

KIC 003831911

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})
003831911-01	OBS	5988.01	30.483800	149.813895	17988.3	2.615	143.2	113.5	0.53	3857	12.78	2.32
003831911-02	OBS	No	30.483753	152.989616	14425.5	3.623	94.9	89.8	0.53	3857	11.48	2.32
003831911-03	OBS	No	0.567158	131.682869	1561.9	1.500	14.6	-1.0	0.53	3857	2.08	471.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003831911-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—SEASONAL_DEPTH_DV—CENT_UNRESOLVED_OFFSET—HALO_GHOST
003831911-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET—HALO_GHOST
003831911-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

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

Ephemeris Match Information For 003831911-01

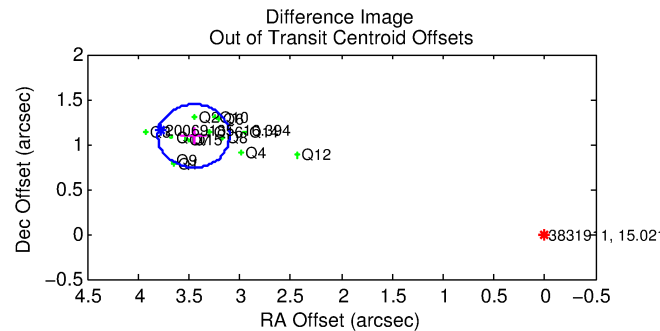
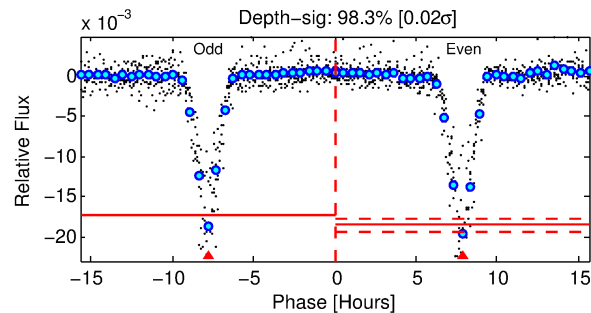
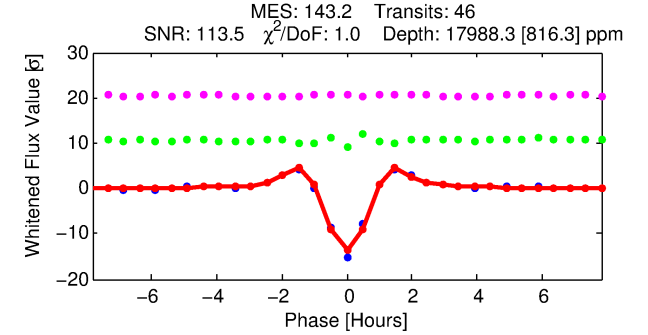
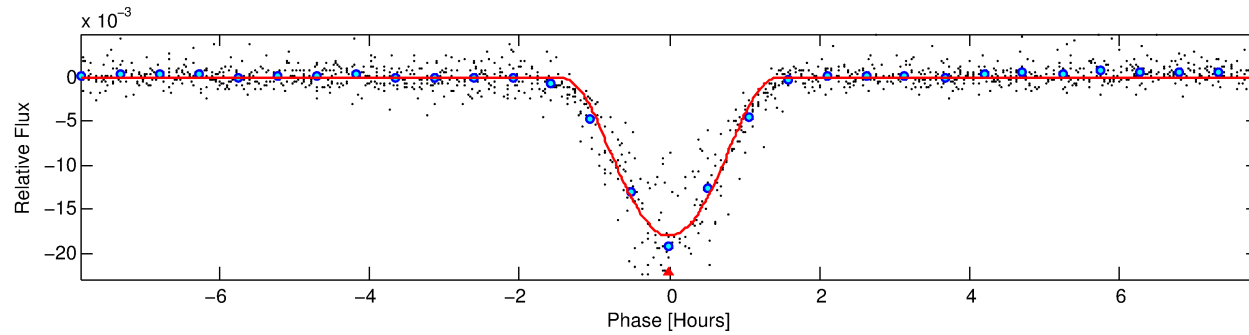
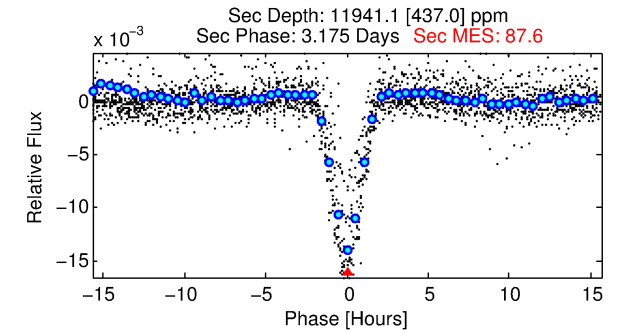
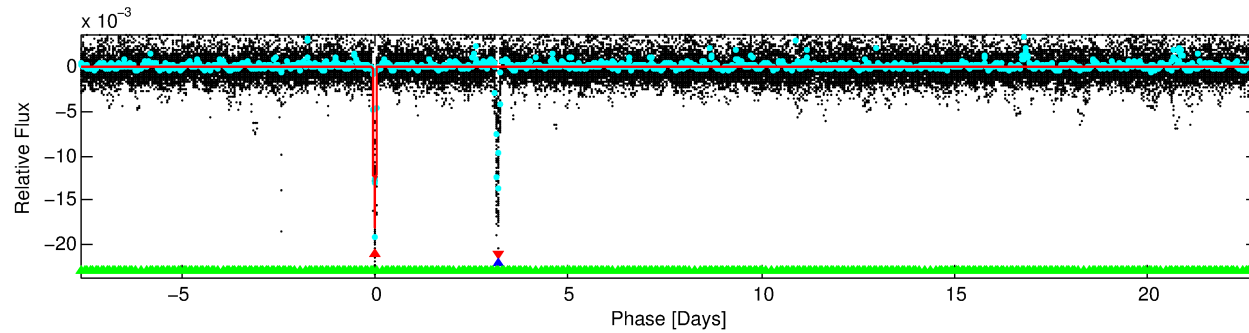
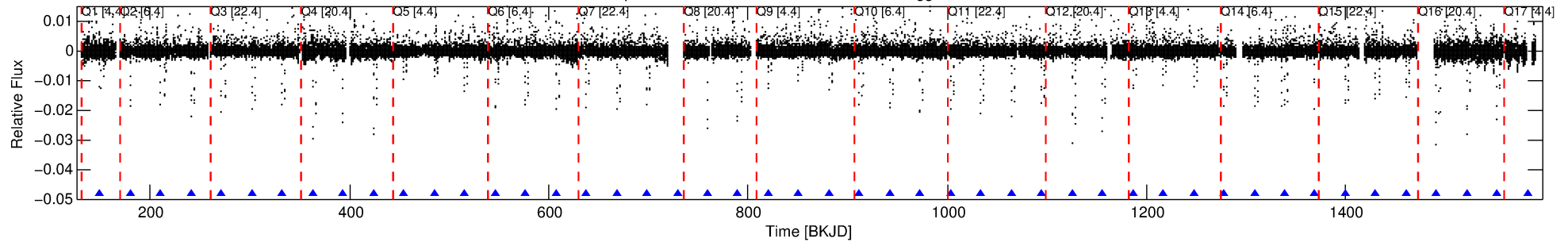
No Significant Match Found

DV One-Page Summary

KIC: 3831911 Candidate: 1 of 3 Period: 30.484 d

KOI: K05988.01 Corr: 0.991

Kp: 15.02 R*: 0.53 Rs Teff: 3857.0 K Logg: 4.72 Fe/H: -0.100



DV Fit Results:

Period = 30.48380 [0.00001] d
Epoch = 149.8139 [0.0004] BKJD
Rp/R* = 0.2205 [0.0836]
a/R* = 62.33 [2.41]
b = 1.00 [0.11]
Seff = 2.32 [0.29]
Teq = 315 [10] K
Rp = 12.78 [4.93] Re
a = 0.1552 [0.0087] AU
Ag = 968.95 [739.42] [1.31σ]
Teffp = 2715 [520] K [4.62σ]

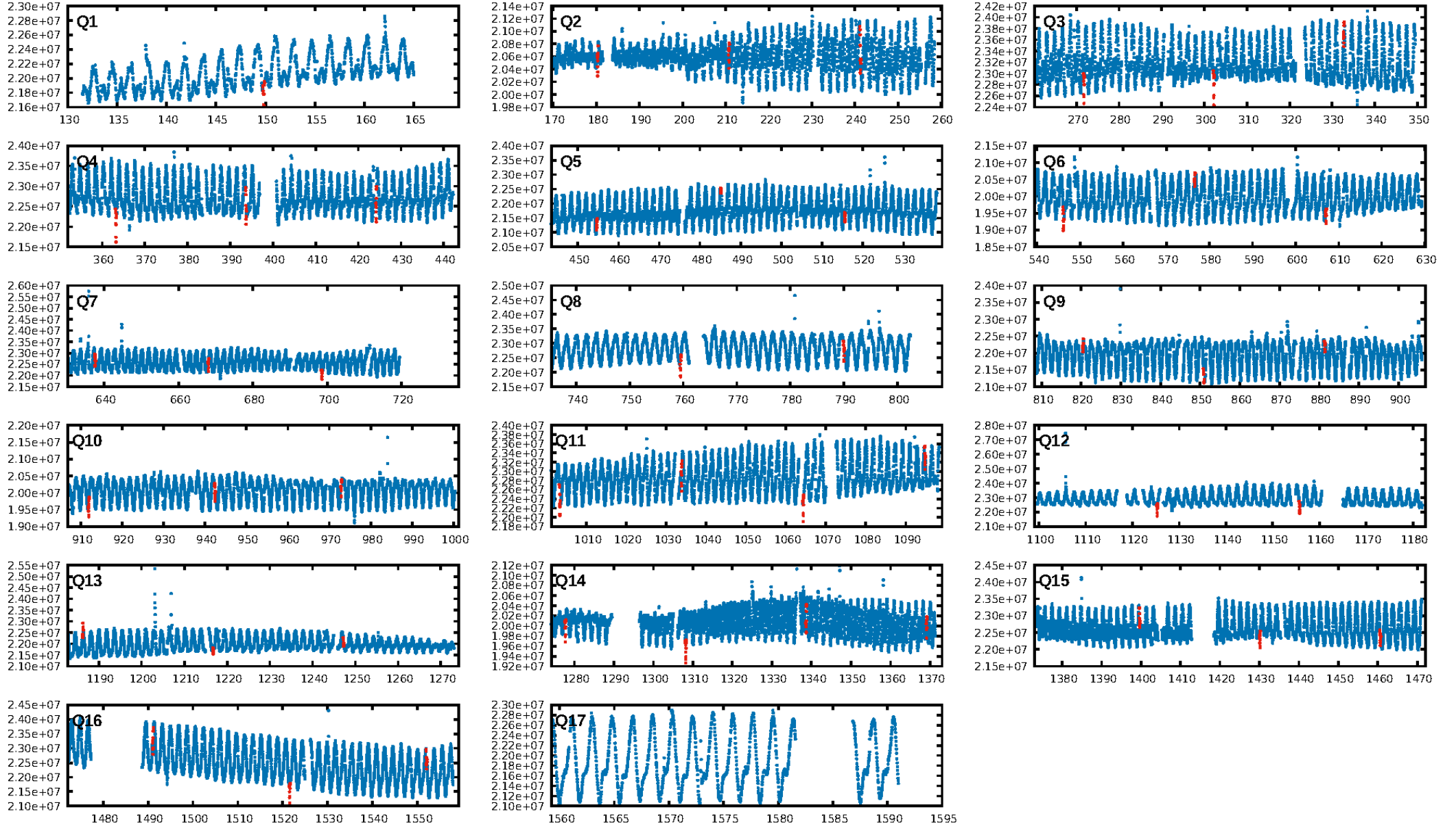
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [45/45]
GhostDiagnostic-chr: 0.1966
Centroid-sig: 0.0%
Centroid-so: 5.268 arcsec [145.64σ]
OotOffset-rm: 3.620 arcsec [30.85σ]
KicOffset-rm: 3.785 arcsec [35.48σ]
OotOffset-st: 4/4/4/2 [14]
KicOffset-st: 4/4/4/2 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/16]

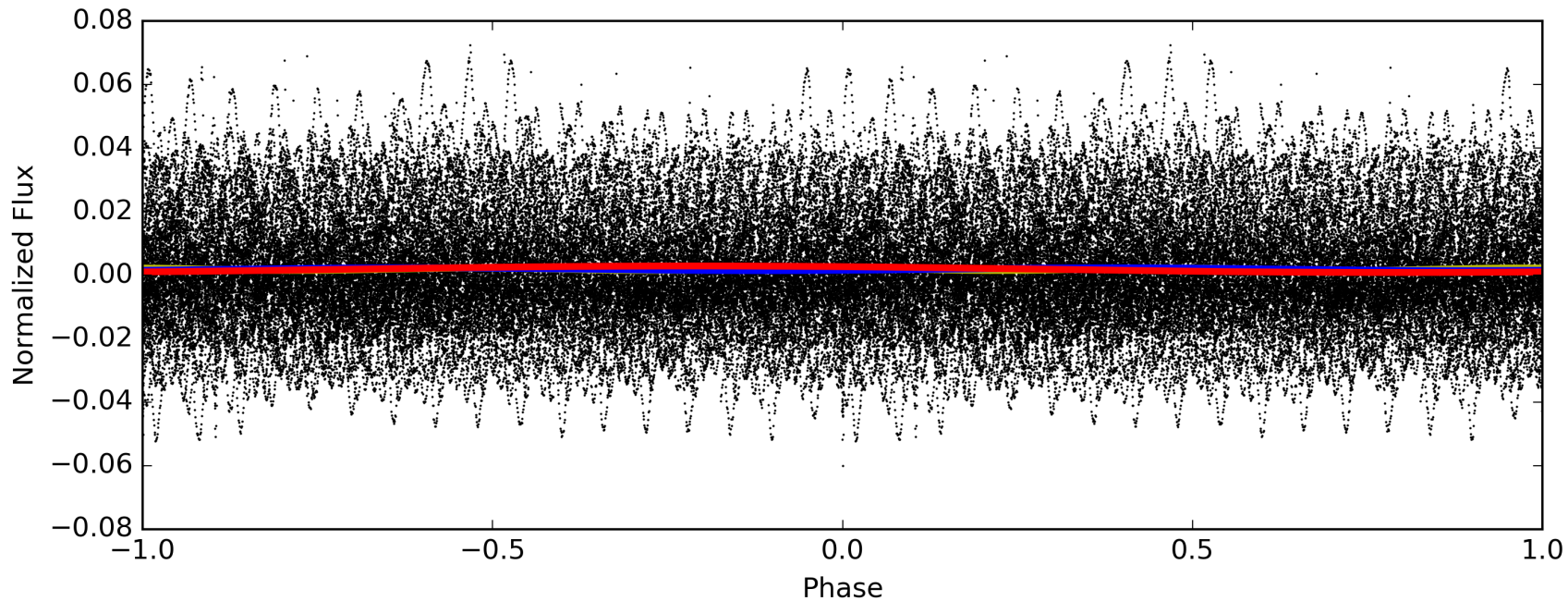
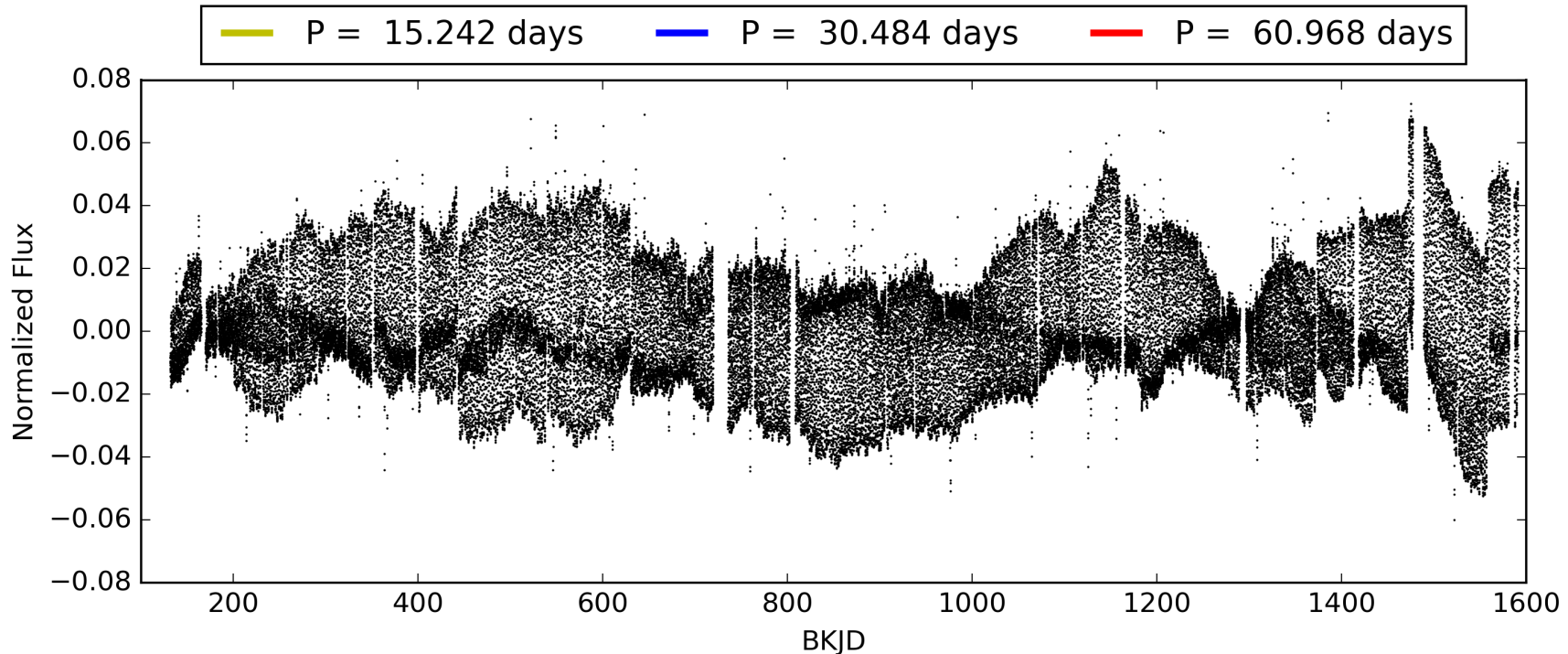
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:41:28 Z

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

TCE 003831911-01, PDC Light Curves

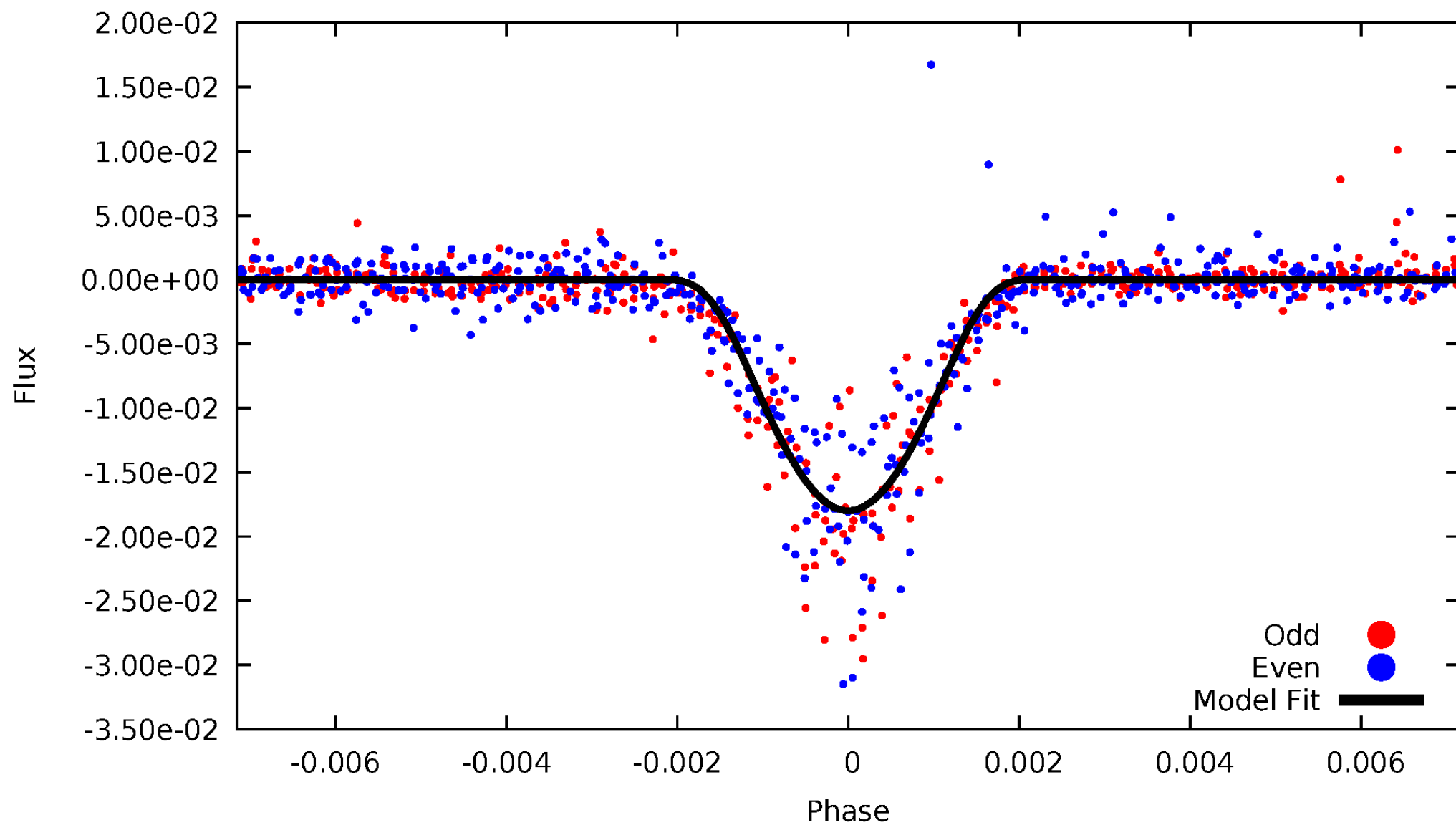


TCE 003831911-01



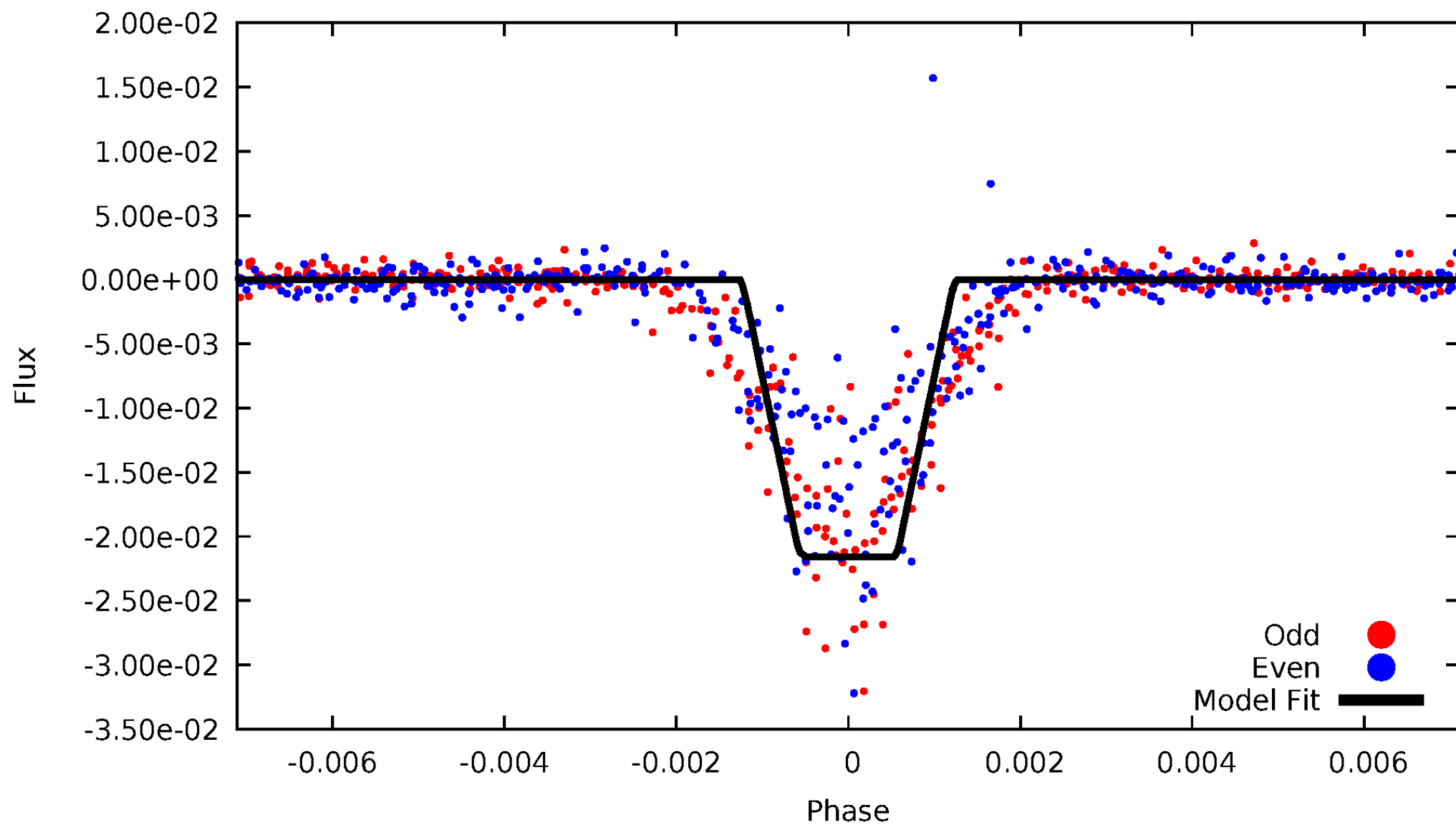
DV Odd/Even

TCE 003831911-01



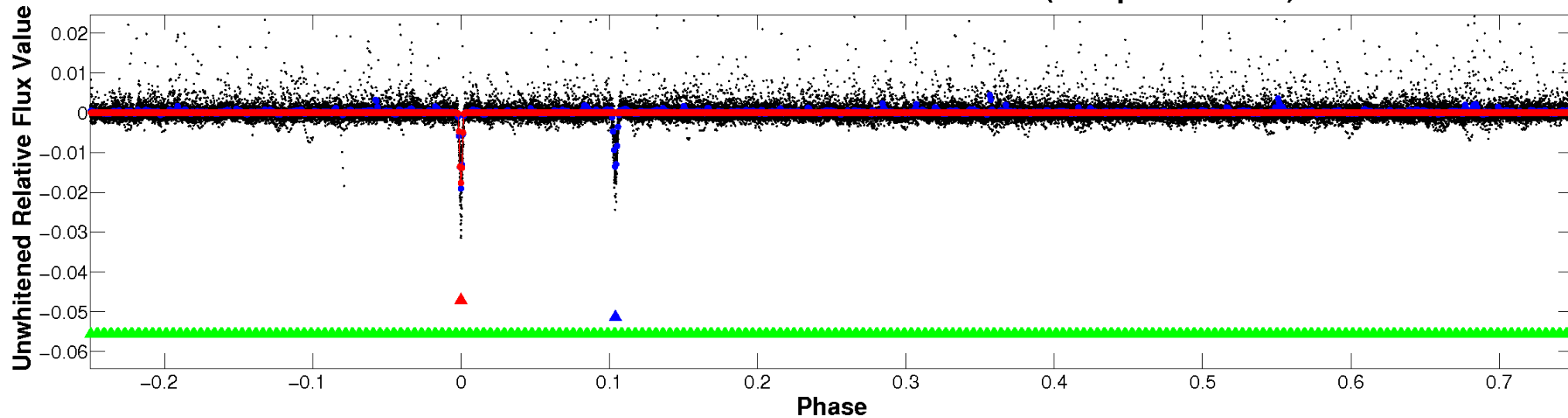
ALT Odd/Even

TCE 003831911-01

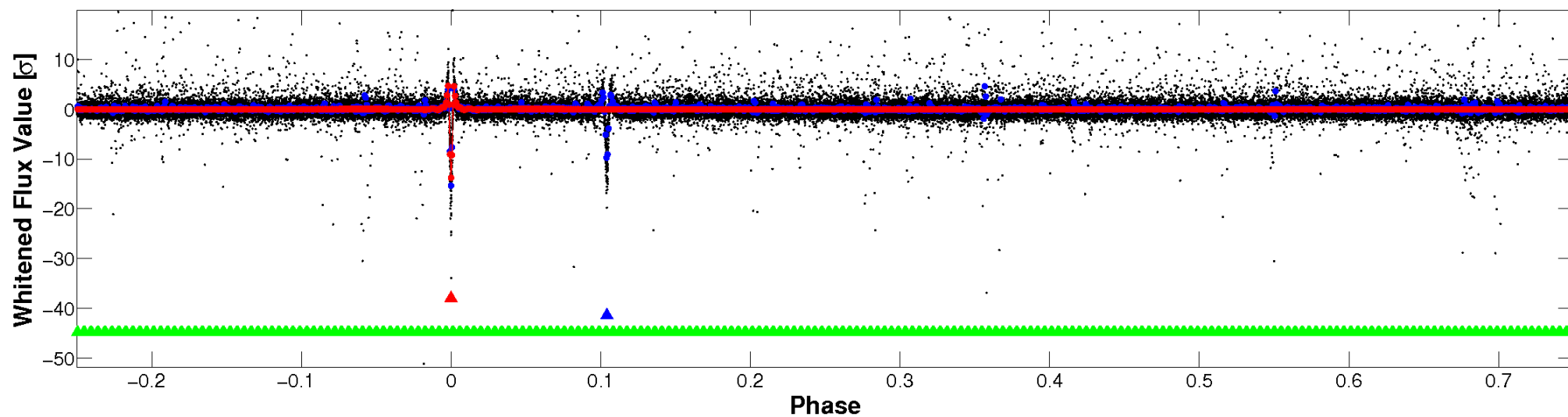


Non-Whitened Vs. Whitened Light Curve

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

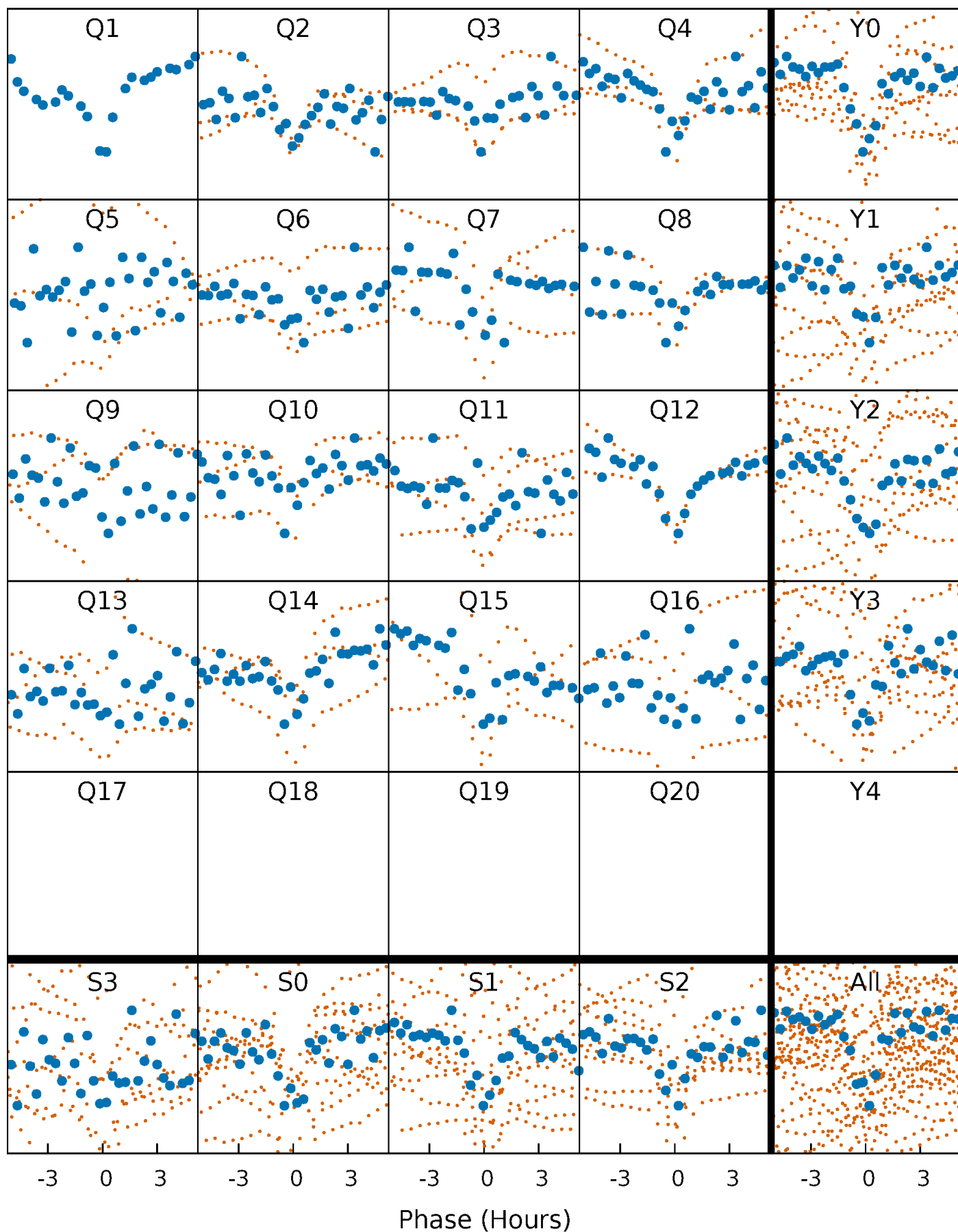


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



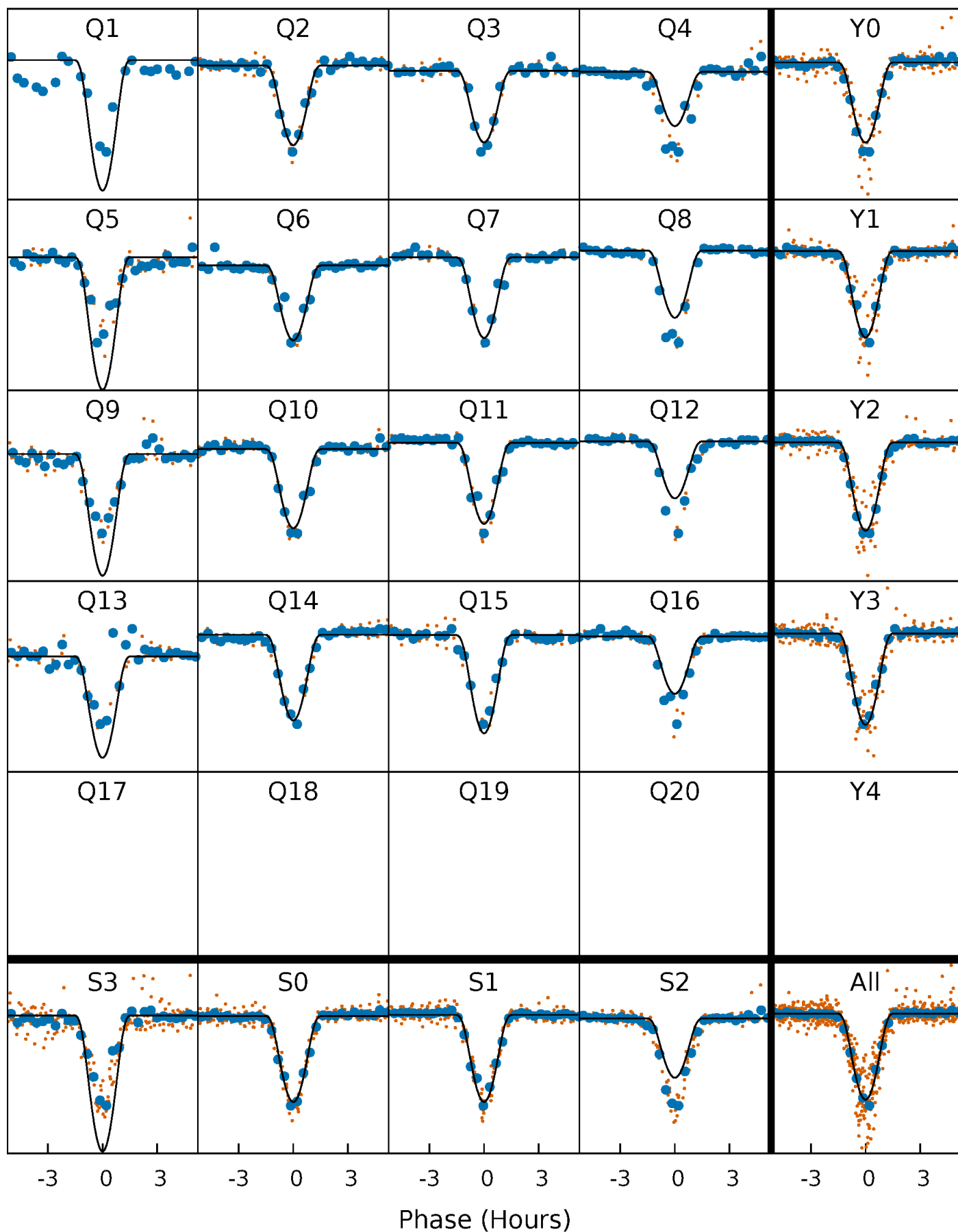
PDC Quarter-Phased Transit Curves

TCE 003831911-01 P= 30.483800 Days $T_0=149.813895$ (BKJD)



