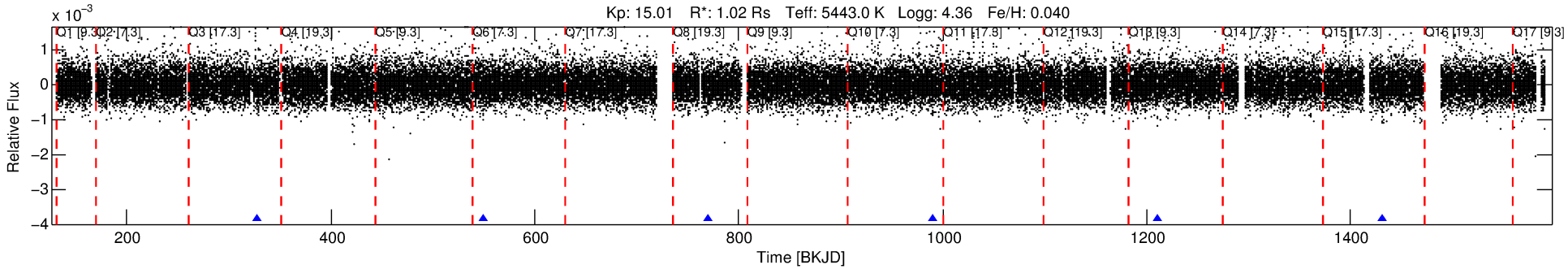
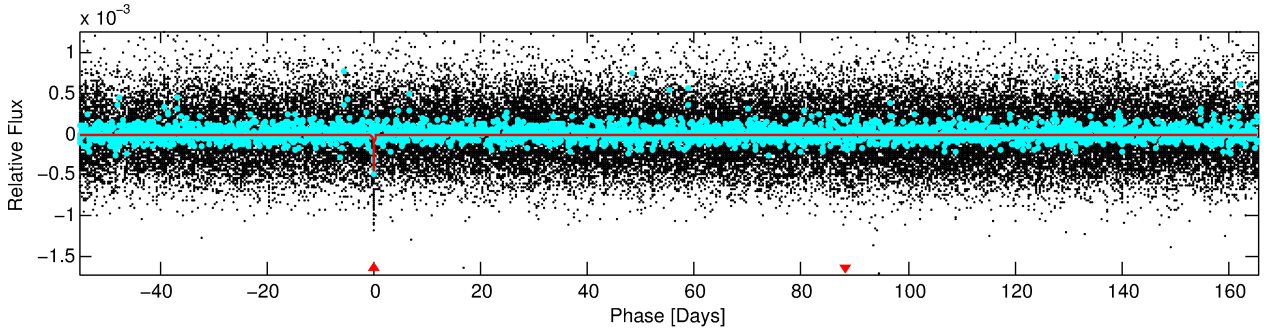
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

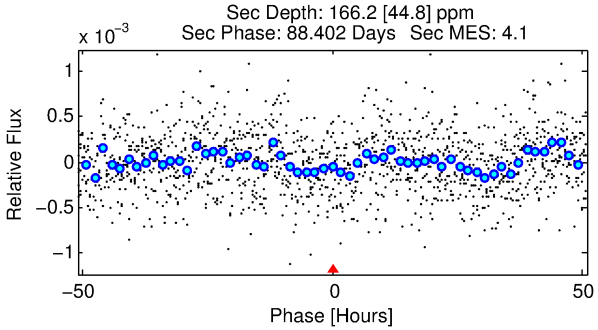
DV One-Page Summary

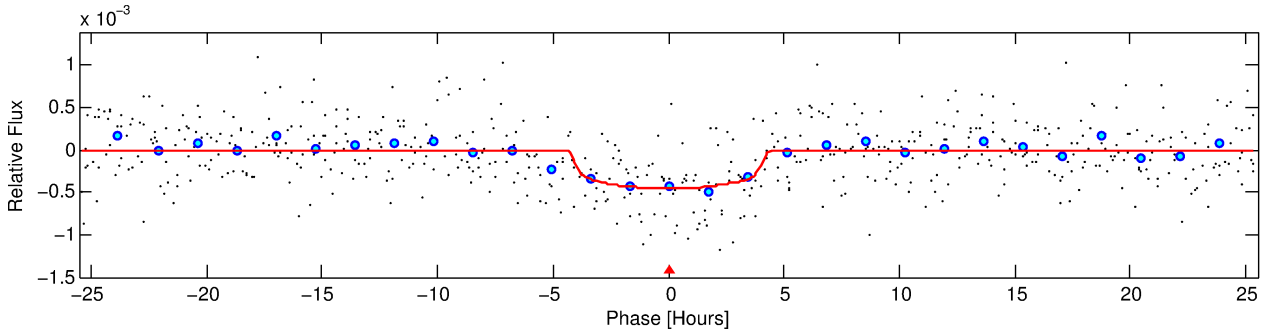
KIC: 5442580 Candidate: 1 of 1 Period: 220.660 d

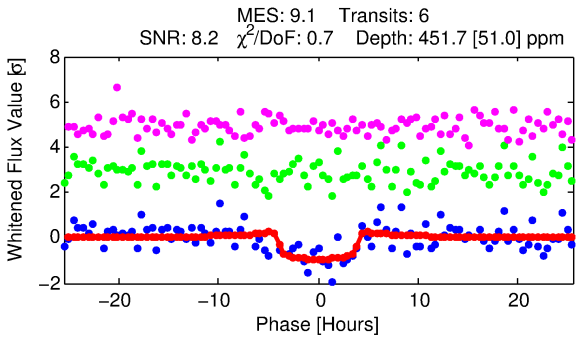
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

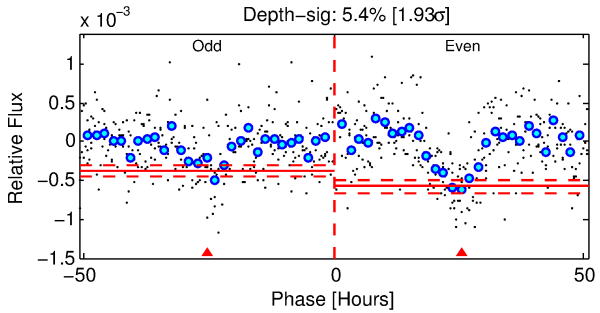


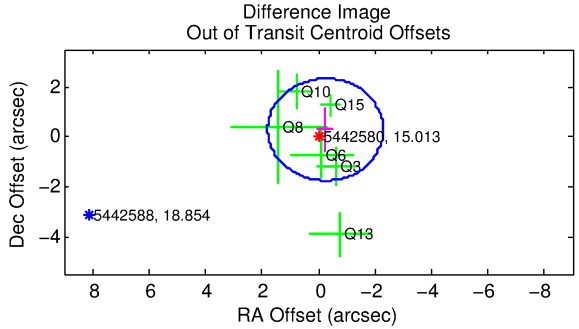












DV Fit Results:

Period = 220.66028 [0.00414] d
Epoch = 328.3237 [0.0128] BKJD
Rp/R* = 0.0208 [0.0159]
a/R* = 147.30 [444.94]
b = 0.70 [2.24]

Seff = 1.76 [0.42]
Teq = 294 [18] K
Rp = 2.30 [1.79] Re
a = 0.6798 [0.0956] AU

Ag = 7955.67 [12491.22] [0.64σ]
Teffp = 4289 [1666] K [2.40σ]

DV Diagnostic Results:

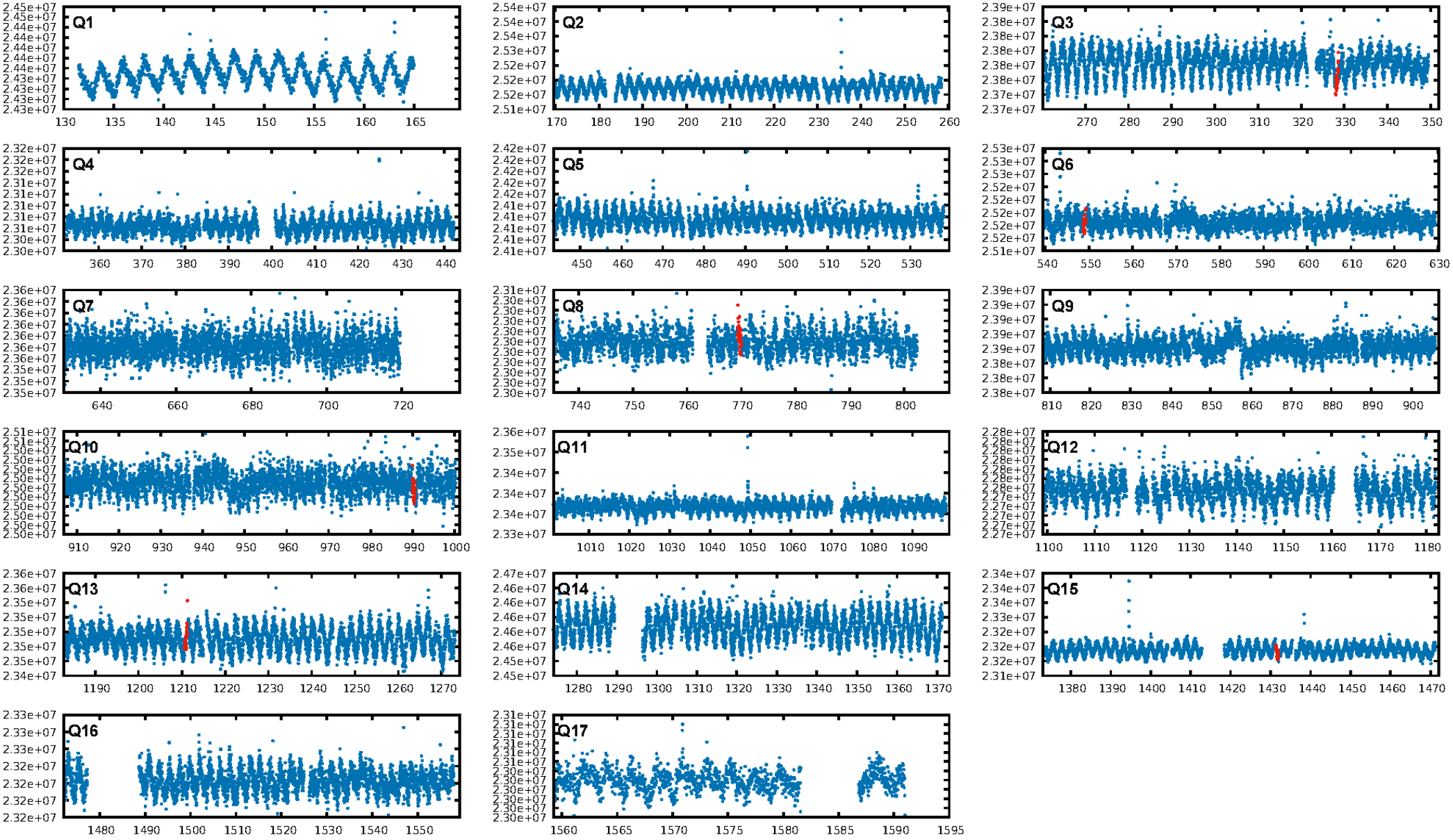
ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 67.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.30e-16
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.557

