

KIC 004663658

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})
004663658-01	OBS	3187.01	0.705847	131.683041	5.8	4.844	10.0	10.8	2.45	10346	0.61	134801.79
004663658-02	OBS	No	30.996595	136.828737	40.6	3.806	7.9	7.4	2.45	10346	1.79	870.08
004663658-03	OBS	No	32.961355	159.438795	63.7	2.046	8.1	9.2	2.45	10346	2.24	801.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004663658-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
004663658-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
004663658-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST

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

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

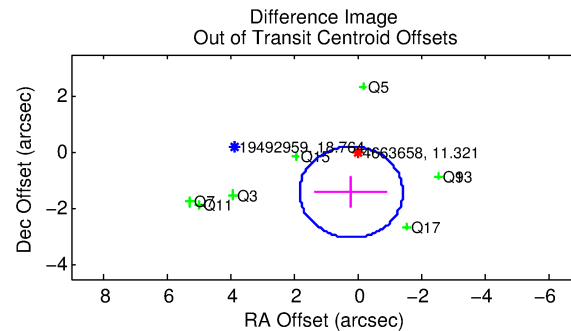
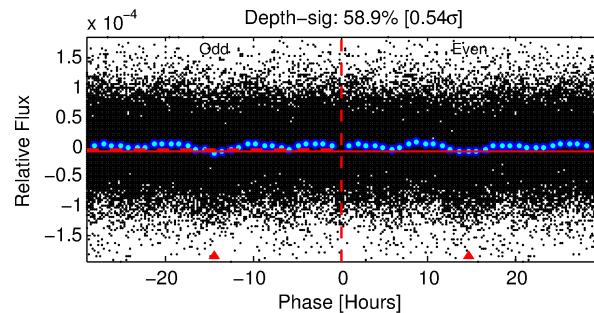
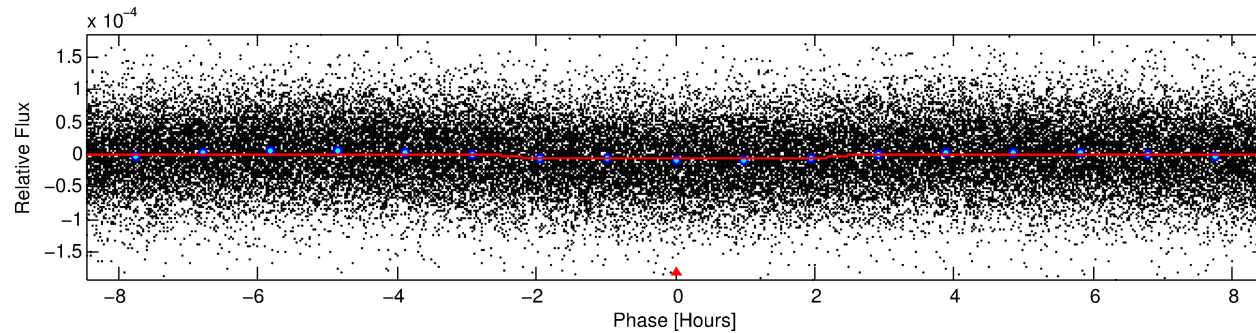
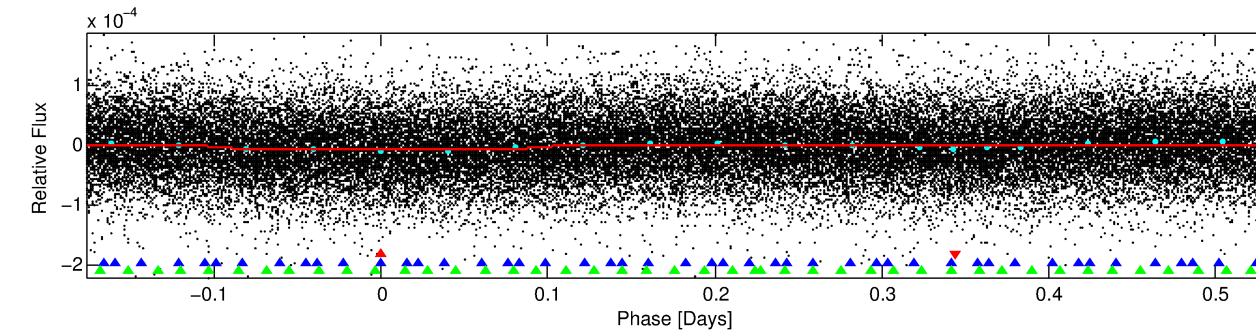
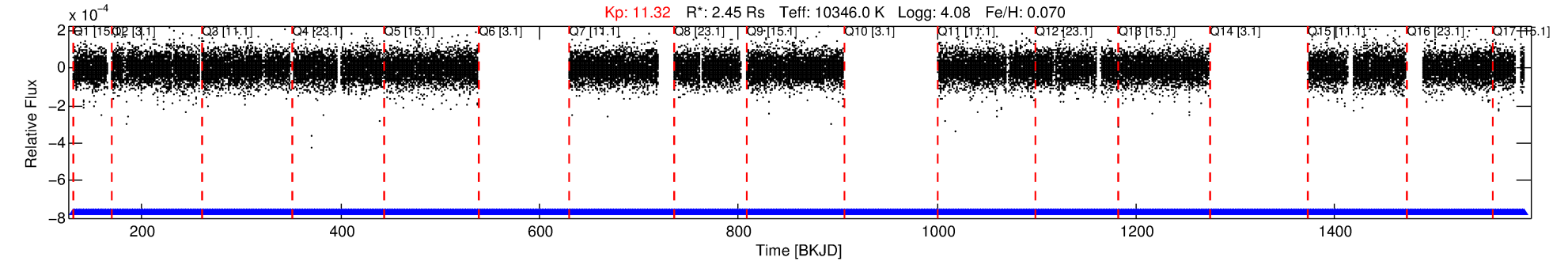
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004663658-01

