

KIC 004843152

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})
004843152-01	OBS	No	0.963626	132.323766	42.2	3.492	7.2	4.5	1.27	6413	0.97	6019.62
004843152-02	OBS	No	0.957984	131.959384	34.1	6.583	8.0	2.3	1.27	6413	0.77	6066.94
004843152-03	OBS	No	9.087175	136.136526	746.8	2.493	12.3	7.4	1.27	6413	3.49	302.14
004843152-04	OBS	No	40.400853	160.372452	1456.0	1.678	12.9	10.6	1.27	6413	5.21	41.33
004843152-05	OBS	No	30.590288	158.354089	587.4	10.073	10.5	5.9	1.27	6413	3.25	59.89
004843152-06	OBS	No	19.598008	133.593272	1120.2	3.278	10.4	8.9	1.27	6413	5.81	108.43
004843152-07	OBS	No	15.480892	137.582723	1263.1	0.918	9.8	9.0	1.27	6413	4.61	148.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004843152-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004843152-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV
004843152-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—HALO_GHOST
004843152-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
004843152-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

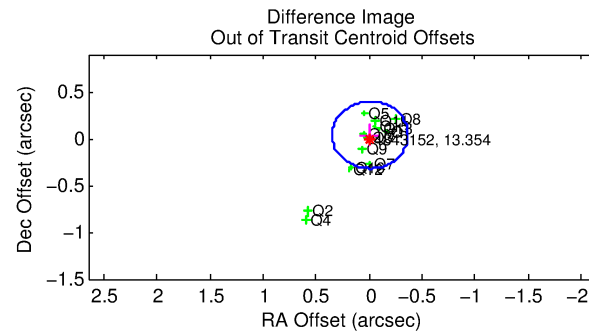
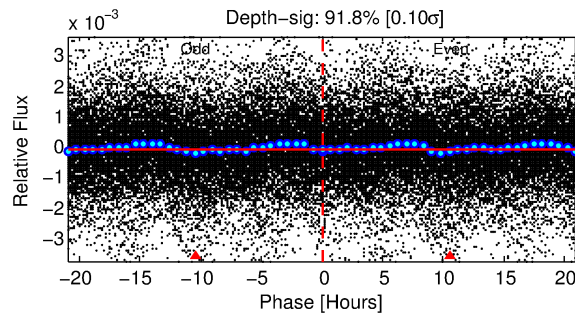
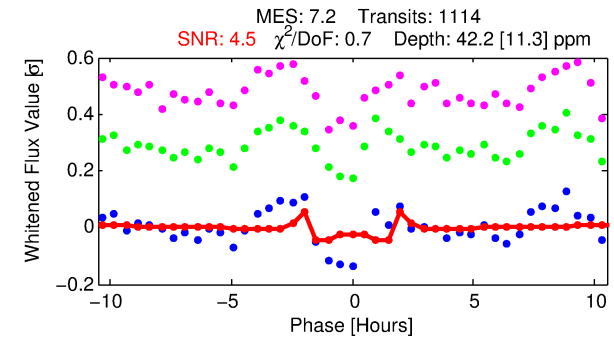
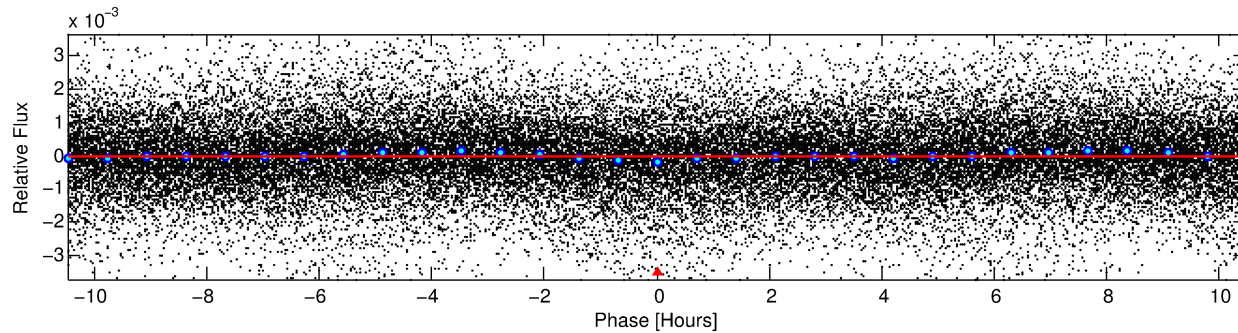
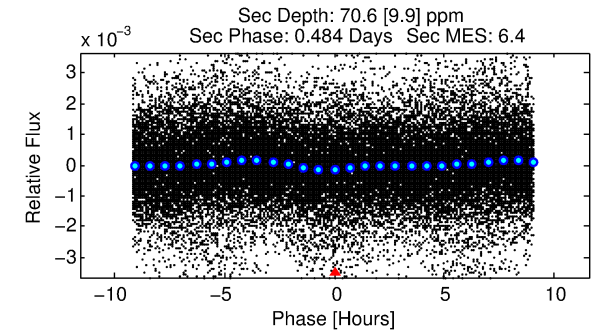
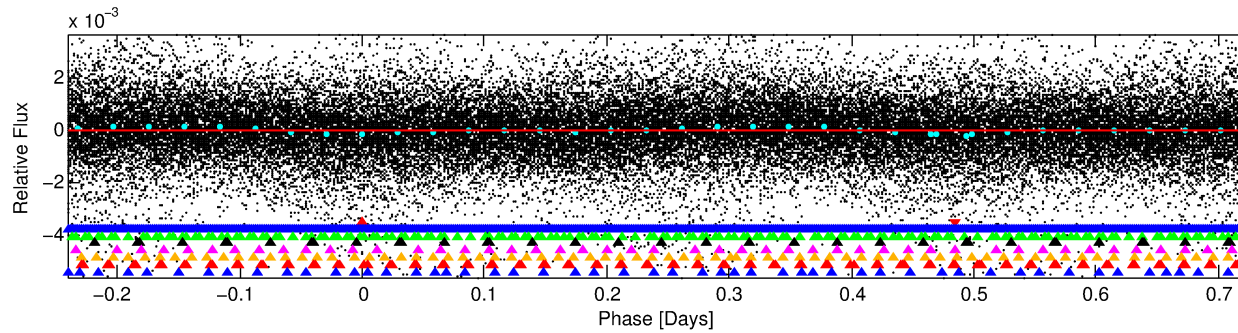
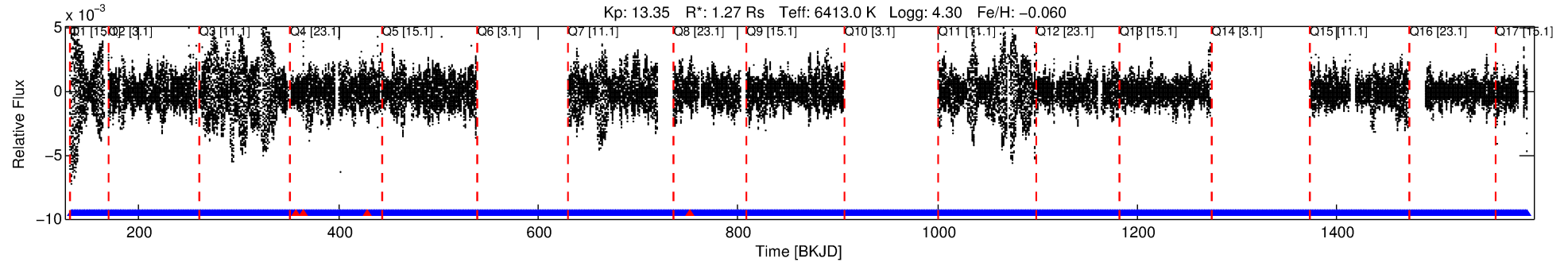
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004843152-01

No Significant Match Found

DV One-Page Summary

KIC: 4843152 Candidate: 1 of 8 Period: 0.964 d



DV Fit Results:

Period = 0.96363 [0.00002] d
Epoch = 132.3238 [0.0025] BKJD
Rp/R* = 0.0070 [0.0020]
a/R* = 1.34 [0.85]
b = 0.90 [0.31]
Seff = 6019.62 [2456.32]
Teff = 2246 [229] K
Rp = 0.97 [0.42] Re
a = 0.0201 [0.0054] AU
Ag = 16.88 [12.10] [1.31σ]
Teffp = 7039 [1088] K [4.31σ]

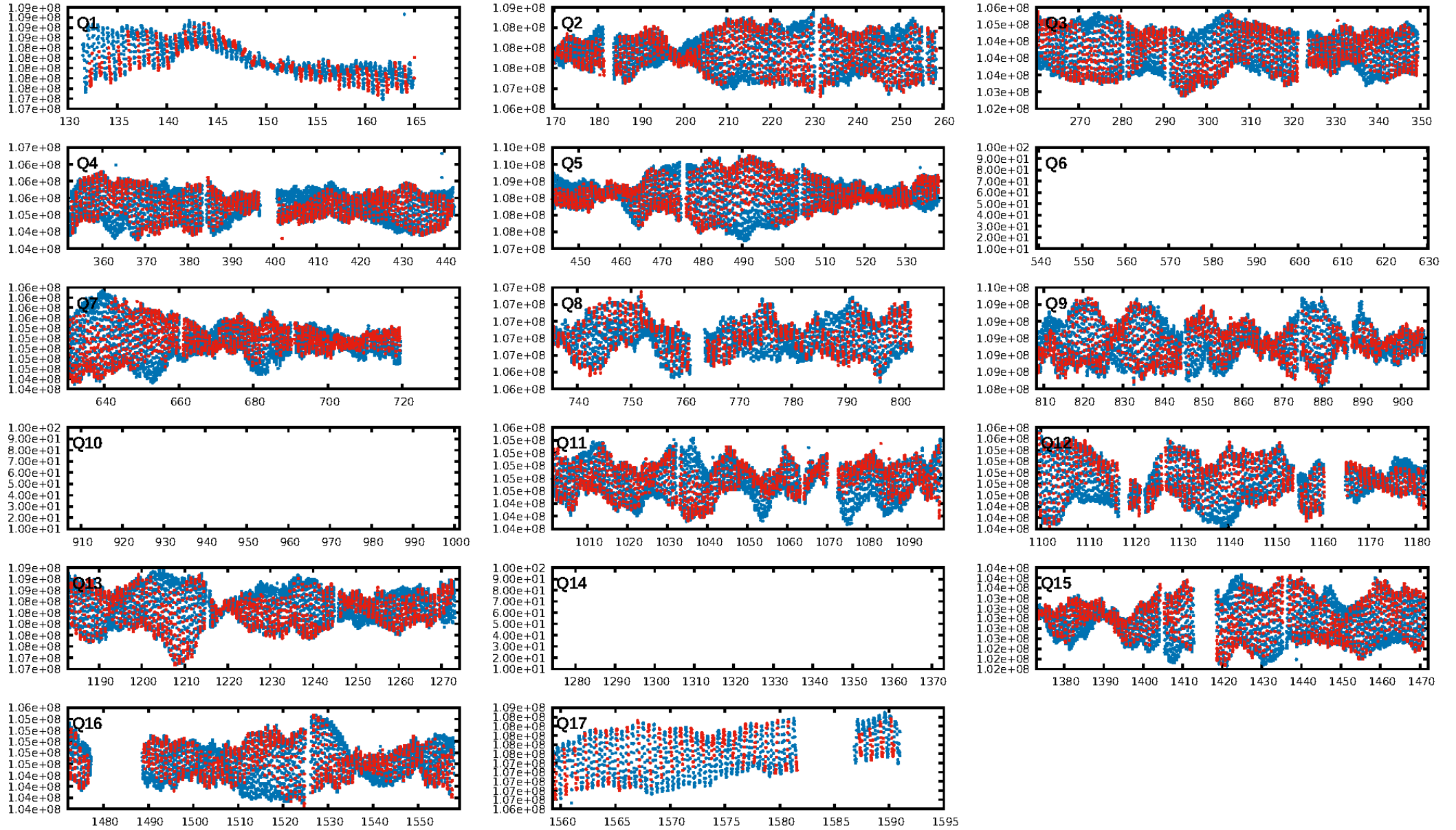
DV Diagnostic Results:

ShortPeriod-sig: 1.4% [0.02σ]
LongPeriod-sig: 100.0% [45.44σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1048/1052]
GhostDiagnostic-chr: 0.4729
Centroid-sig: 0.1%
Centroid-so: 1.571 arcsec [2.66σ]
OotOffset-rm: 0.039 arcsec [0.33σ]
KicOffset-rm: 0.073 arcsec [0.87σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 0.00 [0/14]

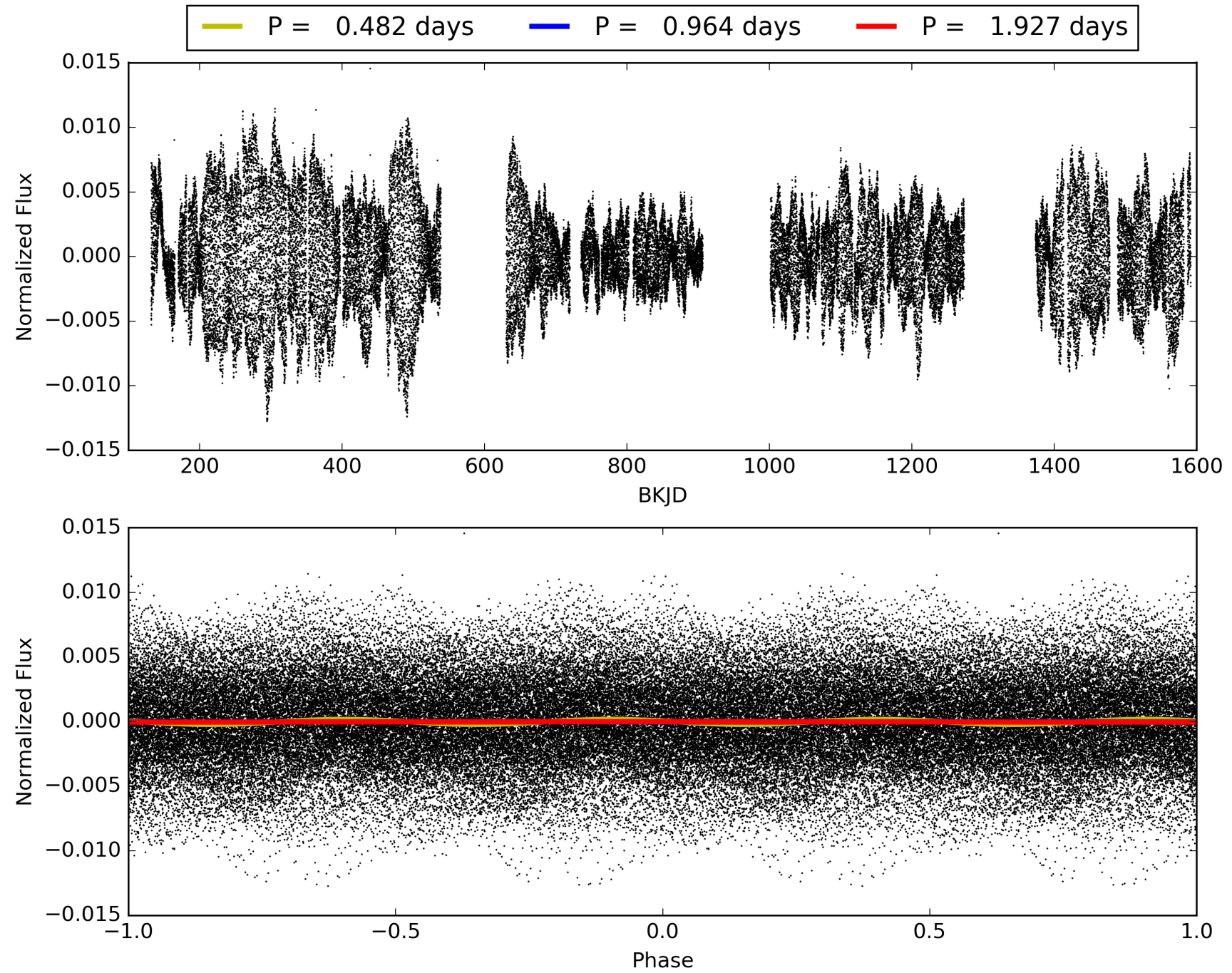
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:52:46 Z

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

TCE 004843152-01, PDC Light Curves

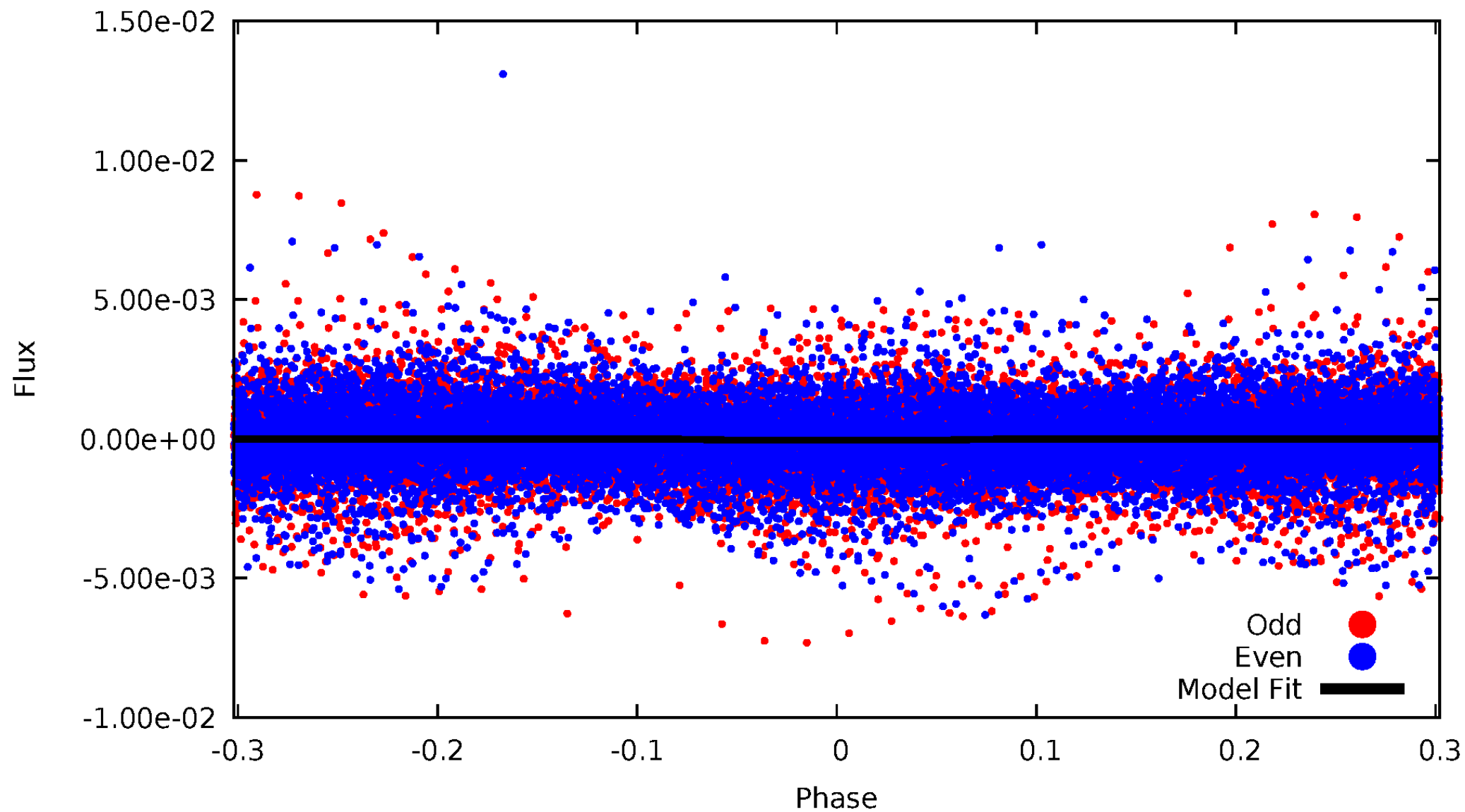


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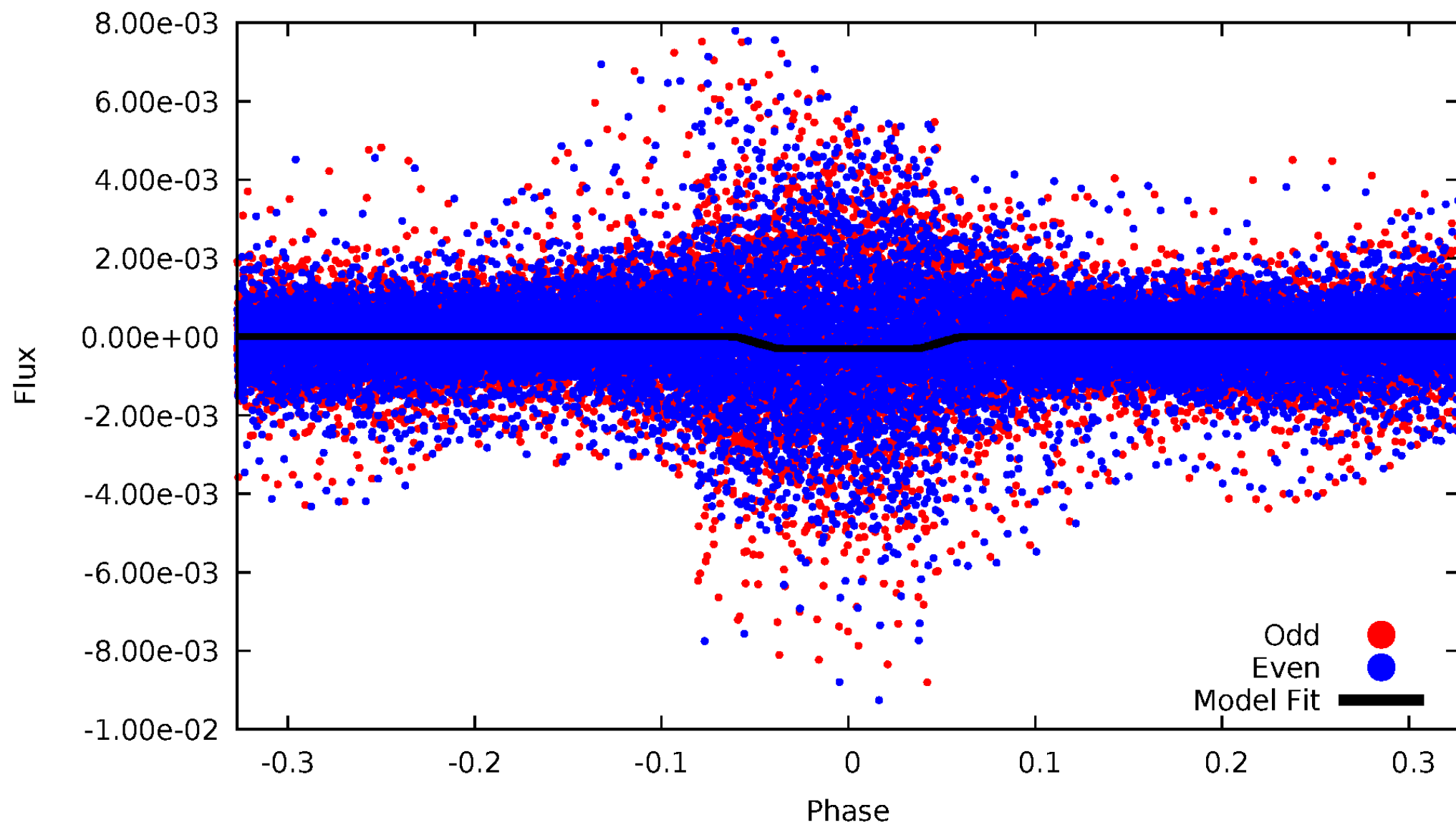
DV Odd/Even

TCE 004843152-01



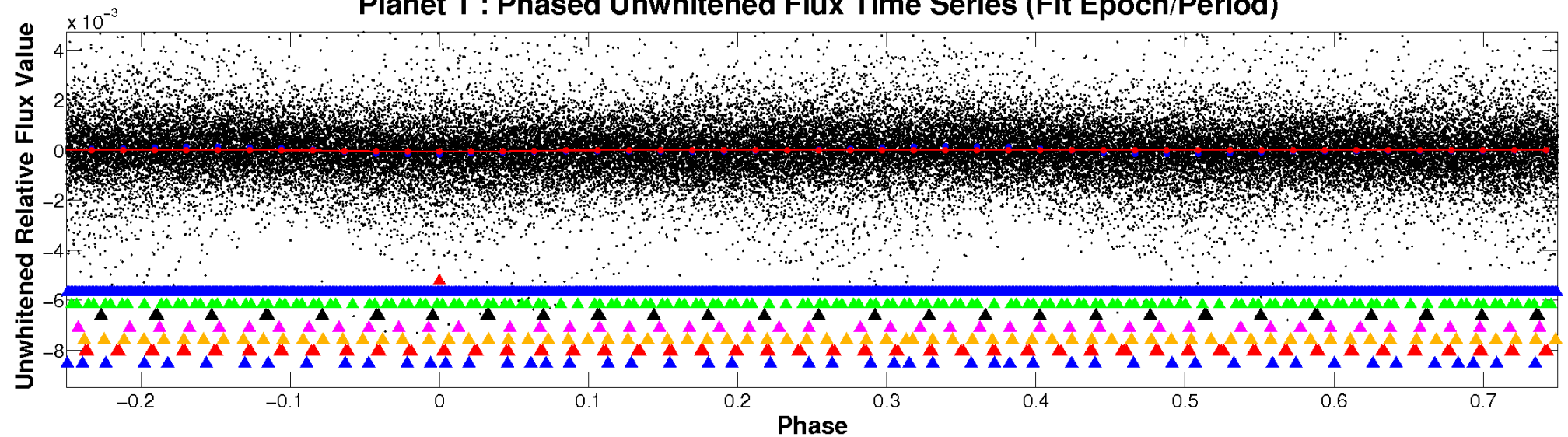
ALT Odd/Even

TCE 004843152-01

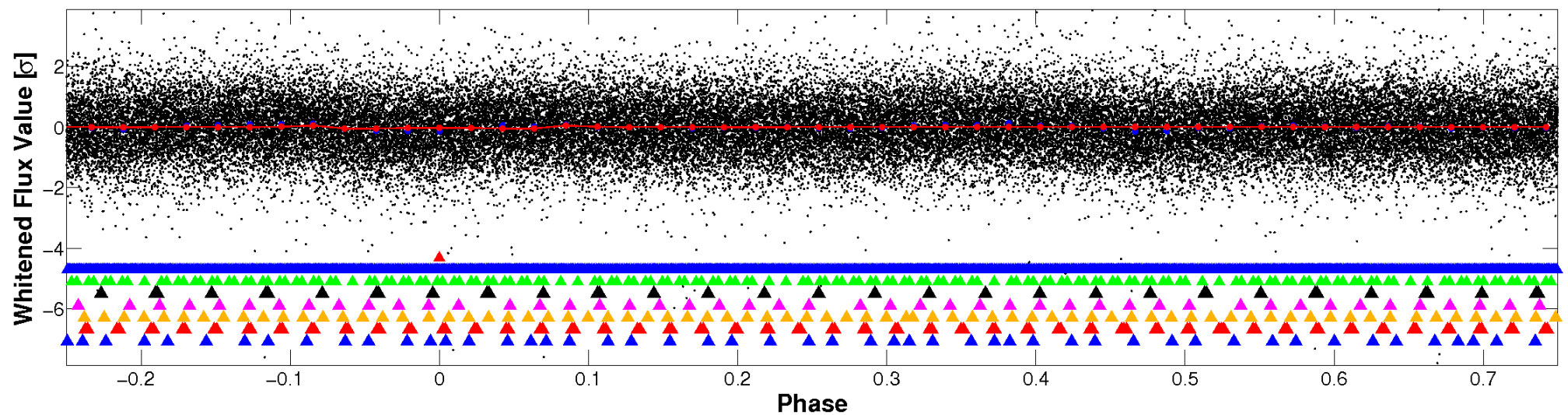


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

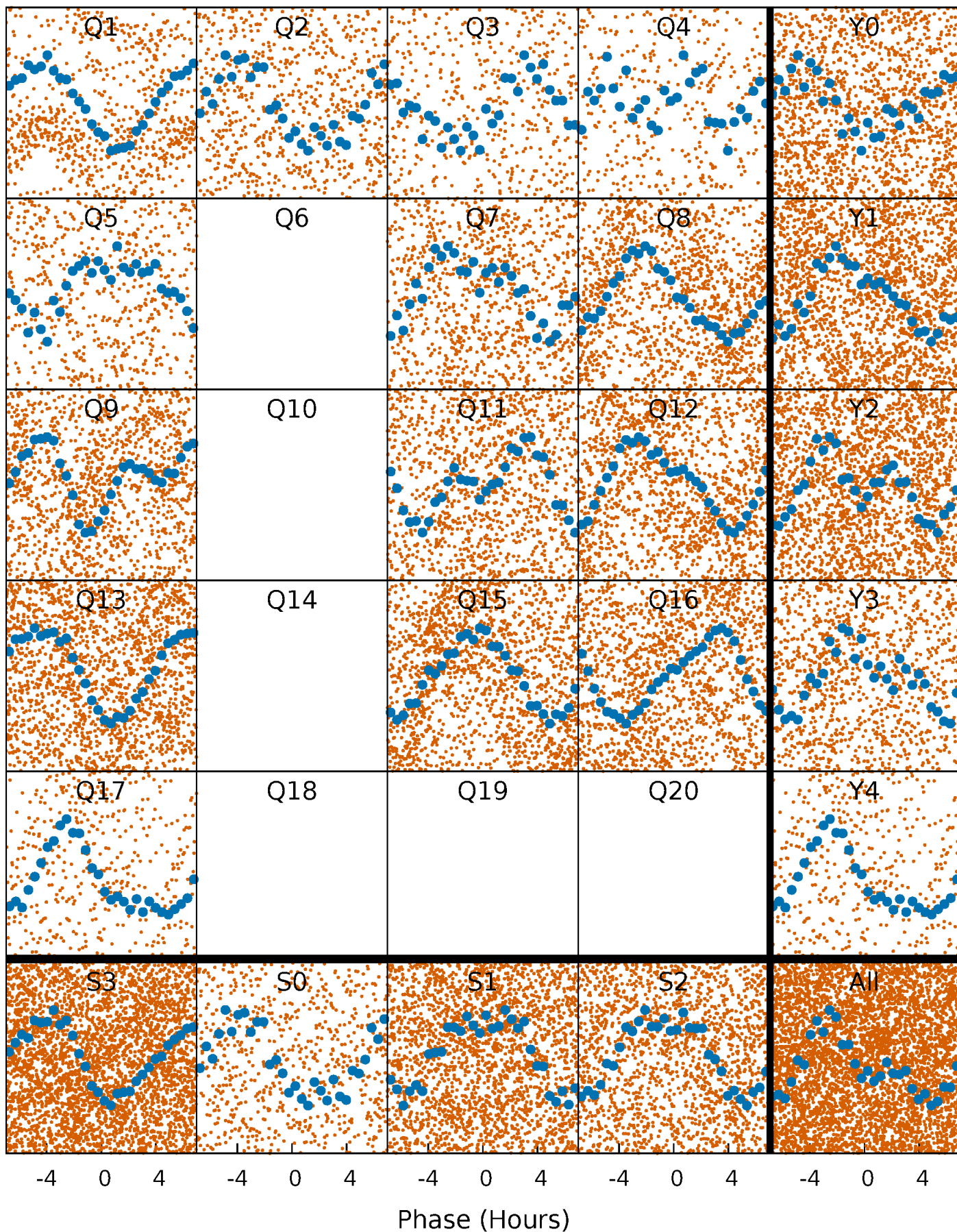


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



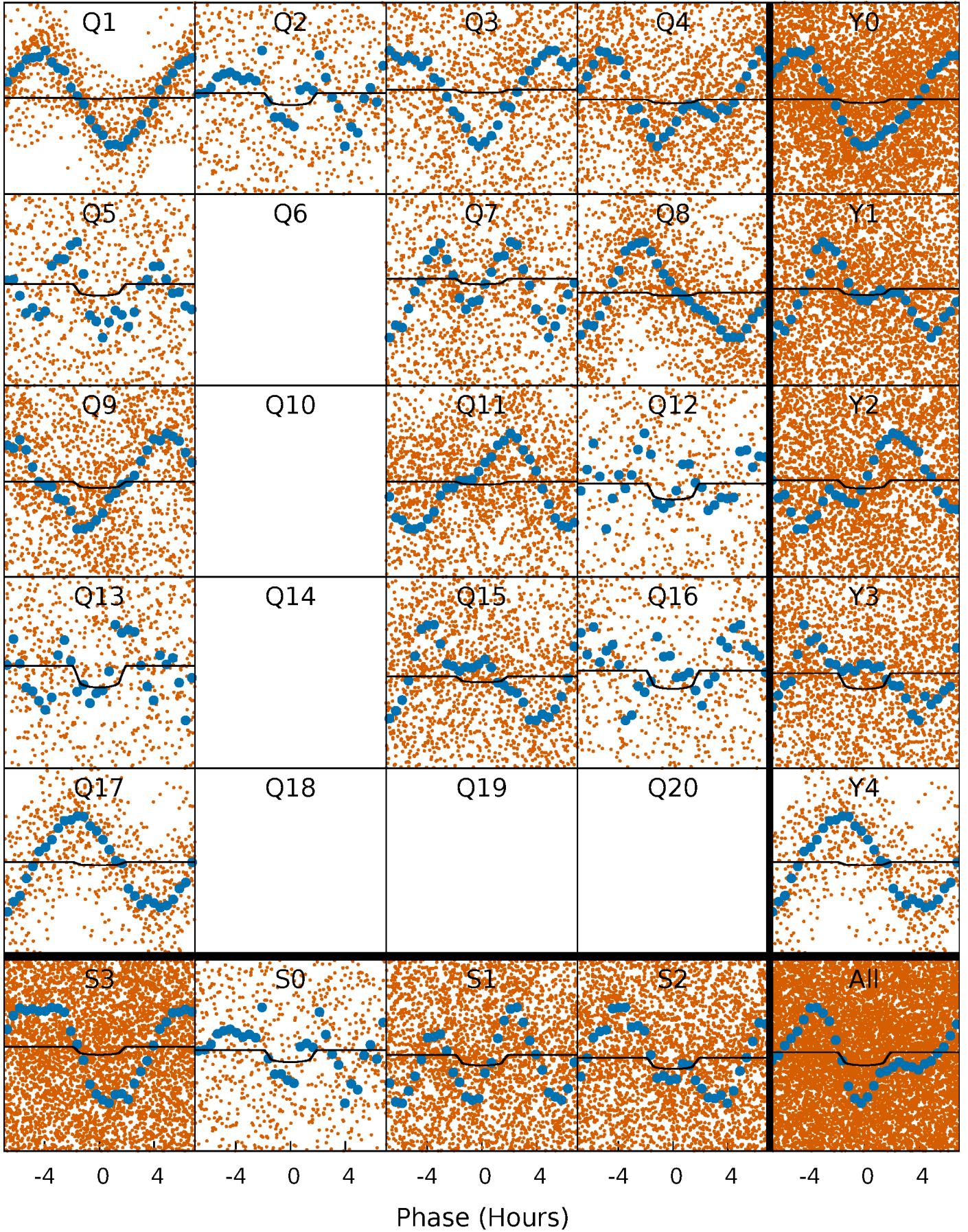
PDC Quarter-Phased Transit Curves

TCE 004843152-01 P= 0.963626 Days $T_0=132.323766$ (BKJD)



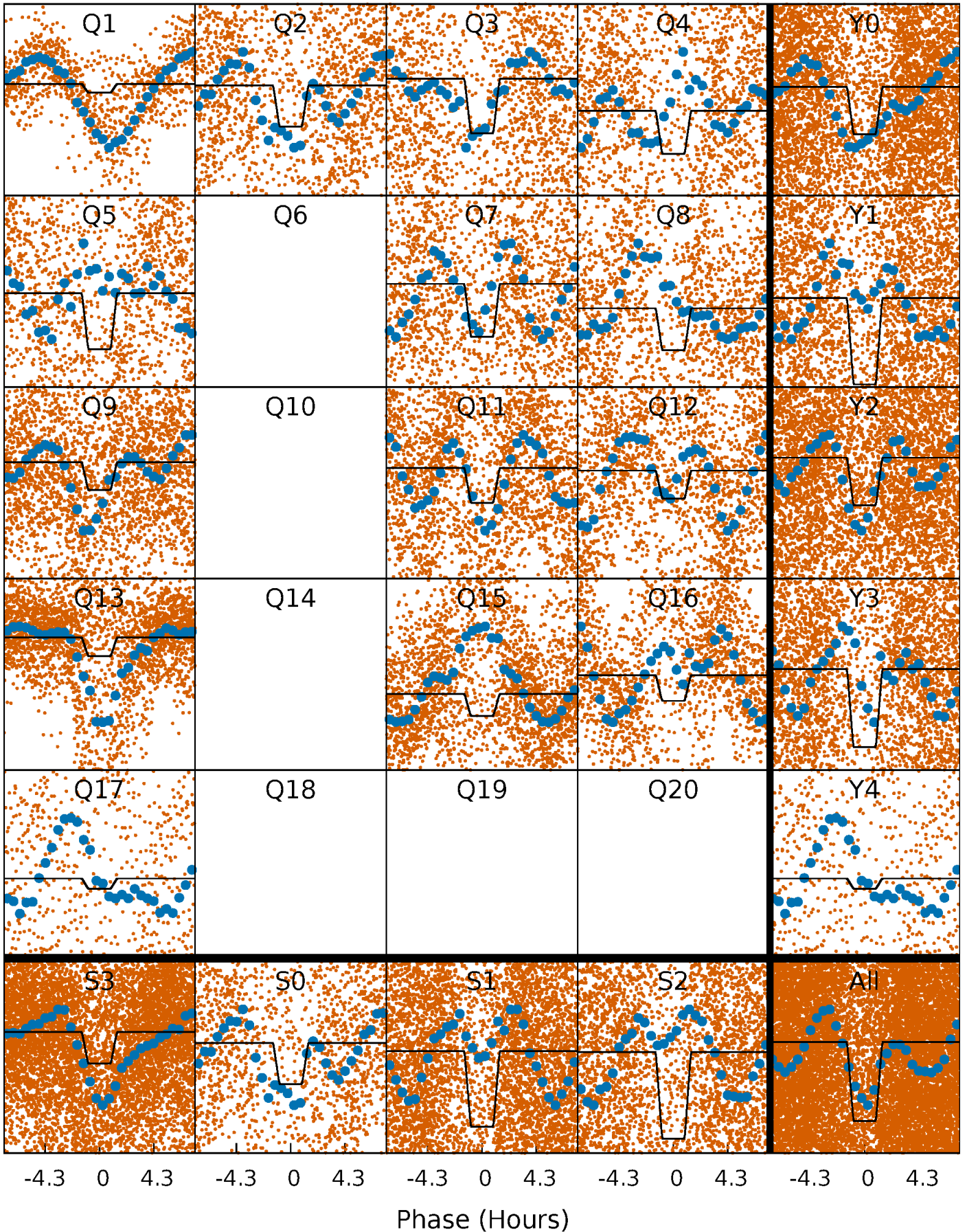
DV Quarter-Phased Transit Curves

TCE 004843152-01 P= 0.963626 Days $T_0=132.323766$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

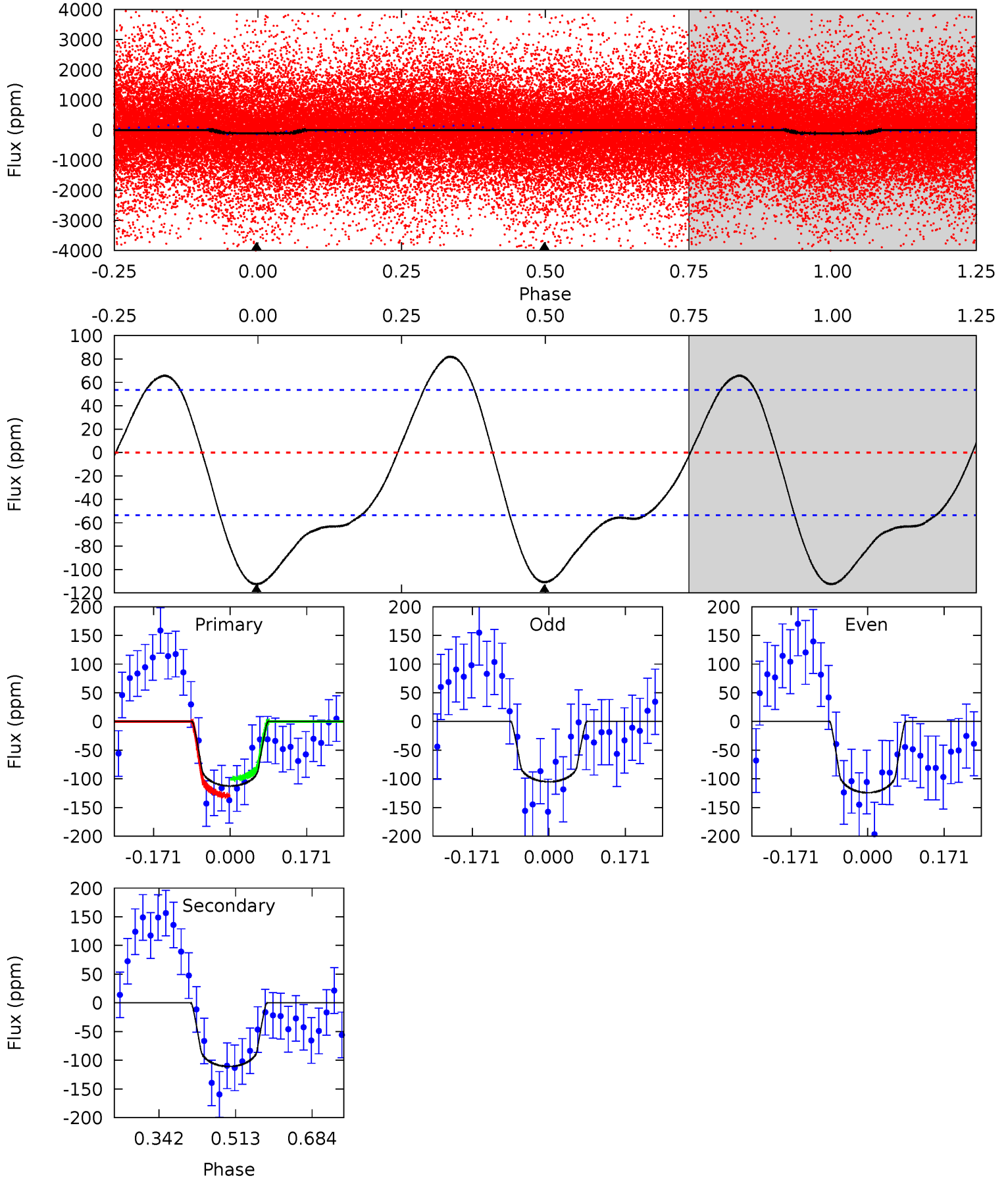
TCE 004843152-01 P= 0.963622 Days $T_0=132.325399$ (BKJD)



DV Model-Shift Uniqueness Test

004843152-01, P = 0.963626 Days, E = 131.360140 Days

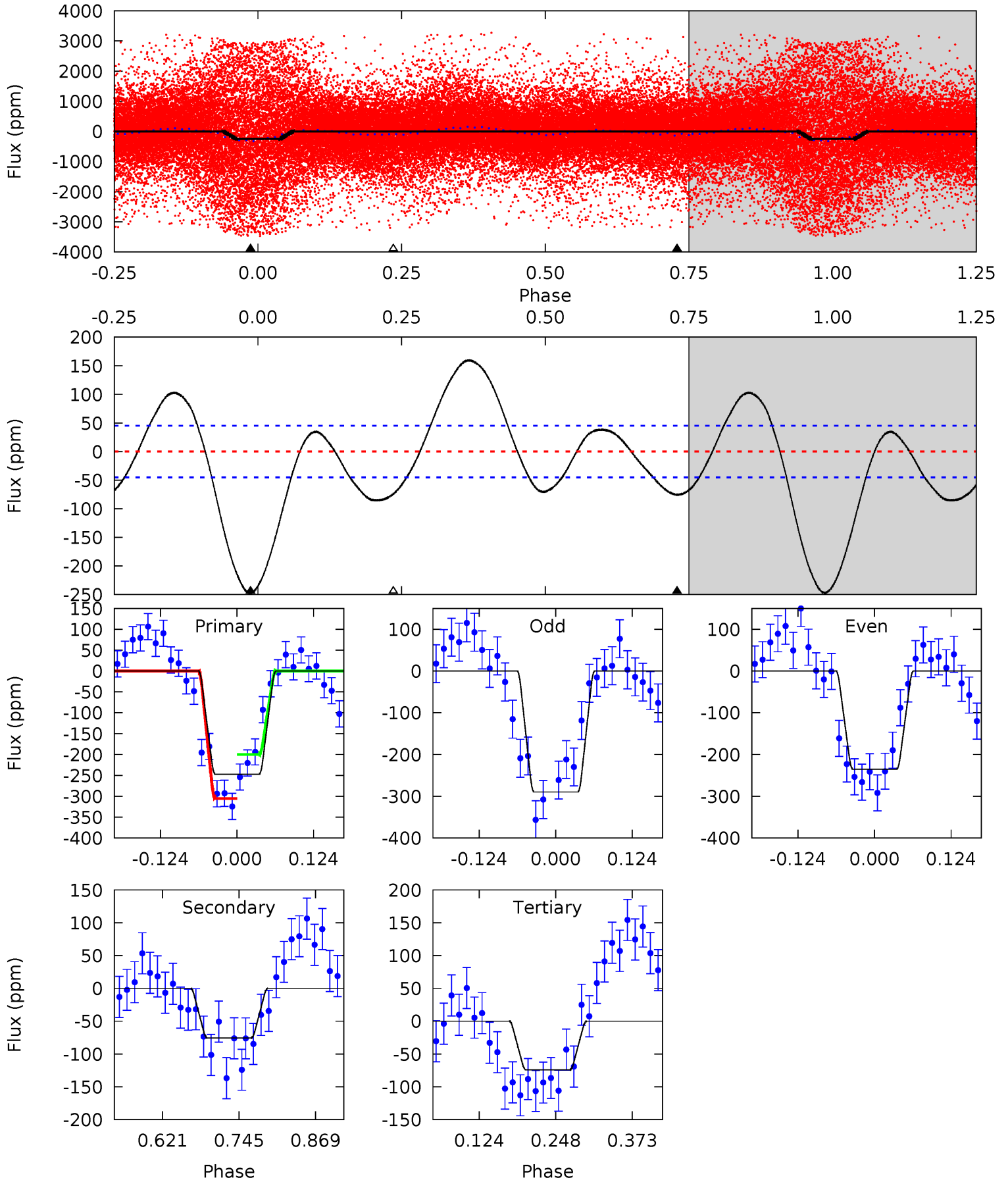
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.34	9.20	0	0	4.45	1.37	3.57	9.34	9.34	9.20	9.20	0.80	3.08	0.42	1.21



Alt Model-Shift Uniqueness Test

004843152-01, P = 0.963622 Days, E = 131.361777 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.7	7.54	7.40	0	4.52	1.54	7.63	17.3	24.7	0.14	7.54	2.68	0.84	0.39	5.11



Stellar Parameters For KIC 004843152

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6413^{+153}_{-211}	$4.300^{+0.105}_{-0.210}$	$-0.060^{+0.250}_{-0.300}$	$1.269^{+0.405}_{-0.218}$	$1.172^{+0.181}_{-0.163}$	$0.808^{+0.407}_{-0.433}$
	+2%/-3%	+2%/-5%	+417%/-500%	+32%/-17%	+15%/-14%	+50%/-54%
Source	PHO1	KIC0	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 004843152-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-111 ± 12	$0.99^{+0.36}_{-0.32}$	3168^{+244}_{-173}	8095^{+2098}_{-1319}	25^{+27}_{-12}
Alt.	-76 ± 10	$2.44^{+0.53}_{-0.39}$	3175^{+246}_{-187}	4575^{+310}_{-278}	$2.767^{+1.238}_{-0.883}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

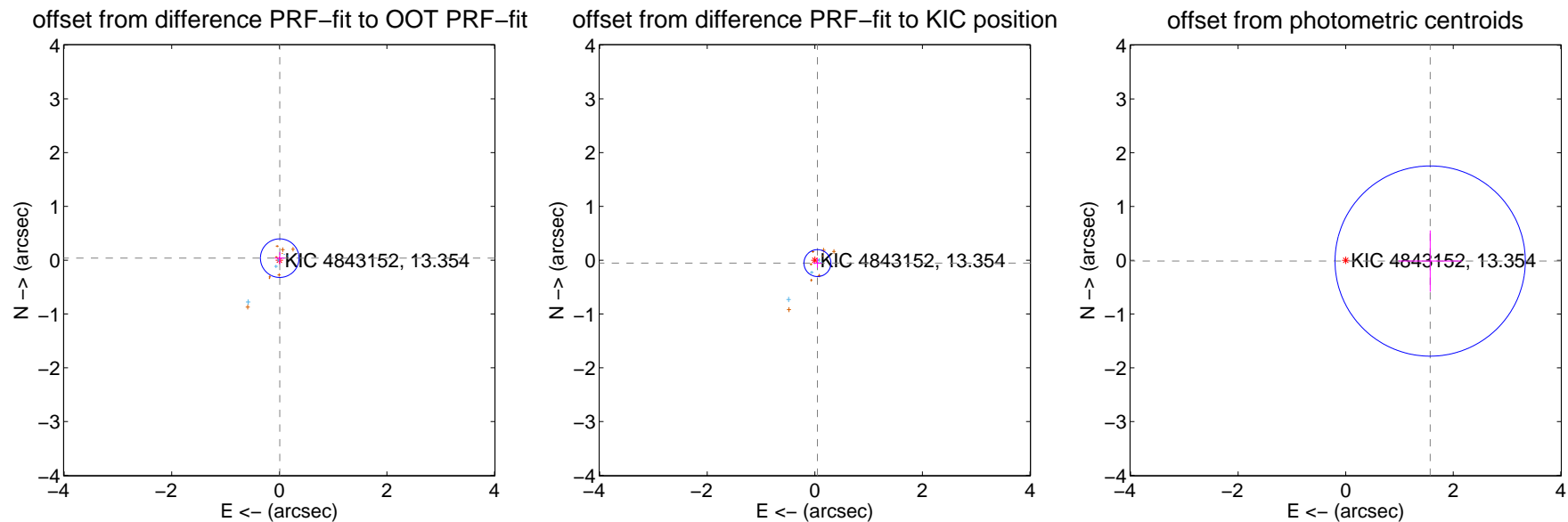
DV Centroid Data

Supplemental centroid analysis for 004843152-01. Kepler magnitude: 13.35. Transit SNR 4.53

There are 5 quarters with good PRF difference image offsets

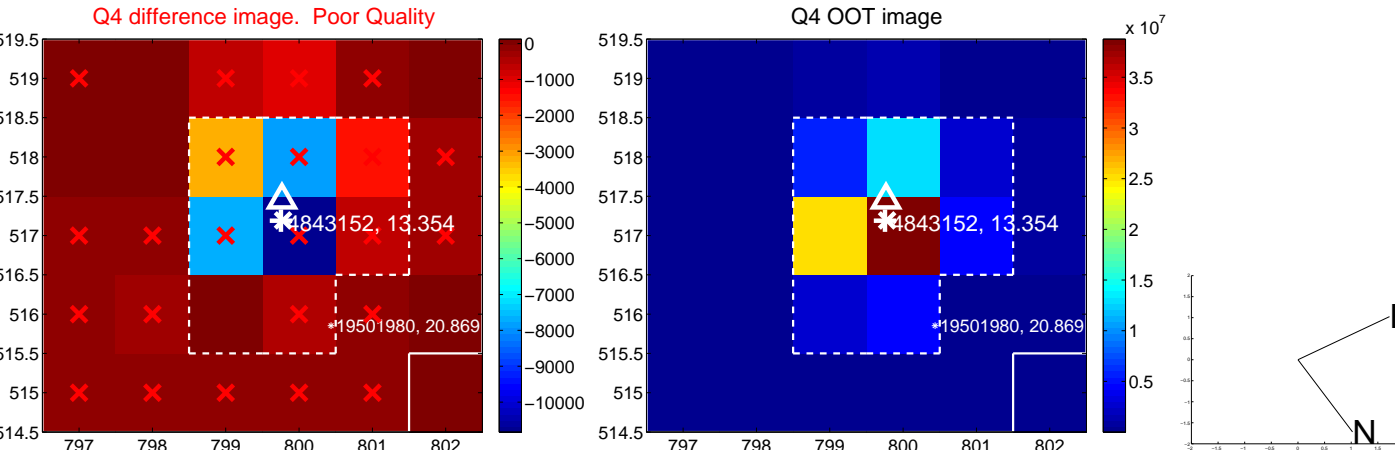
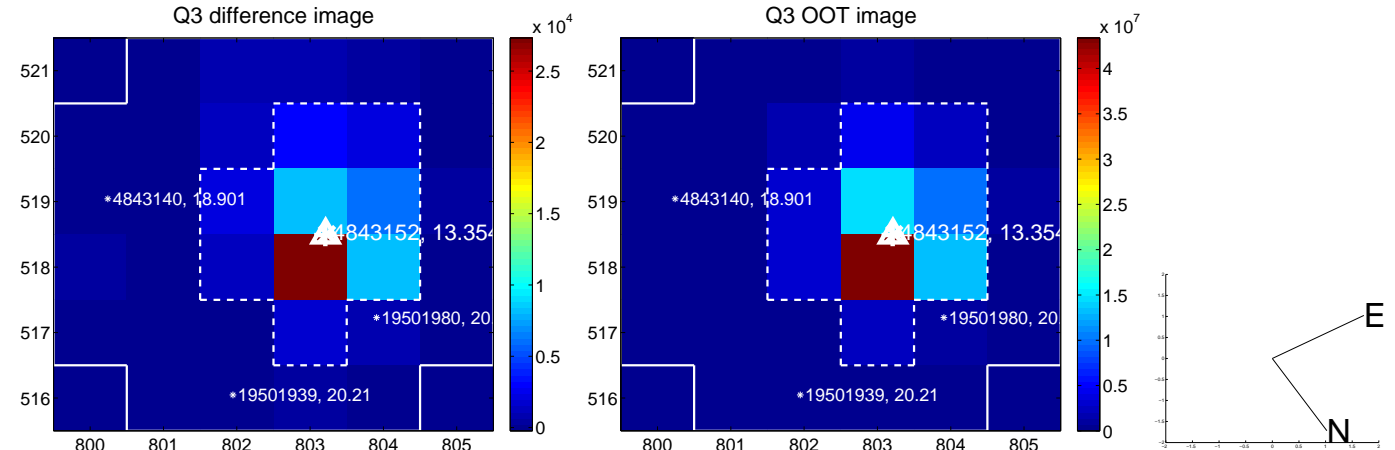
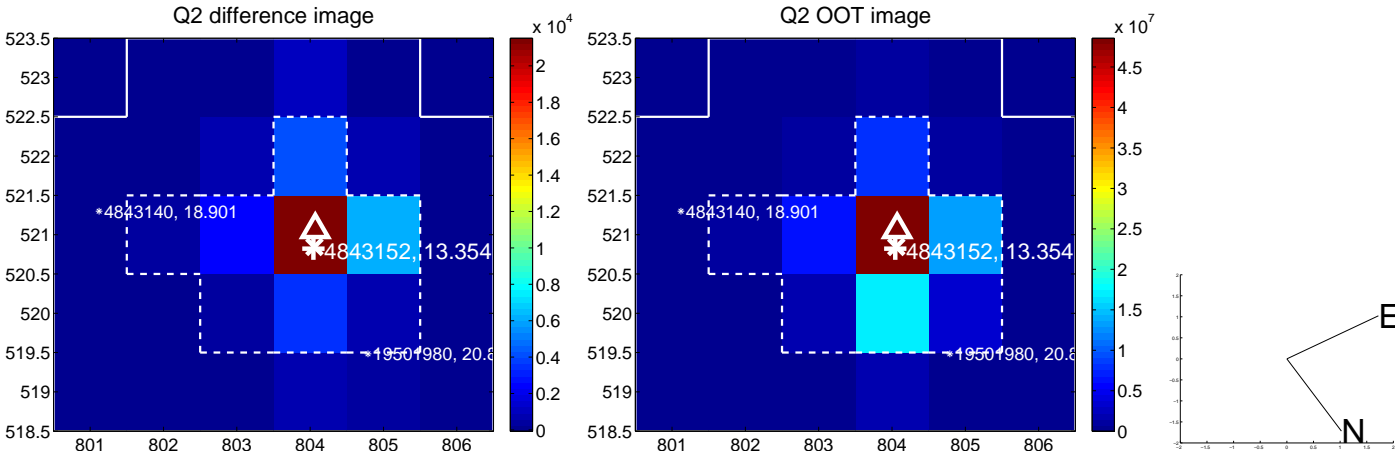
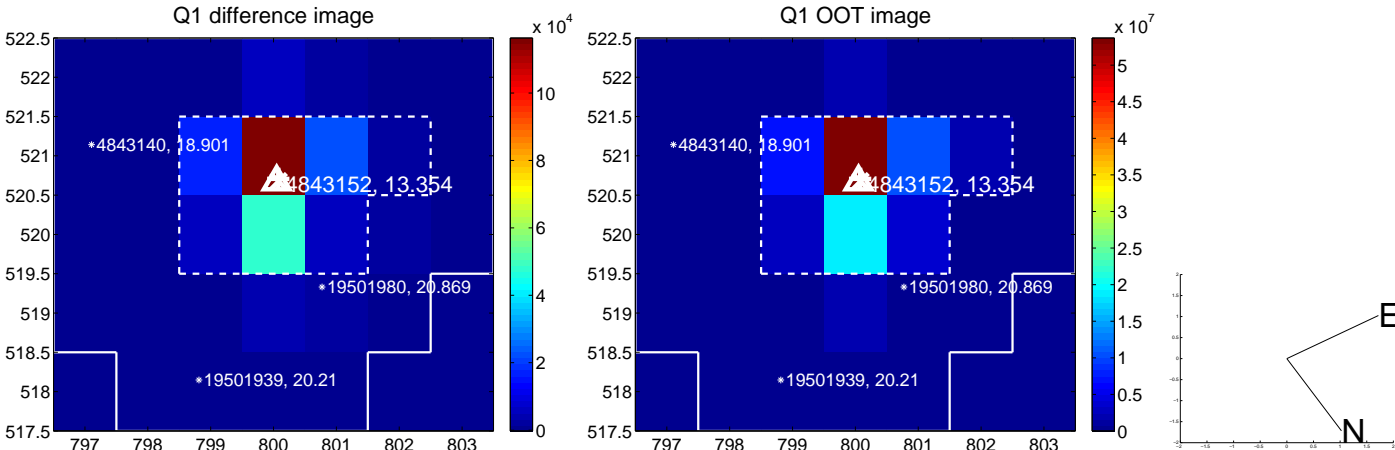
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.039 ± 0.120	0.33	-0.008 ± 0.092	0.038 ± 0.112
PRF-fit source offset from KIC position	0.073 ± 0.083	0.87	-0.049 ± 0.077	-0.054 ± 0.088
photometric centroid source offset	1.57 ± 0.59	2.66	-1.57 ± 0.59	-0.01 ± 0.57

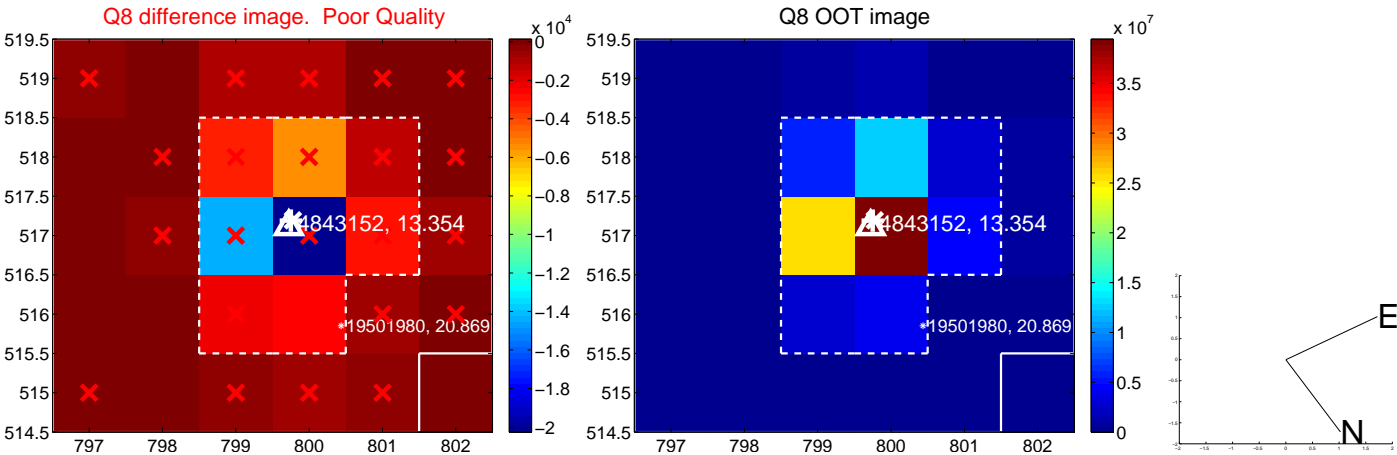
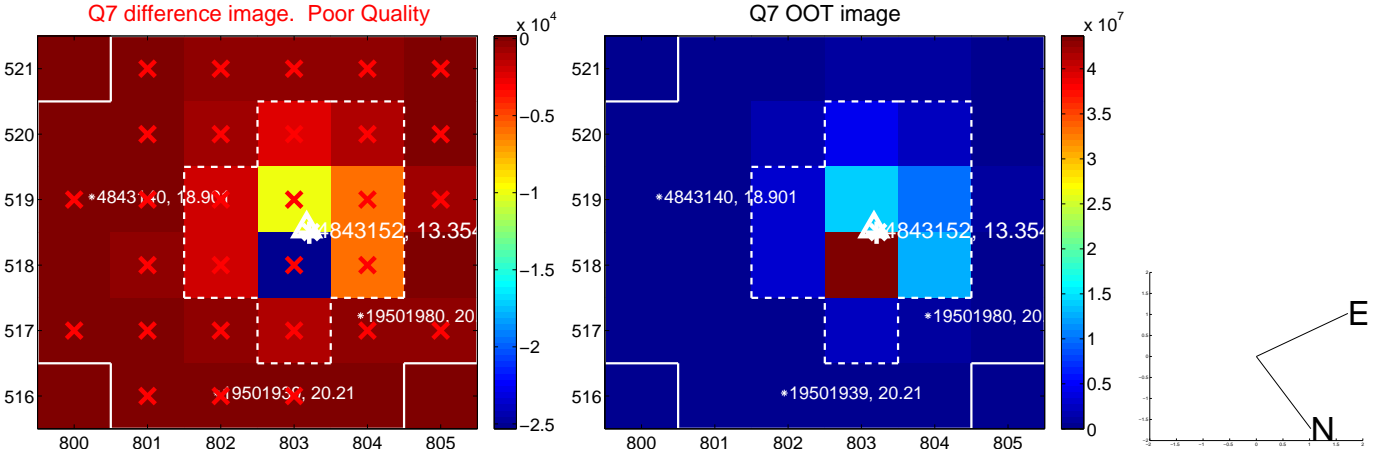
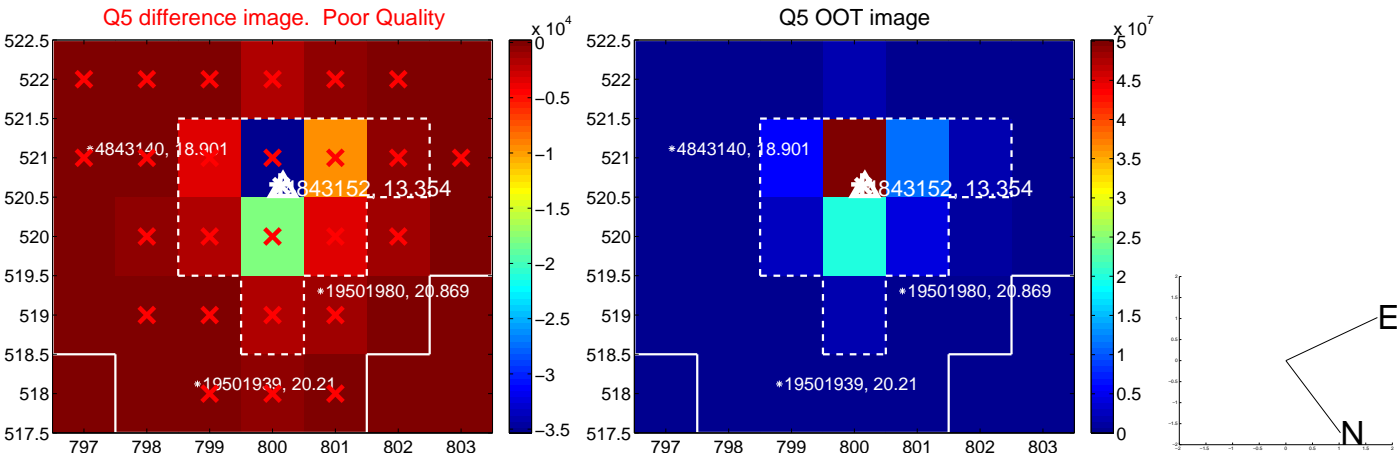