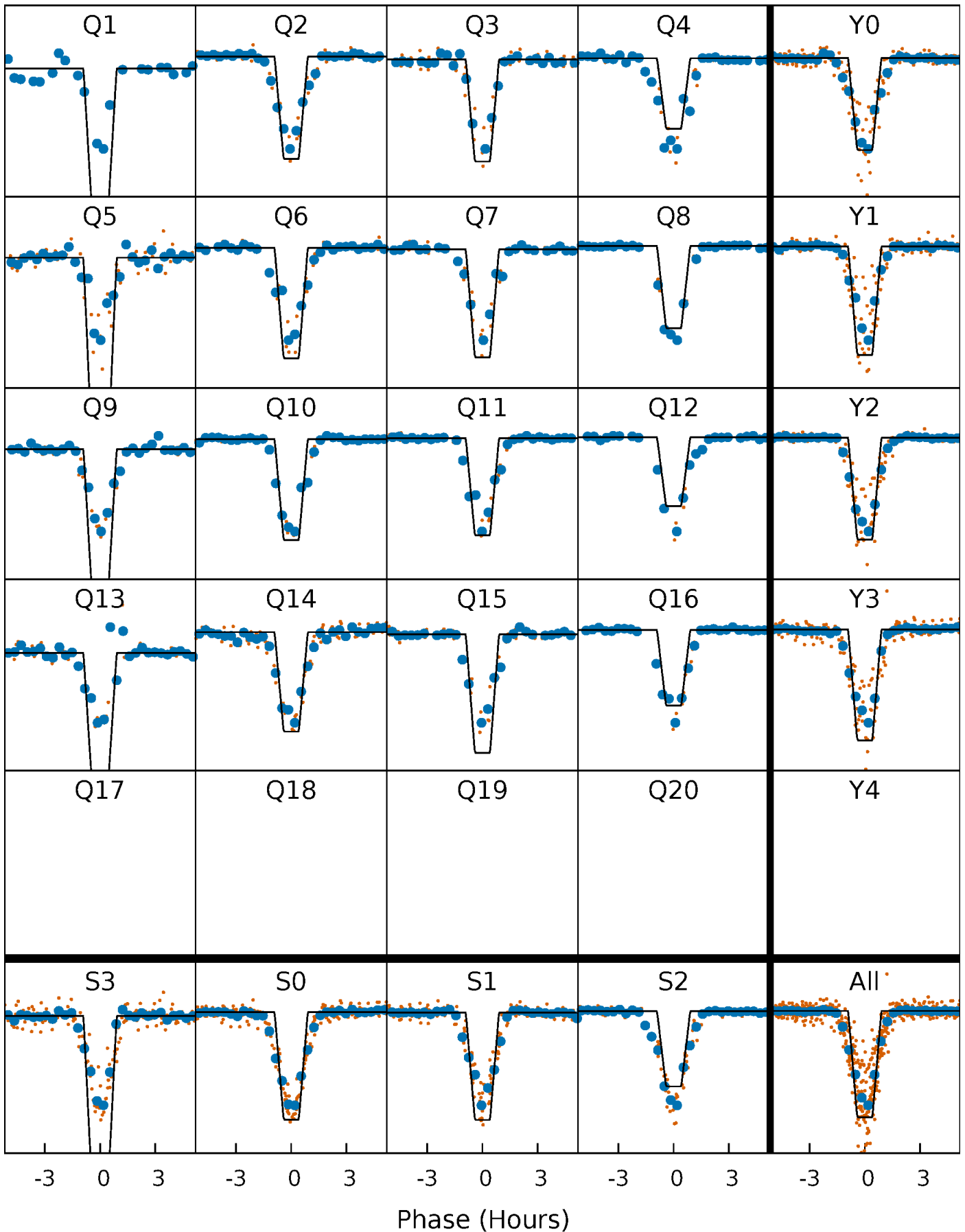
DV Quarter-Phased Transit Curves

TCE 003831911-01 P= 30.483800 Days $T_0=149.813895$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

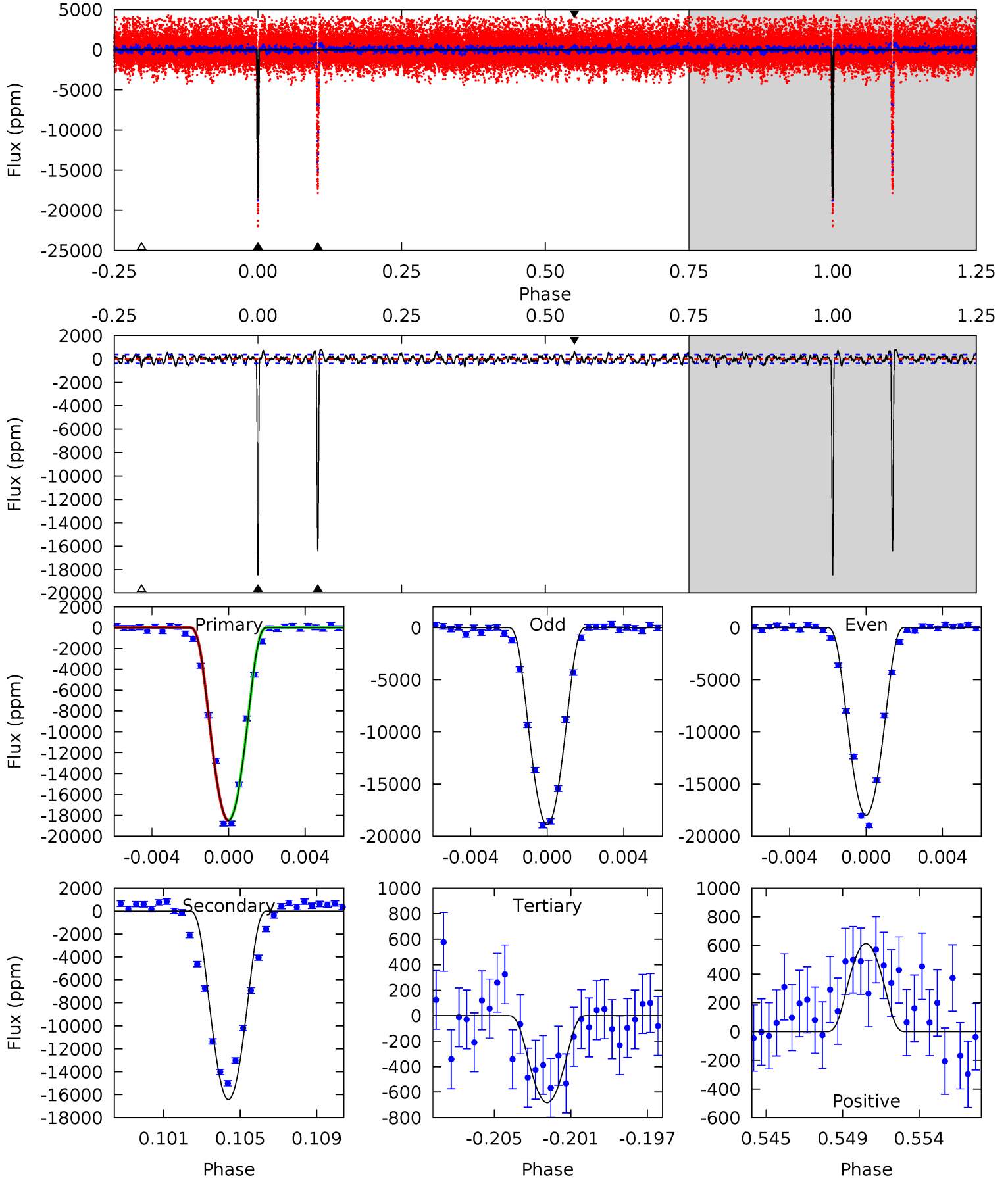
TCE 003831911-01 P= 30.483793 Days $T_0=149.813612$ (BKJD)



DV Model-Shift Uniqueness Test

003831911-01, P = 30.483800 Days, E = 119.330095 Days

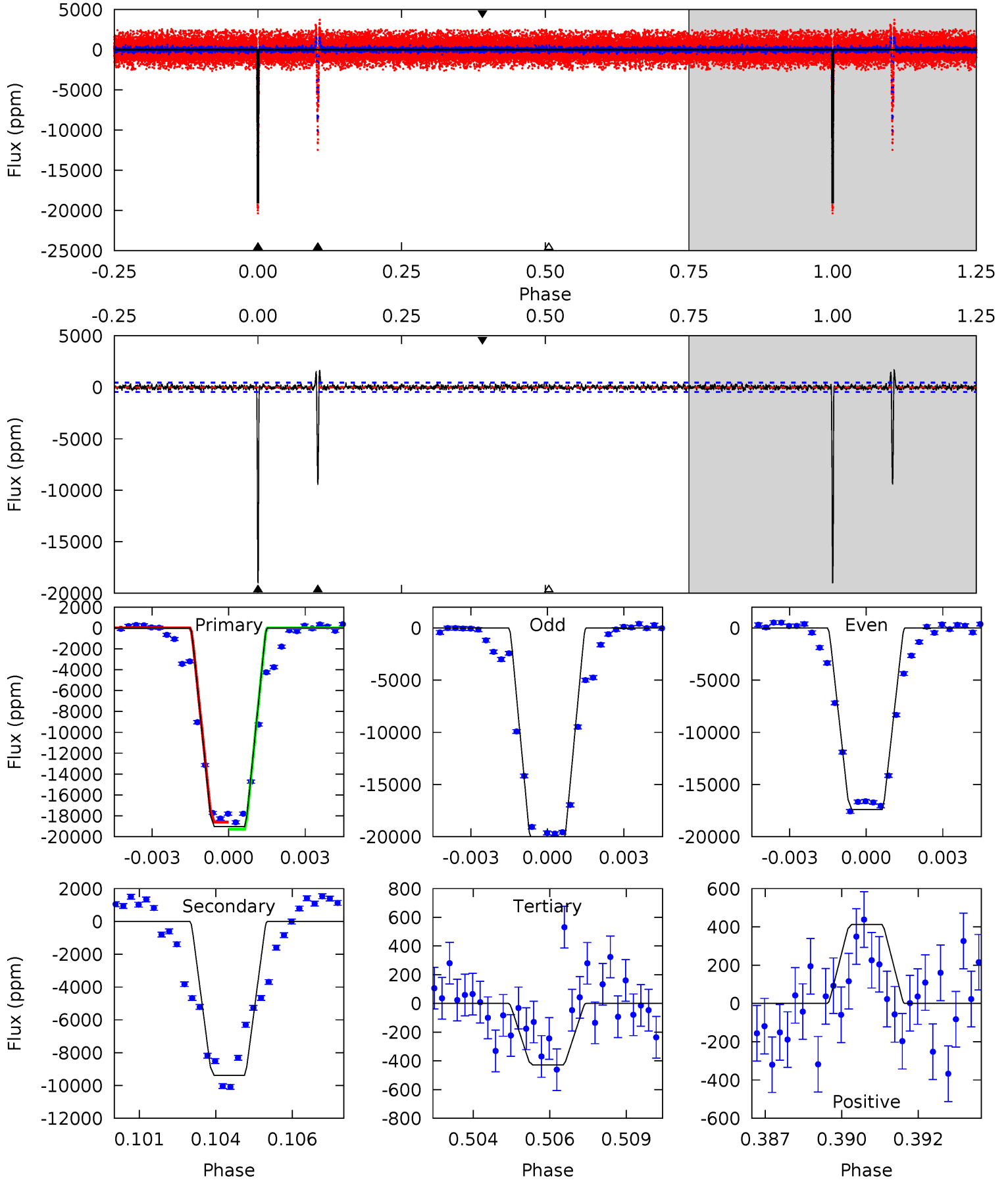
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
250.2	222.4	9.24	8.31	5.19	2.86	3.16	241.0	241.9	213.2	214.1	6.15	1.02	0.04	0.41



Alt Model-Shift Uniqueness Test

003831911-01, P = 30.483793 Days, E = 119.329819 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
218.7	107.8	4.93	4.74	5.28	3.02	1.59	213.8	214.0	102.9	103.1	18.8	0.94	0.08	3.62



Stellar Parameters For KIC 003831911

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3857^{+97}_{-97}	$4.717^{+0.039}_{-0.021}$	$-0.100^{+0.100}_{-0.100}$	$0.531^{+0.029}_{-0.038}$	$0.535^{+0.033}_{-0.030}$	$5.041^{+0.905}_{-0.487}$
	+3%/-3%	+1%/-0%	+100%/-100%	+5%/-7%	+6%/-6%	+18%/-10%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 003831911-01 / KOI 5988.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-16428 ± 74	$12.94^{+4.55}_{-5.06}$	438^{+12}_{-12}	3234^{+544}_{-283}	1313^{+2225}_{-583}
Alt.	-9386 ± 87	$8.95^{+4.78}_{-4.50}$	438^{+12}_{-12}	3300^{+946}_{-366}	1559^{+4926}_{-884}

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 $A_{obs} \gg 1.0$

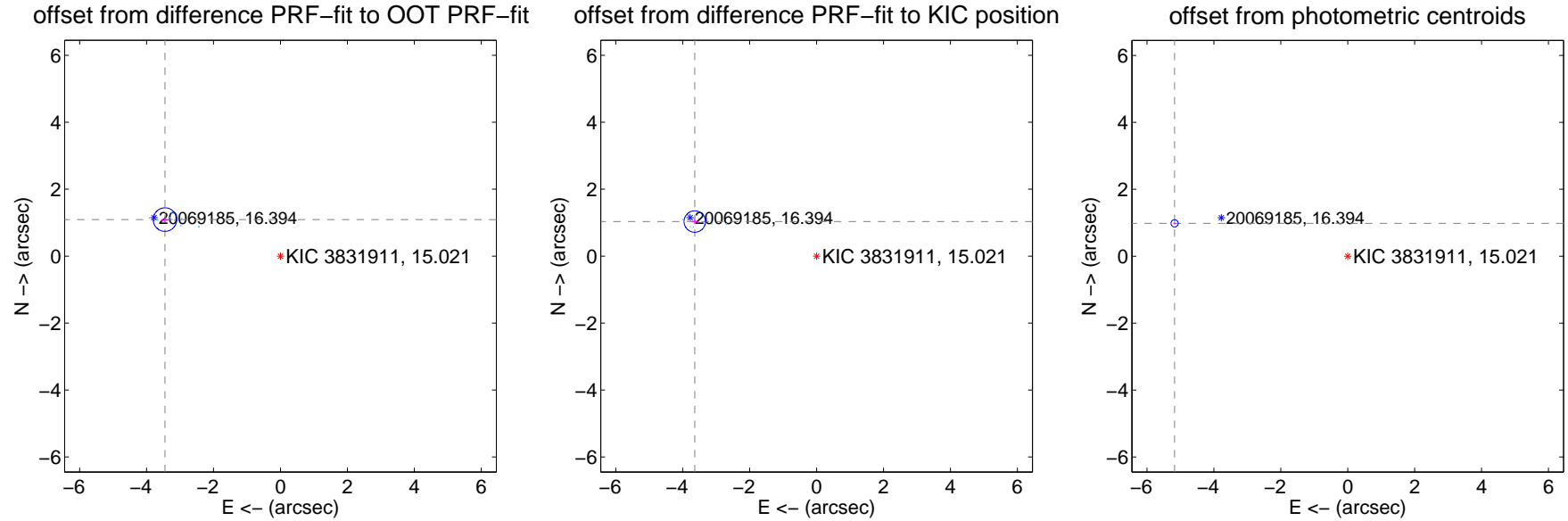
DV Centroid Data

Supplemental centroid analysis for 003831911-01. Kepler magnitude: 15.02. Transit SNR 113.48

There are 14 quarters with good PRF difference image offsets

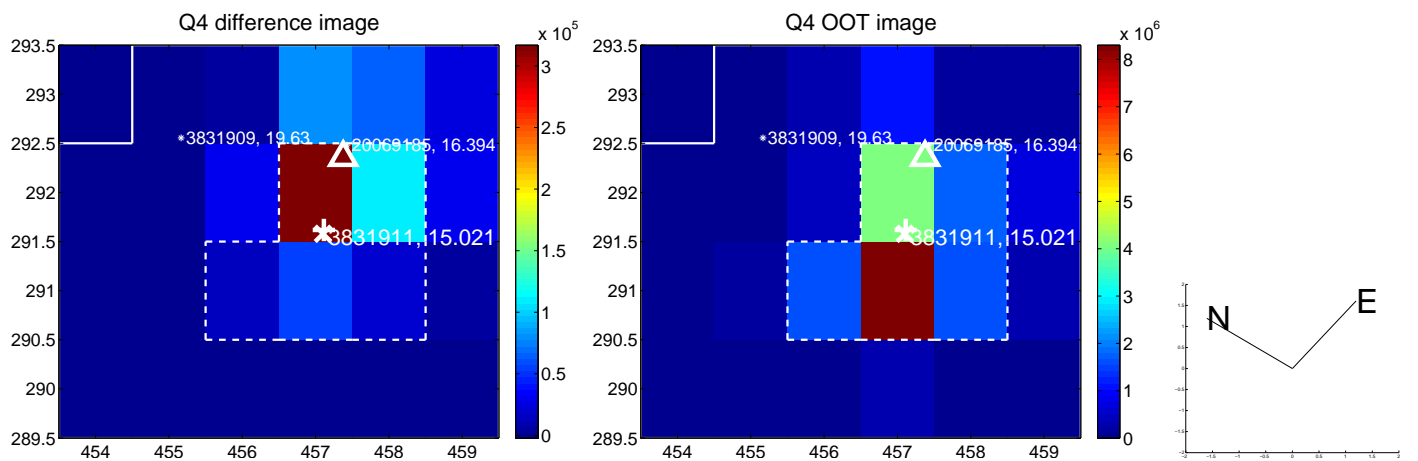
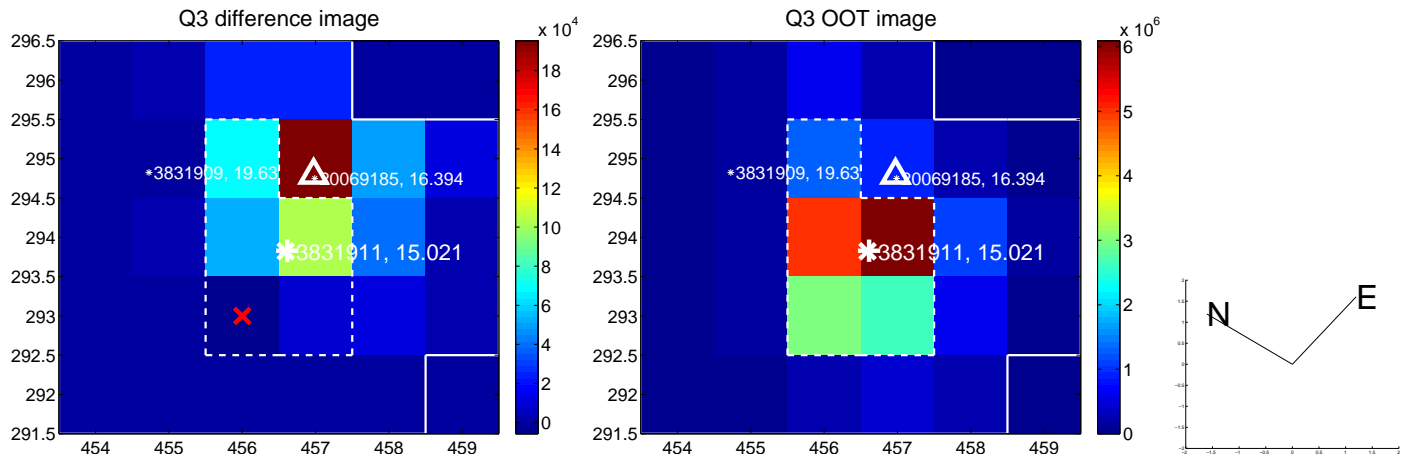
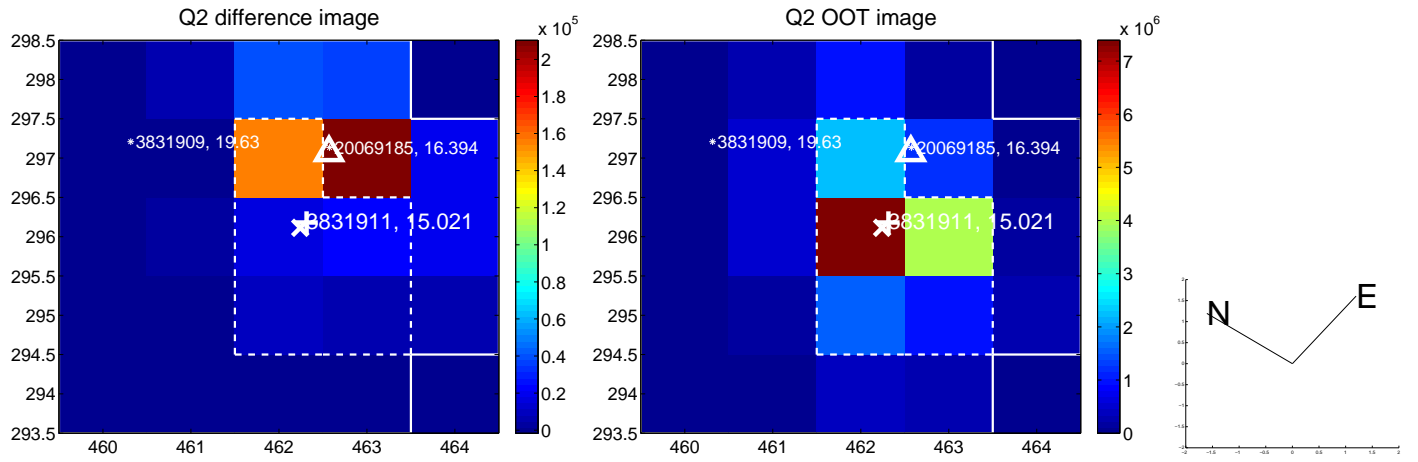
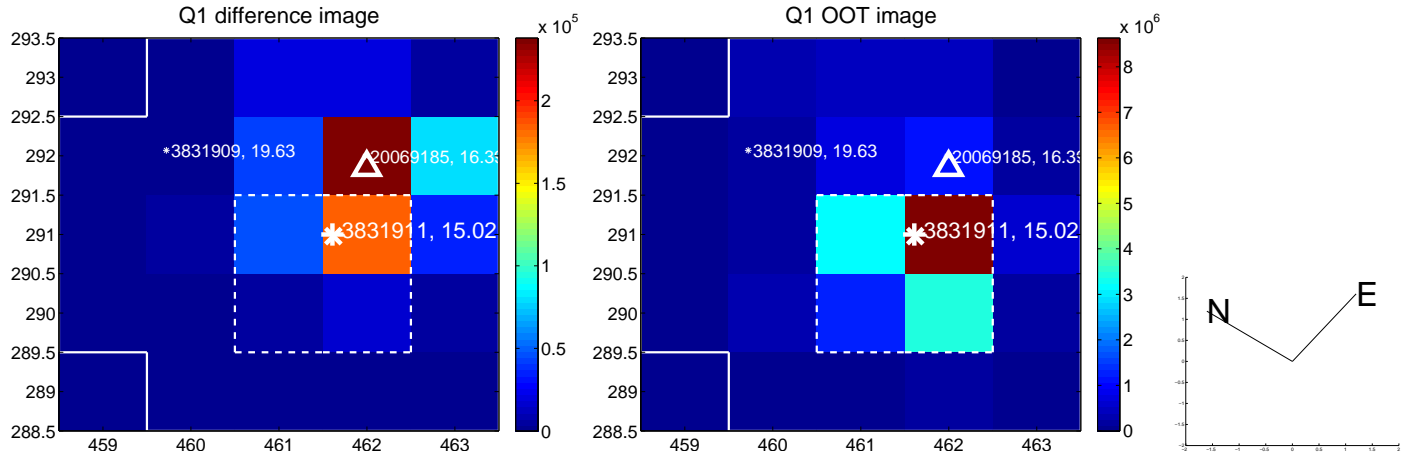
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.620 \pm 0.117	30.85	3.452 \pm 0.120	1.092 \pm 0.081
PRF-fit source offset from KIC position	3.785 \pm 0.107	35.48	3.641 \pm 0.108	1.034 \pm 0.072
photometric centroid source offset	5.27 \pm 0.04	145.64	5.18 \pm 0.04	0.98 \pm 0.03

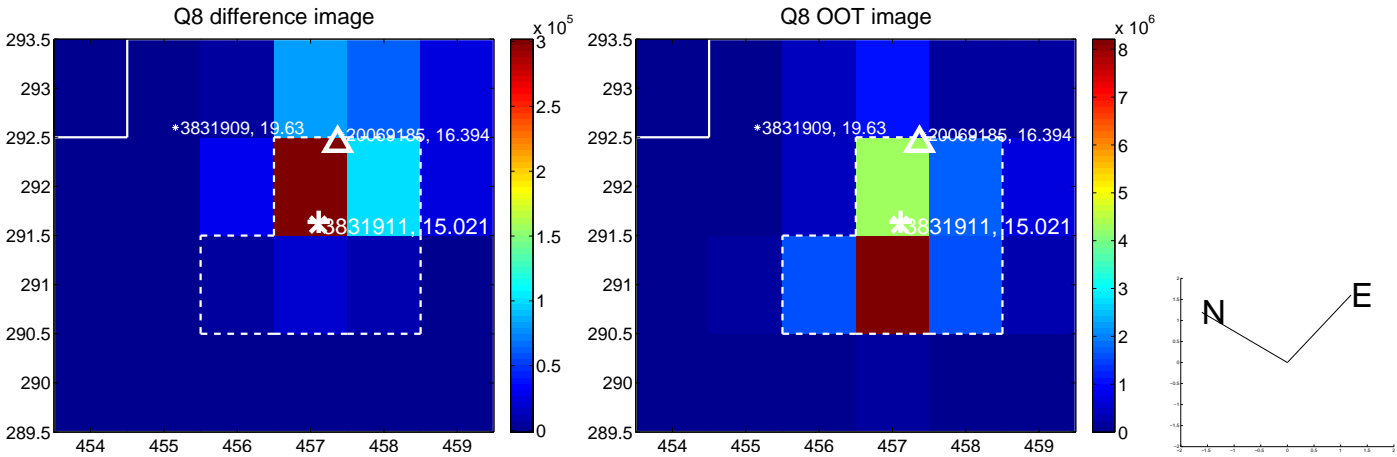
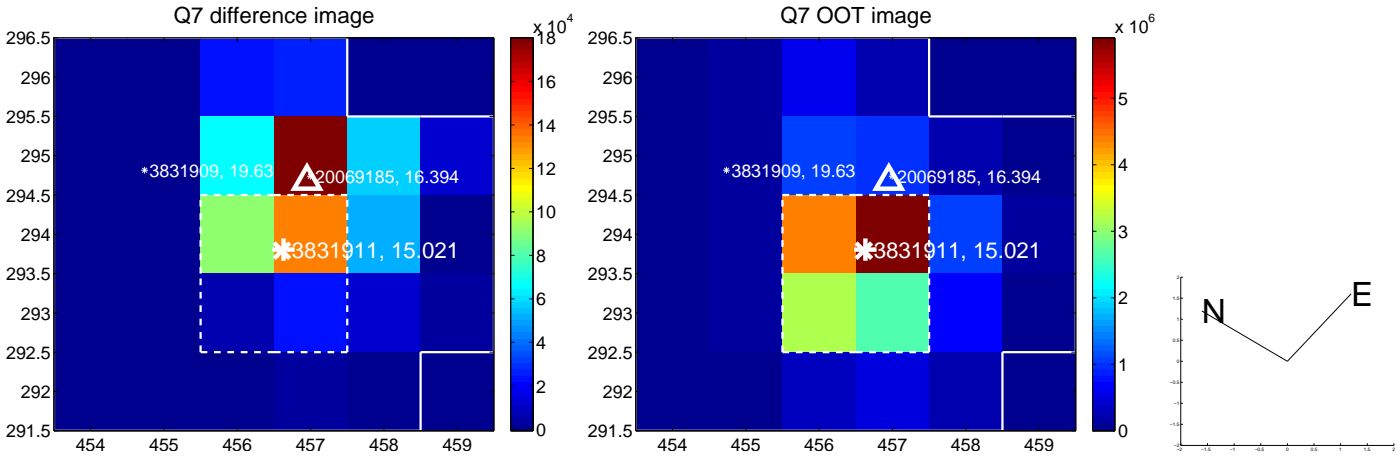
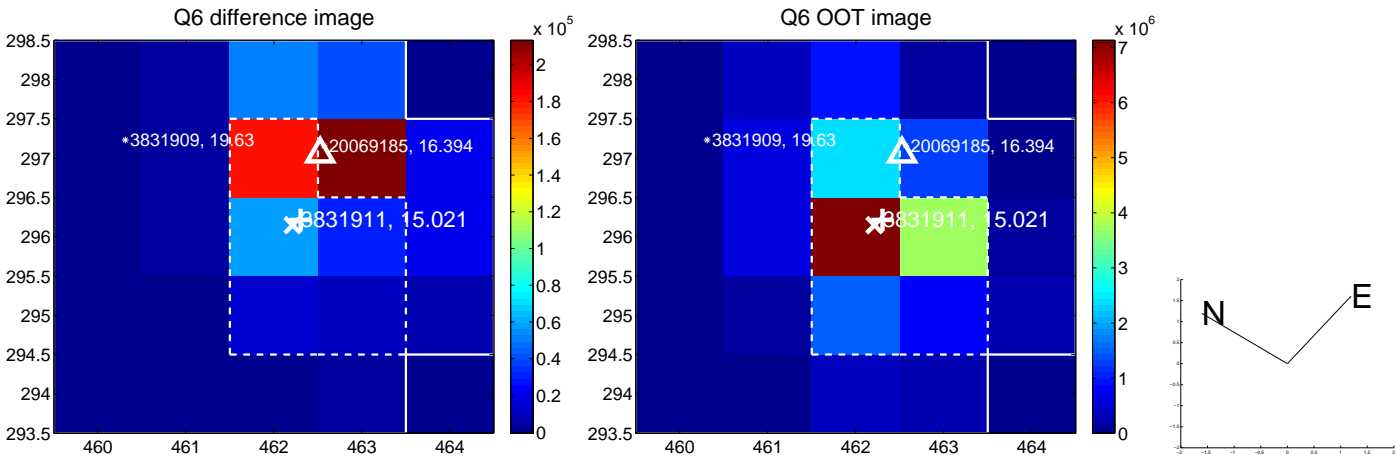
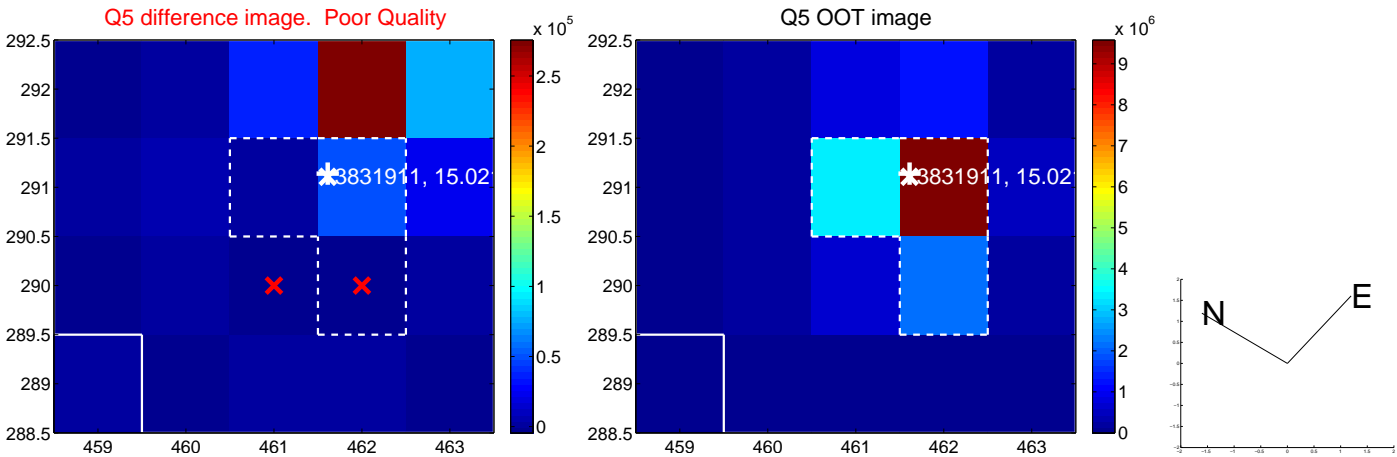