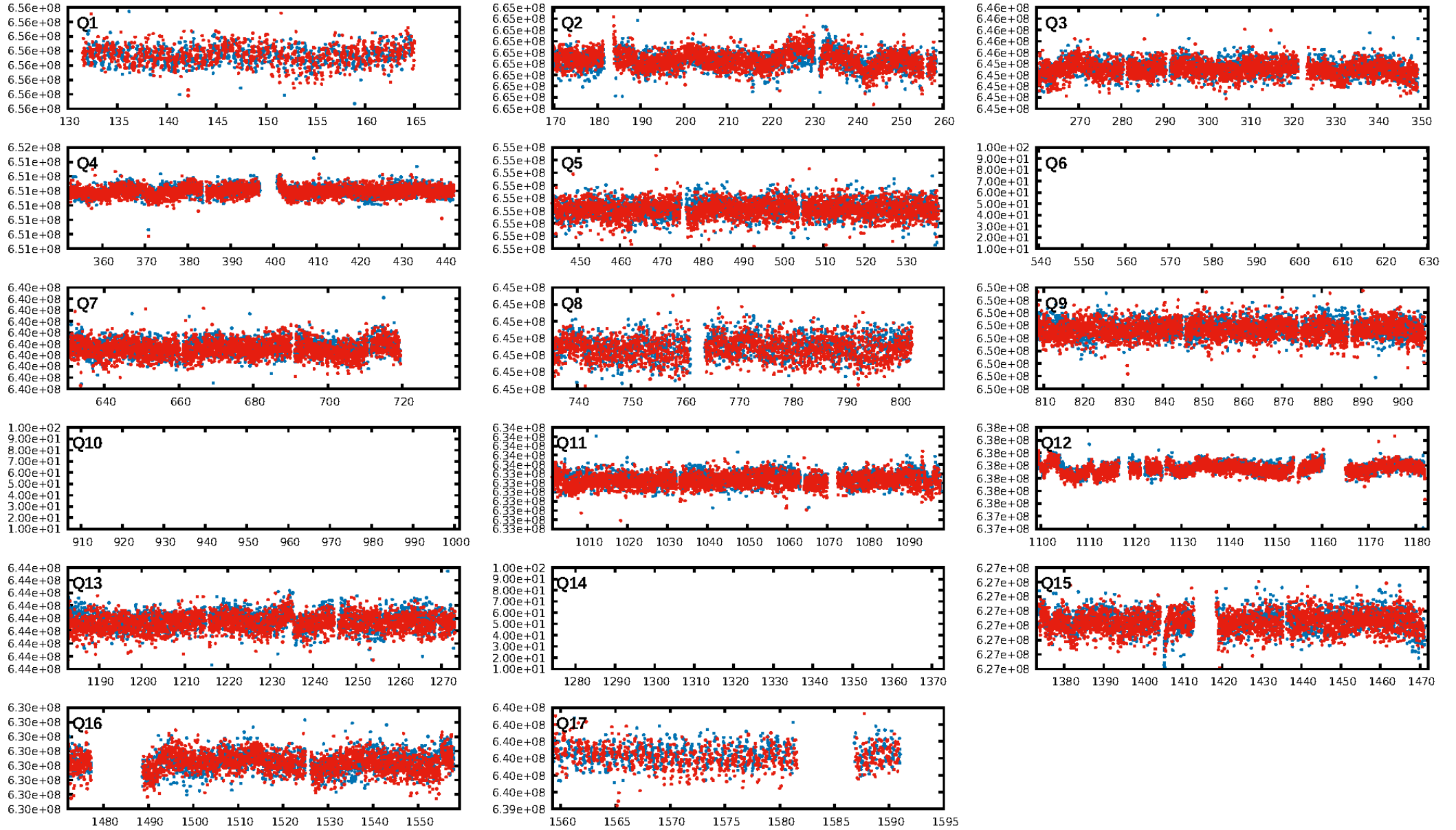
No Significant Match Found

DV One-Page Summary

