KIC 006450934

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 ($S_\oplus$)
006450934-01	OBS	No	1.673031	133.058235	15.6	9.741	8.6	7.7	3.67	6754	1.68	22917.39
006450934-02	OBS	No	560.122385	433.162255	343.5	73.386	10.7	8.0	3.67	6754	8.66	9.86
006450934-03	OBS	No	68.232639	147.673666	158.9	5.895	9.5	7.3	3.67	6754	5.36	163.25
006450934-05	OBS	No	115.140159	170.976939	281.4	3.503	8.8	9.3	3.67	6754	6.90	81.26
006450934-06	OBS	No	66.664527	187.032969	240.6	3.555	8.7	9.2	3.67	6754	6.53	168.39
006450934-07	OBS	No	180.351292	298.067471	287.6	4.343	8.2	9.8	3.67	6754	7.16	44.67
006450934-08	OBS	No	50.053289	160.466595	281.2	2.001	8.2	9.1	3.67	6754	7.17	246.75
006450934-09	OBS	No	53.612809	177.650997	217.0	2.333	7.8	7.9	3.67	6754	6.30	225.15
006450934-10	OBS	No	75.681529	146.869509	174.7	3.821	8.0	7.9	3.67	6754	5.64	142.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006450934-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006450934-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006450934-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
006450934-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

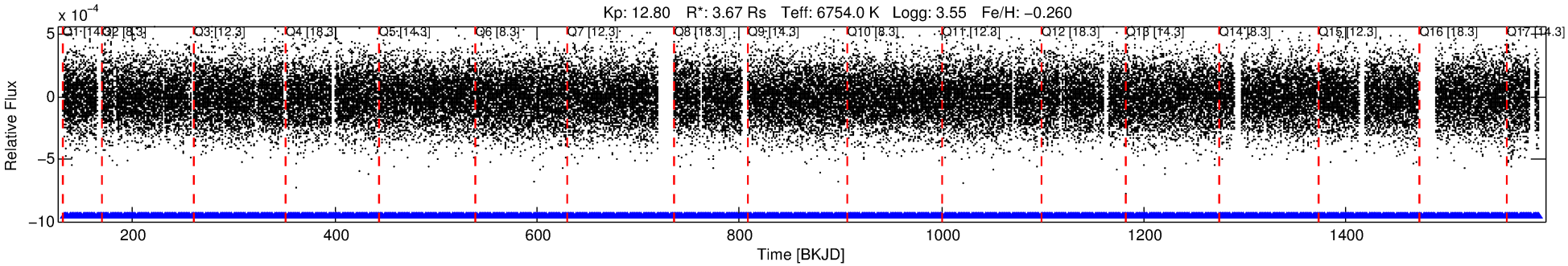
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

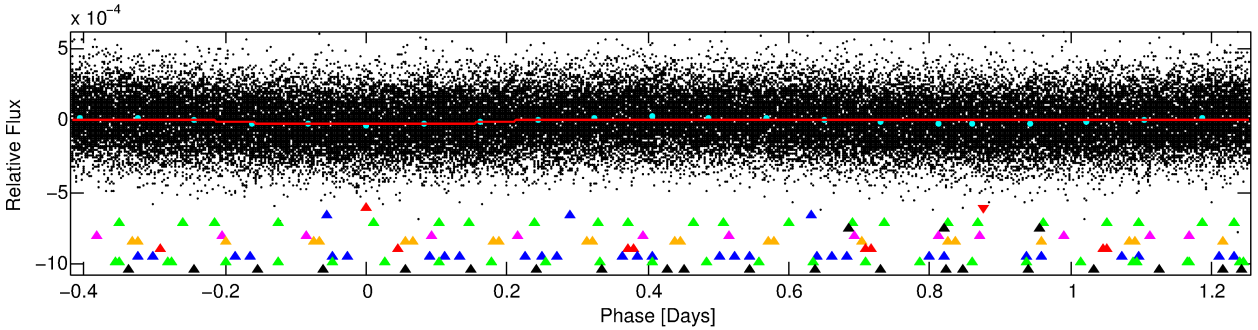
Ephemeris Match Information For 006450934-01

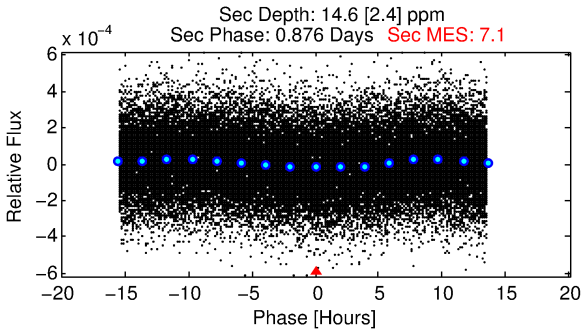
No Significant Match Found

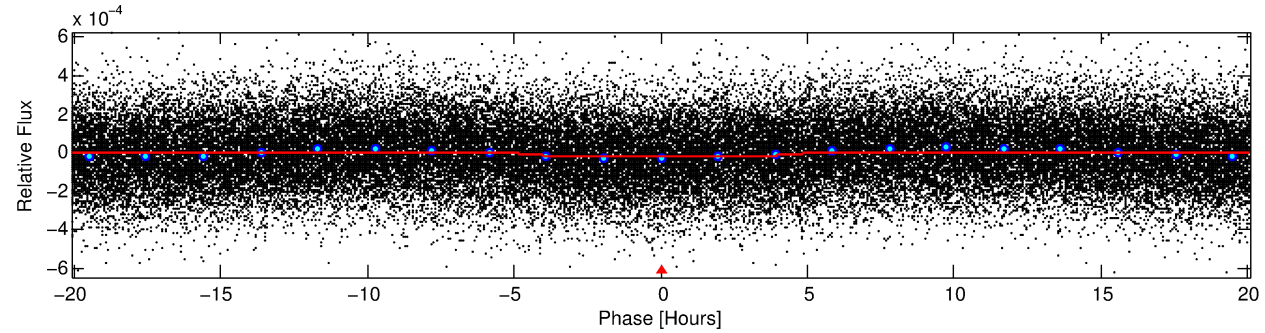
DV One-Page Summary

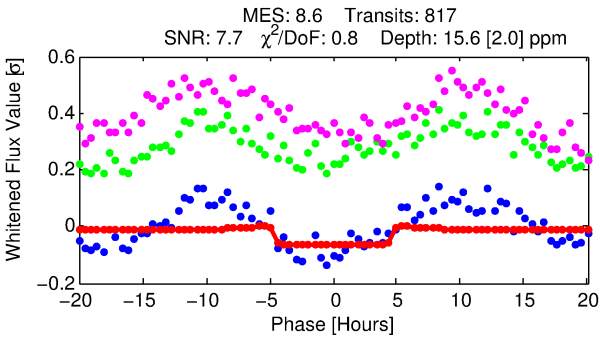
KIC: 6450934 Candidate: 1 of 10 Period: 1.673 d

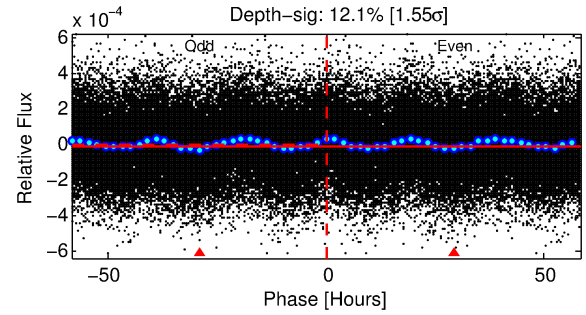


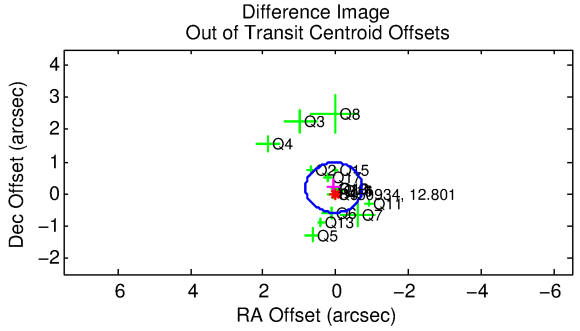












DV Fit Results:

Period = 1.67303 [0.00003] d
Epoch = 133.0582 [0.0082] BKJD
Rp/R* = 0.0042 [0.0015]
a/R* = 1.11 [0.46]
b = 0.89 [0.49]

Seff = 22917.39 [13495.48]
Teq = 3137 [462] K
Rp = 1.68 [0.87] Re
a = 0.0331 [0.0121] AU

Ag = 3.12 [2.86] [0.74σ]
Teffp = 6447 [1168] K [2.64σ]

DV Diagnostic Results:

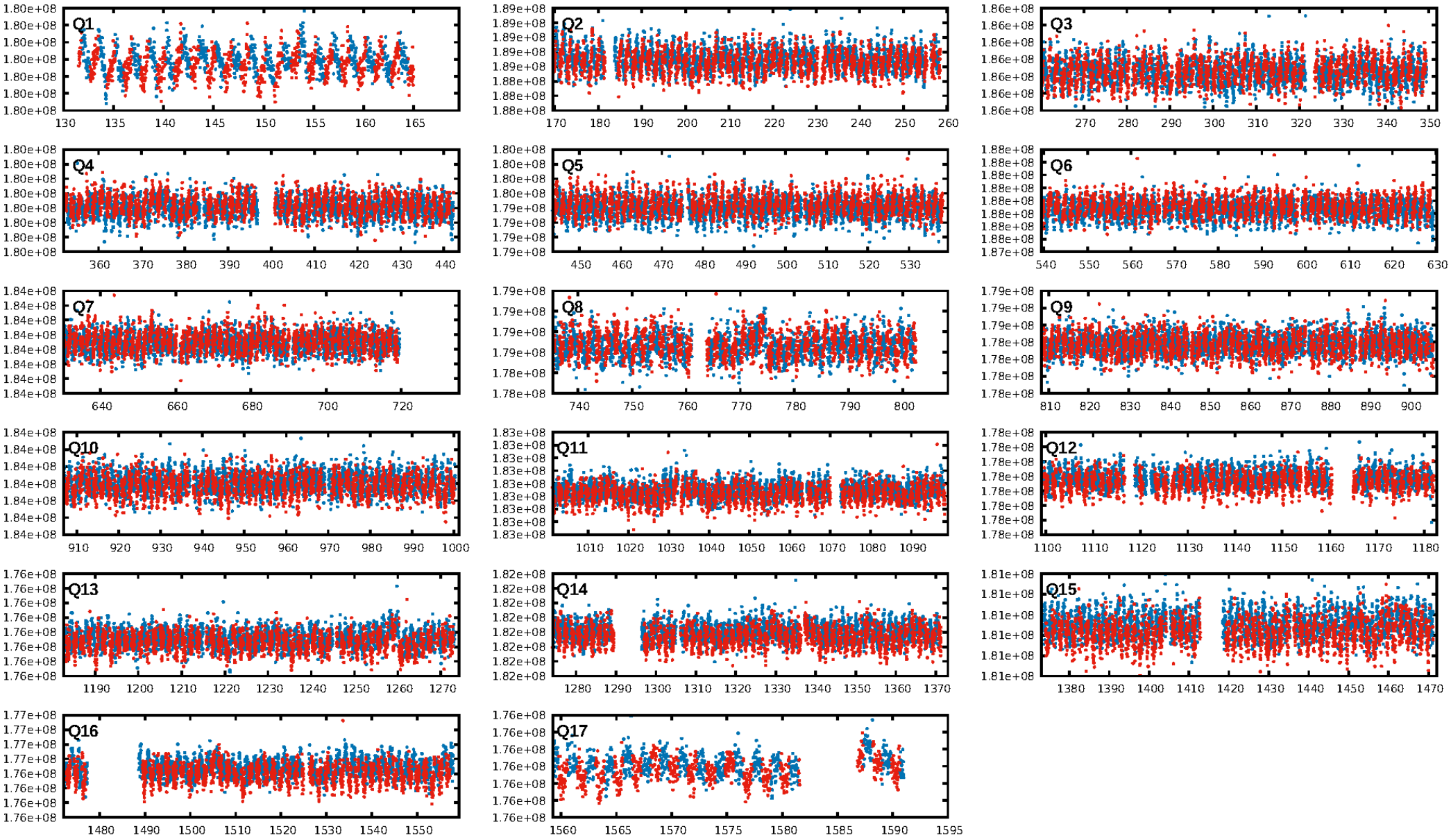
ShortPeriod−sig: N/A
LongPeriod−sig: 100.0% [116.76σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [780/780]
GhostDiagnostic−chr: 2.788

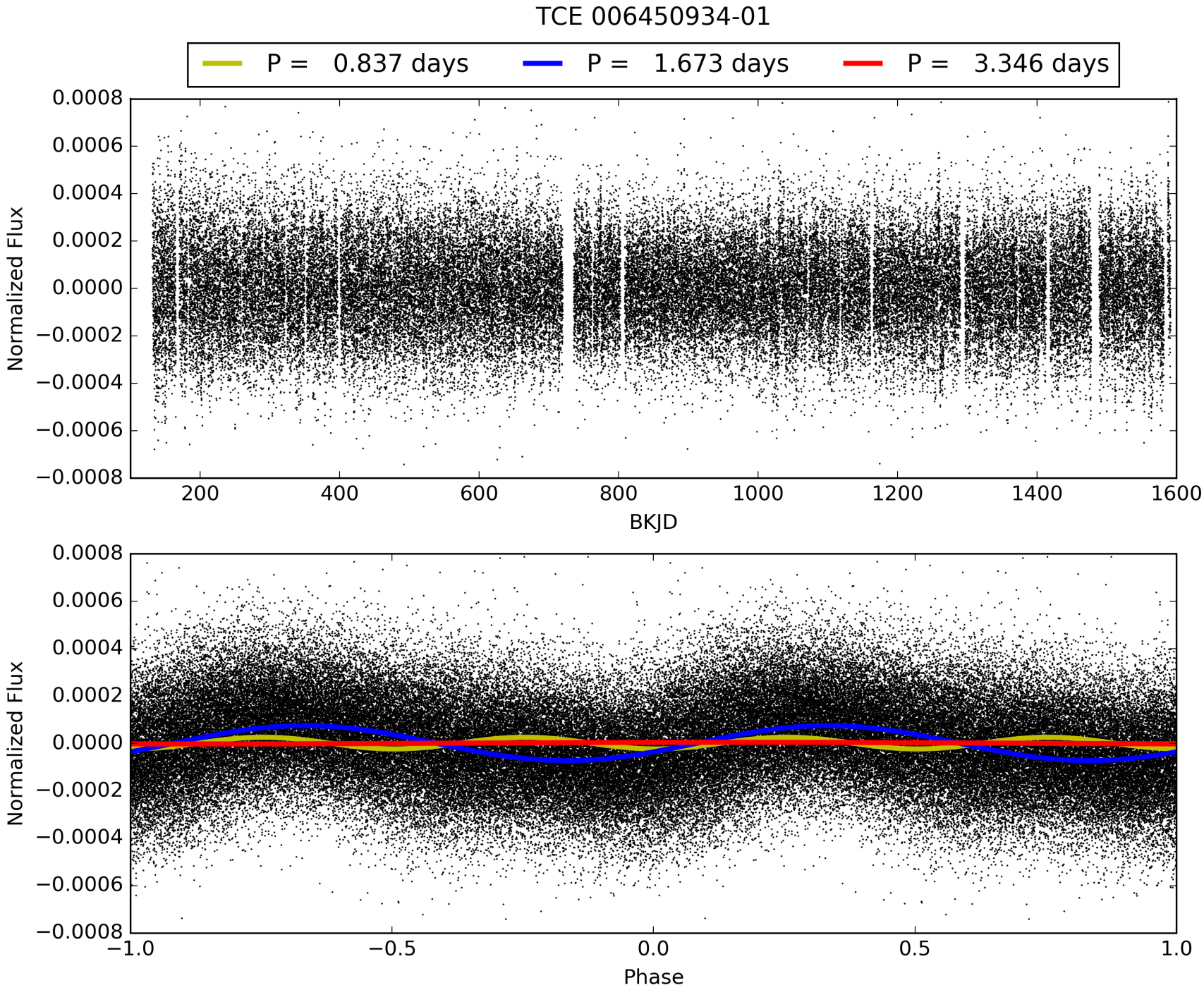
Centroid−sig: 0.5%
Centroid−so: 1.275 arcsec [1.66σ]
OotOffset−rm: 0.194 arcsec [0.75σ]
KicOffset−rm: 0.160 arcsec [0.58σ]
OotOffset−st: 4/4/4/4 [16]
KicOffset−st: 4/4/4/4 [16]
DiffImageQuality−fgm: 0.81 [13/16]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 03−Feb−2016 05:26:48 Z

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

TCE 006450934-01, PDC Light Curves

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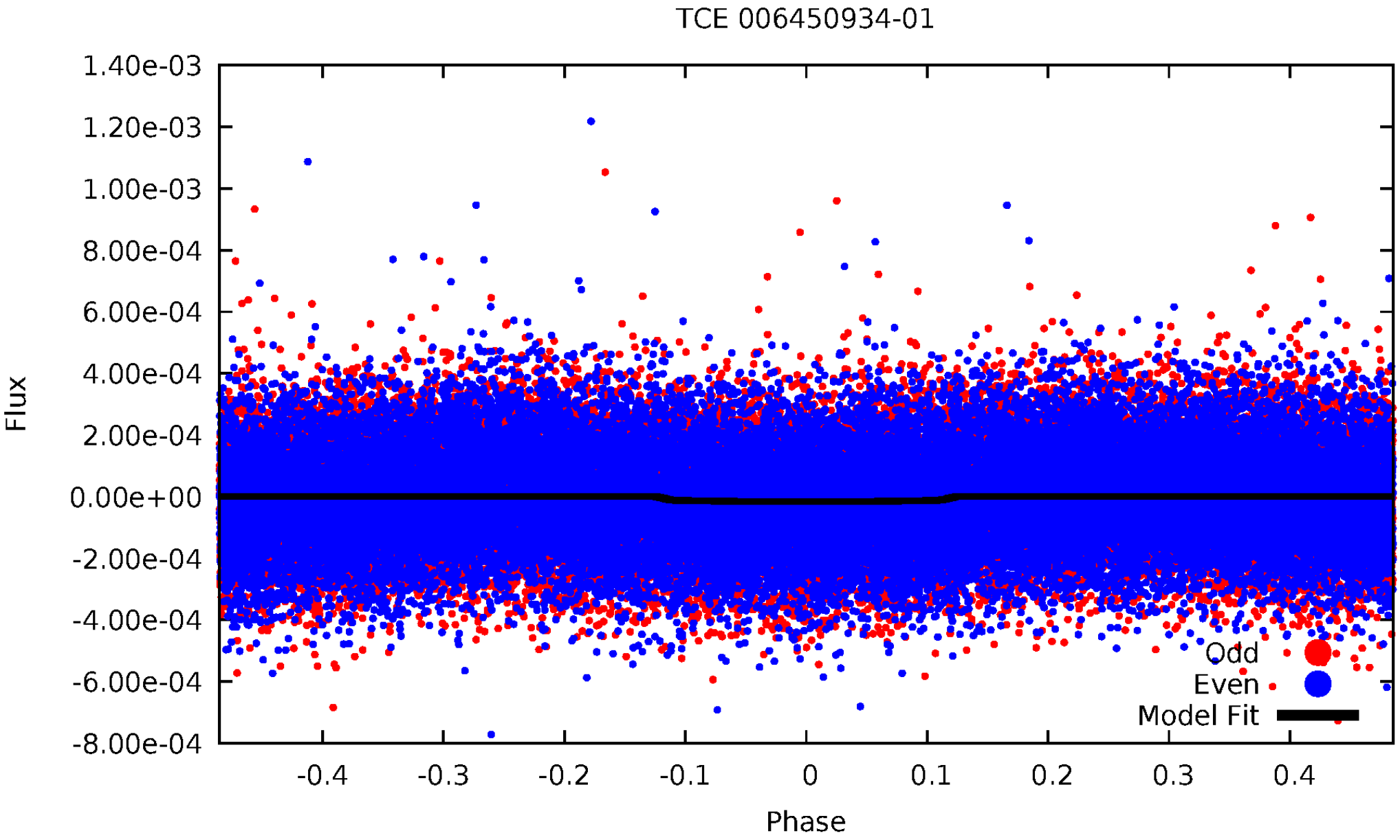
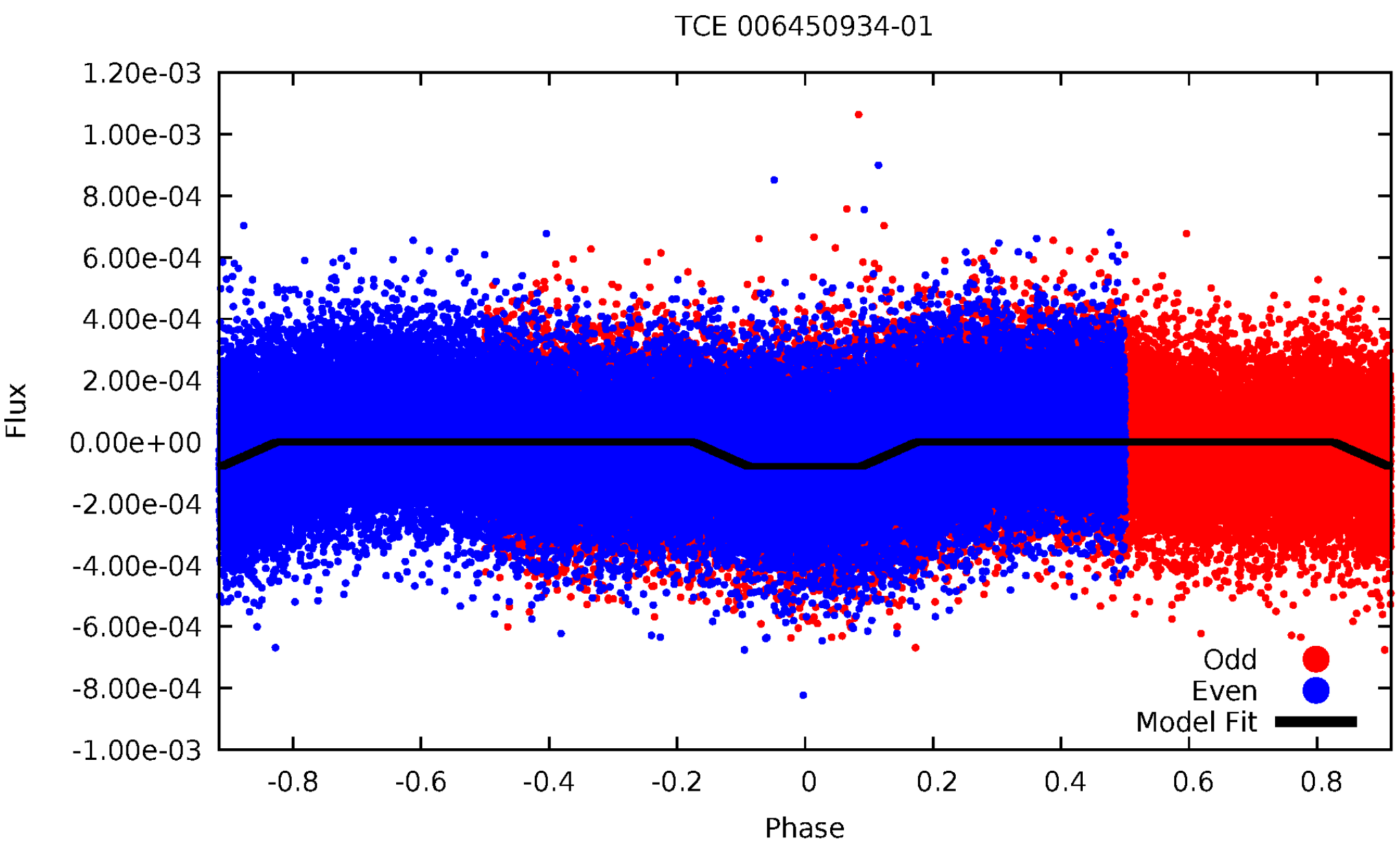
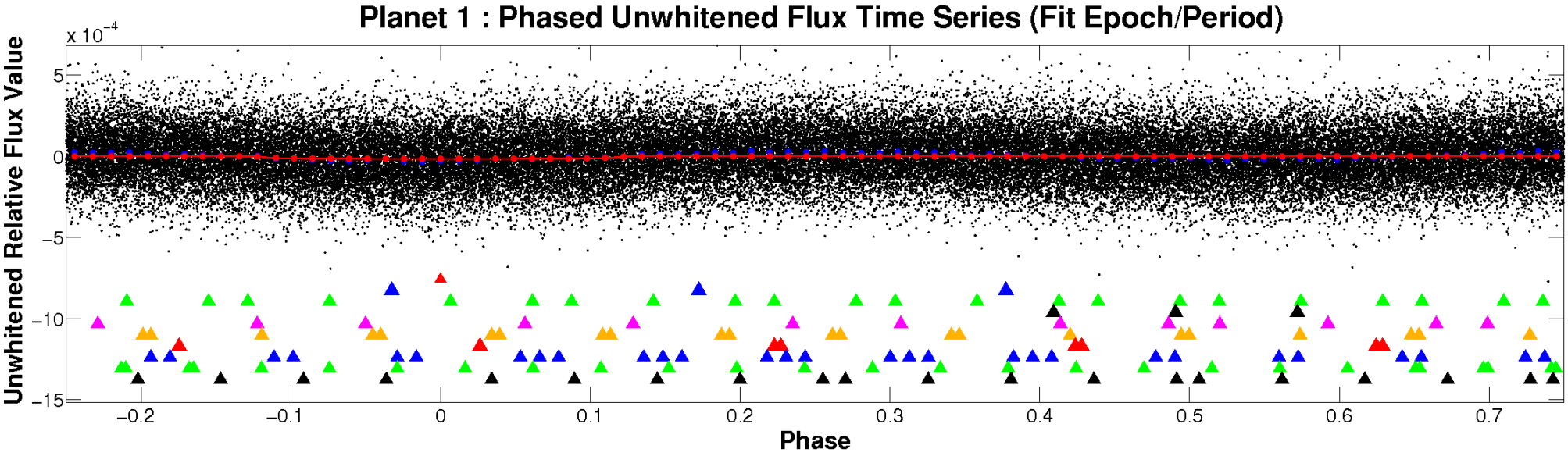
P = 0.837 days
P = 1.673 days
P = 3.346 days
Normalized Flux
BKJD
Phase
0.0008
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
−0.0008
200
400
600
800
1000
1200
1400
1600
−1.0
−0.5
0.0
0.5
1.0

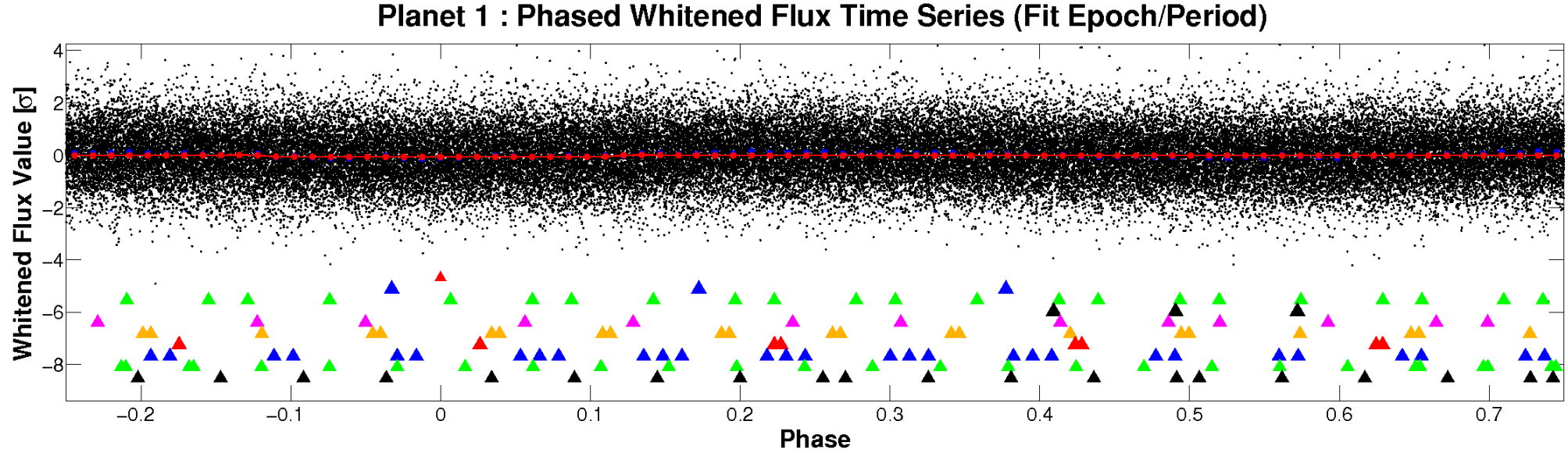
DV Odd/Even


TCE 006450934-01
Flux
1.40e-03
1.20e-03
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
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 006450934-01
1.20e-03
1.00e-03
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
0.8
Phase
Odd
Even
Model Fit

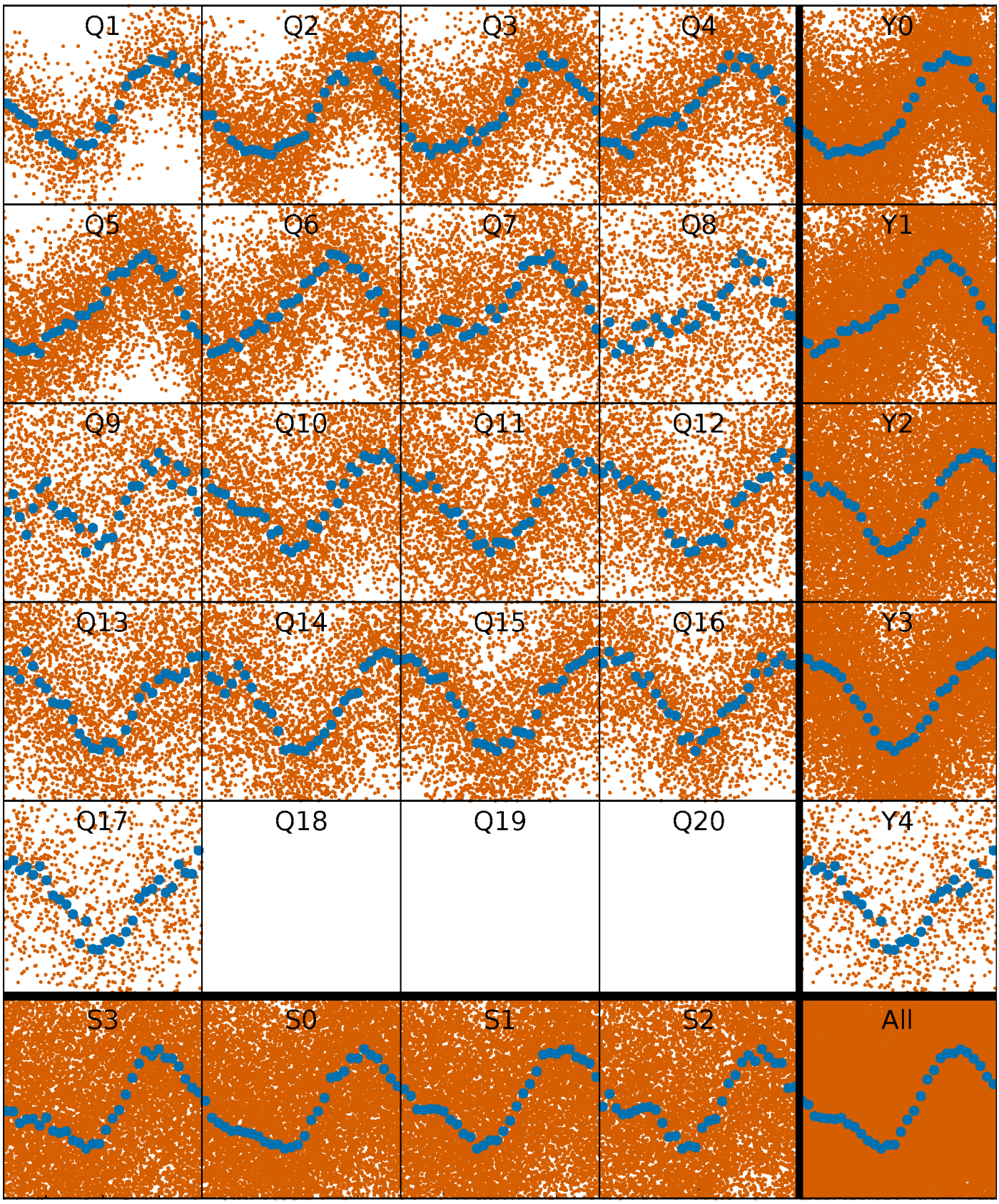
Non-Whitened Vs. Whitened Light Curve





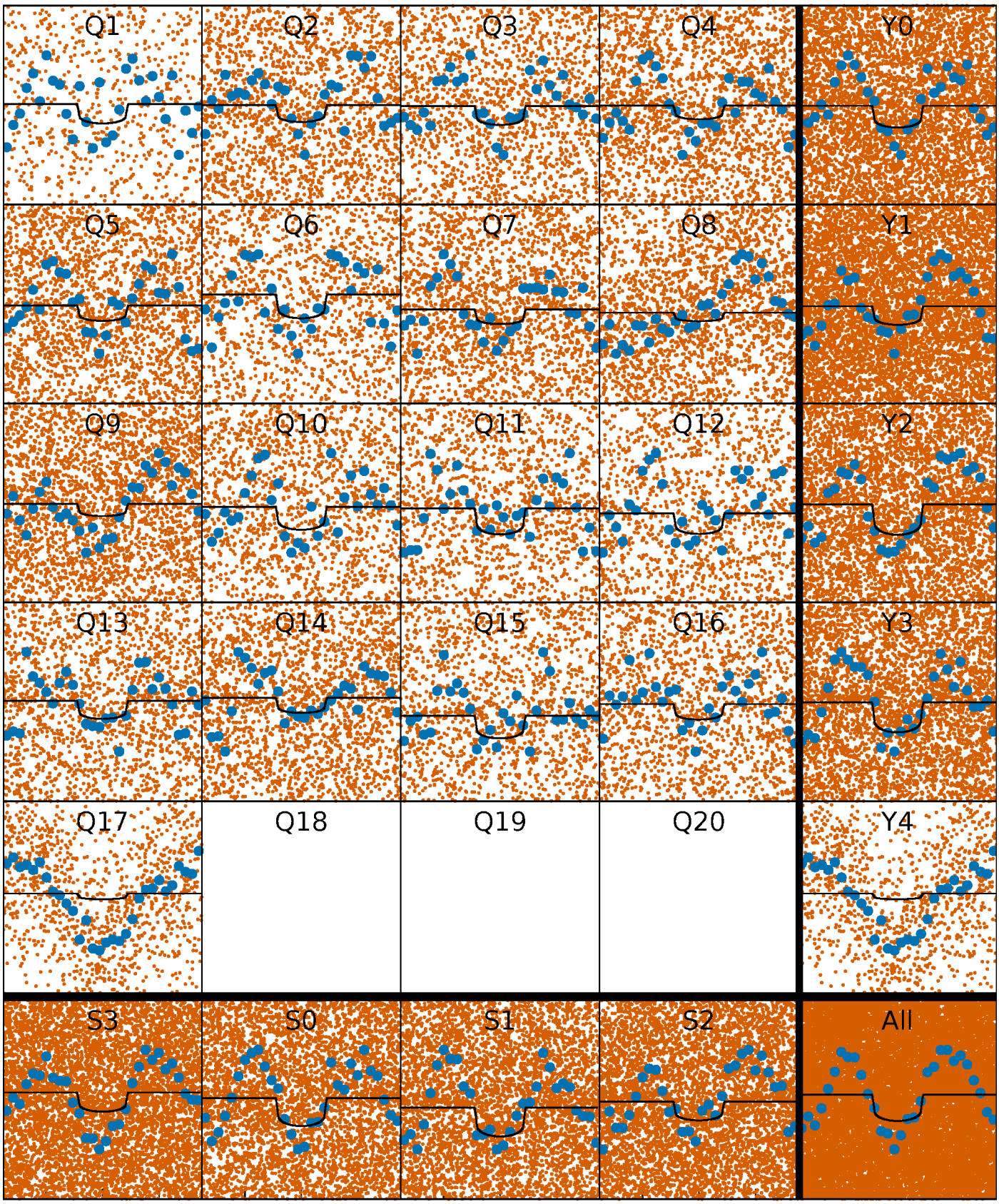
PDC Quarter-Phased Transit Curves

TCE 006450934-01 P= 1.673031 Days T_0=133.058235 (BKJD)



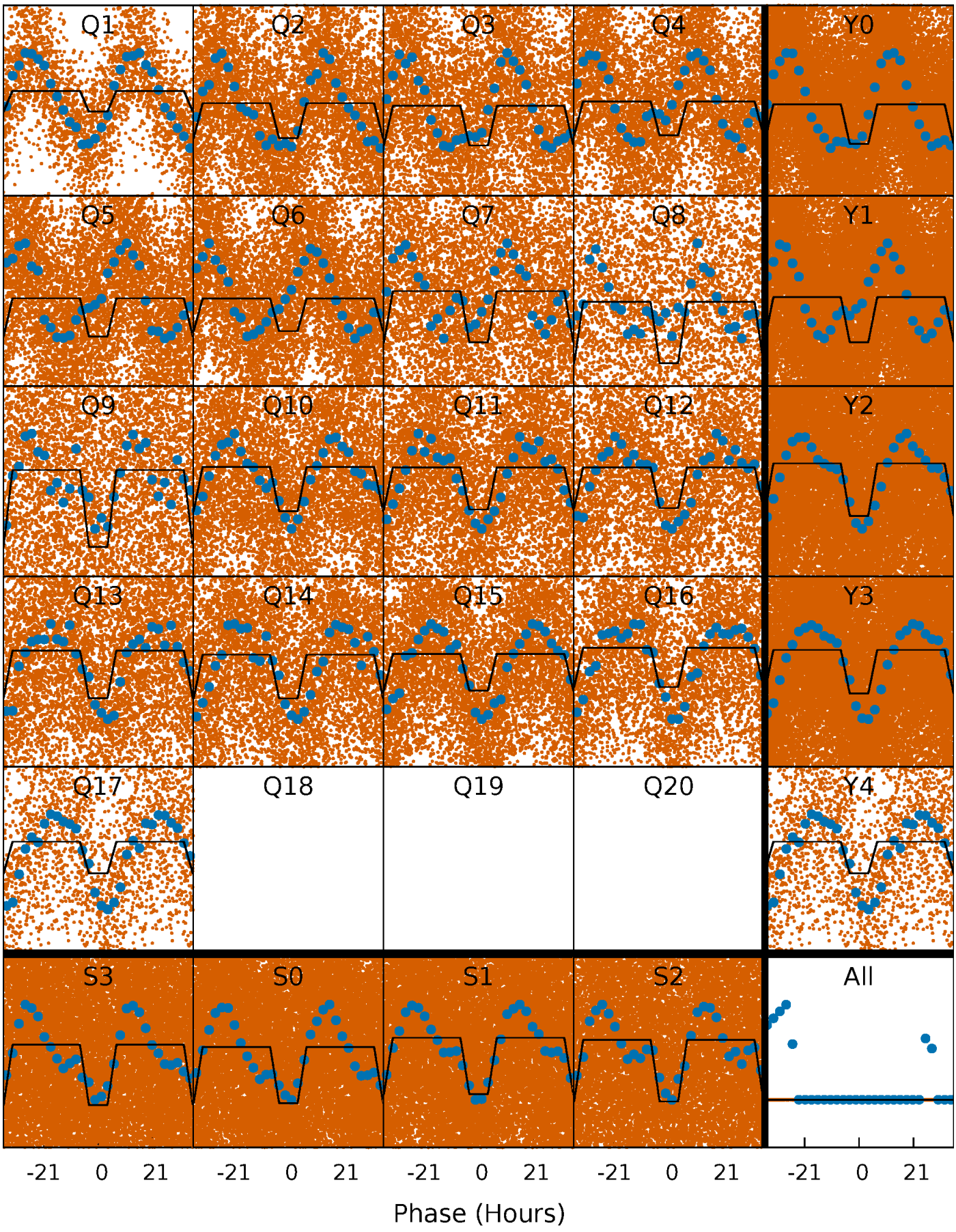
DV Quarter-Phased Transit Curves

TCE 006450934-01 P= 1.673031 Days T_0=133.058235 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

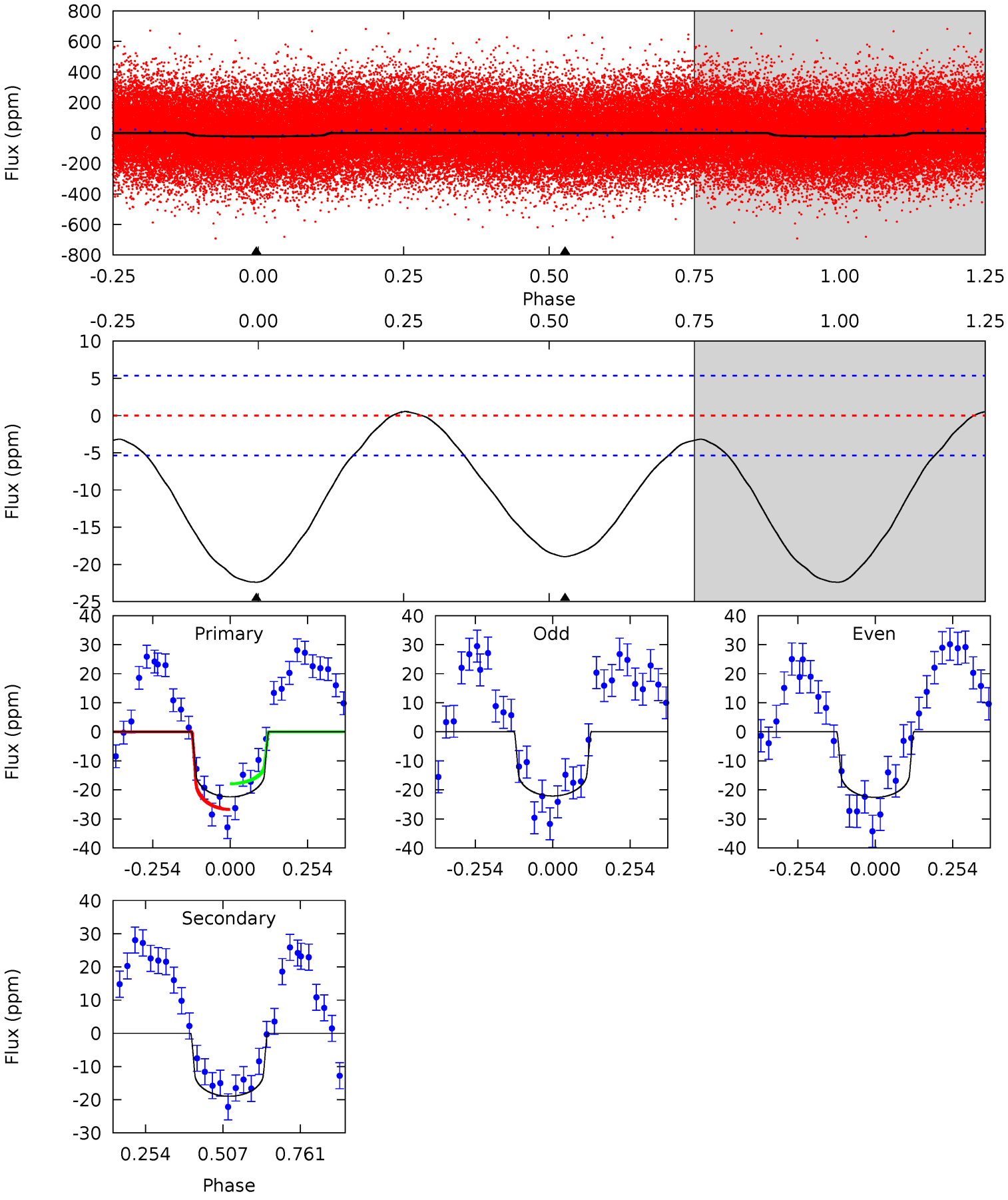
TCE 006450934-01 P= 1.672958 Days T_0=132.979068 (BKJD)



DV Model-Shift Uniqueness Test

006450934-01, P = 1.673031 Days, E = 131.385204 Days

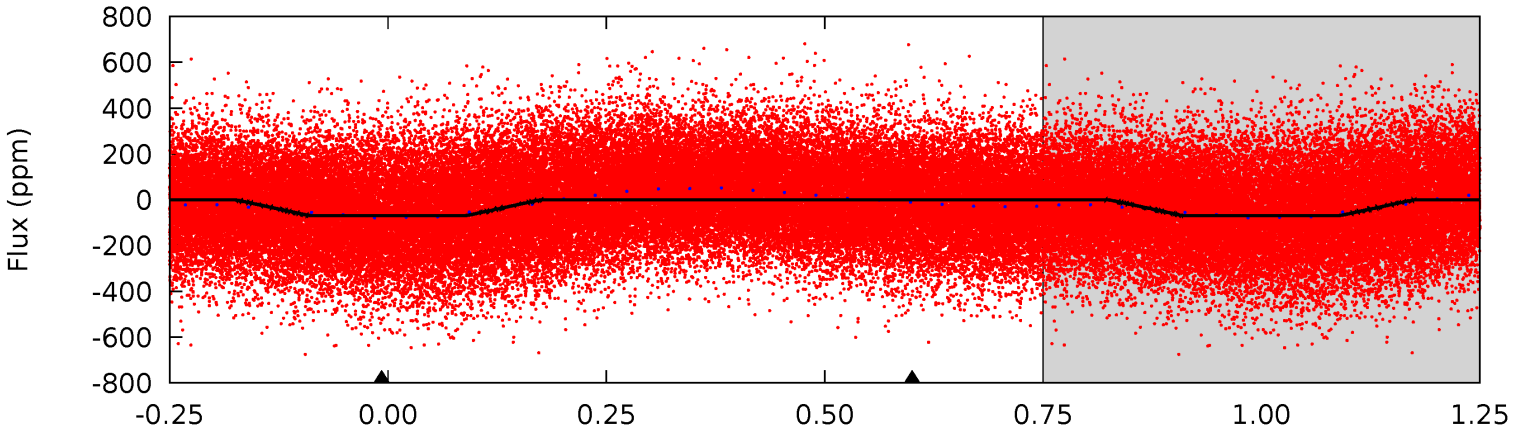
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	15.4	0	0	4.37	1.14	1.11	18.2	18.2	15.4	15.4	0.19	1.18	0.02	3.57

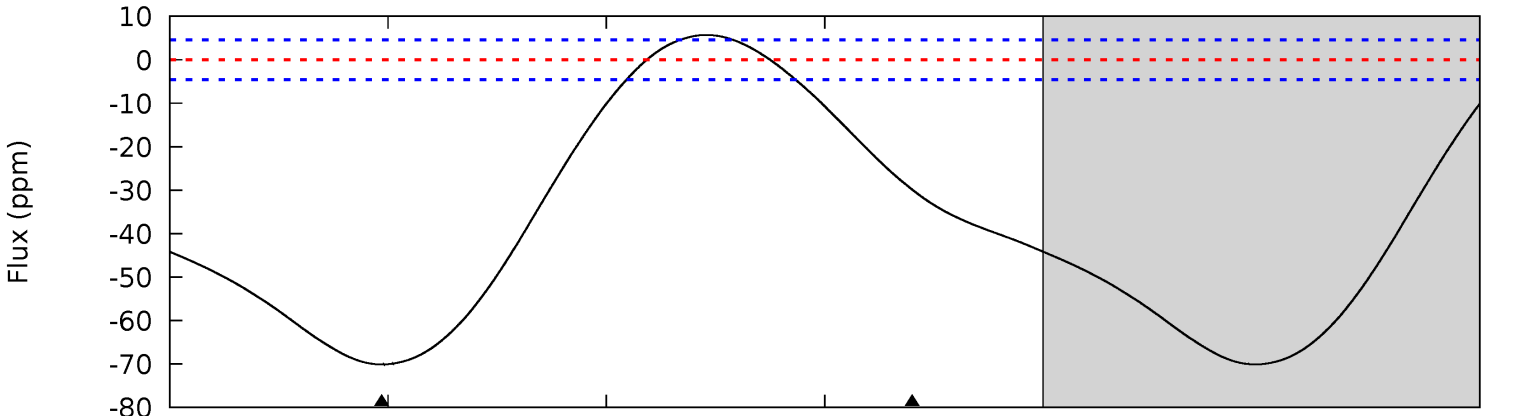


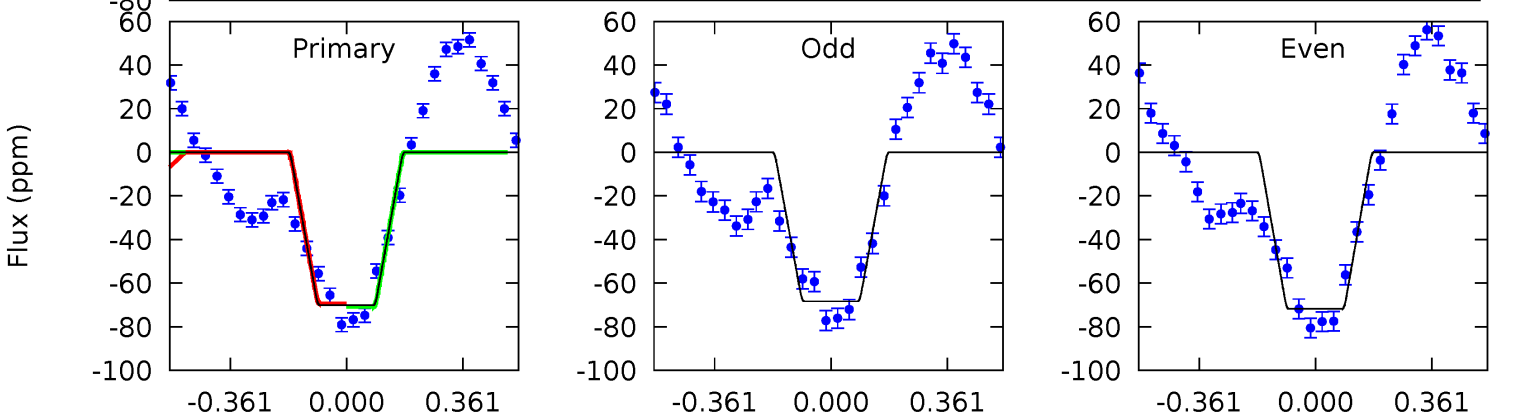
Alt Model-Shift Uniqueness Test

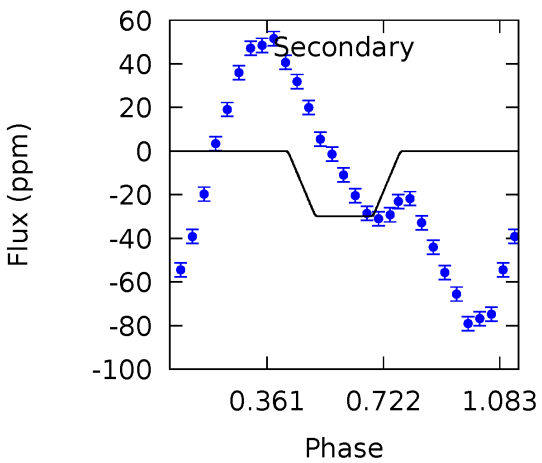
006450934-01, P = 1.672958 Days, E = 131.306110 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
65.5	27.9	0	0	4.29	0.91	4.62	65.5	65.5	27.9	27.9	1.63	0.98	0.08	0.67









Stellar Parameters For KIC 006450934

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6754^{+183}_{-203}	$3.546^{+0.336}_{-0.084}$	$-0.260^{+0.300}_{-0.250}$	$3.669^{+0.354}_{-1.417}$	$1.723^{+0.198}_{-0.368}$	$0.049^{+0.129}_{-0.013}$
	+3%/-3%	+9%/-2%	+115%/-96%	+10%/-39%	+11%/-21%	+263%/-26%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006450934-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-19±1	$1.55^{+0.66}_{-0.61}$	4304^{+228}_{-415}	6752^{+2297}_{-1034}	$4.778^{+7.640}_{-2.377}$
Alt.	-30±1	$3.35^{+0.76}_{-0.78}$	4297^{+244}_{-397}	5090^{+476}_{-433}	$1.619^{+0.993}_{-0.539}$

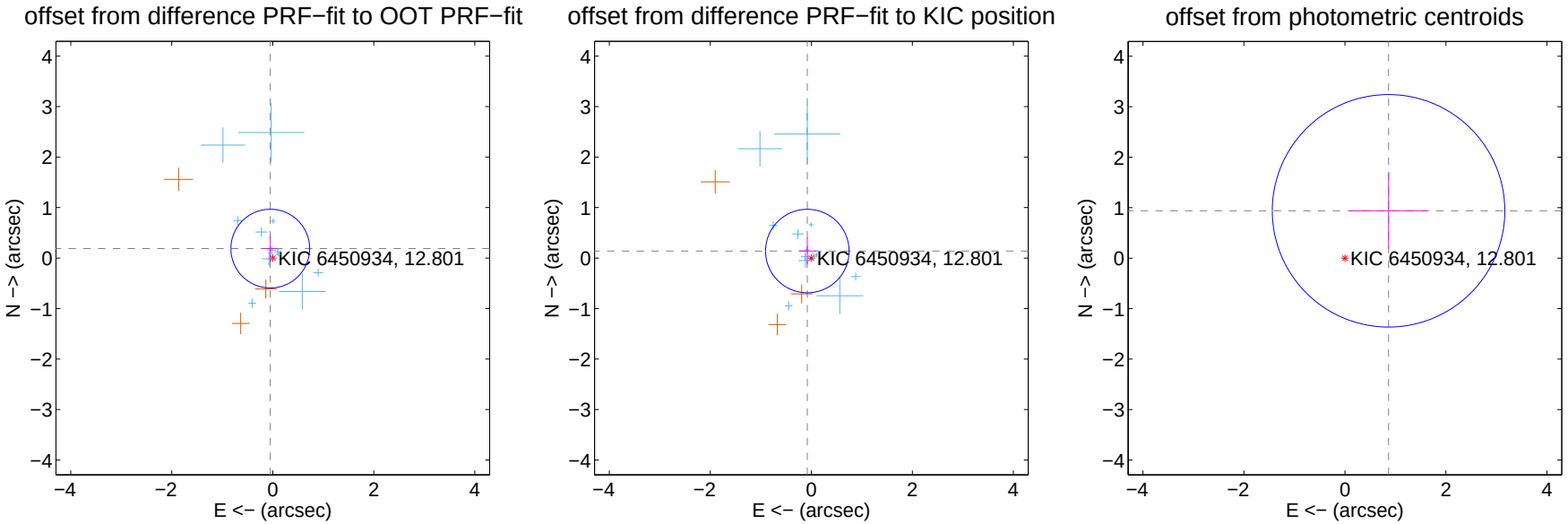
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

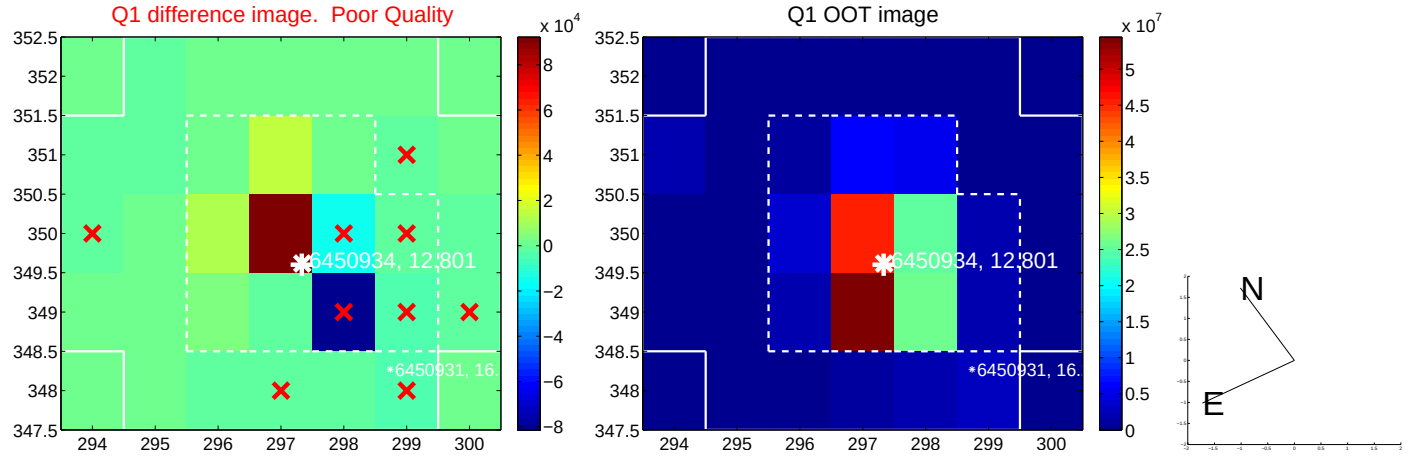
Supplemental centroid analysis for 006450934-01. Kepler magnitude: 12.80. Transit SNR 7.69
There are 13 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

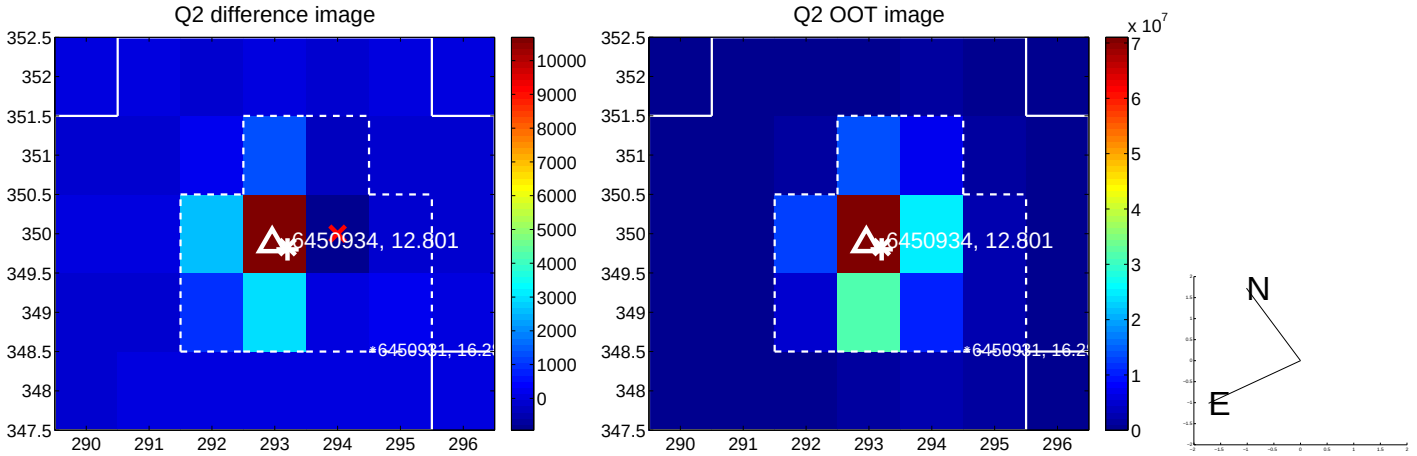
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.194 ± 0.260	0.75	0.049 ± 0.155	0.187 ± 0.253
PRF-fit source offset from KIC position	0.160 ± 0.276	0.58	0.080 ± 0.169	0.139 ± 0.264
photometric centroid source offset	1.28 ± 0.77	1.66	-0.86 ± 0.78	0.94 ± 0.76

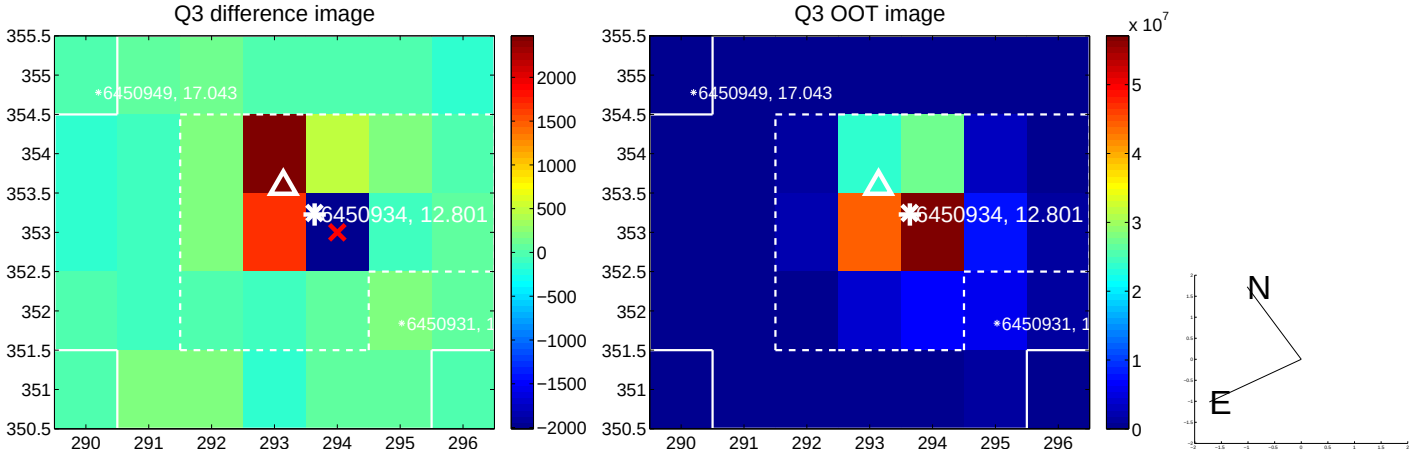


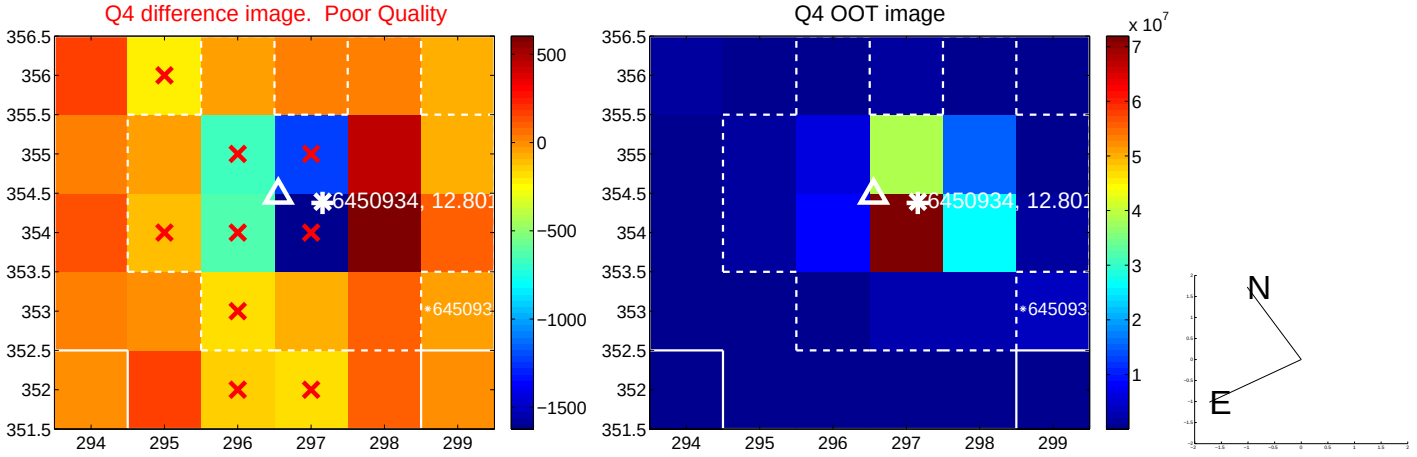
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

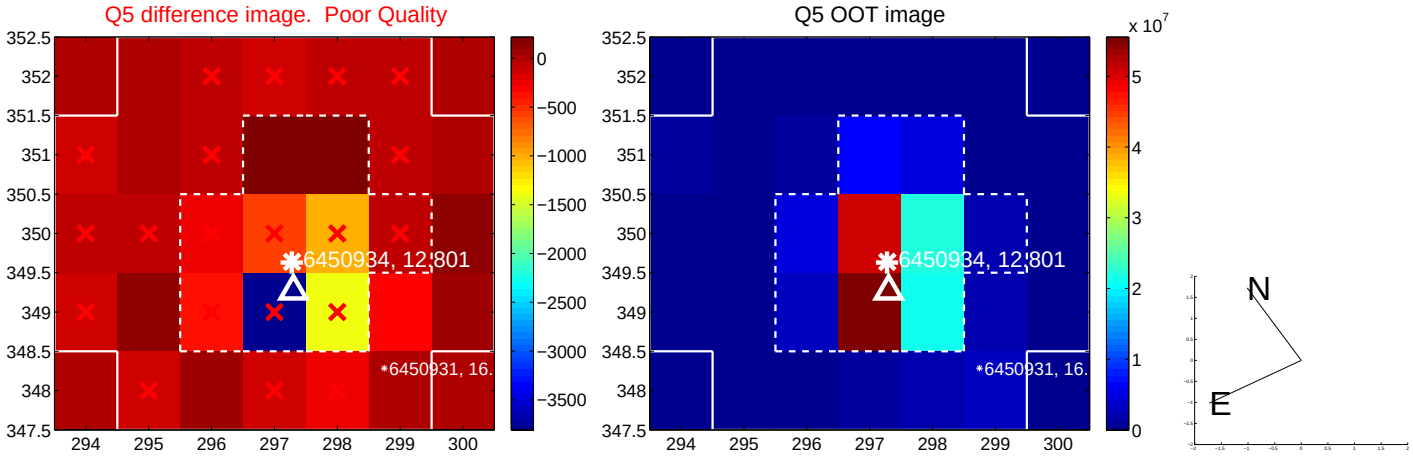


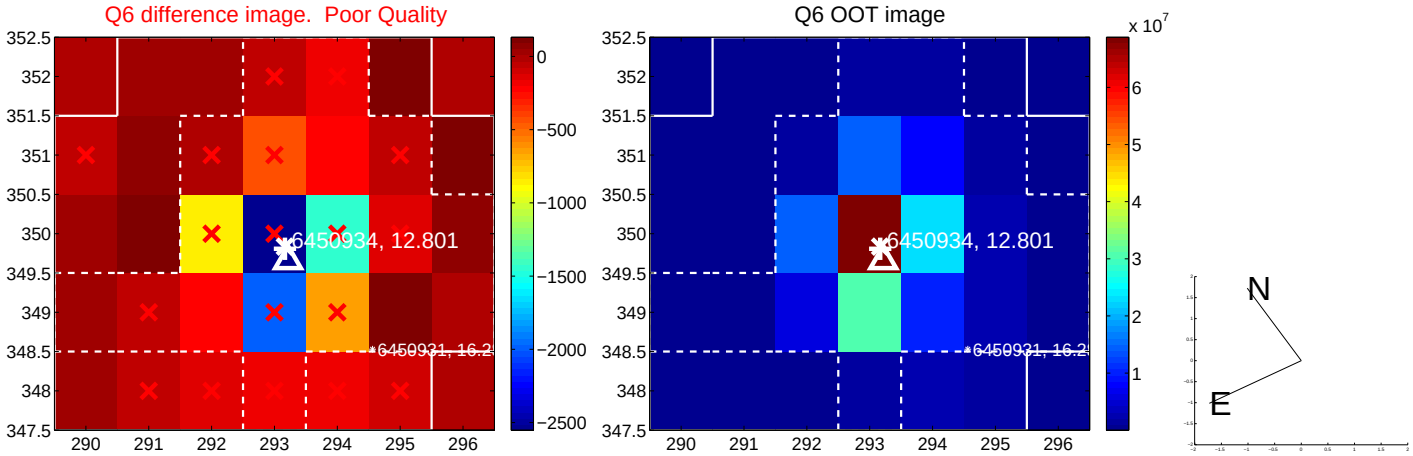


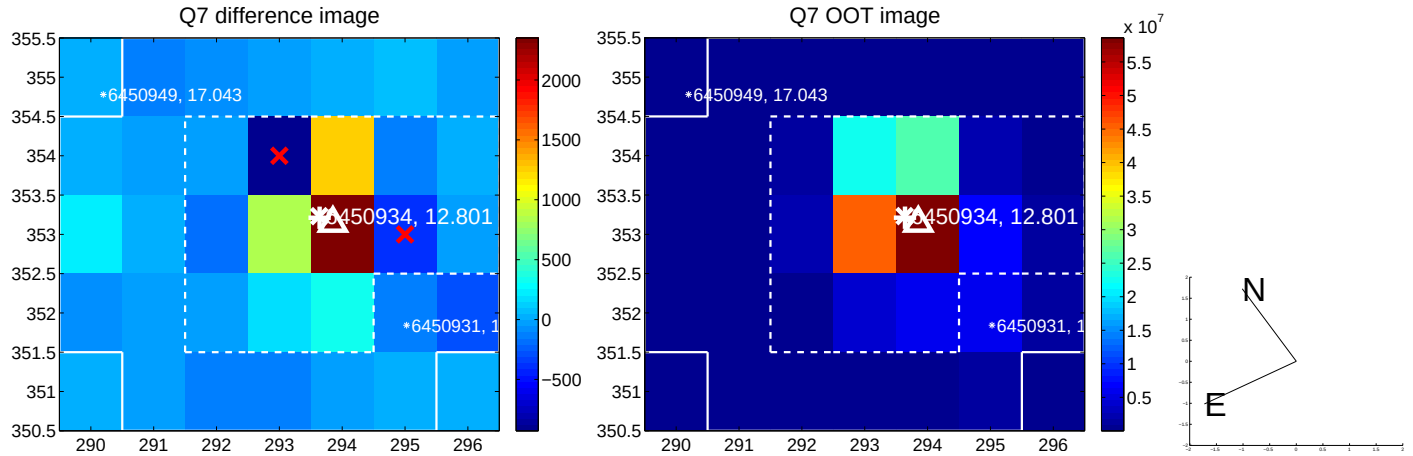


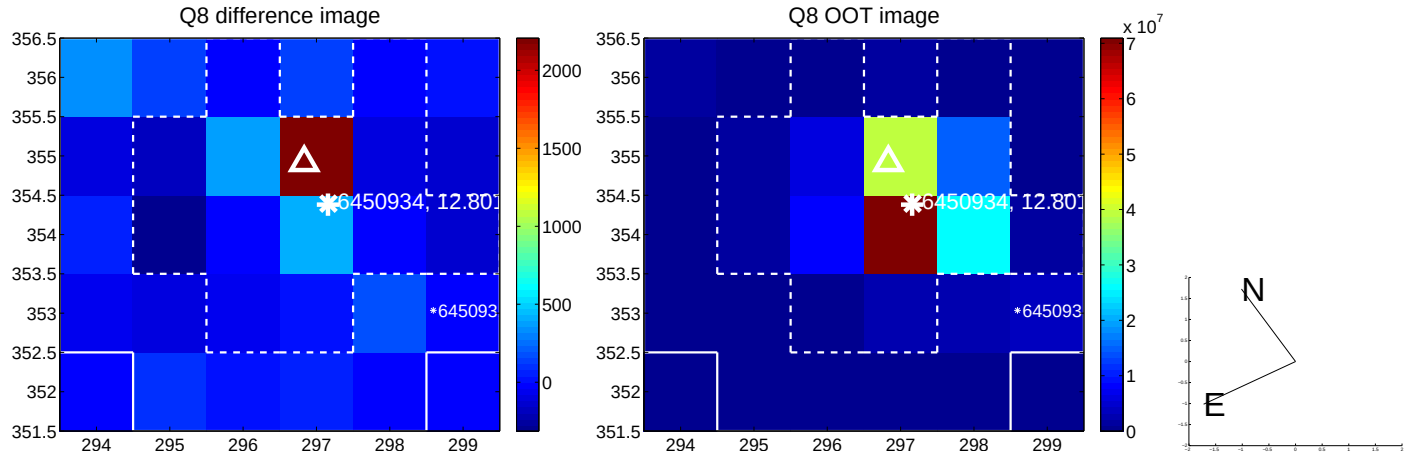


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

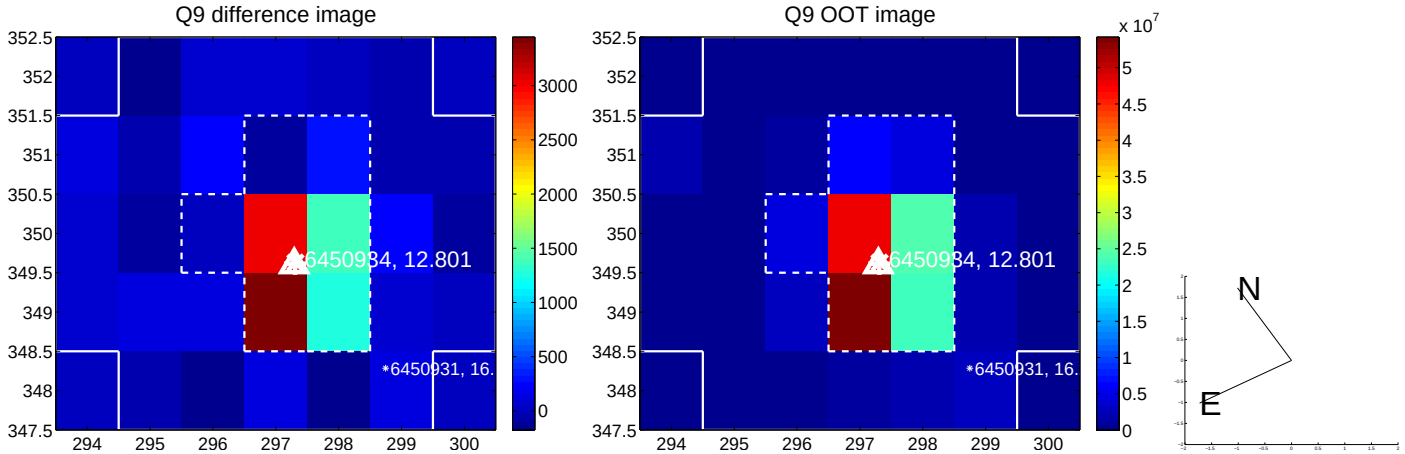


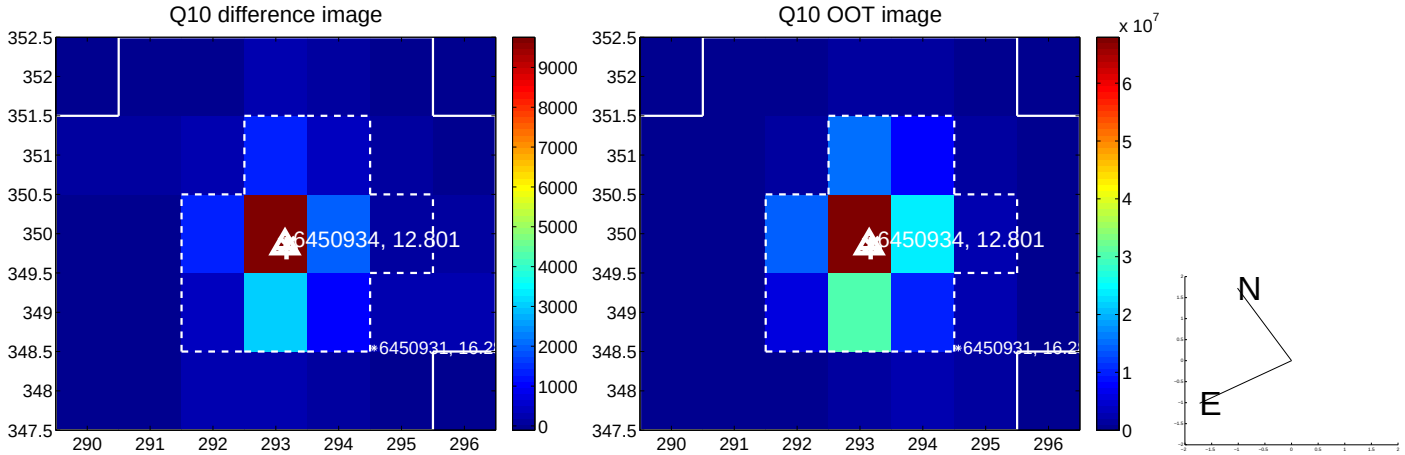


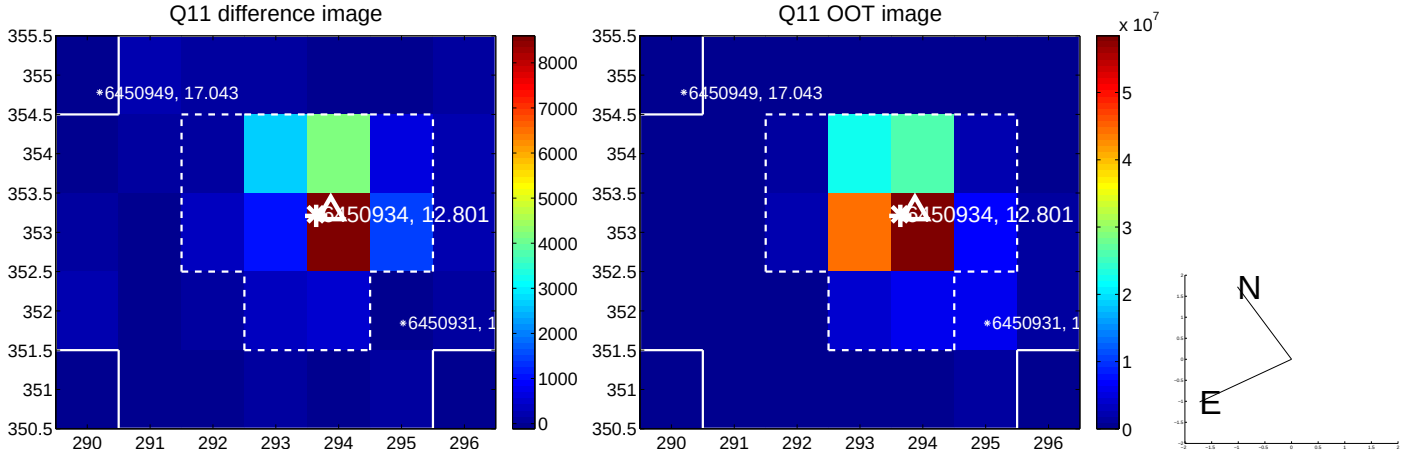


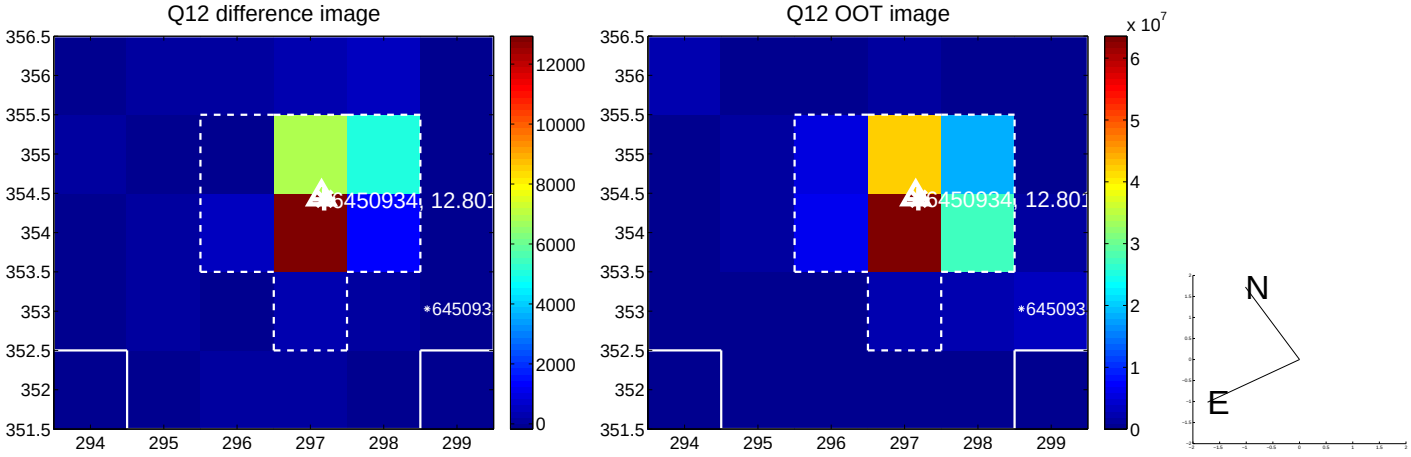


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

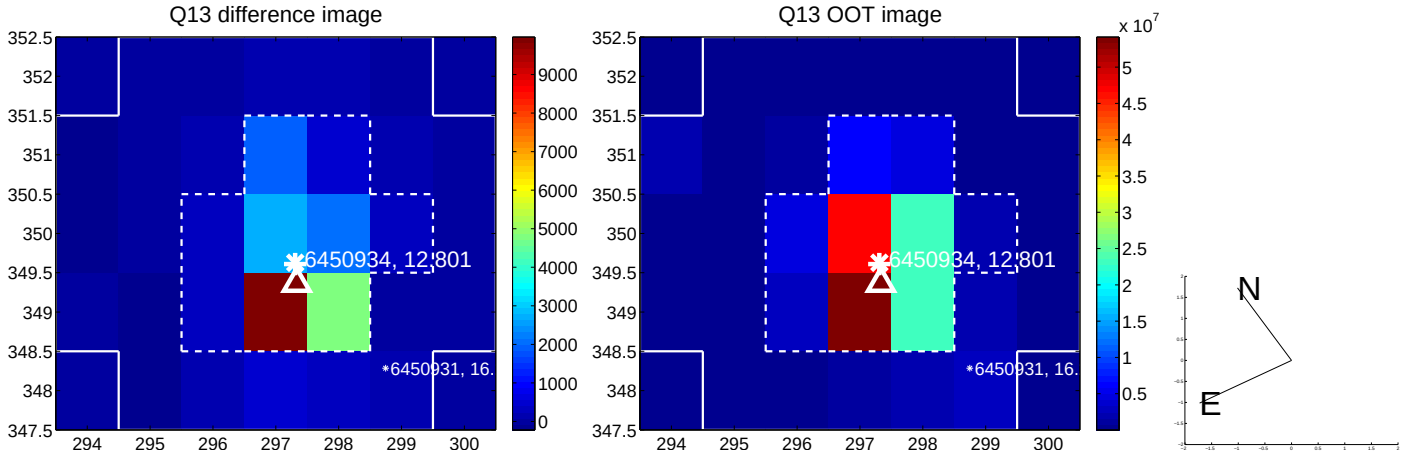


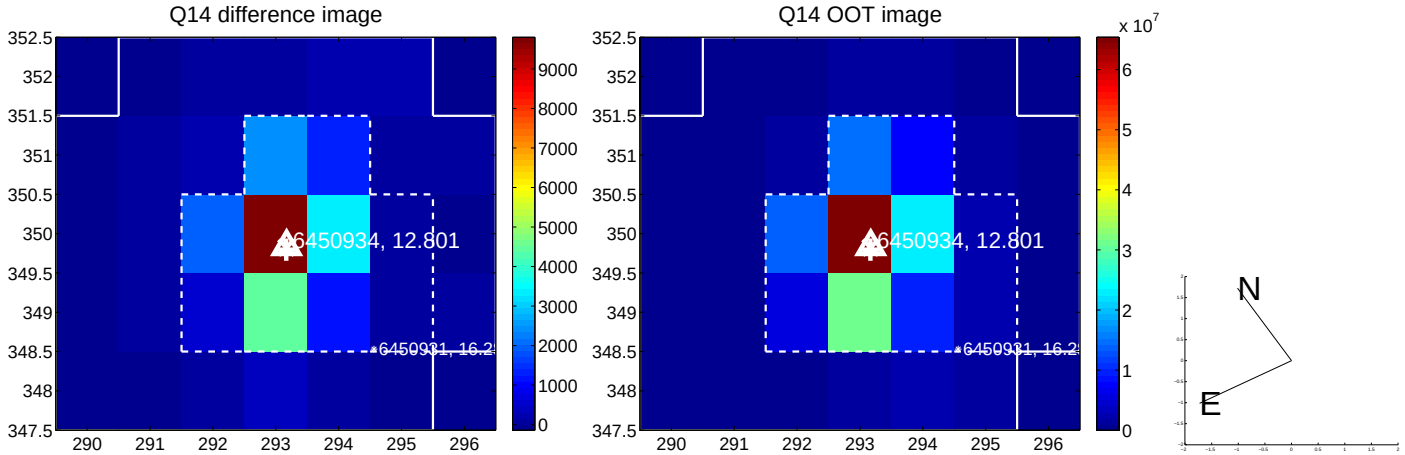


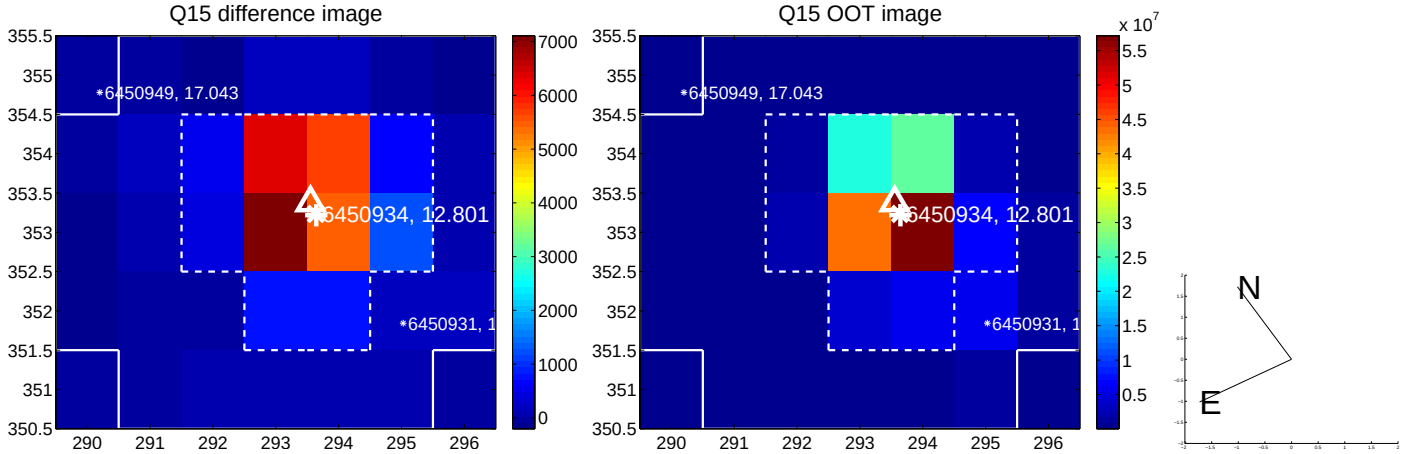


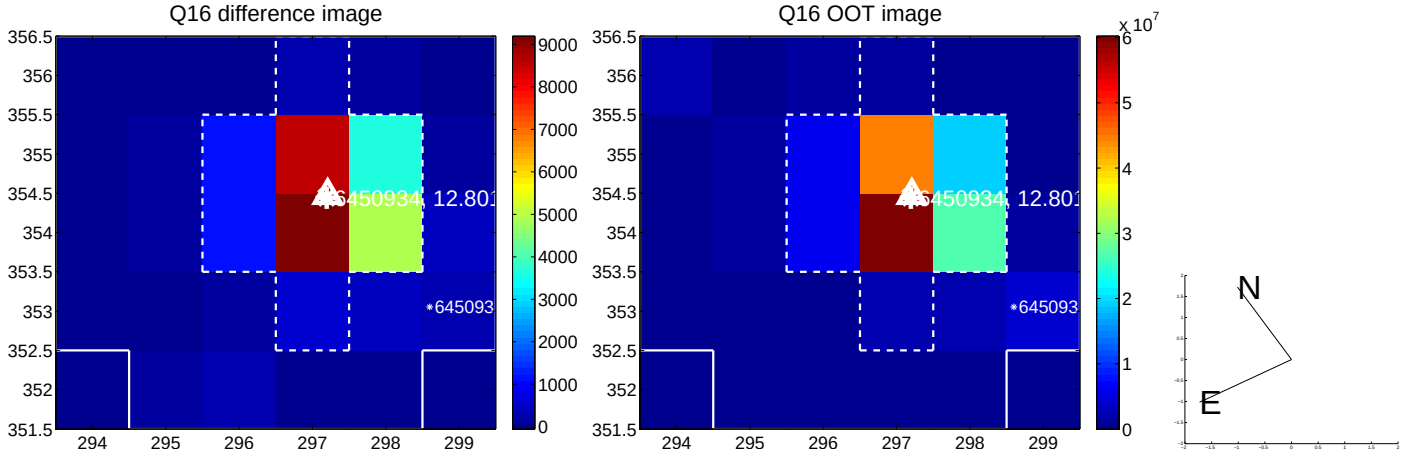


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

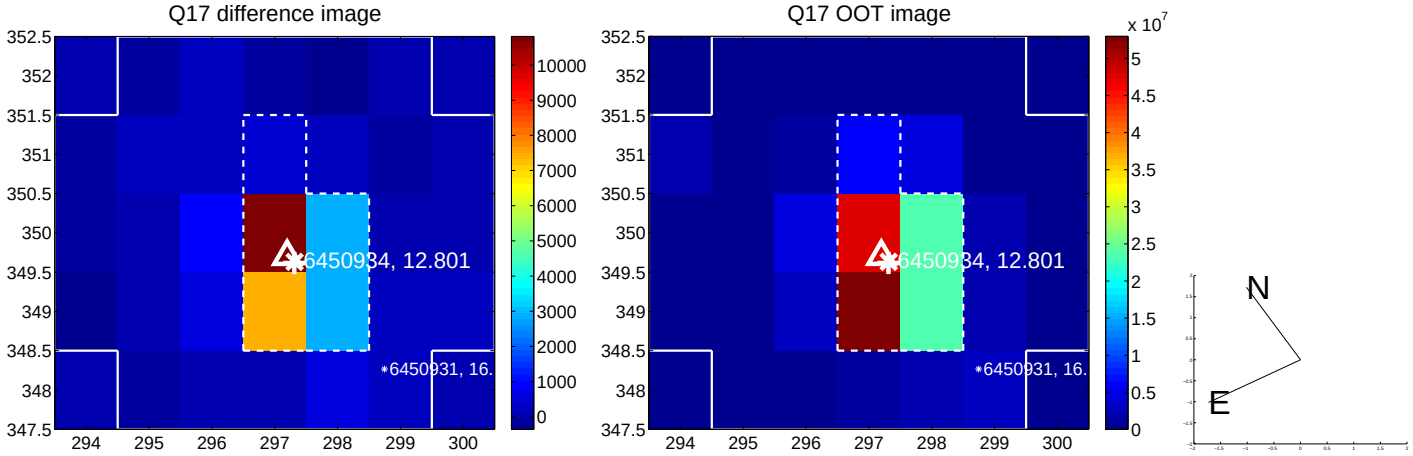


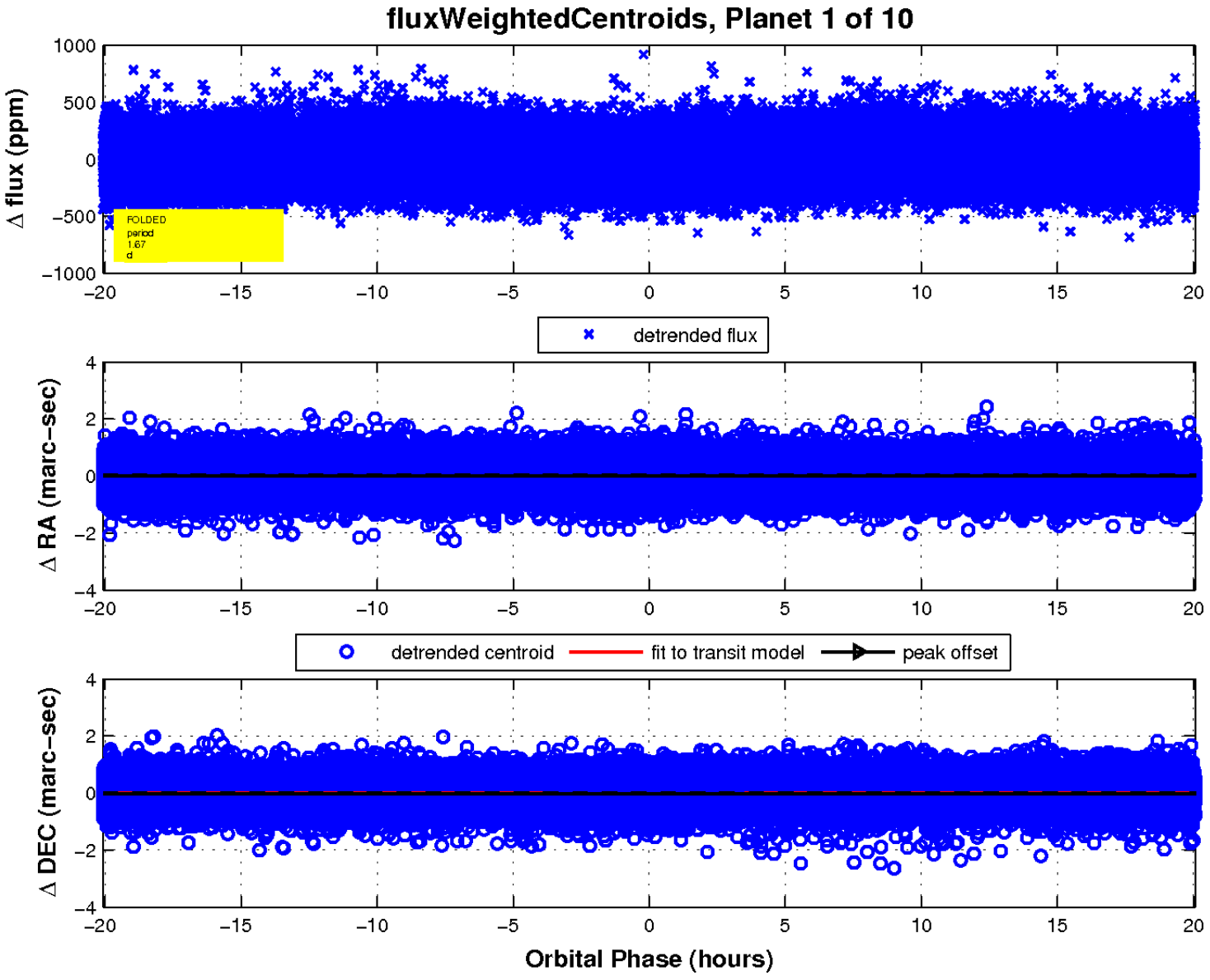




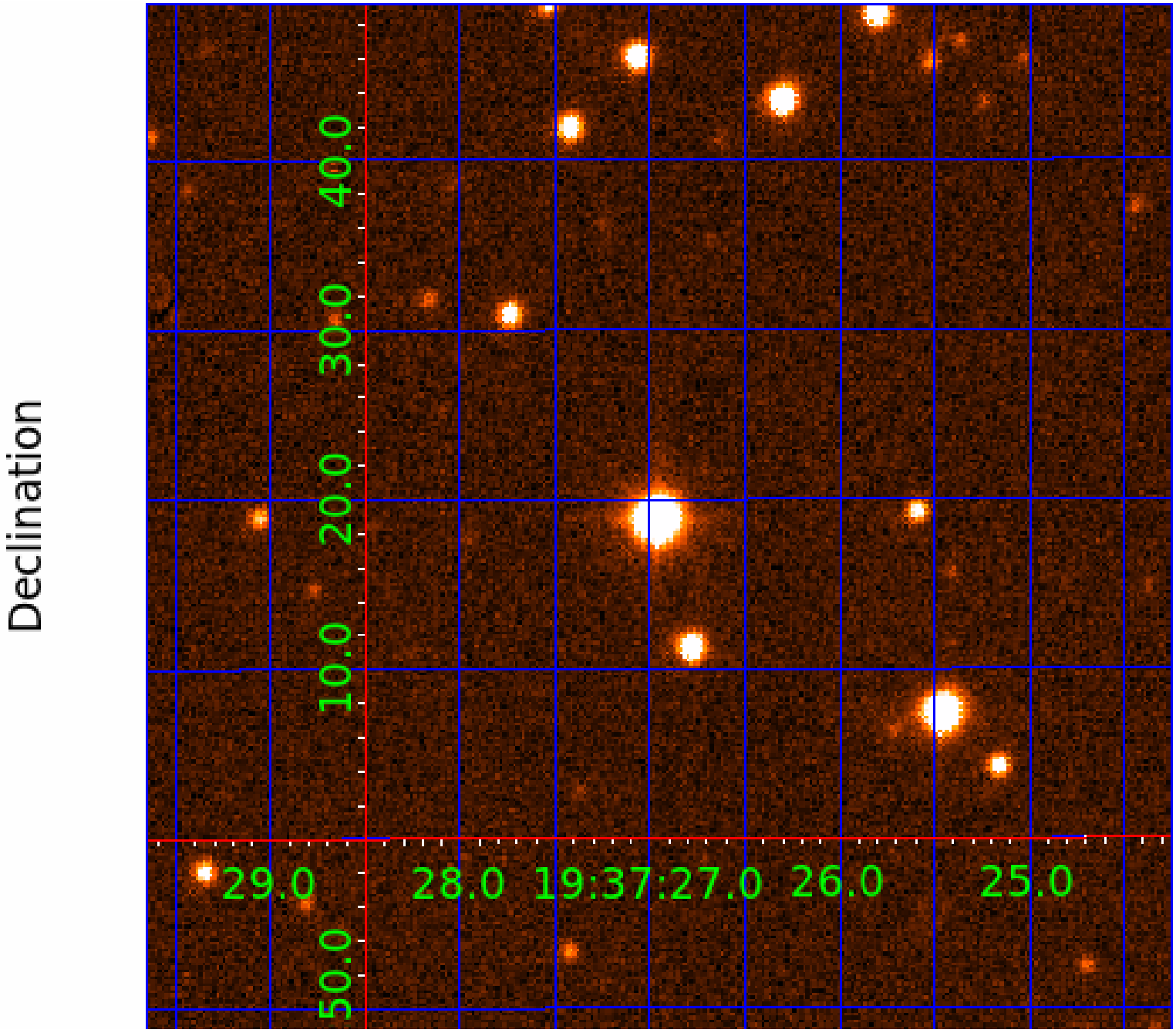


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image



KIC 006450934

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 ($S_\oplus$)
006450934-01	OBS	No	1.673031	133.058235	15.6	9.741	8.6	7.7	3.67	6754	1.68	22917.39
006450934-02	OBS	No	560.122385	433.162255	343.5	73.386	10.7	8.0	3.67	6754	8.66	9.86
006450934-03	OBS	No	68.232639	147.673666	158.9	5.895	9.5	7.3	3.67	6754	5.36	163.25
006450934-05	OBS	No	115.140159	170.976939	281.4	3.503	8.8	9.3	3.67	6754	6.90	81.26
006450934-06	OBS	No	66.664527	187.032969	240.6	3.555	8.7	9.2	3.67	6754	6.53	168.39
006450934-07	OBS	No	180.351292	298.067471	287.6	4.343	8.2	9.8	3.67	6754	7.16	44.67
006450934-08	OBS	No	50.053289	160.466595	281.2	2.001	8.2	9.1	3.67	6754	7.17	246.75
006450934-09	OBS	No	53.612809	177.650997	217.0	2.333	7.8	7.9	3.67	6754	6.30	225.15
006450934-10	OBS	No	75.681529	146.869509	174.7	3.821	8.0	7.9	3.67	6754	5.64	142.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006450934-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006450934-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006450934-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
006450934-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

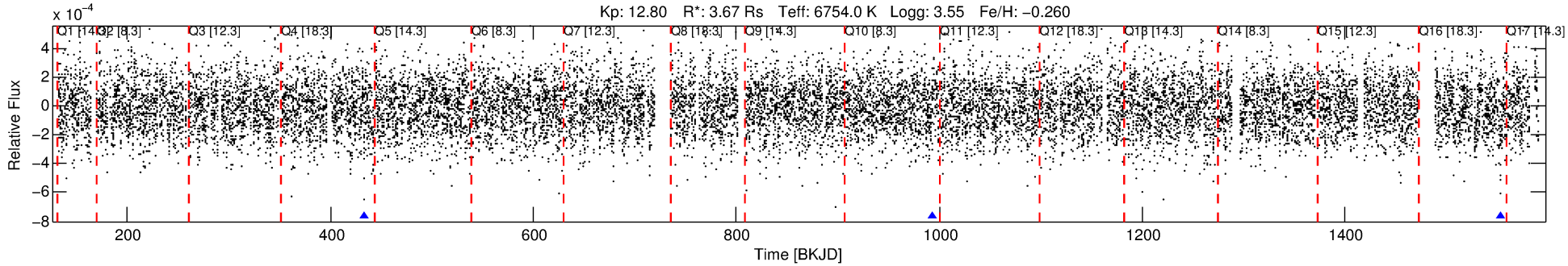
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

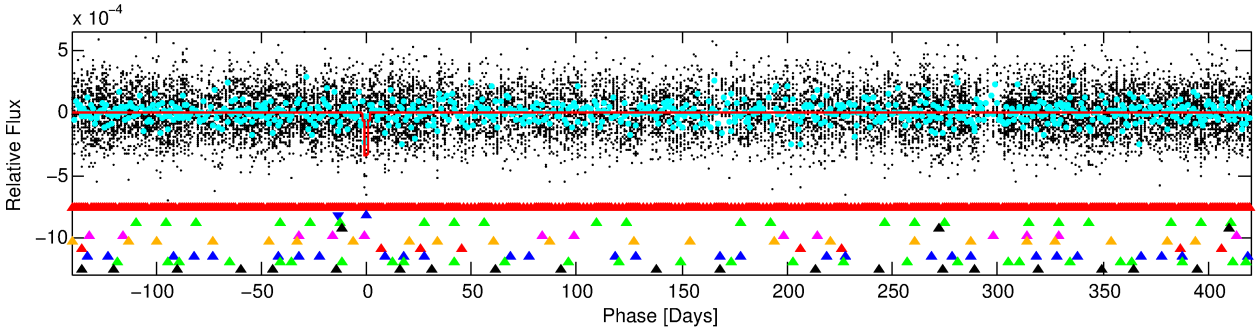
Ephemeris Match Information For 006450934-02

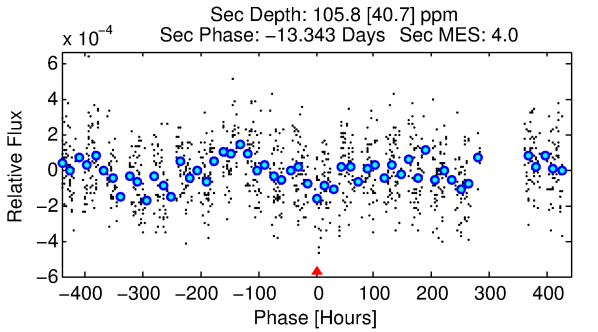
No Significant Match Found

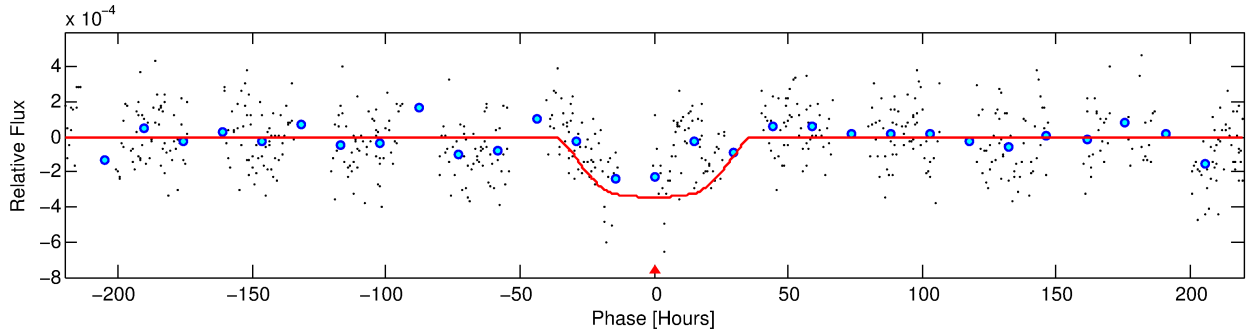
DV One-Page Summary

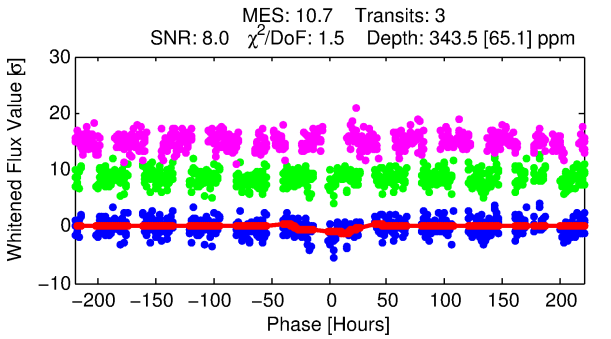
KIC: 6450934 Candidate: 2 of 10 Period: 560.122 d

