KIC 009142714

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 ($S_\oplus$)
009142714-01	OBS	No	556.753318	355.377099	655.0	2.128	11.7	2.2	0.36	3514	0.97	0.02
009142714-02	OBS	No	380.170937	152.521076	1945.9	9.596	12.3	7.2	0.36	3514	2.00	0.03
009142714-03	OBS	No	320.090873	301.288507	1694.9	3.348	10.3	7.6	0.36	3514	1.47	0.04
009142714-04	OBS	7928.01	1.126260	132.296346	155.5	3.619	9.4	11.6	0.36	3514	0.53	74.67
009142714-05	OBS	No	306.142407	274.246222	1278.1	7.500	12.8	-1.0	0.36	3514	1.26	0.04
009142714-06	OBS	No	204.029097	142.929948	540.2	9.000	8.9	-1.0	0.36	3514	0.82	0.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009142714-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009142714-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
009142714-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
009142714-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009142714-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009142714-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_NOFITS

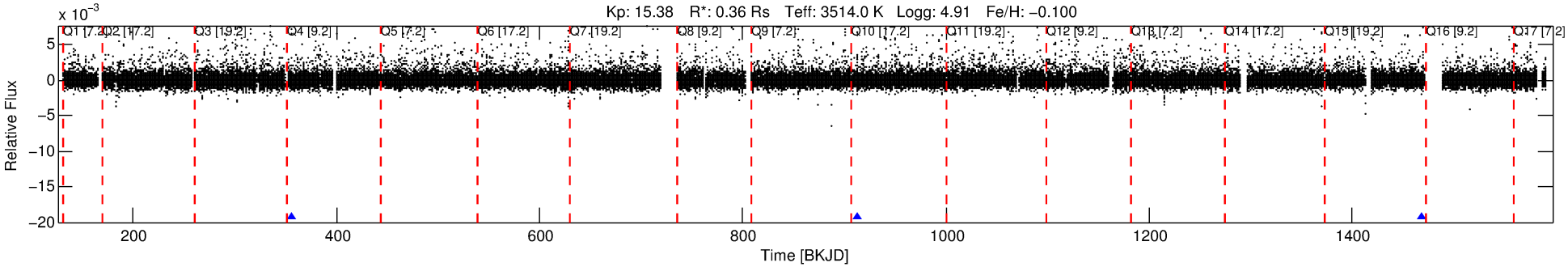
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

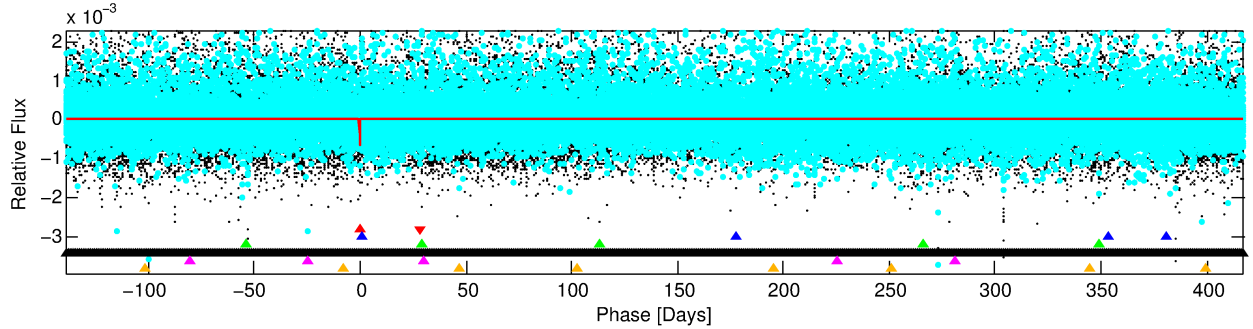
Ephemeris Match Information For 009142714-01

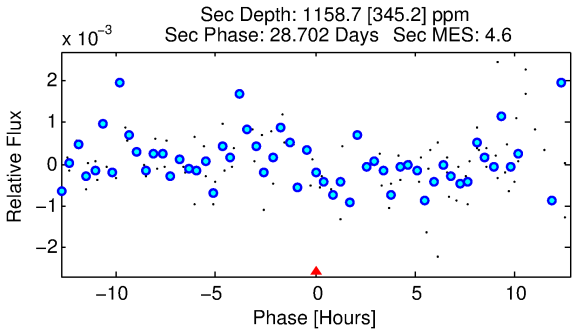
No Significant Match Found

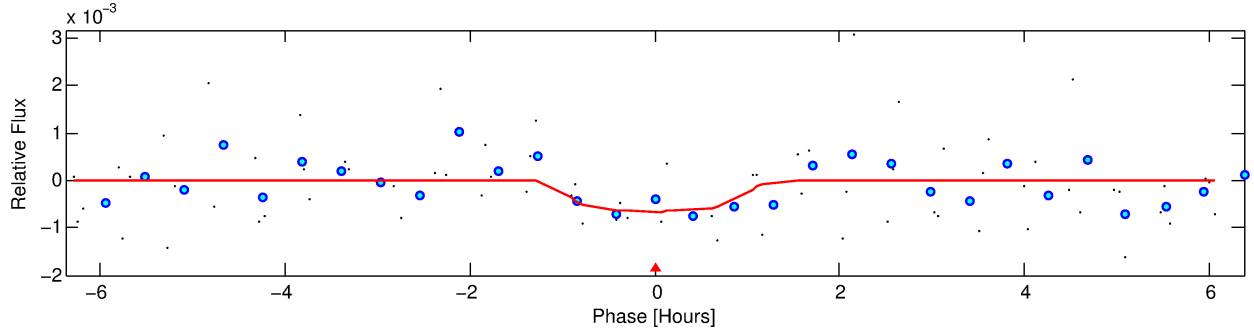
DV One-Page Summary

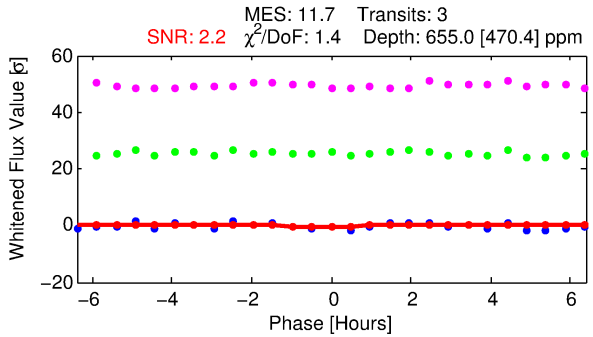
KIC: 9142714 Candidate: 1 of 6 Period: 556.753 d

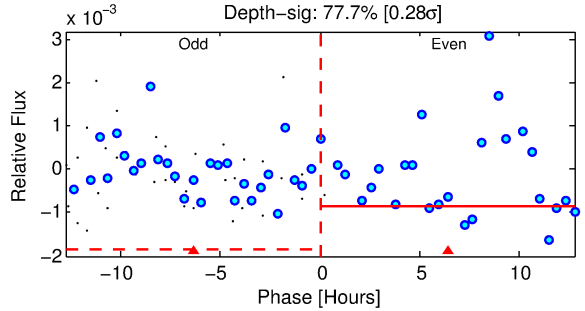


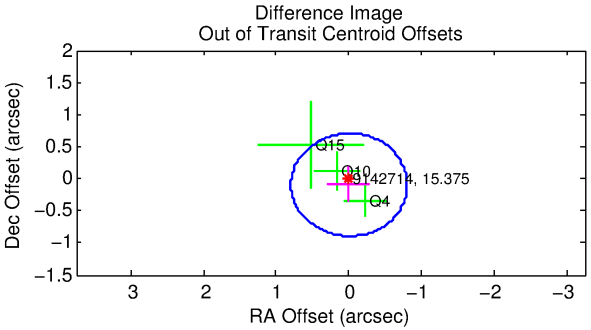












DV Fit Results:

Period = 556.75332 [0.01514] d
Epoch = 355.3771 [0.0243] BKJD
Rp/R* = 0.0248 [0.2408]
a/R* = 1563.21 [66296.70]
b = 0.66 [36.23]

Seff = 0.02 [0.00]
Teq = 95 [3] K
Rp = 0.97 [9.41] Re
a = 0.9573 [0.0719] AU

Ag = 623660.20 [12123854.71] [0.05σ]
Teffp = 4119 [20018] K [0.20σ]

DV Diagnostic Results:

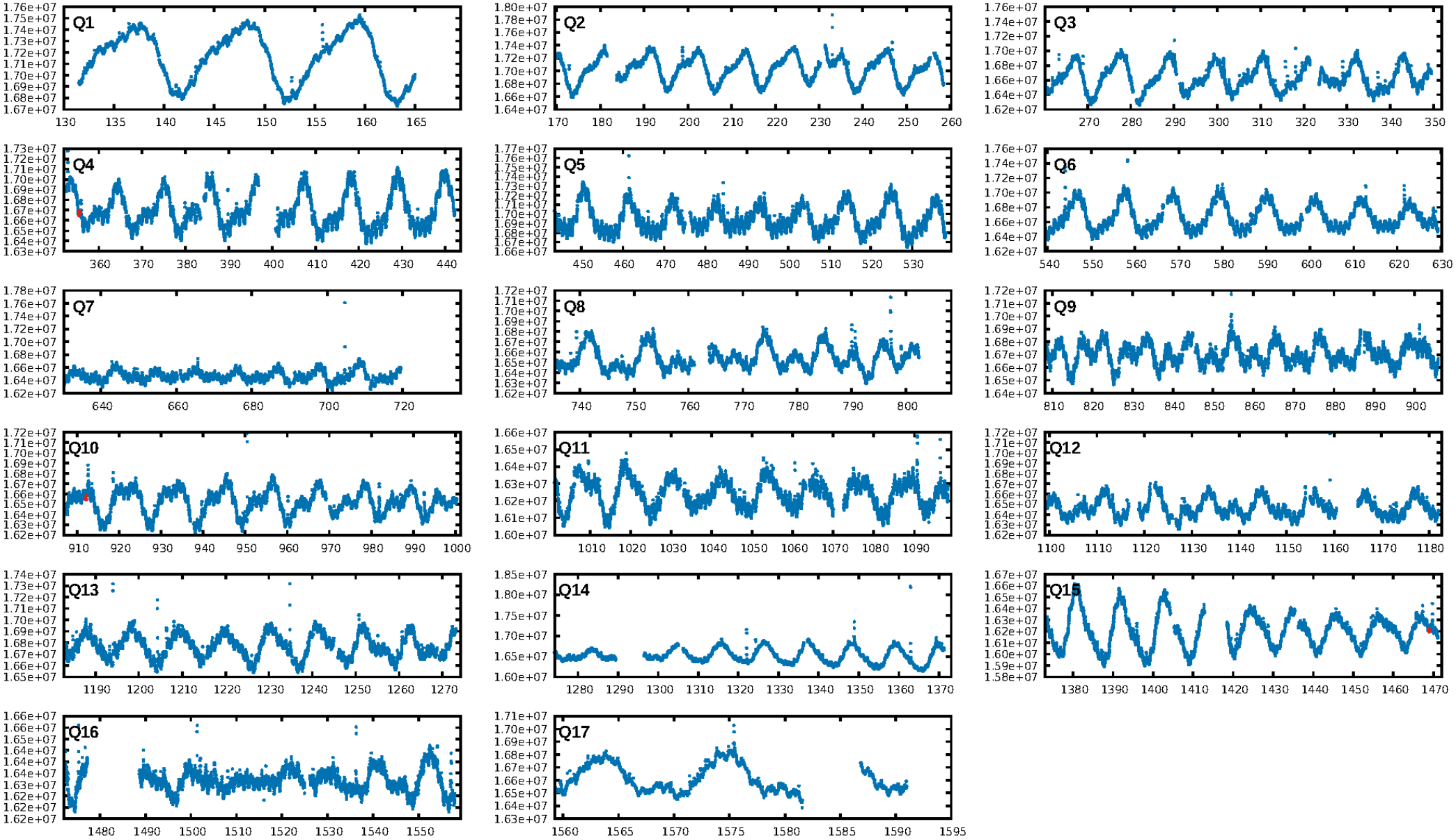
ShortPeriod−sig: 100.0% [431.15σ]
LongPeriod−sig: N/A
ModelChiSquare2−sig: 84.8%
ModelChiSquareGof−sig: 97.3%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [3/3]
GhostDiagnostic−chr: −1.355

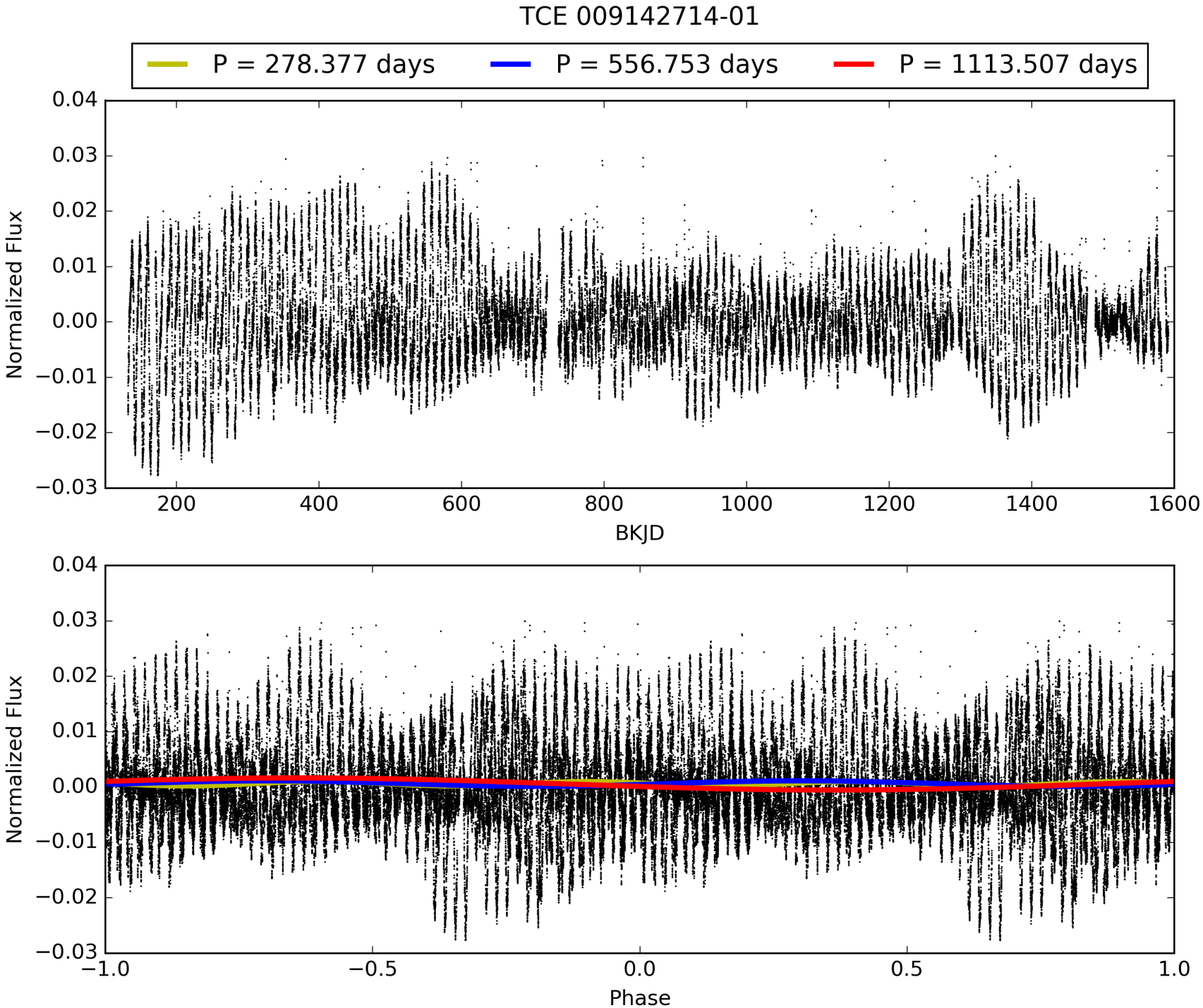
Centroid−sig: 82.1%
Centroid−so: 1.601 arcsec [0.36σ]
OotOffset−rm: 0.095 arcsec [0.36σ]
KicOffset−rm: 0.181 arcsec [0.64σ]
OotOffset−st: 1/1/1/0 [3]
KicOffset−st: 1/1/1/0 [3]
DiffImageQuality−fgm: 1.00 [3/3]
DiffImageOverlap−fno: 0.33 [1/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 06:21:27 Z

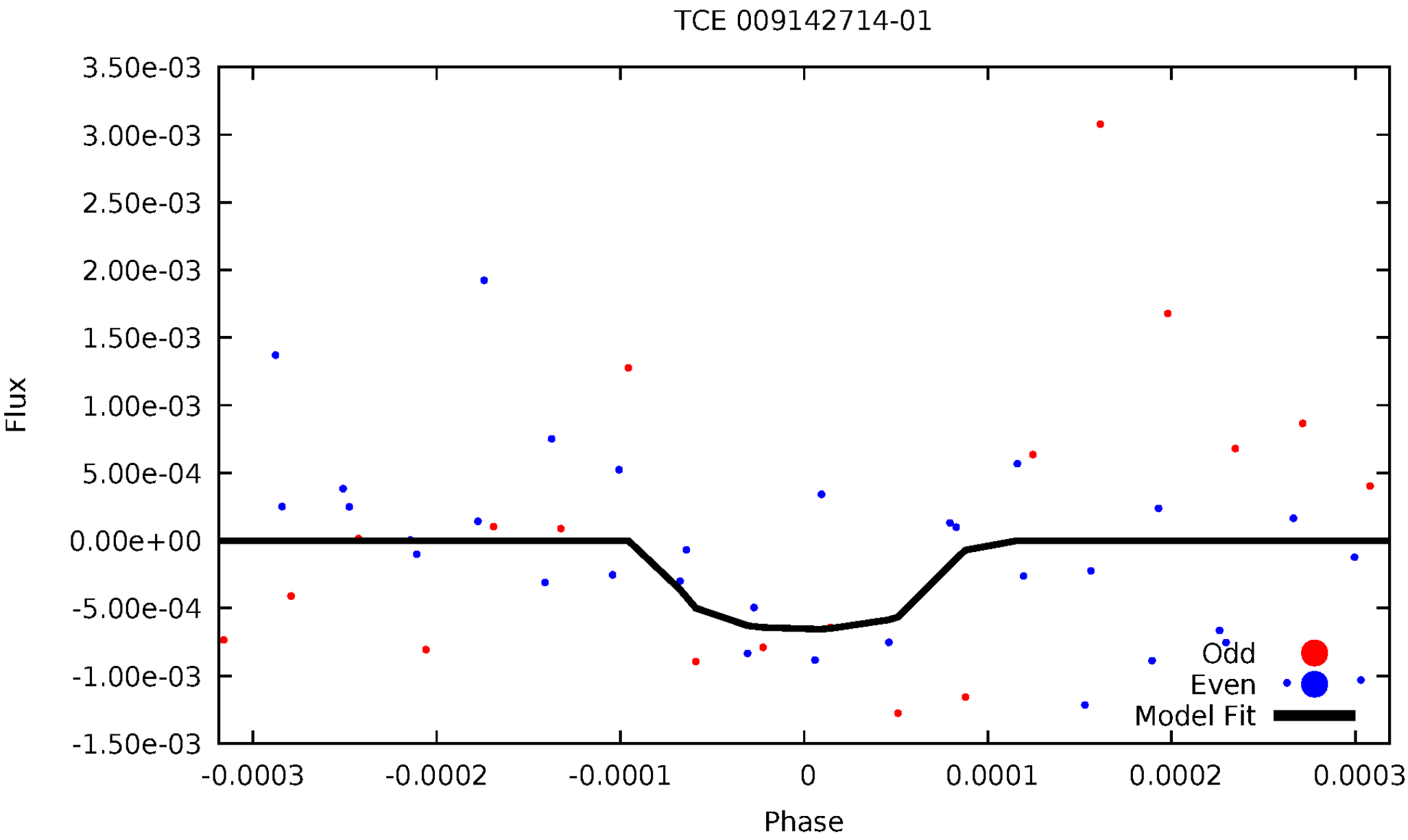
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009142714-01, PDC Light Curves

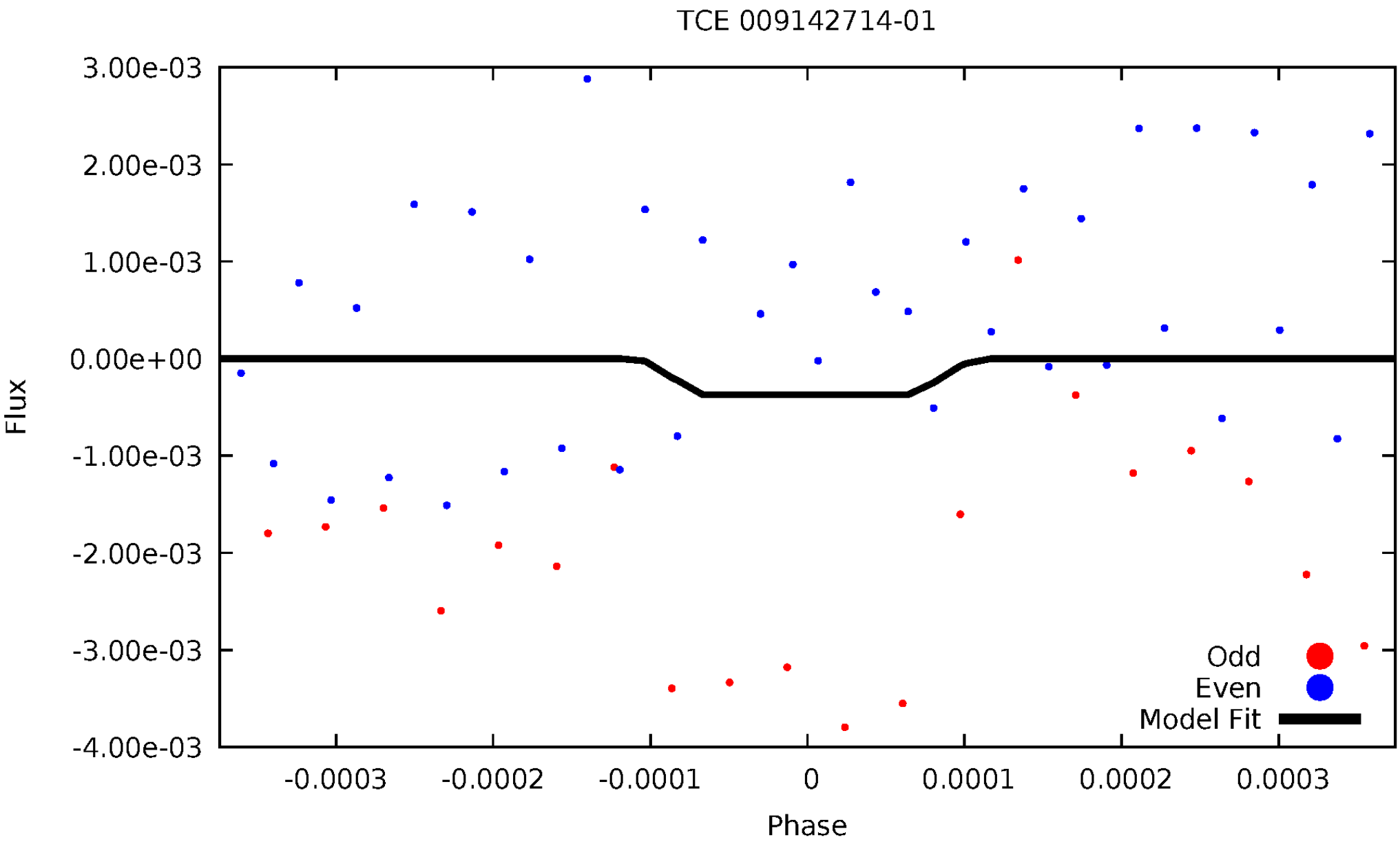



TCE 009142714-01
P = 278.377 days
P = 556.753 days
P = 1113.507 days
Normalized Flux
BKJD
Phase

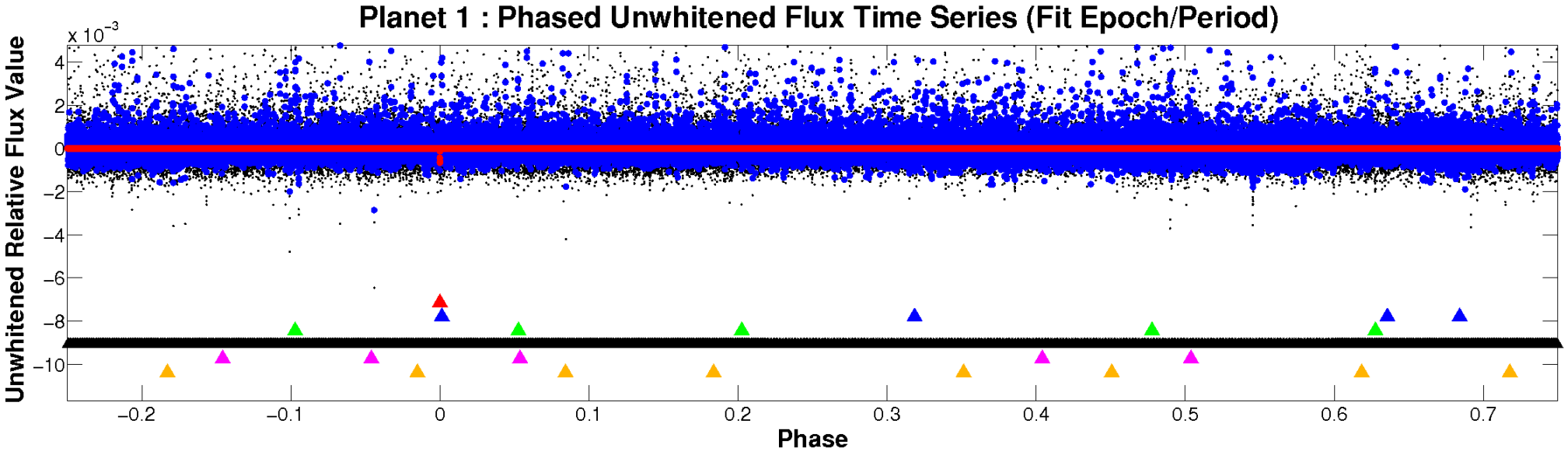
DV Odd/Even

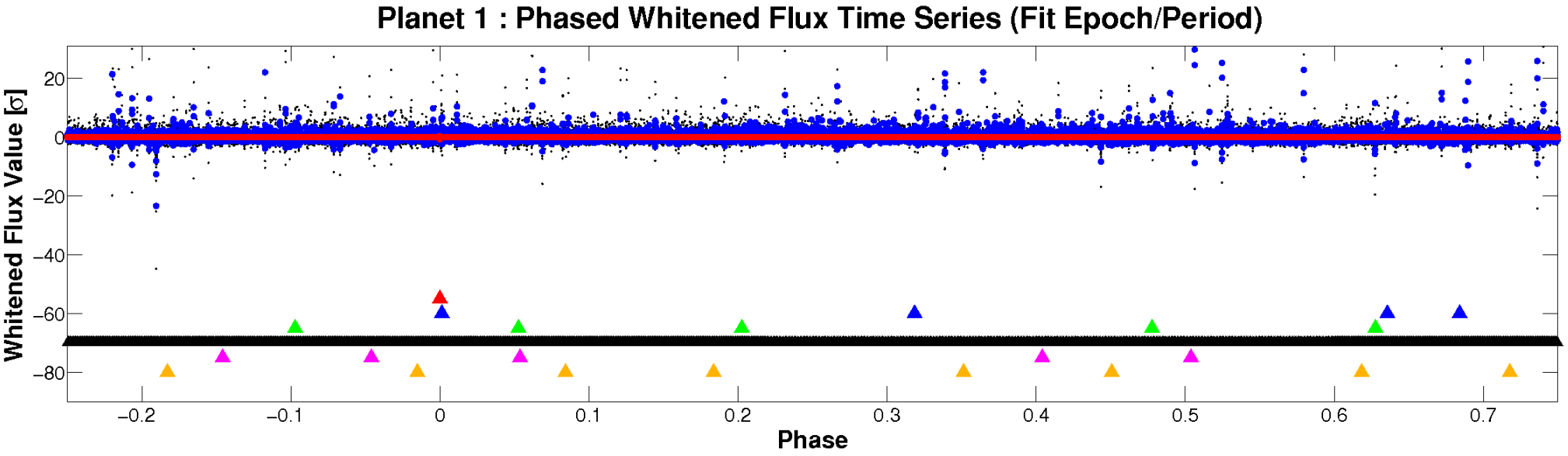

TCE 009142714-01
3.50e-03
3.00e-03
2.50e-03
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.0003
-0.0002
-0.0001
0
0.0001
0.0002
0.0003
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009142714-01
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
-0.0003
-0.0002
-0.0001
0
0.0001
0.0002
0.0003
Phase
Odd
Even
Model Fit

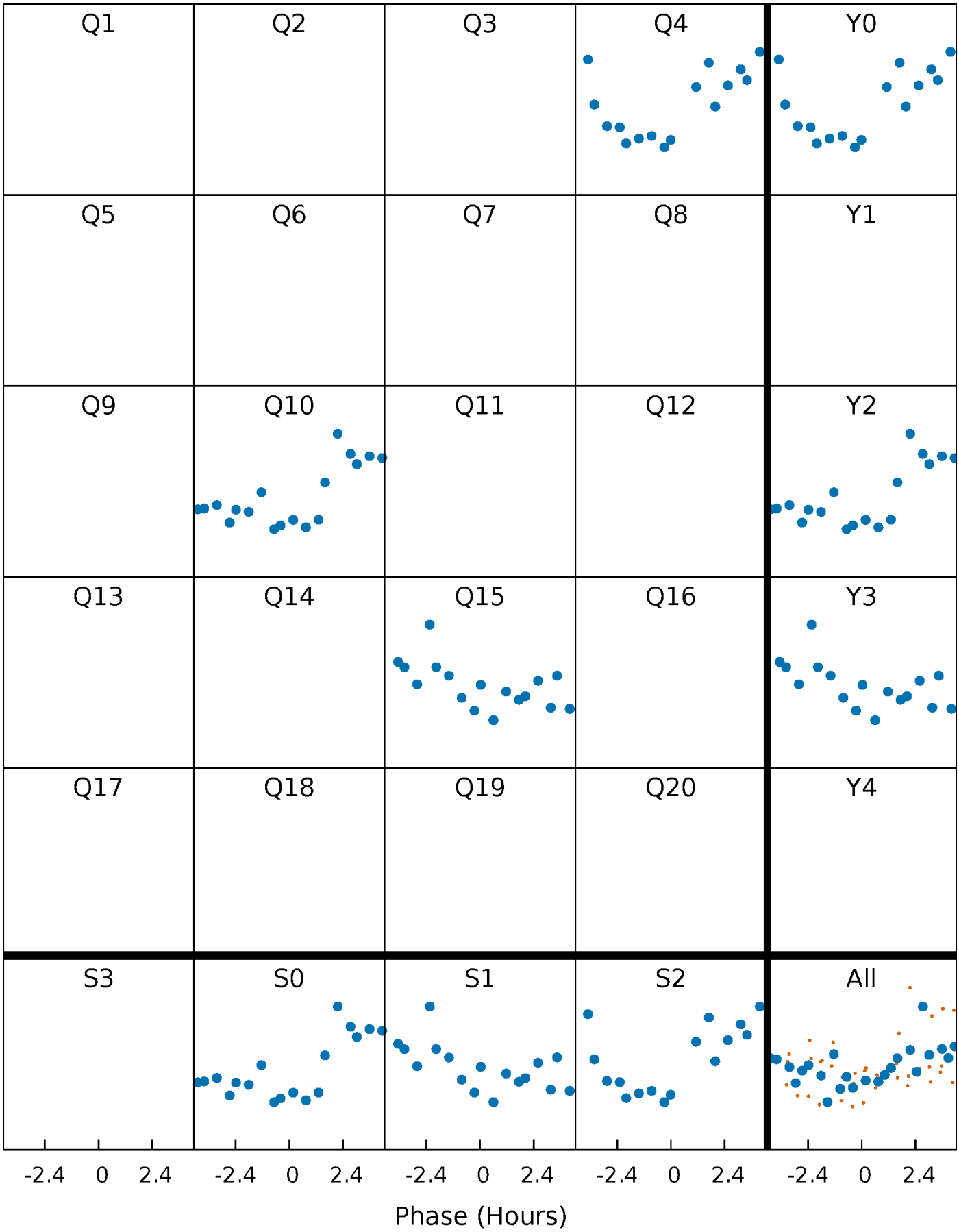
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 009142714-01 P=556.753318 Days T_0=355.377099 (BKJD)



DV Quarter-Phased Transit Curves

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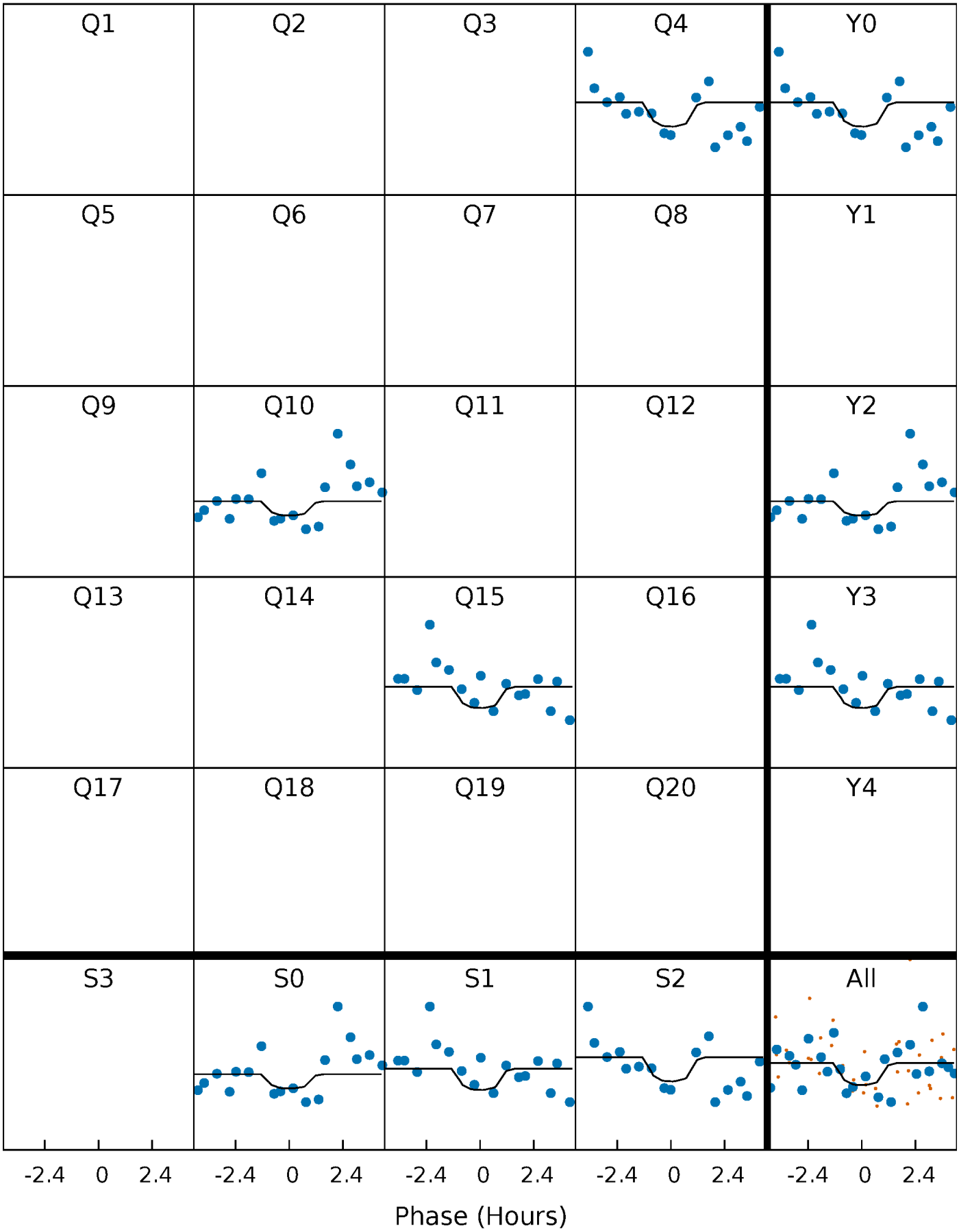
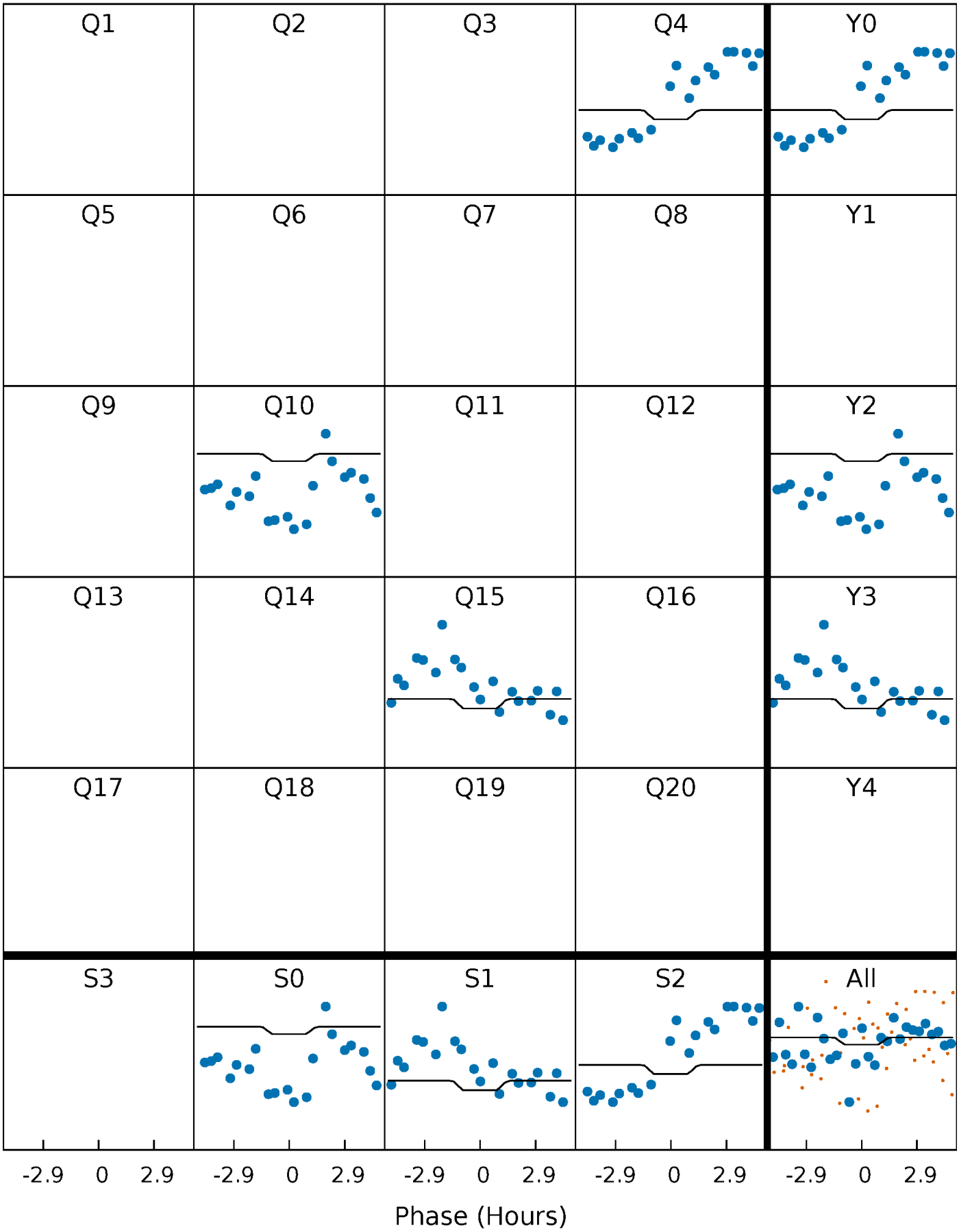


Alt. Detrend Quarter-Phased Transit Curves

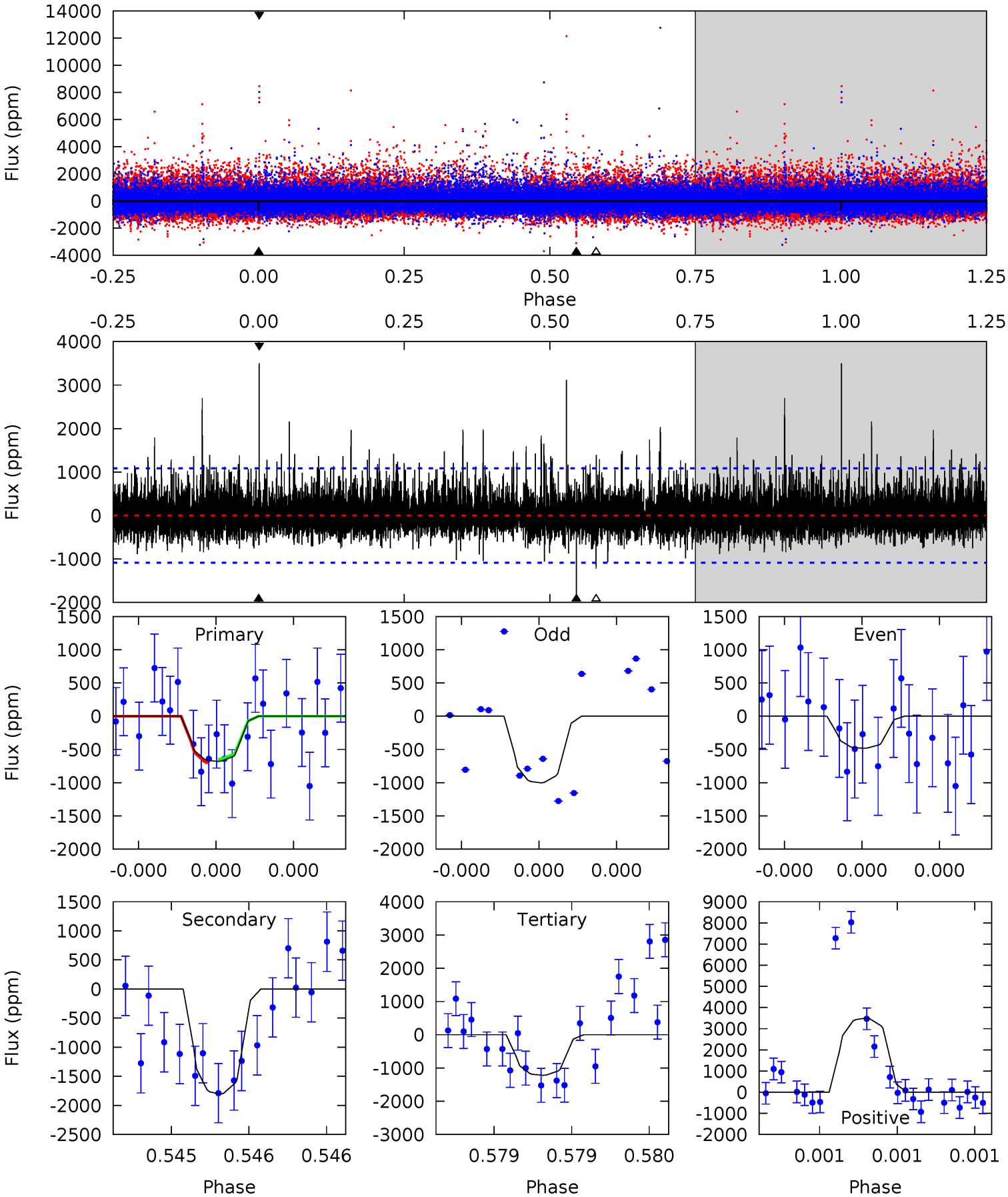
TCE 009142714-01 P=556.719153 Days T_0=355.426434 (BKJD)



DV Model-Shift Uniqueness Test

009142714-01, P = 556.753318 Days, E = 355.377099 Days

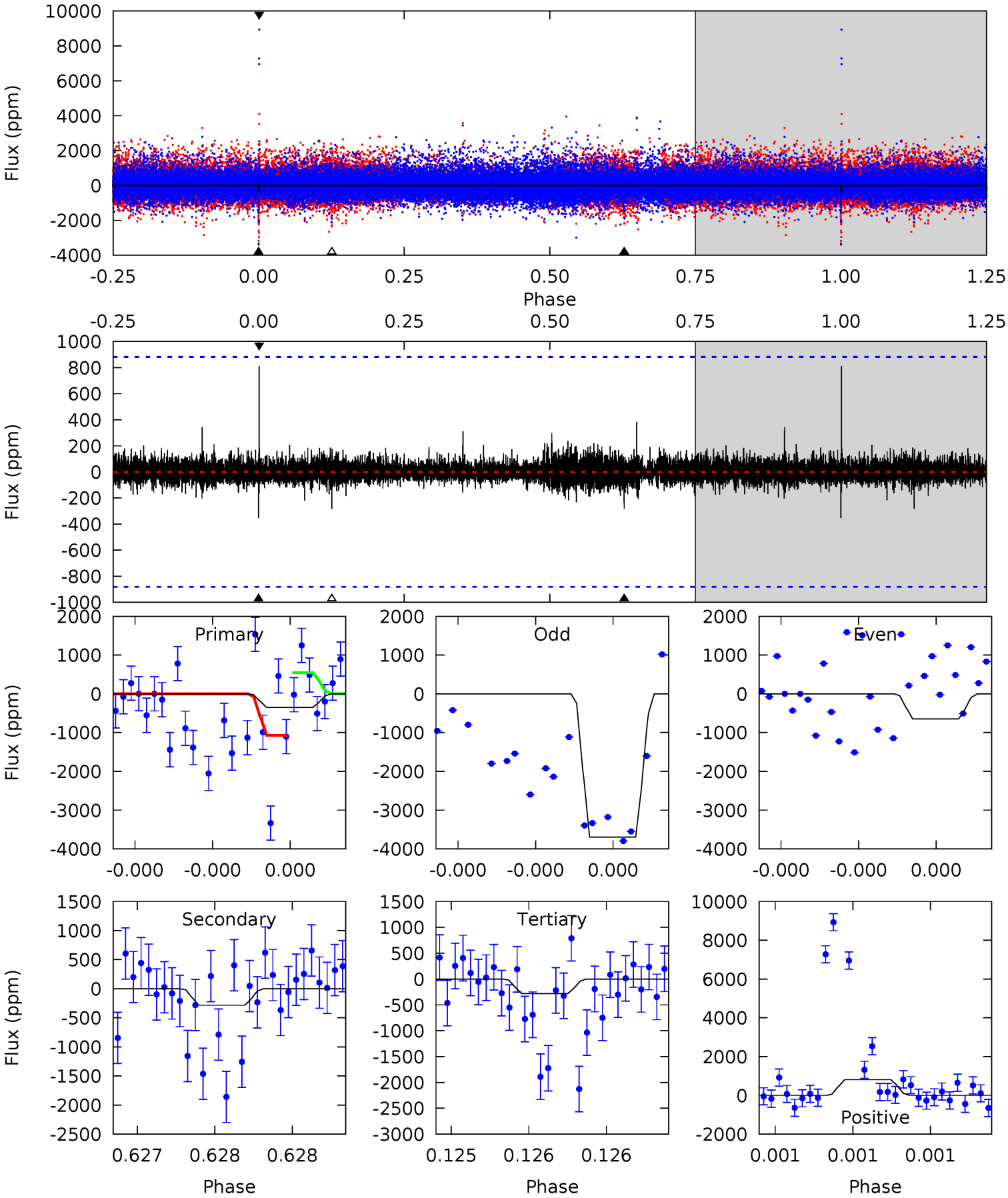
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.59	9.53	6.43	18.5	5.72	3.70	1.65	-2.84	-14.9	3.10	-8.96	0.95	0.87	0.66	0.14



Alt Model-Shift Uniqueness Test

009142714-01, P = 556.719153 Days, E = 355.426434 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.28	1.83	1.83	5.25	5.71	3.69	0.34	0.45	-2.98	0.00	-3.42	9.59	-1.65	0.70	1.71



Stellar Parameters For KIC 009142714

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	3514^{+47}_{-58}	$4.907^{+0.036}_{-0.044}$	$-0.100^{+0.100}_{-0.100}$	$0.358^{+0.036}_{-0.036}$	$0.380^{+0.037}_{-0.050}$	$11.650^{+2.345}_{-2.127}$
	+1%/-2%	+1%/-1%	+100%/-100%	+10%/-10%	+10%/-13%	+20%/-18%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009142714-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1806±190	$6.54^{+7.08}_{-4.40}$	133^{+3}_{-3}	2415^{+870}_{-382}	$21767^{+182823}_{-17042}$
Alt.	-283±154	$6.88^{+6.85}_{-4.80}$	133^{+3}_{-3}	1931^{+579}_{-265}	2629^{+26263}_{-2103}

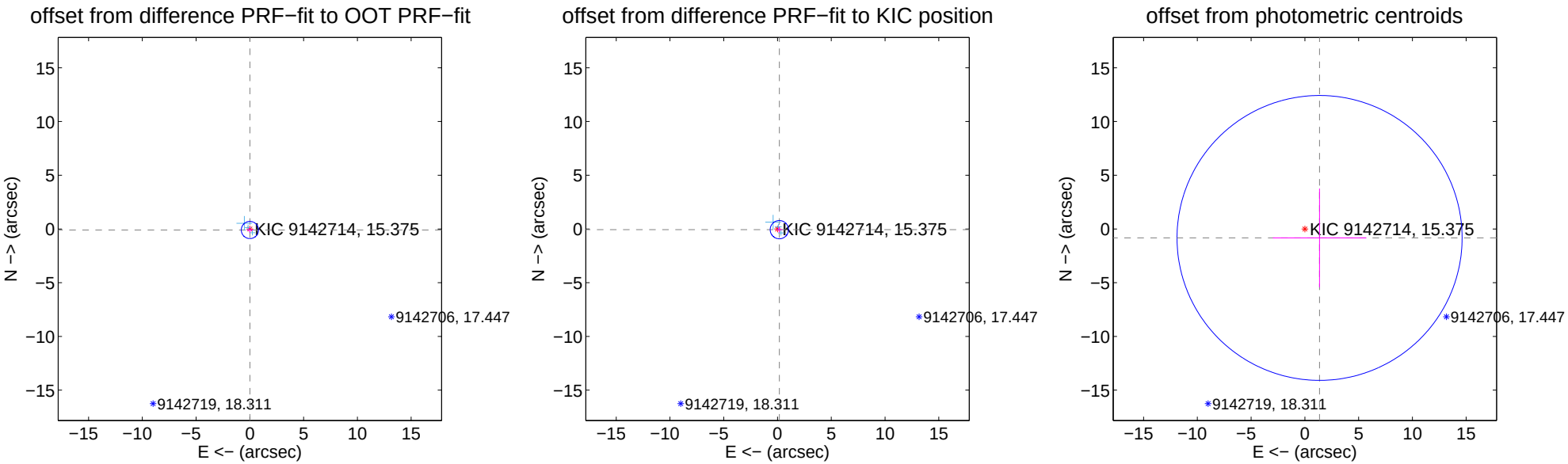
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

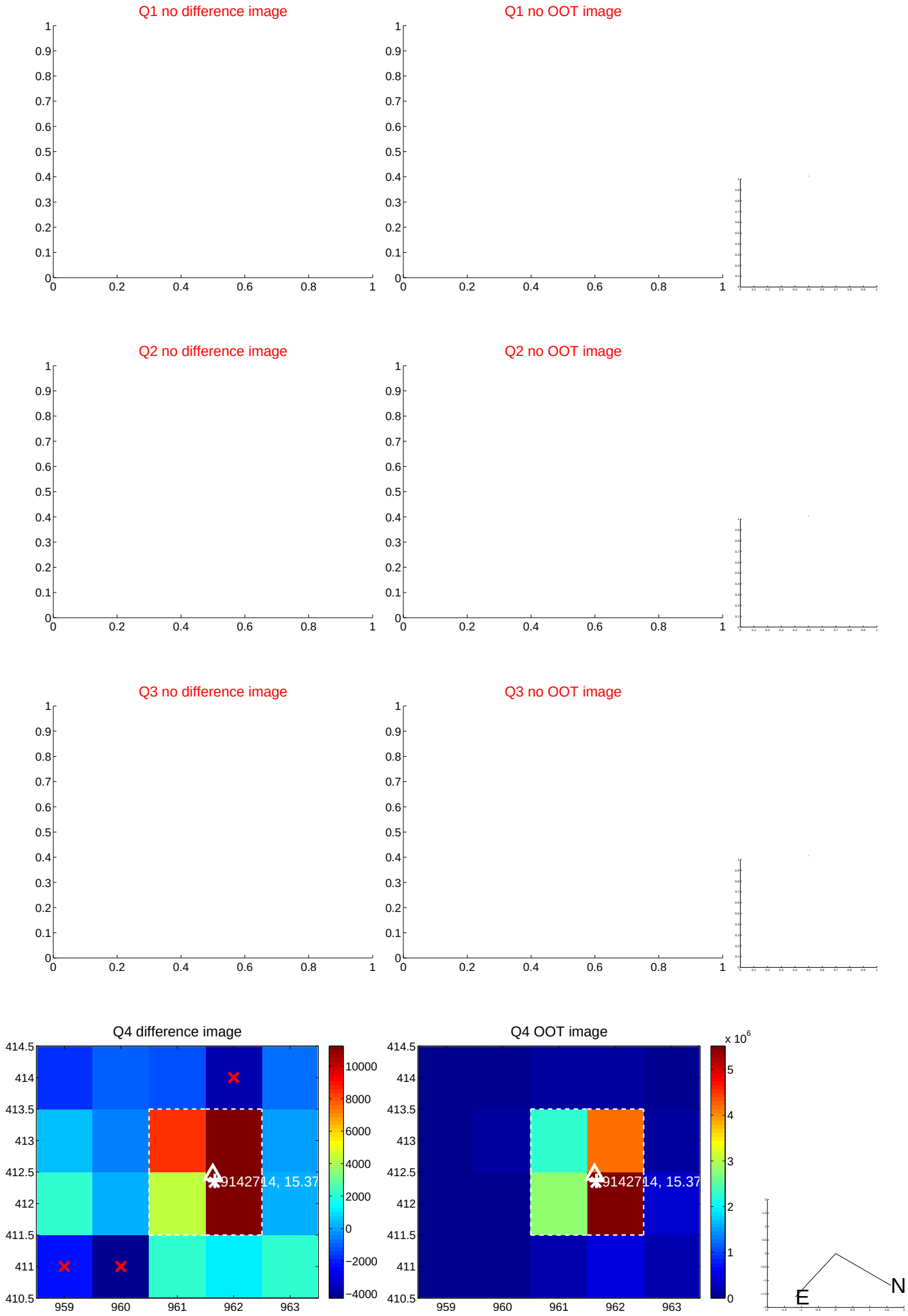
Supplemental centroid analysis for 009142714-01. Kepler magnitude: 15.38. Transit SNR 2.20
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.095 ± 0.266	0.36	-0.004 ± 0.286	-0.095 ± 0.266
PRF-fit source offset from KIC position	0.181 ± 0.283	0.64	-0.169 ± 0.286	-0.064 ± 0.266
photometric centroid source offset	1.60 ± 4.42	0.36	-1.37 ± 4.35	-0.83 ± 4.59

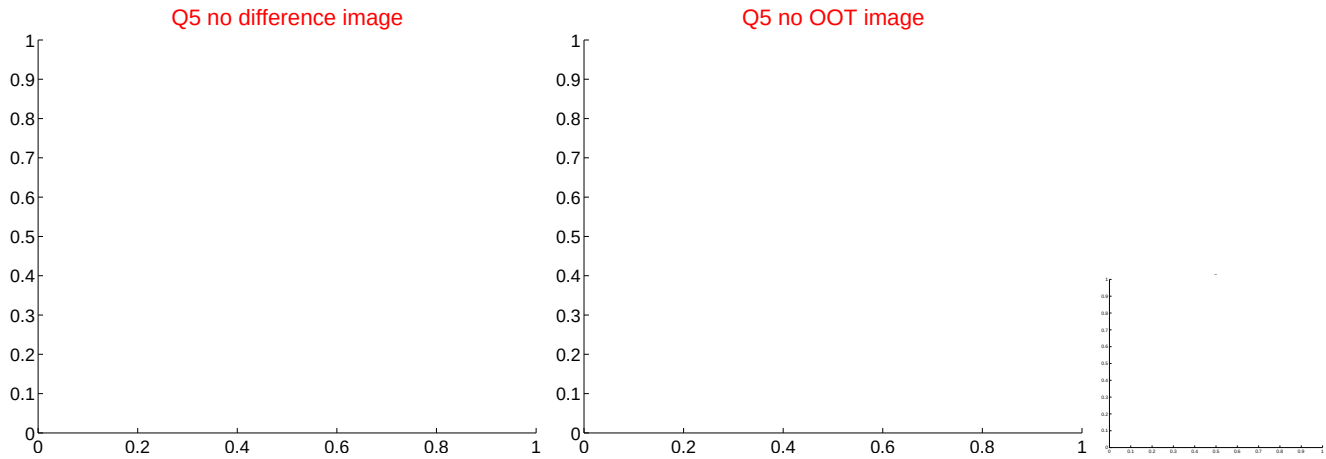


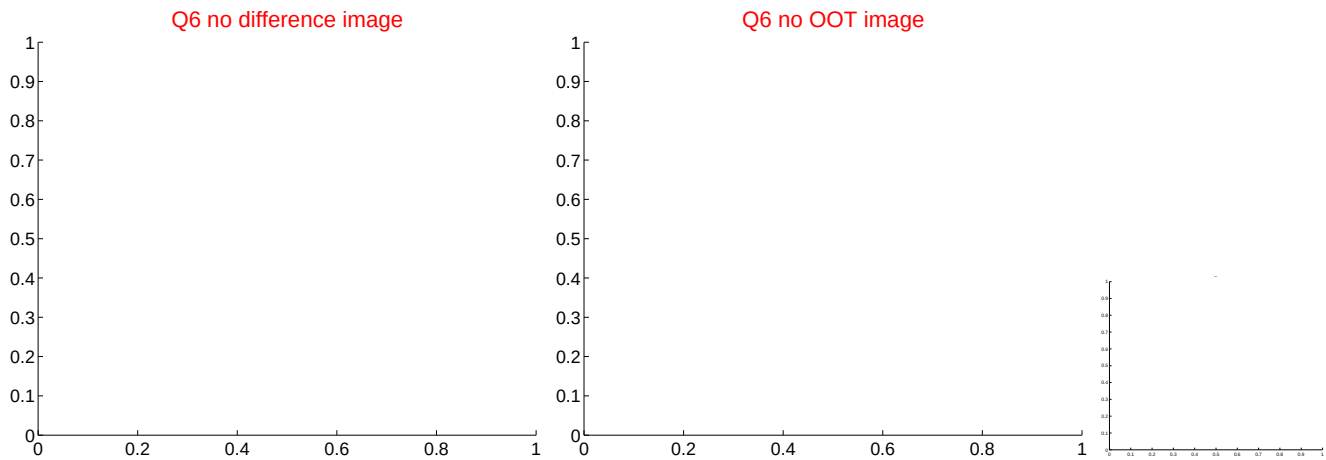
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

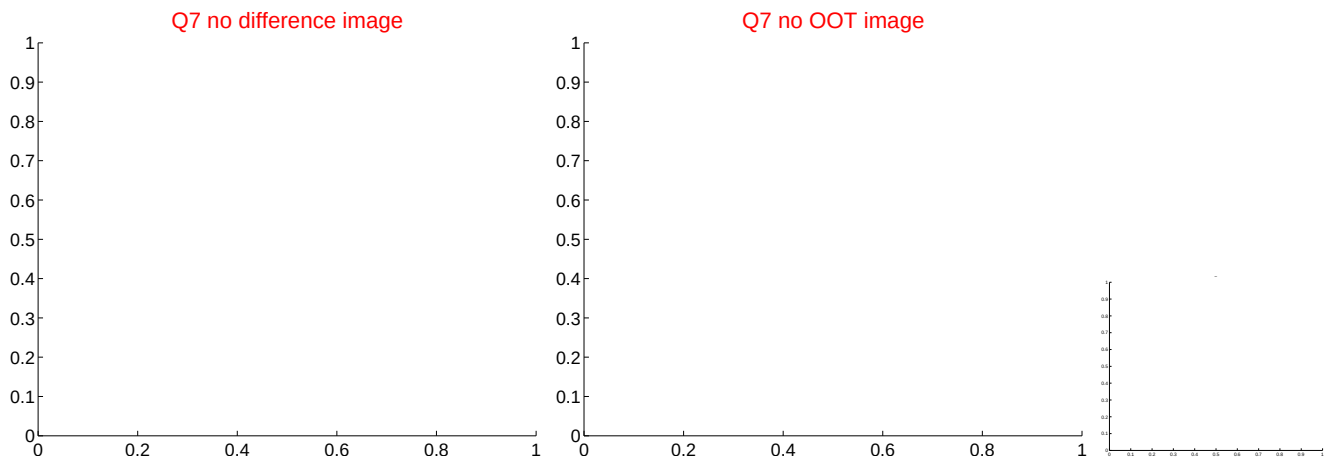
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