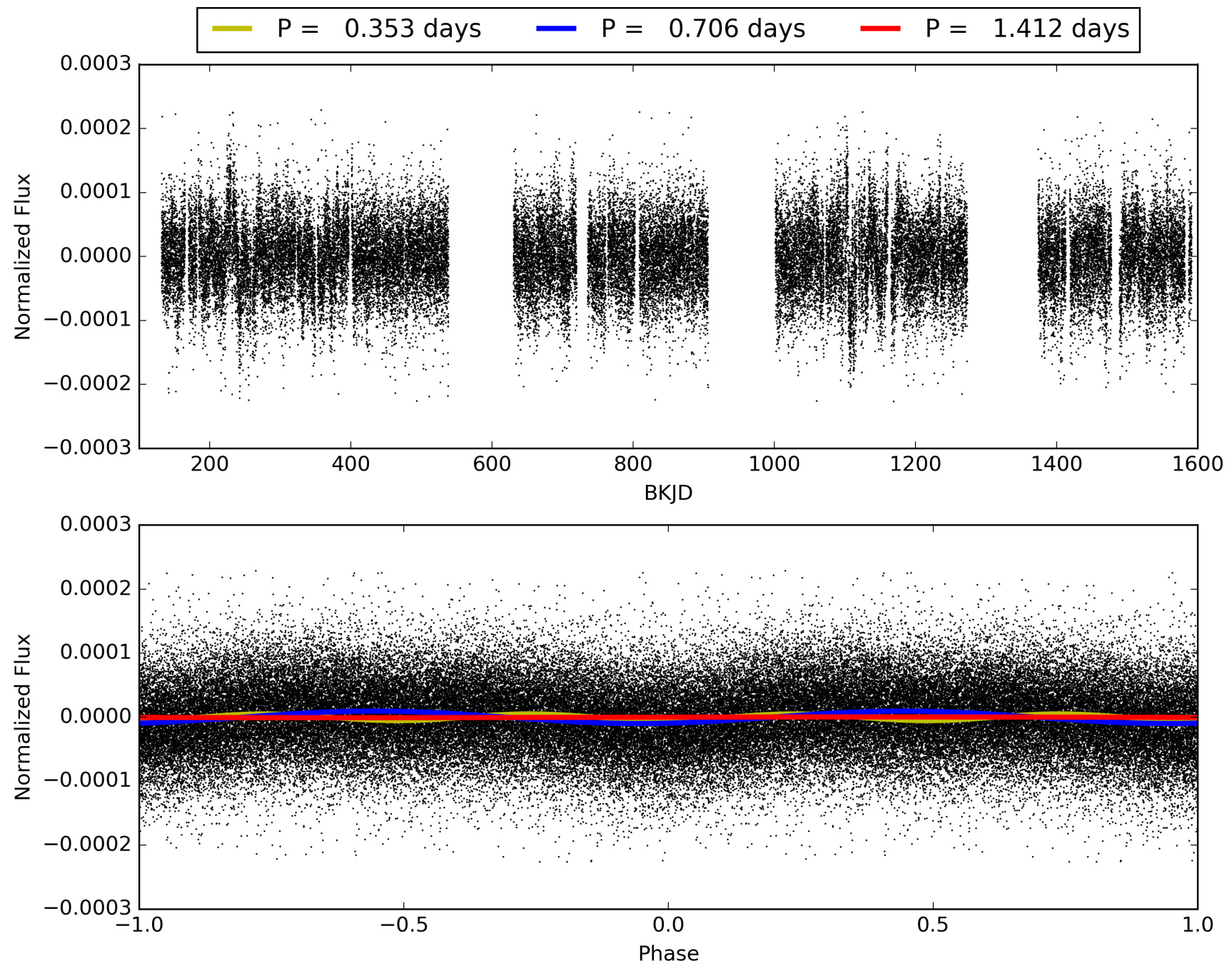
KIC: 4663658 Candidate: 1 of 3 Period: 0.706 d
KOI: K03187.01 Corr: 0.874