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

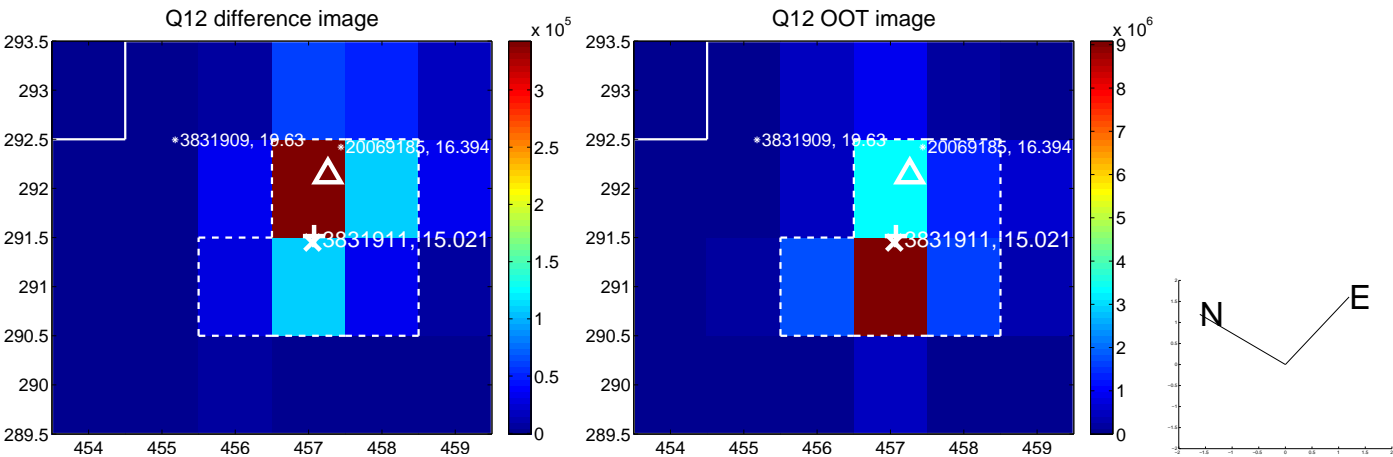
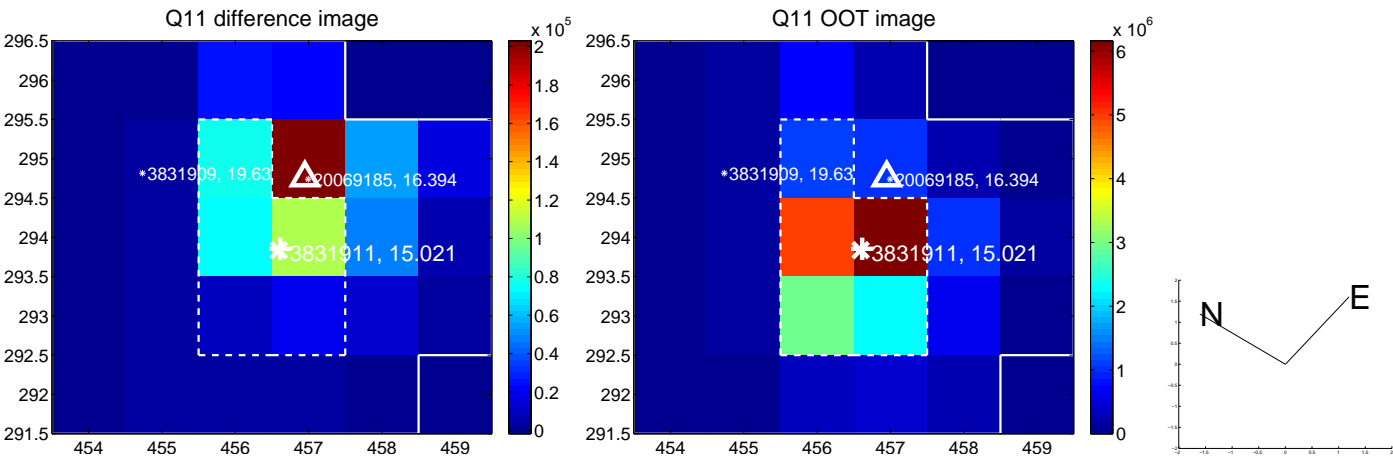
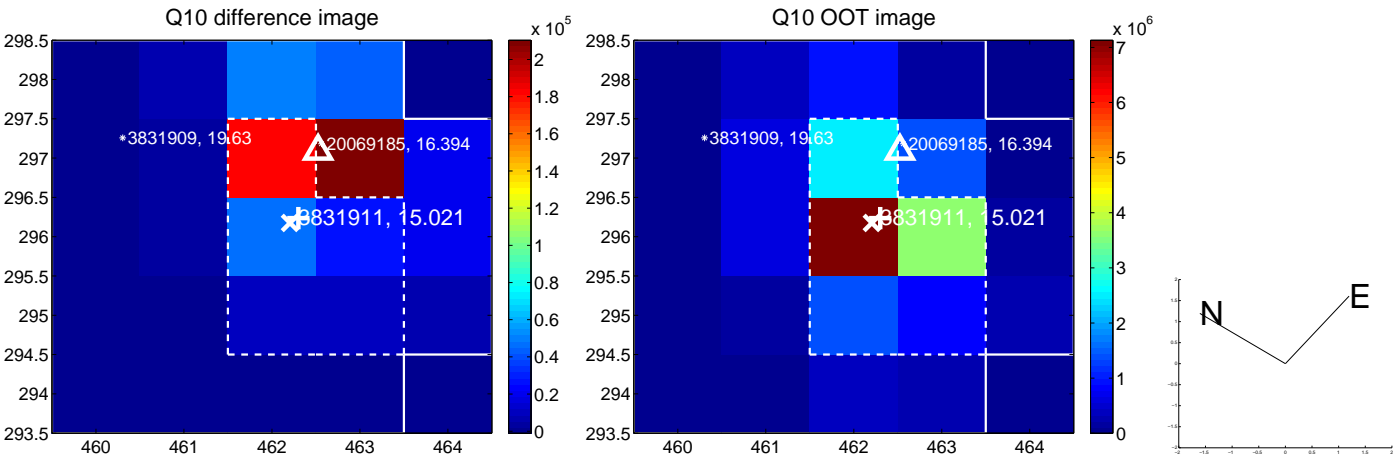
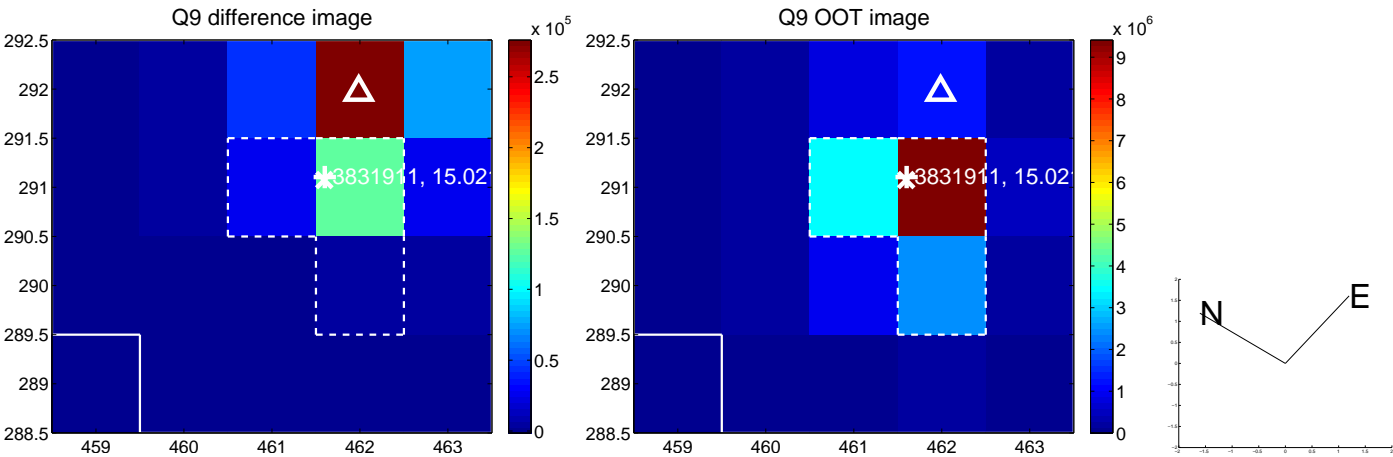
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



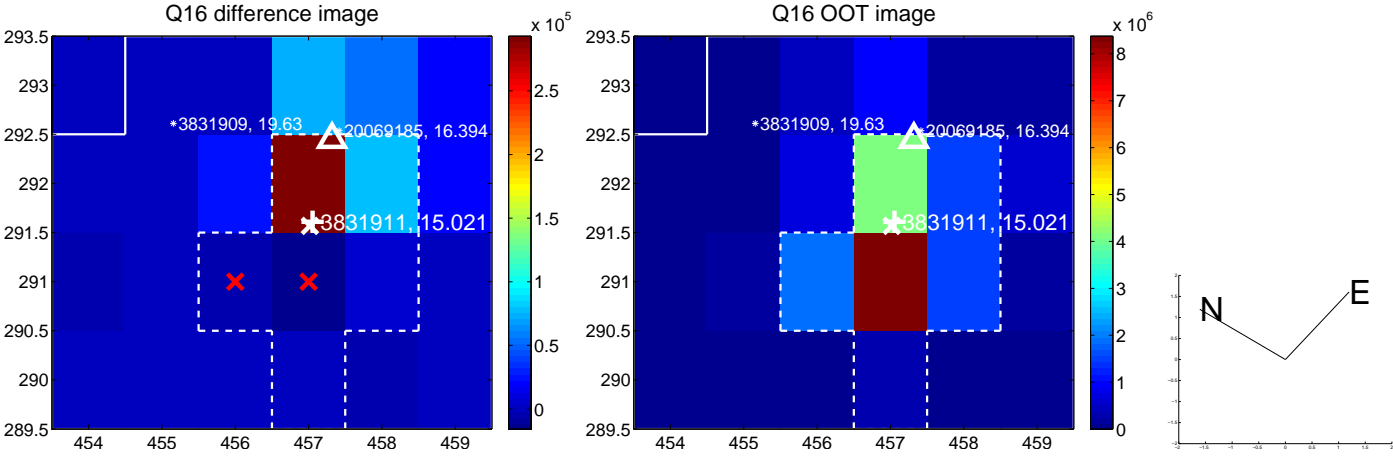
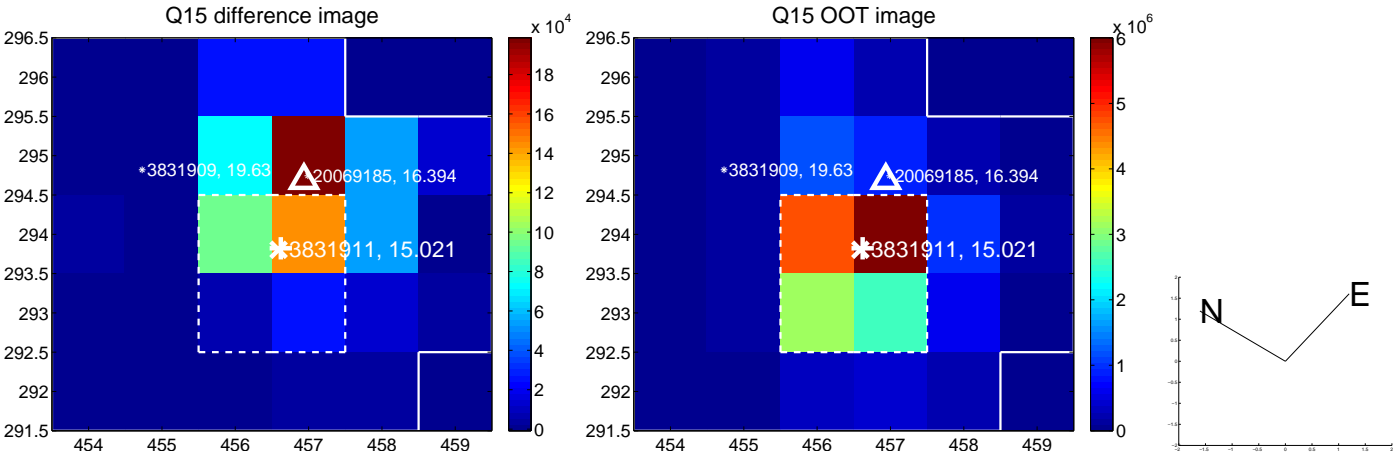
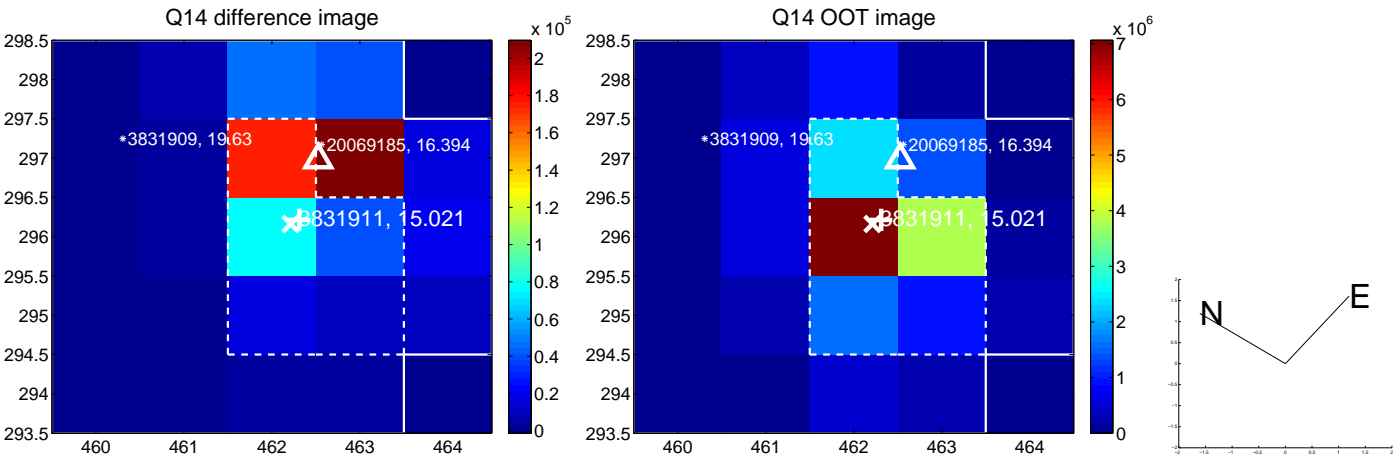
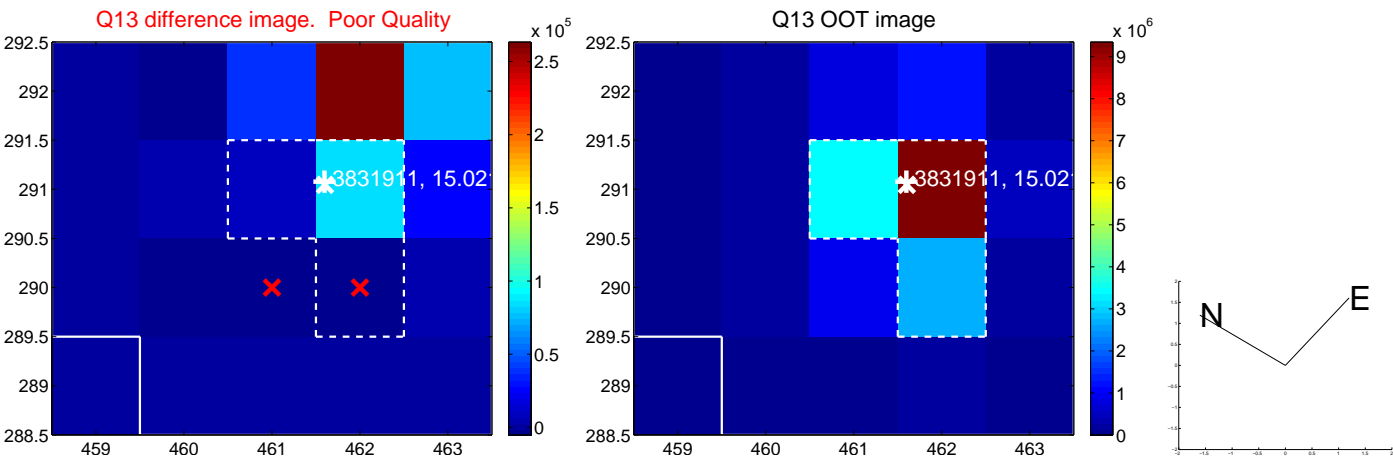
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



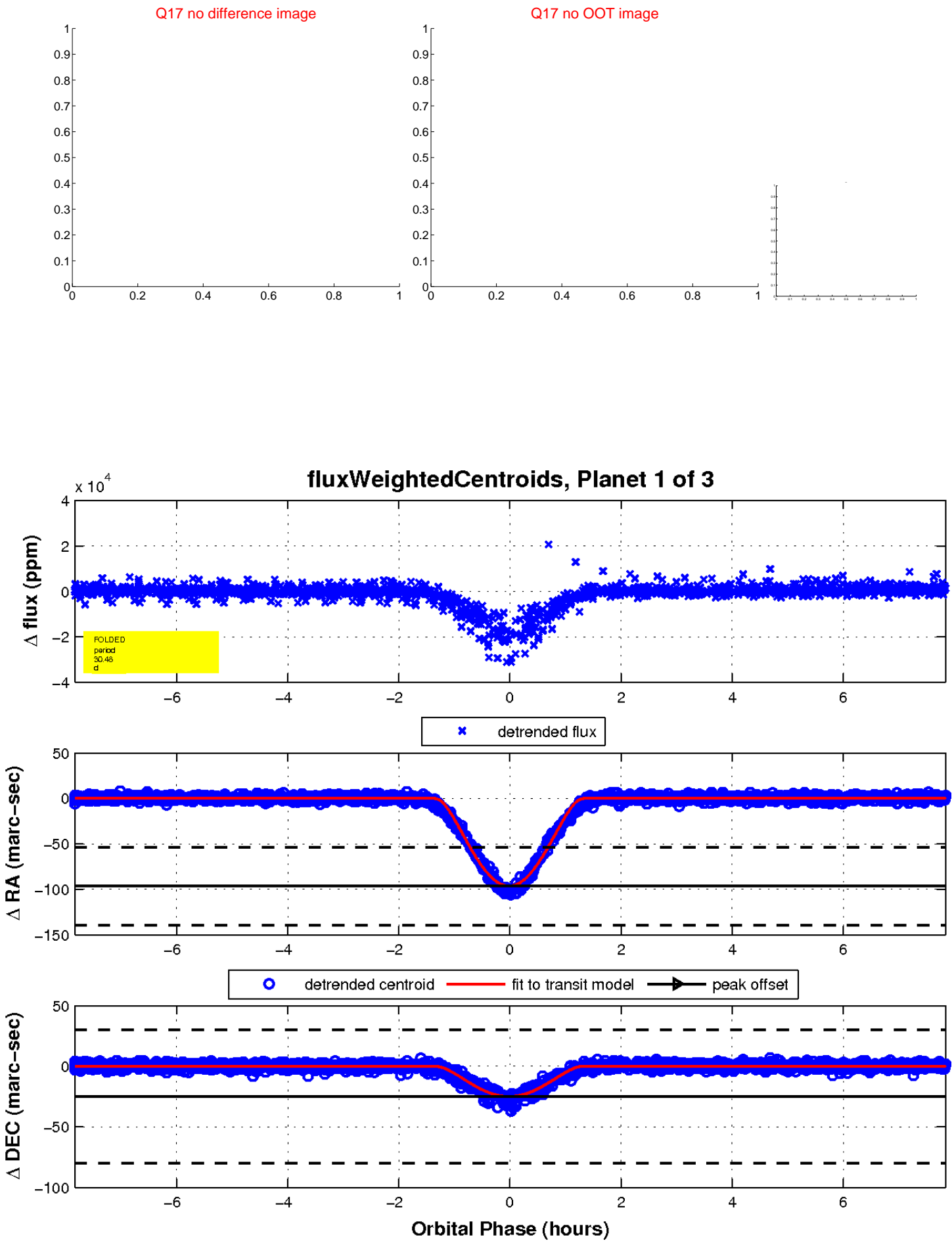
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

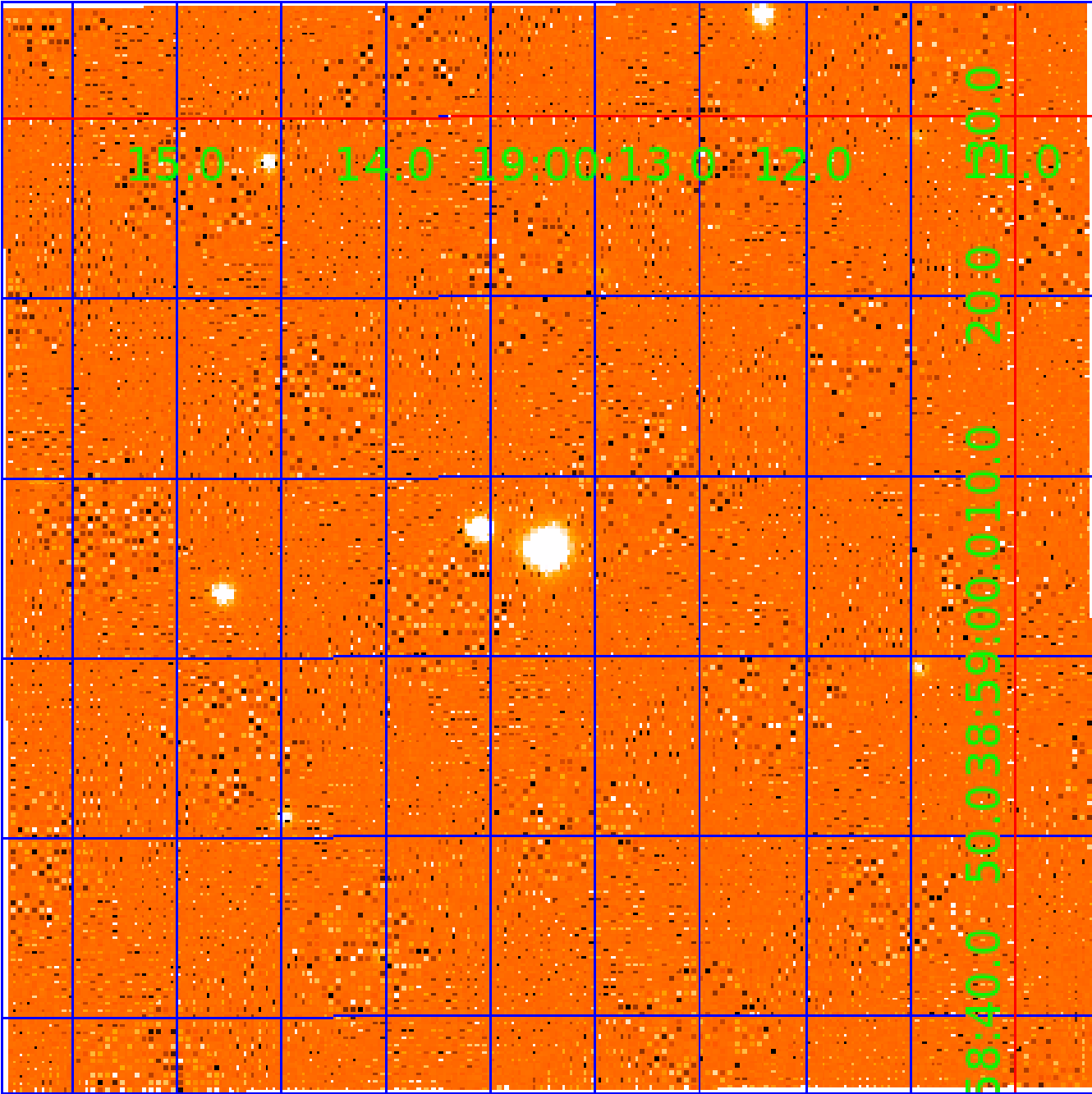


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003831911

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})
003831911-01	OBS	5988.01	30.483800	149.813895	17988.3	2.615	143.2	113.5	0.53	3857	12.78	2.32
003831911-02	OBS	No	30.483753	152.989616	14425.5	3.623	94.9	89.8	0.53	3857	11.48	2.32
003831911-03	OBS	No	0.567158	131.682869	1561.9	1.500	14.6	-1.0	0.53	3857	2.08	471.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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003831911-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET—HALO_GHOST
003831911-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

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

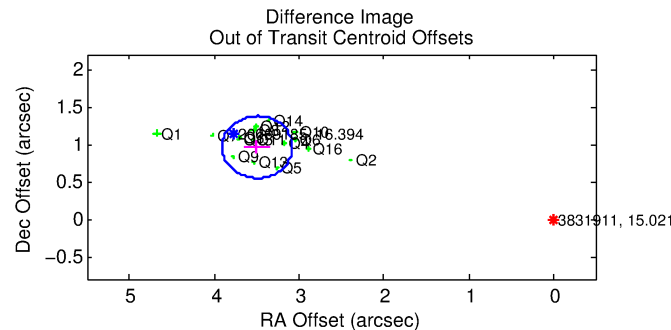
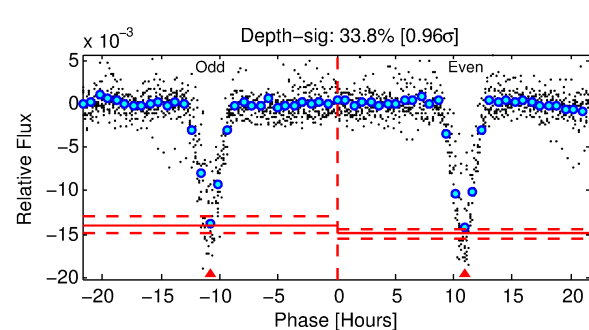
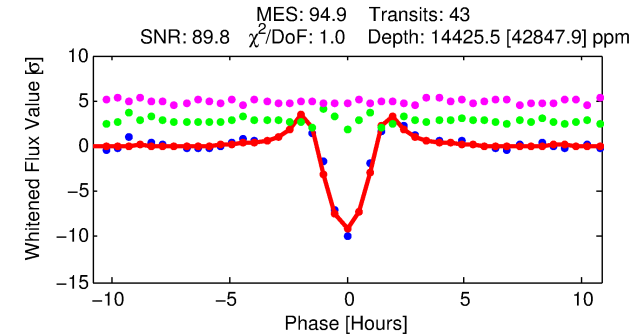
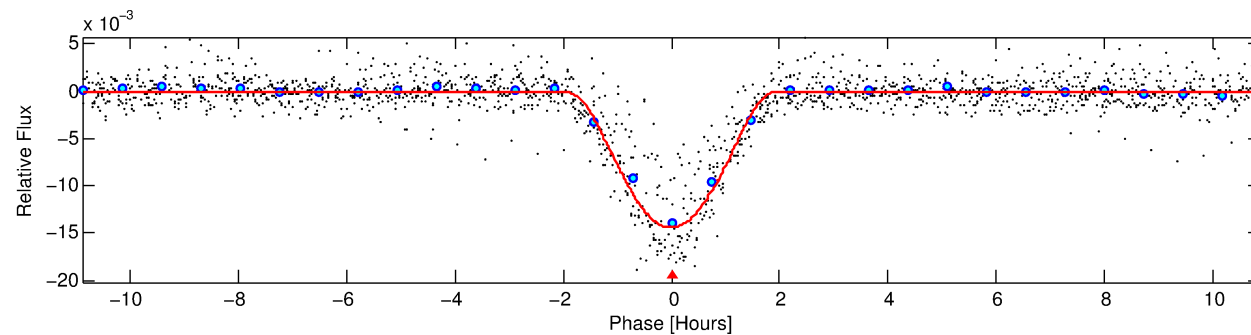
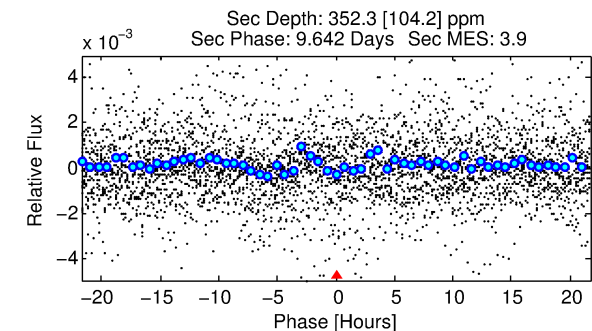
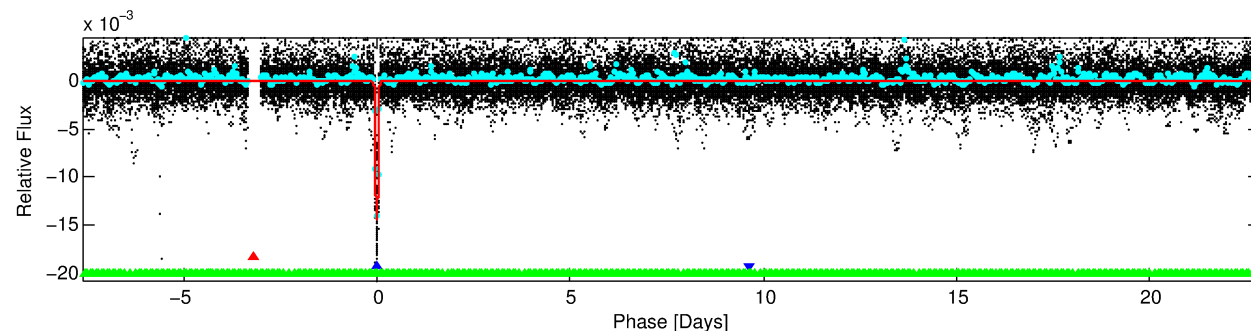
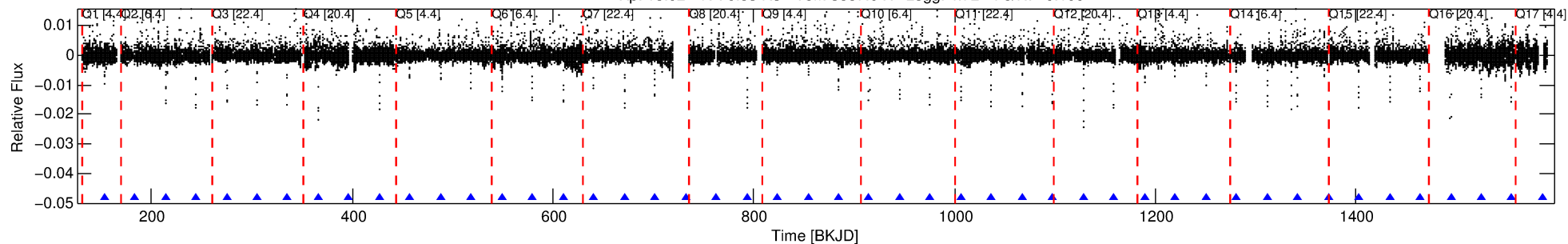
Ephemeris Match Information For 003831911-02

No Significant Match Found

DV One-Page Summary

KIC: 3831911 Candidate: 2 of 3 Period: 30.484 d
KOI: K05988 Corr: No Ephemeris Match