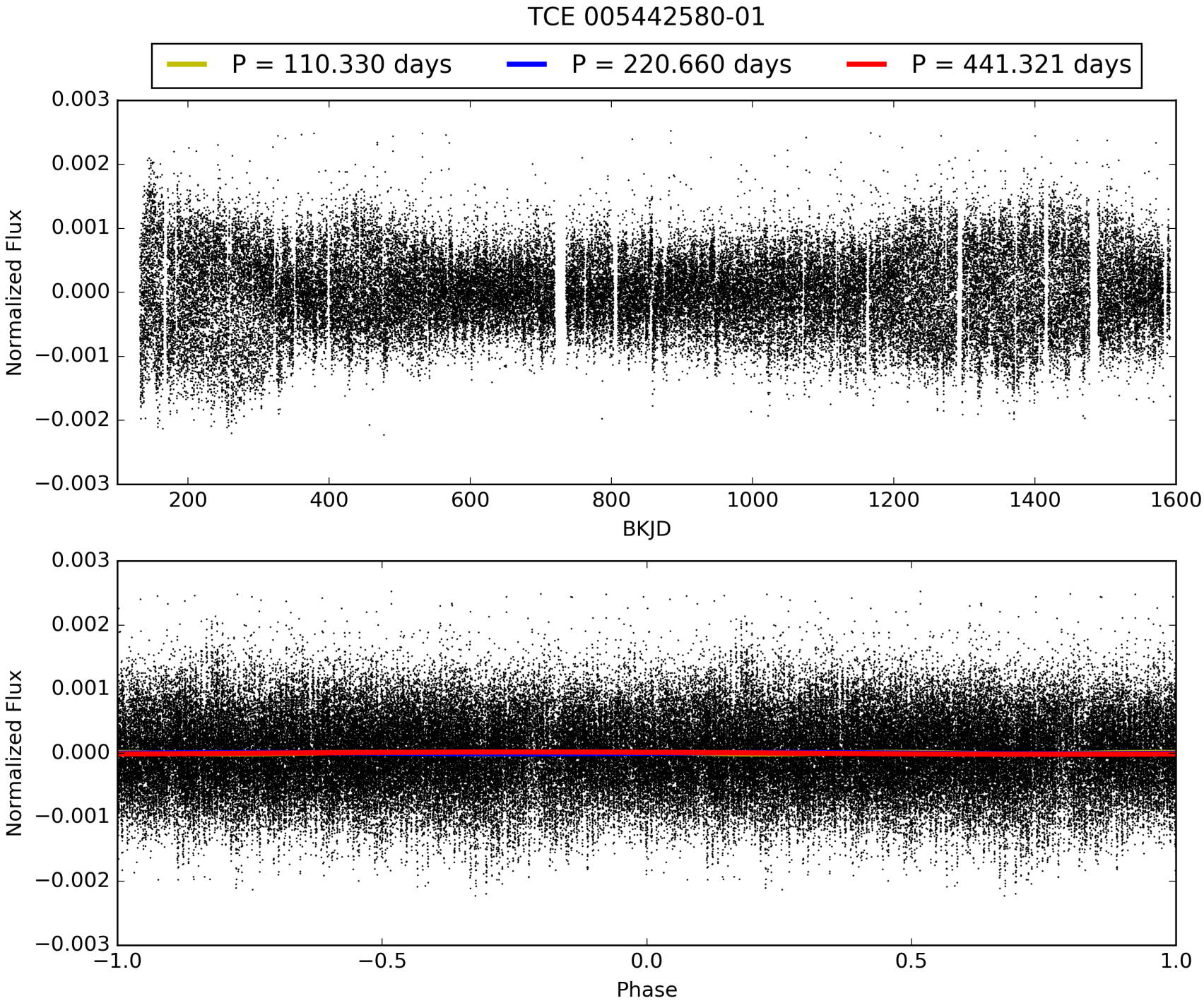
Centroid-sig: 2.9%
Centroid-so: 2.152 arcsec [1.85σ]
OotOffset-rm: 0.374 arcsec [0.55σ]
KicOffset-rm: 0.372 arcsec [0.70σ]
OotOffset-st: 2/2/1/1 [6]
KicOffset-st: 2/2/1/1 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 1.00 [6/6]

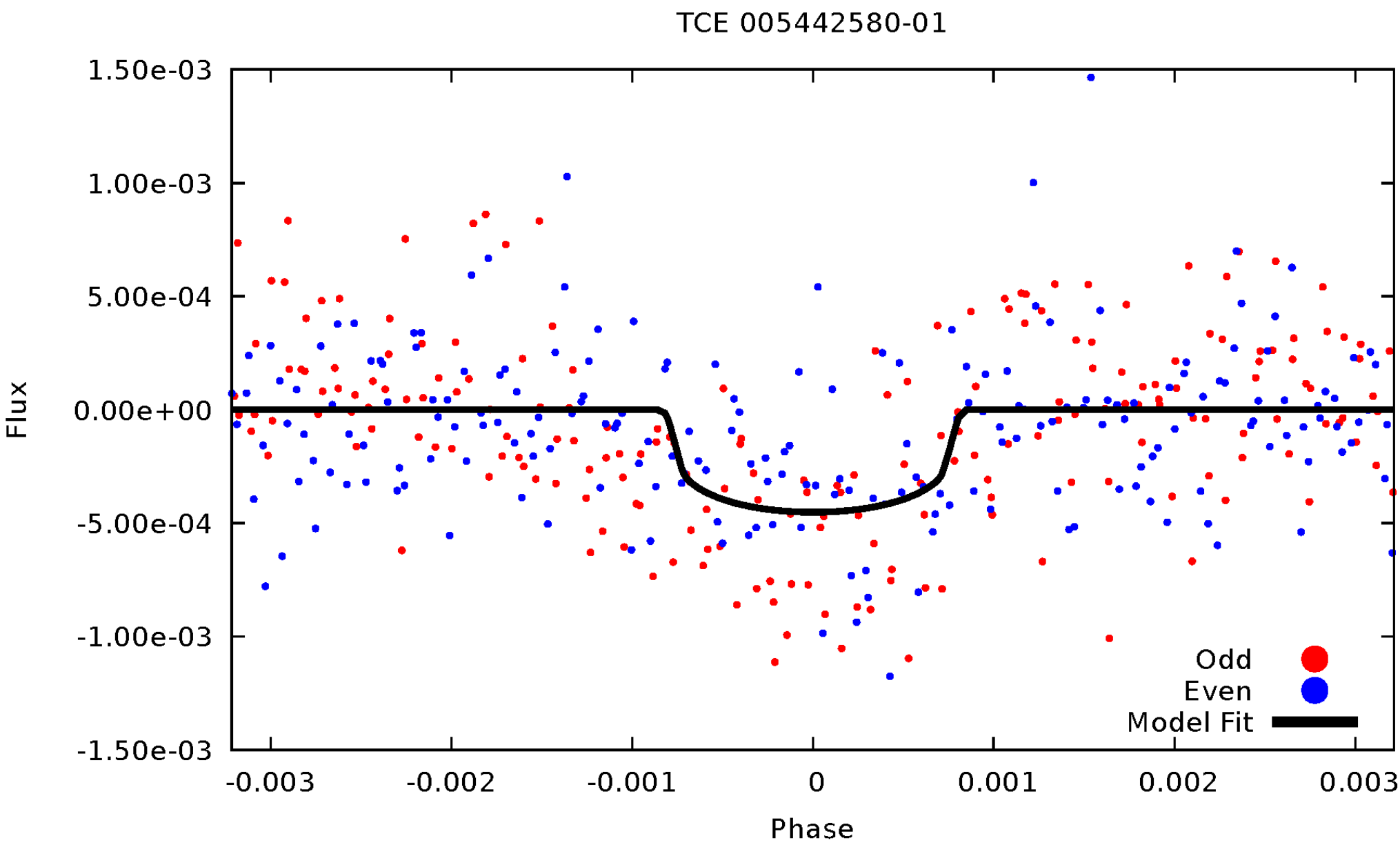
Software Revision: svn+ssh://murzim/repo/soc/branches/integ/ksop-2174@60968 -- Date Generated: 07-Mar-2016 22:21:50 Z

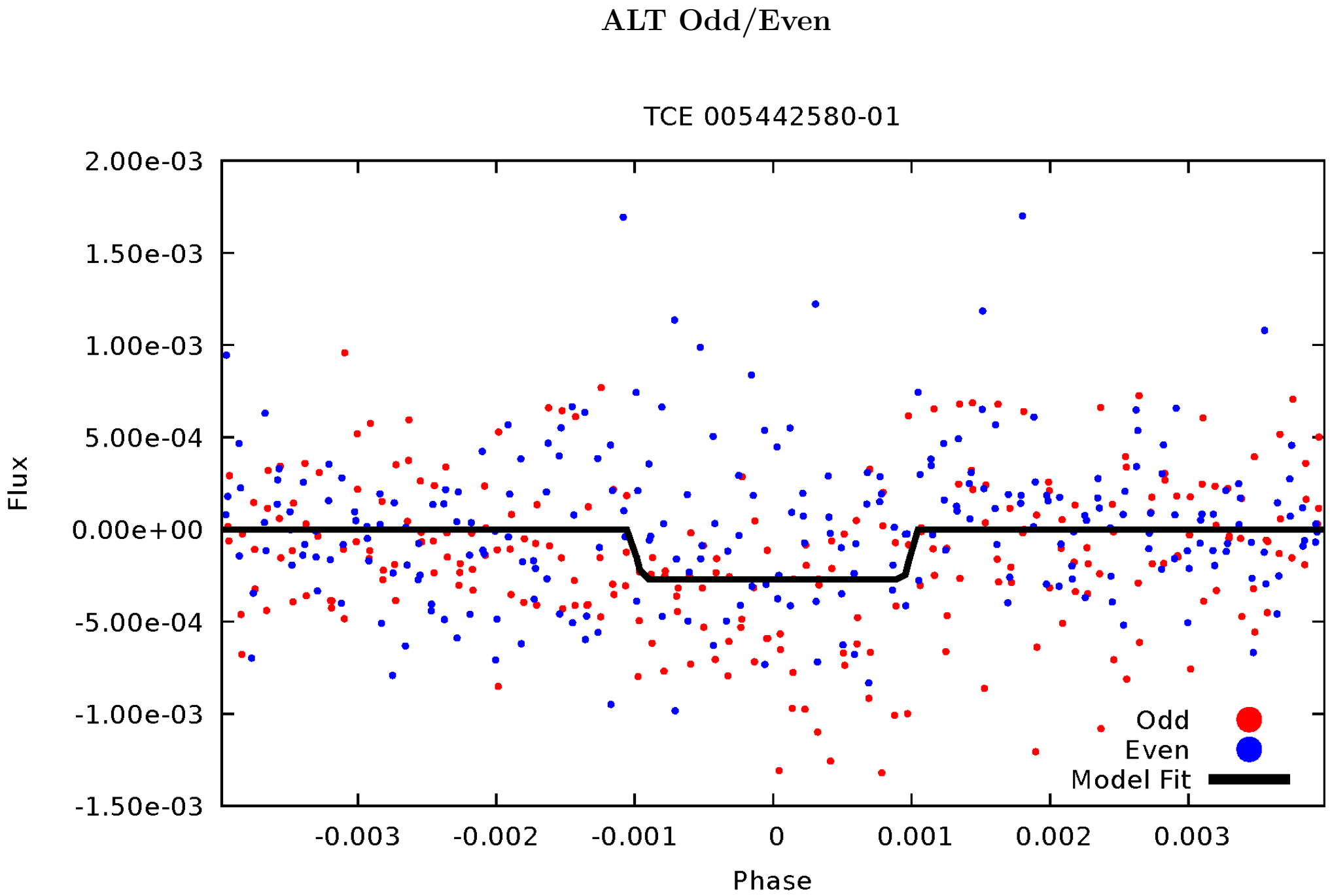
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005442580-01, PDC Light Curves

