KIC 006342398

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 ($S_\oplus$)
006342398-01	OBS	No	1.310332	131.599544	31.8	5.617	8.5	4.4	1.70	6779	0.99	7626.76
006342398-02	OBS	No	163.036634	135.692846	2222.1	13.118	11.0	7.9	1.70	6779	14.71	12.28
006342398-03	OBS	No	91.278679	213.563037	218.8	7.968	8.5	2.0	1.70	6779	2.70	26.61
006342398-04	OBS	No	75.366528	198.208820	153.7	5.660	8.9	1.7	1.70	6779	2.39	34.35
006342398-05	OBS	No	55.630773	171.323692	120.8	5.826	8.6	1.7	1.70	6779	2.12	51.49
006342398-06	OBS	No	234.536402	226.452125	177.0	7.500	7.8	-1.0	1.70	6779	2.28	7.56
006342398-07	OBS	No	117.790510	133.427895	1472.3	10.139	8.0	7.4	1.70	6779	12.12	18.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006342398-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006342398-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006342398-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006342398-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—HALO_GHOST

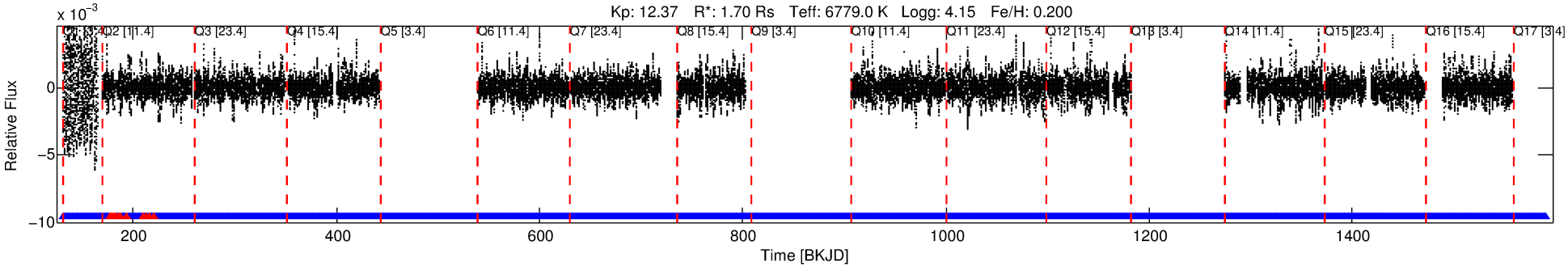
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

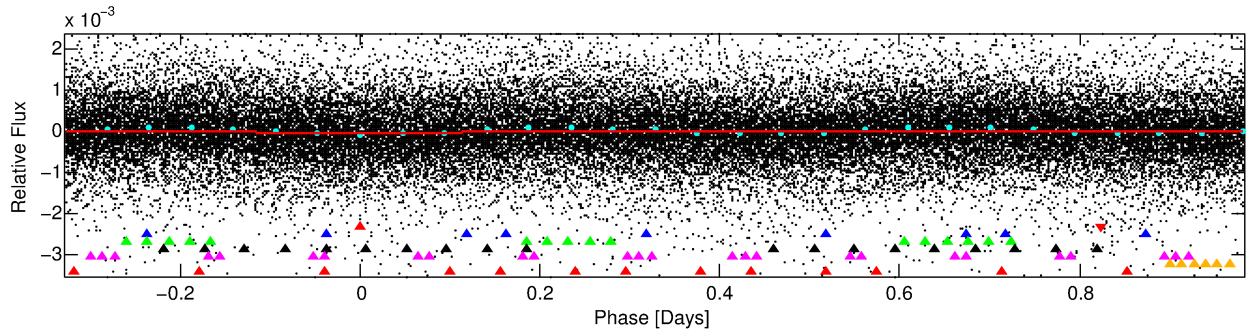
Ephemeris Match Information For 006342398-01

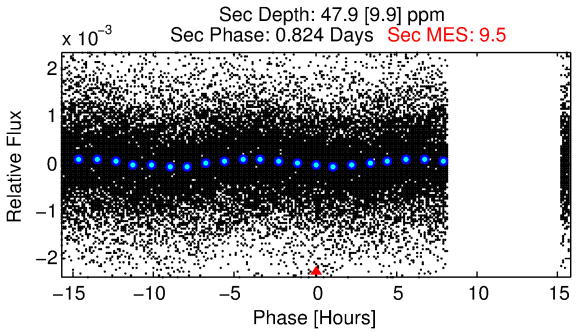
No Significant Match Found

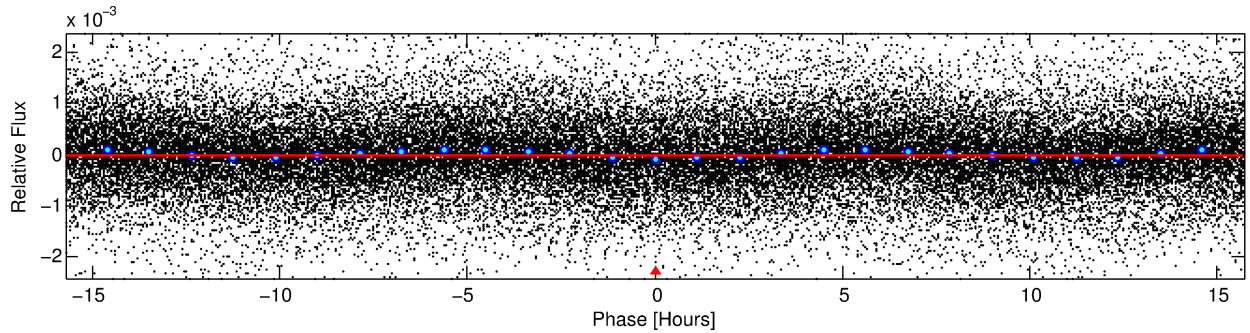
DV One-Page Summary

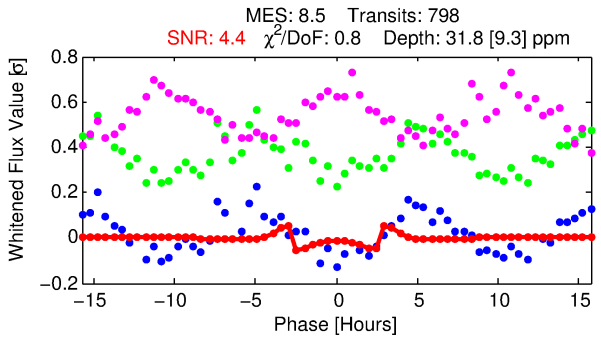
KIC: 6342398 Candidate: 1 of 7 Period: 1.310 d

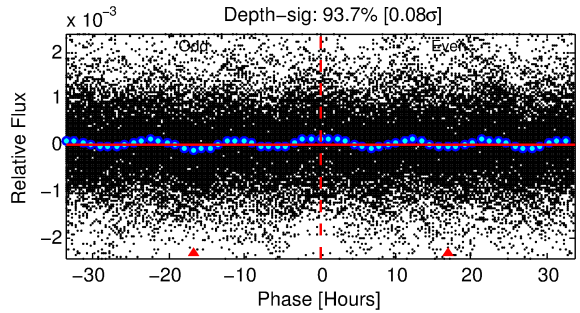


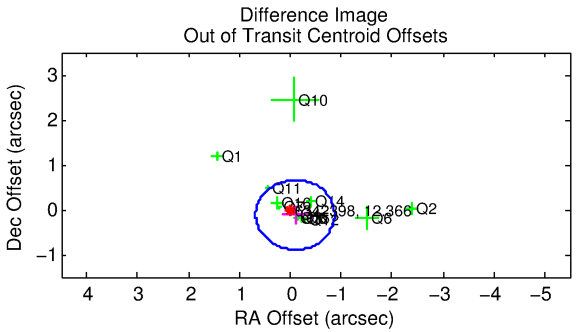












DV Fit Results:

Period = 1.31033 [0.00002] d
Epoch = 131.5995 [0.0034] BKJD
Rp/R* = 0.0053 [0.0016]
a/R* = 1.72 [1.71]
b = 0.48 [2.36]

Seff = 7626.76 [3088.88]
Teq = 2383 [241] K
Rp = 0.99 [0.43] Re
a = 0.0267 [0.0069] AU

Ag = 19.32 [14.02] [1.31σ]
Teffp = 7725 [1260] K [4.16σ]

DV Diagnostic Results:

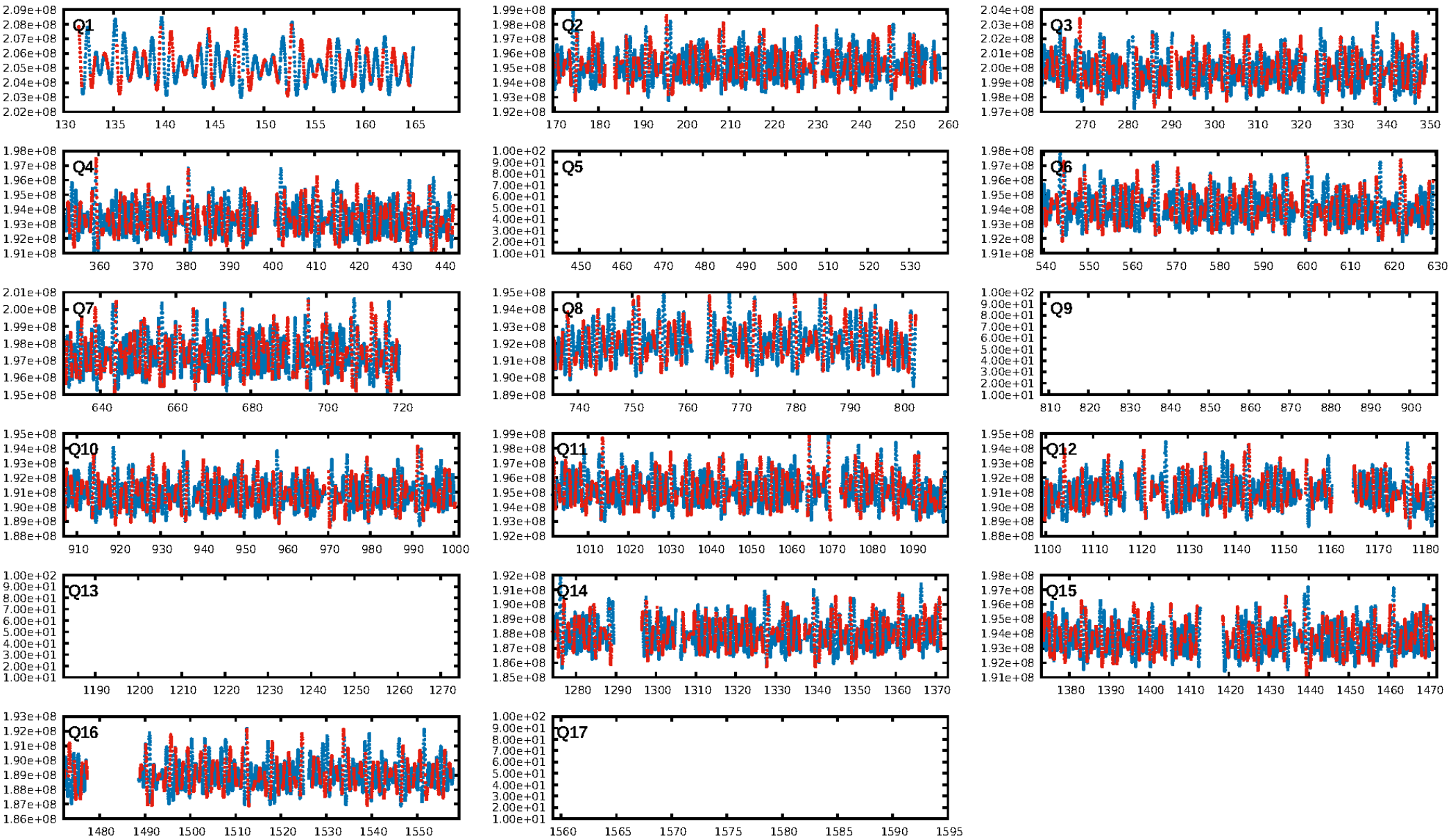
ShortPeriod−sig: N/A
LongPeriod−sig: 100.0% [161.09σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 3.42e−11
RollingBand−fgt: 0.98 [760/772]
GhostDiagnostic−chr: 2.514

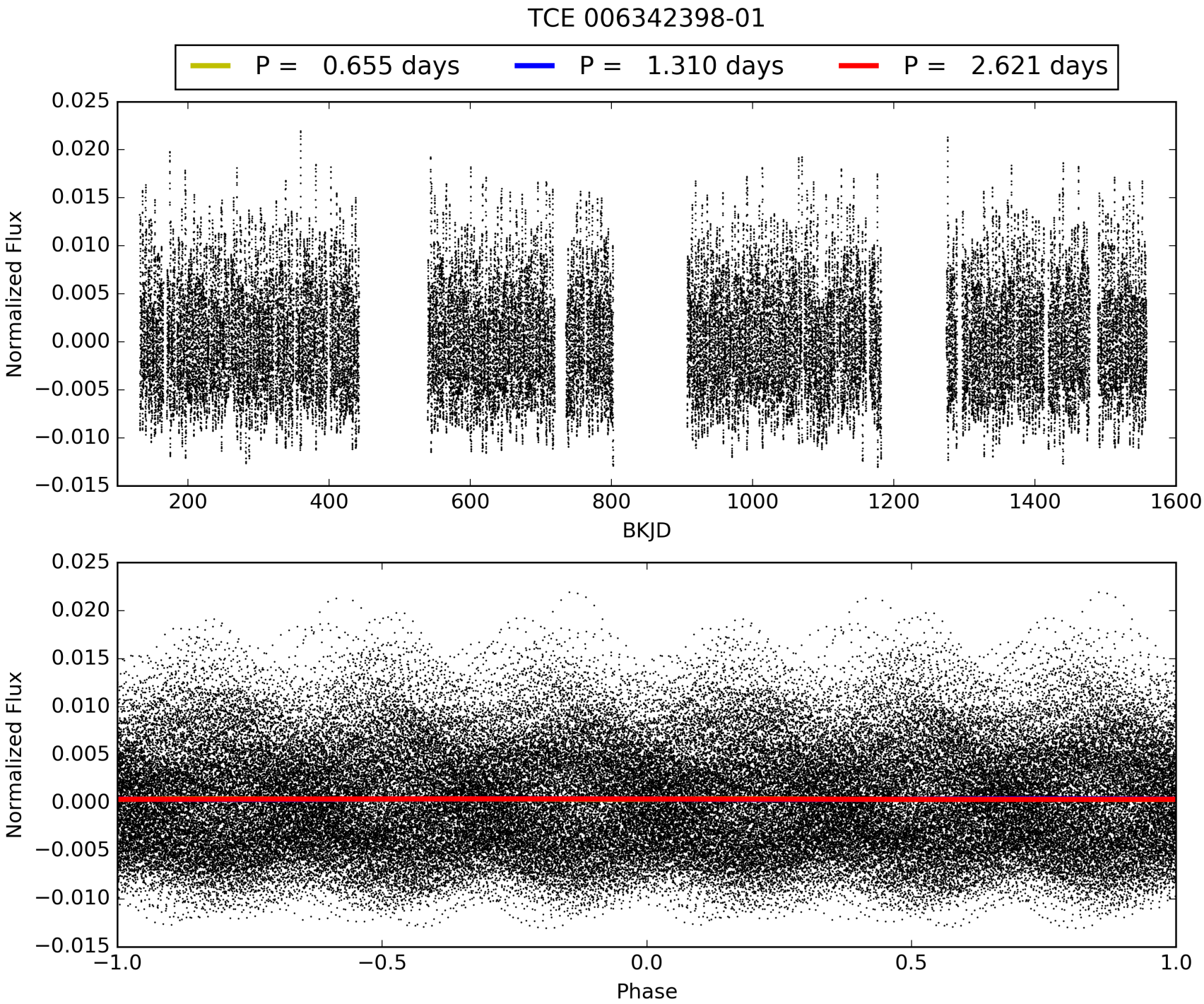
Centroid−sig: 3.0%
Centroid−so: 1.199 arcsec [1.70σ]
OotOffset−rm: 0.152 arcsec [0.59σ]
KicOffset−rm: 0.204 arcsec [0.98σ]
OotOffset−st: 4/4/4/1 [13]
KicOffset−st: 4/4/4/1 [13]
DiffImageQuality−fgm: 0.54 [7/13]
DiffImageOverlap−fno: 1.00 [13/13]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:48:46 Z

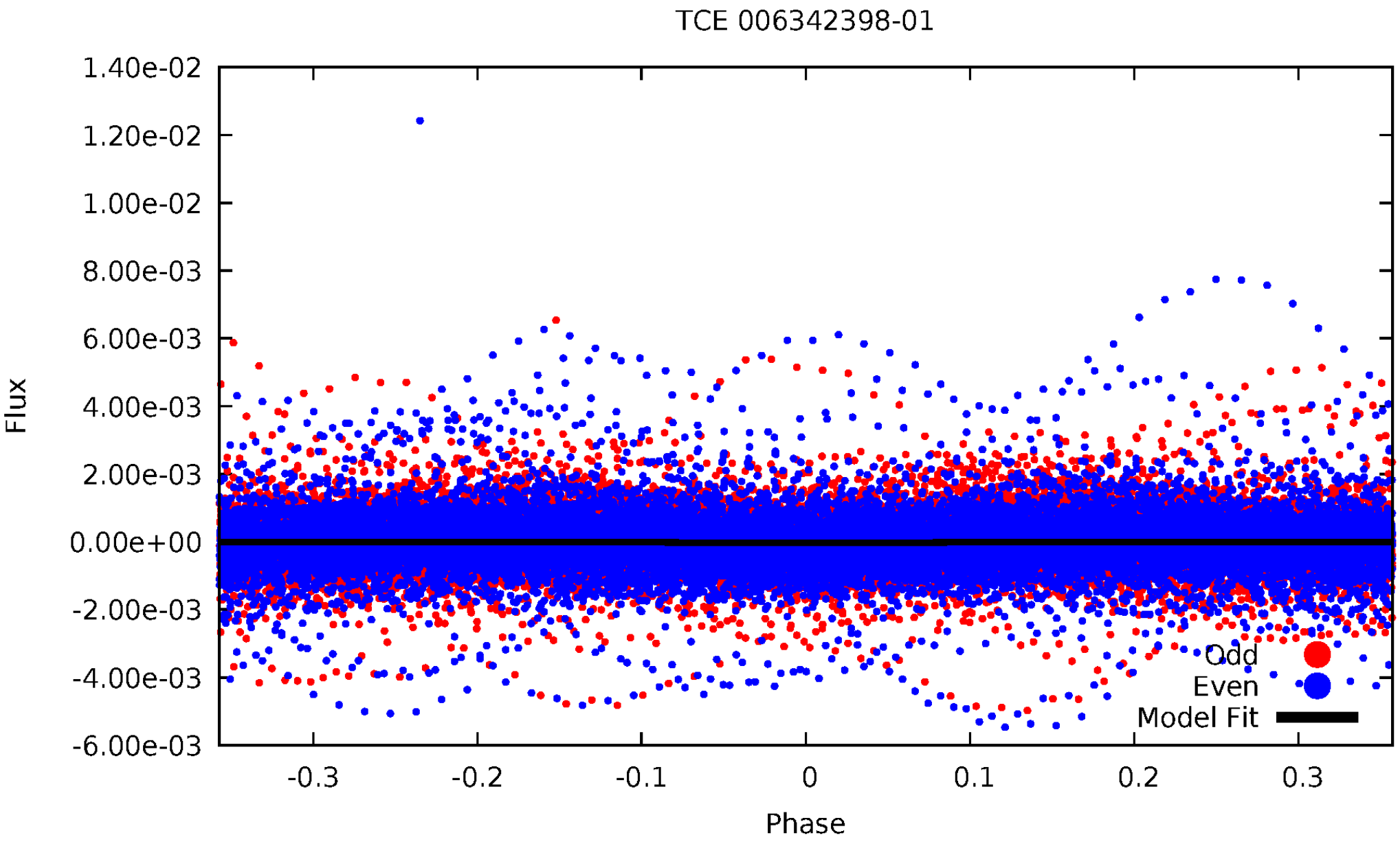
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006342398-01, PDC Light Curves




TCE 006342398-01
P = 0.655 days
P = 1.310 days
P = 2.621 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even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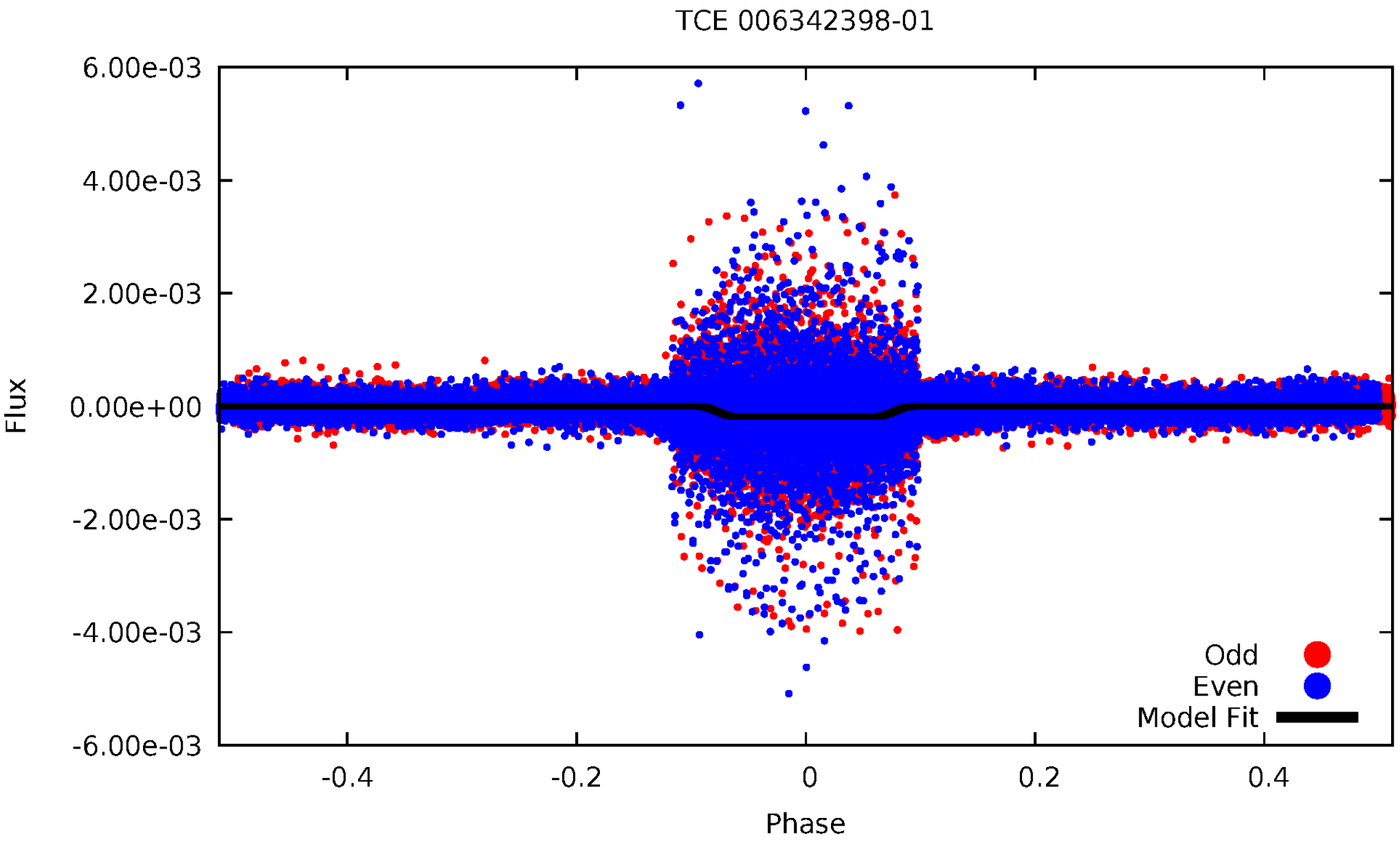
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
Flux
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006342398-01
6.00e-03
4.00e-03
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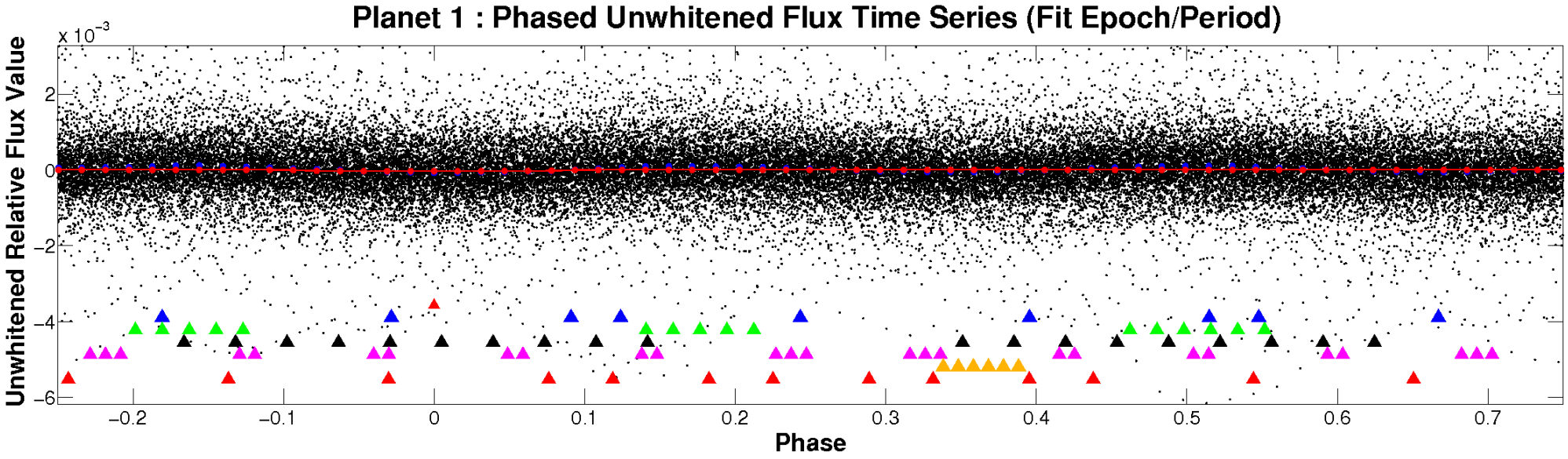
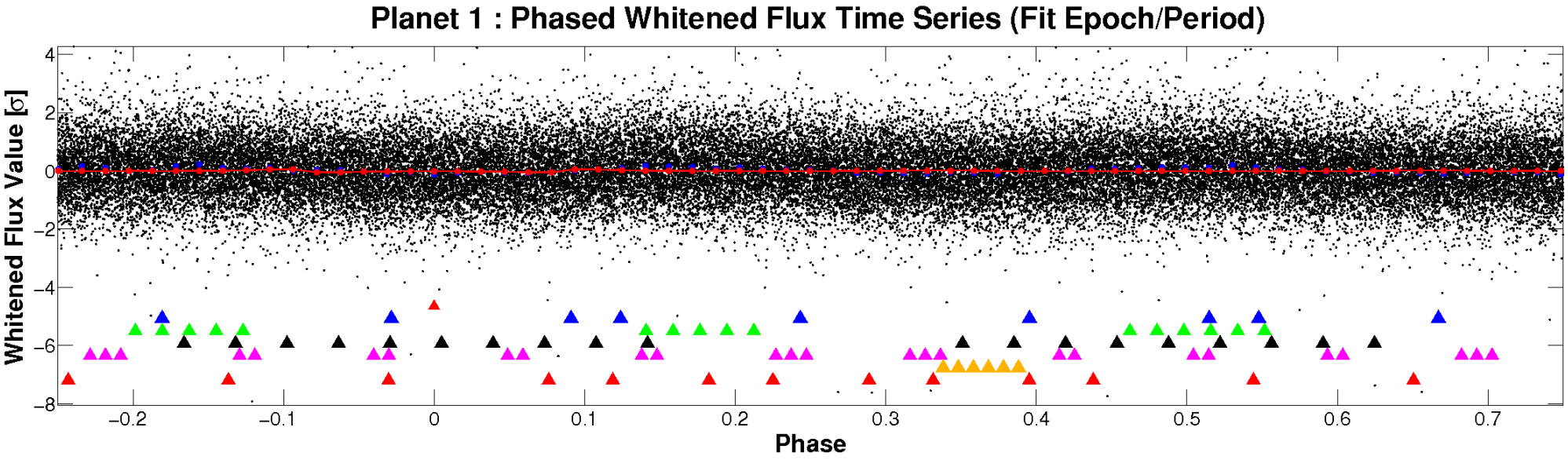
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
Flux
-0.4
-0.2
0
0.2
0.4
Phase
Odd
Even
Model Fit

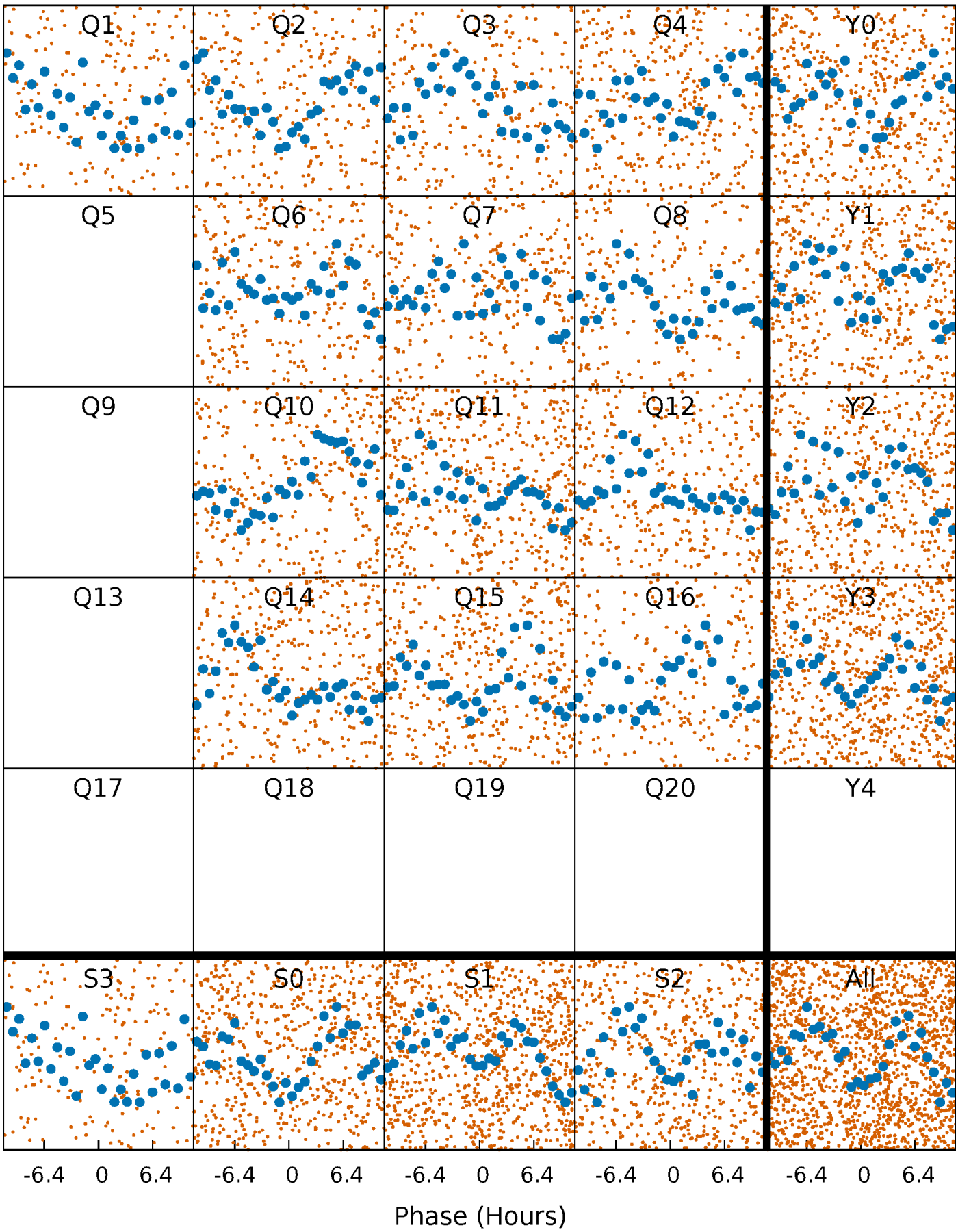
Non-Whitened Vs. Whitened Light Curve





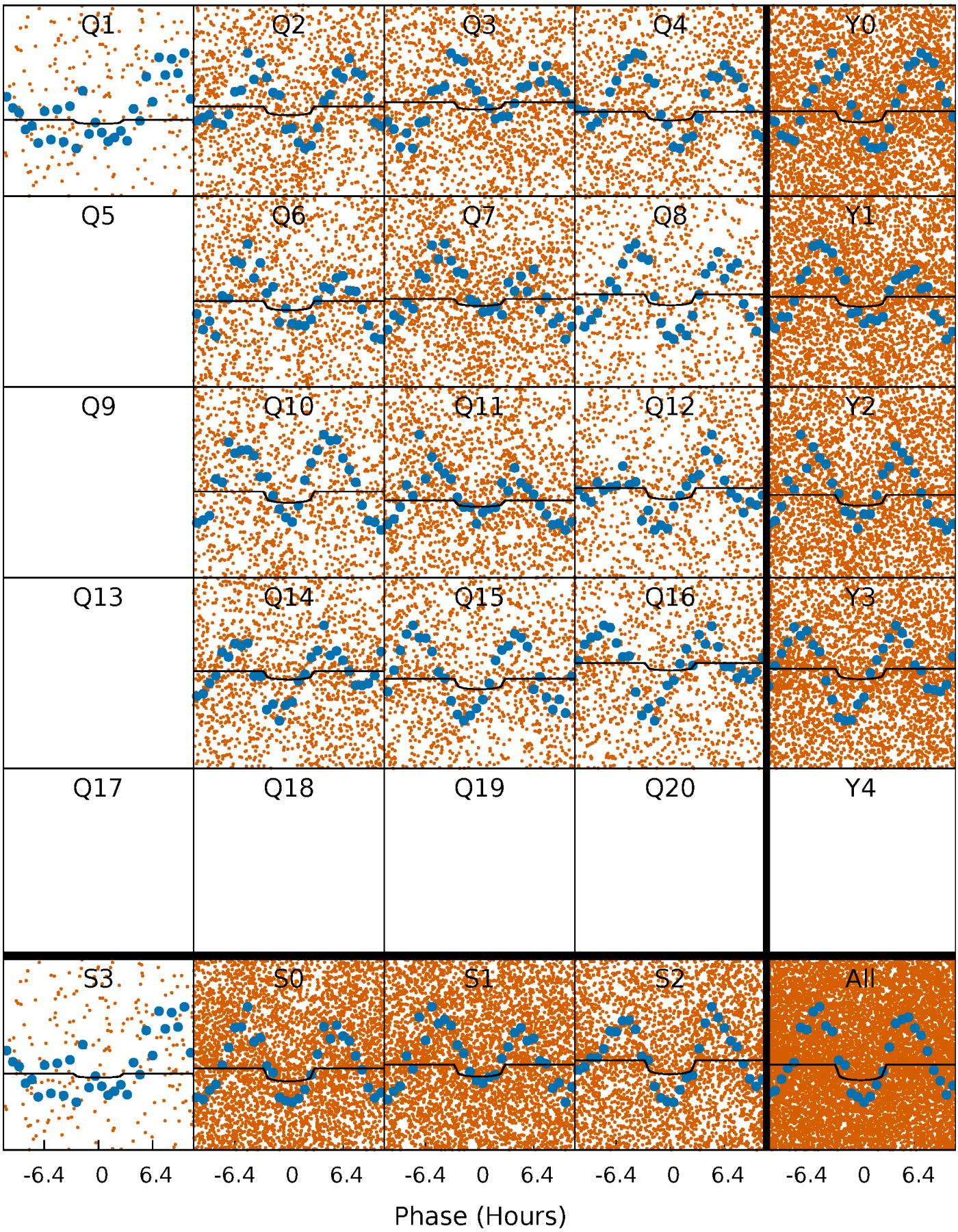
PDC Quarter-Phased Transit Curves

TCE 006342398-01 P= 1.310332 Days T_0=131.599544 (BKJD)



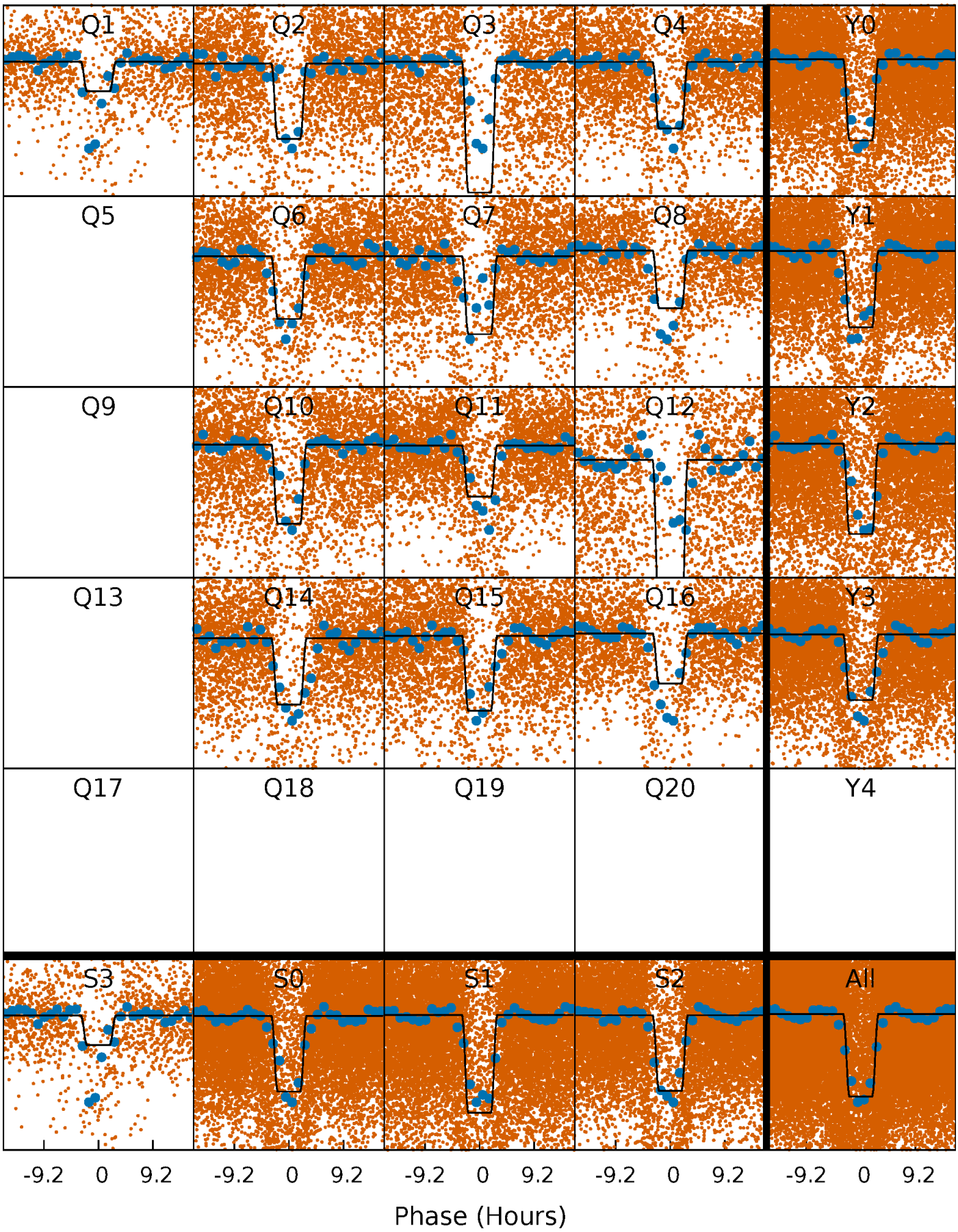
DV Quarter-Phased Transit Curves

TCE 006342398-01 P= 1.310332 Days T_0=131.599544 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

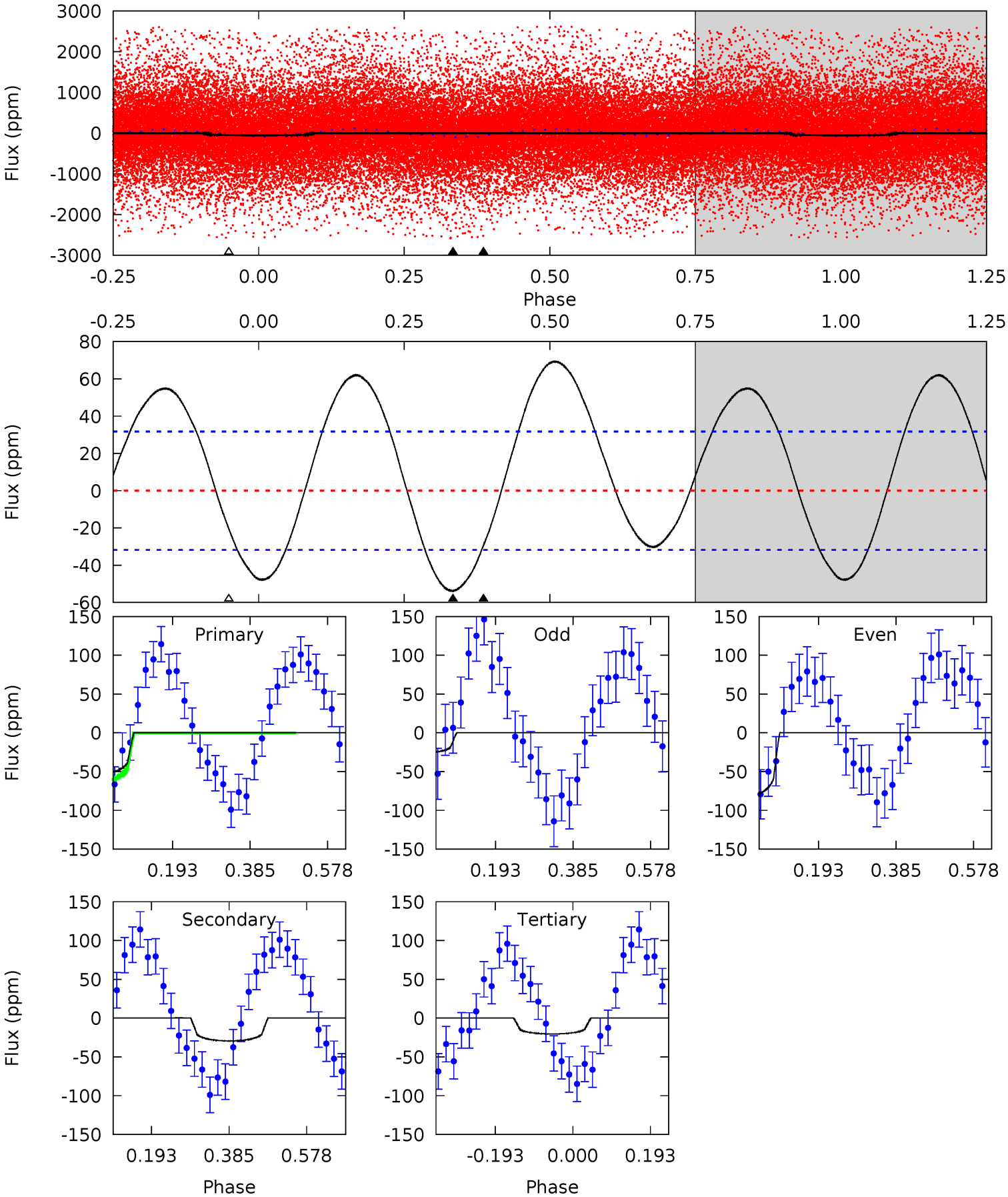
TCE 006342398-01 P= 1.310186 Days T_0=131.688909 (BKJD)



DV Model-Shift Uniqueness Test

006342398-01, P = 1.310332 Days, E = 130.289212 Days

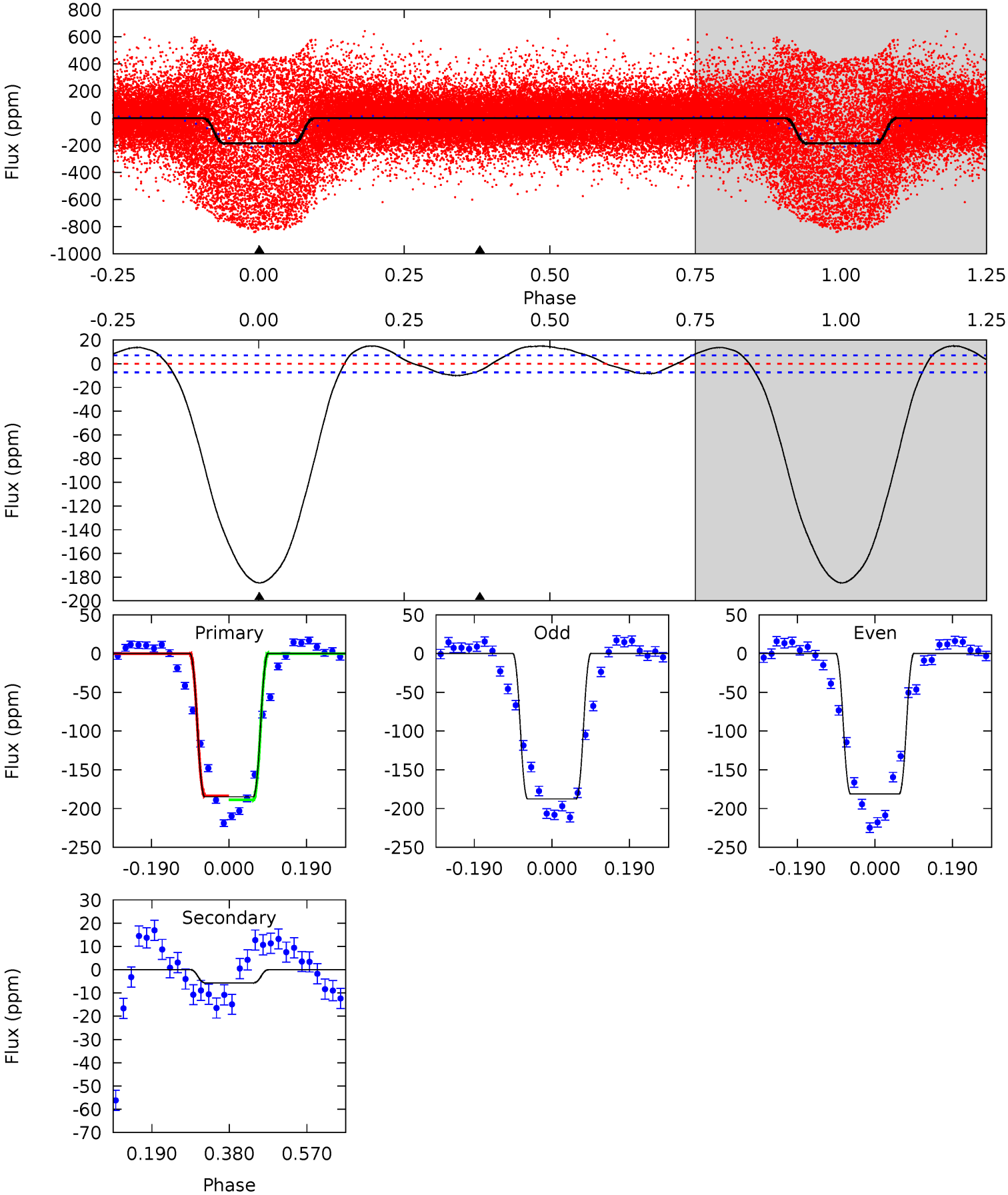
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.49	4.10	2.85	0	4.43	1.30	4.53	4.65	7.49	1.25	4.10	4.04	0.85	0.56	1.28



Alt Model-Shift Uniqueness Test

006342398-01, P = 1.310186 Days, E = 131.688909 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
114.2	3.49	0	0	4.43	1.31	4.66	114.2	114.2	3.49	3.49	1.95	0.87	0.08	1.55



Stellar Parameters For KIC 006342398

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6779^{+185}_{-301}	$4.150^{+0.128}_{-0.192}$	$0.200^{+0.150}_{-0.350}$	$1.698^{+0.544}_{-0.317}$	$1.485^{+0.197}_{-0.219}$	$0.427^{+0.319}_{-0.224}$
	+3%/-4%	+3%/-5%	+75%/-175%	+32%/-19%	+13%/-15%	+75%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006342398-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-29±7	$1.01^{+0.34}_{-0.30}$	3351^{+250}_{-211}	6712^{+1558}_{-954}	11^{+12}_{-5}
Alt.	-6±2	$2.52^{+0.53}_{-0.39}$	3344^{+232}_{-210}	2472^{+600}_{-5324}	$0.336^{+0.168}_{-0.136}$

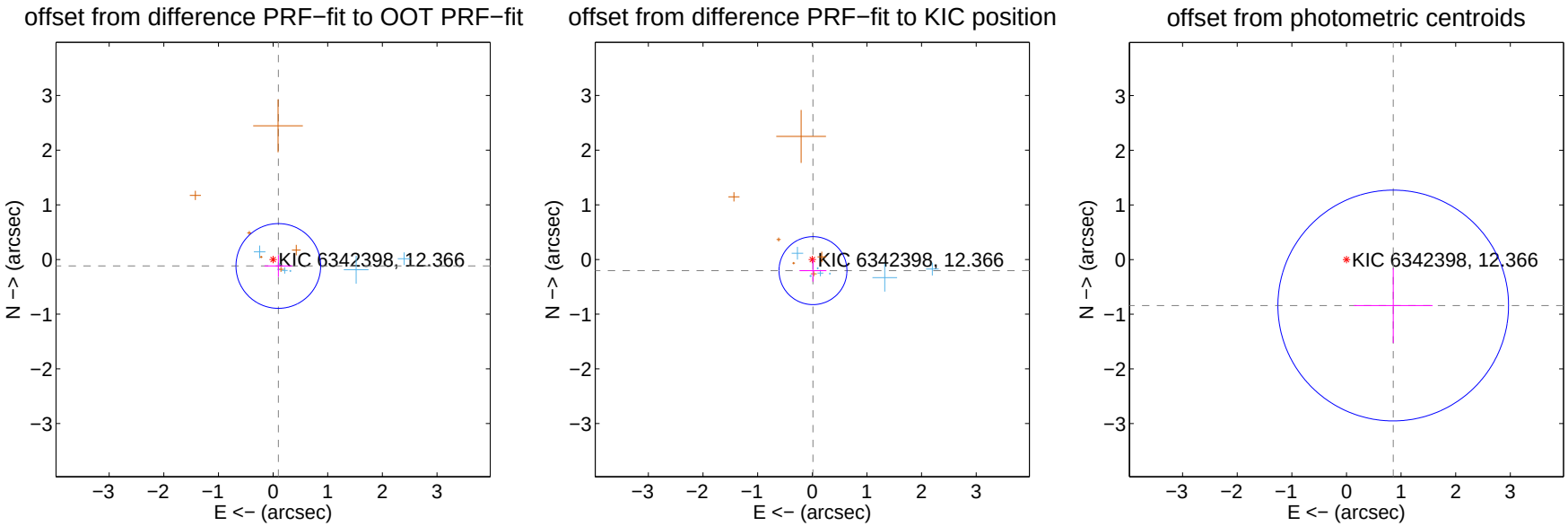
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

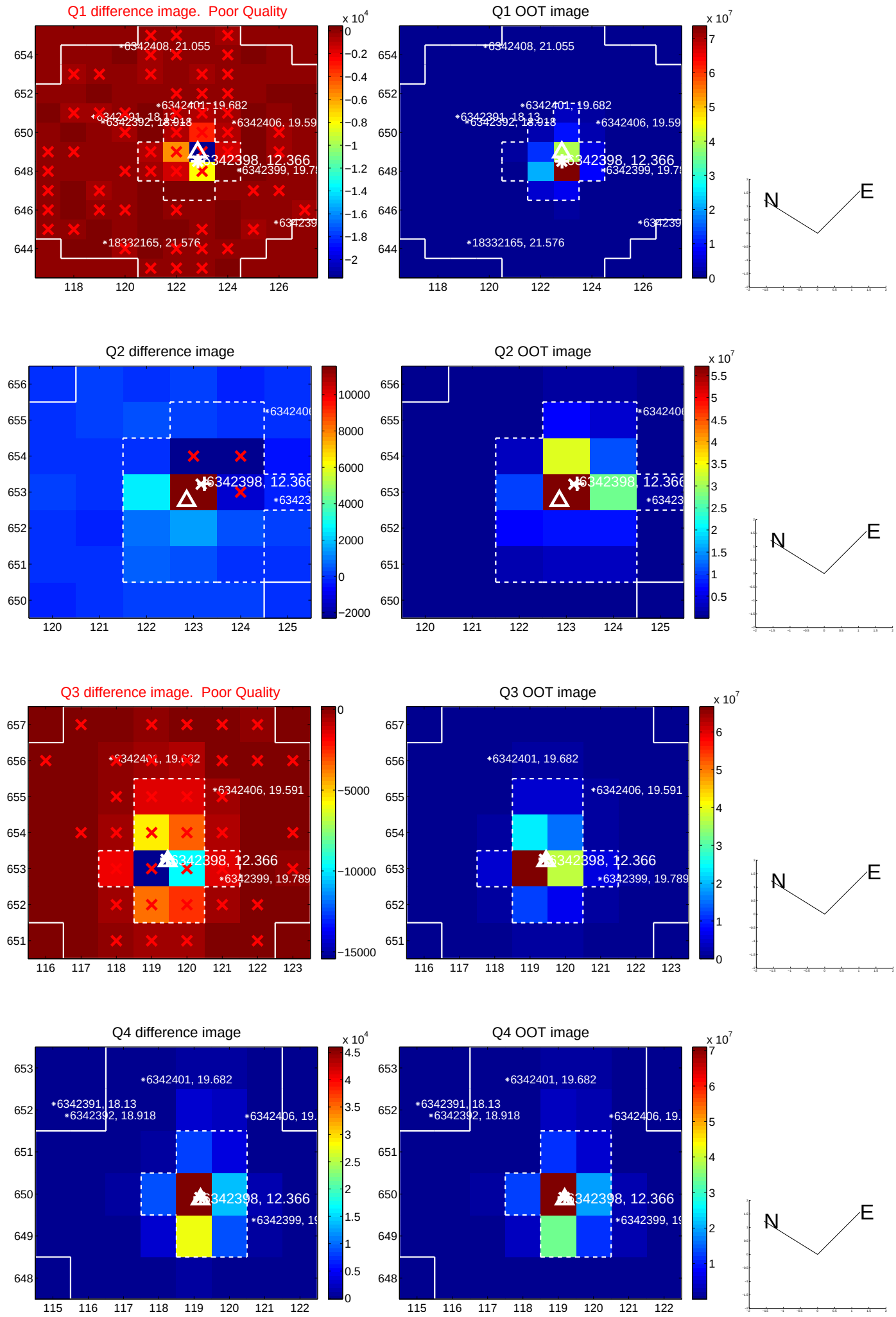
Supplemental centroid analysis for 006342398-01. Kepler magnitude: 12.37. Transit SNR 4.35
There are 7 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.152 ± 0.258	0.59	-0.096 ± 0.254	-0.118 ± 0.197
PRF-fit source offset from KIC position	0.204 ± 0.207	0.98	-0.013 ± 0.247	-0.204 ± 0.202
photometric centroid source offset	1.20 ± 0.70	1.70	-0.86 ± 0.72	-0.84 ± 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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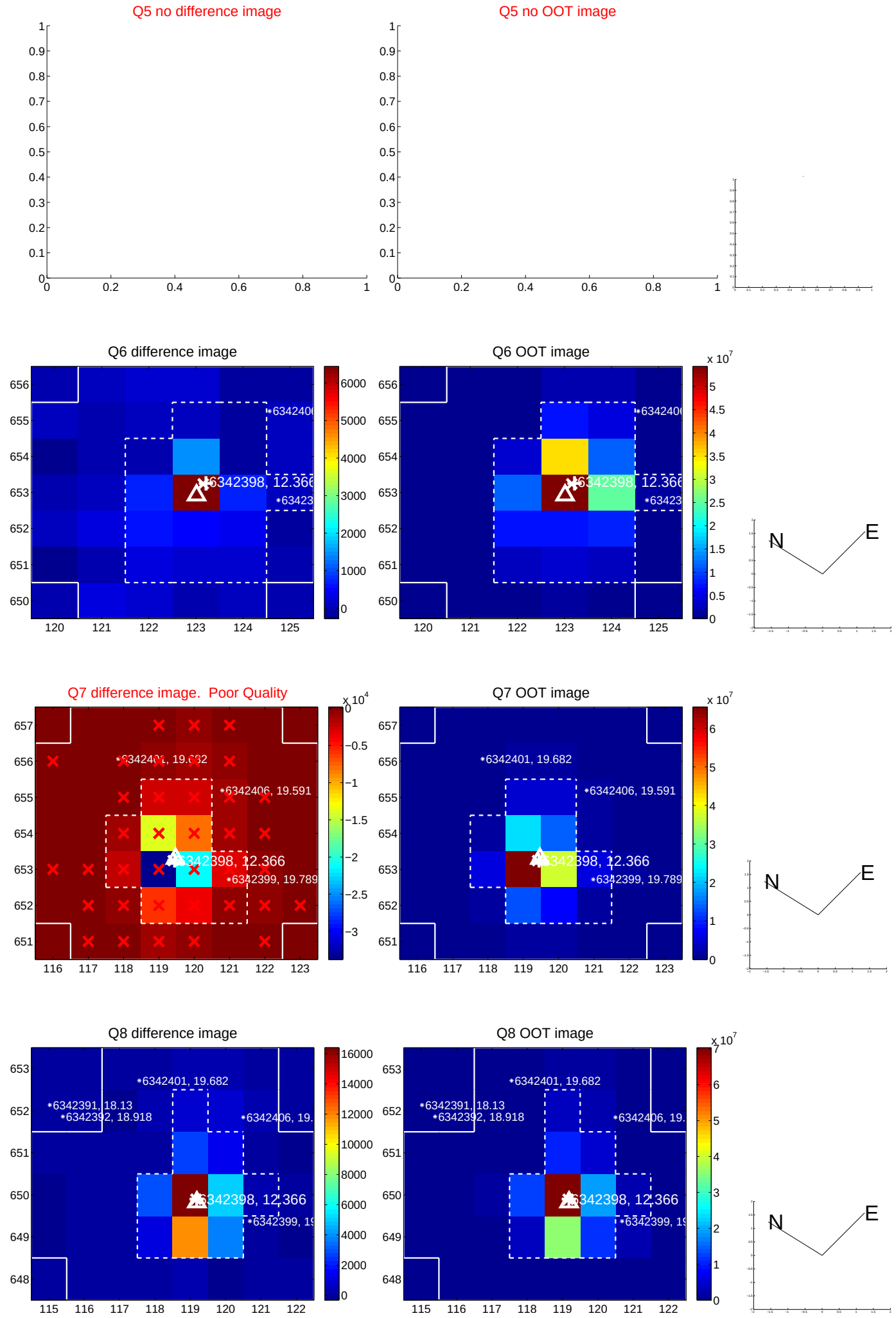

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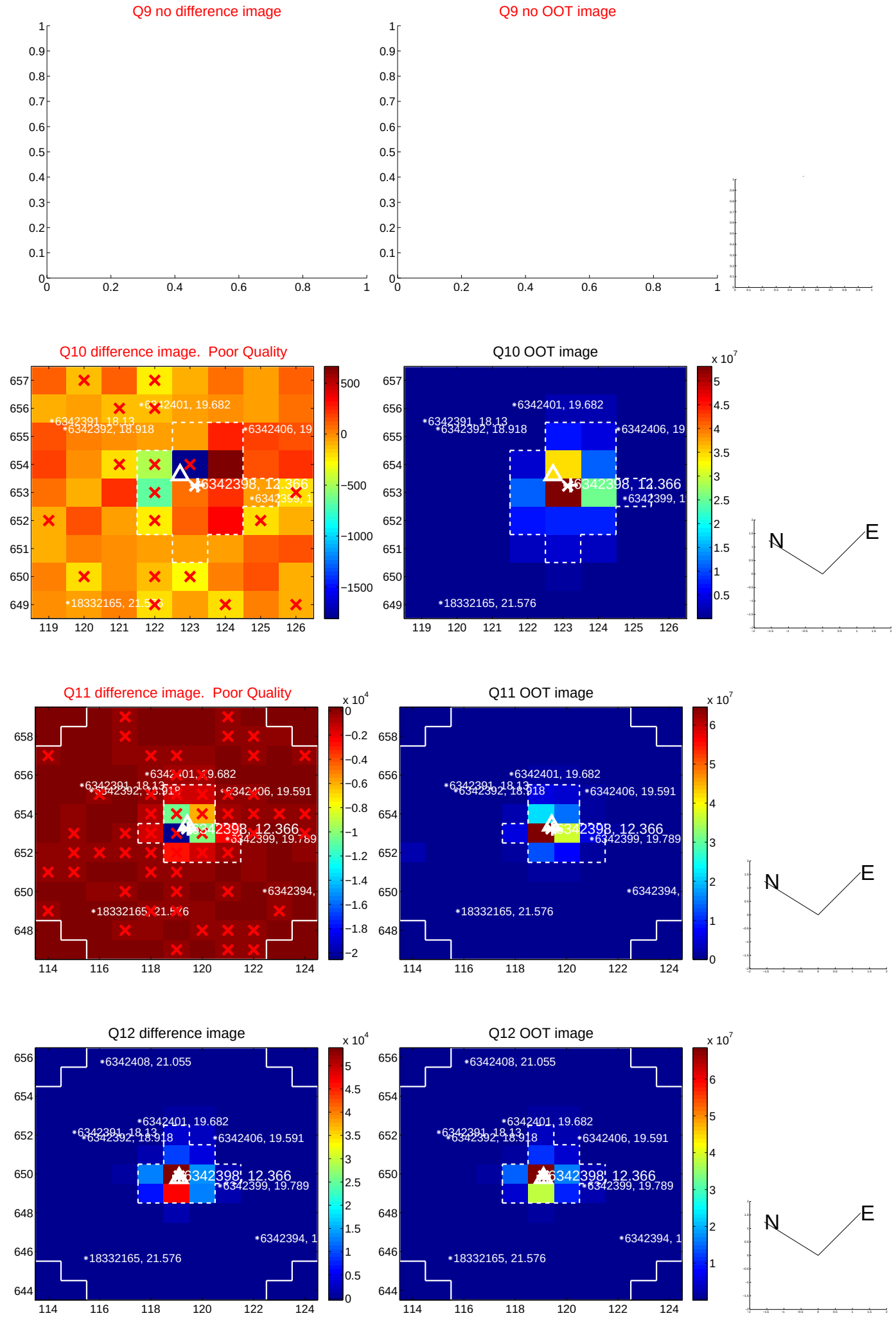
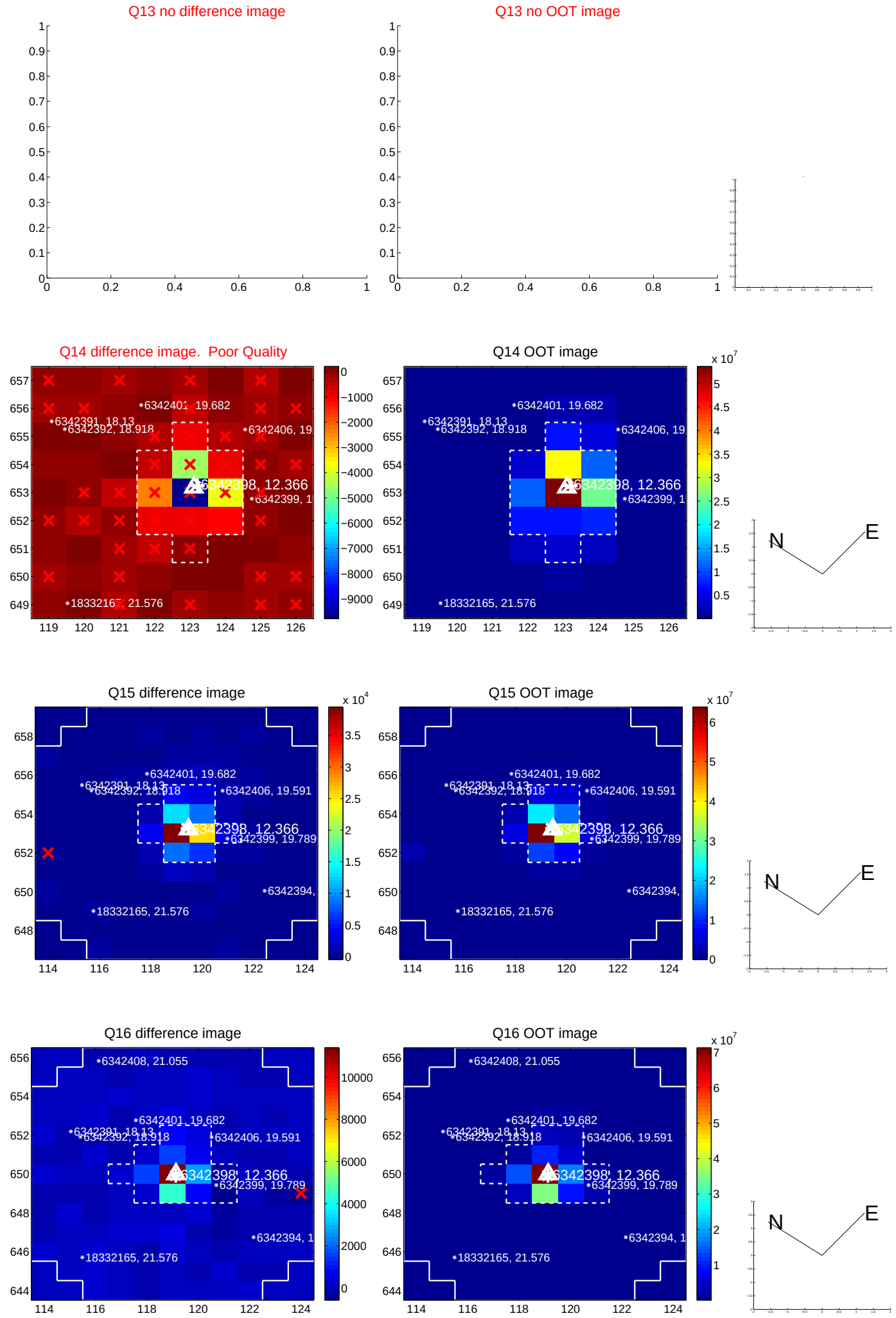
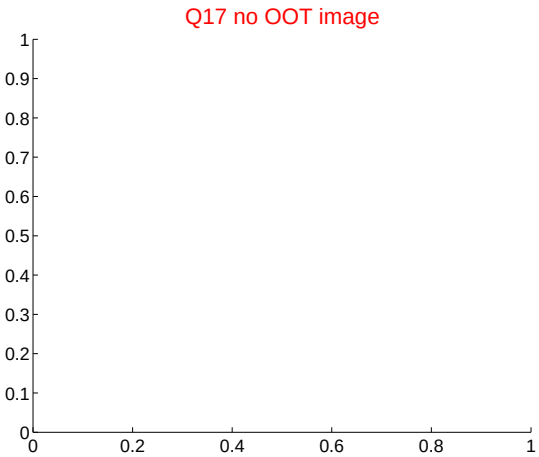
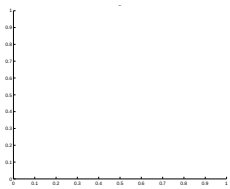


