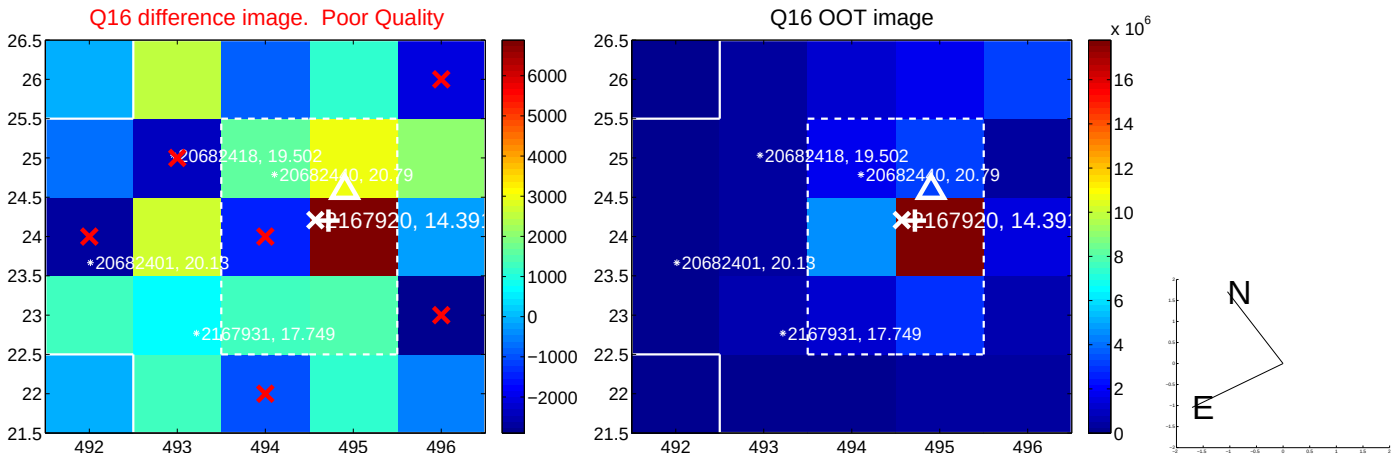


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

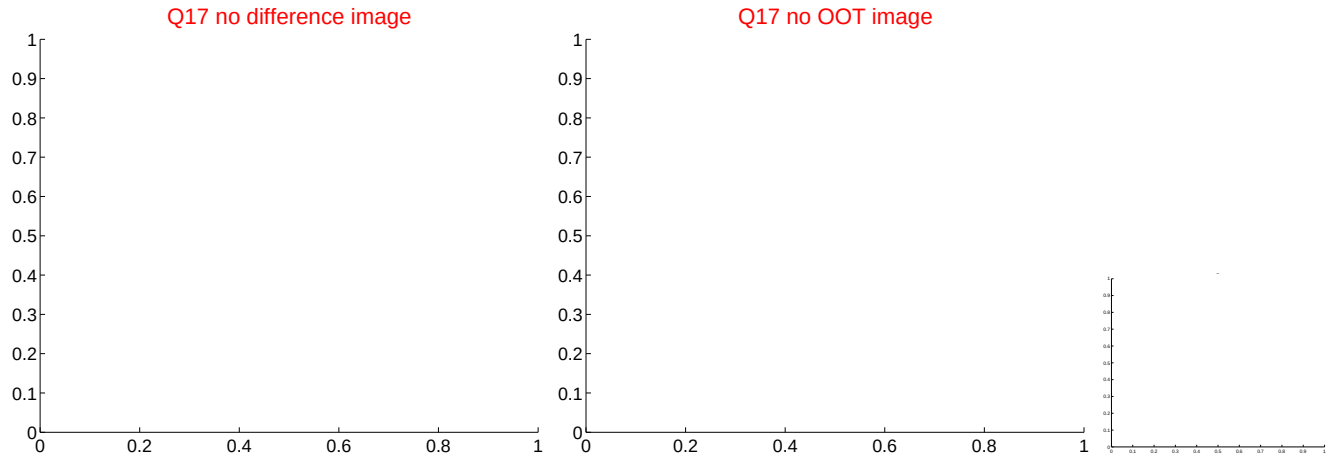