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

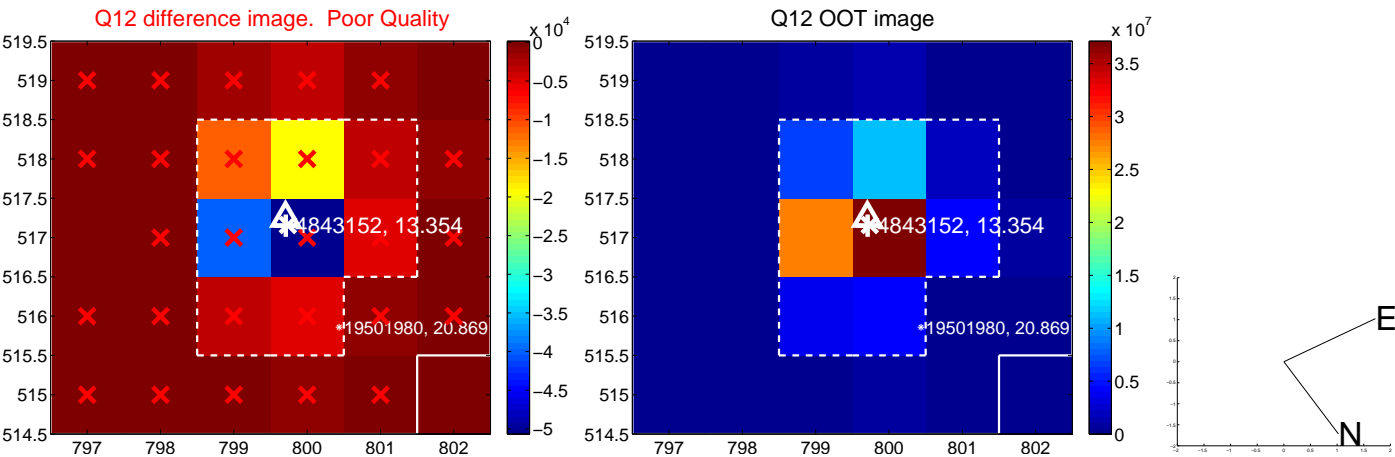
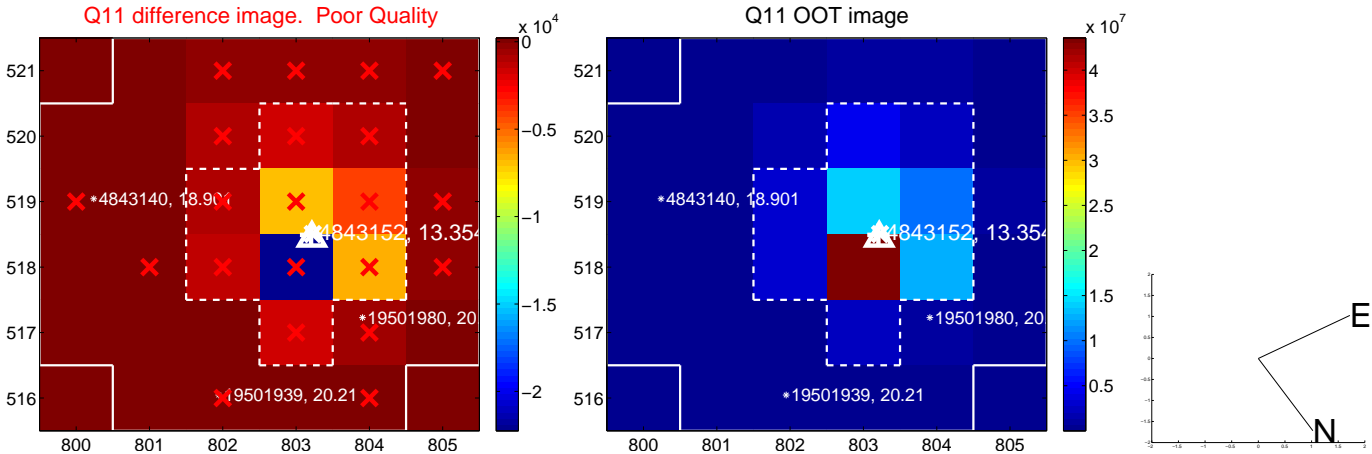
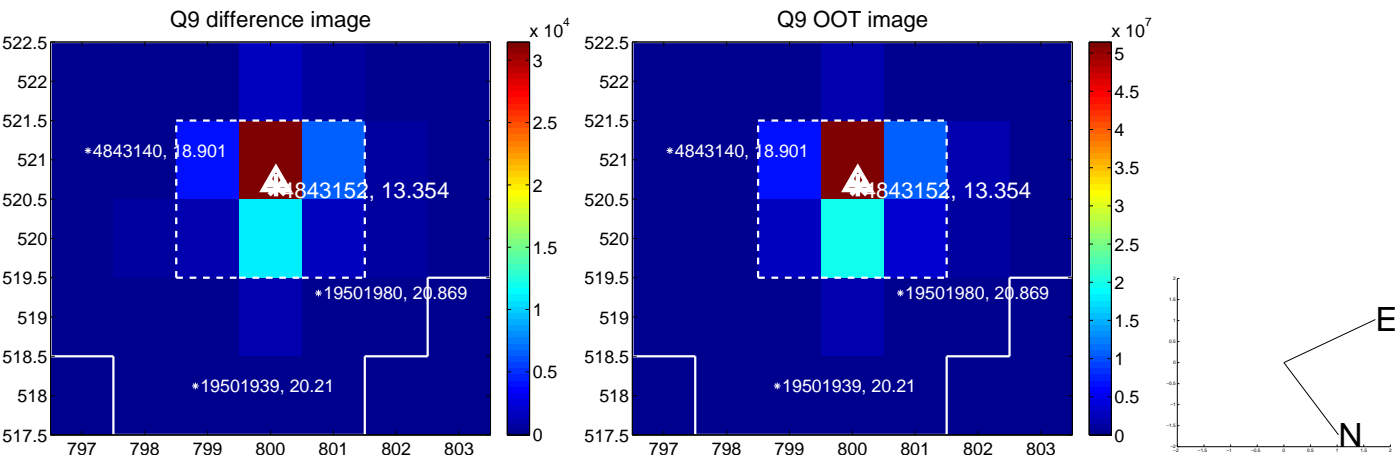
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



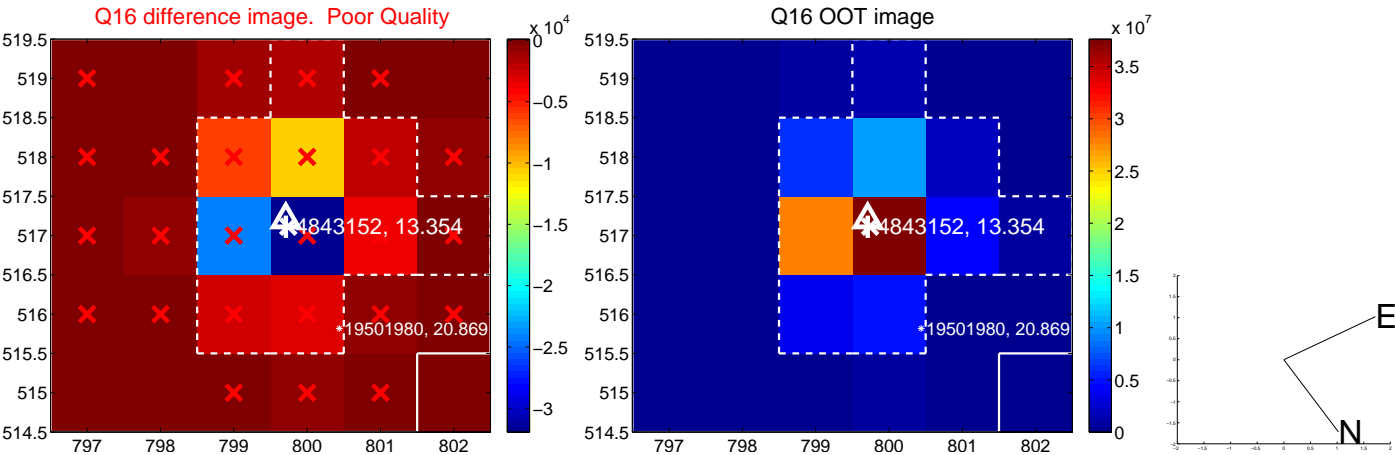
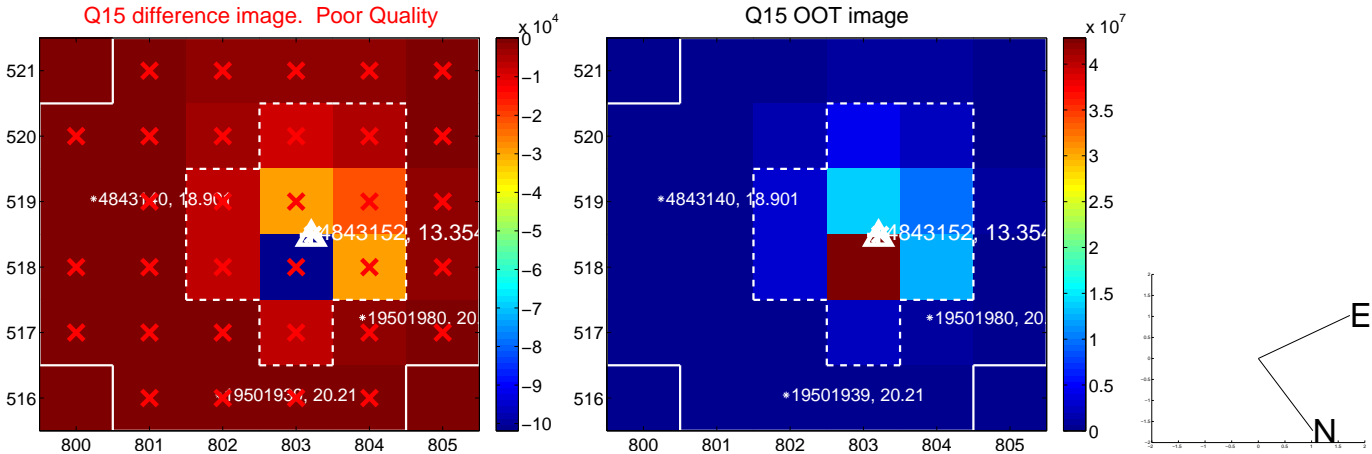
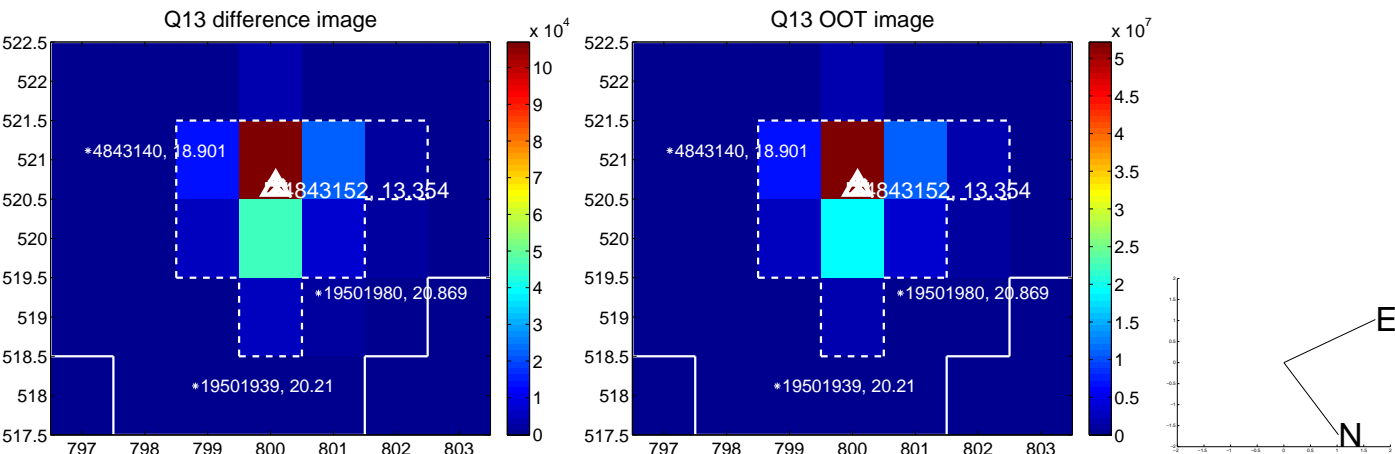
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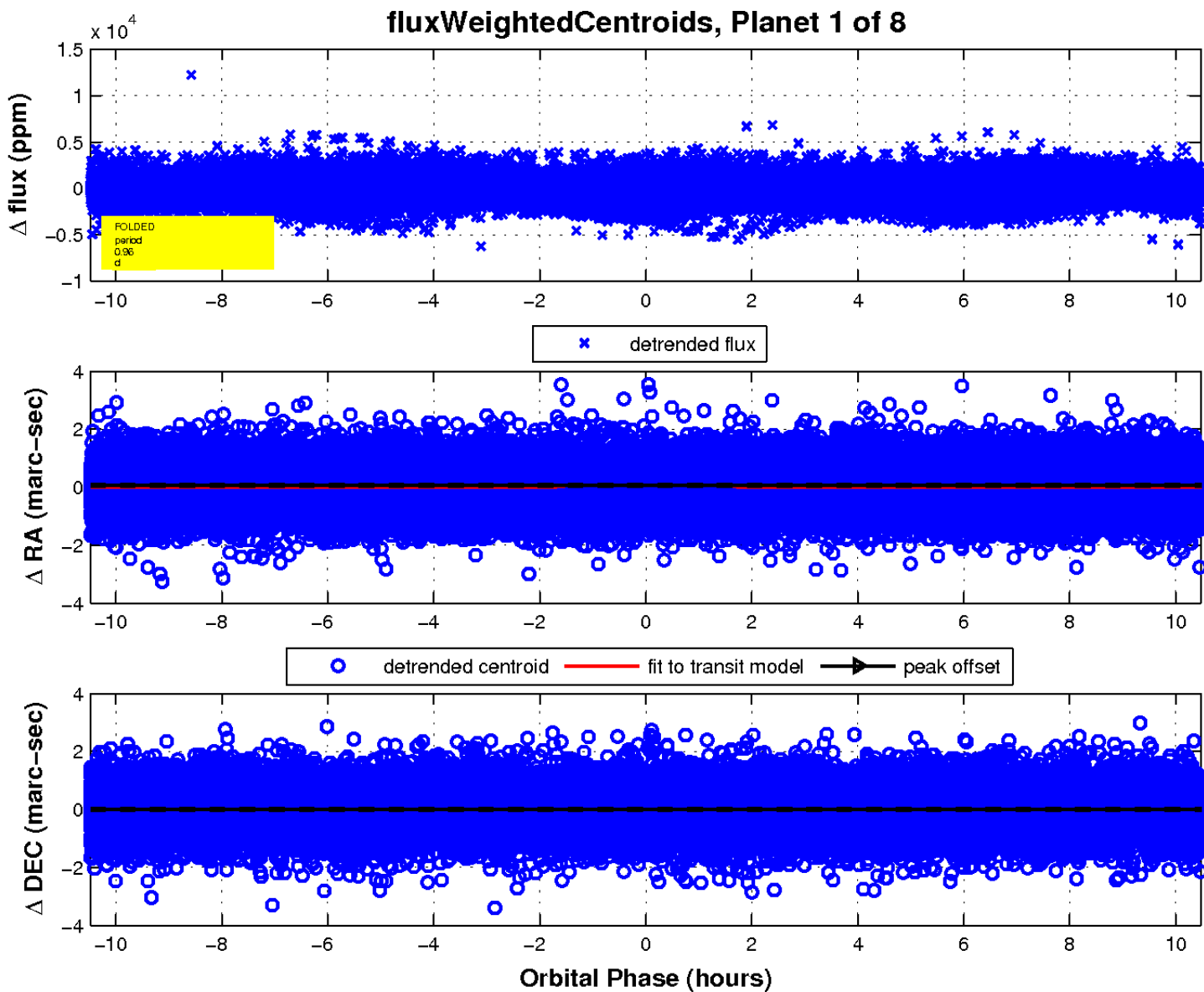
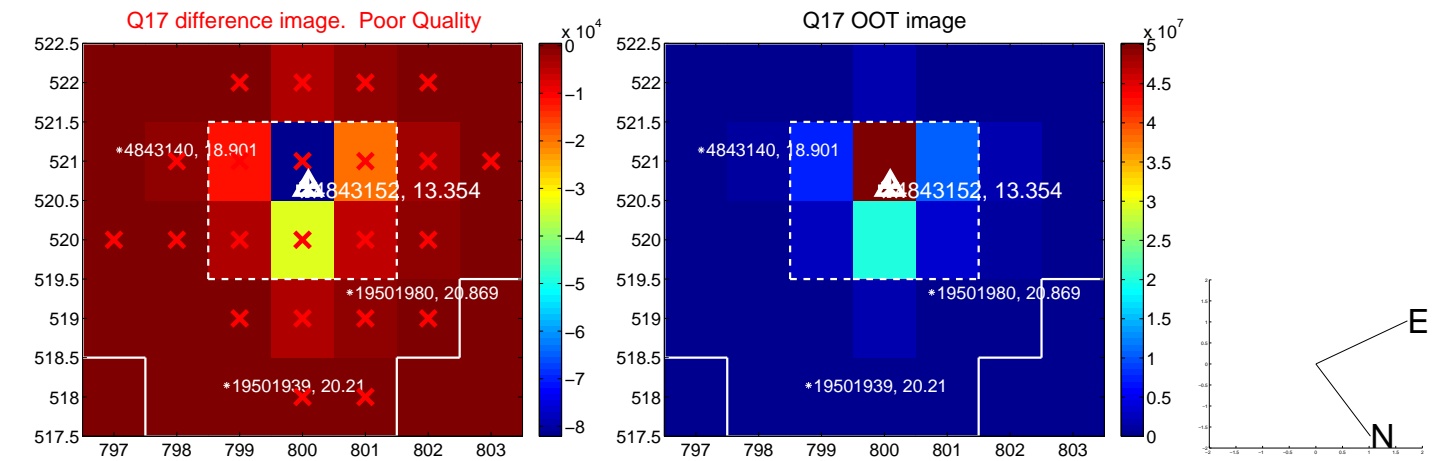
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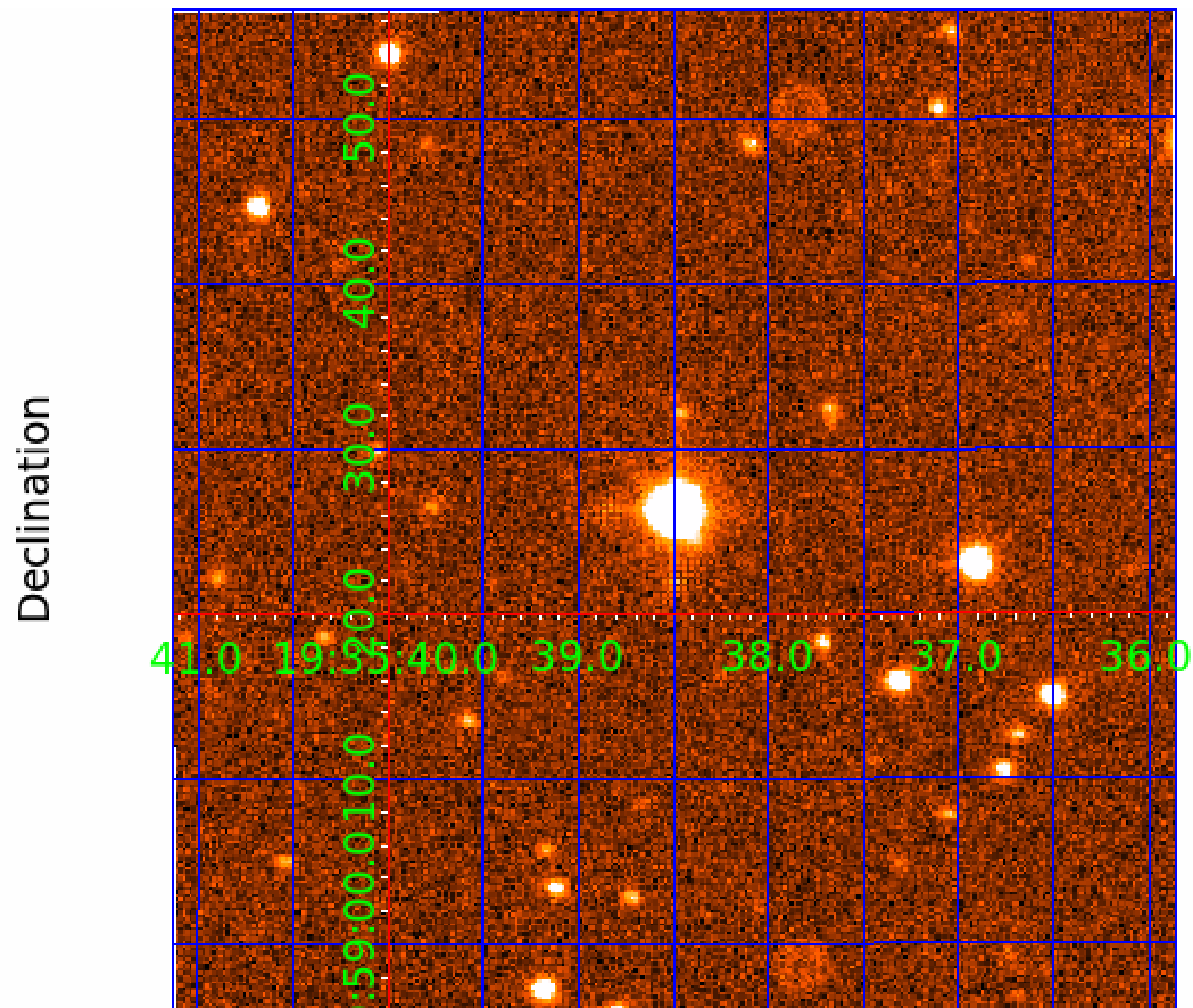
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



KIC 004843152

Q1-17 DR25 TCE Parameters

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004843152-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—HALO_GHOST
004843152-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
004843152-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

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N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

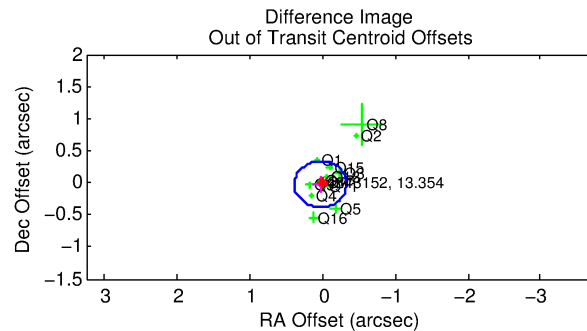
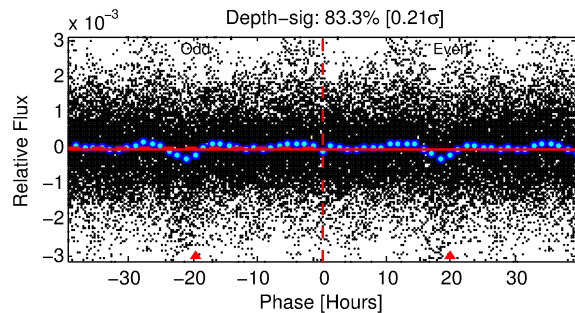
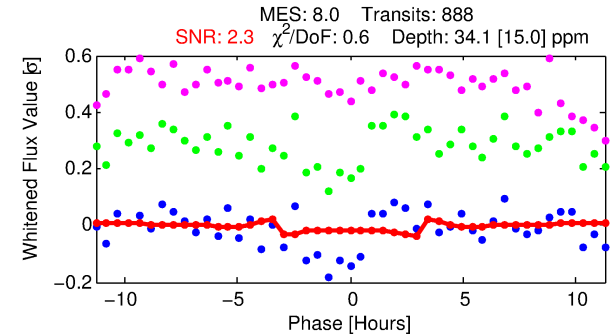
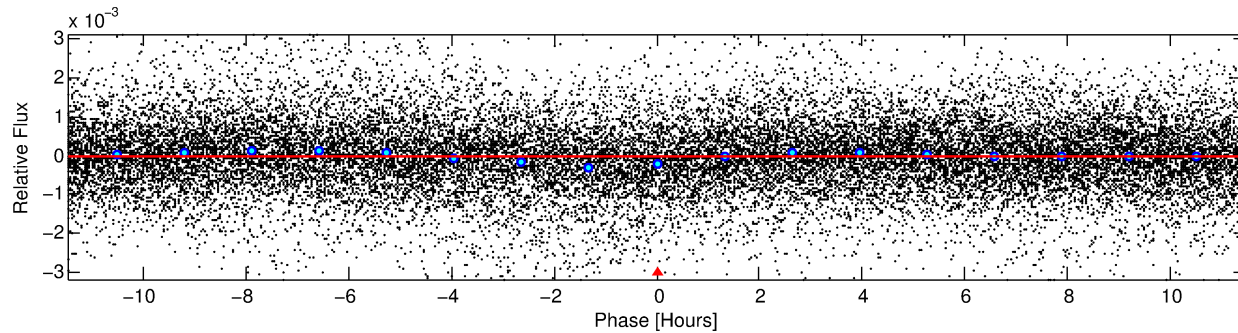
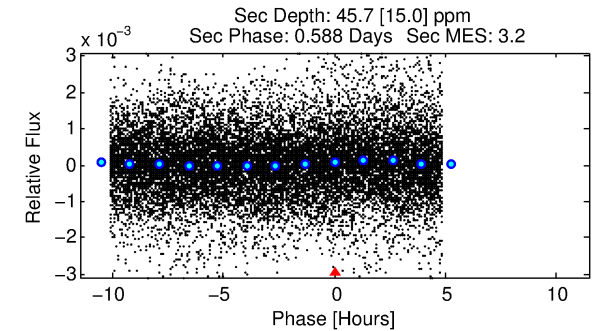
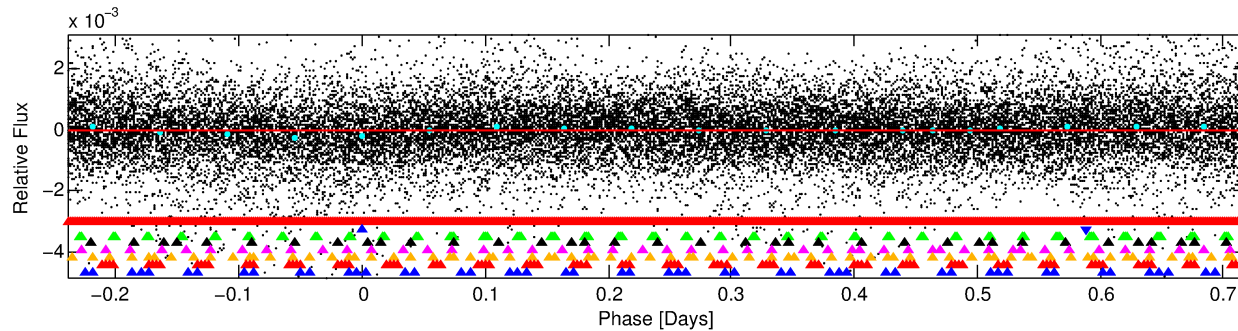
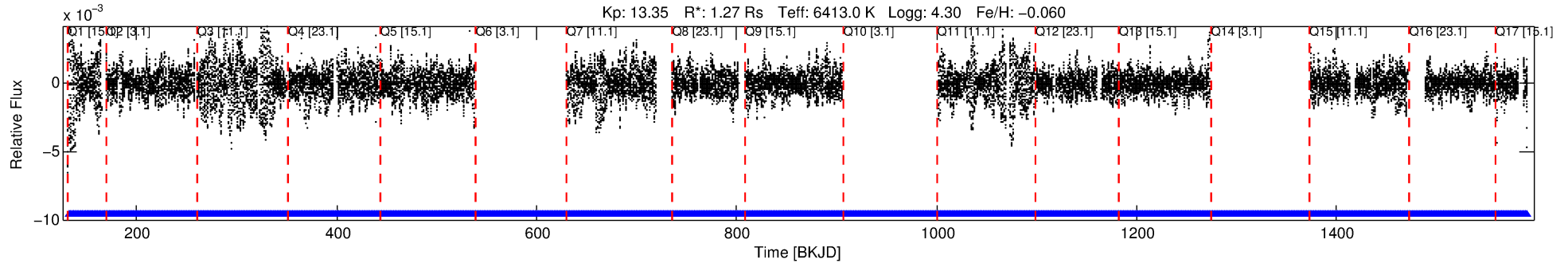
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004843152-02

No Significant Match Found

DV One-Page Summary

KIC: 4843152 Candidate: 2 of 8 Period: 0.958 d



DV Fit Results:

Period = 0.95798 [0.00004] d
Epoch = 131.9594 [0.0061] BKJD
Rp/R* = 0.0055 [0.0072]
a/R* = 1.22 [2.81]
b = 0.50 [10.56]
Seff = 6066.94 [2475.63]
Teq = 2250 [230] K
Rp = 0.76 [1.02] Re
a = 0.0201 [0.0054] AU
Ag = 17.30 [45.71] [0.36σ]
Teffp = 7096 [4643] K [1.04σ]

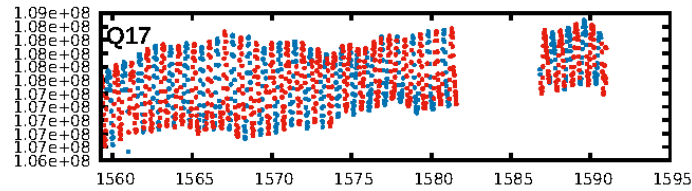
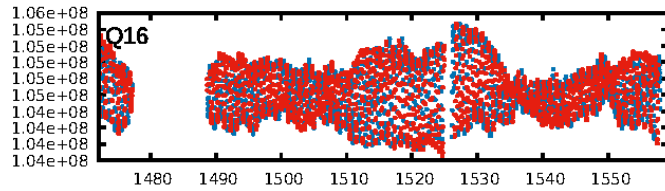
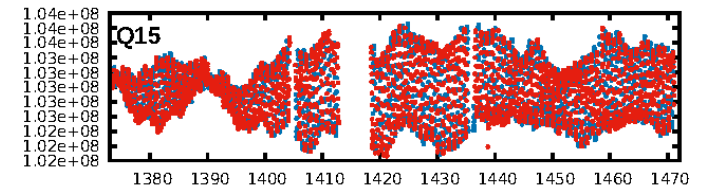
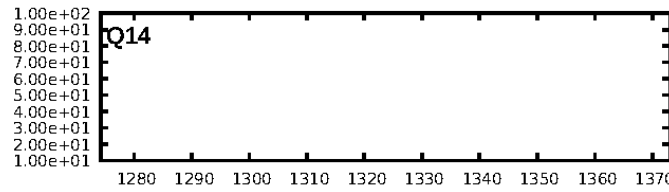
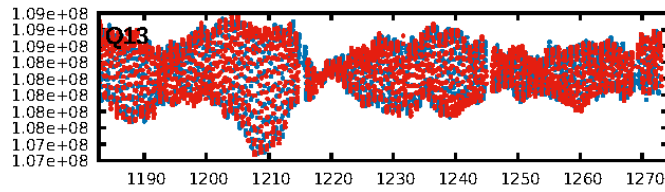
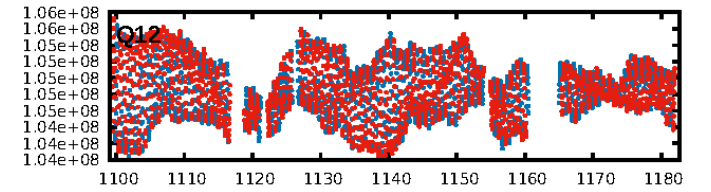
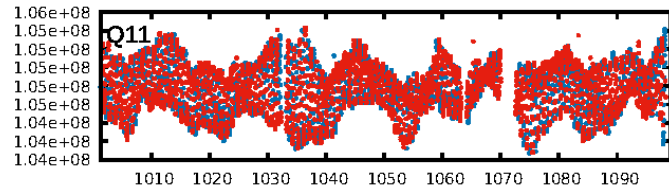
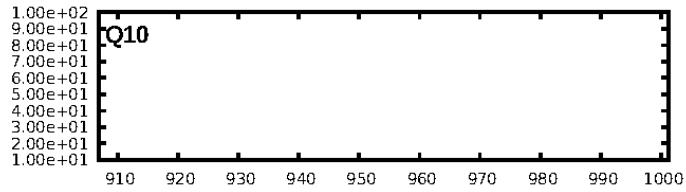
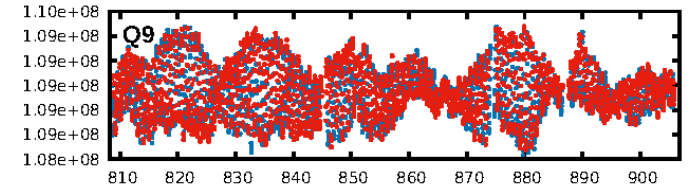
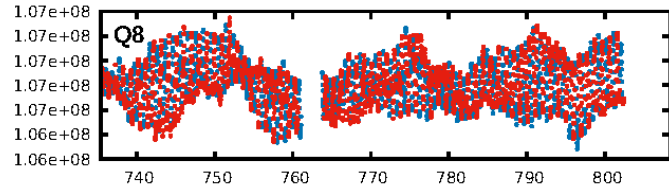
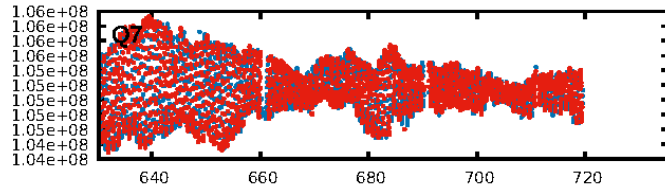
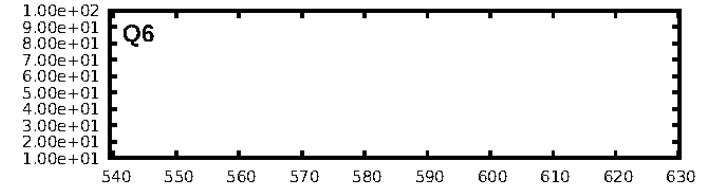
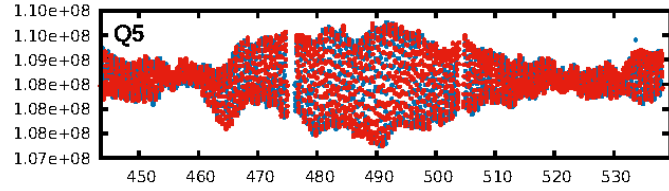
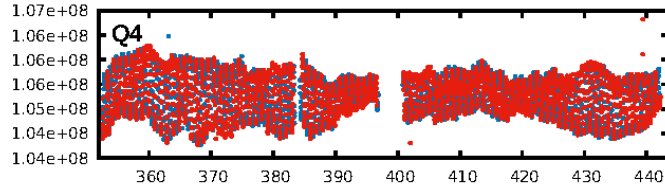
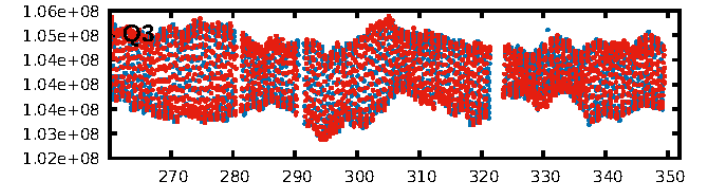
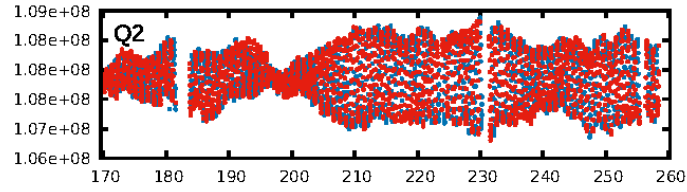
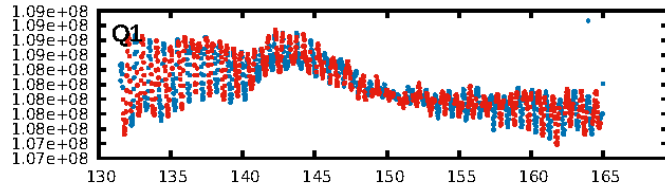
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 1.4% [0.02σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [825/825]
GhostDiagnostic-chr: 5.156
Centroid-sig: 62.9%
Centroid-so: 0.305 arcsec [0.57σ]
OotOffset-rm: 0.038 arcsec [0.32σ]
OotOffset-st: 1/4/3/5 [13]
KicOffset-rm: 0.117 arcsec [0.95σ]
KicOffset-st: 1/4/3/5 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 0.00 [0/14]

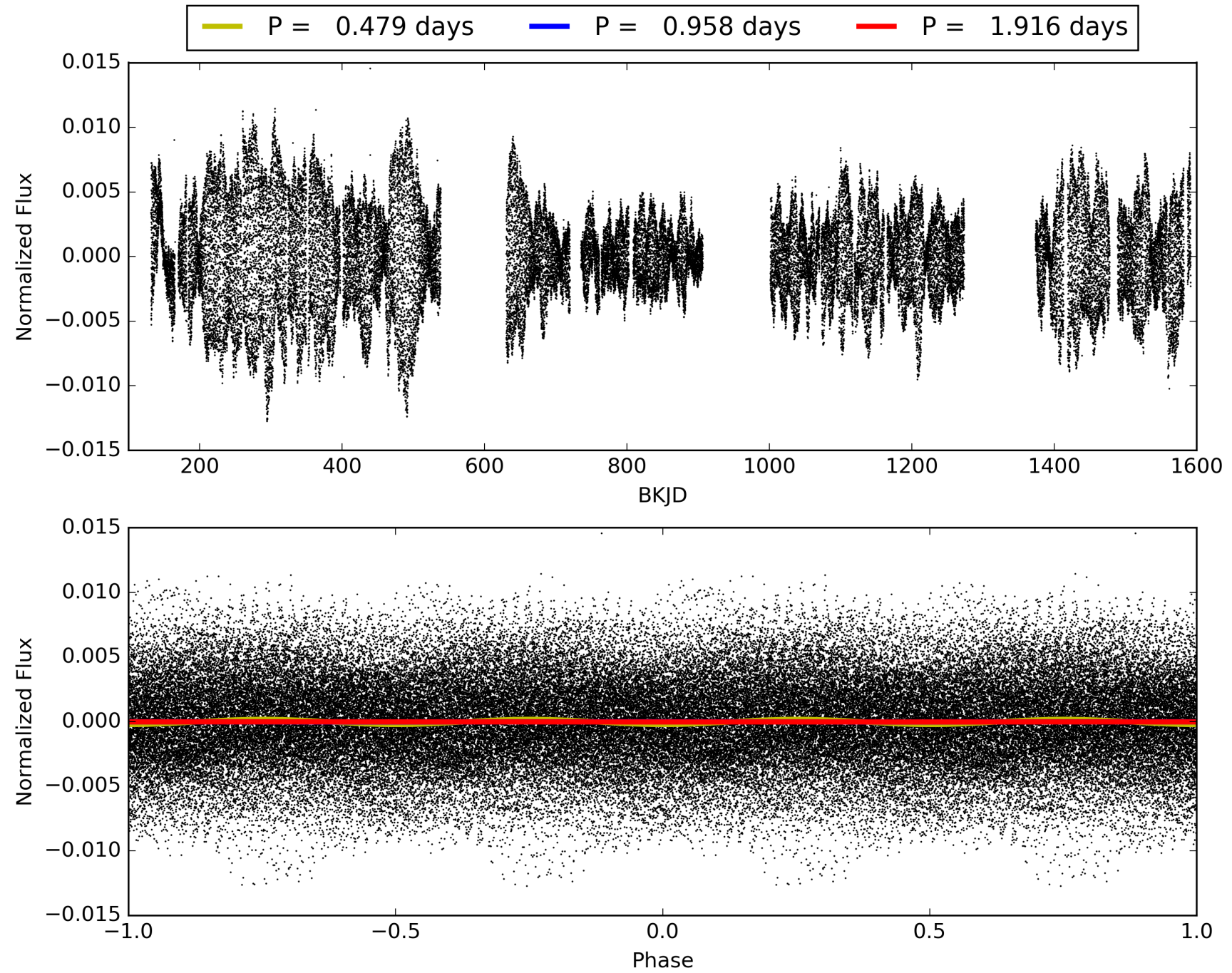
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:52:59 Z

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

TCE 004843152-02, PDC Light Curves

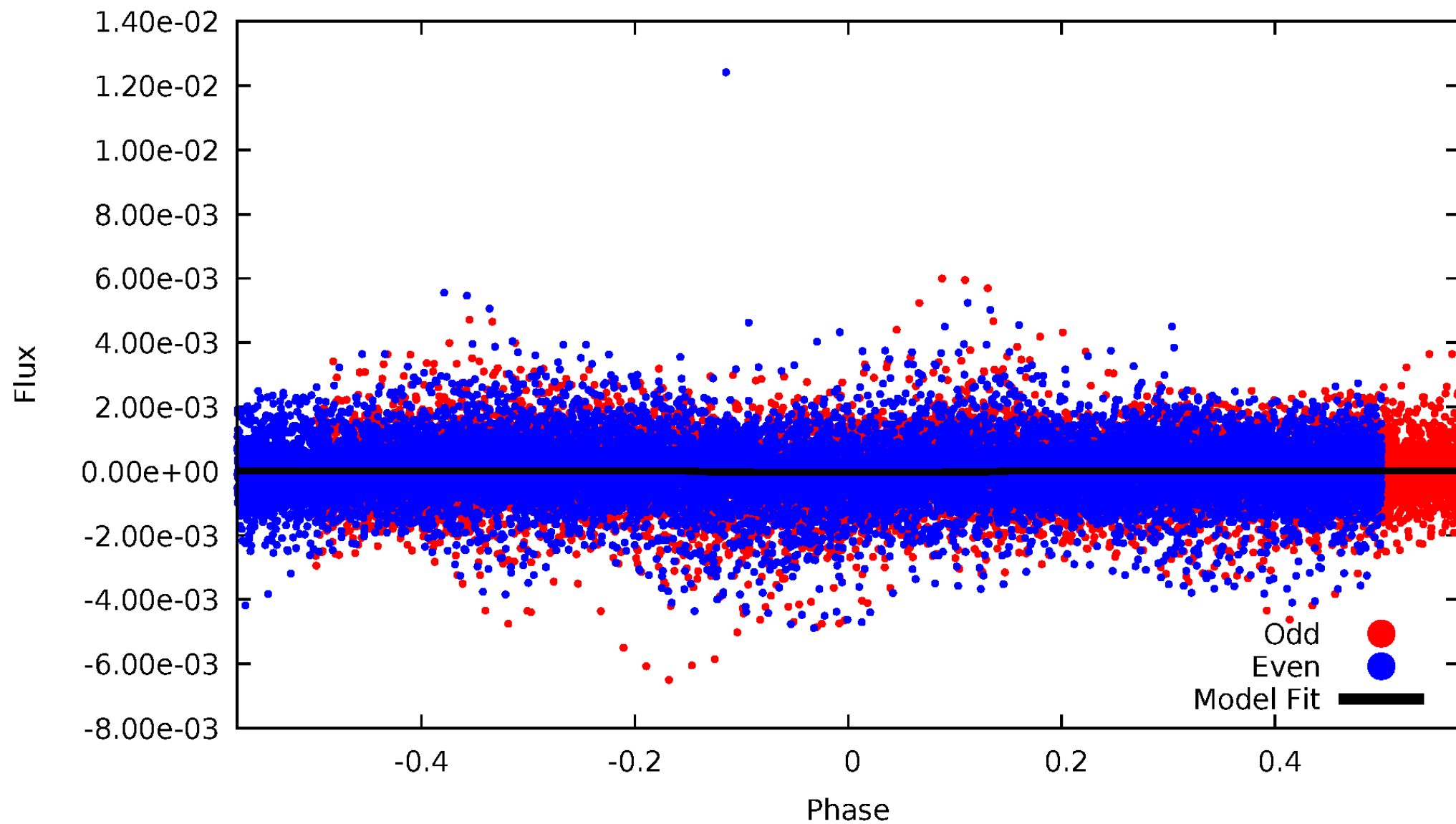


TCE 004843152-02



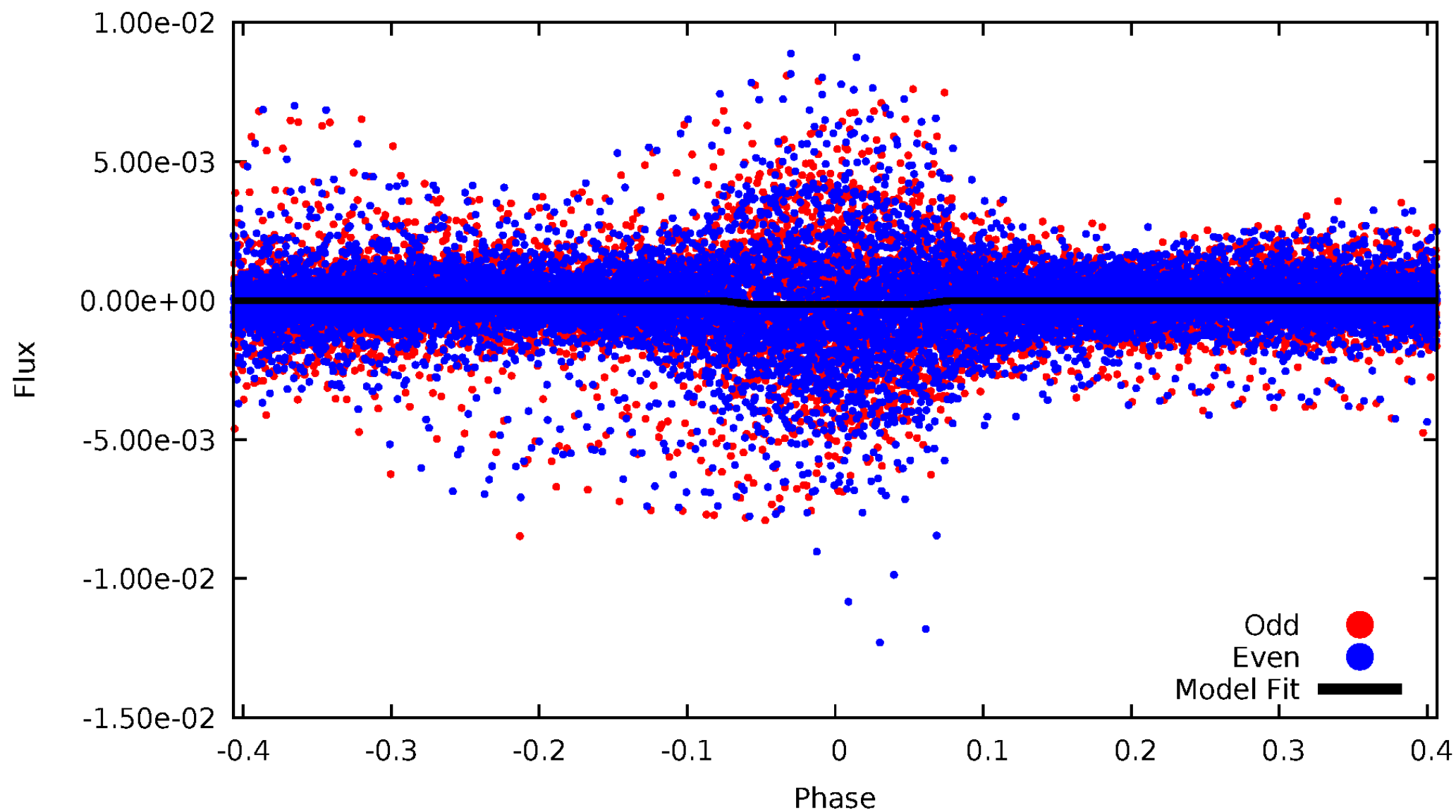
DV Odd/Even

TCE 004843152-02



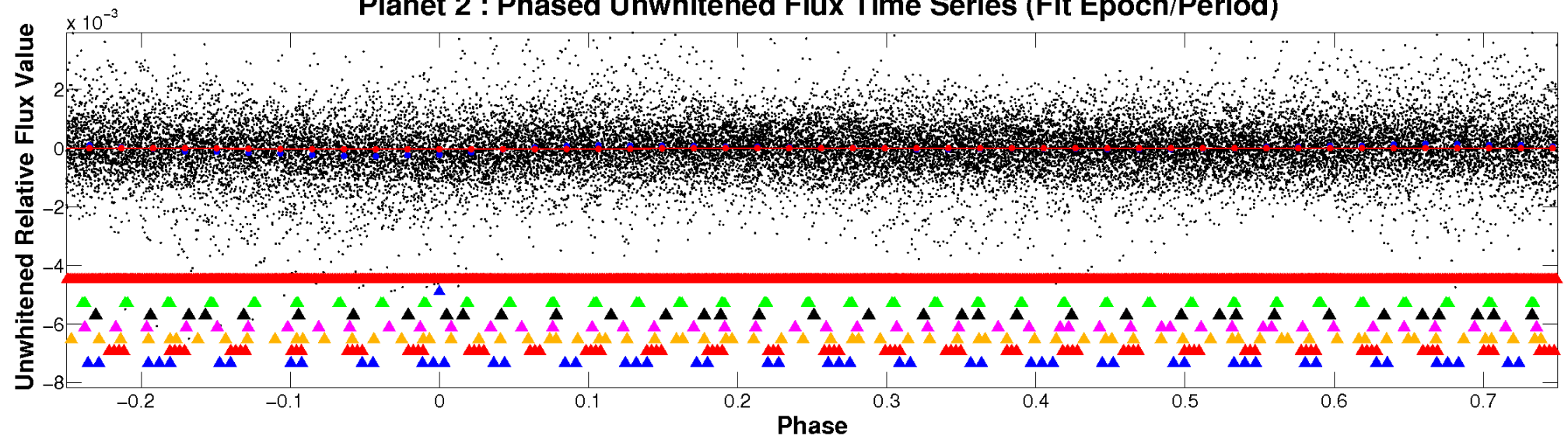
ALT Odd/Even

TCE 004843152-02

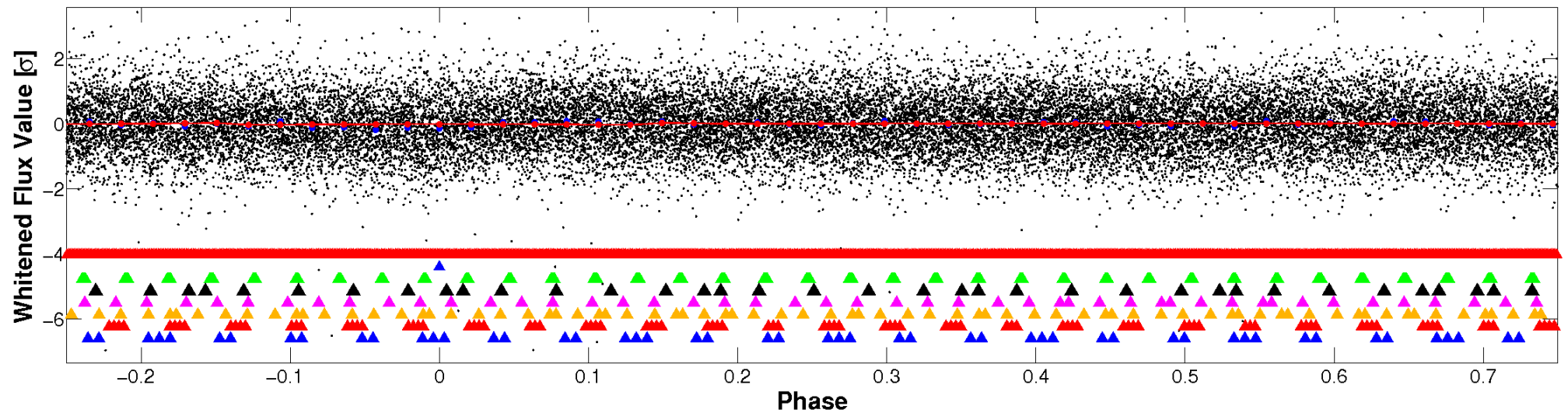


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

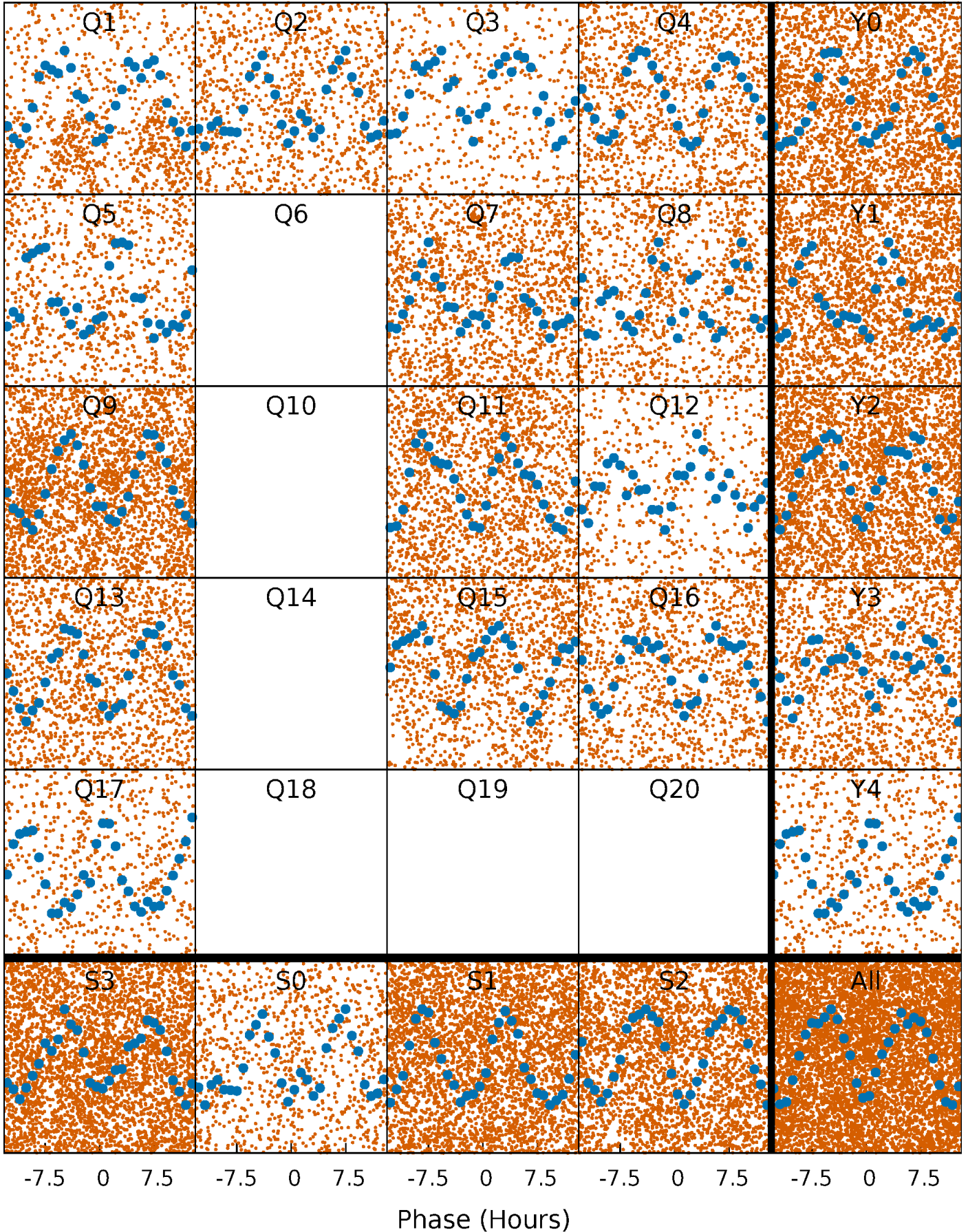


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



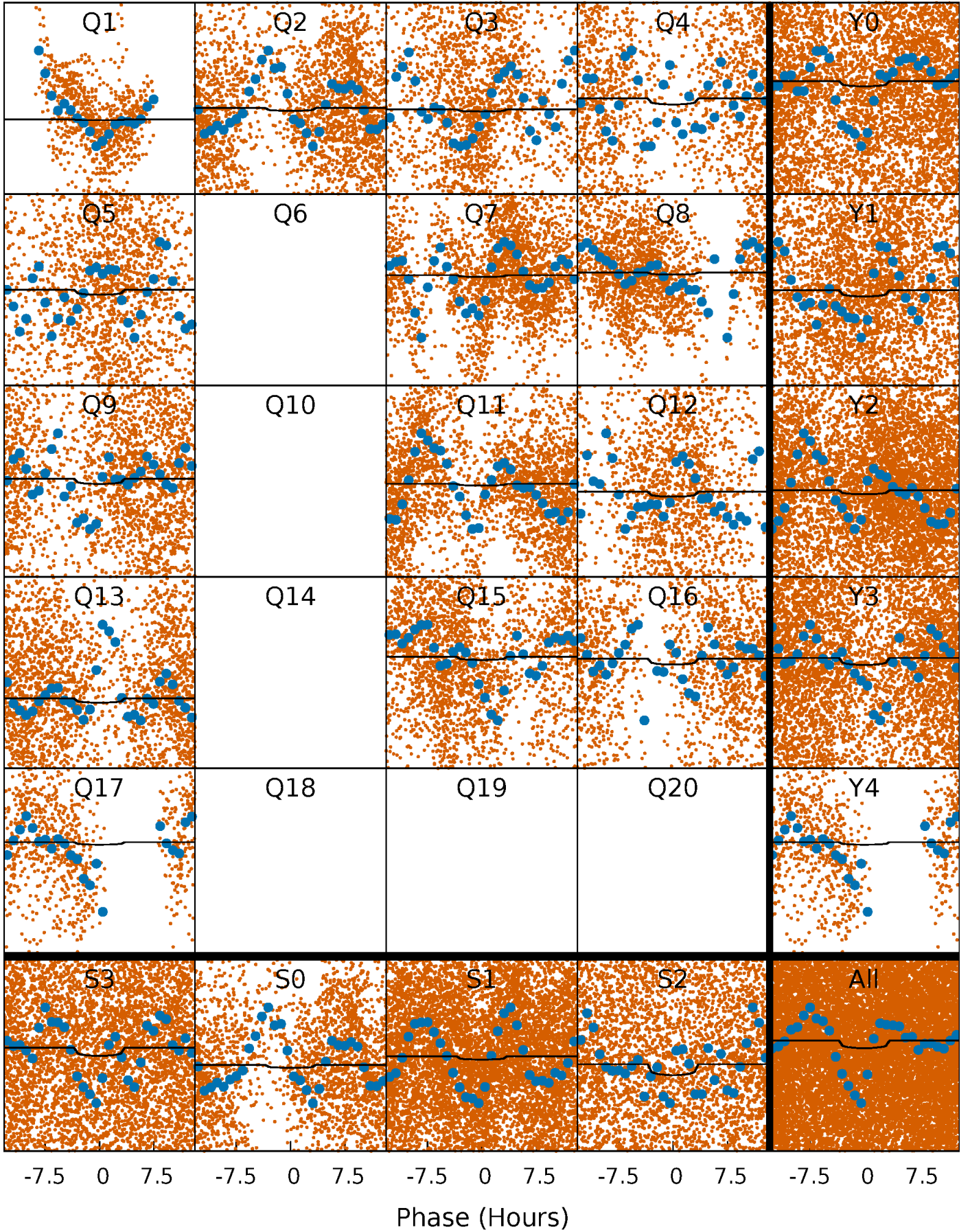
PDC Quarter-Phased Transit Curves

TCE 004843152-02 P= 0.957984 Days $T_0=131.959384$ (BKJD)



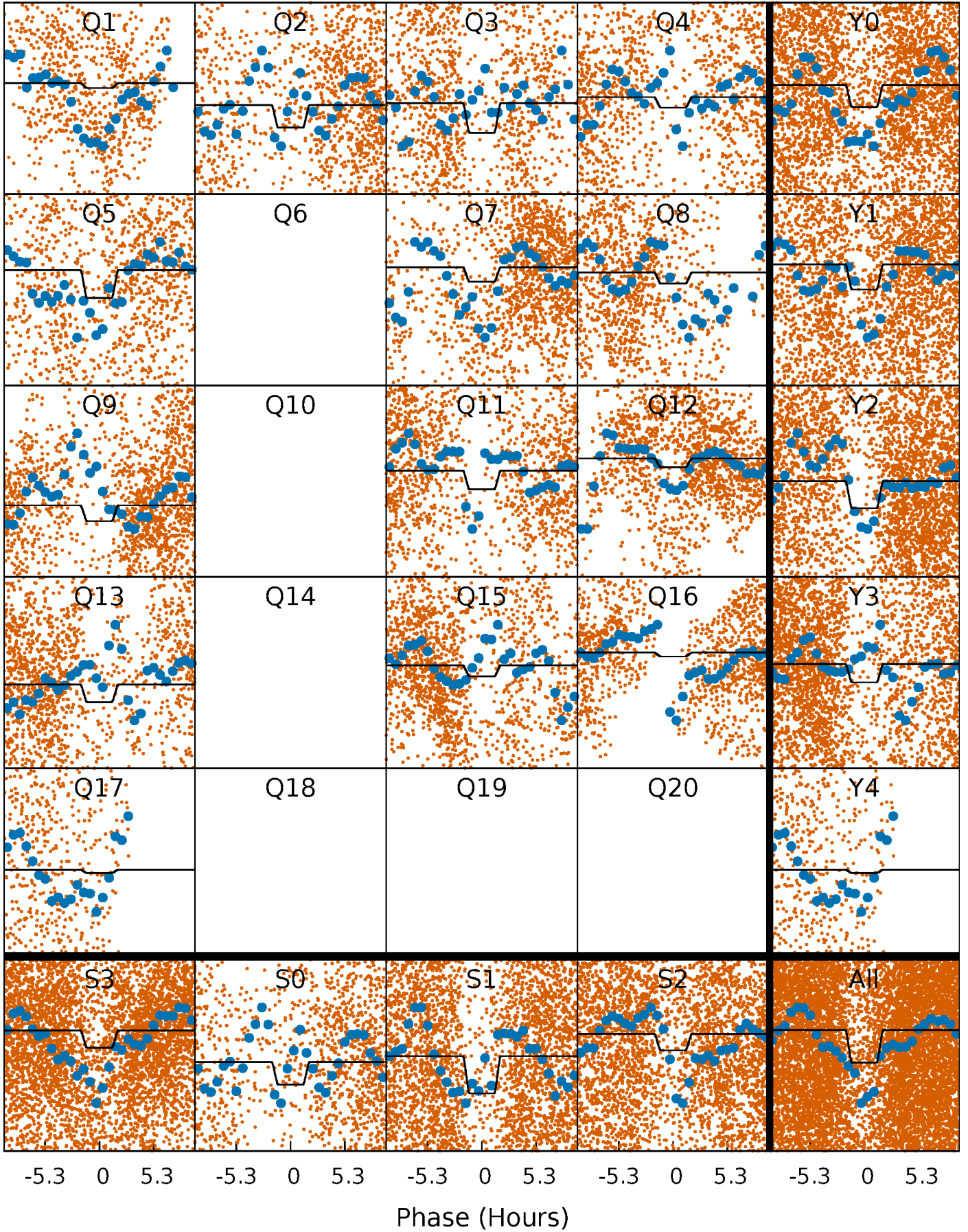
DV Quarter-Phased Transit Curves

TCE 004843152-02 $P = 0.957984$ Days $T_0 = 131.959384$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

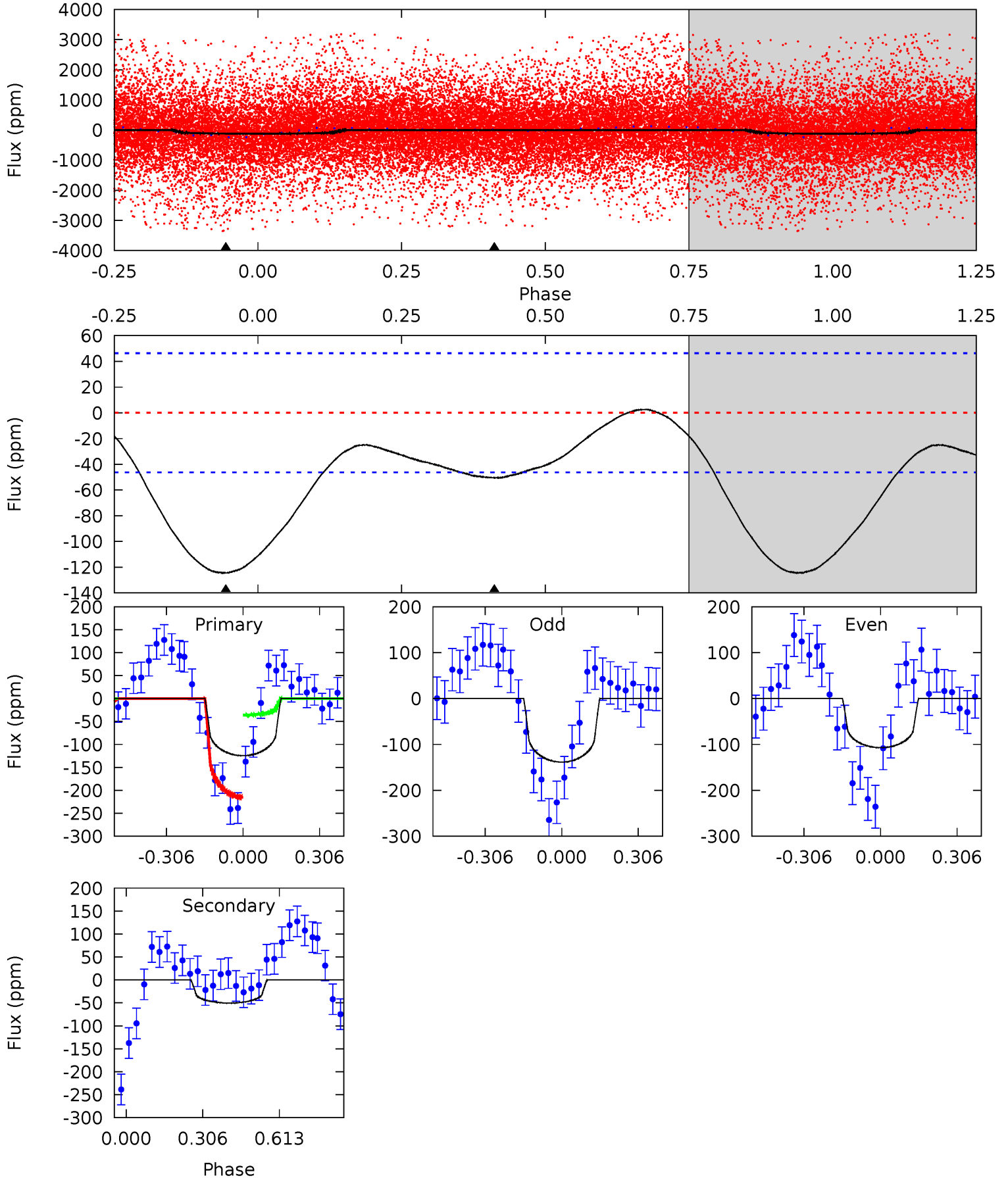
TCE 004843152-02 P= 0.957911 Days $T_0=131.984009$ (BKJD)