Kp: 15.02 R*: 0.53 Rs Teff: 3857.0 K Logg: 4.72 Fe/H: -0.100



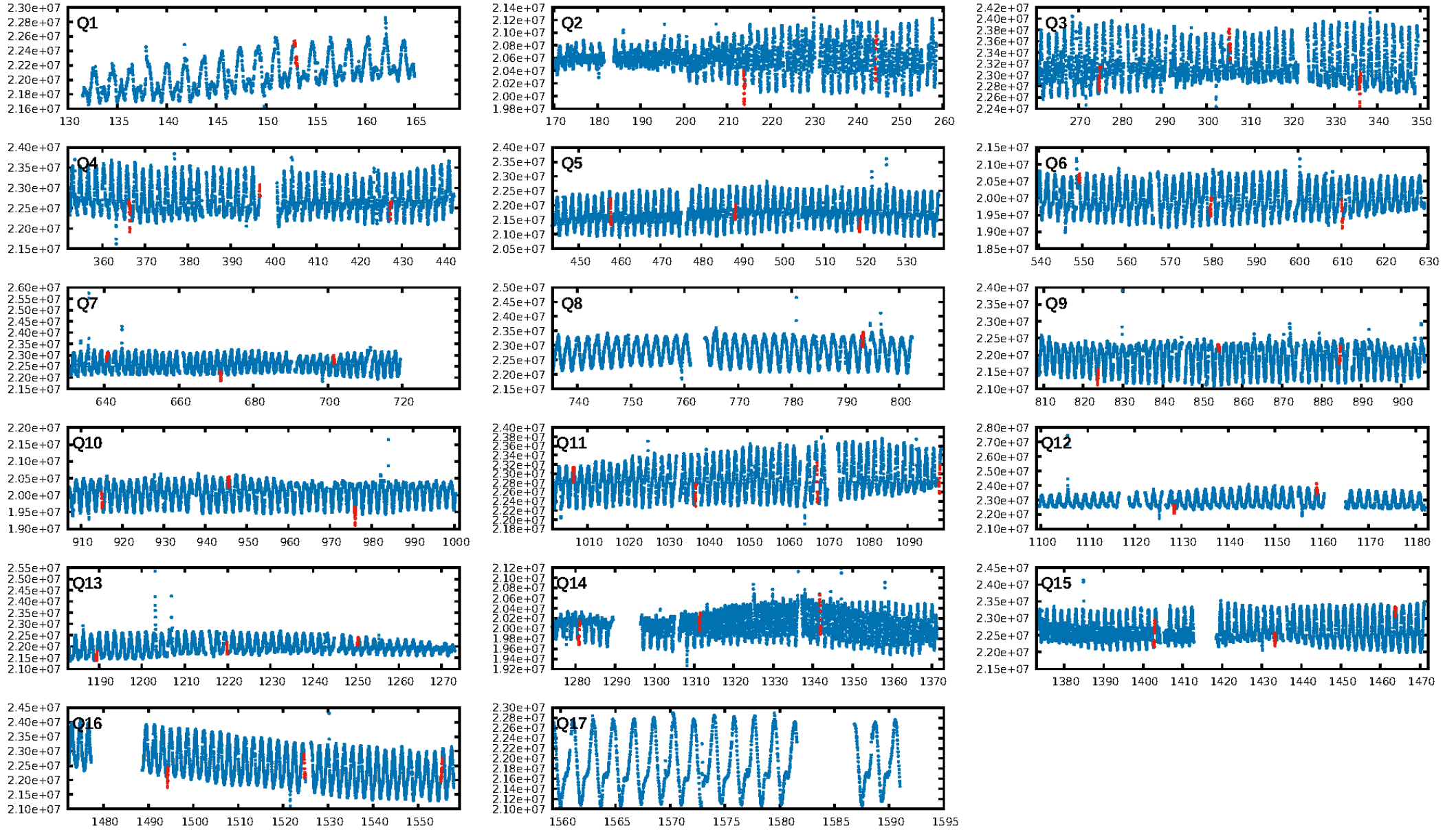
DV Fit Results:

Period = 30.48375 [0.00002] d
Epoch = 152.9896 [0.0007] BKJD
Rp/R* = 0.1981 [0.0683]
a/R* = 42.43 [1.74]
b = 1.00 [0.28]
Seff = 2.32 [0.29]
Teff = 315 [10] K
Rp = 11.48 [4.04] Re
a = 0.1552 [0.0087] AU
Ag = 35.42 [26.72] [1.29σ]
Teffp = 1187 [225] K [3.88σ]

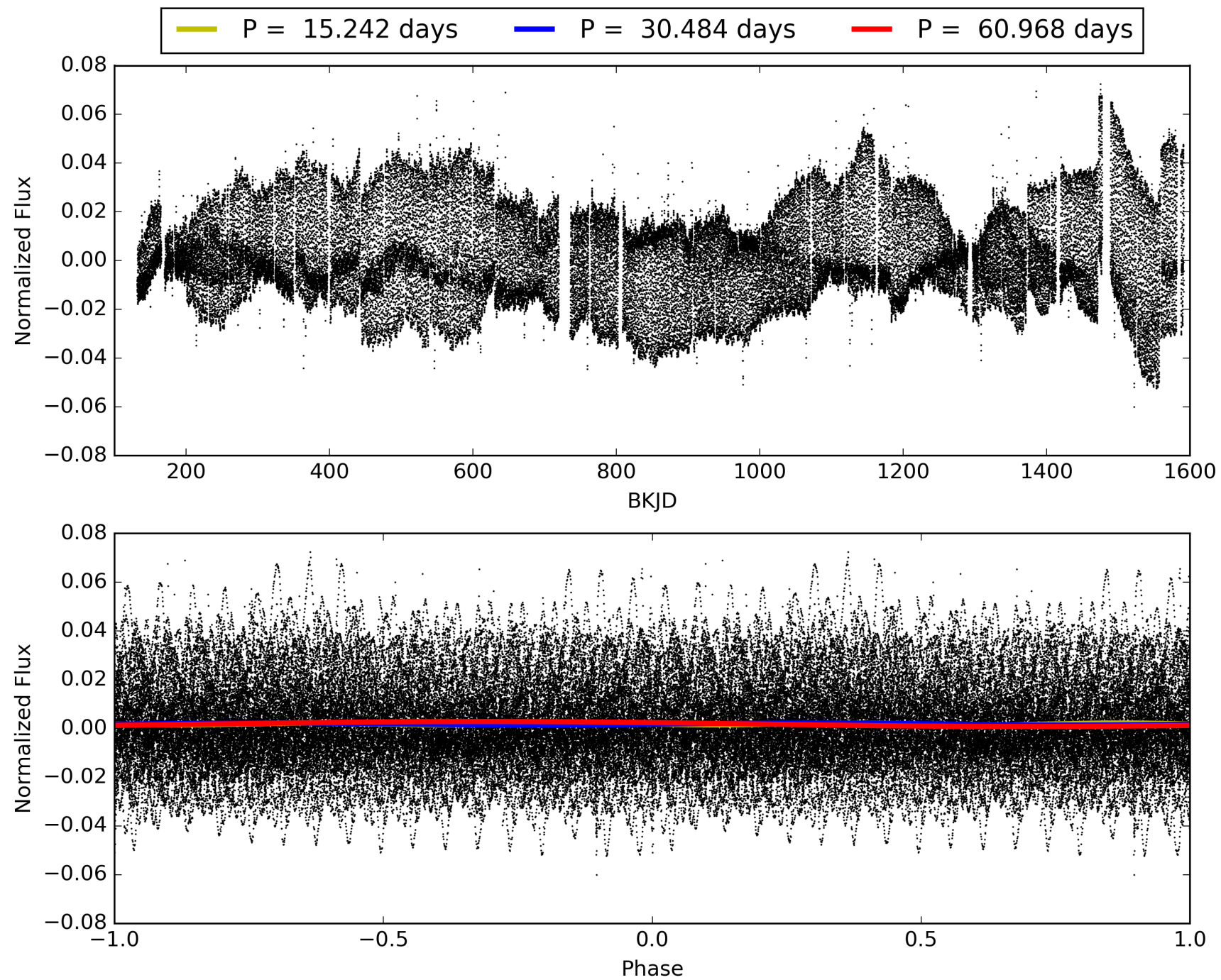
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [183.12σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [42/42]
GhostDiagnostic-chr: 0.2247
Centroid-sig: 0.0%
Centroid-so: 5.592 arcsec [134.67σ]
OotOffset-rm: 3.623 arcsec [26.23σ]
KicOffset-rm: 3.810 arcsec [28.99σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.00 [0/16]

TCE 003831911-02, PDC Light Curves

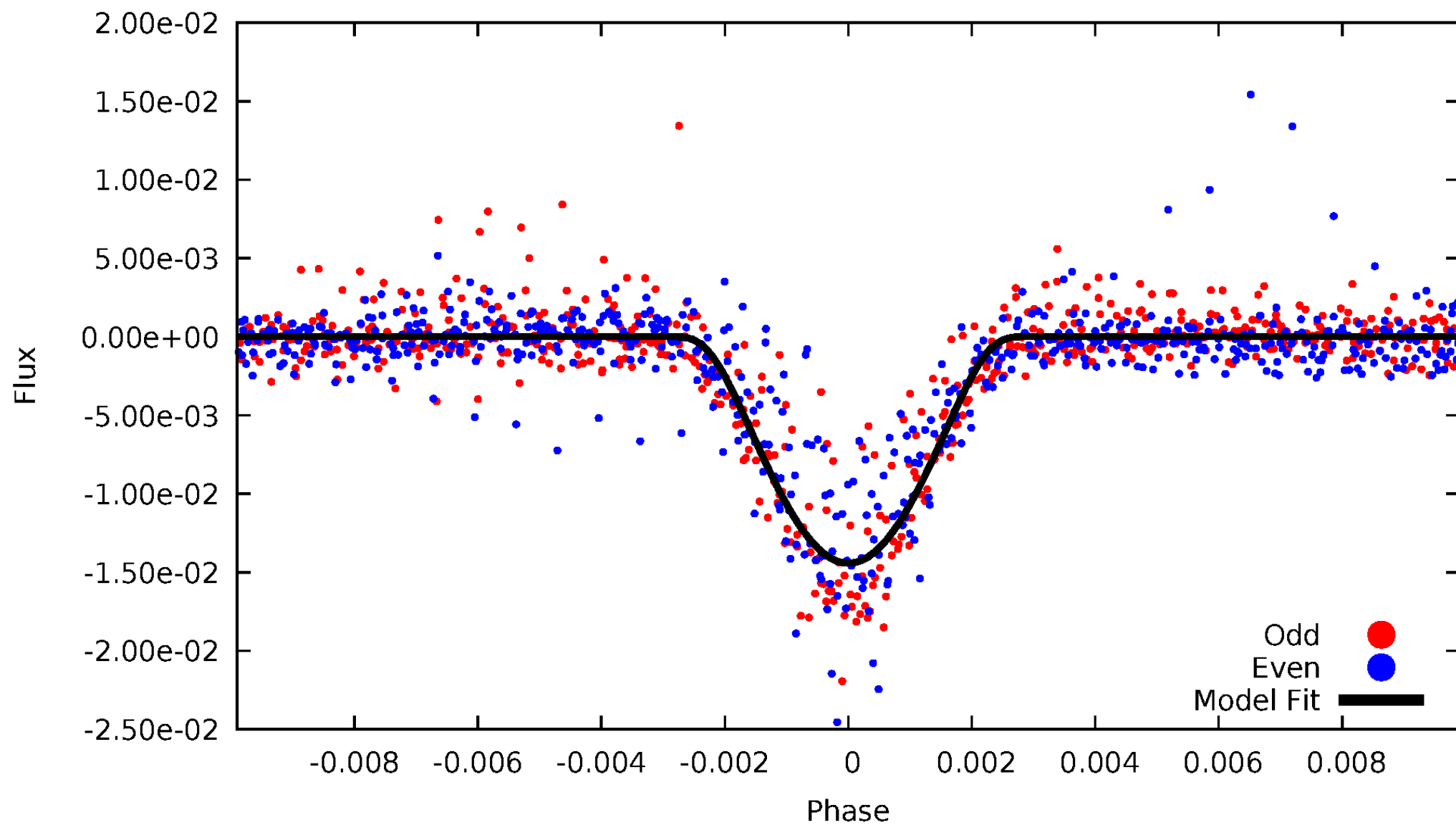


TCE 003831911-02



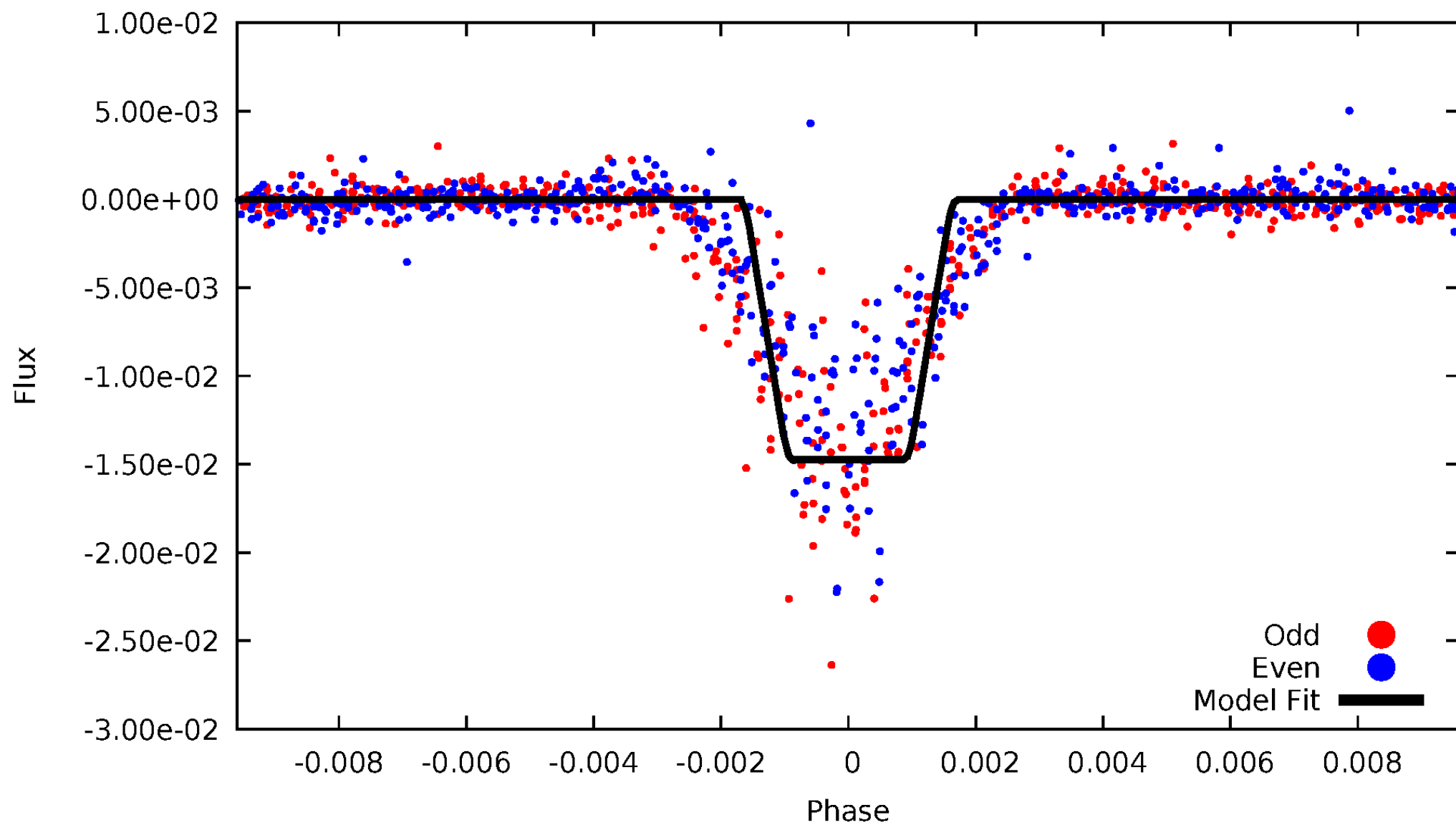
DV Odd/Even

TCE 003831911-02



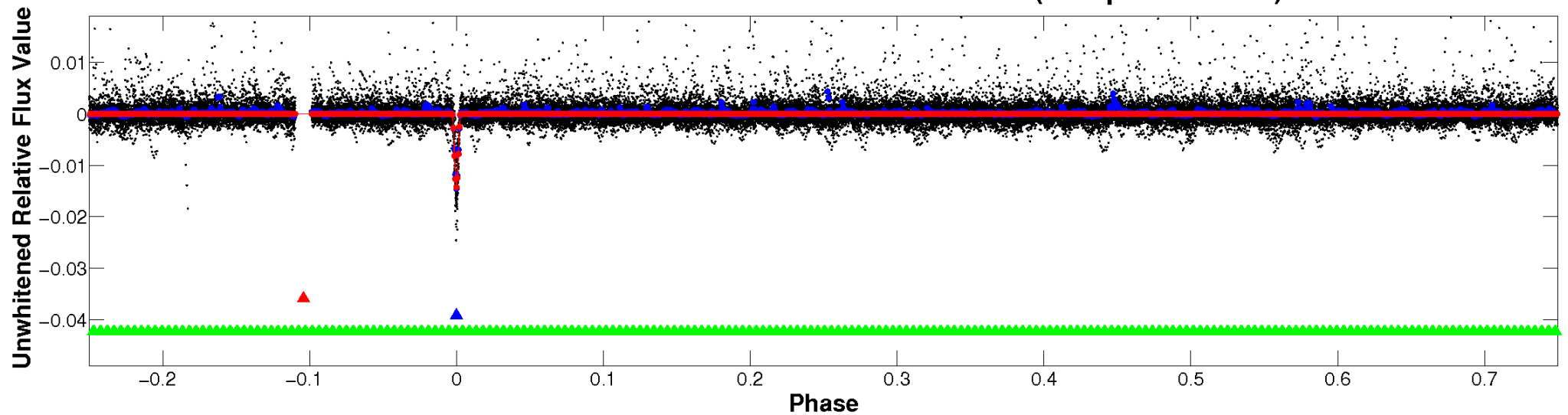
ALT Odd/Even

TCE 003831911-02

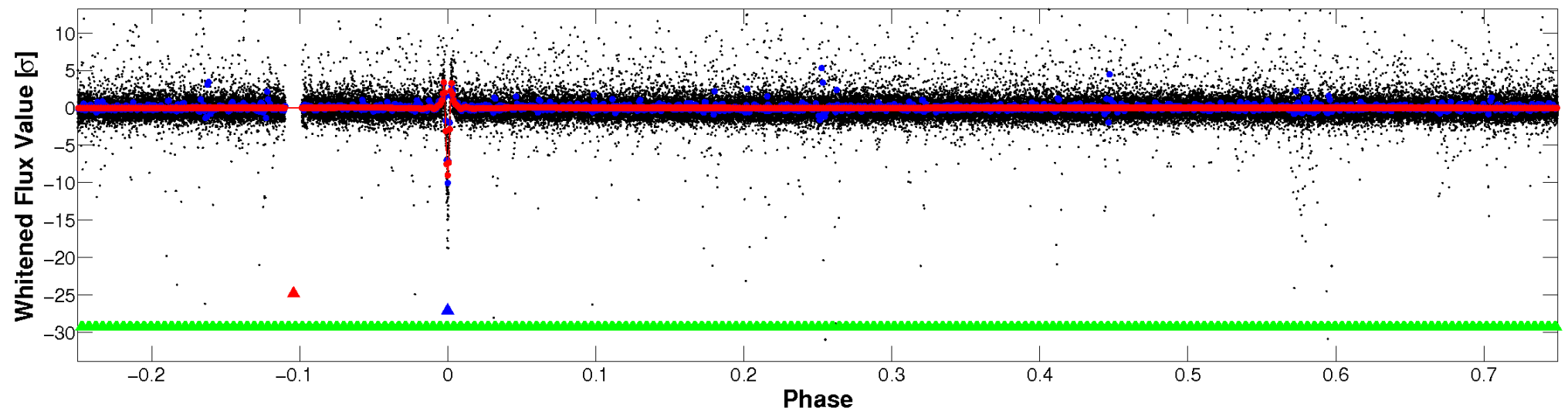


Non-Whitened Vs. Whitened Light Curve

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

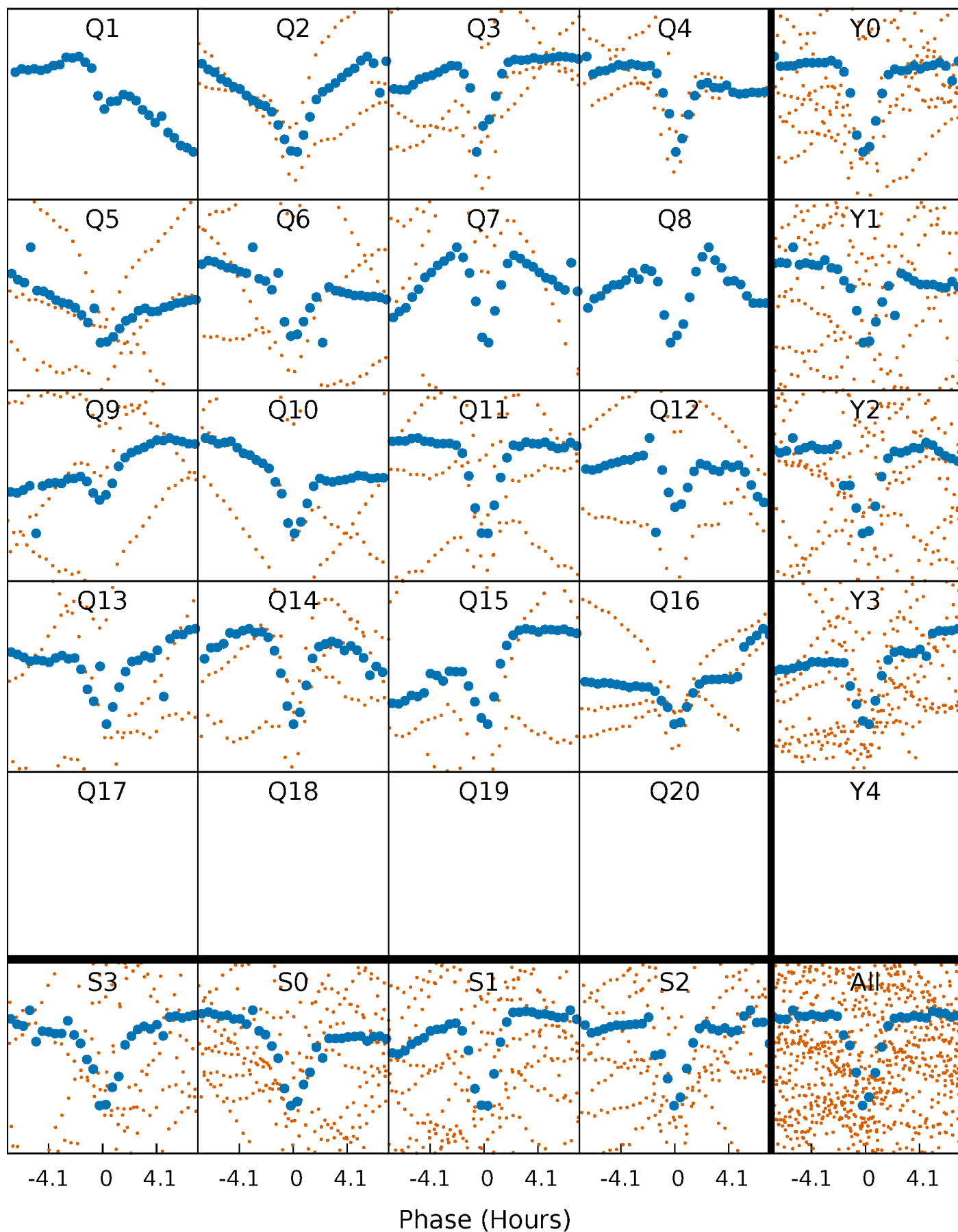


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



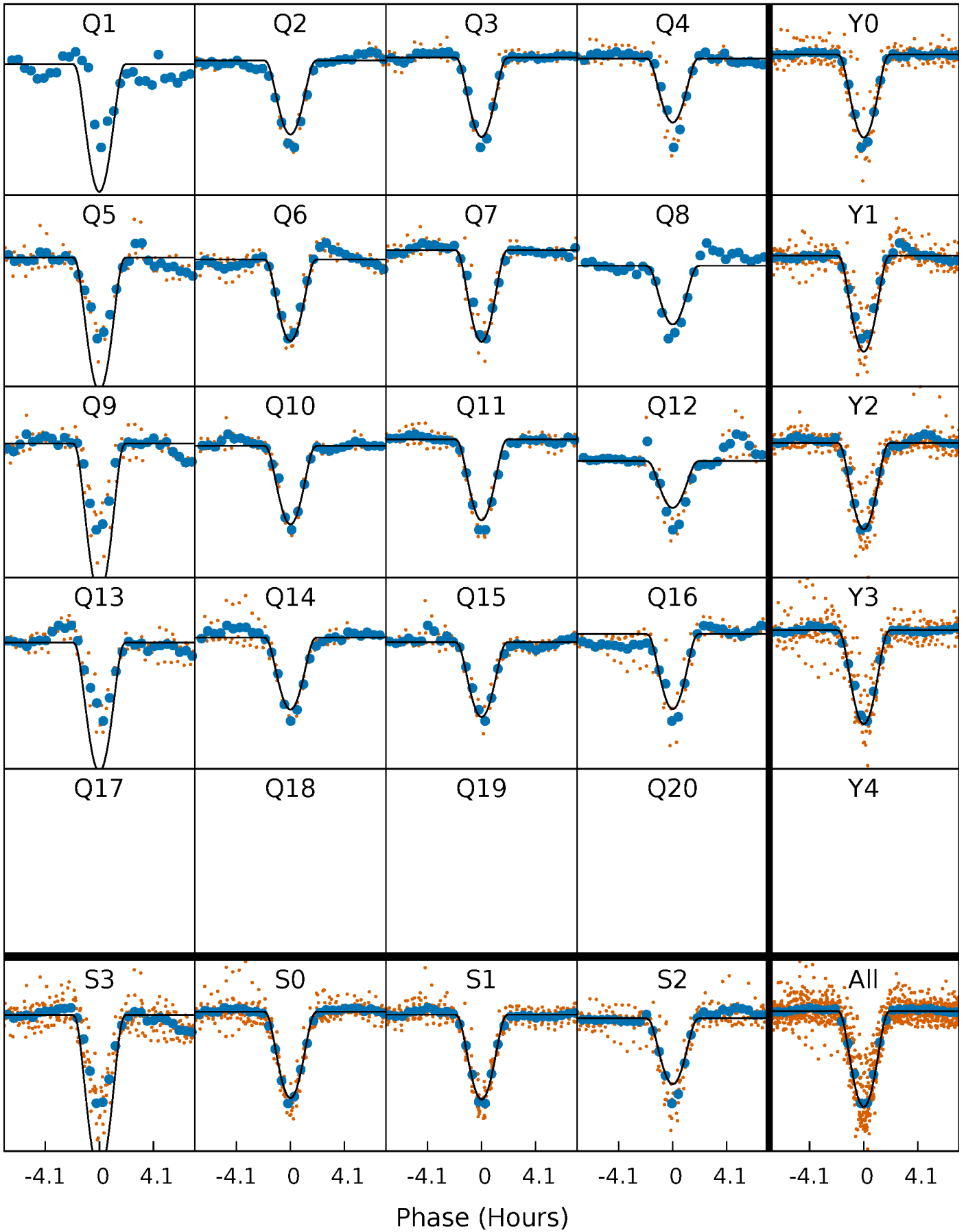
PDC Quarter-Phased Transit Curves

TCE 003831911-02 P= 30.483753 Days $T_0=152.989616$ (BKJD)



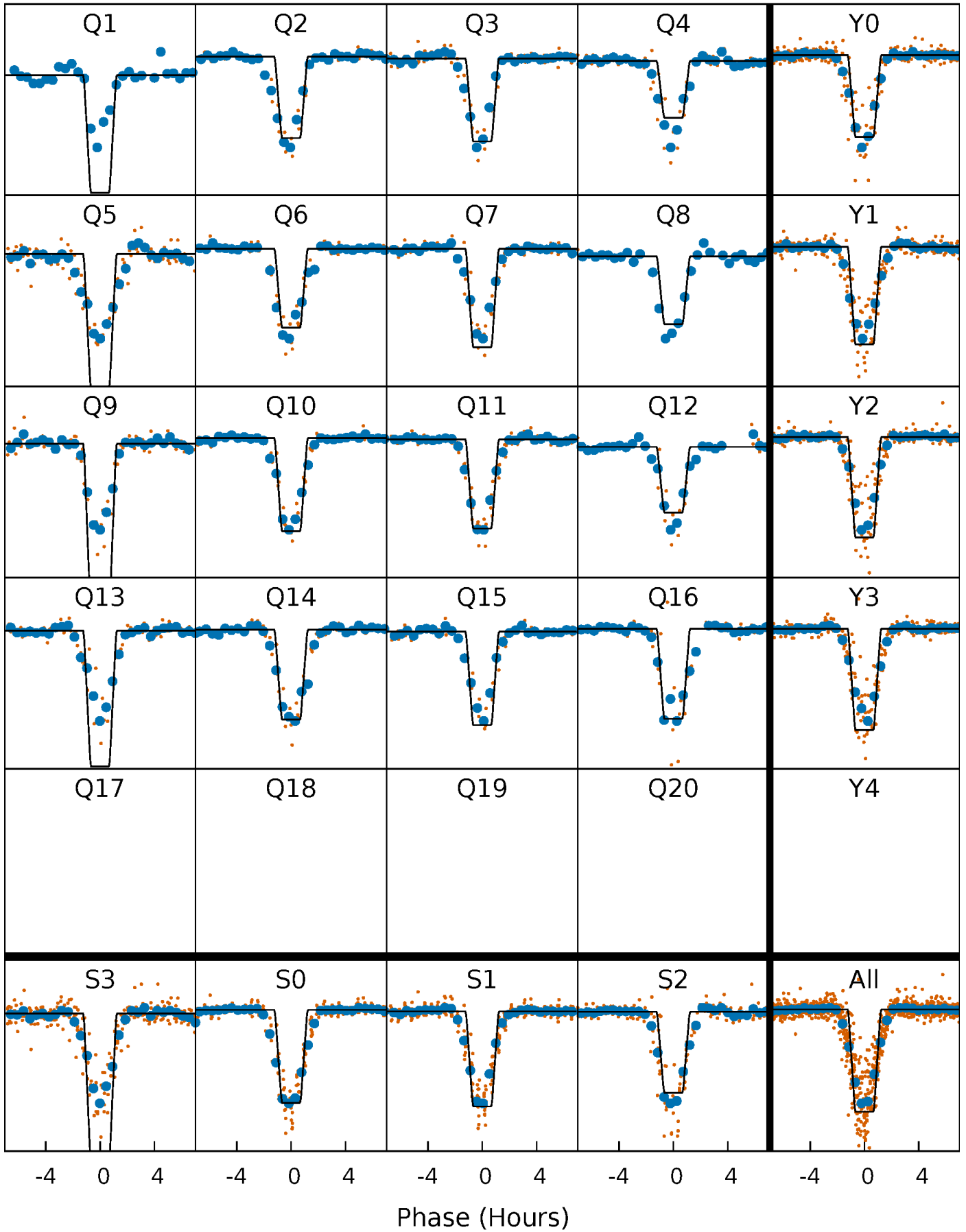
DV Quarter-Phased Transit Curves

TCE 003831911-02 P= 30.483753 Days $T_0=152.989616$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

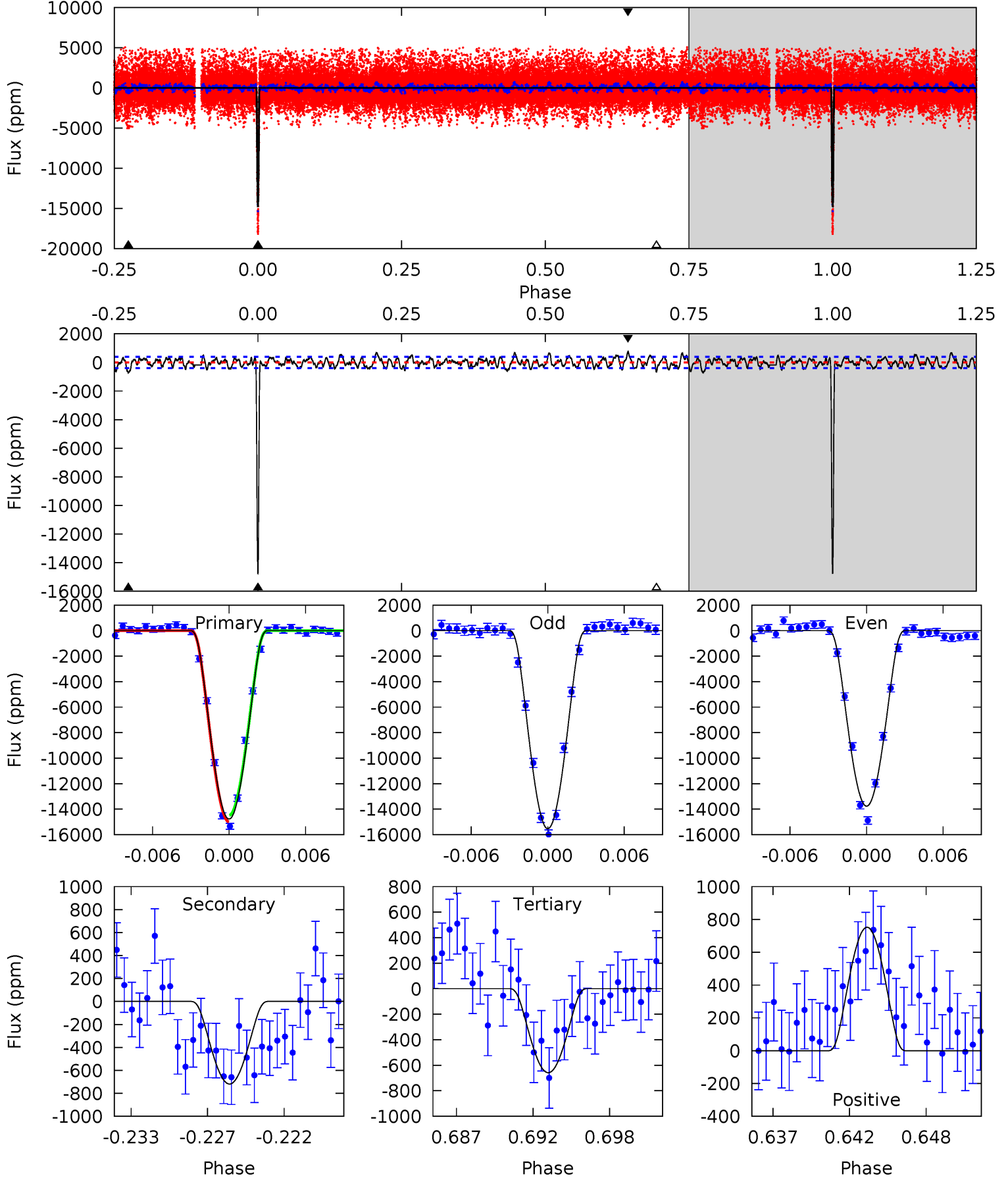
TCE 003831911-02 P= 30.483548 Days $T_0=152.996032$ (BKJD)