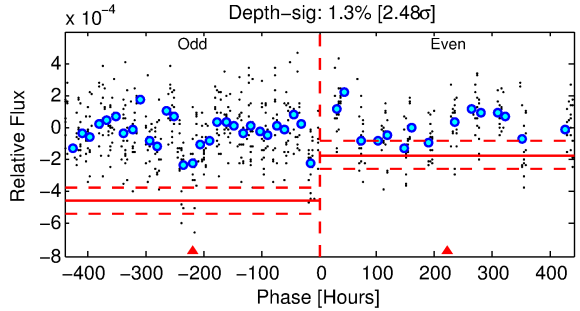












DV Fit Results:

Period = 560.12238 [0.19532] d
Epoch = 433.1623 [0.3180] BKJD
Rp/R* = 0.0216 [0.0024]
a/R* = 18.96 [5.51]
b = 0.97 [0.01]

Seff = 9.86 [5.81]
Teq = 452 [67] K
Rp = 8.66 [3.48] Re
a = 1.5956 [0.5815] AU

Ag = 1974.07 [1437.06] [1.37σ]
Teffp = 4656 [536] K [7.78σ]

DV Diagnostic Results:

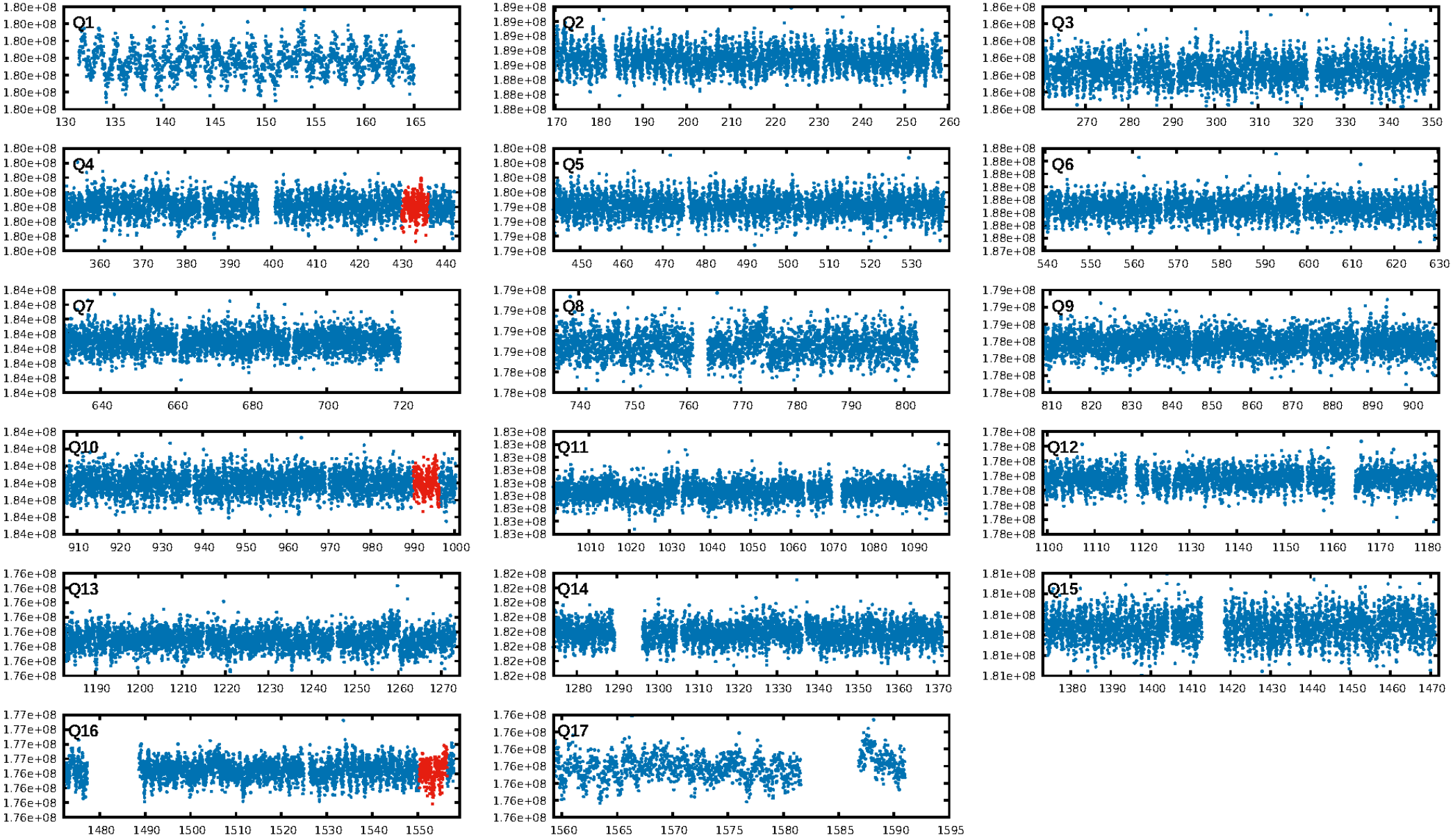
ShortPeriod−sig: 100.0% [45.19σ]
LongPeriod−sig: N/A
ModelChiSquare2−sig: 1.4%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [3/3]
GhostDiagnostic−chr: −12.03

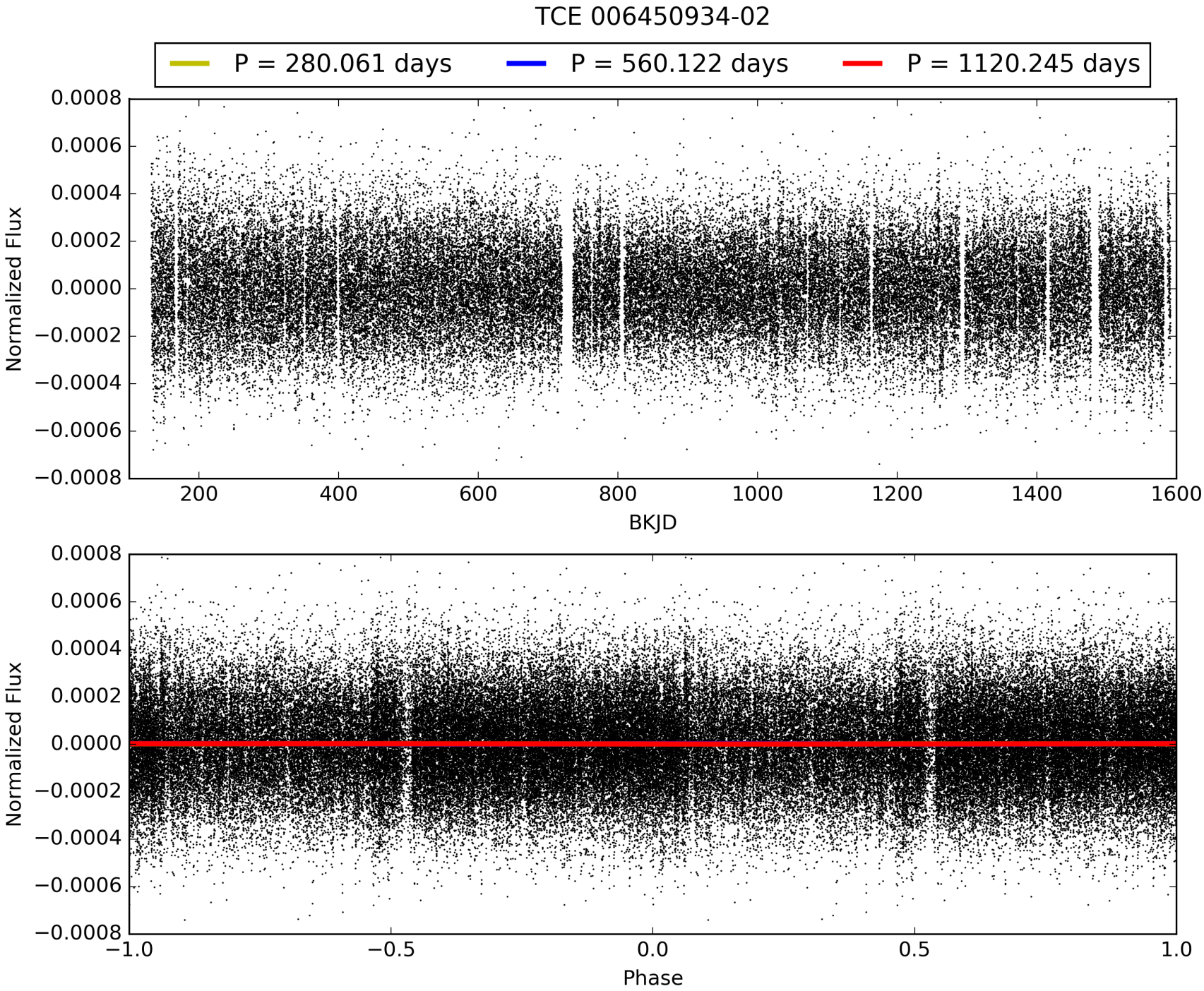
Centroid−sig: 15.5%
Centroid−so: 0.422 arcsec [1.42σ]
OotOffset−rm: N/A
KicOffset−rm: N/A
OotOffset−st: 0/0/0/0 [0]
KicOffset−st: 0/0/0/0 [0]
DiffImageQuality−fgm: N/A
DiffImageOverlap−fno: 0.00 [0/1]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03−Feb−2016 05:27:01 Z

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

TCE 006450934-02, PDC Light Curves




TCE 006450934-02
P = 280.061 days
P = 560.122 days
P = 1120.245 days
Normalized Flux
0.0008
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
−0.0008
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
−1.0
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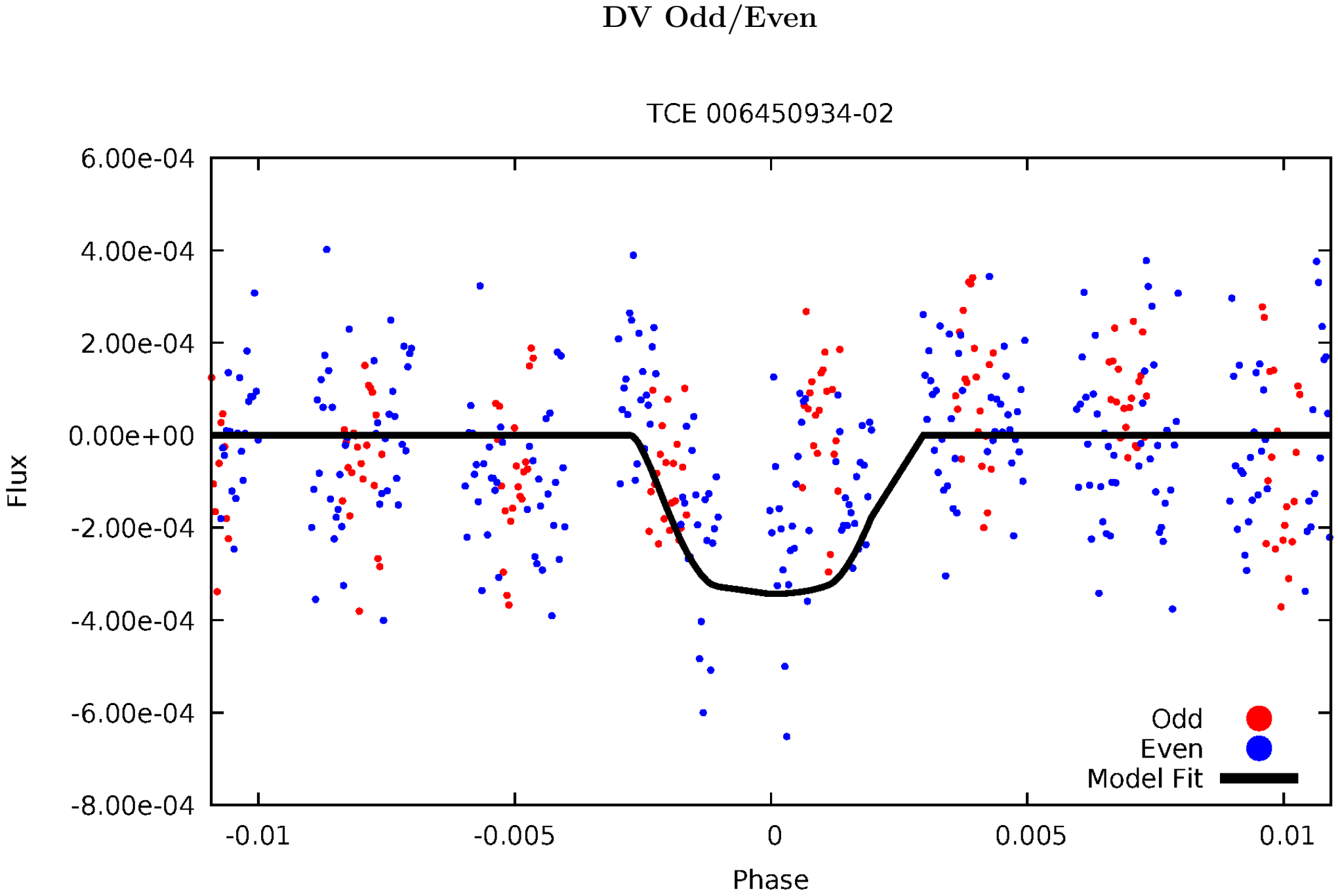
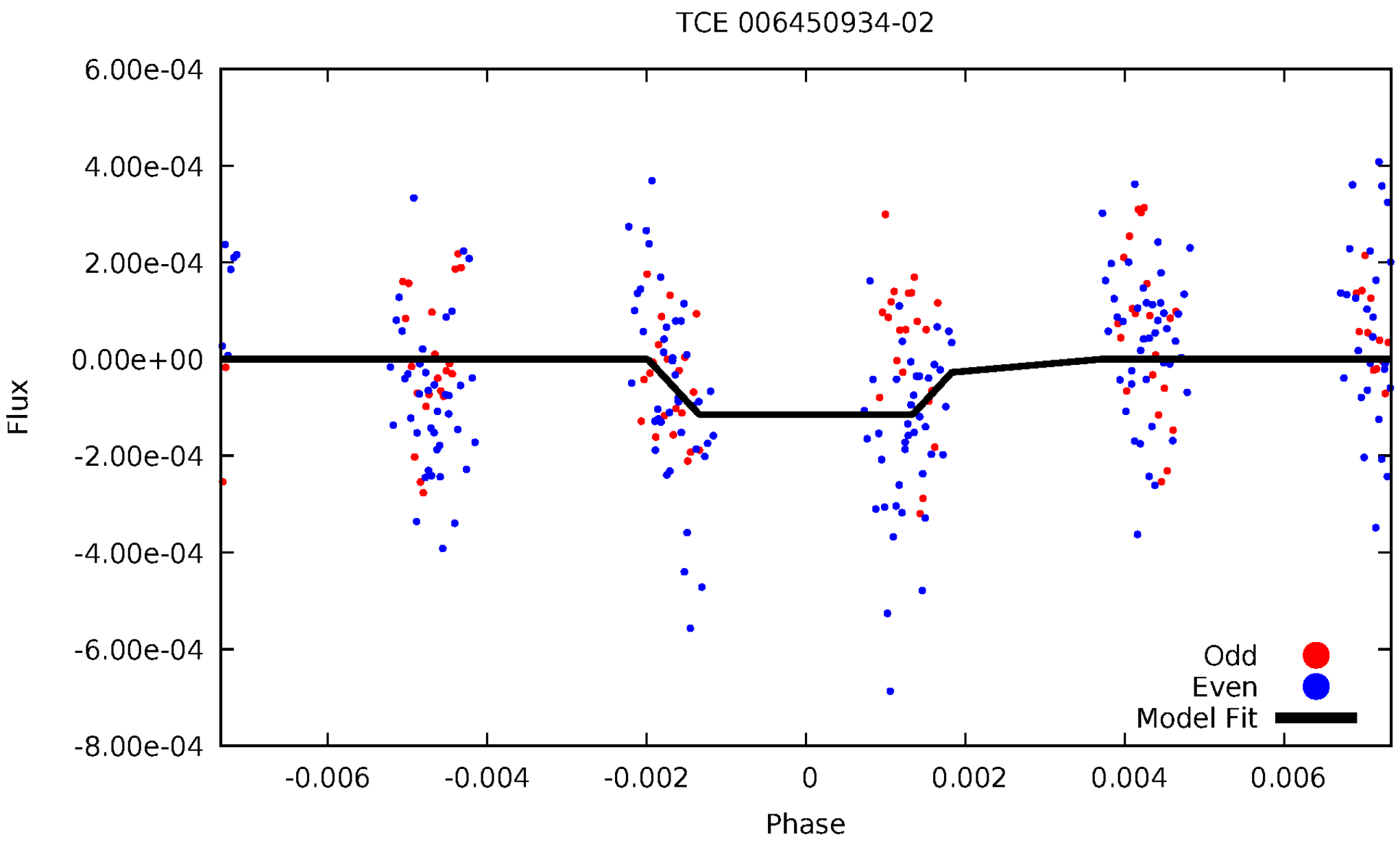
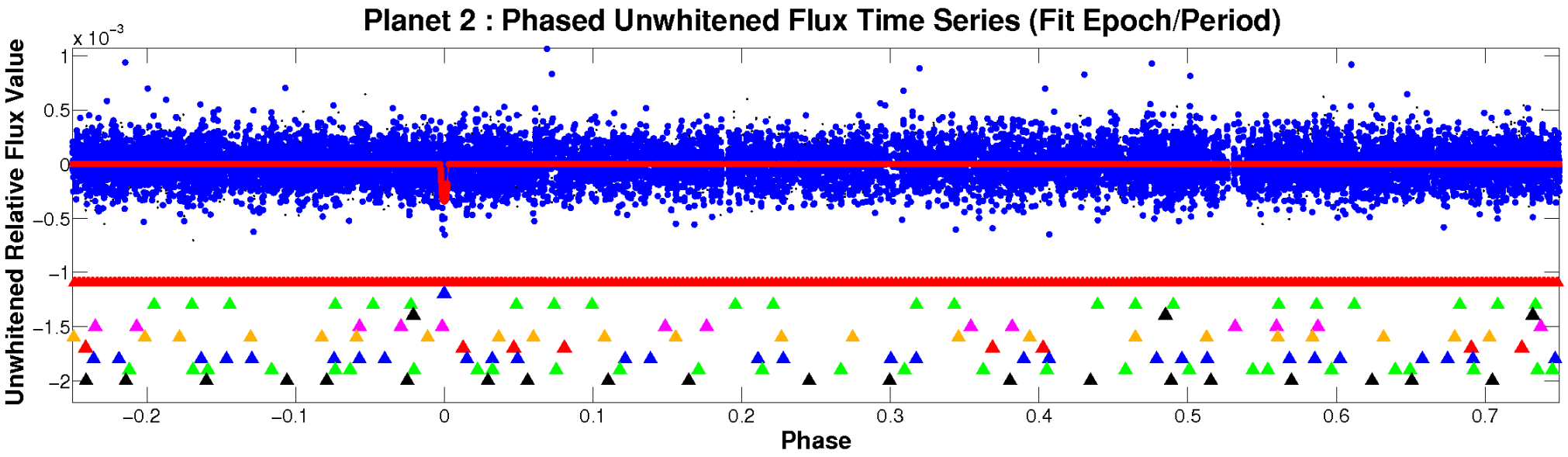
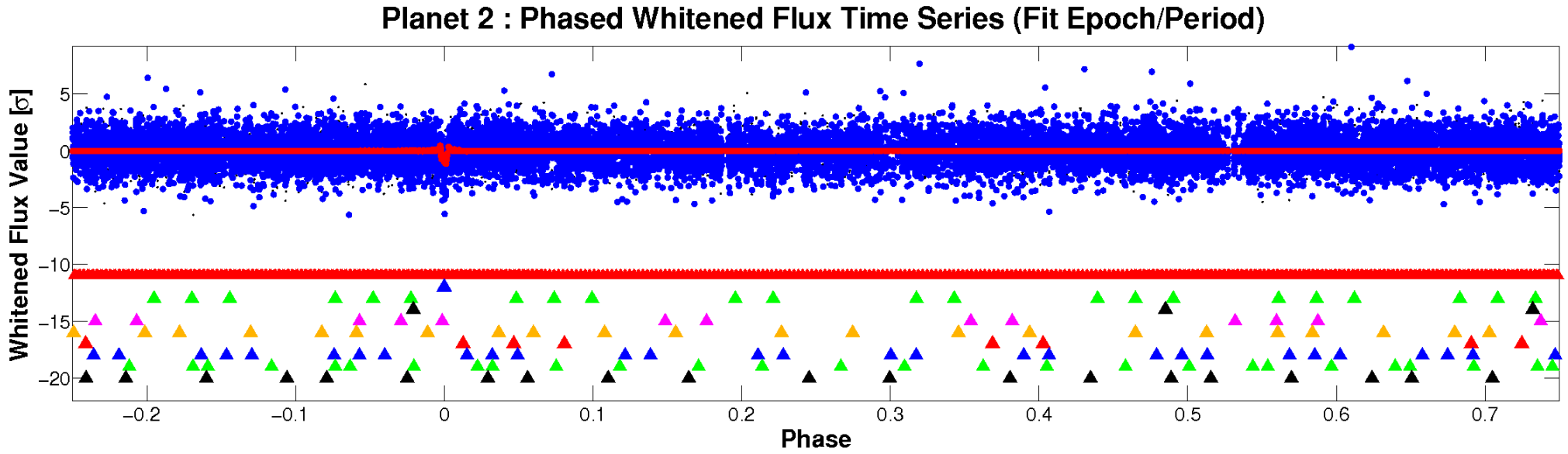
0.0
0.5
1.0
Phase


DV Odd/Even
TCE 006450934-02
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
-0.01
-0.005
0
0.005
0.01
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 006450934-02
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
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit

Non-Whitened Vs. Whitened Light Curve



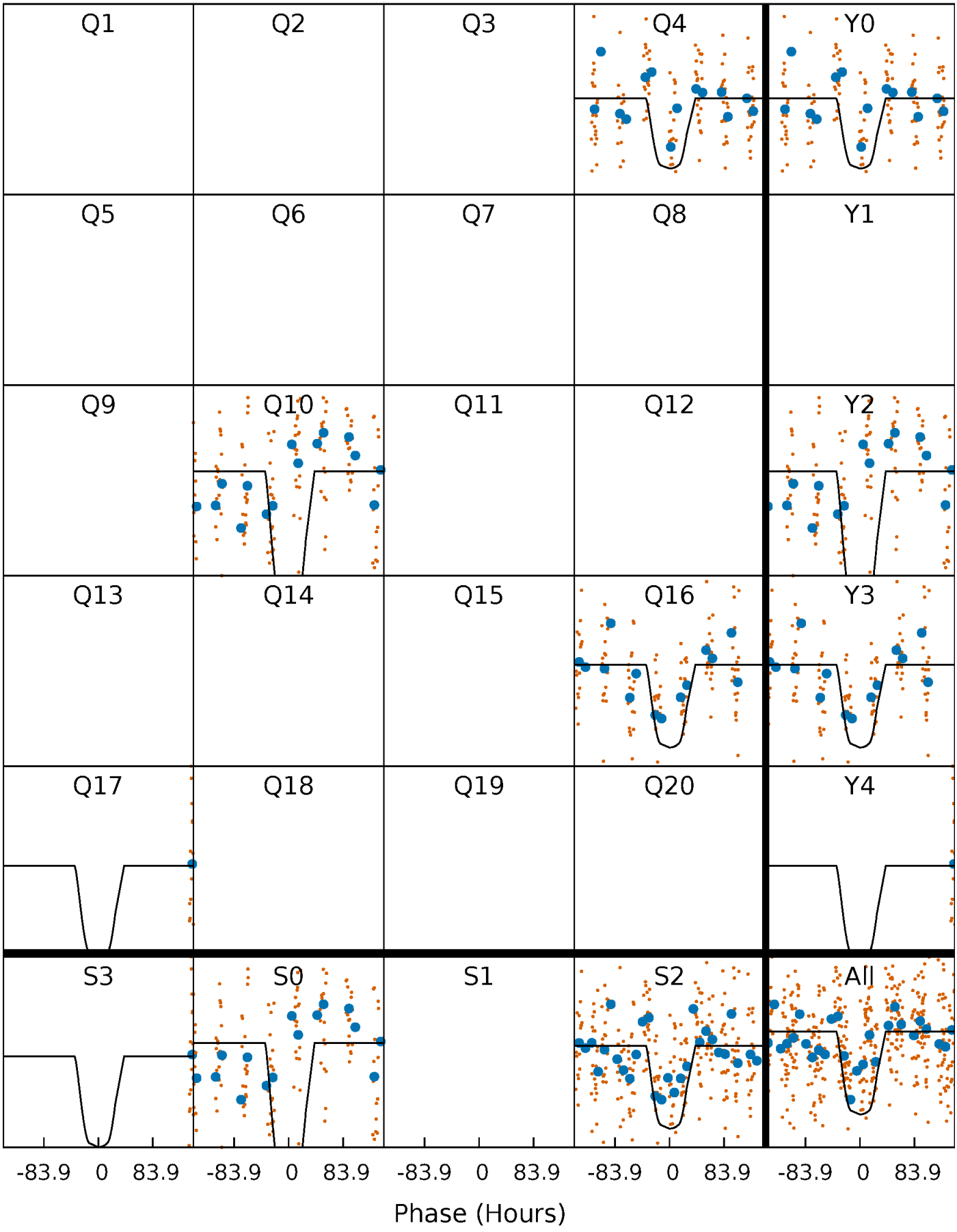


PDC Quarter-Phased Transit Curves

TCE 006450934-02 P=560.122385 Days T_0=433.162255 (BKJD)

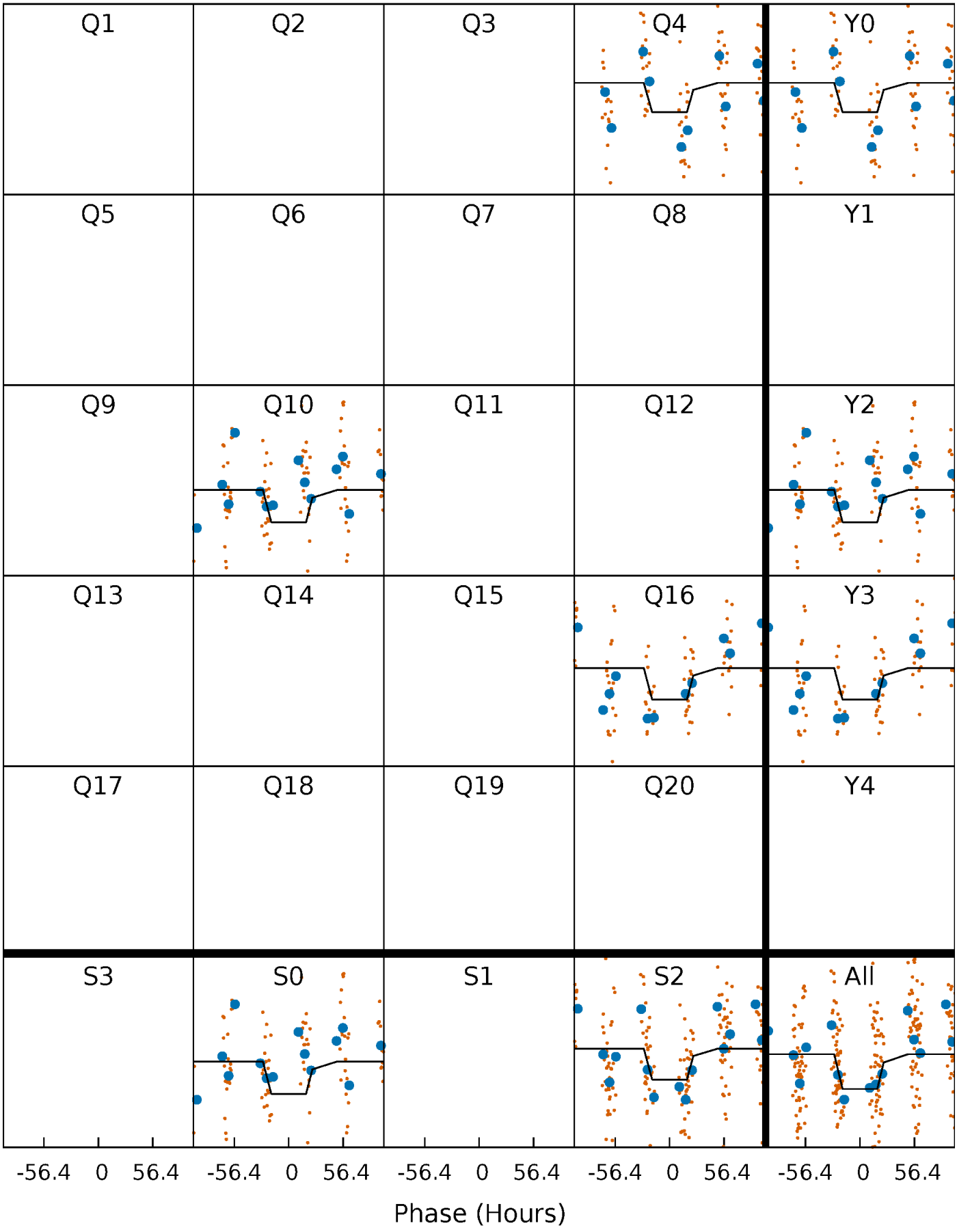
DV Quarter-Phased Transit Curves

TCE 006450934-02 P=560.122385 Days T_0=433.162255 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

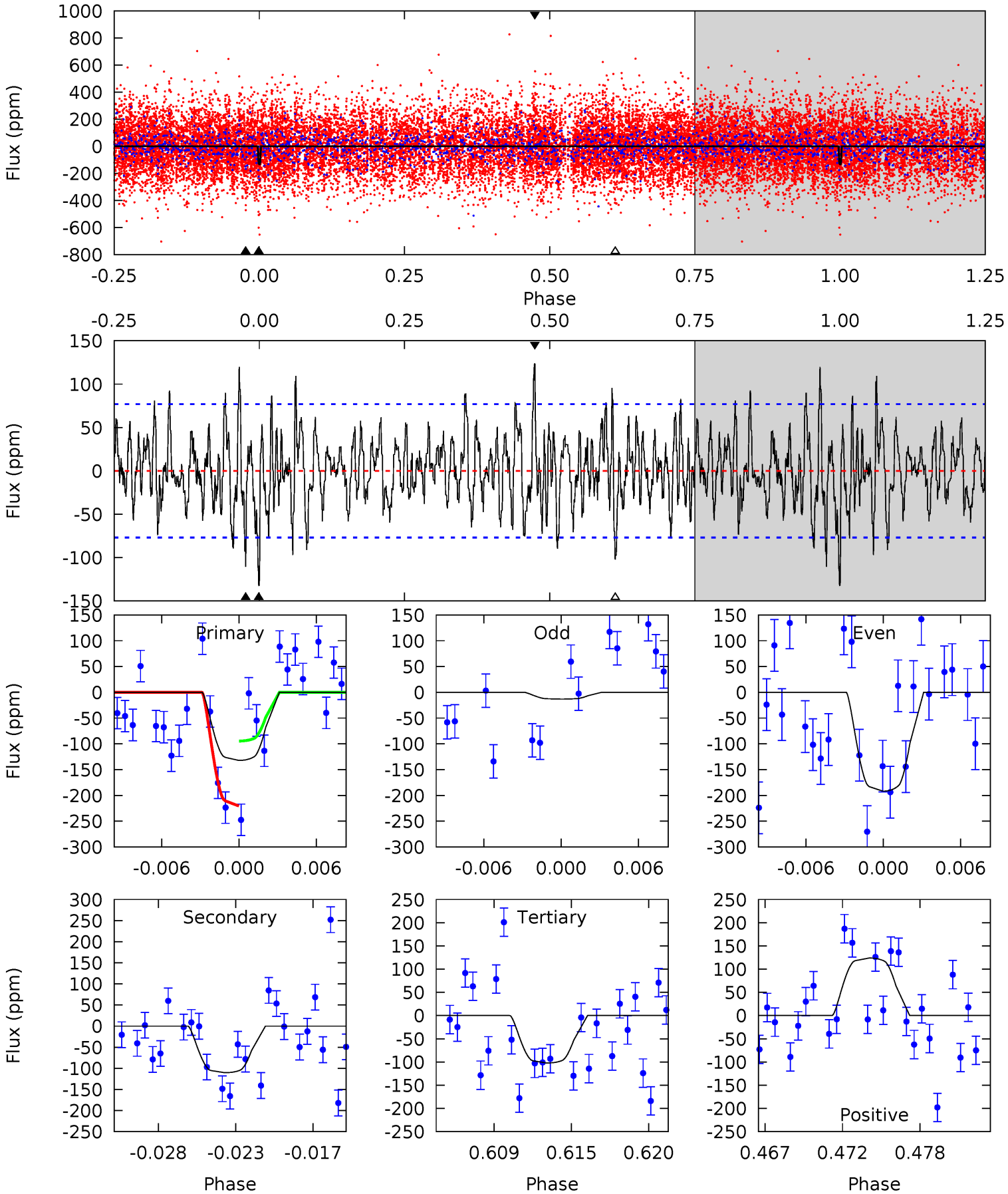
TCE 006450934-02 P=560.369949 Days T_0=432.740541 (BKJD)



DV Model-Shift Uniqueness Test

006450934-02, P = 560.122385 Days, E = 433.162255 Days

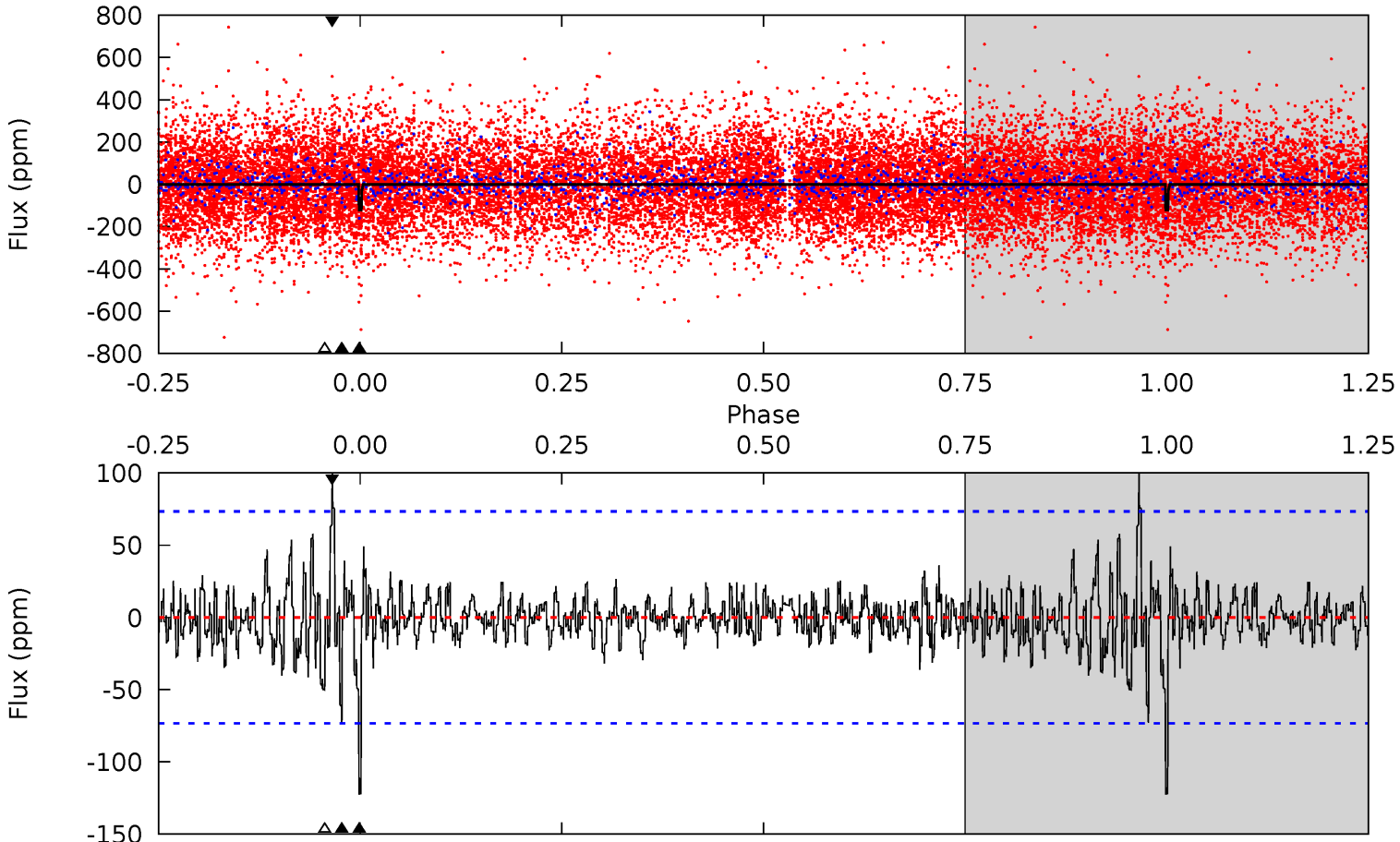
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.82	7.37	6.83	8.28	5.13	2.77	2.35	2.00	0.55	0.54	-0.90	5.70	0.78	0.48	4.21

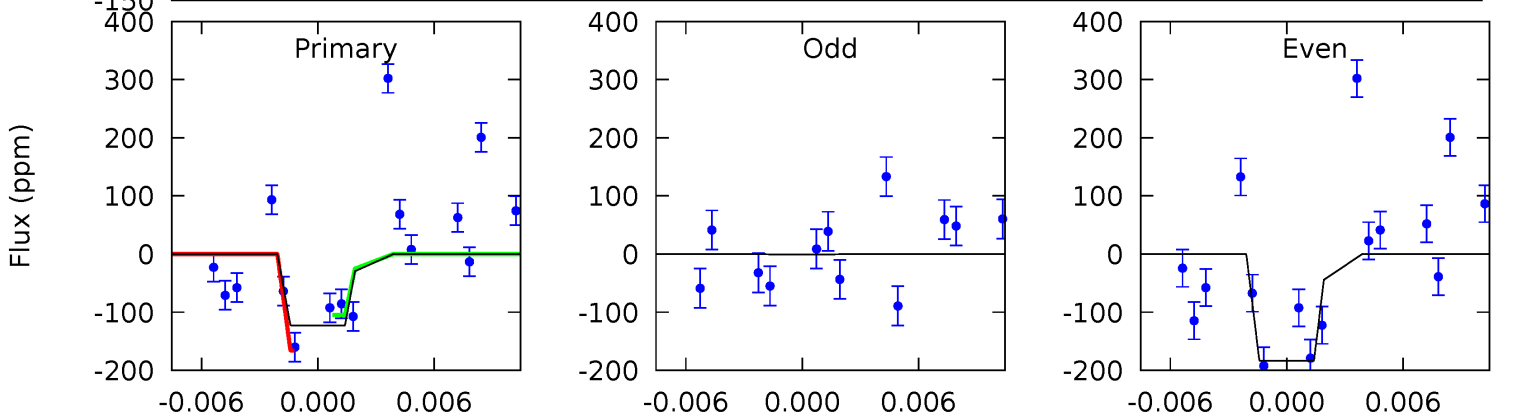


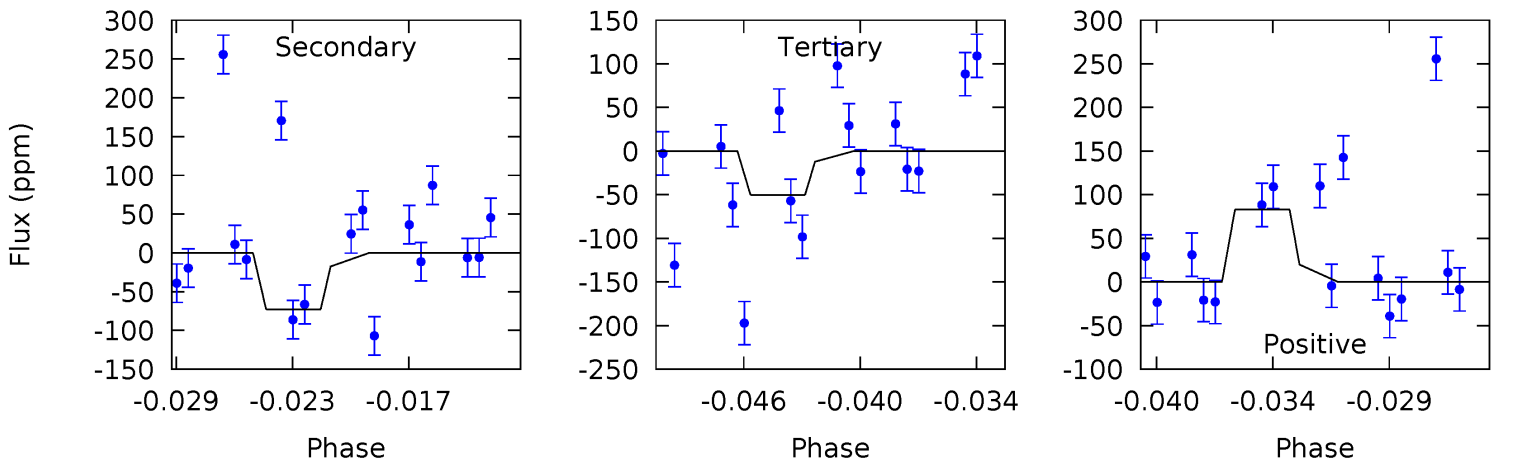
Alt Model-Shift Uniqueness Test

006450934-02, P = 560.369949 Days, E = 432.740541 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.58	5.09	3.51	5.81	5.13	2.76	1.06	5.07	2.77	1.58	-0.72	6.08	0.71	0.45	2.13







Stellar Parameters For KIC 006450934

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6754^{+183}_{-203}	$3.546^{+0.336}_{-0.084}$	$-0.260^{+0.300}_{-0.250}$	$3.669^{+0.354}_{-1.417}$	$1.723^{+0.198}_{-0.368}$	$0.049^{+0.129}_{-0.013}$
	+3%/-3%	+9%/-2%	+115%/-96%	+10%/-39%	+11%/-21%	+263%/-26%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006450934-02 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-110±15	$8.23^{+1.53}_{-1.70}$	618^{+34}_{-56}	4810^{+306}_{-258}	2300^{+1340}_{-673}
Alt.	-73±14	$4.03^{+1.09}_{-1.15}$	621^{+32}_{-59}	5987^{+947}_{-660}	6177^{+6021}_{-2543}

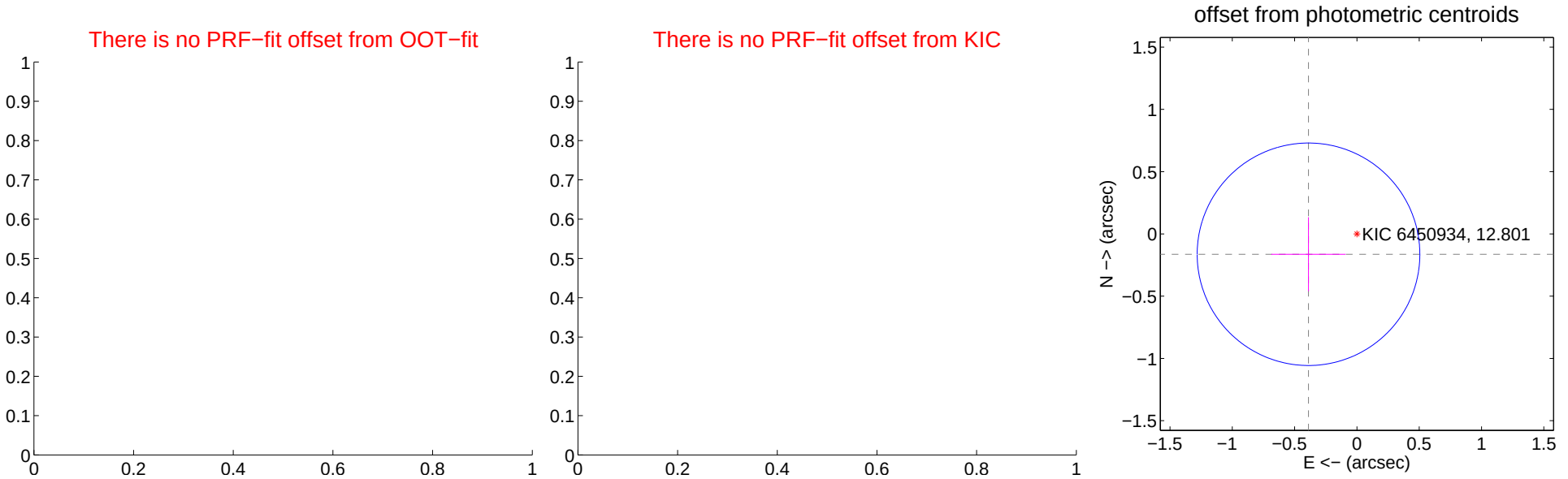
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

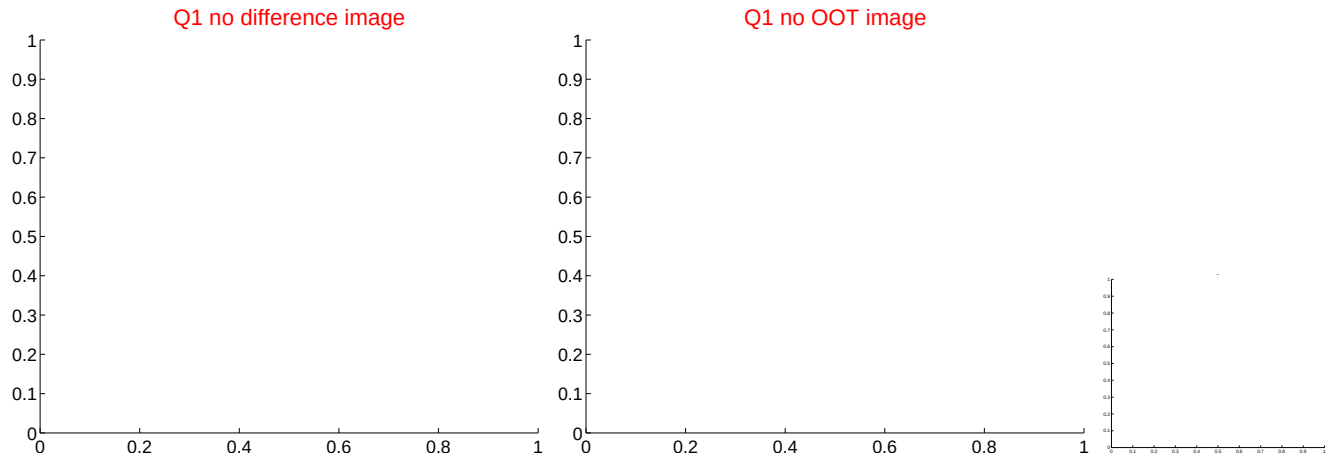
Supplemental centroid analysis for 006450934-02. Kepler magnitude: 12.80. Transit SNR 7.96
There are 0 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

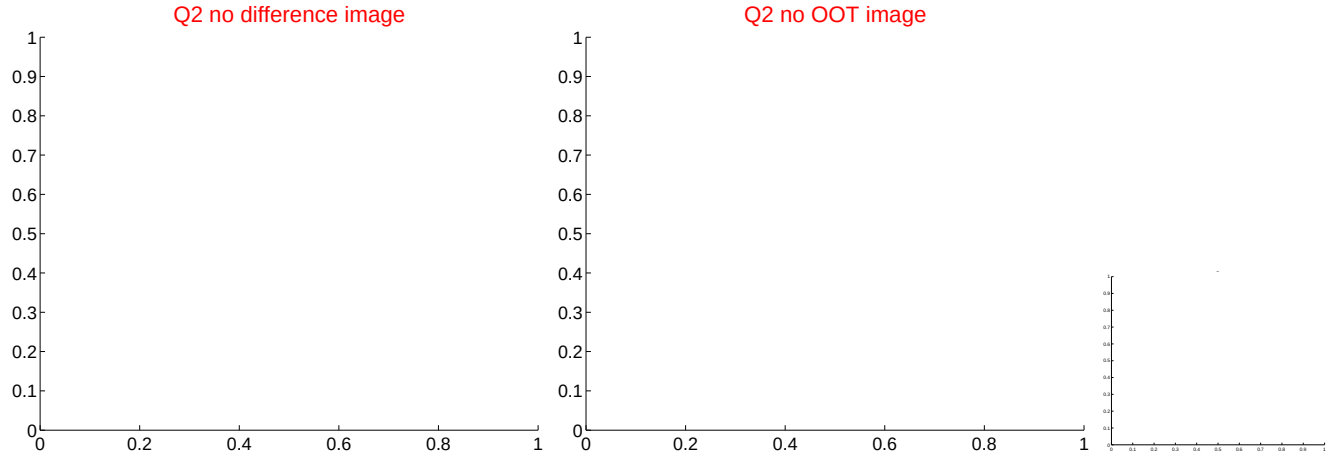
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.42 $\pm$ 0.30	1.42	0.39 $\pm$ 0.30	-0.16 $\pm$ 0.30

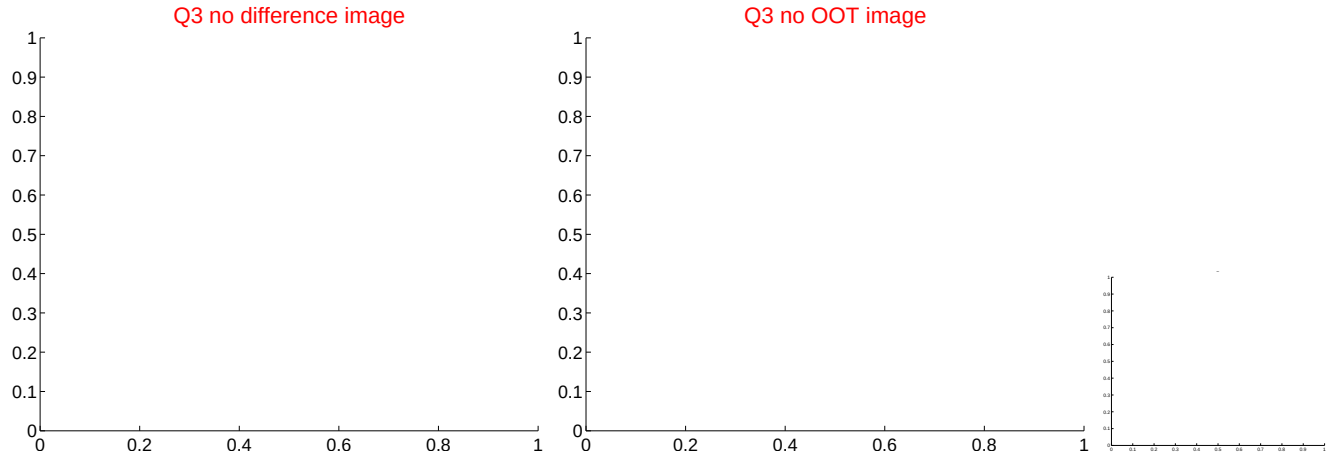


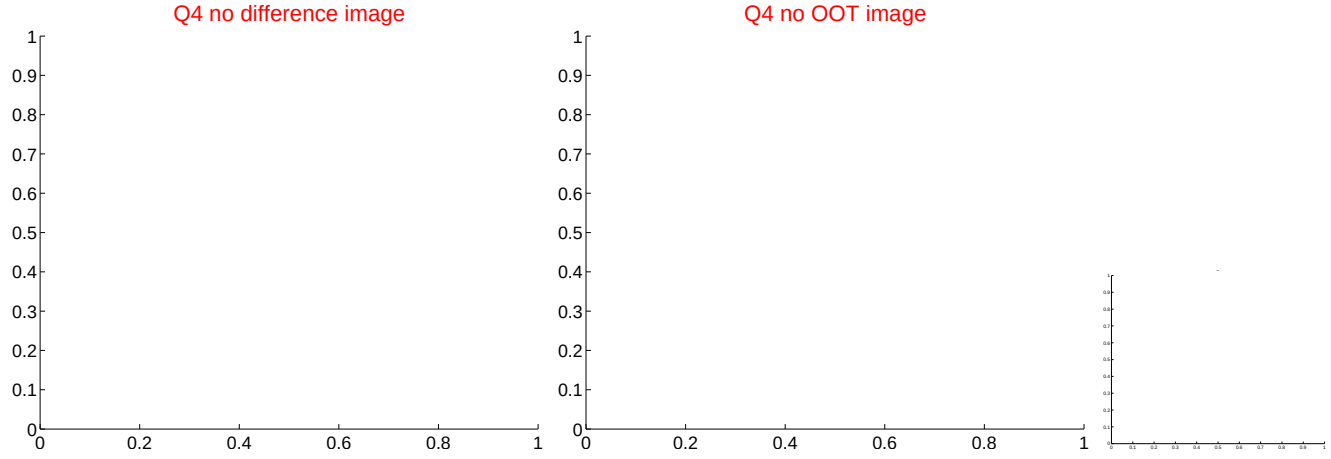
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

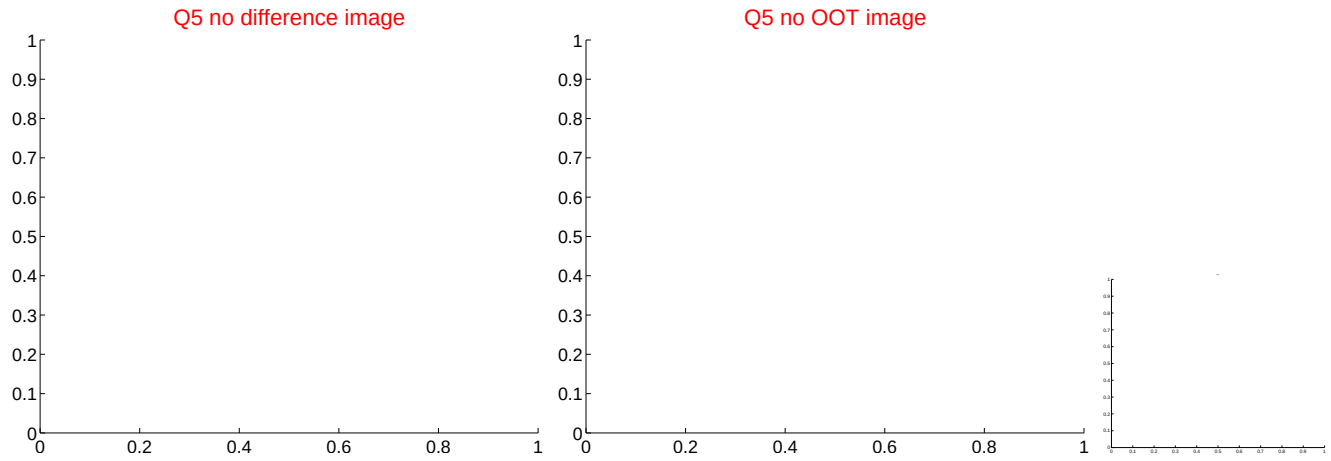


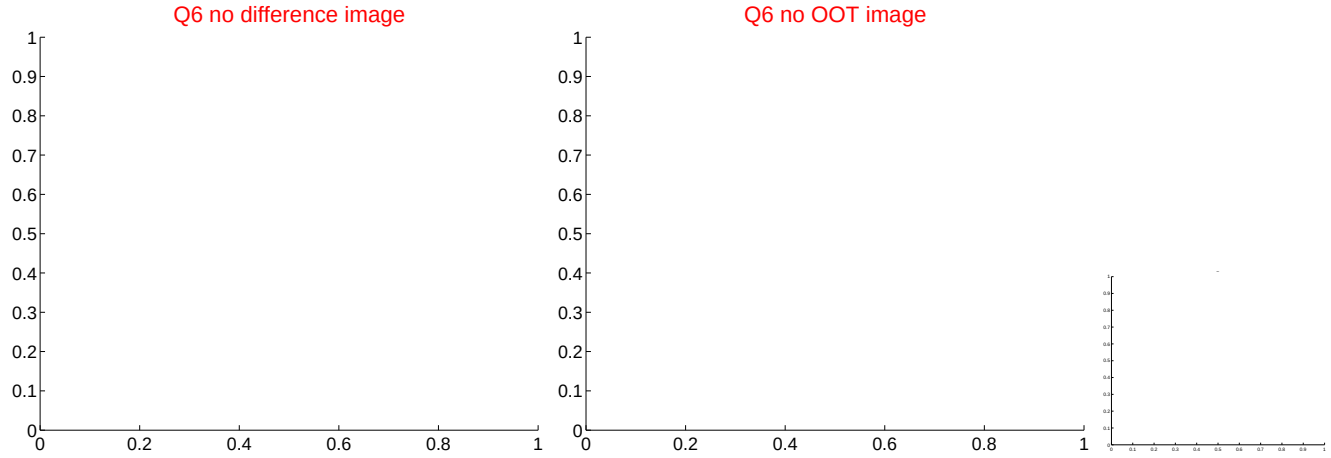


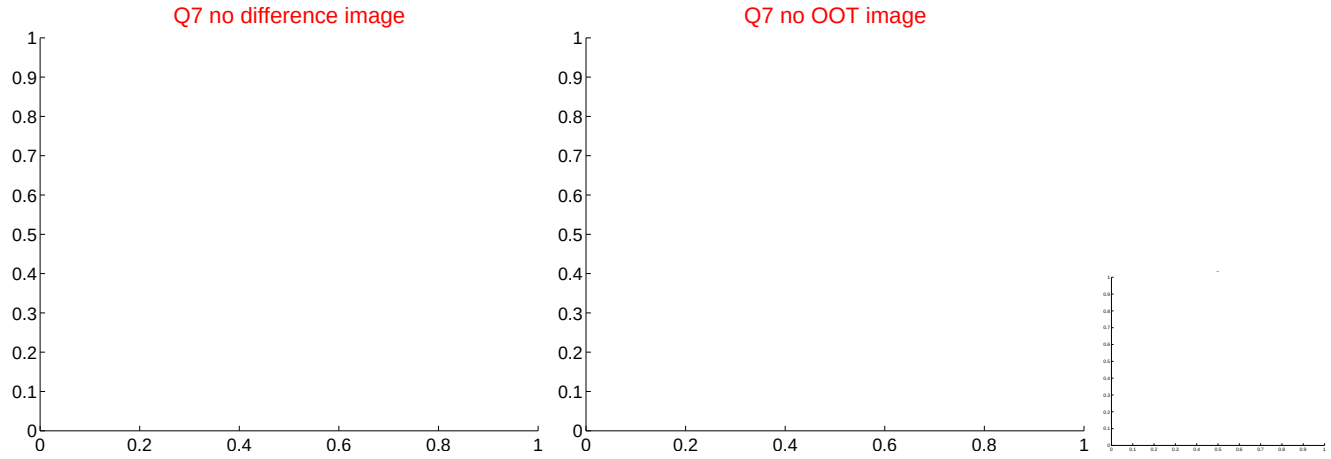


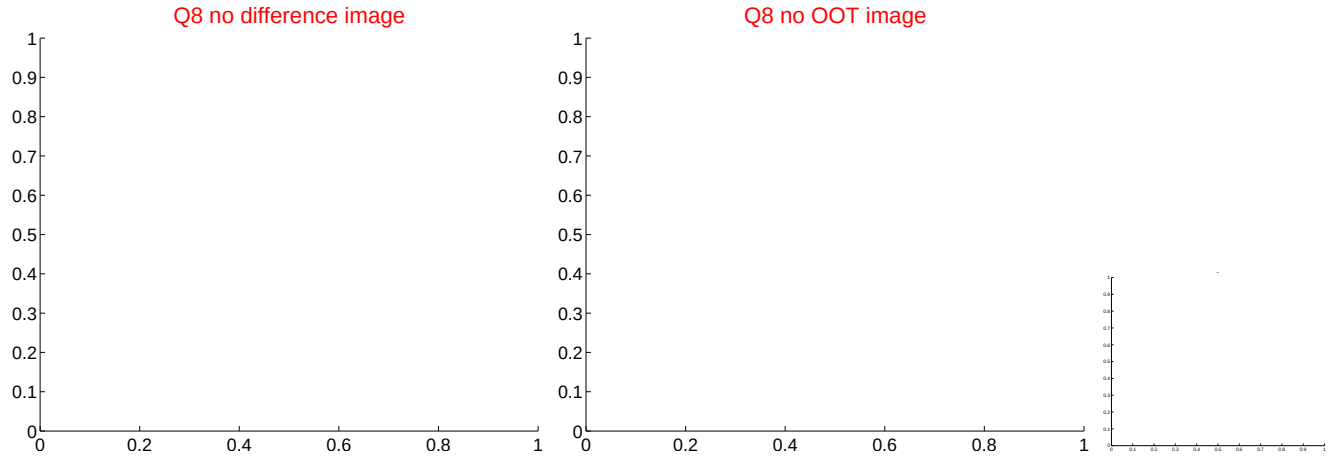


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

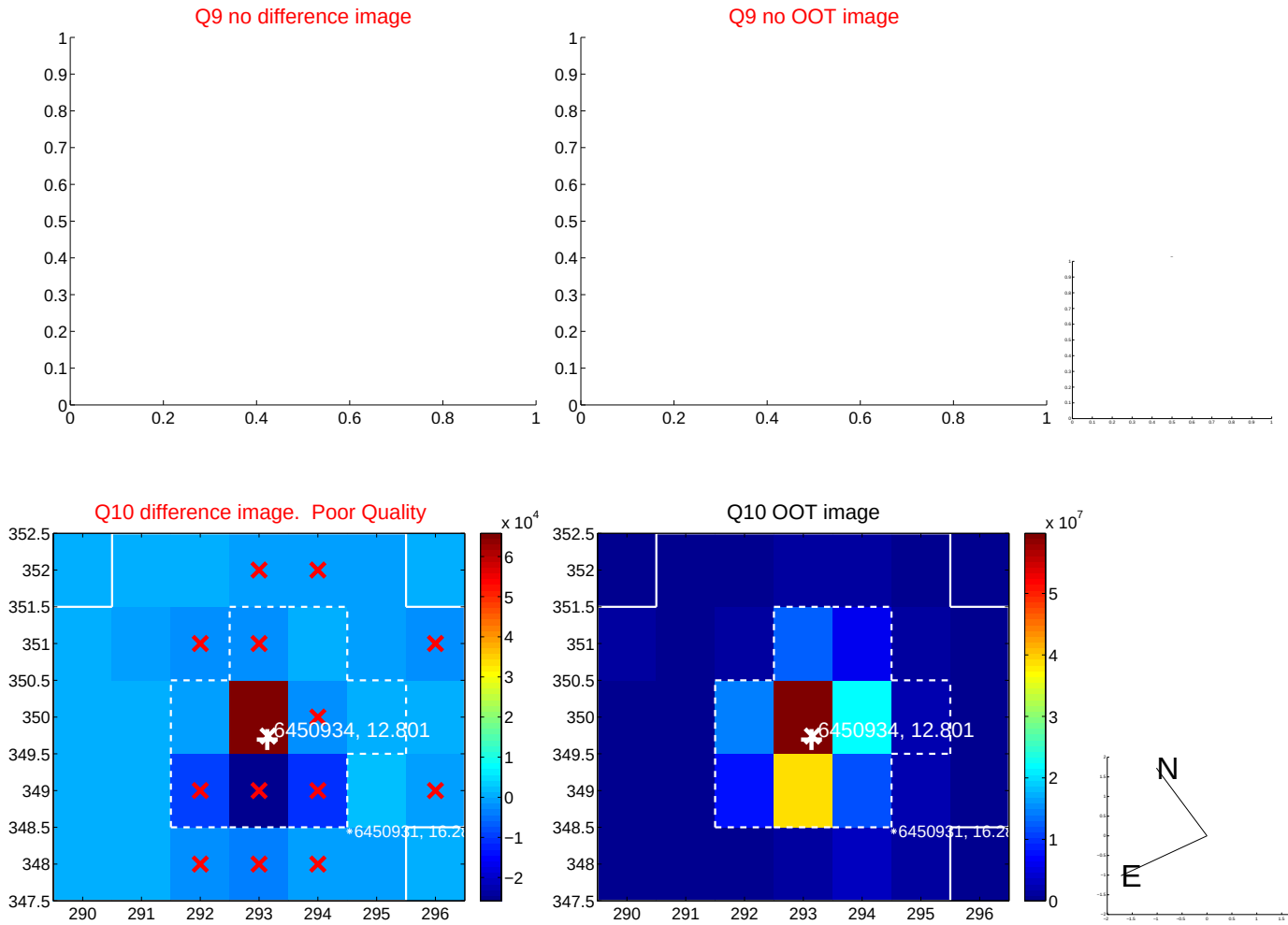




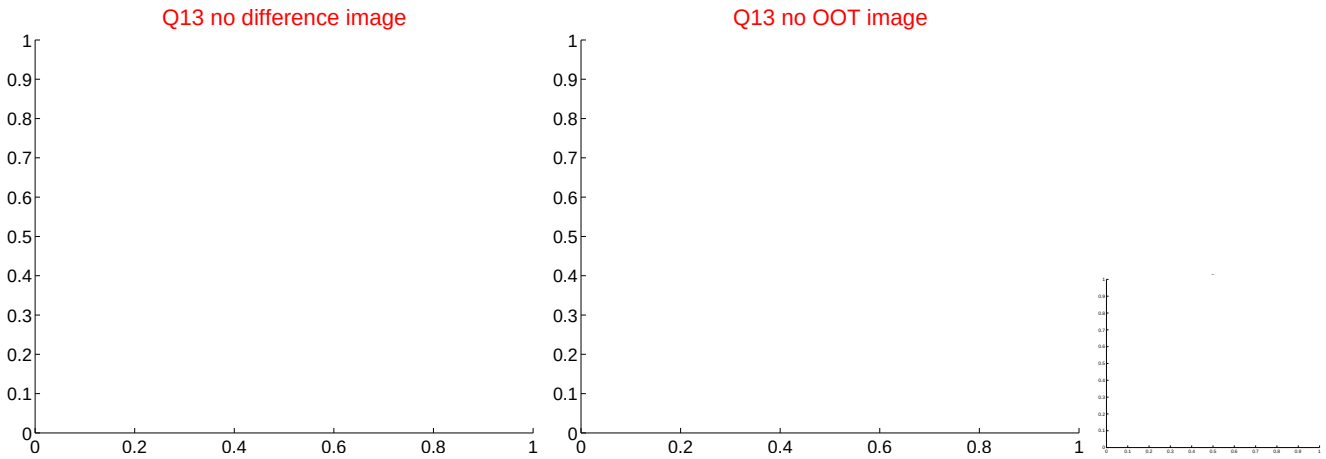


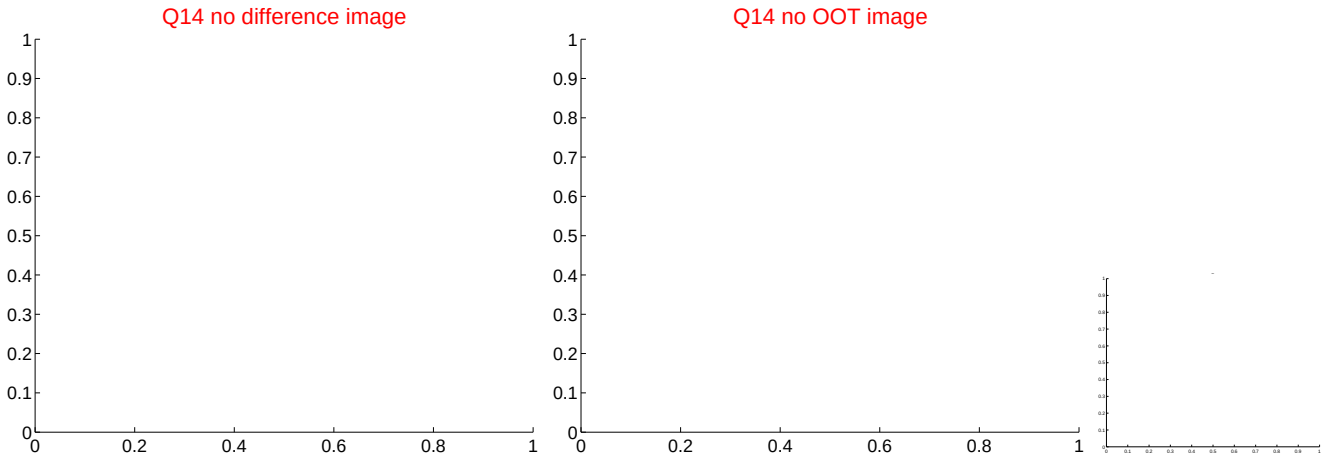


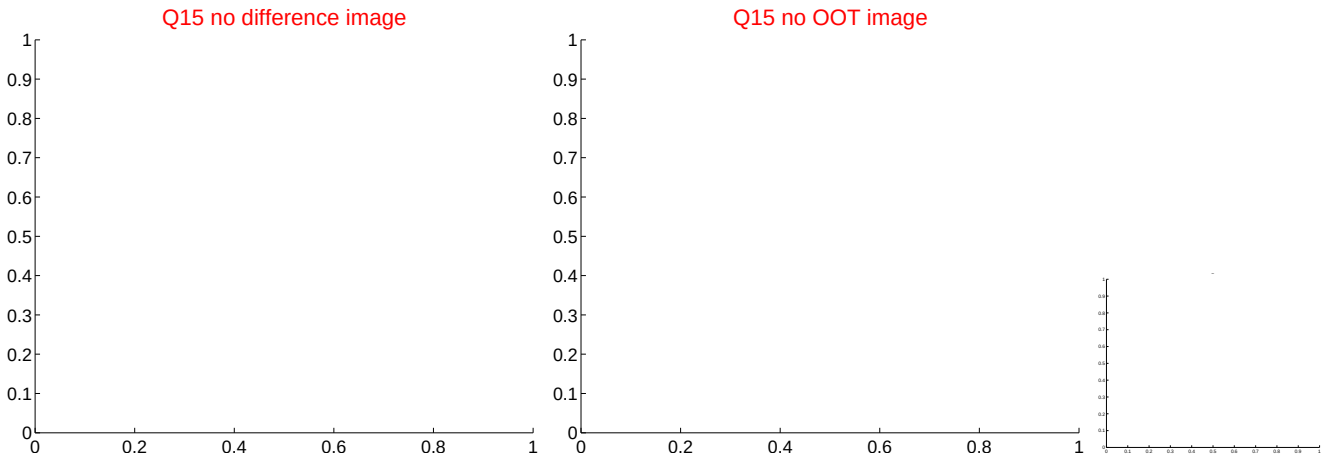
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

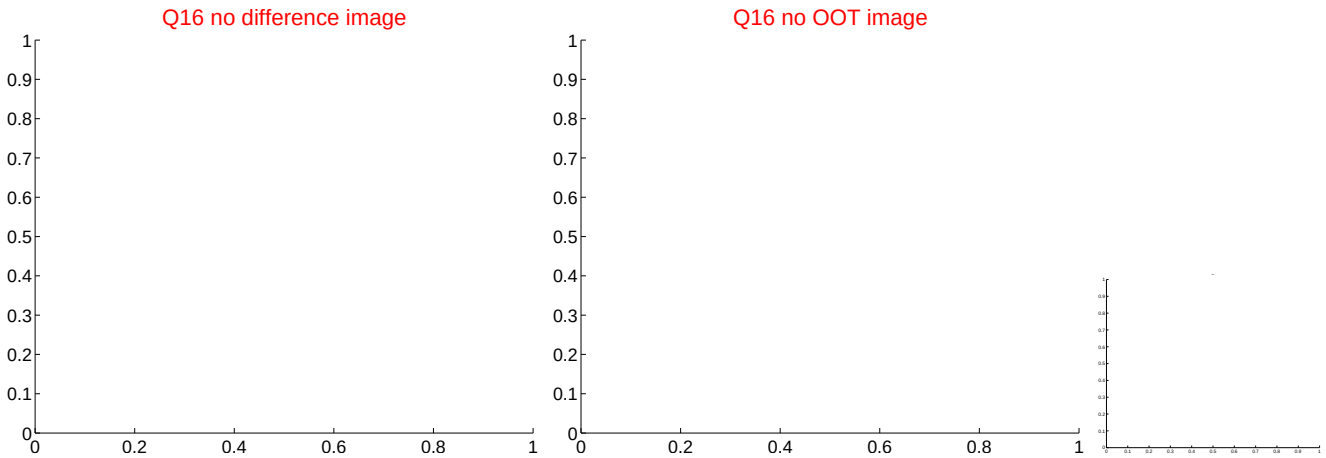


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

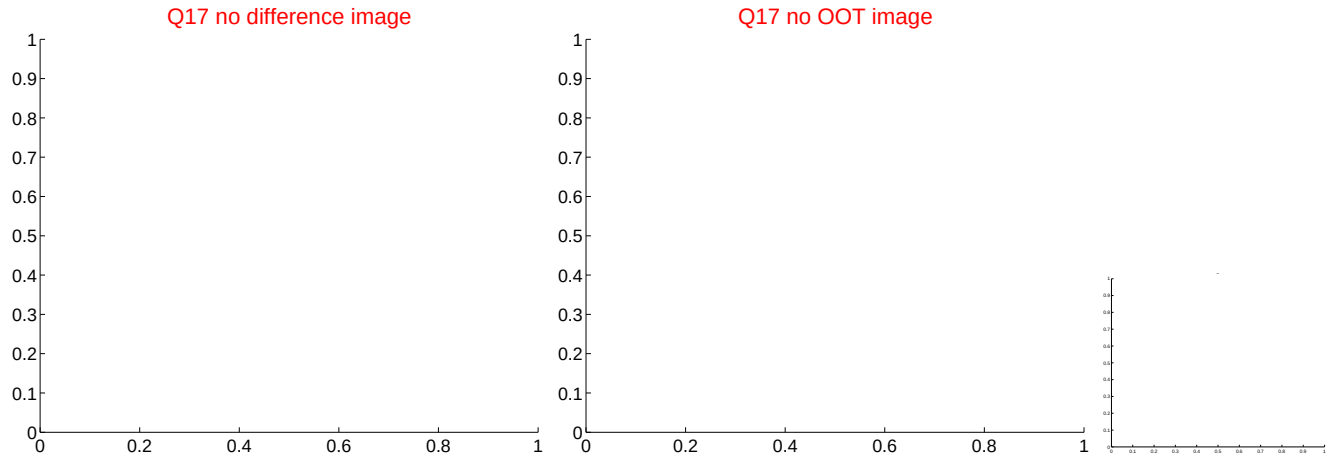


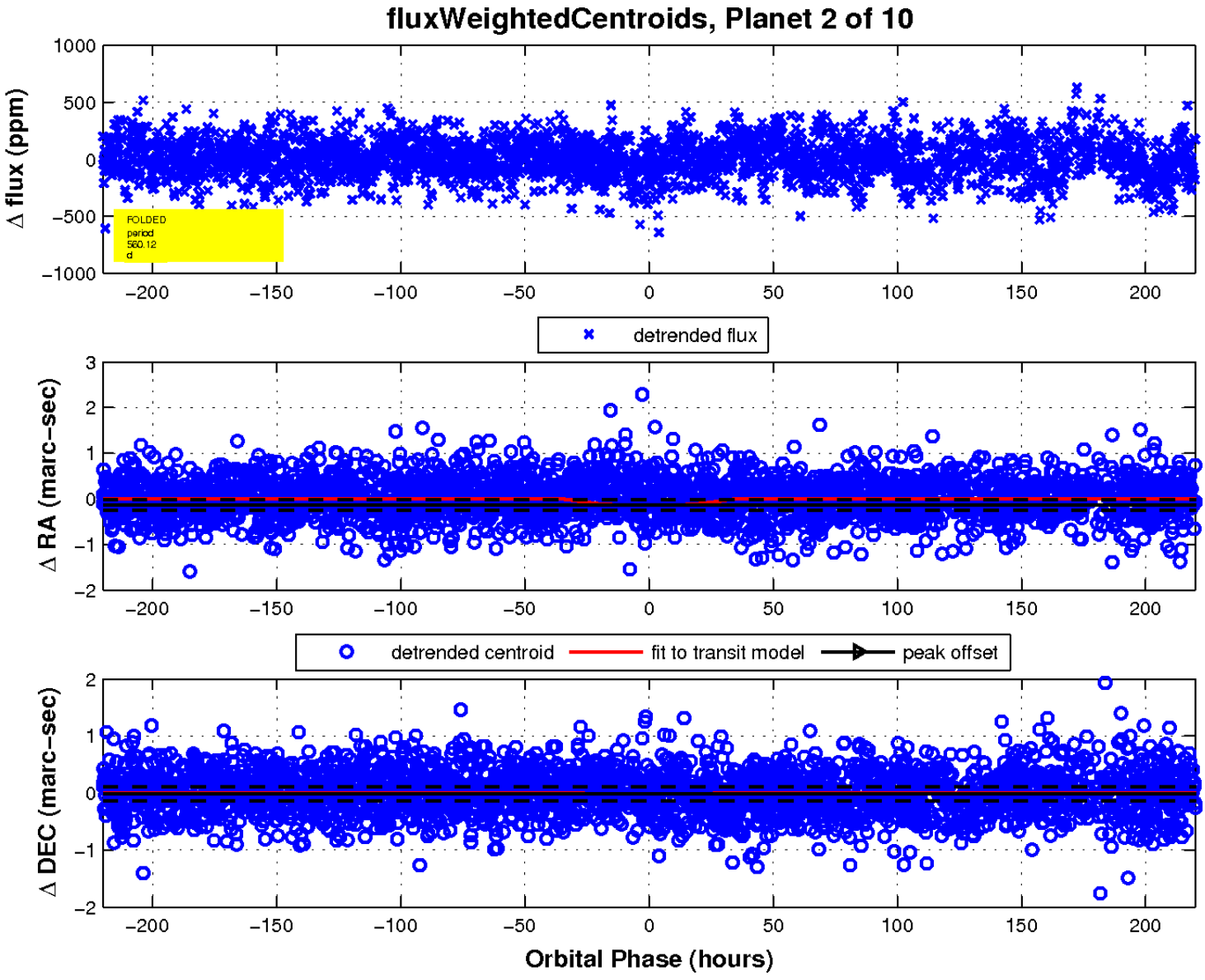




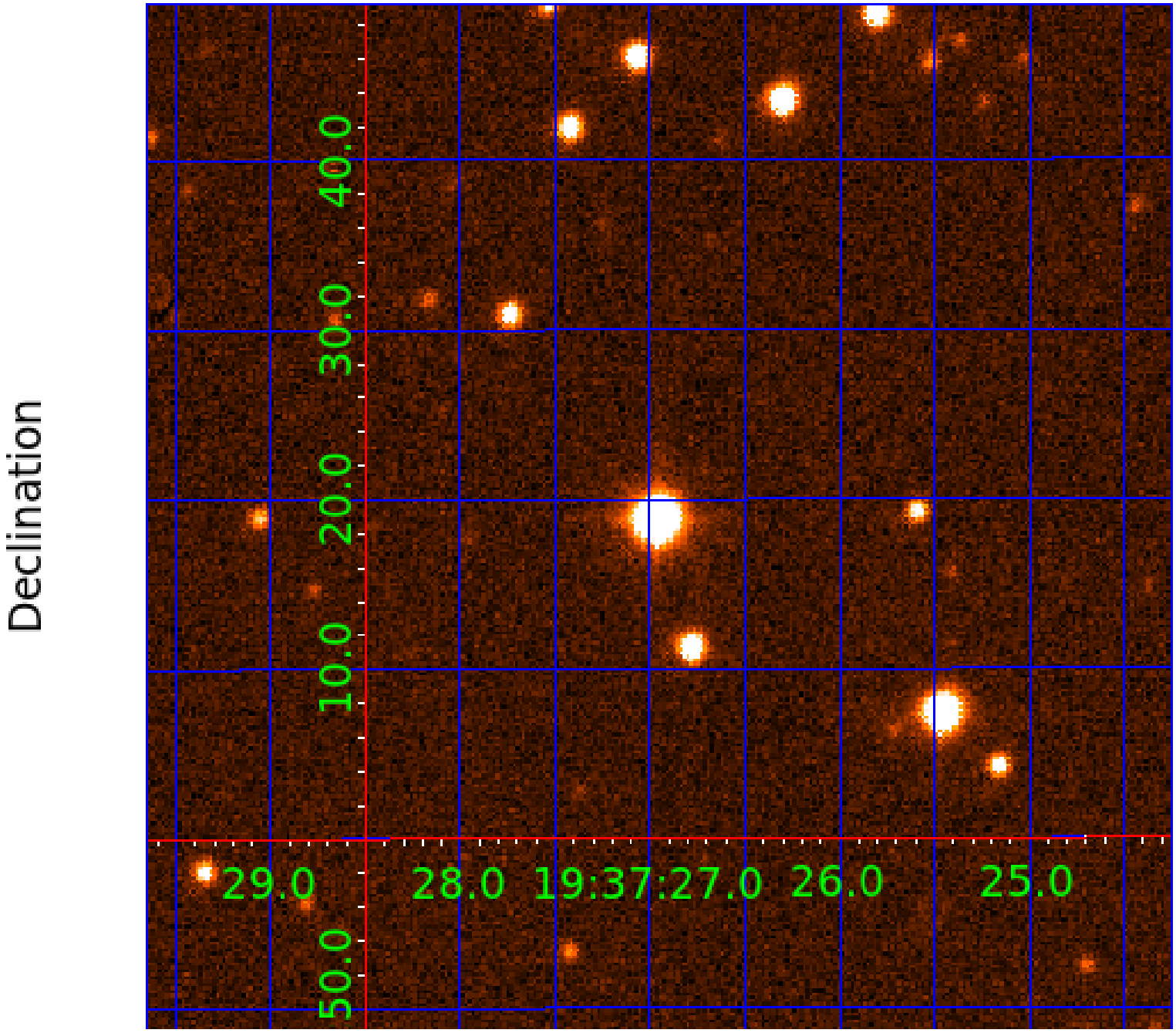


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image



KIC 006450934

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 ($S_\oplus$)
006450934-01	OBS	No	1.673031	133.058235	15.6	9.741	8.6	7.7	3.67	6754	1.68	22917.39
006450934-02	OBS	No	560.122385	433.162255	343.5	73.386	10.7	8.0	3.67	6754	8.66	9.86
006450934-03	OBS	No	68.232639	147.673666	158.9	5.895	9.5	7.3	3.67	6754	5.36	163.25
006450934-05	OBS	No	115.140159	170.976939	281.4	3.503	8.8	9.3	3.67	6754	6.90	81.26
006450934-06	OBS	No	66.664527	187.032969	240.6	3.555	8.7	9.2	3.67	6754	6.53	168.39
006450934-07	OBS	No	180.351292	298.067471	287.6	4.343	8.2	9.8	3.67	6754	7.16	44.67
006450934-08	OBS	No	50.053289	160.466595	281.2	2.001	8.2	9.1	3.67	6754	7.17	246.75
006450934-09	OBS	No	53.612809	177.650997	217.0	2.333	7.8	7.9	3.67	6754	6.30	225.15
006450934-10	OBS	No	75.681529	146.869509	174.7	3.821	8.0	7.9	3.67	6754	5.64	142.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006450934-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006450934-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006450934-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
006450934-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

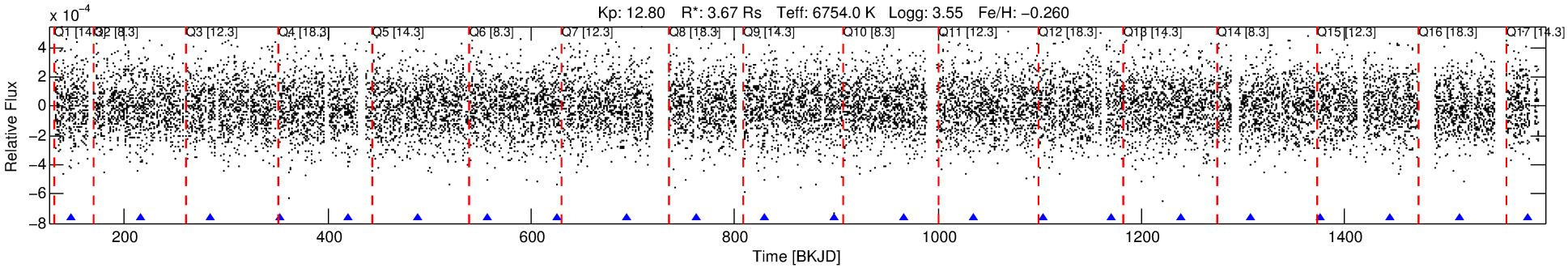
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

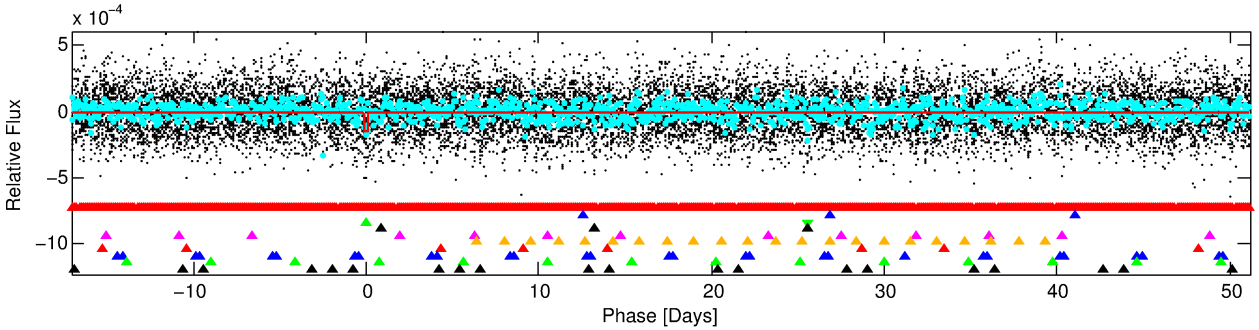
Ephemeris Match Information For 006450934-03

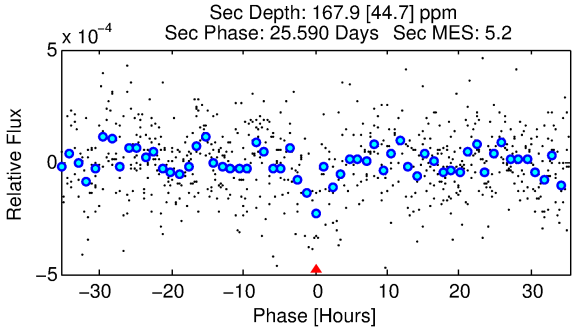
No Significant Match Found

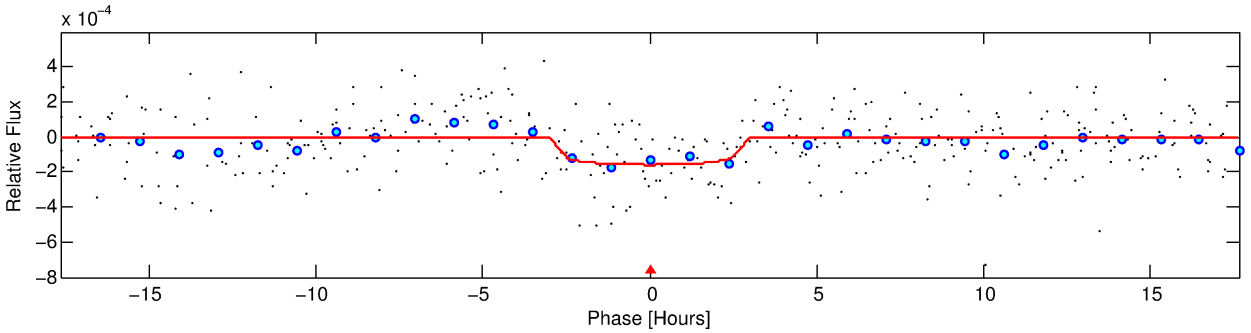
DV One-Page Summary

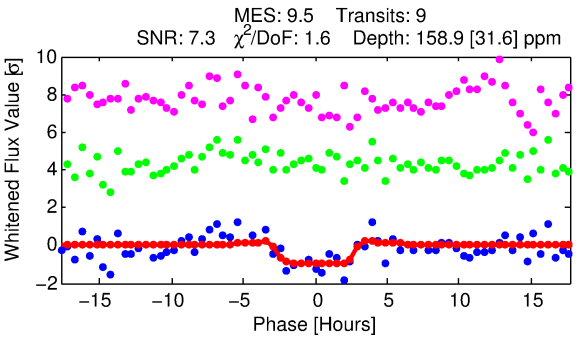
KIC: 6450934 Candidate: 3 of 10 Period: 68.233 d

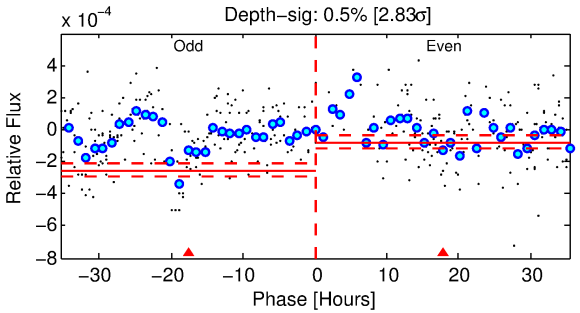


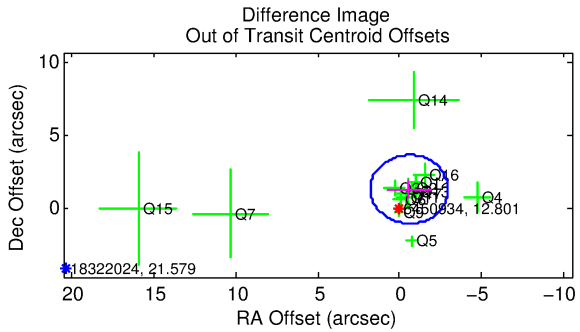












DV Fit Results:

Period = 68.23264 [0.00155] d
Epoch = 147.6737 [0.0185] BKJD
Rp/R* = 0.0134 [0.0067]
a/R* = 41.95 [124.04]
b = 0.90 [0.65]

Seff = 163.25 [96.13]
Teq = 911 [134] K
Rp = 5.36 [3.38] Re
a = 0.3921 [0.1429] AU

Ag = 493.66 [584.09] [0.84σ]
Teffp = 6643 [1727] K [3.31σ]

DV Diagnostic Results:

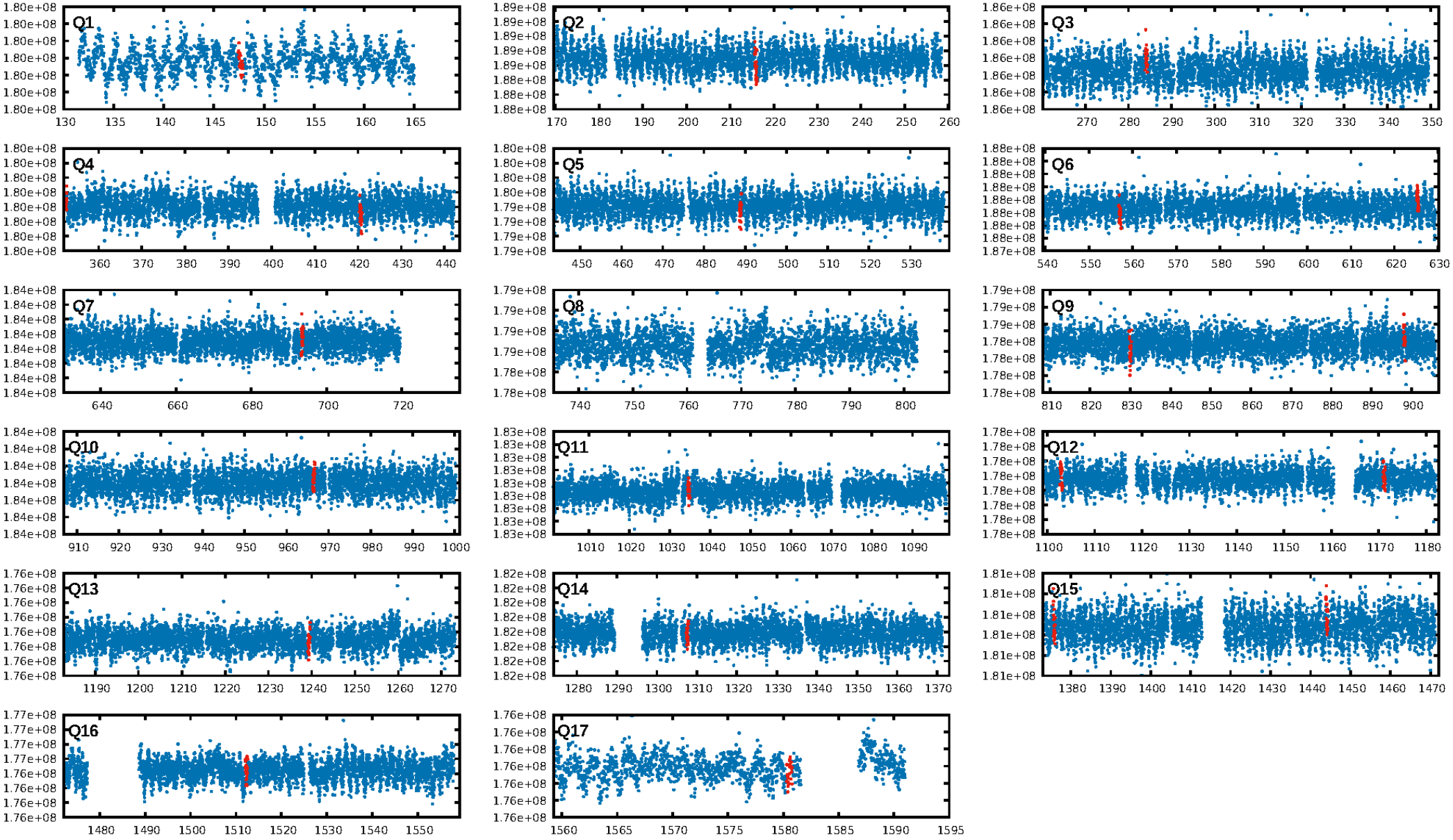
ShortPeriod−sig: 100.0% [5.47σ]
LongPeriod−sig: 100.0% [25.45σ]
ModelChiSquare2−sig: 0.2%
ModelChiSquareGof−sig: 99.7%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [9/9]
GhostDiagnostic−chr: −10.75

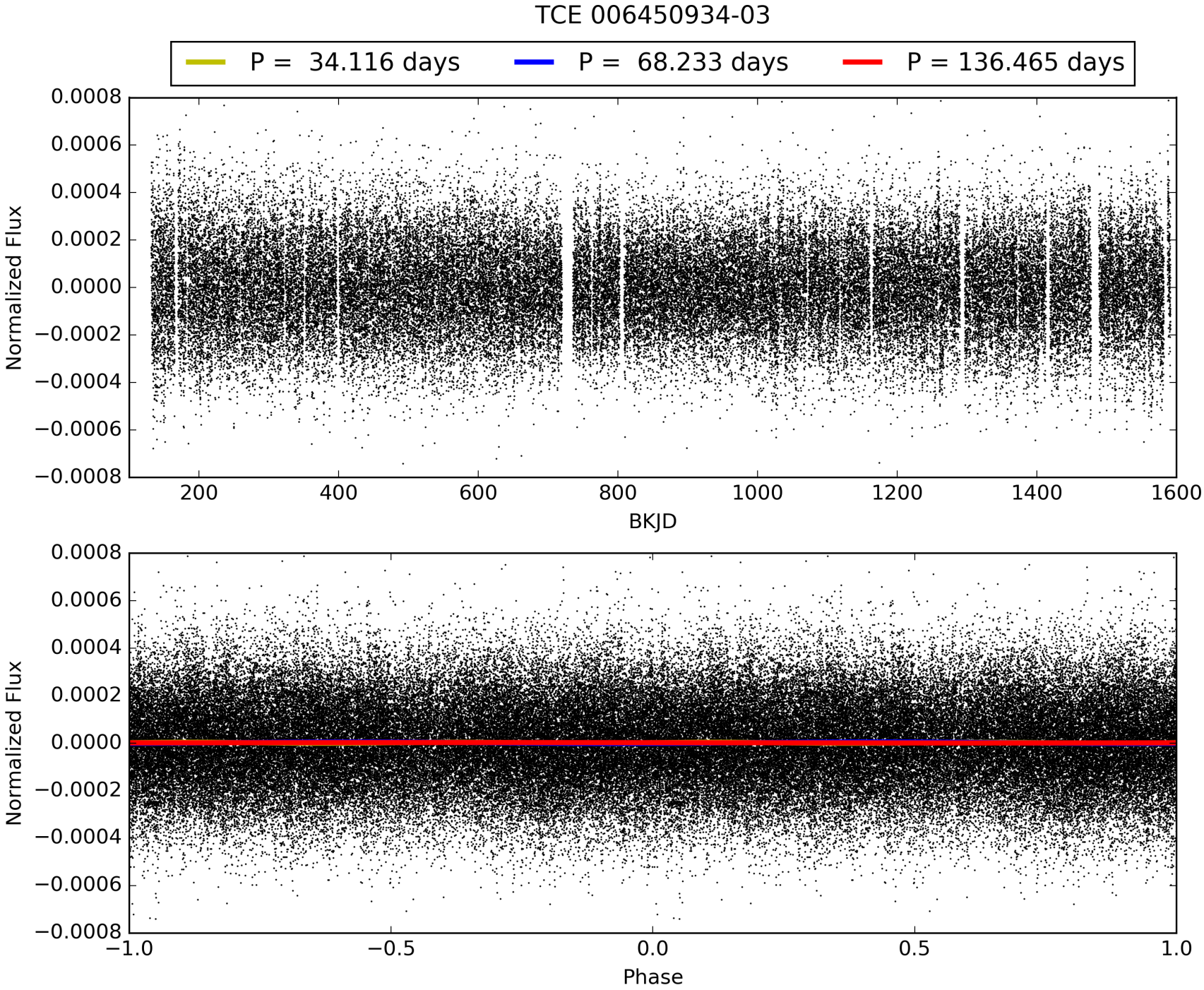
Centroid−sig: 13.1%
Centroid−so: 0.538 arcsec [0.88σ]
OotOffset−rm: 1.417 arcsec [1.80σ]
KicOffset−rm: 1.332 arcsec [1.60σ]
OotOffset−st: 3/4/3/4 [14]
KicOffset−st: 3/4/3/4 [14]
DiffImageQuality−fgm: 0.50 [7/14]
DiffImageOverlap−fno: 0.27 [4/15]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 03−Feb−2016 05:27:05 Z

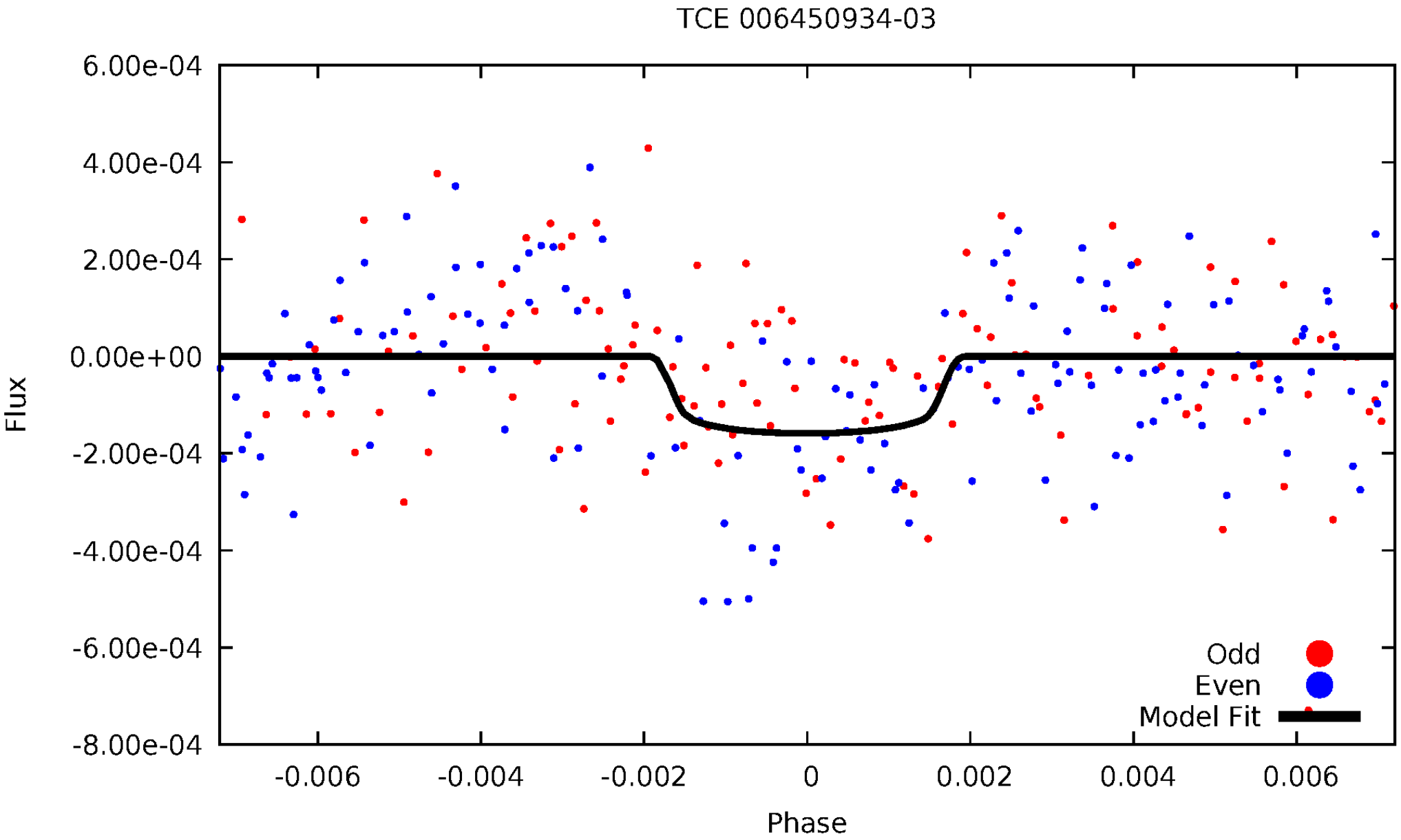
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

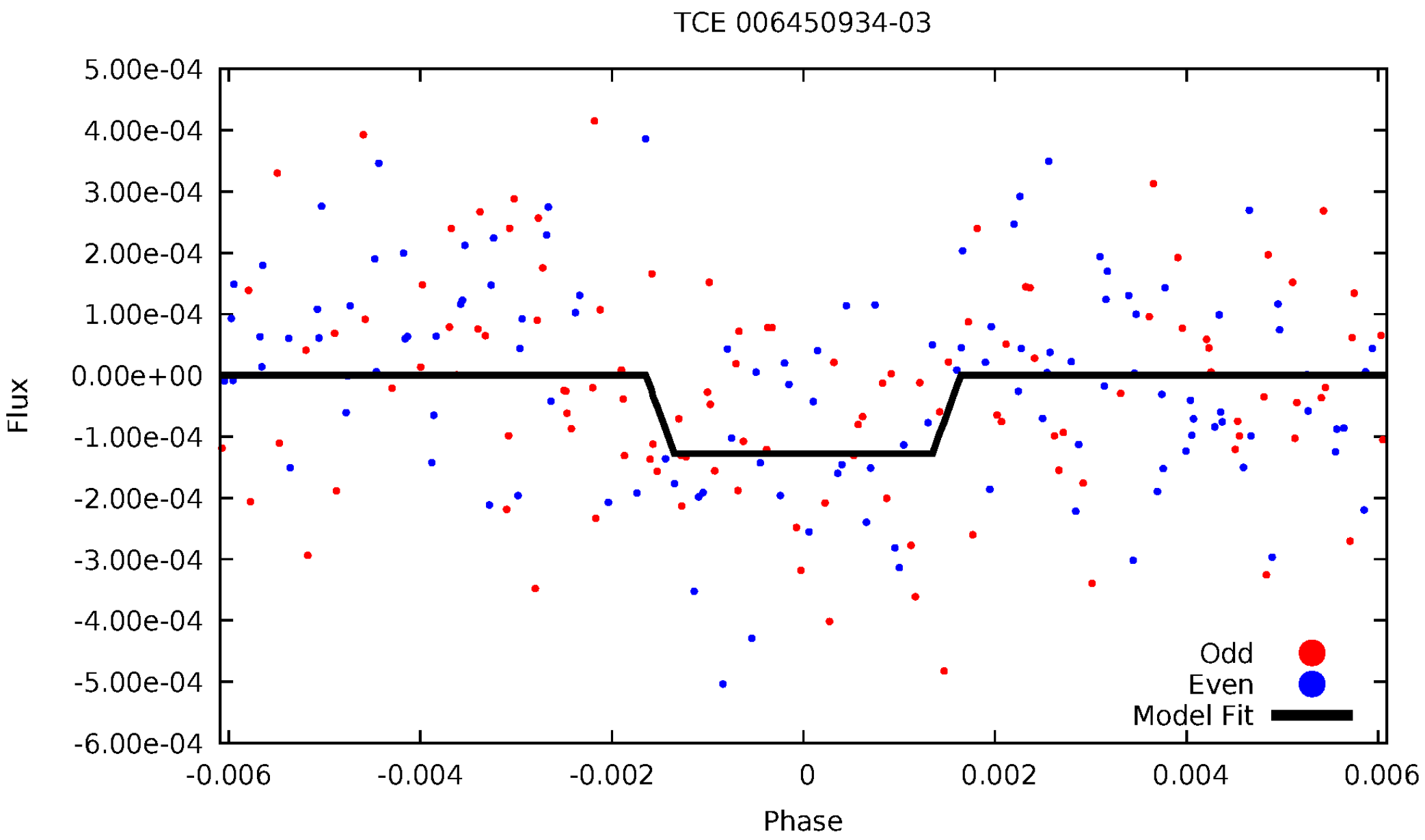
TCE 006450934-03, PDC Light Curves



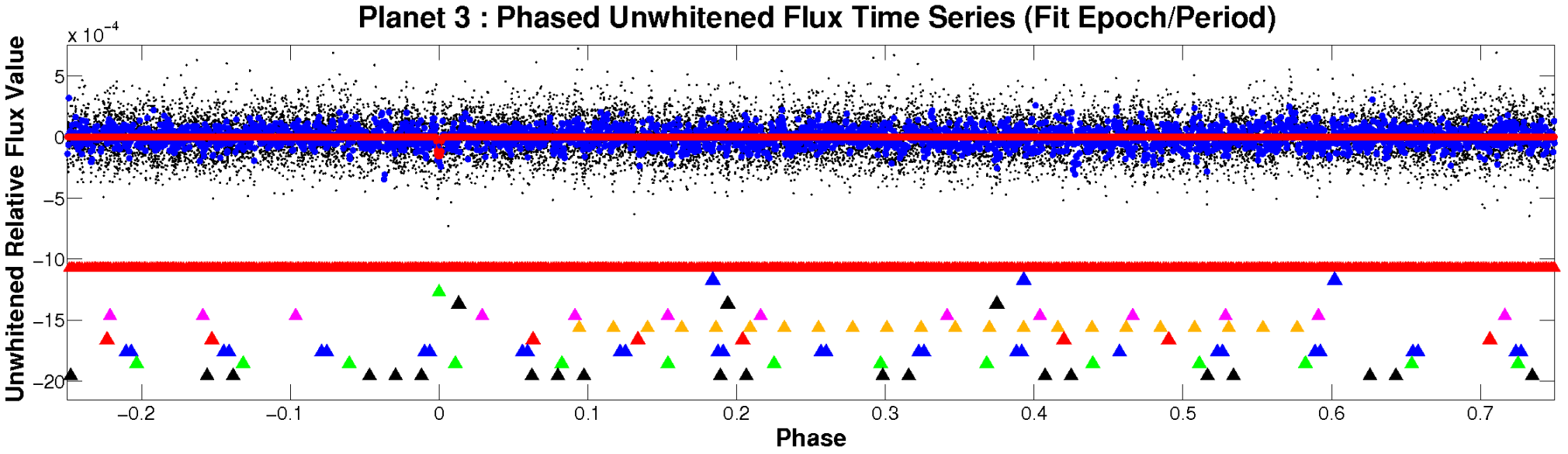

TCE 006450934-03
P = 34.116 days
P = 68.233 days
P = 136.465 days
Normalized Flux
0.0008
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
−0.0008
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
−1.0
−0.5
0.0
0.5
1.0
Phase