DV Model-Shift Uniqueness Test

004843152-02, P = 0.957984 Days, E = 131.001400 Days

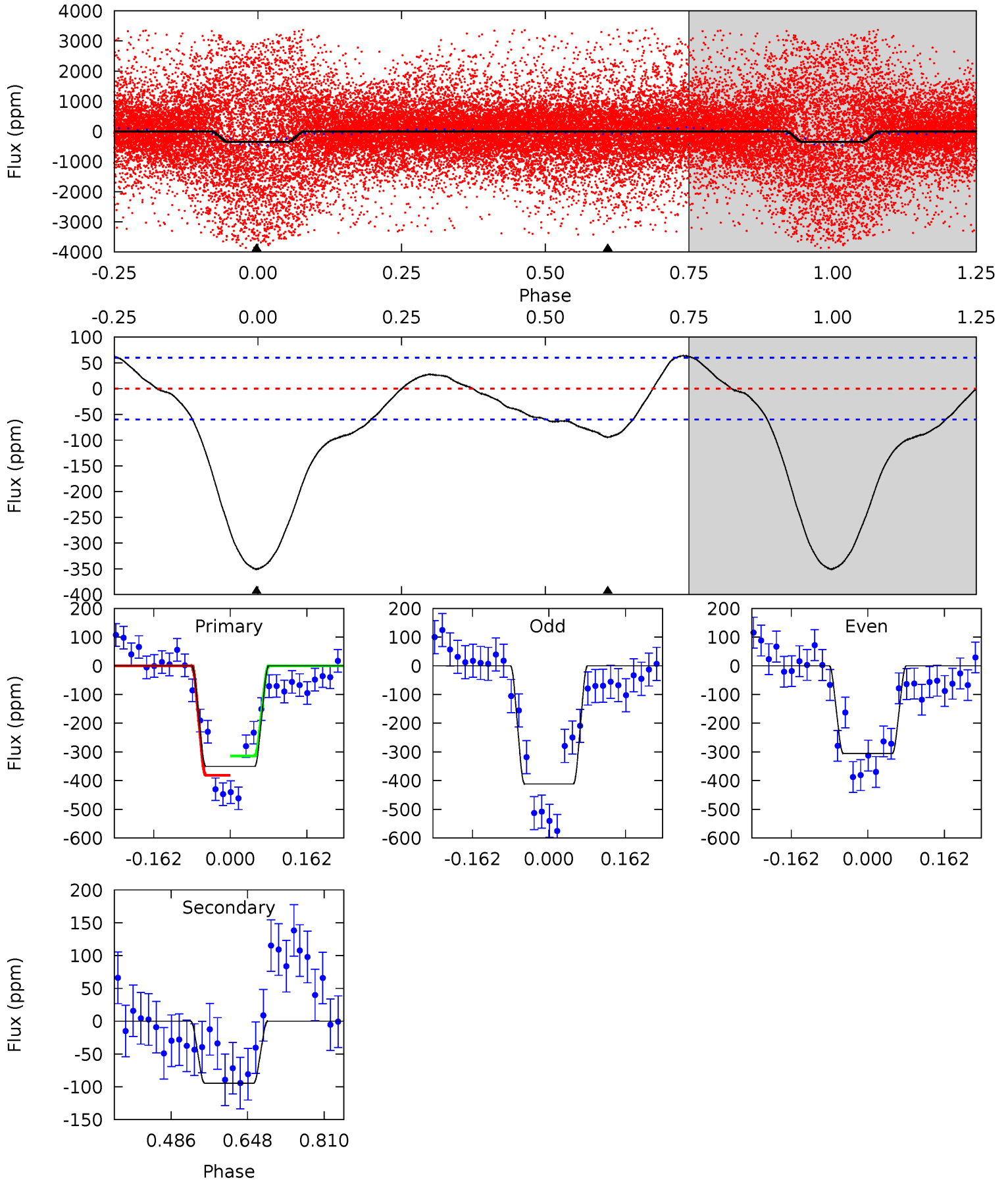
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	4.72	0	0	4.32	1.02	0.98	11.6	11.6	4.72	4.72	1.50	1.41	0.02	8.65



Alt Model-Shift Uniqueness Test

004843152-02, P = 0.957911 Days, E = 131.026098 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.1	7.03	0	0	4.46	1.40	2.48	26.1	26.1	7.03	7.03	3.96	0.93	0.15	2.34



Stellar Parameters For KIC 004843152

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6413^{+153}_{-211}	$4.300^{+0.105}_{-0.210}$	$-0.060^{+0.250}_{-0.300}$	$1.269^{+0.405}_{-0.218}$	$1.172^{+0.181}_{-0.163}$	$0.808^{+0.407}_{-0.433}$
	+2%/-3%	+2%/-5%	+417%/-500%	+32%/-17%	+15%/-14%	+50%/-54%
Source	PHO1	KIC0	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 004843152-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-51 ± 11	$1.05^{+0.96}_{-0.70}$	3181^{+239}_{-182}	6207^{+6361}_{-1639}	$9.564^{+80.243}_{-7.050}$
Alt.	-94 ± 13	$1.76^{+0.97}_{-0.95}$	3182^{+251}_{-187}	5651^{+3136}_{-986}	$6.611^{+24.480}_{-3.839}$

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 $A_{obs} \gg 1.0$

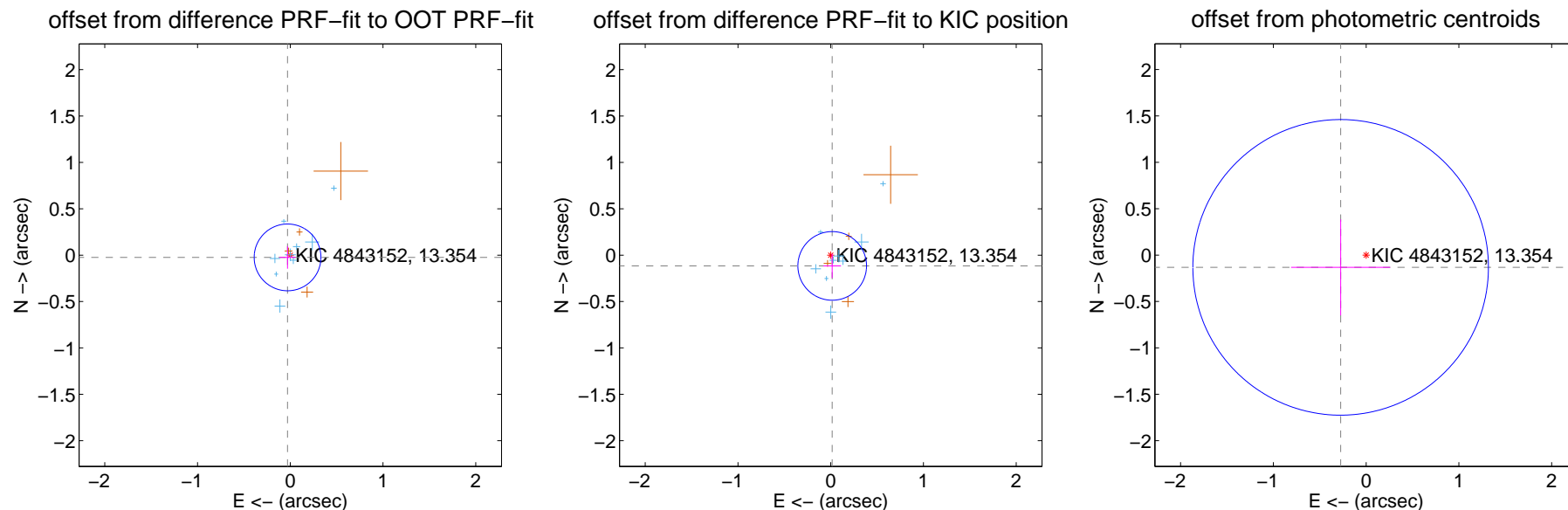
DV Centroid Data

Supplemental centroid analysis for 004843152-02. Kepler magnitude: 13.35. Transit SNR 2.33

There are 9 quarters with good PRF difference image offsets

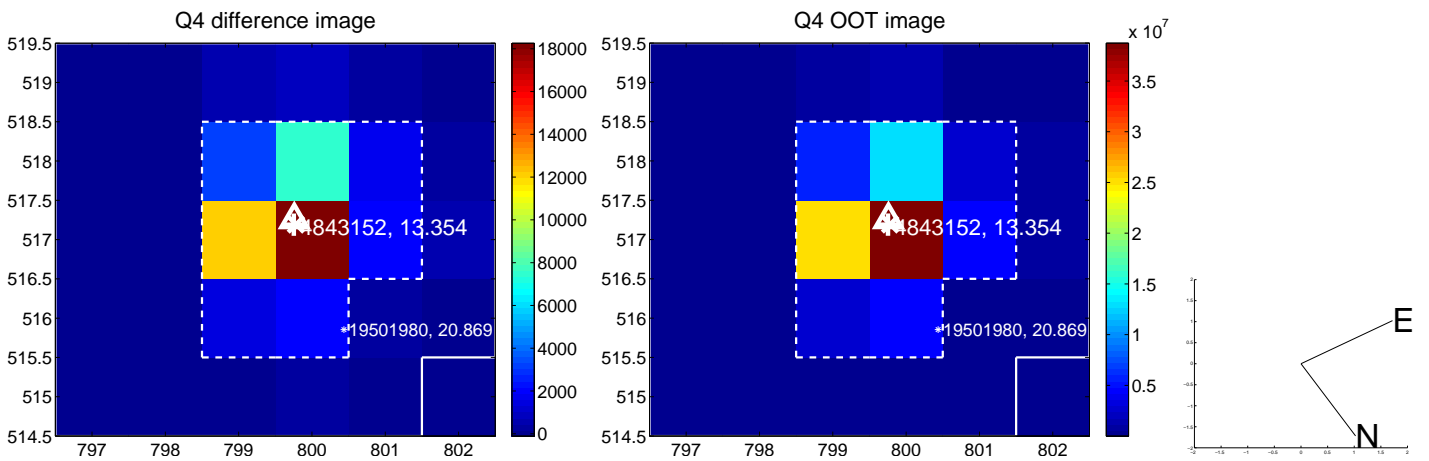
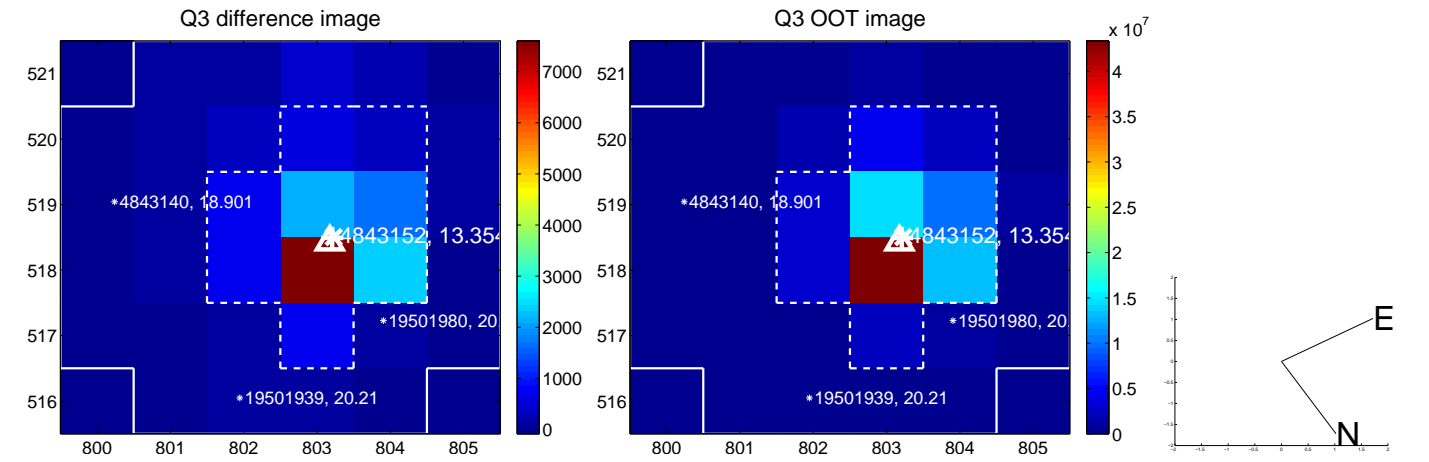
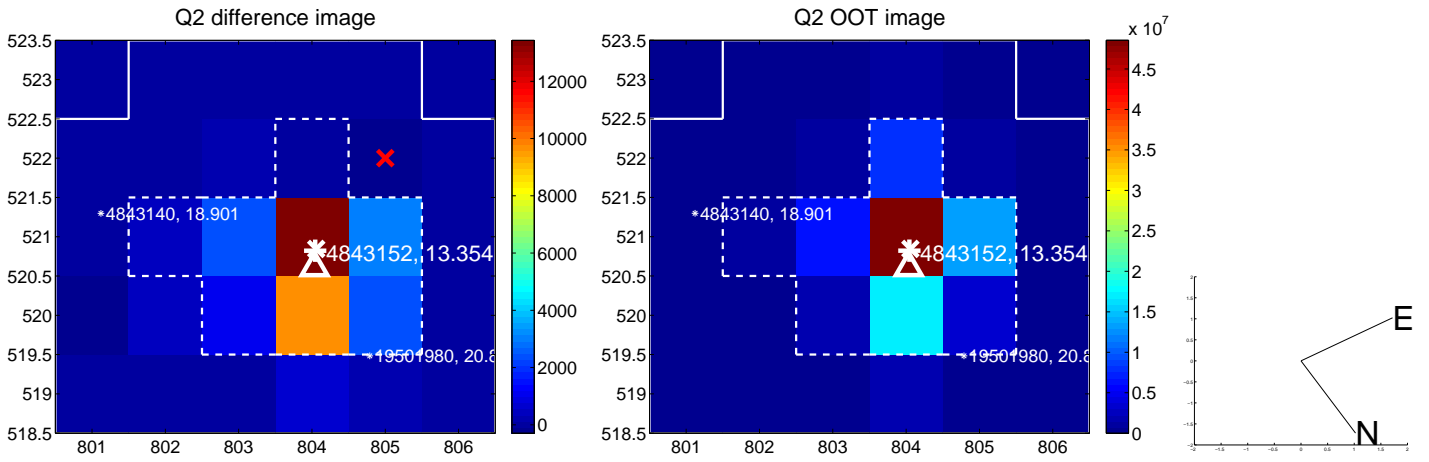
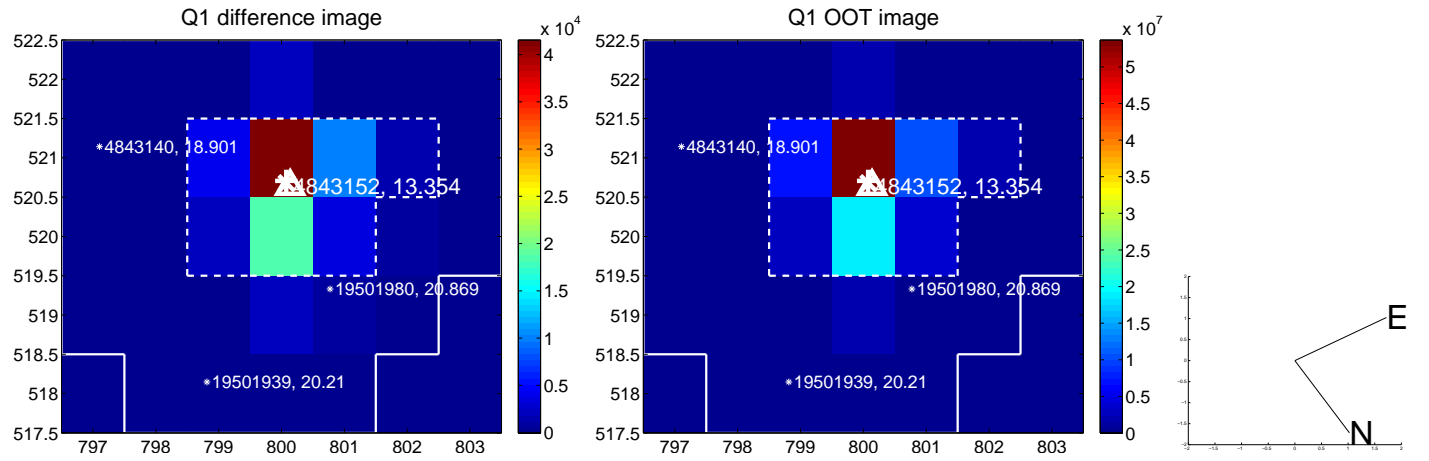
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.038 ± 0.120	0.32	0.029 ± 0.086	-0.024 ± 0.121
PRF-fit source offset from KIC position	0.117 ± 0.123	0.95	-0.016 ± 0.094	-0.116 ± 0.130
photometric centroid source offset	0.30 ± 0.53	0.57	0.27 ± 0.53	-0.13 ± 0.52

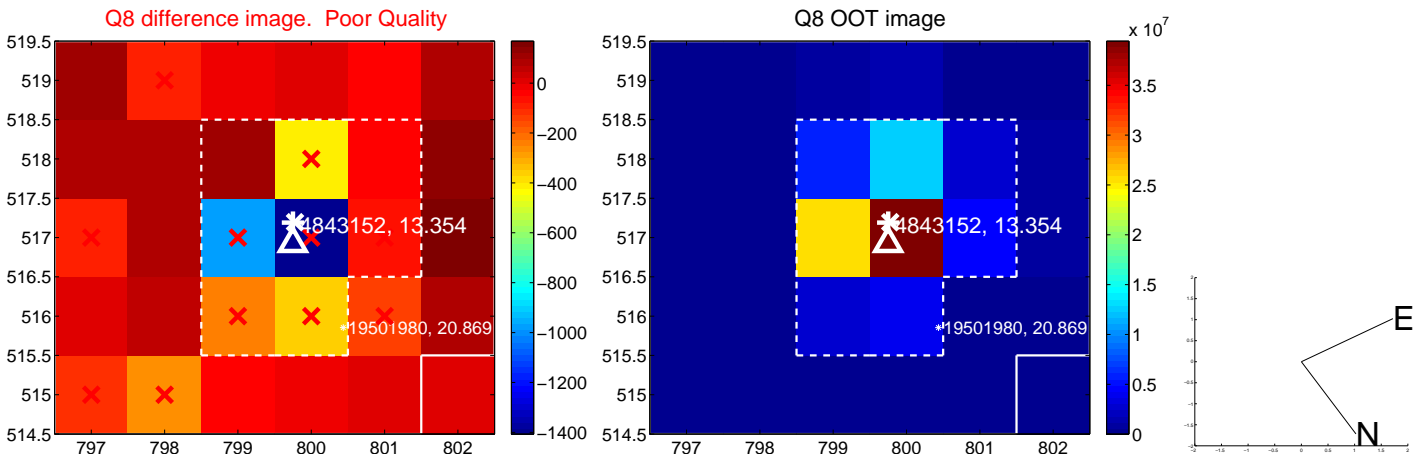
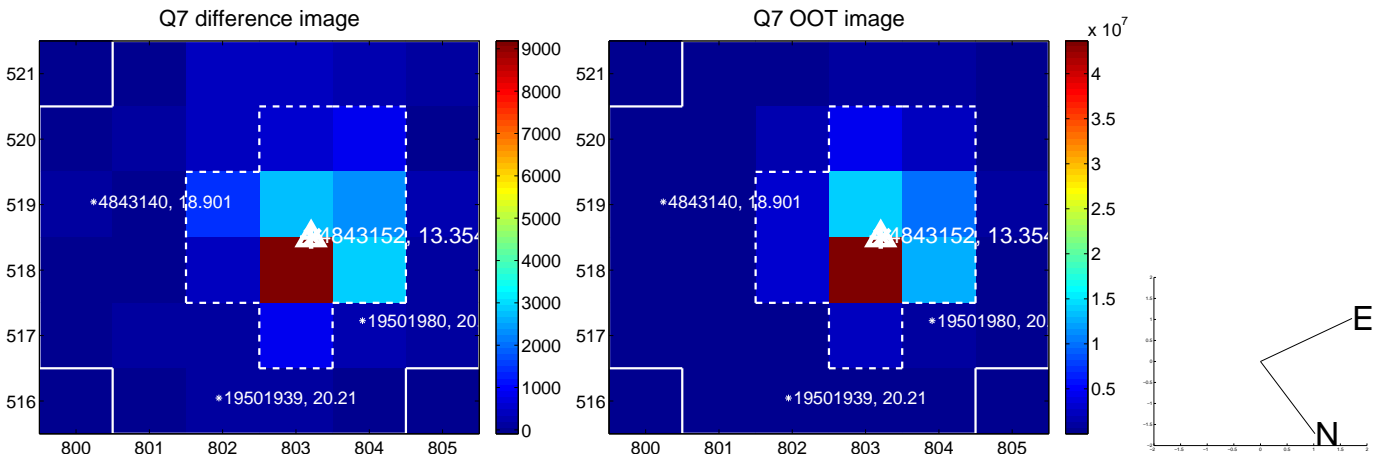
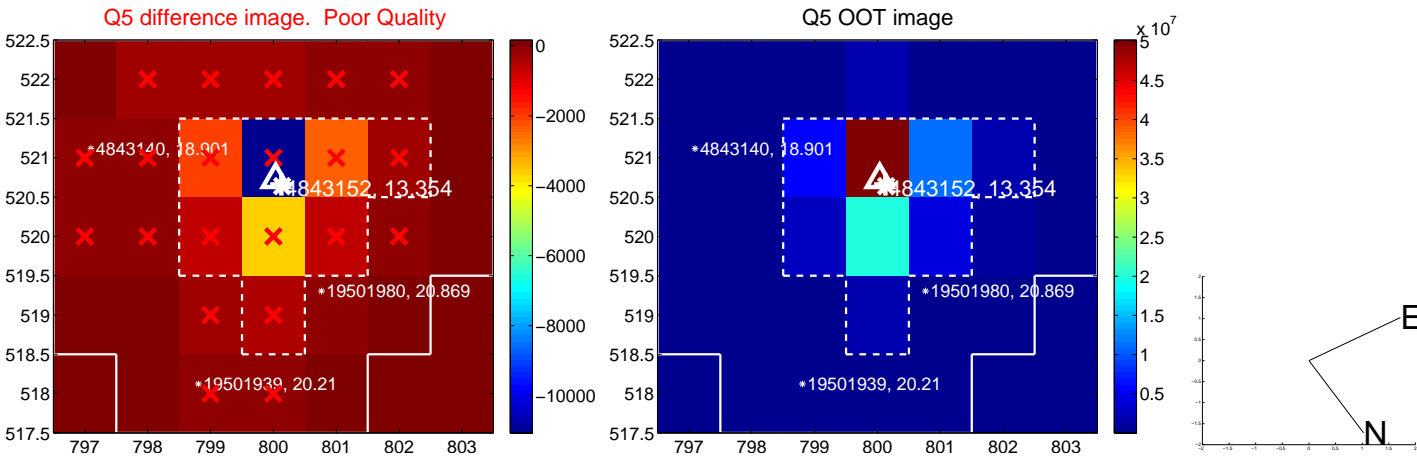


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

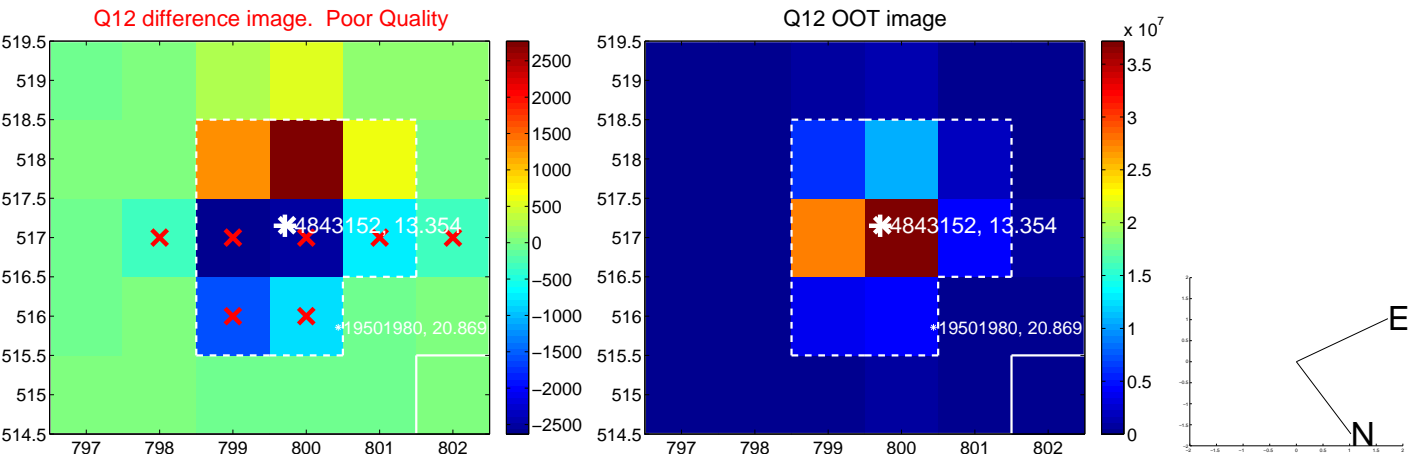
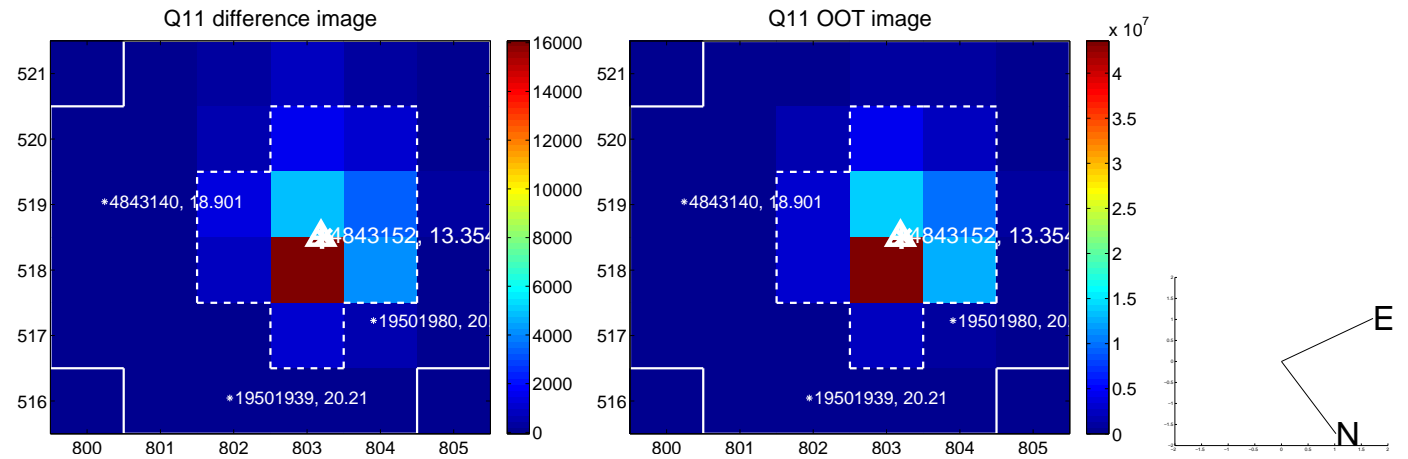
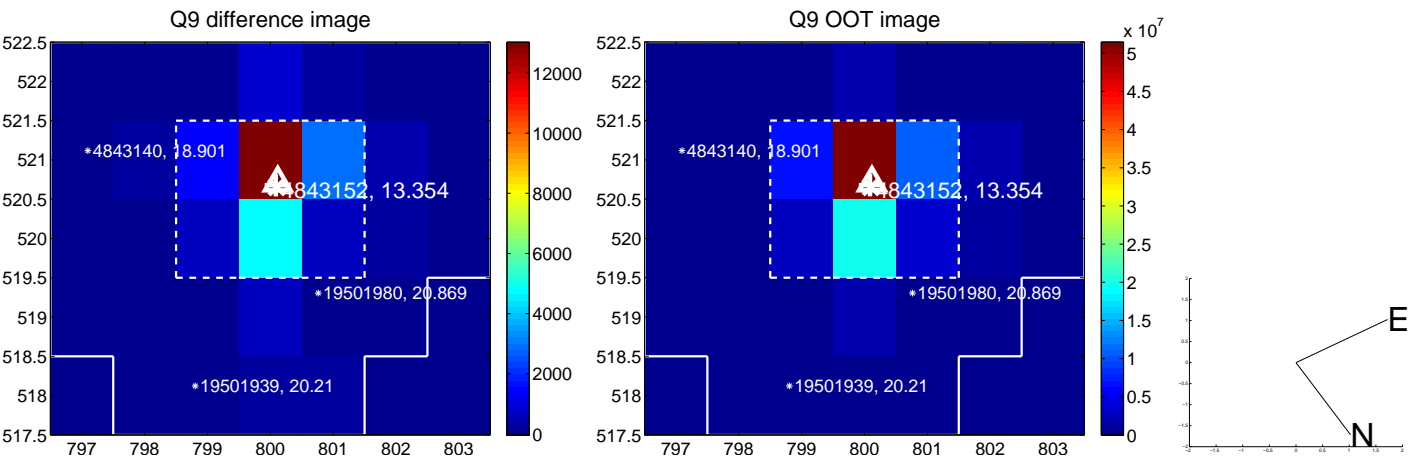
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



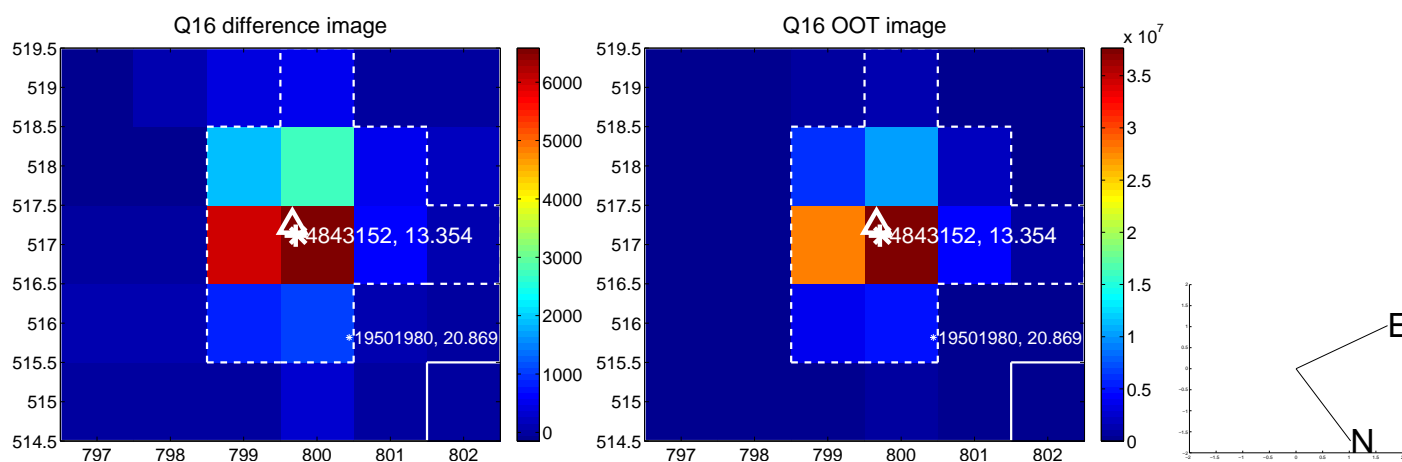
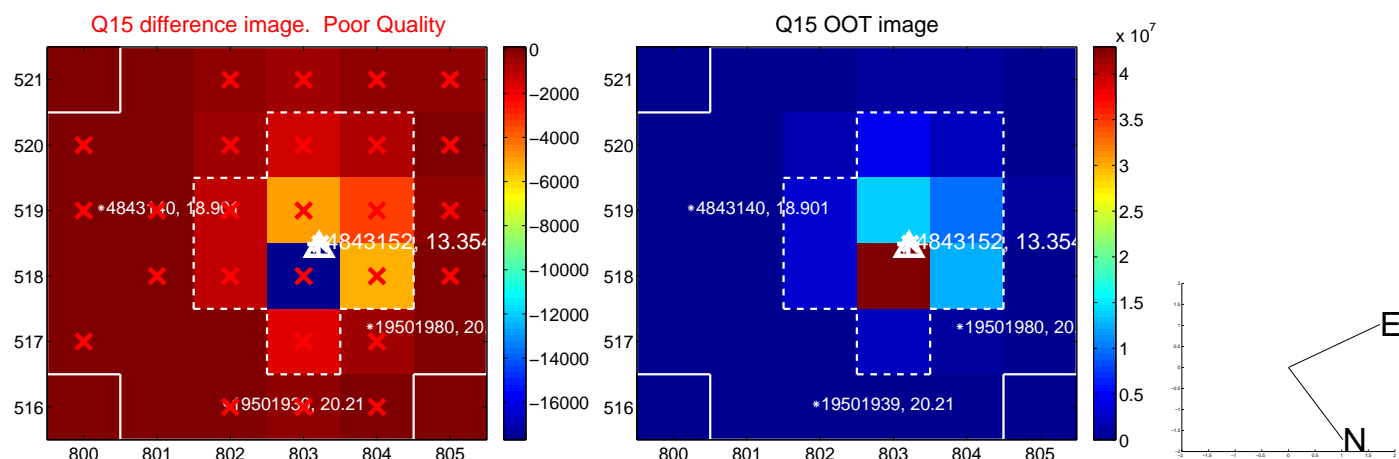
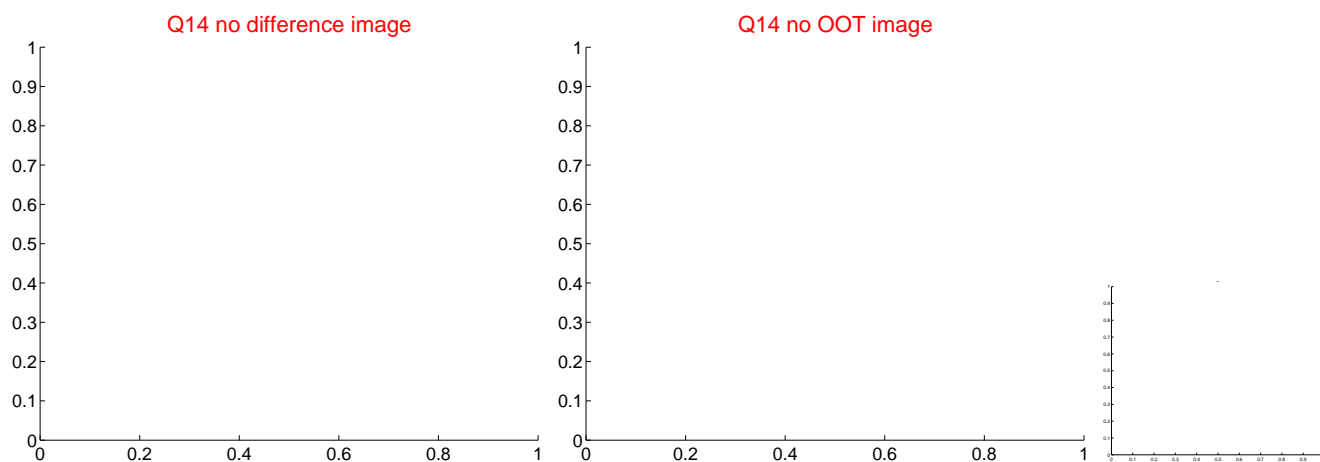
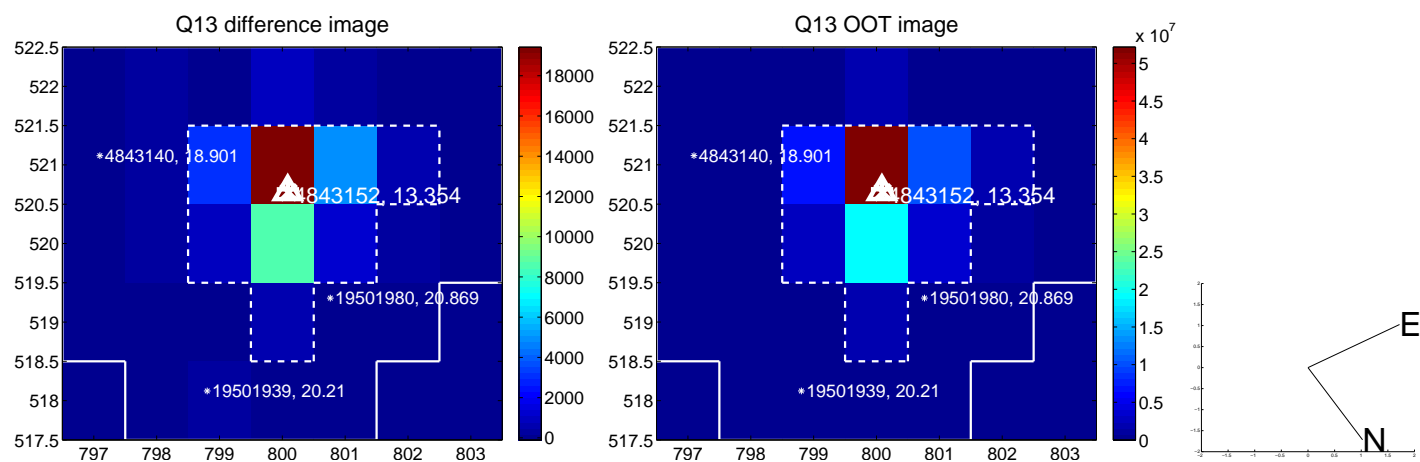
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



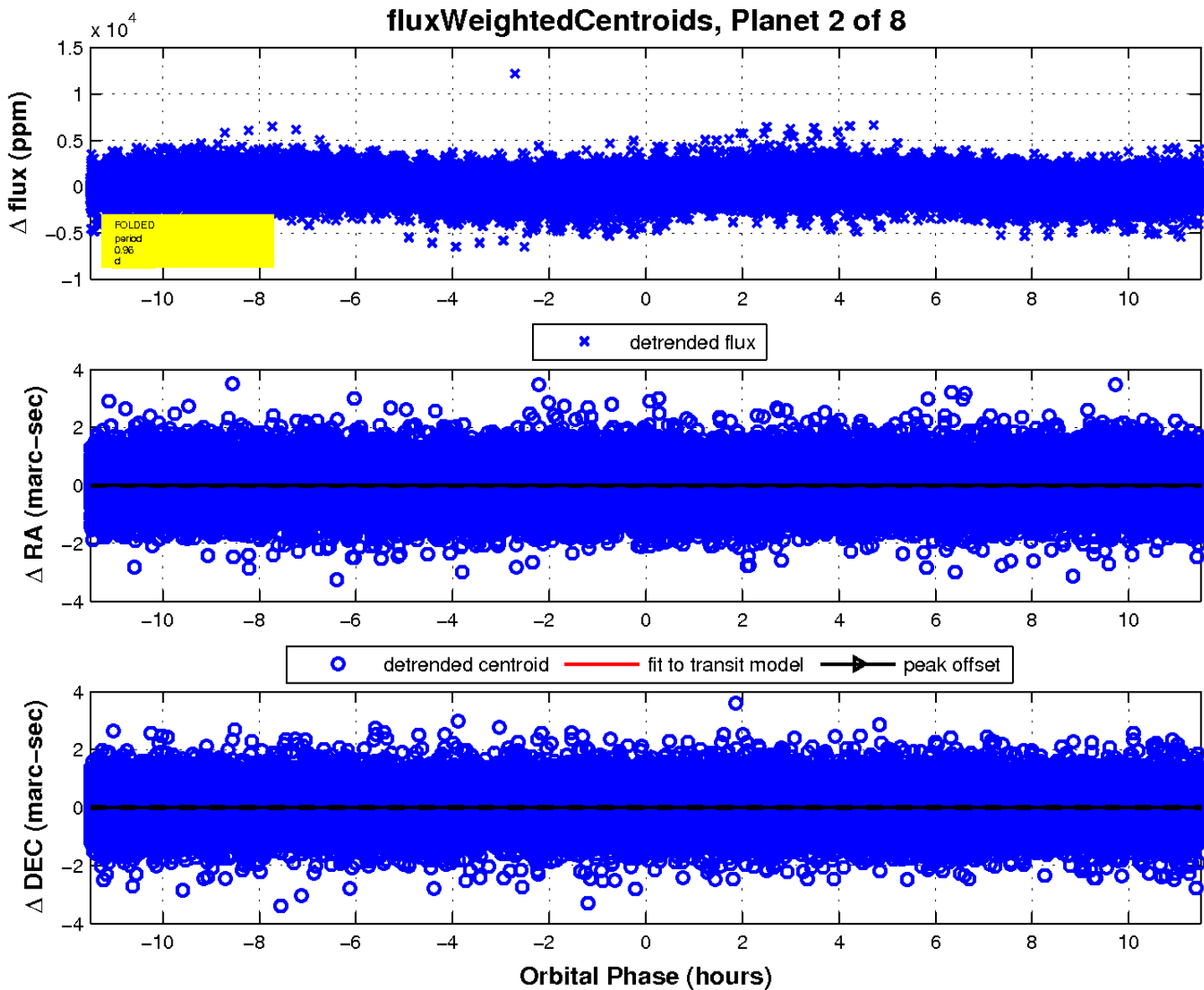
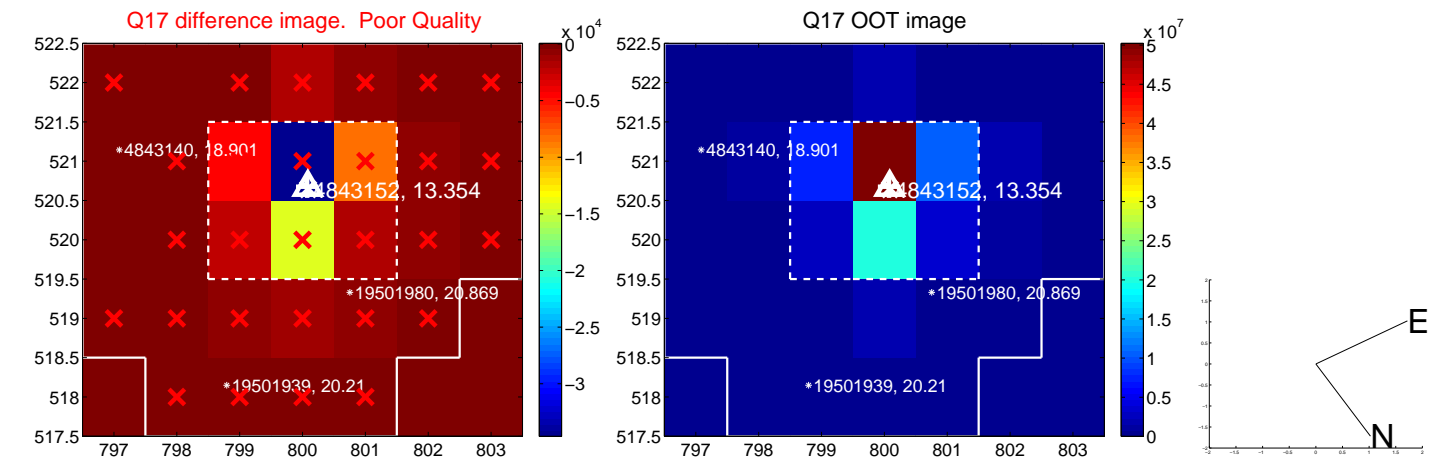
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



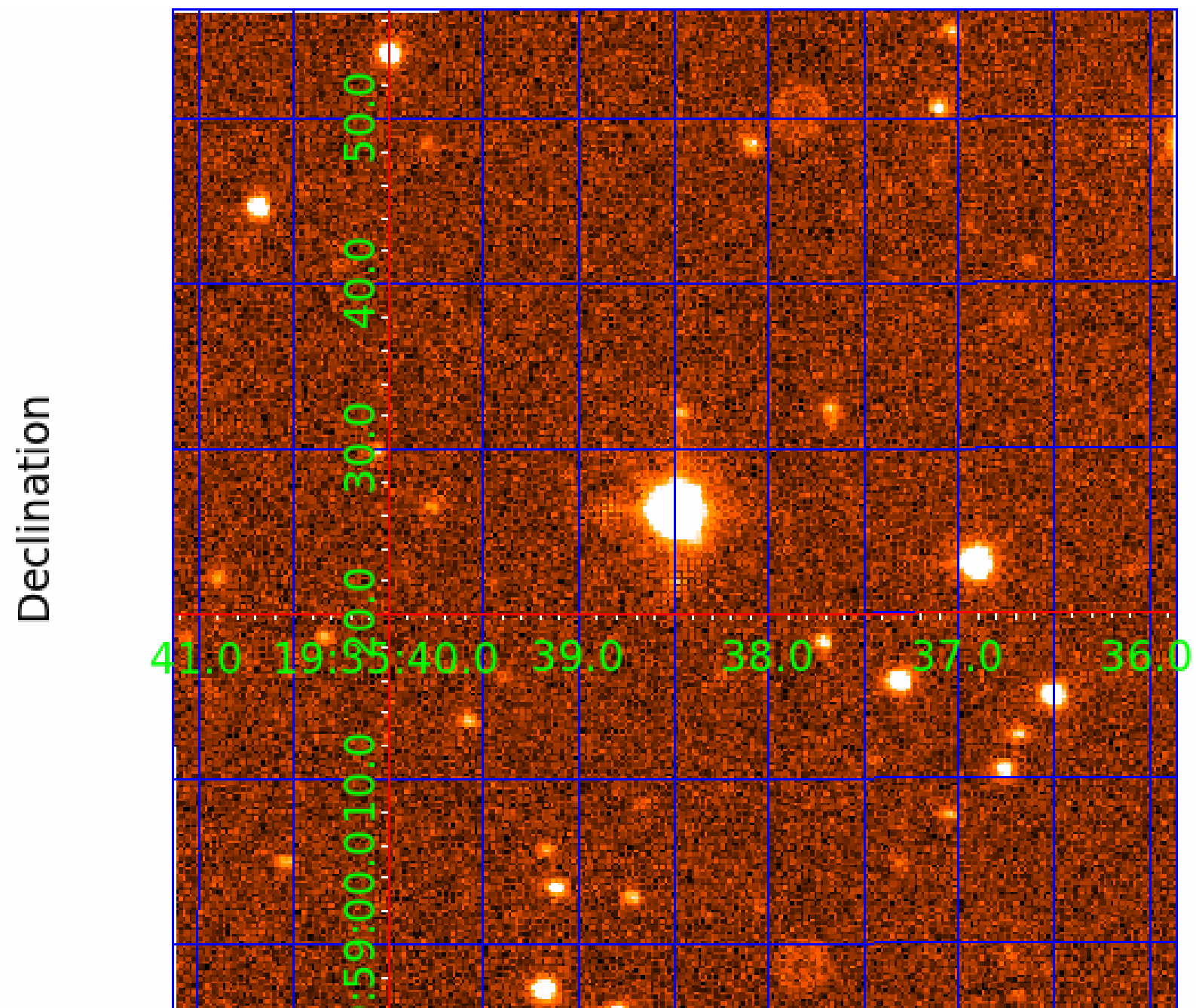
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



KIC 004843152

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})
004843152-01	OBS	No	0.963626	132.323766	42.2	3.492	7.2	4.5	1.27	6413	0.97	6019.62
004843152-02	OBS	No	0.957984	131.959384	34.1	6.583	8.0	2.3	1.27	6413	0.77	6066.94
004843152-03	OBS	No	9.087175	136.136526	746.8	2.493	12.3	7.4	1.27	6413	3.49	302.14
004843152-04	OBS	No	40.400853	160.372452	1456.0	1.678	12.9	10.6	1.27	6413	5.21	41.33
004843152-05	OBS	No	30.590288	158.354089	587.4	10.073	10.5	5.9	1.27	6413	3.25	59.89
004843152-06	OBS	No	19.598008	133.593272	1120.2	3.278	10.4	8.9	1.27	6413	5.81	108.43
004843152-07	OBS	No	15.480892	137.582723	1263.1	0.918	9.8	9.0	1.27	6413	4.61	148.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004843152-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004843152-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV
004843152-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—HALO_GHOST
004843152-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
004843152-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

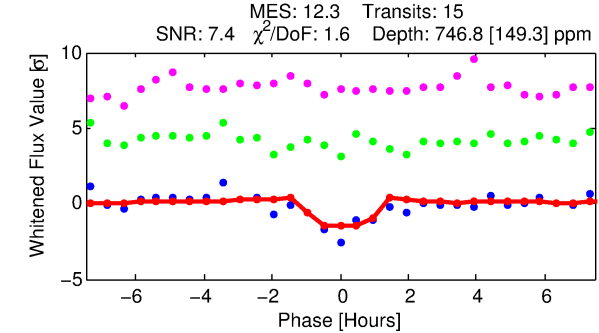
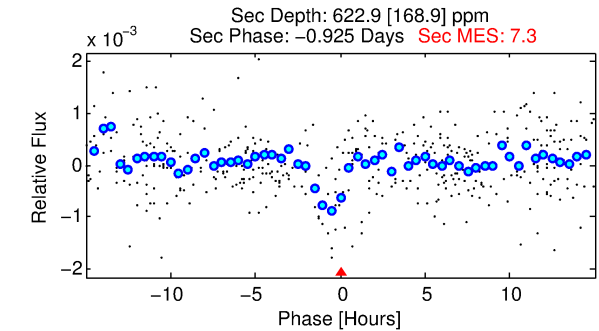
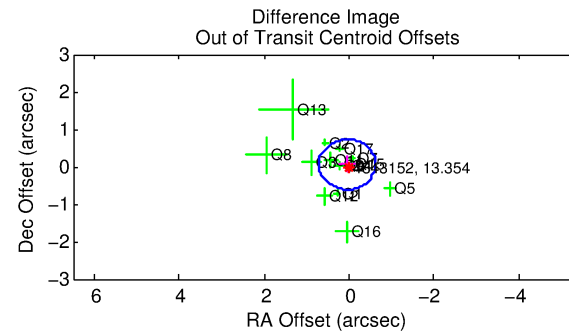
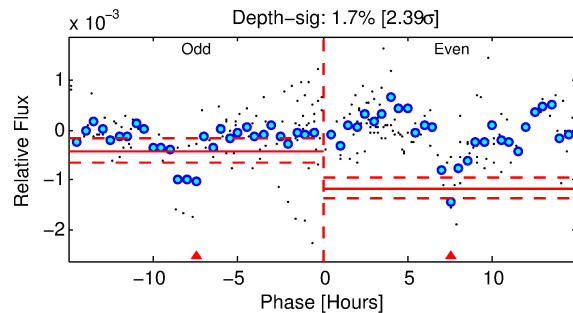
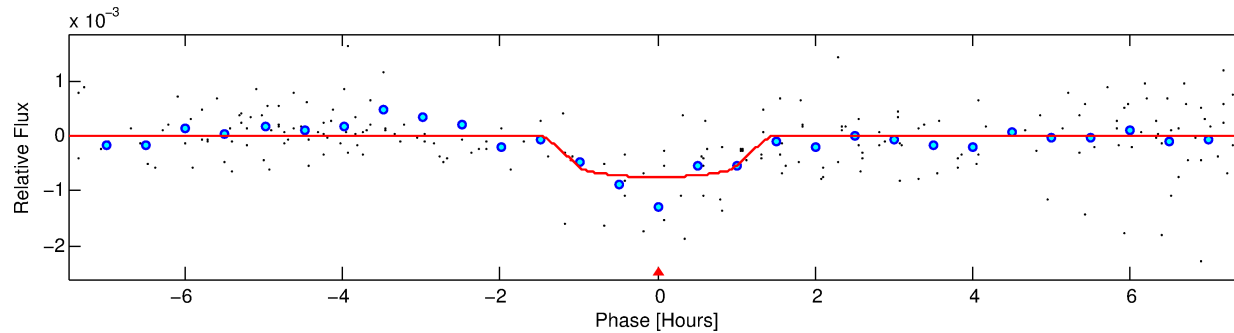
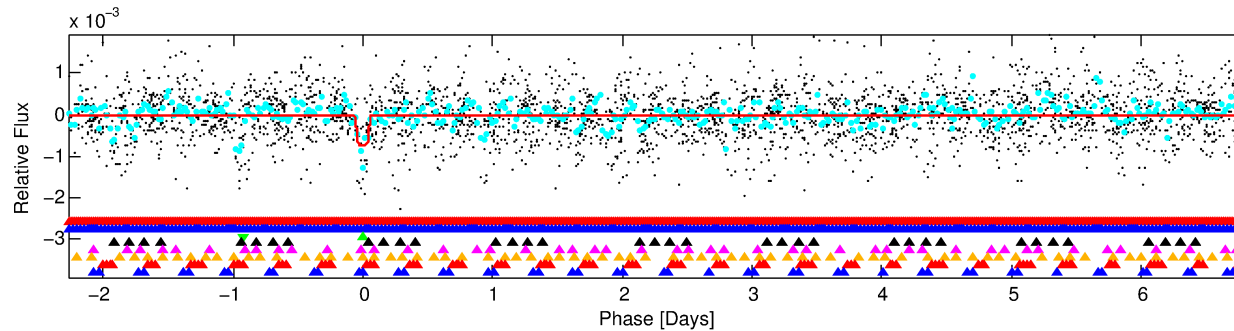
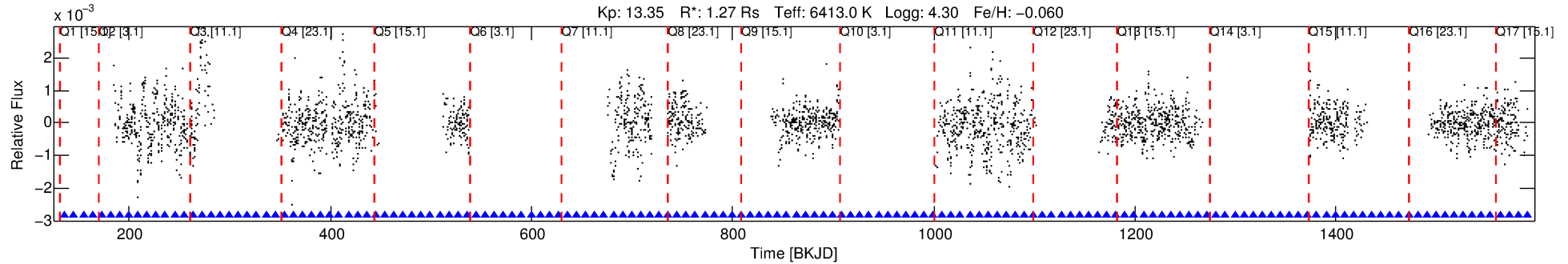
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004843152-03

No Significant Match Found

DV One-Page Summary

KIC: 4843152 Candidate: 3 of 8 Period: 9.087 d



DV Fit Results:

Period = 9.08718 [0.00011] d
Epoch = 136.1365 [0.0089] BKJD
Rp/R* = 0.0252 [0.0806]
a/R* = 28.15 [460.58]
b = 0.17 [93.07]
Seff = 302.14 [123.29]
Teff = 1063 [108] K
Rp = 3.49 [11.22] Re
a = 0.0899 [0.0240] AU
Ag = 226.99 [1454.94] [0.16 σ]
Teffp = 6380 [10207] K [0.52 σ]

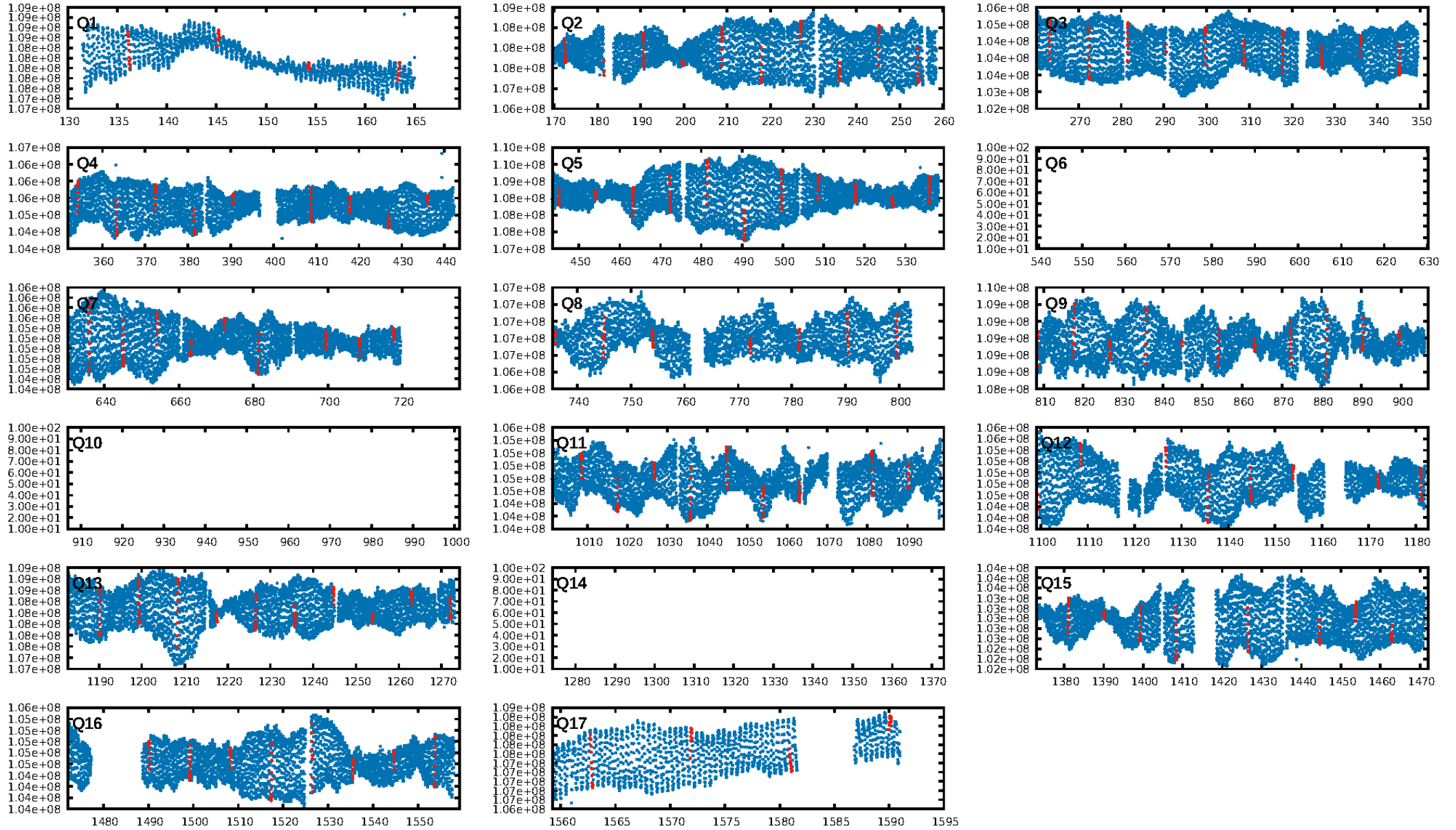
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [45.44 σ]
LongPeriod-sig: 100.0% [57.75 σ]
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: -0.1936
Centroid-sig: 1.6%
Centroid-so: 0.314 arcsec [2.60 σ]
OotOffset-rm: 0.070 arcsec [0.31 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-rm: 0.065 arcsec [0.40 σ]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.43 [6/14]
DiffImageOverlap-fno: 0.14 [2/14]

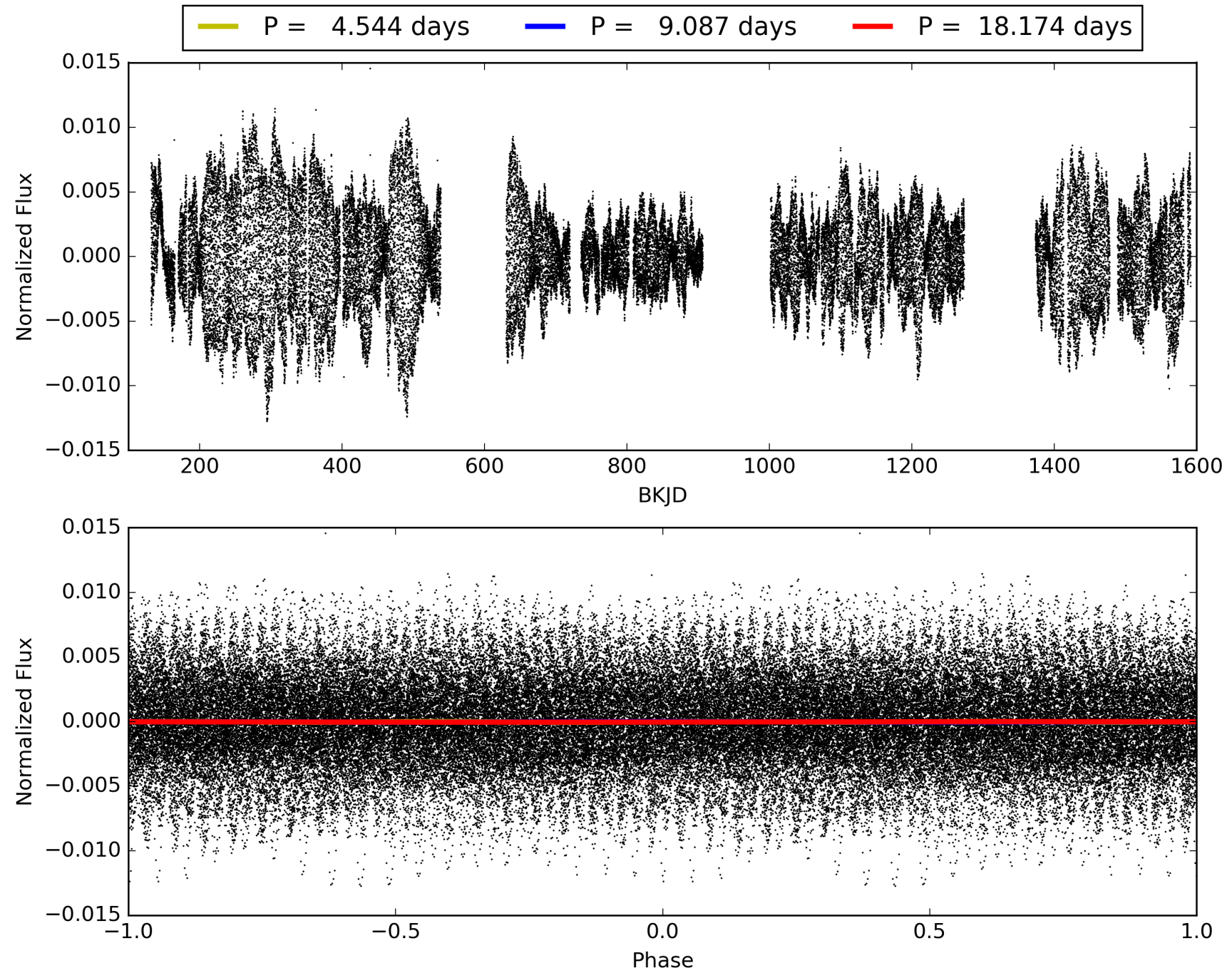
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:53:06 Z

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

TCE 004843152-03, PDC Light Curves

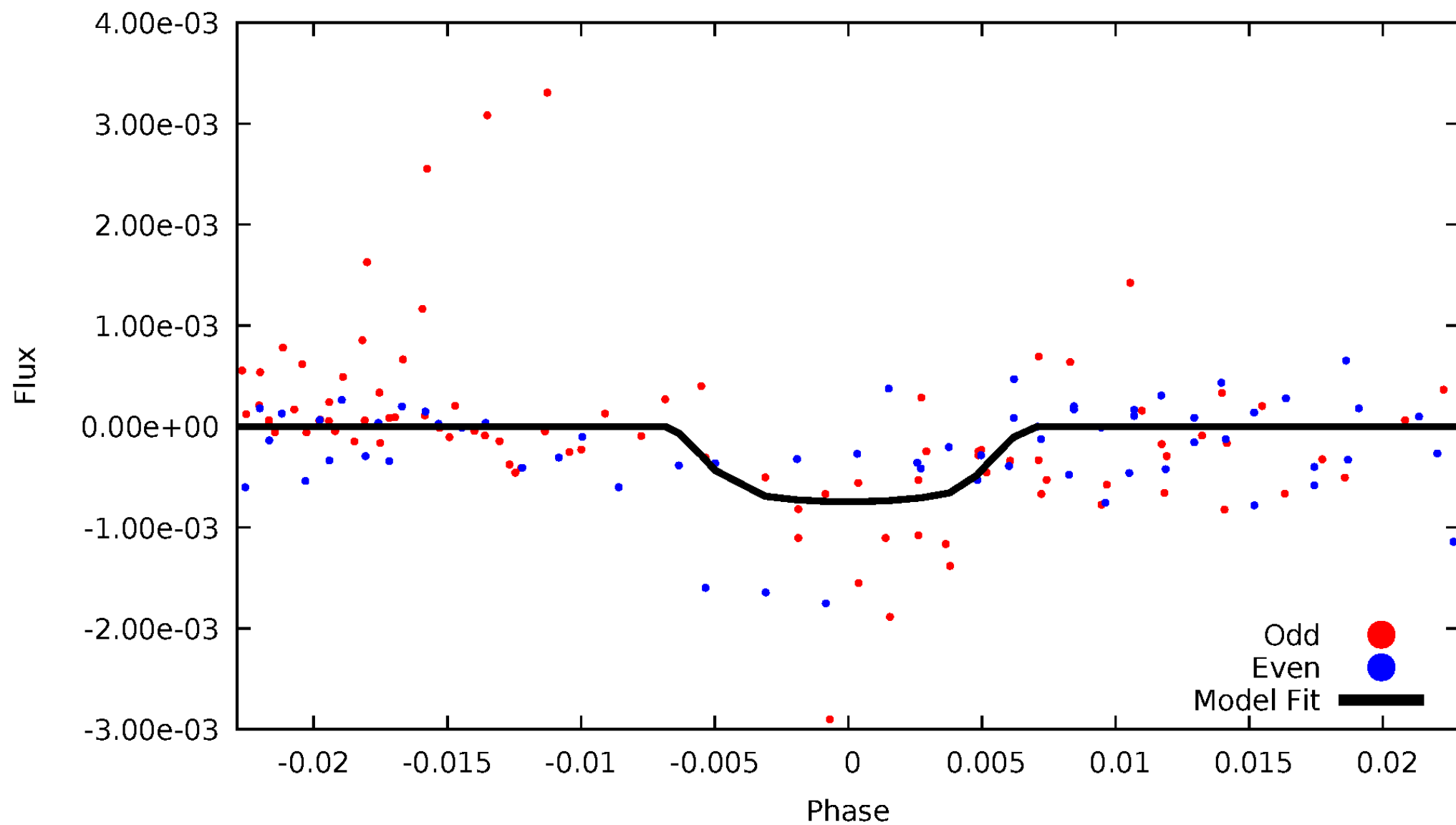


TCE 004843152-03



DV Odd/Even

TCE 004843152-03

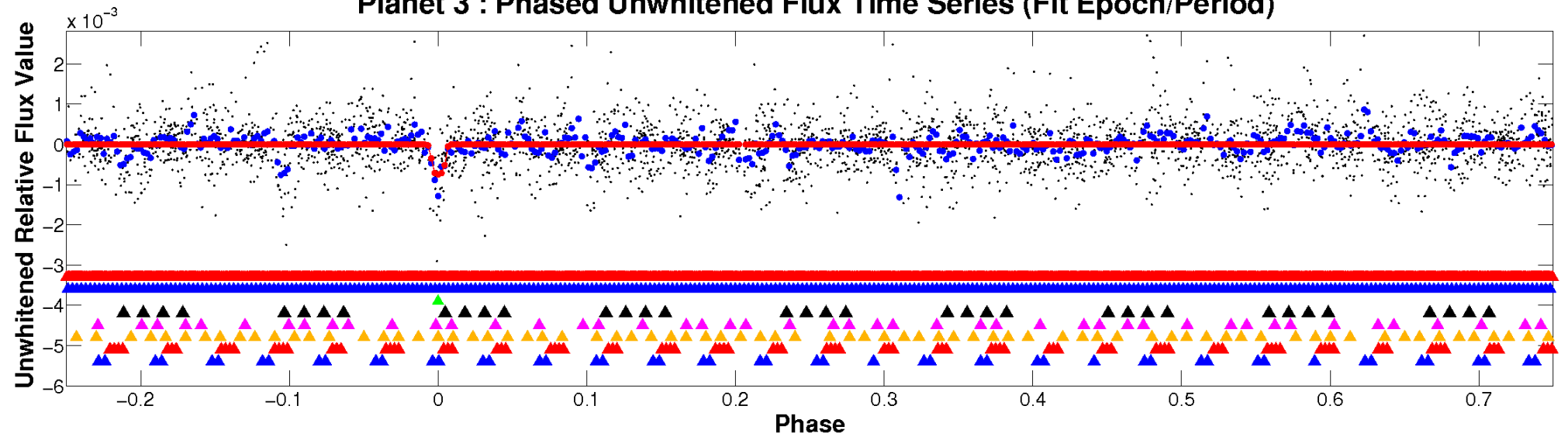


ALT Odd/Even

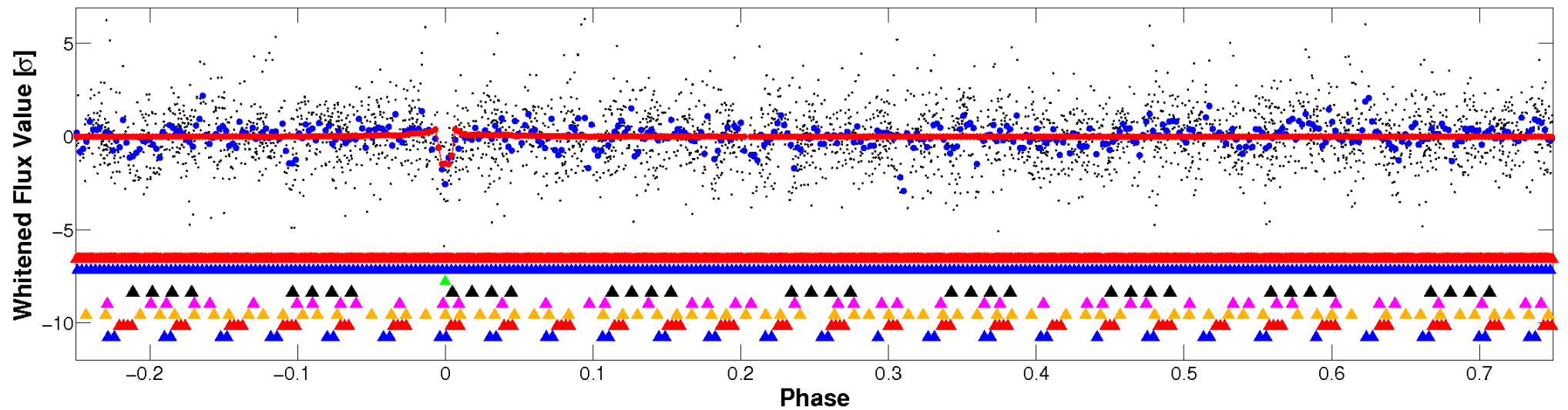
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