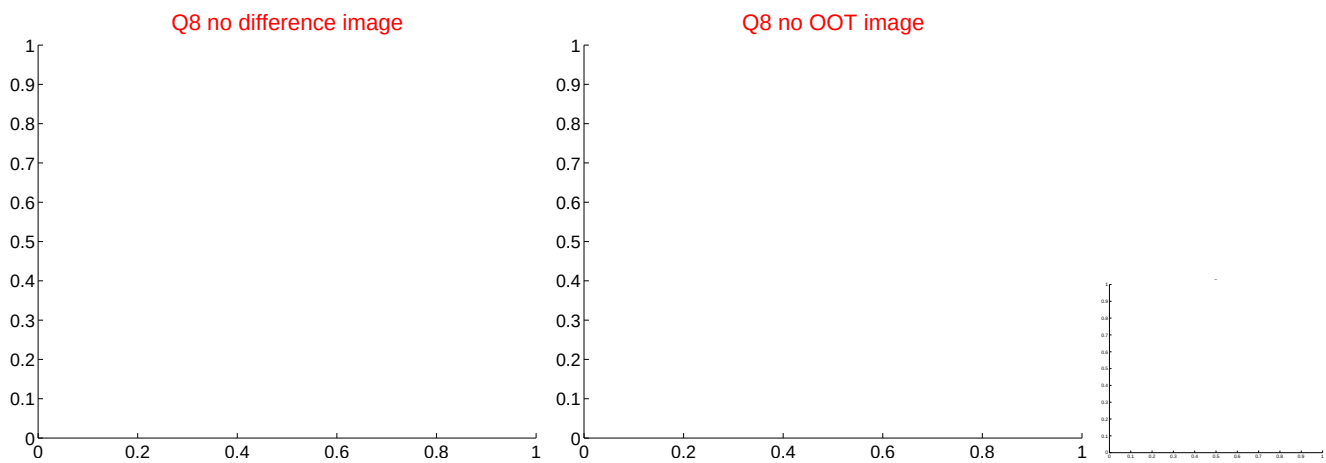


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

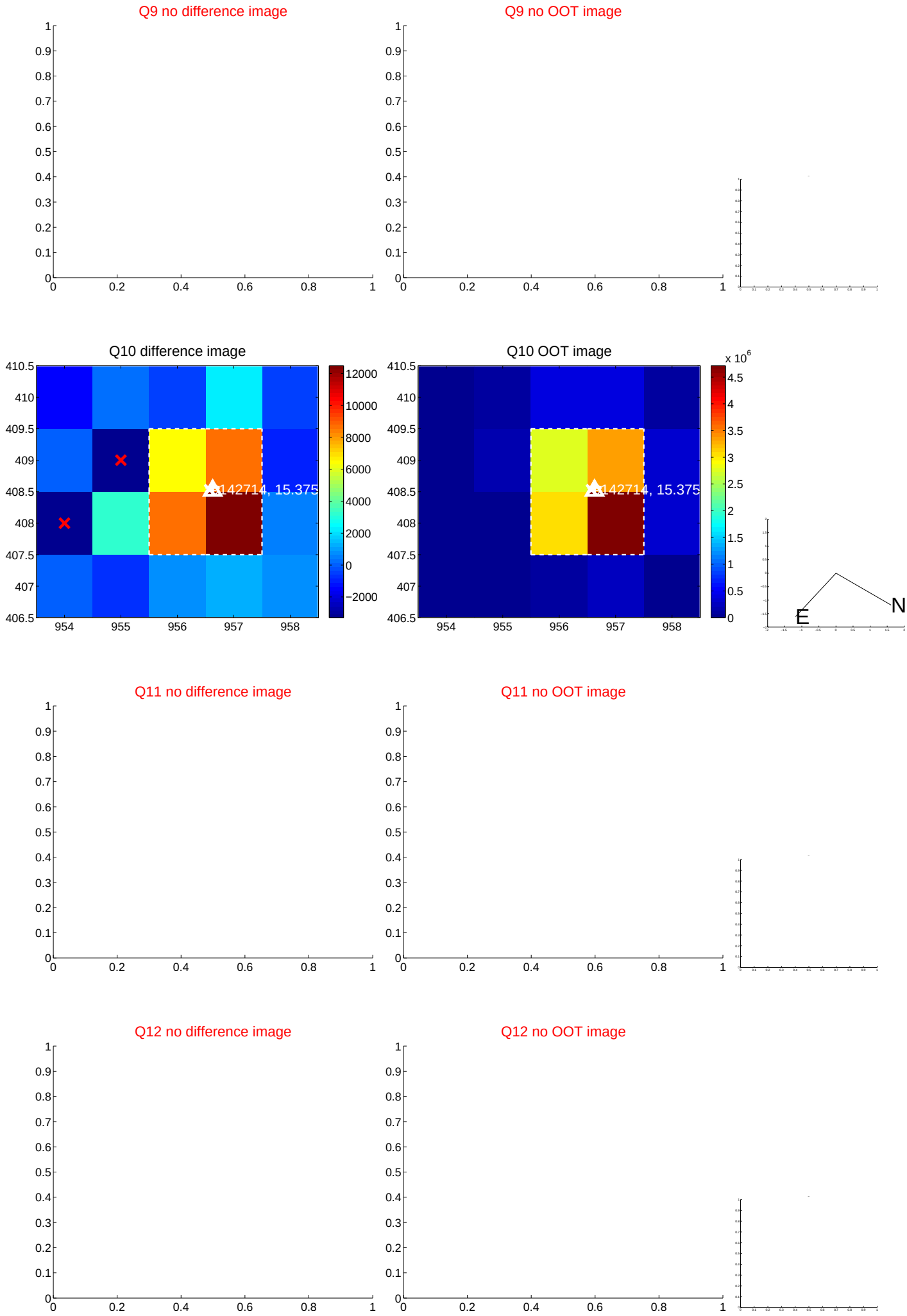




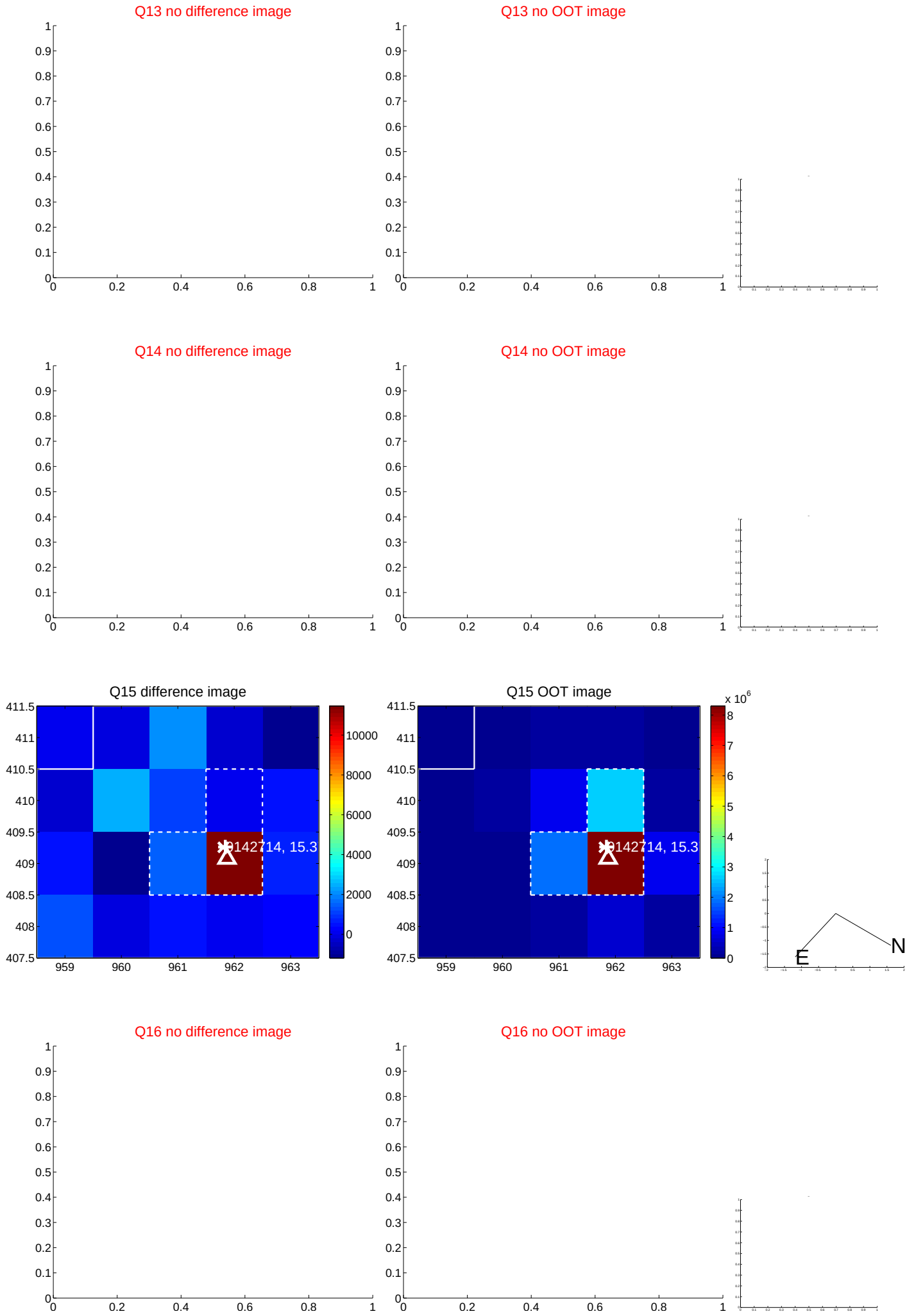




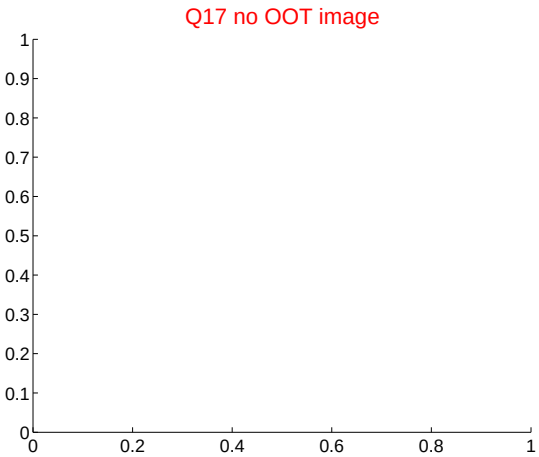
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

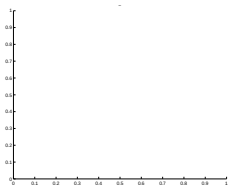


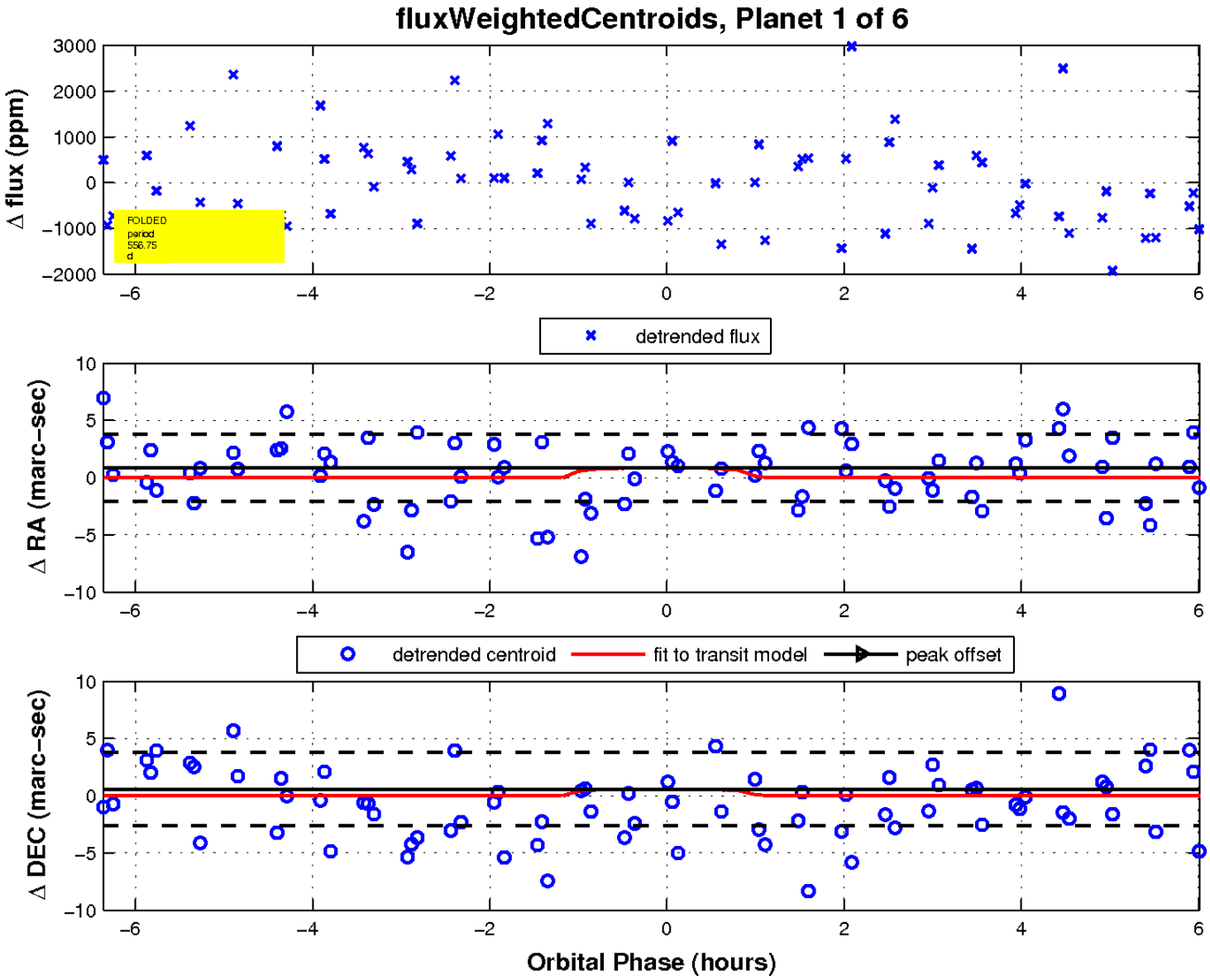
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



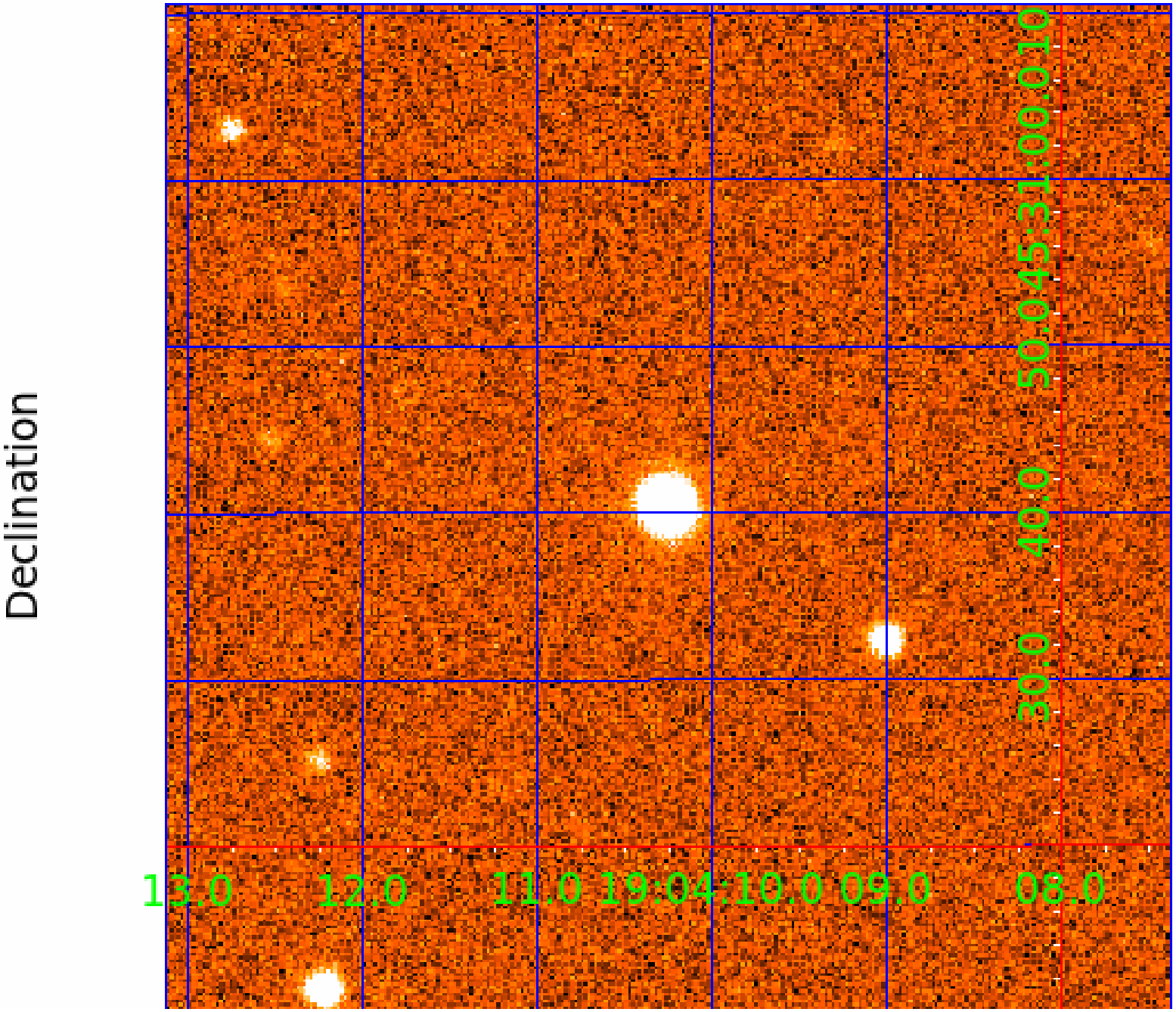
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image


Declination
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11.0
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09.0
08.0
30.0
40.0
50.0
45:31:00.0
10

KIC 009142714

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 ($S_\oplus$)
009142714-01	OBS	No	556.753318	355.377099	655.0	2.128	11.7	2.2	0.36	3514	0.97	0.02
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009142714-04	OBS	7928.01	1.126260	132.296346	155.5	3.619	9.4	11.6	0.36	3514	0.53	74.67
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009142714-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009142714-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
009142714-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
009142714-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009142714-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009142714-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_NOFITS

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.

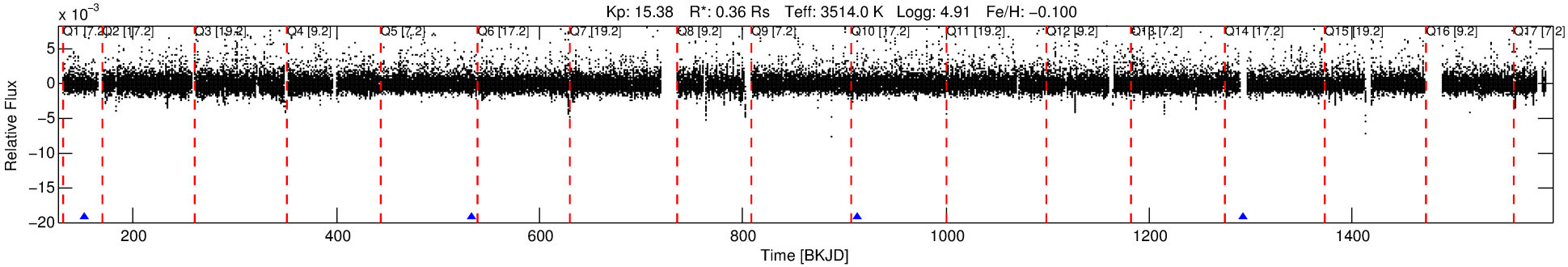
Ephemeris Match Information For 009142714-02

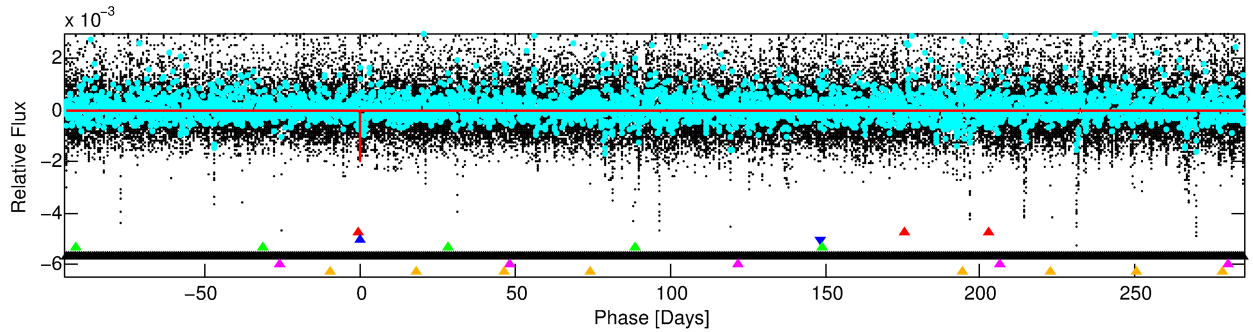
No Significant Match Found

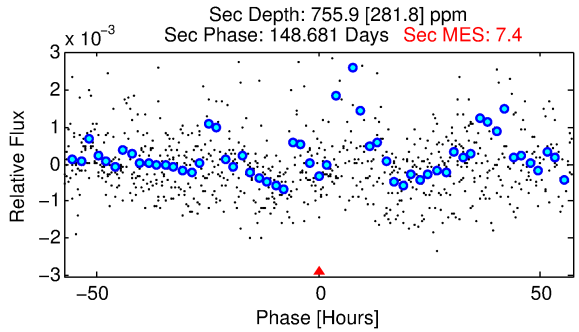
DV One-Page Summary

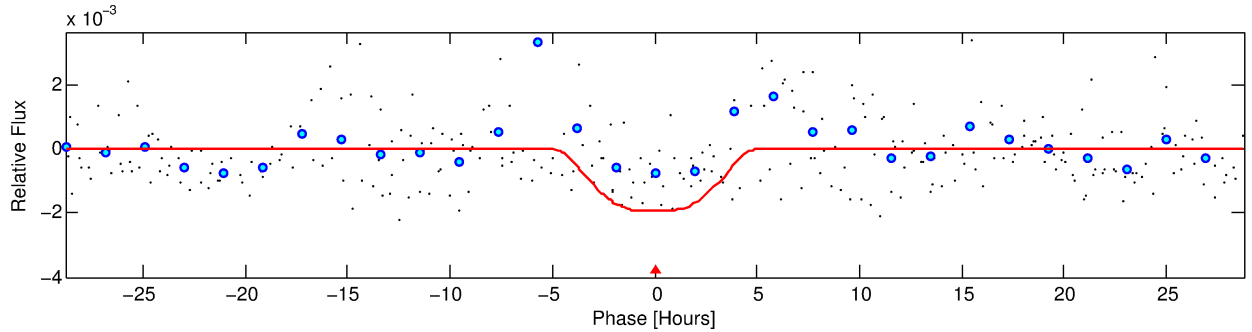
KIC: 9142714 Candidate: 2 of 6 Period: 380.171 d

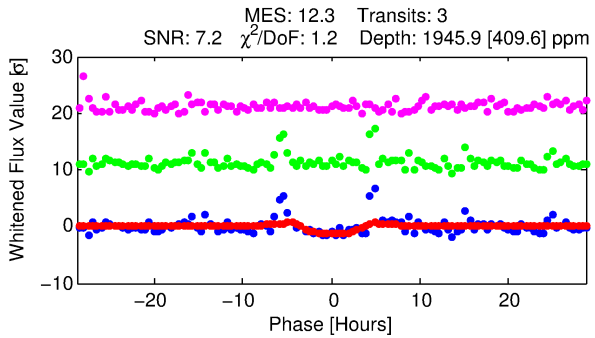
Kp: 15.38 R*: 0.36 Rs Teff: 3514.0 K Logg: 4.91 Fe/H: −0.100

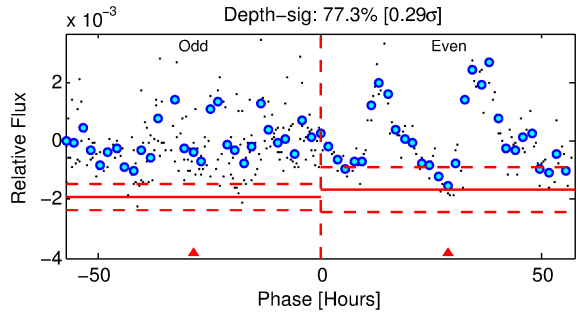


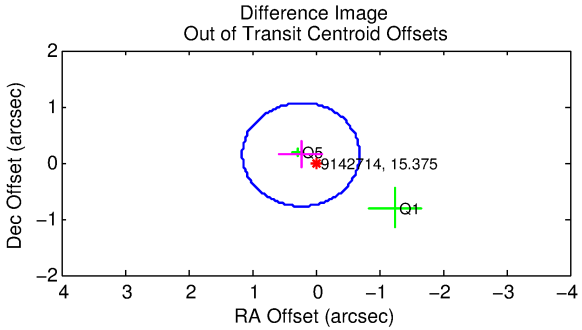












DV Fit Results:

Period = 380.17094 [0.01746] d
Epoch = 152.5211 [0.0212] BKJD
Rp/R* = 0.0513 [0.0076]
a/R* = 141.95 [30.78]
b = 0.94 [0.03]

Seff = 0.03 [0.00]
Teq = 108 [3] K
Rp = 2.00 [0.36] Re
a = 0.7423 [0.0557] AU

Ag = 57116.31 [27754.72] [2.06σ]
Teffp = 2573 [309] K [7.97σ]

DV Diagnostic Results:

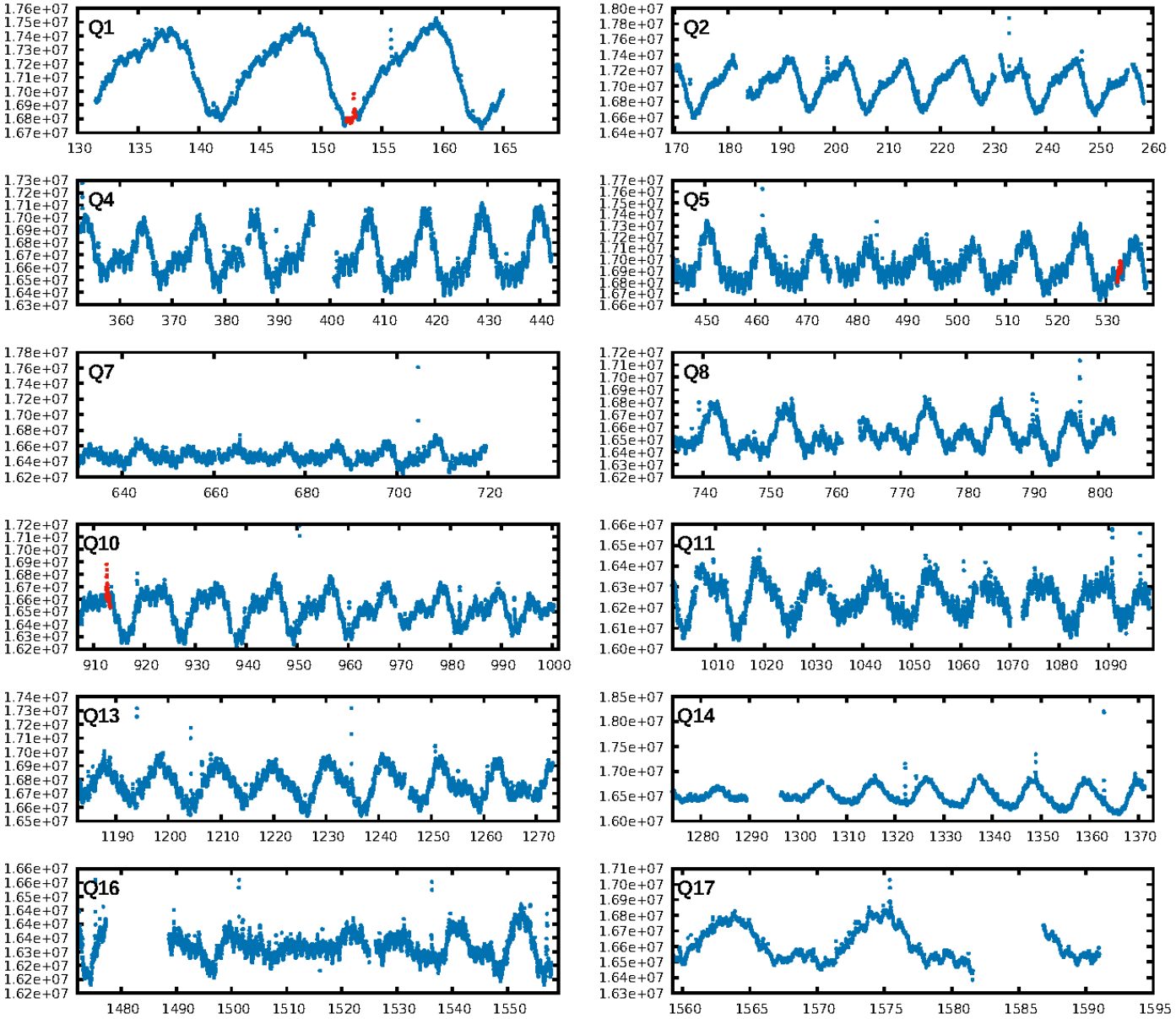
ShortPeriod−sig: 100.0% [141.87σ]
LongPeriod−sig: 100.0% [431.15σ]
ModelChiSquare2−sig: 27.5%
ModelChiSquareGof−sig: 97.2%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [2/2]
GhostDiagnostic−chr: −0.1975

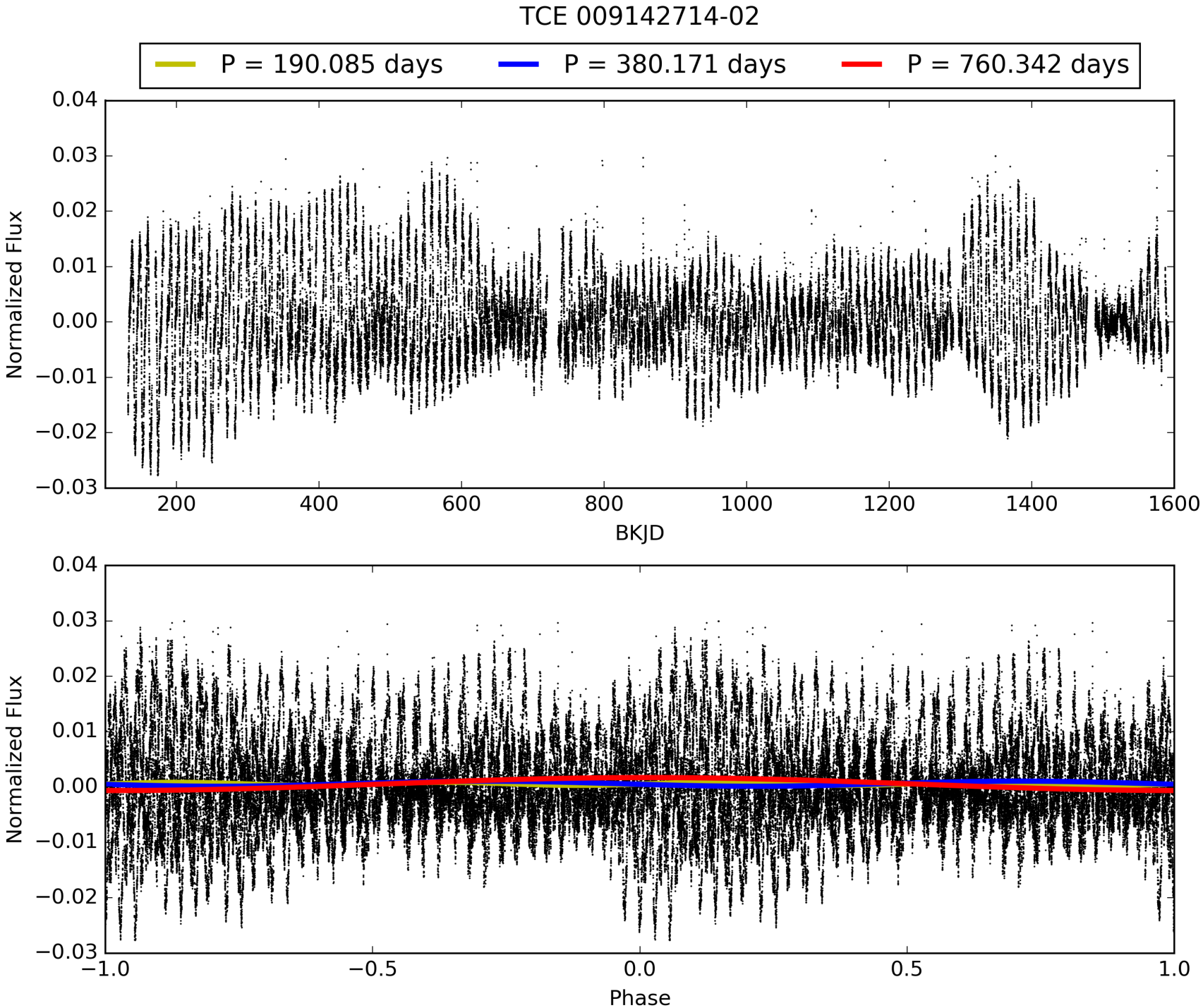
Centroid−sig: 72.3%
Centroid−so: 0.352 arcsec [0.44σ]
OotOffset−rm: 0.272 arcsec [0.89σ]
KicOffset−rm: 0.153 arcsec [0.36σ]
OotOffset−st: 0/0/0/2 [2]
KicOffset−st: 0/0/0/2 [2]
DiffImageQuality−fgm: 0.50 [1/2]
DiffImageOverlap−fno: 0.00 [0/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 06:21:38 Z

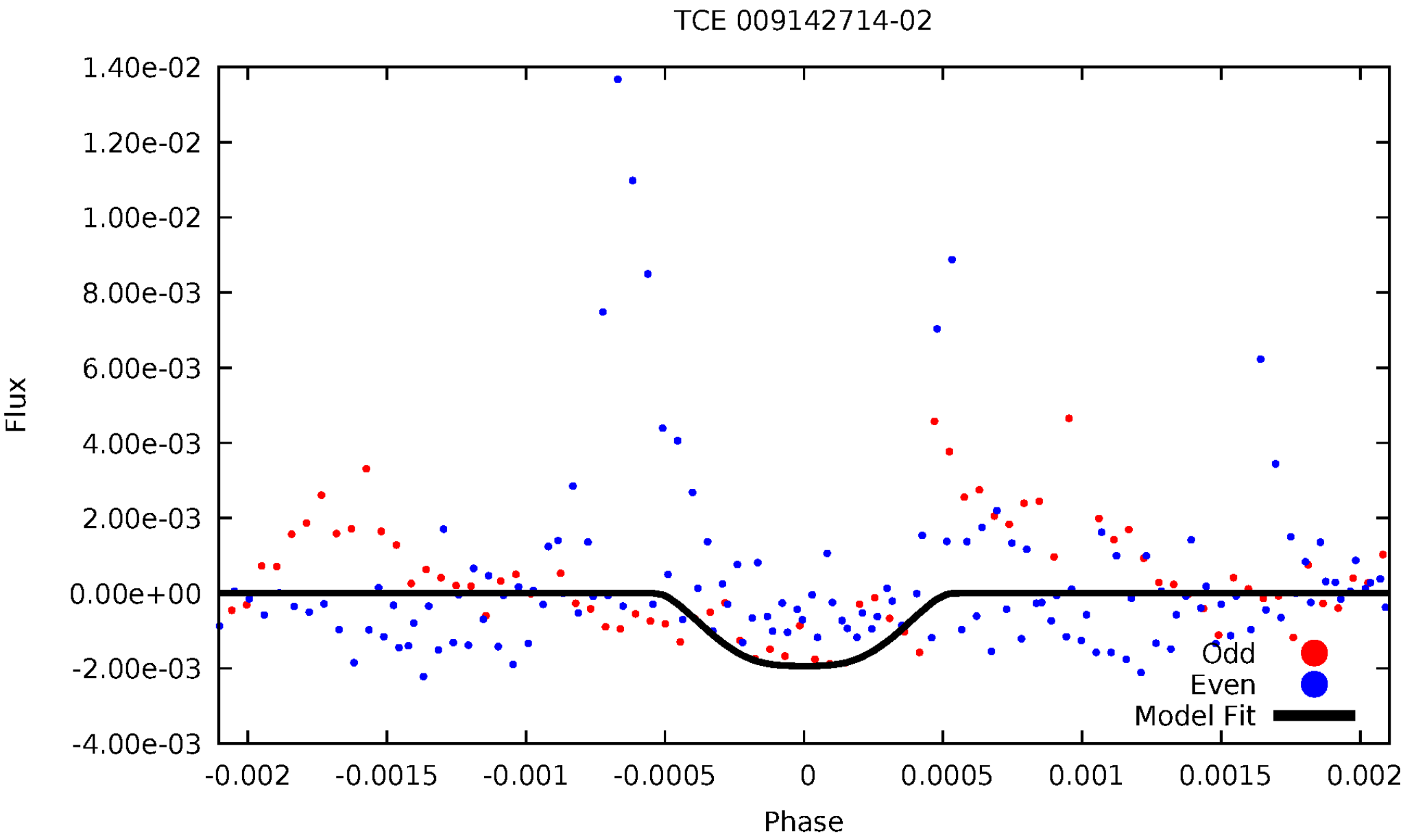
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009142714-02, PDC Light Curves

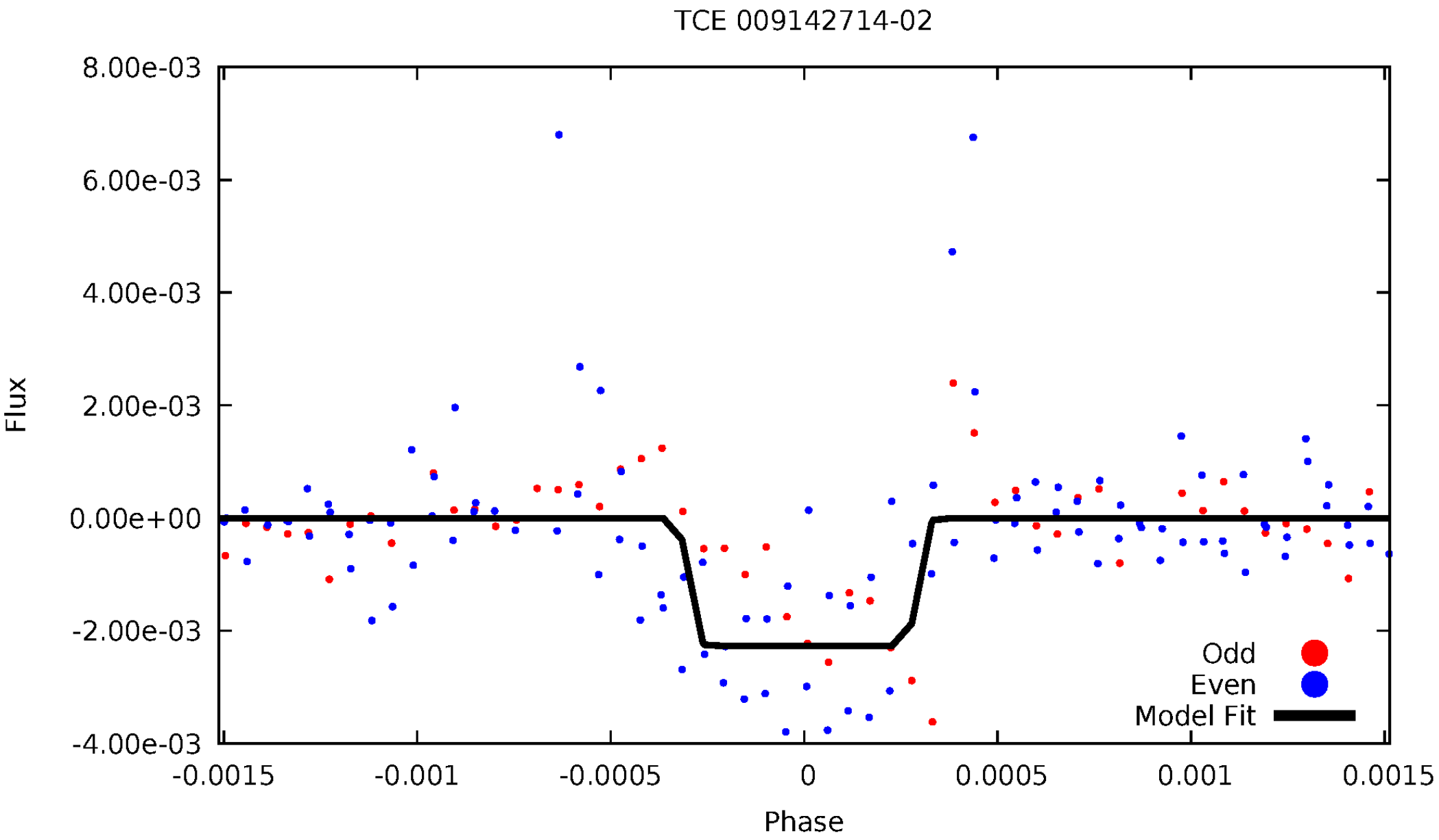



TCE 009142714-02
P = 190.085 days
P = 380.171 days
P = 760.342 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even


TCE 009142714-02
1.40e-02
1.20e-02
1.00e-02
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
Flux
-0.002
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
0.002
Phase
Odd
Even
Model Fit

ALT Odd/Even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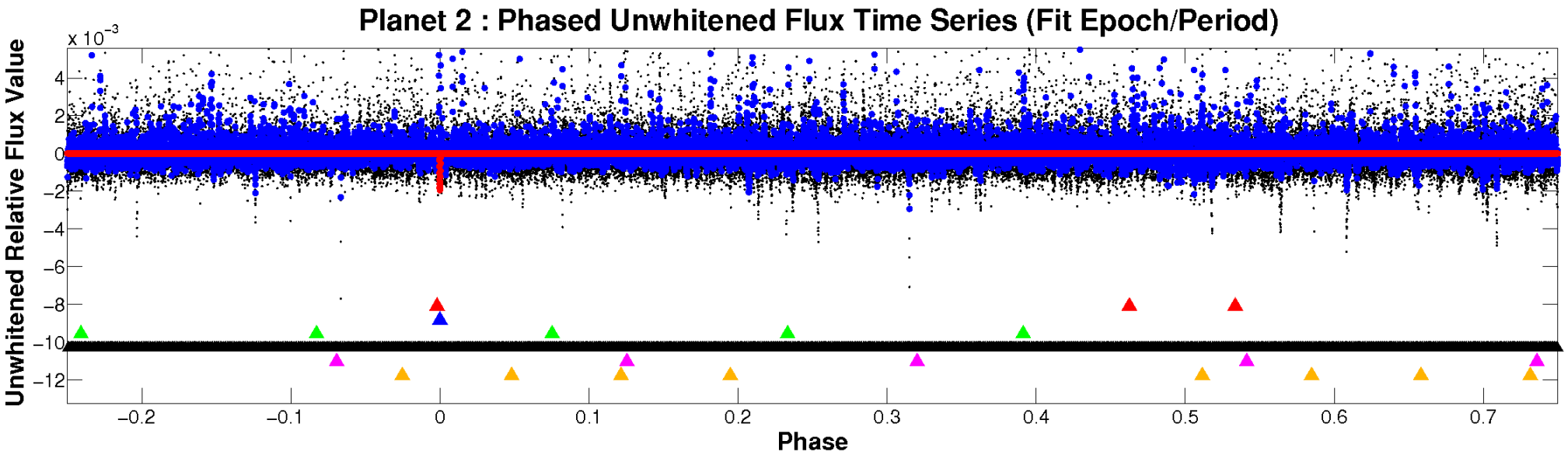
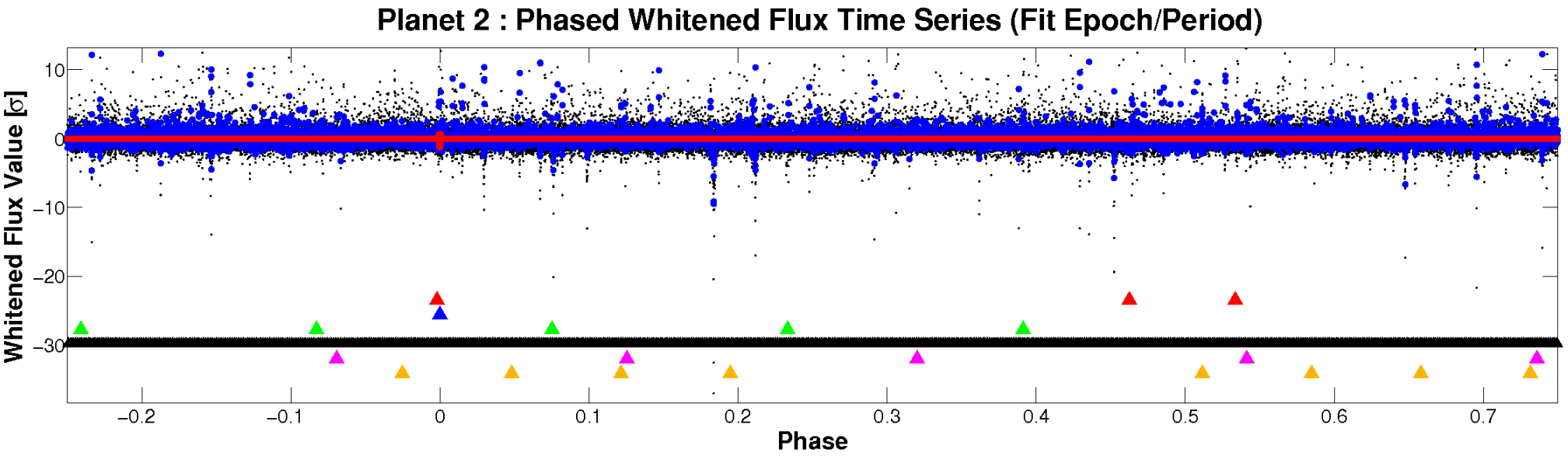
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
Flux
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
Phase
Odd
Even
Model Fit

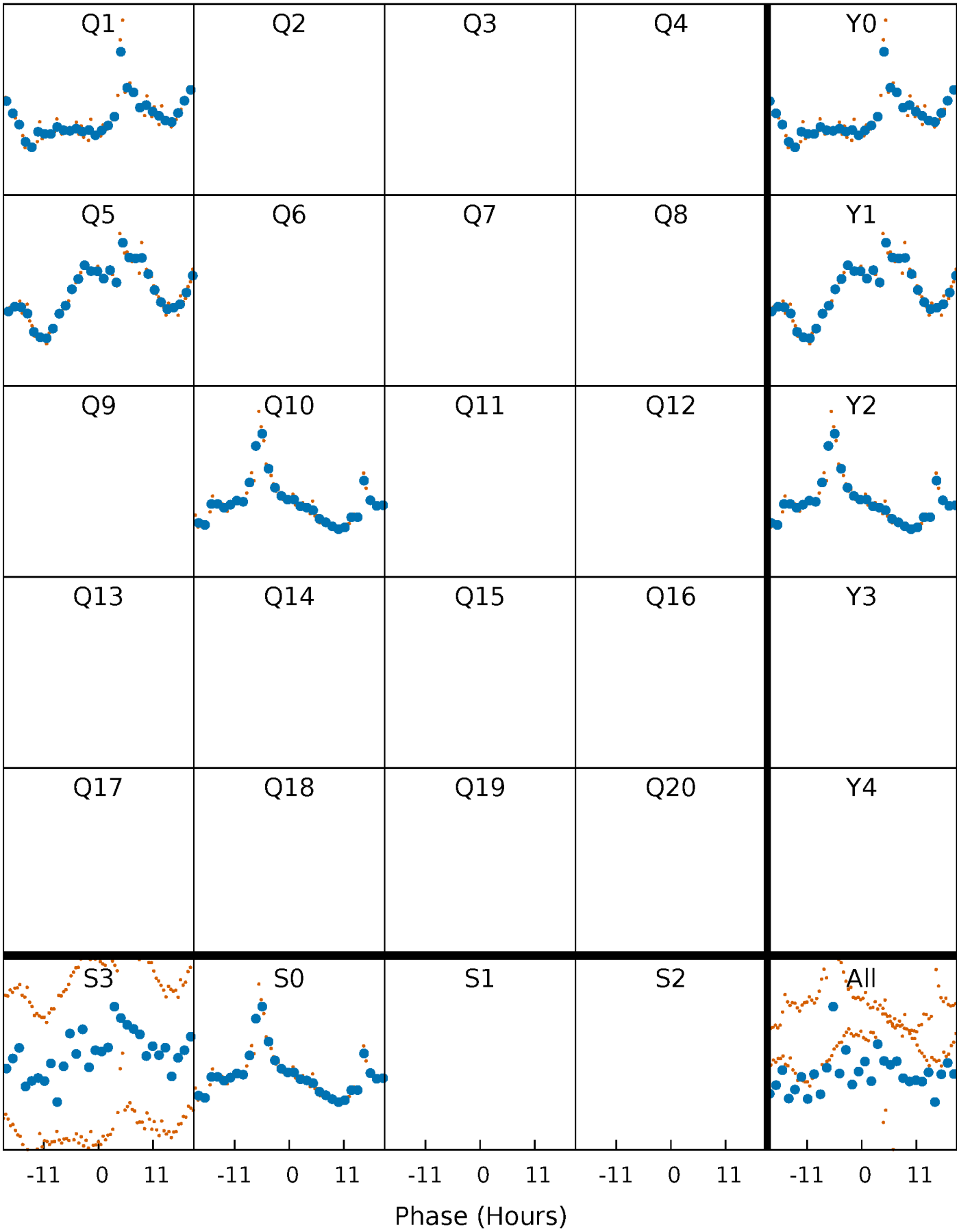
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 009142714-02 P=380.170937 Days T_0=152.521076 (BKJD)



DV Quarter-Phased Transit Curves

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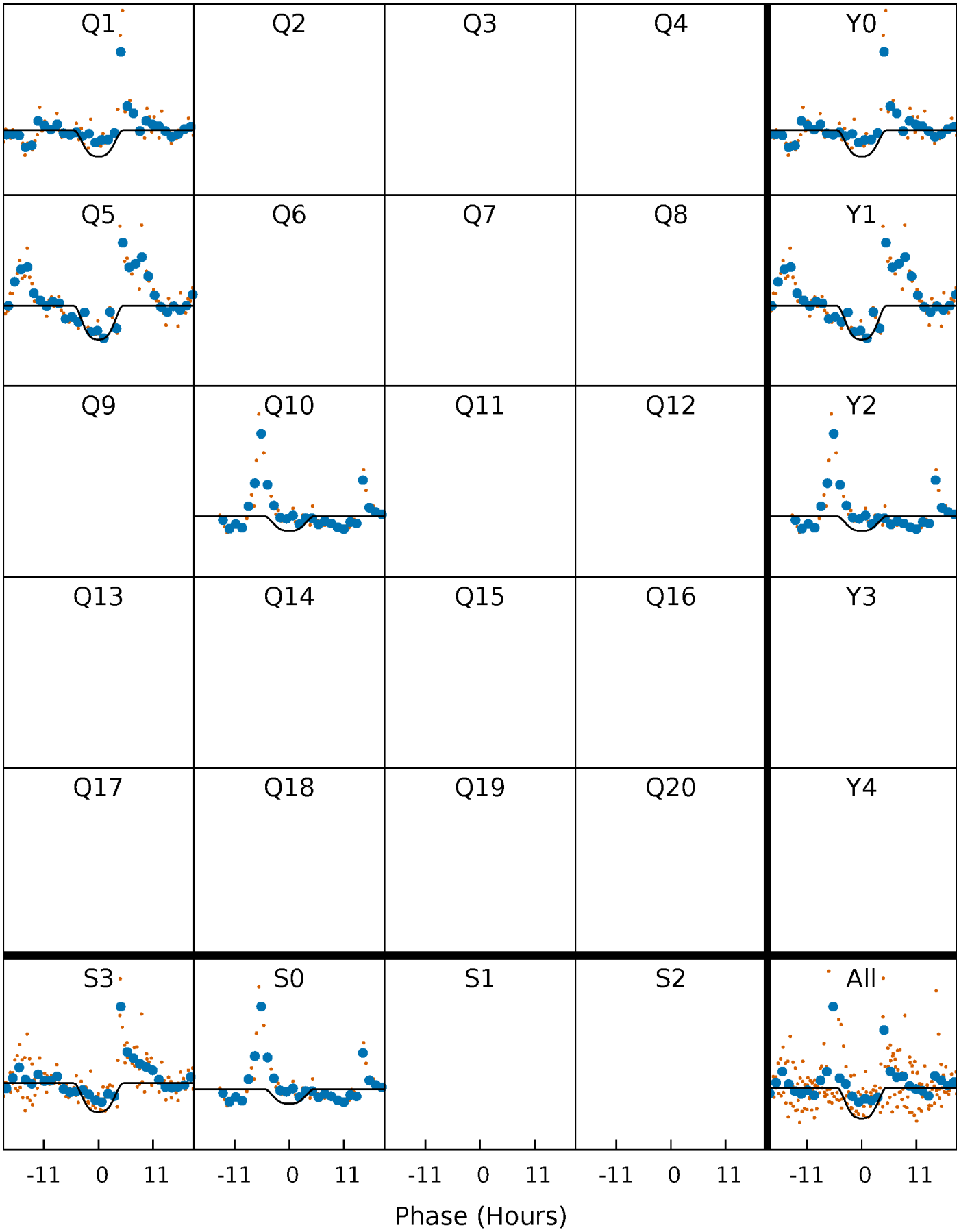
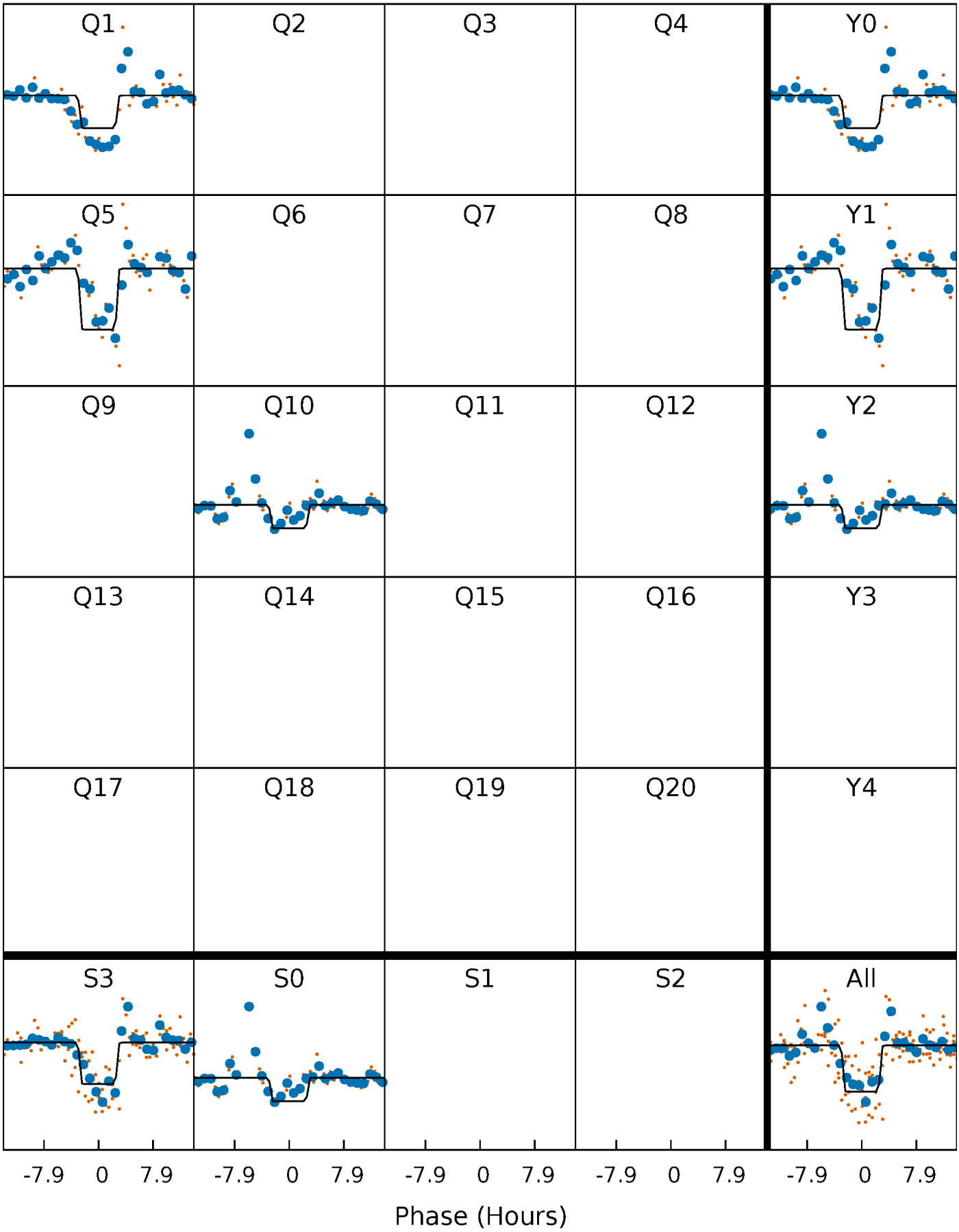


Alt. Detrend Quarter-Phased Transit Curves

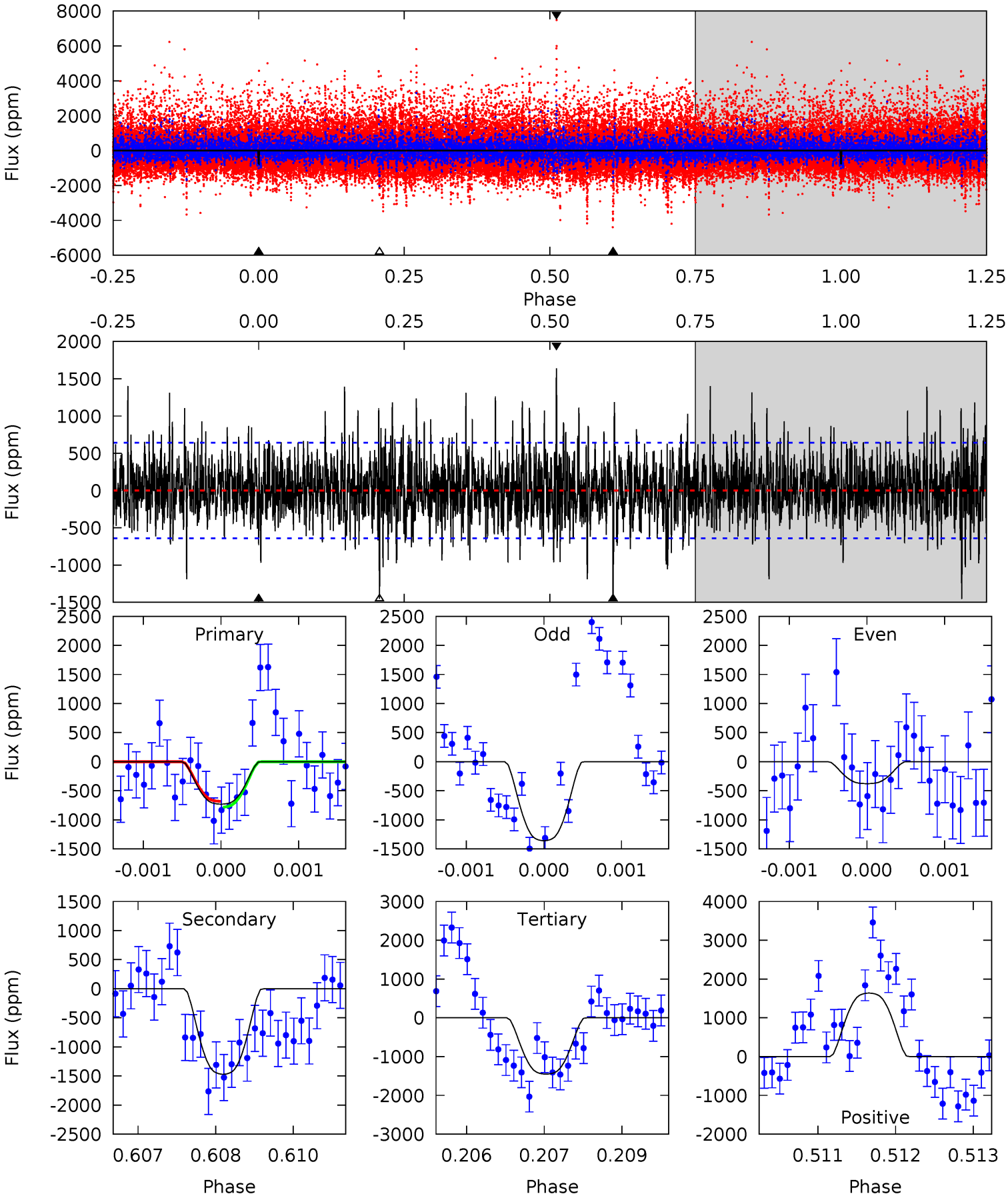
TCE 009142714-02 P=380.166384 Days T_0=152.557436 (BKJD)