TCE 004663658-01, PDC Light Curves

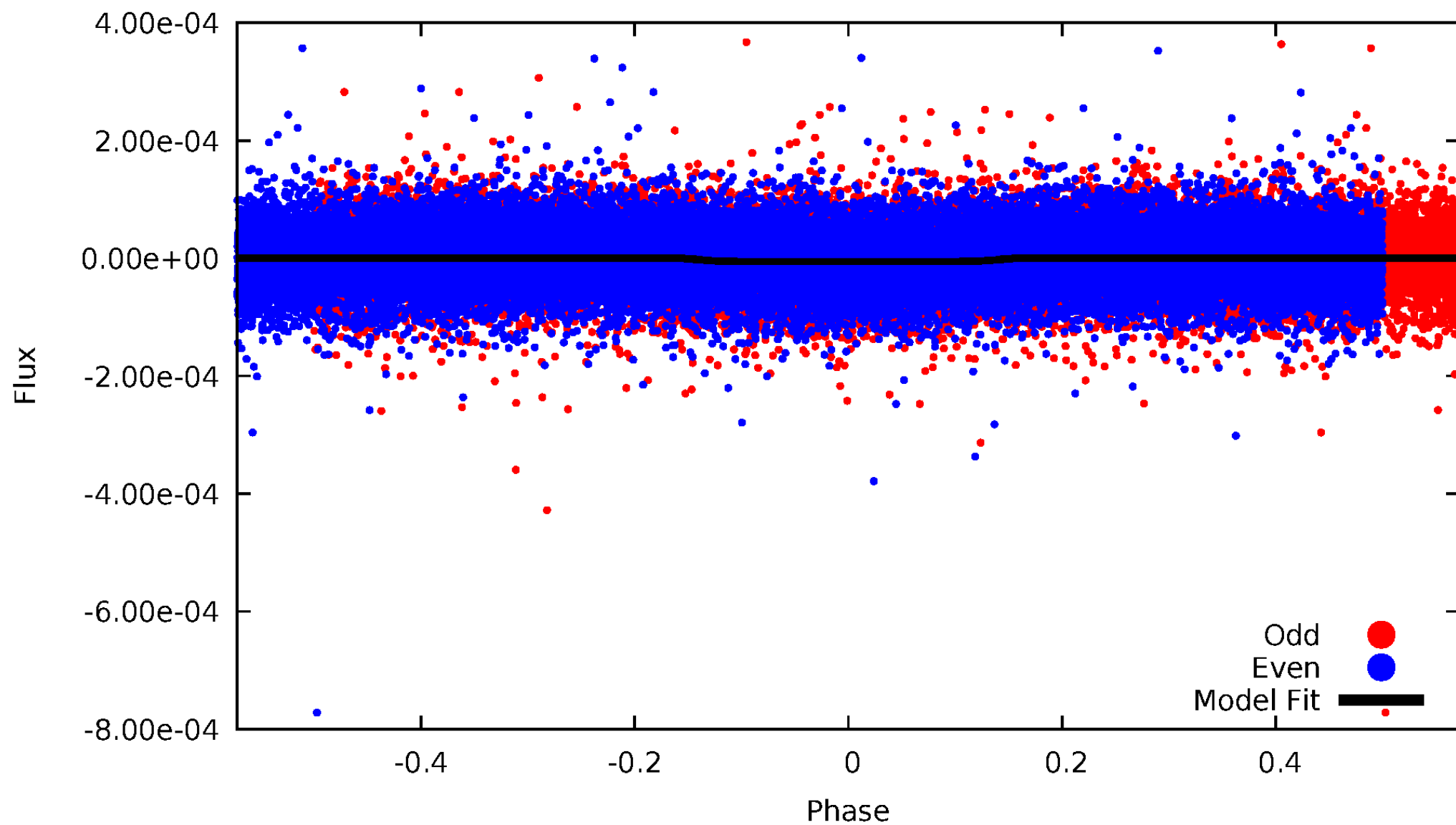


TCE 004663658-01