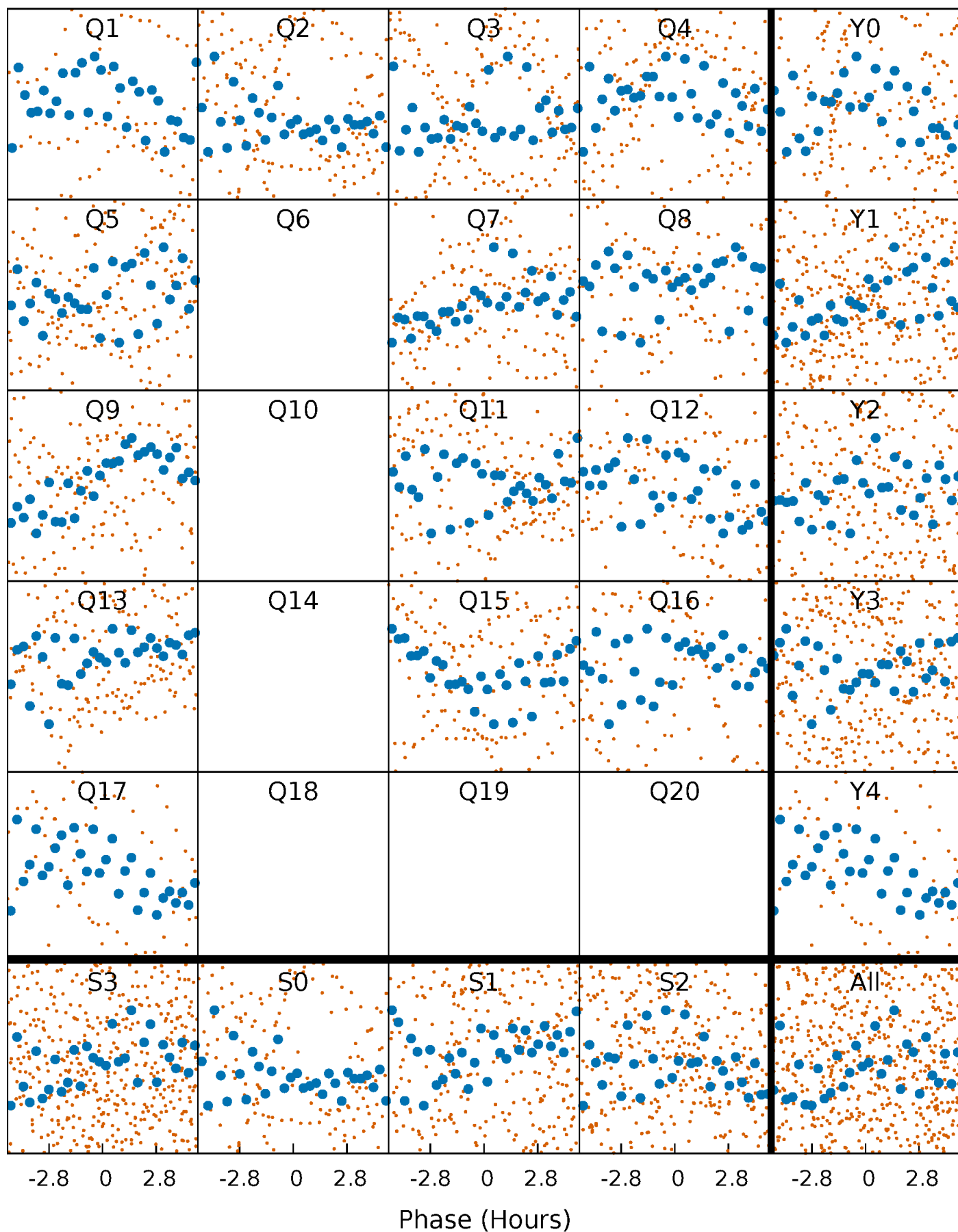


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



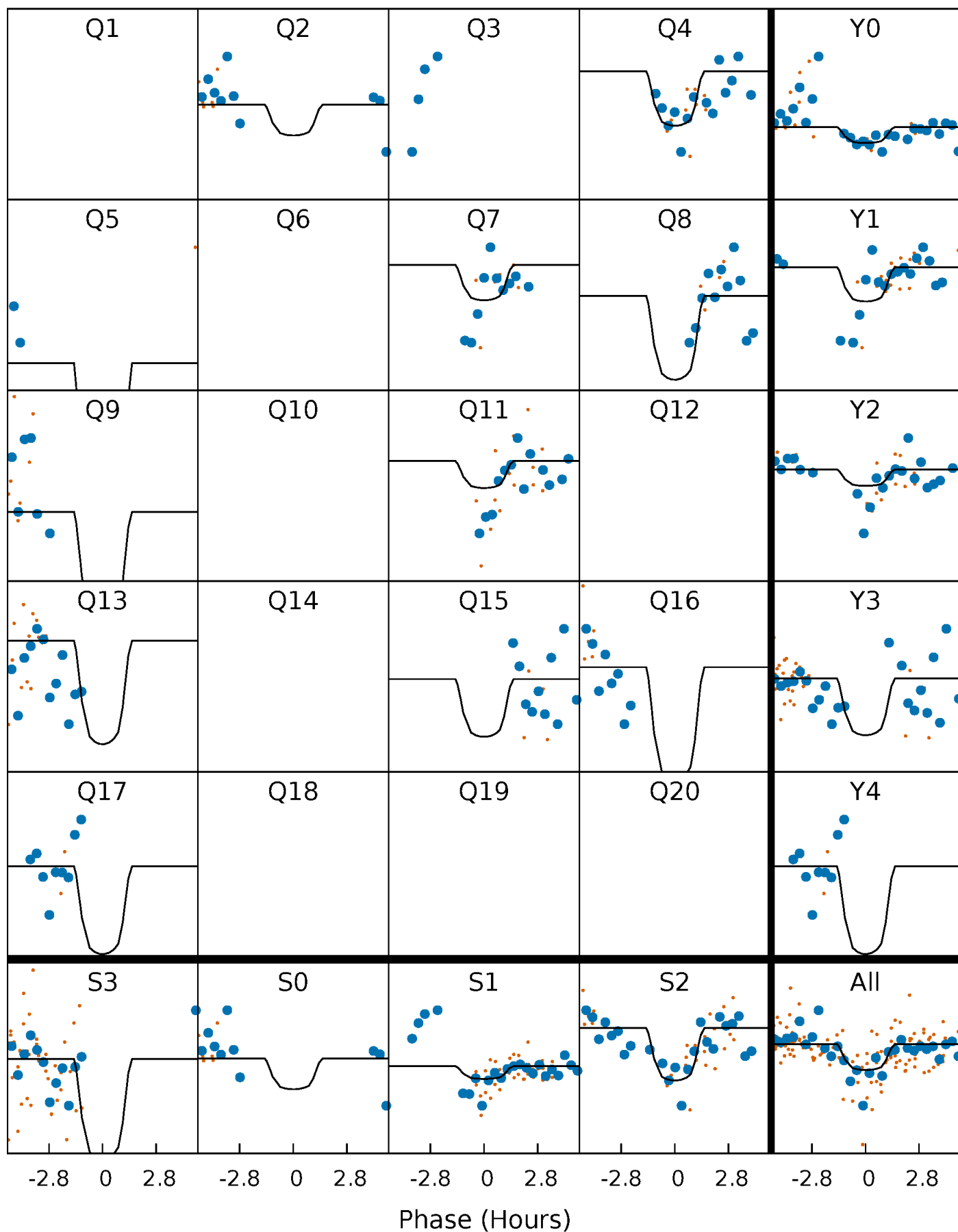
PDC Quarter-Phased Transit Curves

TCE 004843152-03 P= 9.087175 Days $T_0=136.136526$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004843152-03 P= 9.087175 Days $T_0=136.136526$ (BKJD)

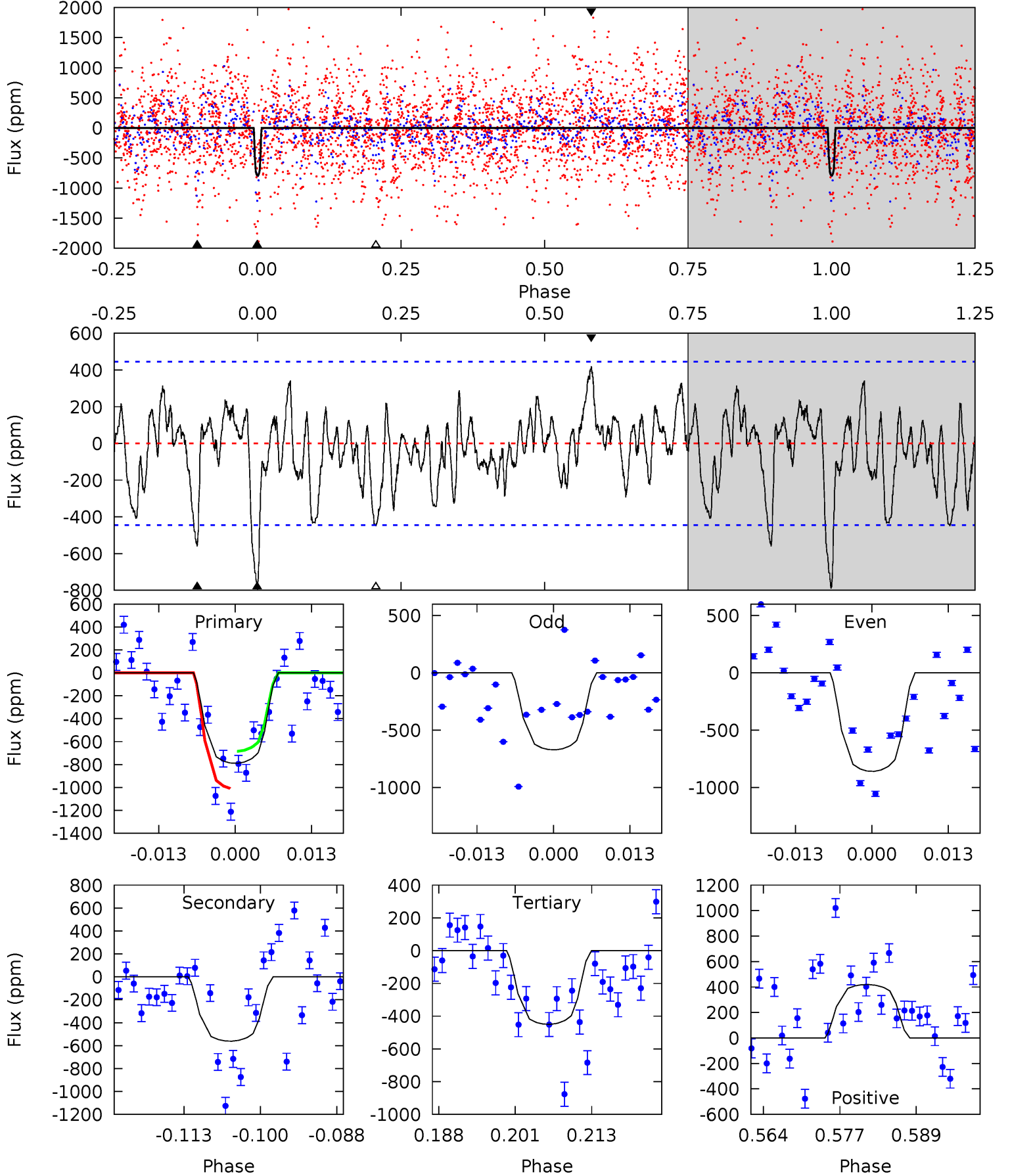


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

004843152-03, P = 9.087175 Days, E = 136.136526 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.84	6.28	5.04	4.69	4.98	2.50	1.67	3.80	4.14	1.24	1.59	1.04	1.47	0.35	0



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 004843152

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6413^{+153}_{-211}	$4.300^{+0.105}_{-0.210}$	$-0.060^{+0.250}_{-0.300}$	$1.269^{+0.405}_{-0.218}$	$1.172^{+0.181}_{-0.163}$	$0.808^{+0.407}_{-0.433}$
	+2%/-3%	+2%/-5%	+417%/-500%	+32%/-17%	+15%/-14%	+50%/-54%
Source	PHO1	KIC0	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 004843152-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-561 ± 89	$9.71^{+10.01}_{-6.72}$	1507^{+114}_{-88}	4089^{+2631}_{-841}	26^{+240}_{-19}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

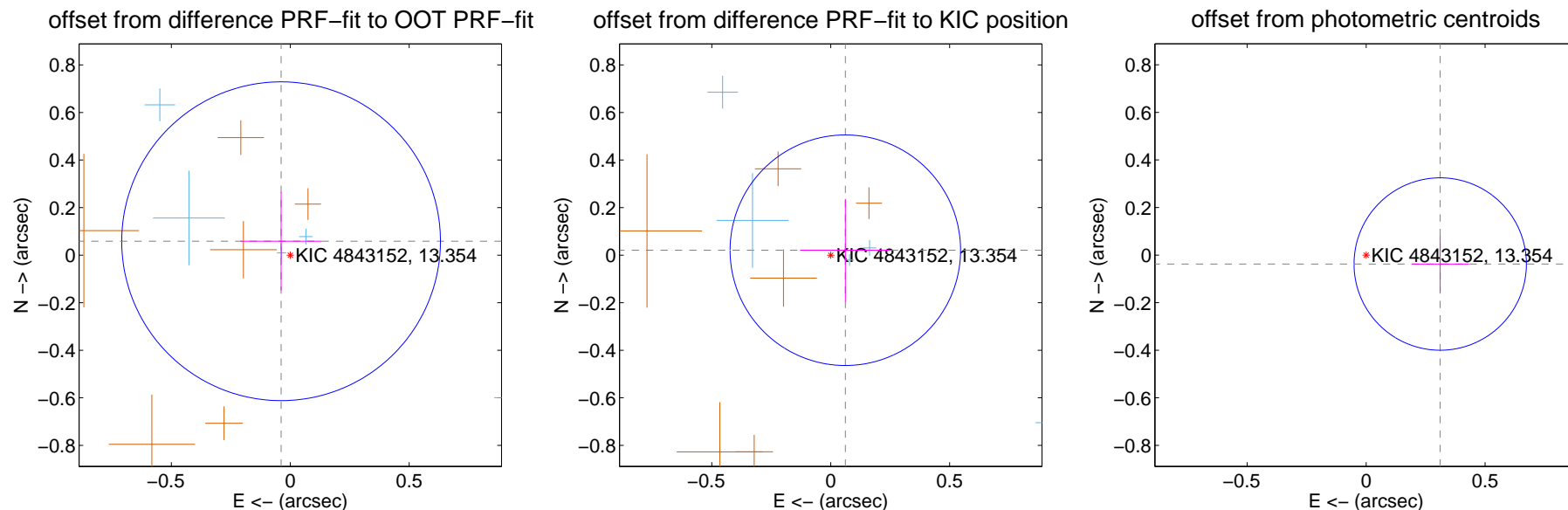
DV Centroid Data

Supplemental centroid analysis for 004843152-03. Kepler magnitude: 13.35. Transit SNR 7.39

There are 6 quarters with good PRF difference image offsets

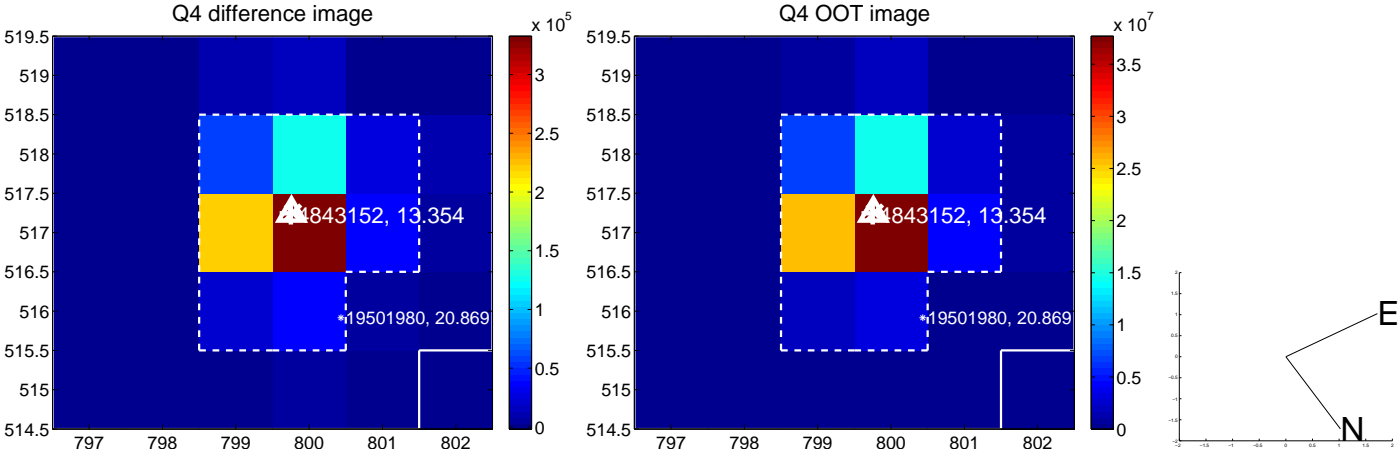
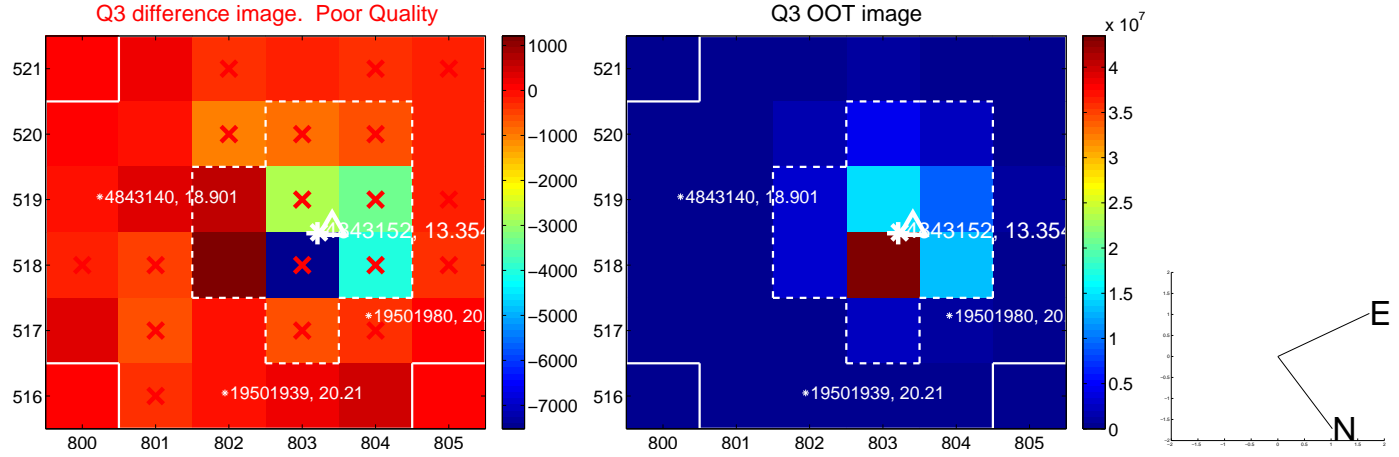
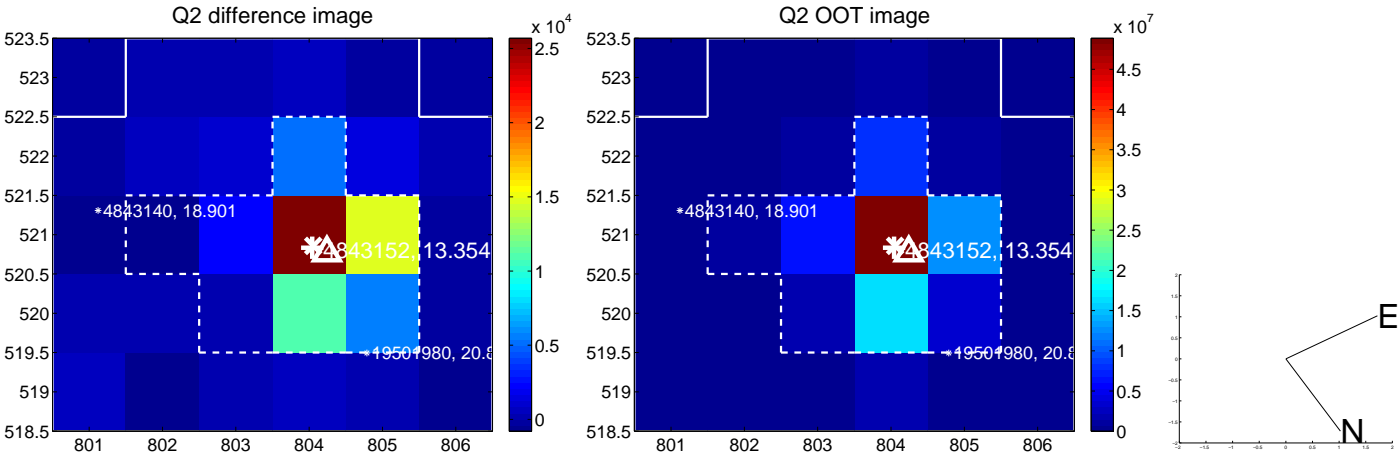
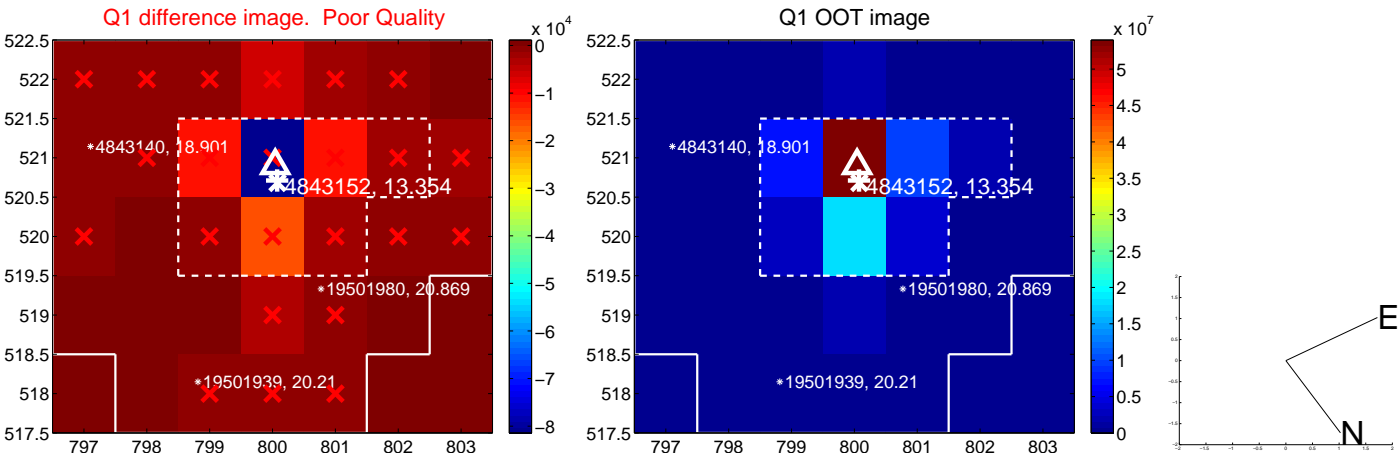
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.070 ± 0.223	0.31	0.039 ± 0.171	0.059 ± 0.207
PRF-fit source offset from KIC position	0.065 ± 0.162	0.40	-0.061 ± 0.190	0.021 ± 0.215
photometric centroid source offset	0.31 ± 0.12	2.60	-0.31 ± 0.12	-0.04 ± 0.12

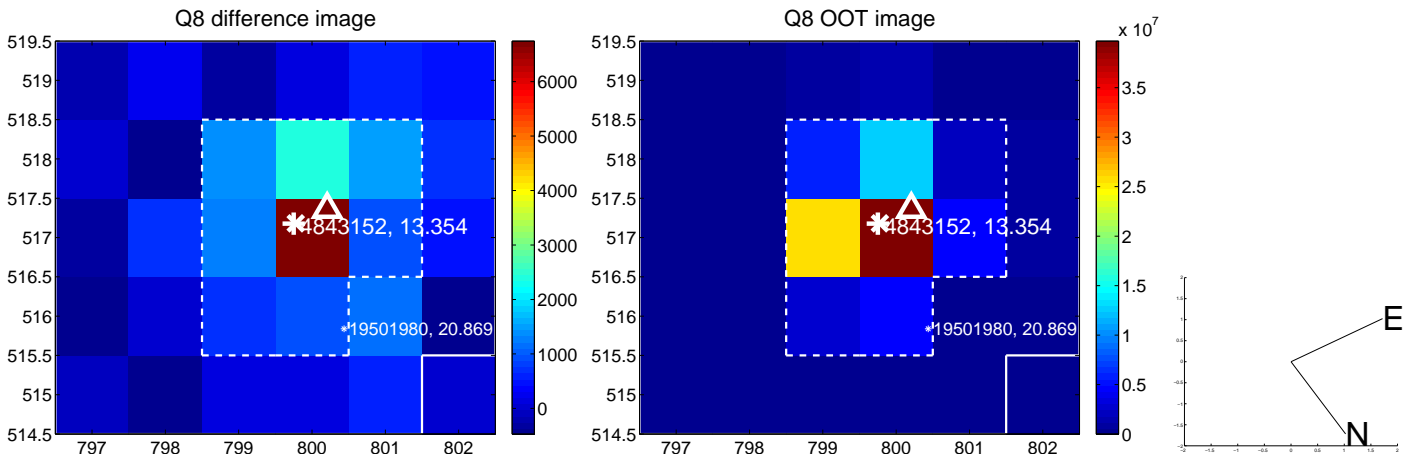
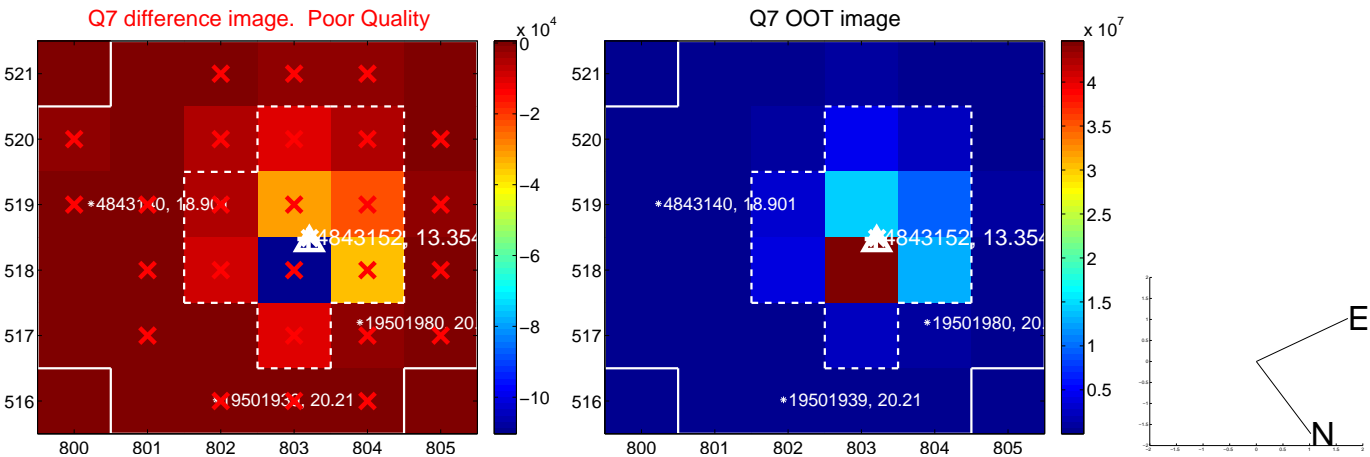
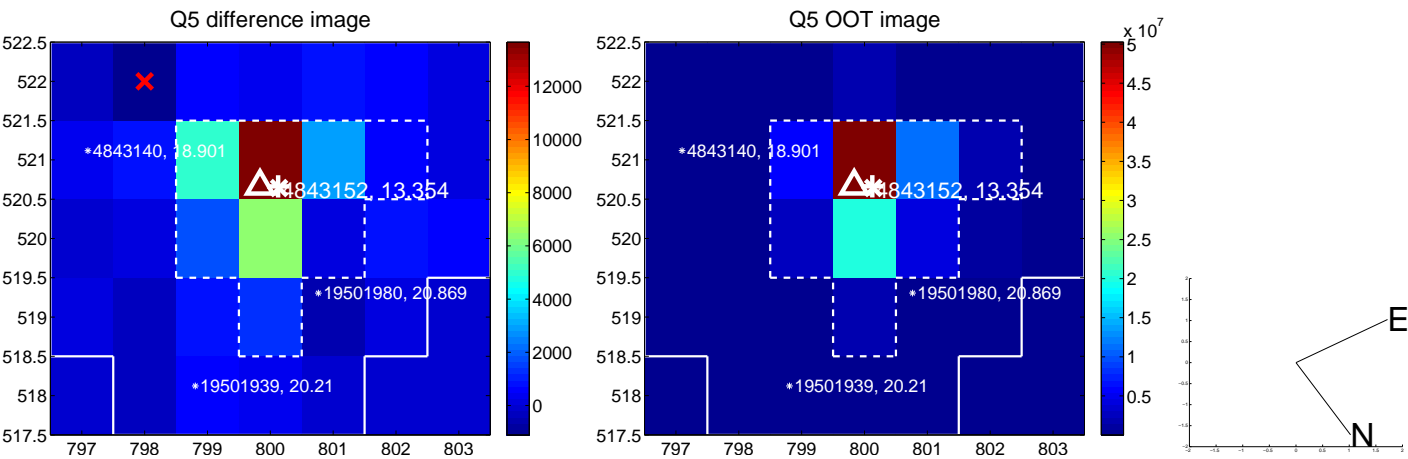


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

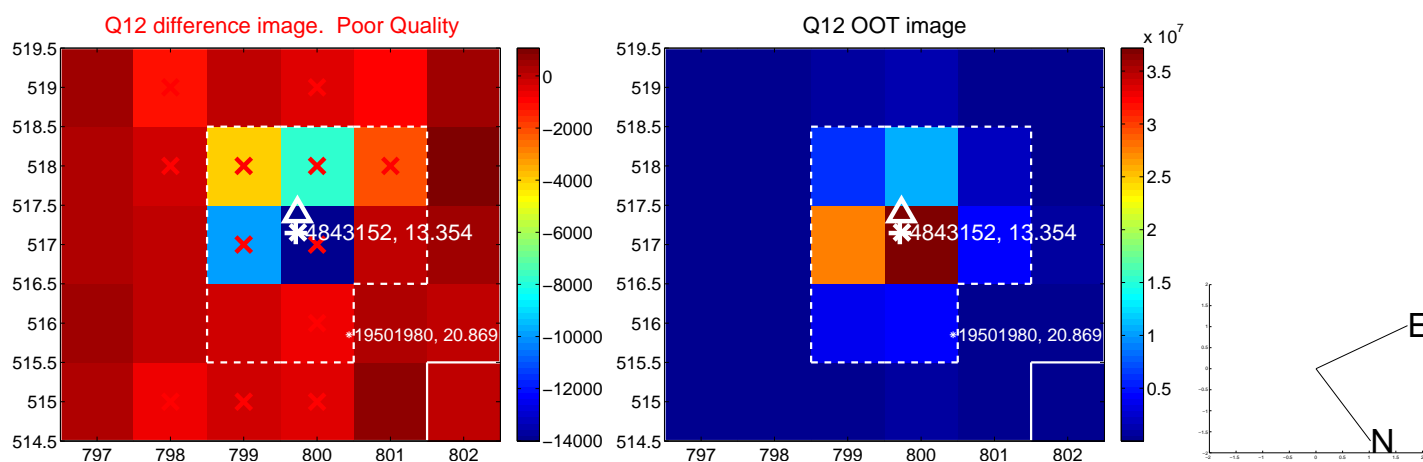
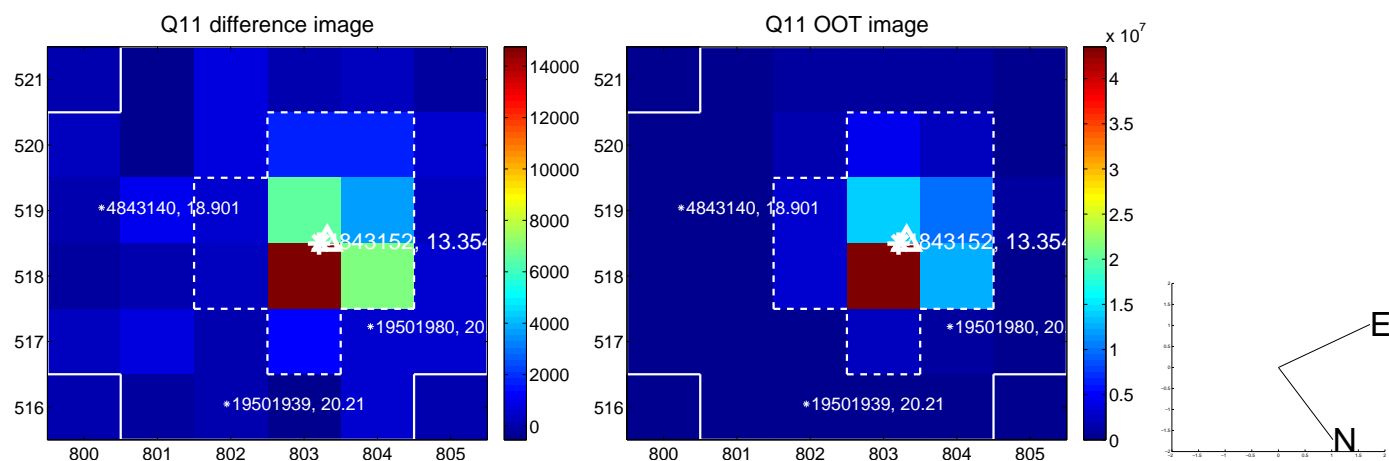
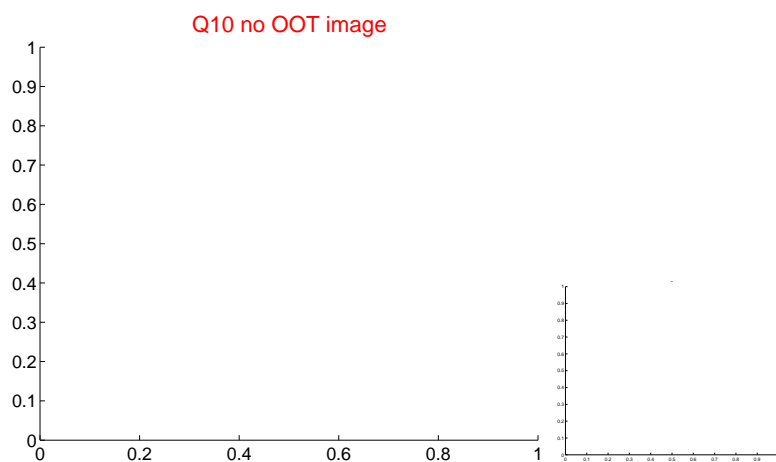
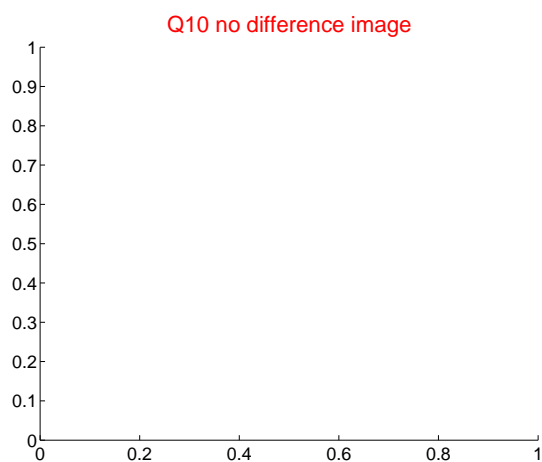
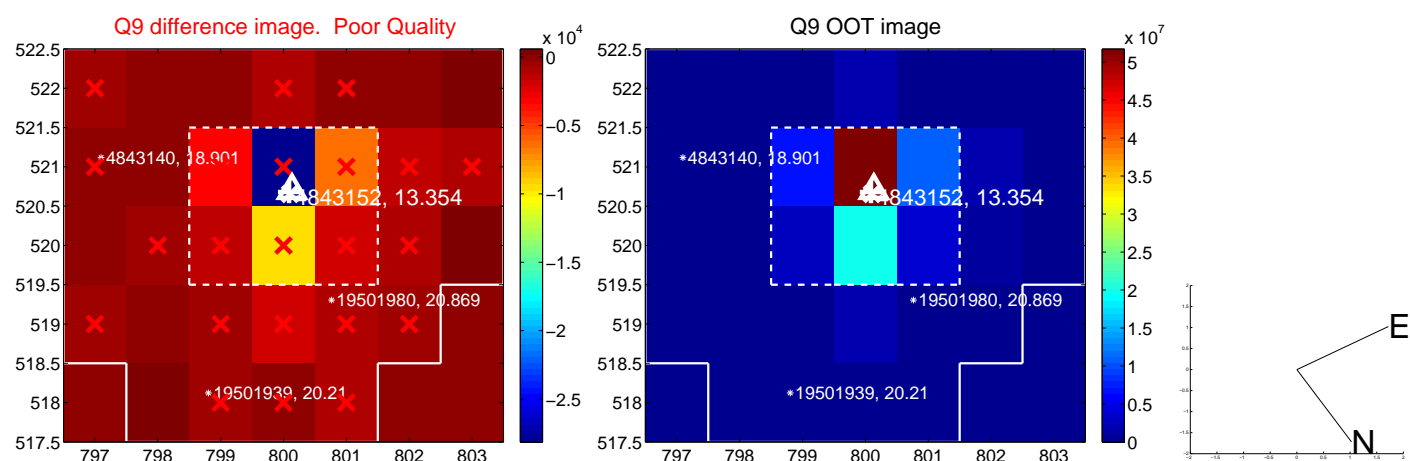
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



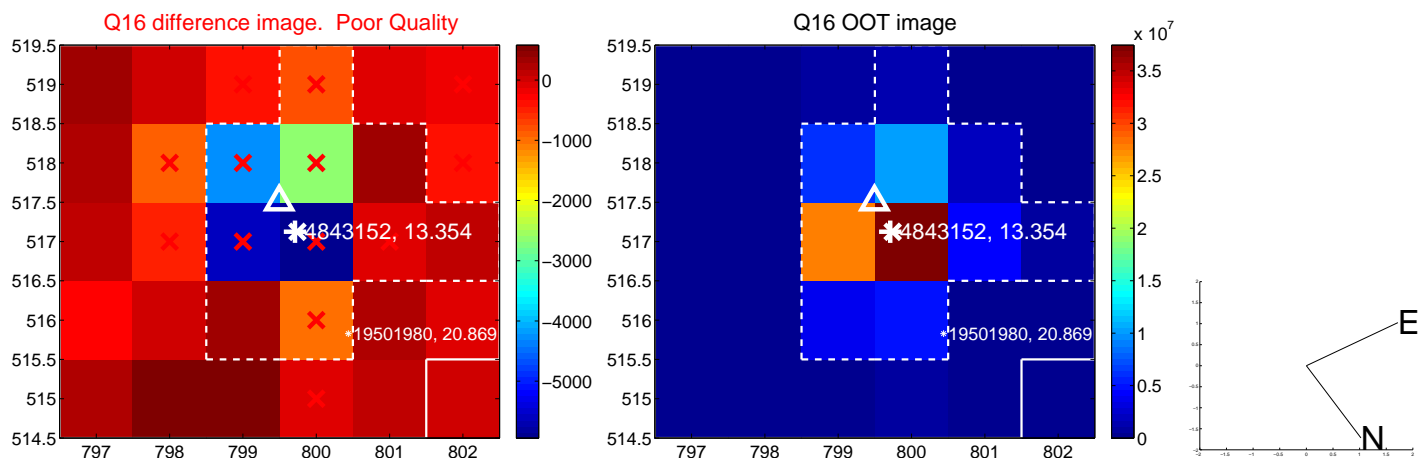
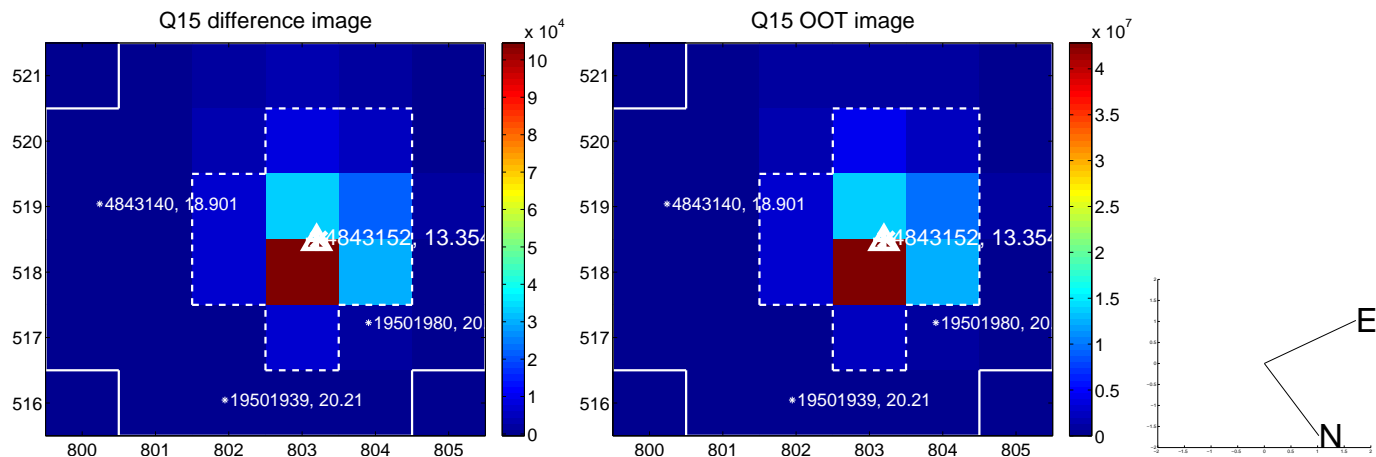
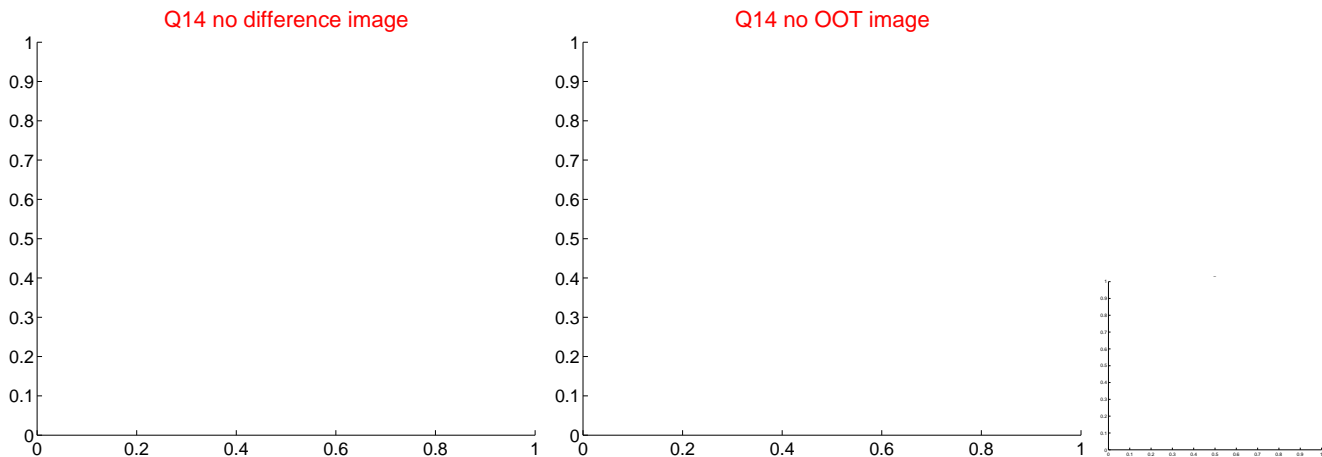
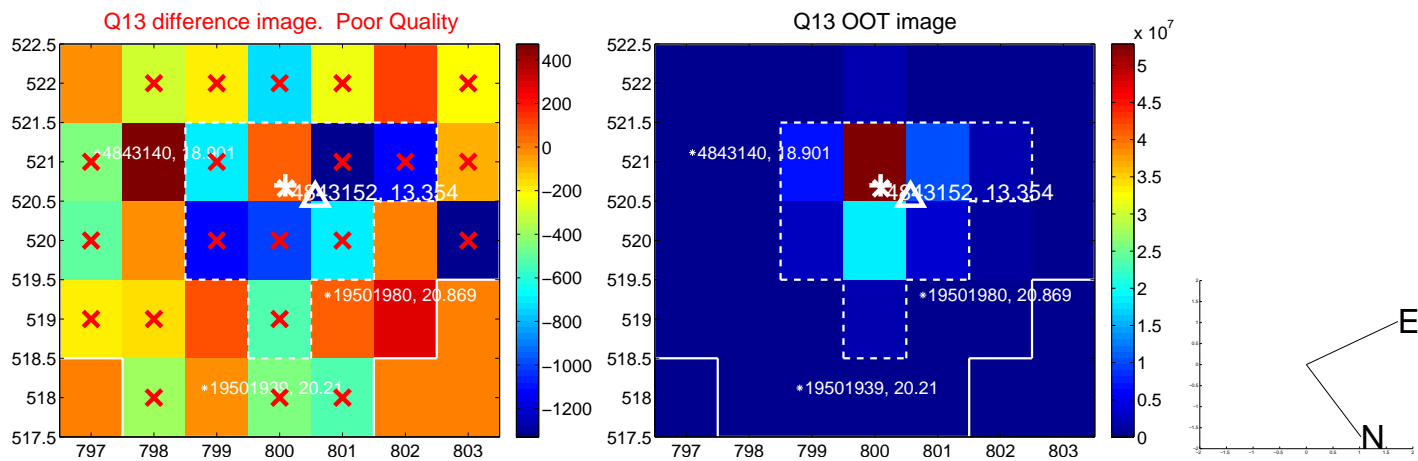
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



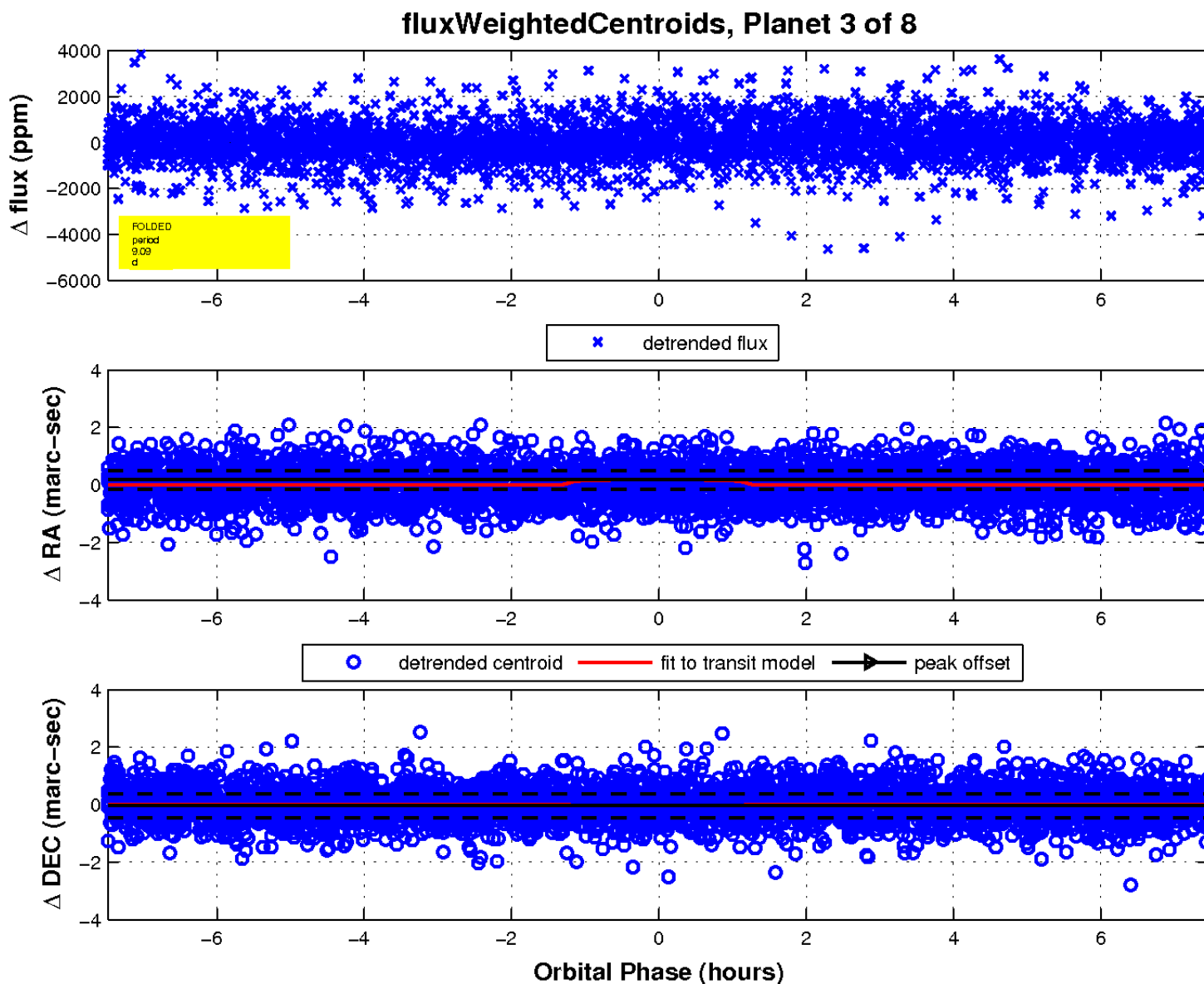
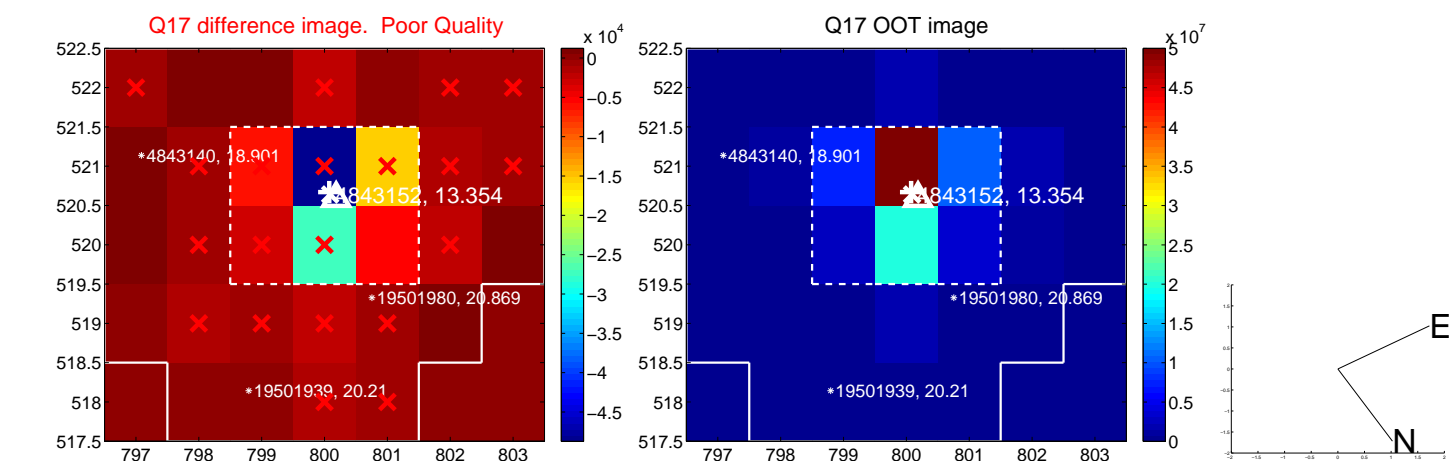
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



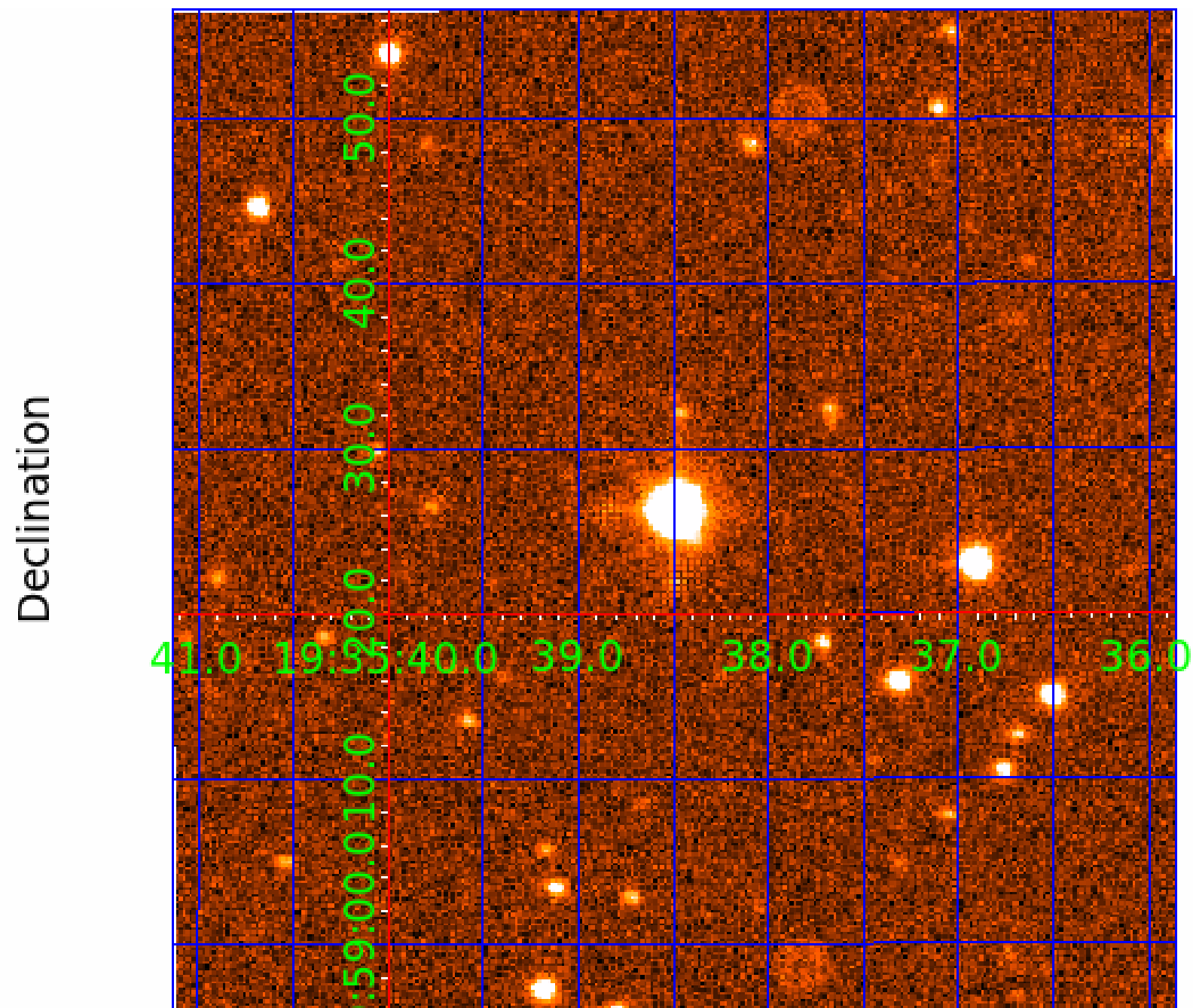
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



KIC 004843152

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})
004843152-01	OBS	No	0.963626	132.323766	42.2	3.492	7.2	4.5	1.27	6413	0.97	6019.62
004843152-02	OBS	No	0.957984	131.959384	34.1	6.583	8.0	2.3	1.27	6413	0.77	6066.94
004843152-03	OBS	No	9.087175	136.136526	746.8	2.493	12.3	7.4	1.27	6413	3.49	302.14
004843152-04	OBS	No	40.400853	160.372452	1456.0	1.678	12.9	10.6	1.27	6413	5.21	41.33
004843152-05	OBS	No	30.590288	158.354089	587.4	10.073	10.5	5.9	1.27	6413	3.25	59.89
004843152-06	OBS	No	19.598008	133.593272	1120.2	3.278	10.4	8.9	1.27	6413	5.81	108.43
004843152-07	OBS	No	15.480892	137.582723	1263.1	0.918	9.8	9.0	1.27	6413	4.61	148.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004843152-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004843152-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV
004843152-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—HALO_GHOST
004843152-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
004843152-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

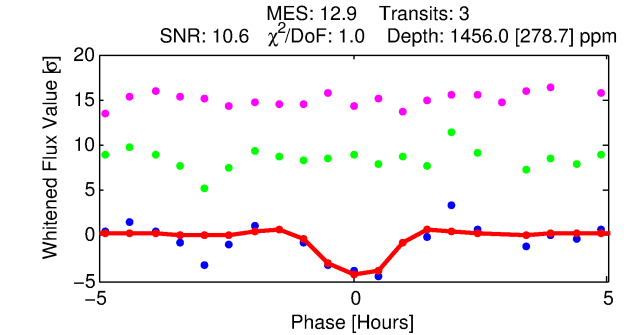
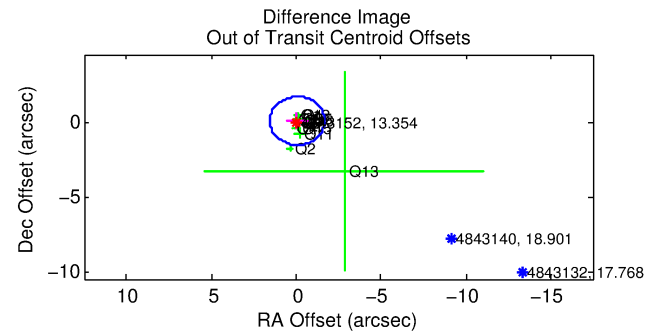
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004843152-04

No Significant Match Found

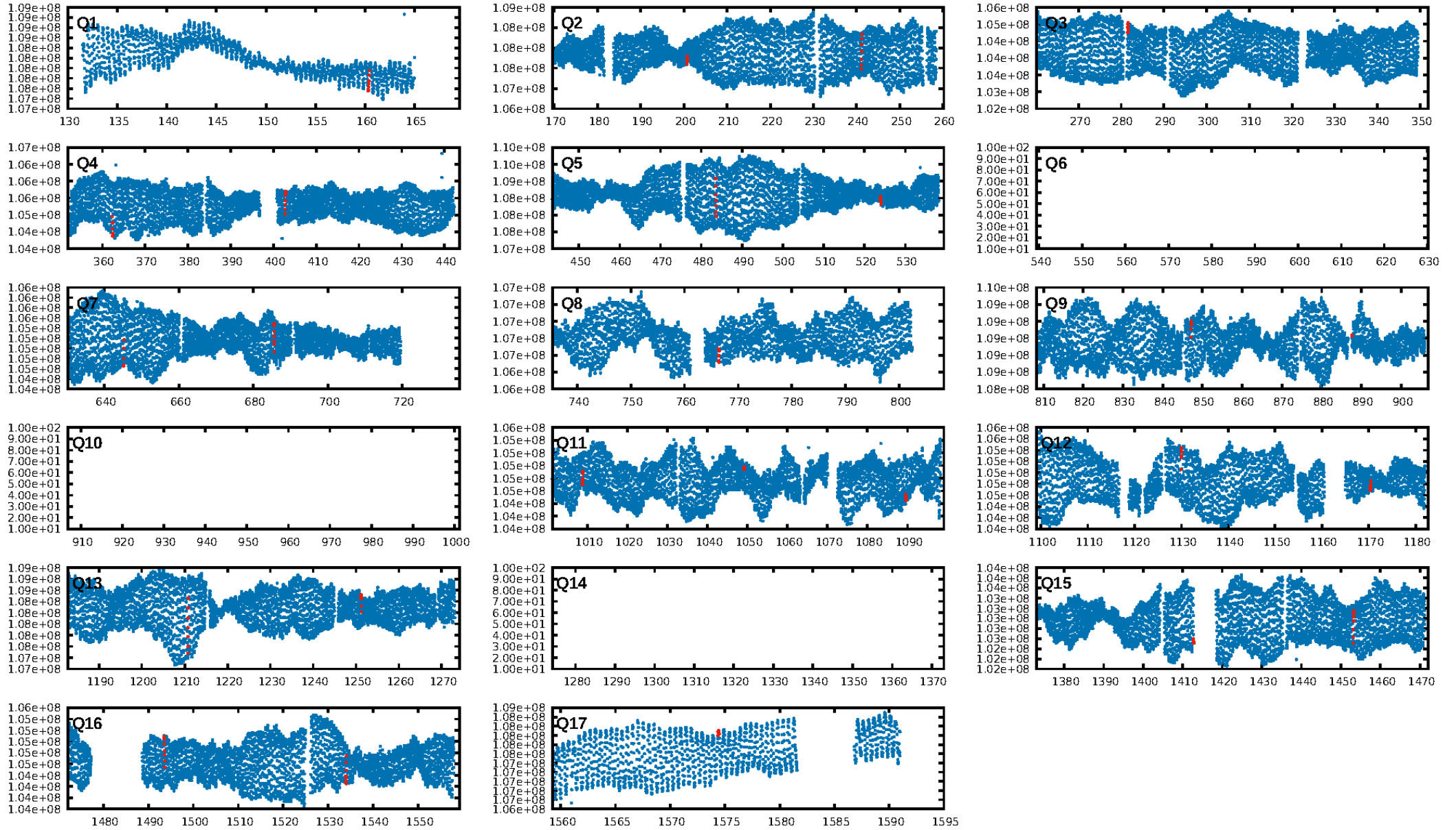
KIC: 4843152 Candidate: 4 of 8 Period: 40.401 d



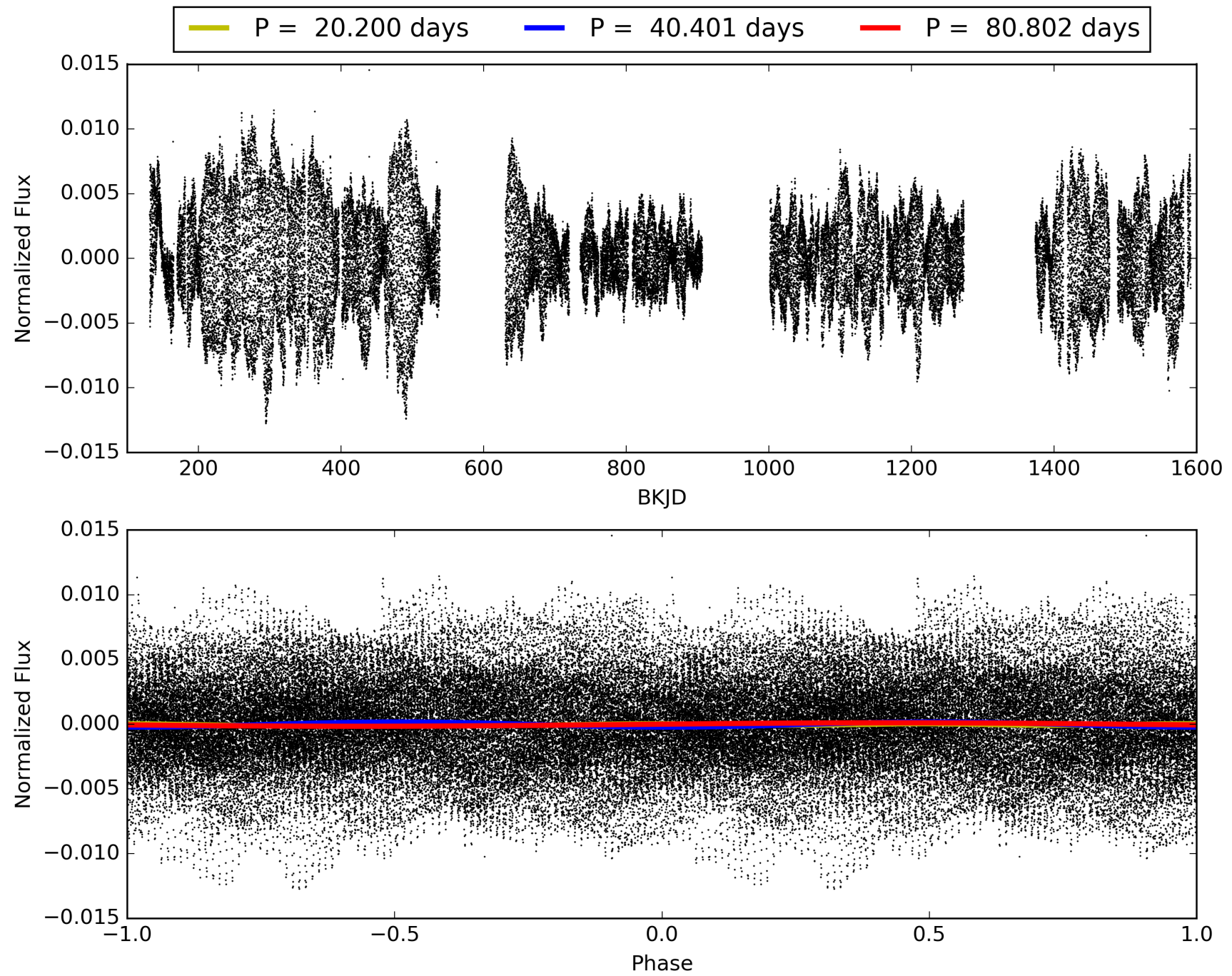
ShortPeriod-sig: 100.0% [23.06σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 76.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 0.5792