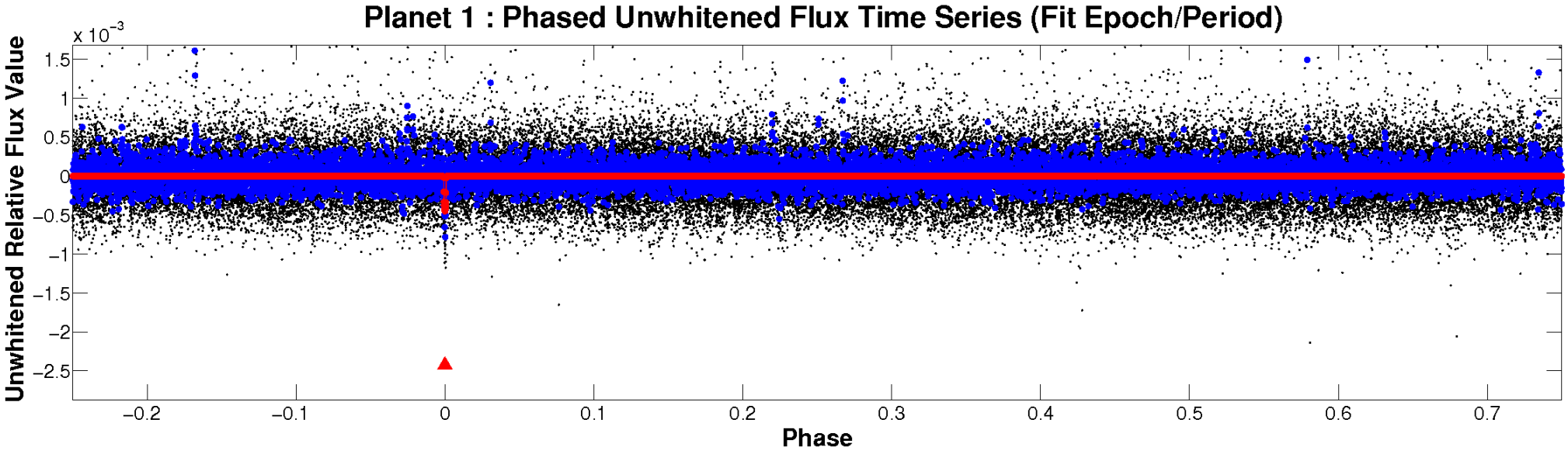


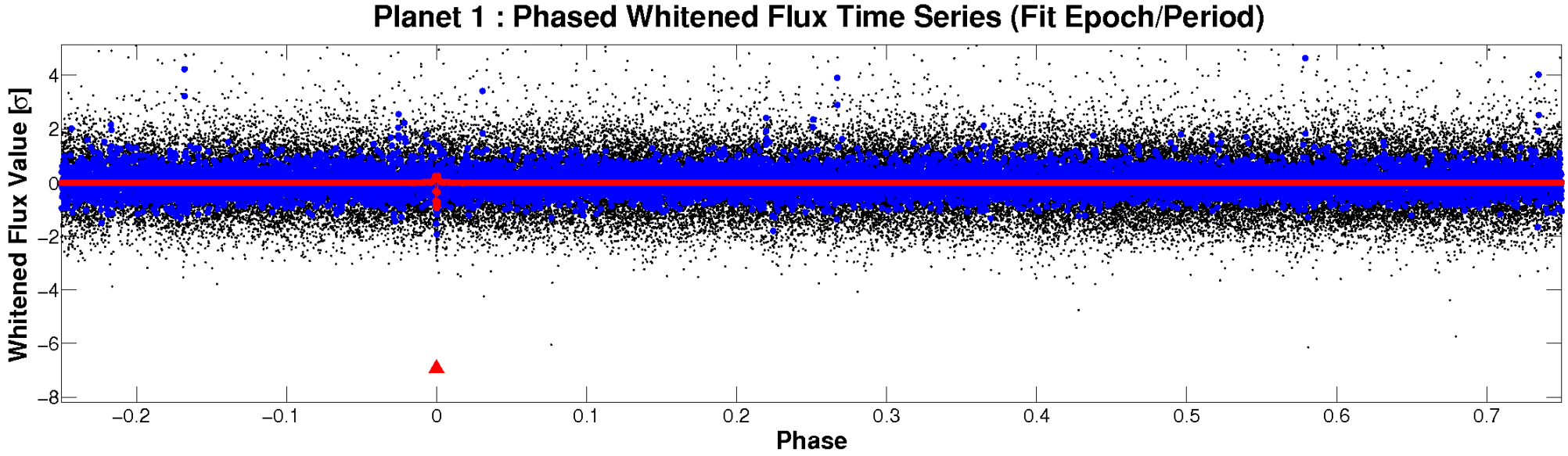

TCE 005442580-01
P = 110.330 days
P = 220.660 days
P = 441.321 days
Normalized Flux
0.003
0.002
0.001
0.000
−0.001
−0.002
−0.003
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.003
0.002
0.001
0.000
−0.001
−0.002
−0.003
−1.0
−0.5
0.0
0.5
1.0
Phase


DV Odd/Even
TCE 005442580-01
1.50e-03
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


ALT Odd/Even
TCE 005442580-01
2.00e-03
1.50e-03
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