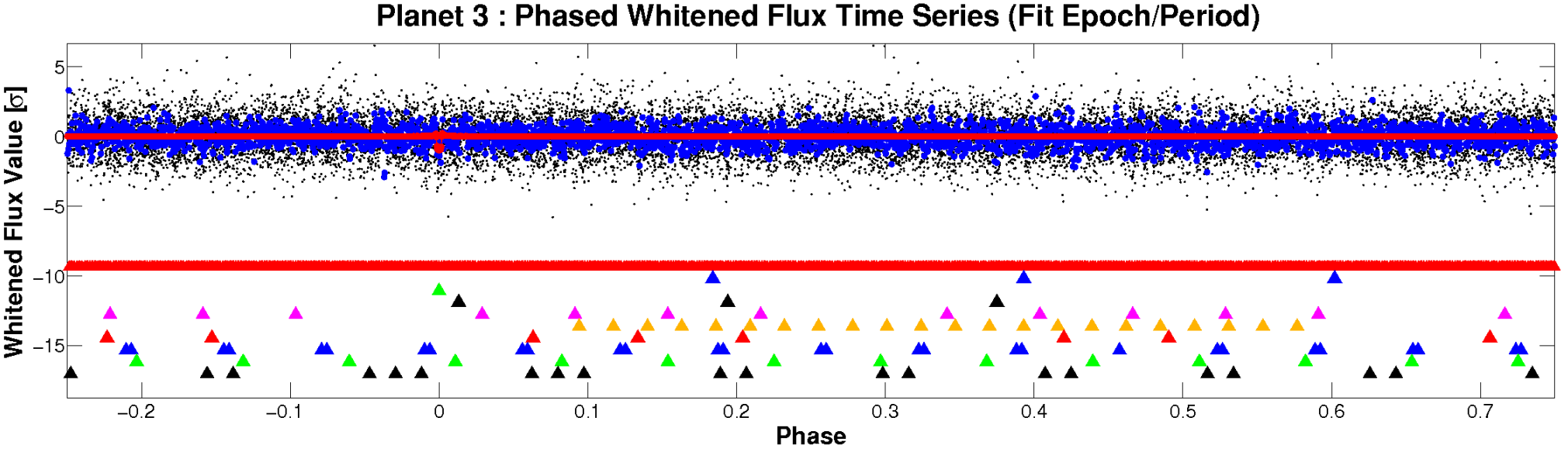
DV Odd/Even


TCE 006450934-03
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
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 006450934-03
5.00e-04
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
-6.00e-04
Flux
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit

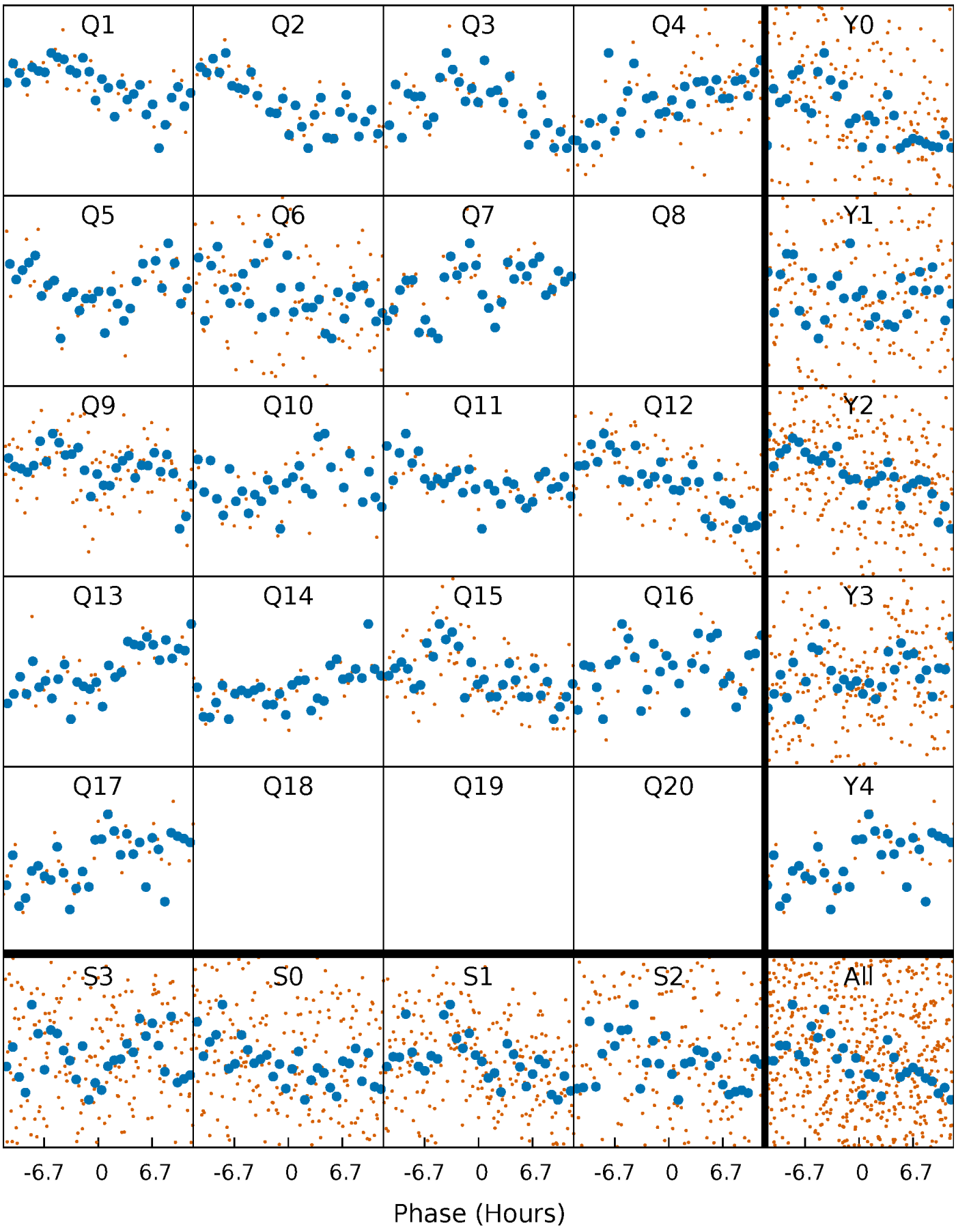
Non-Whitened Vs. Whitened Light Curve





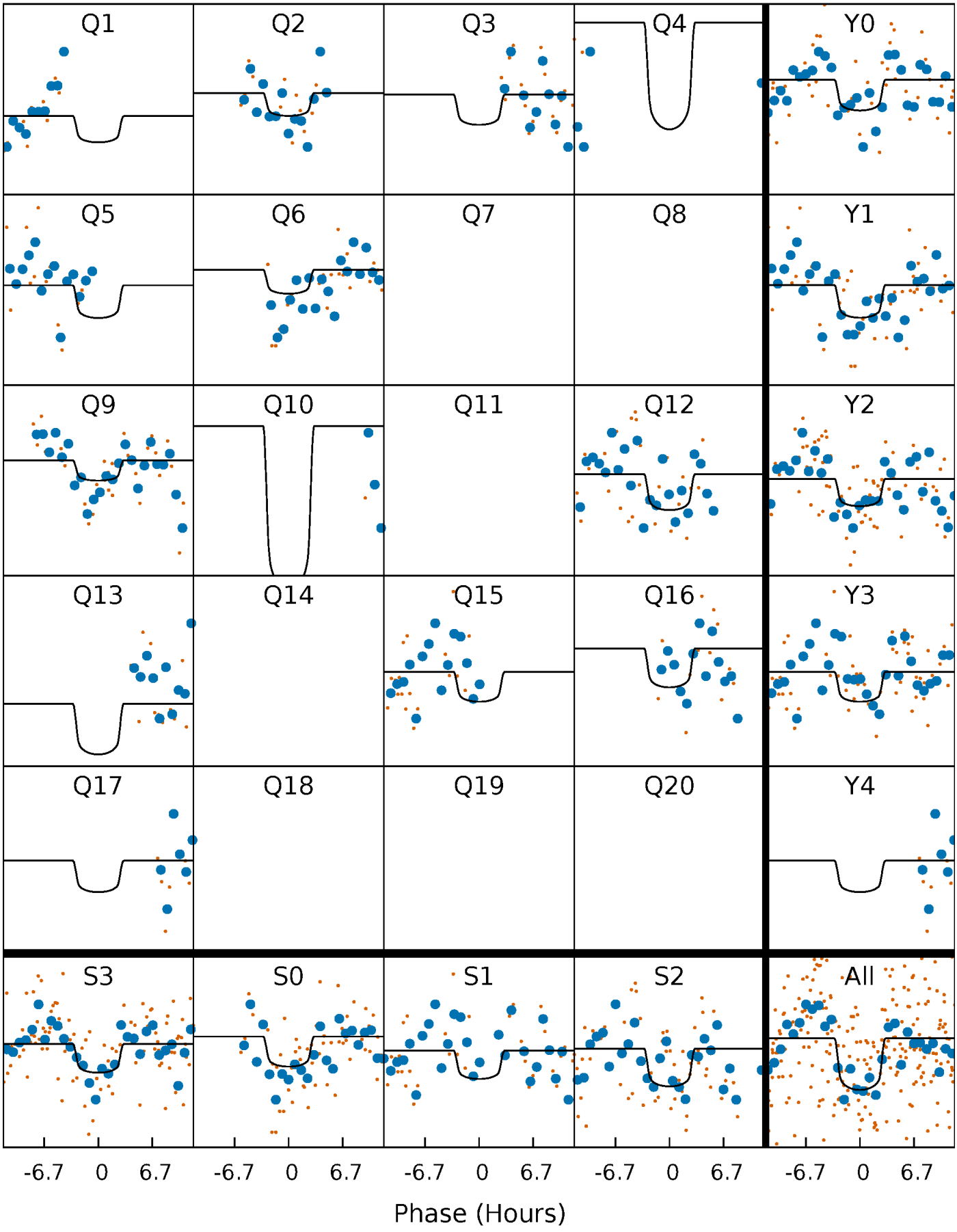
PDC Quarter-Phased Transit Curves

TCE 006450934-03 P= 68.232639 Days T_0=147.673666 (BKJD)



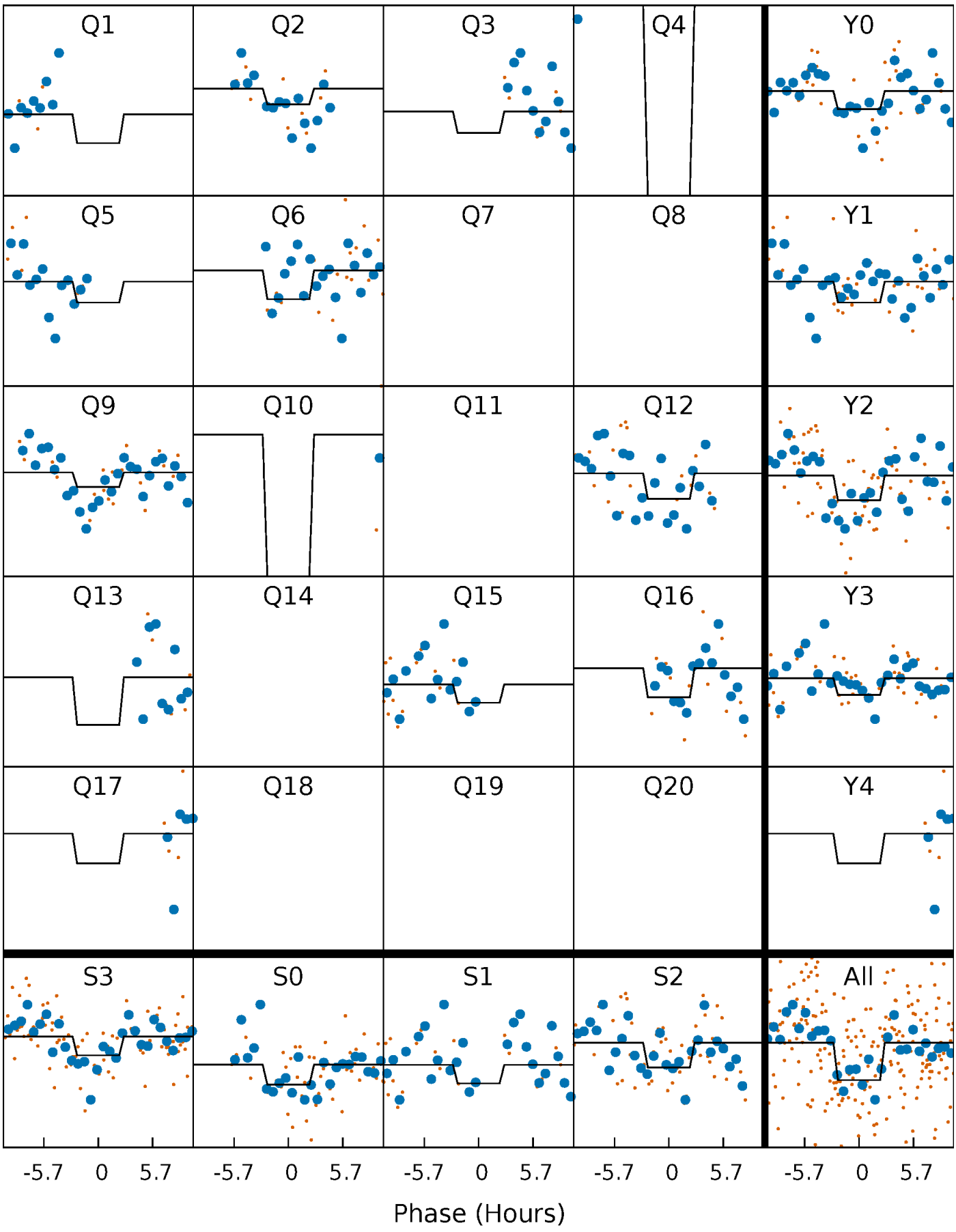
DV Quarter-Phased Transit Curves

TCE 006450934-03 P= 68.232639 Days T_0=147.673666 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

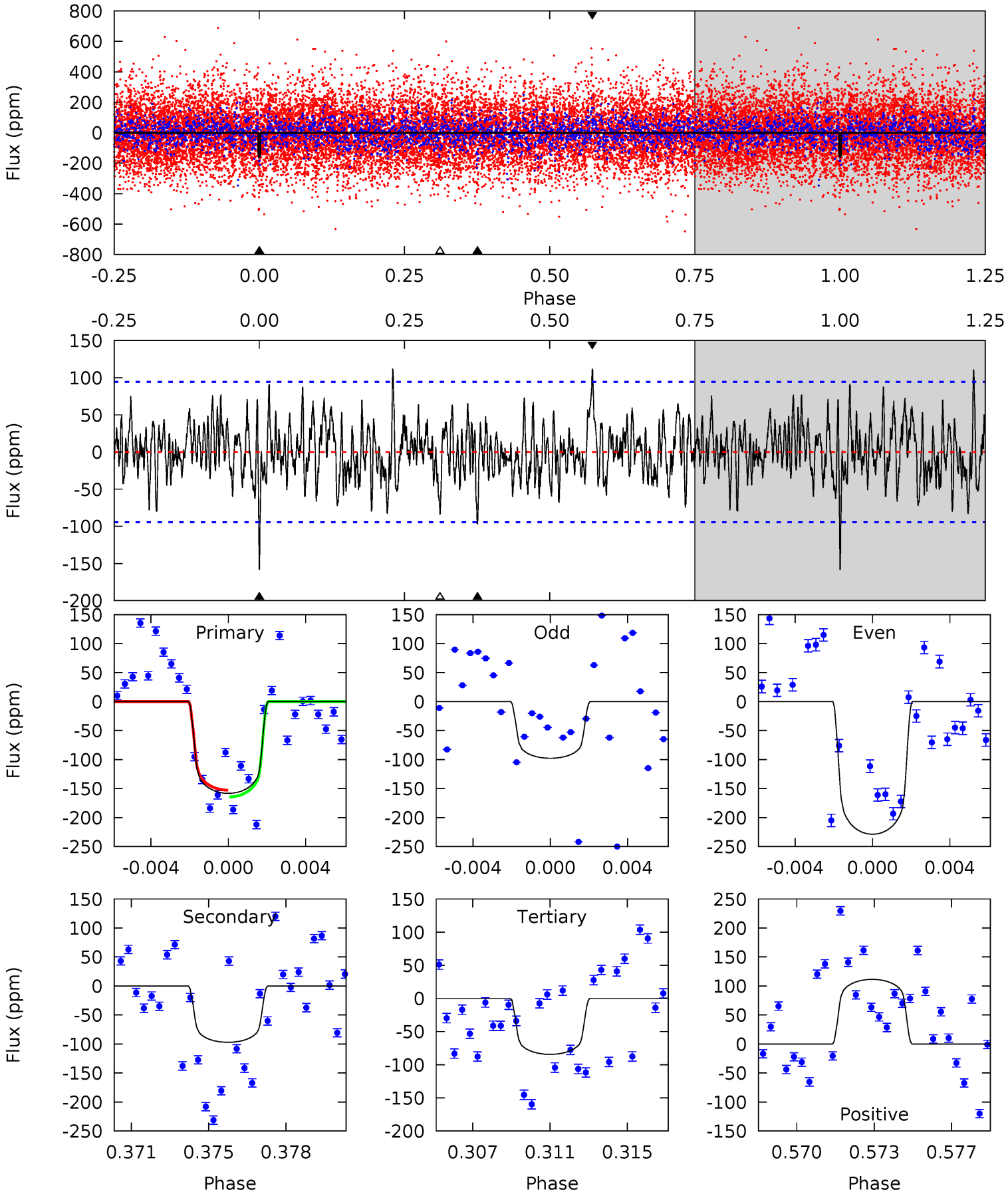
TCE 006450934-03 P= 68.233477 Days T_0=147.673711 (BKJD)



DV Model-Shift Uniqueness Test

006450934-03, P = 68.232639 Days, E = 79.441027 Days

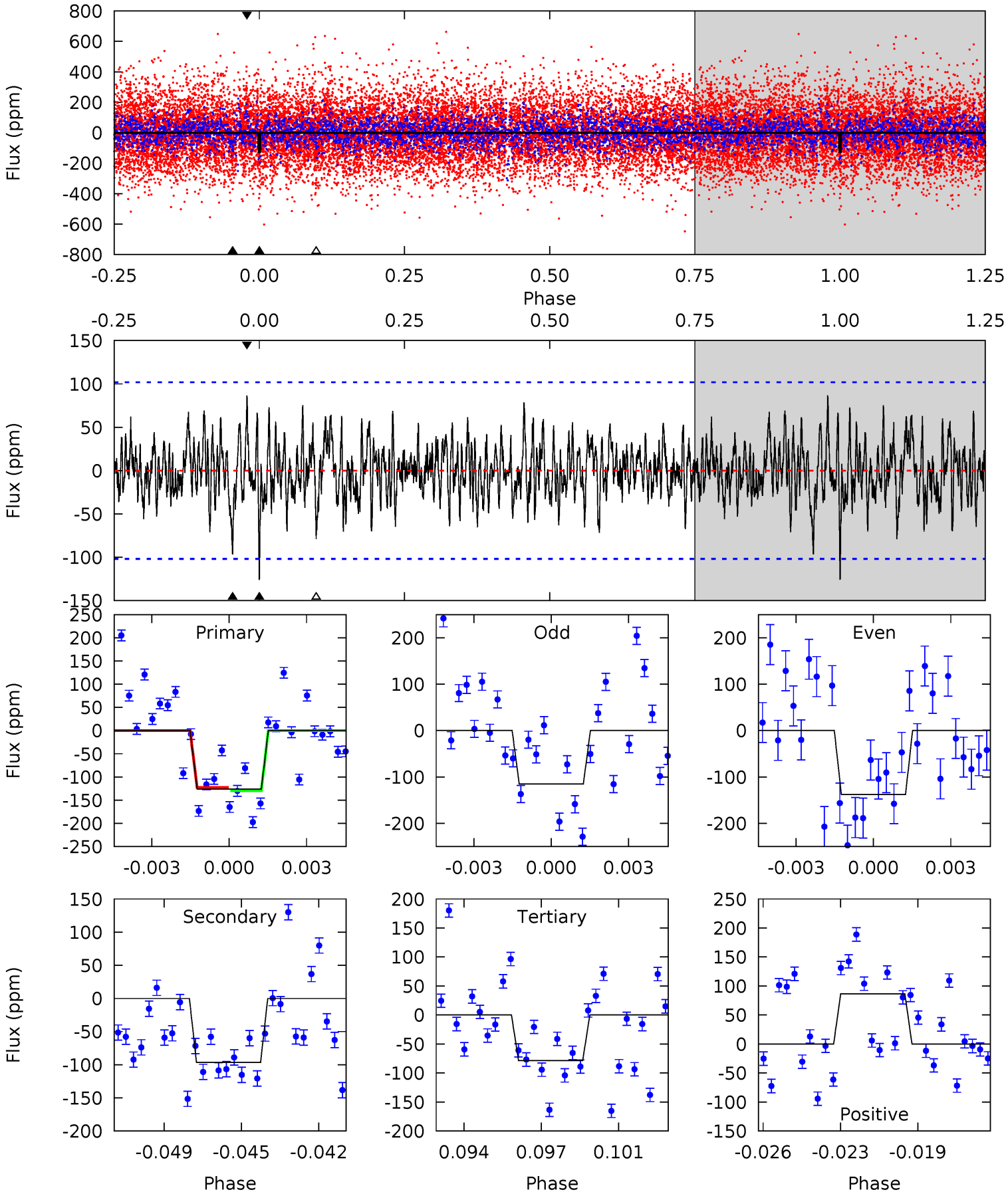
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.73	5.35	4.65	6.15	5.21	2.90	1.71	4.08	2.59	0.70	-0.79	3.60	1.05	0.41	0.33



Alt Model-Shift Uniqueness Test

006450934-03, P = 68.233477 Days, E = 79.440234 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.47	4.96	4.05	4.45	5.24	2.94	1.37	2.42	2.02	0.91	0.51	0.59	1.37	0.41	0.18



Stellar Parameters For KIC 006450934

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6754^{+183}_{-203}	$3.546^{+0.336}_{-0.084}$	$-0.260^{+0.300}_{-0.250}$	$3.669^{+0.354}_{-1.417}$	$1.723^{+0.198}_{-0.368}$	$0.049^{+0.129}_{-0.013}$
	+3%/-3%	+9%/-2%	+115%/-96%	+10%/-39%	+11%/-21%	+263%/-26%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006450934-03 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-97±18	$5.01^{+2.74}_{-2.45}$	1251^{+69}_{-119}	5699^{+2461}_{-914}	323^{+923}_{-186}
Alt.	-96±19	$4.35^{+2.63}_{-2.42}$	1252^{+69}_{-113}	6154^{+3730}_{-1163}	444^{+1688}_{-277}

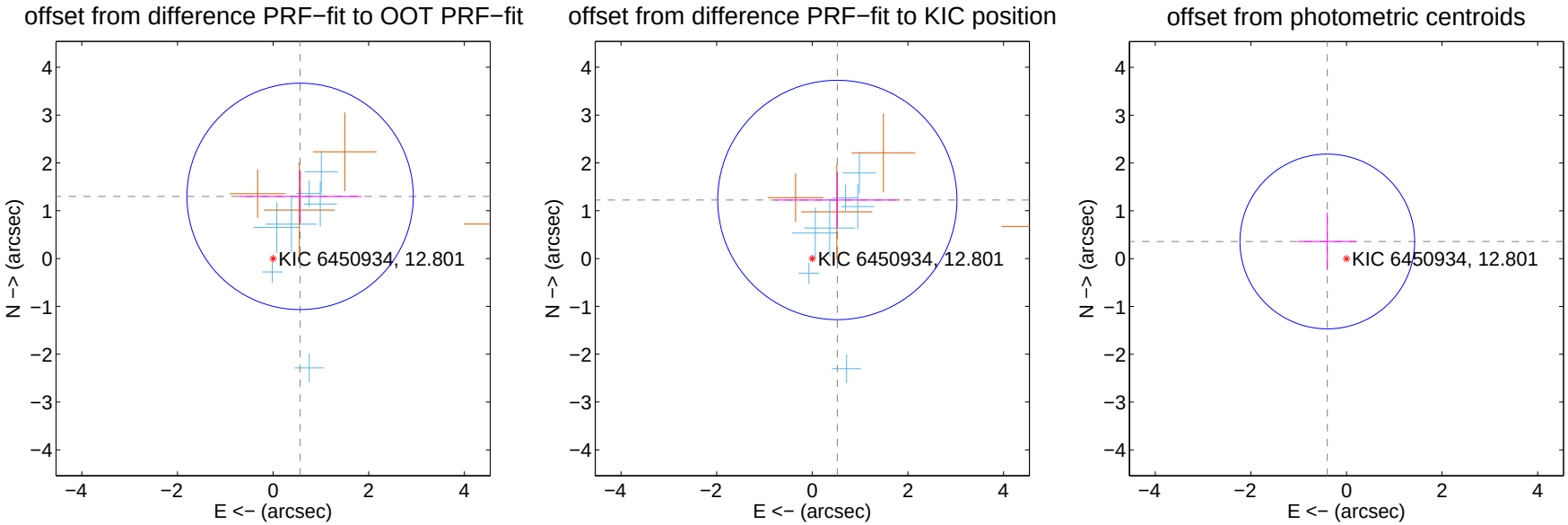
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

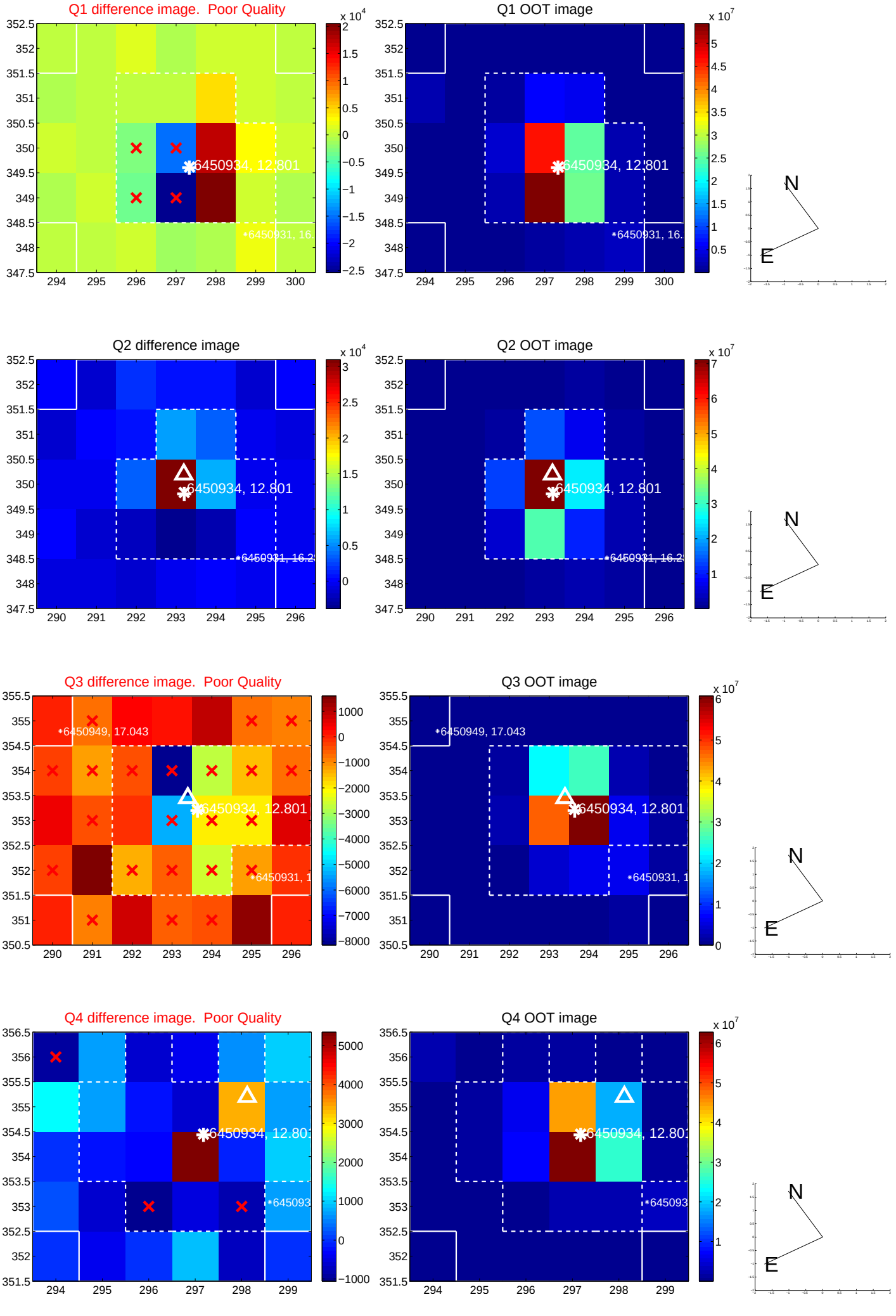
Supplemental centroid analysis for 006450934-03. Kepler magnitude: 12.80. Transit SNR 7.28
There are 7 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.417 ± 0.789	1.80	-0.565 ± 1.282	1.300 ± 0.549
PRF-fit source offset from KIC position	1.332 ± 0.834	1.60	-0.524 ± 1.306	1.225 ± 0.585
photometric centroid source offset	0.54 ± 0.61	0.88	0.40 ± 0.62	0.36 ± 0.60

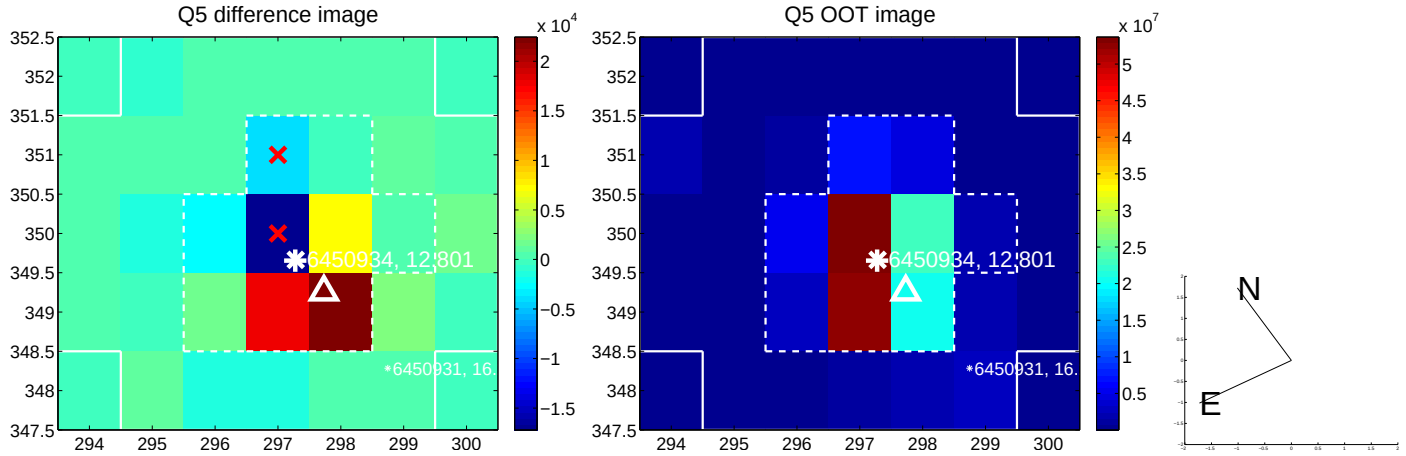


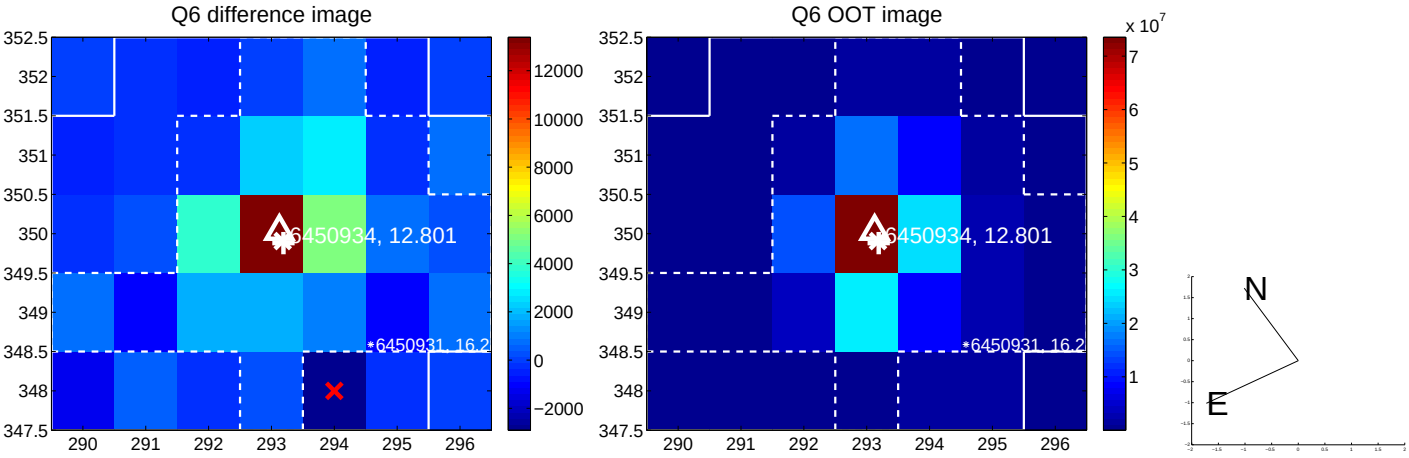
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

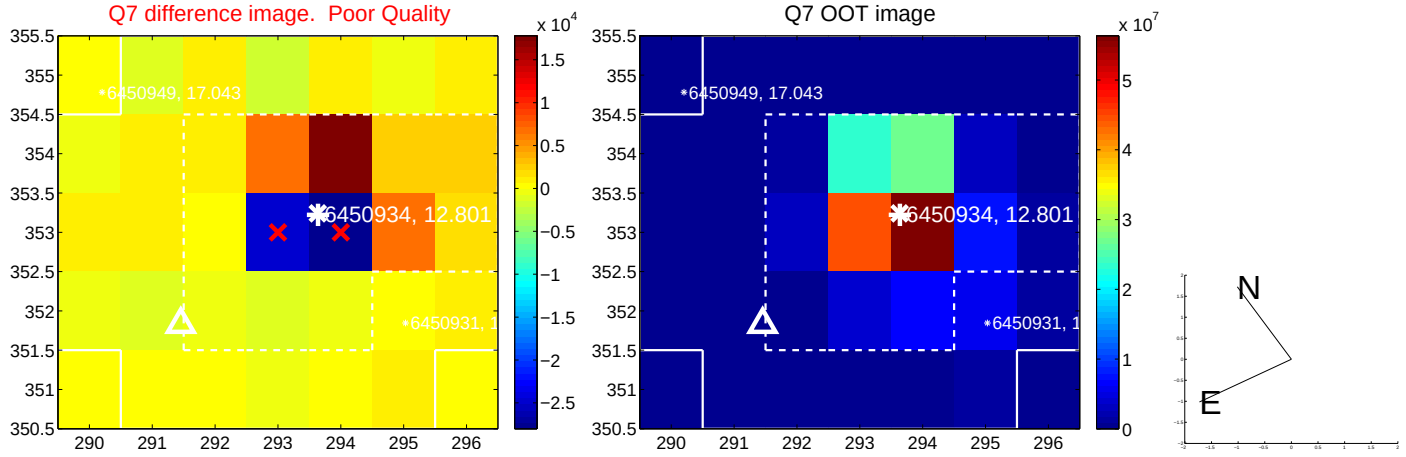
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

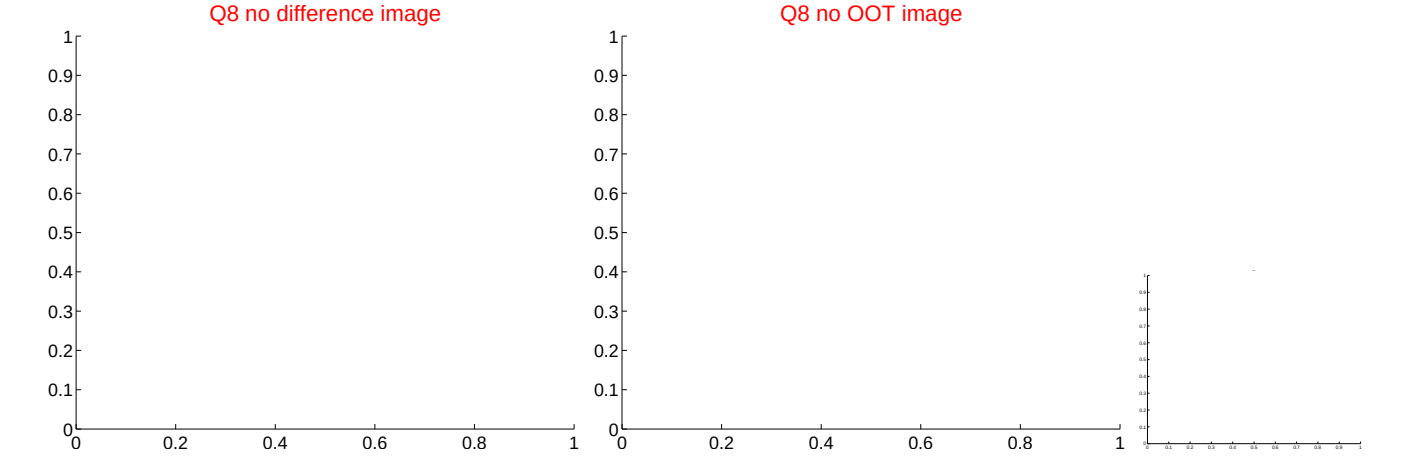


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

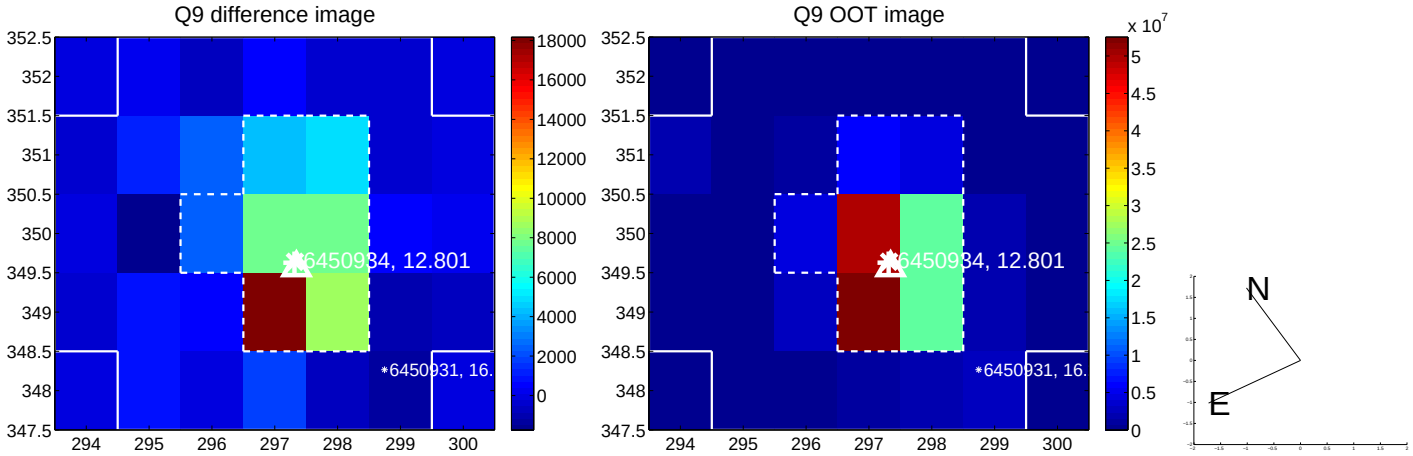


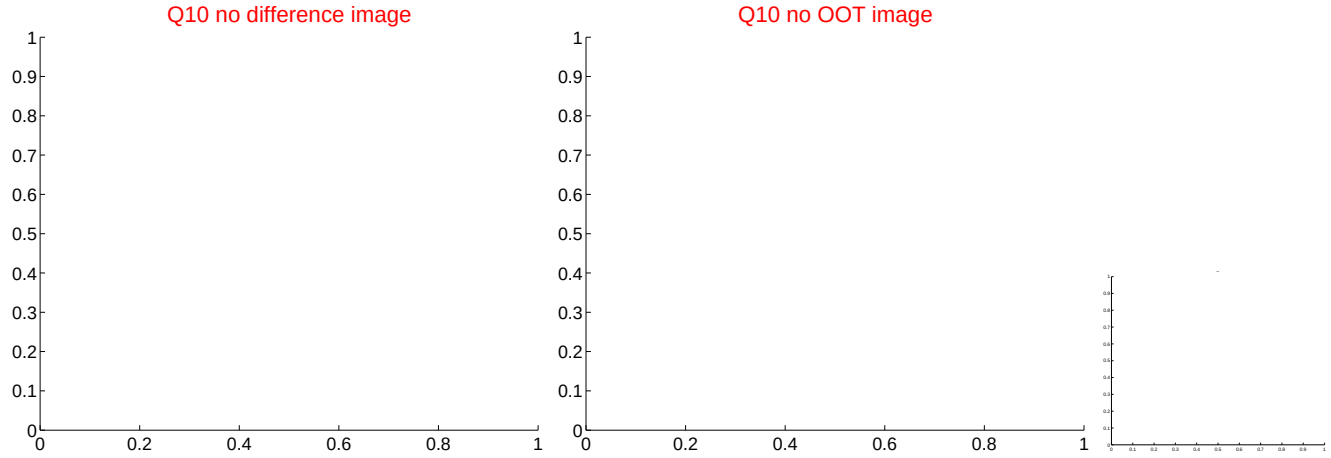


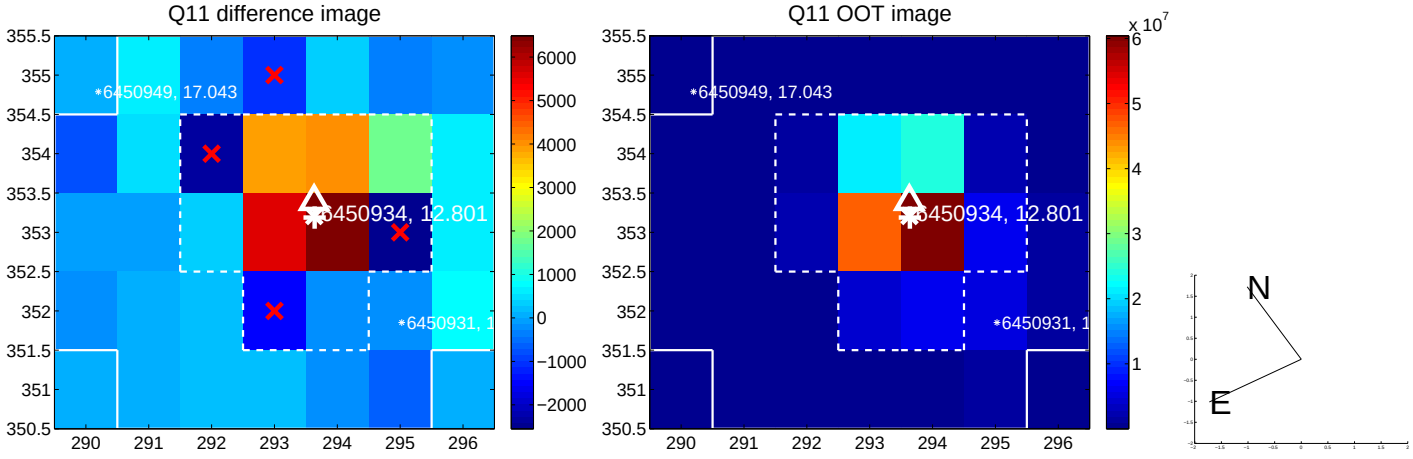


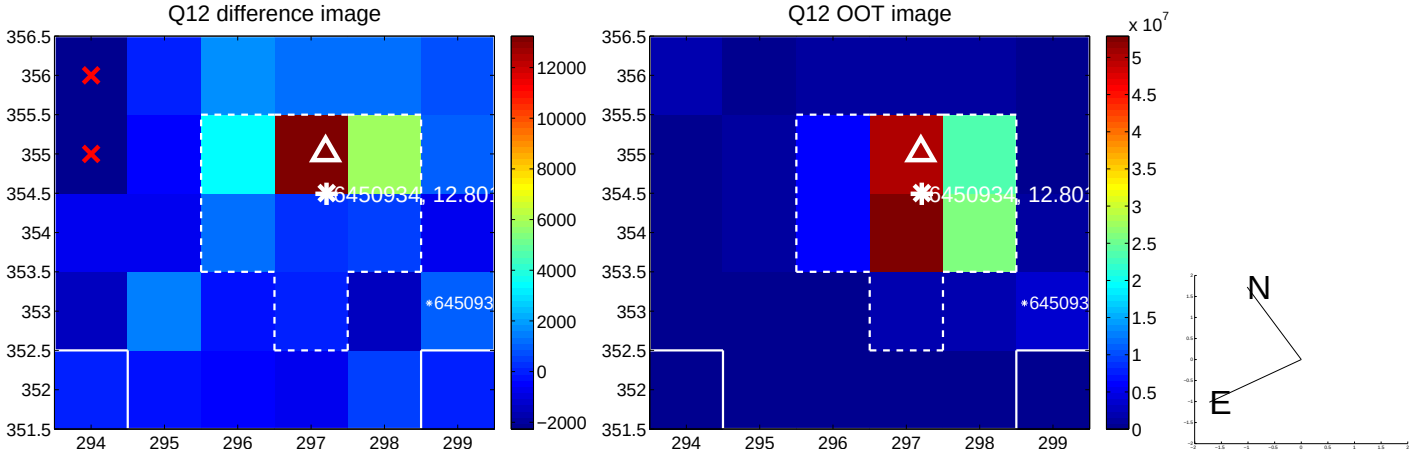


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

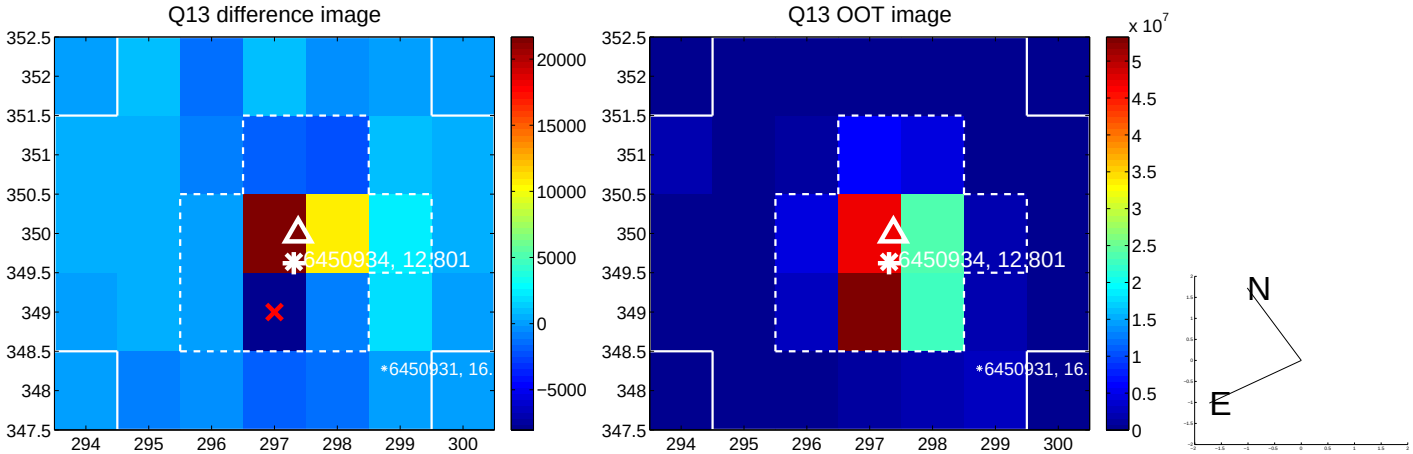


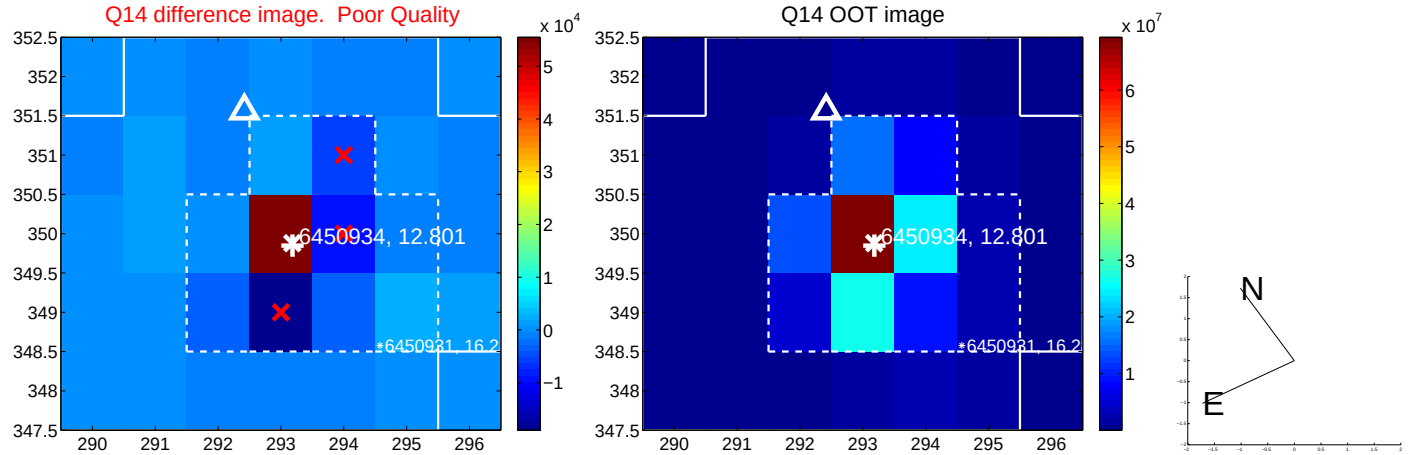


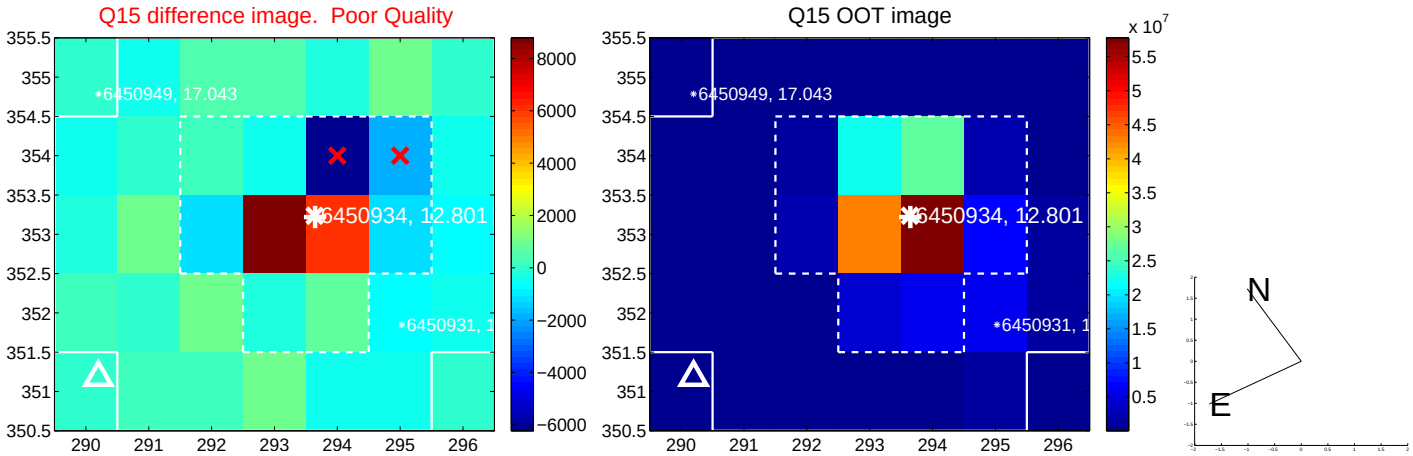


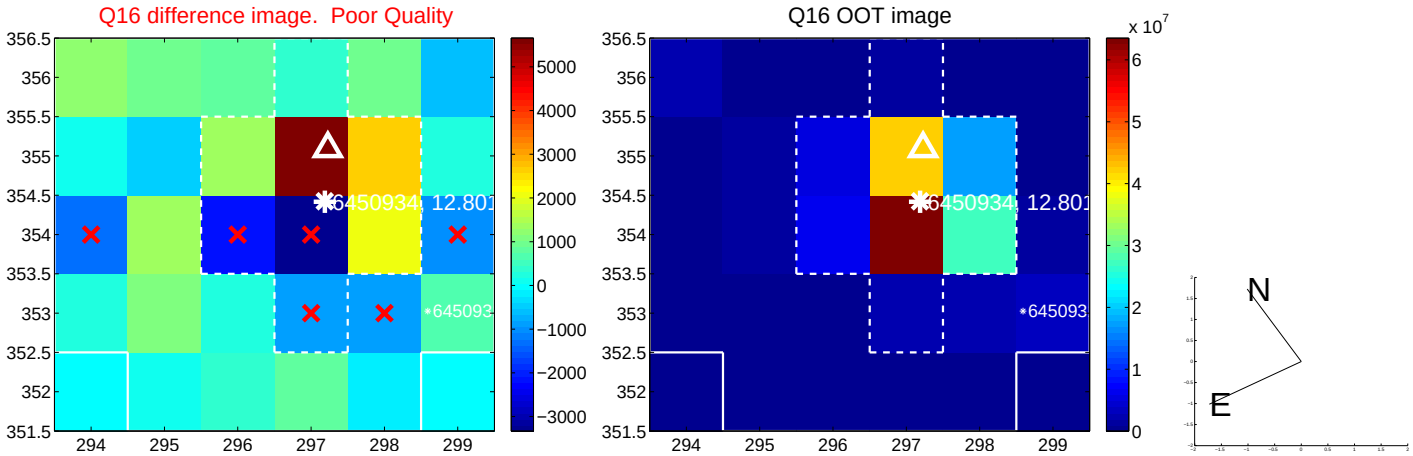


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

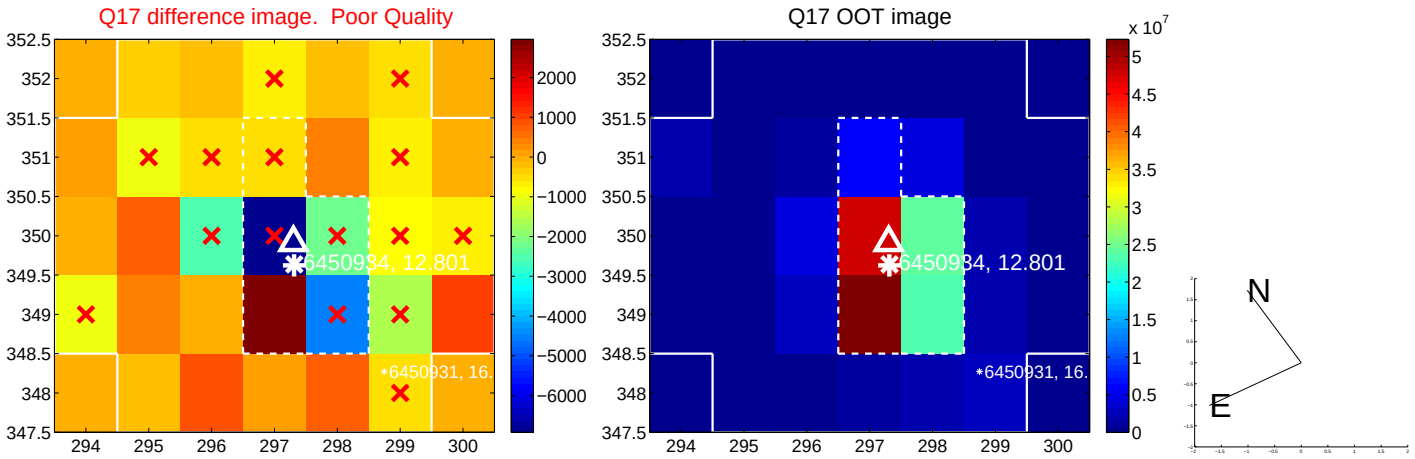


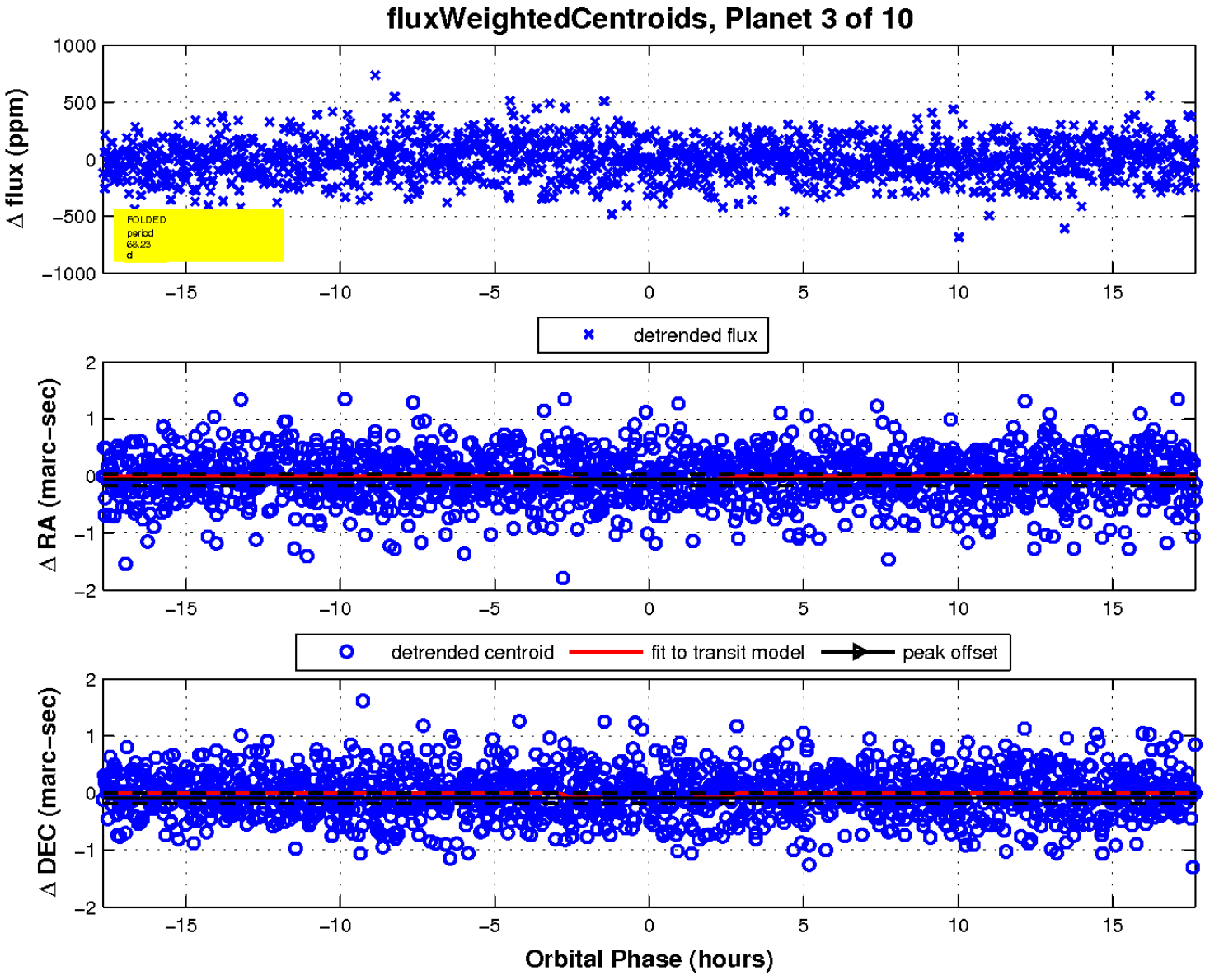




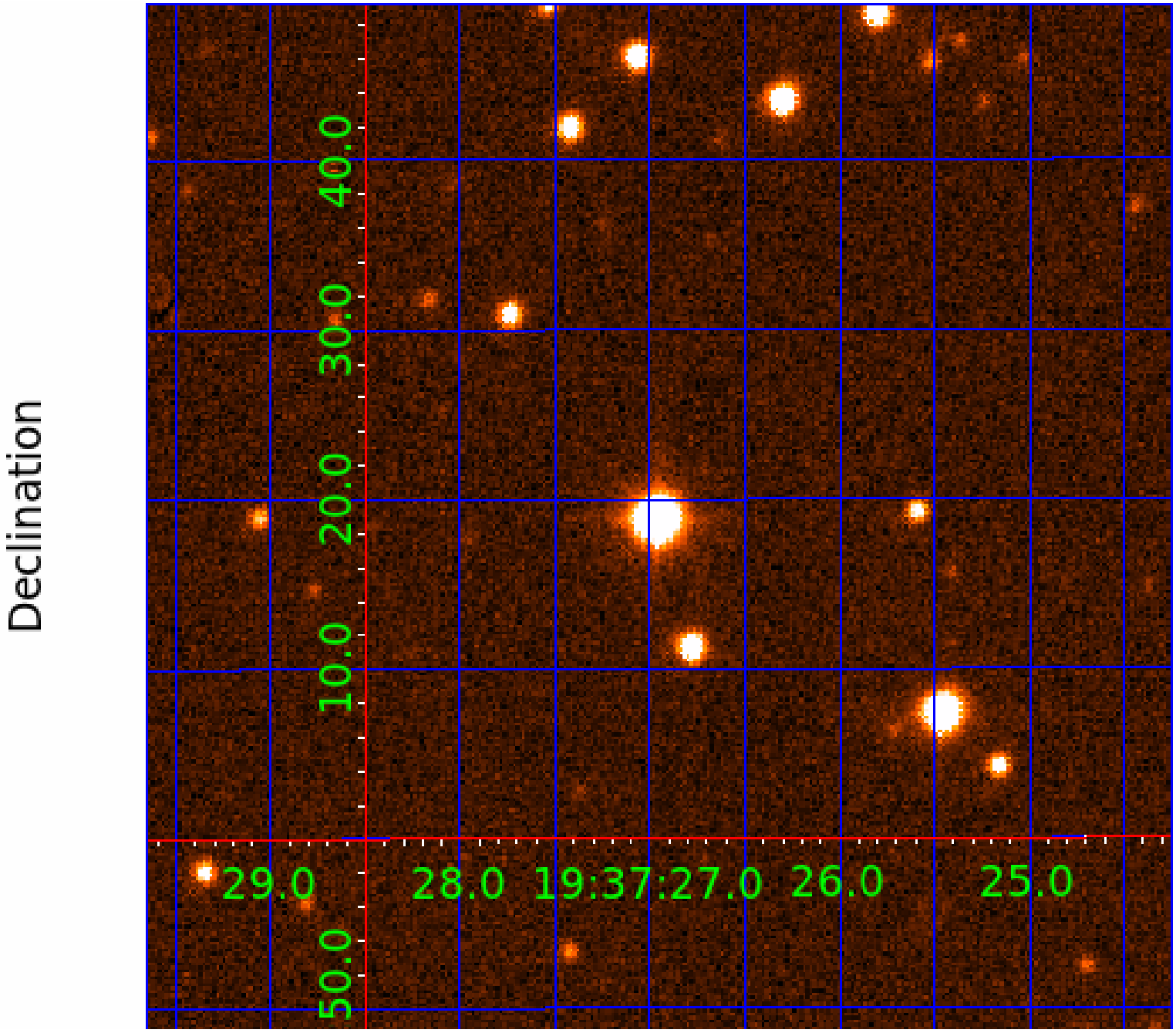


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image



KIC 006450934

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 ($S_\oplus$)
006450934-01	OBS	No	1.673031	133.058235	15.6	9.741	8.6	7.7	3.67	6754	1.68	22917.39
006450934-02	OBS	No	560.122385	433.162255	343.5	73.386	10.7	8.0	3.67	6754	8.66	9.86
006450934-03	OBS	No	68.232639	147.673666	158.9	5.895	9.5	7.3	3.67	6754	5.36	163.25
006450934-05	OBS	No	115.140159	170.976939	281.4	3.503	8.8	9.3	3.67	6754	6.90	81.26
006450934-06	OBS	No	66.664527	187.032969	240.6	3.555	8.7	9.2	3.67	6754	6.53	168.39
006450934-07	OBS	No	180.351292	298.067471	287.6	4.343	8.2	9.8	3.67	6754	7.16	44.67
006450934-08	OBS	No	50.053289	160.466595	281.2	2.001	8.2	9.1	3.67	6754	7.17	246.75
006450934-09	OBS	No	53.612809	177.650997	217.0	2.333	7.8	7.9	3.67	6754	6.30	225.15
006450934-10	OBS	No	75.681529	146.869509	174.7	3.821	8.0	7.9	3.67	6754	5.64	142.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006450934-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006450934-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006450934-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
006450934-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

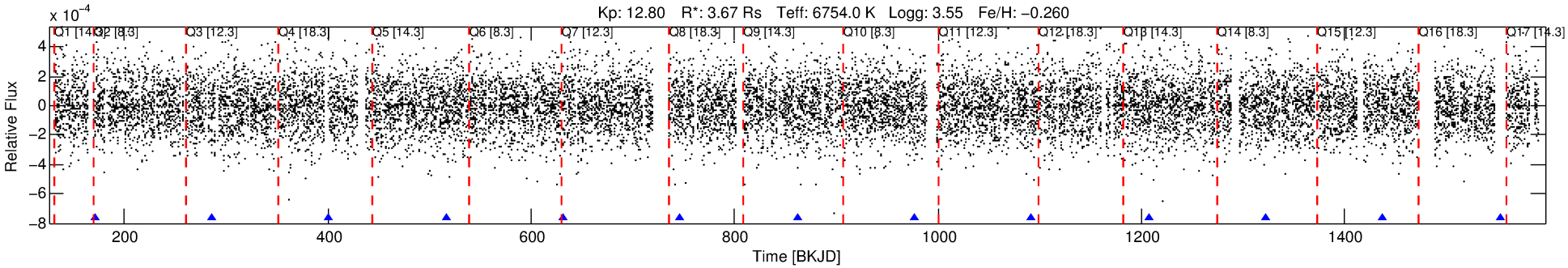
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

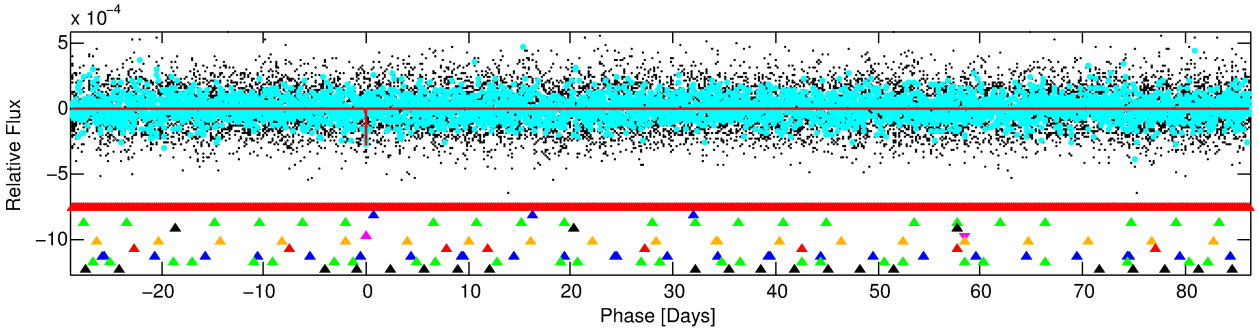
Ephemeris Match Information For 006450934-05

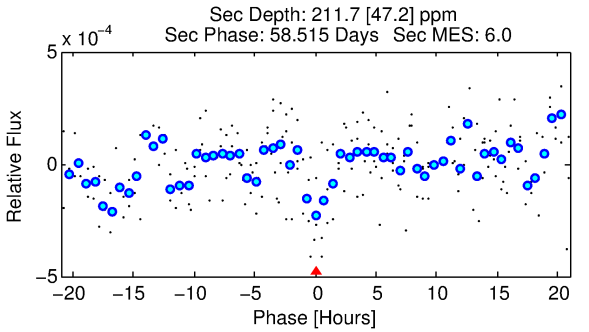
No Significant Match Found

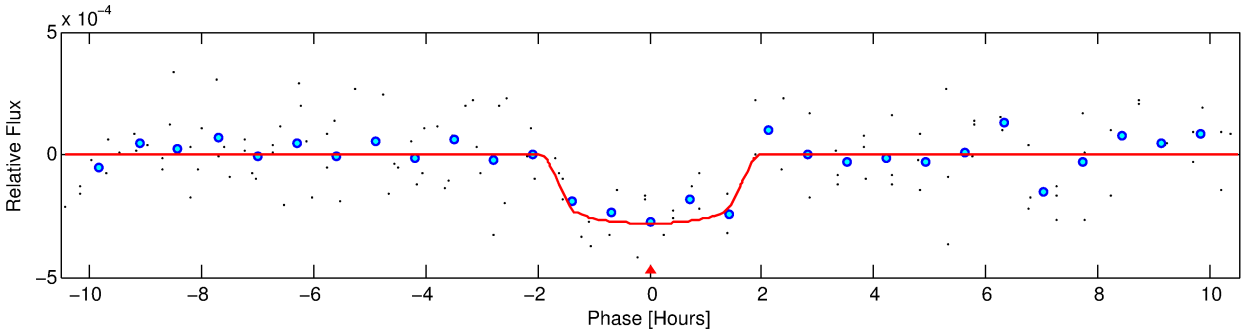
DV One-Page Summary

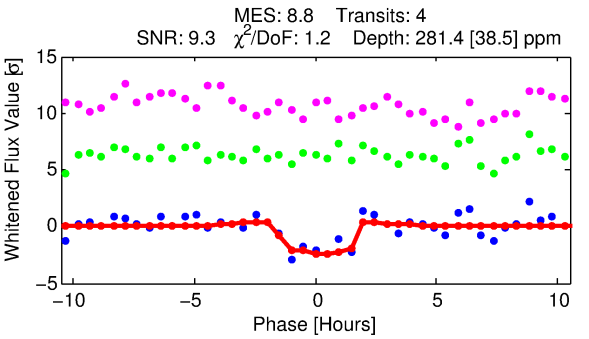
KIC: 6450934 Candidate: 5 of 10 Period: 115.140 d

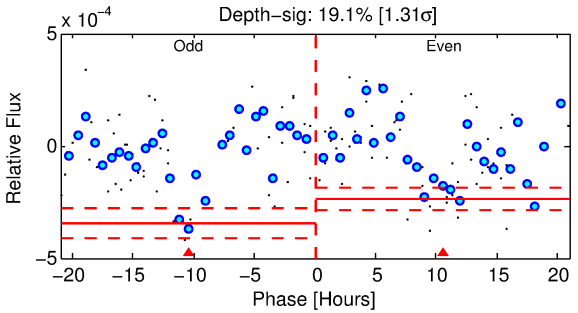


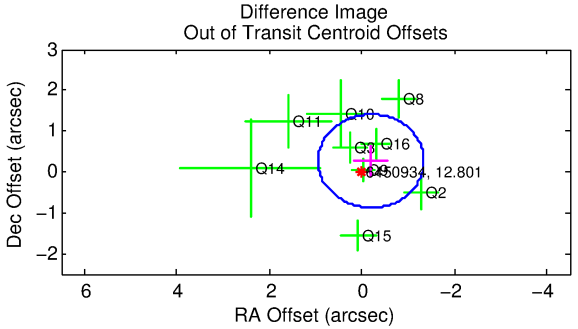












DV Fit Results:

Period = 115.14016 [0.00157] d
Epoch = 170.9769 [0.0076] BKJD
Rp/R* = 0.0172 [0.0081]
a/R* = 144.84 [384.61]
b = 0.84 [0.96]

Seff = 81.26 [47.85]
Teq = 766 [113] K
Rp = 6.90 [4.19] Re
a = 0.5558 [0.2025] AU

Ag = 754.79 [845.86] [0.89σ]
Teffp = 6204 [1502] K [3.61σ]

DV Diagnostic Results:

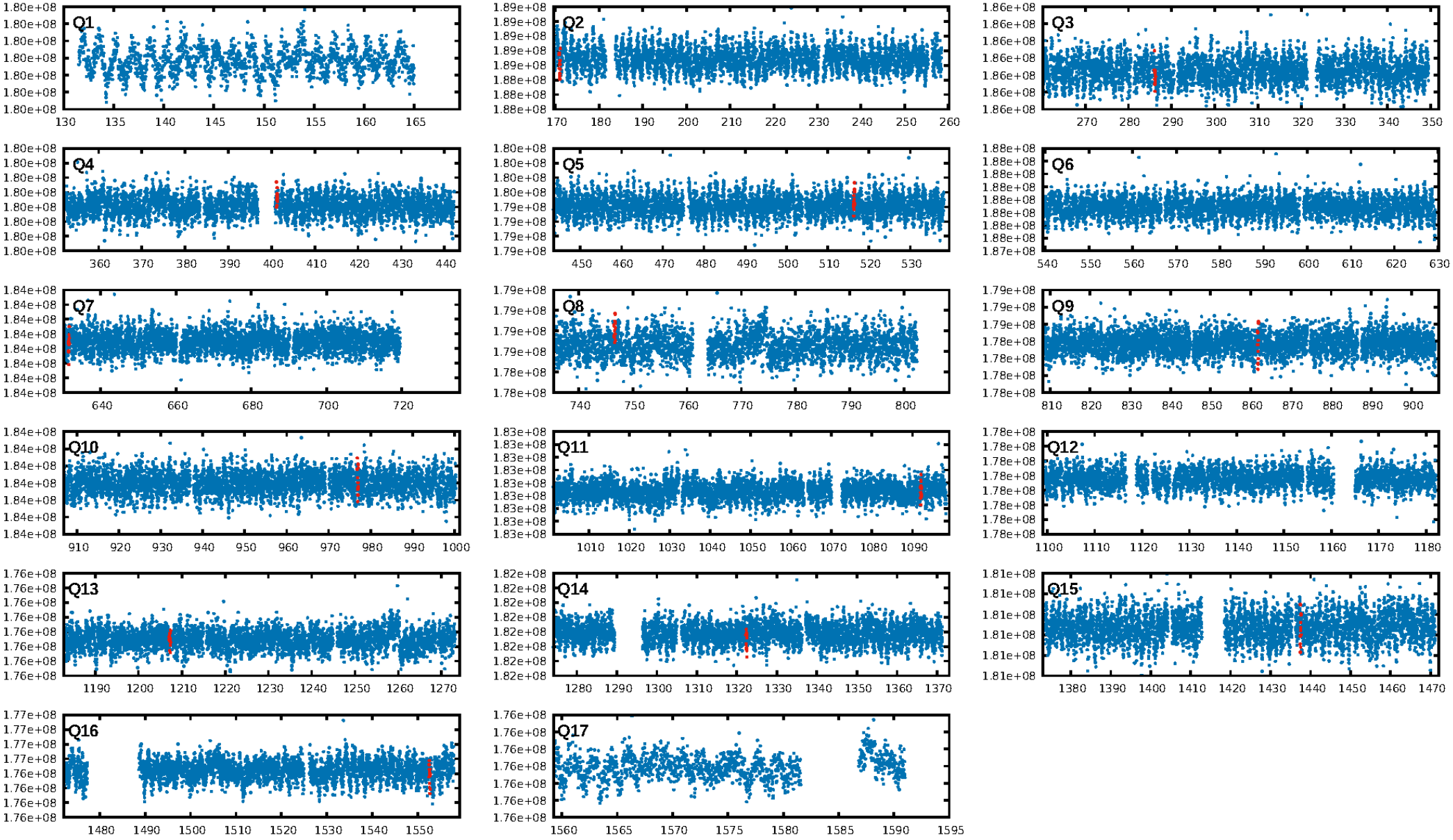
ShortPeriod−sig: 100.0% [182.69σ]
LongPeriod−sig: 100.0% [280.47σ]
ModelChiSquare2−sig: 74.2%
ModelChiSquareGof−sig: 99.7%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: 0.8593

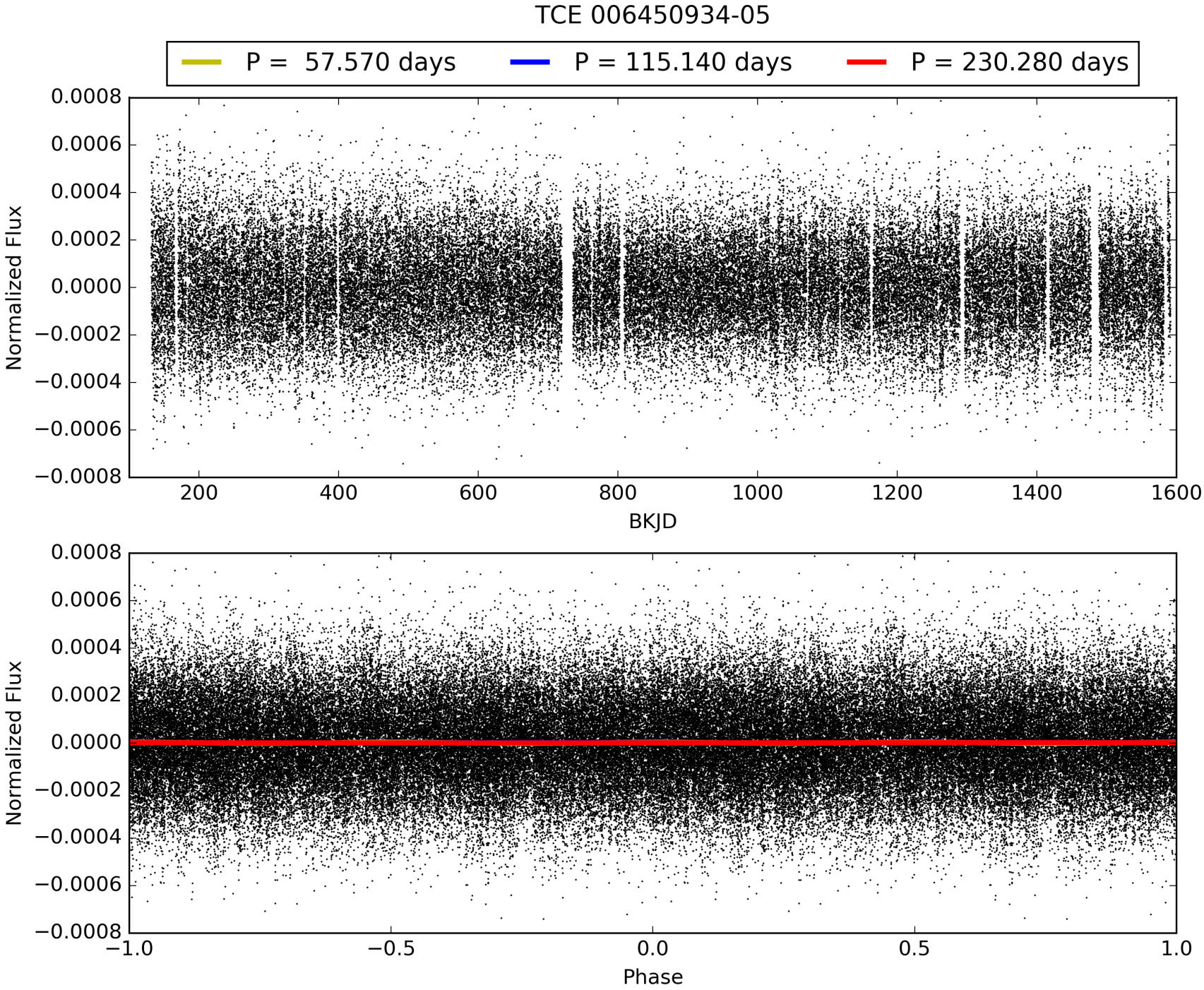
Centroid−sig: 38.1%
Centroid−so: 0.607 arcsec [1.11σ]
OotOffset−rm: 0.328 arcsec [0.86σ]
KicOffset−rm: 0.274 arcsec [0.80σ]
OotOffset−st: 3/3/2/1 [9]
KicOffset−st: 3/3/2/1 [9]
DiffImageQuality−fgm: 0.56 [5/9]
DiffImageOverlap−fno: 0.33 [4/12]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 03−Feb−2016 05:27:16 Z

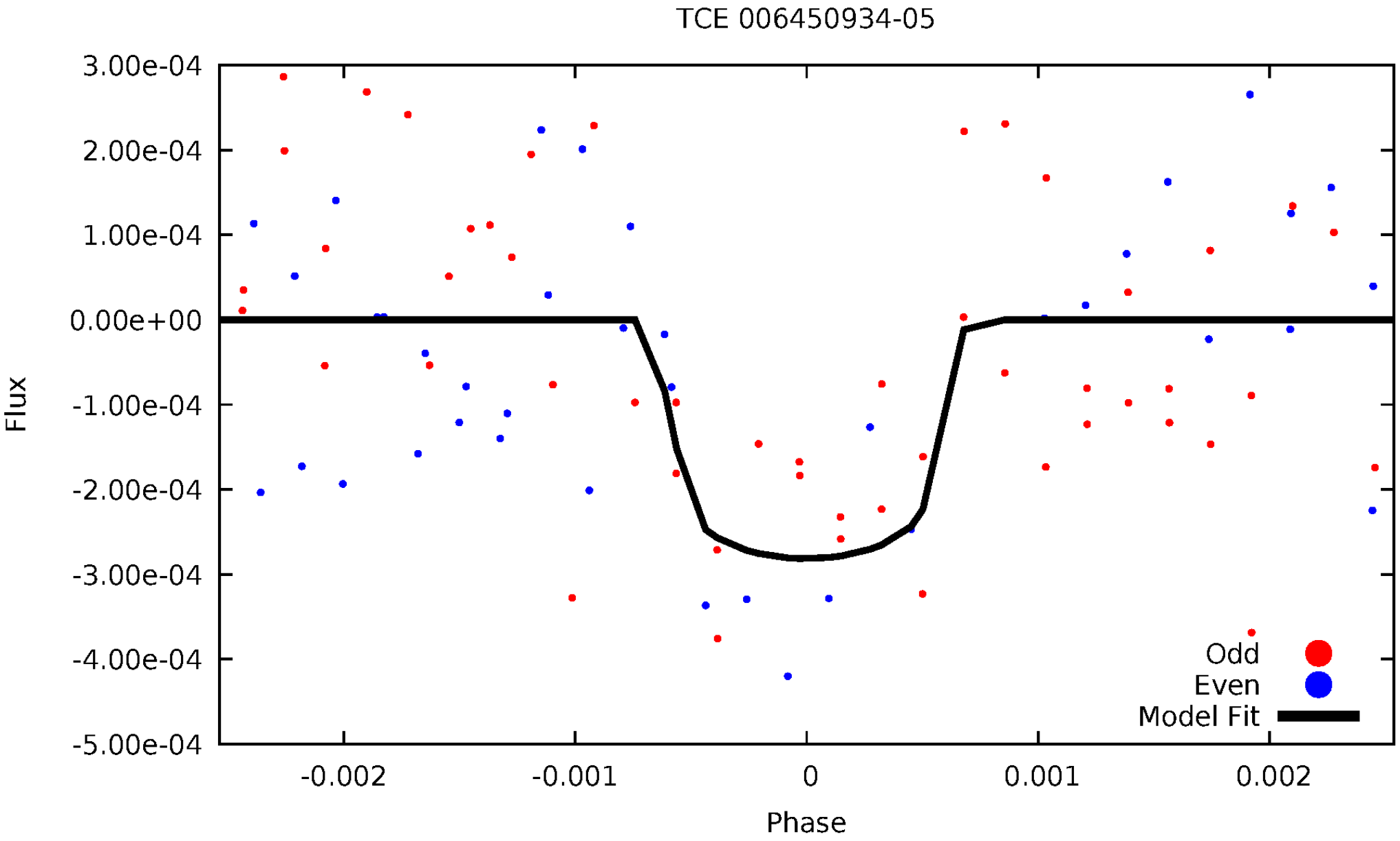
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006450934-05, PDC Light Curves

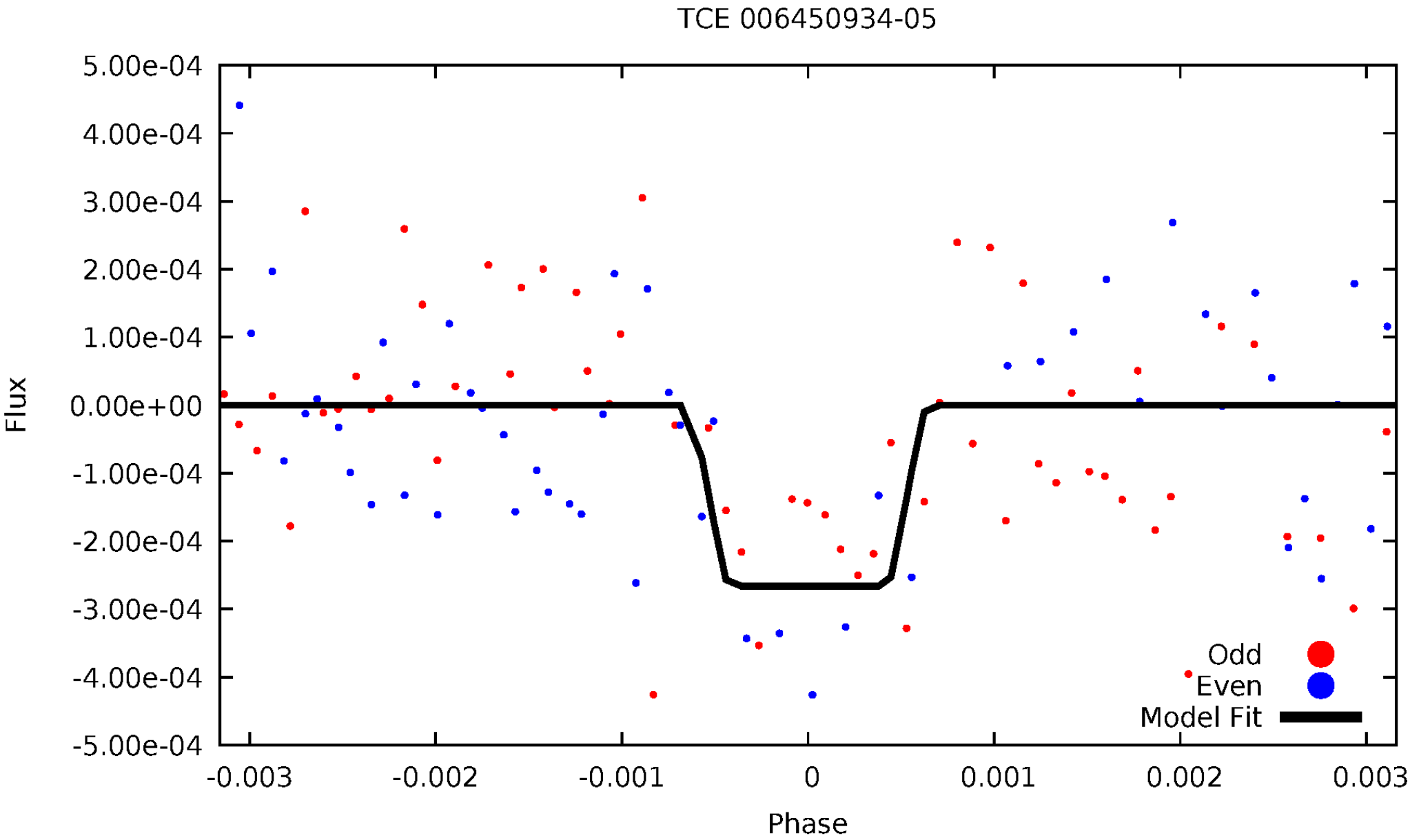



TCE 006450934-05
P = 57.570 days
P = 115.140 days
P = 230.280 days
Normalized Flux
0.0008
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
−0.0008
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0008
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
−0.0008
−1.0
−0.5
0.0
0.5
1.0
Phase

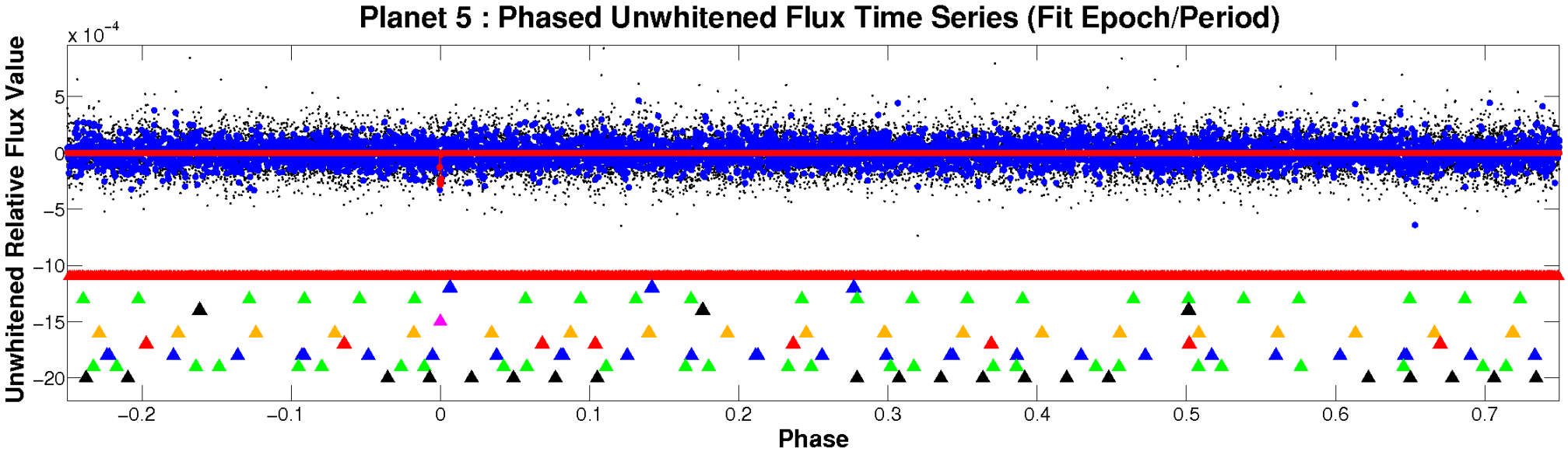
DV Odd/Even

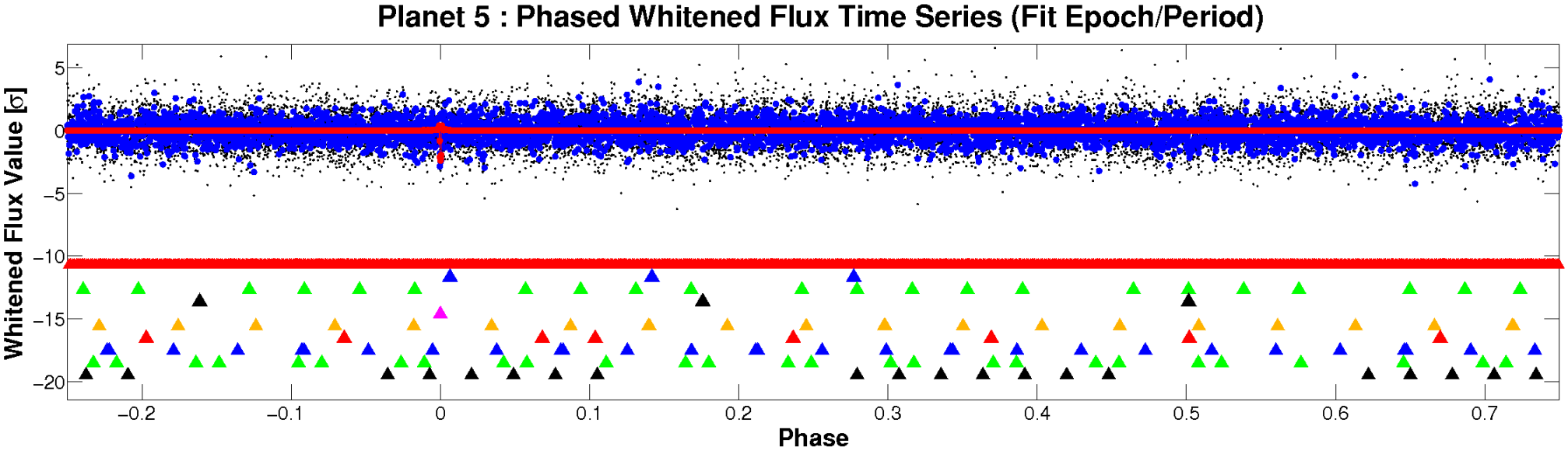

TCE 006450934-05
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
Flux
-0.002
-0.001
0
0.001
0.002
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006450934-05
5.00e-04
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

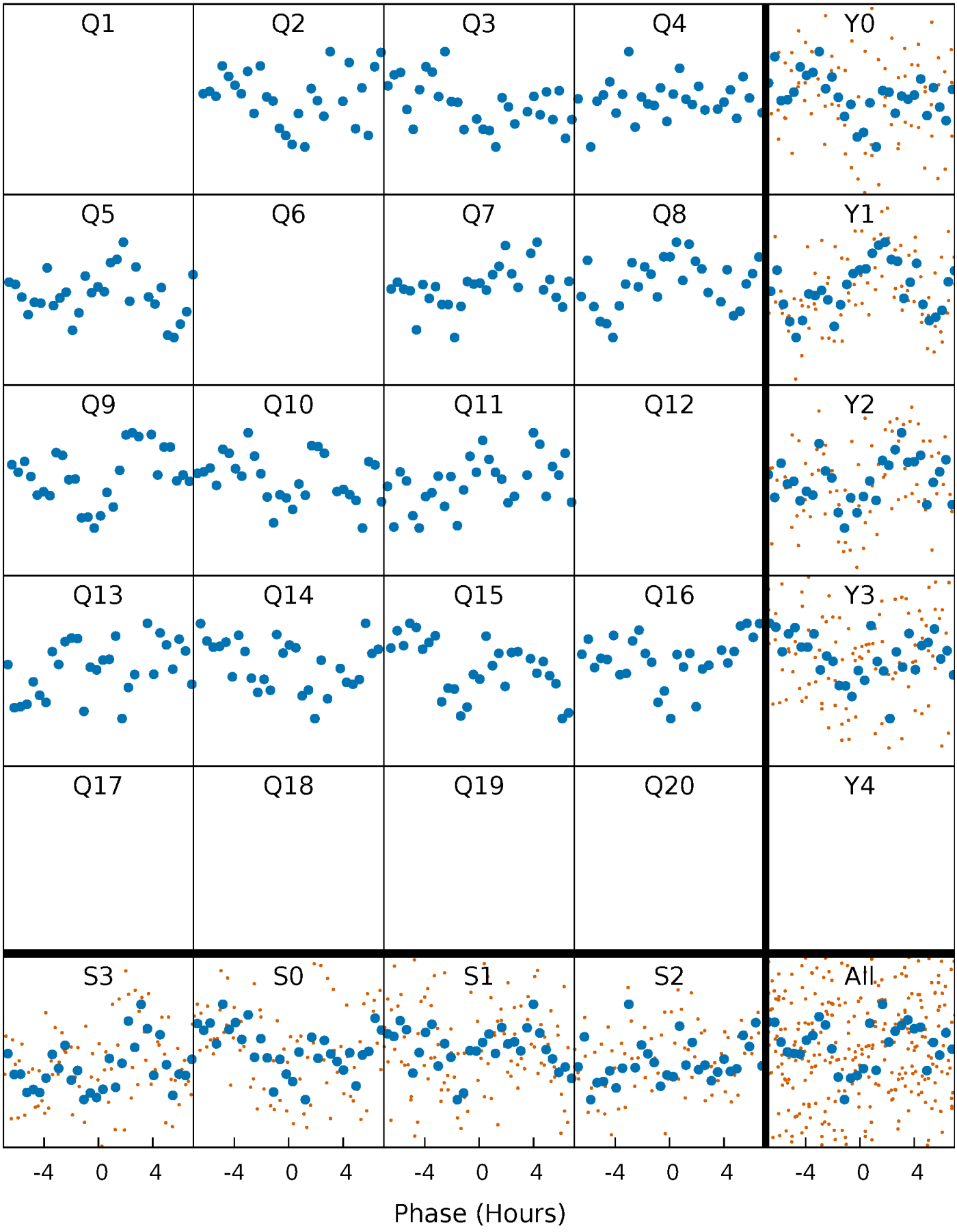
Non-Whitened Vs. Whitened Light Curve





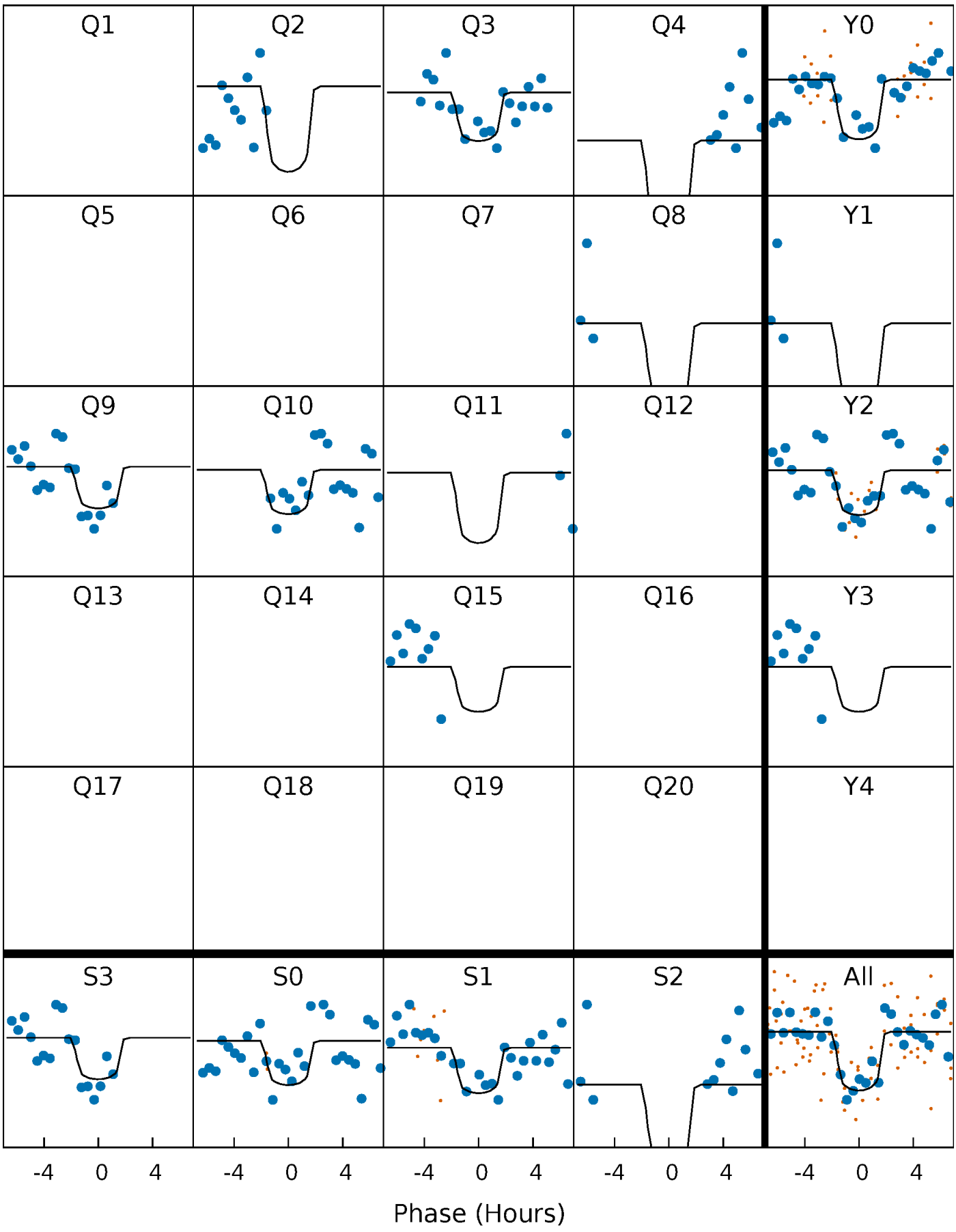
PDC Quarter-Phased Transit Curves

TCE 006450934-05 P=115.140159 Days T_0=170.976939 (BKJD)



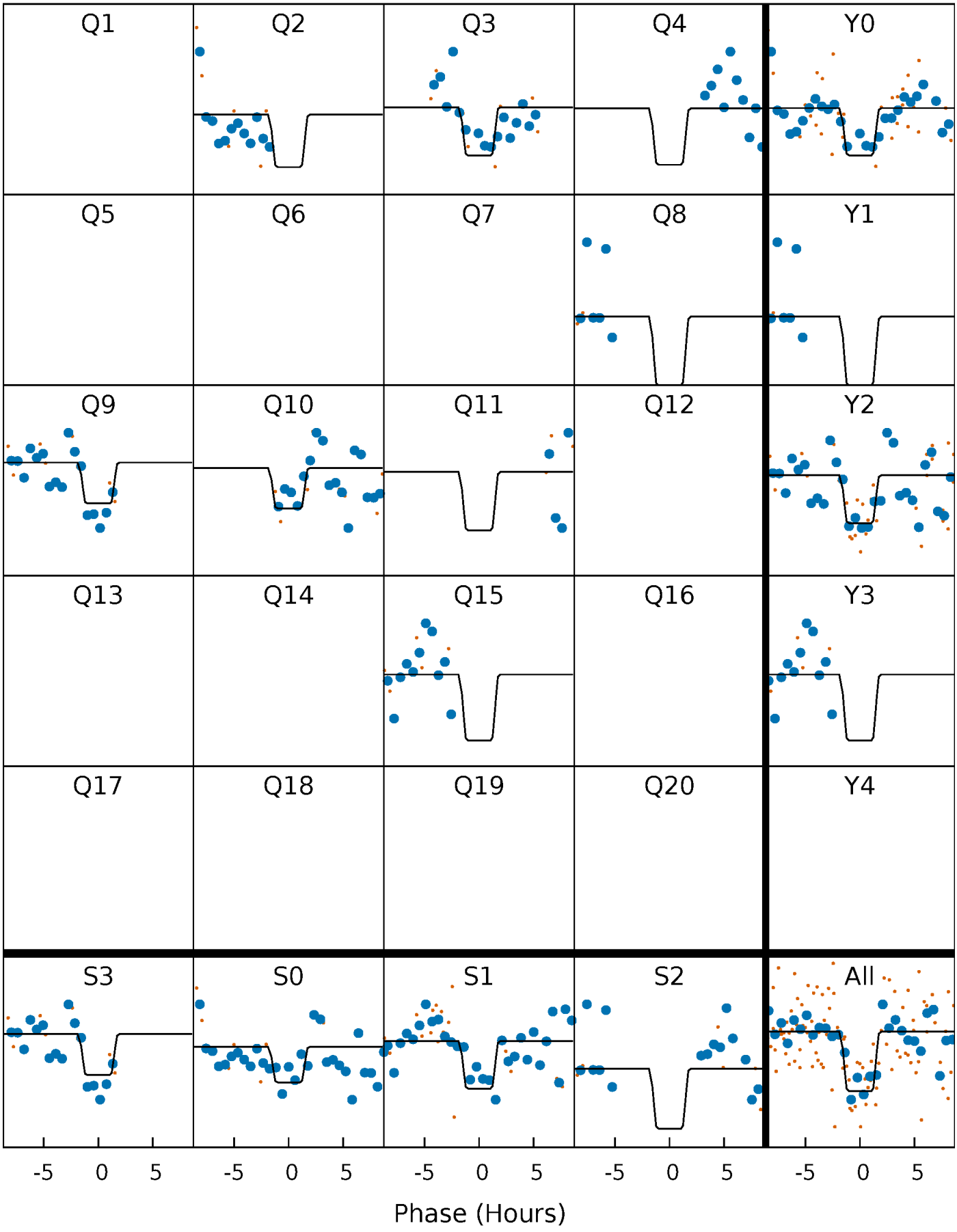
DV Quarter-Phased Transit Curves

TCE 006450934-05 P=115.140159 Days T_0=170.976939 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

