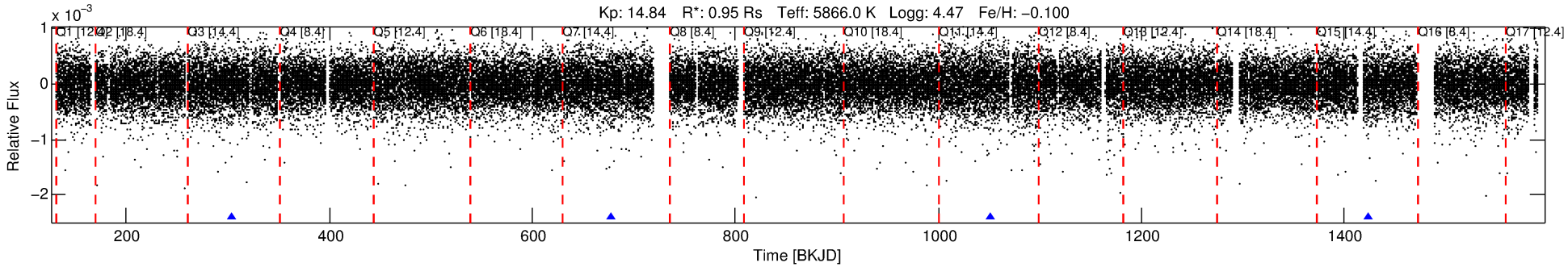
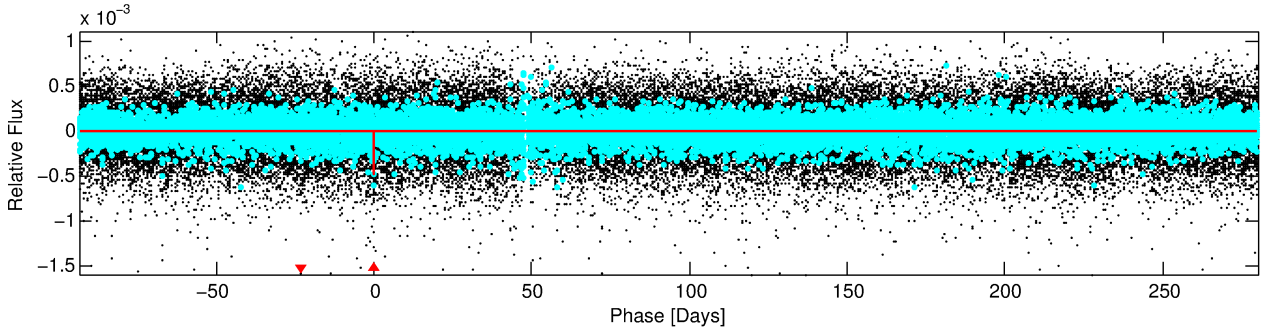
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

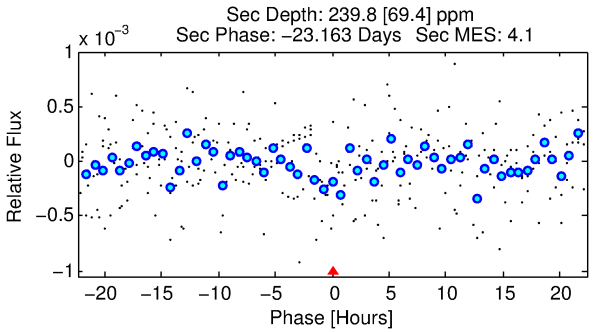
DV One-Page Summary

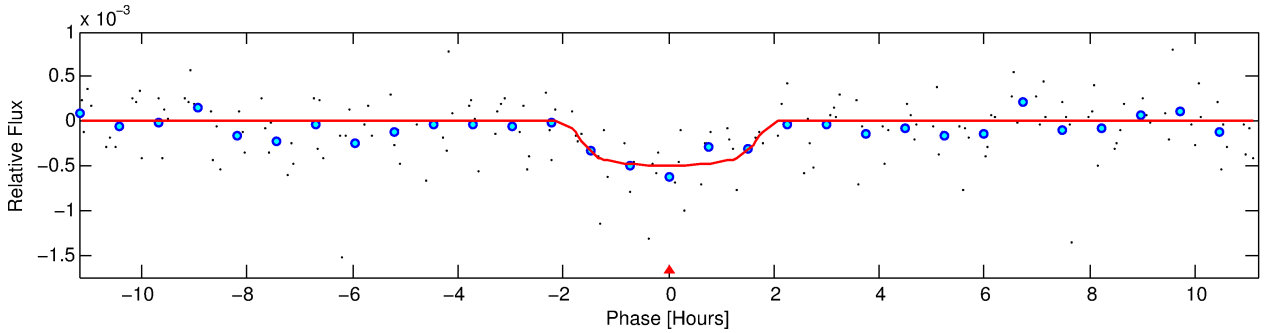
KIC: 10525564 Candidate: 1 of 1 Period: 373.605 d

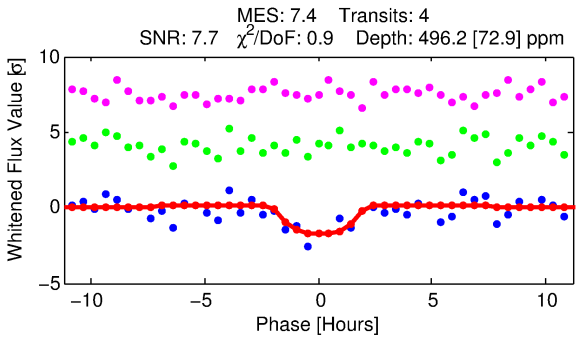
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

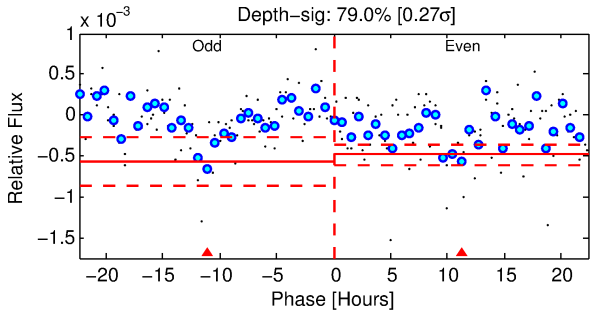


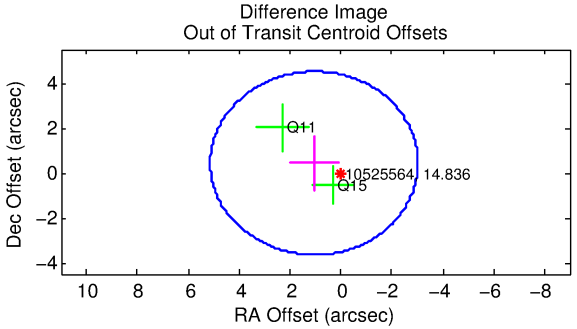












DV Fit Results:

Period = 373.60539 [0.00560] d
Epoch = 303.4347 [0.0121] BKJD
Rp/R* = 0.0234 [0.0552]
a/R* = 424.82 [4811.48]
b = 0.86 [3.50]

Seff = 0.94 [0.37]
Teq = 251 [25] K
Rp = 2.42 [5.74] Re
a = 1.0074 [0.2539] AU

Ag = 22832.72 [108053.49] [0.21σ]
Teffp = 4769 [5626] K [0.80σ]

DV Diagnostic Results:

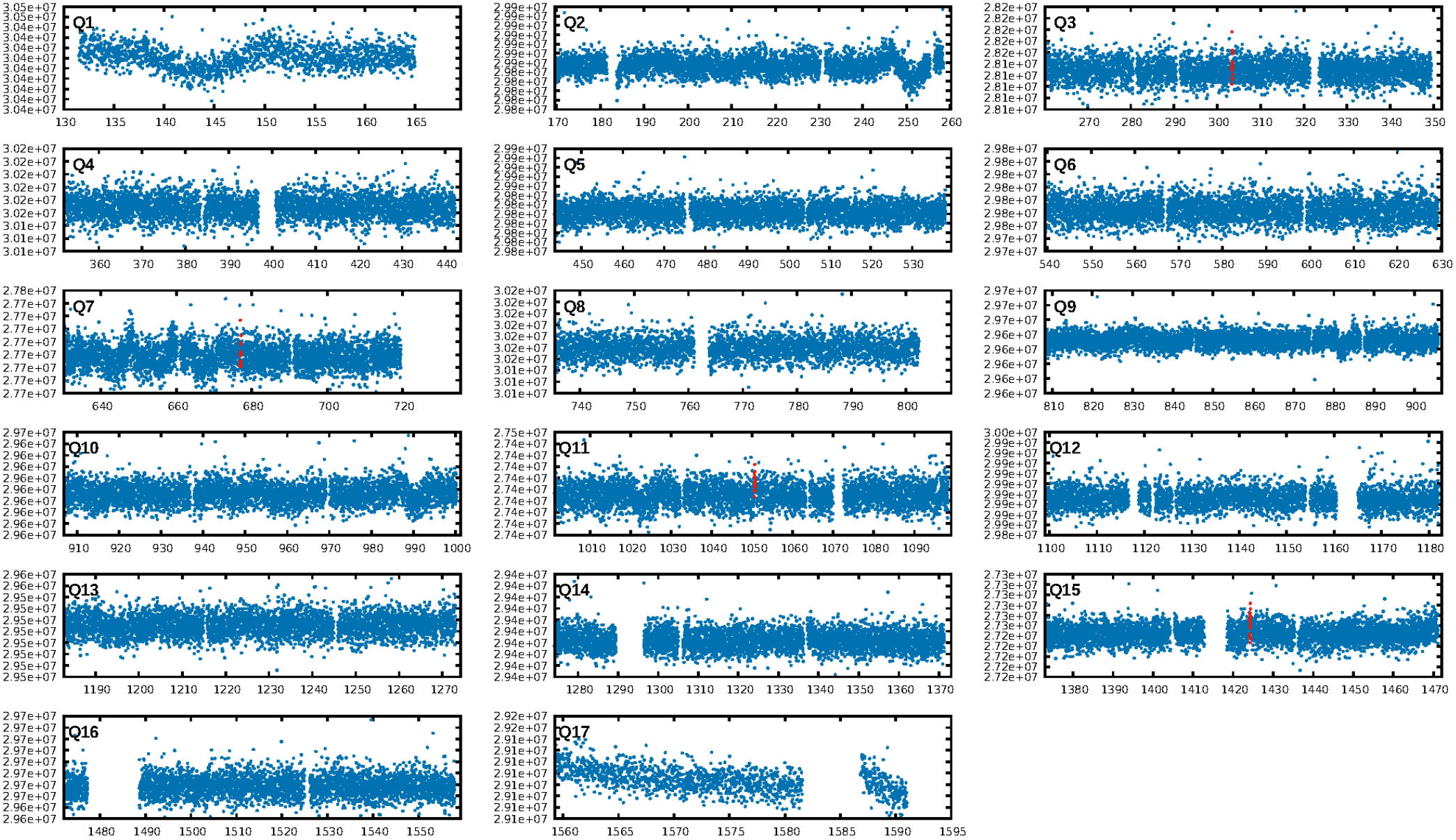
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 66.8%
ModelChiSquareGof−sig: 97.7%
Bootstrap−pfa: 1.18e−10
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: −0.9945