DV Model-Shift Uniqueness Test

009142714-02, P = 380.170937 Days, E = 152.521076 Days

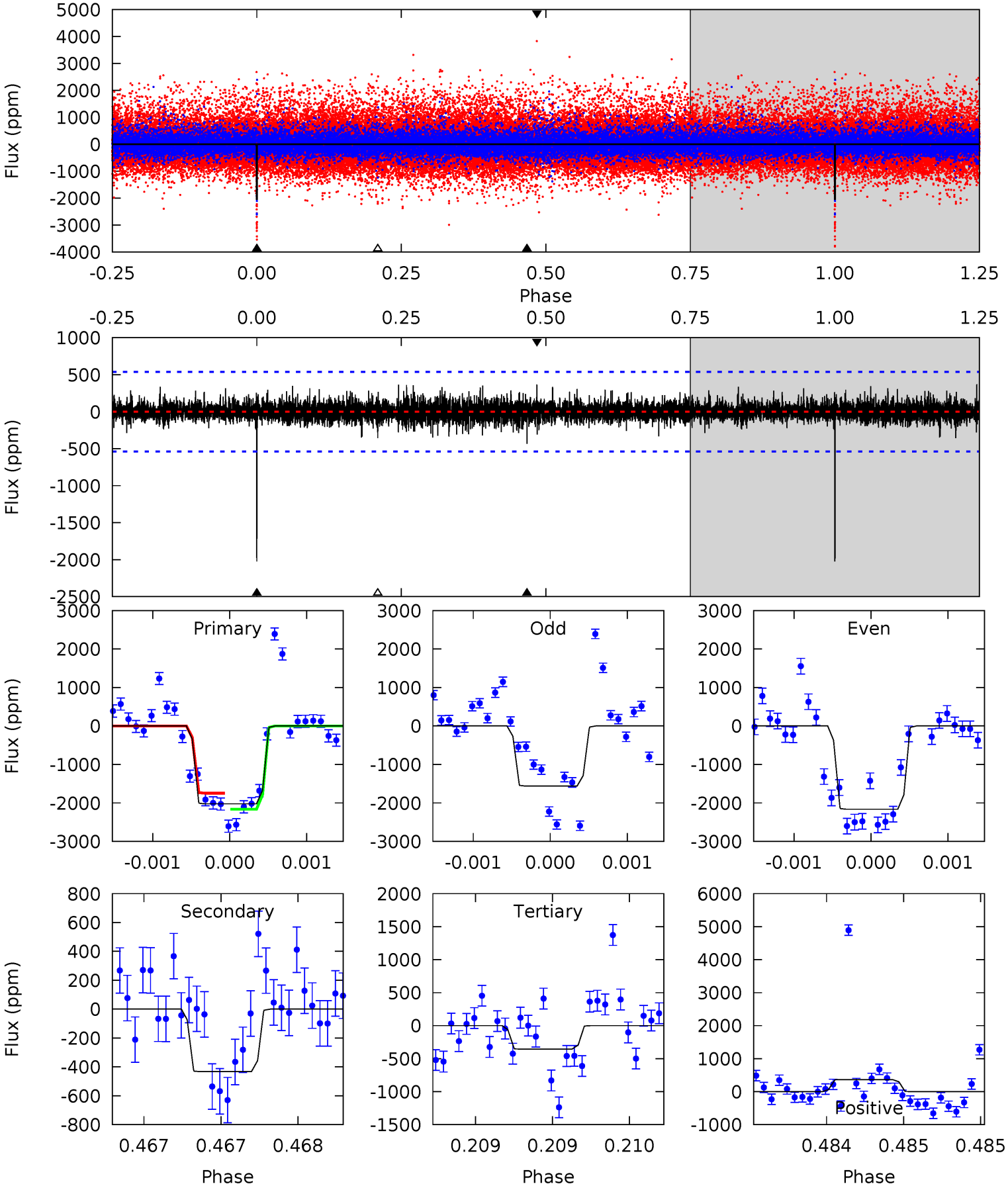
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.19	12.5	12.3	13.9	5.44	3.27	2.82	-6.12	-7.70	0.16	-1.43	3.59	1.11	0.53	0.43



Alt Model-Shift Uniqueness Test

009142714-02, P = 380.166384 Days, E = 152.557436 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.8	4.45	3.66	3.74	5.53	3.41	0.84	17.1	17.1	0.80	0.72	3.03	1.27	0.15	2.11



Stellar Parameters For KIC 009142714

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	3514^{+47}_{-58}	$4.907^{+0.036}_{-0.044}$	$-0.100^{+0.100}_{-0.100}$	$0.358^{+0.036}_{-0.036}$	$0.380^{+0.037}_{-0.050}$	$11.650^{+2.345}_{-2.127}$
	+1%/-2%	+1%/-1%	+100%/-100%	+10%/-10%	+10%/-13%	+20%/-18%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009142714-02 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1470±118	$2.00^{+0.31}_{-0.31}$	151^{+3}_{-4}	3215^{+166}_{-135}	111431^{+44518}_{-28743}
Alt.	-433±97	$1.89^{+0.29}_{-0.34}$	151^{+4}_{-4}	2757^{+174}_{-129}	37245^{+20369}_{-11602}

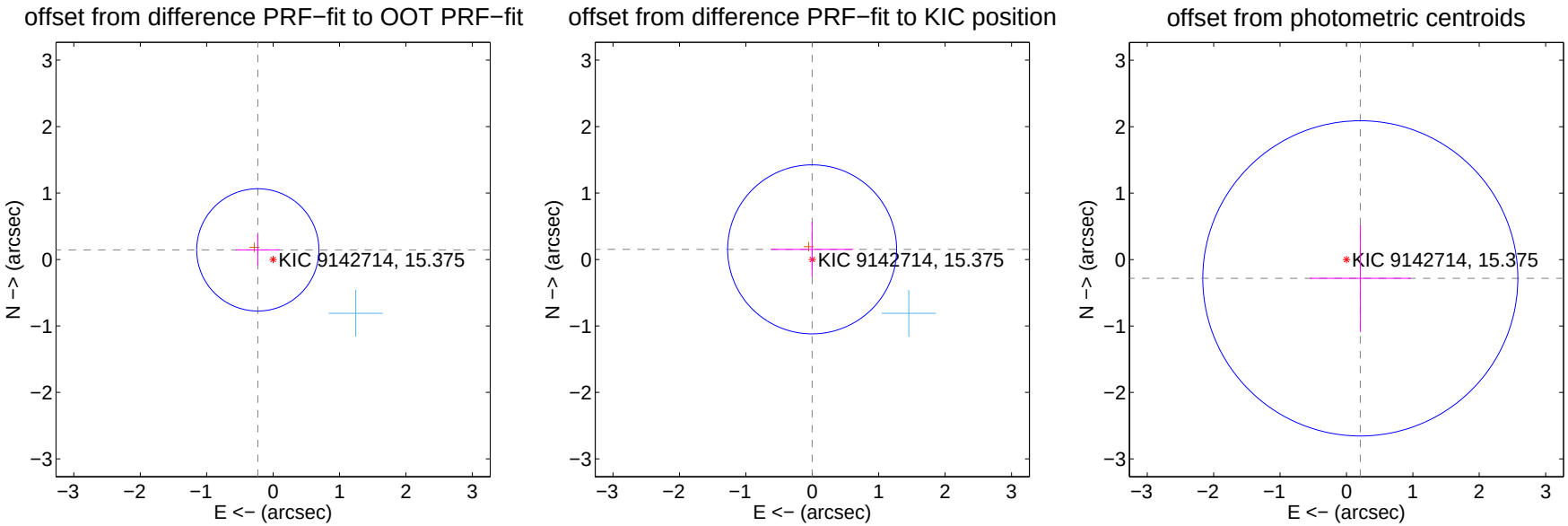
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

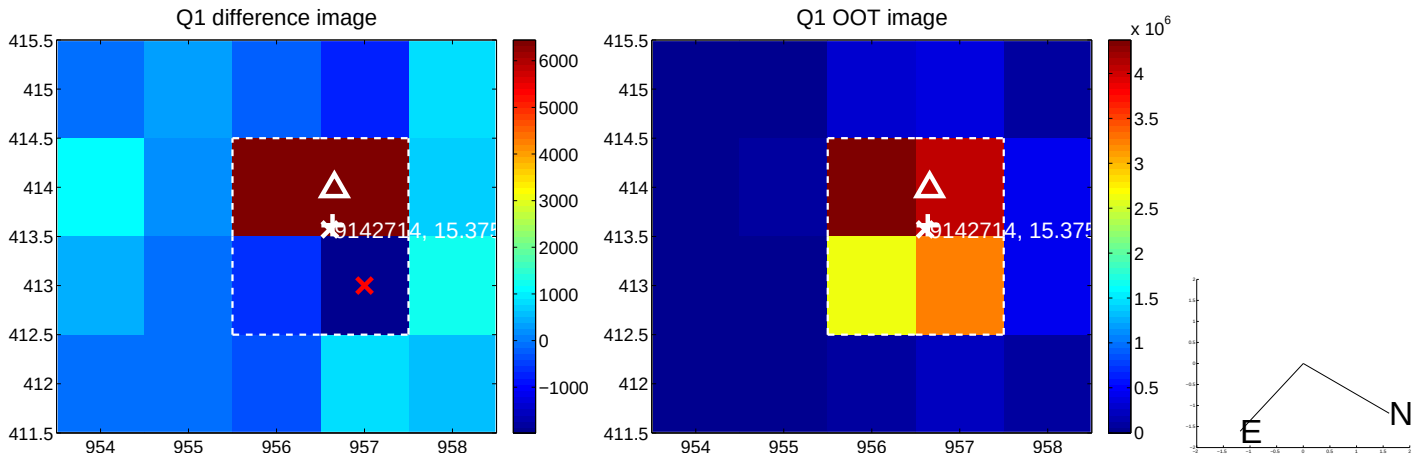
Supplemental centroid analysis for 009142714-02. Kepler magnitude: 15.38. Transit SNR 7.17
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

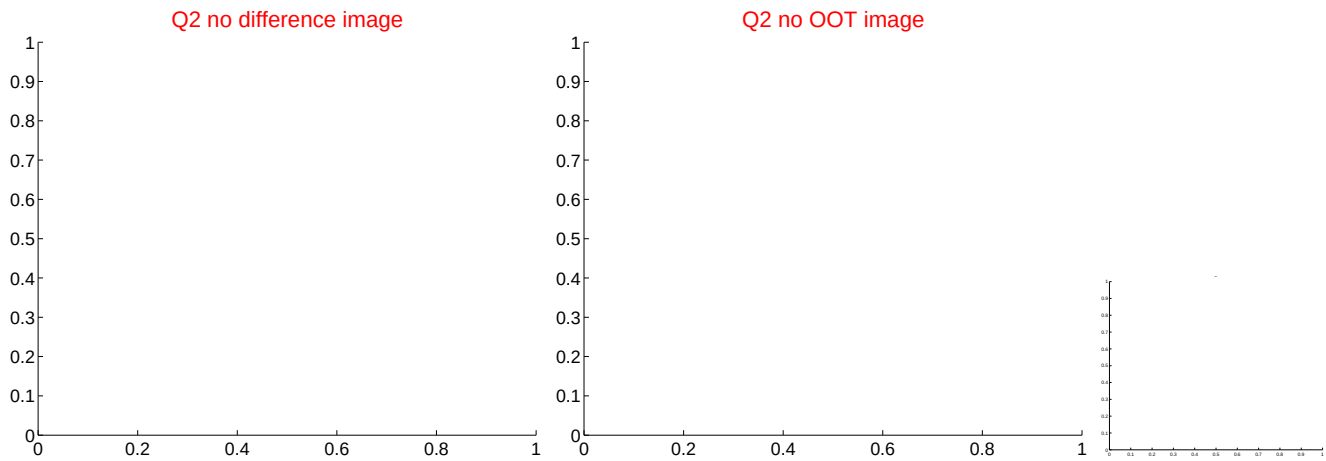
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.272 ± 0.307	0.89	0.230 ± 0.331	0.145 ± 0.235
PRF-fit source offset from KIC position	0.153 ± 0.424	0.36	0.002 ± 0.619	0.153 ± 0.415
photometric centroid source offset	0.35 ± 0.79	0.44	-0.21 ± 0.76	-0.28 ± 0.81

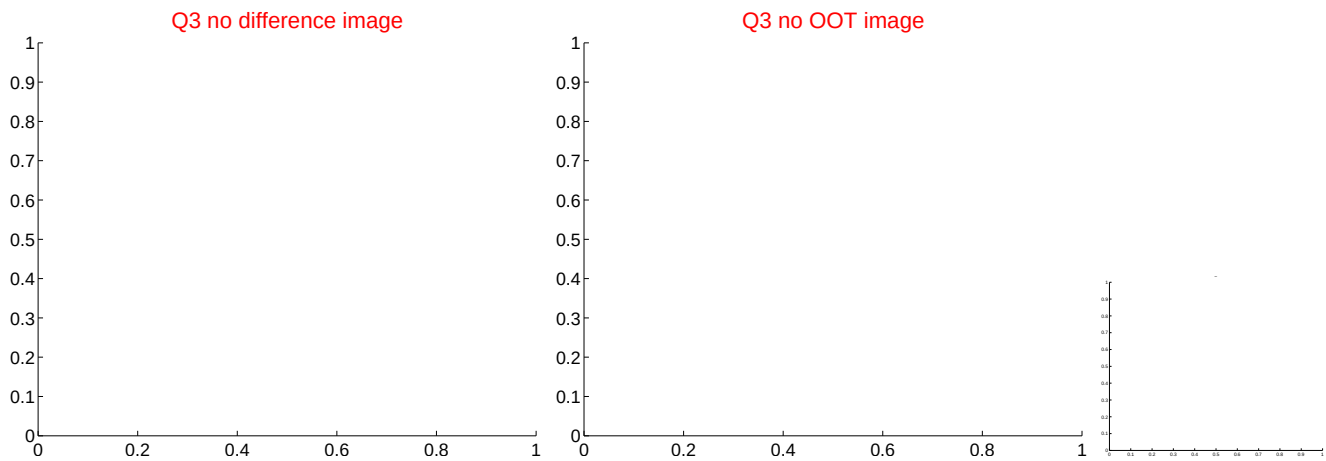


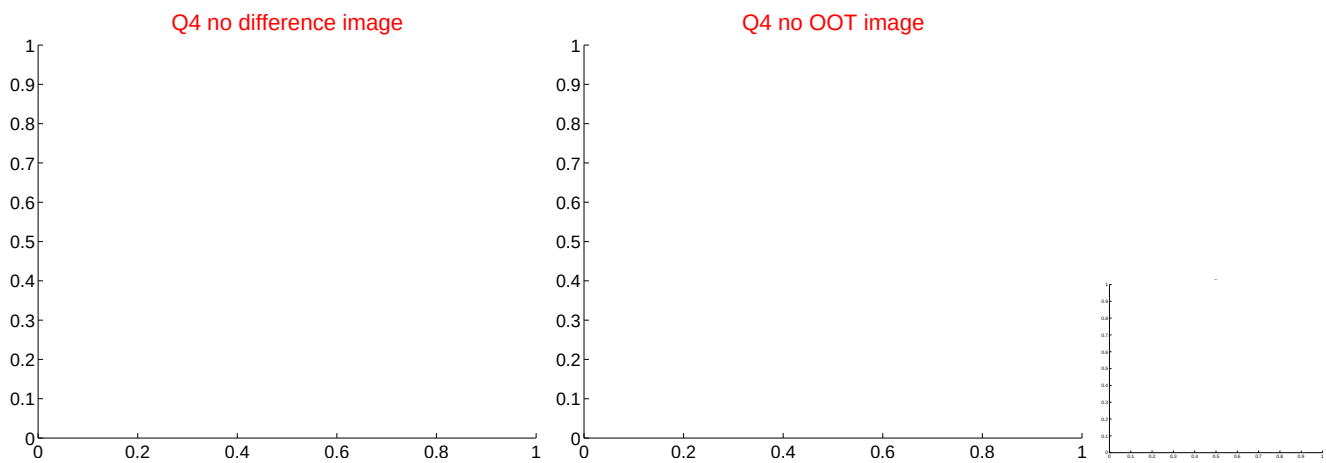
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

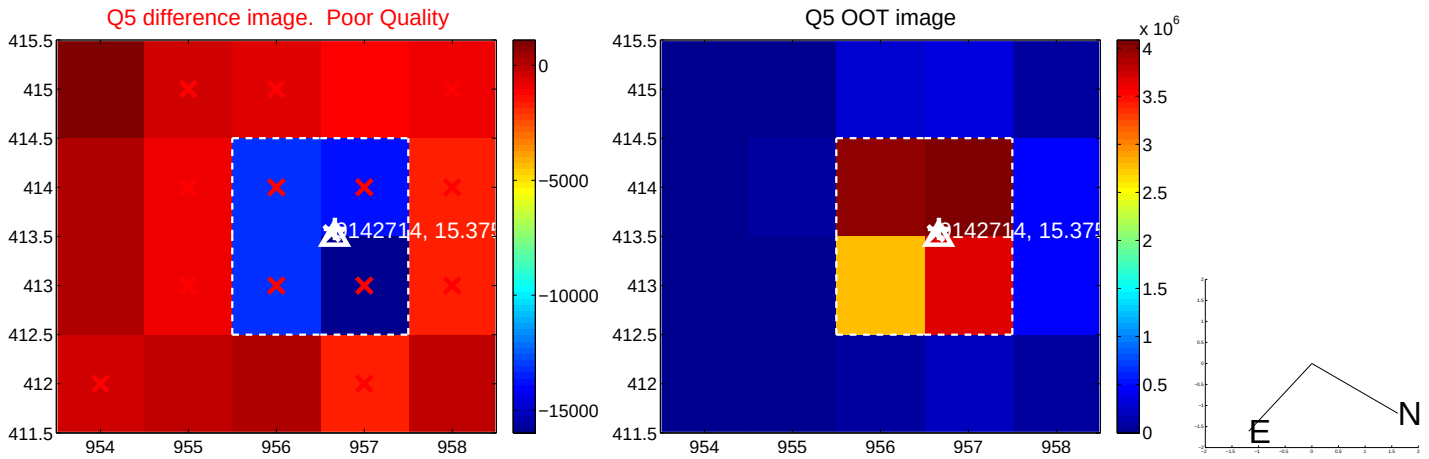


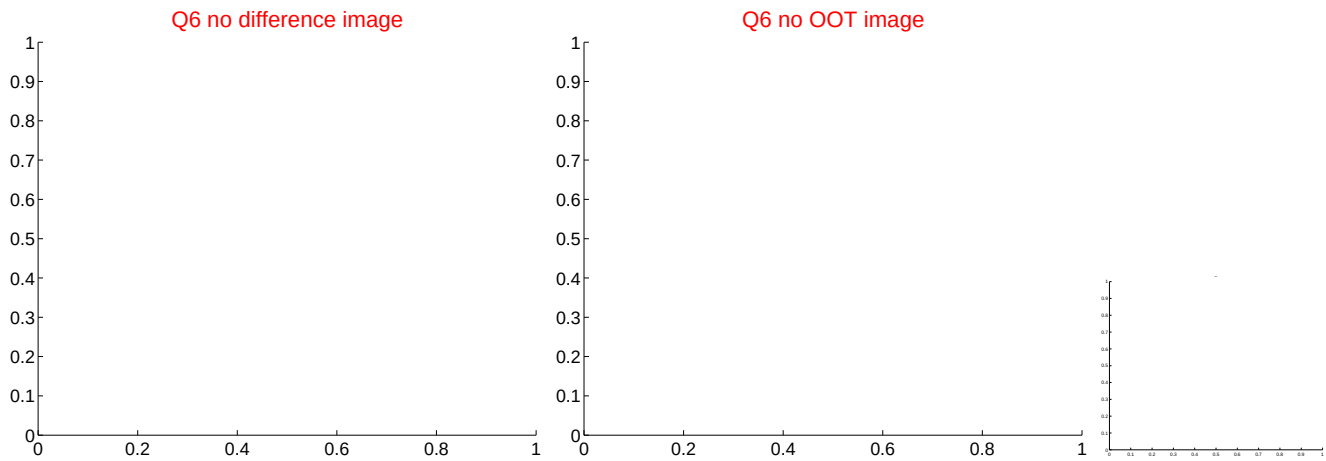


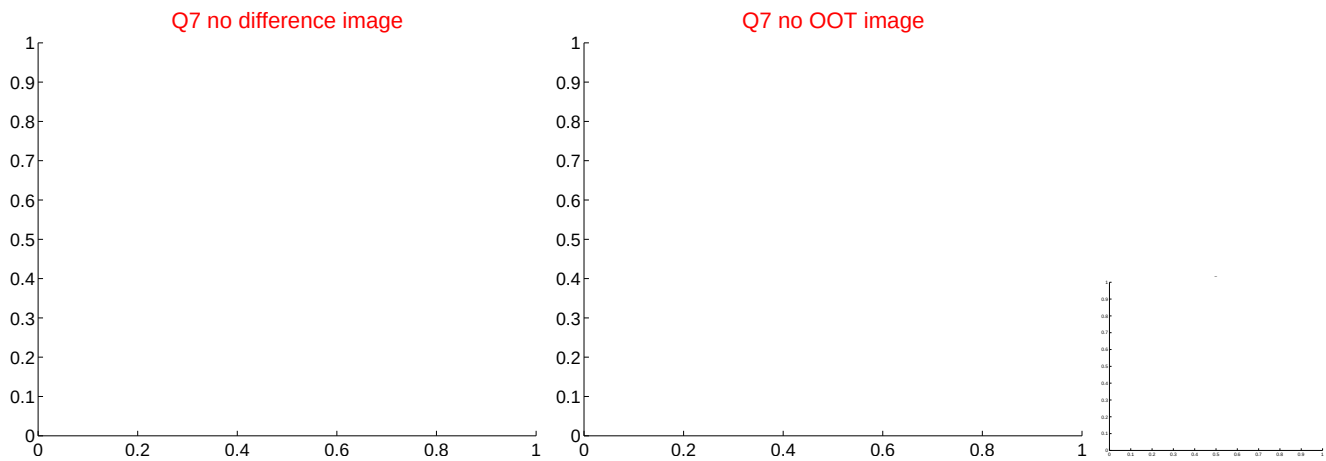


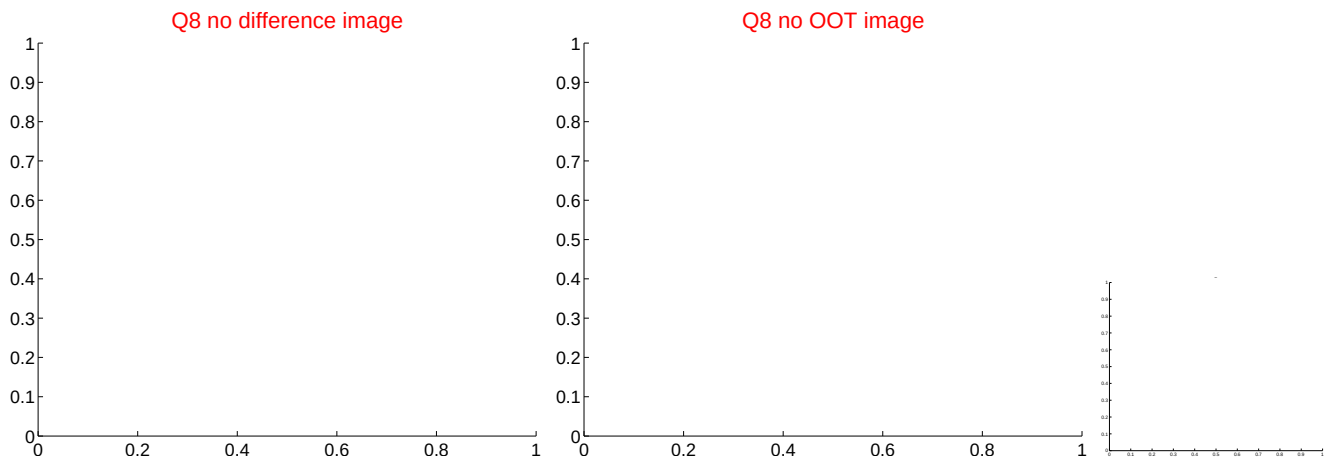


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

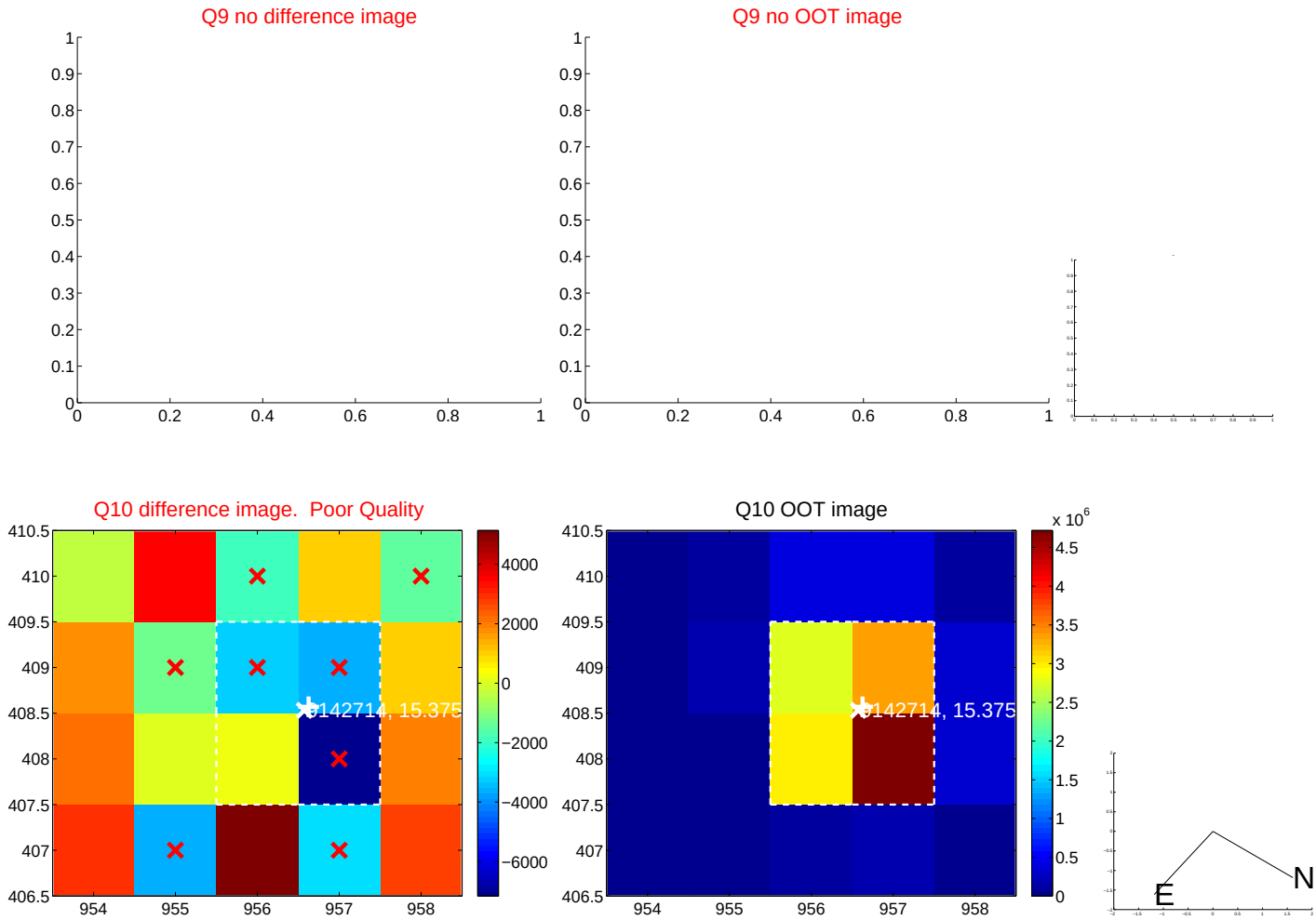


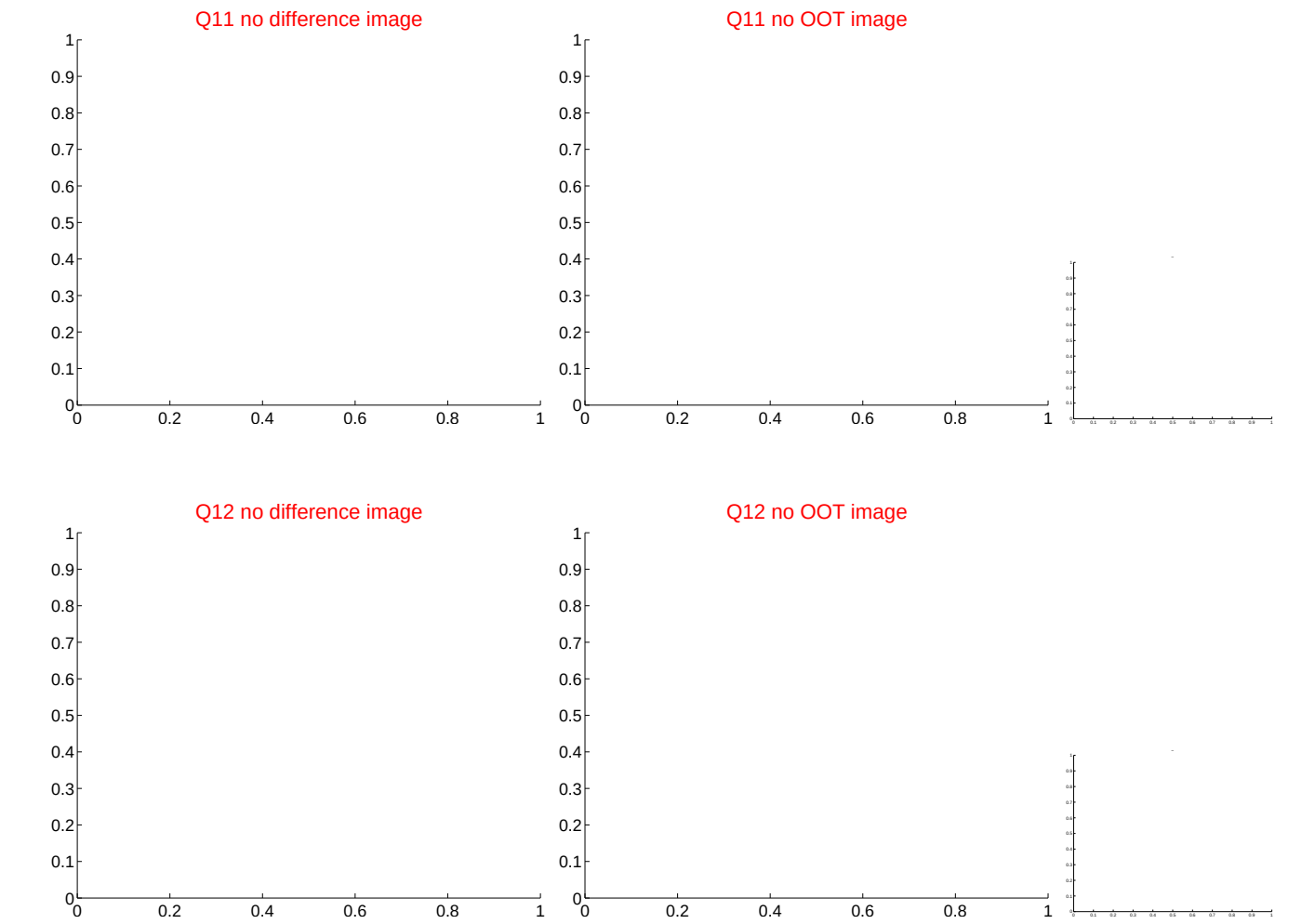




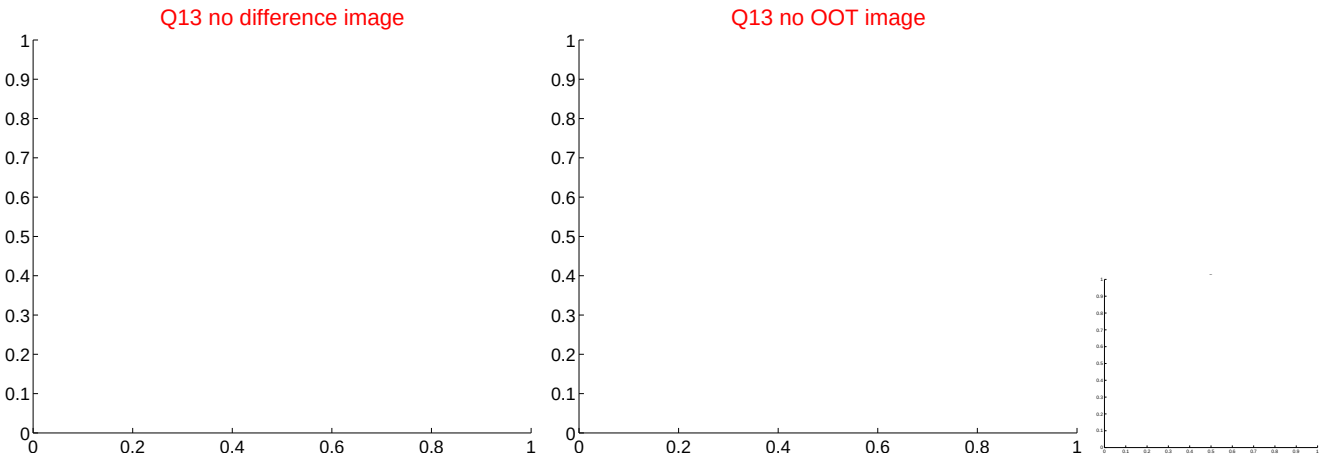


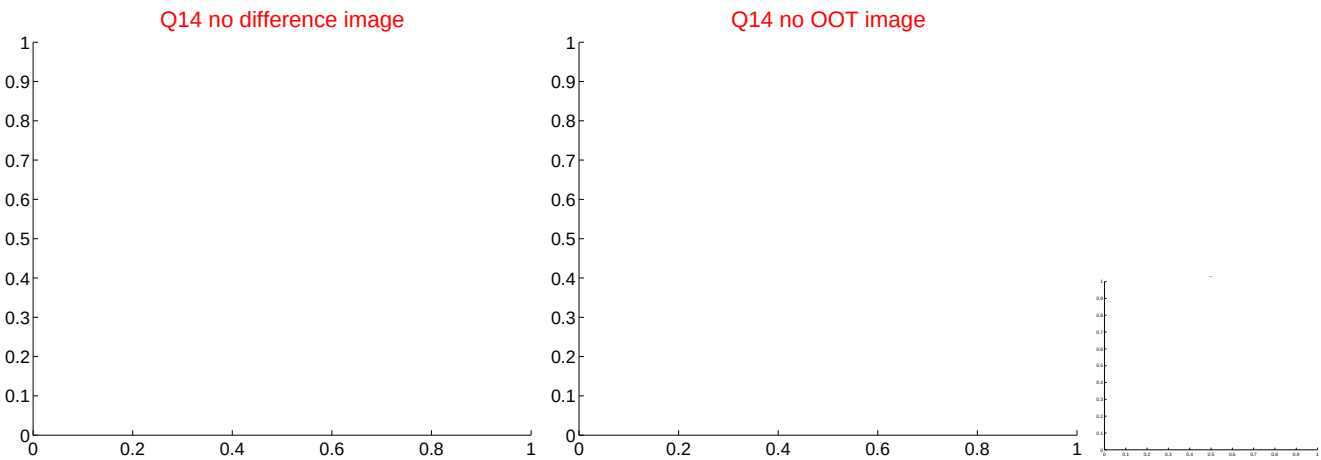
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

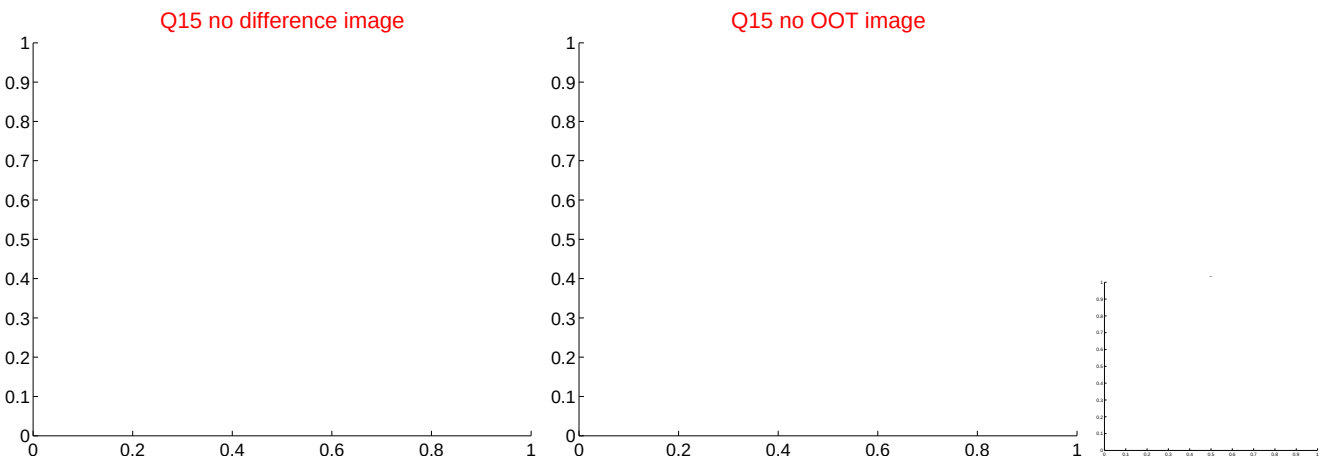


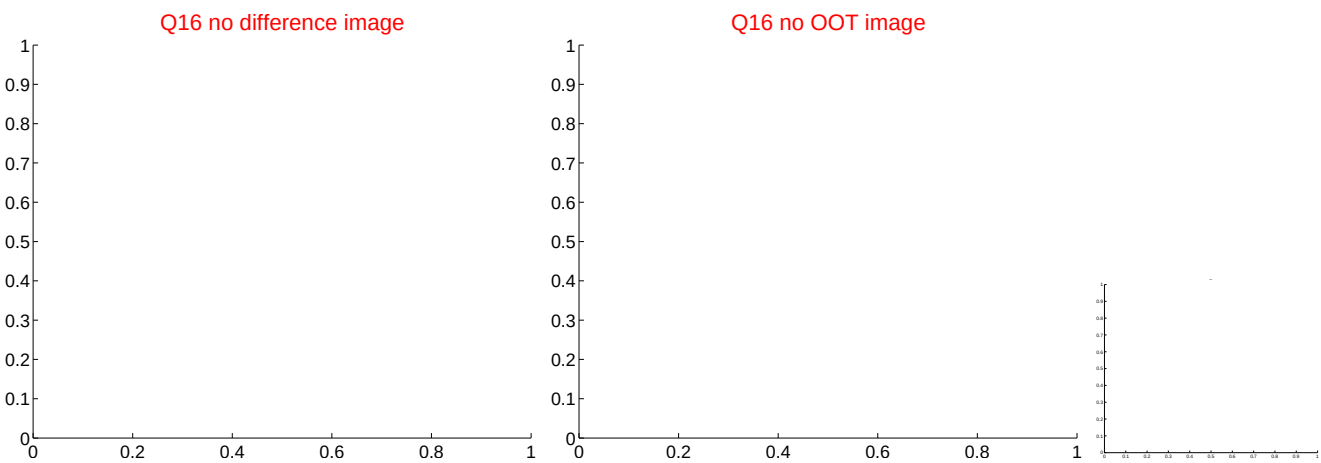


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

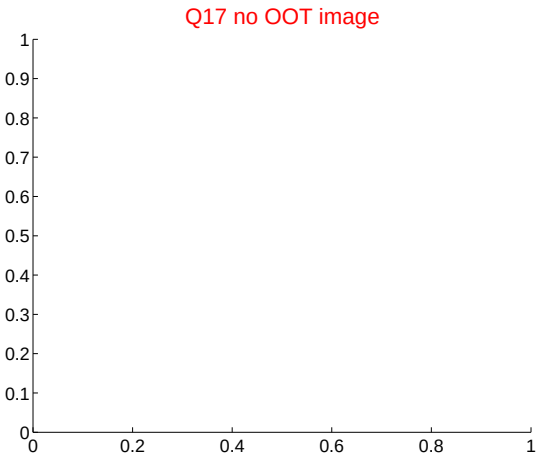


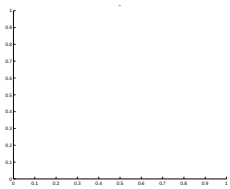


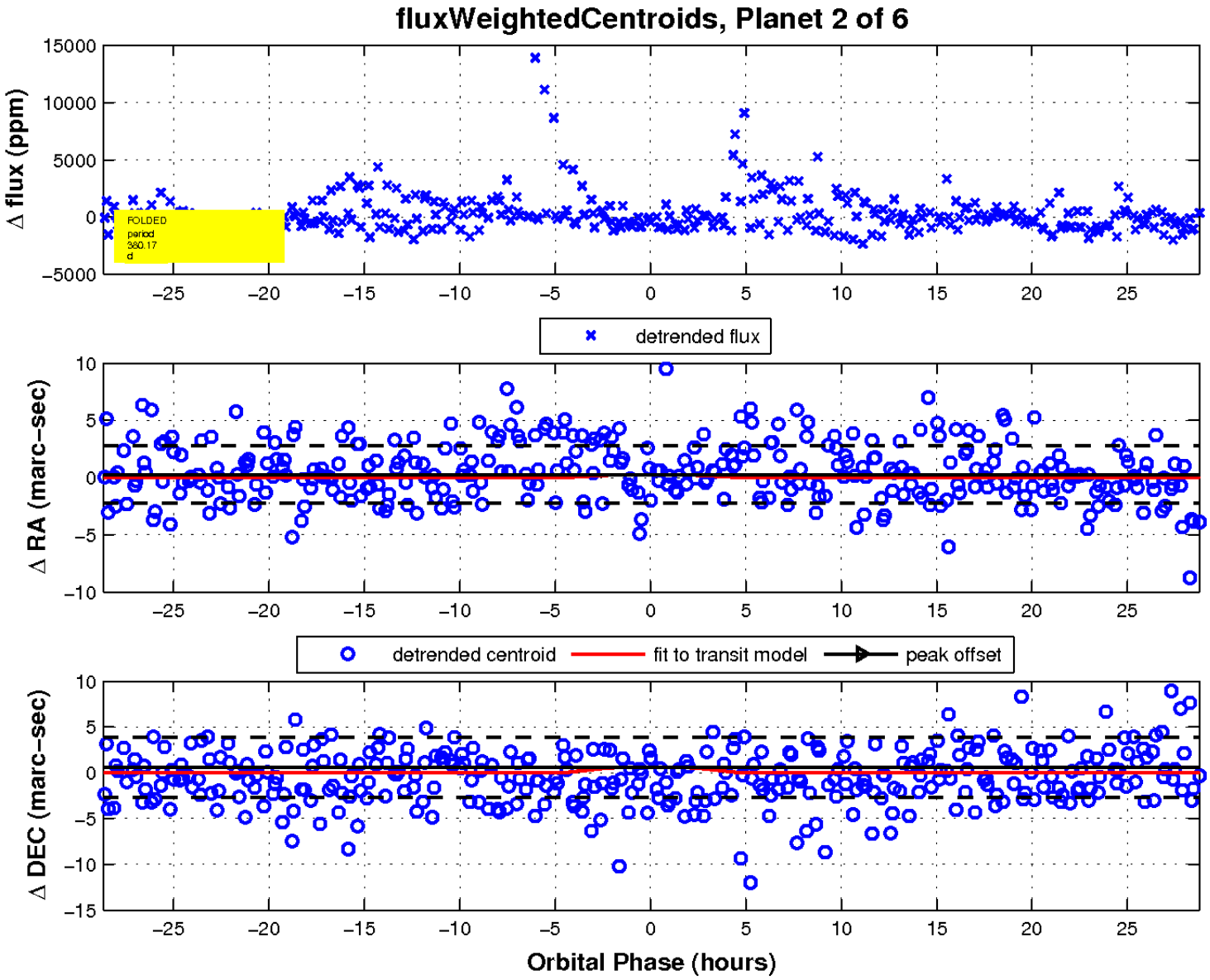




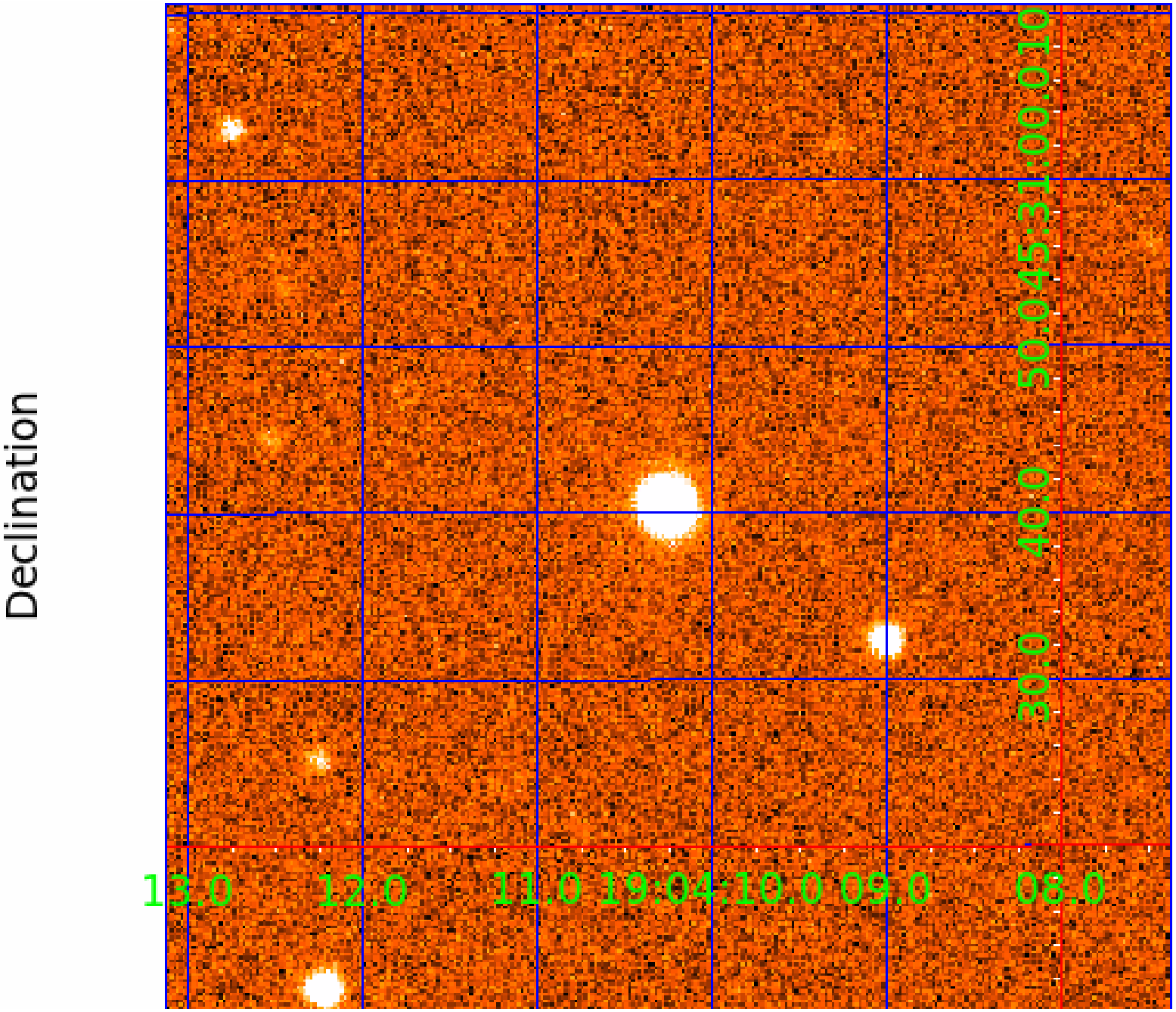
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image


Declination
13.0
12.0
11.0
19:04:10.0
09.0
08.0
30.0
40.0
50.0
45:31:00.0
10

KIC 009142714

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 ($S_\oplus$)
009142714-01	OBS	No	556.753318	355.377099	655.0	2.128	11.7	2.2	0.36	3514	0.97	0.02
009142714-02	OBS	No	380.170937	152.521076	1945.9	9.596	12.3	7.2	0.36	3514	2.00	0.03
009142714-03	OBS	No	320.090873	301.288507	1694.9	3.348	10.3	7.6	0.36	3514	1.47	0.04
009142714-04	OBS	7928.01	1.126260	132.296346	155.5	3.619	9.4	11.6	0.36	3514	0.53	74.67
009142714-05	OBS	No	306.142407	274.246222	1278.1	7.500	12.8	-1.0	0.36	3514	1.26	0.04
009142714-06	OBS	No	204.029097	142.929948	540.2	9.000	8.9	-1.0	0.36	3514	0.82	0.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009142714-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009142714-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
009142714-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
009142714-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009142714-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009142714-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_NOFITS

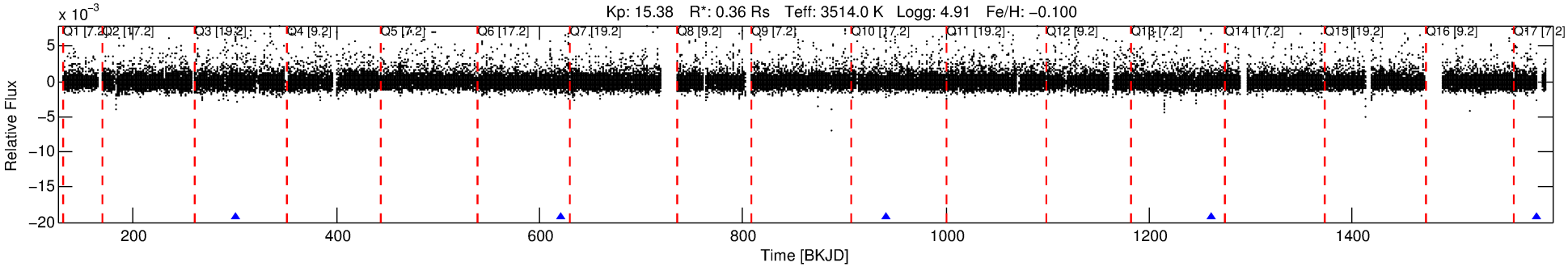
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

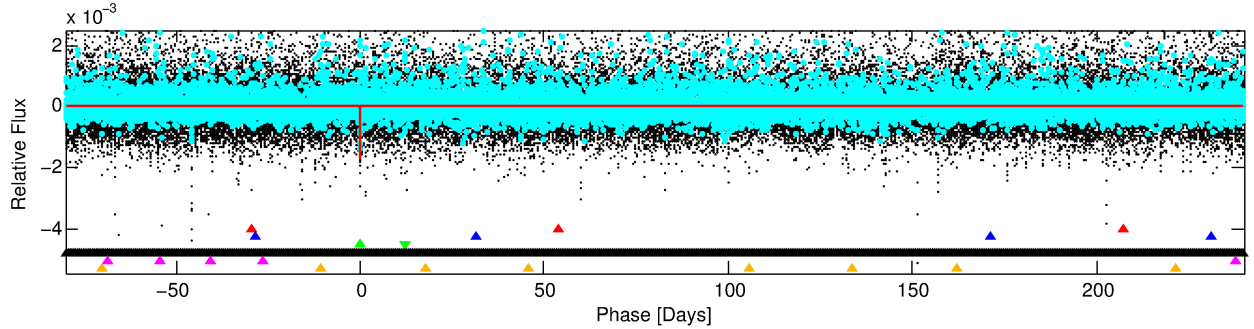
Ephemeris Match Information For 009142714-03

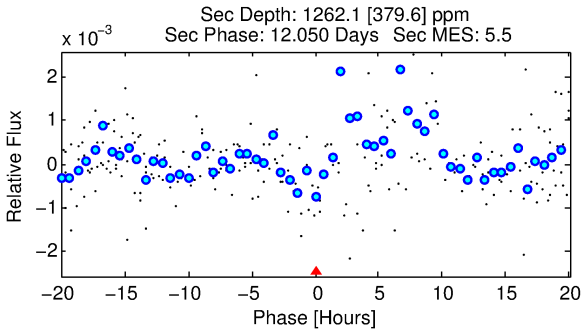
No Significant Match Found

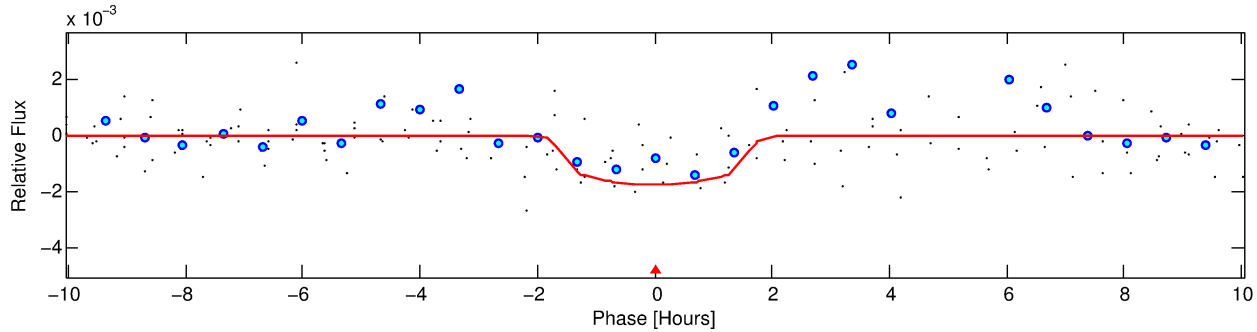
DV One-Page Summary

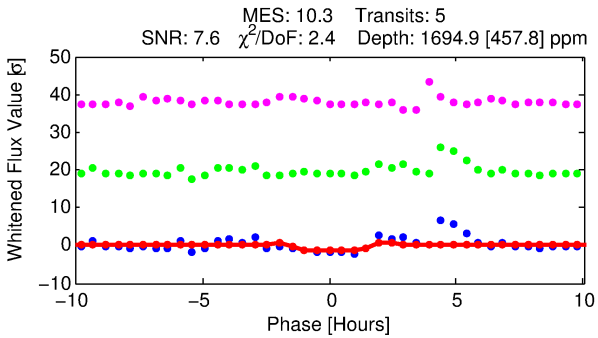
KIC: 9142714 Candidate: 3 of 6 Period: 320.091 d

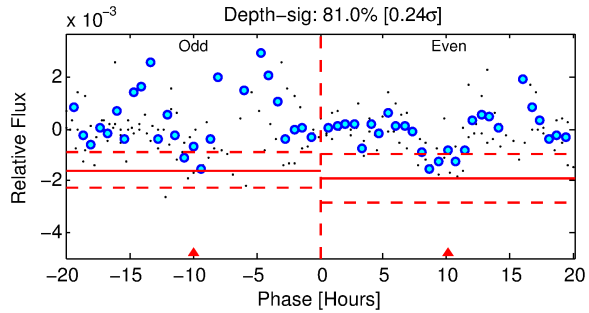


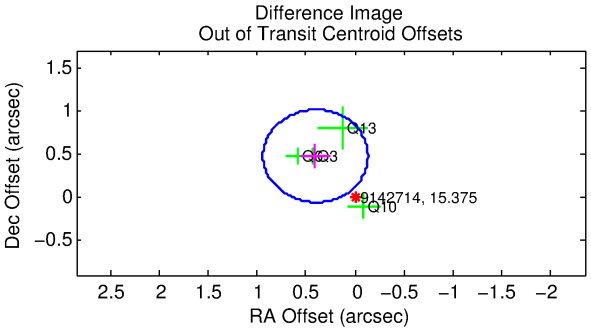












DV Fit Results:

Period = 320.09087 [0.00577] d
Epoch = 301.2885 [0.0142] BKJD
Rp/R* = 0.0376 [0.1596]
a/R* = 737.88 [13808.45]
b = 0.24 [75.02]

Seff = 0.04 [0.00]
Teq = 114 [3] K
Rp = 1.47 [6.24] Re
a = 0.6619 [0.0497] AU

Ag = 141357.72 [1202548.52] [0.12σ]
Teffp = 3418 [7269] K [0.45σ]

DV Diagnostic Results:

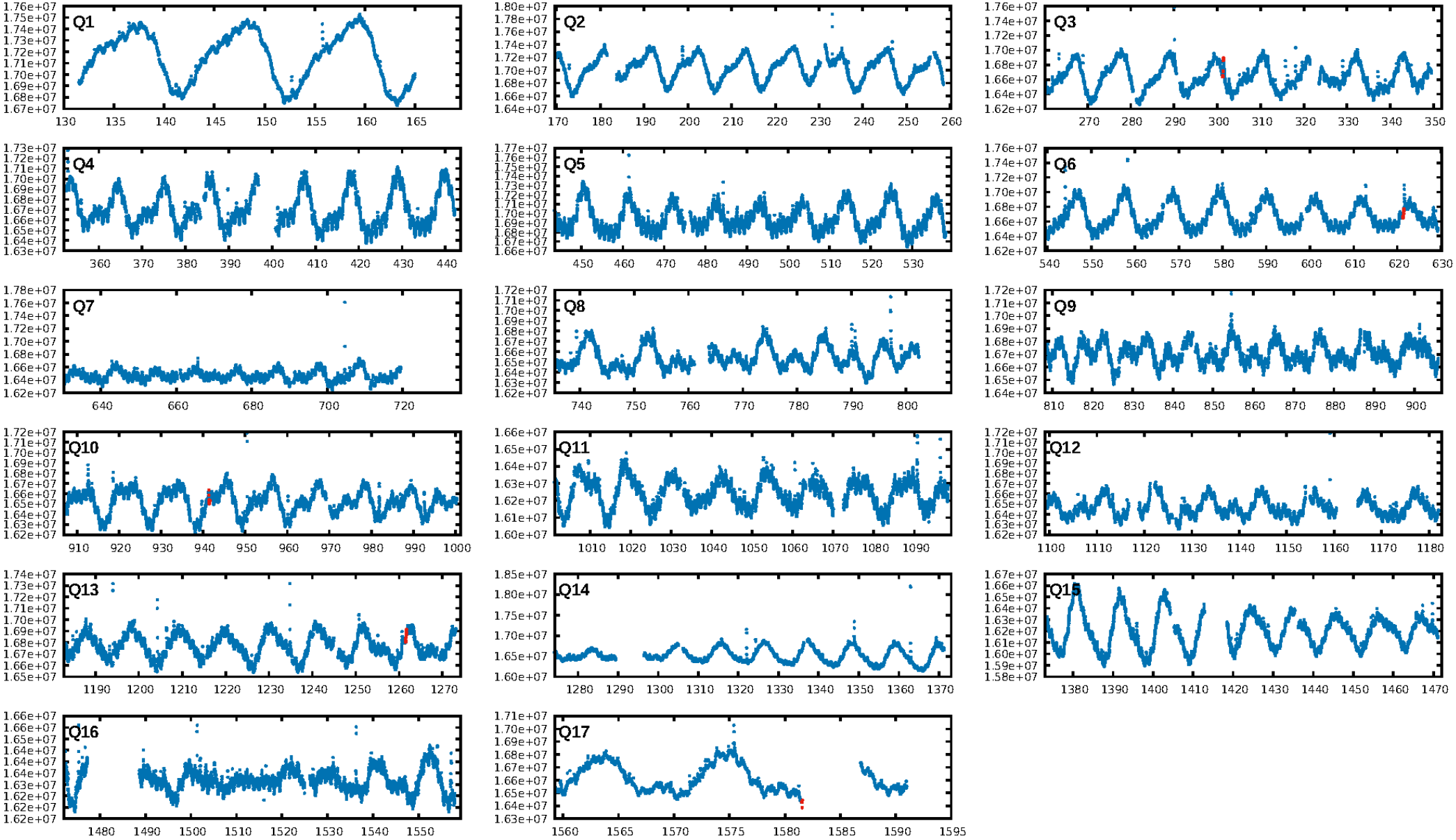
ShortPeriod−sig: 100.0% [40.76σ]
LongPeriod−sig: 100.0% [141.87σ]
ModelChiSquare2−sig: 9.0%
ModelChiSquareGof−sig: 18.4%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: −14.29