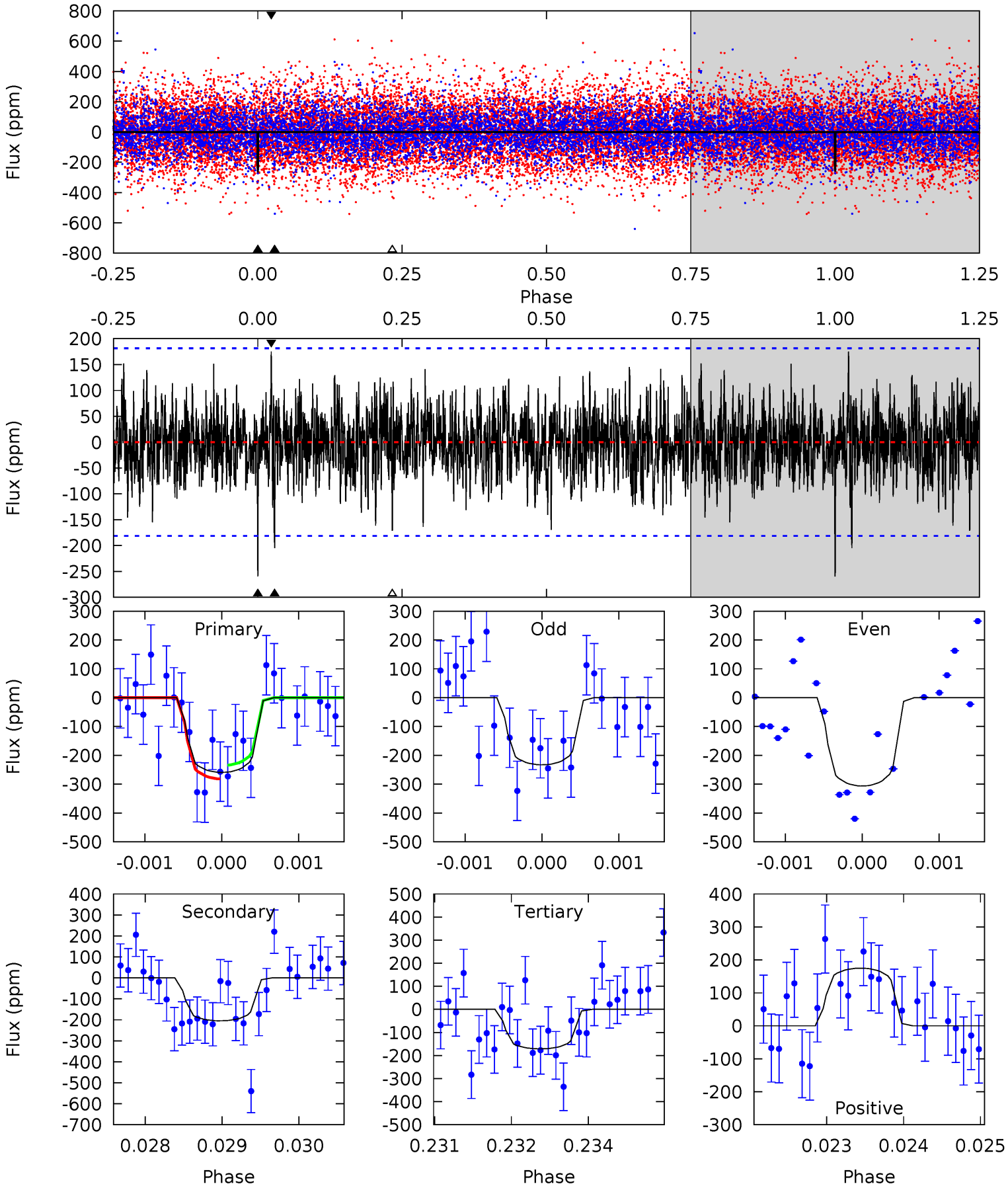
TCE 006450934-05 P=115.138384 Days T_0=170.975412 (BKJD)



DV Model-Shift Uniqueness Test

006450934-05, P = 115.140159 Days, E = 55.836780 Days

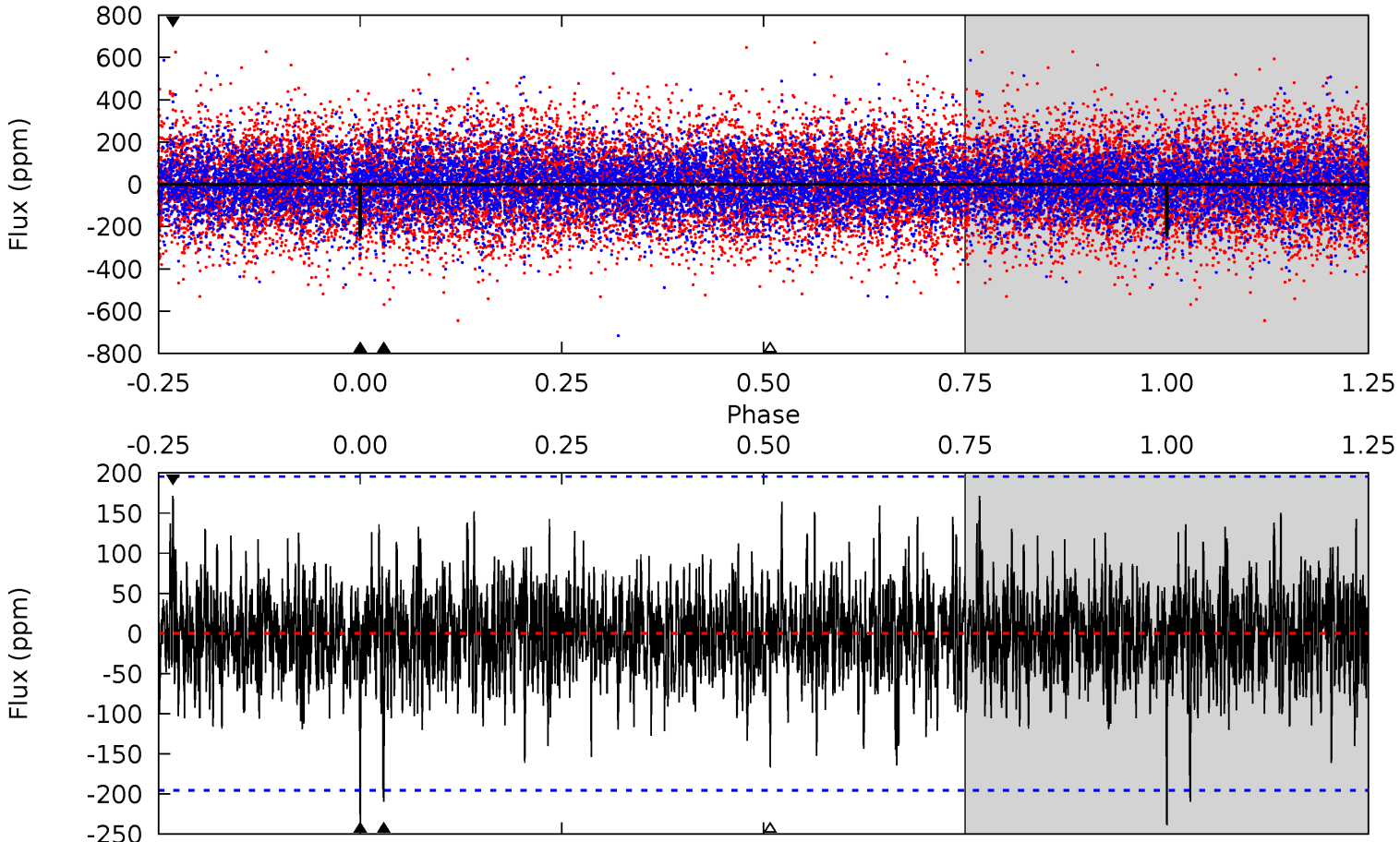
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.74	6.10	5.11	5.22	5.41	3.22	1.48	2.63	2.52	1.00	0.89	1.00	1.03	0.40	0.71

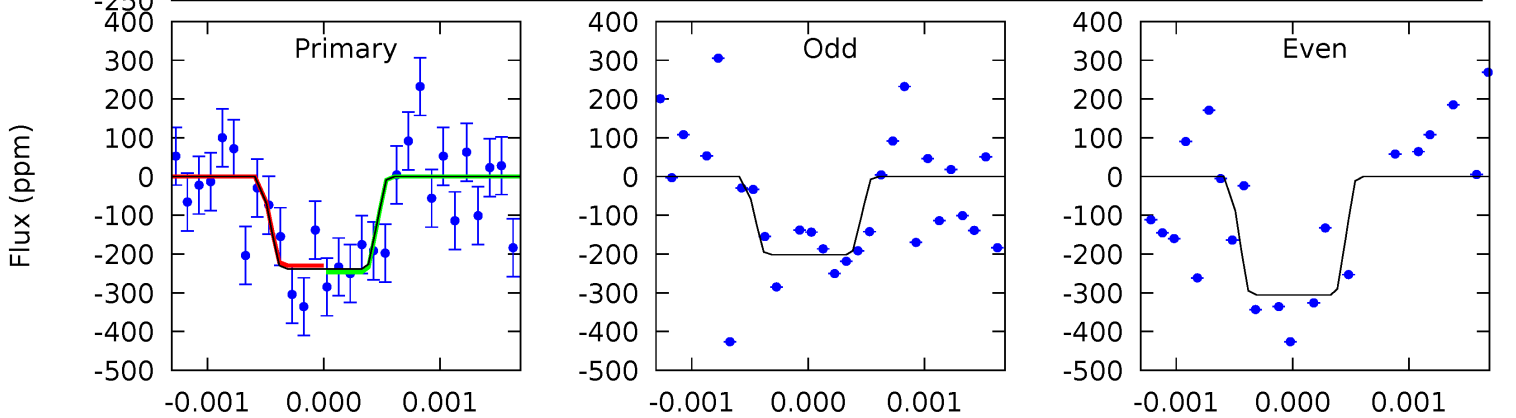


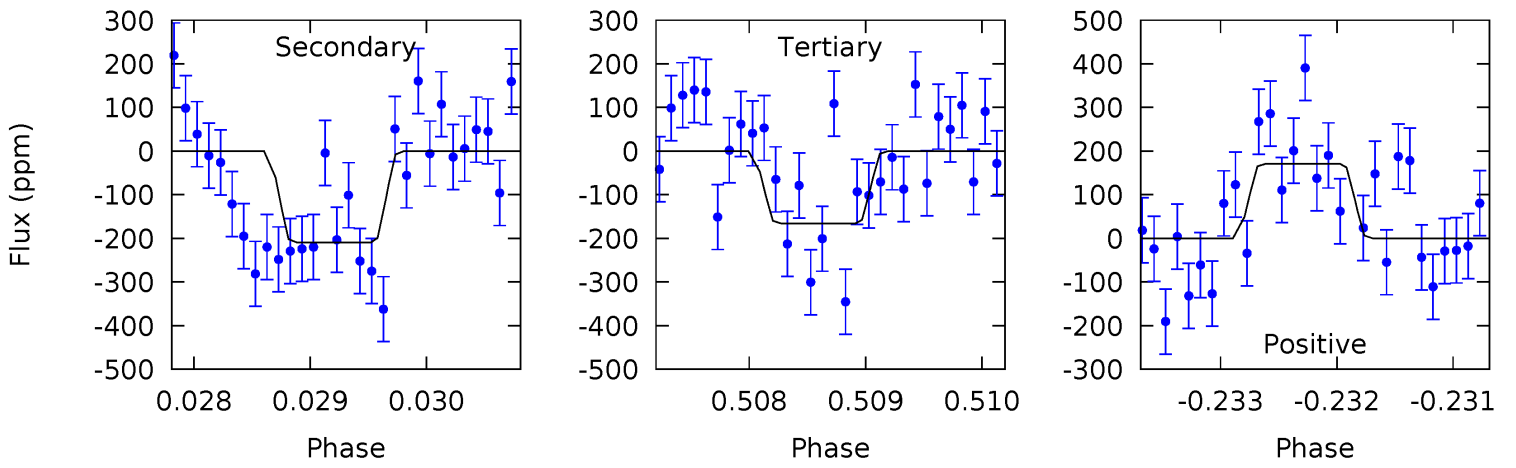
Alt Model-Shift Uniqueness Test

006450934-05, P = 115.138384 Days, E = 55.837028 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.61	5.81	4.60	4.75	5.43	3.25	1.30	2.01	1.87	1.20	1.06	1.40	1.09	0.42	0.23







Stellar Parameters For KIC 006450934

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6754^{+183}_{-203}	$3.546^{+0.336}_{-0.084}$	$-0.260^{+0.300}_{-0.250}$	$3.669^{+0.354}_{-1.417}$	$1.723^{+0.198}_{-0.368}$	$0.049^{+0.129}_{-0.013}$
	+3%/-3%	+9%/-2%	+115%/-96%	+10%/-39%	+11%/-21%	+263%/-26%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006450934-05 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-205±34	$6.33^{+3.39}_{-2.84}$	1055^{+53}_{-93}	6168^{+2455}_{-1038}	855^{+1905}_{-500}
Alt.	-209±36	$6.03^{+3.56}_{-2.96}$	1050^{+57}_{-105}	6291^{+2775}_{-1139}	957^{+2684}_{-581}

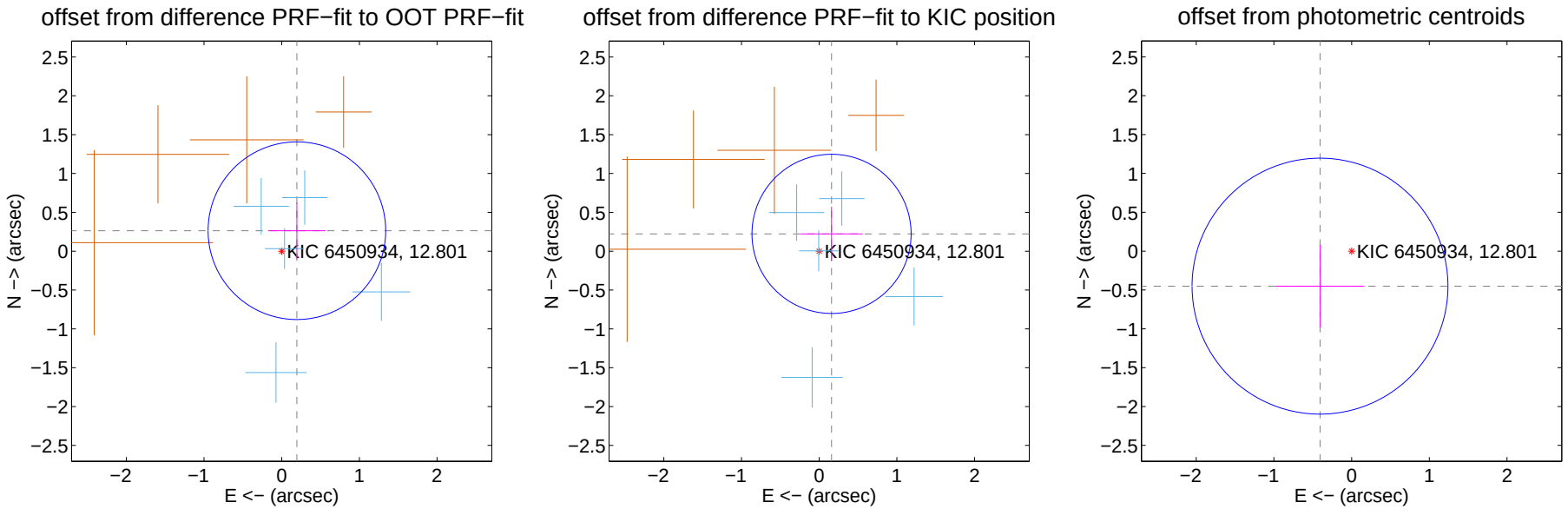
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

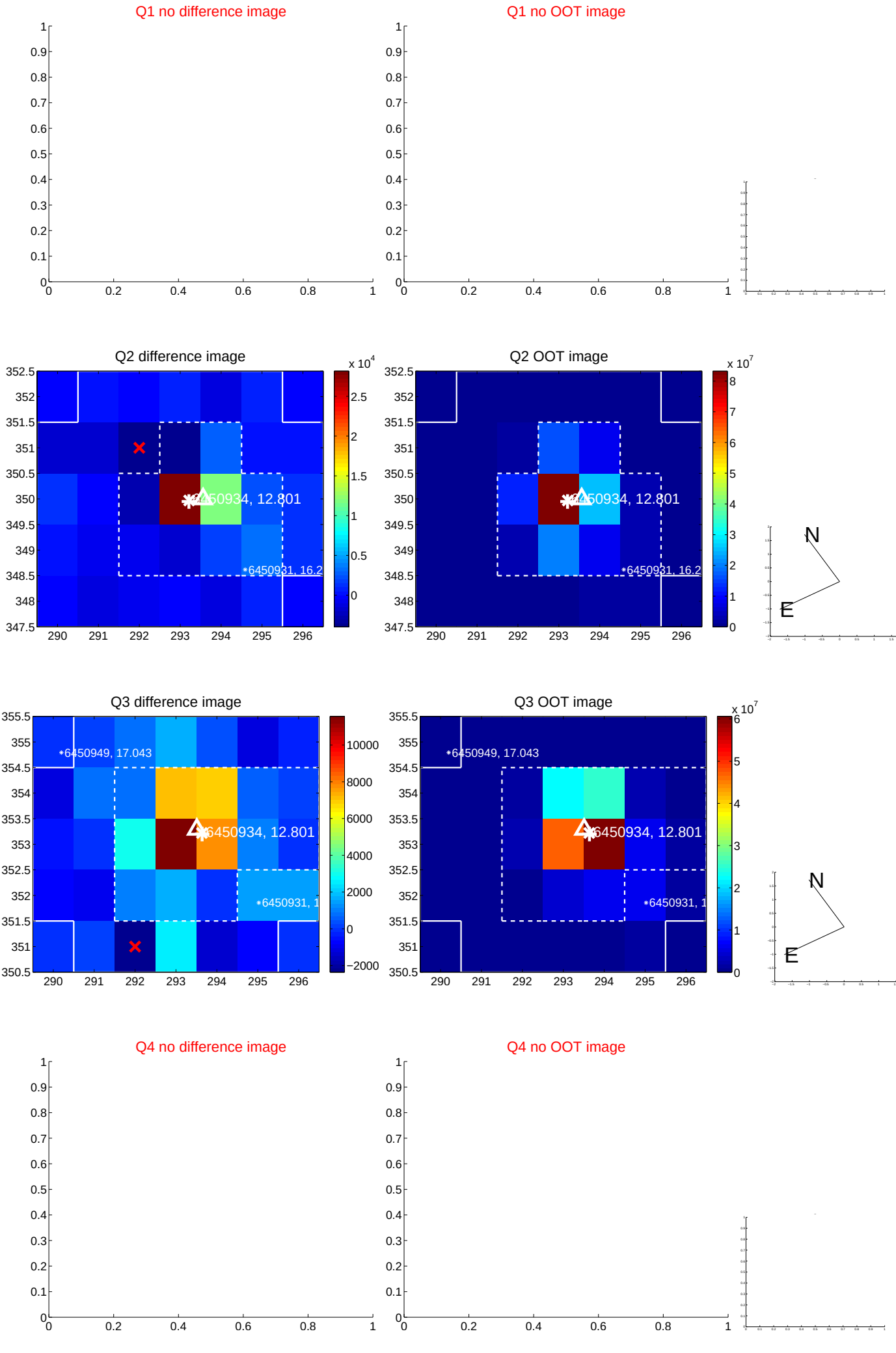
Supplemental centroid analysis for 006450934-05. Kepler magnitude: 12.80. Transit SNR 9.35
There are 5 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.328 ± 0.381	0.86	-0.196 ± 0.370	0.264 ± 0.364
PRF-fit source offset from KIC position	0.274 ± 0.341	0.80	-0.159 ± 0.400	0.223 ± 0.350
photometric centroid source offset	0.61 ± 0.55	1.11	0.41 ± 0.57	-0.45 ± 0.53

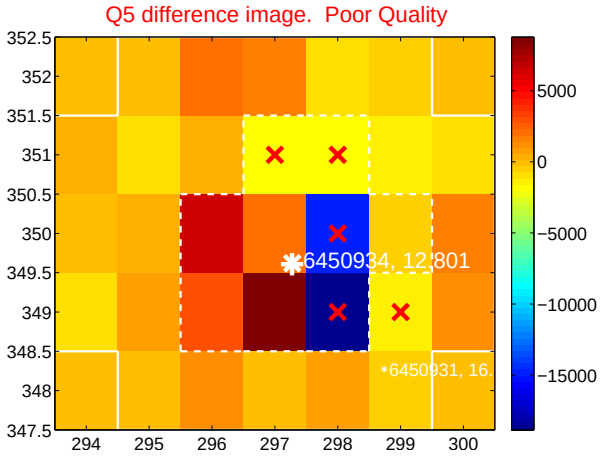


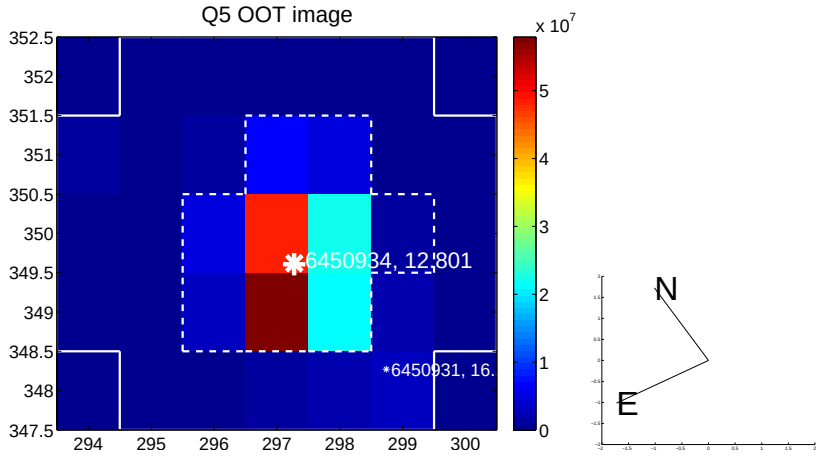
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

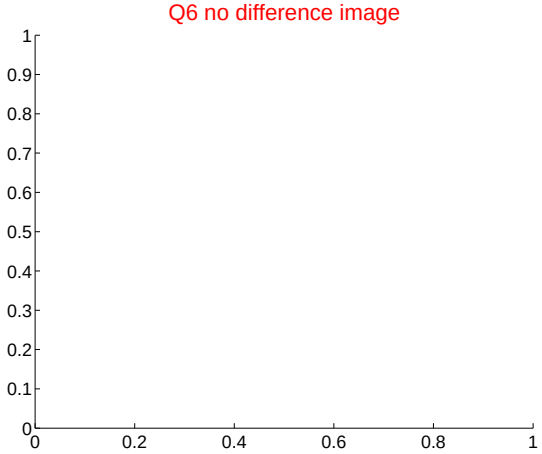
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

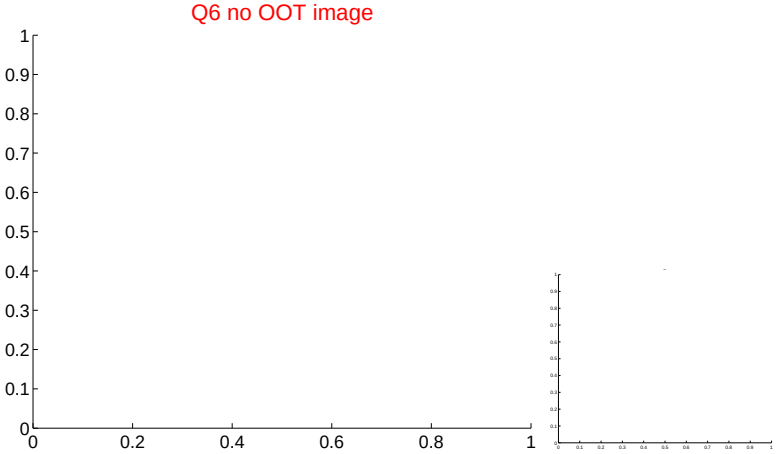


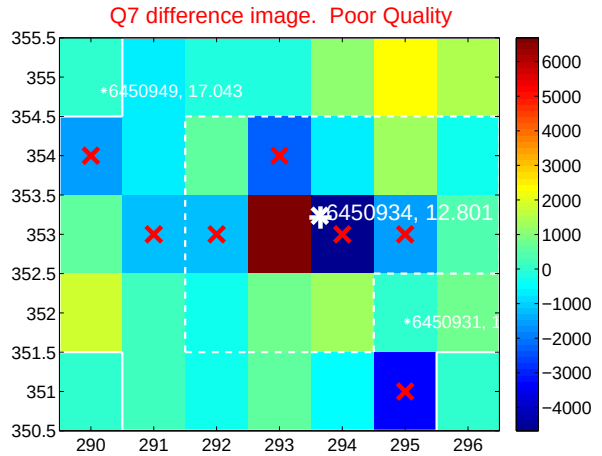
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

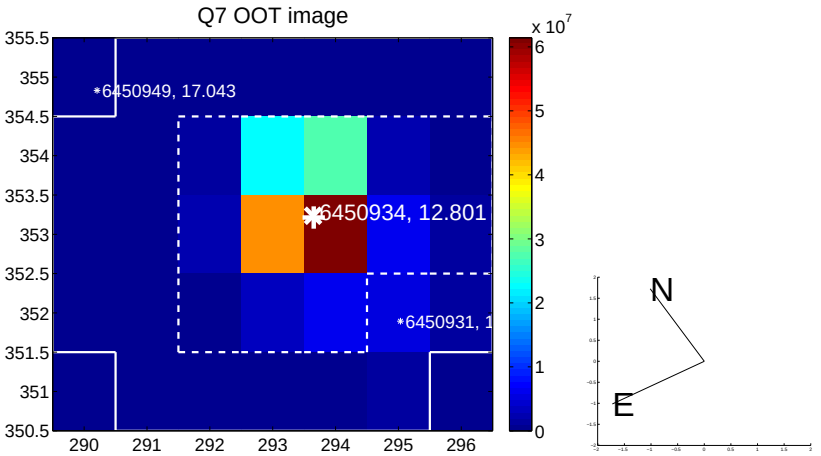


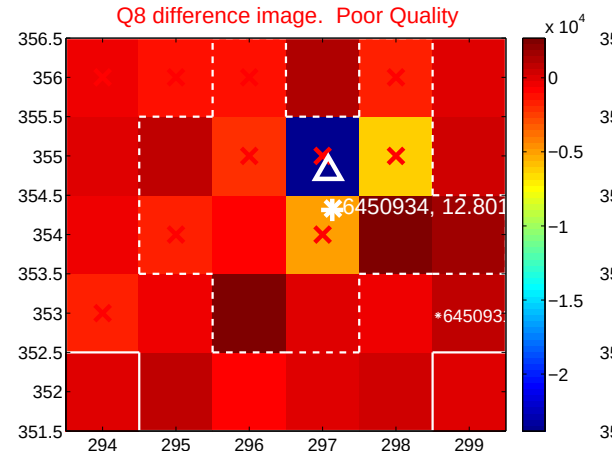


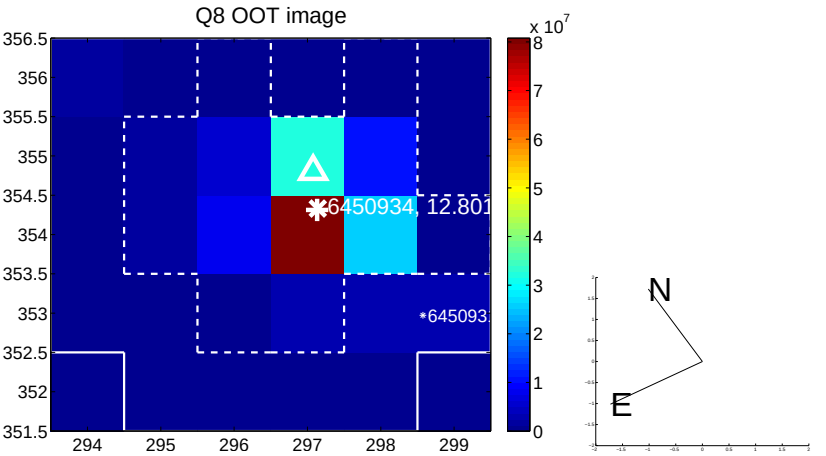




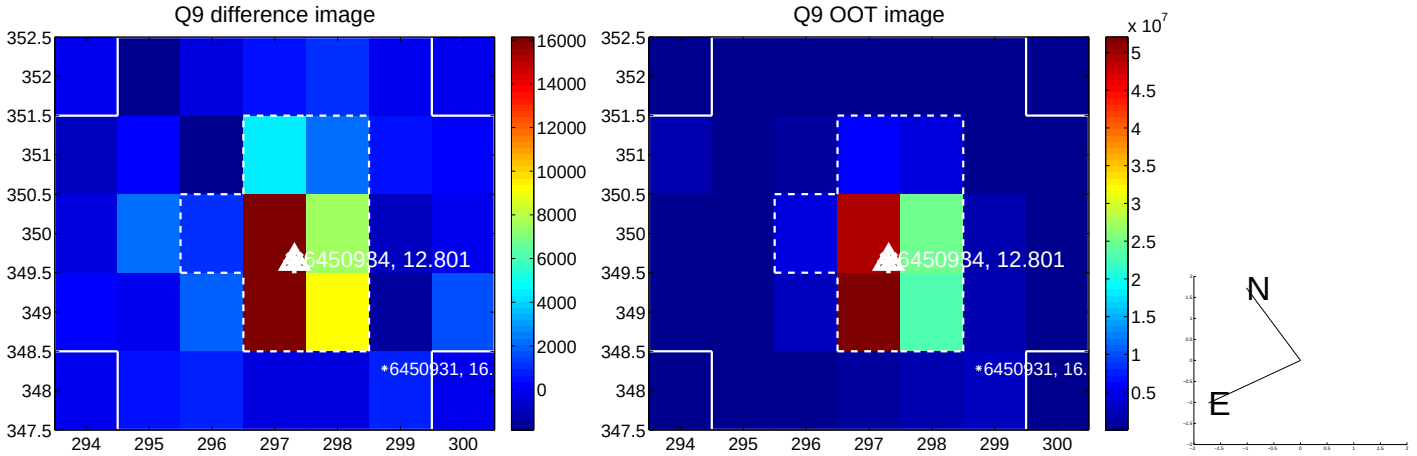


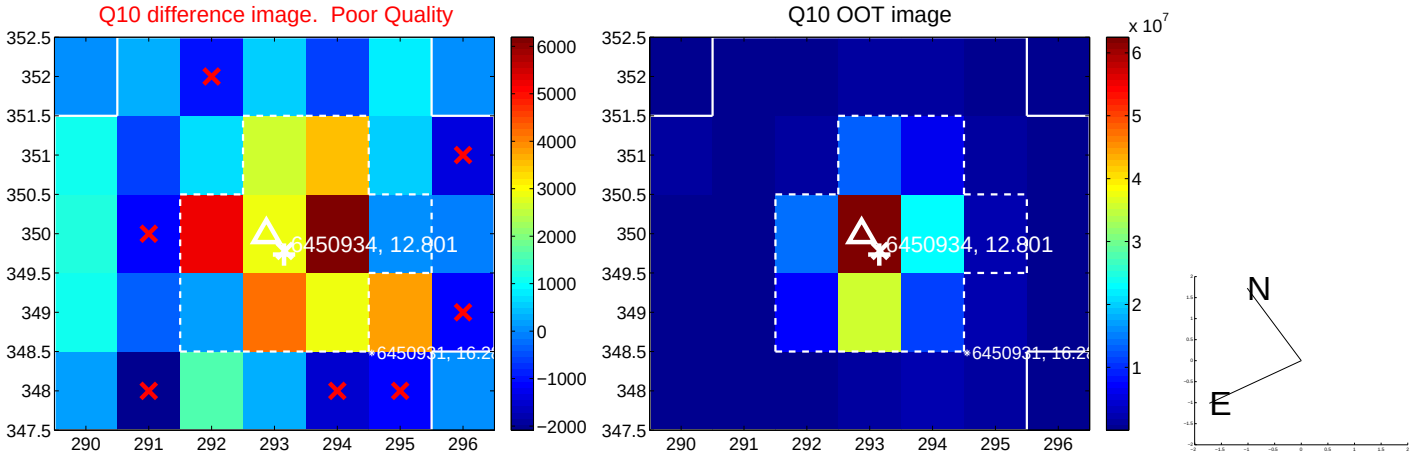


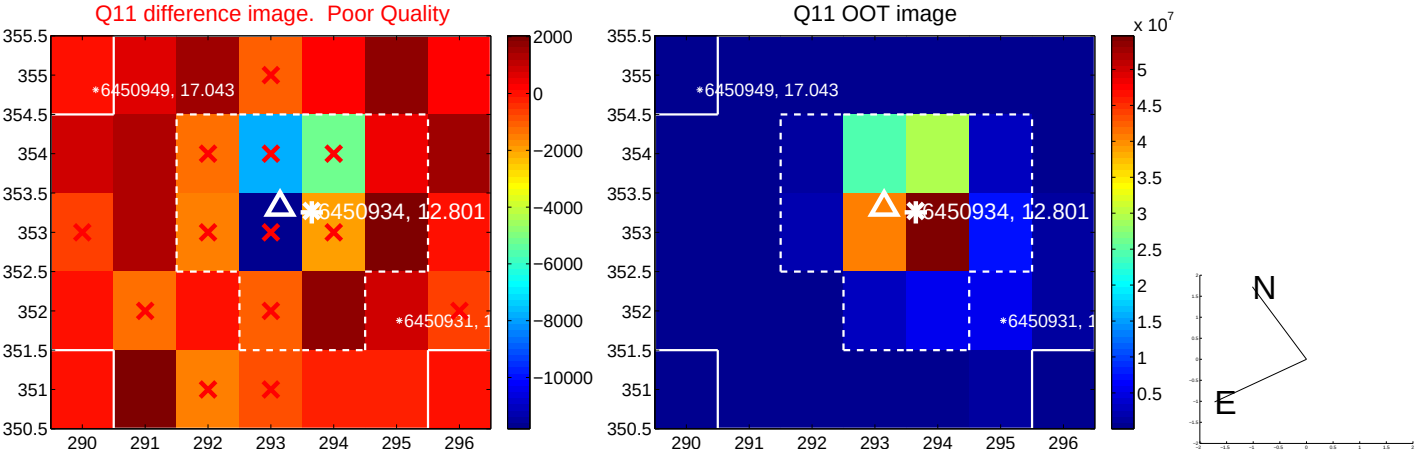


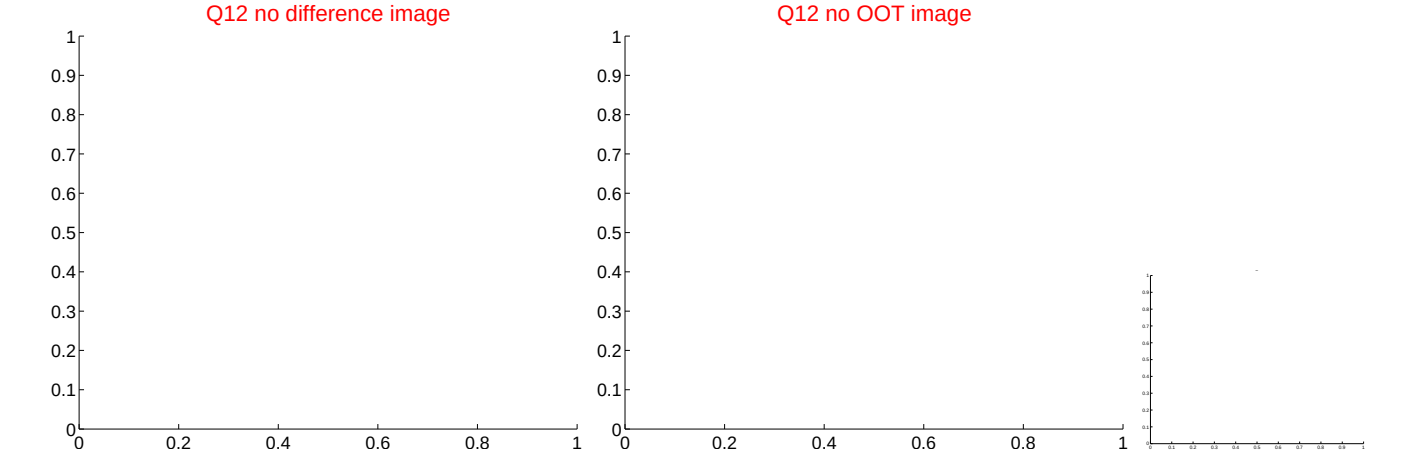


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

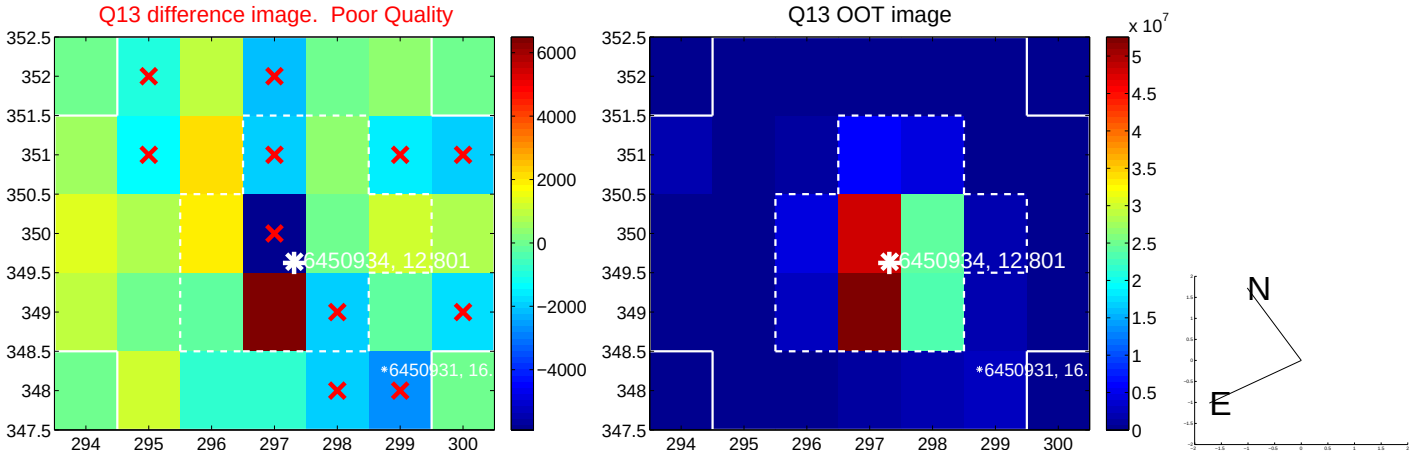


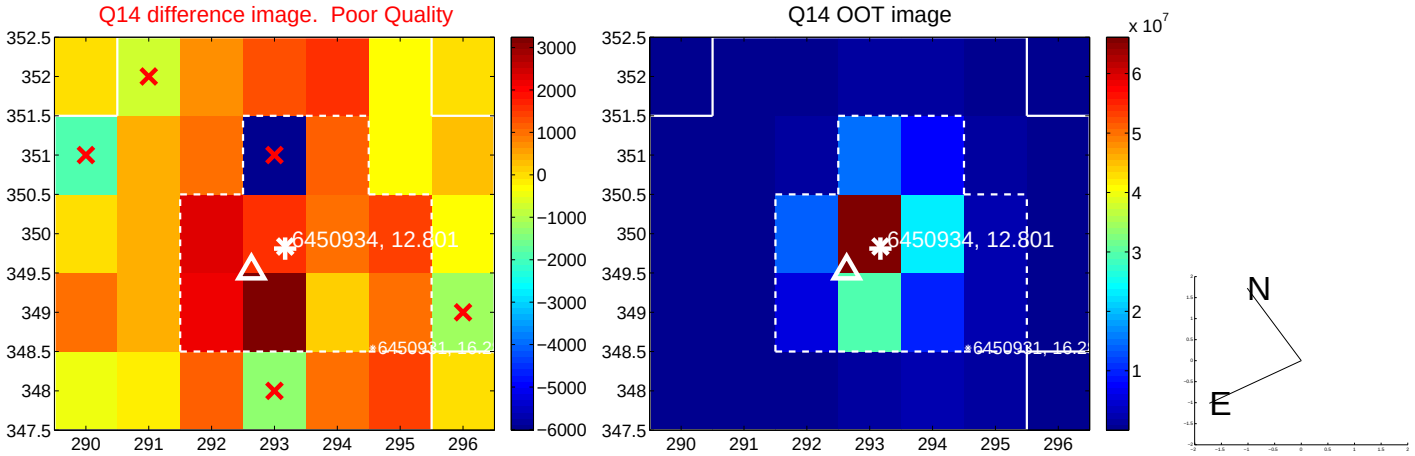


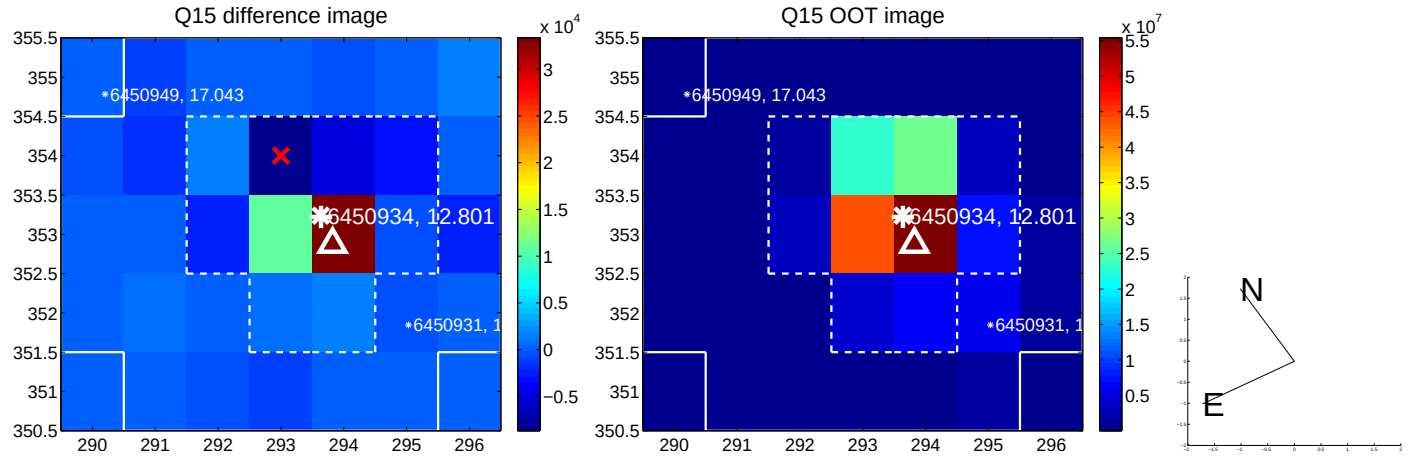


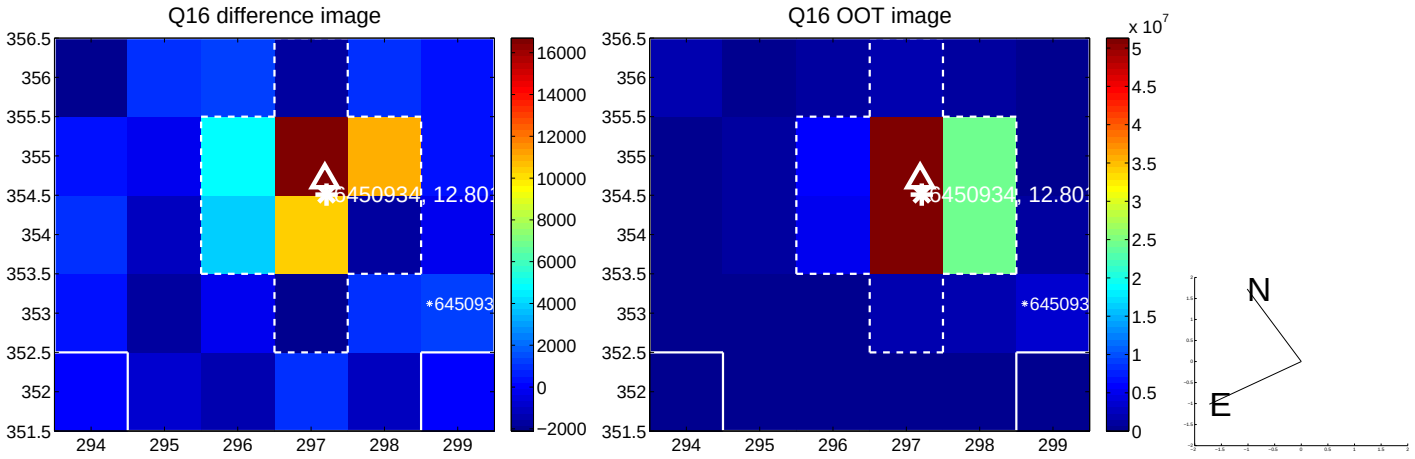


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

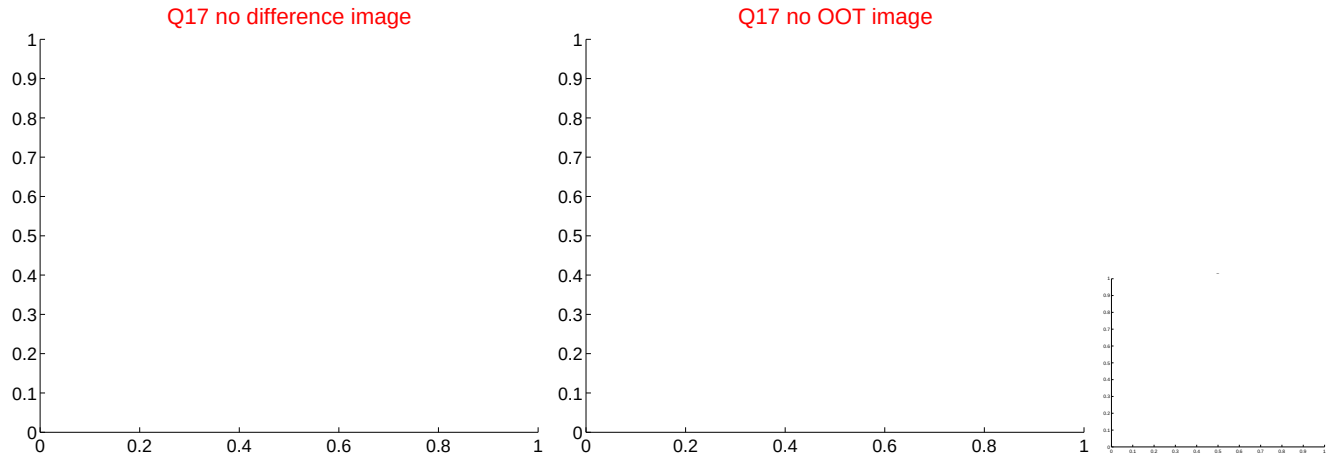


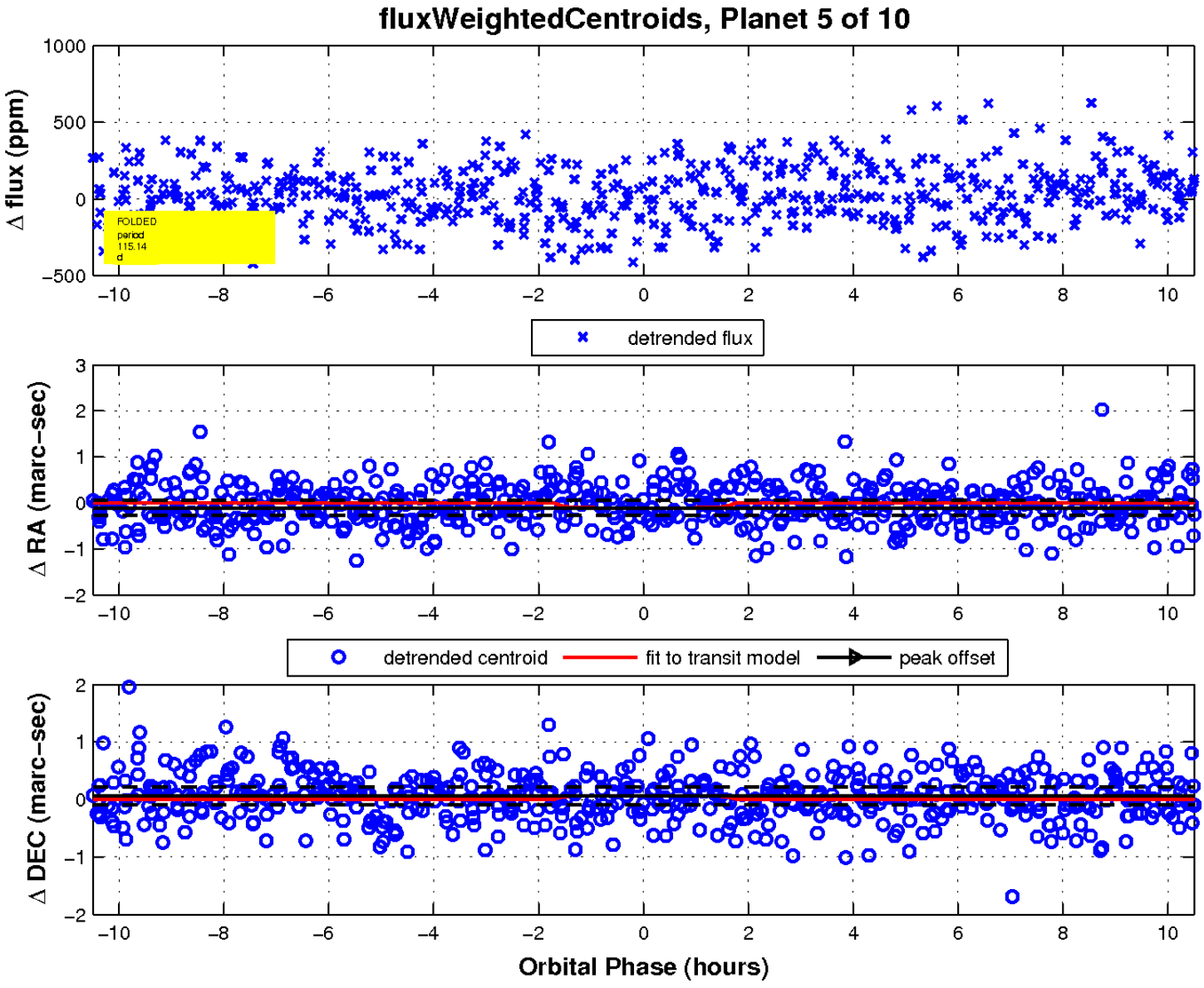




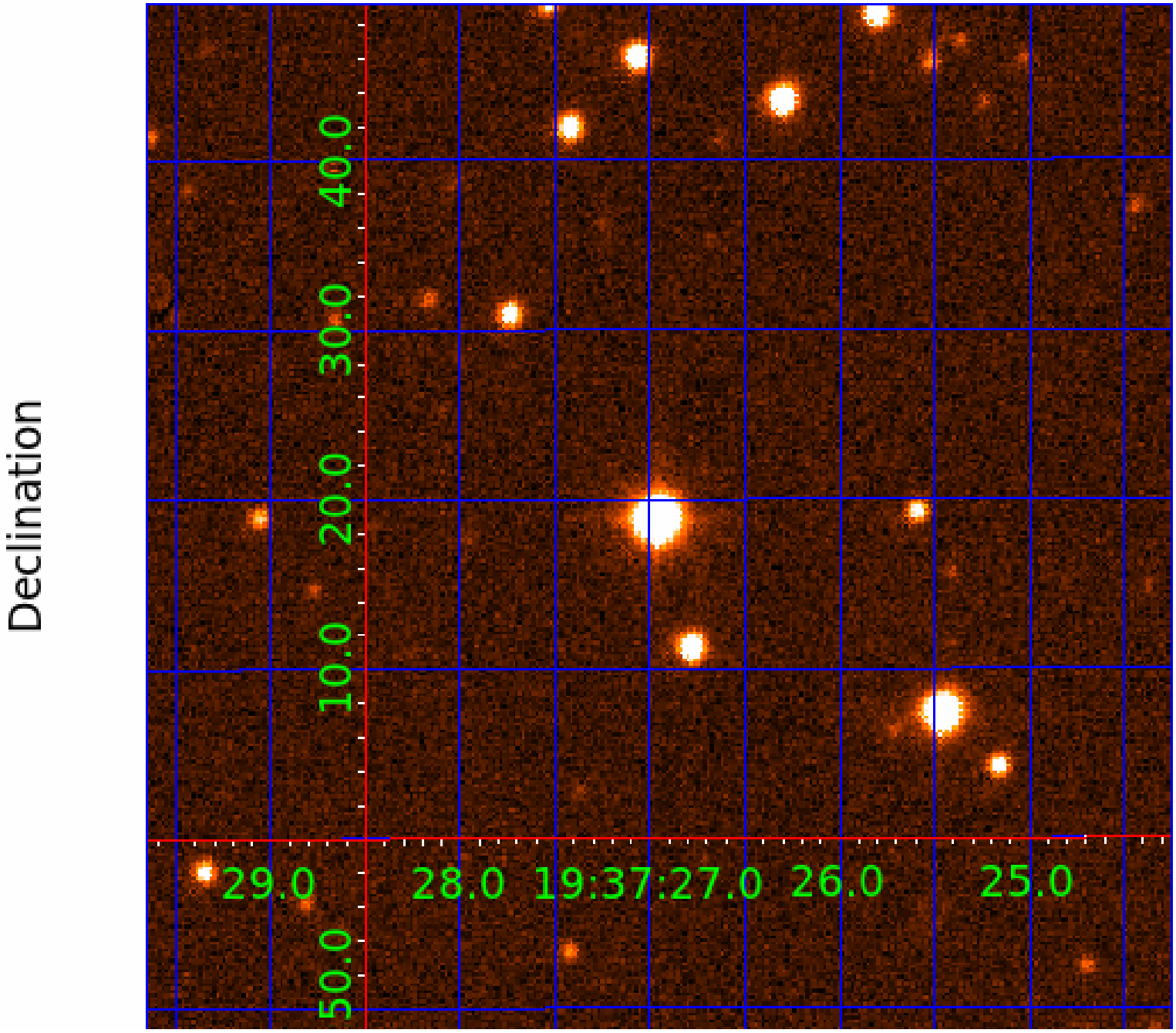


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image



KIC 006450934

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 ($S_\oplus$)
006450934-01	OBS	No	1.673031	133.058235	15.6	9.741	8.6	7.7	3.67	6754	1.68	22917.39
006450934-02	OBS	No	560.122385	433.162255	343.5	73.386	10.7	8.0	3.67	6754	8.66	9.86
006450934-03	OBS	No	68.232639	147.673666	158.9	5.895	9.5	7.3	3.67	6754	5.36	163.25
006450934-05	OBS	No	115.140159	170.976939	281.4	3.503	8.8	9.3	3.67	6754	6.90	81.26
006450934-06	OBS	No	66.664527	187.032969	240.6	3.555	8.7	9.2	3.67	6754	6.53	168.39
006450934-07	OBS	No	180.351292	298.067471	287.6	4.343	8.2	9.8	3.67	6754	7.16	44.67
006450934-08	OBS	No	50.053289	160.466595	281.2	2.001	8.2	9.1	3.67	6754	7.17	246.75
006450934-09	OBS	No	53.612809	177.650997	217.0	2.333	7.8	7.9	3.67	6754	6.30	225.15
006450934-10	OBS	No	75.681529	146.869509	174.7	3.821	8.0	7.9	3.67	6754	5.64	142.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006450934-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006450934-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006450934-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
006450934-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

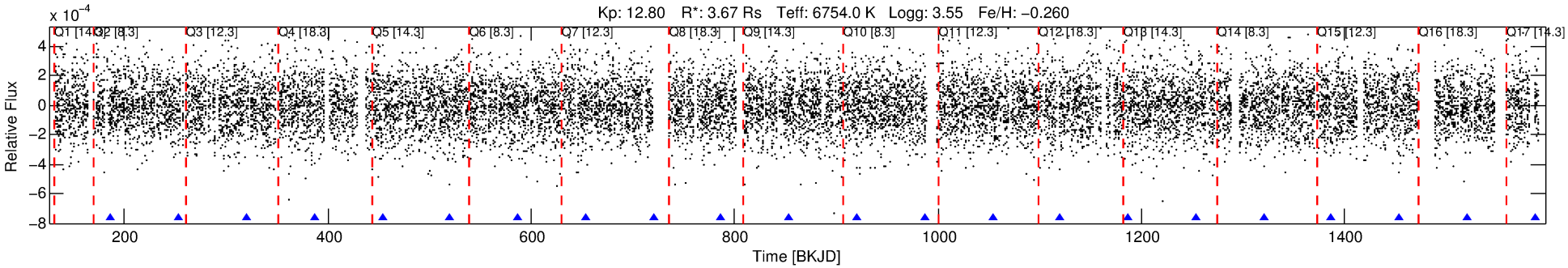
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

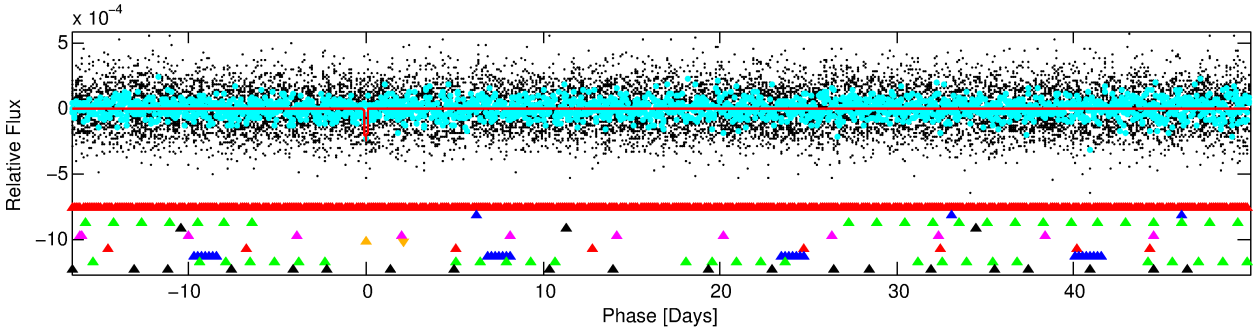
Ephemeris Match Information For 006450934-06

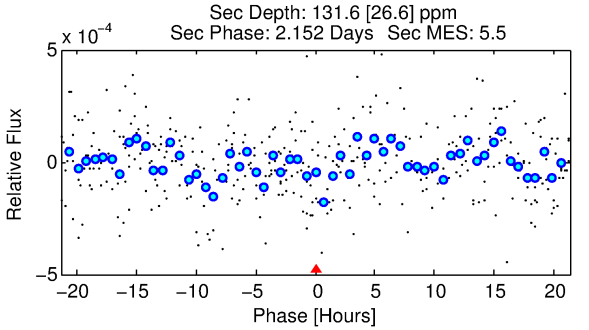
No Significant Match Found

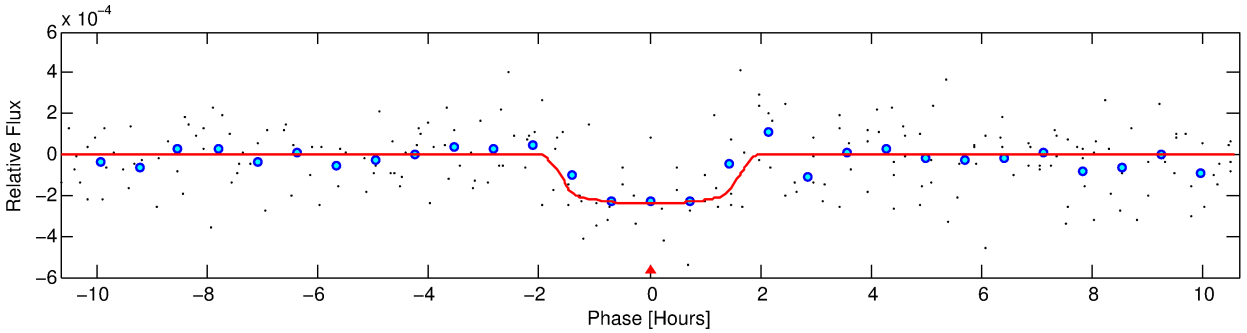
DV One-Page Summary

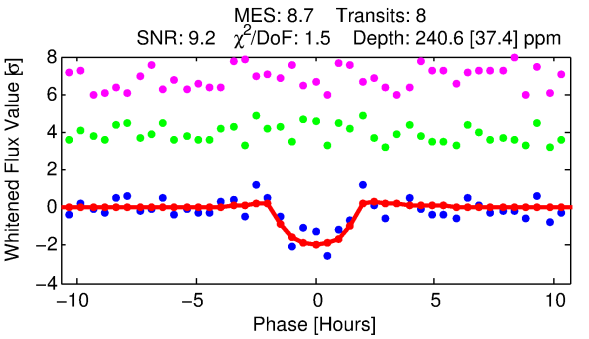
KIC: 6450934 Candidate: 6 of 10 Period: 66.665 d

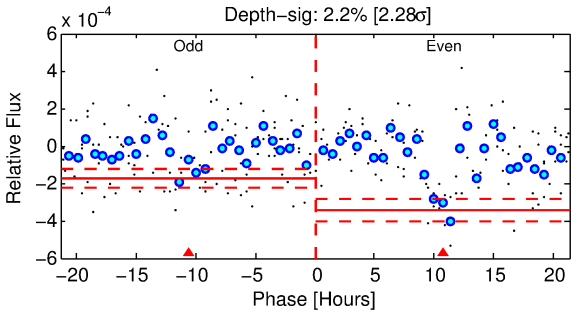


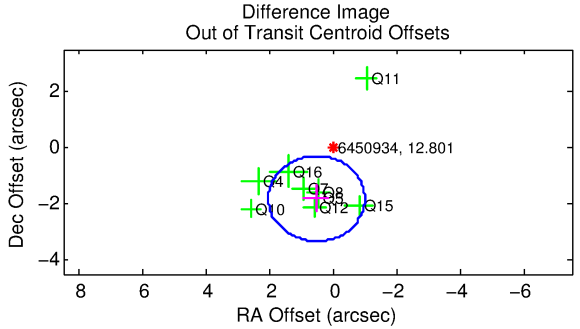












DV Fit Results:

Period = 66.66453 [0.00090] d
Epoch = 187.0330 [0.0118] BKJD
Rp/R* = 0.0163 [0.0111]
a/R* = 73.00 [294.17]
b = 0.88 [1.04]

Seff = 168.39 [99.16]
Teq = 919 [135] K
Rp = 6.53 [5.10] Re
a = 0.3861 [0.1407] AU

Ag = 253.09 [376.71] [0.67σ]
Teffp = 5664 [1951] K [2.43σ]

DV Diagnostic Results:

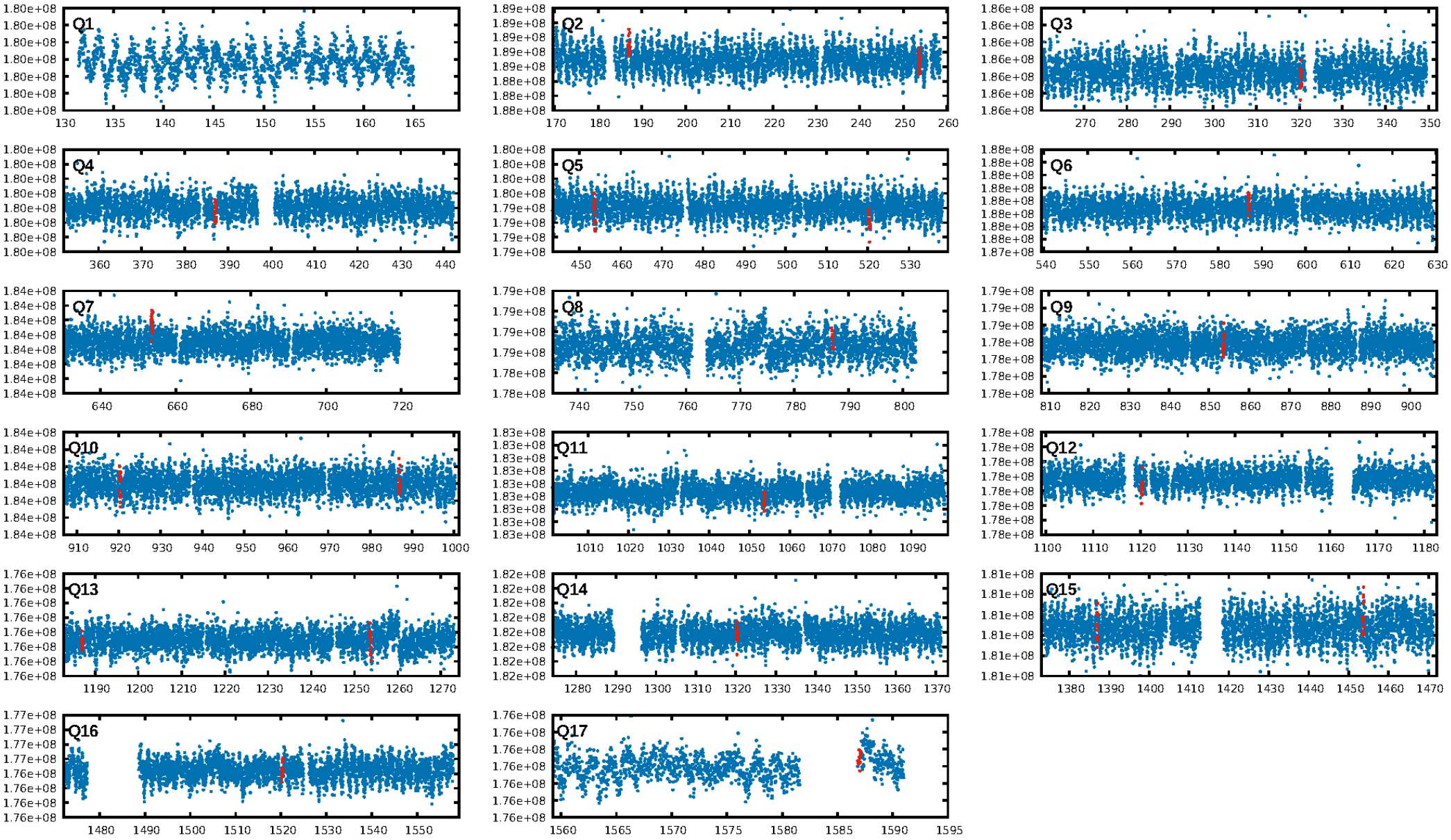
ShortPeriod−sig: 100.0% [73.67σ]
LongPeriod−sig: 100.0% [5.47σ]
ModelChiSquare2−sig: 0.8%
ModelChiSquareGof−sig: 91.6%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [8/8]
GhostDiagnostic−chr: −1.754

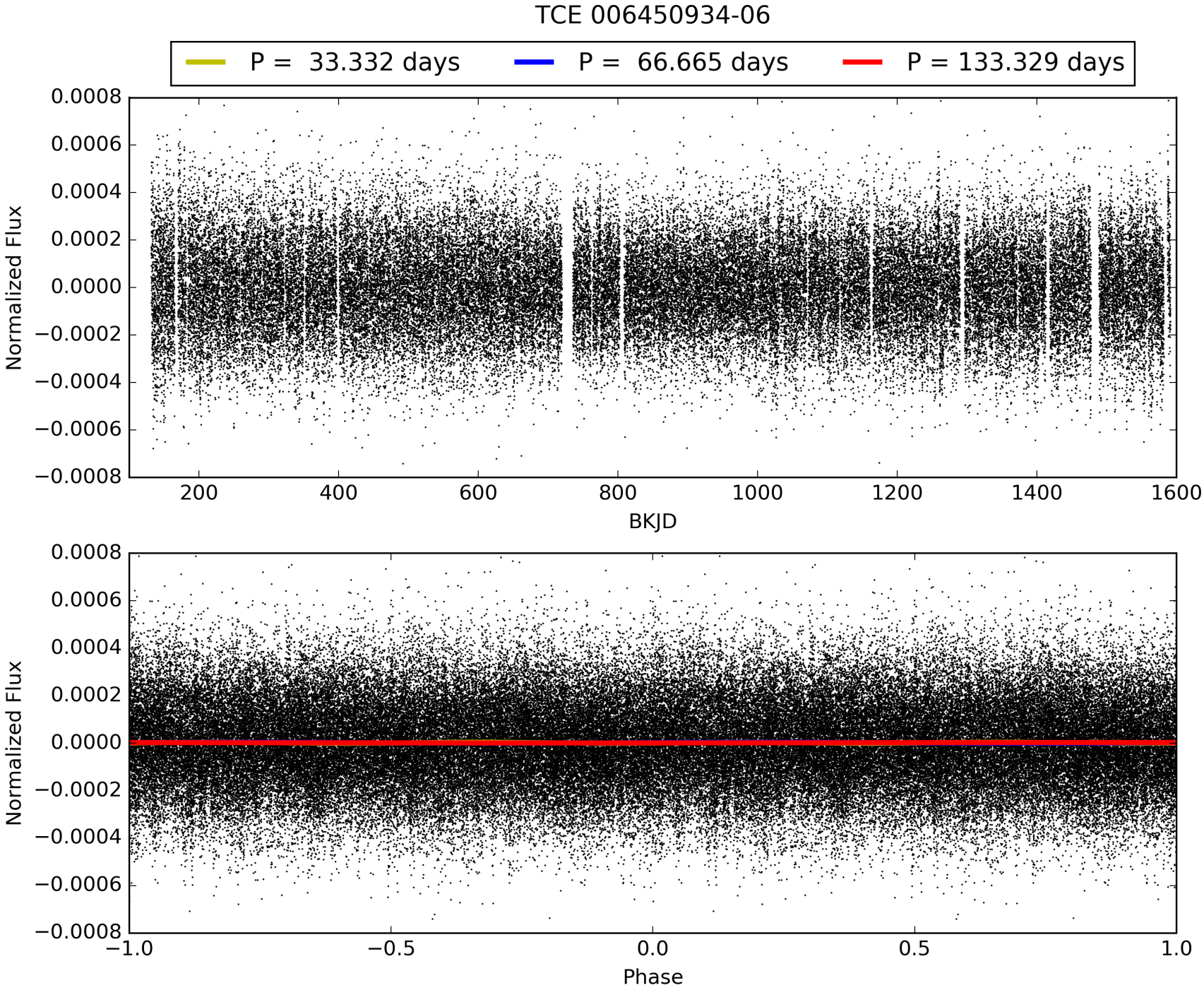
Centroid−sig: 14.6%
Centroid−so: 0.544 arcsec [1.05σ]
OotOffset−rm: 1.896 arcsec [3.75σ]
KicOffset−rm: 1.954 arcsec [4.28σ]
OotOffset−st: 1/3/4/1 [9]
KicOffset−st: 1/3/4/1 [9]
DiffImageQuality−fgm: 0.33 [3/9]
DiffImageOverlap−fno: 0.33 [5/15]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 03−Feb−2016 05:27:21 Z

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

TCE 006450934-06, PDC Light Curves

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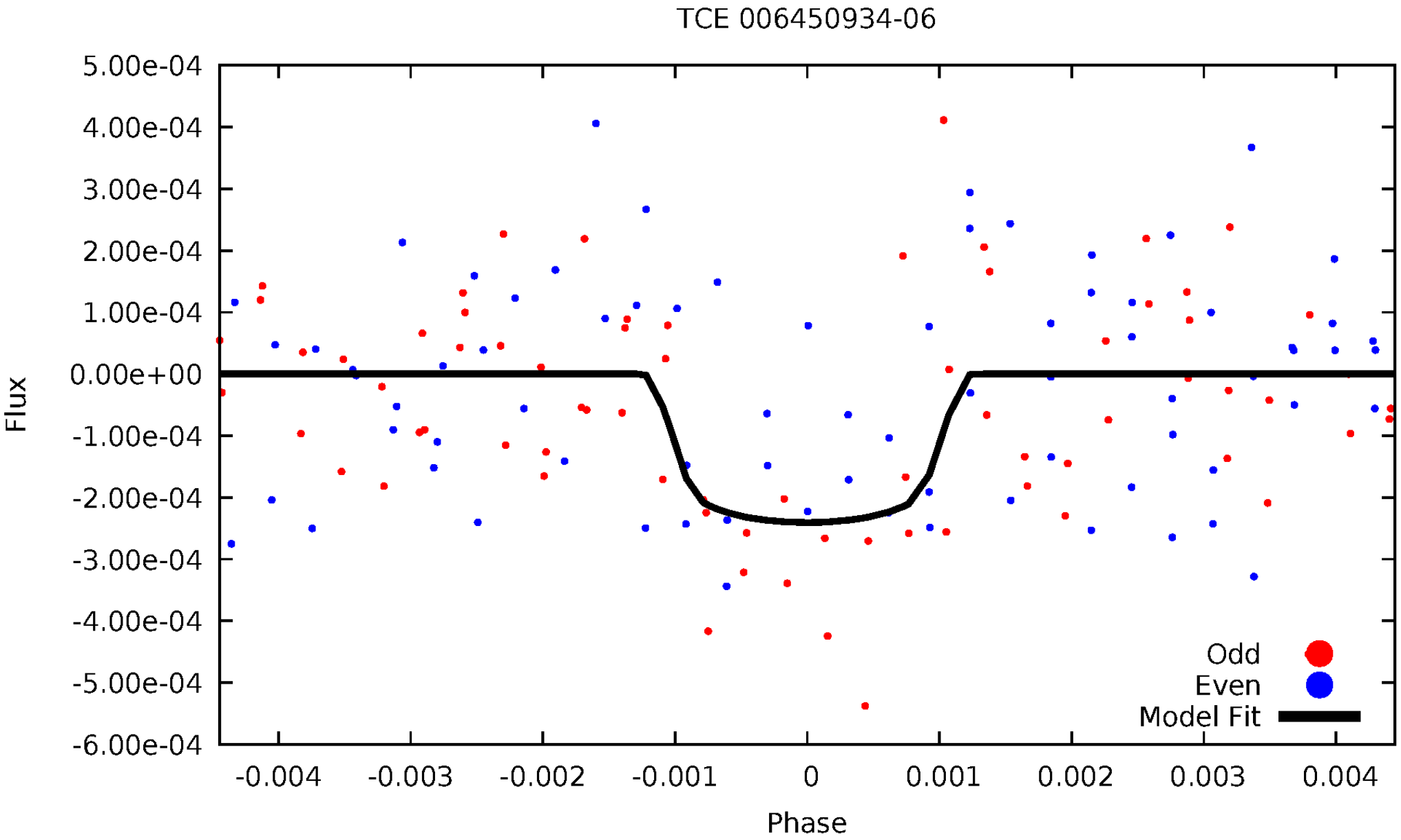
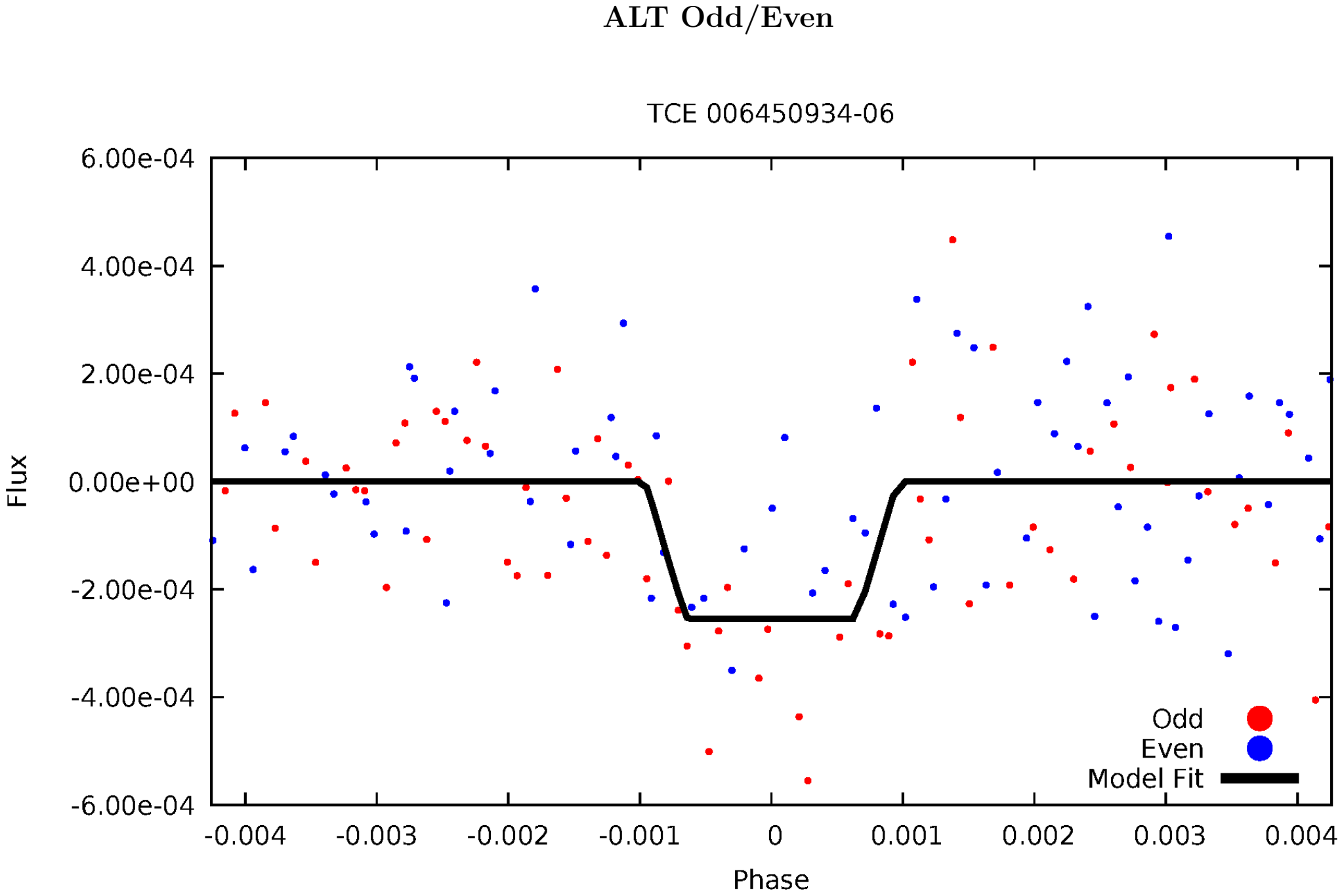
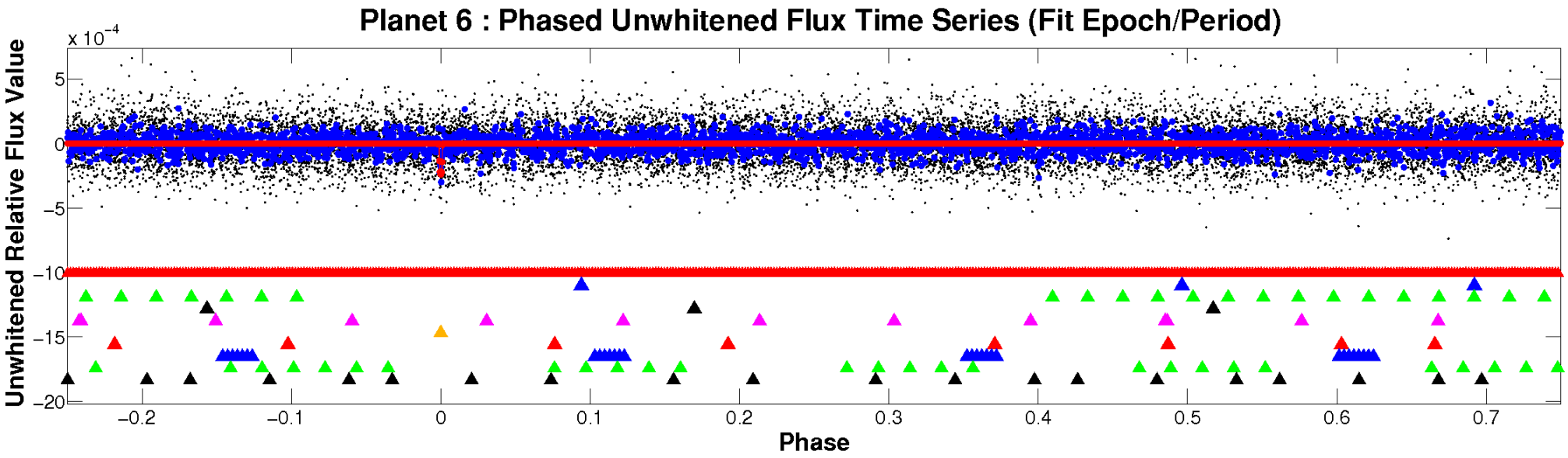
P = 33.332 days
P = 66.665 days
P = 133.329 days
Normalized Flux
0.0008
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
−0.0008
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
−1.0
−0.5
0.0
0.5
1.0
Phase

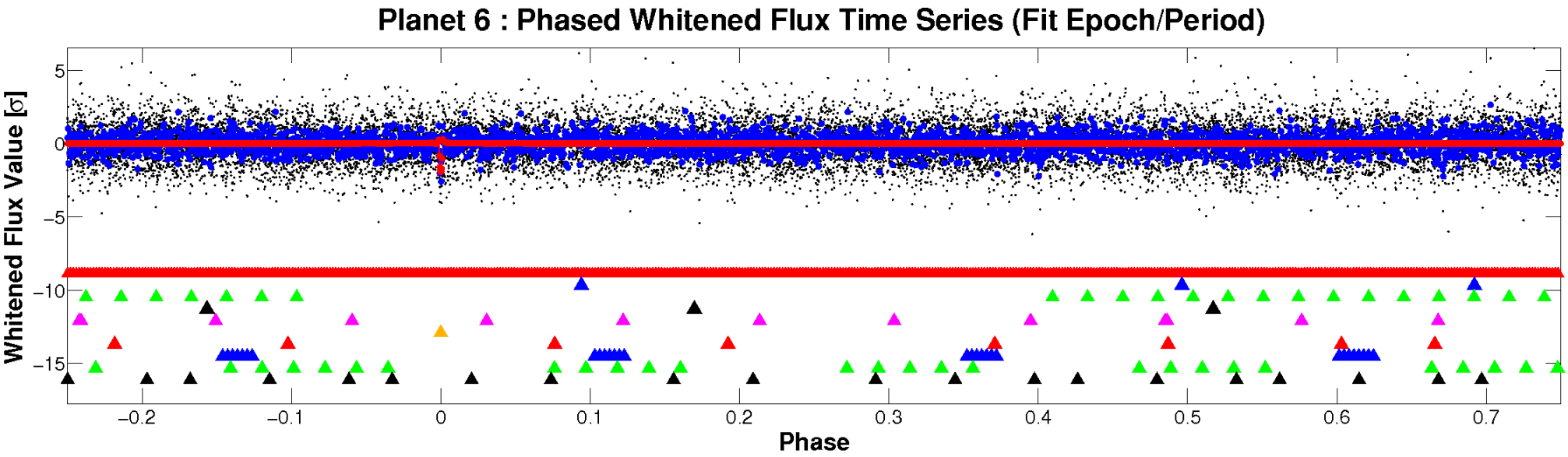
DV Odd/Even


TCE 006450934-06
Flux
5.00e-04
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
-6.00e-04
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 006450934-06
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
Flux
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
Phase
Odd
Even
Model Fit

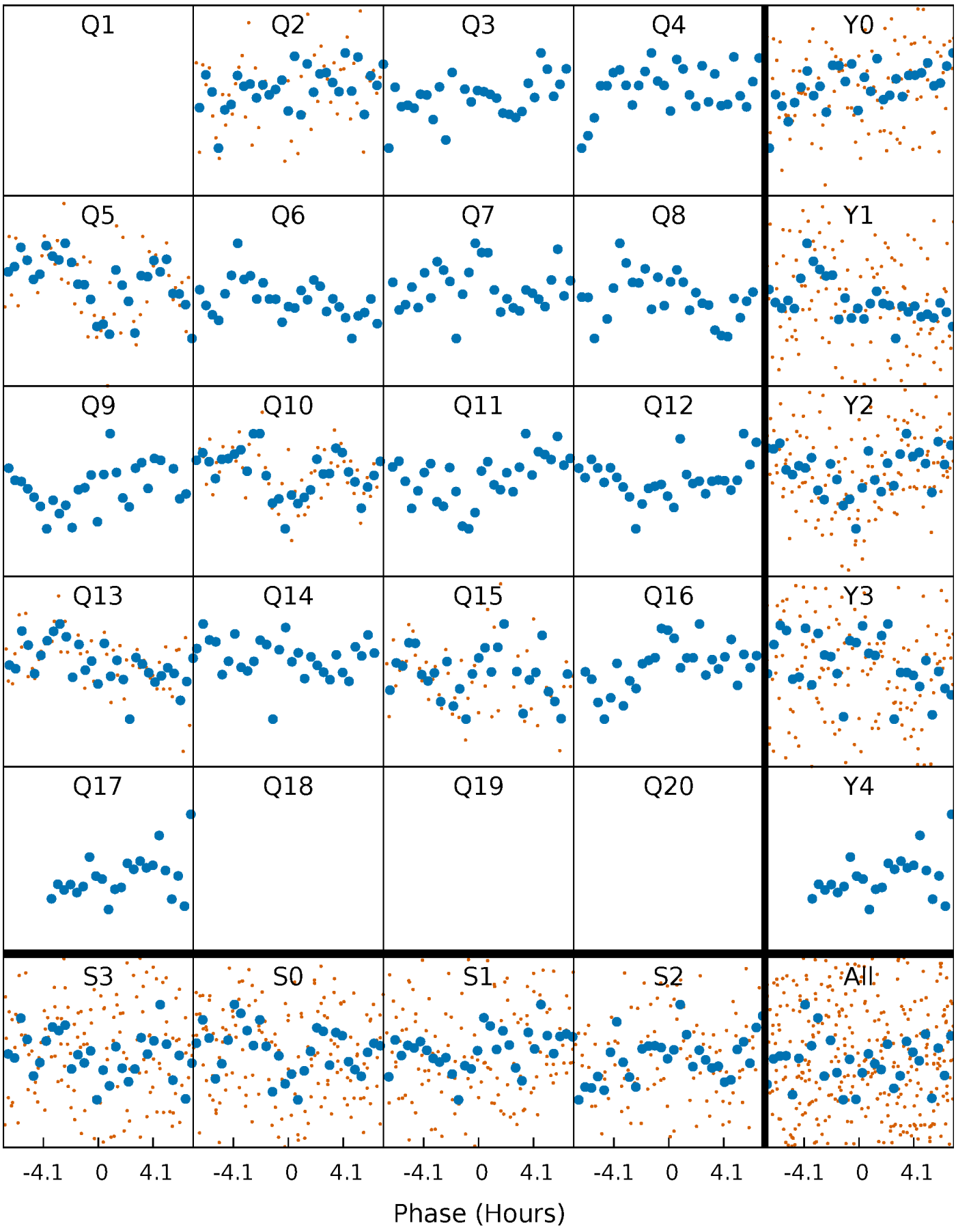
Non-Whitened Vs. Whitened Light Curve





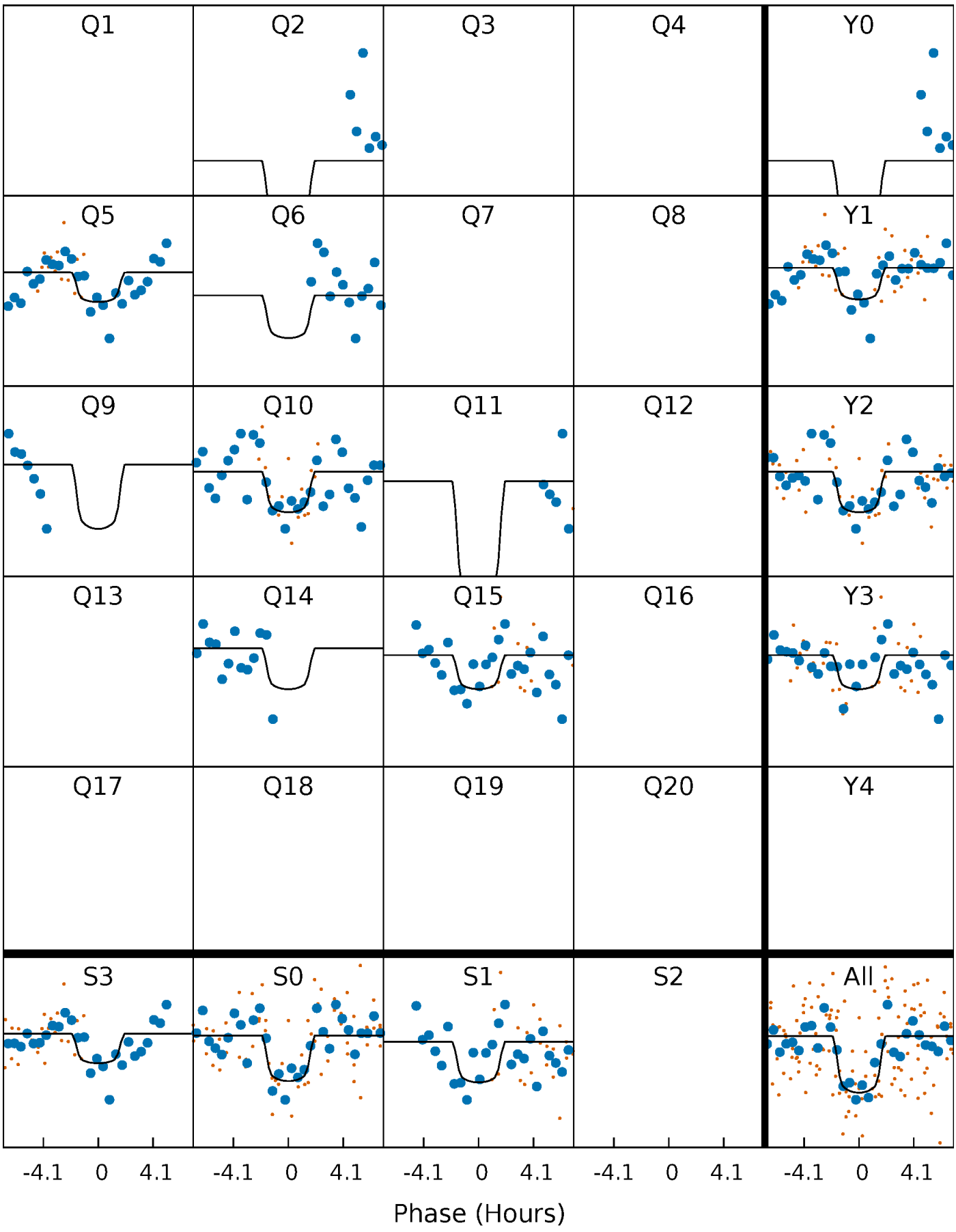
PDC Quarter-Phased Transit Curves

TCE 006450934-06 P= 66.664527 Days T_0=187.032969 (BKJD)



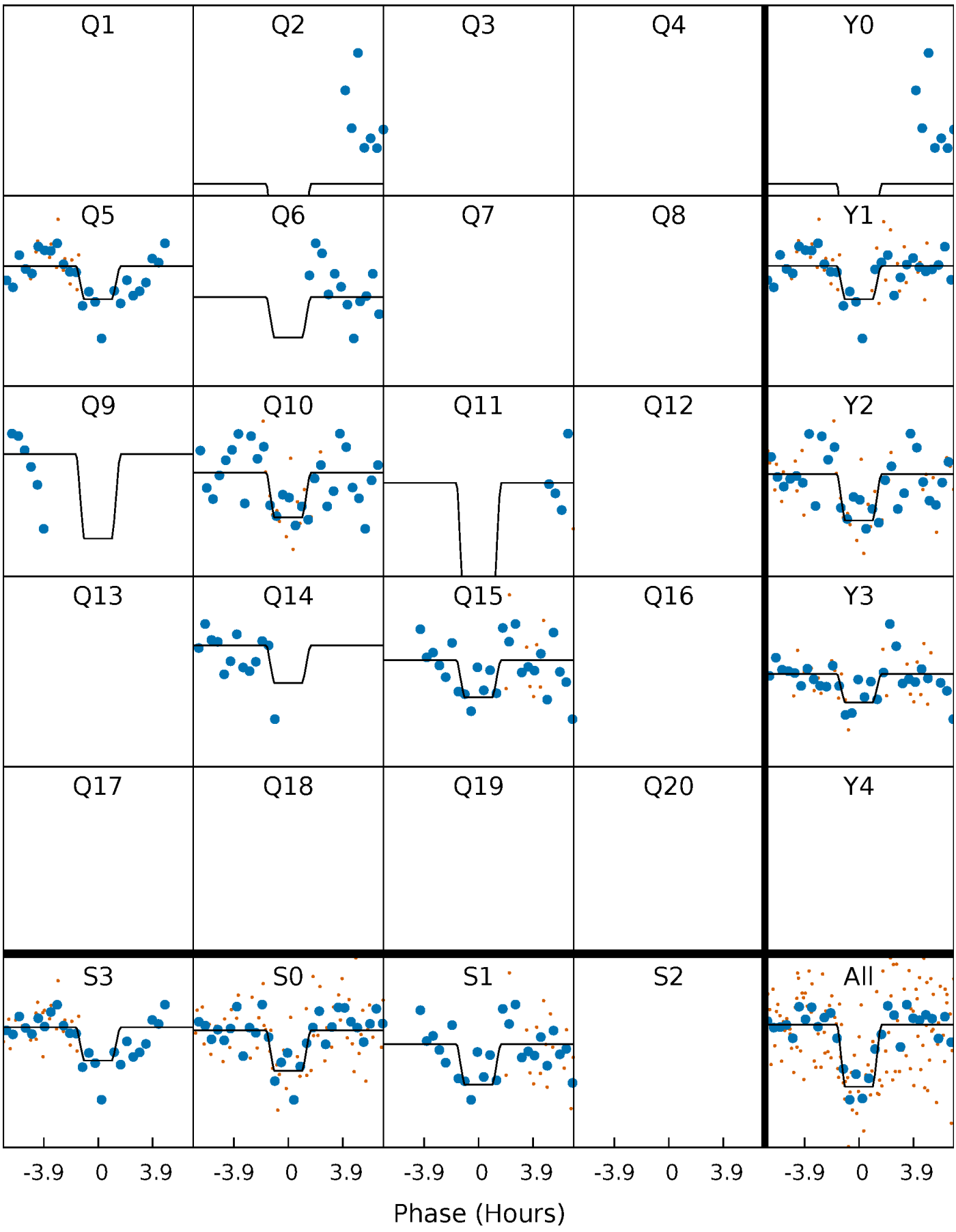
DV Quarter-Phased Transit Curves

TCE 006450934-06 P= 66.664527 Days T_0=187.032969 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

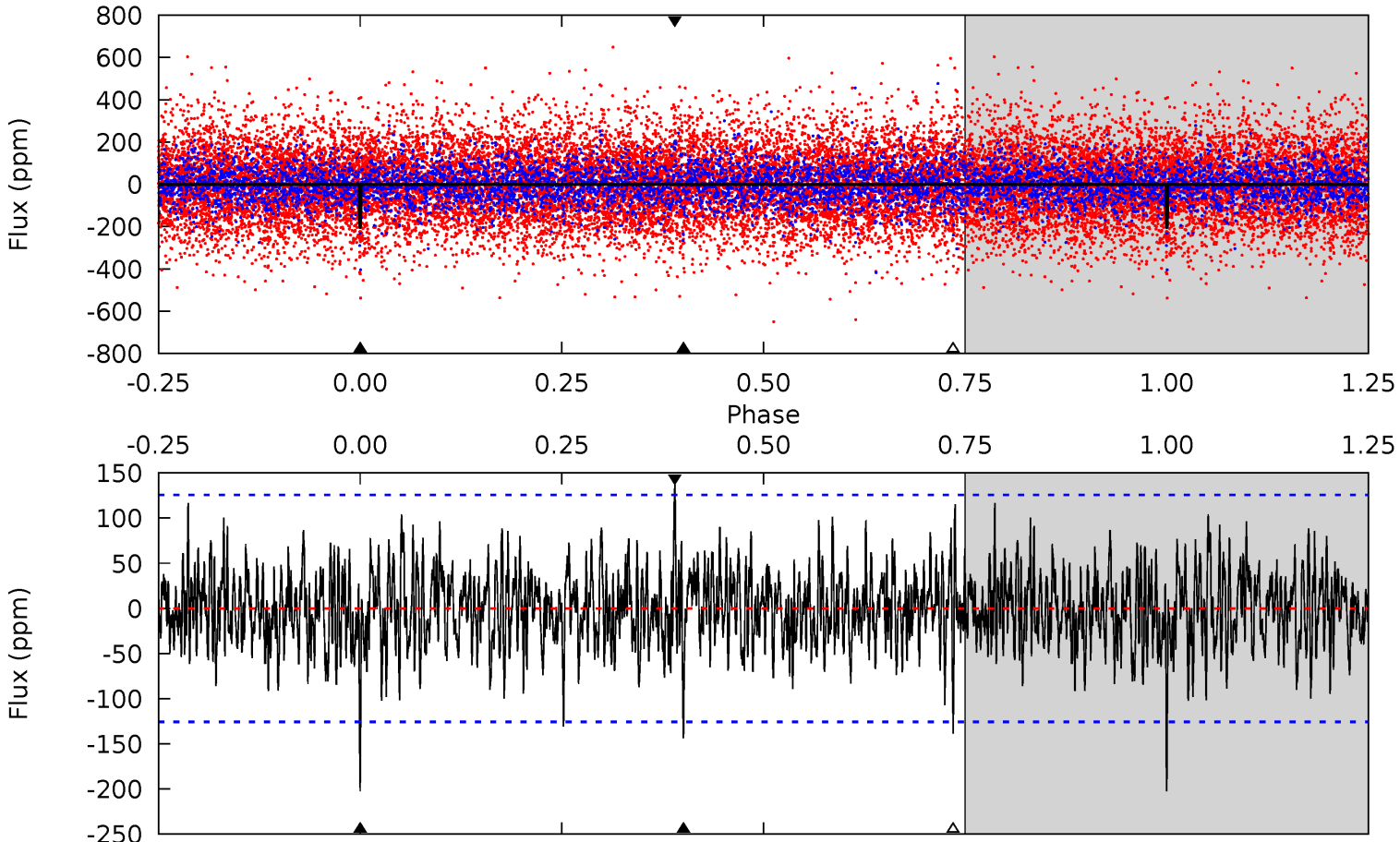
TCE 006450934-06 P= 66.662114 Days T_0=187.055713 (BKJD)

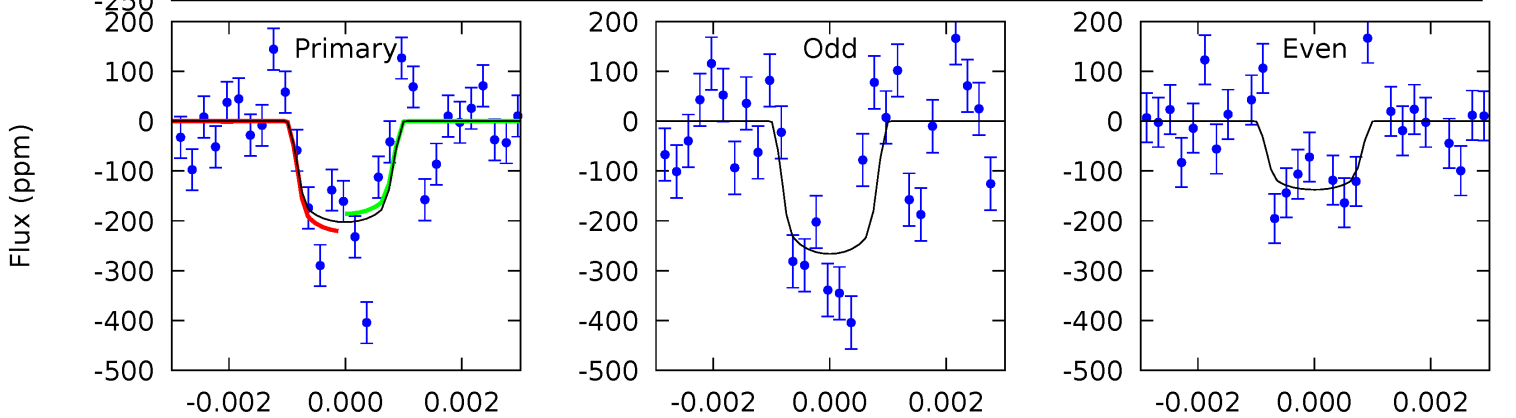


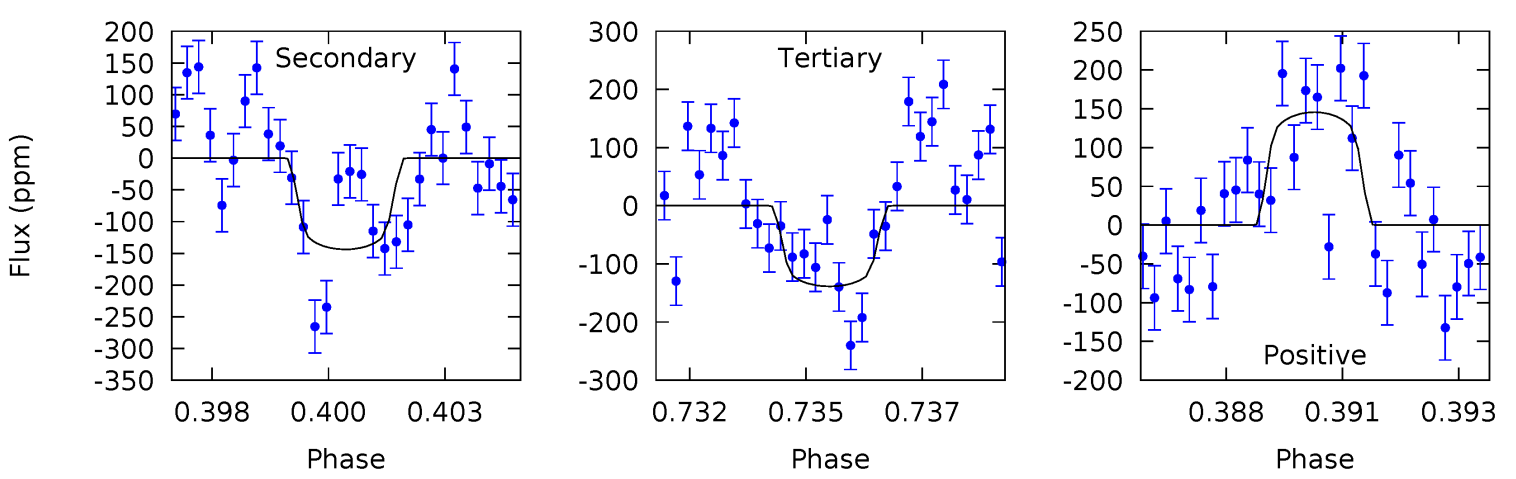
DV Model-Shift Uniqueness Test

006450934-06, P = 66.664527 Days, E = 120.368442 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.52	6.05	5.84	6.13	5.29	3.03	1.58	2.69	2.40	0.22	-0.07	2.71	0.51	0.42	0.72