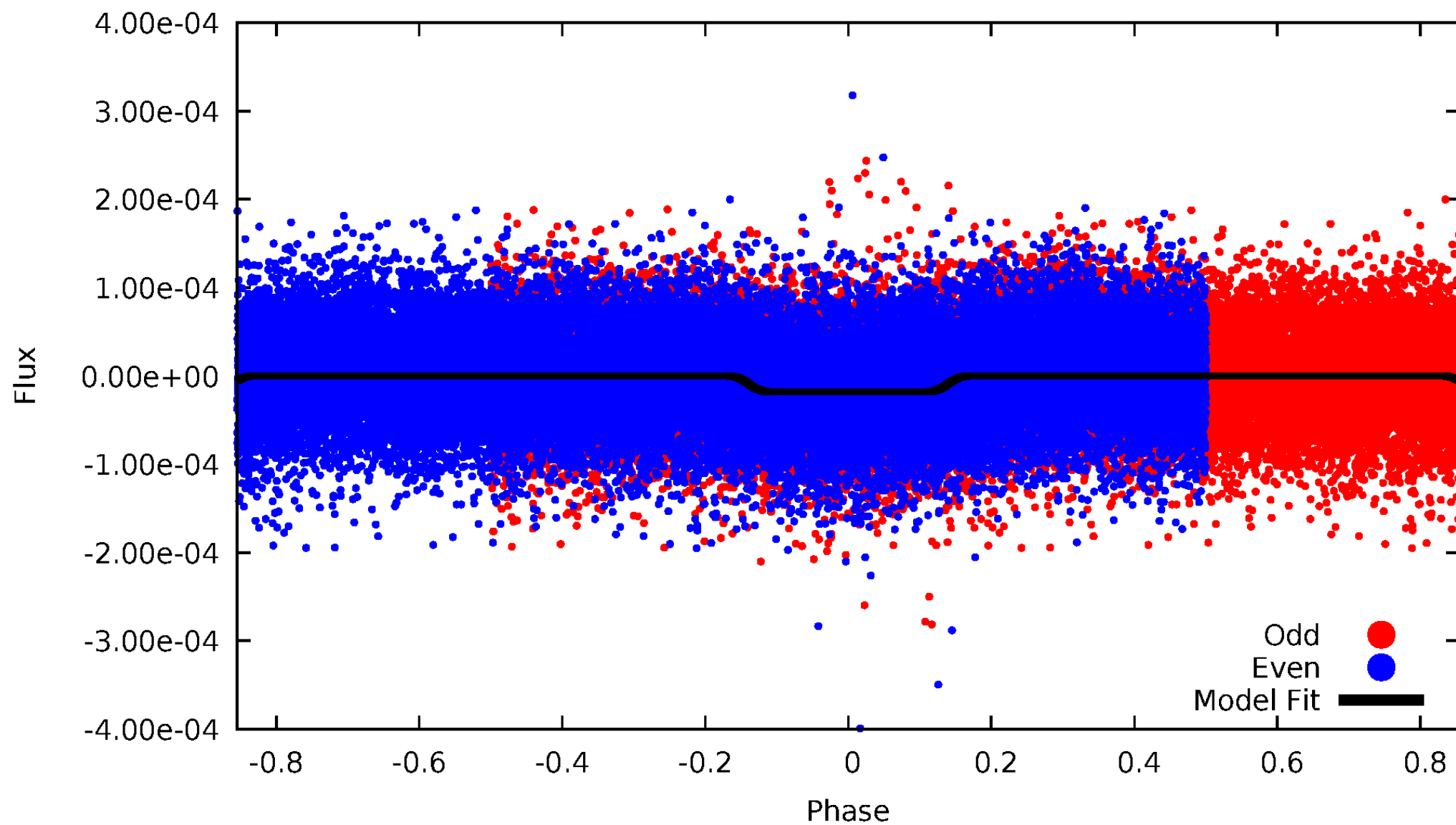
DV Odd/Even

TCE 004663658-01



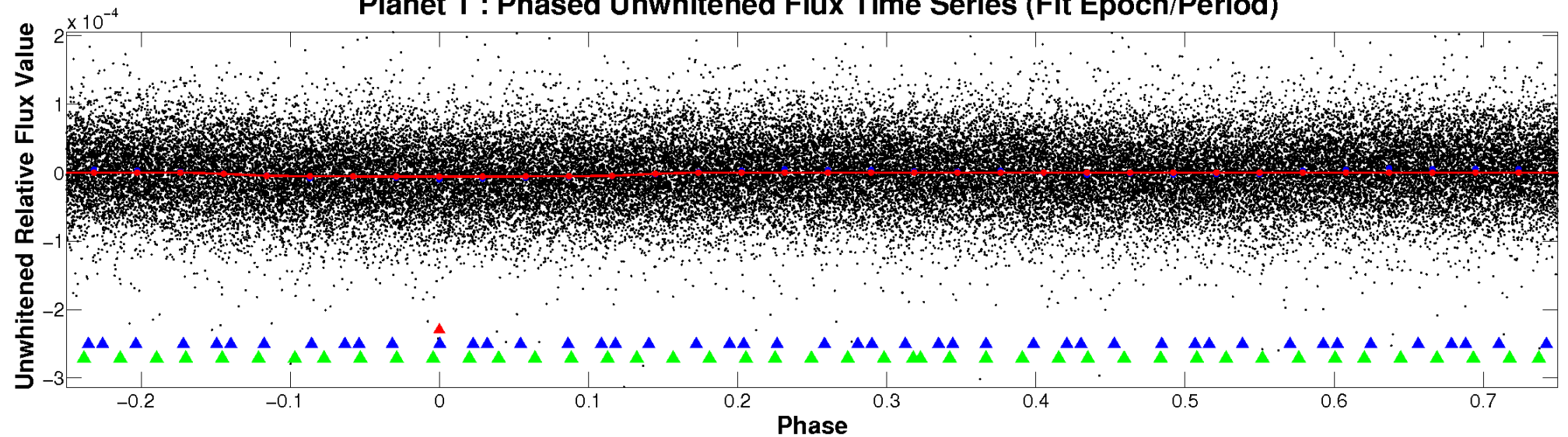
