KIC 008114532

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 ($S_\oplus$)
008114532-01	OBS	No	2.486340	132.570850	0.1	12.953	8.1	0.0	3.68	6316	0.11	10517.02
008114532-02	OBS	No	355.829103	190.356936	374.9	11.450	10.7	9.8	3.68	6316	7.68	14.05
008114532-03	OBS	No	72.446745	202.300421	209.0	5.016	8.0	7.5	3.68	6316	5.85	117.30
008114532-04	OBS	No	122.892501	193.801049	273.8	2.892	7.7	8.1	3.68	6316	6.98	57.98
008114532-05	OBS	No	357.818232	291.033735	337.0	3.607	7.7	7.9	3.68	6316	7.75	13.95
008114532-06	OBS	No	83.429574	212.026458	282.7	3.367	7.8	7.9	3.68	6316	7.13	97.17
008114532-07	OBS	No	49.789794	143.803696	335.6	1.742	7.3	8.1	3.68	6316	7.66	193.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008114532-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008114532-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008114532-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008114532-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008114532-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

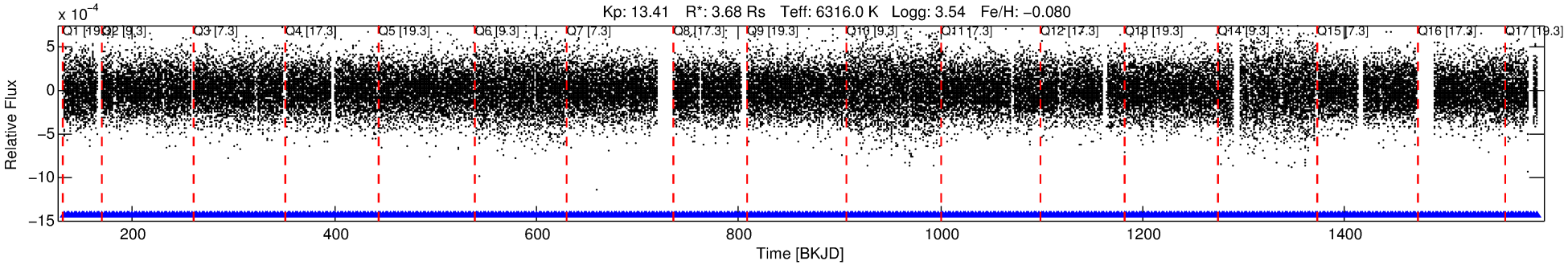
Ephemeris Match Information For 008114532-01

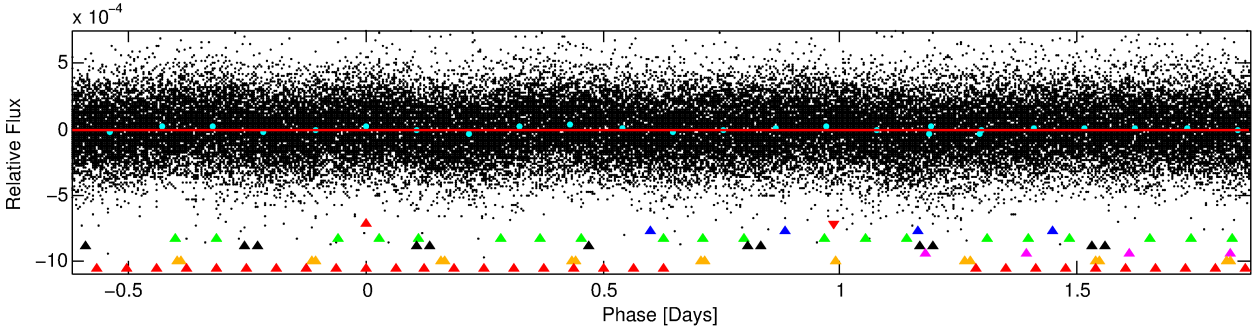
No Significant Match Found

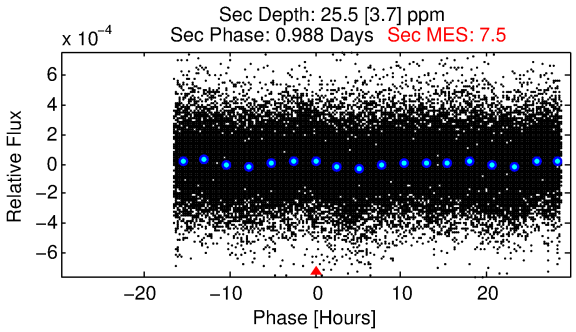
DV One-Page Summary

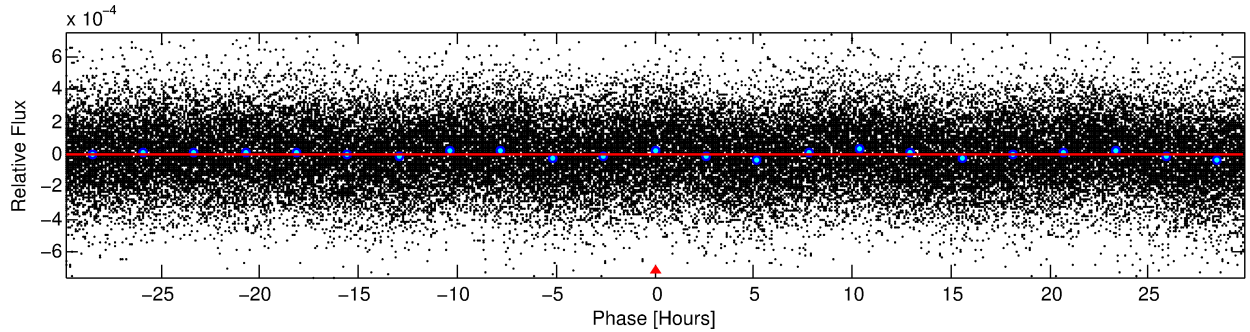
KIC: 8114532 Candidate: 1 of 7 Period: 2.486 d

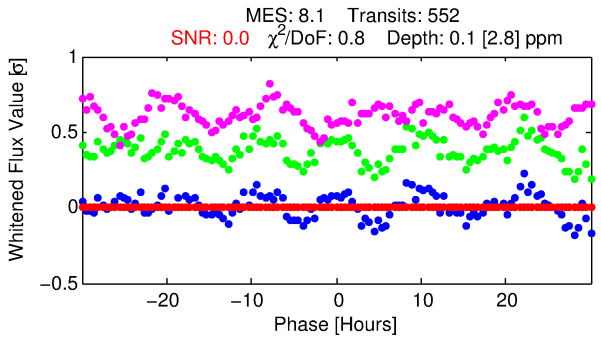
Kp: 13.41 R*: 3.68 Rs Teff: 6316.0 K Logg: 3.54 Fe/H: −0.080

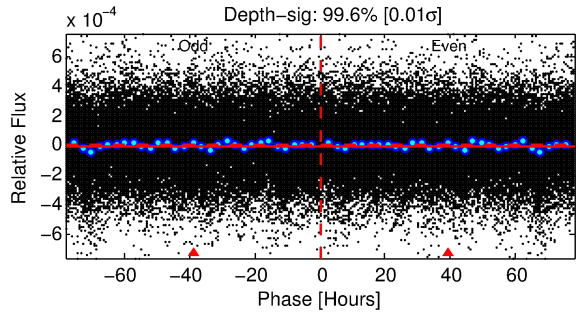


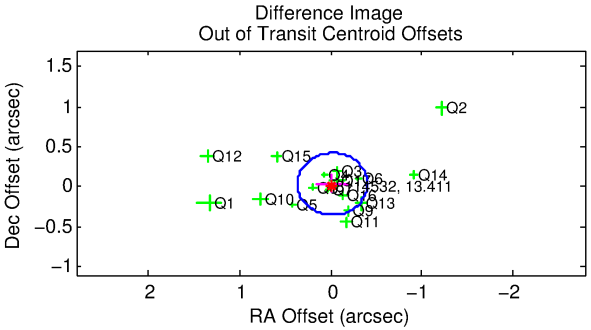












DV Fit Results:

Period = 2.48634 [0.01160] d
Epoch = 132.5709 [2.4520] BKJD
Rp/R* = 0.0003 [0.0062]
a/R* = 1.56 [74.72]
b = 0.22 [346.86]

Seff = 10517.02 [6498.97]
Teq = 2582 [399] K
Rp = 0.11 [2.47] Re
a = 0.0429 [0.0159] AU

Ag = 2126.35 [95600.60] [0.02σ]
Teffp = 27111 [304708] K [0.08σ]

DV Diagnostic Results:

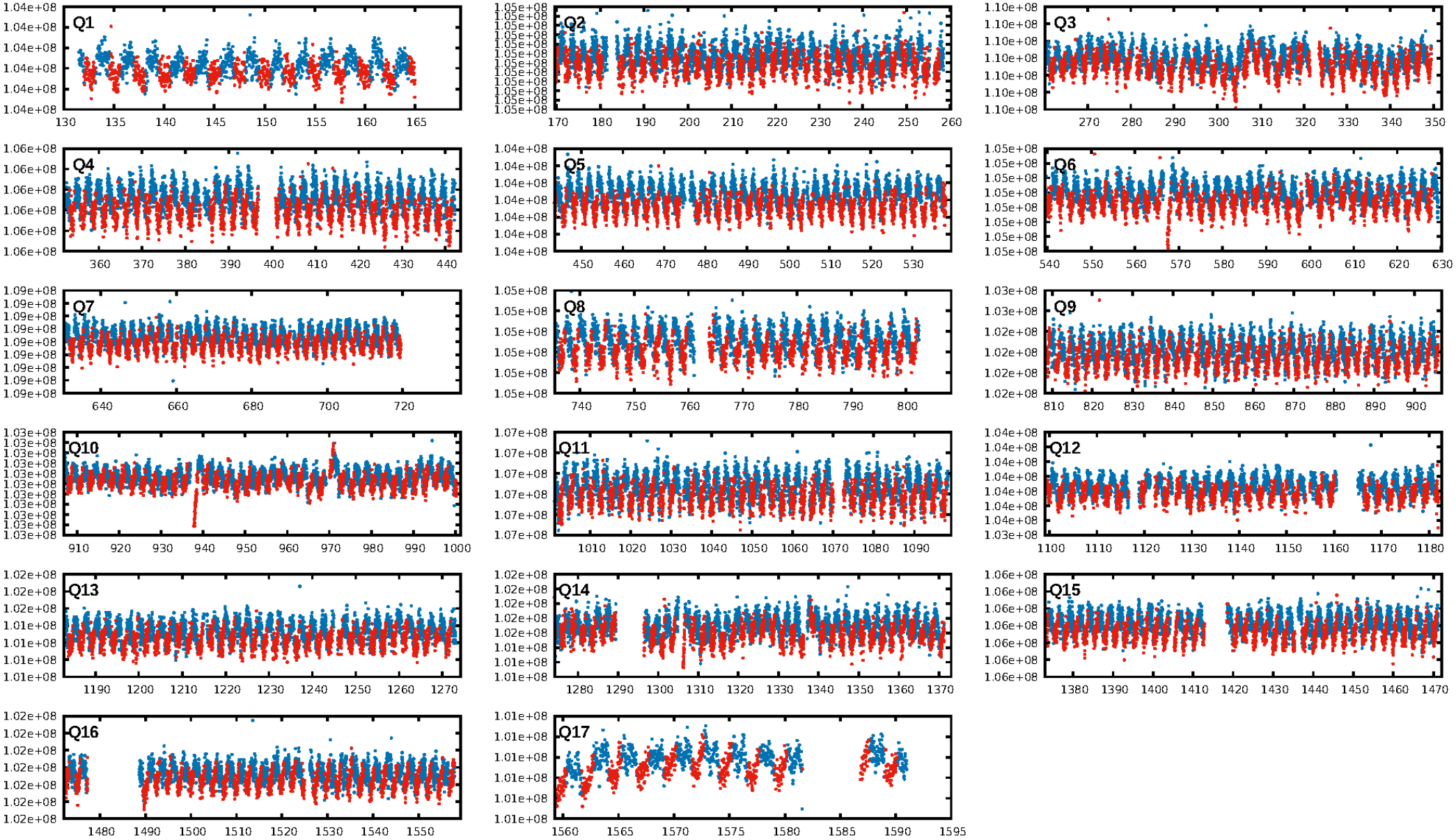
ShortPeriod−sig: N/A
LongPeriod−sig: 100.0% [86.87σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [527/527]
GhostDiagnostic−chr: N/A

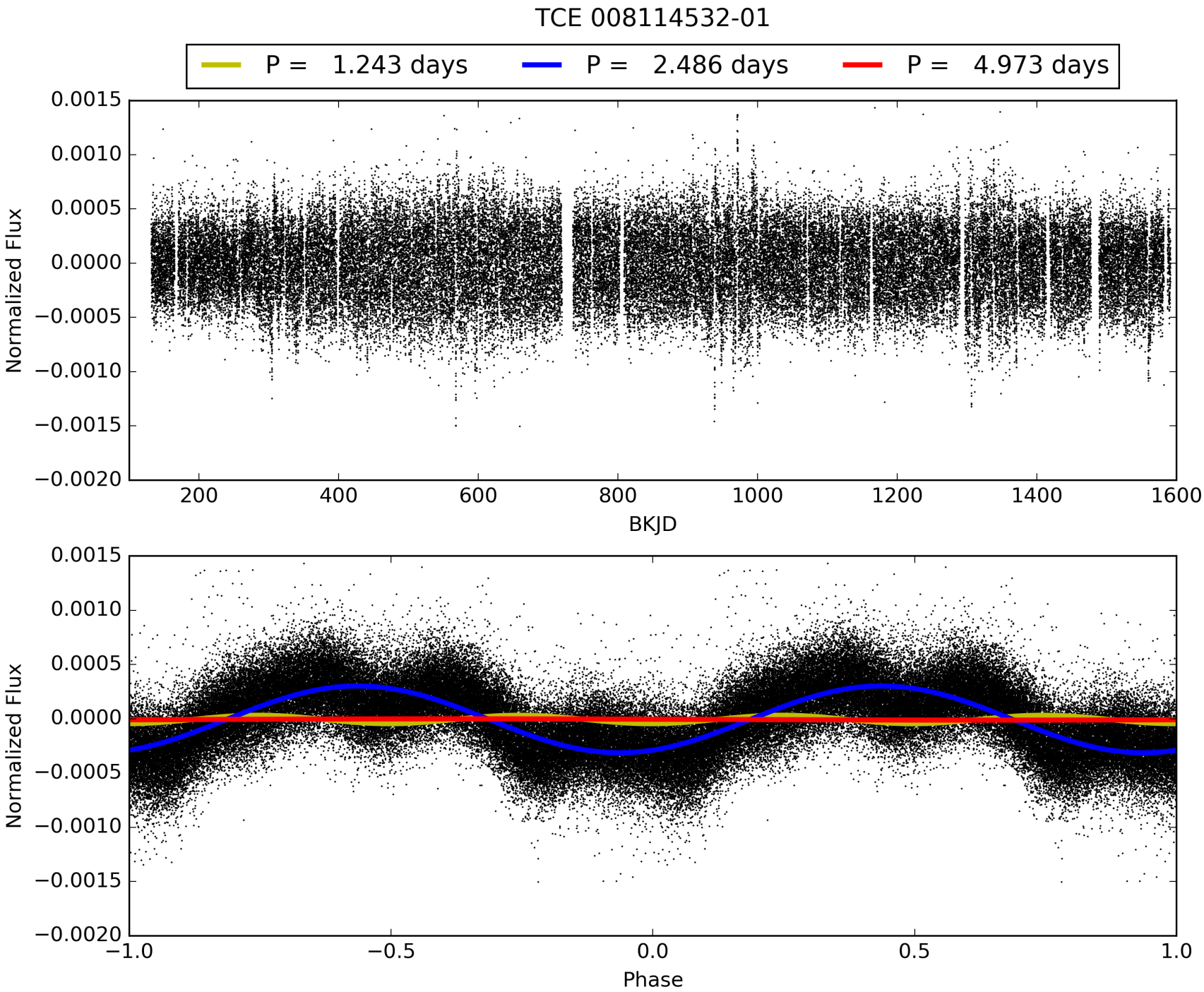
Centroid−sig: N/A
Centroid−so: N/A
OotOffset−rm: 0.037 arcsec [0.29σ]
KicOffset−rm: 0.081 arcsec [0.66σ]
OotOffset−st: 4/4/4/5 [17]
KicOffset−st: 4/4/4/5 [17]
DiffImageQuality−fgm: 1.00 [17/17]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 22:46:03 Z

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

TCE 008114532-01, PDC Light Curves

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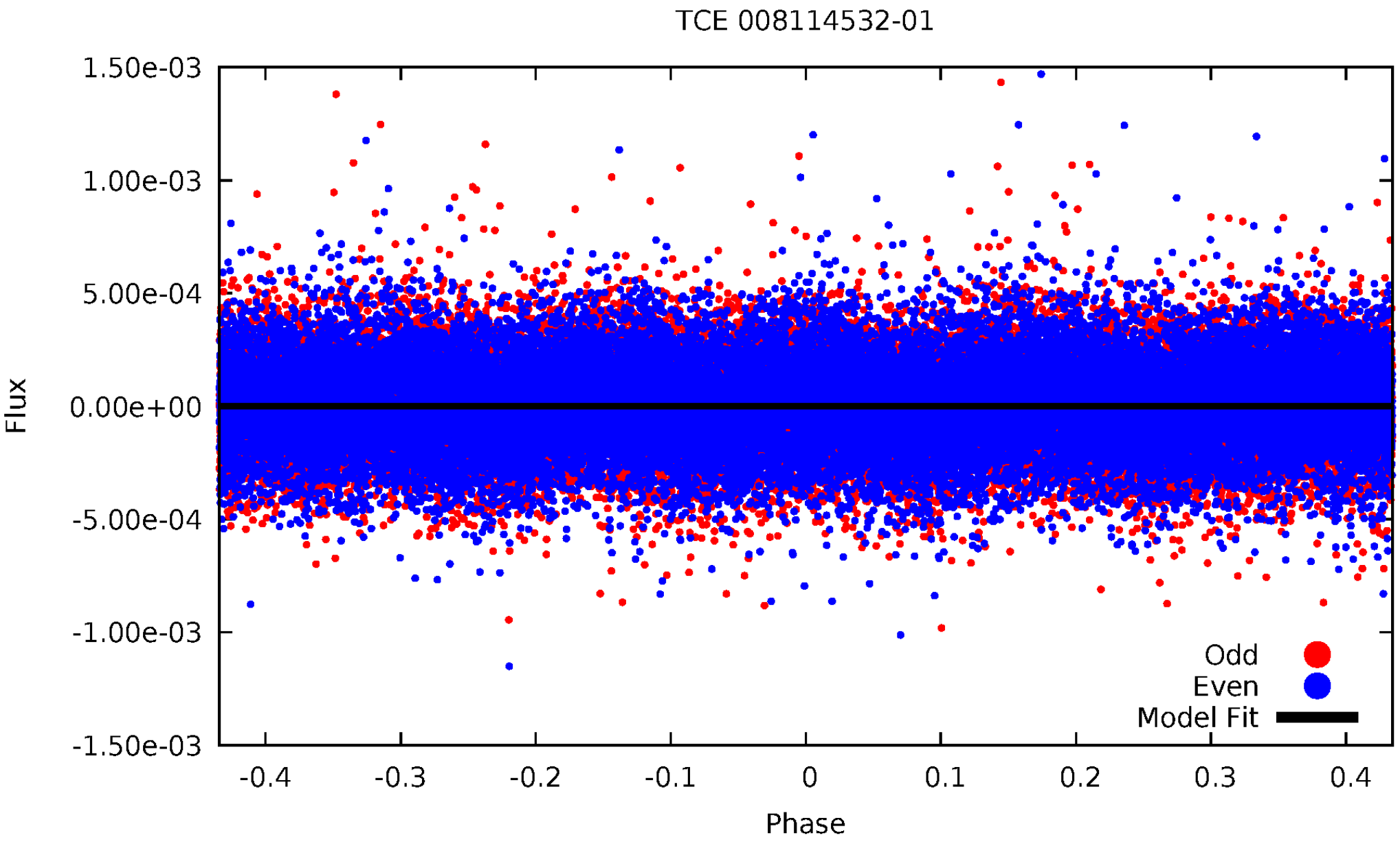
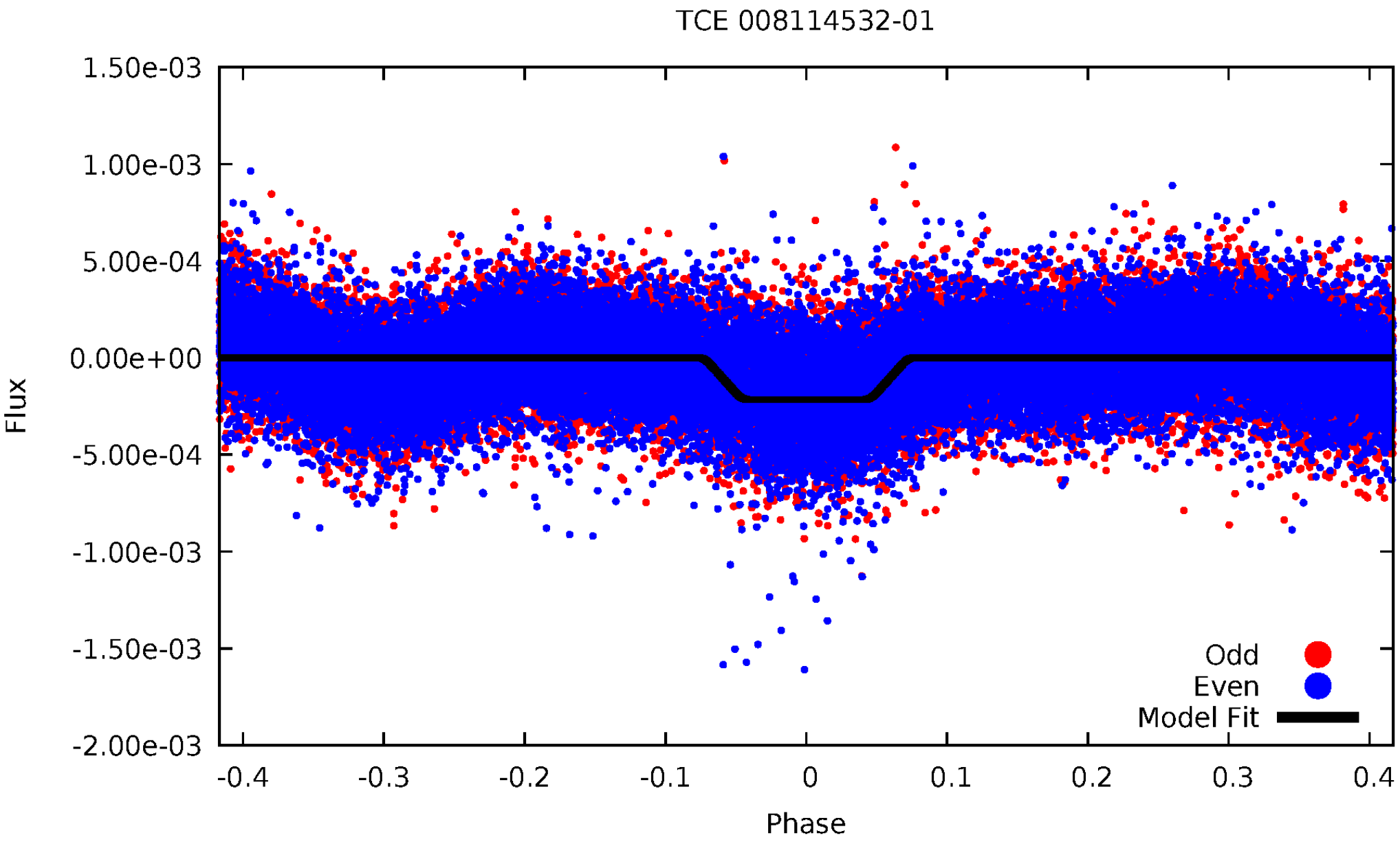
P = 1.243 days
P = 2.486 days
P = 4.973 days
Normalized Flux
BKJD
Phase

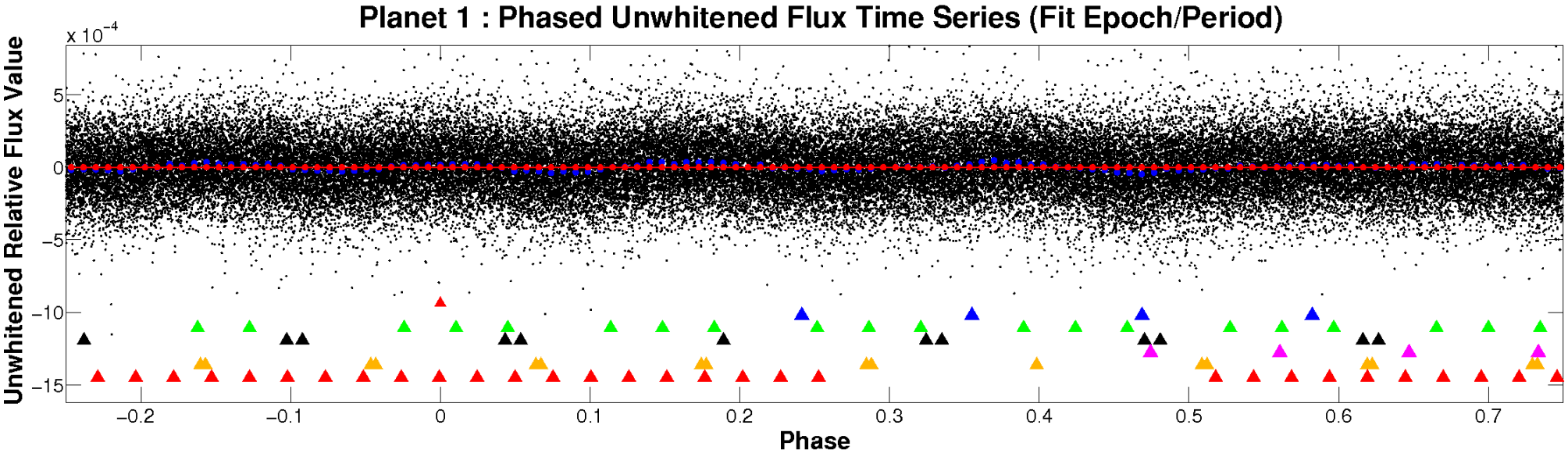
DV Odd/Even

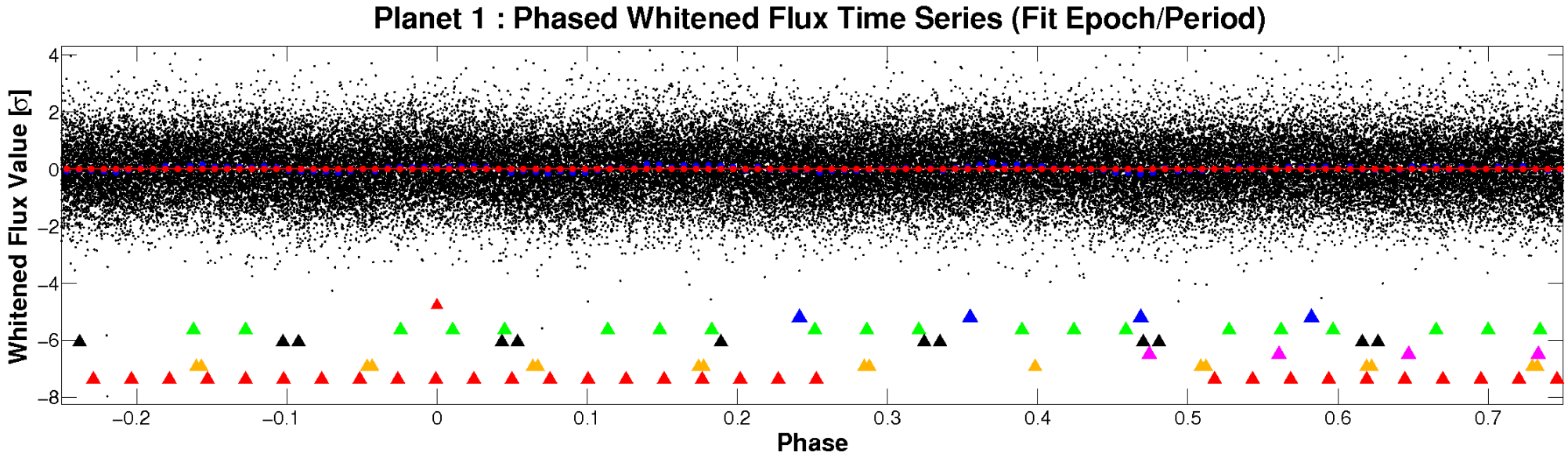

TCE 008114532-01
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008114532-01
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
Flux
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
Phase
Odd
Even
Model Fit

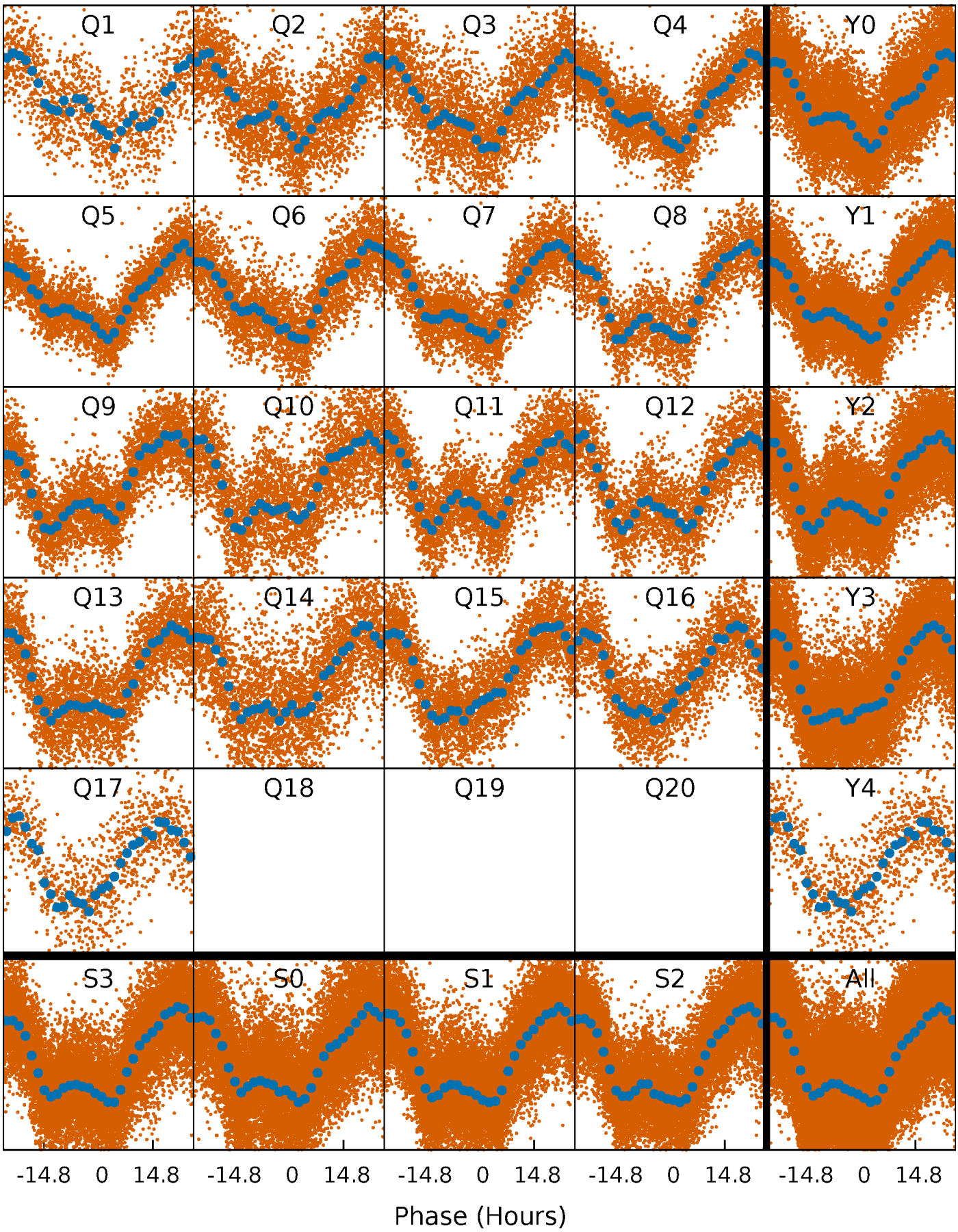
Non-Whitened Vs. Whitened Light Curve





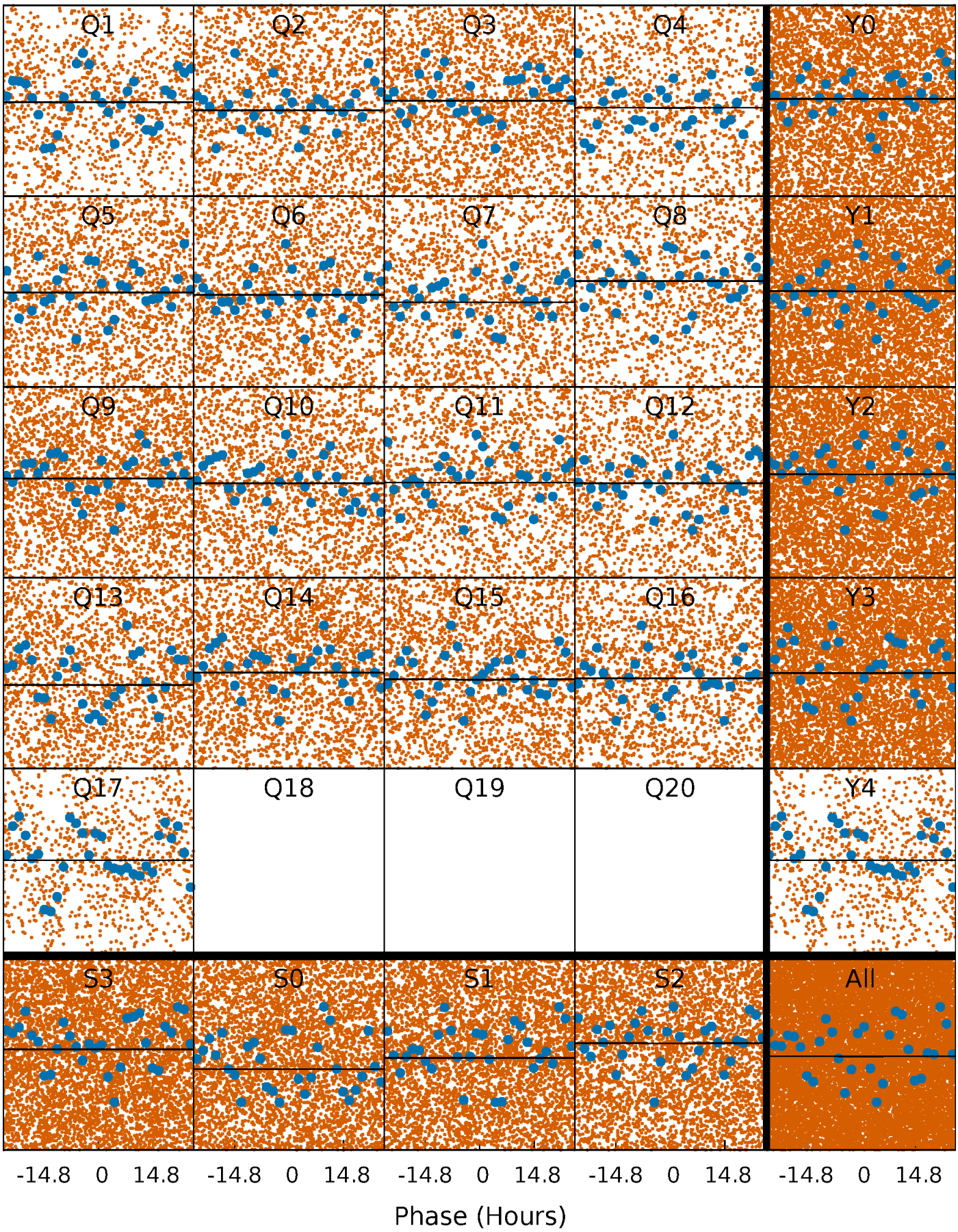
PDC Quarter-Phased Transit Curves

TCE 008114532-01 P= 2.486340 Days T_0=132.570851 (BKJD)



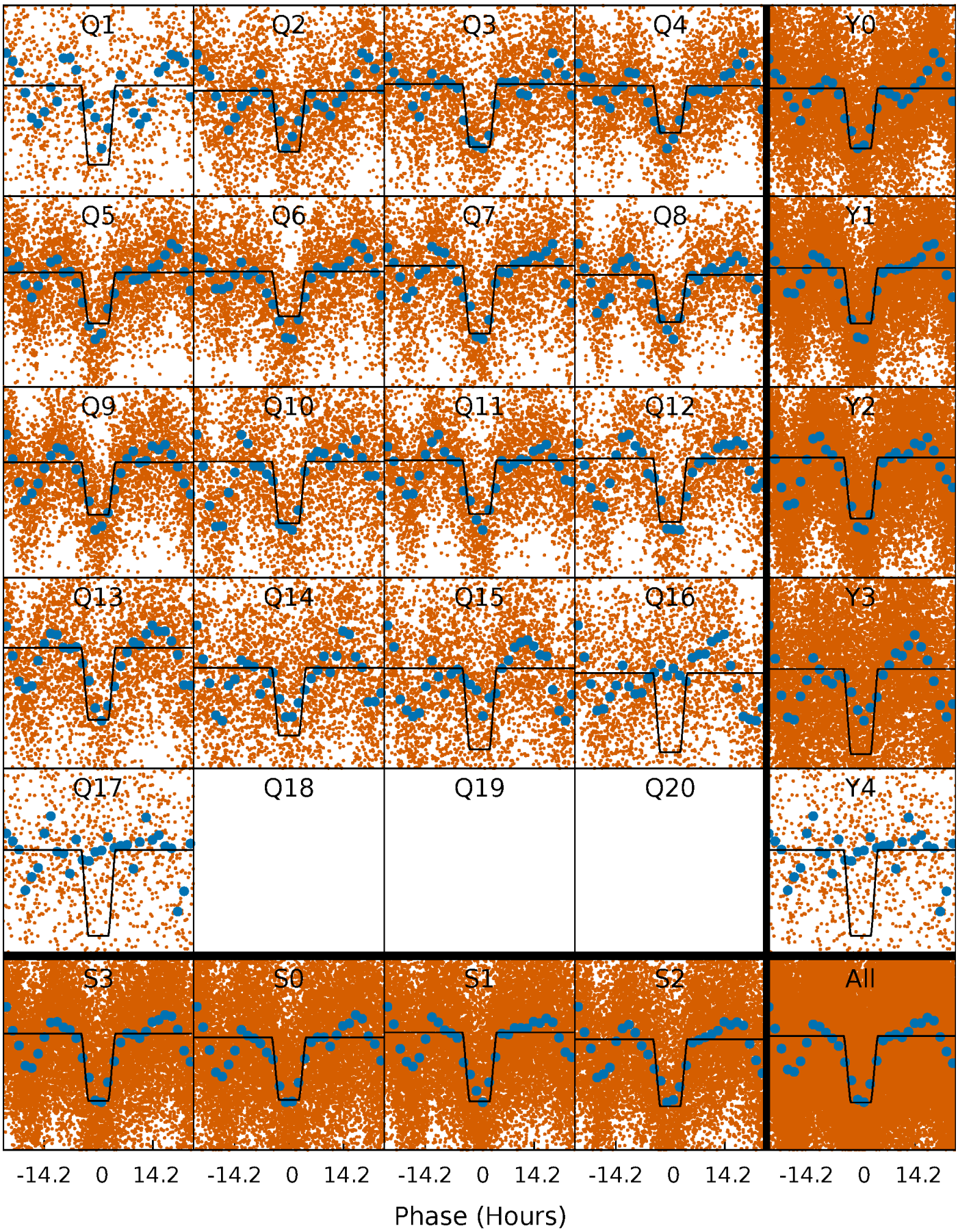
DV Quarter-Phased Transit Curves

TCE 008114532-01 P= 2.486340 Days T_0=132.570851 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

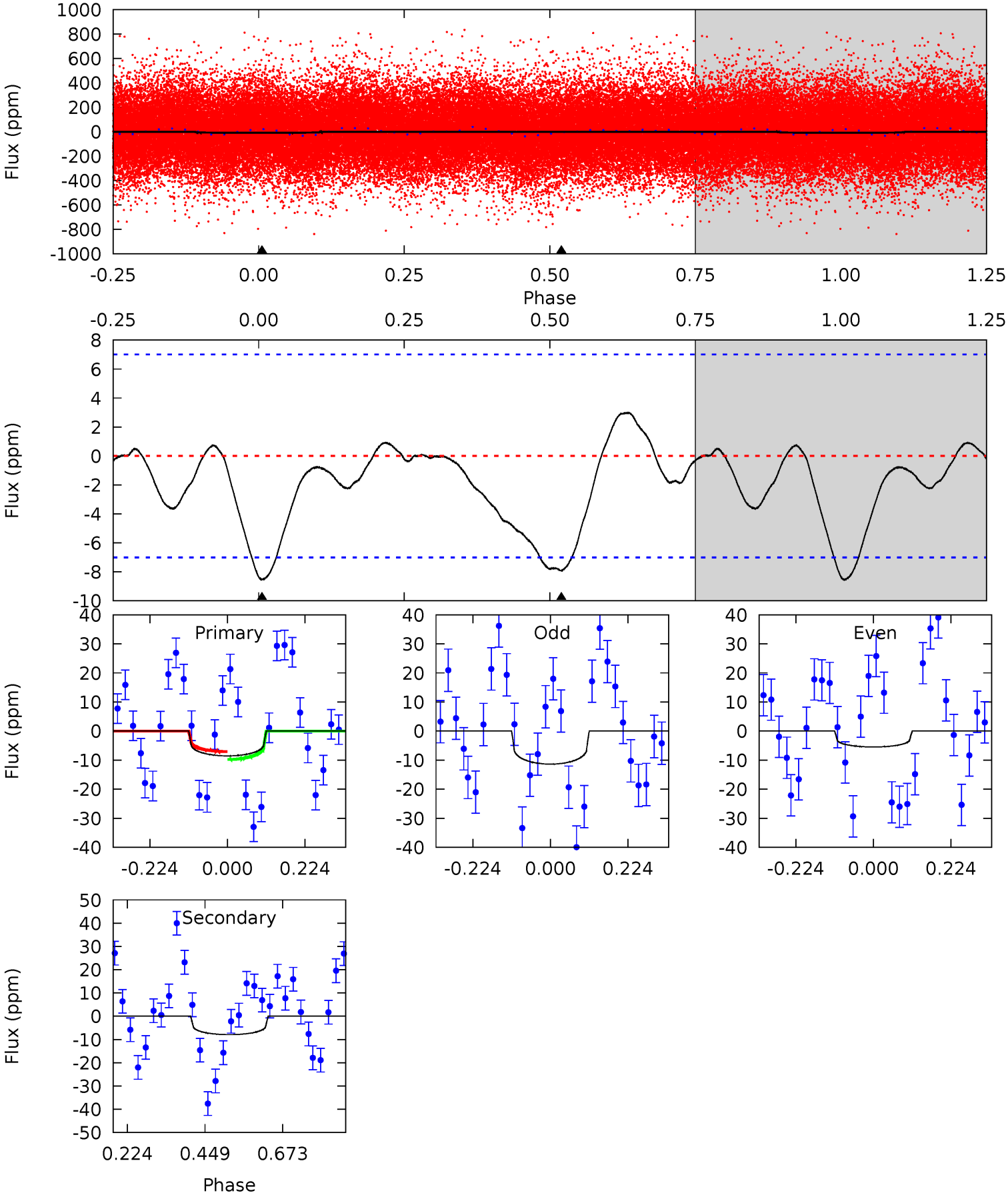
TCE 008114532-01 P= 2.486508 Days T_0=132.694920 (BKJD)



DV Model-Shift Uniqueness Test

008114532-01, P = 2.486340 Days, E = 130.084511 Days

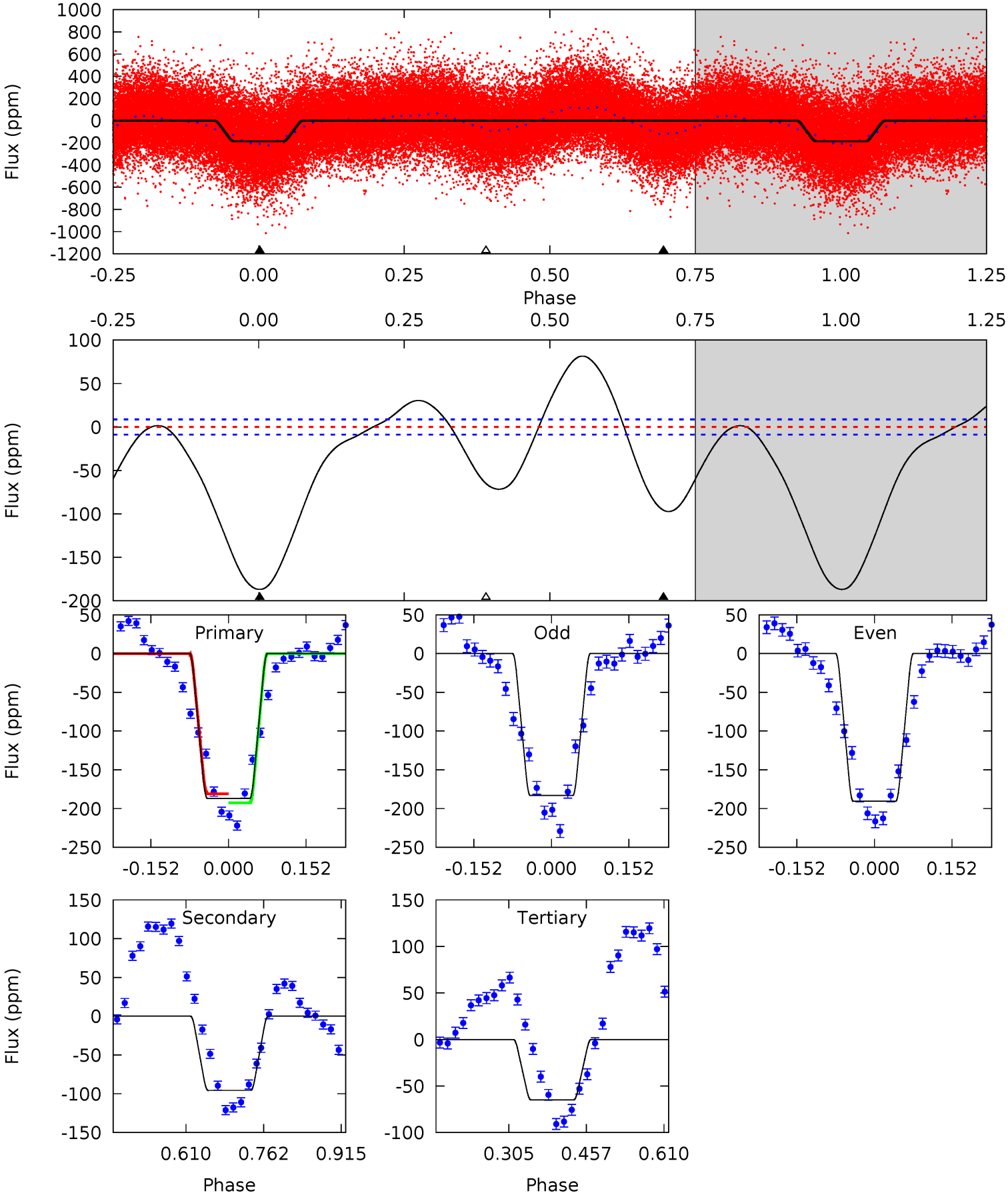
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.35	4.97	0	0	4.39	1.21	0.15	5.35	5.35	4.97	4.97	1.84	1.93	0.26	0.84



Alt Model-Shift Uniqueness Test

008114532-01, P = 2.486508 Days, E = 130.208412 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
95.9	49.1	33.4	0	4.48	1.43	19.7	62.5	95.9	15.7	49.1	1.92	0.93	0.30	3.03



Stellar Parameters For KIC 008114532

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6316^{+189}_{-189}	$3.536^{+0.360}_{-0.112}$	$-0.080^{+0.300}_{-0.250}$	$3.681^{+0.459}_{-1.376}$	$1.696^{+0.193}_{-0.359}$	$0.048^{+0.122}_{-0.017}$
	+3%/-3%	+10%/-3%	+375%/-312%	+12%/-37%	+11%/-21%	+255%/-35%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008114532-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-8±2	$1.65^{+1.81}_{-1.17}$	3564^{+207}_{-331}	5026^{+5265}_{-1451}	$2.836^{+32.633}_{-2.140}$
Alt.	-96±2	$5.36^{+2.70}_{-2.35}$	3564^{+214}_{-372}	5107^{+1739}_{-770}	$3.300^{+6.935}_{-1.801}$

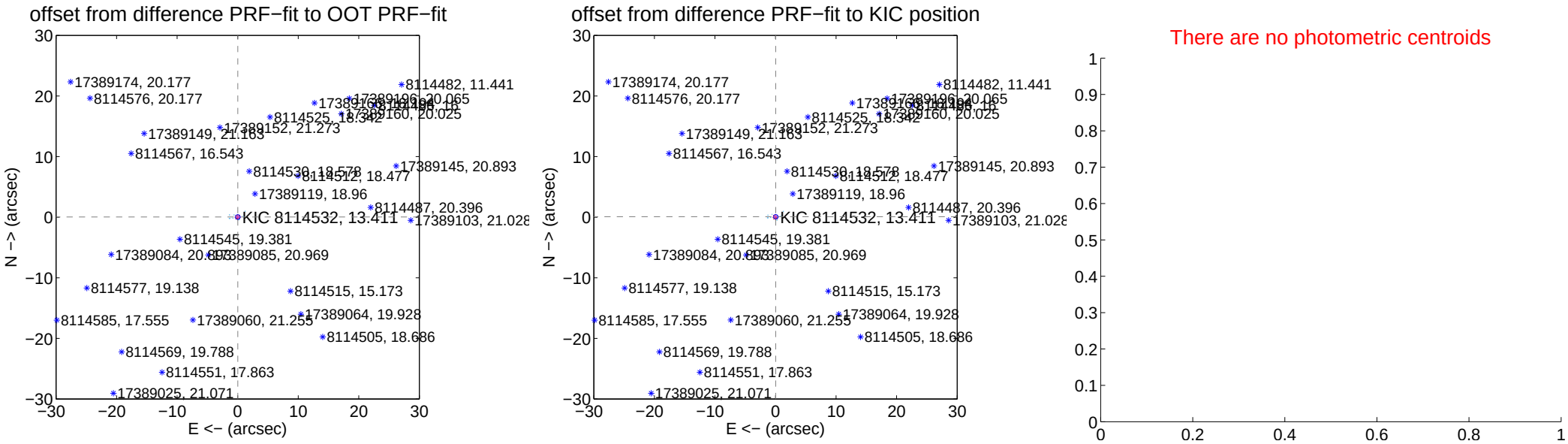
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

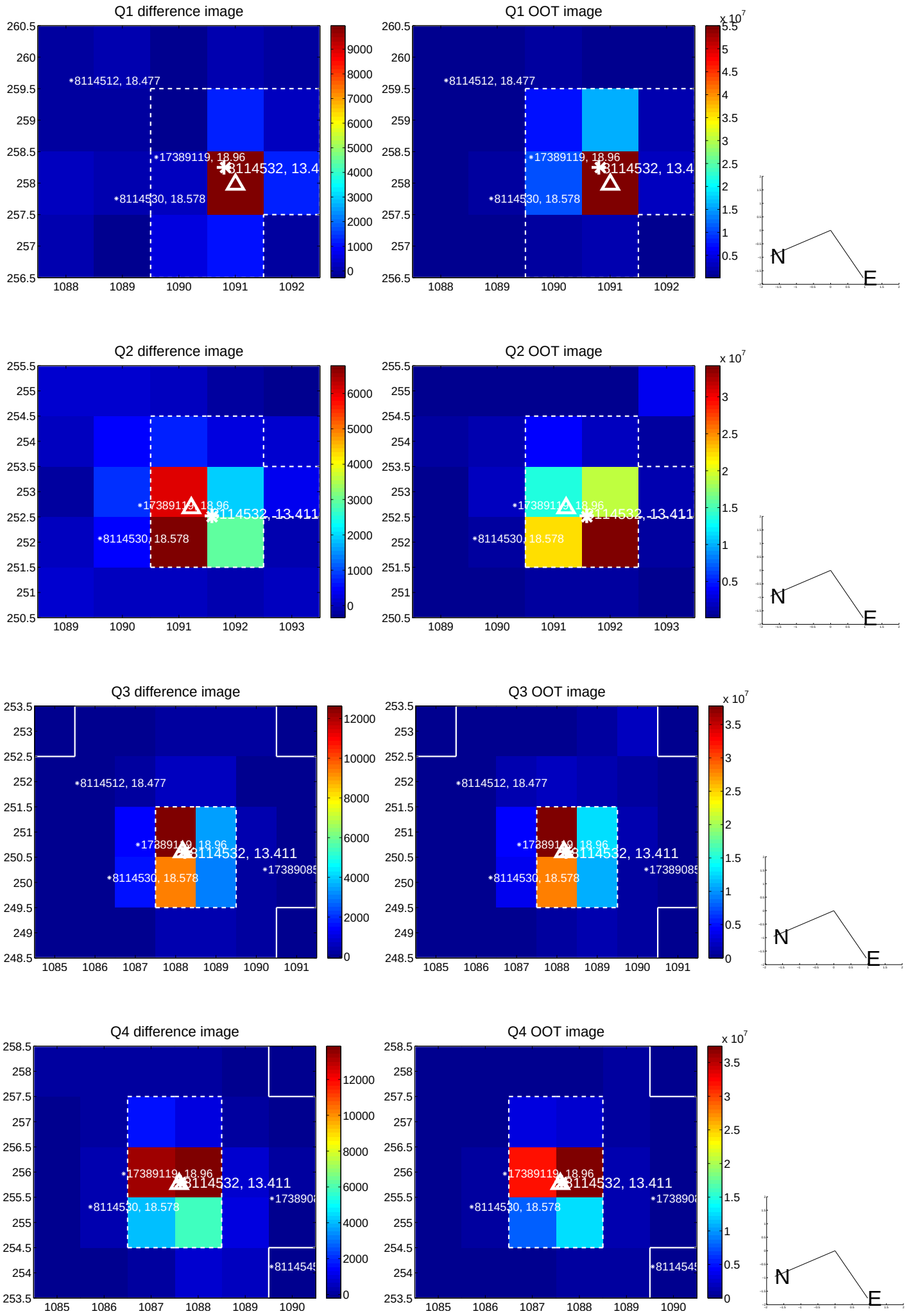
Supplemental centroid analysis for 008114532-01. Kepler magnitude: 13.41. Transit SNR 0.03
There are 17 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.037 ± 0.129	0.29	-0.016 ± 0.173	0.034 ± 0.103
PRF-fit source offset from KIC position	0.081 ± 0.122	0.66	-0.037 ± 0.153	0.072 ± 0.103
photometric centroid source offset	—	—	—	—

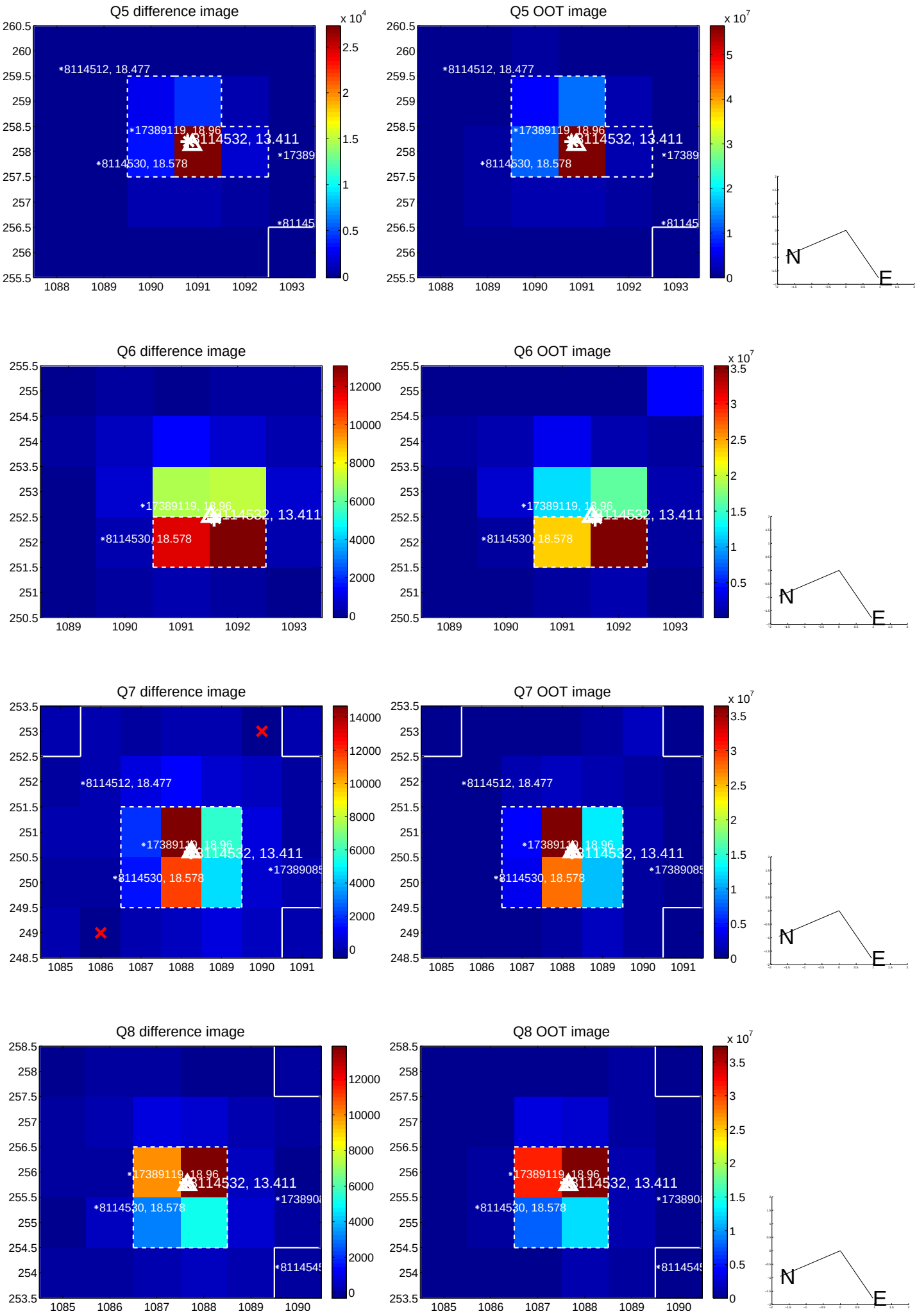


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

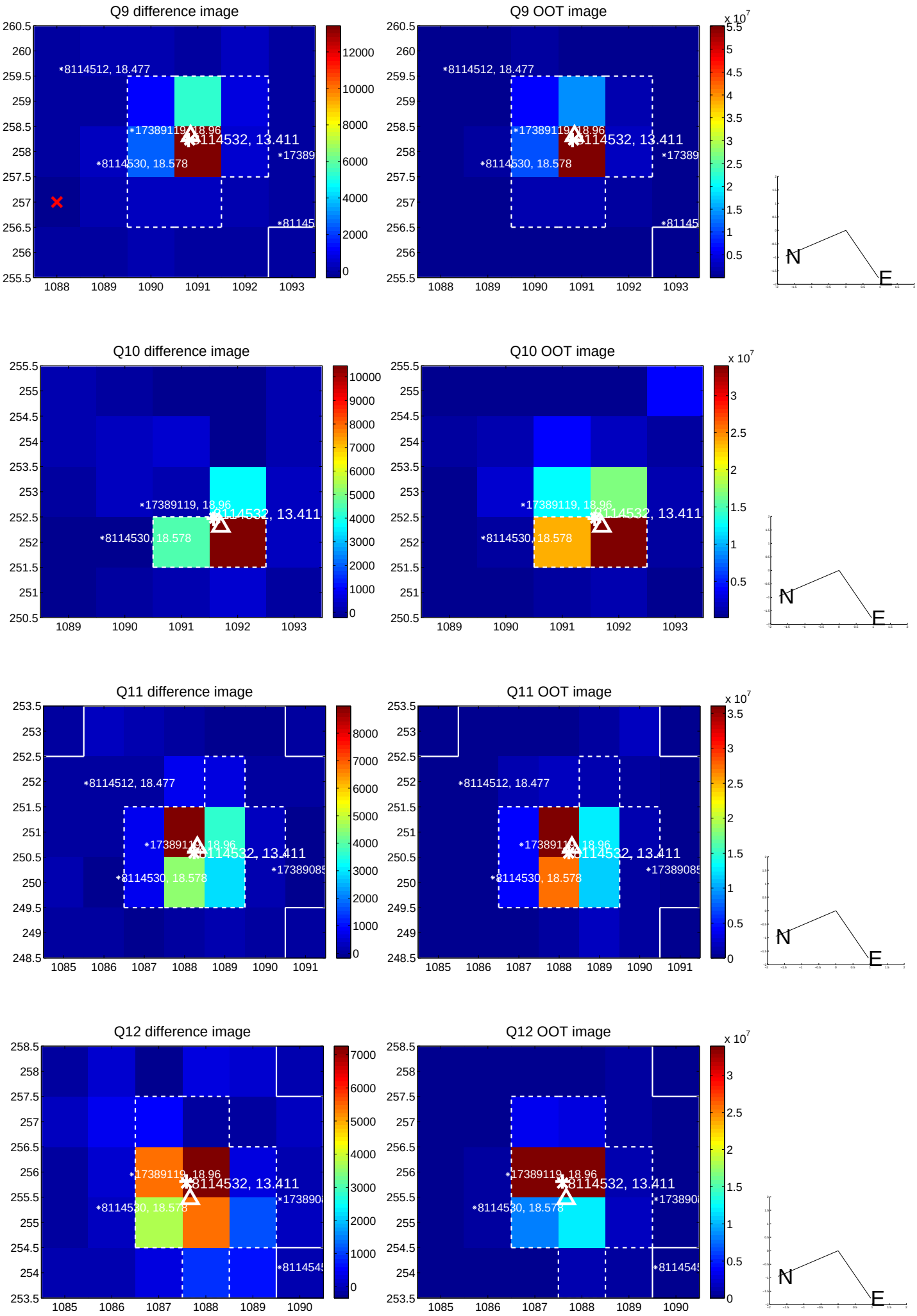
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



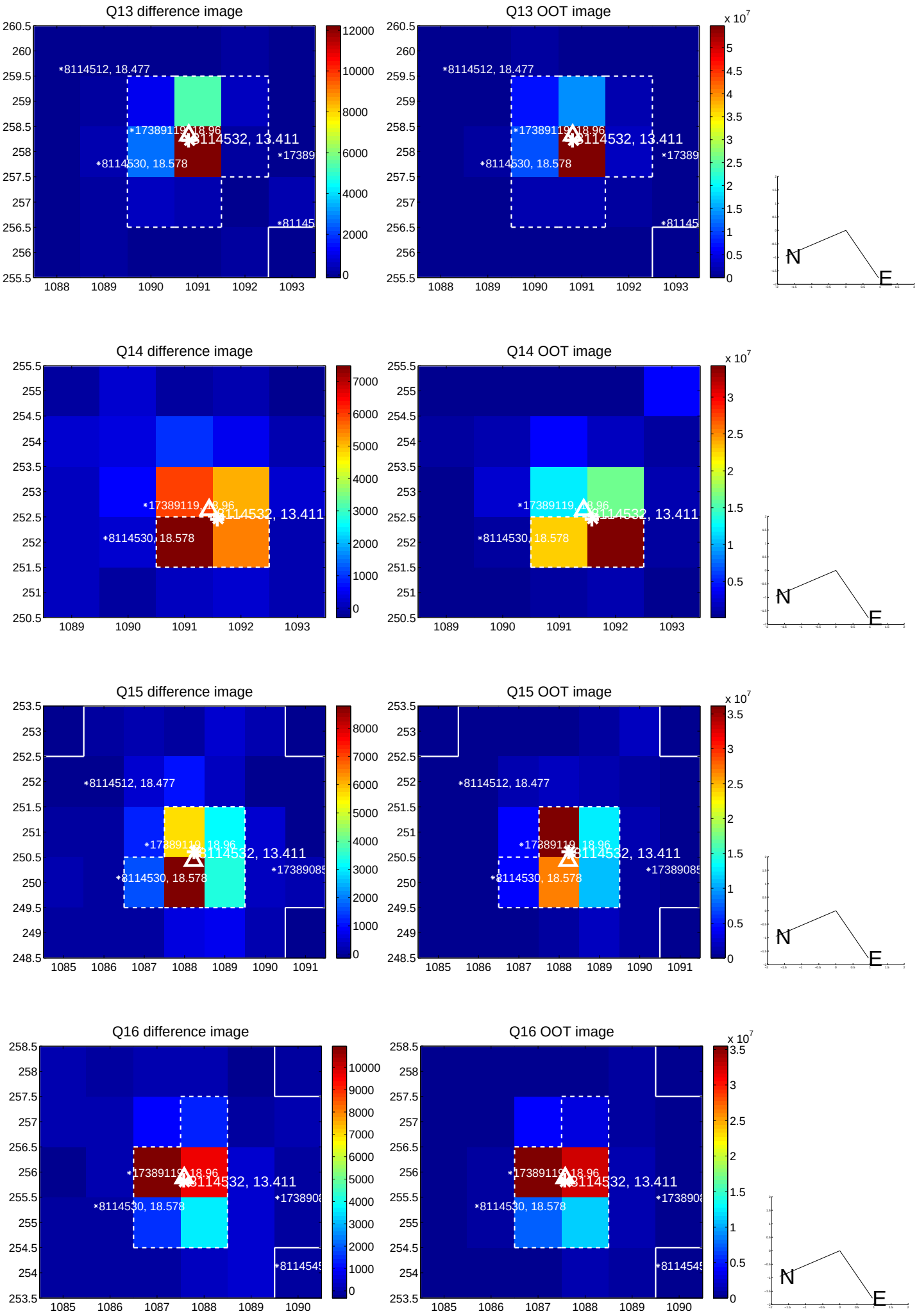
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



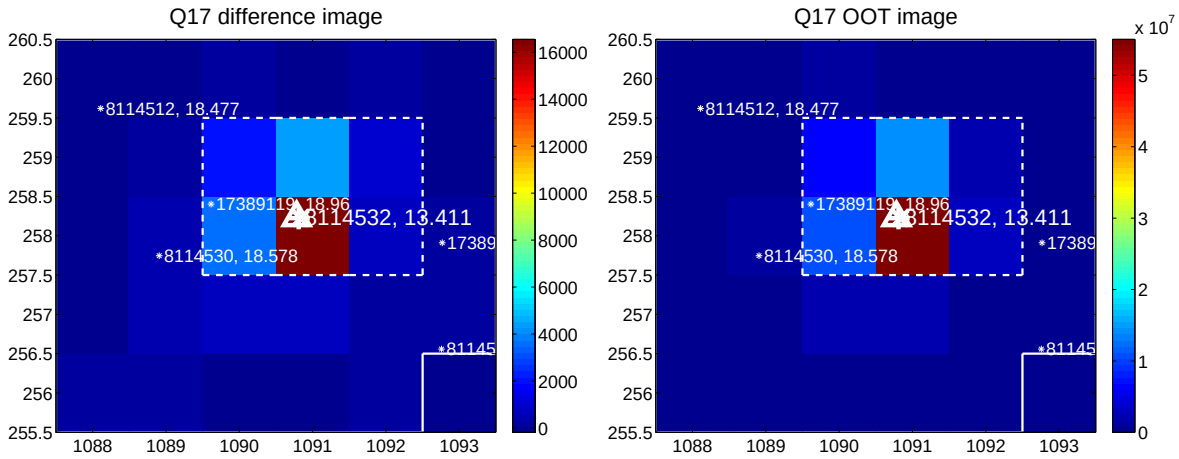
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

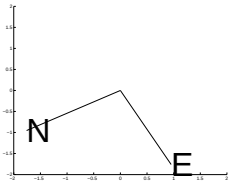


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



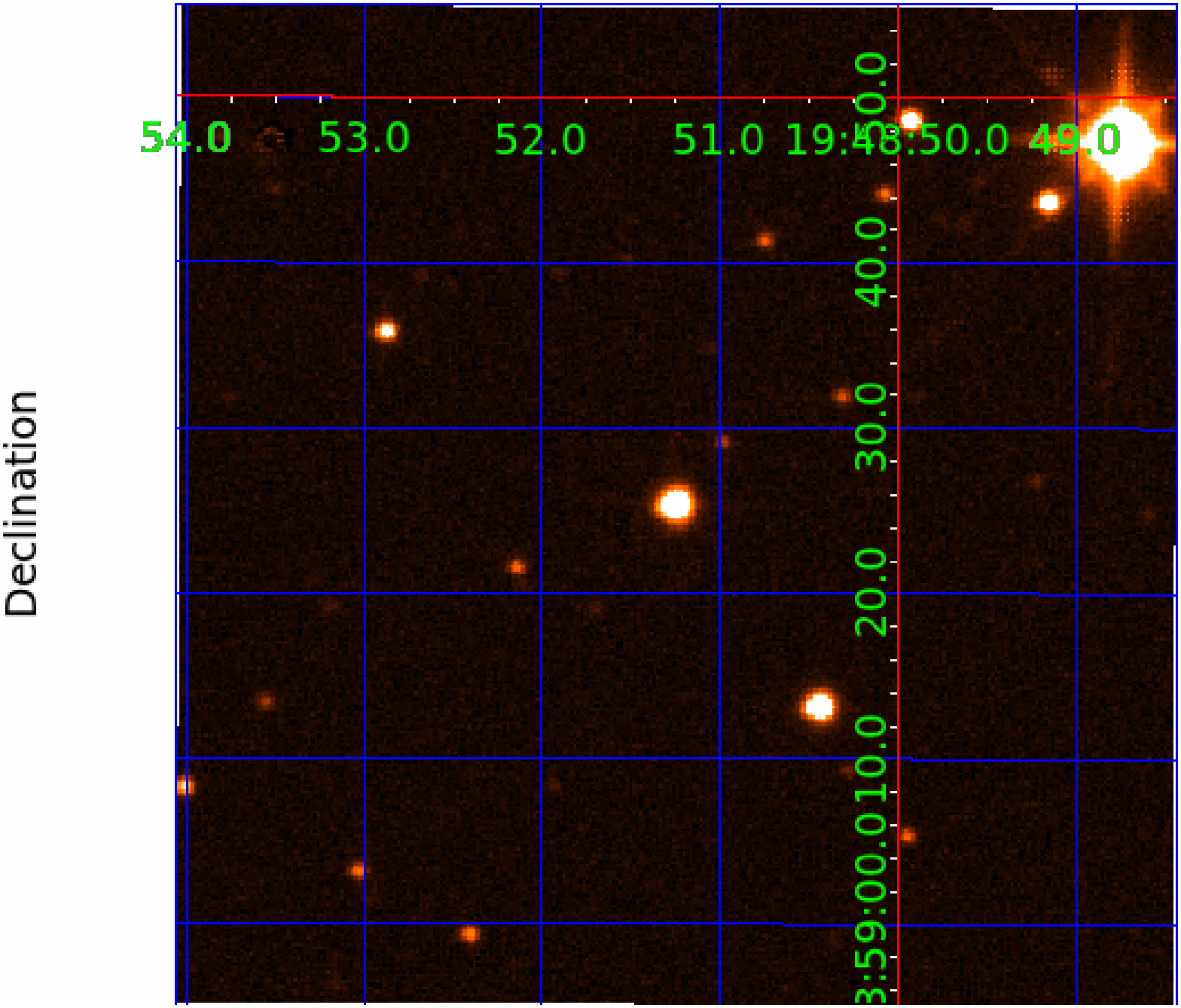
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





olded centroid time series figure for this object.