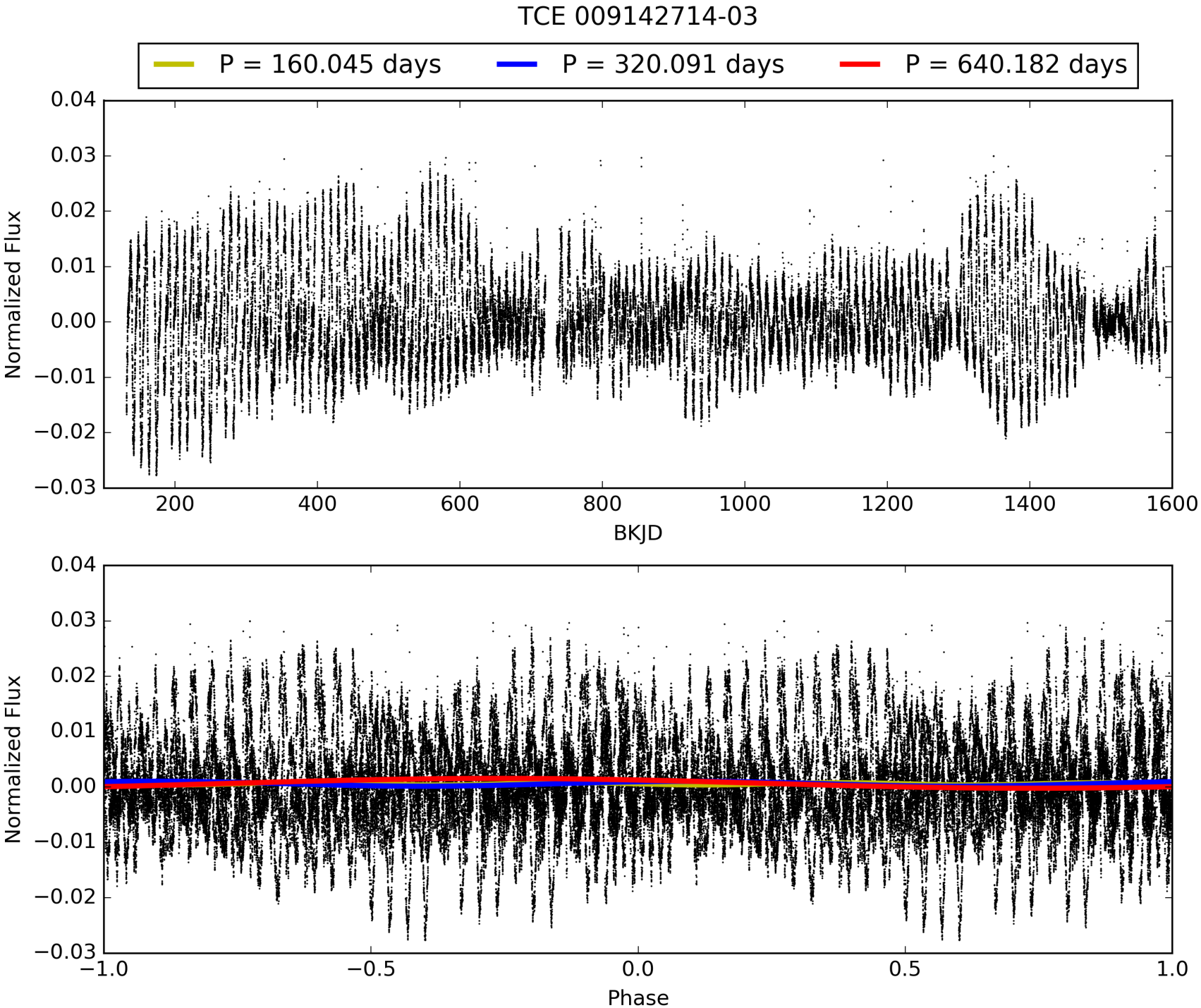
Centroid−sig: 1.7%
Centroid−so: 1.909 arcsec [1.72σ]
OotOffset−rm: 0.625 arcsec [3.50σ]
KicOffset−rm: 0.515 arcsec [3.04σ]
OotOffset−st: 2/1/0/1 [4]
KicOffset−st: 2/1/0/1 [4]
DiffImageQuality−fgm: 1.00 [4/4]
DiffImageOverlap−fno: 0.25 [1/4]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 06:21:52 Z

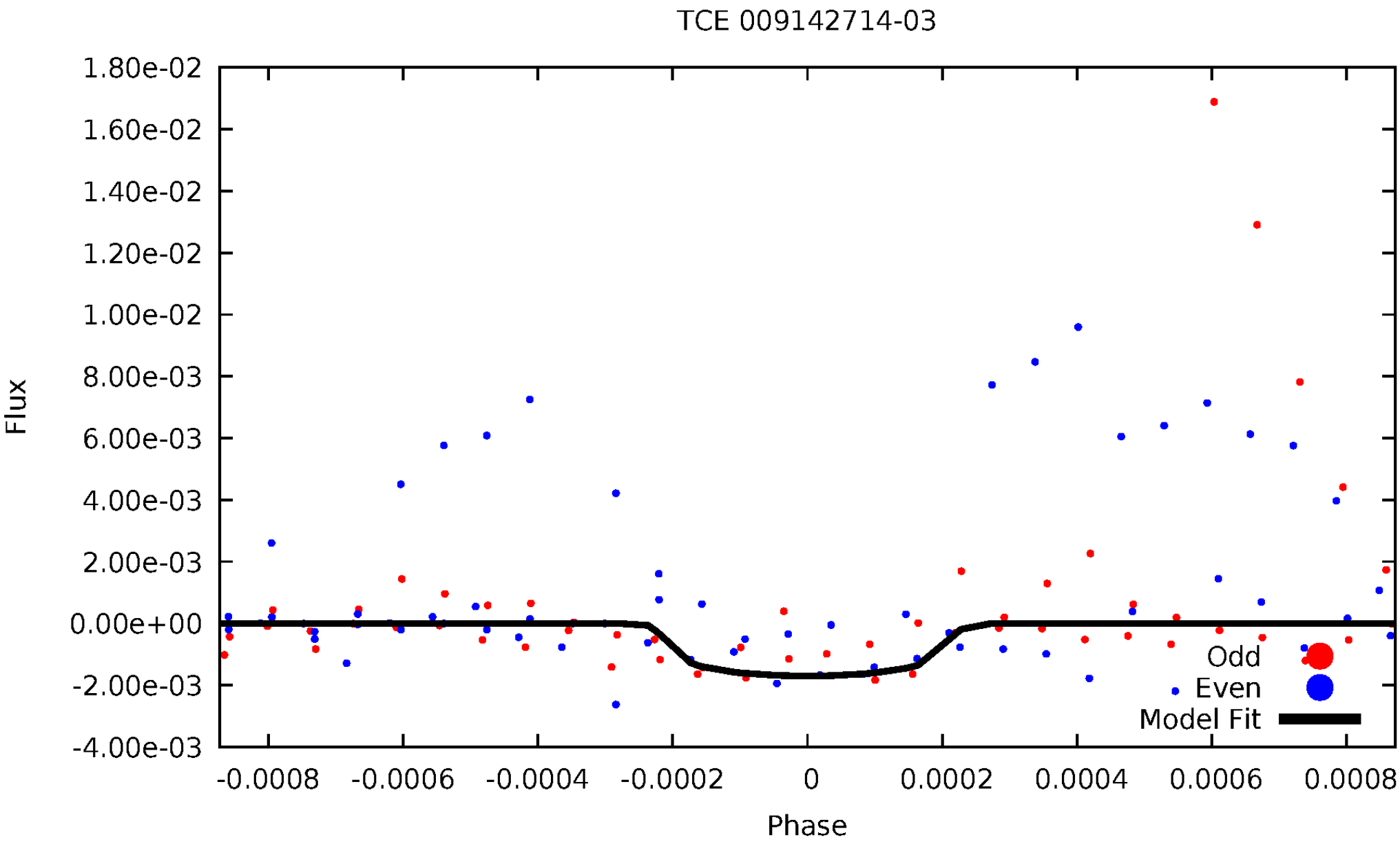
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009142714-03, PDC Light Curves




TCE 009142714-03
P = 160.045 days
P = 320.091 days
P = 640.182 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even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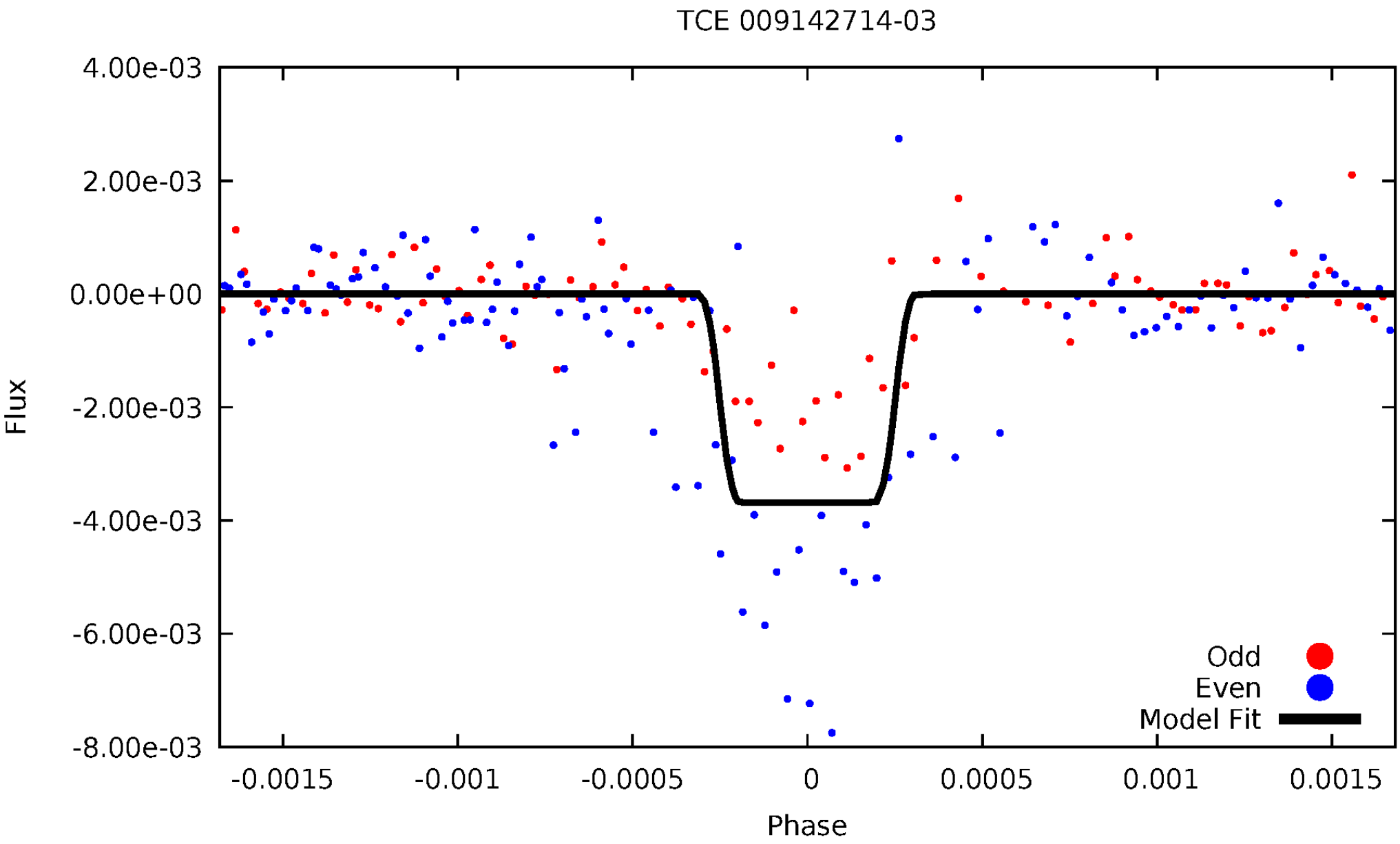
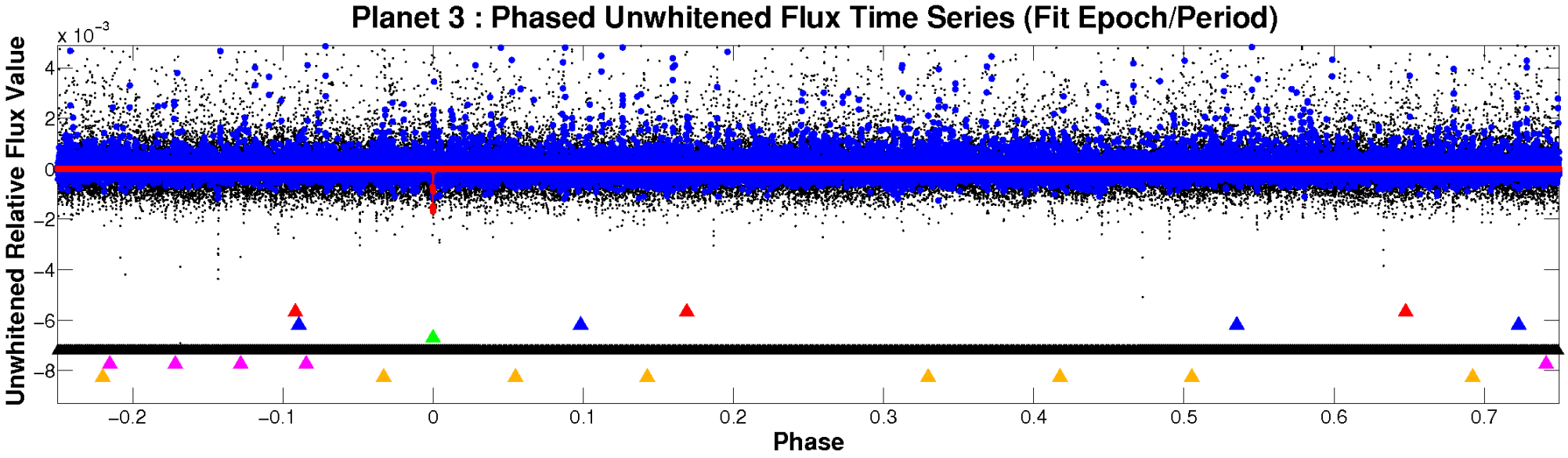
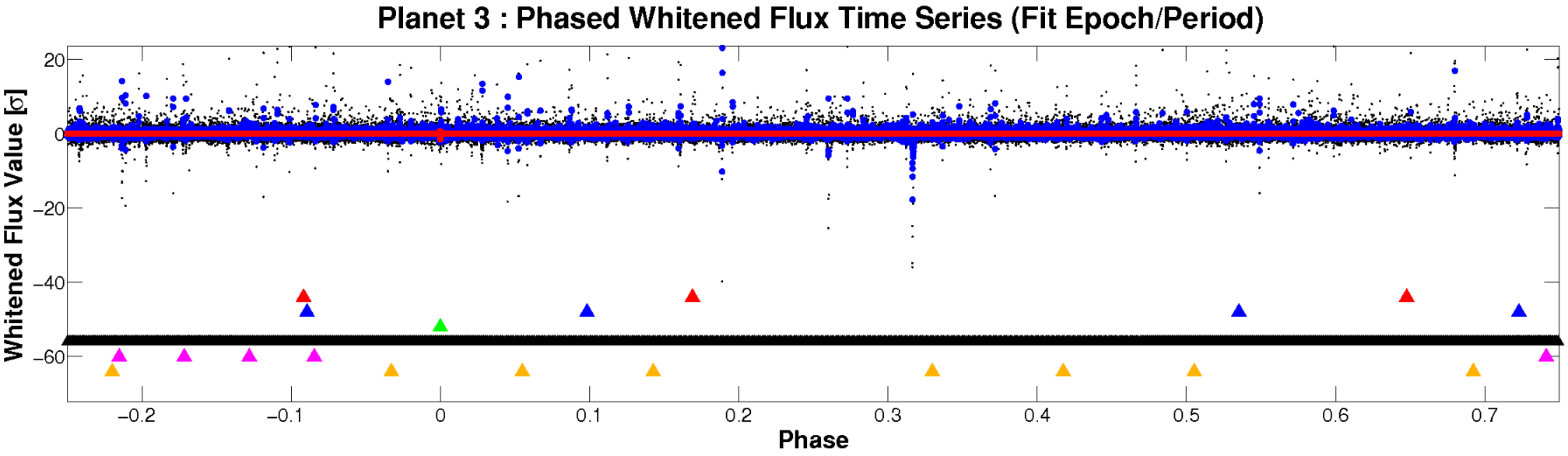
1.80e-02
1.60e-02
1.40e-02
1.20e-02
1.00e-02
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
Flux
-0.0008
-0.0006
-0.0004
-0.0002
0
0.0002
0.0004
0.0006
0.0008
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009142714-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
-8.00e-03
Flux
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
Phase
Odd
Even
Model Fit

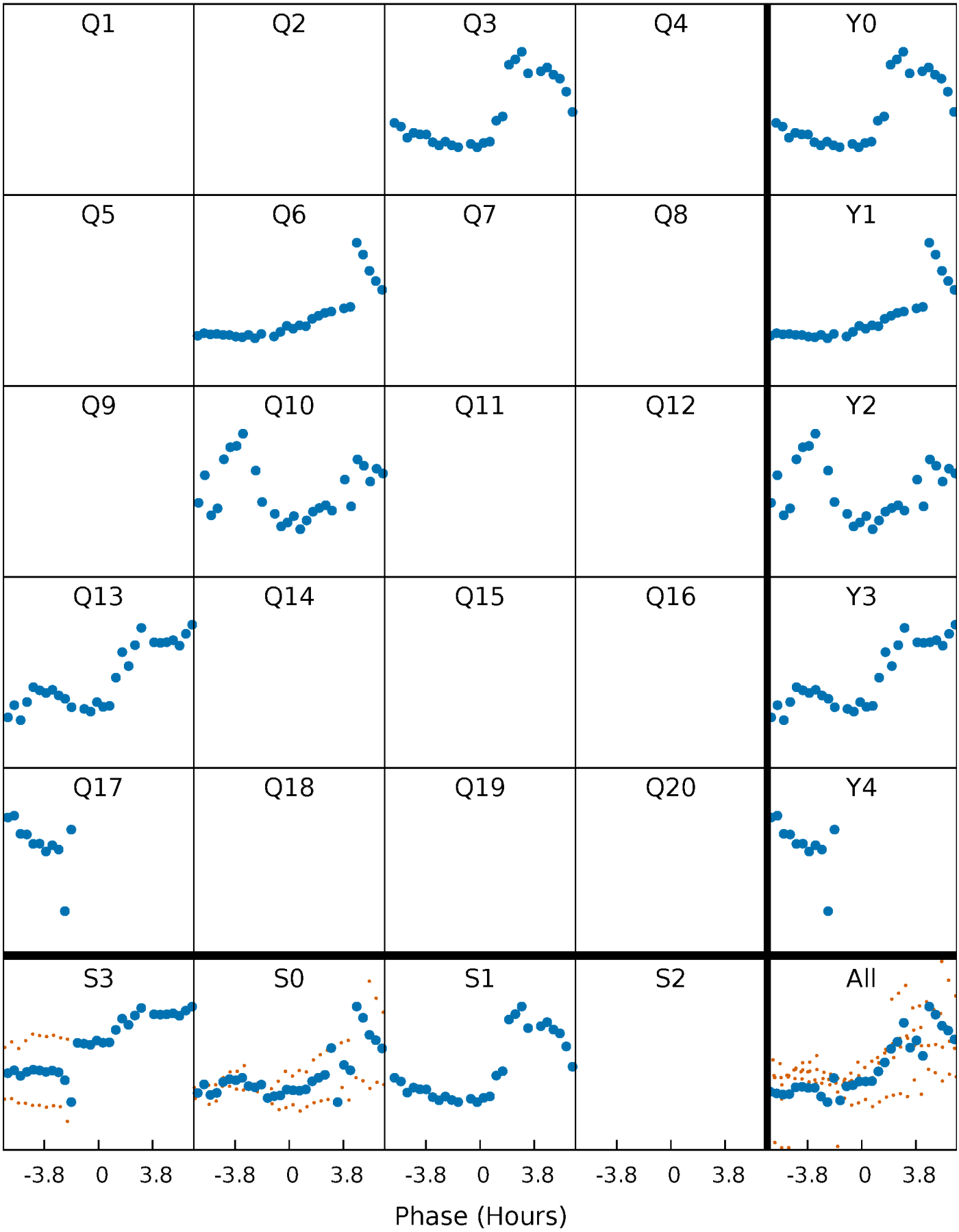
Non-Whitened Vs. Whitened Light Curve





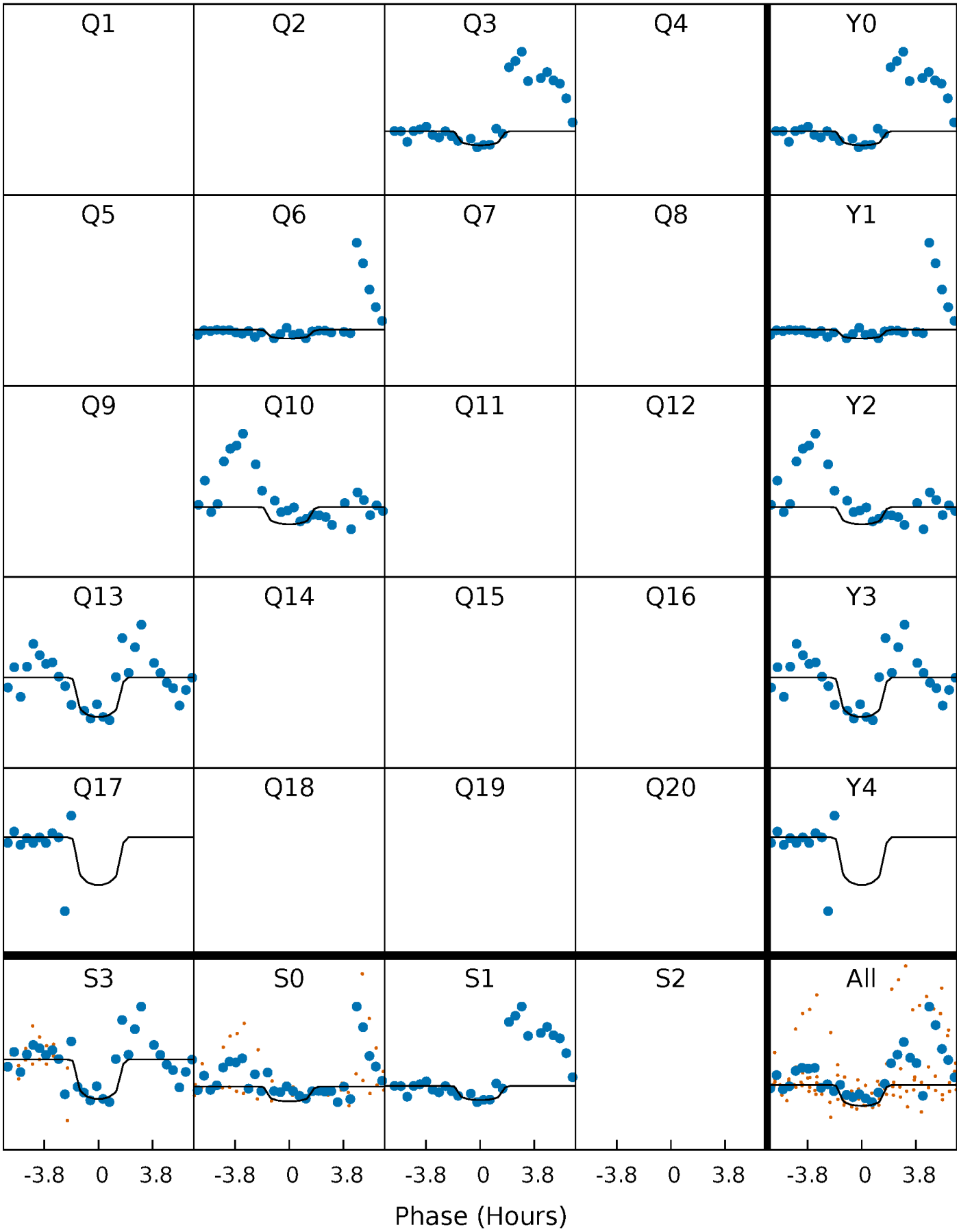
PDC Quarter-Phased Transit Curves

TCE 009142714-03 P=320.090873 Days T_0=301.288507 (BKJD)



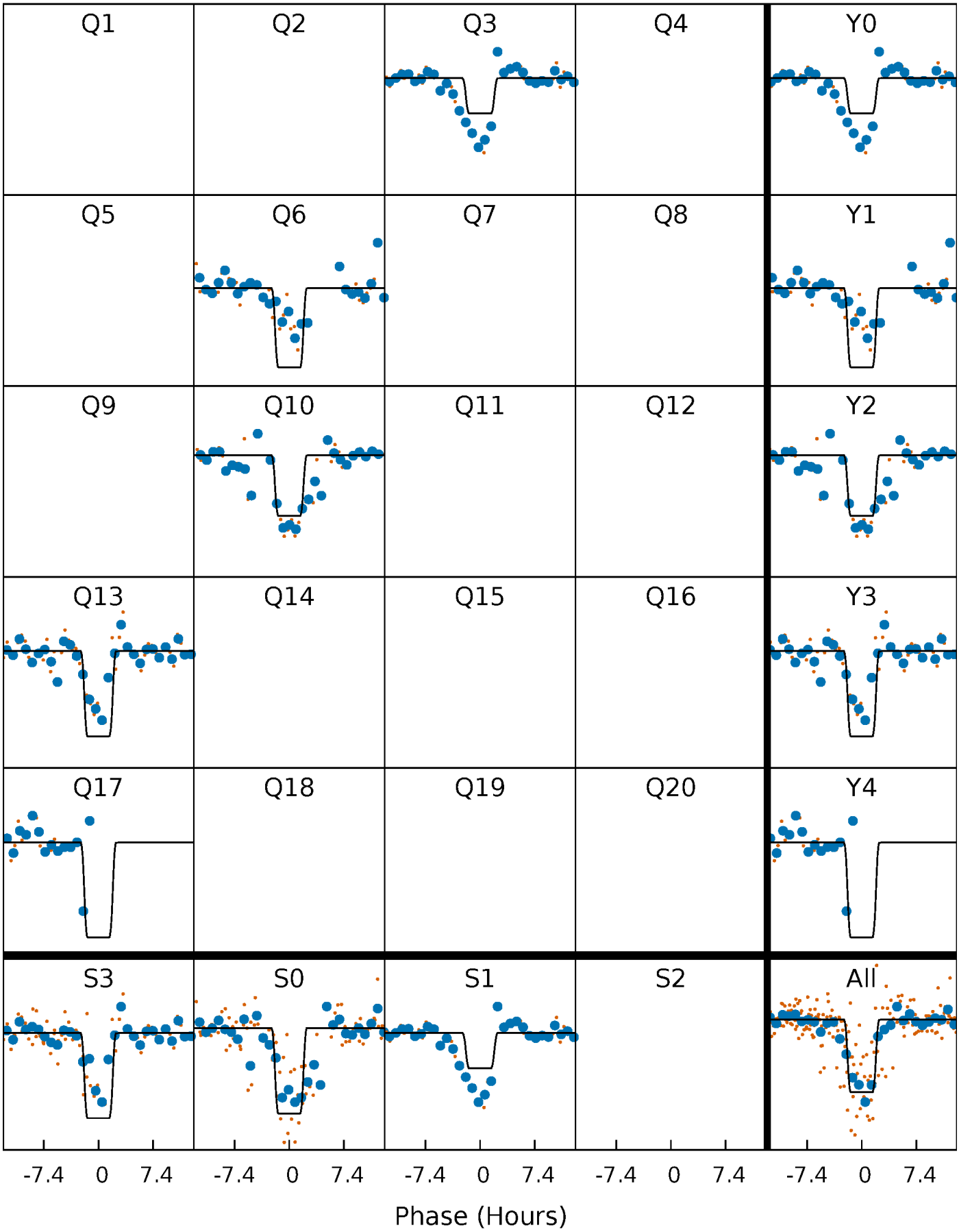
DV Quarter-Phased Transit Curves

TCE 009142714-03 P=320.090873 Days T_0=301.288507 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

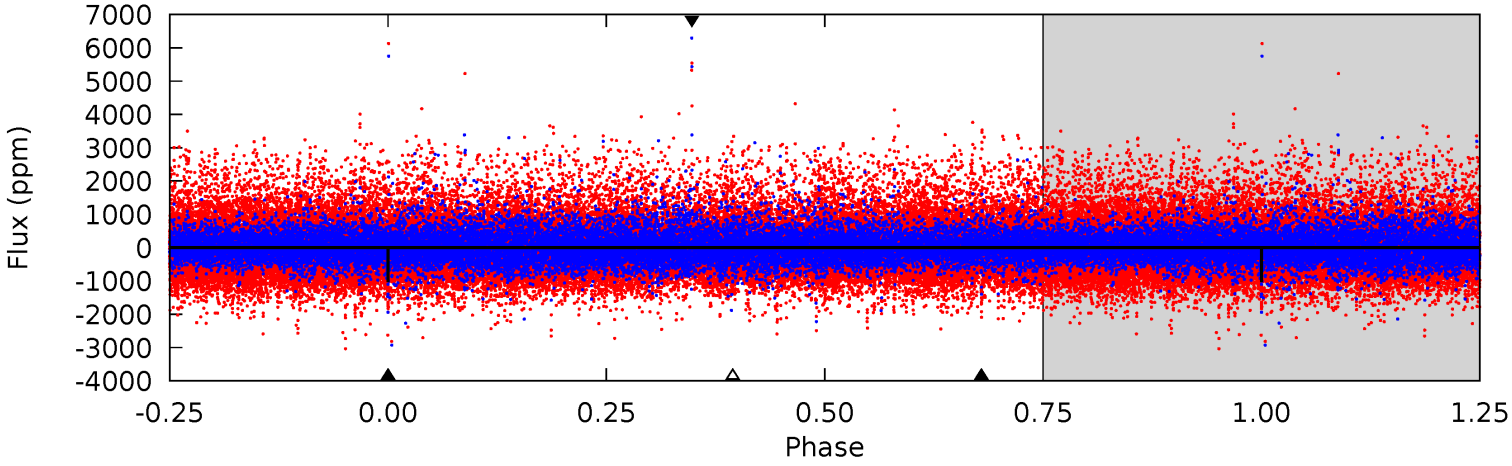
TCE 009142714-03 P=320.088176 Days T_0=301.292407 (BKJD)

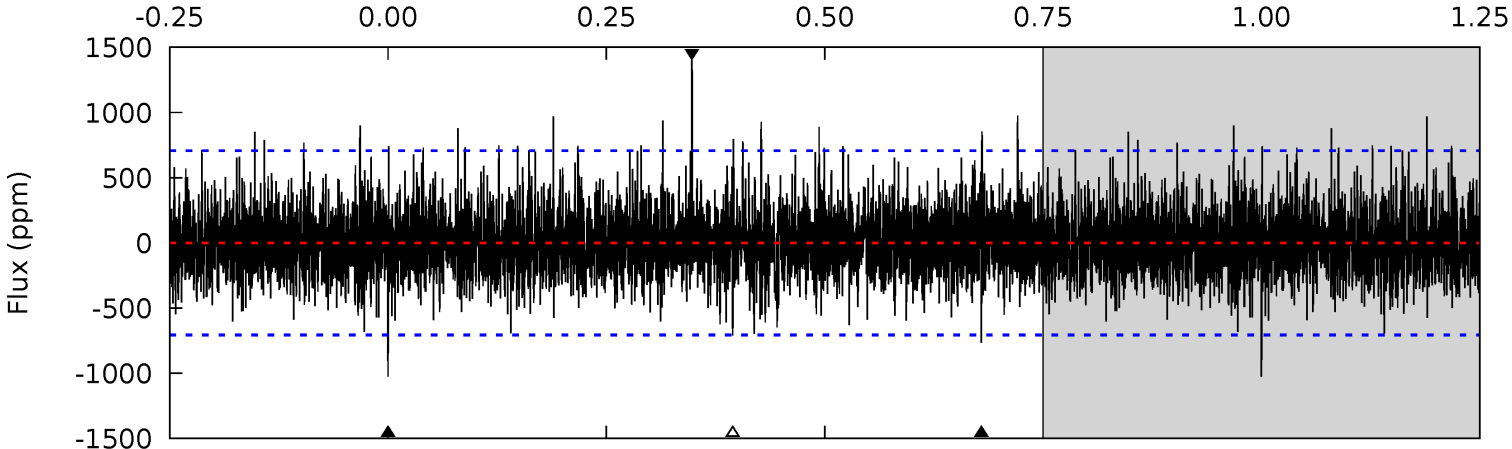


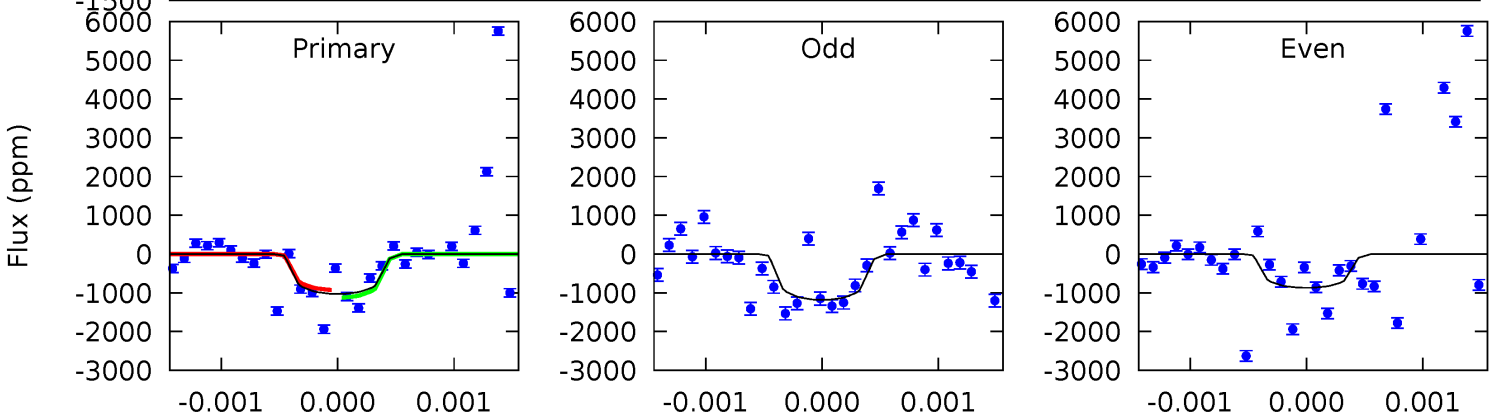
DV Model-Shift Uniqueness Test

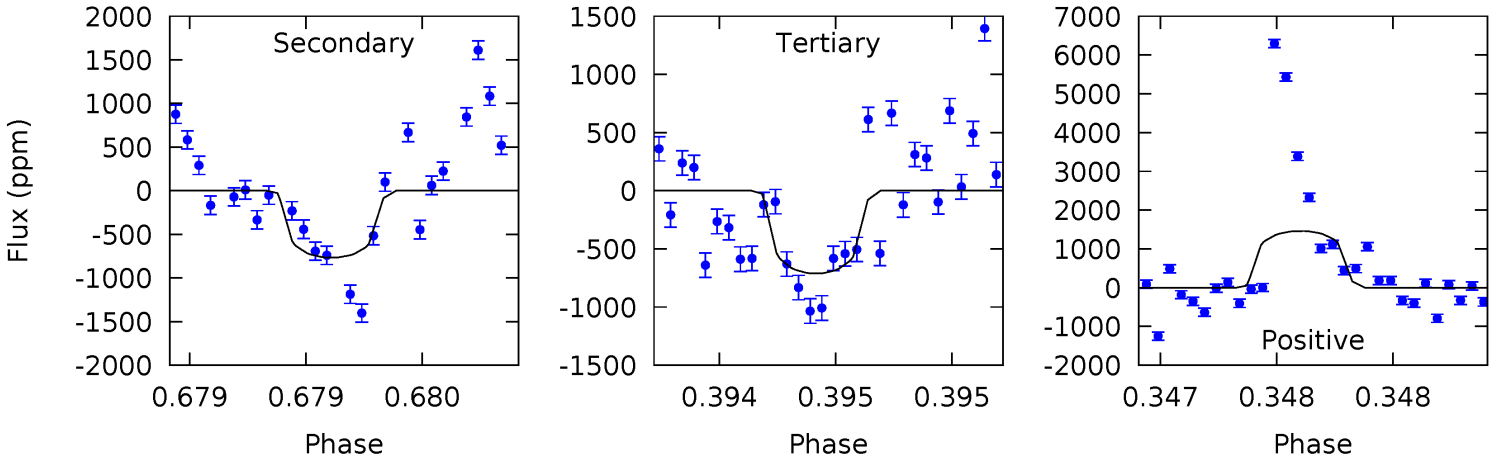
009142714-03, P = 320.090873 Days, E = 301.288507 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.10	6.04	5.61	11.5	5.57	3.48	1.71	2.49	-3.42	0.43	-5.48	0.85	0.93	0.59	0.79





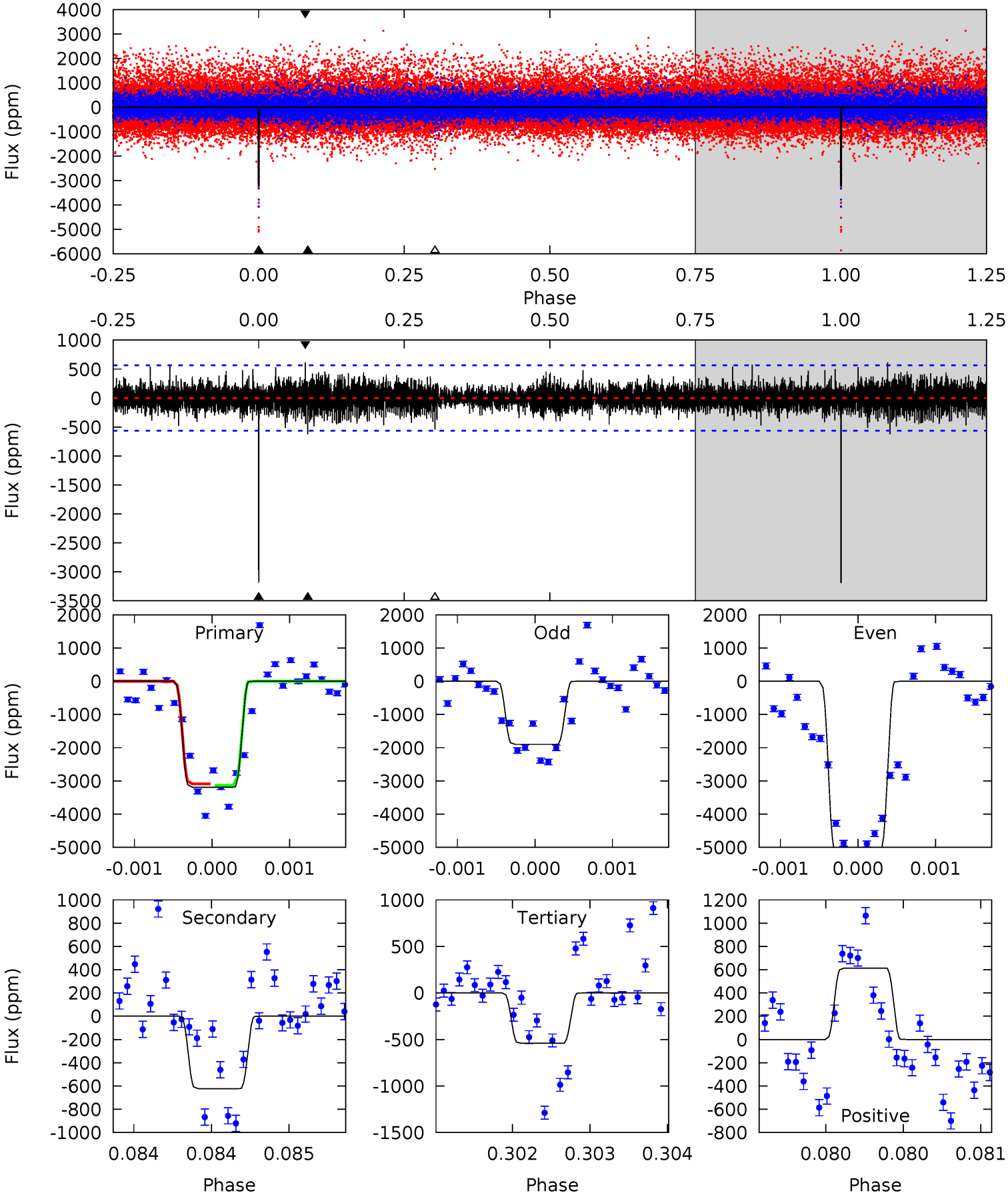




Alt Model-Shift Uniqueness Test

009142714-03, P = 320.088176 Days, E = 301.292407 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.2	6.08	5.29	6.00	5.53	3.41	1.29	25.9	25.2	0.80	0.08	17.0	1.31	0.16	0.24



Stellar Parameters For KIC 009142714

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	3514^{+47}_{-58}	$4.907^{+0.036}_{-0.044}$	$-0.100^{+0.100}_{-0.100}$	$0.358^{+0.036}_{-0.036}$	$0.380^{+0.037}_{-0.050}$	$11.650^{+2.345}_{-2.127}$
	+1%/-2%	+1%/-1%	+100%/-100%	+10%/-10%	+10%/-13%	+20%/-18%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009142714-03 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-766±127	$5.16^{+4.61}_{-3.41}$	159^{+4}_{-4}	2312^{+729}_{-313}	7046^{+53064}_{-5191}
Alt.	-623±102	$5.33^{+5.49}_{-3.56}$	160^{+4}_{-4}	2235^{+734}_{-314}	5302^{+43673}_{-4074}

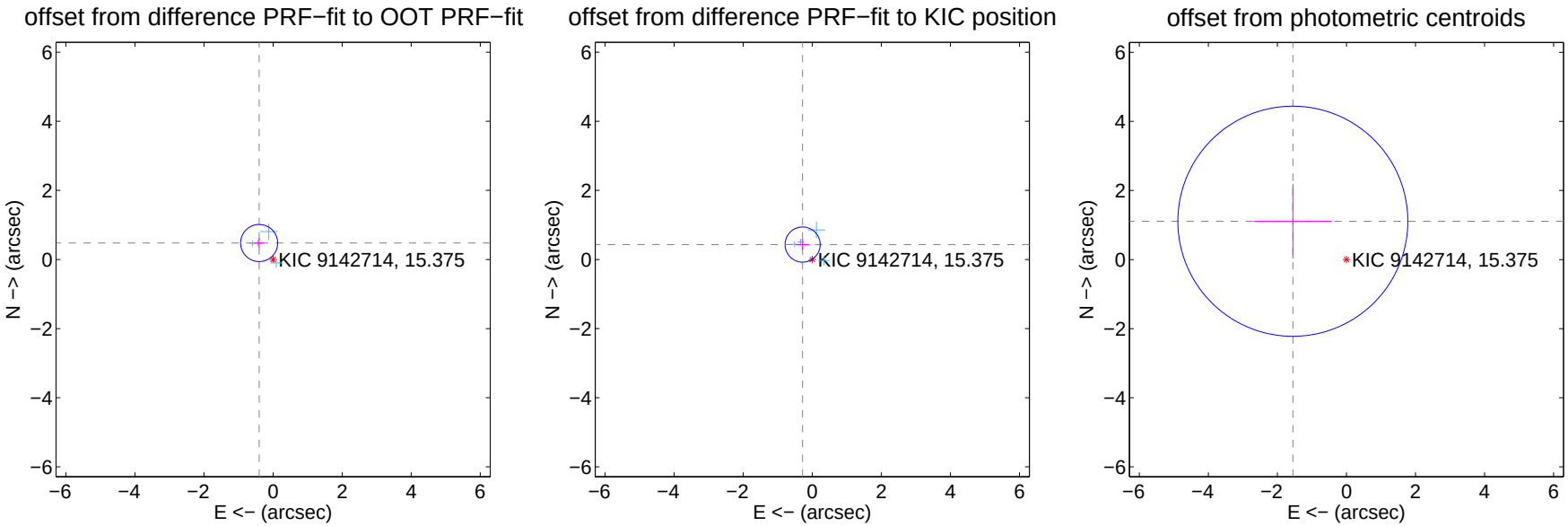
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

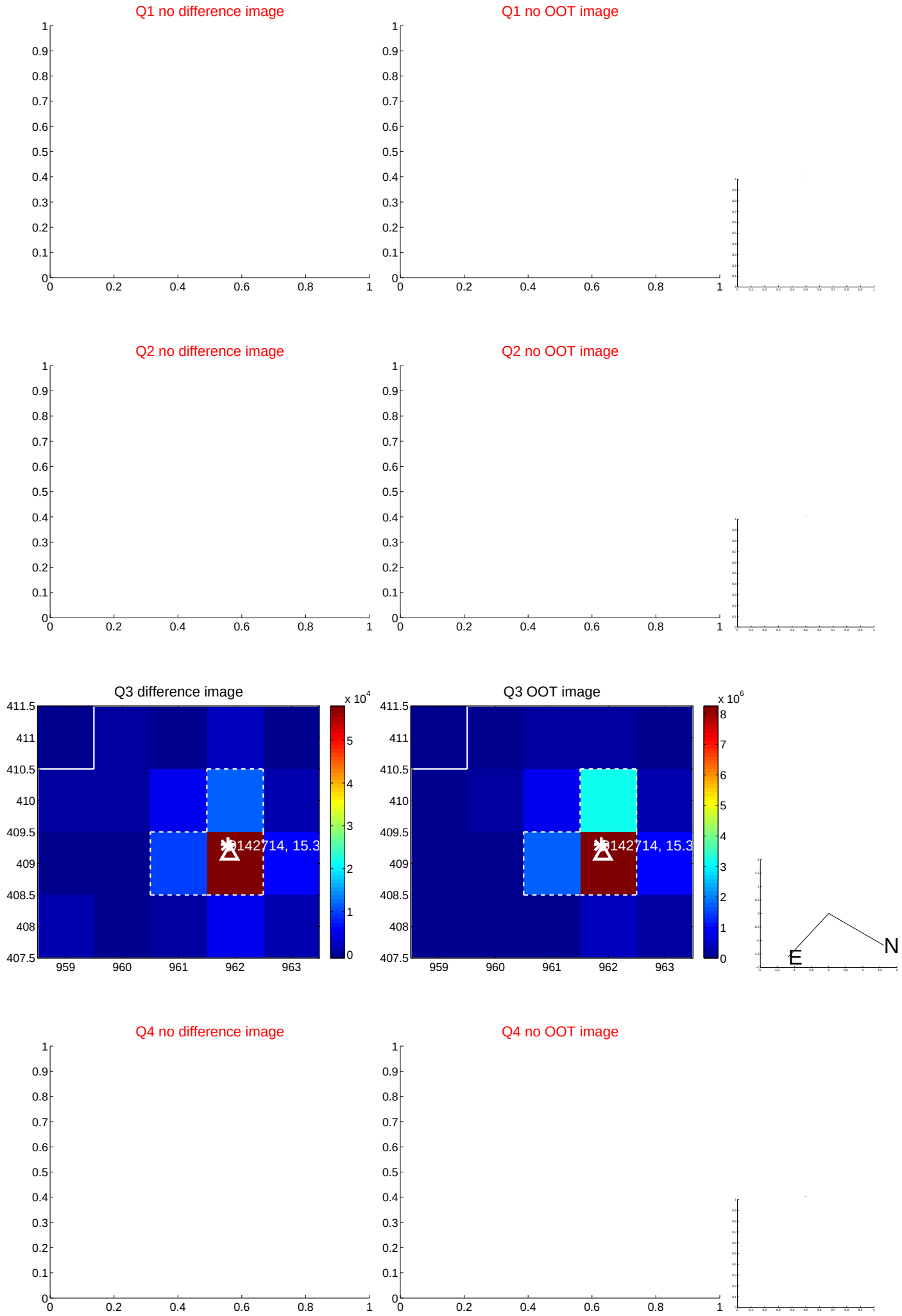
Supplemental centroid analysis for 009142714-03. Kepler magnitude: 15.38. Transit SNR 7.65
There are 4 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.625 ± 0.179	3.50	0.404 ± 0.149	0.477 ± 0.139
PRF-fit source offset from KIC position	0.515 ± 0.169	3.04	0.280 ± 0.205	0.433 ± 0.152
photometric centroid source offset	1.91 ± 1.11	1.72	1.55 ± 1.13	1.11 ± 1.07

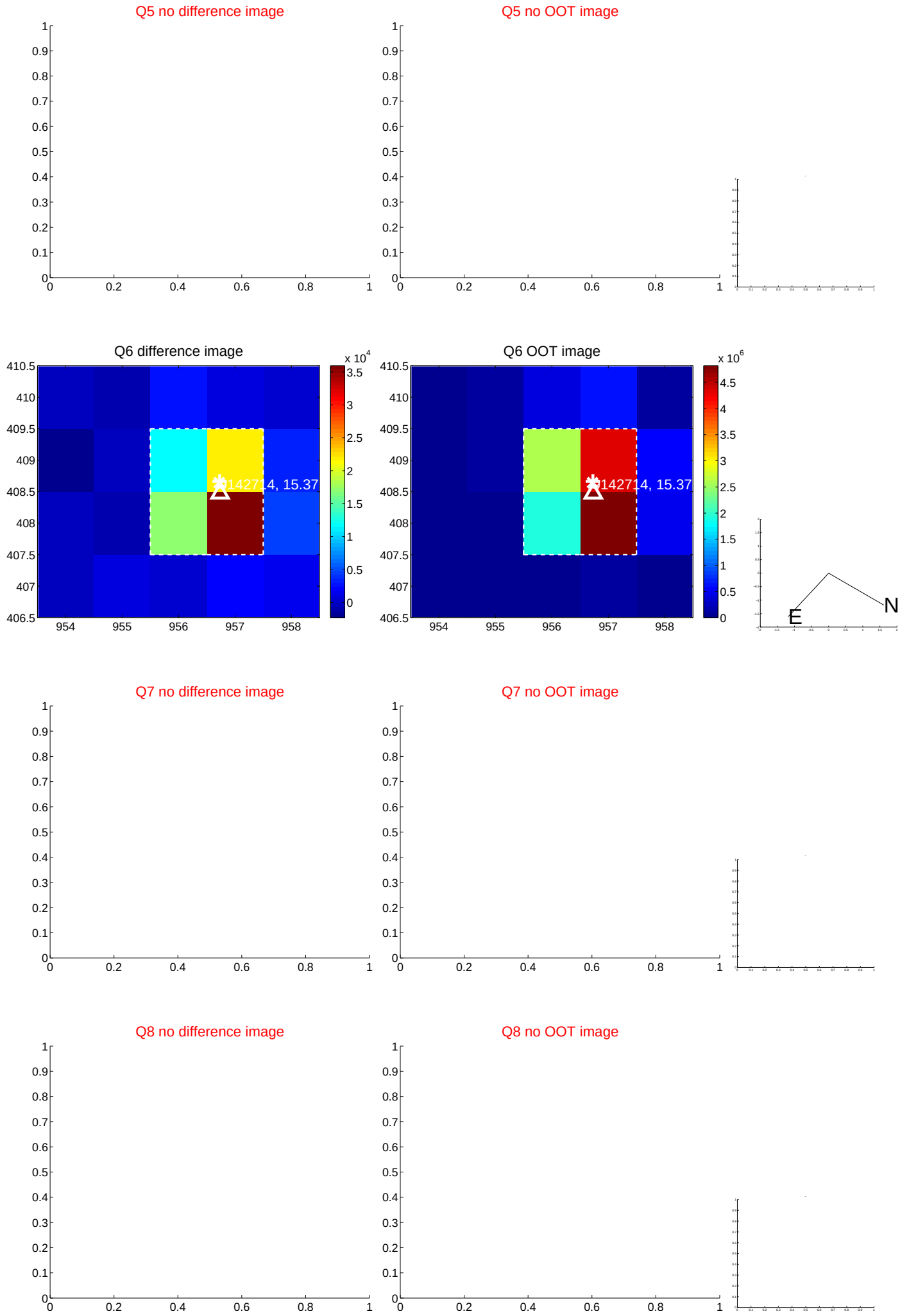


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

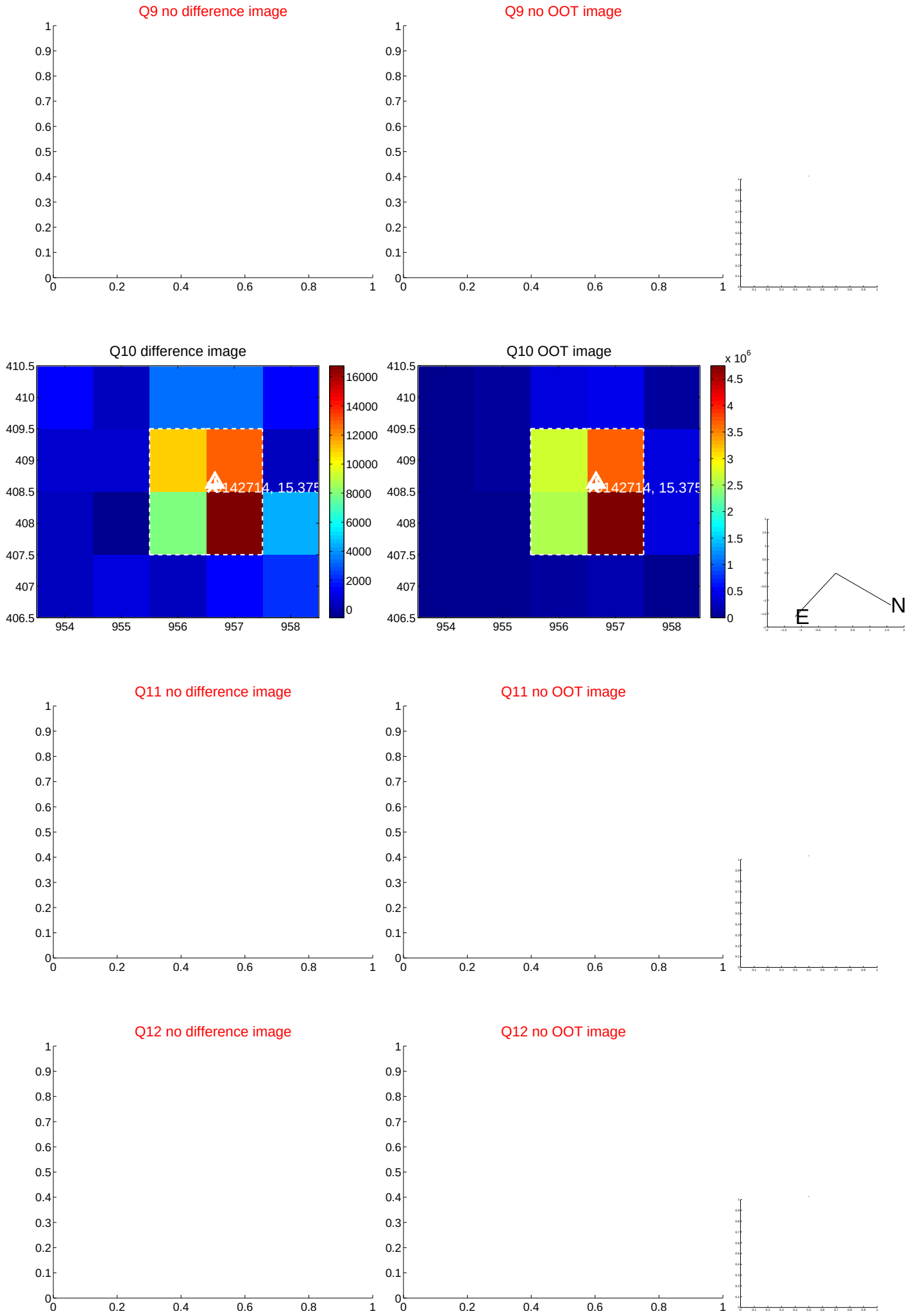
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



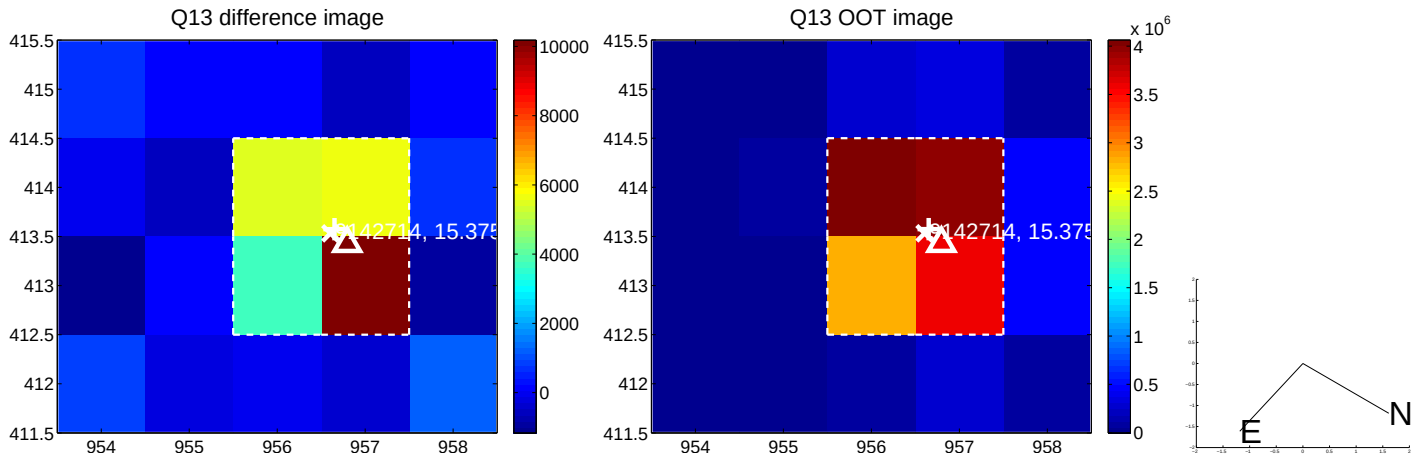
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

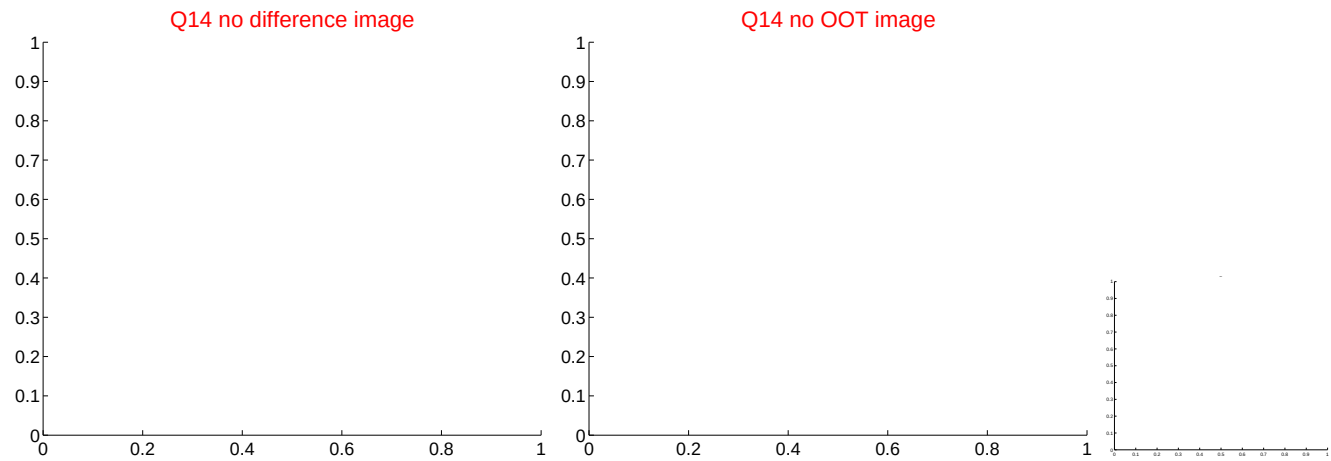


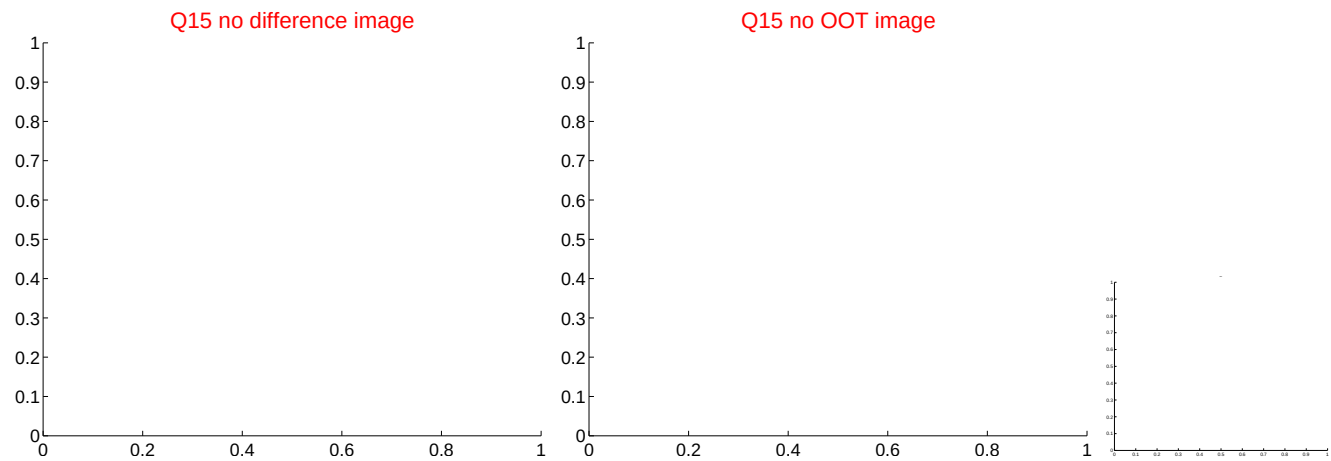
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