Centroid-sig: 0.0%
Centroid-so: 0.286 arcsec [1.77σ]
OotOffset-rm: 0.080 arcsec [0.15σ]
KicOffset-rm: 0.139 arcsec [0.24σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 0.14 [2/14]

TCE 004843152-04, PDC Light Curves

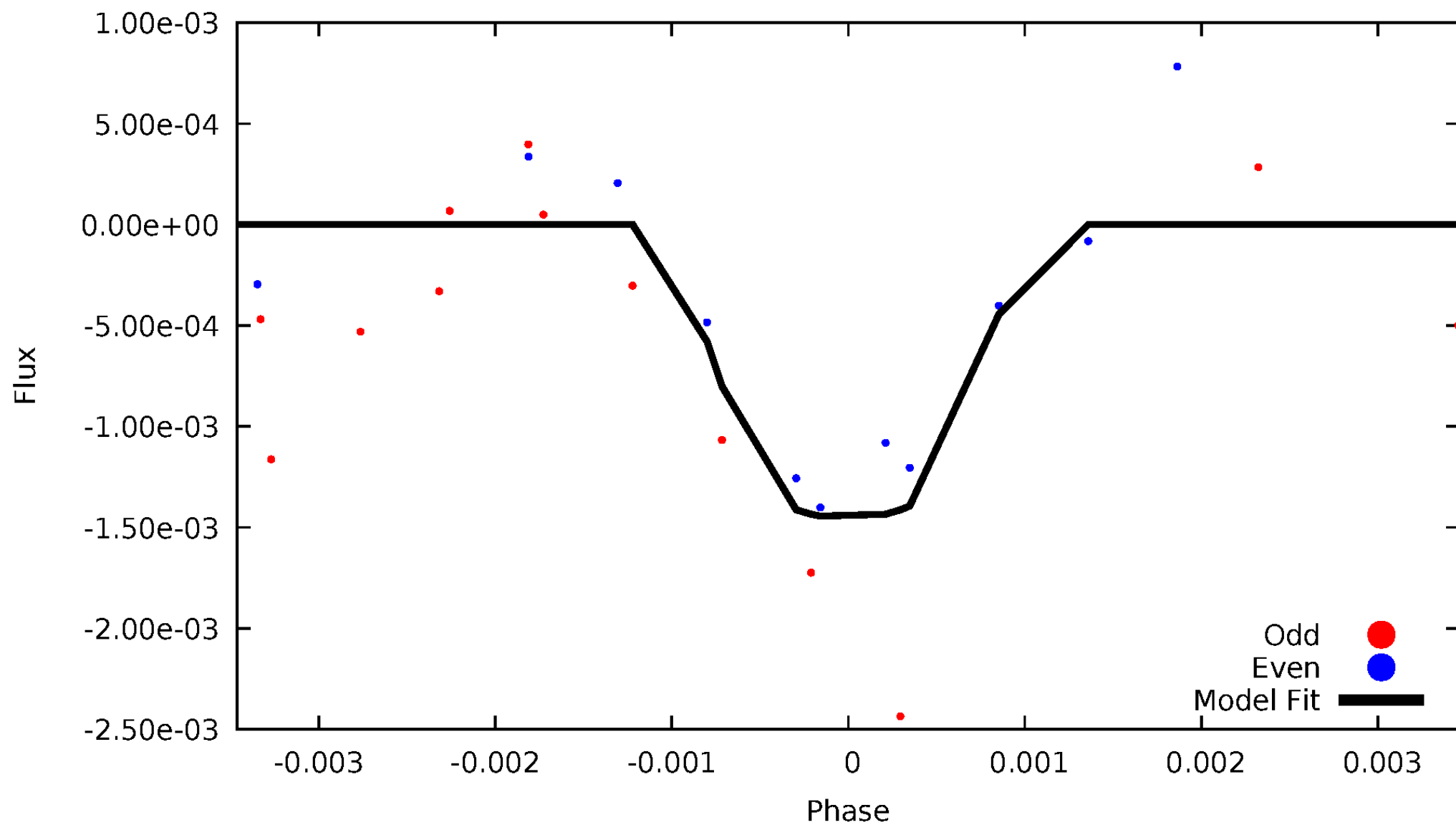


TCE 004843152-04



DV Odd/Even

TCE 004843152-04

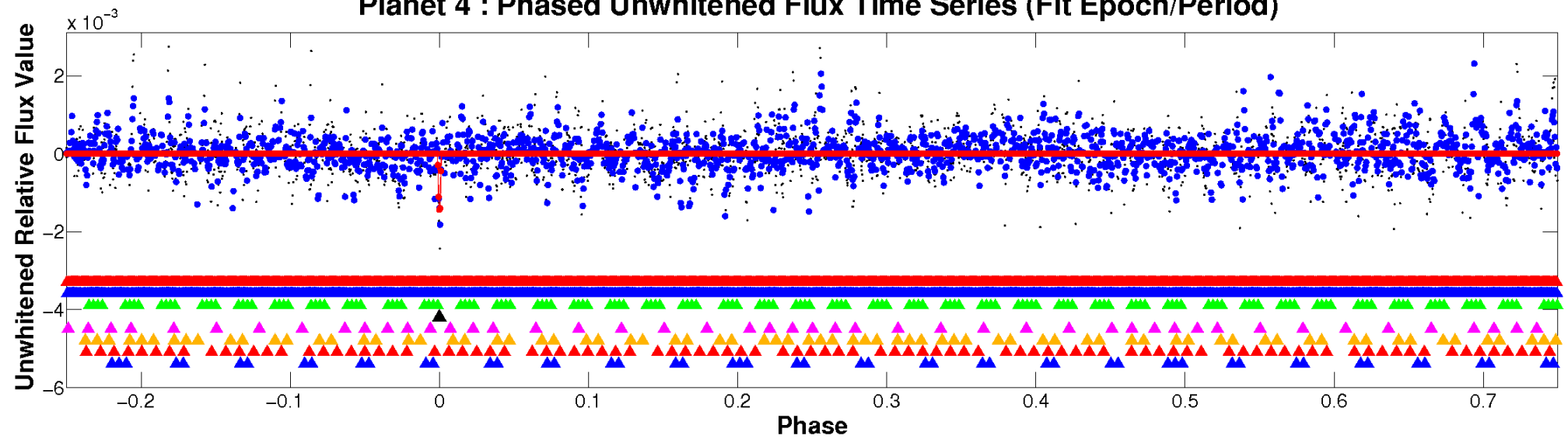


ALT Odd/Even

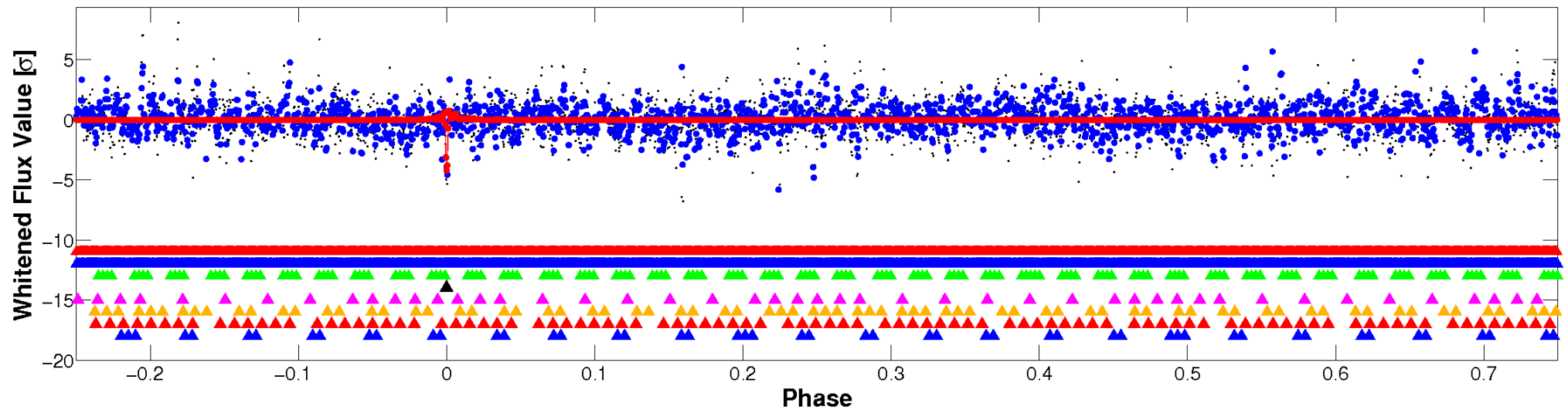
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



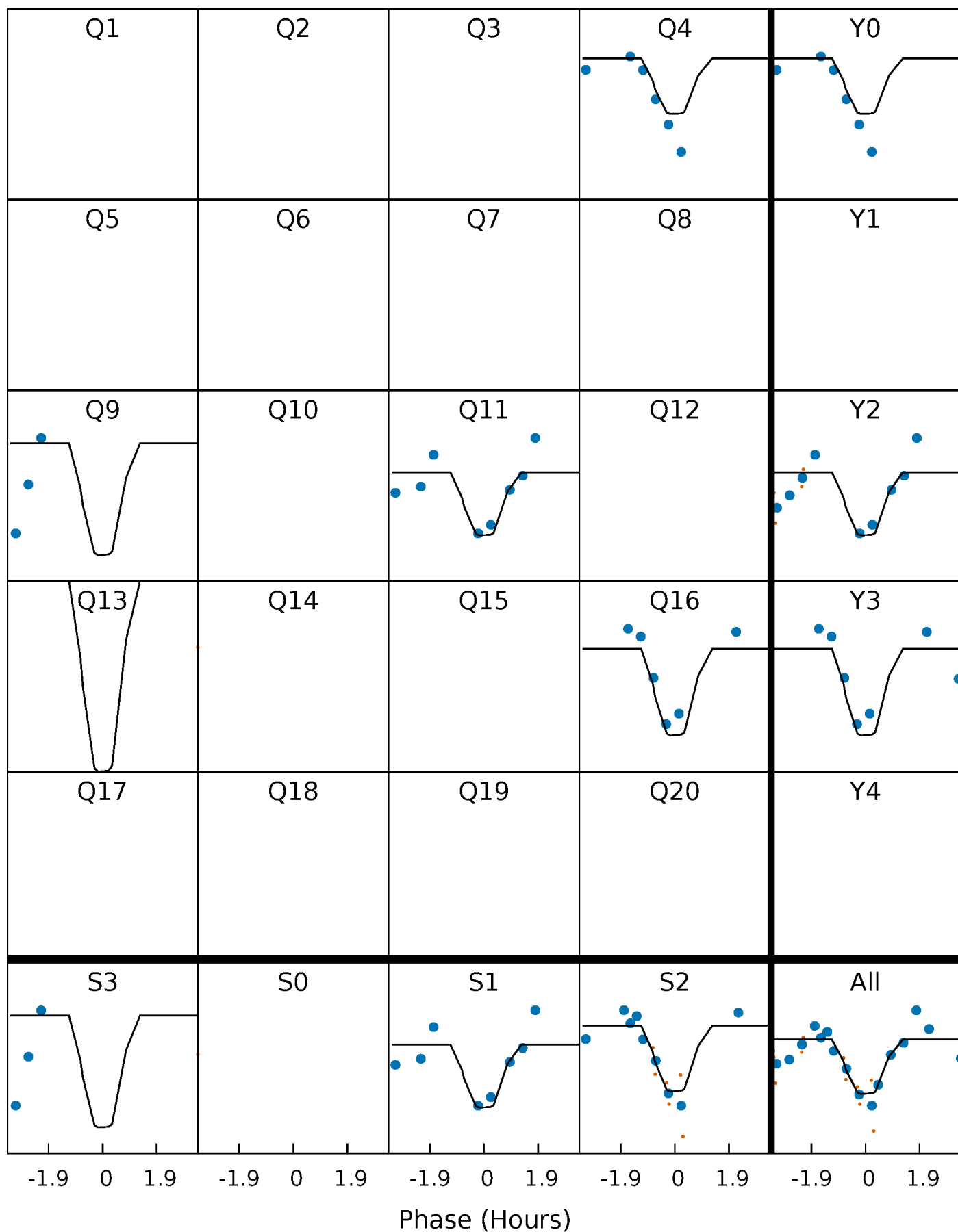
PDC Quarter-Phased Transit Curves

TCE 004843152-04 $P = 40.400853$ Days $T_0 = 160.372452$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004843152-04 P= 40.400853 Days $T_0=160.372452$ (BKJD)

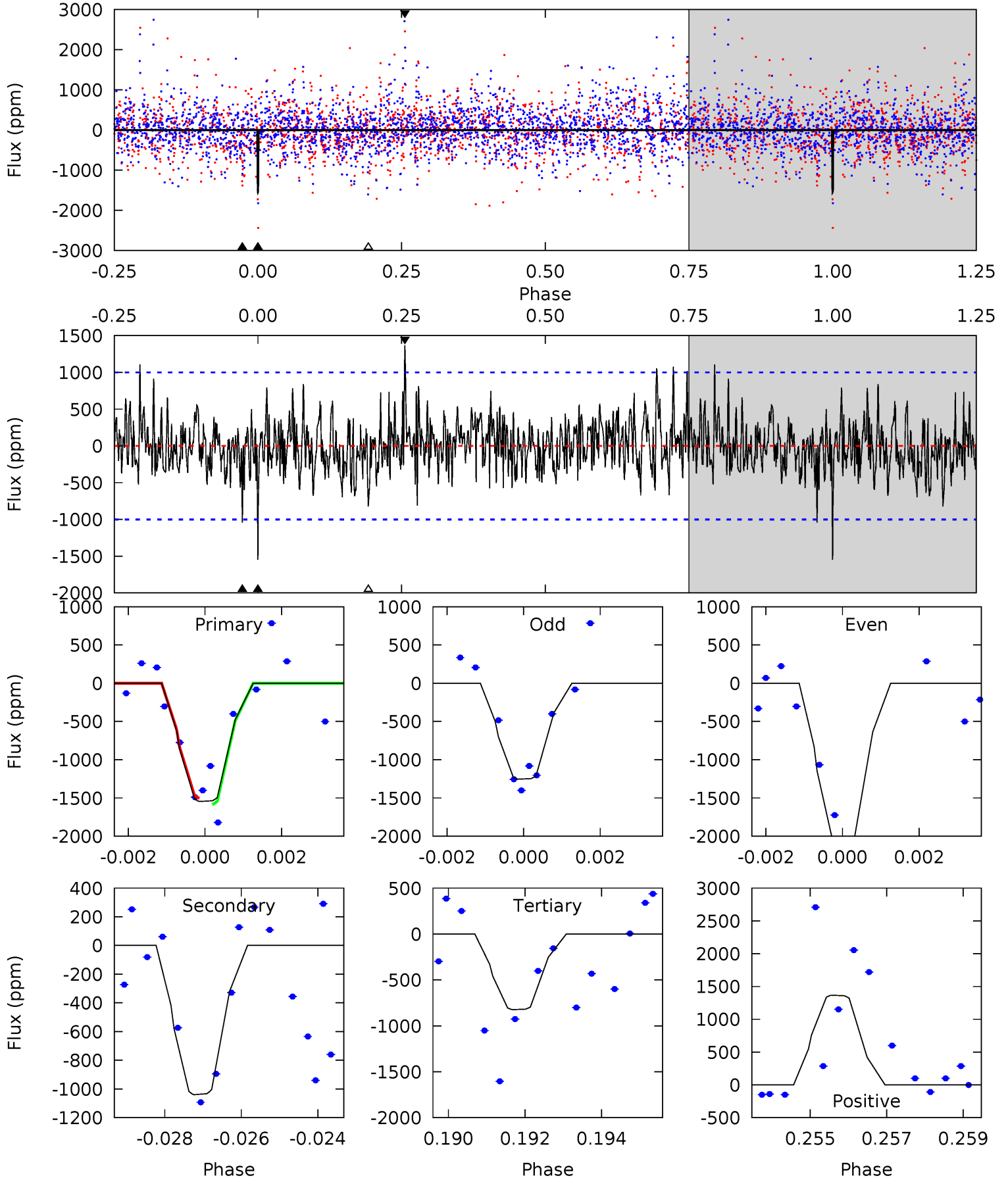


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

004843152-04, P = 40.400853 Days, E = 160.372452 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.21	5.52	4.37	7.26	5.31	3.07	1.52	3.84	0.95	1.15	-1.74	2.07	1.16	0.47	0.22



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 004843152

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6413^{+153}_{-211}	$4.300^{+0.105}_{-0.210}$	$-0.060^{+0.250}_{-0.300}$	$1.269^{+0.405}_{-0.218}$	$1.172^{+0.181}_{-0.163}$	$0.808^{+0.407}_{-0.433}$
	+2%/-3%	+2%/-5%	+417%/-500%	+32%/-17%	+15%/-14%	+50%/-54%
Source	PHO1	KIC0	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 004843152-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1040 ± 188	$63.36^{+68.15}_{-43.76}$	921^{+62}_{-56}	2550^{+1039}_{-427}	$8.122^{+83.570}_{-6.242}$
Alt.	N/A	N/A	N/A	N/A	N/A

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

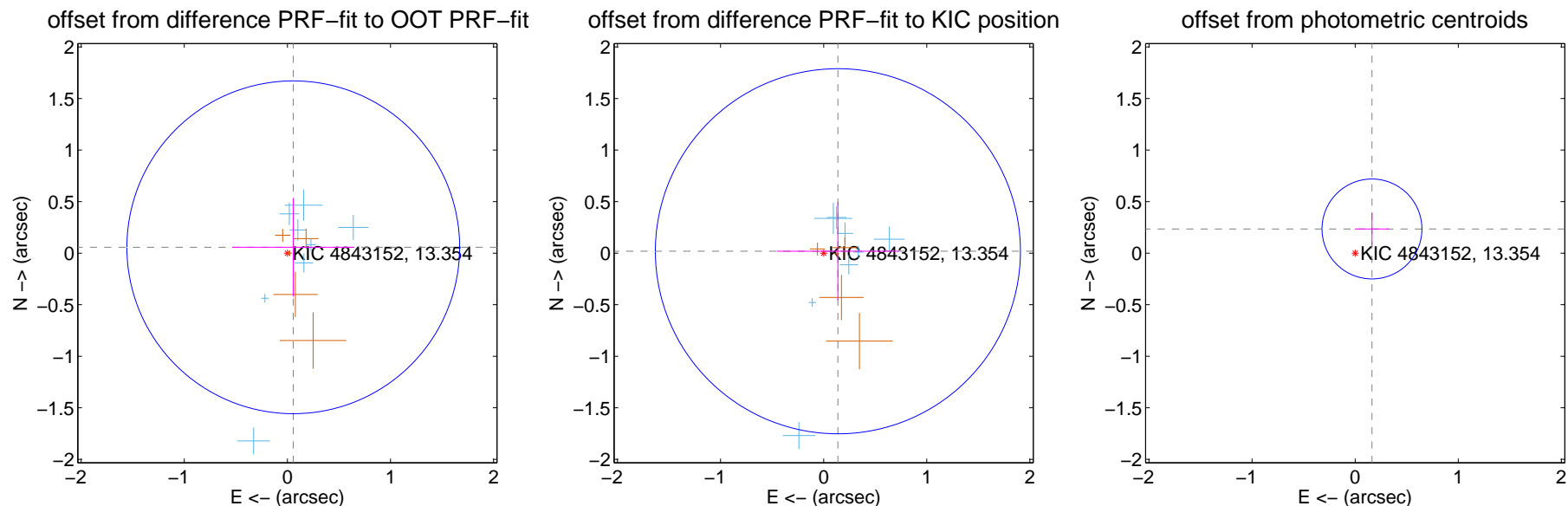
DV Centroid Data

Supplemental centroid analysis for 004843152-04. Kepler magnitude: 13.35. Transit SNR 10.60

There are 8 quarters with good PRF difference image offsets

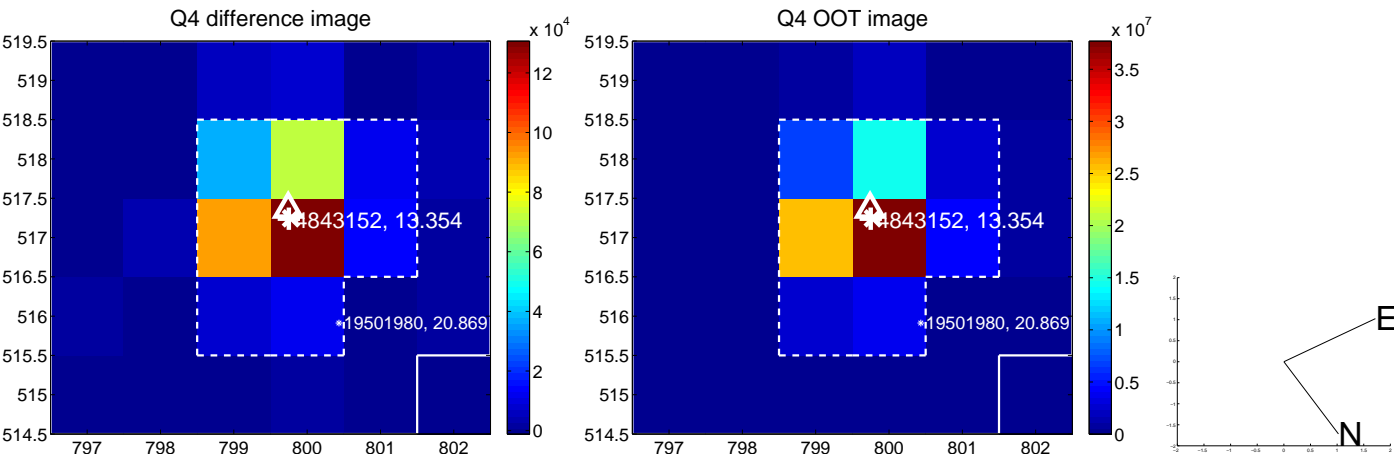
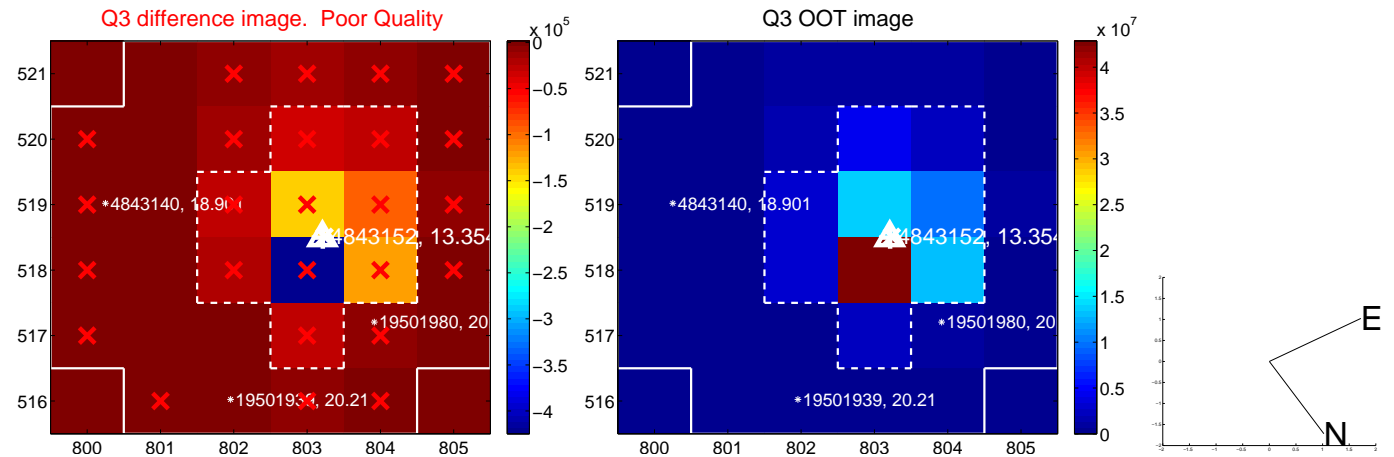
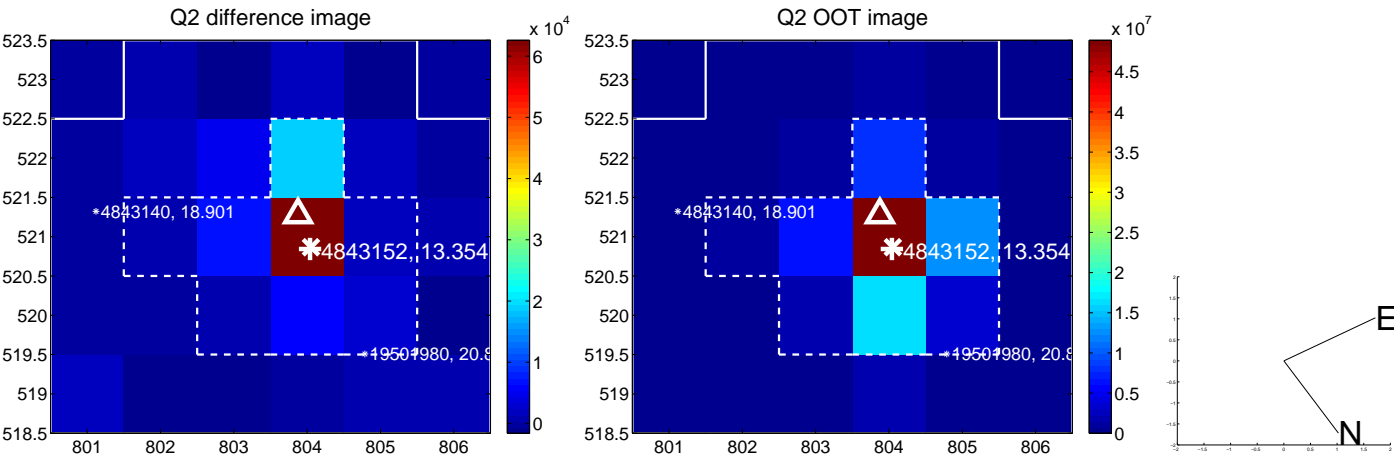
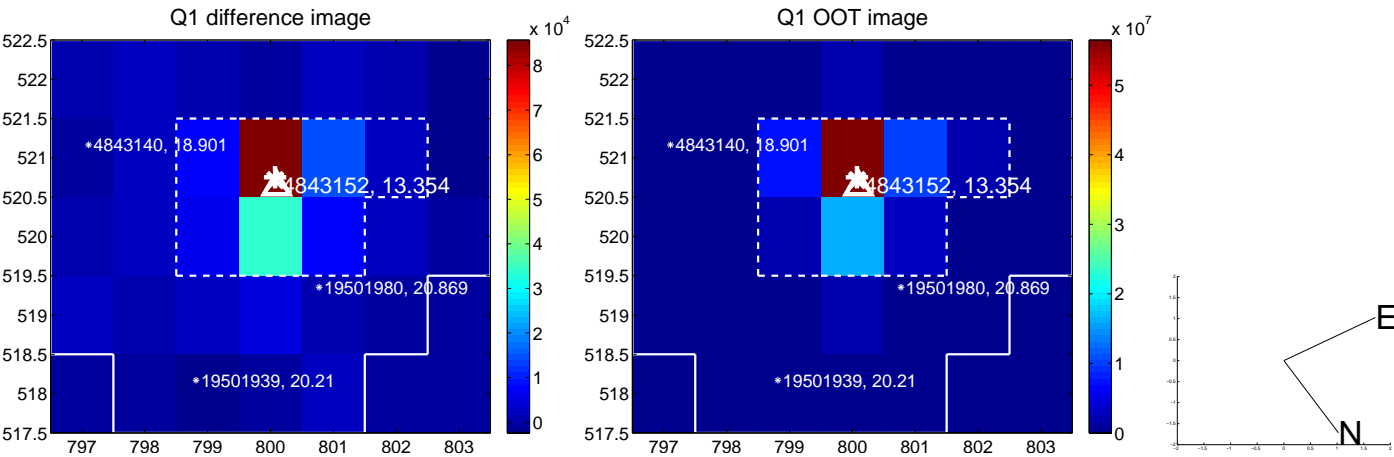
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.080 ± 0.538	0.15	-0.057 ± 0.592	0.057 ± 0.477
PRF-fit source offset from KIC position	0.139 ± 0.590	0.24	-0.138 ± 0.592	0.019 ± 0.477
photometric centroid source offset	0.29 ± 0.16	1.77	-0.16 ± 0.17	0.23 ± 0.16

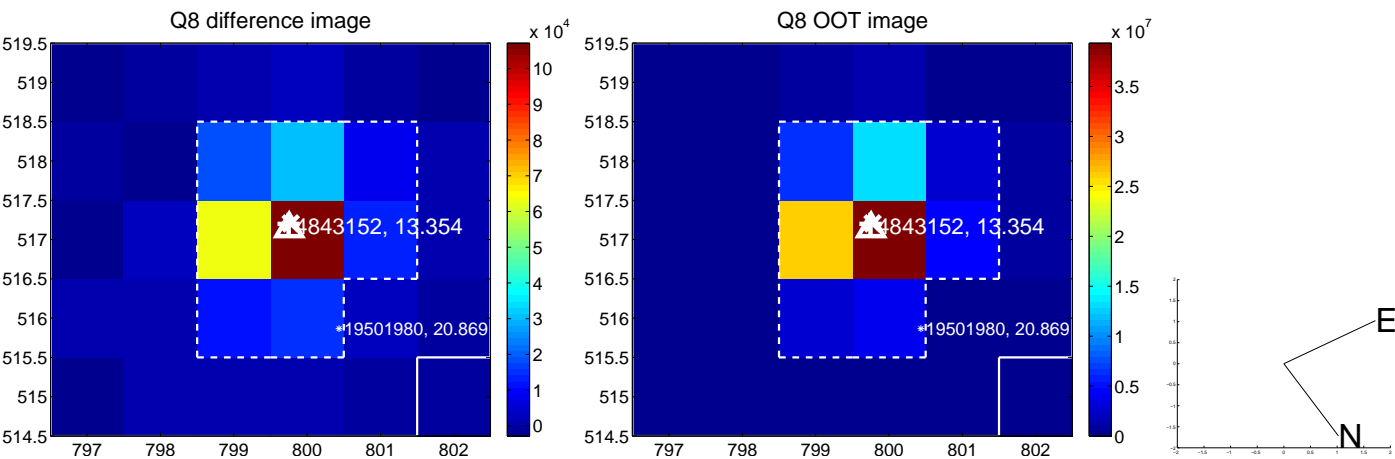
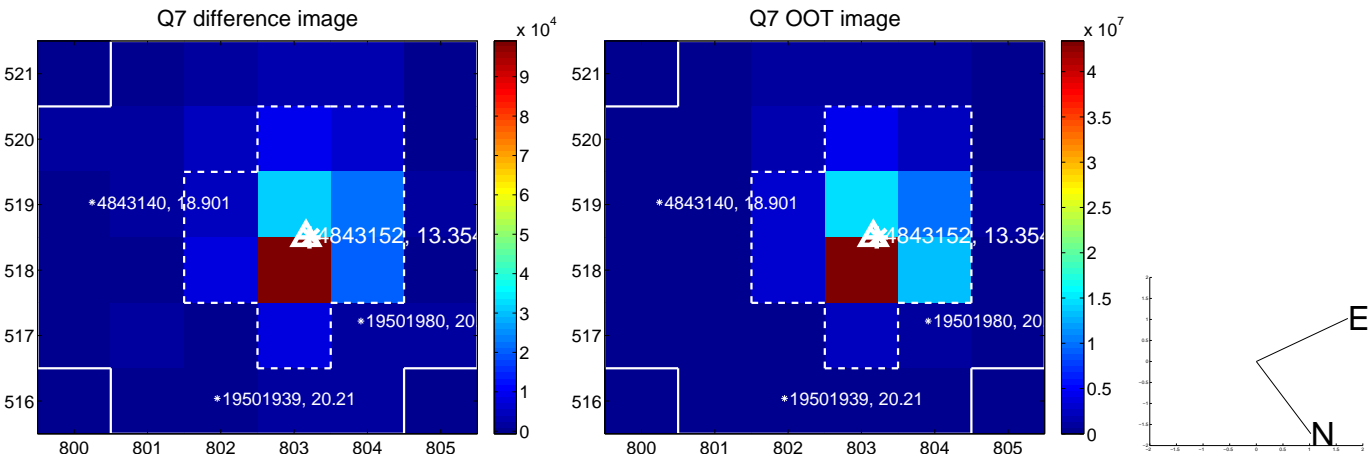
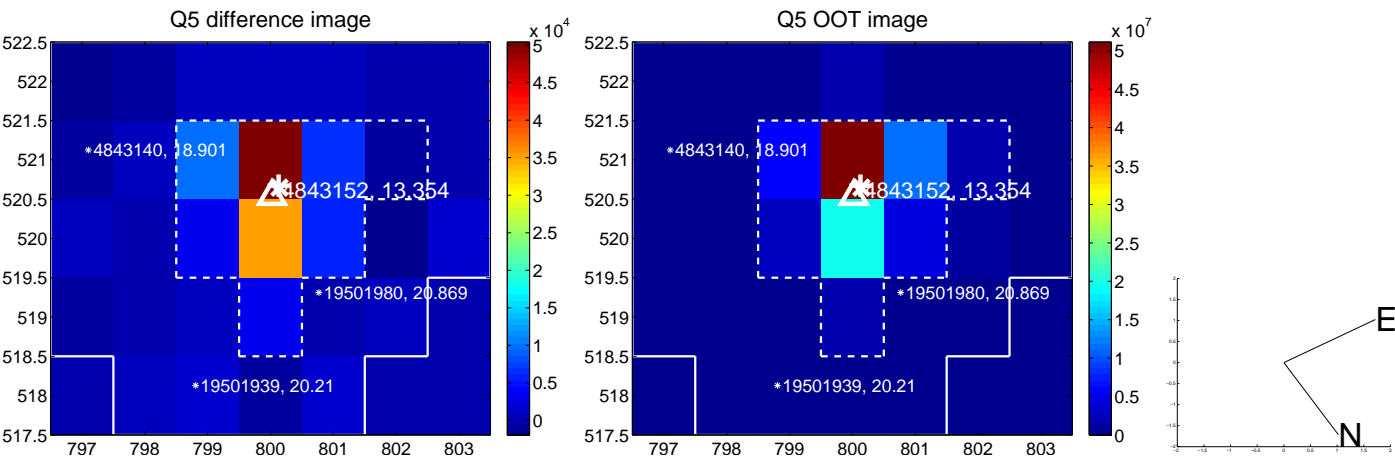


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

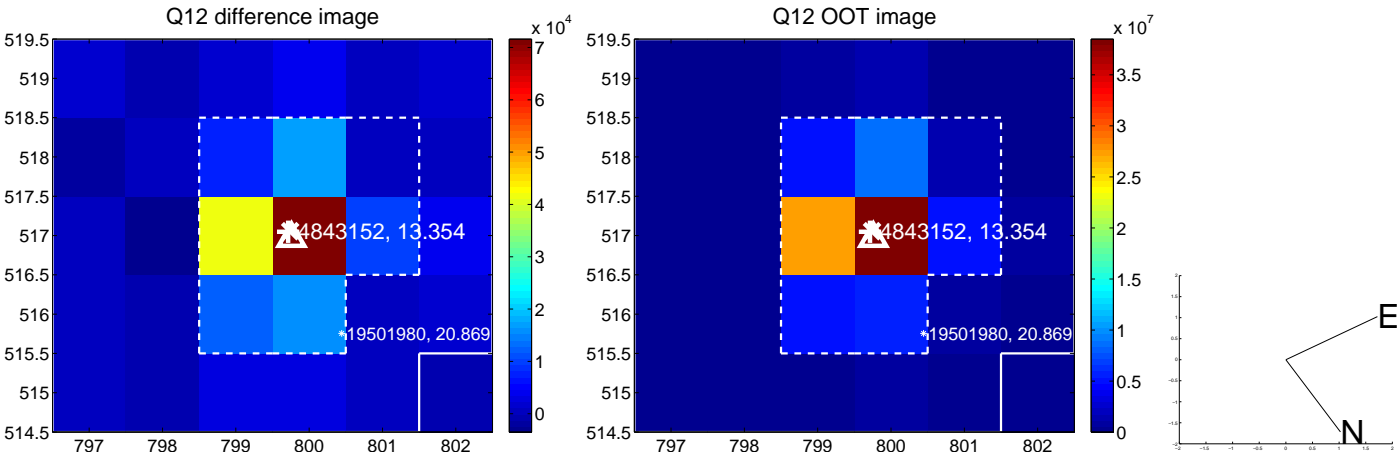
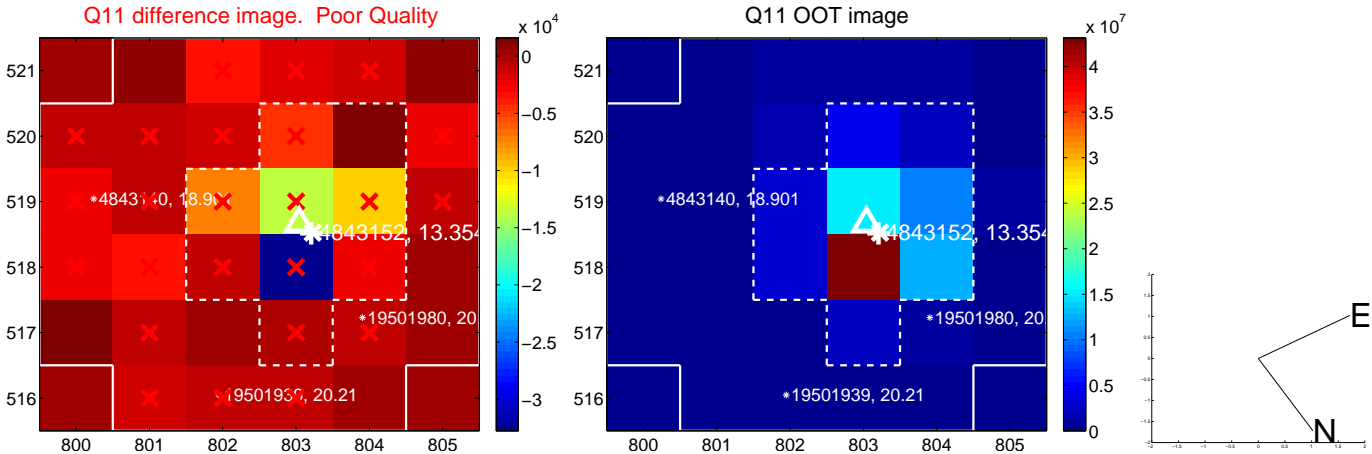
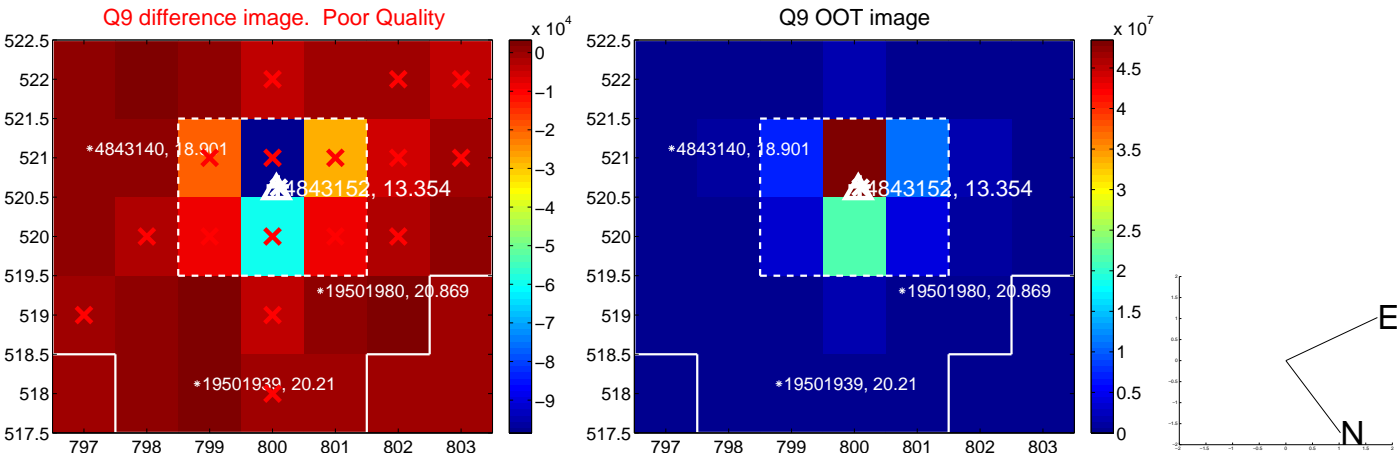
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



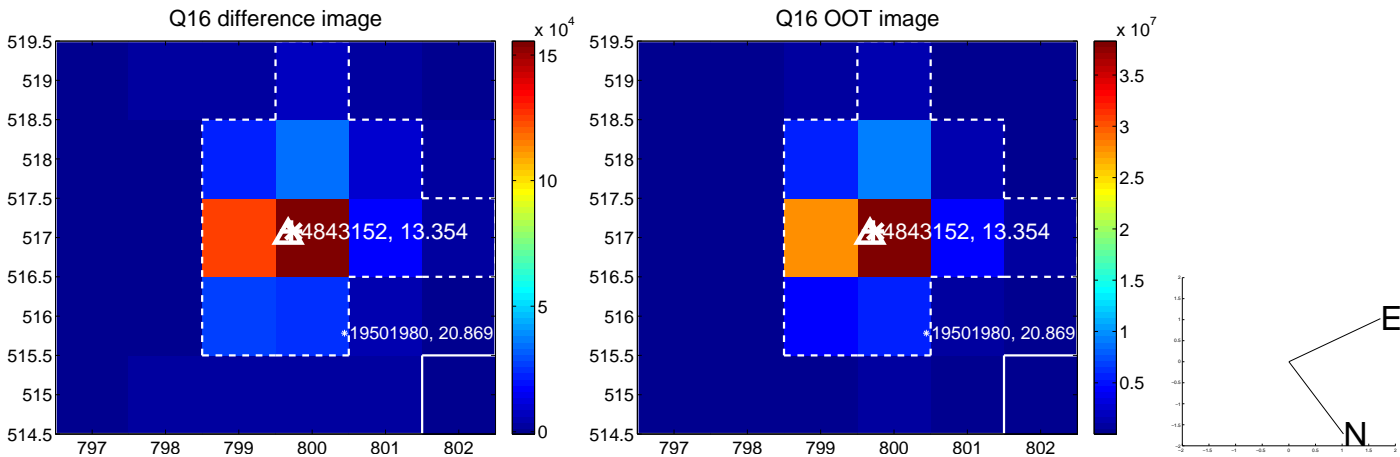
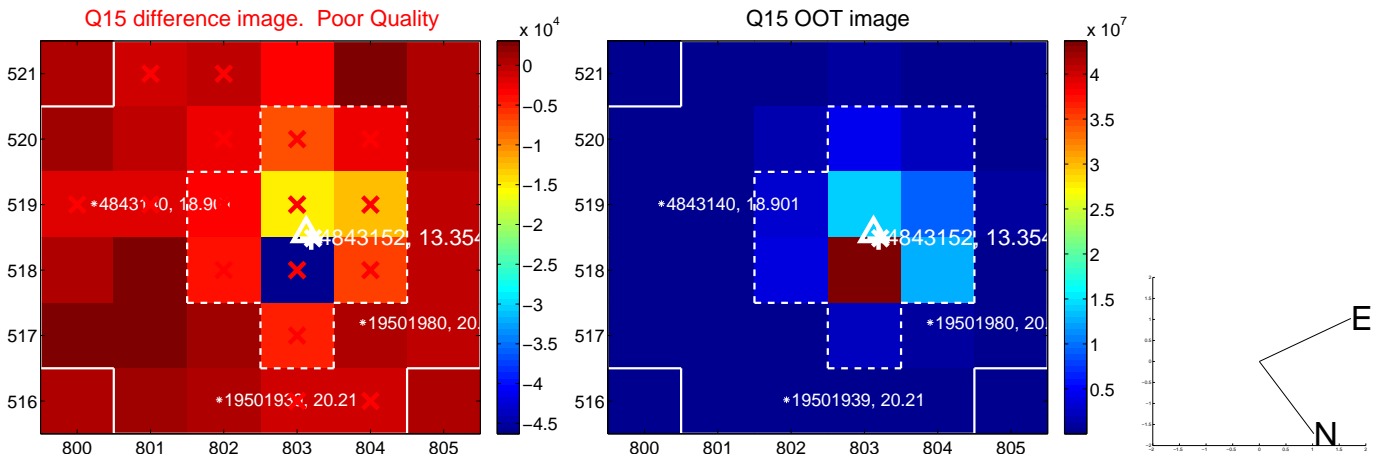
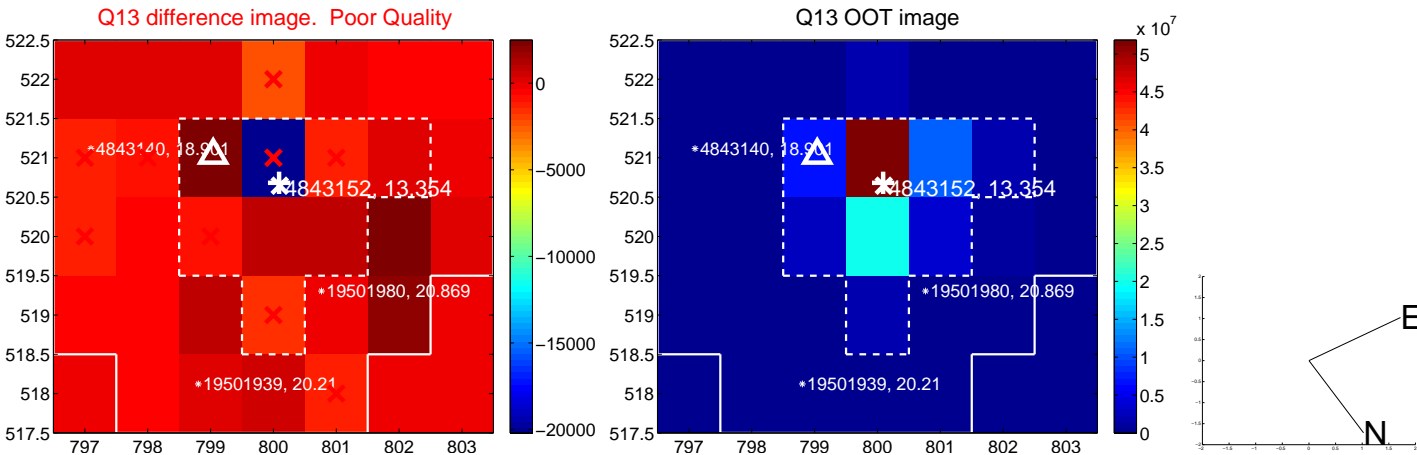
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



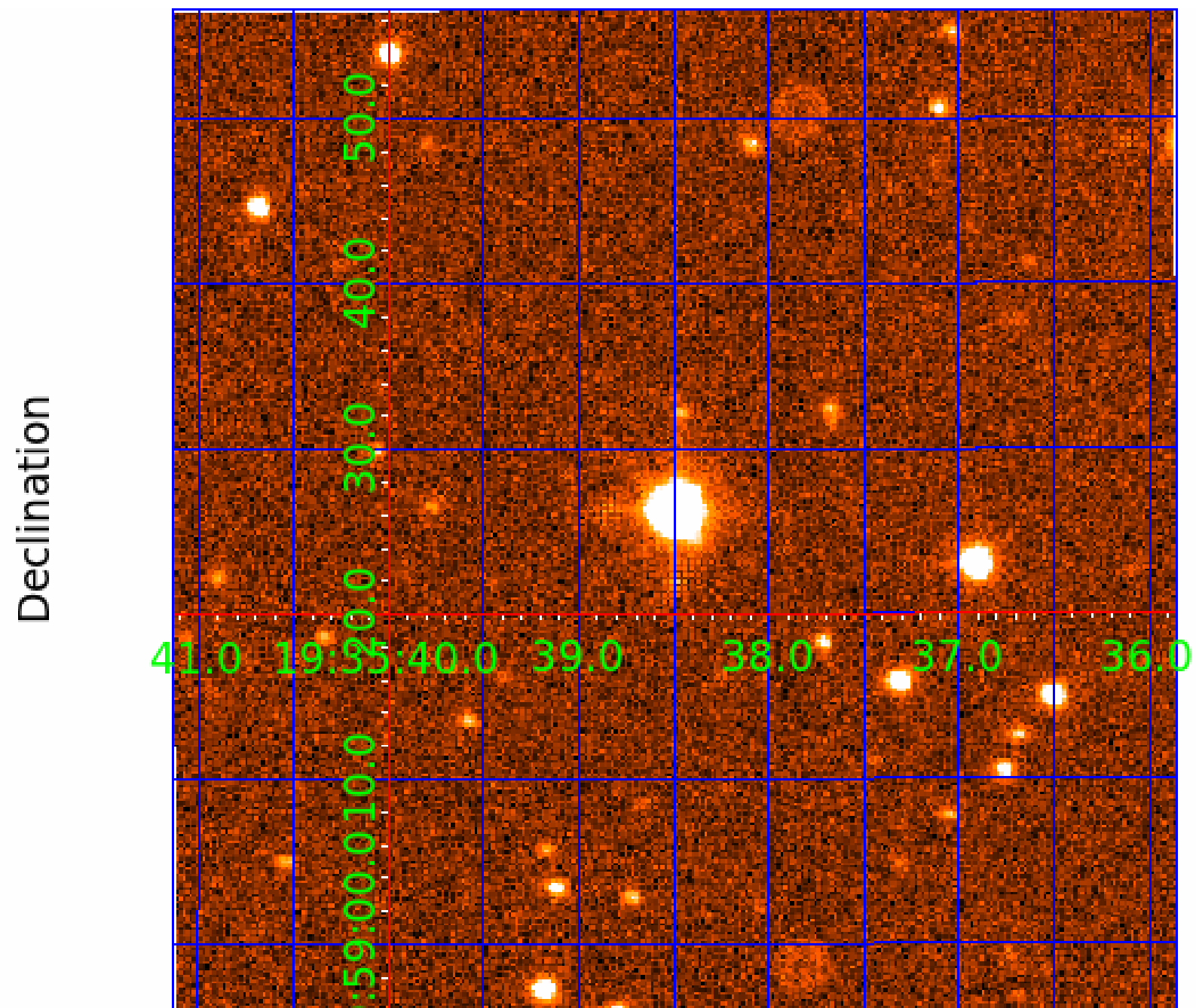
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



KIC 004843152

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})
004843152-01	OBS	No	0.963626	132.323766	42.2	3.492	7.2	4.5	1.27	6413	0.97	6019.62
004843152-02	OBS	No	0.957984	131.959384	34.1	6.583	8.0	2.3	1.27	6413	0.77	6066.94
004843152-03	OBS	No	9.087175	136.136526	746.8	2.493	12.3	7.4	1.27	6413	3.49	302.14
004843152-04	OBS	No	40.400853	160.372452	1456.0	1.678	12.9	10.6	1.27	6413	5.21	41.33
004843152-05	OBS	No	30.590288	158.354089	587.4	10.073	10.5	5.9	1.27	6413	3.25	59.89
004843152-06	OBS	No	19.598008	133.593272	1120.2	3.278	10.4	8.9	1.27	6413	5.81	108.43
004843152-07	OBS	No	15.480892	137.582723	1263.1	0.918	9.8	9.0	1.27	6413	4.61	148.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004843152-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004843152-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV
004843152-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—HALO_GHOST
004843152-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
004843152-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

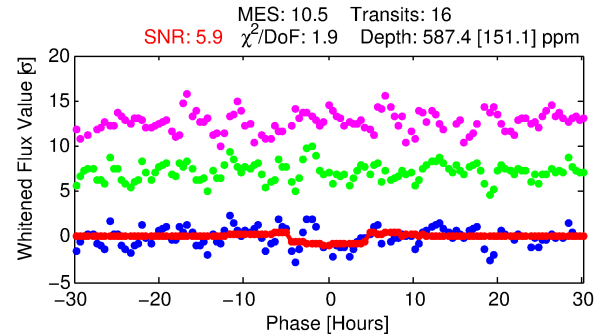
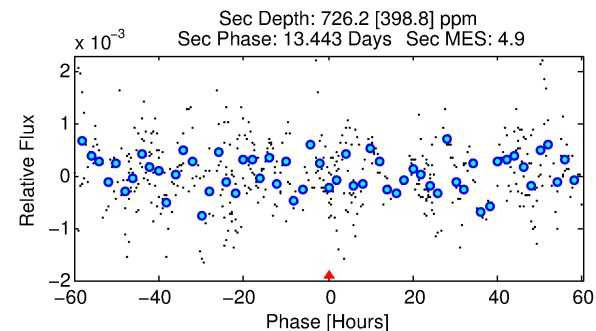
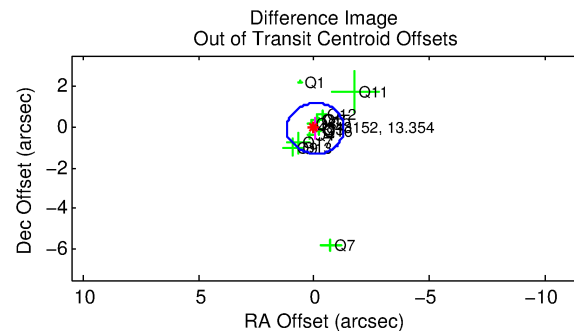
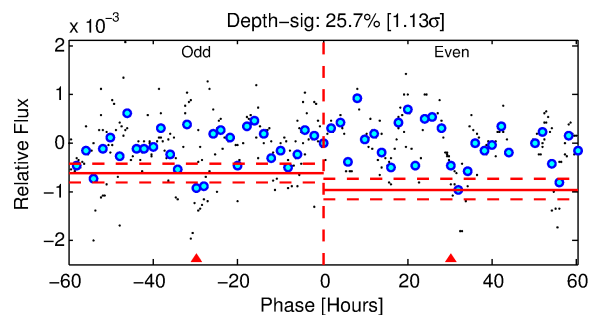
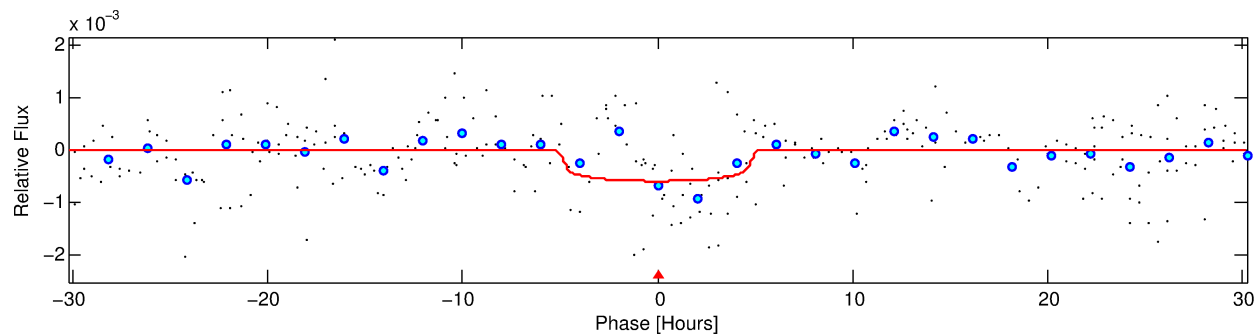
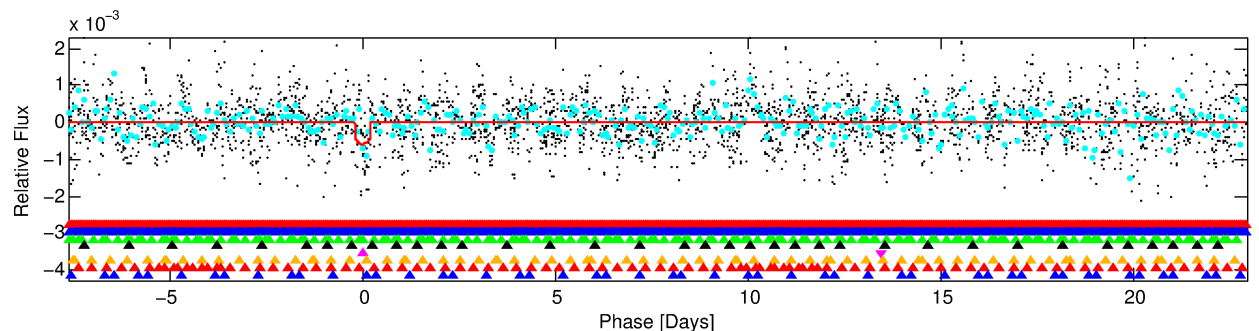
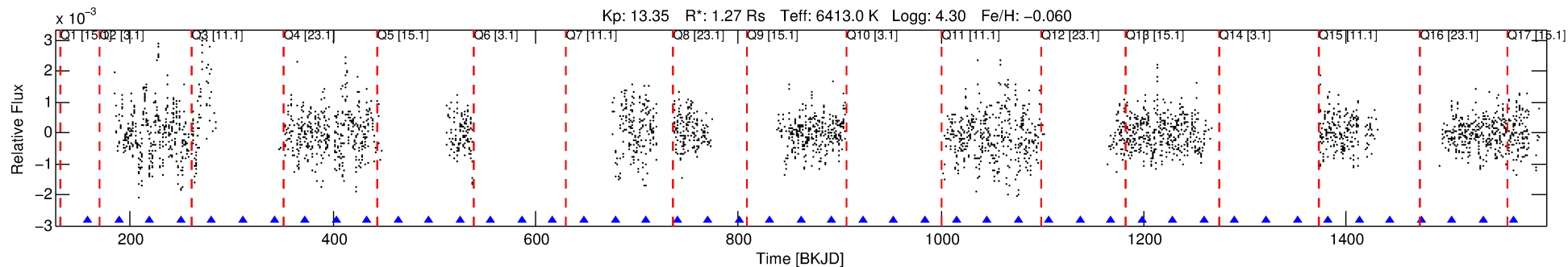
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004843152-05

No Significant Match Found

DV One-Page Summary

KIC: 4843152 Candidate: 5 of 8 Period: 30.590 d



DV Fit Results:

Period = 30.59029 [0.00125] d
Epoch = 158.3541 [0.0325] BKJD
Rp/R* = 0.0235 [0.0118]
a/R* = 18.28 [44.00]
b = 0.65 [2.14]
Seff = 59.89 [24.44]
Teq = 709 [72] K
Rp = 3.25 [1.94] Re
a = 0.2019 [0.0539] AU
Ag = 1537.04 [1857.05] [0.83 σ]
Teffp = 6867 [1978] K [3.11 σ]

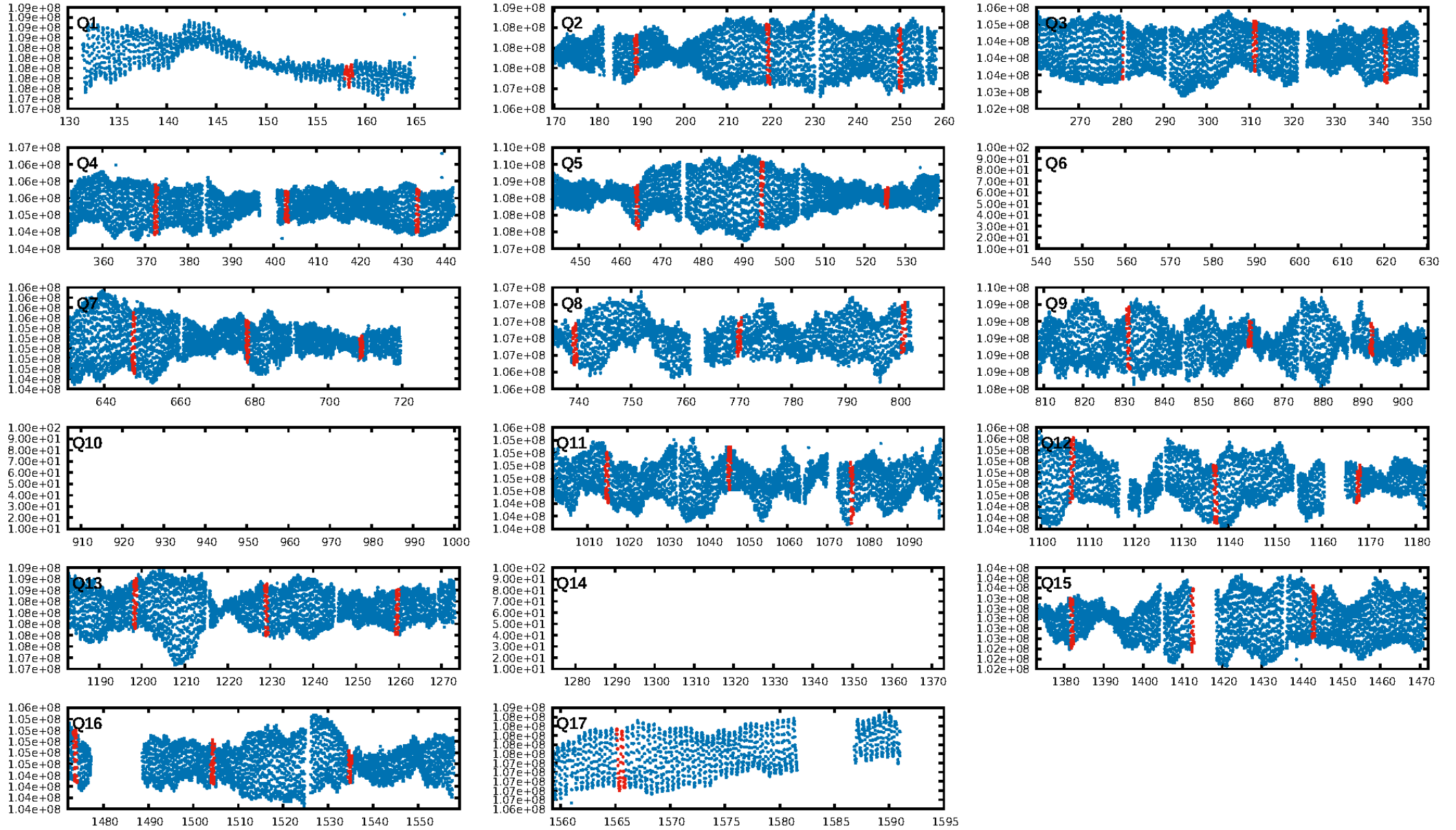
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.59 σ]
LongPeriod-sig: 100.0% [23.06 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: -0.5345
Centroid-sig: 48.4%
Centroid-so: 0.195 arcsec [1.36 σ]
OotOffset-rm: 0.104 arcsec [0.25 σ]
KicOffset-rm: 0.203 arcsec [0.52 σ]
OotOffset-st: 0/4/4/5 [13]
KicOffset-st: 0/4/4/5 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 0.00 [0/14]

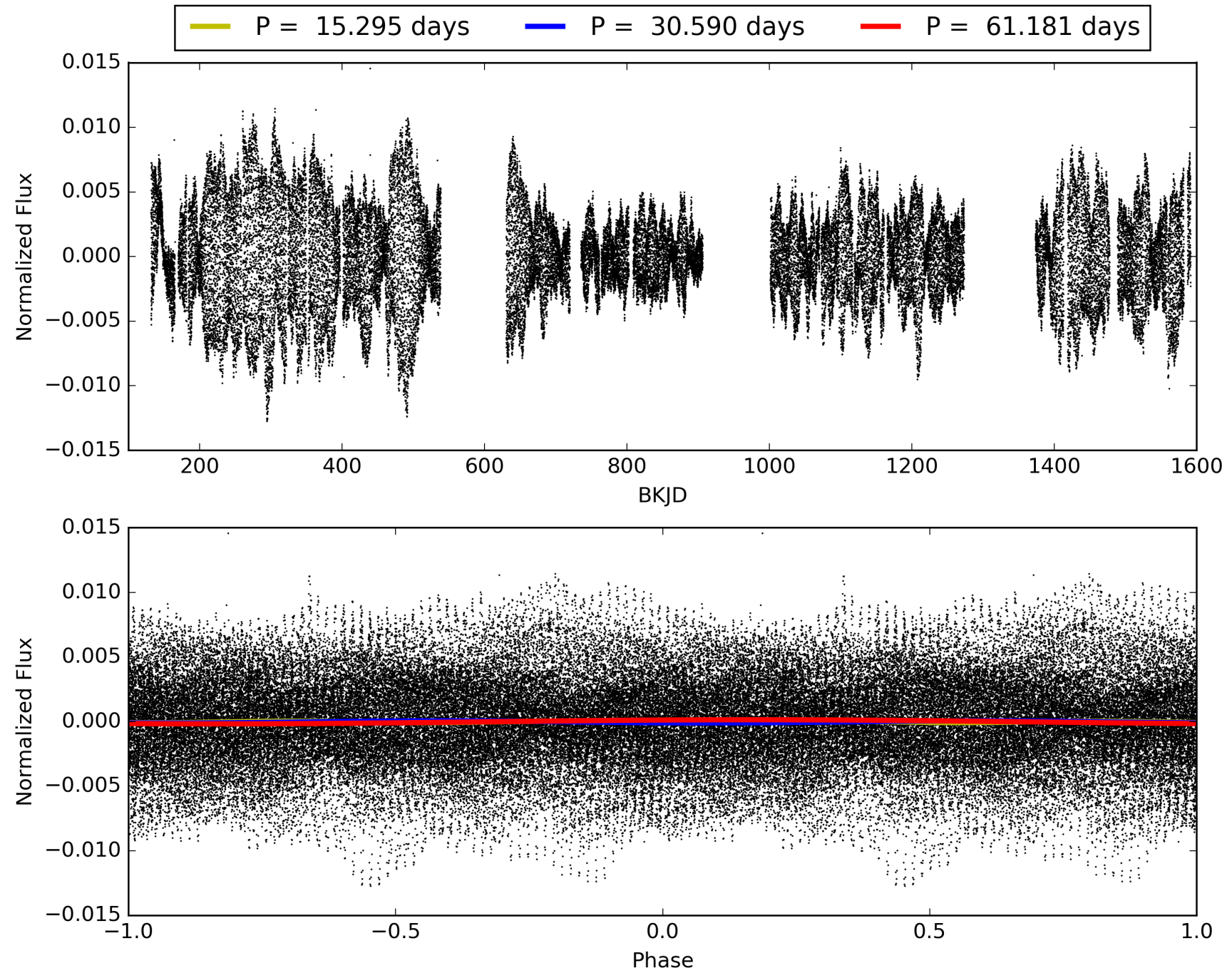
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:53:12 Z