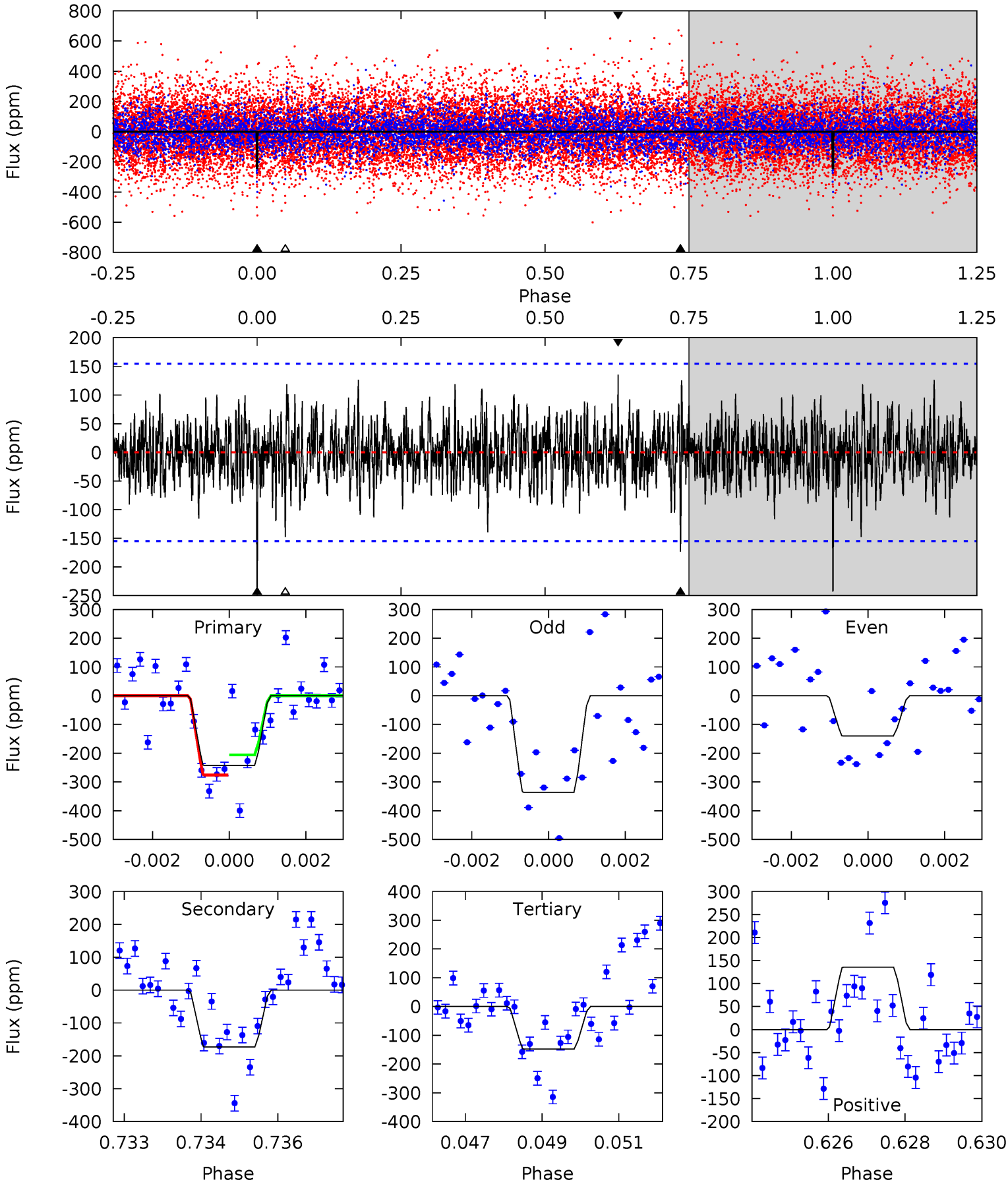




Alt Model-Shift Uniqueness Test

006450934-06, P = 66.662114 Days, E = 120.393599 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.37	5.97	5.09	4.68	5.34	3.11	1.38	3.28	3.70	0.88	1.30	3.39	0.85	0.36	1.21



Stellar Parameters For KIC 006450934

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6754^{+183}_{-203}	$3.546^{+0.336}_{-0.084}$	$-0.260^{+0.300}_{-0.250}$	$3.669^{+0.354}_{-1.417}$	$1.723^{+0.198}_{-0.368}$	$0.049^{+0.129}_{-0.013}$
	+3%/-3%	+9%/-2%	+115%/-96%	+10%/-39%	+11%/-21%	+263%/-26%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006450934-06 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-144±24	$6.35^{+4.59}_{-3.46}$	1262^{+65}_{-111}	5590^{+3147}_{-1106}	295^{+1111}_{-201}
Alt.	-173±29	$6.54^{+4.15}_{-3.87}$	1266^{+72}_{-109}	5942^{+3474}_{-1192}	338^{+1665}_{-214}

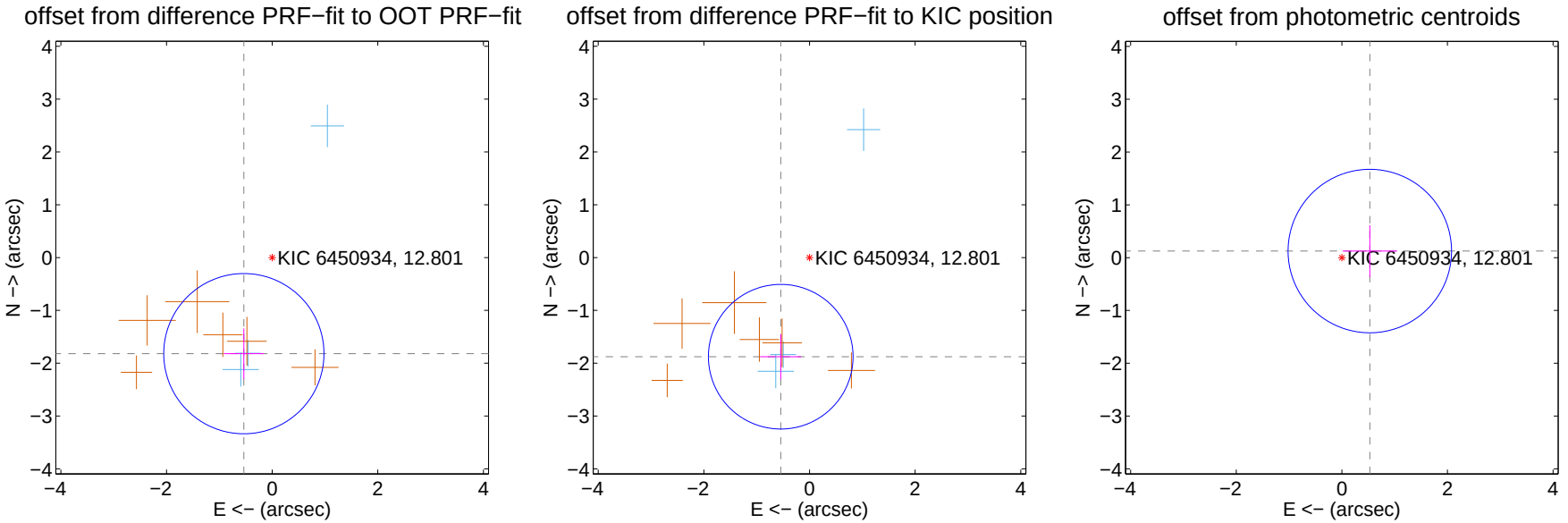
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

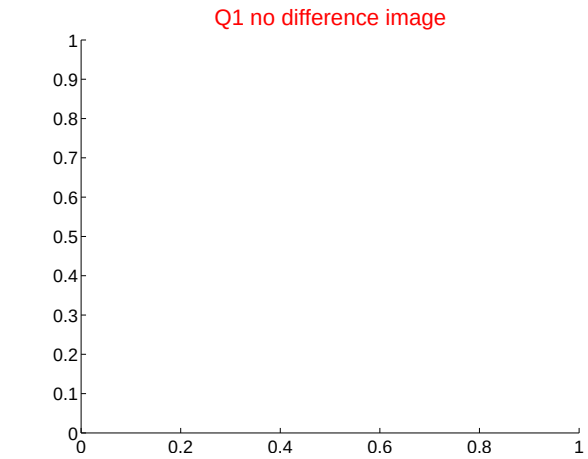
Supplemental centroid analysis for 006450934-06. Kepler magnitude: 12.80. Transit SNR 9.21
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

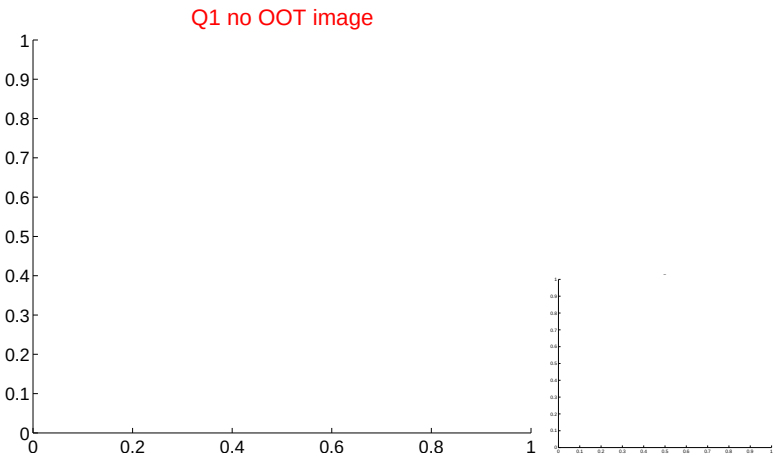
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.896 ± 0.505	3.75	0.536 ± 0.377	-1.819 ± 0.477
PRF-fit source offset from KIC position	1.954 ± 0.456	4.28	0.544 ± 0.385	-1.877 ± 0.424
photometric centroid source offset	0.54 ± 0.52	1.05	-0.53 ± 0.52	0.12 ± 0.49

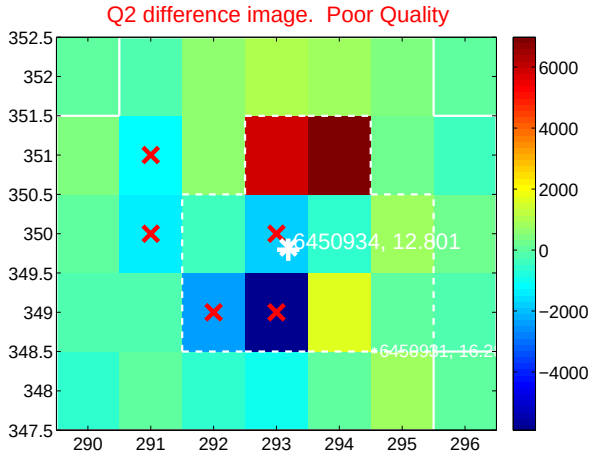


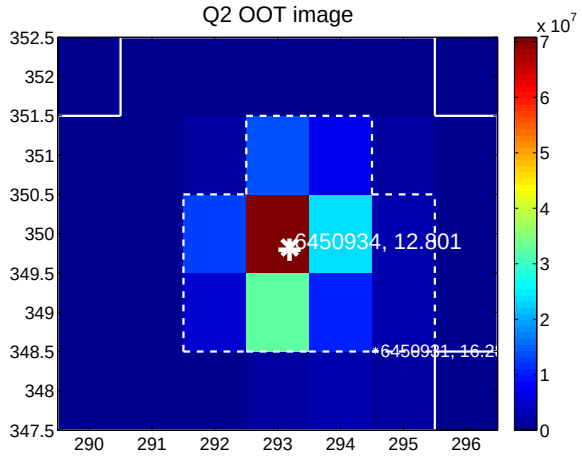
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

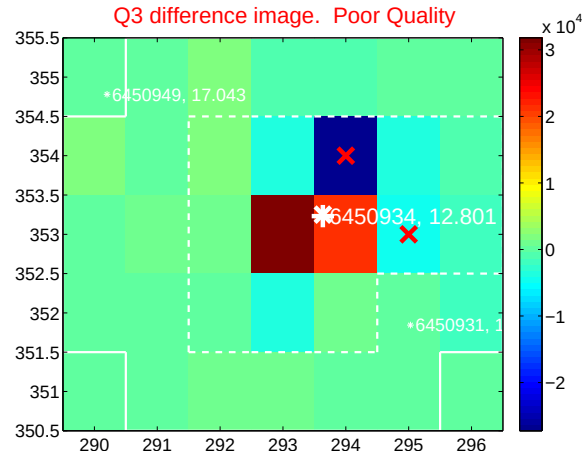
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

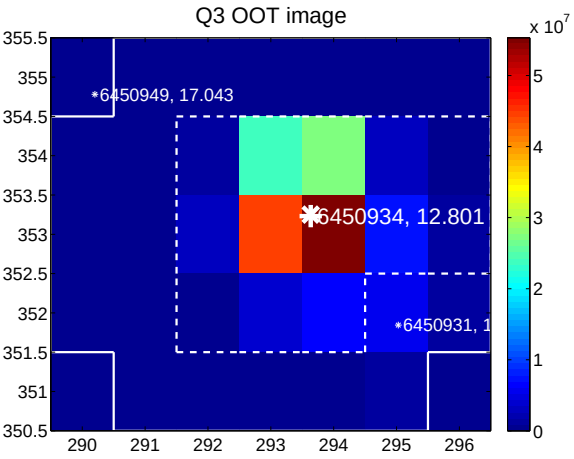


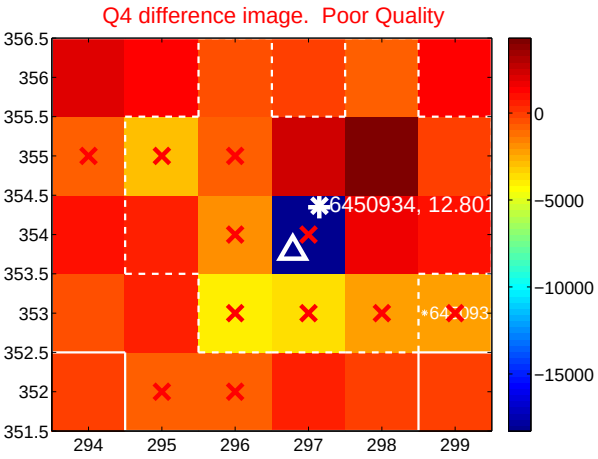


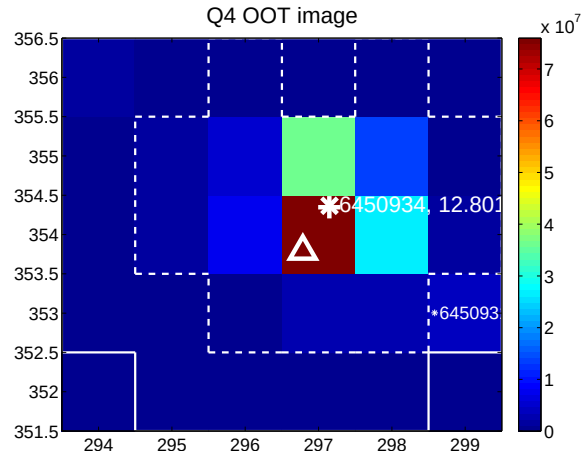




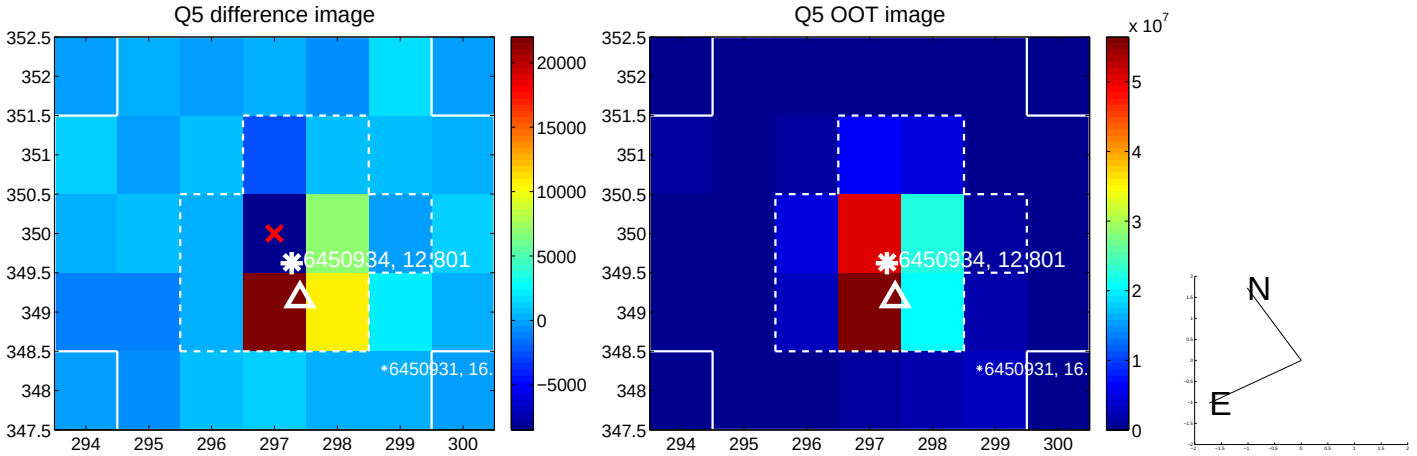


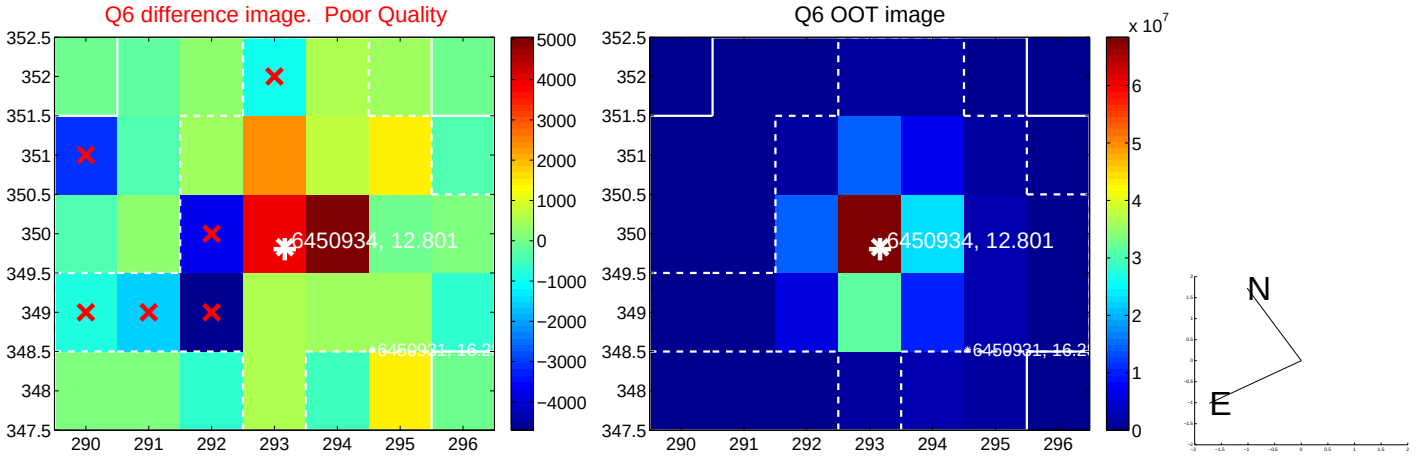


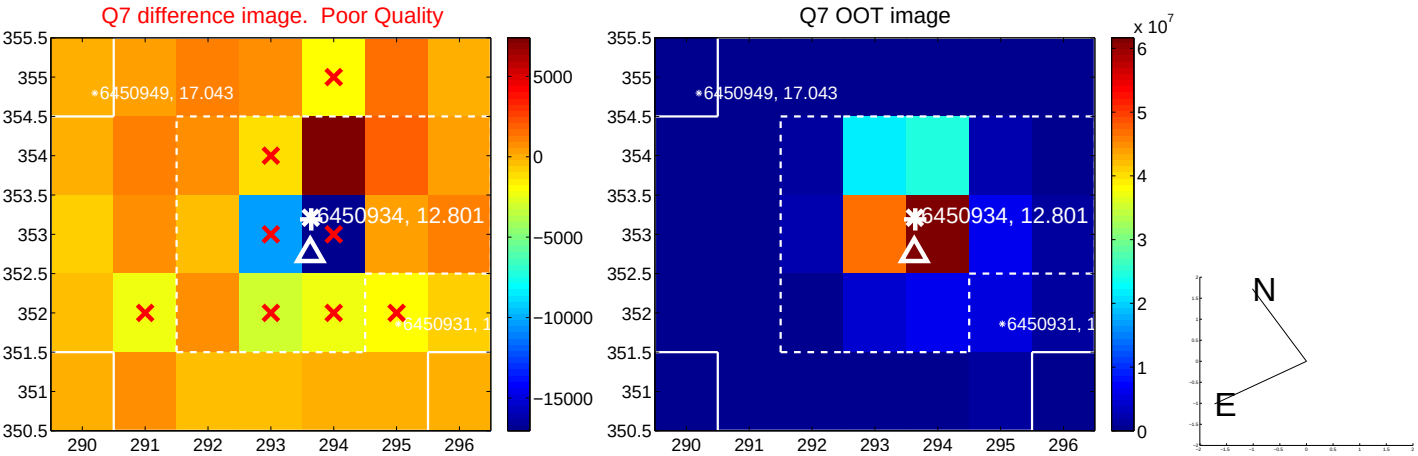


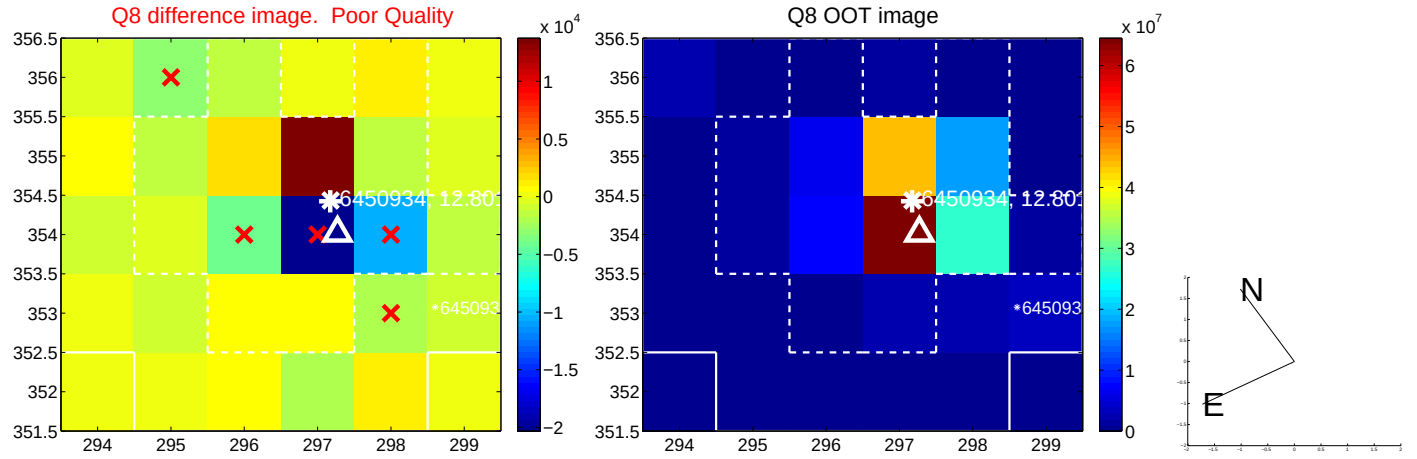


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.









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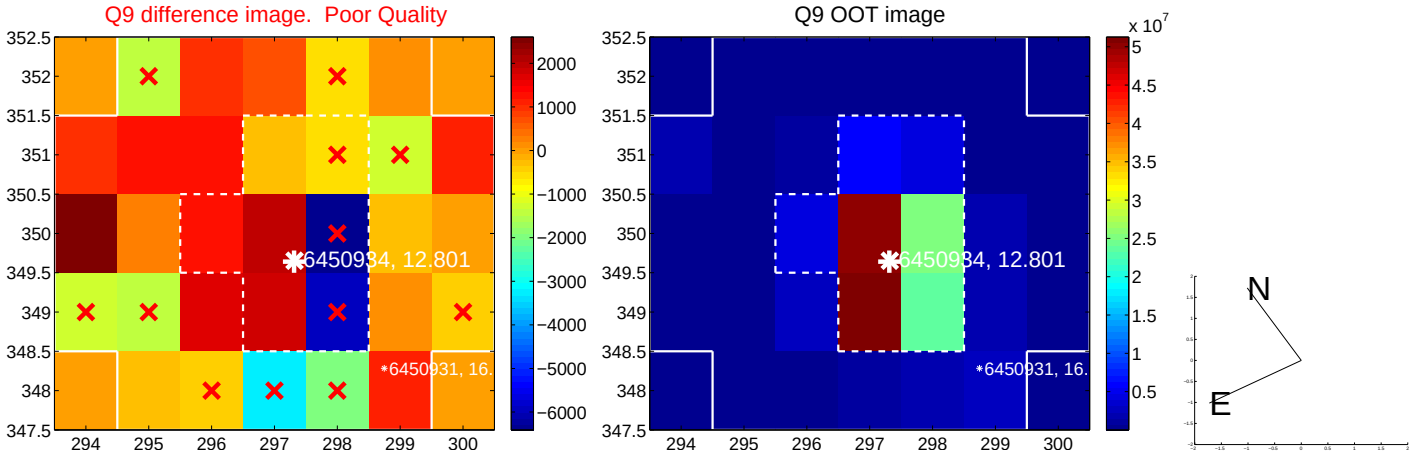

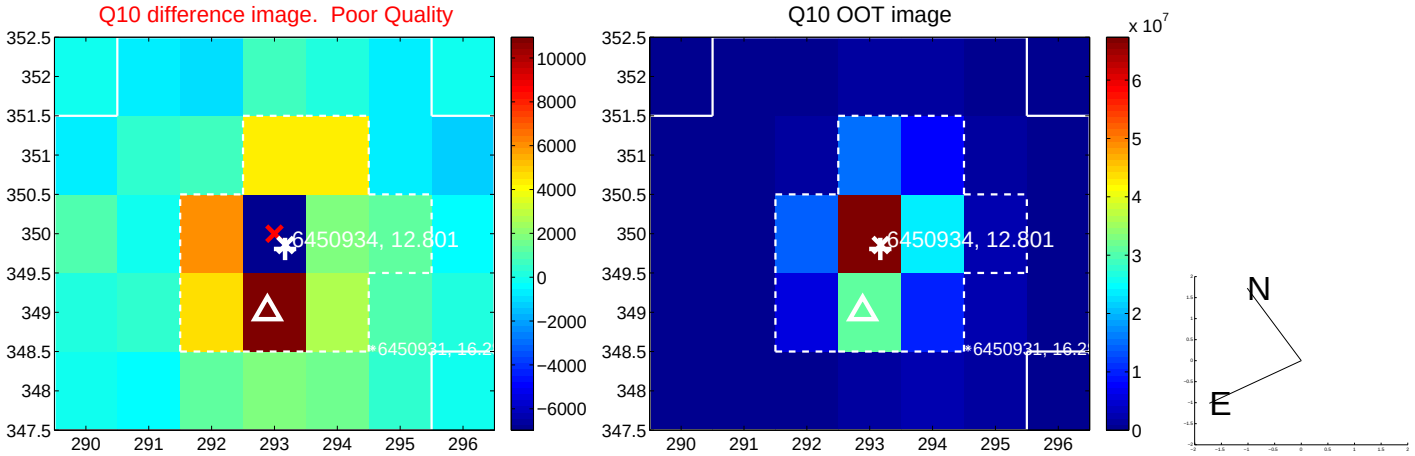

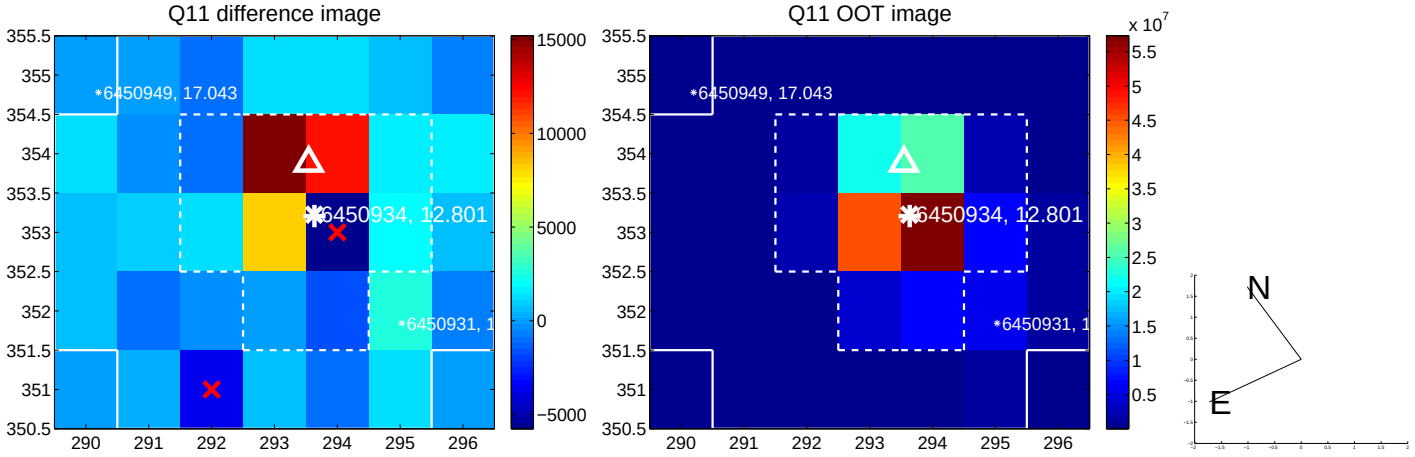

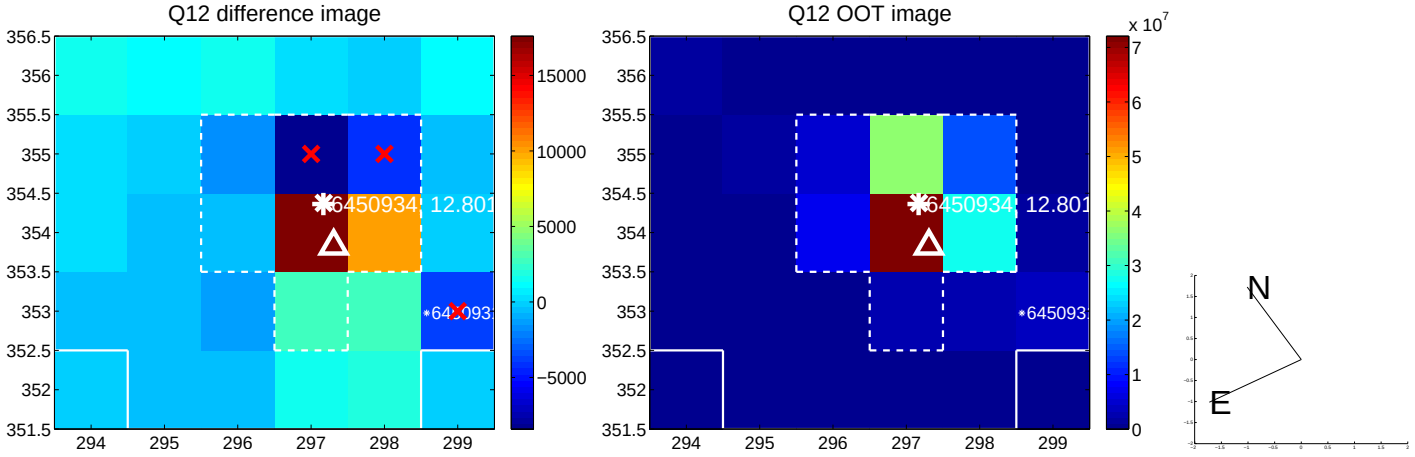

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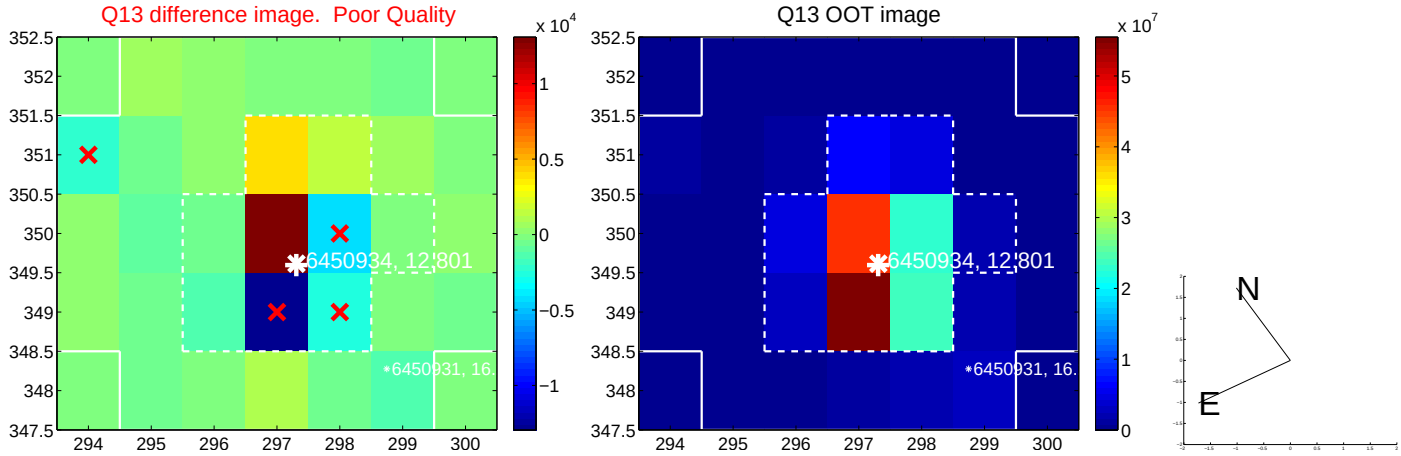

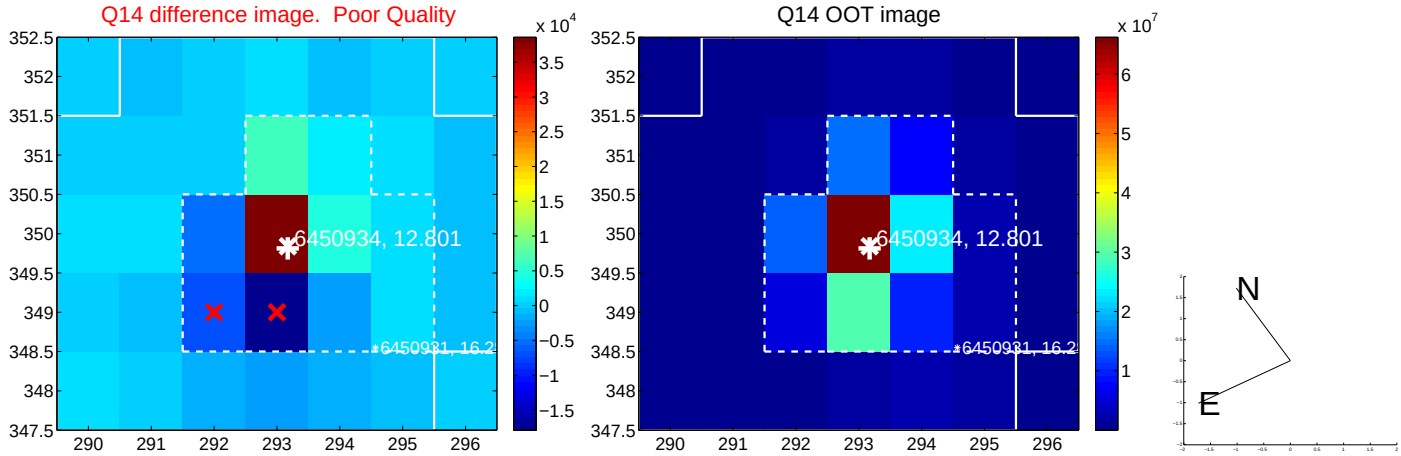

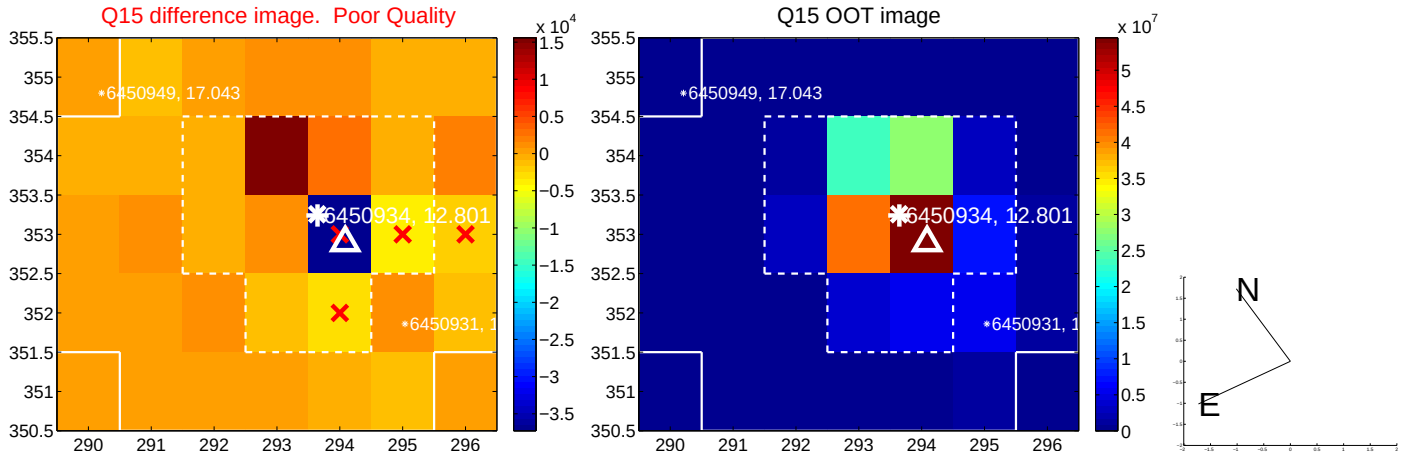

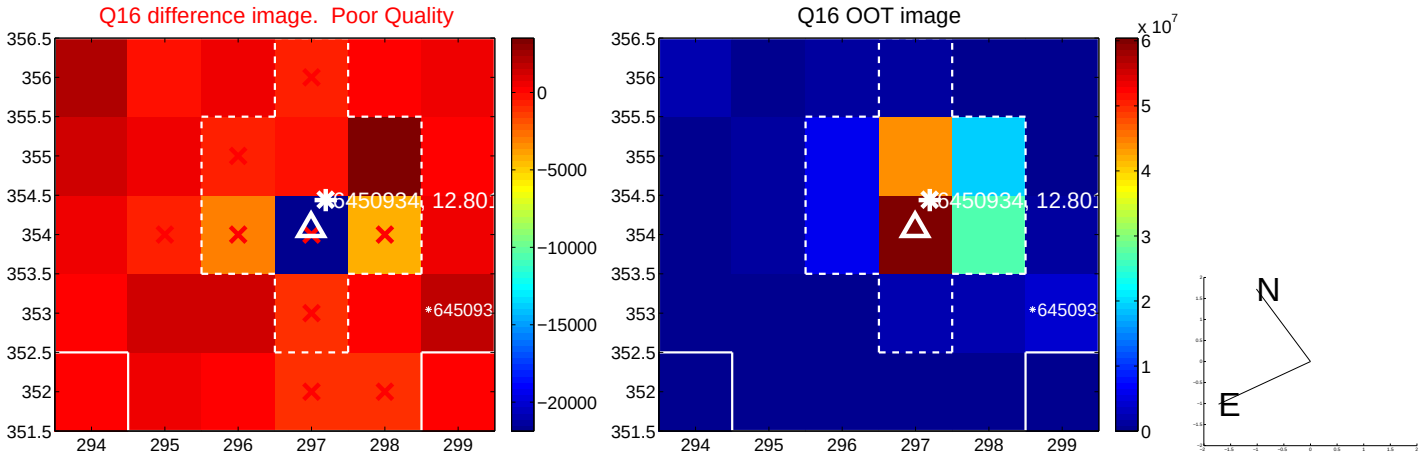

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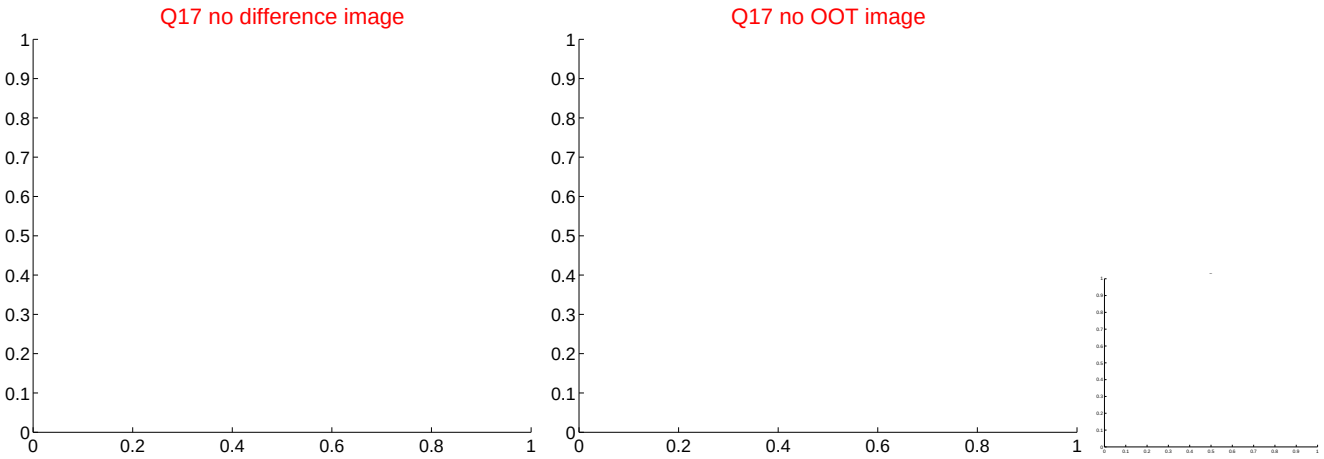
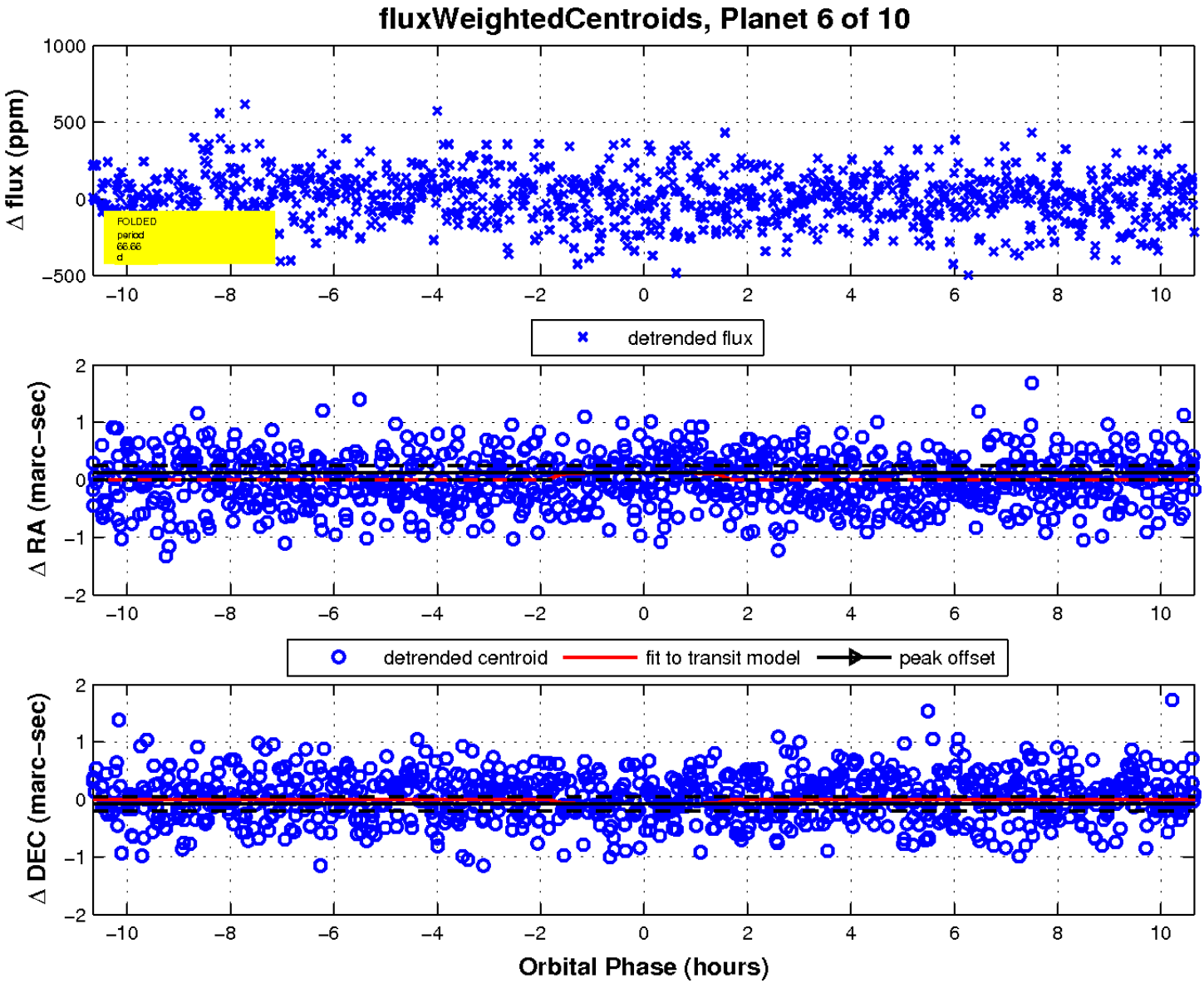
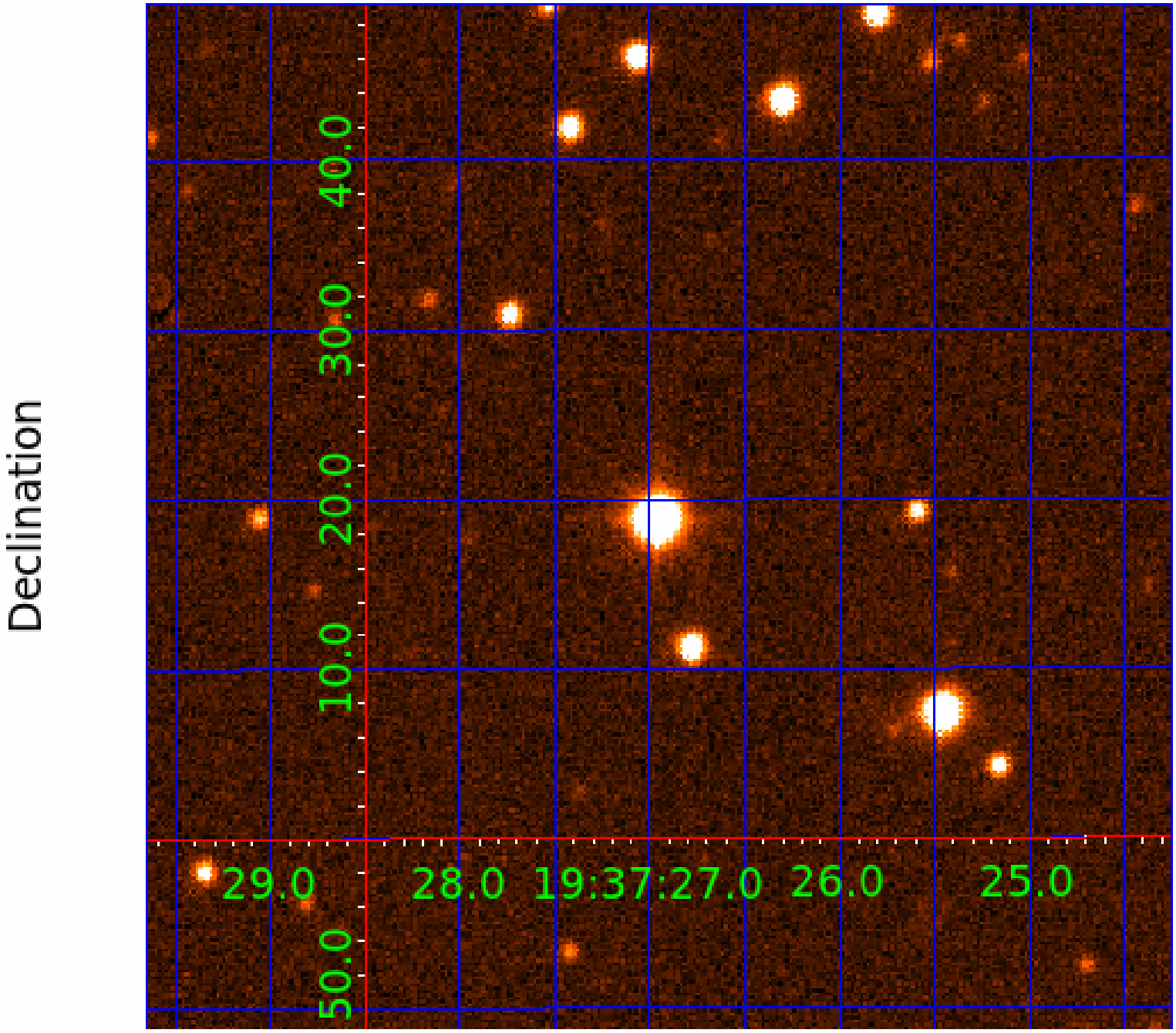




UKIRT Image



KIC 006450934

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 ($S_\oplus$)
006450934-01	OBS	No	1.673031	133.058235	15.6	9.741	8.6	7.7	3.67	6754	1.68	22917.39
006450934-02	OBS	No	560.122385	433.162255	343.5	73.386	10.7	8.0	3.67	6754	8.66	9.86
006450934-03	OBS	No	68.232639	147.673666	158.9	5.895	9.5	7.3	3.67	6754	5.36	163.25
006450934-05	OBS	No	115.140159	170.976939	281.4	3.503	8.8	9.3	3.67	6754	6.90	81.26
006450934-06	OBS	No	66.664527	187.032969	240.6	3.555	8.7	9.2	3.67	6754	6.53	168.39
006450934-07	OBS	No	180.351292	298.067471	287.6	4.343	8.2	9.8	3.67	6754	7.16	44.67
006450934-08	OBS	No	50.053289	160.466595	281.2	2.001	8.2	9.1	3.67	6754	7.17	246.75
006450934-09	OBS	No	53.612809	177.650997	217.0	2.333	7.8	7.9	3.67	6754	6.30	225.15
006450934-10	OBS	No	75.681529	146.869509	174.7	3.821	8.0	7.9	3.67	6754	5.64	142.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006450934-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006450934-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006450934-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
006450934-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

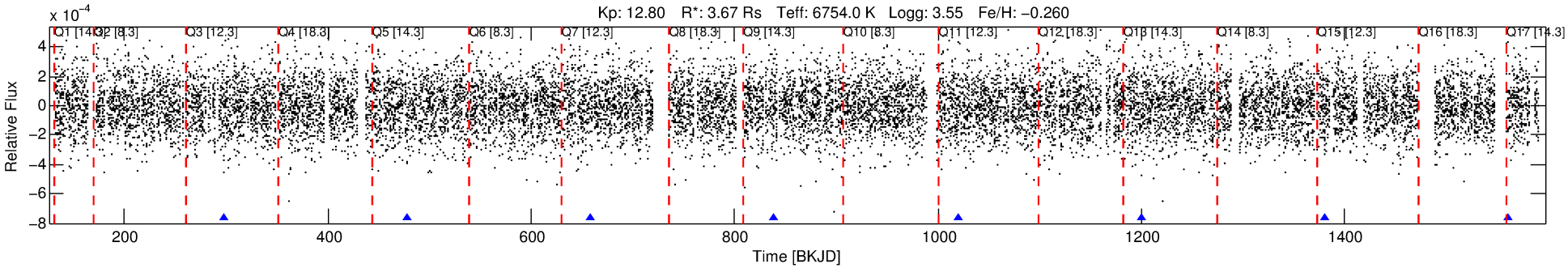
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

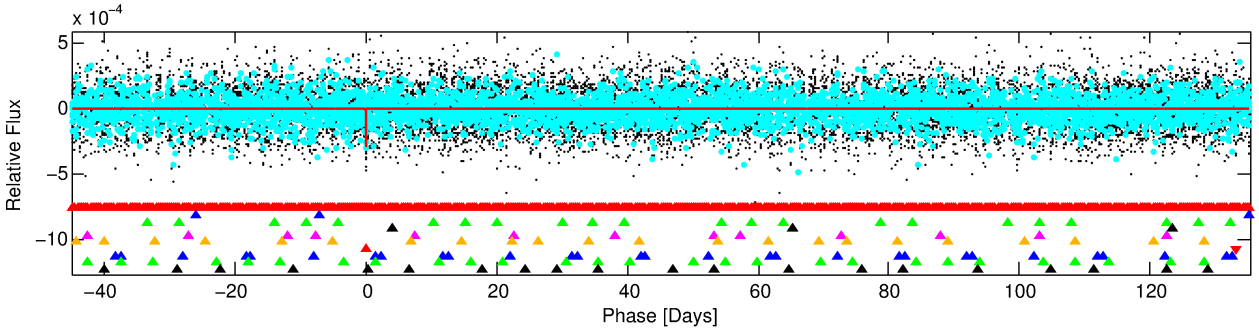
Ephemeris Match Information For 006450934-07

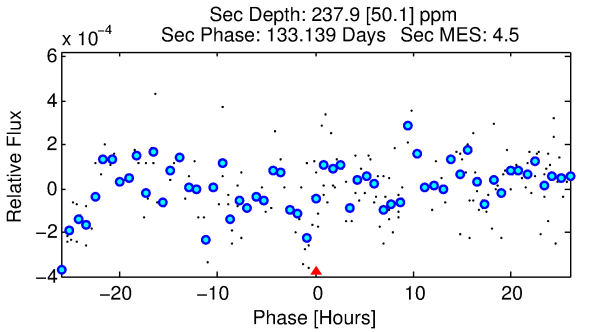
No Significant Match Found

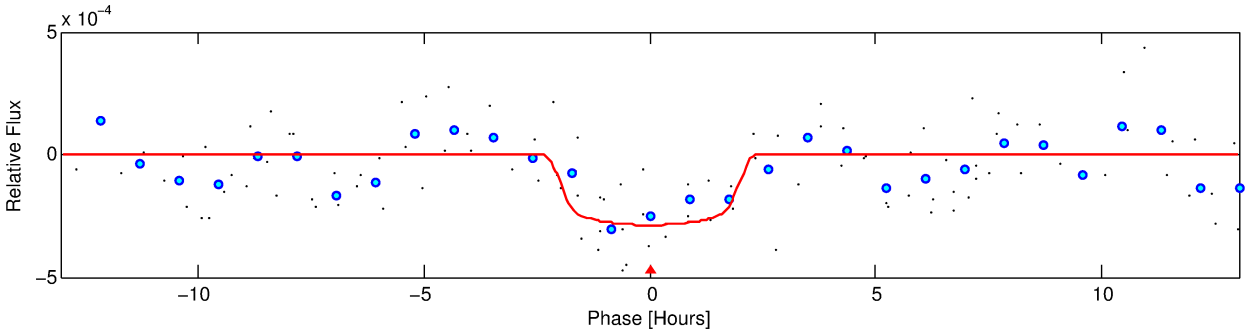
DV One-Page Summary

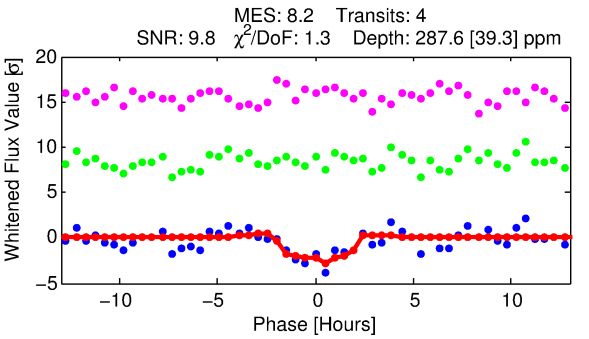
KIC: 6450934 Candidate: 7 of 10 Period: 180.351 d

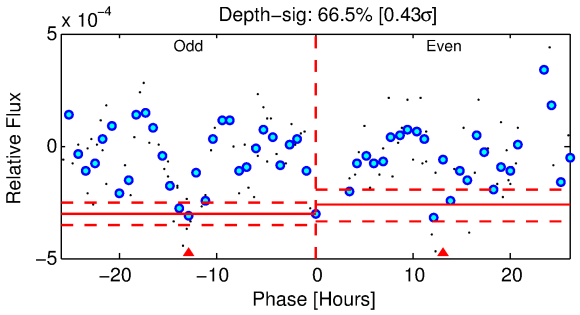


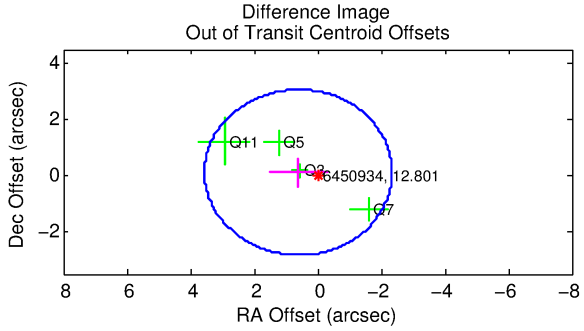












DV Fit Results:

Period = 180.35129 [0.00204] d
Epoch = 298.0675 [0.0109] BKJD
Rp/R* = 0.0179 [0.0081]
a/R* = 160.39 [424.85]
b = 0.88 [0.66]

Seff = 44.67 [26.30]
Teq = 659 [97] K
Rp = 7.16 [4.25] Re
a = 0.7496 [0.2732] AU

Ag = 1435.55 [1564.91] [0.92σ]
Teffp = 6274 [1463] K [3.83σ]

DV Diagnostic Results:

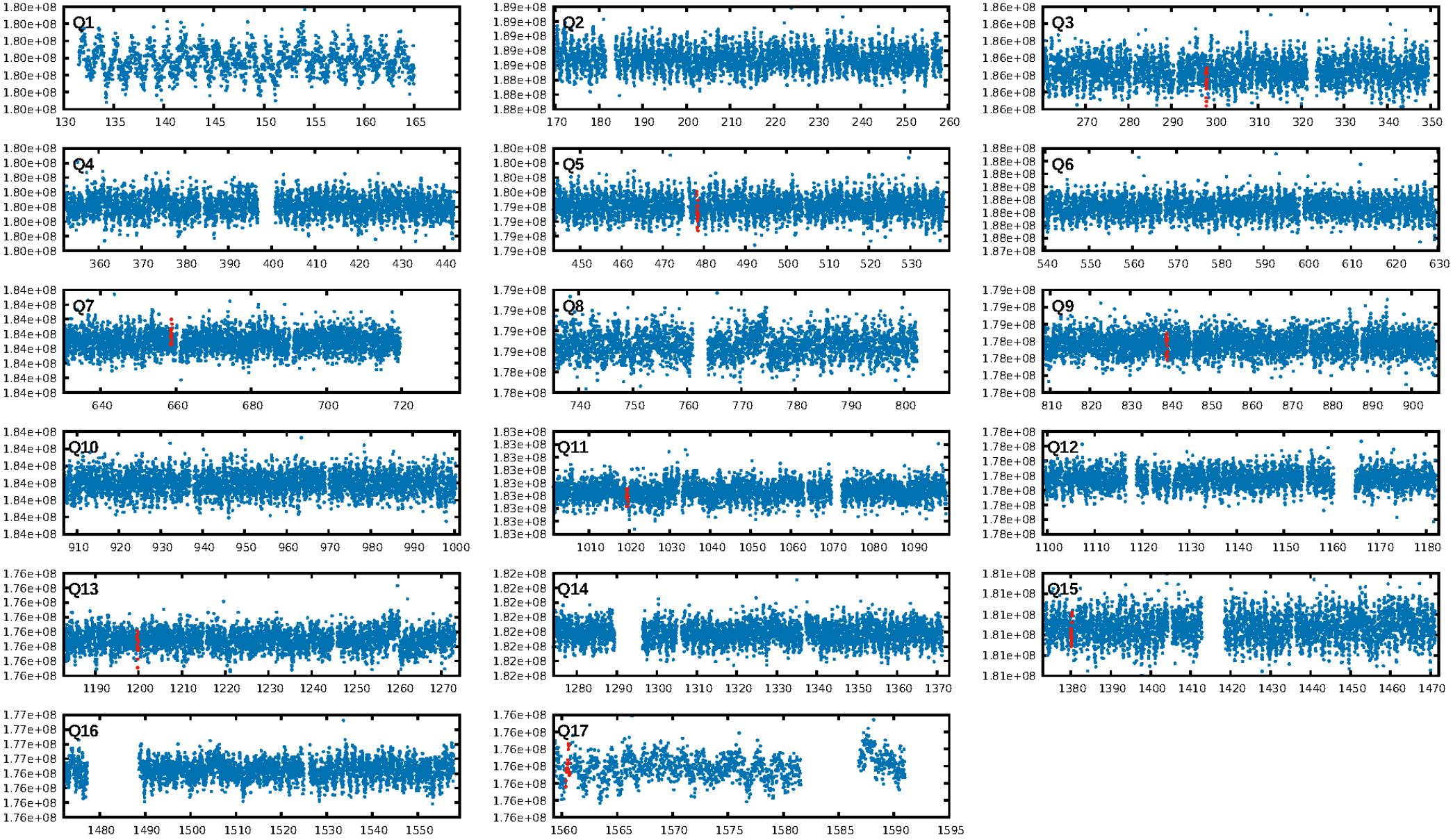
ShortPeriod−sig: 100.0% [280.47σ]
LongPeriod−sig: 100.0% [989.08σ]
ModelChiSquare2−sig: 21.2%
ModelChiSquareGof−sig: 98.6%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: 0.0003611

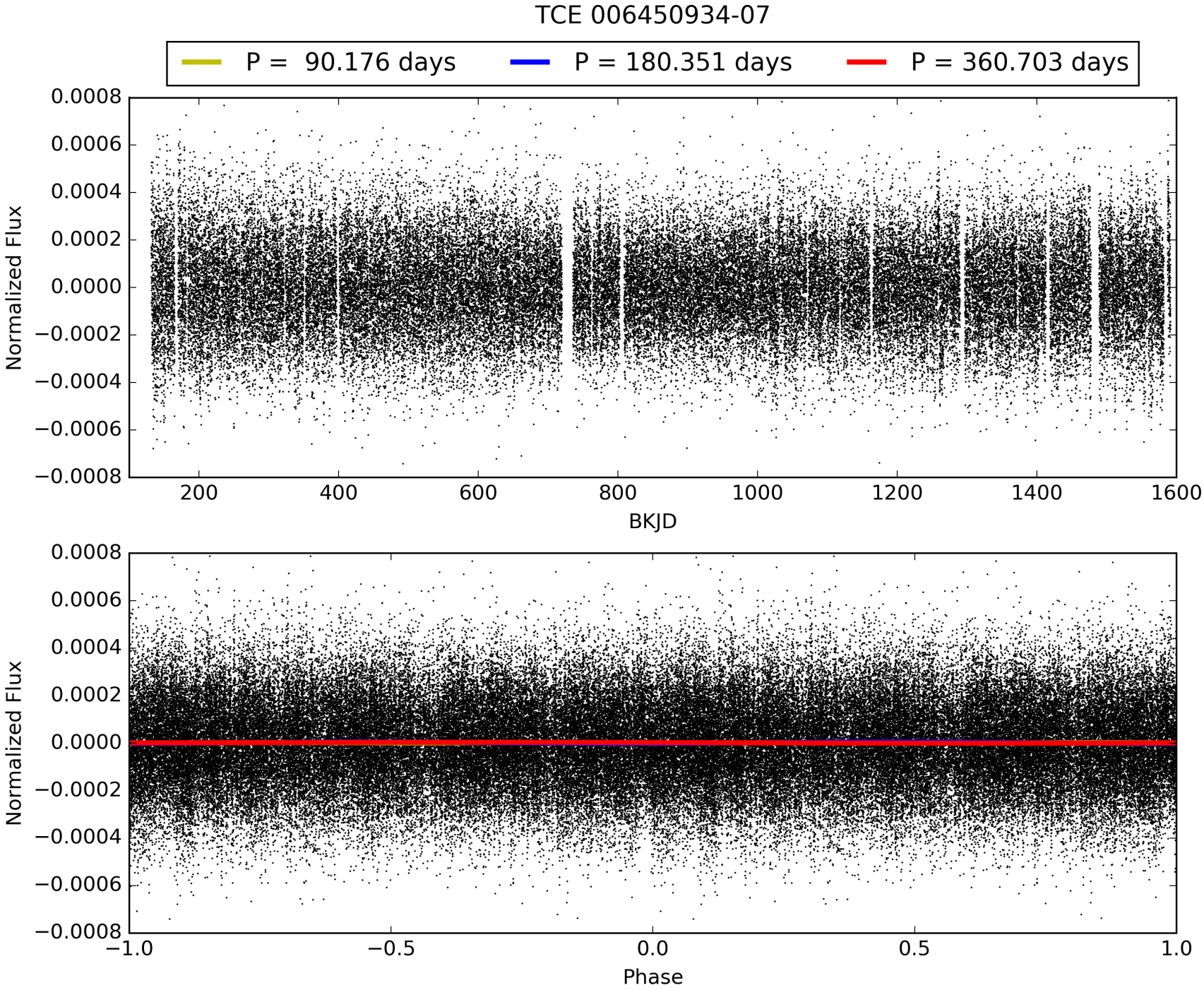
Centroid−sig: 84.4%
Centroid−so: 0.114 arcsec [0.18σ]
OotOffset−rm: 0.619 arcsec [0.63σ]
KicOffset−rm: 0.640 arcsec [0.77σ]
OotOffset−st: 0/3/0/1 [4]
KicOffset−st: 0/3/0/1 [4]
DiffImageQuality−fgm: 0.25 [1/4]
DiffImageOverlap−fno: 0.33 [2/6]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 03−Feb−2016 05:27:26 Z

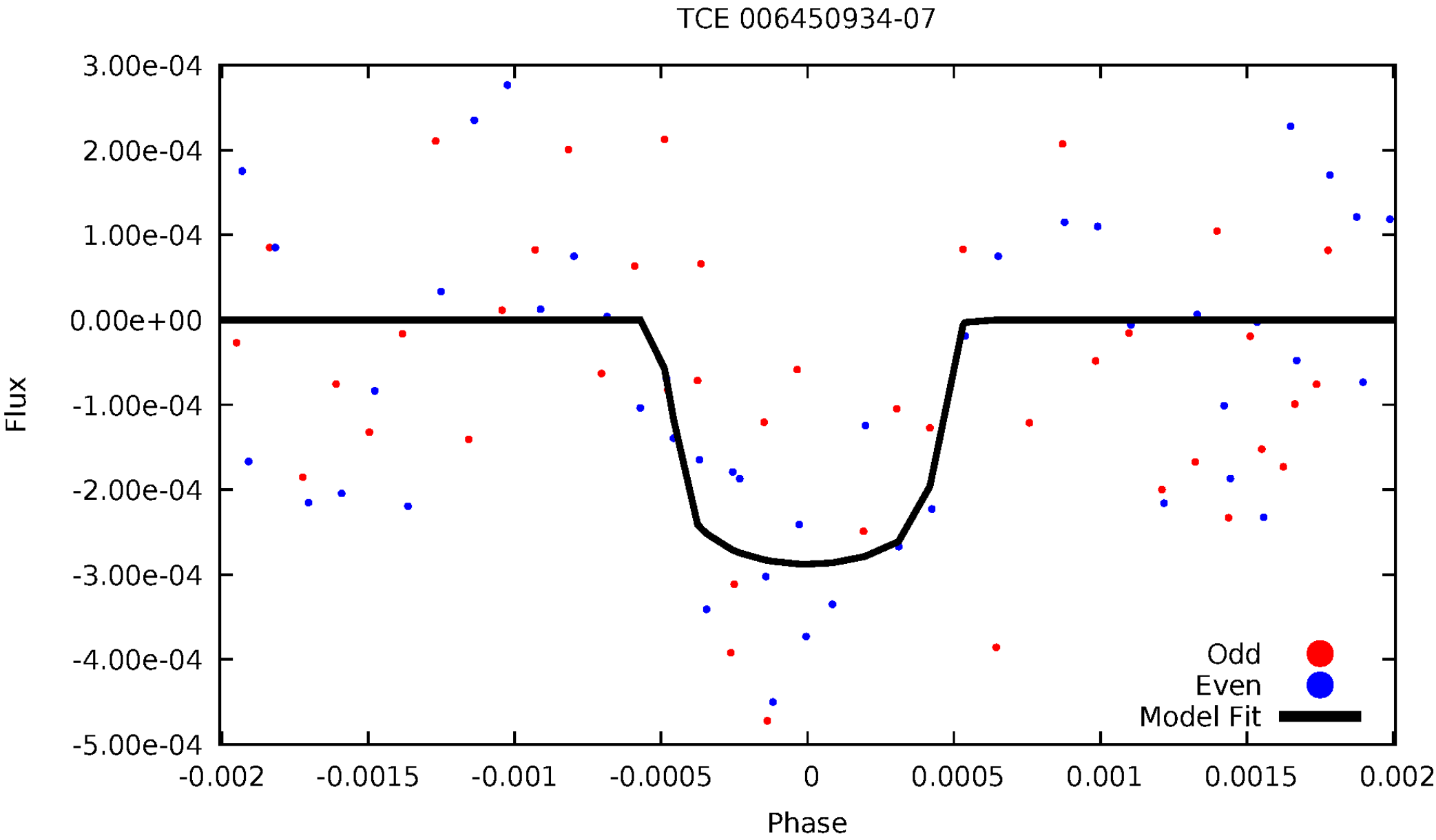
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

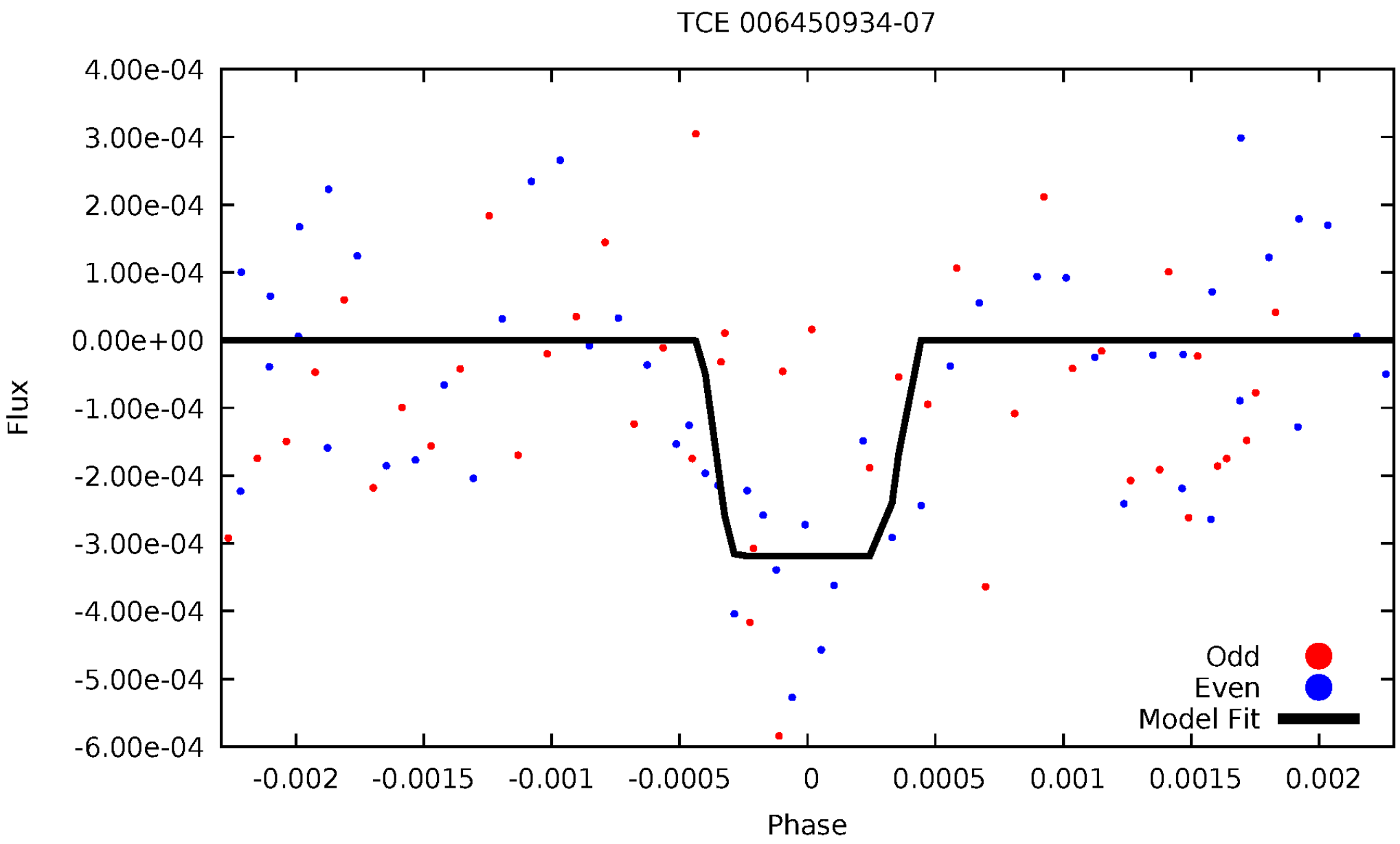
TCE 006450934-07, PDC Light Curves



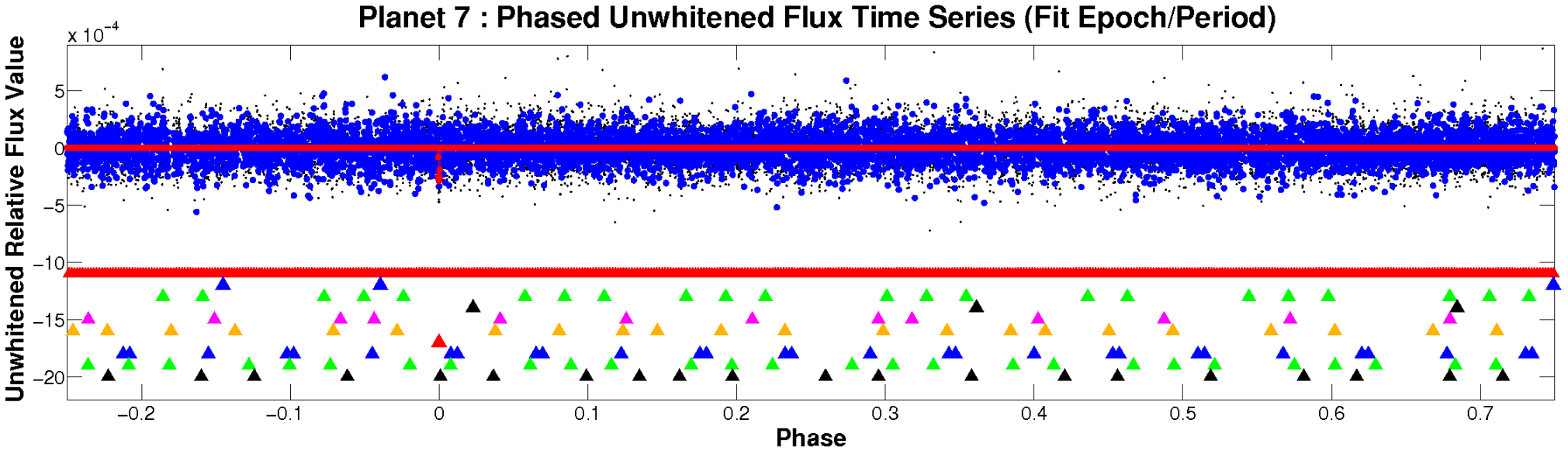

TCE 006450934-07
P = 90.176 days
P = 180.351 days
P = 360.703 days
Normalized Flux
0.0008
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
−0.0008
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
−1.0
−0.5
0.0
0.5
1.0
Phase

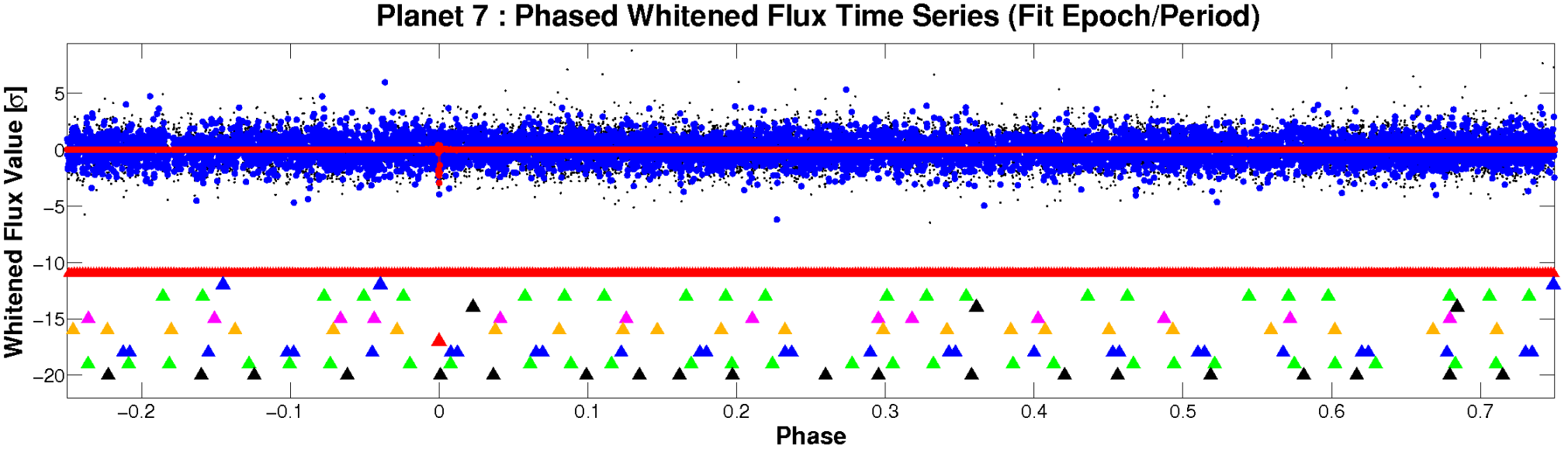
DV Odd/Even


TCE 006450934-07
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
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 006450934-07
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
-6.00e-04
Flux
-0.002
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
0.002
Phase
Odd
Even
Model Fit

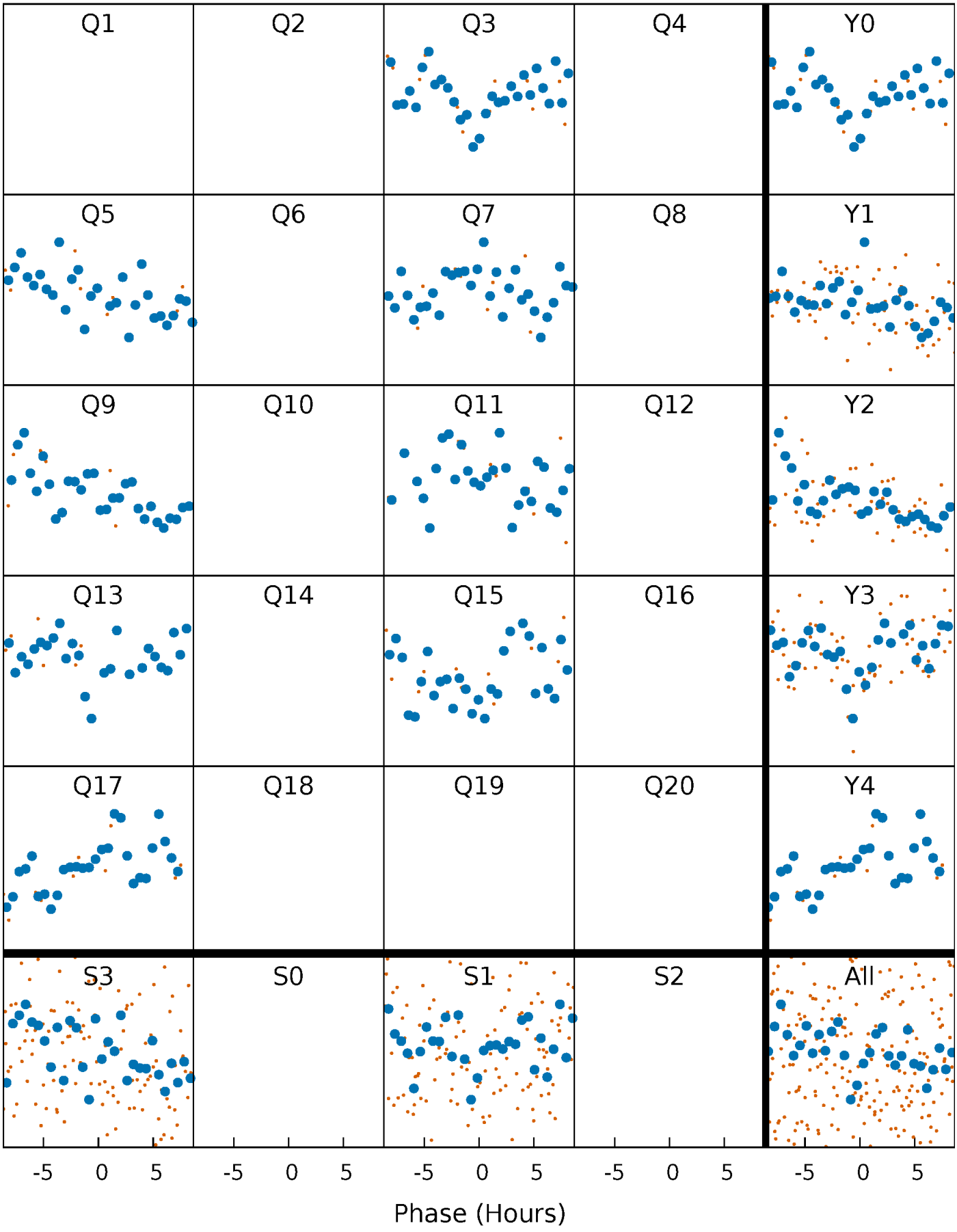
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 006450934-07 P=180.351292 Days T_0=298.067471 (BKJD)



DV Quarter-Phased Transit Curves

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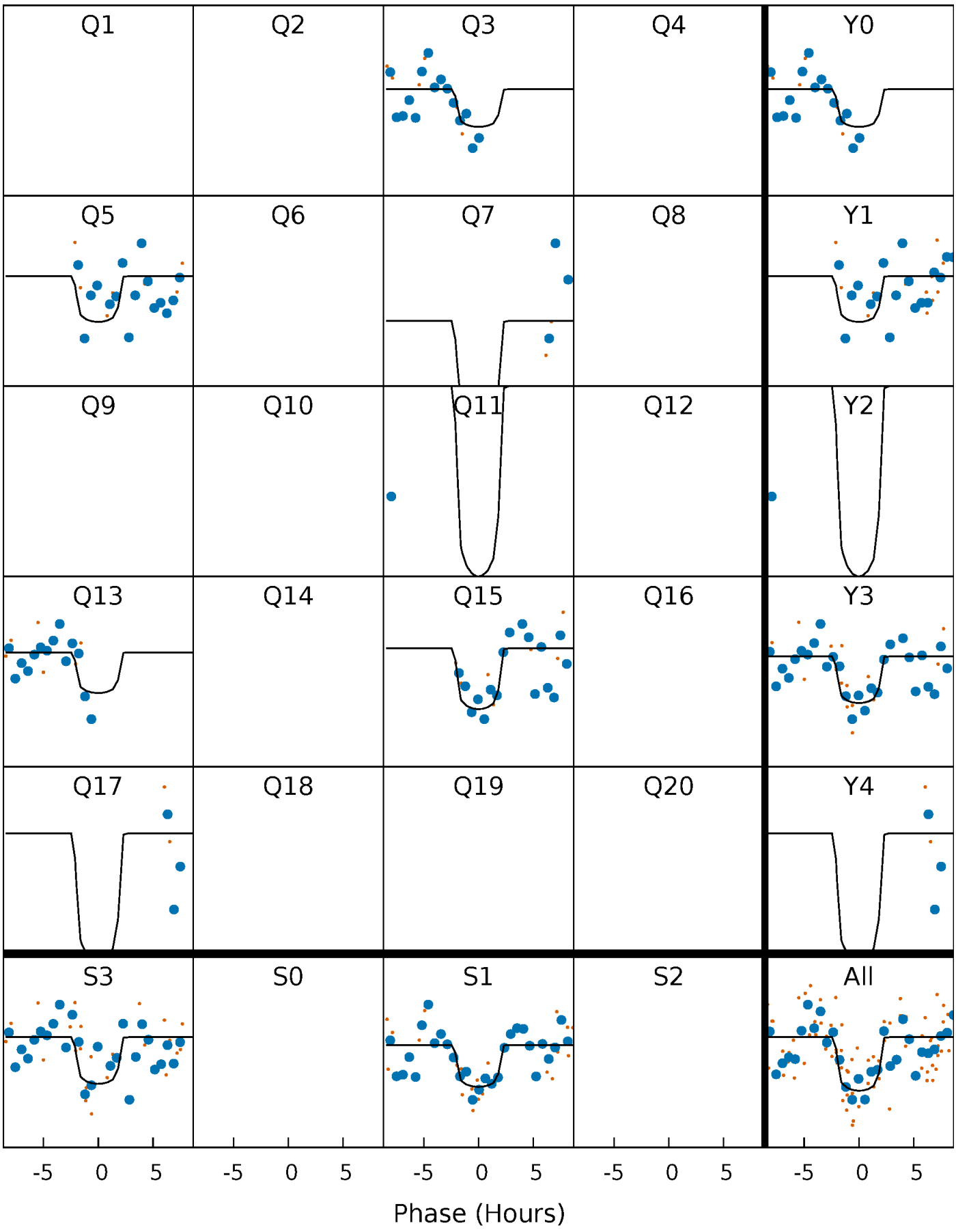
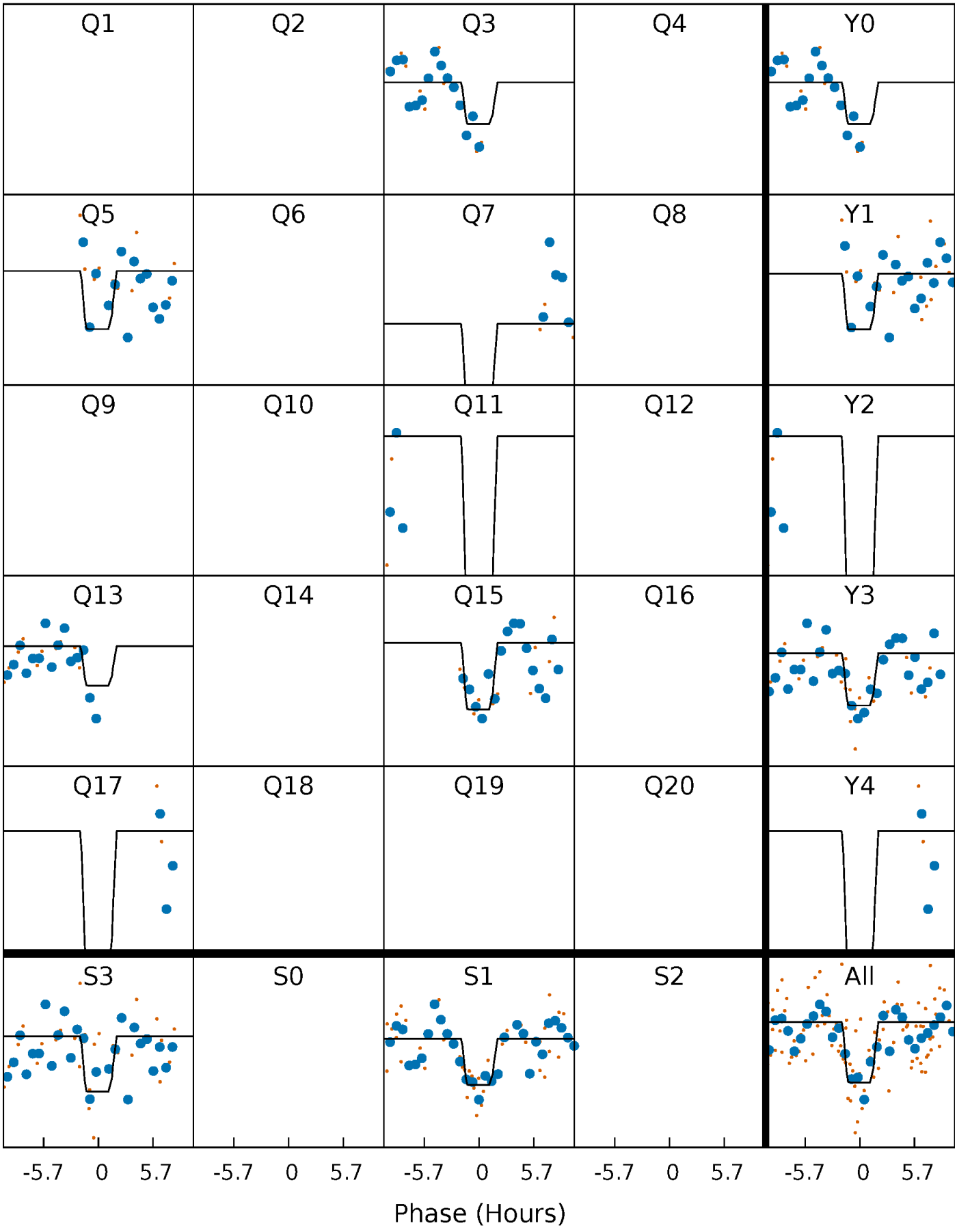


Alt. Detrend Quarter-Phased Transit Curves

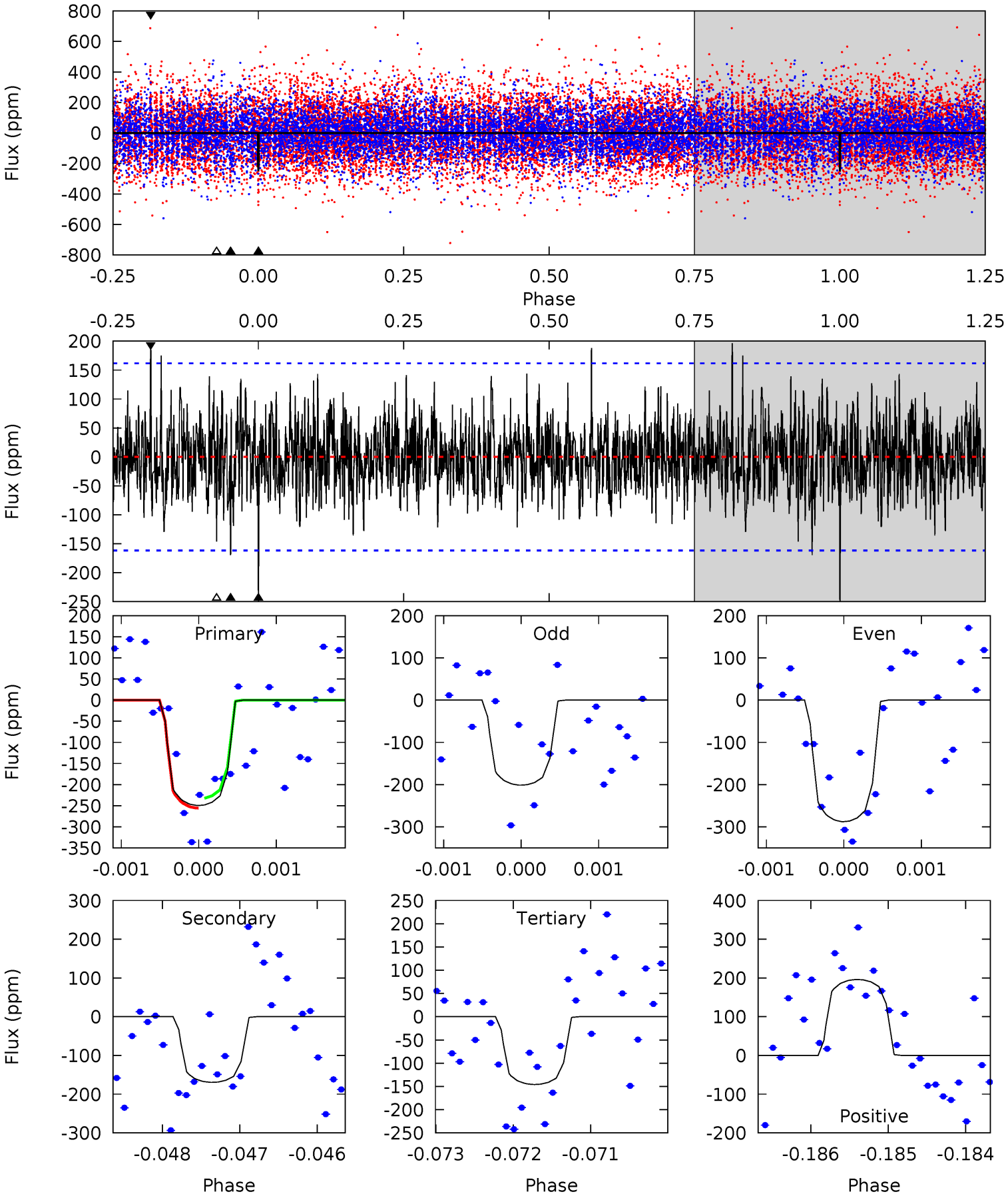
TCE 006450934-07 P=180.352461 Days T_0=298.056951 (BKJD)



DV Model-Shift Uniqueness Test

006450934-07, P = 180.351292 Days, E = 117.716179 Days

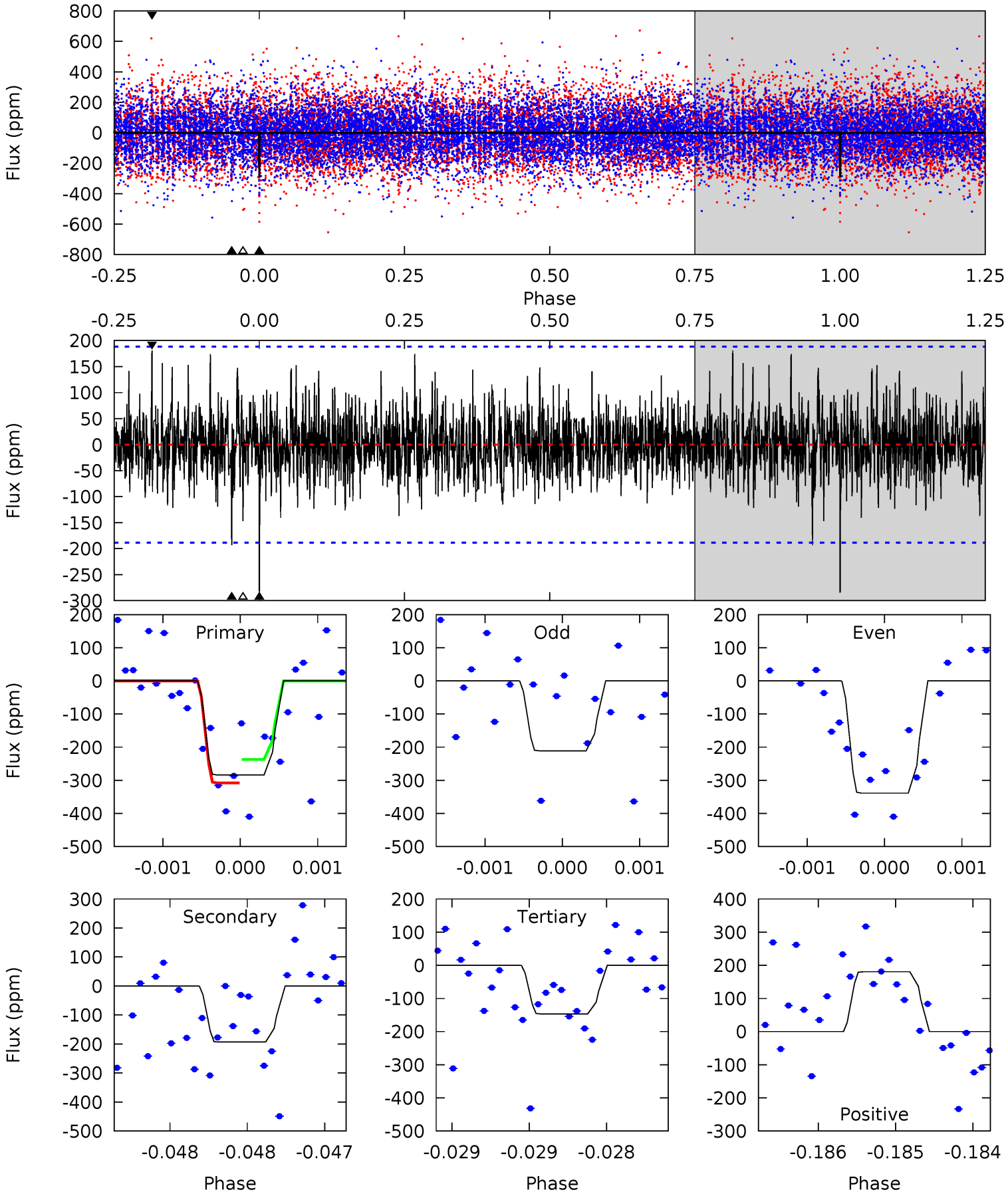
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.39	5.70	4.91	6.60	5.43	3.26	1.55	3.48	1.79	0.80	-0.90	1.45	1.00	0.44	0.37



Alt Model-Shift Uniqueness Test

006450934-07, P = 180.352461 Days, E = 117.704490 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.28	5.63	4.28	5.26	5.49	3.36	1.33	4.01	3.02	1.35	0.37	1.82	0.88	0.39	0.94



Stellar Parameters For KIC 006450934

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6754^{+183}_{-203}	$3.546^{+0.336}_{-0.084}$	$-0.260^{+0.300}_{-0.250}$	$3.669^{+0.354}_{-1.417}$	$1.723^{+0.198}_{-0.368}$	$0.049^{+0.129}_{-0.013}$
	+3%/-3%	+9%/-2%	+115%/-96%	+10%/-39%	+11%/-21%	+263%/-26%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006450934-07 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-170±30	$6.68^{+3.07}_{-3.32}$	903^{+50}_{-85}	5808^{+2483}_{-928}	1199^{+3340}_{-654}
Alt.	-193±34	$6.83^{+3.57}_{-3.04}$	908^{+46}_{-80}	5873^{+2241}_{-971}	1286^{+2881}_{-737}

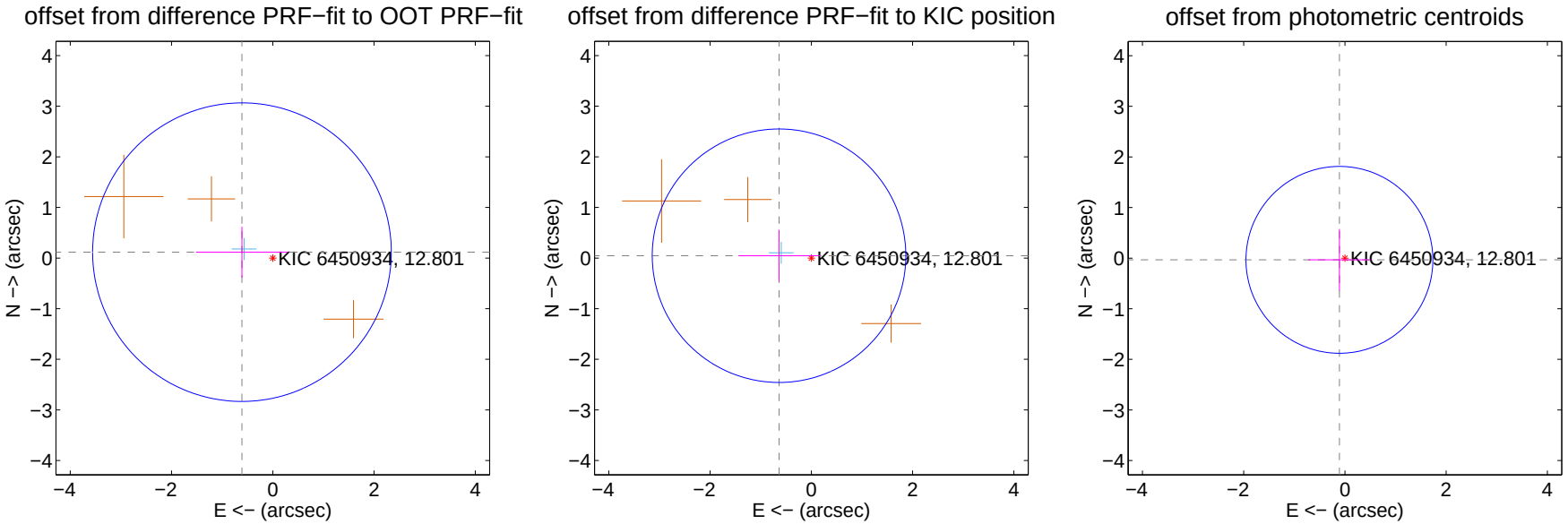
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

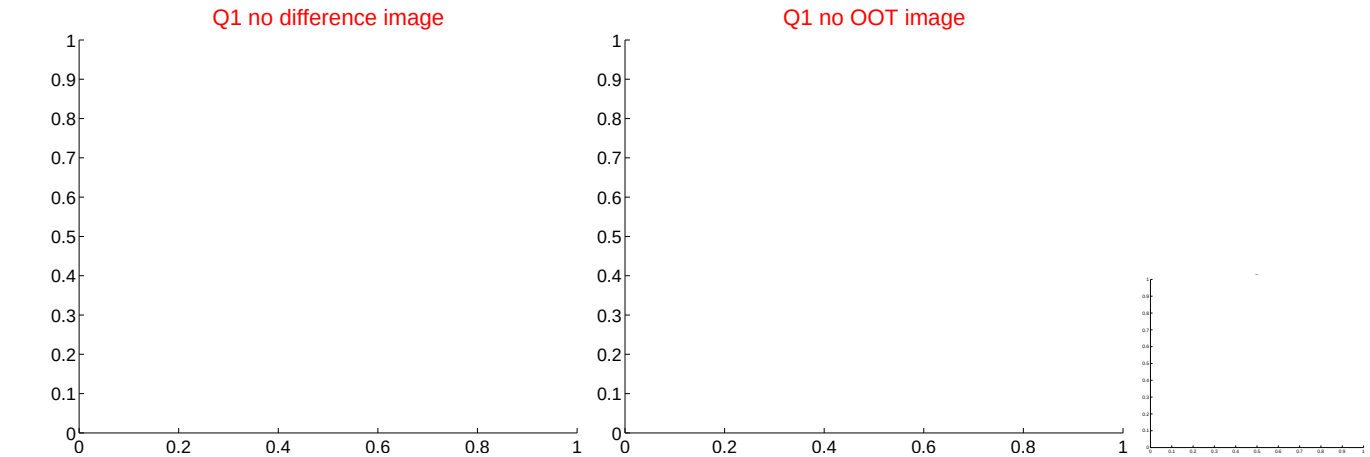
Supplemental centroid analysis for 006450934-07. Kepler magnitude: 12.80. Transit SNR 9.76
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

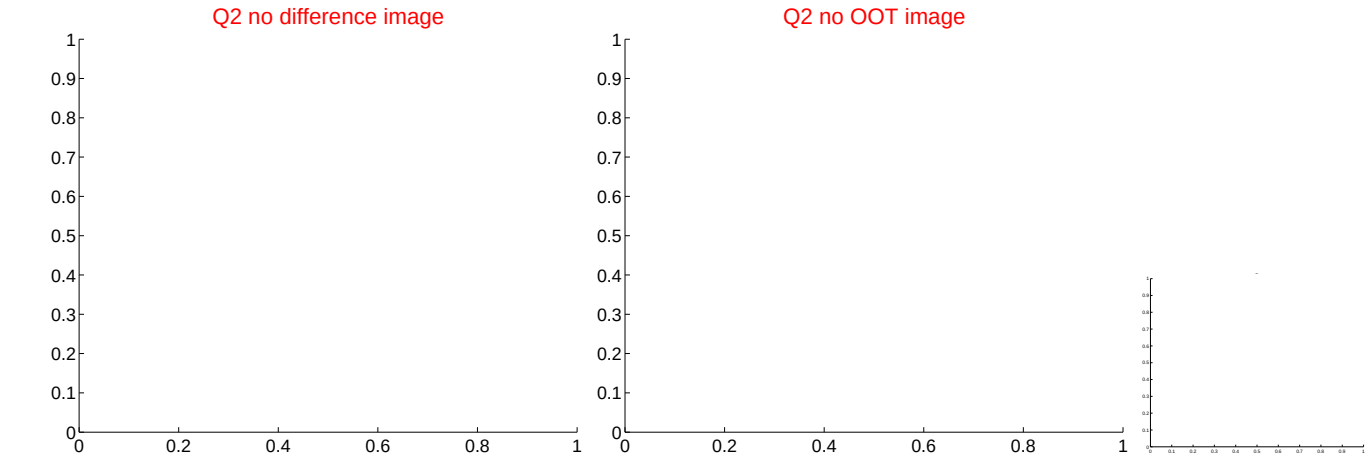
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.619 ± 0.983	0.63	0.608 ± 0.909	0.116 ± 0.502
PRF-fit source offset from KIC position	0.640 ± 0.834	0.77	0.638 ± 0.802	0.046 ± 0.511
photometric centroid source offset	0.11 ± 0.62	0.18	0.11 ± 0.62	-0.03 ± 0.61