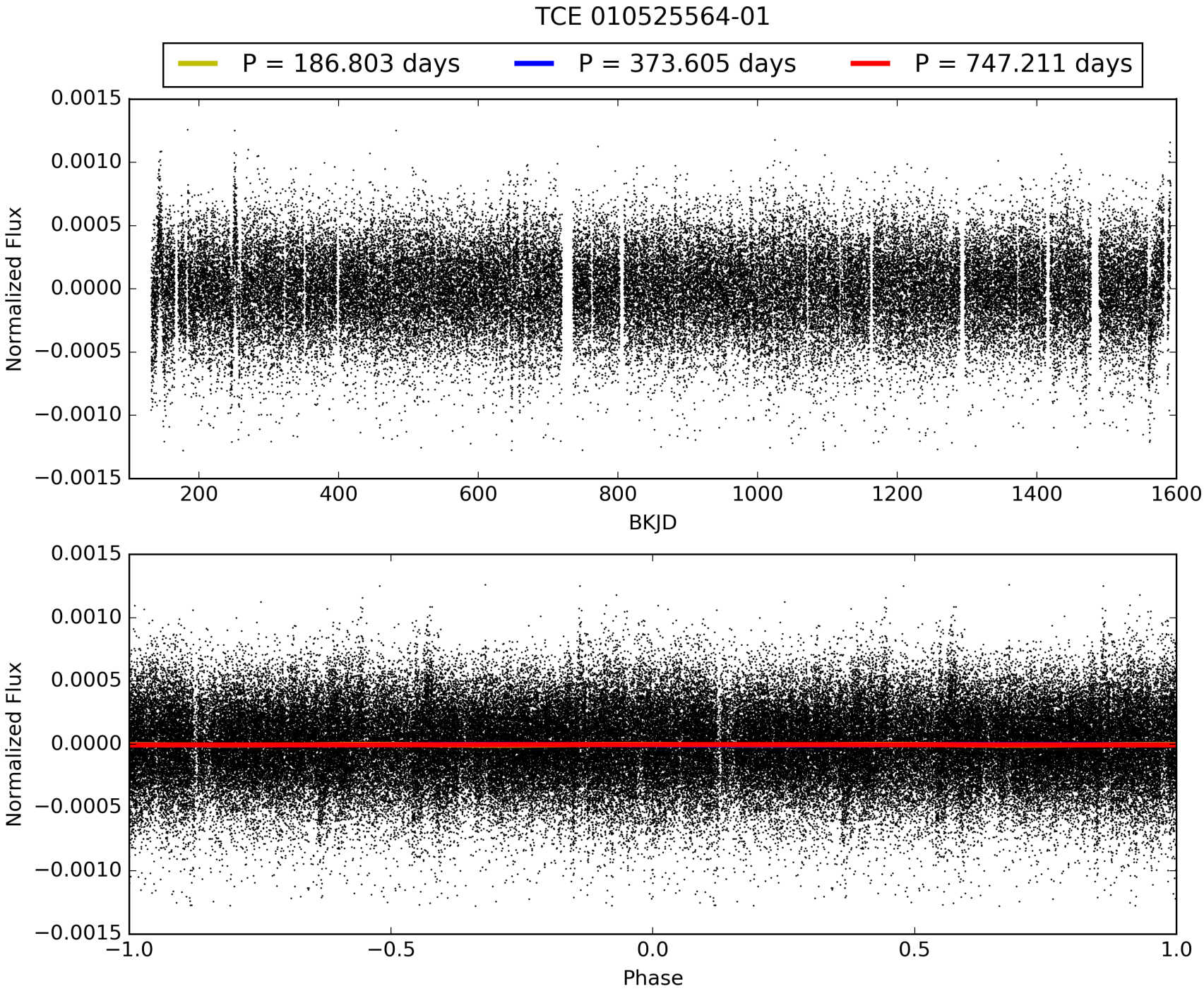
Centroid−sig: 75.3%
Centroid−so: 1.133 arcsec [0.56σ]
OotOffset−rm: 1.137 arcsec [0.84σ]
KicOffset−rm: 1.022 arcsec [0.87σ]
OotOffset−st: 0/2/0/0 [2]
KicOffset−st: 0/2/0/0 [2]
DiffImageQuality−fgm: 1.00 [2/2]
DiffImageOverlap−fno: 1.00 [4/4]

Software Revision: svn+ssh://murzim/repo/soc/branches/integ/ksop−2320@61025 −− Date Generated: 04−Mar−2016 00:55:48 Z

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

TCE 010525564-01, PDC Light Curves

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P = 186.803 days
P = 373.605 days
P = 747.211 days
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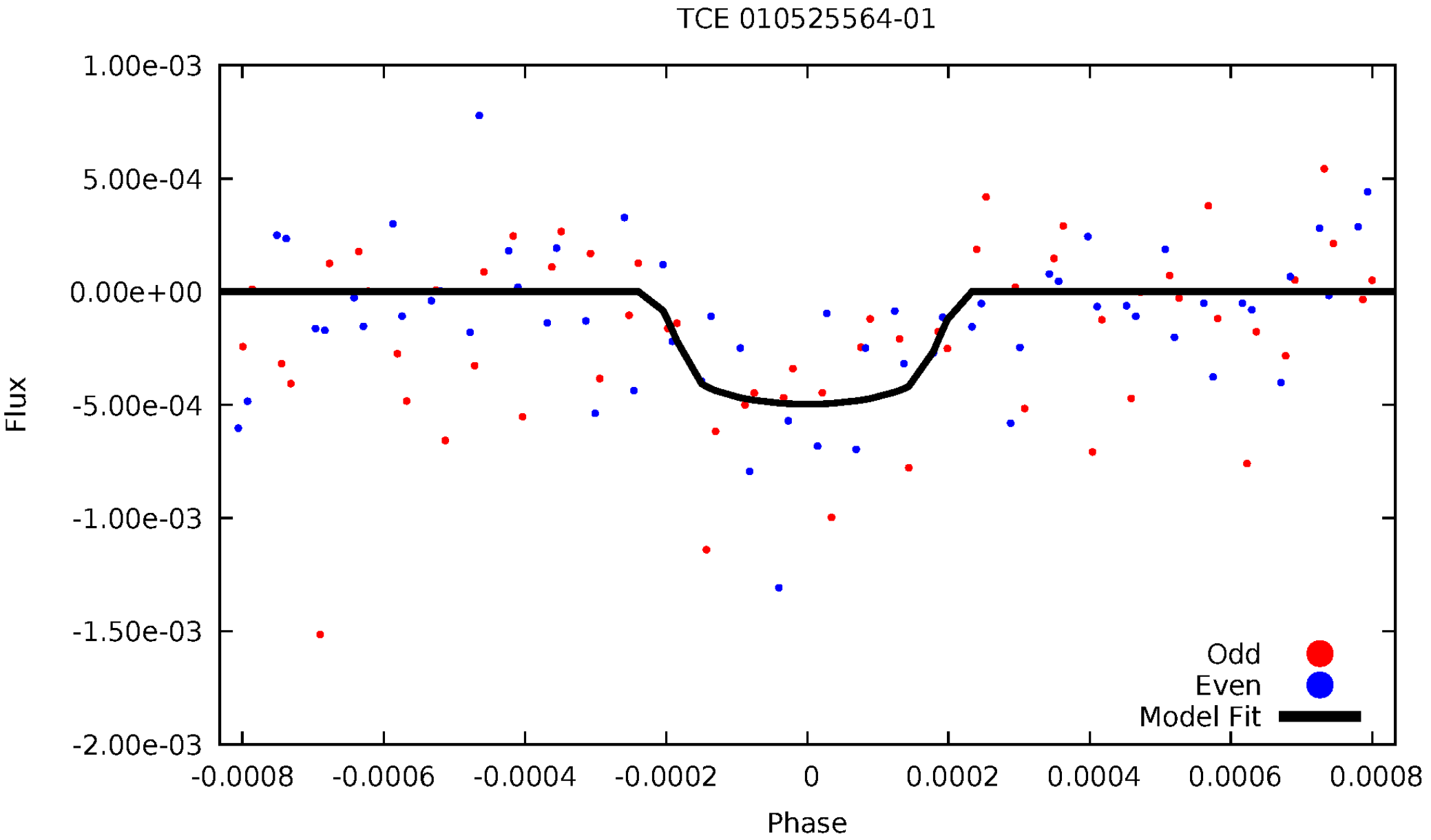
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
−1.0
−0.5
0.0
0.5
1.0
Phase

DV Odd/Even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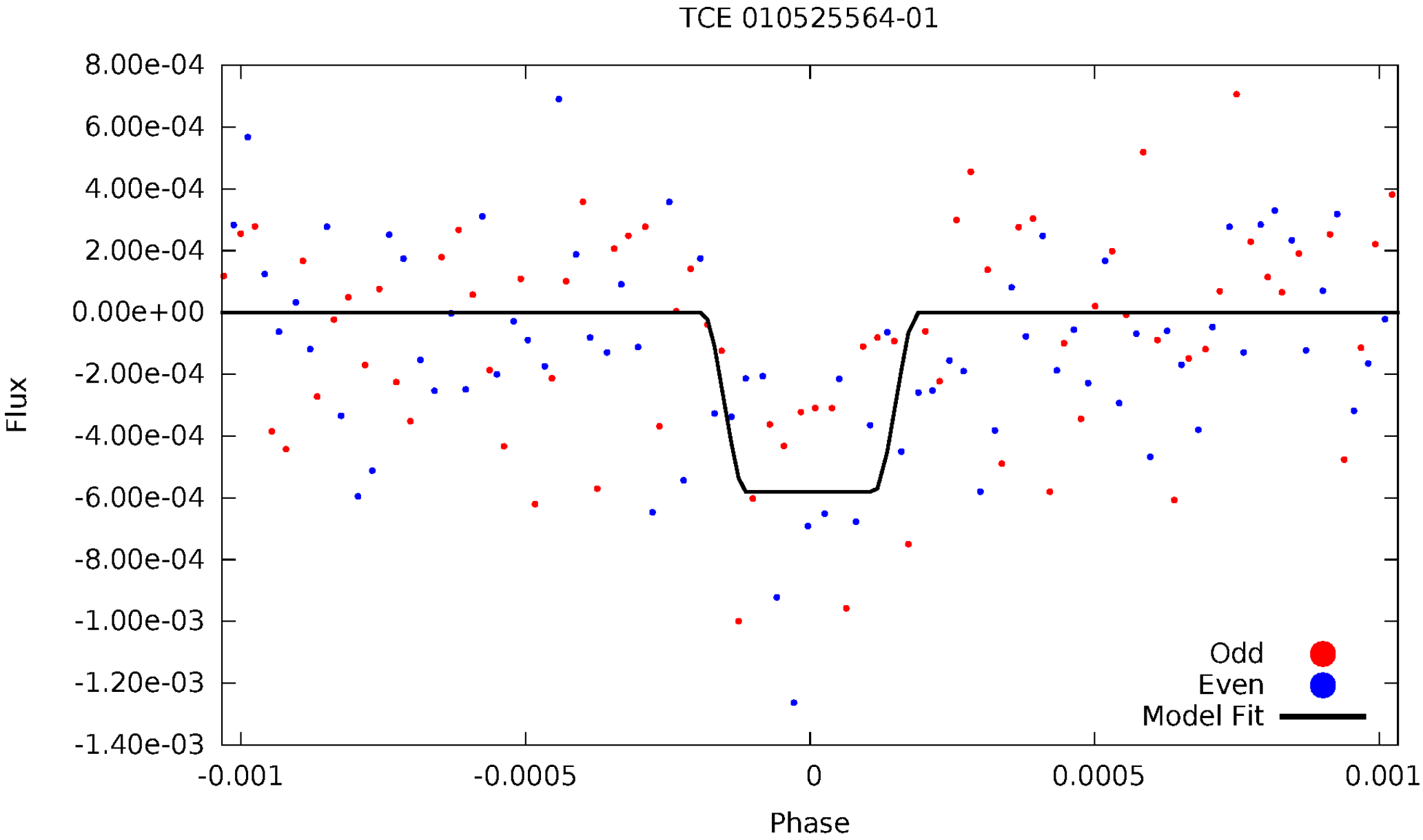
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
Flux
-0.0008
-0.0006
-0.0004
-0.0002
0
0.0002
0.0004
0.0006
0.0008
Phase
Odd
Even
Model Fit