UKIRT Image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10.0
3:59:00.0
Declination

KIC 008114532

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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008114532-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008114532-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008114532-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008114532-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

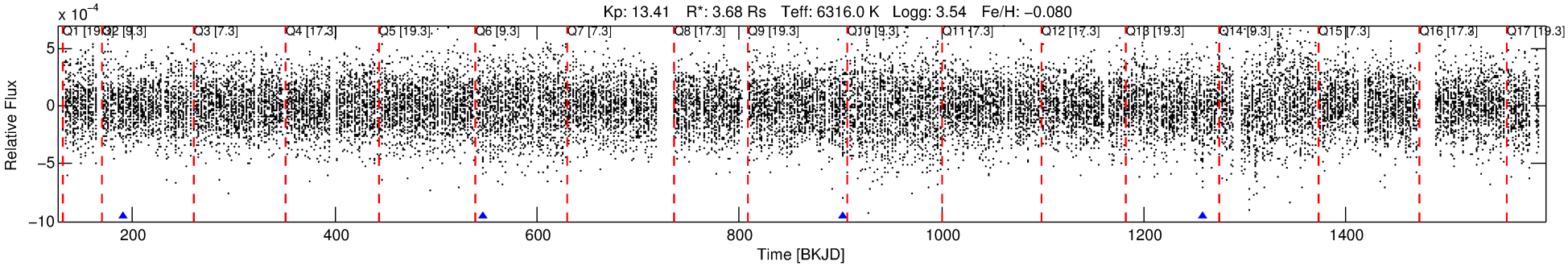
Ephemeris Match Information For 008114532-02

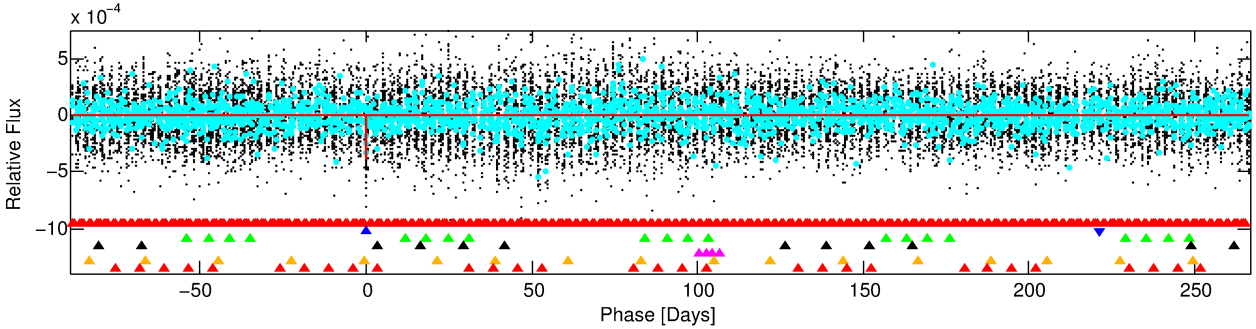
No Significant Match Found

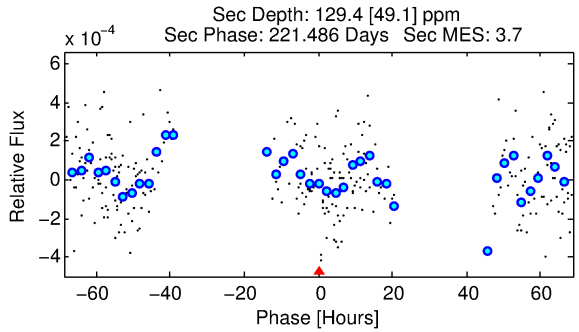
DV One-Page Summary

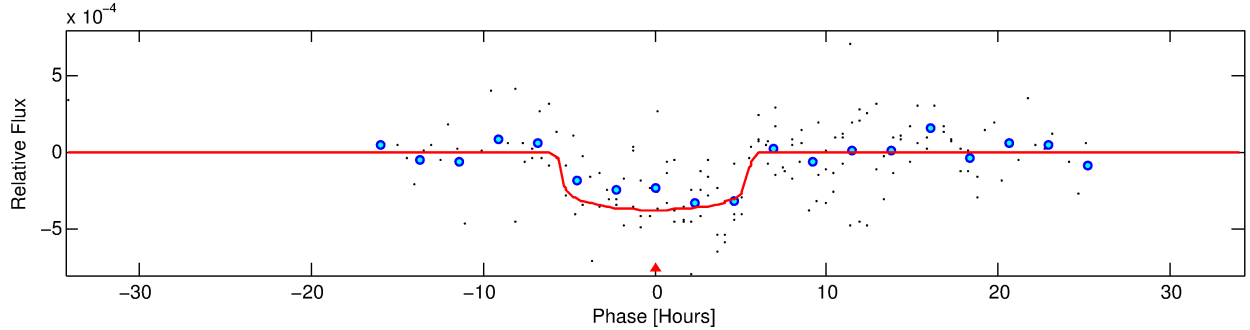
KIC: 8114532 Candidate: 2 of 7 Period: 355.829 d

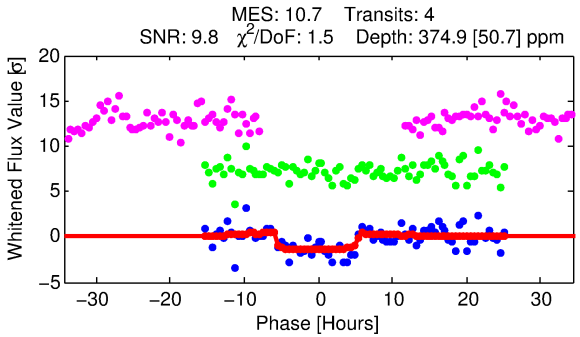
Kp: 13.41 R*: 3.68 Rs Teff: 6316.0 K Logg: 3.54 Fe/H: −0.080

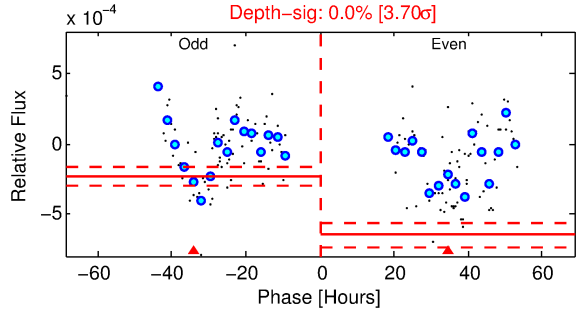


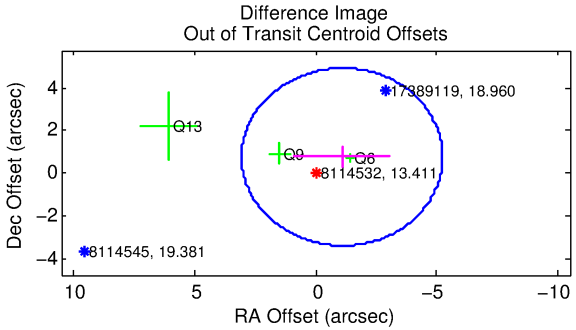












DV Fit Results:

Period = 355.82910 [0.00994] d
Epoch = 190.3569 [0.0193] BKJD
Rp/R* = 0.0191 [0.0058]
a/R* = 169.87 [262.90]
b = 0.73 [1.02]

Seff = 14.05 [8.68]
Teq = 494 [76] K
Rp = 7.68 [3.71] Re
a = 1.1727 [0.4363] AU

Ag = 1660.30 [1561.19] [1.06σ]
Teffp = 4872 [888] K [4.91σ]

DV Diagnostic Results:

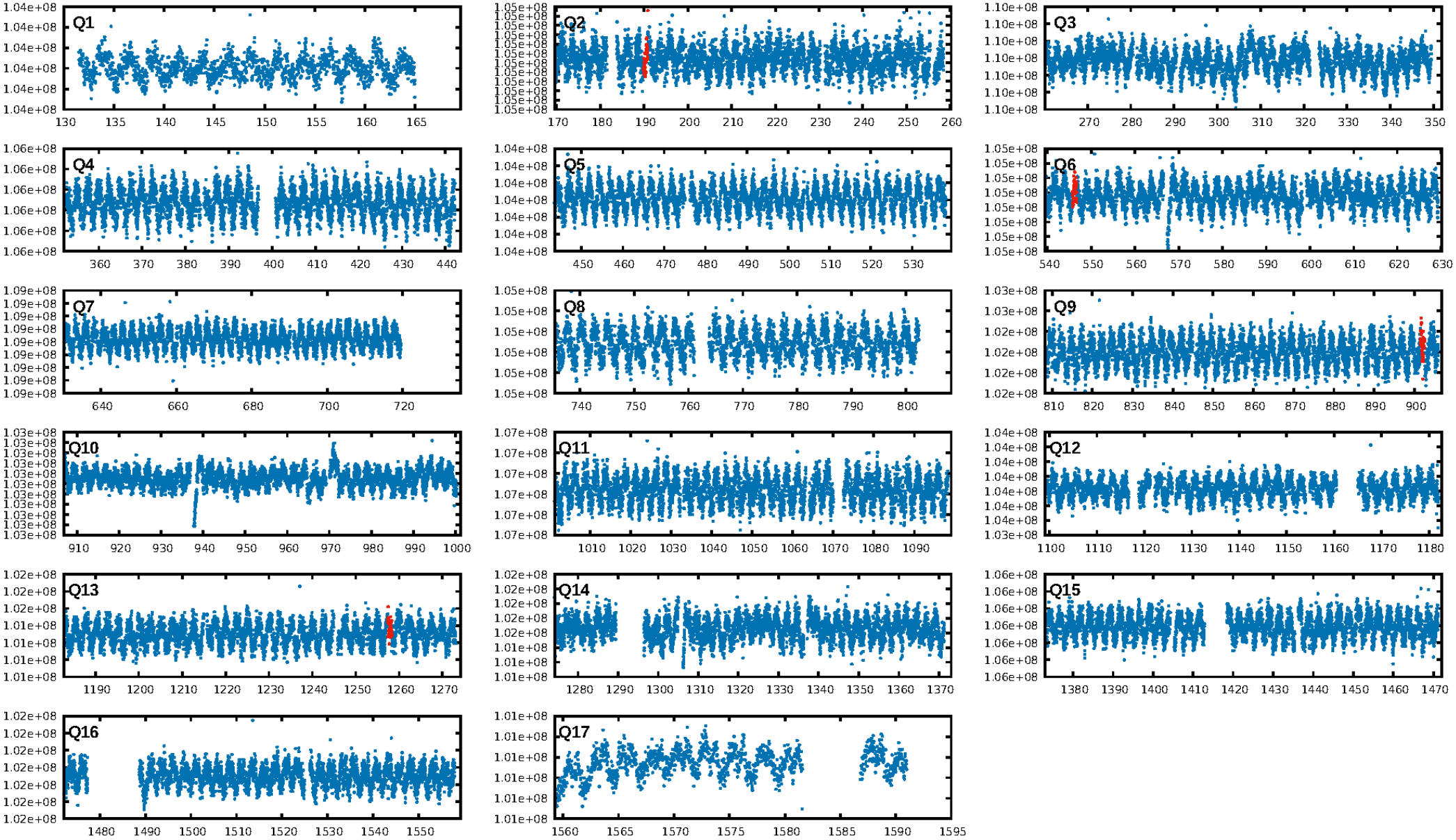
ShortPeriod−sig: 100.0% [473.39σ]
LongPeriod−sig: 100.0% [3.98σ]
ModelChiSquare2−sig: 0.0%
ModelChiSquareGof−sig: 99.3%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: 0.6731

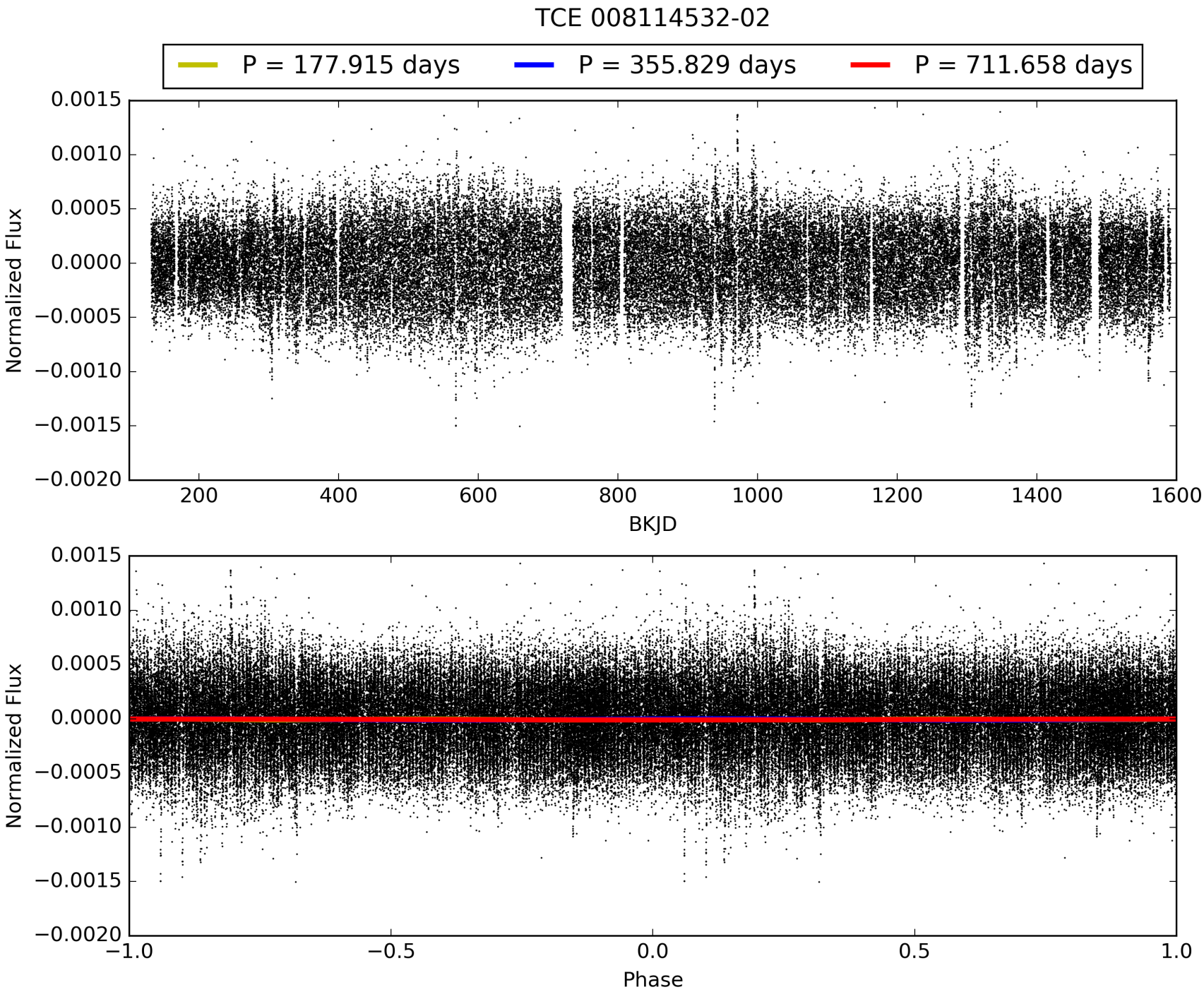
Centroid−sig: 50.8%
Centroid−so: 0.492 arcsec [0.85σ]
OotOffset−rm: 1.336 arcsec [0.97σ]
KicOffset−rm: 1.353 arcsec [1.17σ]
OotOffset−st: 1/0/0/2 [3]
KicOffset−st: 1/0/0/2 [3]
DiffImageQuality−fgm: 0.33 [1/3]
DiffImageOverlap−fno: 0.25 [1/4]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 22:46:15 Z

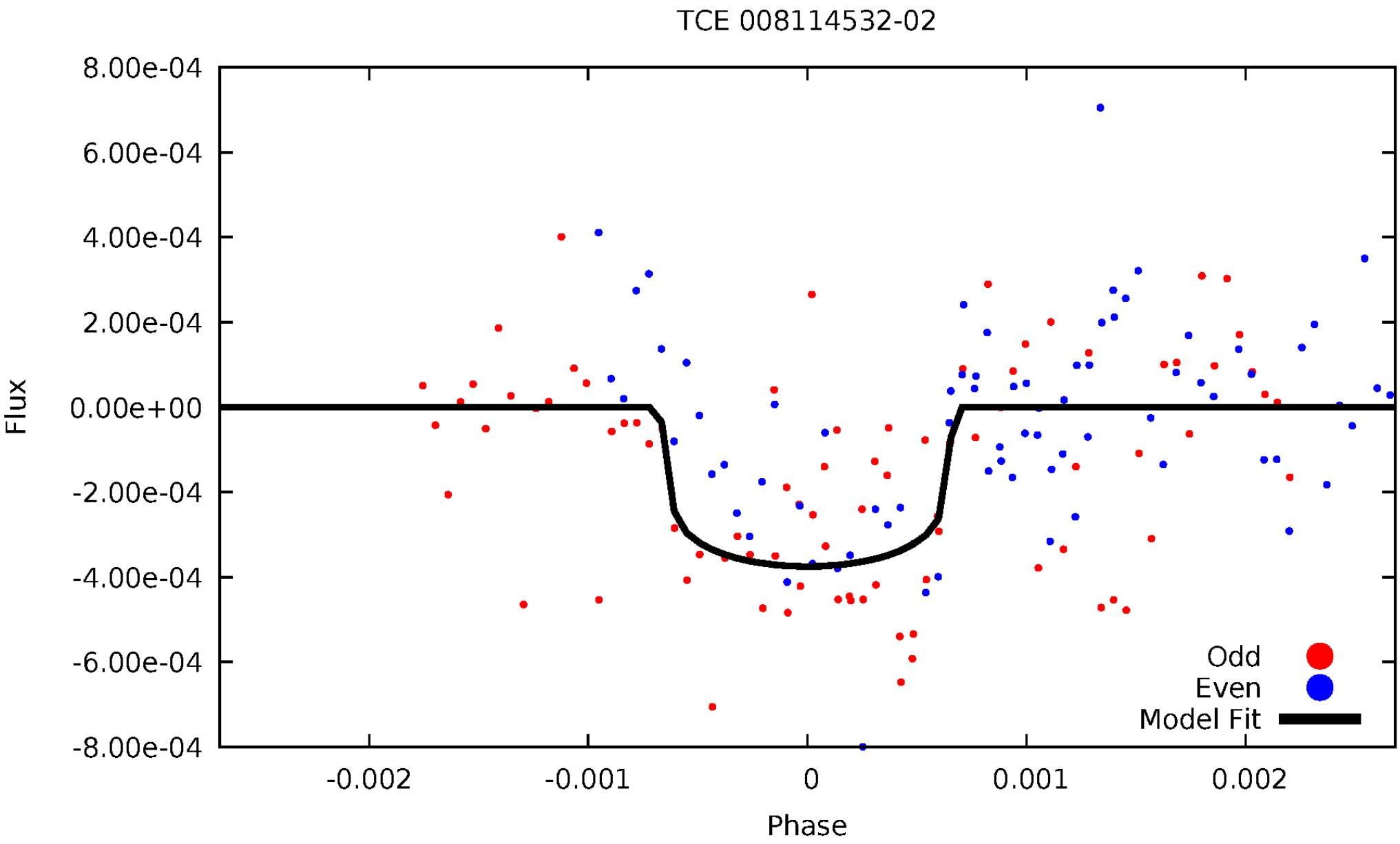
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008114532-02, PDC Light Curves

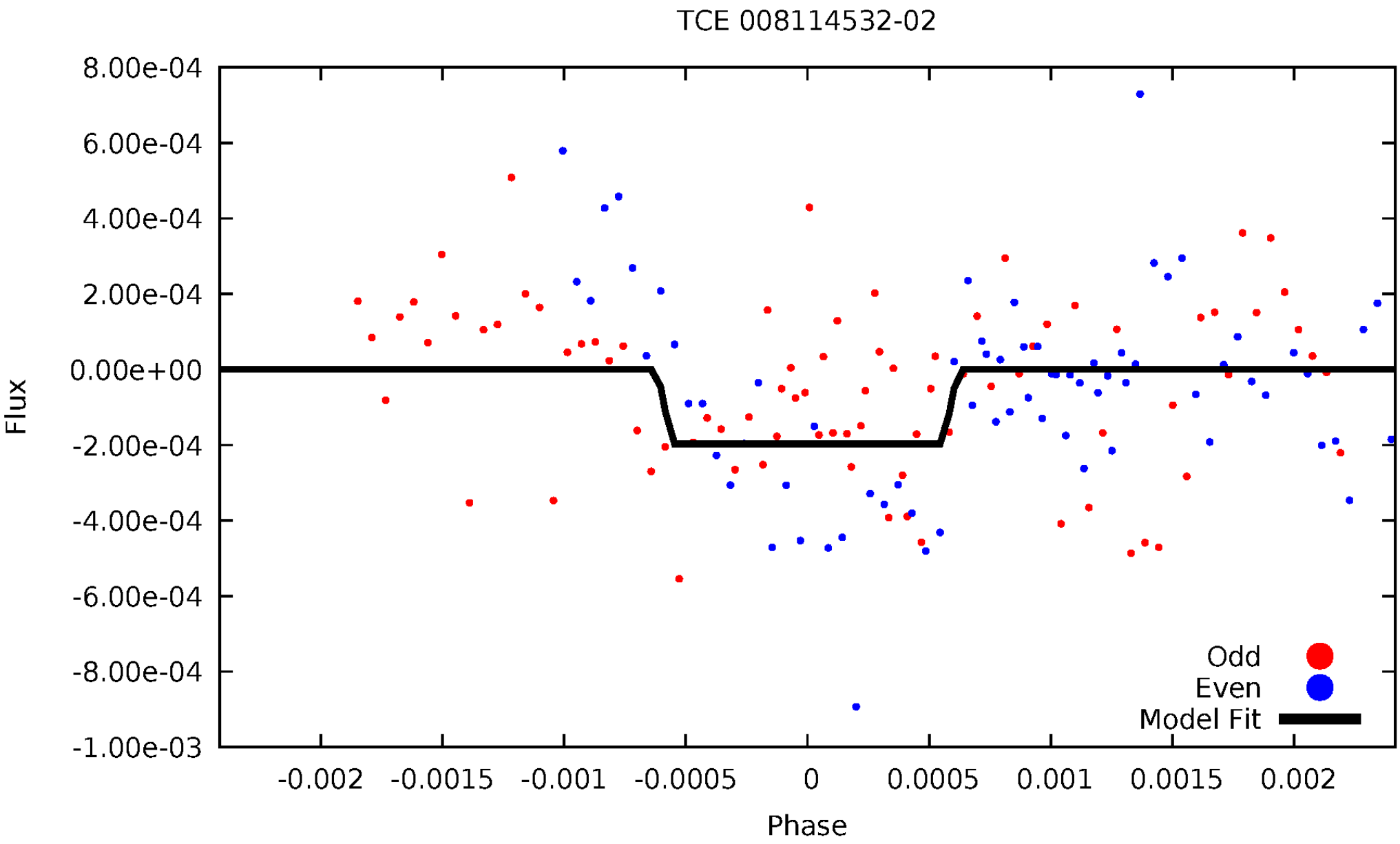



TCE 008114532-02
P = 177.915 days
P = 355.829 days
P = 711.658 days
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
−0.0020
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
−0.0020
−1.0
−0.5
0.0
0.5
1.0
Phase

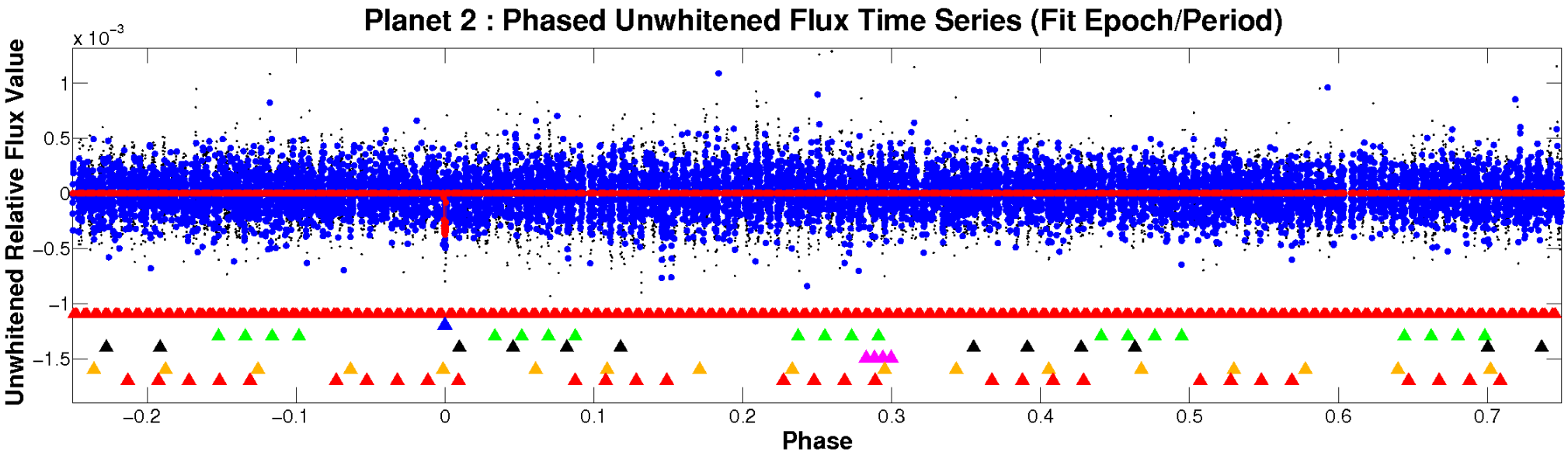
DV Odd/Even

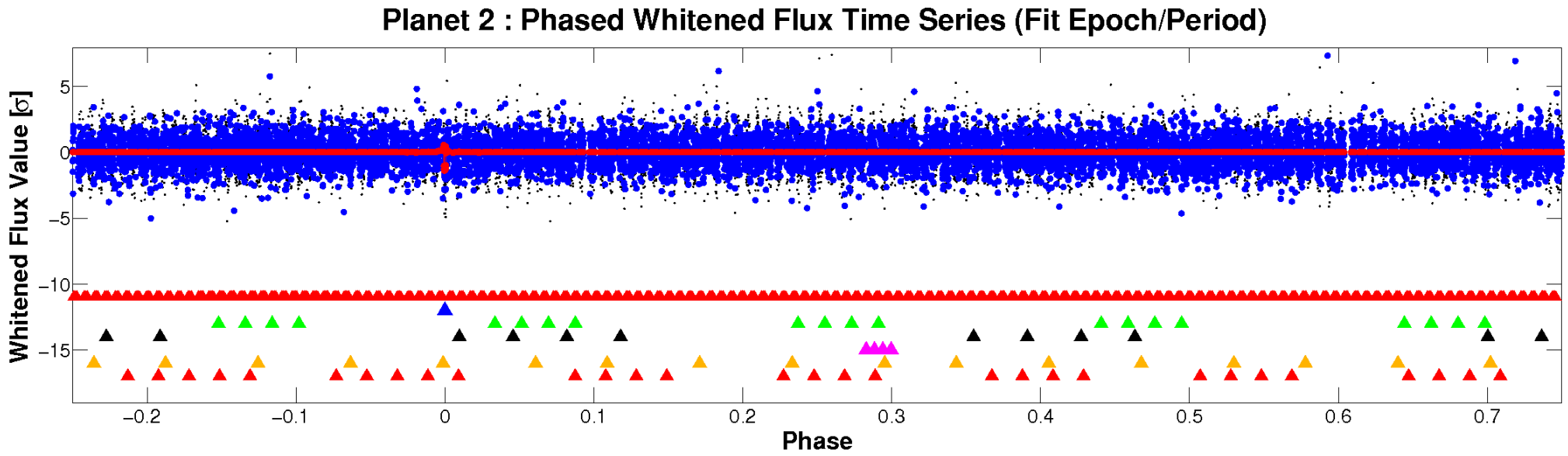

TCE 008114532-02
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
Flux
-0.002
-0.001
0
0.001
0.002
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008114532-02
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.002
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
0.002
Phase
Odd
Even
Model Fit

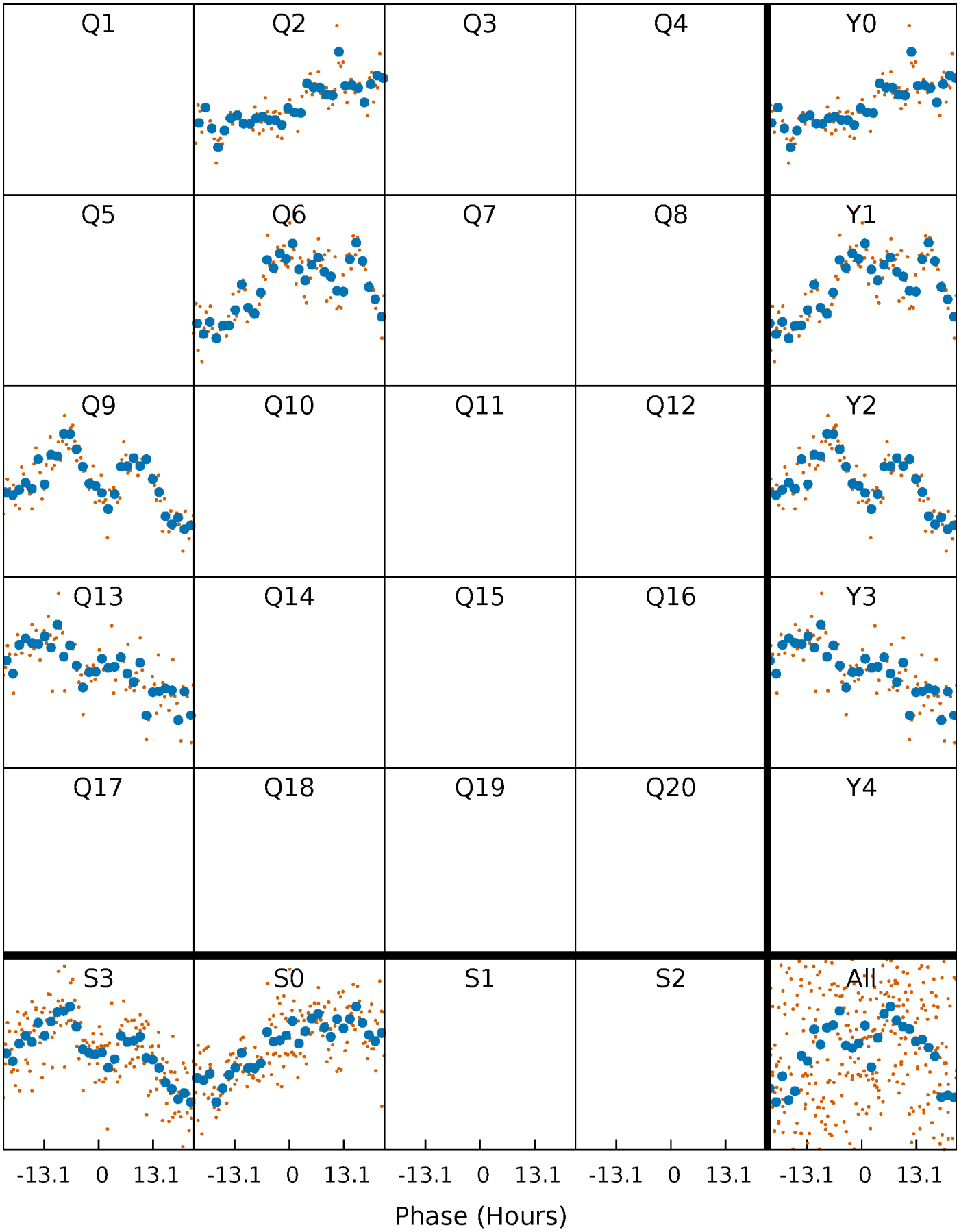
Non-Whitened Vs. Whitened Light Curve





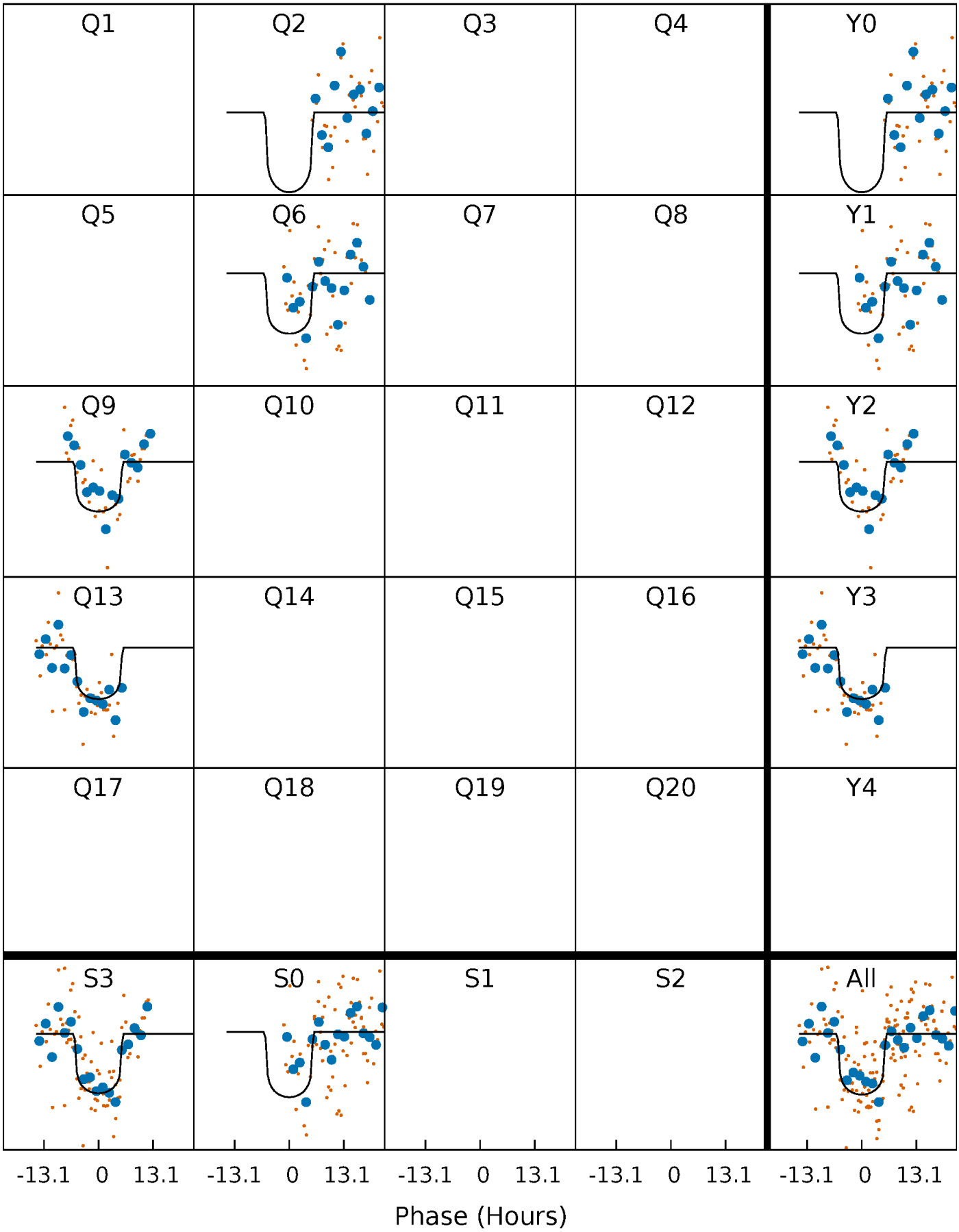
PDC Quarter-Phased Transit Curves

TCE 008114532-02 P=355.829103 Days T_0=190.356936 (BKJD)



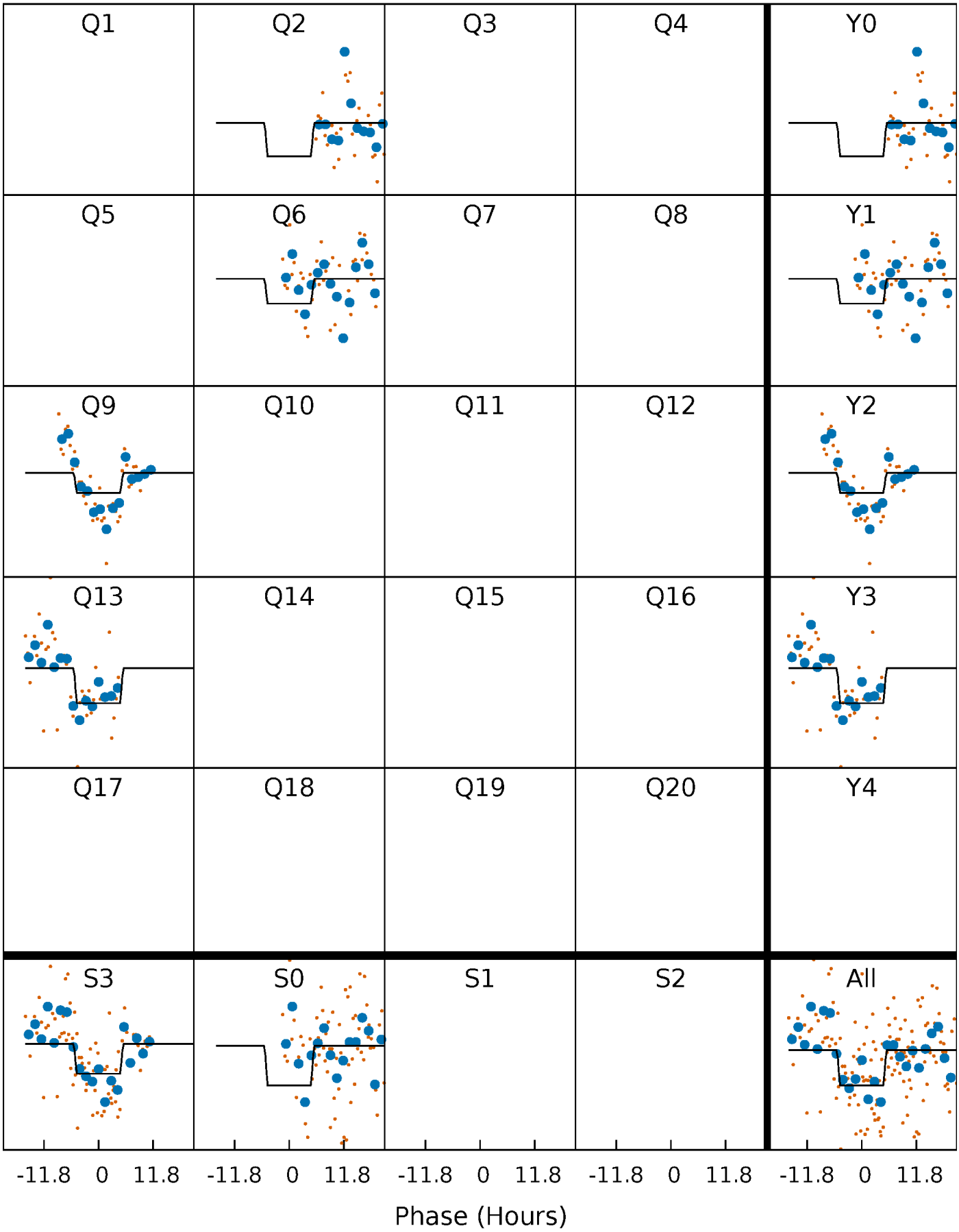
DV Quarter-Phased Transit Curves

TCE 008114532-02 P=355.829103 Days T_0=190.356936 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

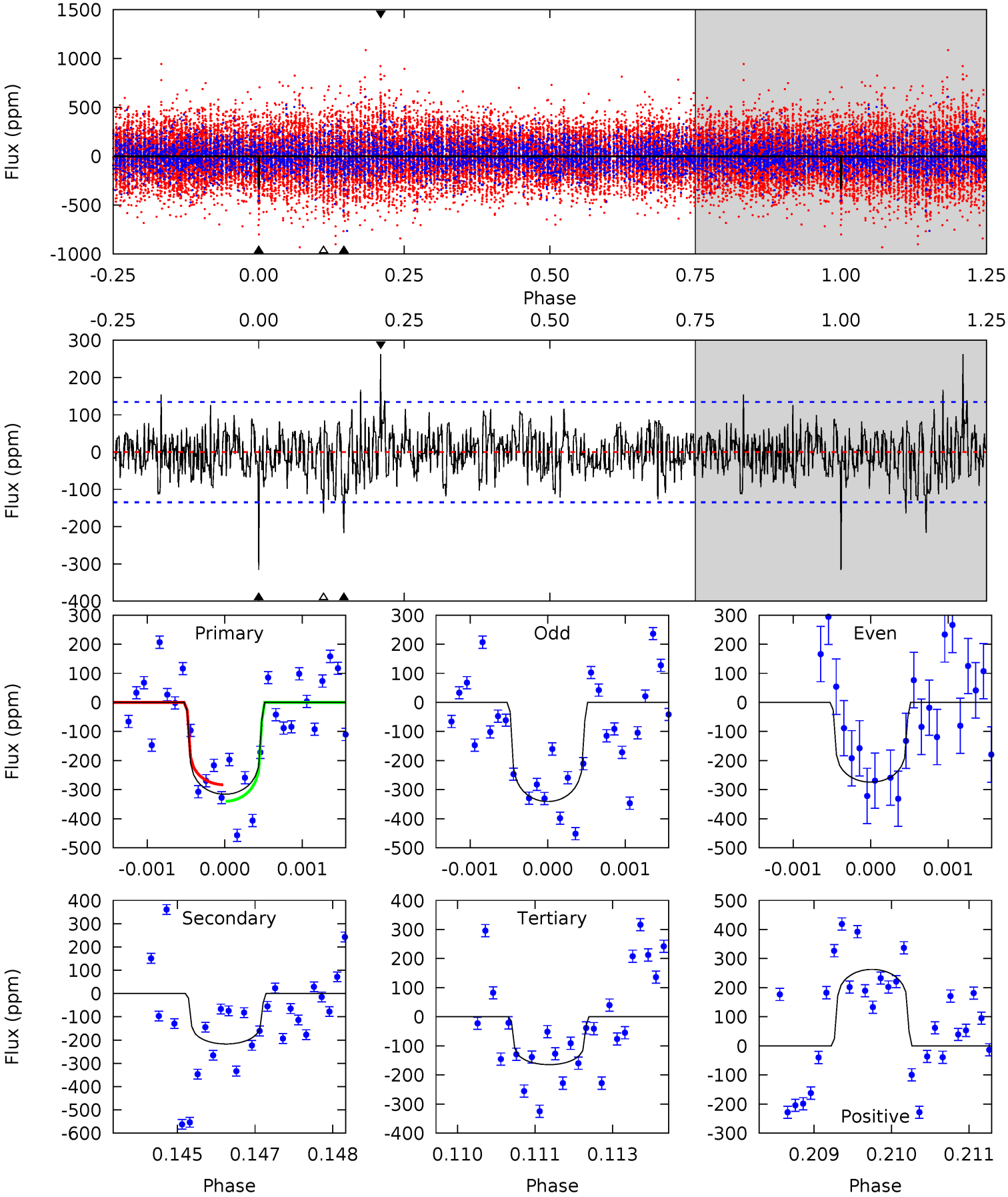
TCE 008114532-02 P=355.843636 Days T_0=190.346463 (BKJD)



DV Model-Shift Uniqueness Test

008114532-02, P = 355.829103 Days, E = 190.356936 Days

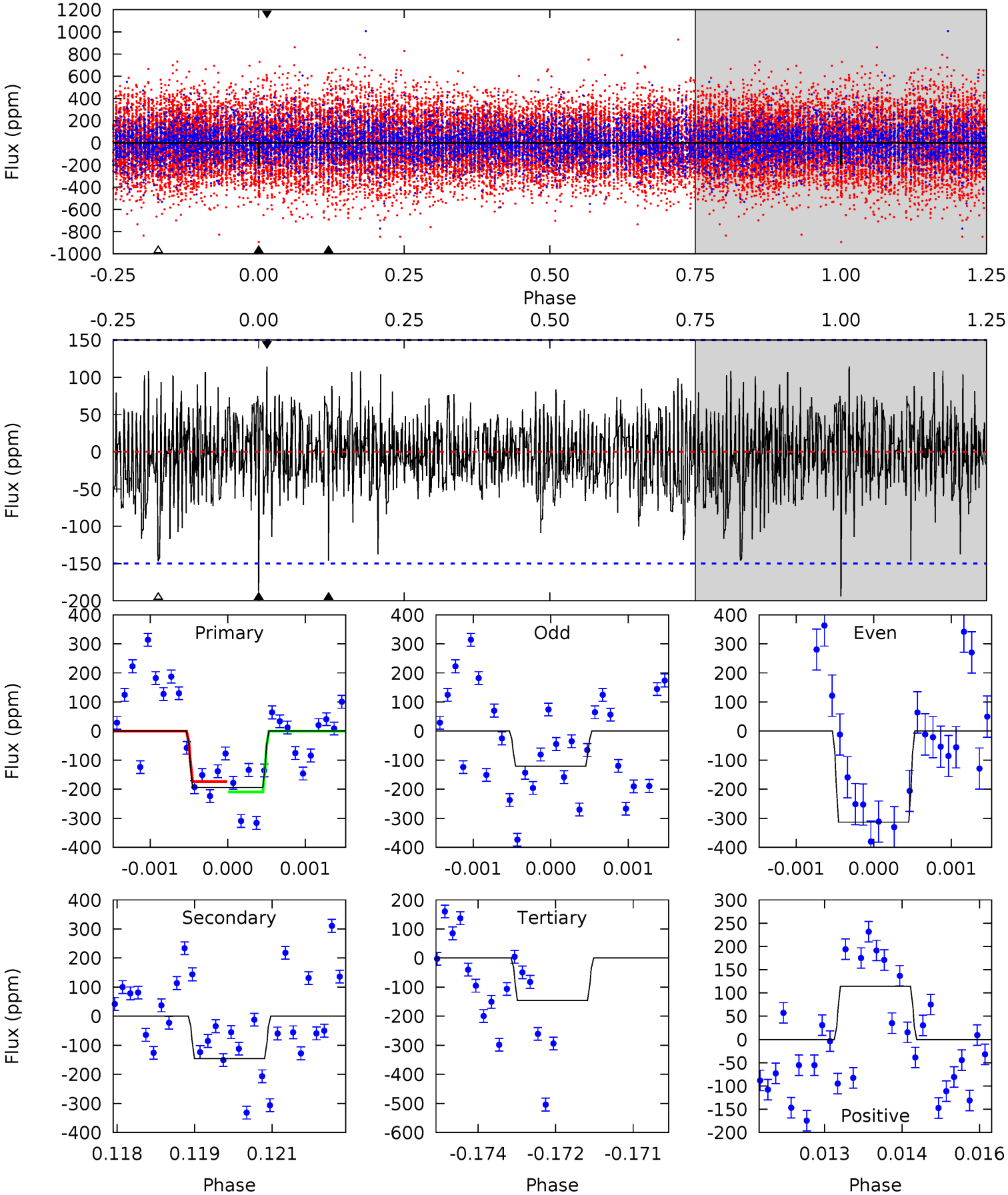
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	8.69	6.59	10.5	5.39	3.20	1.77	6.06	2.12	2.10	-1.84	1.31	1.10	0.45	1.13



Alt Model-Shift Uniqueness Test

008114532-02, P = 355.843636 Days, E = 190.346463 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.01	5.28	5.27	4.13	5.42	3.24	1.28	1.74	2.88	0.01	1.15	3.43	1.01	0.37	0.65



Stellar Parameters For KIC 008114532

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6316^{+189}_{-189}	$3.536^{+0.360}_{-0.112}$	$-0.080^{+0.300}_{-0.250}$	$3.681^{+0.459}_{-1.376}$	$1.696^{+0.193}_{-0.359}$	$0.048^{+0.122}_{-0.017}$
	+3%/-3%	+10%/-3%	+375%/-312%	+12%/-37%	+11%/-21%	+255%/-35%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008114532-02 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-217±25	$7.20^{+2.71}_{-2.44}$	681^{+42}_{-64}	5560^{+1120}_{-655}	3213^{+3852}_{-1541}
Alt.	-146±28	$5.38^{+2.65}_{-2.28}$	683^{+41}_{-65}	5798^{+1739}_{-887}	3777^{+7553}_{-2094}

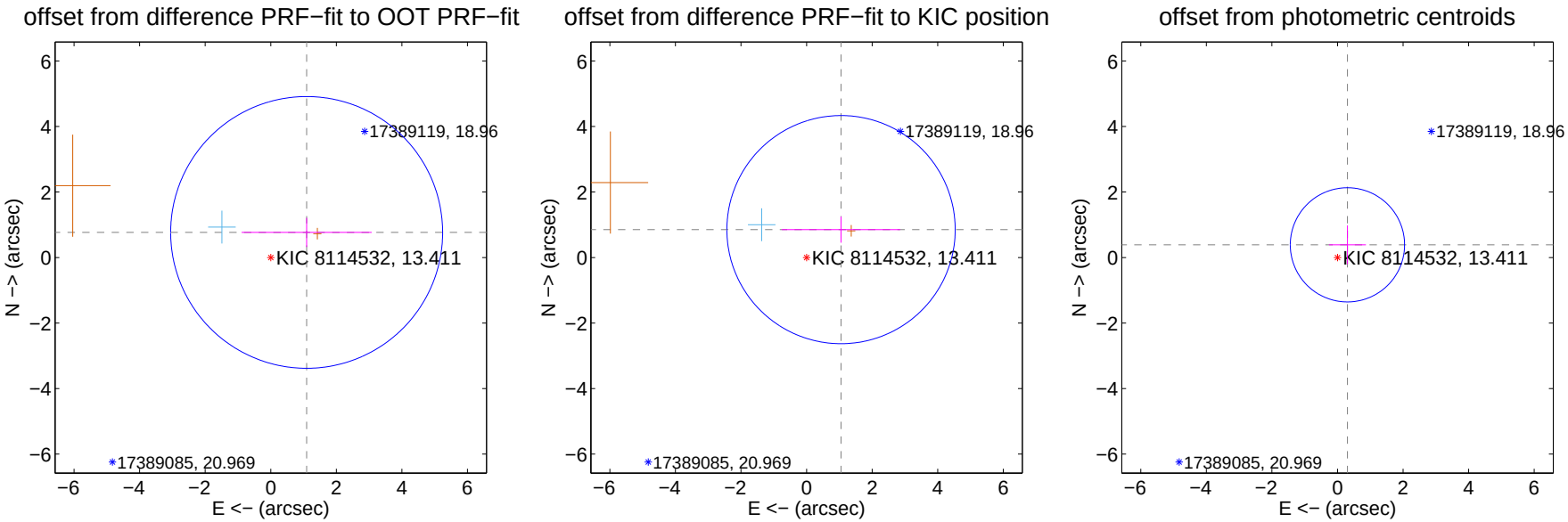
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

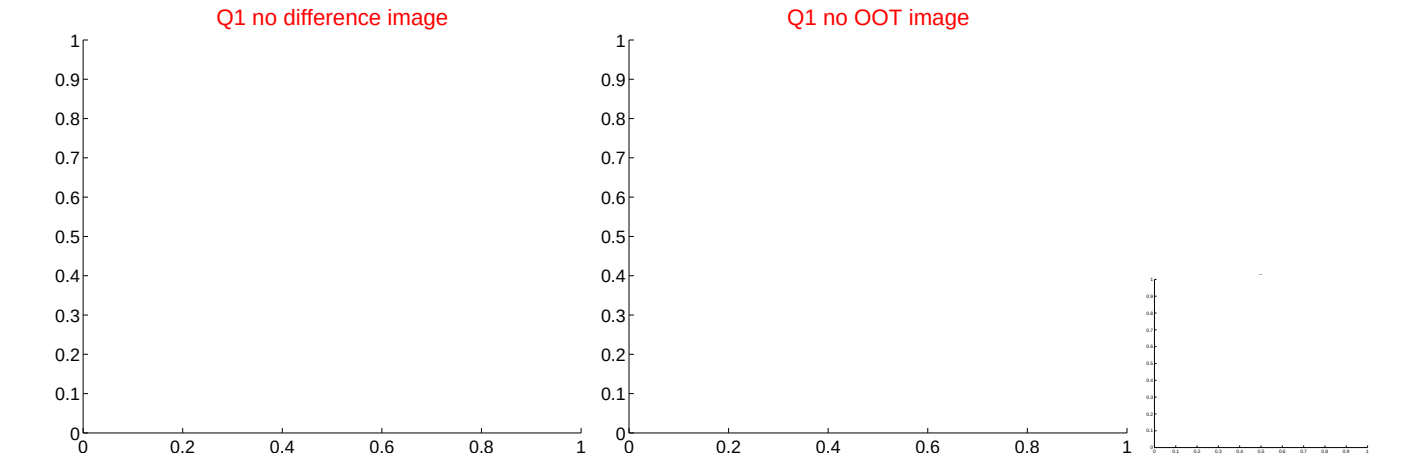
Supplemental centroid analysis for 008114532-02. Kepler magnitude: 13.41. Transit SNR 9.78
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

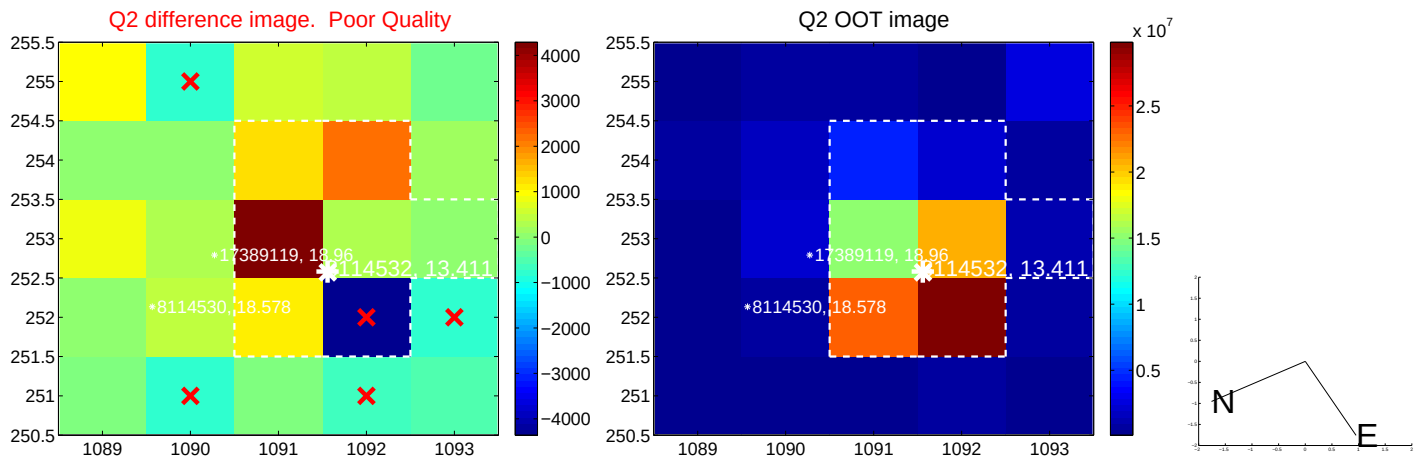
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.336 ± 1.383	0.97	-1.095 ± 1.985	0.766 ± 0.444
PRF-fit source offset from KIC position	1.353 ± 1.161	1.17	-1.051 ± 1.806	0.851 ± 0.397
photometric centroid source offset	0.49 ± 0.58	0.85	-0.30 ± 0.56	0.39 ± 0.59

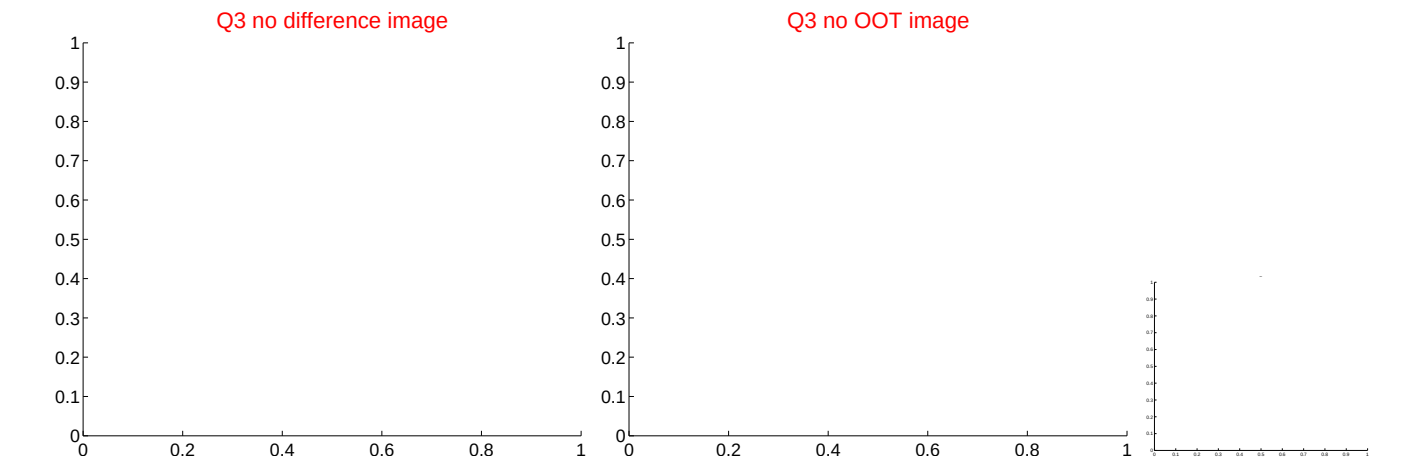


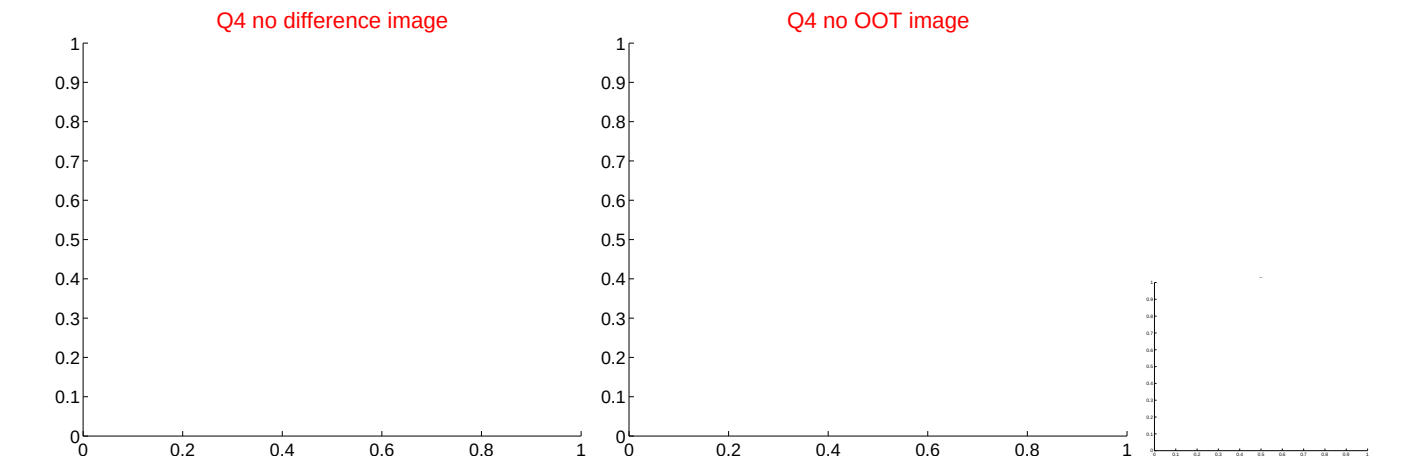
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

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

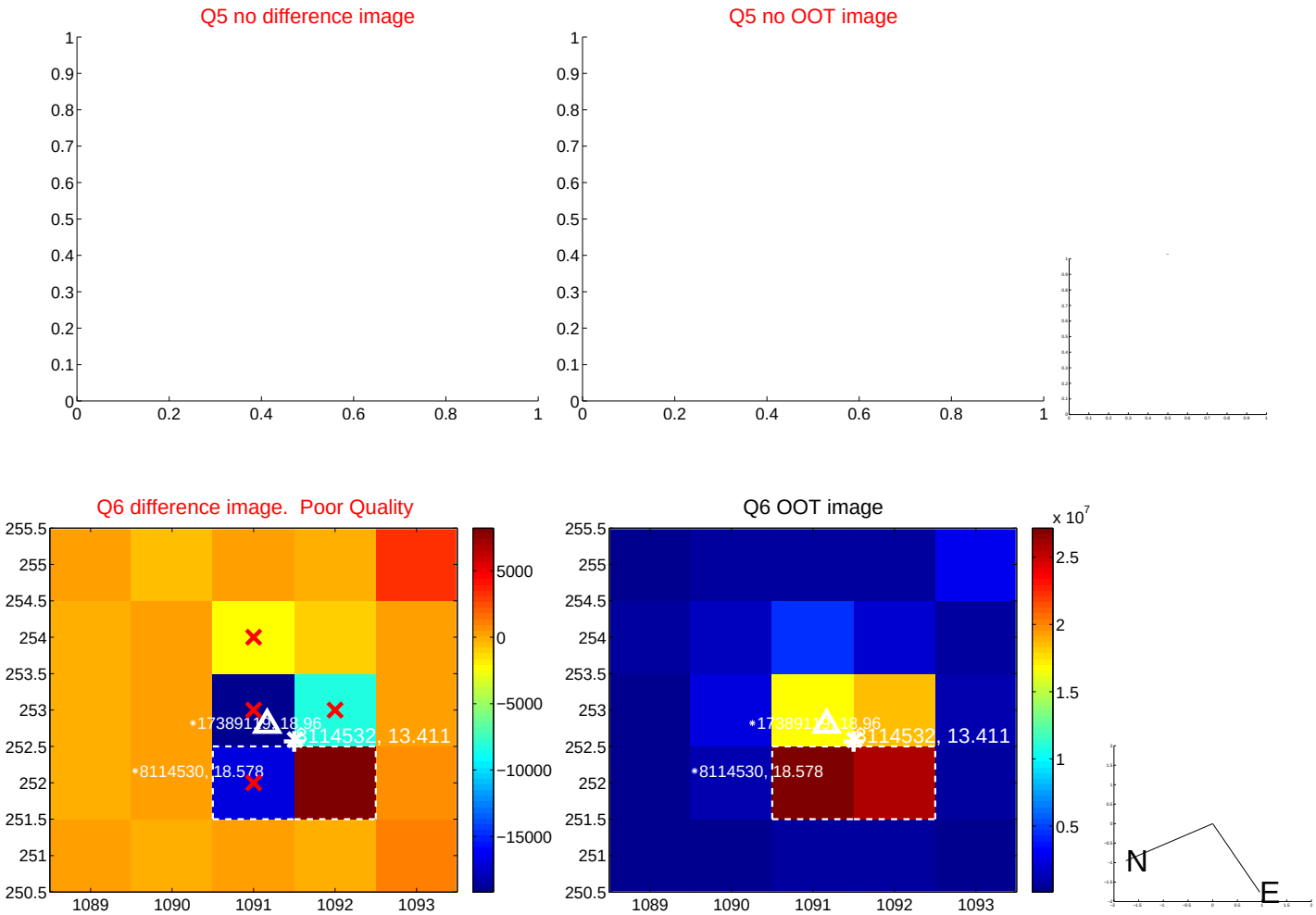


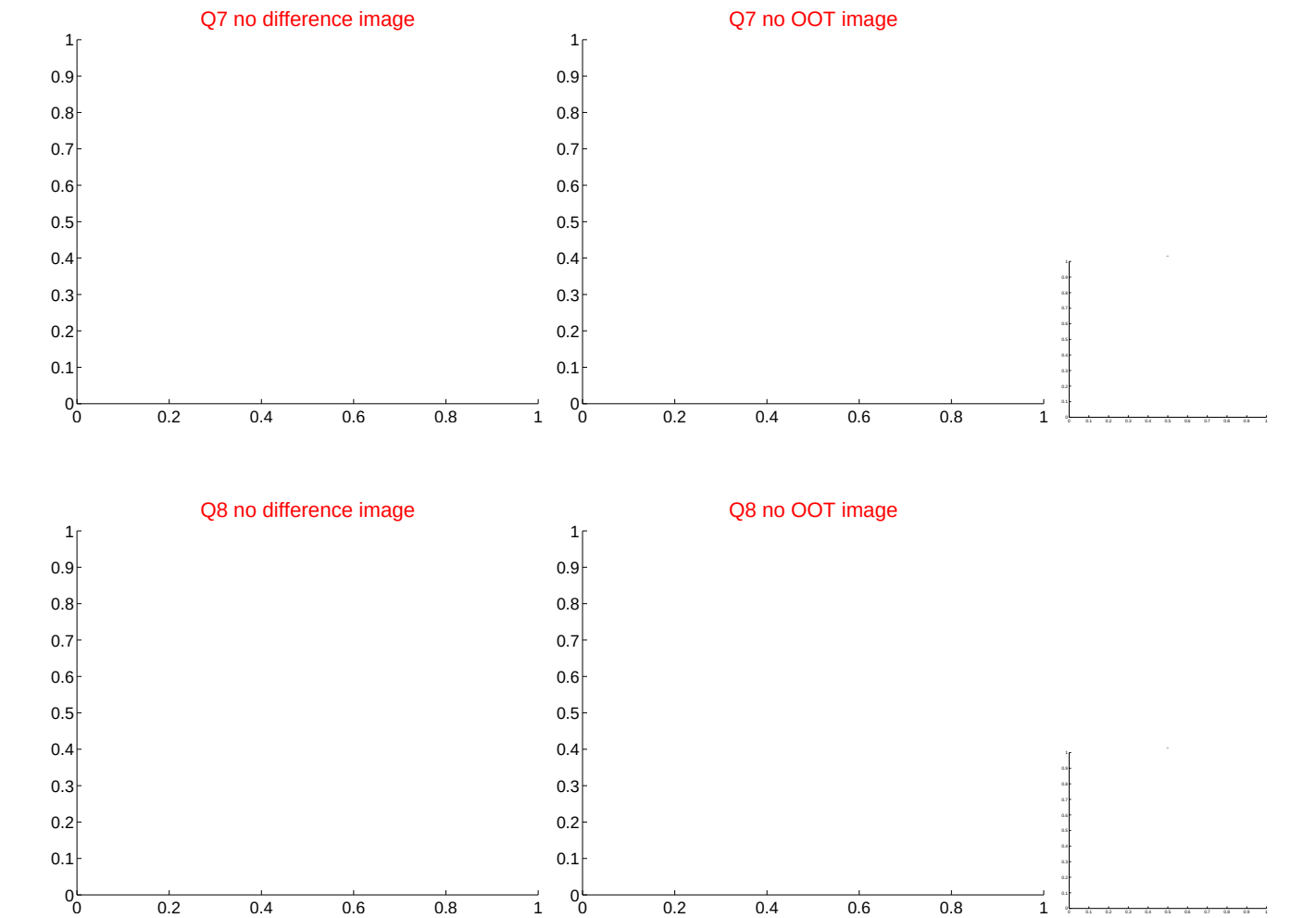




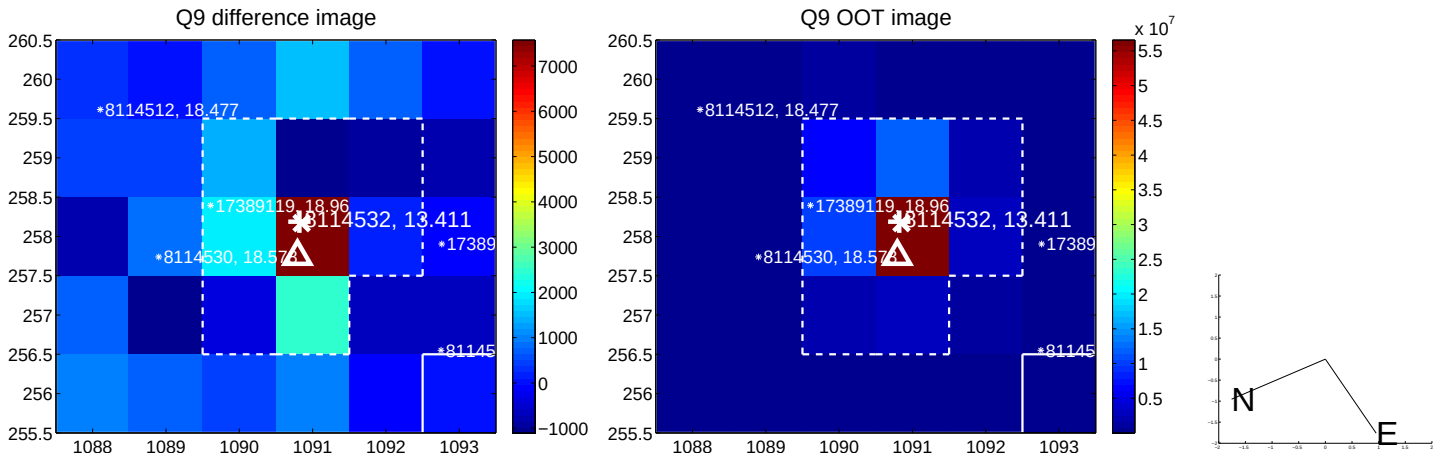


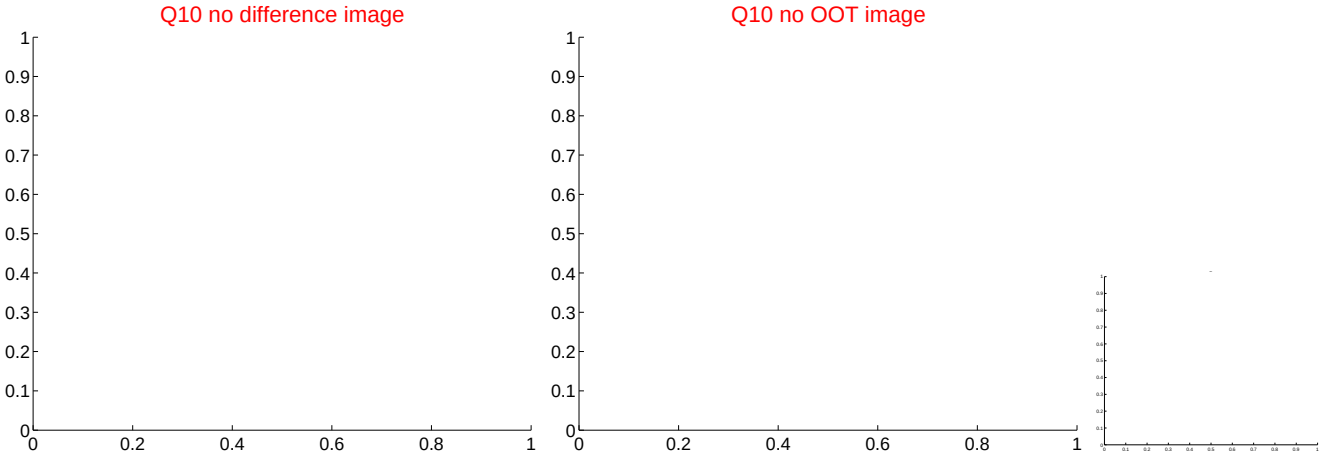
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