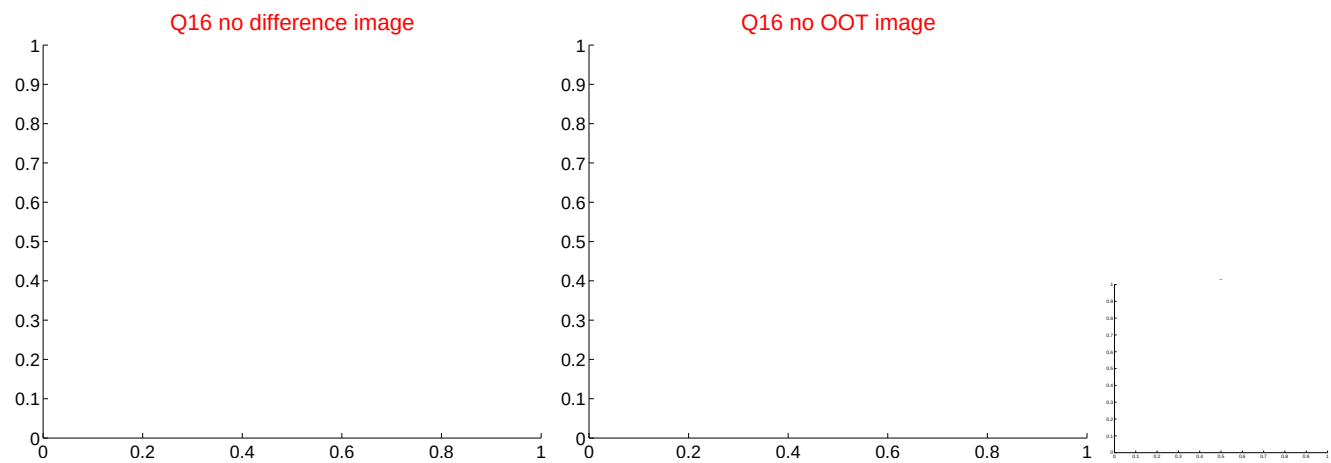


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

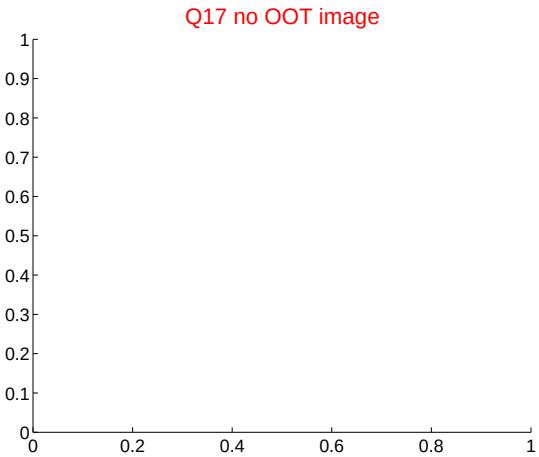


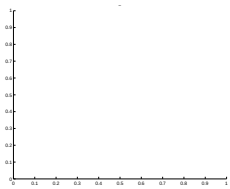


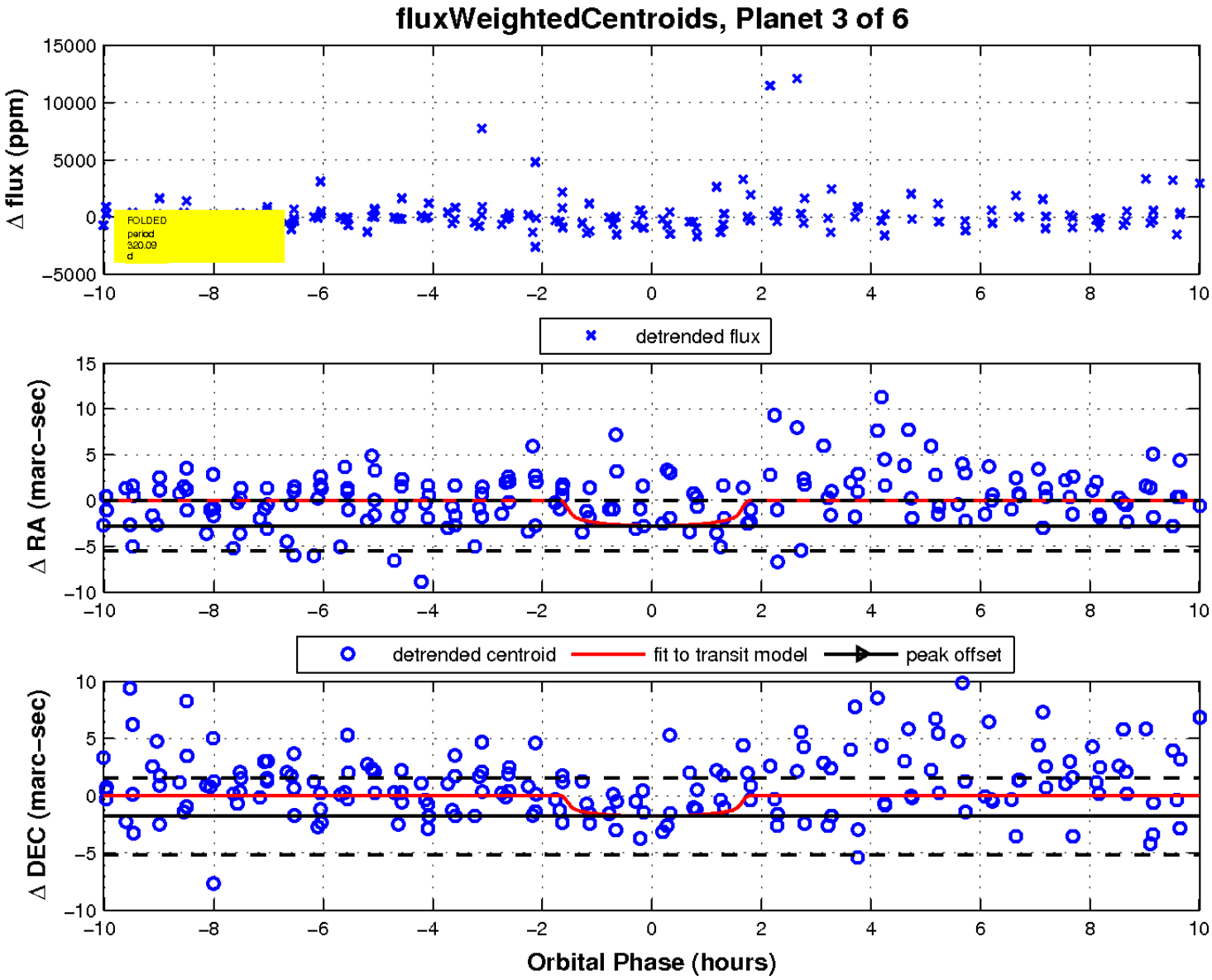




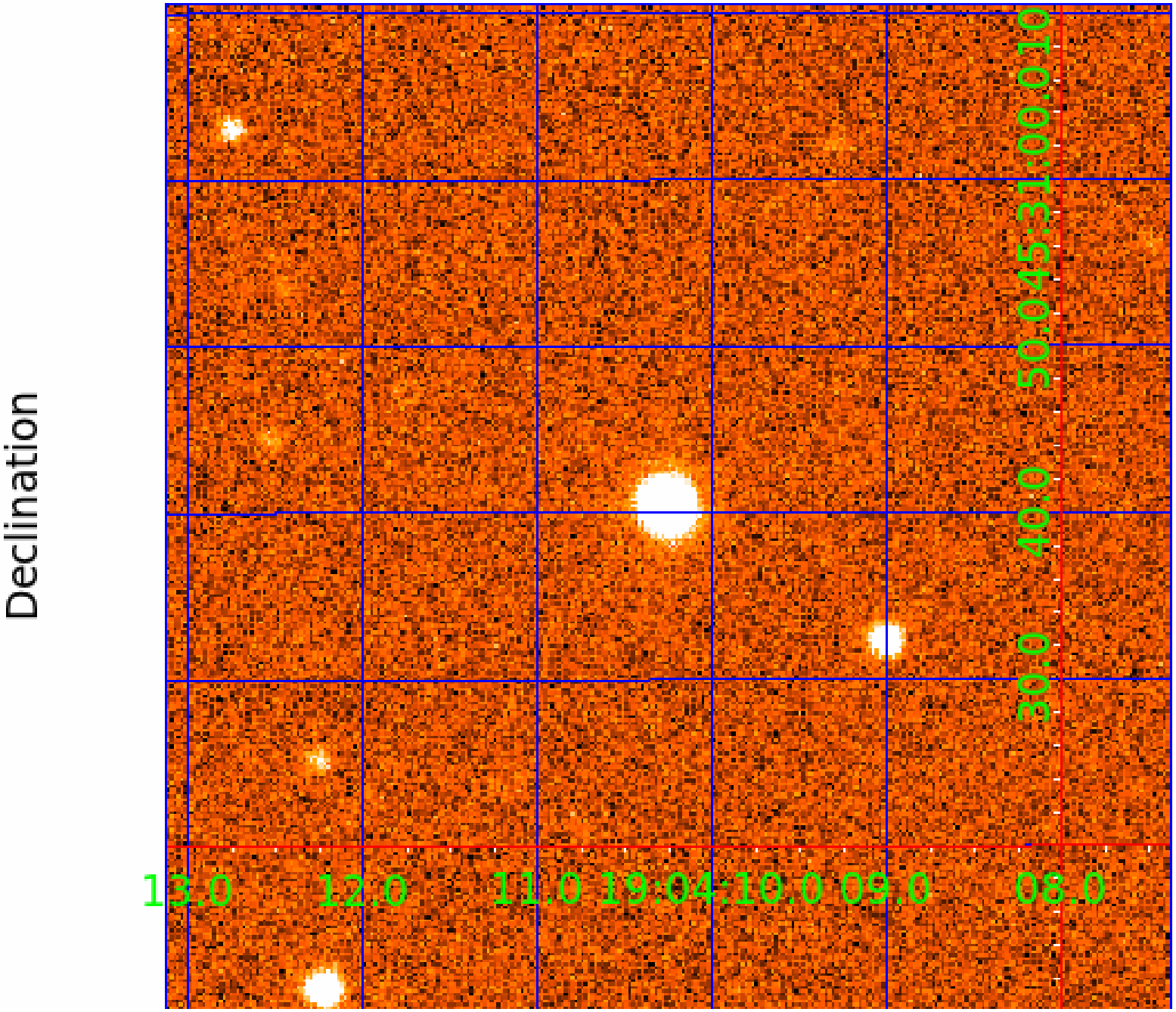
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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10

KIC 009142714

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 ($S_\oplus$)
009142714-01	OBS	No	556.753318	355.377099	655.0	2.128	11.7	2.2	0.36	3514	0.97	0.02
009142714-02	OBS	No	380.170937	152.521076	1945.9	9.596	12.3	7.2	0.36	3514	2.00	0.03
009142714-03	OBS	No	320.090873	301.288507	1694.9	3.348	10.3	7.6	0.36	3514	1.47	0.04
009142714-04	OBS	7928.01	1.126260	132.296346	155.5	3.619	9.4	11.6	0.36	3514	0.53	74.67
009142714-05	OBS	No	306.142407	274.246222	1278.1	7.500	12.8	-1.0	0.36	3514	1.26	0.04
009142714-06	OBS	No	204.029097	142.929948	540.2	9.000	8.9	-1.0	0.36	3514	0.82	0.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009142714-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009142714-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
009142714-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
009142714-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009142714-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009142714-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_NOFITS

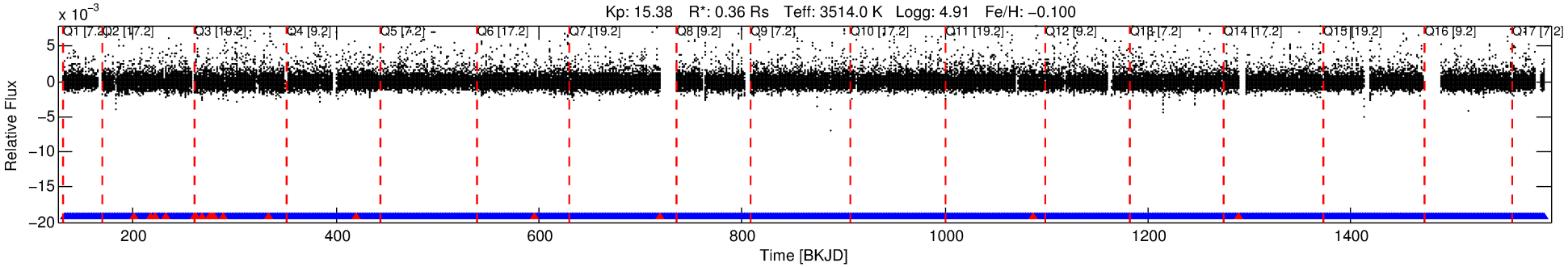
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

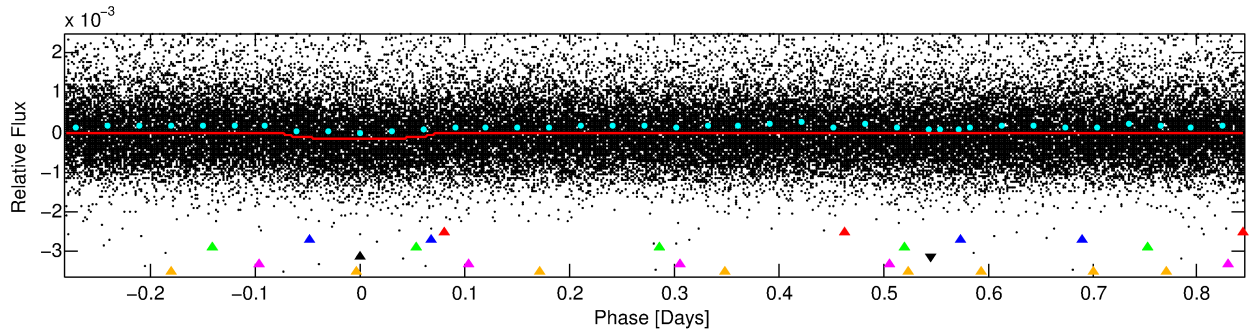
Ephemeris Match Information For 009142714-04

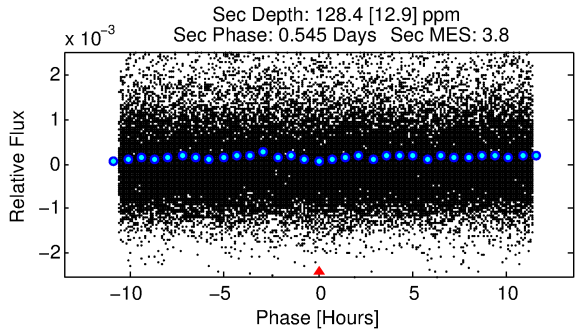
No Significant Match Found

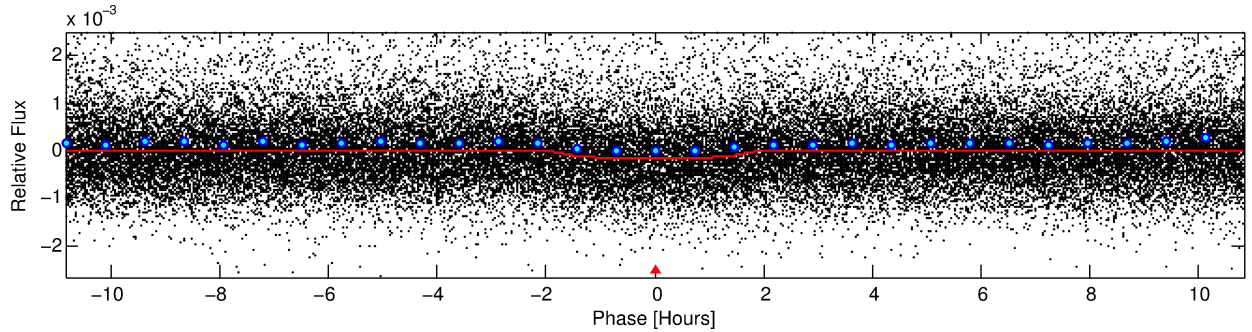
DV One-Page Summary

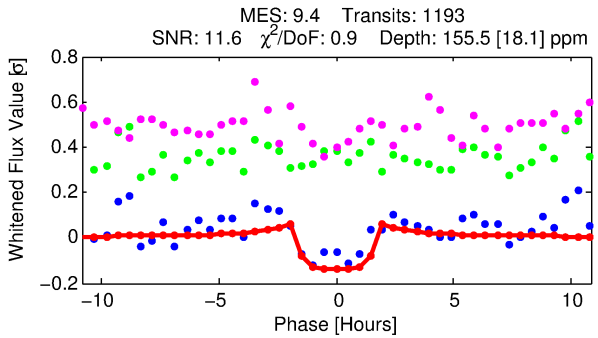
KIC: 9142714 Candidate: 4 of 6 Period: 1.126 d

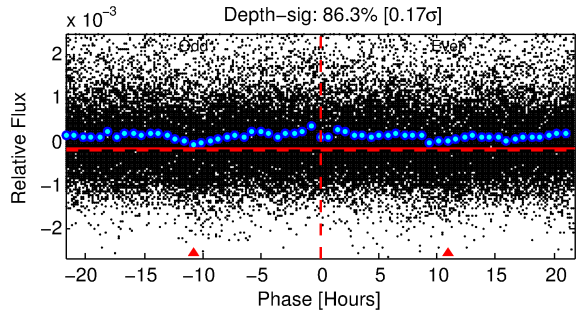


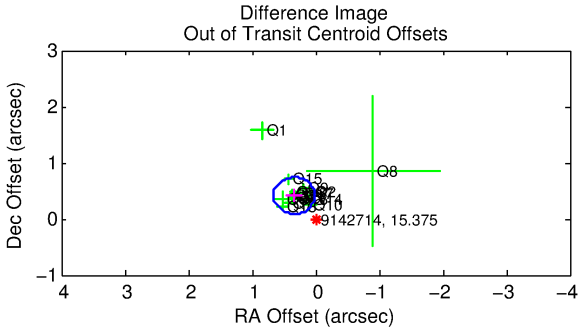












DV Fit Results:

Period = 1.12626 [0.00001] d
Epoch = 132.2963 [0.0026] BKJD
Rp/R* = 0.0135 [0.0043]
a/R* = 1.47 [1.08]
b = 0.89 [0.31]

Seff = 74.67 [8.65]
Teq = 750 [22] K
Rp = 0.53 [0.18] Re
a = 0.0153 [0.0011] AU

Ag = 59.40 [38.69] [1.51σ]
Teffp = 3217 [521] K [4.73σ]

DV Diagnostic Results:

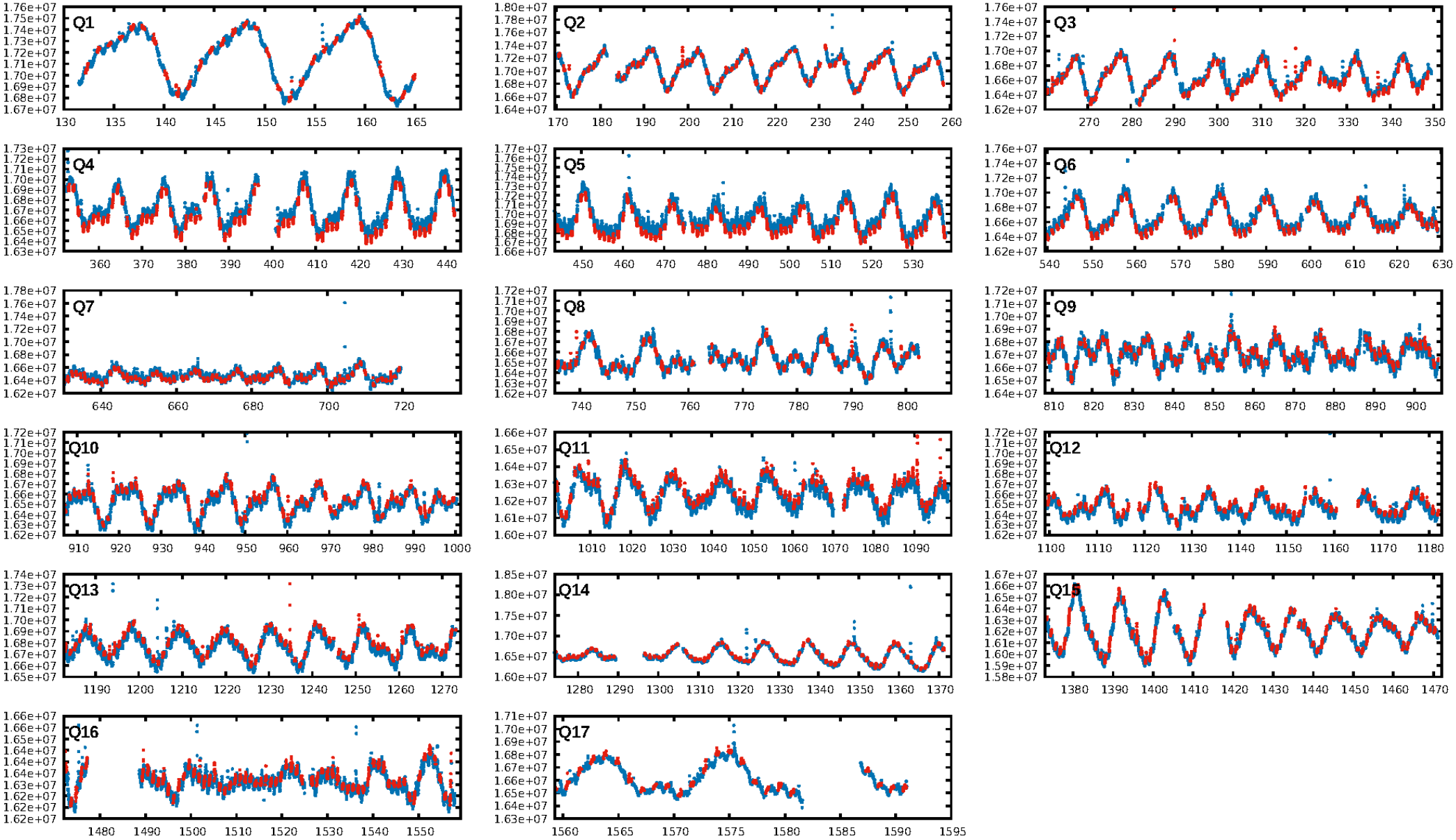
ShortPeriod−sig: N/A
LongPeriod−sig: 100.0% [502.02σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 0.98 [1122/1140]
GhostDiagnostic−chr: 0.6541

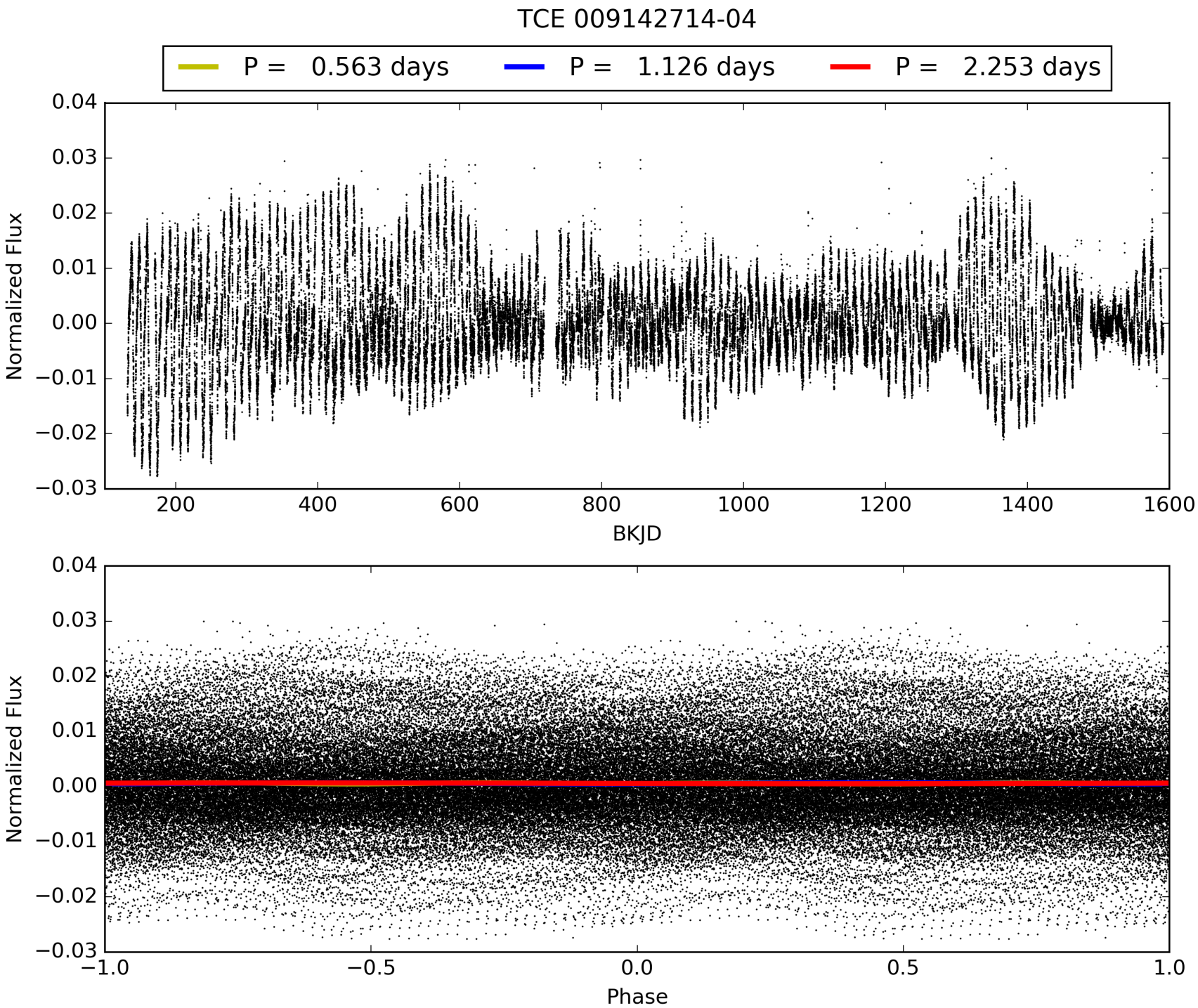
Centroid−sig: 0.0%
Centroid−so: 1.873 arcsec [2.93σ]
OotOffset−rm: 0.534 arcsec [4.93σ]
KicOffset−rm: 0.461 arcsec [4.50σ]
OotOffset−st: 4/4/4/5 [17]
KicOffset−st: 4/4/4/5 [17]
DiffImageQuality−fgm: 0.41 [7/17]
DiffImageOverlap−fno: 0.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 06:22:00 Z

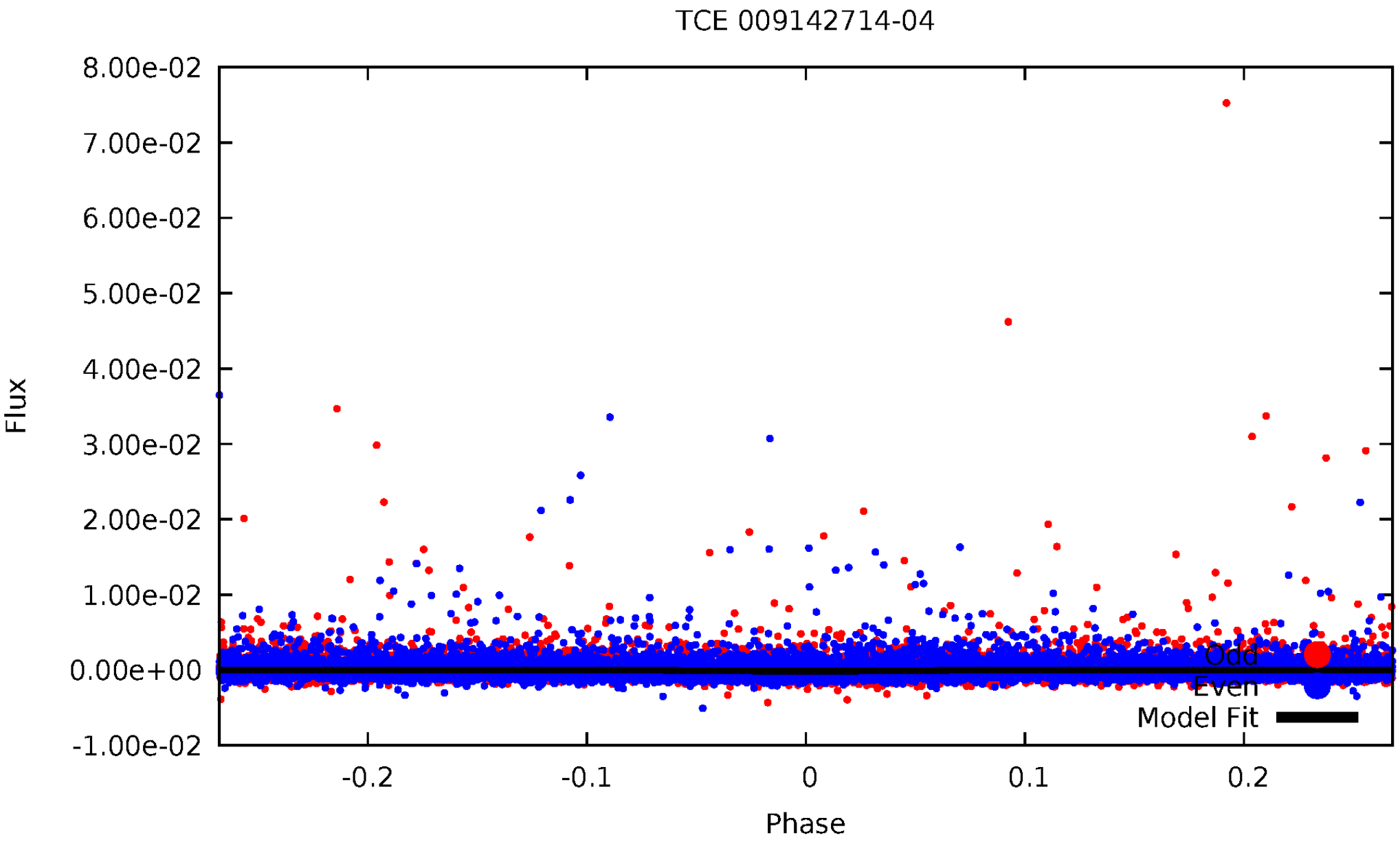
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009142714-04, PDC Light Curves




TCE 009142714-04
P = 0.563 days
P = 1.126 days
P = 2.253 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even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7.00e-02
6.00e-02
5.00e-02
4.00e-02
3.00e-02
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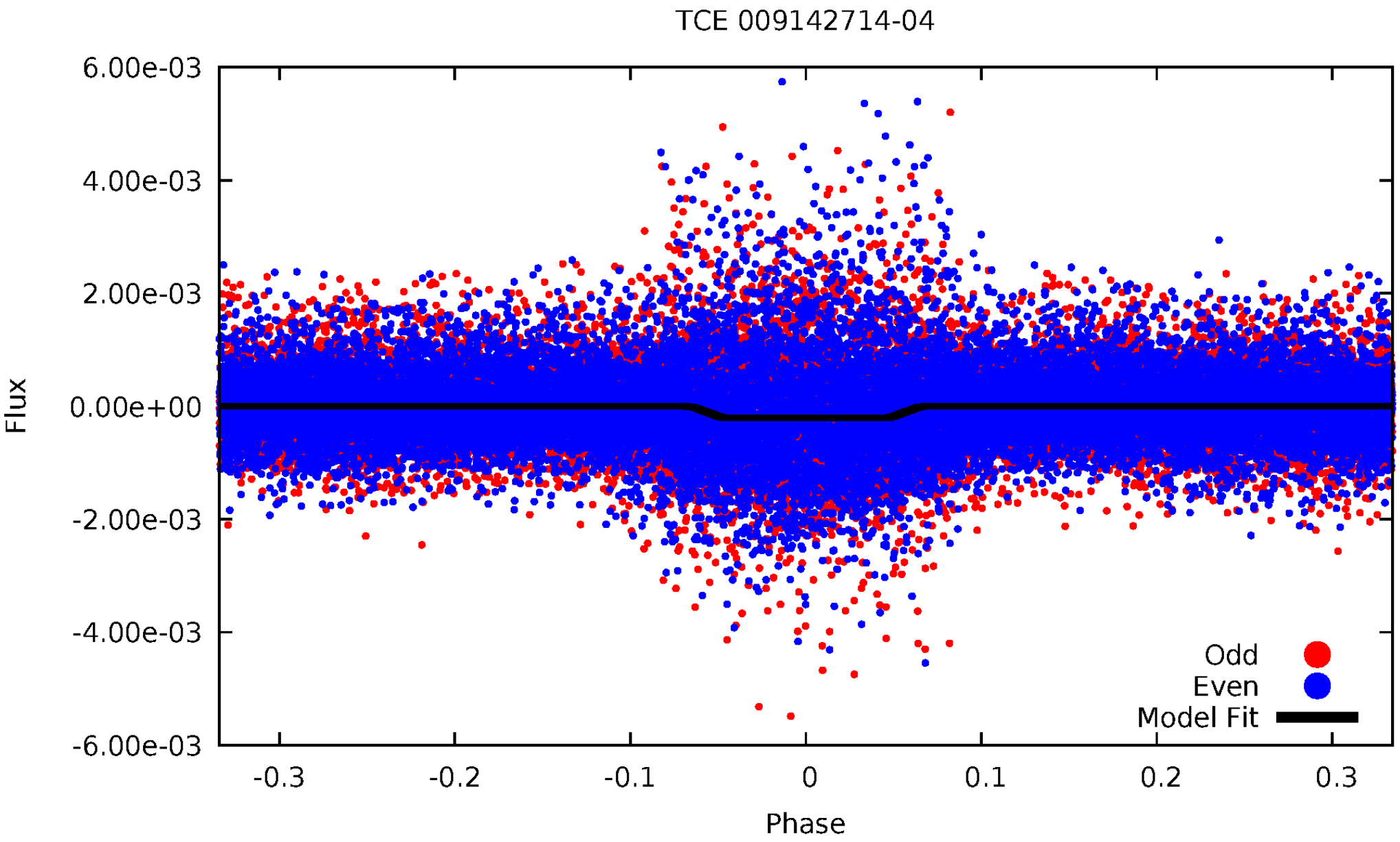
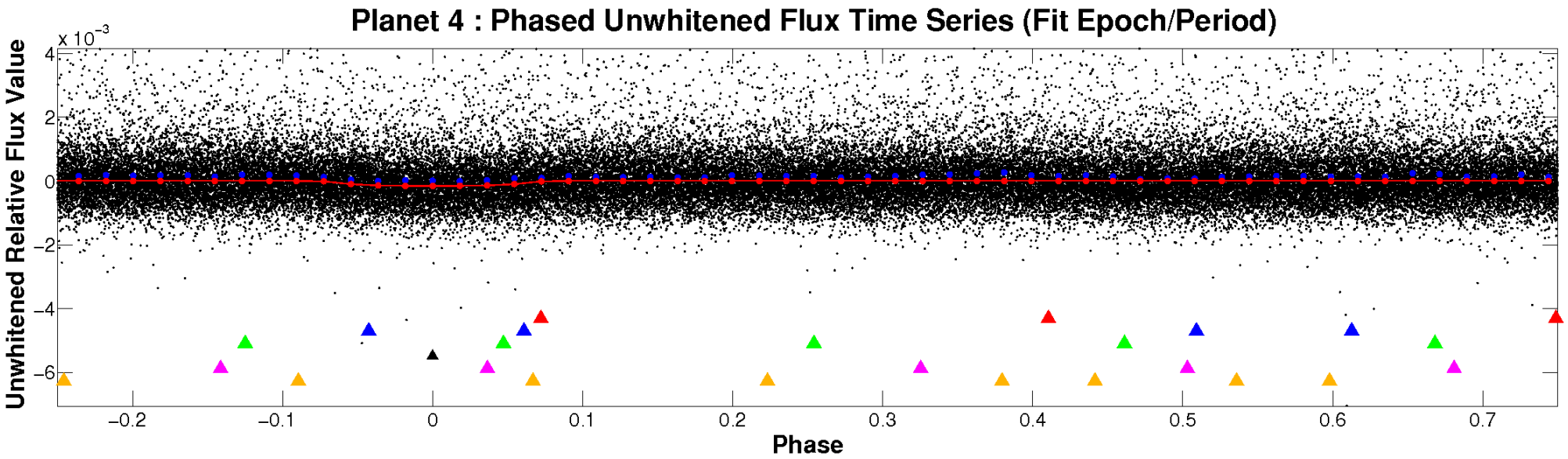
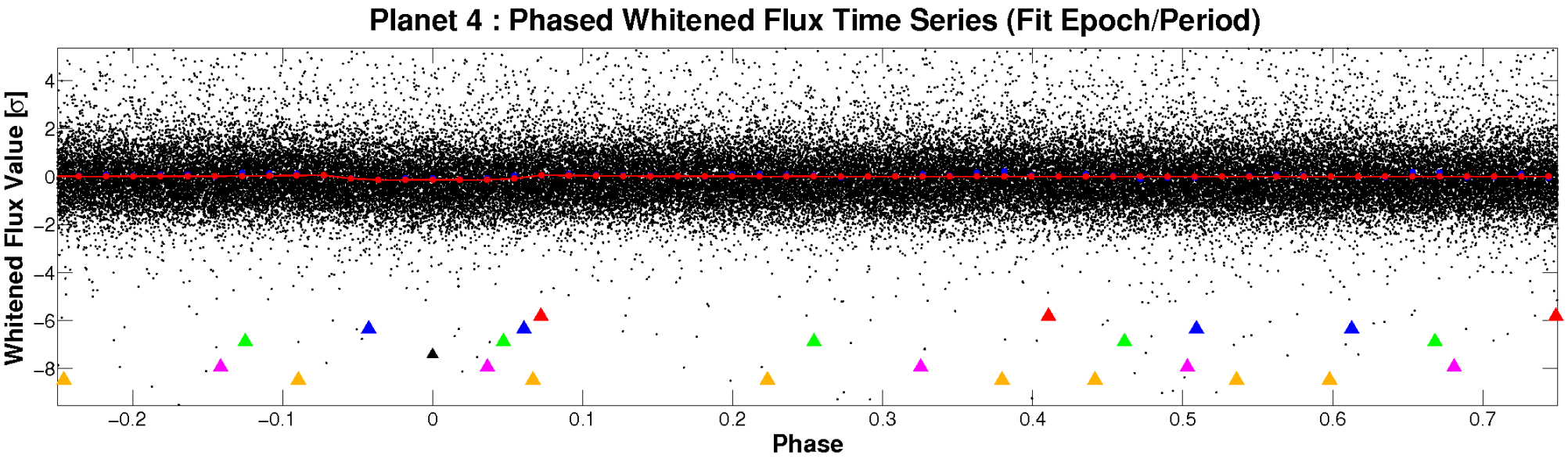
1.00e-02
0.00e+00
-1.00e-02
Flux
-0.2
-0.1
0
0.1
0.2
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009142714-04
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
Flux
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
Phase
Odd
Even
Model Fit

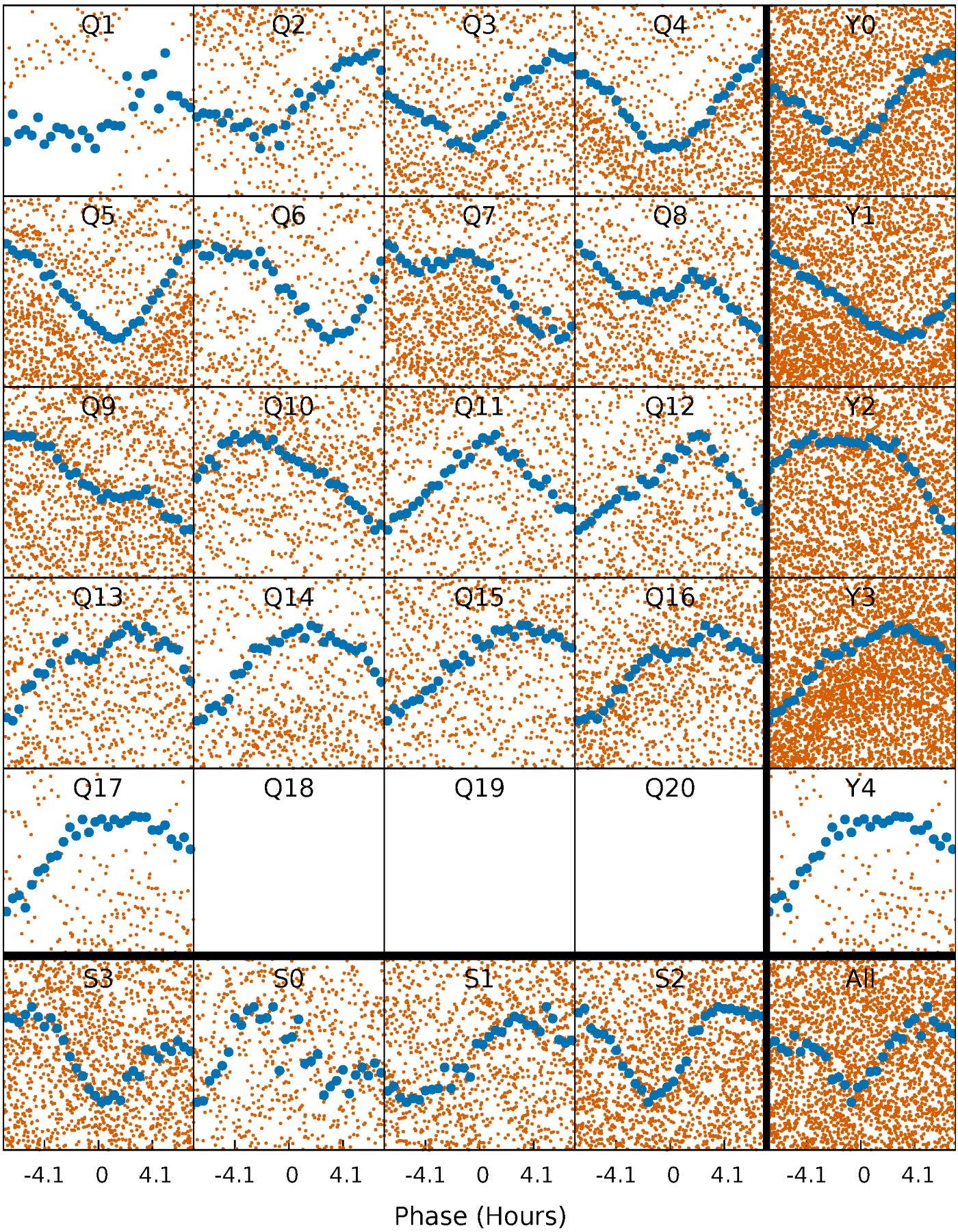
Non-Whitened Vs. Whitened Light Curve





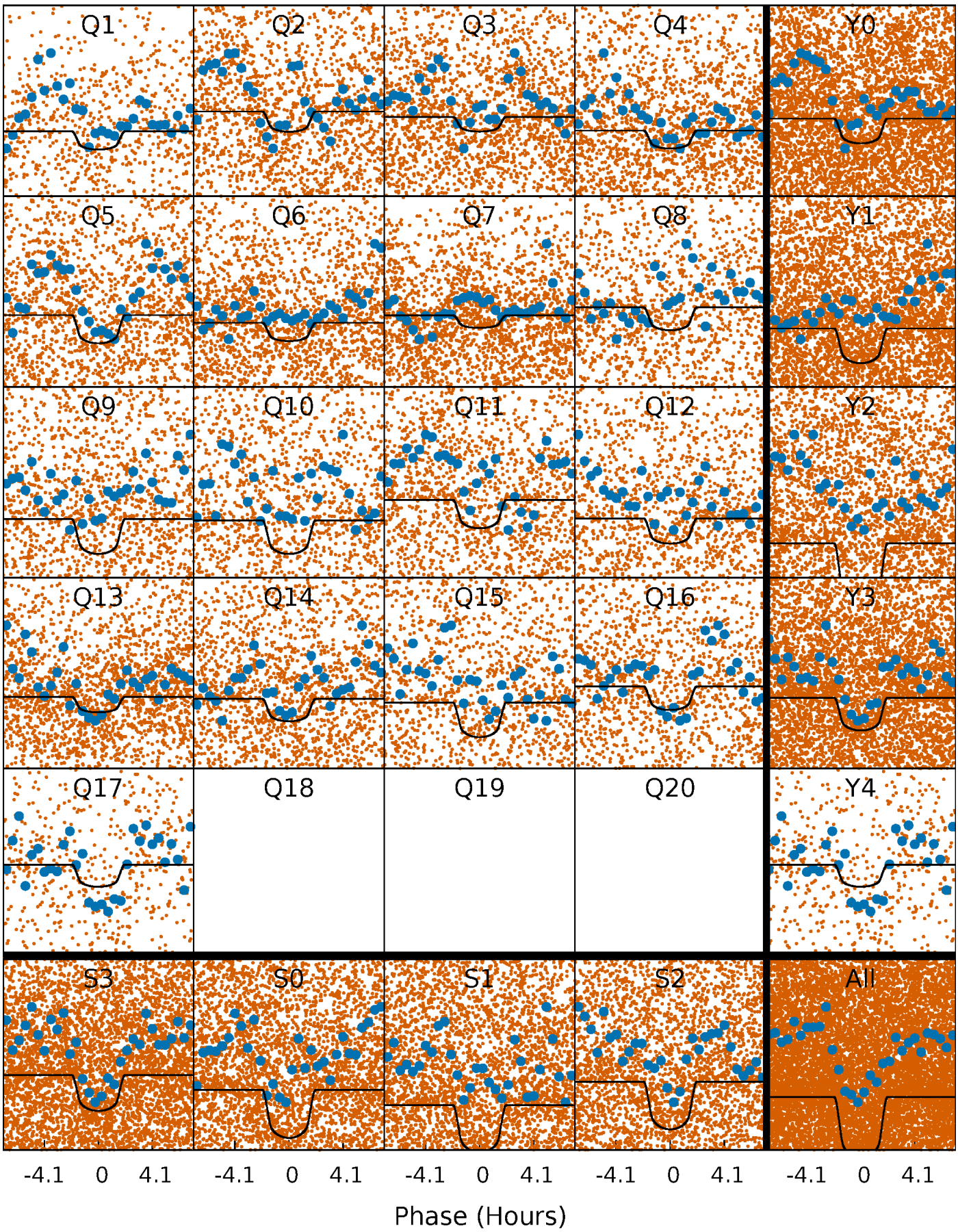
PDC Quarter-Phased Transit Curves

TCE 009142714-04 P= 1.126260 Days T_0=132.296346 (BKJD)



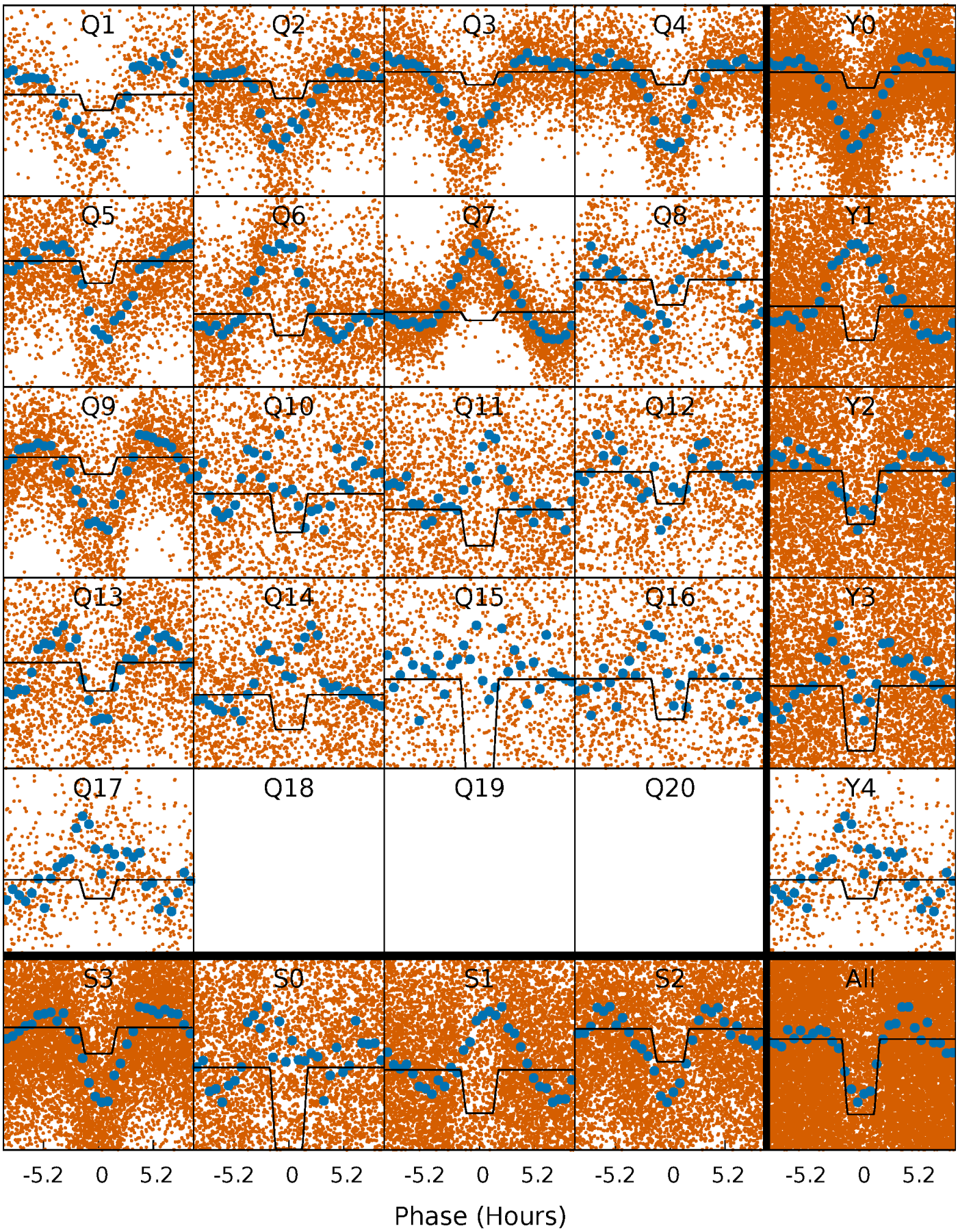
DV Quarter-Phased Transit Curves

TCE 009142714-04 P= 1.126260 Days T_0=132.296346 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

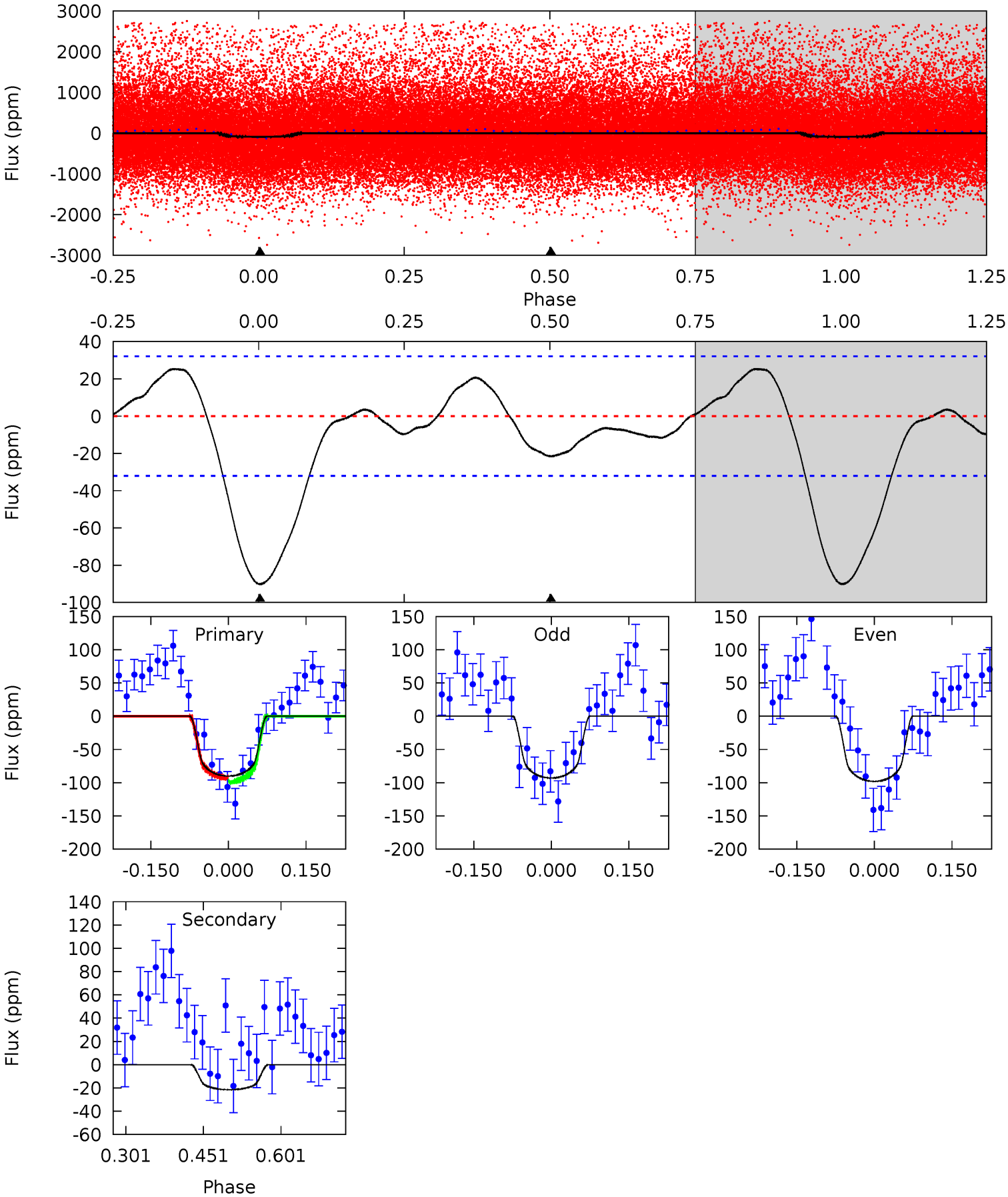
TCE 009142714-04 P= 1.126252 Days T_0=132.288678 (BKJD)



DV Model-Shift Uniqueness Test

009142714-04, P = 1.126260 Days, E = 131.170086 Days

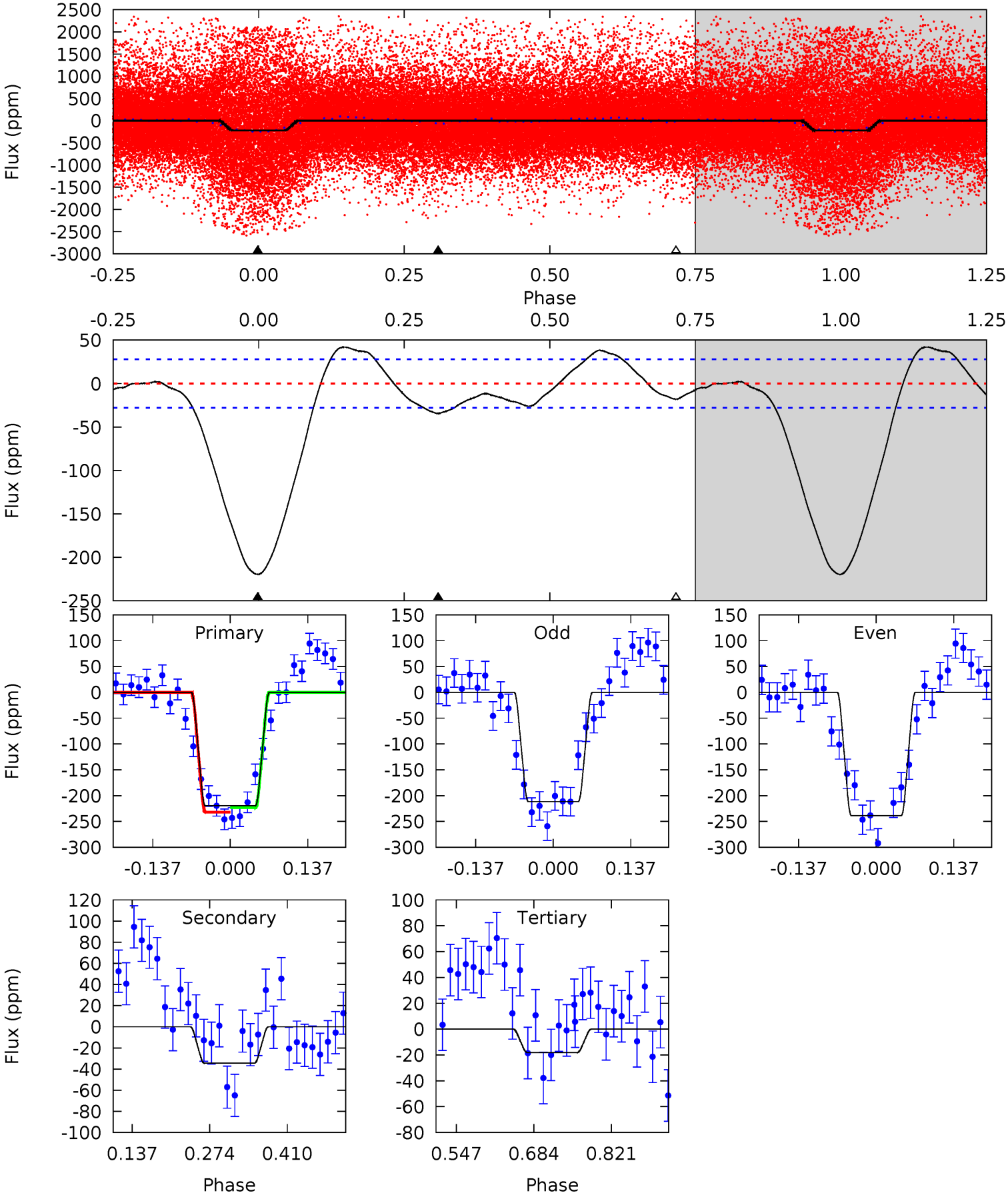
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	3.01	0	0	4.48	1.44	1.37	12.6	12.6	3.01	3.01	0.36	-0.25	0.22	0.44



Alt Model-Shift Uniqueness Test

009142714-04, P = 1.126252 Days, E = 131.162426 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.5	5.56	2.92	0	4.50	1.49	3.24	32.6	35.5	2.65	5.56	2.18	0.74	0.16	0.69



Stellar Parameters For KIC 009142714

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	3514^{+47}_{-58}	$4.907^{+0.036}_{-0.044}$	$-0.100^{+0.100}_{-0.100}$	$0.358^{+0.036}_{-0.036}$	$0.380^{+0.037}_{-0.050}$	$11.650^{+2.345}_{-2.127}$
	+1%/-2%	+1%/-1%	+100%/-100%	+10%/-10%	+10%/-13%	+20%/-18%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009142714-04 / KOI 7928.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-22±7	$0.53^{+0.17}_{-0.18}$	1047^{+25}_{-25}	2582^{+297}_{-210}	$9.711^{+12.197}_{-4.789}$
Alt.	-34±6	$0.57^{+0.17}_{-0.17}$	1049^{+25}_{-24}	2697^{+268}_{-188}	14^{+14}_{-6}

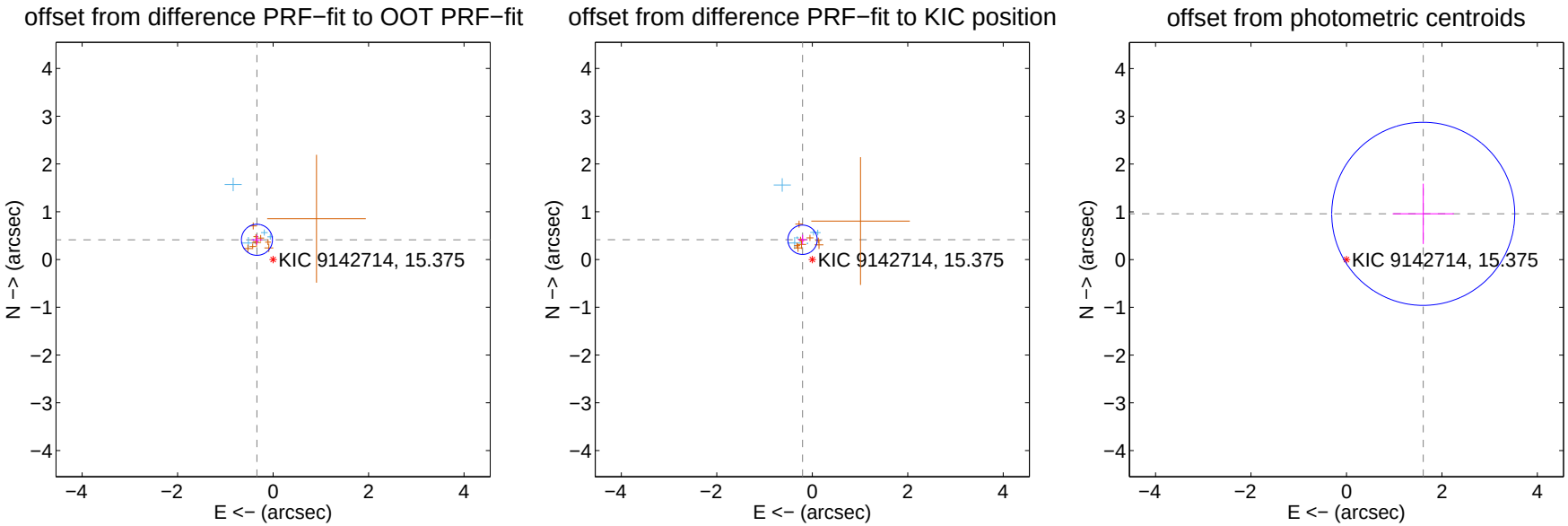
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