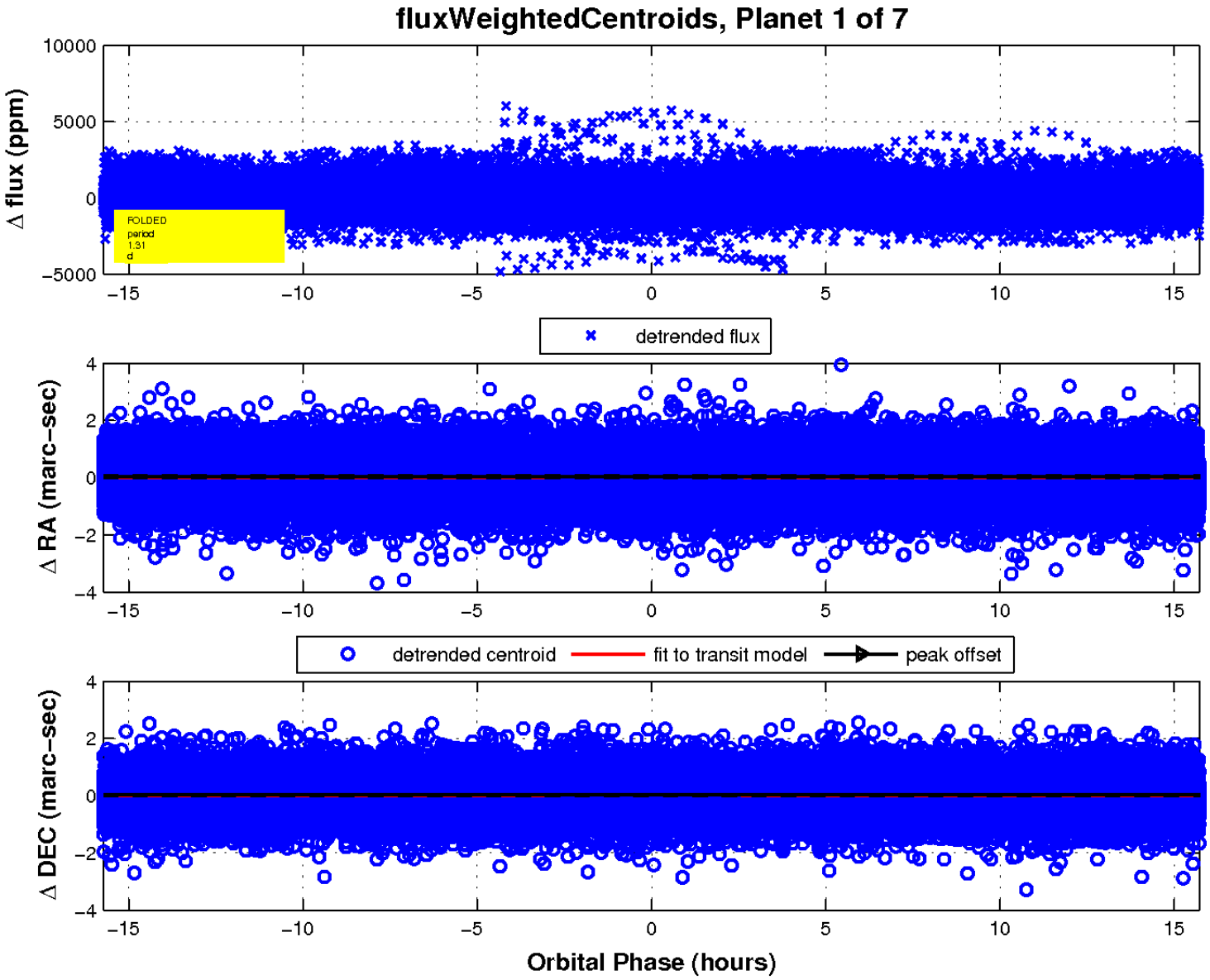
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



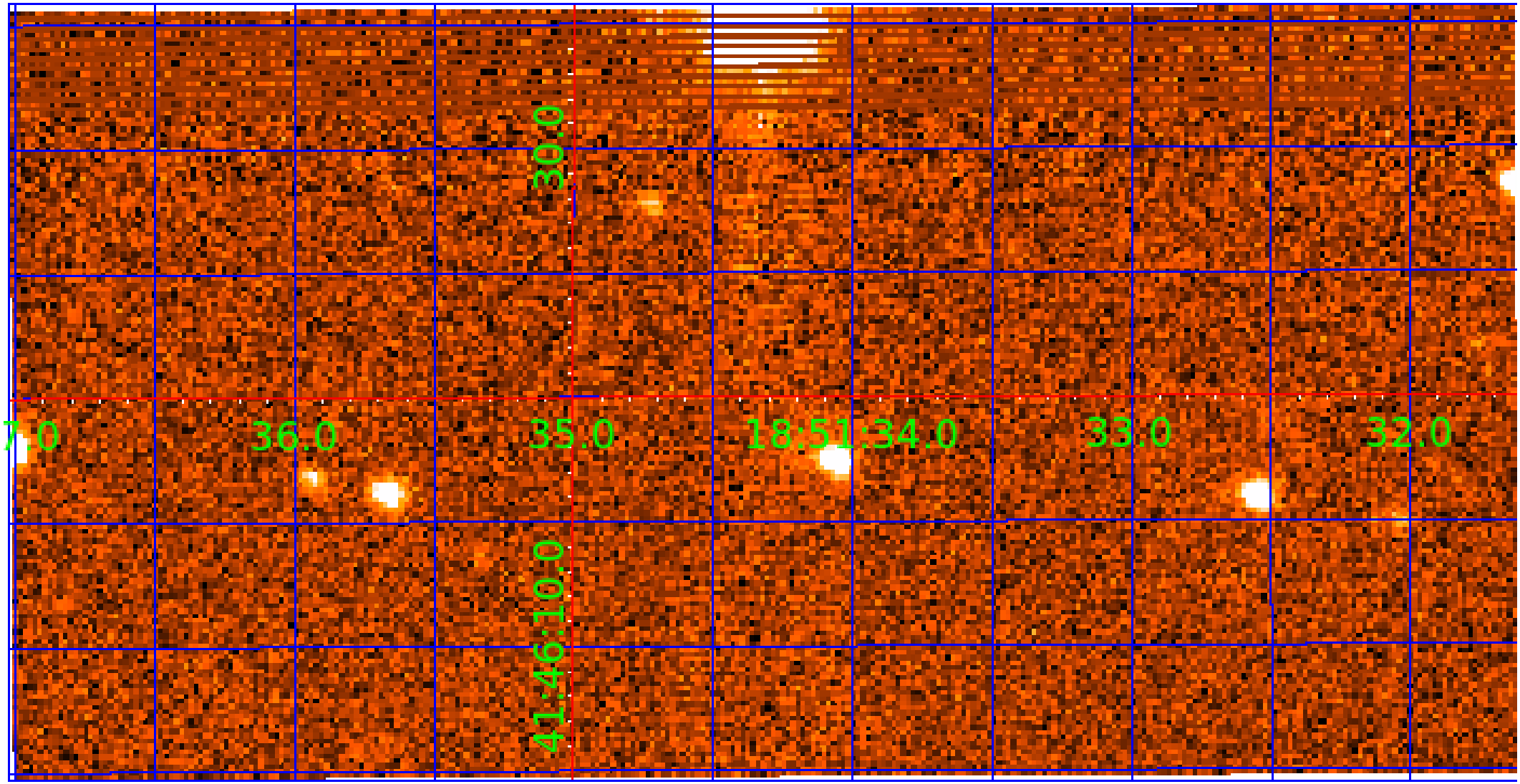
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image



KIC 006342398

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 ($S_\oplus$)
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006342398-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006342398-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006342398-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006342398-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—HALO_GHOST

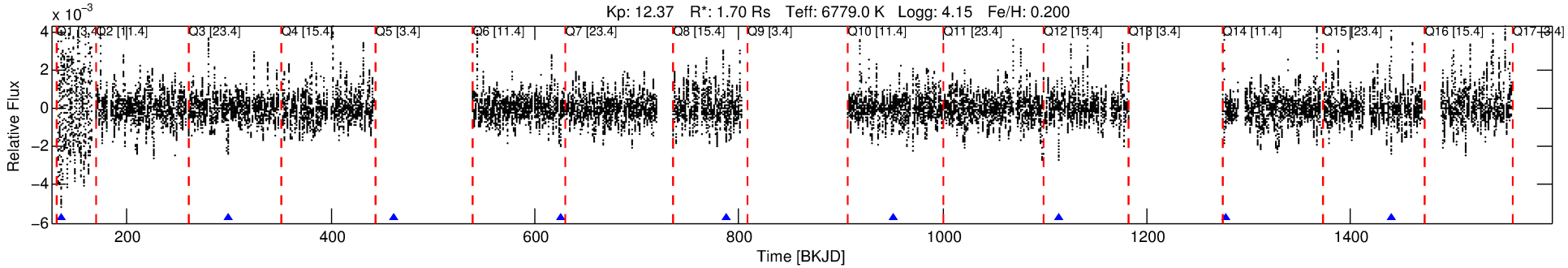
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

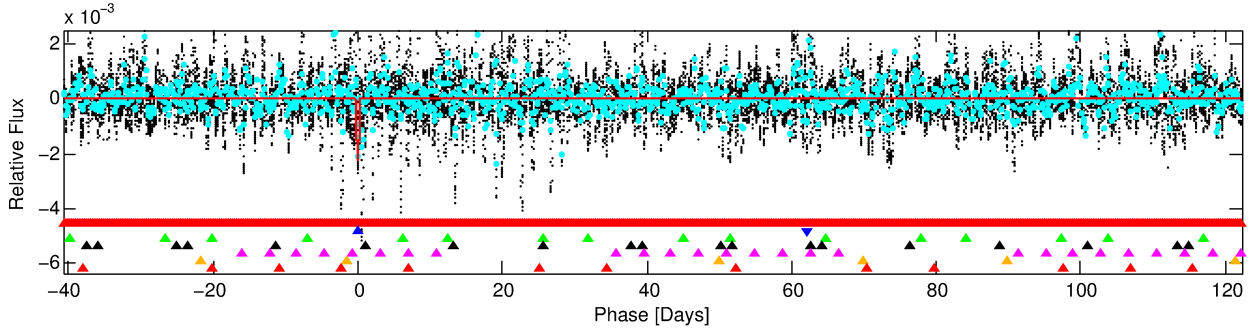
Ephemeris Match Information For 006342398-02

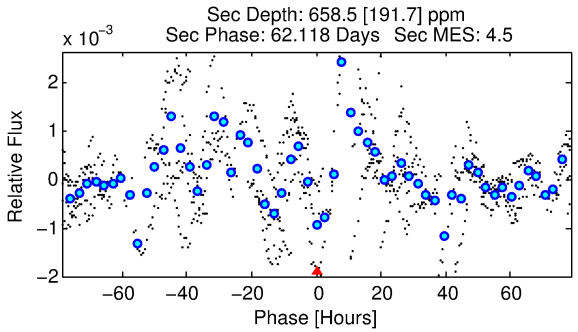
No Significant Match Found

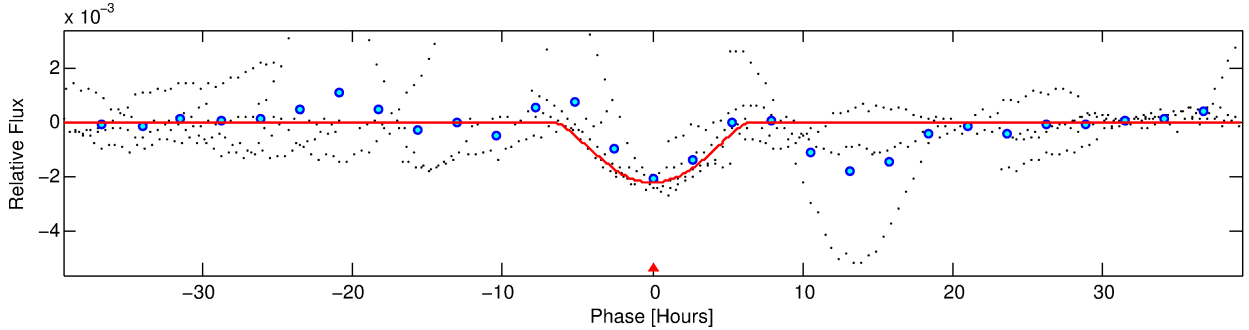
DV One-Page Summary

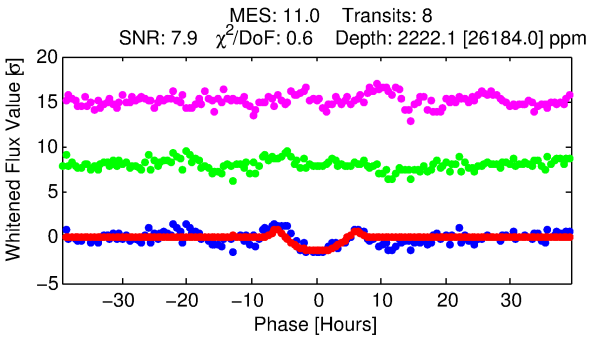
KIC: 6342398 Candidate: 2 of 7 Period: 163.037 d

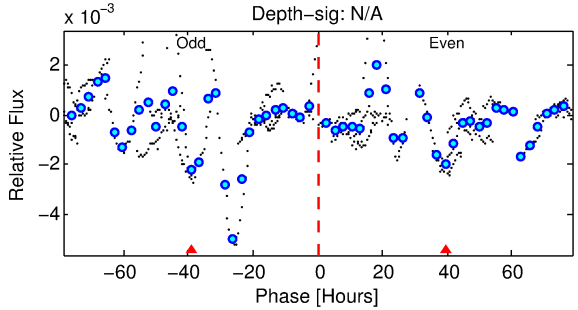


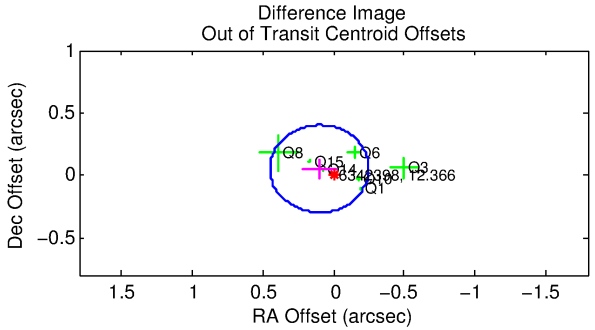












DV Fit Results:

Period = 163.03663 [0.00411] d
Epoch = 135.6928 [0.0723] BKJD
Rp/R* = 0.0794 [0.0868]
a/R* = 38.59 [8.68]
b = 1.00 [0.51]

Seff = 12.28 [4.97]
Teq = 477 [48] K
Rp = 14.71 [16.76] Re
a = 0.6666 [0.1730] AU

Ag = 743.97 [1663.49] [0.45σ]
Teffp = 3854 [2133] K [1.58σ]

DV Diagnostic Results:

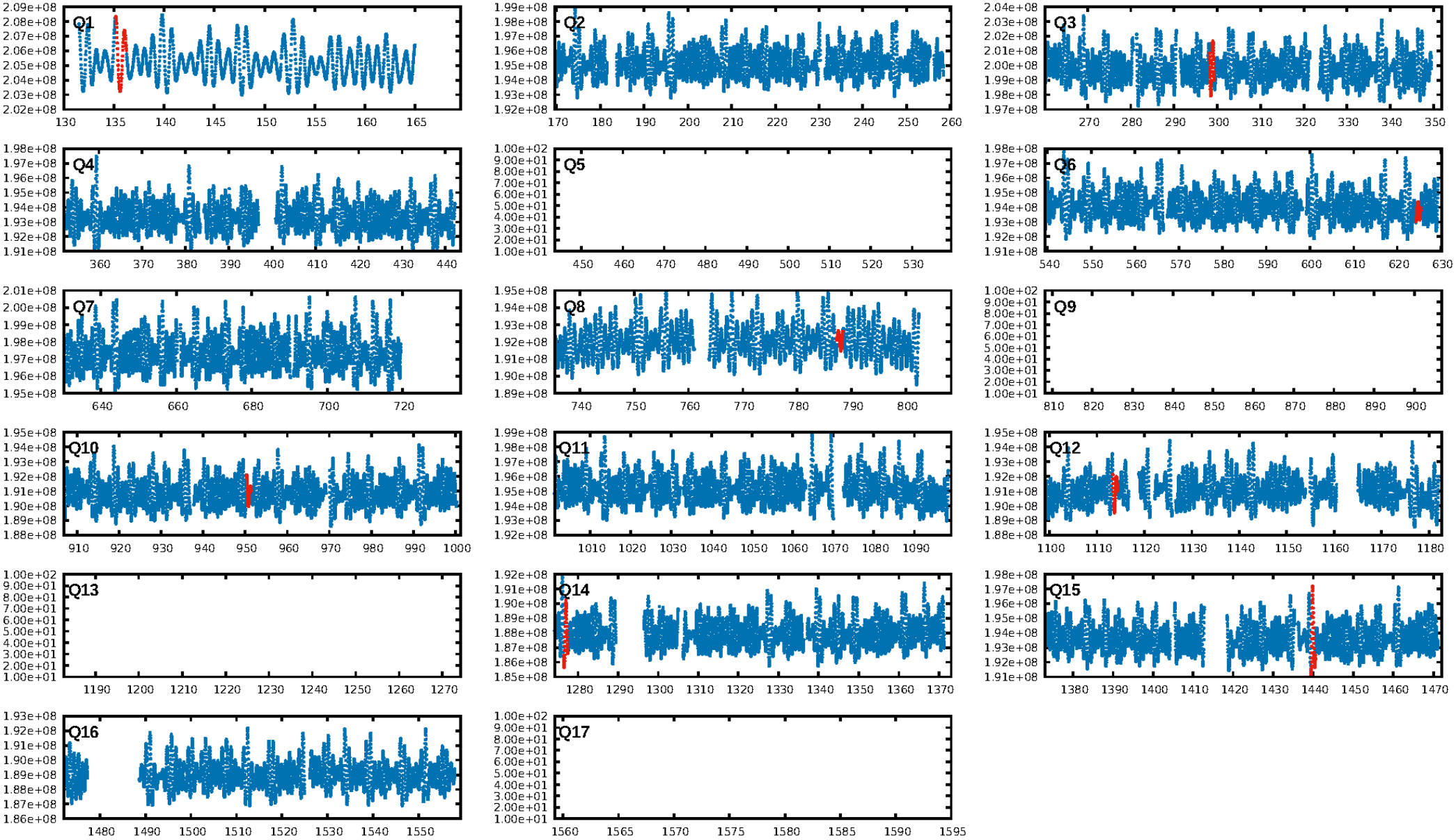
ShortPeriod−sig: 100.0% [65.50σ]
LongPeriod−sig: 100.0% [113.56σ]
ModelChiSquare2−sig: 17.4%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 6.25e−18
RollingBand−fgt: 1.00 [7/7]
GhostDiagnostic−chr: 0.6393

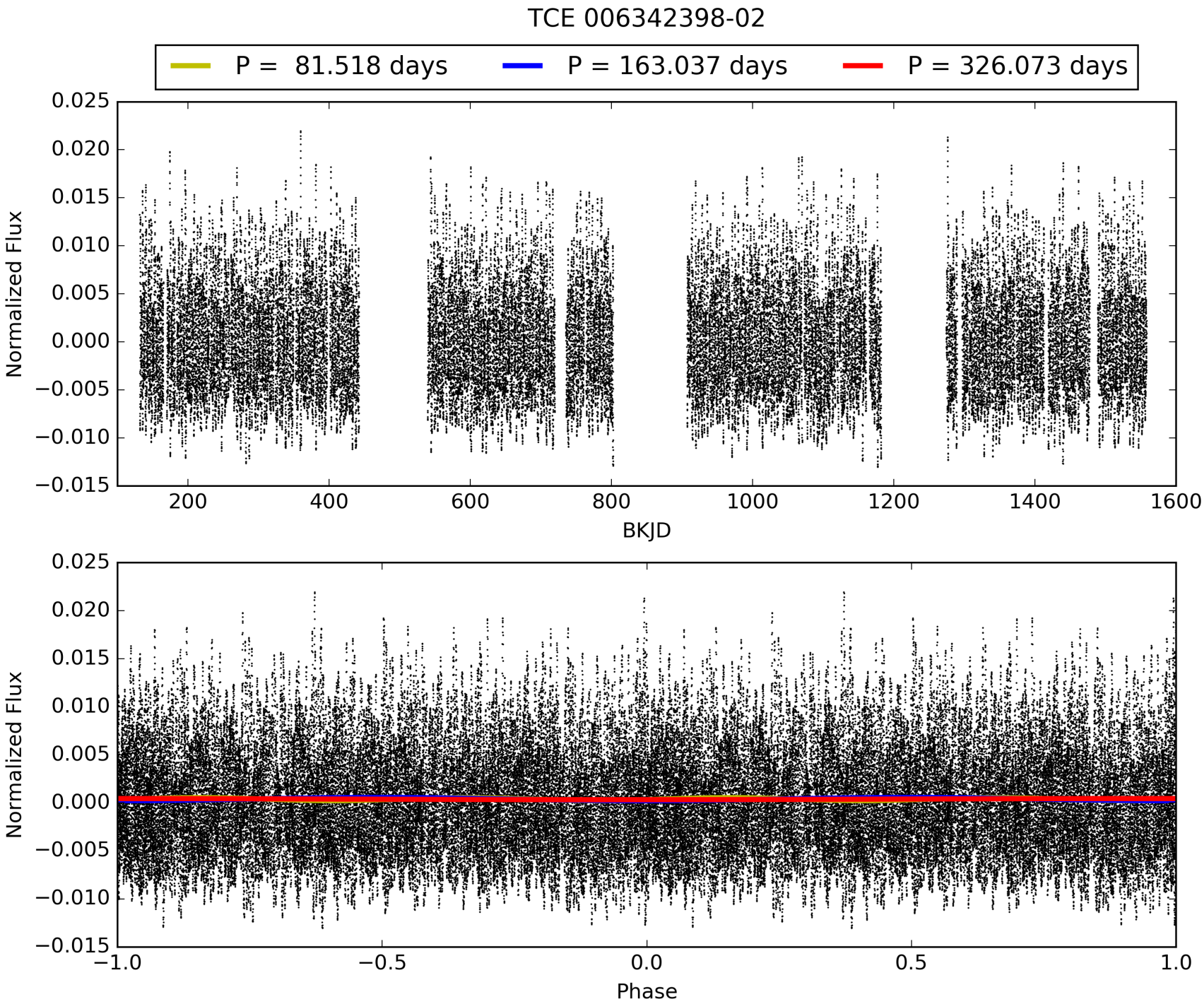
Centroid−sig: 34.2%
Centroid−so: 0.169 arcsec [1.61σ]
OotOffset−rm: 0.112 arcsec [0.96σ]
KicOffset−rm: 0.276 arcsec [2.24σ]
OotOffset−st: 3/2/1/1 [7]
KicOffset−st: 3/2/1/1 [7]
DiffImageQuality−fgm: 0.57 [4/7]
DiffImageOverlap−fno: 0.00 [0/7]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:48:55 Z

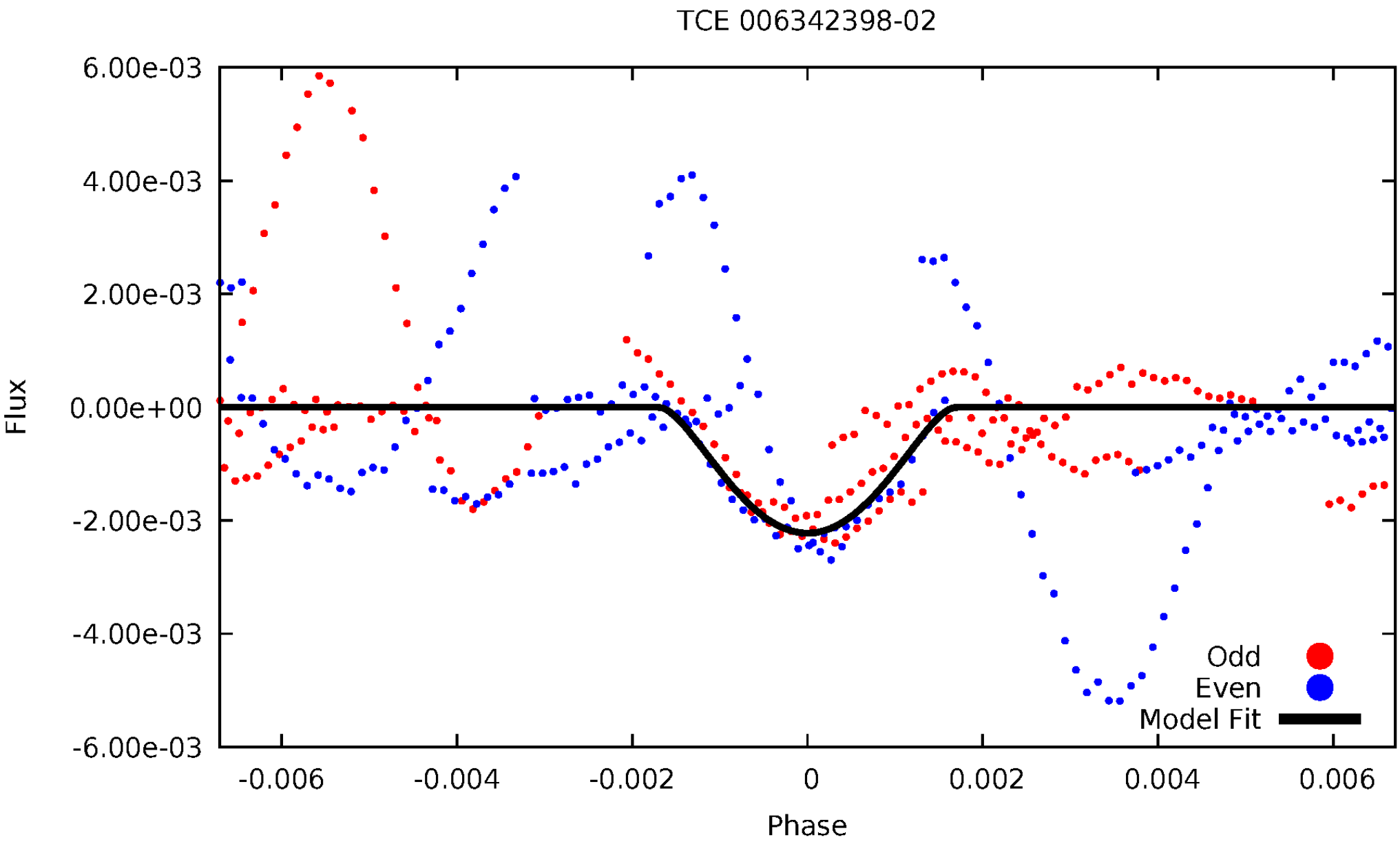
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006342398-02, PDC Light Curves

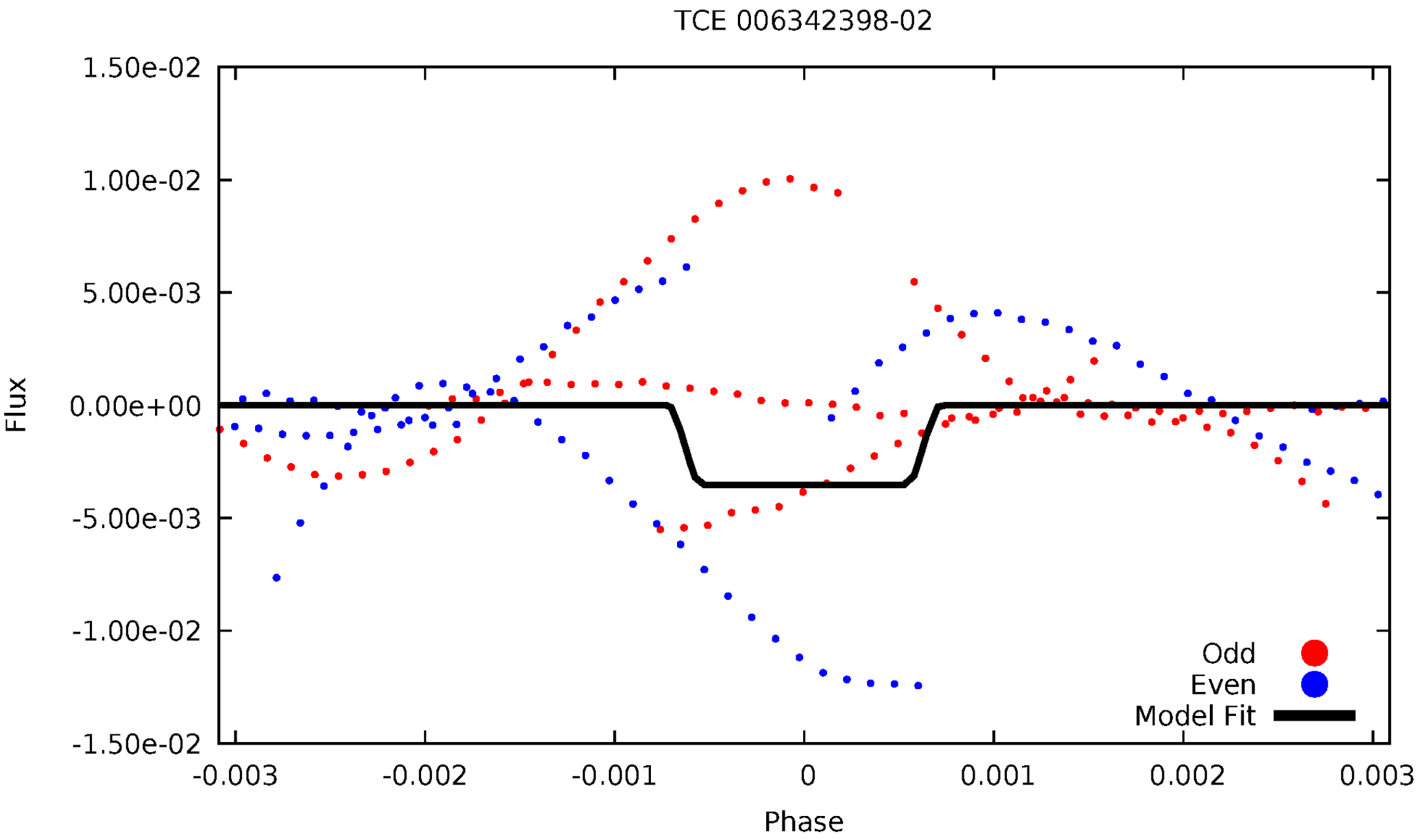



TCE 006342398-02
P = 81.518 days
P = 163.037 days
P = 326.073 days
Normalized Flux
BKJD
Normalized Flux
Phase

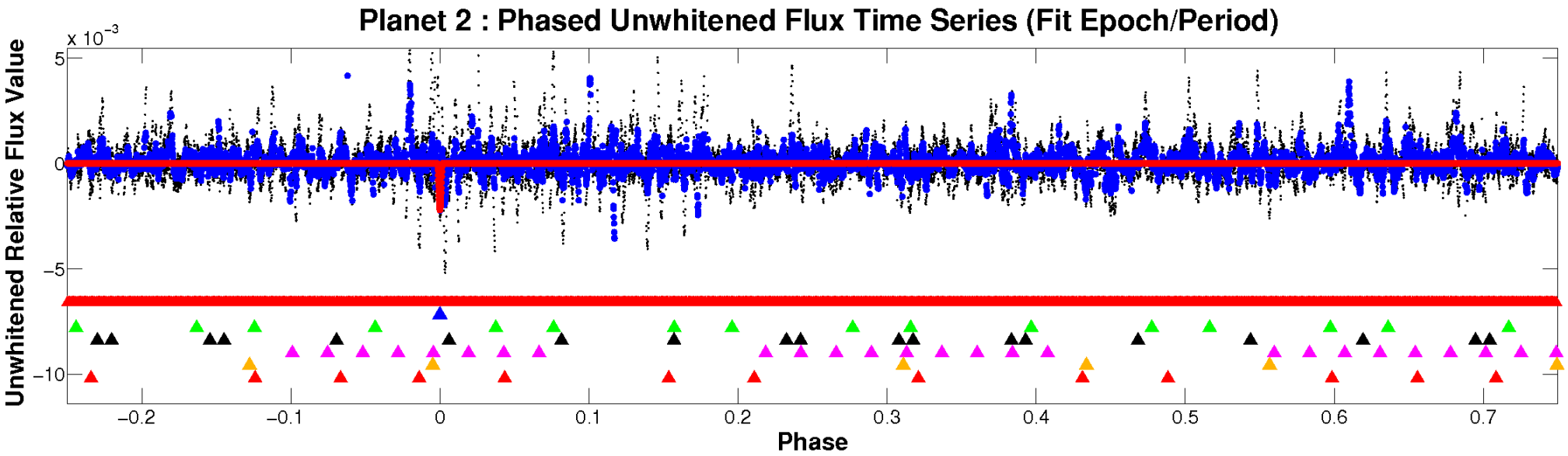
DV Odd/Even

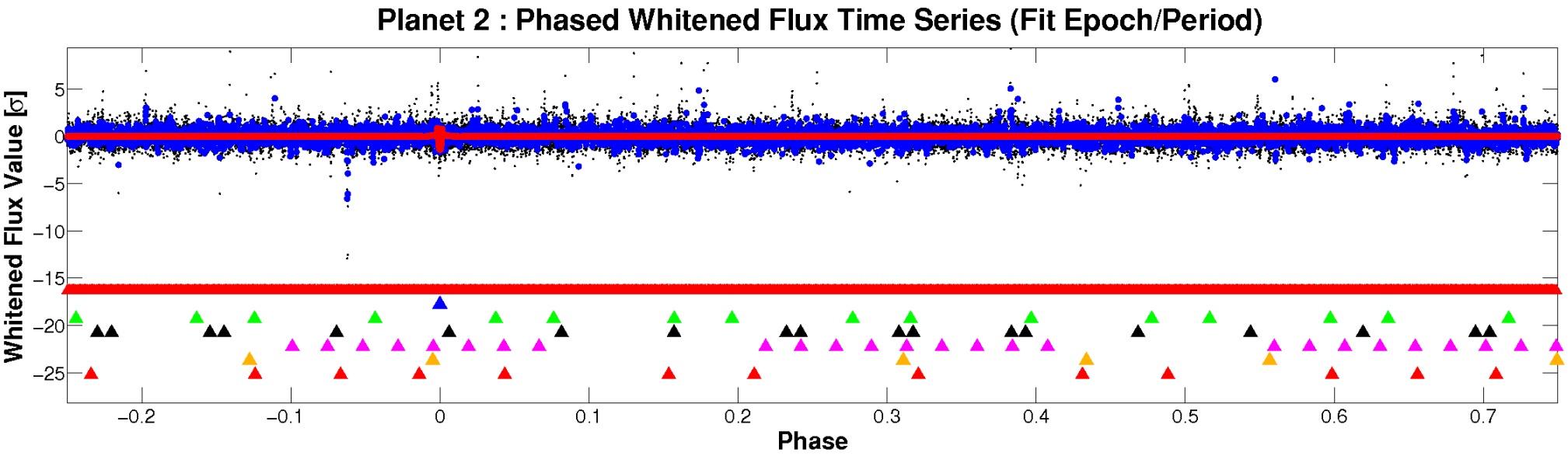

TCE 006342398-02
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
Flux
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006342398-02
1.50e-02
1.00e-02
5.00e-03
0.00e+00
-5.00e-03
-1.00e-02
-1.50e-02
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

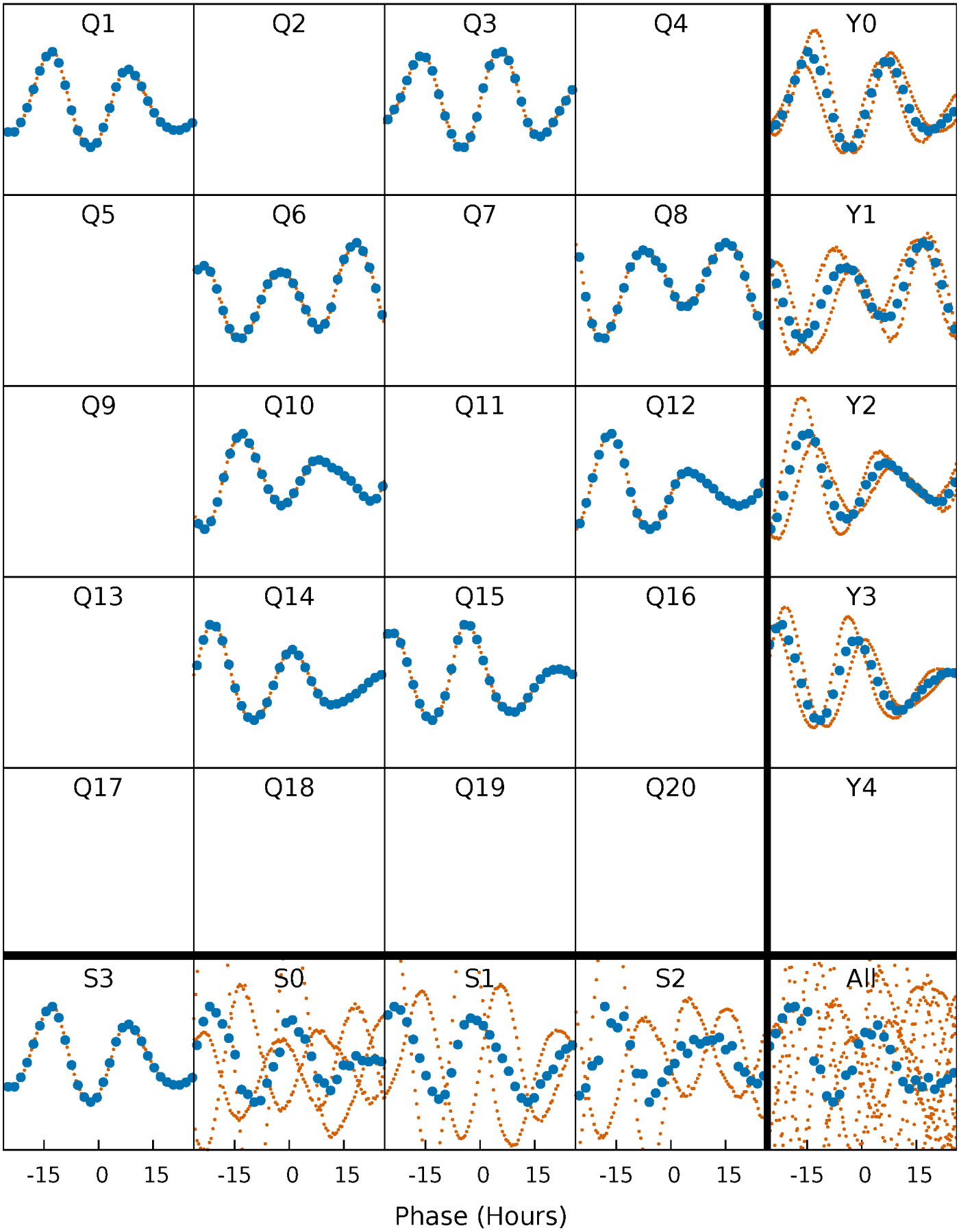
Non-Whitened Vs. Whitened Light Curve





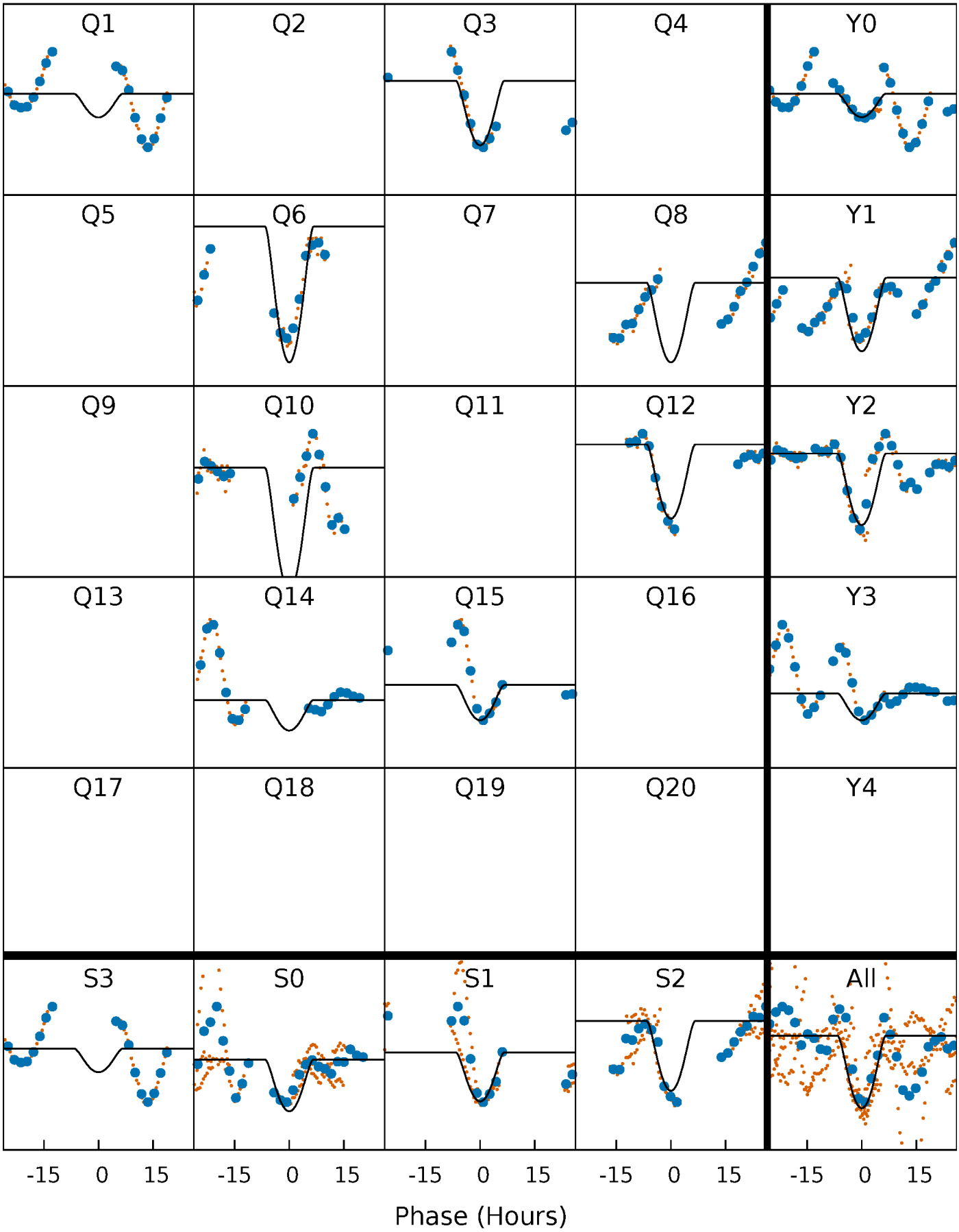
PDC Quarter-Phased Transit Curves

TCE 006342398-02 P=163.036634 Days T_0=135.692846 (BKJD)



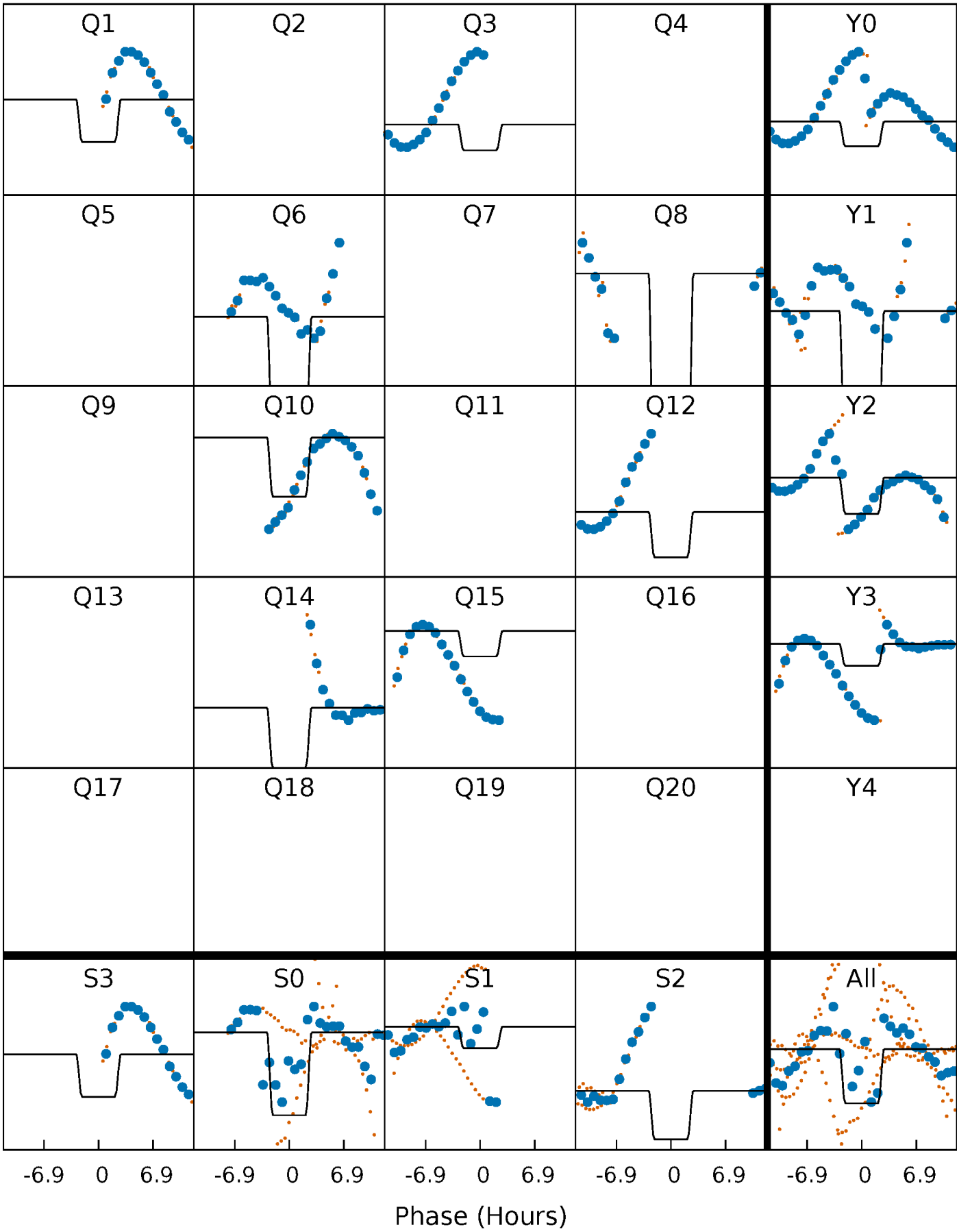
DV Quarter-Phased Transit Curves

TCE 006342398-02 P=163.036634 Days T_0=135.692846 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

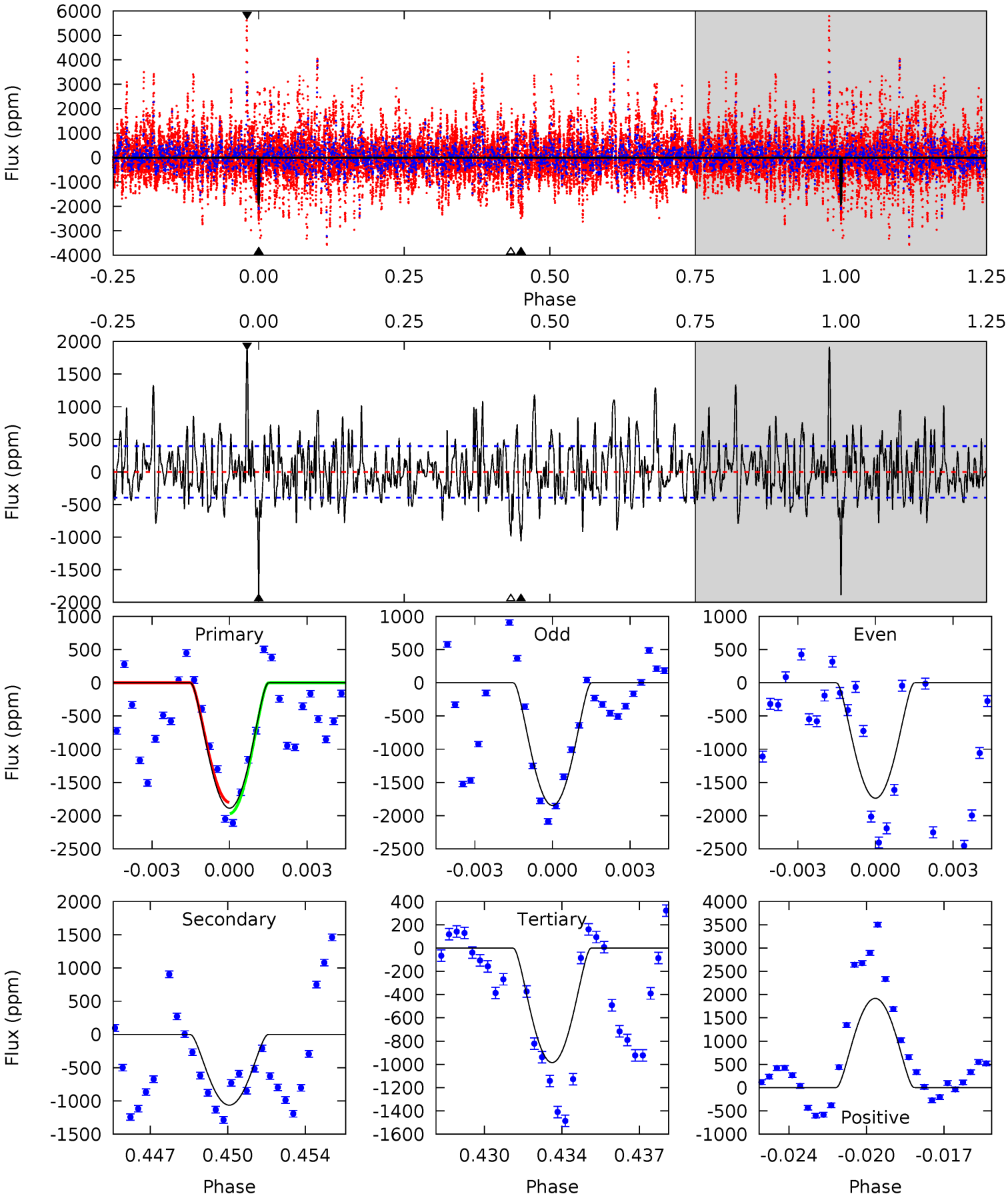
TCE 006342398-02 P=163.032564 Days T_0=135.882995 (BKJD)



DV Model-Shift Uniqueness Test

006342398-02, P = 163.036634 Days, E = 135.692846 Days

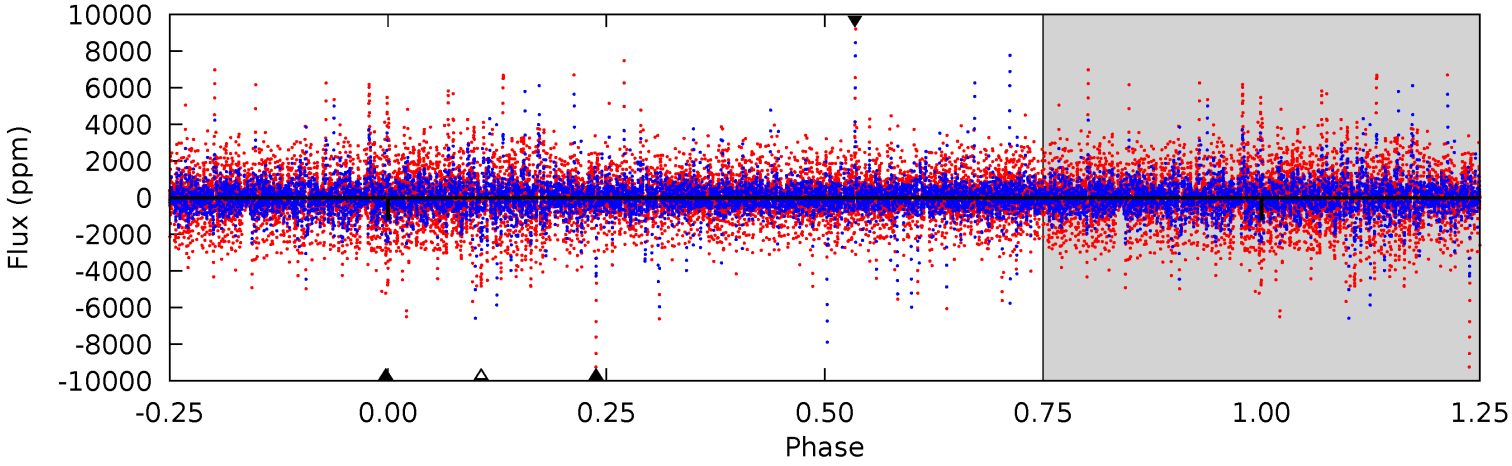
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.0	14.1	13.1	25.4	5.23	2.93	4.78	12.0	-0.39	1.05	-11.3	0.68	0.83	0.50	1.12

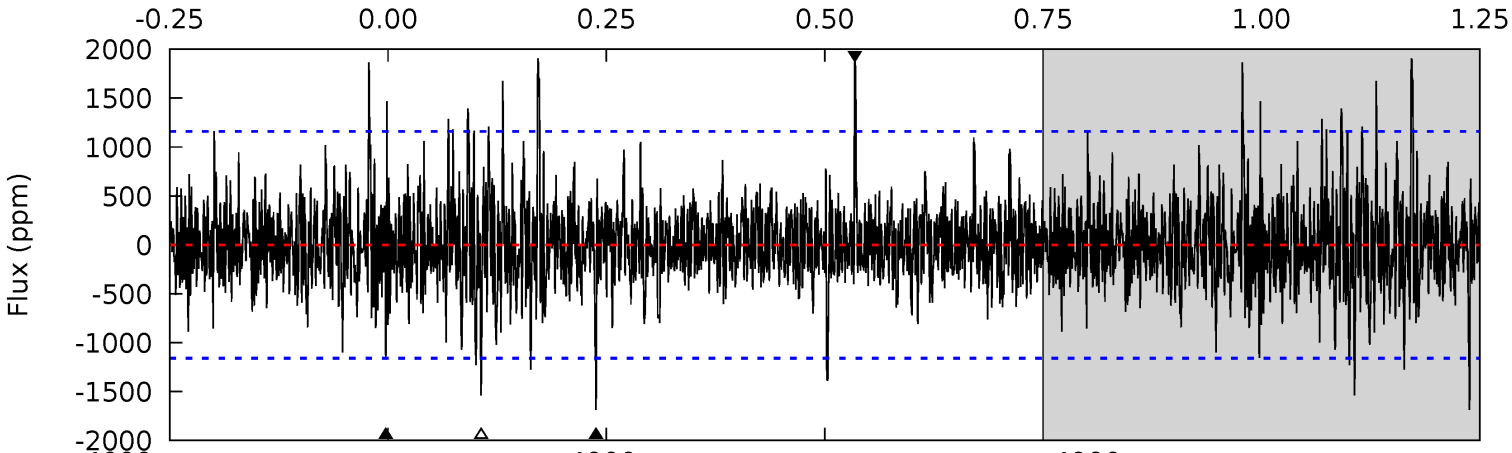


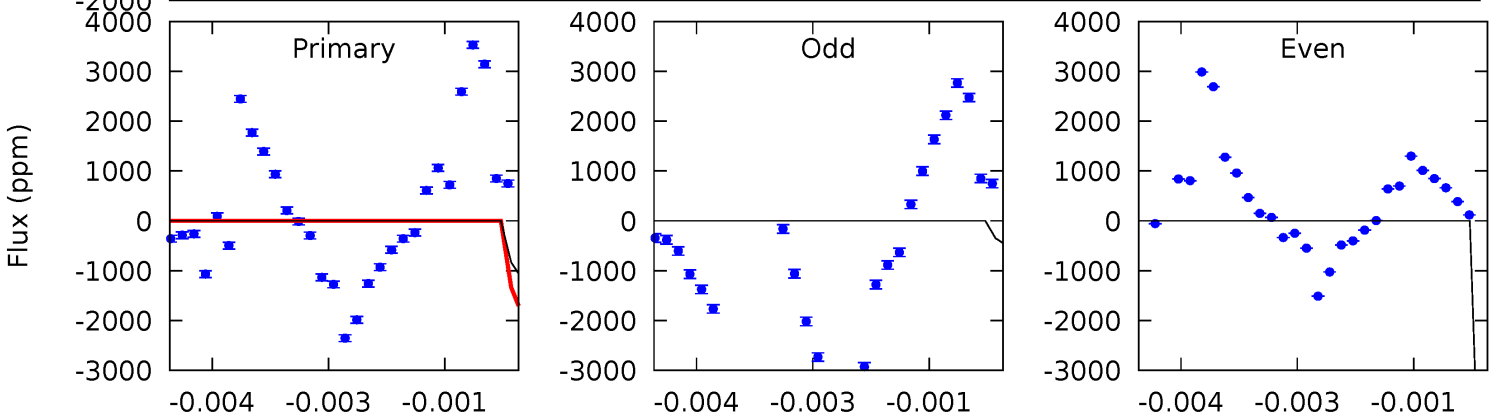
Alt Model-Shift Uniqueness Test

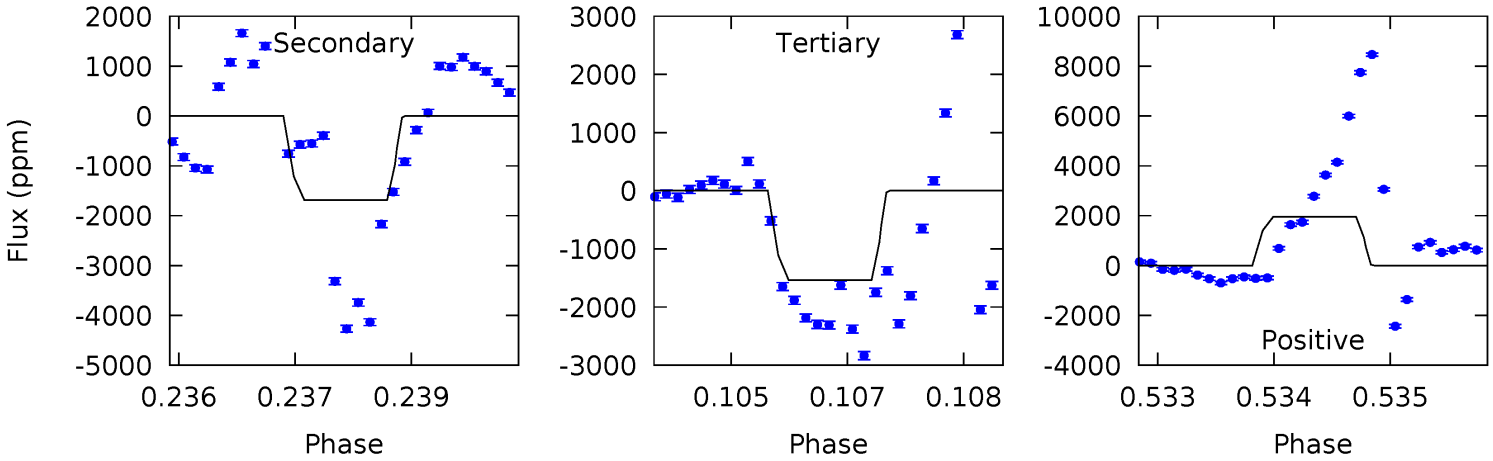
006342398-02, P = 163.032564 Days, E = 135.882995 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.36	7.83	7.14	9.07	5.39	3.19	1.57	-1.78	-3.71	0.69	-1.24	15.0	0.55	0.54	3.25









Stellar Parameters For KIC 006342398

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6779^{+185}_{-301}	$4.150^{+0.128}_{-0.192}$	$0.200^{+0.150}_{-0.350}$	$1.698^{+0.544}_{-0.317}$	$1.485^{+0.197}_{-0.219}$	$0.427^{+0.319}_{-0.224}$
	+3%/-4%	+3%/-5%	+75%/-175%	+32%/-19%	+13%/-15%	+75%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006342398-02 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1064±75	$17.93^{+16.57}_{-11.05}$	669^{+49}_{-42}	4191^{+2109}_{-811}	792^{+4568}_{-571}
Alt.	-1685±215	$16.47^{+14.73}_{-11.15}$	669^{+52}_{-45}	4707^{+3499}_{-945}	1401^{+12277}_{-984}

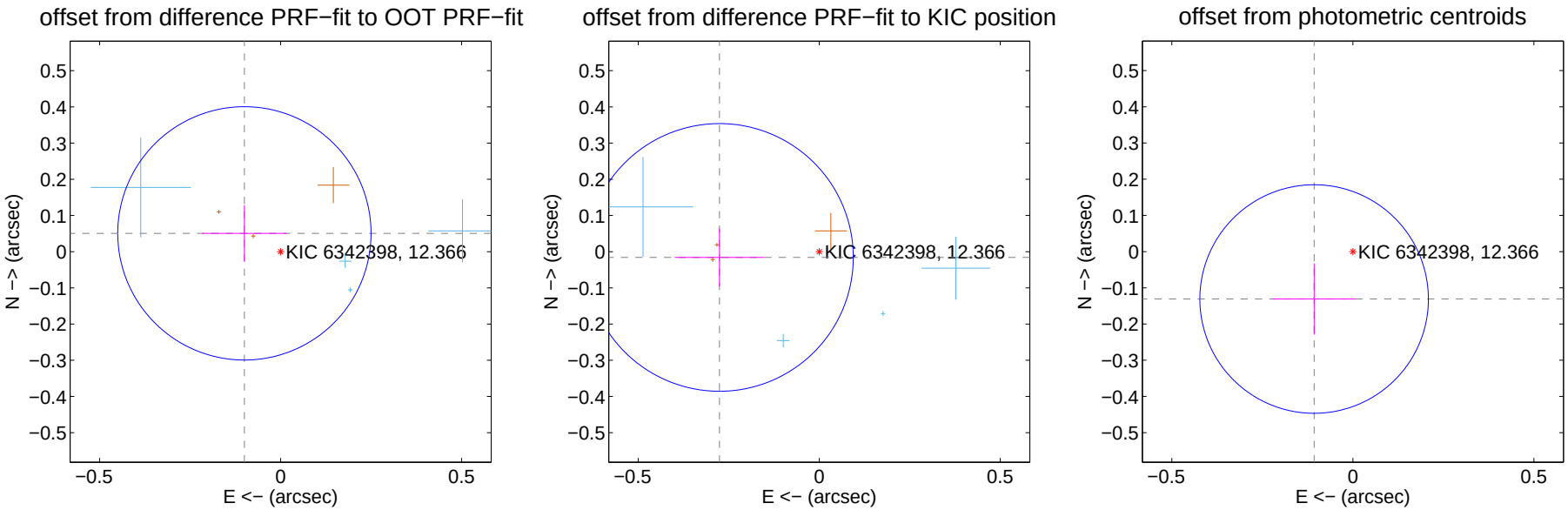
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

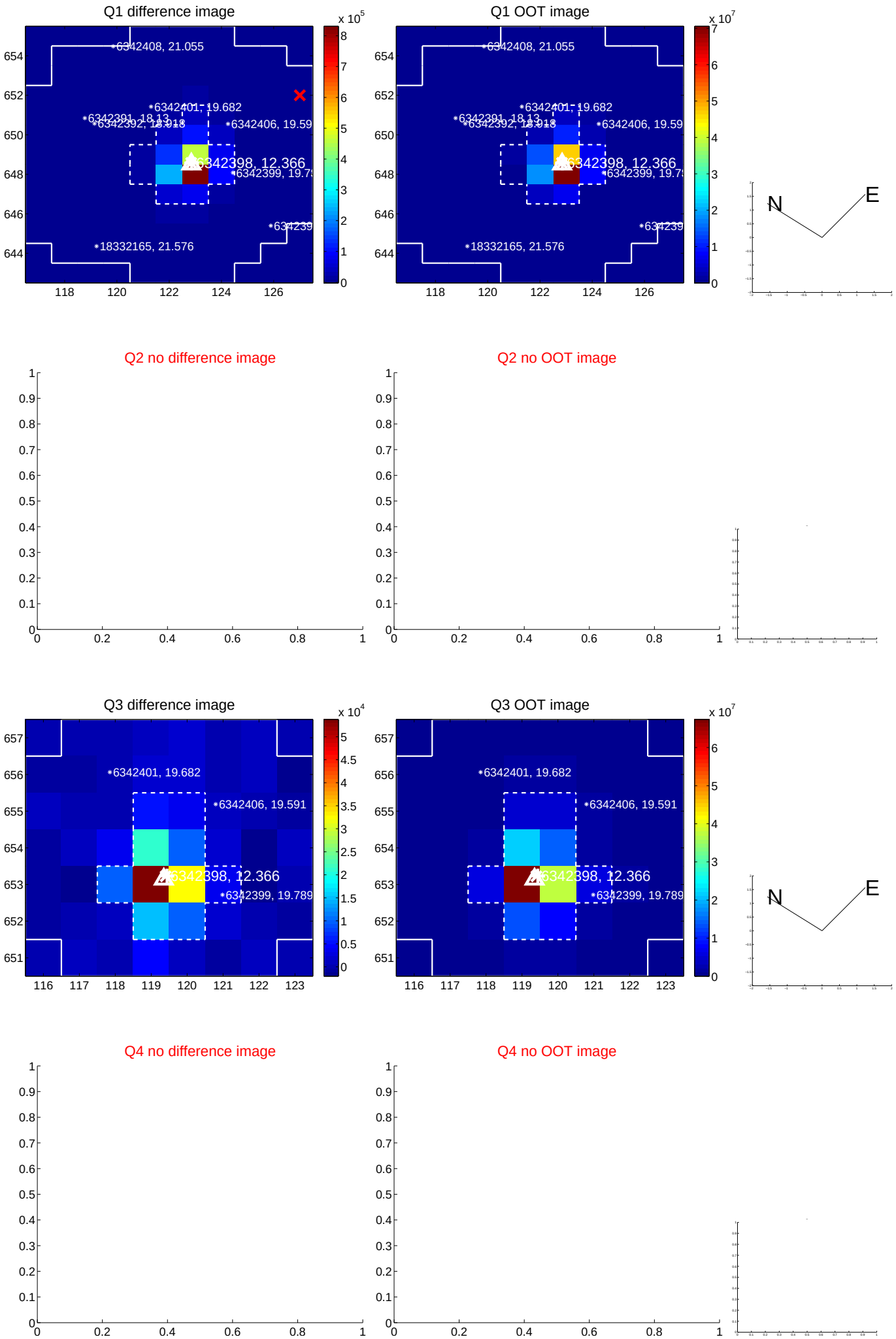
Supplemental centroid analysis for 006342398-02. Kepler magnitude: 12.37. Transit SNR 7.94
There are 4 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.112 ± 0.117	0.96	0.100 ± 0.117	0.051 ± 0.078
PRF-fit source offset from KIC position	0.276 ± 0.123	2.24	0.276 ± 0.124	-0.016 ± 0.080
photometric centroid source offset	0.17 ± 0.11	1.61	0.11 ± 0.11	-0.13 ± 0.10