DV Model-Shift Uniqueness Test

003831911-02, P = 30.483753 Days, E = 122.505863 Days

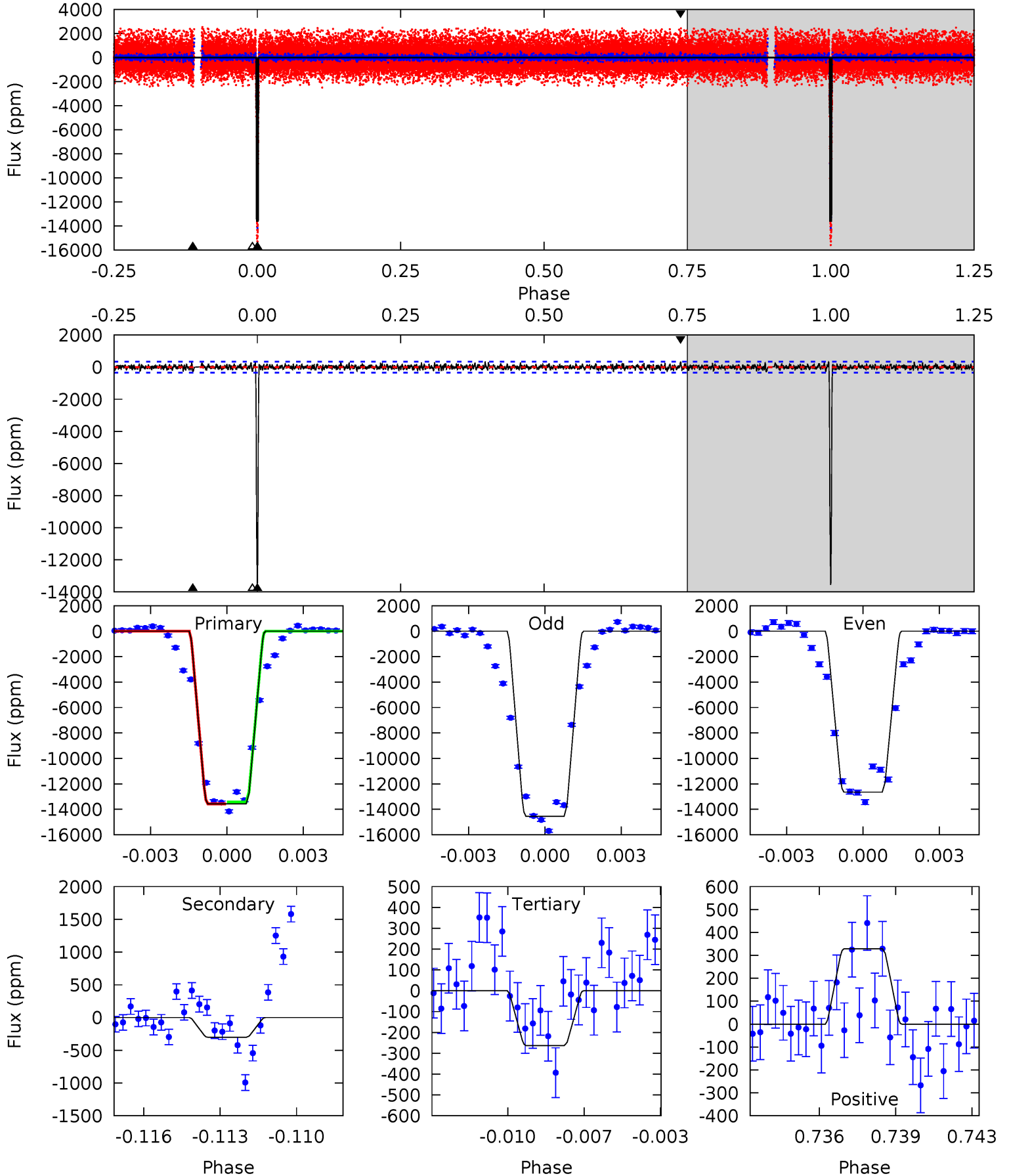
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
191.3	9.32	8.53	9.75	5.14	2.77	3.25	182.8	181.6	0.79	-0.43	11.6	0.91	0.05	0



Alt Model-Shift Uniqueness Test

003831911-02, P = 30.483548 Days, E = 122.512484 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
205.6	4.57	3.99	4.98	5.23	2.93	1.28	201.6	200.6	0.59	-0.41	14.5	1.01	0.02	0



Stellar Parameters For KIC 003831911

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3857^{+97}_{-97}	$4.717^{+0.039}_{-0.021}$	$-0.100^{+0.100}_{-0.100}$	$0.531^{+0.029}_{-0.038}$	$0.535^{+0.033}_{-0.030}$	$5.041^{+0.905}_{-0.487}$
	+3%/-3%	+1%/-0%	+100%/-100%	+5%/-7%	+6%/-6%	+18%/-10%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 003831911-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-719 ± 77	$11.50^{+3.95}_{-3.95}$	438^{+12}_{-12}	2225^{+231}_{-149}	73^{+93}_{-34}
Alt.	-302 ± 66	$7.10^{+3.92}_{-3.61}$	438^{+13}_{-12}	2247^{+430}_{-206}	80^{+263}_{-48}

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 $A_{\text{obs}} \gg 1.0$

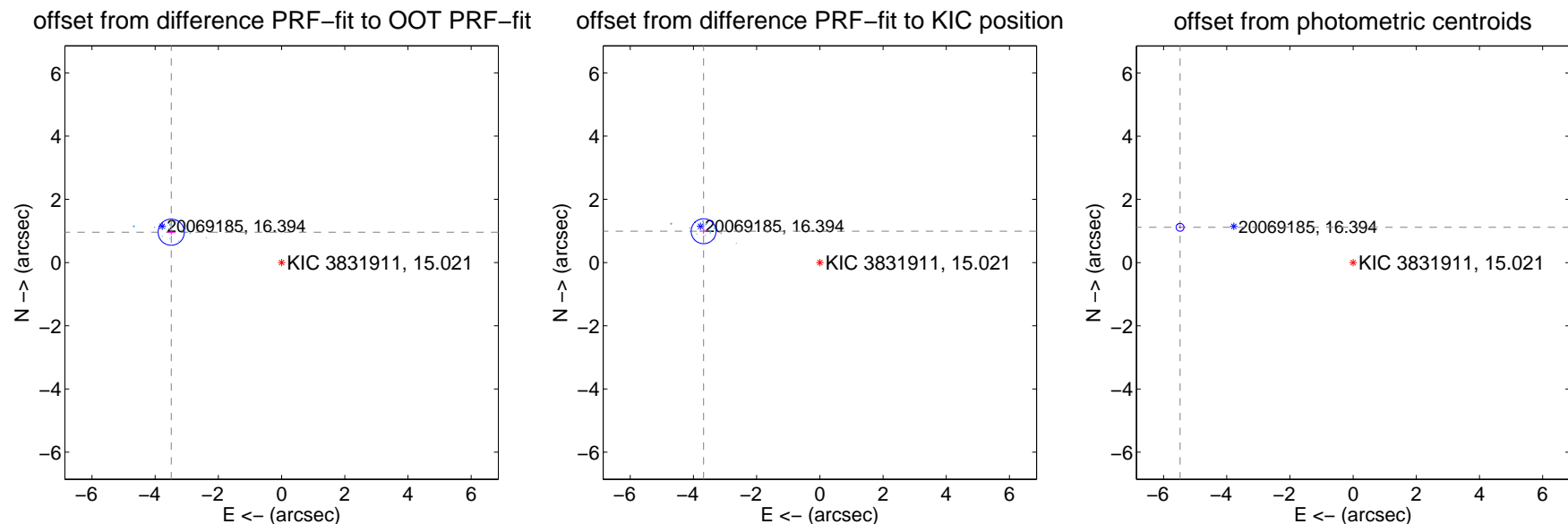
DV Centroid Data

Supplemental centroid analysis for 003831911-02. Kepler magnitude: 15.02. Transit SNR 89.84

There are 16 quarters with good PRF difference image offsets

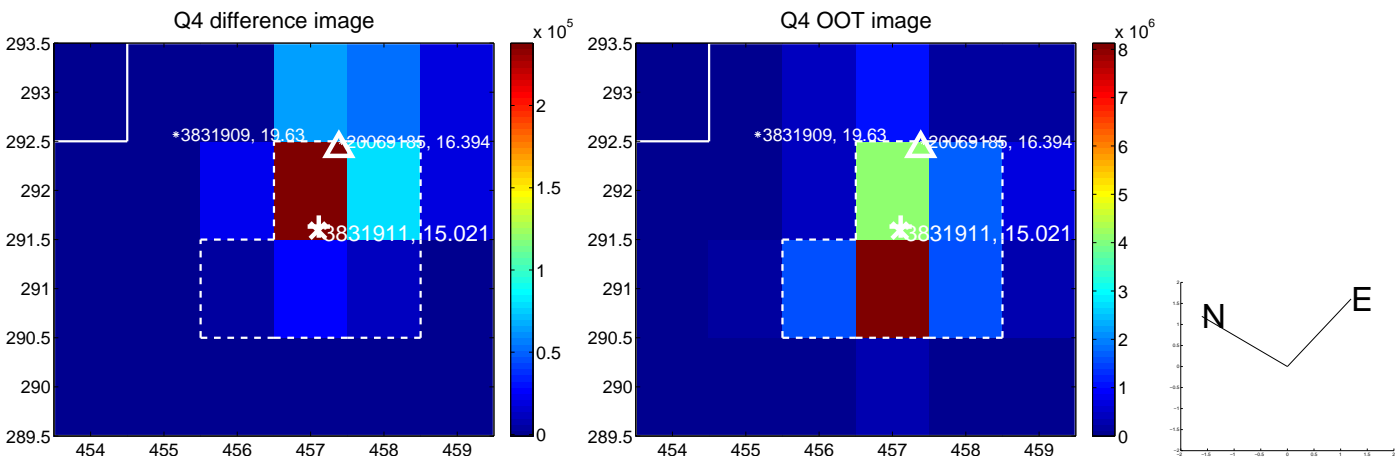
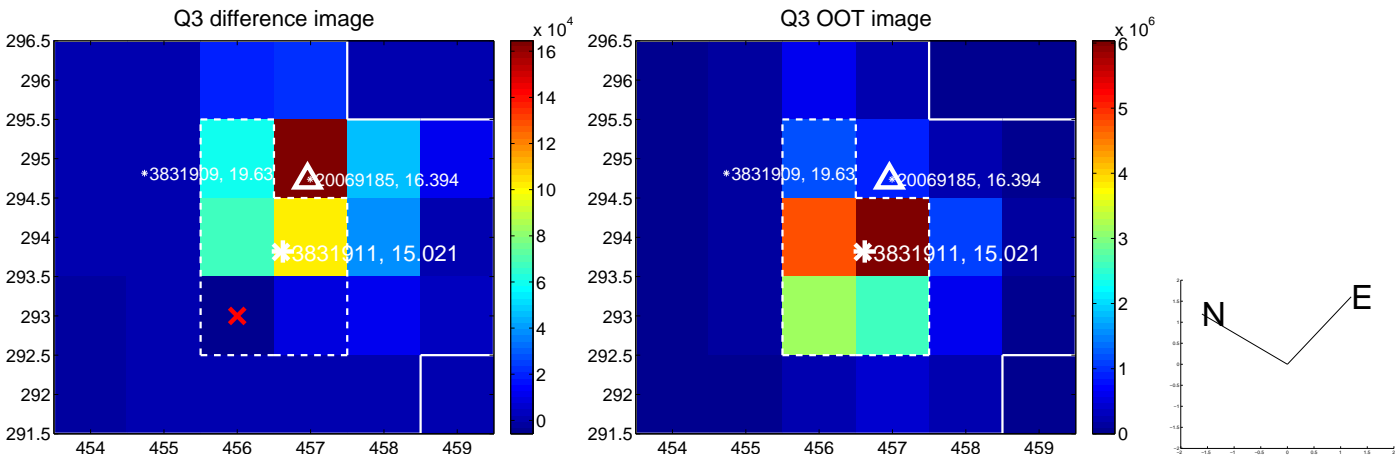
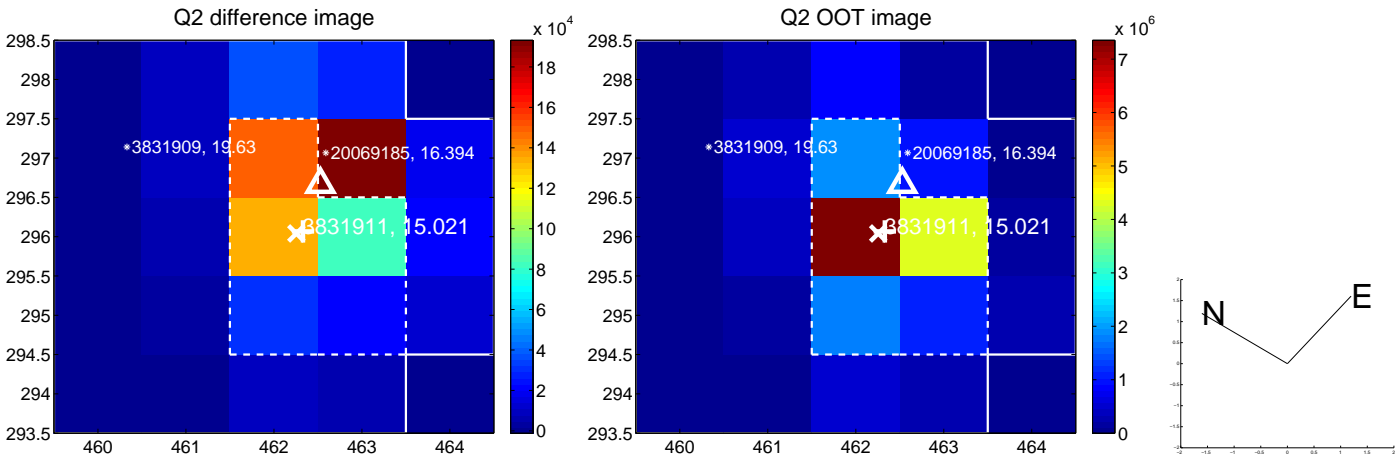
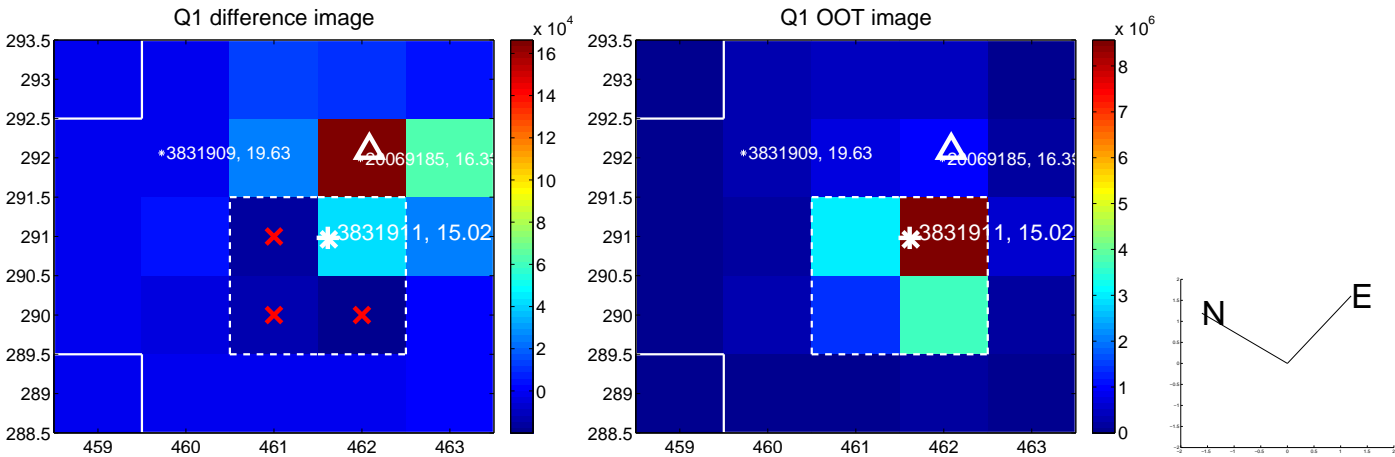
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.623 ± 0.138	26.23	3.493 ± 0.139	0.961 ± 0.079
PRF-fit source offset from KIC position	3.810 ± 0.131	28.99	3.679 ± 0.128	0.991 ± 0.080
photometric centroid source offset	5.59 ± 0.04	134.67	5.48 ± 0.04	1.12 ± 0.04

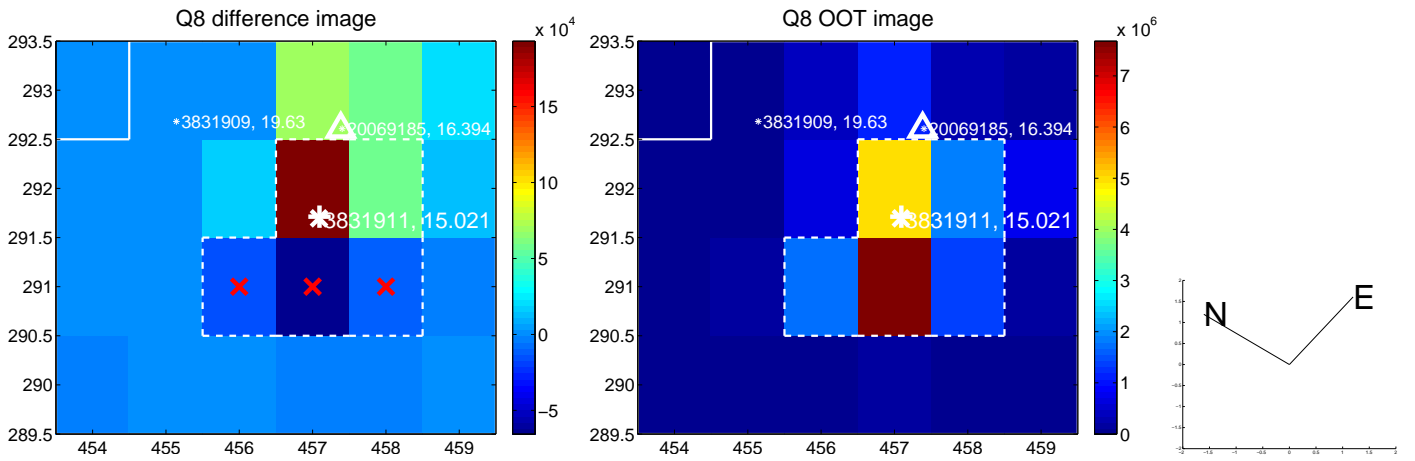
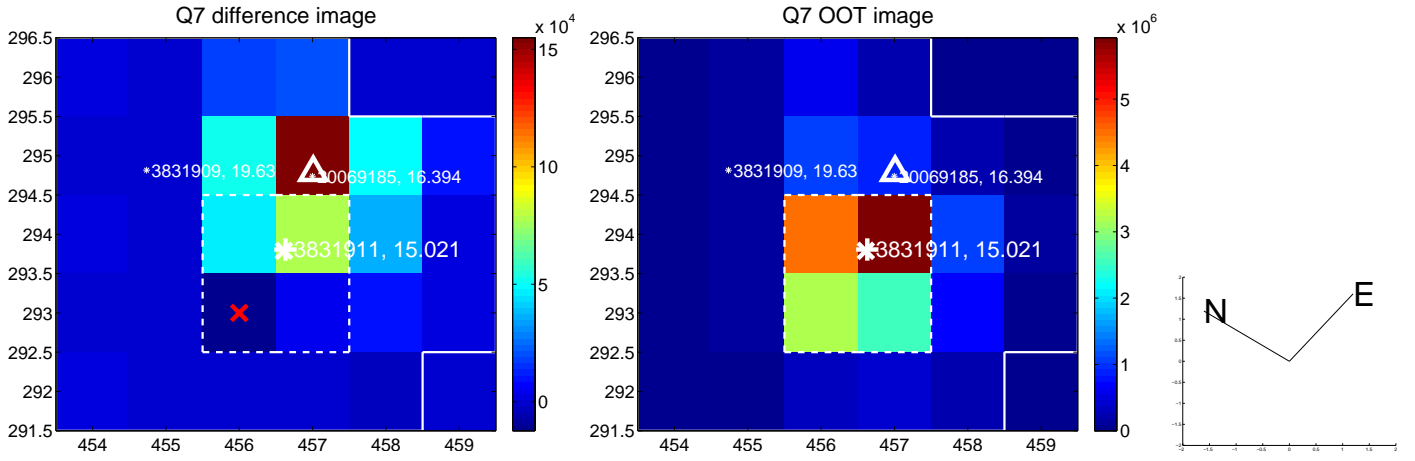
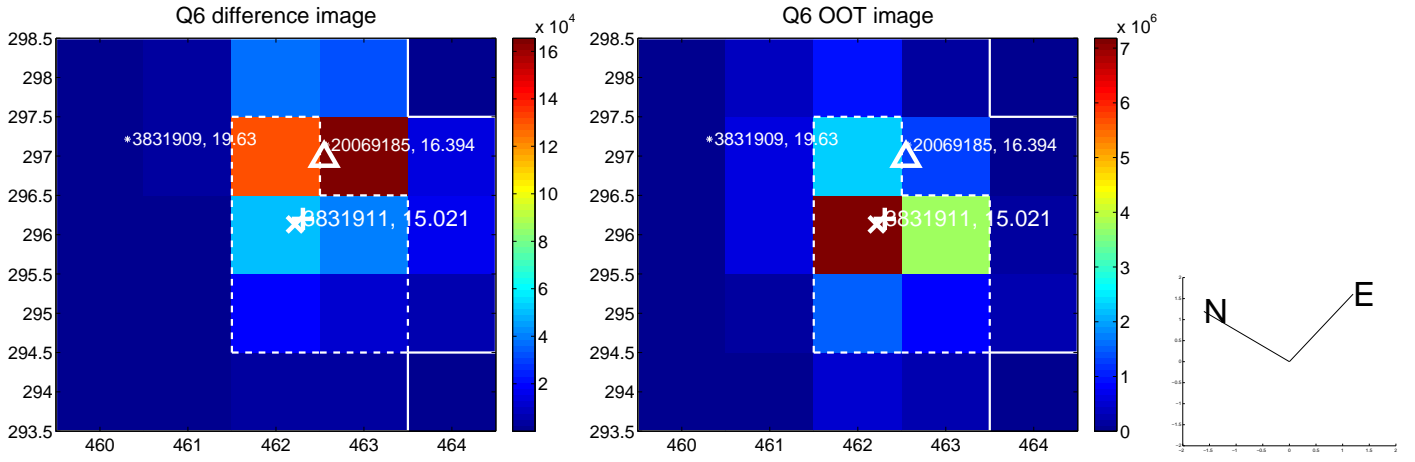
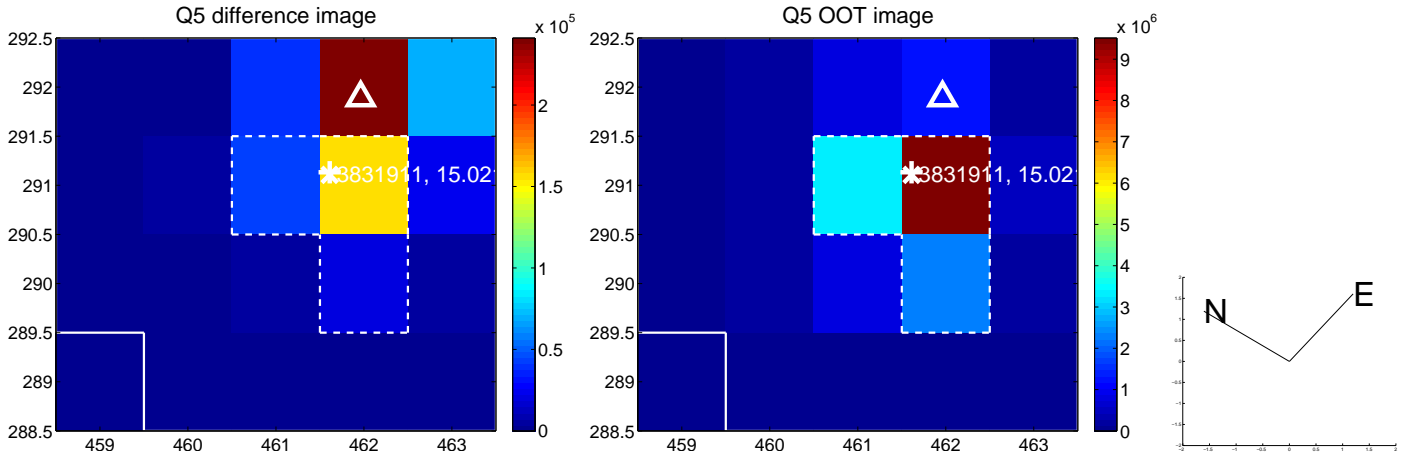


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

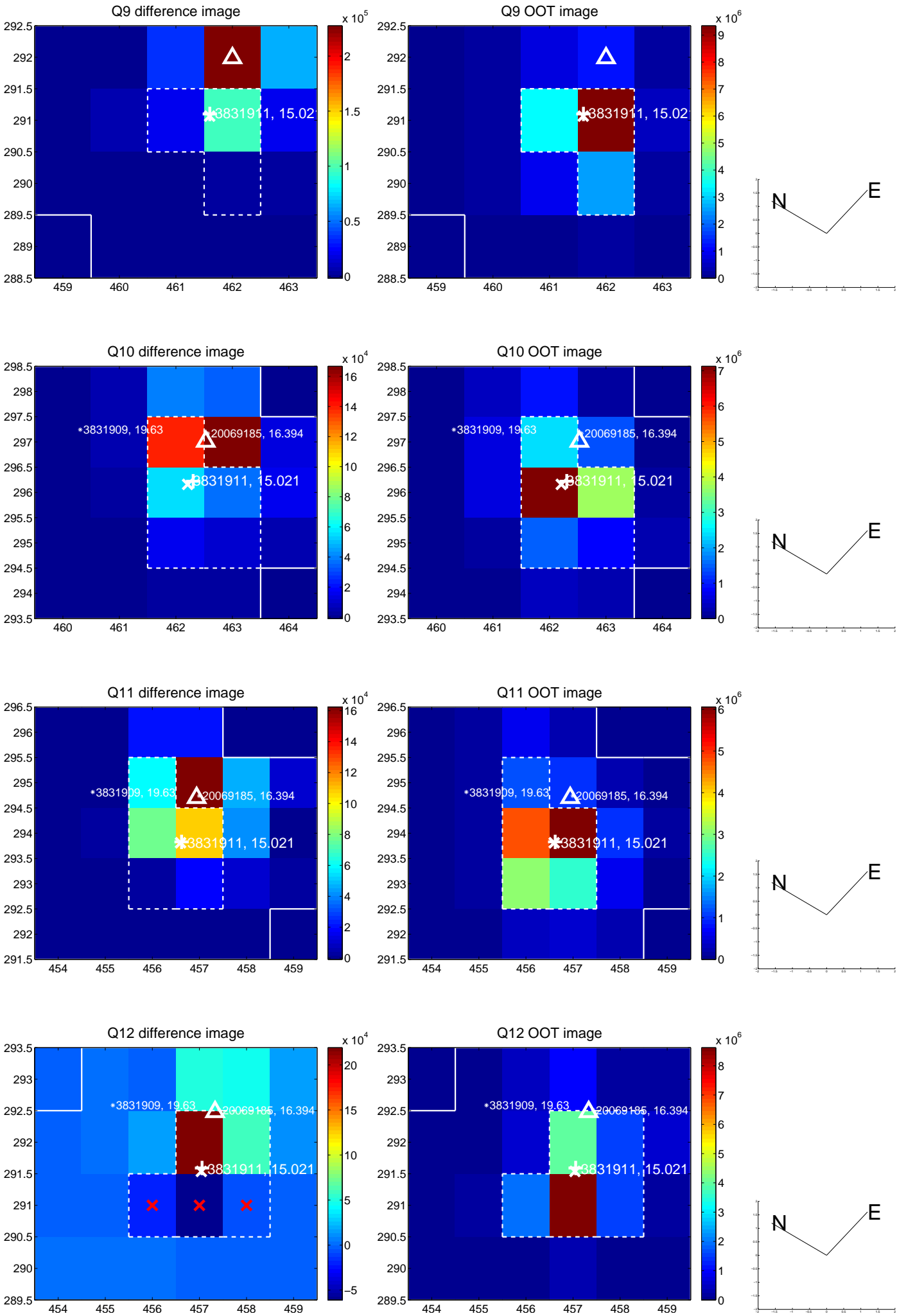
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



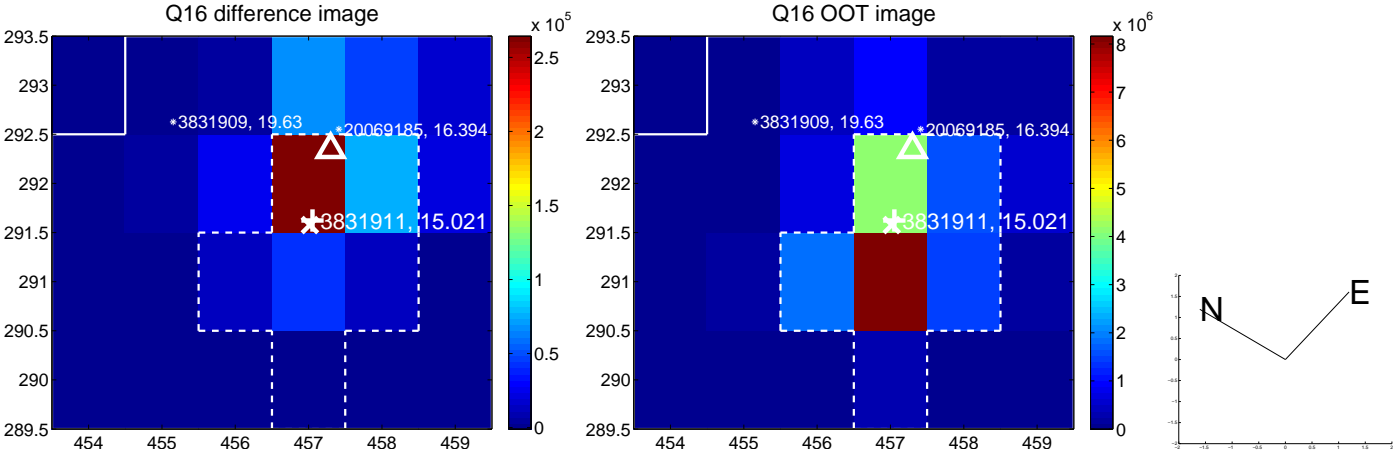
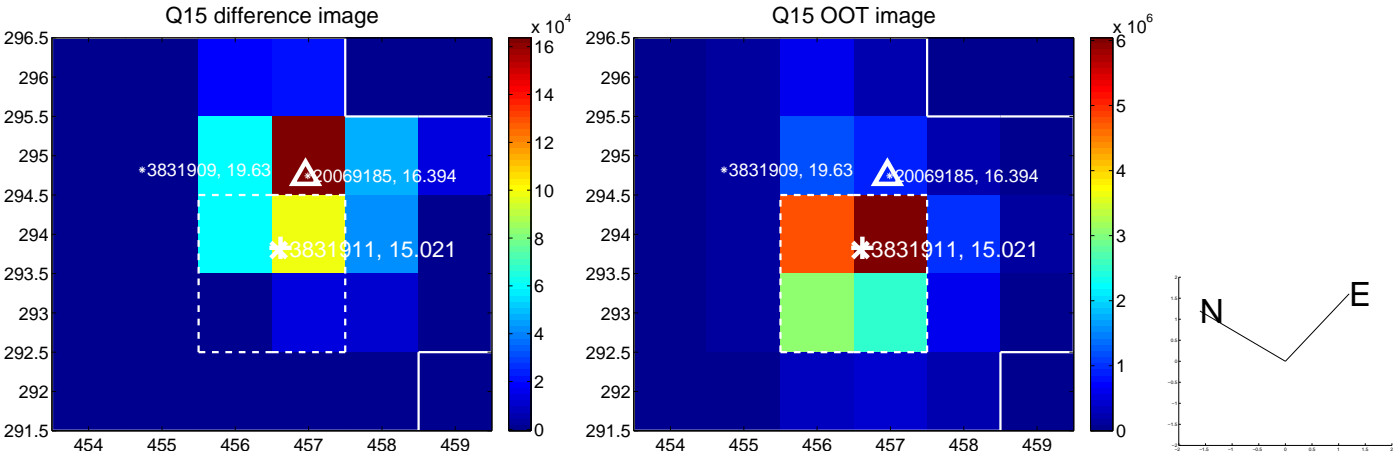
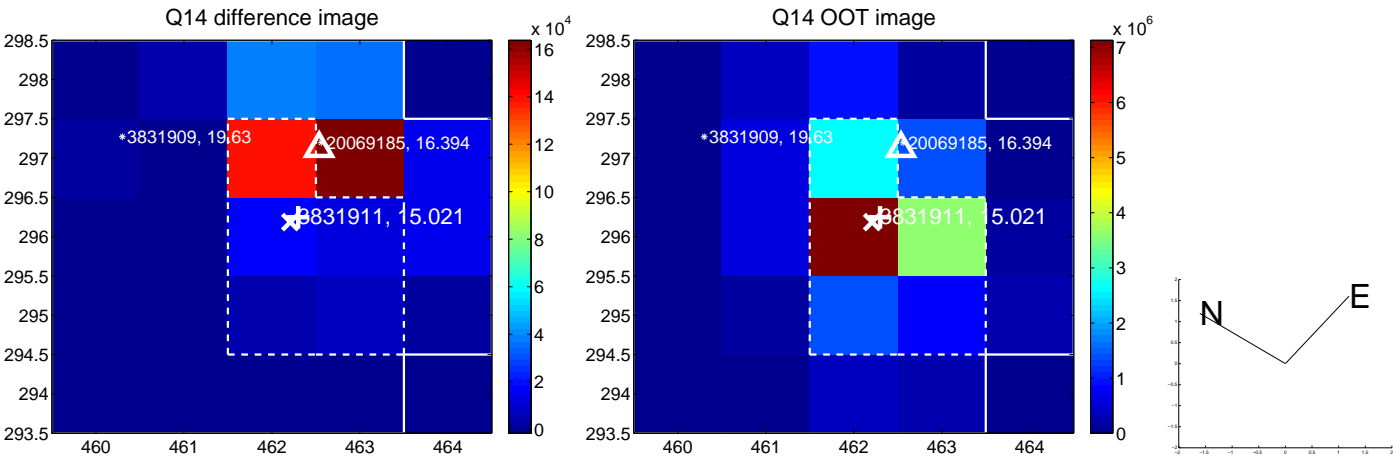
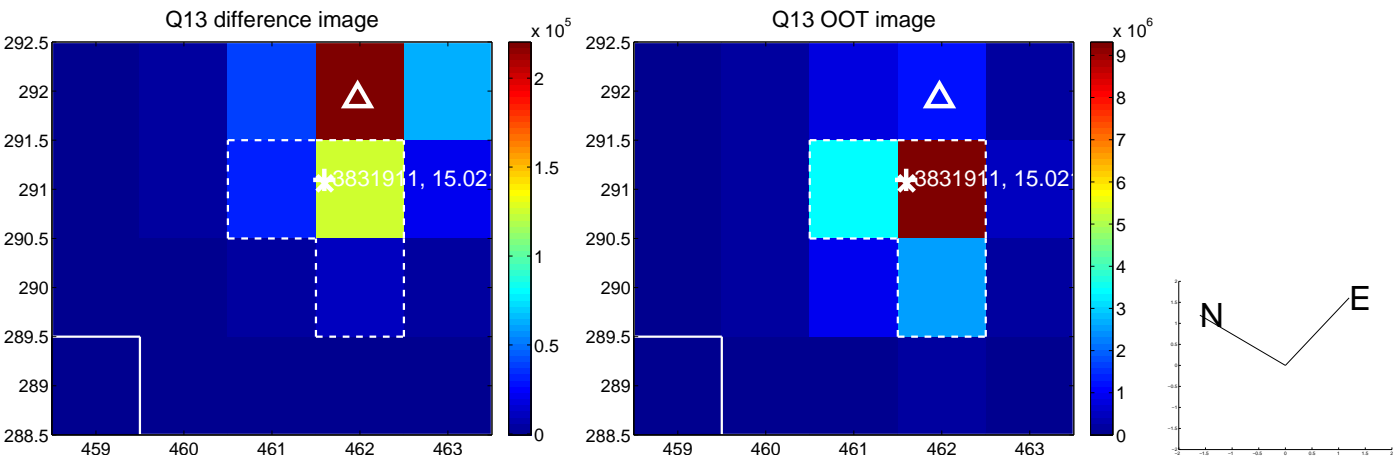
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