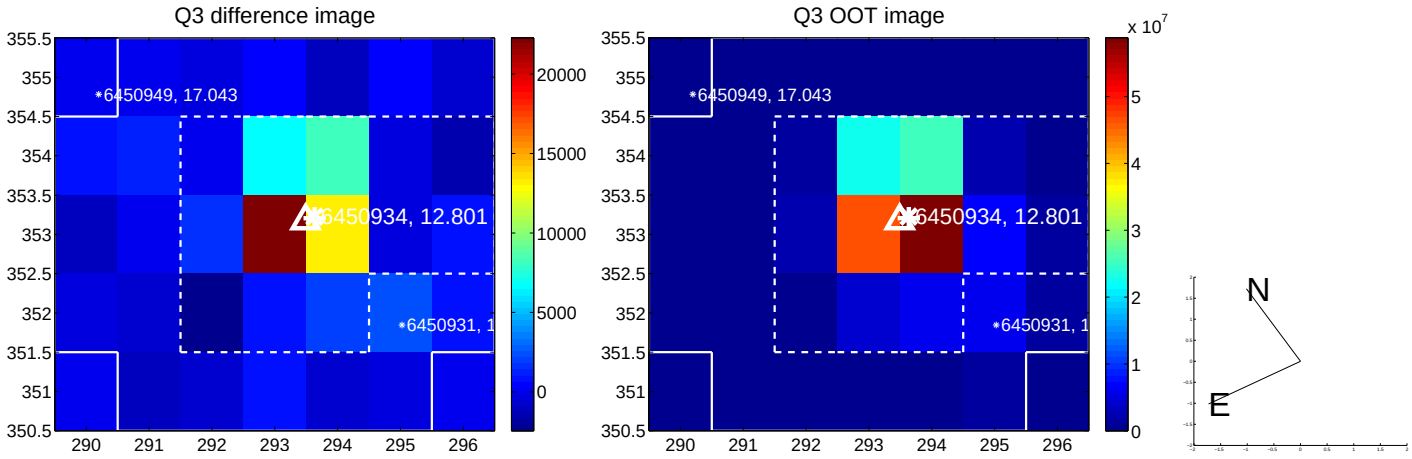


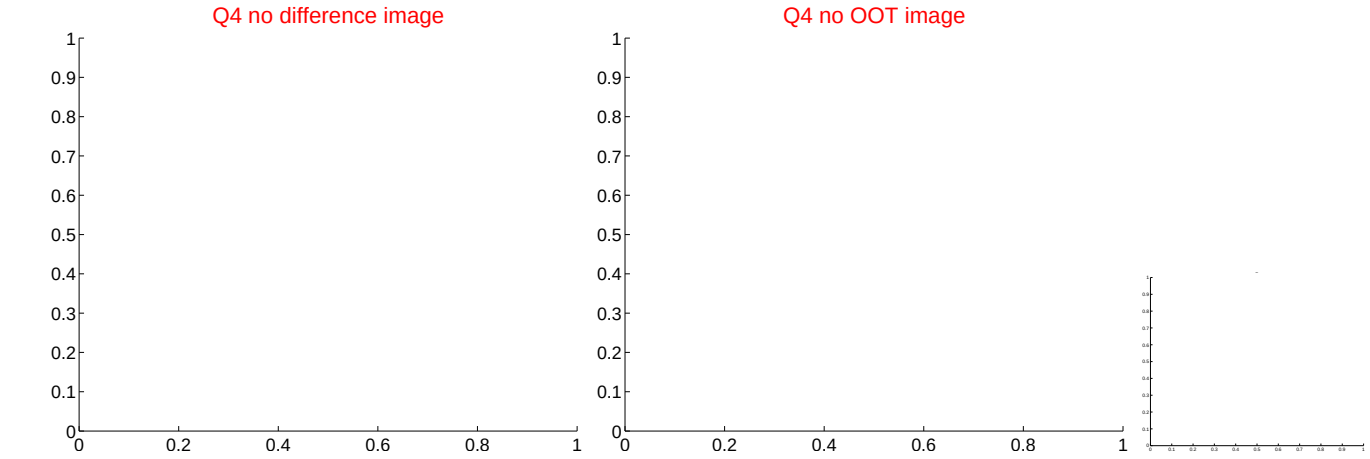
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

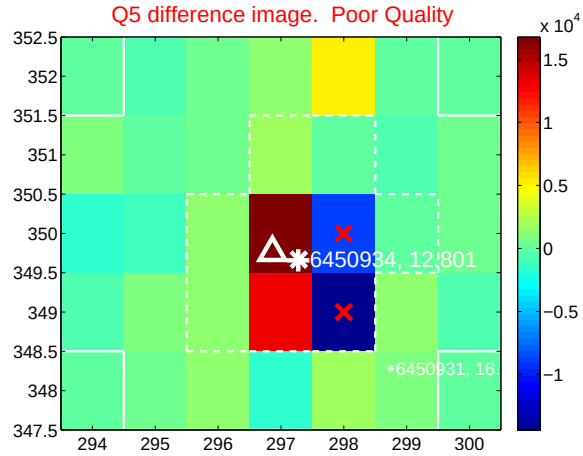


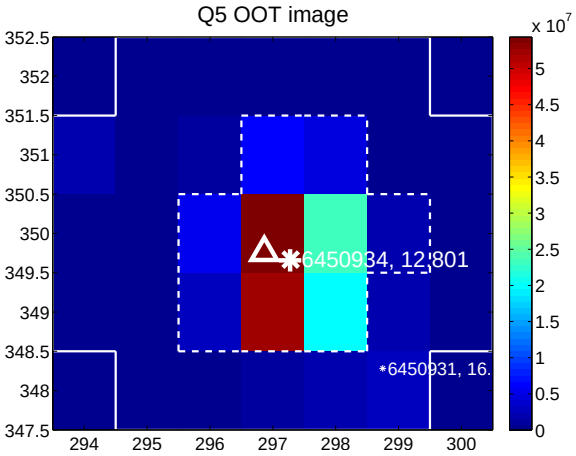


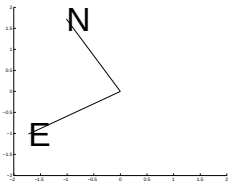


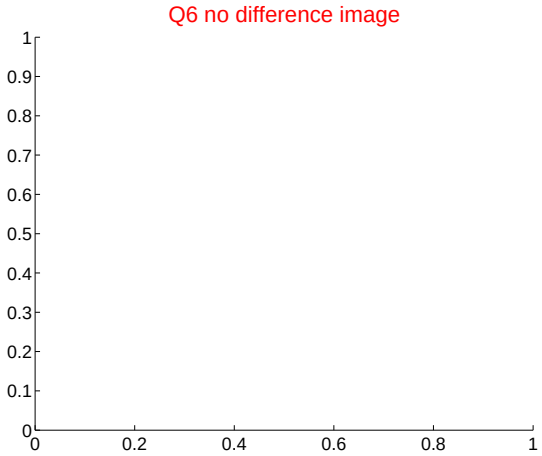


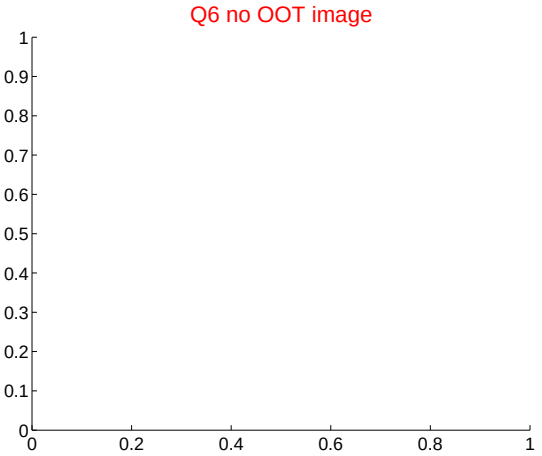
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

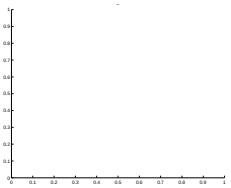


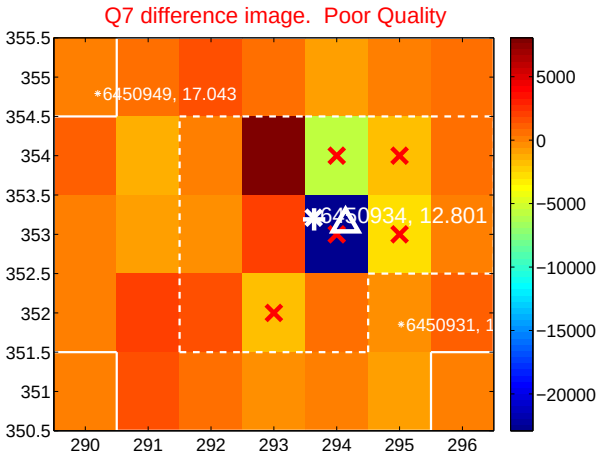


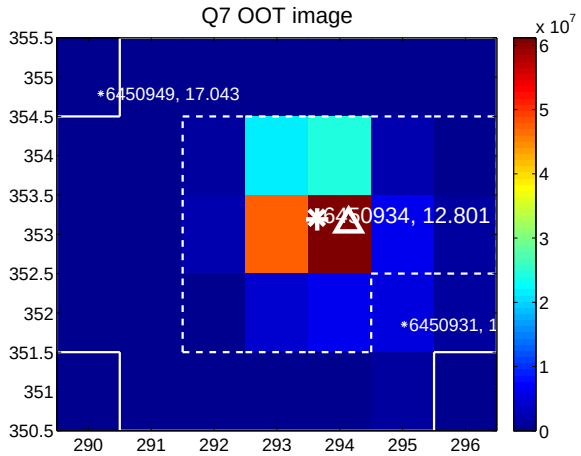


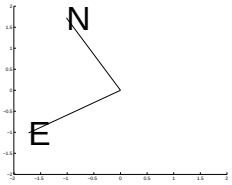


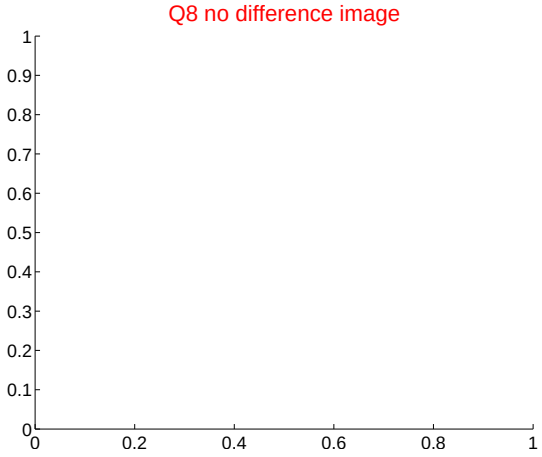


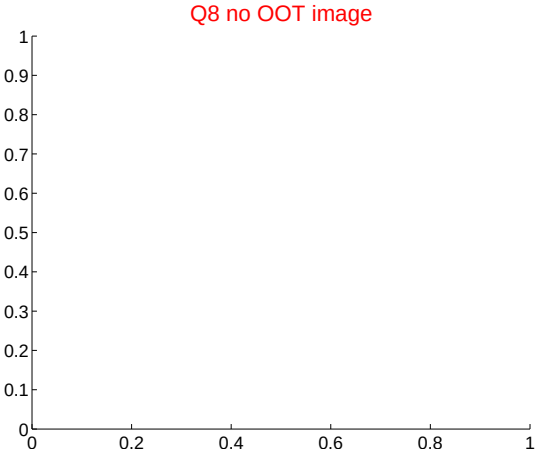


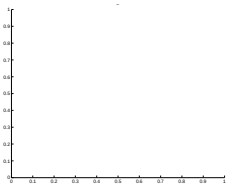




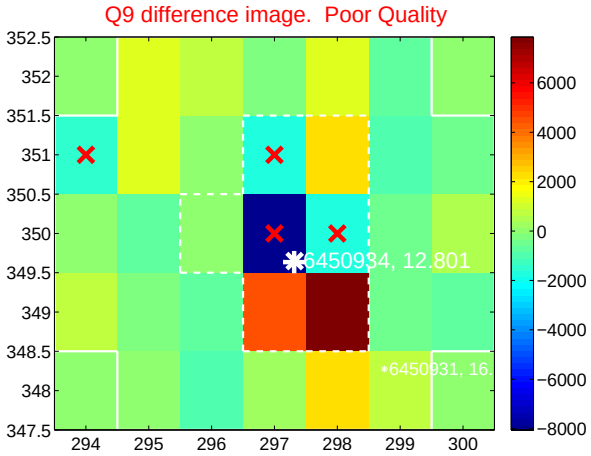


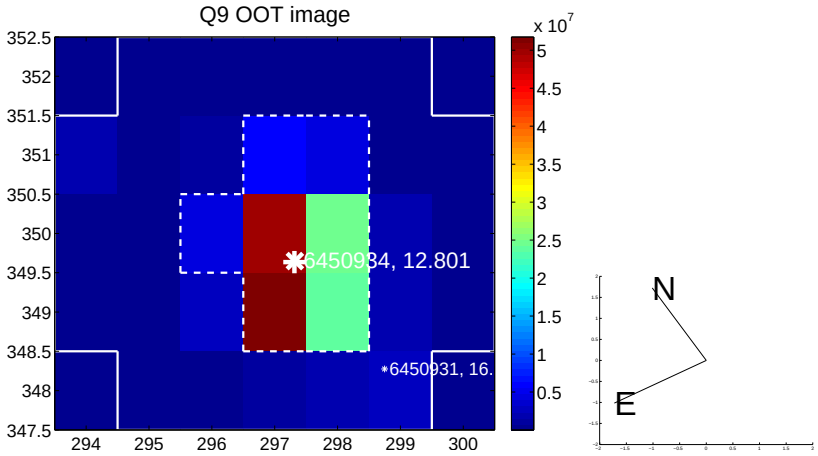


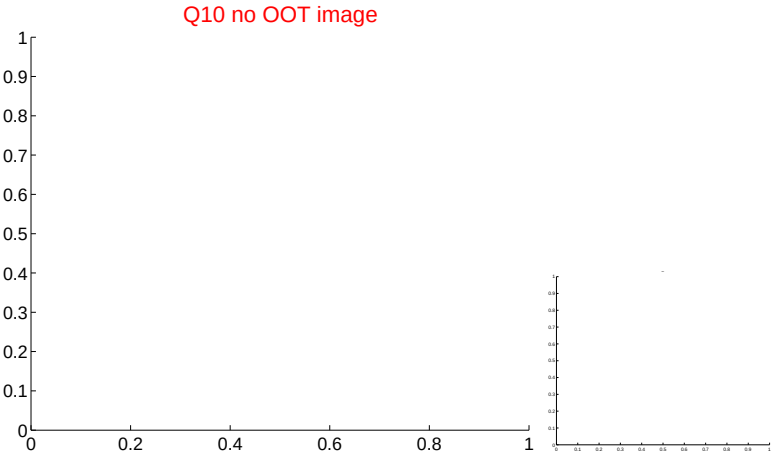


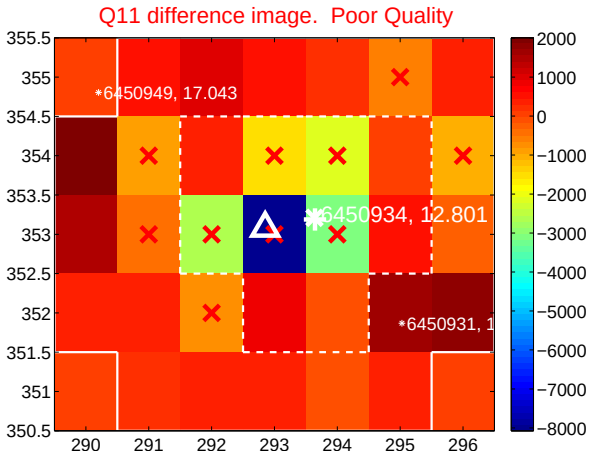


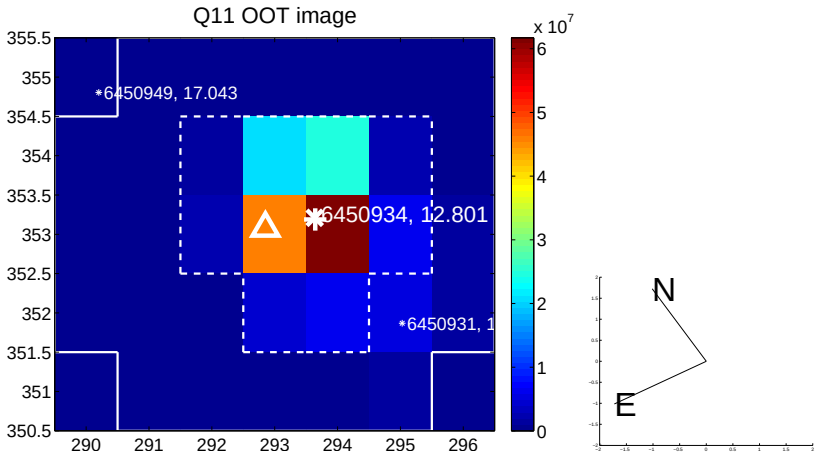
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

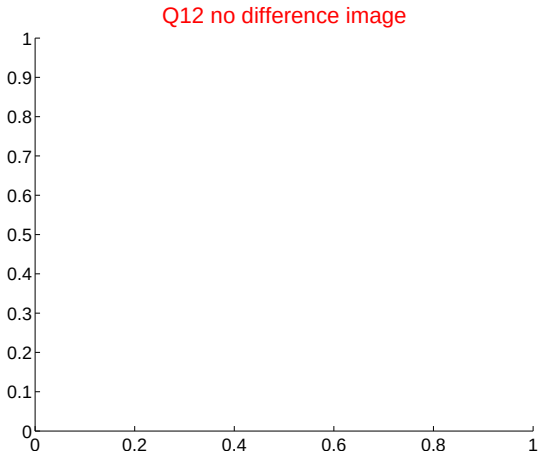


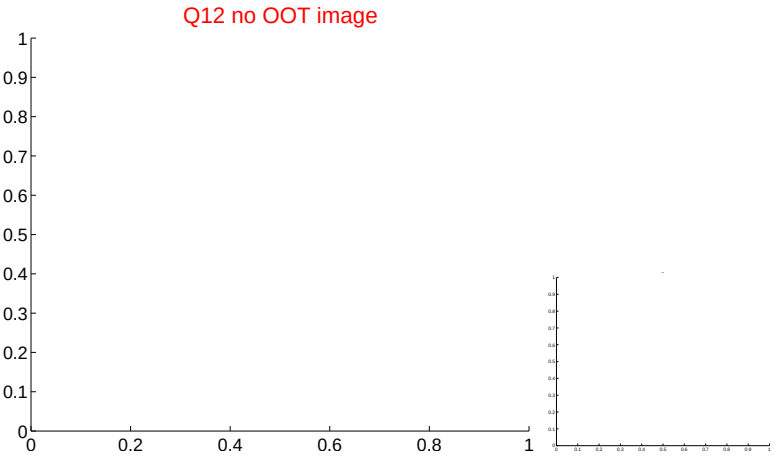




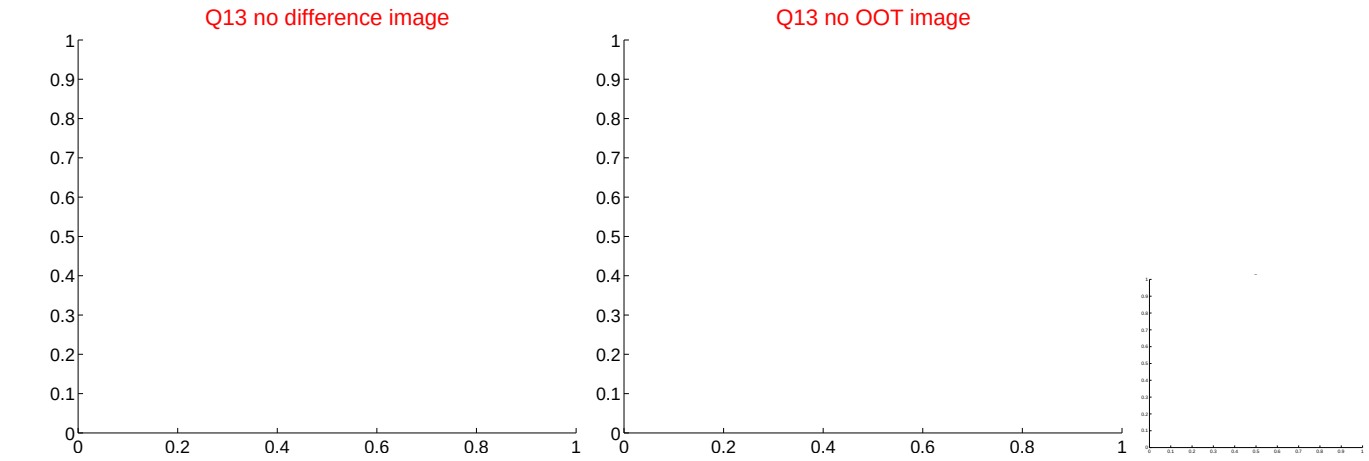


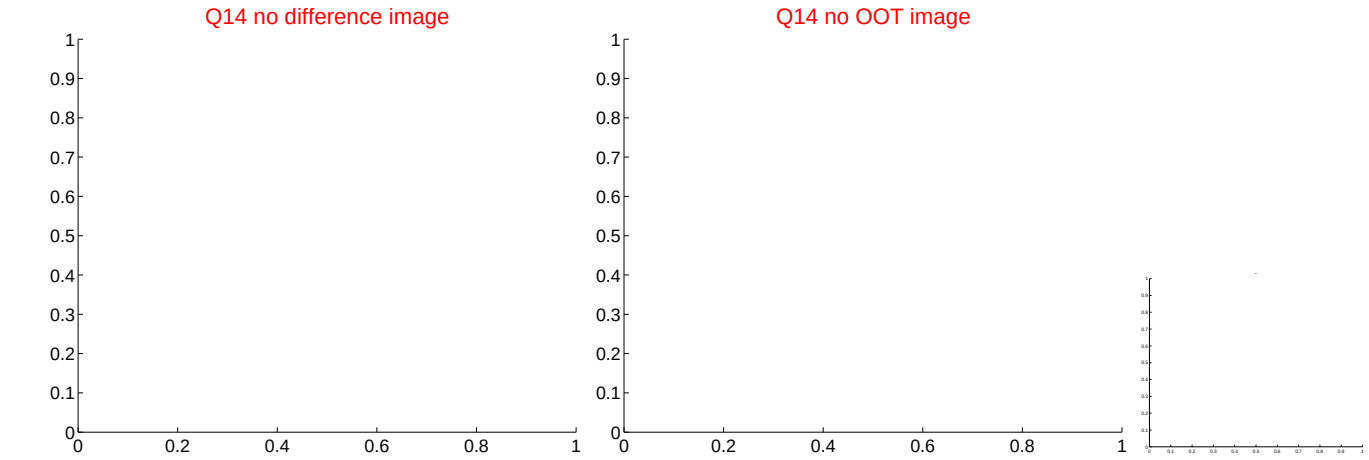


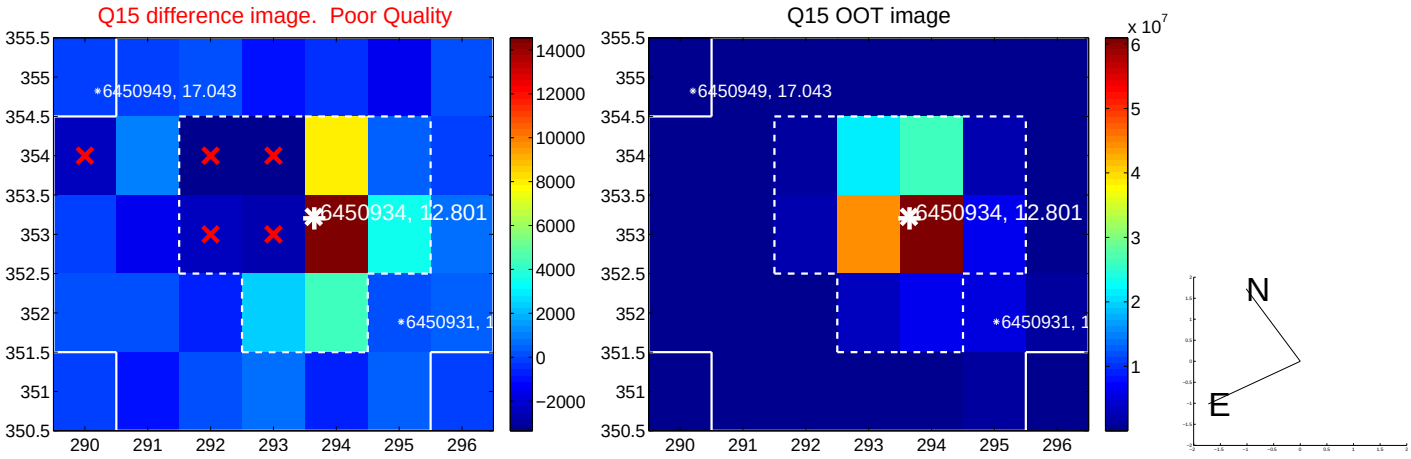


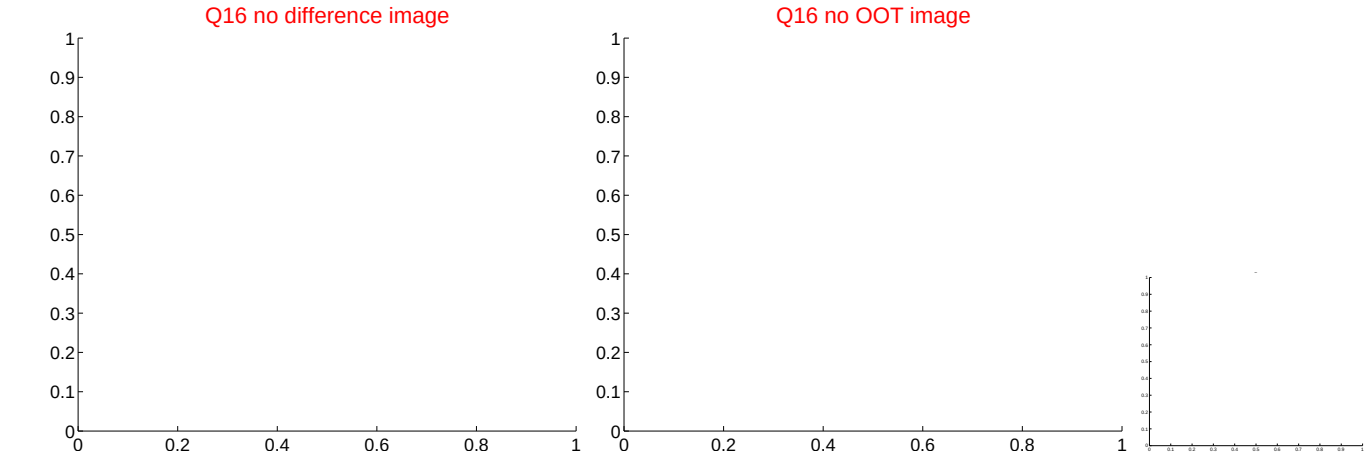


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

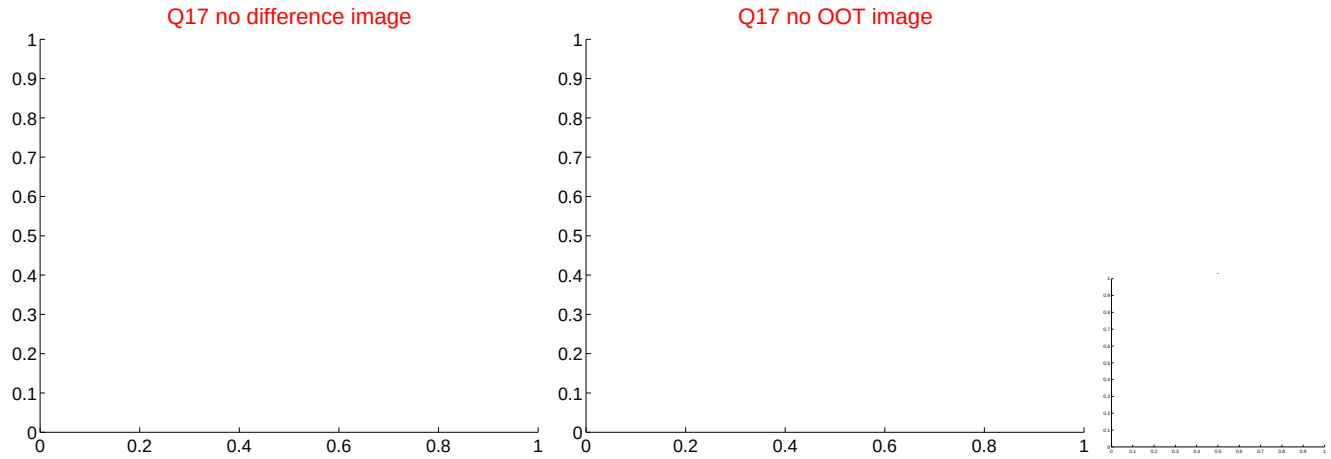


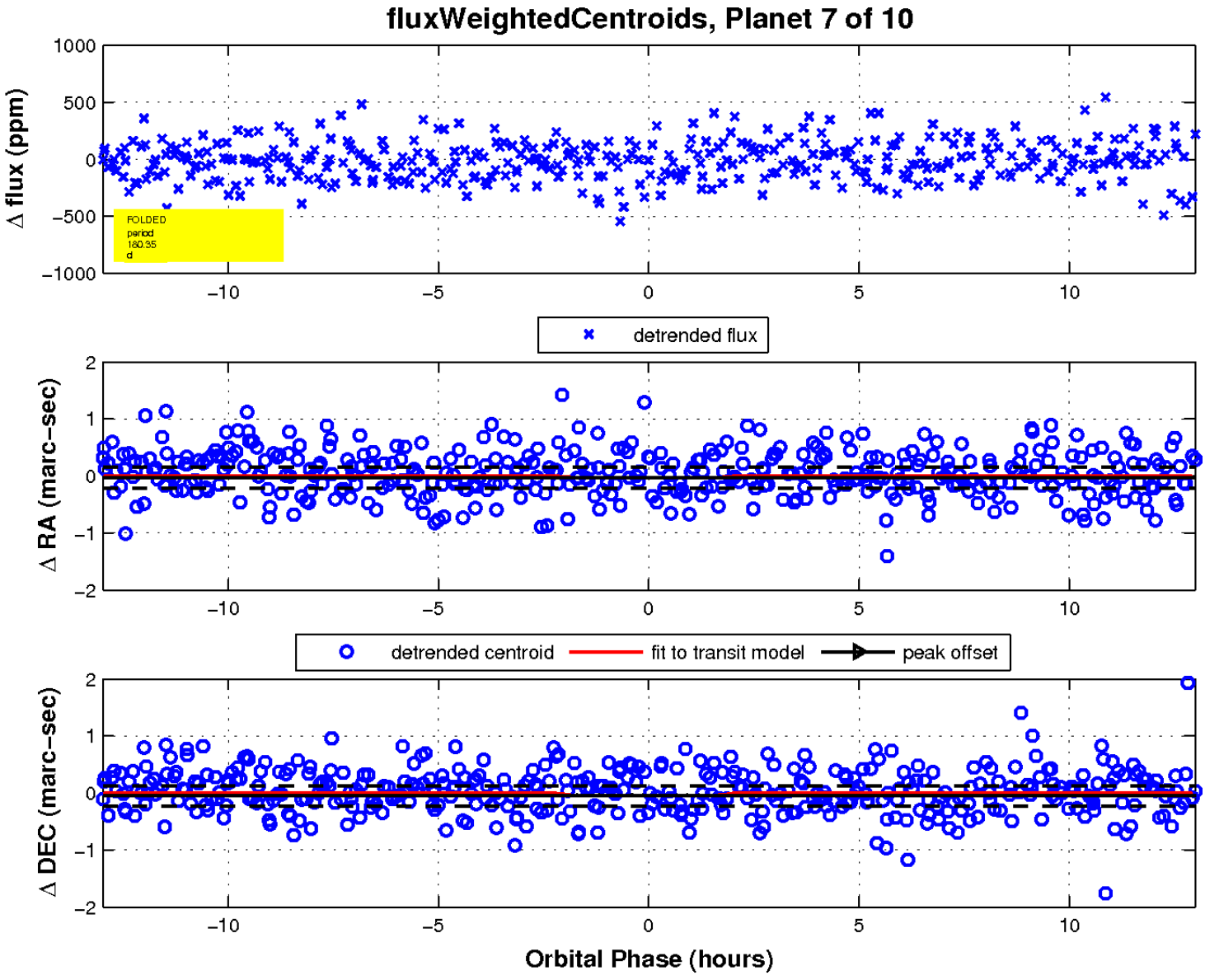




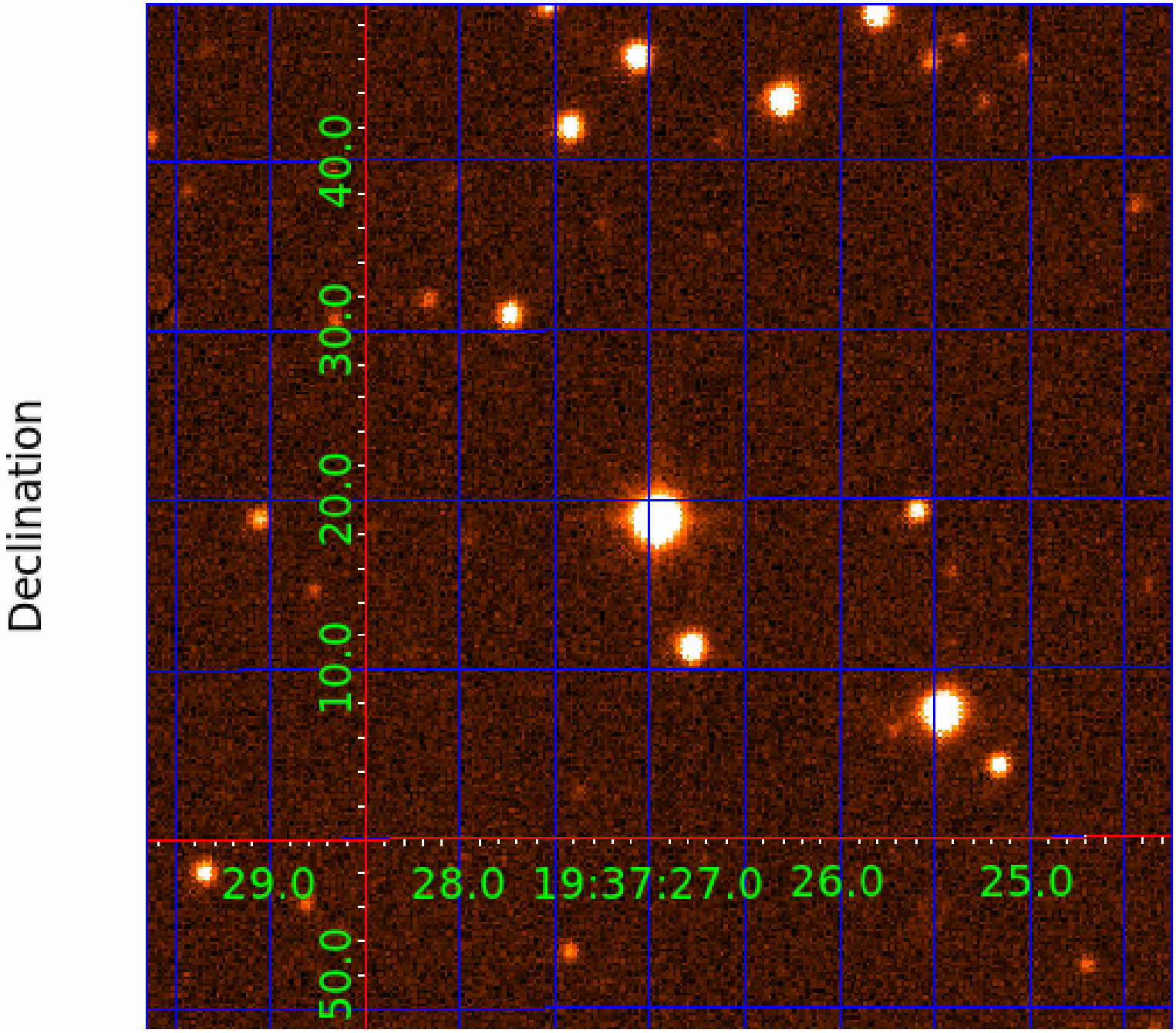


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image



KIC 006450934

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 ($S_\oplus$)
006450934-01	OBS	No	1.673031	133.058235	15.6	9.741	8.6	7.7	3.67	6754	1.68	22917.39
006450934-02	OBS	No	560.122385	433.162255	343.5	73.386	10.7	8.0	3.67	6754	8.66	9.86
006450934-03	OBS	No	68.232639	147.673666	158.9	5.895	9.5	7.3	3.67	6754	5.36	163.25
006450934-05	OBS	No	115.140159	170.976939	281.4	3.503	8.8	9.3	3.67	6754	6.90	81.26
006450934-06	OBS	No	66.664527	187.032969	240.6	3.555	8.7	9.2	3.67	6754	6.53	168.39
006450934-07	OBS	No	180.351292	298.067471	287.6	4.343	8.2	9.8	3.67	6754	7.16	44.67
006450934-08	OBS	No	50.053289	160.466595	281.2	2.001	8.2	9.1	3.67	6754	7.17	246.75
006450934-09	OBS	No	53.612809	177.650997	217.0	2.333	7.8	7.9	3.67	6754	6.30	225.15
006450934-10	OBS	No	75.681529	146.869509	174.7	3.821	8.0	7.9	3.67	6754	5.64	142.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006450934-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006450934-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006450934-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
006450934-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

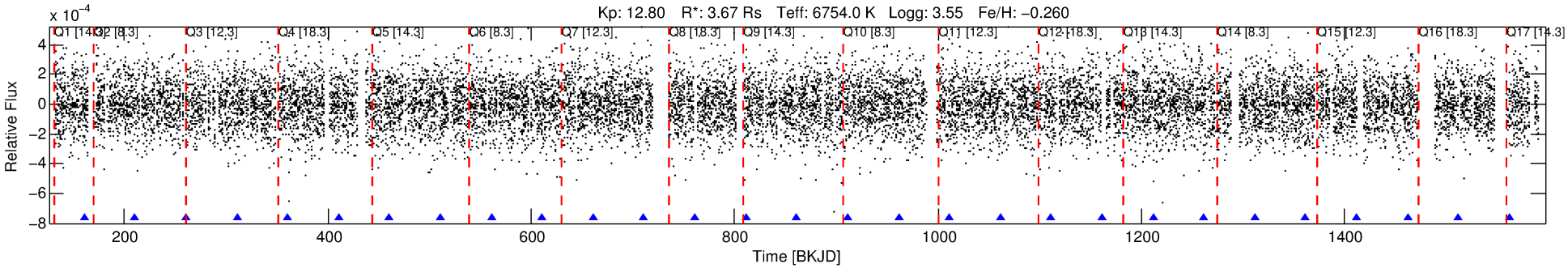
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

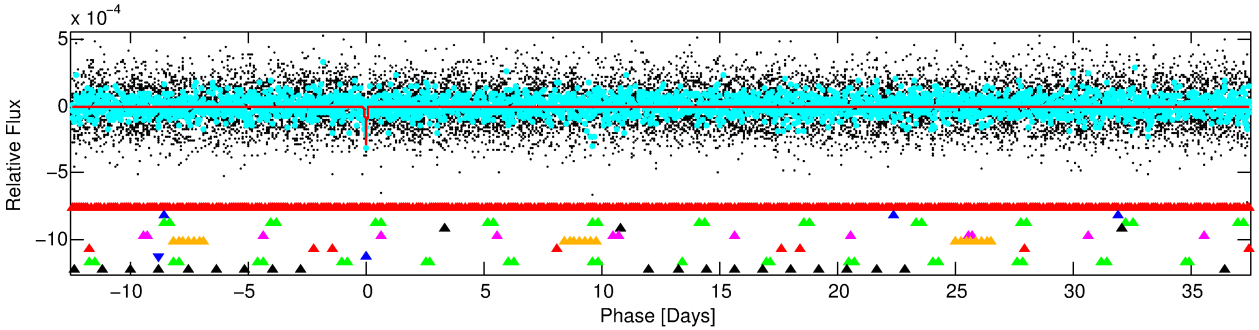
Ephemeris Match Information For 006450934-08

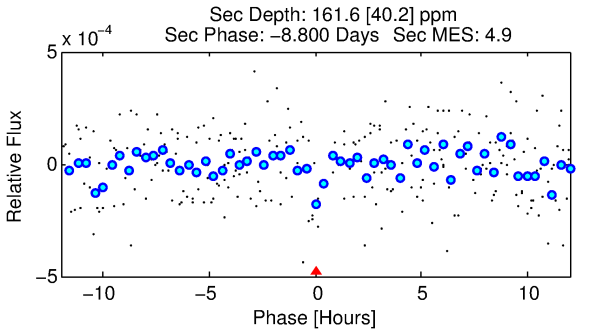
No Significant Match Found

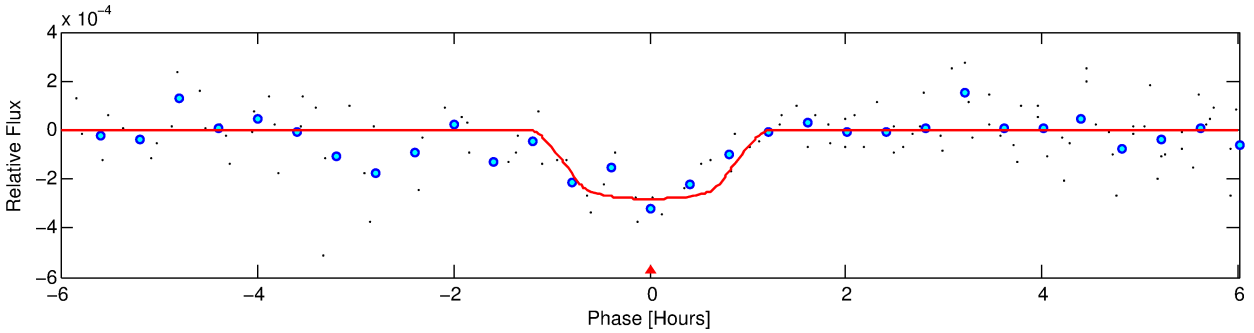
DV One-Page Summary

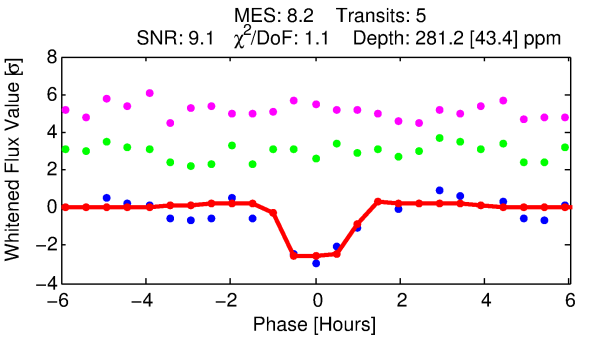
KIC: 6450934 Candidate: 8 of 10 Period: 50.053 d

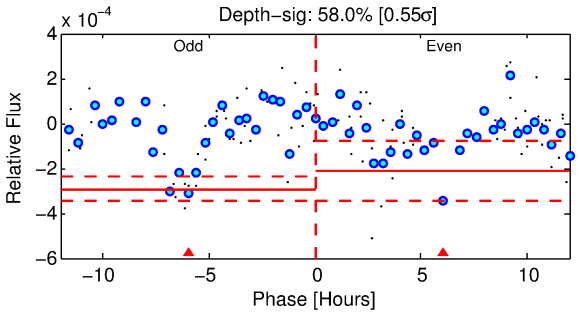


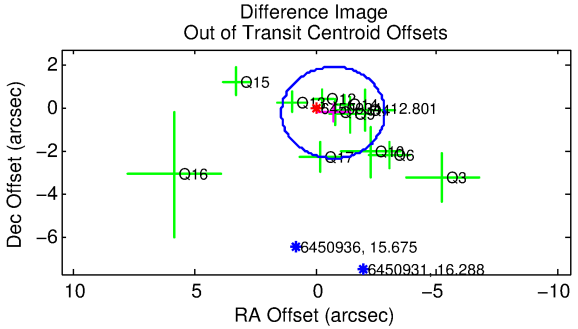












DV Fit Results:

Period = 50.05329 [0.00044] d
Epoch = 160.4666 [0.0094] BKJD
Rp/R* = 0.0179 [0.0076]
a/R* = 91.11 [218.01]
b = 0.90 [0.52]

Seff = 246.75 [145.31]
Teq = 1011 [149] K
Rp = 7.17 [4.12] Re
a = 0.3189 [0.1162] AU

Ag = 176.01 [186.30] [0.94σ]
Teffp = 5691 [1275] K [3.65σ]

DV Diagnostic Results:

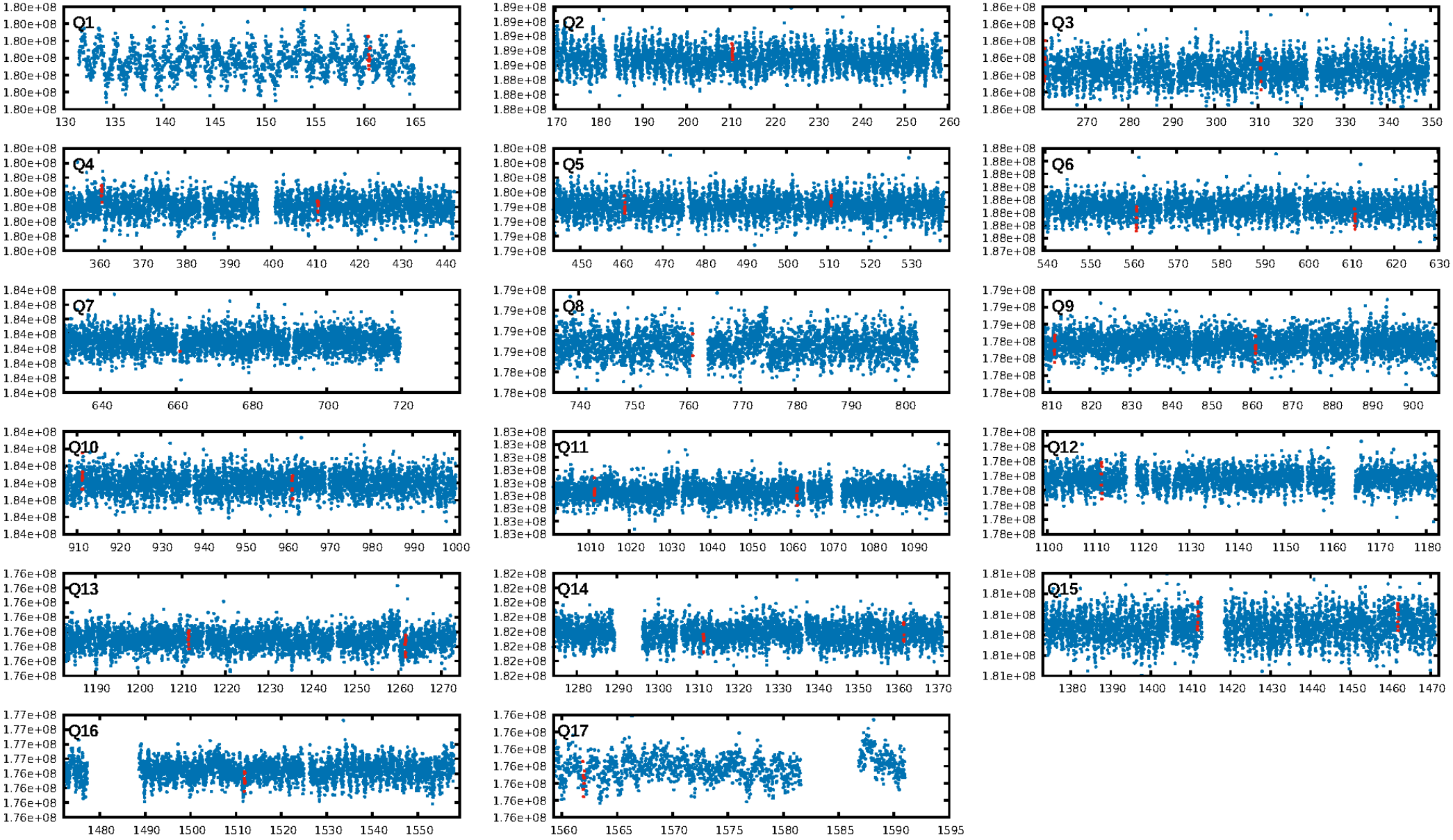
ShortPeriod−sig: 100.0% [116.76σ]
LongPeriod−sig: 100.0% [27.80σ]
ModelChiSquare2−sig: 81.5%
ModelChiSquareGof−sig: 99.5%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: −3.427

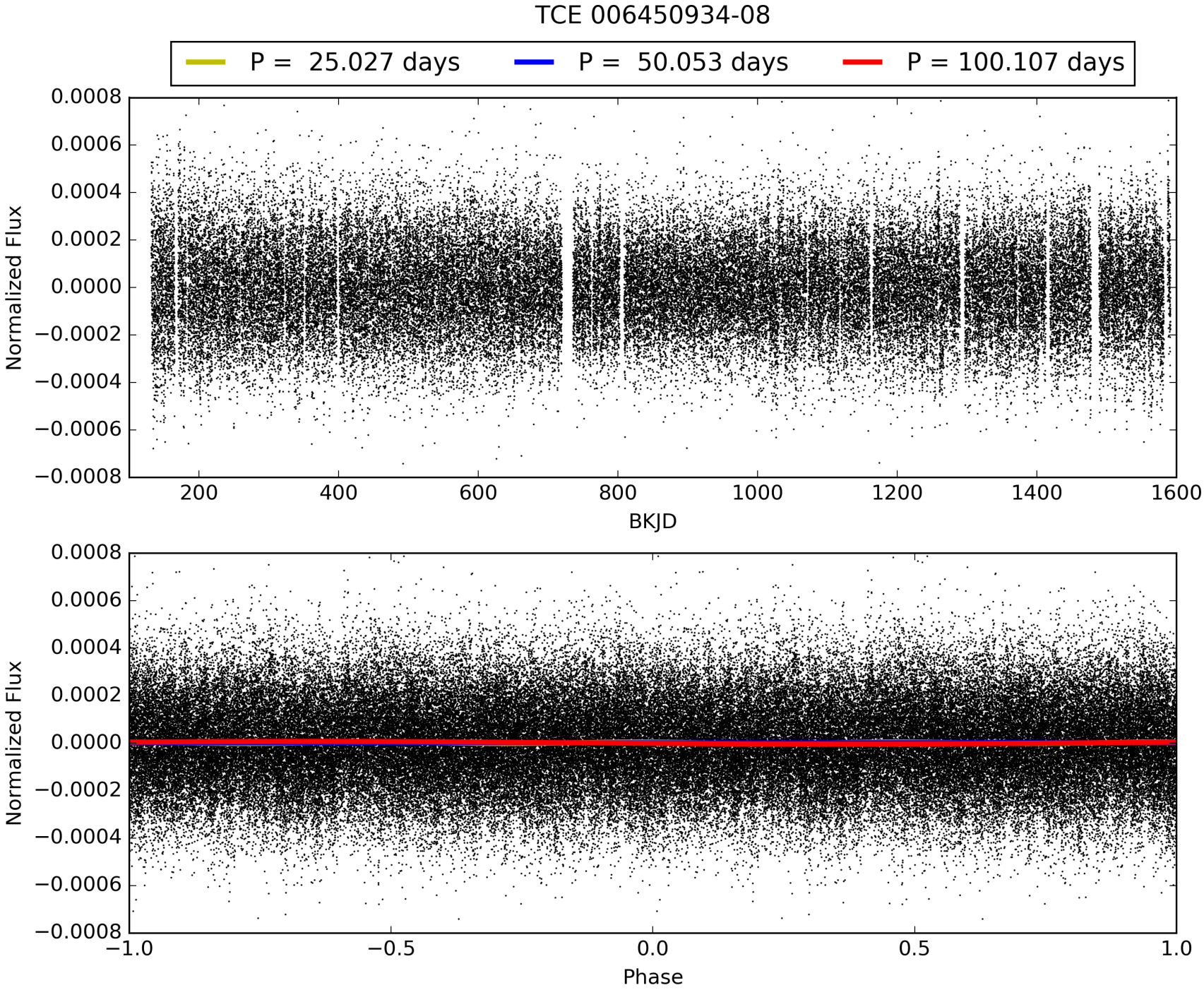
Centroid−sig: 15.0%
Centroid−so: 0.578 arcsec [1.09σ]
OotOffset−rm: 0.755 arcsec [1.06σ]
KicOffset−rm: 0.743 arcsec [0.95σ]
OotOffset−st: 3/2/3/4 [12]
KicOffset−st: 3/2/3/4 [12]
DiffImageQuality−fgm: 0.50 [6/12]
DiffImageOverlap−fno: 0.47 [7/15]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 03−Feb−2016 05:27:30 Z

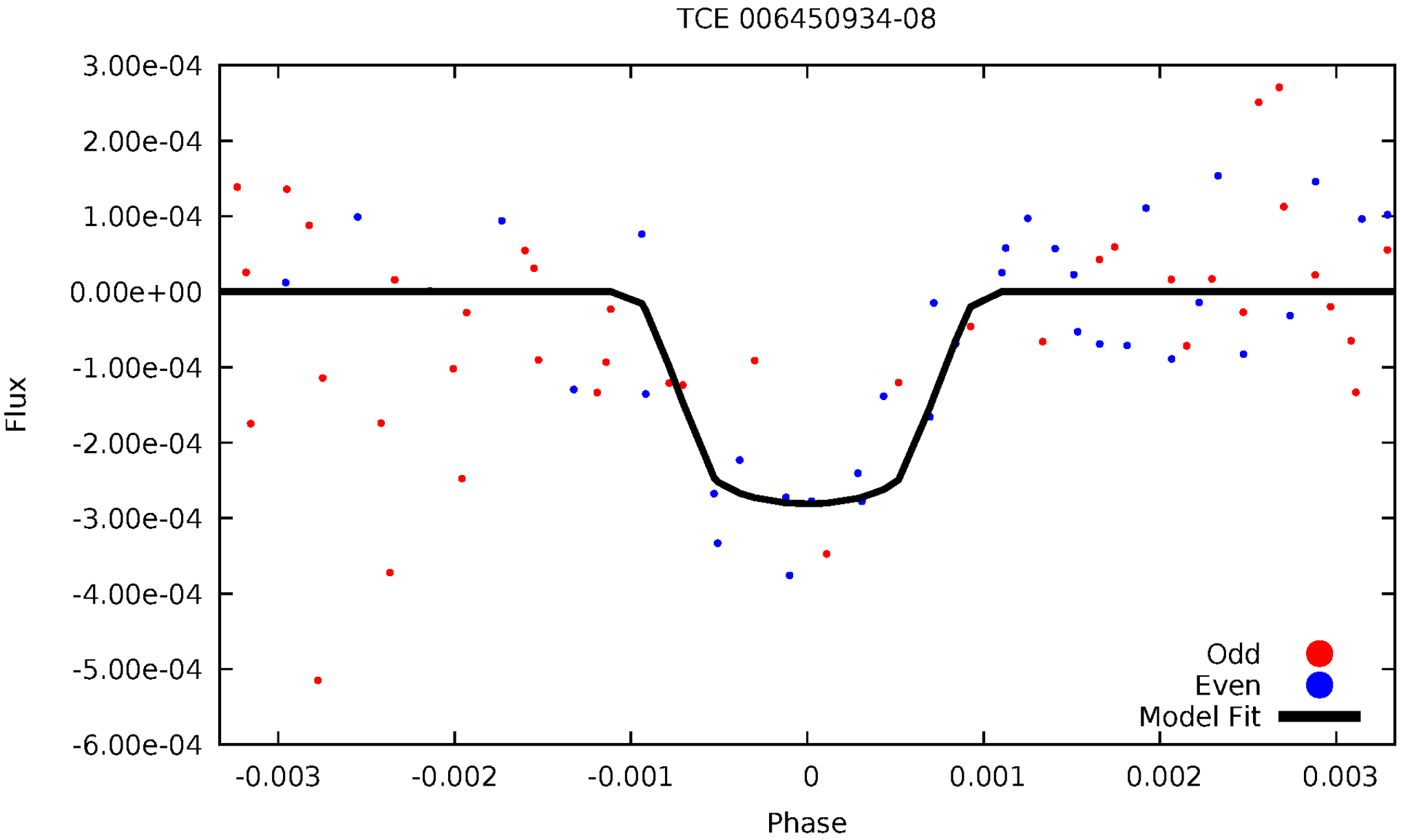
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

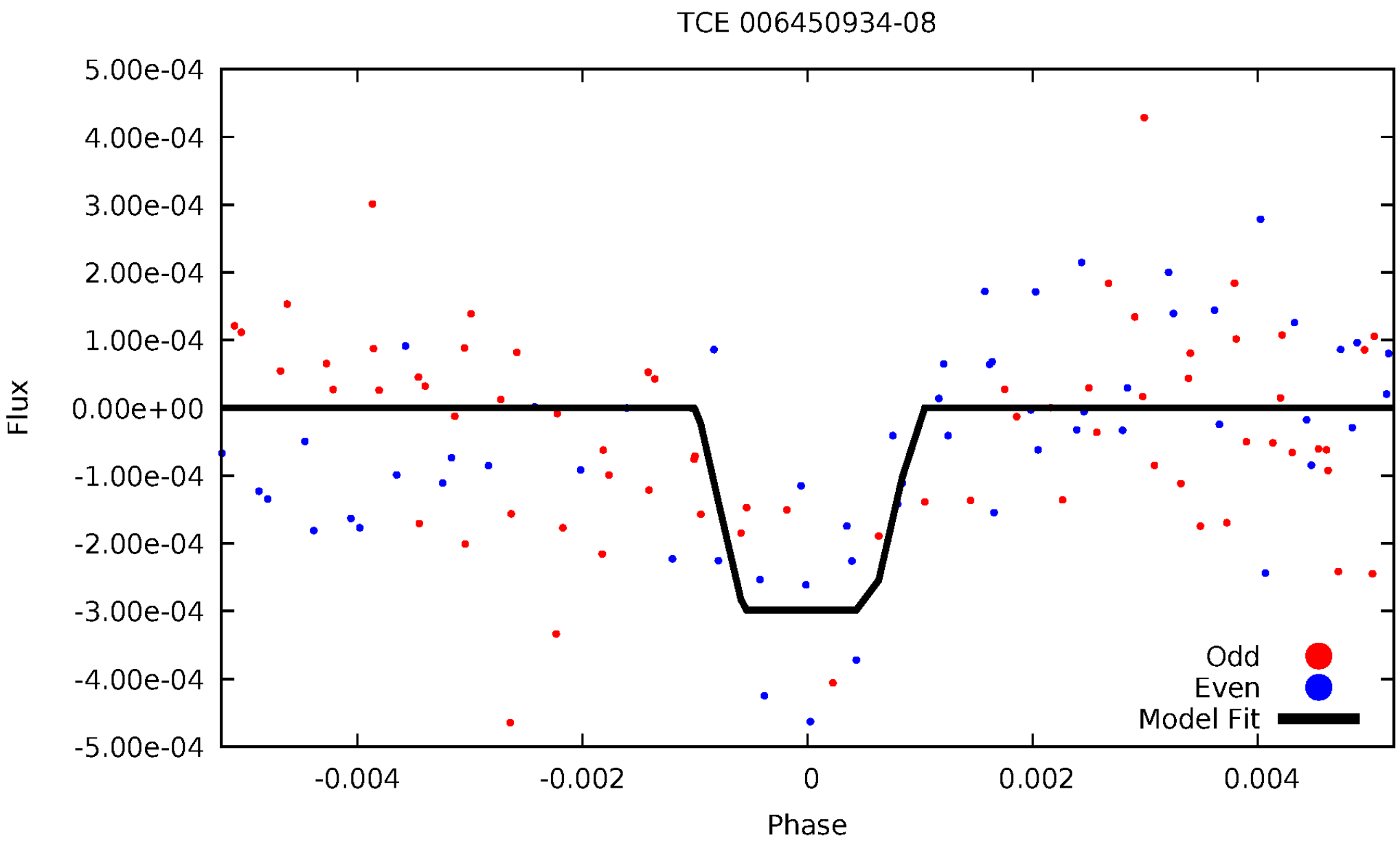
TCE 006450934-08, PDC Light Curves



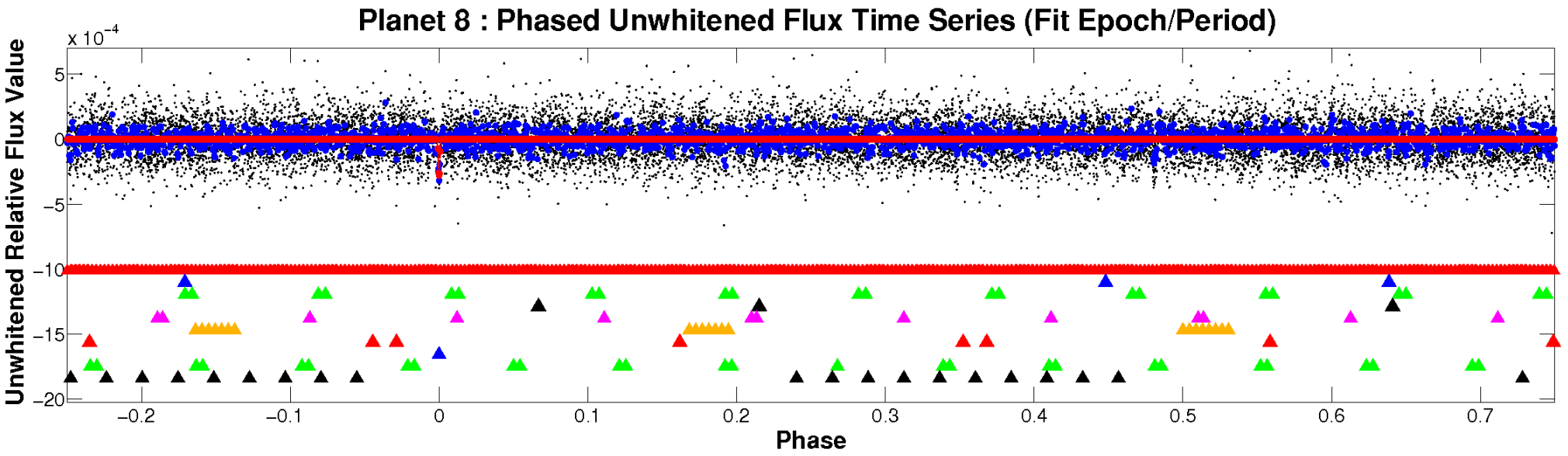

TCE 006450934-08
P = 25.027 days
P = 50.053 days
P = 100.107 days
Normalized Flux
BKJD
Normalized Flux
Phase

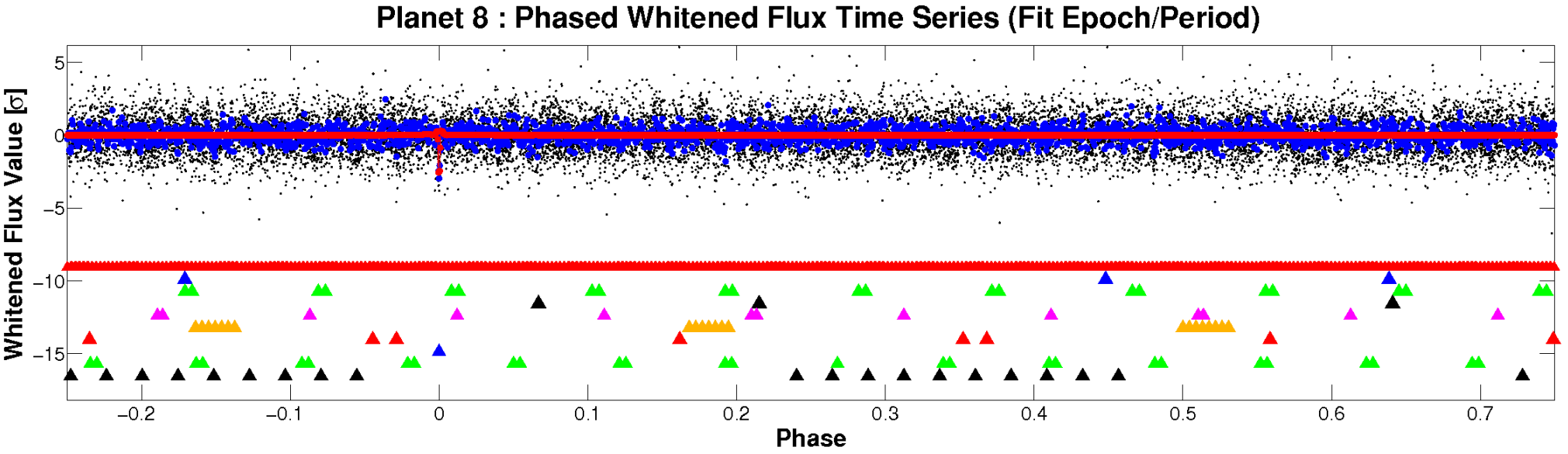
DV Odd/Even


TCE 006450934-08
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
-6.00e-04
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 006450934-08
5.00e-04
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

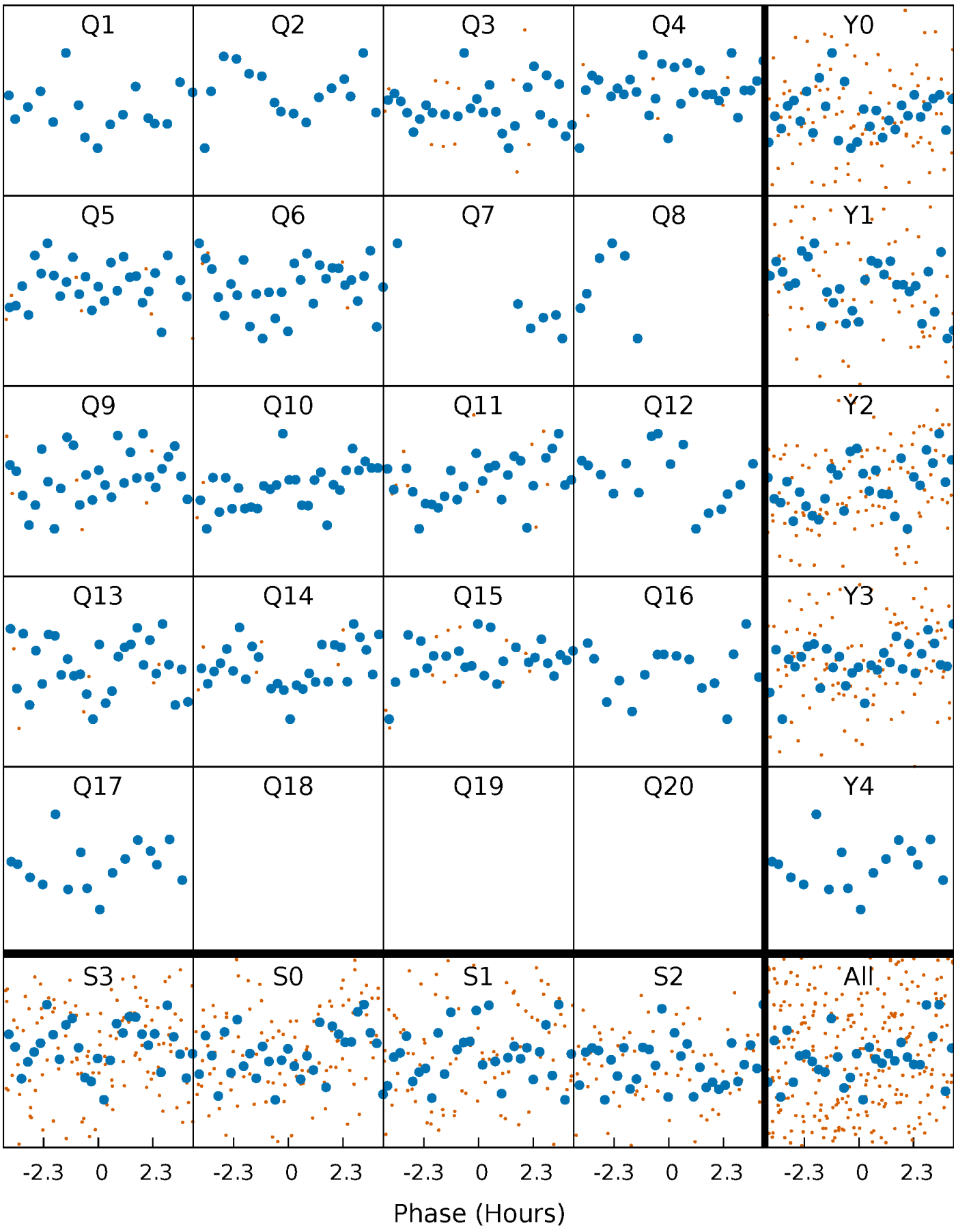
Non-Whitened Vs. Whitened Light Curve





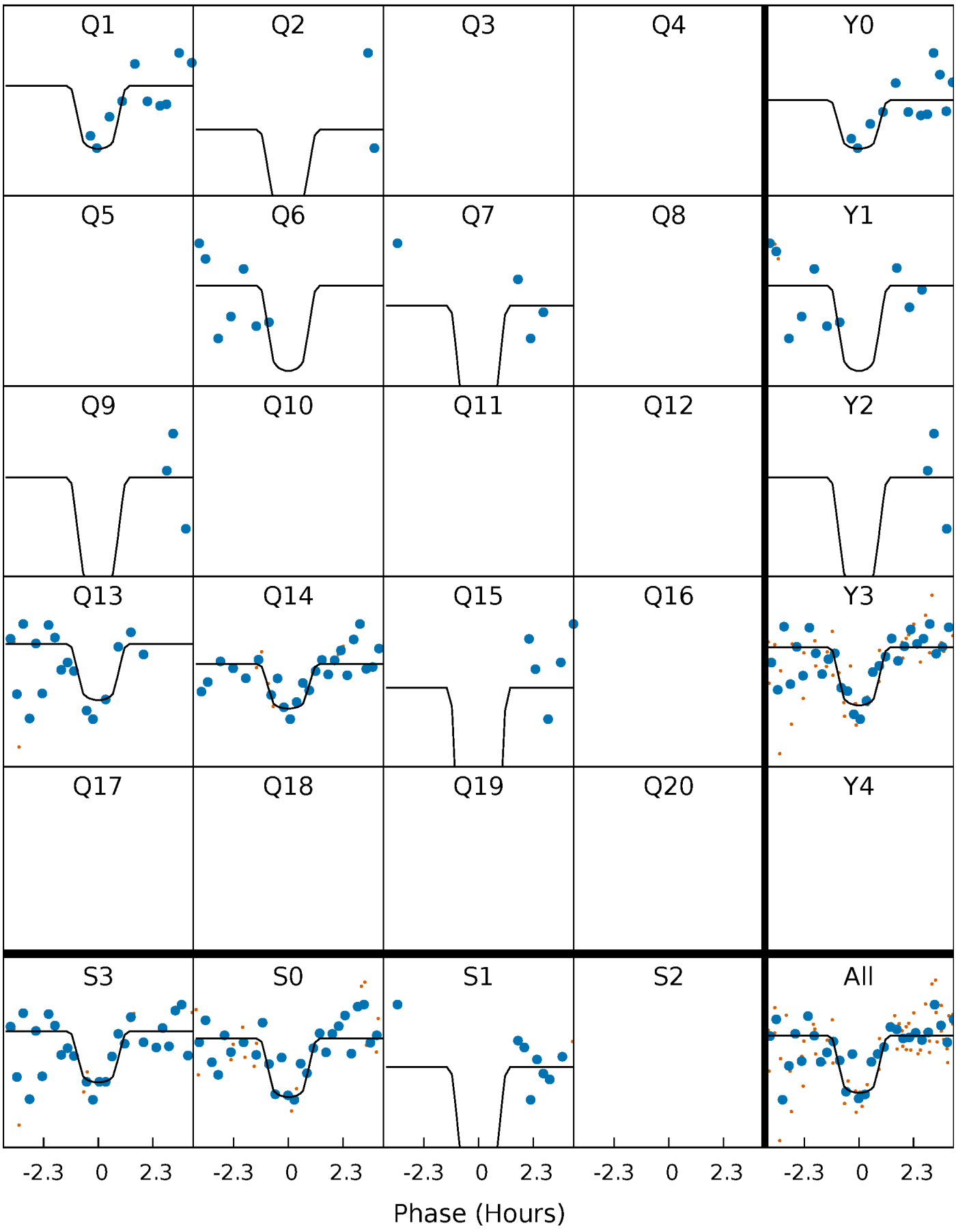
PDC Quarter-Phased Transit Curves

TCE 006450934-08 P= 50.053289 Days T_0=160.466595 (BKJD)



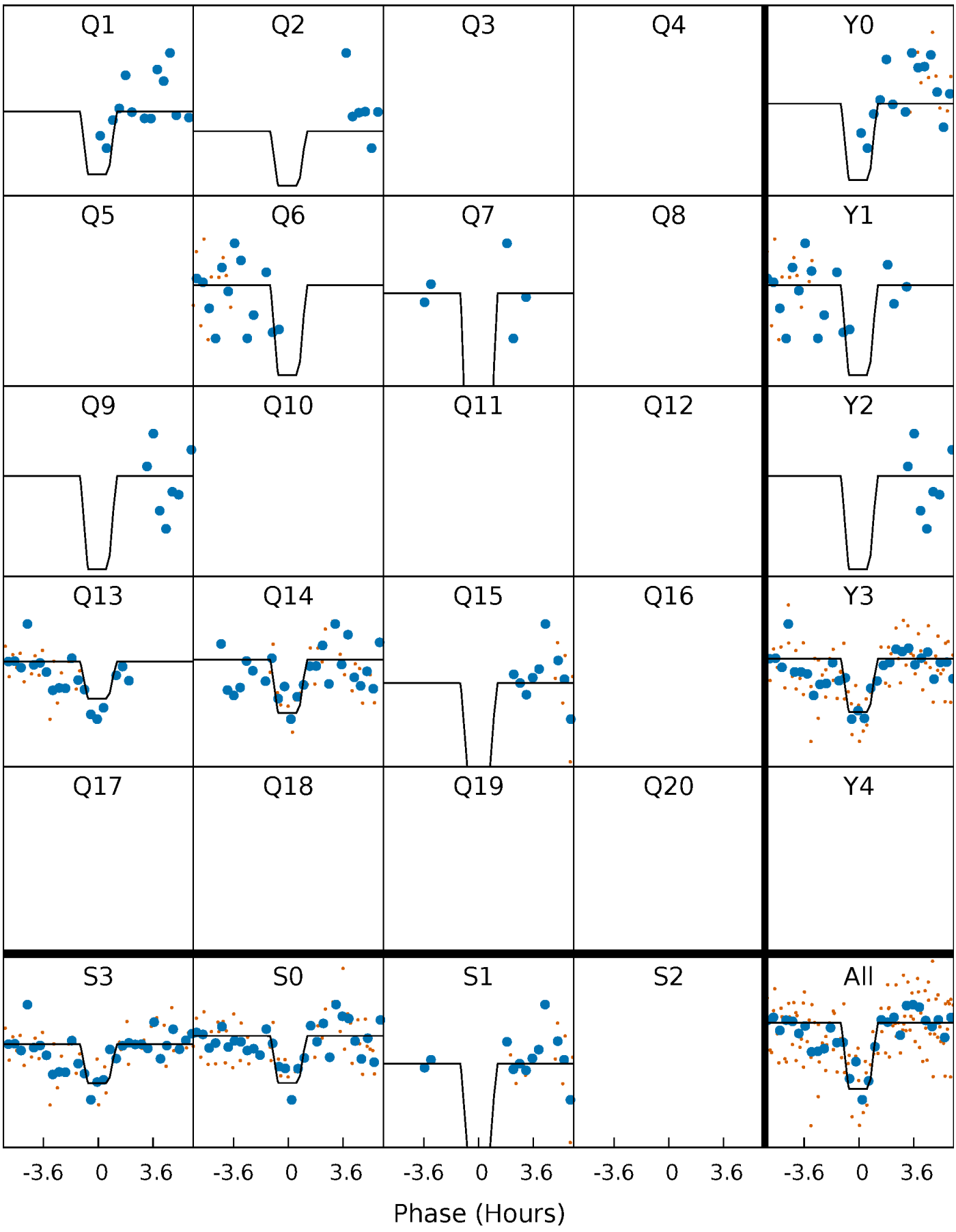
DV Quarter-Phased Transit Curves

TCE 006450934-08 P= 50.053289 Days T_0=160.466595 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

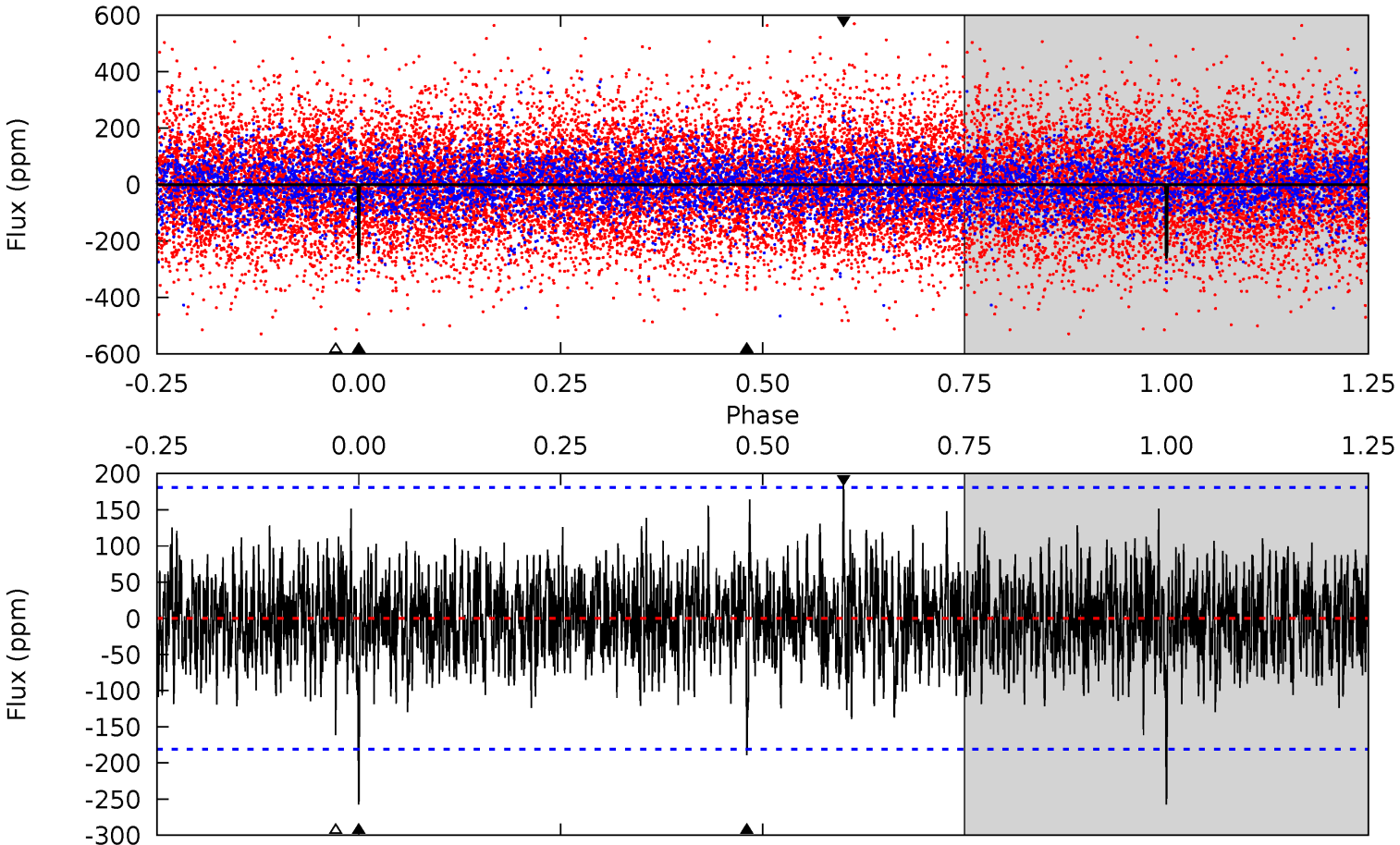
TCE 006450934-08 P= 50.053746 Days T_0=160.450330 (BKJD)

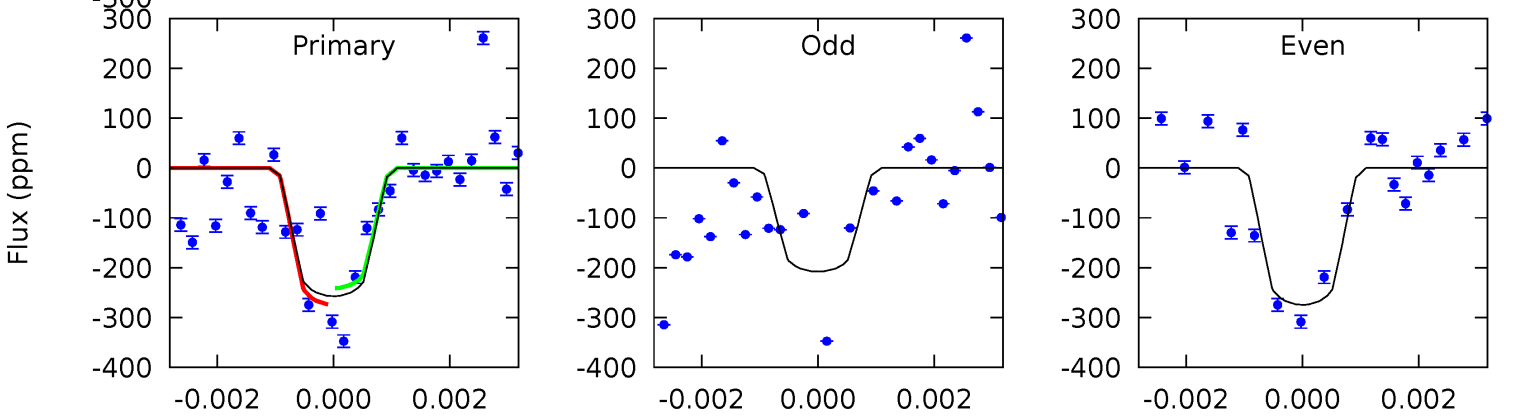


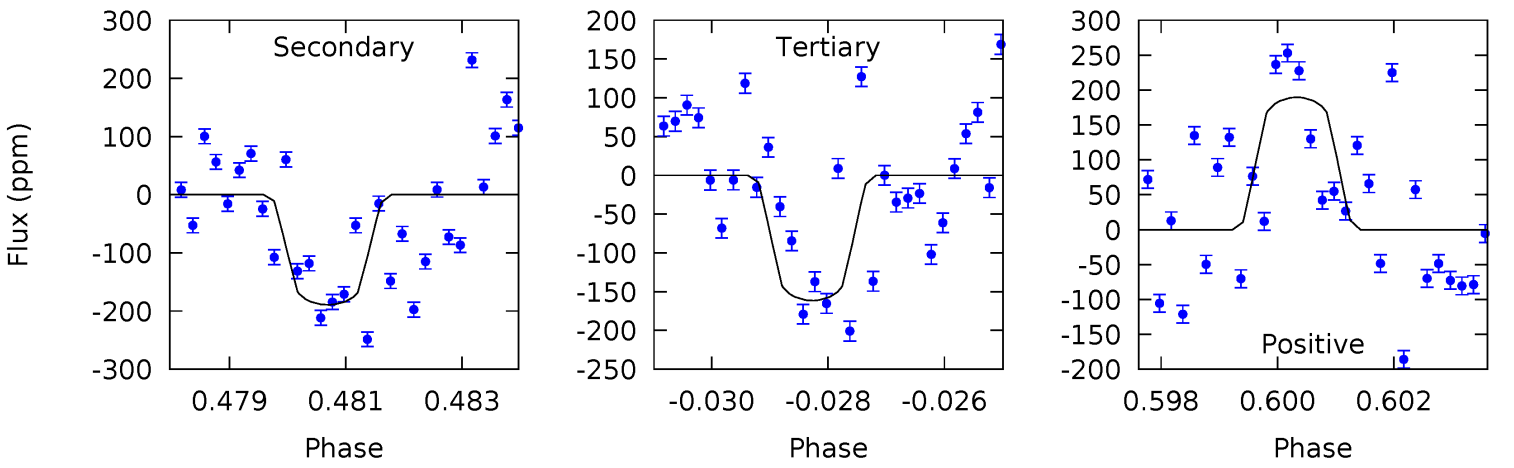
DV Model-Shift Uniqueness Test

006450934-08, P = 50.053289 Days, E = 110.413306 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.58	5.57	4.76	5.58	5.32	3.09	1.37	2.82	2.00	0.82	-0.01	0.94	1.03	0.42	0.48



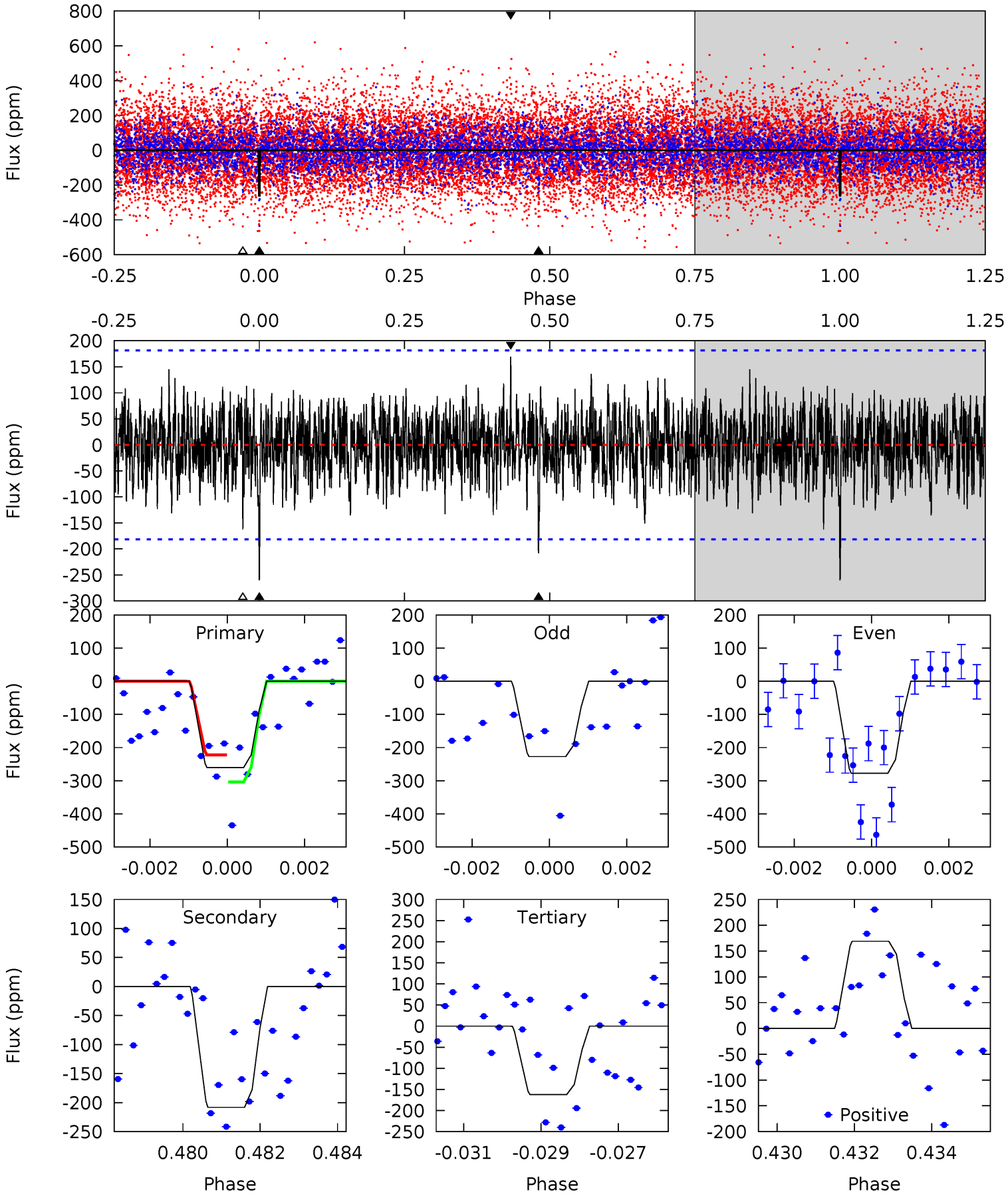




Alt Model-Shift Uniqueness Test

006450934-08, P = 50.053746 Days, E = 110.396584 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.63	6.10	4.76	4.96	5.32	3.08	1.37	2.87	2.68	1.34	1.15	0.70	1.03	0.39	1.19



Stellar Parameters For KIC 006450934

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6754^{+183}_{-203}	$3.546^{+0.336}_{-0.084}$	$-0.260^{+0.300}_{-0.250}$	$3.669^{+0.354}_{-1.417}$	$1.723^{+0.198}_{-0.368}$	$0.049^{+0.129}_{-0.013}$
	+3%/-3%	+9%/-2%	+115%/-96%	+10%/-39%	+11%/-21%	+263%/-26%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006450934-08 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-189±34	$6.71^{+2.93}_{-2.99}$	1390^{+72}_{-122}	5876^{+2249}_{-933}	235^{+530}_{-128}
Alt.	-208±34	$6.53^{+3.08}_{-2.79}$	1390^{+70}_{-129}	6062^{+2241}_{-879}	276^{+568}_{-149}

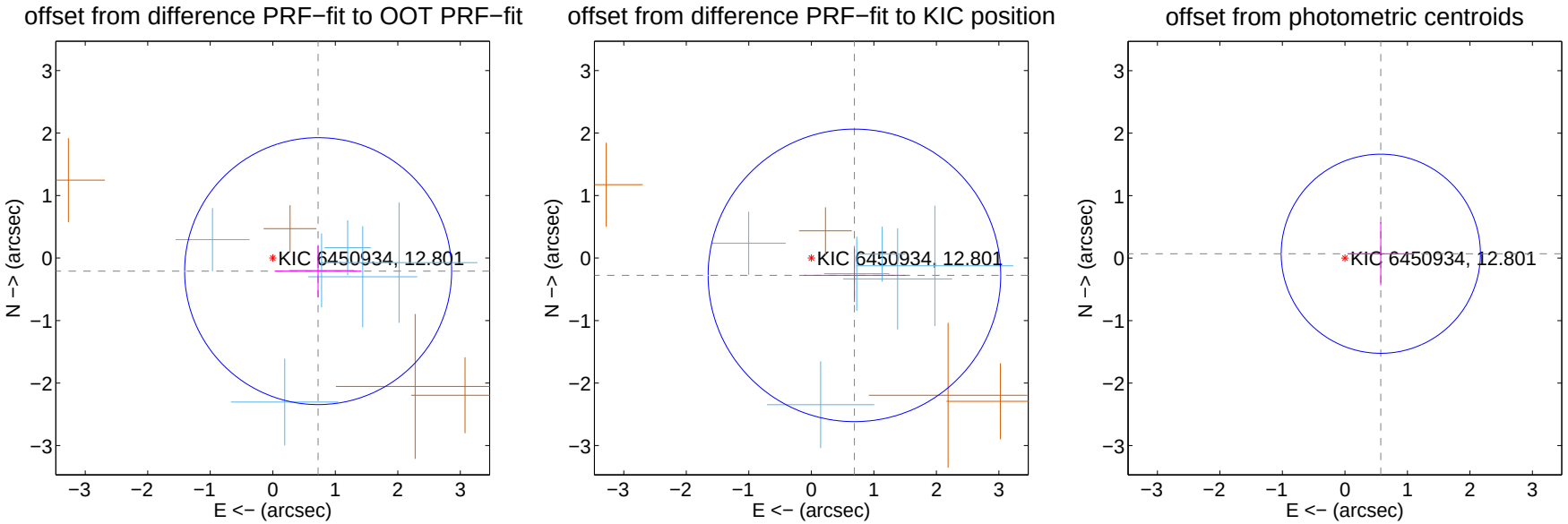
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

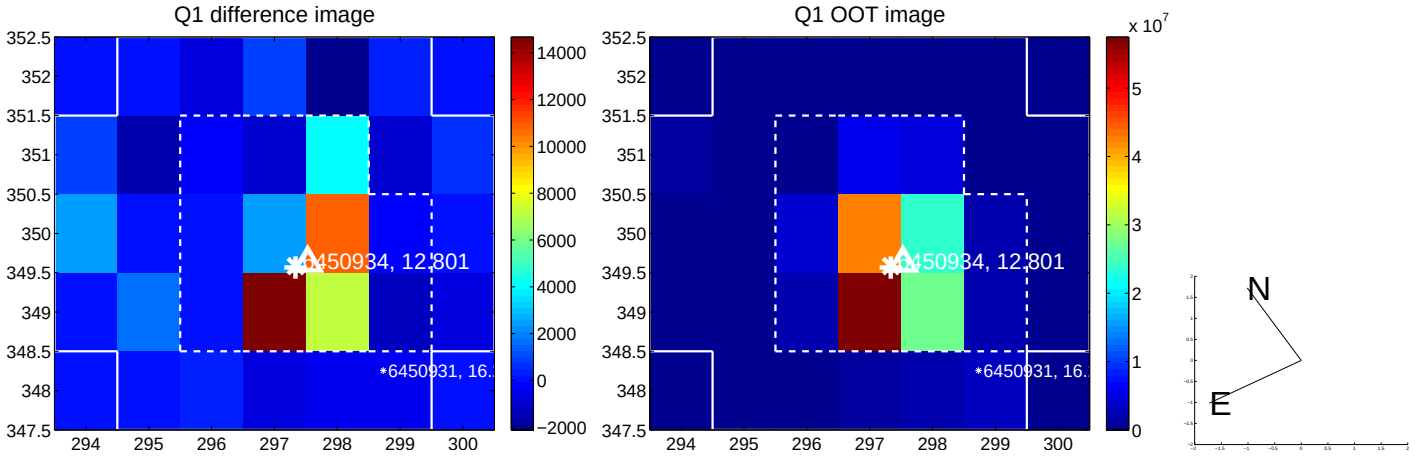
Supplemental centroid analysis for 006450934-08. Kepler magnitude: 12.80. Transit SNR 9.07
There are 6 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

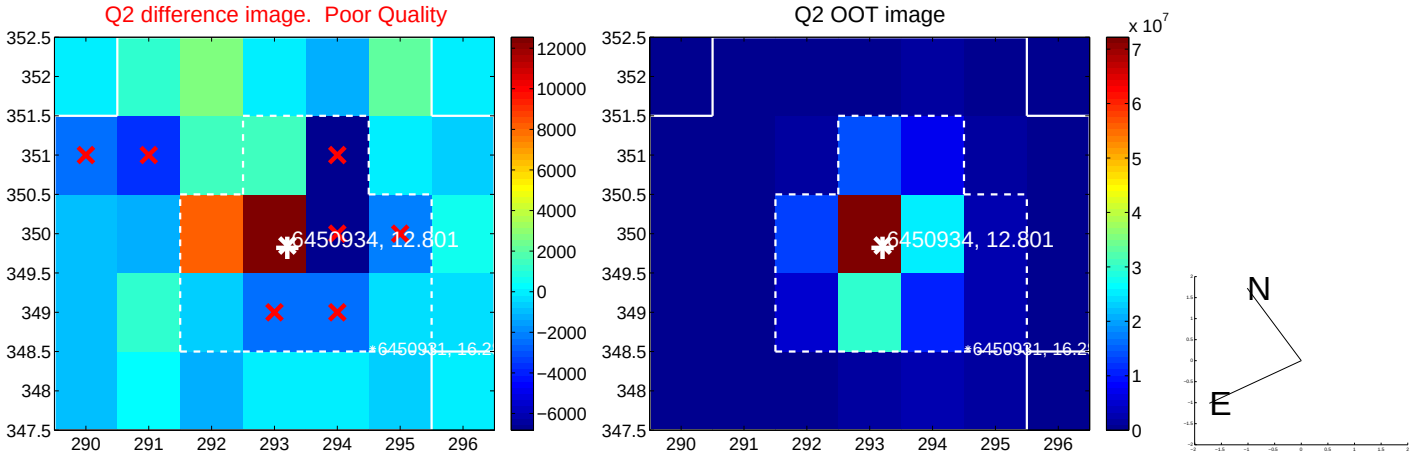
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.755 ± 0.712	1.06	-0.726 ± 0.696	-0.209 ± 0.417
PRF-fit source offset from KIC position	0.743 ± 0.780	0.95	-0.689 ± 0.812	-0.277 ± 0.424
photometric centroid source offset	0.58 ± 0.53	1.09	-0.57 ± 0.53	0.07 ± 0.50

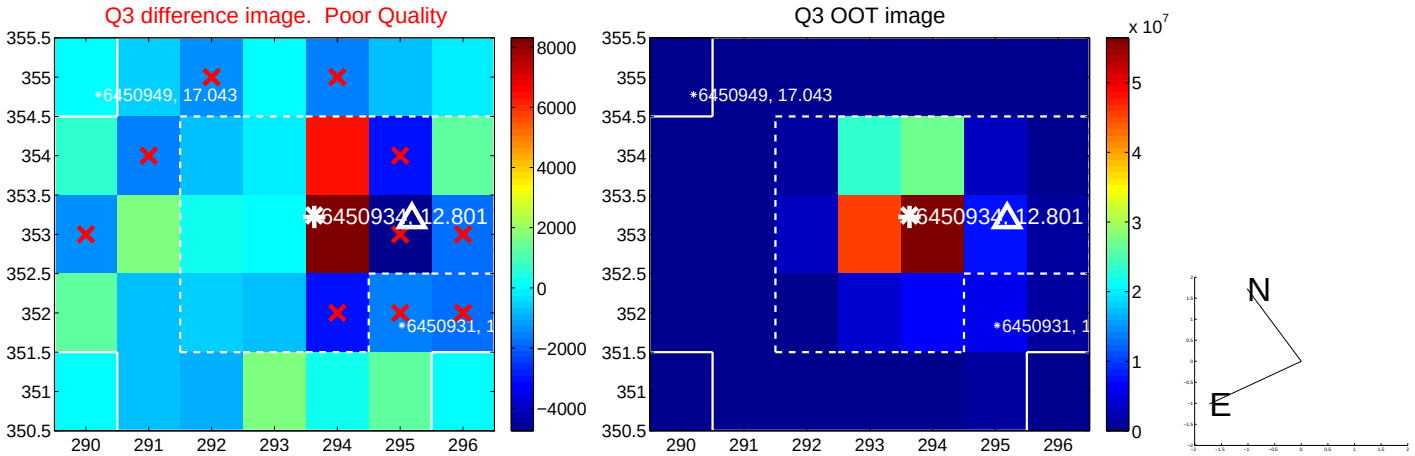


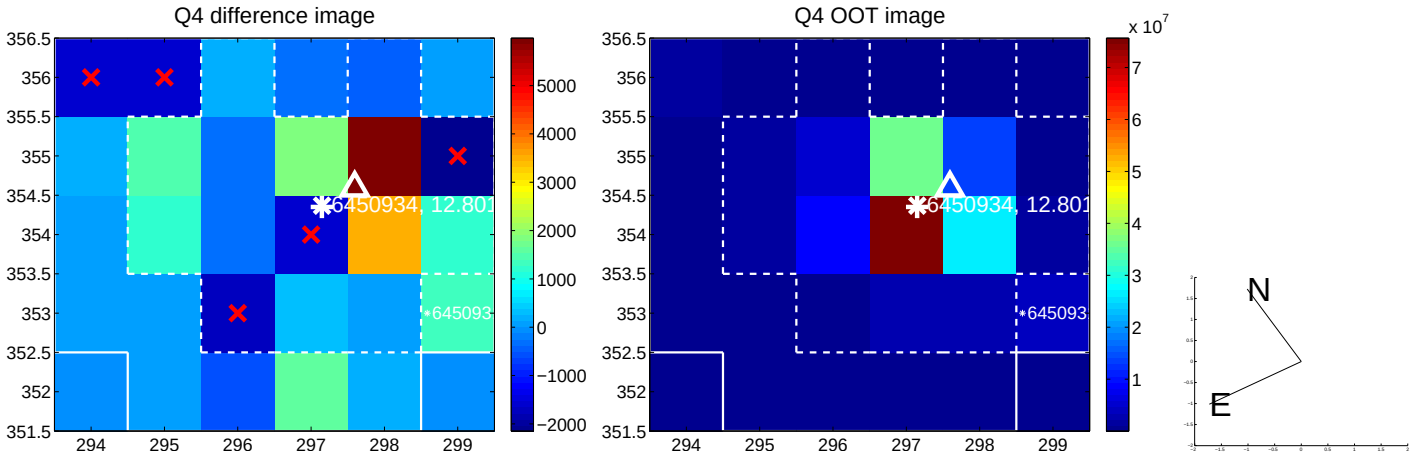
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

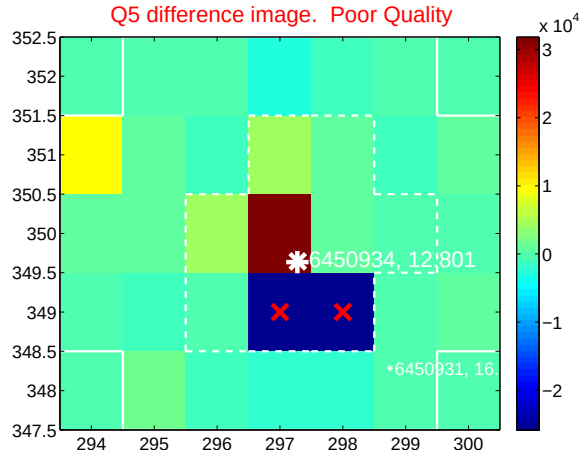


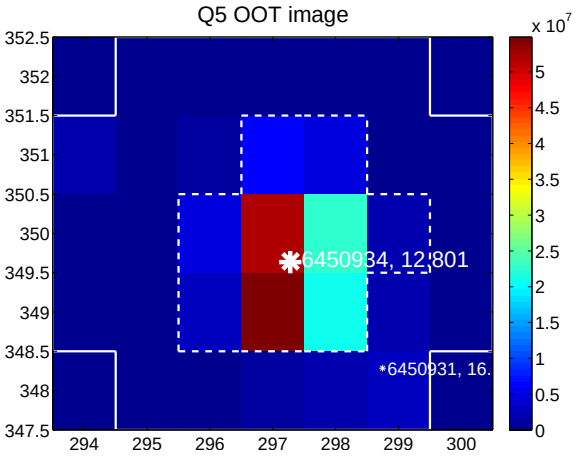


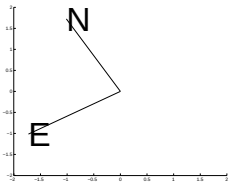


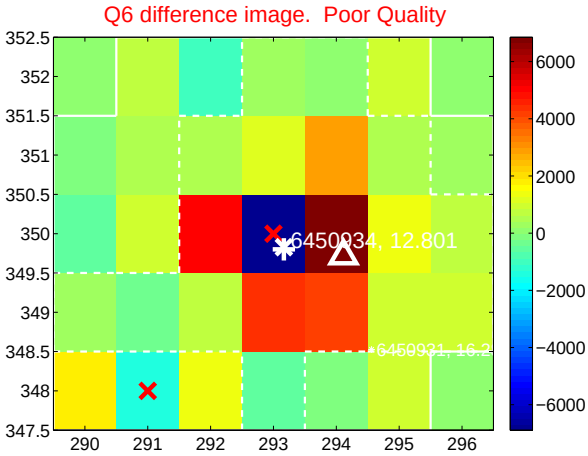


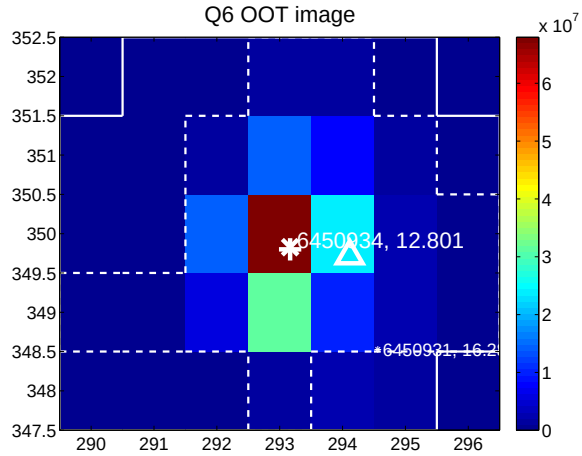
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