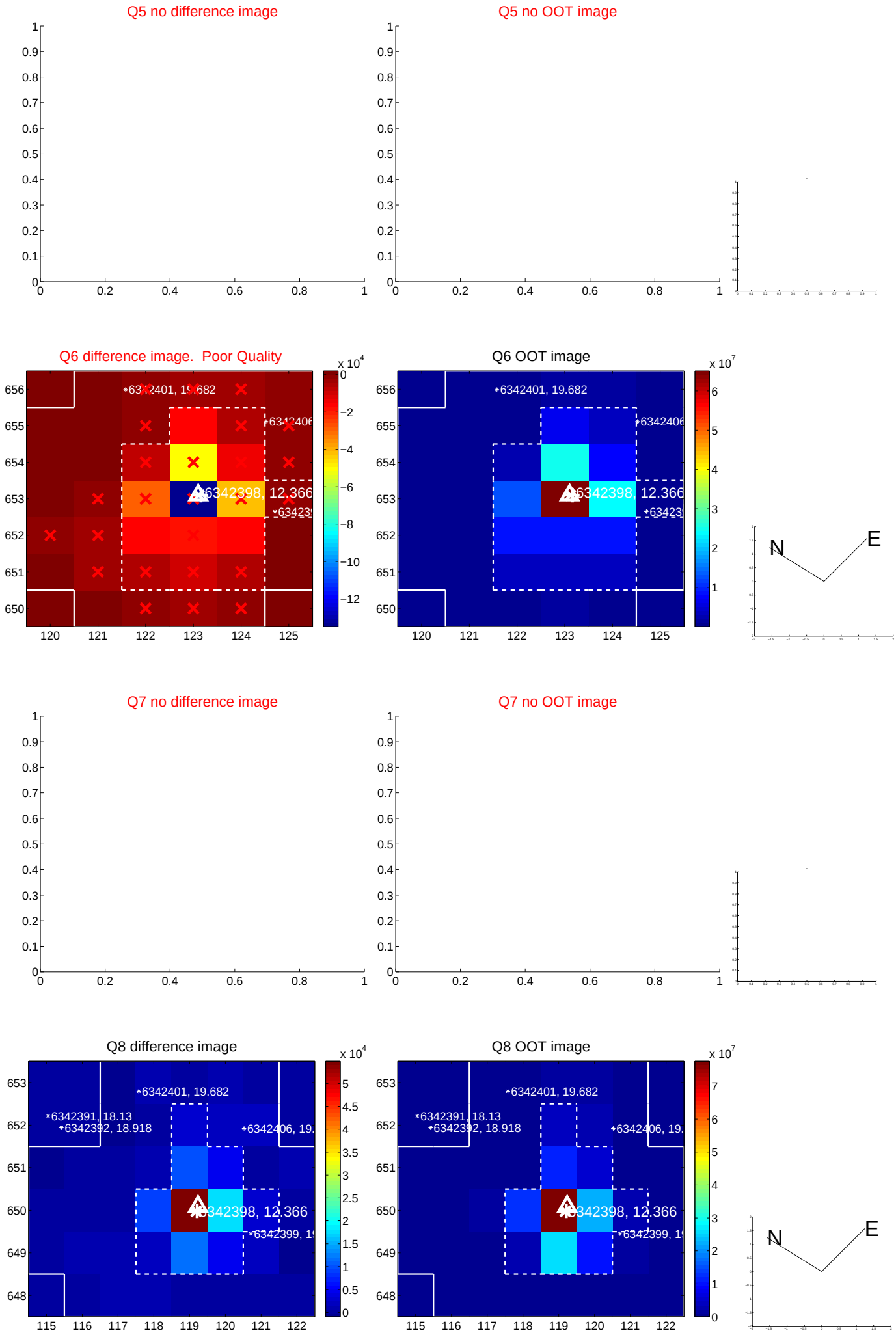


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

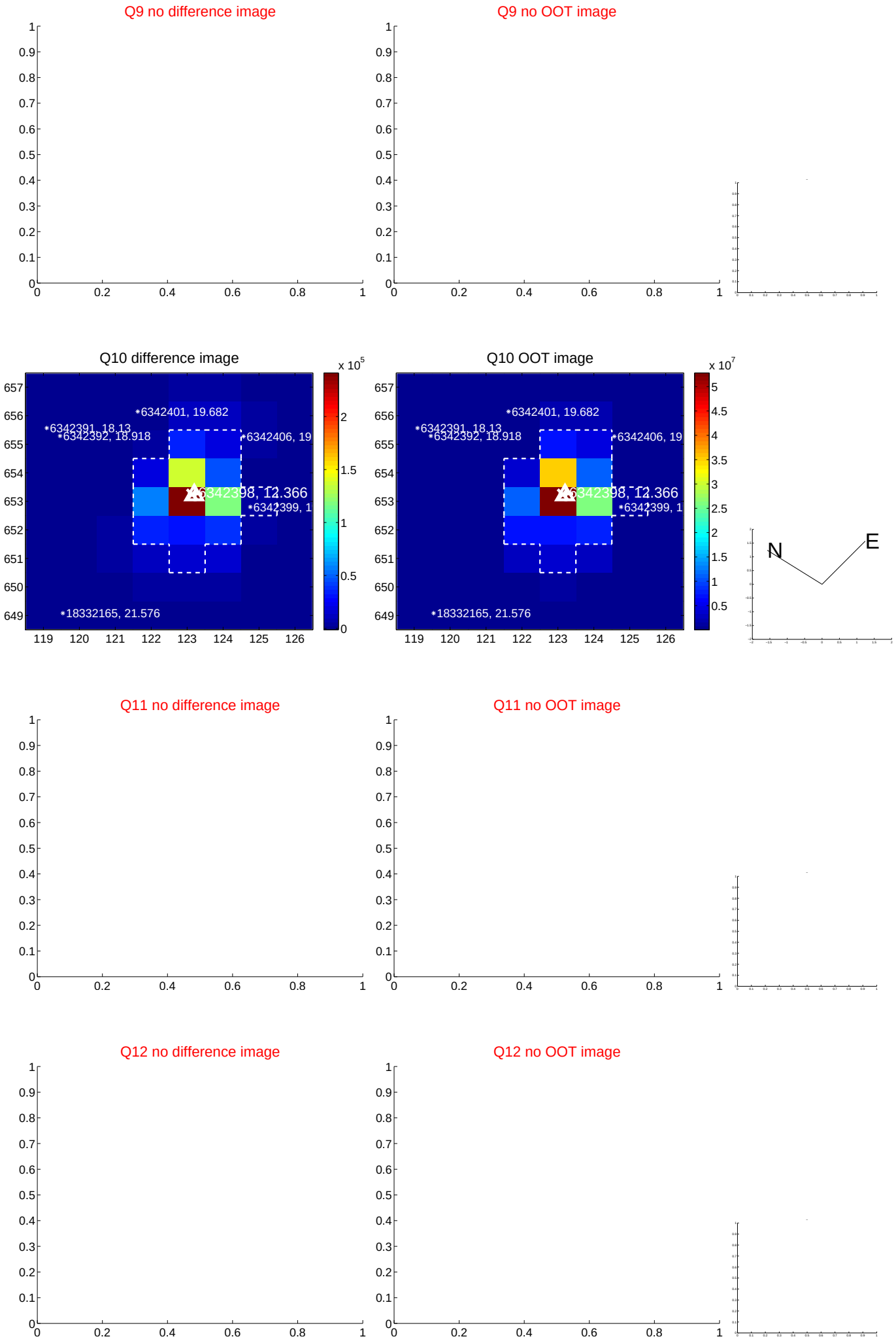
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



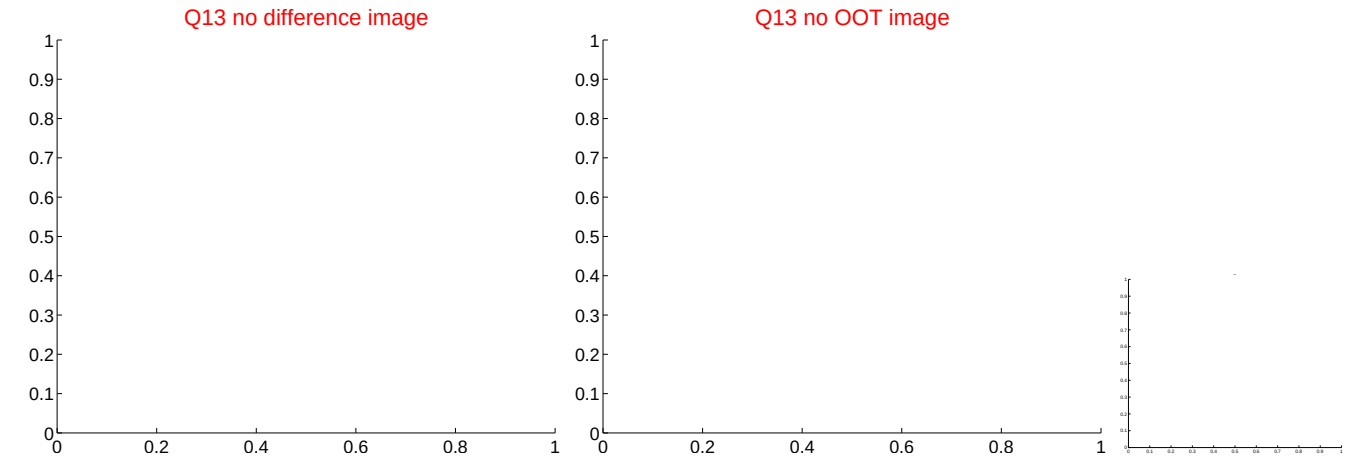
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

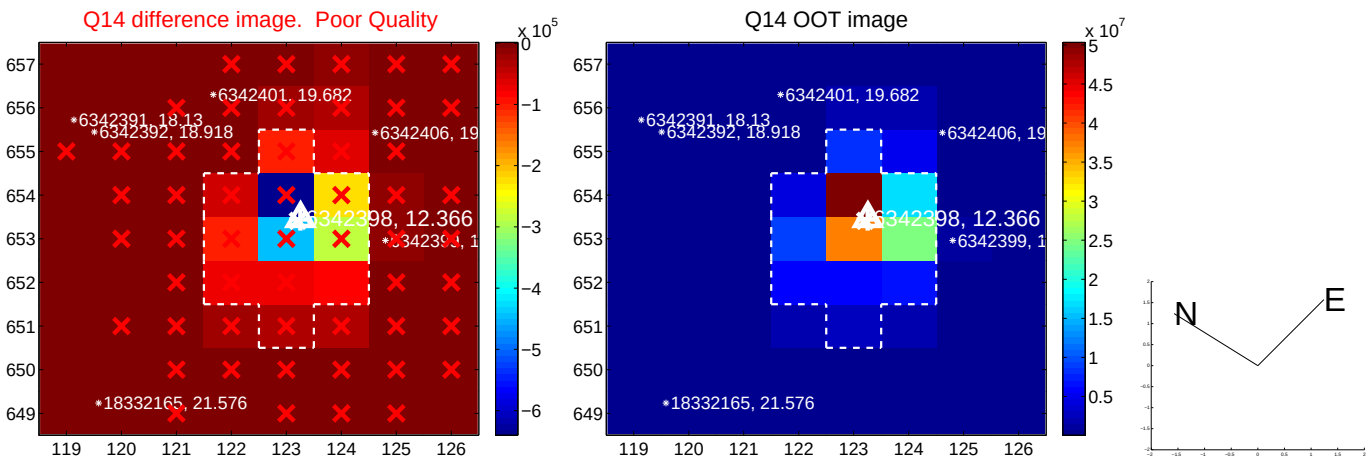


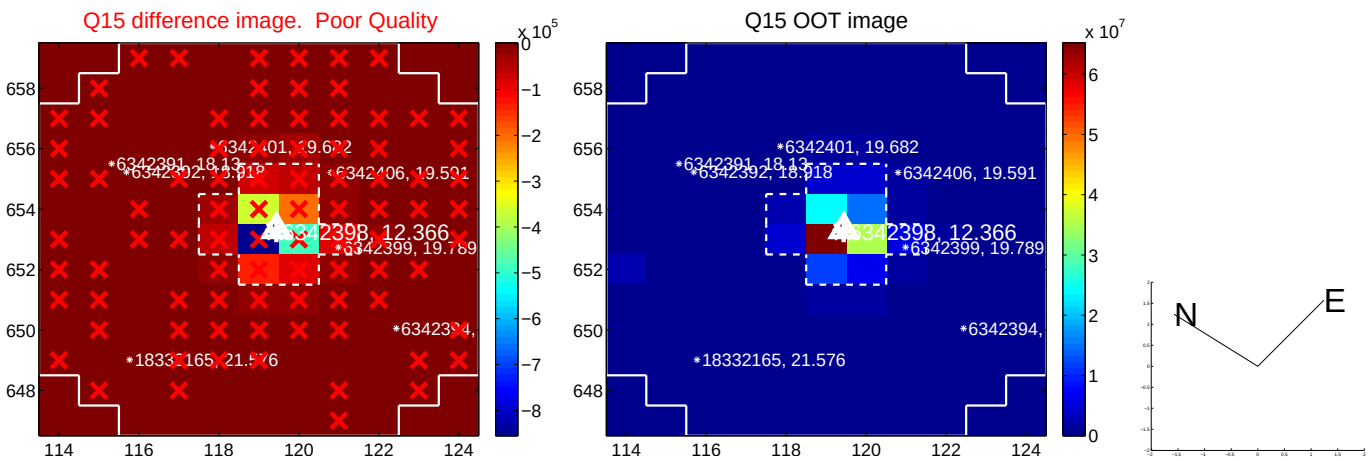
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

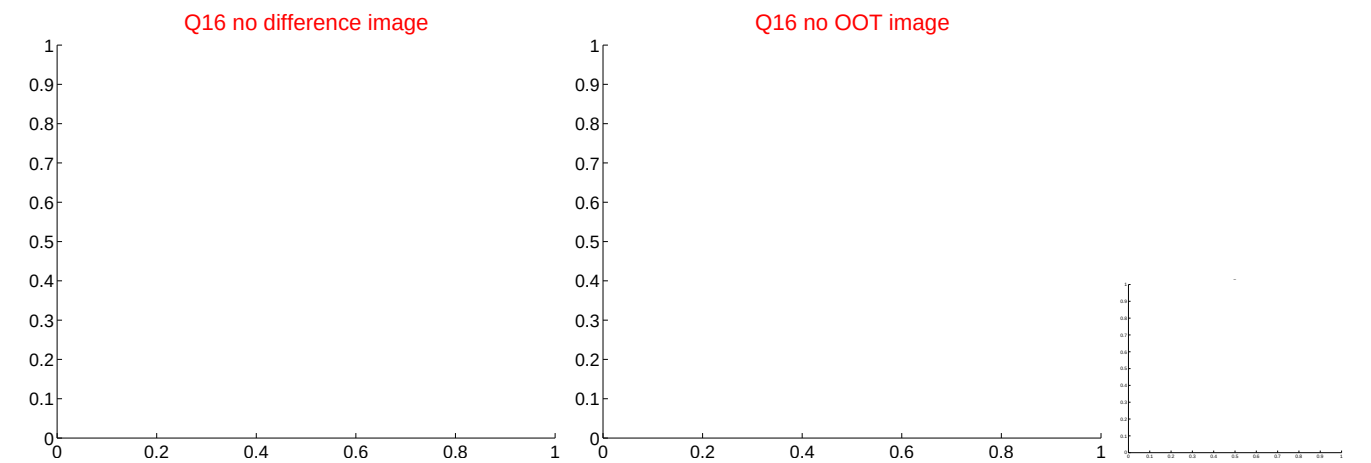


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

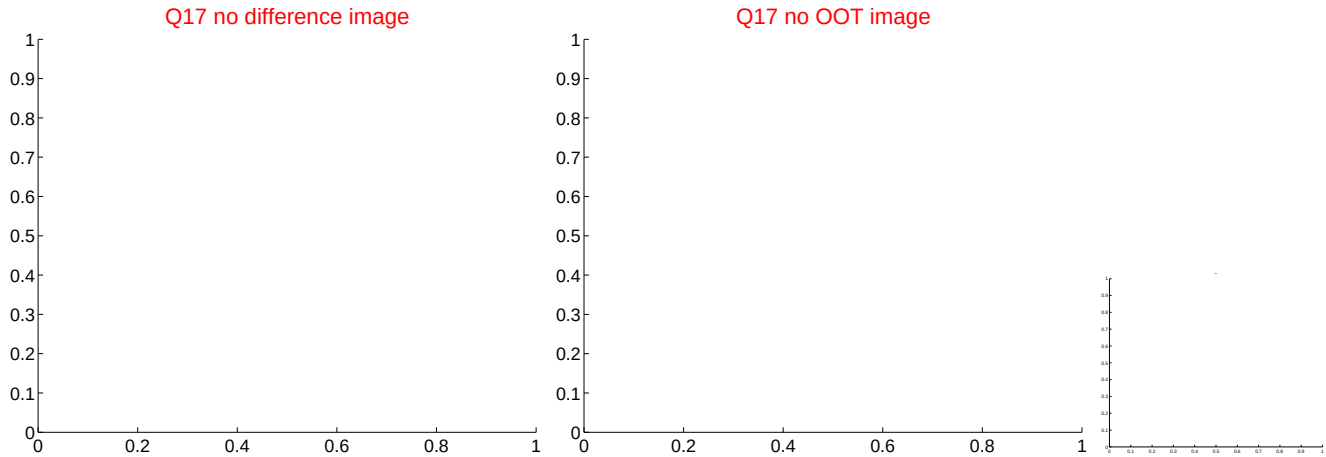


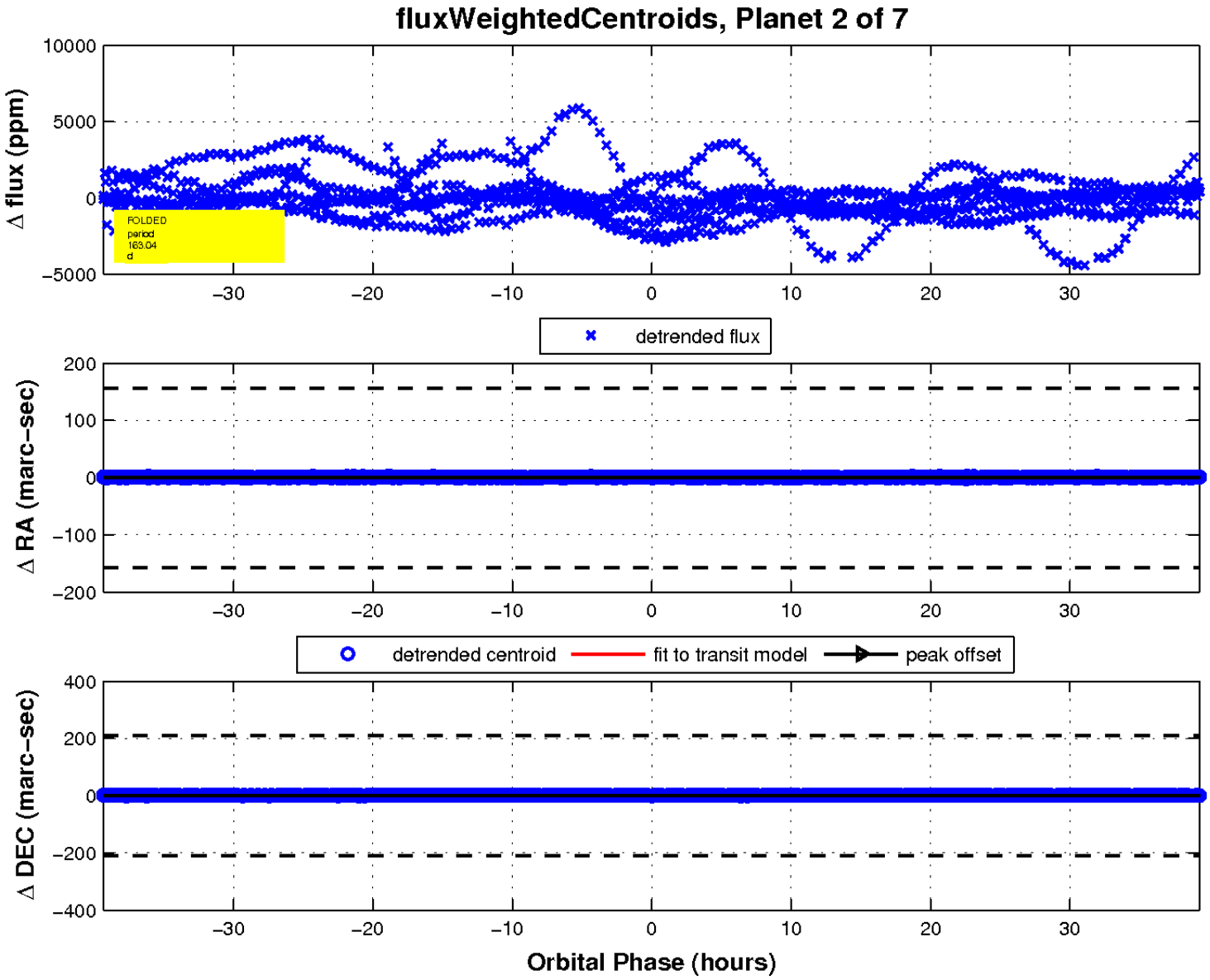




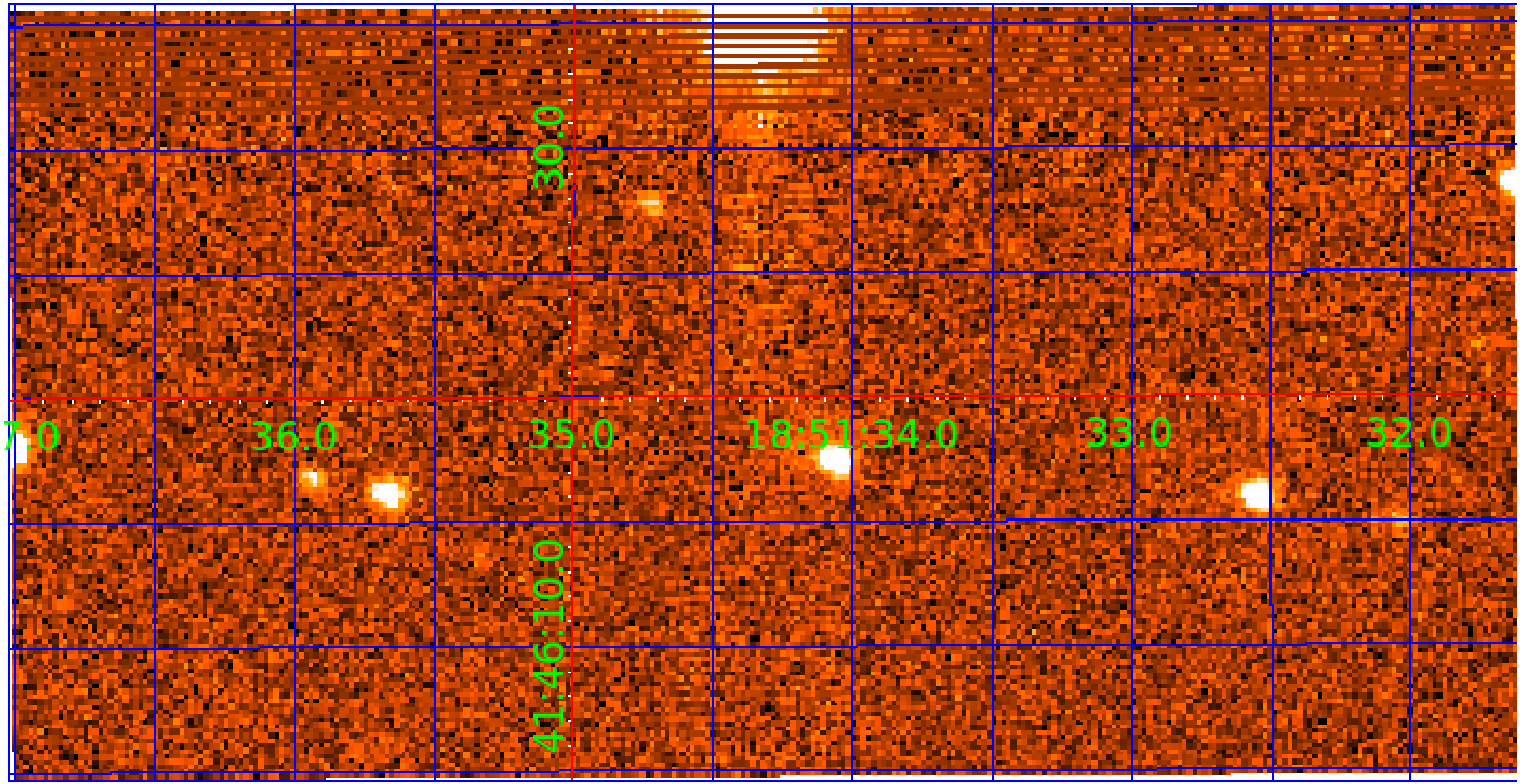


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image



KIC 006342398

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 ($S_\oplus$)
006342398-01	OBS	No	1.310332	131.599544	31.8	5.617	8.5	4.4	1.70	6779	0.99	7626.76
006342398-02	OBS	No	163.036634	135.692846	2222.1	13.118	11.0	7.9	1.70	6779	14.71	12.28
006342398-03	OBS	No	91.278679	213.563037	218.8	7.968	8.5	2.0	1.70	6779	2.70	26.61
006342398-04	OBS	No	75.366528	198.208820	153.7	5.660	8.9	1.7	1.70	6779	2.39	34.35
006342398-05	OBS	No	55.630773	171.323692	120.8	5.826	8.6	1.7	1.70	6779	2.12	51.49
006342398-06	OBS	No	234.536402	226.452125	177.0	7.500	7.8	-1.0	1.70	6779	2.28	7.56
006342398-07	OBS	No	117.790510	133.427895	1472.3	10.139	8.0	7.4	1.70	6779	12.12	18.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006342398-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006342398-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006342398-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006342398-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—HALO_GHOST

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.

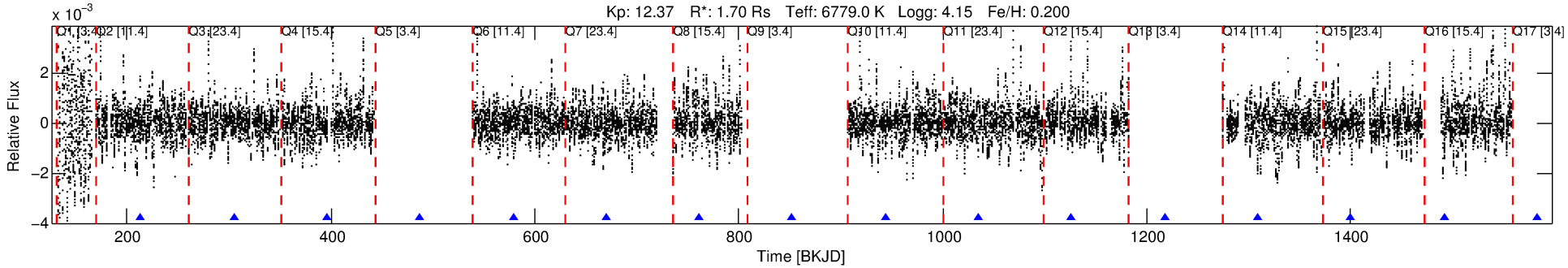
Ephemeris Match Information For 006342398-03

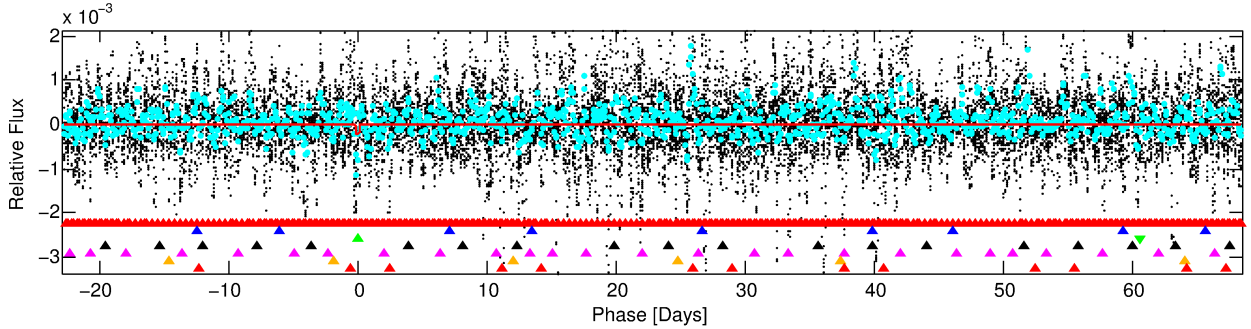
No Significant Match Found

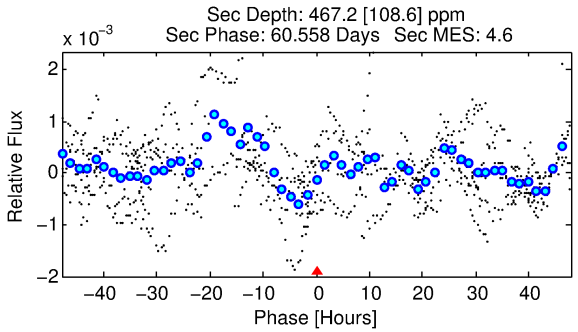
DV One-Page Summary

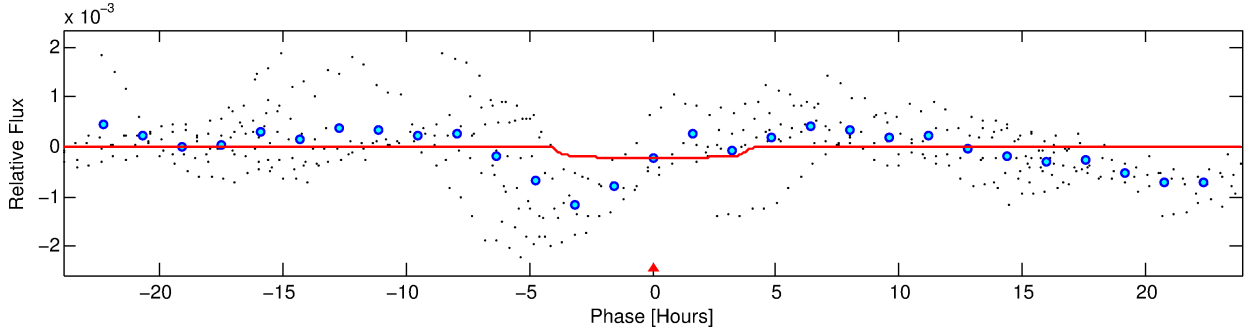
KIC: 6342398 Candidate: 3 of 7 Period: 91.279 d

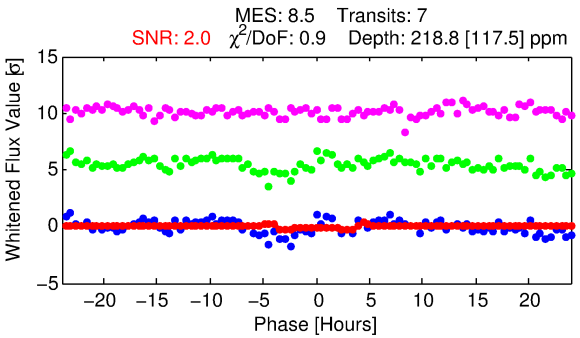
Kp: 12.37 R*: 1.70 Rs Teff: 6779.0 K Logg: 4.15 Fe/H: 0.200

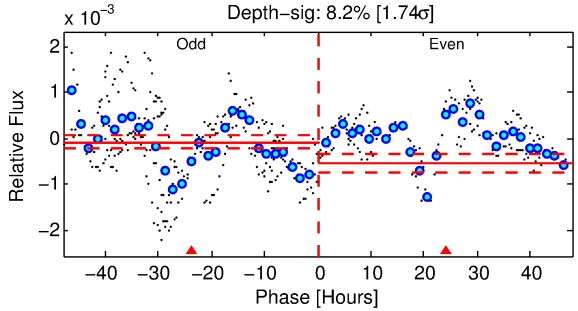


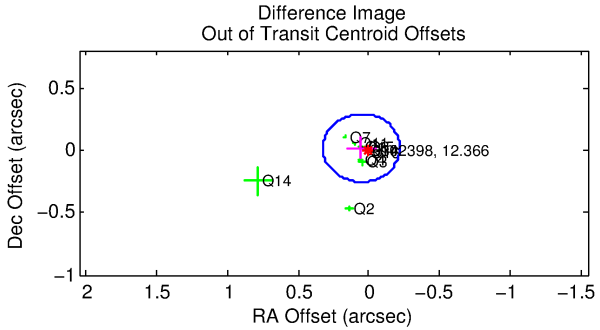












DV Fit Results:

Period = 91.27868 [0.00229] d
Epoch = 213.5630 [0.0210] BKJD
Rp/R* = 0.0146 [0.0097]
a/R* = 63.07 [194.25]
b = 0.71 [2.11]

Seff = 26.61 [10.78]
Teq = 579 [59] K
Rp = 2.70 [2.00] Re
a = 0.4528 [0.1175] AU

Ag = 7239.30 [10143.21] [0.71σ]
Teffp = 8259 [2818] K [2.73σ]

DV Diagnostic Results:

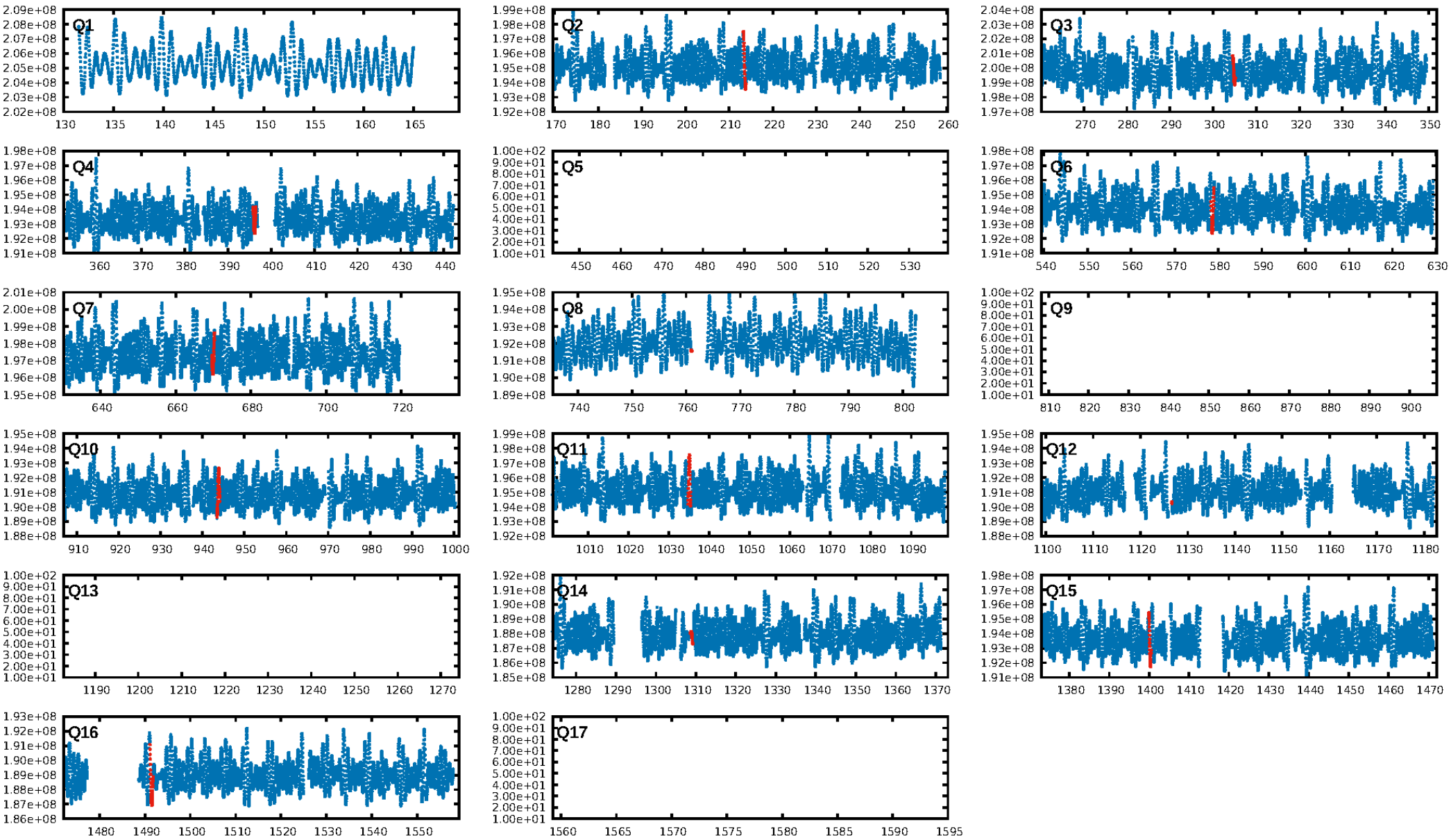
ShortPeriod−sig: 100.0% [39.07σ]
LongPeriod−sig: 100.0% [49.34σ]
ModelChiSquare2−sig: 38.0%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 1.16e−10
RollingBand−fgt: 1.00 [7/7]
GhostDiagnostic−chr: 0.8983

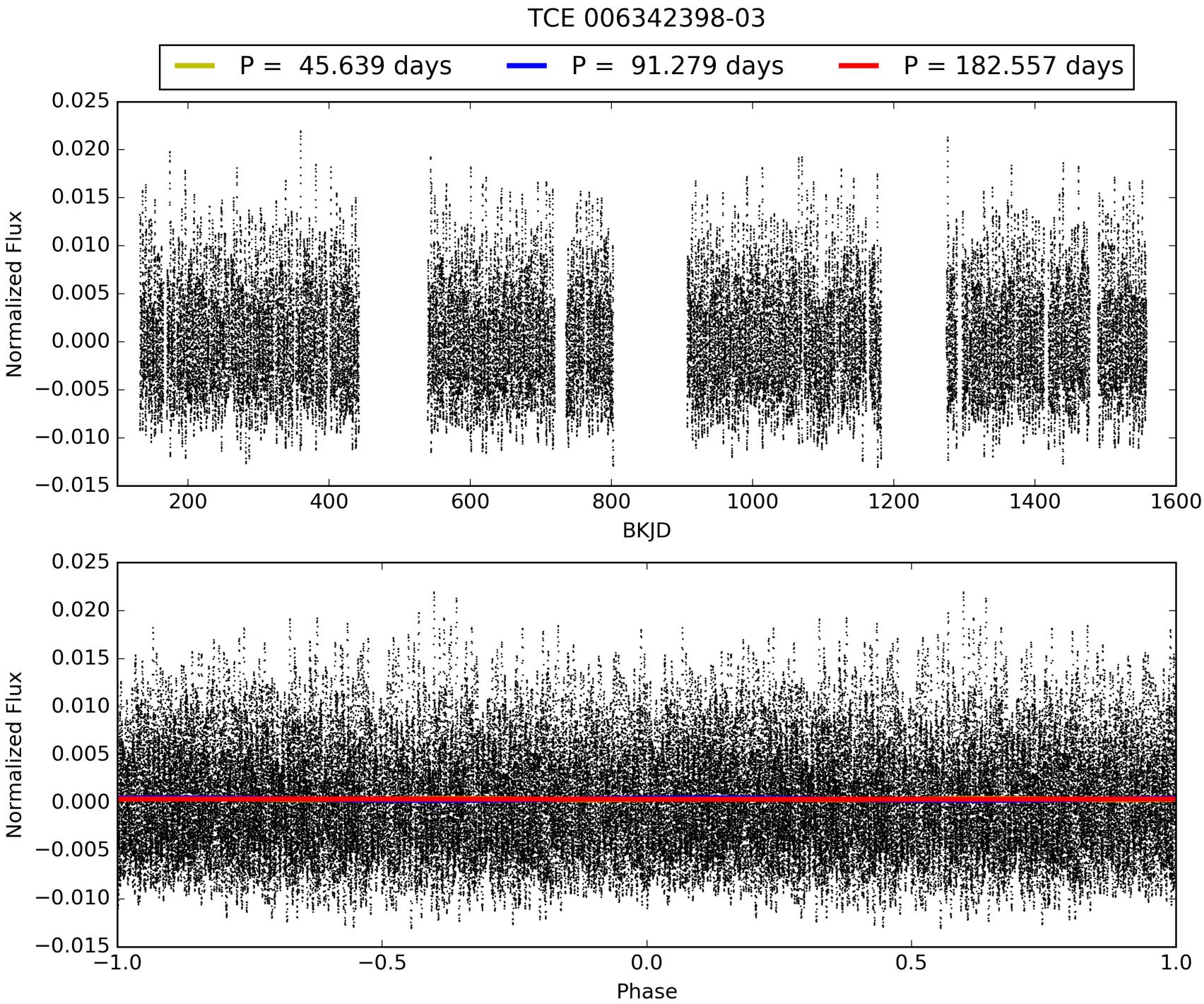
Centroid−sig: 0.2%
Centroid−so: 1.681 arcsec [2.04σ]
OotOffset−rm: 0.056 arcsec [0.61σ]
KicOffset−rm: 0.273 arcsec [2.60σ]
OotOffset−st: 4/4/2/0 [10]
KicOffset−st: 4/4/2/0 [10]
DiffImageQuality−fgm: 0.70 [7/10]
DiffImageOverlap−fno: 0.00 [0/10]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:48:59 Z

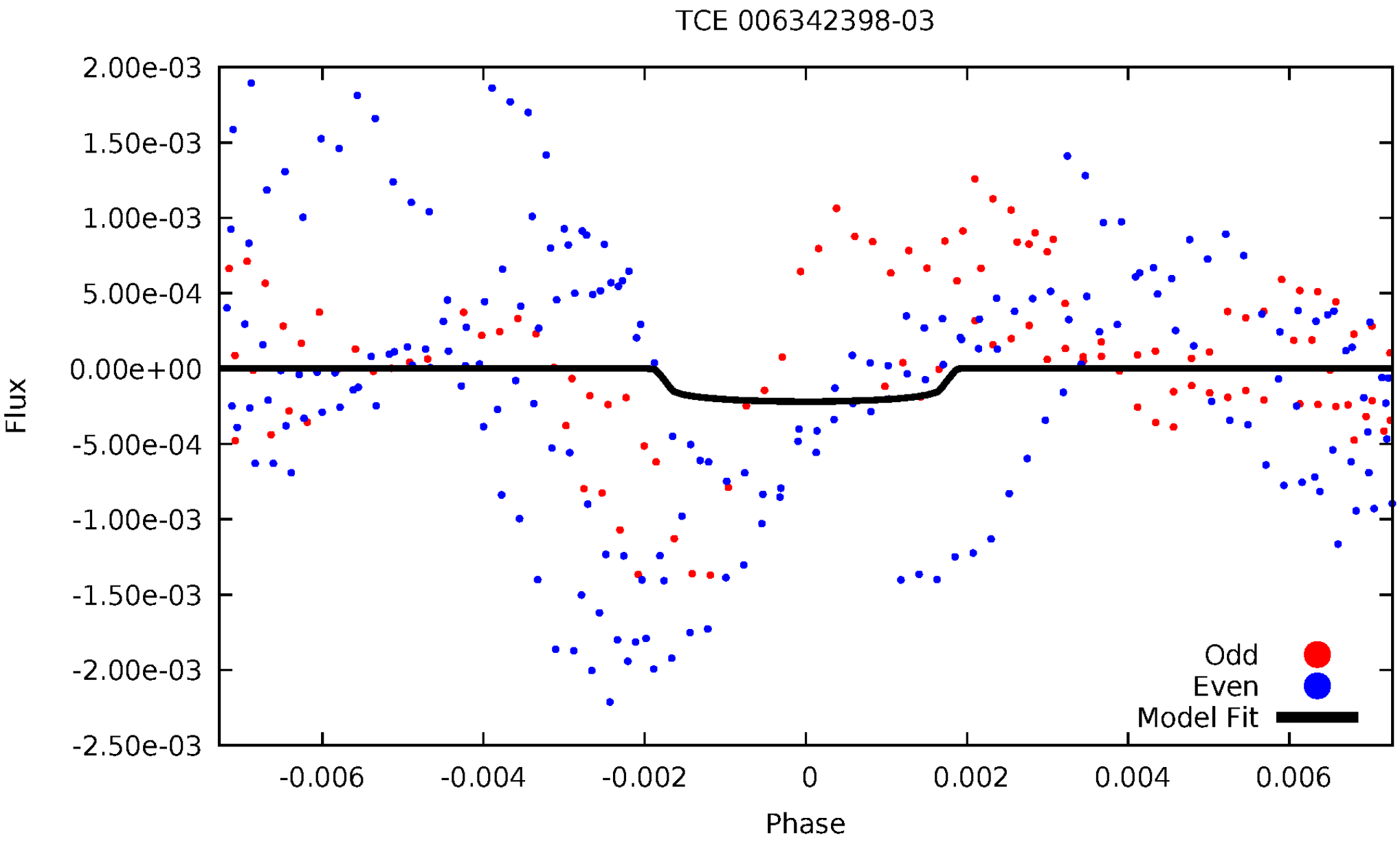
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006342398-03, PDC Light Curves

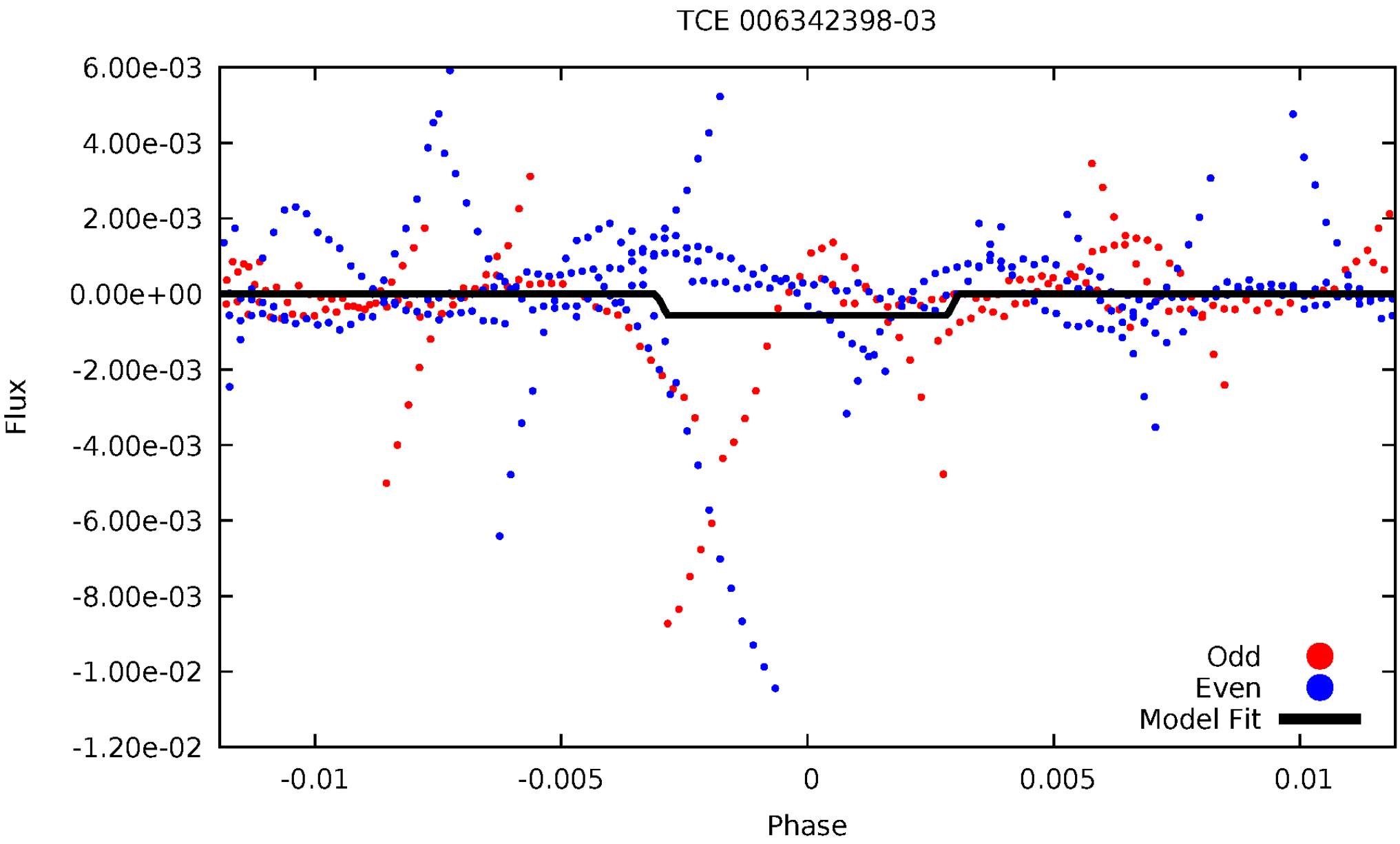



TCE 006342398-03
P = 45.639 days
P = 91.279 days
P = 182.557 days
Normalized Flux
BKJD
Normalized Flux
Phase

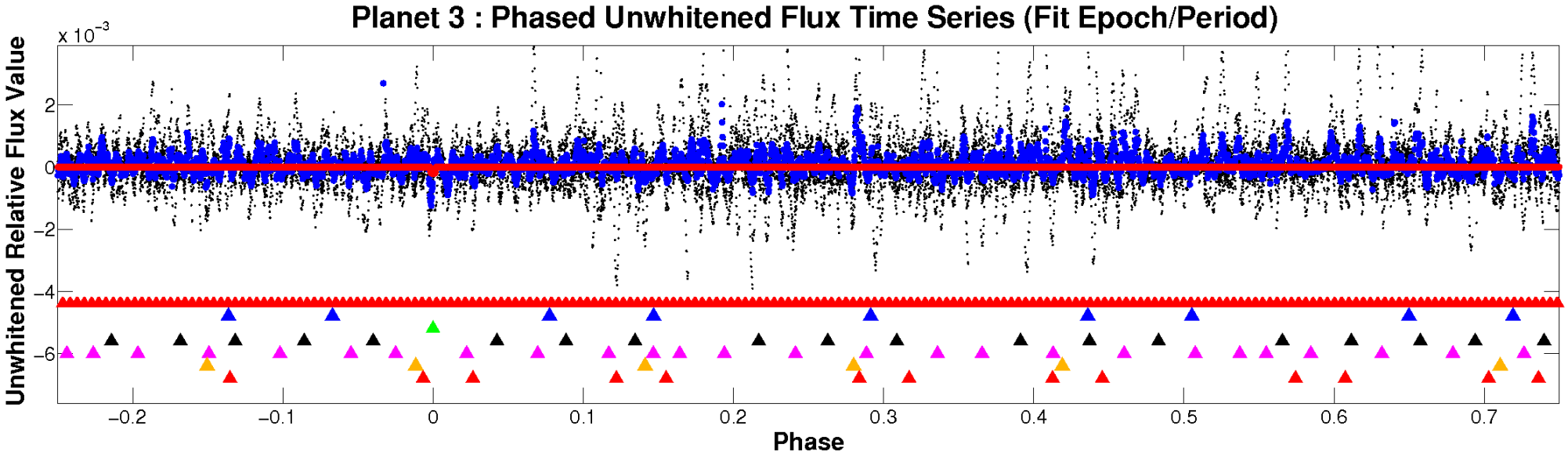
DV Odd/Even

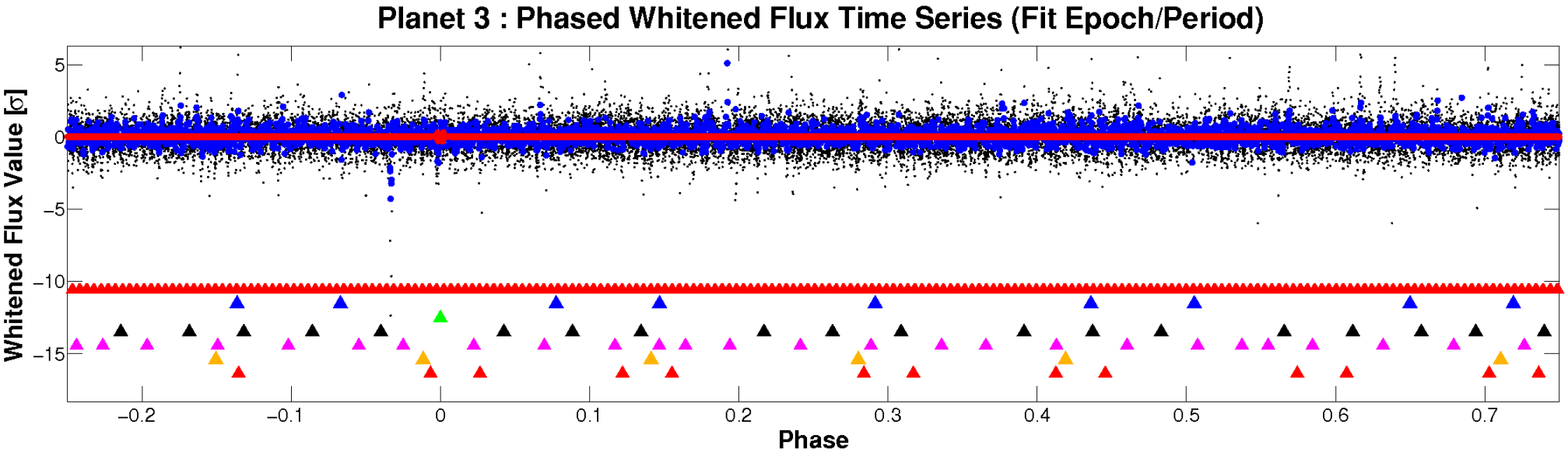

TCE 006342398-03
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006342398-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
-8.00e-03
-1.00e-02
-1.20e-02
Flux
-0.01
-0.005
0
0.005
0.01
Phase
Odd
Even
Model Fit

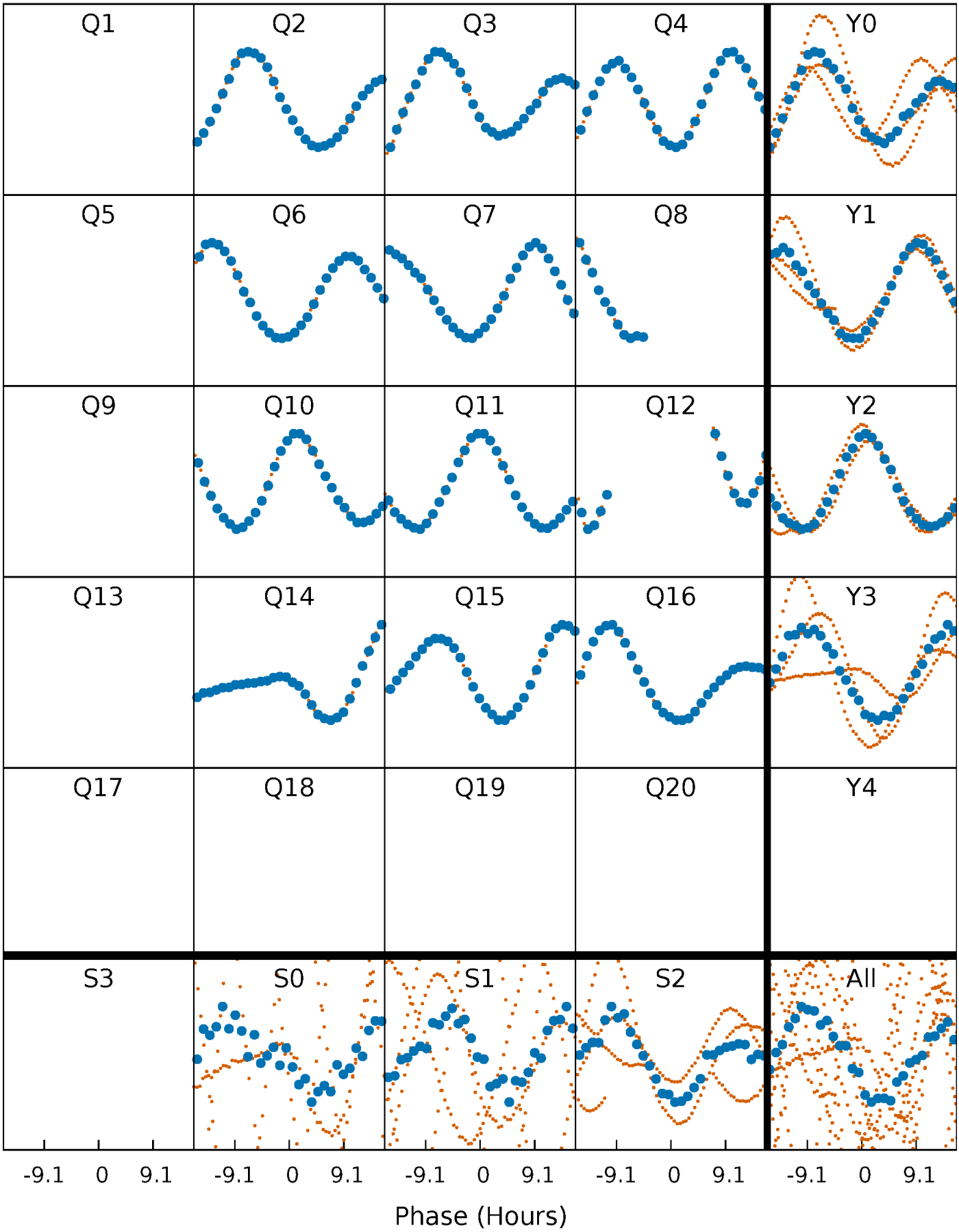
Non-Whitened Vs. Whitened Light Curve





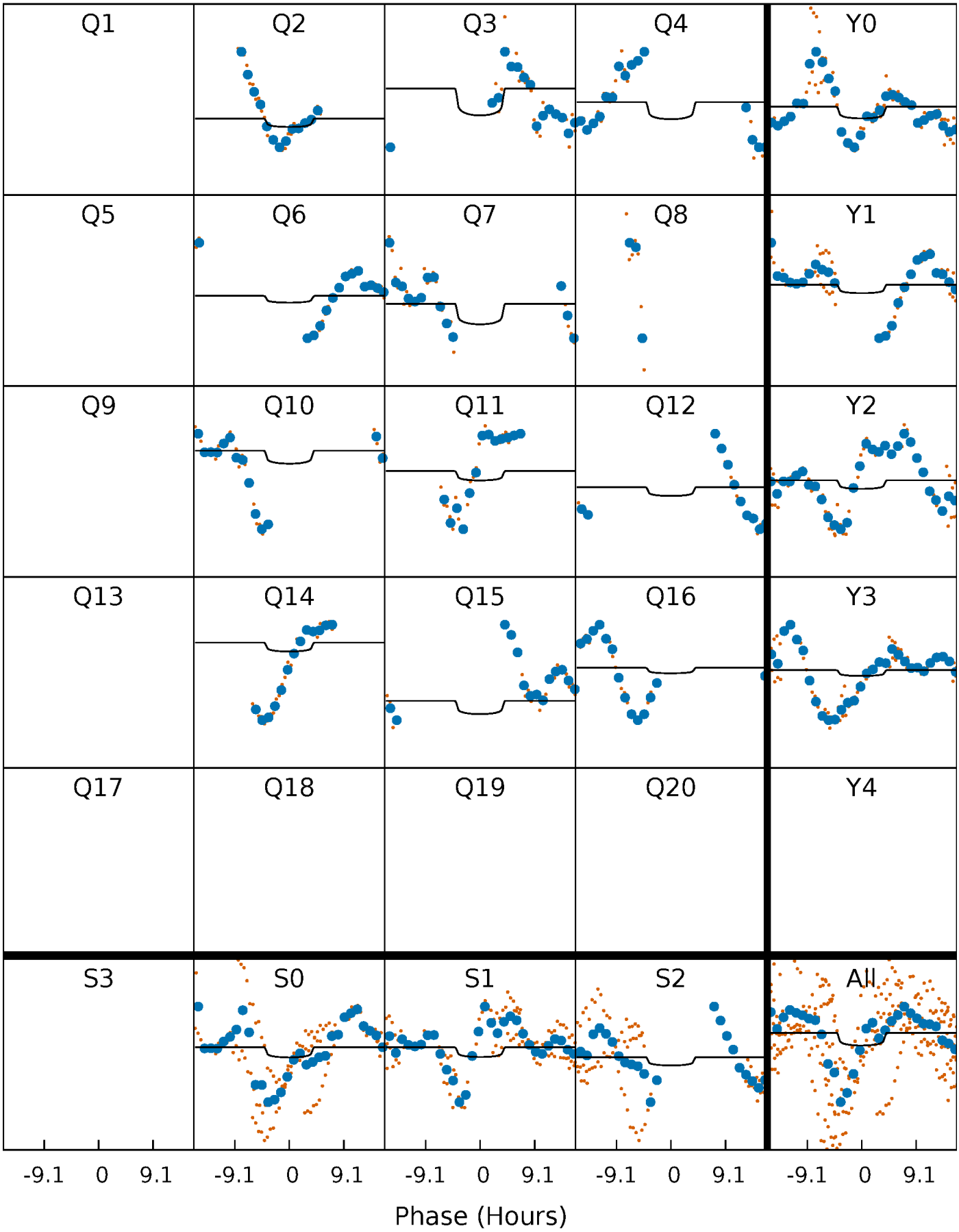
PDC Quarter-Phased Transit Curves

TCE 006342398-03 P= 91.278679 Days T_0=213.563037 (BKJD)



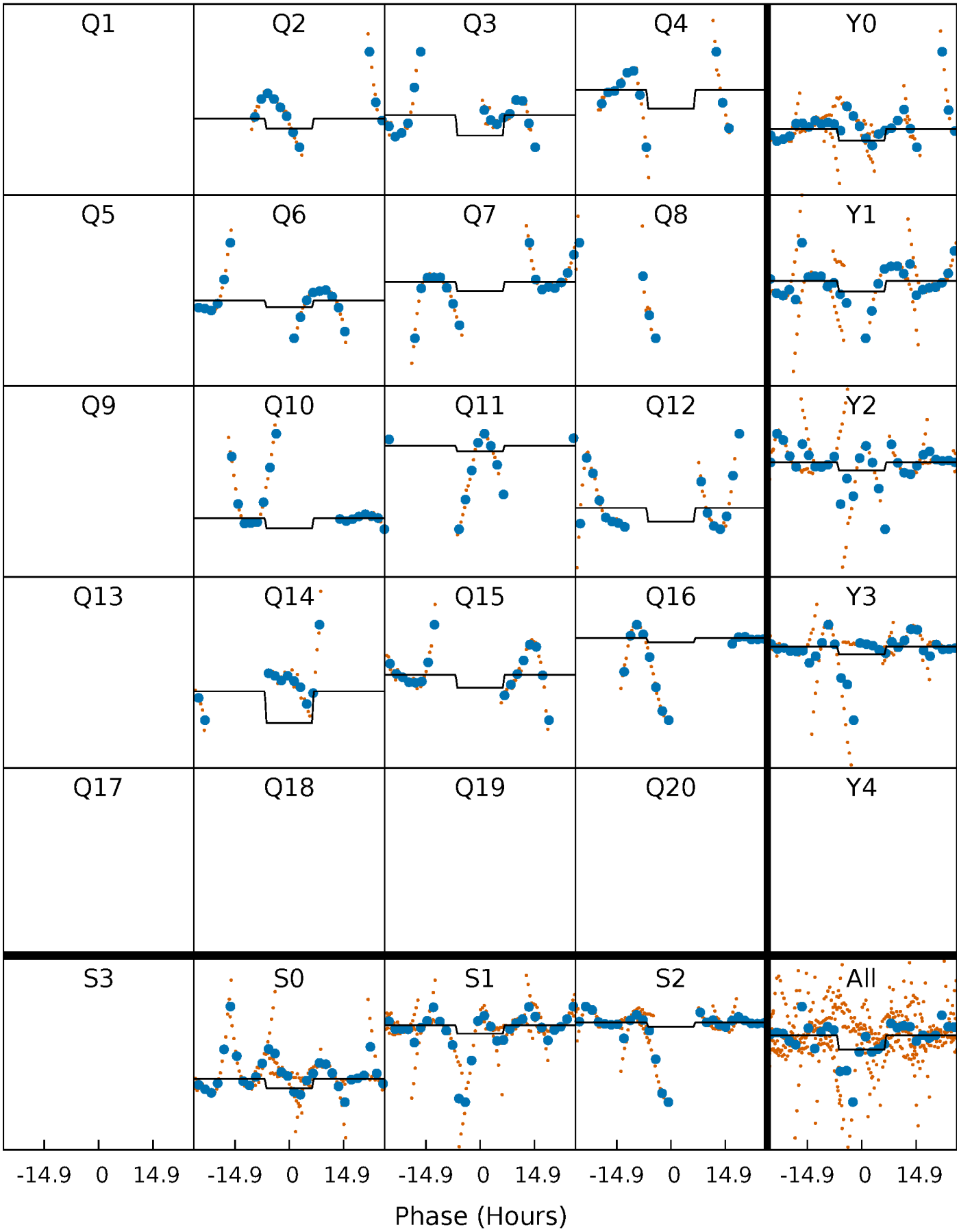
DV Quarter-Phased Transit Curves

TCE 006342398-03 P= 91.278679 Days T_0=213.563037 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

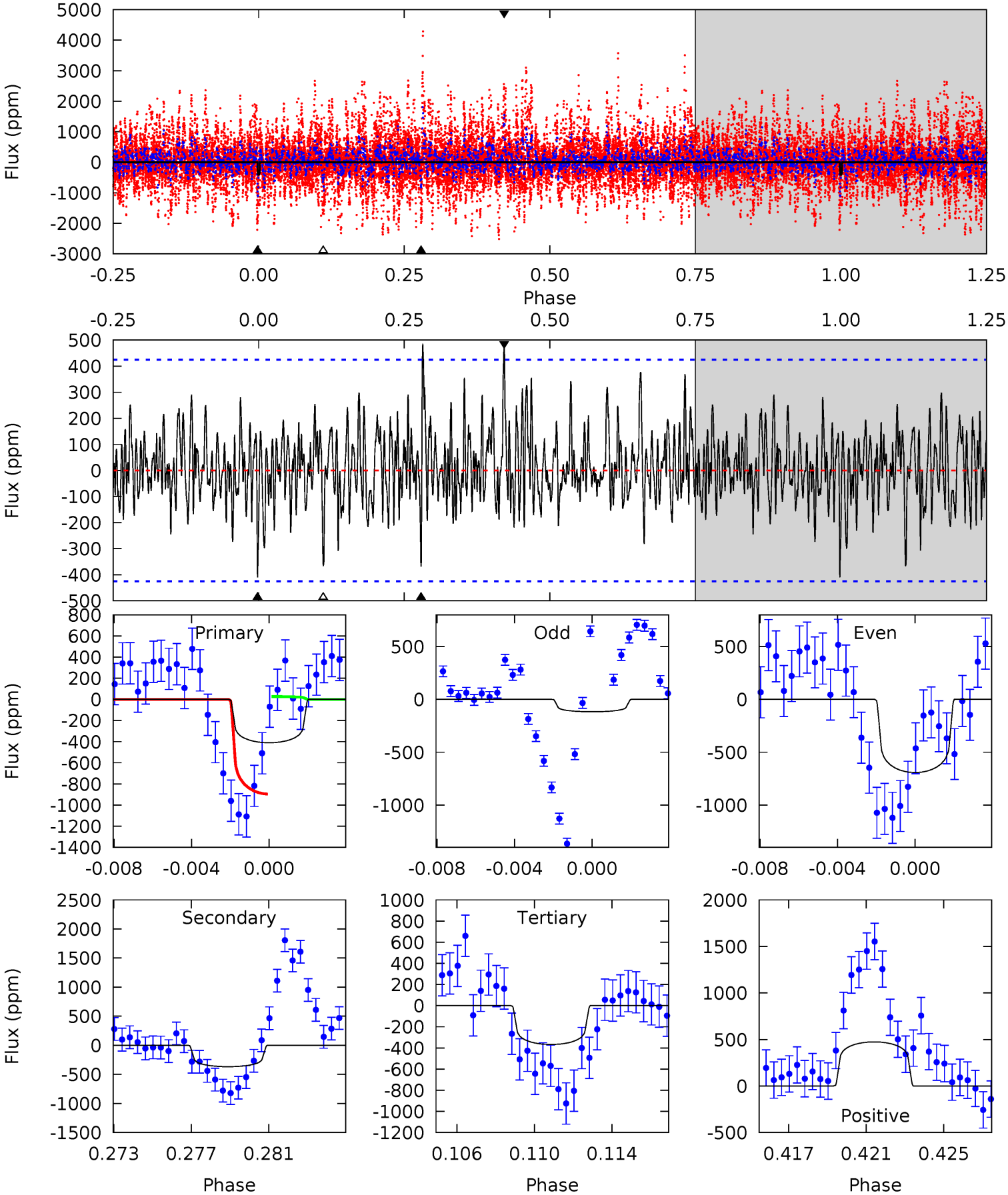
TCE 006342398-03 P= 91.269194 Days T_0=213.635733 (BKJD)