ALT Odd/Even

TCE 004663658-01

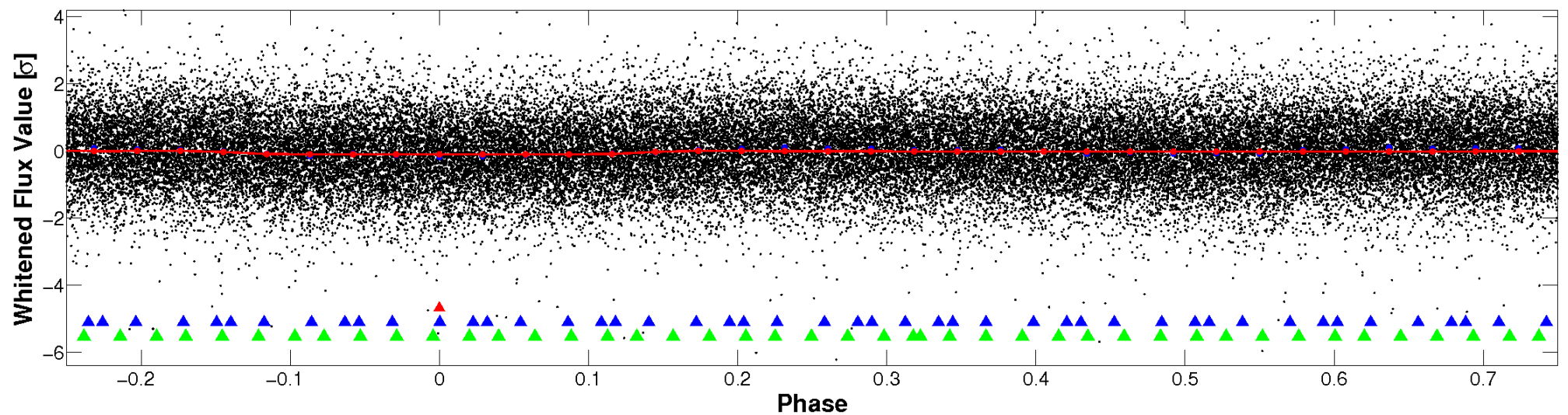


Non-Whitened Vs. Whitened Light Curve