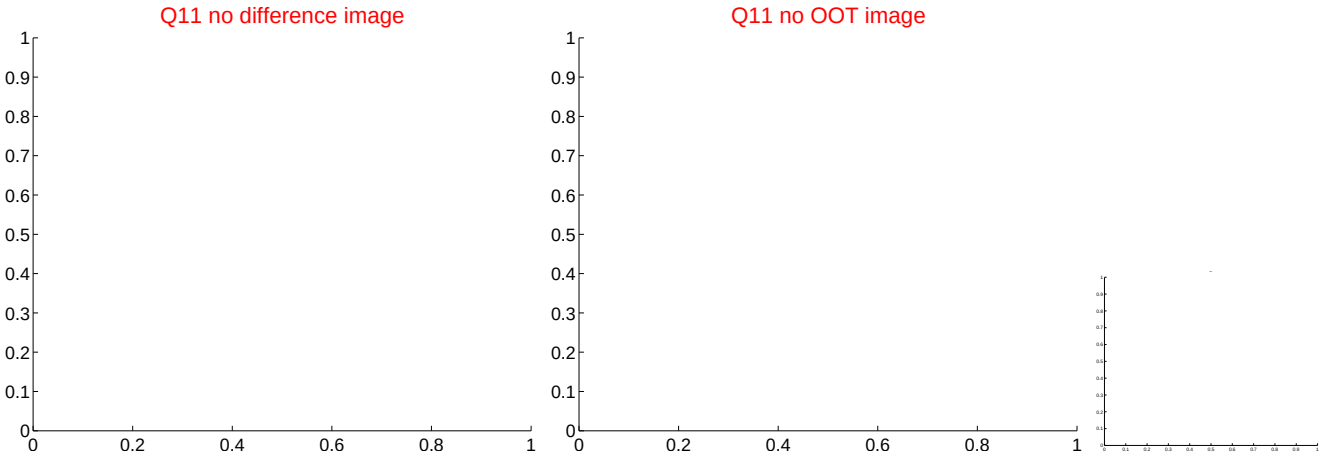


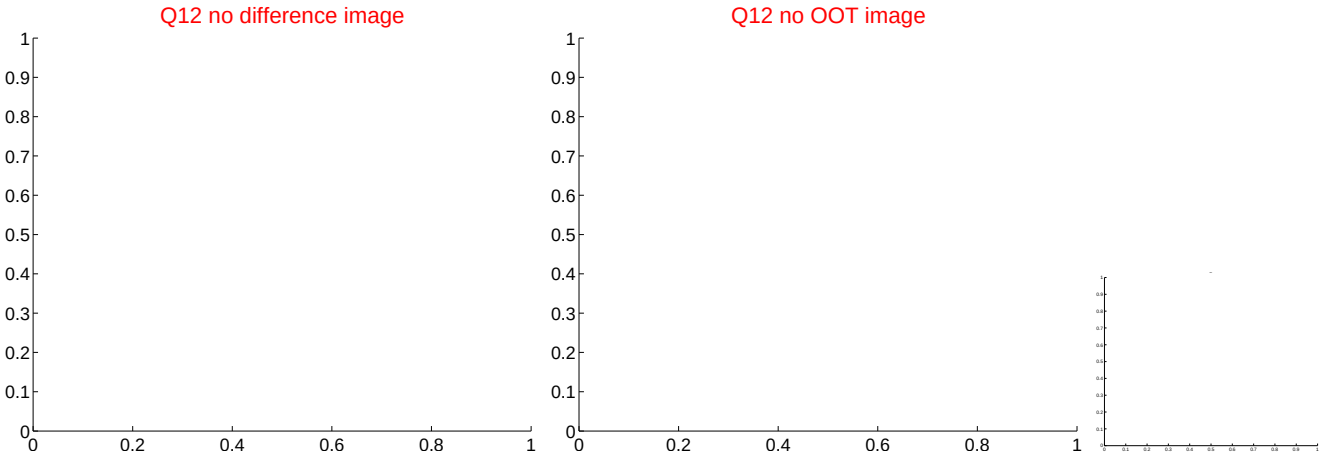


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

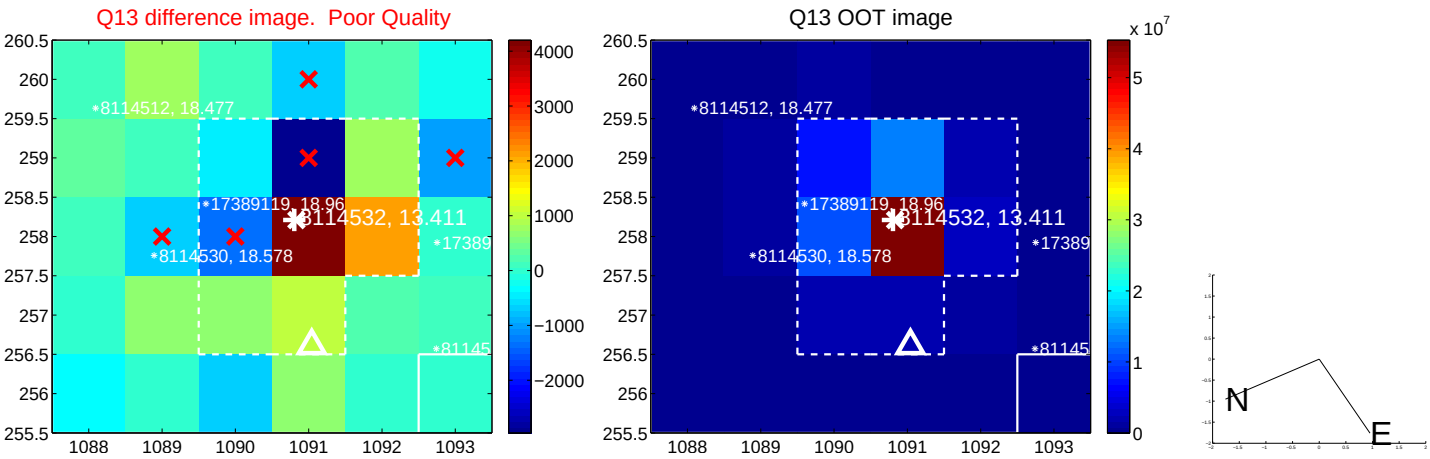


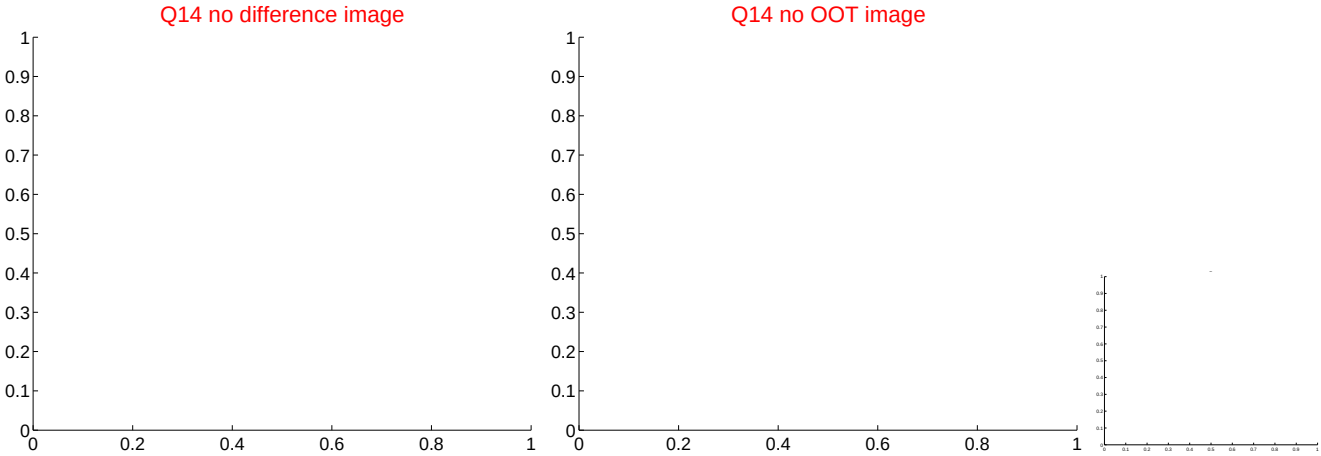


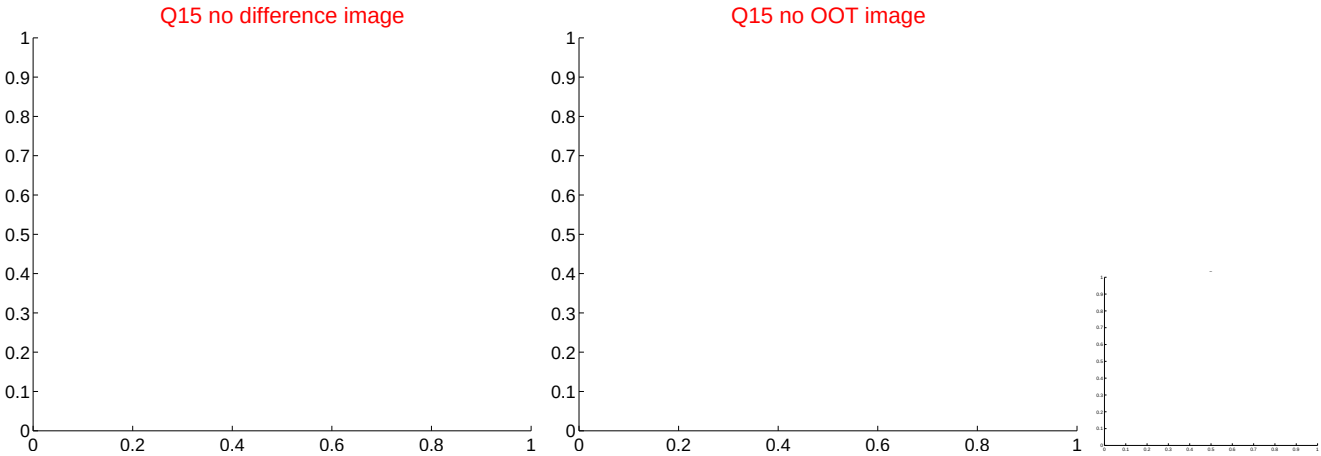


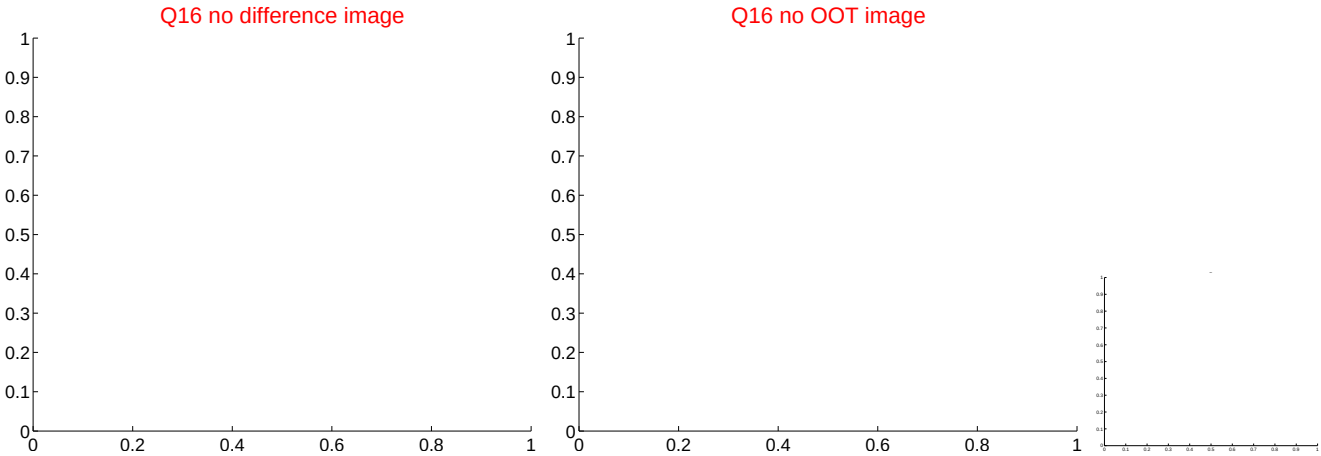


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

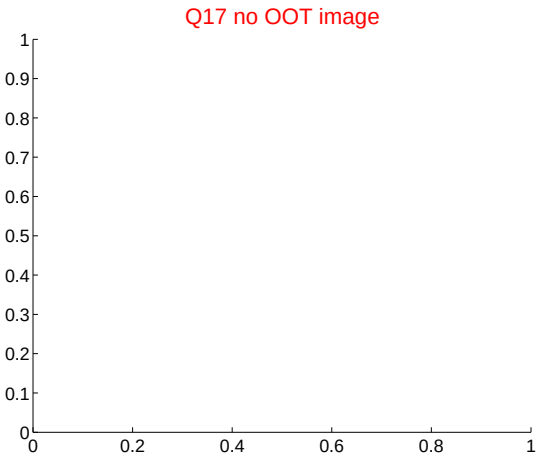


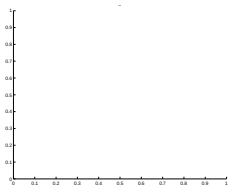


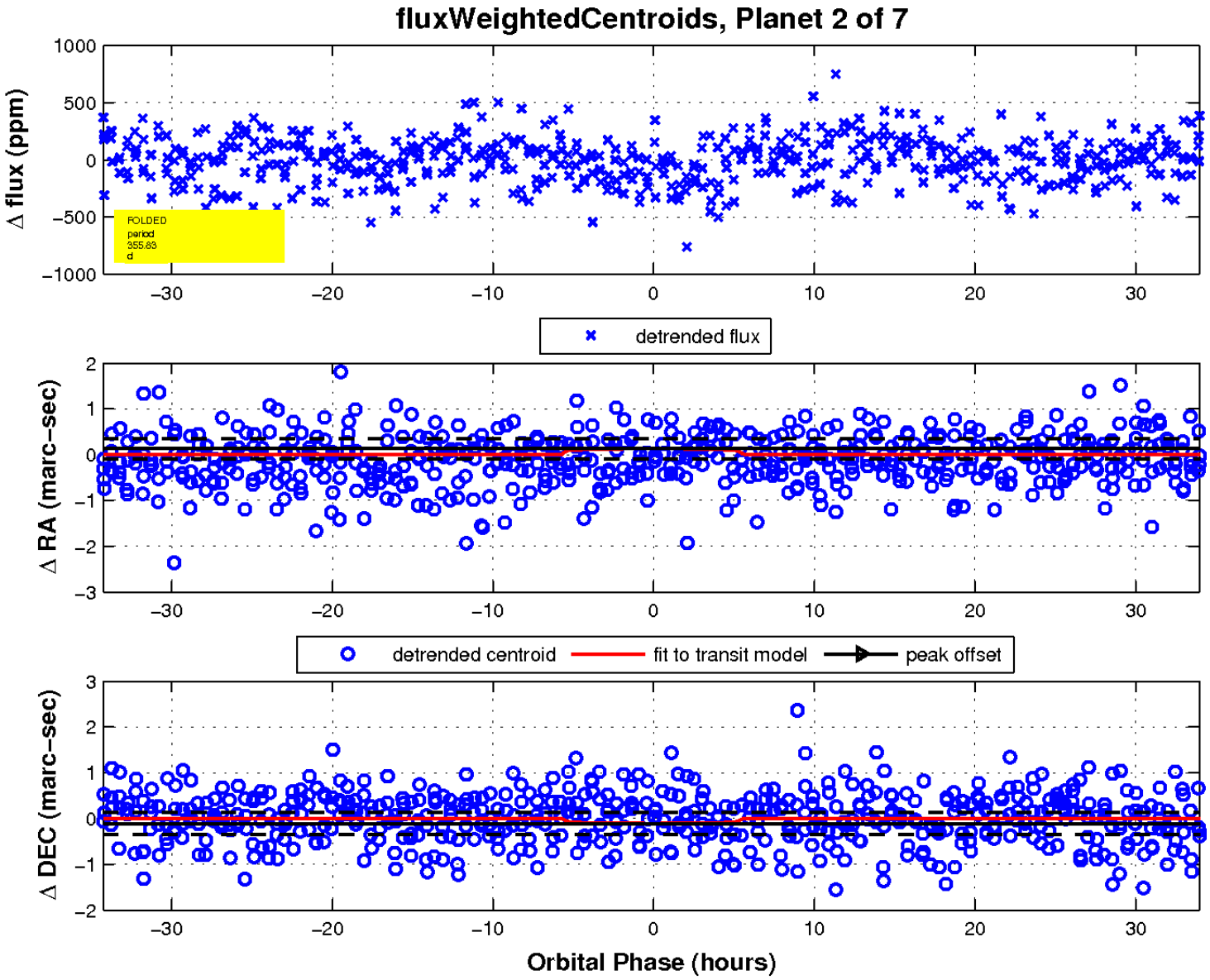




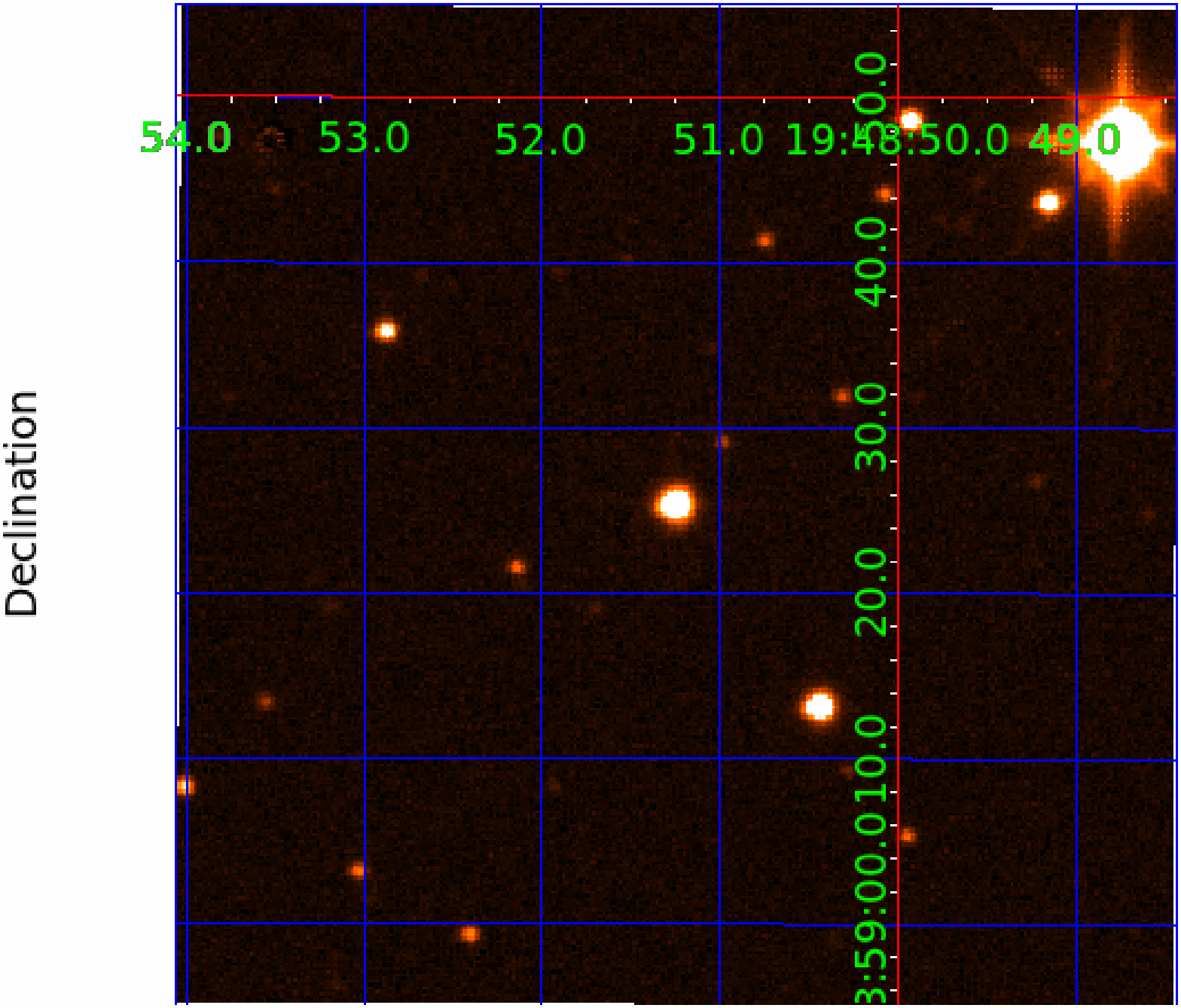
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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19:48:50.0
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20.0
10.0
3:59:00.0
Declination

KIC 008114532

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 ($S_\oplus$)
008114532-01	OBS	No	2.486340	132.570850	0.1	12.953	8.1	0.0	3.68	6316	0.11	10517.02
008114532-02	OBS	No	355.829103	190.356936	374.9	11.450	10.7	9.8	3.68	6316	7.68	14.05
008114532-03	OBS	No	72.446745	202.300421	209.0	5.016	8.0	7.5	3.68	6316	5.85	117.30
008114532-04	OBS	No	122.892501	193.801049	273.8	2.892	7.7	8.1	3.68	6316	6.98	57.98
008114532-05	OBS	No	357.818232	291.033735	337.0	3.607	7.7	7.9	3.68	6316	7.75	13.95
008114532-06	OBS	No	83.429574	212.026458	282.7	3.367	7.8	7.9	3.68	6316	7.13	97.17
008114532-07	OBS	No	49.789794	143.803696	335.6	1.742	7.3	8.1	3.68	6316	7.66	193.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008114532-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008114532-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008114532-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008114532-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008114532-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

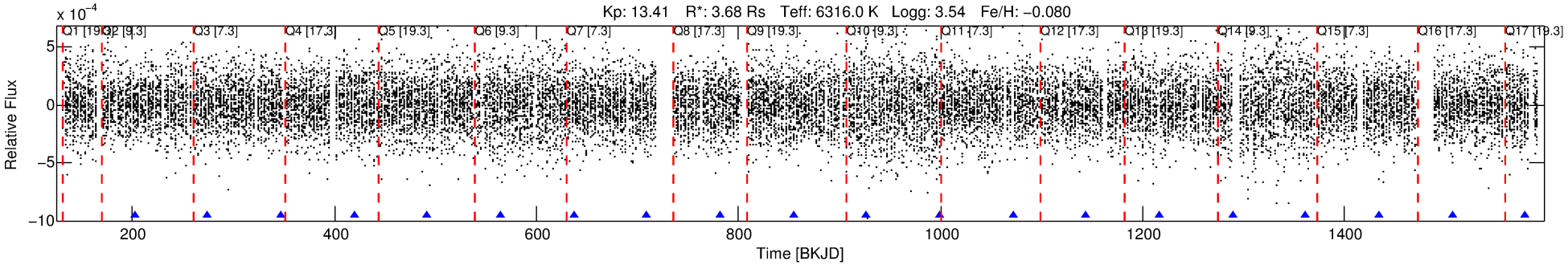
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

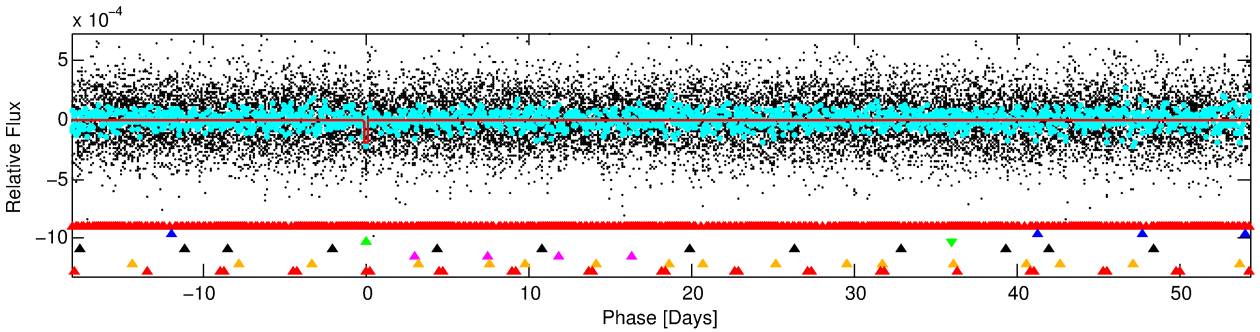
Ephemeris Match Information For 008114532-03

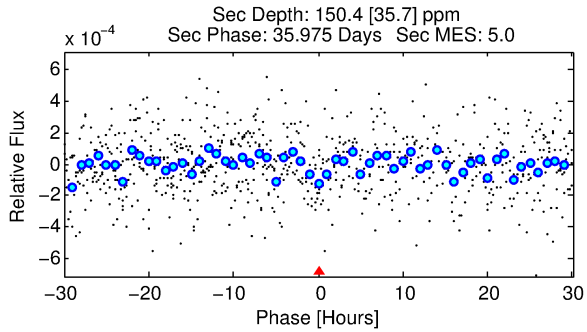
No Significant Match Found

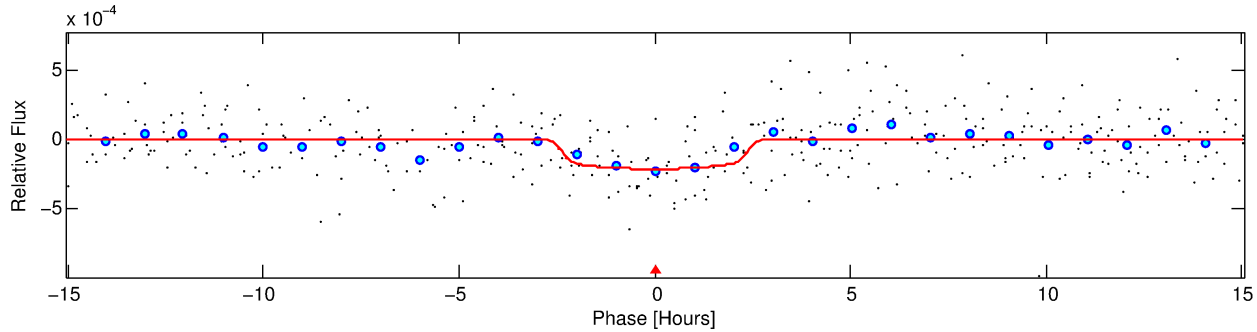
DV One-Page Summary

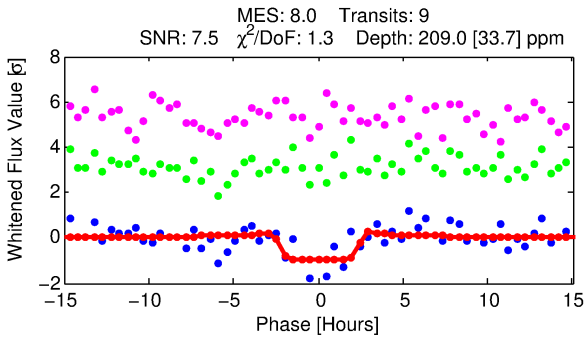
KIC: 8114532 Candidate: 3 of 7 Period: 72.447 d

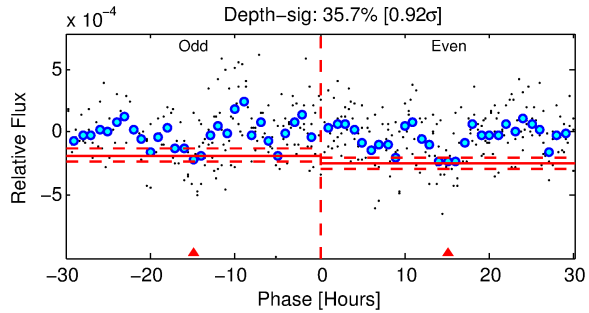


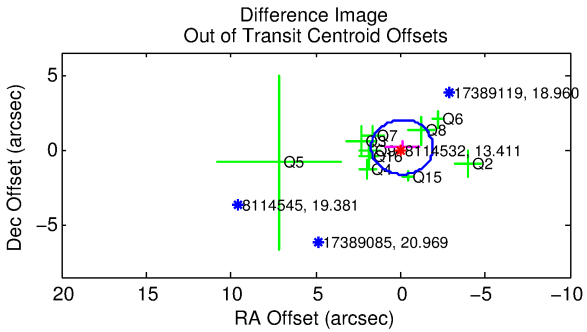












DV Fit Results:

Period = 72.44674 [0.00099] d
Epoch = 202.3004 [0.0124] BKJD
Rp/R* = 0.0146 [0.0143]
a/R* = 70.98 [375.28]
b = 0.78 [2.61]

Seff = 117.30 [72.48]
Teq = 839 [130] K
Rp = 5.85 [6.13] Re
a = 0.4058 [0.1510] AU

Ag = 398.54 [823.15] [0.48σ]
Teffp = 5797 [2867] K [1.73σ]

DV Diagnostic Results:

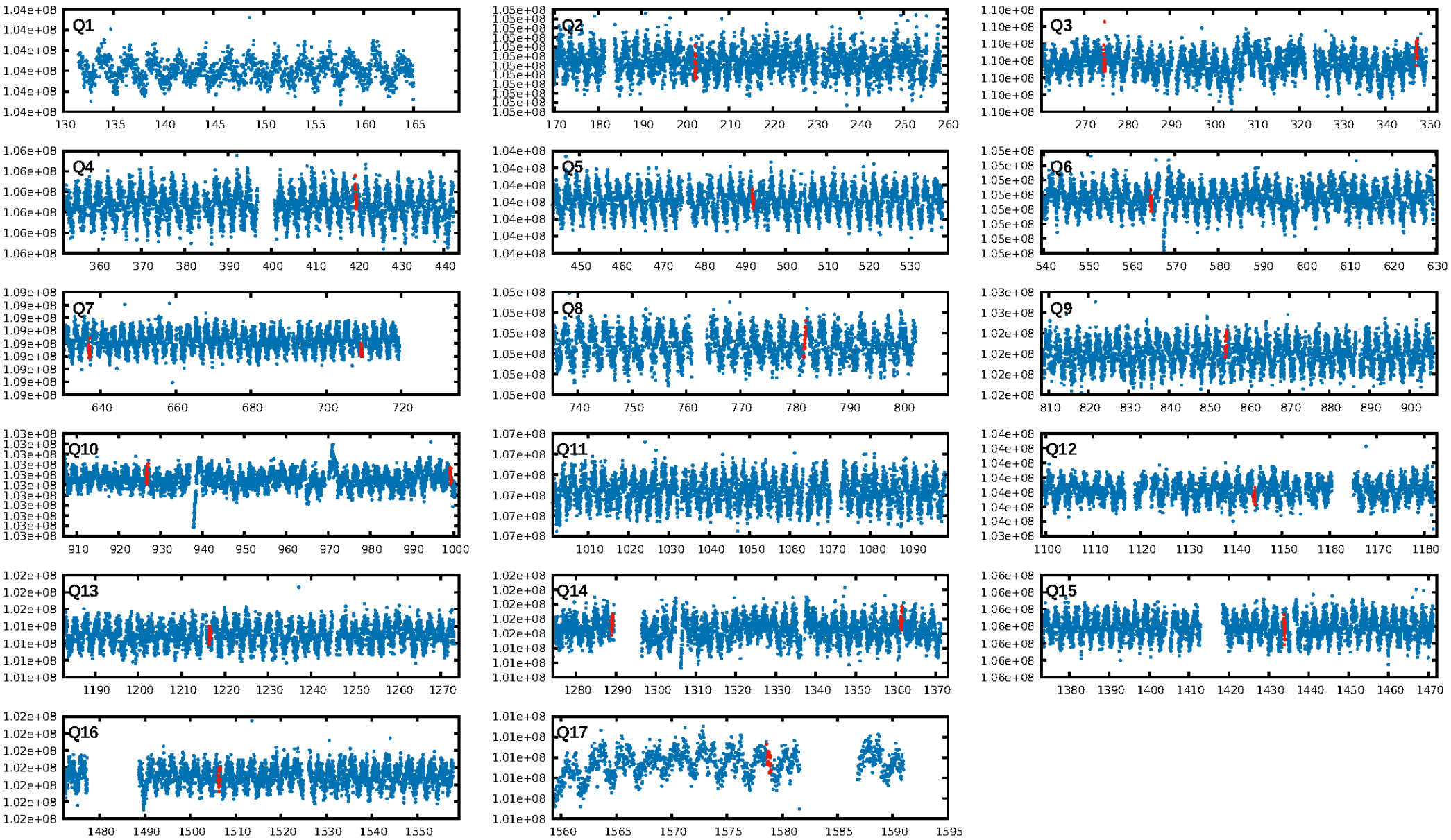
ShortPeriod−sig: 100.0% [102.41σ]
LongPeriod−sig: 100.0% [43.63σ]
ModelChiSquare2−sig: 28.8%
ModelChiSquareGof−sig: 99.9%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [8/8]
GhostDiagnostic−chr: −1.158

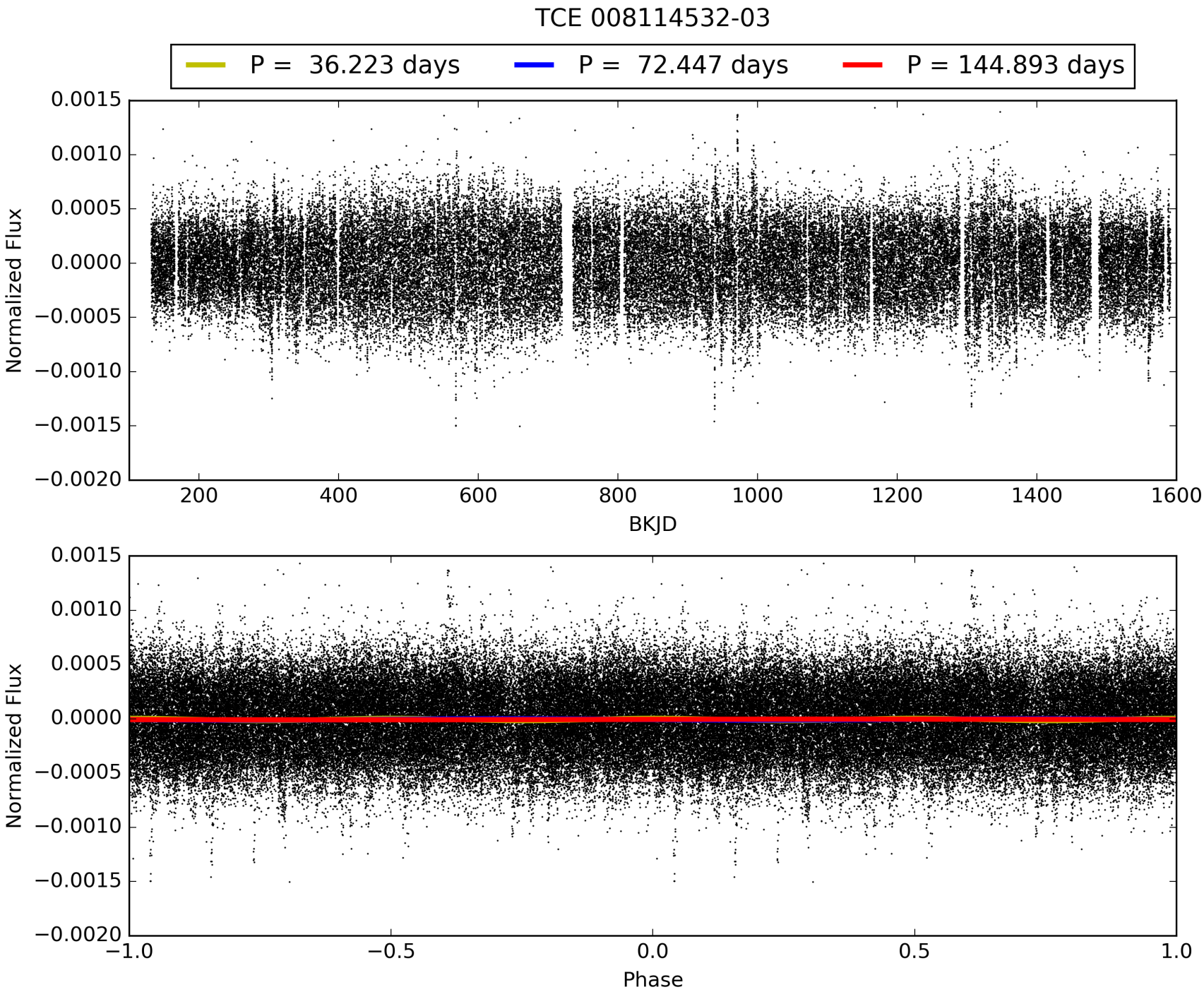
Centroid−sig: 41.1%
Centroid−so: 0.381 arcsec [0.68σ]
OotOffset−rm: 0.201 arcsec [0.33σ]
KicOffset−rm: 0.234 arcsec [0.40σ]
OotOffset−st: 2/3/3/2 [10]
KicOffset−st: 2/3/3/2 [10]
DiffImageQuality−fgm: 0.50 [5/10]
DiffImageOverlap−fno: 0.43 [6/14]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 22:46:20 Z

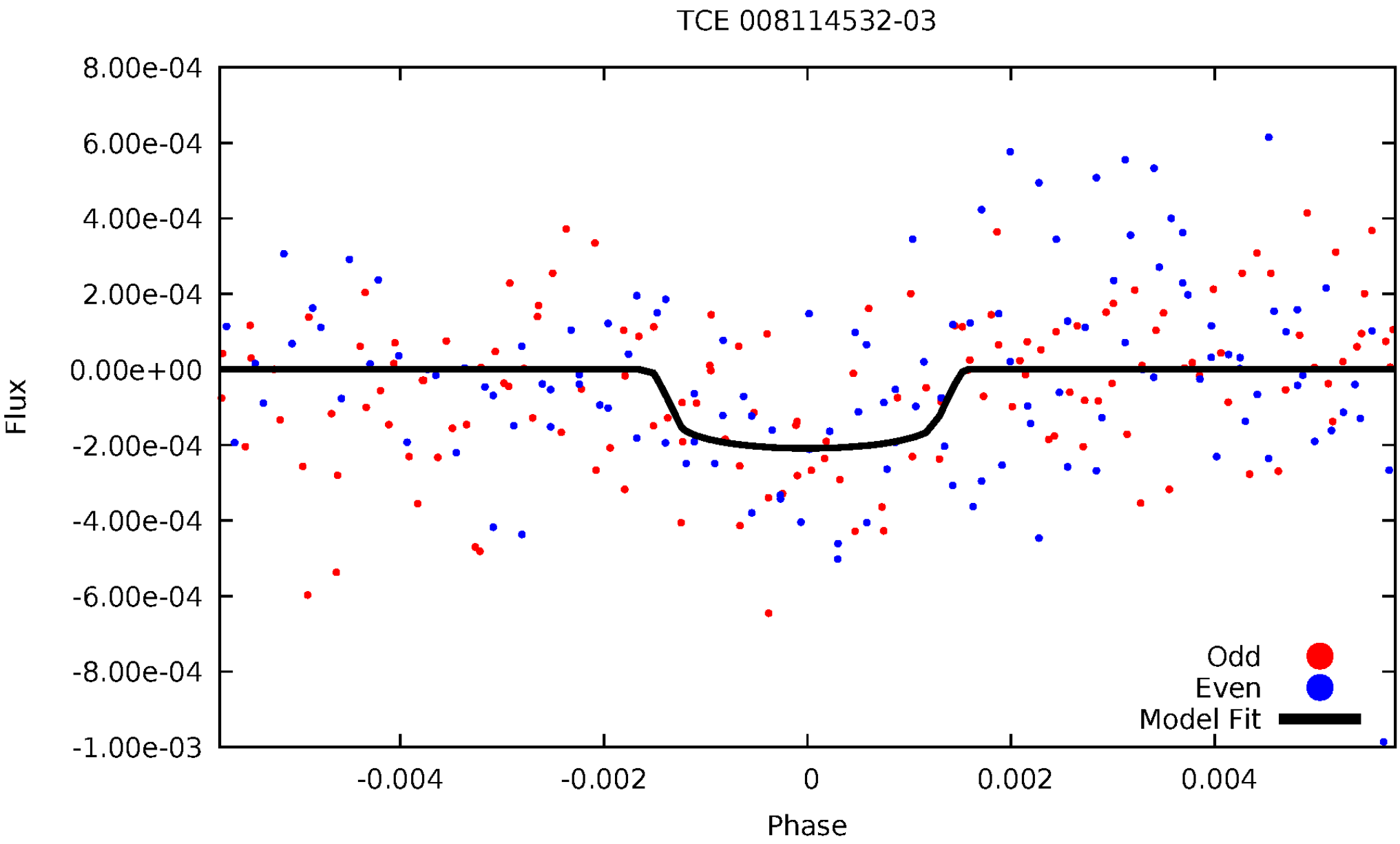
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008114532-03, PDC Light Curves

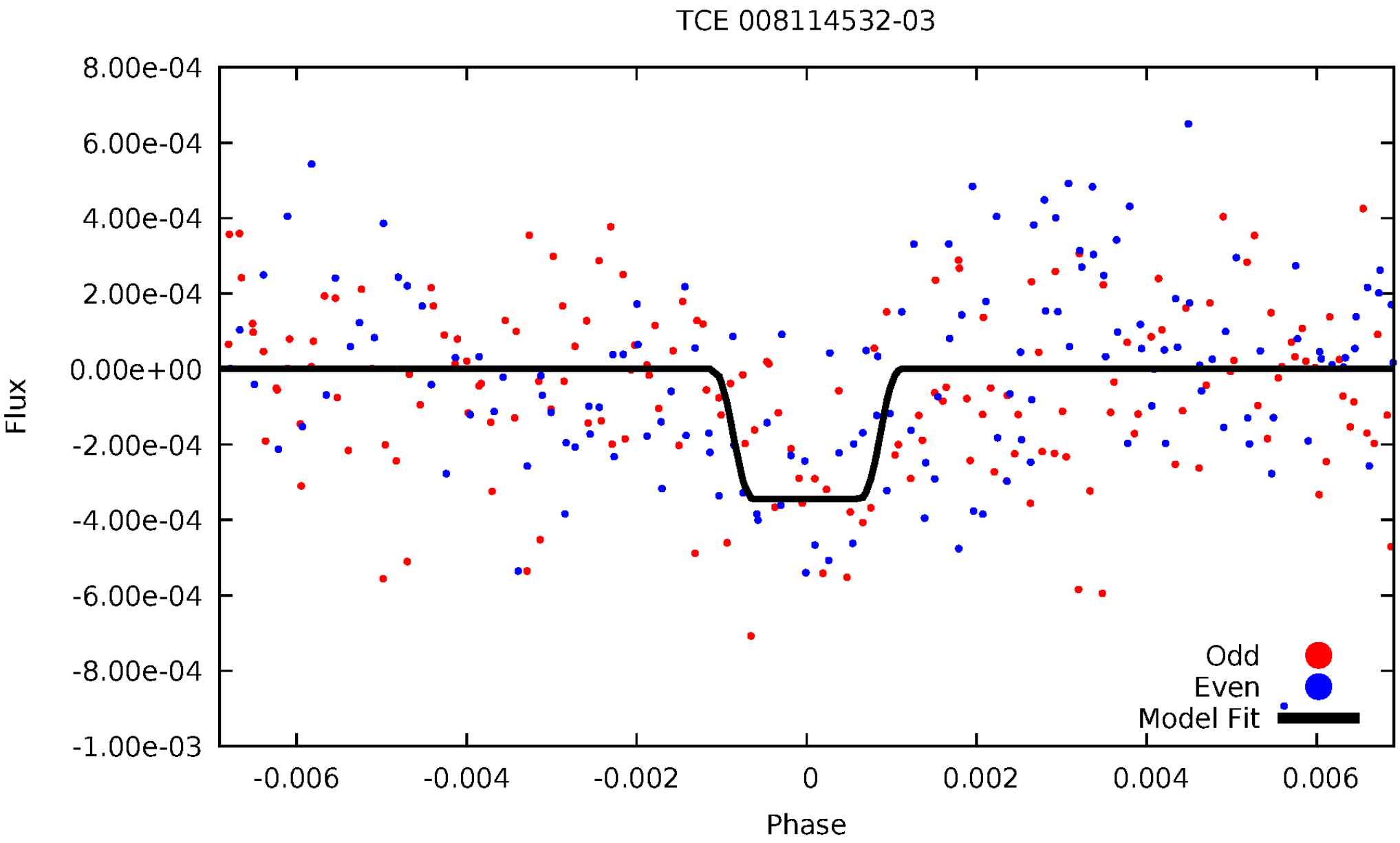



TCE 008114532-03
P = 36.223 days
P = 72.447 days
P = 144.893 days
Normalized Flux
BKJD
Normalized Flux
Phase

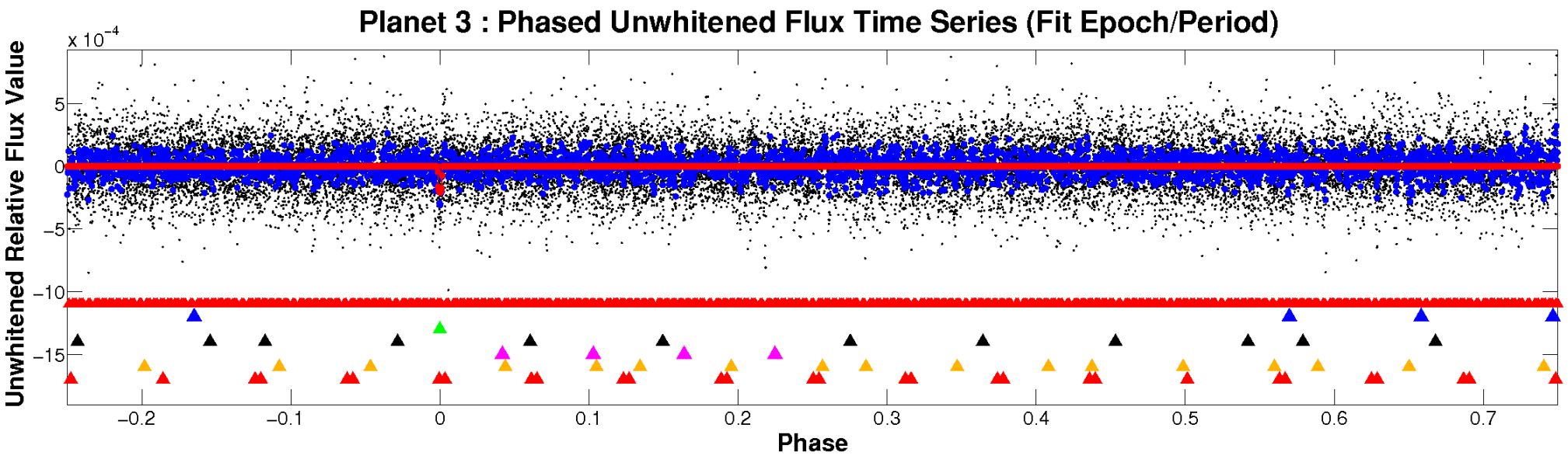
DV Odd/Even

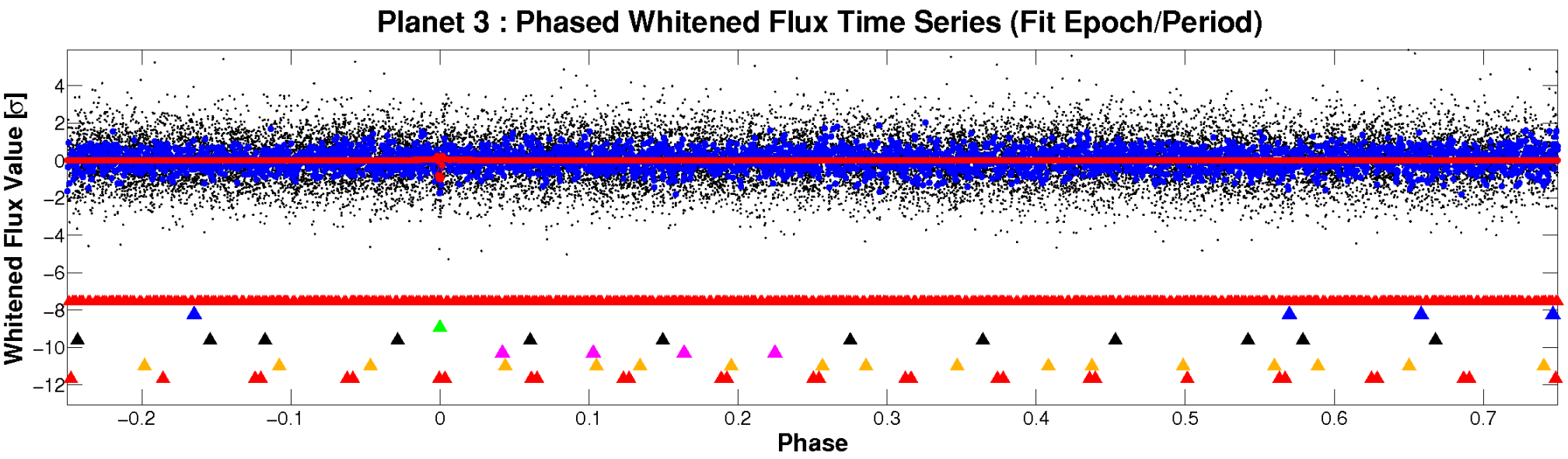

TCE 008114532-03
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008114532-03
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit

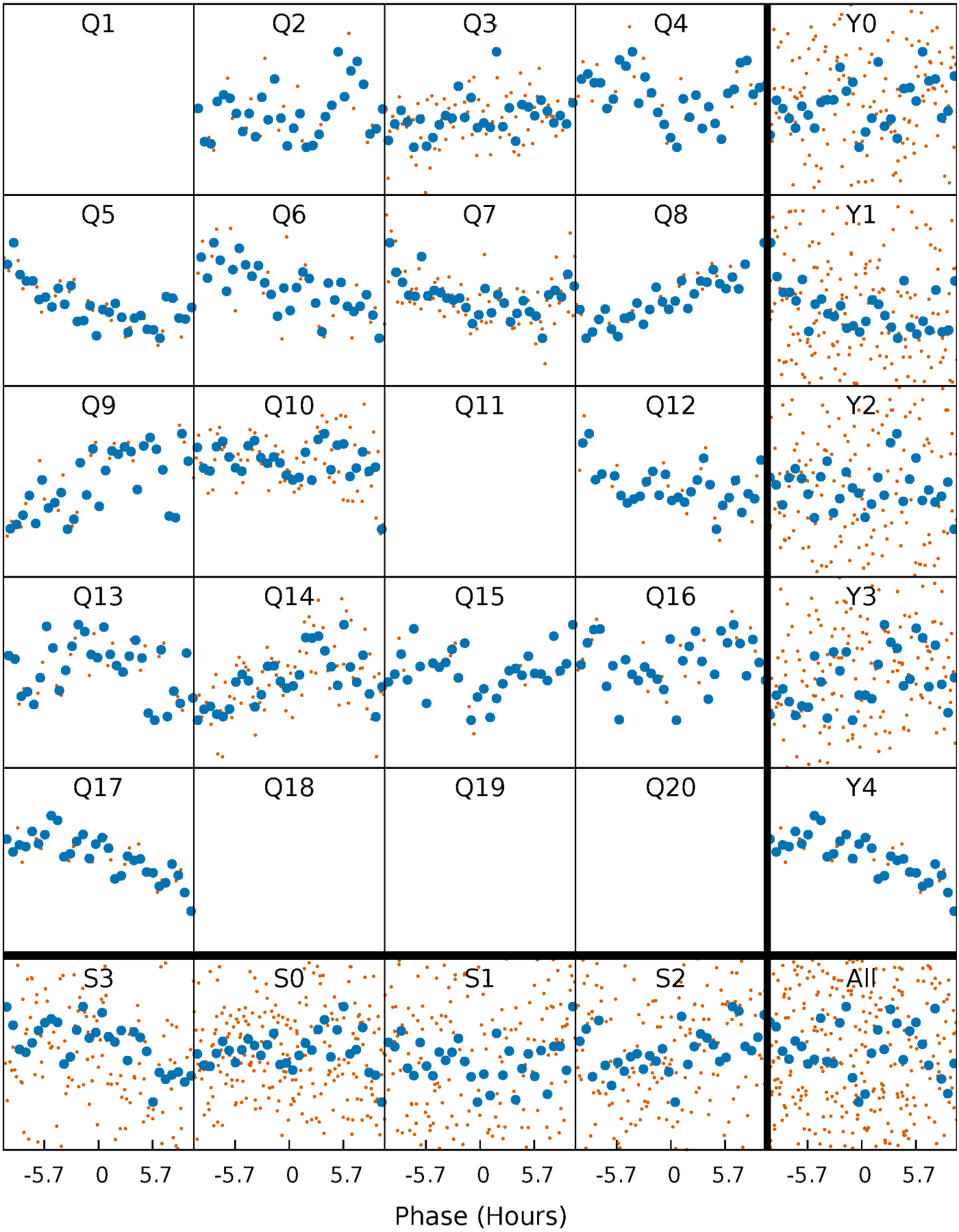
Non-Whitened Vs. Whitened Light Curve





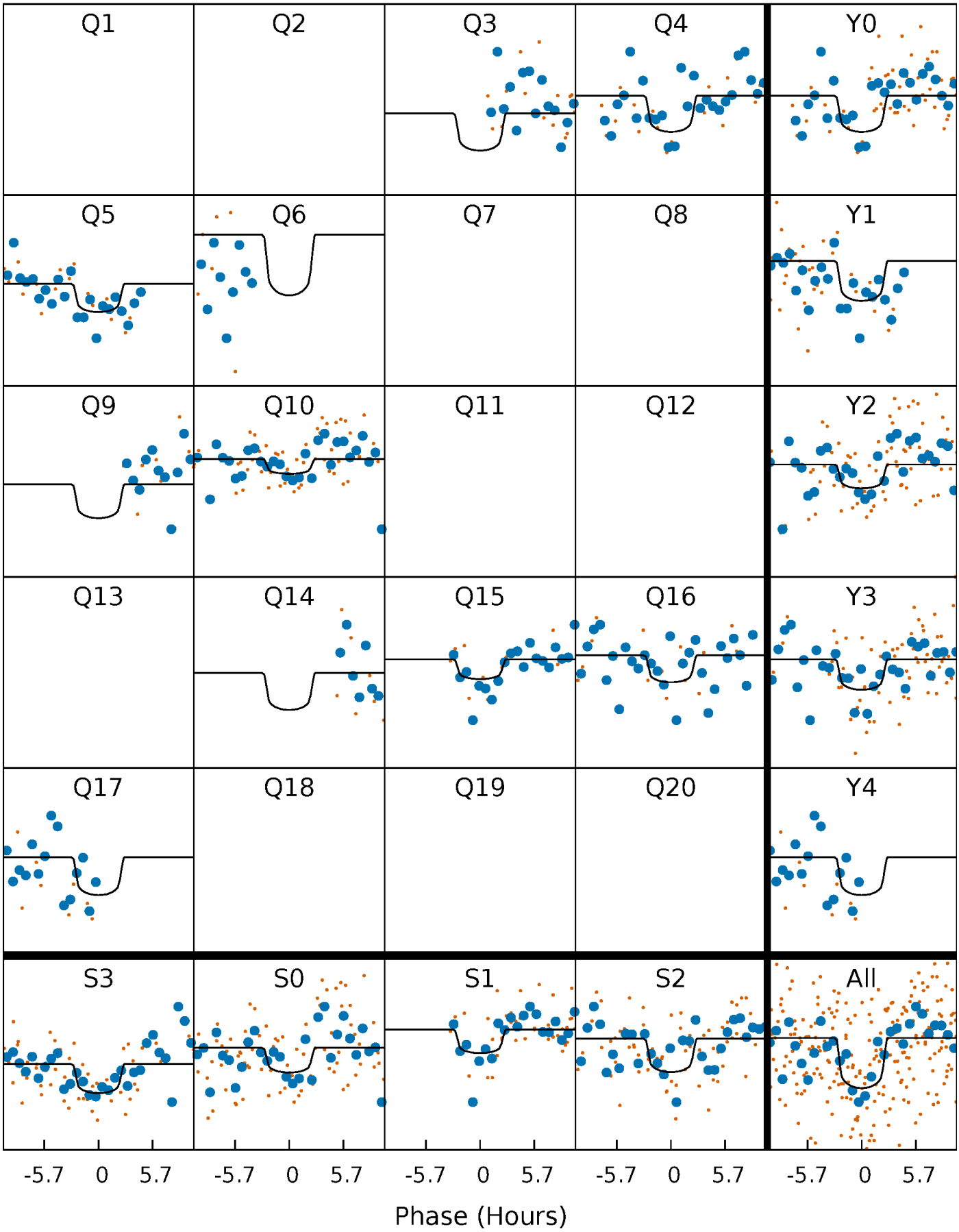
PDC Quarter-Phased Transit Curves

TCE 008114532-03 P= 72.446745 Days T_0=202.300421 (BKJD)



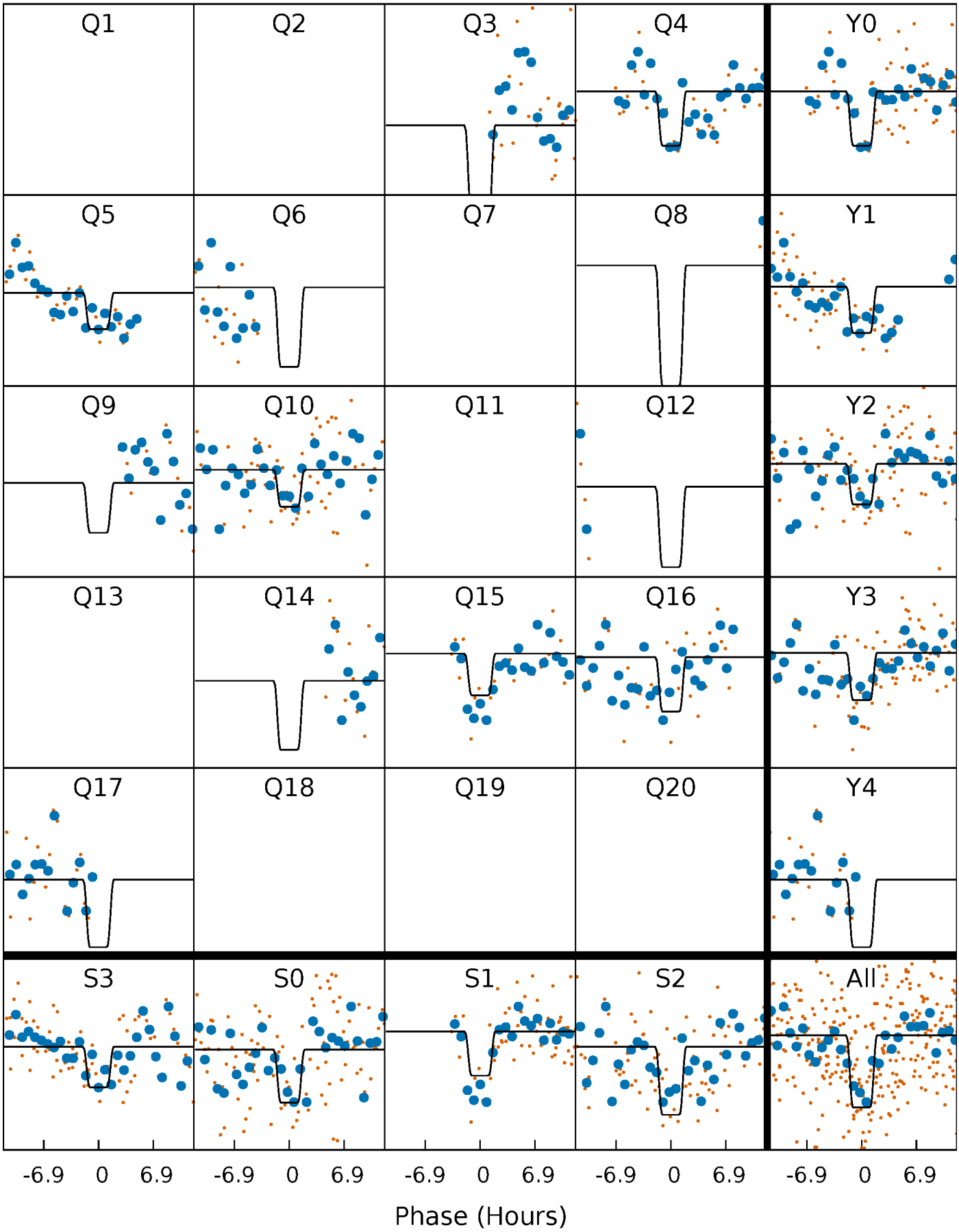
DV Quarter-Phased Transit Curves

TCE 008114532-03 P= 72.446745 Days T_0=202.300421 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

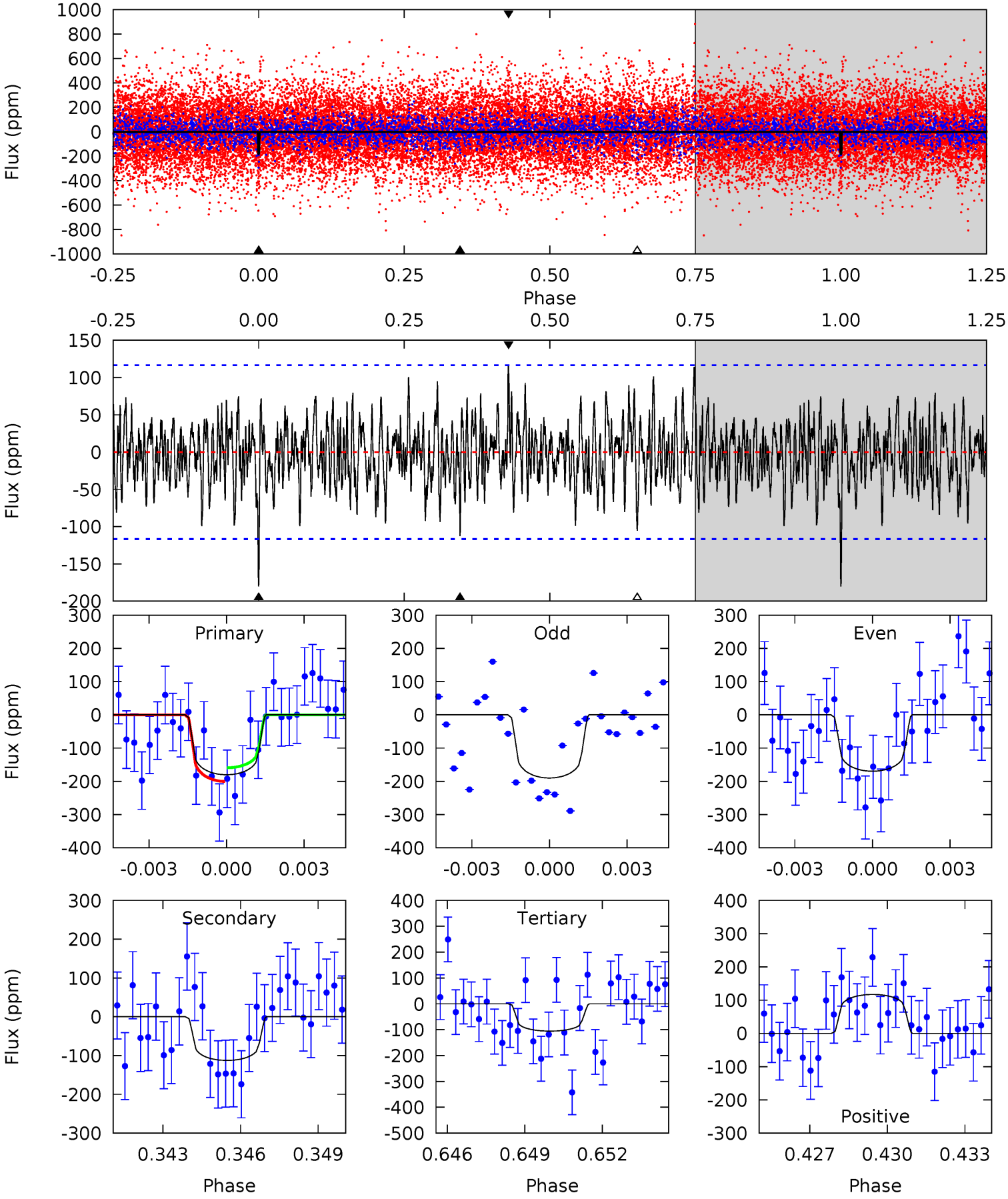
TCE 008114532-03 P= 72.449173 Days T_0=202.279010 (BKJD)



DV Model-Shift Uniqueness Test

008114532-03, P = 72.446745 Days, E = 129.853676 Days

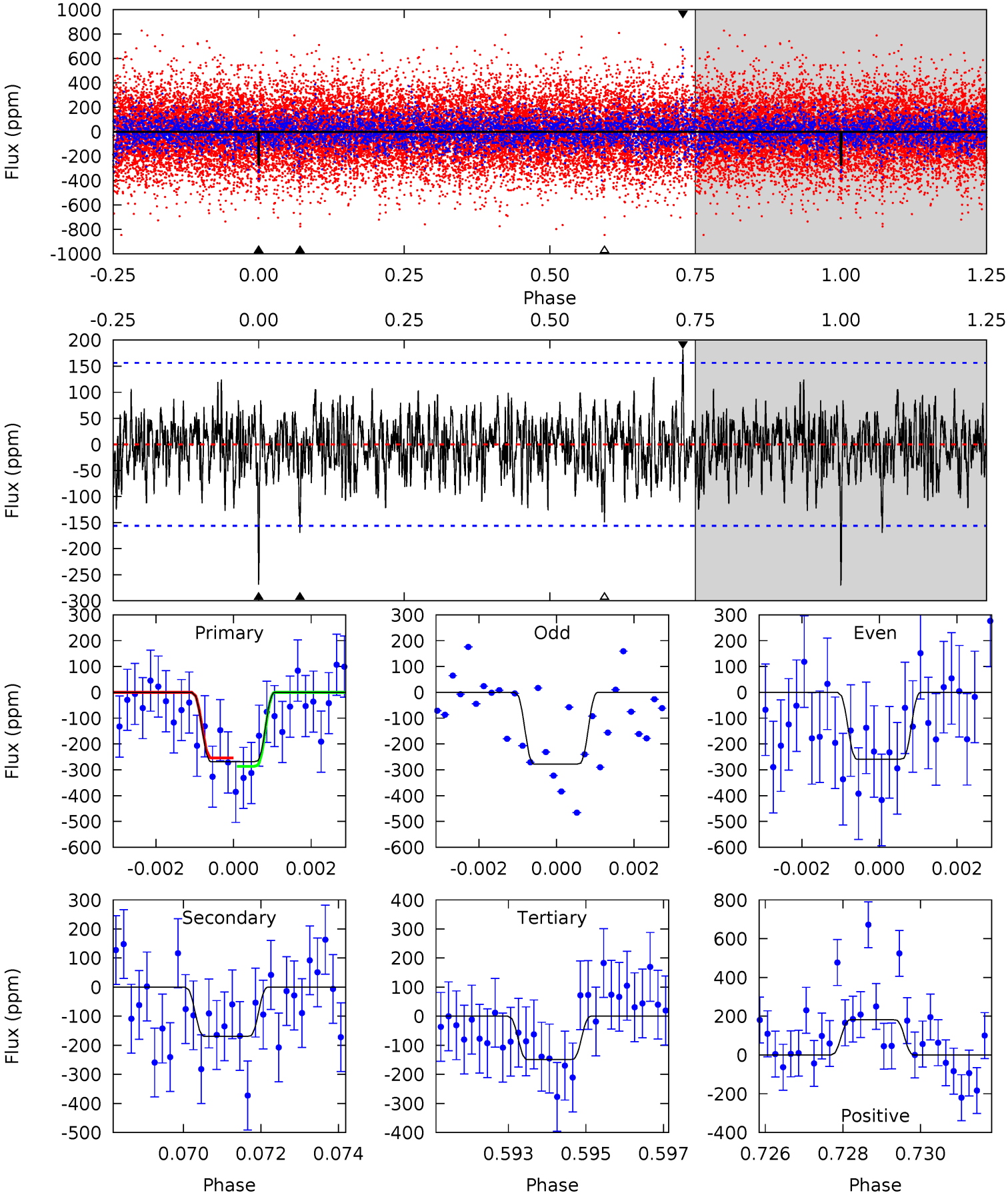
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.11	5.06	4.75	5.27	5.25	2.96	1.63	3.36	2.84	0.32	-0.21	0.46	0.94	0.39	0.93



Alt Model-Shift Uniqueness Test

008114532-03, P = 72.449173 Days, E = 129.829837 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.15	5.76	5.08	6.19	5.32	3.07	1.50	4.07	2.96	0.69	-0.42	0.32	1.05	0.40	0.55



Stellar Parameters For KIC 008114532

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6316^{+189}_{-189}	$3.536^{+0.360}_{-0.112}$	$-0.080^{+0.300}_{-0.250}$	$3.681^{+0.459}_{-1.376}$	$1.696^{+0.193}_{-0.359}$	$0.048^{+0.122}_{-0.017}$
	+3%/-3%	+10%/-3%	+375%/-312%	+12%/-37%	+11%/-21%	+255%/-35%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008114532-03 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-113±22	$6.35^{+5.37}_{-3.86}$	1158^{+68}_{-111}	5090^{+2886}_{-1076}	264^{+1342}_{-191}
Alt.	-169±29	$7.54^{+5.55}_{-4.43}$	1157^{+72}_{-108}	5118^{+2763}_{-932}	258^{+1280}_{-172}

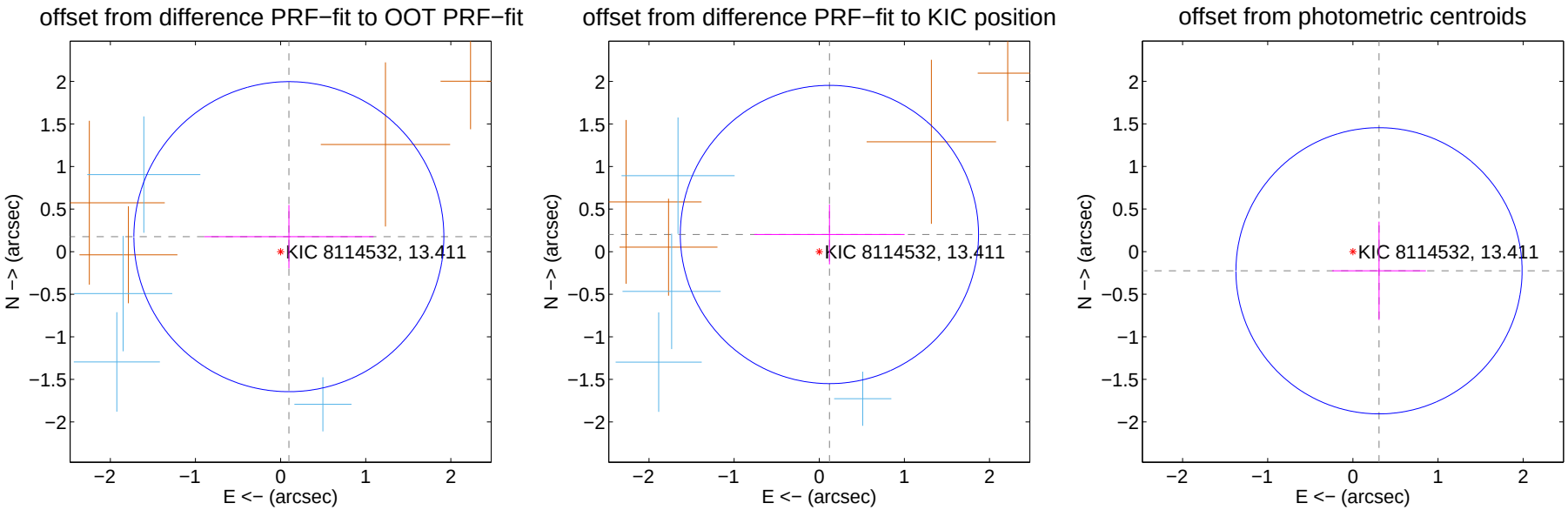
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

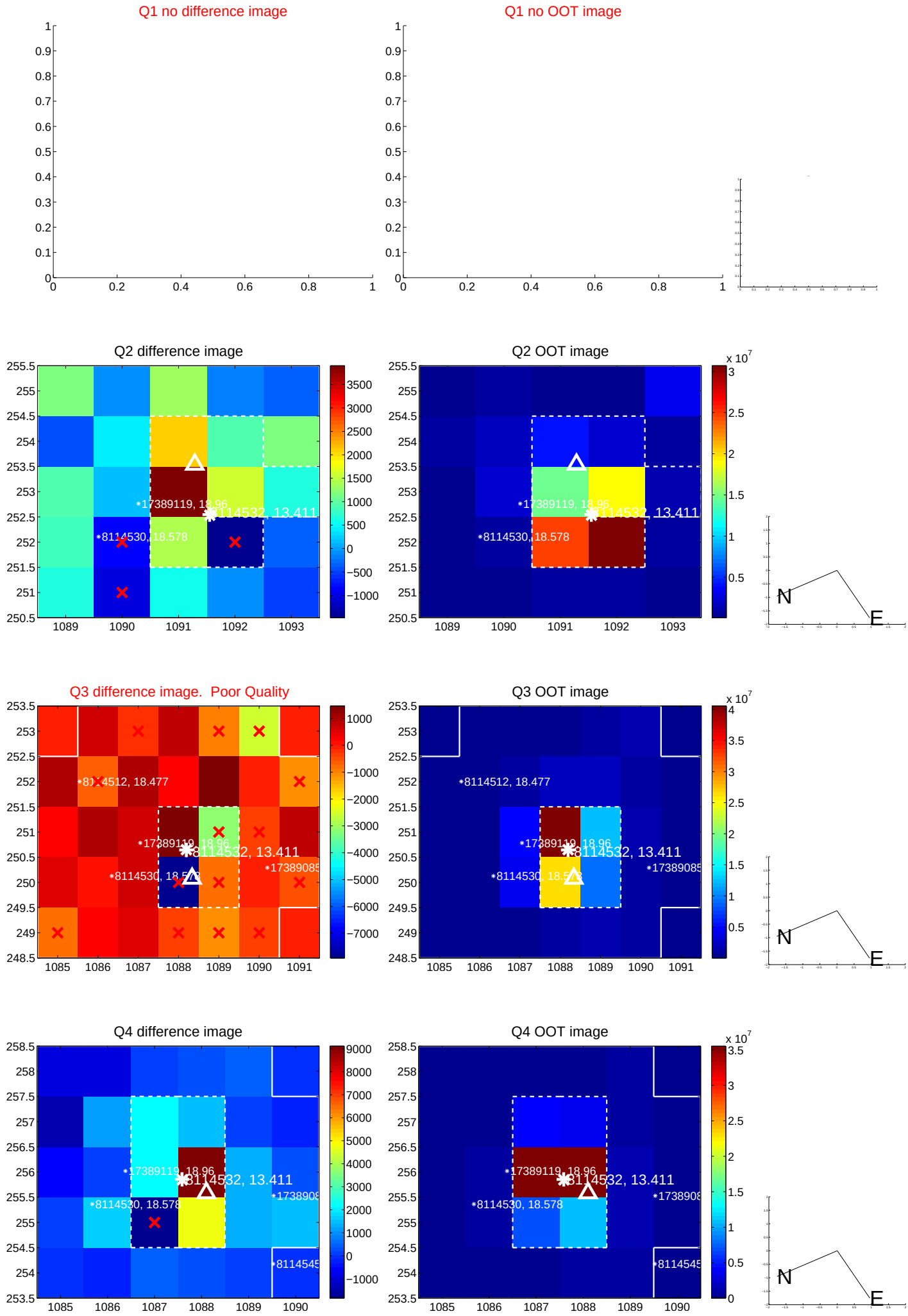
Supplemental centroid analysis for 008114532-03. Kepler magnitude: 13.41. Transit SNR 7.48
There are 5 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.201 ± 0.607	0.33	-0.097 ± 0.994	0.176 ± 0.372
PRF-fit source offset from KIC position	0.234 ± 0.584	0.40	-0.119 ± 0.883	0.202 ± 0.351
photometric centroid source offset	0.38 ± 0.56	0.68	-0.31 ± 0.55	-0.23 ± 0.58