DV Model-Shift Uniqueness Test

006342398-03, P = 91.278679 Days, E = 122.284358 Days

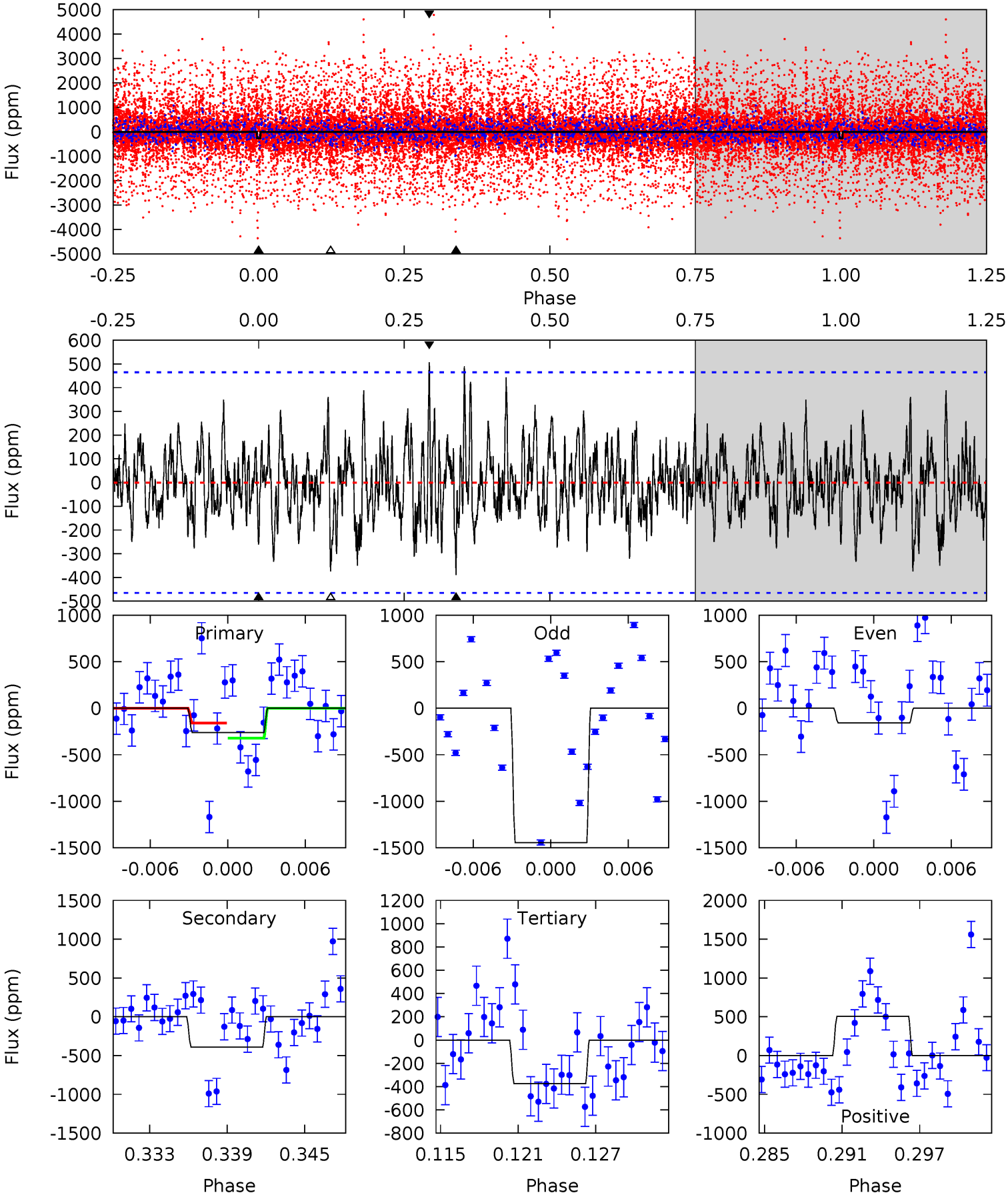
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.03	4.51	4.50	5.81	5.21	2.89	1.44	0.53	-0.78	0.01	-1.30	2.96	1.15	0.54	5.38



Alt Model-Shift Uniqueness Test

006342398-03, P = 91.269194 Days, E = 122.366539 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.88	4.29	4.12	5.57	5.12	2.74	1.46	-1.24	-2.69	0.17	-1.28	5.02	1.50	0.57	0.91



Stellar Parameters For KIC 006342398

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6779^{+185}_{-301}	$4.150^{+0.128}_{-0.192}$	$0.200^{+0.150}_{-0.350}$	$1.698^{+0.544}_{-0.317}$	$1.485^{+0.197}_{-0.219}$	$0.427^{+0.319}_{-0.224}$
	+3%/-4%	+3%/-5%	+75%/-175%	+32%/-19%	+13%/-15%	+75%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006342398-03 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-368±82	$2.98^{+1.79}_{-1.72}$	811^{+62}_{-51}	7584^{+6738}_{-1784}	4713^{+22344}_{-2980}
Alt.	-390±91	$4.49^{+2.01}_{-1.69}$	811^{+58}_{-52}	6057^{+1853}_{-959}	2172^{+3330}_{-1227}

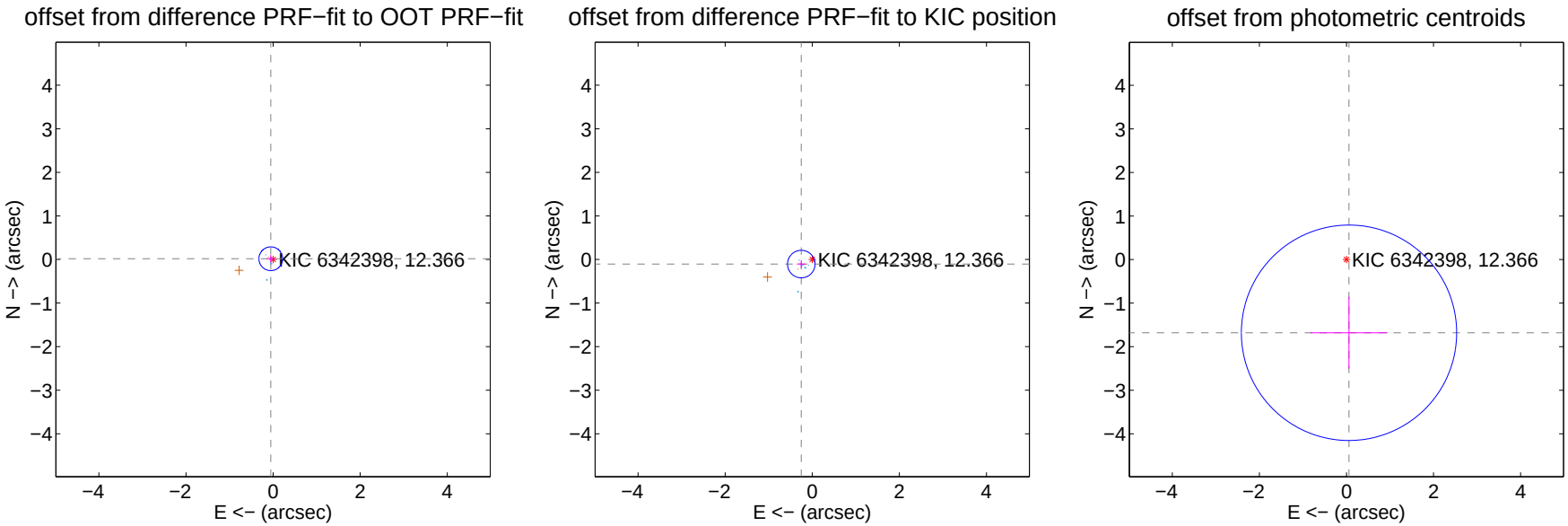
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

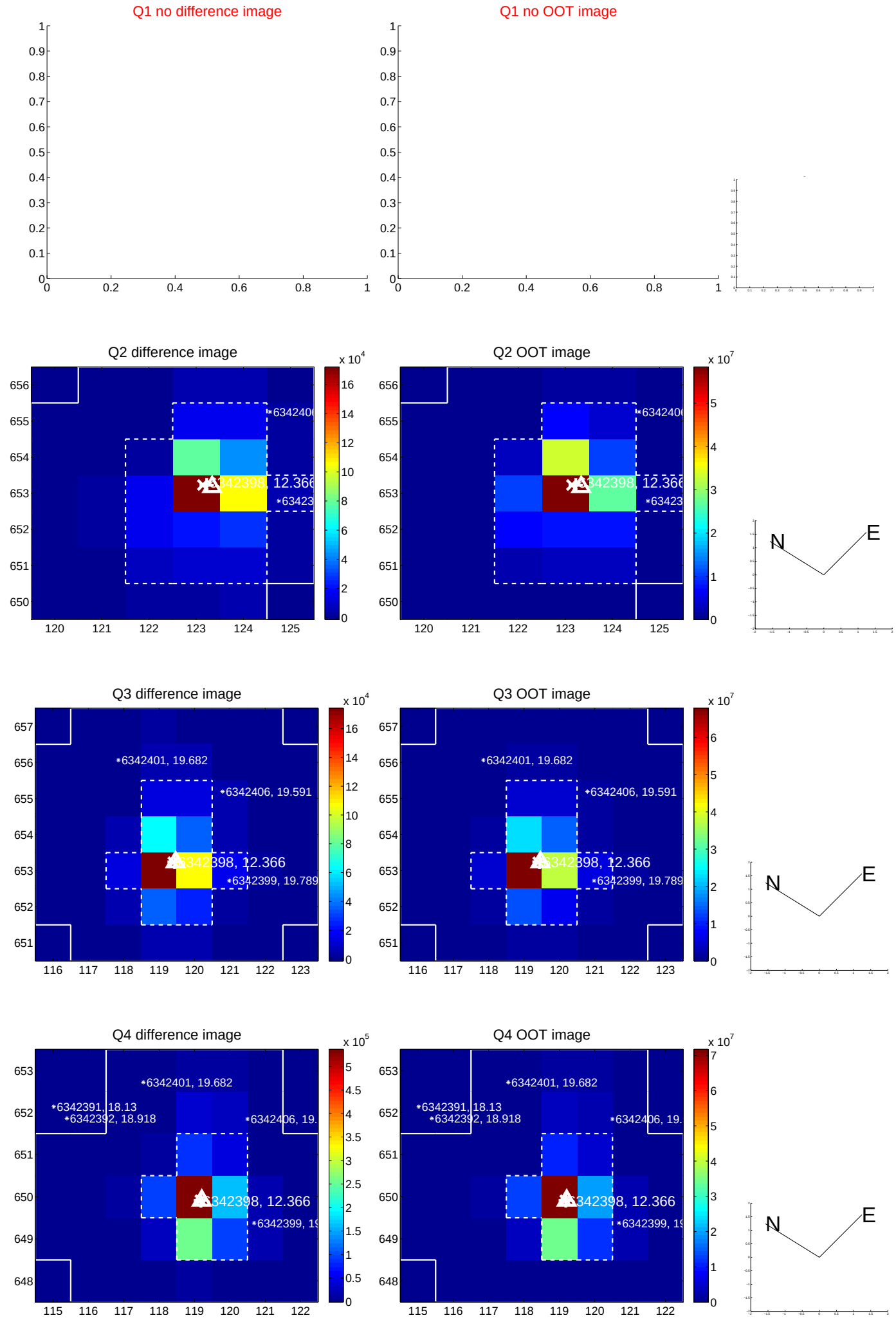
Supplemental centroid analysis for 006342398-03. Kepler magnitude: 12.37. Transit SNR 1.96
There are 7 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.056 ± 0.091	0.61	0.053 ± 0.095	0.017 ± 0.084
PRF-fit source offset from KIC position	0.273 ± 0.105	2.60	0.252 ± 0.100	-0.105 ± 0.090
photometric centroid source offset	1.68 ± 0.82	2.04	-0.06 ± 0.89	-1.68 ± 0.82

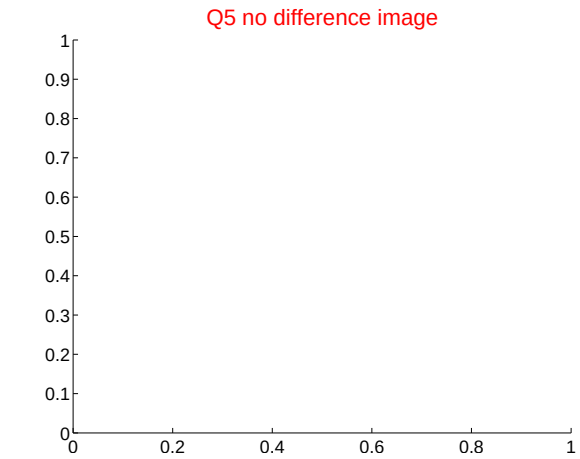


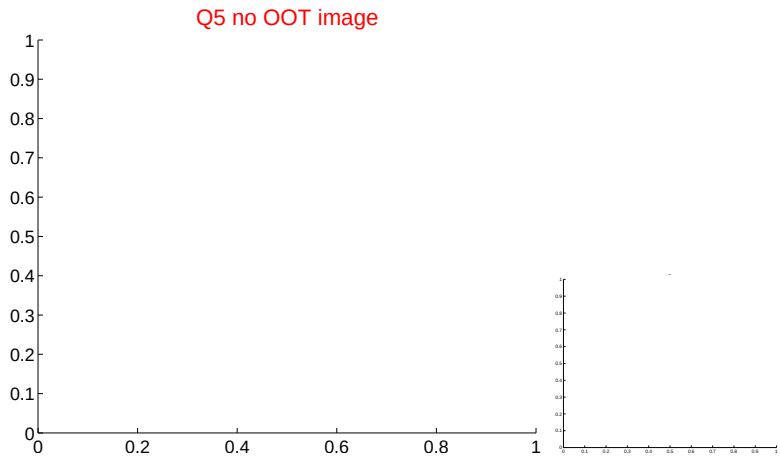
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

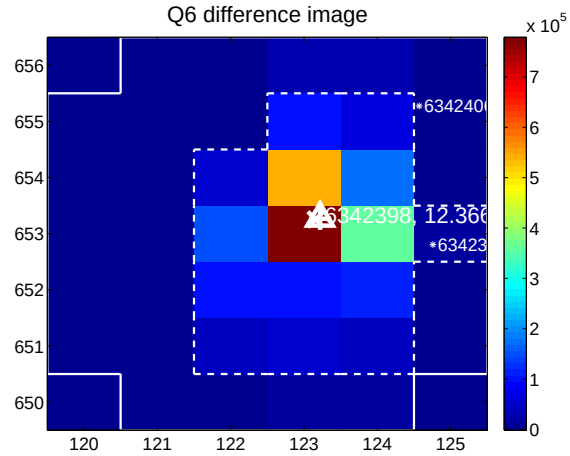
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

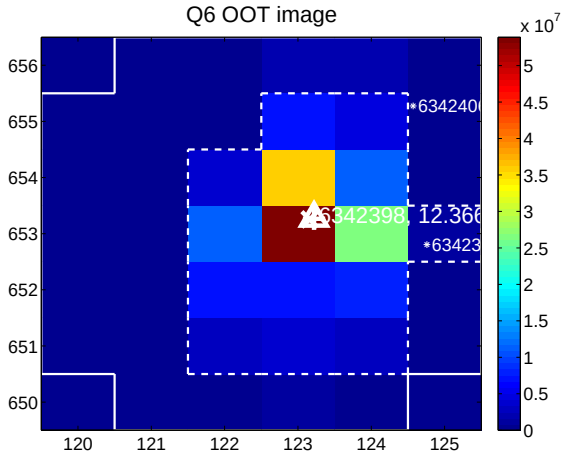


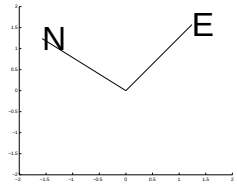
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

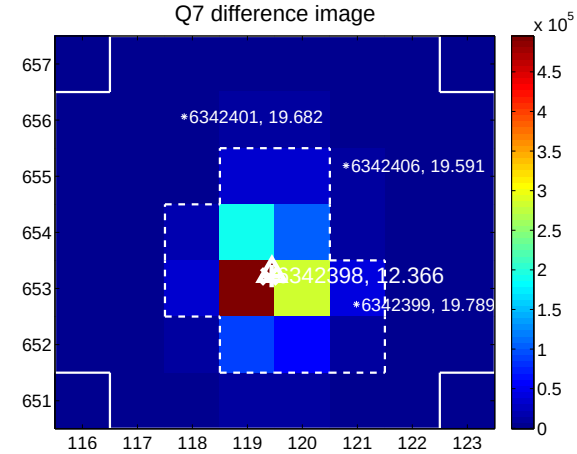


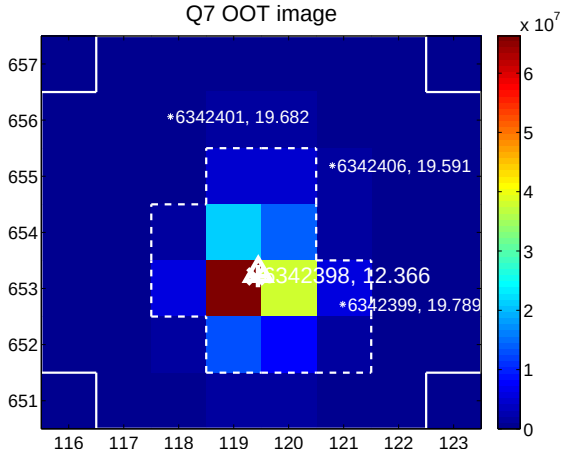


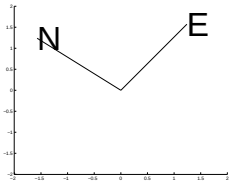


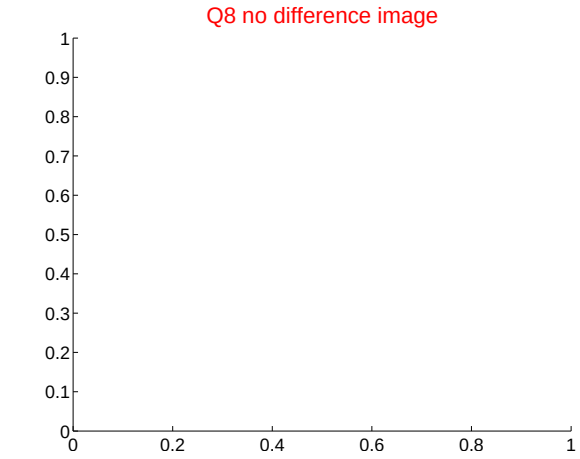


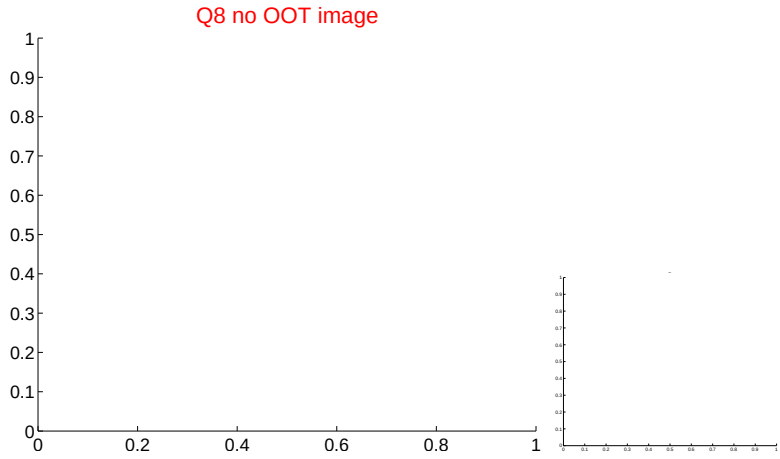




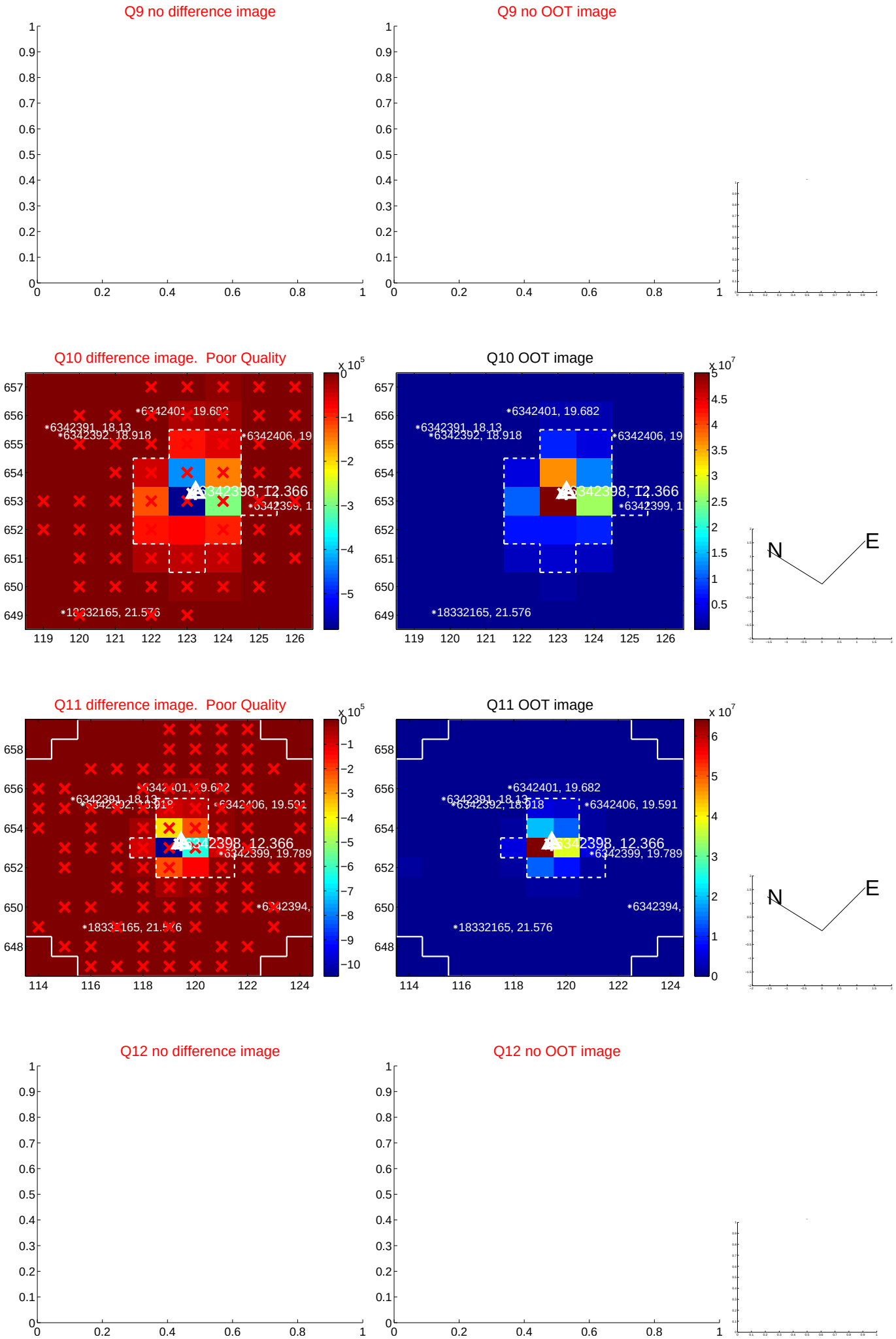




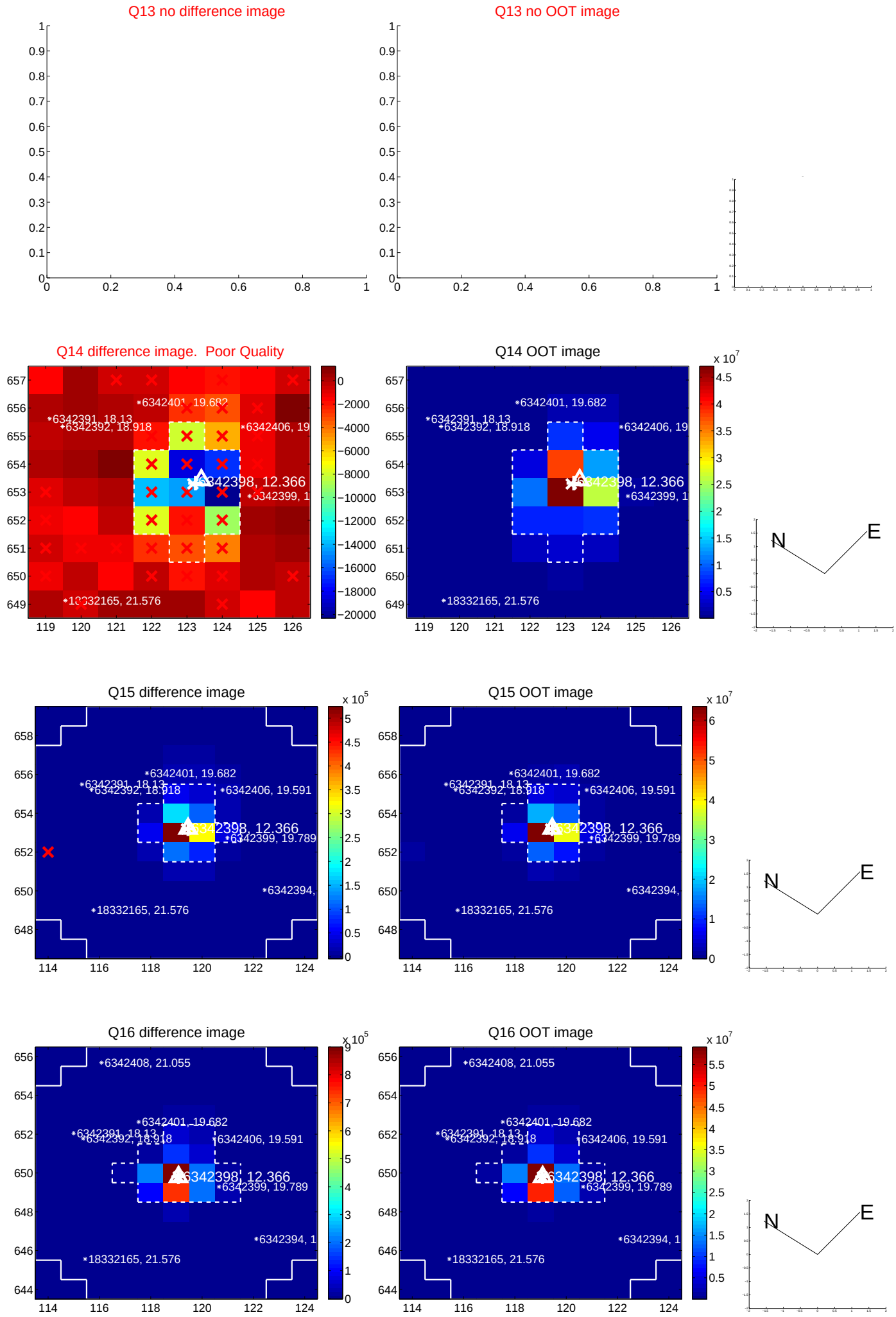




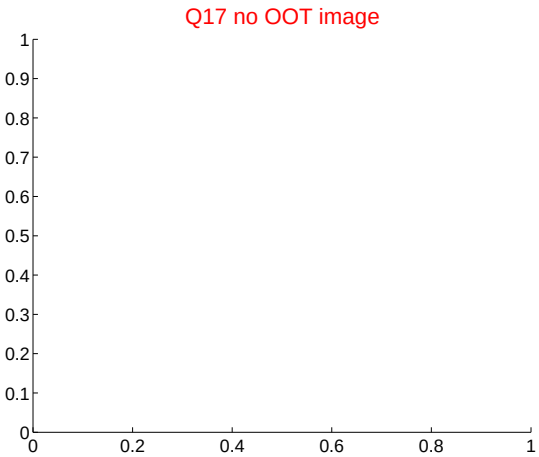
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

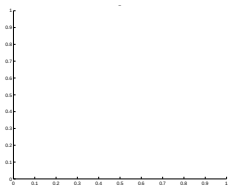


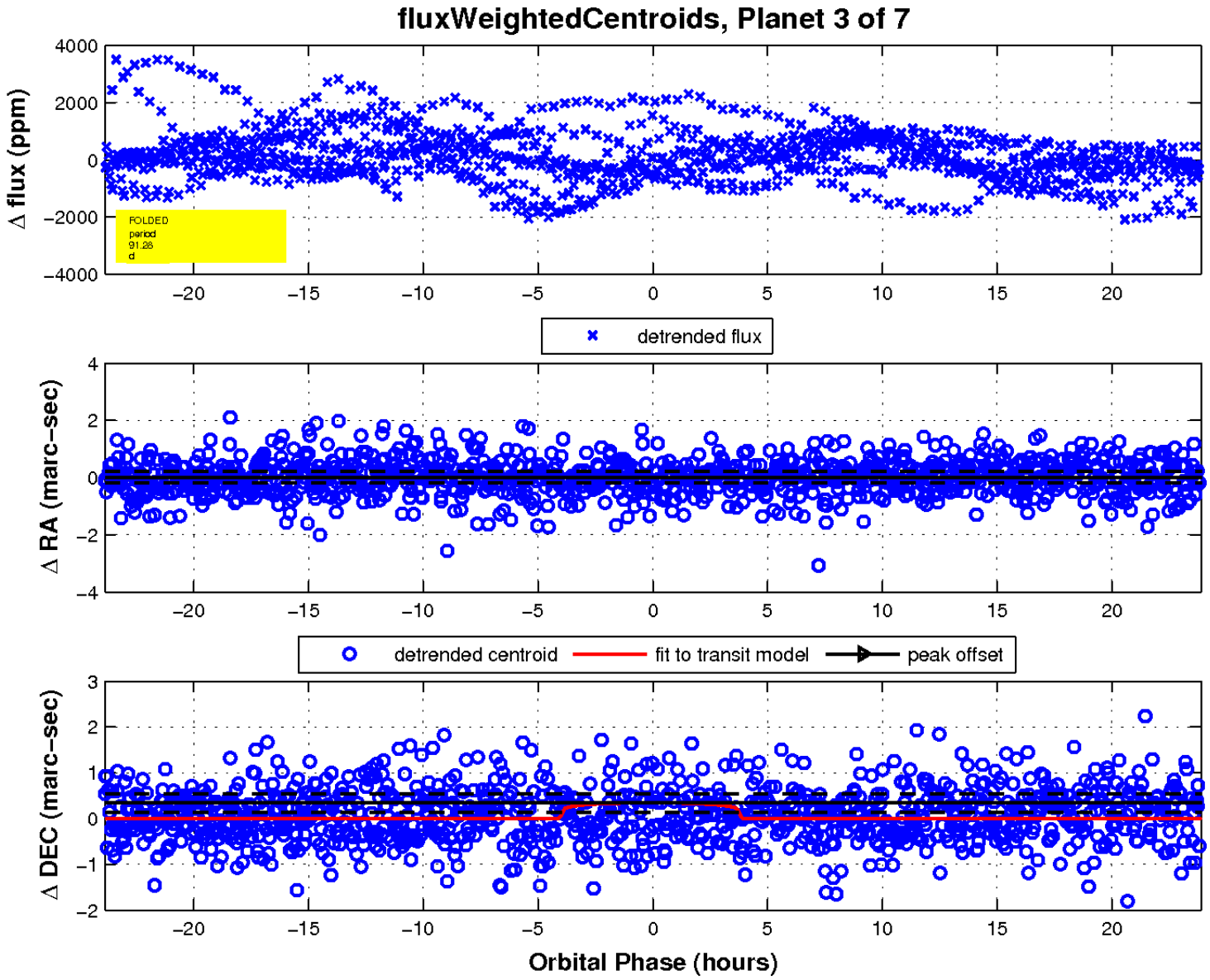
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



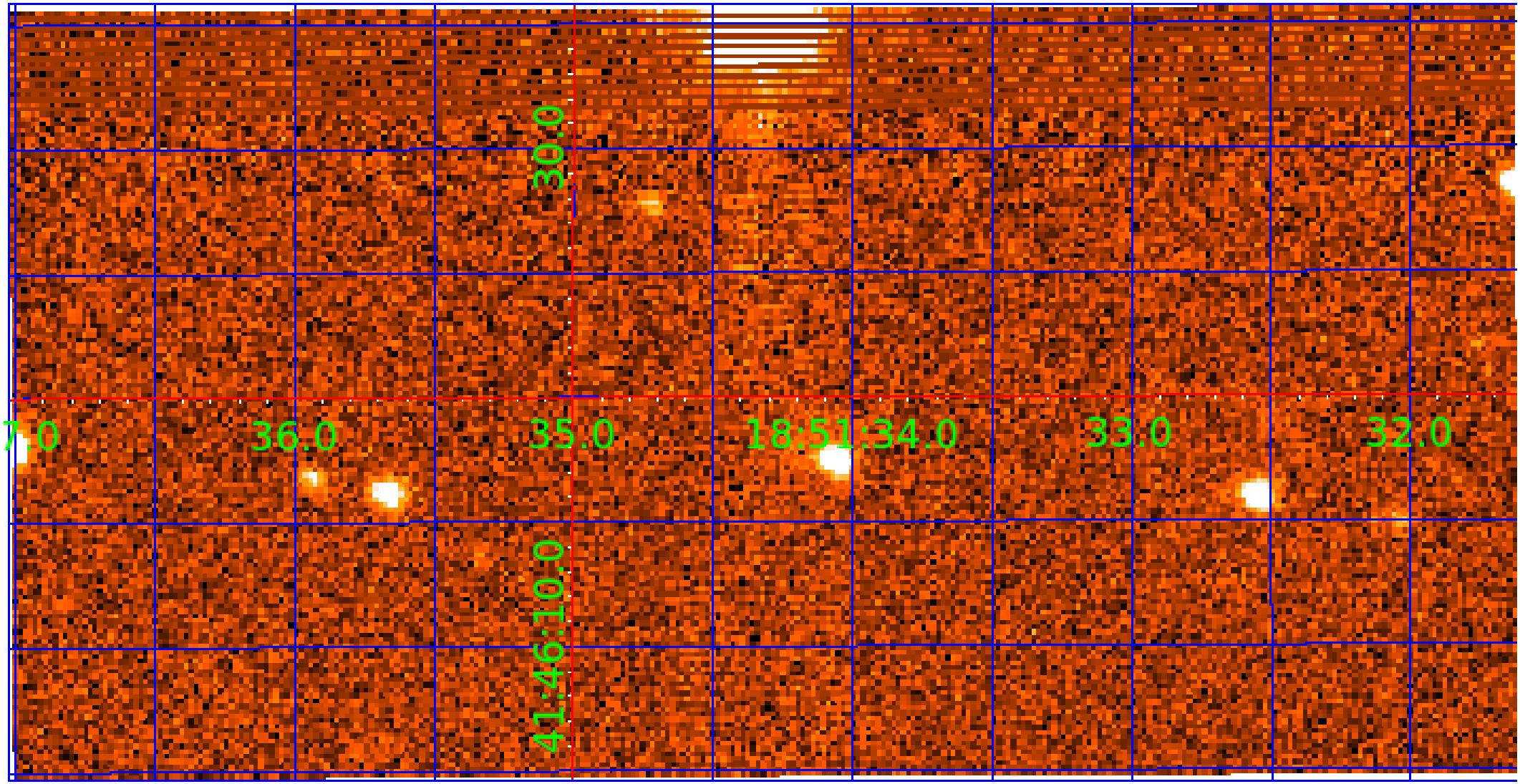
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image



KIC 006342398

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 ($S_\oplus$)
006342398-01	OBS	No	1.310332	131.599544	31.8	5.617	8.5	4.4	1.70	6779	0.99	7626.76
006342398-02	OBS	No	163.036634	135.692846	2222.1	13.118	11.0	7.9	1.70	6779	14.71	12.28
006342398-03	OBS	No	91.278679	213.563037	218.8	7.968	8.5	2.0	1.70	6779	2.70	26.61
006342398-04	OBS	No	75.366528	198.208820	153.7	5.660	8.9	1.7	1.70	6779	2.39	34.35
006342398-05	OBS	No	55.630773	171.323692	120.8	5.826	8.6	1.7	1.70	6779	2.12	51.49
006342398-06	OBS	No	234.536402	226.452125	177.0	7.500	7.8	-1.0	1.70	6779	2.28	7.56
006342398-07	OBS	No	117.790510	133.427895	1472.3	10.139	8.0	7.4	1.70	6779	12.12	18.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006342398-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006342398-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006342398-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006342398-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—HALO_GHOST

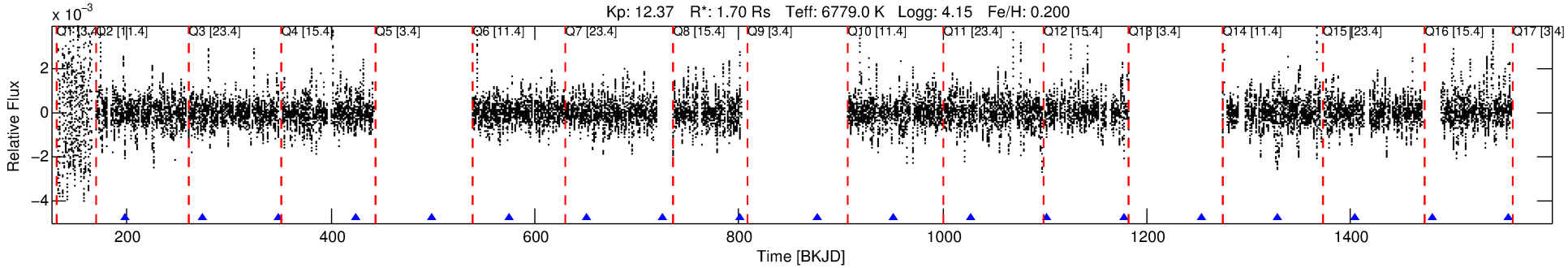
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

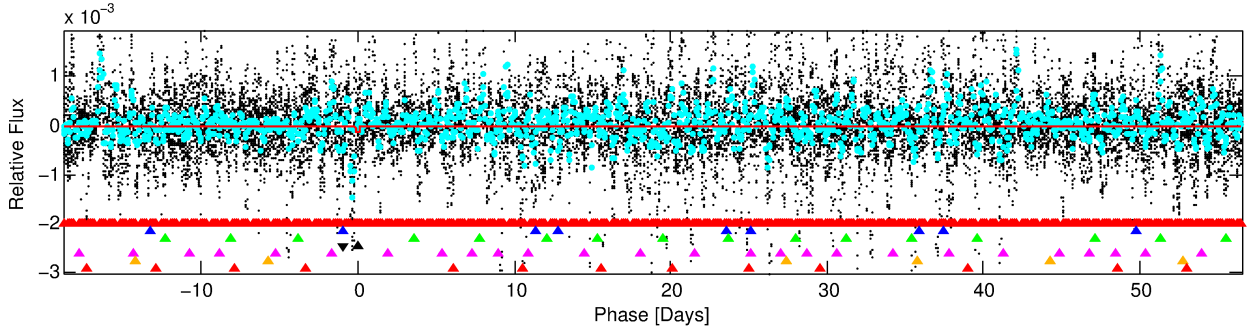
Ephemeris Match Information For 006342398-04

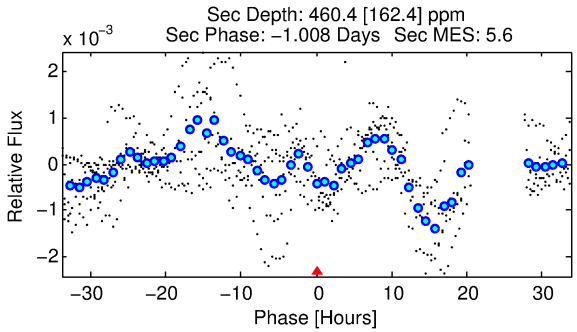
No Significant Match Found

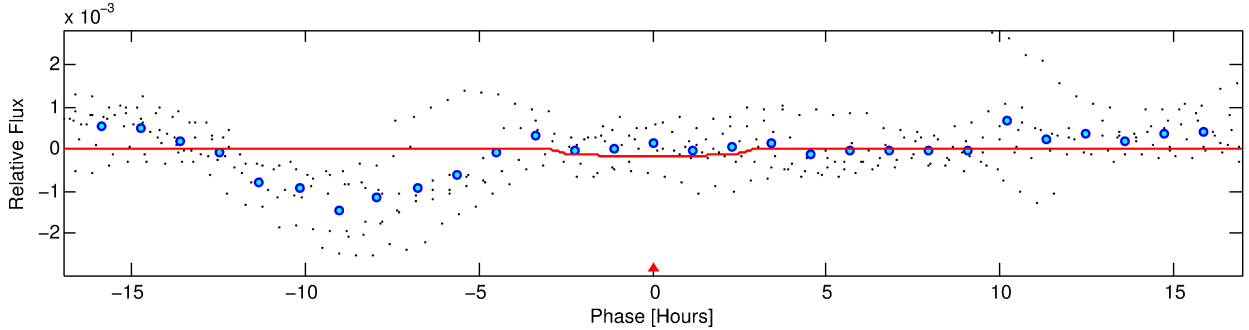
DV One-Page Summary

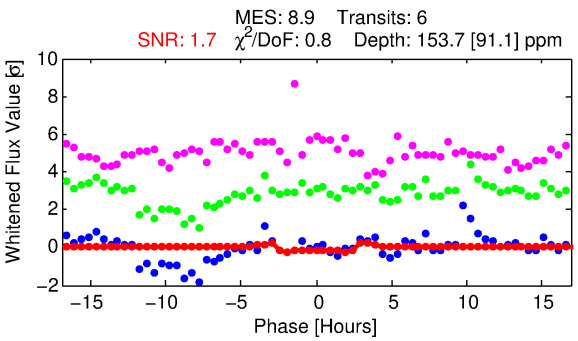
KIC: 6342398 Candidate: 4 of 7 Period: 75.367 d

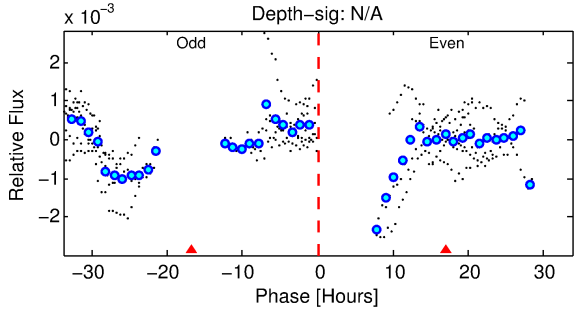


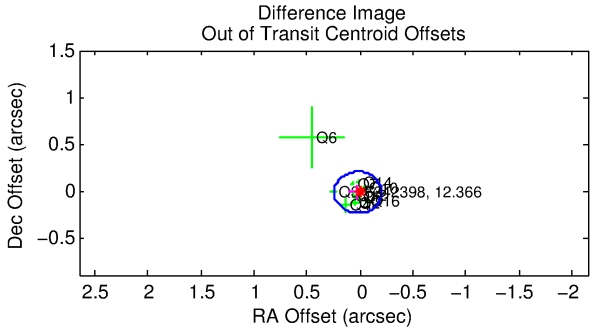












DV Fit Results:

Period = 75.36653 [0.00231] d
Epoch = 198.2088 [0.0211] BKJD
Rp/R* = 0.0129 [0.0111]
a/R* = 54.24 [232.60]
b = 0.86 [1.29]

Seff = 34.35 [13.91]
Teq = 617 [63] K
Rp = 2.39 [2.19] Re
a = 0.3985 [0.1034] AU

Ag = 7034.91 [12578.15] [0.56σ]
Teffp = 8741 [3845] K [2.11σ]

DV Diagnostic Results:

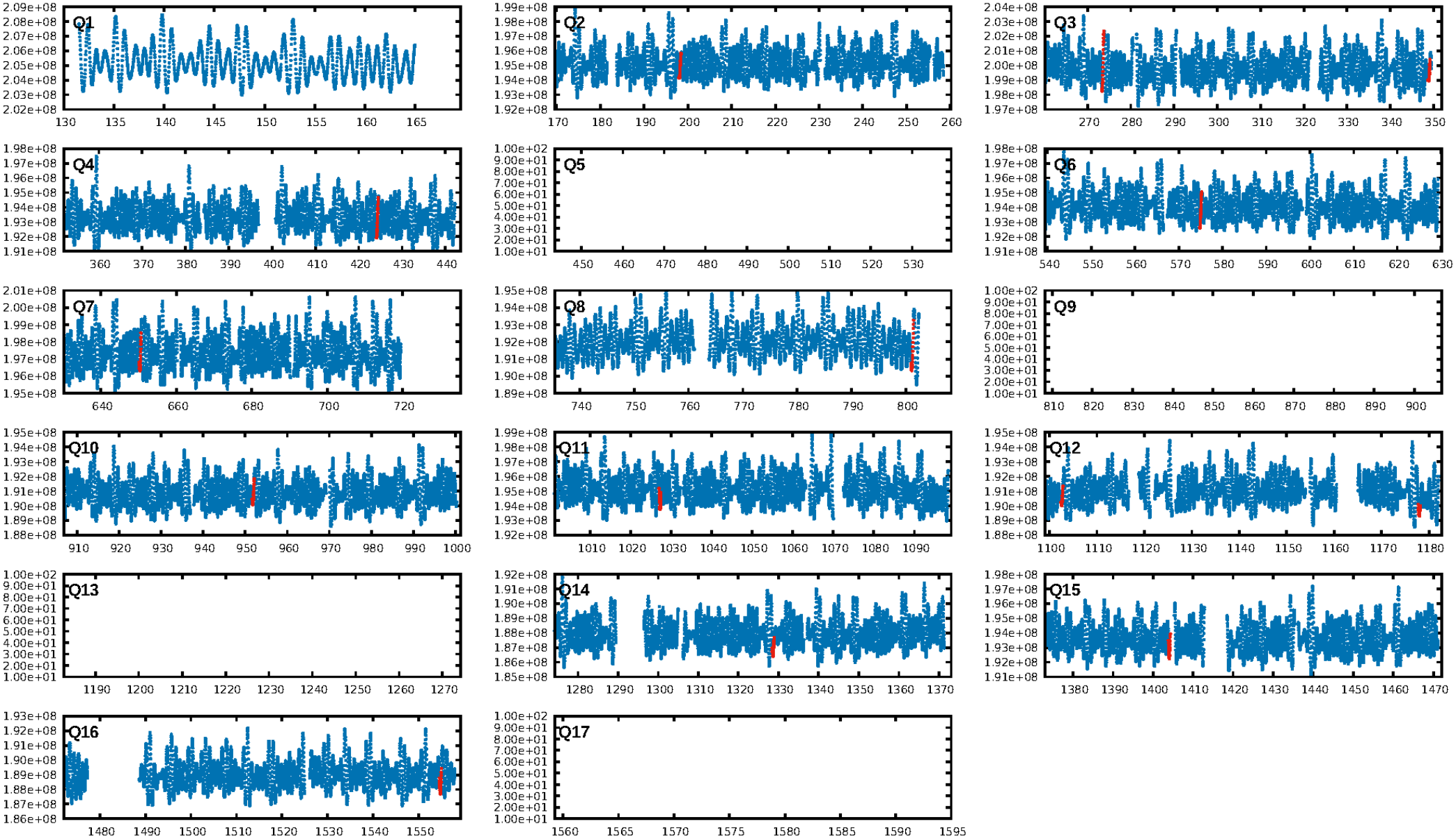
ShortPeriod−sig: 100.0% [58.31σ]
LongPeriod−sig: 100.0% [39.07σ]
ModelChiSquare2−sig: 57.8%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 1.74e−11
RollingBand−fgt: 1.00 [6/6]
GhostDiagnostic−chr: 0.05879

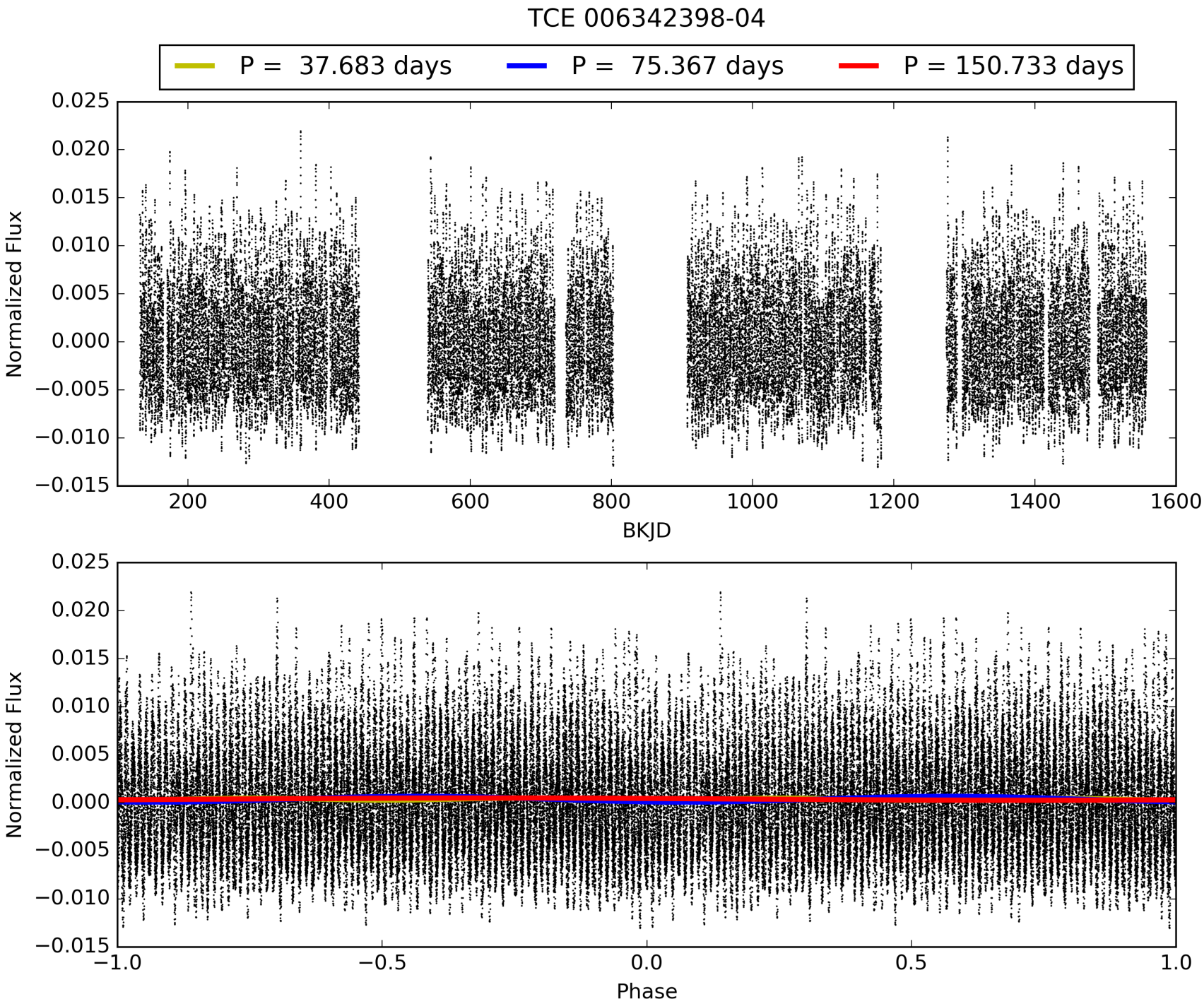
Centroid−sig: 28.5%
Centroid−so: 0.936 arcsec [0.80σ]
OotOffset−rm: 0.028 arcsec [0.38σ]
KicOffset−rm: 0.191 arcsec [2.57σ]
OotOffset−st: 4/2/4/0 [10]
KicOffset−st: 4/2/4/0 [10]
DiffImageQuality−fgm: 1.00 [10/10]
DiffImageOverlap−fno: 0.00 [0/10]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:49:04 Z

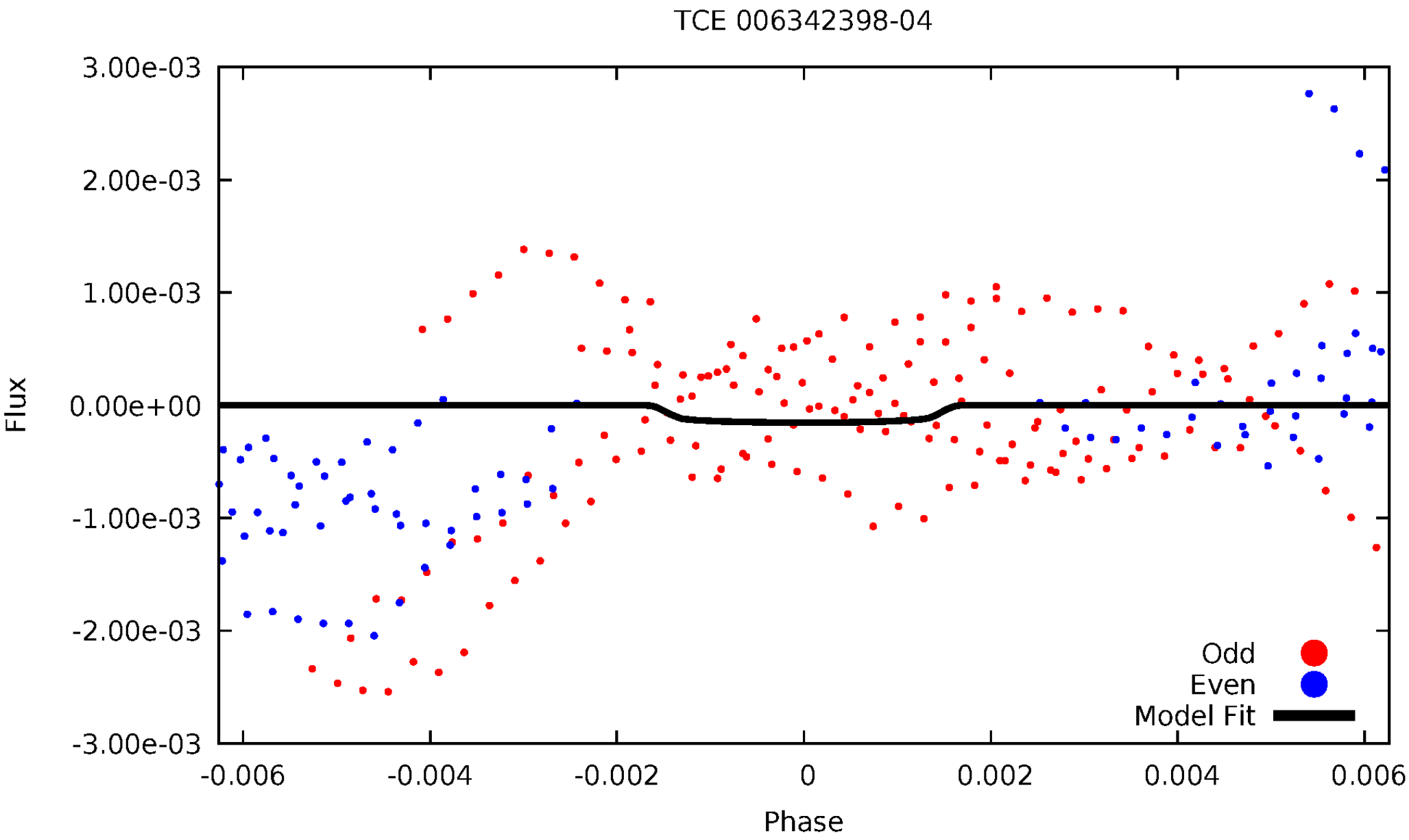
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006342398-04, PDC Light Curves

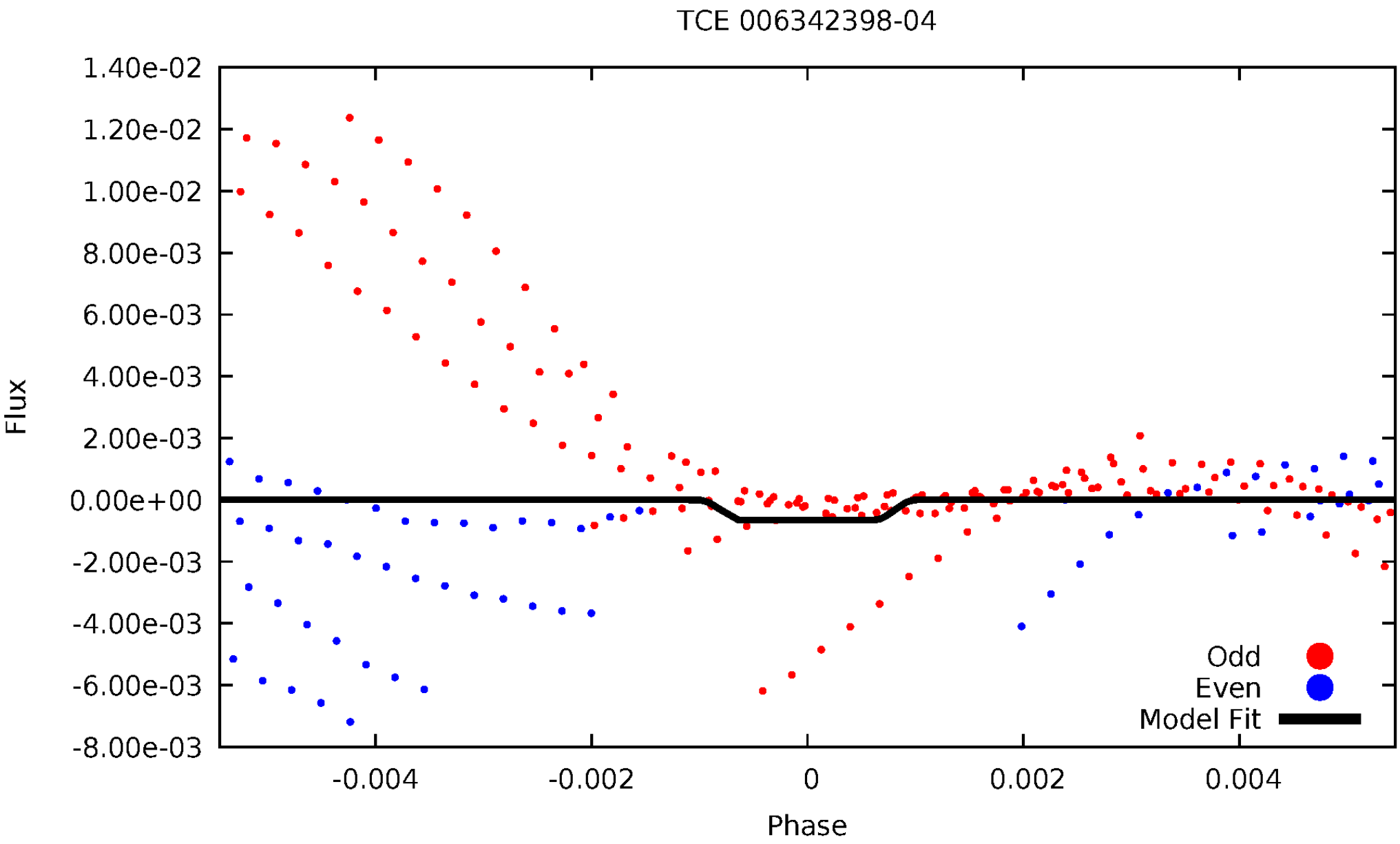



TCE 006342398-04
P = 37.683 days
P = 75.367 days
P = 150.733 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even


TCE 006342398-04
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
Flux
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006342398-04
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1.20e-02
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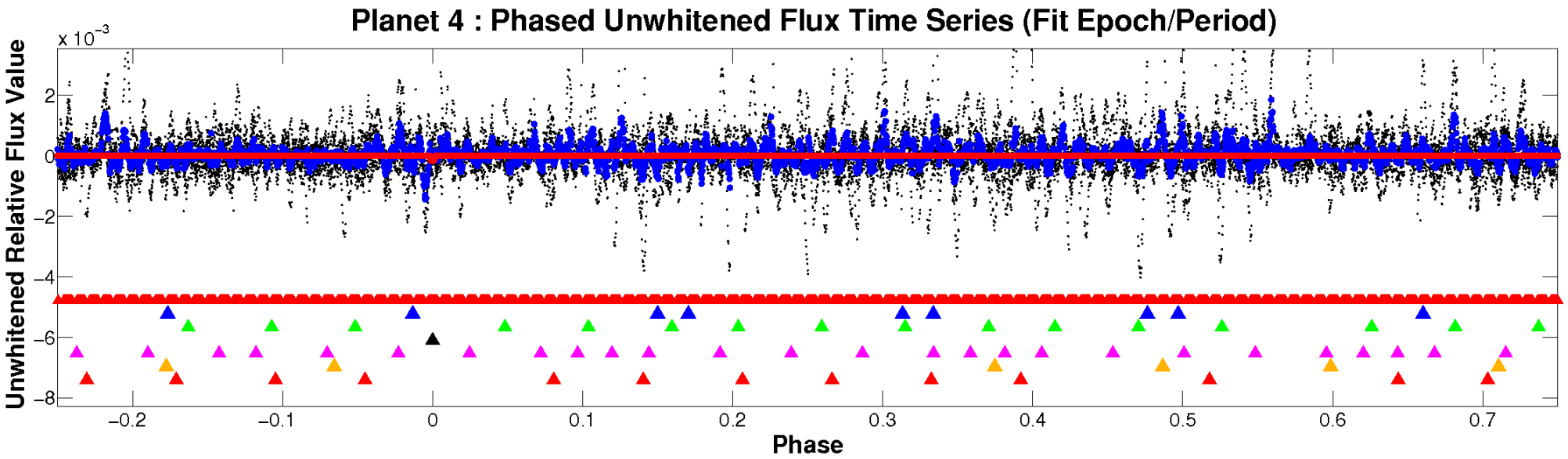
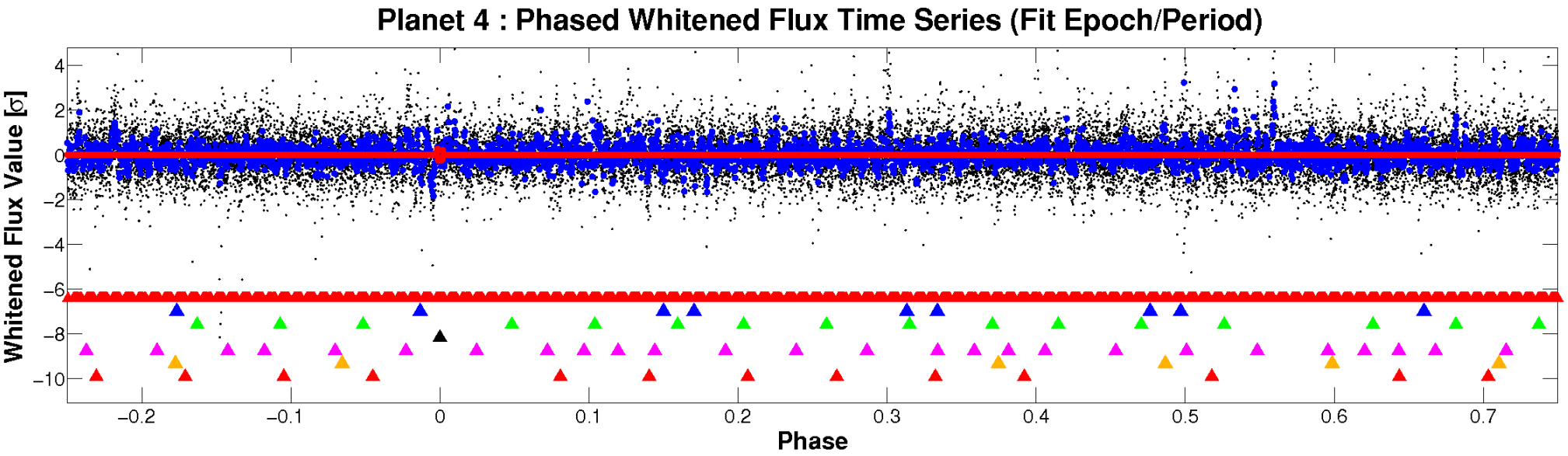
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
-8.00e-03
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

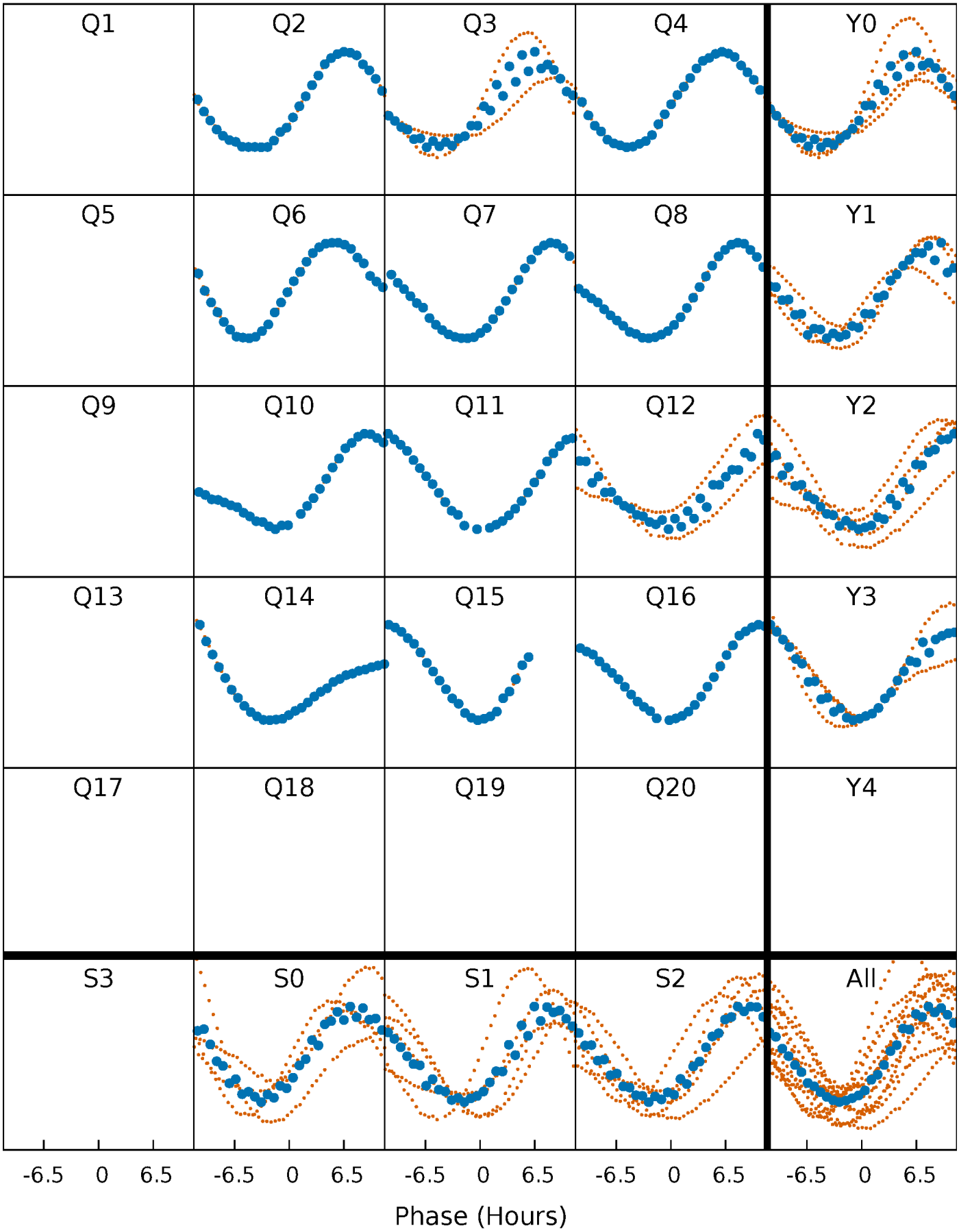
Non-Whitened Vs. Whitened Light Curve





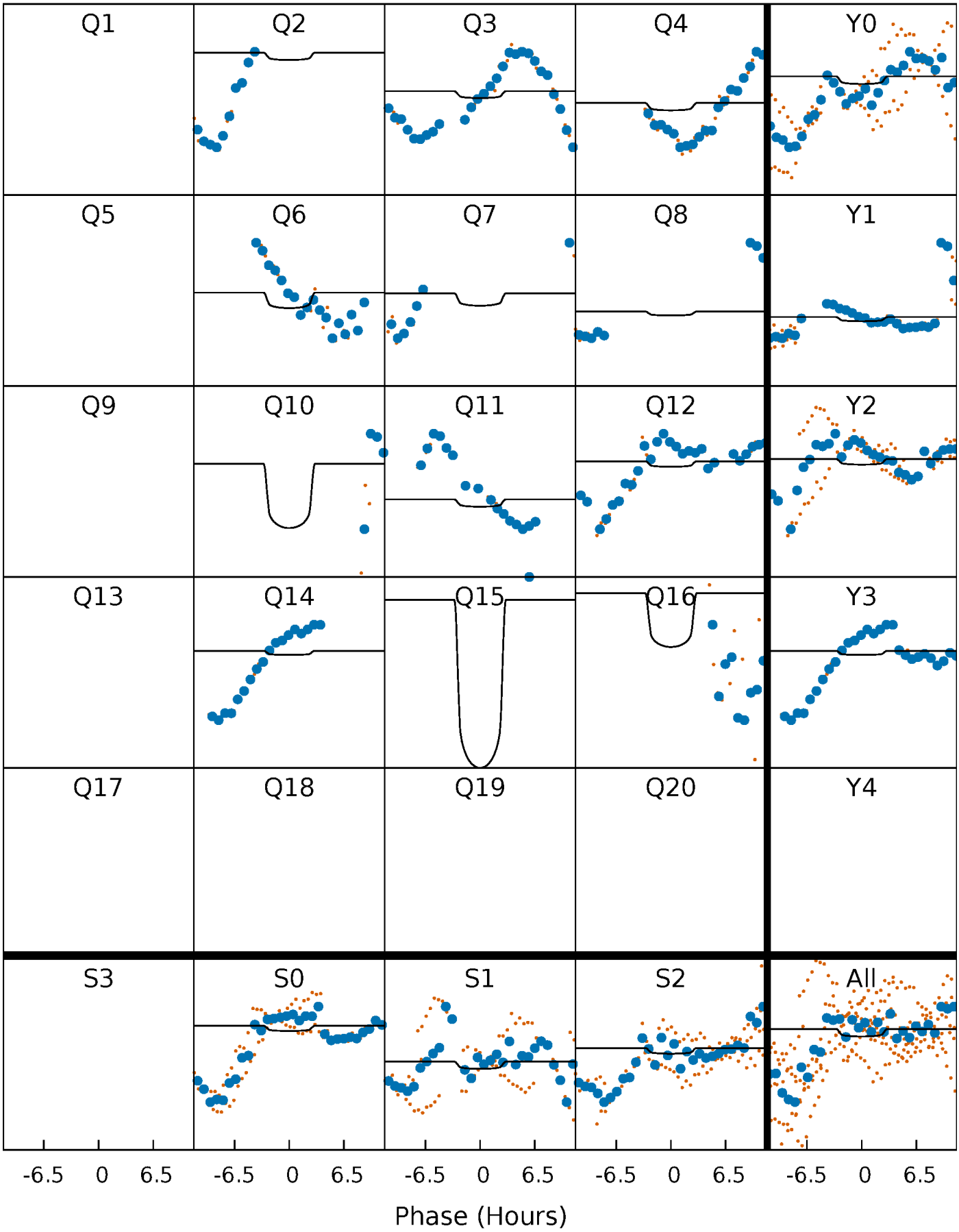
PDC Quarter-Phased Transit Curves

TCE 006342398-04 P= 75.366528 Days T_0=198.208820 (BKJD)