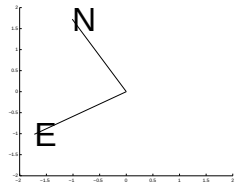


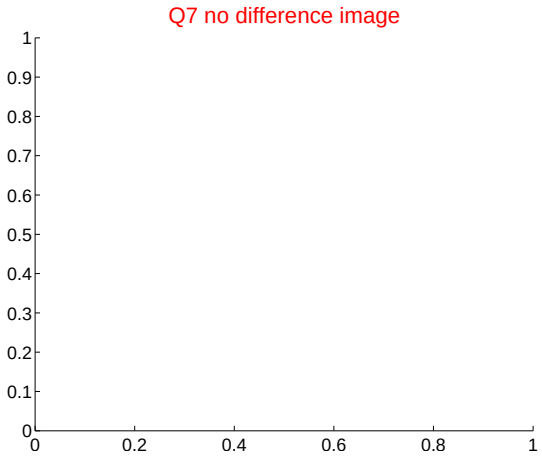


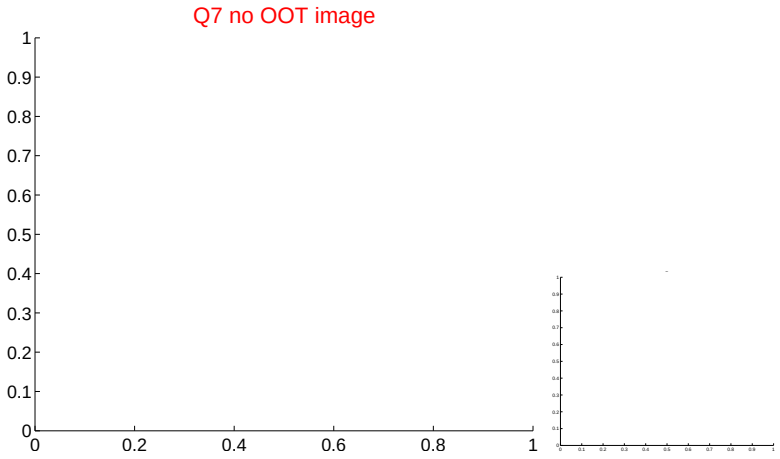


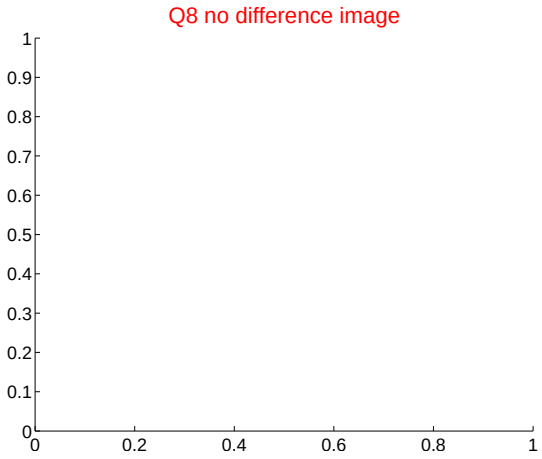


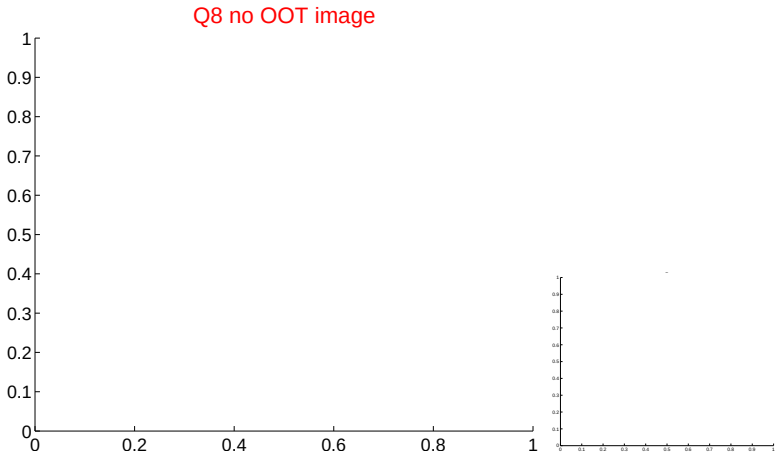




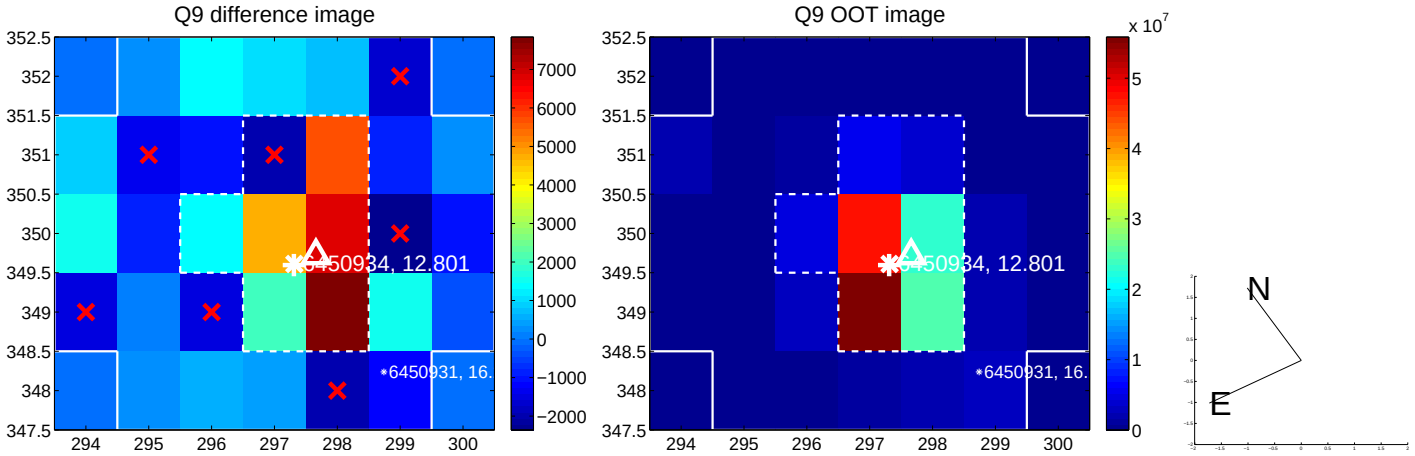


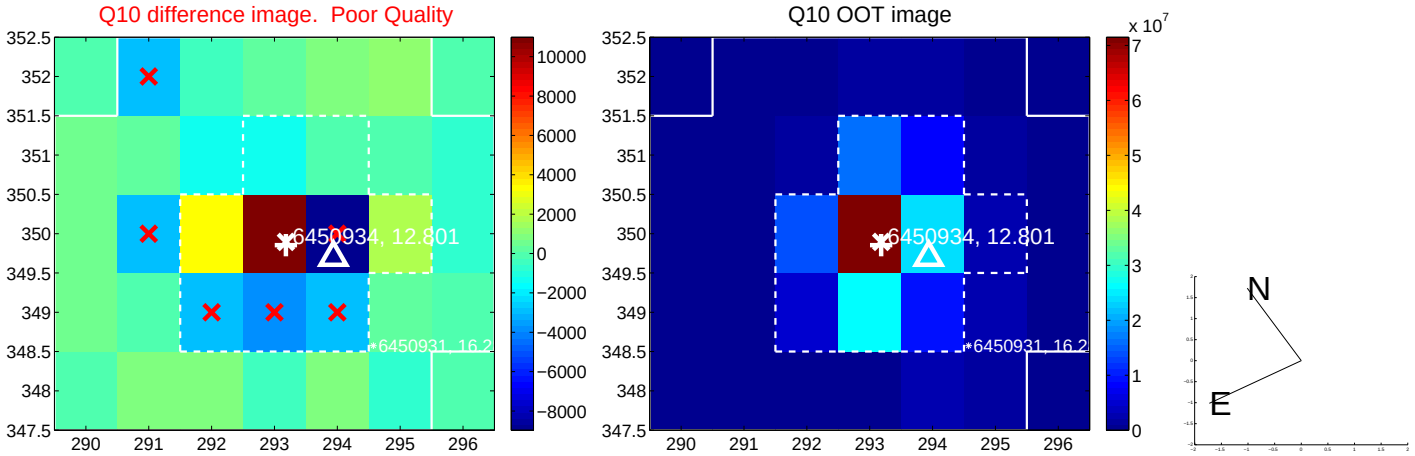


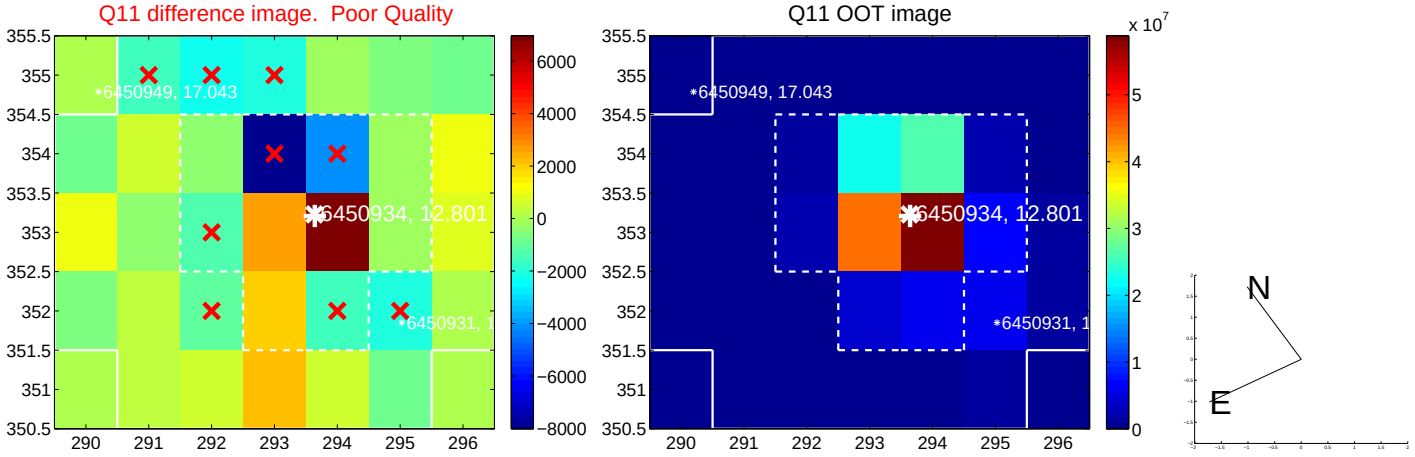


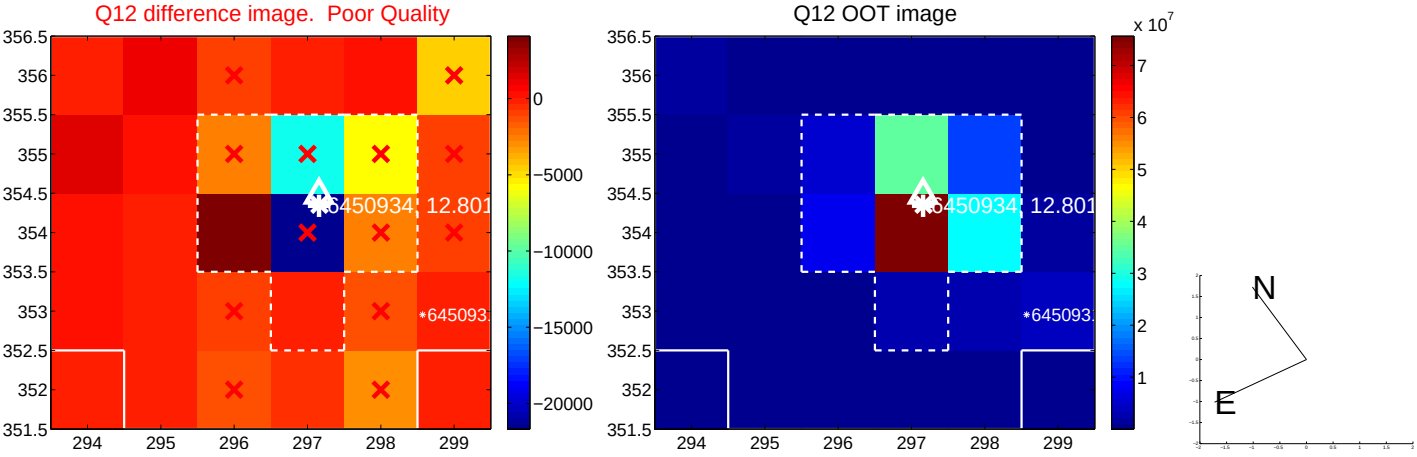


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

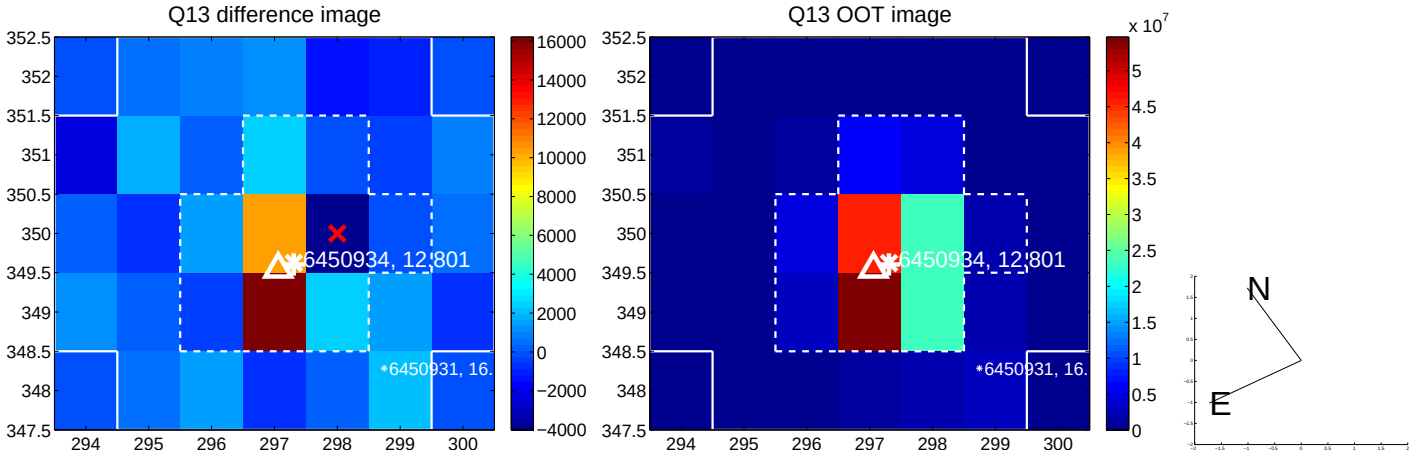


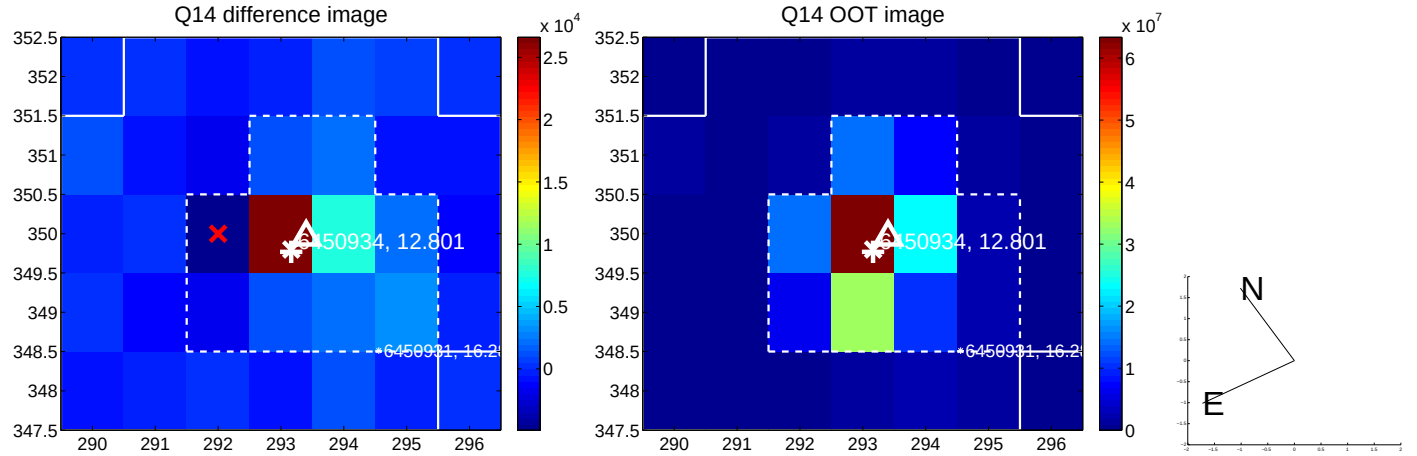


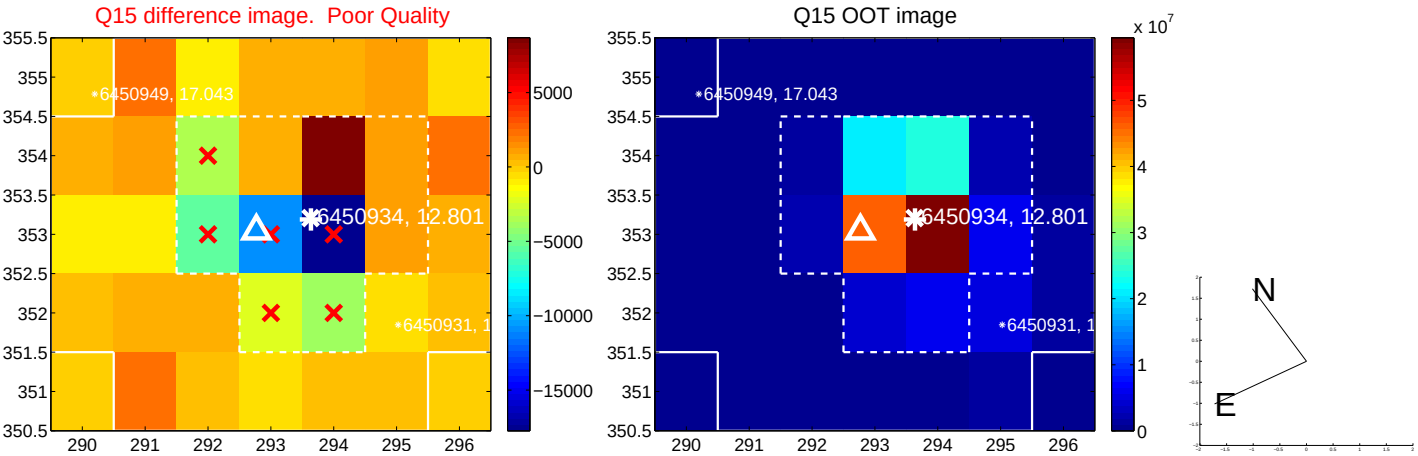


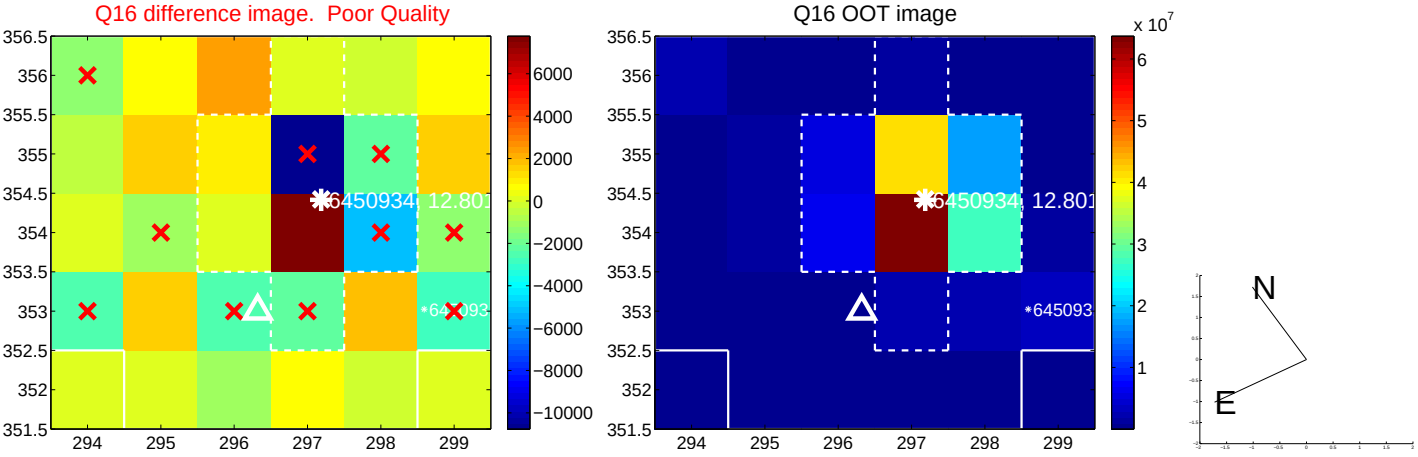


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

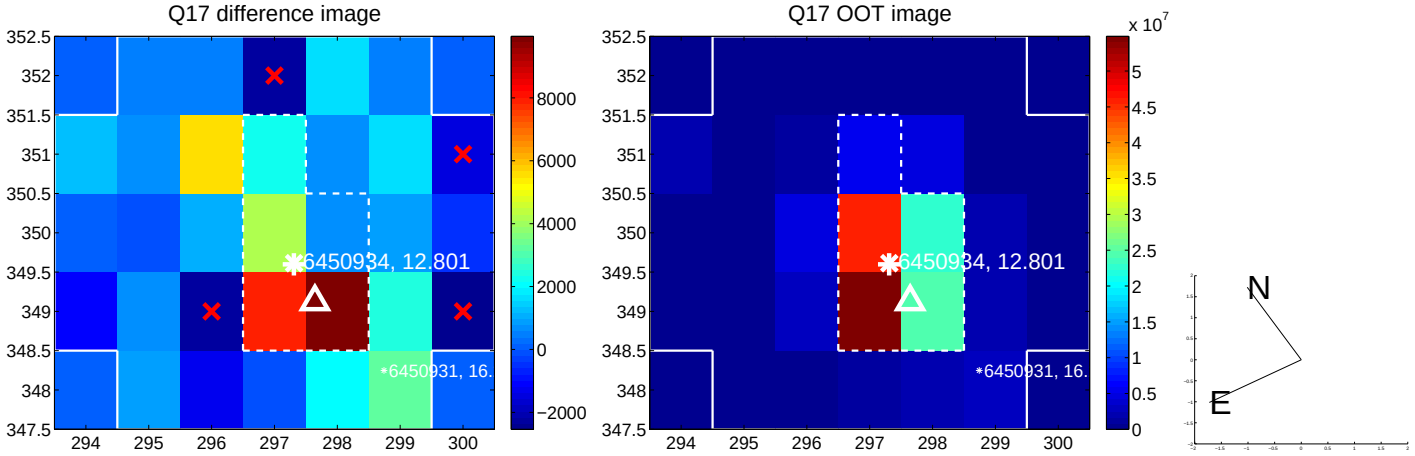


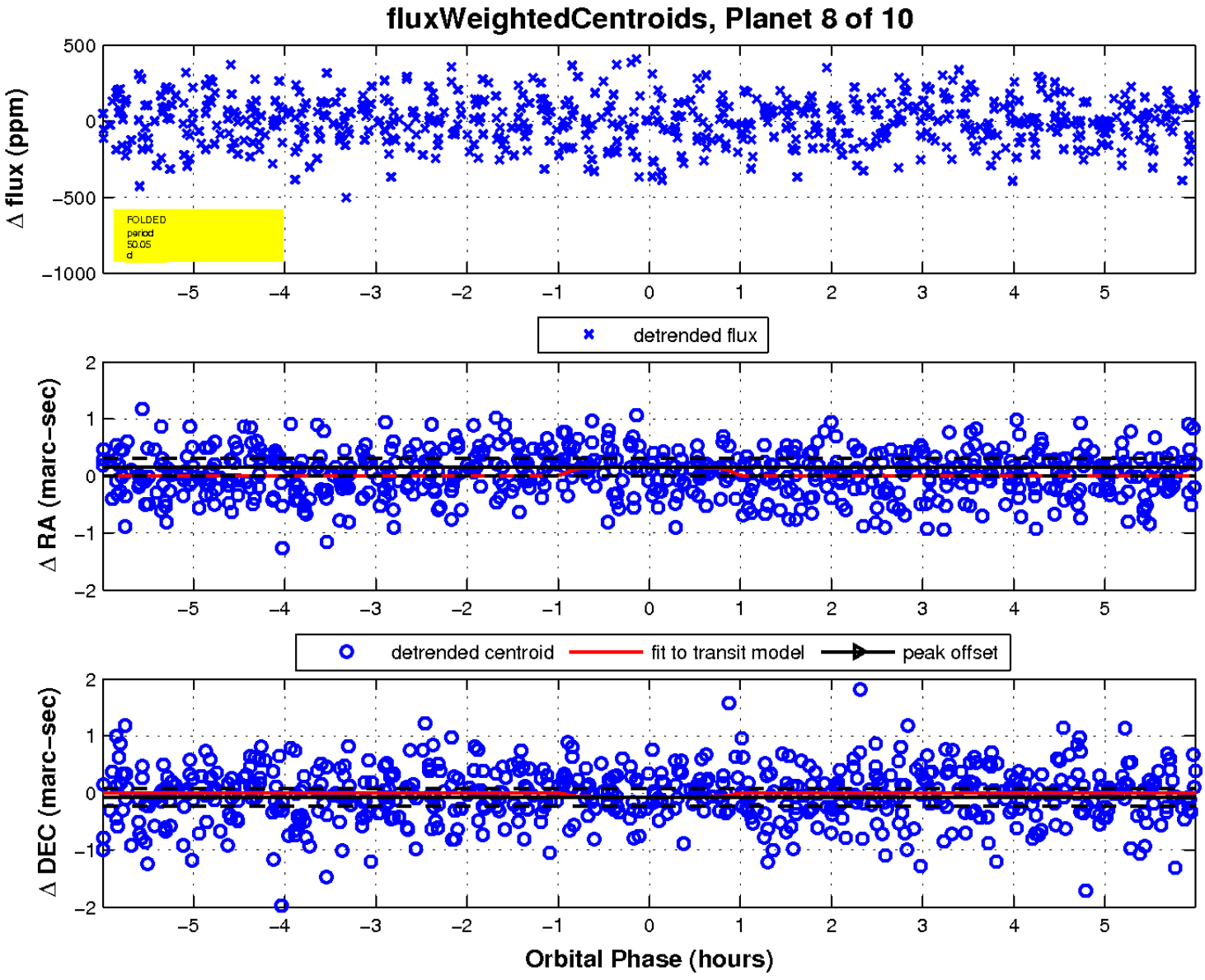




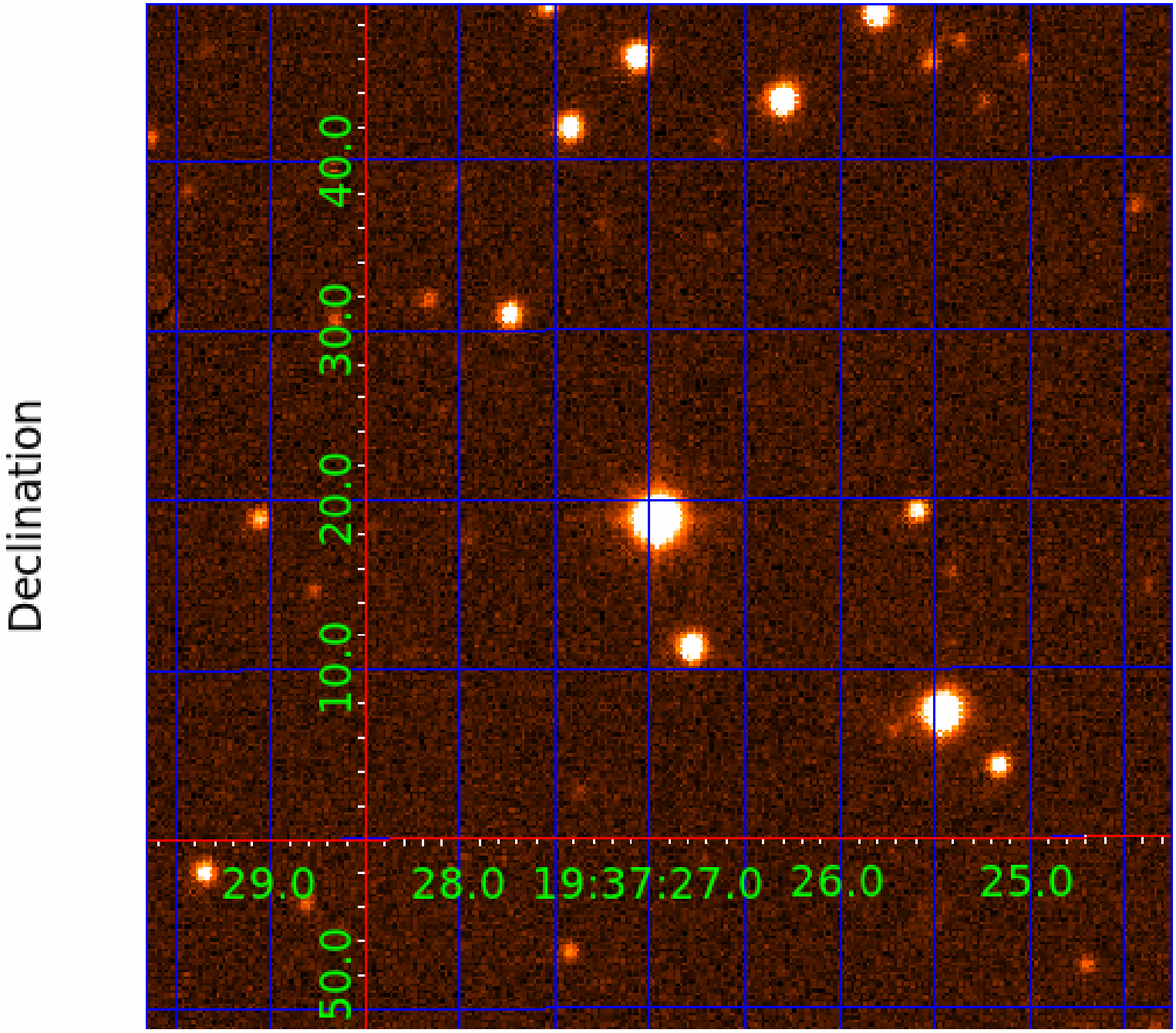


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image



KIC 006450934

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 ($S_\oplus$)
006450934-01	OBS	No	1.673031	133.058235	15.6	9.741	8.6	7.7	3.67	6754	1.68	22917.39
006450934-02	OBS	No	560.122385	433.162255	343.5	73.386	10.7	8.0	3.67	6754	8.66	9.86
006450934-03	OBS	No	68.232639	147.673666	158.9	5.895	9.5	7.3	3.67	6754	5.36	163.25
006450934-05	OBS	No	115.140159	170.976939	281.4	3.503	8.8	9.3	3.67	6754	6.90	81.26
006450934-06	OBS	No	66.664527	187.032969	240.6	3.555	8.7	9.2	3.67	6754	6.53	168.39
006450934-07	OBS	No	180.351292	298.067471	287.6	4.343	8.2	9.8	3.67	6754	7.16	44.67
006450934-08	OBS	No	50.053289	160.466595	281.2	2.001	8.2	9.1	3.67	6754	7.17	246.75
006450934-09	OBS	No	53.612809	177.650997	217.0	2.333	7.8	7.9	3.67	6754	6.30	225.15
006450934-10	OBS	No	75.681529	146.869509	174.7	3.821	8.0	7.9	3.67	6754	5.64	142.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006450934-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006450934-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006450934-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
006450934-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

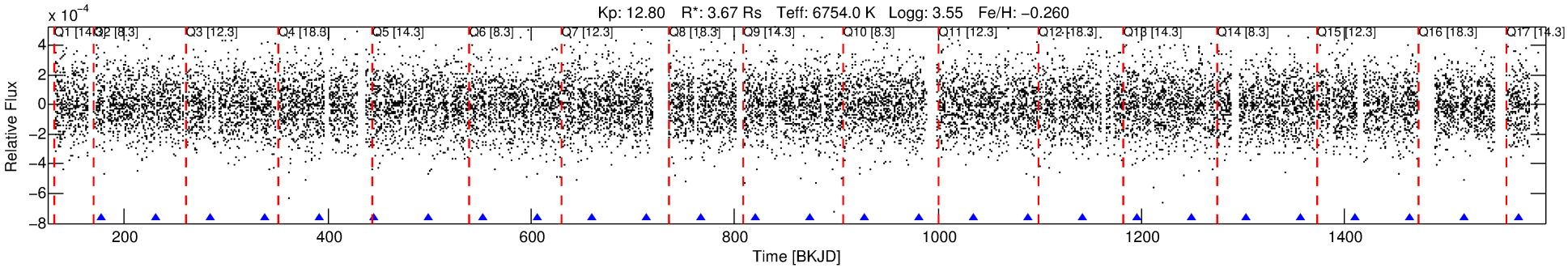
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

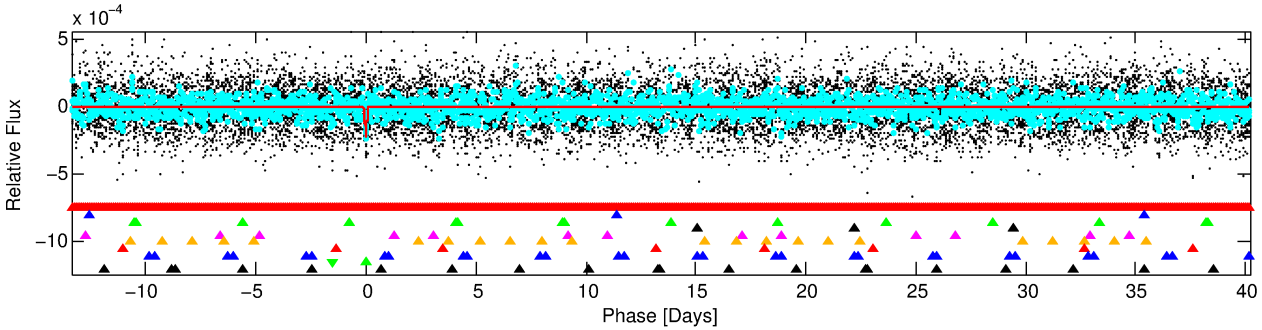
Ephemeris Match Information For 006450934-09

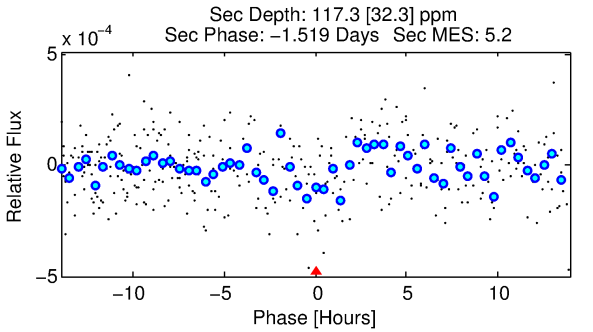
No Significant Match Found

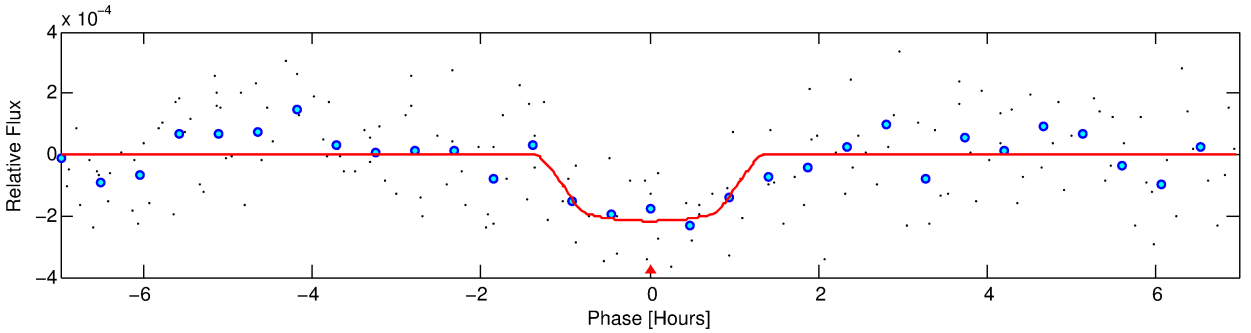
DV One-Page Summary

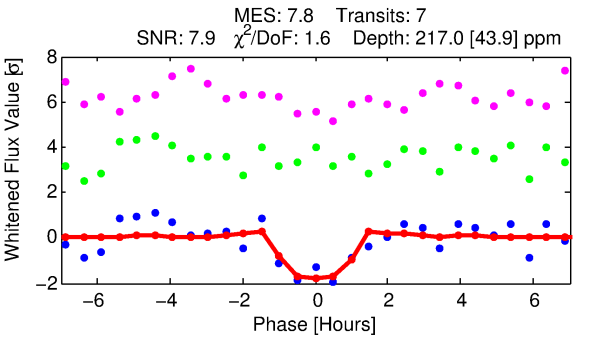
KIC: 6450934 Candidate: 9 of 10 Period: 53.613 d

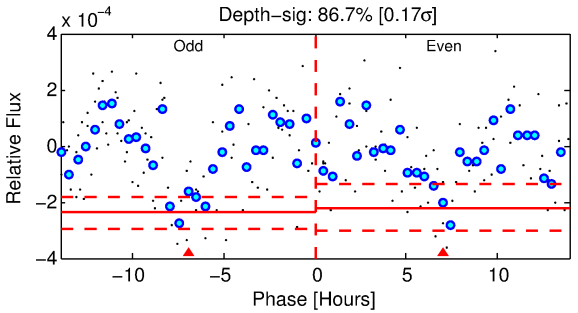


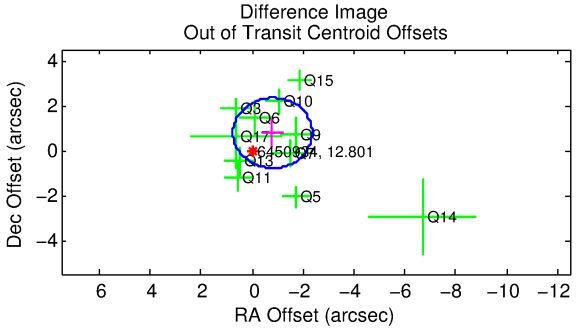












DV Fit Results:

Period = 53.61281 [0.00187] d
Epoch = 177.6510 [0.0365] BKJD
Rp/R* = 0.0157 [0.0195]
a/R* = 82.21 [616.59]
b = 0.90 [1.58]

Seff = 225.15 [132.59]
Teq = 988 [145] K
Rp = 6.30 [8.19] Re
a = 0.3339 [0.1217] AU

Ag = 180.97 [463.67] [0.39σ]
Teffp = 5601 [3500] K [1.32σ]

DV Diagnostic Results:

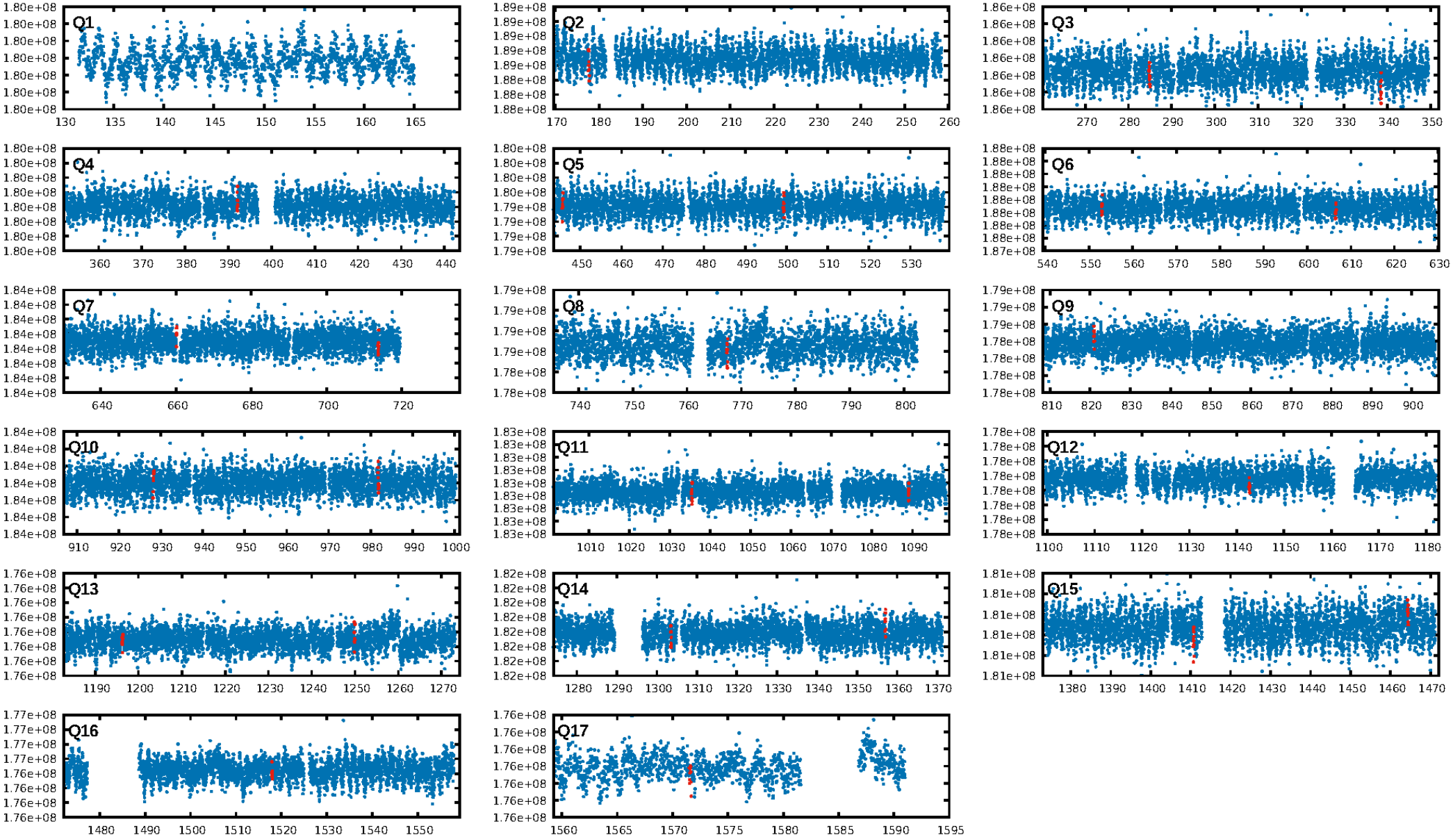
ShortPeriod−sig: 100.0% [27.80σ]
LongPeriod−sig: 100.0% [73.67σ]
ModelChiSquare2−sig: 27.1%
ModelChiSquareGof−sig: 85.5%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [7/7]
GhostDiagnostic−chr: 0.906

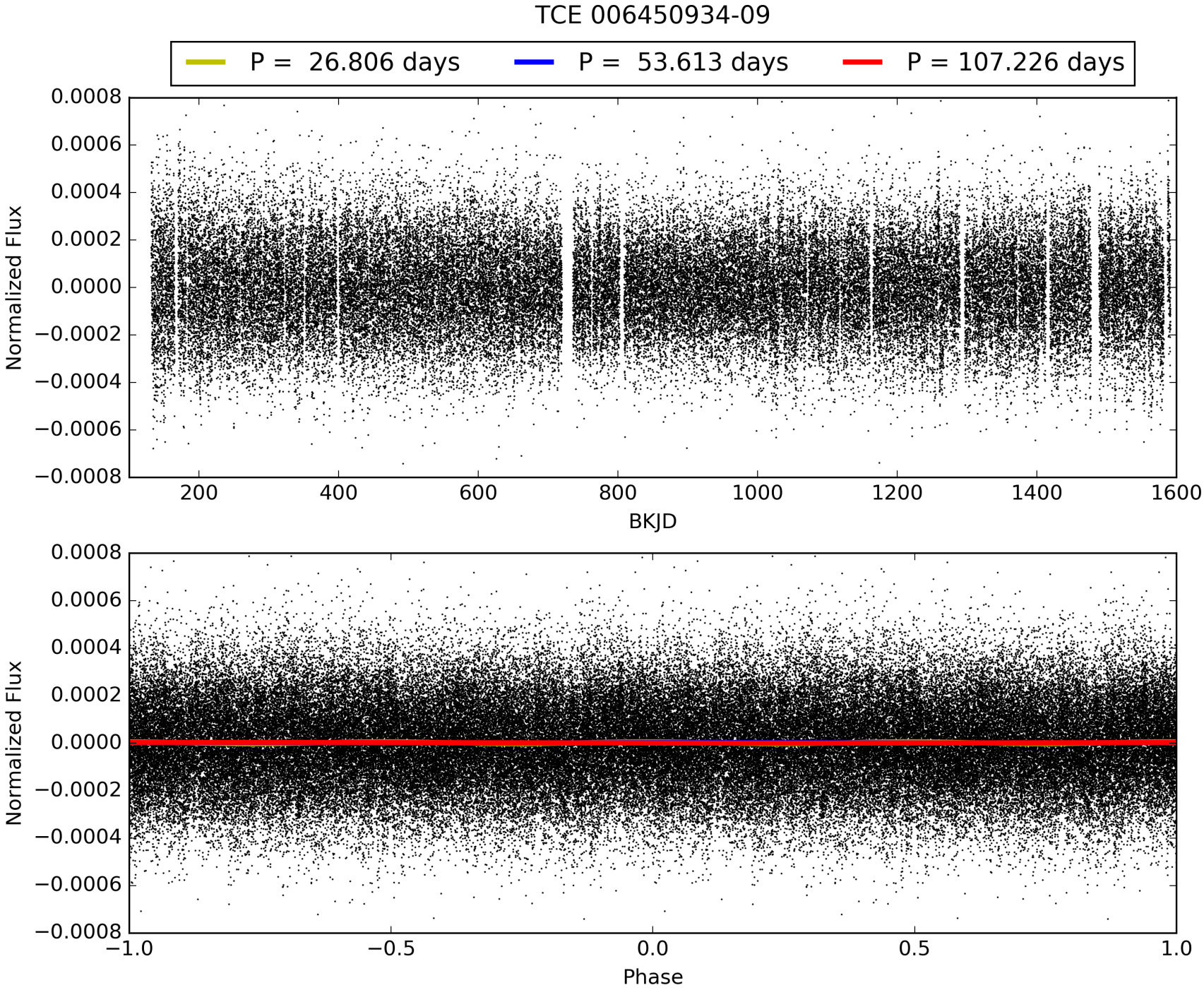
Centroid−sig: 0.0%
Centroid−so: 1.076 arcsec [1.77σ]
OotOffset−rm: 1.120 arcsec [2.15σ]
KicOffset−rm: 1.029 arcsec [2.01σ]
OotOffset−st: 3/4/0/4 [11]
KicOffset−st: 3/4/0/4 [11]
DiffImageQuality−fgm: 0.64 [7/11]
DiffImageOverlap−fno: 0.44 [7/16]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 03−Feb−2016 05:27:35 Z

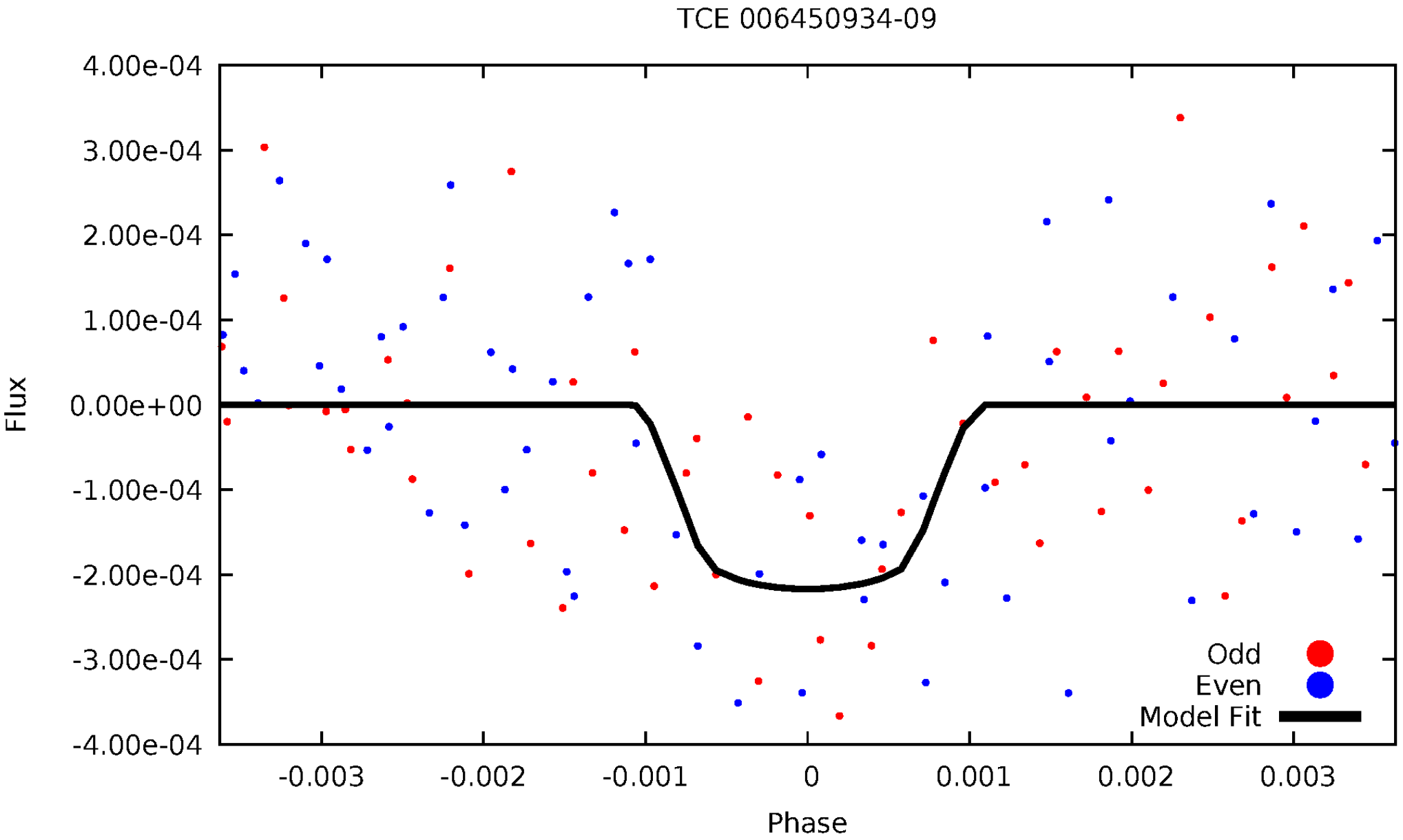
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006450934-09, PDC Light Curves

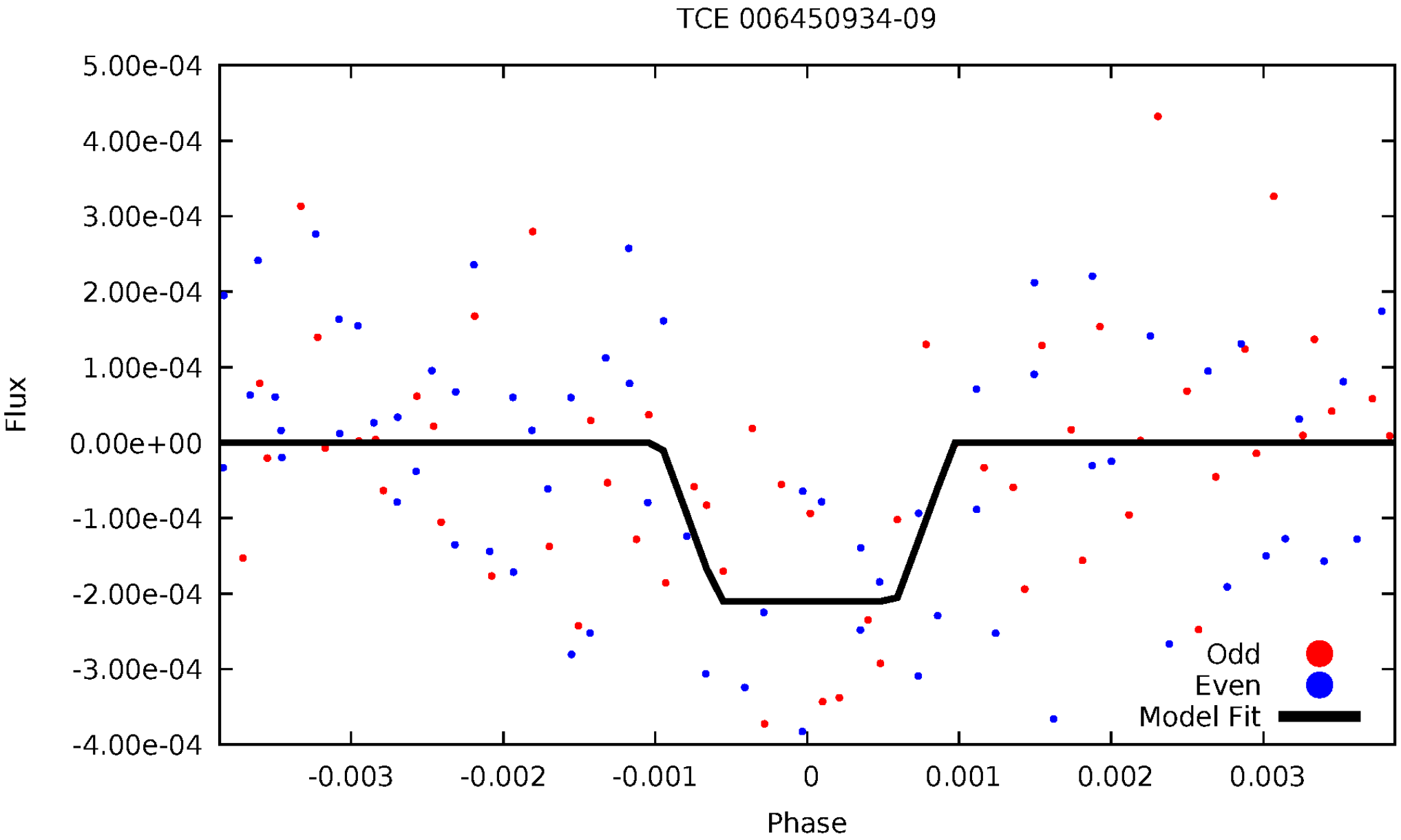



TCE 006450934-09
P = 26.806 days
P = 53.613 days
P = 107.226 days
Normalized Flux
0.0008
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
−0.0008
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
−1.0
−0.5
0.0
0.5
1.0
Phase

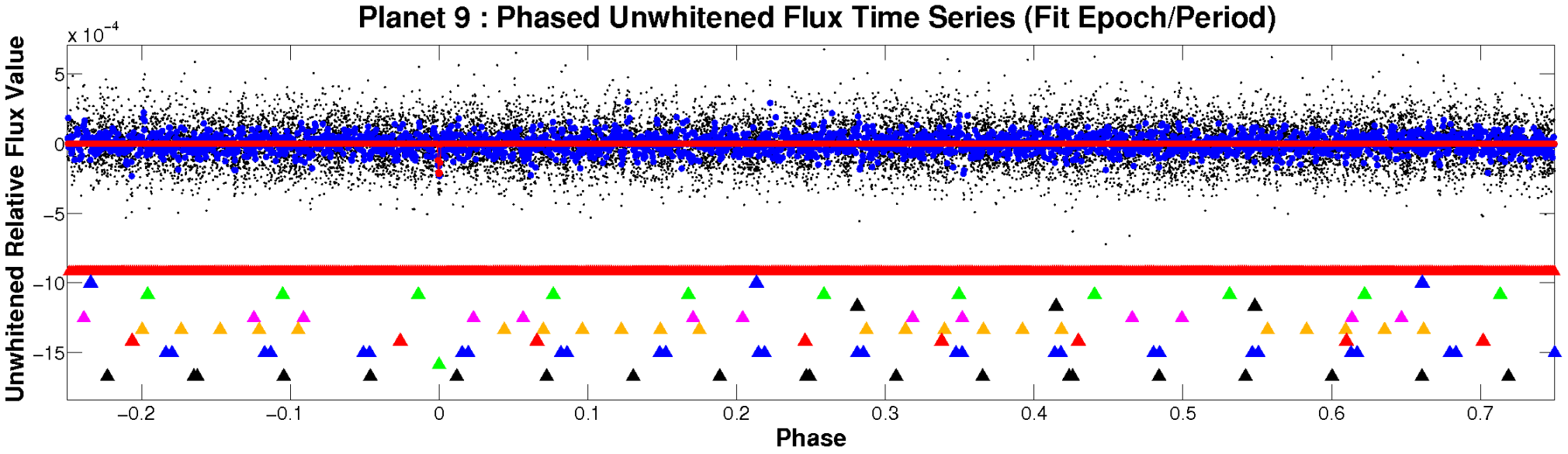
DV Odd/Even

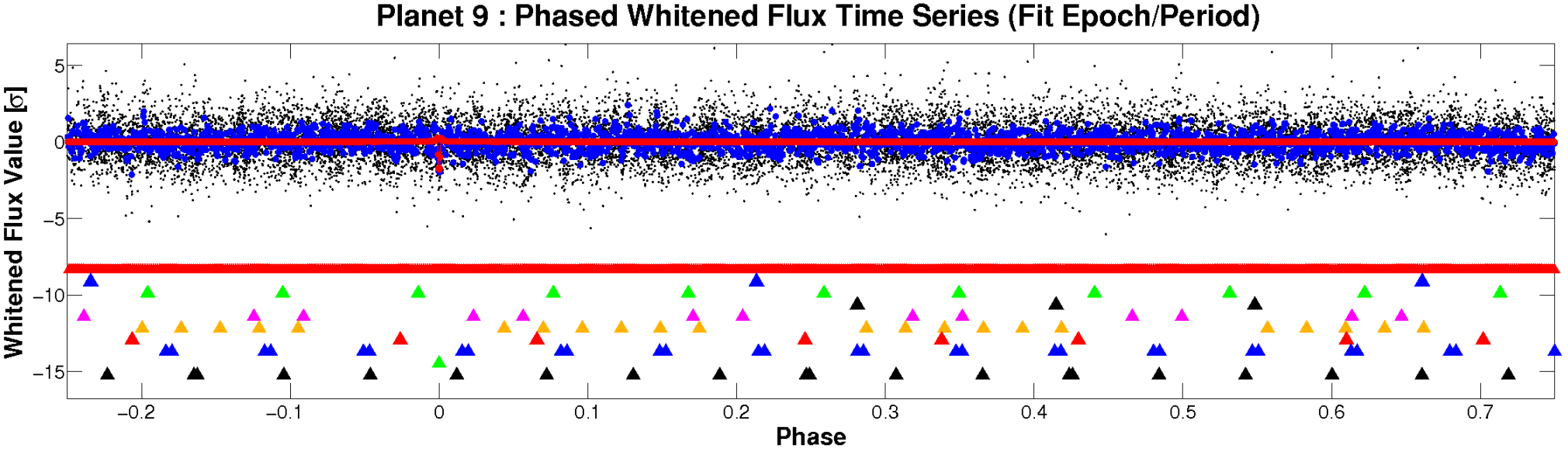

TCE 006450934-09
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006450934-09
5.00e-04
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

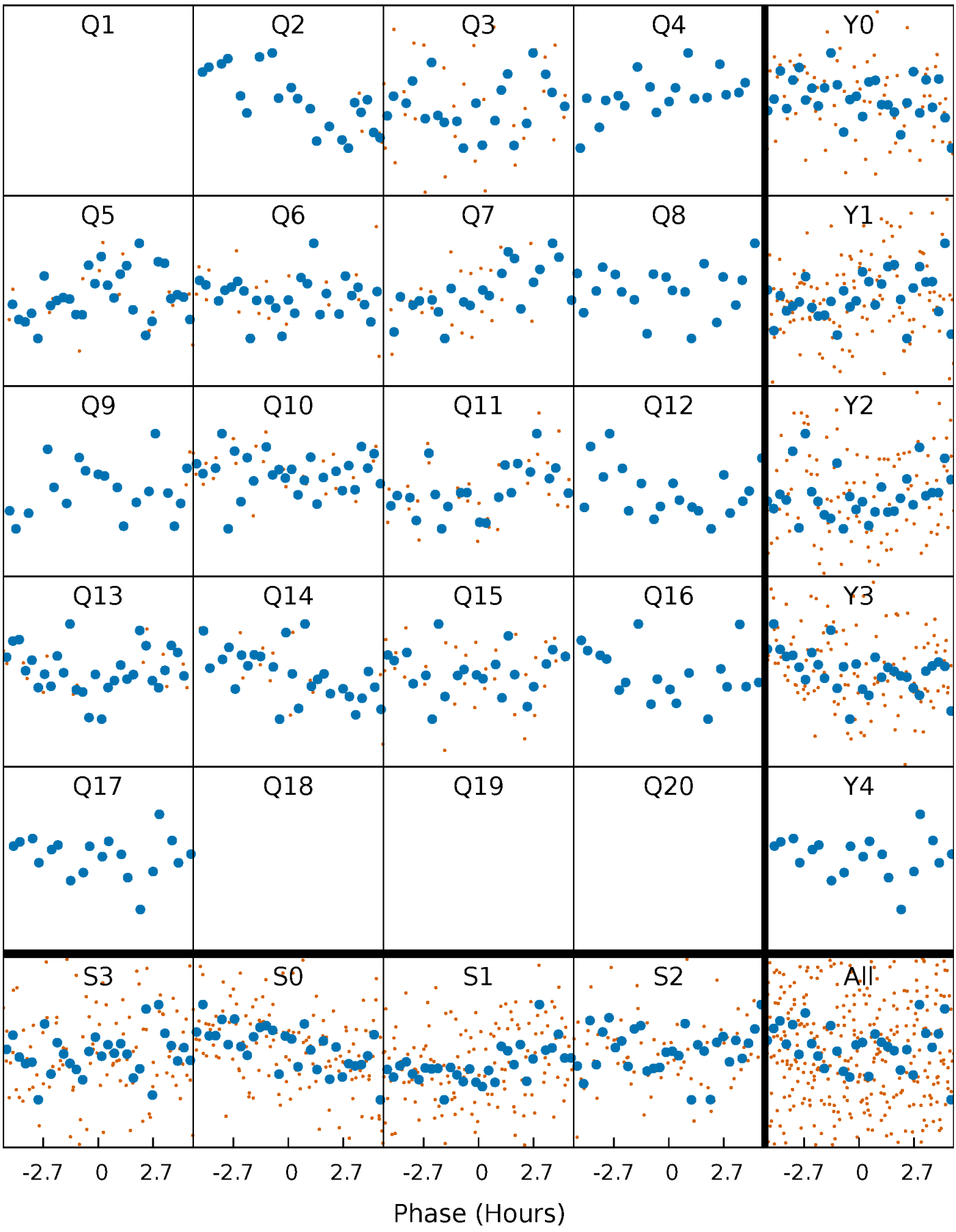
Non-Whitened Vs. Whitened Light Curve





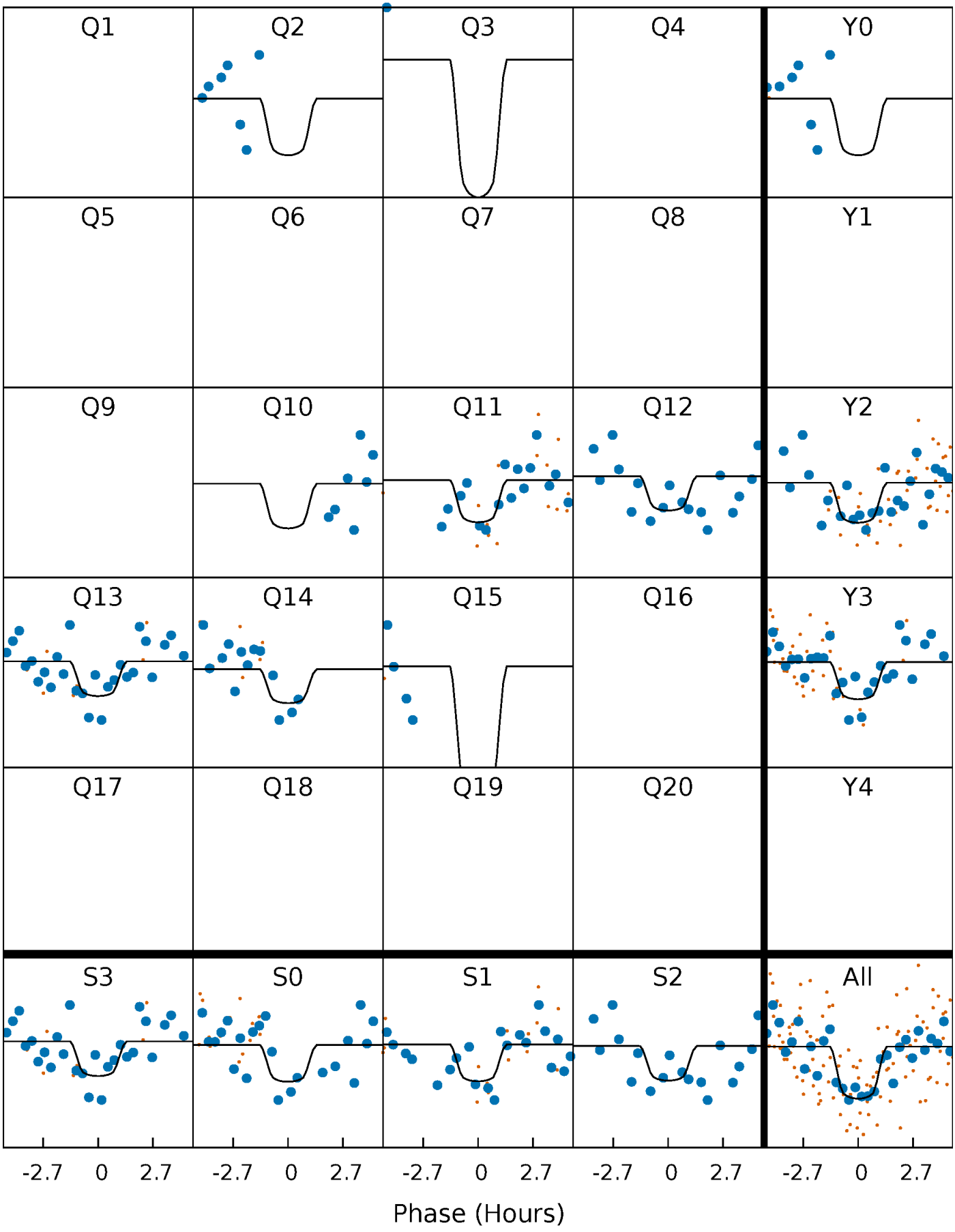
PDC Quarter-Phased Transit Curves

TCE 006450934-09 P= 53.612809 Days T_0=177.650997 (BKJD)



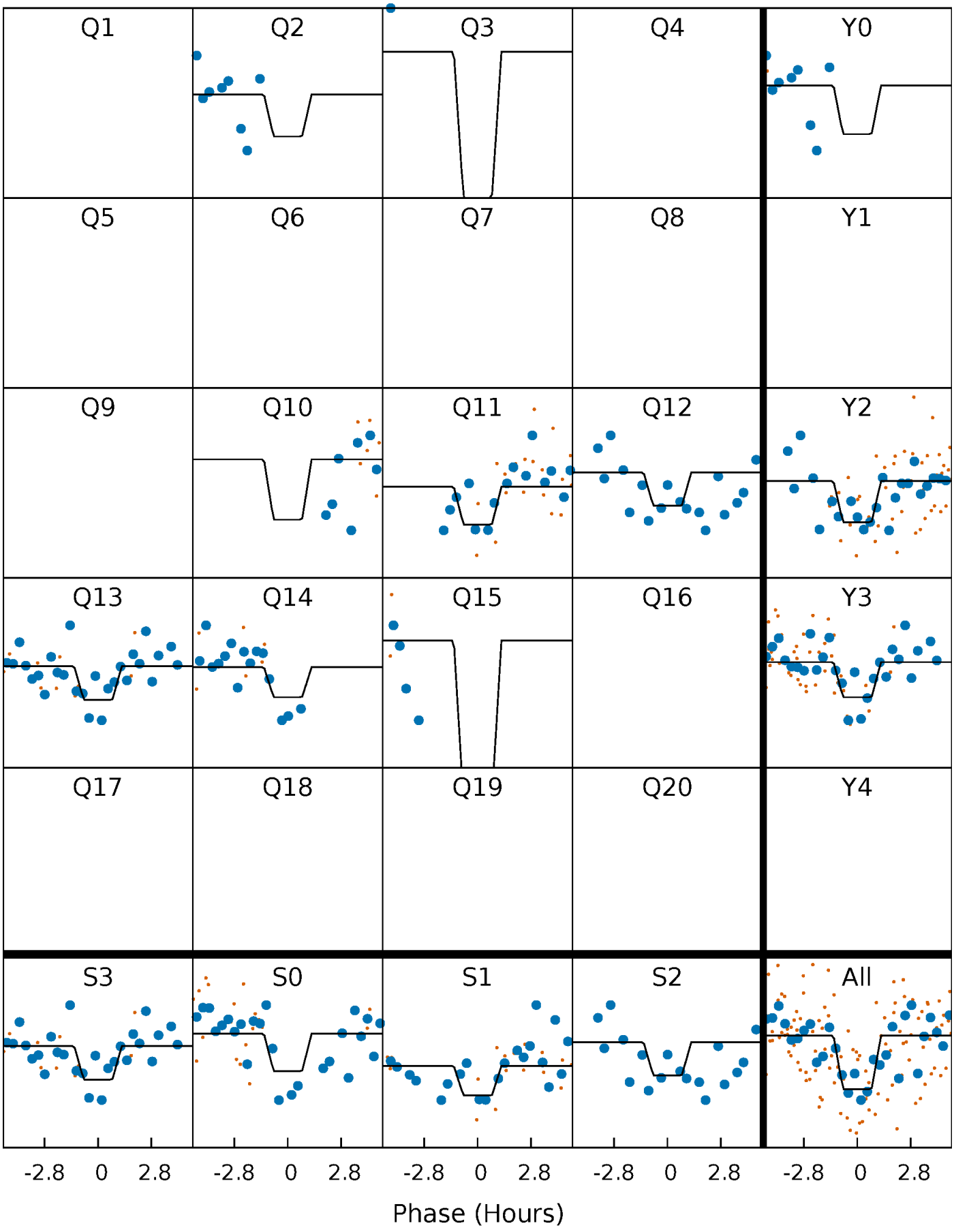
DV Quarter-Phased Transit Curves

TCE 006450934-09 P= 53.612809 Days T_0=177.650997 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

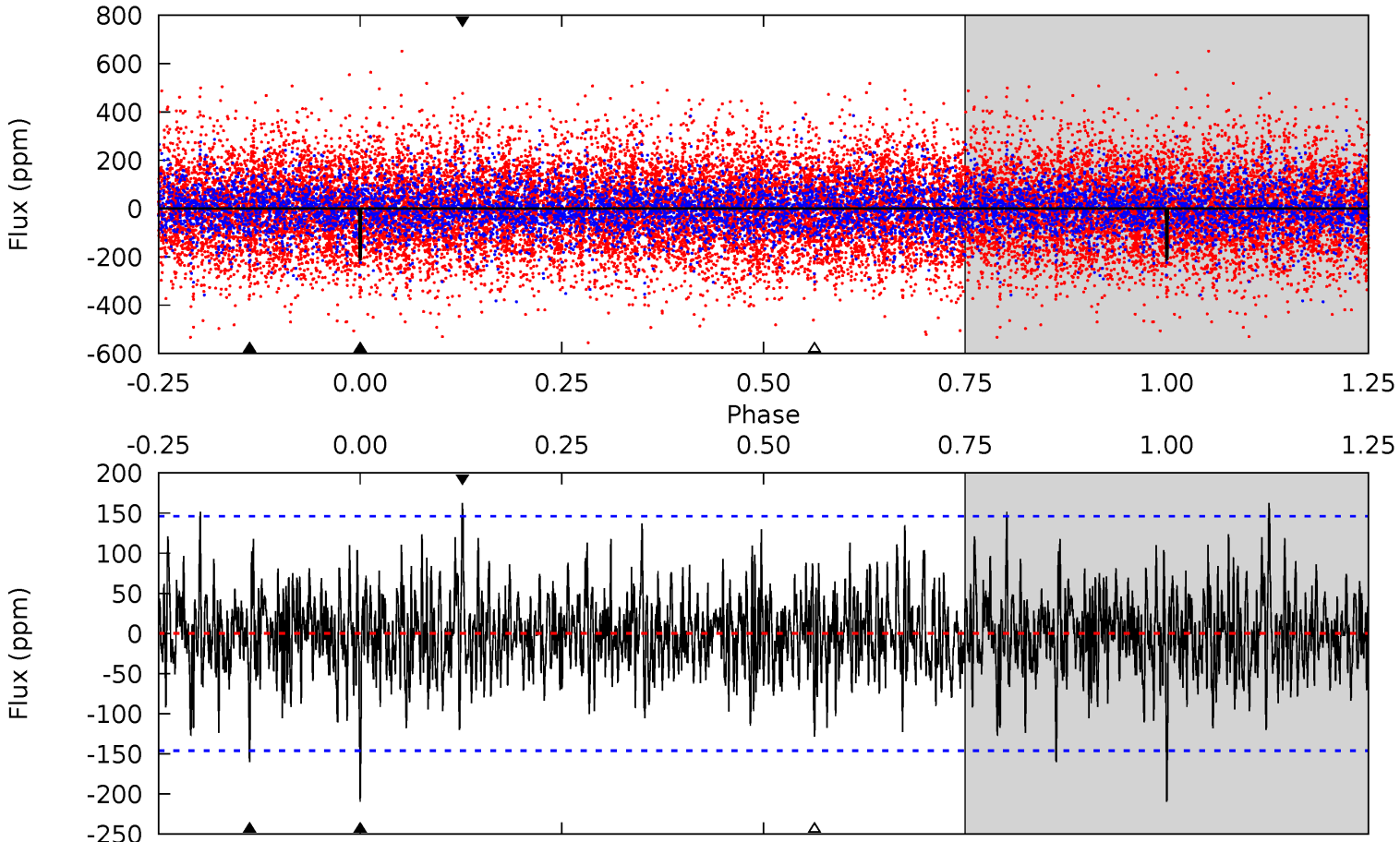
TCE 006450934-09 P= 53.612589 Days T_0=177.654397 (BKJD)

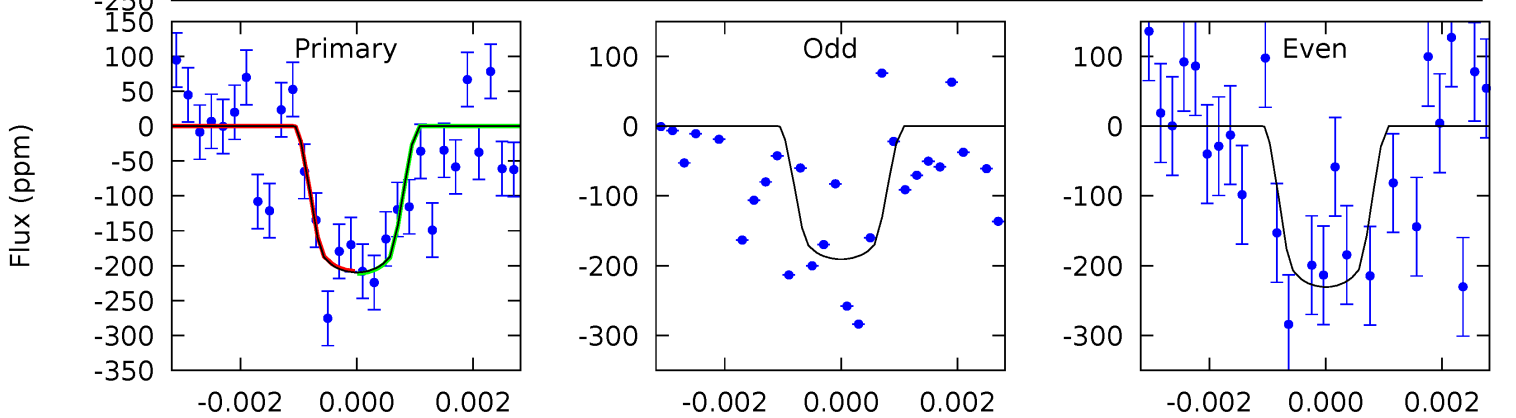


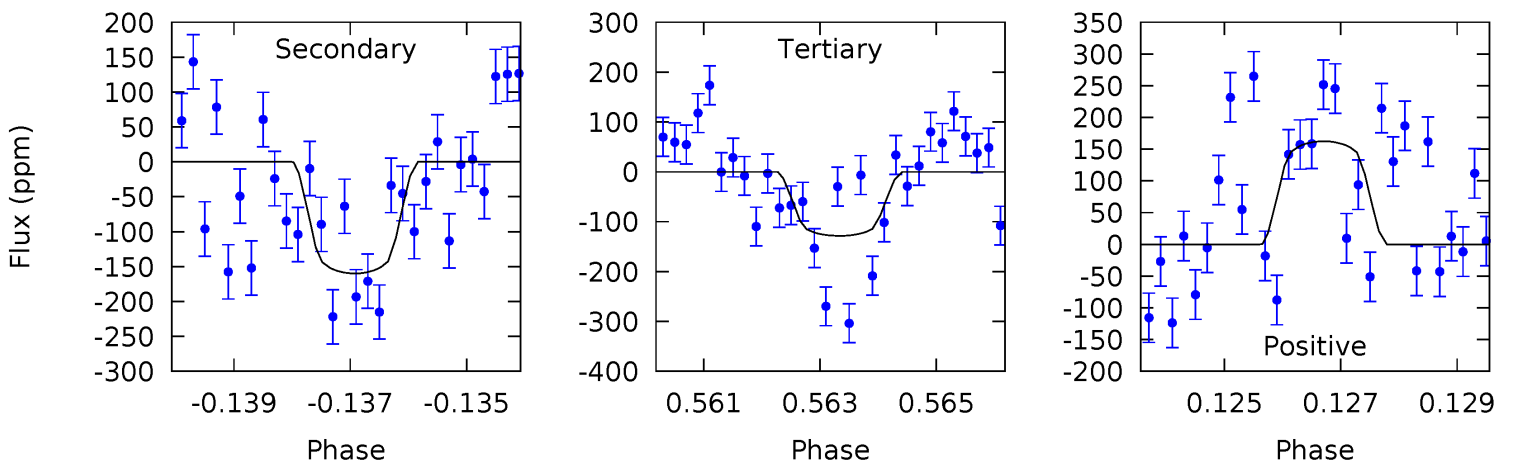
DV Model-Shift Uniqueness Test

006450934-09, P = 53.612809 Days, E = 124.038188 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.64	5.83	4.68	5.92	5.33	3.09	1.52	2.96	1.72	1.15	-0.09	0.73	1.04	0.44	0.06



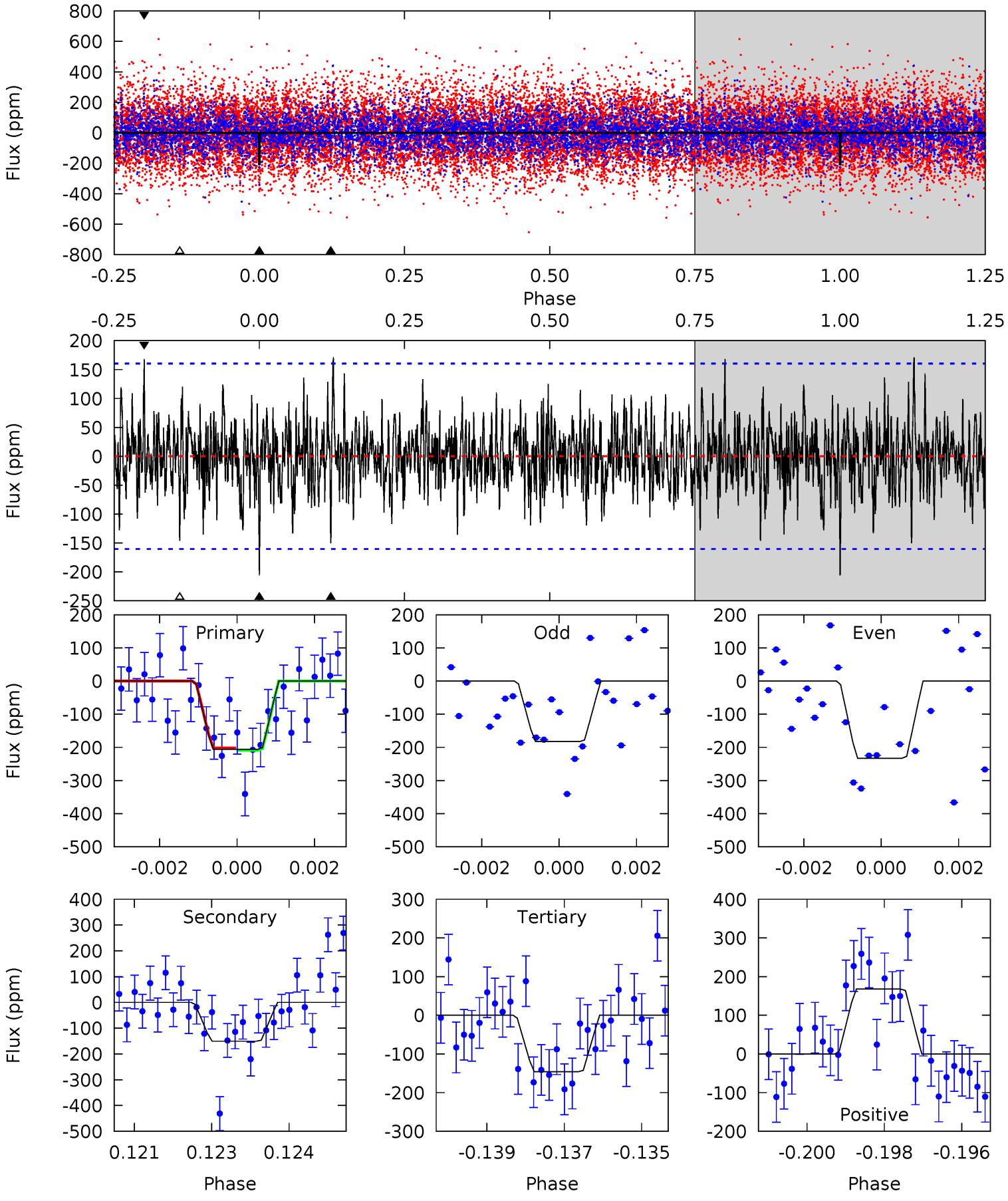




Alt Model-Shift Uniqueness Test

006450934-09, P = 53.612589 Days, E = 124.041808 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.86	5.01	4.86	5.60	5.35	3.12	1.48	2.00	1.26	0.15	-0.58	0.86	1.09	0.45	0.11



Stellar Parameters For KIC 006450934

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6754^{+183}_{-203}	$3.546^{+0.336}_{-0.084}$	$-0.260^{+0.300}_{-0.250}$	$3.669^{+0.354}_{-1.417}$	$1.723^{+0.198}_{-0.368}$	$0.049^{+0.129}_{-0.013}$
	+3%/-3%	+9%/-2%	+115%/-96%	+10%/-39%	+11%/-21%	+263%/-26%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006450934-09 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-160±27	$7.77^{+6.86}_{-4.76}$	1352^{+77}_{-116}	5223^{+3497}_{-1105}	166^{+920}_{-120}
Alt.	-150±30	$7.54^{+6.79}_{-4.89}$	1360^{+71}_{-120}	5323^{+3916}_{-1219}	163^{+1075}_{-118}

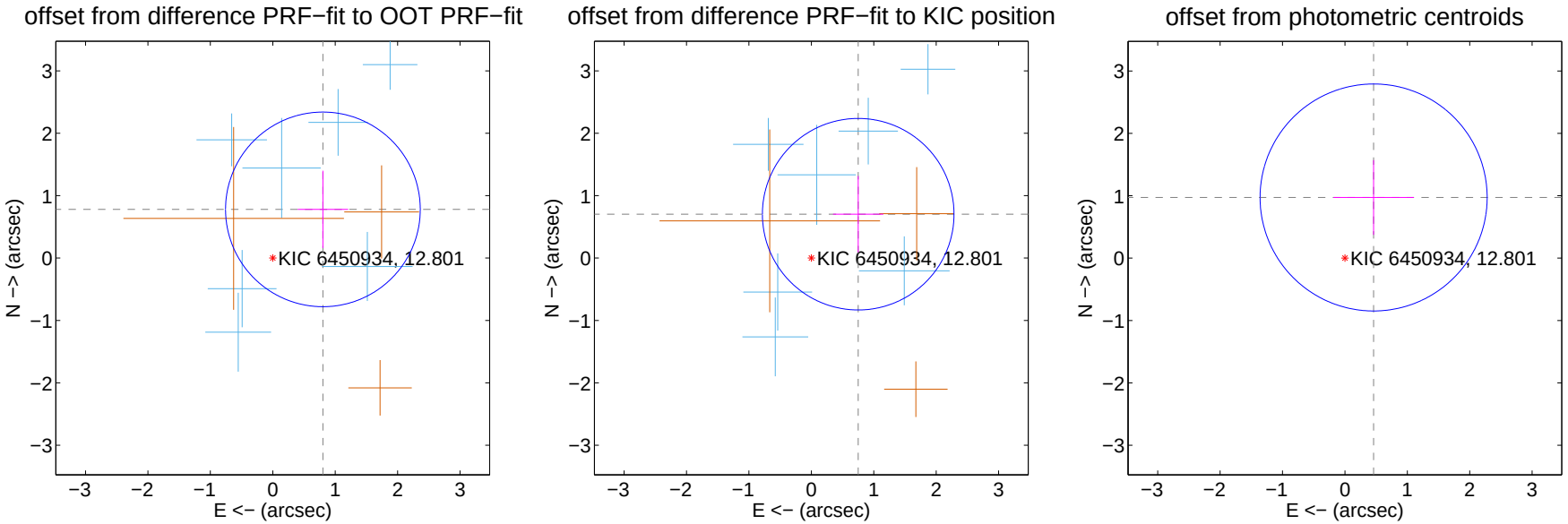
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

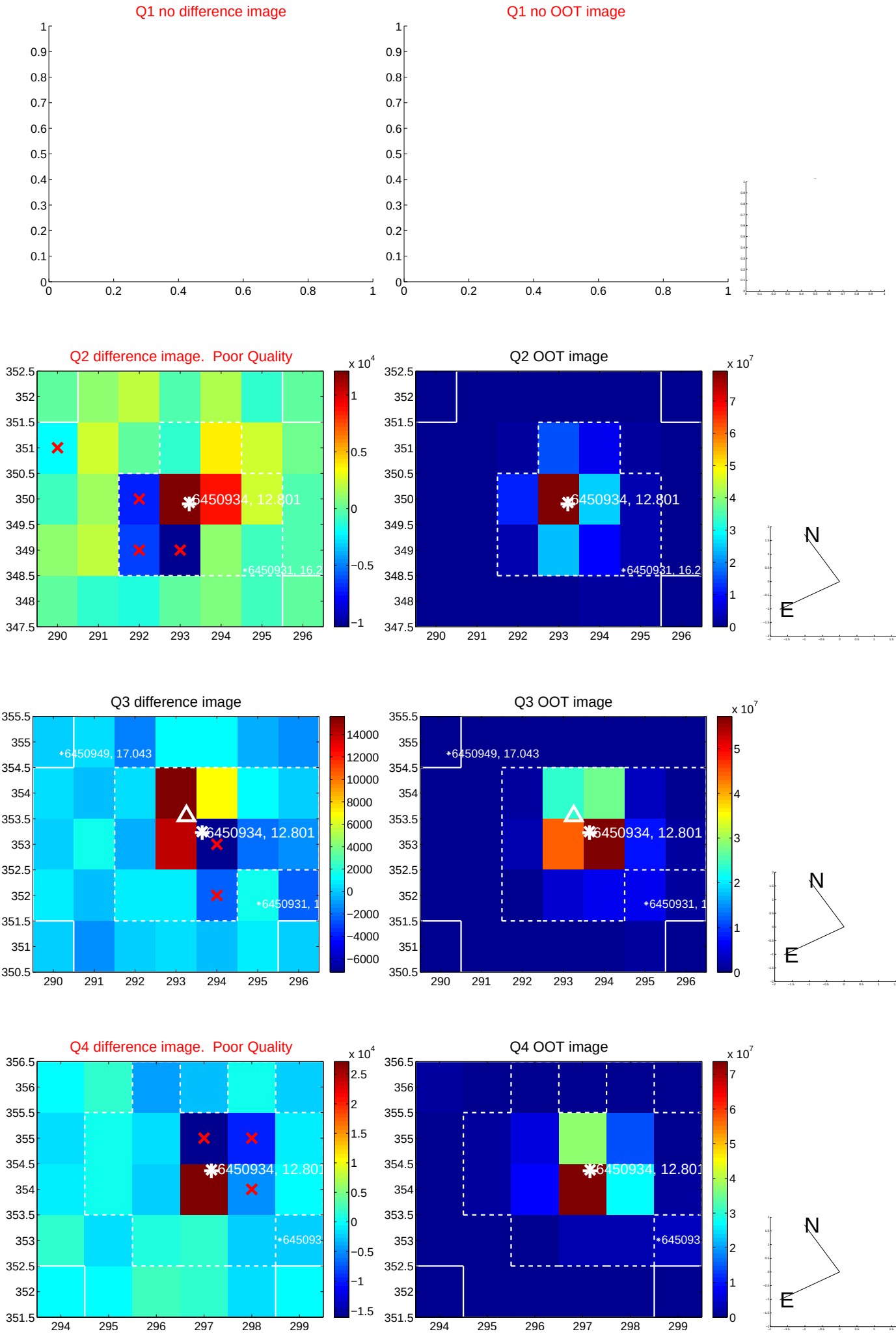
Supplemental centroid analysis for 006450934-09. Kepler magnitude: 12.80. Transit SNR 7.91
There are 7 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.120 ± 0.520	2.15	-0.803 ± 0.404	0.780 ± 0.620
PRF-fit source offset from KIC position	1.029 ± 0.512	2.01	-0.751 ± 0.403	0.703 ± 0.612
photometric centroid source offset	1.08 ± 0.61	1.77	-0.46 ± 0.64	0.97 ± 0.60

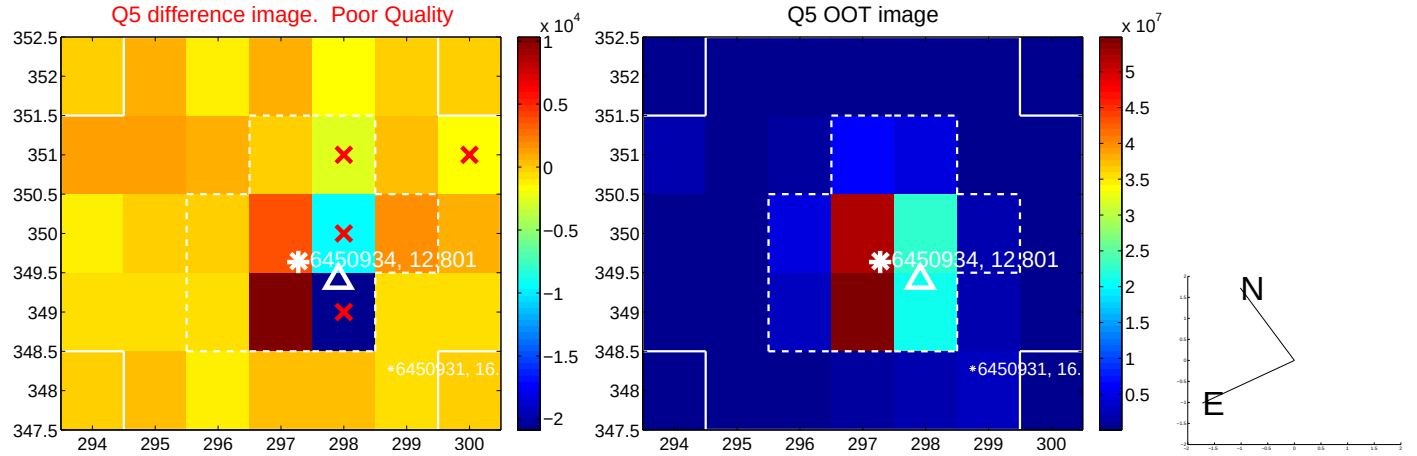


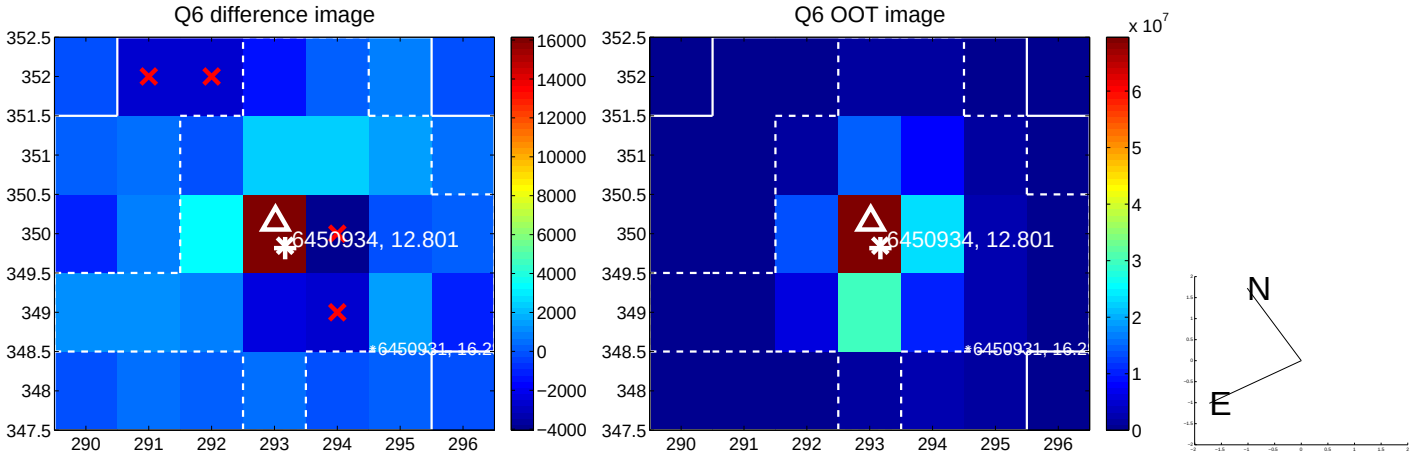
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

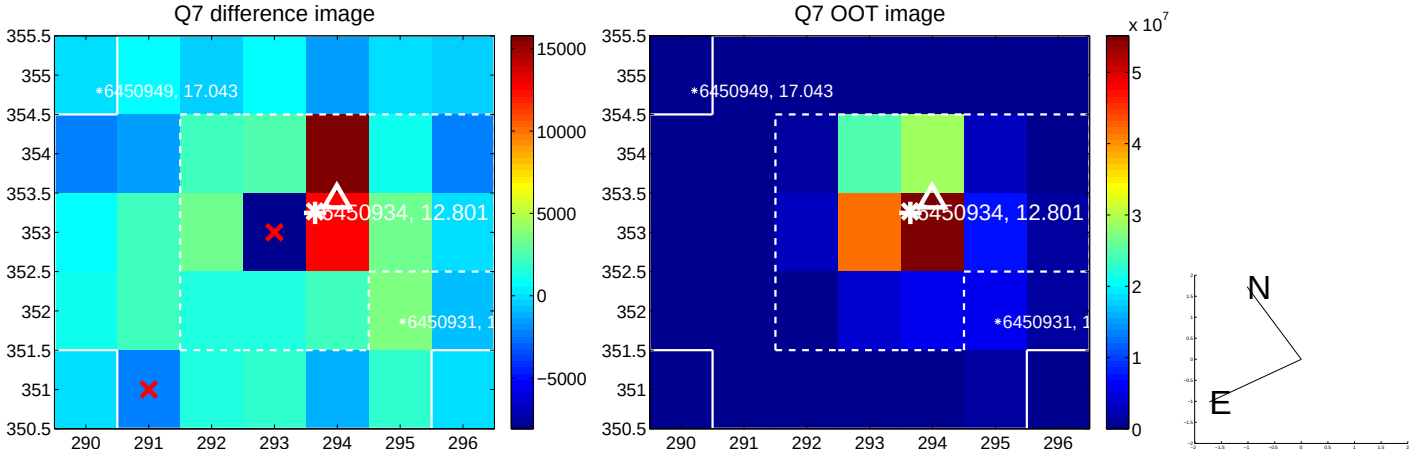
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

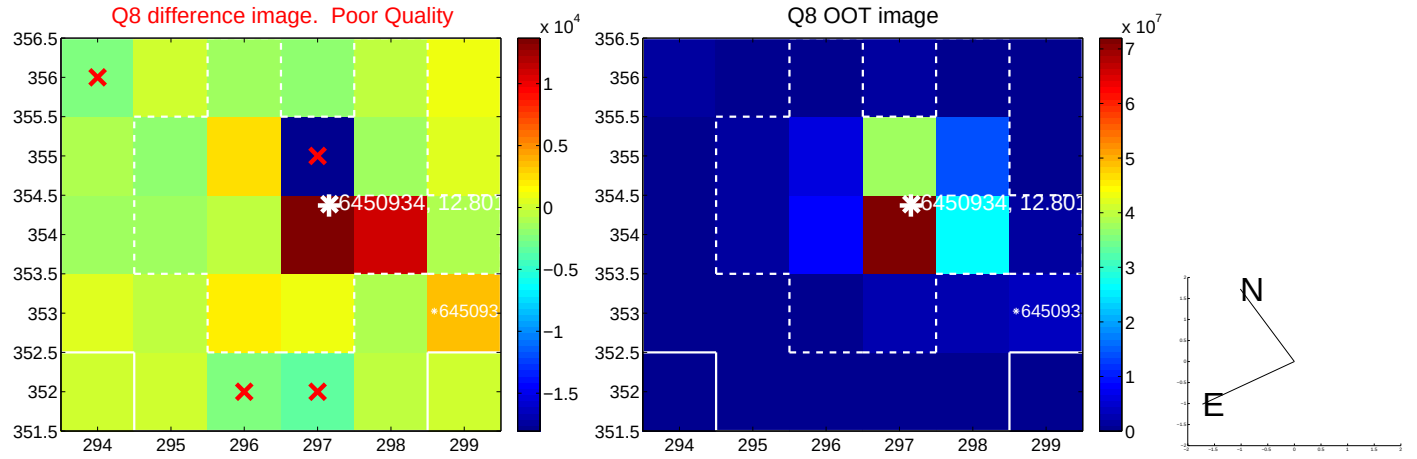


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

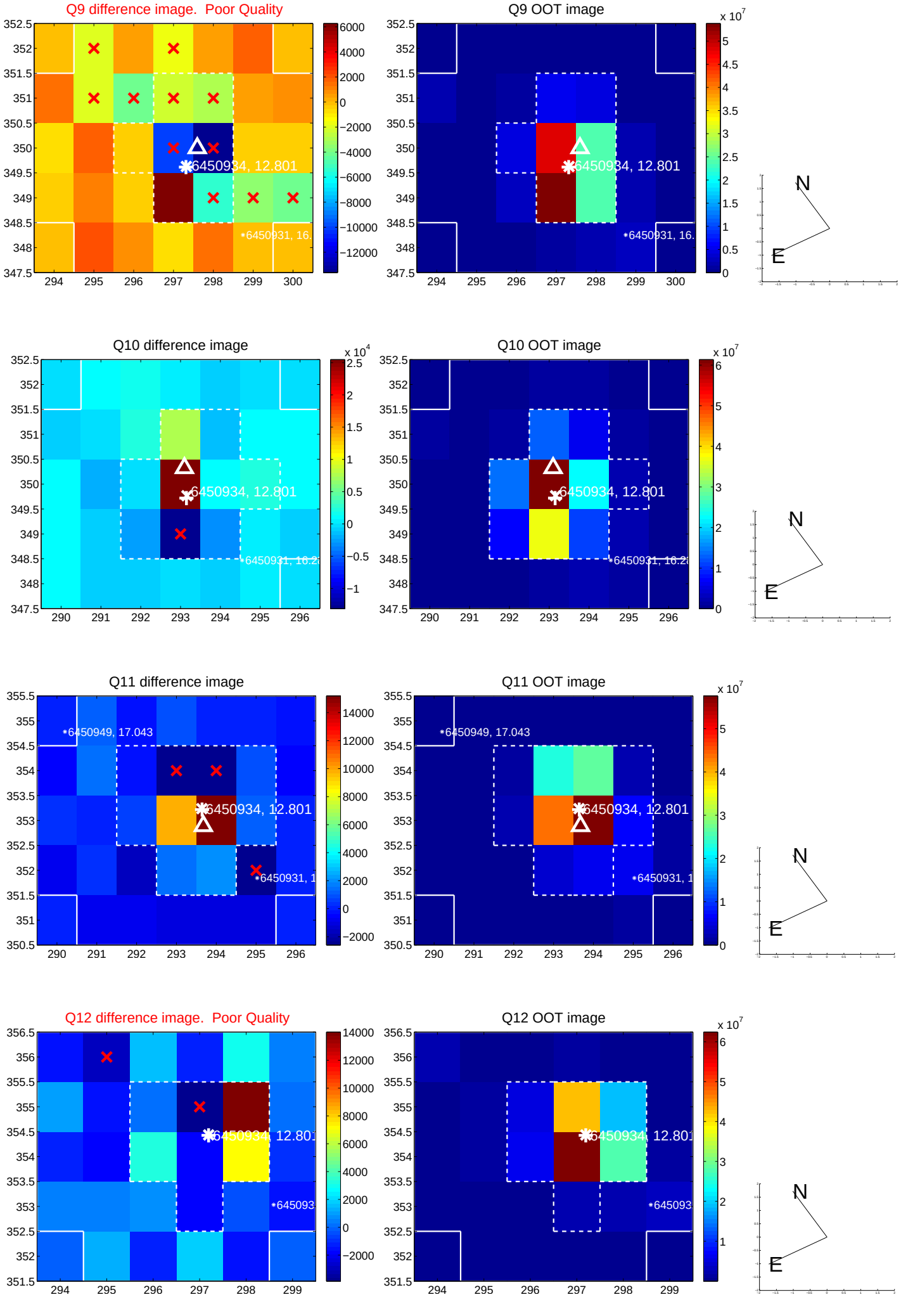




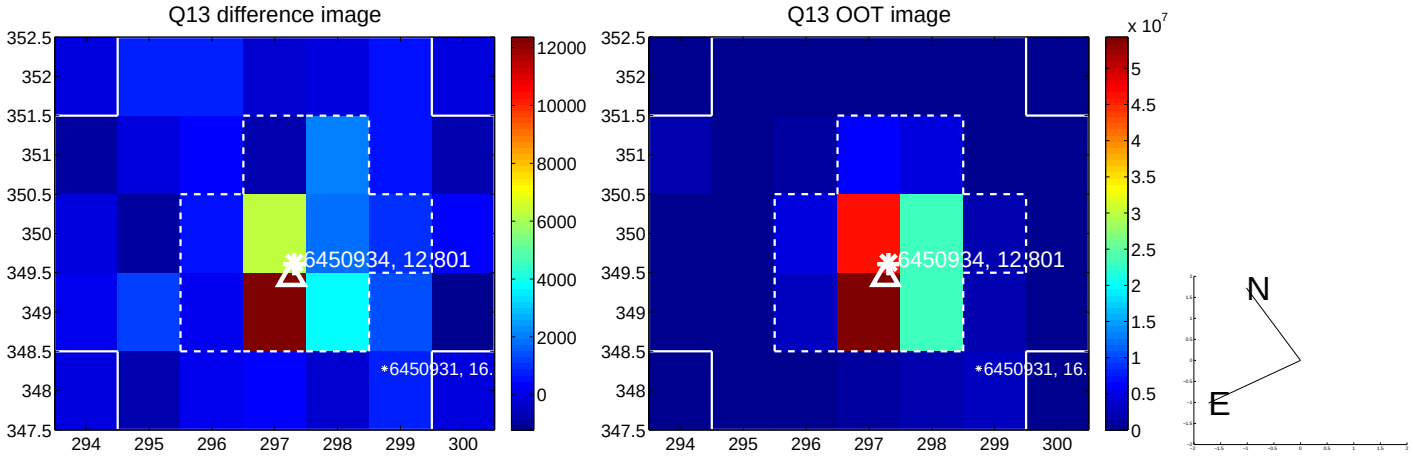


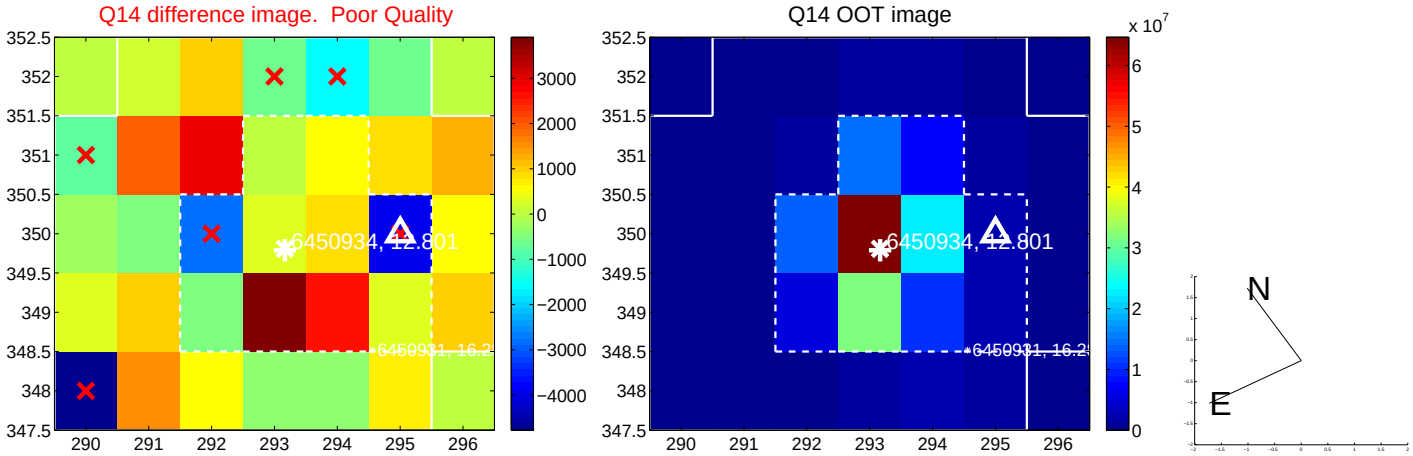


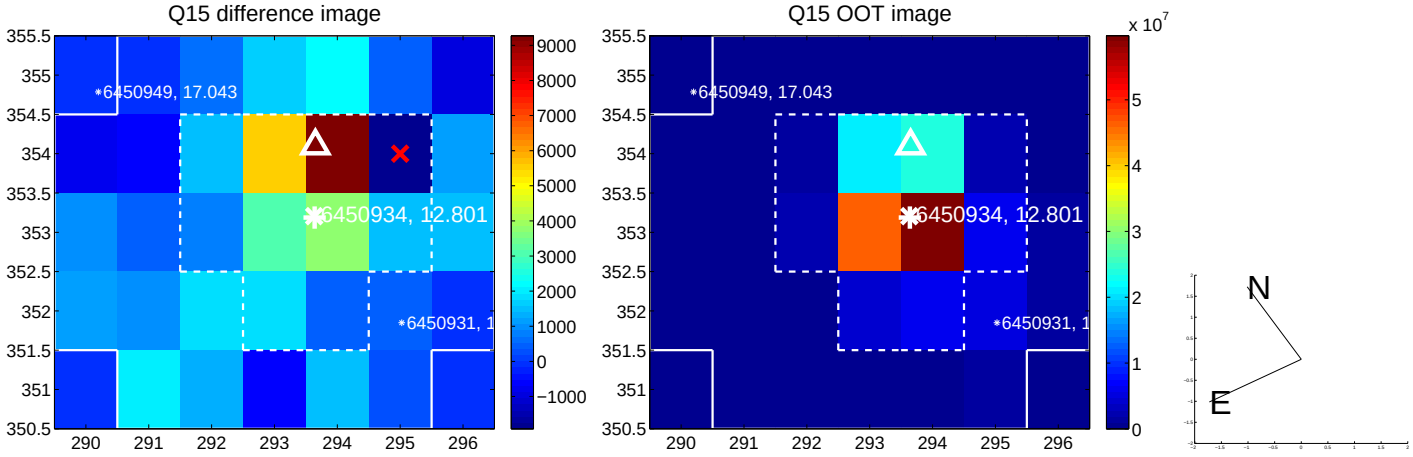
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