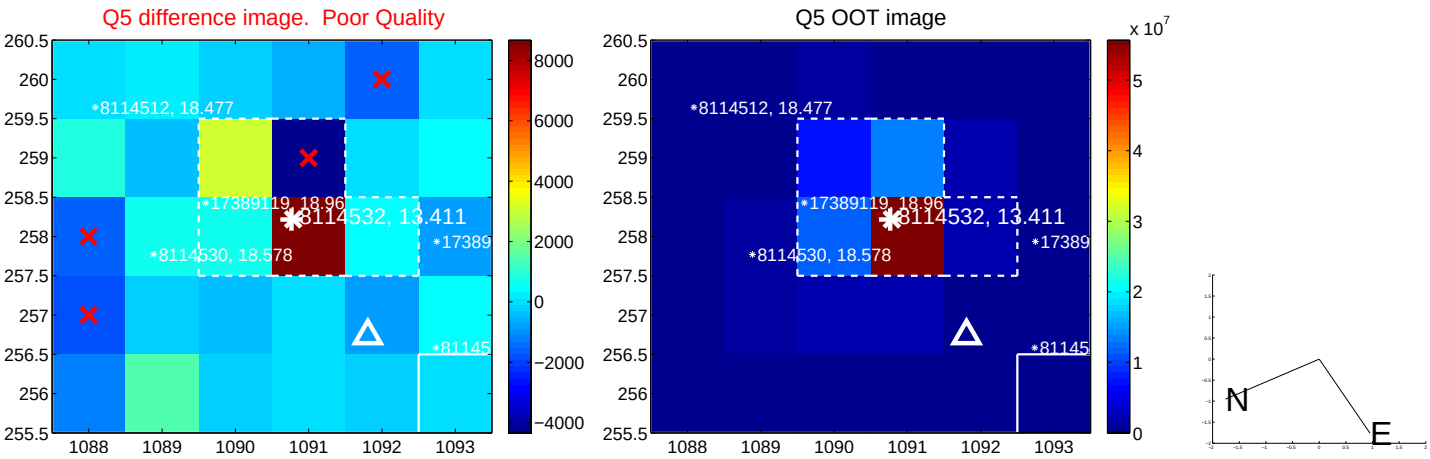


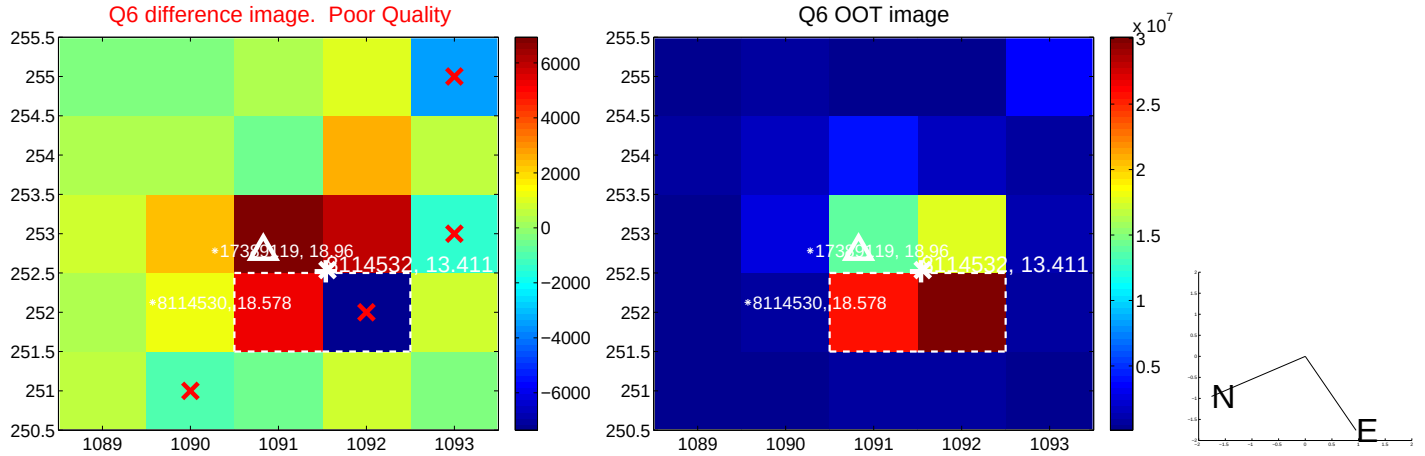
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

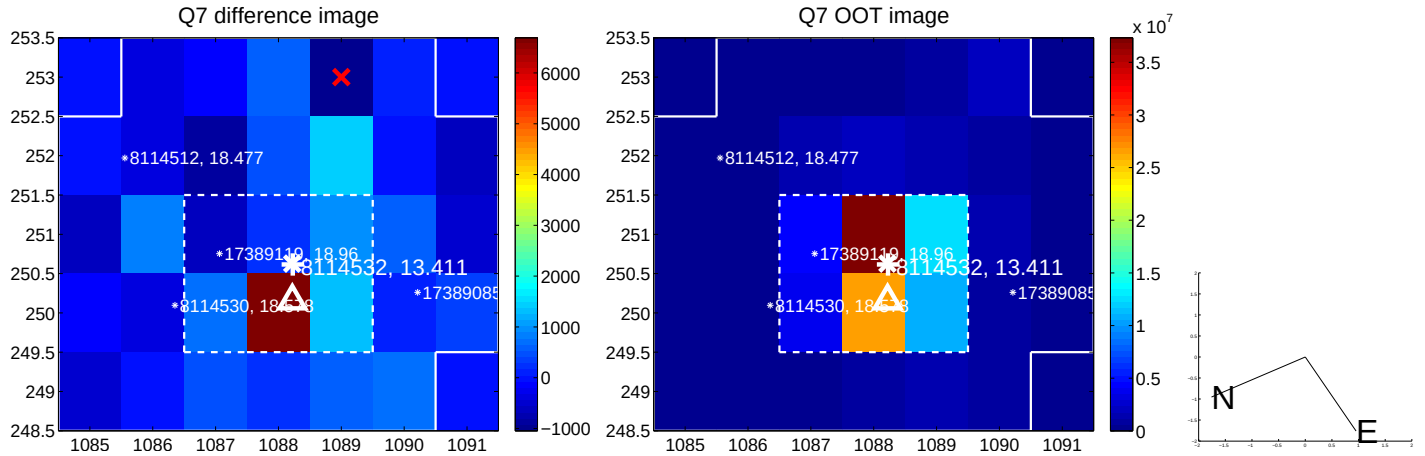
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

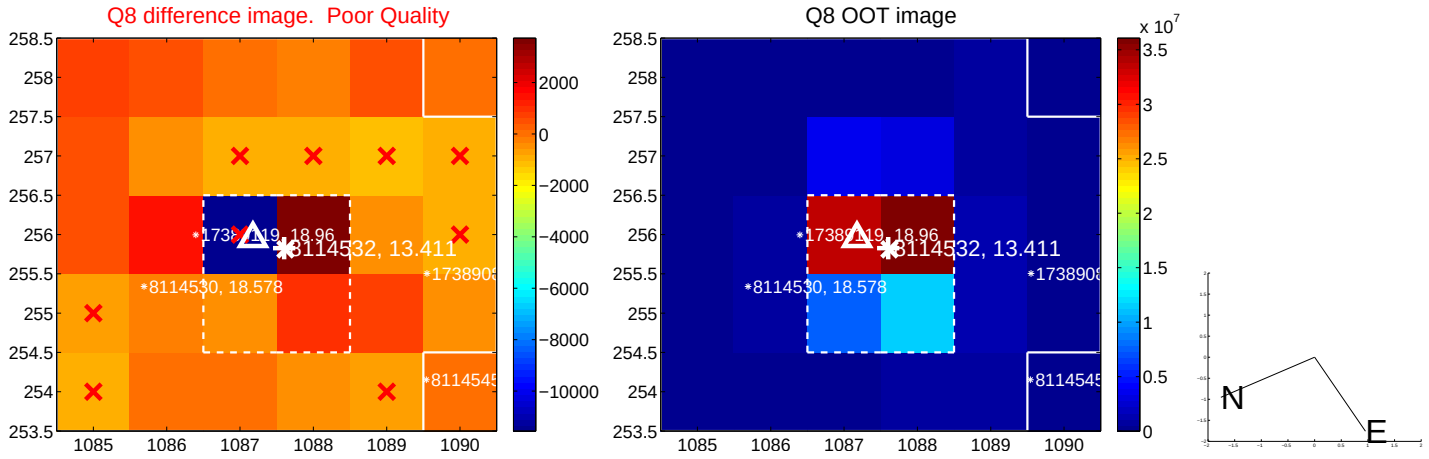


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

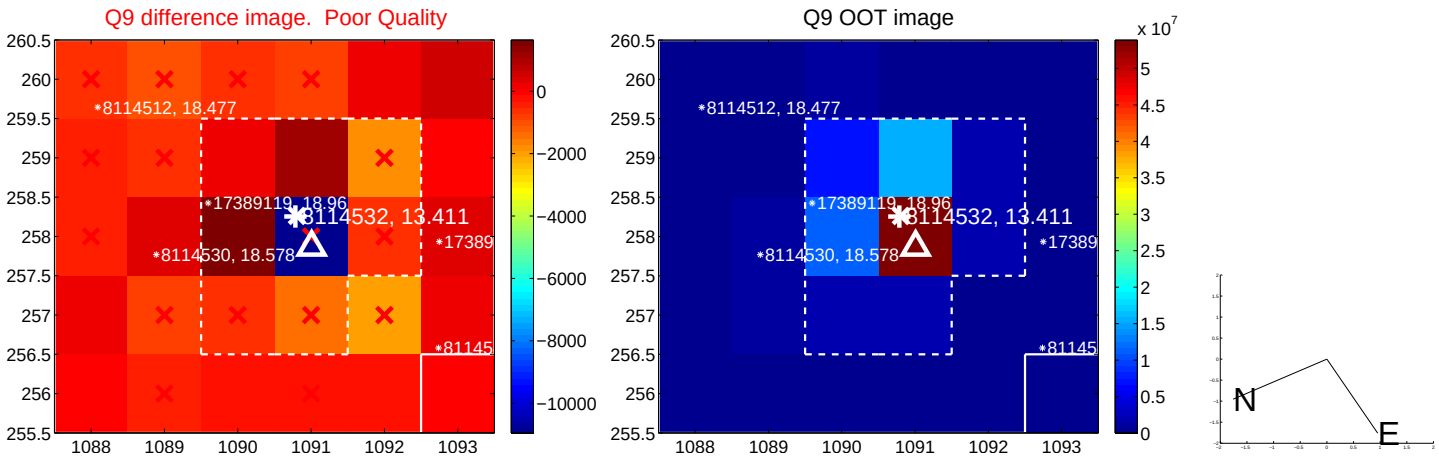


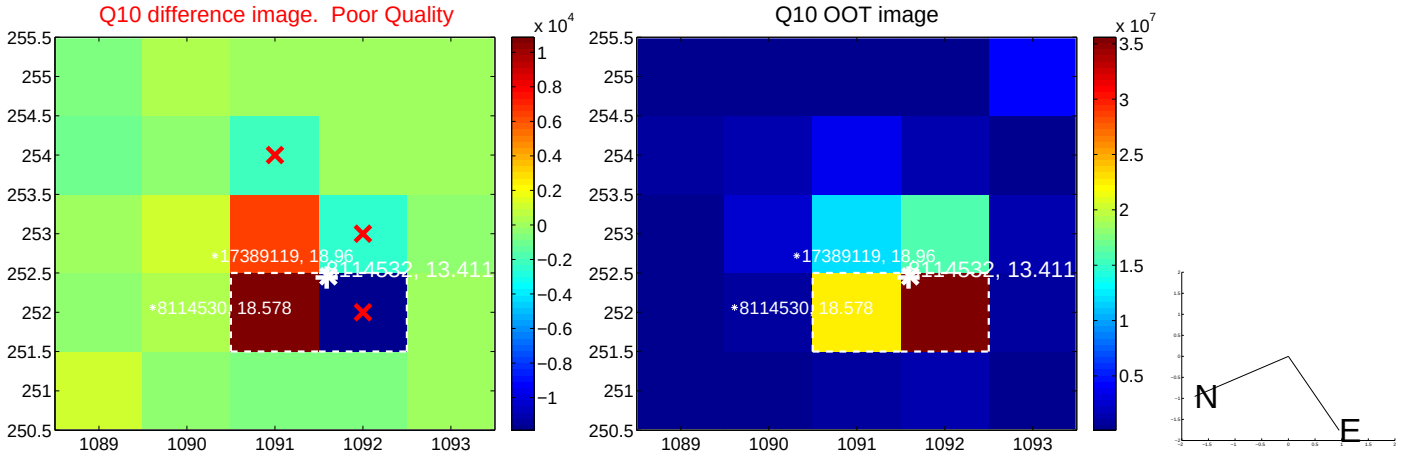


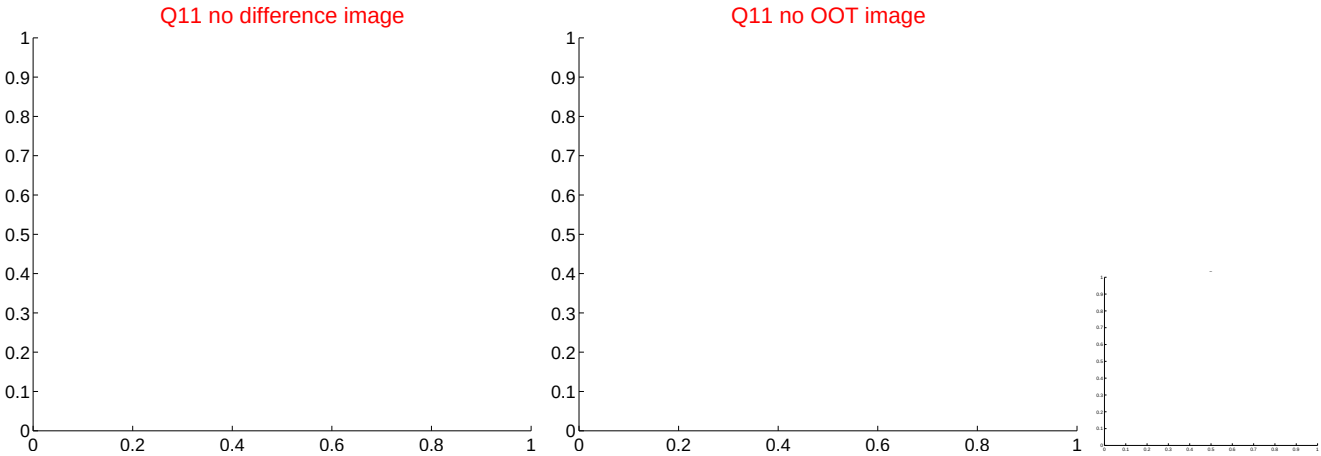


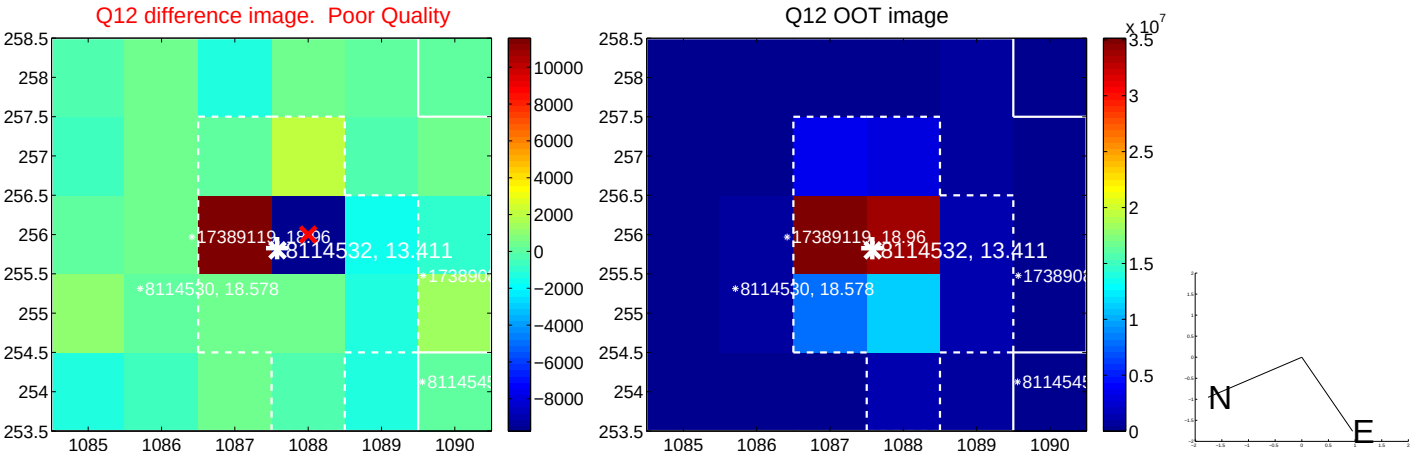


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

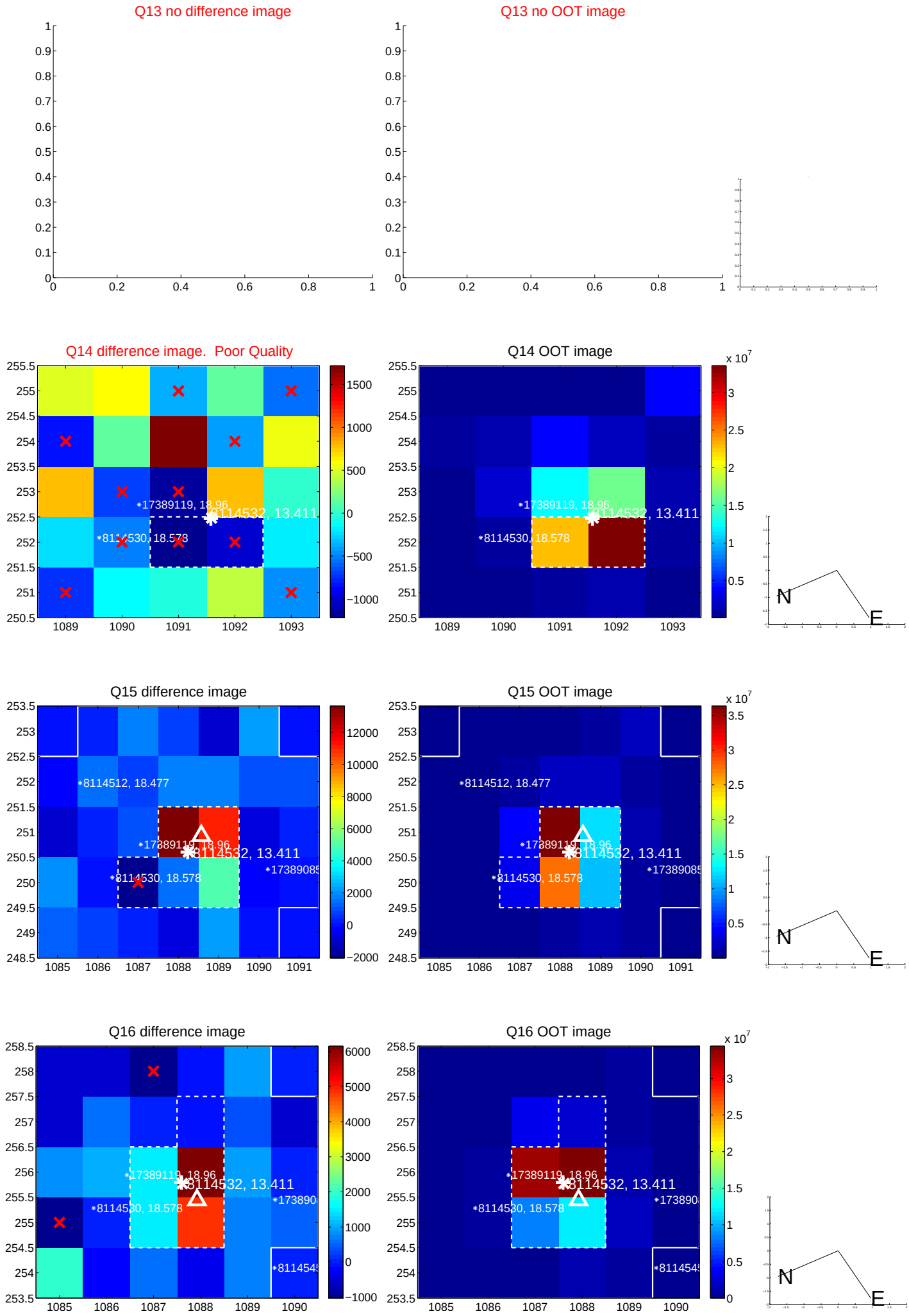




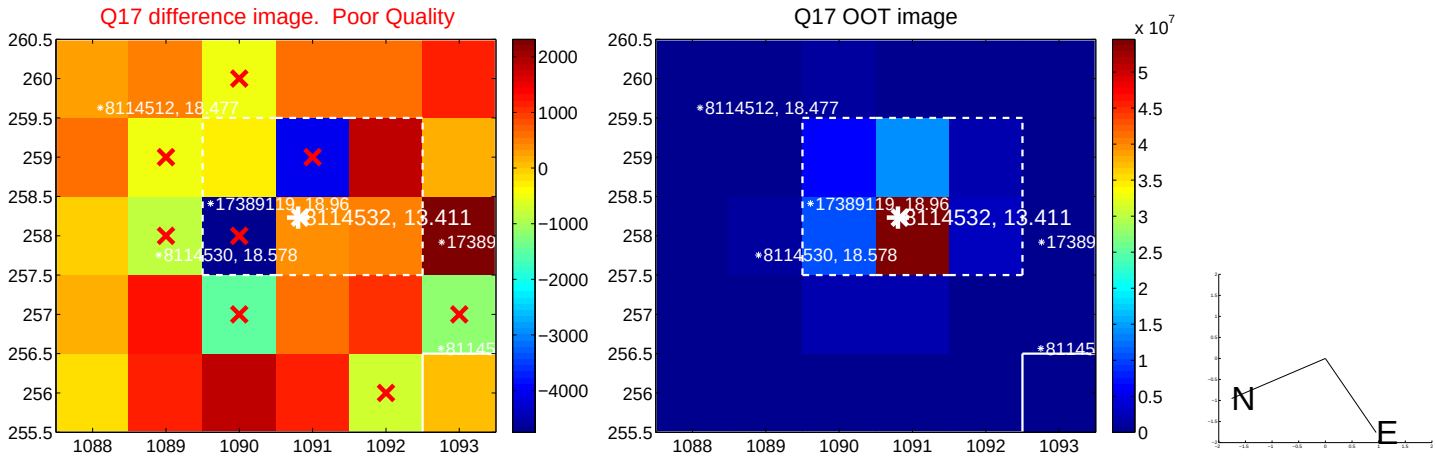


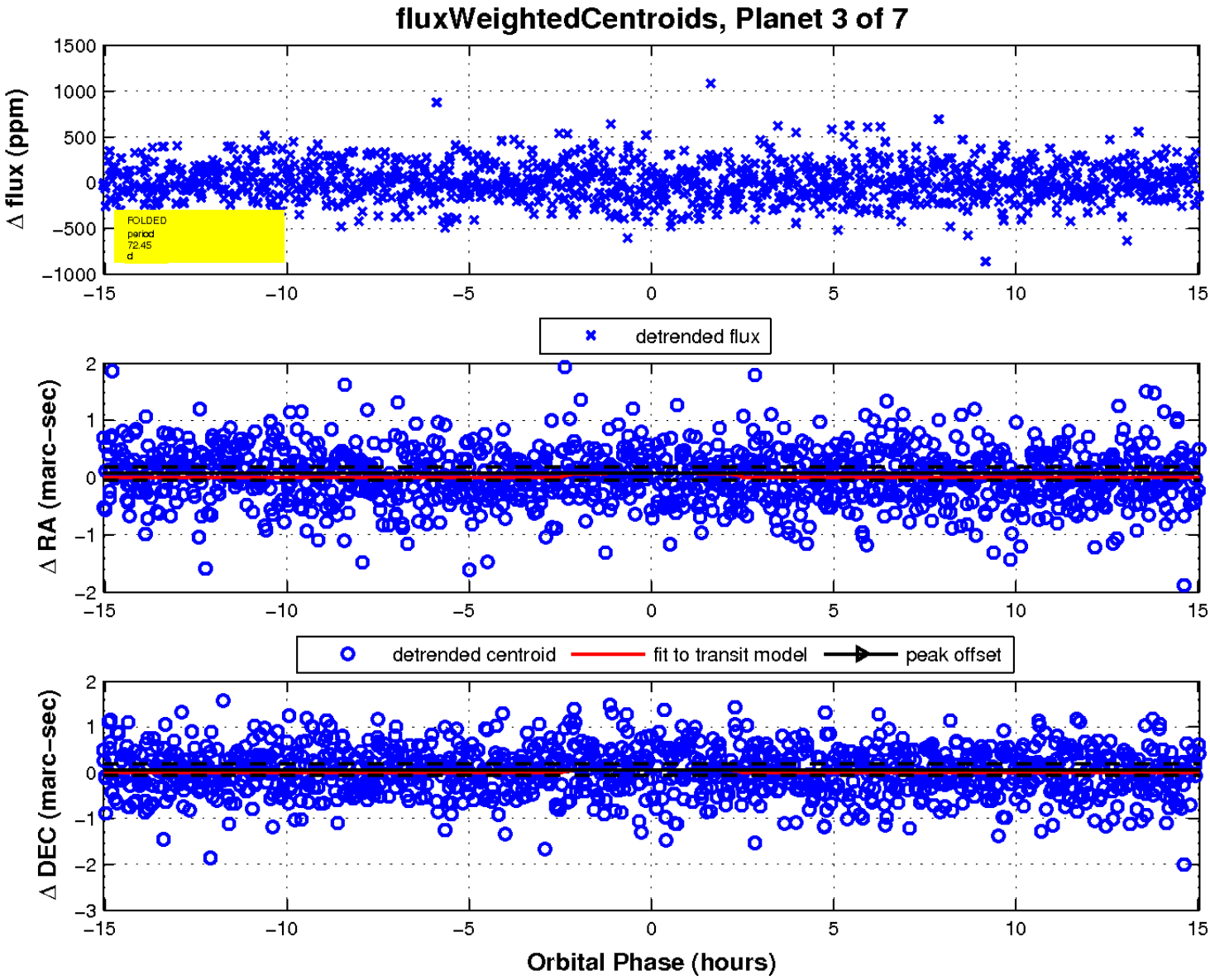


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

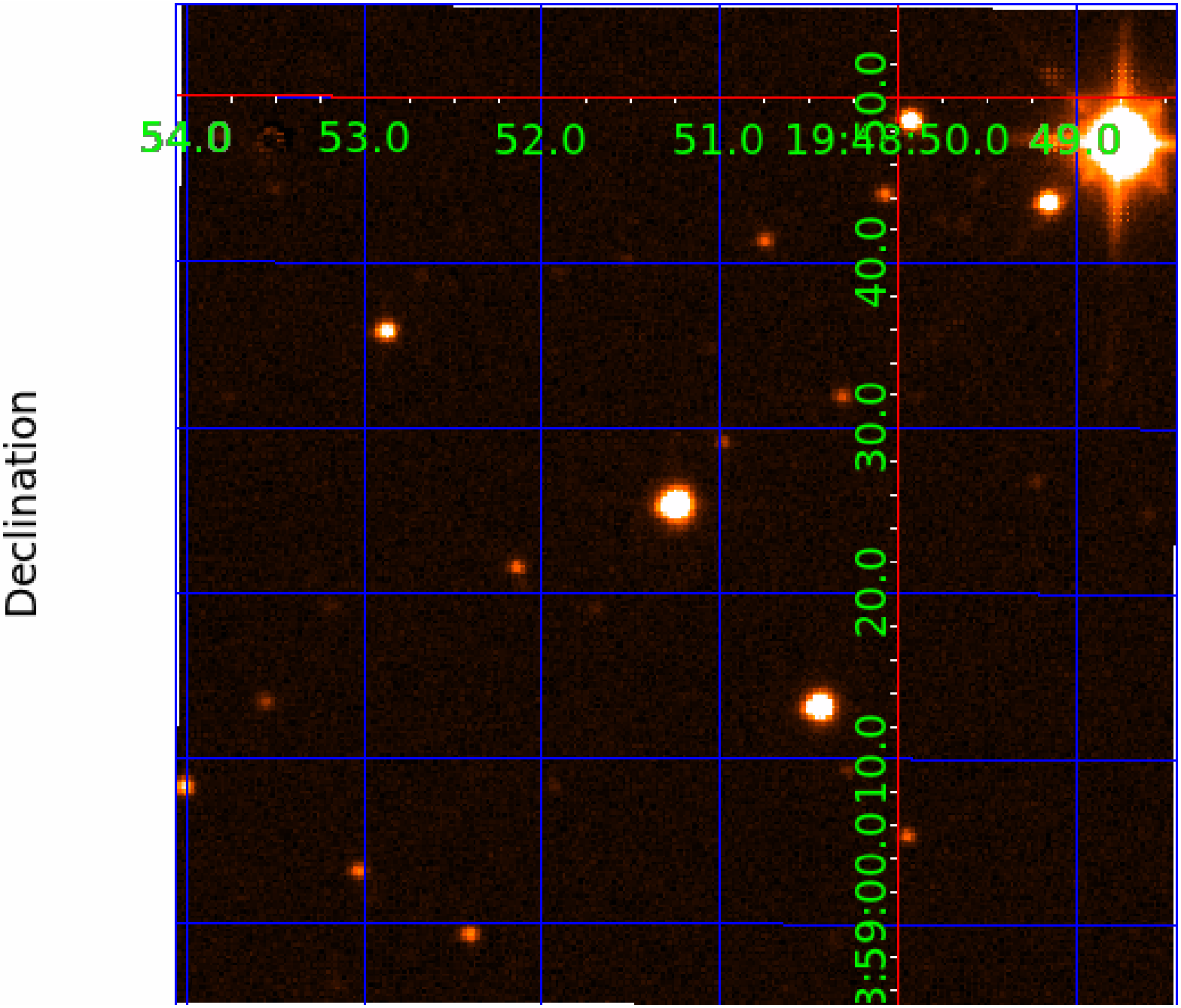


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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3:59:00.0
Declination

KIC 008114532

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 ($S_\oplus$)
008114532-01	OBS	No	2.486340	132.570850	0.1	12.953	8.1	0.0	3.68	6316	0.11	10517.02
008114532-02	OBS	No	355.829103	190.356936	374.9	11.450	10.7	9.8	3.68	6316	7.68	14.05
008114532-03	OBS	No	72.446745	202.300421	209.0	5.016	8.0	7.5	3.68	6316	5.85	117.30
008114532-04	OBS	No	122.892501	193.801049	273.8	2.892	7.7	8.1	3.68	6316	6.98	57.98
008114532-05	OBS	No	357.818232	291.033735	337.0	3.607	7.7	7.9	3.68	6316	7.75	13.95
008114532-06	OBS	No	83.429574	212.026458	282.7	3.367	7.8	7.9	3.68	6316	7.13	97.17
008114532-07	OBS	No	49.789794	143.803696	335.6	1.742	7.3	8.1	3.68	6316	7.66	193.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008114532-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008114532-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008114532-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008114532-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008114532-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

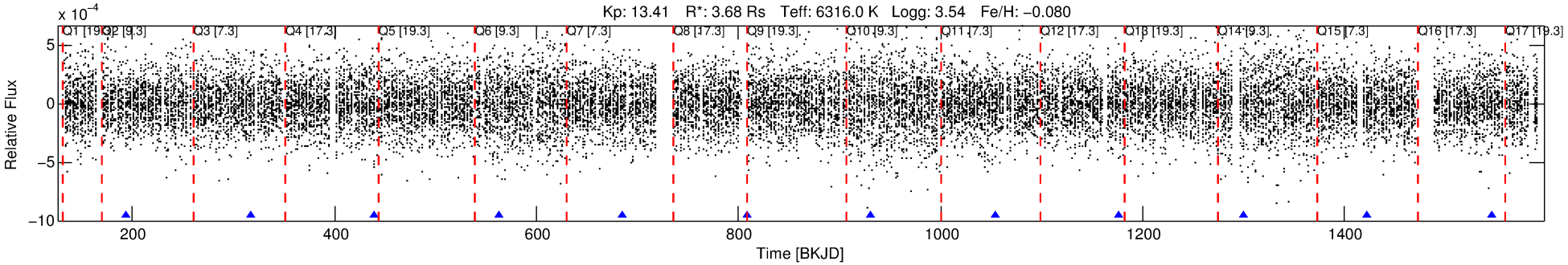
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

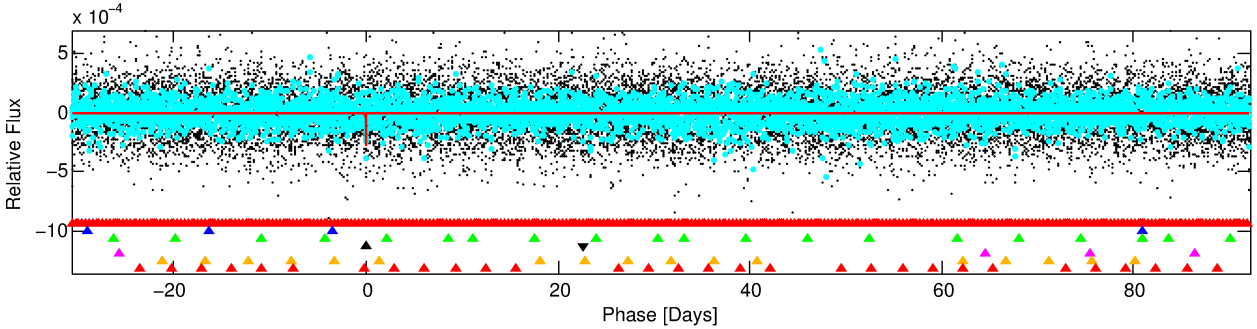
Ephemeris Match Information For 008114532-04

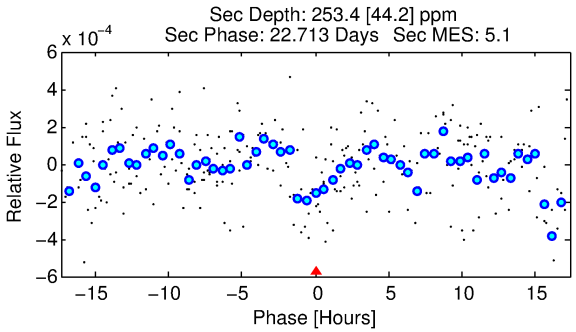
No Significant Match Found

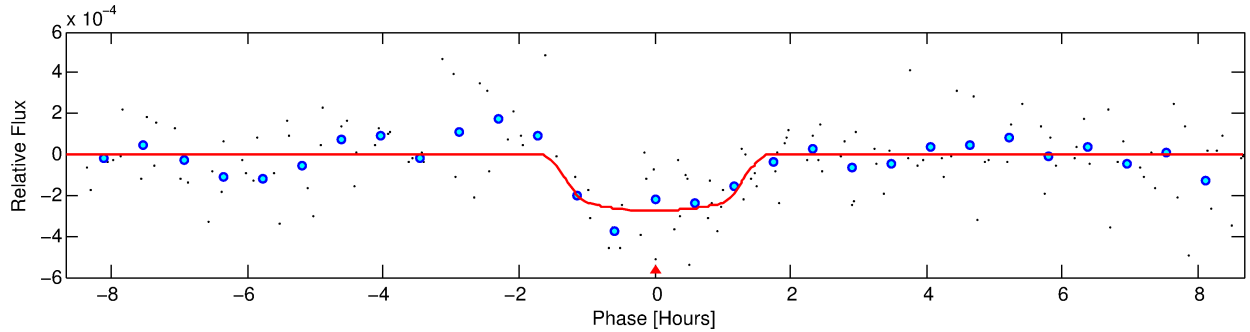
DV One-Page Summary

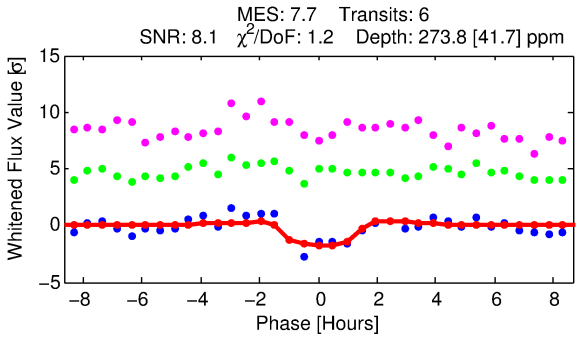
KIC: 8114532 Candidate: 4 of 7 Period: 122.893 d

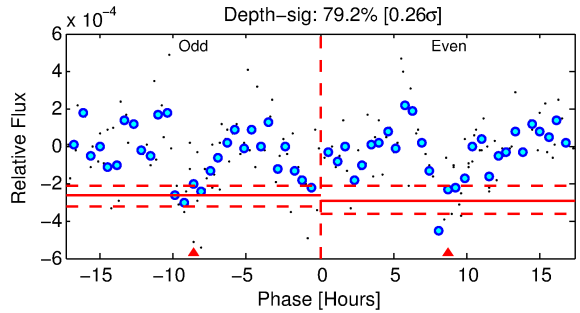


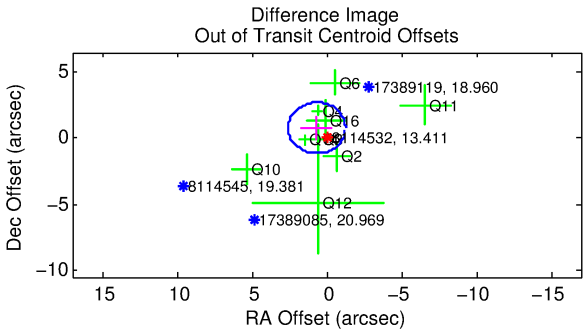












DV Fit Results:

Period = 122.89250 [0.00124] d
Epoch = 193.8010 [0.0085] BKJD
Rp/R* = 0.0174 [0.0200]
a/R* = 171.35 [1089.02]
b = 0.87 [1.80]

Seff = 57.98 [35.83]
Teq = 704 [109] K
Rp = 6.98 [8.43] Re
a = 0.5772 [0.2148] AU

Ag = 952.87 [2269.97] [0.42σ]
Teffp = 6044 [3486] K [1.53σ]

DV Diagnostic Results:

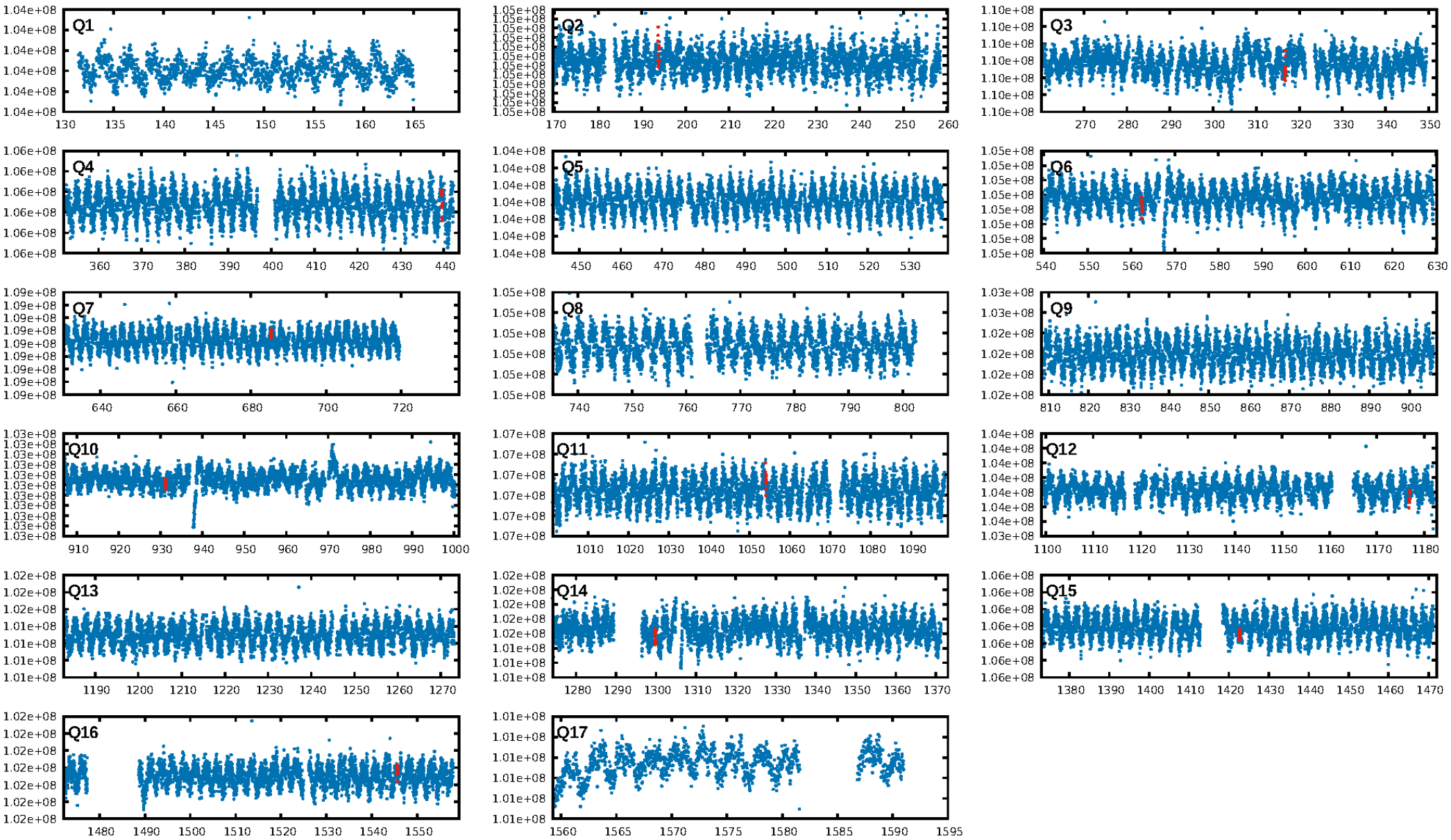
ShortPeriod−sig: 100.0% [213.41σ]
LongPeriod−sig: 100.0% [473.39σ]
ModelChiSquare2−sig: 19.0%
ModelChiSquareGof−sig: 99.1%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [6/6]
GhostDiagnostic−chr: 16.3

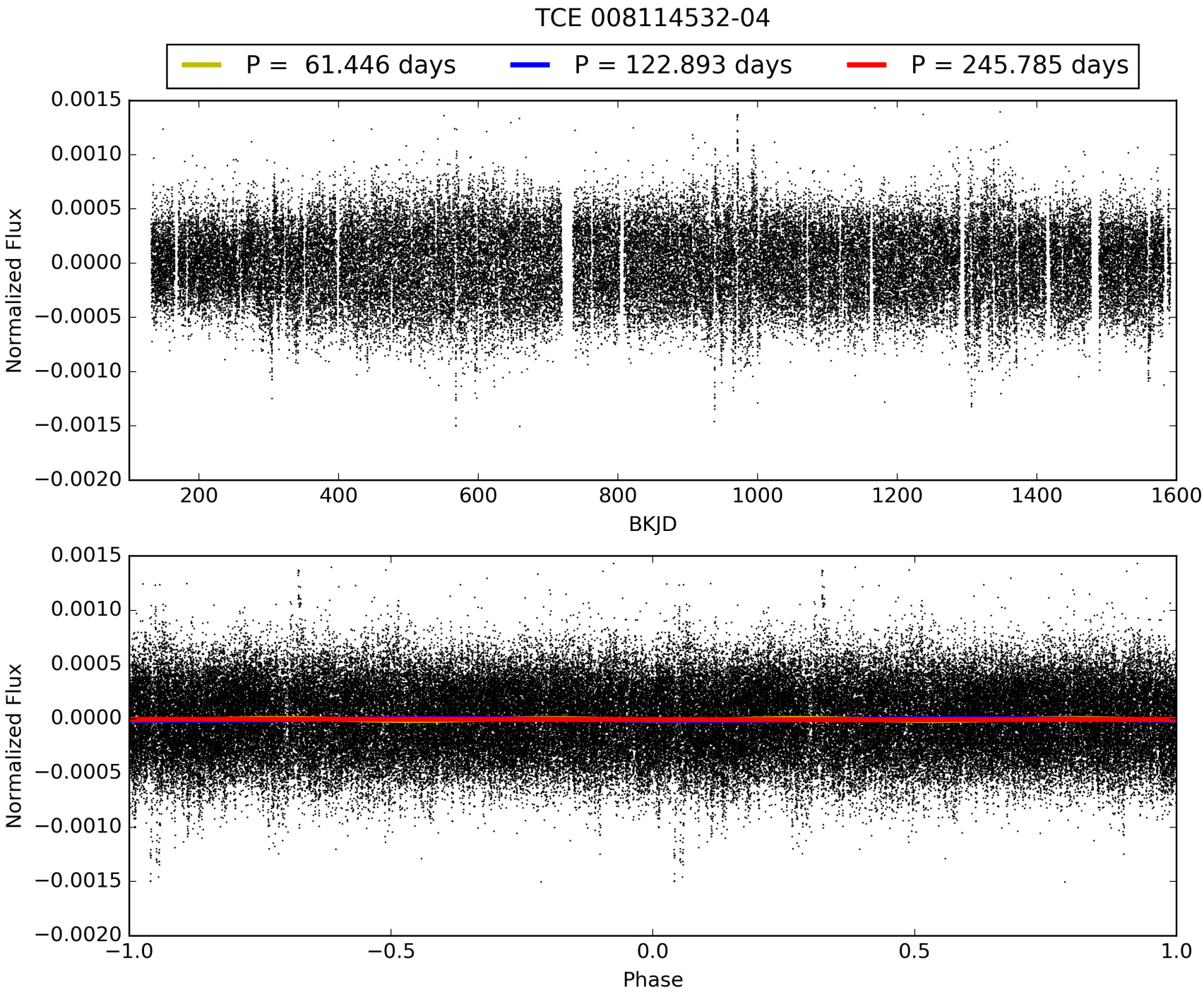
Centroid−sig: 0.7%
Centroid−so: 1.632 arcsec [2.20σ]
OotOffset−rm: 1.027 arcsec [1.60σ]
KicOffset−rm: 1.001 arcsec [1.35σ]
OotOffset−st: 4/2/3/0 [9]
KicOffset−st: 4/2/3/0 [9]
DiffImageQuality−fgm: 0.33 [3/9]
DiffImageOverlap−fno: 0.45 [5/11]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 22:46:25 Z

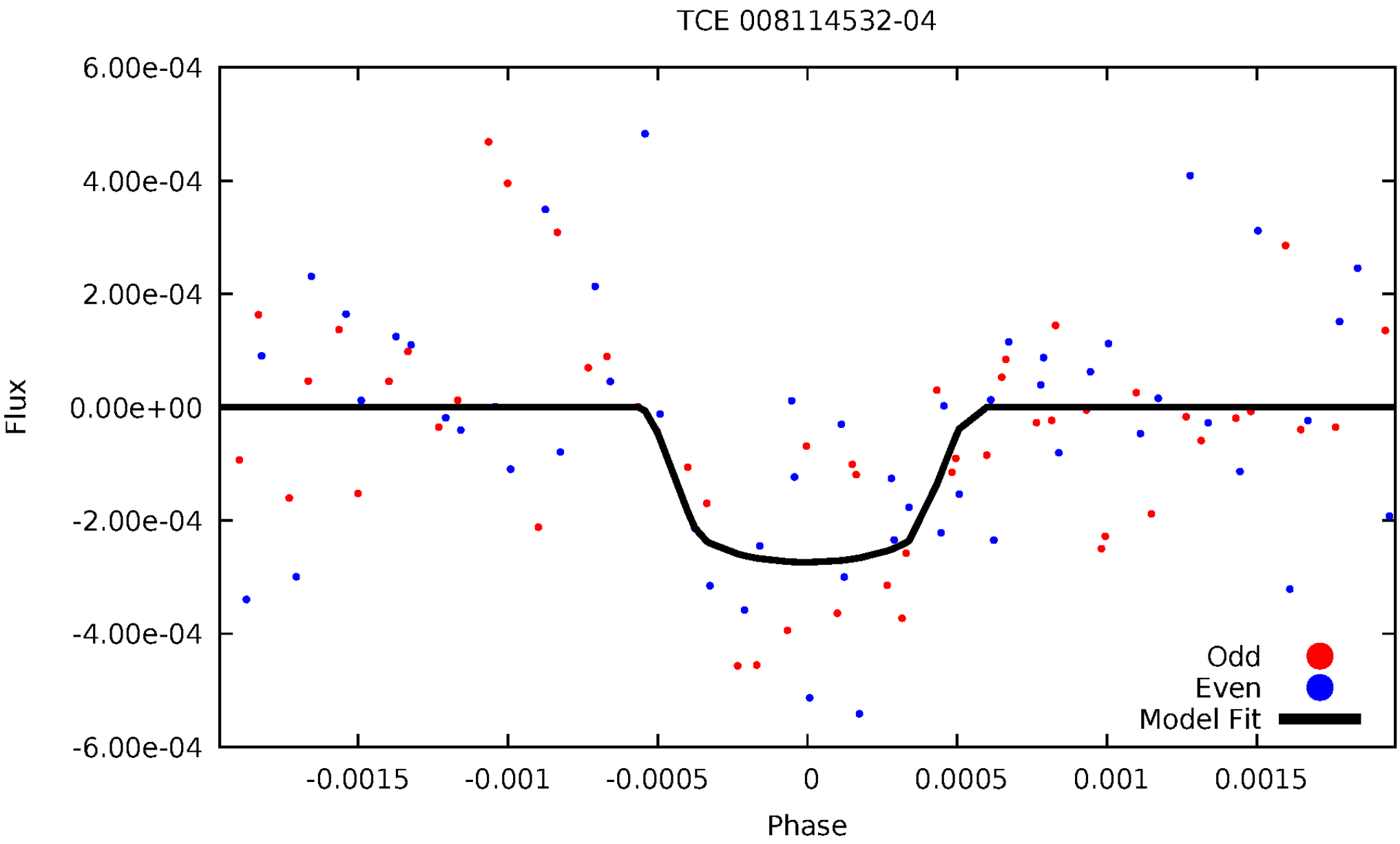
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008114532-04, PDC Light Curves

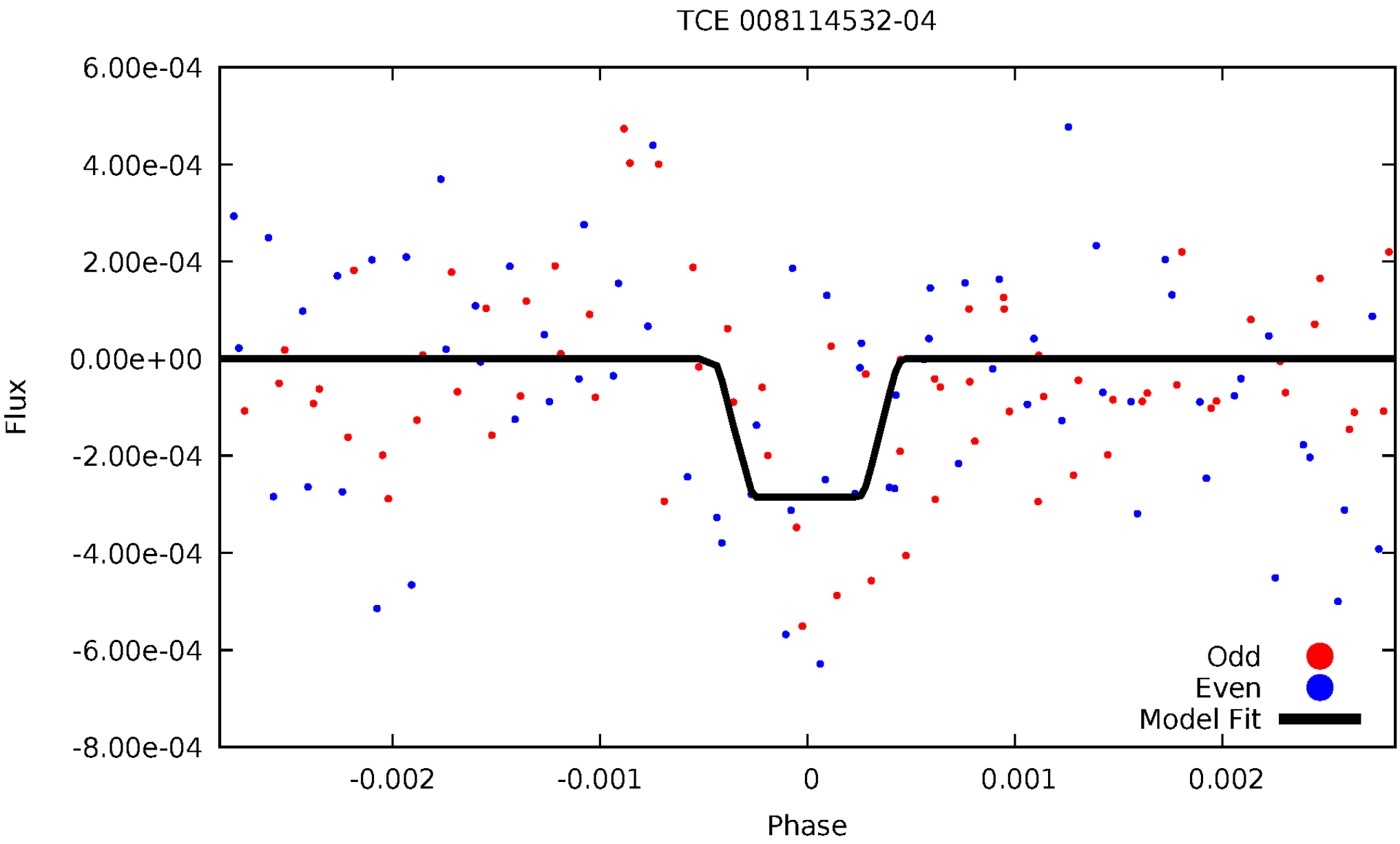



TCE 008114532-04
P = 61.446 days
P = 122.893 days
P = 245.785 days
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
−0.0020
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
−0.0020
−1.0
−0.5
0.0
0.5
1.0
Phase

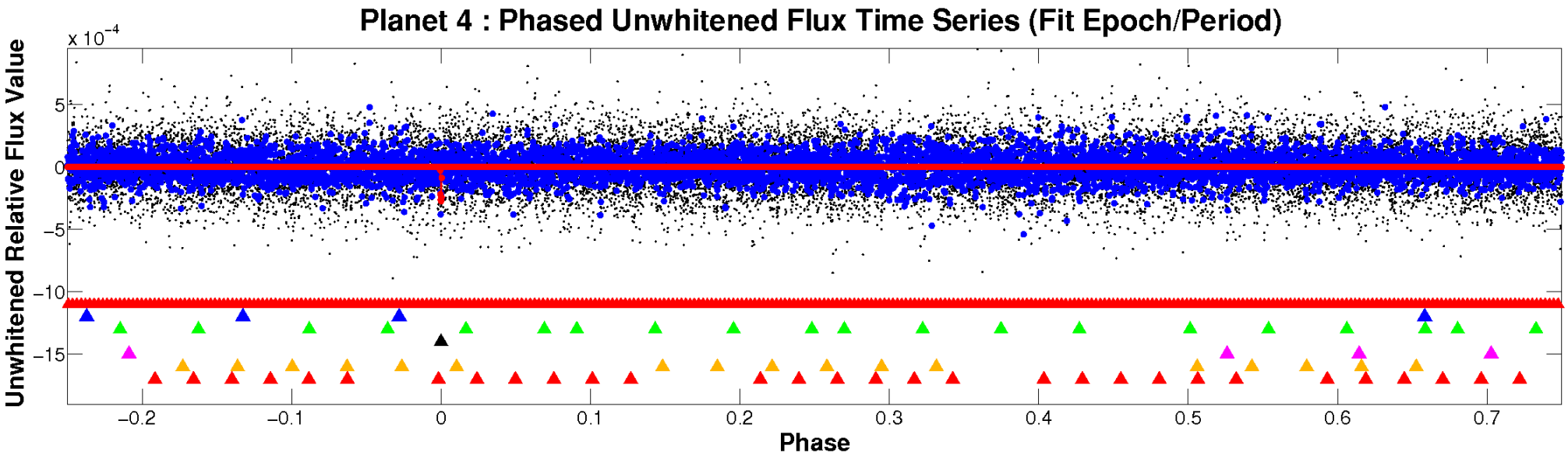
DV Odd/Even

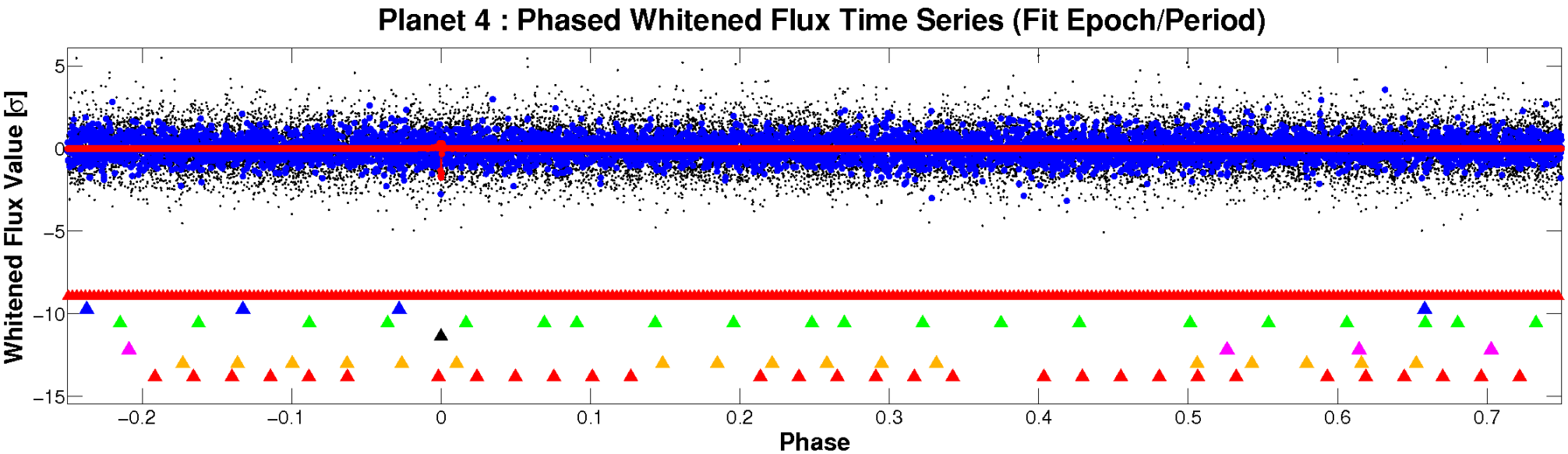

TCE 008114532-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
Flux
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008114532-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
Flux
-0.002
-0.001
0
0.001
0.002
Phase
Odd
Even
Model Fit

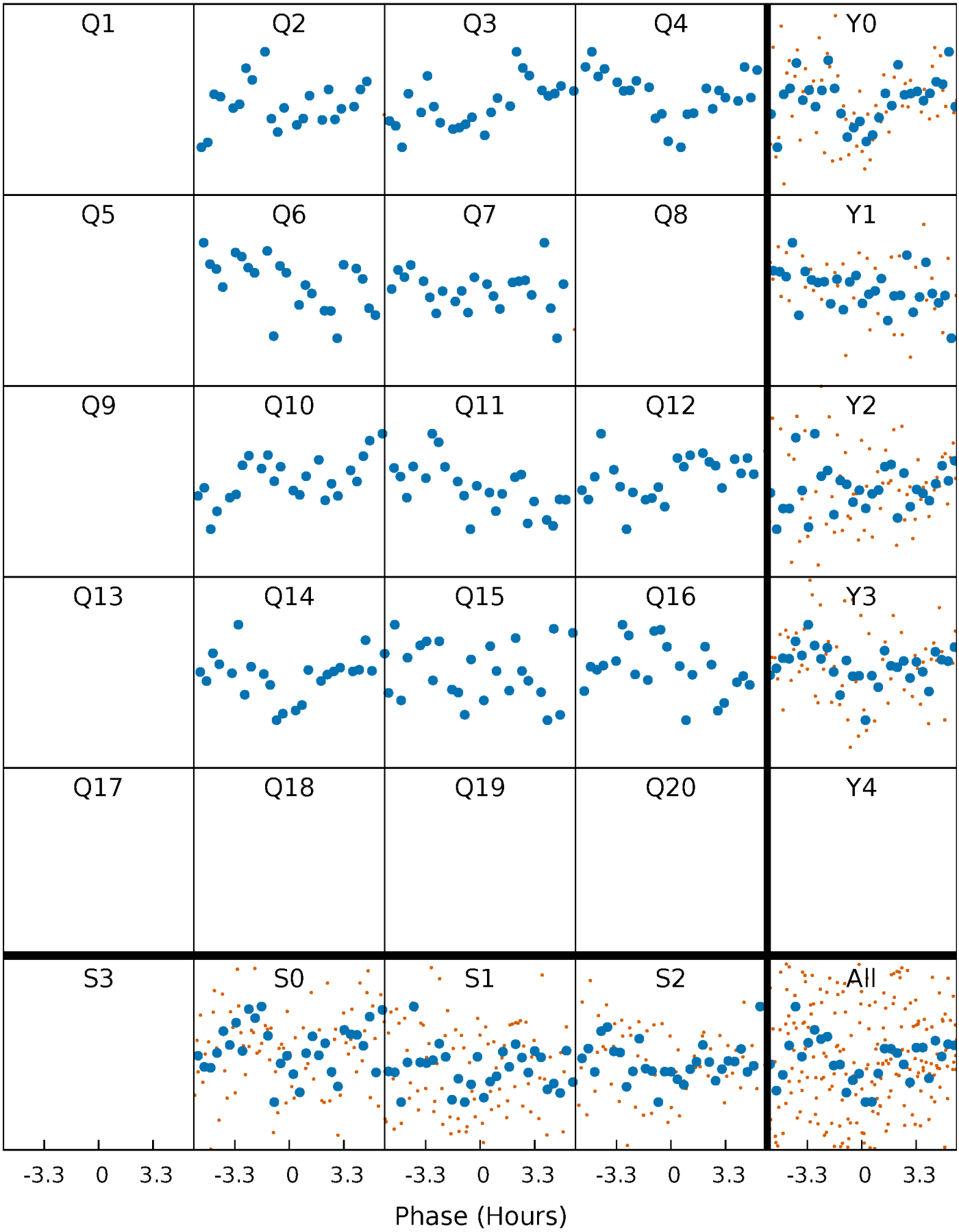
Non-Whitened Vs. Whitened Light Curve





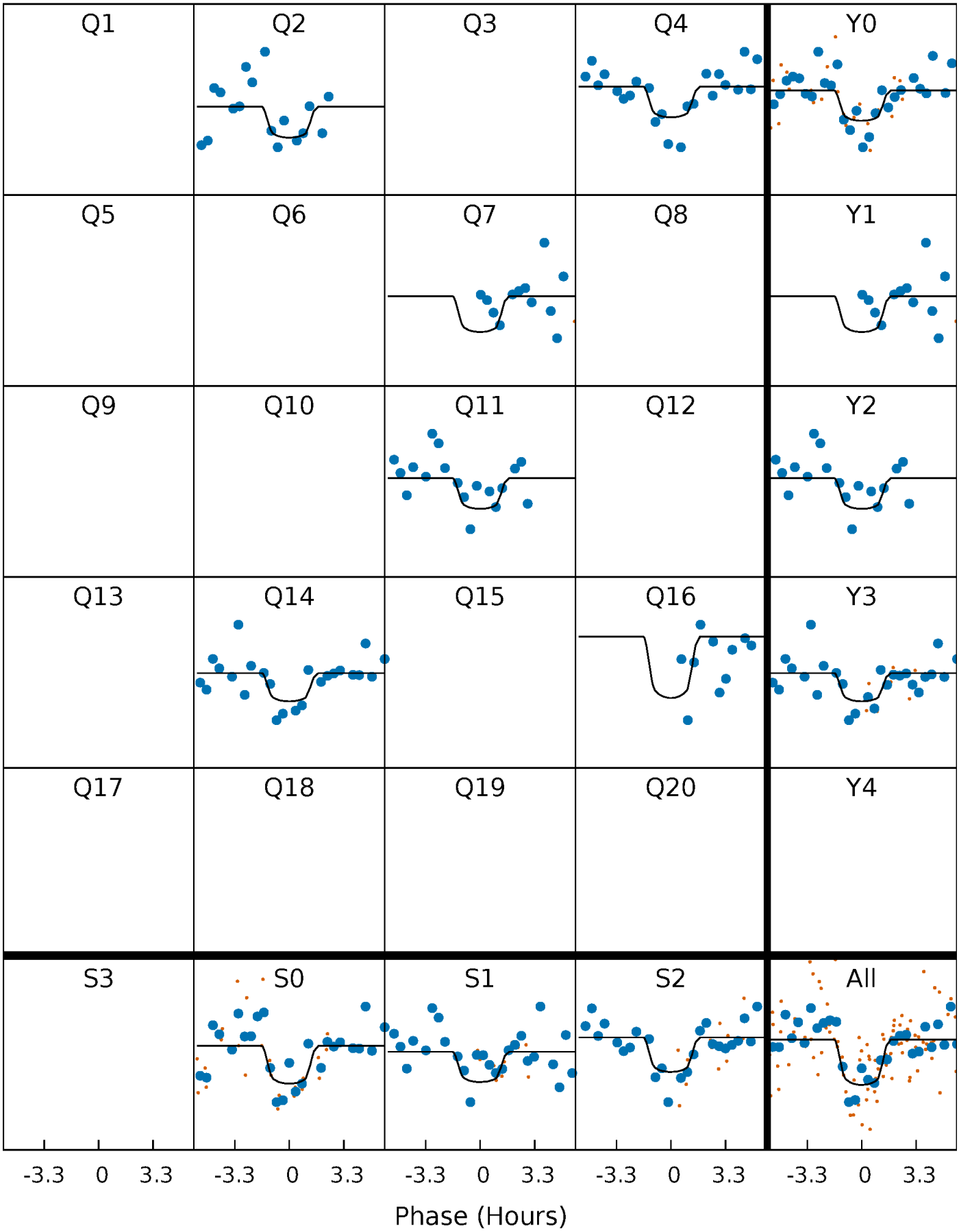
PDC Quarter-Phased Transit Curves

TCE 008114532-04 P=122.892501 Days T_0=193.801049 (BKJD)



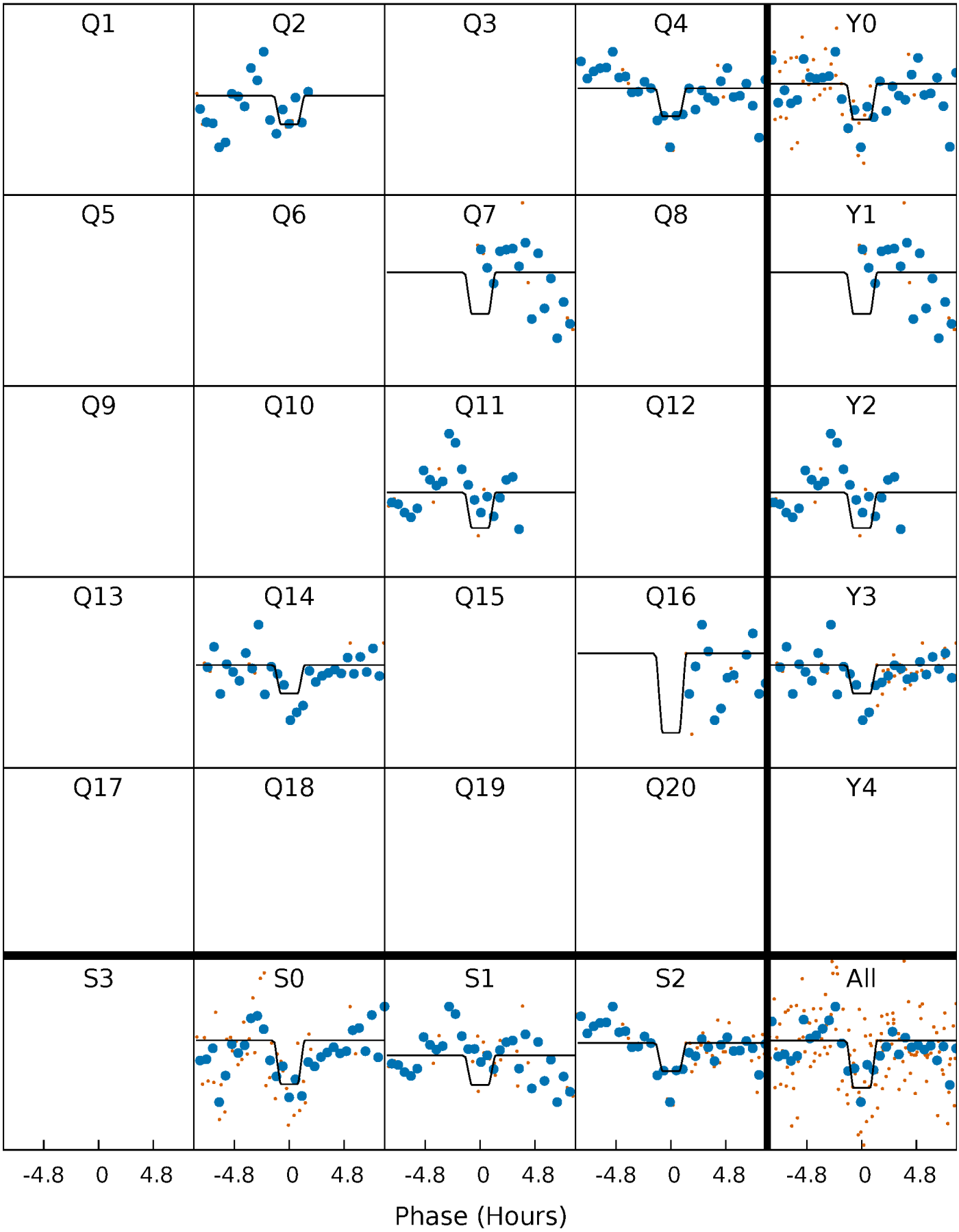
DV Quarter-Phased Transit Curves

TCE 008114532-04 P=122.892501 Days T_0=193.801049 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

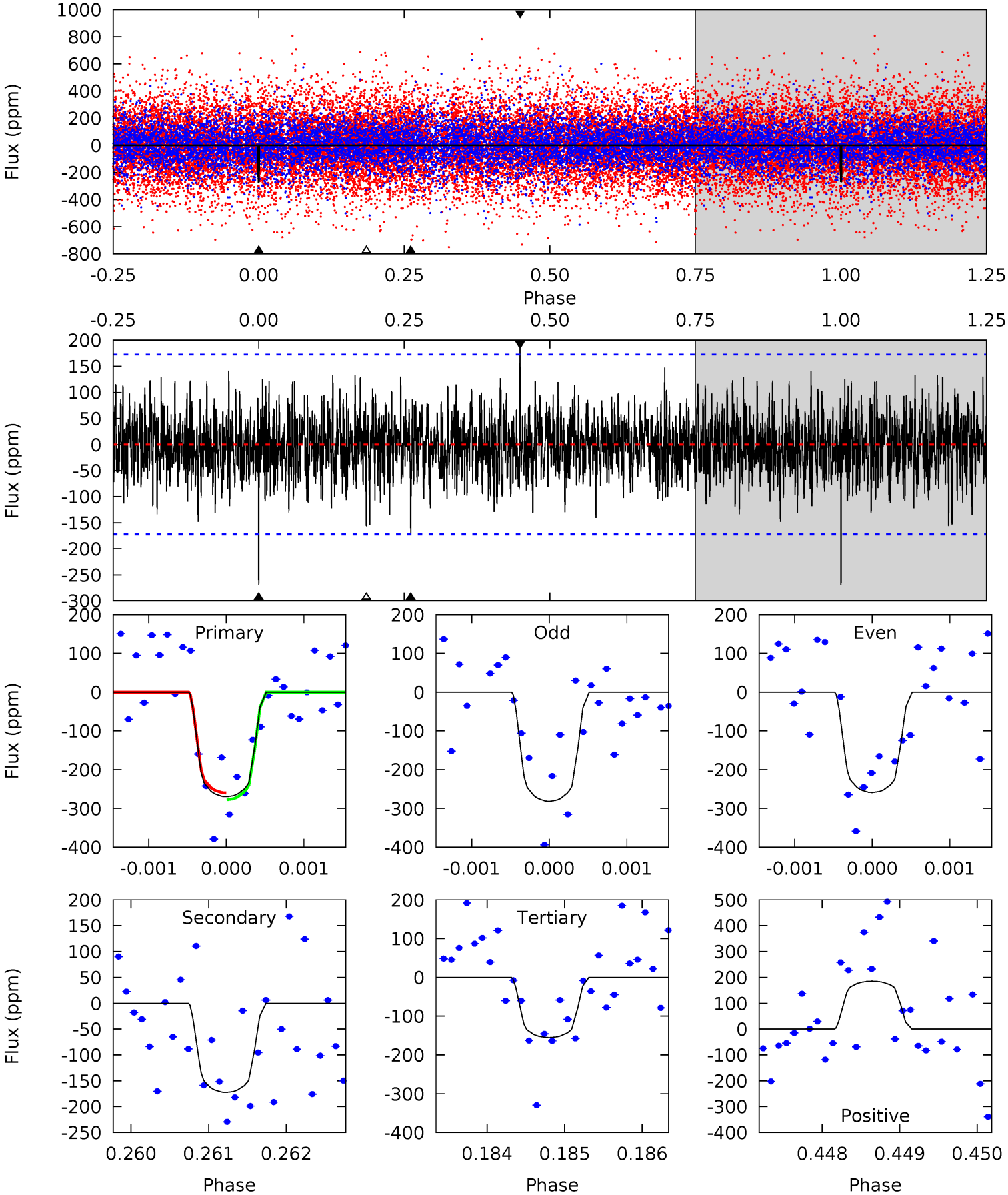
TCE 008114532-04 P=122.886892 Days T_0=193.825905 (BKJD)