ALT Odd/Even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6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
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-6.00e-04
-8.00e-04
-1.00e-03
-1.20e-03
-1.40e-03
Flux
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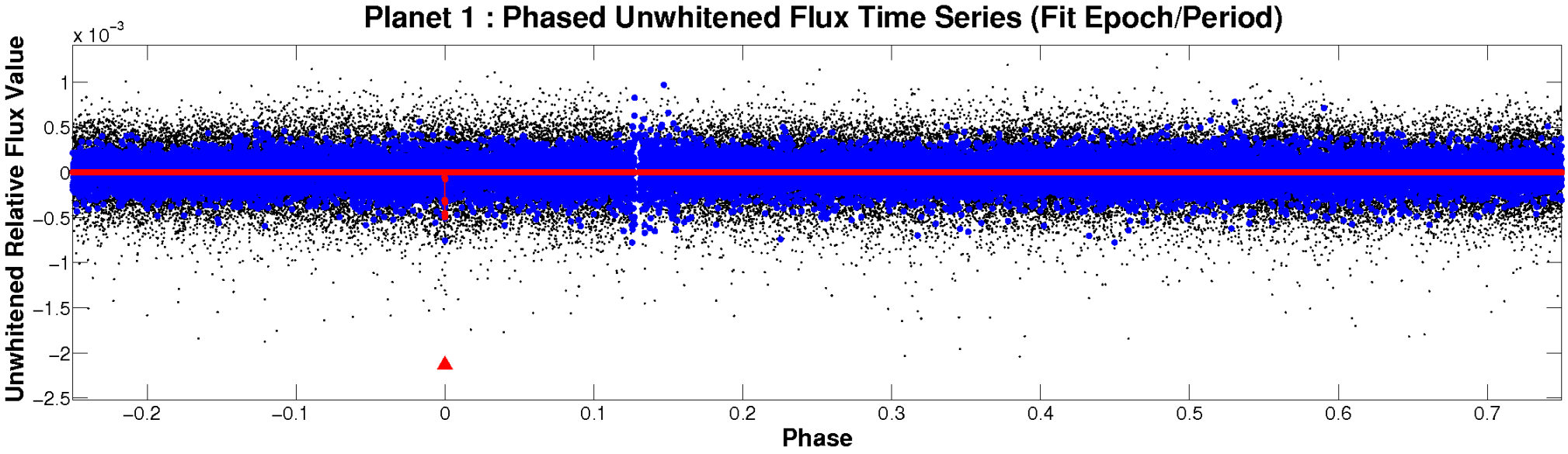
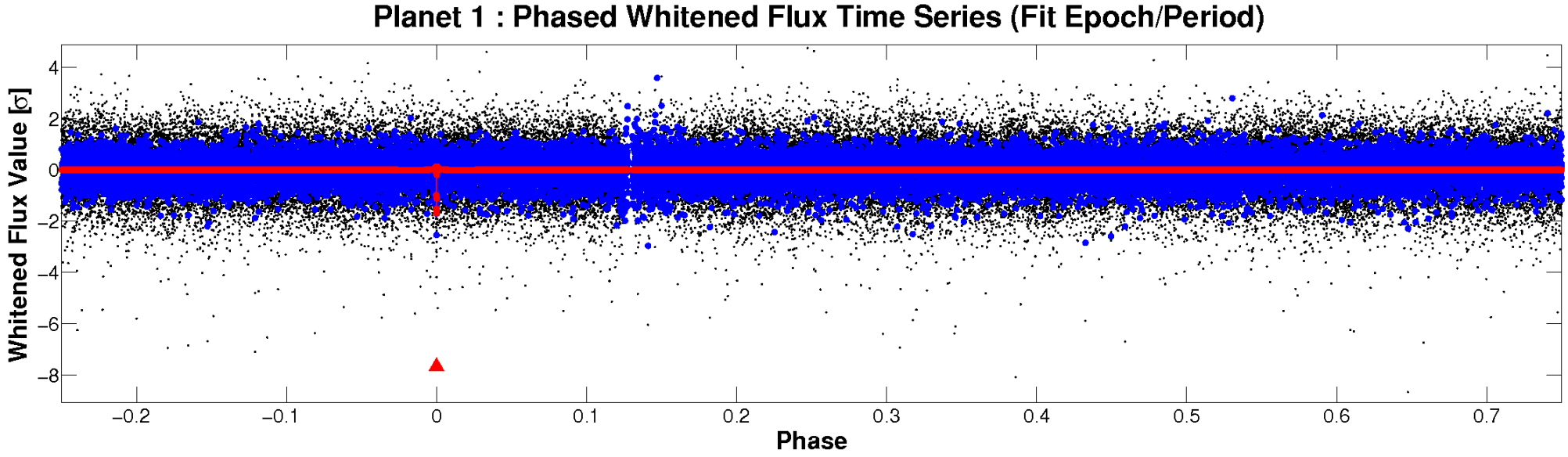
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

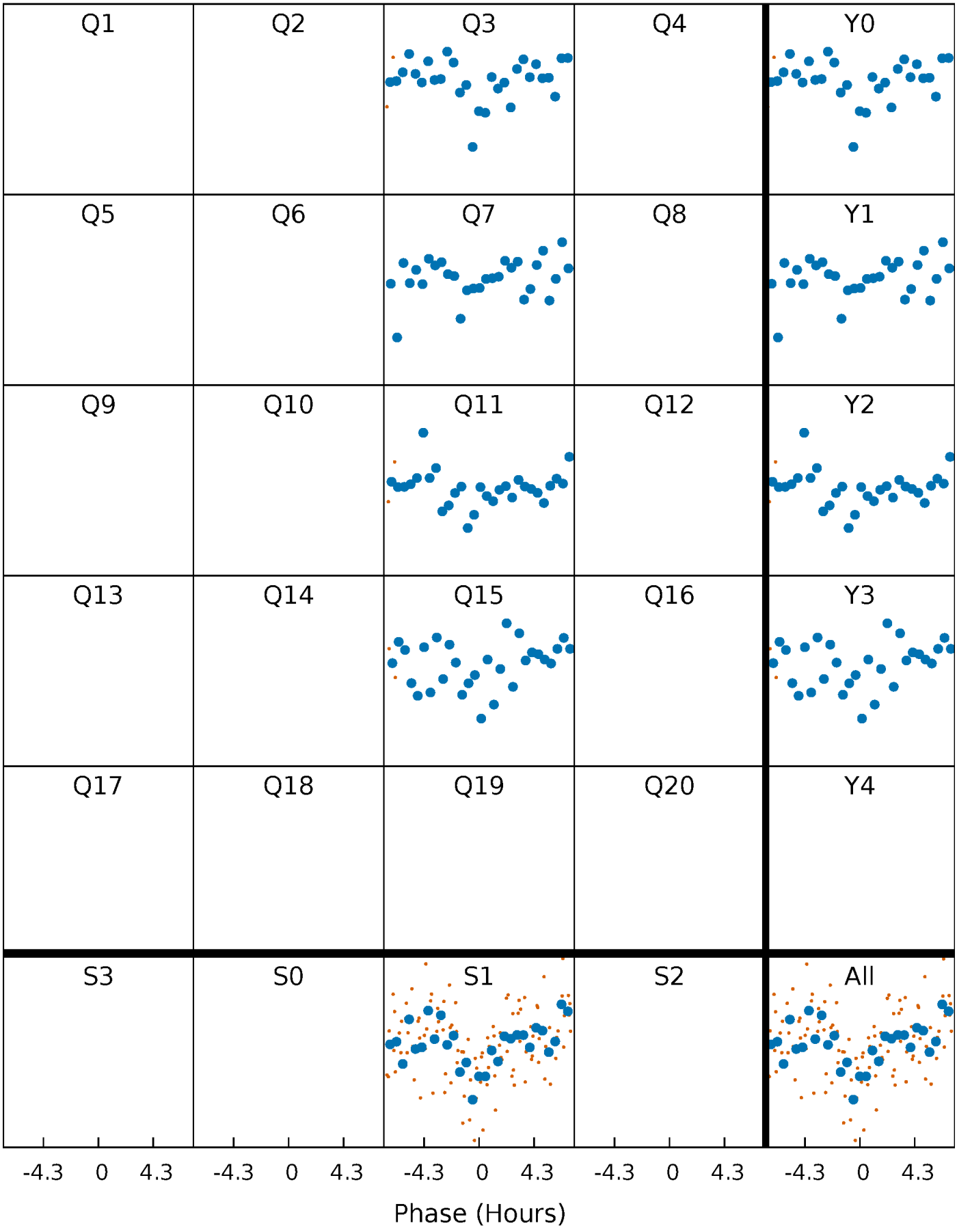
Non-Whitened Vs. Whitened Light Curve





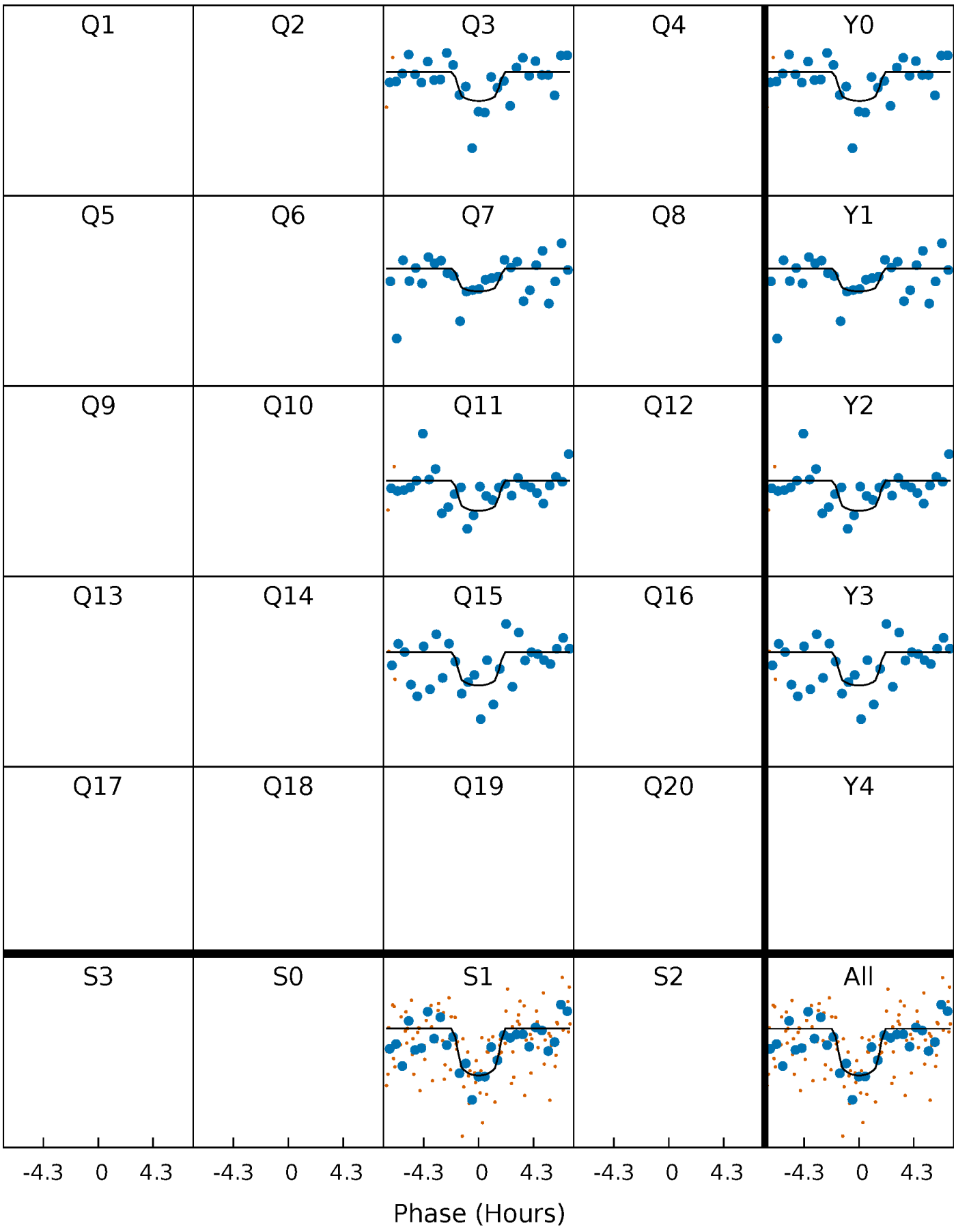
PDC Quarter-Phased Transit Curves

TCE 010525564-01 P=373.605391 Days T_0=303.434713 (BKJD)



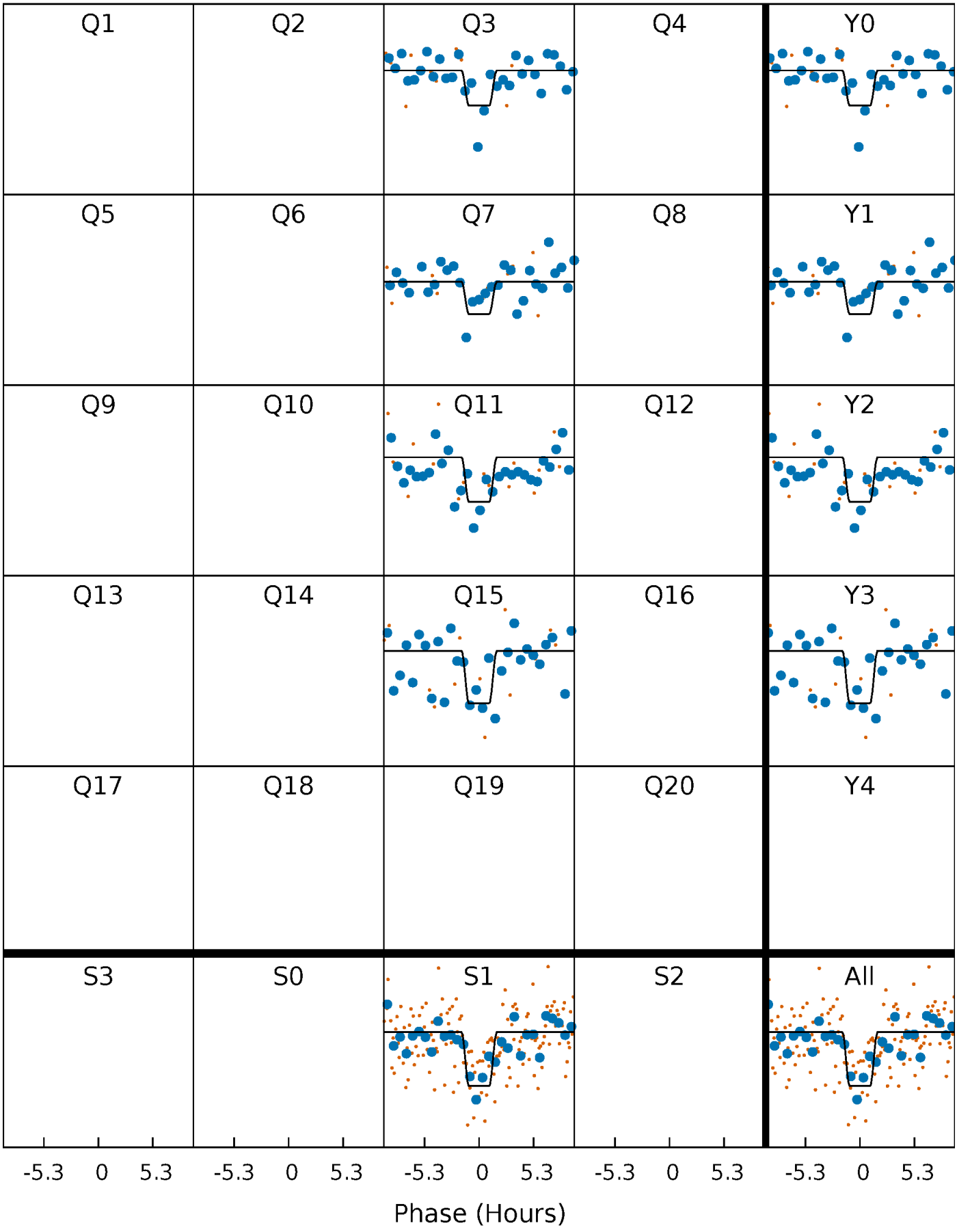
DV Quarter-Phased Transit Curves

TCE 010525564-01 P=373.605391 Days T_0=303.434713 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