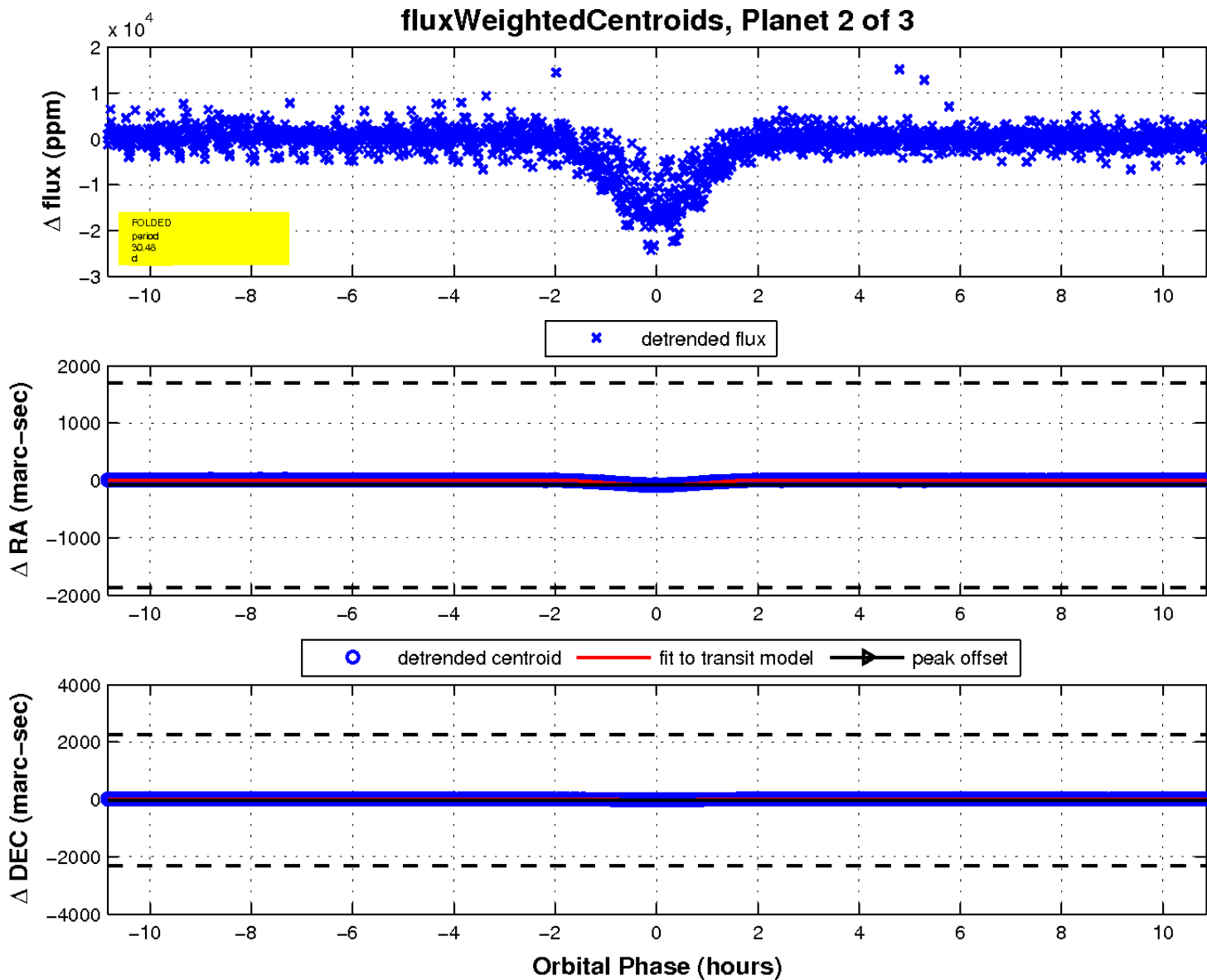
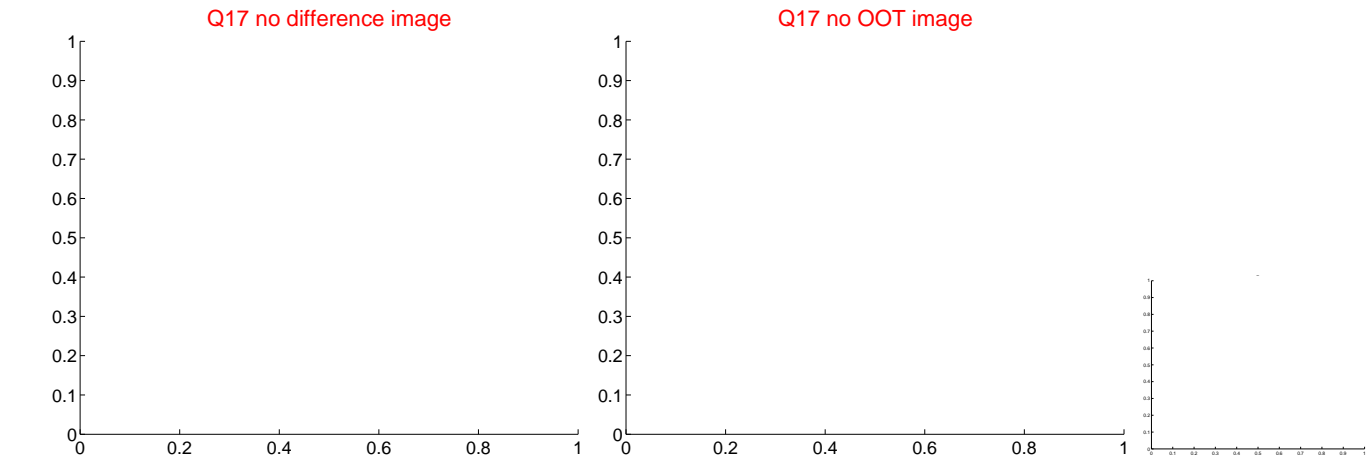
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

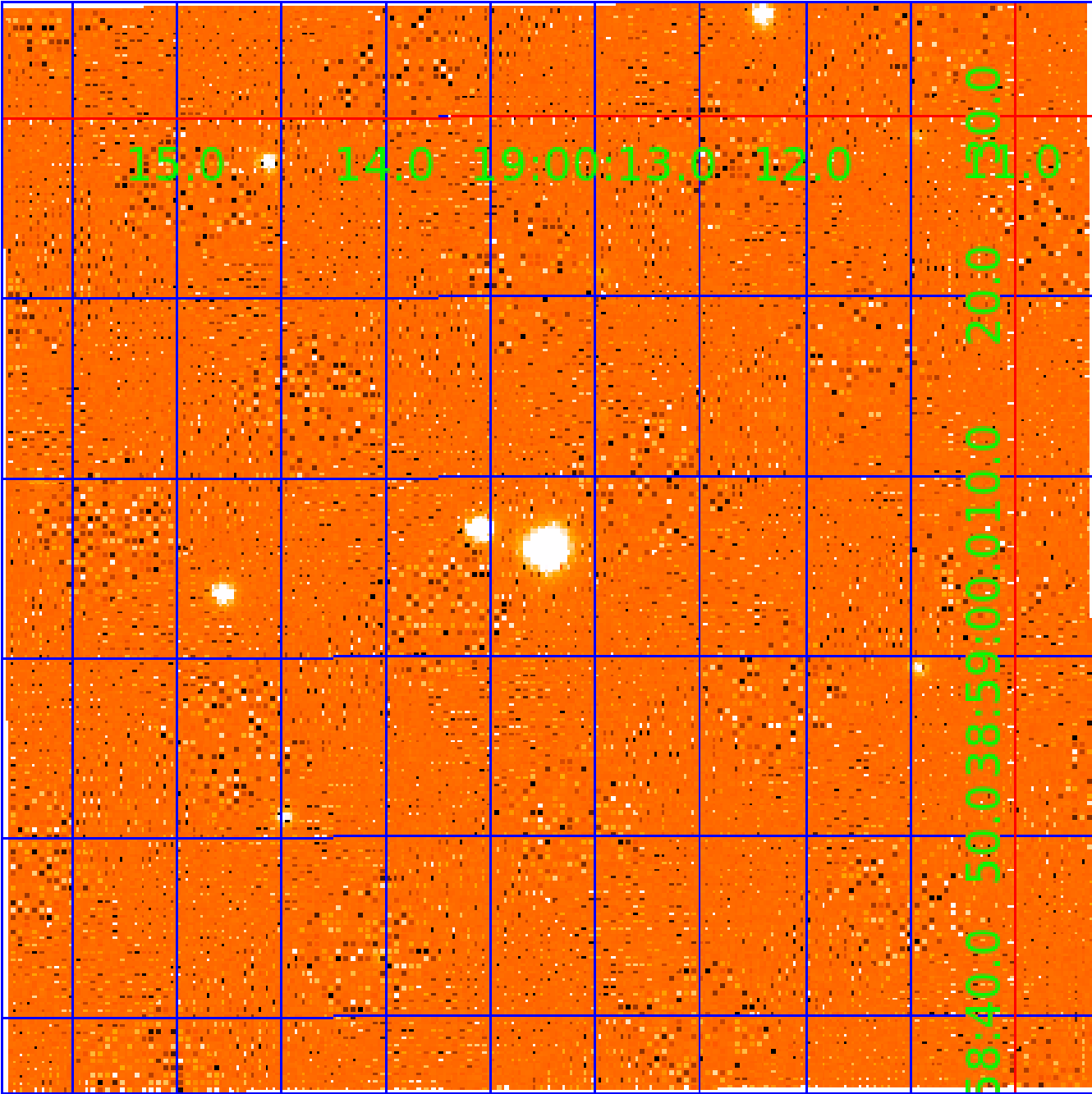


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003831911

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})
003831911-01	OBS	5988.01	30.483800	149.813895	17988.3	2.615	143.2	113.5	0.53	3857	12.78	2.32
003831911-02	OBS	No	30.483753	152.989616	14425.5	3.623	94.9	89.8	0.53	3857	11.48	2.32
003831911-03	OBS	No	0.567158	131.682869	1561.9	1.500	14.6	-1.0	0.53	3857	2.08	471.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003831911-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—SEASONAL_DEPTH_DV—CENT_UNRESOLVED_OFFSET—HALO_GHOST
003831911-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET—HALO_GHOST
003831911-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

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

Ephemeris Match Information For 003831911-03

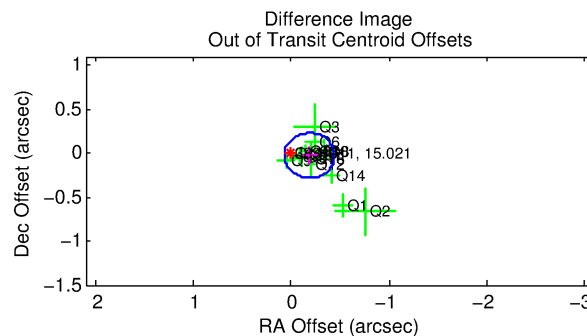
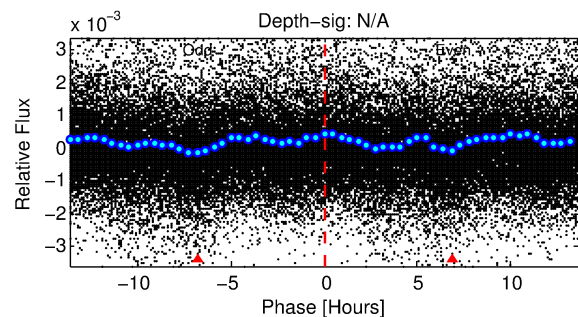
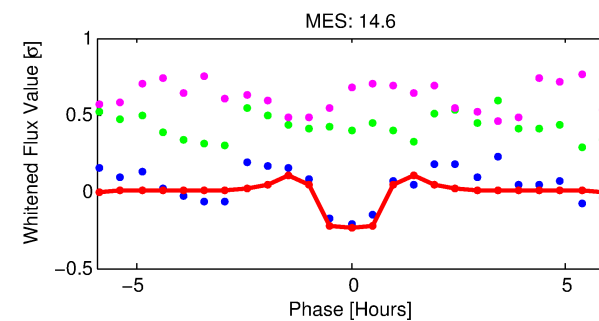
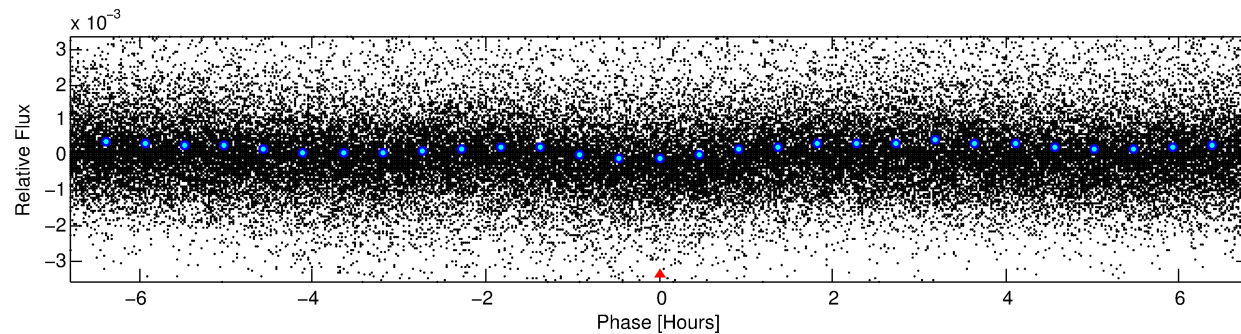
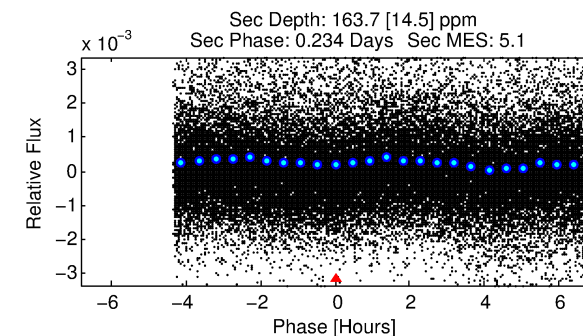
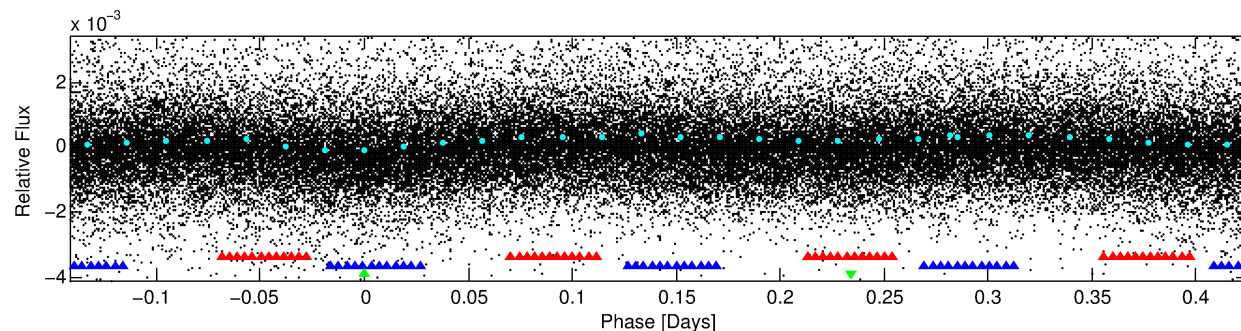
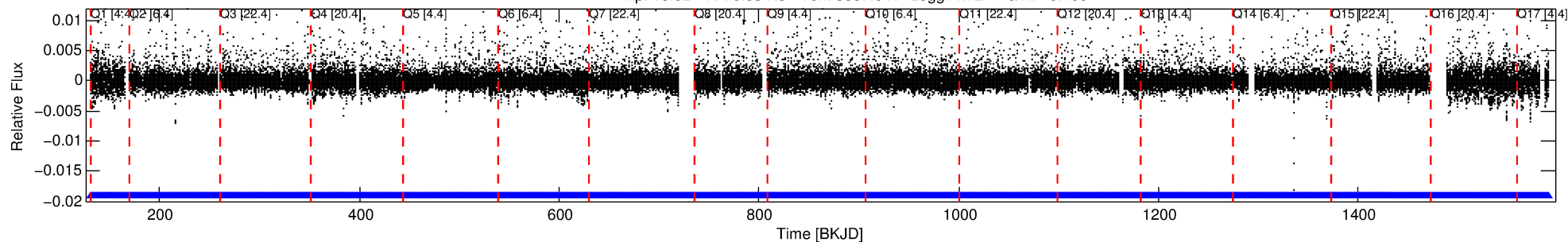
No Significant Match Found

DV One-Page Summary

KIC: 3831911 Candidate: 3 of 3 Period: 0.567 d

KOI: K05988 Corr: No Ephemeris Match

Kp: 15.02 R*: 0.53 Rs Teff: 3857.0 K Logg: 4.72 Fe/H: -0.100



TPS TCE Results:

Period = 0.56716 d

Epoch = 131.6829 BKJD

DV fit results are unavailable

DV Diagnostic Results:

ShortPeriod-sig: N/A

LongPeriod-sig: 100.0% [183.12σ]

ModelChiSquare2-sig: N/A

ModelChiSquareGof-sig: N/A

Bootstrap-pfa: N/A

RollingBand-fgt: 1.00 [2193/2193]

GhostDiagnostic-chr: 0.8707

Centroid-sig: 8.8%

Centroid-so: 0.893 arcsec [1.91σ]

OotOffset-rm: 0.188 arcsec [2.20σ]

KicOffset-rm: 0.031 arcsec [0.40σ]

OotOffset-st: 4/4/3/5 [16]

KicOffset-st: 4/4/3/5 [16]

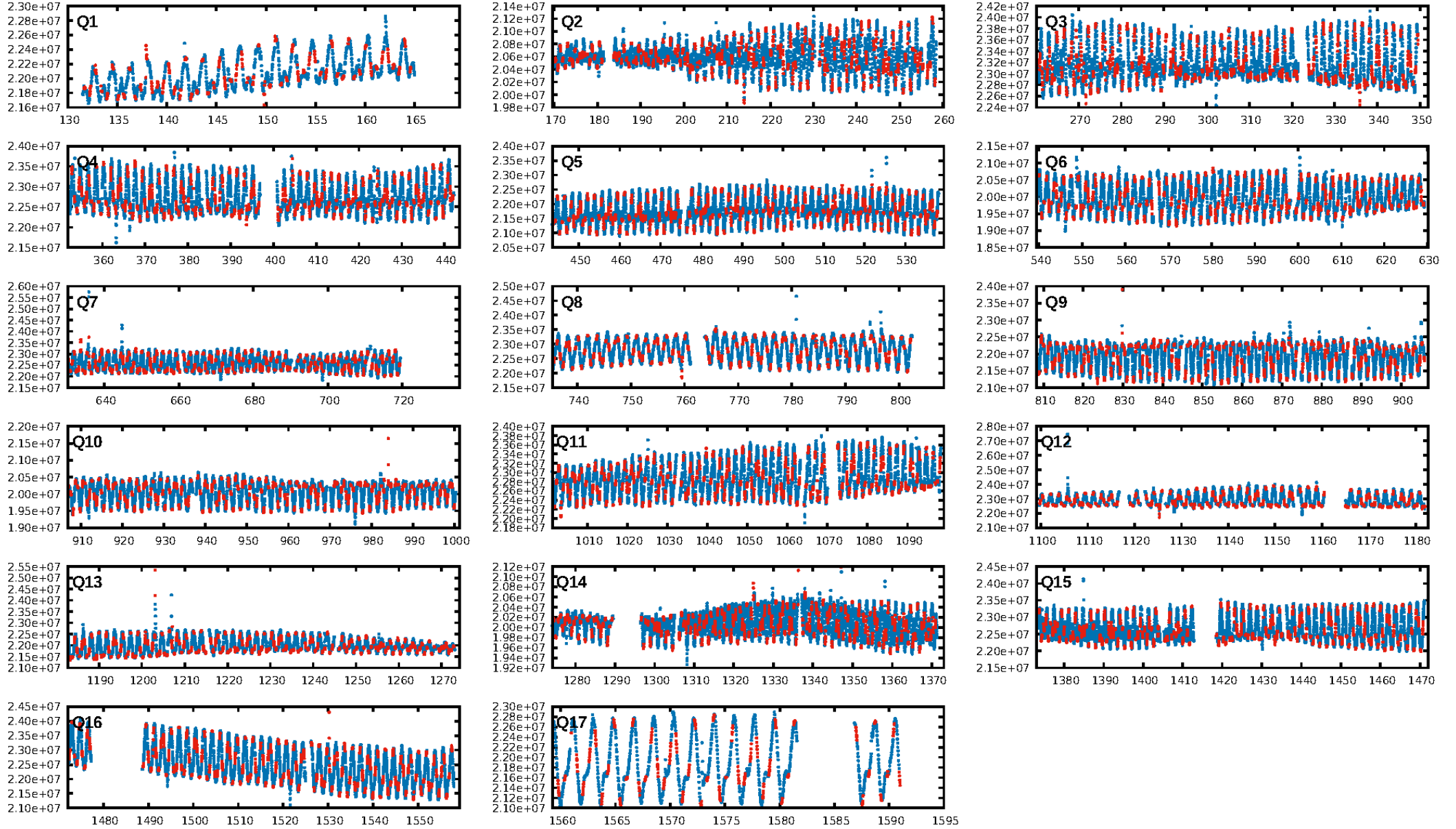
DiffImageQuality-fgm: 0.81 [13/16]

DiffImageOverlap-fno: 1.00 [17/17]

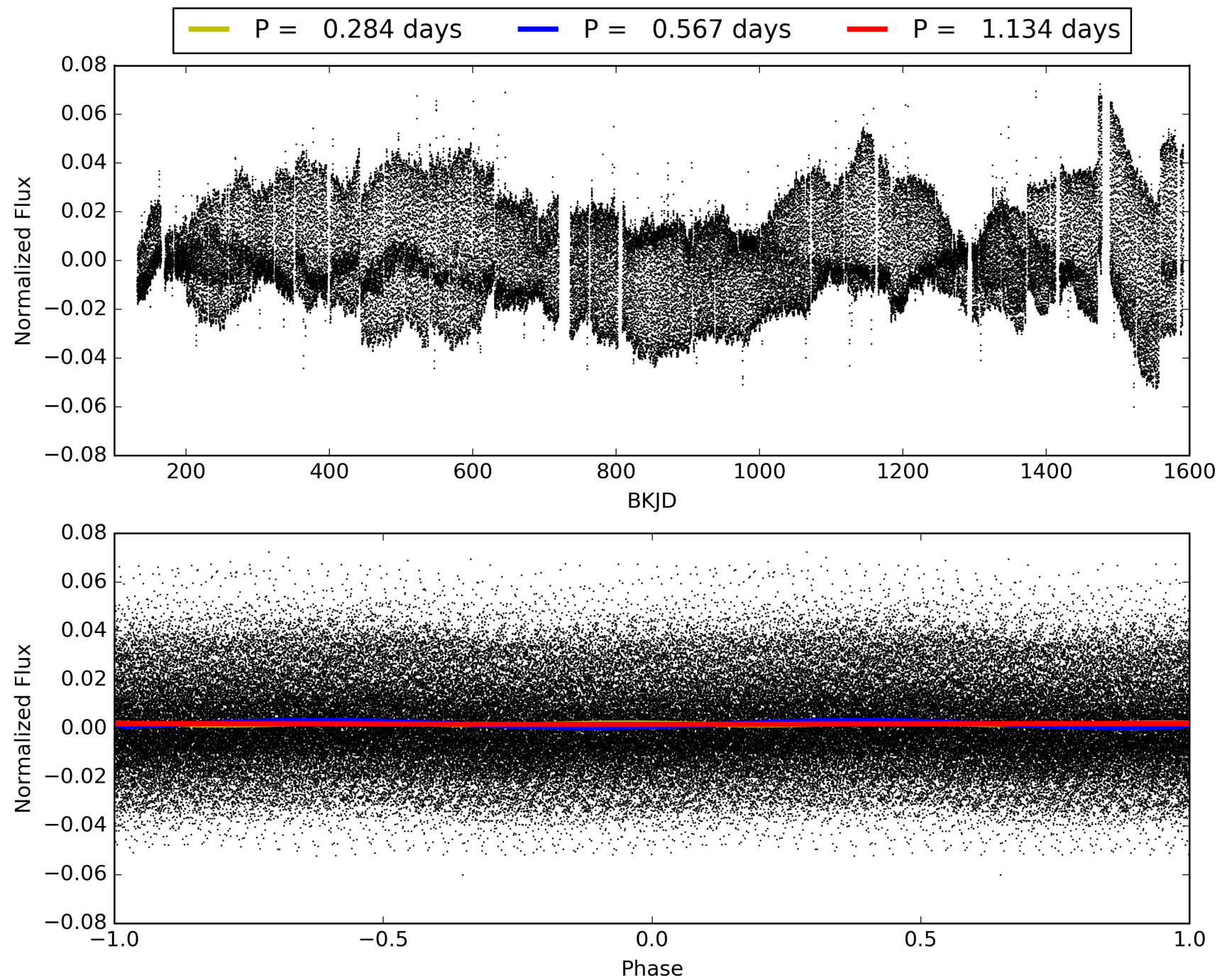
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:41:41 Z