DV Model-Shift Uniqueness Test

008114532-04, P = 122.892501 Days, E = 70.908548 Days

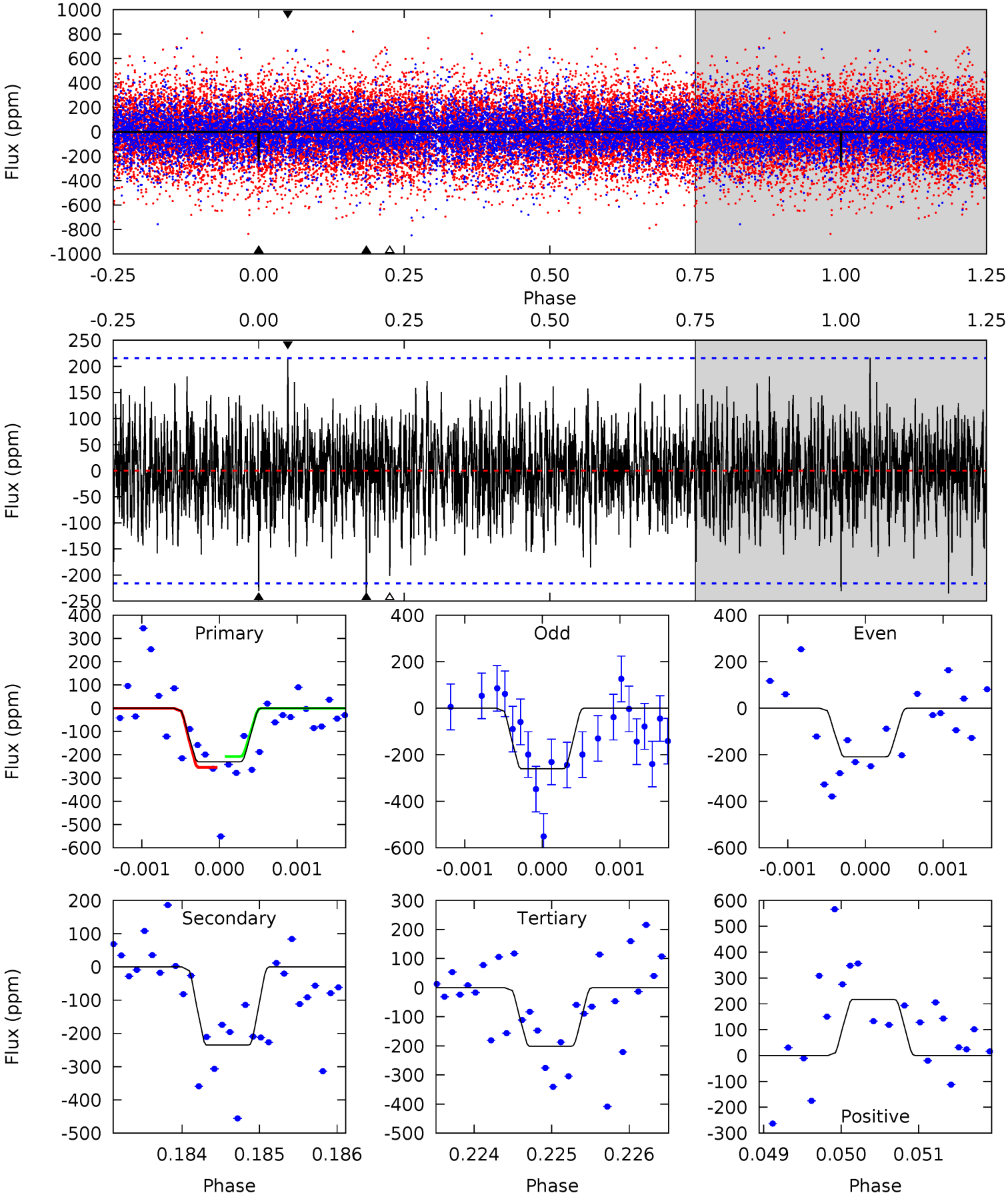
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.47	5.42	4.88	5.83	5.42	3.25	1.48	3.60	2.65	0.54	-0.41	0.35	1.02	0.41	0.28



Alt Model-Shift Uniqueness Test

008114532-04, P = 122.886892 Days, E = 70.939013 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.84	5.96	5.10	5.49	5.47	3.32	1.48	0.74	0.35	0.85	0.47	0.64	1.07	0.48	0.59



Stellar Parameters For KIC 008114532

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6316^{+189}_{-189}	$3.536^{+0.360}_{-0.112}$	$-0.080^{+0.300}_{-0.250}$	$3.681^{+0.459}_{-1.376}$	$1.696^{+0.193}_{-0.359}$	$0.048^{+0.122}_{-0.017}$
	+3%/-3%	+10%/-3%	+375%/-312%	+12%/-37%	+11%/-21%	+255%/-35%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008114532-04 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-172±32	$7.96^{+7.16}_{-5.25}$	971^{+55}_{-103}	4942^{+4186}_{-1040}	475^{+3758}_{-348}
Alt.	-235±39	$8.04^{+7.19}_{-5.18}$	973^{+54}_{-95}	5361^{+3823}_{-1145}	661^{+4011}_{-482}

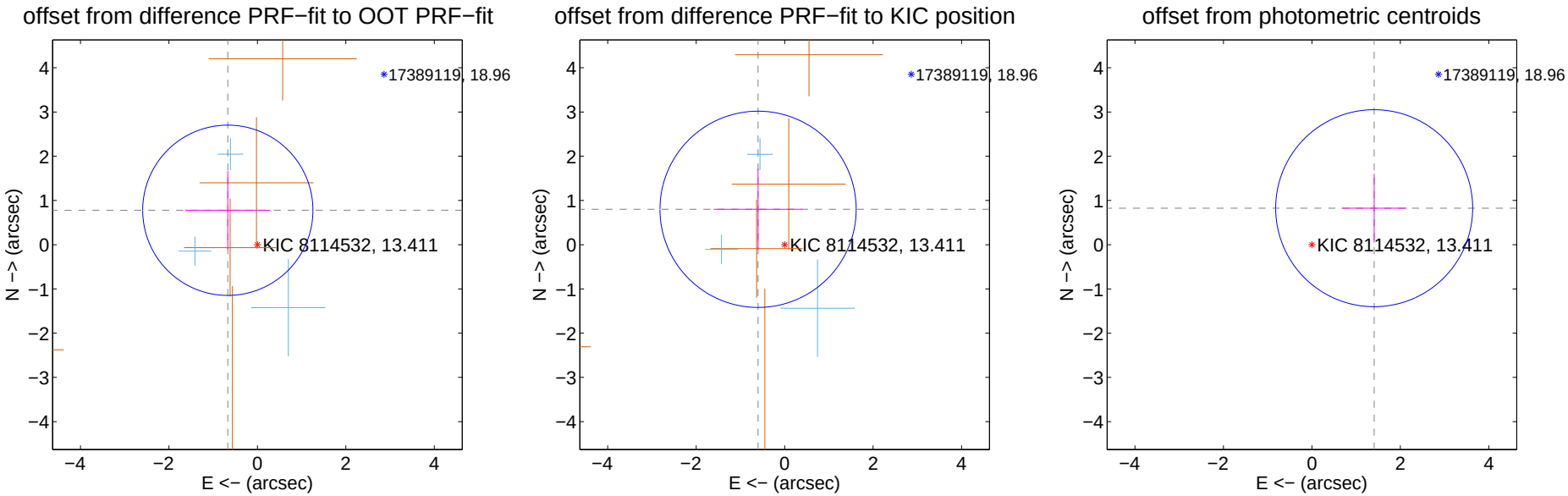
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

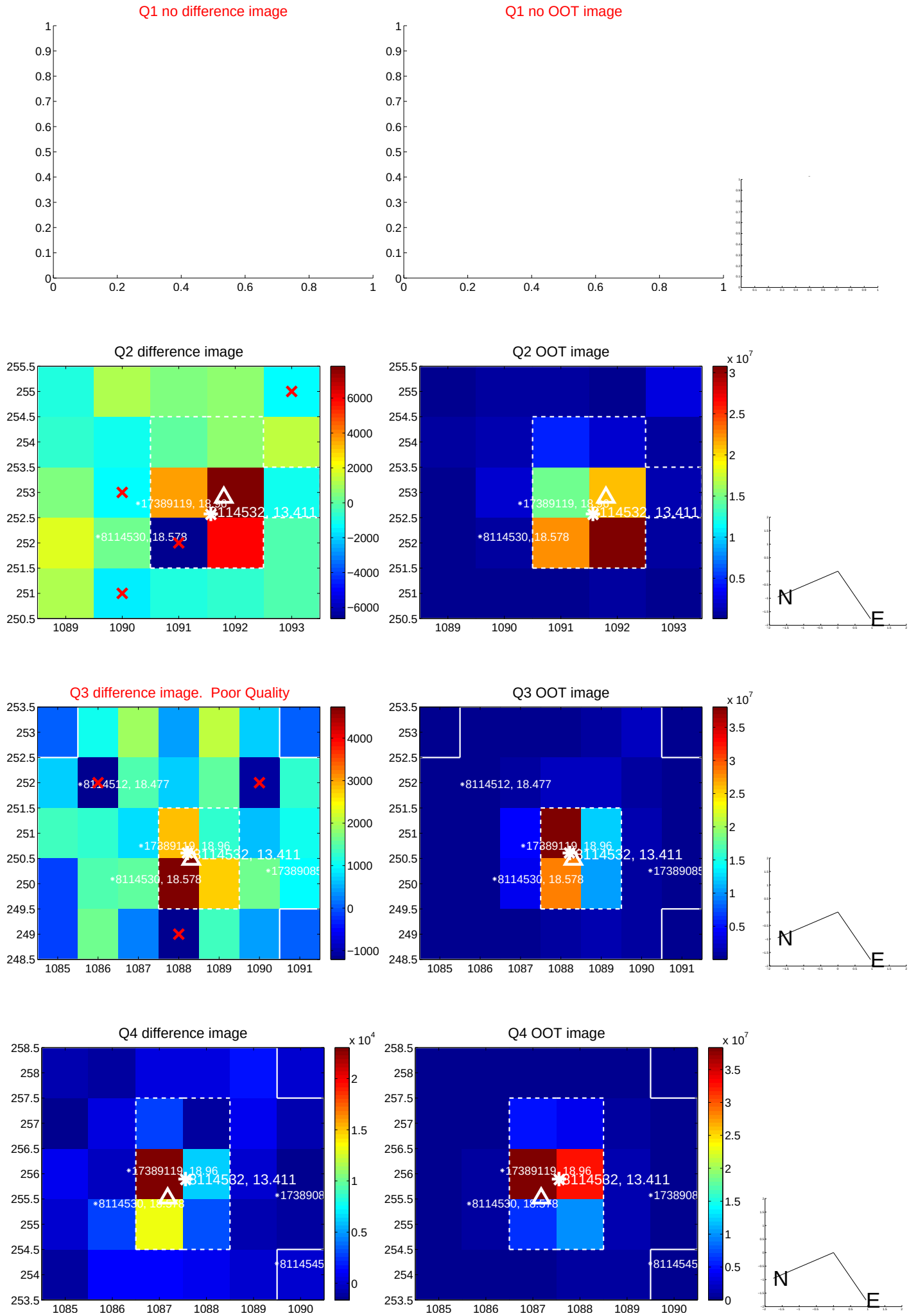
Supplemental centroid analysis for 008114532-04. Kepler magnitude: 13.41. Transit SNR 8.14
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.027 ± 0.642	1.60	0.669 ± 0.963	0.778 ± 0.885
PRF-fit source offset from KIC position	1.001 ± 0.739	1.35	0.601 ± 1.004	0.800 ± 0.916
photometric centroid source offset	1.63 ± 0.74	2.20	-1.41 ± 0.73	0.83 ± 0.78

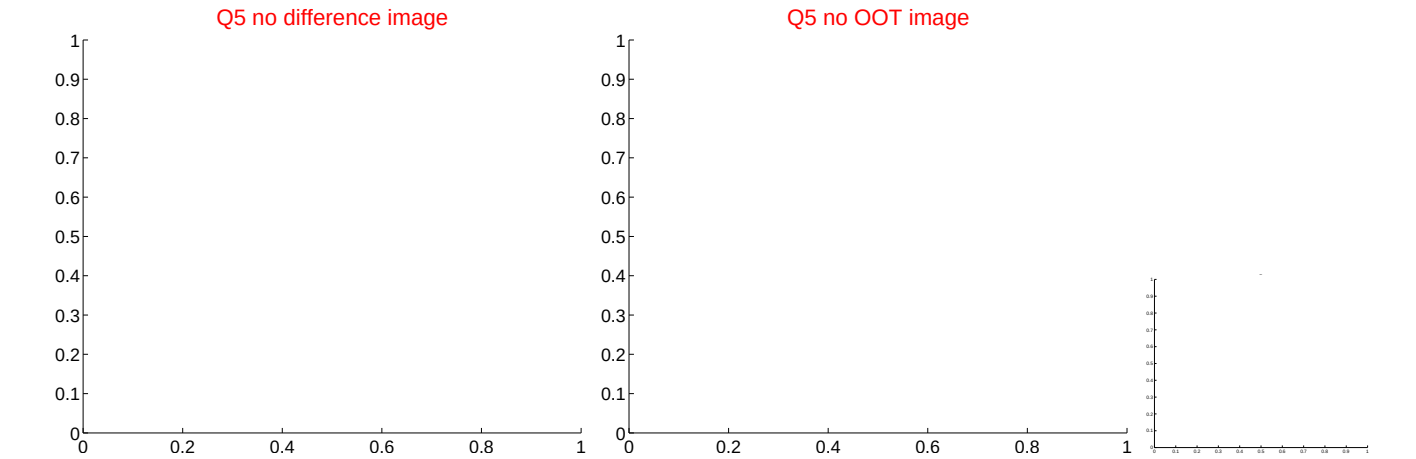


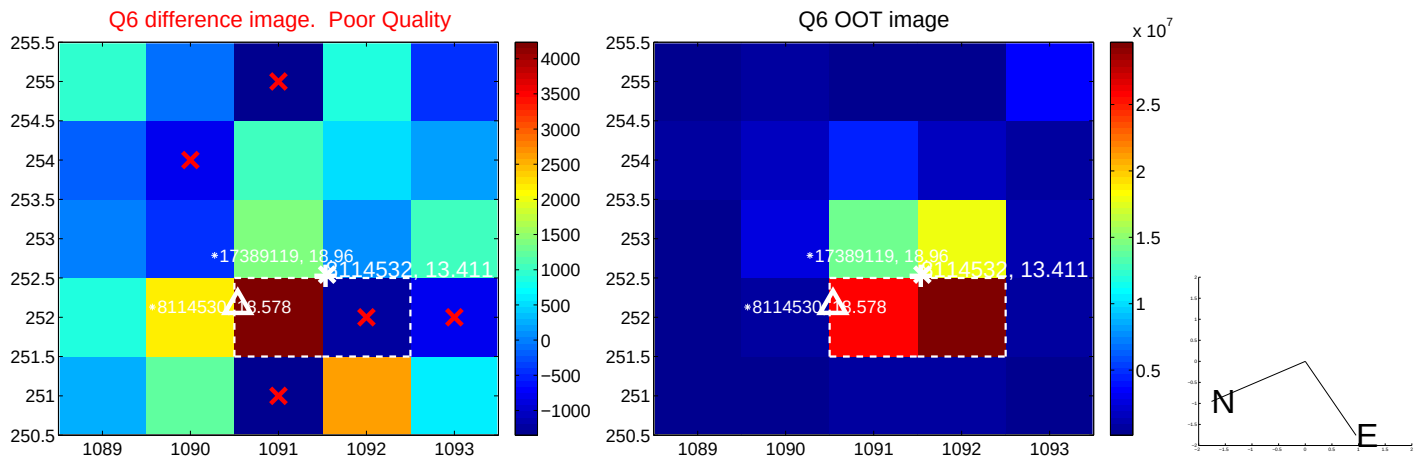
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

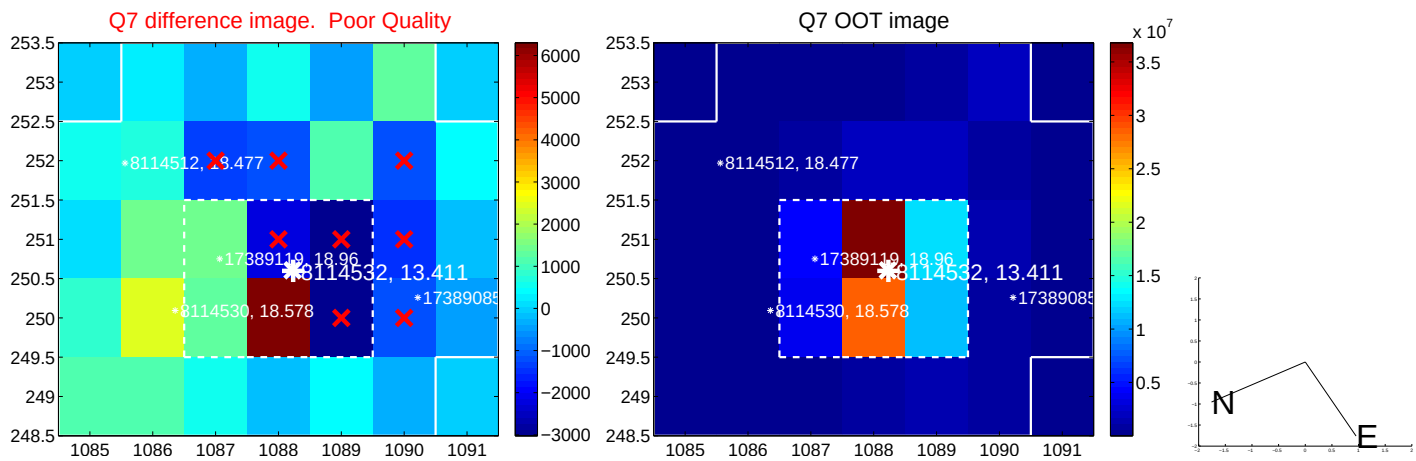
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

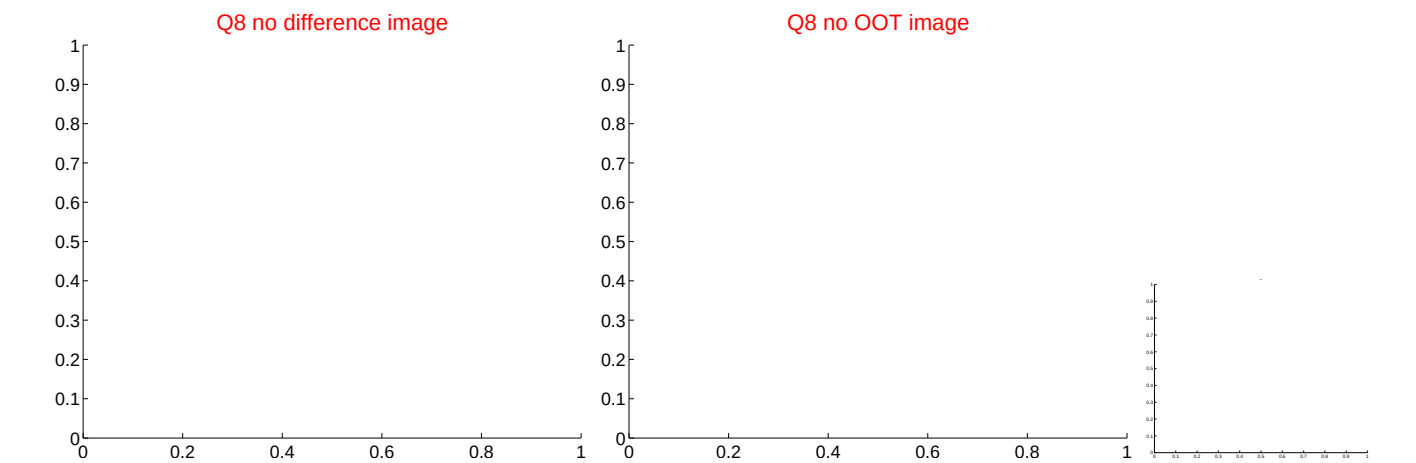


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

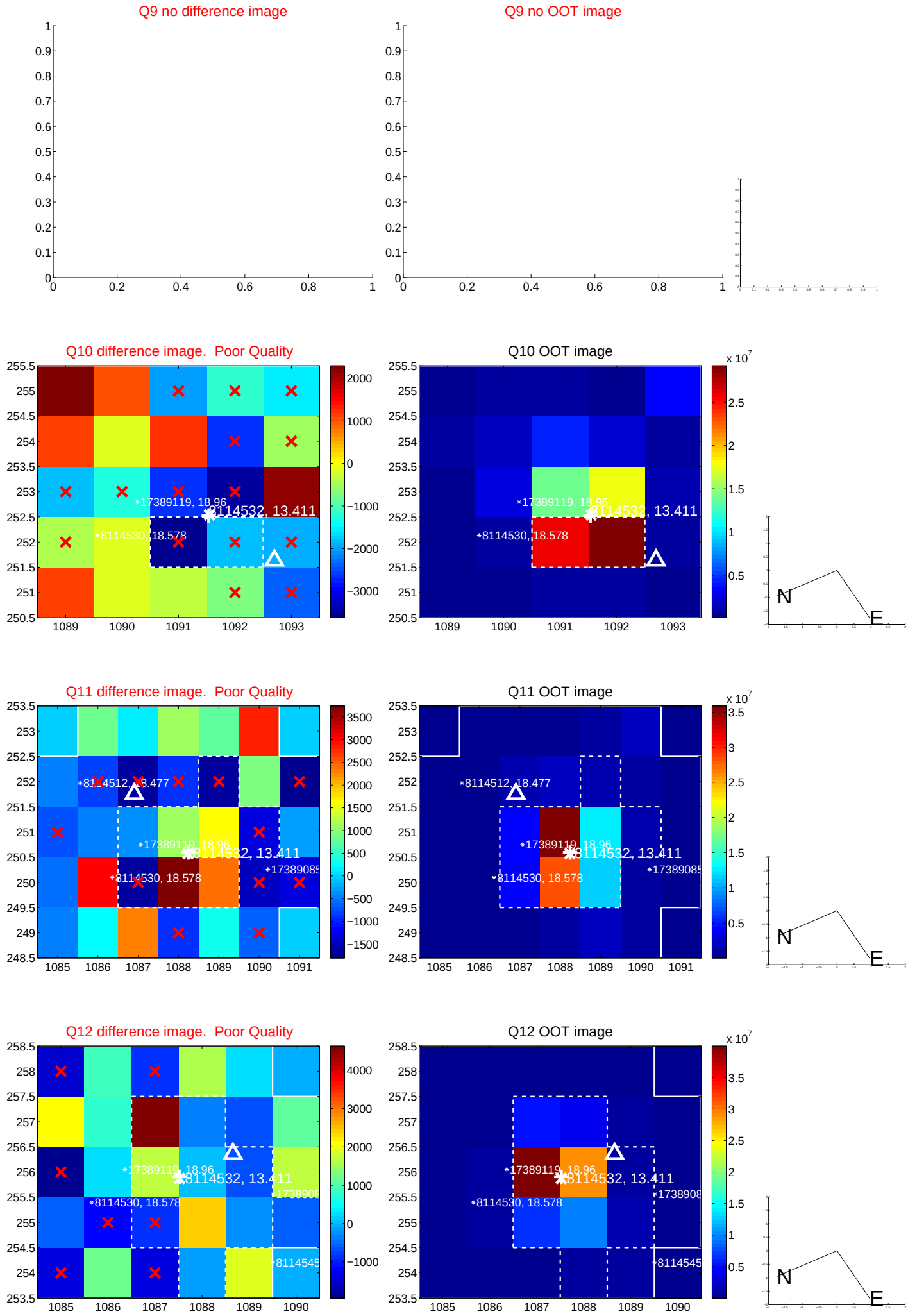




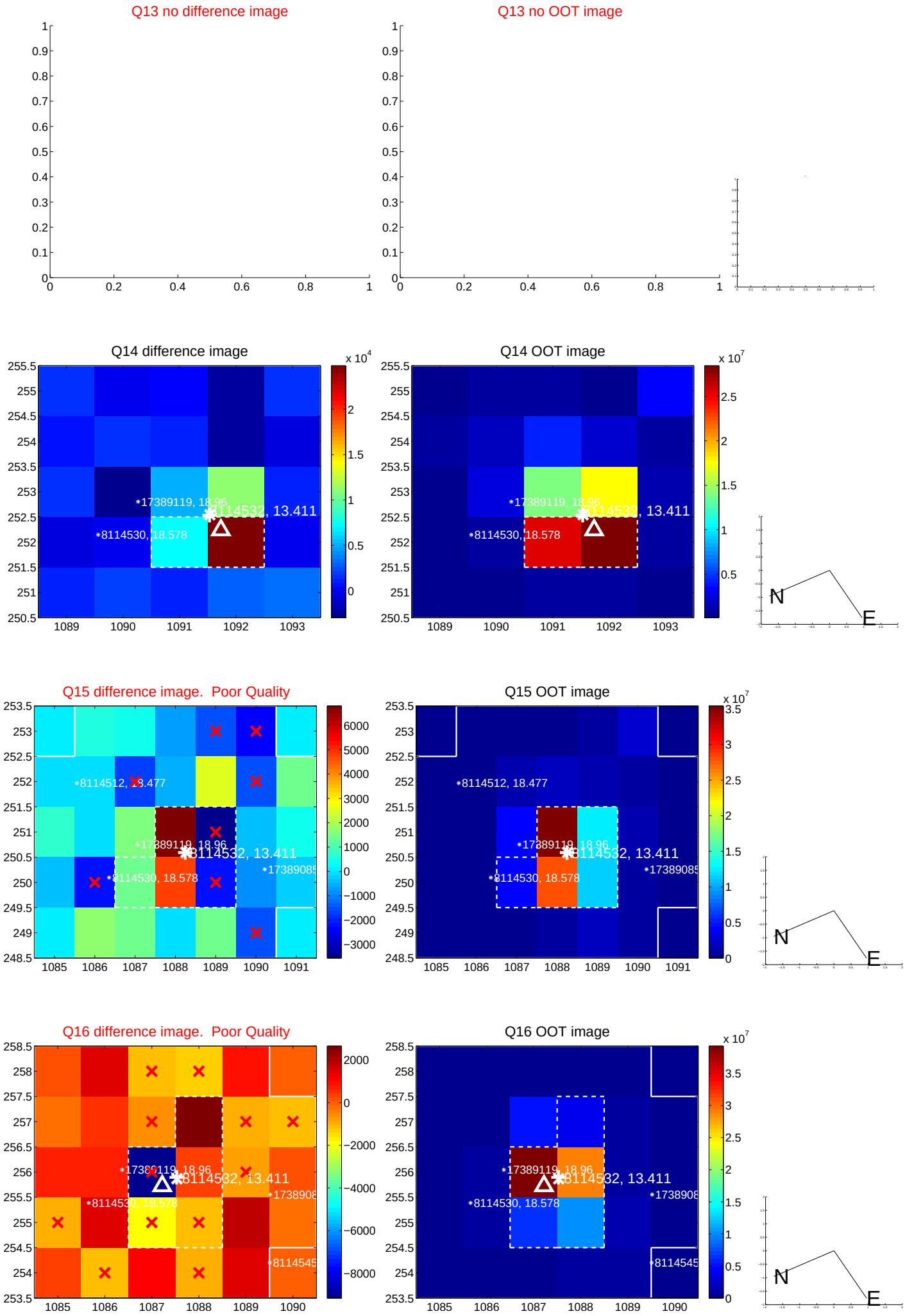




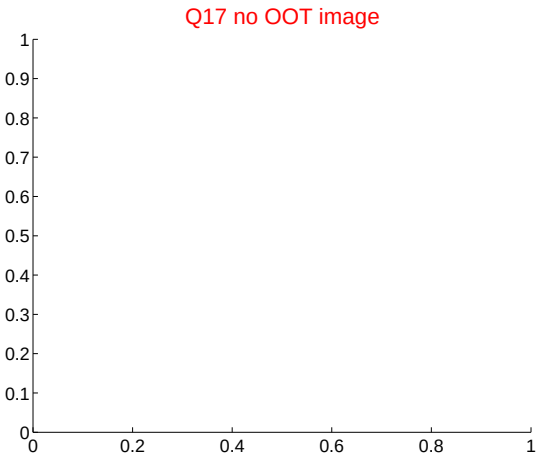
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

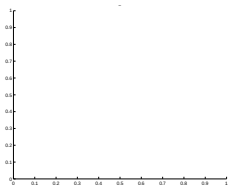


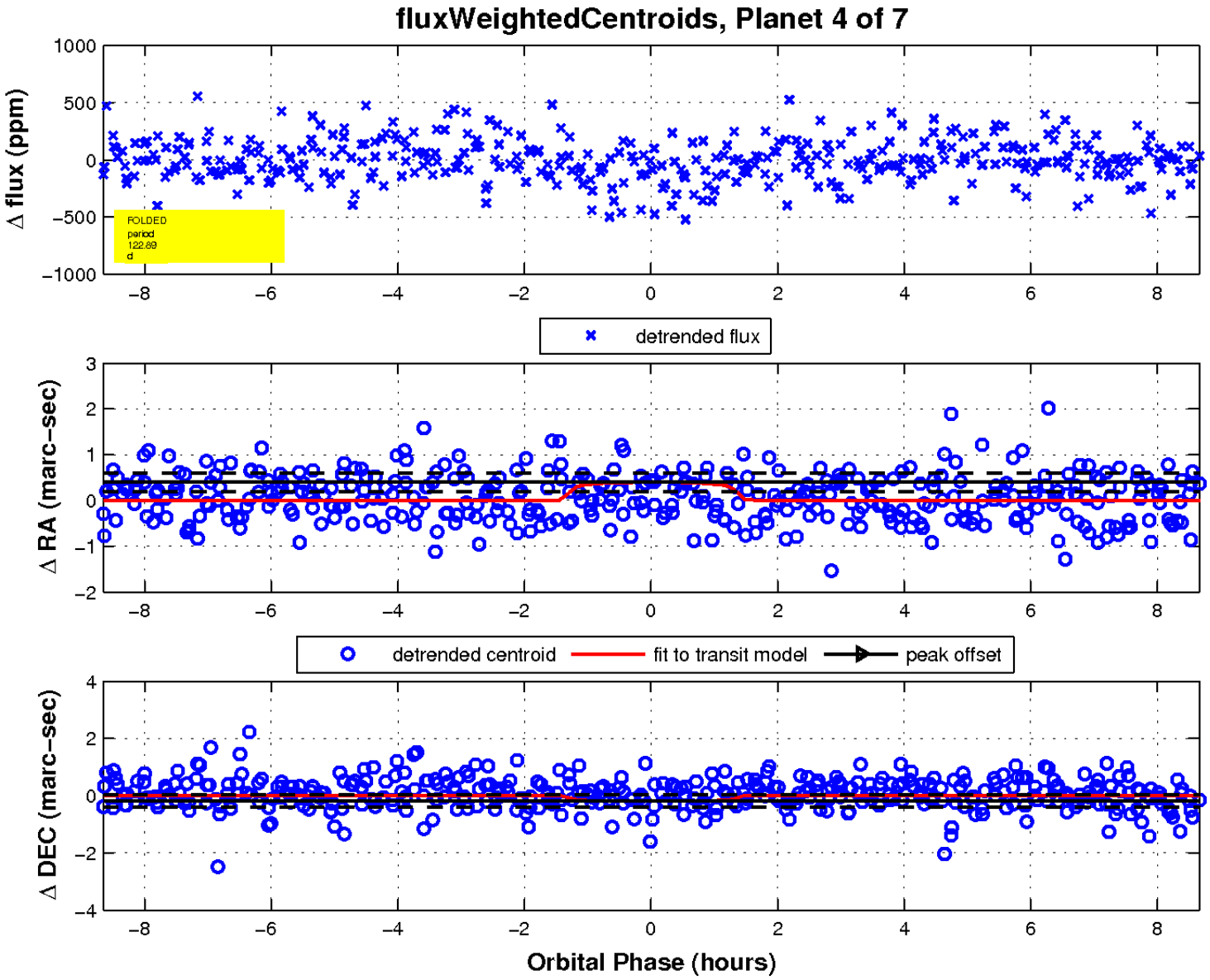
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



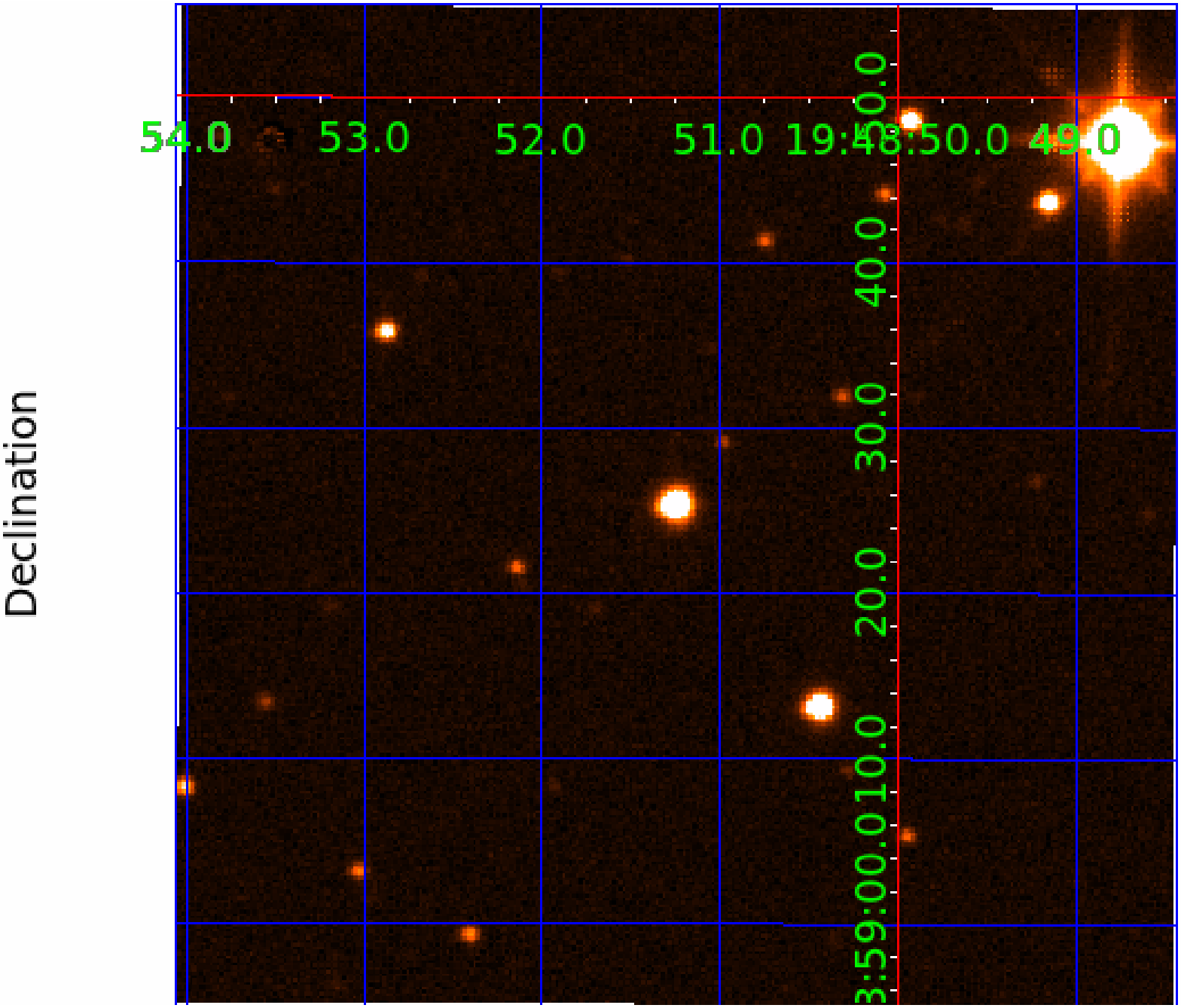
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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52.0
51.0
19:48:50.0
49.0
50.0
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30.0
20.0
10.0
3:59:00.0
Declination

KIC 008114532

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 ($S_\oplus$)
008114532-01	OBS	No	2.486340	132.570850	0.1	12.953	8.1	0.0	3.68	6316	0.11	10517.02
008114532-02	OBS	No	355.829103	190.356936	374.9	11.450	10.7	9.8	3.68	6316	7.68	14.05
008114532-03	OBS	No	72.446745	202.300421	209.0	5.016	8.0	7.5	3.68	6316	5.85	117.30
008114532-04	OBS	No	122.892501	193.801049	273.8	2.892	7.7	8.1	3.68	6316	6.98	57.98
008114532-05	OBS	No	357.818232	291.033735	337.0	3.607	7.7	7.9	3.68	6316	7.75	13.95
008114532-06	OBS	No	83.429574	212.026458	282.7	3.367	7.8	7.9	3.68	6316	7.13	97.17
008114532-07	OBS	No	49.789794	143.803696	335.6	1.742	7.3	8.1	3.68	6316	7.66	193.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008114532-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008114532-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008114532-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008114532-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008114532-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

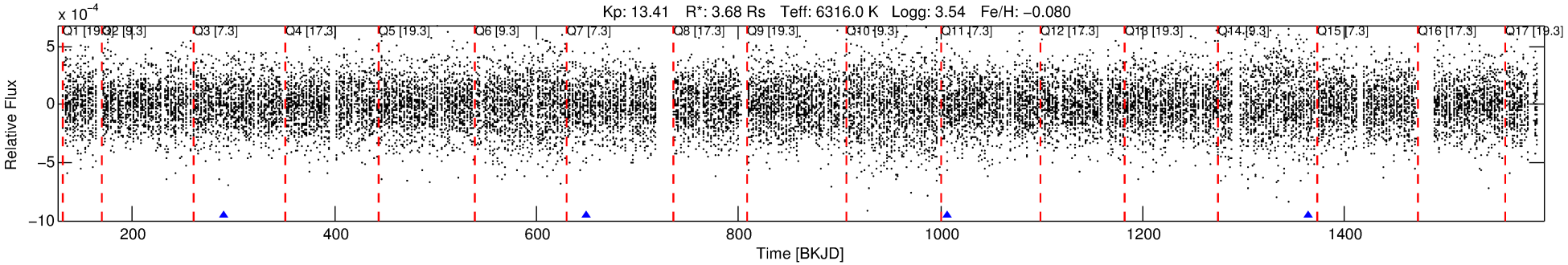
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

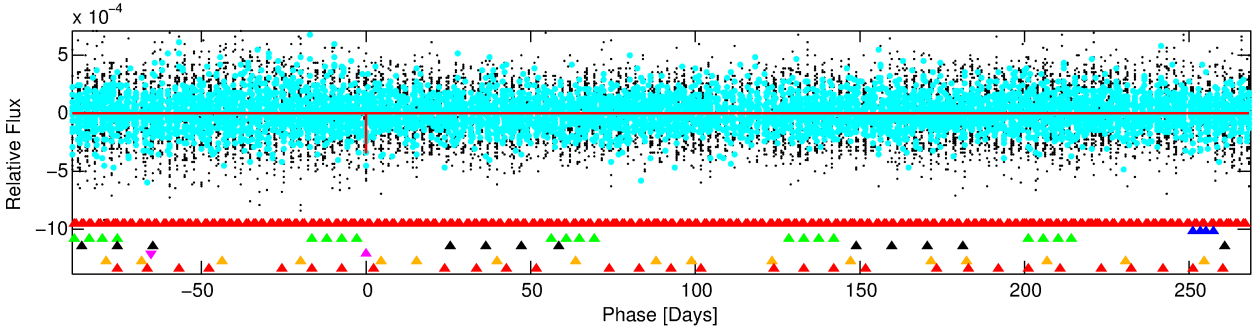
Ephemeris Match Information For 008114532-05

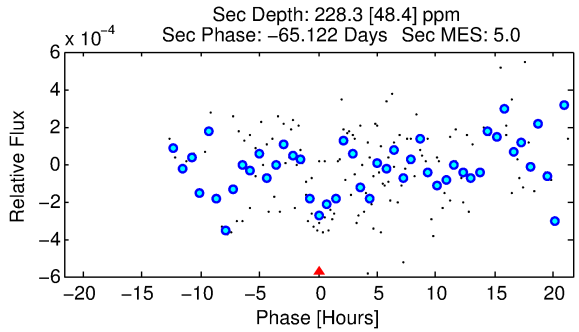
No Significant Match Found

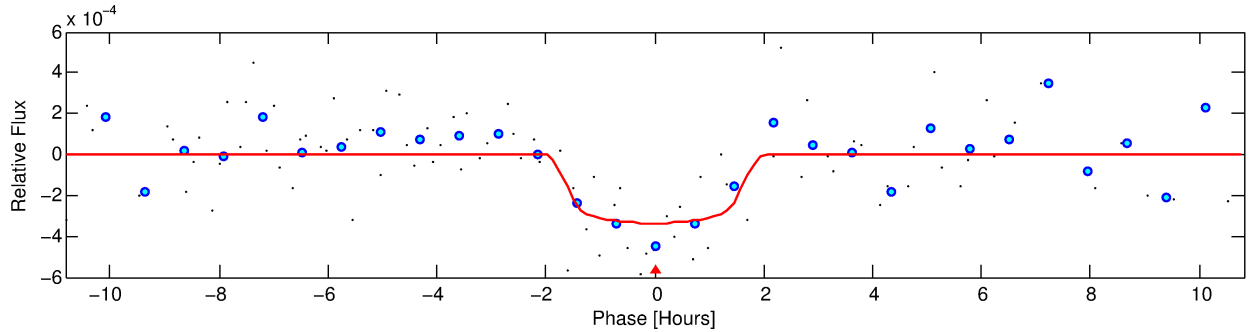
DV One-Page Summary

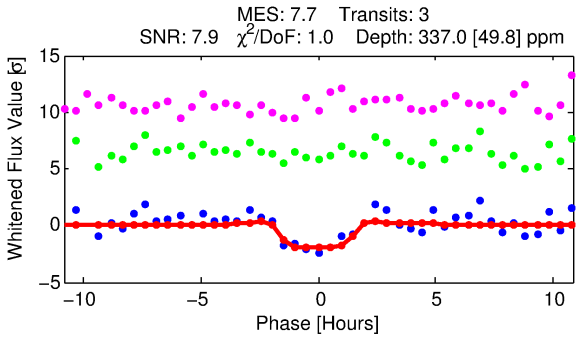
KIC: 8114532 Candidate: 5 of 7 Period: 357.818 d

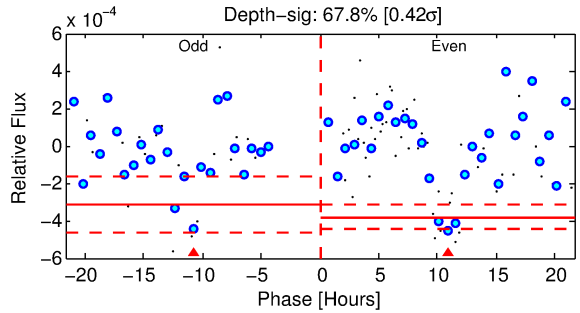


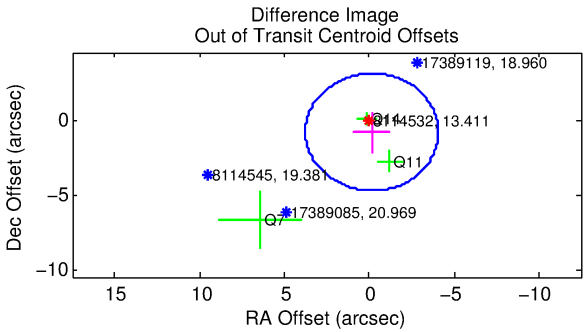












DV Fit Results:

Period = 357.81823 [0.00785] d
Epoch = 291.0337 [0.0190] BKJD
Rp/R* = 0.0193 [0.0186]
a/R* = 401.05 [2117.70]
b = 0.87 [1.49]

Seff = 13.95 [8.62]
Teq = 493 [76] K
Rp = 7.75 [8.02] Re
a = 1.1770 [0.4380] AU

Ag = 2896.03 [5892.79] [0.49σ]
Teffp = 5589 [2719] K [1.87σ]

DV Diagnostic Results:

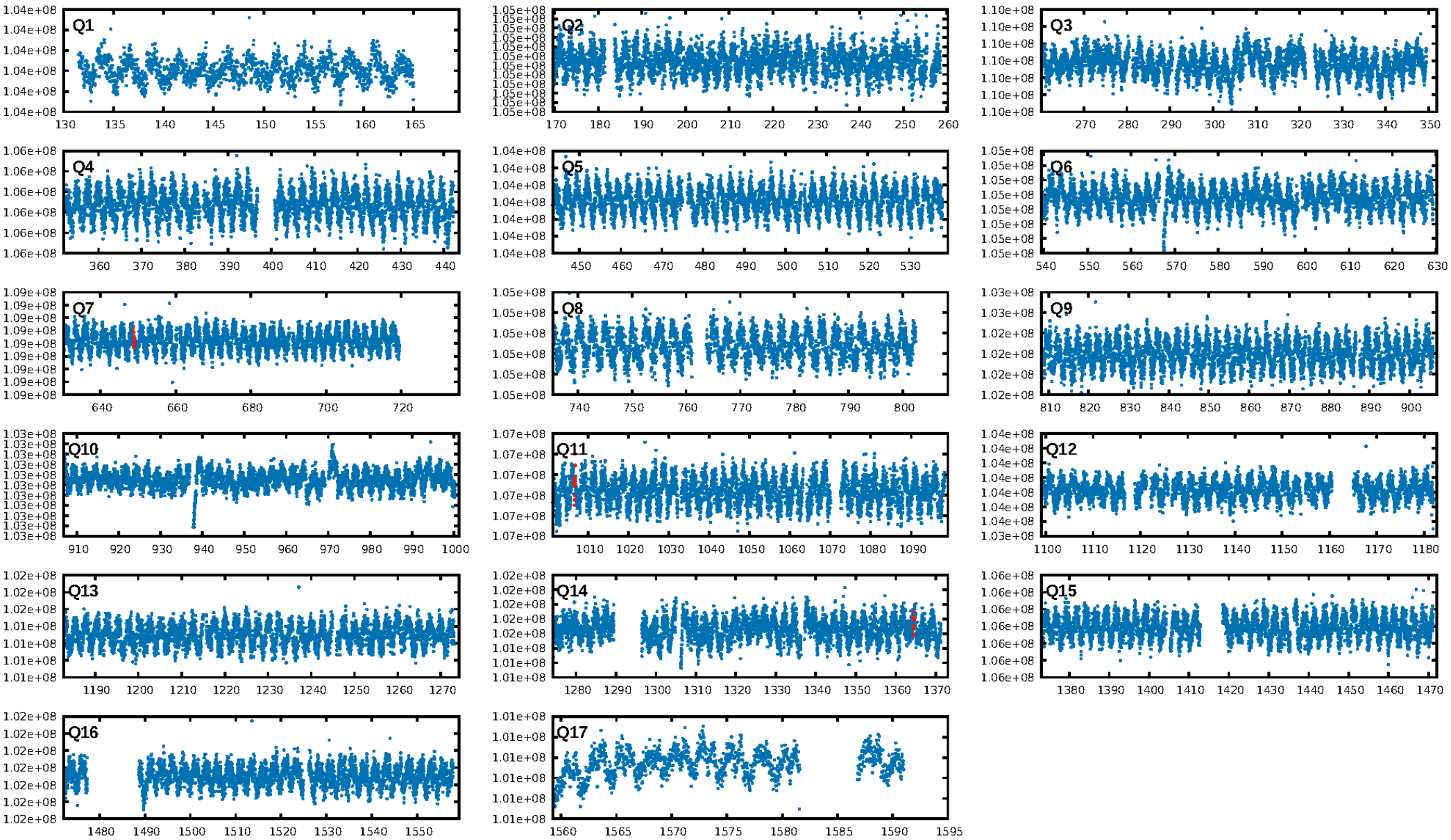
ShortPeriod−sig: 100.0% [3.98σ]
LongPeriod−sig: N/A
ModelChiSquare2−sig: 66.7%
ModelChiSquareGof−sig: 96.1%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [3/3]
GhostDiagnostic−chr: 2.59

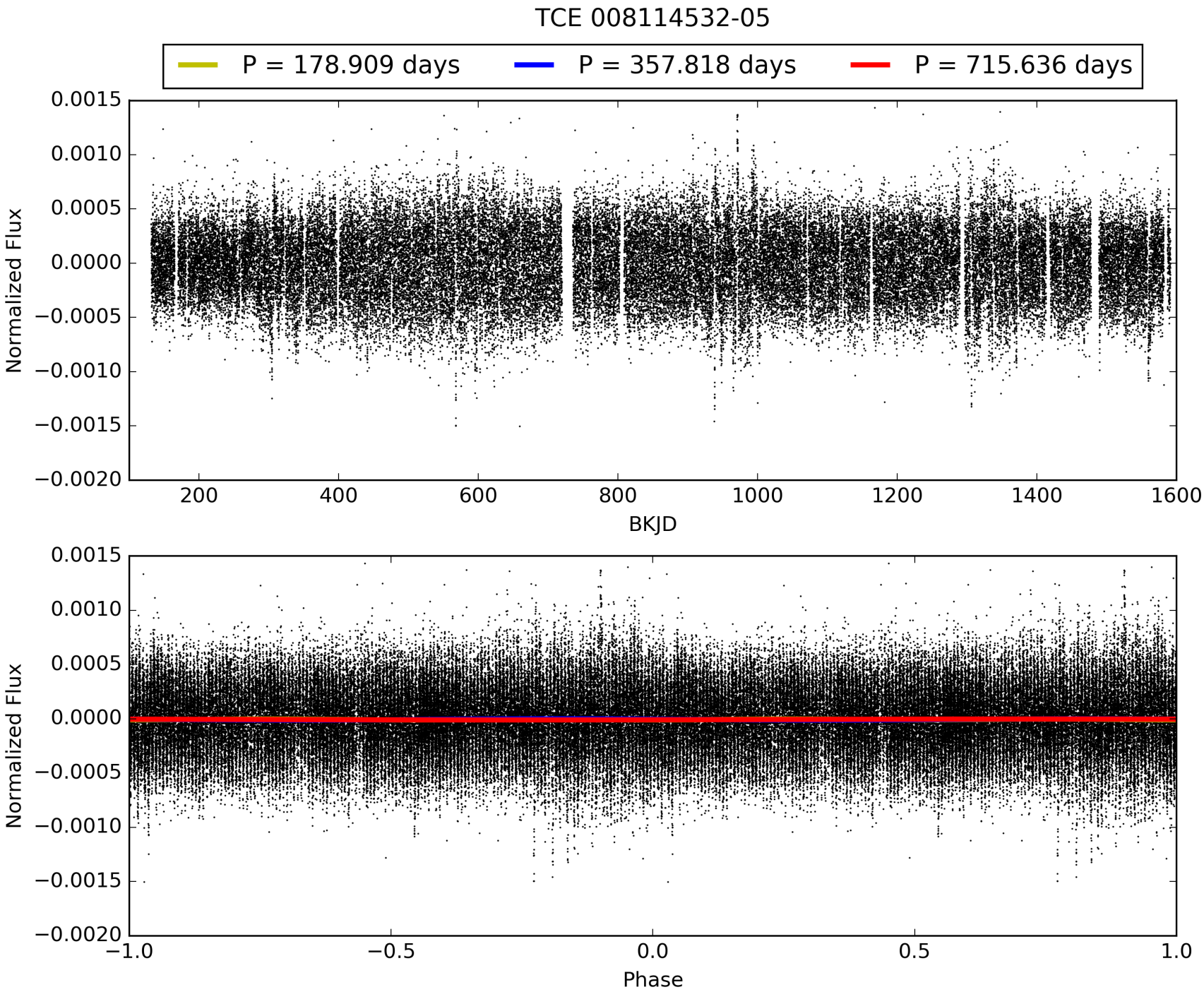
Centroid−sig: 0.1%
Centroid−so: 1.956 arcsec [1.77σ]
OotOffset−rm: 0.840 arcsec [0.64σ]
KicOffset−rm: 0.784 arcsec [0.53σ]
OotOffset−st: 1/2/0/0 [3]
KicOffset−st: 1/2/0/0 [3]
DiffImageQuality−fgm: 0.67 [2/3]
DiffImageOverlap−fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 22:46:33 Z

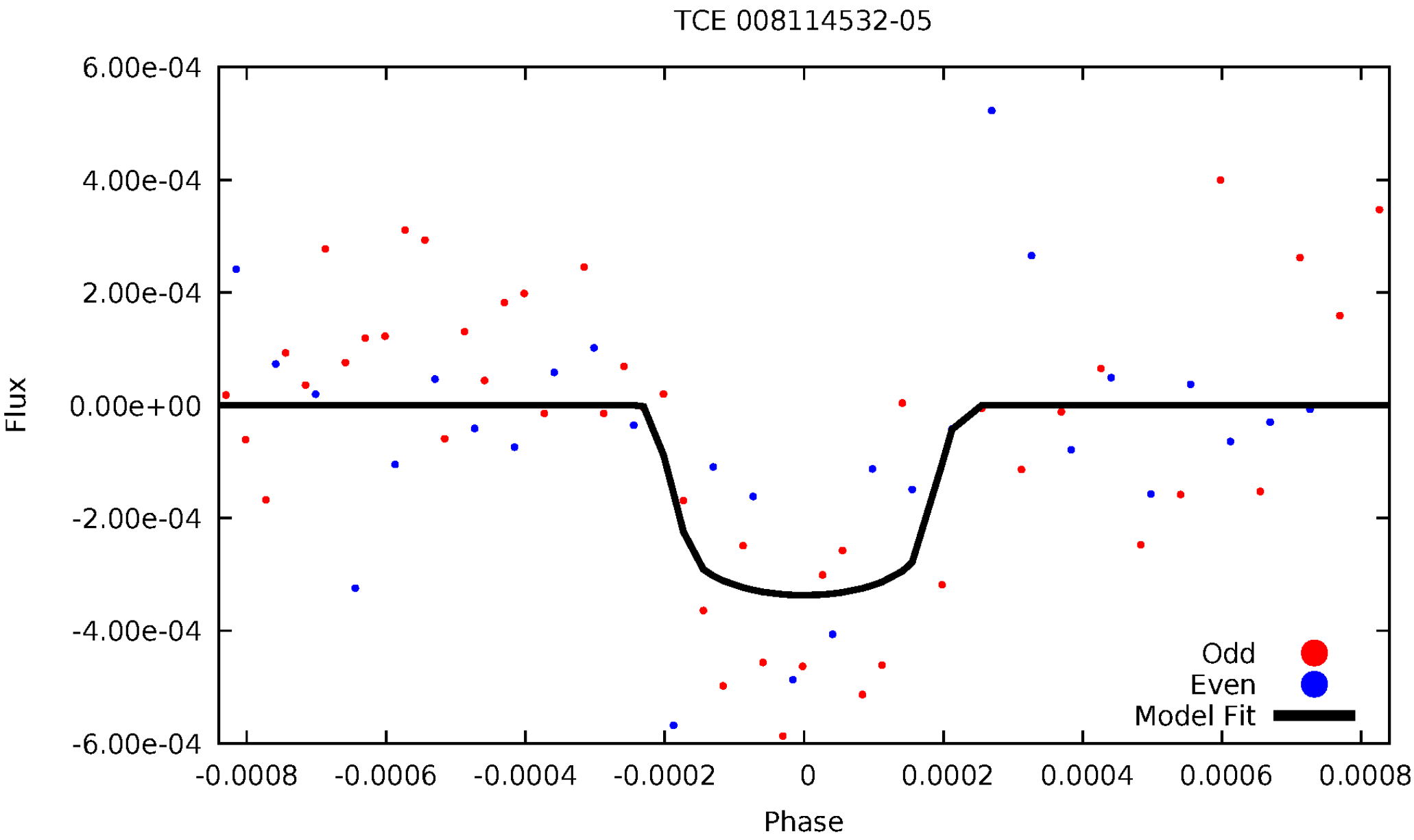
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008114532-05, PDC Light Curves

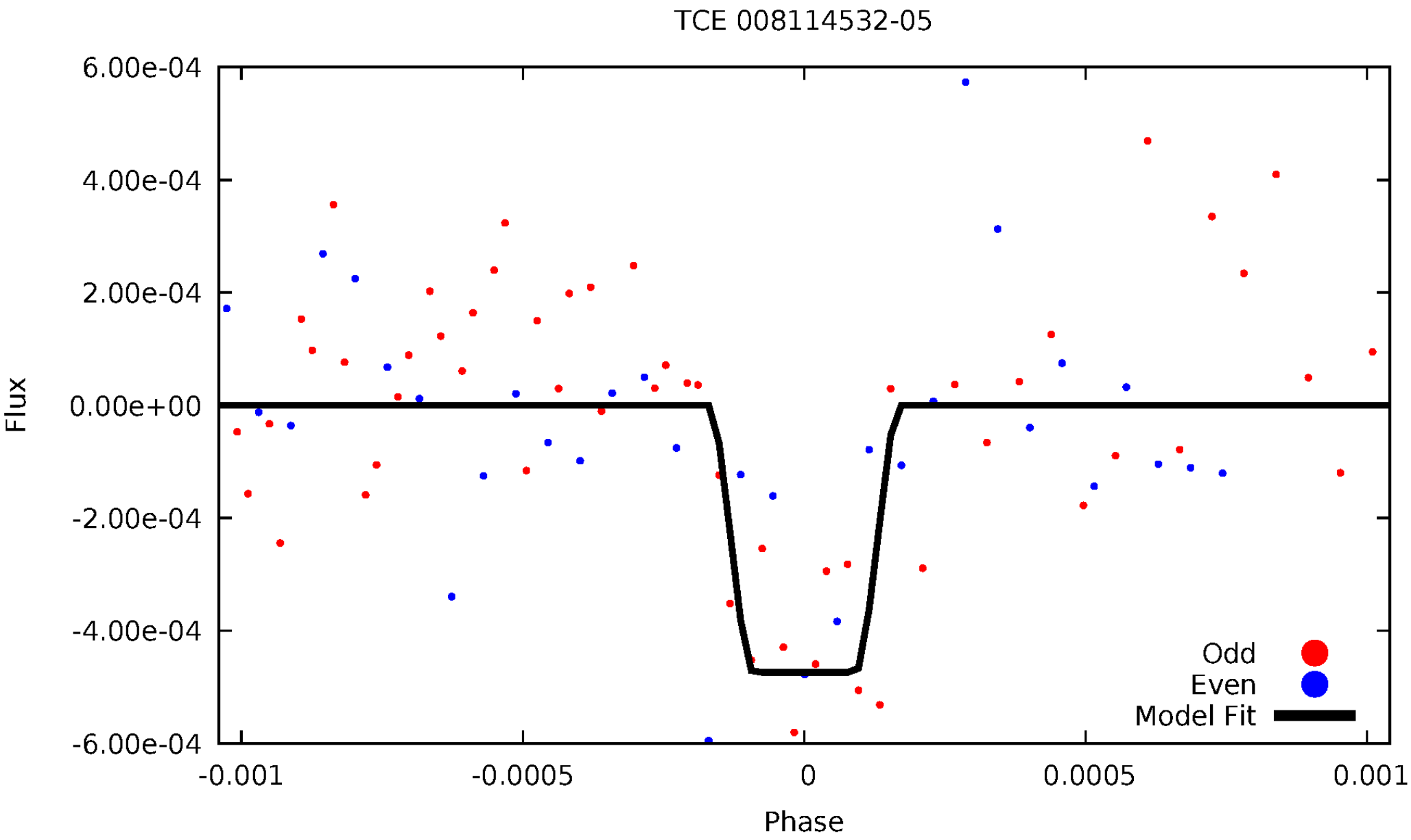



TCE 008114532-05
P = 178.909 days
P = 357.818 days
P = 715.636 days
Normalized Flux
BKJD
Normalized Flux
Phase

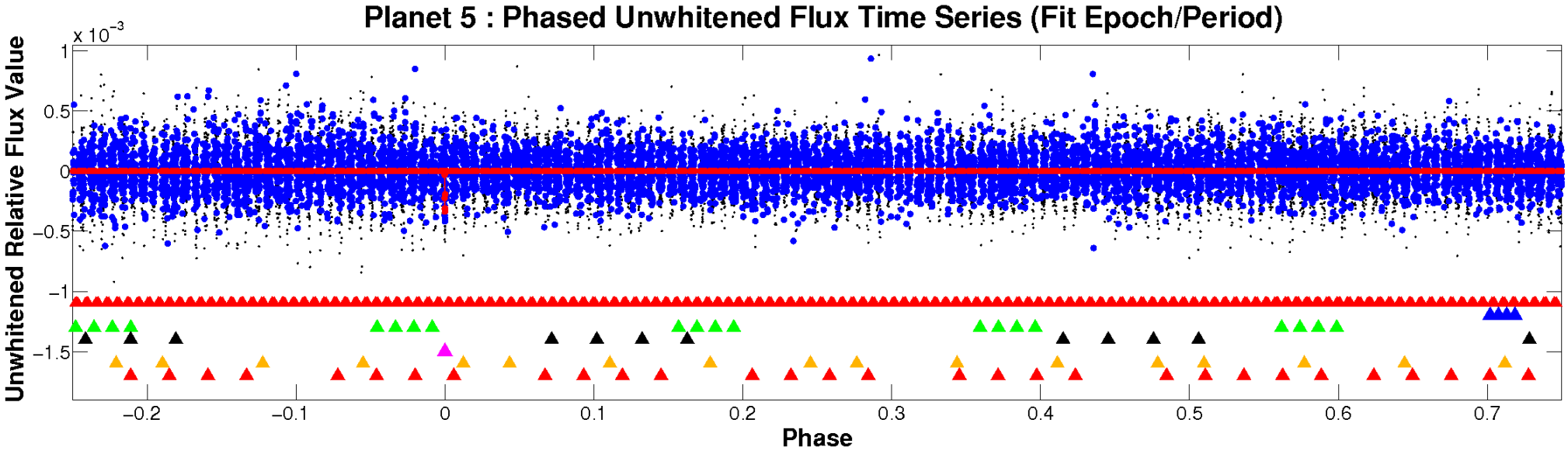
DV Odd/Even

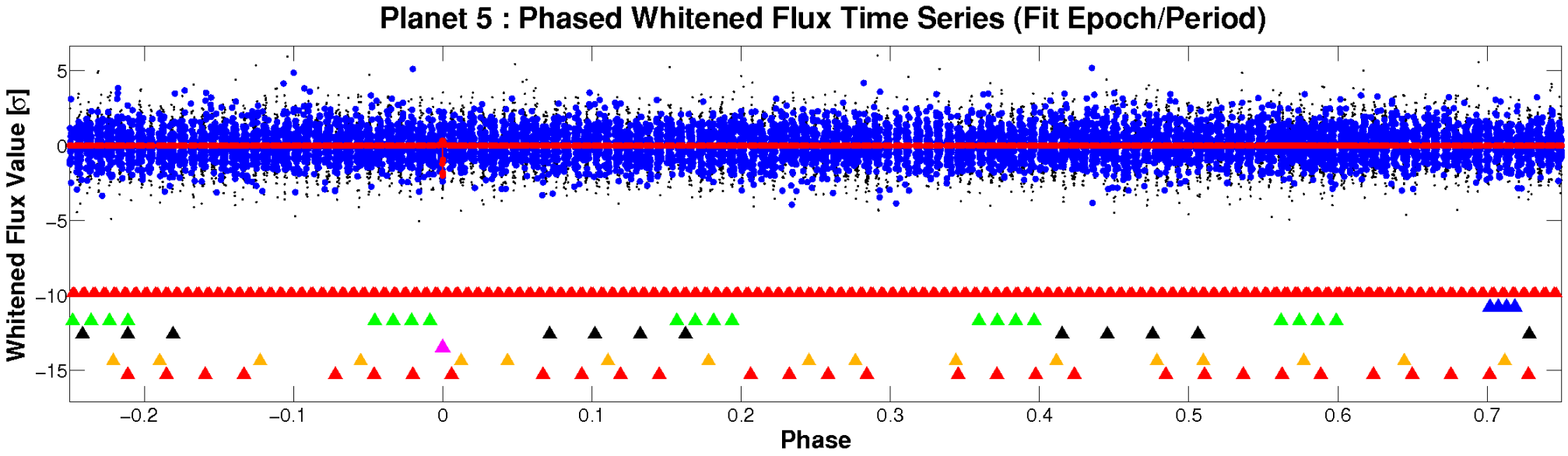

TCE 008114532-05
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
Flux
-0.0008
-0.0006
-0.0004
-0.0002
0
0.0002
0.0004
0.0006
0.0008
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008114532-05
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

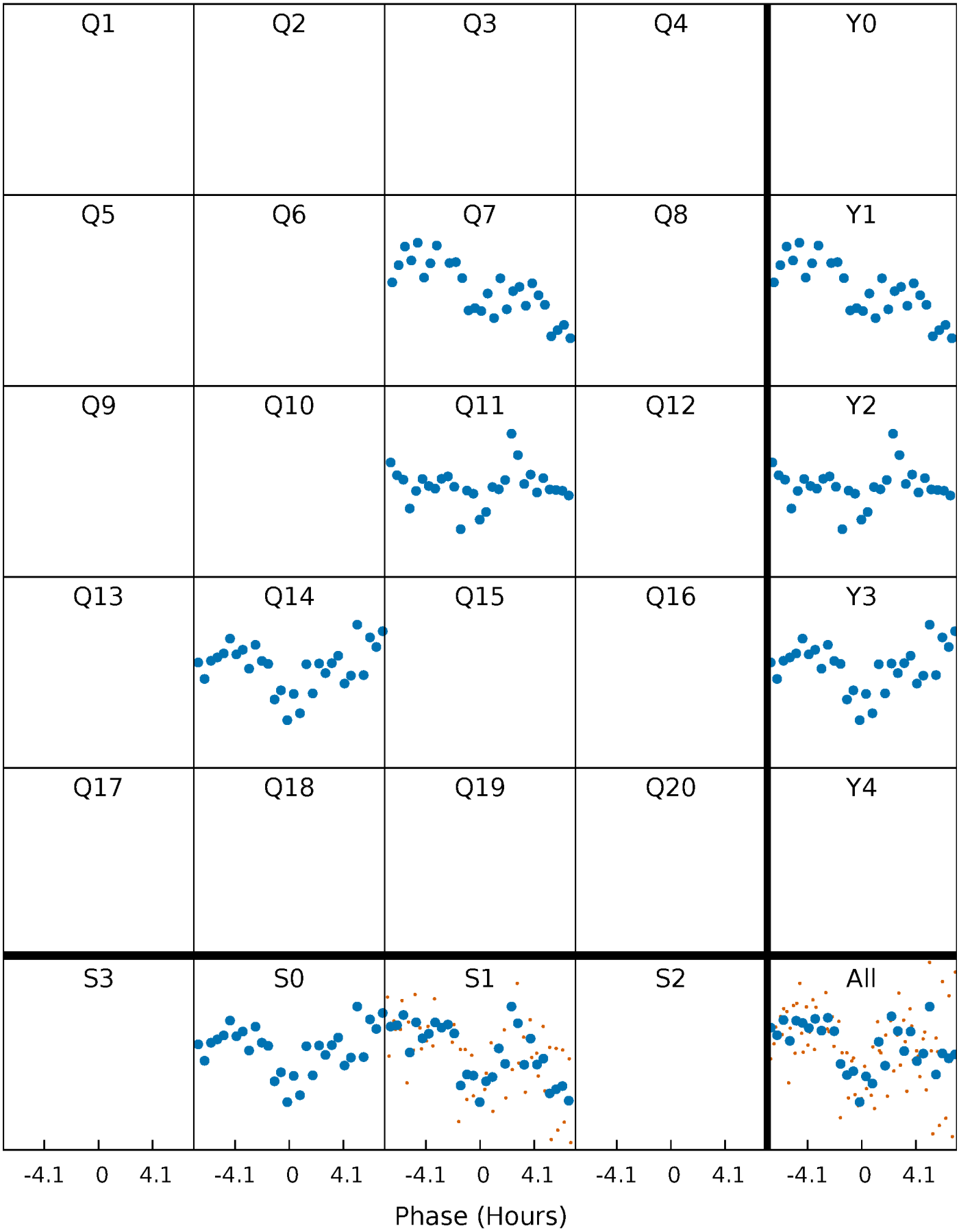
Non-Whitened Vs. Whitened Light Curve





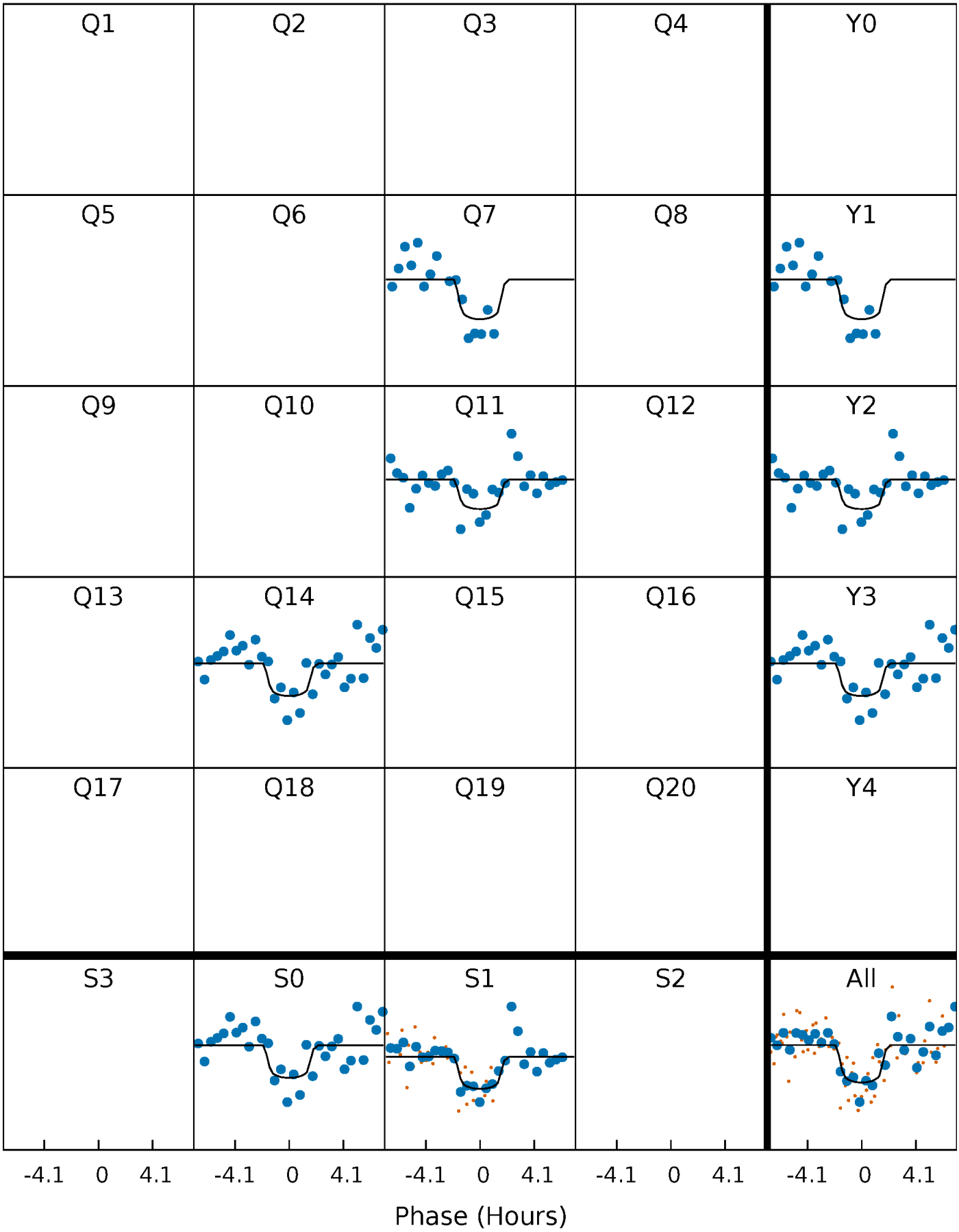
PDC Quarter-Phased Transit Curves

TCE 008114532-05 P=357.818232 Days T_0=291.033735 (BKJD)