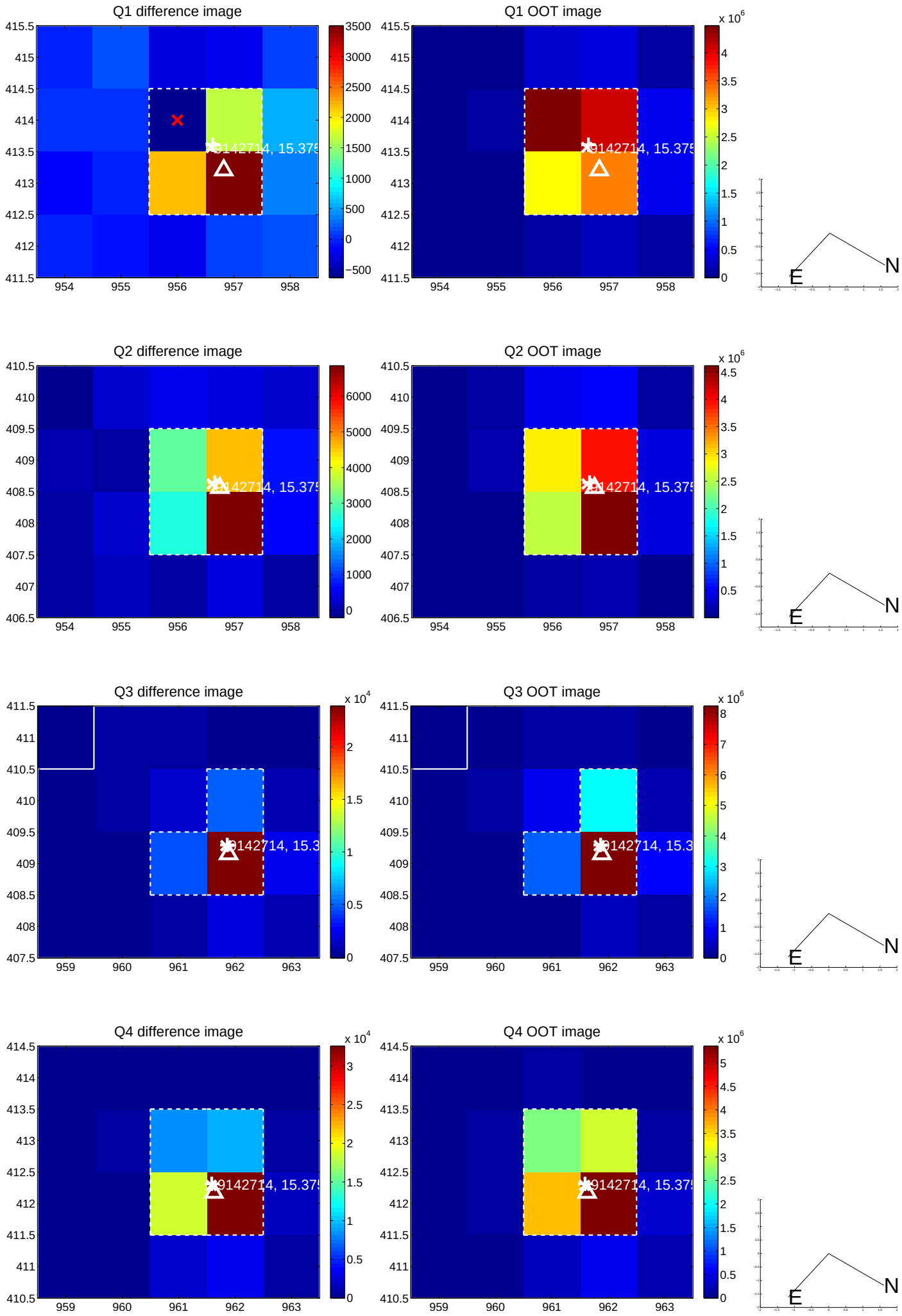
Supplemental centroid analysis for 009142714-04. Kepler magnitude: 15.38. Transit SNR 11.63
There are 7 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.534 ± 0.108	4.93	0.338 ± 0.111	0.413 ± 0.104
PRF-fit source offset from KIC position	0.461 ± 0.102	4.50	0.204 ± 0.092	0.413 ± 0.105
photometric centroid source offset	1.87 ± 0.64	2.93	-1.61 ± 0.64	0.96 ± 0.63

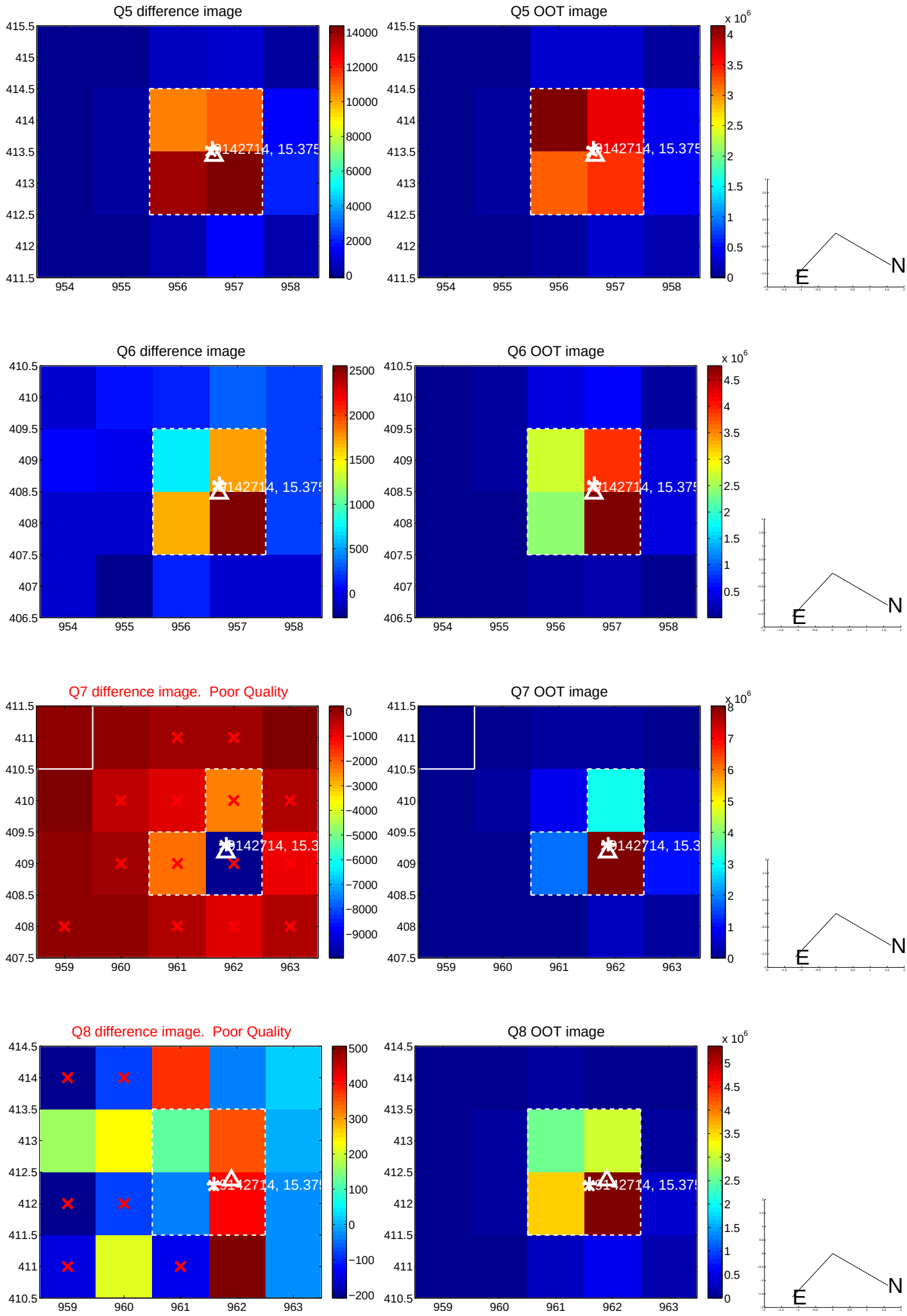


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

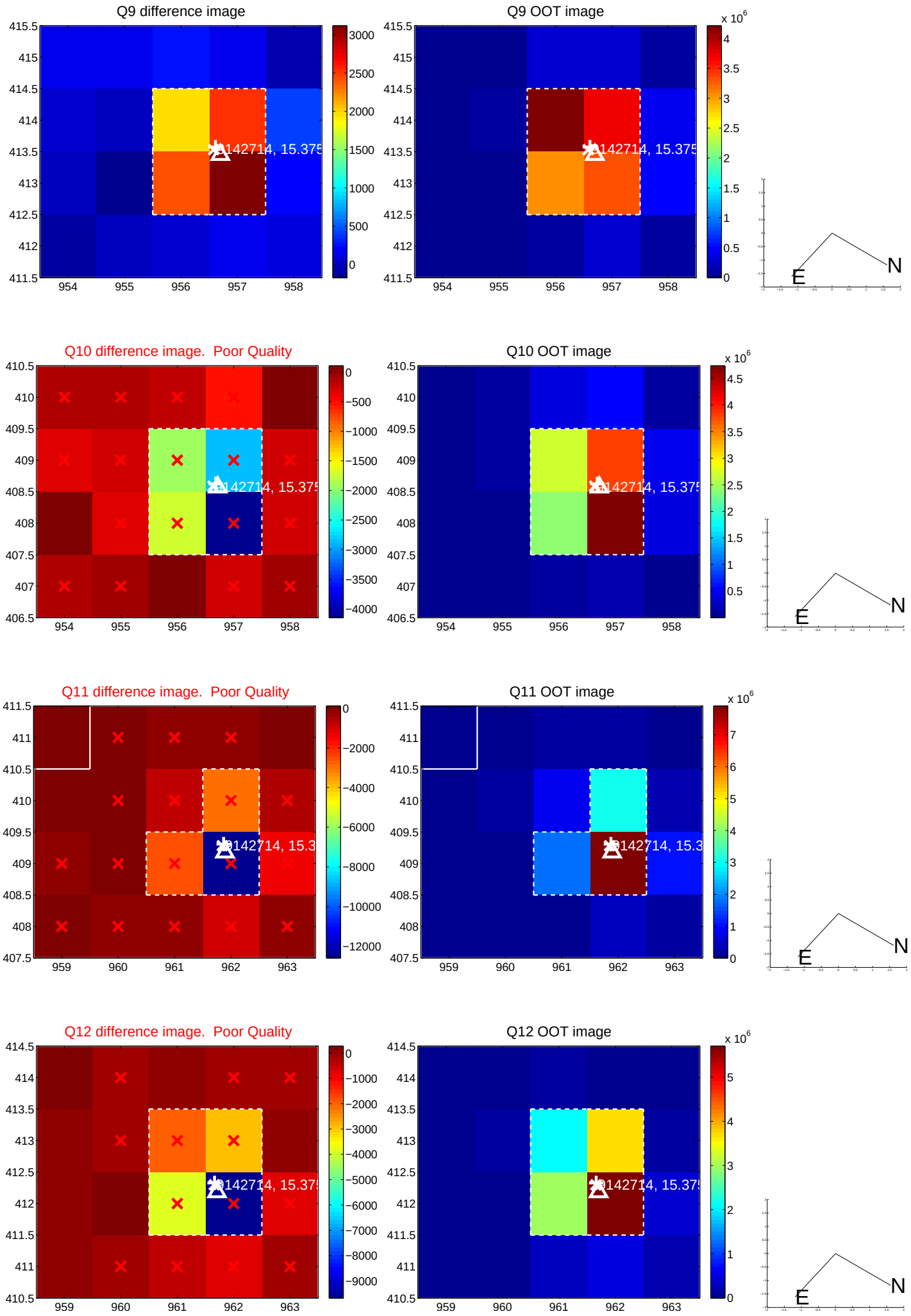
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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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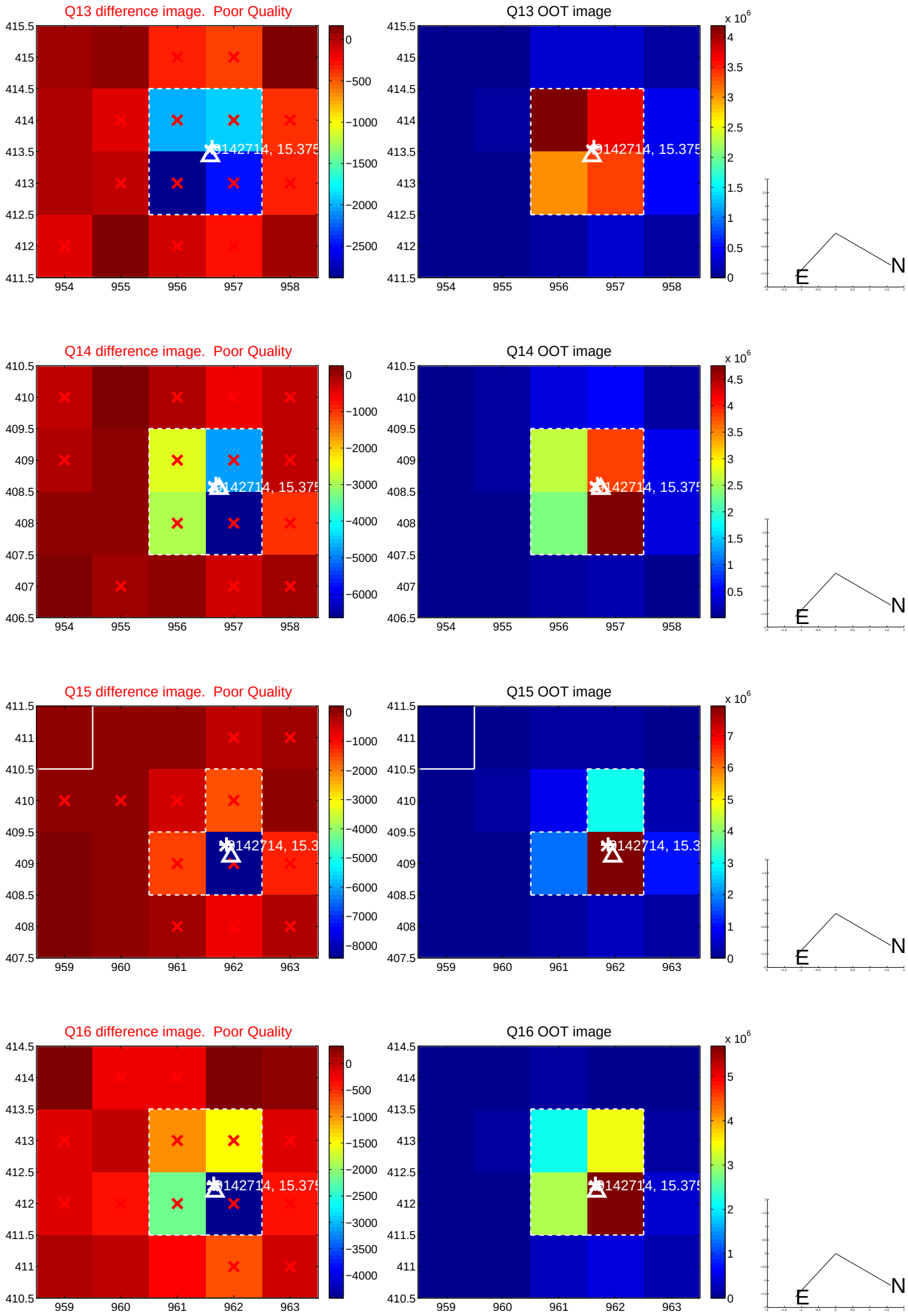
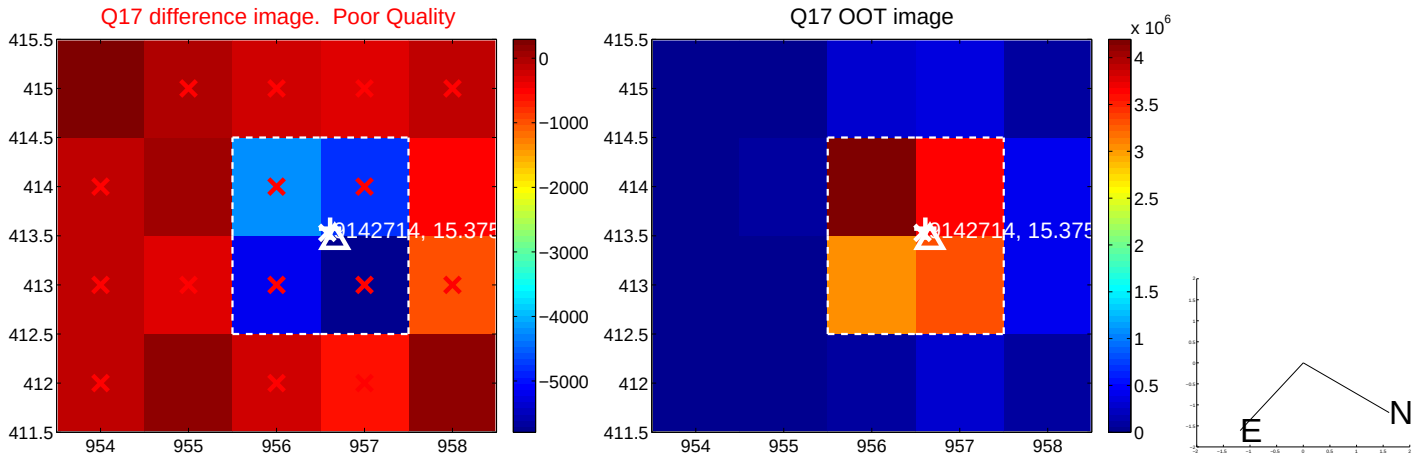
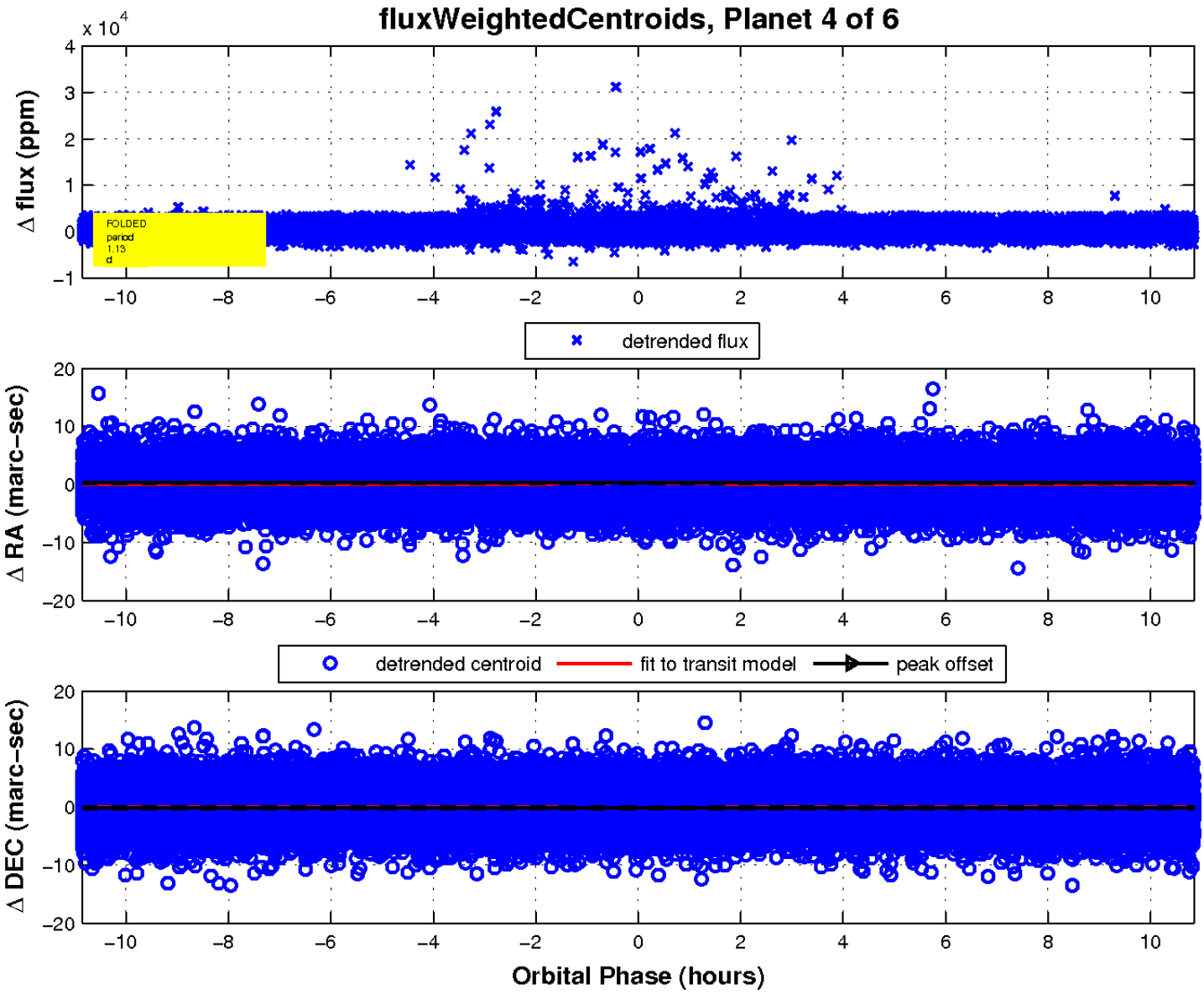
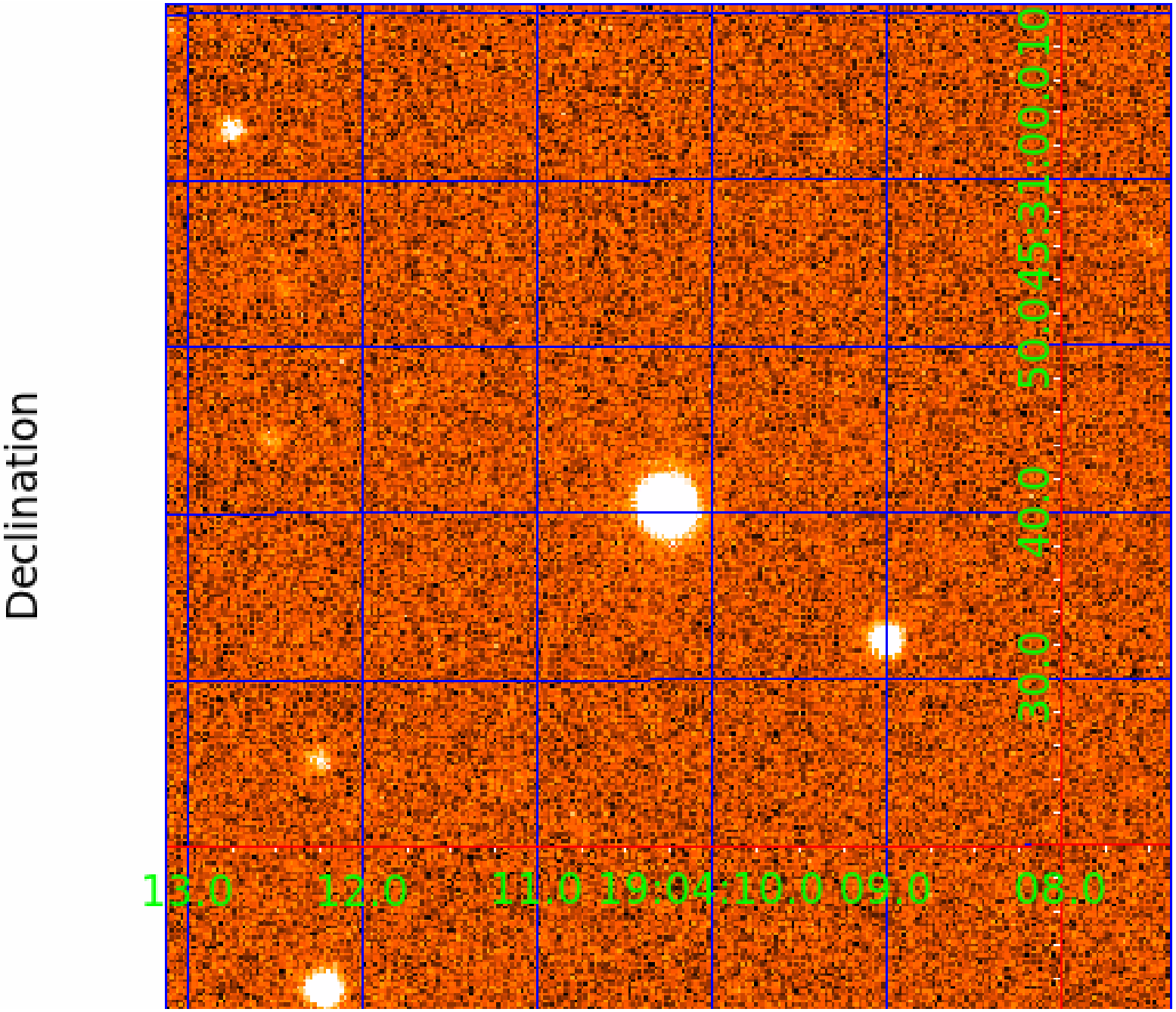


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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KIC 009142714

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 ($S_\oplus$)
009142714-01	OBS	No	556.753318	355.377099	655.0	2.128	11.7	2.2	0.36	3514	0.97	0.02
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009142714-06	OBS	No	204.029097	142.929948	540.2	9.000	8.9	-1.0	0.36	3514	0.82	0.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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009142714-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
009142714-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
009142714-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009142714-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009142714-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_NOFITS

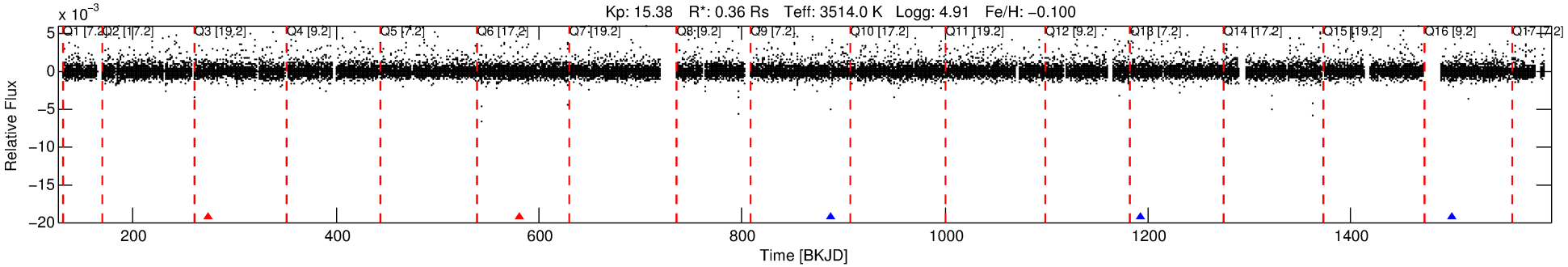
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

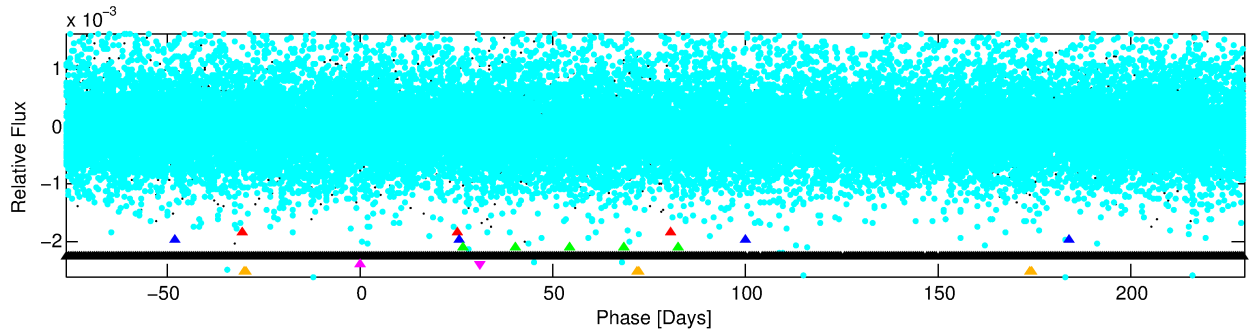
Ephemeris Match Information For 009142714-05

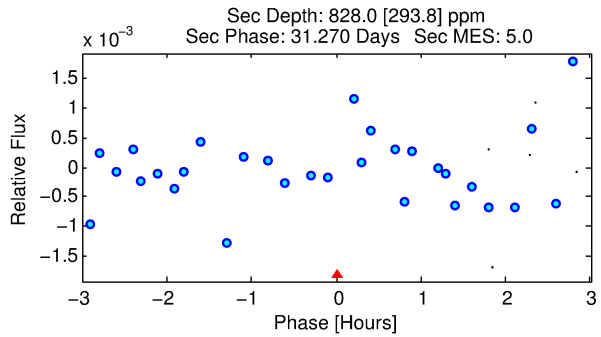
No Significant Match Found

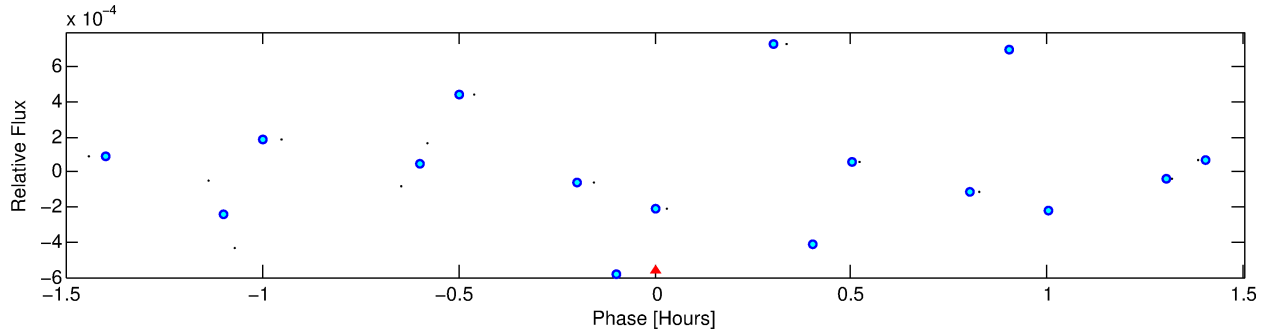
DV One-Page Summary

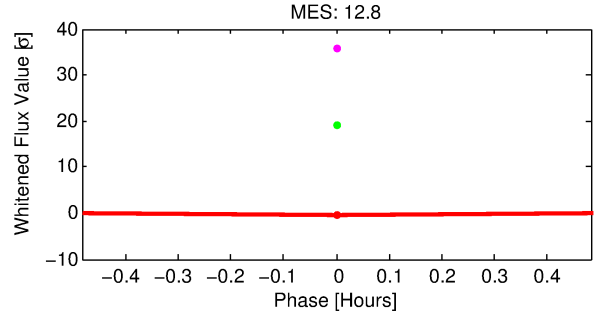
KIC: 9142714 Candidate: 5 of 6 Period: 306.142 d

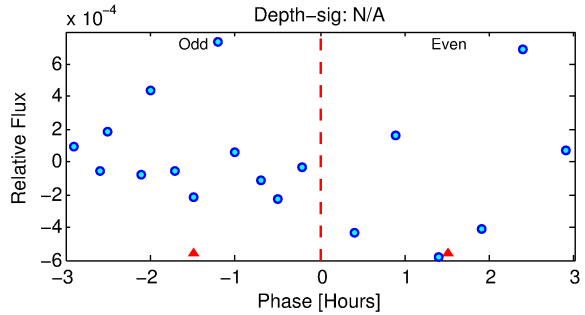


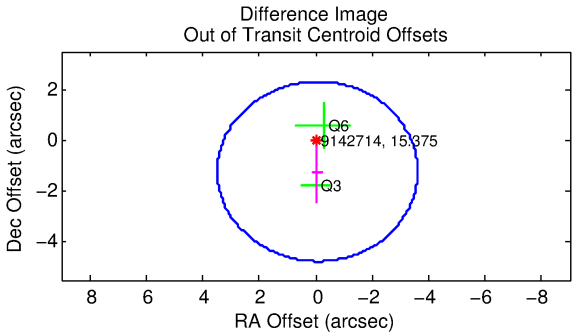












TPS TCE Results:

Period = 306.14241 d
Epoch = 274.2462 BKJD

DV fit results are unavailable

DV Diagnostic Results:

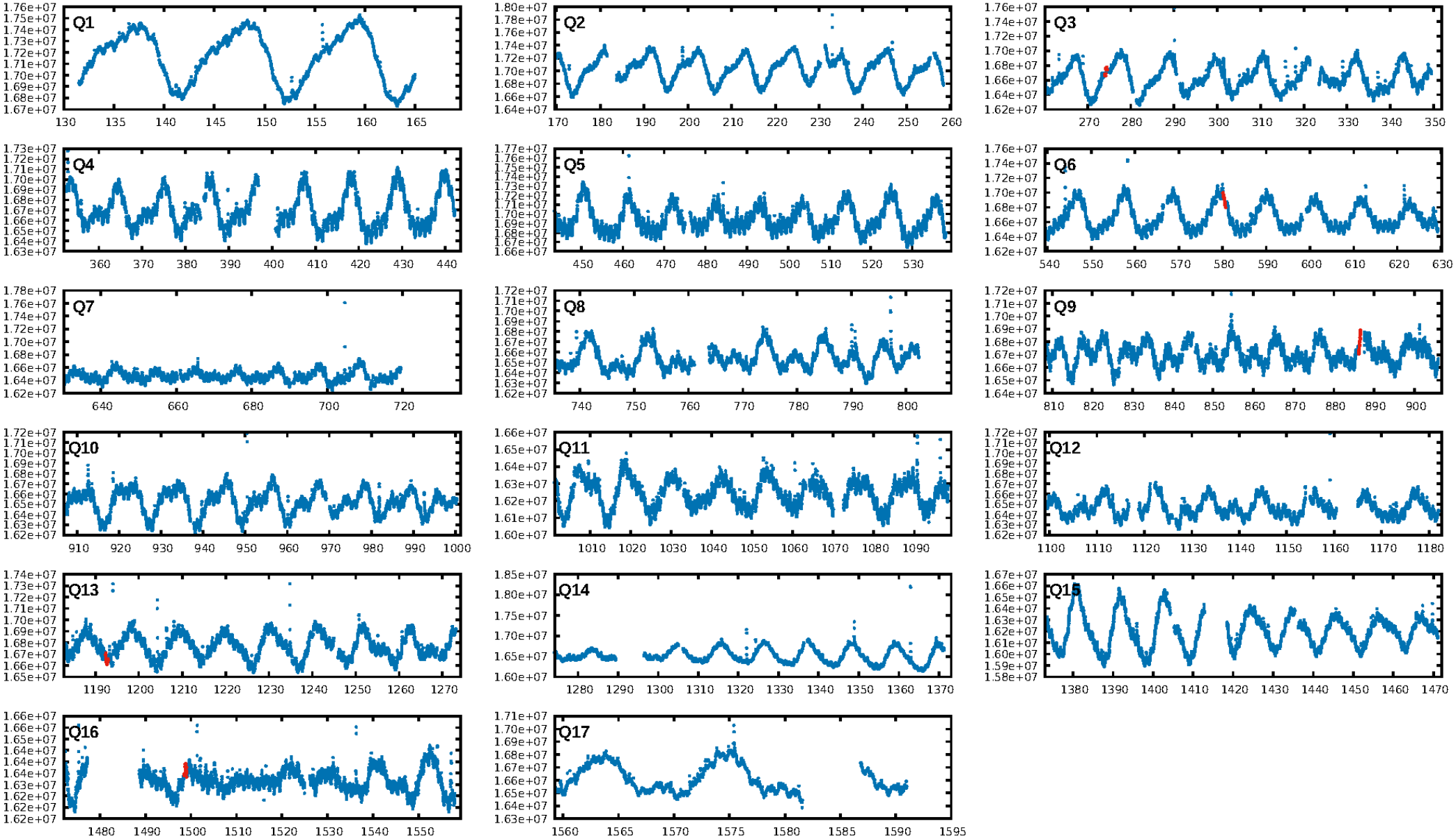
ShortPeriod−sig: 100.0% [209.19σ]
LongPeriod−sig: 100.0% [40.76σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 0.33 [1/3]
GhostDiagnostic−chr: −1.89

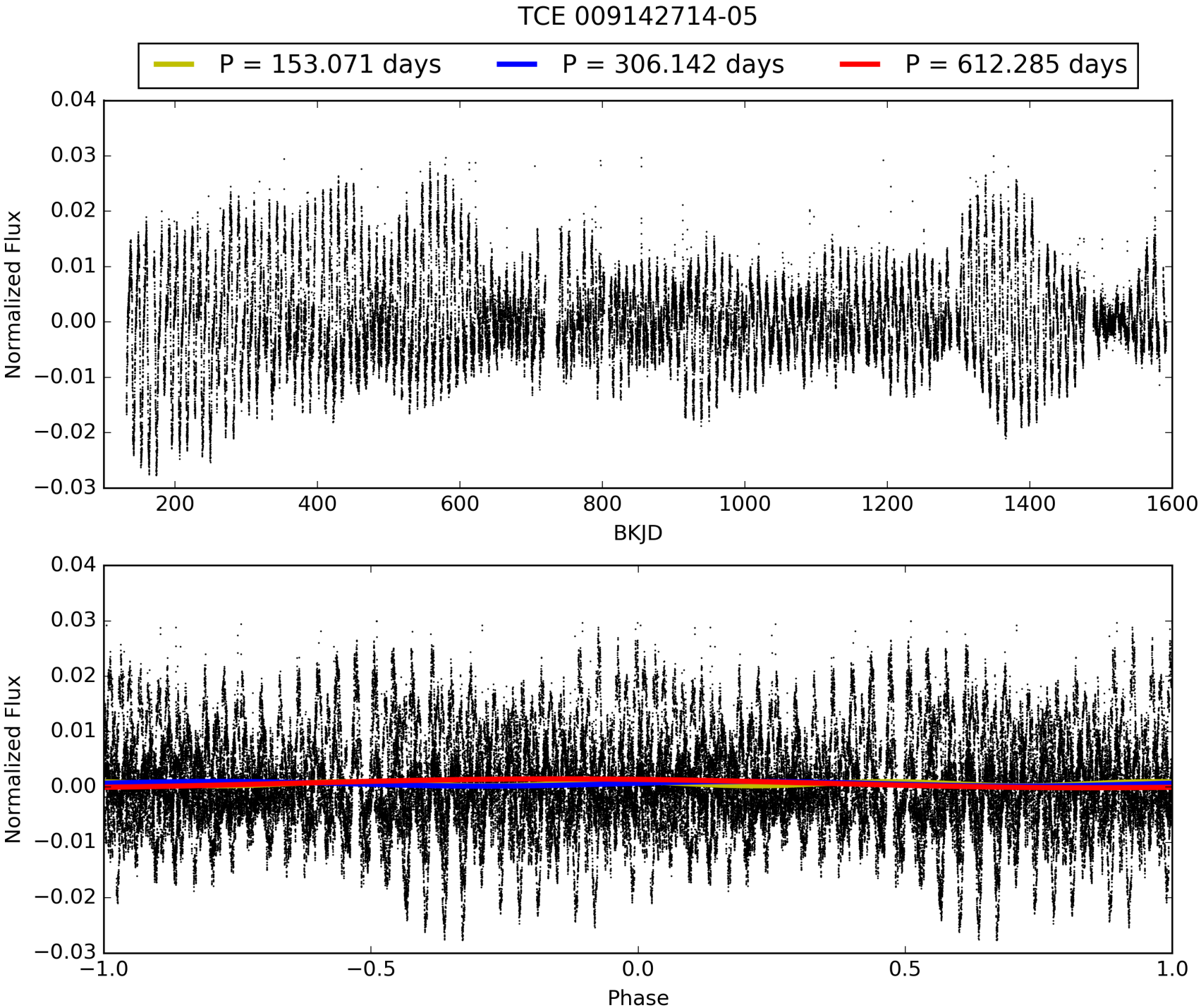
Centroid−sig: 90.2%
Centroid−so: 3.612 arcsec [0.25σ]
OotOffset−rm: 1.228 arcsec [1.04σ]
KicOffset−rm: 1.268 arcsec [1.06σ]
OotOffset−st: 1/1/0/0 [2]
KicOffset−st: 1/1/0/0 [2]
DiffImageQuality−fgm: 0.50 [1/2]
DiffImageOverlap−fno: 0.67 [2/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 30−Jan−2016 06:22:45 Z

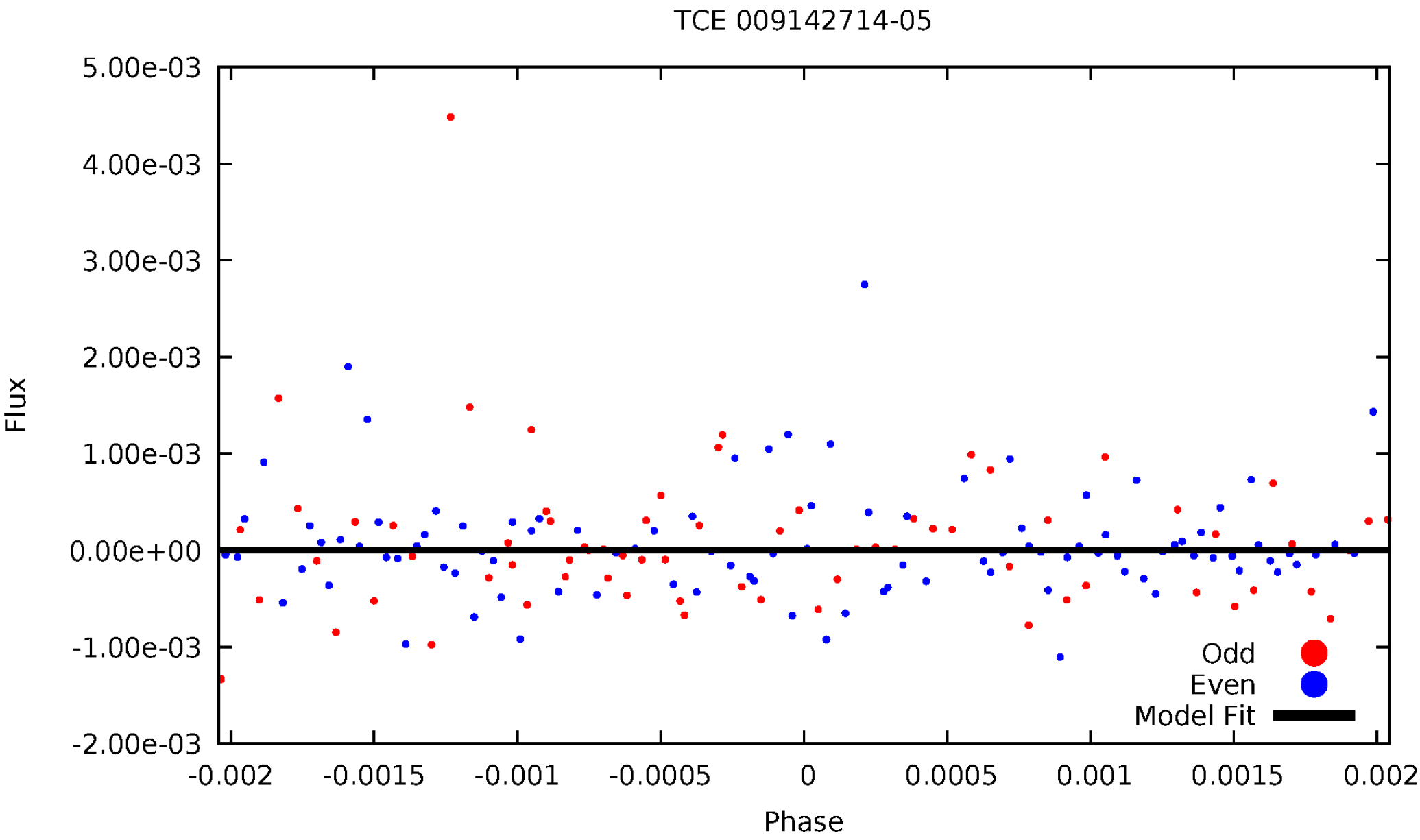
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009142714-05, PDC Light Curves

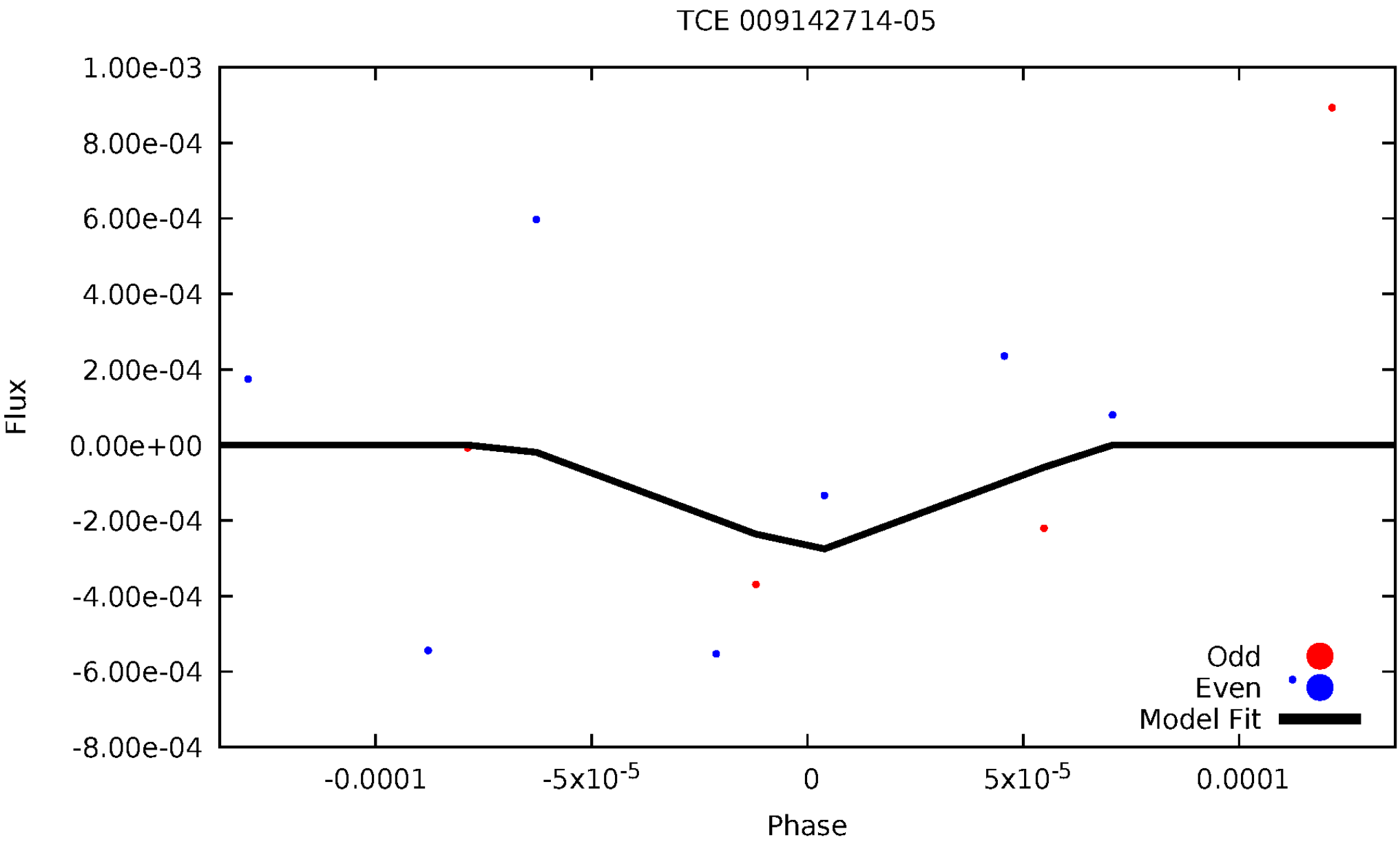



TCE 009142714-05
P = 153.071 days
P = 306.142 days
P = 612.285 days
Normalized Flux
BKJD
Normalized Flux
Phase

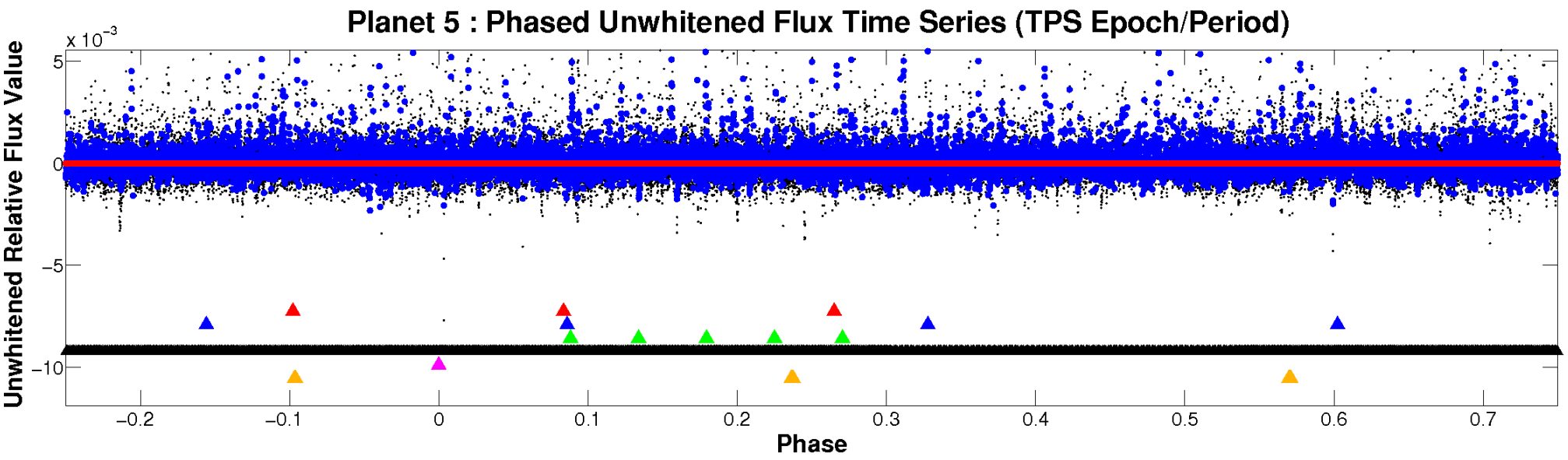
DV Odd/Even

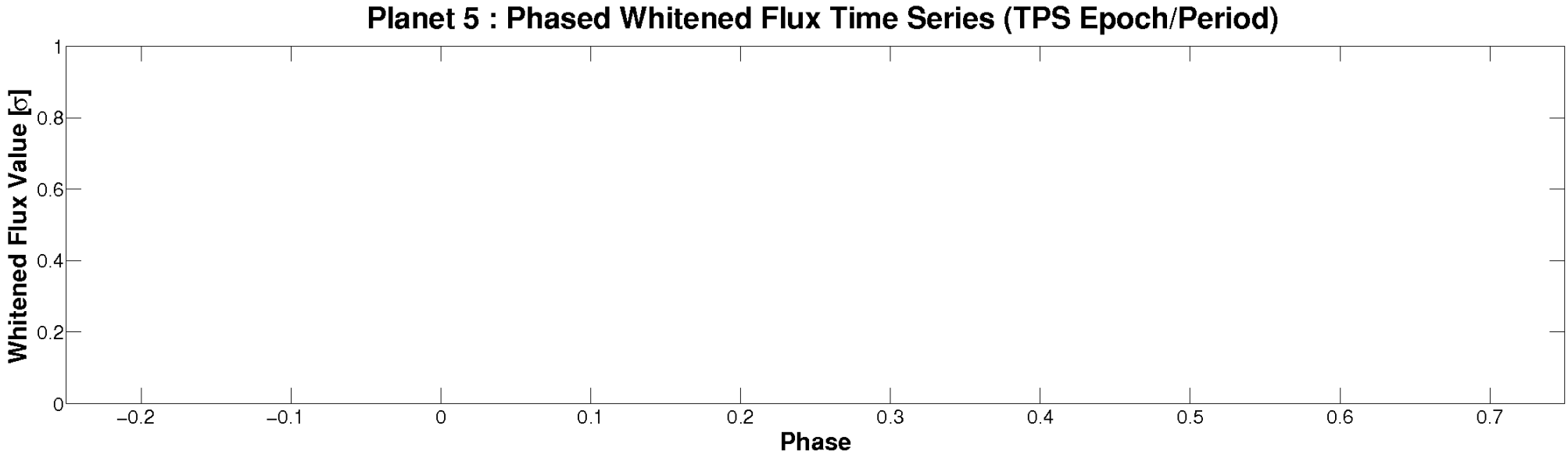

TCE 009142714-05
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
Flux
-0.002
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
0.002
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009142714-05
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
Flux
-0.0001
-5x10^-5
0
5x10^-5
0.0001
Phase
Odd
Even
Model Fit

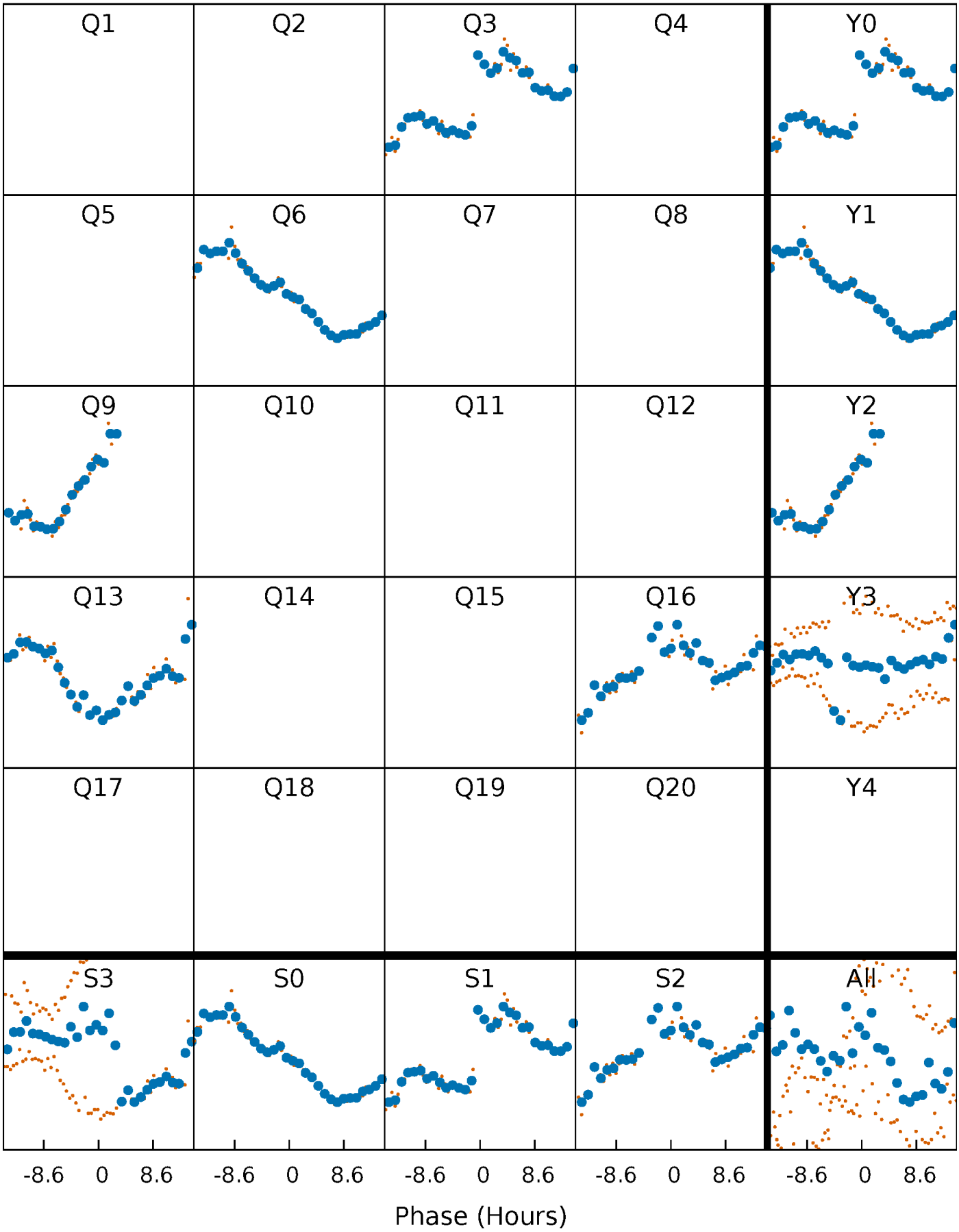
Non-Whitened Vs. Whitened Light Curve





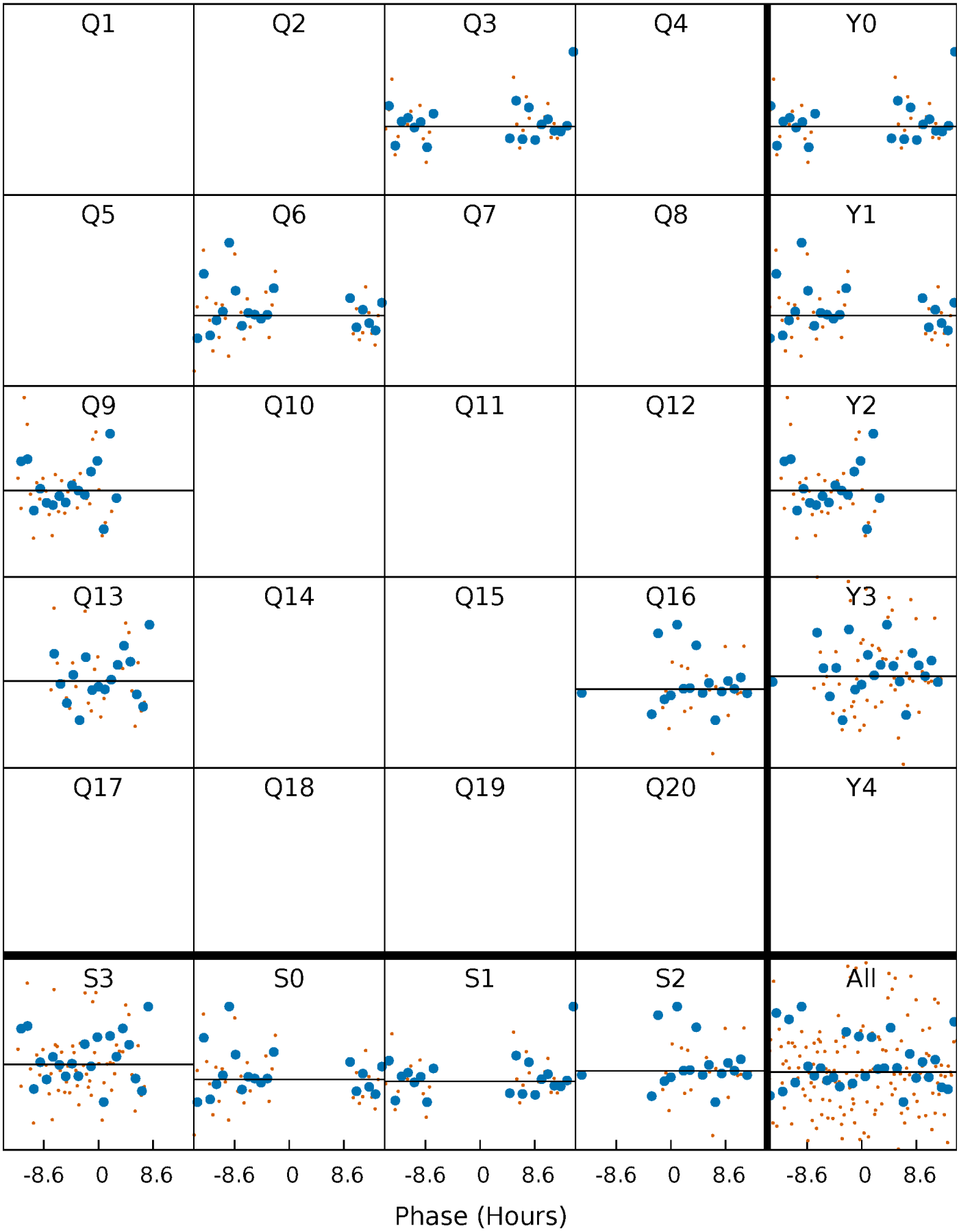
PDC Quarter-Phased Transit Curves

TCE 009142714-05 P=306.142407 Days T_0=274.246222 (BKJD)