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

TCE 004843152-05, PDC Light Curves

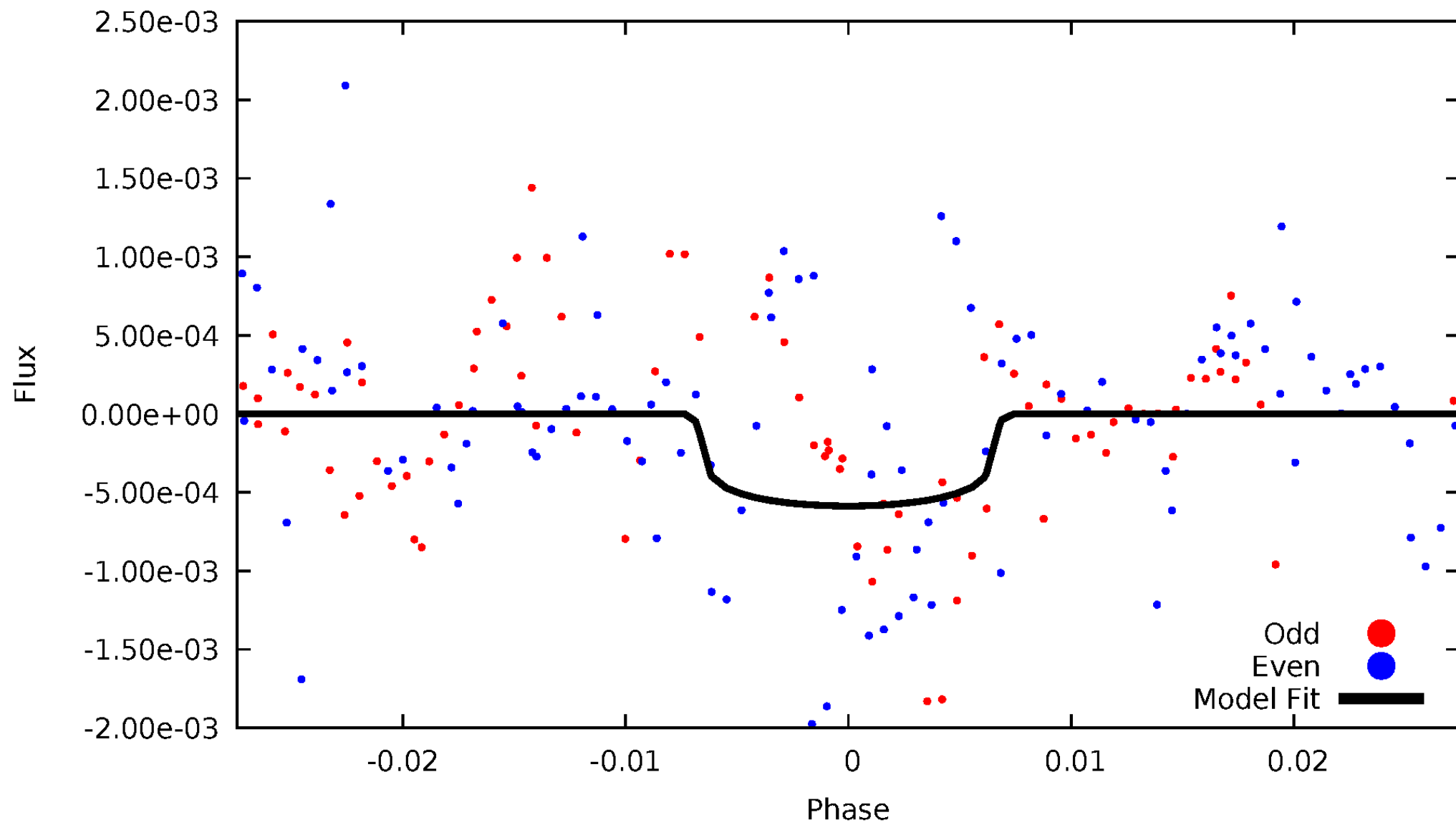


TCE 004843152-05



DV Odd/Even

TCE 004843152-05

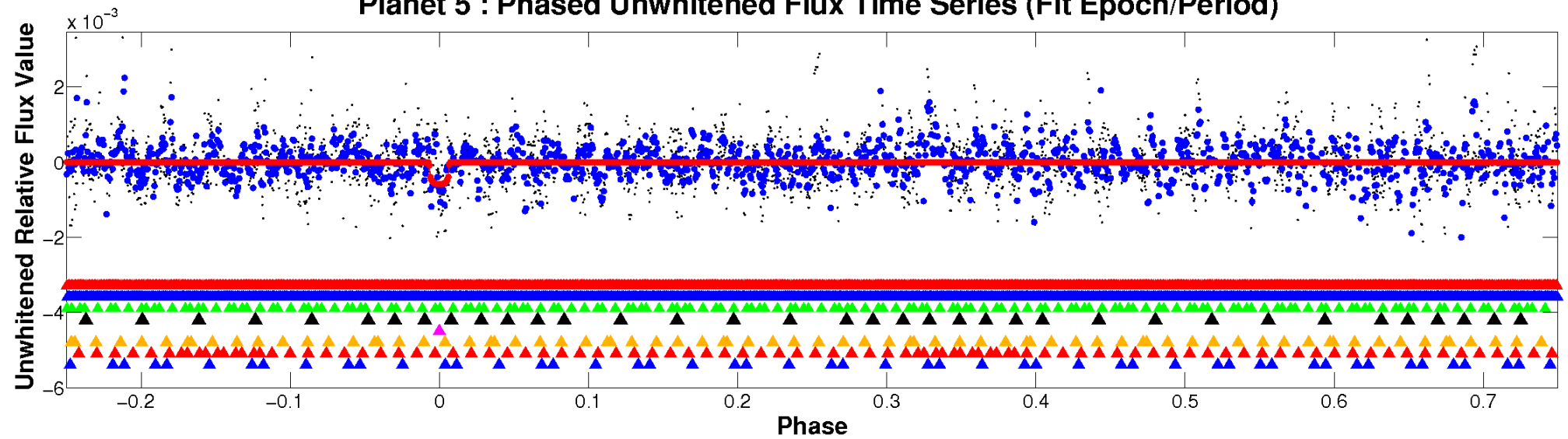


ALT Odd/Even

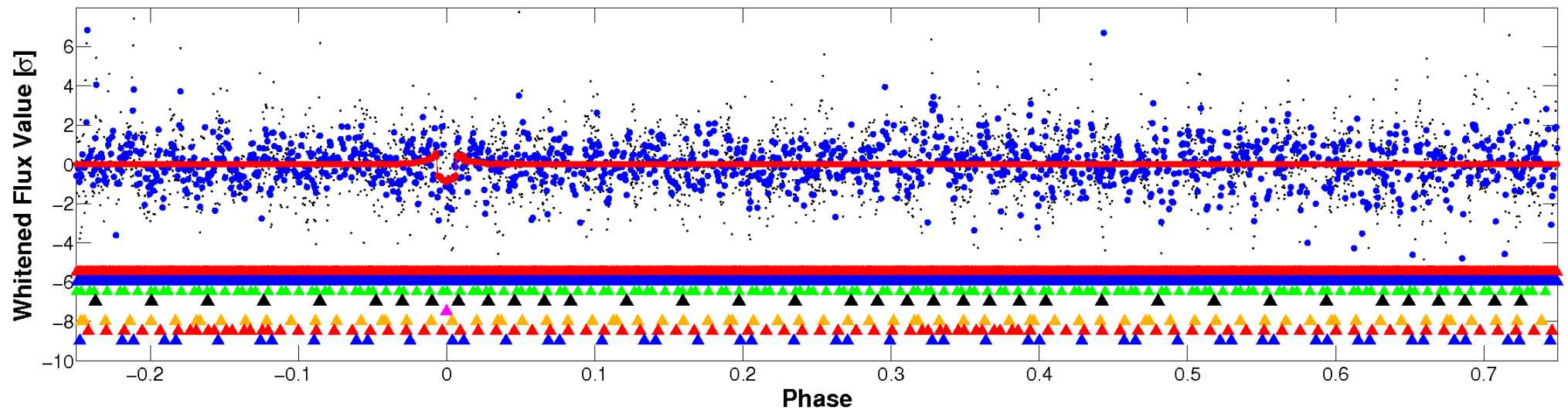
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

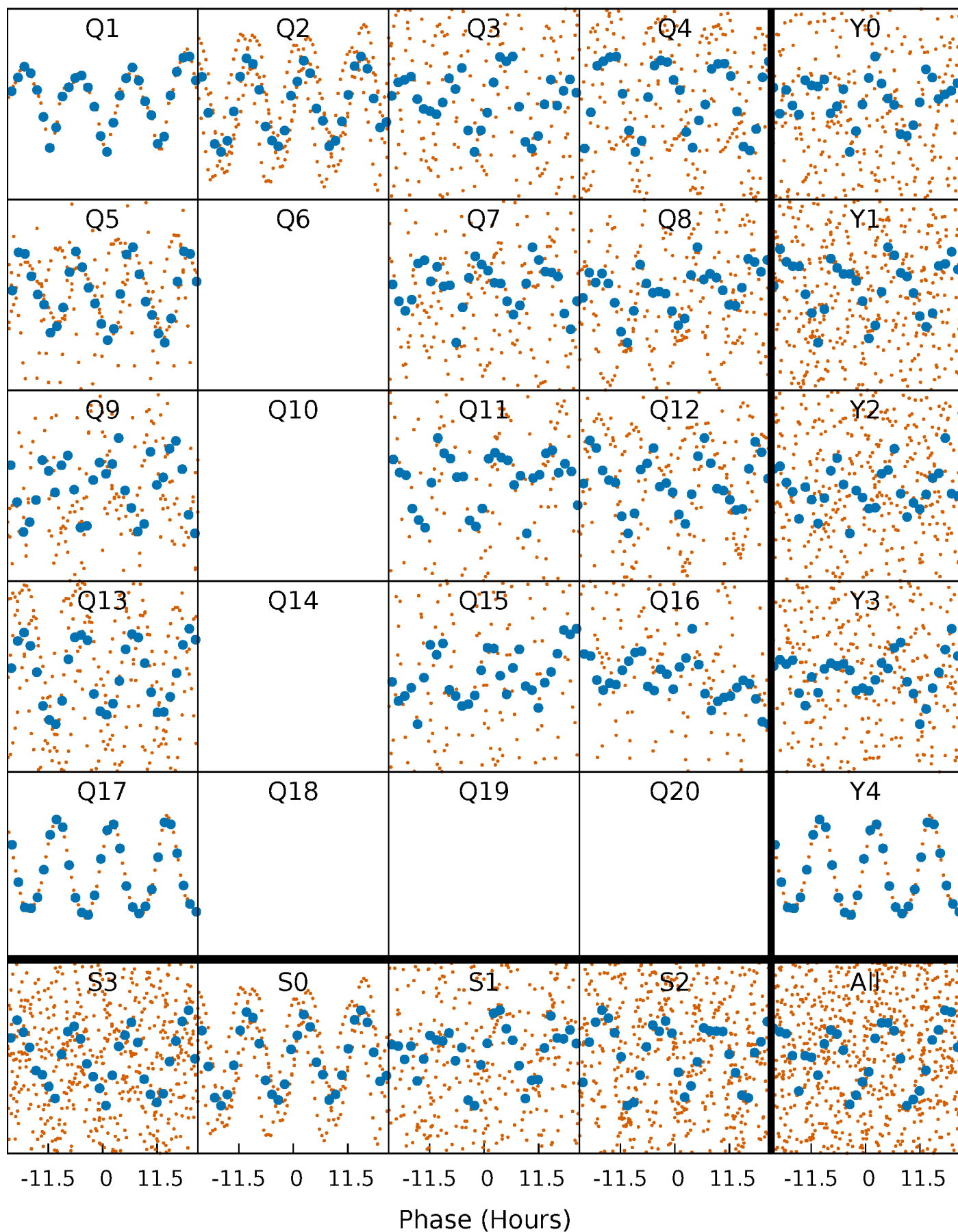


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



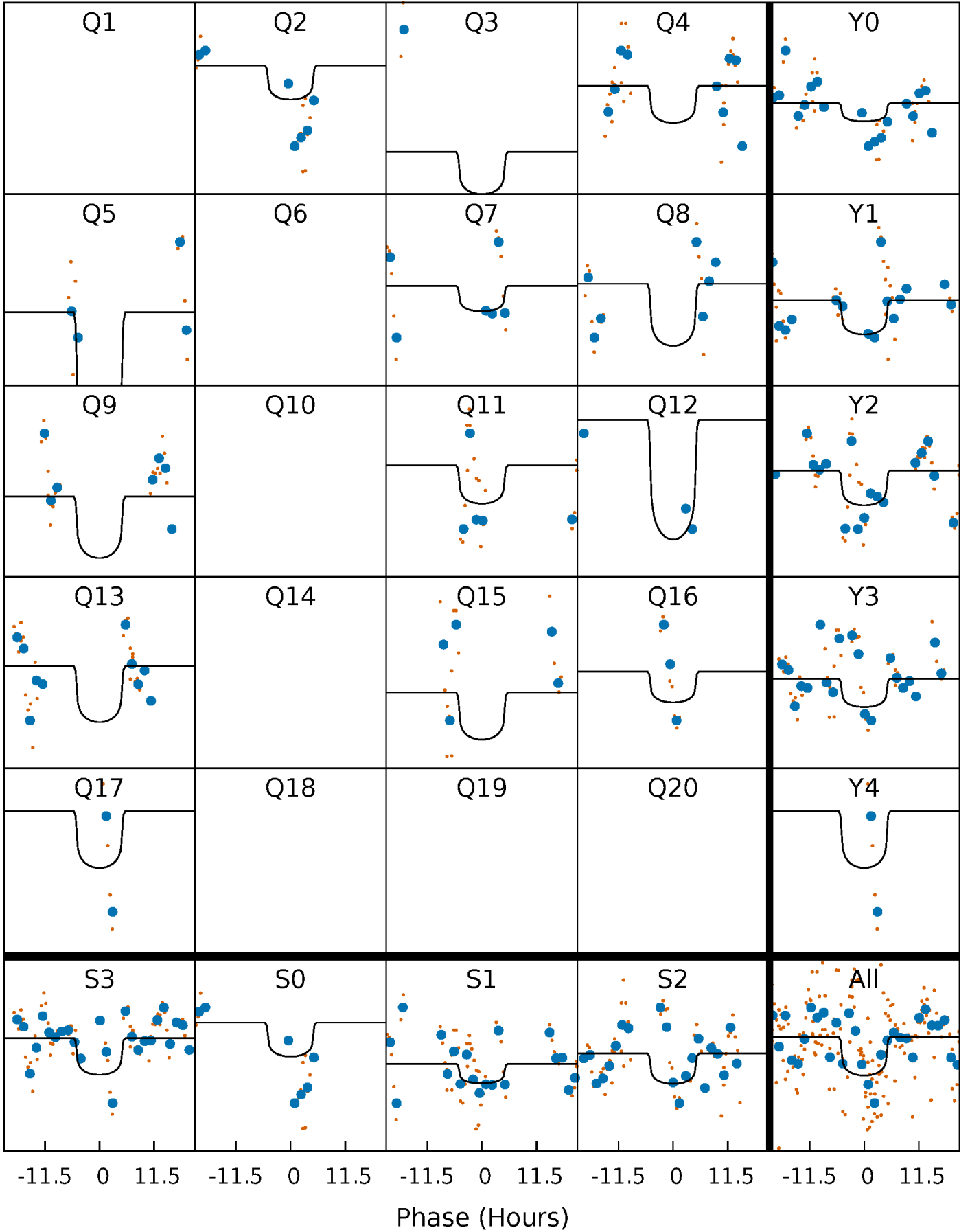
PDC Quarter-Phased Transit Curves

TCE 004843152-05 P= 30.590288 Days $T_0=158.354089$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004843152-05 P= 30.590288 Days $T_0=158.354089$ (BKJD)

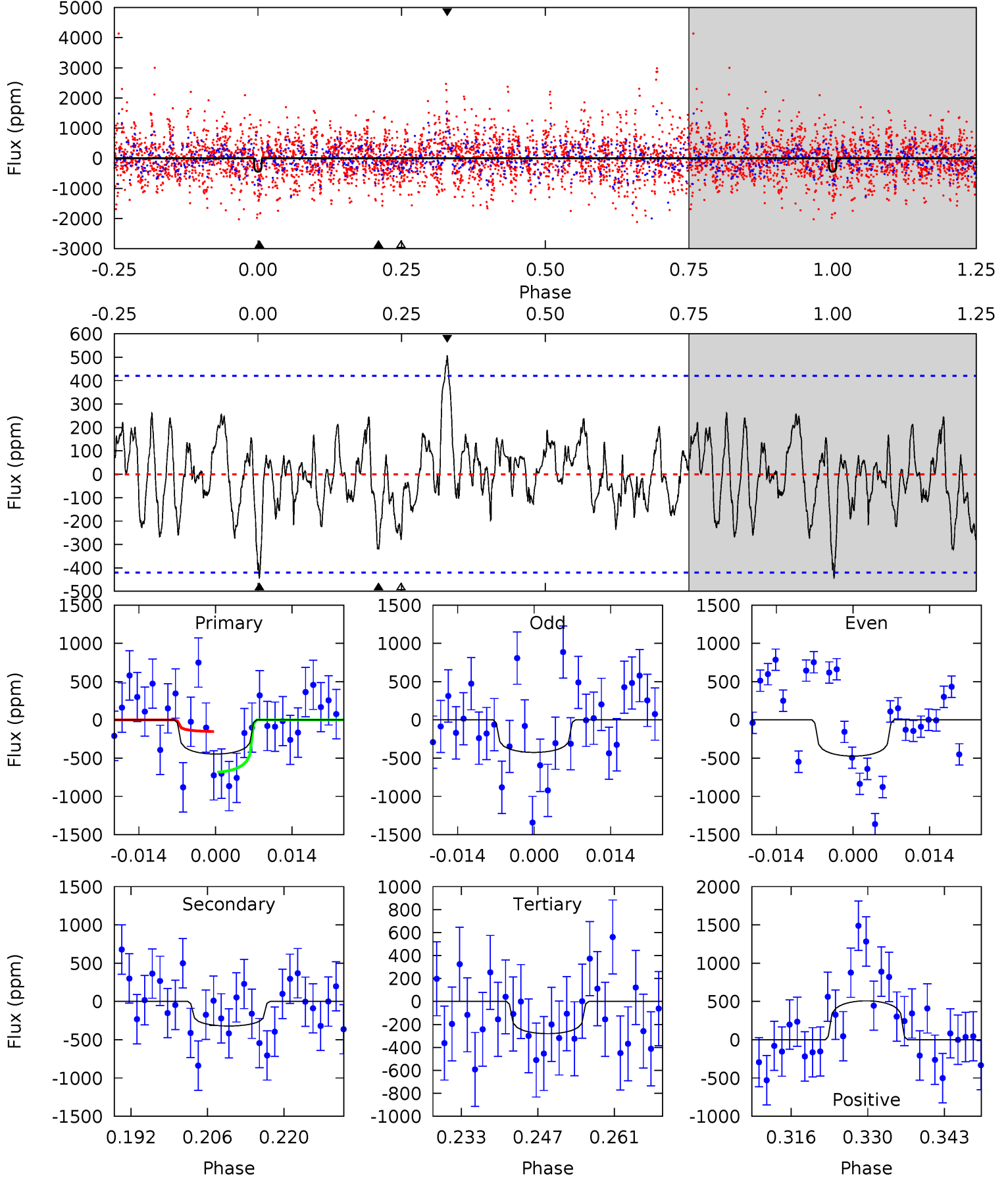


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

004843152-05, P = 30.590288 Days, E = 158.354089 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.27	3.79	3.31	6.00	4.97	2.46	1.48	1.96	-0.73	0.48	-2.21	0.29	0.72	0.53	3.08



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 004843152

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6413^{+153}_{-211}	$4.300^{+0.105}_{-0.210}$	$-0.060^{+0.250}_{-0.300}$	$1.269^{+0.405}_{-0.218}$	$1.172^{+0.181}_{-0.163}$	$0.808^{+0.407}_{-0.433}$
	+2%/-3%	+2%/-5%	+417%/-500%	+32%/-17%	+15%/-14%	+50%/-54%
Source	PHO1	KIC0	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 004843152-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-321 ± 85	$3.35^{+1.90}_{-1.65}$	1001^{+79}_{-51}	5592^{+2482}_{-956}	635^{+1921}_{-393}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

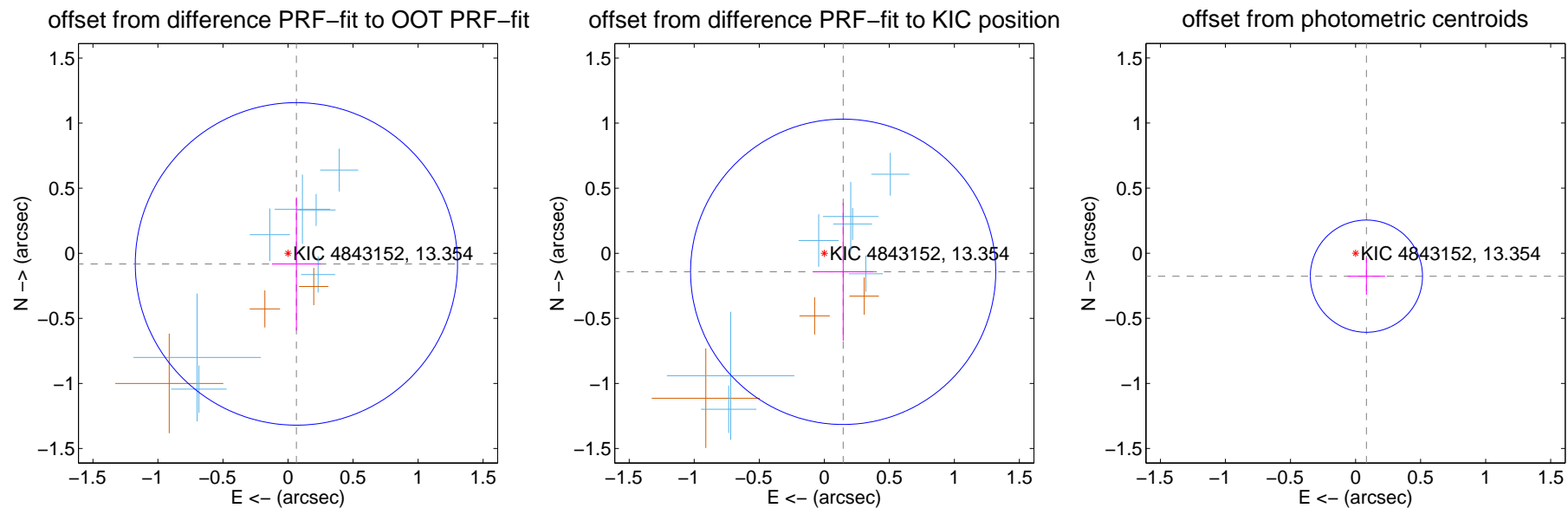
DV Centroid Data

Supplemental centroid analysis for 004843152-05. Kepler magnitude: 13.35. Transit SNR 5.87

There are 7 quarters with good PRF difference image offsets

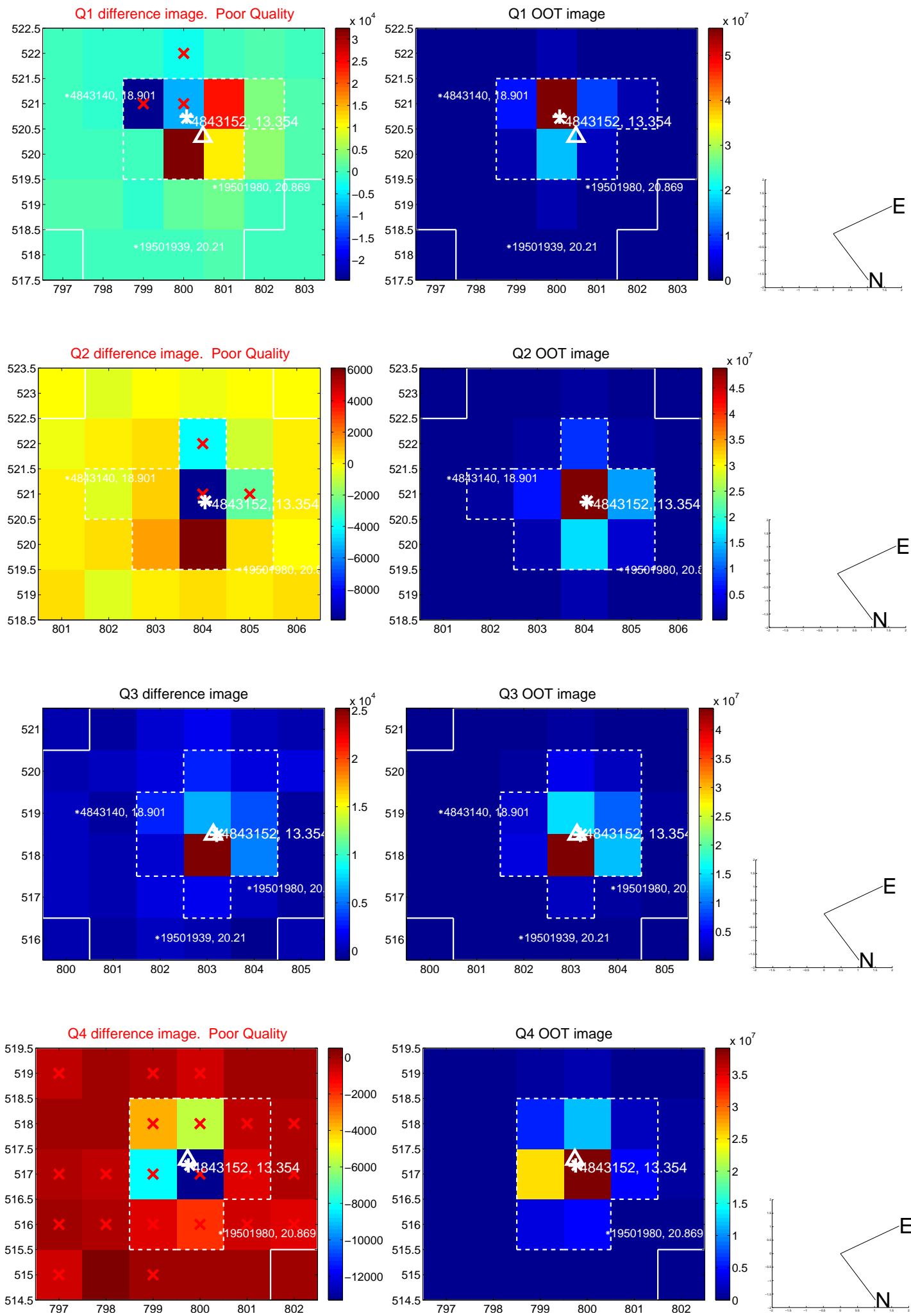
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.104 ± 0.413	0.25	-0.064 ± 0.188	-0.082 ± 0.511
PRF-fit source offset from KIC position	0.203 ± 0.391	0.52	-0.145 ± 0.230	-0.142 ± 0.531
photometric centroid source offset	0.19 ± 0.14	1.36	-0.08 ± 0.14	-0.18 ± 0.14

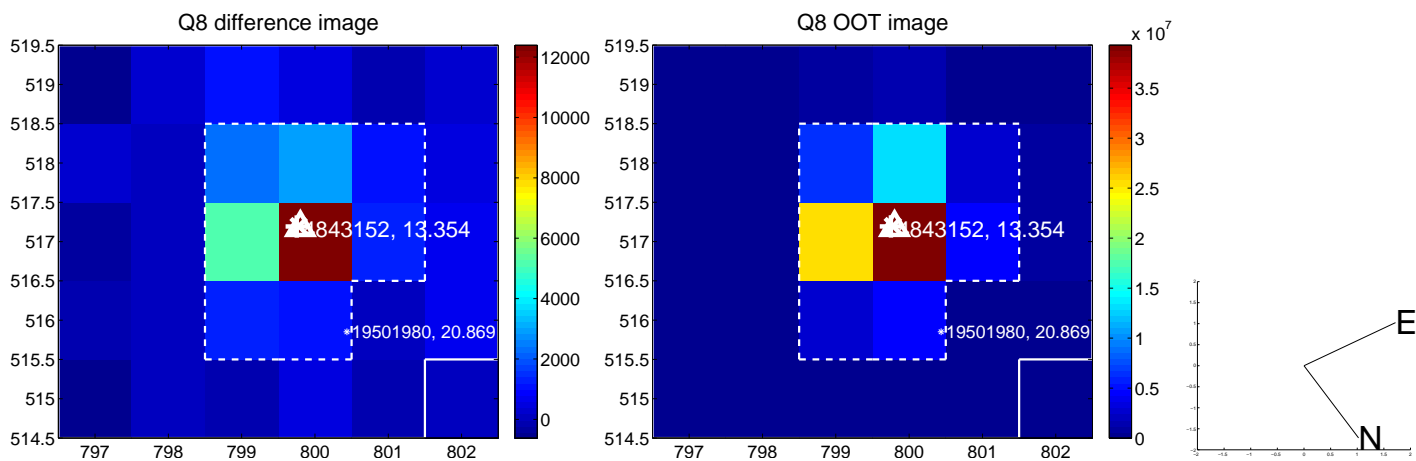
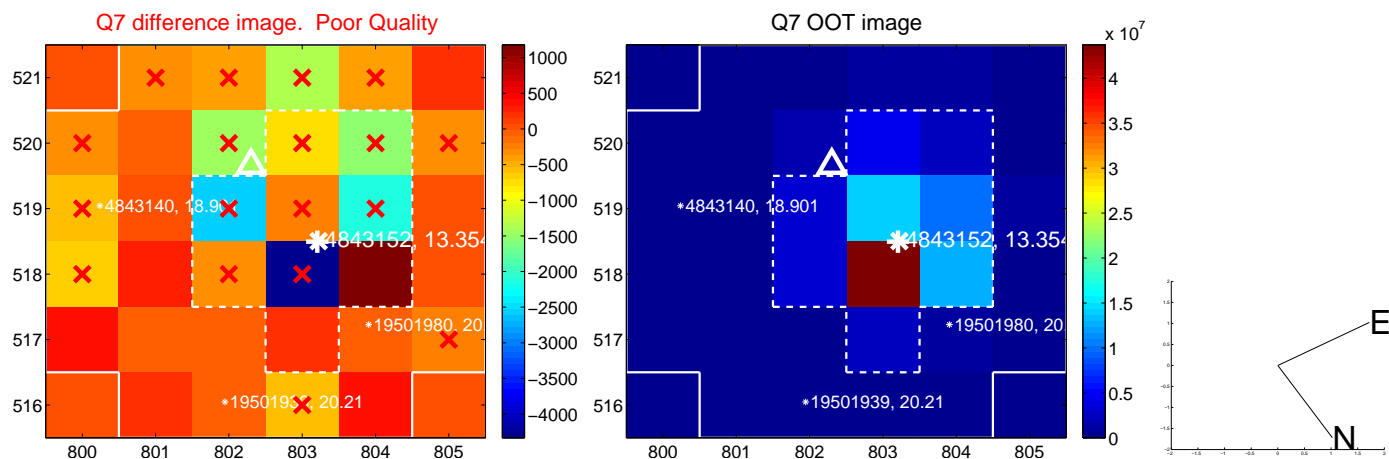
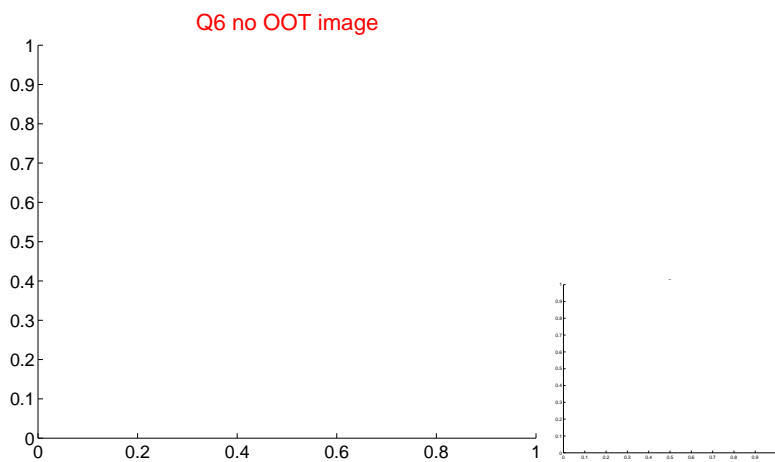
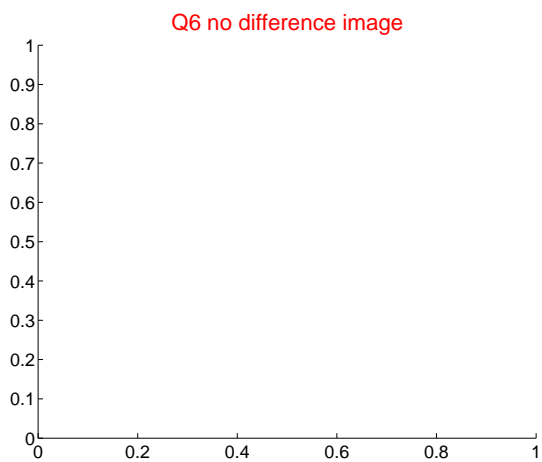
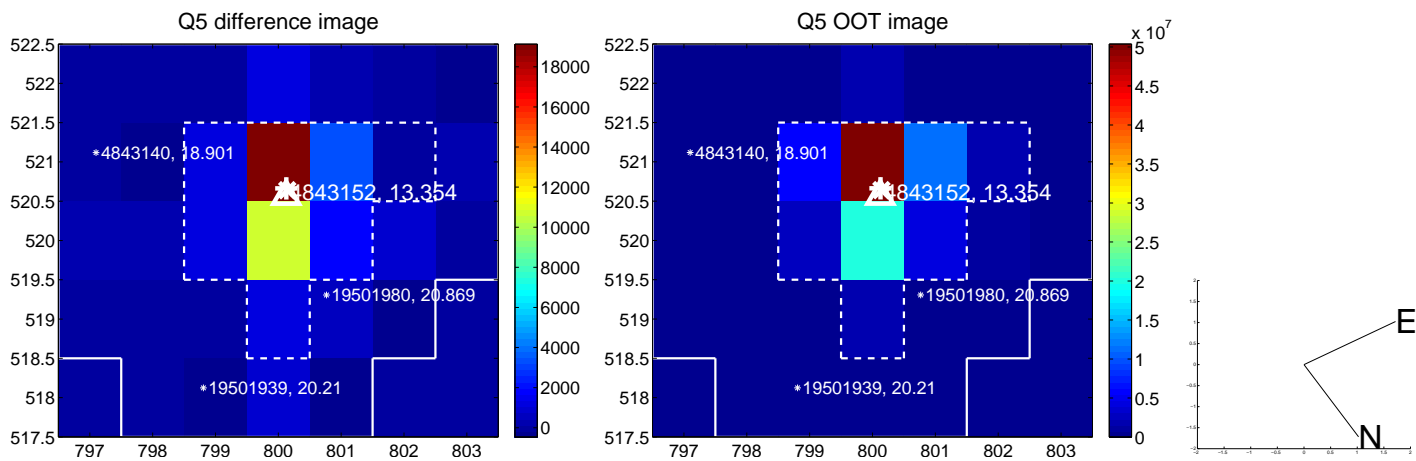


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

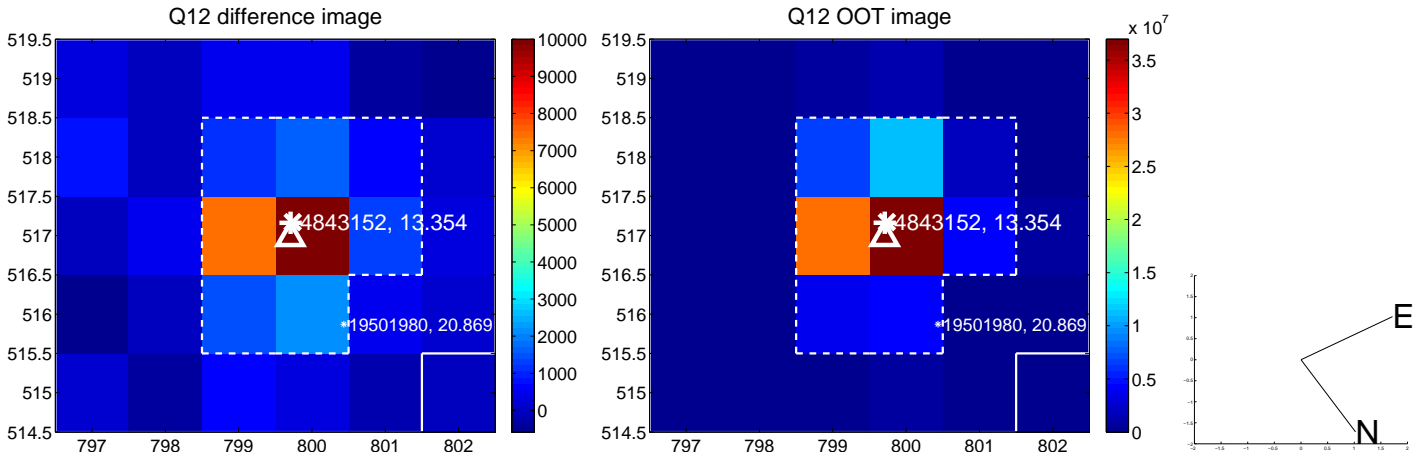
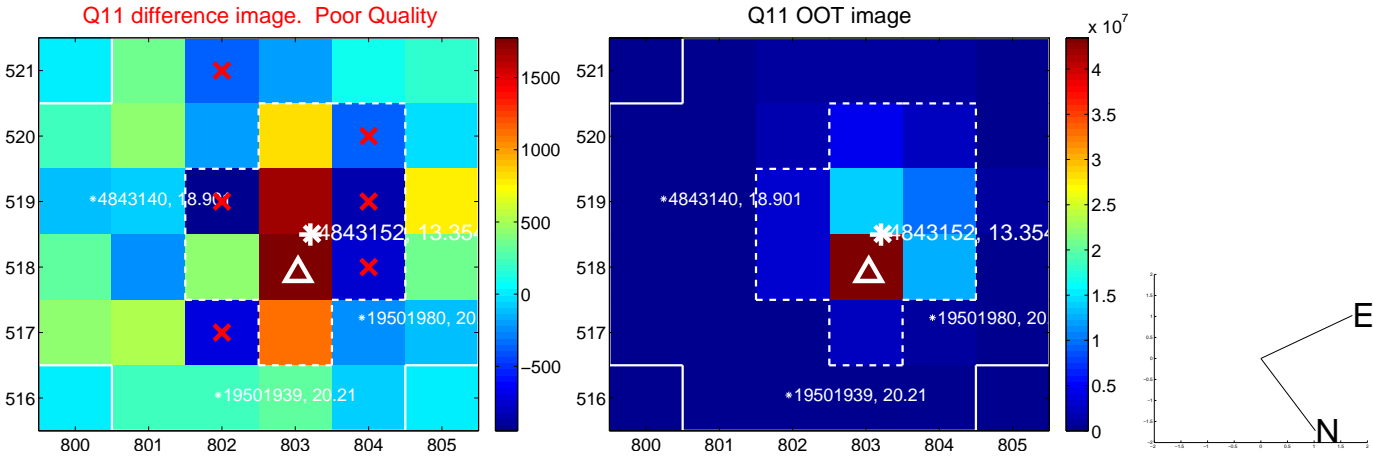
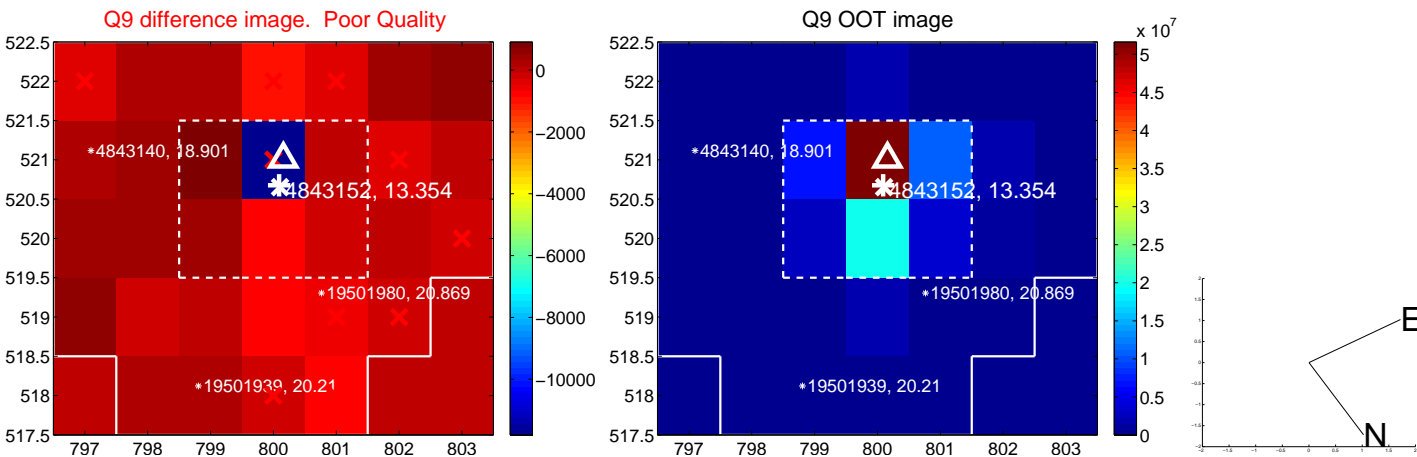
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



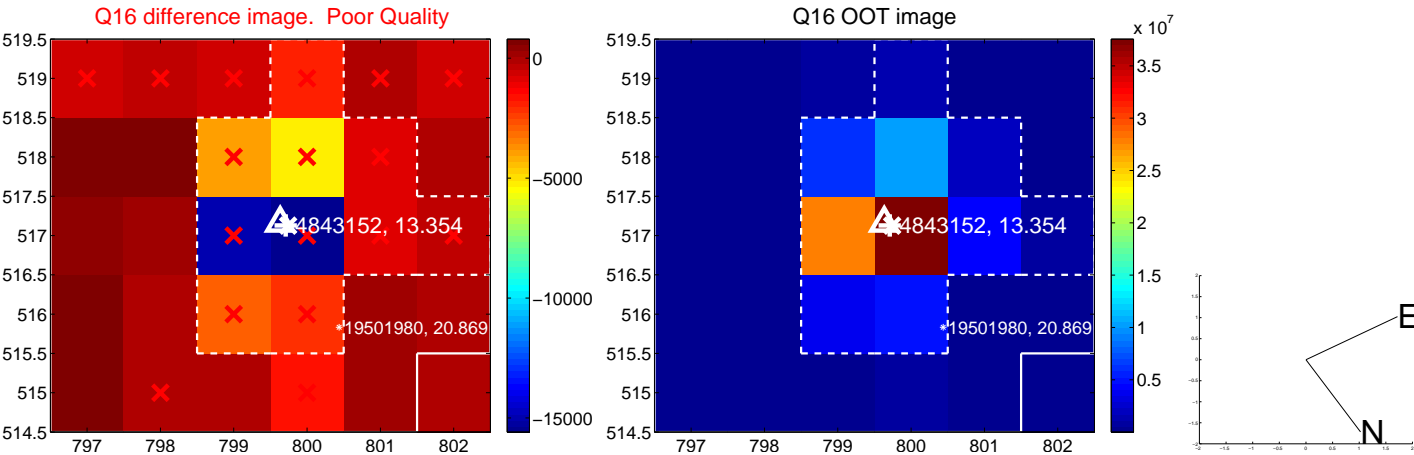
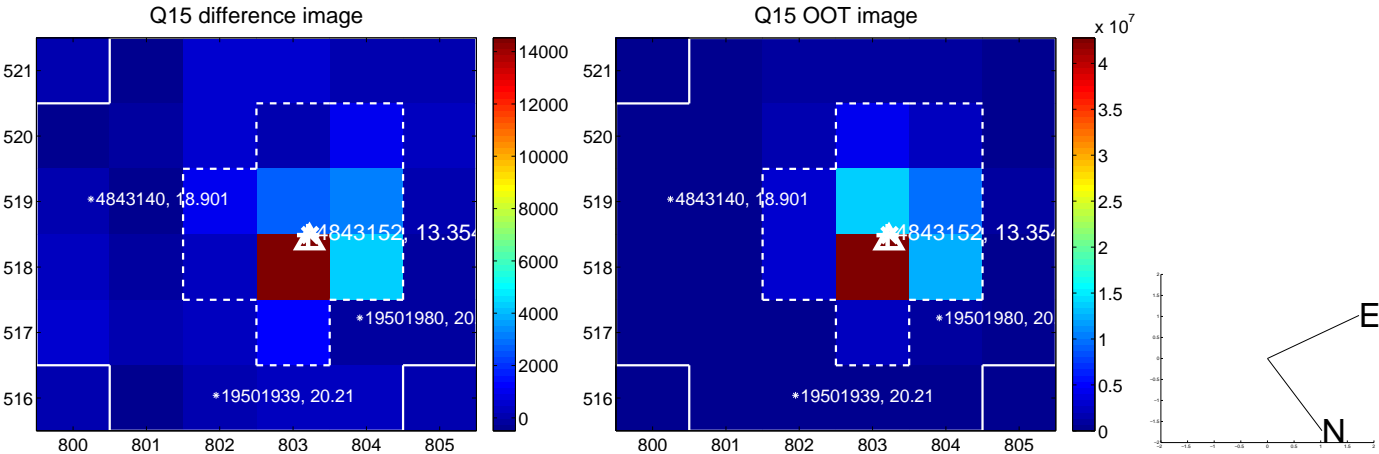
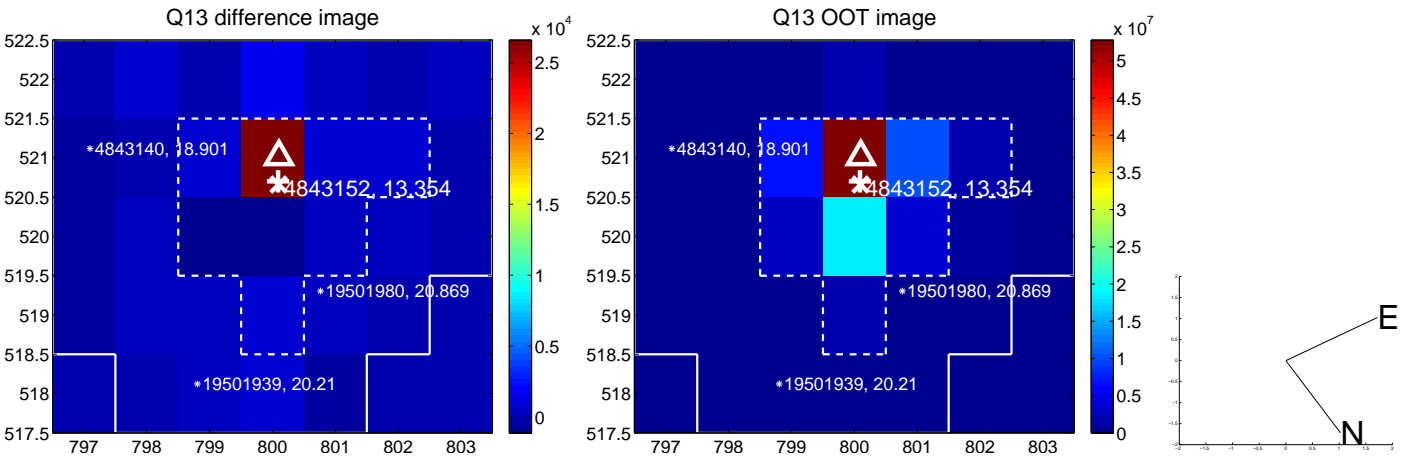
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



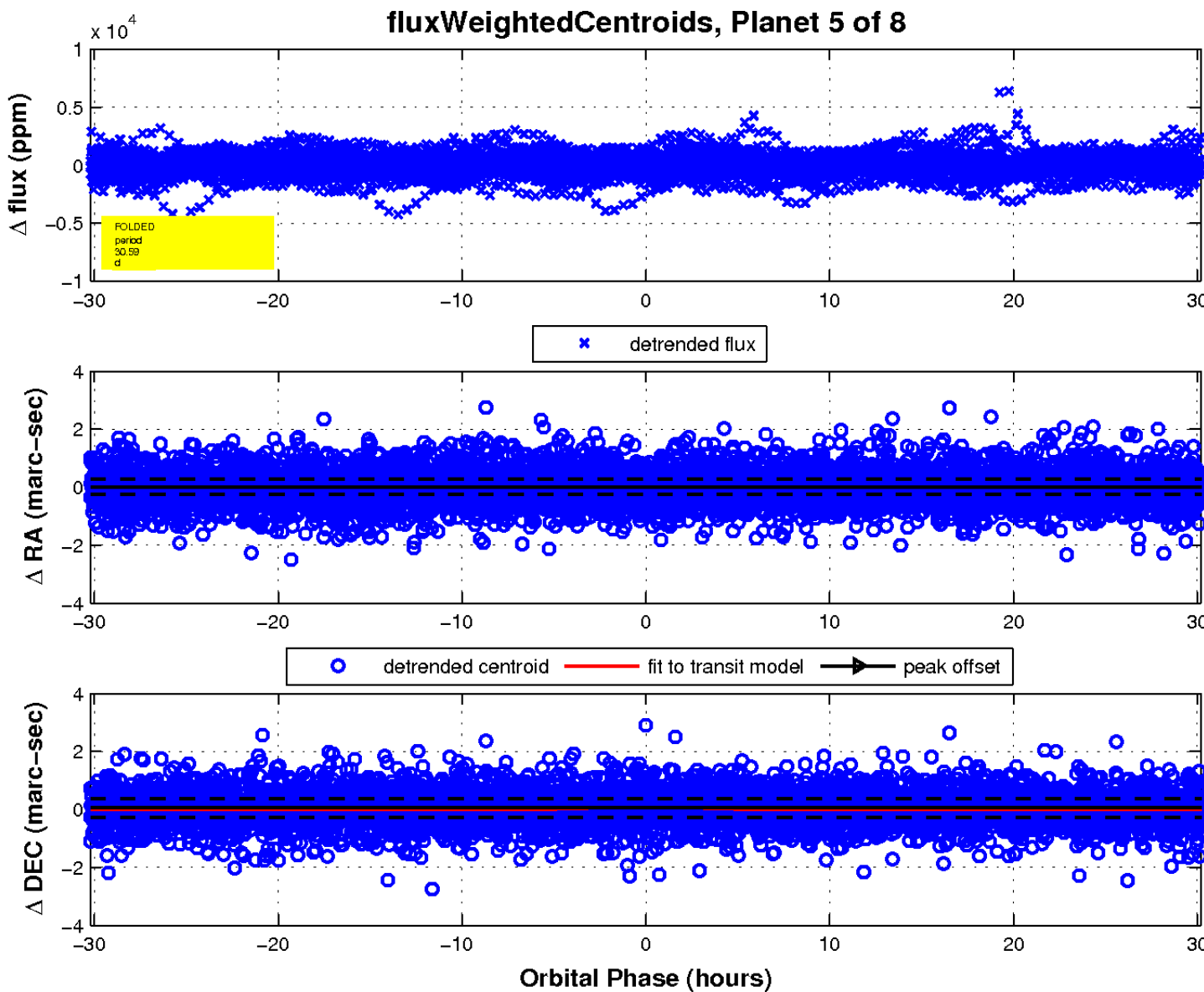
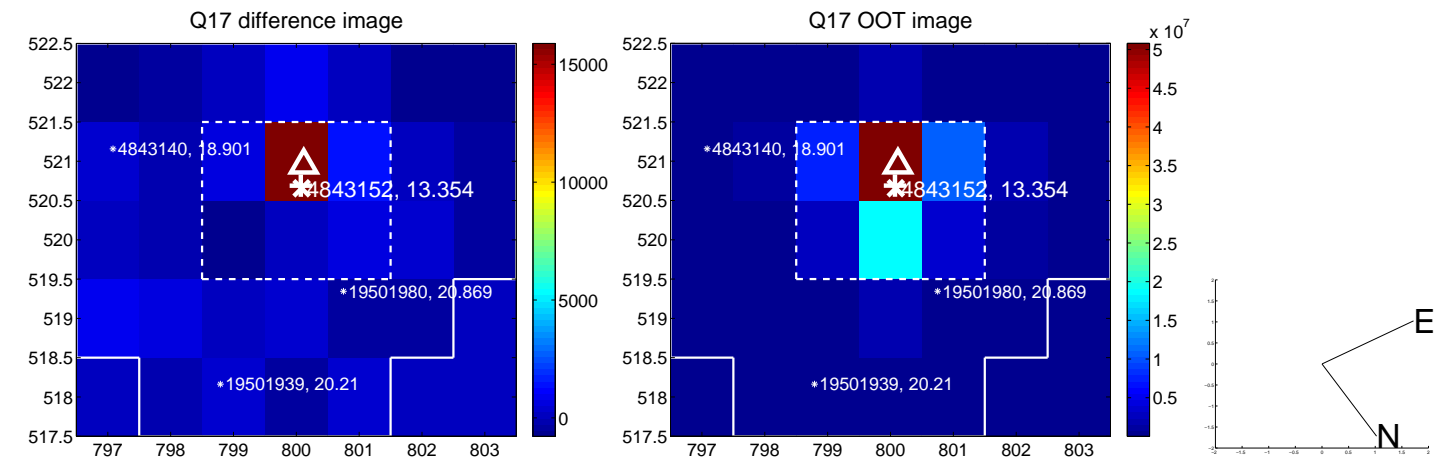
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



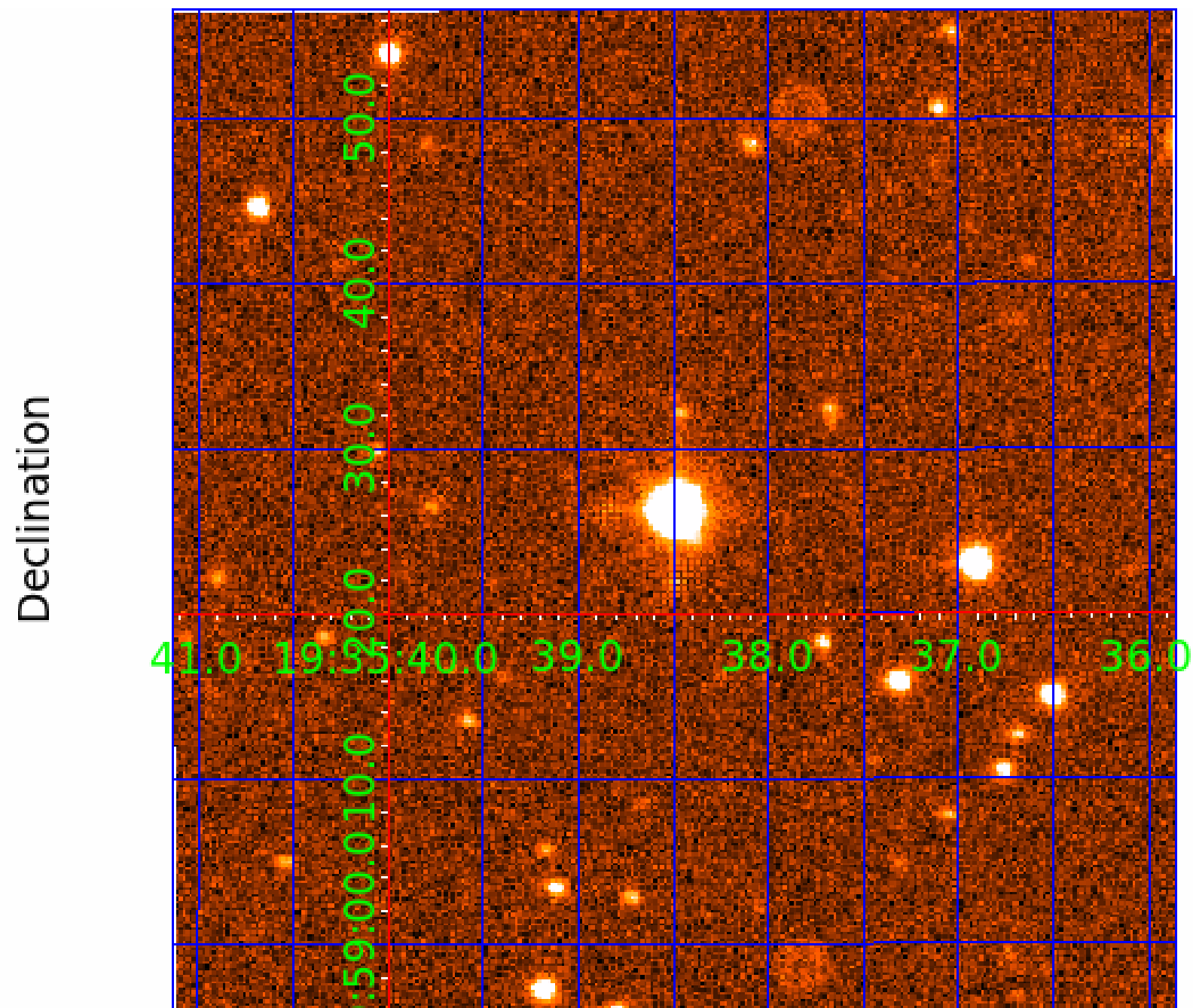
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image



KIC 004843152

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})
004843152-01	OBS	No	0.963626	132.323766	42.2	3.492	7.2	4.5	1.27	6413	0.97	6019.62
004843152-02	OBS	No	0.957984	131.959384	34.1	6.583	8.0	2.3	1.27	6413	0.77	6066.94
004843152-03	OBS	No	9.087175	136.136526	746.8	2.493	12.3	7.4	1.27	6413	3.49	302.14
004843152-04	OBS	No	40.400853	160.372452	1456.0	1.678	12.9	10.6	1.27	6413	5.21	41.33
004843152-05	OBS	No	30.590288	158.354089	587.4	10.073	10.5	5.9	1.27	6413	3.25	59.89
004843152-06	OBS	No	19.598008	133.593272	1120.2	3.278	10.4	8.9	1.27	6413	5.81	108.43
004843152-07	OBS	No	15.480892	137.582723	1263.1	0.918	9.8	9.0	1.27	6413	4.61	148.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004843152-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004843152-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV
004843152-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—HALO_GHOST
004843152-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
004843152-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

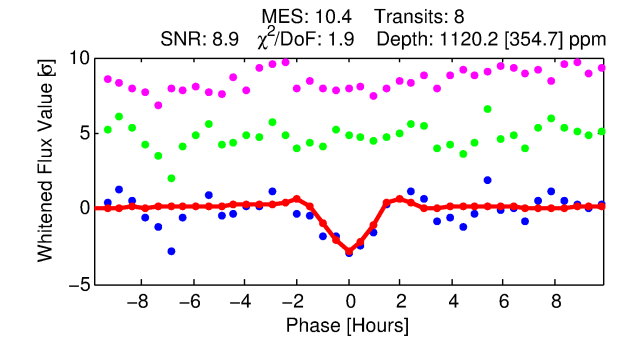
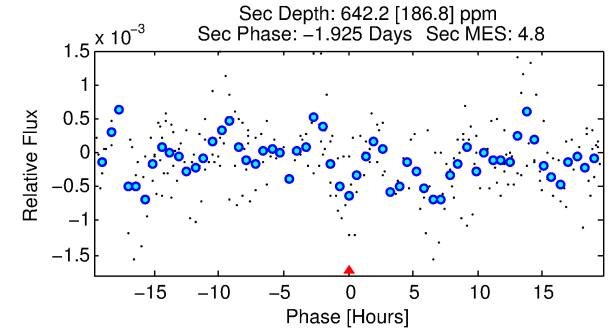
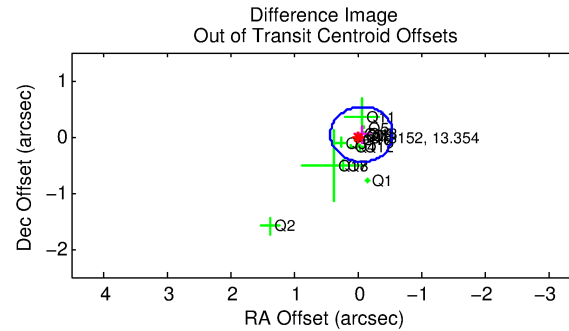
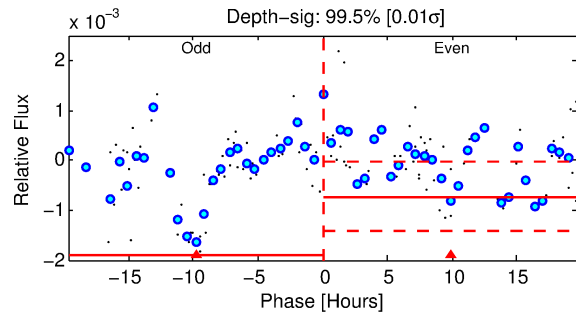
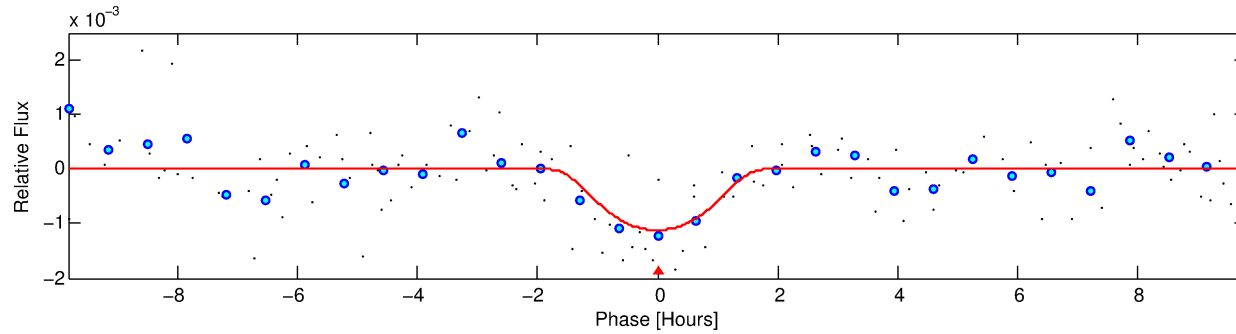
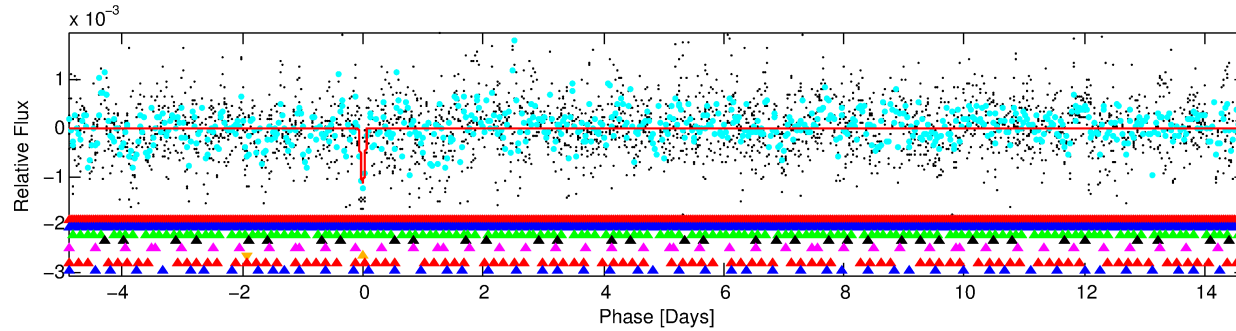
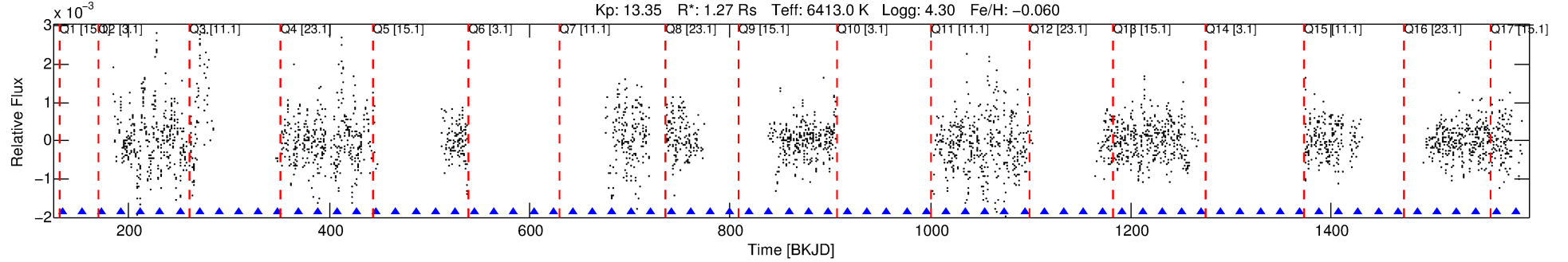
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004843152-06

No Significant Match Found

DV One-Page Summary

KIC: 4843152 Candidate: 6 of 8 Period: 19.598 d



DV Fit Results:

Period = 19.59801 [0.00028] d
Epoch = 133.5933 [0.0109] BKJD
Rp/R* = 0.0419 [0.0390]
a/R* = 17.34 [9.53]
b = 0.97 [0.10]
Seff = 108.43 [44.25]
Teq = 823 [84] K
Rp = 5.81 [5.72] Re
a = 0.1500 [0.0400] AU
Ag = 235.88 [453.85] [0.52 σ]
Teff = 4986 [2355] K [1.77 σ]

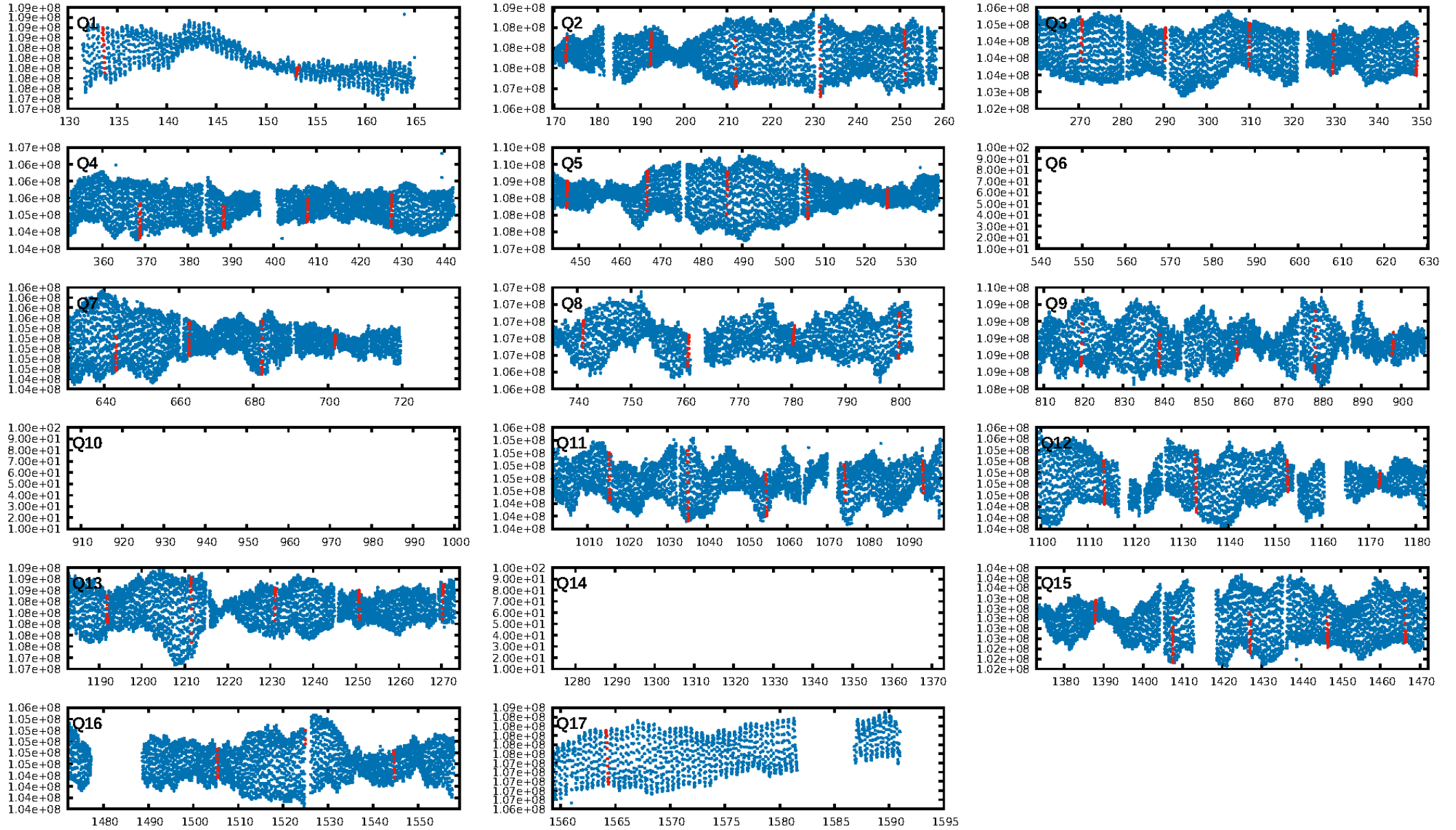
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [29.03 σ]
LongPeriod-sig: 100.0% [53.35 σ]
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.9373
Centroid-sig: 1.6%
Centroid-so: 0.109 arcsec [0.85 σ]
OotOffset-rm: 0.077 arcsec [0.47 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-rm: 0.130 arcsec [1.38 σ]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 0.00 [0/14]