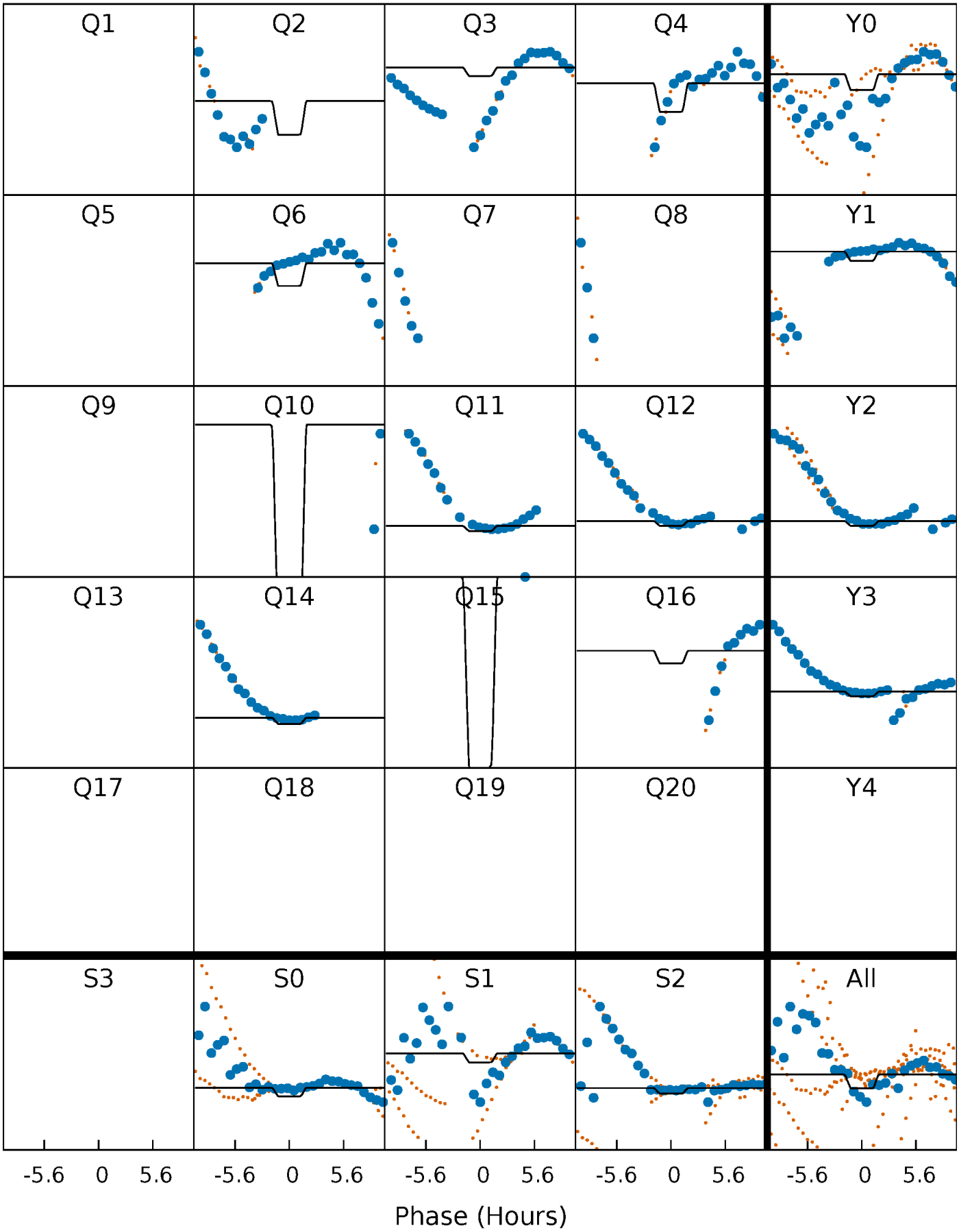
DV Quarter-Phased Transit Curves

TCE 006342398-04 P= 75.366528 Days T_0=198.208820 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

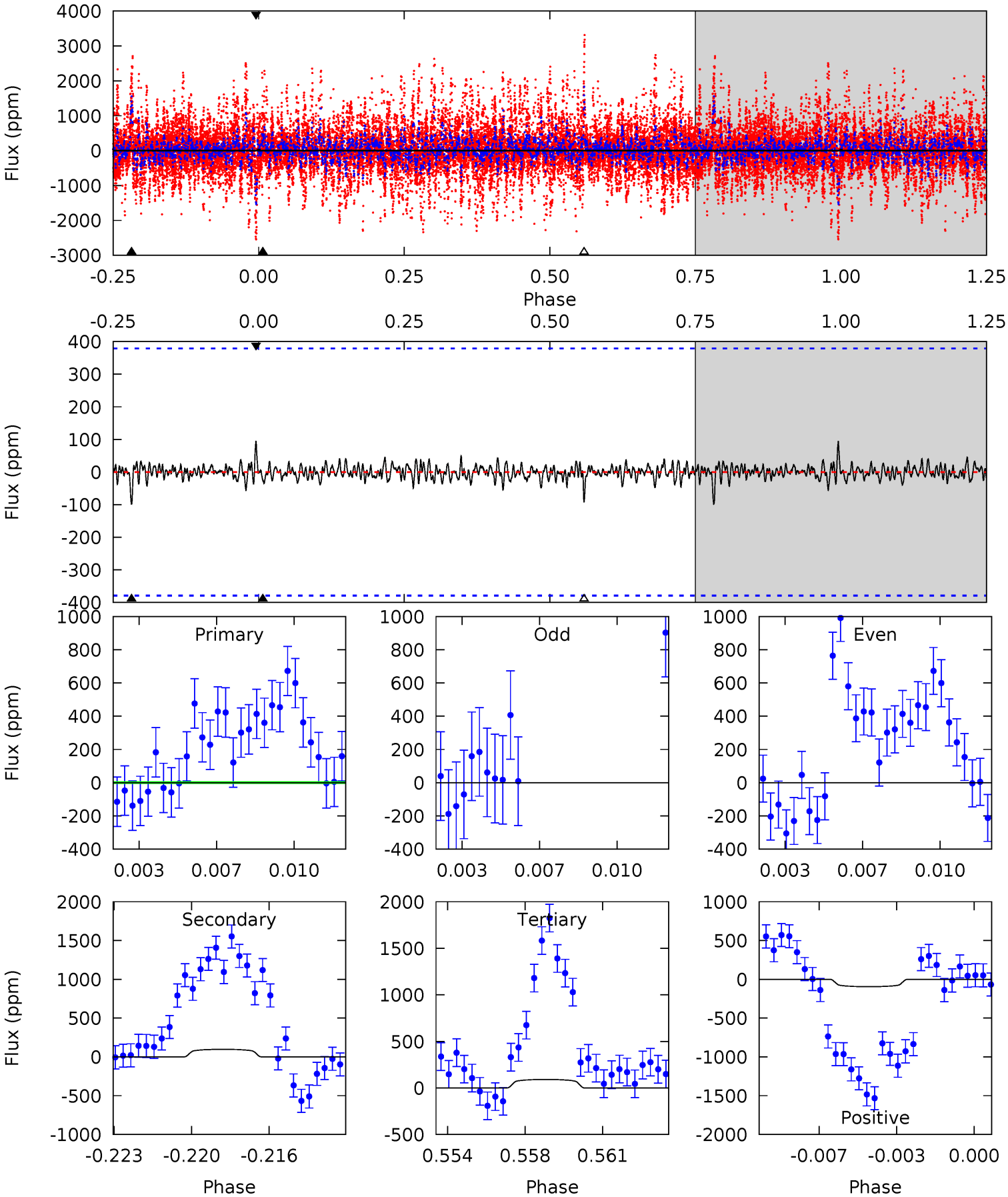
TCE 006342398-04 P= 75.373590 Days T_0=198.142971 (BKJD)



DV Model-Shift Uniqueness Test

006342398-04, P = 75.366528 Days, E = 122.842292 Days

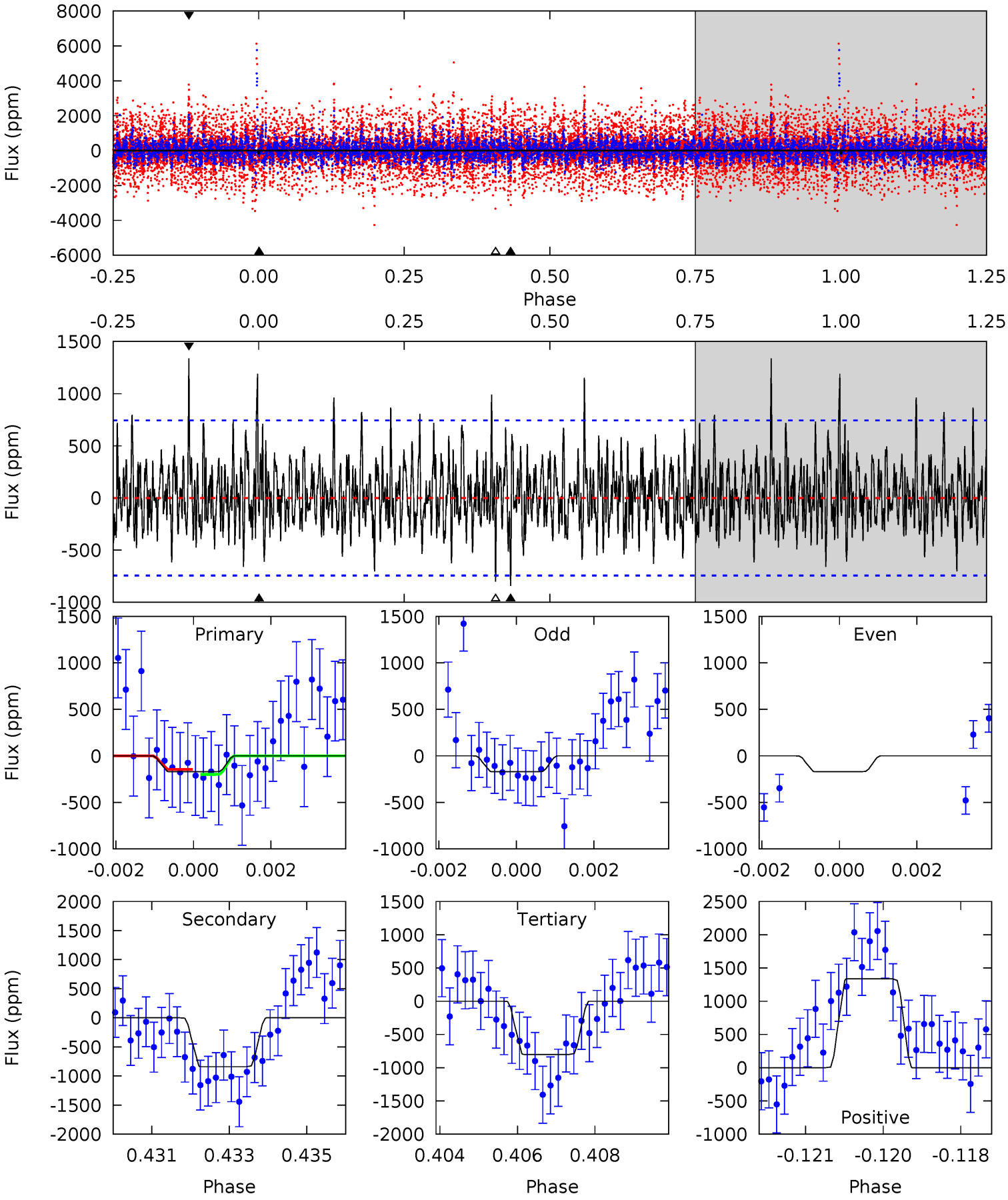
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.35	1.35	1.26	1.31	5.23	2.93	0.25	-0.90	-0.96	0.09	0.04	0	0.64	0.49	0.01



Alt Model-Shift Uniqueness Test

006342398-04, P = 75.373590 Days, E = 122.769381 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.22	6.04	5.75	9.60	5.34	3.11	1.96	-4.53	-8.38	0.29	-3.56	0	5.15	0.61	0.20



Stellar Parameters For KIC 006342398

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6779^{+185}_{-301}	$4.150^{+0.128}_{-0.192}$	$0.200^{+0.150}_{-0.350}$	$1.698^{+0.544}_{-0.317}$	$1.485^{+0.197}_{-0.219}$	$0.427^{+0.319}_{-0.224}$
	+3%/-4%	+3%/-5%	+75%/-175%	+32%/-19%	+13%/-15%	+75%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006342398-04 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-98±72	$2.66^{+2.12}_{-1.56}$	864^{+70}_{-56}	5337^{+3547}_{-1519}	917^{+4892}_{-745}
Alt.	-841±139	$4.82^{+2.40}_{-2.20}$	865^{+61}_{-59}	7170^{+3580}_{-1312}	3028^{+7749}_{-1633}

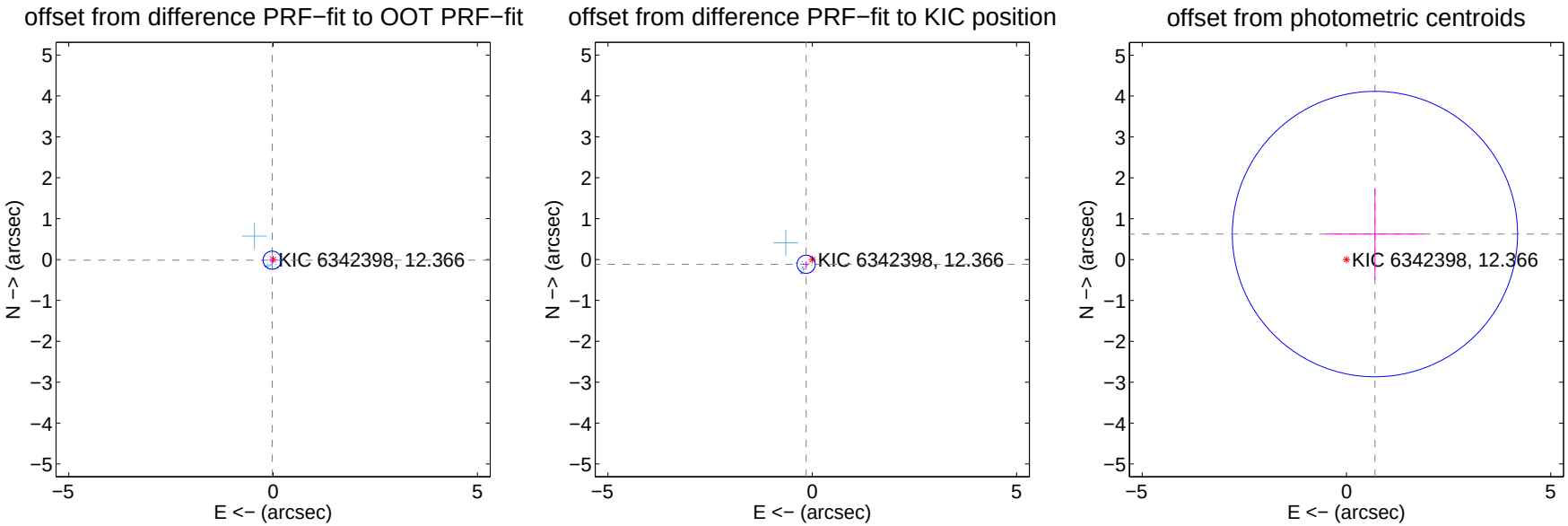
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

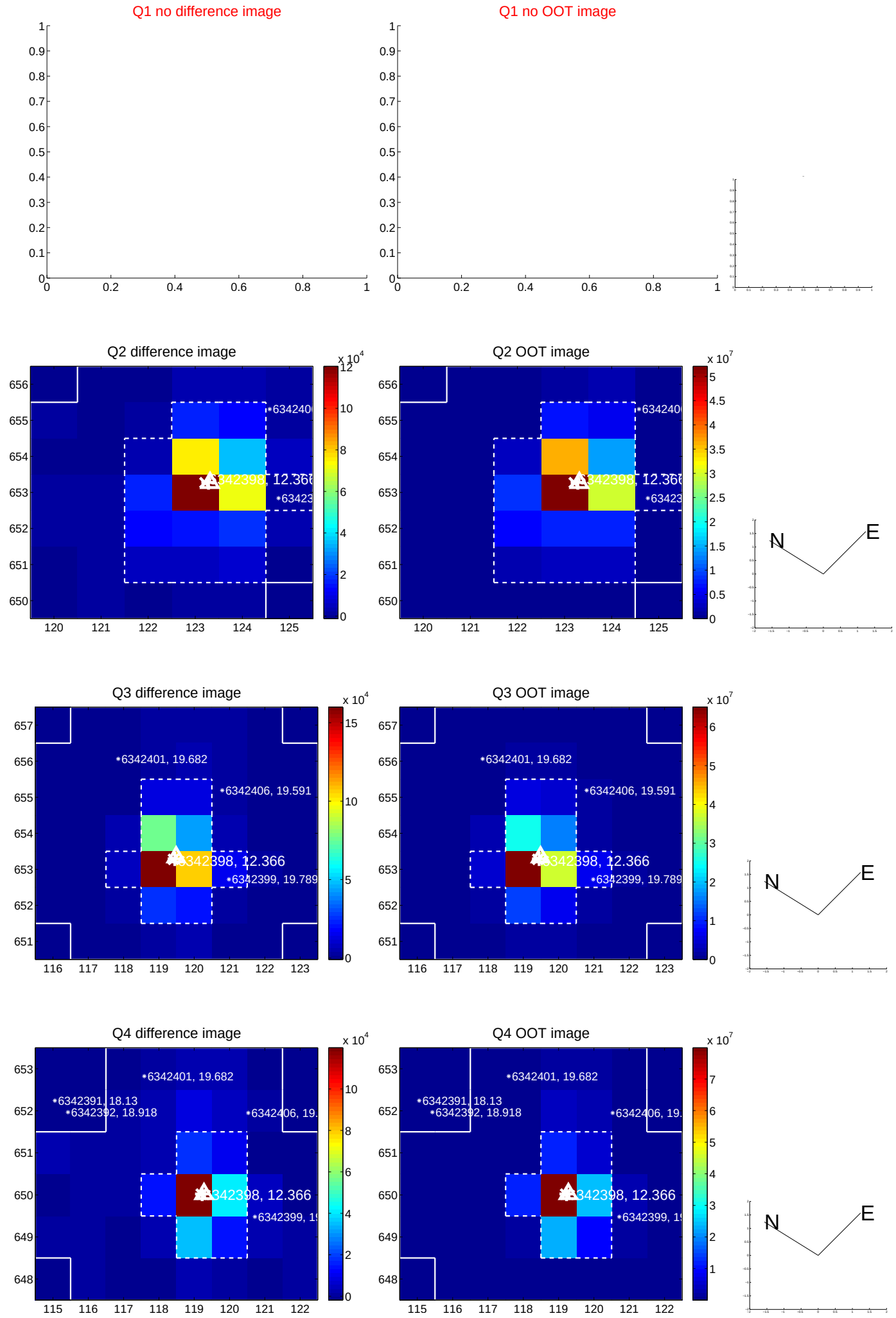
Supplemental centroid analysis for 006342398-04. Kepler magnitude: 12.37. Transit SNR 1.75
There are 10 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.028 ± 0.074	0.38	0.022 ± 0.074	-0.017 ± 0.075
PRF-fit source offset from KIC position	0.191 ± 0.074	2.57	0.150 ± 0.074	-0.117 ± 0.075
photometric centroid source offset	0.94 ± 1.16	0.80	-0.70 ± 1.20	0.62 ± 1.11

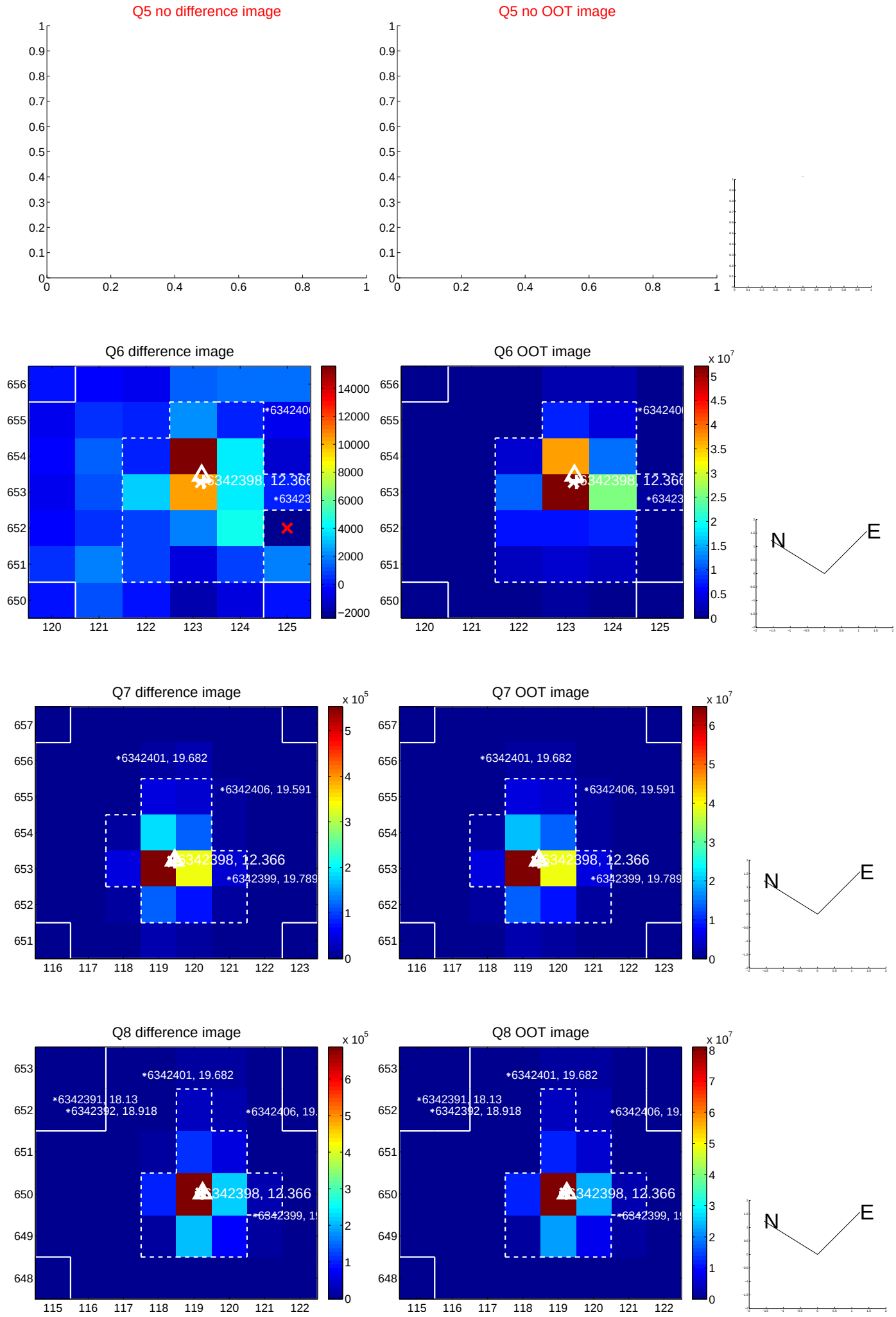


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

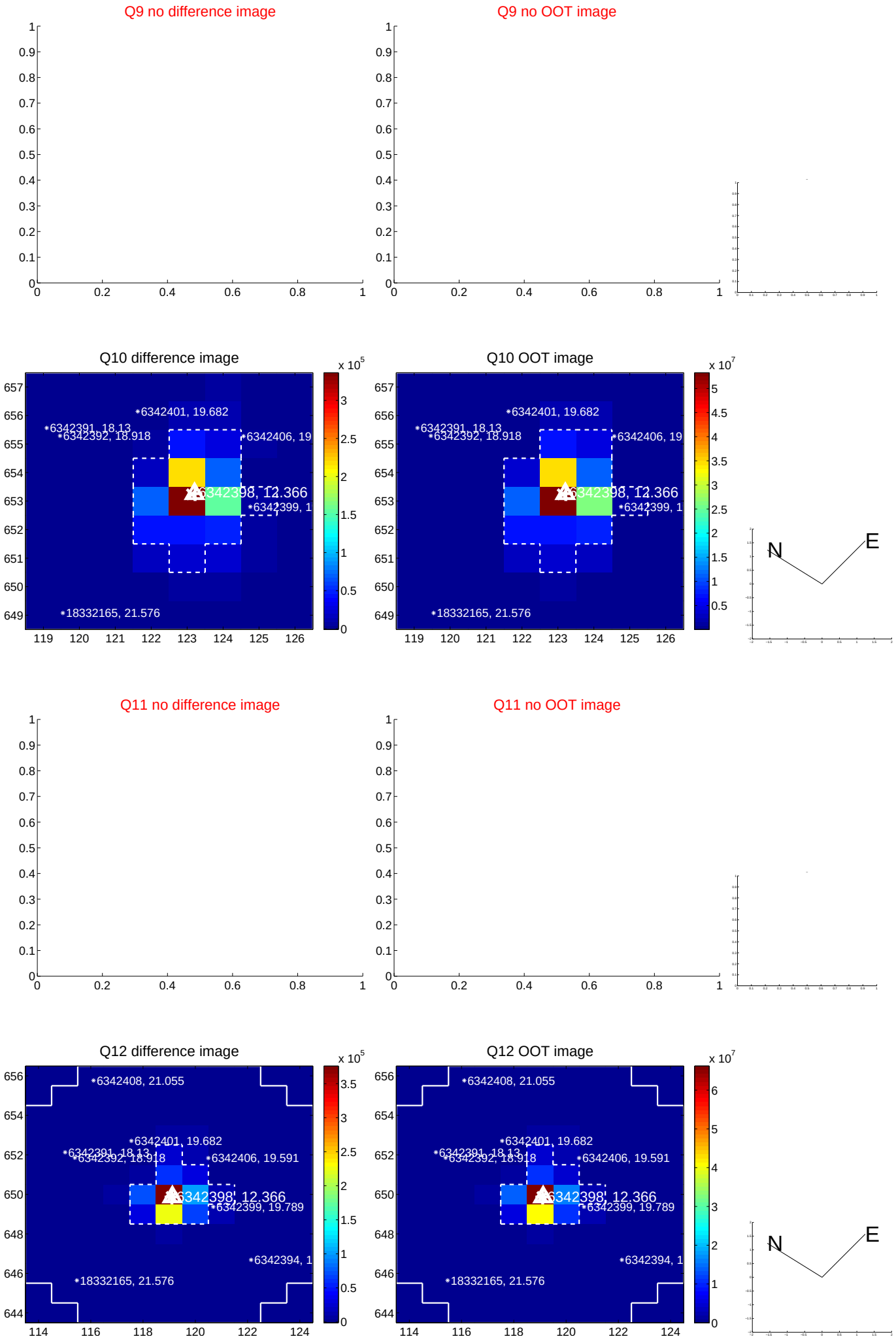
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



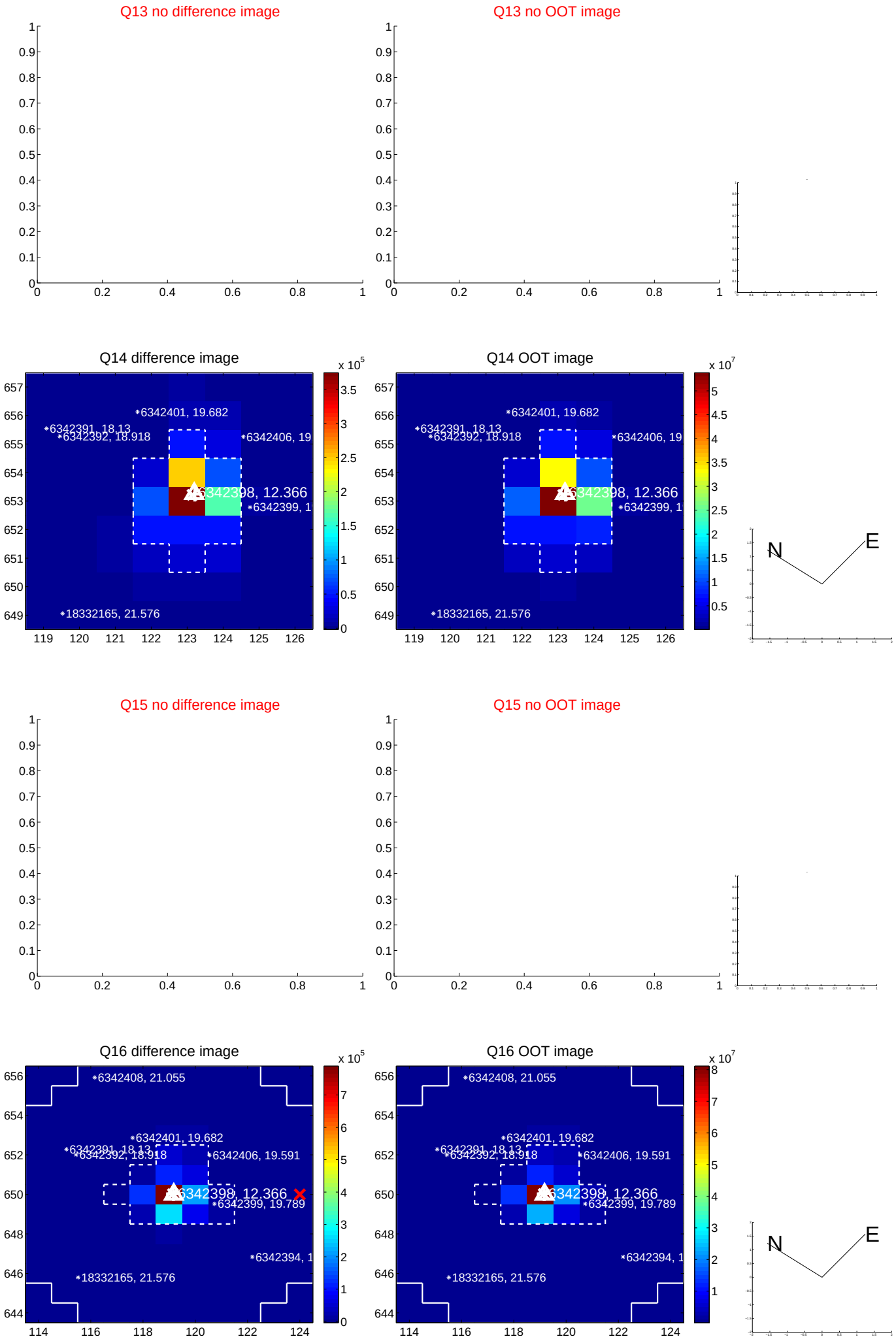
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



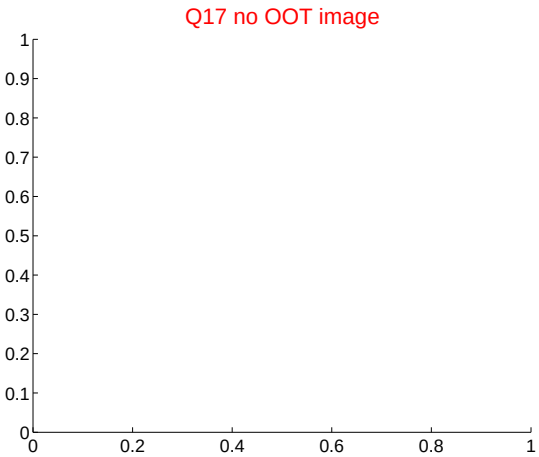
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

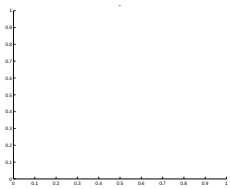


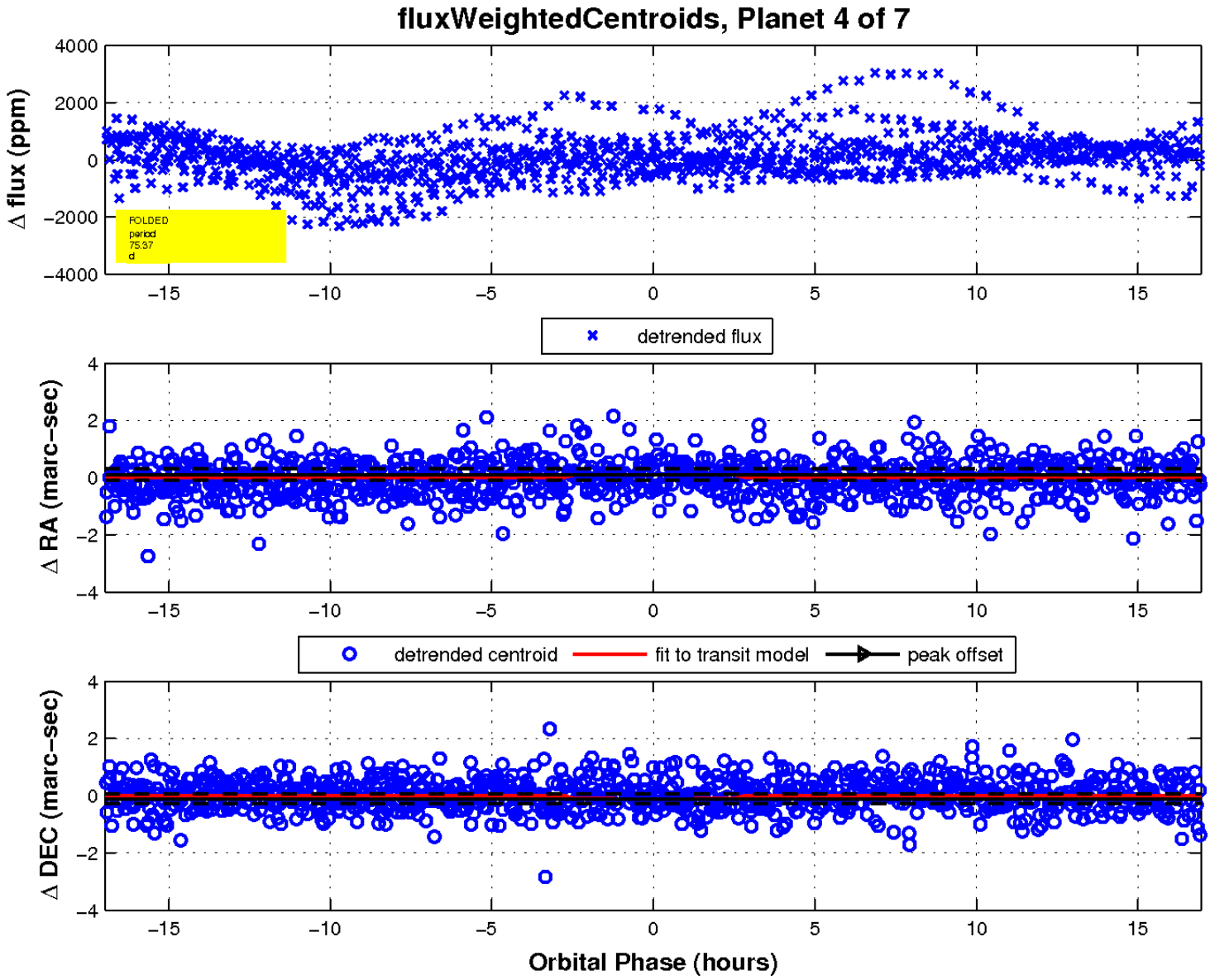
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



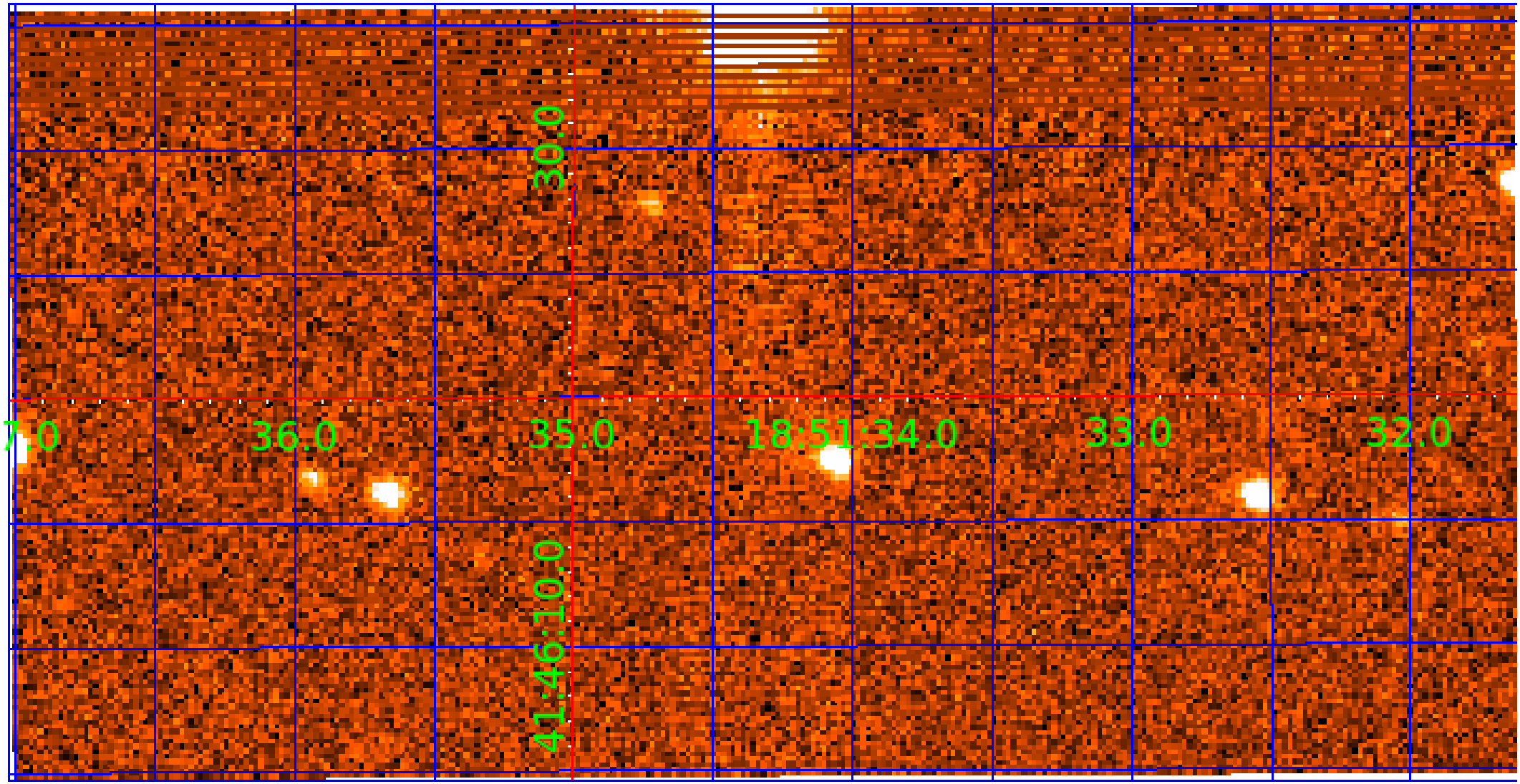
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image



KIC 006342398

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 ($S_\oplus$)
006342398-01	OBS	No	1.310332	131.599544	31.8	5.617	8.5	4.4	1.70	6779	0.99	7626.76
006342398-02	OBS	No	163.036634	135.692846	2222.1	13.118	11.0	7.9	1.70	6779	14.71	12.28
006342398-03	OBS	No	91.278679	213.563037	218.8	7.968	8.5	2.0	1.70	6779	2.70	26.61
006342398-04	OBS	No	75.366528	198.208820	153.7	5.660	8.9	1.7	1.70	6779	2.39	34.35
006342398-05	OBS	No	55.630773	171.323692	120.8	5.826	8.6	1.7	1.70	6779	2.12	51.49
006342398-06	OBS	No	234.536402	226.452125	177.0	7.500	7.8	-1.0	1.70	6779	2.28	7.56
006342398-07	OBS	No	117.790510	133.427895	1472.3	10.139	8.0	7.4	1.70	6779	12.12	18.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006342398-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006342398-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006342398-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006342398-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—HALO_GHOST

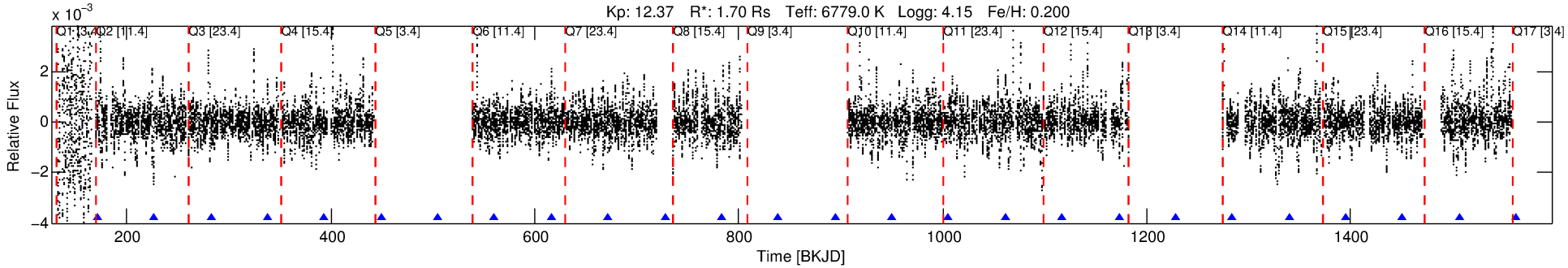
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

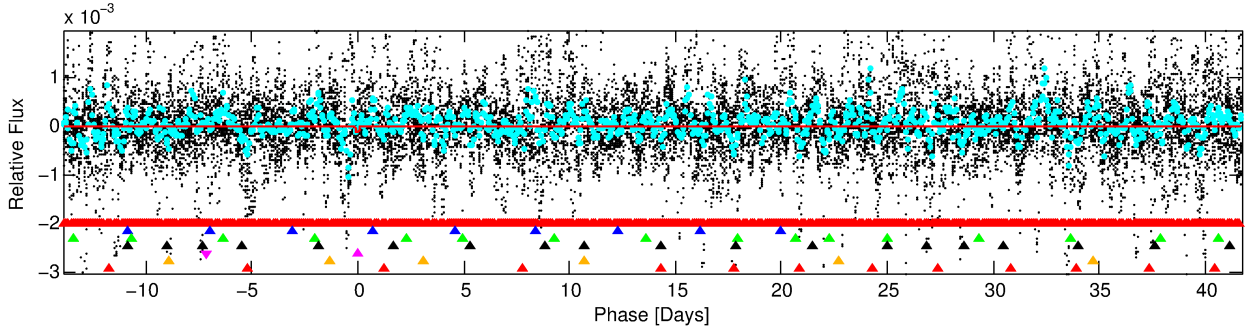
Ephemeris Match Information For 006342398-05

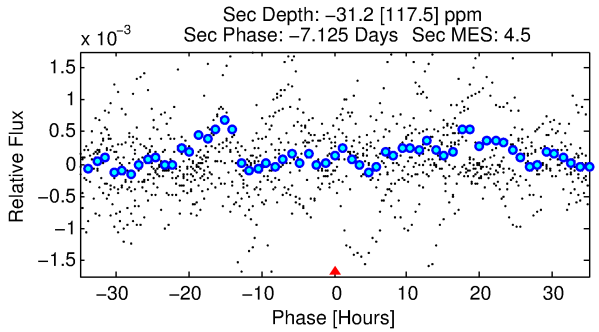
No Significant Match Found

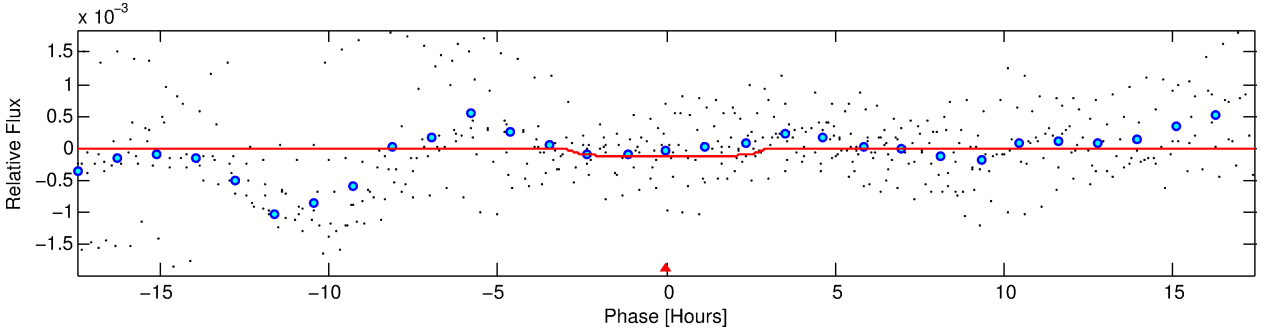
DV One-Page Summary

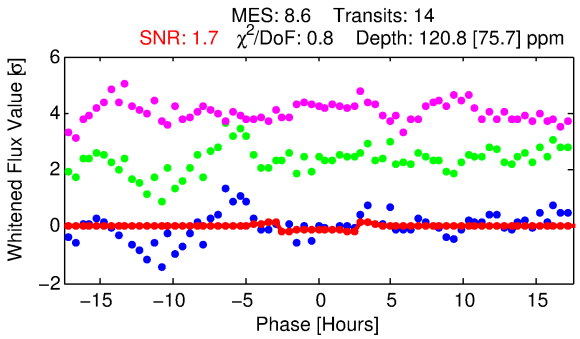
KIC: 6342398 Candidate: 5 of 7 Period: 55.631 d

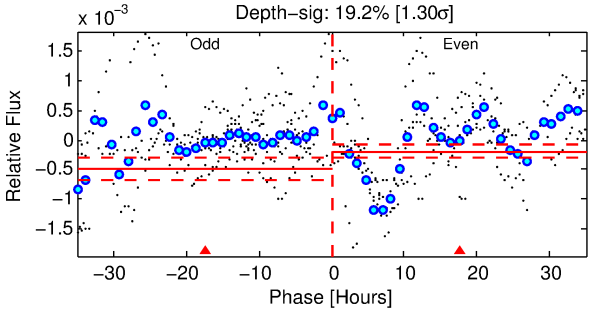


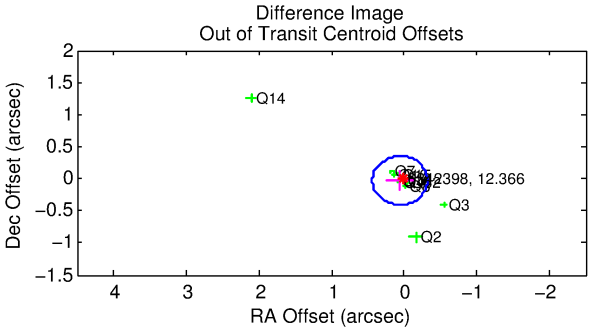












DV Fit Results:

Period = 55.63077 [0.00154] d
Epoch = 171.3237 [0.0241] BKJD
Rp/R* = 0.0114 [0.0093]
a/R* = 39.02 [150.60]
b = 0.86 [1.19]

Seff = 51.49 [20.86]
Teq = 683 [69] K
Rp = 2.12 [1.85] Re
a = 0.3255 [0.0845] AU

Ag = N/A
Teffp = N/A

DV Diagnostic Results:

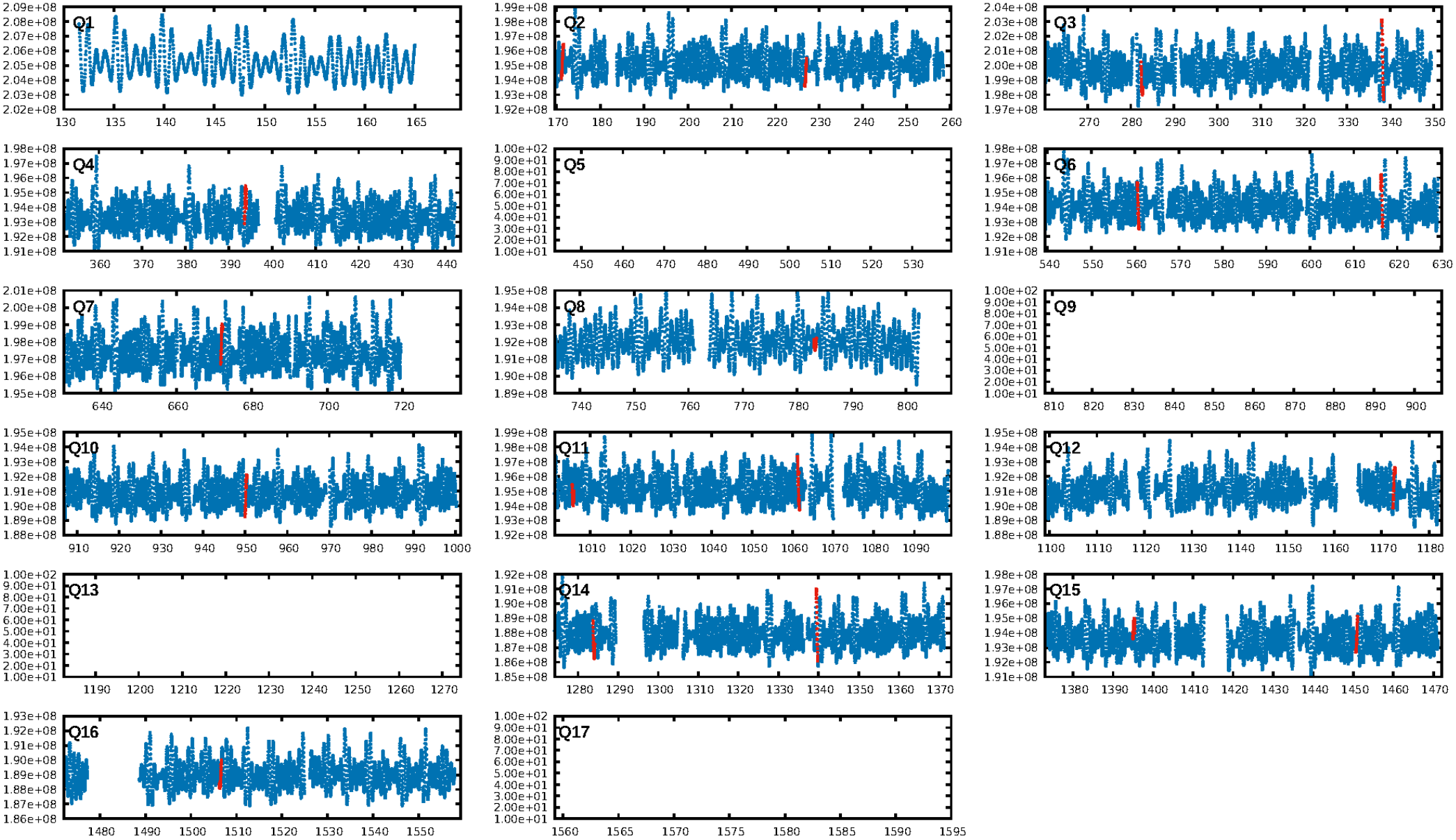
ShortPeriod−sig: 100.0% [161.09σ]
LongPeriod−sig: 100.0% [58.31σ]
ModelChiSquare2−sig: 66.1%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 4.60e−11
RollingBand−fgt: 1.00 [14/14]
GhostDiagnostic−chr: 0.2771

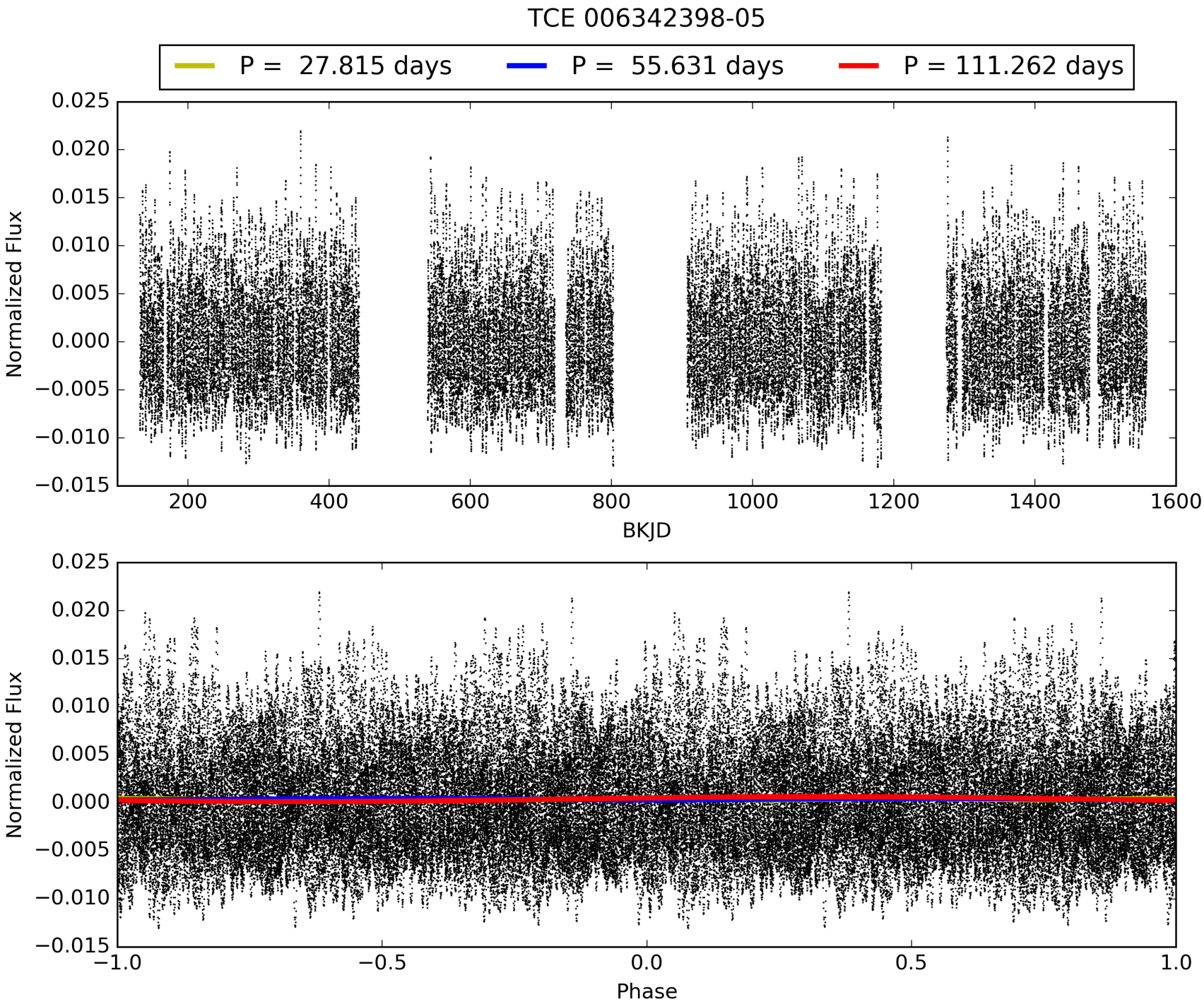
Centroid−sig: 74.7%
Centroid−so: 0.712 arcsec [0.55σ]
OotOffset−rm: 0.066 arcsec [0.53σ]
KicOffset−rm: 0.190 arcsec [1.67σ]
OotOffset−st: 4/4/4/0 [12]
KicOffset−st: 4/4/4/0 [12]
DiffImageQuality−fgm: 0.58 [7/12]
DiffImageOverlap−fno: 0.17 [2/12]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:49:08 Z

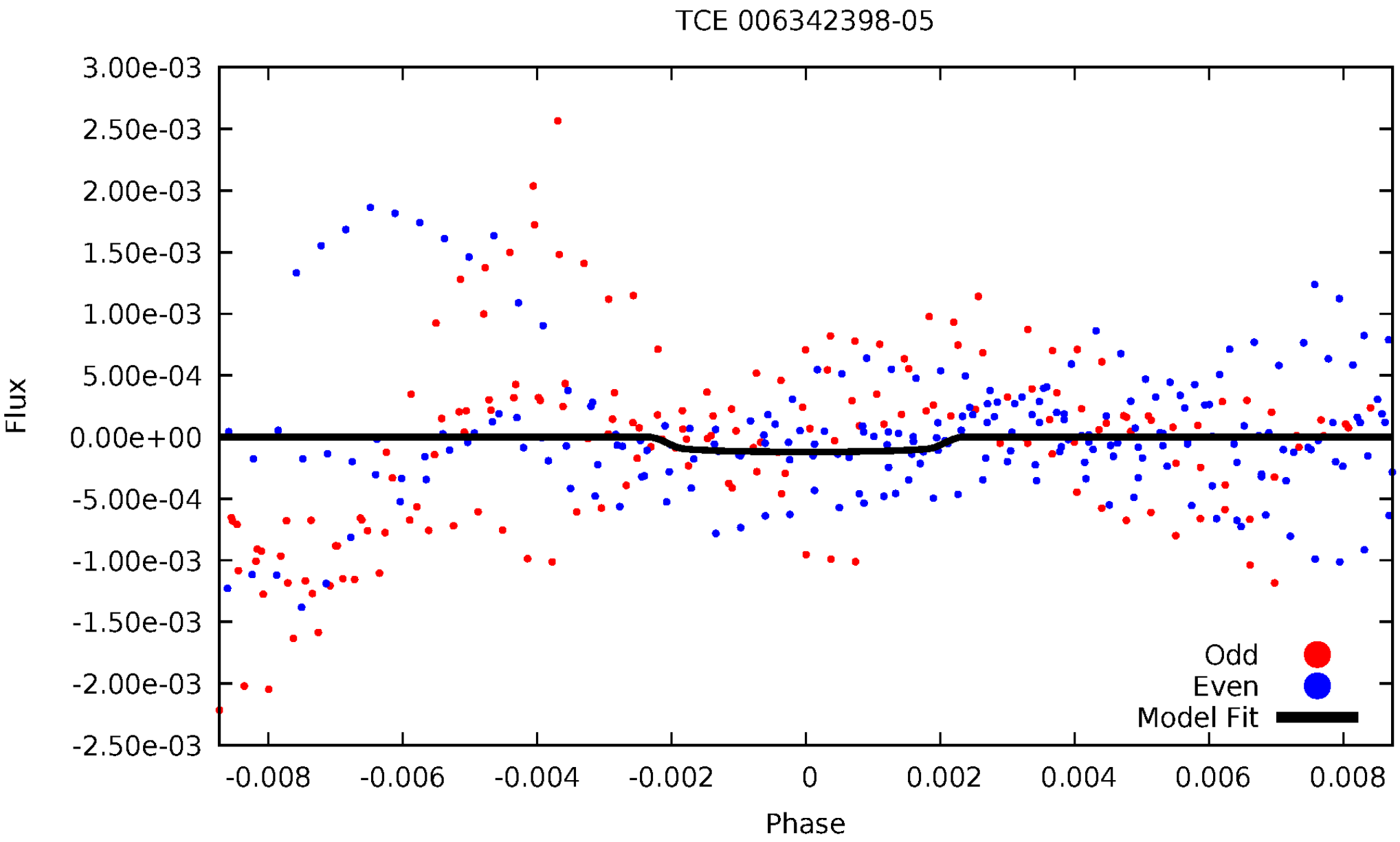
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006342398-05, PDC Light Curves

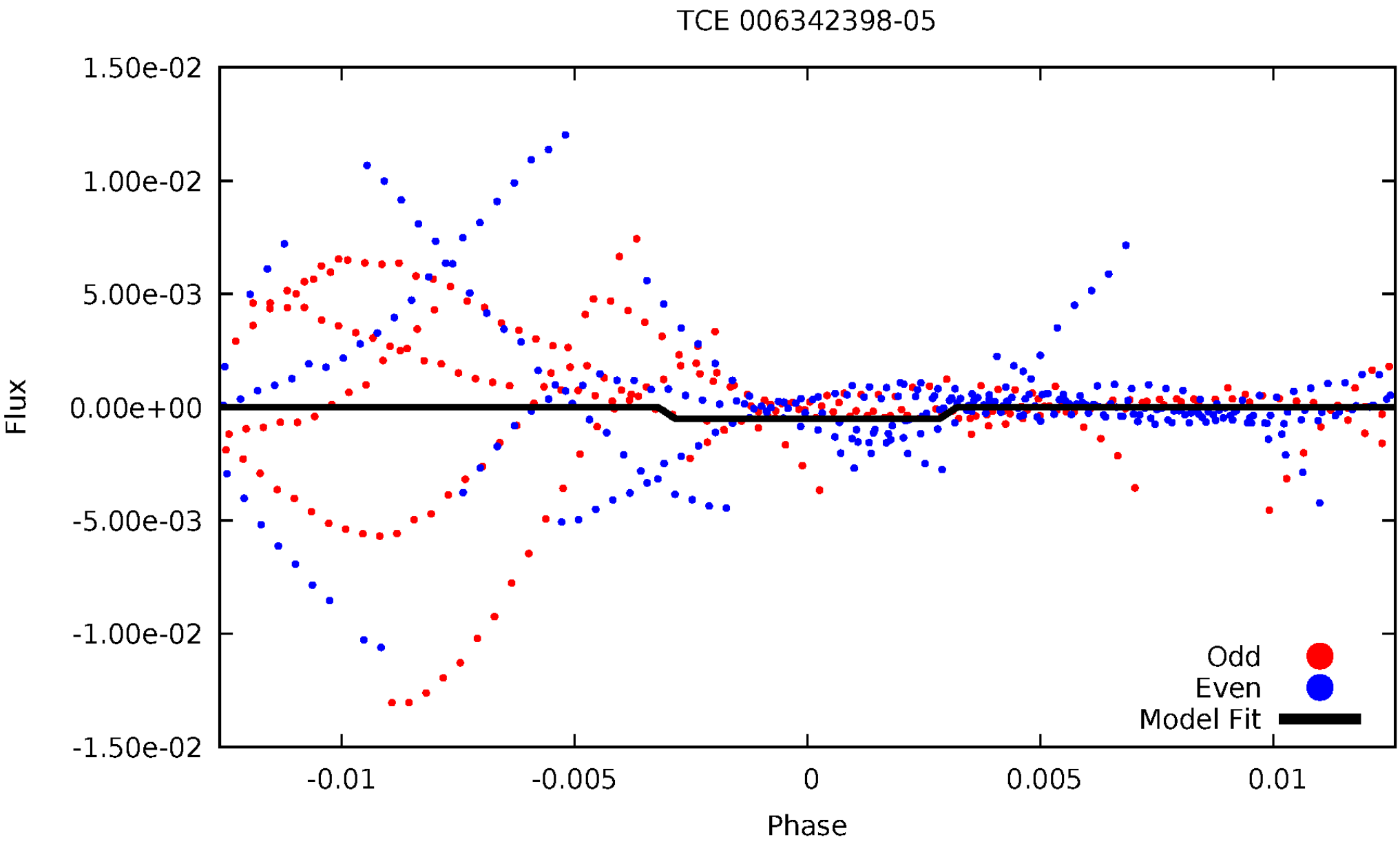



TCE 006342398-05
P = 27.815 days
P = 55.631 days
P = 111.262 days
Normalized Flux
BKJD
Normalized Flux
Phase