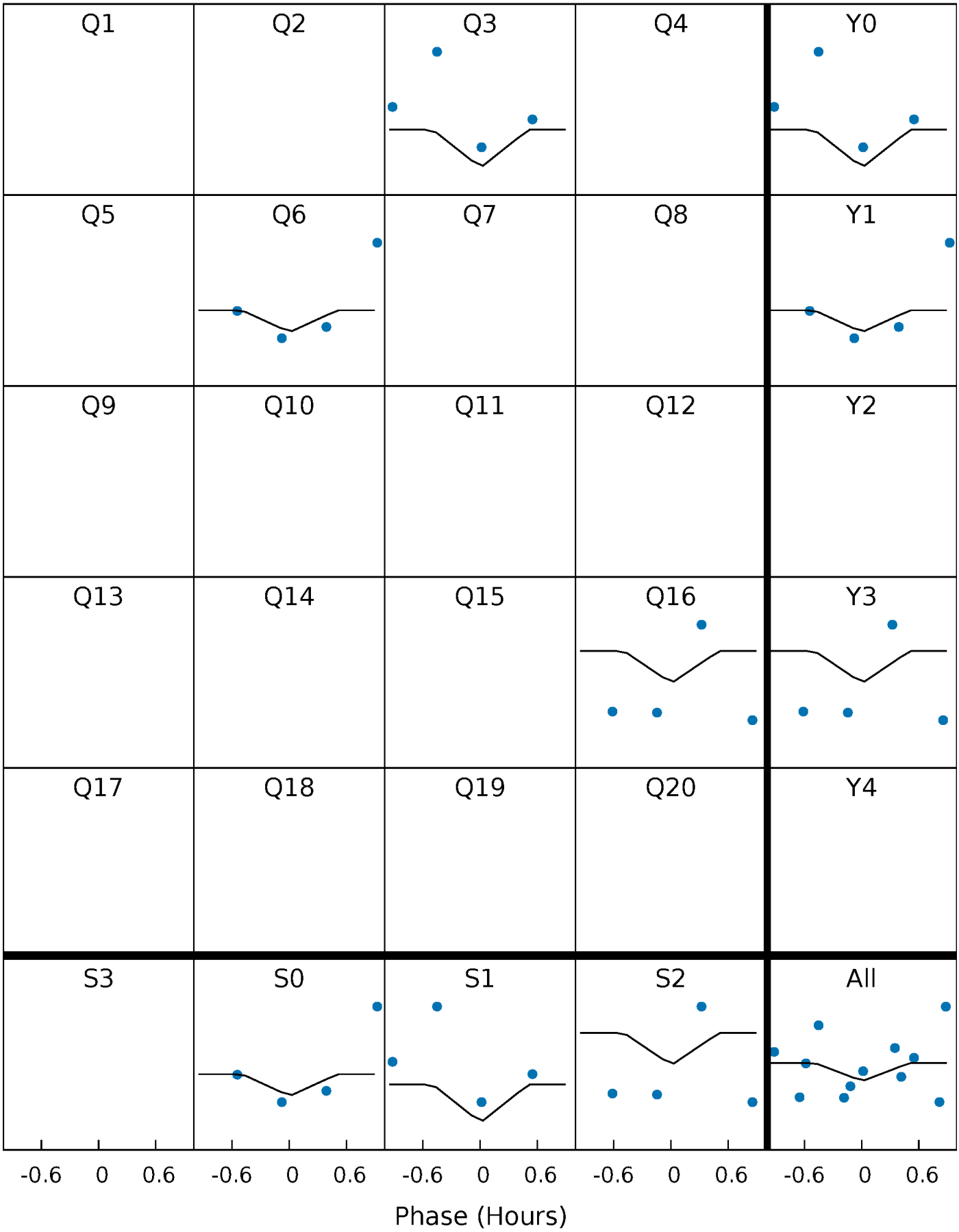
DV Quarter-Phased Transit Curves

TCE 009142714-05 P=306.142407 Days T_0=274.246222 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

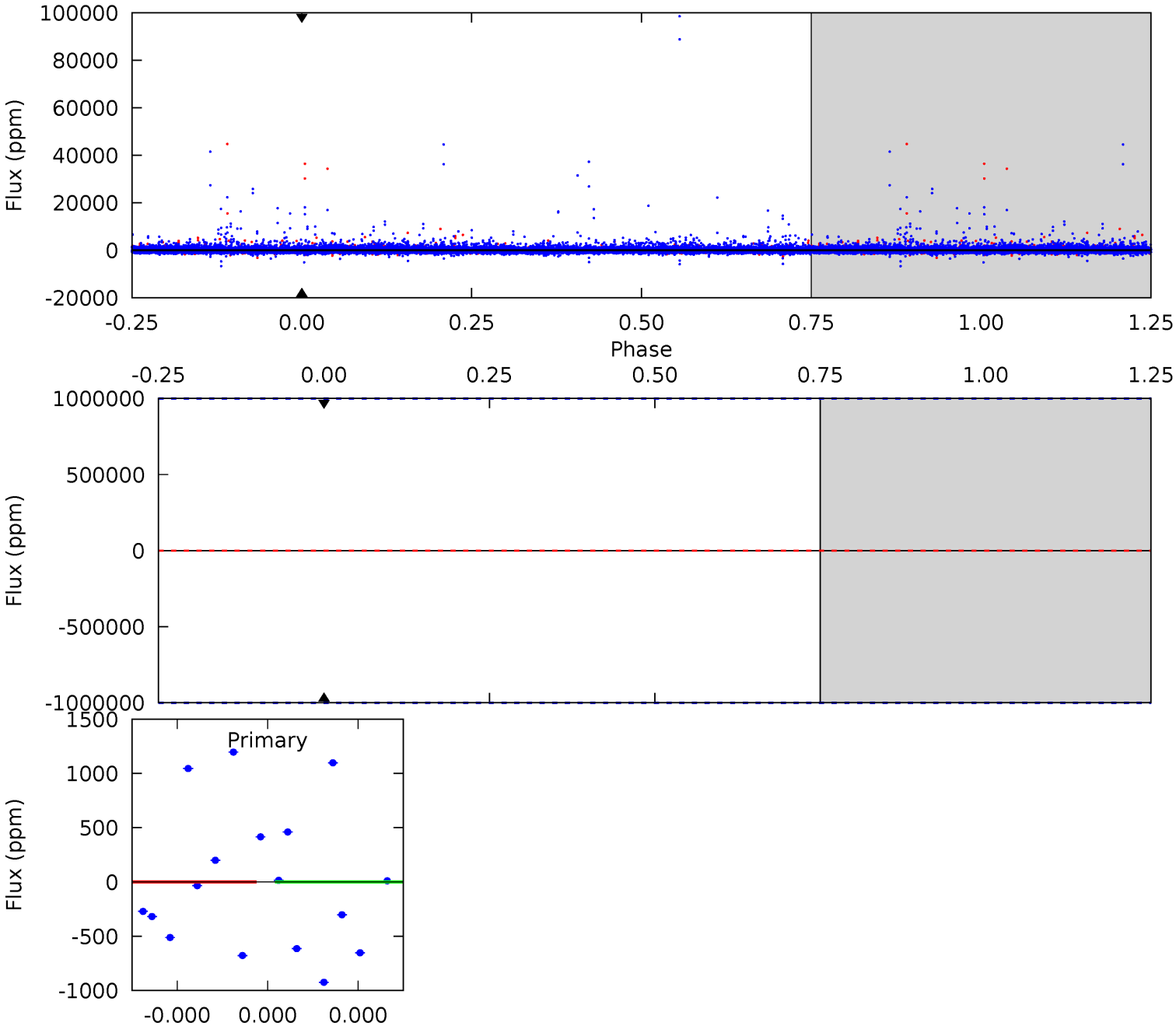
TCE 009142714-05 P=306.142407 Days T_0=274.710140 (BKJD)



DV Model-Shift Uniqueness Test

009142714-05, P = 306.142407 Days, E = 274.246222 Days

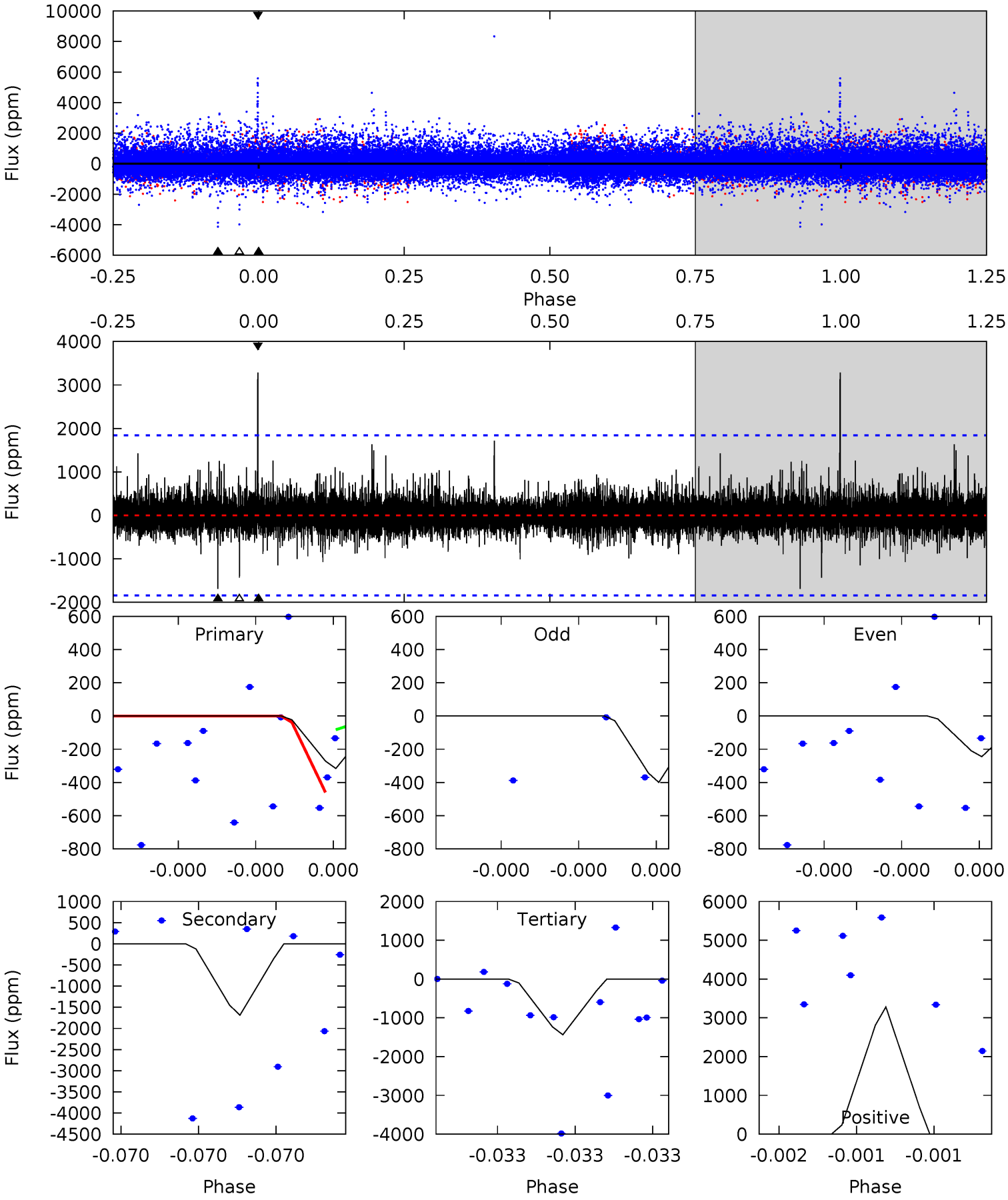
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009142714-05, P = 306.142407 Days, E = 274.710140 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.00	5.34	4.54	10.4	5.82	3.85	0.78	-3.54	-9.38	0.80	-5.04	0.21	0.75	0.66	0.60



Stellar Parameters For KIC 009142714

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	3514^{+47}_{-58}	$4.907^{+0.036}_{-0.044}$	$-0.100^{+0.100}_{-0.100}$	$0.358^{+0.036}_{-0.036}$	$0.380^{+0.037}_{-0.050}$	$11.650^{+2.345}_{-2.127}$
	+1%/-2%	+1%/-1%	+100%/-100%	+10%/-10%	+10%/-13%	+20%/-18%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009142714-05 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0±1000000	$3.29^{+3.38}_{-2.24}$	162^{+4}_{-3}	-2164^{+9229}_{-4408}	$-3557.740^{+4277857.625}_{-3337791.146}$
Alt.	-1689±316	$3.02^{+3.00}_{-2.12}$	162^{+4}_{-4}	2921^{+1342}_{-468}	$42244^{+415463}_{-31202}$

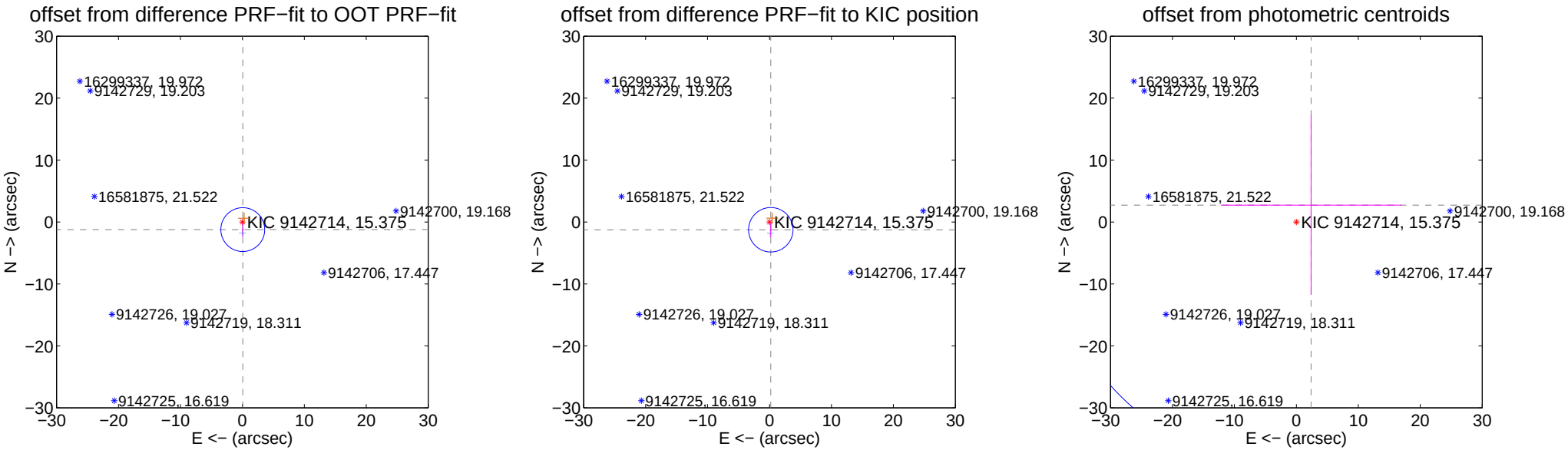
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

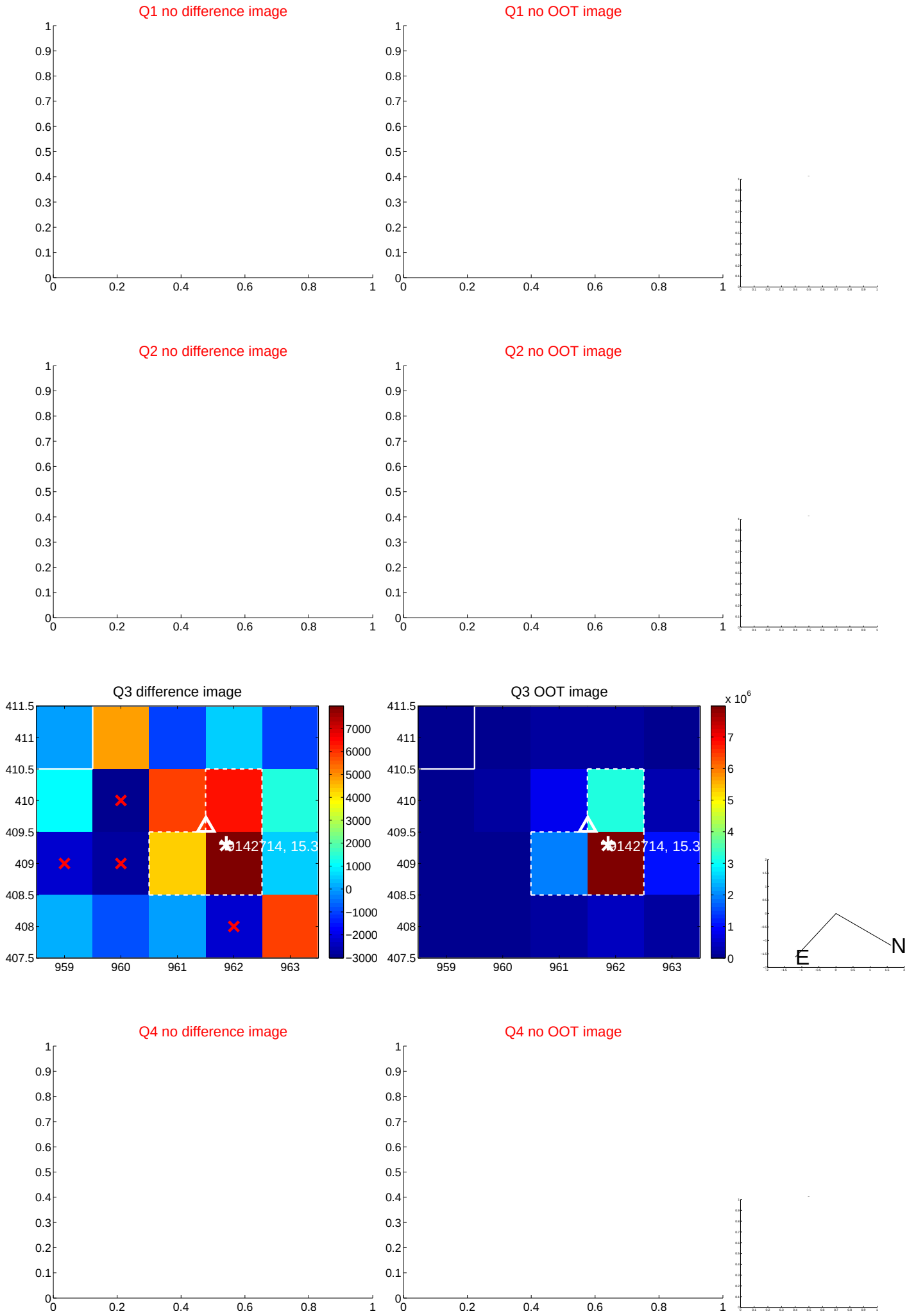
Supplemental centroid analysis for 009142714-05. Kepler magnitude: 15.38. Transit SNR -1.00
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.228 ± 1.180	1.04	-0.066 ± 0.154	-1.226 ± 1.182
PRF-fit source offset from KIC position	1.268 ± 1.196	1.06	-0.208 ± 0.168	-1.251 ± 1.212
photometric centroid source offset	3.61 ± 14.51	0.25	-2.38 ± 14.56	2.71 ± 14.48

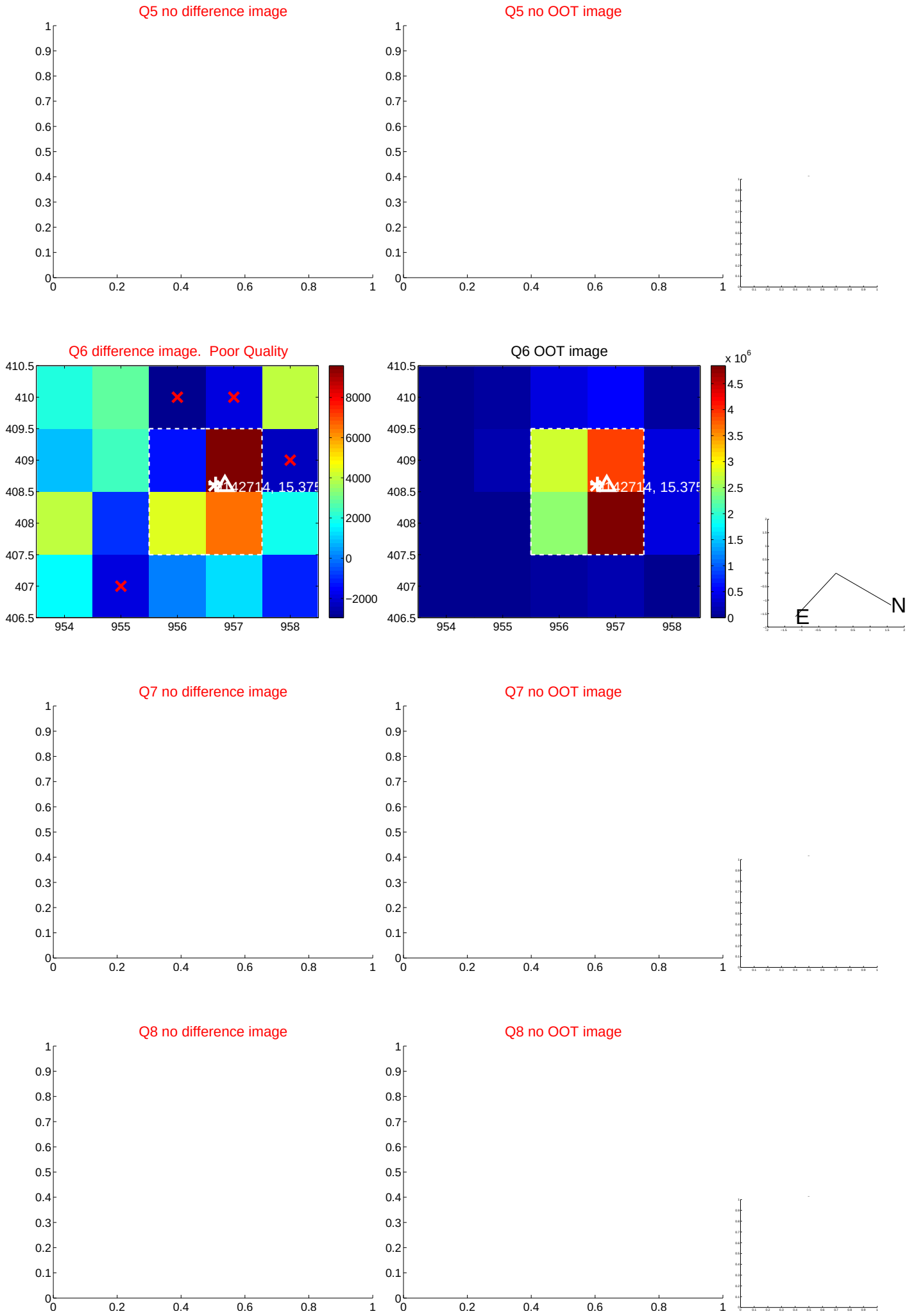


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

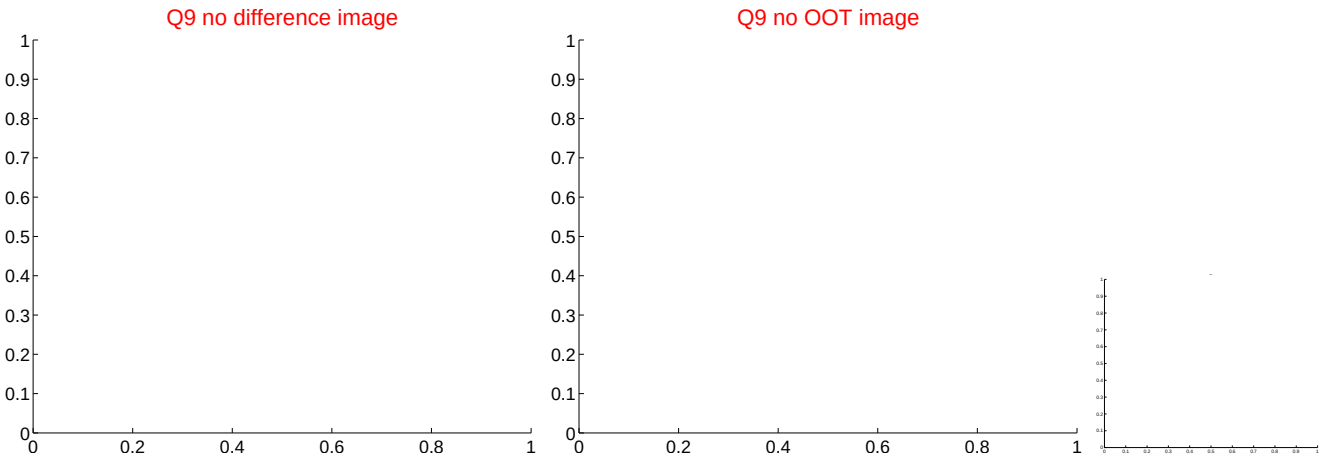
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

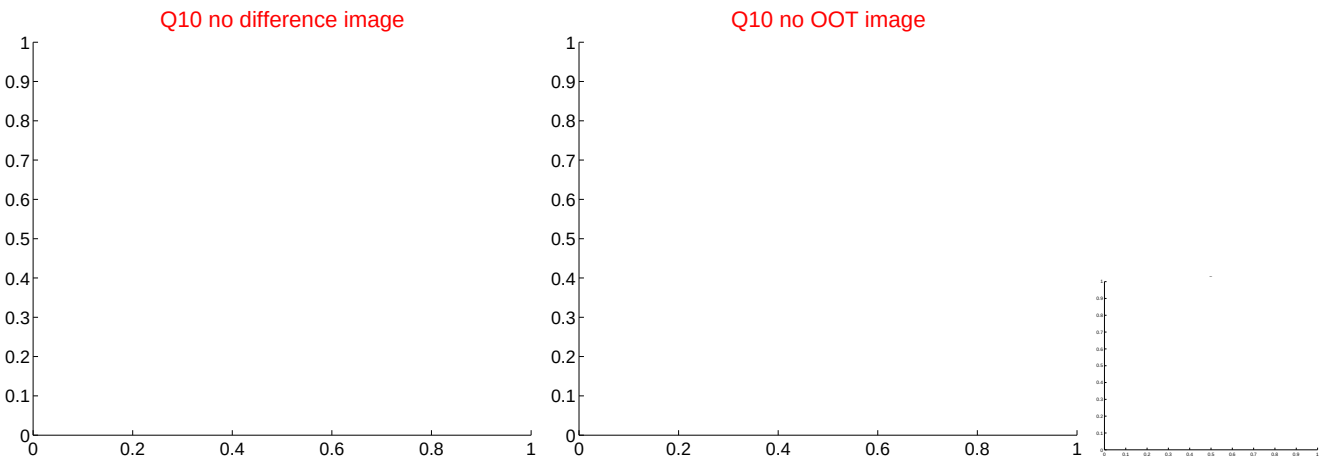


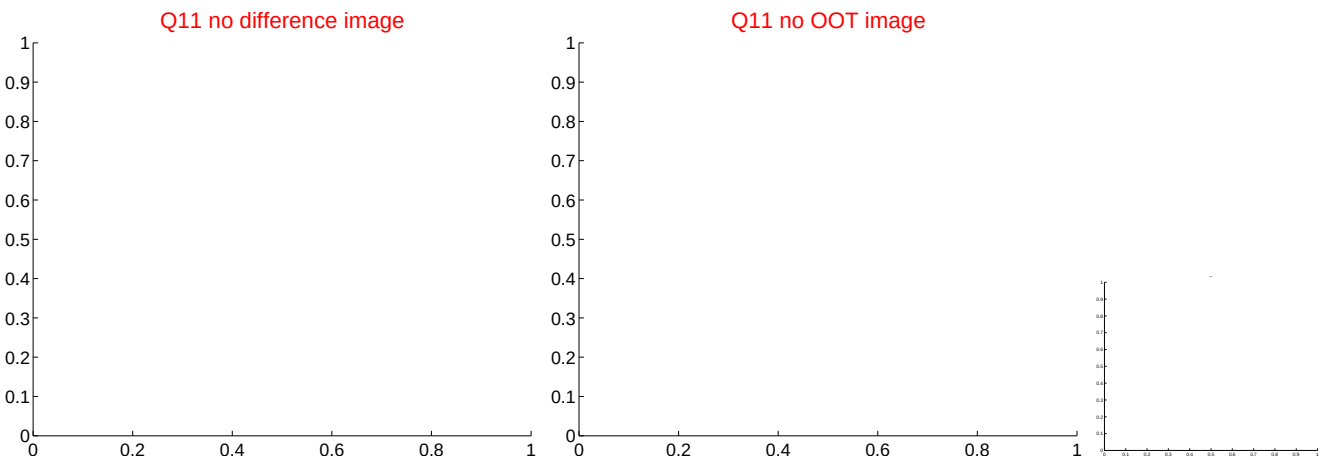
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

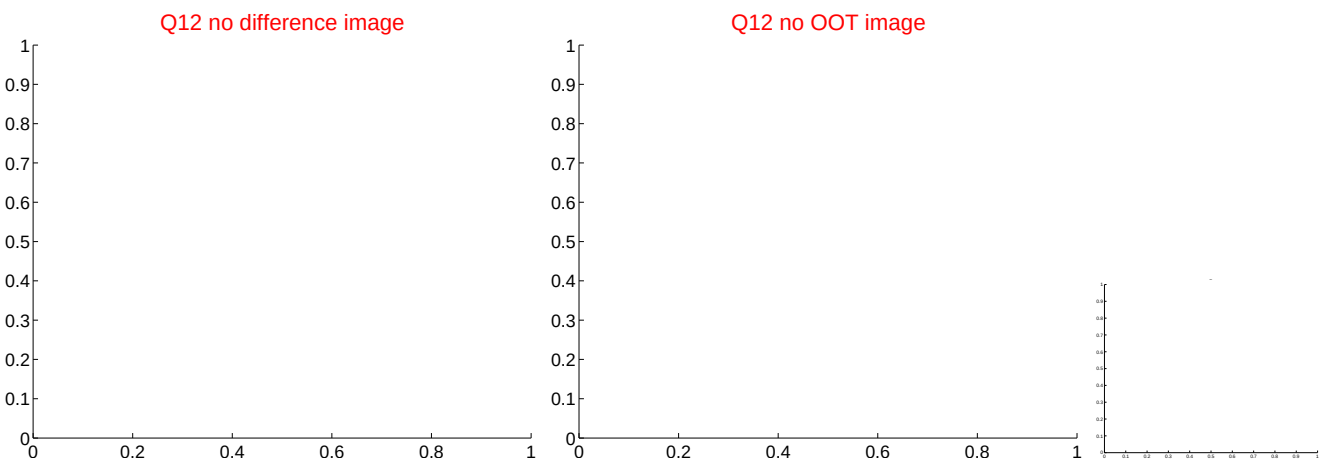


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

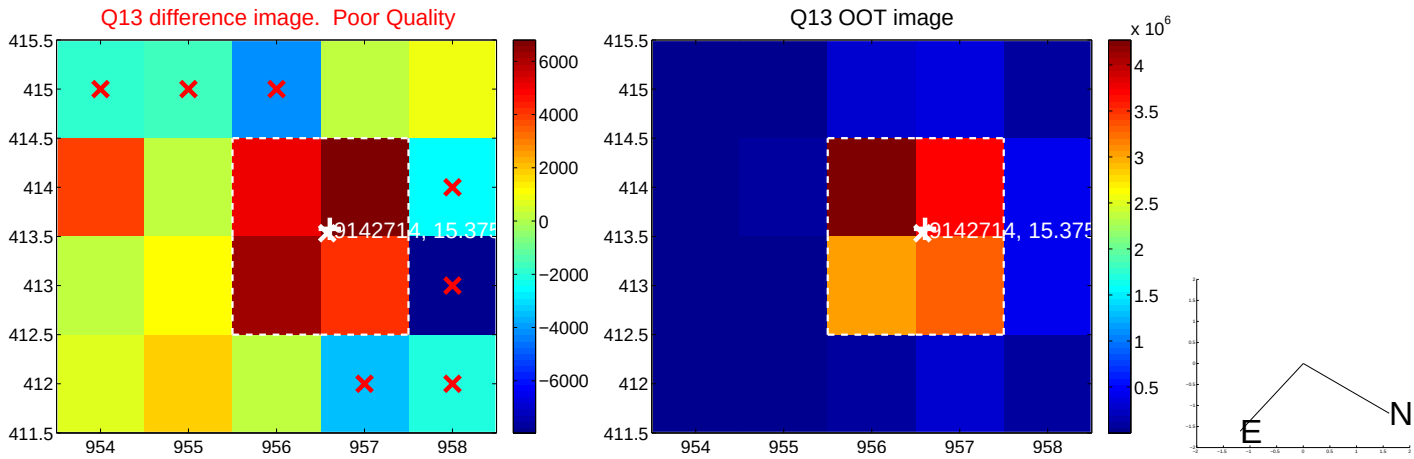


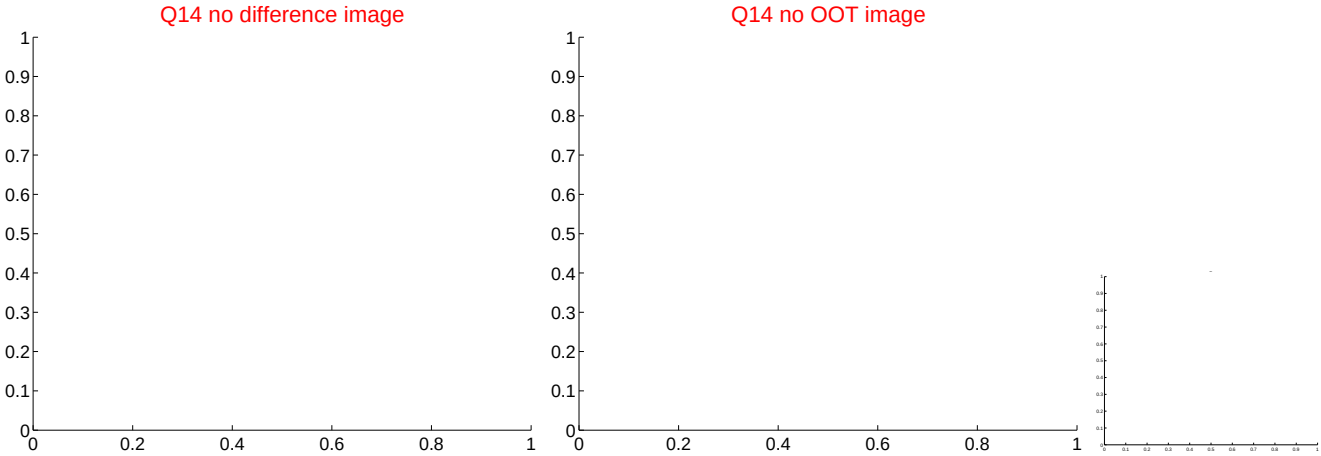


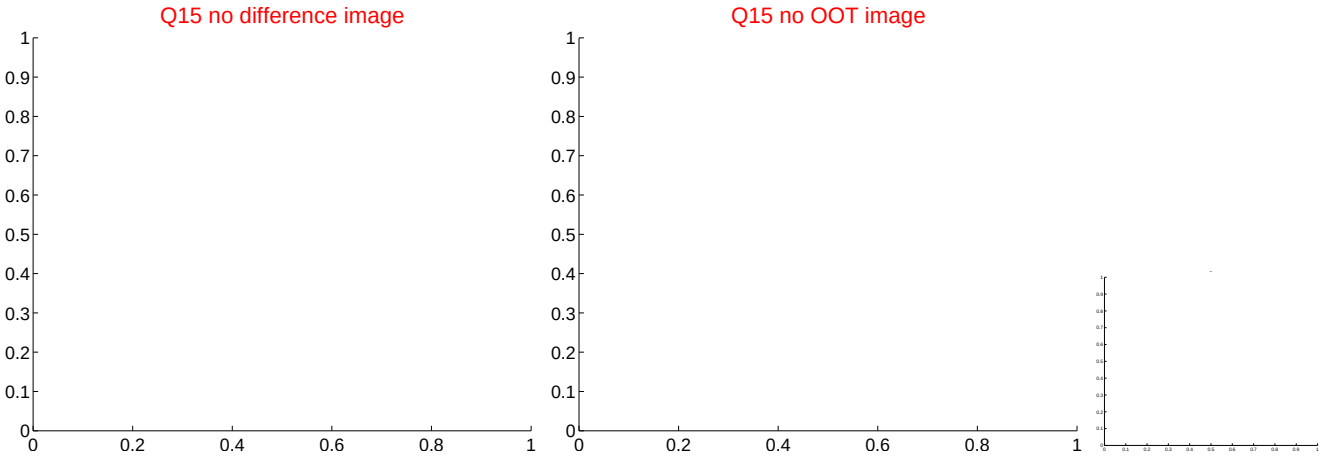


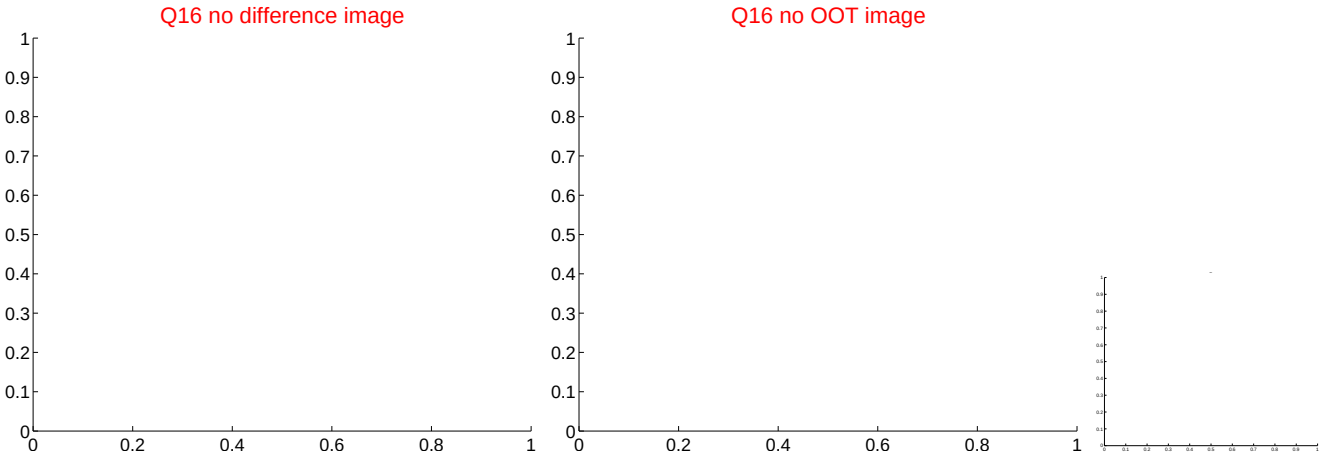


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

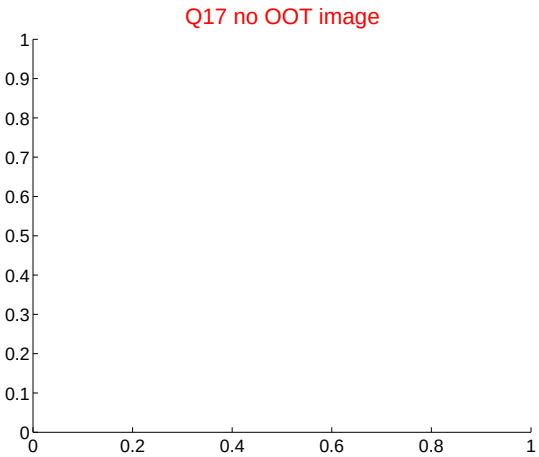


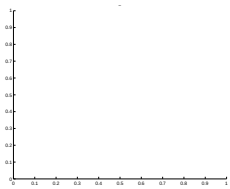


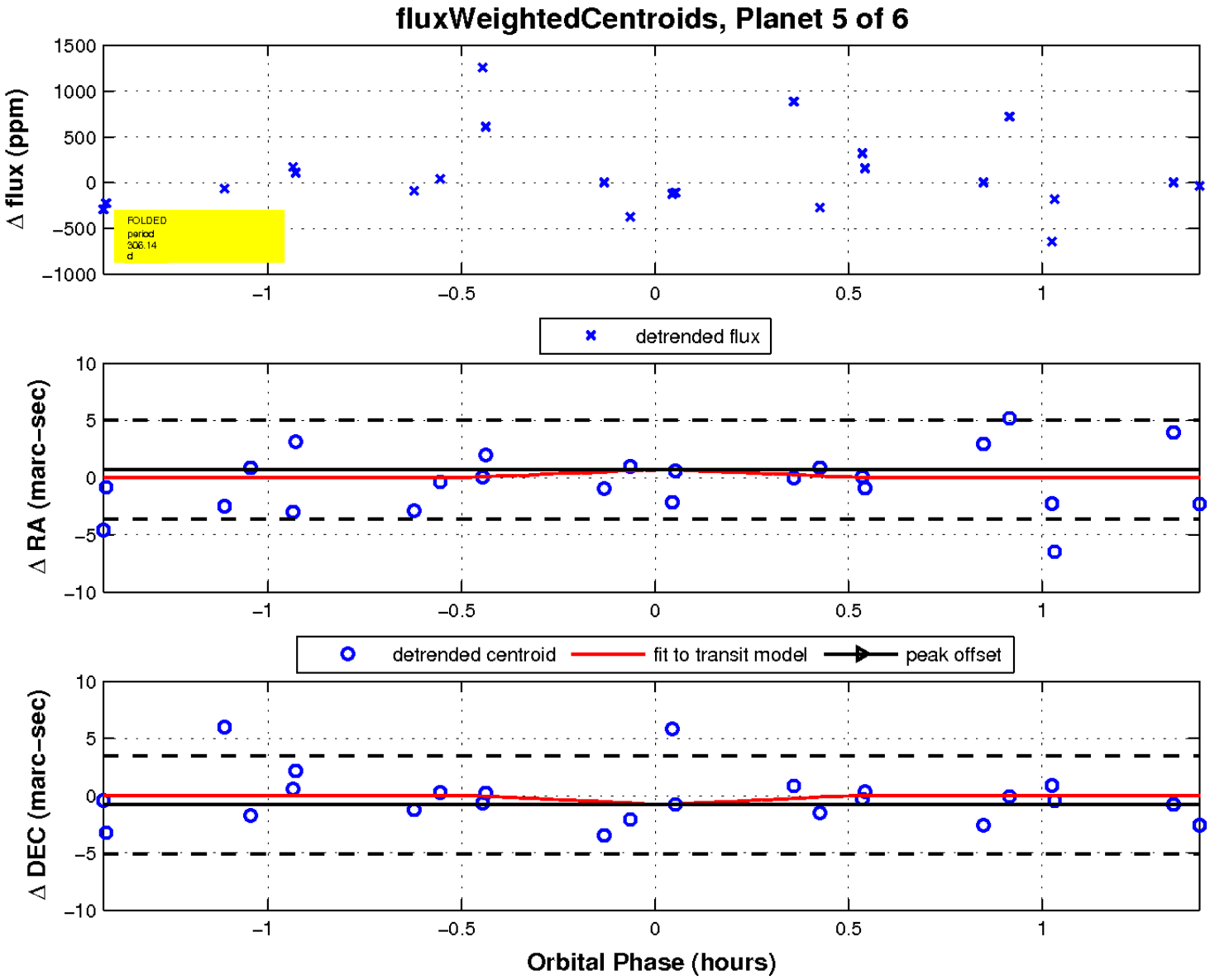




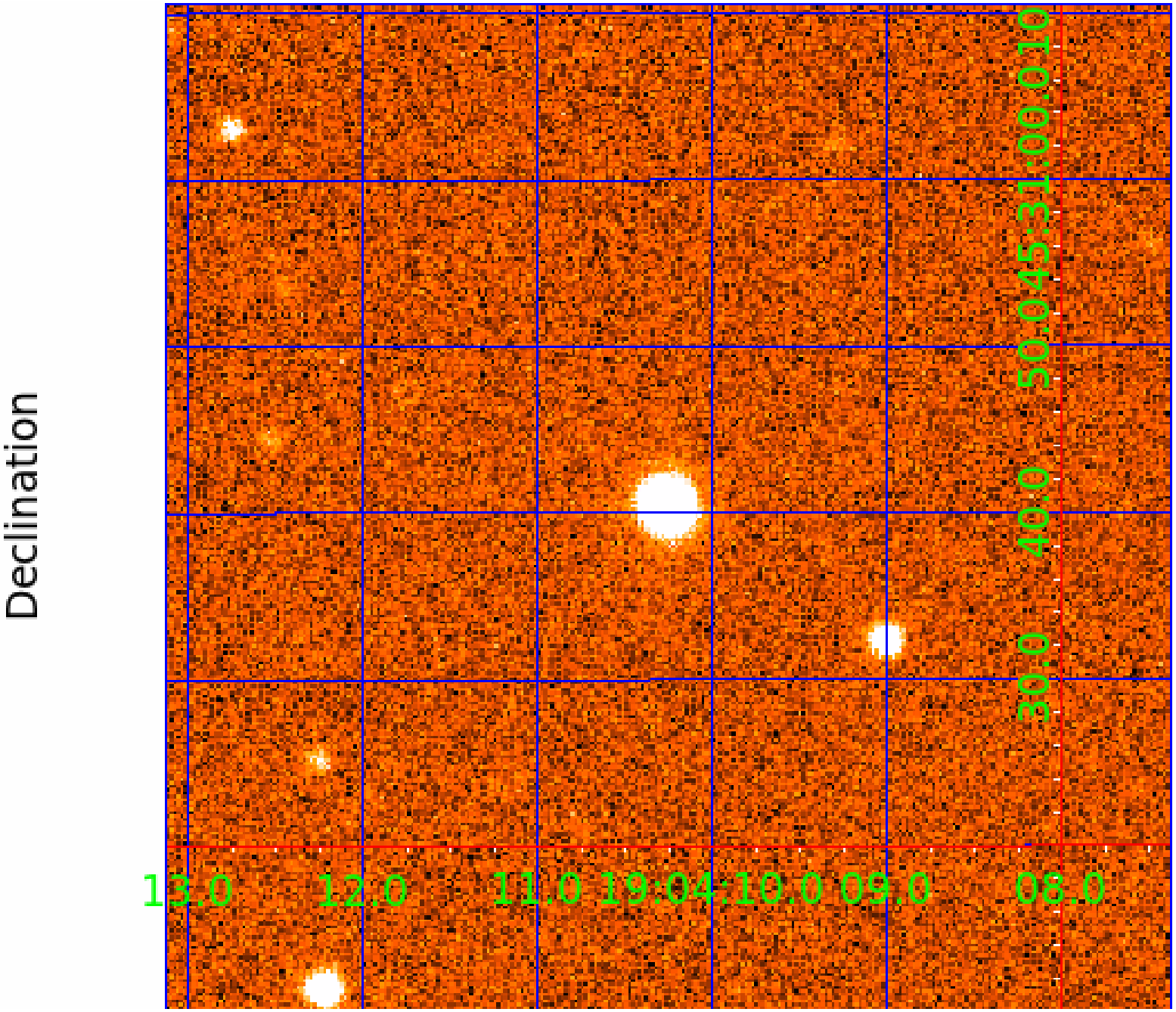
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image


Declination
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09.0
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10

KIC 009142714

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 ($S_\oplus$)
009142714-01	OBS	No	556.753318	355.377099	655.0	2.128	11.7	2.2	0.36	3514	0.97	0.02
009142714-02	OBS	No	380.170937	152.521076	1945.9	9.596	12.3	7.2	0.36	3514	2.00	0.03
009142714-03	OBS	No	320.090873	301.288507	1694.9	3.348	10.3	7.6	0.36	3514	1.47	0.04
009142714-04	OBS	7928.01	1.126260	132.296346	155.5	3.619	9.4	11.6	0.36	3514	0.53	74.67
009142714-05	OBS	No	306.142407	274.246222	1278.1	7.500	12.8	-1.0	0.36	3514	1.26	0.04
009142714-06	OBS	No	204.029097	142.929948	540.2	9.000	8.9	-1.0	0.36	3514	0.82	0.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009142714-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009142714-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
009142714-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
009142714-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
009142714-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009142714-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_NOFITS

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.

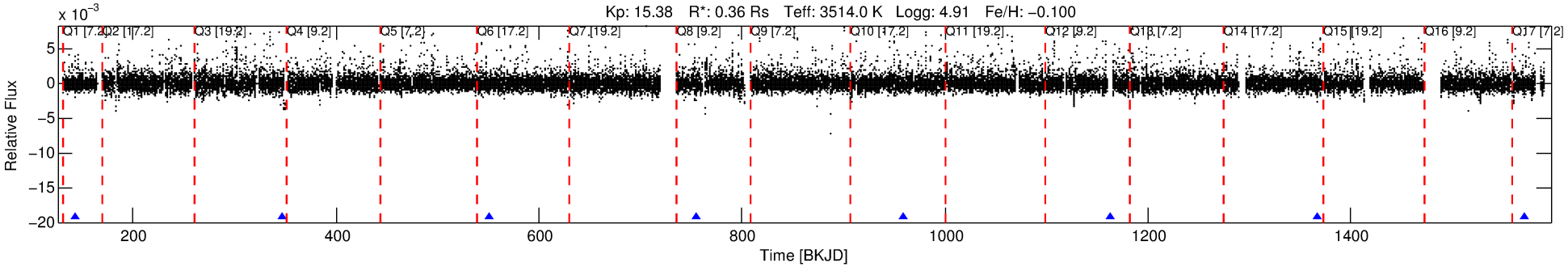
Ephemeris Match Information For 009142714-06

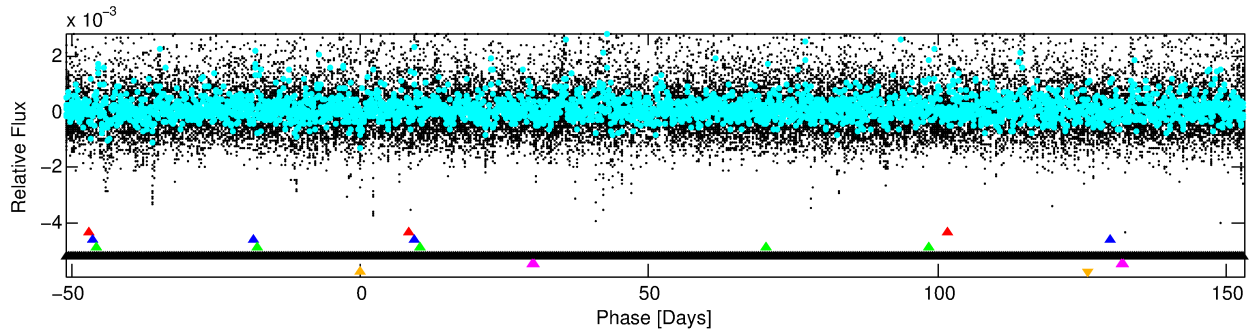
No Significant Match Found

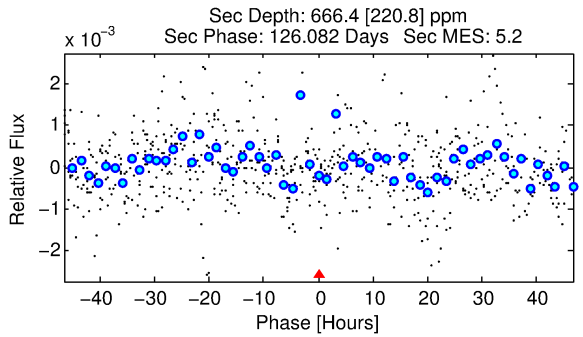
DV One-Page Summary

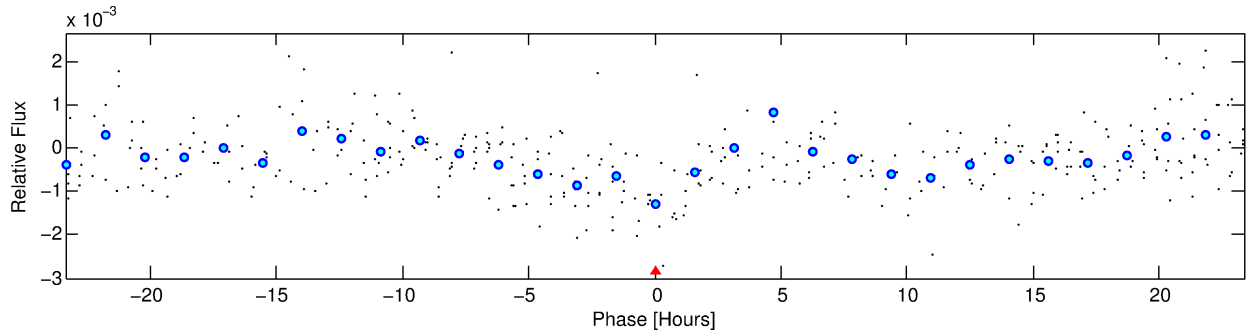
KIC: 9142714 Candidate: 6 of 6 Period: 204.029 d

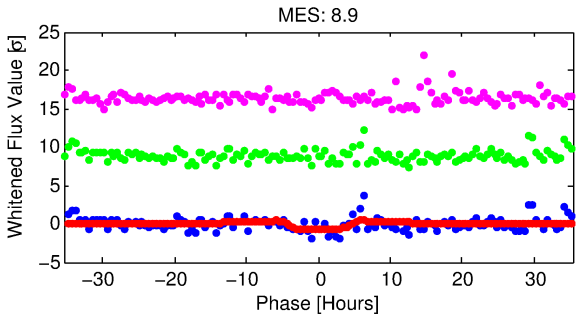
Kp: 15.38 R*: 0.36 Rs Teff: 3514.0 K Logg: 4.91 Fe/H: −0.100

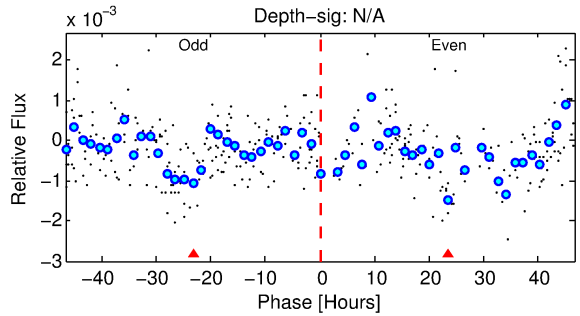


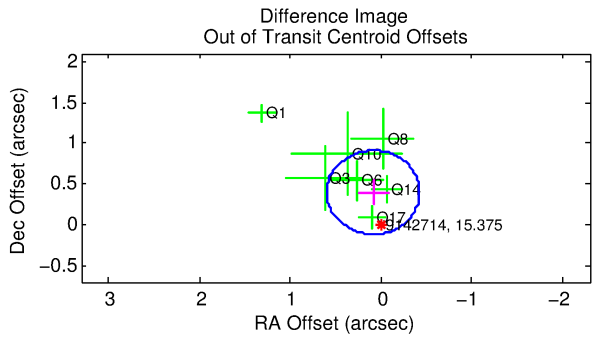












TPS TCE Results:

Period = 204.02910 d
Epoch = 142.9299 BKJD

DV fit results are unavailable

DV Diagnostic Results:

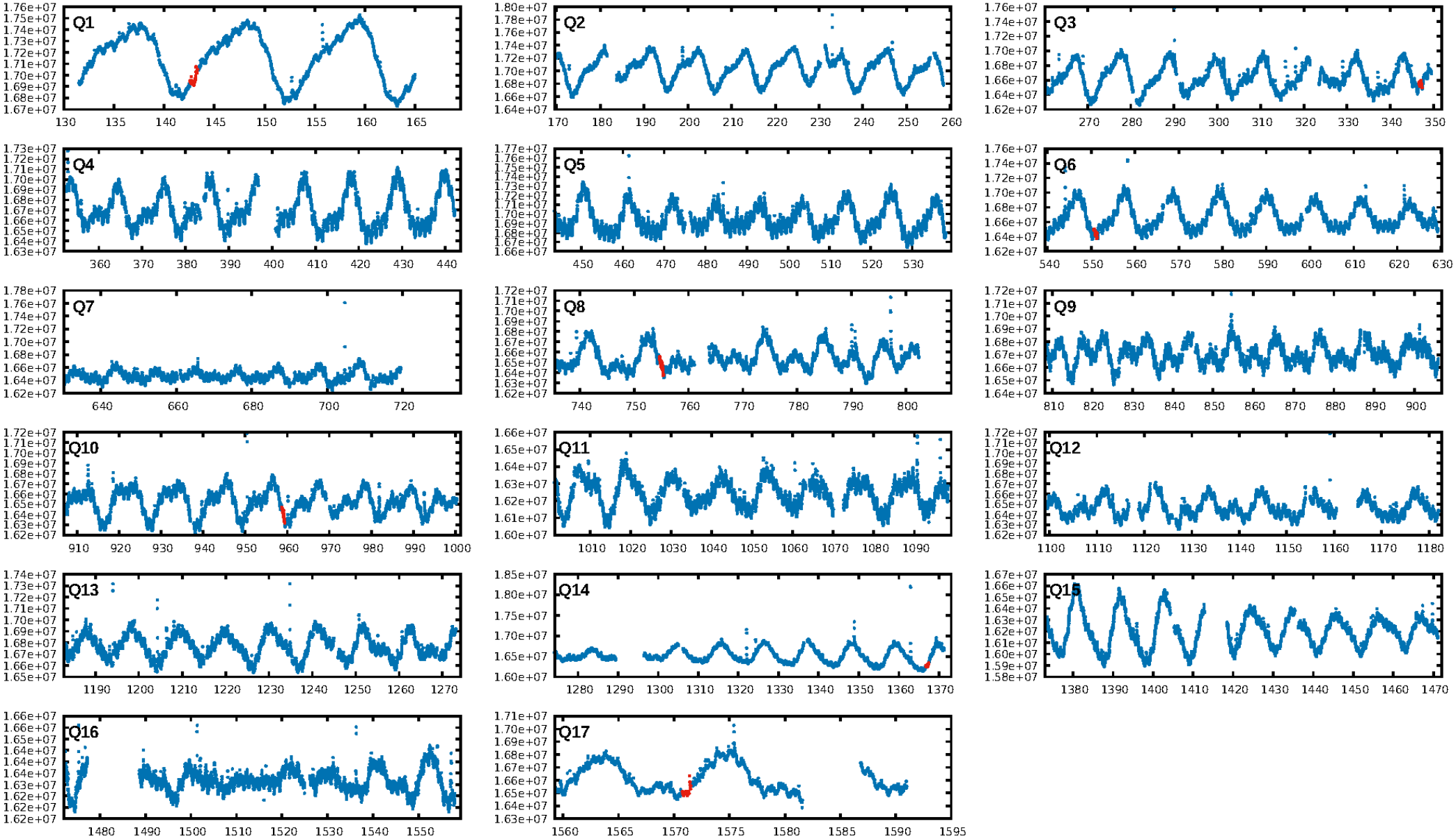
ShortPeriod−sig: 100.0% [502.02σ]
LongPeriod−sig: 100.0% [209.19σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: 2.986

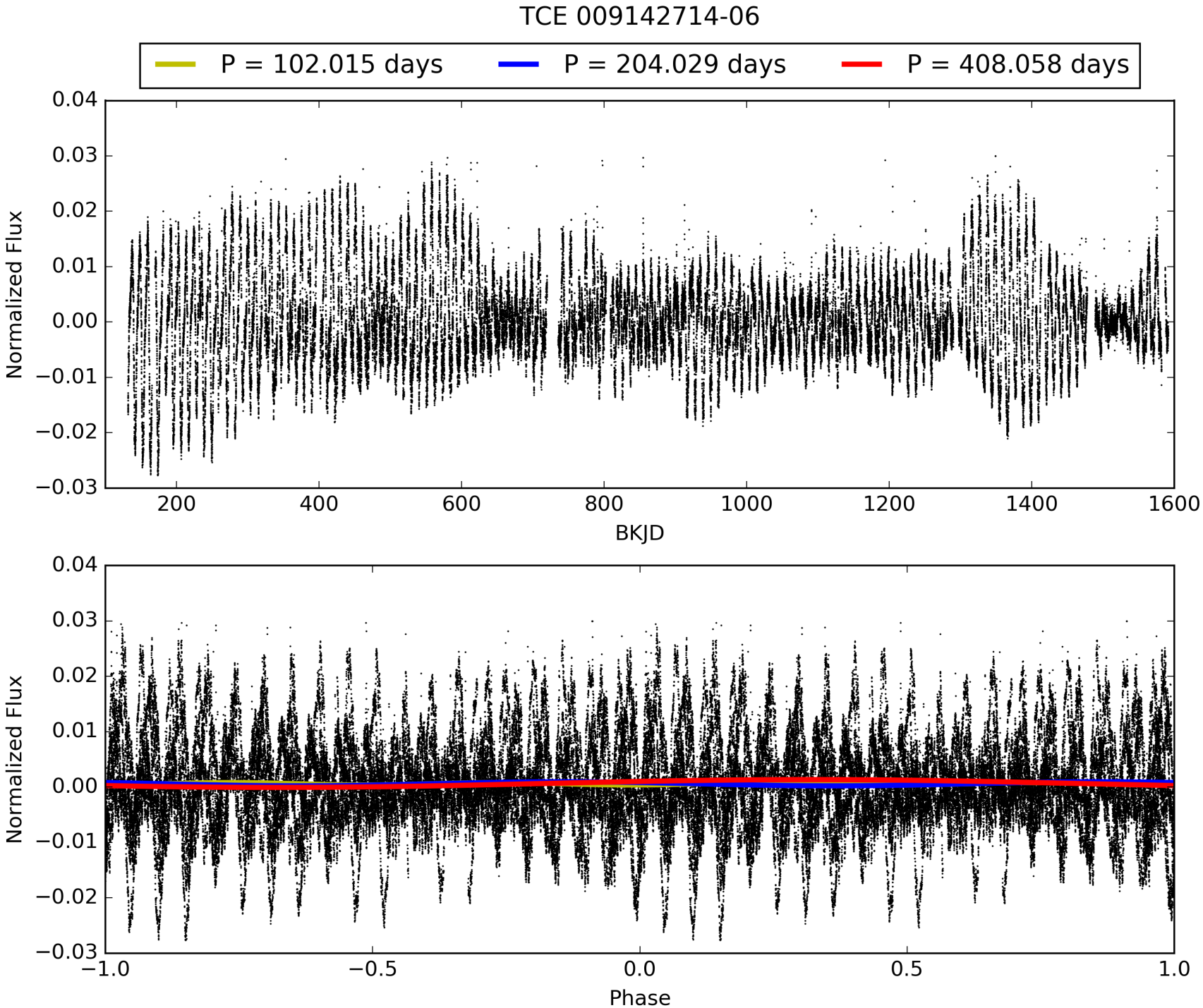
Centroid−sig: 36.9%
Centroid−so: 0.627 arcsec [0.88σ]
OotOffset−rm: 0.407 arcsec [2.38σ]
KicOffset−rm: 0.437 arcsec [2.98σ]
OotOffset−st: 3/1/1/2 [7]
KicOffset−st: 3/1/1/2 [7]
DiffImageQuality−fgm: 0.57 [4/7]
DiffImageOverlap−fno: 0.00 [0/7]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 06:22:53 Z