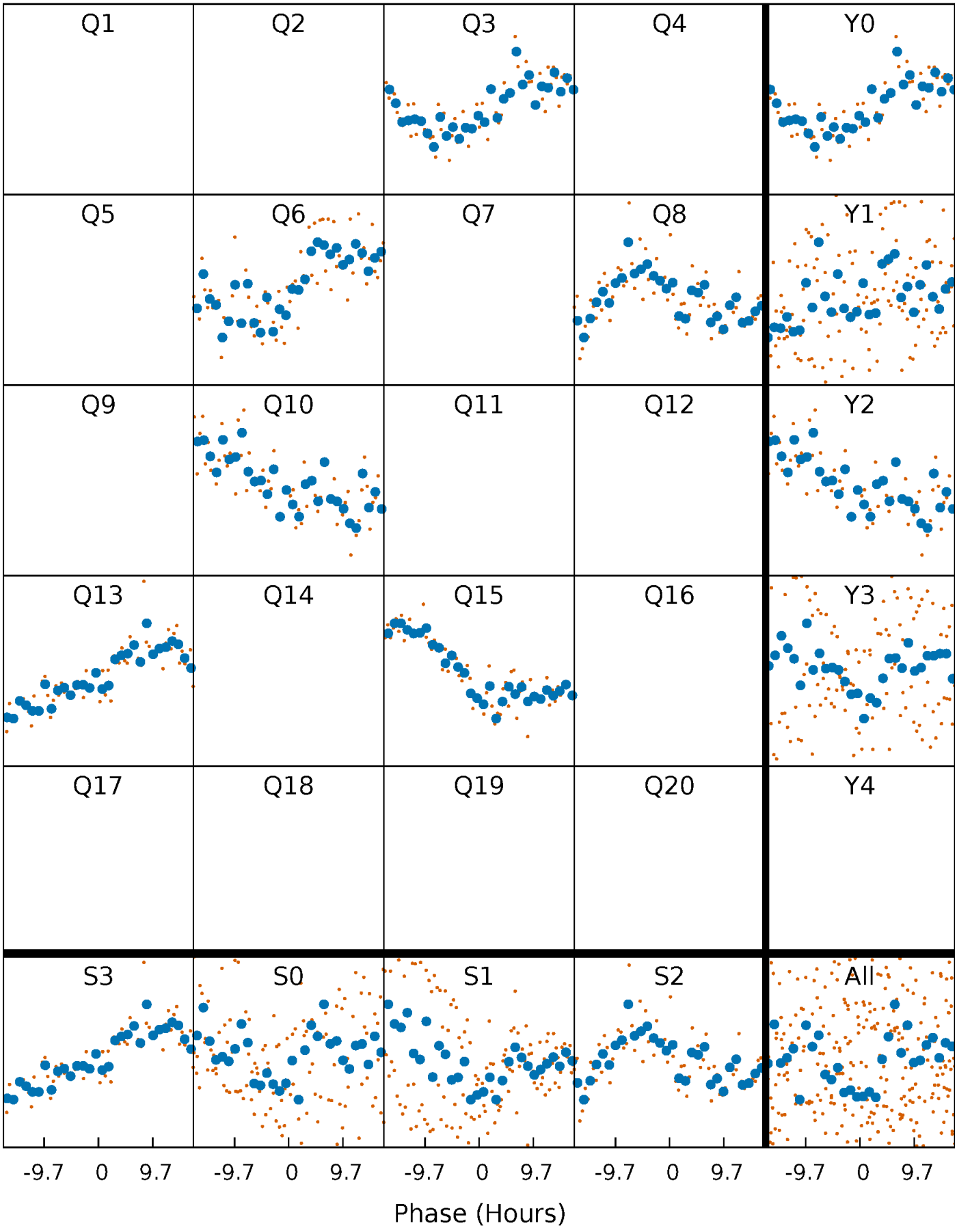
Non-Whitened Vs. Whitened Light Curve





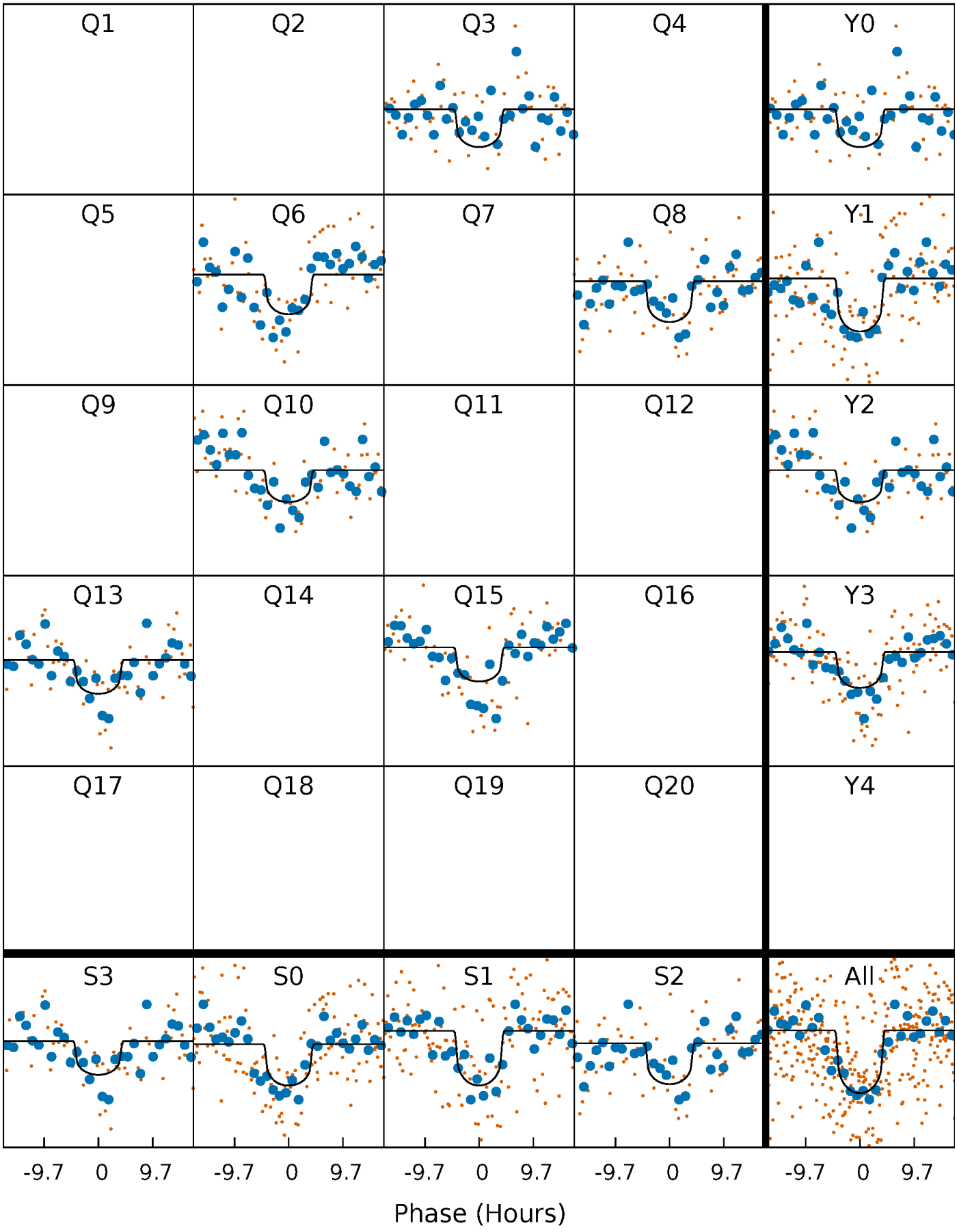
PDC Quarter-Phased Transit Curves

TCE 005442580-01 P=220.660275 Days T_0=328.323724 (BKJD)



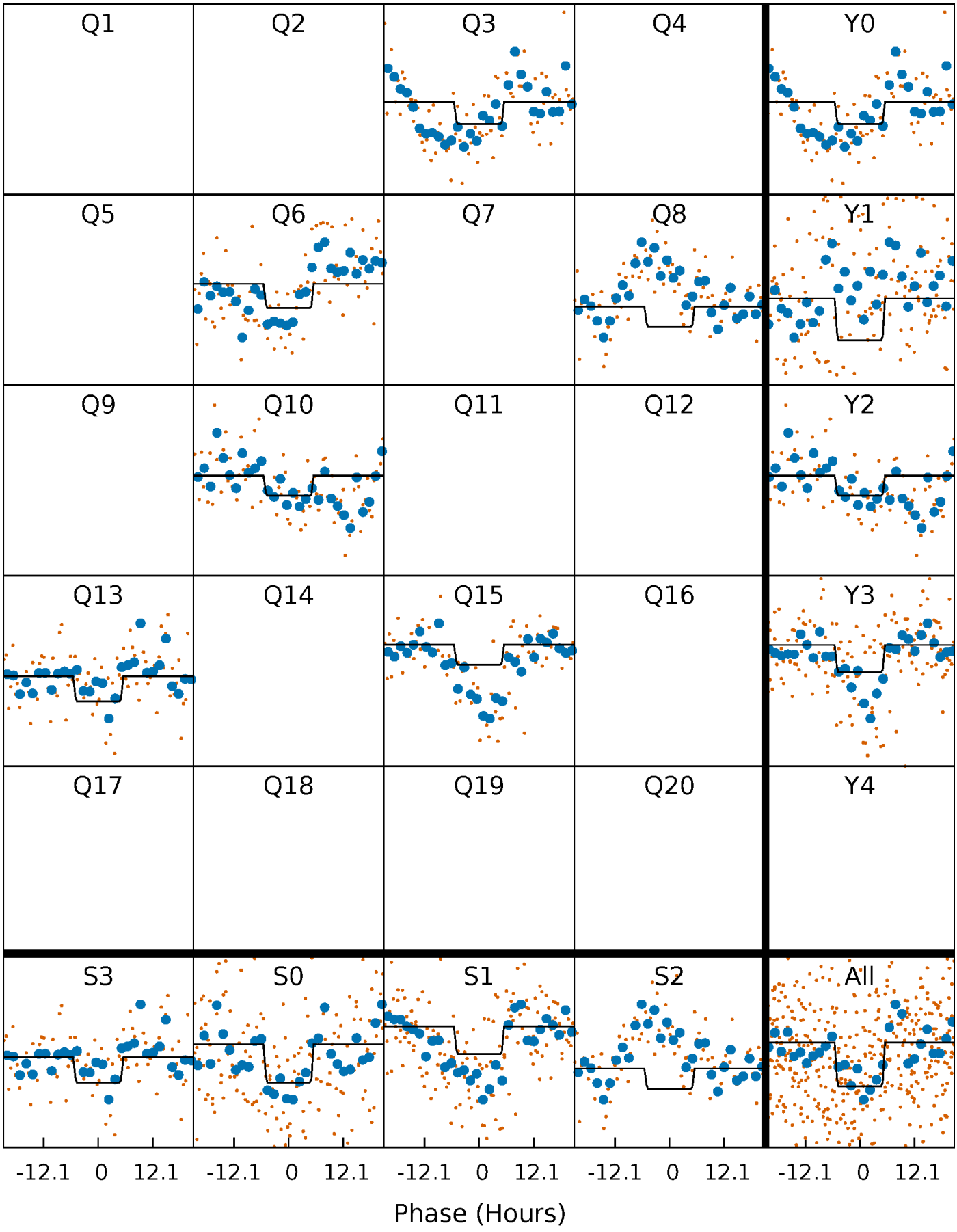
DV Quarter-Phased Transit Curves

TCE 005442580-01 P=220.660275 Days T_0=328.323724 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

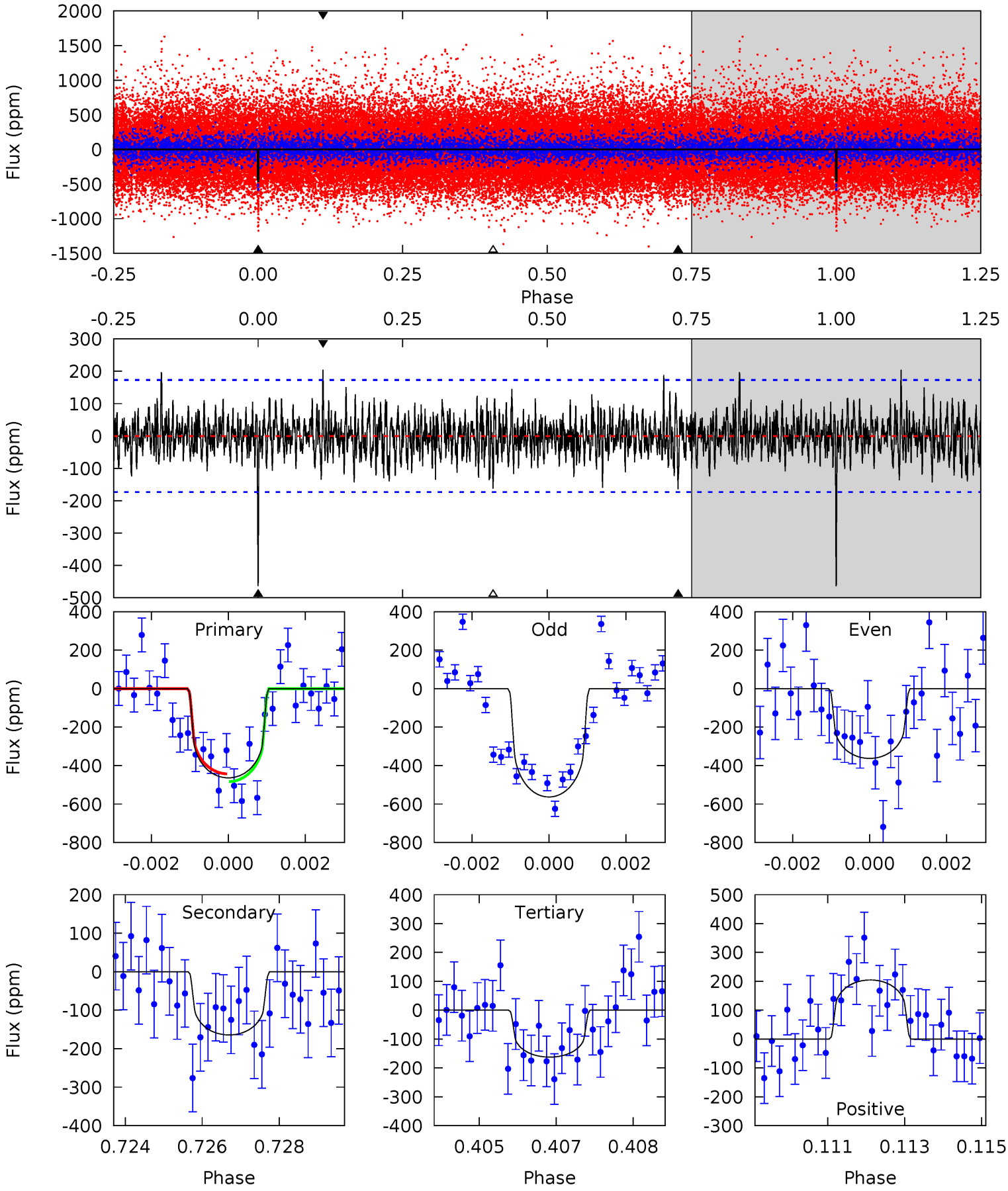
TCE 005442580-01 P=220.662014 Days T_0=328.258616 (BKJD)