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

TCE 003831911-03, PDC Light Curves

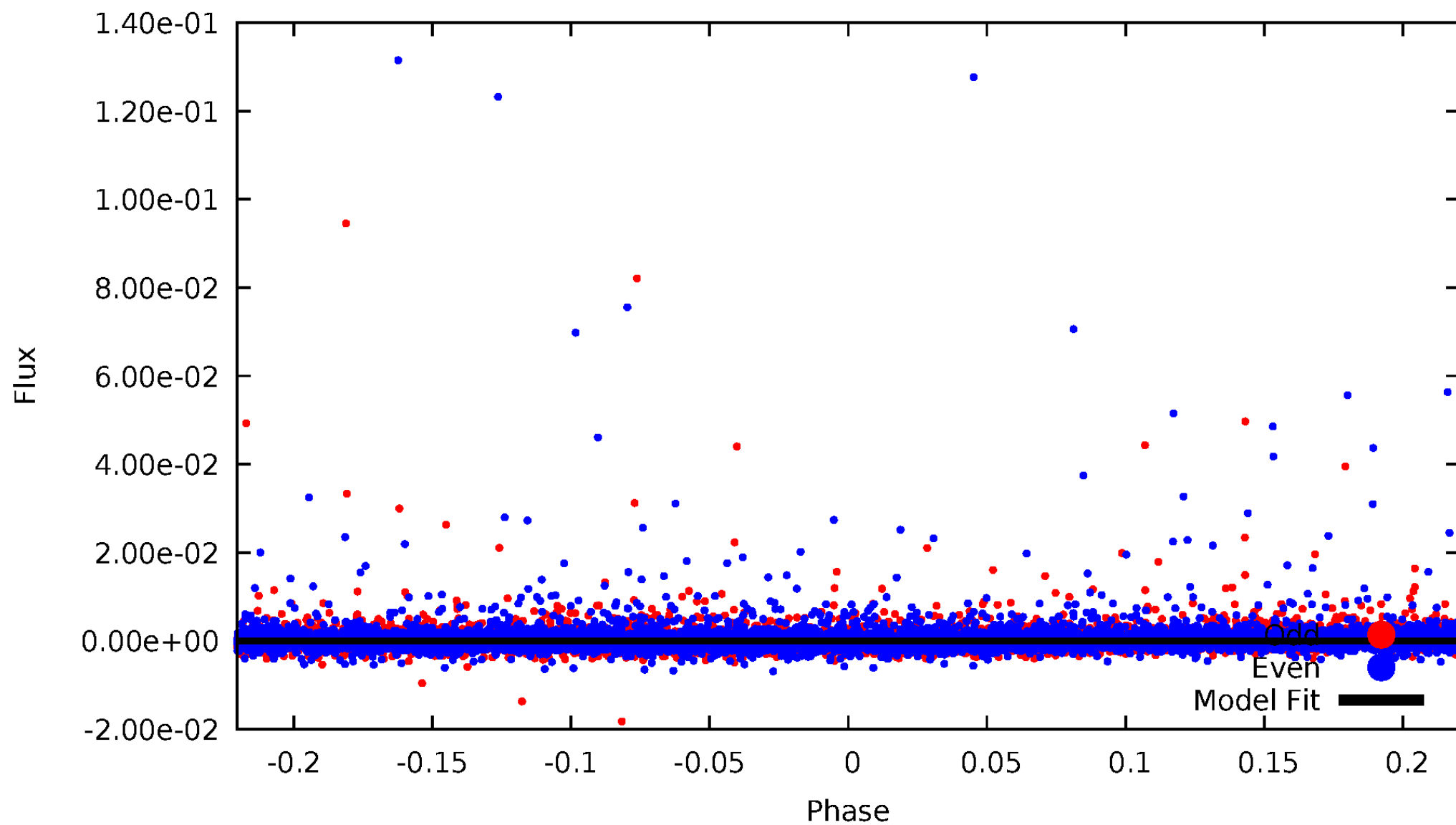


TCE 003831911-03



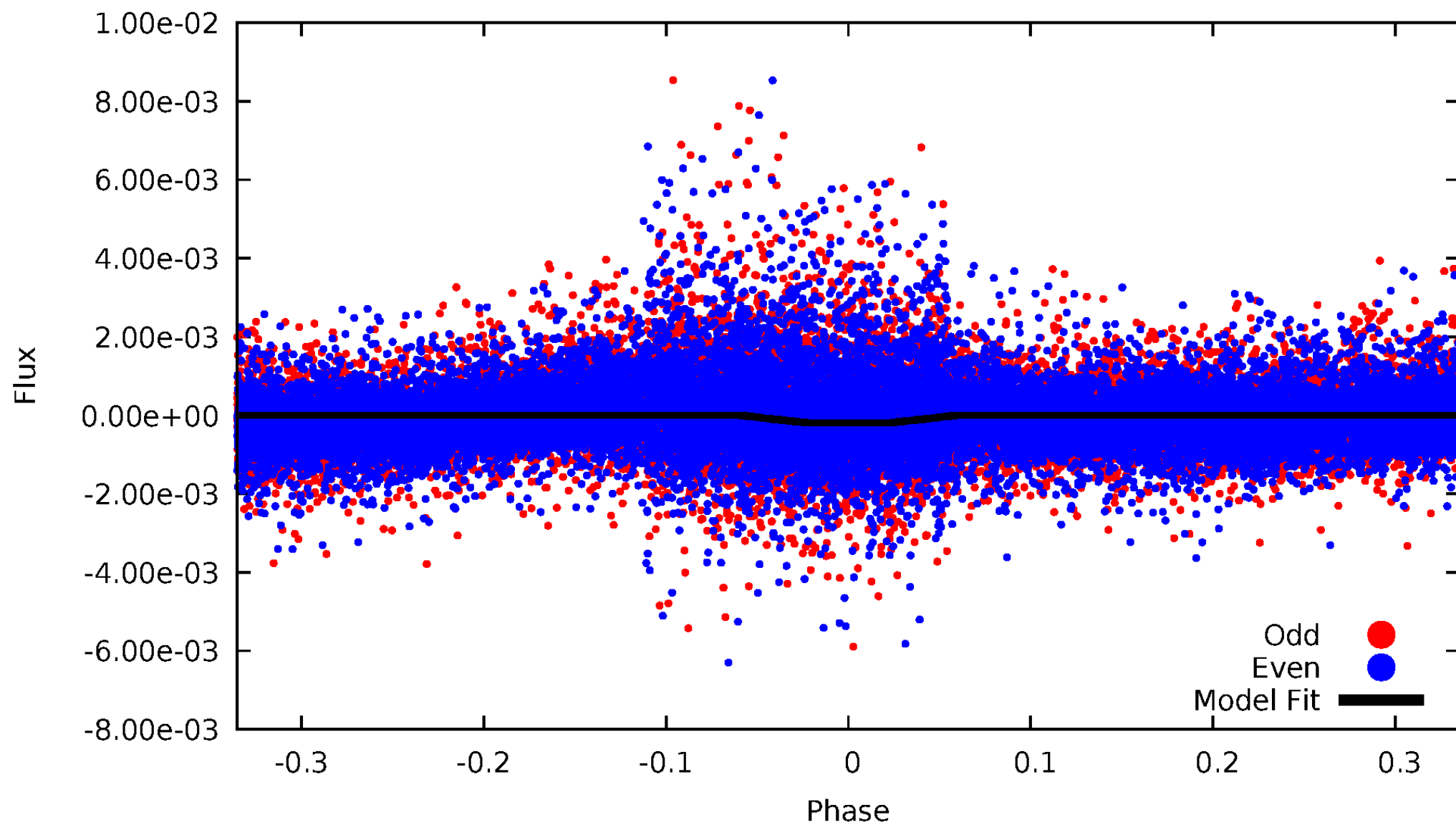
DV Odd/Even

TCE 003831911-03



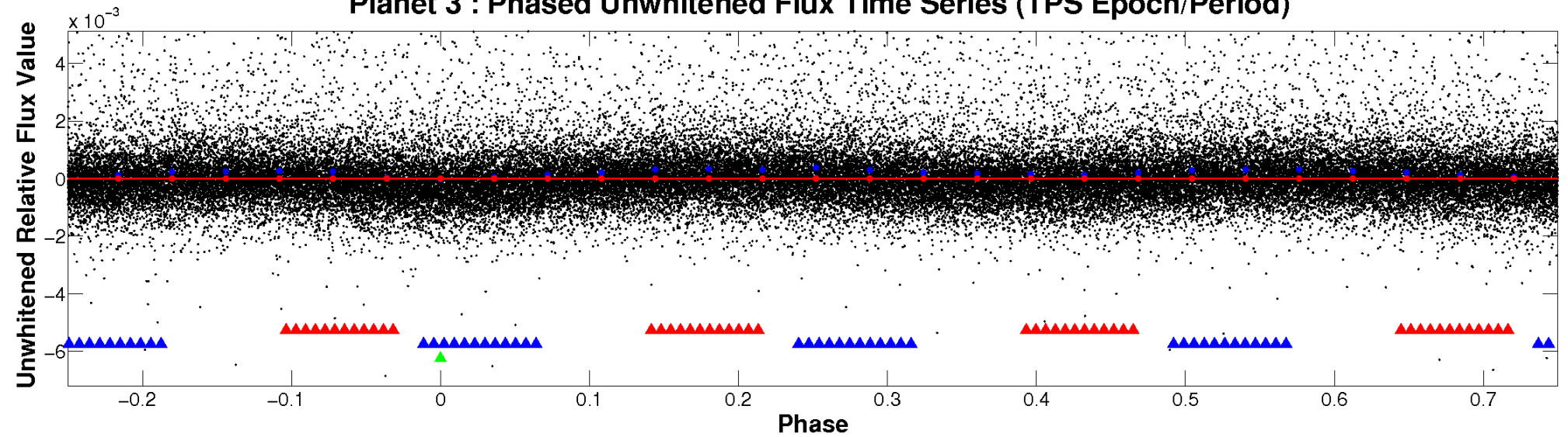
ALT Odd/Even

TCE 003831911-03



Non-Whitened Vs. Whitened Light Curve

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

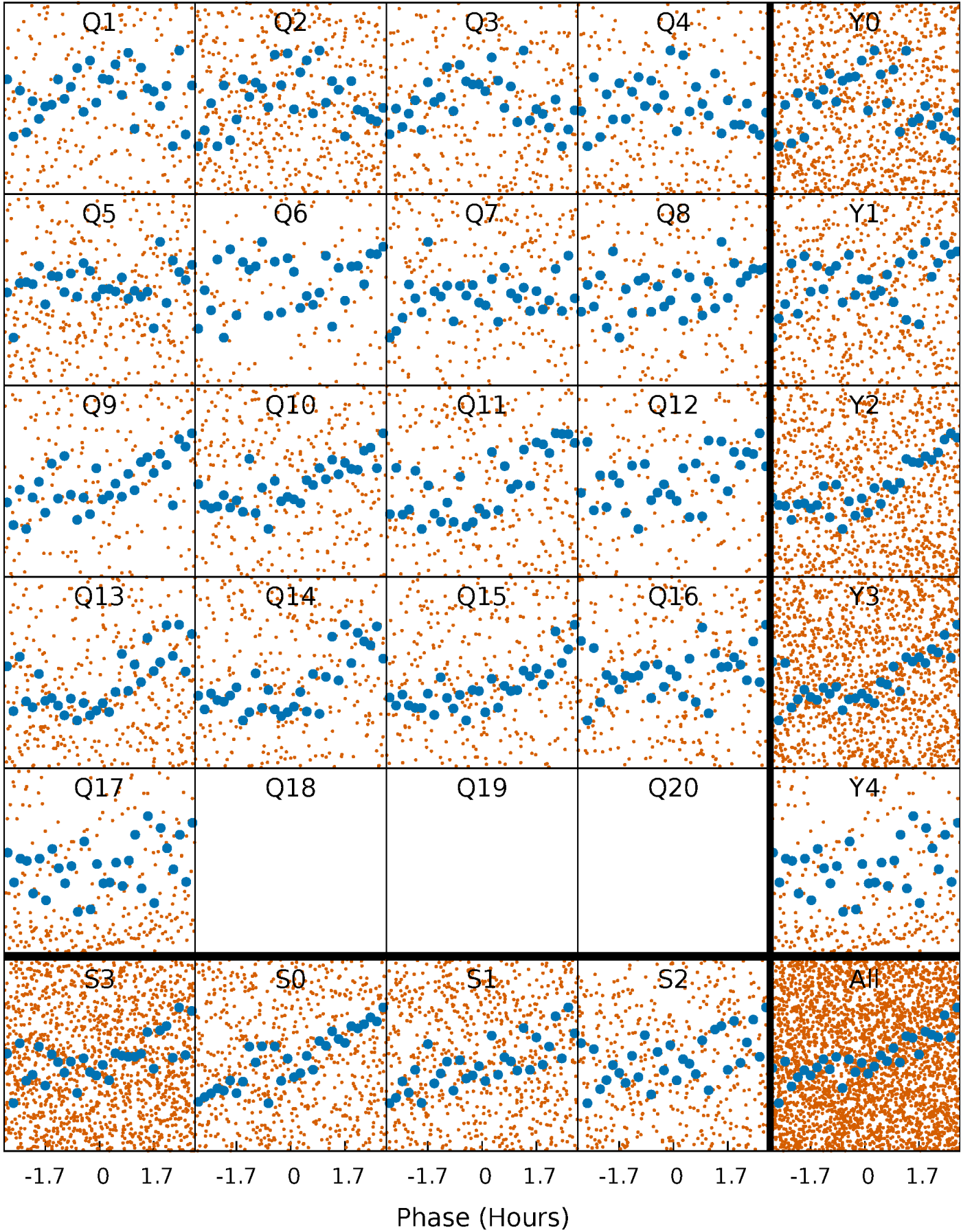


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



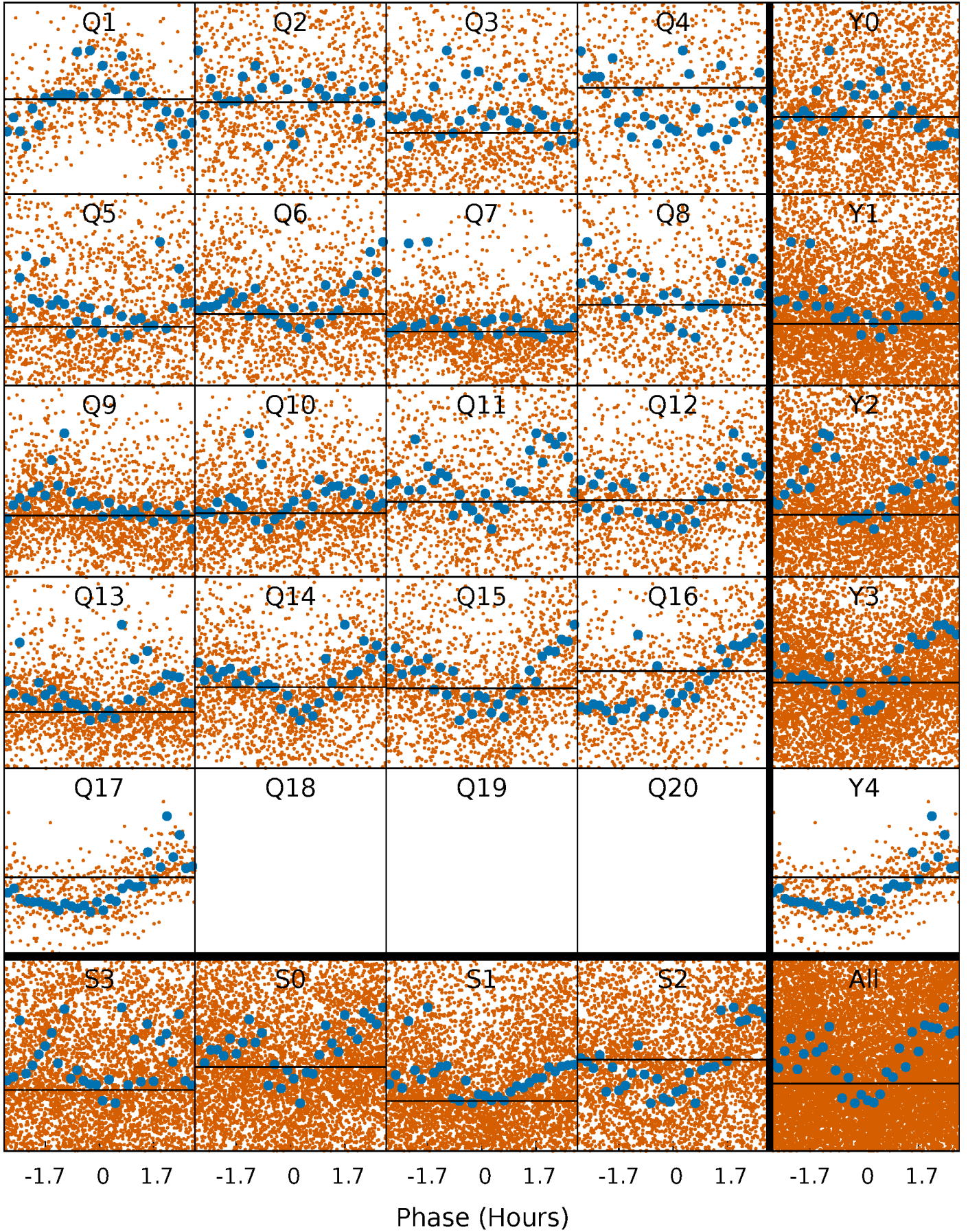
PDC Quarter-Phased Transit Curves

TCE 003831911-03 $P = 0.567158$ Days $T_0 = 131.682869$ (BKJD)



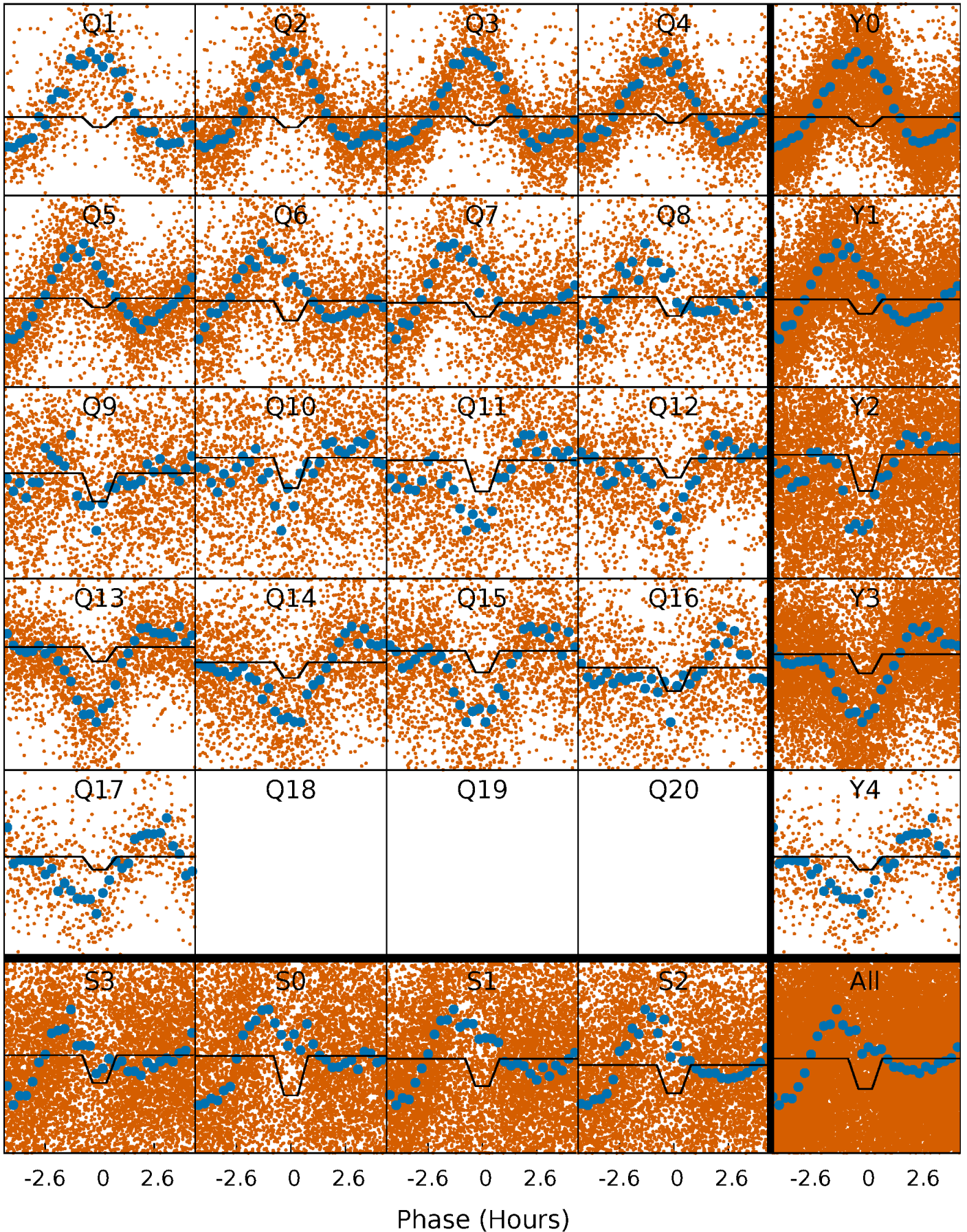
DV Quarter-Phased Transit Curves

TCE 003831911-03 P= 0.567158 Days $T_0=131.682869$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

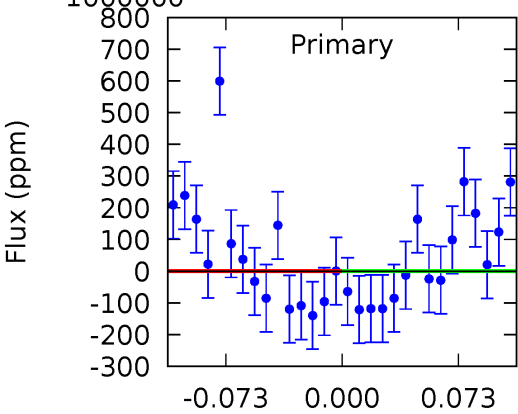
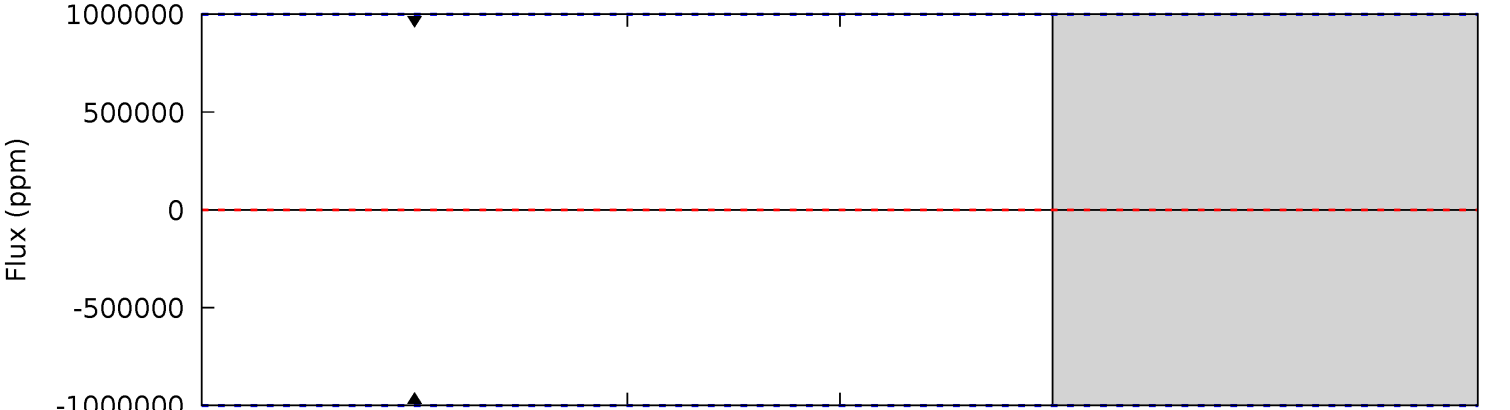
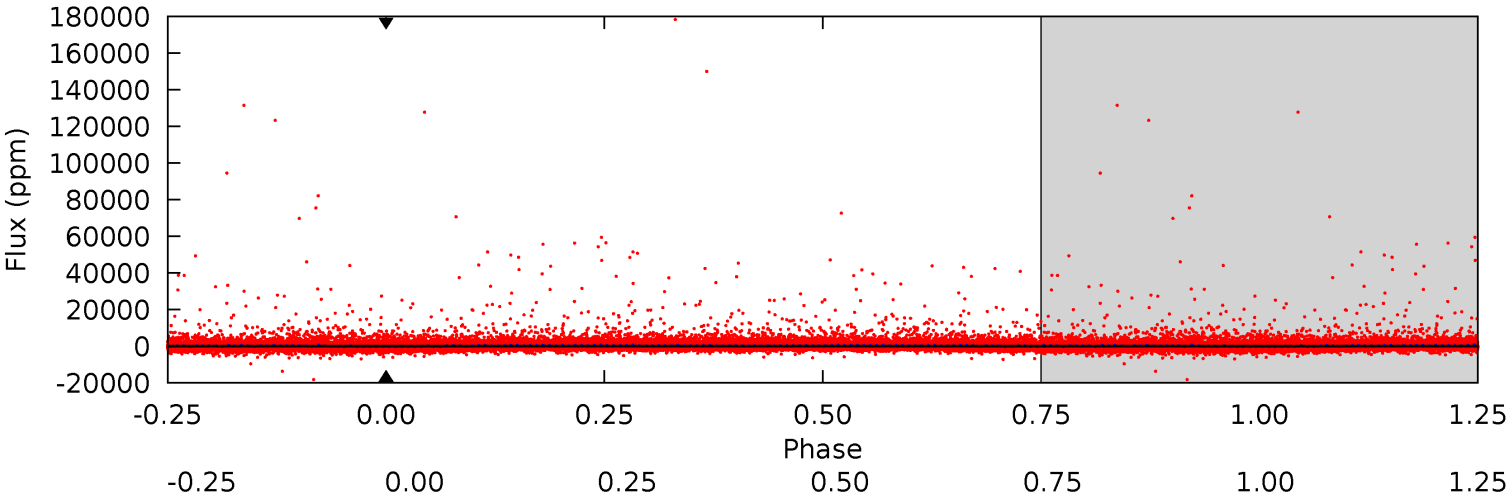
TCE 003831911-03 $P = 0.567158$ Days $T_0 = 131.692539$ (BKJD)



DV Model-Shift Uniqueness Test

003831911-03, P = 0.567158 Days, E = 131.115711 Days

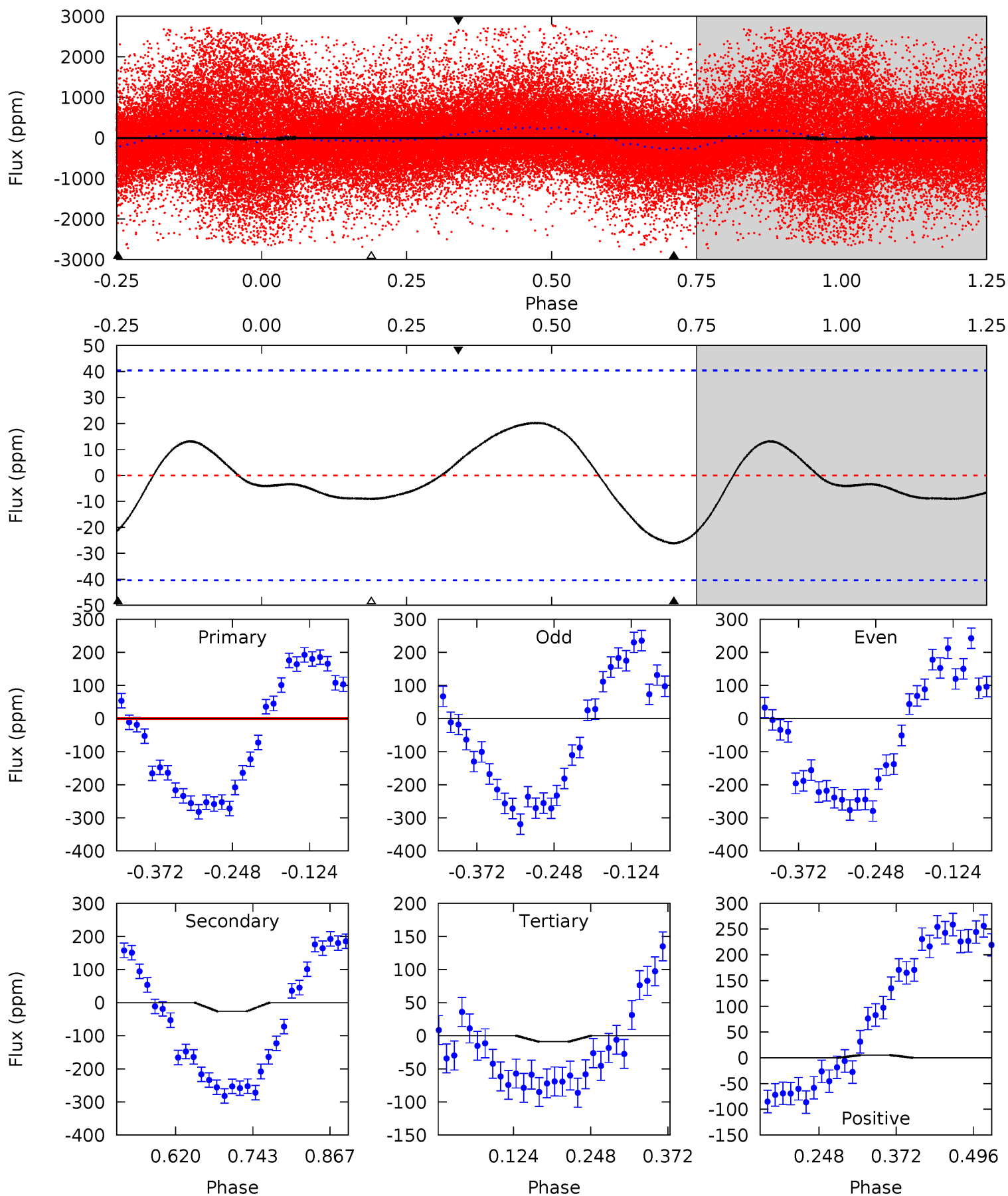
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003831911-03, P = 0.567158 Days, E = 131.125381 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.37	2.92	1.01	0.59	4.52	1.54	1.11	1.35	1.78	1.91	2.33	0.16	-5.33	0.44	0.71



Stellar Parameters For KIC 003831911

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3857^{+97}_{-97}	$4.717^{+0.039}_{-0.021}$	$-0.100^{+0.100}_{-0.100}$	$0.531^{+0.029}_{-0.038}$	$0.535^{+0.033}_{-0.030}$	$5.041^{+0.905}_{-0.487}$
	+3%/-3%	+1%/-0%	+100%/-100%	+5%/-7%	+6%/-6%	+18%/-10%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 003831911-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$4.78^{+4.55}_{-3.26}$	1651^{+48}_{-47}	-3705^{+11467}_{-4244}	$-15.107^{+461.392}_{-457.107}$
Alt.	-26 ± 9	$4.09^{+4.55}_{-2.85}$	1653^{+49}_{-48}	-2080^{+4523}_{-93}	$0.095^{+1.031}_{-0.073}$

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 $A_{obs} \gg 1.0$

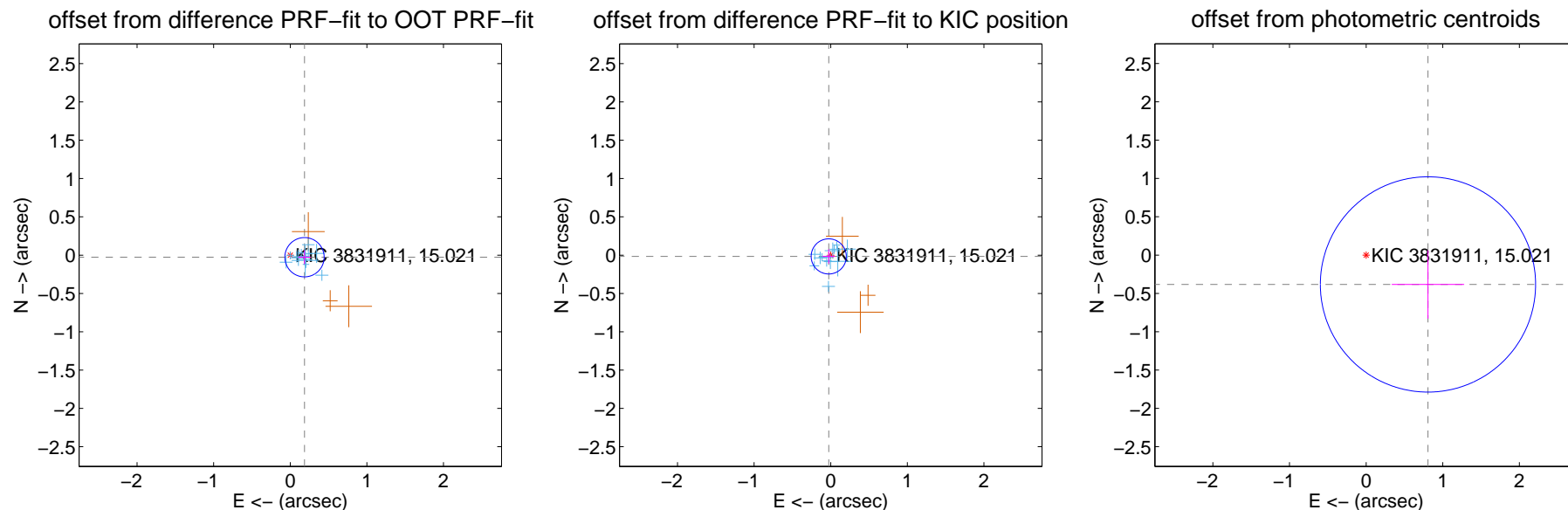
DV Centroid Data

Supplemental centroid analysis for 003831911-03. Kepler magnitude: 15.02. Transit SNR -1.00

There are 13 quarters with good PRF difference image offsets

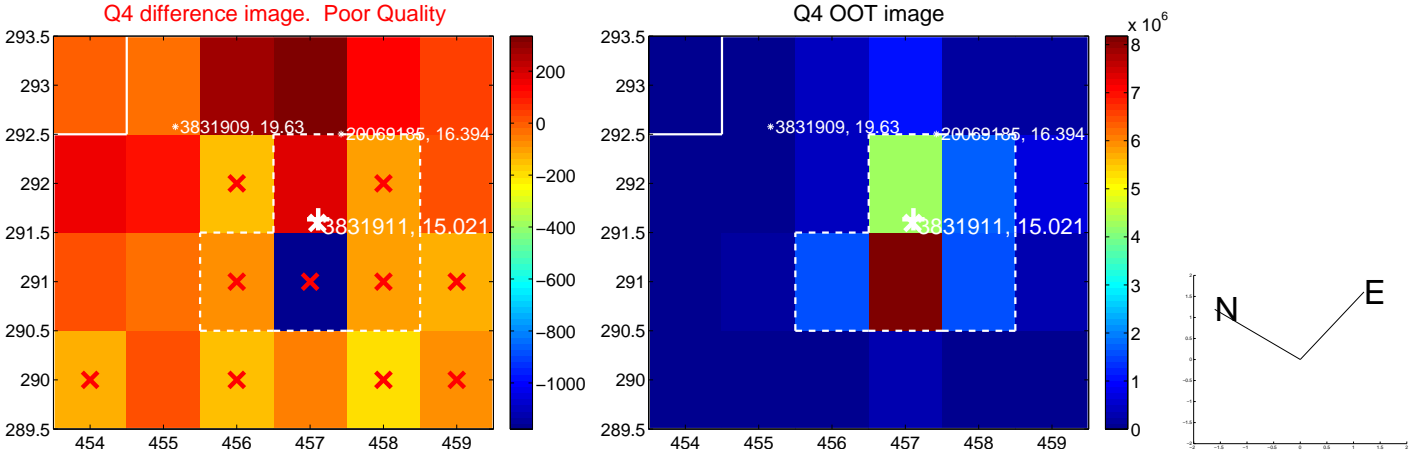
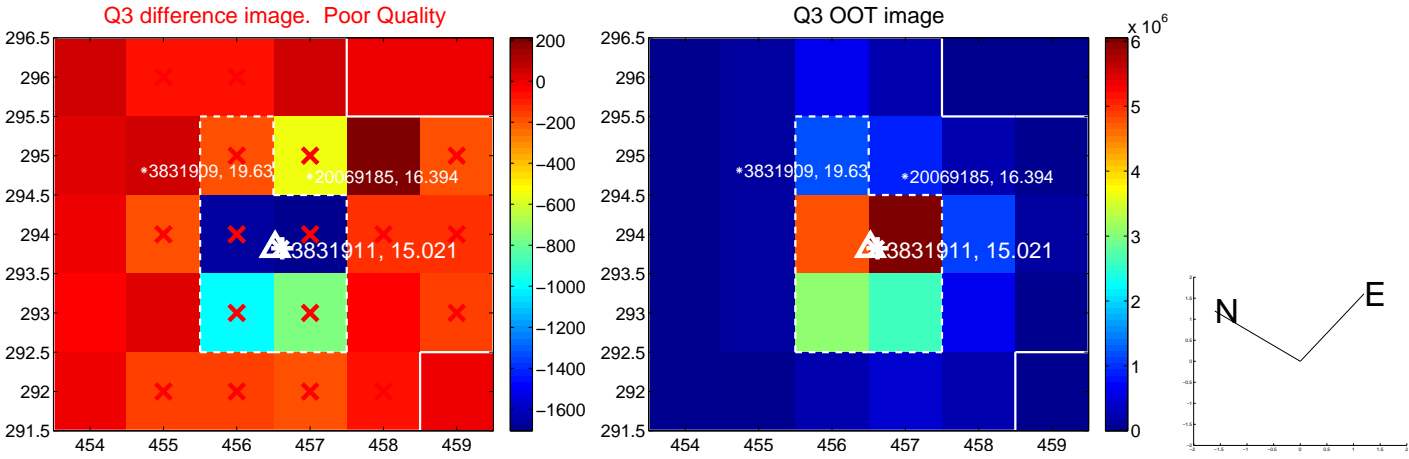
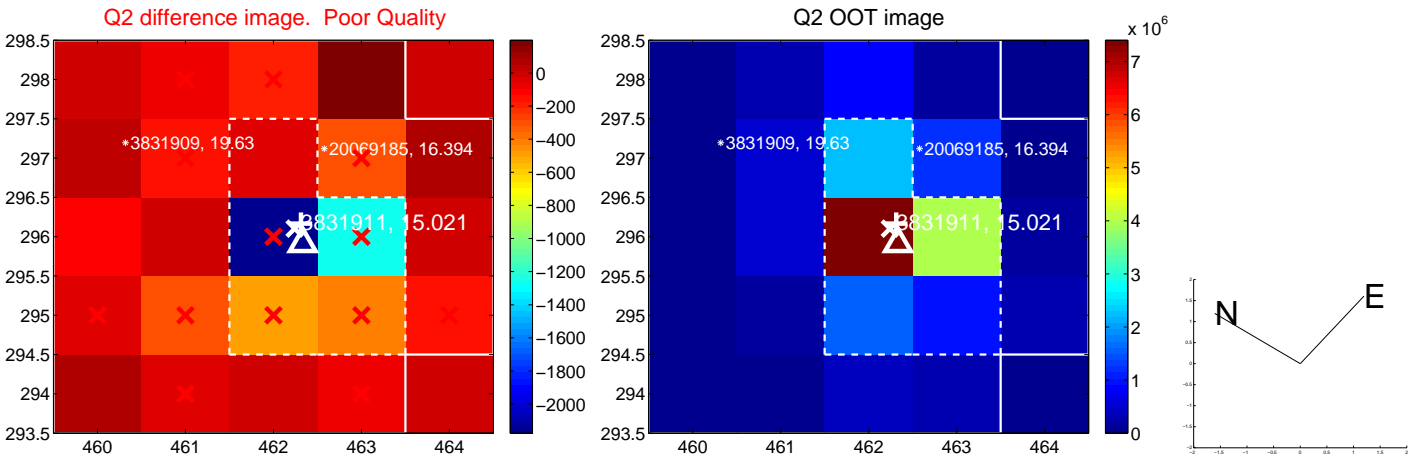
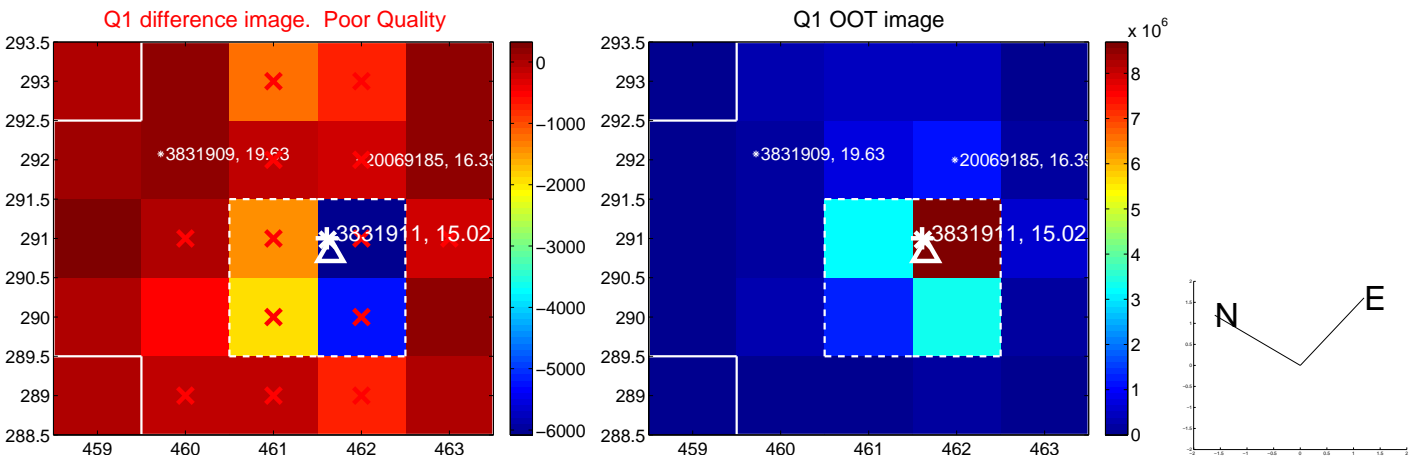
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.188 ± 0.085	2.20	-0.186 ± 0.082	-0.027 ± 0.091
PRF-fit source offset from KIC position	0.031 ± 0.076	0.40	0.026 ± 0.081	-0.016 ± 0.094
photometric centroid source offset	0.89 ± 0.47	1.91	-0.81 ± 0.47	-0.38 ± 0.45