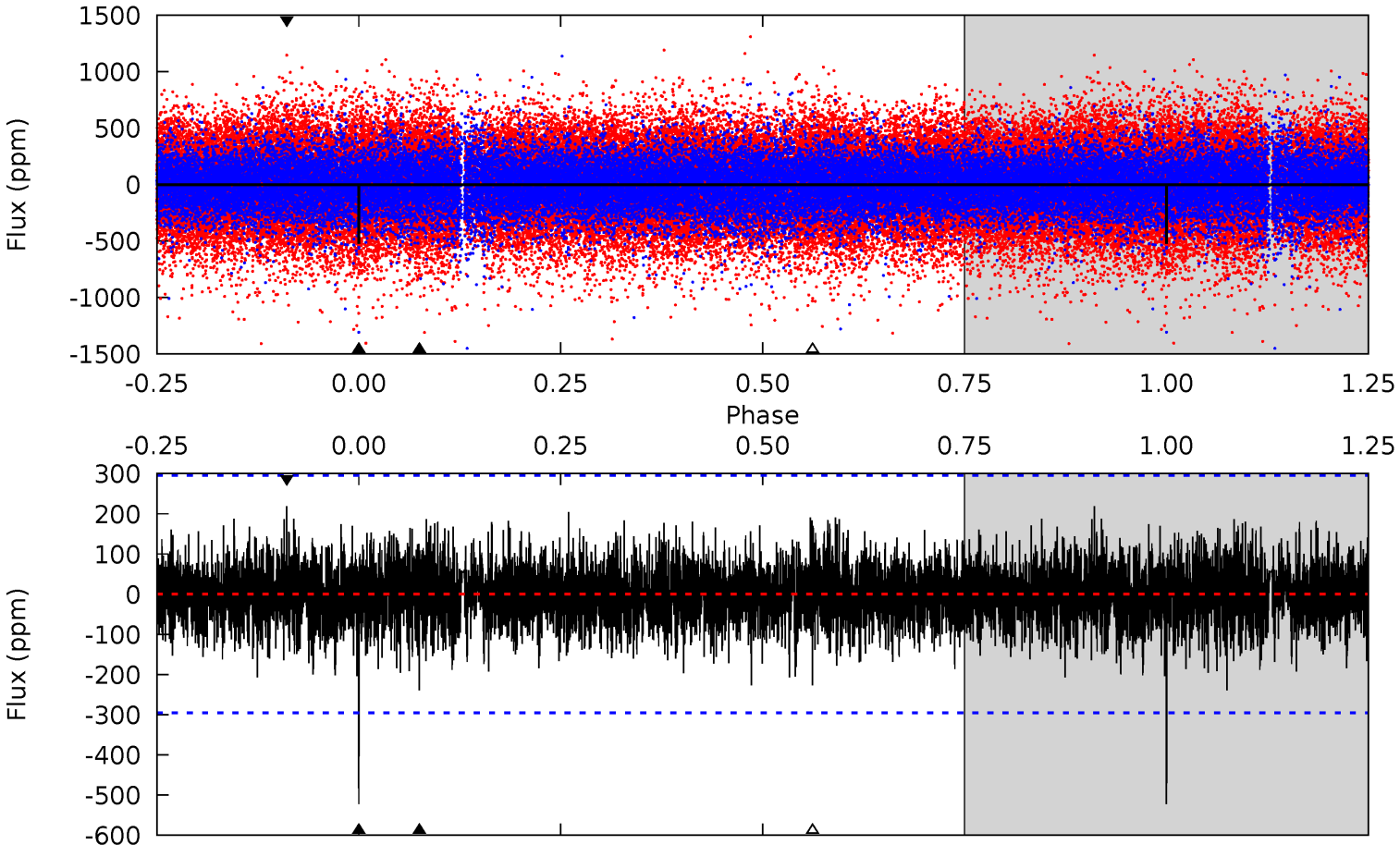
TCE 010525564-01 P=373.603189 Days T_0=303.430344 (BKJD)

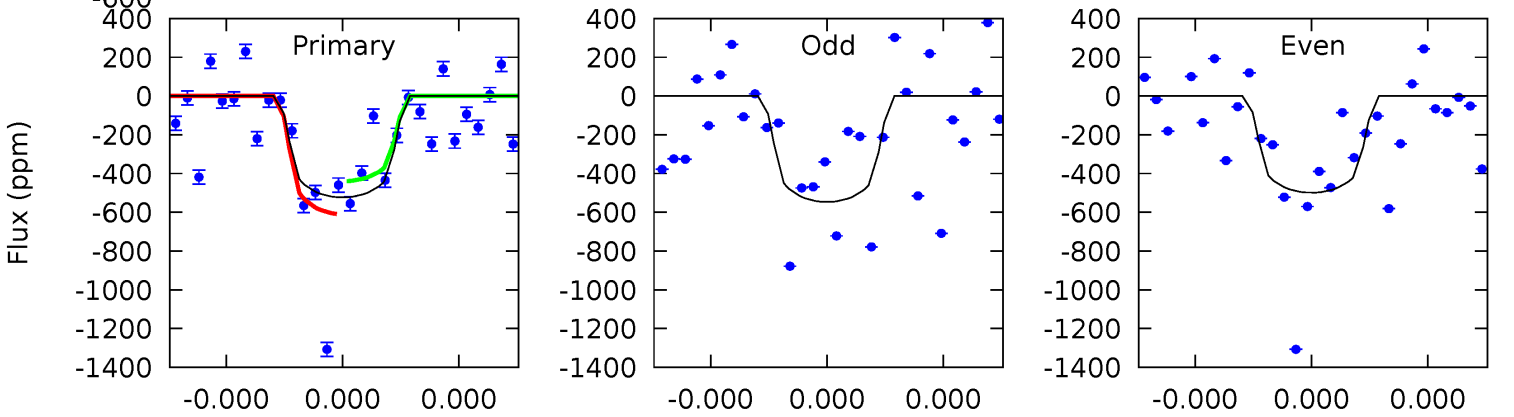


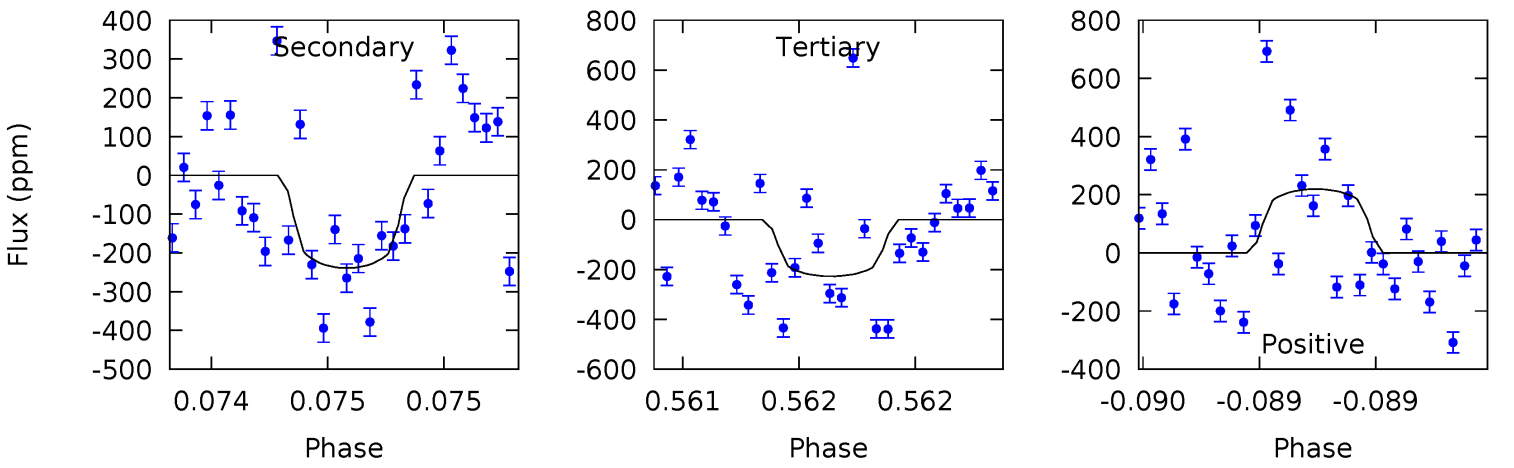
DV Model-Shift Uniqueness Test

010525564-01, P = 373.605391 Days, E = 303.434713 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.92	4.54	4.31	4.16	5.61	3.54	1.14	5.61	5.76	0.23	0.37	0.46	0.96	0.30	1.60