DV Model-Shift Uniqueness Test

005442580-01, P = 220.660275 Days, E = 107.663449 Days

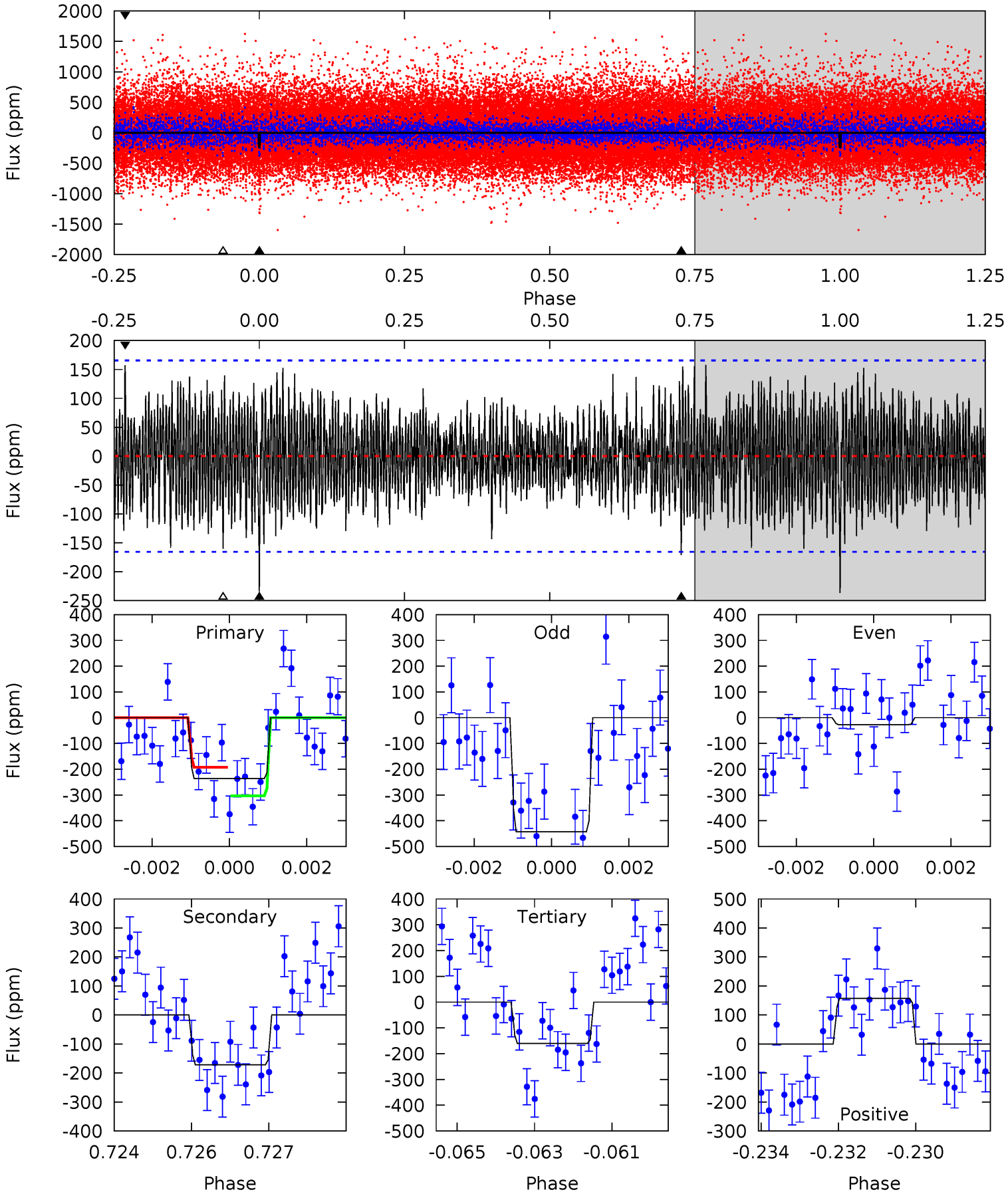
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	5.09	5.03	6.34	5.37	3.15	1.51	9.33	8.02	0.05	-1.25	3.09	0.94	0.31	0.63



Alt Model-Shift Uniqueness Test

005442580-01, P = 220.662014 Days, E = 107.596602 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.61	5.52	5.16	5.06	5.33	3.10	1.75	2.46	2.55	0.36	0.45	6.69	0.79	0.40	1.79



Stellar Parameters For KIC 005442580

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5443^{+87}_{-76}	$4.358^{+0.138}_{-0.092}$	$0.040^{+0.150}_{-0.150}$	$1.017^{+0.127}_{-0.141}$	$0.860^{+0.072}_{-0.033}$	$1.152^{+0.702}_{-0.311}$
	+2%/-1%	+3%/-2%	+375%/-375%	+12%/-14%	+8%/-4%	+61%/-27%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005442580-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-164±32	$2.60^{+1.64}_{-1.55}$	410^{+15}_{-18}	4252^{+2008}_{-681}	6323^{+31725}_{-4053}
Alt.	-171±31	$2.20^{+1.60}_{-1.33}$	409^{+15}_{-18}	4547^{+2586}_{-813}	9291^{+51826}_{-6367}

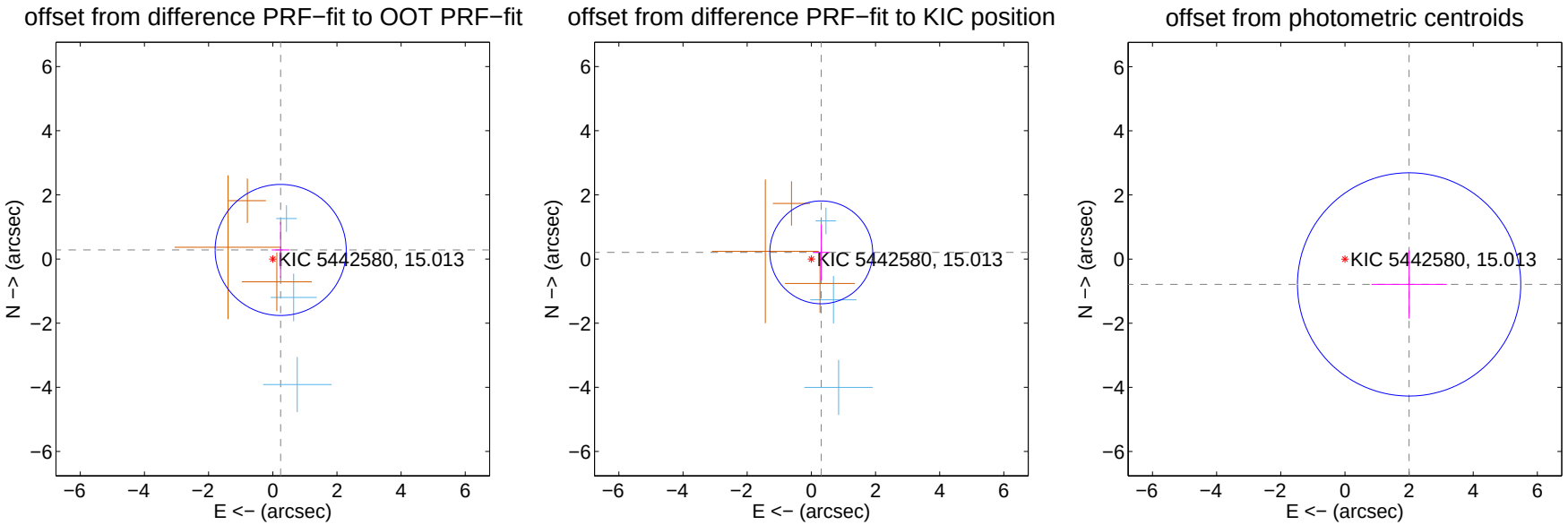
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

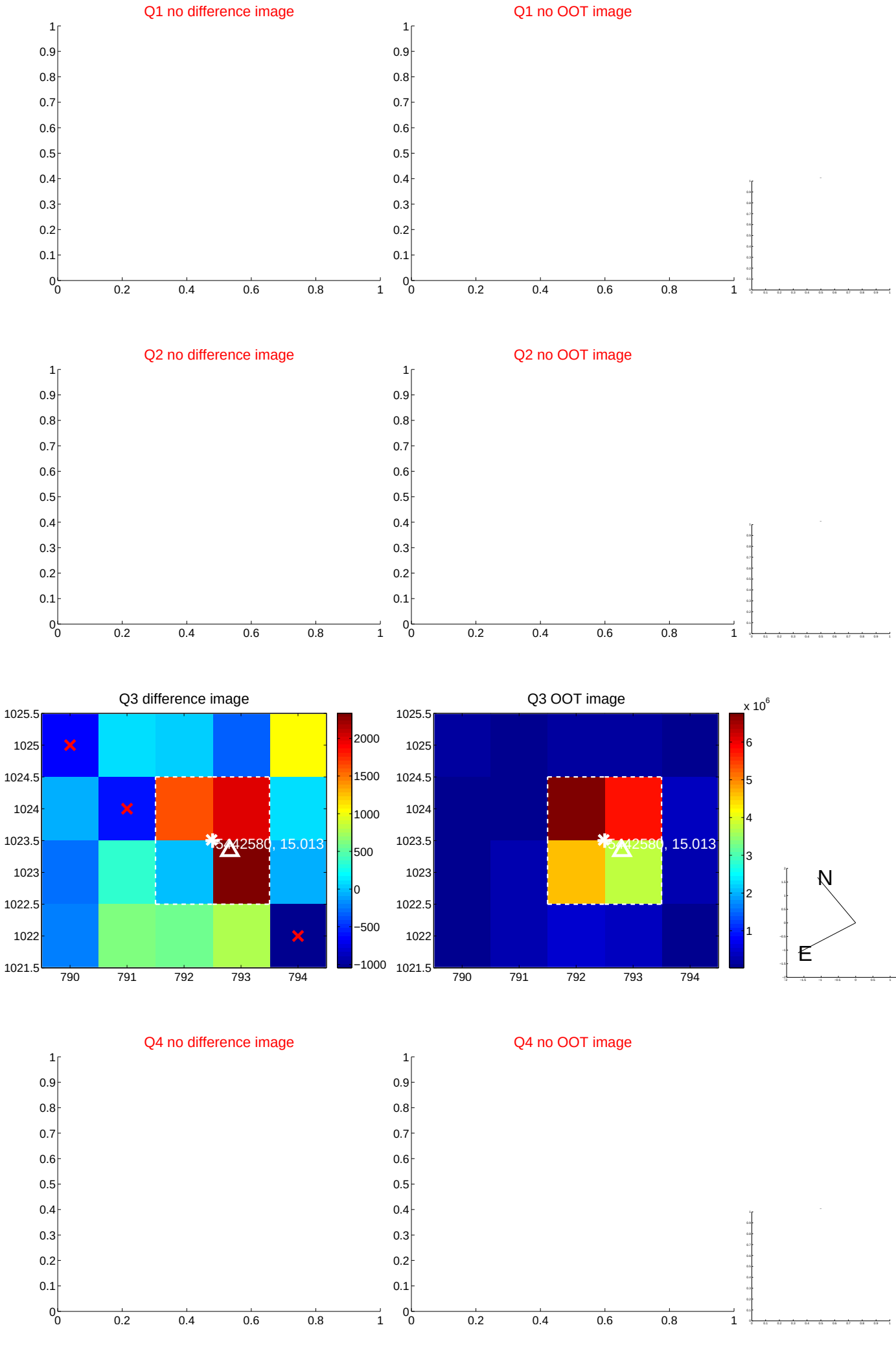
Supplemental centroid analysis for 005442580-01. Kepler magnitude: 15.01. Transit SNR 8.23
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.374 ± 0.681	0.55	-0.246 ± 0.275	0.282 ± 0.872
PRF-fit source offset from KIC position	0.372 ± 0.534	0.70	-0.308 ± 0.266	0.208 ± 0.872
photometric centroid source offset	2.15 ± 1.16	1.85	-2.00 ± 1.18	-0.79 ± 1.06