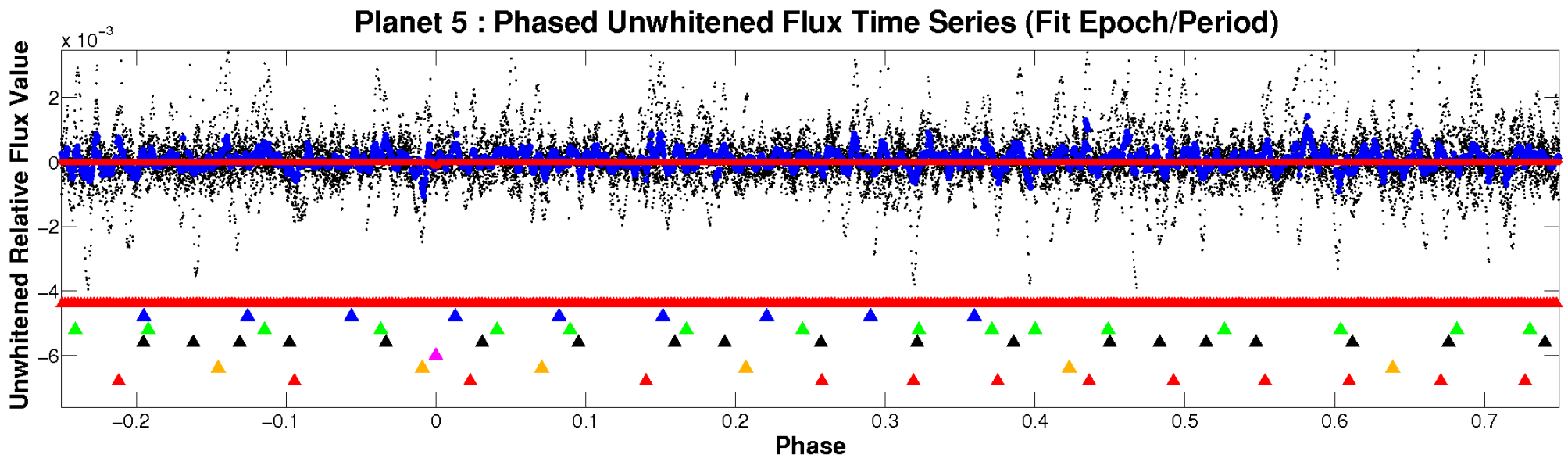
DV Odd/Even

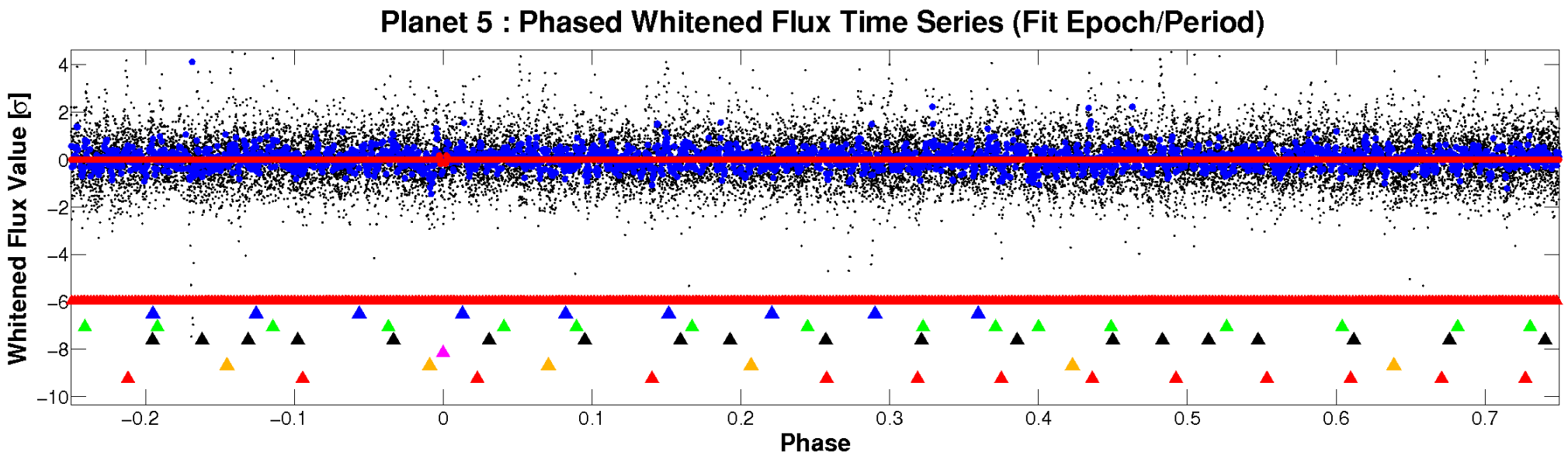

TCE 006342398-05
3.00e-03
2.50e-03
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.008
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
0.008
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006342398-05
1.50e-02
1.00e-02
5.00e-03
0.00e+00
-5.00e-03
-1.00e-02
-1.50e-02
Flux
-0.01
-0.005
0
0.005
0.01
Phase
Odd
Even
Model Fit

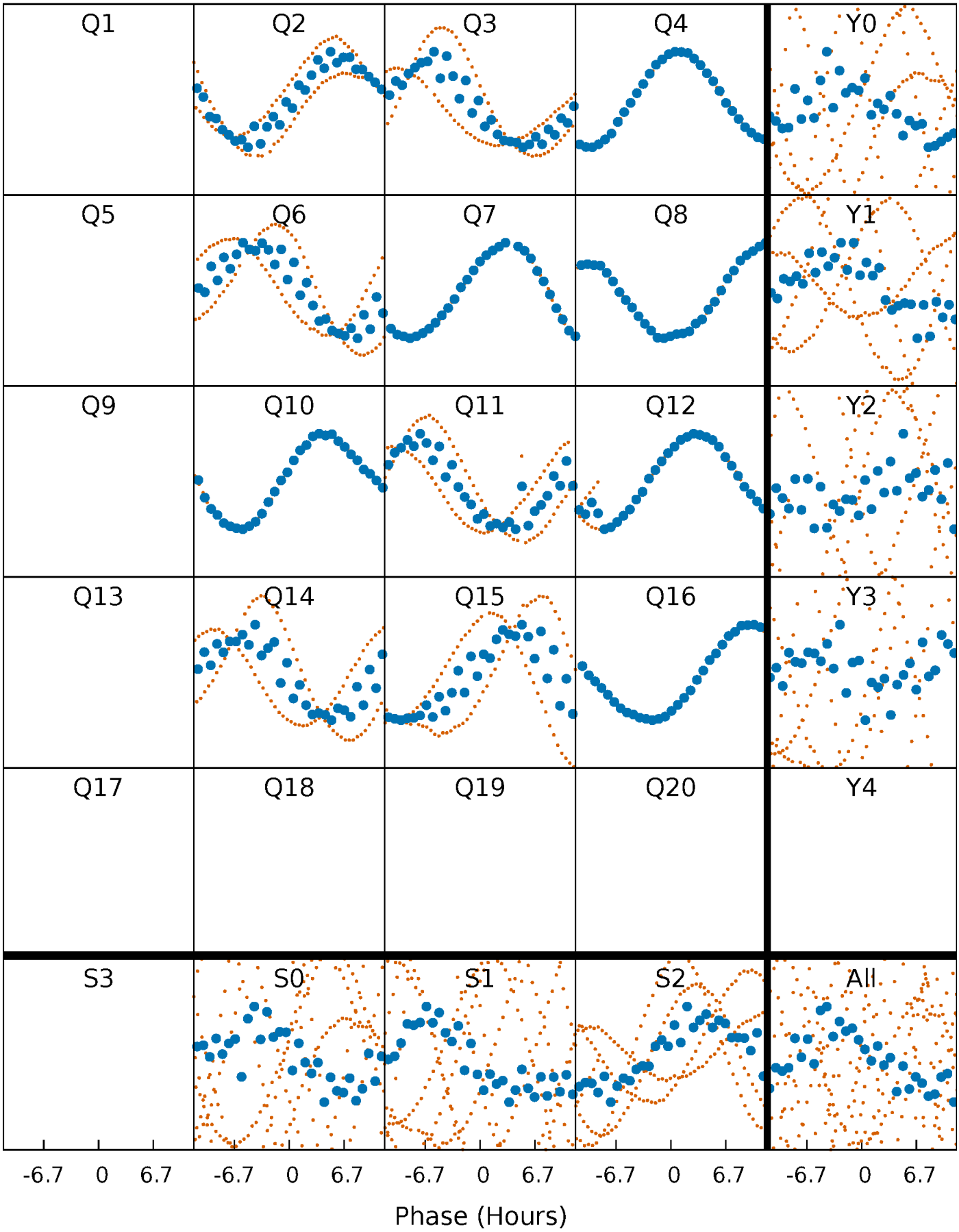
Non-Whitened Vs. Whitened Light Curve





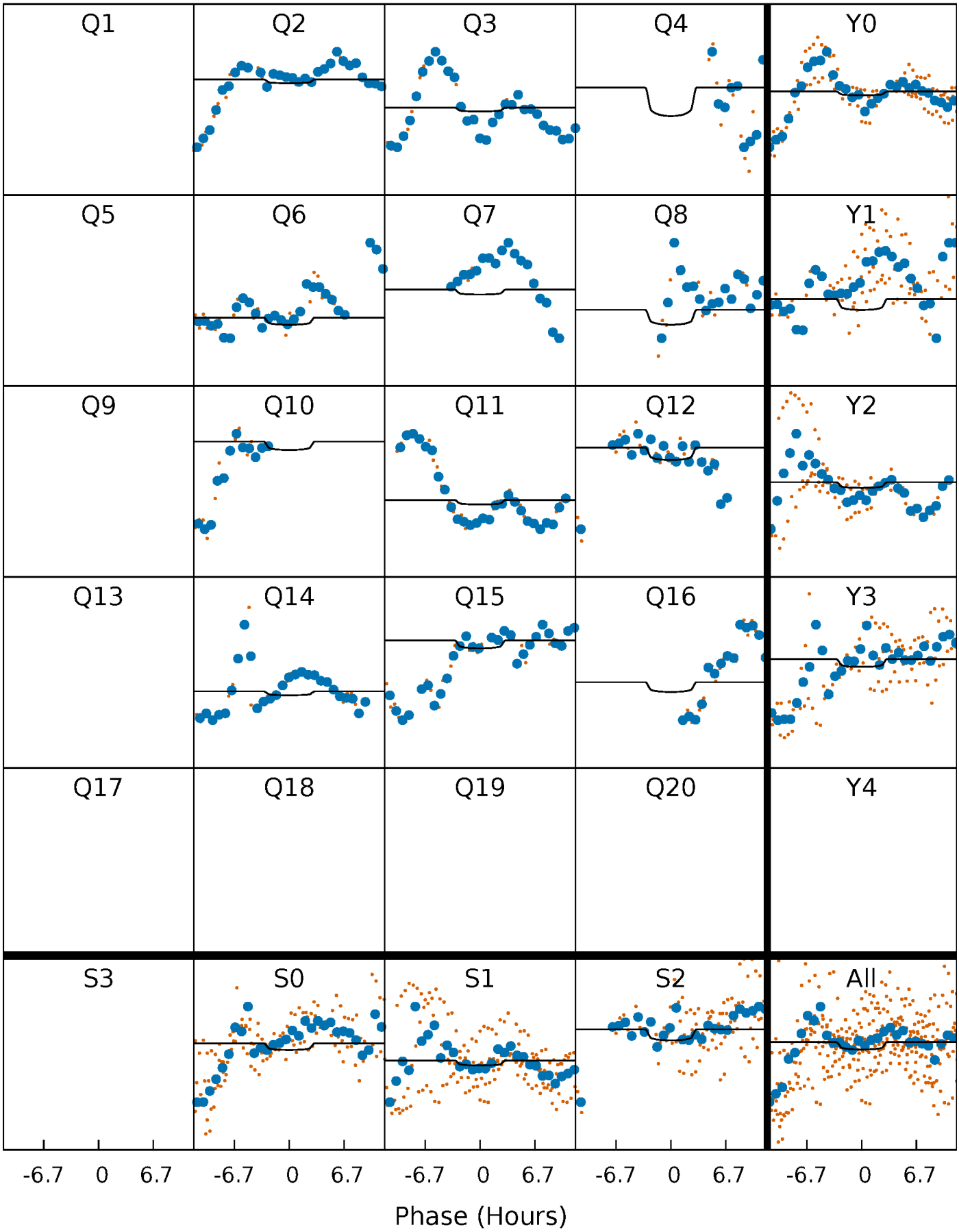
PDC Quarter-Phased Transit Curves

TCE 006342398-05 P= 55.630773 Days T_0=171.323692 (BKJD)



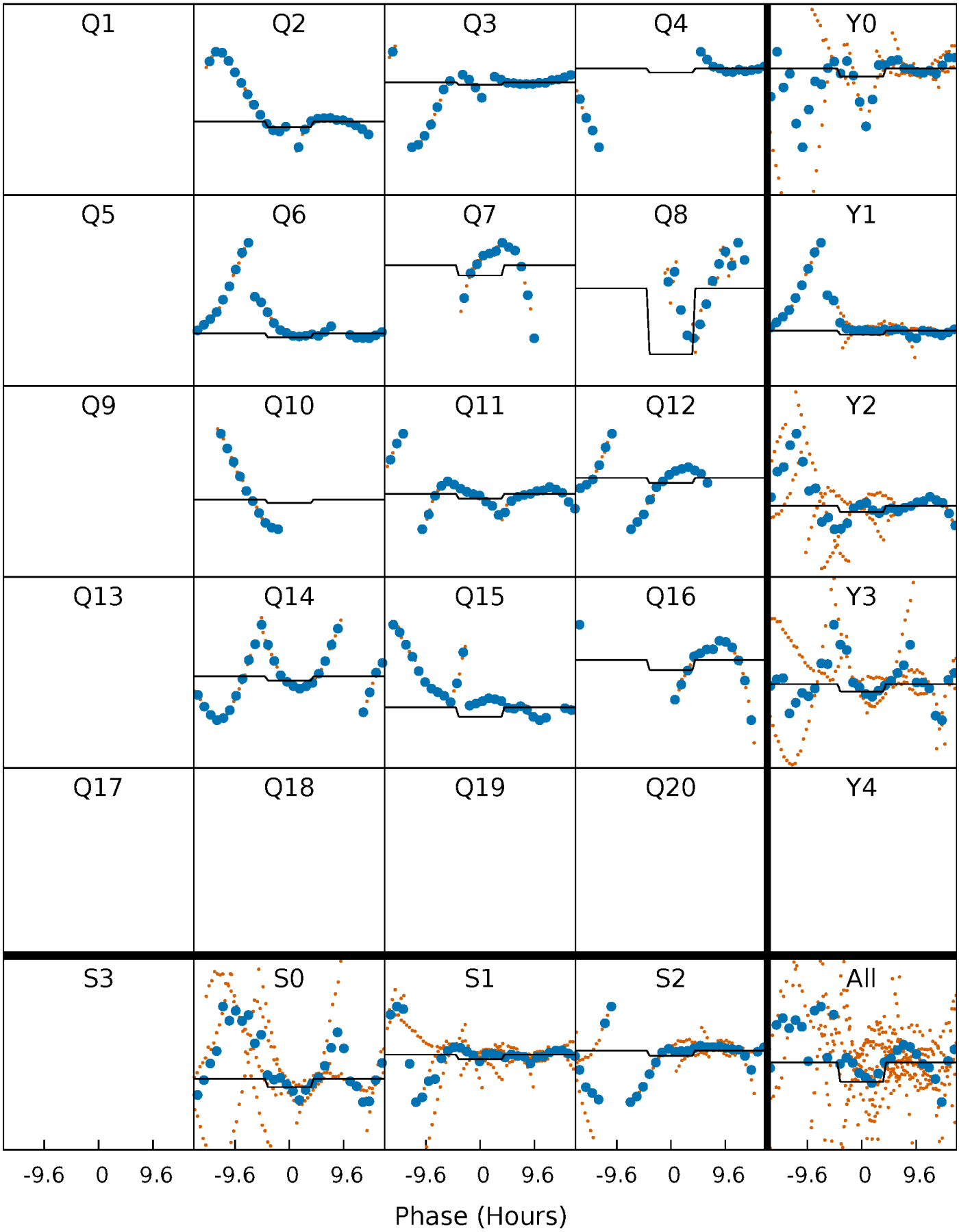
DV Quarter-Phased Transit Curves

TCE 006342398-05 P= 55.630773 Days T_0=171.323692 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

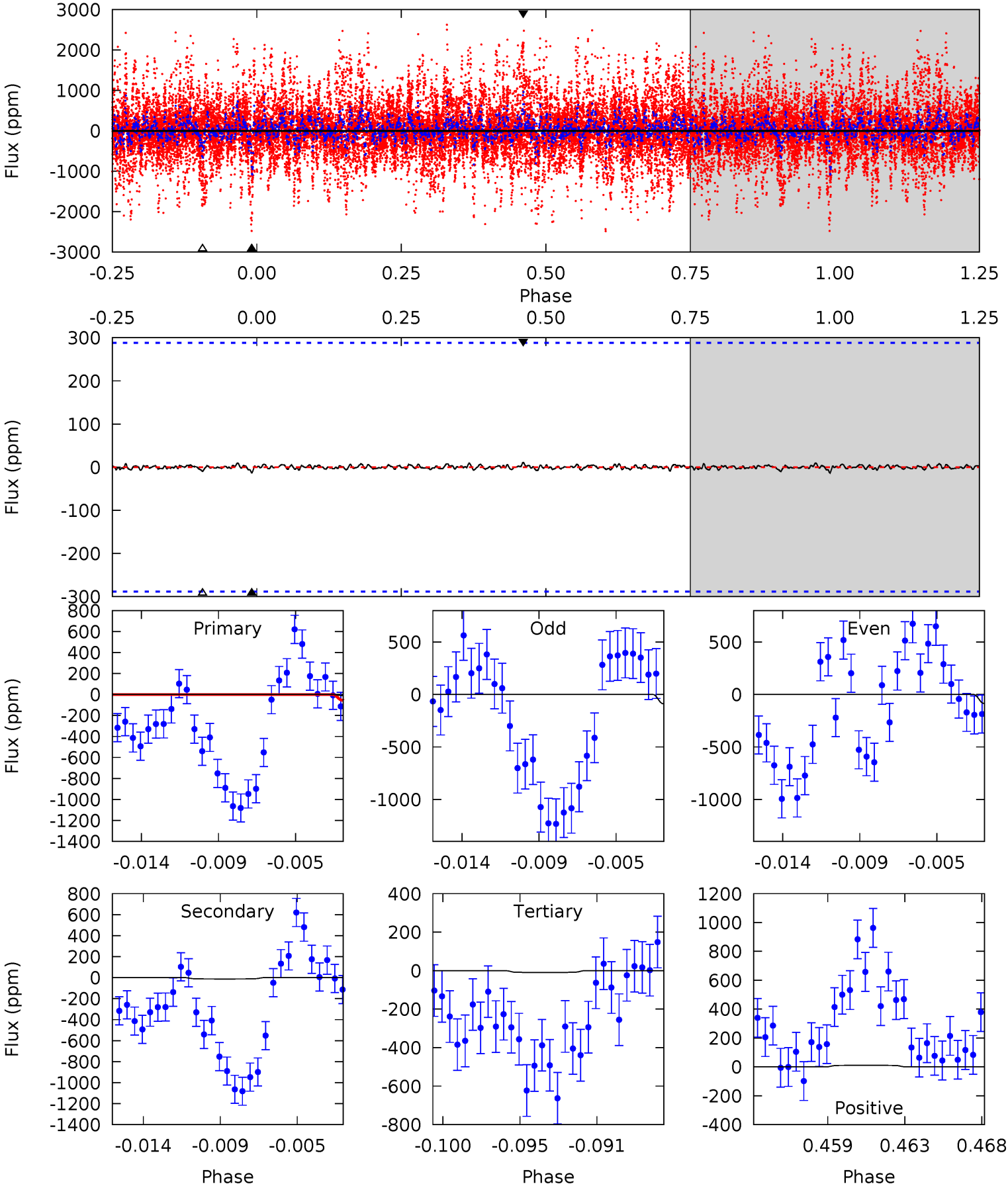
TCE 006342398-05 P= 55.632636 Days T_0=171.283419 (BKJD)



DV Model-Shift Uniqueness Test

006342398-05, P = 55.630773 Days, E = 115.692919 Days

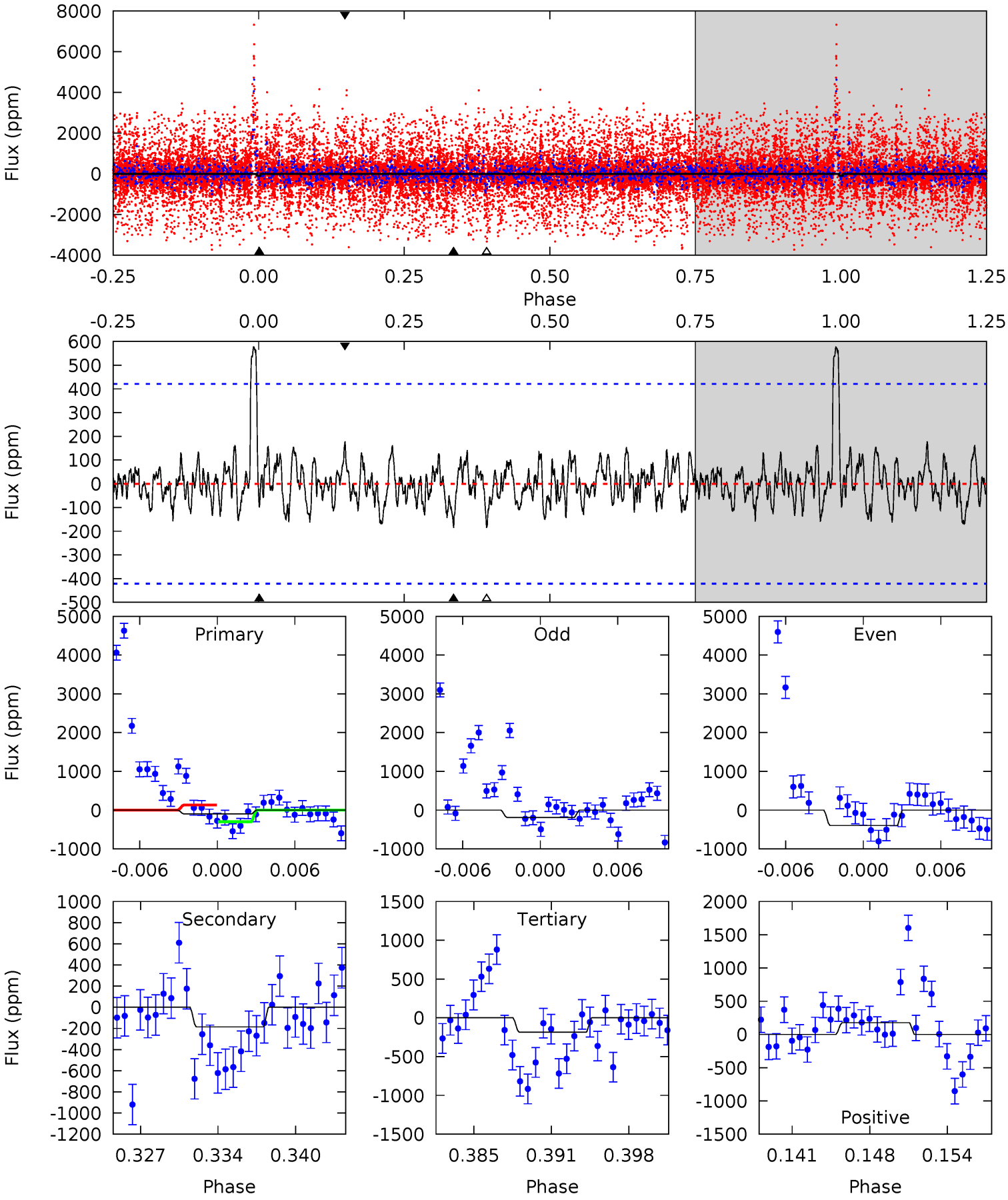
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.24	0.24	0.18	0.20	5.18	2.84	0.06	0.06	0.04	0.06	0.03	0.04	2.61	0.46	0.29



Alt Model-Shift Uniqueness Test

006342398-05, P = 55.632636 Days, E = 115.650783 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.21	2.25	2.25	2.14	5.11	2.73	0.94	-1.04	-0.93	0.00	0.11	1.21	4.10	0.76	1.04



Stellar Parameters For KIC 006342398

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6779^{+185}_{-301}	$4.150^{+0.128}_{-0.192}$	$0.200^{+0.150}_{-0.350}$	$1.698^{+0.544}_{-0.317}$	$1.485^{+0.197}_{-0.219}$	$0.427^{+0.319}_{-0.224}$
	+3%/-4%	+3%/-5%	+75%/-175%	+32%/-19%	+13%/-15%	+75%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006342398-05 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13±56	$2.42^{+1.62}_{-1.46}$	952^{+74}_{-59}	3816^{+2543}_{-8861}	111^{+1273}_{-590}
Alt.	-186±82	$4.25^{+1.87}_{-1.73}$	953^{+73}_{-58}	5195^{+1689}_{-893}	570^{+1259}_{-341}

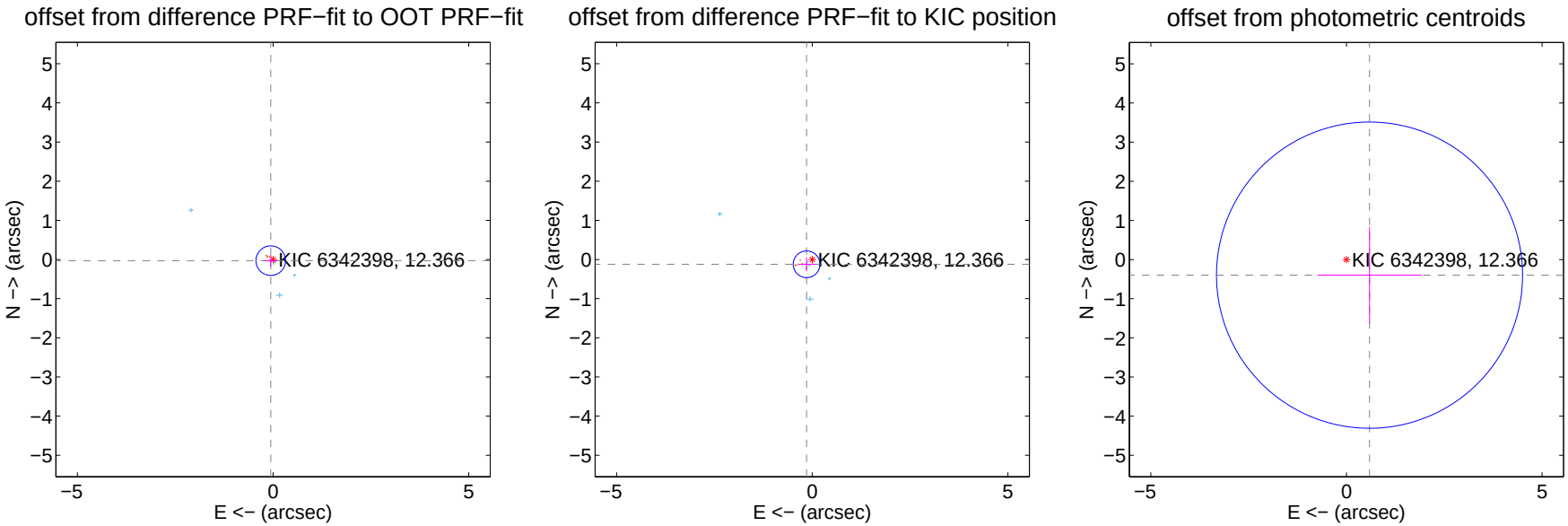
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

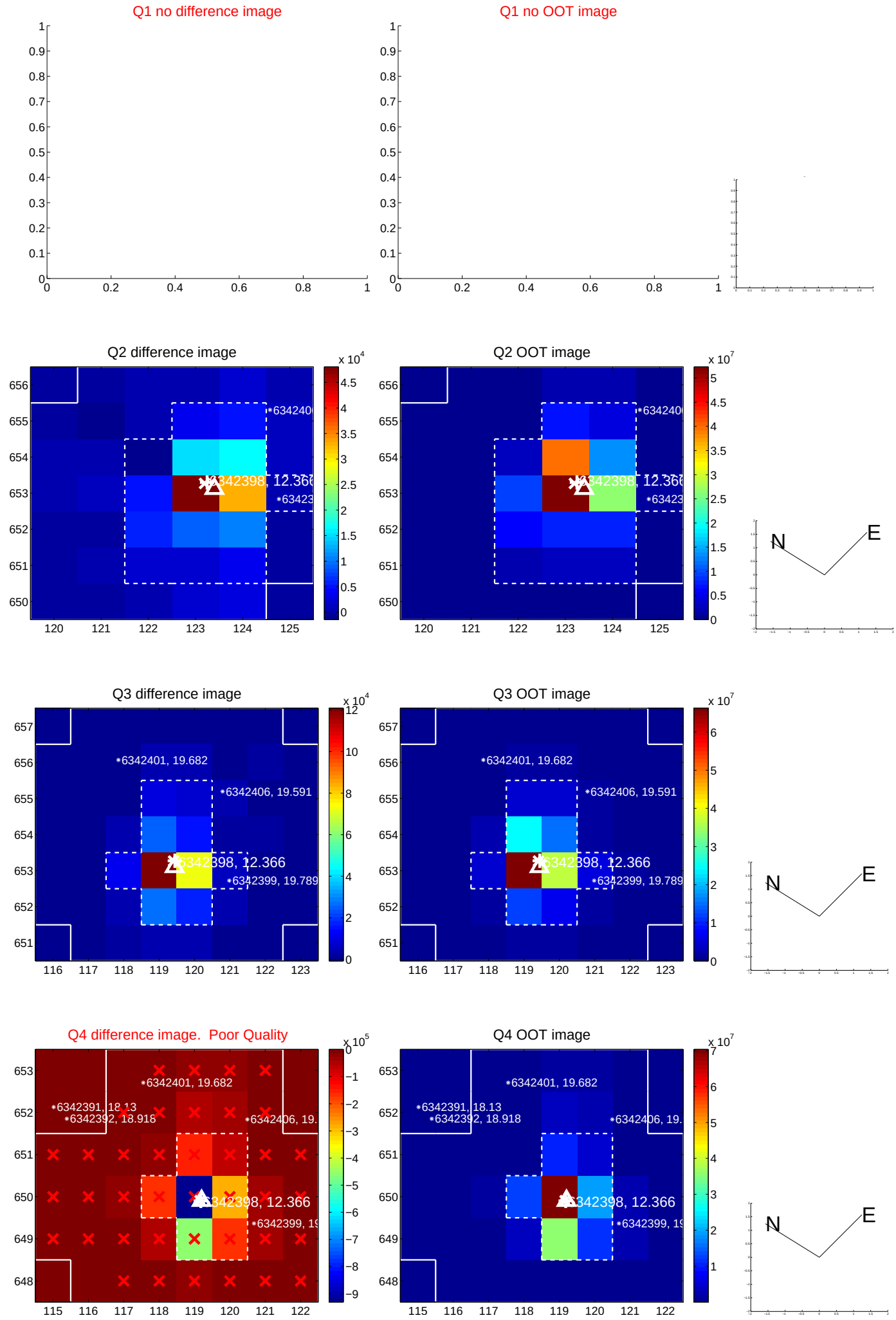
Supplemental centroid analysis for 006342398-05. Kepler magnitude: 12.37. Transit SNR 1.67
There are 7 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.066 ± 0.126	0.53	0.060 ± 0.189	-0.029 ± 0.151
PRF-fit source offset from KIC position	0.190 ± 0.114	1.67	0.146 ± 0.235	-0.123 ± 0.174
photometric centroid source offset	0.71 ± 1.30	0.55	-0.59 ± 1.33	-0.40 ± 1.24

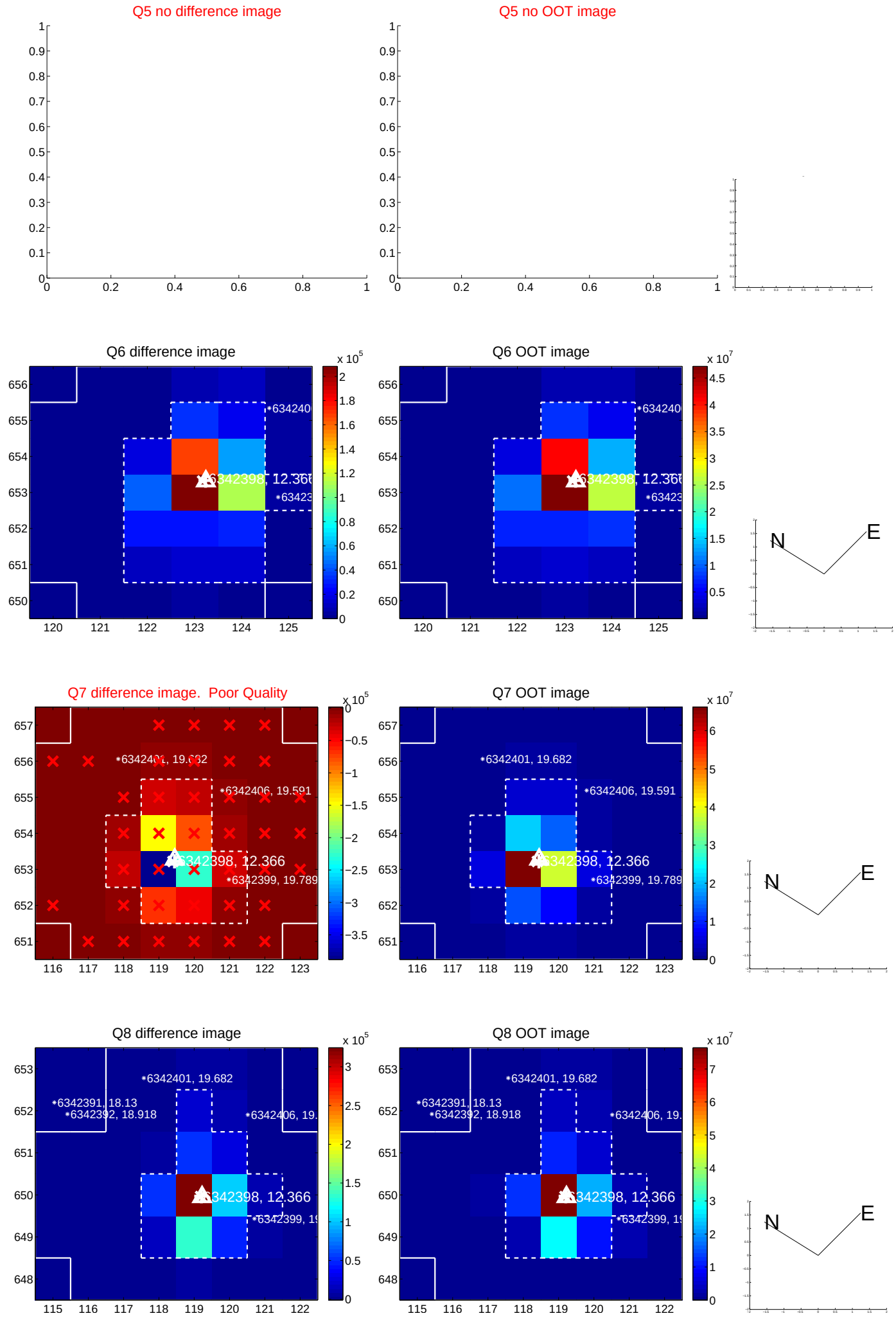


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

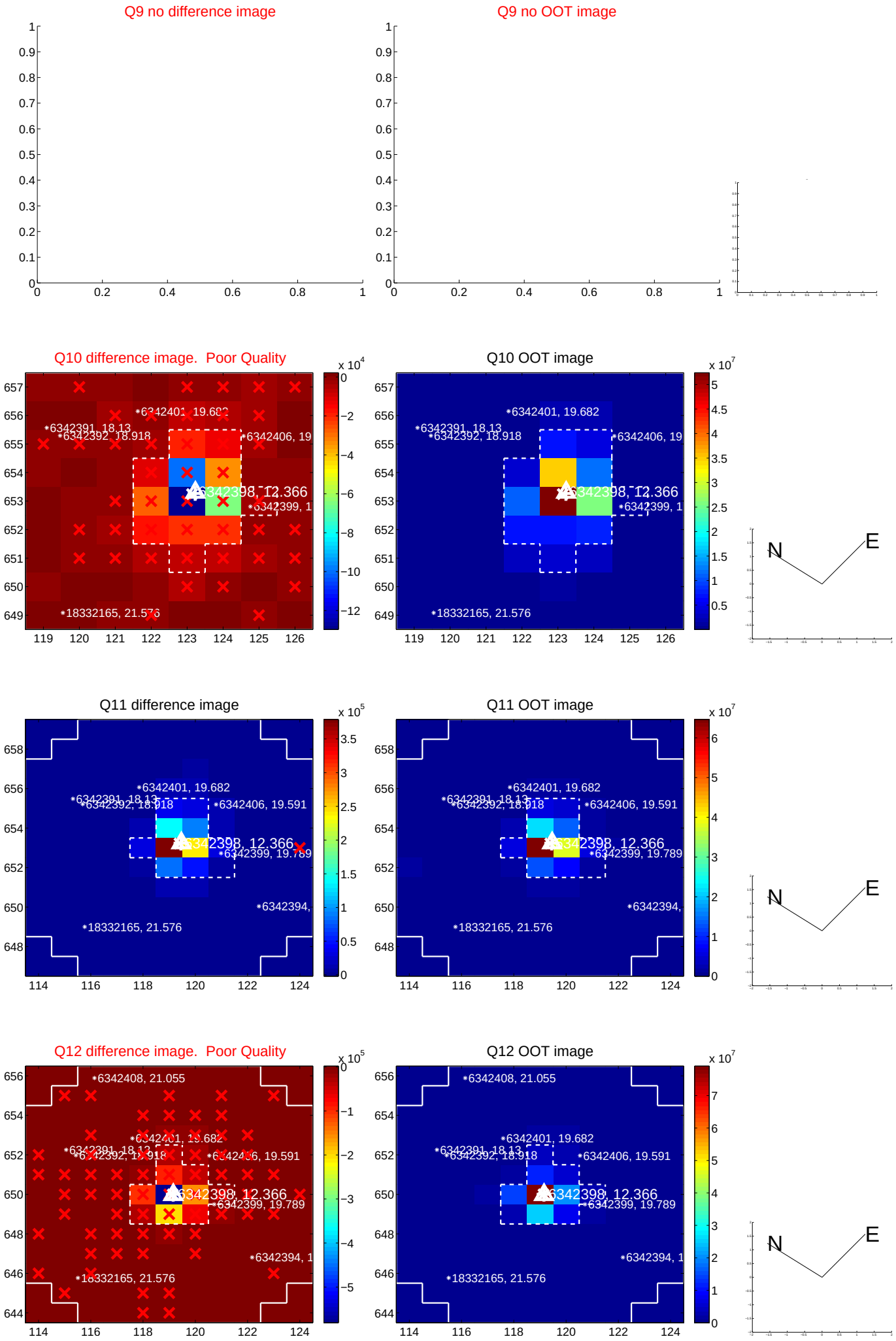
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



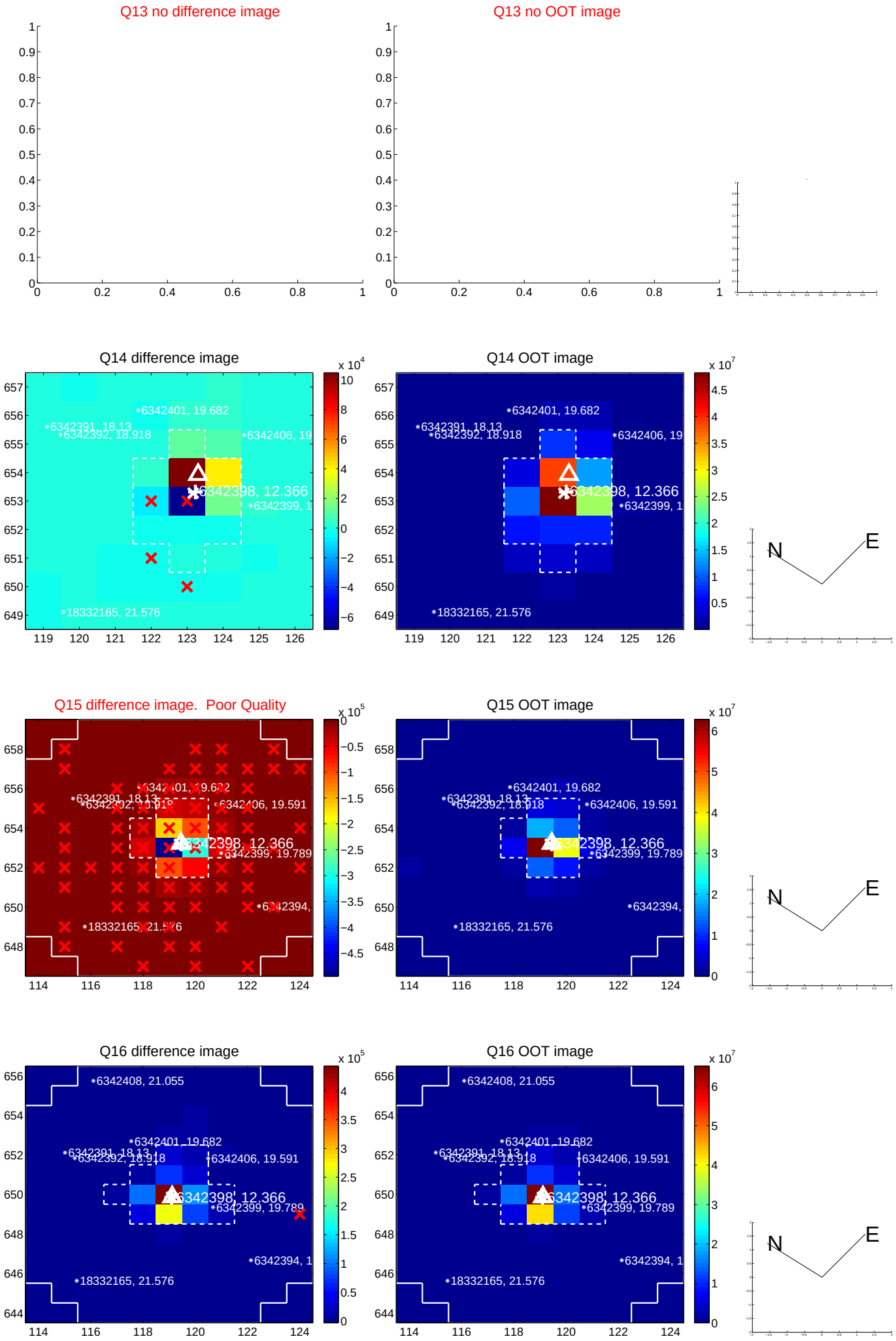
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



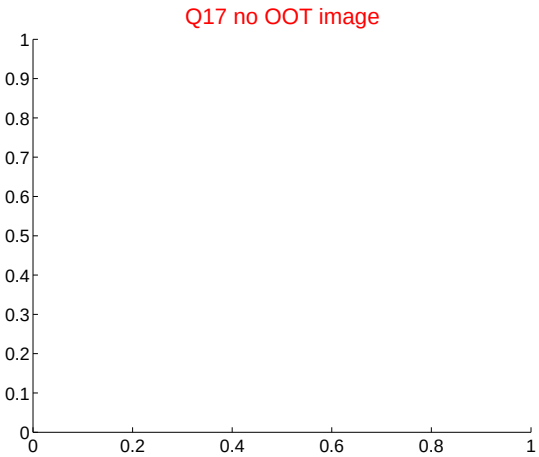
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

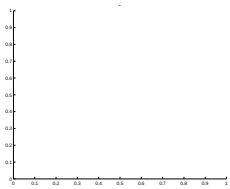


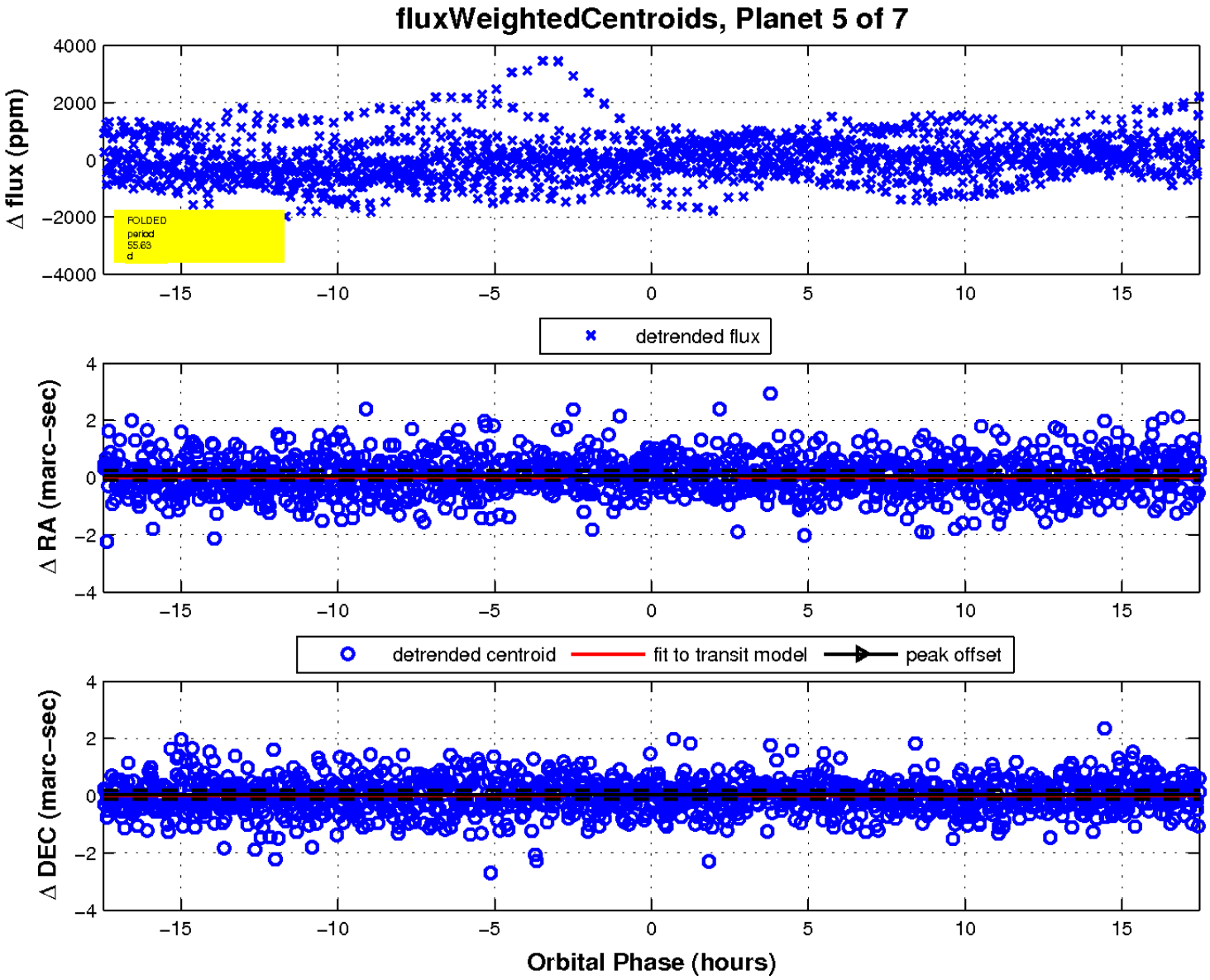
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



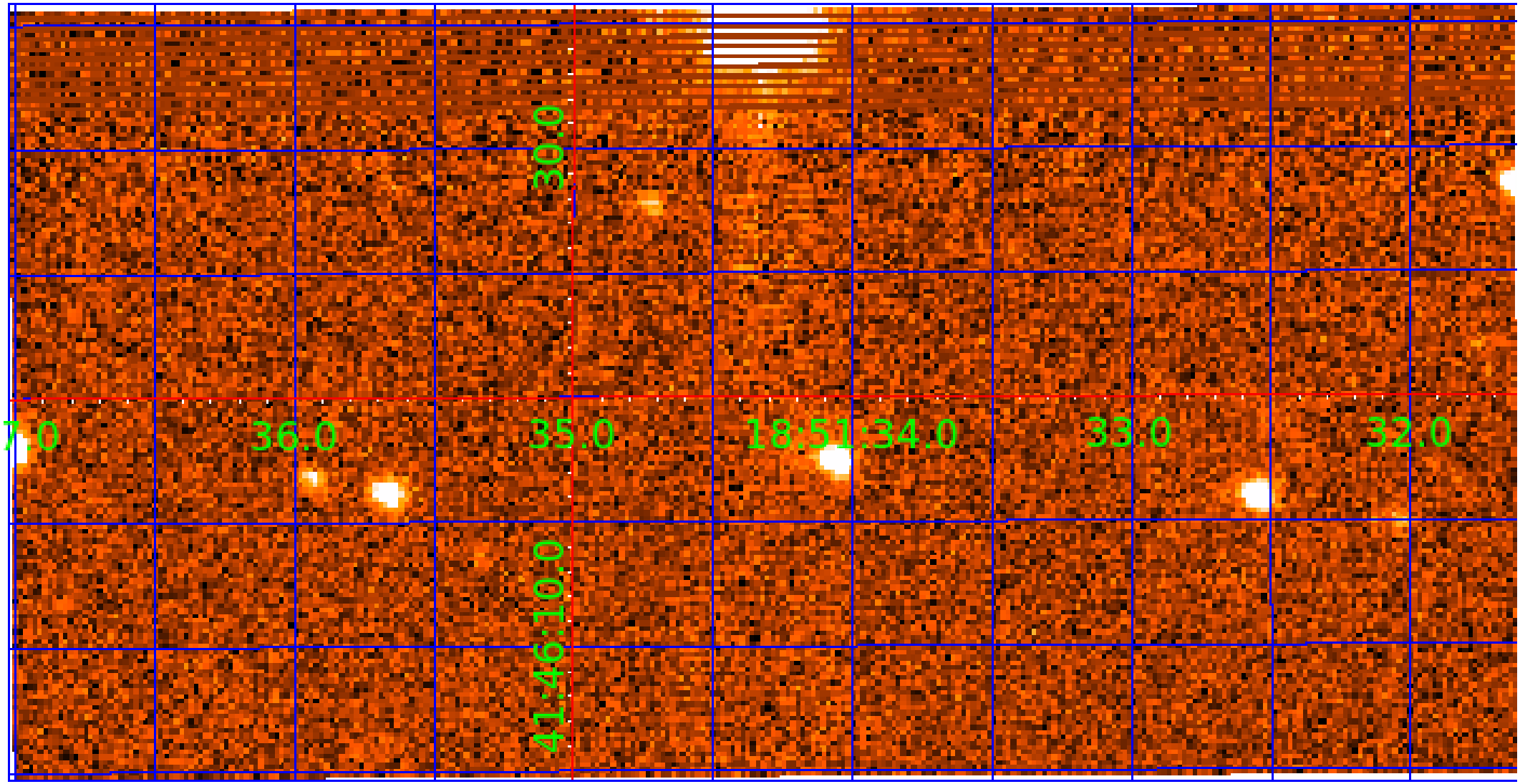
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image



KIC 006342398

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 ($S_\oplus$)
006342398-01	OBS	No	1.310332	131.599544	31.8	5.617	8.5	4.4	1.70	6779	0.99	7626.76
006342398-02	OBS	No	163.036634	135.692846	2222.1	13.118	11.0	7.9	1.70	6779	14.71	12.28
006342398-03	OBS	No	91.278679	213.563037	218.8	7.968	8.5	2.0	1.70	6779	2.70	26.61
006342398-04	OBS	No	75.366528	198.208820	153.7	5.660	8.9	1.7	1.70	6779	2.39	34.35
006342398-05	OBS	No	55.630773	171.323692	120.8	5.826	8.6	1.7	1.70	6779	2.12	51.49
006342398-06	OBS	No	234.536402	226.452125	177.0	7.500	7.8	-1.0	1.70	6779	2.28	7.56
006342398-07	OBS	No	117.790510	133.427895	1472.3	10.139	8.0	7.4	1.70	6779	12.12	18.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006342398-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006342398-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006342398-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006342398-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—HALO_GHOST

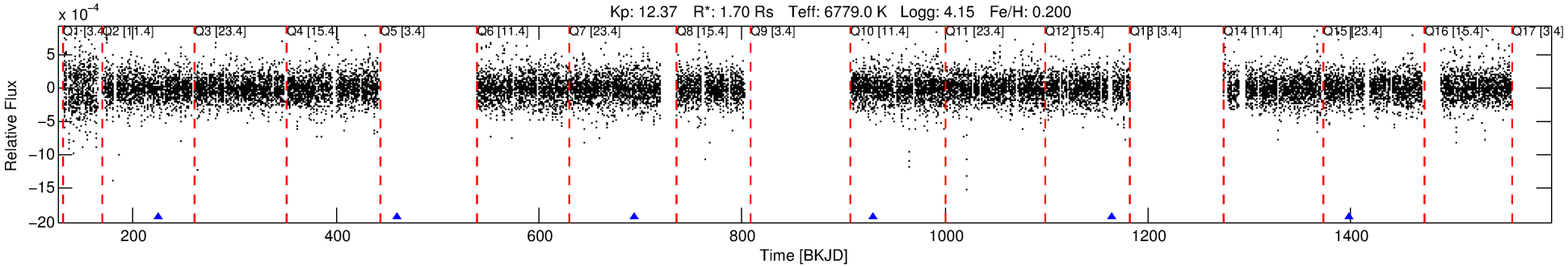
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

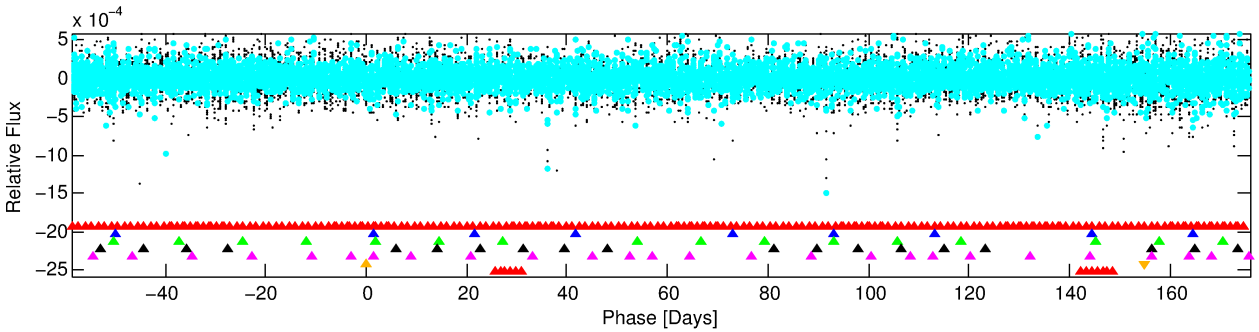
Ephemeris Match Information For 006342398-06

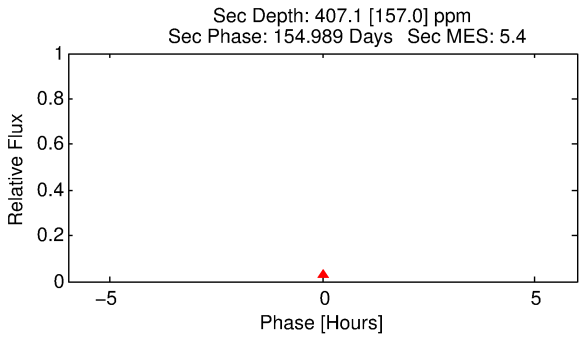
No Significant Match Found

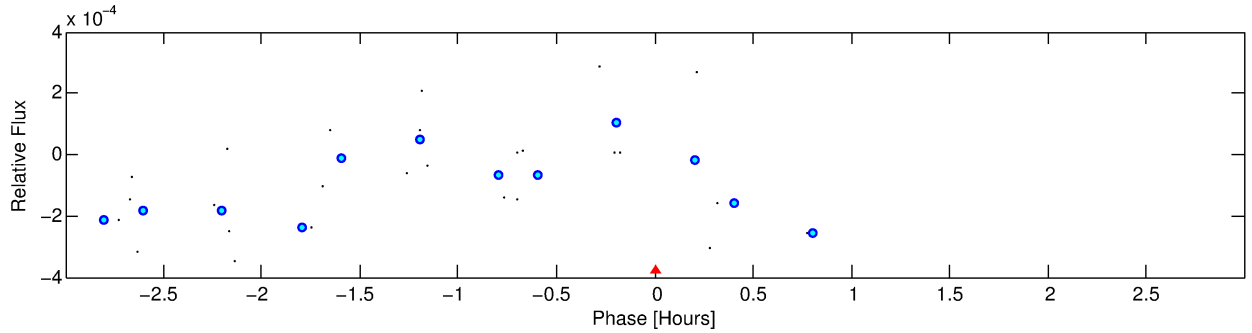
DV One-Page Summary

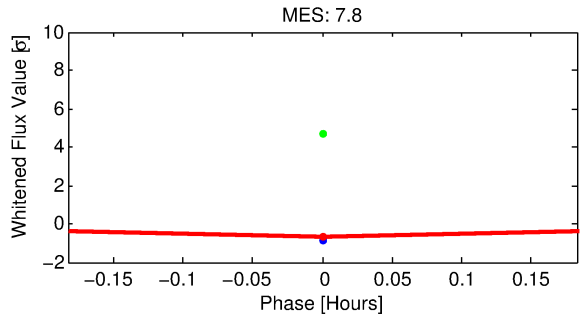
KIC: 6342398 Candidate: 6 of 7 Period: 234.536 d

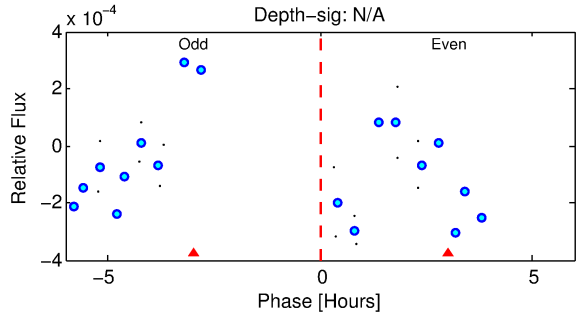


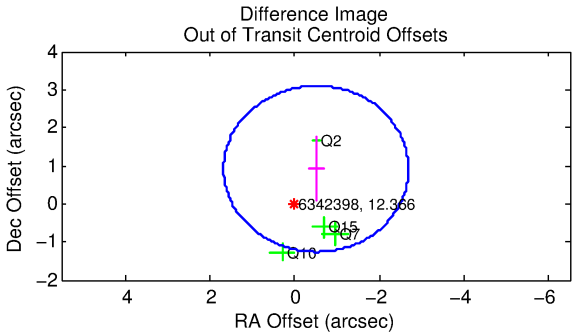












TPS TCE Results:

Period = 234.53640 d
Epoch = 226.4521 BKJD

DV fit results are unavailable

DV Diagnostic Results:

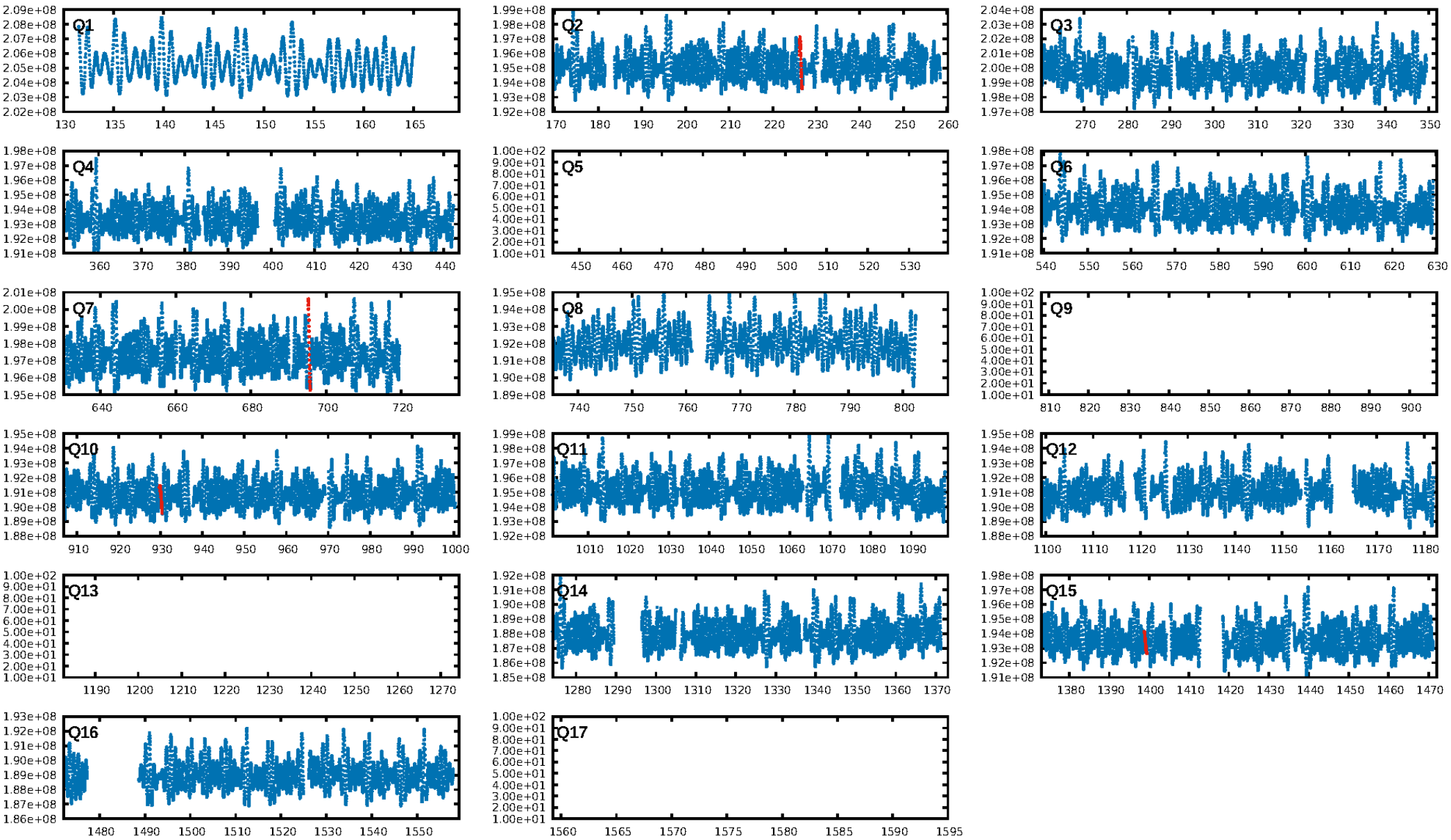
ShortPeriod−sig: 100.0% [113.56σ]
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 1.84e−08
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: 19.34

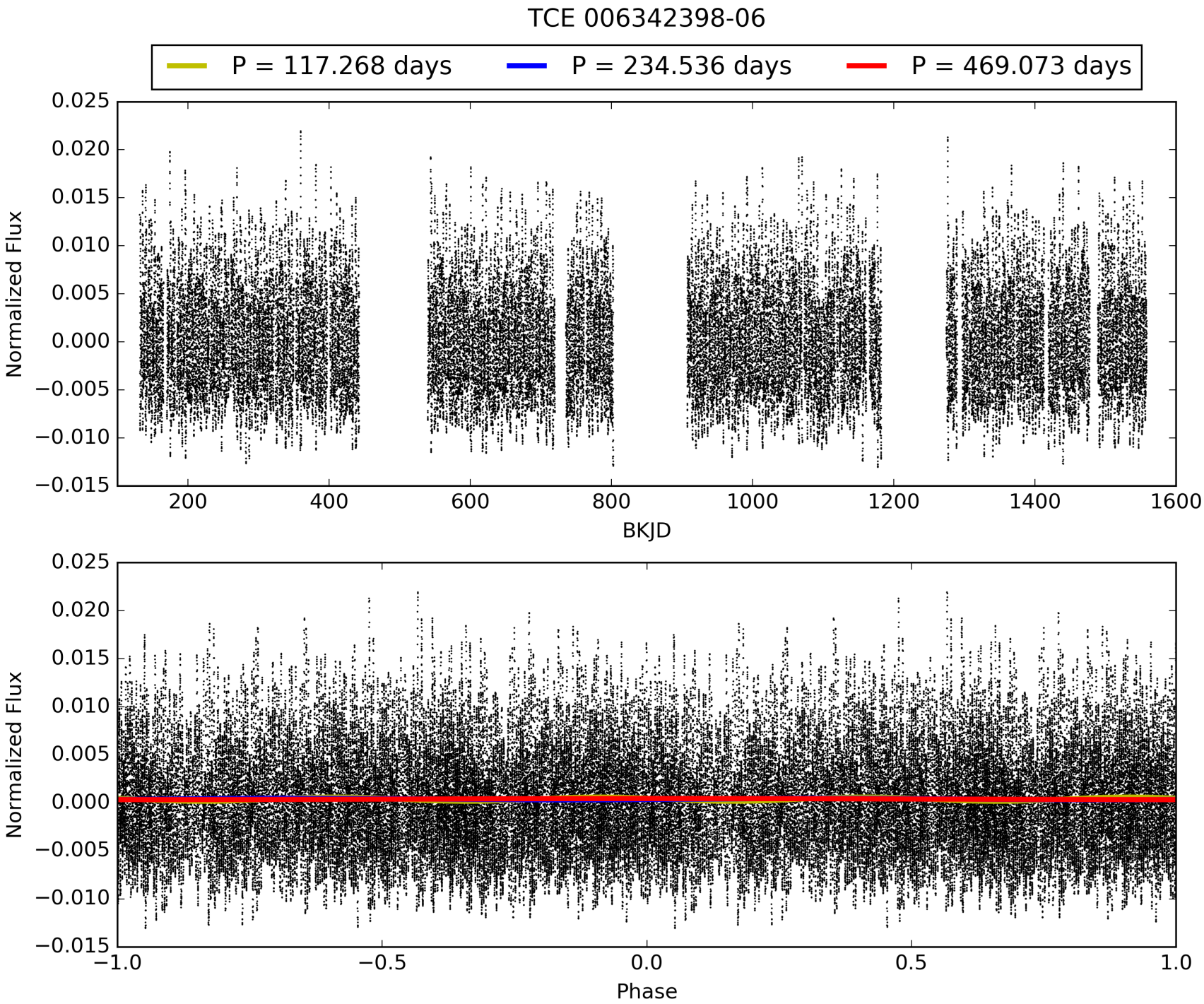
Centroid−sig: 3.7%
Centroid−so: 0.734 arcsec [1.38σ]
OotOffset−rm: 1.050 arcsec [1.45σ]
KicOffset−rm: 0.770 arcsec [1.08σ]
OotOffset−st: 2/2/0/0 [4]
KicOffset−st: 2/2/0/0 [4]
DiffImageQuality−fgm: 0.75 [3/4]
DiffImageOverlap−fno: 1.00 [4/4]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:49:19 Z

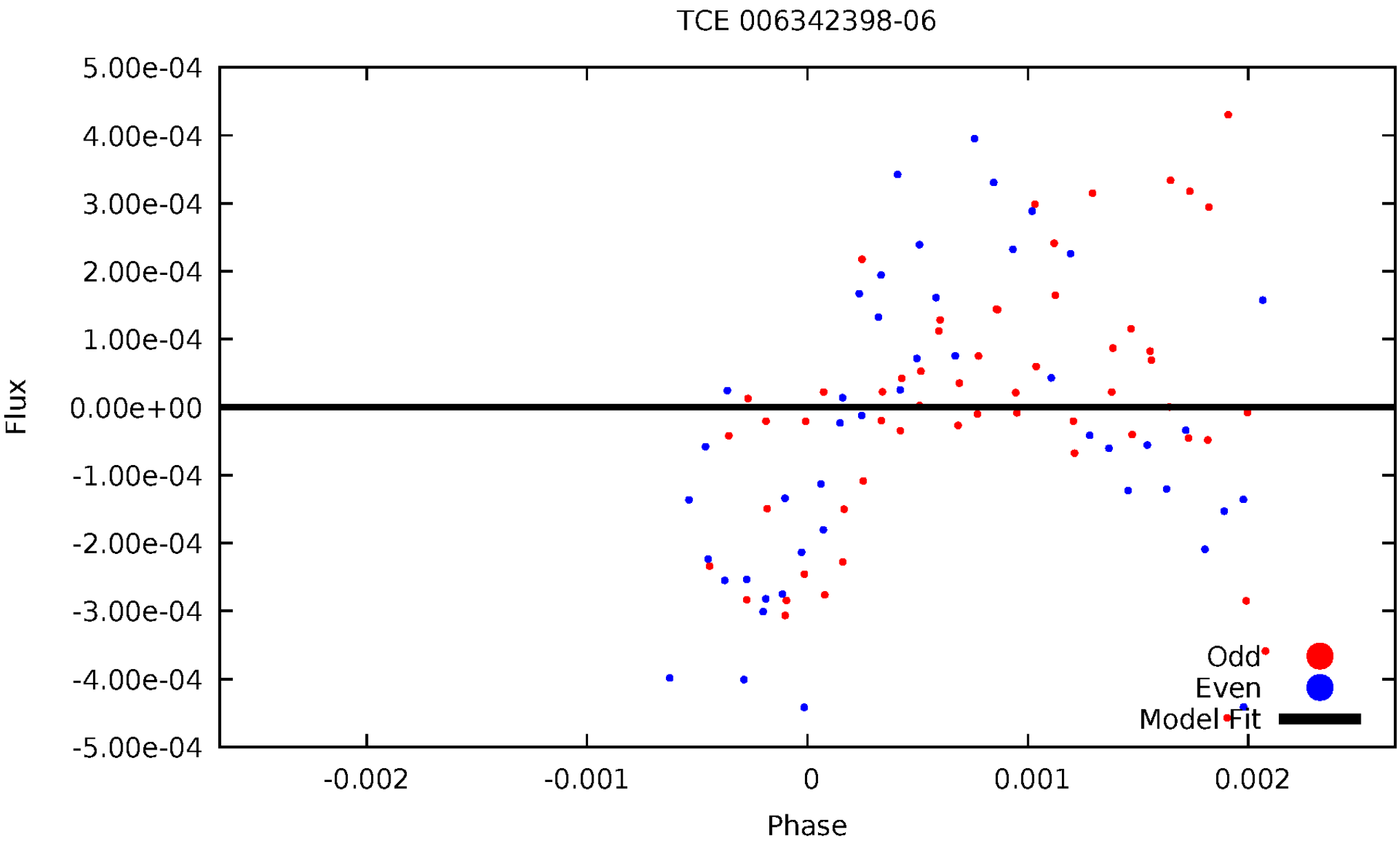
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006342398-06, PDC Light Curves