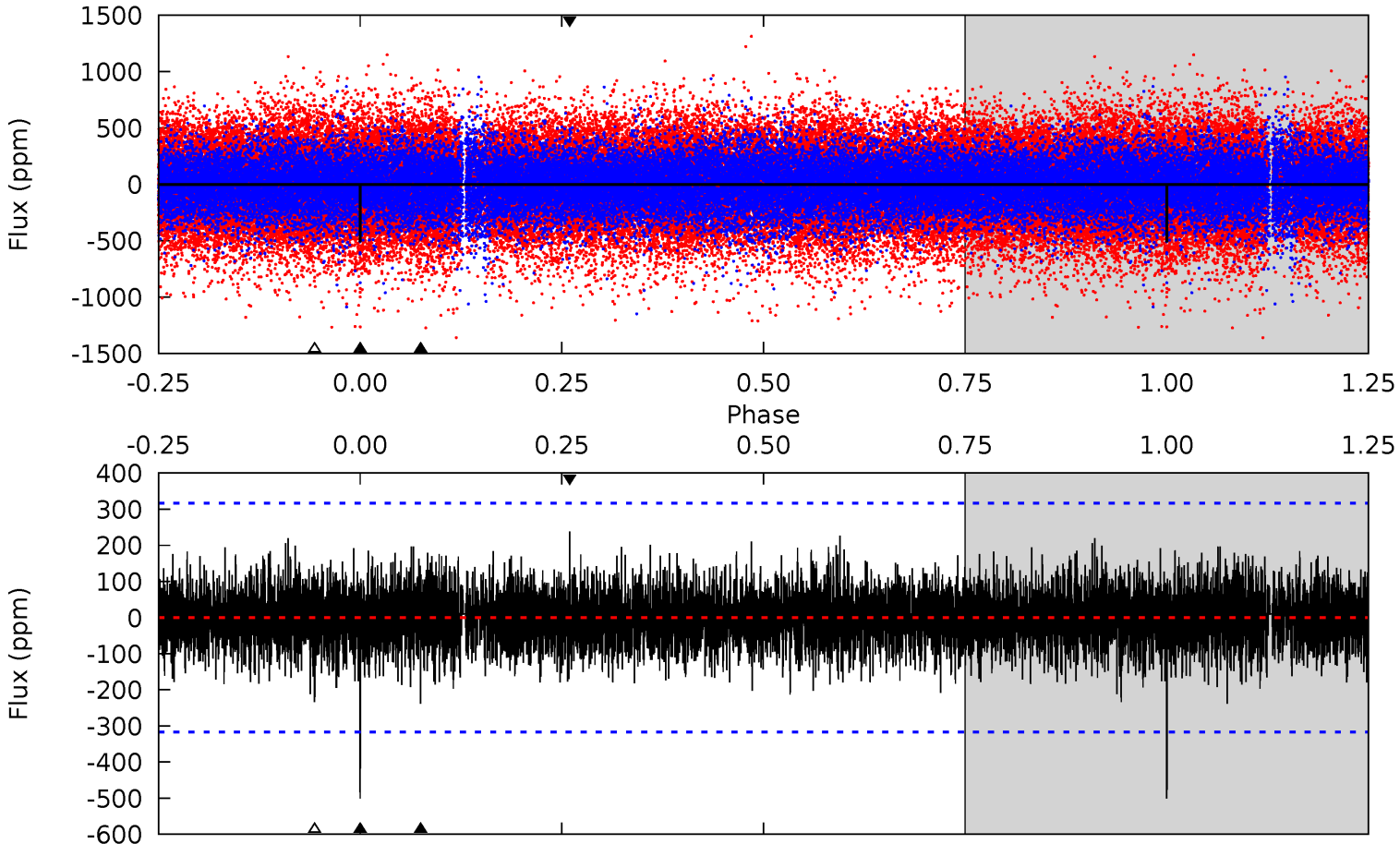


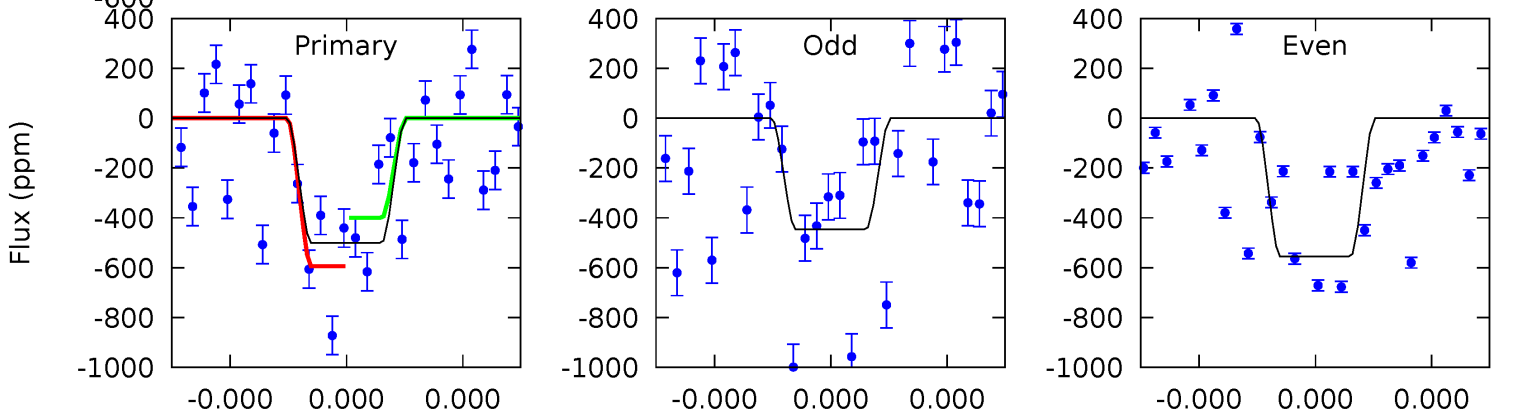


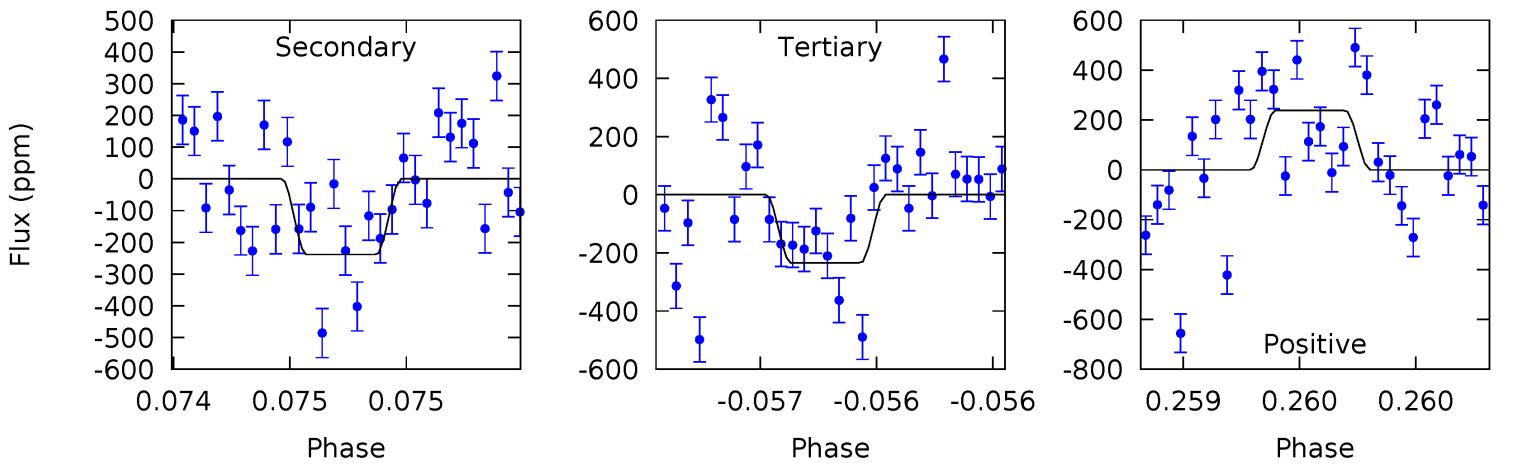
Alt Model-Shift Uniqueness Test

010525564-01, P = 373.603189 Days, E = 303.430344 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.88	4.24	4.15	4.22	5.63	3.56	1.09	4.73	4.66	0.09	0.02	0.99	1.00	0.32	1.72







Stellar Parameters For KIC 010525564

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5866^{+158}_{-176}	$4.475^{+0.065}_{-0.208}$	$-0.100^{+0.300}_{-0.300}$	$0.947^{+0.277}_{-0.119}$	$0.977^{+0.128}_{-0.117}$	$1.619^{+0.465}_{-0.867}$
	+3%/-3%	+1%/-5%	+300%/-300%	+29%/-13%	+13%/-12%	+29%/-54%
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 010525564-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-239±53	$5.33^{+4.93}_{-3.71}$	357^{+25}_{-16}	3680^{+2246}_{-667}	4642^{+46411}_{-3455}
Alt.	-239±56	$5.31^{+5.21}_{-3.48}$	357^{+25}_{-17}	3677^{+1938}_{-673}	4653^{+34445}_{-3507}

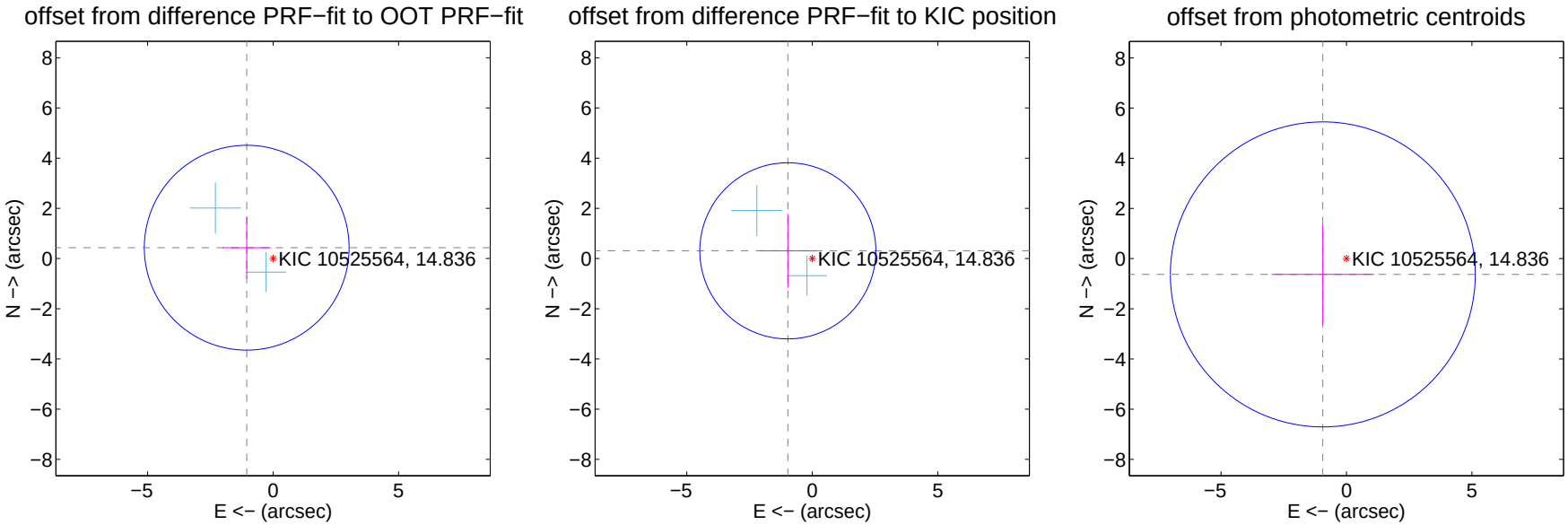
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

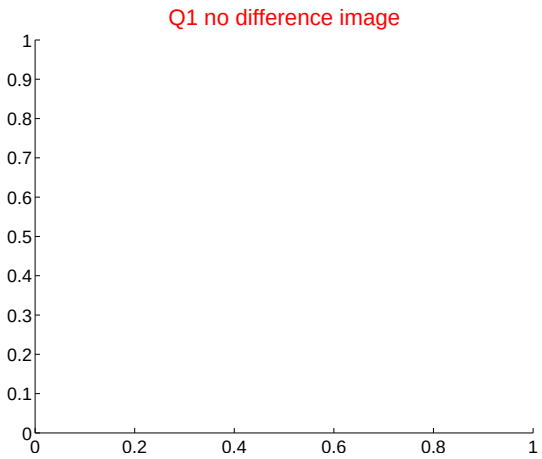
Supplemental centroid analysis for 010525564-01. Kepler magnitude: 14.84. Transit SNR 7.68
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

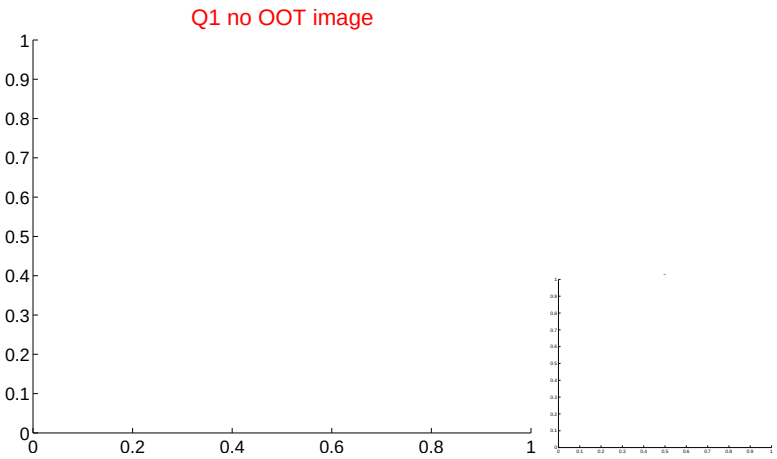
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.137 ± 1.360	0.84	1.051 ± 0.969	0.433 ± 1.224
PRF-fit source offset from KIC position	1.022 ± 1.169	0.87	0.975 ± 1.134	0.308 ± 1.475
photometric centroid source offset	1.13 ± 2.03	0.56	0.94 ± 2.04	-0.63 ± 1.99

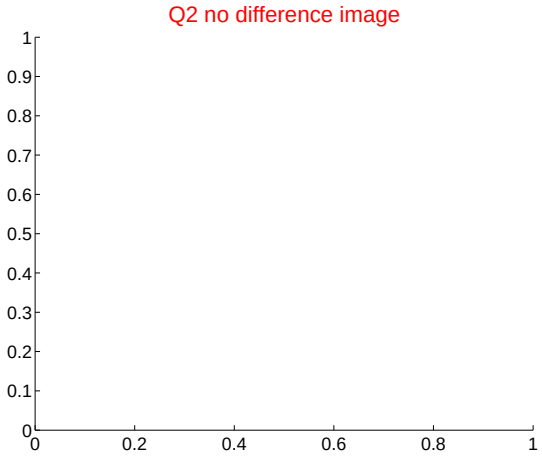


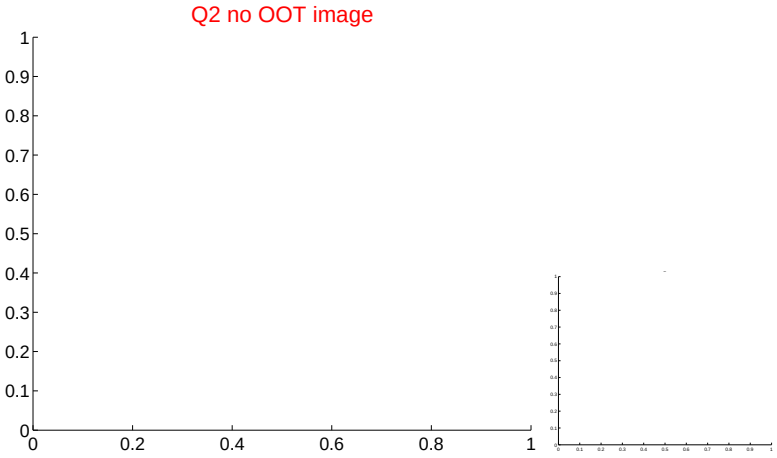
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