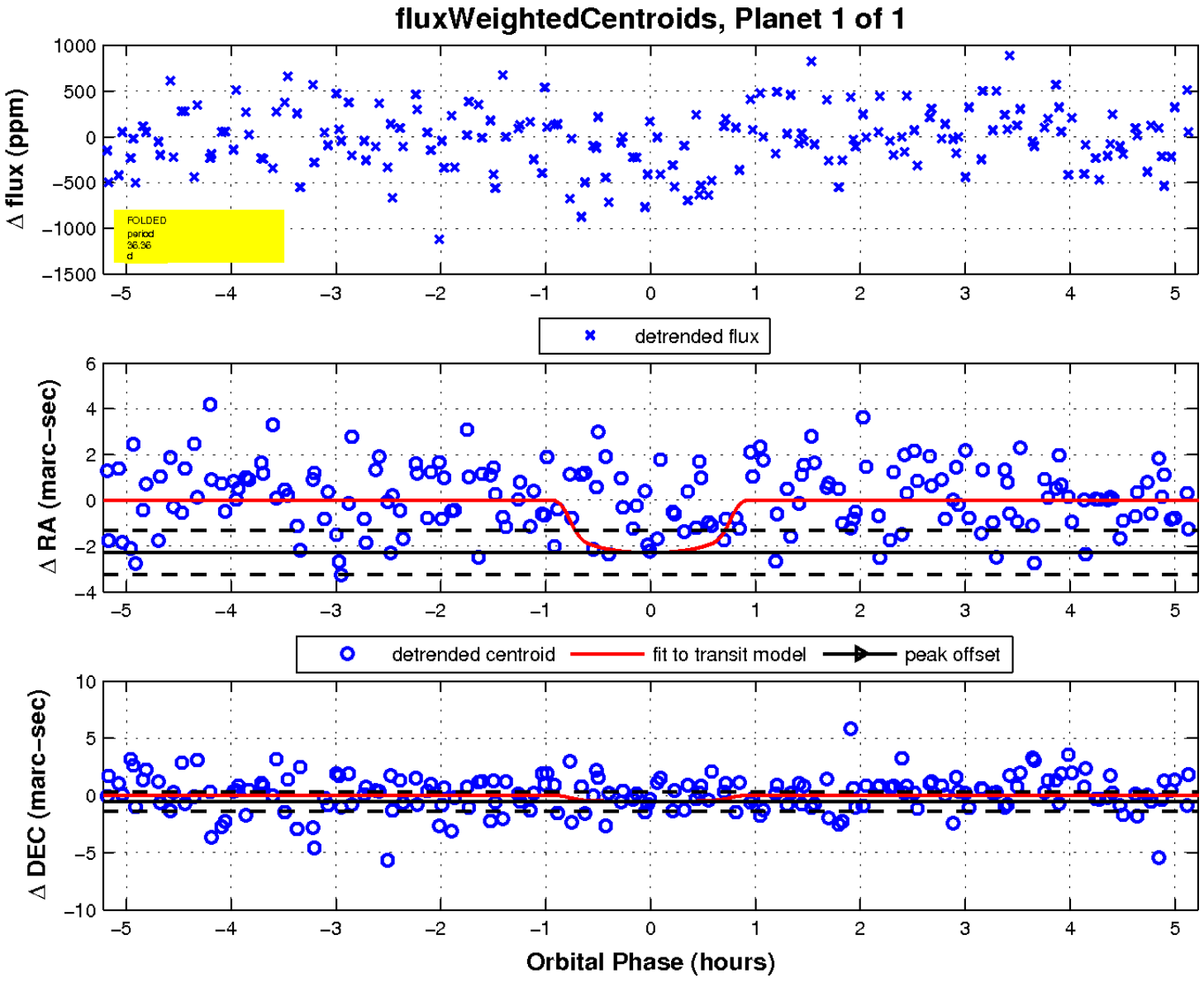






white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image