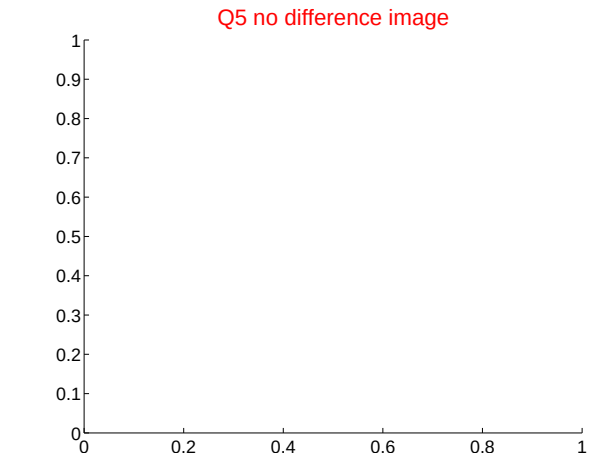


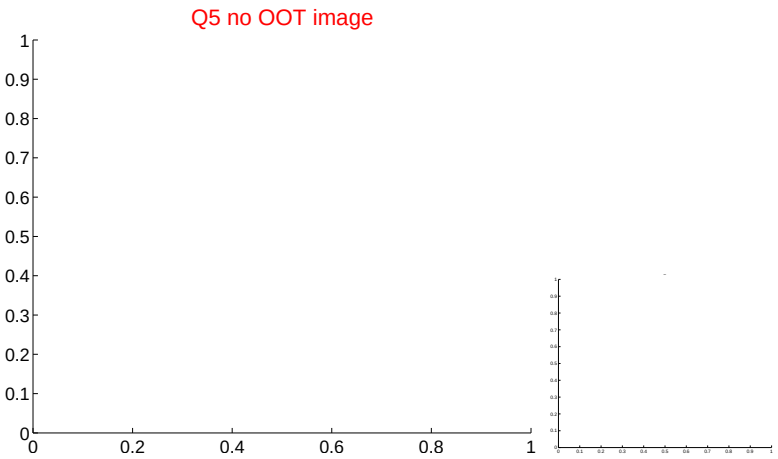
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

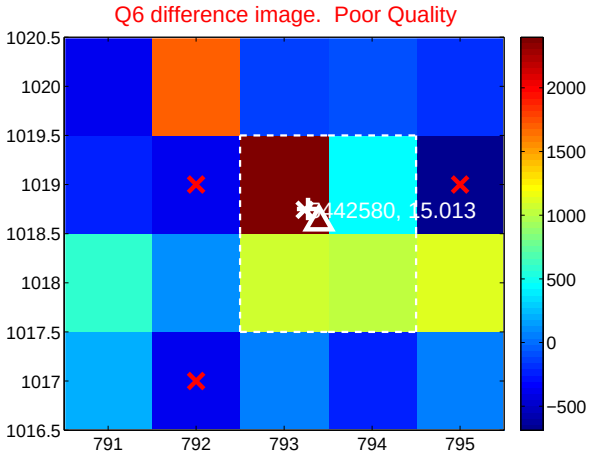
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

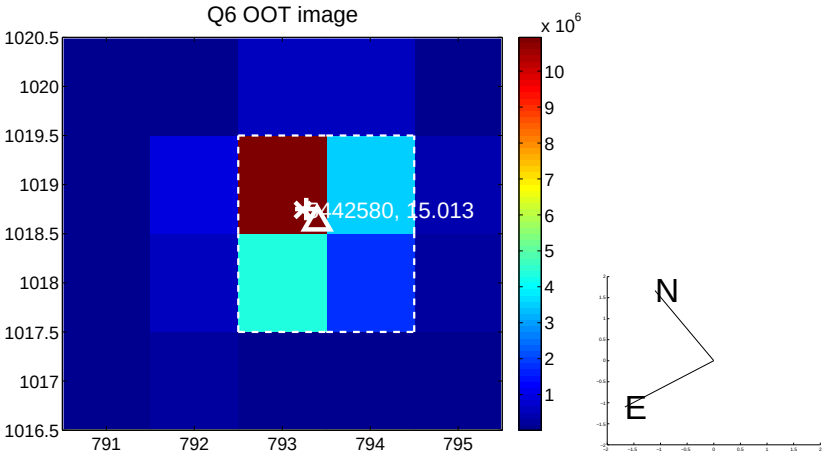


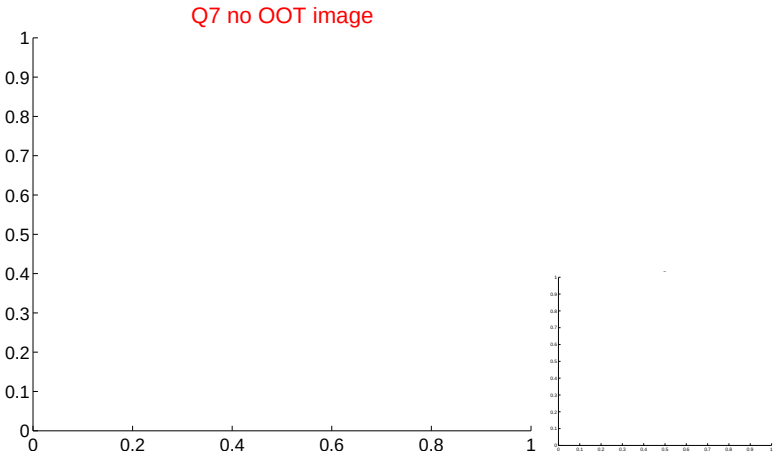
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