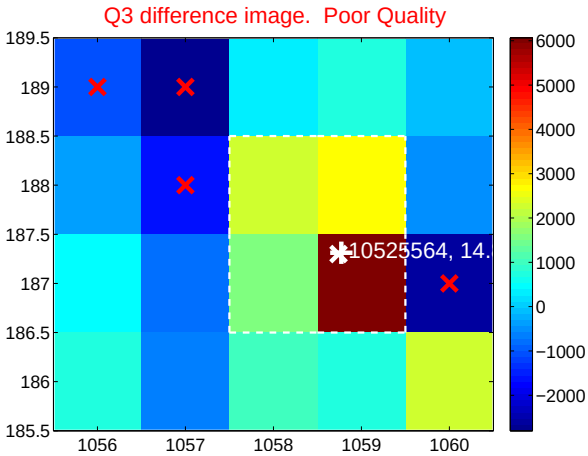
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

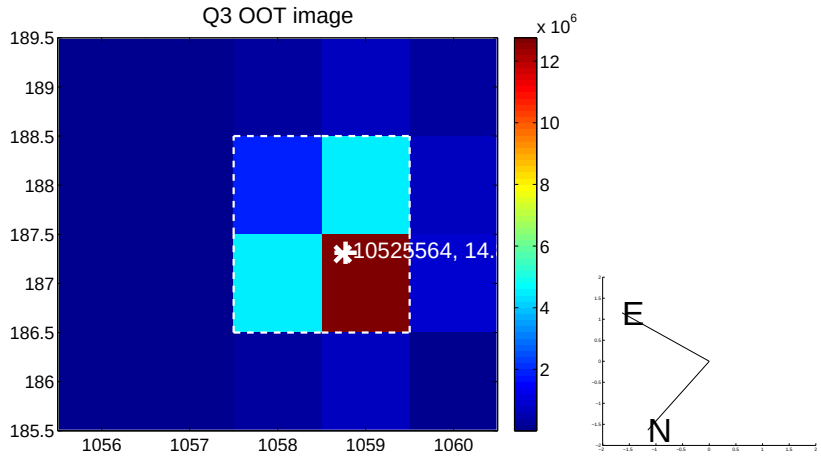


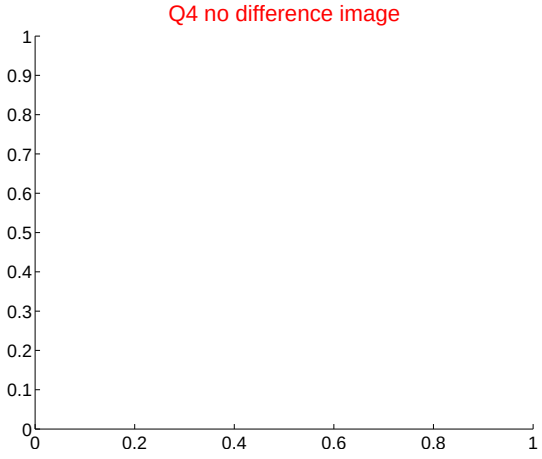


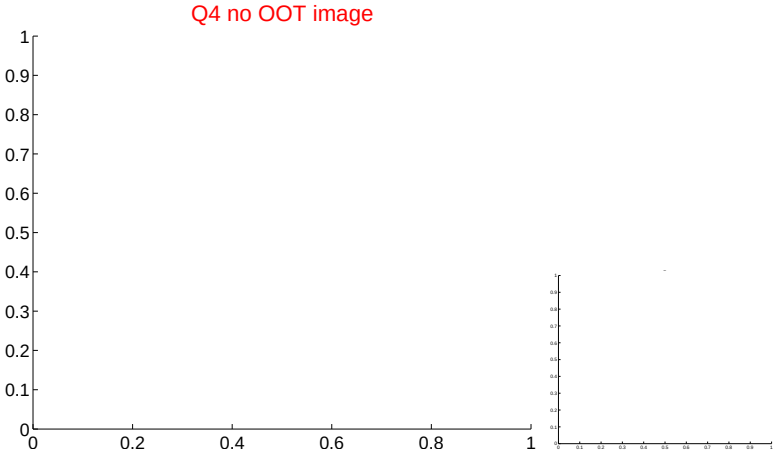




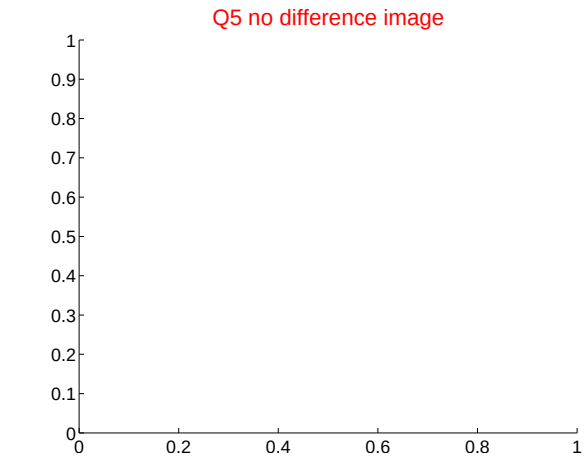


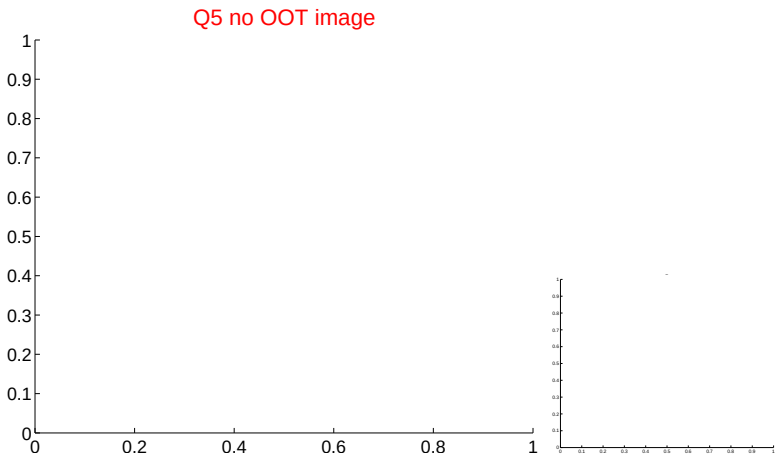


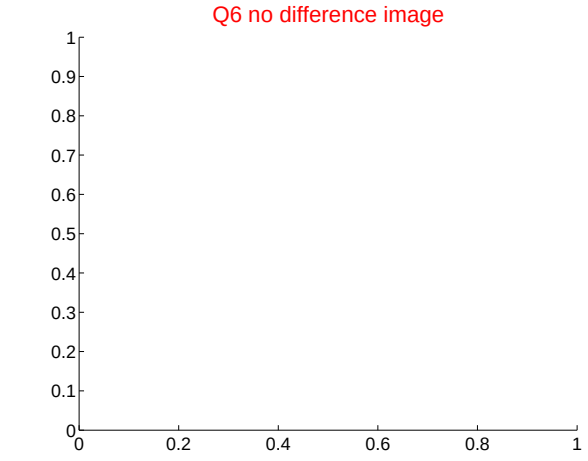


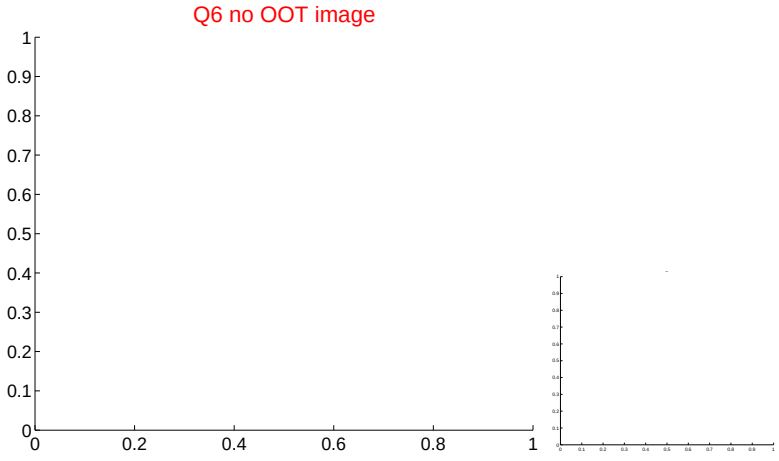


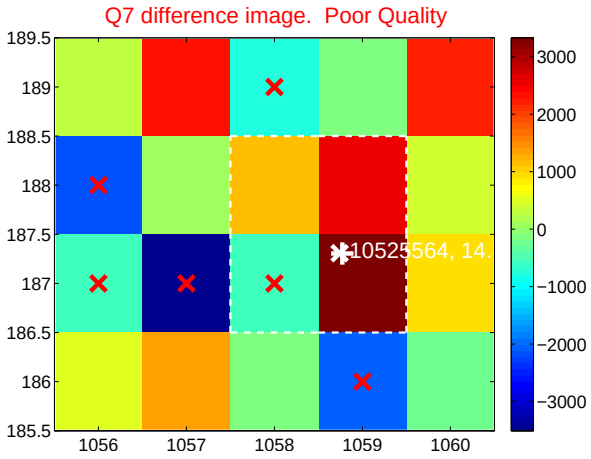
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