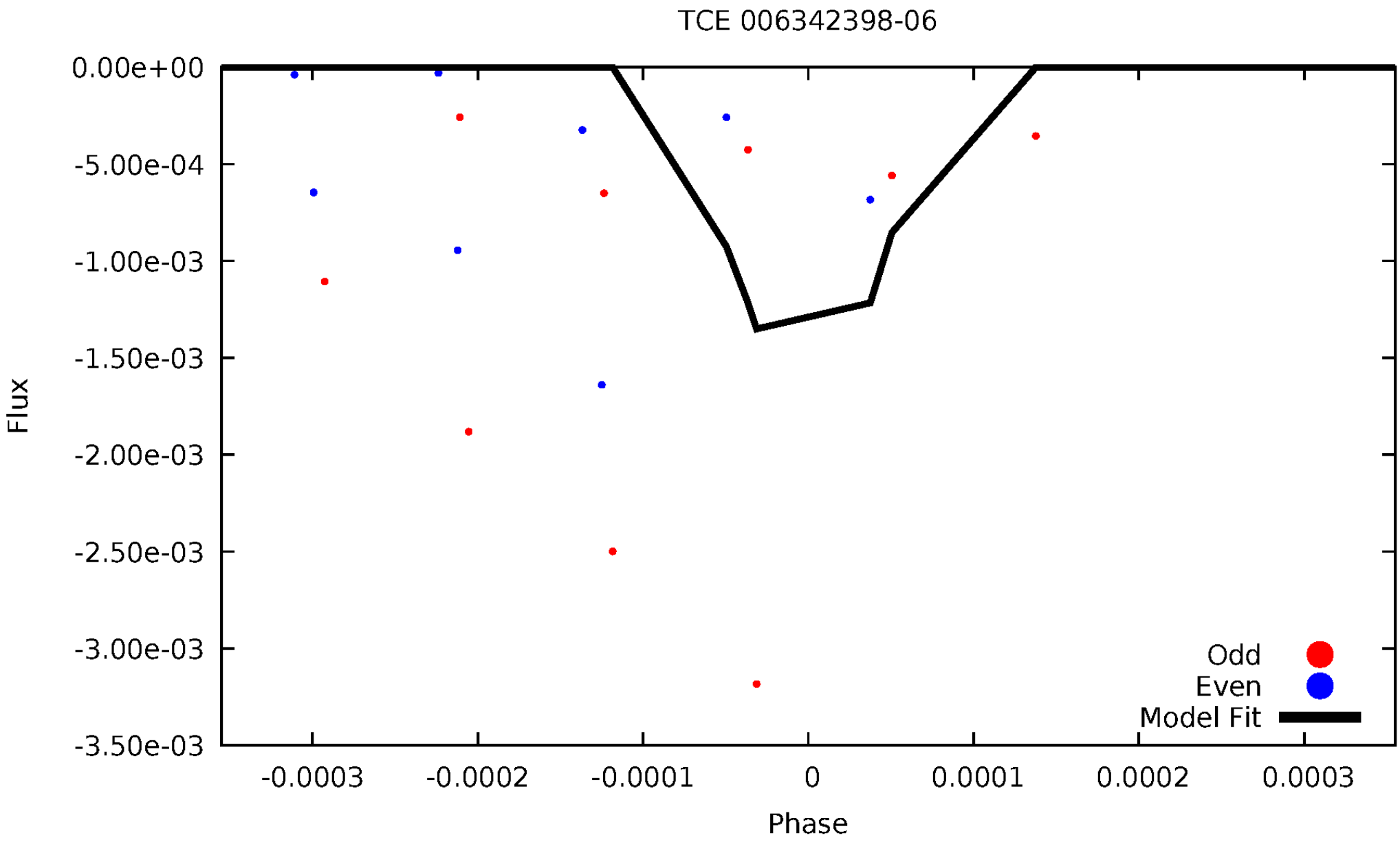



TCE 006342398-06
P = 117.268 days
P = 234.536 days
P = 469.073 days
Normalized Flux
BKJD
Normalized Flux
Phase

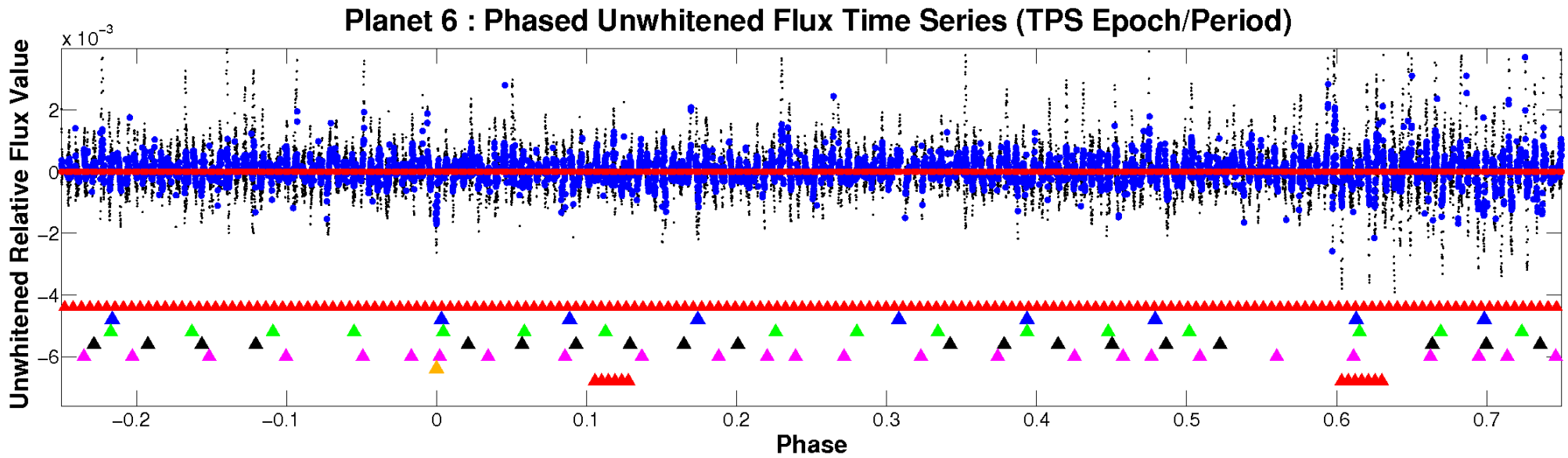
DV Odd/Even

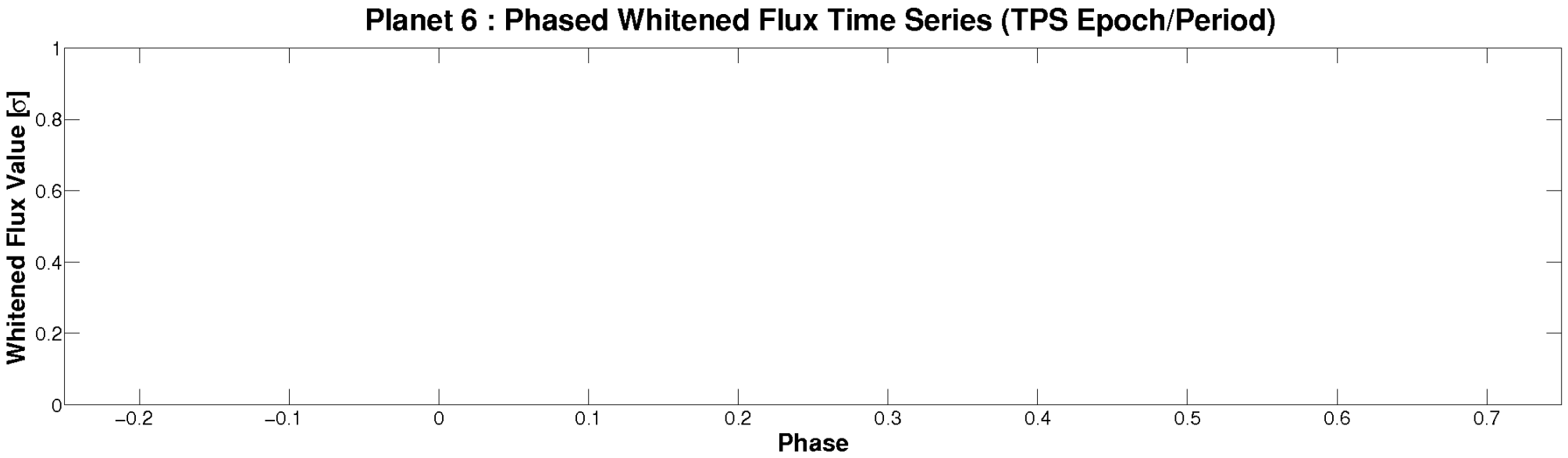

TCE 006342398-06
5.00e-04
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
Flux
-0.002
-0.001
0
0.001
0.002
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006342398-06
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
-3.00e-03
-3.50e-03
Flux
-0.0003
-0.0002
-0.0001
0
0.0001
0.0002
0.0003
Phase
Odd
Even
Model Fit

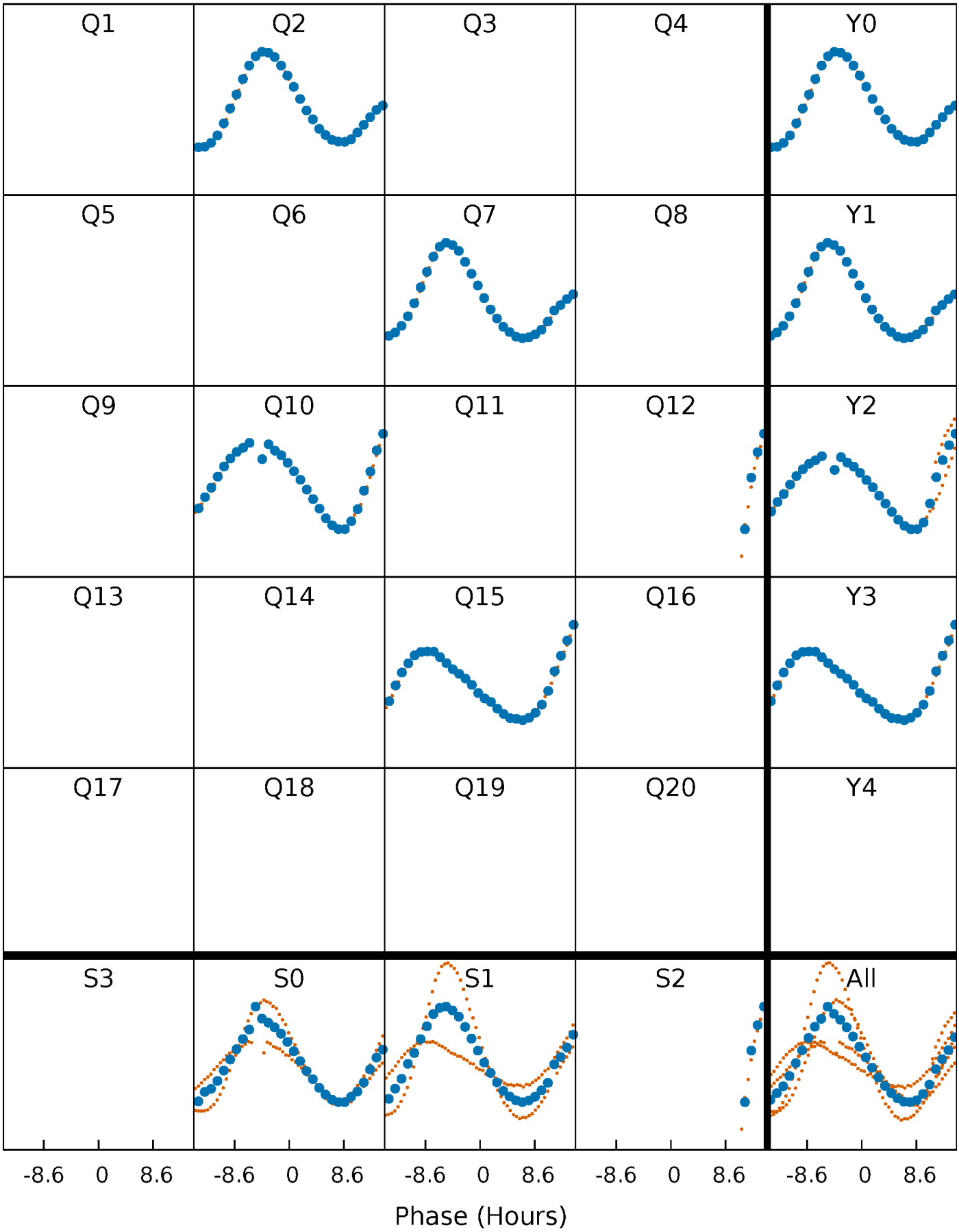
Non-Whitened Vs. Whitened Light Curve





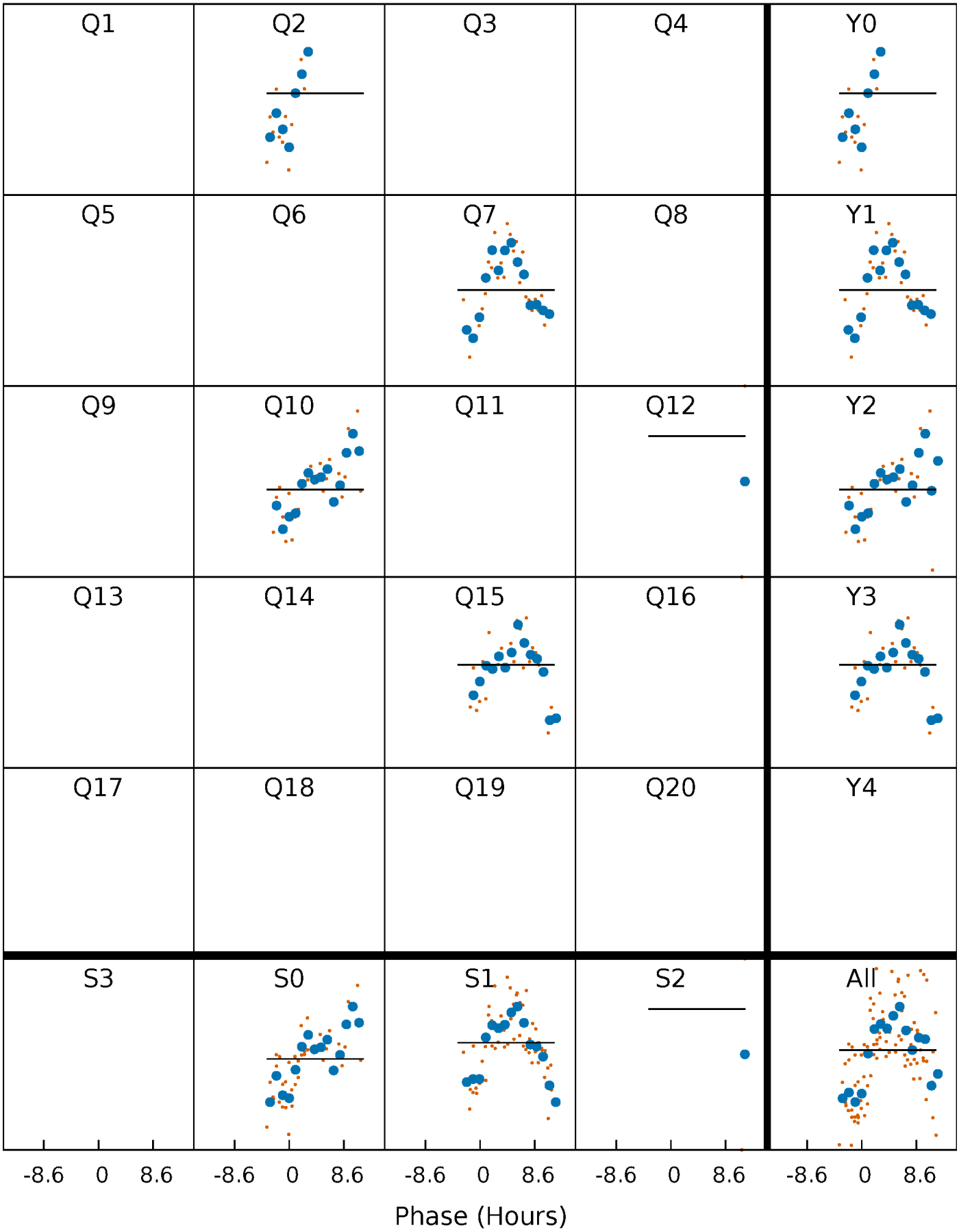
PDC Quarter-Phased Transit Curves

TCE 006342398-06 P=234.536402 Days T_0=226.452125 (BKJD)



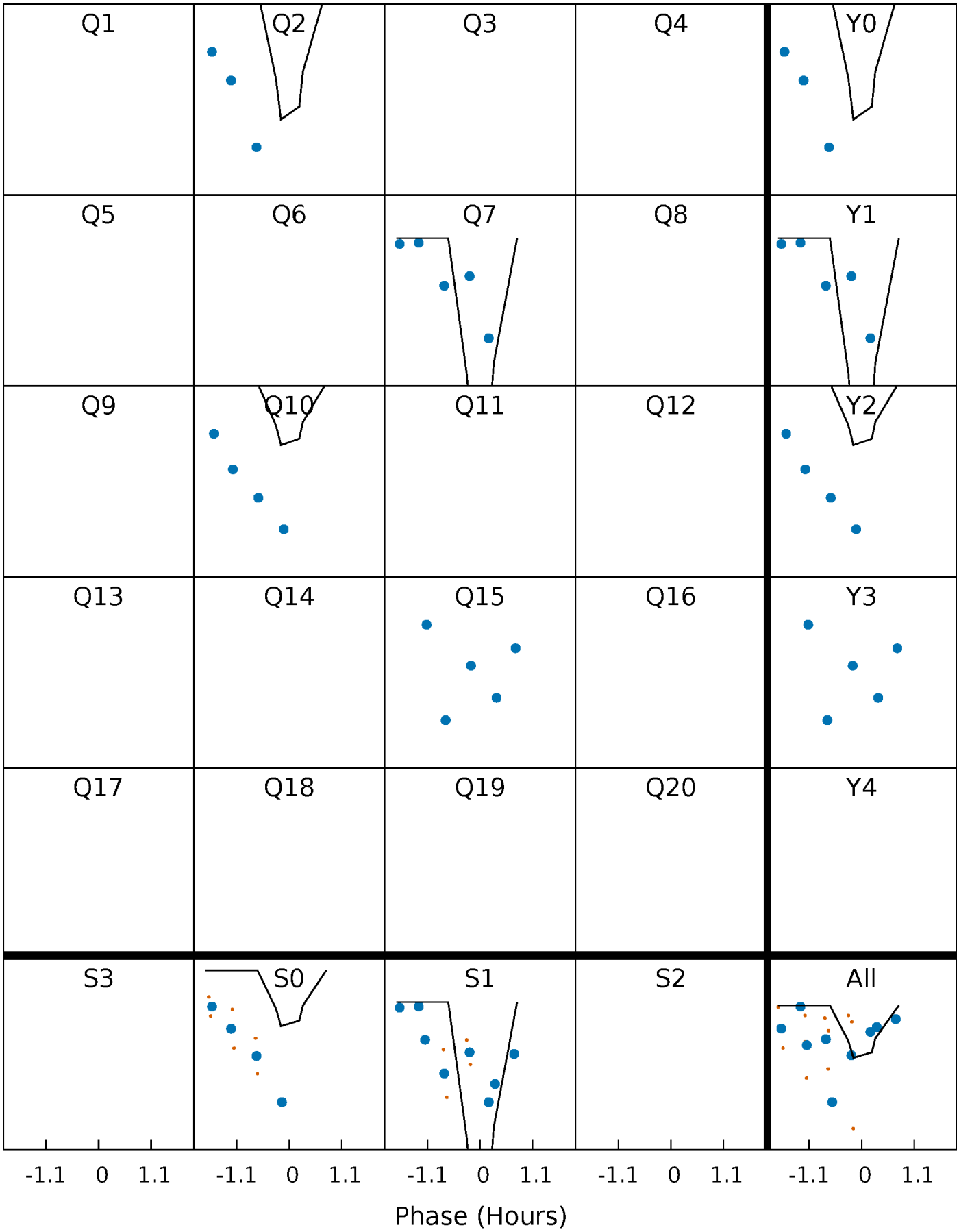
DV Quarter-Phased Transit Curves

TCE 006342398-06 P=234.536402 Days T_0=226.452125 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

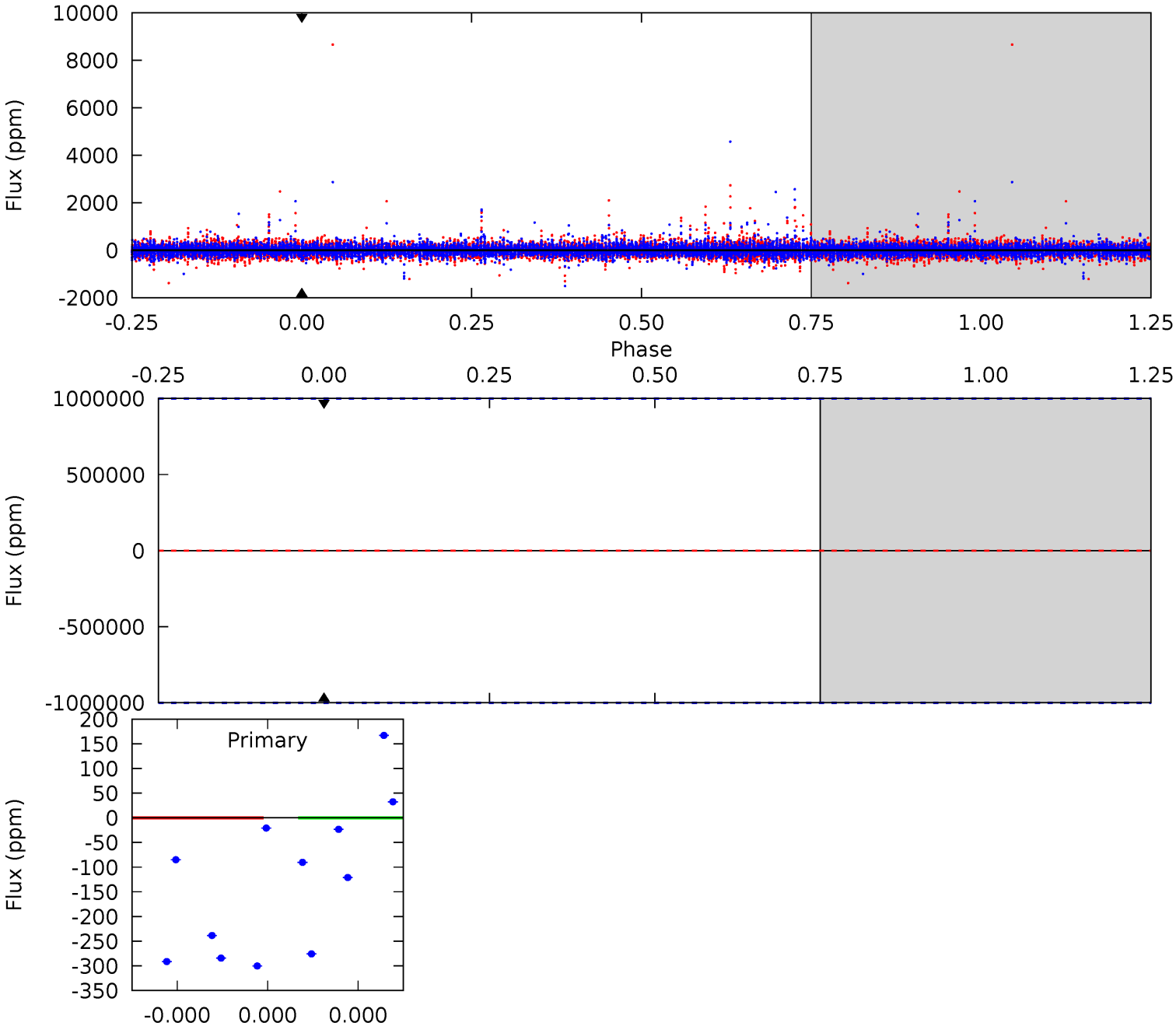
TCE 006342398-06 P=234.536402 Days T_0=225.599283 (BKJD)



DV Model-Shift Uniqueness Test

006342398-06, P = 234.536402 Days, E = 226.452125 Days

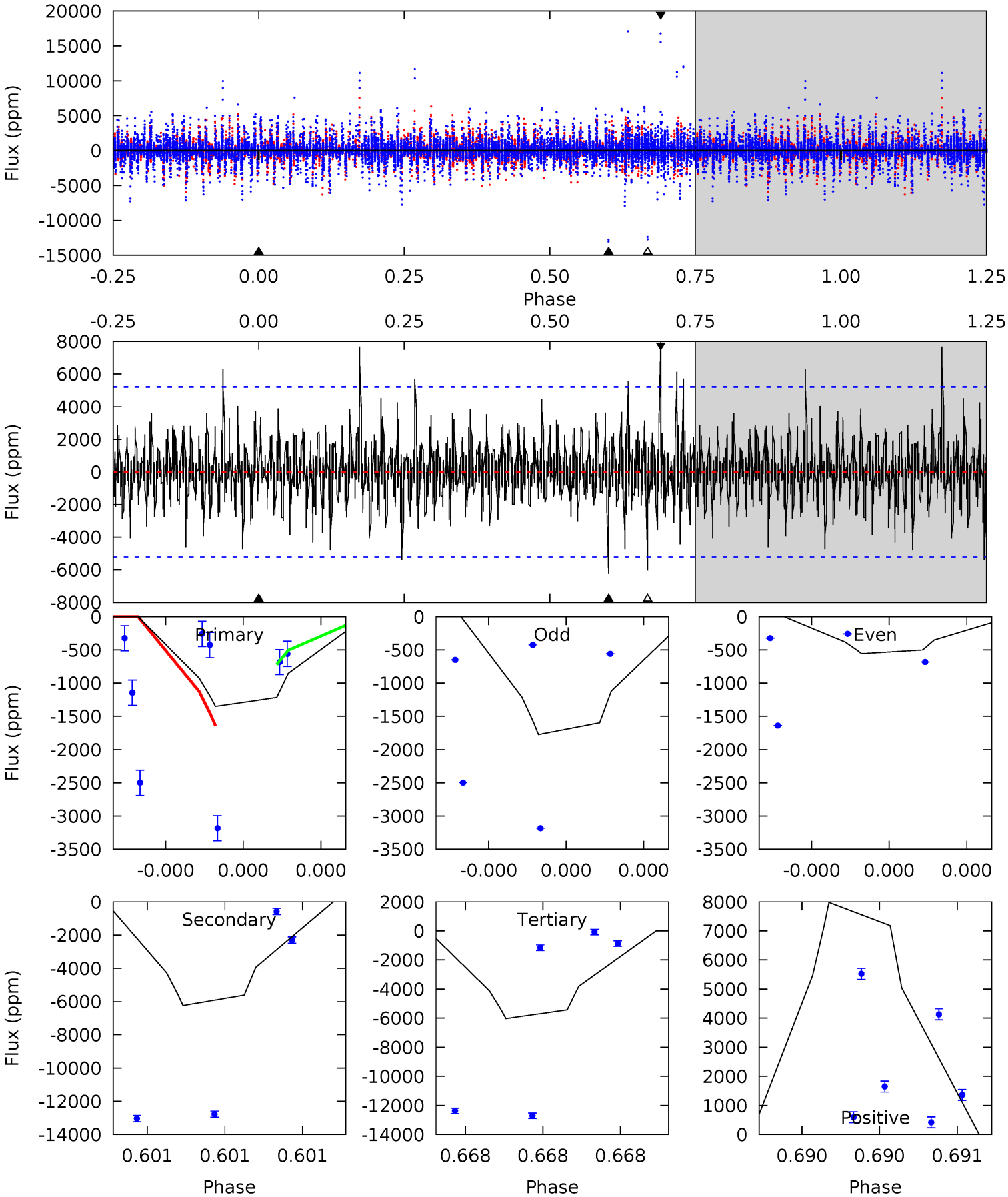
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006342398-06, P = 234.536402 Days, E = 225.599283 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.52	7.02	6.79	8.98	5.87	3.92	1.02	-5.27	-7.46	0.23	-1.96	0.64	1.00	0.56	0.52



Stellar Parameters For KIC 006342398

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6779^{+185}_{-301}	$4.150^{+0.128}_{-0.192}$	$0.200^{+0.150}_{-0.350}$	$1.698^{+0.544}_{-0.317}$	$1.485^{+0.197}_{-0.219}$	$0.427^{+0.319}_{-0.224}$
	+3%/-4%	+3%/-5%	+75%/-175%	+32%/-19%	+13%/-15%	+75%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006342398-06 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0±1000000	$14.10^{+14.98}_{-9.65}$	593^{+47}_{-40}	5410^{+30535}_{-31687}	$5730^{+420175}_{-265989}$
Alt.	-6240±889	$17.14^{+16.16}_{-10.98}$	594^{+43}_{-40}	6189^{+6295}_{-1458}	8642^{+54217}_{-6375}

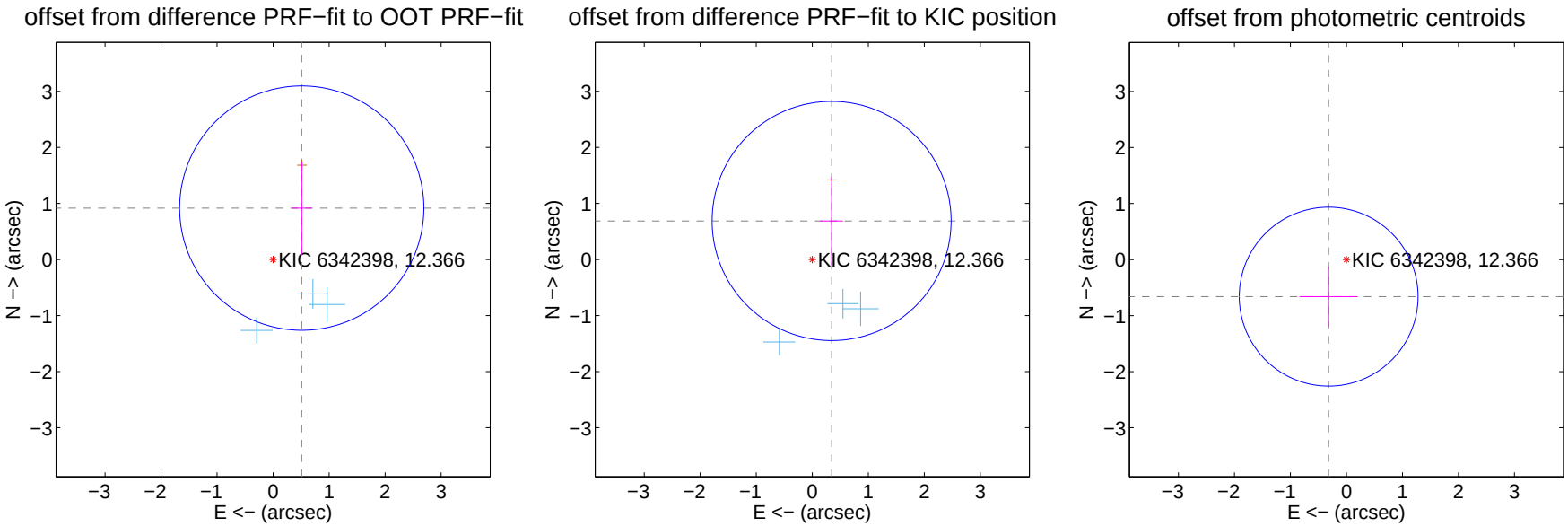
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

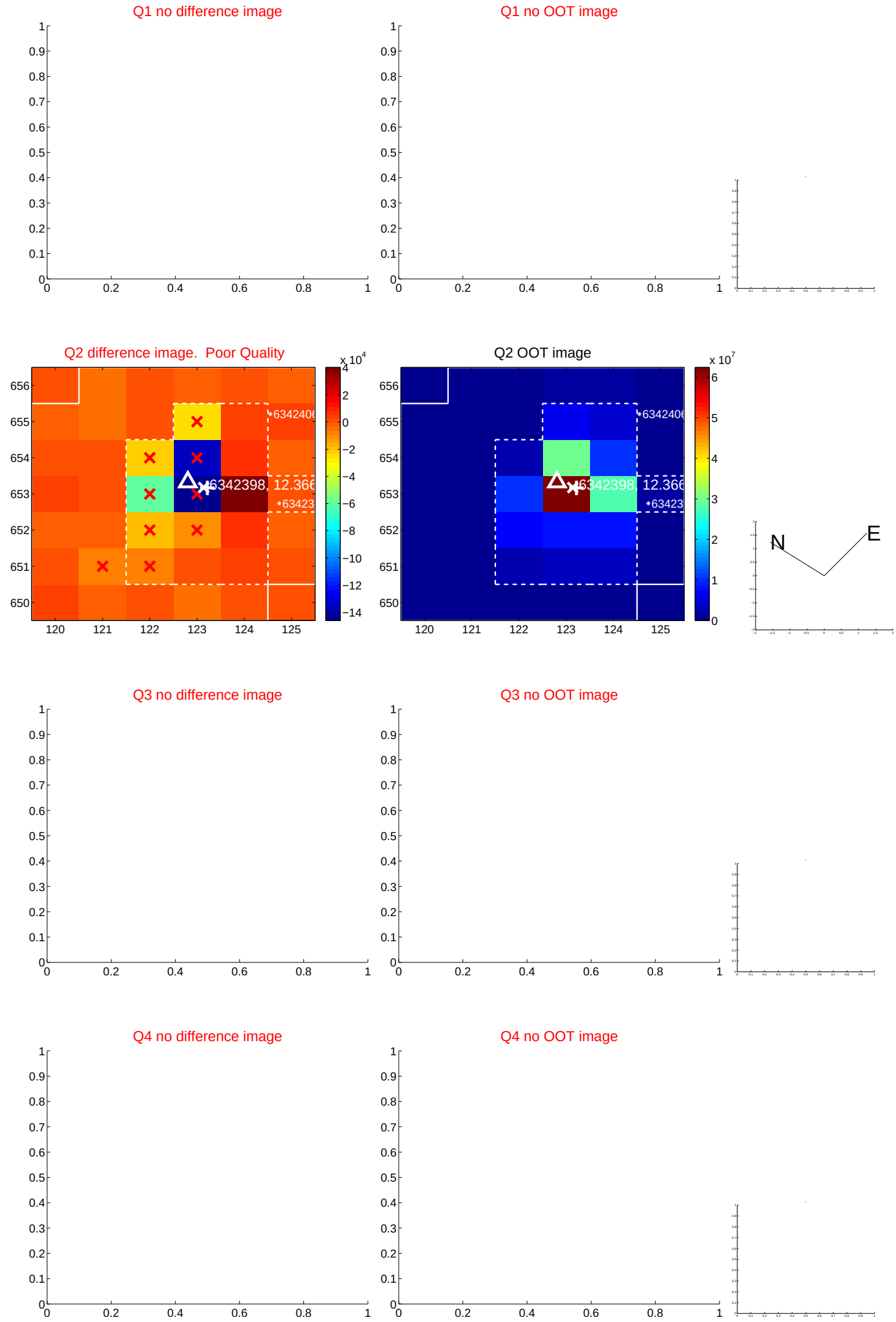
Supplemental centroid analysis for 006342398-06. Kepler magnitude: 12.37. Transit SNR -1.00
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.050 ± 0.727	1.45	-0.512 ± 0.179	0.917 ± 0.826
PRF-fit source offset from KIC position	0.770 ± 0.711	1.08	-0.345 ± 0.203	0.688 ± 0.789
photometric centroid source offset	0.73 ± 0.53	1.38	0.32 ± 0.52	-0.66 ± 0.53

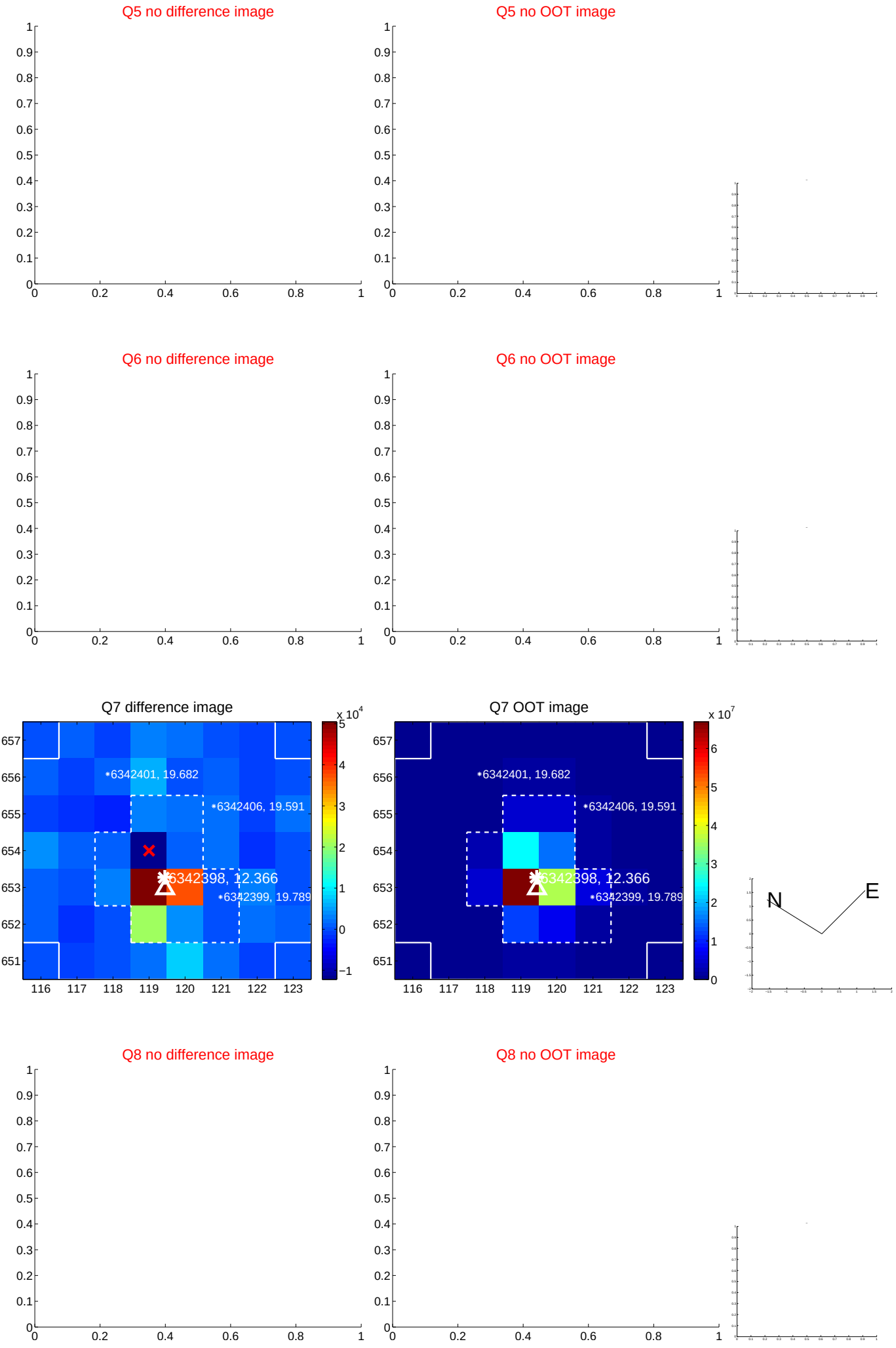


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

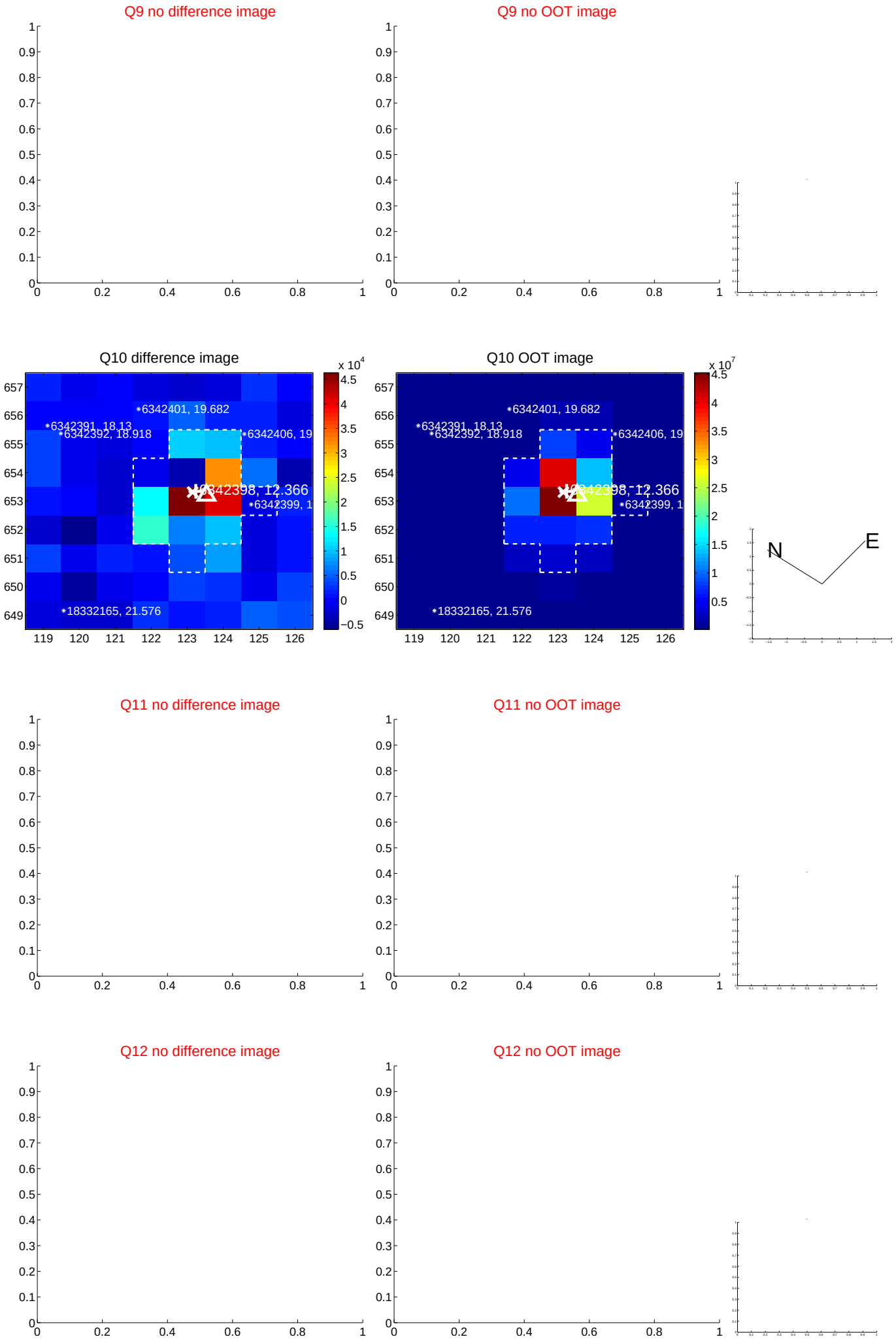
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



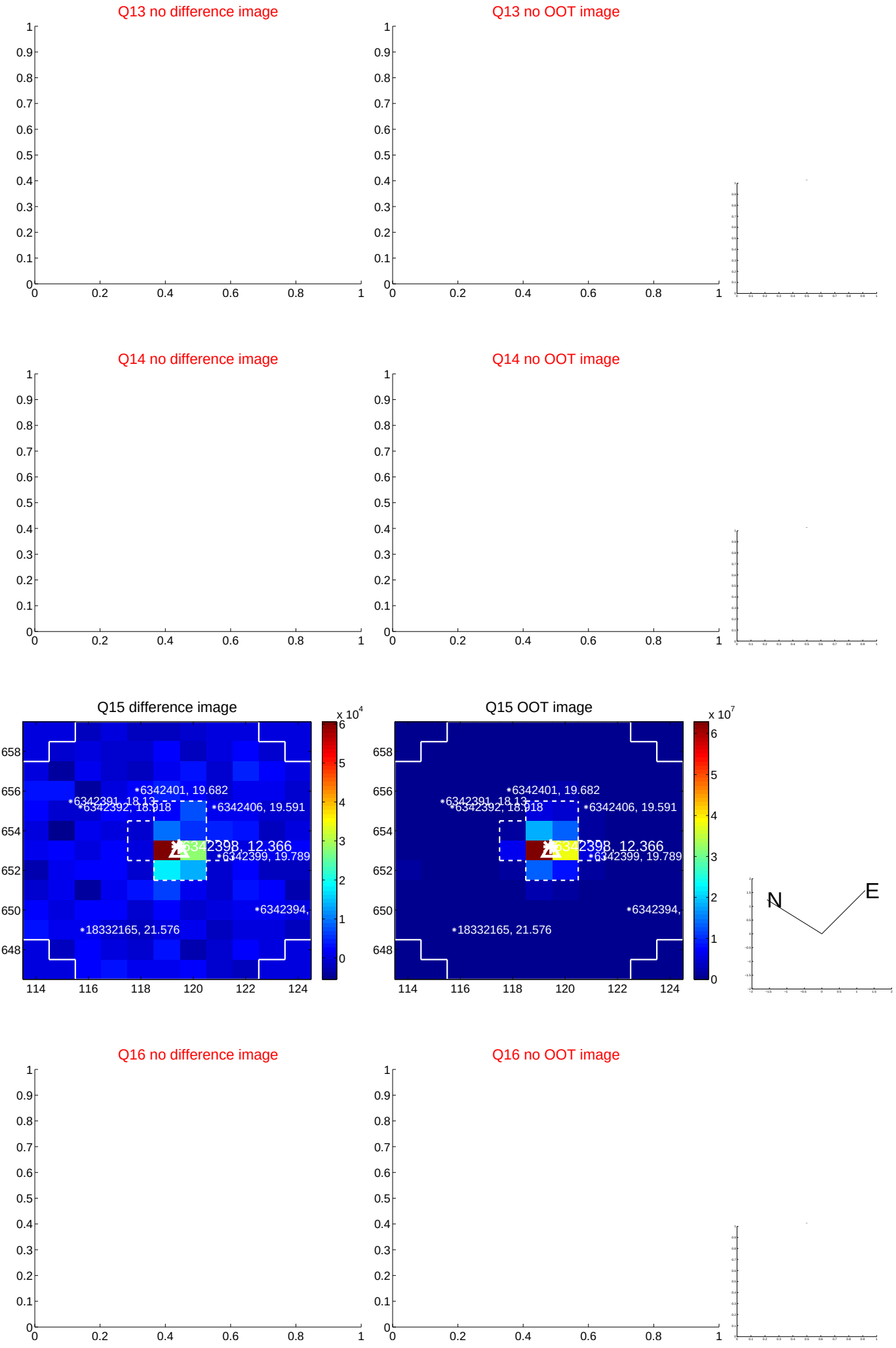
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



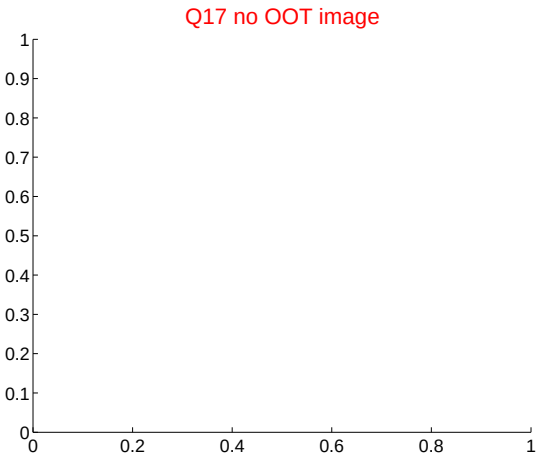
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

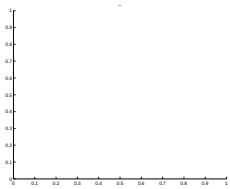


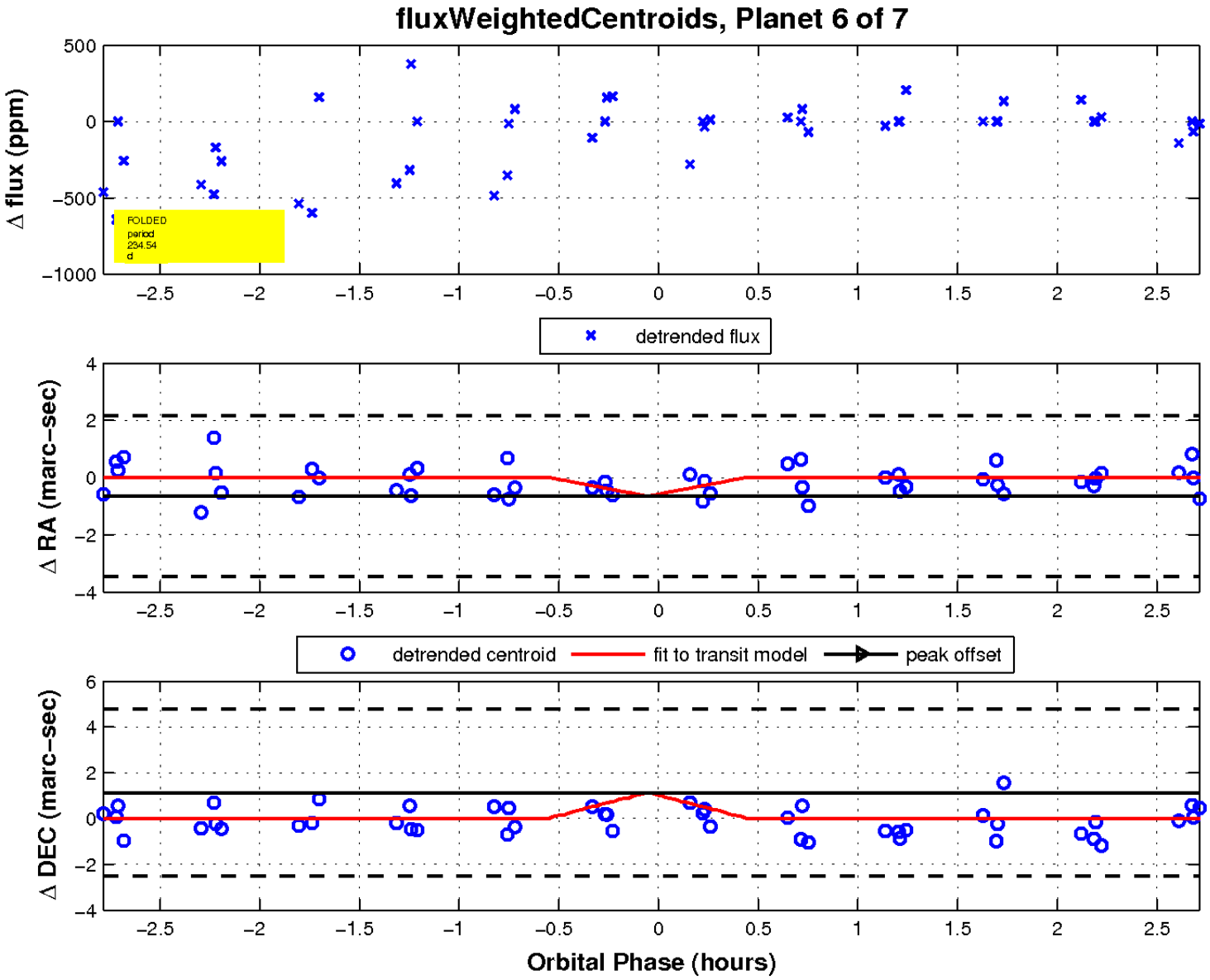
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



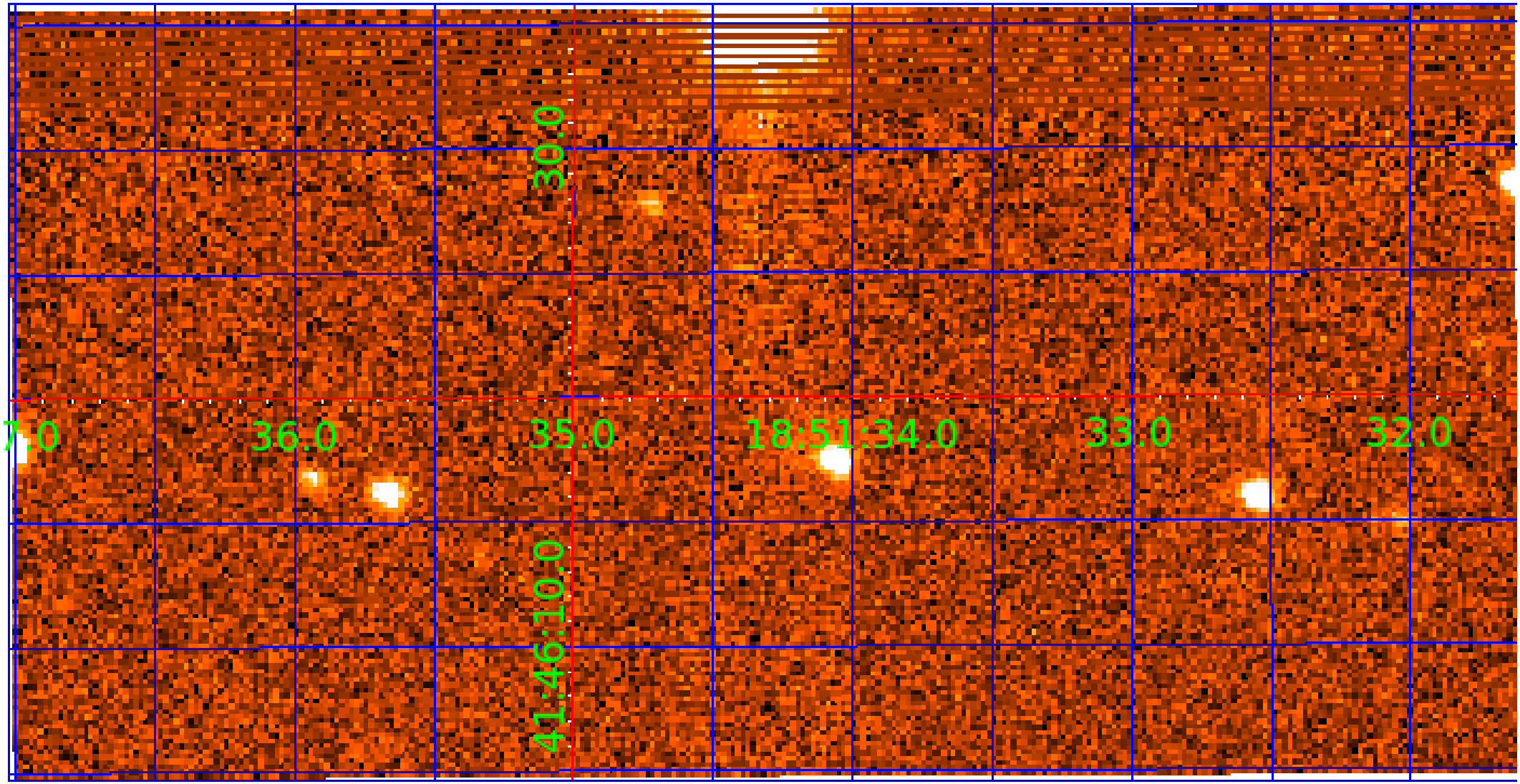
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image



KIC 006342398

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 ($S_\oplus$)
006342398-01	OBS	No	1.310332	131.599544	31.8	5.617	8.5	4.4	1.70	6779	0.99	7626.76
006342398-02	OBS	No	163.036634	135.692846	2222.1	13.118	11.0	7.9	1.70	6779	14.71	12.28
006342398-03	OBS	No	91.278679	213.563037	218.8	7.968	8.5	2.0	1.70	6779	2.70	26.61
006342398-04	OBS	No	75.366528	198.208820	153.7	5.660	8.9	1.7	1.70	6779	2.39	34.35
006342398-05	OBS	No	55.630773	171.323692	120.8	5.826	8.6	1.7	1.70	6779	2.12	51.49
006342398-06	OBS	No	234.536402	226.452125	177.0	7.500	7.8	-1.0	1.70	6779	2.28	7.56
006342398-07	OBS	No	117.790510	133.427895	1472.3	10.139	8.0	7.4	1.70	6779	12.12	18.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006342398-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006342398-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006342398-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006342398-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006342398-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—HALO_GHOST

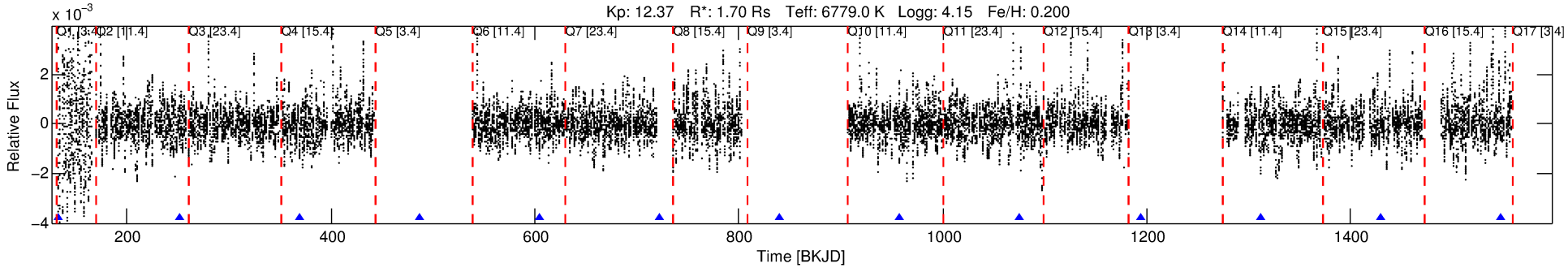
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

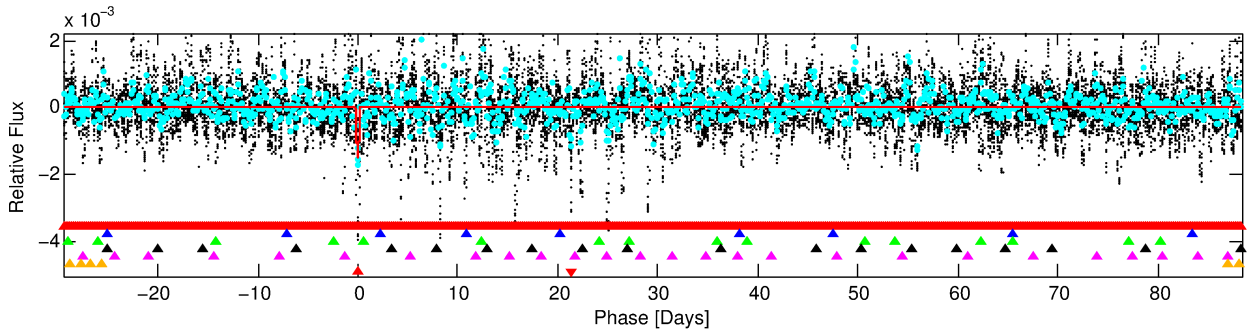
Ephemeris Match Information For 006342398-07

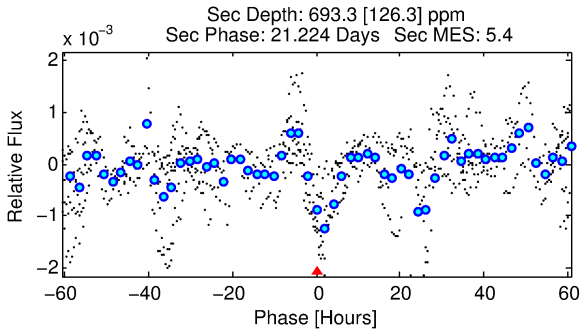
No Significant Match Found

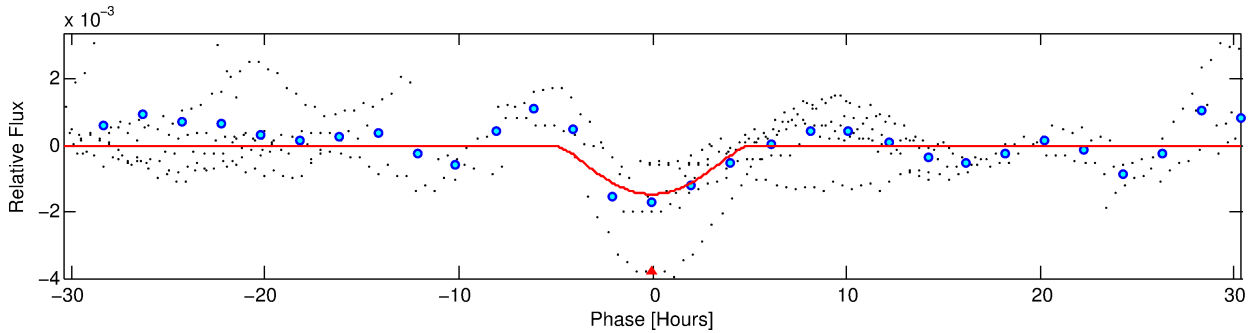
DV One-Page Summary

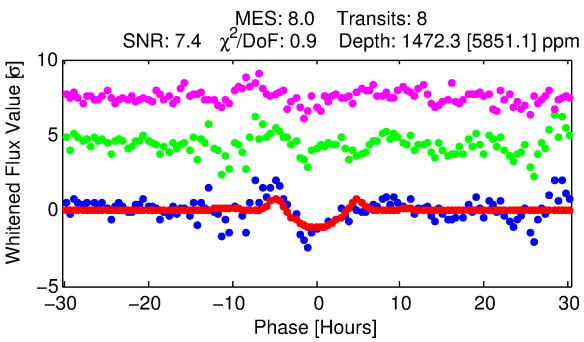
KIC: 6342398 Candidate: 7 of 7 Period: 117.791 d

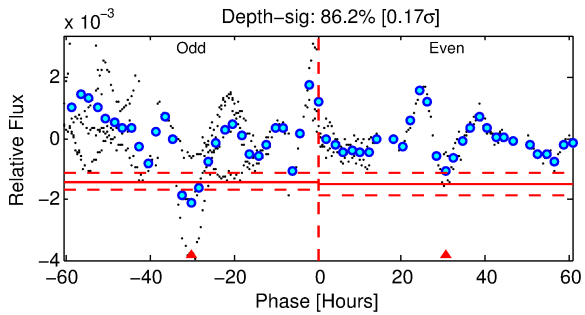


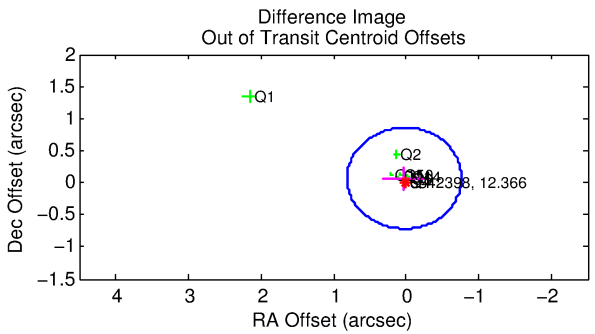












DV Fit Results:

Period = 117.79051 [0.00239] d
Epoch = 133.4279 [0.0185] BKJD
Rp/R* = 0.0654 [0.0850]
a/R* = 32.64 [9.55]
b = 1.00 [0.05]

Seff = 18.94 [7.67]
Teq = 532 [54] K
Rp = 12.12 [16.22] Re
a = 0.5367 [0.1393] AU

Ag = 747.85 [1966.61] [0.38σ]
Teffp = 4301 [2807] K [1.34σ]

DV Diagnostic Results:

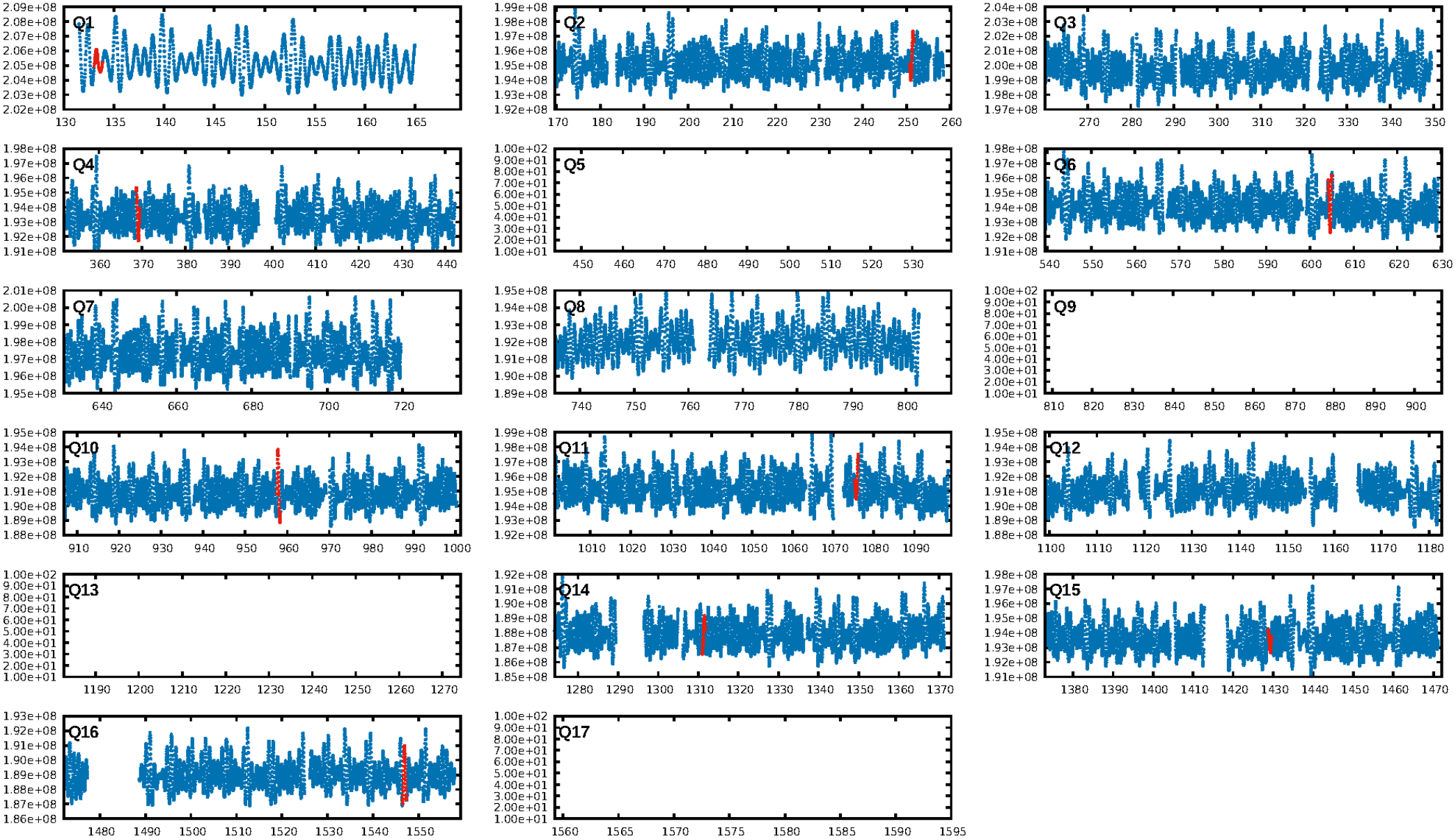
ShortPeriod−sig: 100.0% [49.34σ]
LongPeriod−sig: 100.0% [65.50σ]
ModelChiSquare2−sig: 0.1%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 1.39e−09
RollingBand−fgt: 1.00 [7/7]
GhostDiagnostic−chr: −0.09749