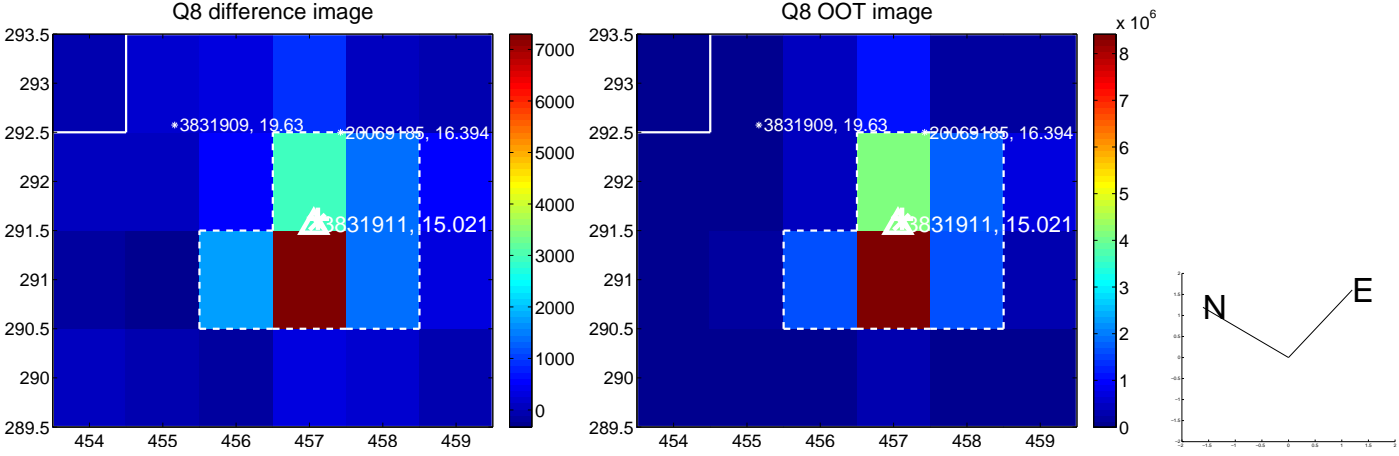
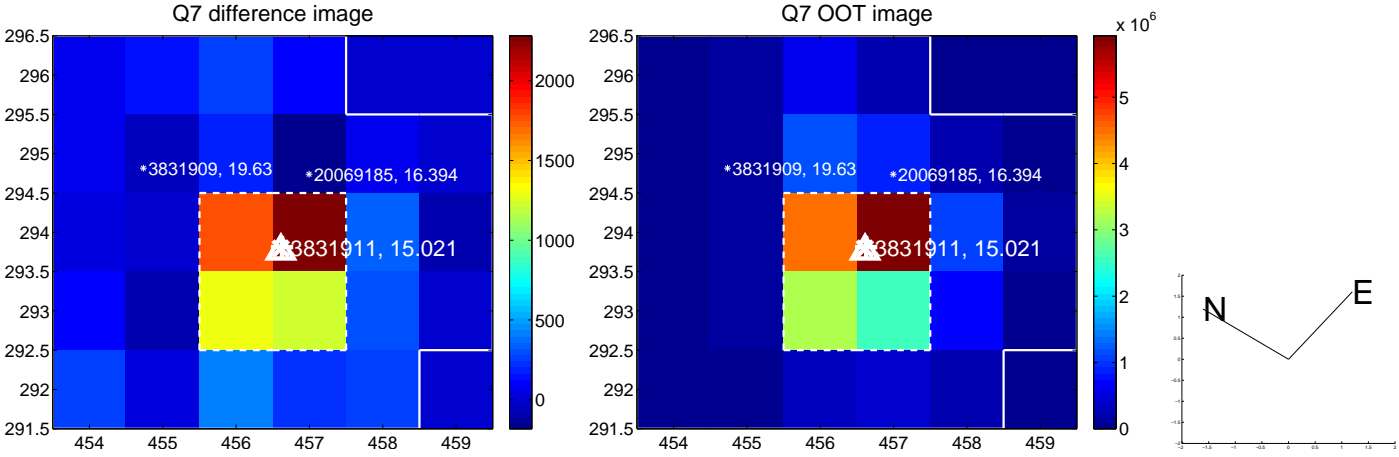
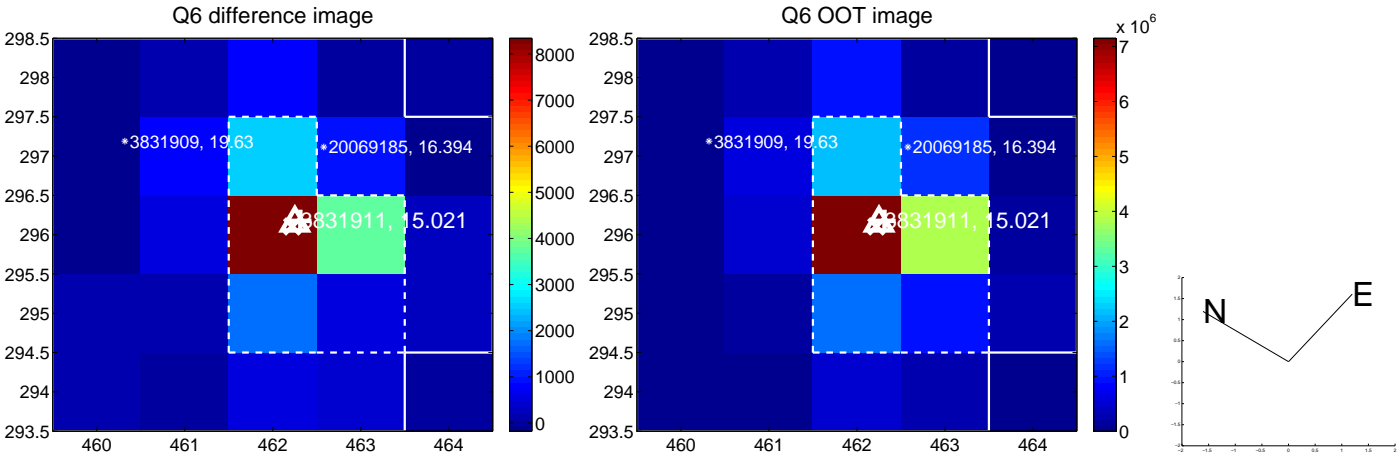
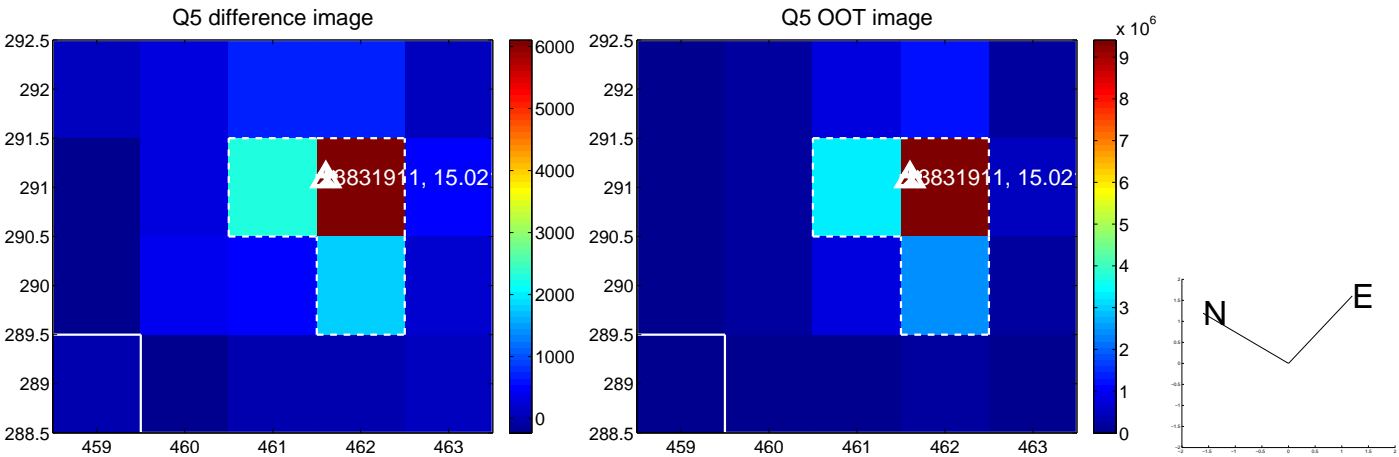


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

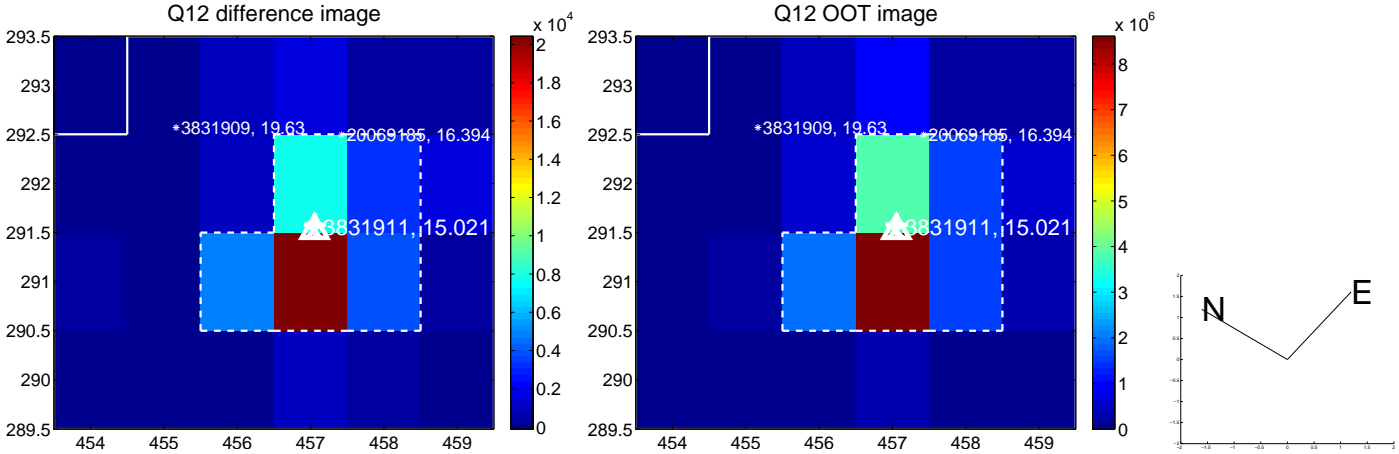
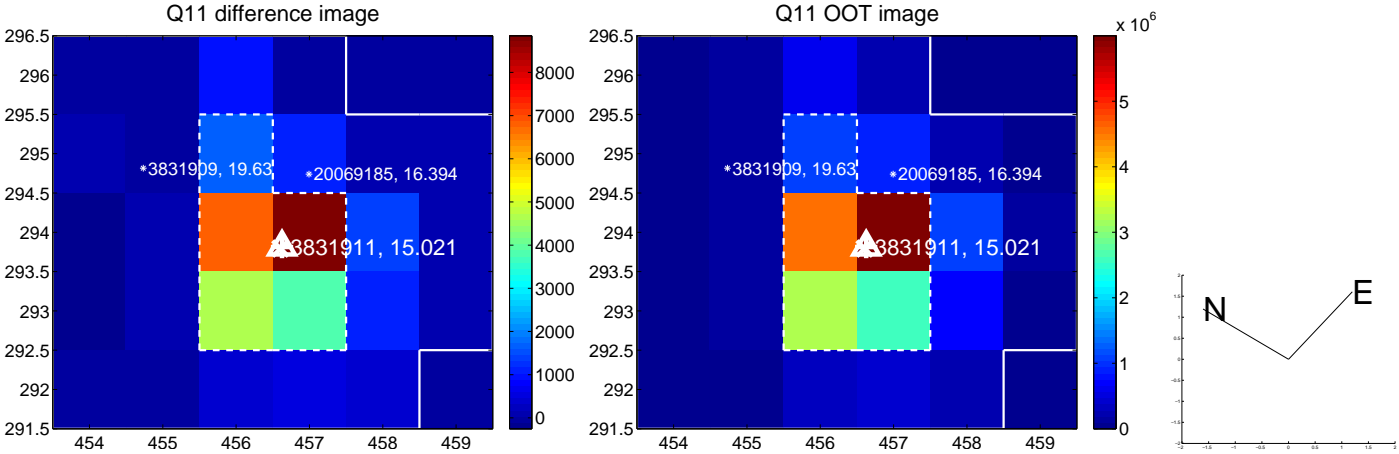
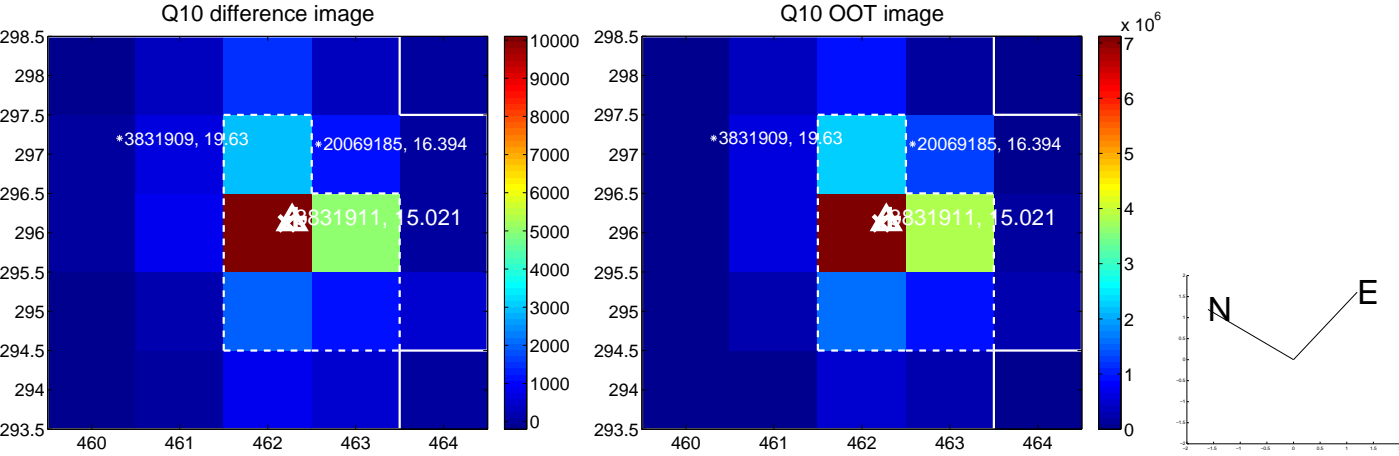
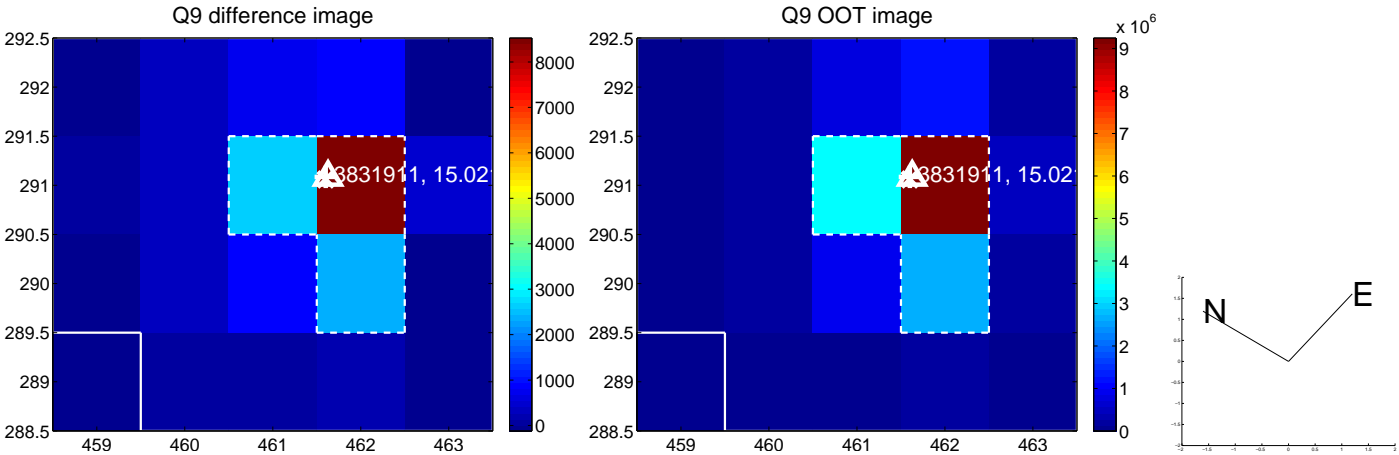
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



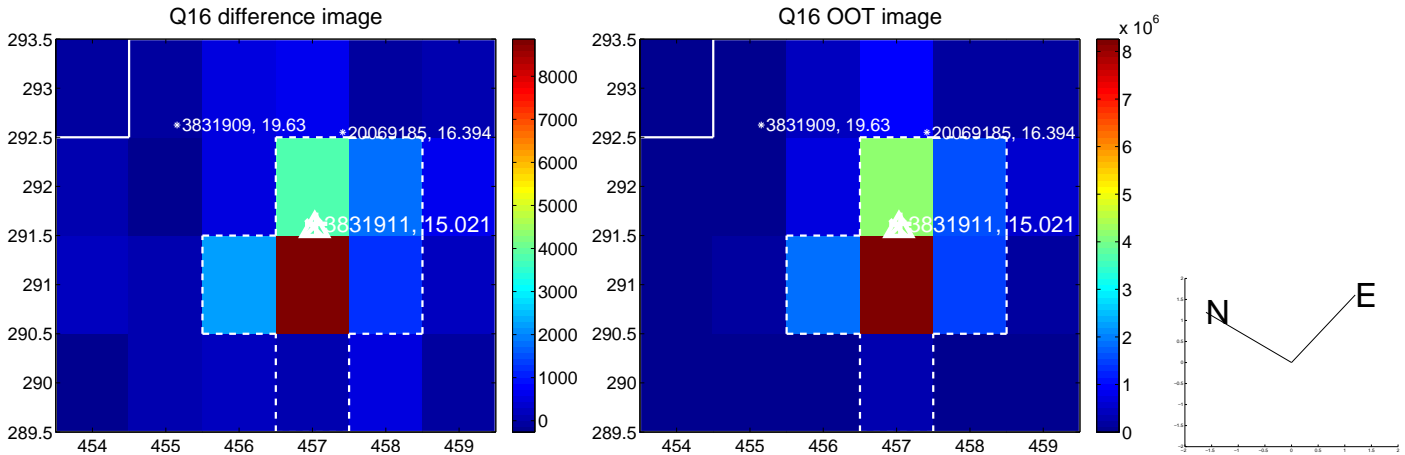
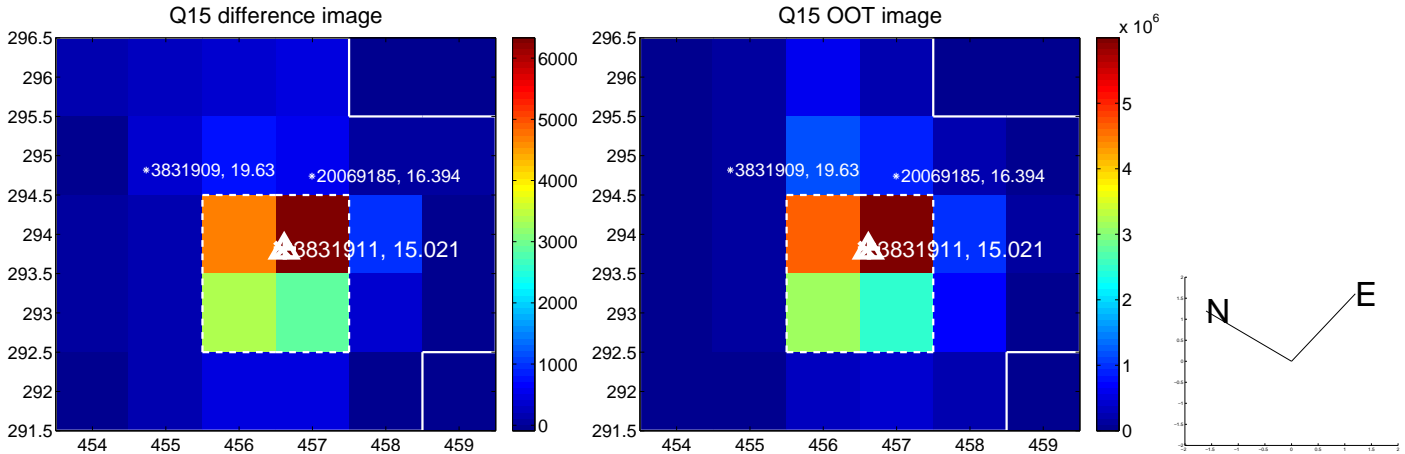
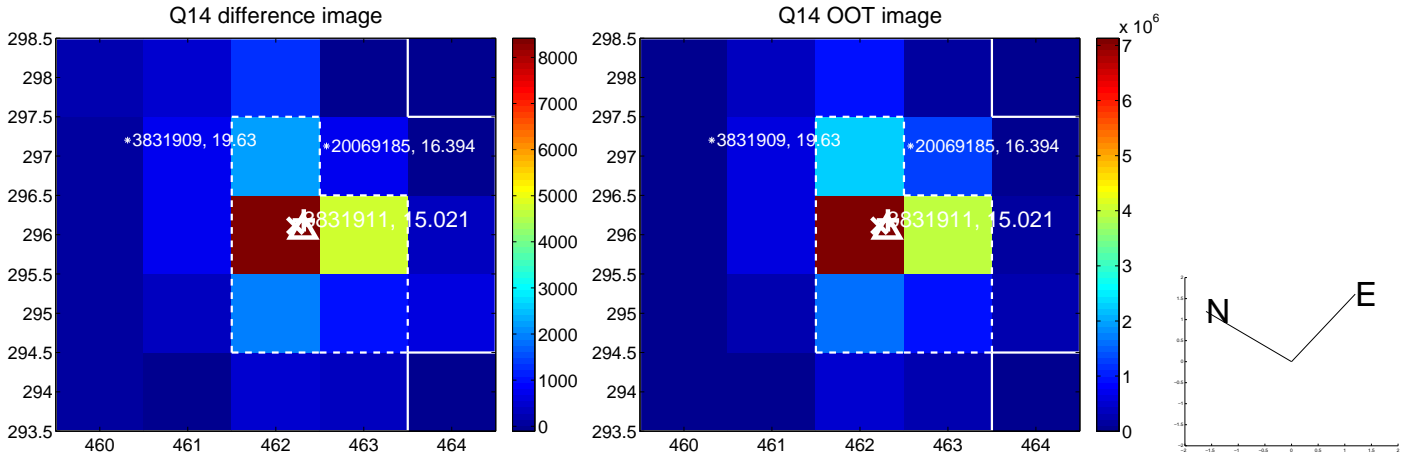
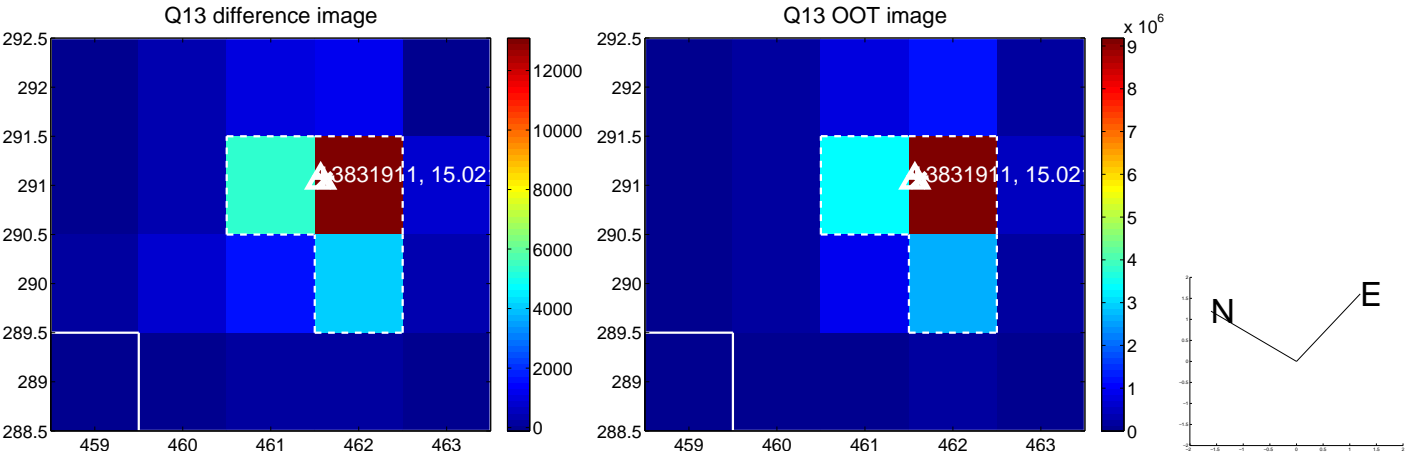
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



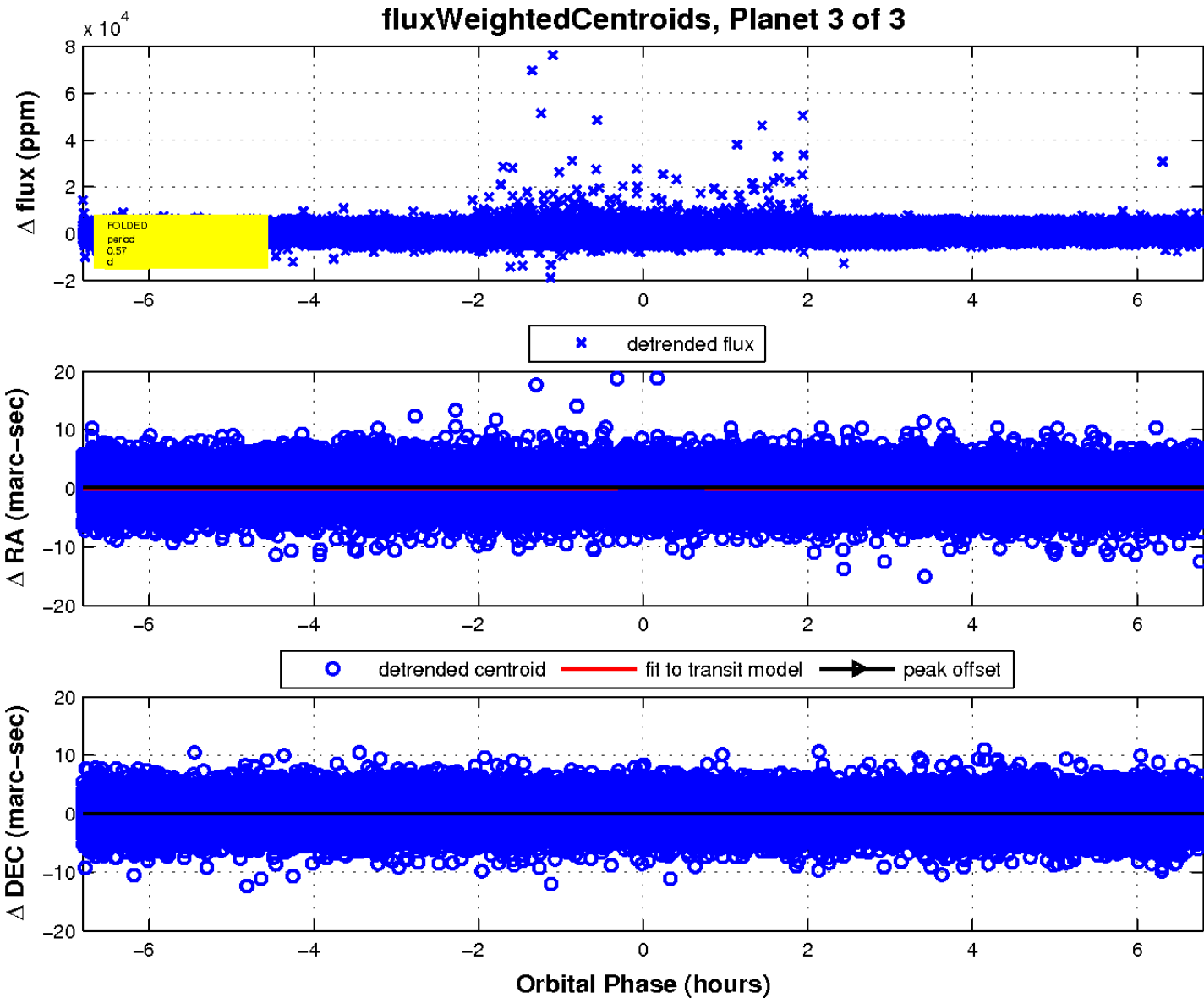
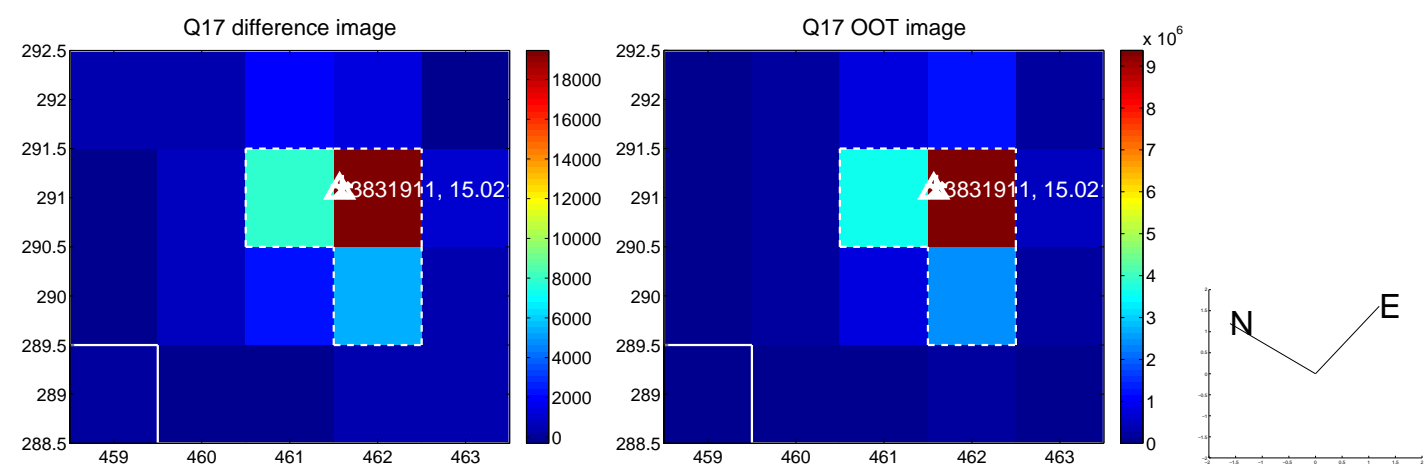
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