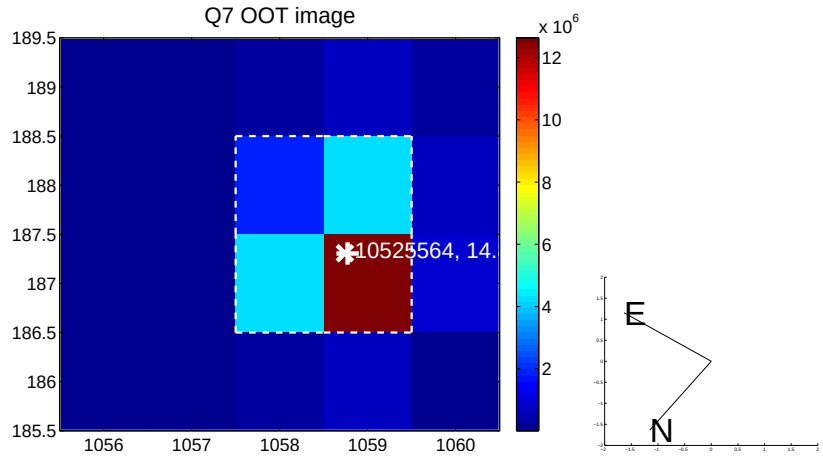


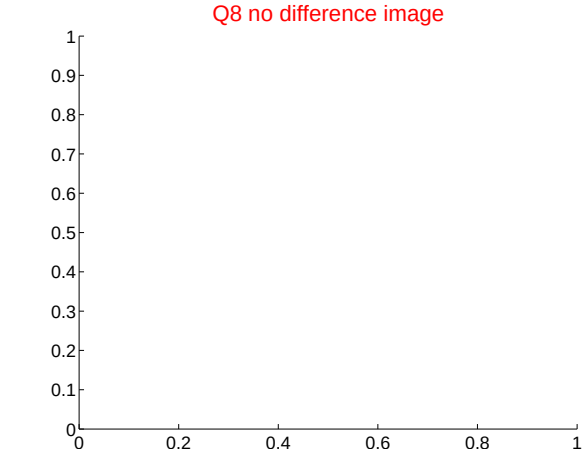


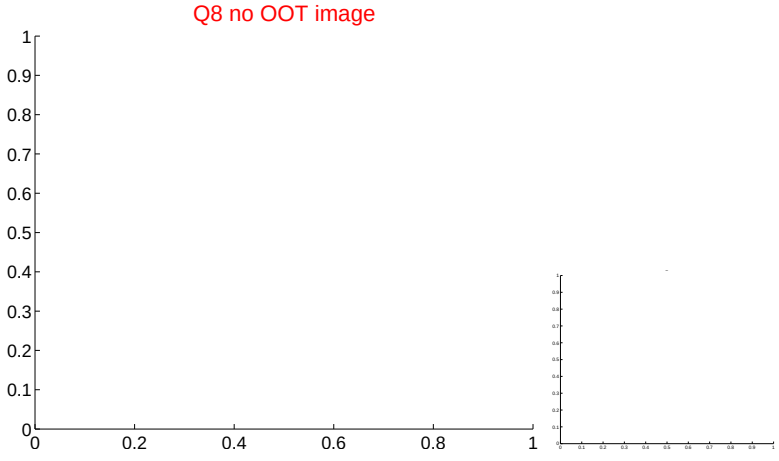




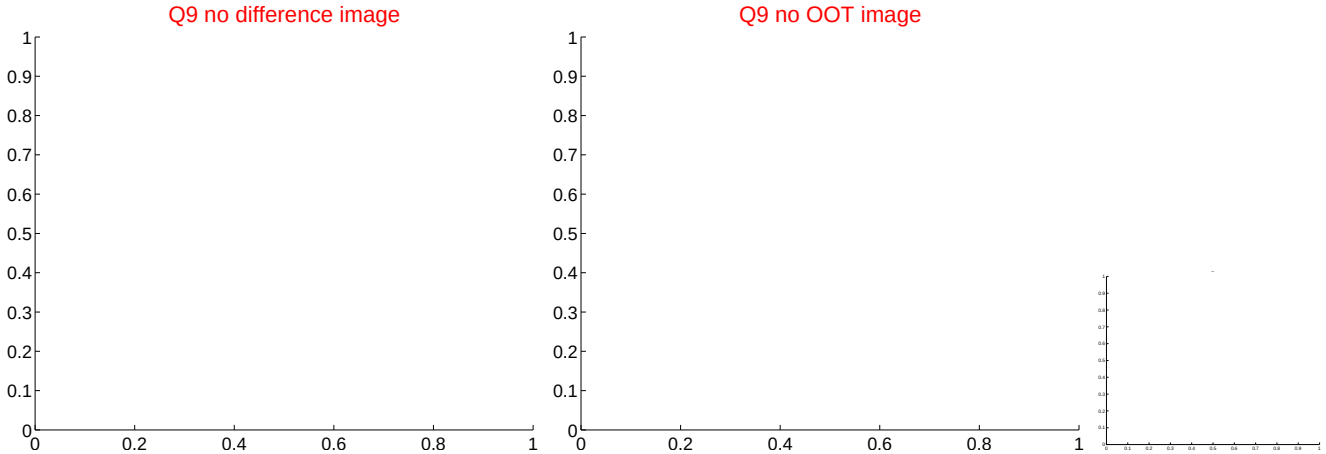


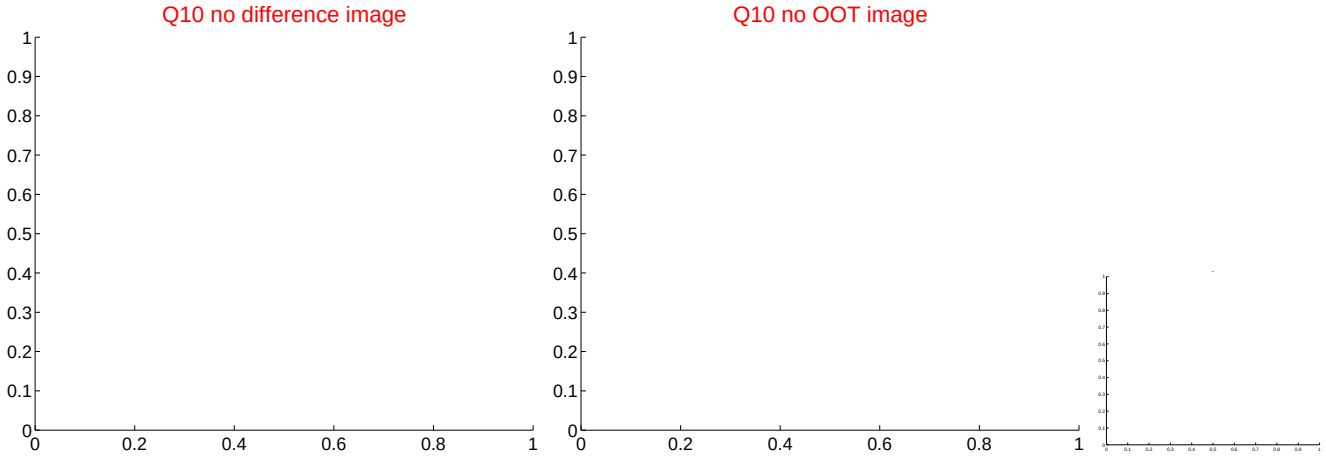


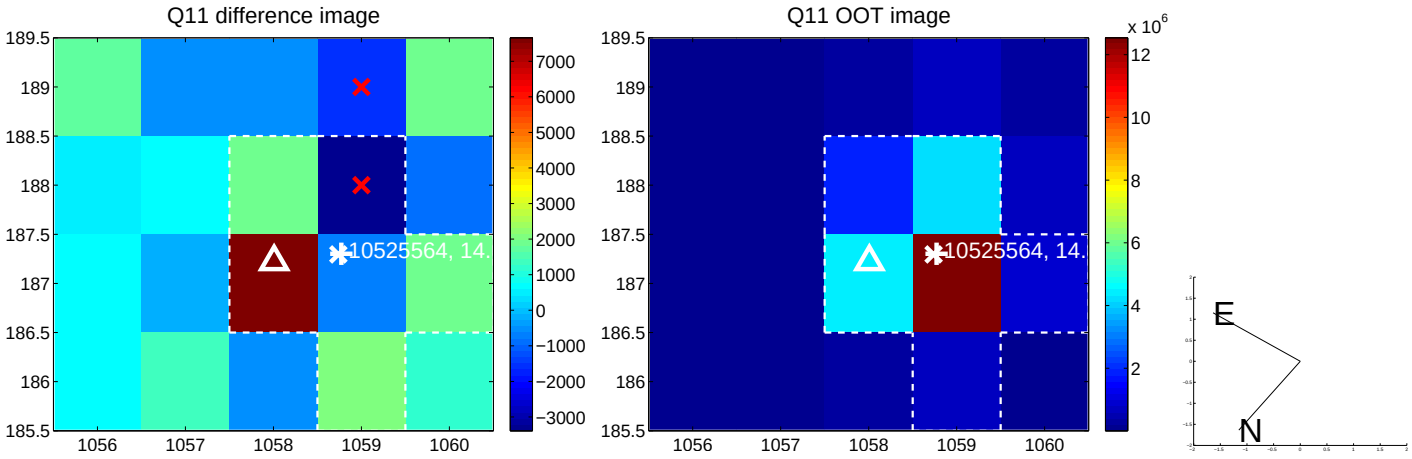


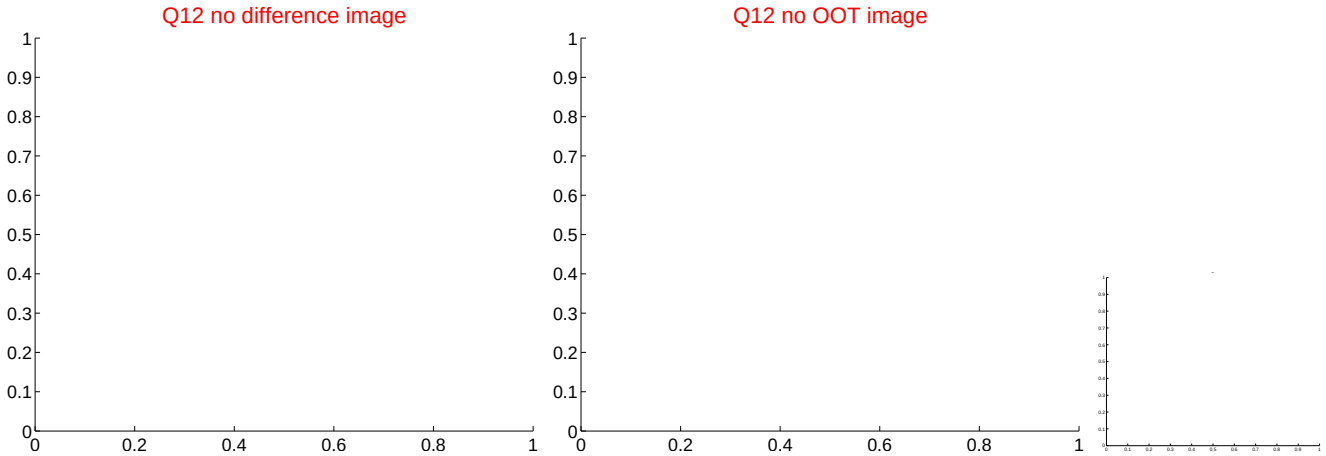


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.









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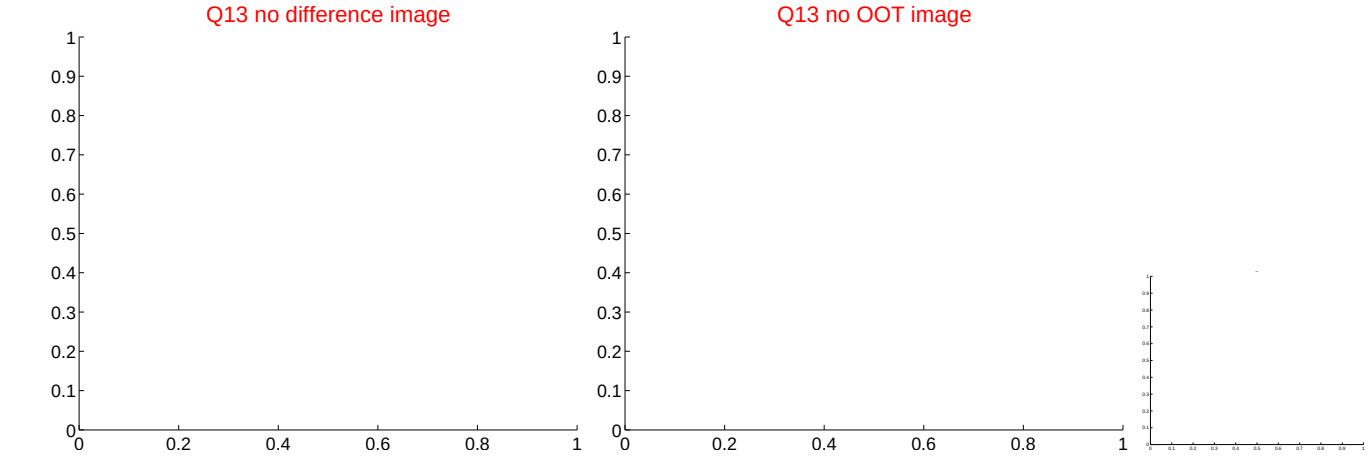