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

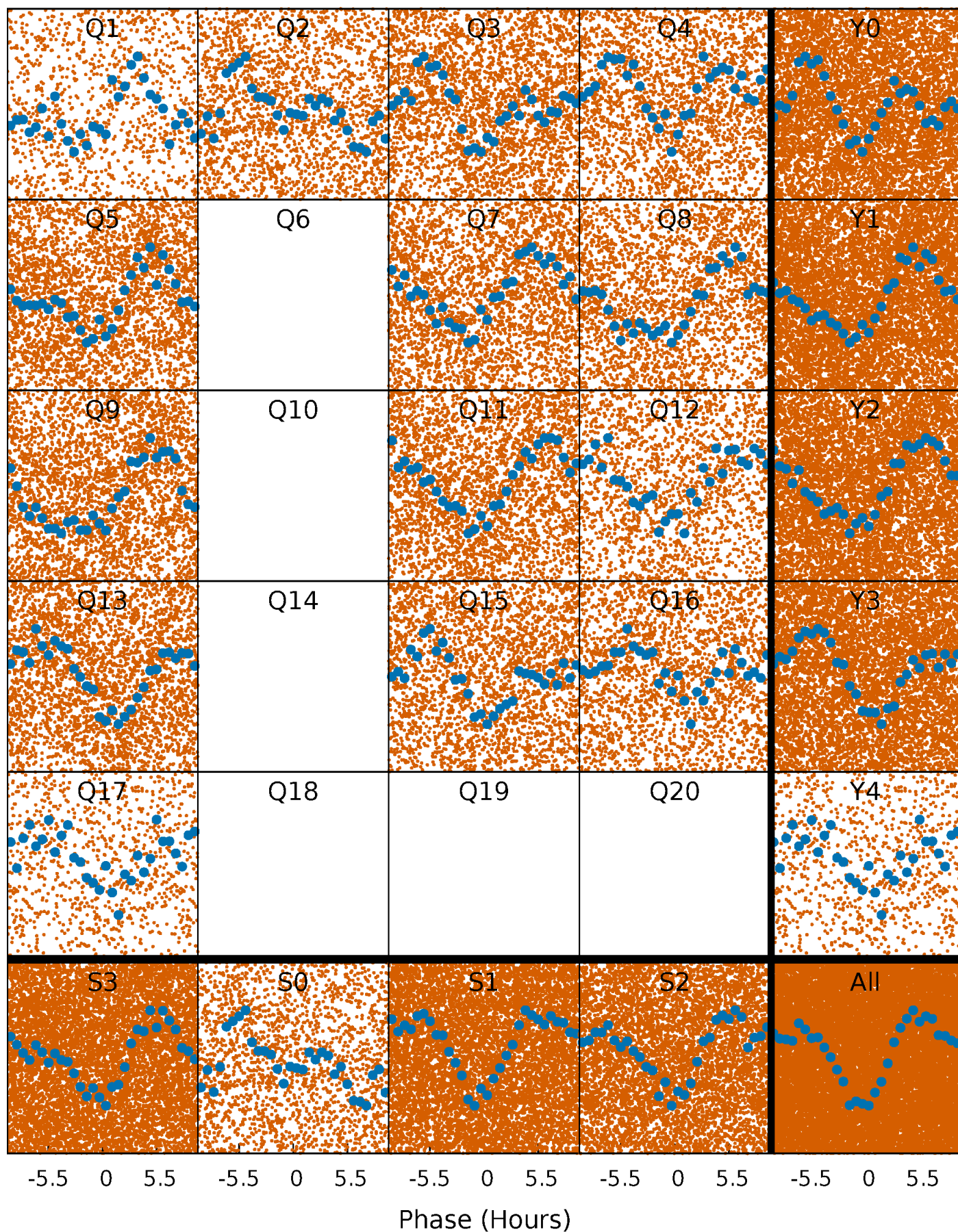