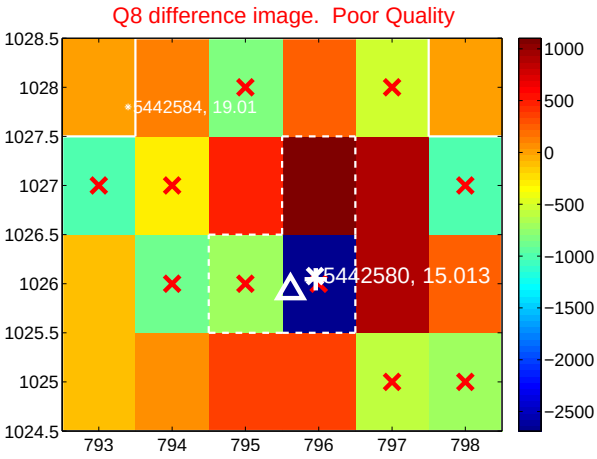


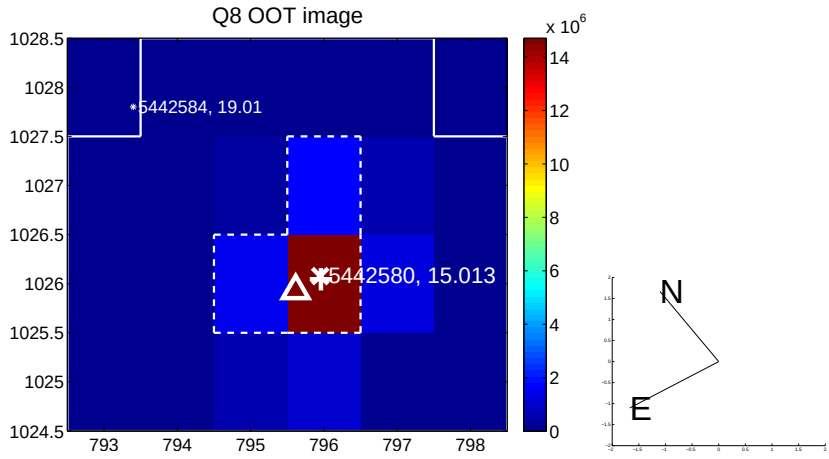




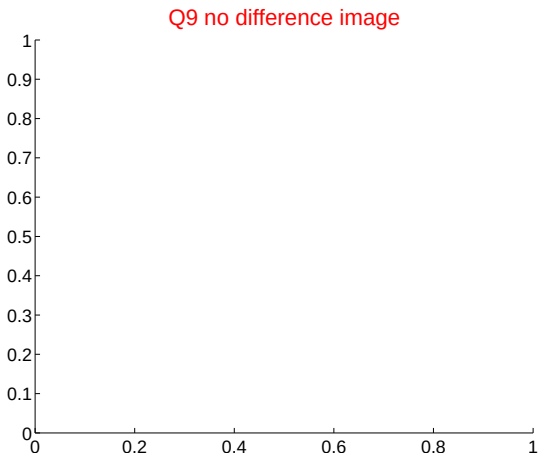


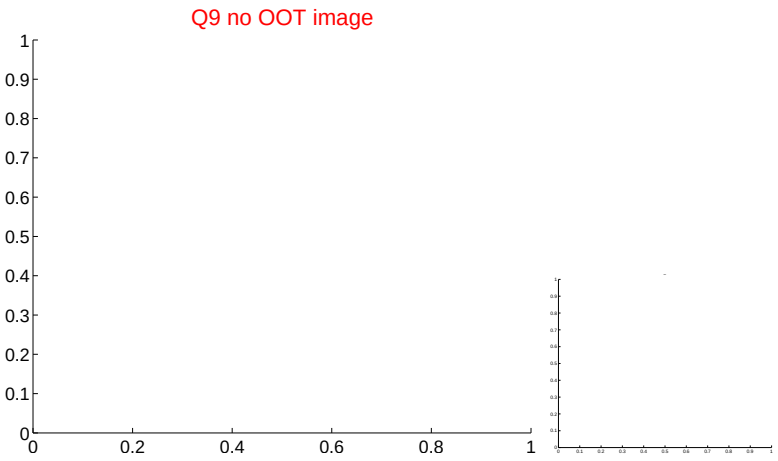


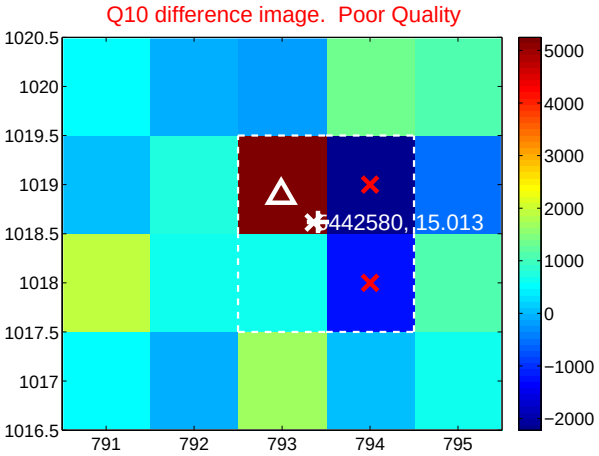


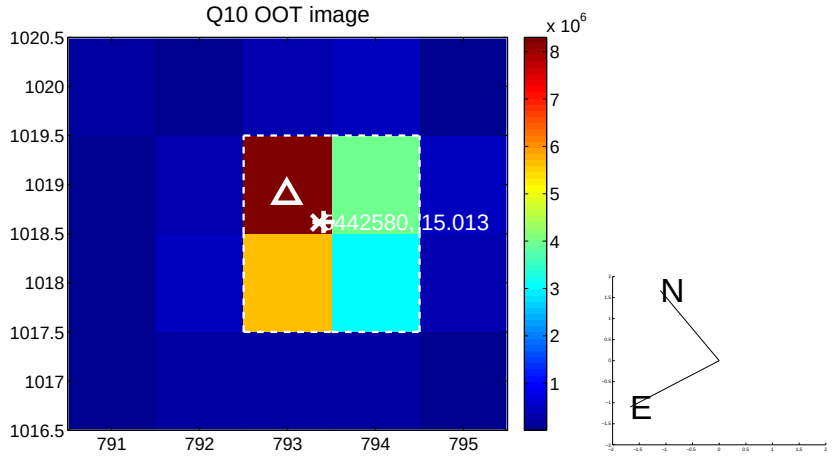


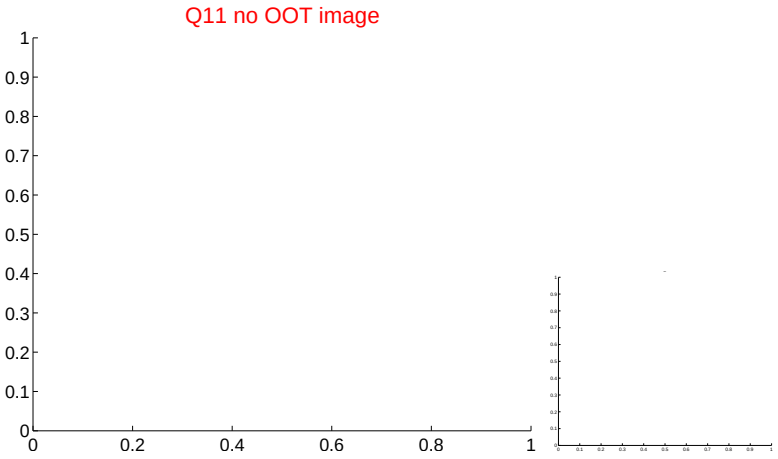
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

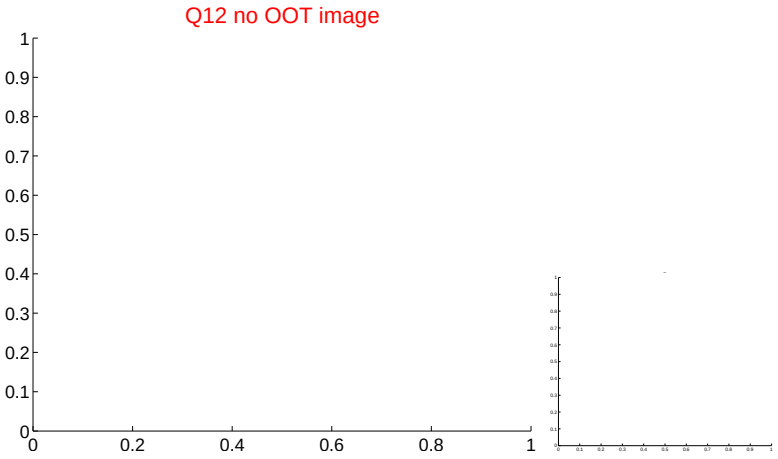




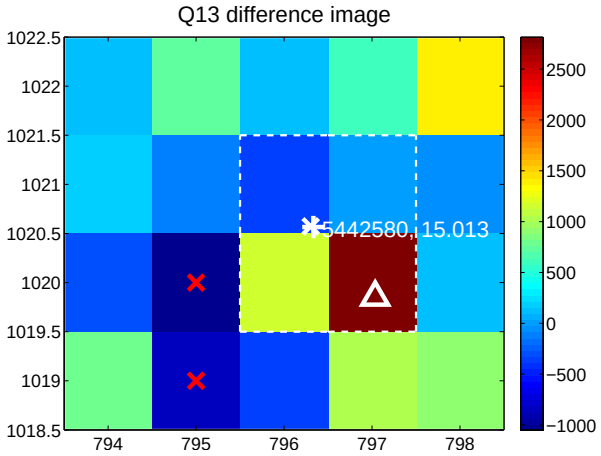


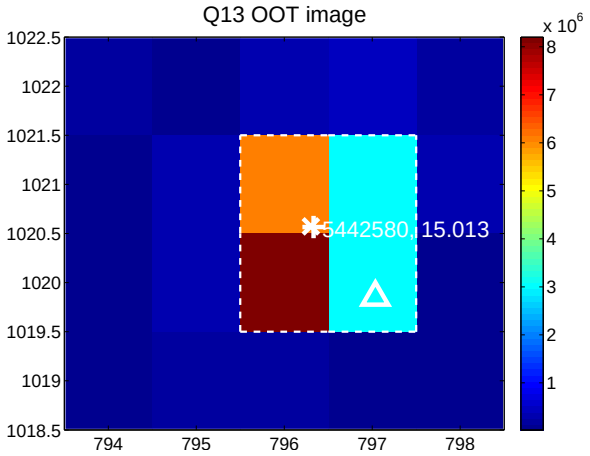


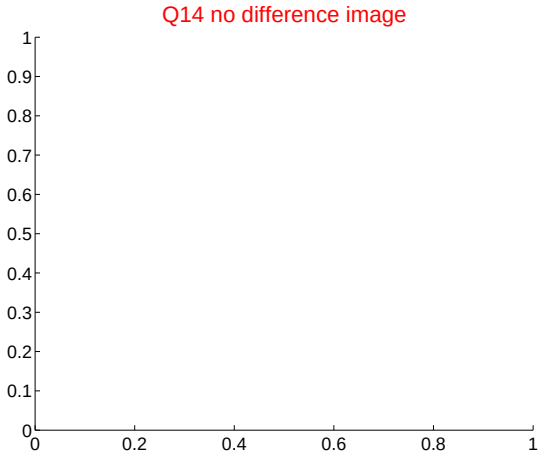


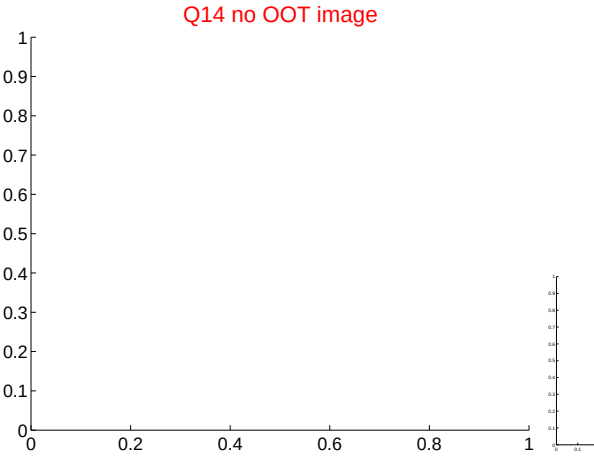


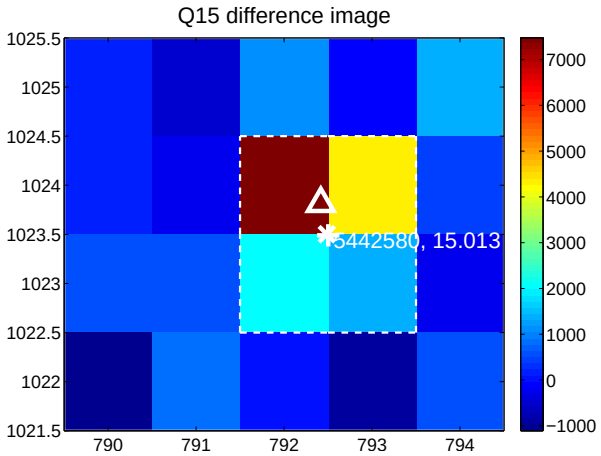
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