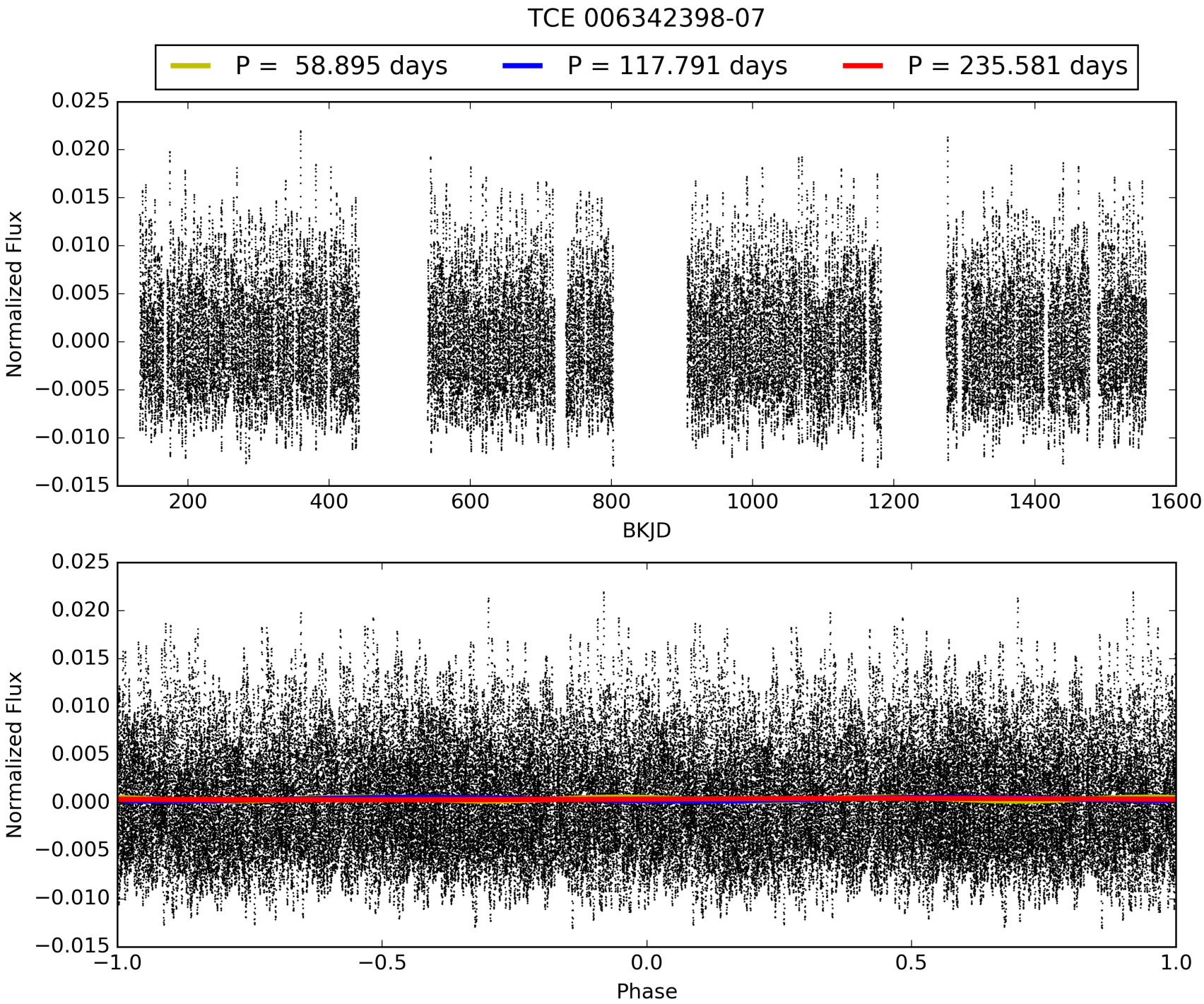
Centroid−sig: 39.0%
Centroid−so: 0.089 arcsec [0.49σ]
OotOffset−rm: 0.074 arcsec [0.28σ]
KicOffset−rm: 0.169 arcsec [0.88σ]
OotOffset−st: 4/2/1/1 [8]
KicOffset−st: 4/2/1/1 [8]
DiffImageQuality−fgm: 0.62 [5/8]
DiffImageOverlap−fno: 0.00 [0/8]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:49:24 Z

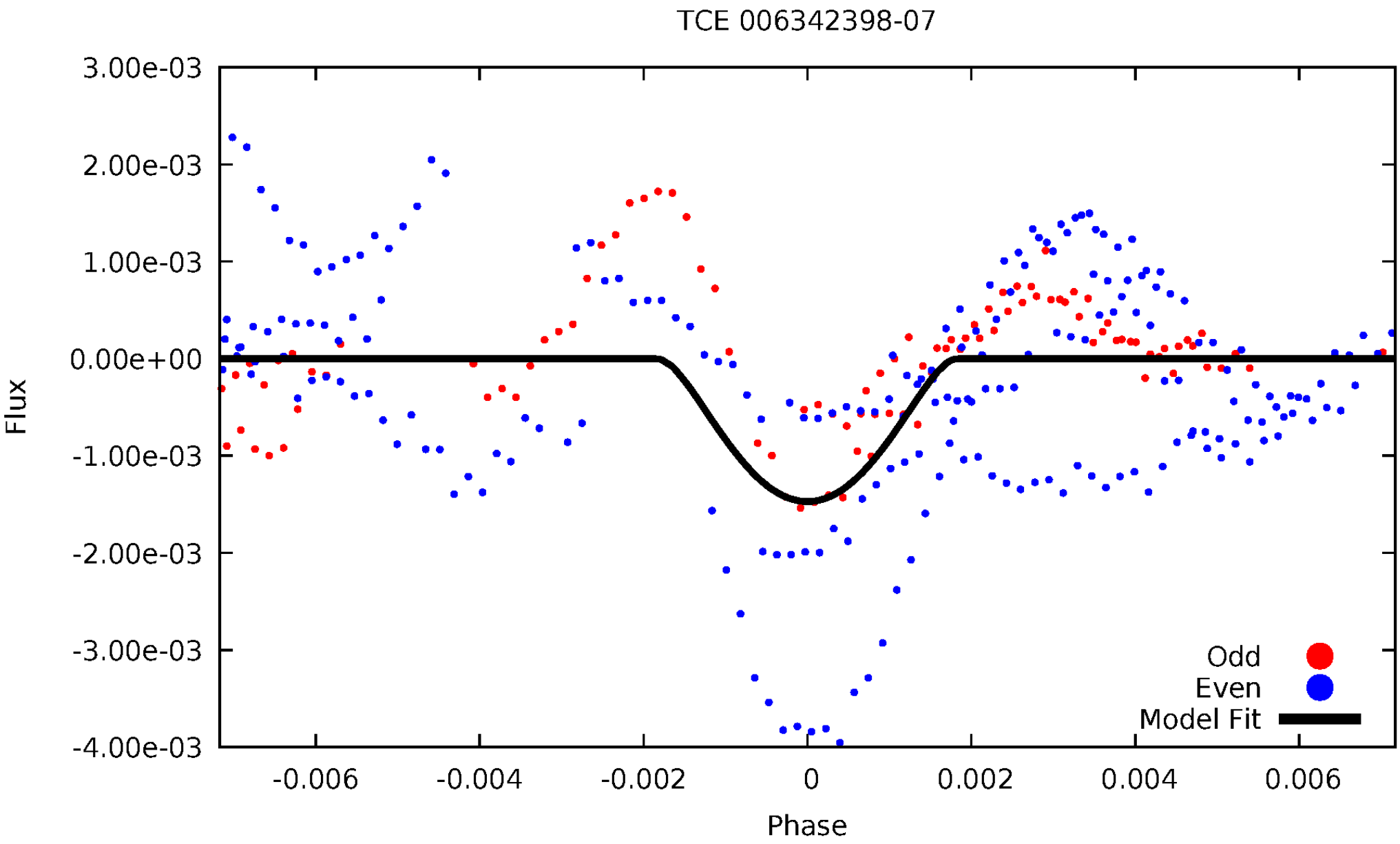
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006342398-07, PDC Light Curves

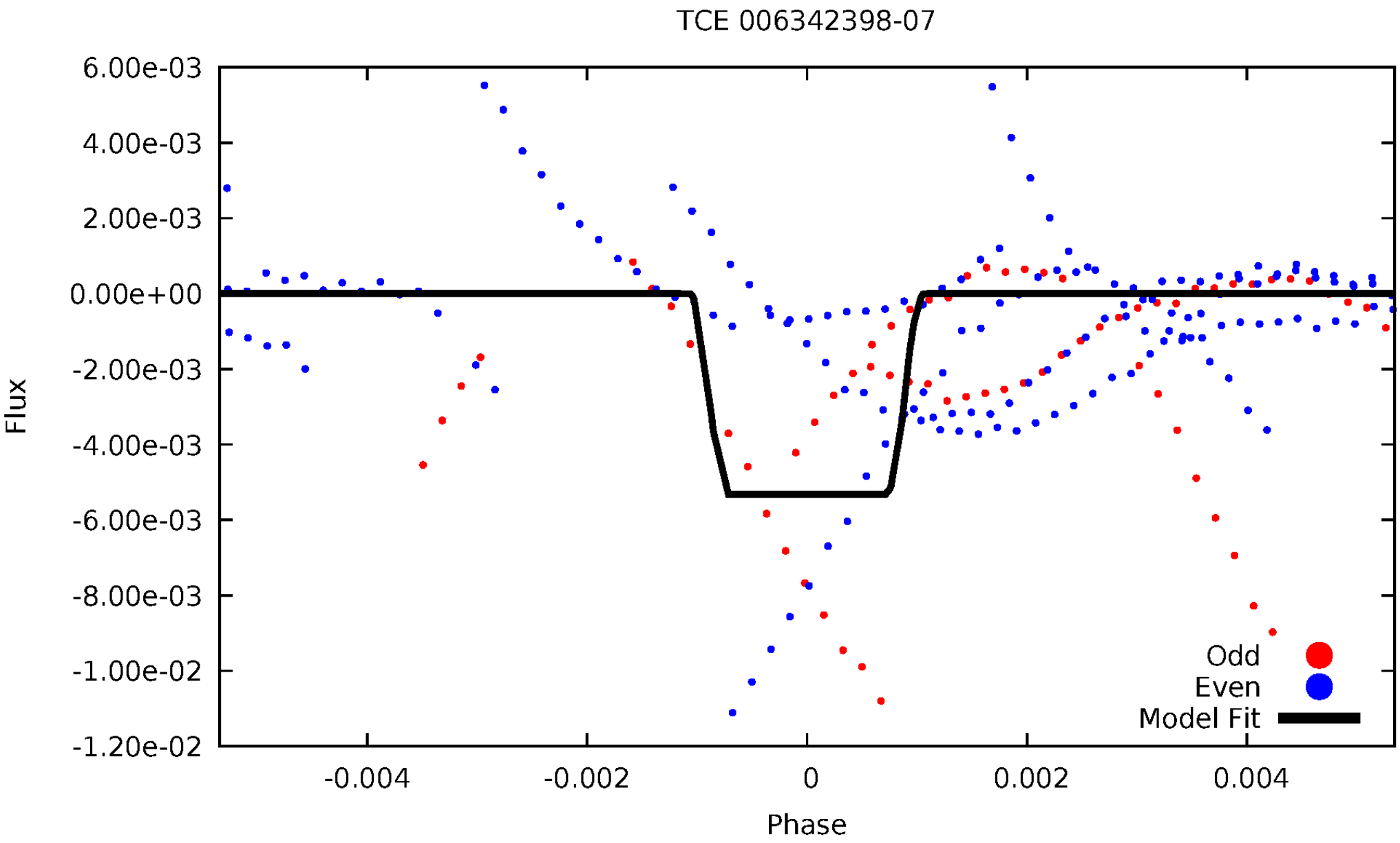



TCE 006342398-07
P = 58.895 days
P = 117.791 days
P = 235.581 days
Normalized Flux
BKJD
Normalized Flux
Phase

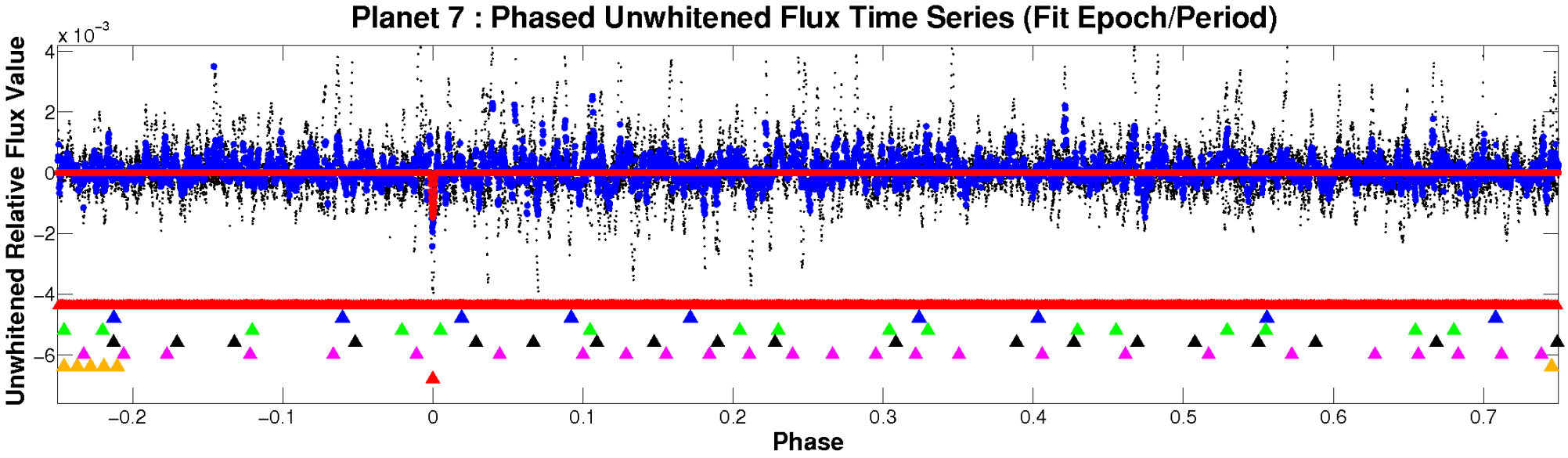
DV Odd/Even

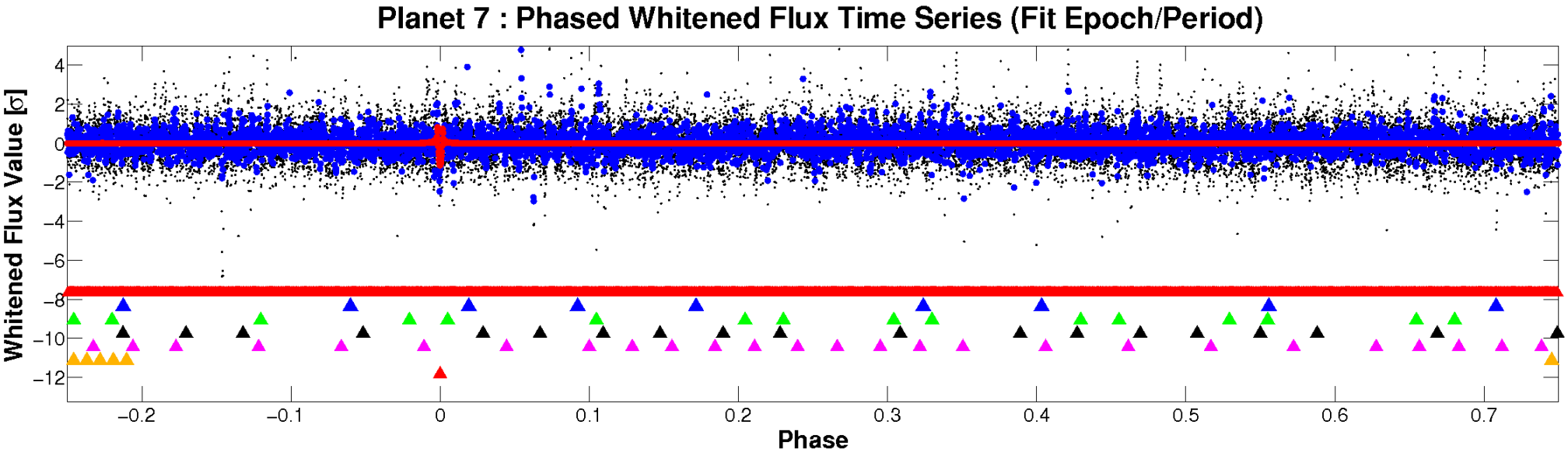

TCE 006342398-07
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
Flux
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006342398-07
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
-8.00e-03
-1.00e-02
-1.20e-02
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

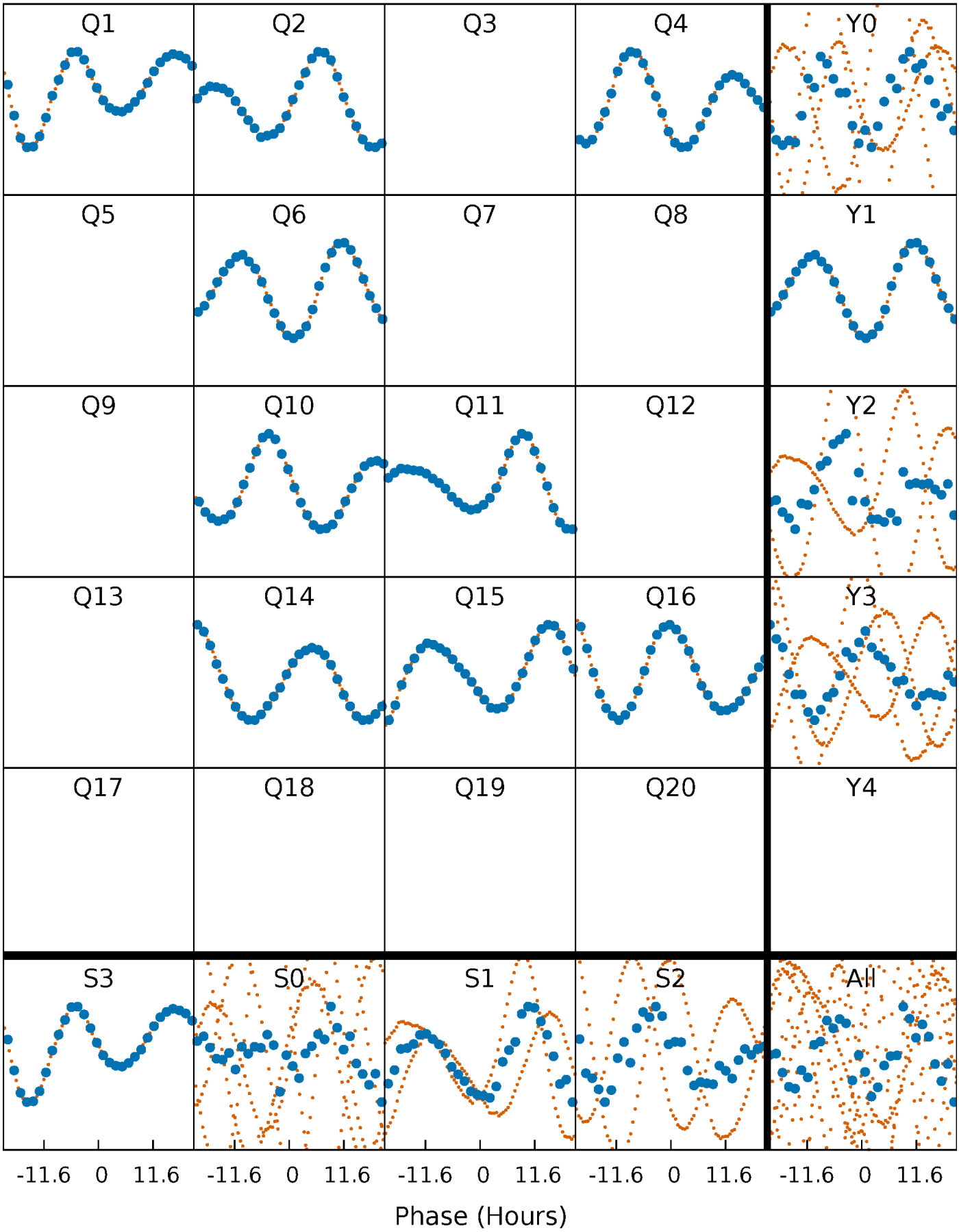
Non-Whitened Vs. Whitened Light Curve





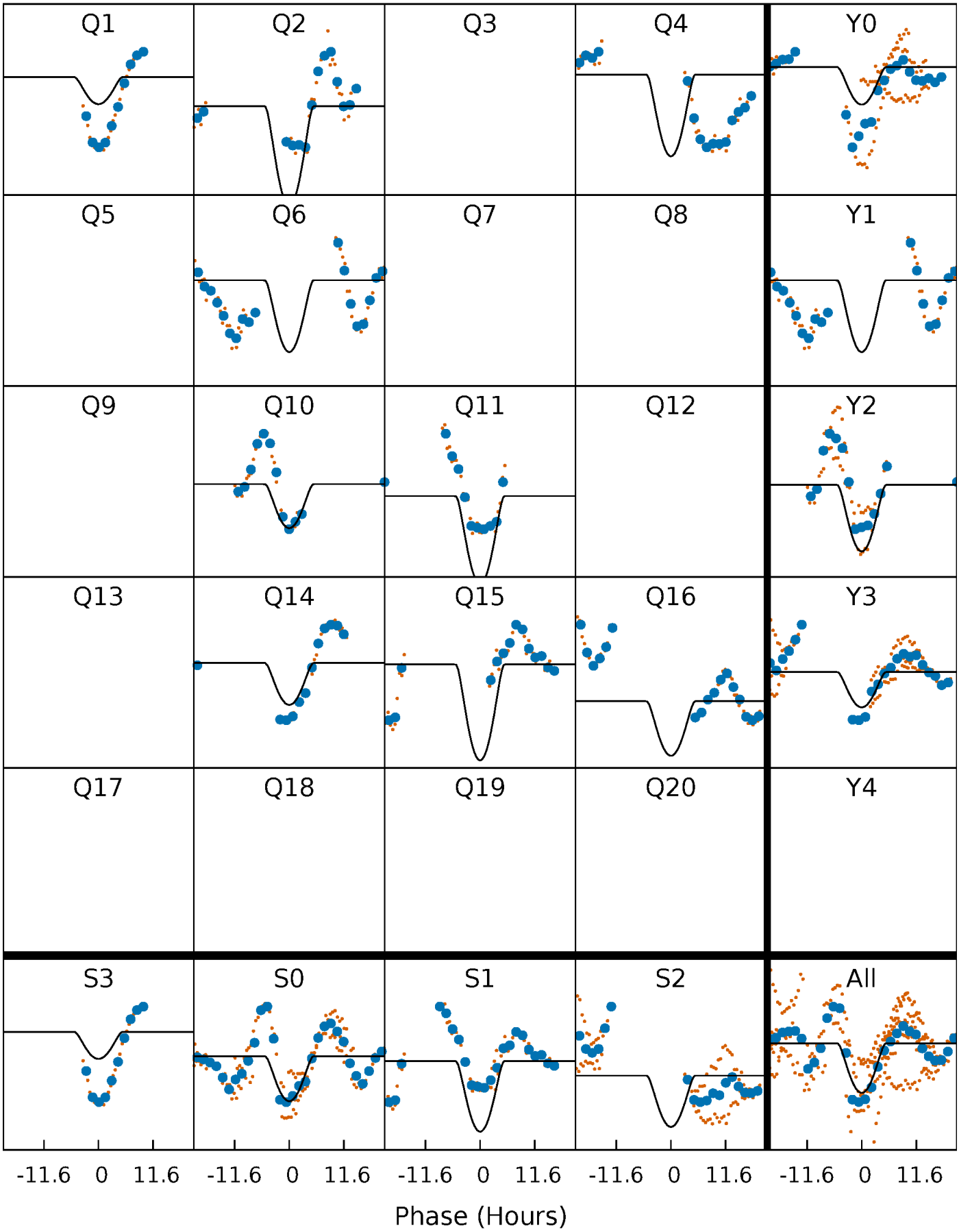
PDC Quarter-Phased Transit Curves

TCE 006342398-07 P=117.790510 Days T_0=133.427895 (BKJD)



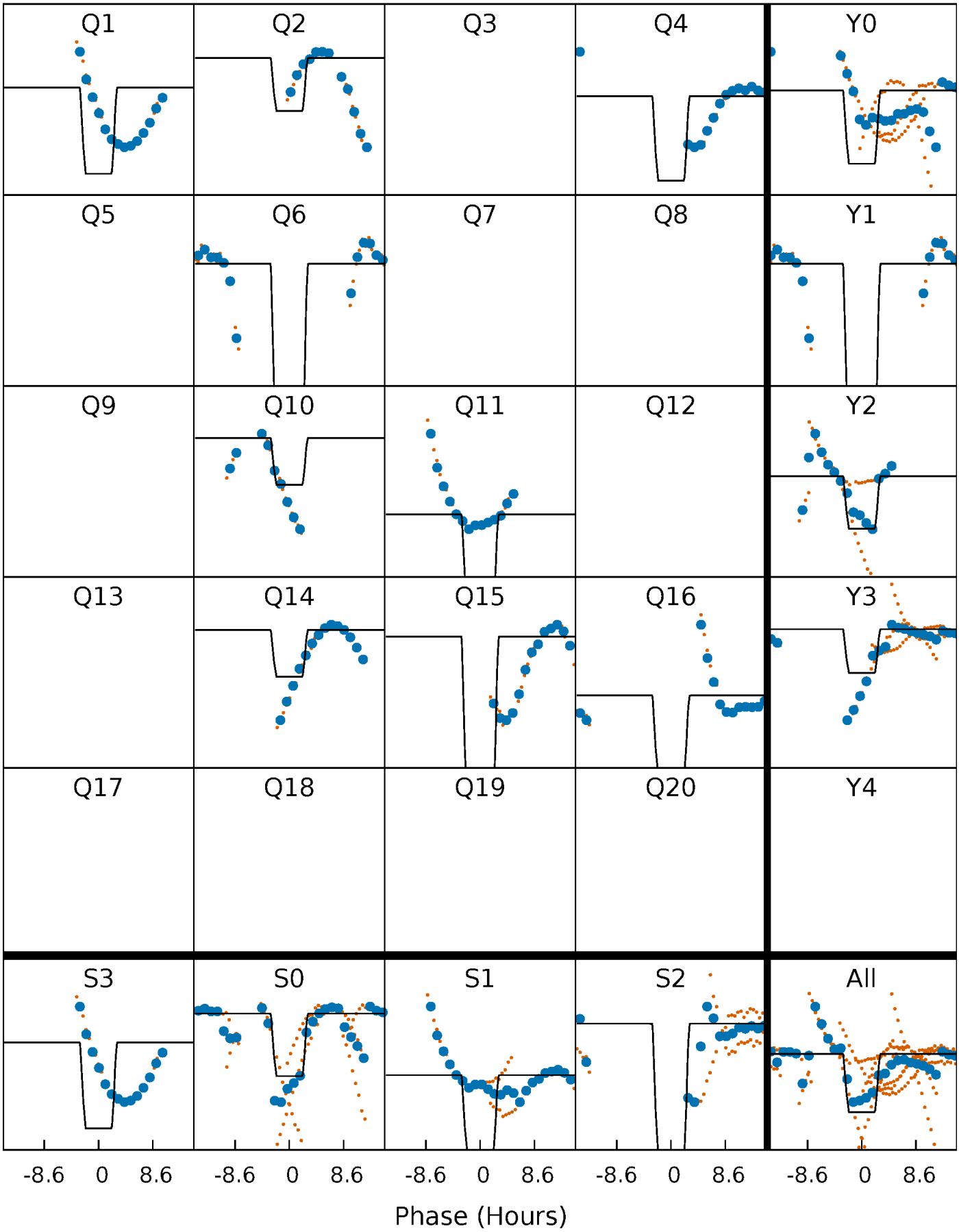
DV Quarter-Phased Transit Curves

TCE 006342398-07 P=117.790510 Days T_0=133.427895 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

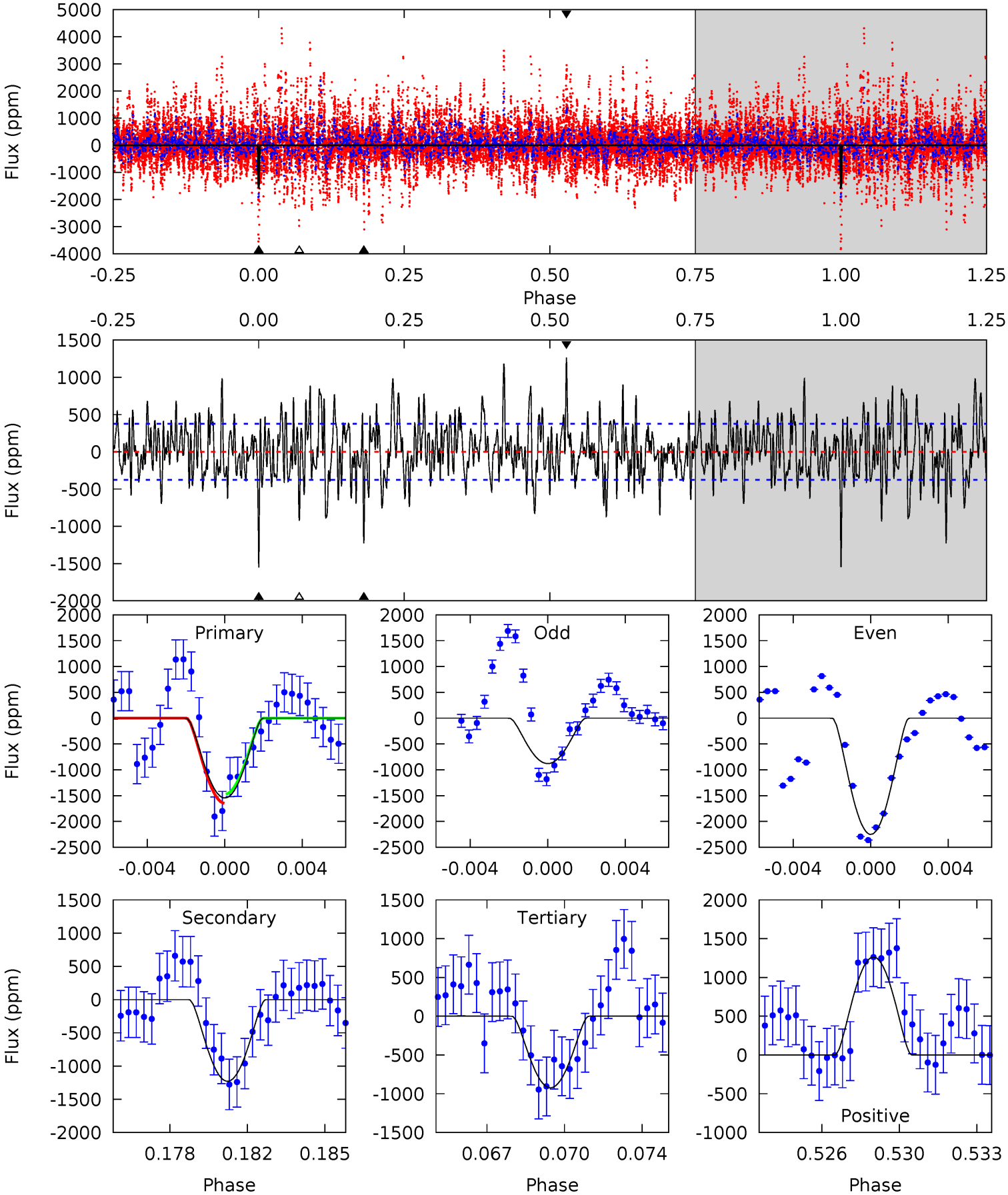
TCE 006342398-07 P=117.791397 Days T_0=133.434266 (BKJD)



DV Model-Shift Uniqueness Test

006342398-07, P = 117.790510 Days, E = 15.637385 Days

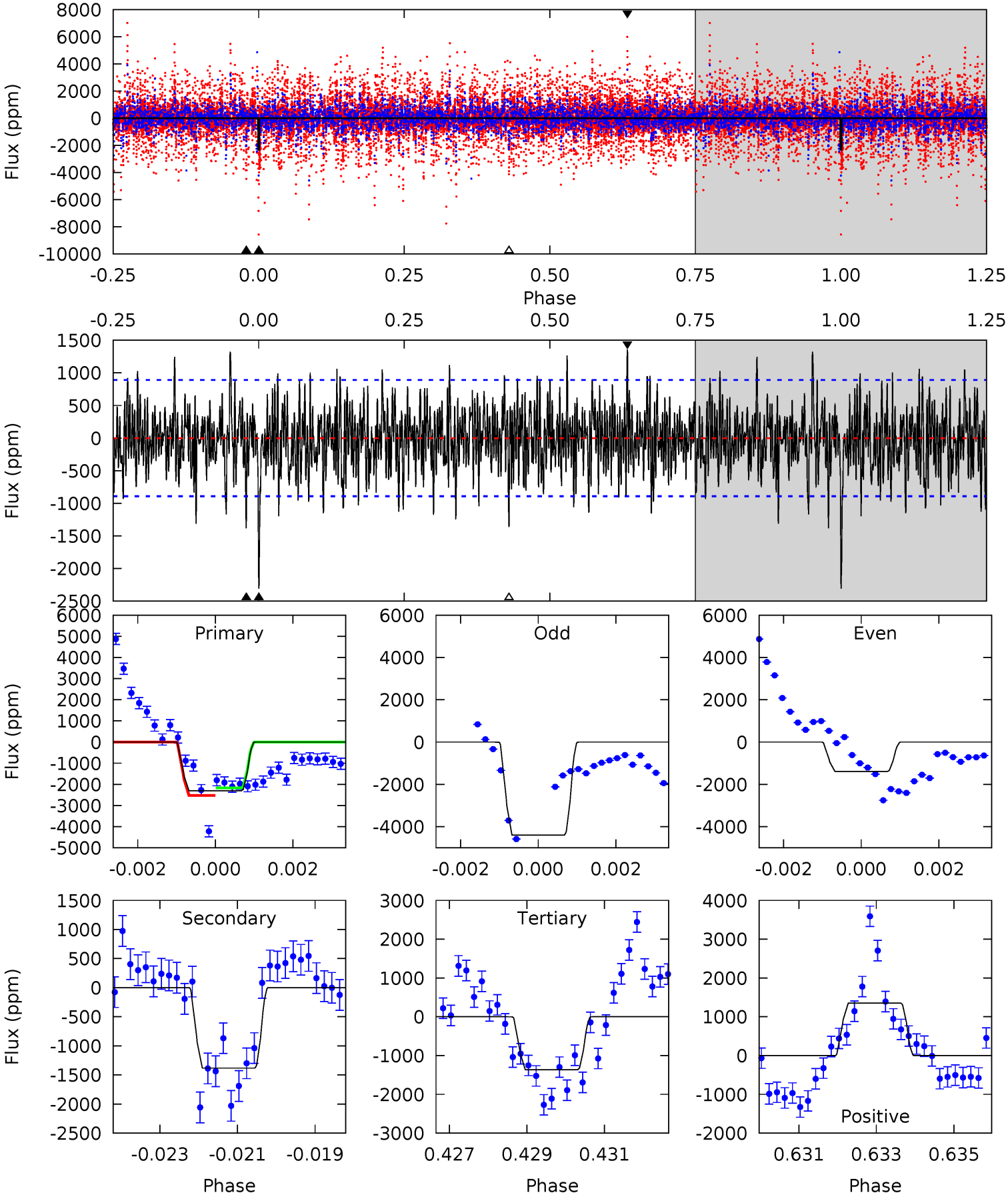
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.4	17.0	12.8	17.5	5.21	2.90	4.52	8.62	3.91	4.24	-0.47	9.00	1.85	0.45	1.19



Alt Model-Shift Uniqueness Test

006342398-07, P = 117.791397 Days, E = 15.642869 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	8.24	8.14	8.08	5.32	3.08	2.44	5.61	5.67	0.10	0.16	7.40	1.51	0.37	1.00



Stellar Parameters For KIC 006342398

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6779^{+185}_{-301}	$4.150^{+0.128}_{-0.192}$	$0.200^{+0.150}_{-0.350}$	$1.698^{+0.544}_{-0.317}$	$1.485^{+0.197}_{-0.219}$	$0.427^{+0.319}_{-0.224}$
	+3%/-4%	+3%/-5%	+75%/-175%	+32%/-19%	+13%/-15%	+75%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006342398-07 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1229±72	$17.18^{+14.42}_{-10.96}$	743^{+53}_{-43}	4379^{+2582}_{-824}	660^{+4647}_{-459}
Alt.	-1381±168	$17.21^{+14.98}_{-11.06}$	748^{+56}_{-49}	4462^{+2728}_{-841}	767^{+5117}_{-547}

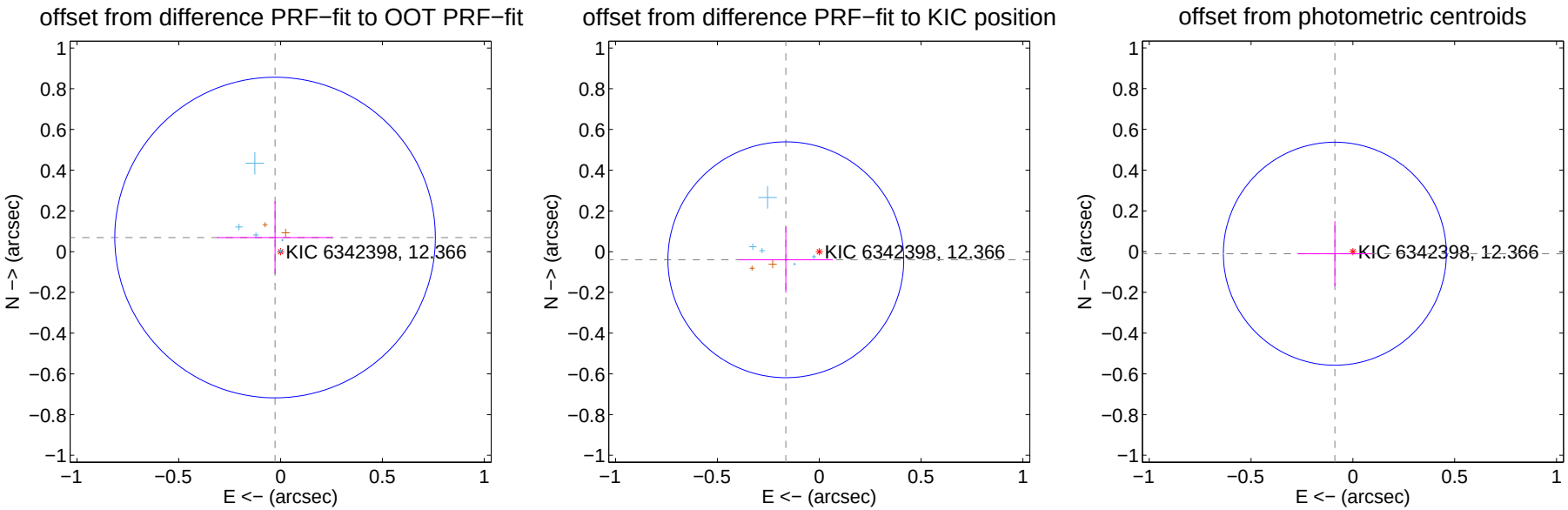
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

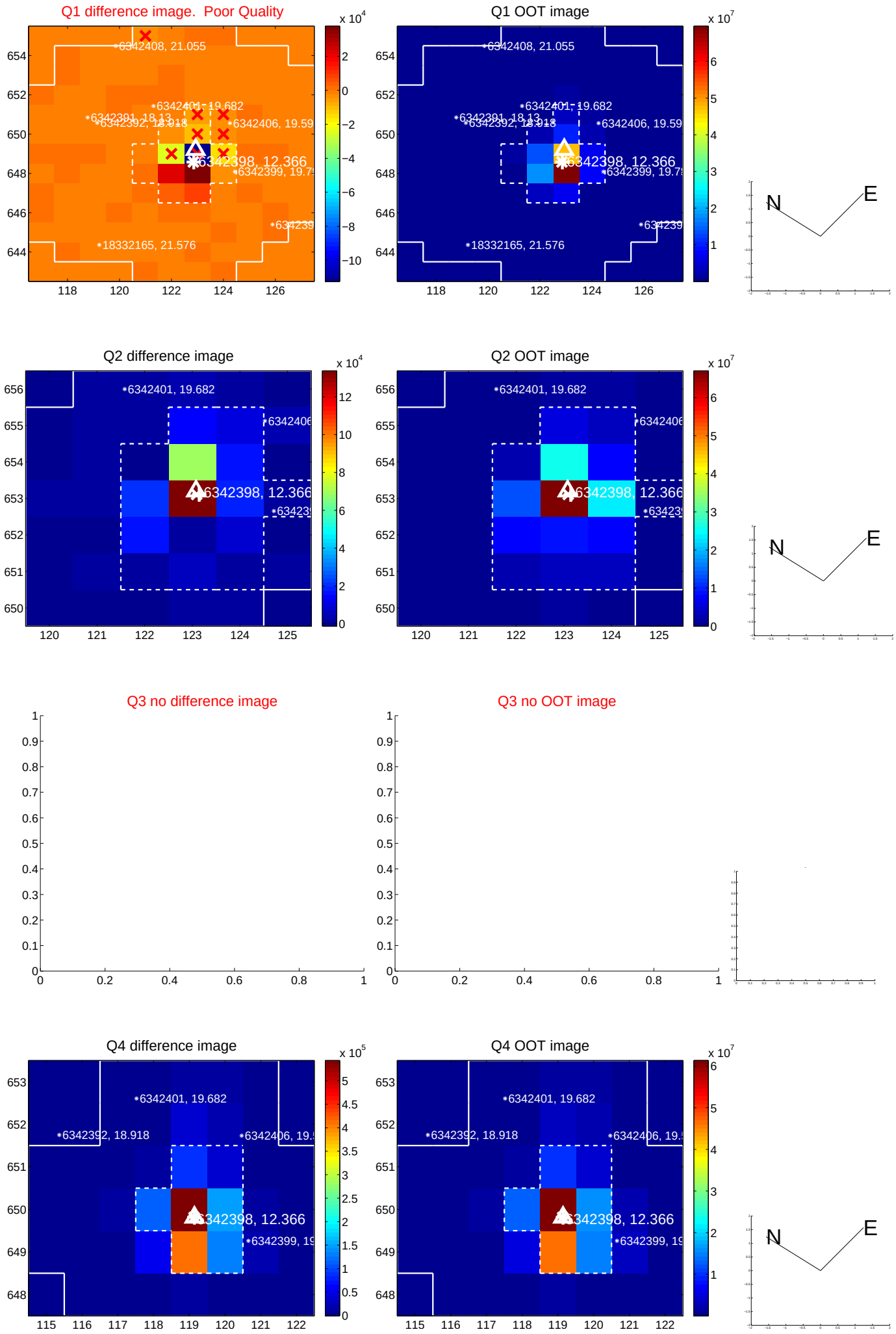
Supplemental centroid analysis for 006342398-07. Kepler magnitude: 12.37. Transit SNR 7.43
There are 5 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.074 ± 0.262	0.28	0.027 ± 0.284	0.069 ± 0.179
PRF-fit source offset from KIC position	0.169 ± 0.193	0.88	0.164 ± 0.230	-0.040 ± 0.162
photometric centroid source offset	0.09 ± 0.18	0.49	0.09 ± 0.18	-0.01 ± 0.16

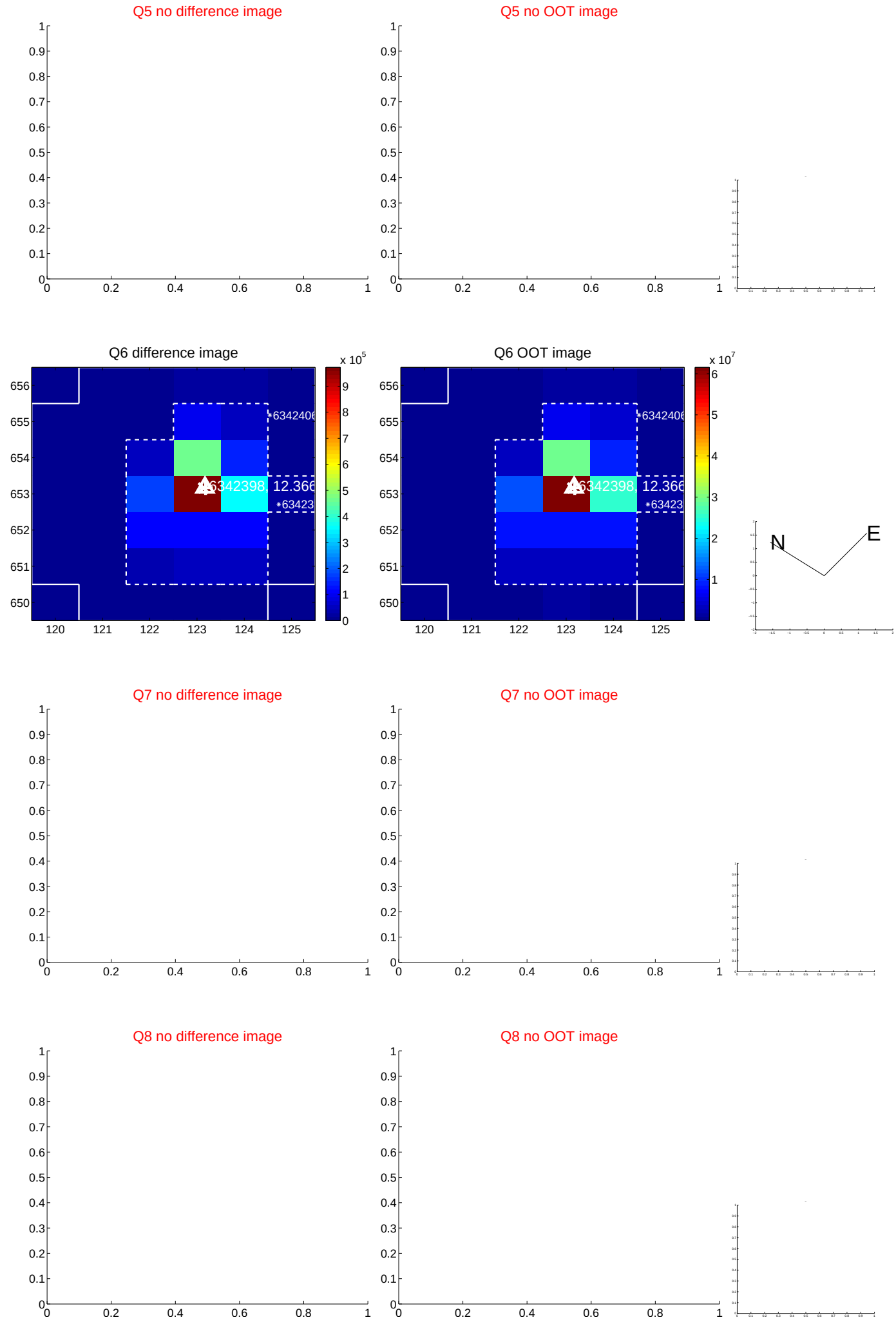


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

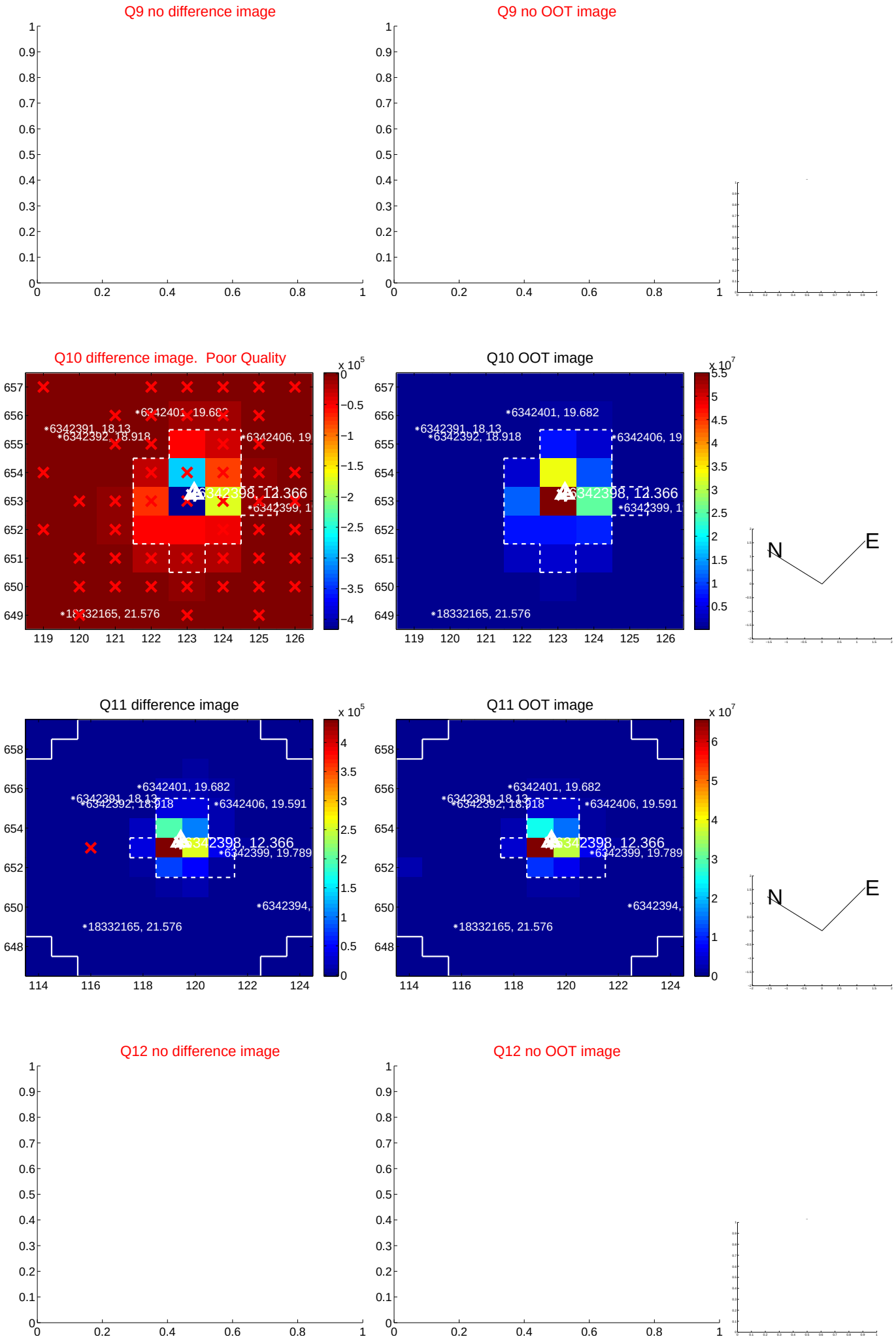
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



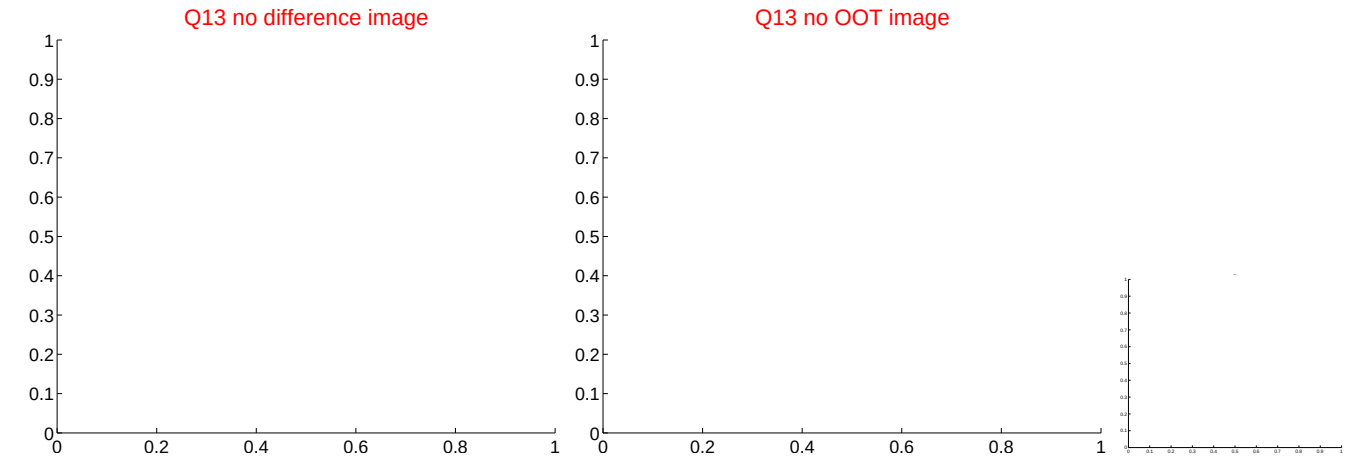
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

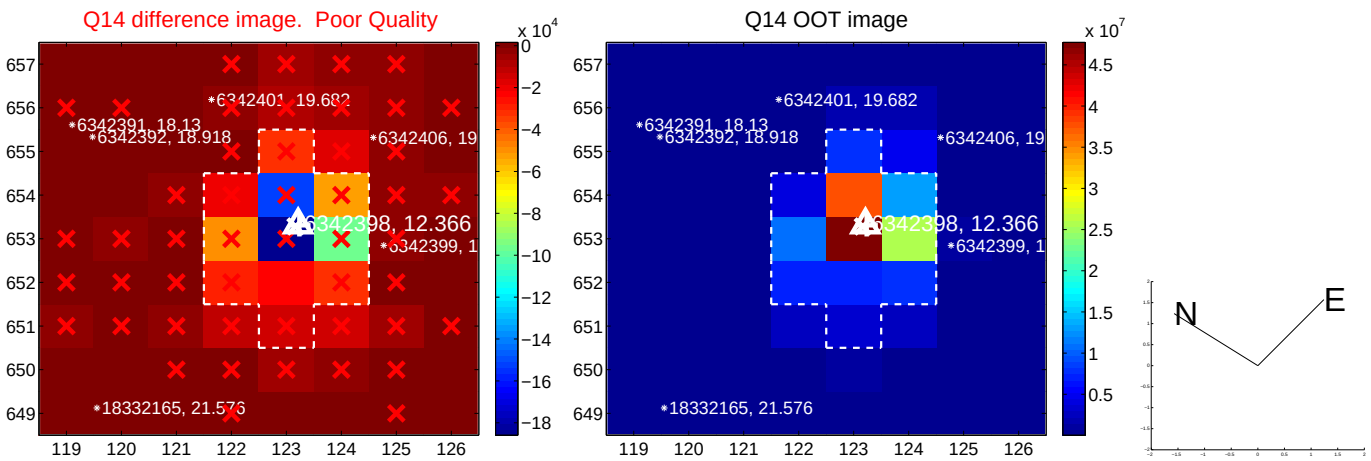


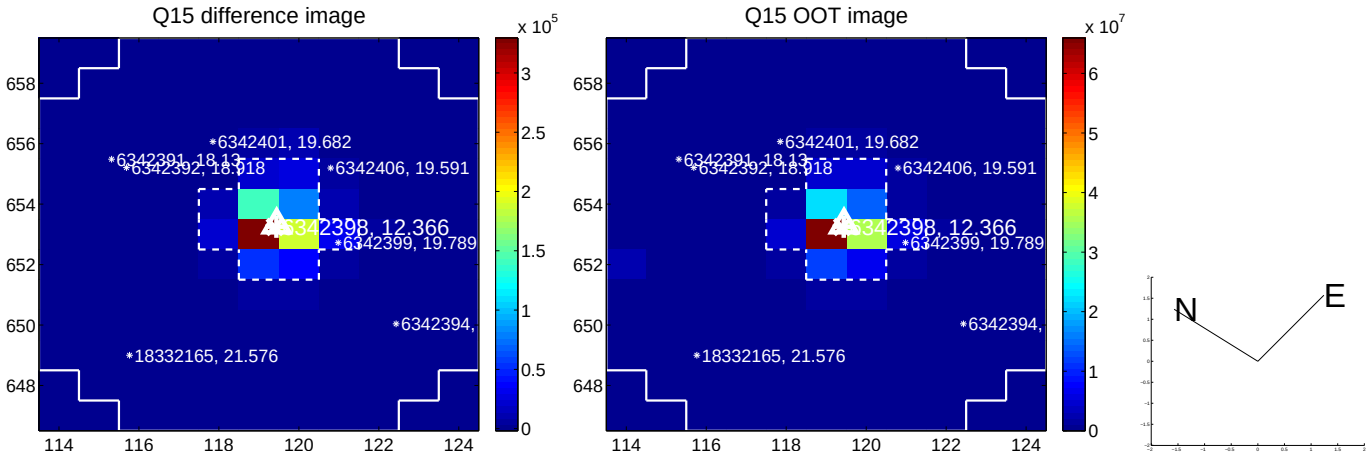
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

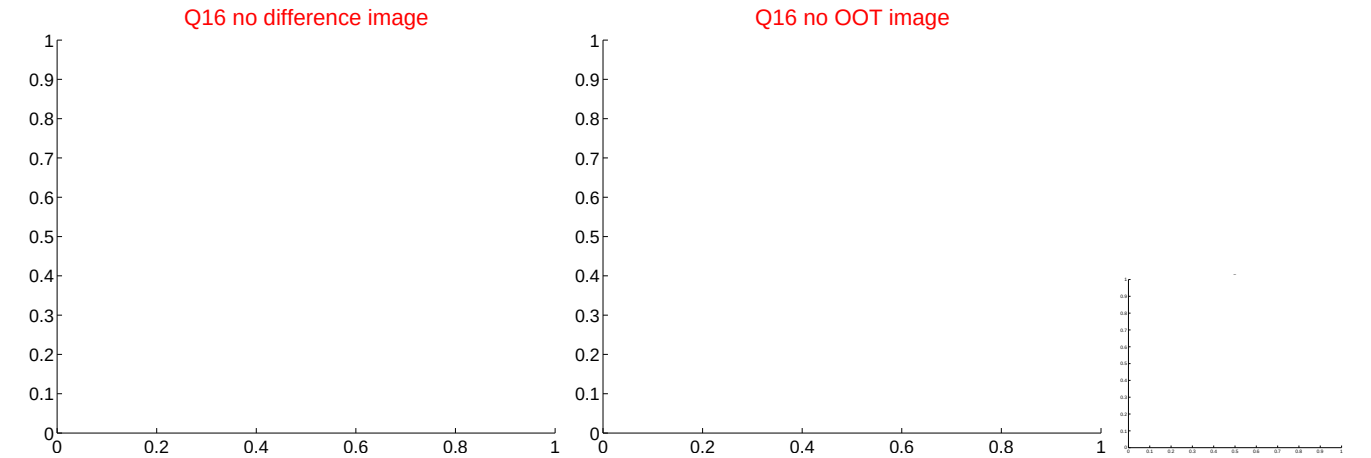


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

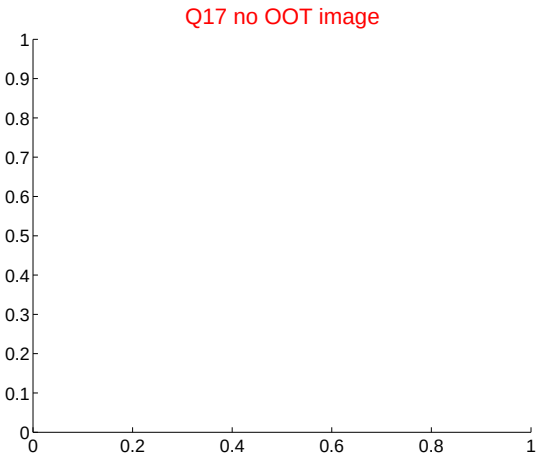


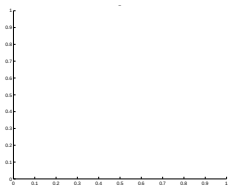


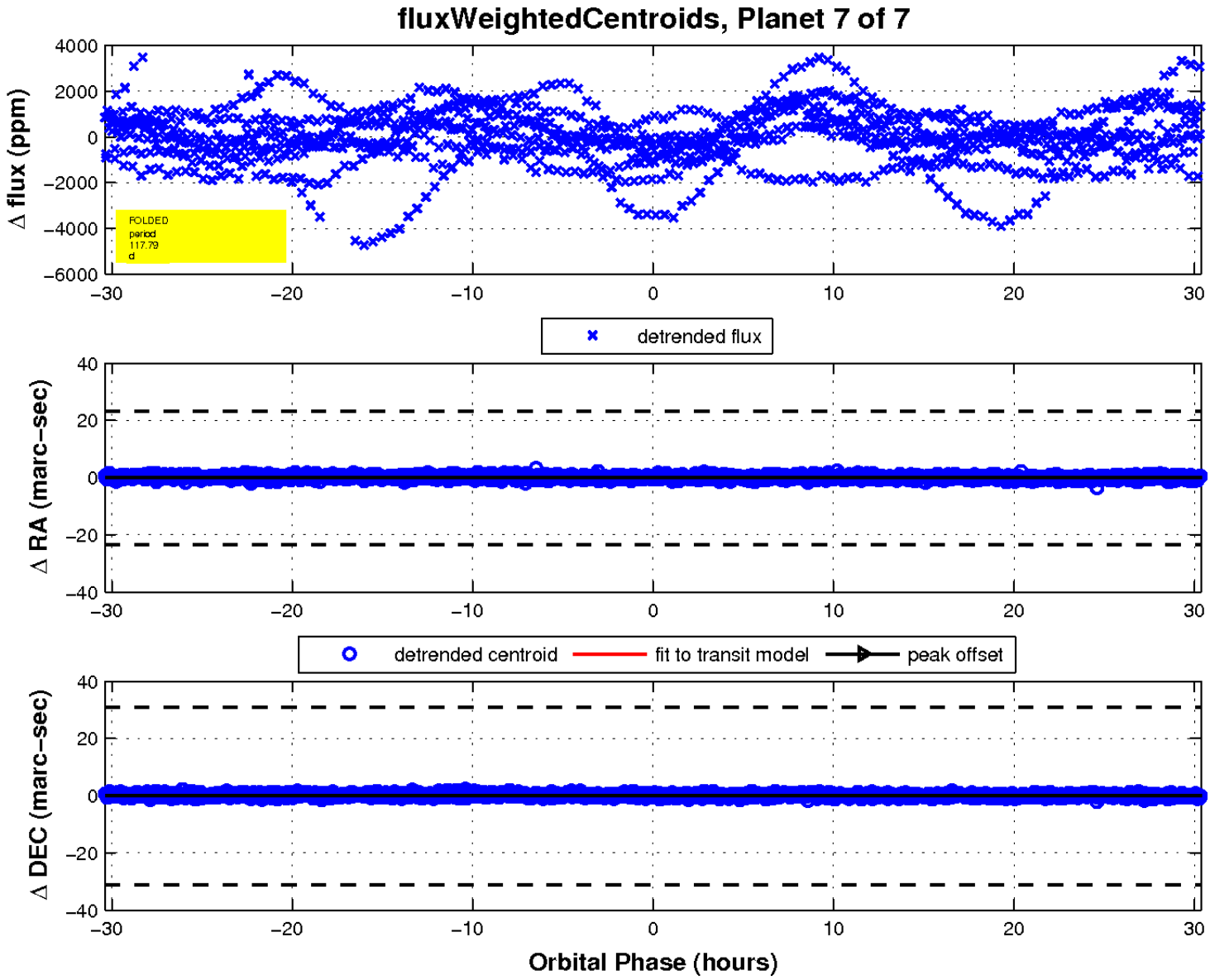
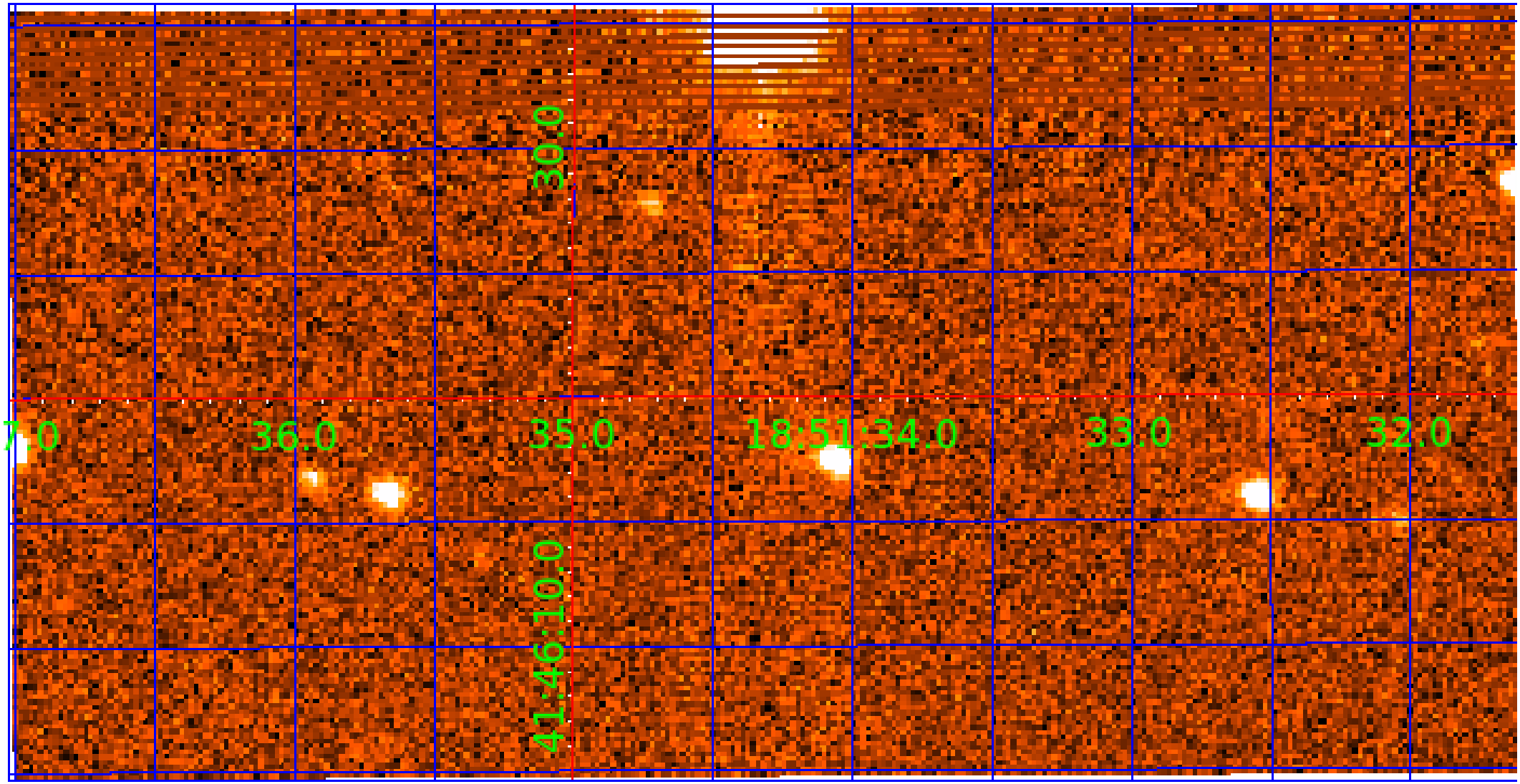




white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image