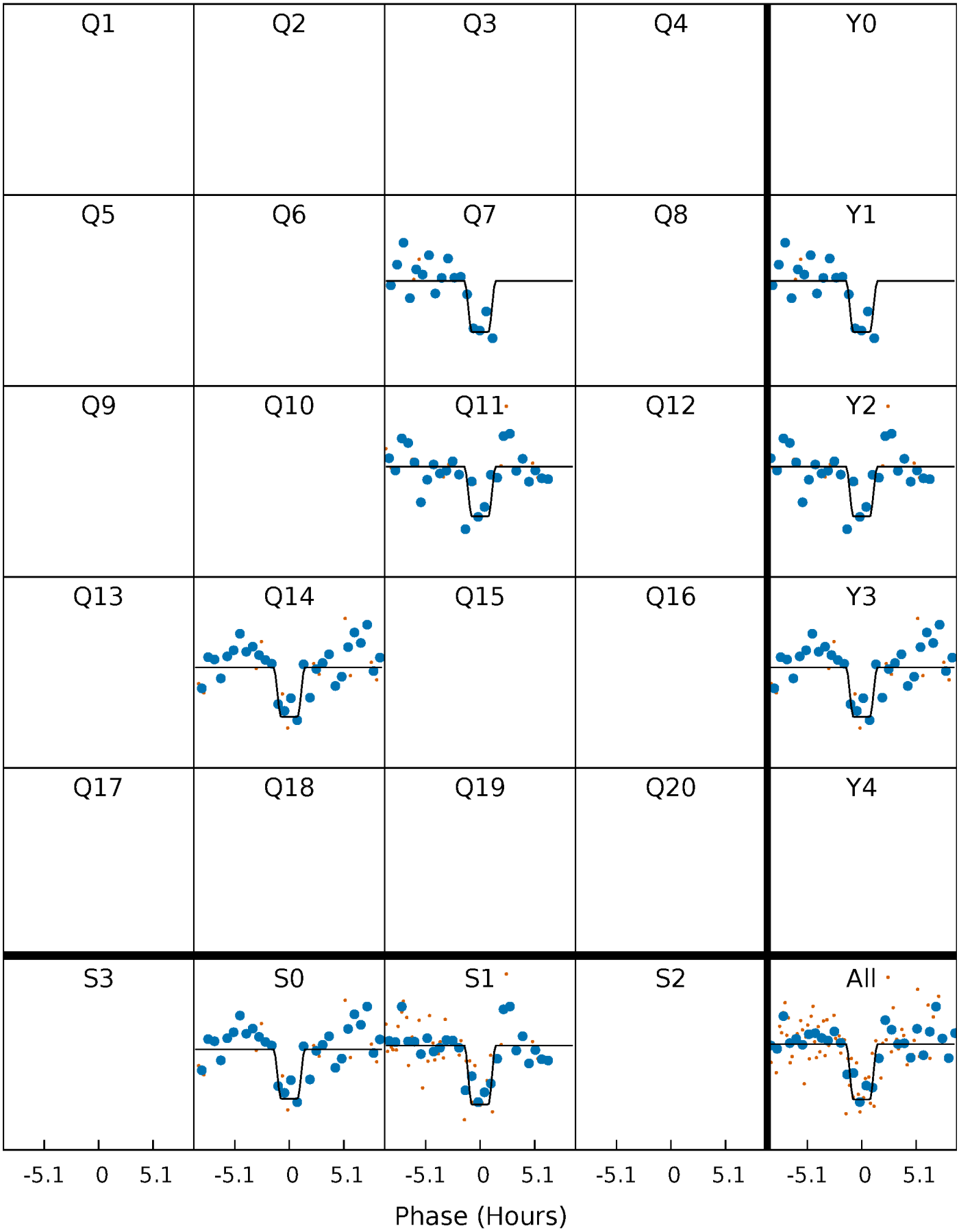
DV Quarter-Phased Transit Curves

TCE 008114532-05 P=357.818232 Days T_0=291.033735 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

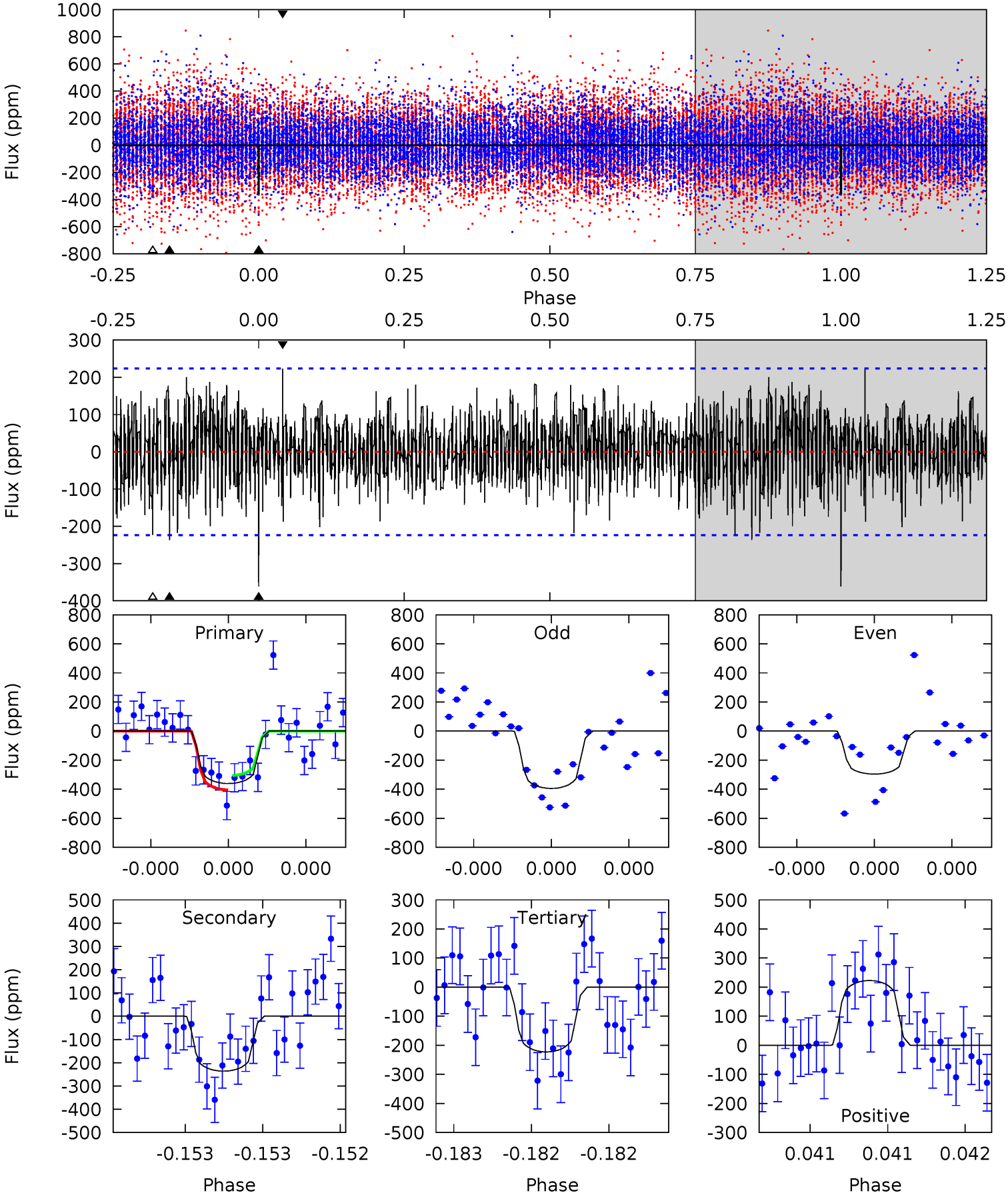
TCE 008114532-05 P=357.819912 Days T_0=291.024211 (BKJD)



DV Model-Shift Uniqueness Test

008114532-05, P = 357.818232 Days, E = 291.033735 Days

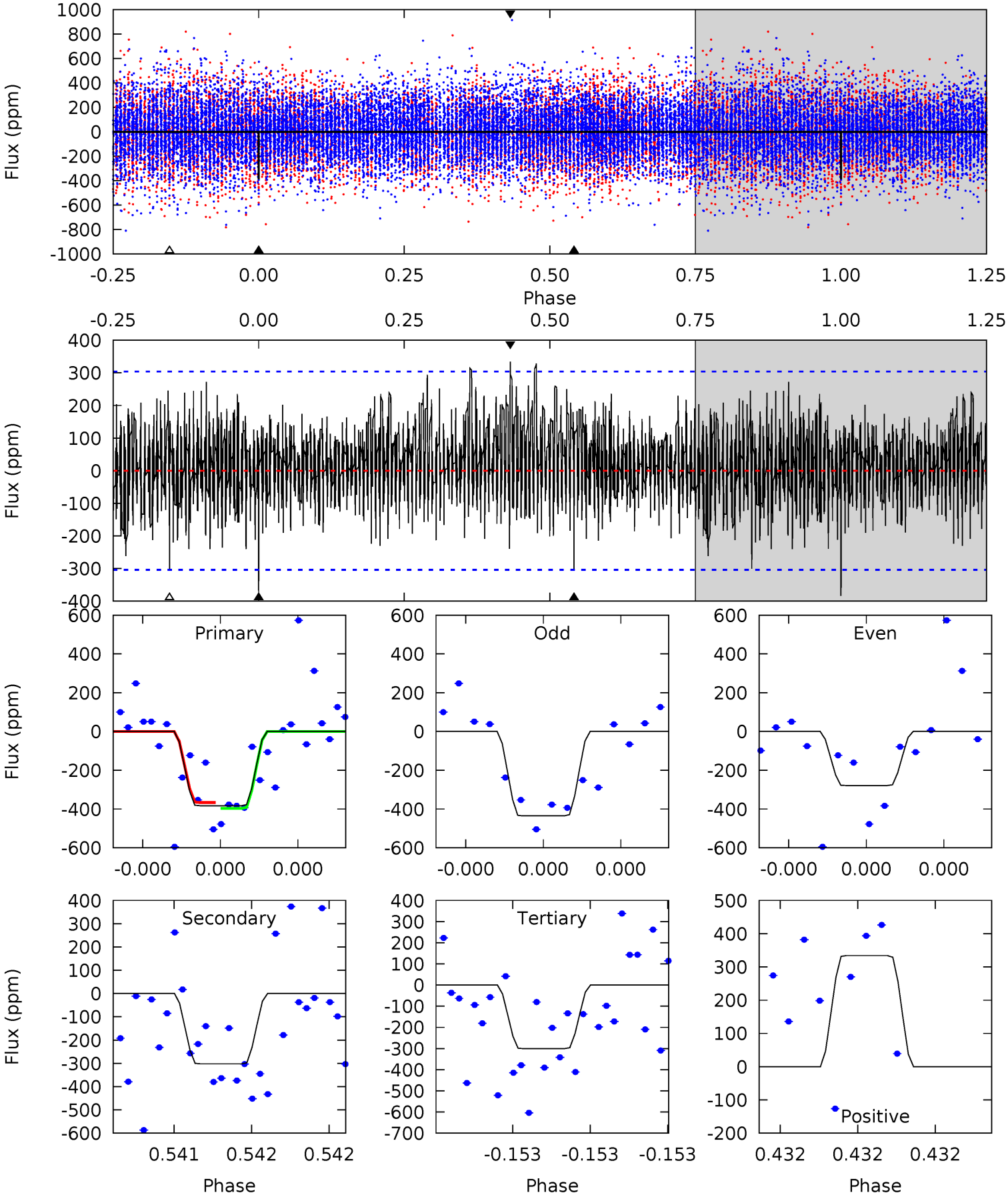
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.01	5.89	5.56	5.56	5.58	3.49	1.50	3.45	3.45	0.33	0.34	1.19	0.99	0.38	1.23



Alt Model-Shift Uniqueness Test

008114532-05, P = 357.819912 Days, E = 291.024211 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.15	5.64	5.61	6.23	5.67	3.63	1.51	1.54	0.92	0.03	-0.59	1.40	0.90	0.47	0.28



Stellar Parameters For KIC 008114532

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6316^{+189}_{-189}	$3.536^{+0.360}_{-0.112}$	$-0.080^{+0.300}_{-0.250}$	$3.681^{+0.459}_{-1.376}$	$1.696^{+0.193}_{-0.359}$	$0.048^{+0.122}_{-0.017}$
	+3%/-3%	+10%/-3%	+375%/-312%	+12%/-37%	+11%/-21%	+255%/-35%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008114532-05 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-236±40	$8.48^{+7.29}_{-5.54}$	678^{+40}_{-66}	5274^{+4026}_{-1151}	2529^{+17036}_{-1780}
Alt.	-302±54	$9.08^{+7.40}_{-5.60}$	680^{+40}_{-64}	5301^{+3932}_{-1088}	2773^{+18055}_{-1955}

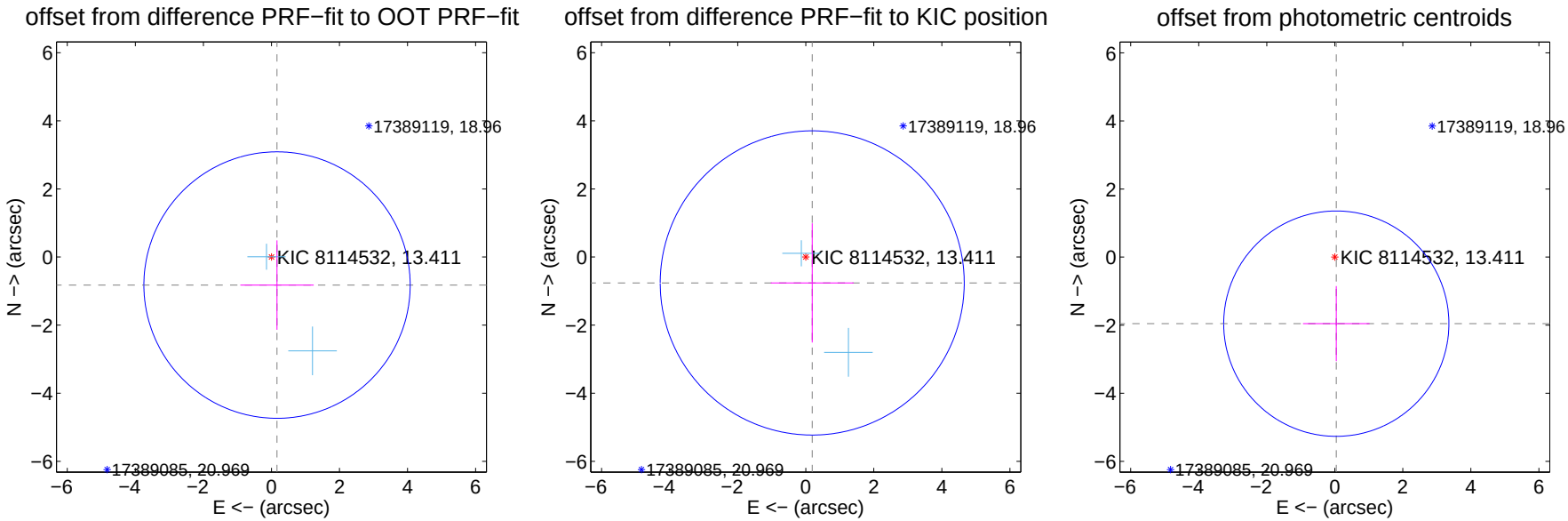
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

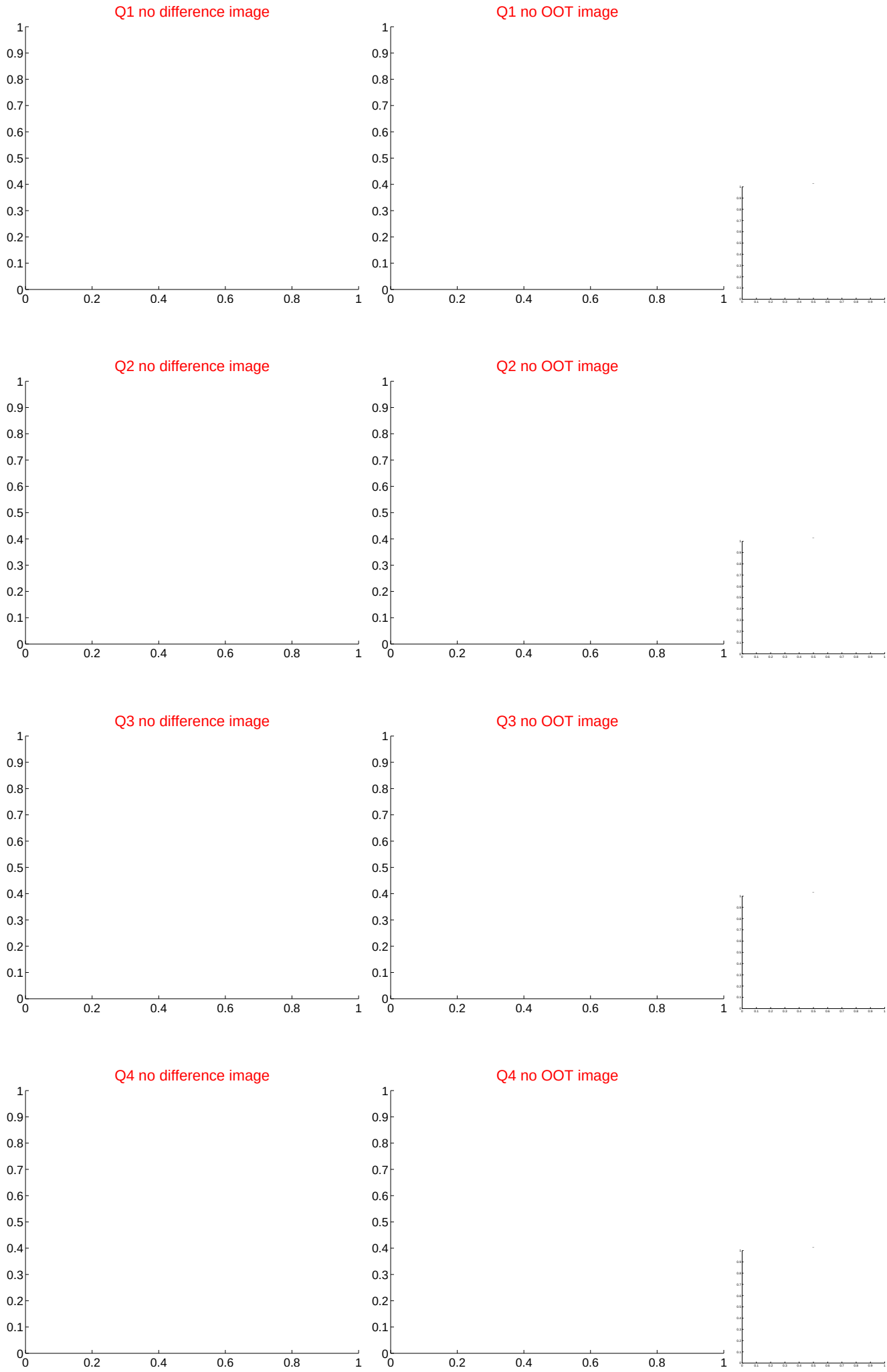
Supplemental centroid analysis for 008114532-05. Kepler magnitude: 13.41. Transit SNR 7.85
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.840 ± 1.304	0.64	-0.164 ± 1.077	-0.823 ± 1.313
PRF-fit source offset from KIC position	0.784 ± 1.489	0.53	-0.190 ± 1.217	-0.761 ± 1.751
photometric centroid source offset	1.96 ± 1.10	1.77	-0.04 ± 0.98	-1.96 ± 1.10

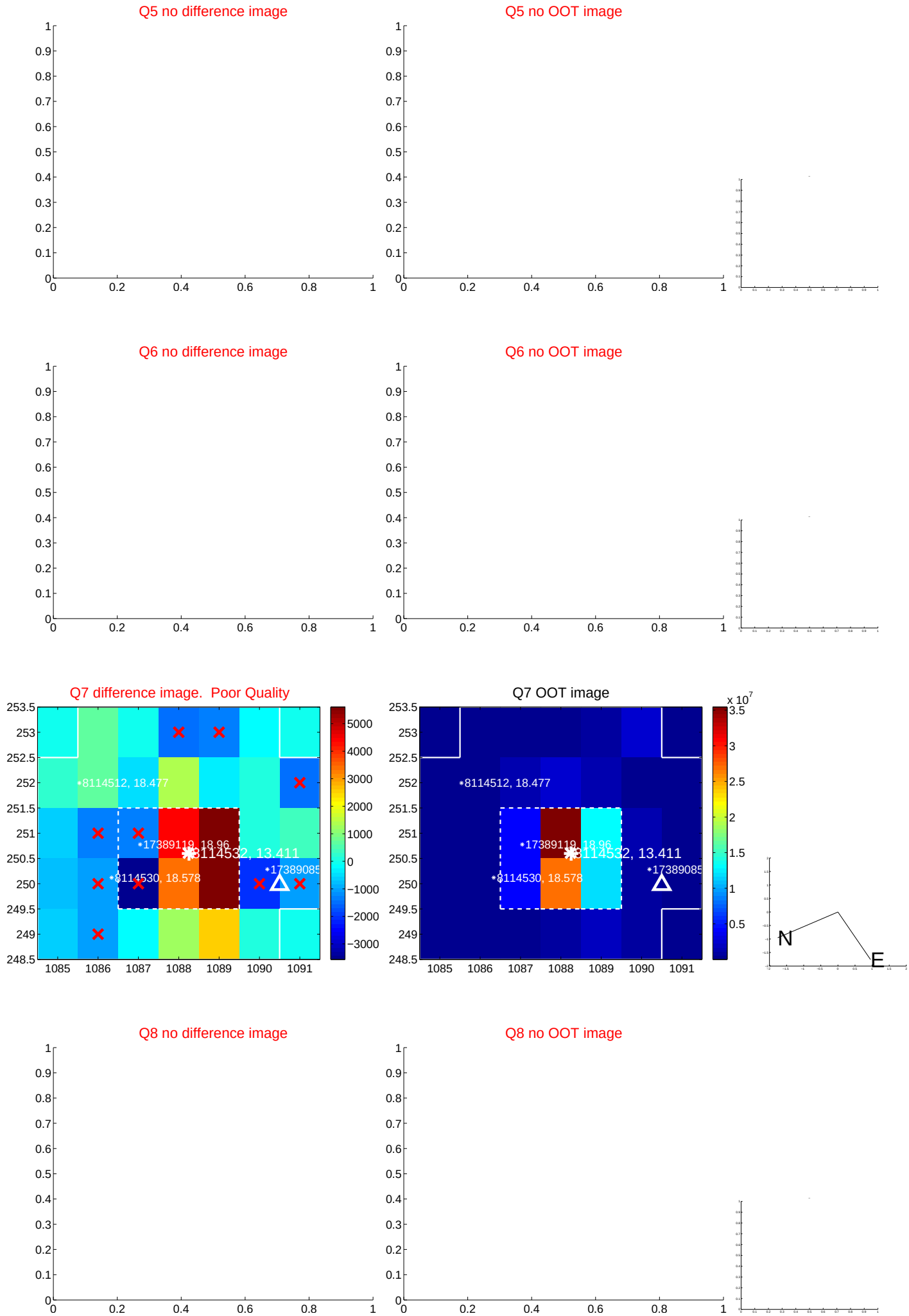


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

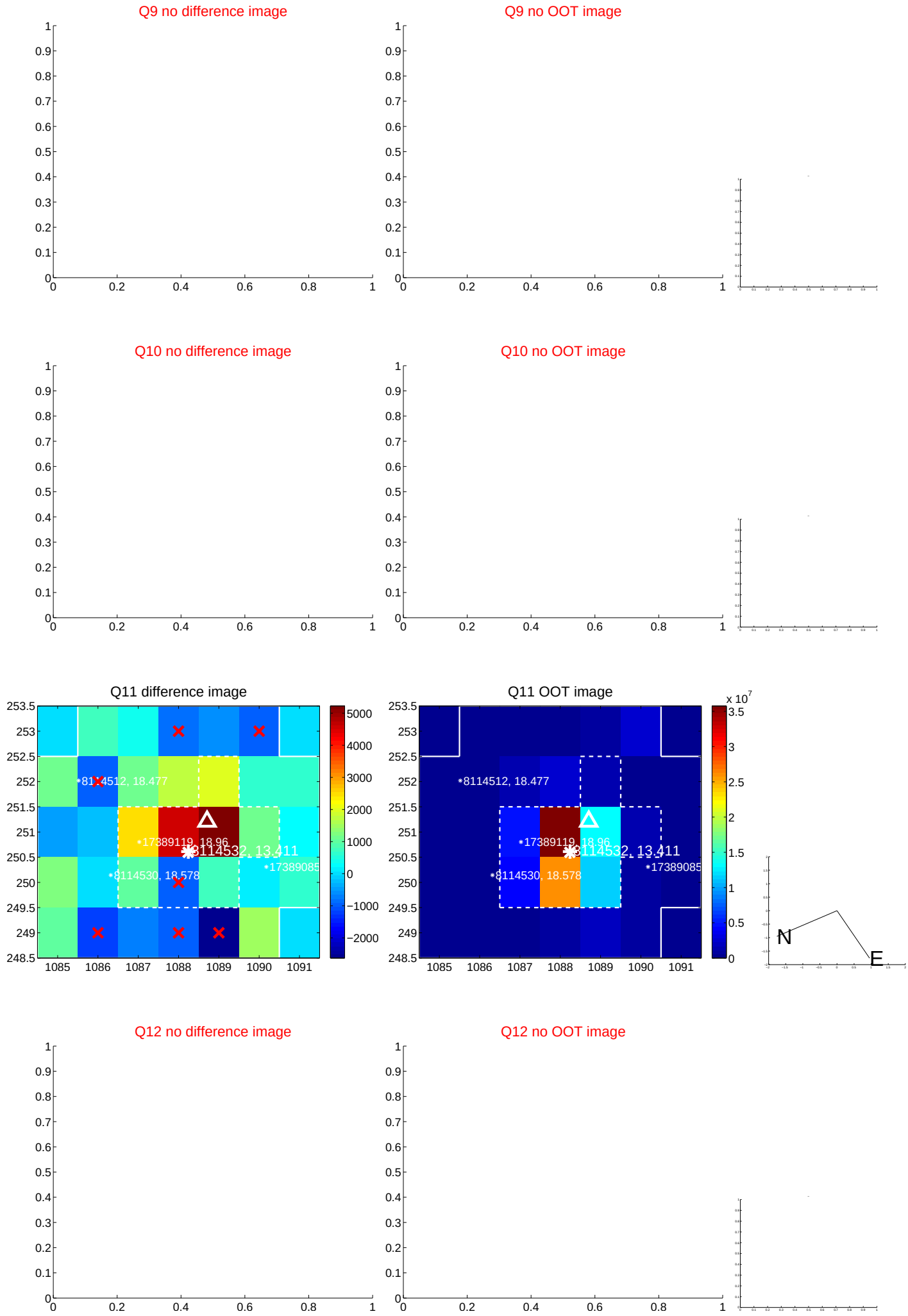
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



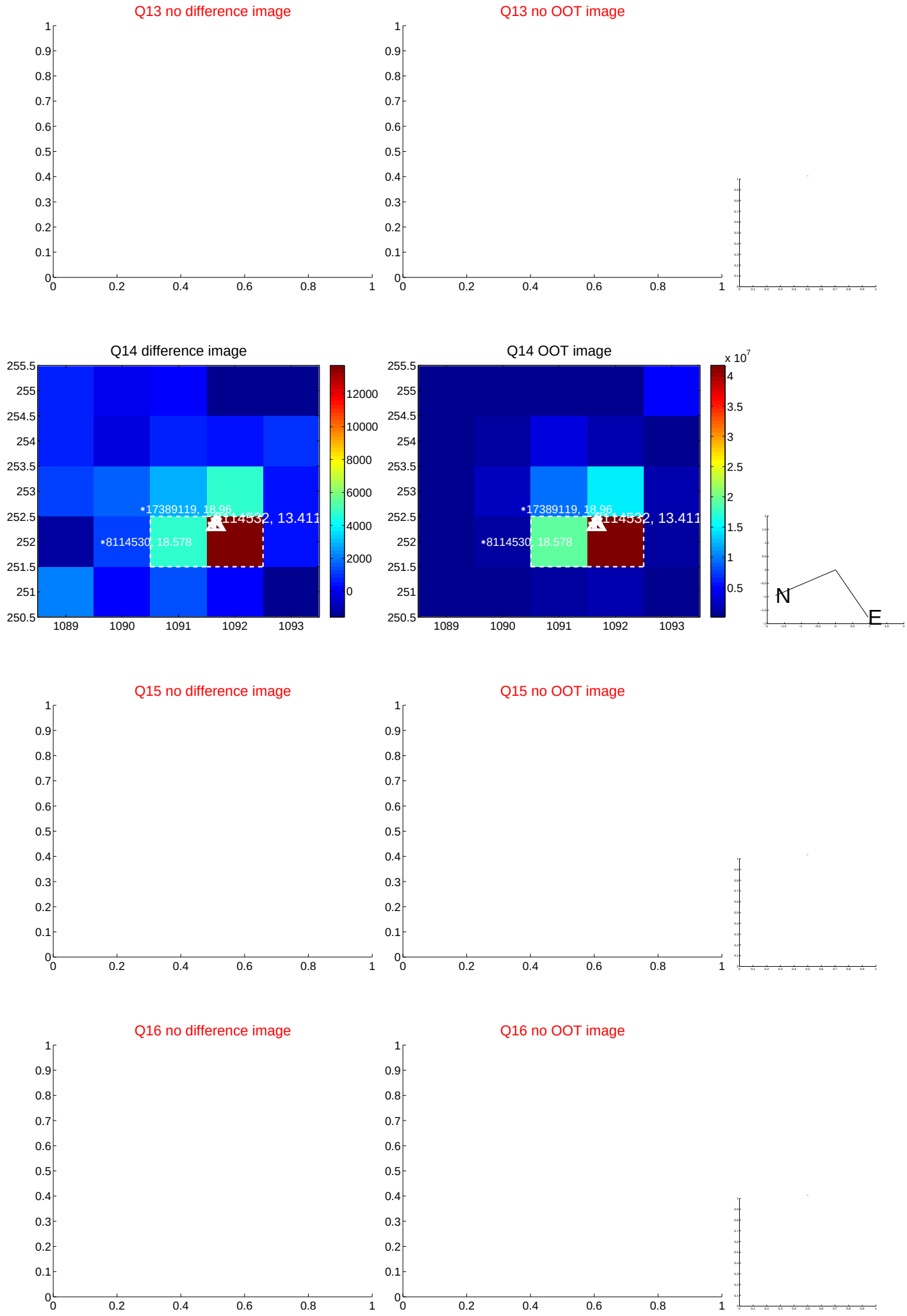
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



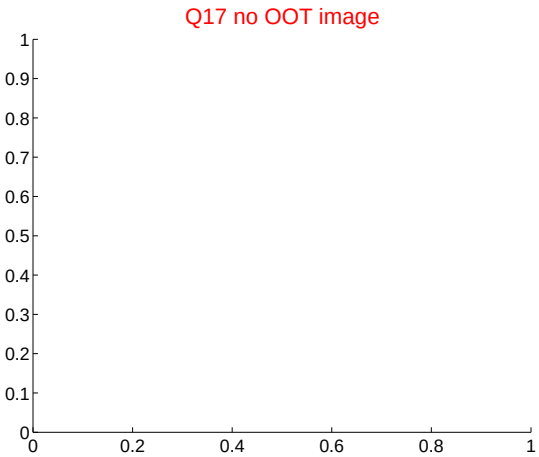
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

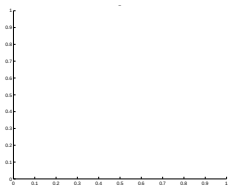


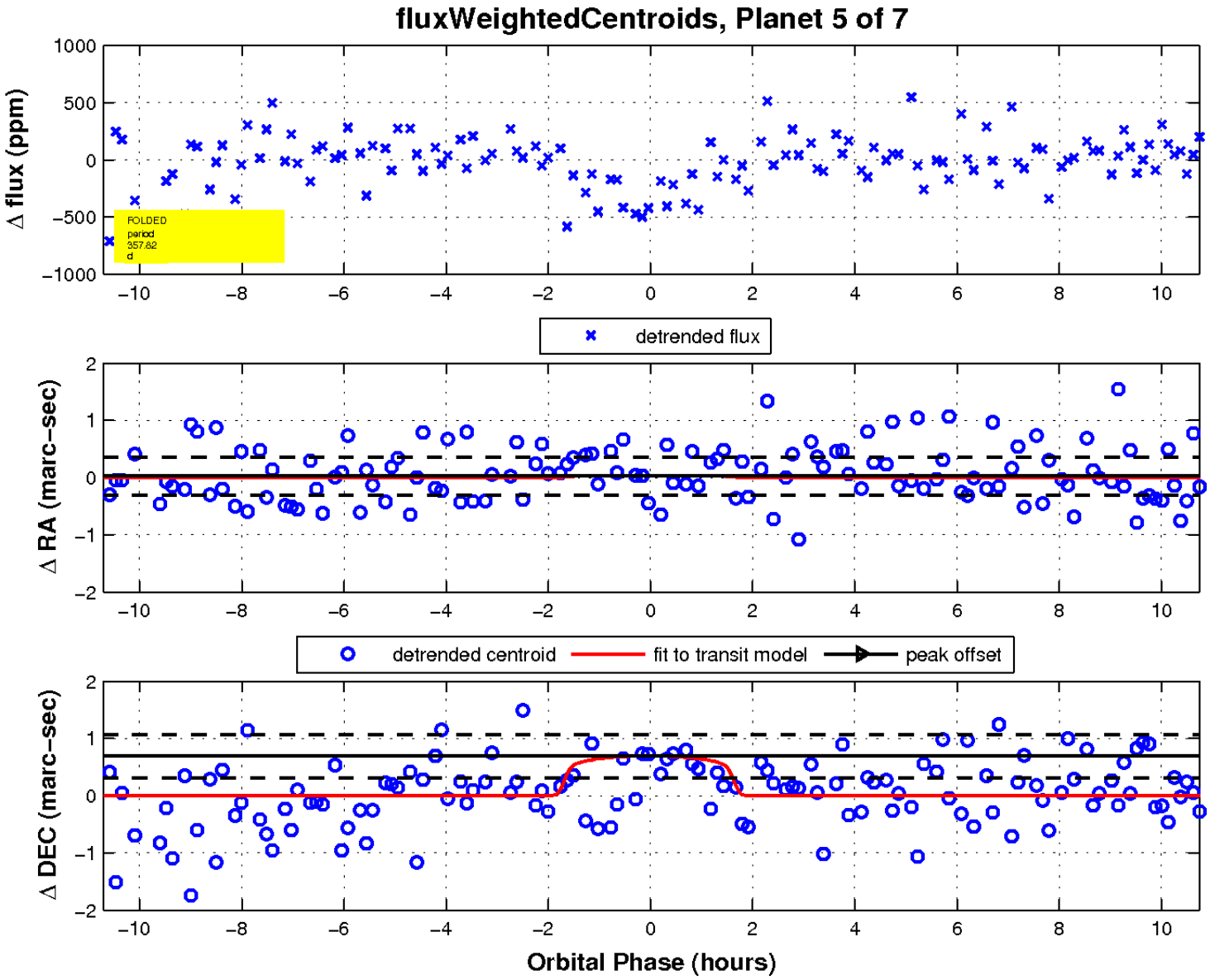
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



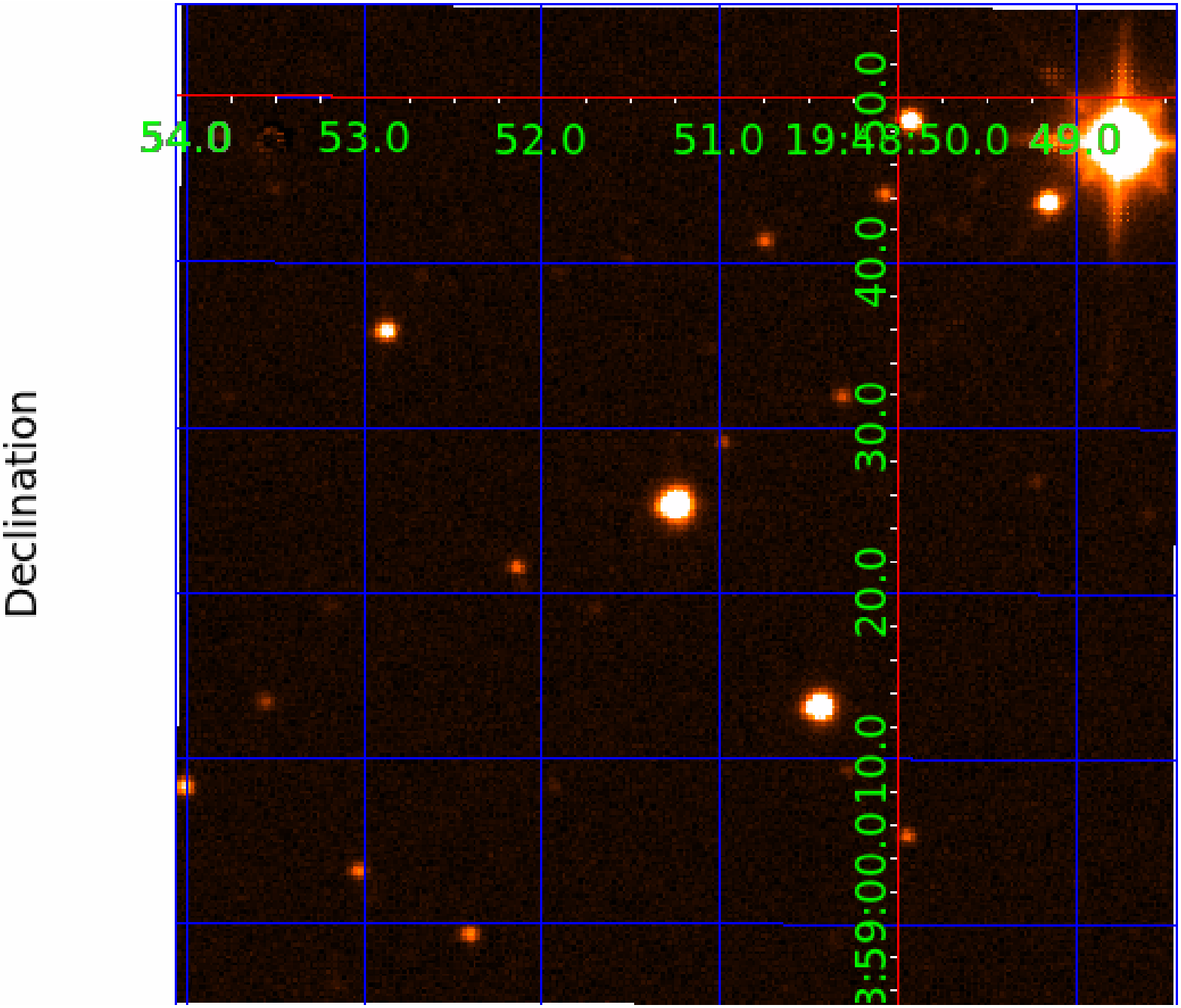
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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3:59:00.0
Declination

KIC 008114532

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 ($S_\oplus$)
008114532-01	OBS	No	2.486340	132.570850	0.1	12.953	8.1	0.0	3.68	6316	0.11	10517.02
008114532-02	OBS	No	355.829103	190.356936	374.9	11.450	10.7	9.8	3.68	6316	7.68	14.05
008114532-03	OBS	No	72.446745	202.300421	209.0	5.016	8.0	7.5	3.68	6316	5.85	117.30
008114532-04	OBS	No	122.892501	193.801049	273.8	2.892	7.7	8.1	3.68	6316	6.98	57.98
008114532-05	OBS	No	357.818232	291.033735	337.0	3.607	7.7	7.9	3.68	6316	7.75	13.95
008114532-06	OBS	No	83.429574	212.026458	282.7	3.367	7.8	7.9	3.68	6316	7.13	97.17
008114532-07	OBS	No	49.789794	143.803696	335.6	1.742	7.3	8.1	3.68	6316	7.66	193.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008114532-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008114532-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008114532-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008114532-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008114532-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

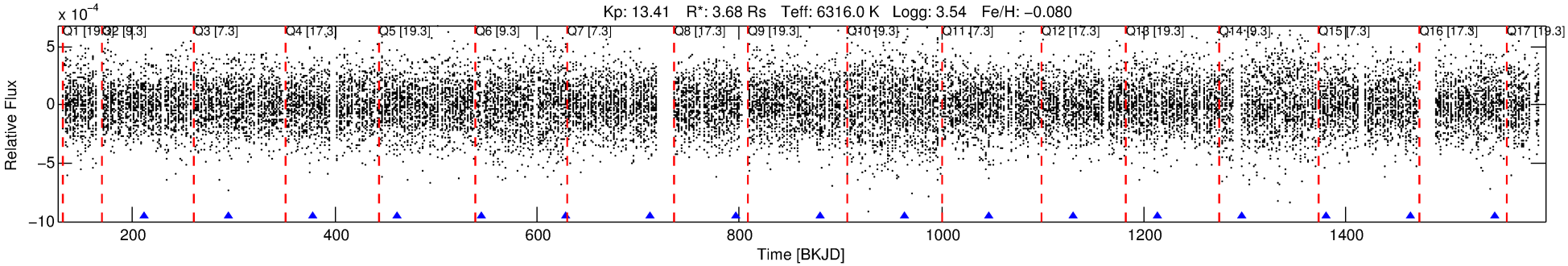
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

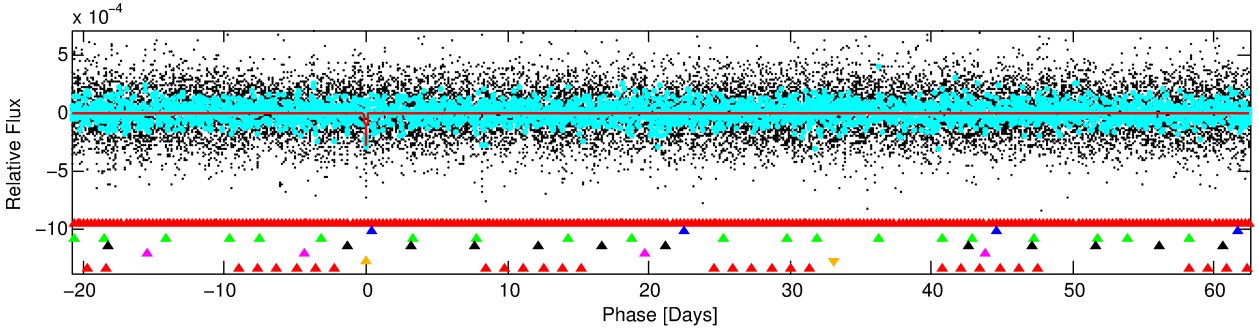
Ephemeris Match Information For 008114532-06

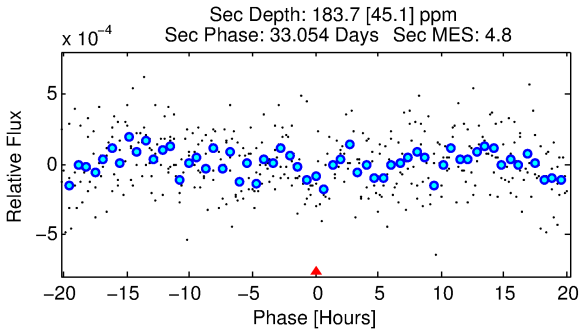
No Significant Match Found

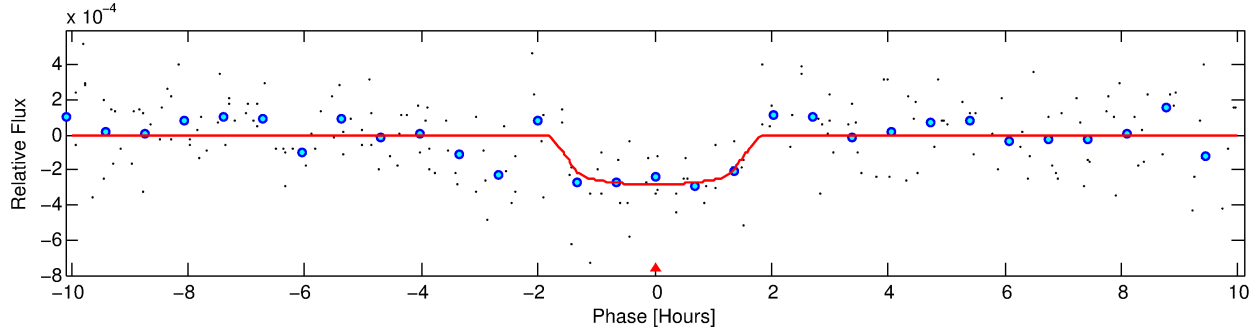
DV One-Page Summary

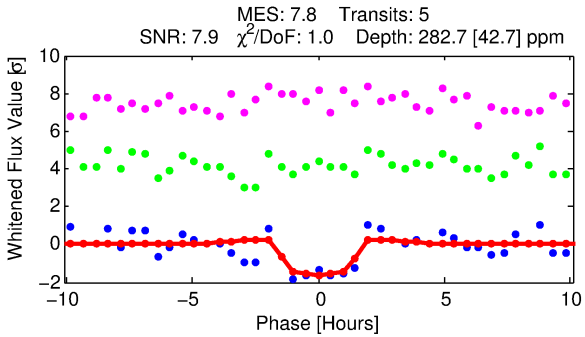
KIC: 8114532 Candidate: 6 of 7 Period: 83.430 d

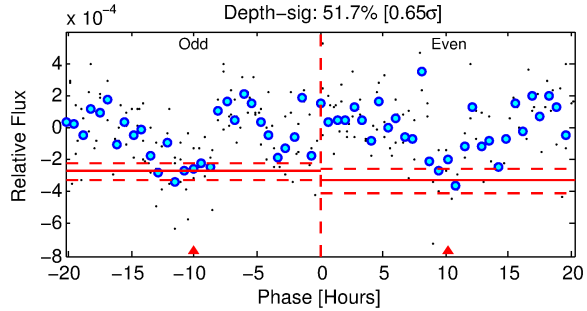


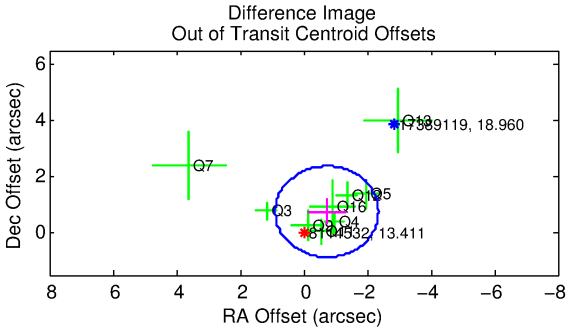












DV Fit Results:

Period = 83.42957 [0.00135] d
Epoch = 212.0265 [0.0111] BKJD
Rp/R* = 0.0177 [0.0126]
a/R* = 97.52 [381.93]
b = 0.88 [1.03]

Seff = 97.17 [60.04]
Teq = 801 [124] K
Rp = 7.13 [5.71] Re
a = 0.4459 [0.1659] AU

Ag = 395.22 [616.67] [0.64σ]
Teffp = 5519 [1991] K [2.37σ]

DV Diagnostic Results:

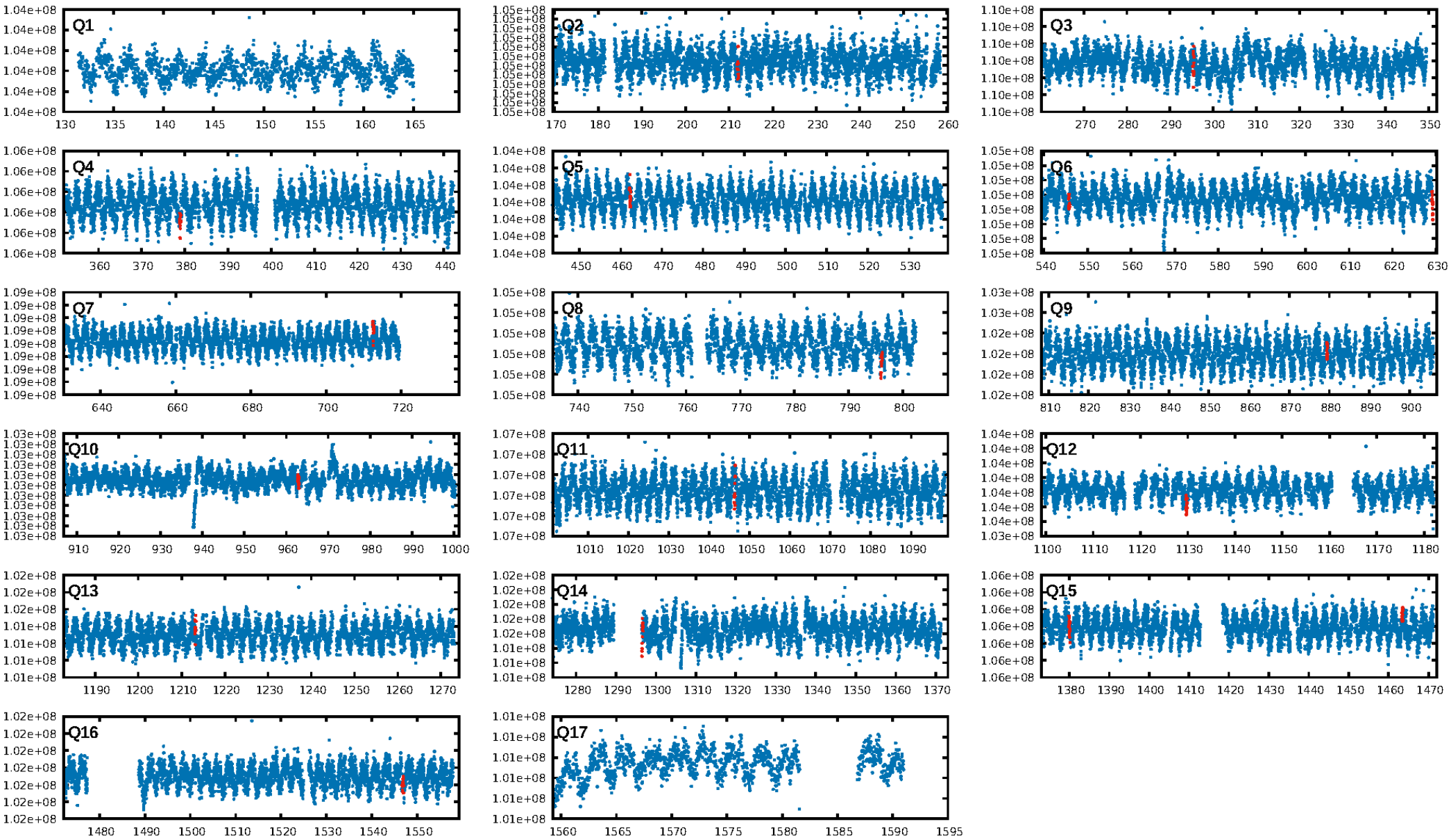
ShortPeriod−sig: 100.0% [43.63σ]
LongPeriod−sig: 100.0% [213.41σ]
ModelChiSquare2−sig: 90.3%
ModelChiSquareGof−sig: 97.3%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [5/5]
GhostDiagnostic−chr: 0.9792

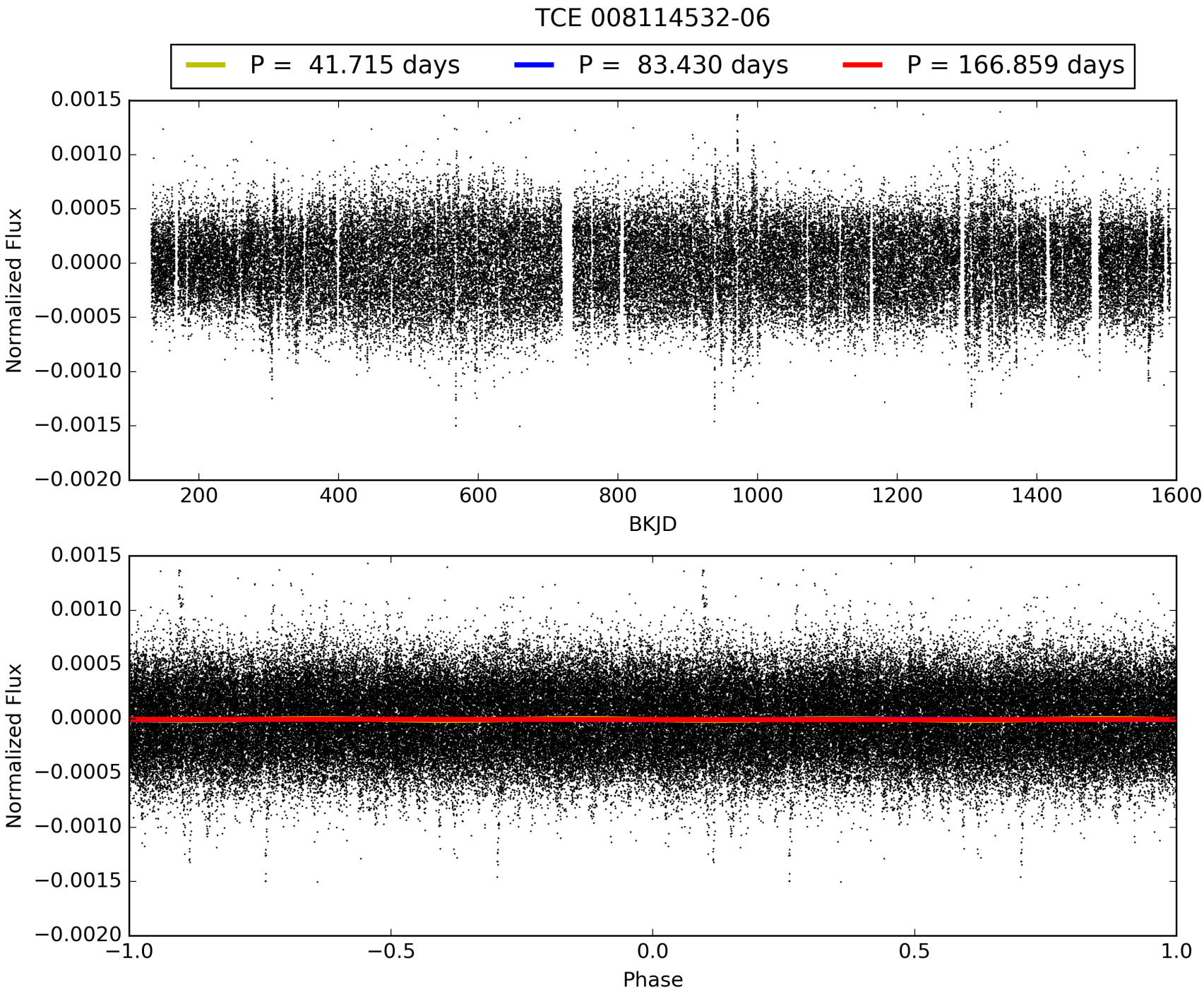
Centroid−sig: 57.9%
Centroid−so: 0.222 arcsec [0.41σ]
OotOffset−rm: 1.052 arcsec [1.95σ]
KicOffset−rm: 1.060 arcsec [2.42σ]
OotOffset−st: 0/3/3/3 [9]
KicOffset−st: 0/3/3/3 [9]
DiffImageQuality−fgm: 0.67 [6/9]
DiffImageOverlap−fno: 0.50 [7/14]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 22:46:37 Z

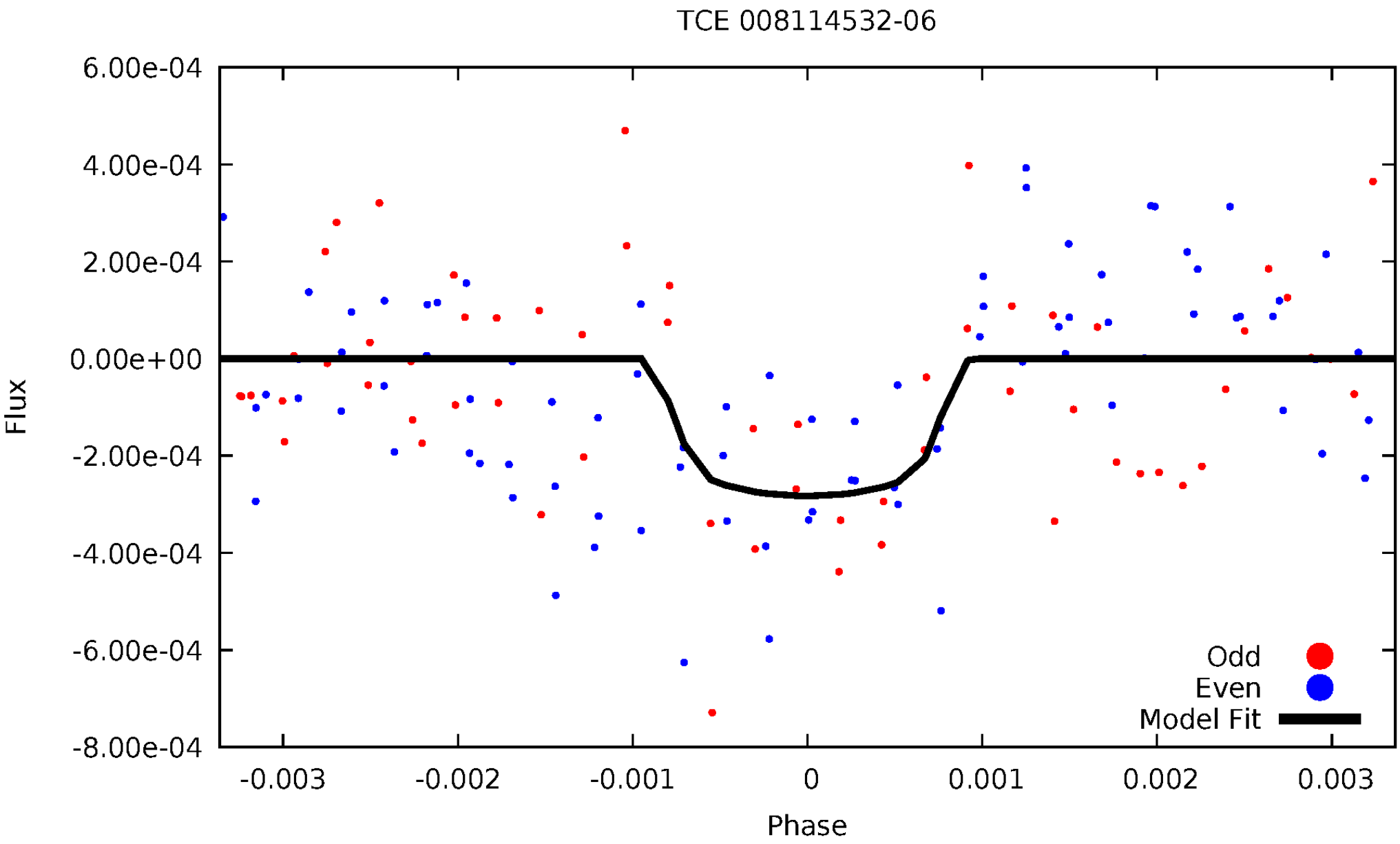
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008114532-06, PDC Light Curves

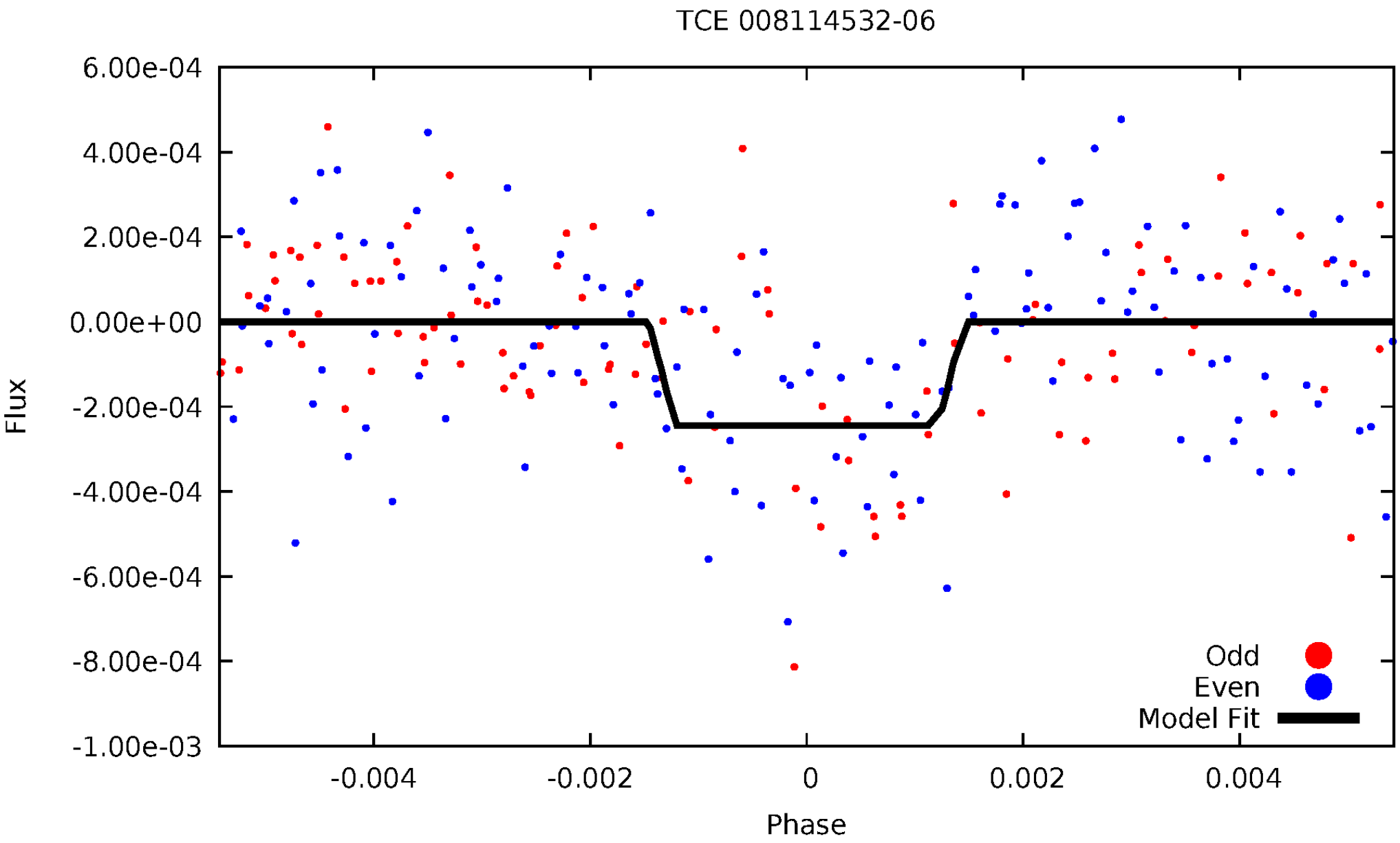



TCE 008114532-06
P = 41.715 days
P = 83.430 days
P = 166.859 days
Normalized Flux
BKJD
Normalized Flux
Phase

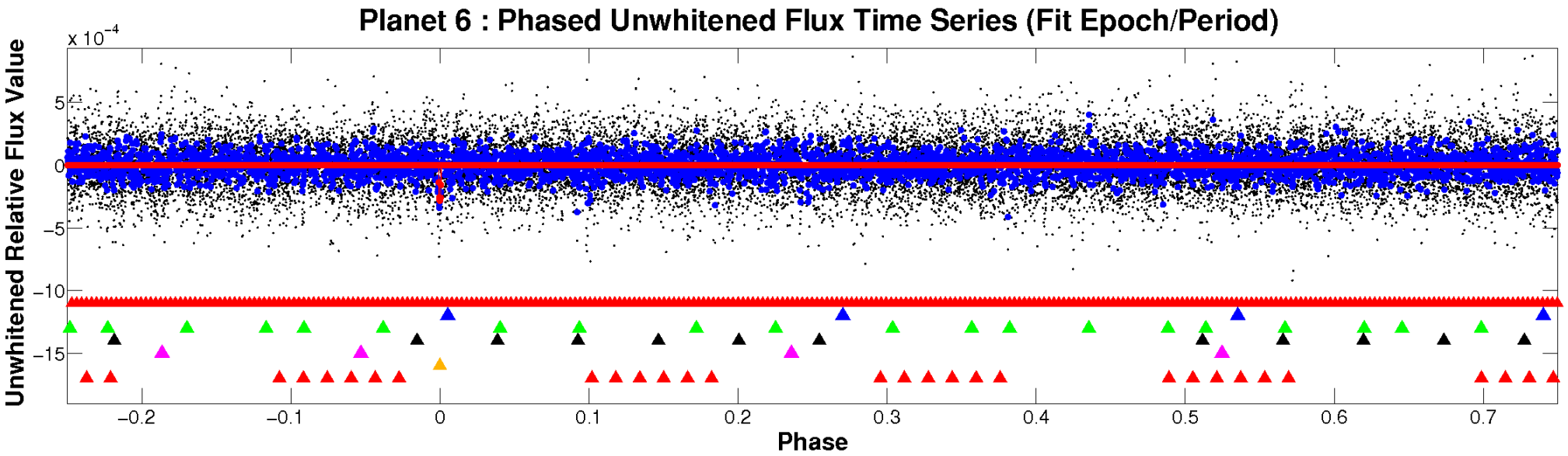
DV Odd/Even

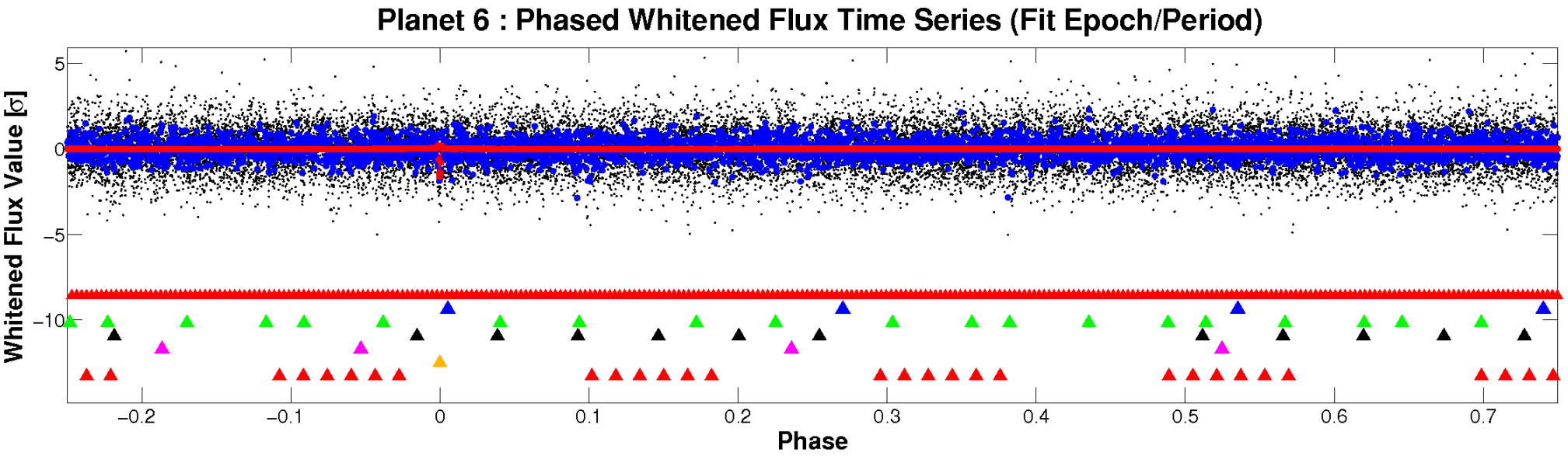

TCE 008114532-06
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008114532-06
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

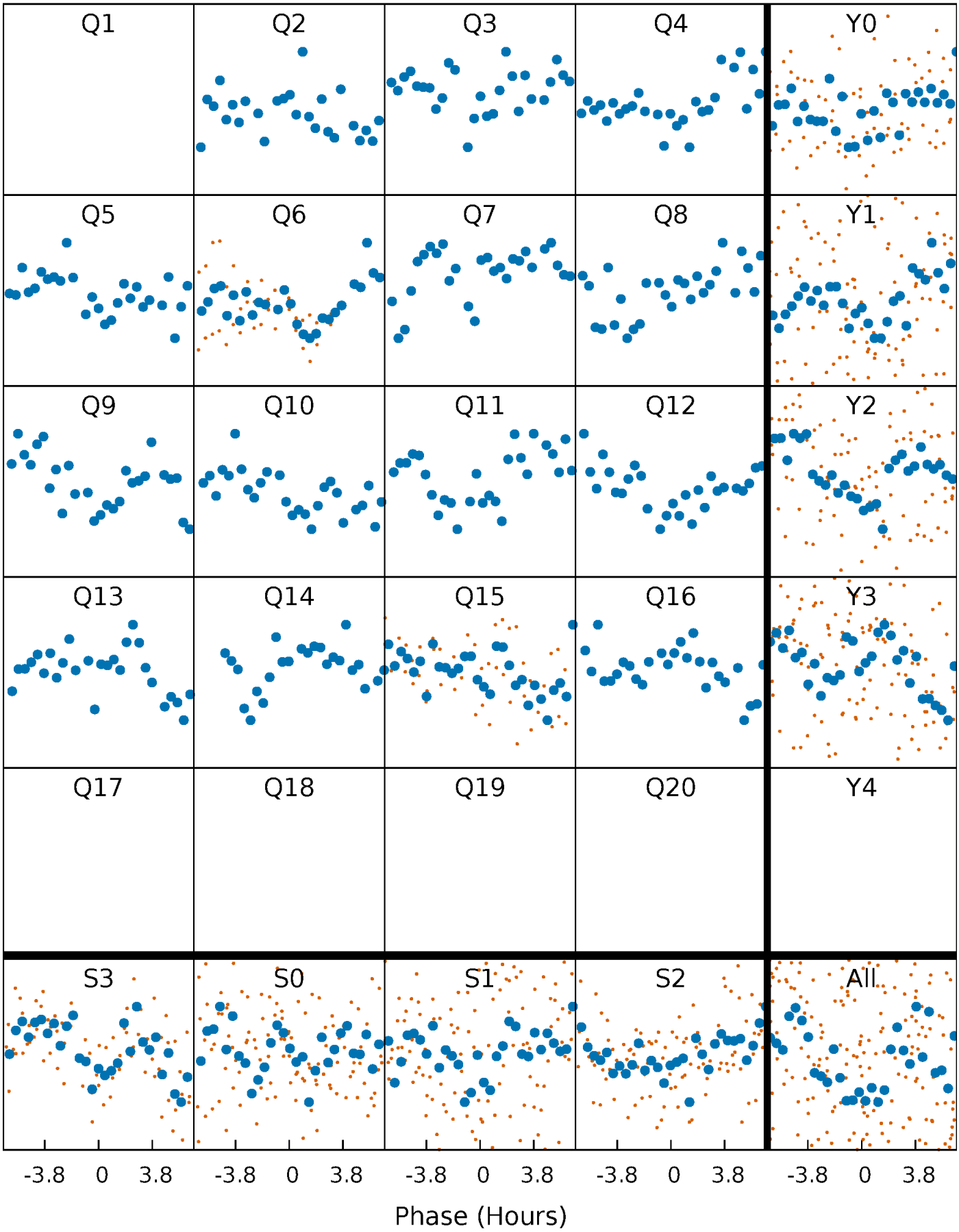
Non-Whitened Vs. Whitened Light Curve





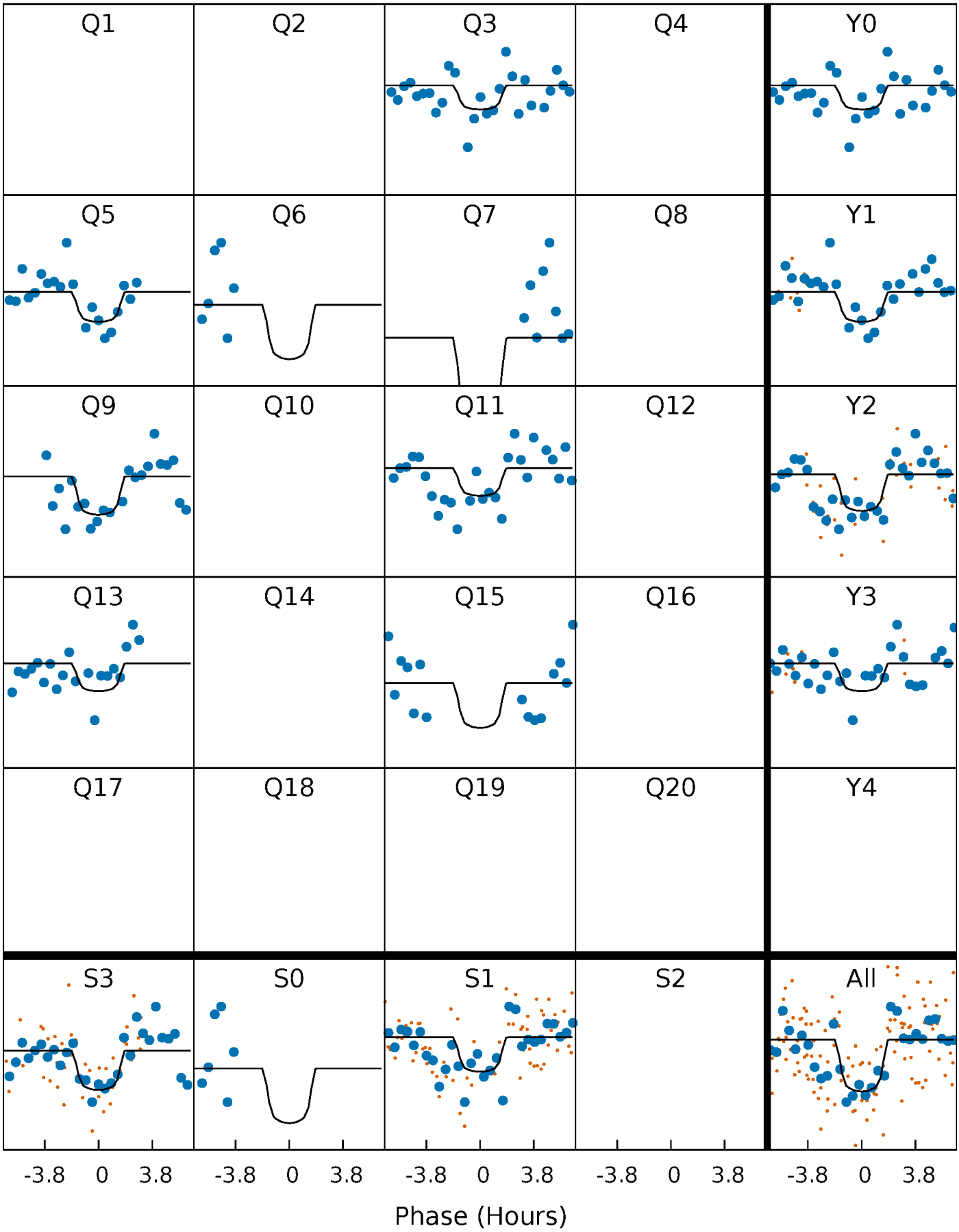
PDC Quarter-Phased Transit Curves

TCE 008114532-06 P= 83.429574 Days T_0=212.026458 (BKJD)