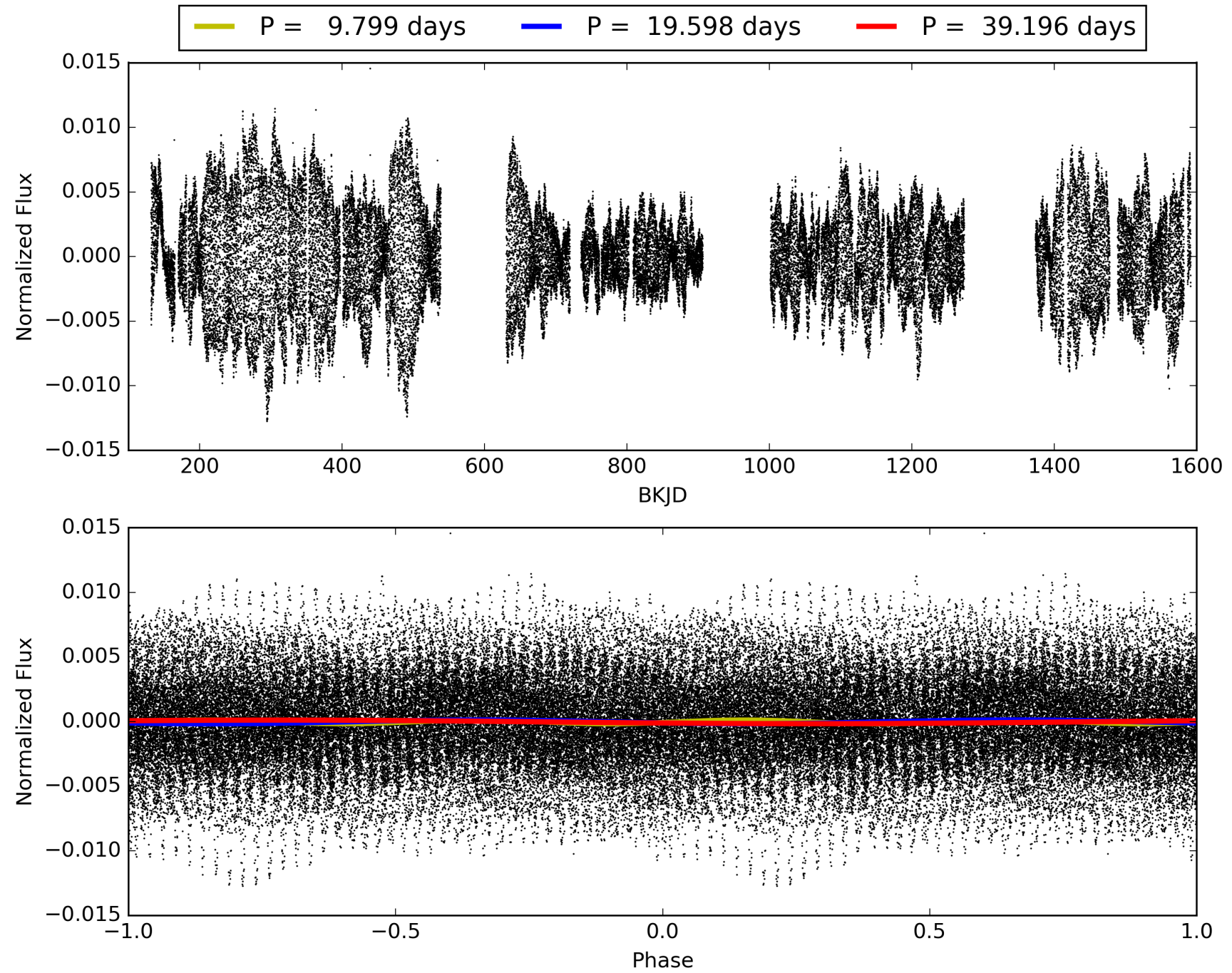
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:53:15 Z

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

TCE 004843152-06, PDC Light Curves

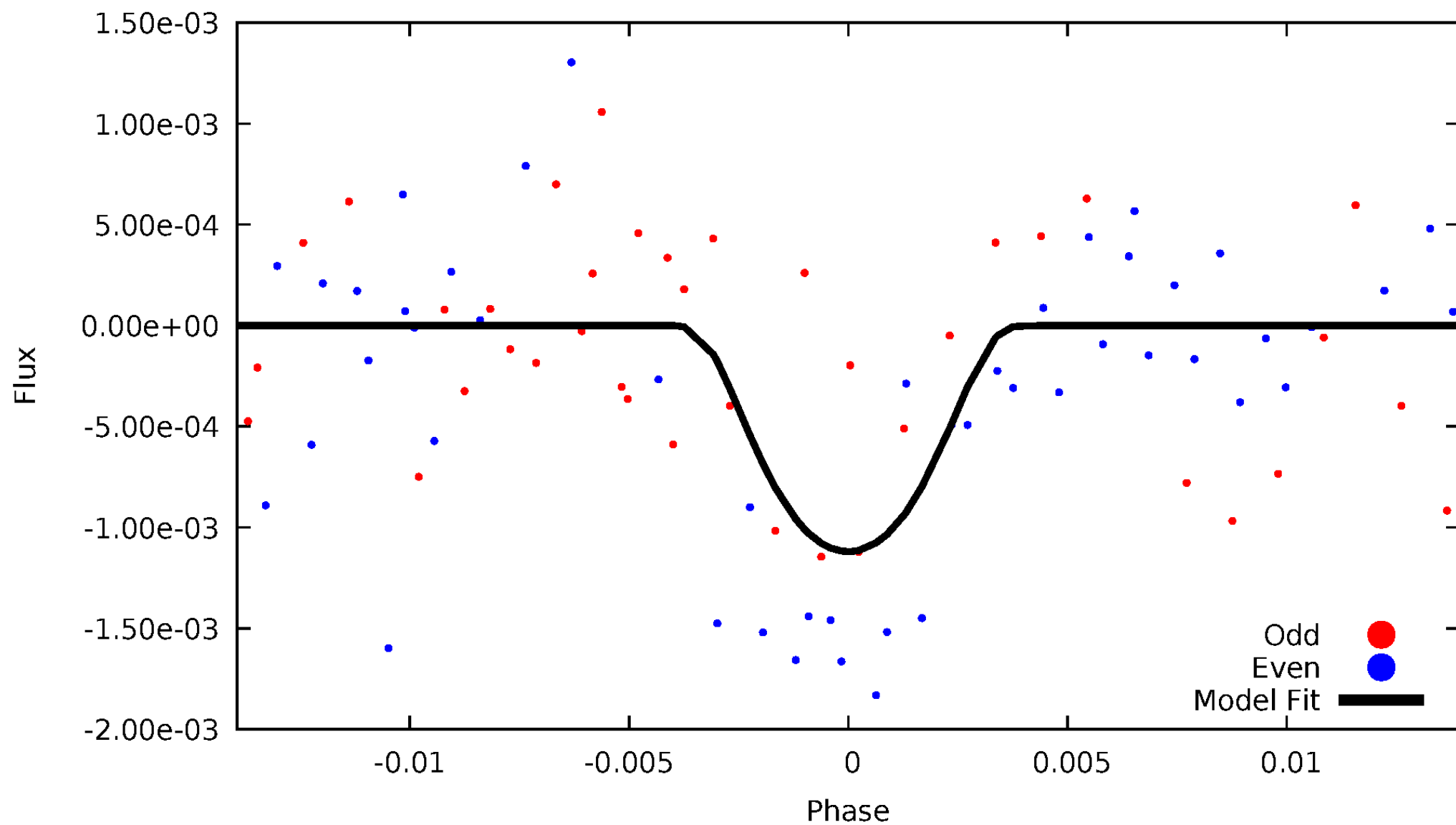


TCE 004843152-06



DV Odd/Even

TCE 004843152-06

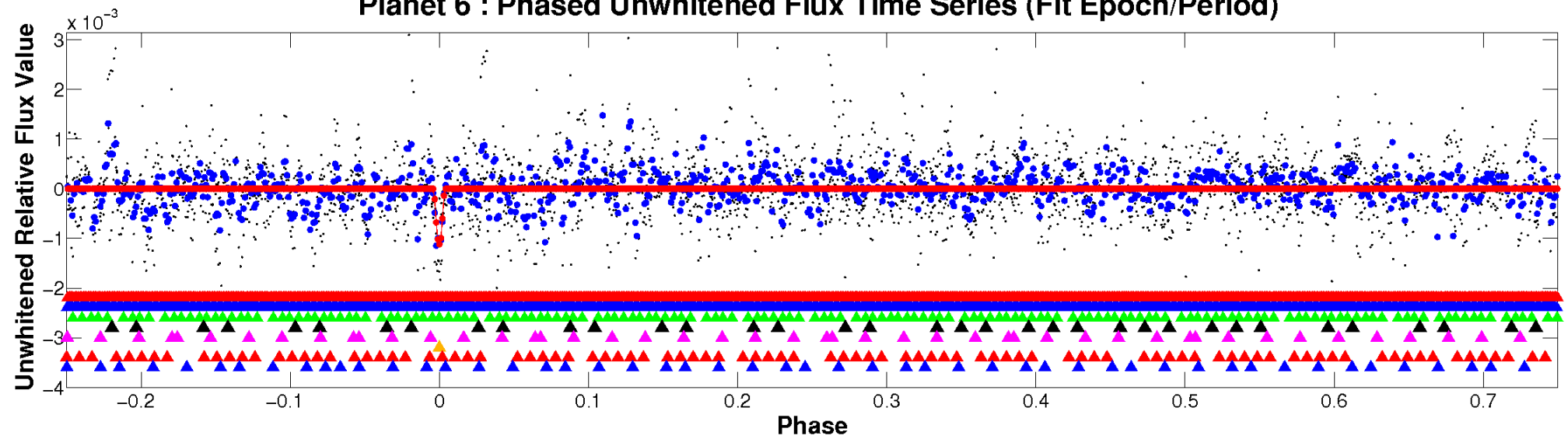


ALT Odd/Even

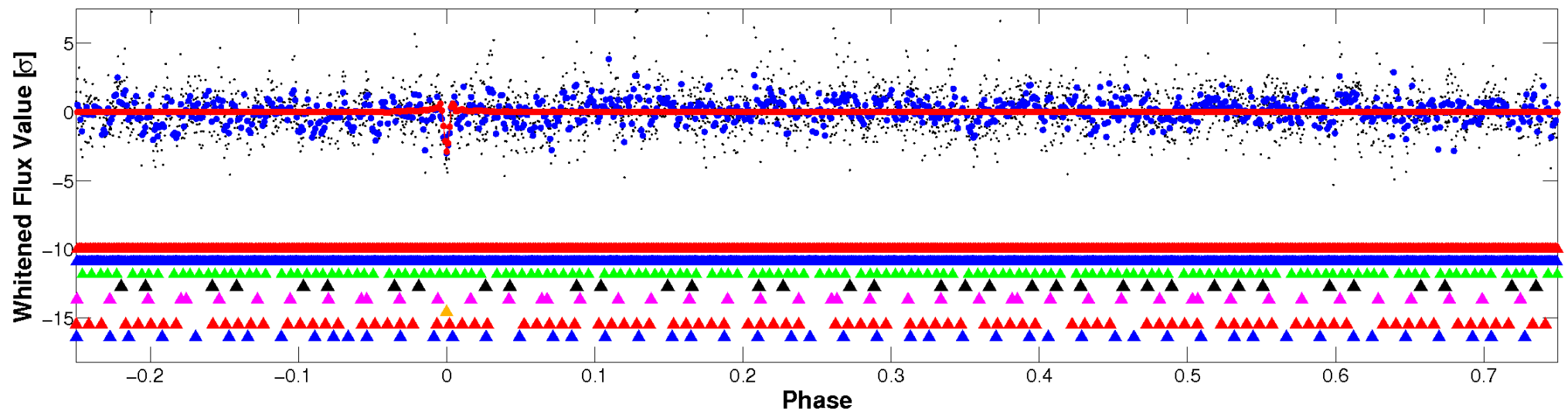
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

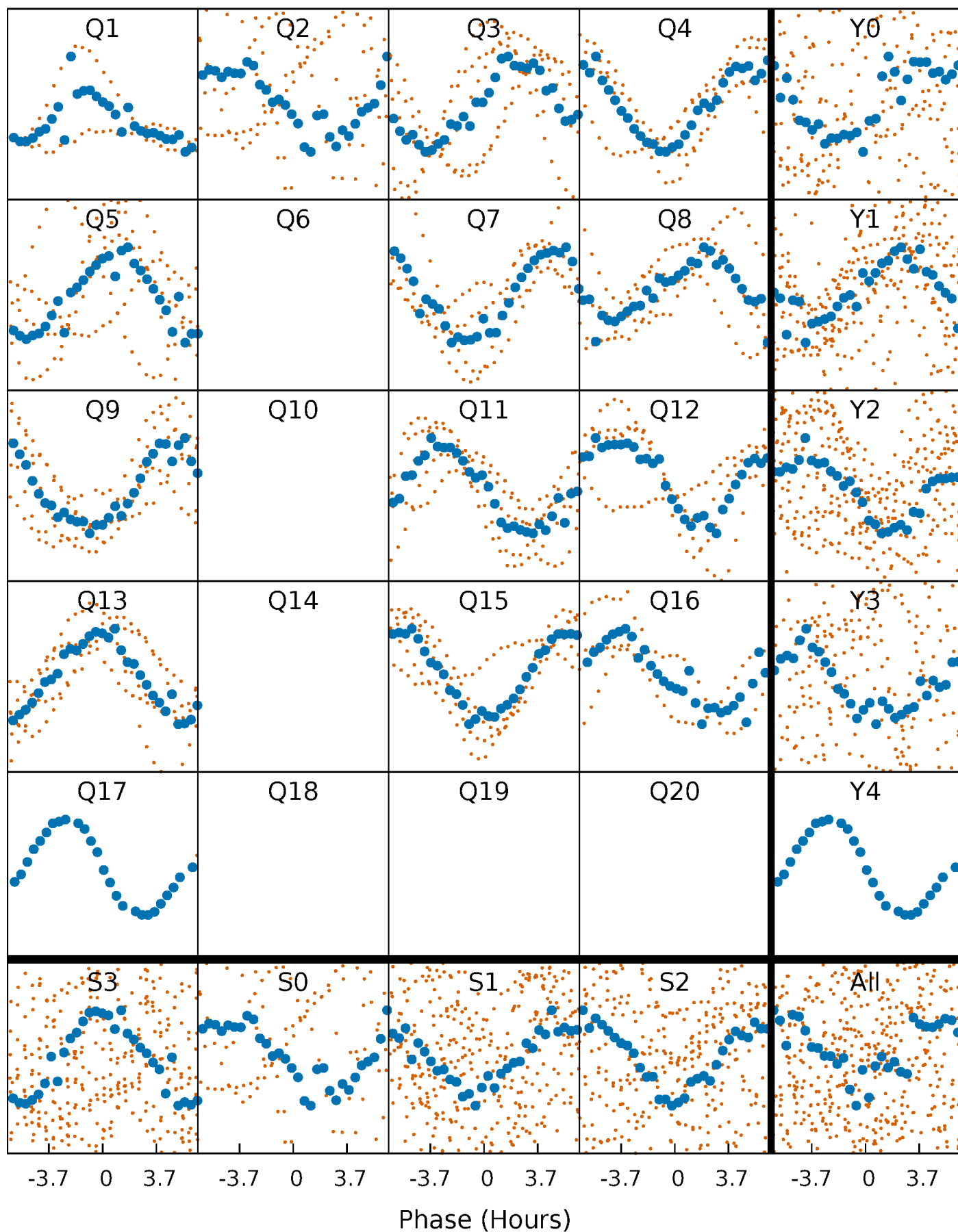


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



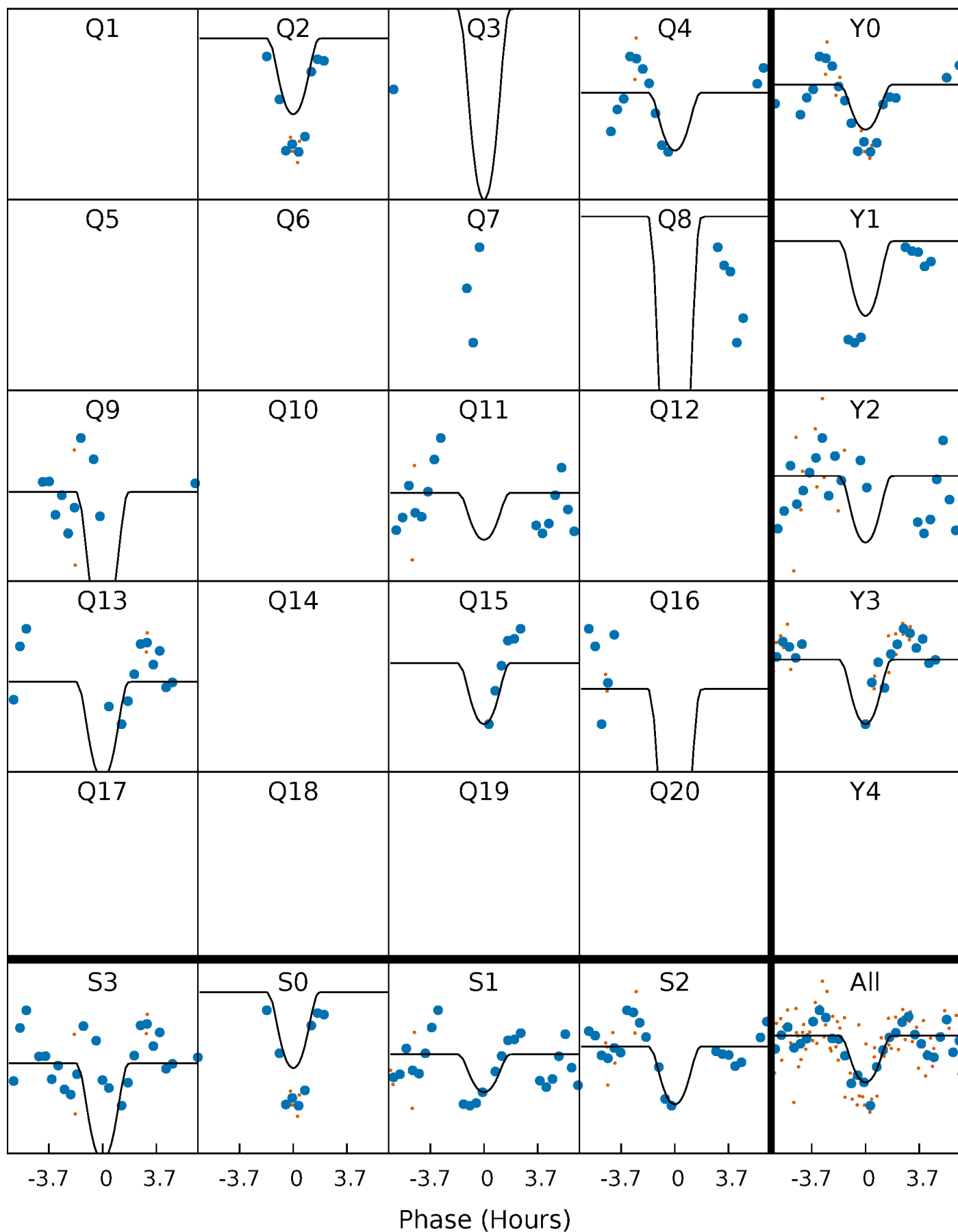
PDC Quarter-Phased Transit Curves

TCE 004843152-06 P= 19.598008 Days $T_0=133.593273$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004843152-06 P= 19.598008 Days $T_0=133.593273$ (BKJD)

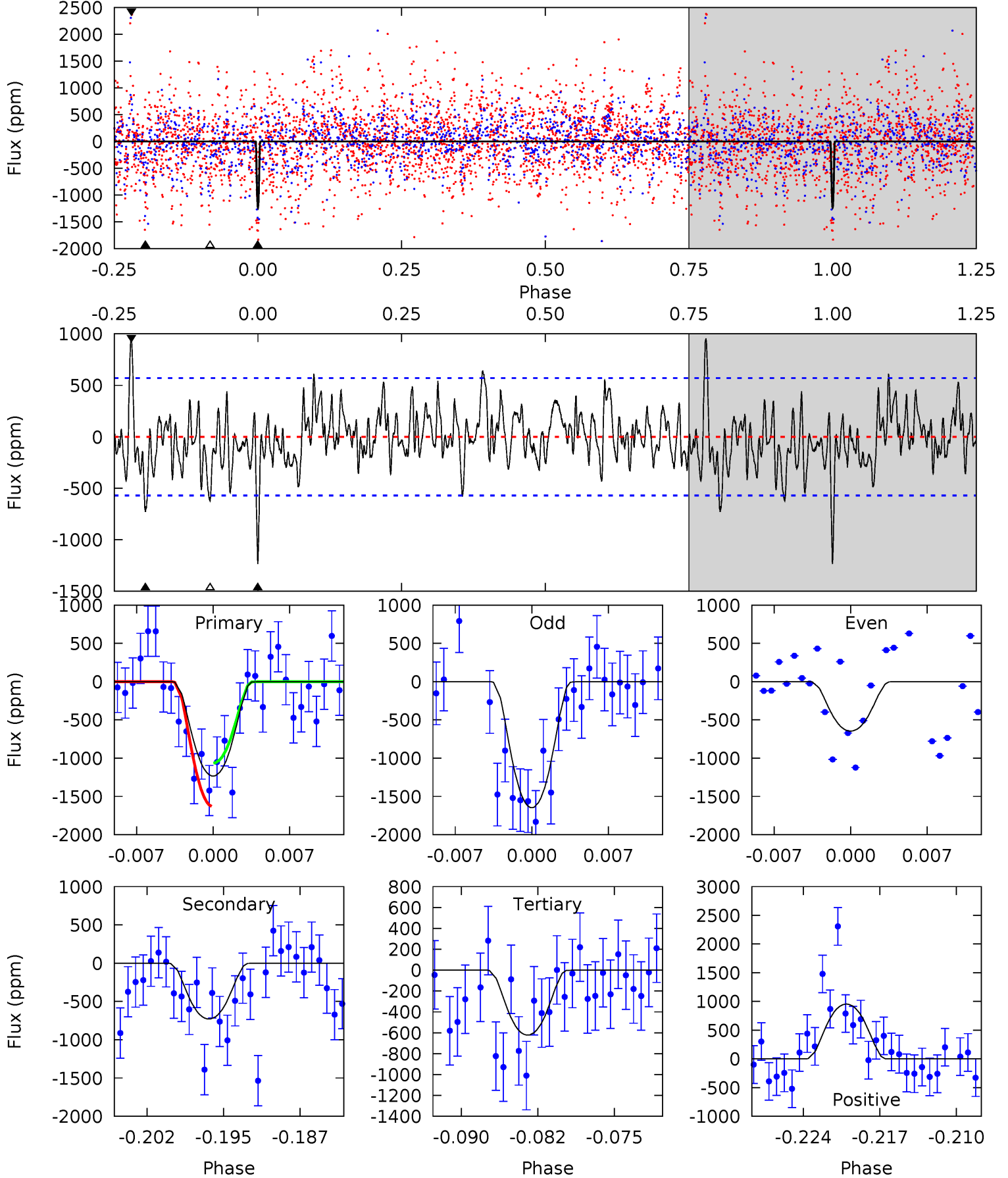


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

004843152-06, P = 19.598008 Days, E = 133.593273 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	6.51	5.55	8.51	5.08	2.67	2.00	5.46	2.50	0.95	-2.01	4.34	0.90	0.44	2.46



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 004843152

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6413^{+153}_{-211}	$4.300^{+0.105}_{-0.210}$	$-0.060^{+0.250}_{-0.300}$	$1.269^{+0.405}_{-0.218}$	$1.172^{+0.181}_{-0.163}$	$0.808^{+0.407}_{-0.433}$
	+2%/-3%	+2%/-5%	+417%/-500%	+32%/-17%	+15%/-14%	+50%/-54%
Source	PHO1	KIC0	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 004843152-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-729±112	$7.29^{+4.88}_{-4.13}$	1161^{+94}_{-66}	4789^{+2347}_{-864}	166^{+698}_{-106}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

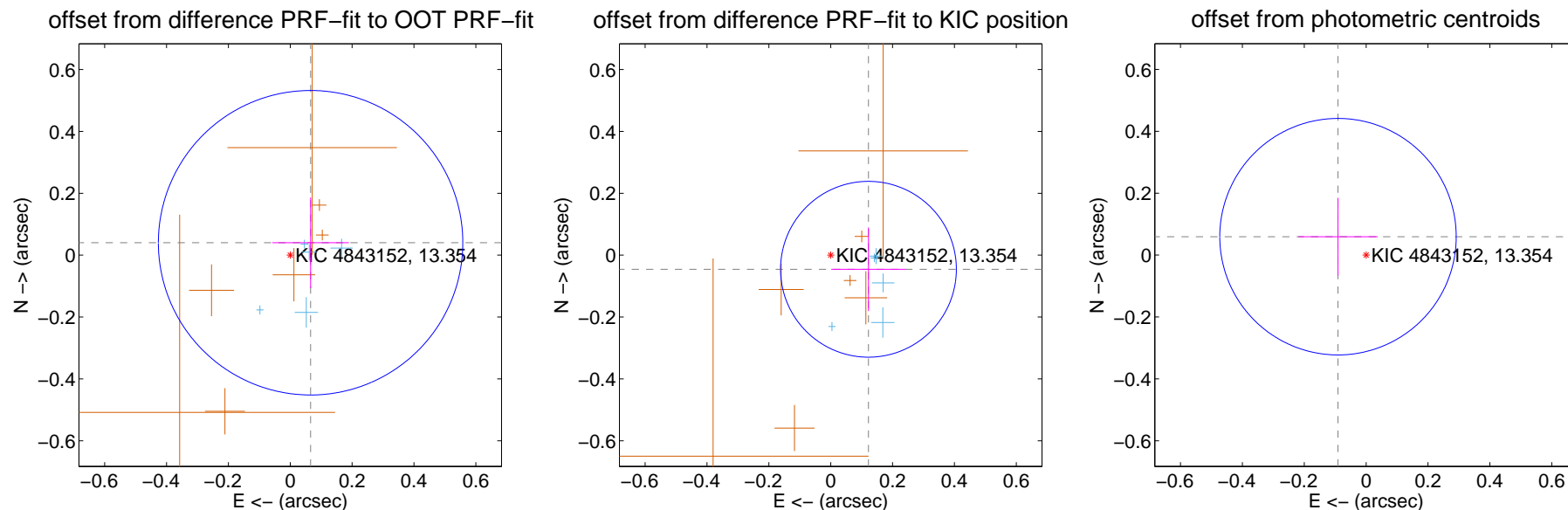
DV Centroid Data

Supplemental centroid analysis for 004843152-06. Kepler magnitude: 13.35. Transit SNR 8.95

There are 5 quarters with good PRF difference image offsets

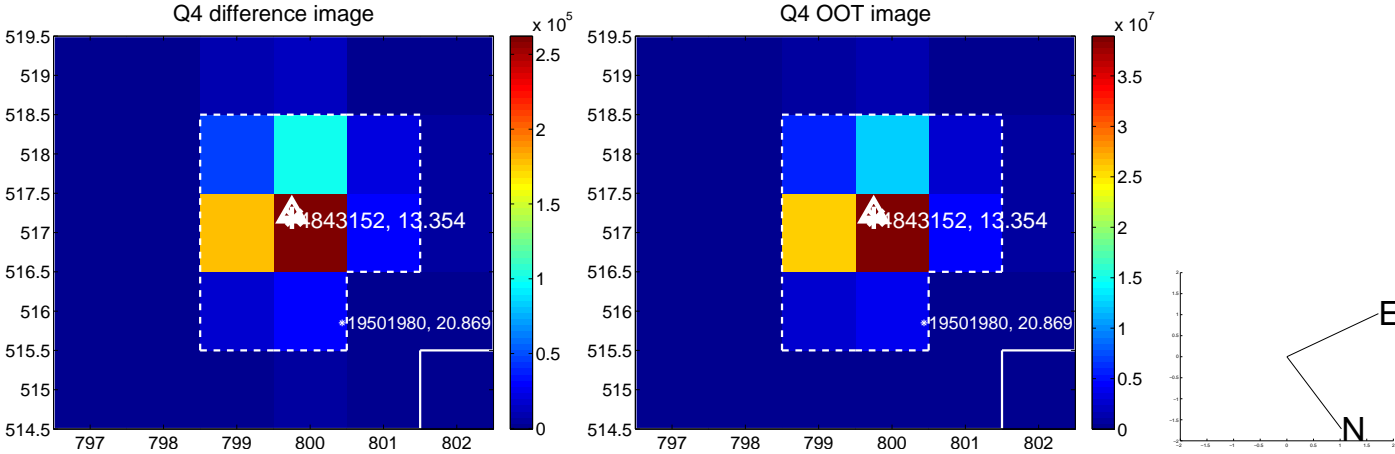
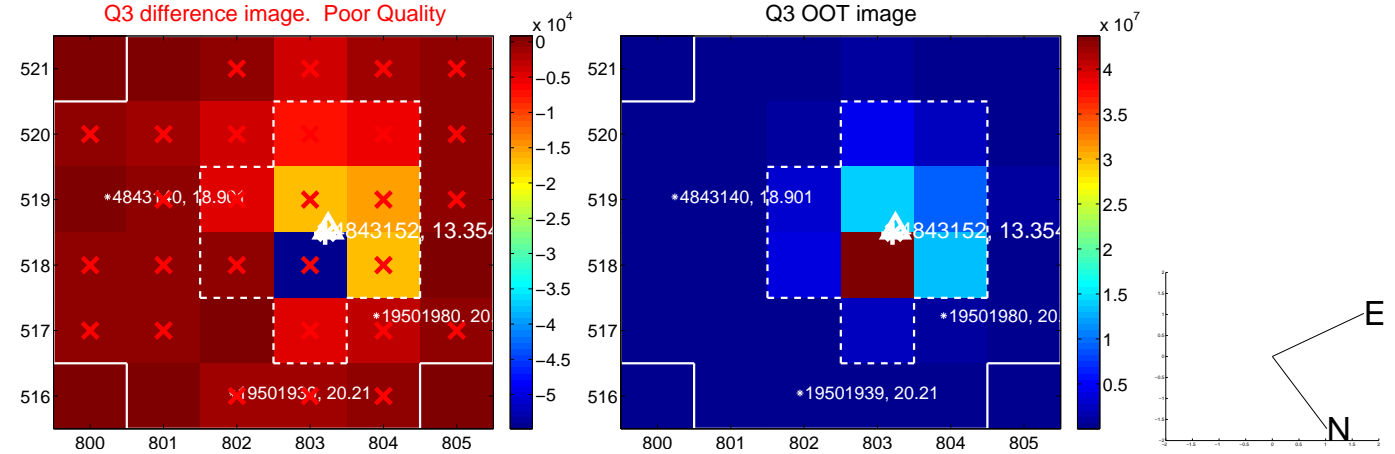
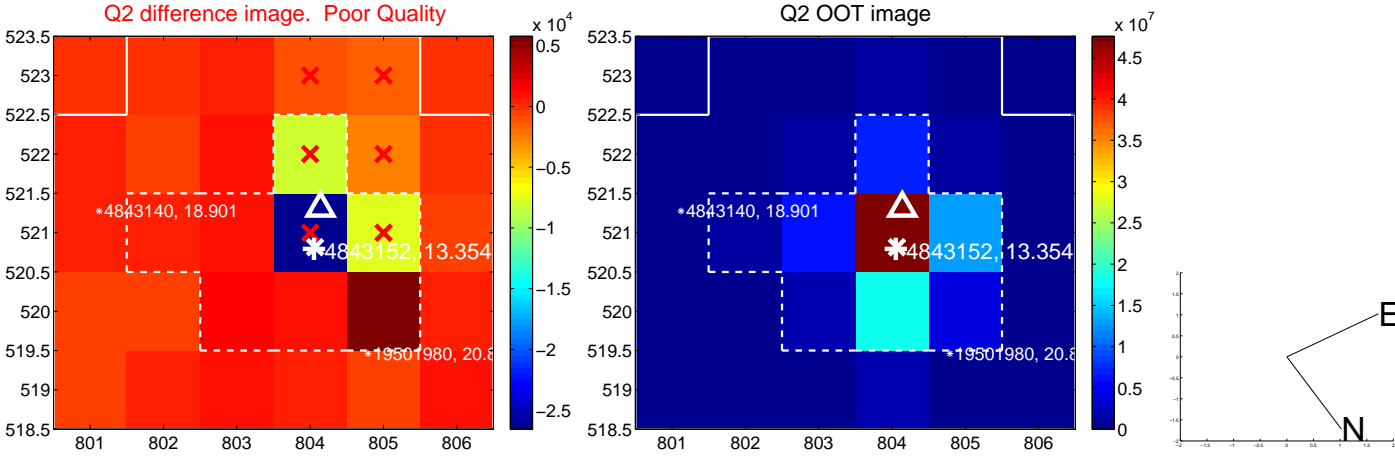
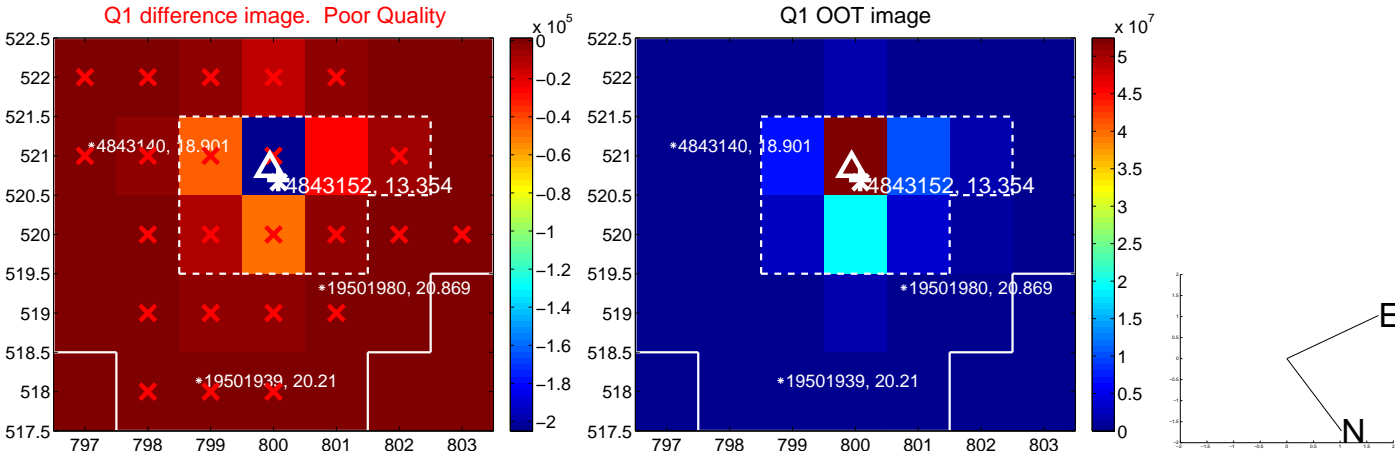
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.077 ± 0.164	0.47	-0.066 ± 0.124	0.040 ± 0.146
PRF-fit source offset from KIC position	0.130 ± 0.095	1.38	-0.122 ± 0.120	-0.046 ± 0.135
photometric centroid source offset	0.11 ± 0.13	0.85	0.09 ± 0.13	0.06 ± 0.13

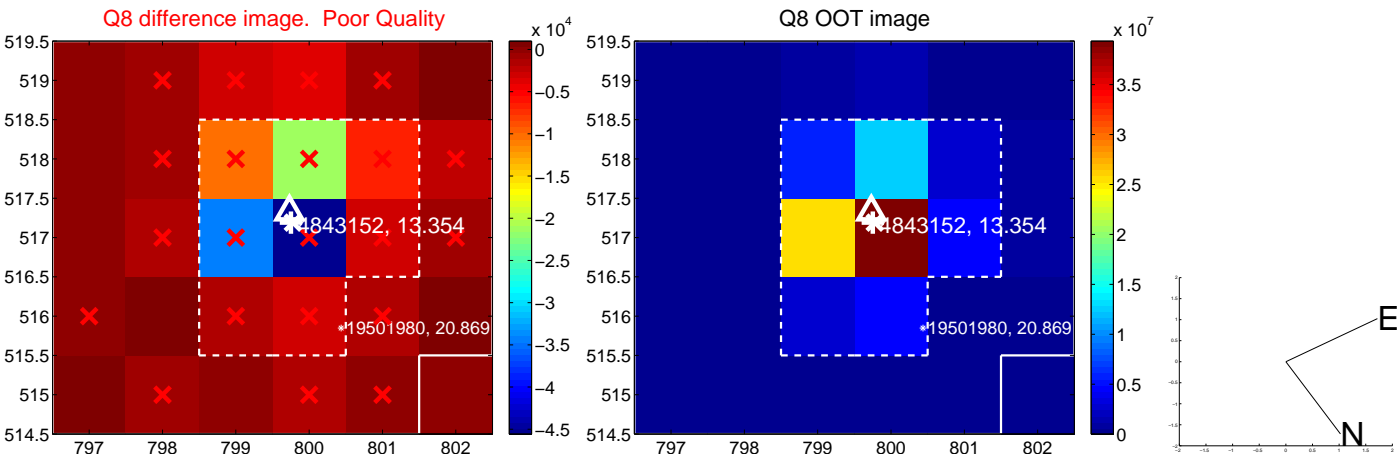
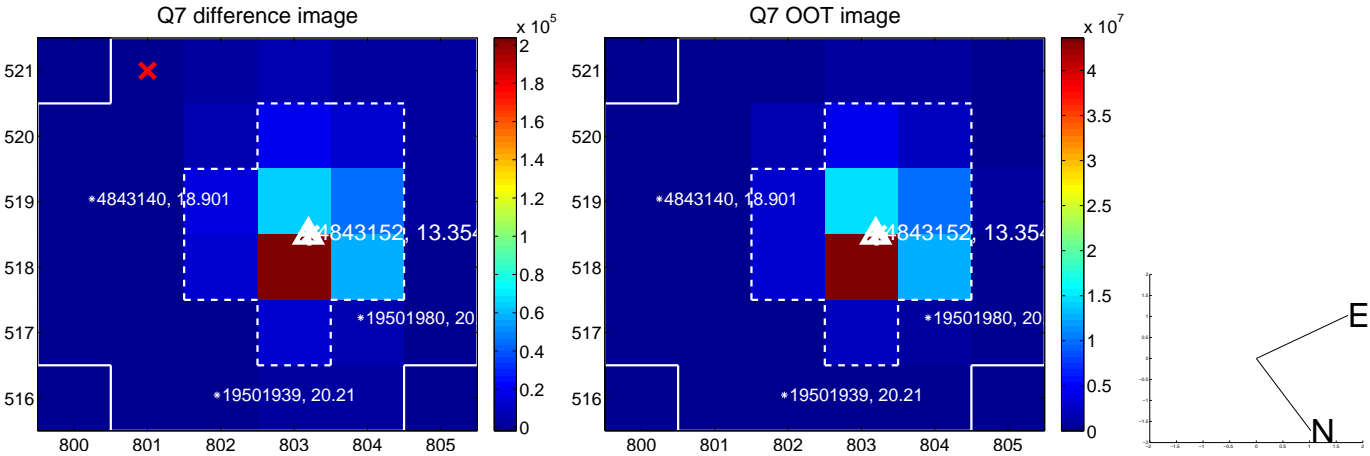
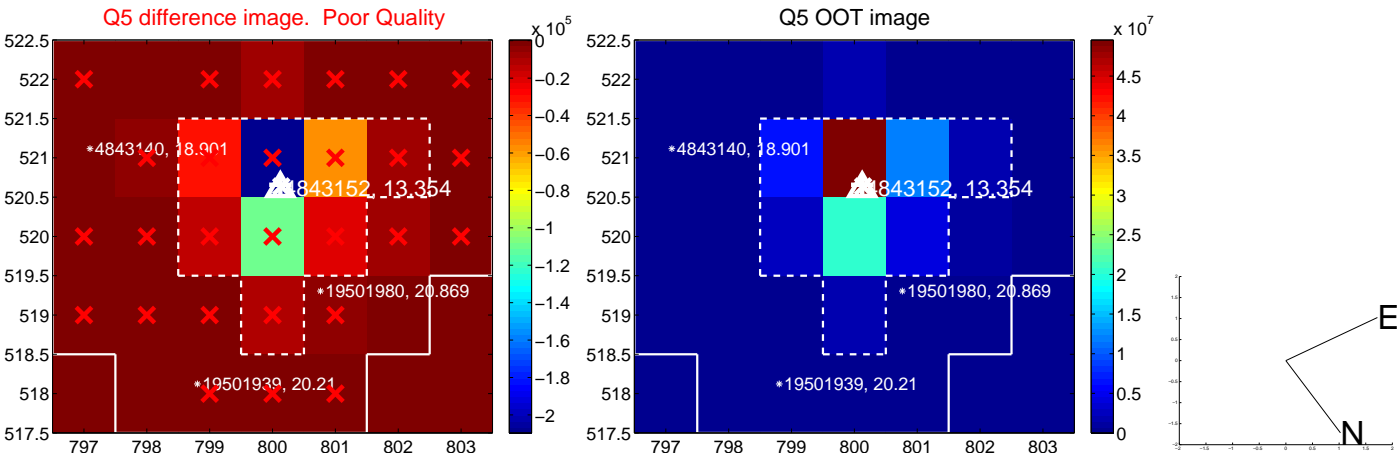


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

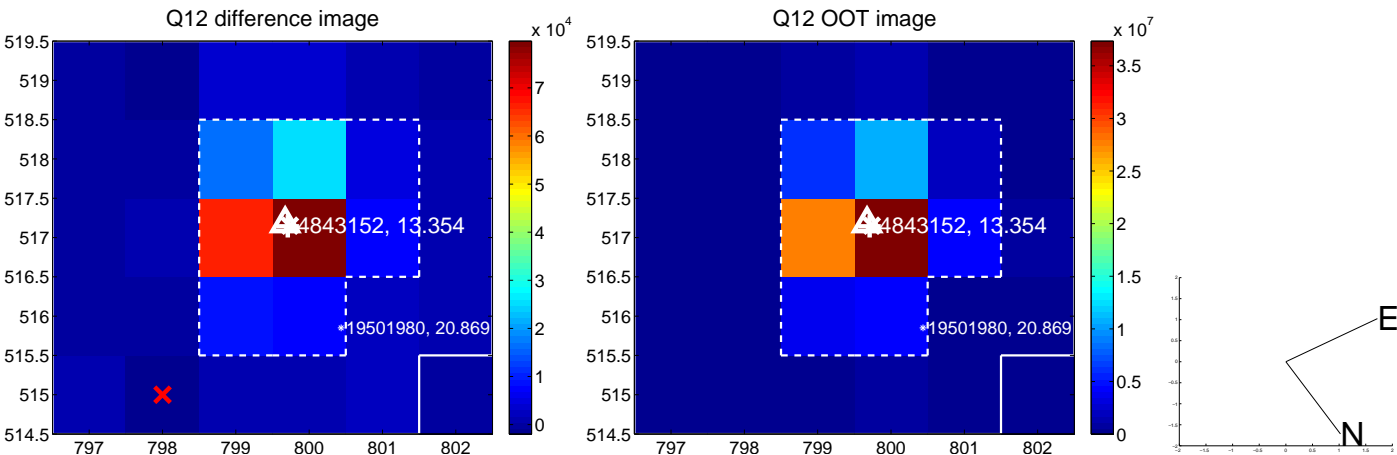
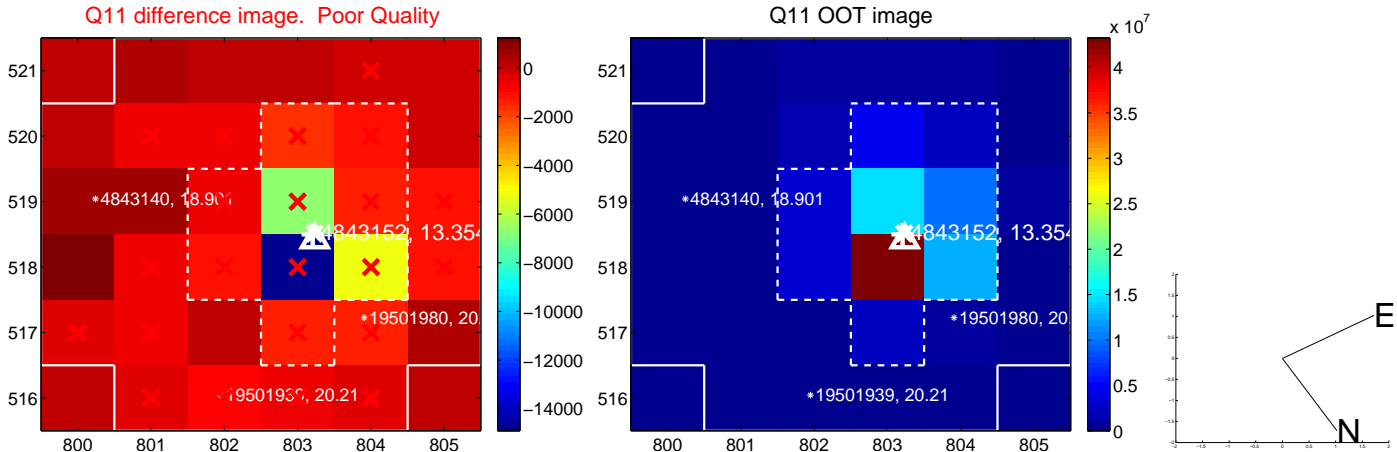
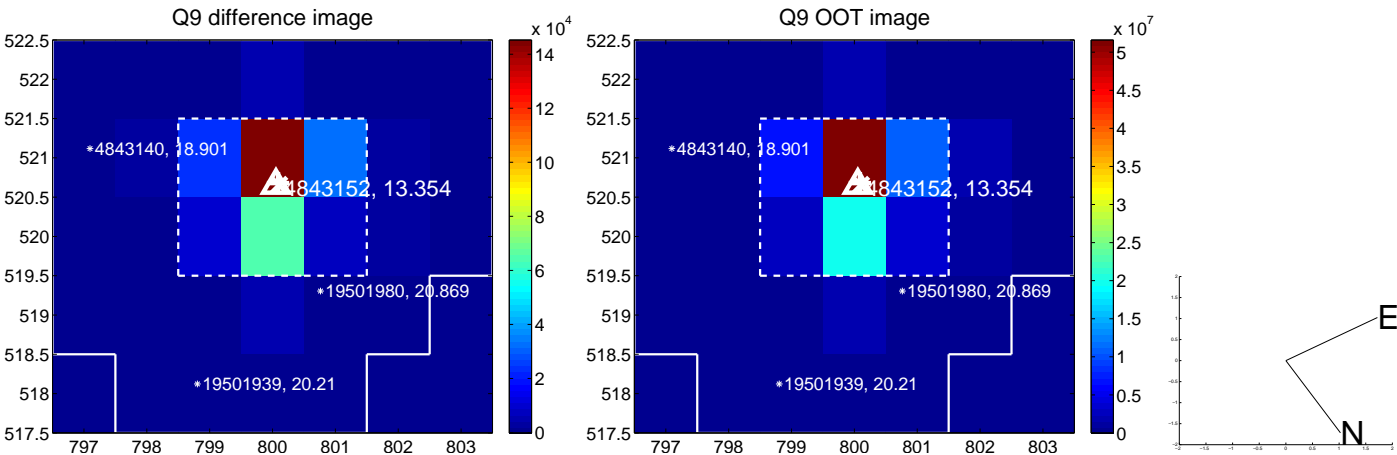
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



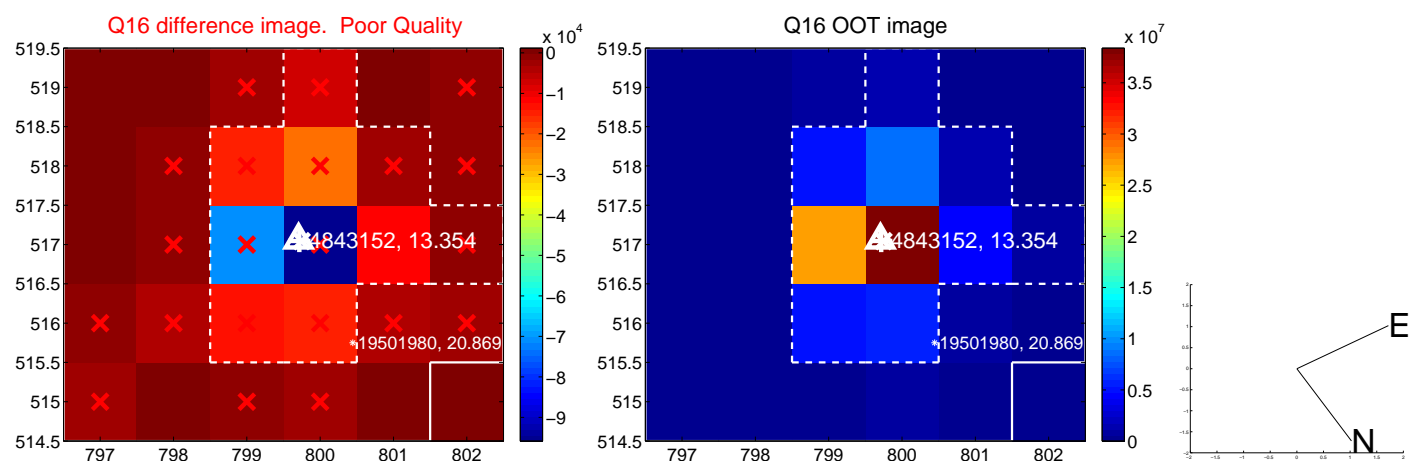
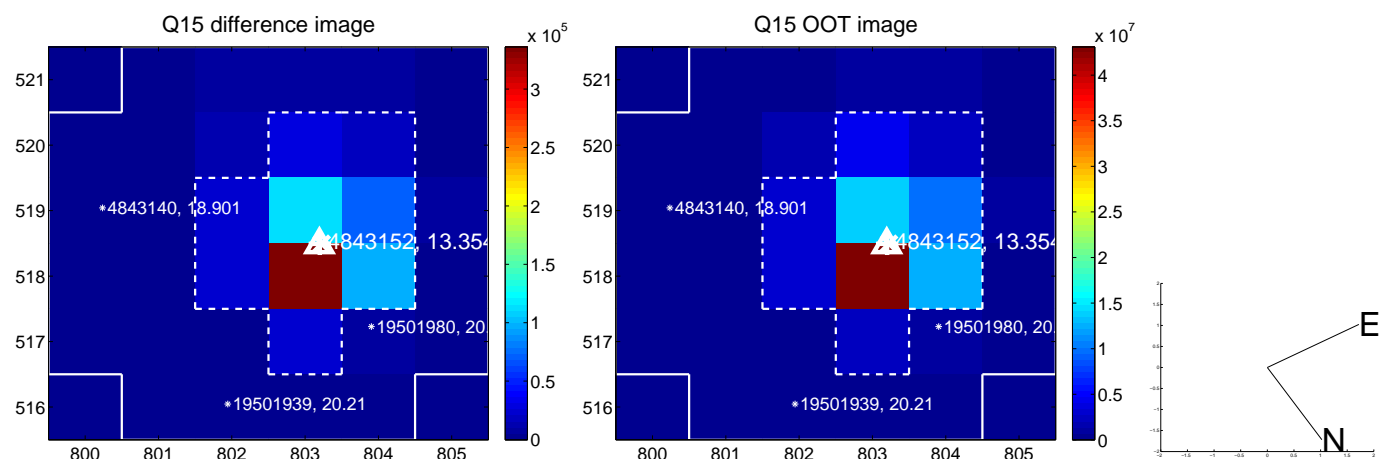
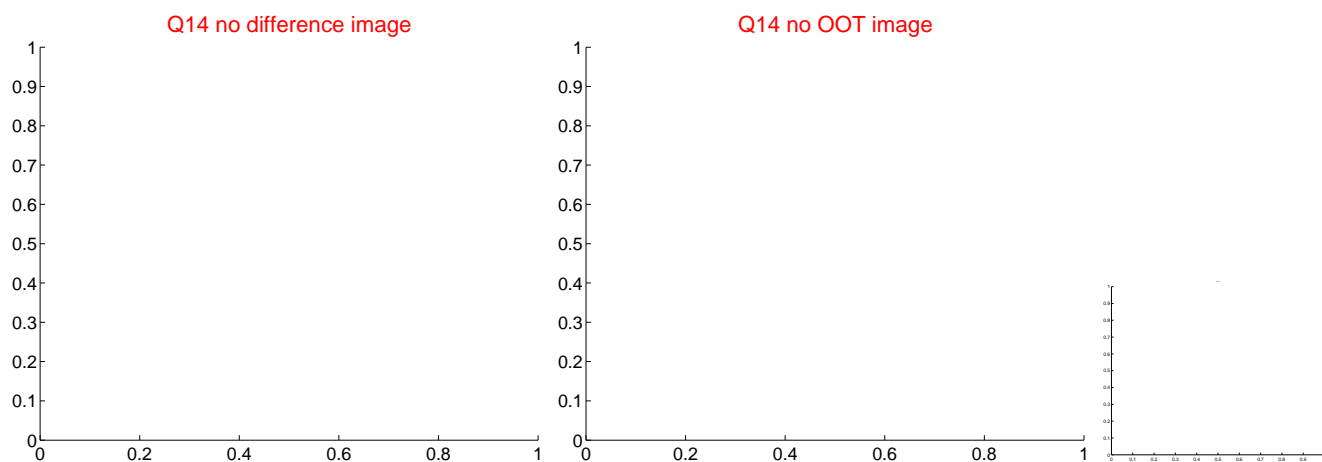
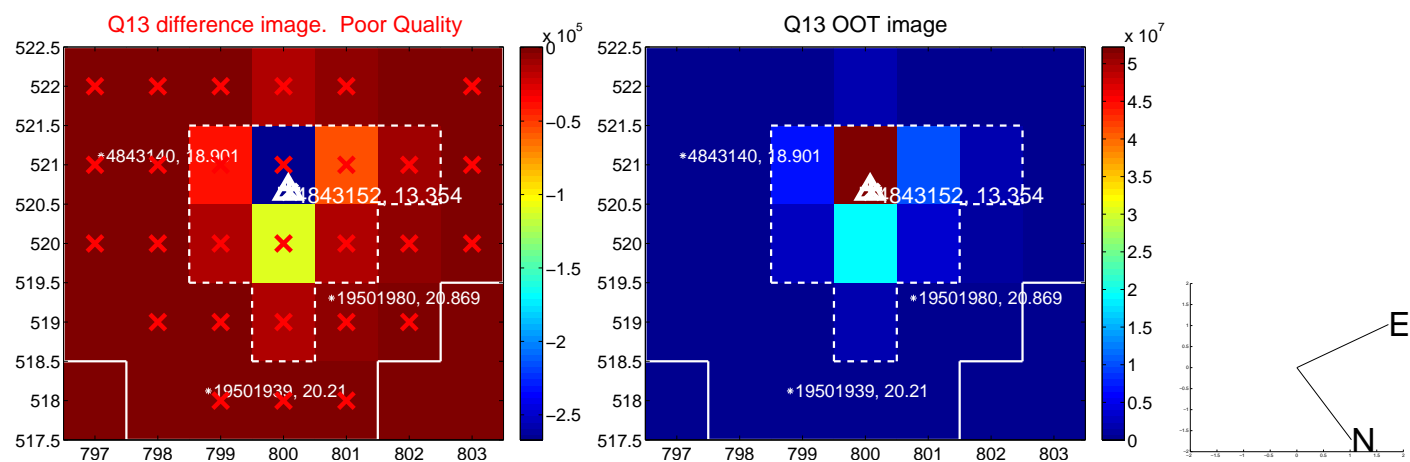
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



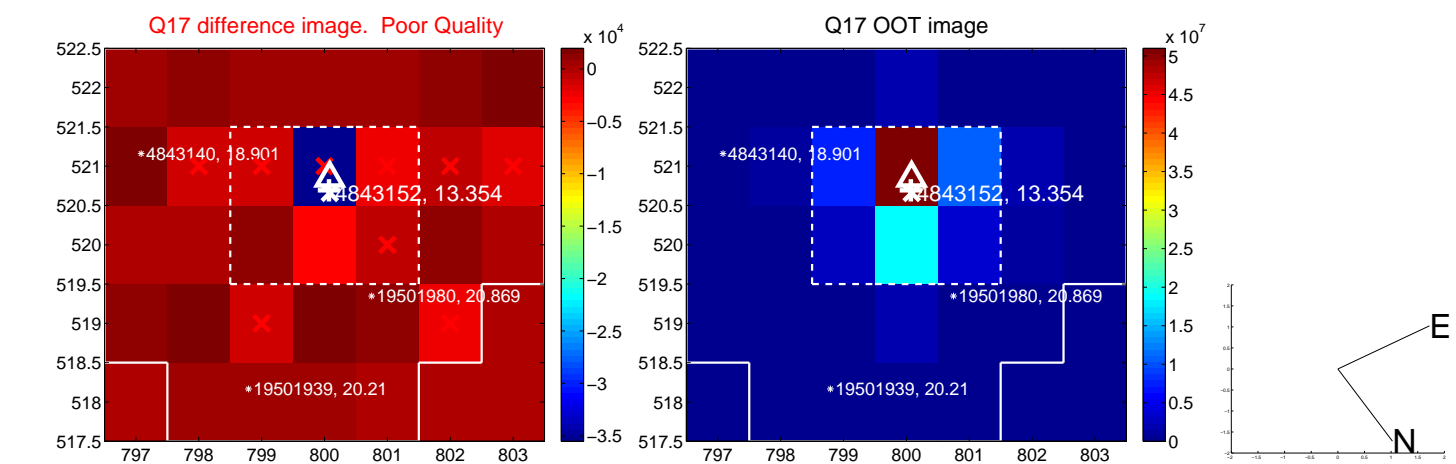
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



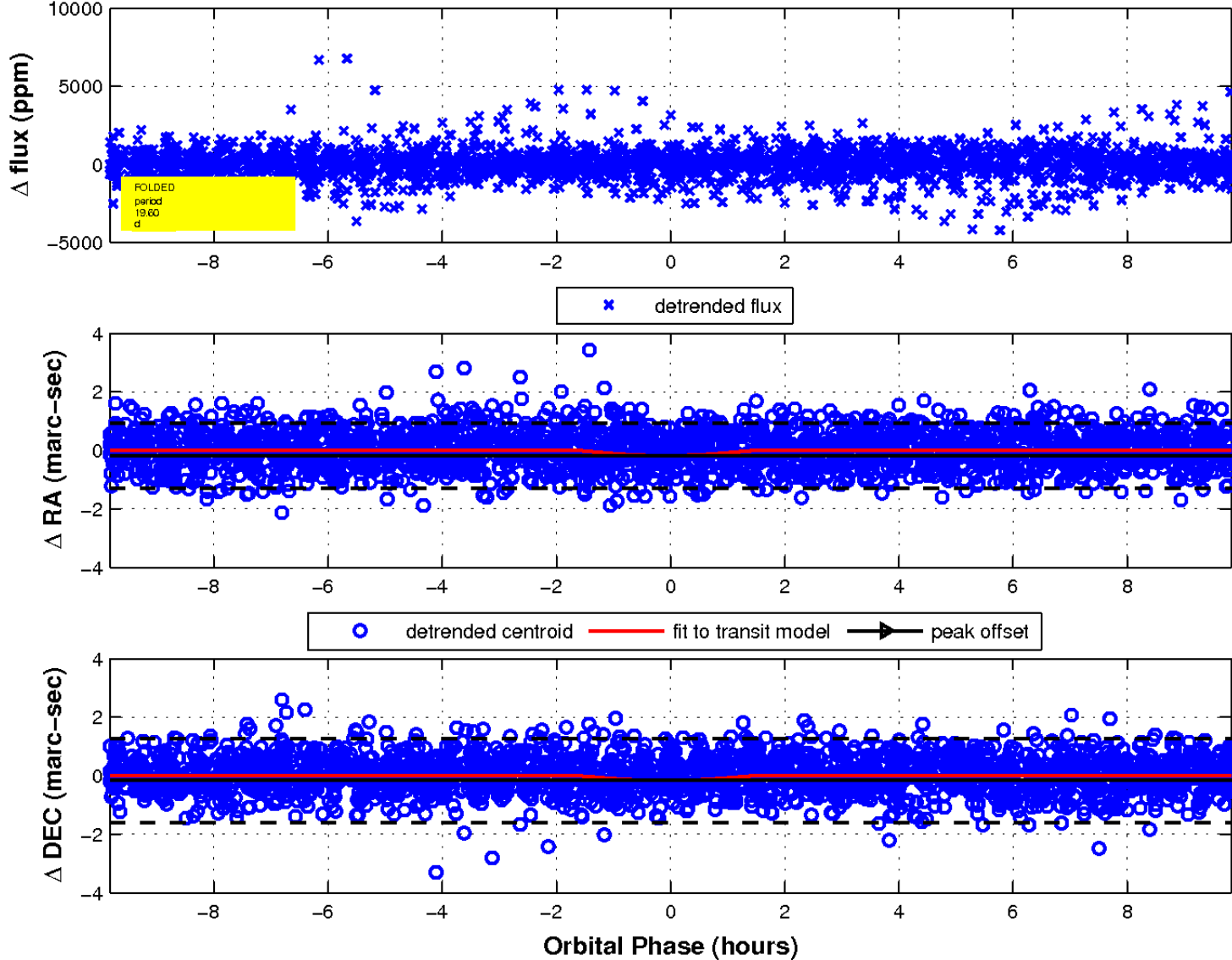
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



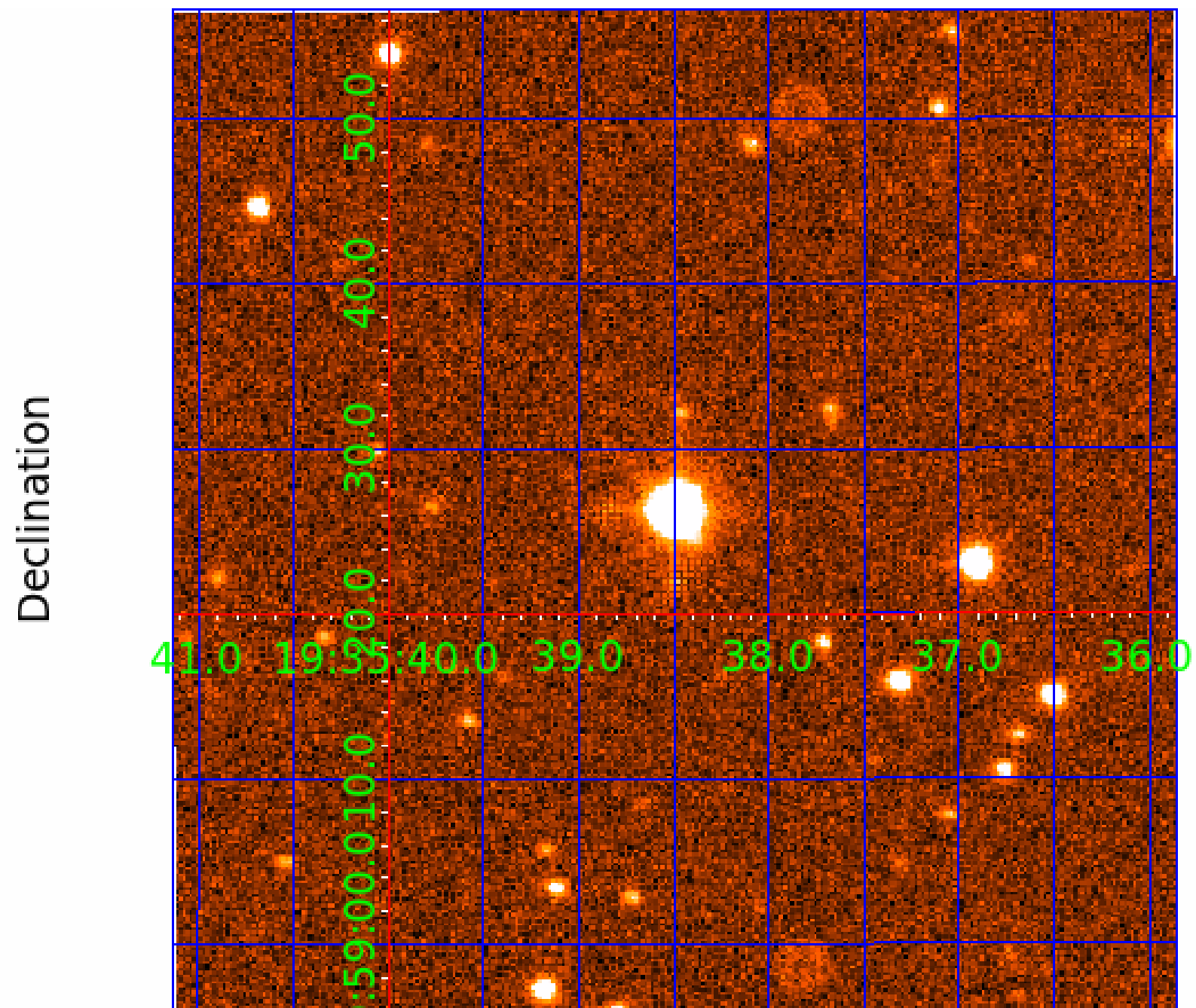
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 6 of 8