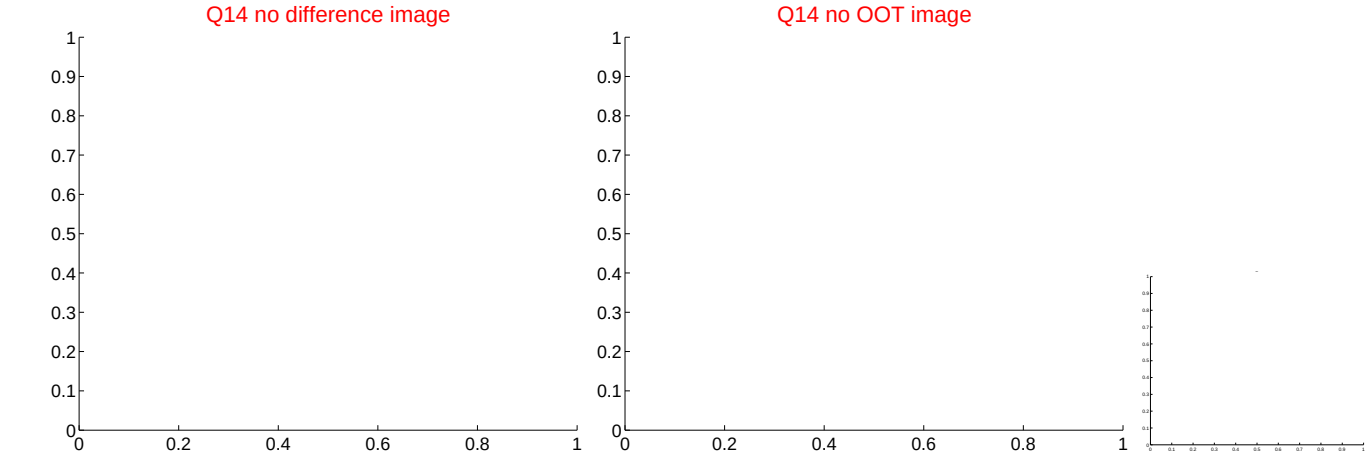

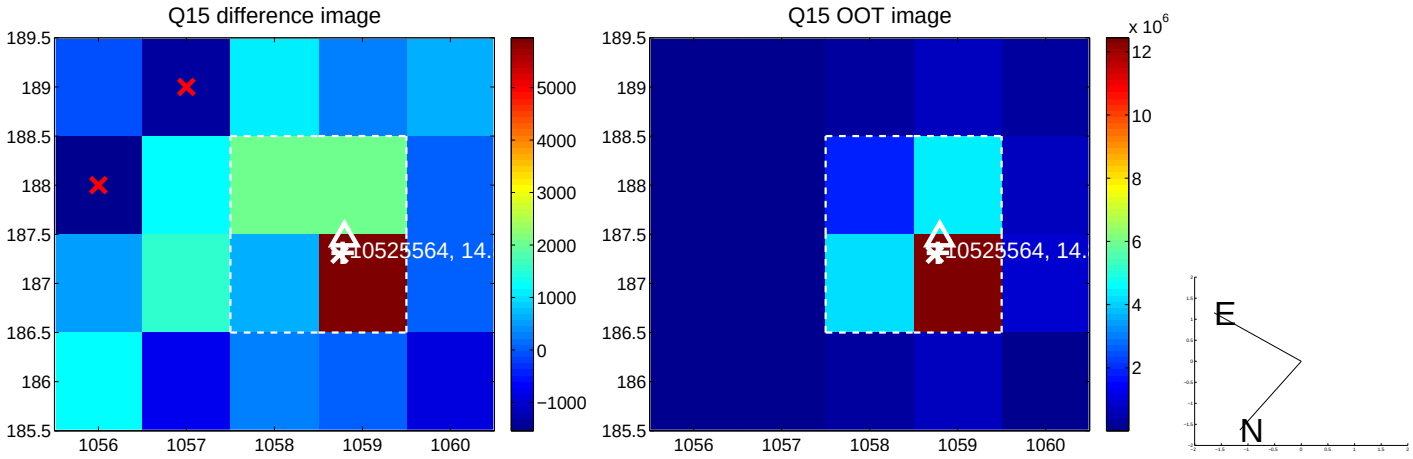

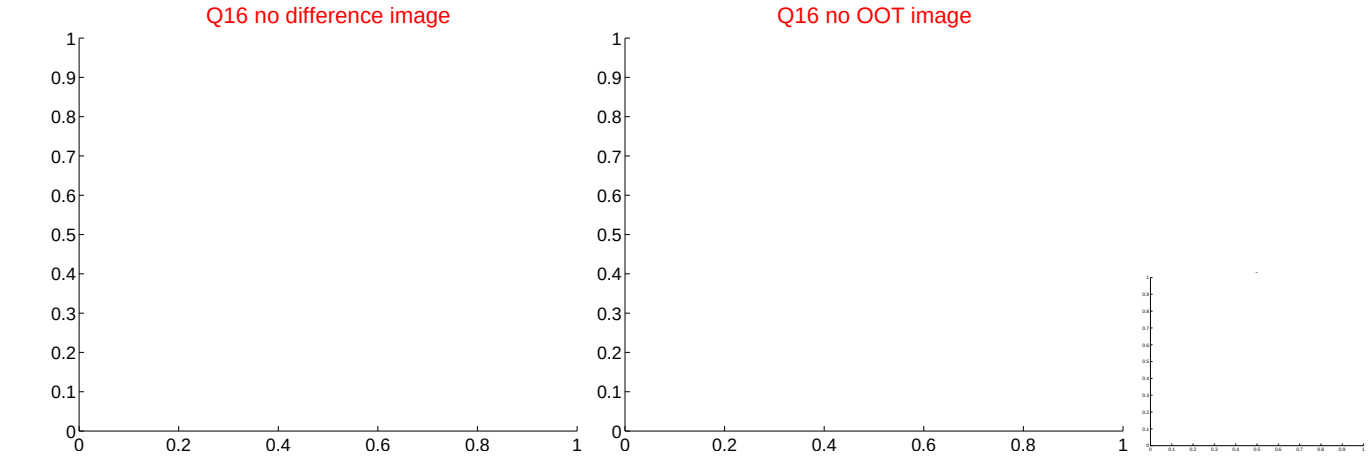

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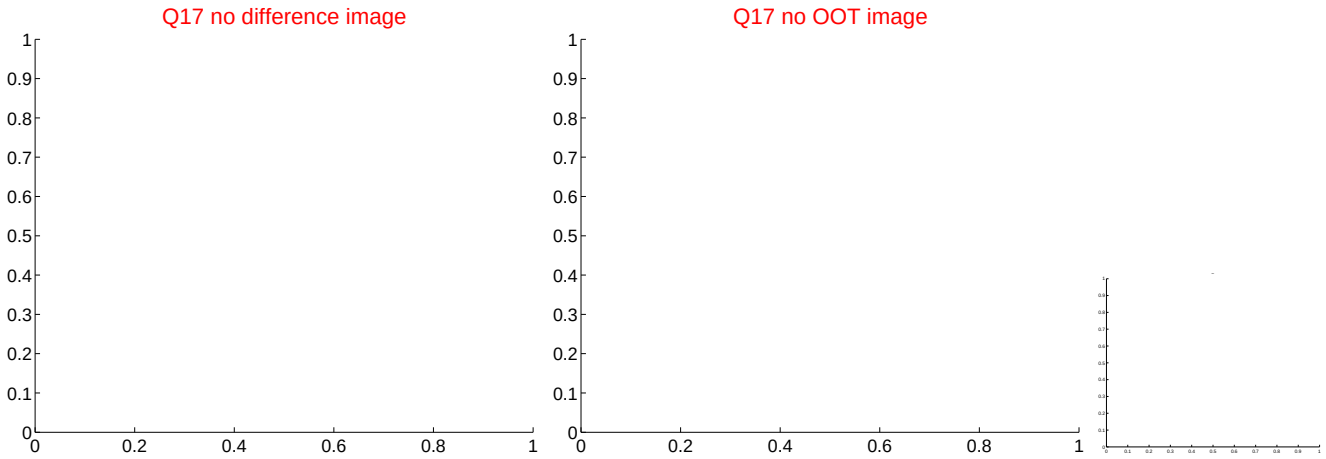
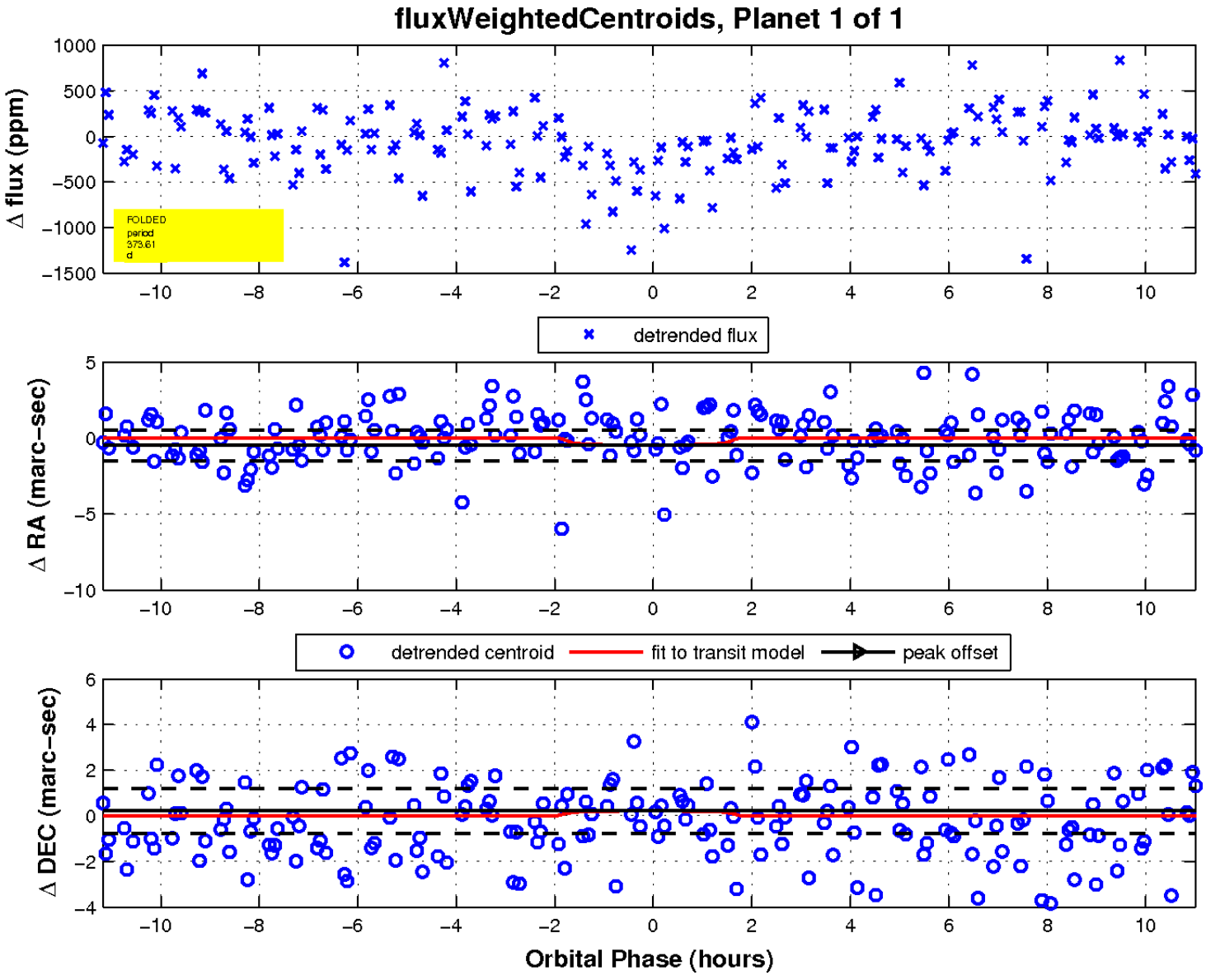
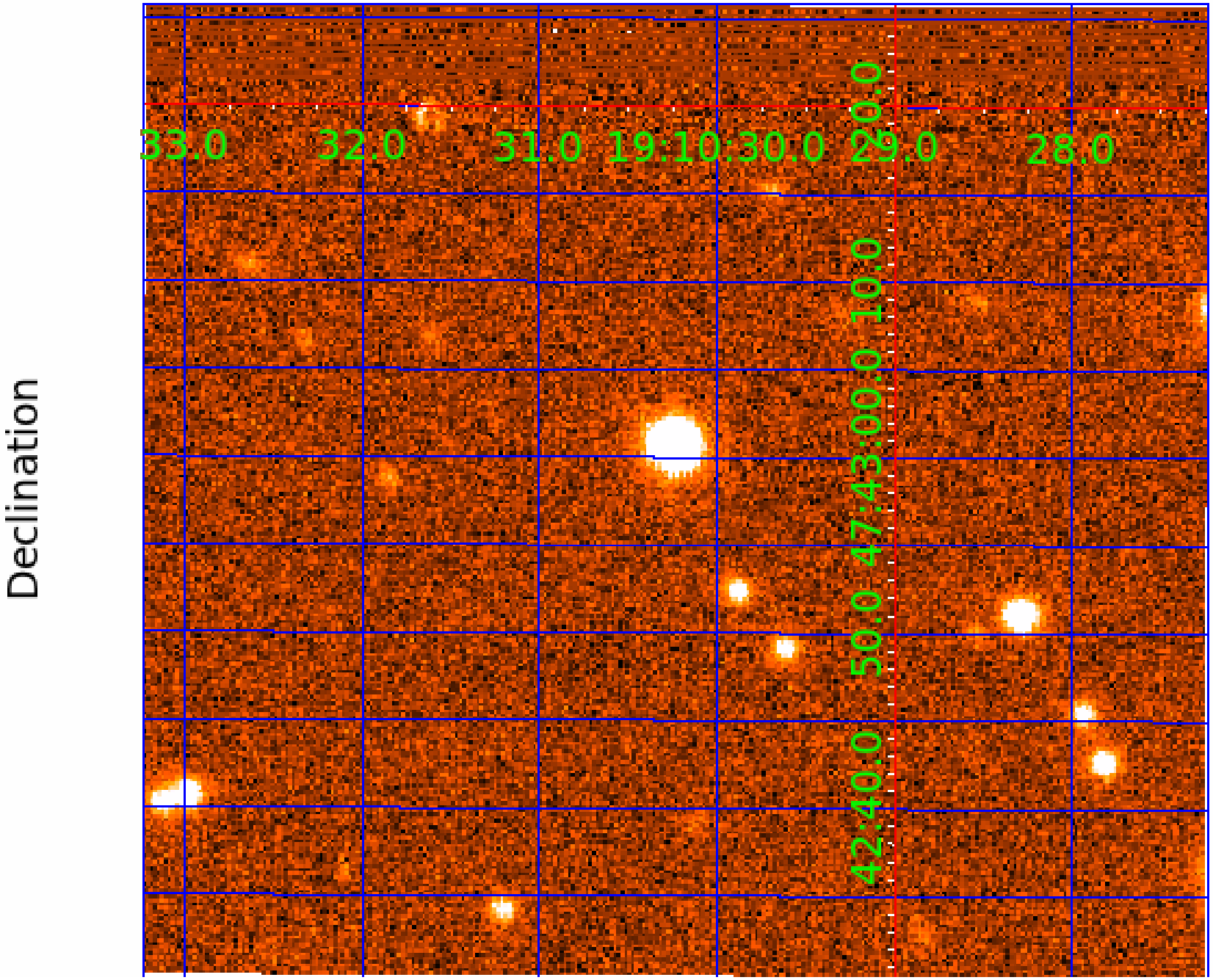




UKIRT Image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