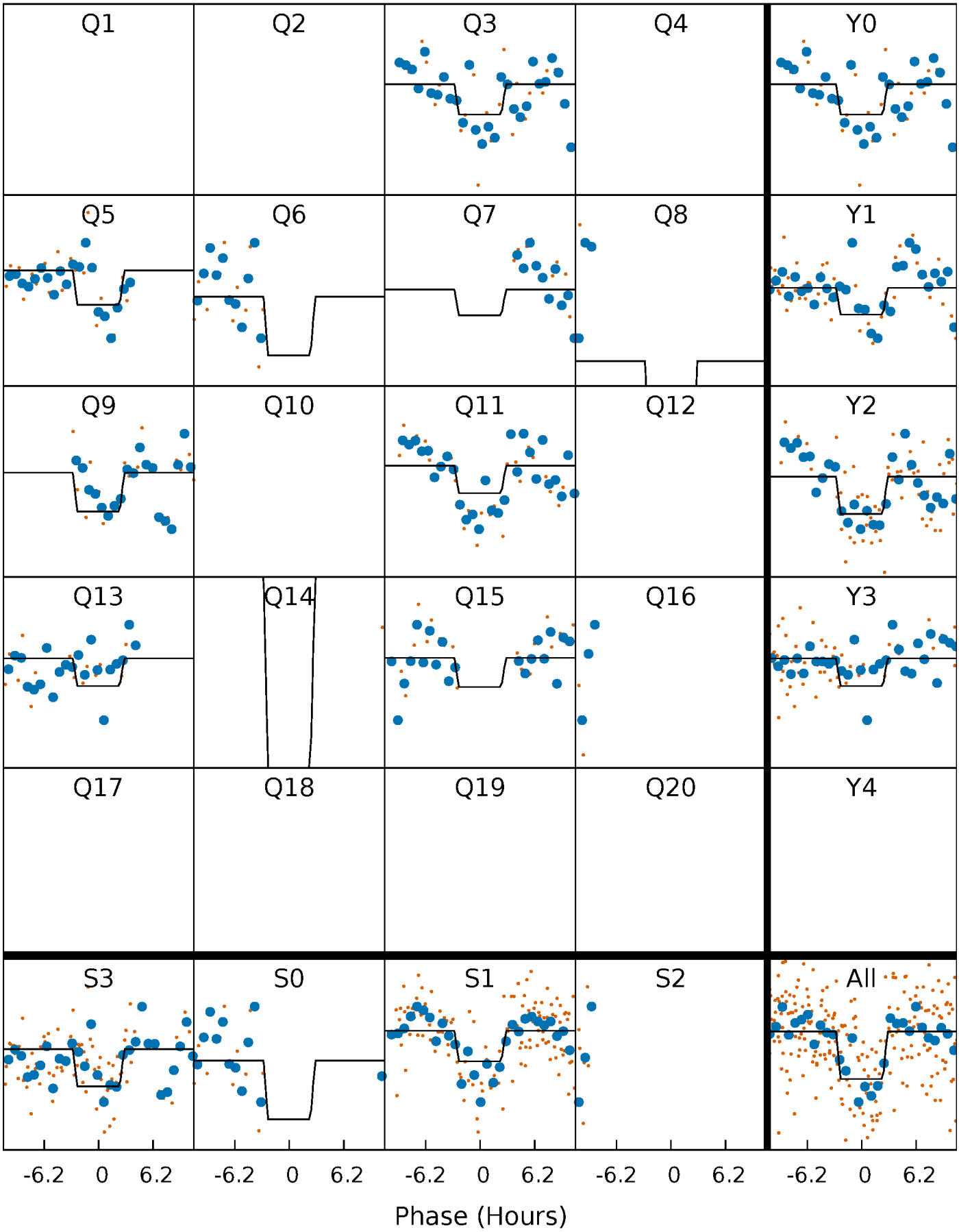
DV Quarter-Phased Transit Curves

TCE 008114532-06 P= 83.429574 Days T_0=212.026458 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

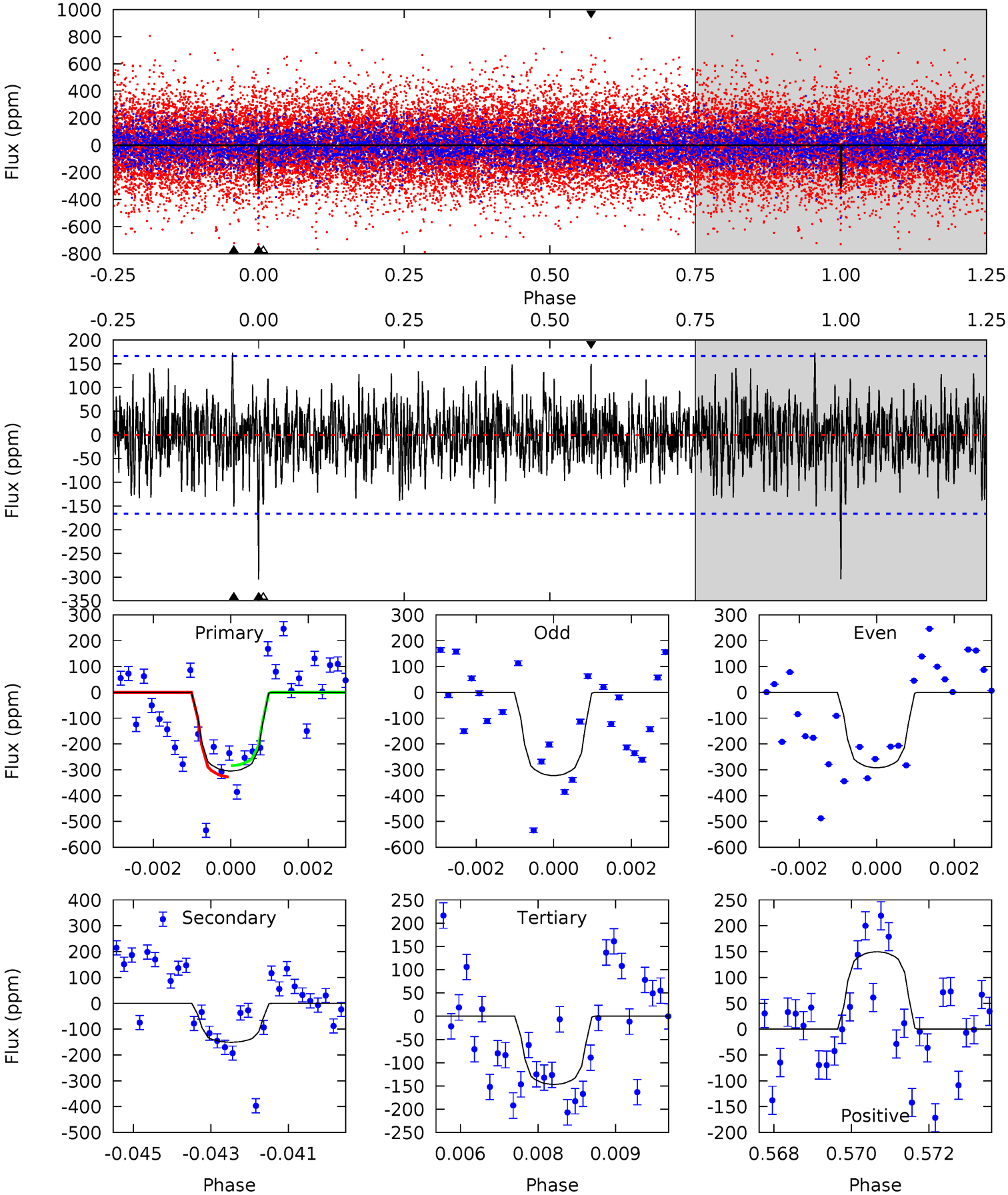
TCE 008114532-06 P= 83.428627 Days T_0=211.991467 (BKJD)



DV Model-Shift Uniqueness Test

008114532-06, P = 83.429574 Days, E = 128.596884 Days

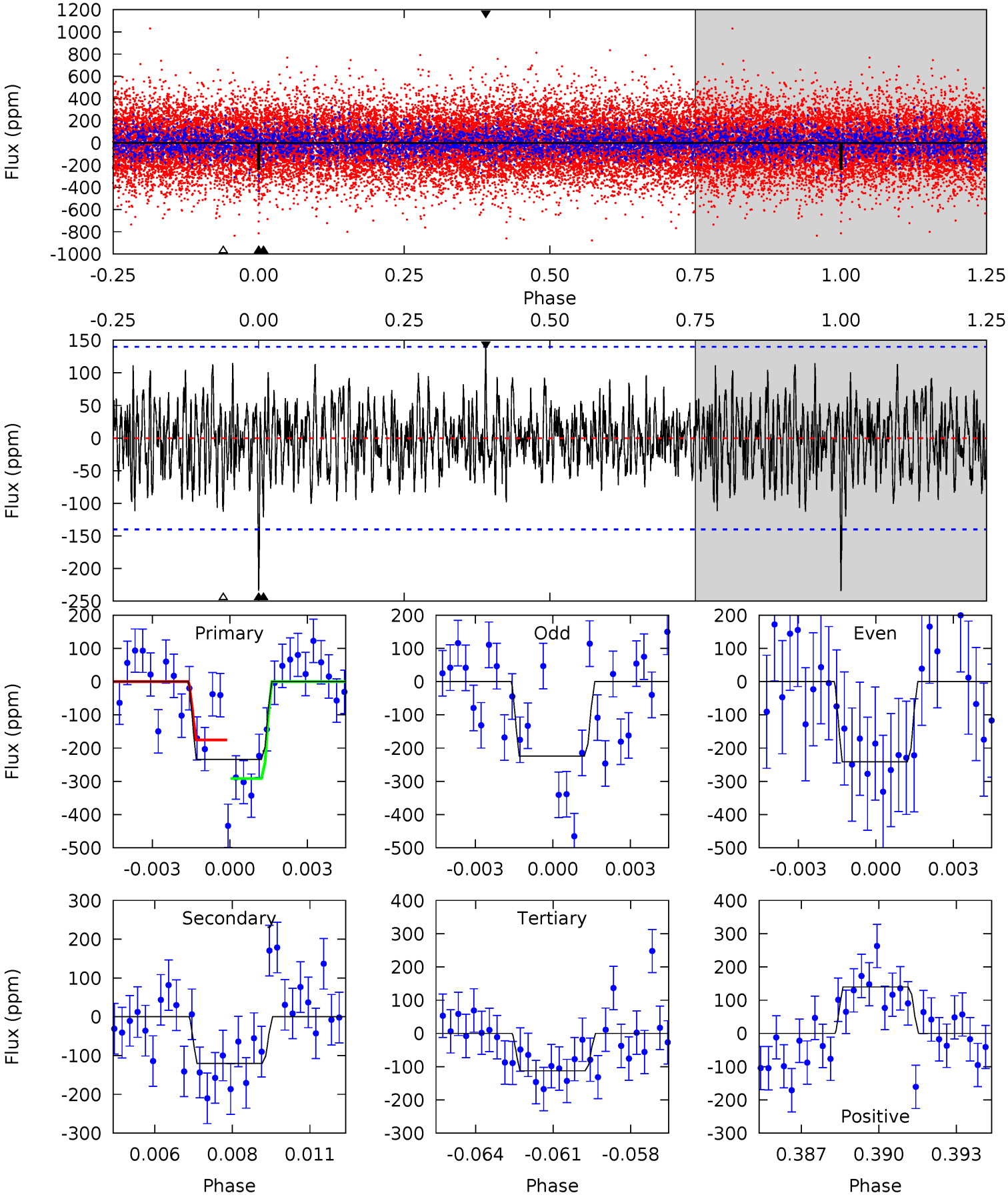
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.78	4.84	4.71	4.81	5.34	3.11	1.51	5.07	4.97	0.13	0.03	0.48	0.98	0.36	0.70



Alt Model-Shift Uniqueness Test

008114532-06, P = 83.428627 Days, E = 128.562840 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.82	4.52	4.24	5.25	5.27	2.99	1.48	4.58	3.56	0.29	-0.73	0.32	1.40	0.37	2.19



Stellar Parameters For KIC 008114532

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6316^{+189}_{-189}	$3.536^{+0.360}_{-0.112}$	$-0.080^{+0.300}_{-0.250}$	$3.681^{+0.459}_{-1.376}$	$1.696^{+0.193}_{-0.359}$	$0.048^{+0.122}_{-0.017}$
	+3%/-3%	+10%/-3%	+375%/-312%	+12%/-37%	+11%/-21%	+255%/-35%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008114532-06 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-151±31	$7.02^{+4.71}_{-4.10}$	1107^{+66}_{-100}	5150^{+3144}_{-921}	329^{+1578}_{-215}
Alt.	-120±27	$6.32^{+4.79}_{-3.68}$	1104^{+68}_{-114}	5098^{+2909}_{-938}	317^{+1538}_{-214}

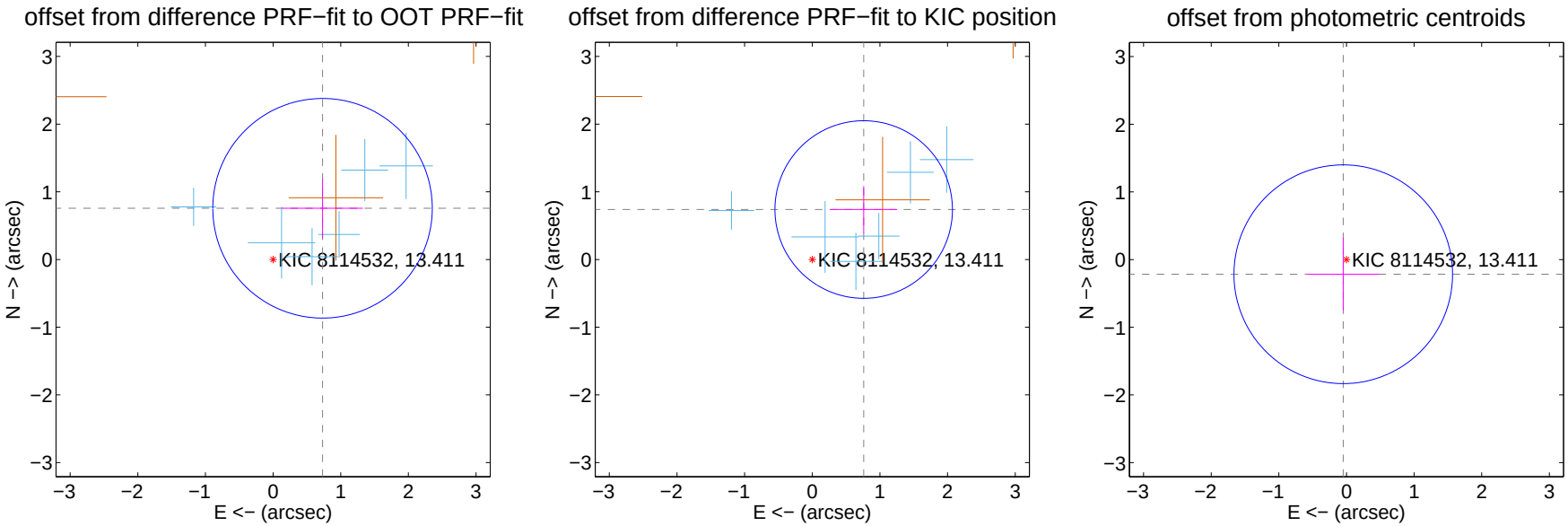
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

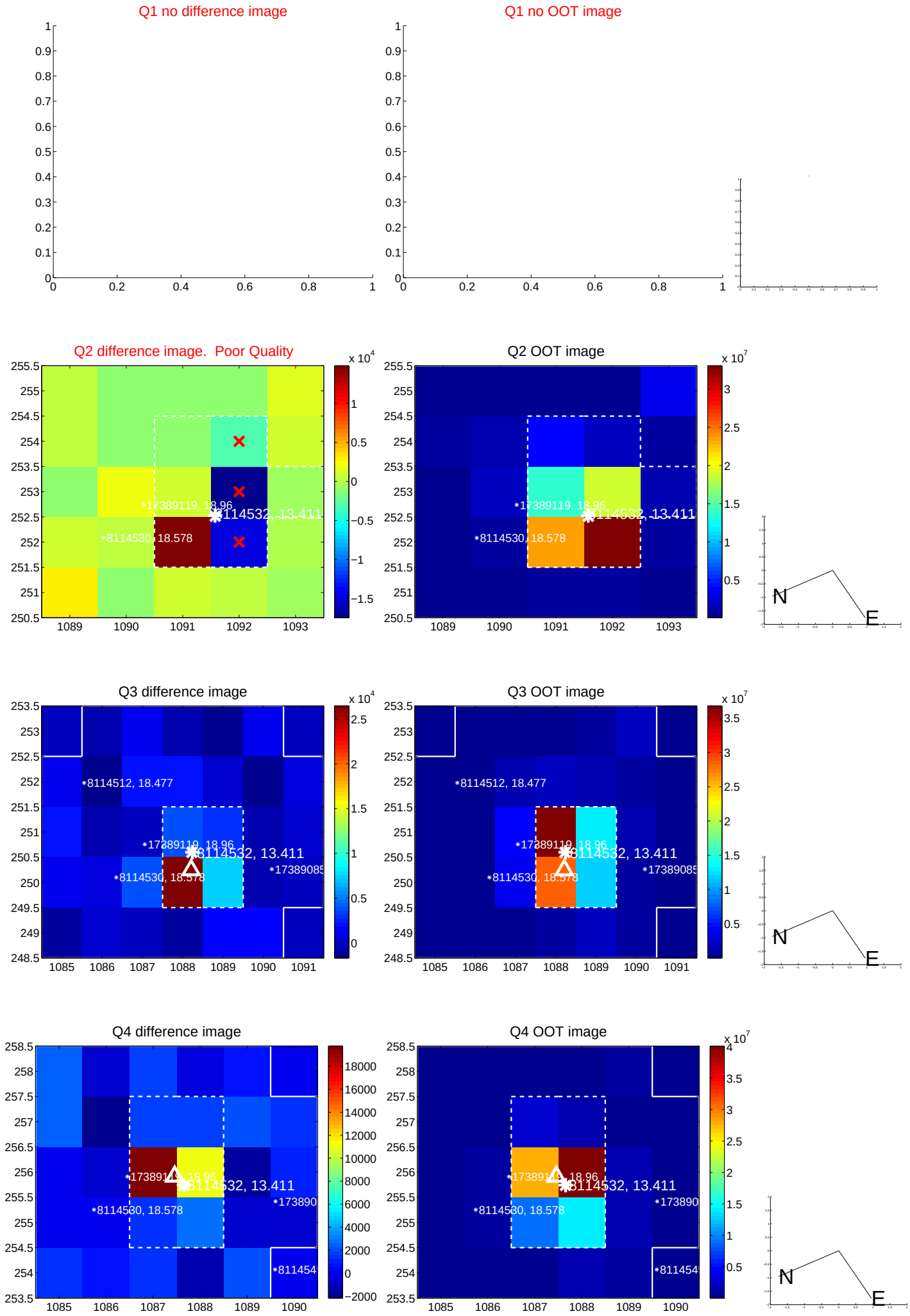
Supplemental centroid analysis for 008114532-06. Kepler magnitude: 13.41. Transit SNR 7.88
There are 6 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.052 ± 0.541	1.95	-0.731 ± 0.597	0.757 ± 0.434
PRF-fit source offset from KIC position	1.060 ± 0.437	2.42	-0.760 ± 0.495	0.738 ± 0.347
photometric centroid source offset	0.22 ± 0.54	0.41	0.05 ± 0.53	-0.22 ± 0.54

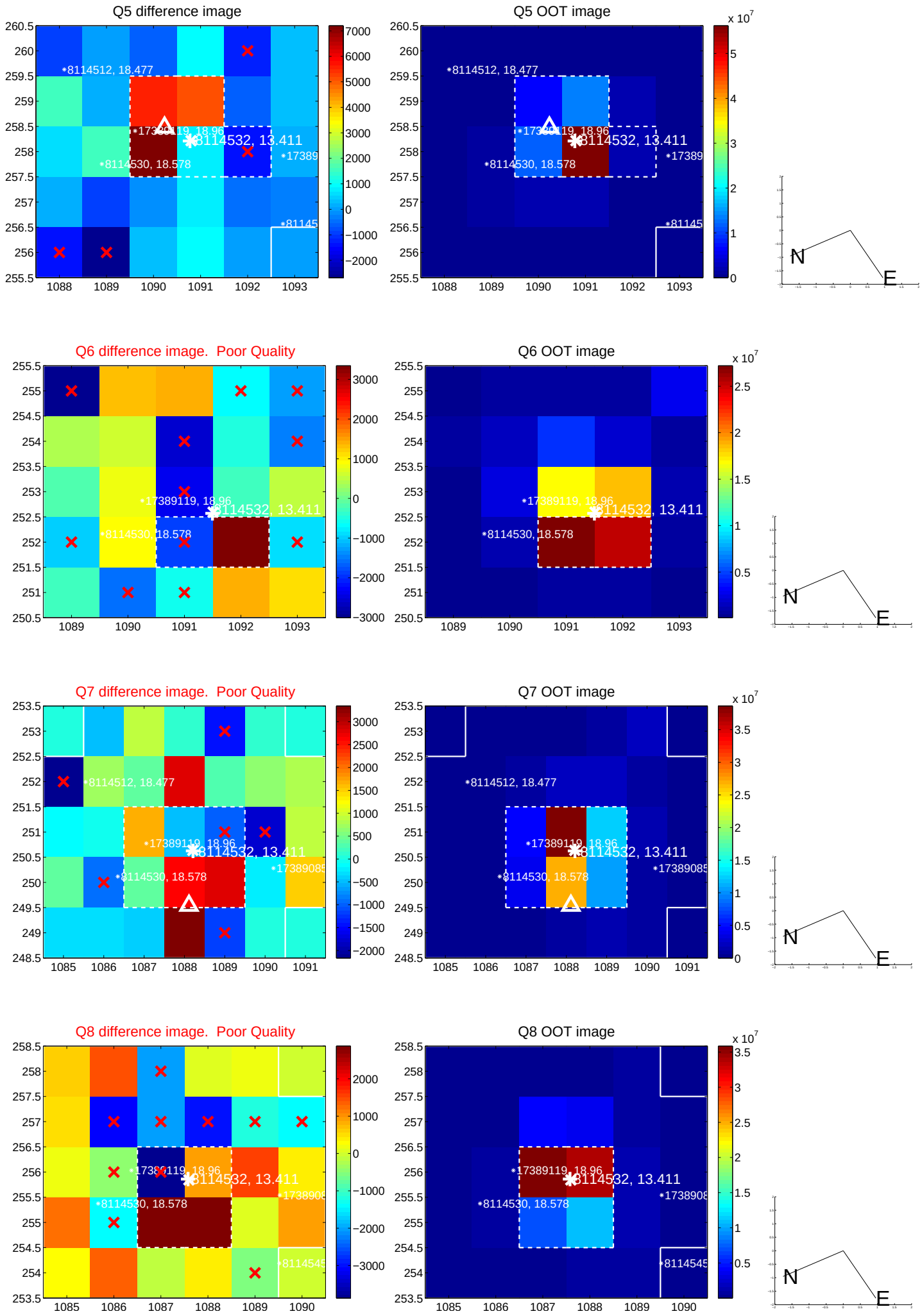


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

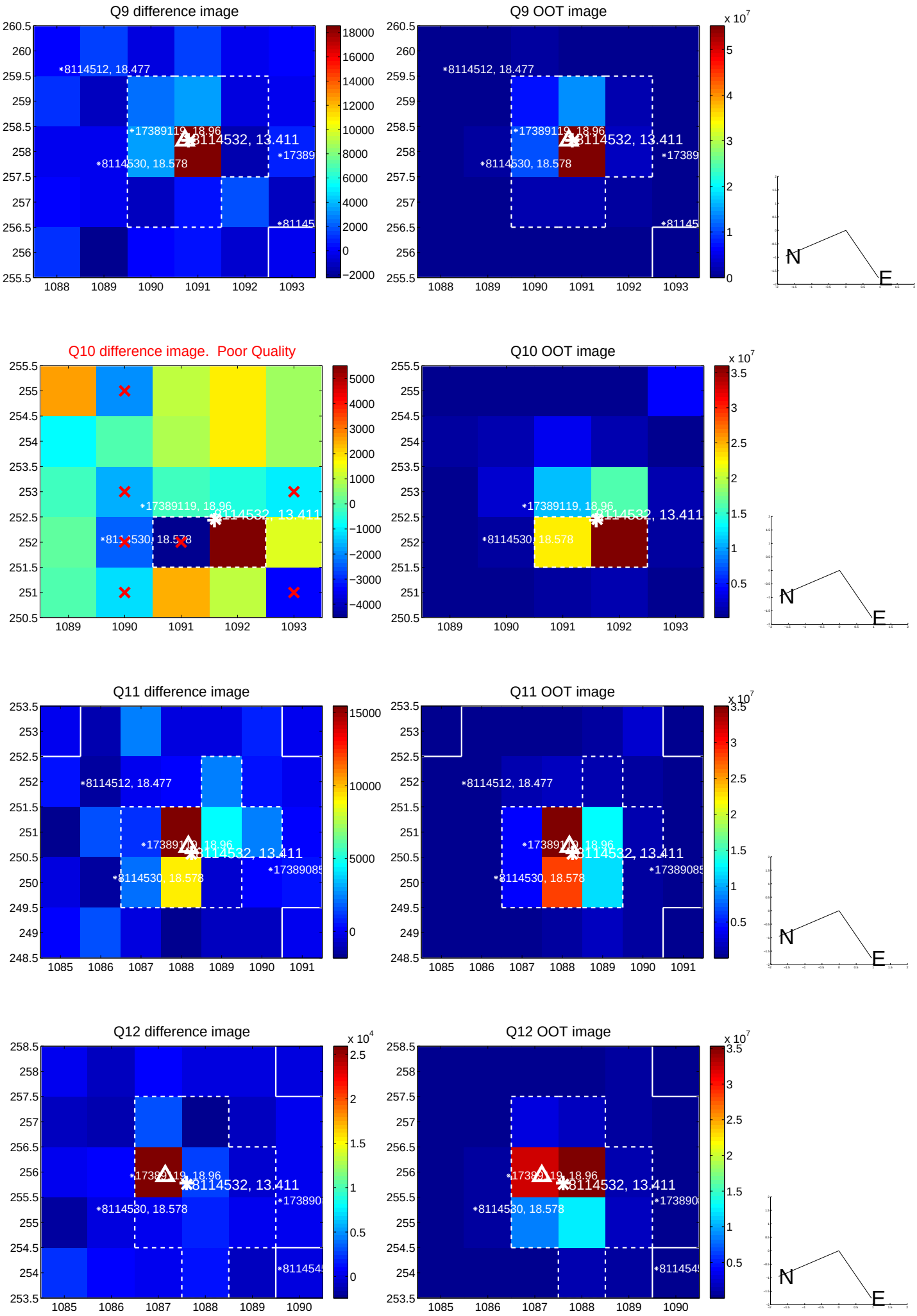
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



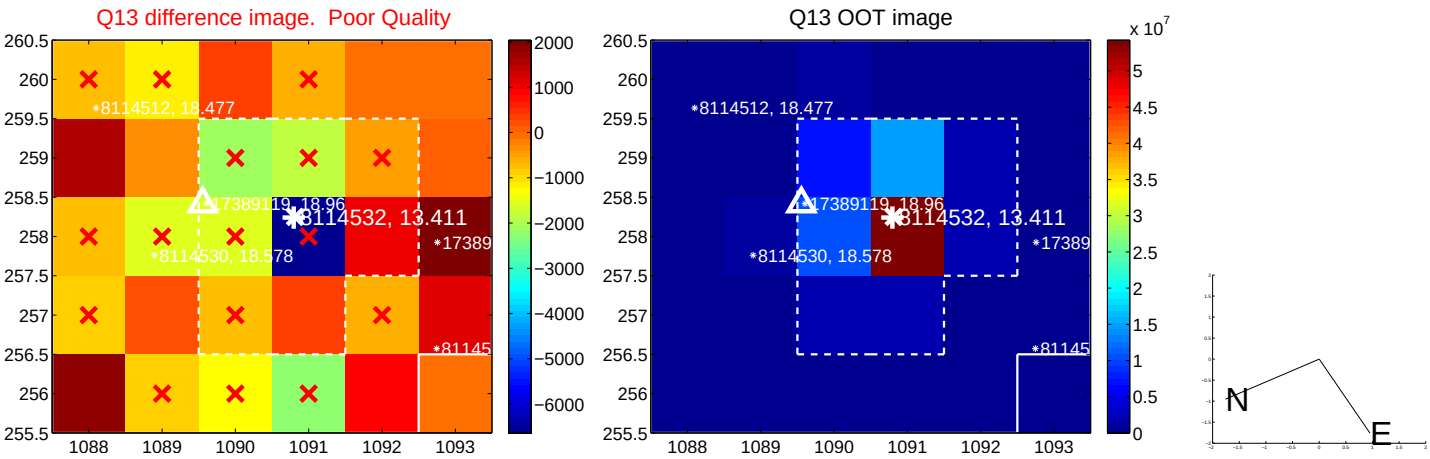
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

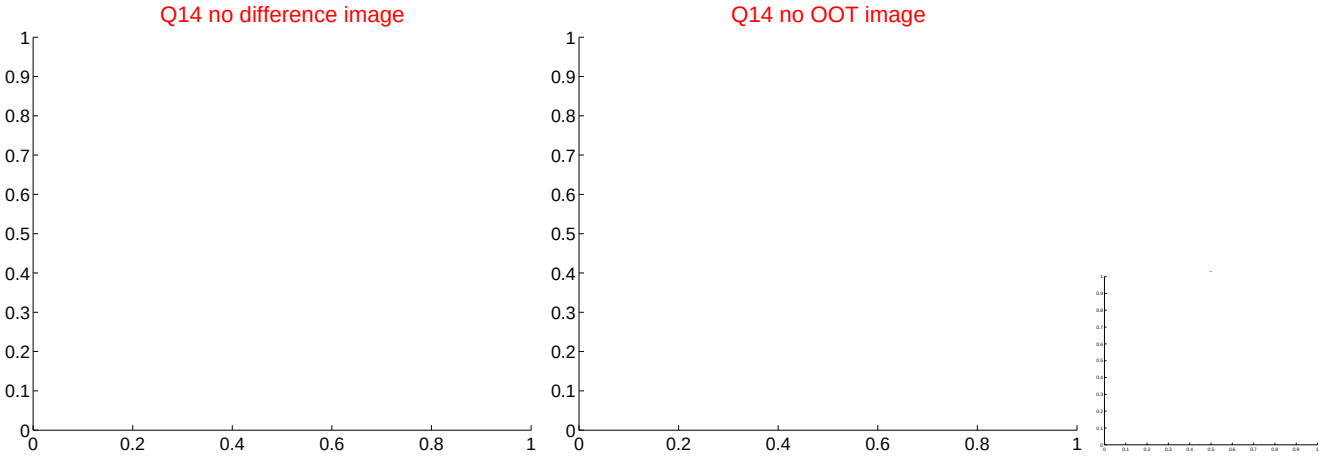


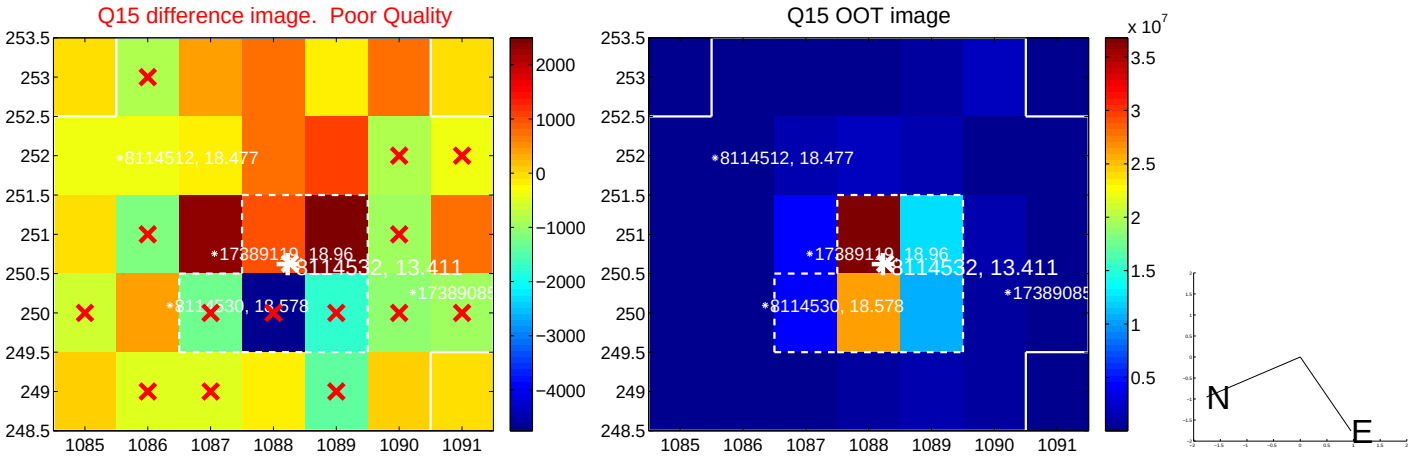
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

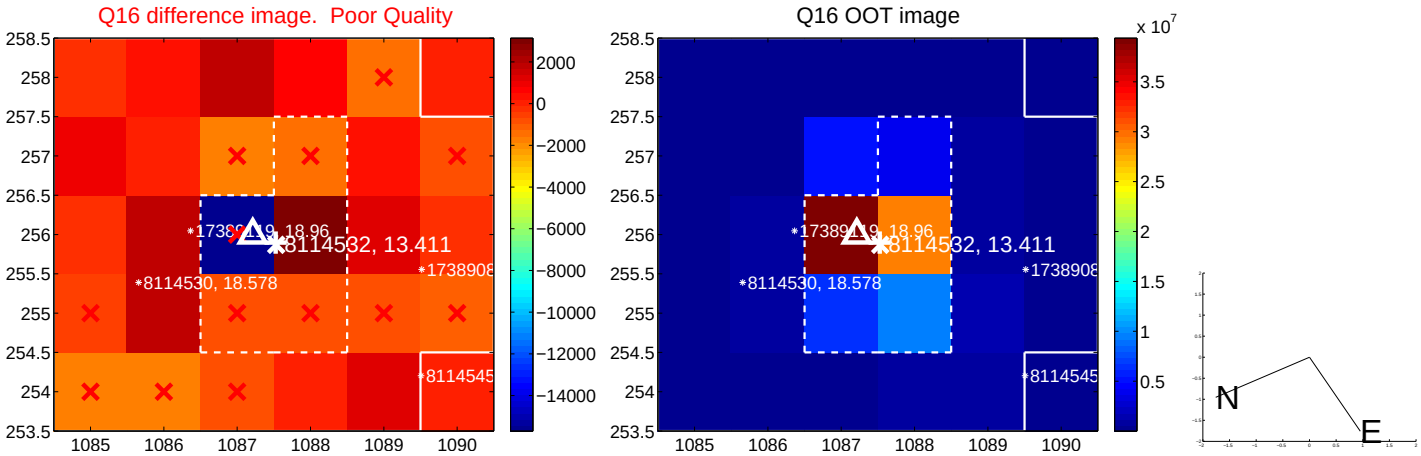


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

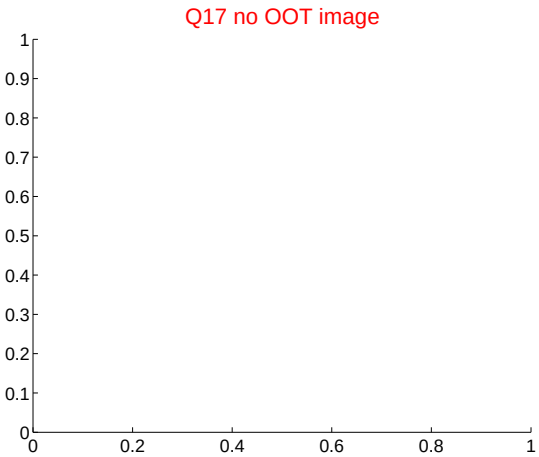


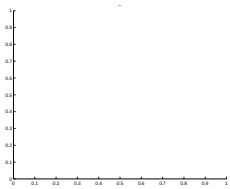


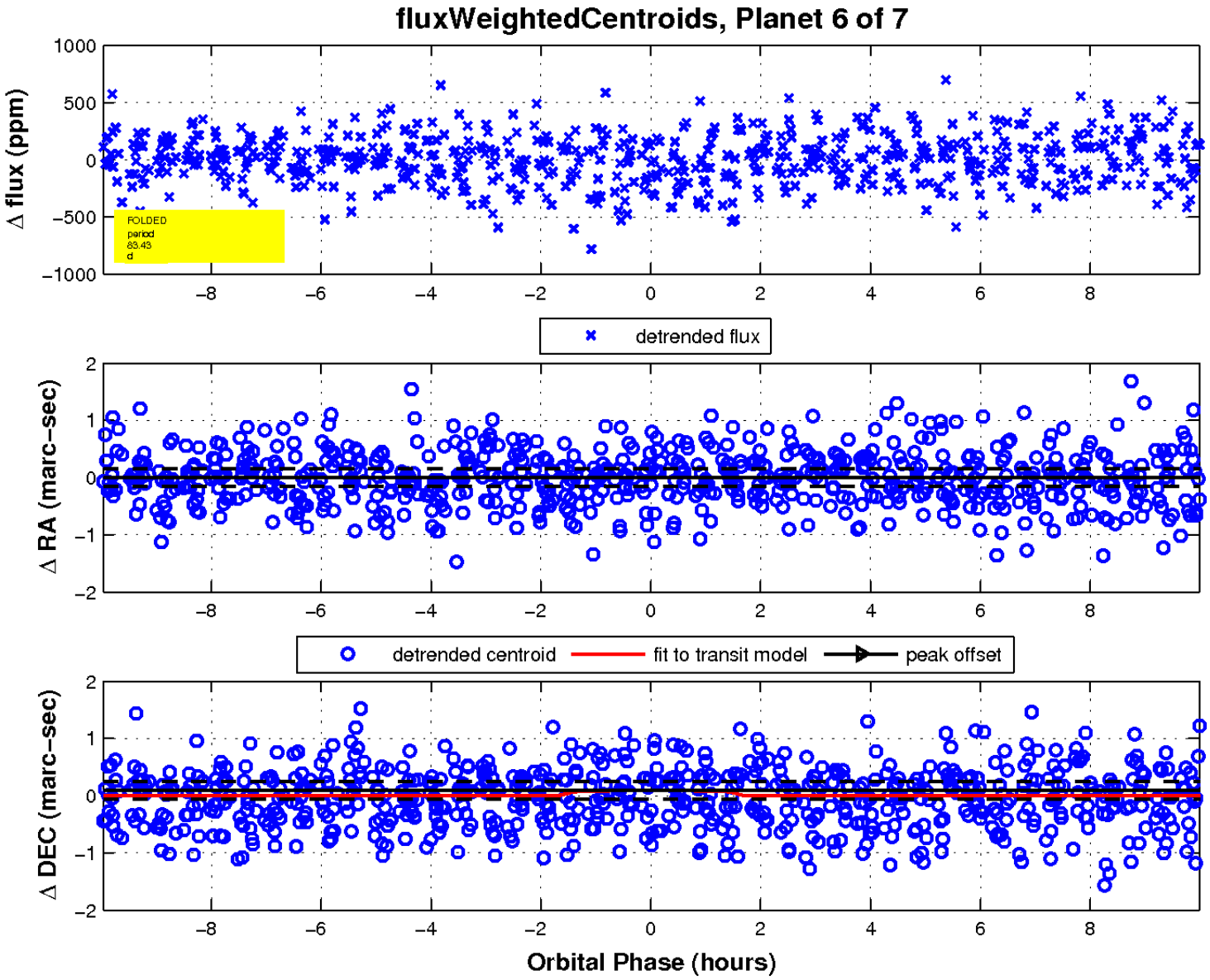




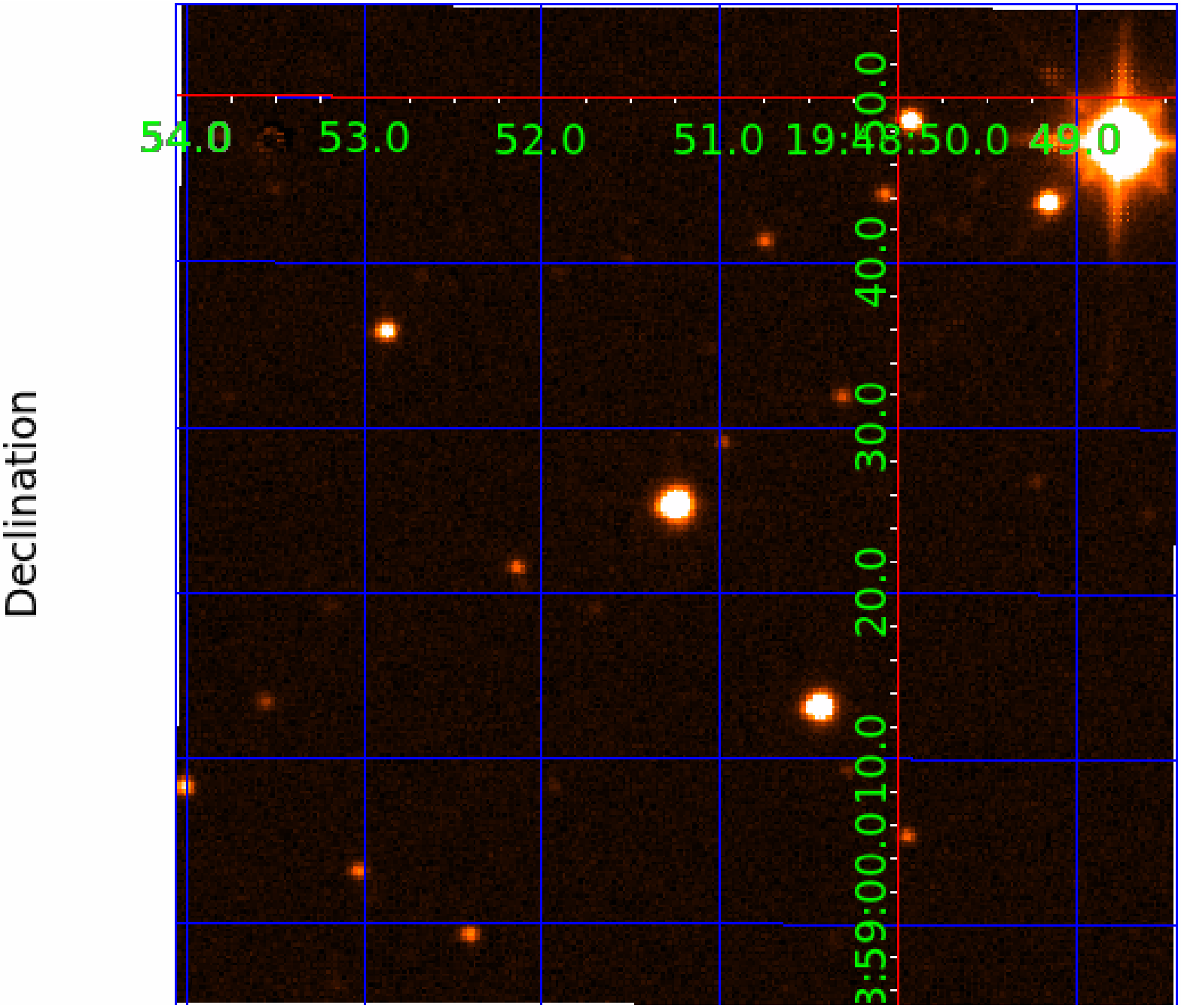
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image


54.0
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51.0
19:48:50.0
49.0
50.0
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30.0
20.0
10.0
3:59:00.0
Declination

KIC 008114532

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 ($S_\oplus$)
008114532-01	OBS	No	2.486340	132.570850	0.1	12.953	8.1	0.0	3.68	6316	0.11	10517.02
008114532-02	OBS	No	355.829103	190.356936	374.9	11.450	10.7	9.8	3.68	6316	7.68	14.05
008114532-03	OBS	No	72.446745	202.300421	209.0	5.016	8.0	7.5	3.68	6316	5.85	117.30
008114532-04	OBS	No	122.892501	193.801049	273.8	2.892	7.7	8.1	3.68	6316	6.98	57.98
008114532-05	OBS	No	357.818232	291.033735	337.0	3.607	7.7	7.9	3.68	6316	7.75	13.95
008114532-06	OBS	No	83.429574	212.026458	282.7	3.367	7.8	7.9	3.68	6316	7.13	97.17
008114532-07	OBS	No	49.789794	143.803696	335.6	1.742	7.3	8.1	3.68	6316	7.66	193.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008114532-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008114532-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008114532-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008114532-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008114532-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008114532-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

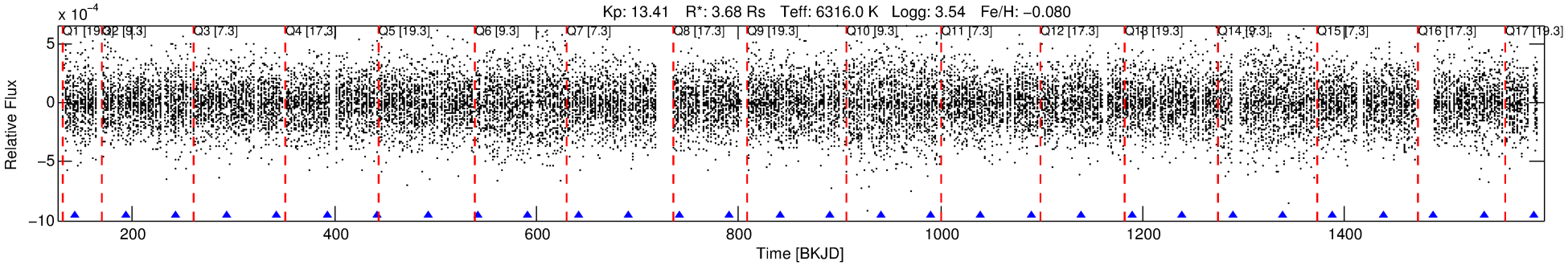
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

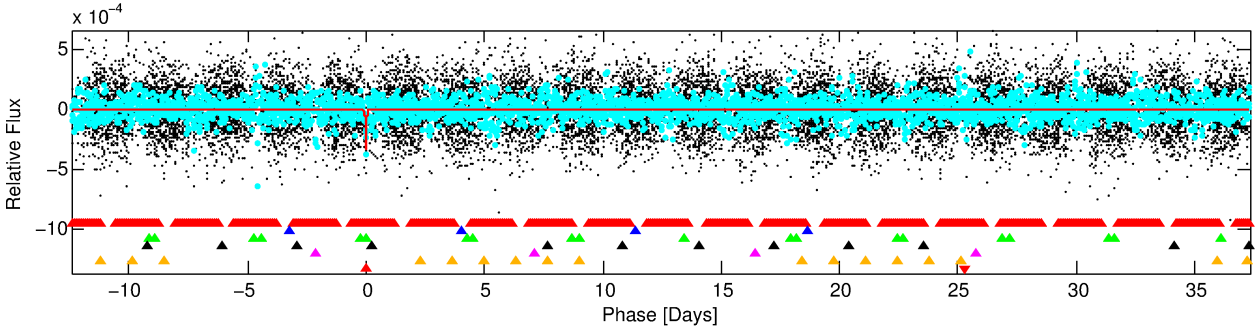
Ephemeris Match Information For 008114532-07

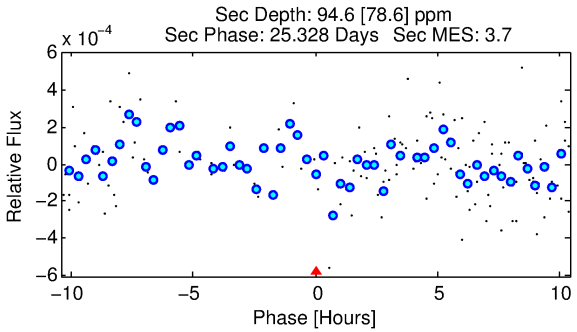
No Significant Match Found

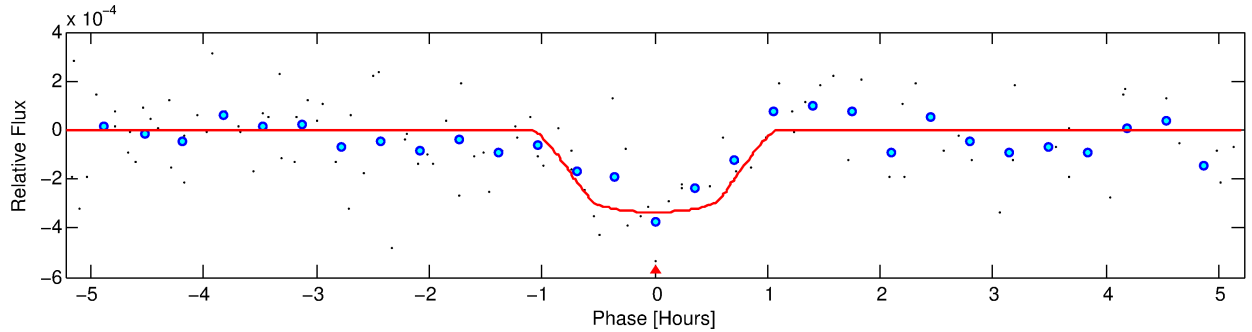
DV One-Page Summary

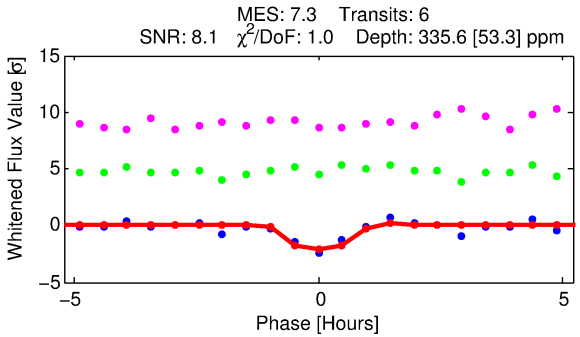
KIC: 8114532 Candidate: 7 of 7 Period: 49.790 d

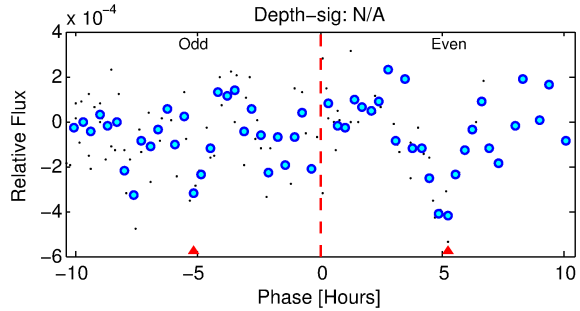


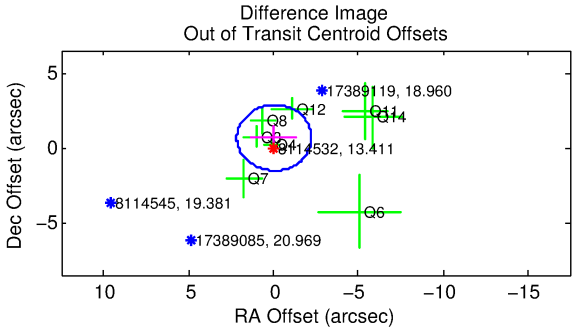












DV Fit Results:

Period = 49.78979 [0.00224] d
Epoch = 143.8037 [0.0067] BKJD
Rp/R* = 0.0191 [0.0203]
a/R* = 122.60 [703.91]
b = 0.85 [1.90]

Seff = 193.40 [119.50]
Teq = 951 [147] K
Rp = 7.65 [8.63] Re
a = 0.3161 [0.1176] AU

Ag = 88.70 [209.54] [0.42σ]
Teffp = 4512 [2579] K [1.38σ]

DV Diagnostic Results:

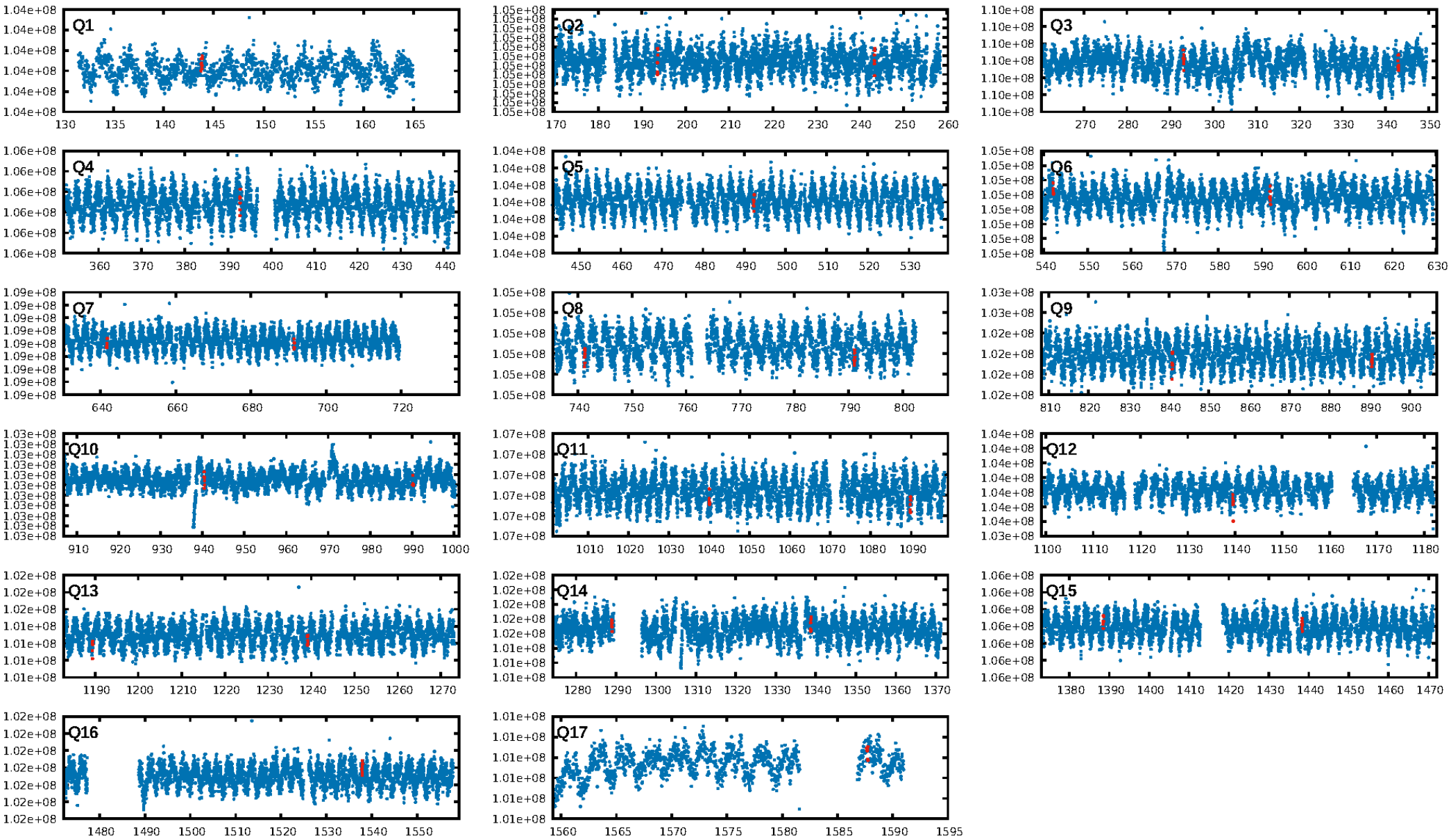
ShortPeriod−sig: 100.0% [86.87σ]
LongPeriod−sig: 100.0% [102.41σ]
ModelChiSquare2−sig: 13.8%
ModelChiSquareGof−sig: 97.9%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [5/5]
GhostDiagnostic−chr: 0.07226

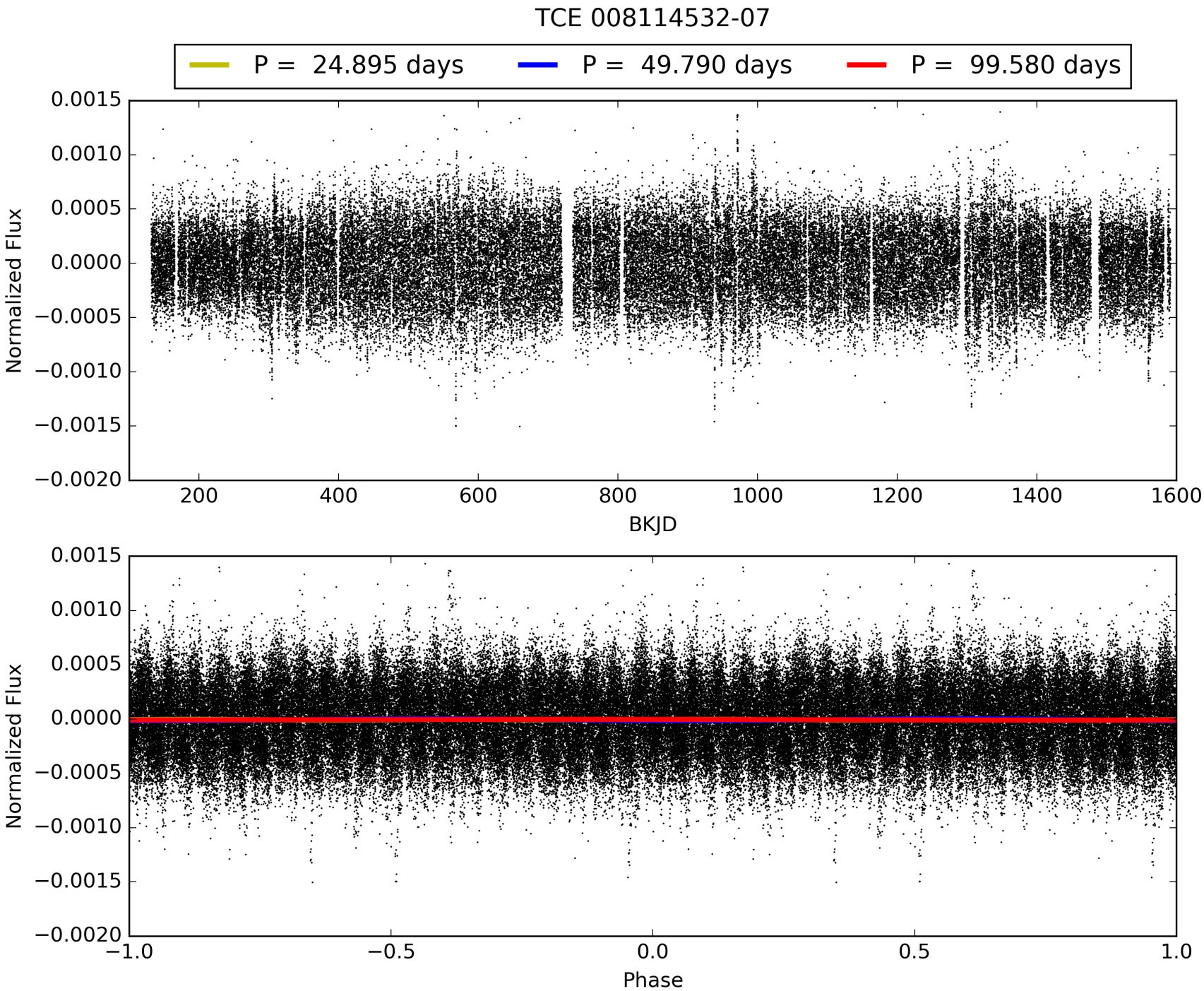
Centroid−sig: 9.5%
Centroid−so: 0.466 arcsec [0.95σ]
OotOffset−rm: 0.661 arcsec [0.90σ]
KicOffset−rm: 0.650 arcsec [0.85σ]
OotOffset−st: 2/3/3/0 [8]
KicOffset−st: 2/3/3/0 [8]
DiffImageQuality−fgm: 0.38 [3/8]
DiffImageOverlap−fno: 0.44 [7/16]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 31−Jan−2016 22:46:42 Z

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

TCE 008114532-07, PDC Light Curves

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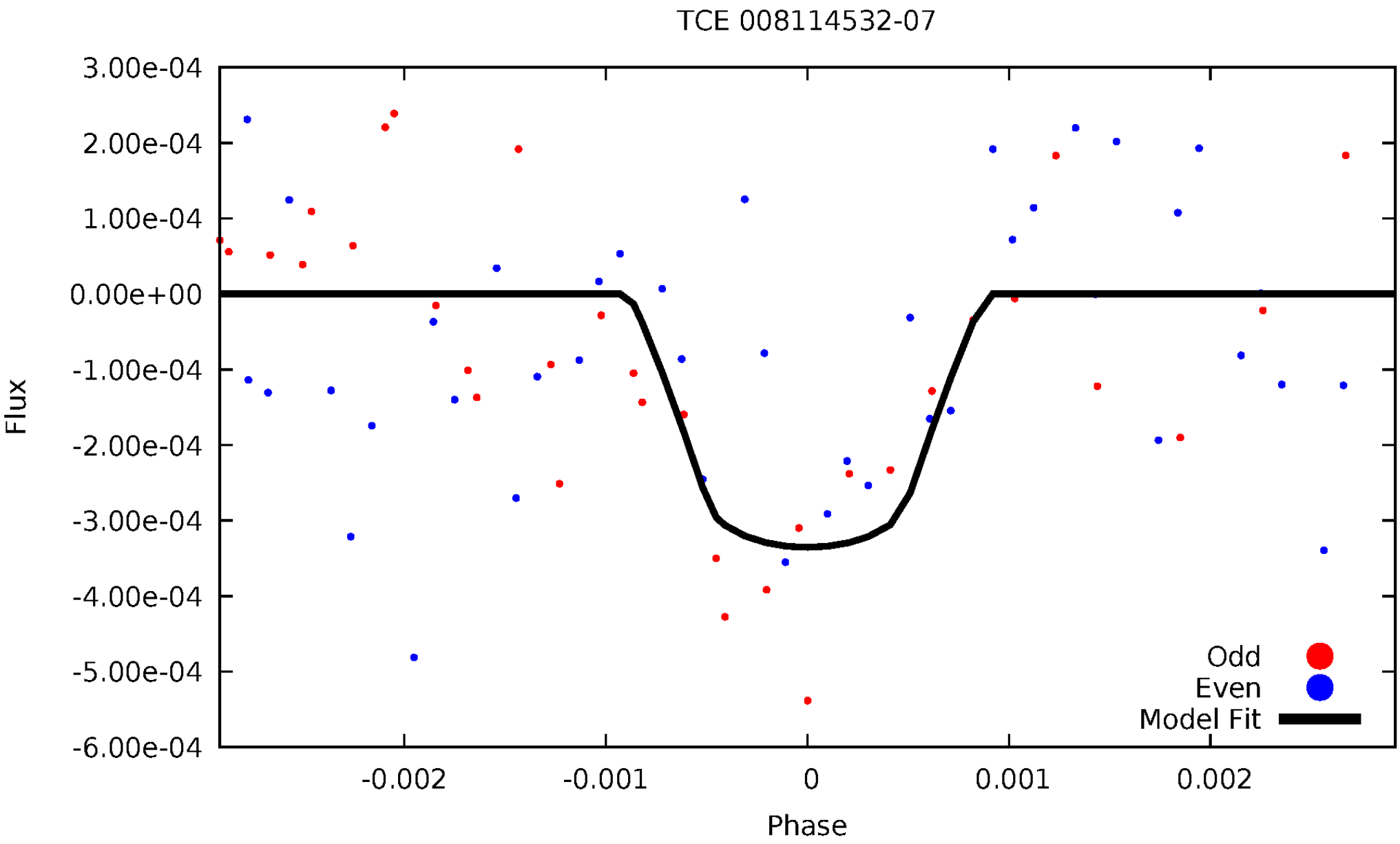
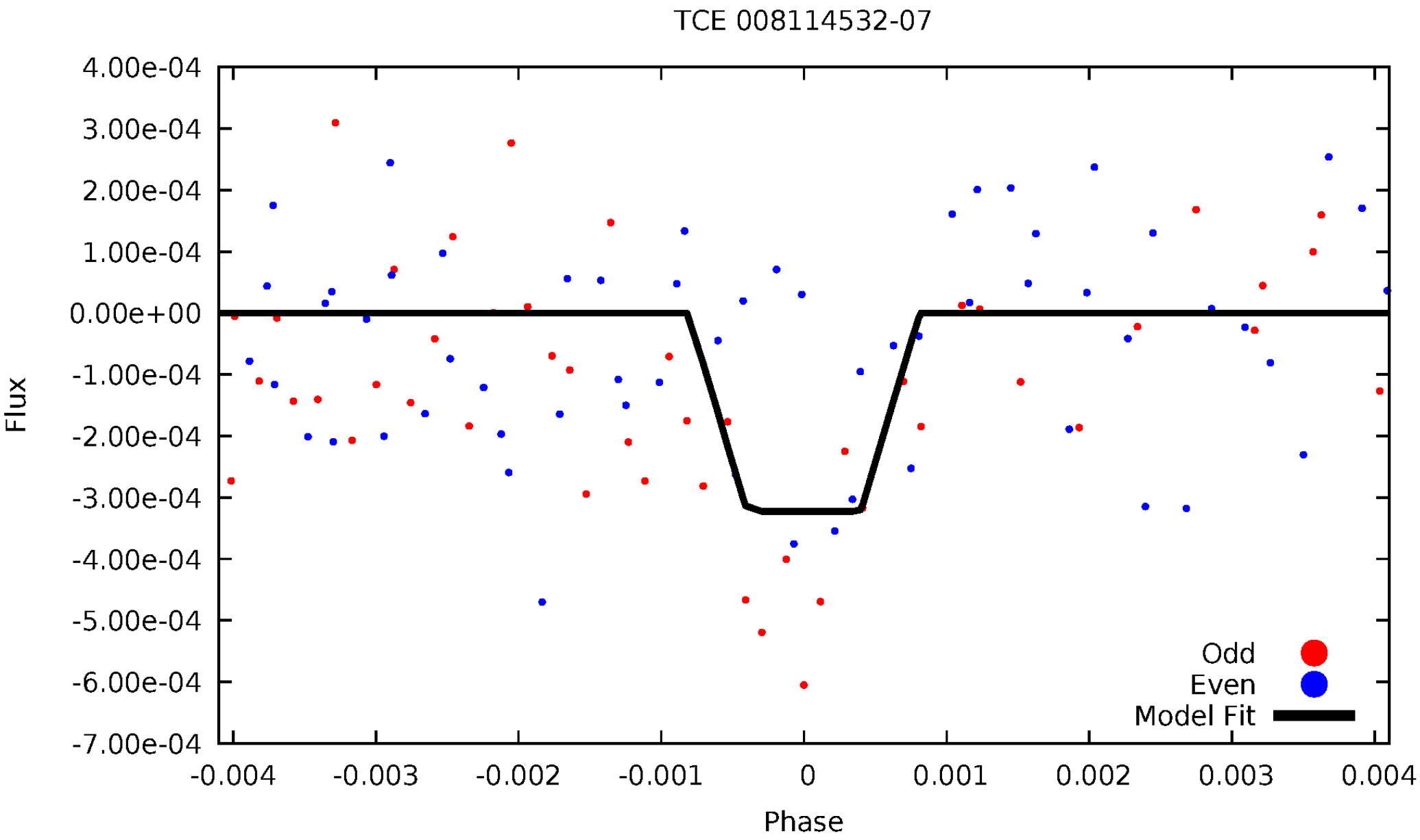
P = 24.895 days
P = 49.790 days
P = 99.580 days
Normalized Flux
BKJD
Normalized Flux
Phase