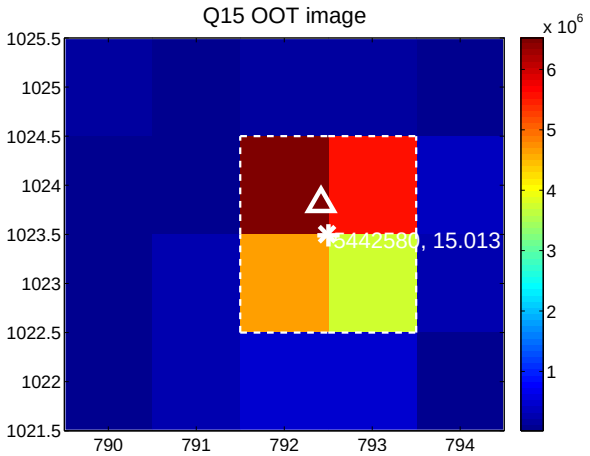


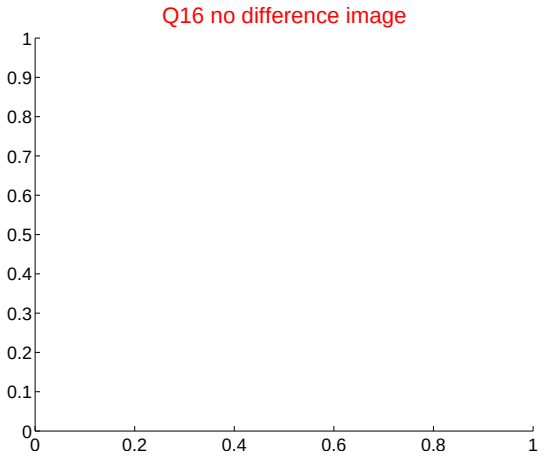


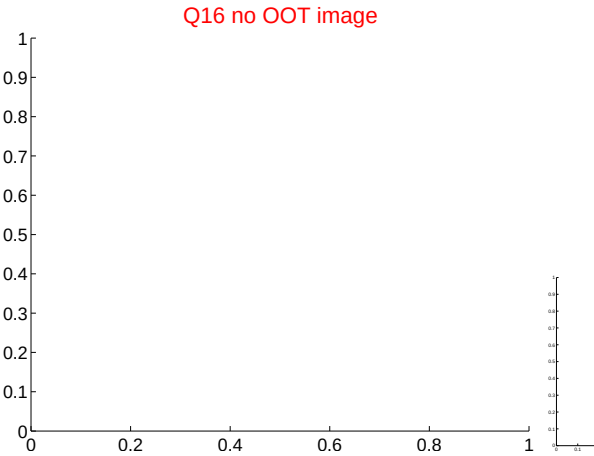




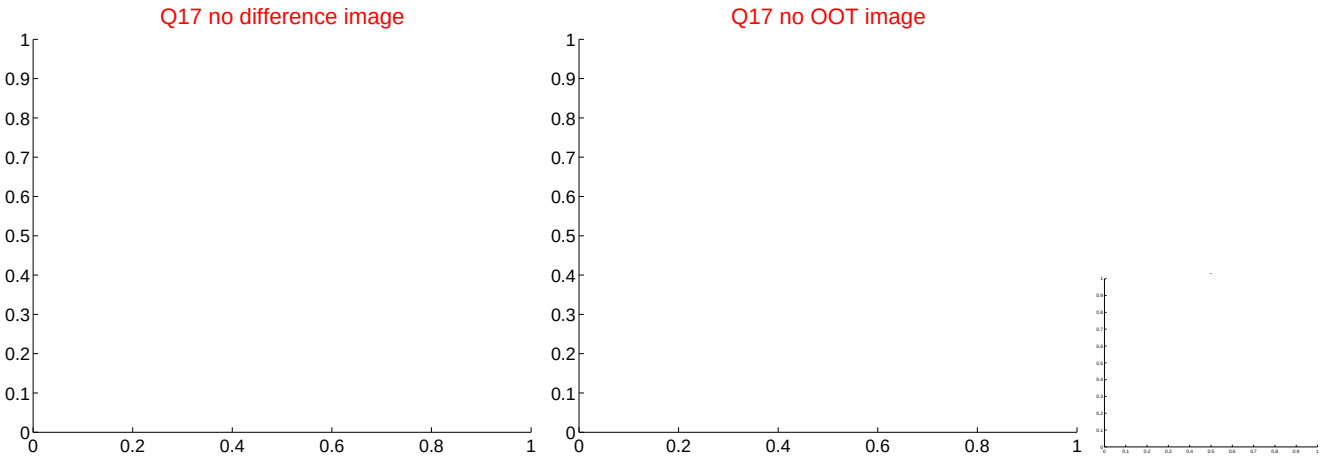


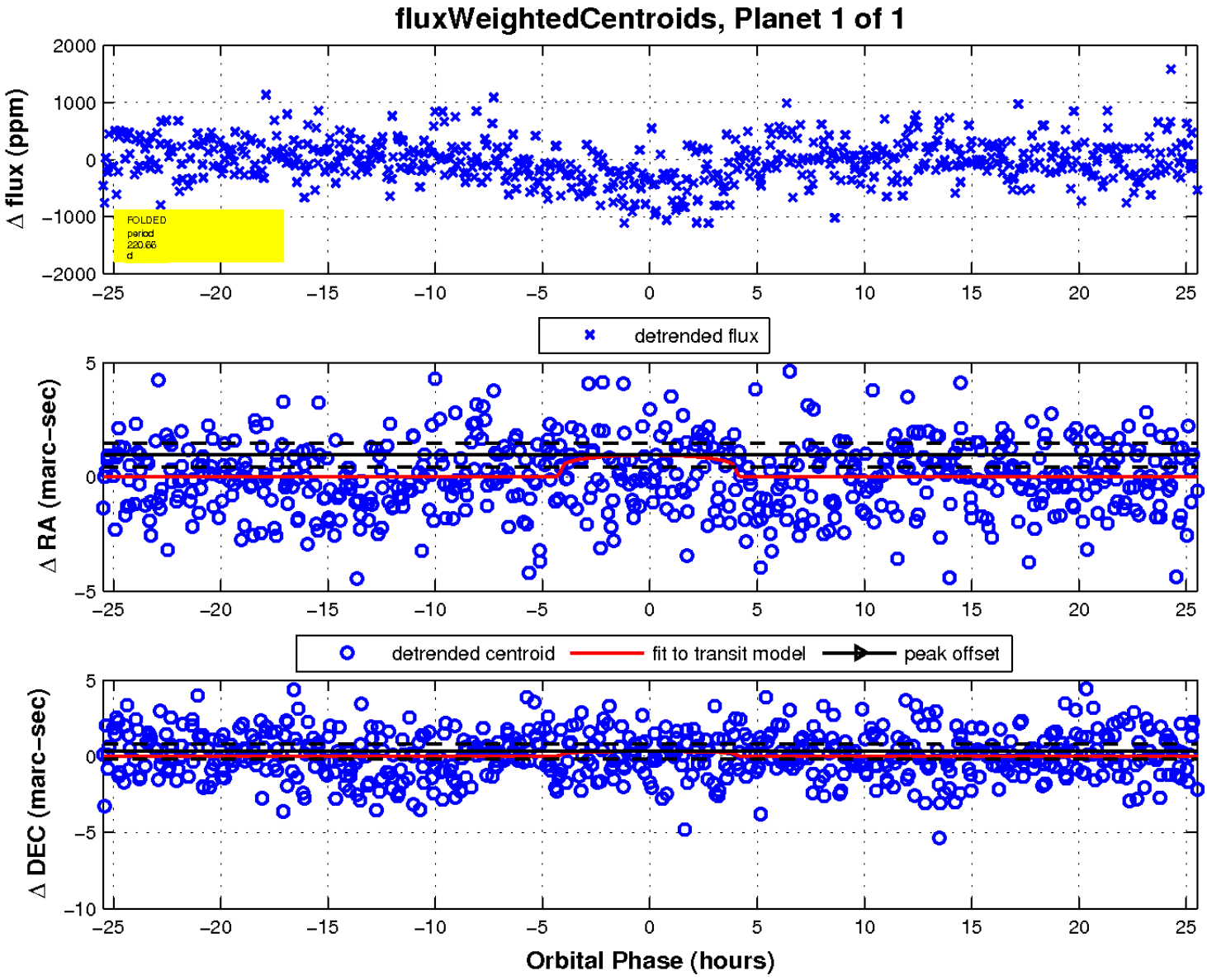




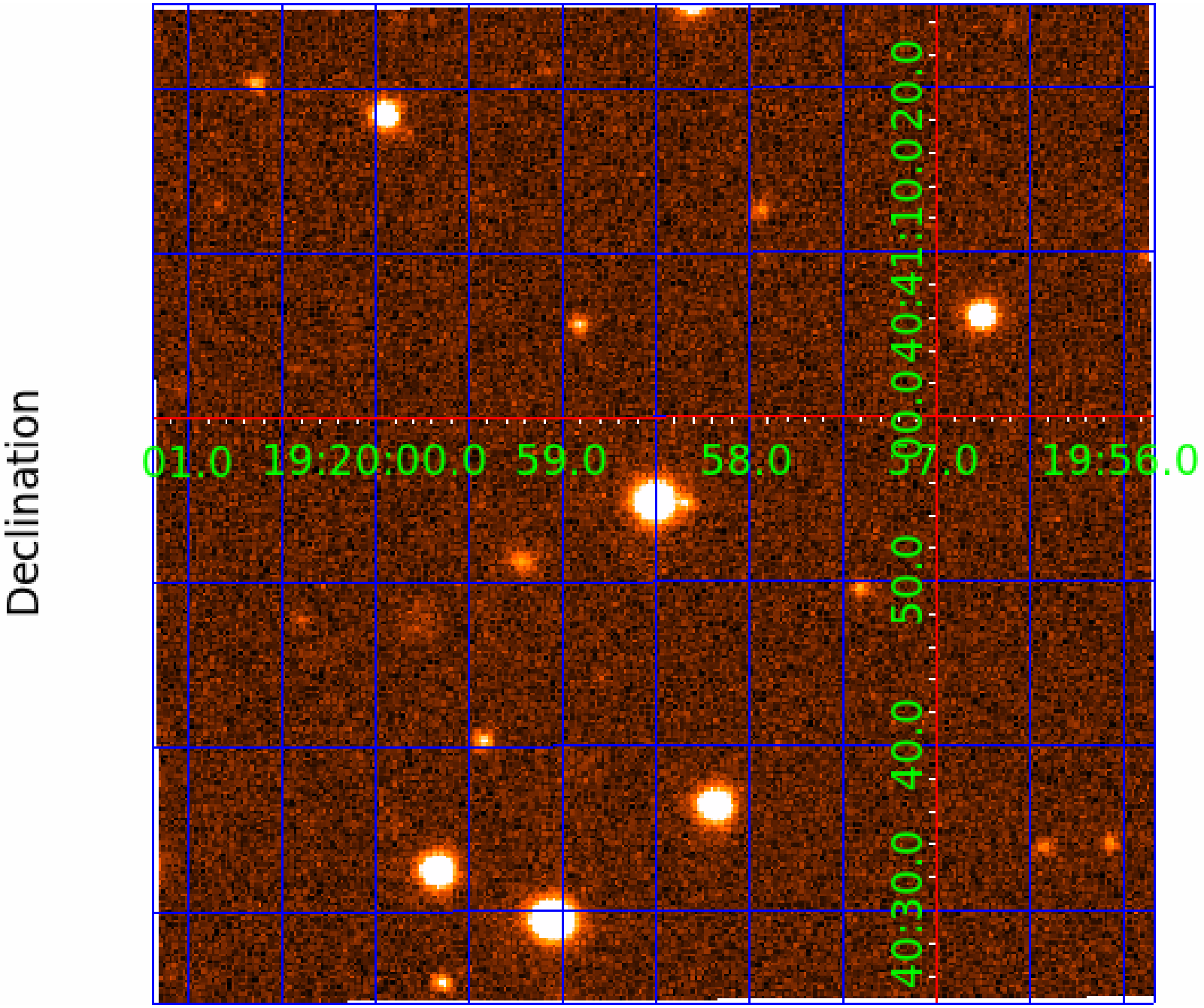


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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