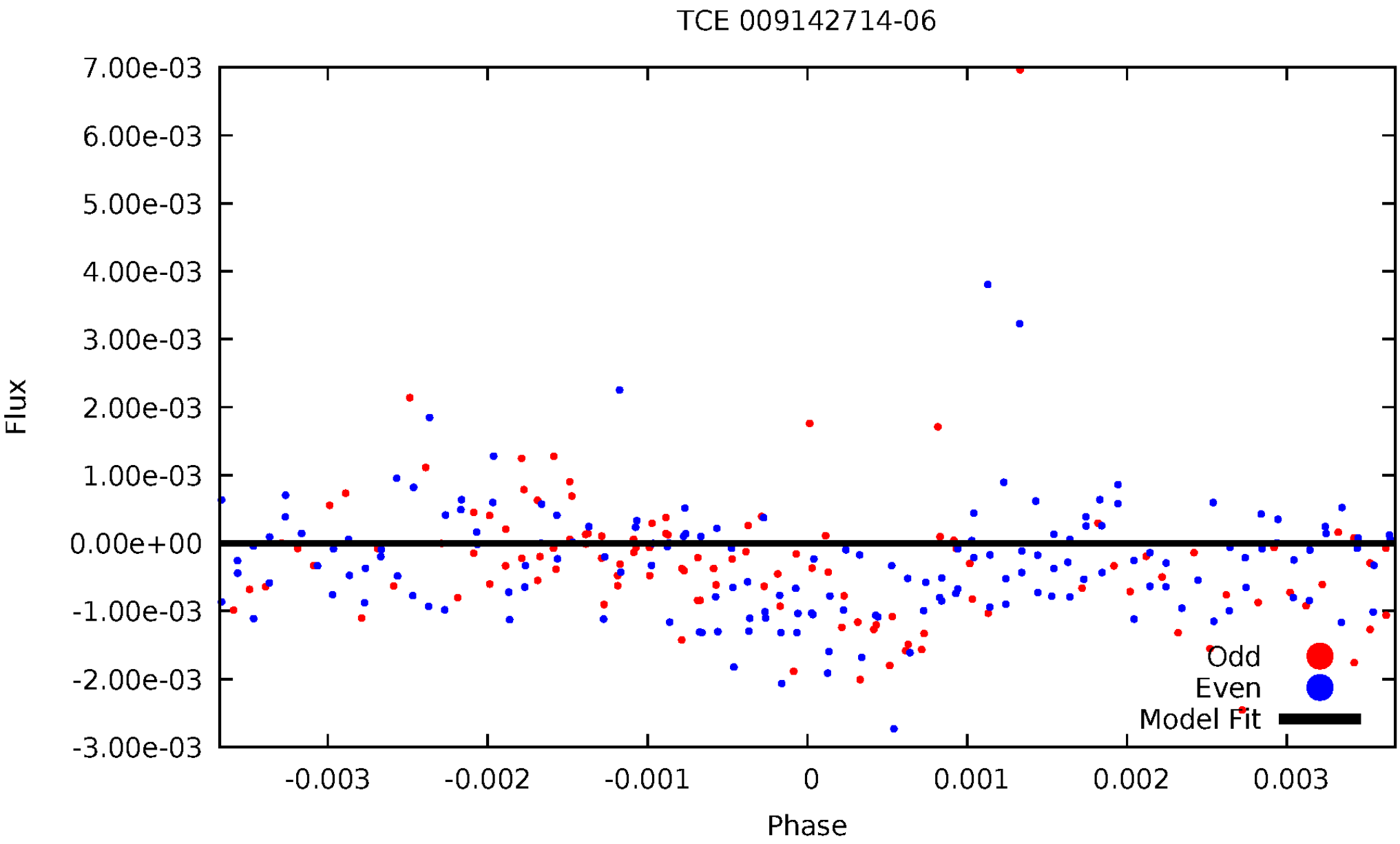
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009142714-06, PDC Light Curves

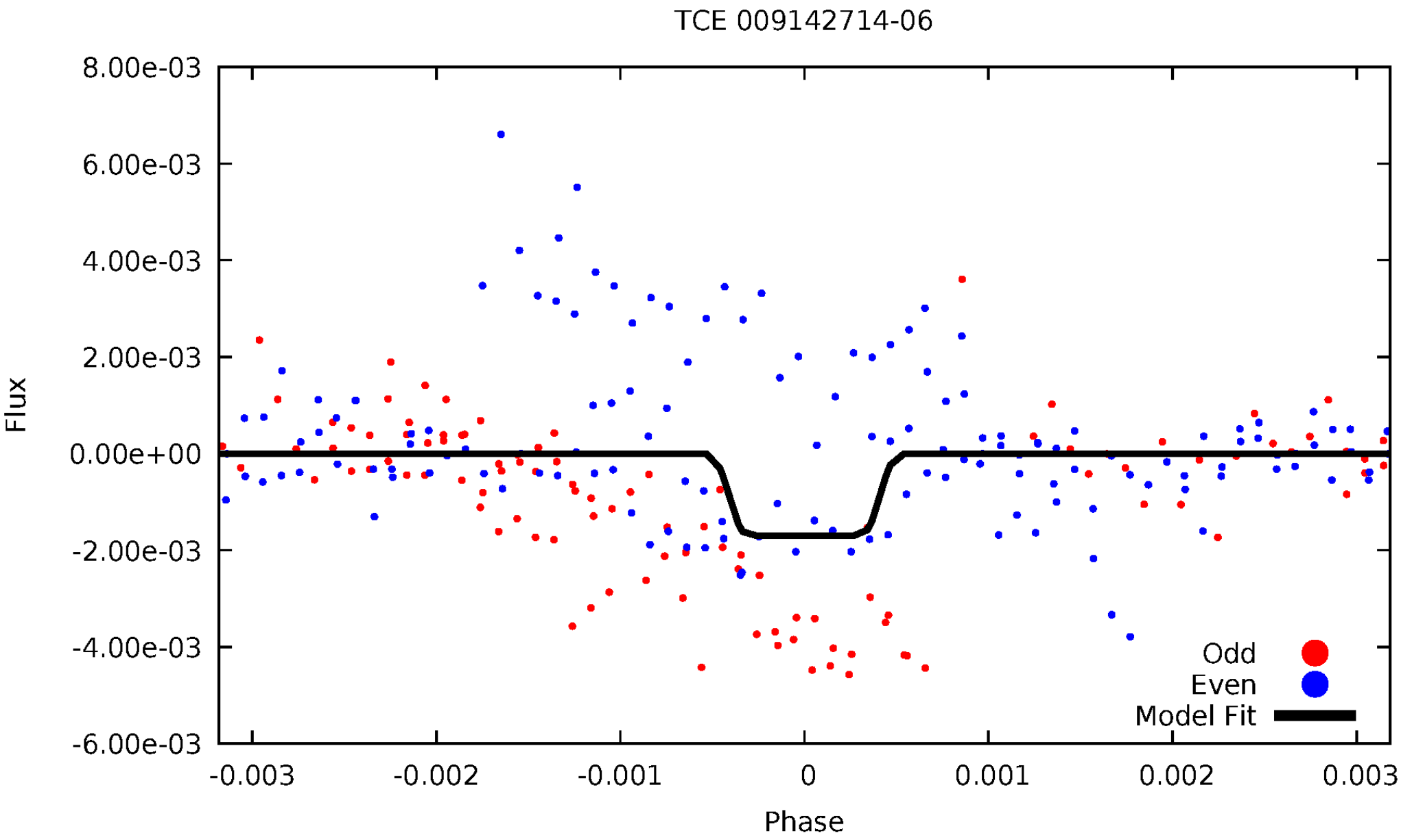



TCE 009142714-06
P = 102.015 days
P = 204.029 days
P = 408.058 days
Normalized Flux
BKJD
Normalized Flux
Phase

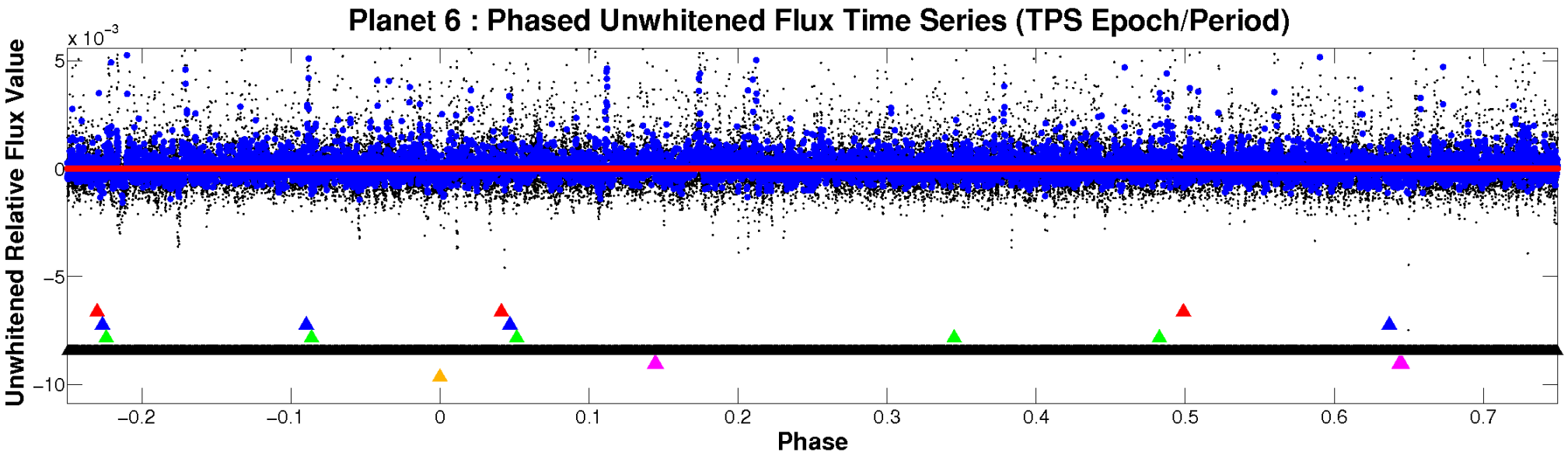
DV Odd/Even

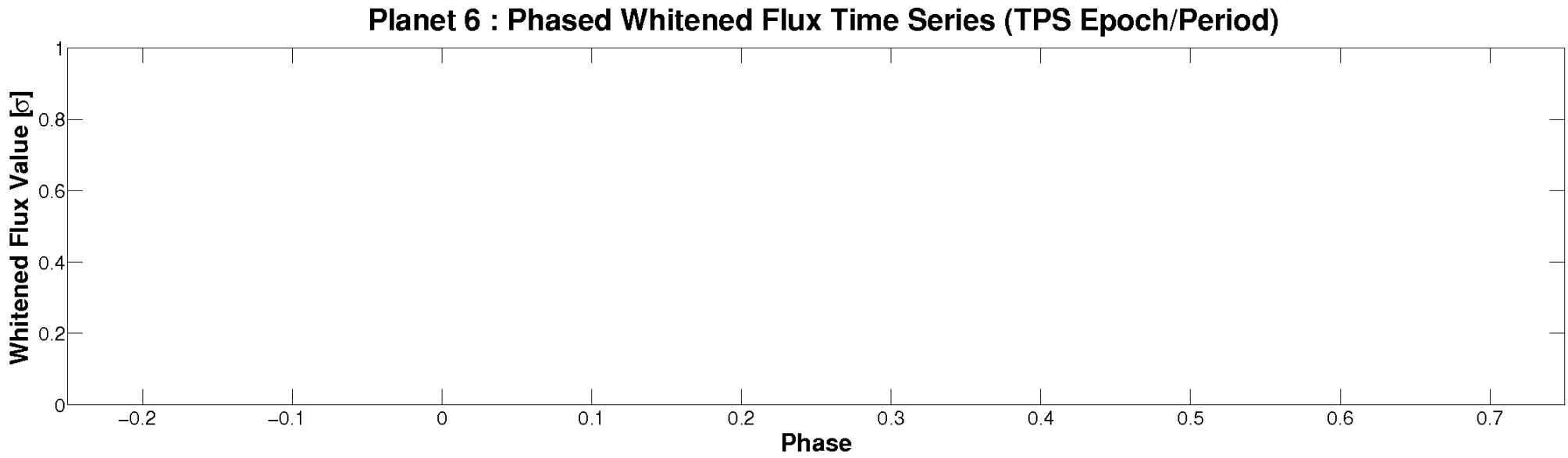

TCE 009142714-06
7.00e-03
6.00e-03
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009142714-06
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

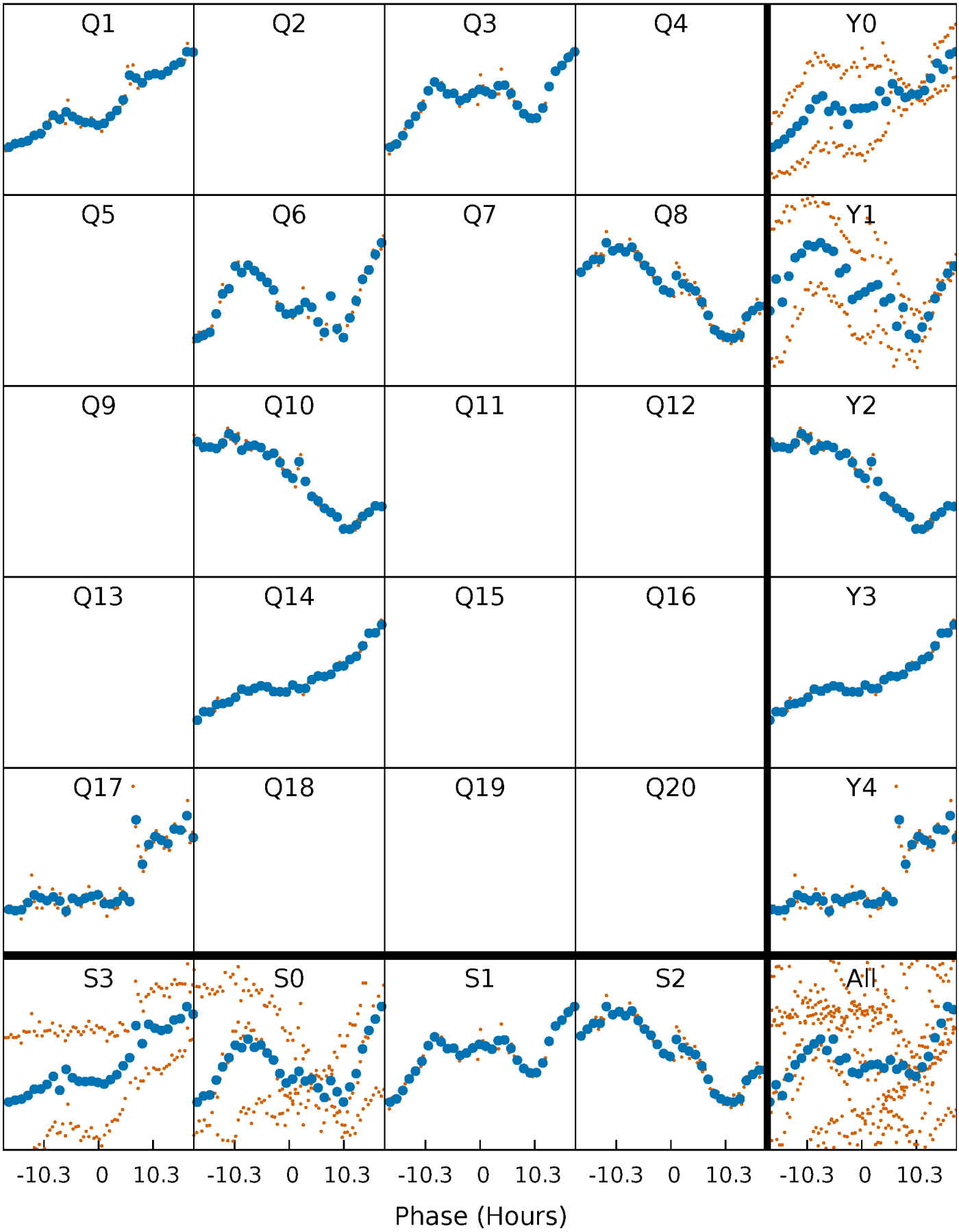
Non-Whitened Vs. Whitened Light Curve





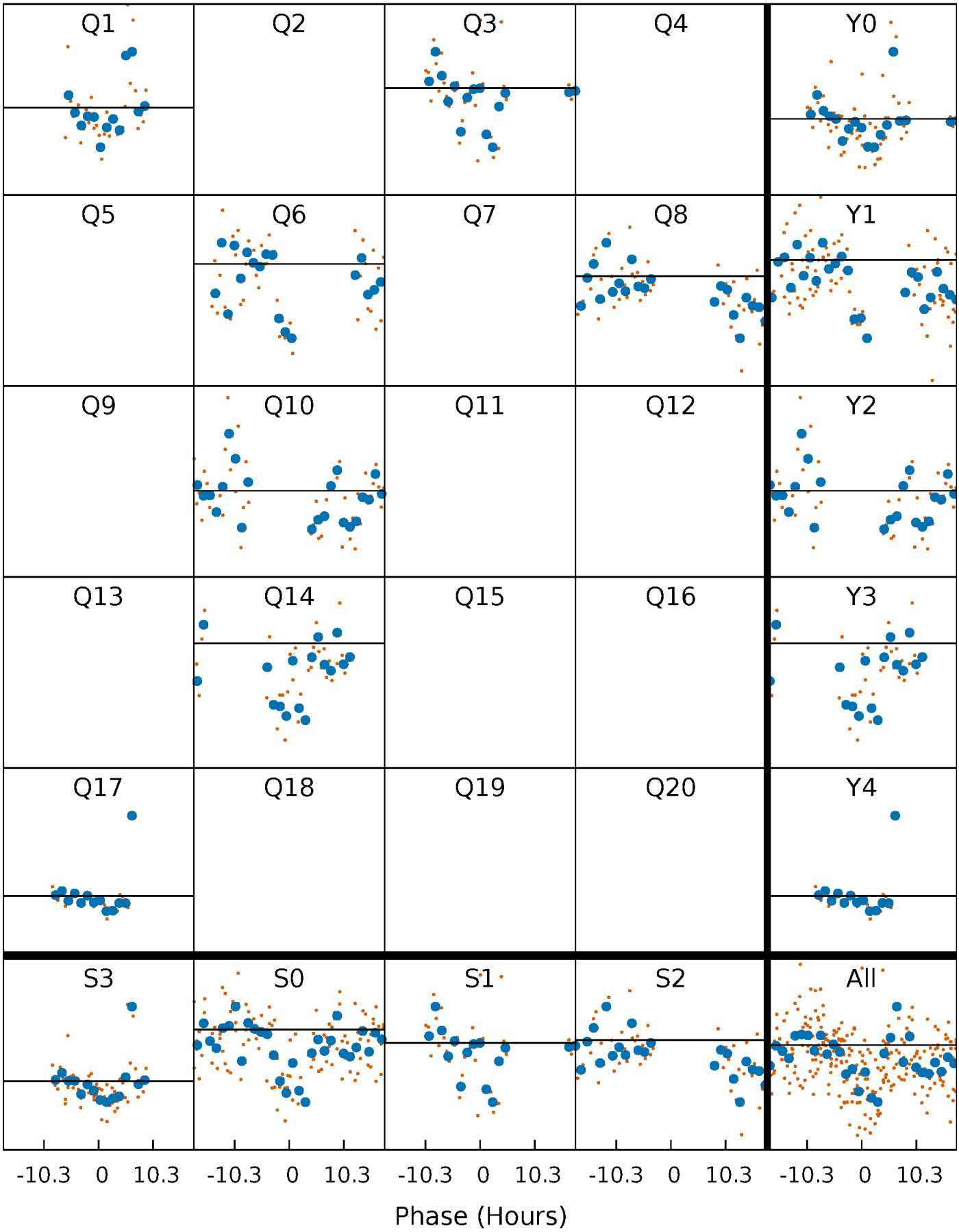
PDC Quarter-Phased Transit Curves

TCE 009142714-06 P=204.029097 Days T_0=142.929948 (BKJD)



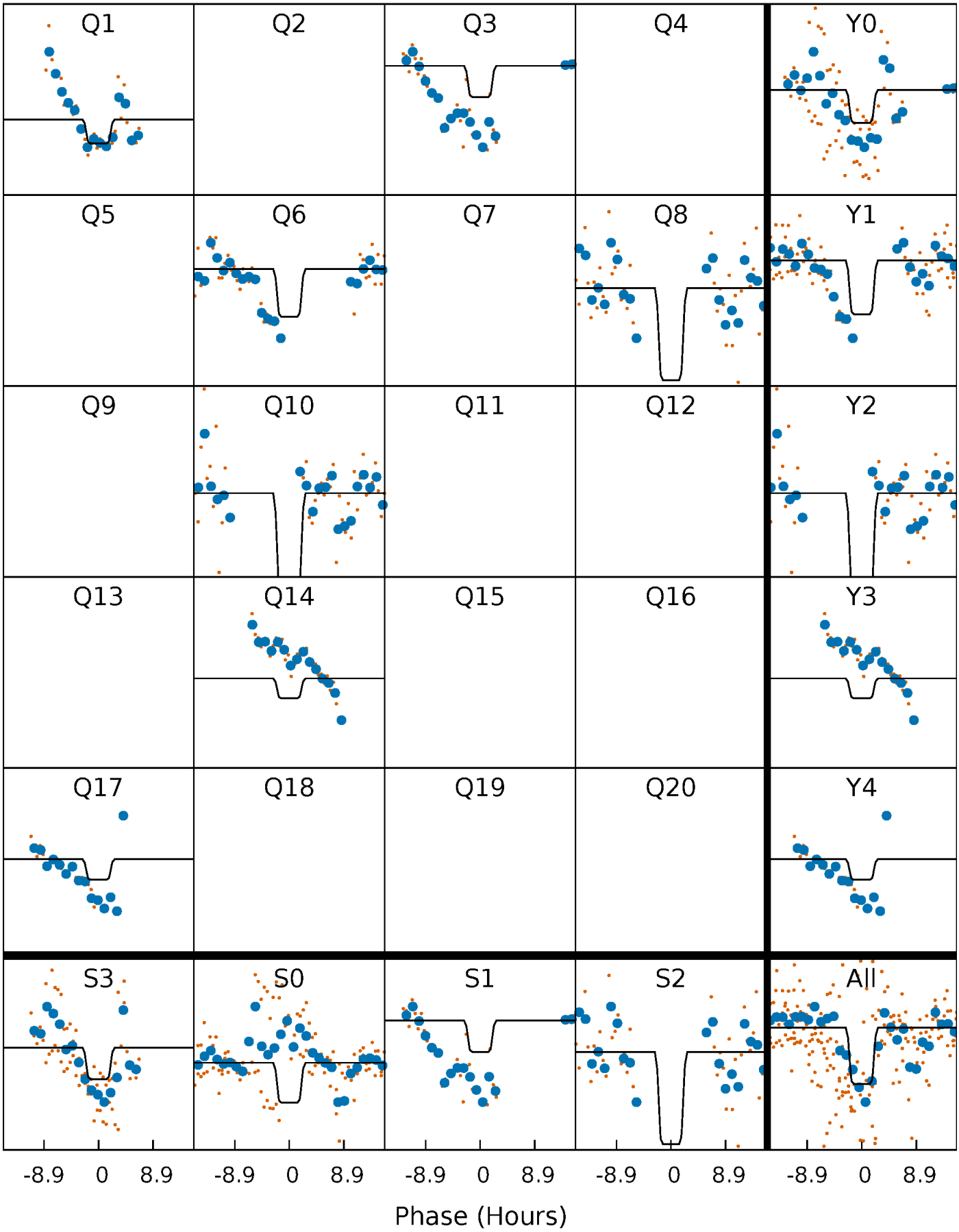
DV Quarter-Phased Transit Curves

TCE 009142714-06 P=204.029097 Days T_0=142.929948 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

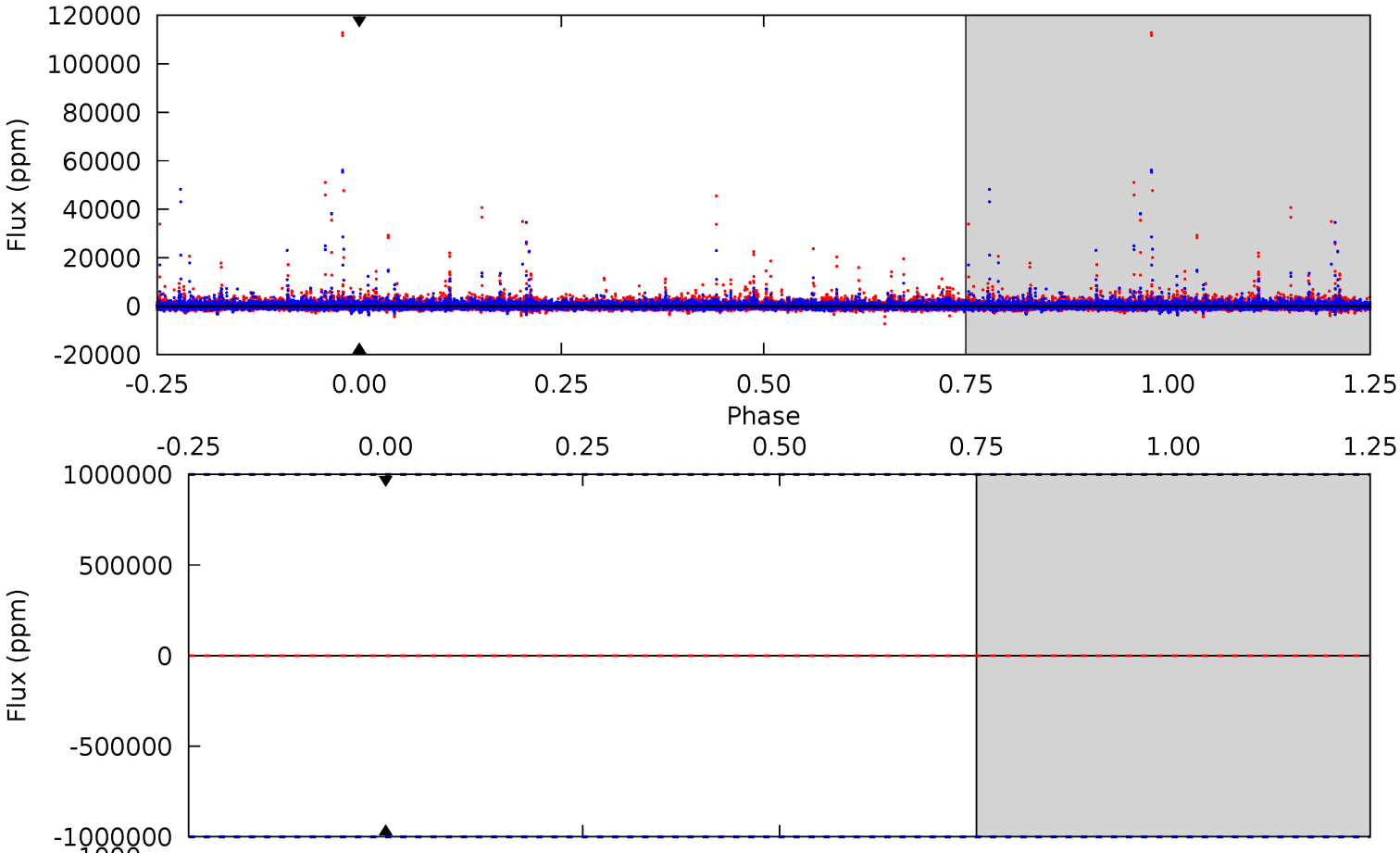
TCE 009142714-06 P=204.029097 Days T_0=143.026626 (BKJD)

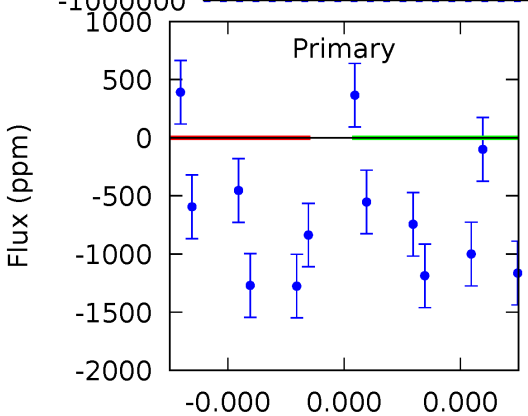


DV Model-Shift Uniqueness Test

009142714-06, P = 204.029097 Days, E = 142.929948 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0

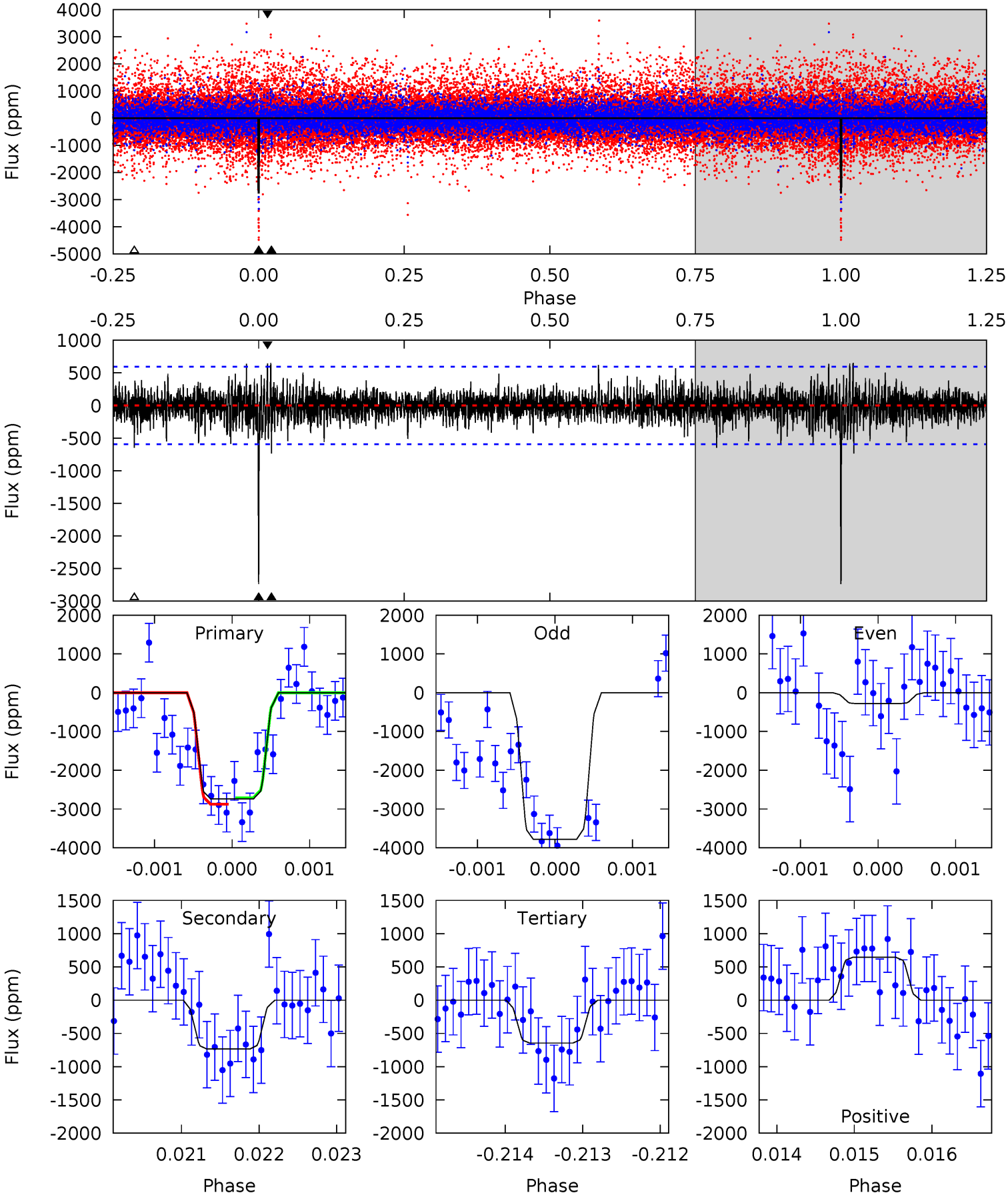




Alt Model-Shift Uniqueness Test

009142714-06, P = 204.029097 Days, E = 143.026626 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.2	6.76	5.94	5.93	5.46	3.31	1.38	19.2	19.2	0.82	0.83	16.8	0.67	0.19	0



Stellar Parameters For KIC 009142714

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	3514^{+47}_{-58}	$4.907^{+0.036}_{-0.044}$	$-0.100^{+0.100}_{-0.100}$	$0.358^{+0.036}_{-0.036}$	$0.380^{+0.037}_{-0.050}$	$11.650^{+2.345}_{-2.127}$
	+1%/-2%	+1%/-1%	+100%/-100%	+10%/-10%	+10%/-13%	+20%/-18%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009142714-06 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0±1000000	$2.92^{+3.22}_{-2.13}$	185^{+4}_{-4}	-2674^{+9820}_{-4882}	$-12526.731^{+2600421.803}_{-3295113.850}$
Alt.	-735±109	$3.29^{+3.22}_{-2.09}$	185^{+4}_{-4}	2548^{+890}_{-369}	9021^{+62209}_{-6782}

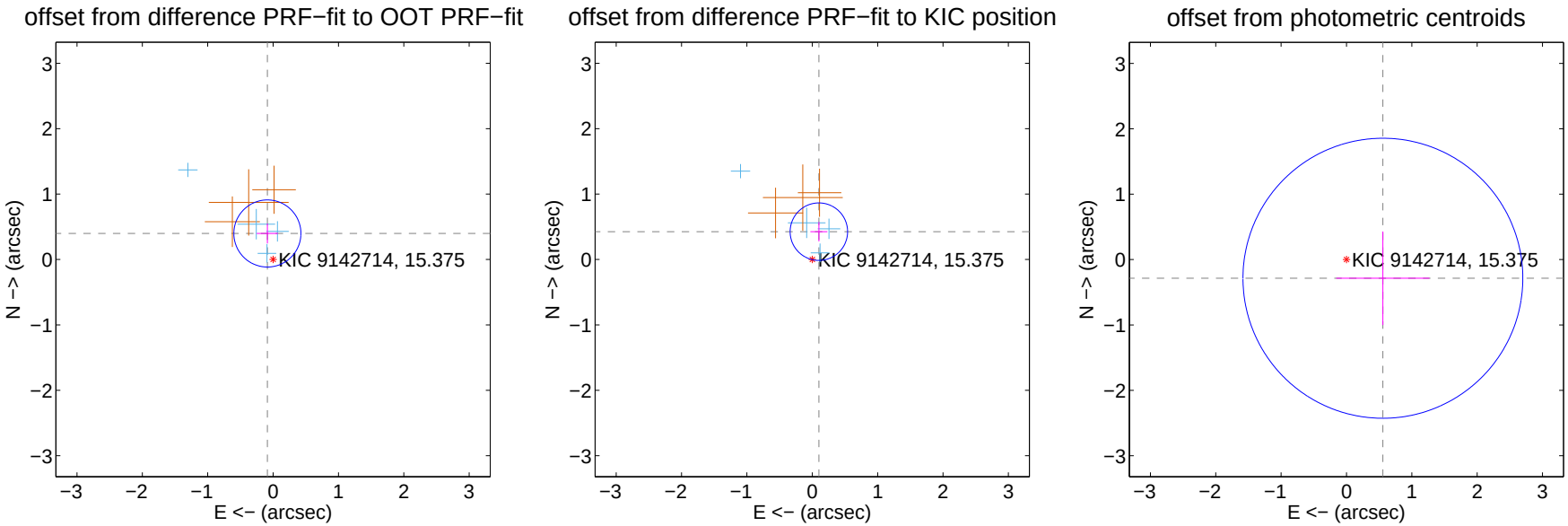
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

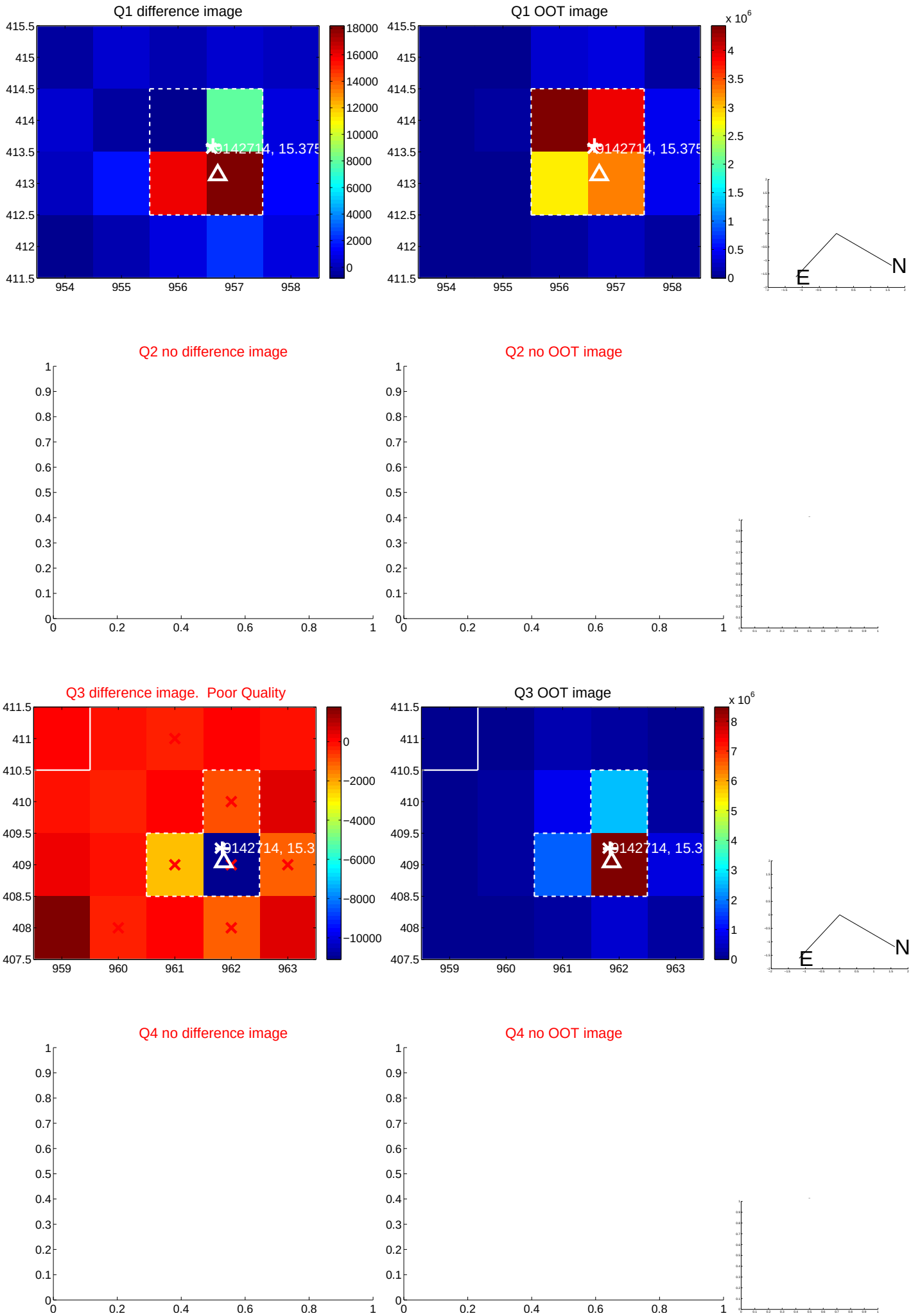
Supplemental centroid analysis for 009142714-06. Kepler magnitude: 15.38. Transit SNR -1.00
There are 4 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.407 ± 0.171	2.38	0.087 ± 0.164	0.398 ± 0.152
PRF-fit source offset from KIC position	0.437 ± 0.147	2.98	-0.101 ± 0.130	0.425 ± 0.147
photometric centroid source offset	0.63 ± 0.71	0.88	-0.56 ± 0.71	-0.29 ± 0.71

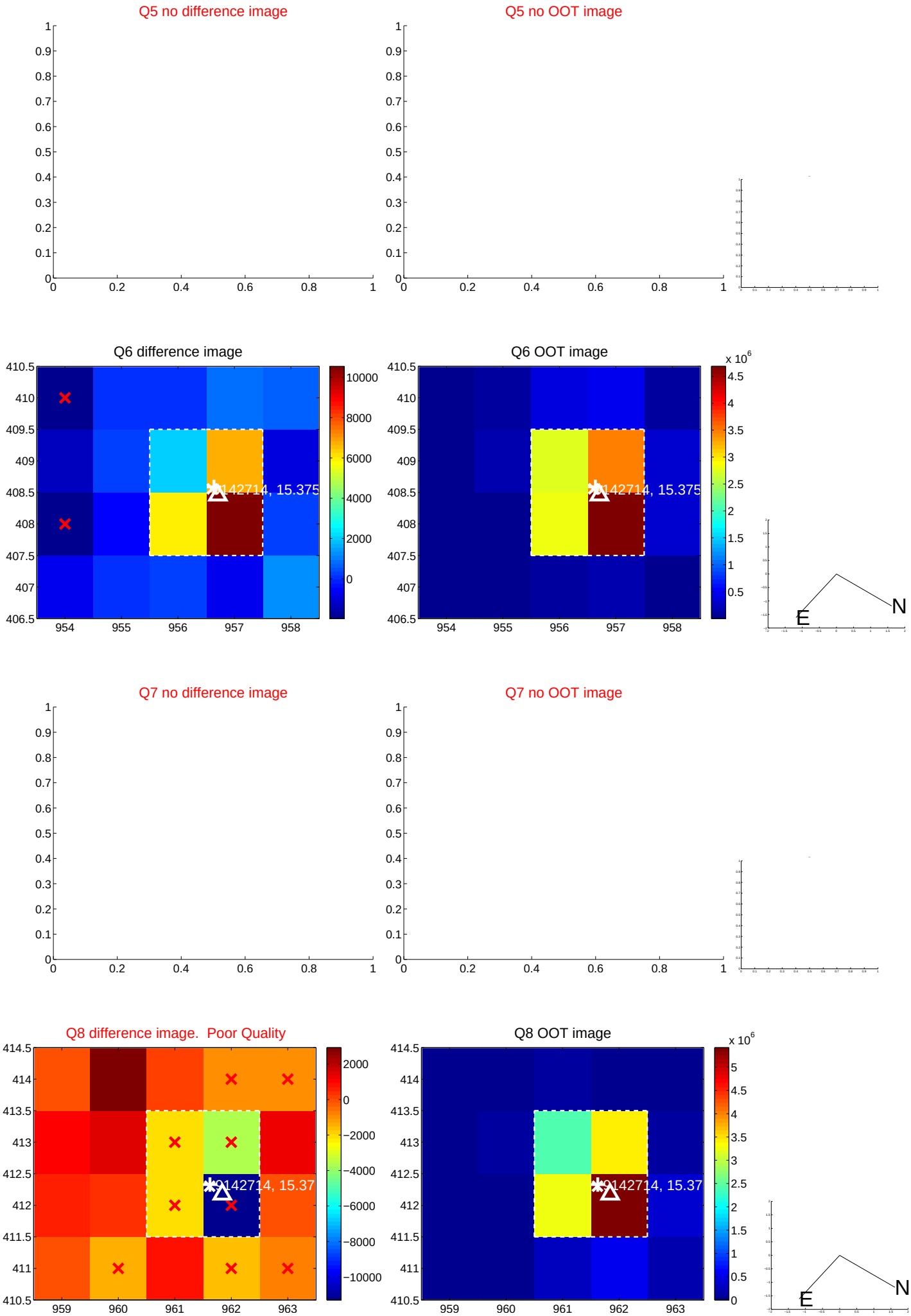


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

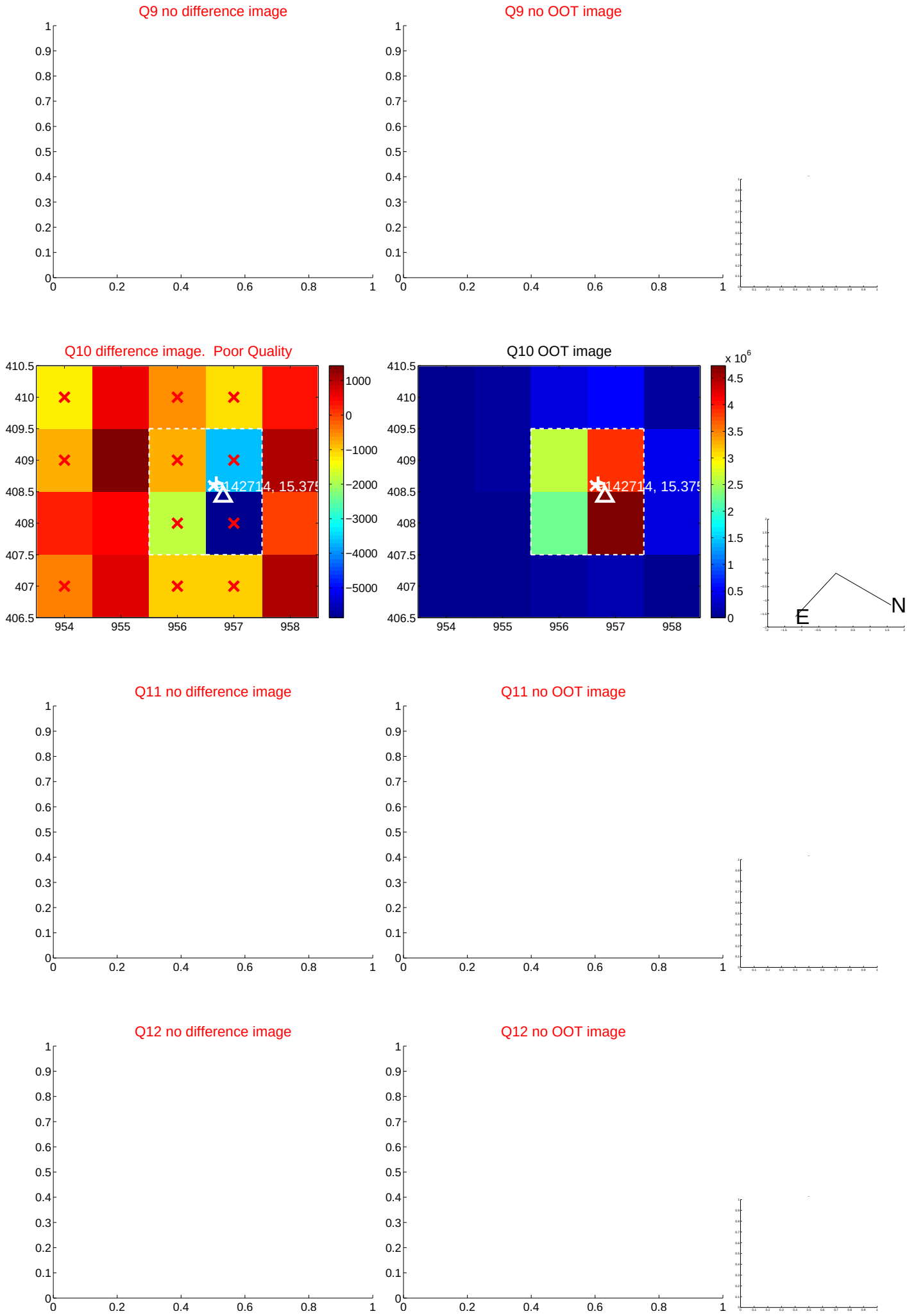
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



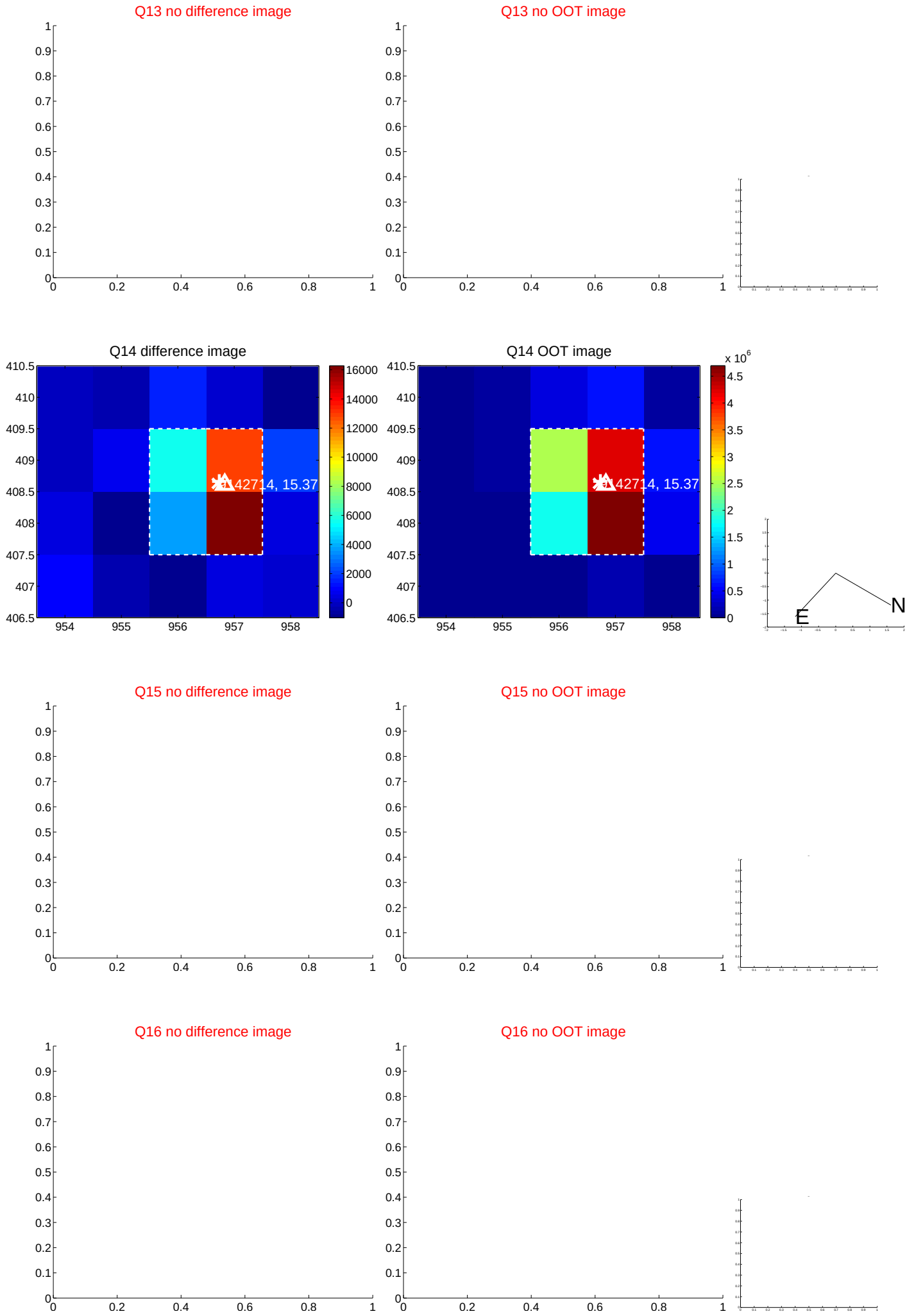
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



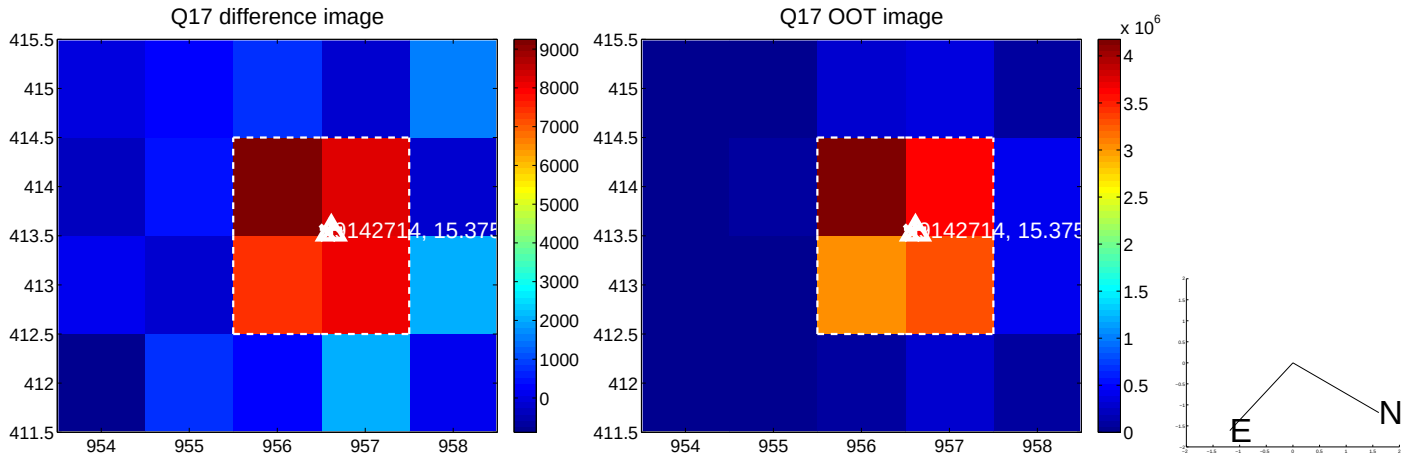
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

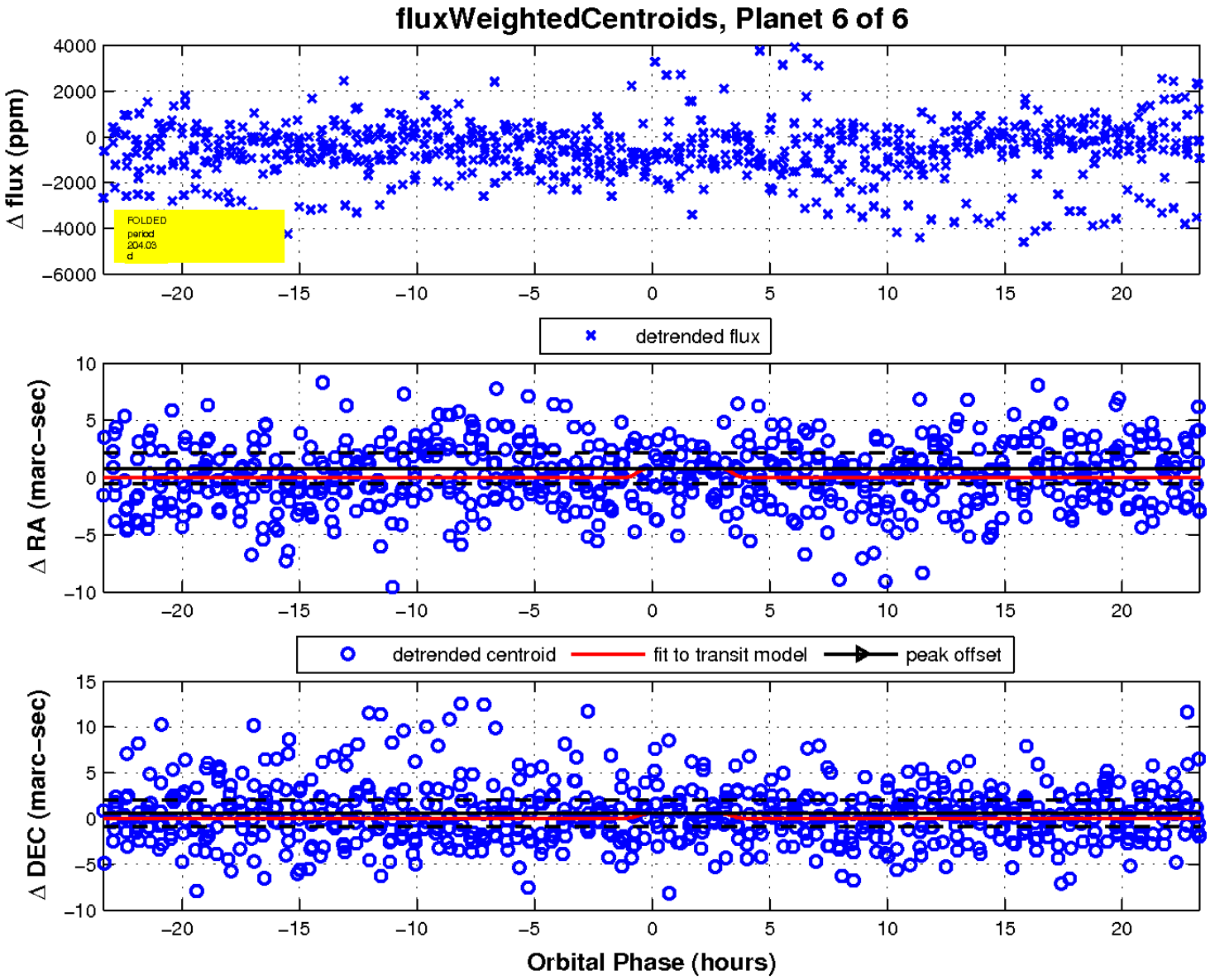


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

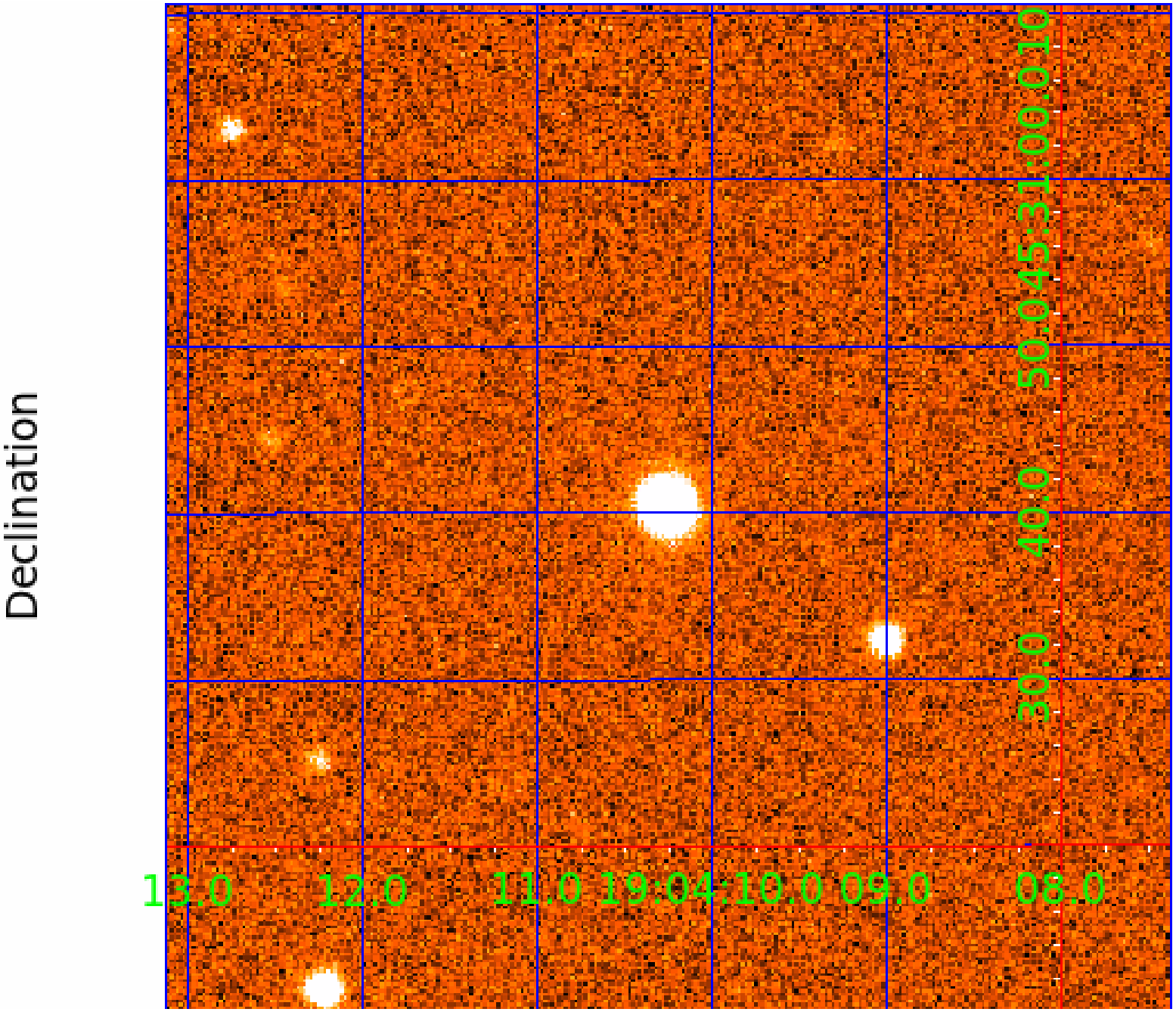


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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