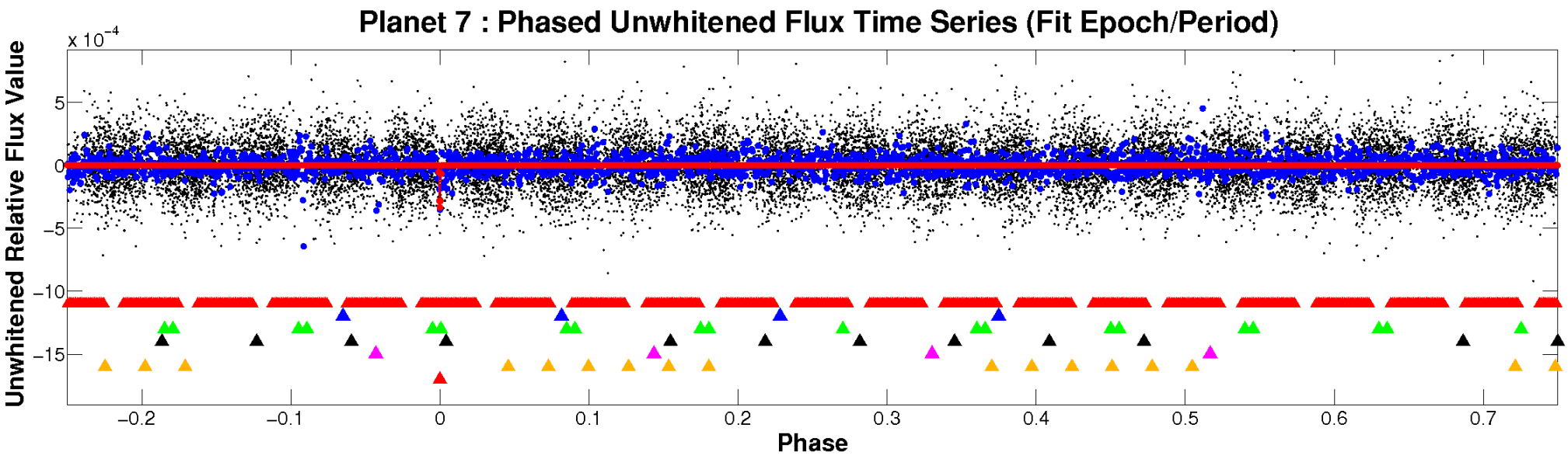
DV Odd/Even

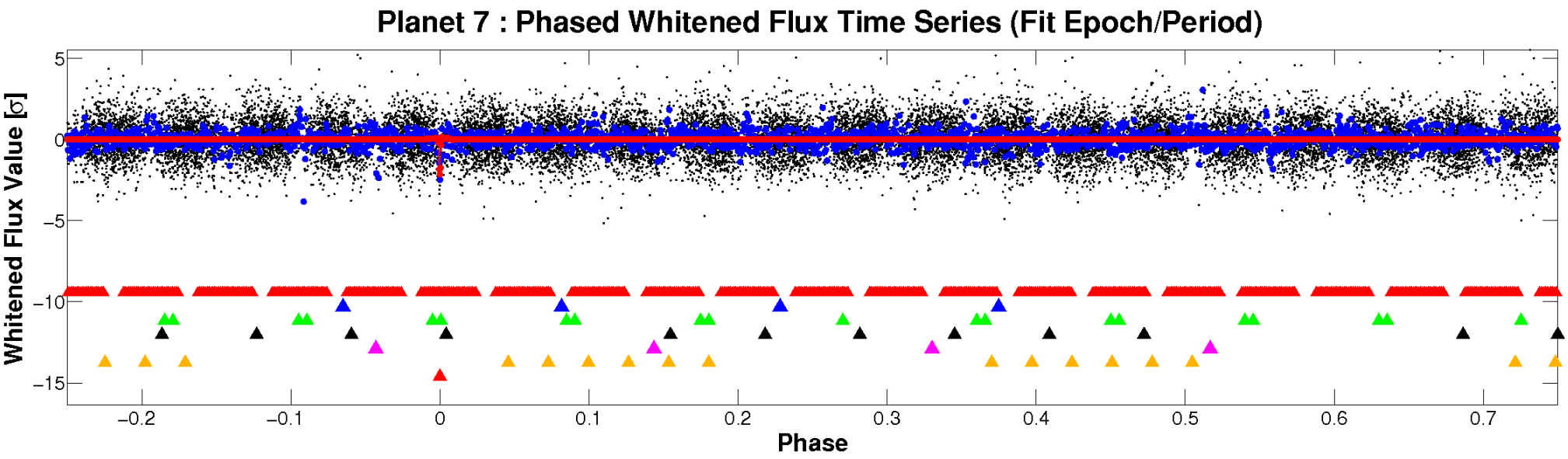

TCE 008114532-07
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
-6.00e-04
Flux
-0.002
-0.001
0
0.001
0.002
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008114532-07
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
-6.00e-04
-7.00e-04
Flux
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
Phase
Odd
Even
Model Fit

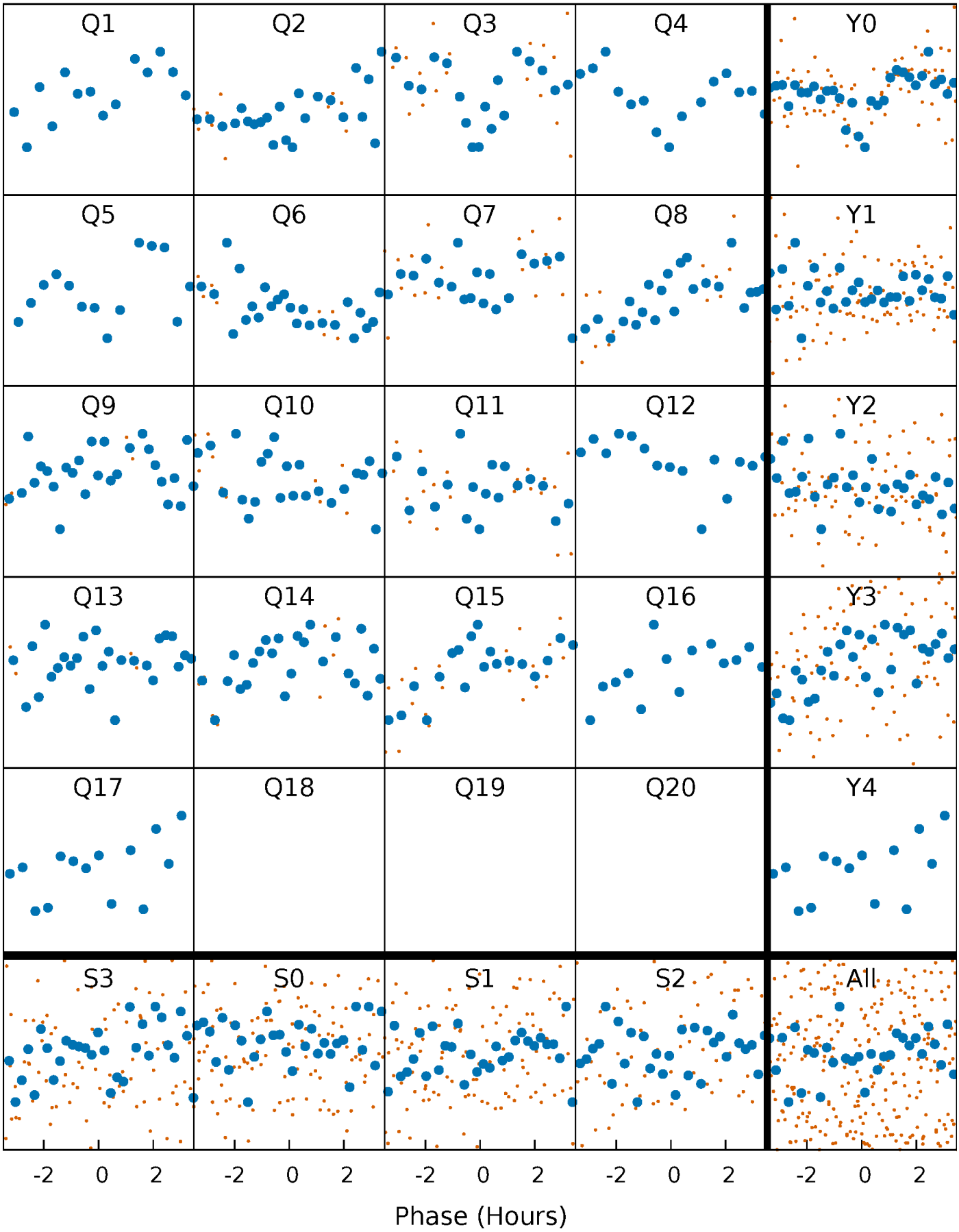
Non-Whitened Vs. Whitened Light Curve





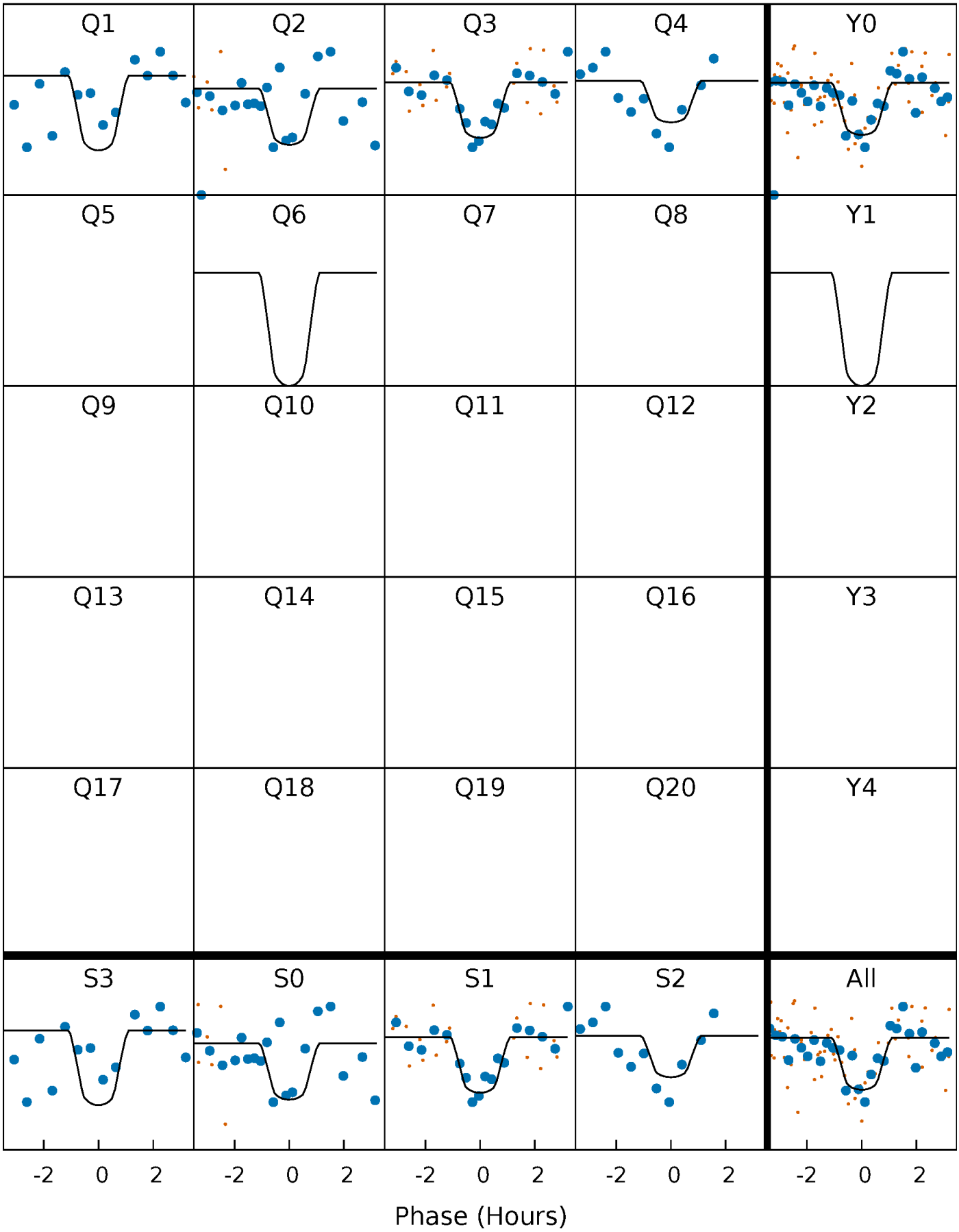
PDC Quarter-Phased Transit Curves

TCE 008114532-07 P= 49.789794 Days T_0=143.803696 (BKJD)



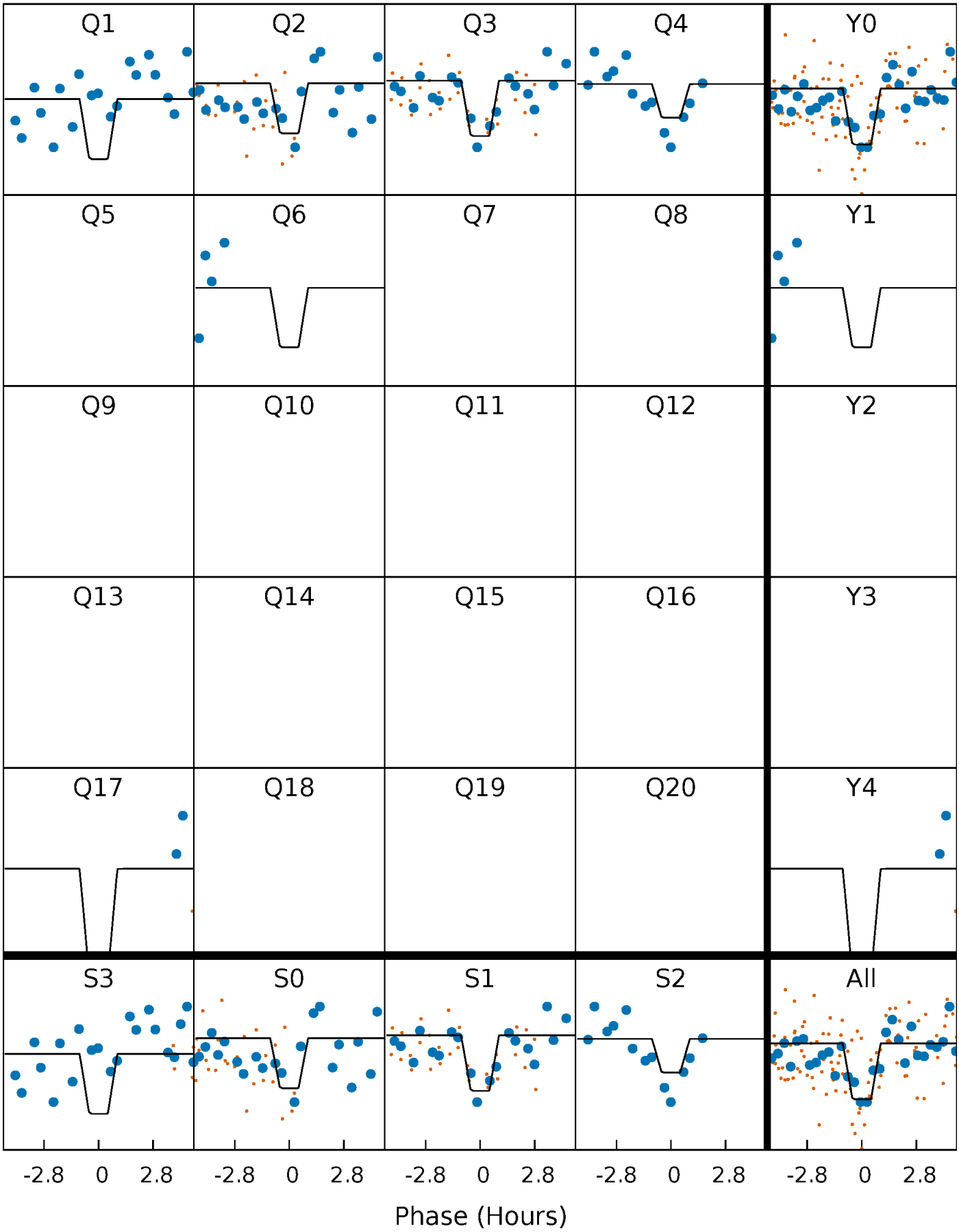
DV Quarter-Phased Transit Curves

TCE 008114532-07 P= 49.789794 Days T_0=143.803696 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

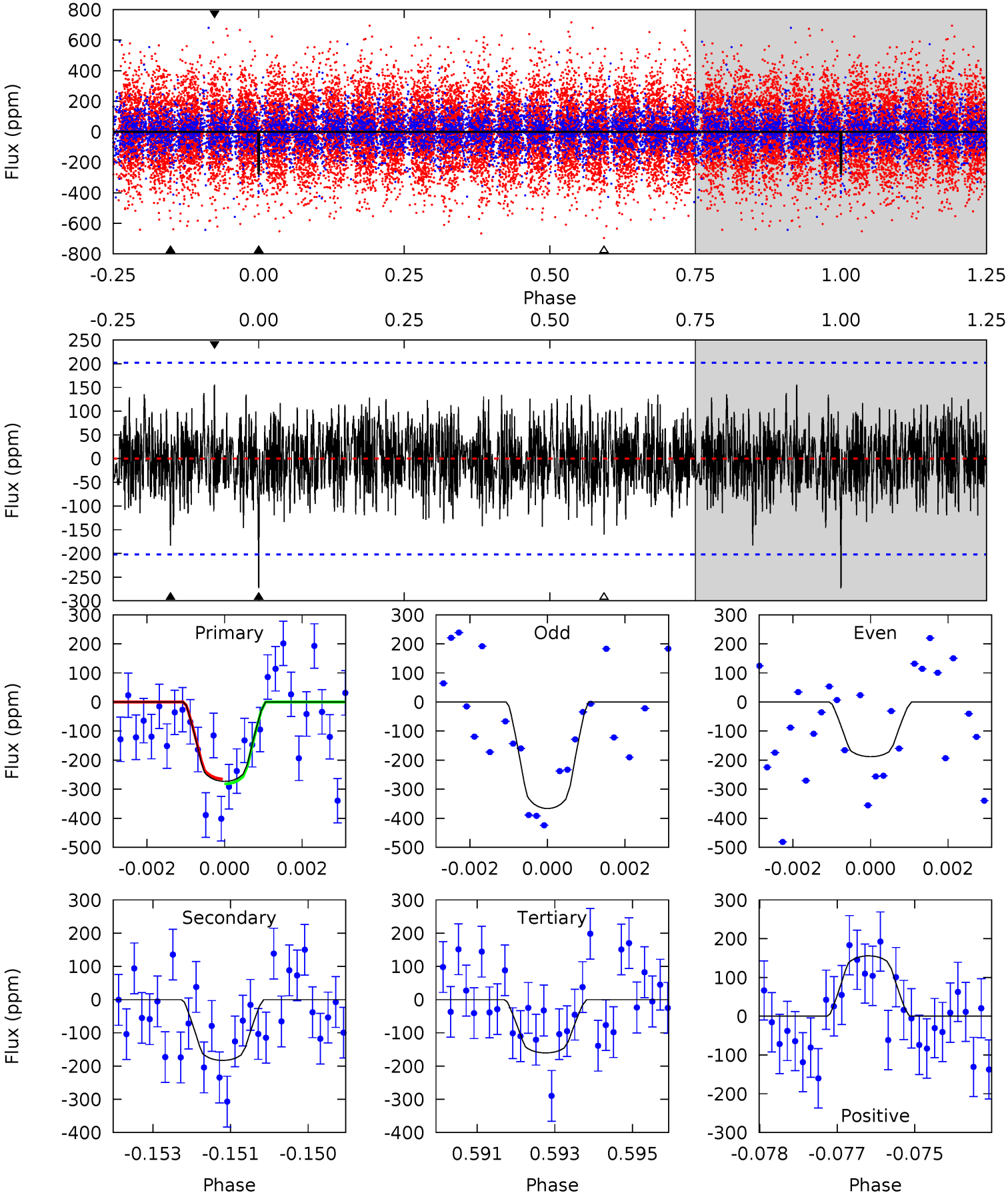
TCE 008114532-07 P= 49.791772 Days T_0=143.793840 (BKJD)



DV Model-Shift Uniqueness Test

008114532-07, P = 49.789794 Days, E = 94.013902 Days

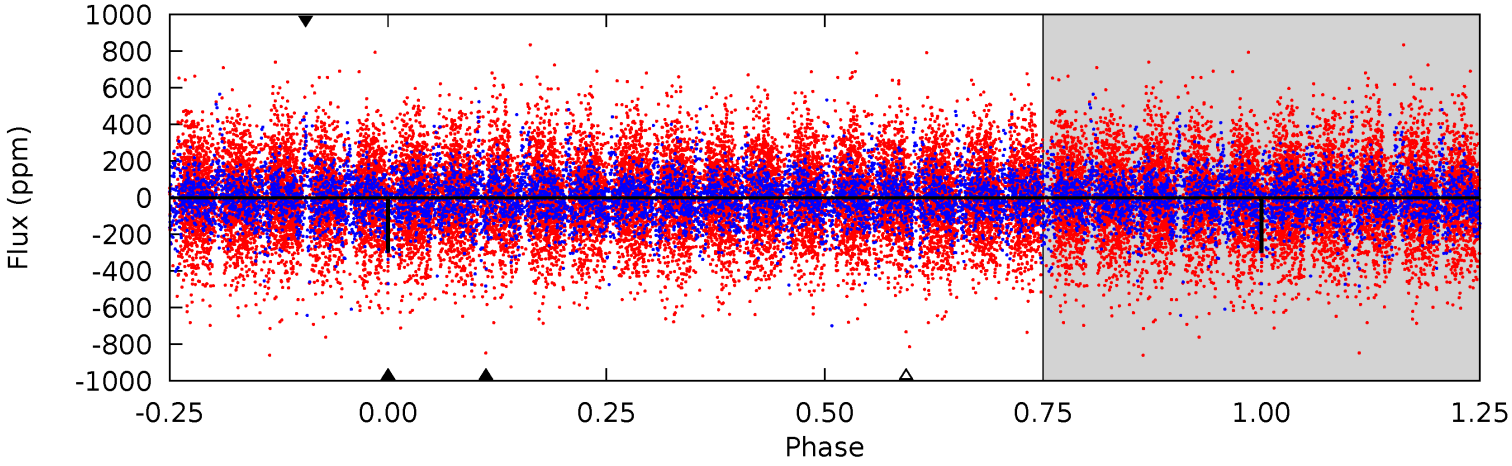
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.23	4.84	4.24	4.12	5.35	3.13	1.28	2.98	3.11	0.60	0.72	2.40	0.88	0.36	0.22

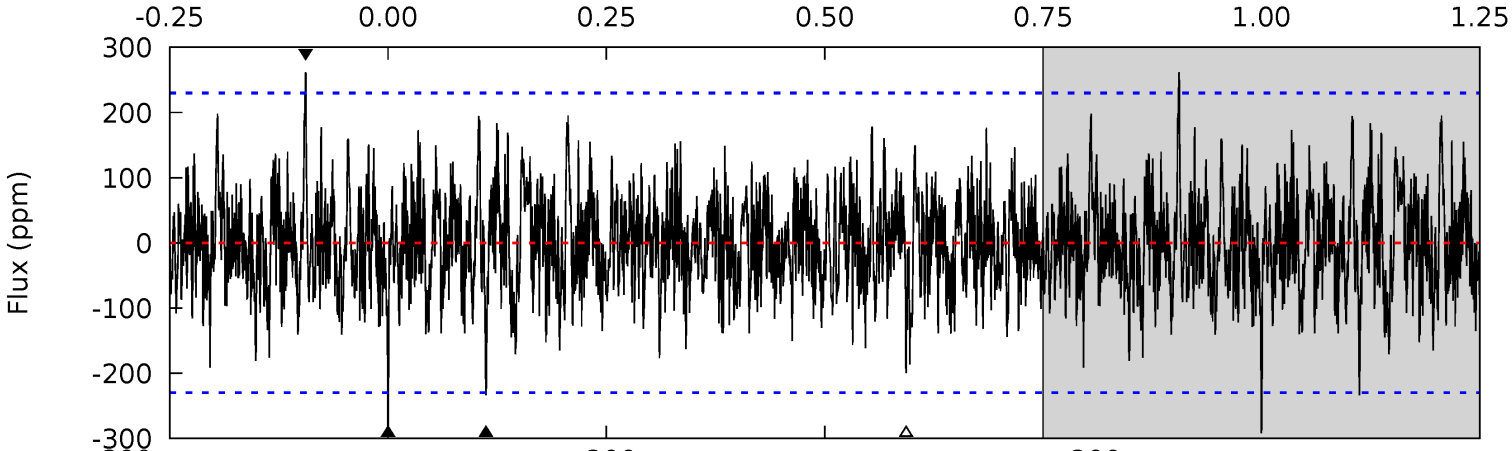


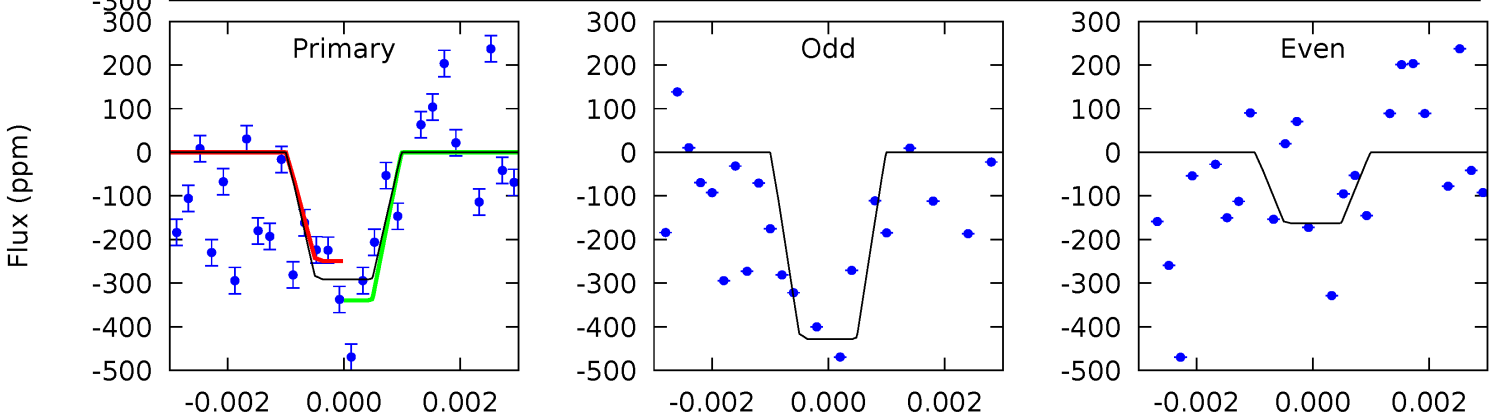
Alt Model-Shift Uniqueness Test

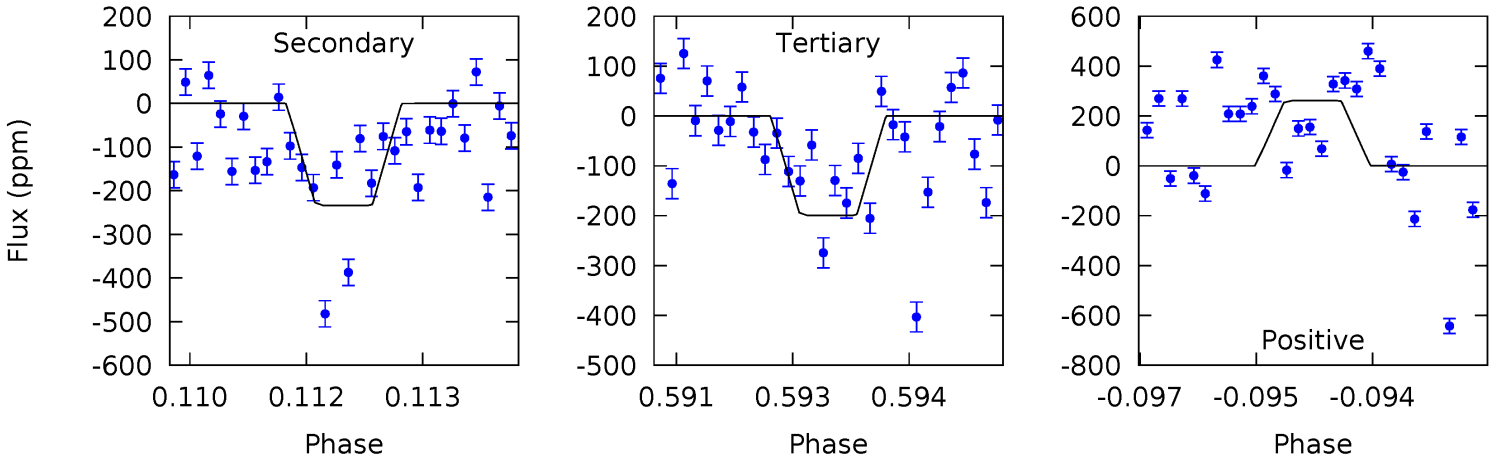
008114532-07, P = 49.791772 Days, E = 94.002068 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.80	5.45	4.66	6.10	5.36	3.15	1.39	2.14	0.71	0.79	-0.65	3.08	0.91	0.47	1.05









Stellar Parameters For KIC 008114532

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6316^{+189}_{-189}	$3.536^{+0.360}_{-0.112}$	$-0.080^{+0.300}_{-0.250}$	$3.681^{+0.459}_{-1.376}$	$1.696^{+0.193}_{-0.359}$	$0.048^{+0.122}_{-0.017}$
	+3%/-3%	+10%/-3%	+375%/-312%	+12%/-37%	+11%/-21%	+255%/-35%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008114532-07 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-183±38	$8.59^{+6.91}_{-5.46}$	1307^{+84}_{-131}	4926^{+3204}_{-999}	135^{+842}_{-94}
Alt.	-234±43	$8.28^{+7.28}_{-5.41}$	1303^{+90}_{-125}	5290^{+3595}_{-1161}	186^{+1345}_{-134}

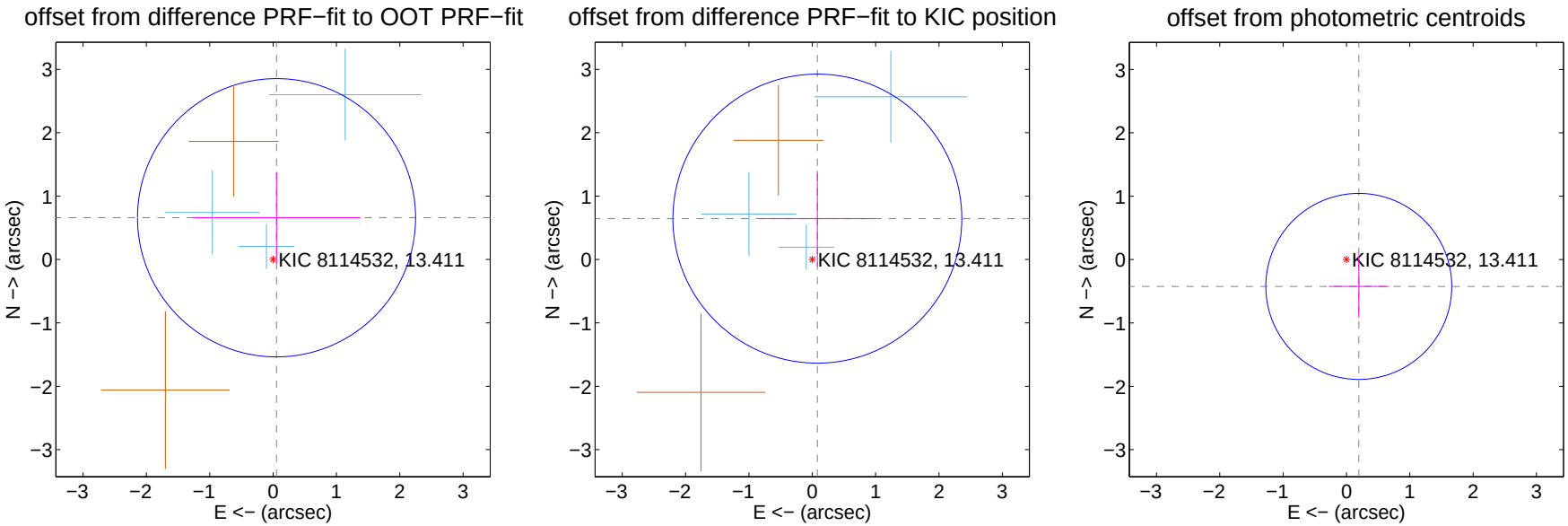
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

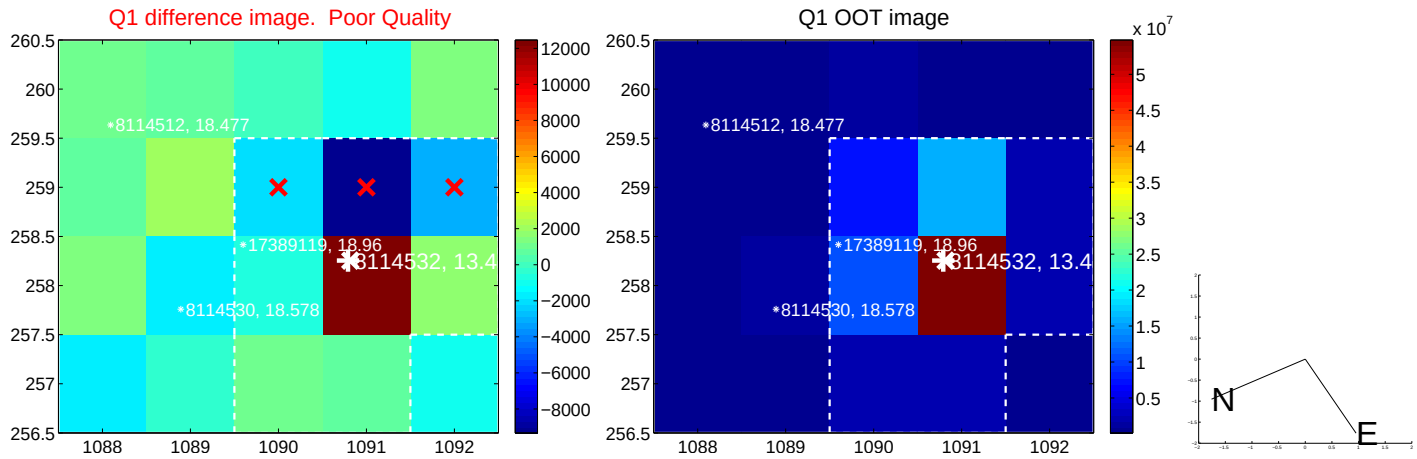
Supplemental centroid analysis for 008114532-07. Kepler magnitude: 13.41. Transit SNR 8.05
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

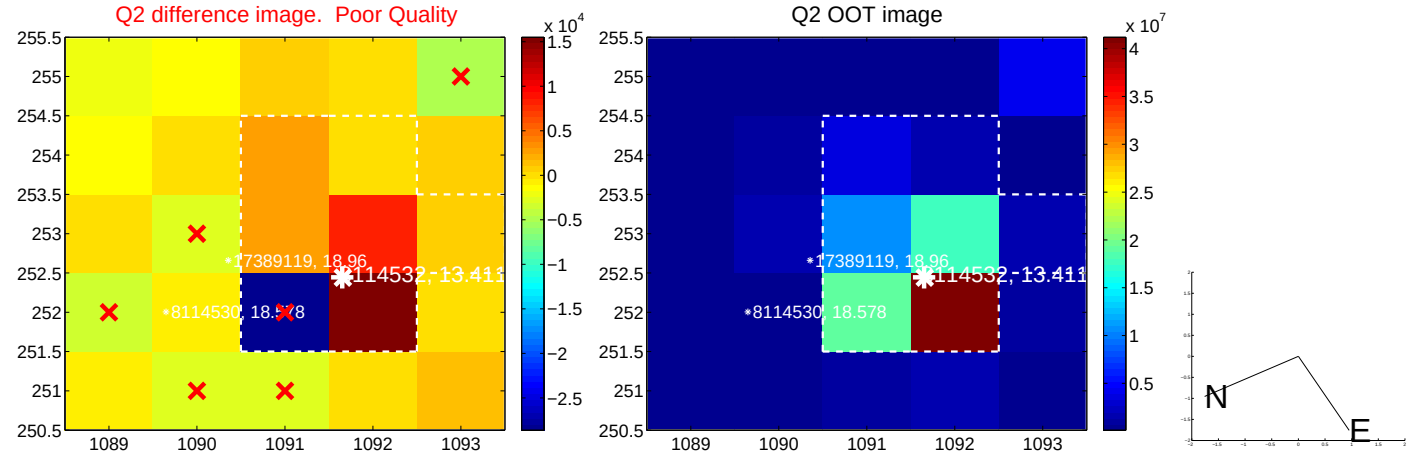
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.661 ± 0.732	0.90	-0.054 ± 1.322	0.659 ± 0.722
PRF-fit source offset from KIC position	0.650 ± 0.760	0.85	-0.080 ± 0.915	0.645 ± 0.752
photometric centroid source offset	0.47 ± 0.49	0.95	-0.19 ± 0.48	-0.42 ± 0.49

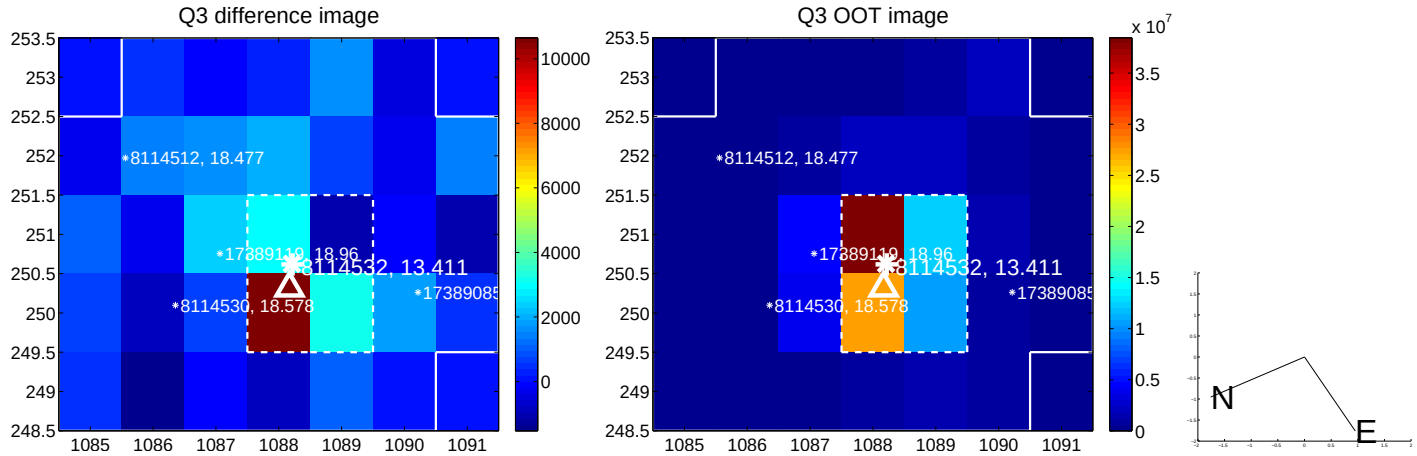


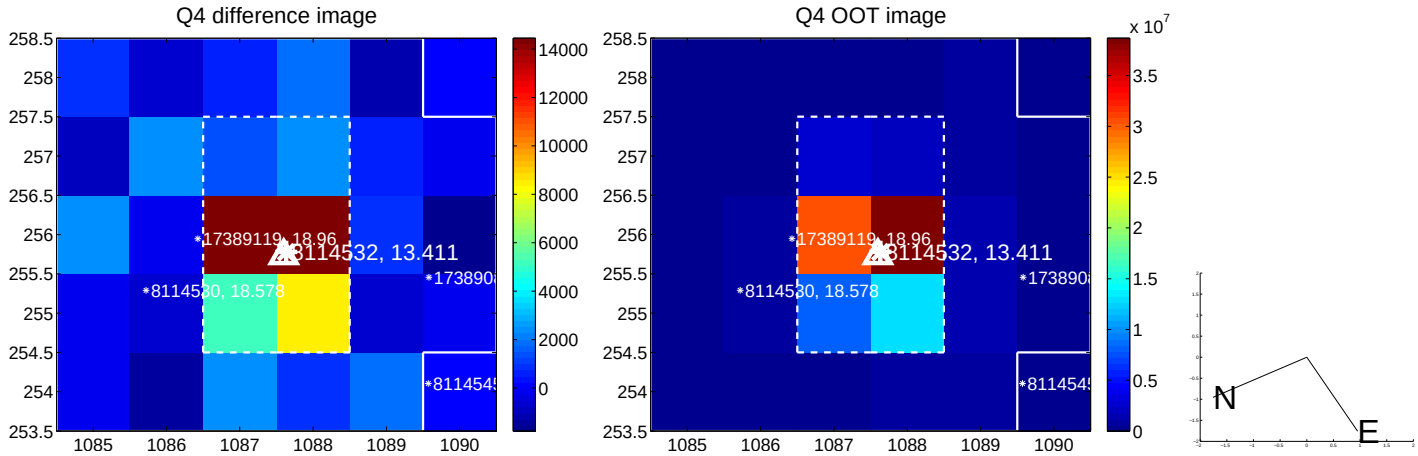
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

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

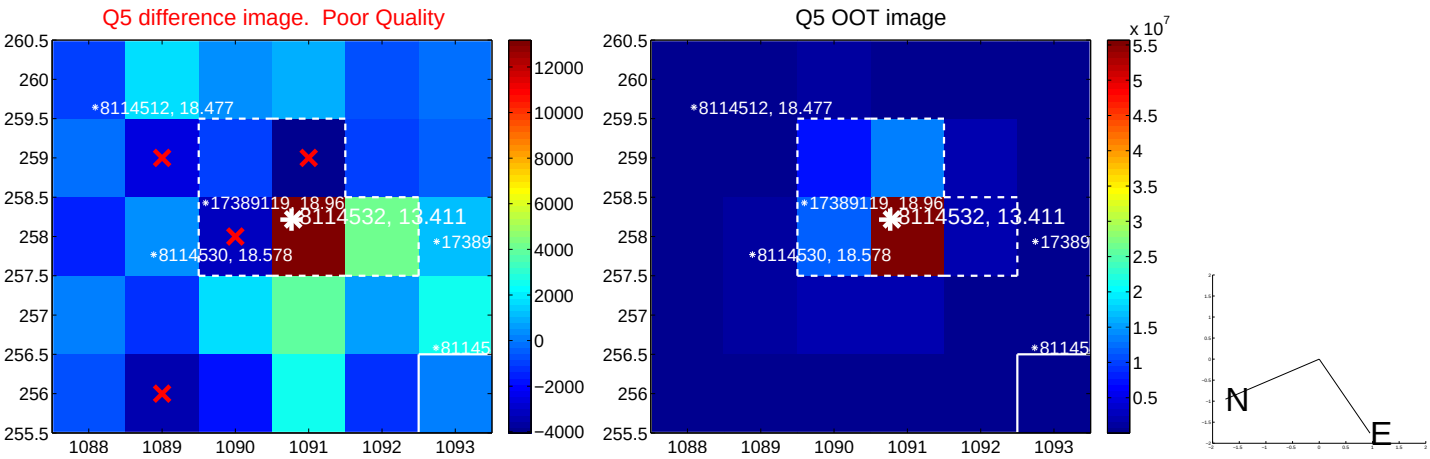


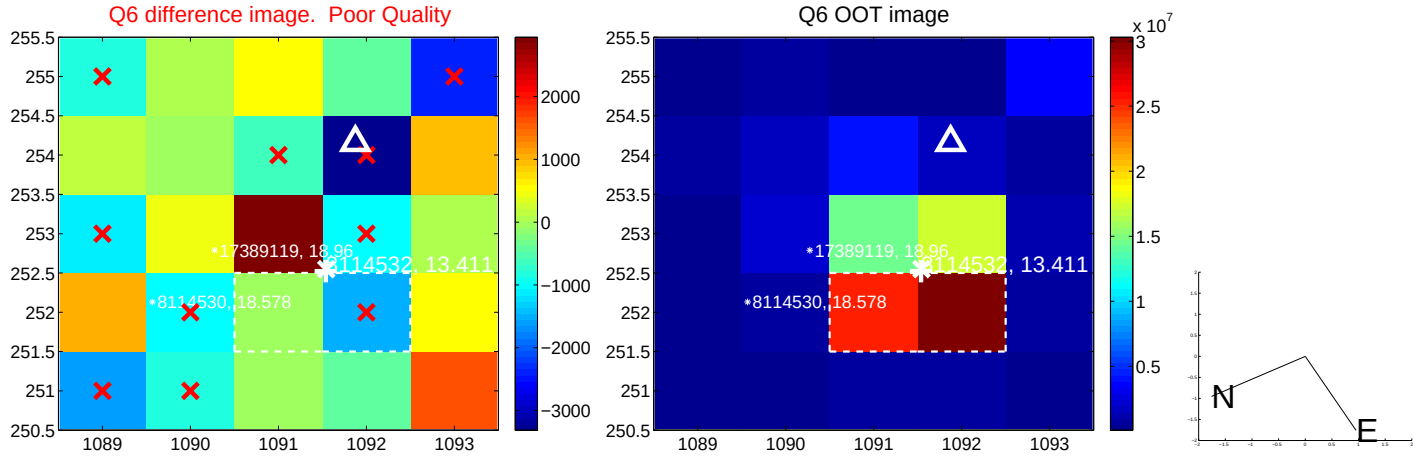


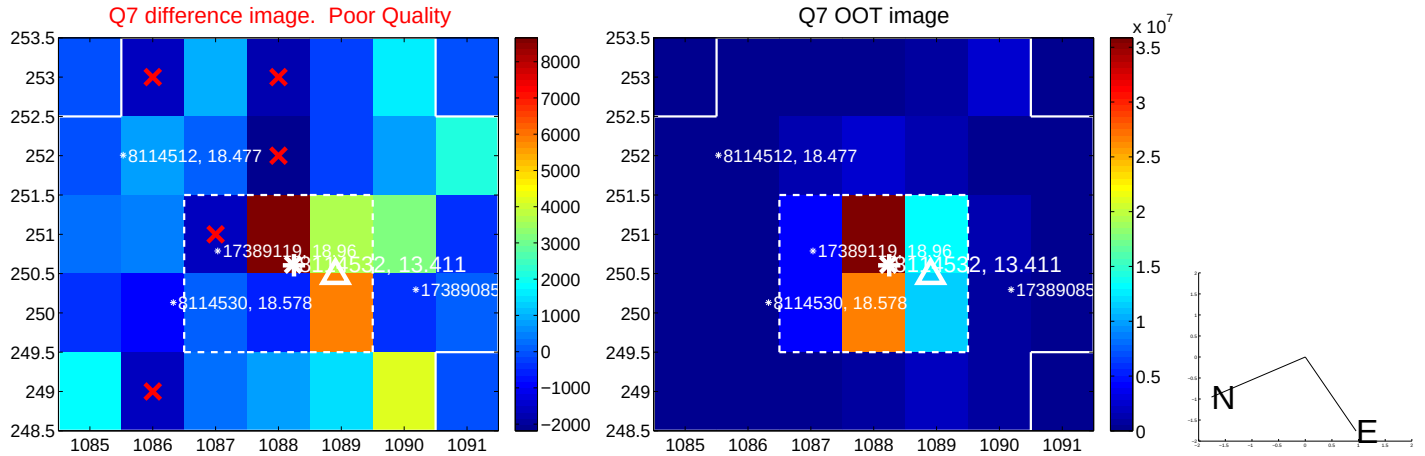


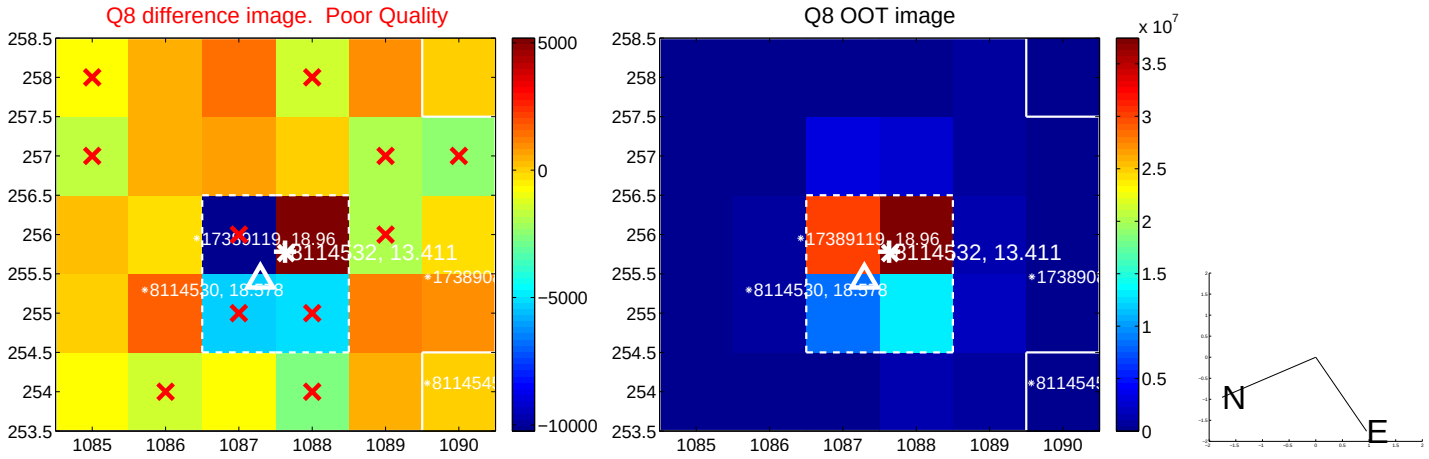


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

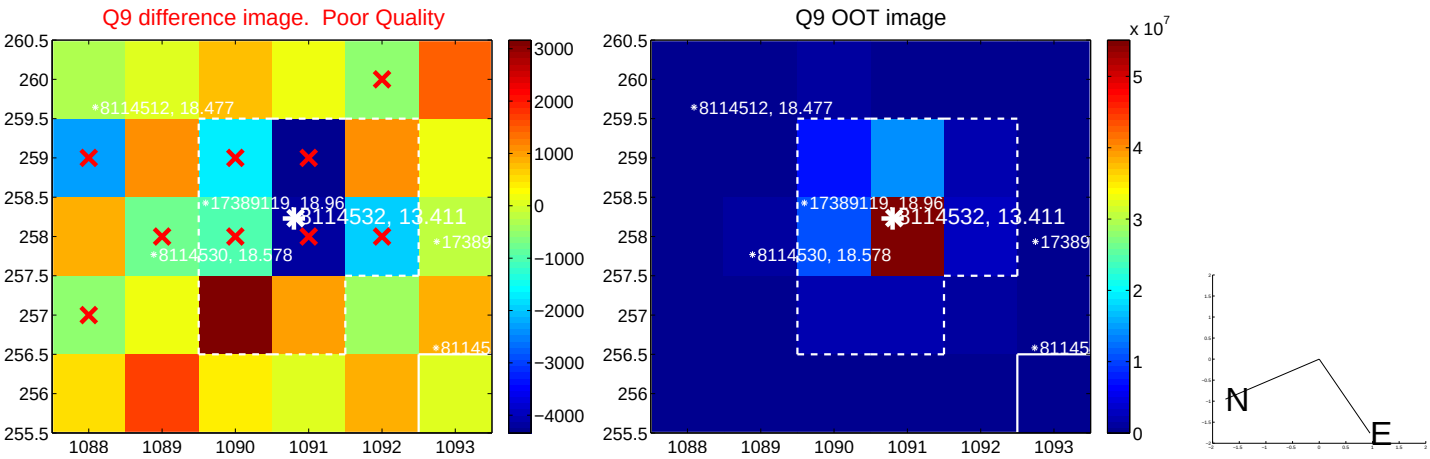


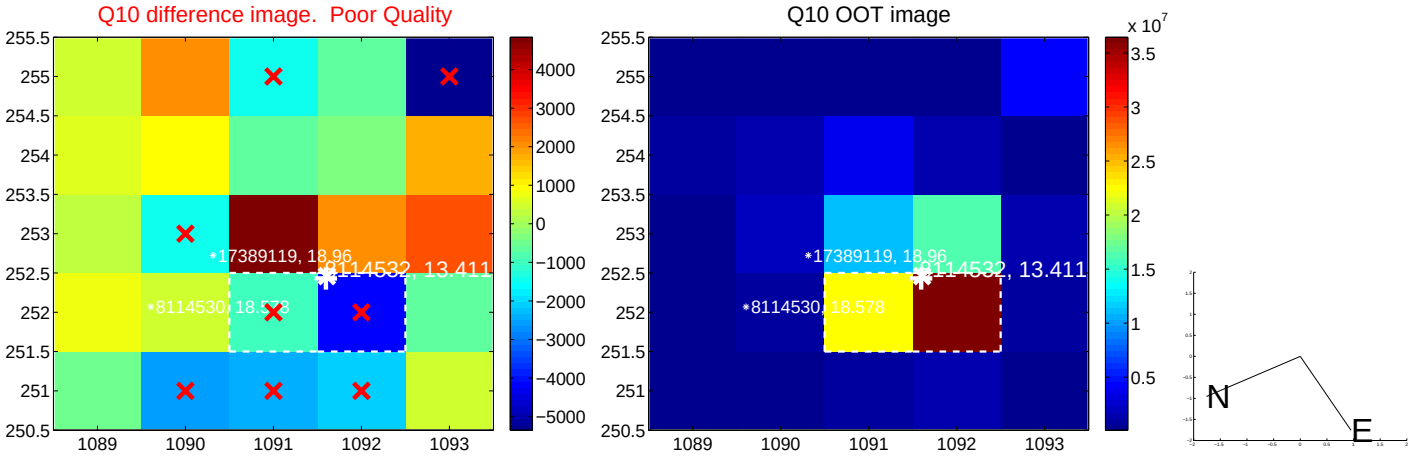


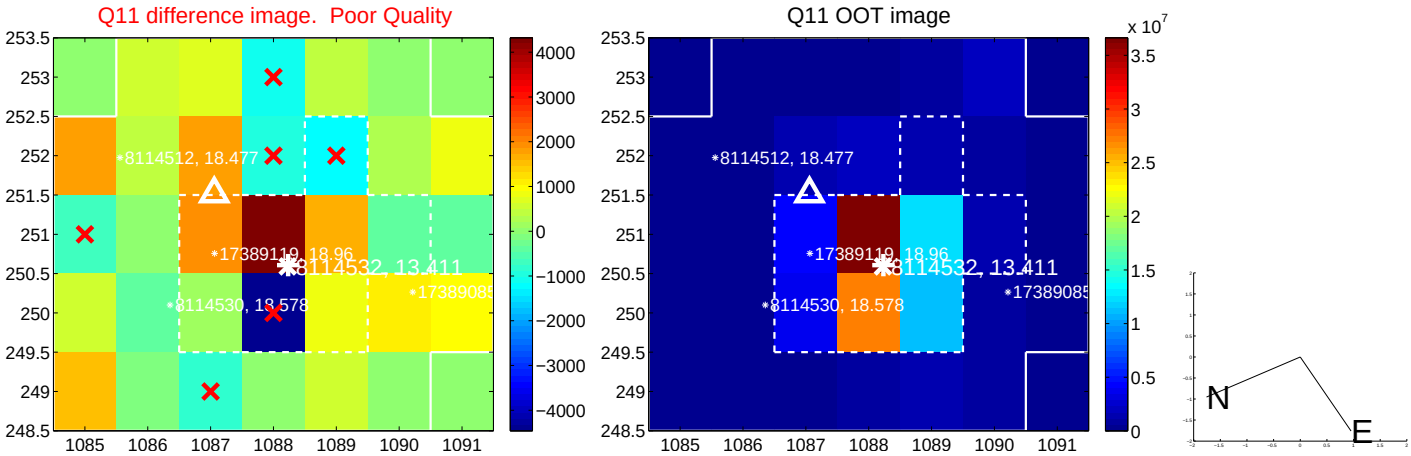


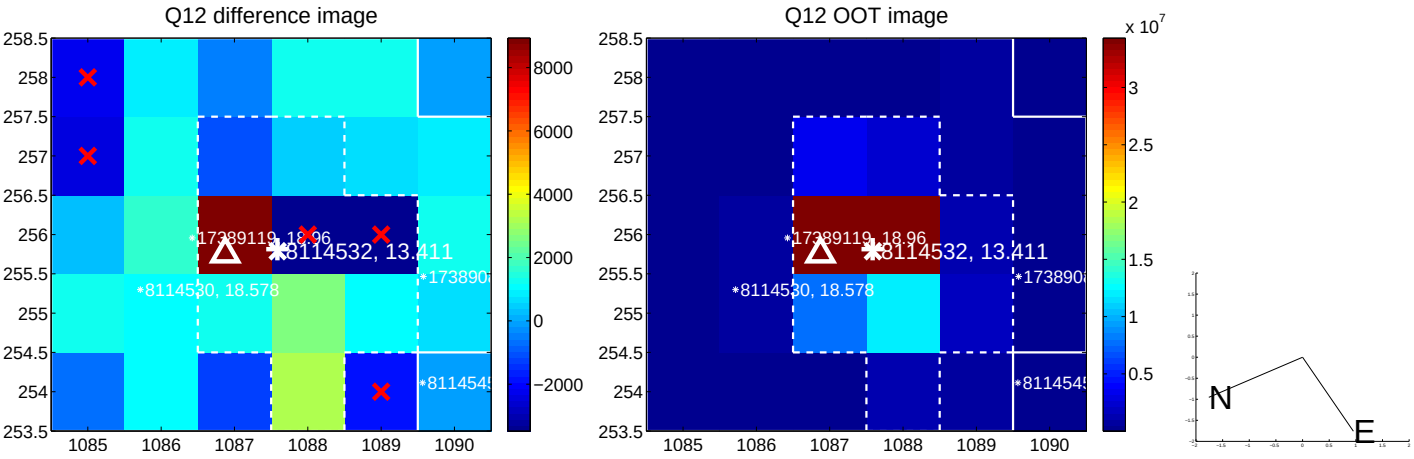


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

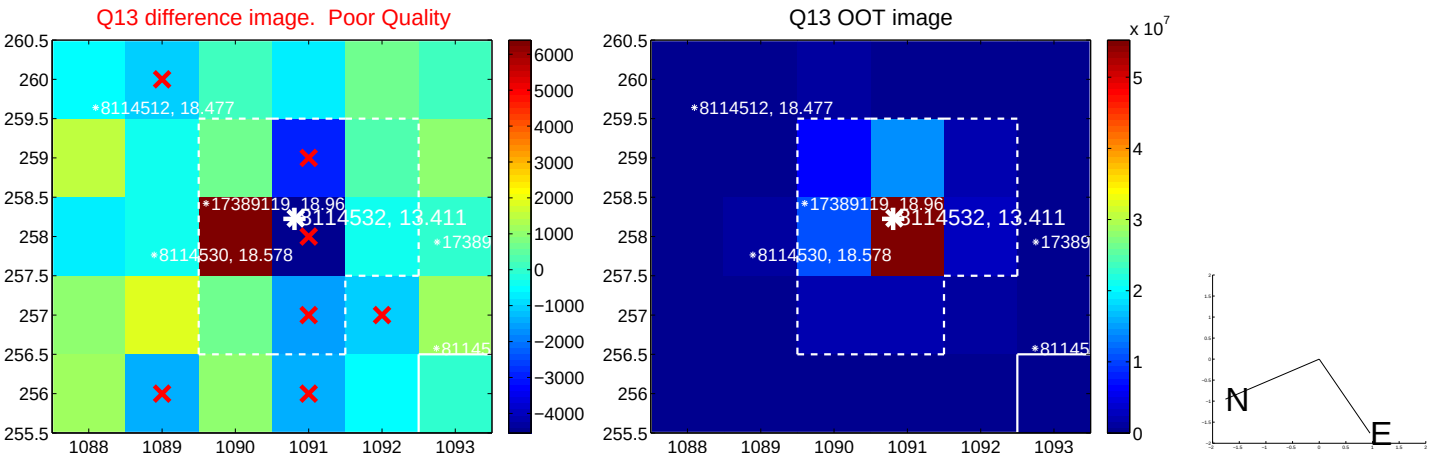


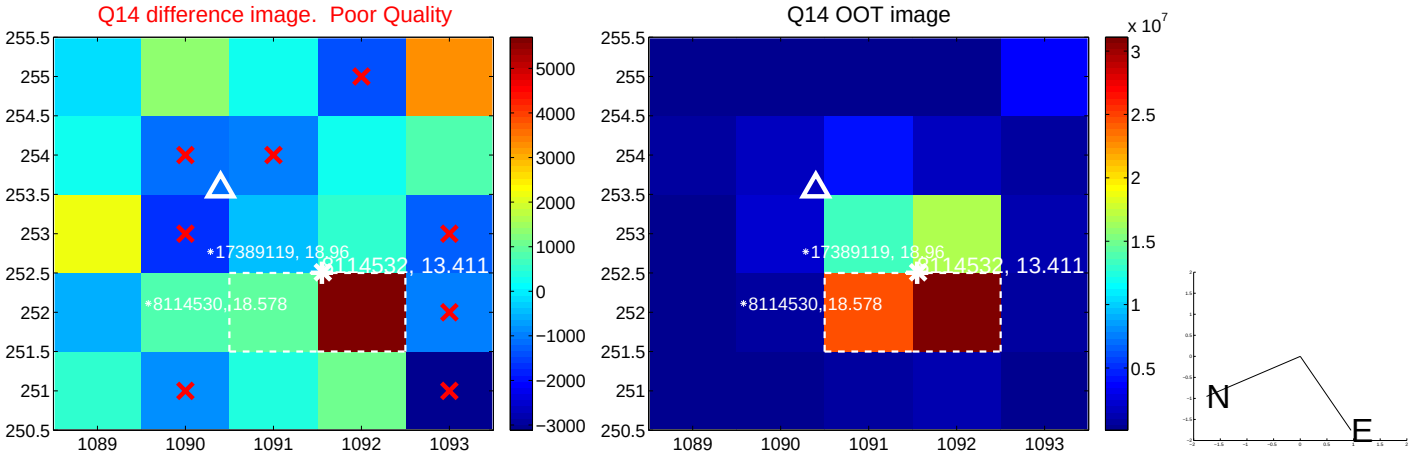


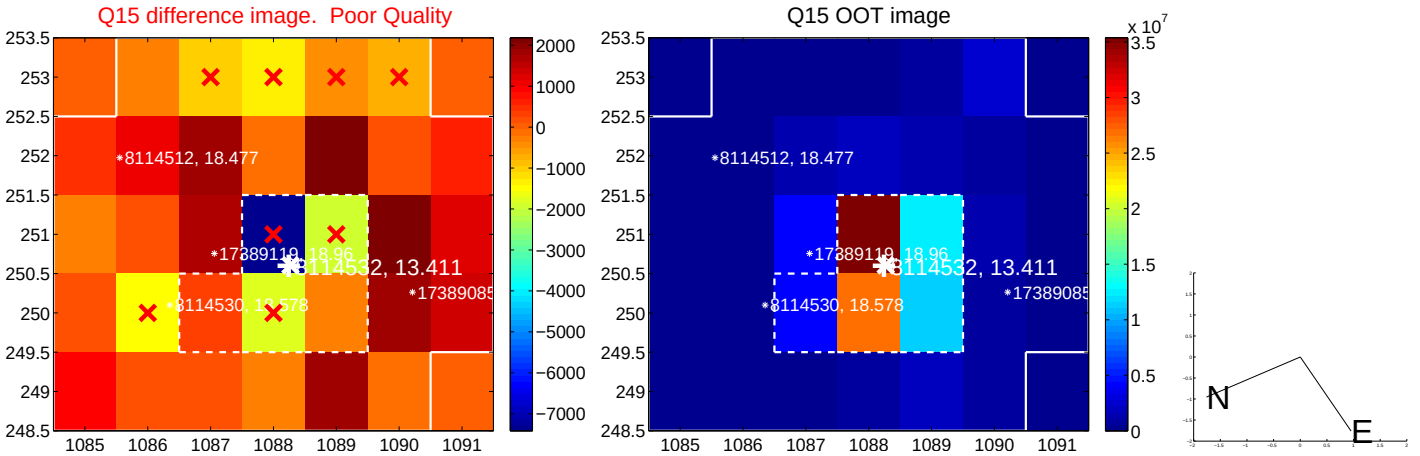


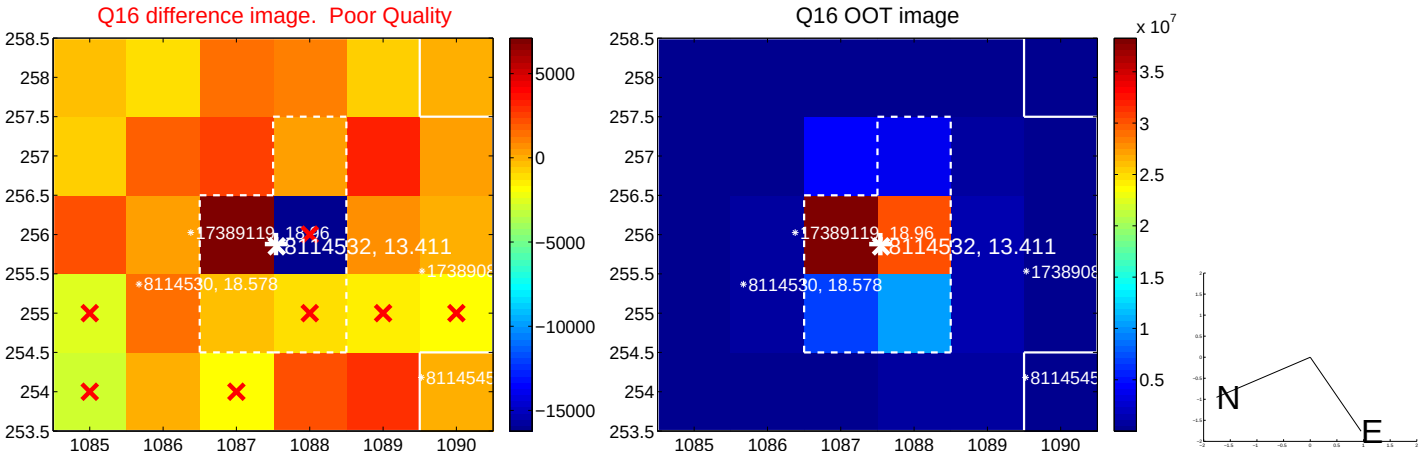


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

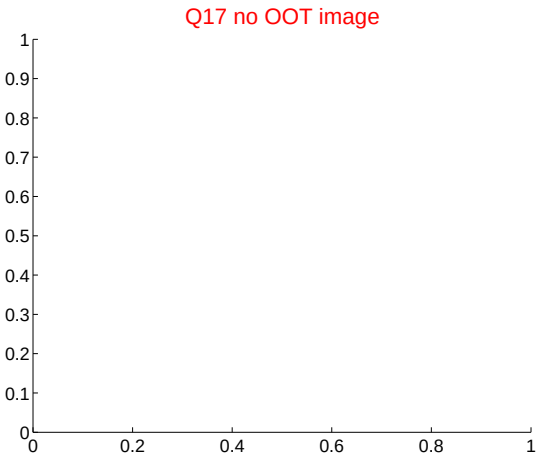


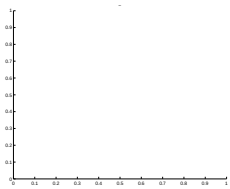


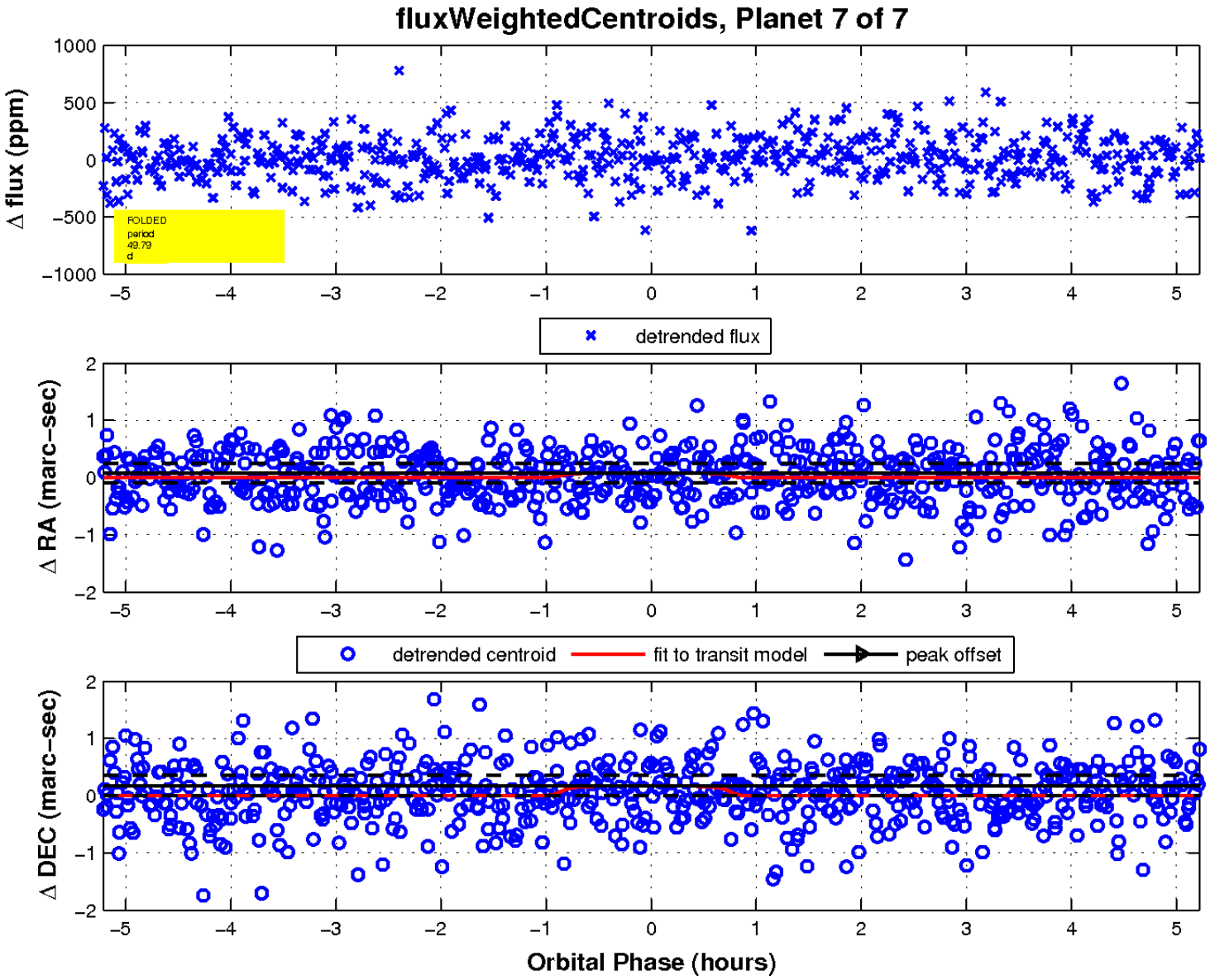




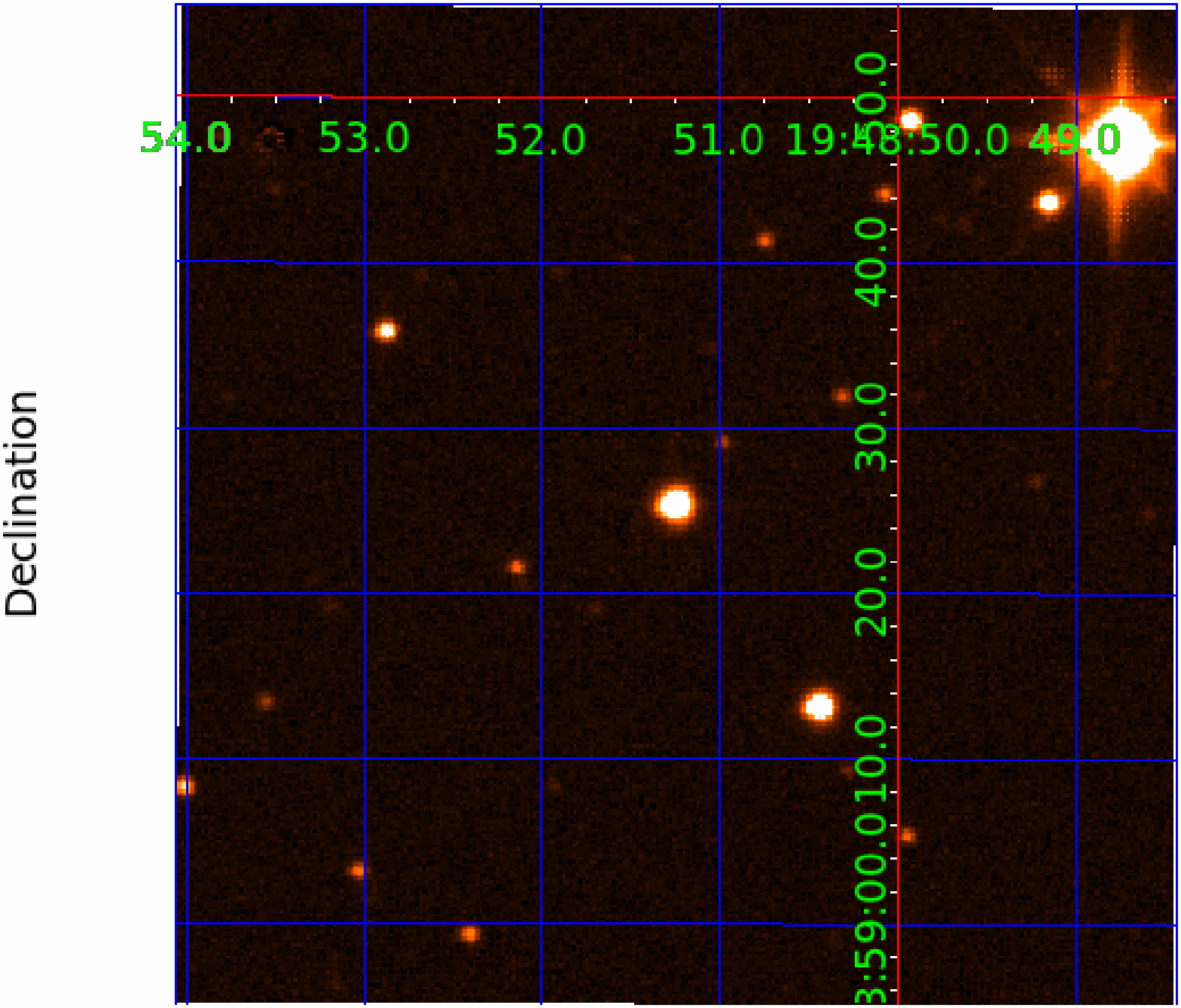
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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51.0
19:48:50.0
49.0
50.0
40.0
30.0
20.0
10.0
3:59:00.0
Declination