UKIRT Image



KIC 004843152

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})
004843152-01	OBS	No	0.963626	132.323766	42.2	3.492	7.2	4.5	1.27	6413	0.97	6019.62
004843152-02	OBS	No	0.957984	131.959384	34.1	6.583	8.0	2.3	1.27	6413	0.77	6066.94
004843152-03	OBS	No	9.087175	136.136526	746.8	2.493	12.3	7.4	1.27	6413	3.49	302.14
004843152-04	OBS	No	40.400853	160.372452	1456.0	1.678	12.9	10.6	1.27	6413	5.21	41.33
004843152-05	OBS	No	30.590288	158.354089	587.4	10.073	10.5	5.9	1.27	6413	3.25	59.89
004843152-06	OBS	No	19.598008	133.593272	1120.2	3.278	10.4	8.9	1.27	6413	5.81	108.43
004843152-07	OBS	No	15.480892	137.582723	1263.1	0.918	9.8	9.0	1.27	6413	4.61	148.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004843152-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004843152-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV
004843152-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—HALO_GHOST
004843152-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
004843152-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV
004843152-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

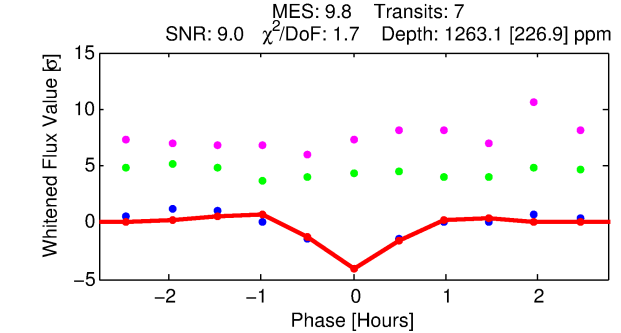
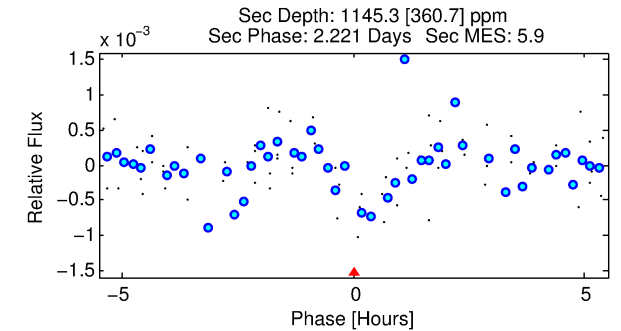
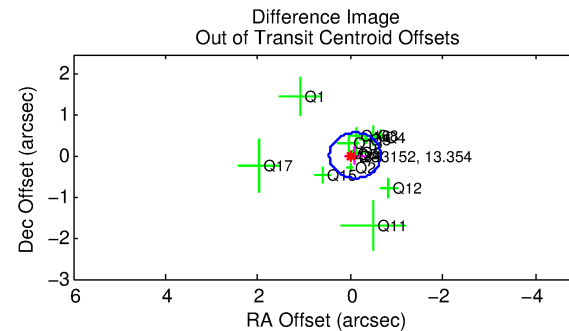
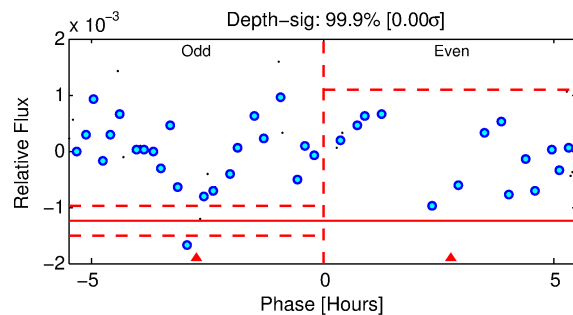
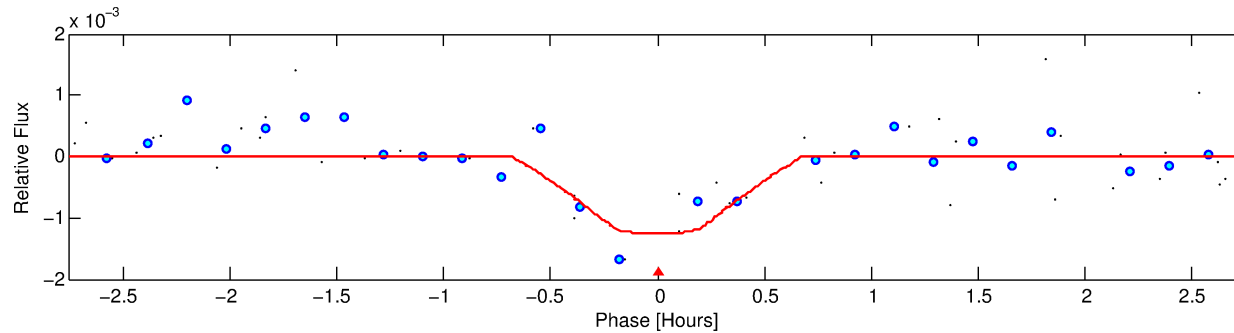
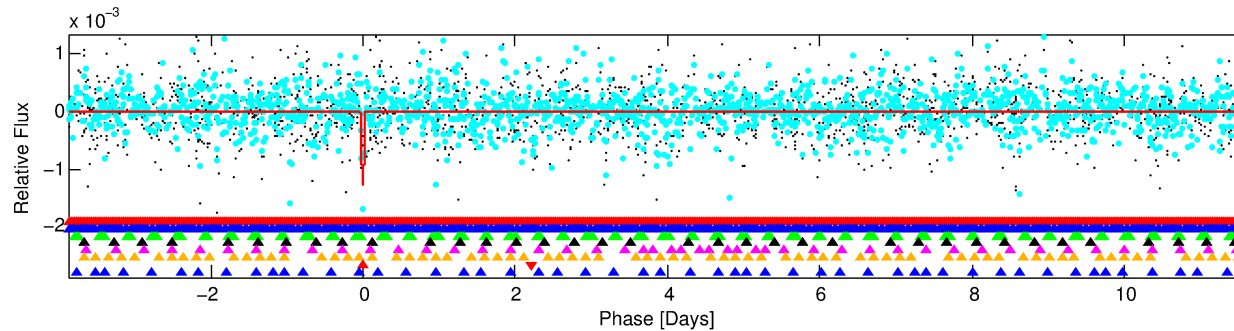
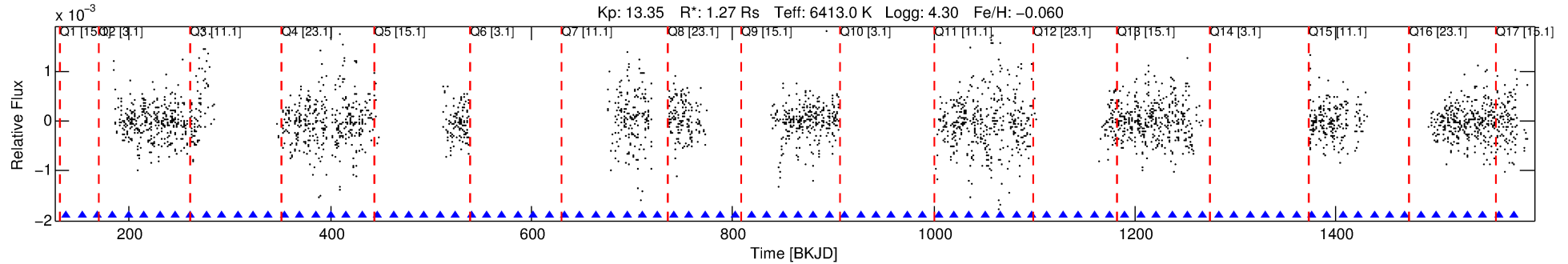
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004843152-07

No Significant Match Found

DV One-Page Summary

KIC: 4843152 Candidate: 7 of 8 Period: 15.481 d



DV Fit Results:

Period = 15.48089 [0.00013] d
Epoch = 137.5827 [0.0067] BKJD
Rp/R* = 0.0333 [0.0373]
a/R* = 127.39 [722.79]
b = 0.30 [17.26]
Seff = 148.50 [60.59]
Teq = 890 [91] K
Rp = 4.61 [5.37] Re
a = 0.1282 [0.0342] AU
Ag = 486.47 [1116.07] [0.43σ]
Teffp = 6463 [3660] K [1.52σ]

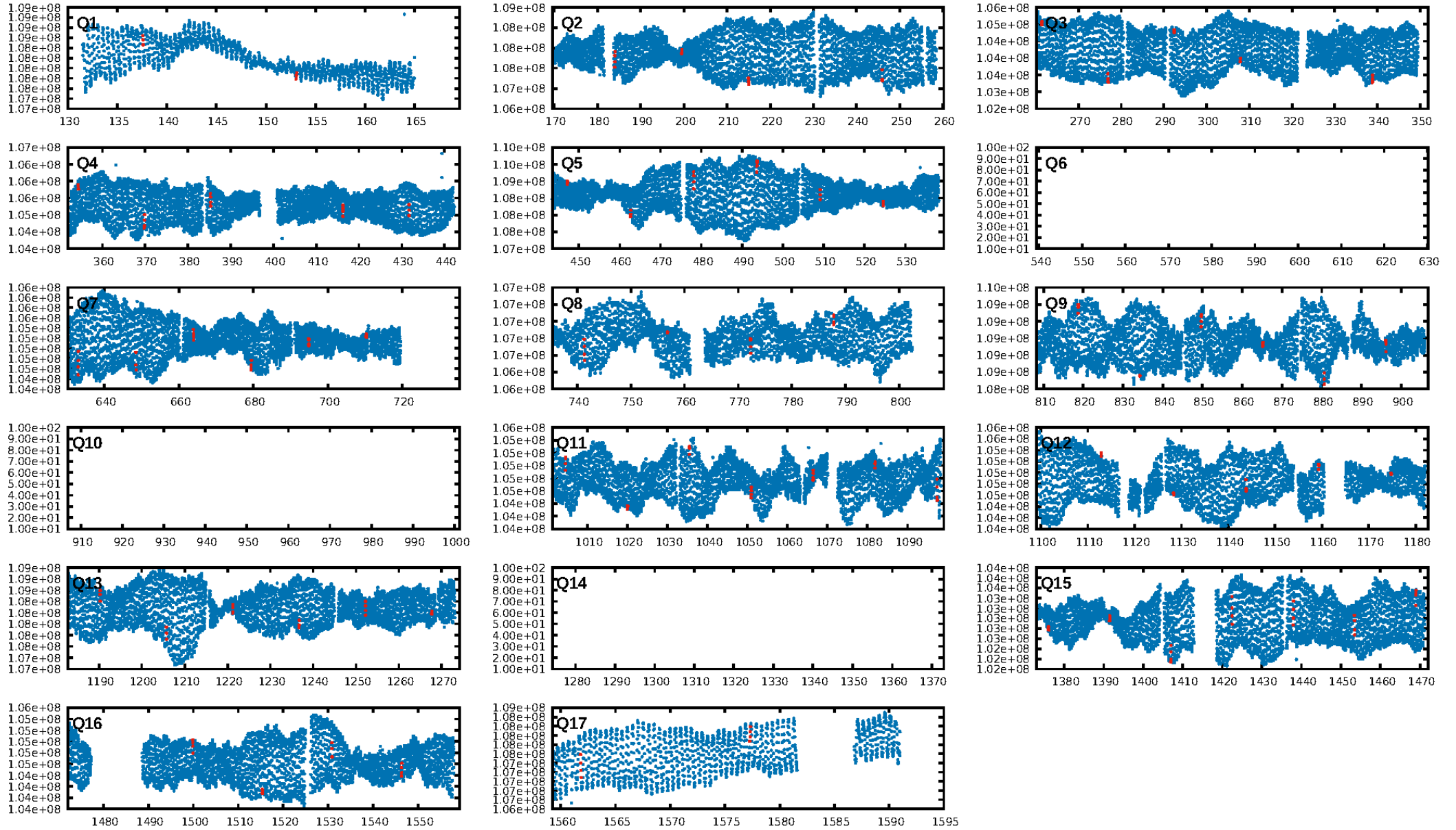
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [57.75σ]
LongPeriod-sig: 100.0% [29.03σ]
ModelChiSquare2-sig: 19.5%
ModelChiSquareGof-sig: 93.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.3154
Centroid-sig: 45.4%
Centroid-so: 0.188 arcsec [1.21σ]
OotOffset-rm: 0.098 arcsec [0.53σ]
KicOffset-rm: 0.178 arcsec [0.88σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 0.21 [3/14]

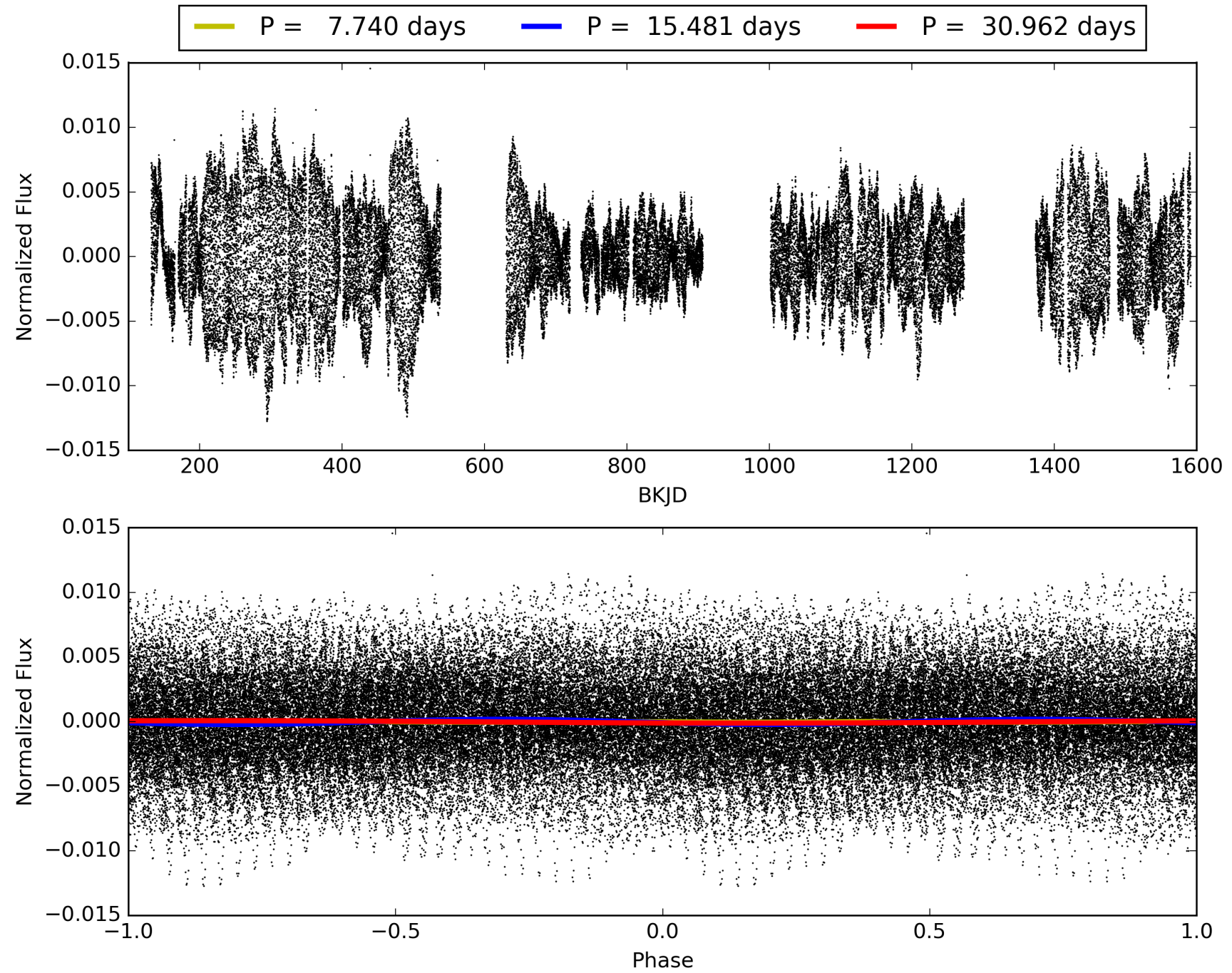
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:53:18 Z

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

TCE 004843152-07, PDC Light Curves

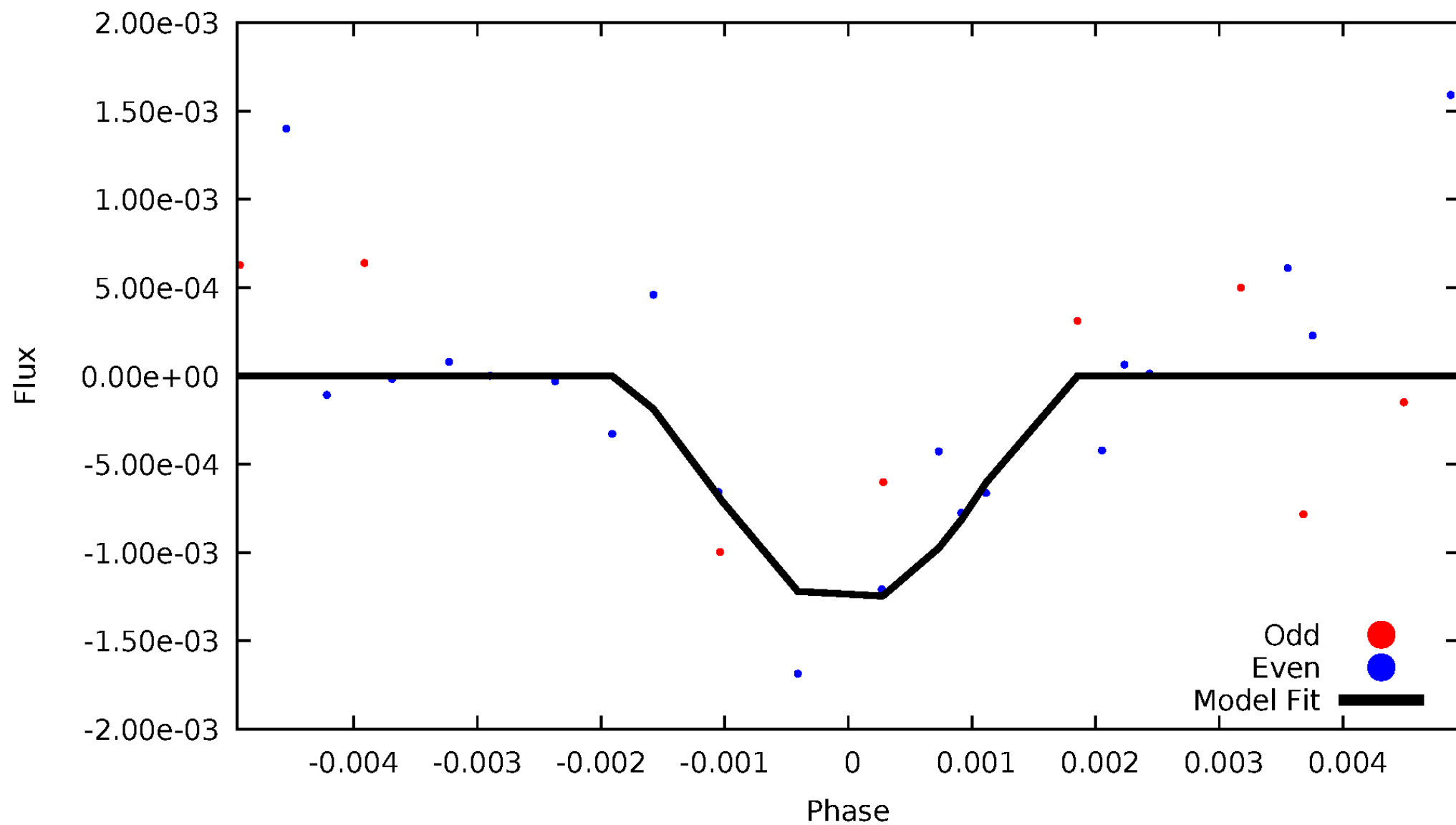


TCE 004843152-07



DV Odd/Even

TCE 004843152-07

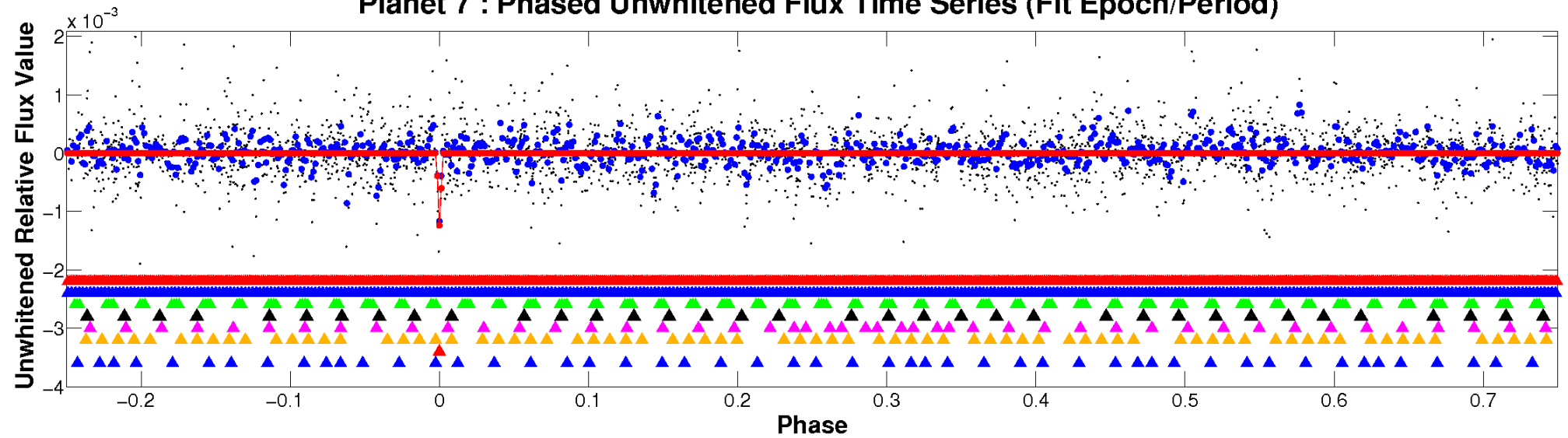


ALT Odd/Even

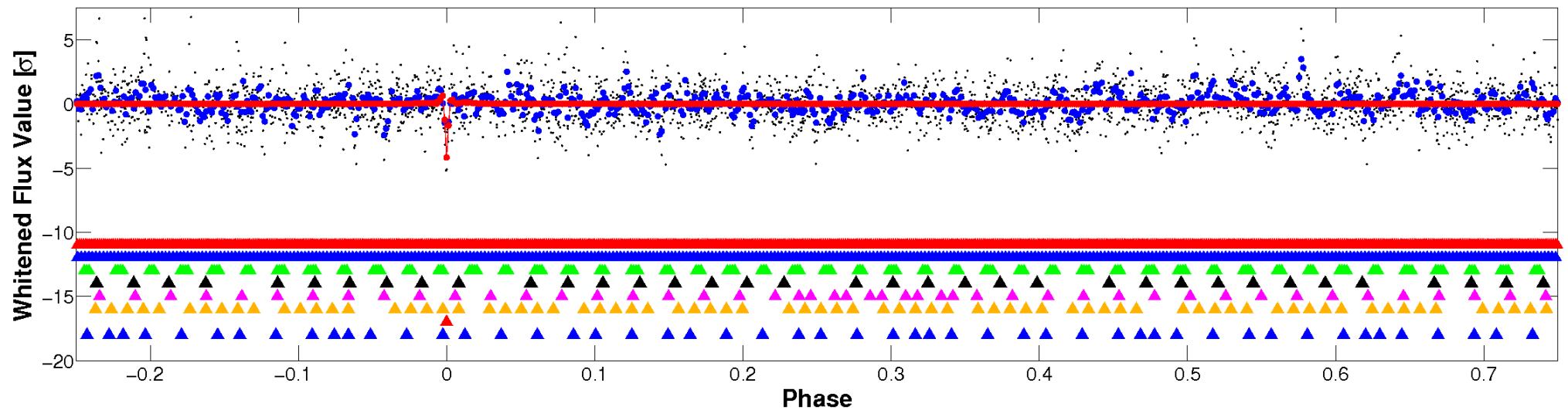
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

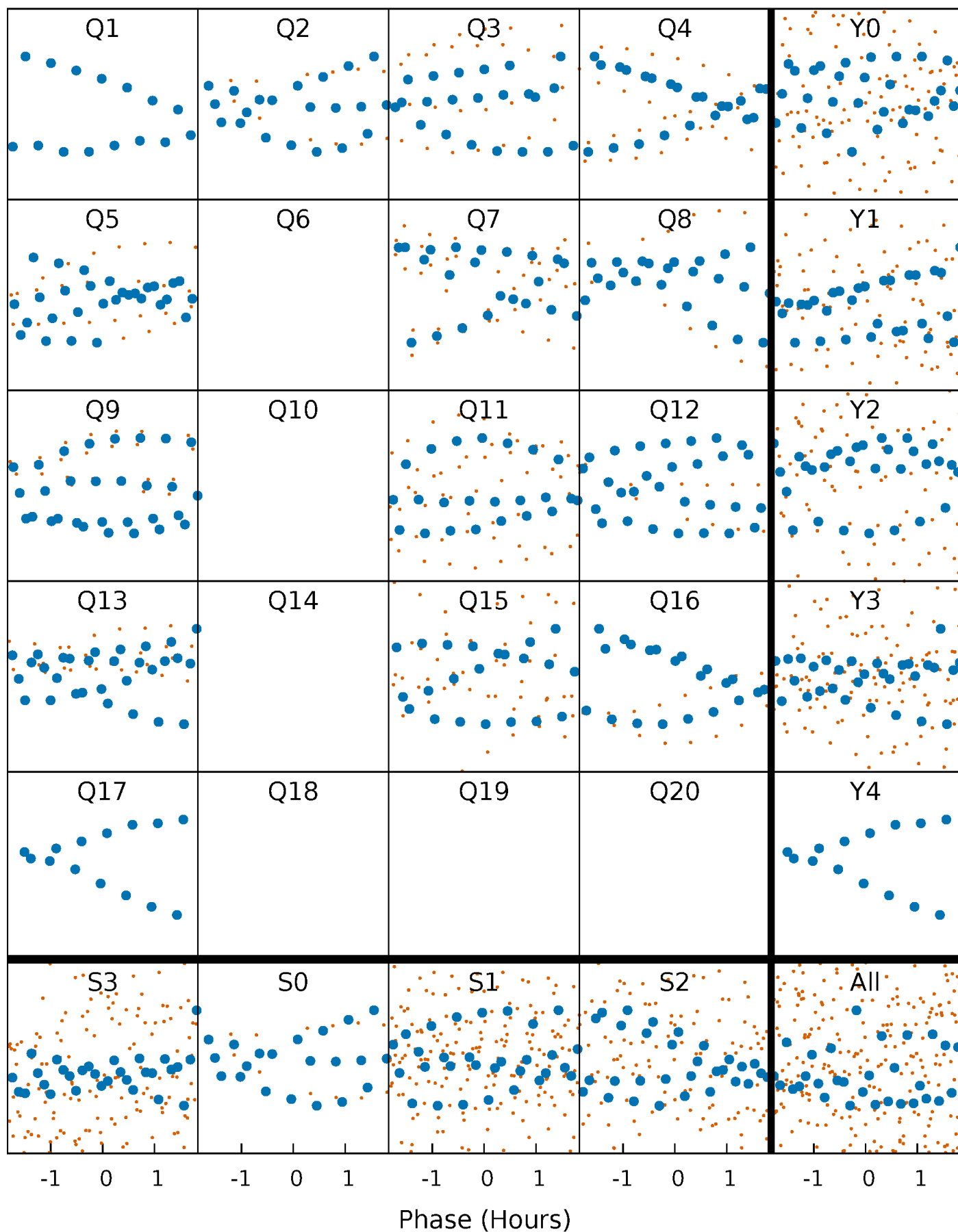


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



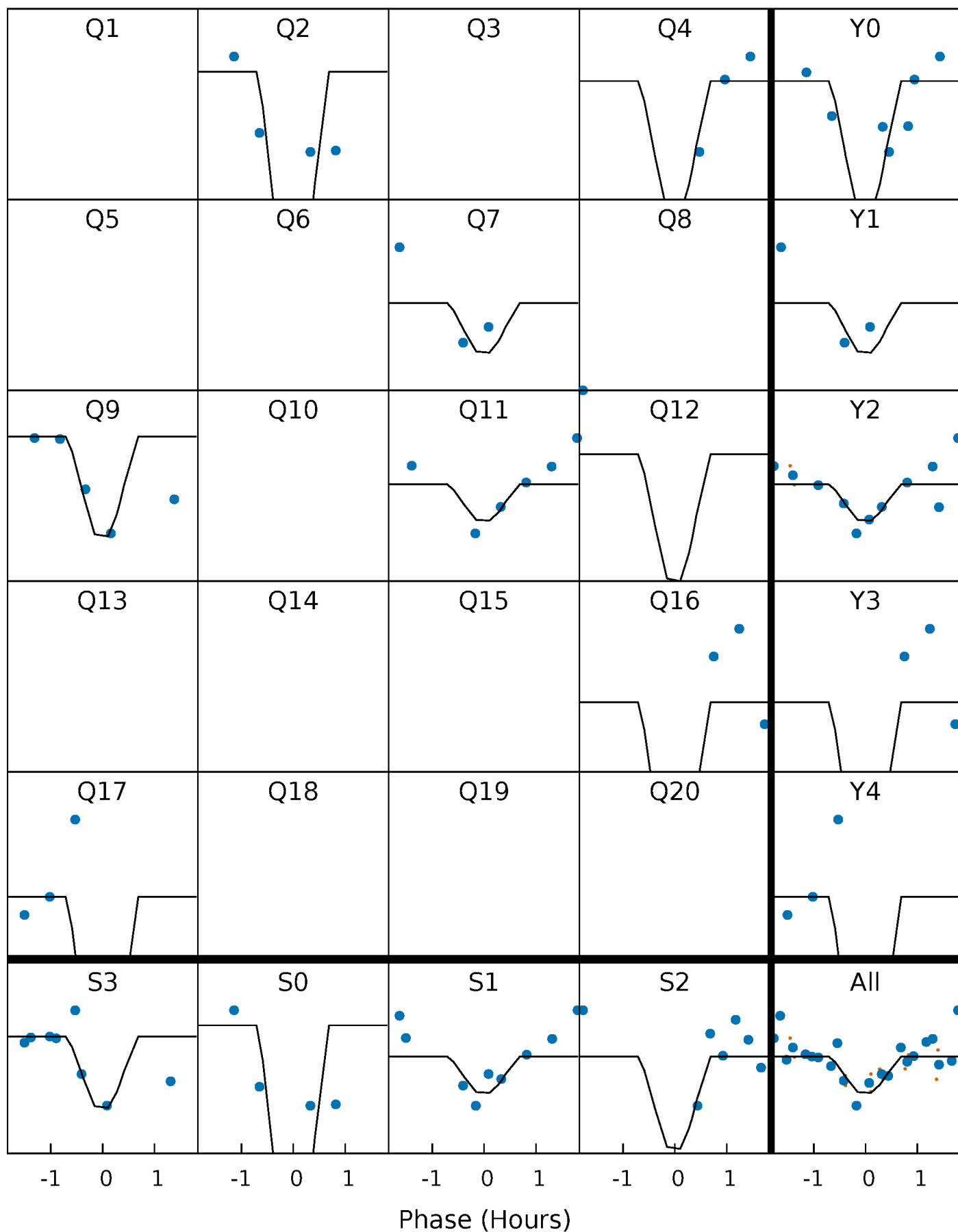
PDC Quarter-Phased Transit Curves

TCE 004843152-07 P= 15.480892 Days $T_0=137.582723$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004843152-07 P= 15.480892 Days $T_0=137.582723$ (BKJD)

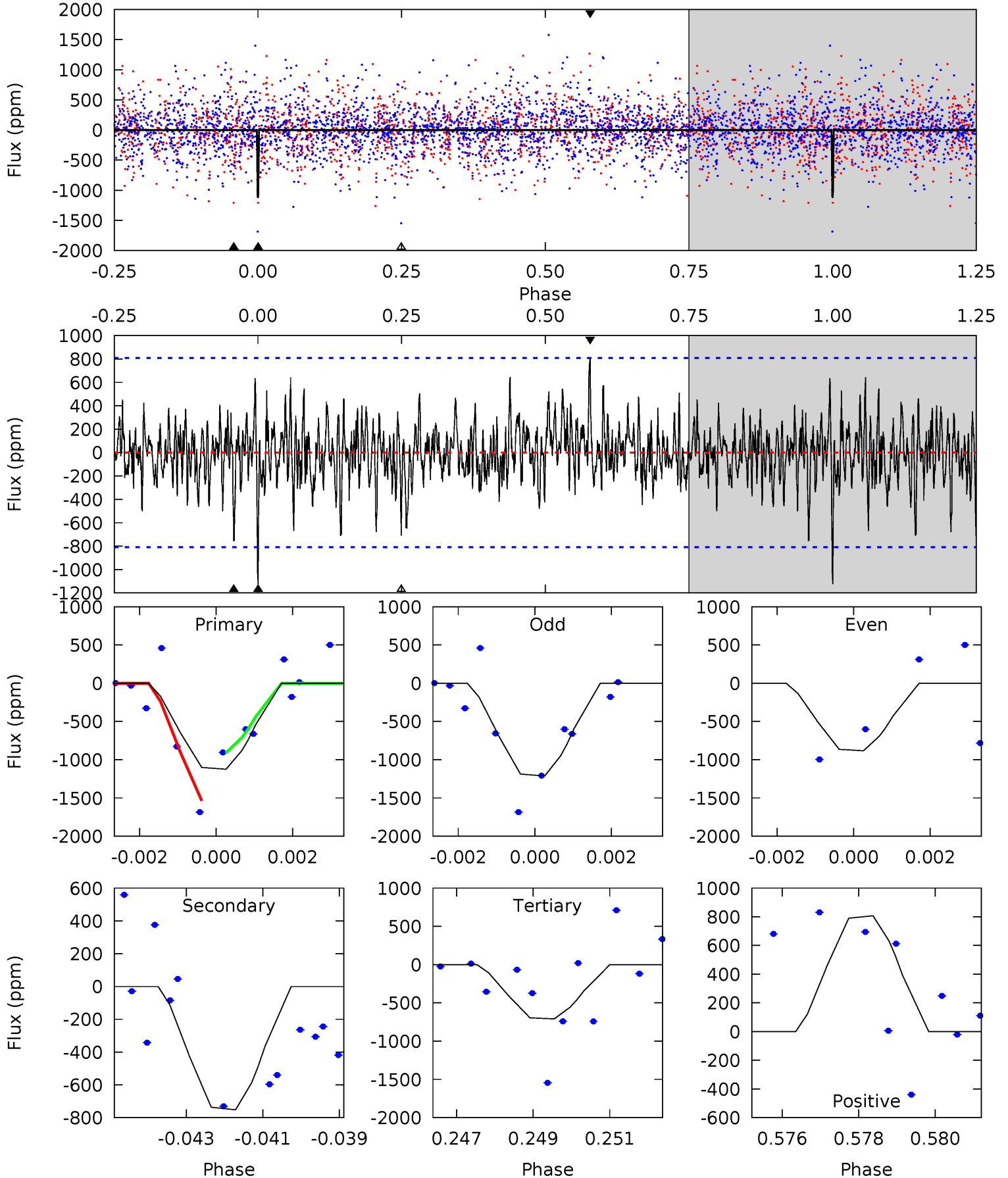


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

004843152-07, $P = 15.480892$ Days, $E = 137.582723$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.38	4.94	4.66	5.30	5.31	3.07	1.31	2.72	2.08	0.28	-0.36	1.01	1.01	0.42	1.97



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 004843152

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6413^{+153}_{-211}	$4.300^{+0.105}_{-0.210}$	$-0.060^{+0.250}_{-0.300}$	$1.269^{+0.405}_{-0.218}$	$1.172^{+0.181}_{-0.163}$	$0.808^{+0.407}_{-0.433}$
	+2%/-3%	+2%/-5%	+417%/-500%	+32%/-17%	+15%/-14%	+50%/-54%
Source	PHO1	KIC0	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 004843152-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-752 ± 152	$6.17^{+5.06}_{-3.96}$	1261^{+91}_{-72}	5135^{+3774}_{-1036}	174^{+1131}_{-121}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

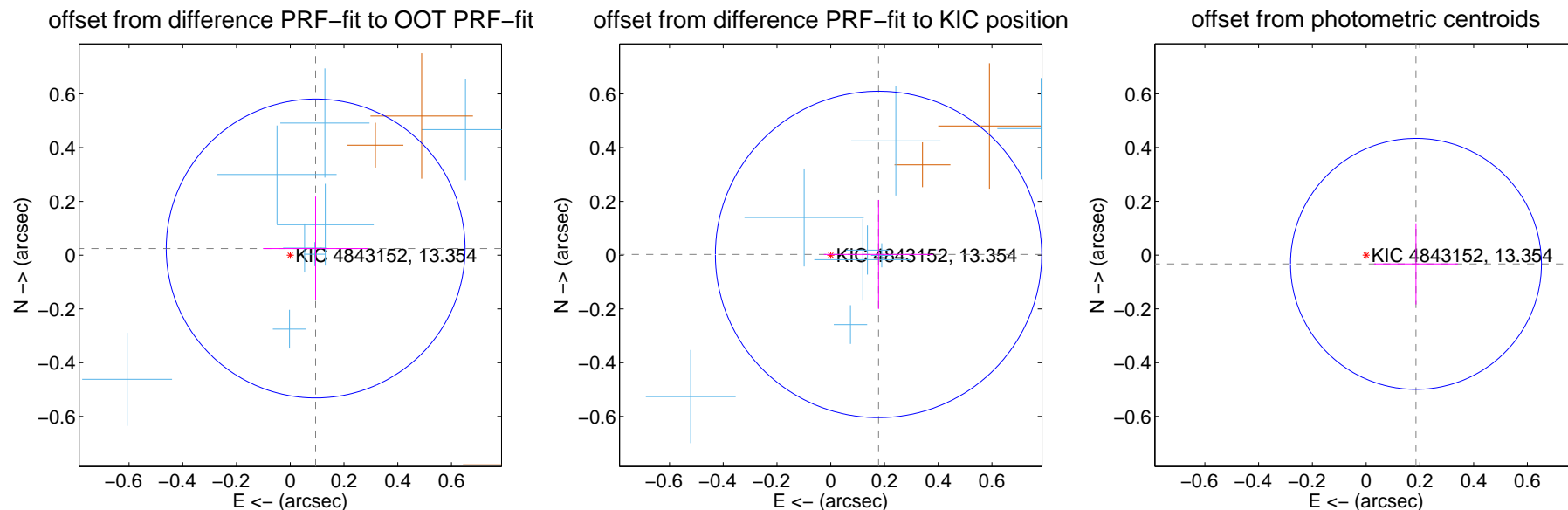
DV Centroid Data

Supplemental centroid analysis for 004843152-07. Kepler magnitude: 13.35. Transit SNR 9.01

There are 11 quarters with good PRF difference image offsets

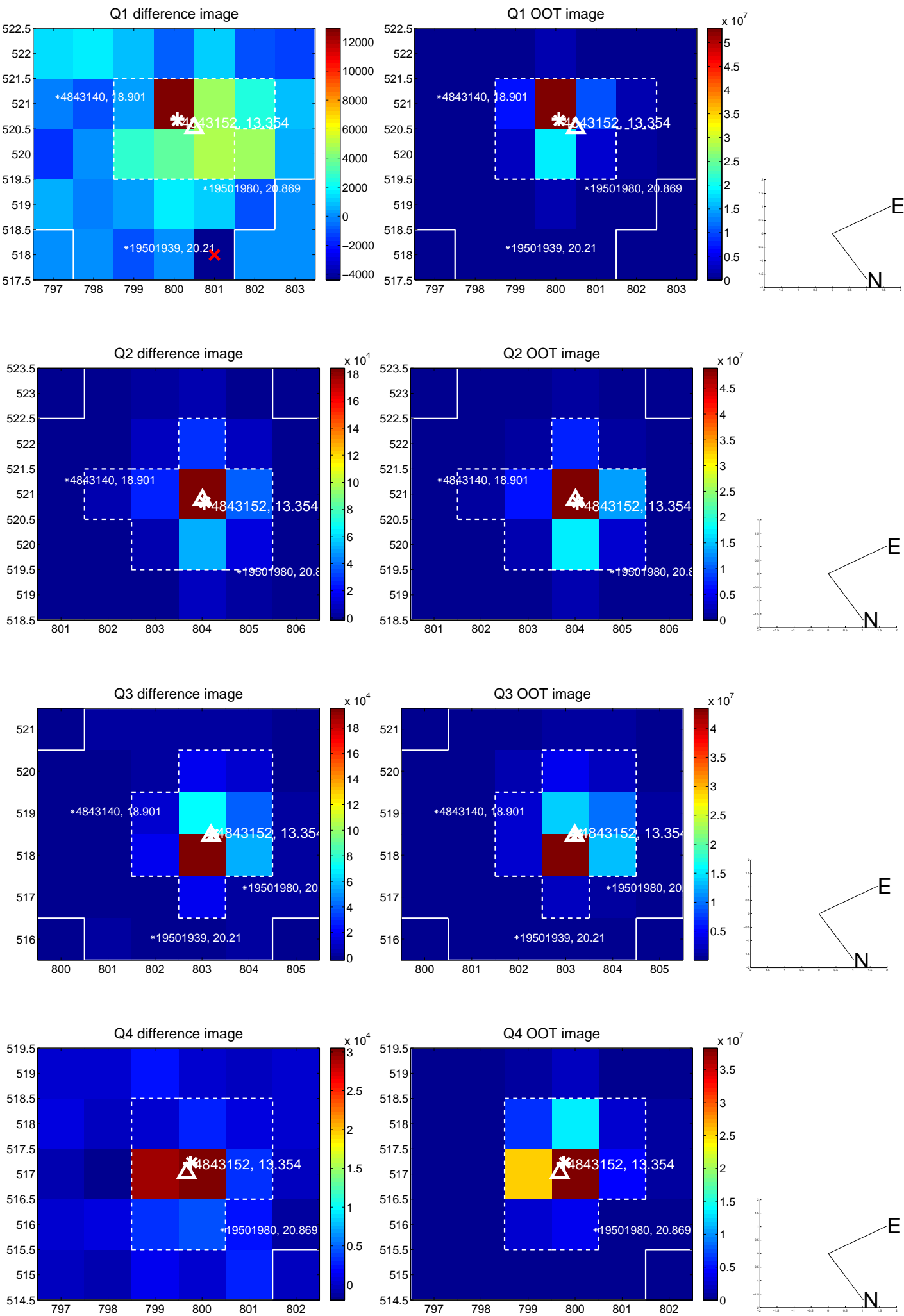
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.098 ± 0.185	0.53	-0.094 ± 0.196	0.025 ± 0.193
PRF-fit source offset from KIC position	0.178 ± 0.202	0.88	-0.178 ± 0.203	0.003 ± 0.203
photometric centroid source offset	0.19 ± 0.16	1.21	-0.19 ± 0.16	-0.03 ± 0.15

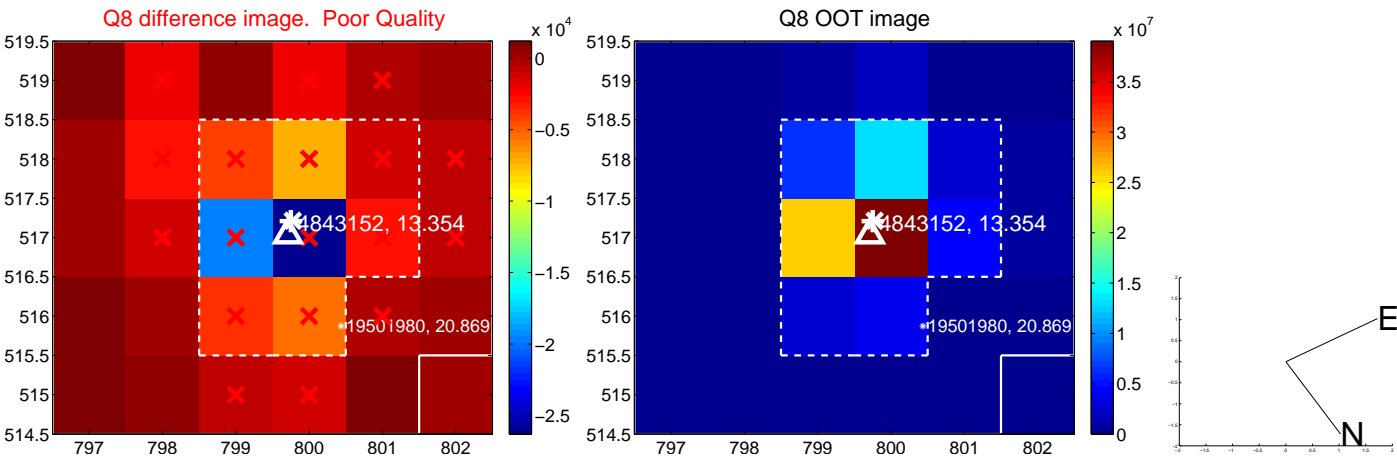
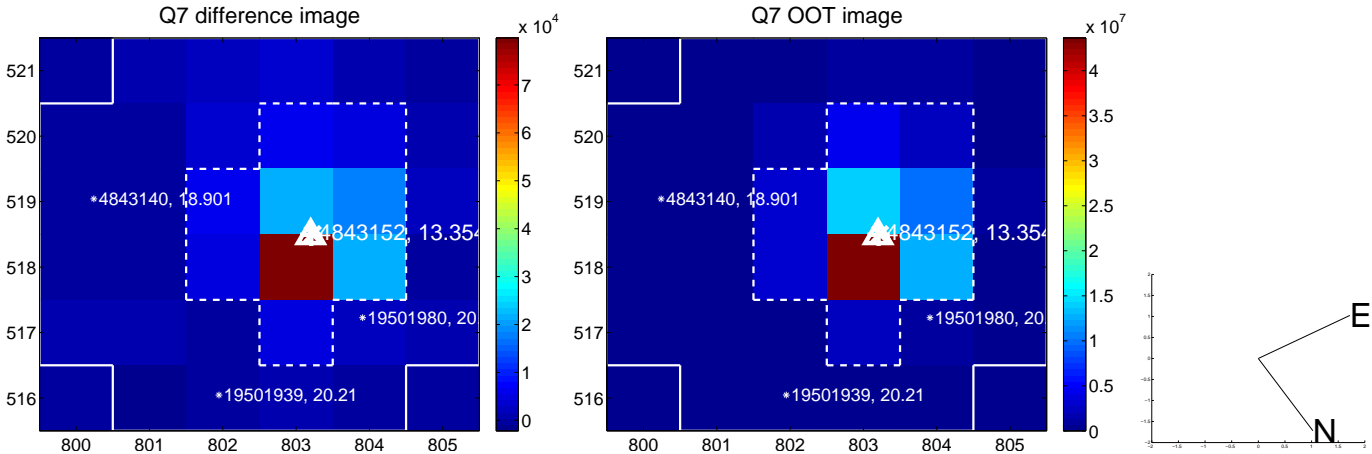
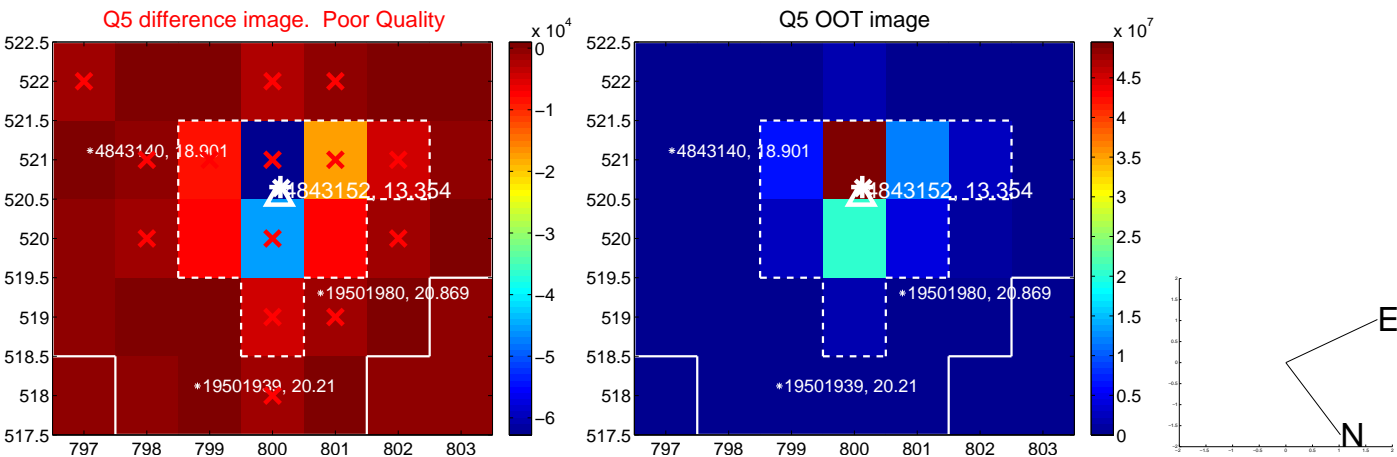


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

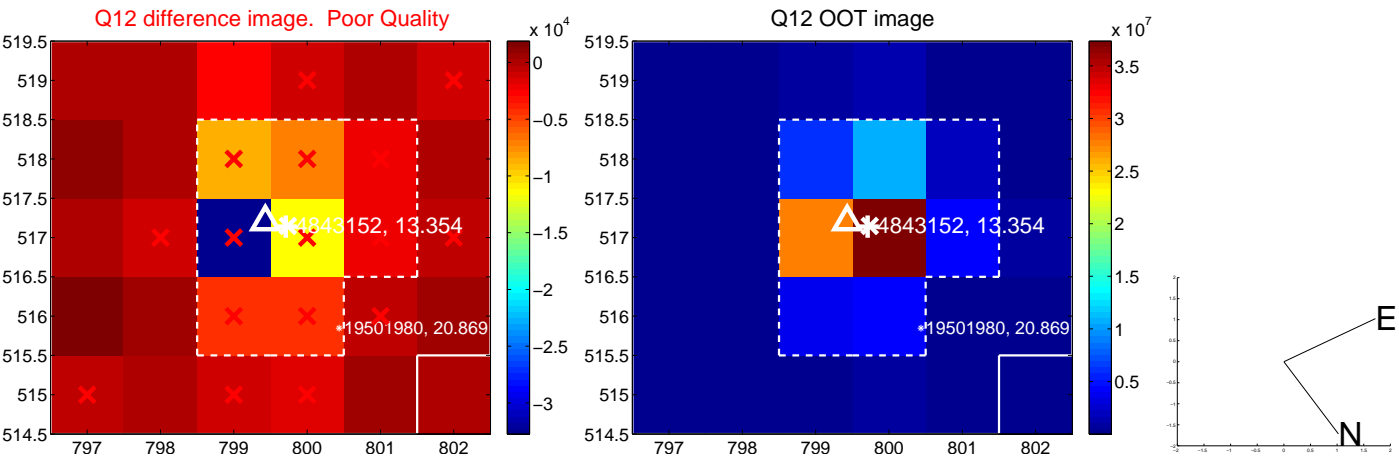
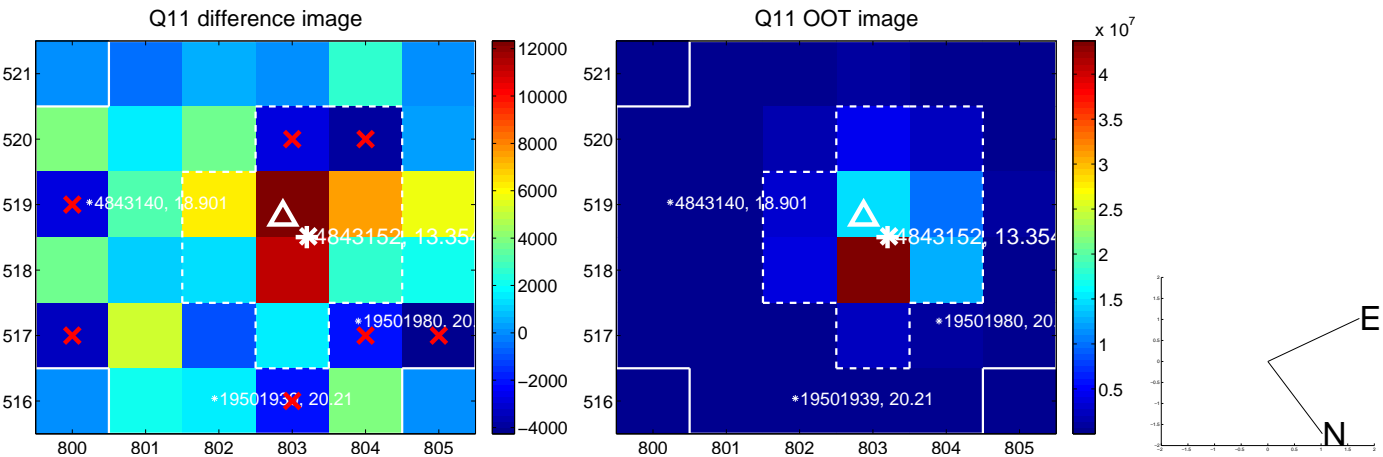
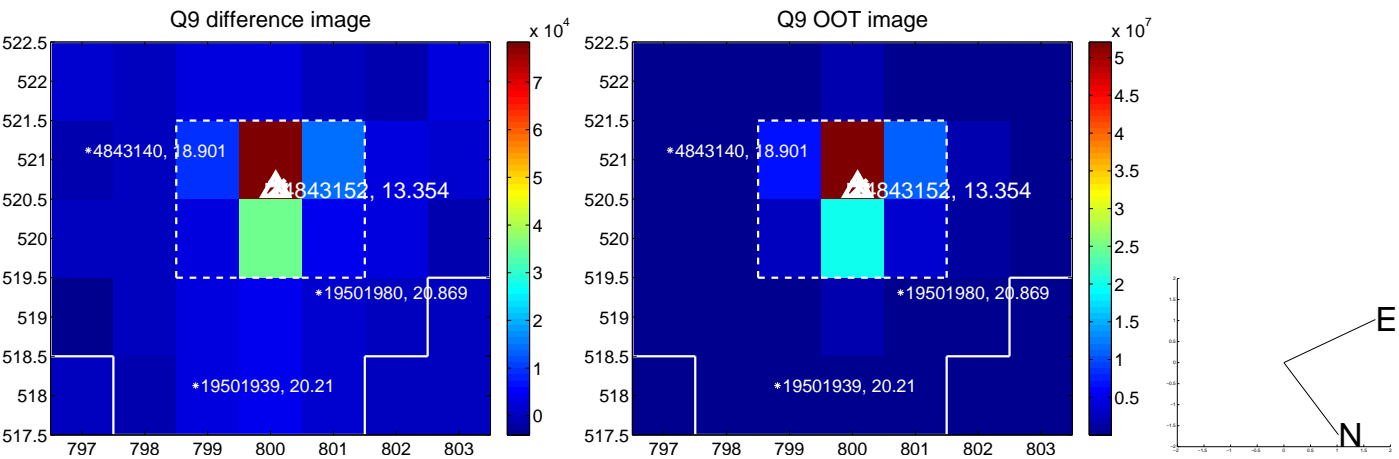
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



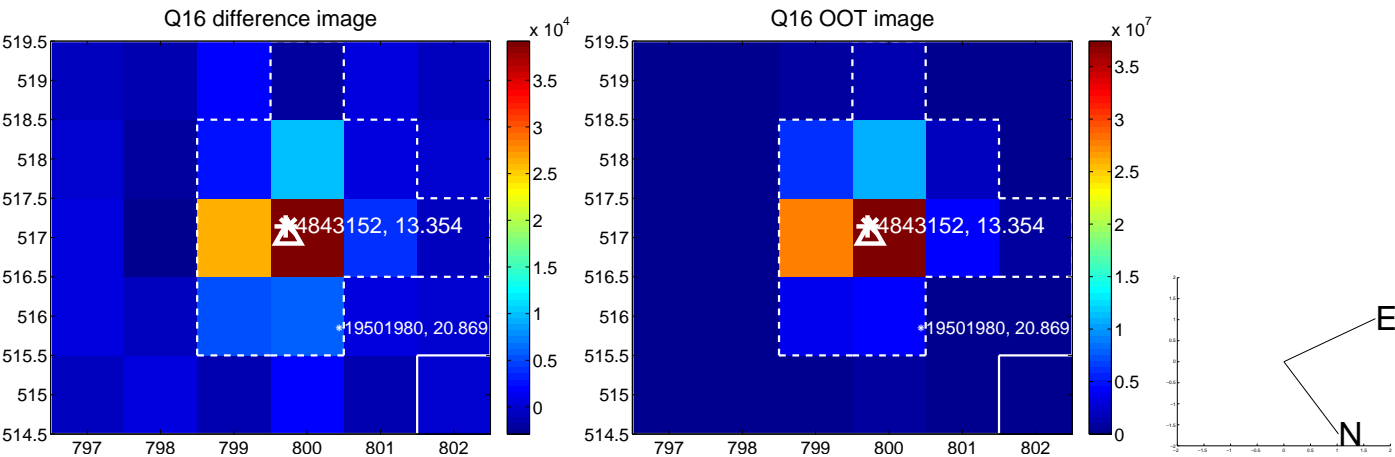
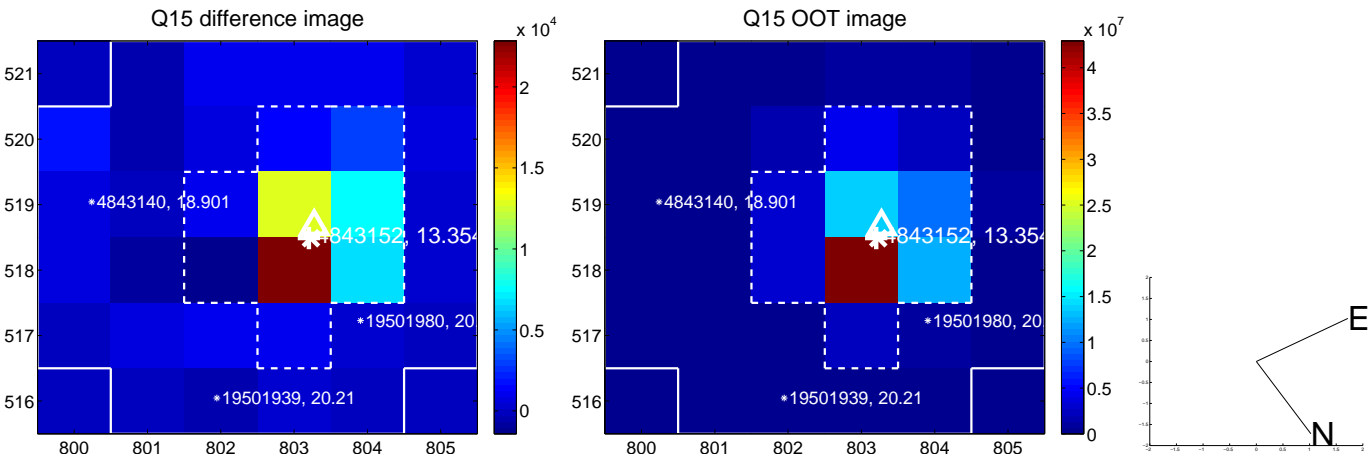
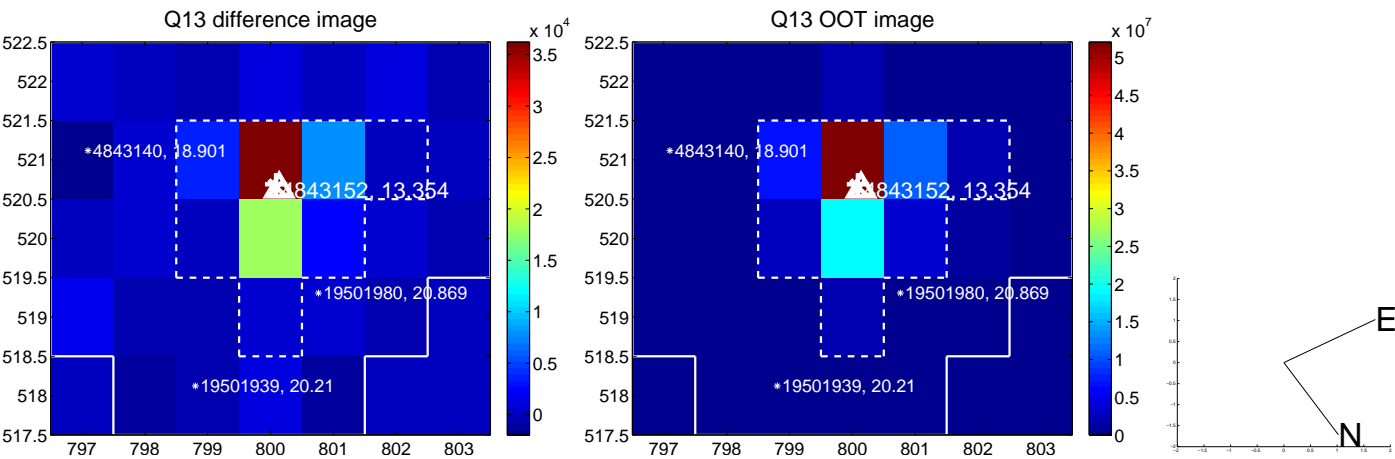
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



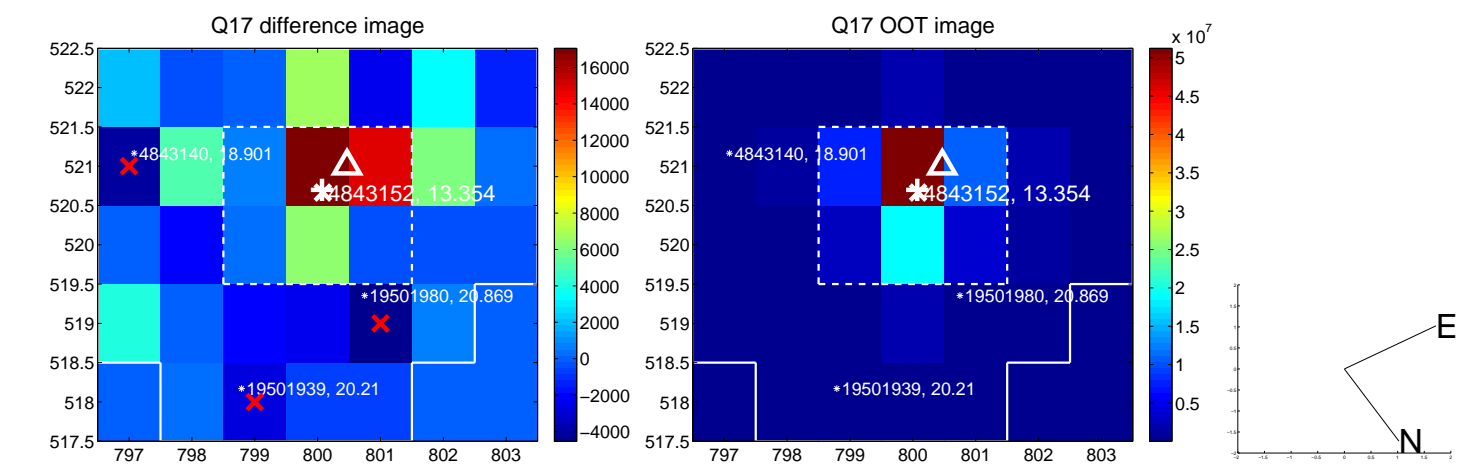
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



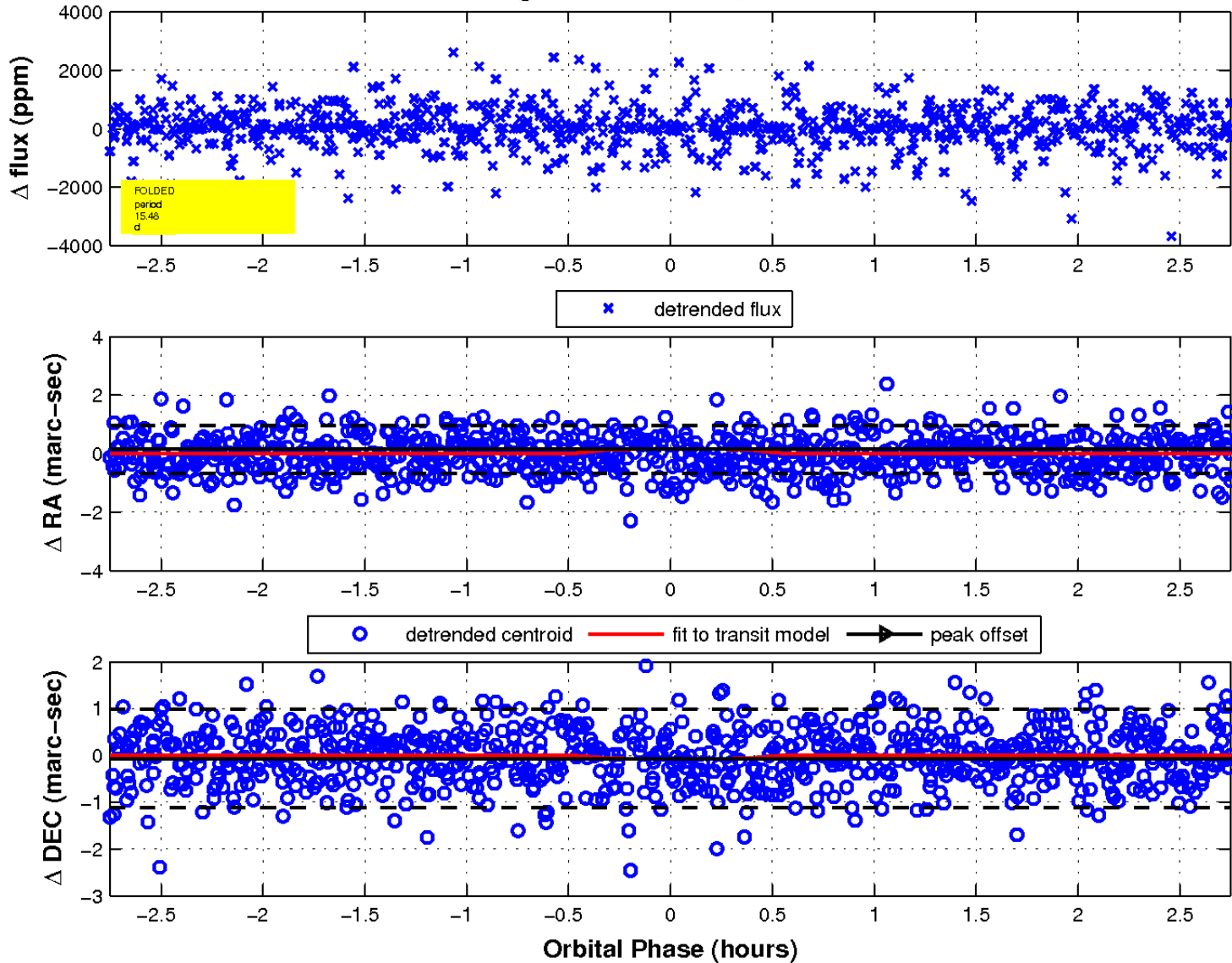
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 7 of 8



UKIRT Image