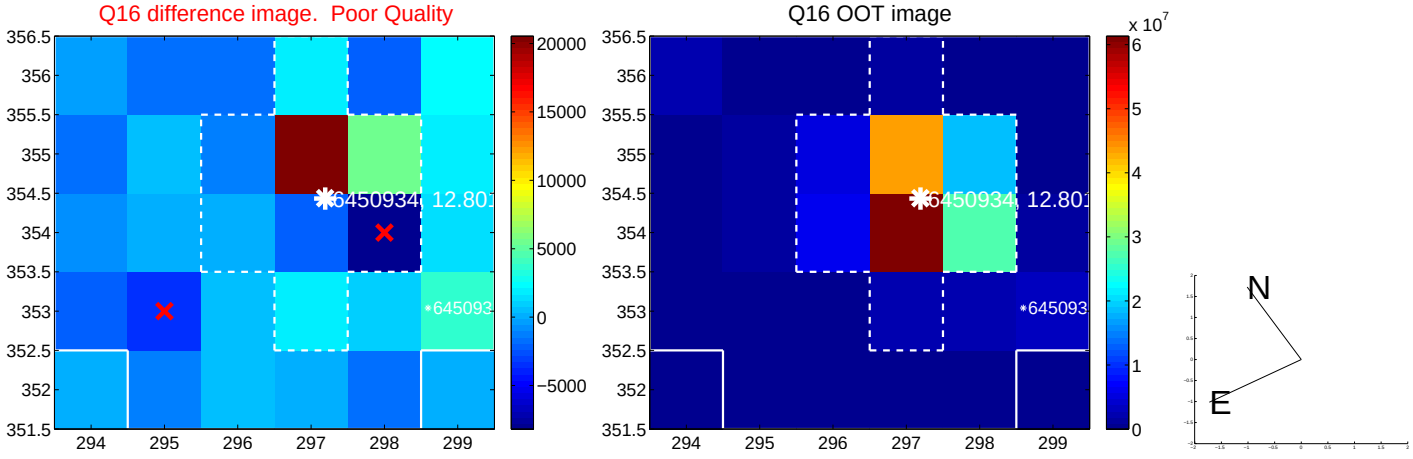


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

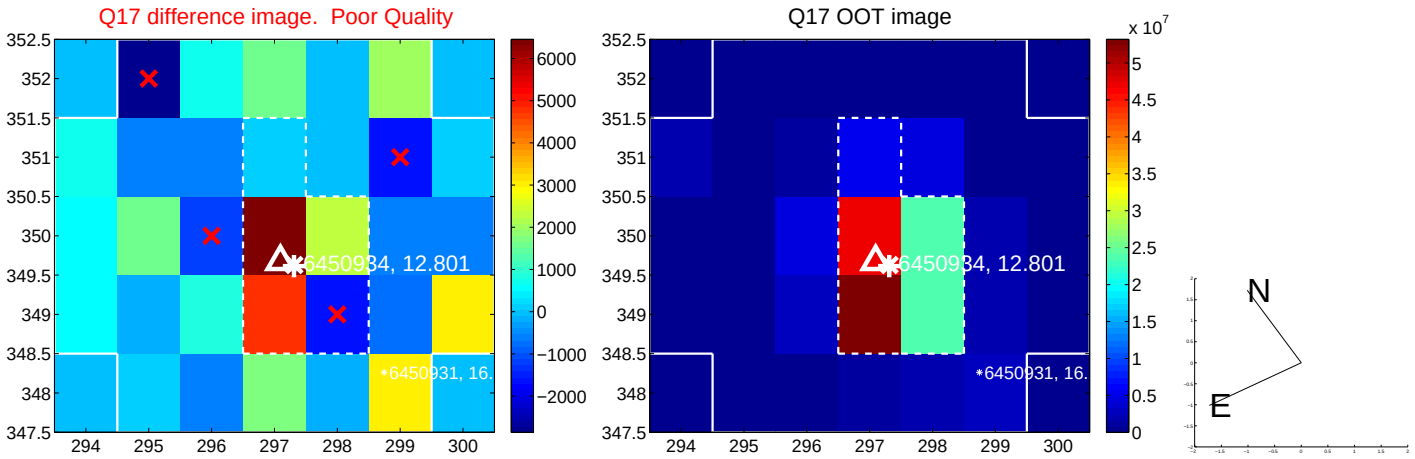


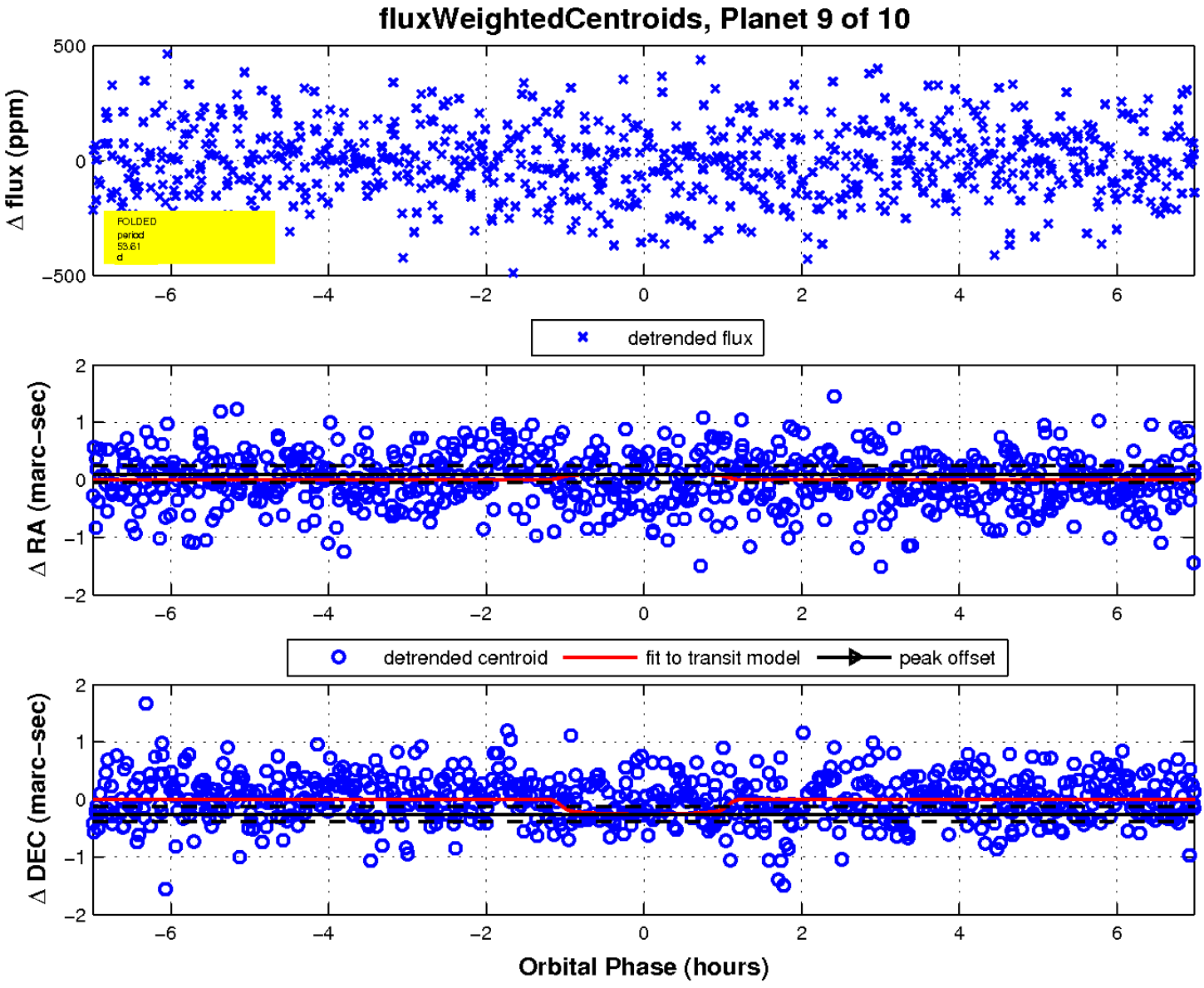




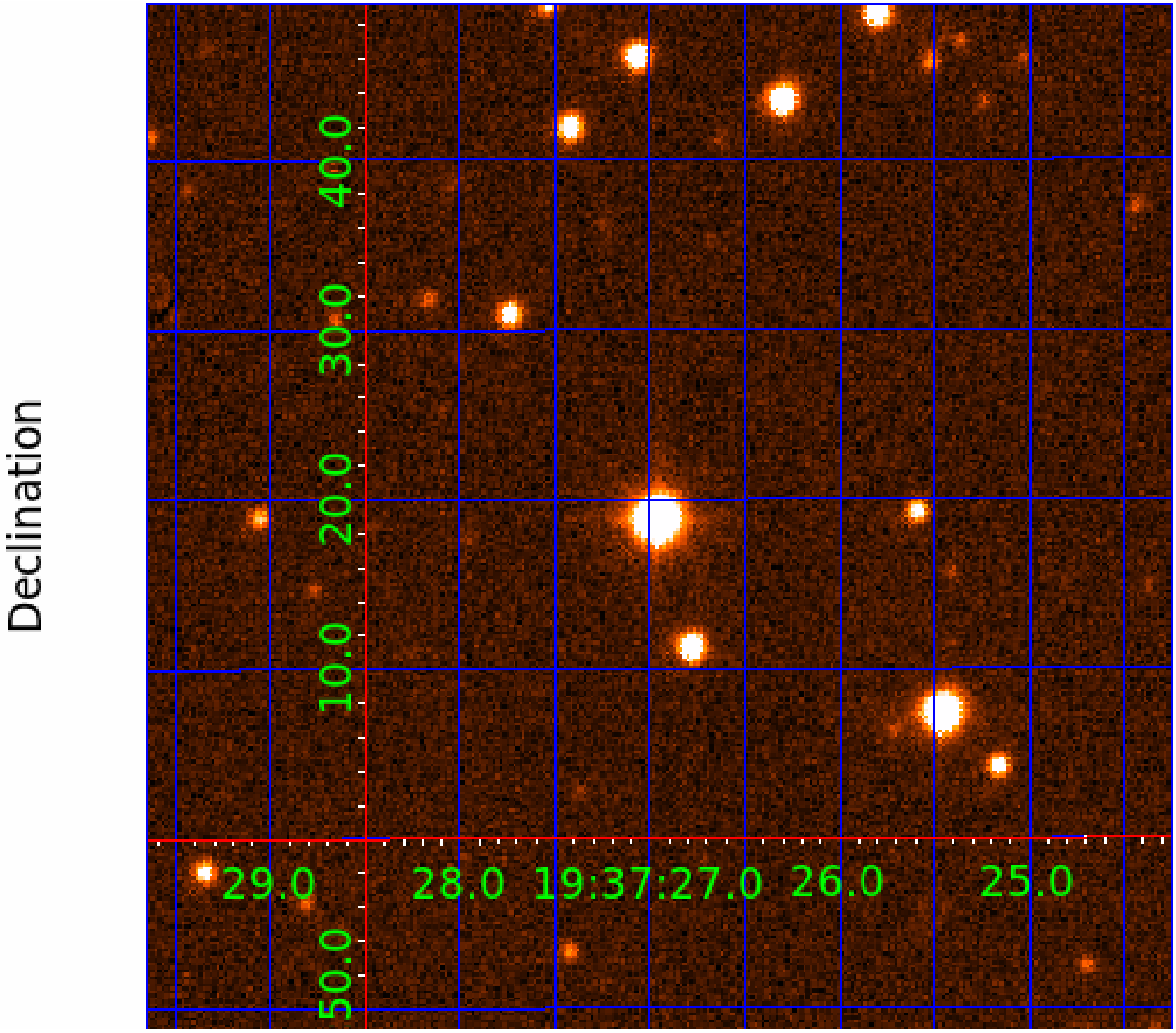


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image



KIC 006450934

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 ($S_\oplus$)
006450934-01	OBS	No	1.673031	133.058235	15.6	9.741	8.6	7.7	3.67	6754	1.68	22917.39
006450934-02	OBS	No	560.122385	433.162255	343.5	73.386	10.7	8.0	3.67	6754	8.66	9.86
006450934-03	OBS	No	68.232639	147.673666	158.9	5.895	9.5	7.3	3.67	6754	5.36	163.25
006450934-05	OBS	No	115.140159	170.976939	281.4	3.503	8.8	9.3	3.67	6754	6.90	81.26
006450934-06	OBS	No	66.664527	187.032969	240.6	3.555	8.7	9.2	3.67	6754	6.53	168.39
006450934-07	OBS	No	180.351292	298.067471	287.6	4.343	8.2	9.8	3.67	6754	7.16	44.67
006450934-08	OBS	No	50.053289	160.466595	281.2	2.001	8.2	9.1	3.67	6754	7.17	246.75
006450934-09	OBS	No	53.612809	177.650997	217.0	2.333	7.8	7.9	3.67	6754	6.30	225.15
006450934-10	OBS	No	75.681529	146.869509	174.7	3.821	8.0	7.9	3.67	6754	5.64	142.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006450934-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006450934-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006450934-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
006450934-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006450934-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006450934-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

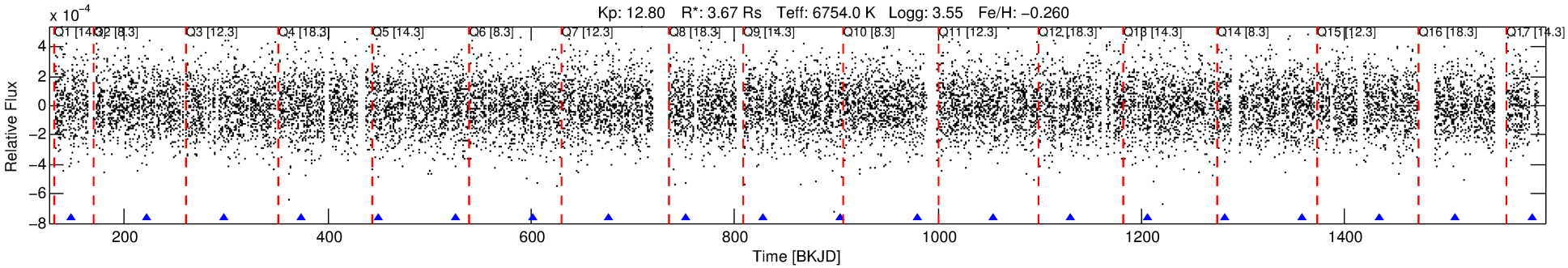
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

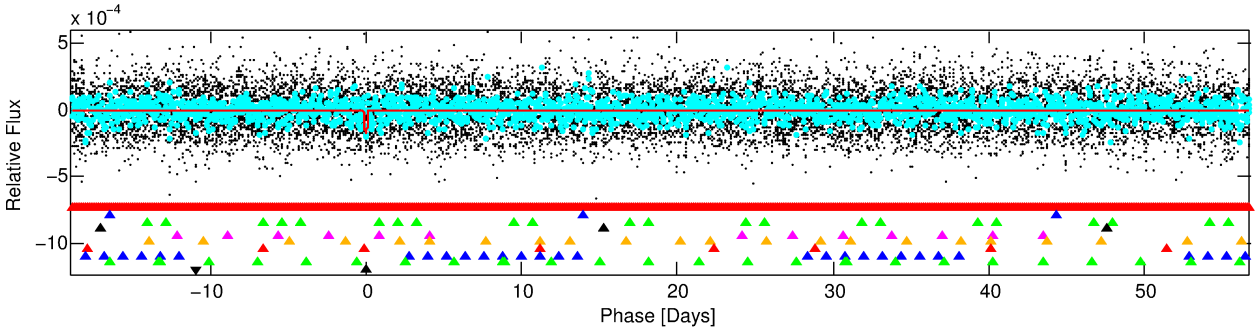
Ephemeris Match Information For 006450934-10

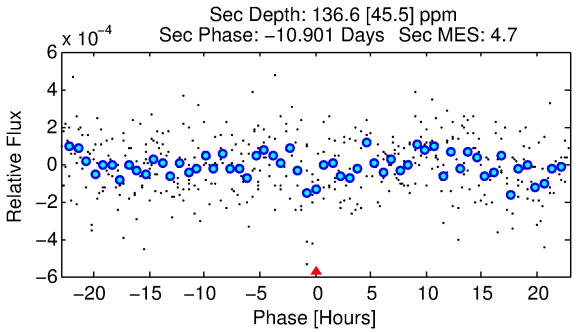
No Significant Match Found

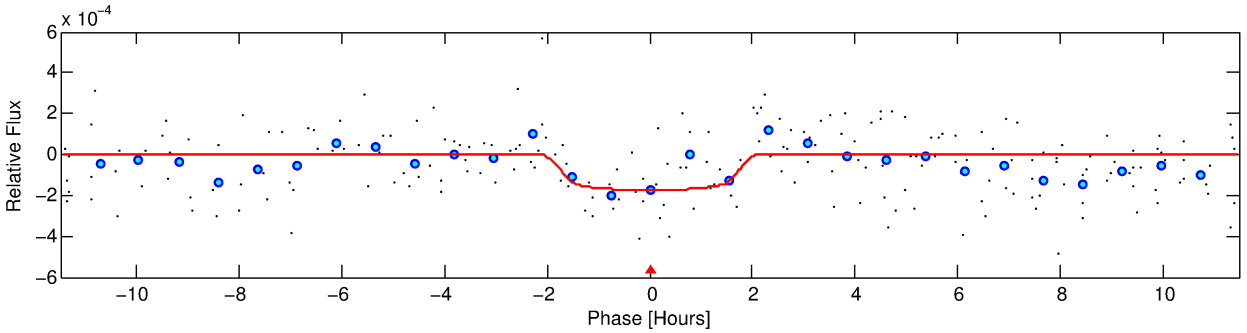
DV One-Page Summary

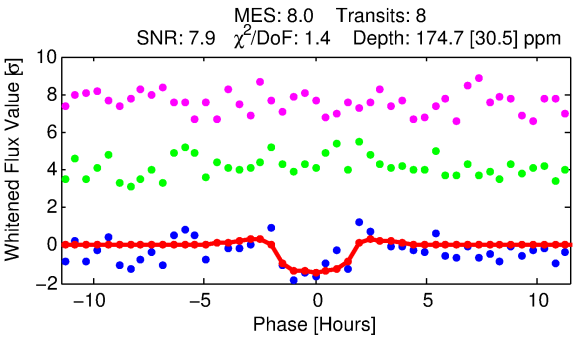
KIC: 6450934 Candidate: 10 of 10 Period: 75.682 d

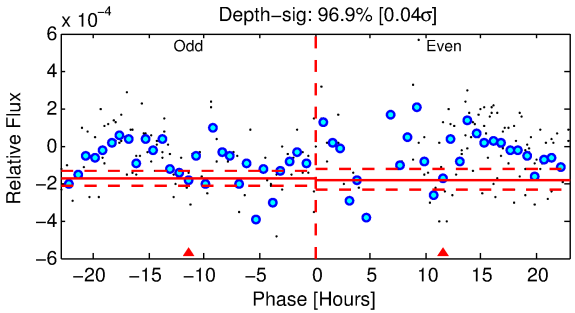


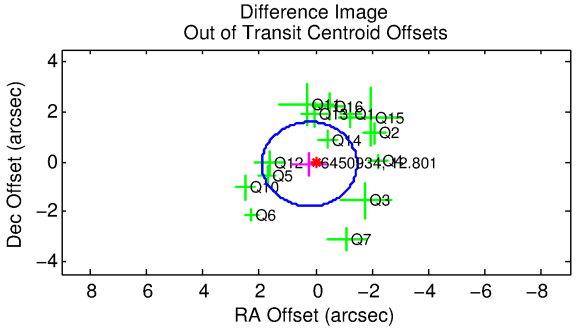












DV Fit Results:

Period = 75.68153 [0.00101] d
Epoch = 146.8695 [0.0133] BKJD
Rp/R* = 0.0141 [0.0084]
a/R* = 70.71 [249.02]
b = 0.90 [0.75]

Seff = 142.18 [83.73]
Teq = 881 [130] K
Rp = 5.64 [3.99] Re
a = 0.4201 [0.1531] AU

Ag = 416.45 [566.39] [0.73σ]
Teffp = 6150 [1903] K [2.76σ]

DV Diagnostic Results:

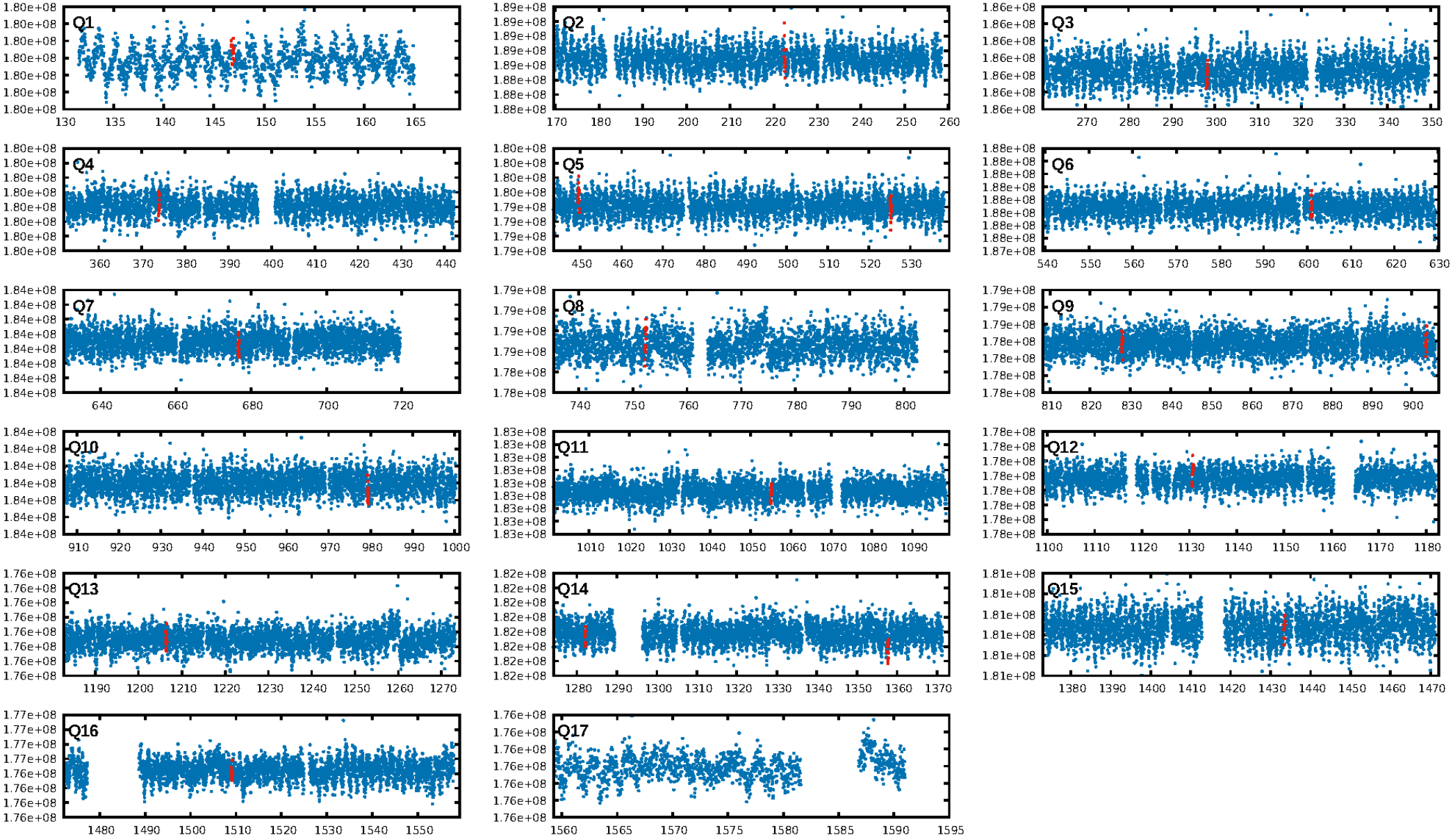
ShortPeriod−sig: 100.0% [25.45σ]
LongPeriod−sig: 100.0% [182.69σ]
ModelChiSquare2−sig: 4.0%
ModelChiSquareGof−sig: 99.9%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [8/8]
GhostDiagnostic−chr: −621.9

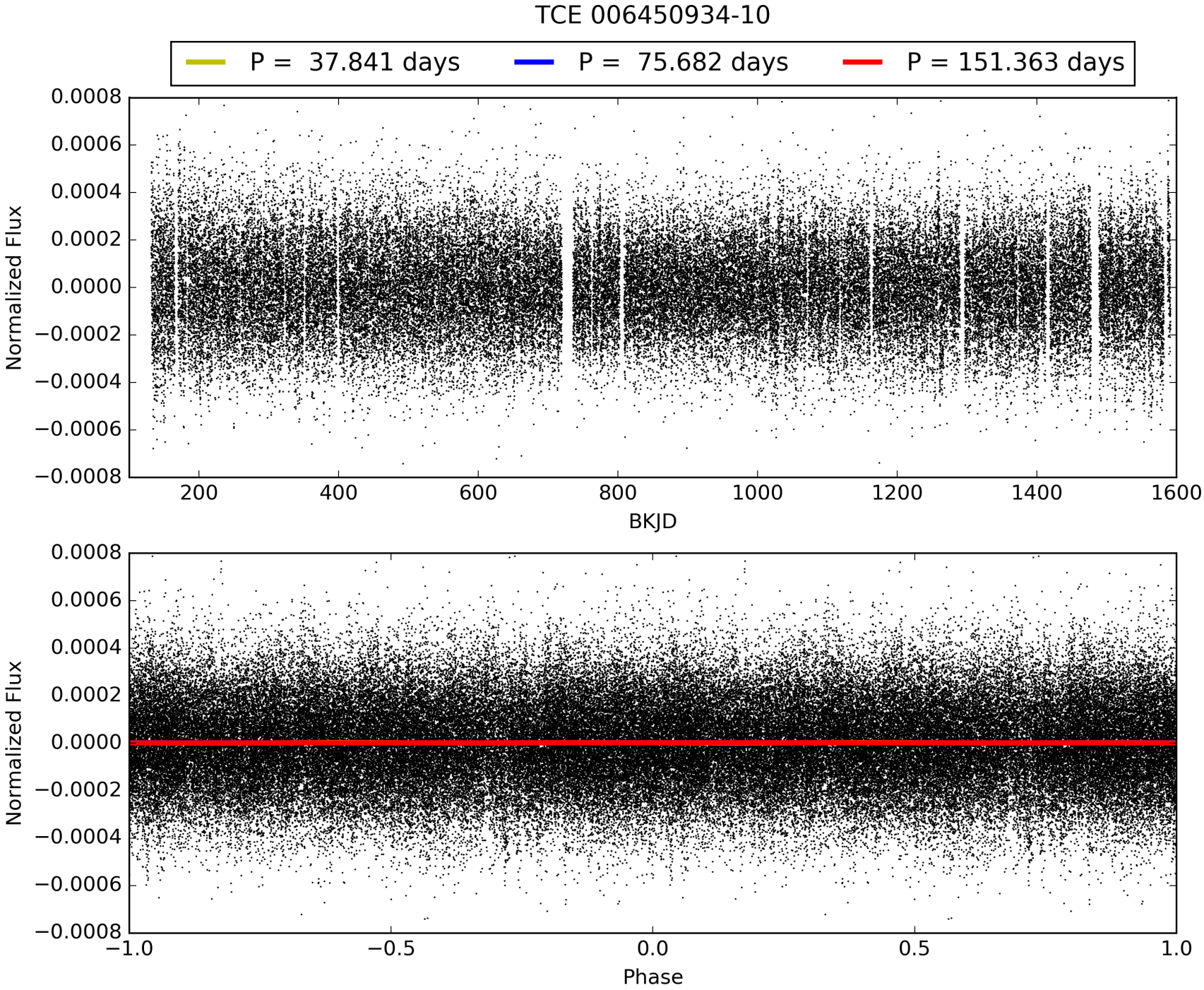
Centroid−sig: 1.4%
Centroid−so: 1.489 arcsec [2.06σ]
OotOffset−rm: 0.240 arcsec [0.43σ]
KicOffset−rm: 0.311 arcsec [0.56σ]
OotOffset−st: 4/4/3/3 [14]
KicOffset−st: 4/4/3/3 [14]
DiffImageQuality−fgm: 0.50 [7/14]
DiffImageOverlap−fno: 0.31 [5/16]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 03−Feb−2016 05:27:39 Z

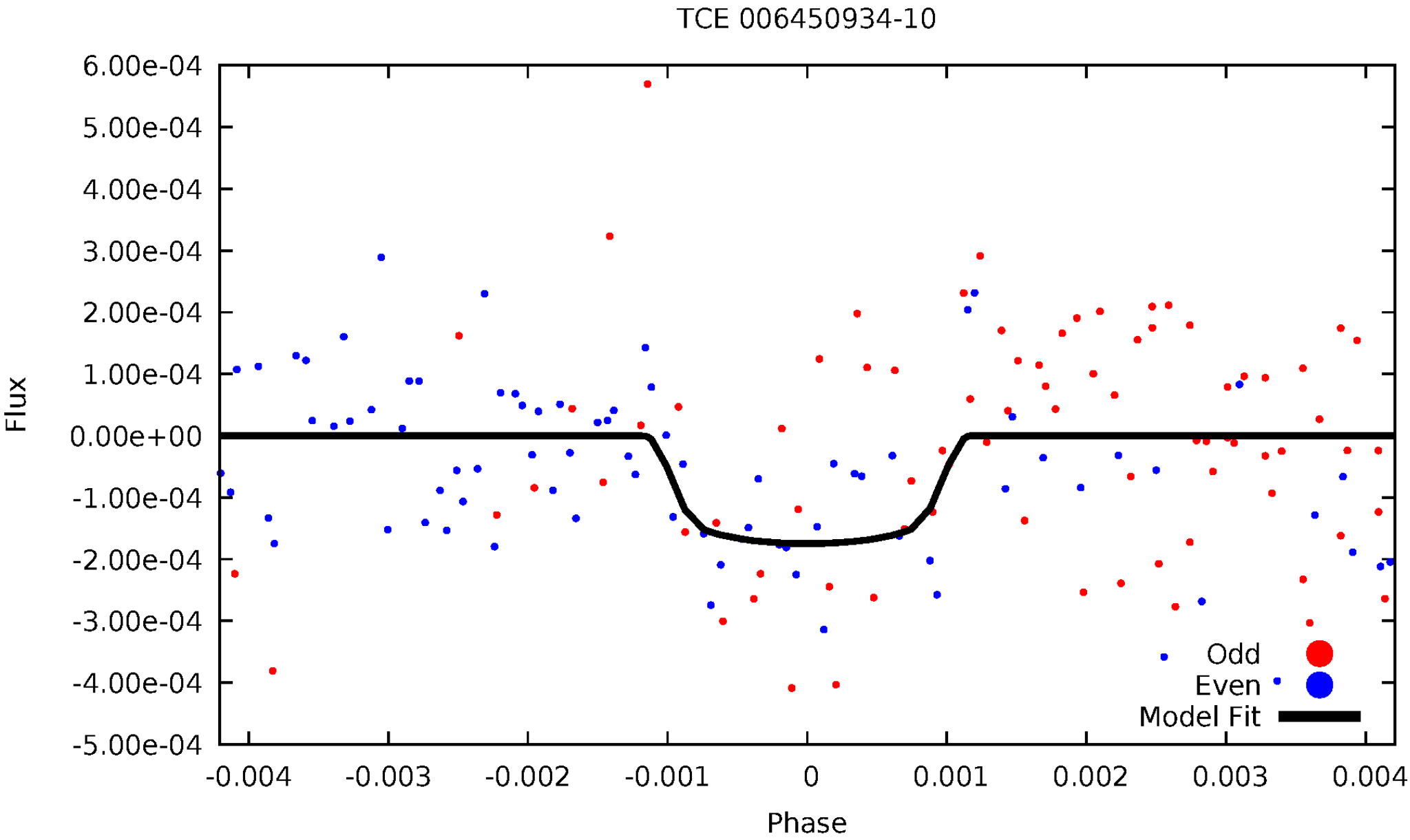
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

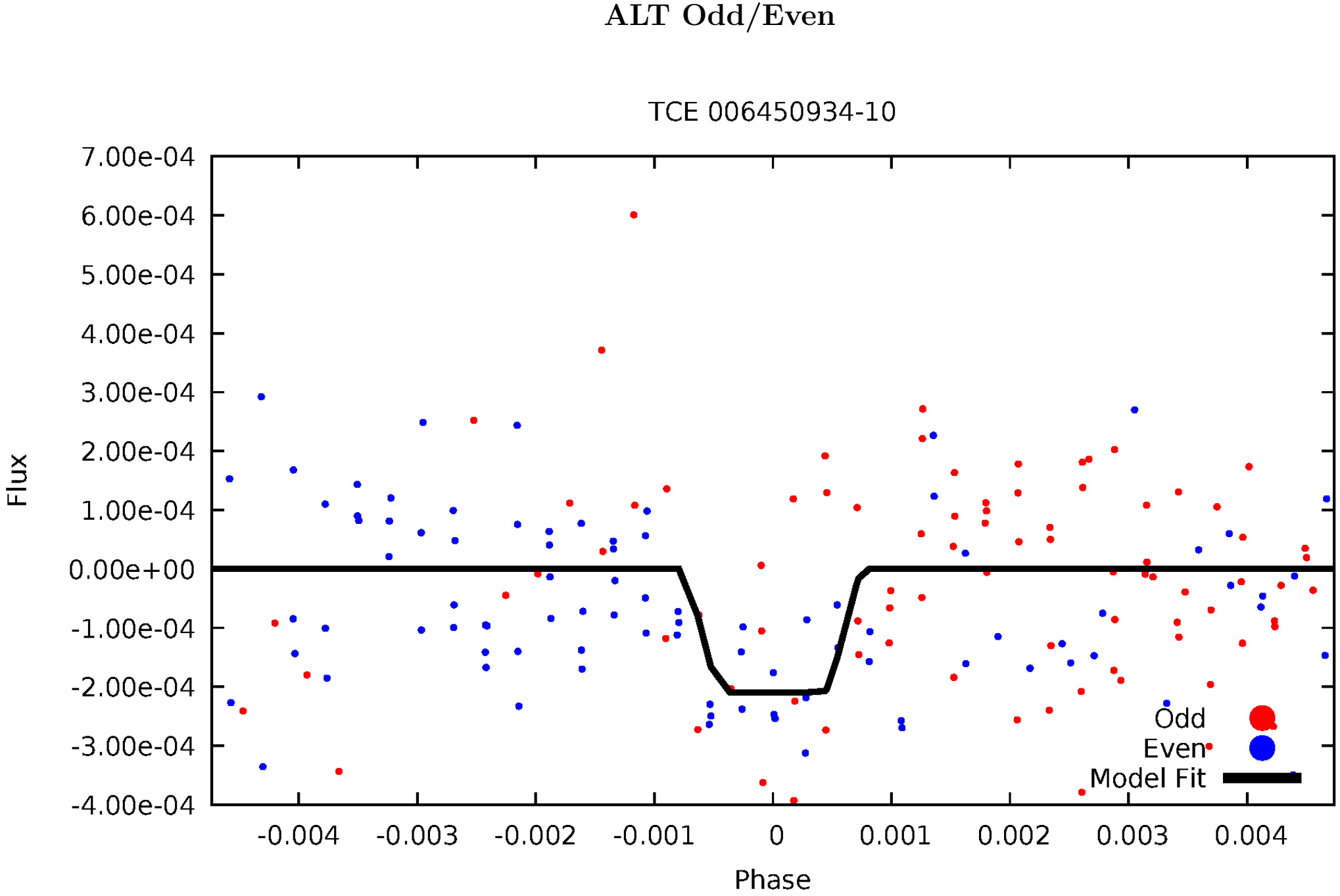
TCE 006450934-10, PDC Light Curves



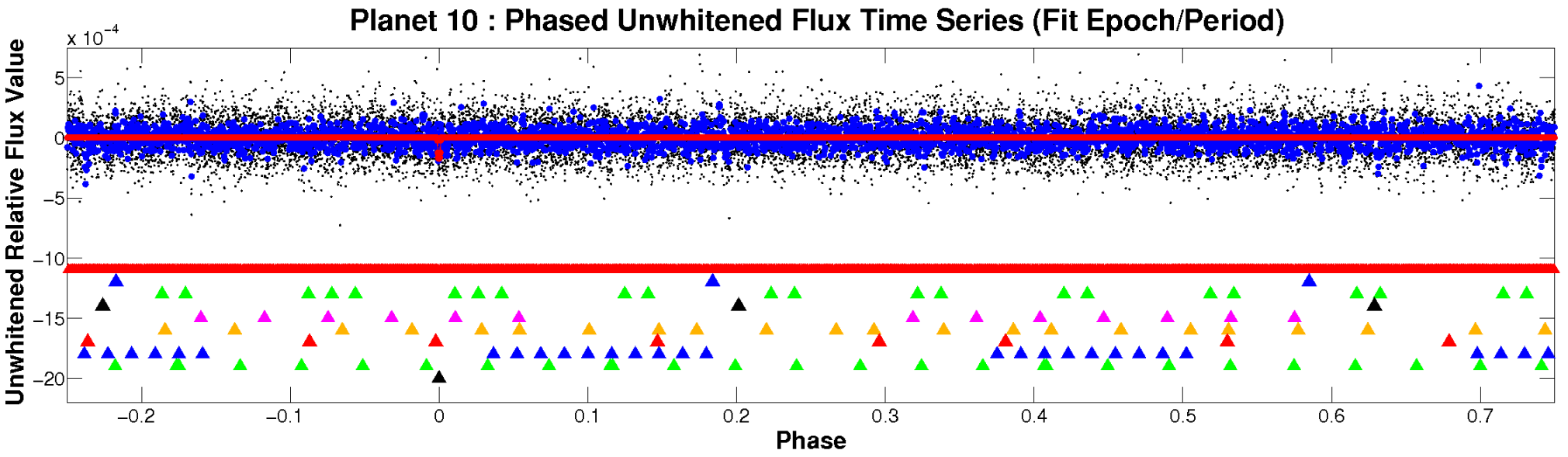

TCE 006450934-10
P = 37.841 days
P = 75.682 days
P = 151.363 days
Normalized Flux
0.0008
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
−0.0008
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
−1.0
−0.5
0.0
0.5
1.0
Phase

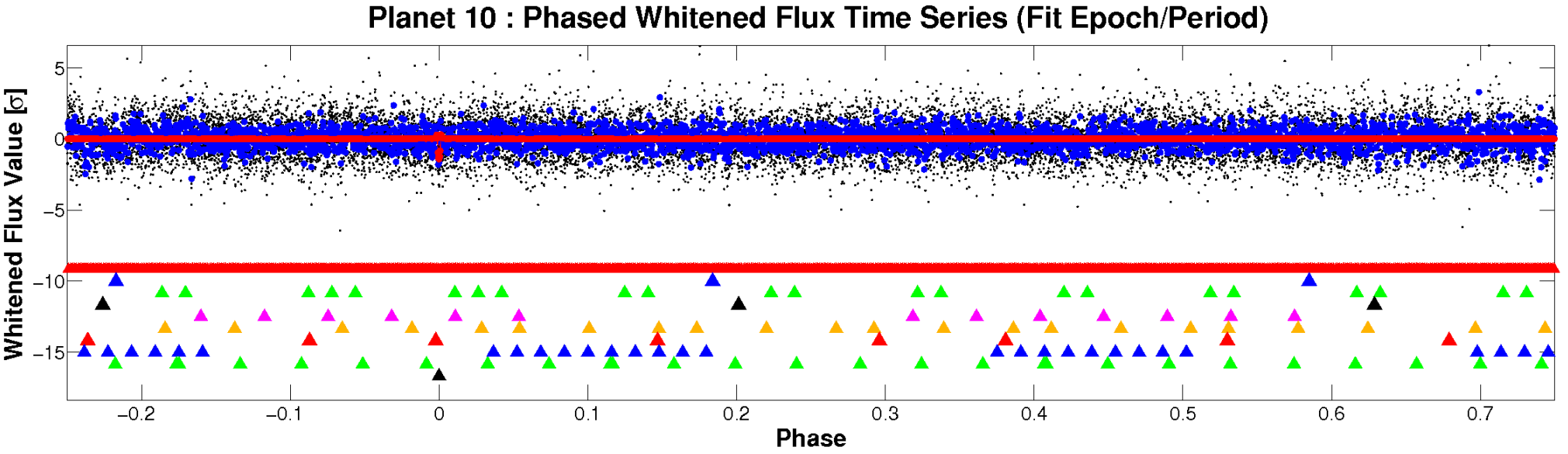
DV Odd/Even


TCE 006450934-10
Flux
6.00e-04
5.00e-04
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 006450934-10
7.00e-04
6.00e-04
5.00e-04
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
Flux
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
Phase
Odd
Even
Model Fit

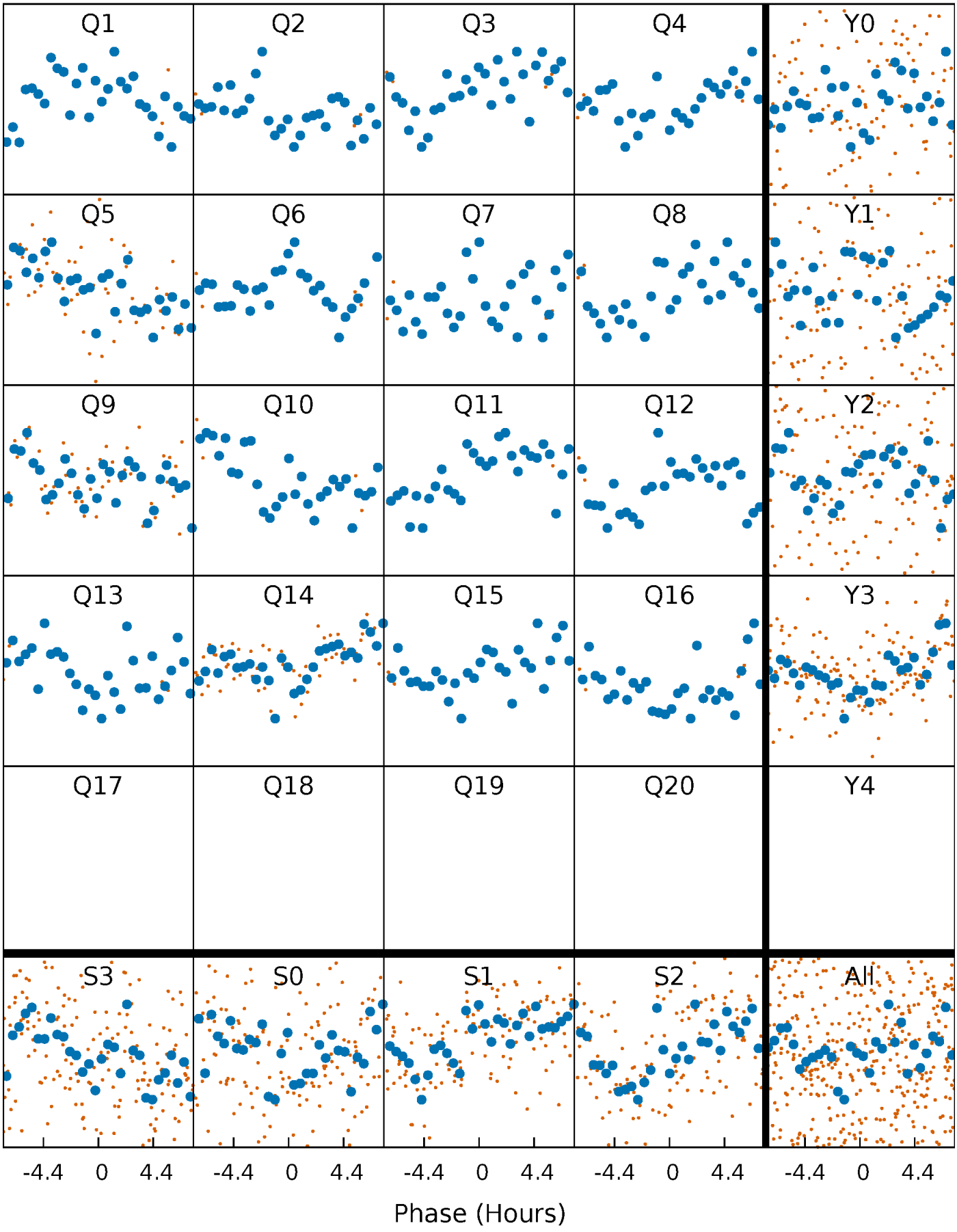
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 006450934-10 P= 75.681529 Days T_0=146.869509 (BKJD)



DV Quarter-Phased Transit Curves

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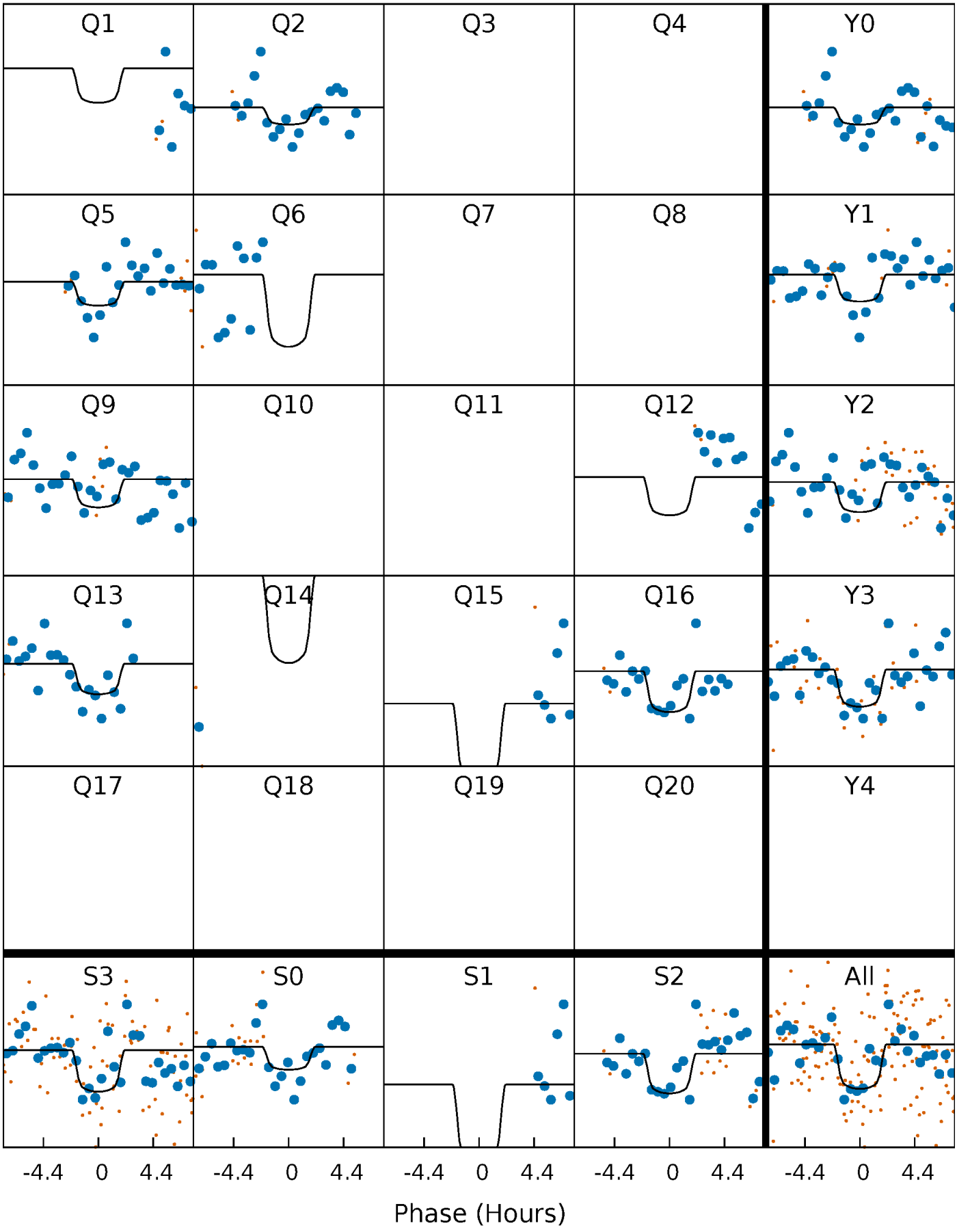
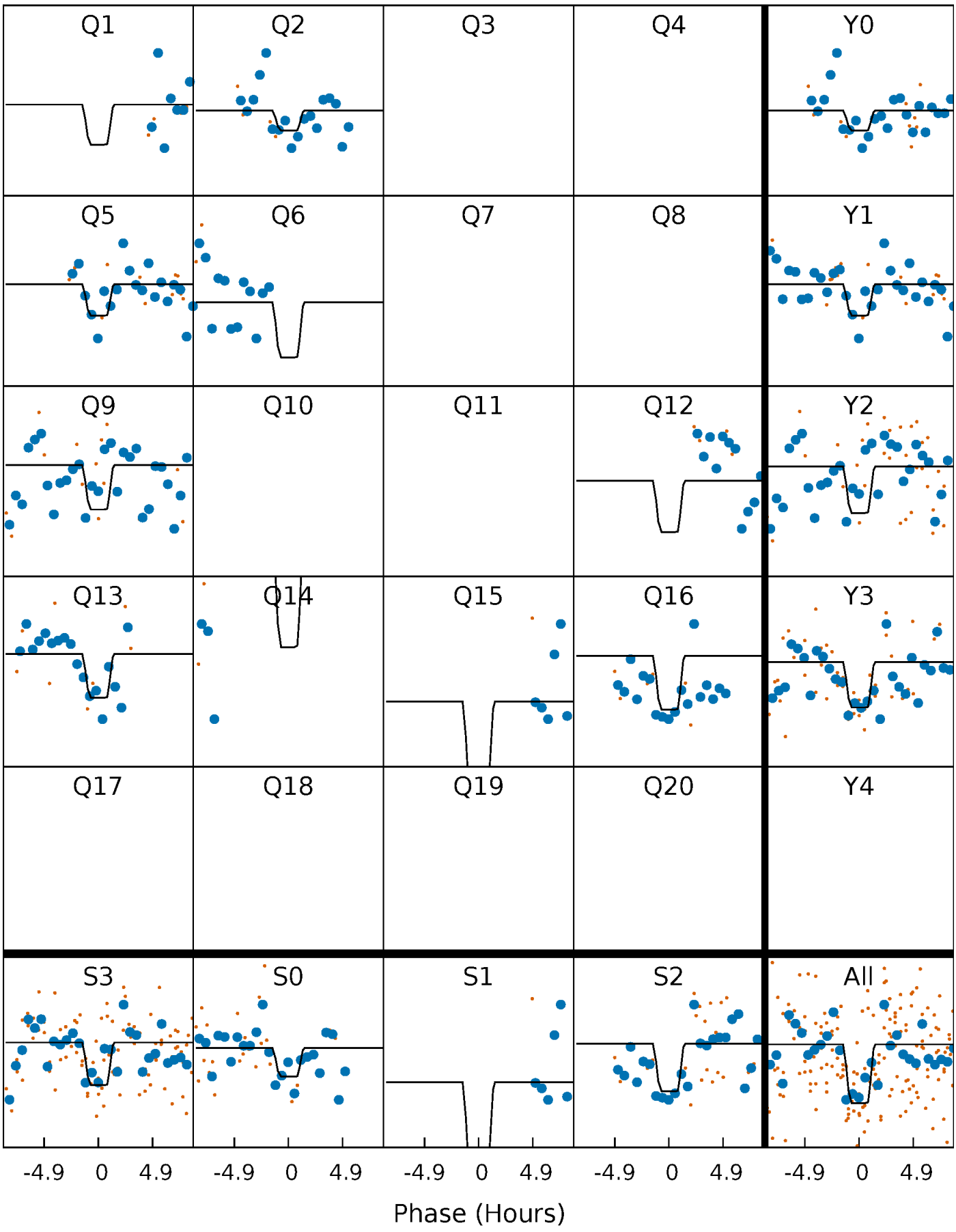


Alt. Detrend Quarter-Phased Transit Curves

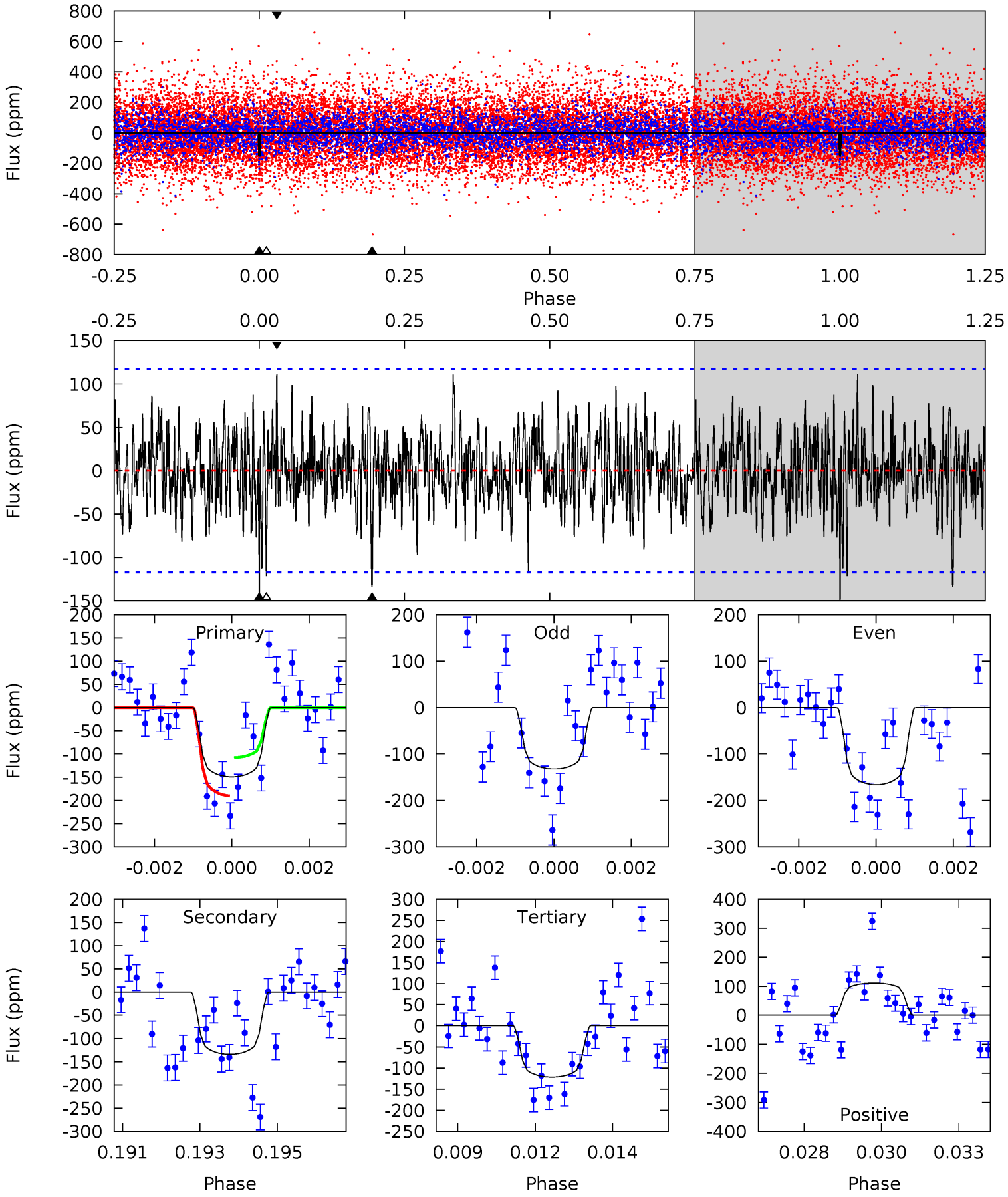
TCE 006450934-10 P= 75.680459 Days T_0=146.872856 (BKJD)



DV Model-Shift Uniqueness Test

006450934-10, P = 75.681529 Days, E = 71.187980 Days

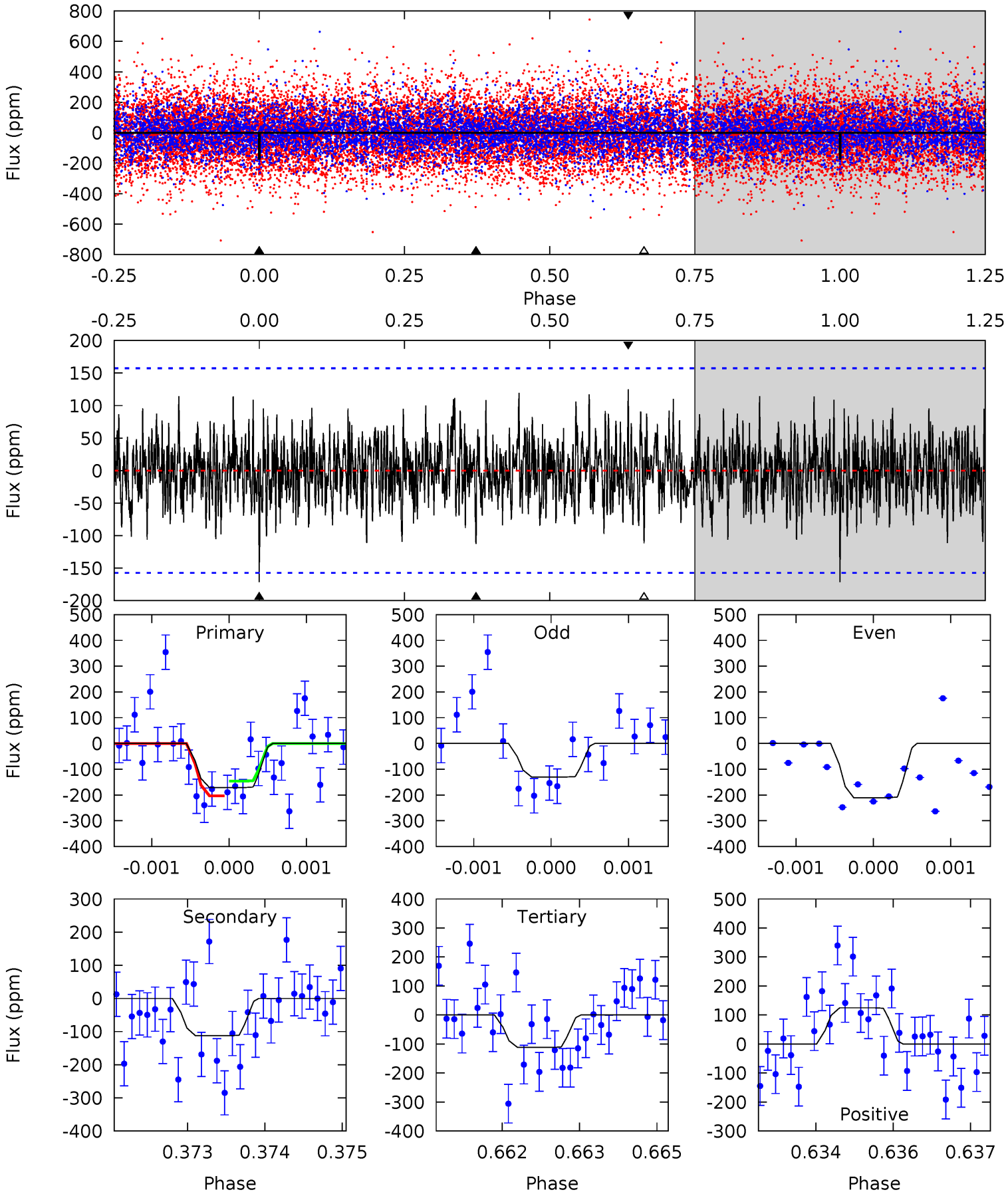
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.76	6.07	5.49	5.04	5.30	3.04	1.58	1.27	1.71	0.58	1.03	0.77	0.87	0.43	1.86



Alt Model-Shift Uniqueness Test

006450934-10, P = 75.680459 Days, E = 71.192397 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.86	3.85	3.82	4.27	5.39	3.19	1.29	2.04	1.59	0.03	-0.42	1.40	0.82	0.42	0.95



Stellar Parameters For KIC 006450934

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6754^{+183}_{-203}	$3.546^{+0.336}_{-0.084}$	$-0.260^{+0.300}_{-0.250}$	$3.669^{+0.354}_{-1.417}$	$1.723^{+0.198}_{-0.368}$	$0.049^{+0.129}_{-0.013}$
	+3%/-3%	+9%/-2%	+115%/-96%	+10%/-39%	+11%/-21%	+263%/-26%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006450934-10 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-134±22	$5.29^{+3.45}_{-2.70}$	1206^{+70}_{-98}	6001^{+3255}_{-1110}	453^{+1591}_{-285}
Alt.	-112±29	$5.57^{+3.14}_{-3.04}$	1206^{+67}_{-109}	5658^{+2804}_{-1001}	357^{+1336}_{-223}

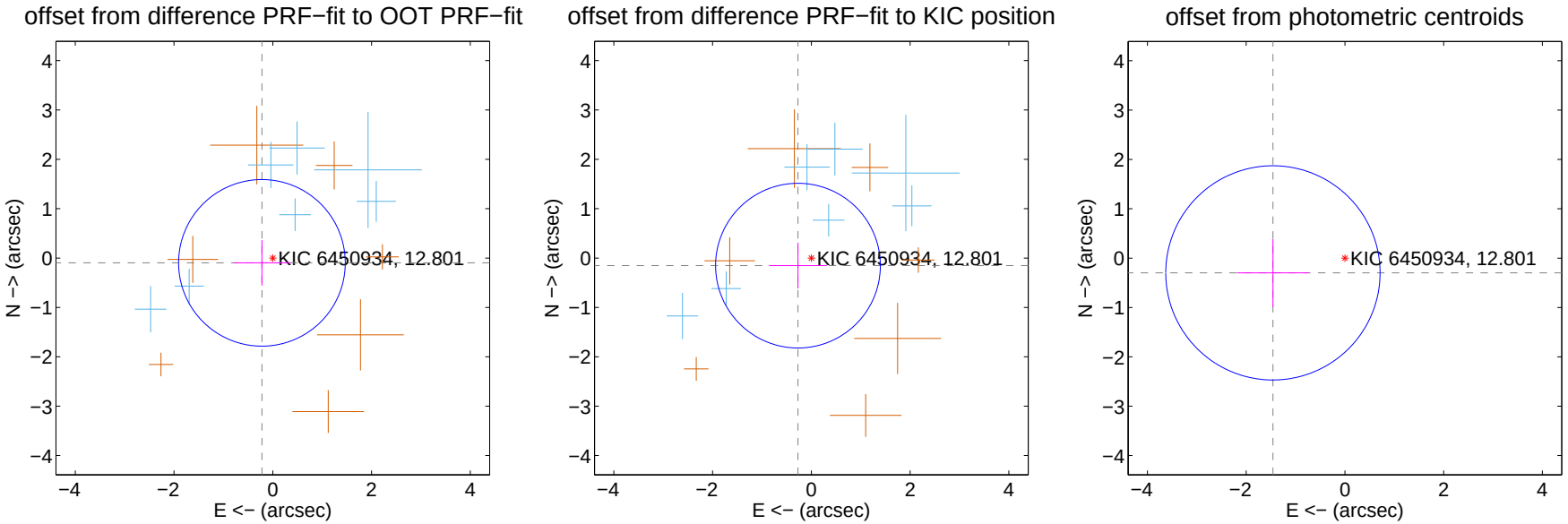
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

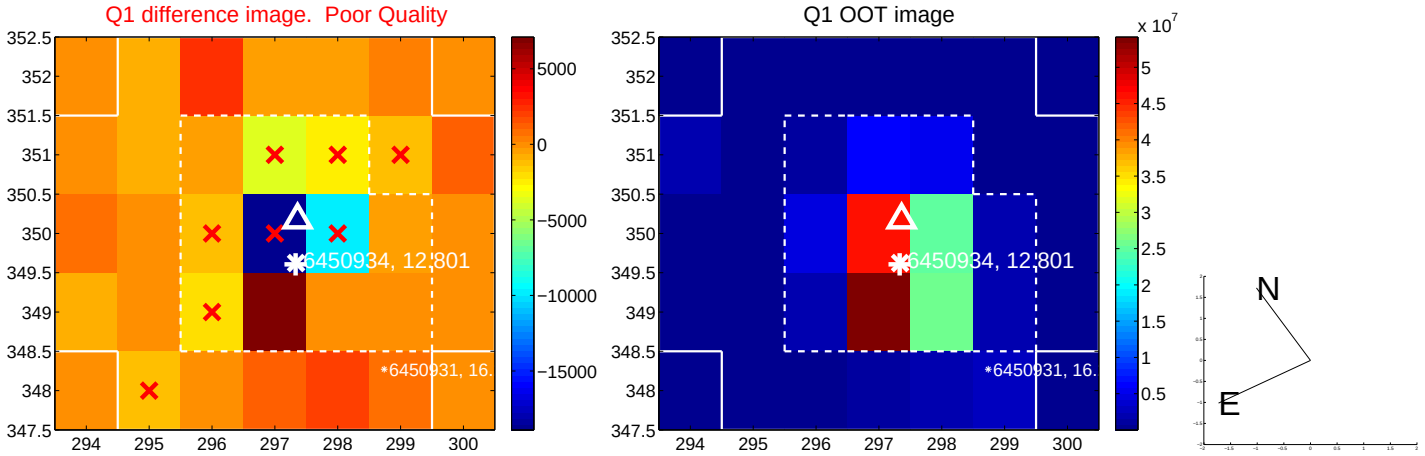
Supplemental centroid analysis for 006450934-10. Kepler magnitude: 12.80. Transit SNR 7.86
There are 7 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

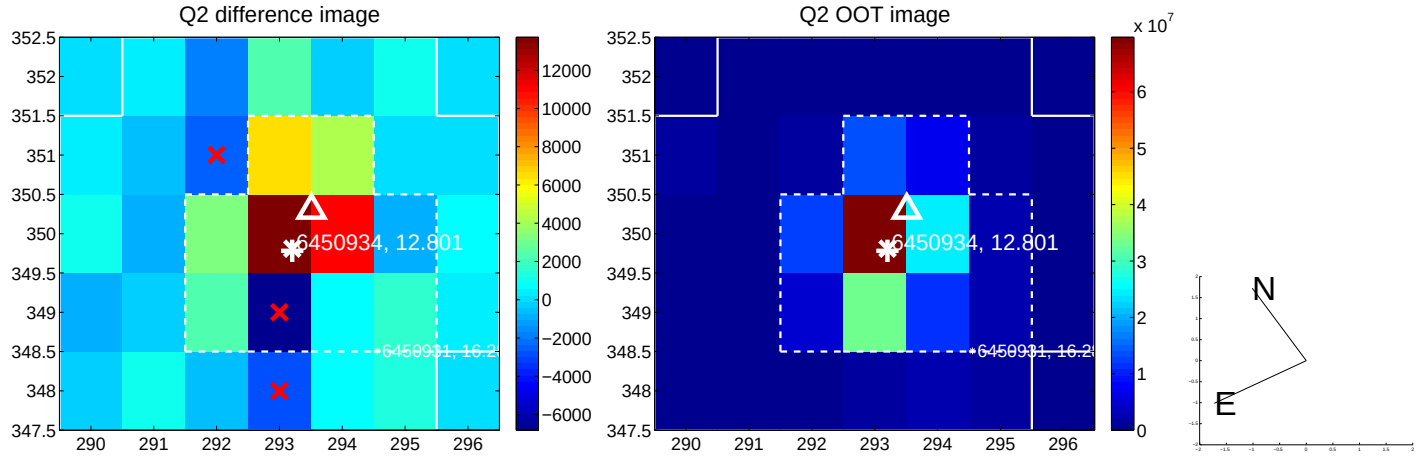
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.240 ± 0.562	0.43	0.220 ± 0.580	-0.097 ± 0.460
PRF-fit source offset from KIC position	0.311 ± 0.556	0.56	0.271 ± 0.583	-0.153 ± 0.463
photometric centroid source offset	1.49 ± 0.72	2.06	1.46 ± 0.72	-0.30 ± 0.69

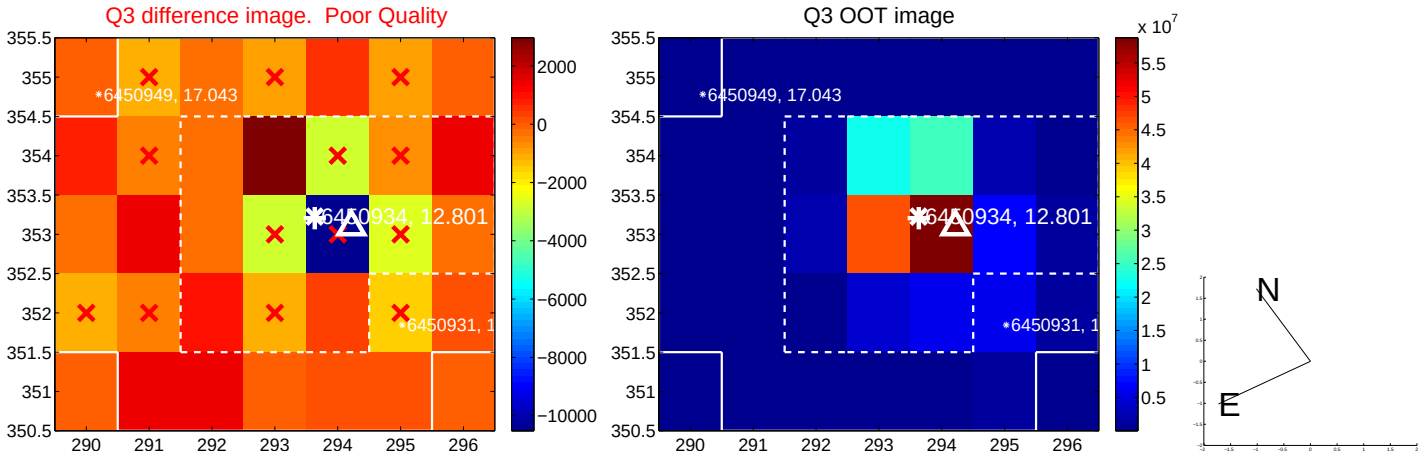


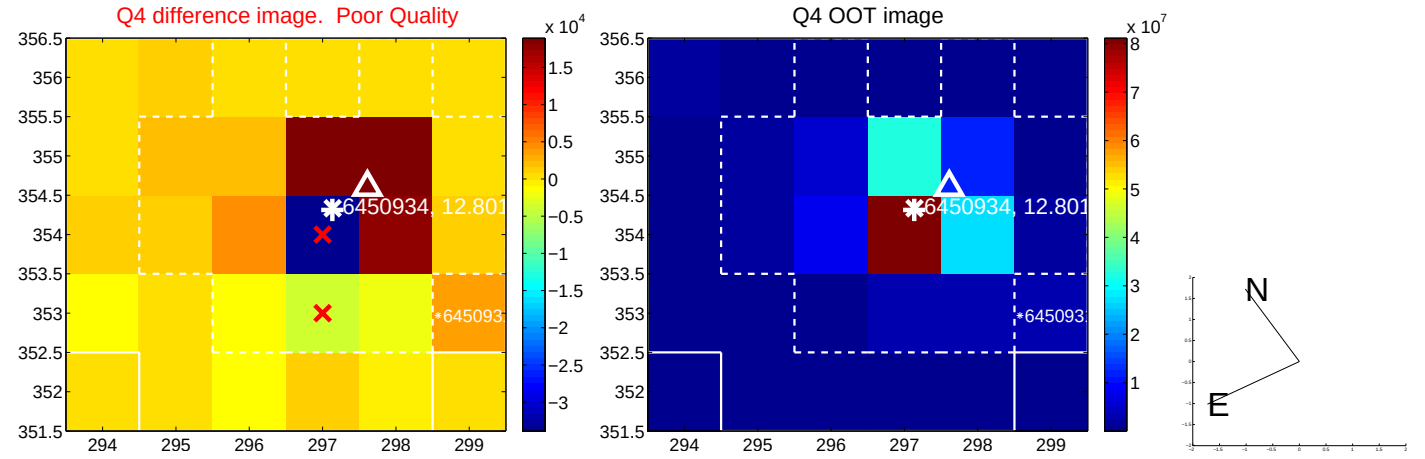
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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









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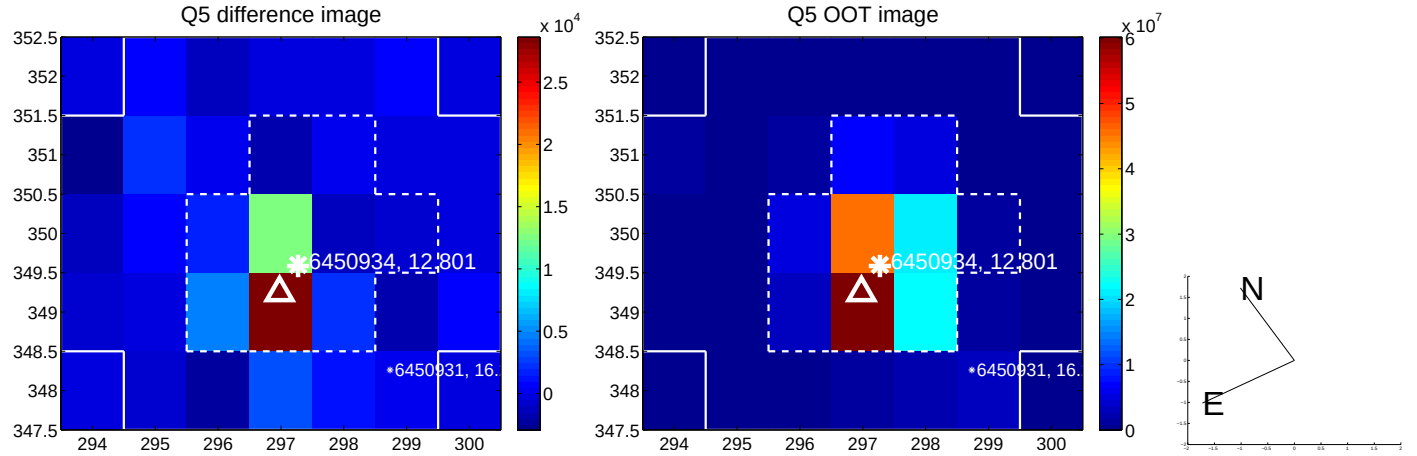

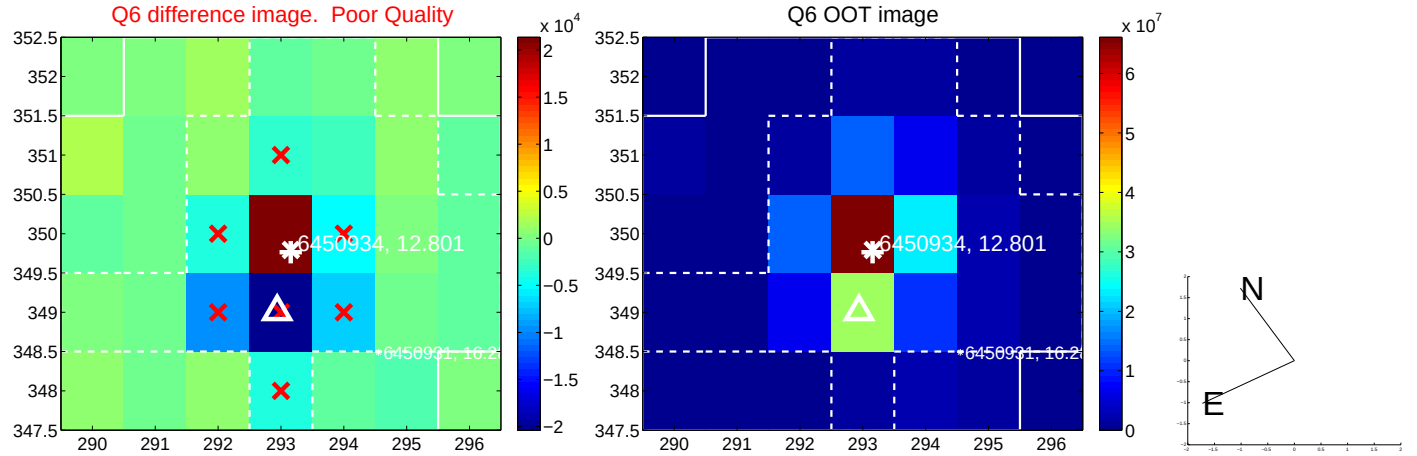

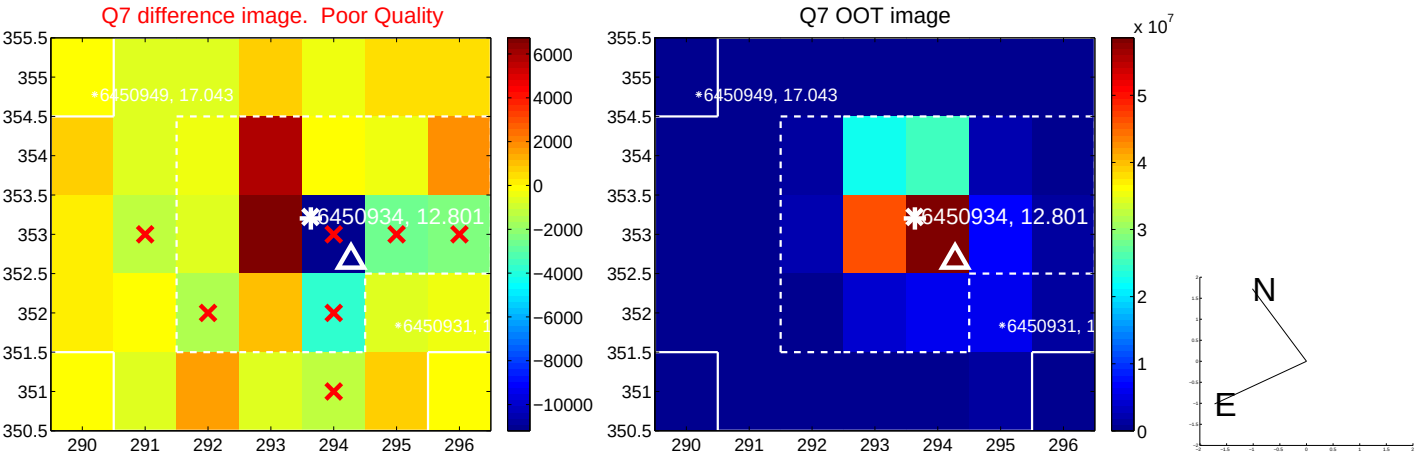

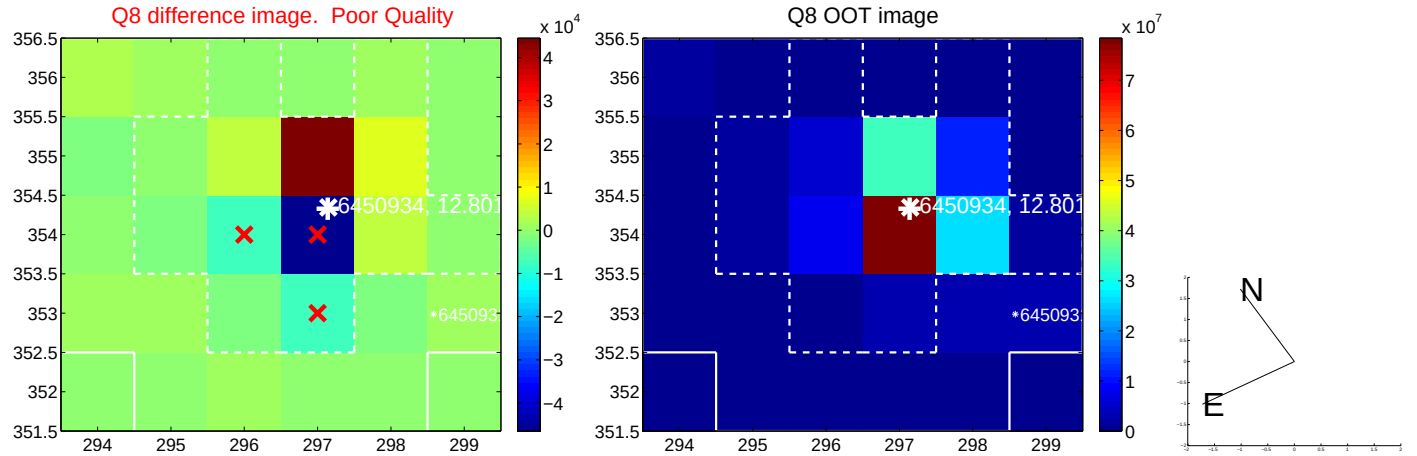

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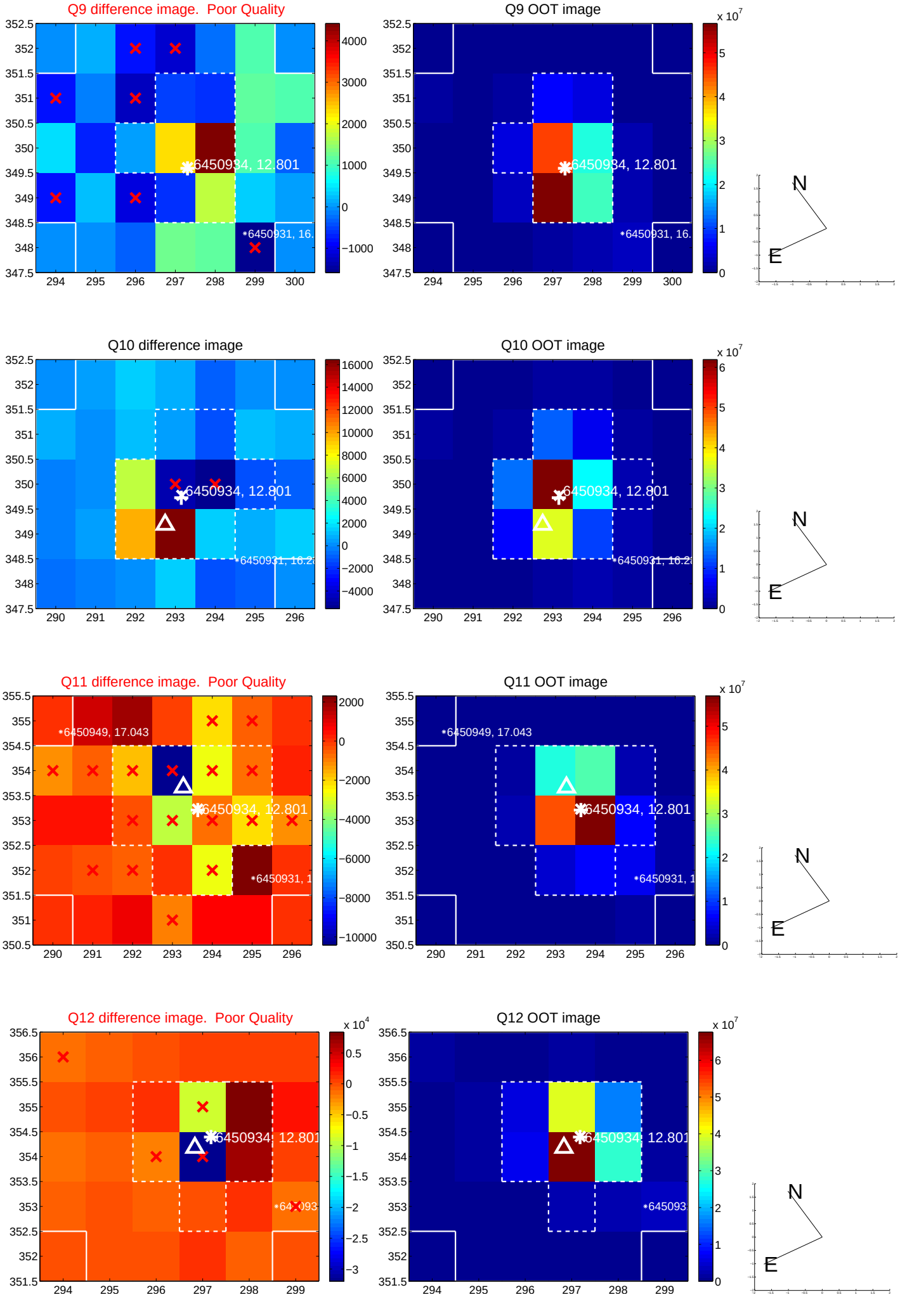

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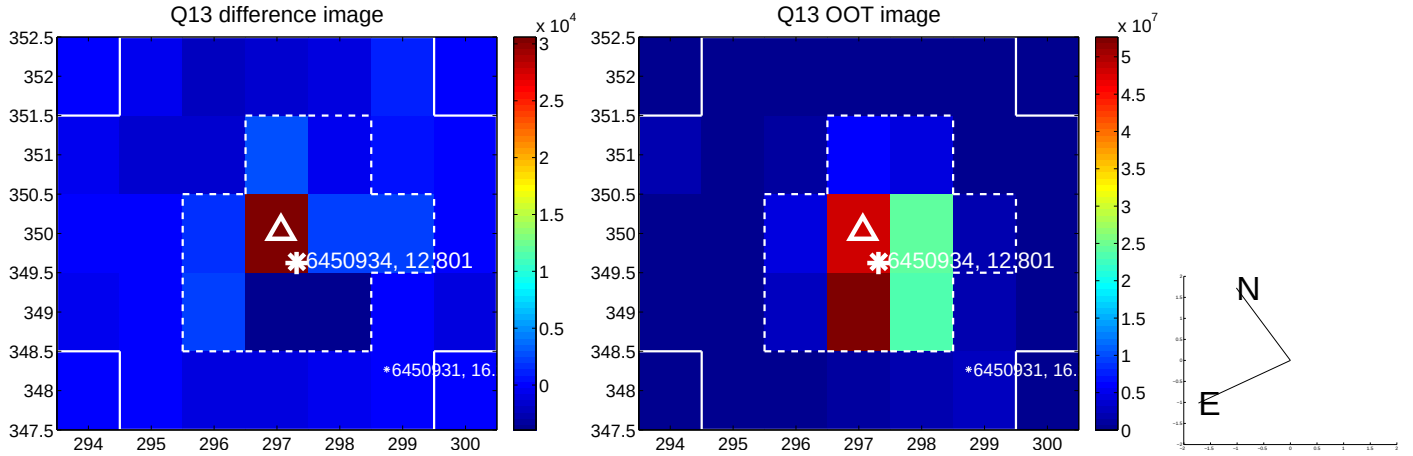

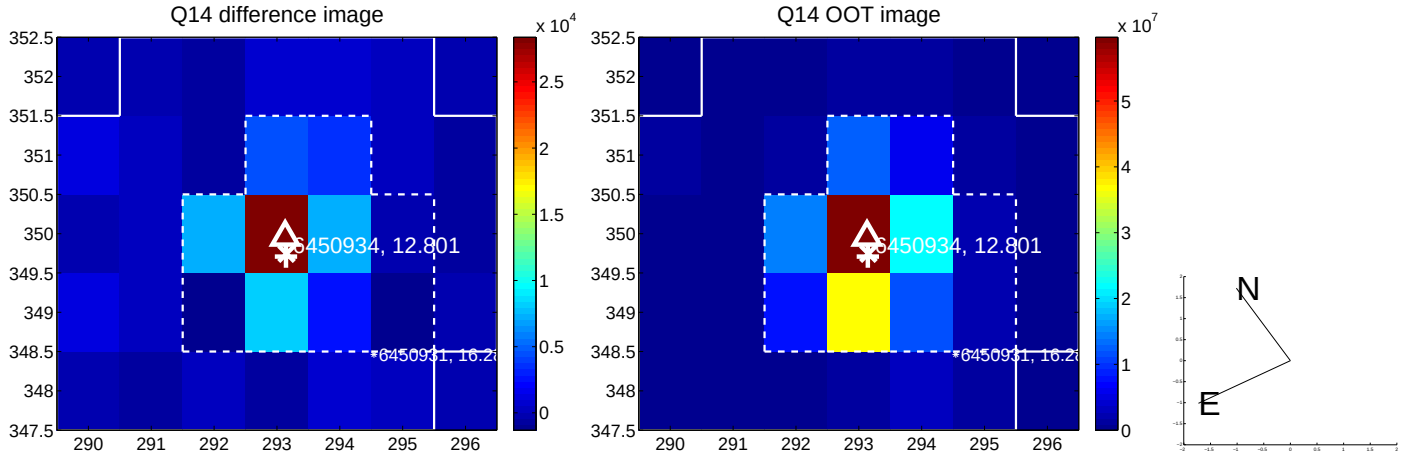

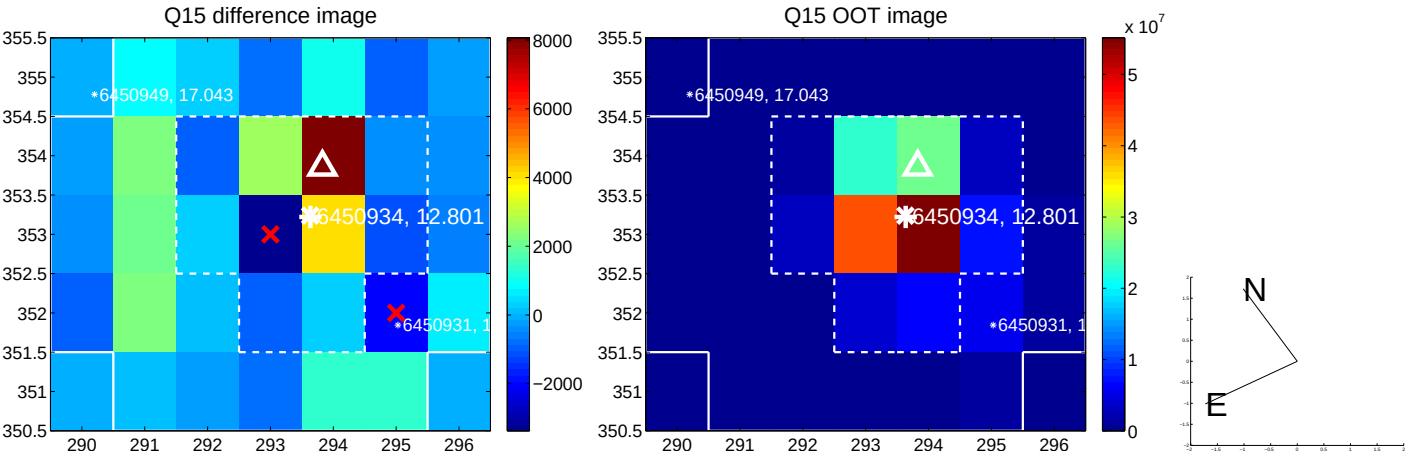

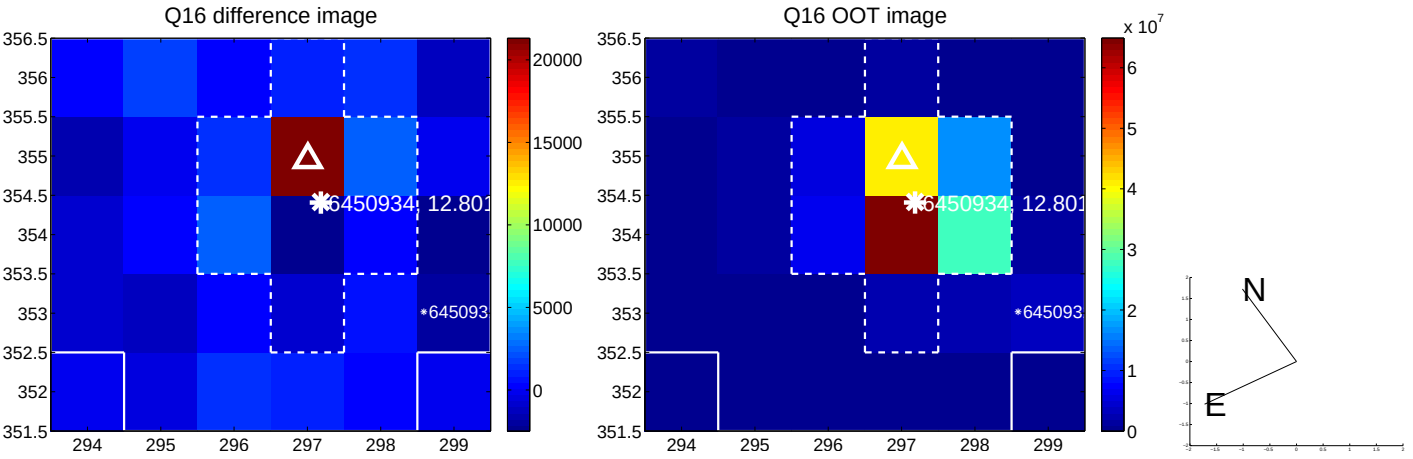

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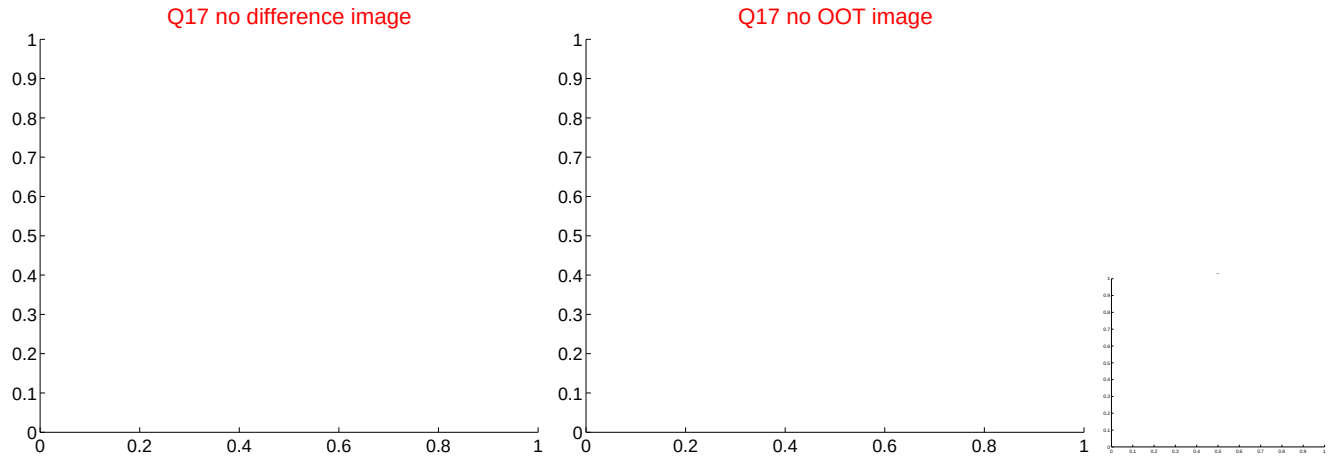

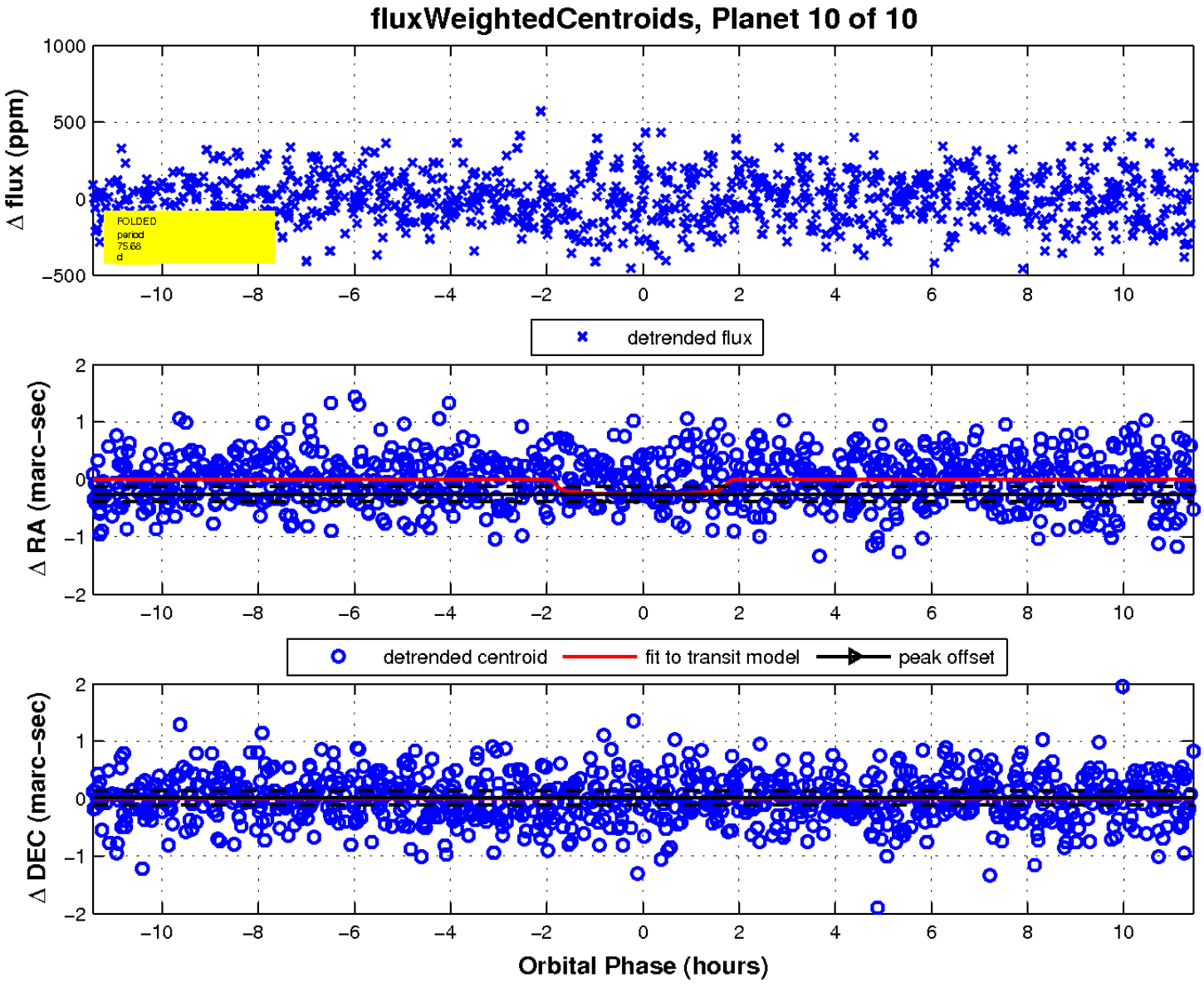
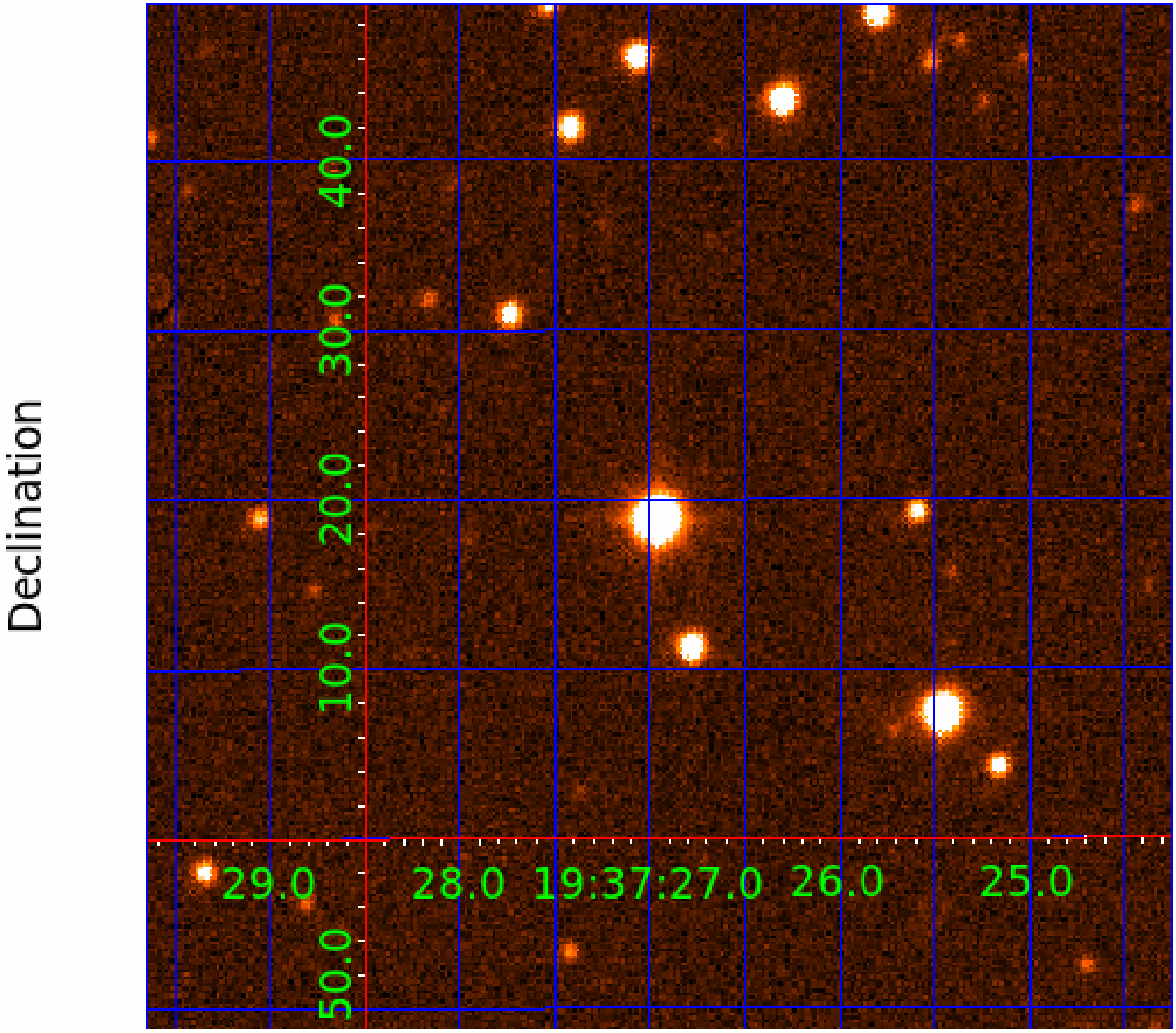
UKIRT Image