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



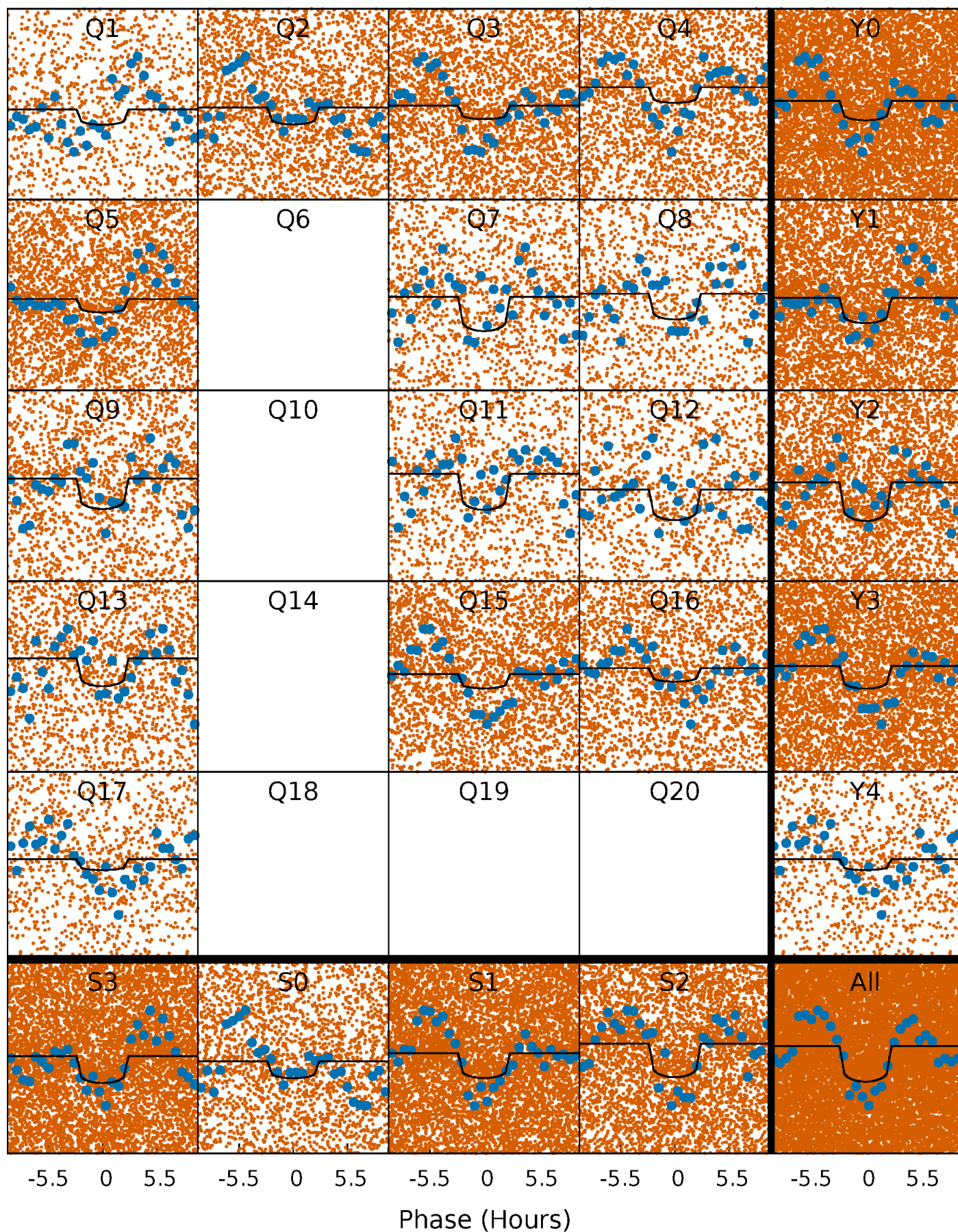
PDC Quarter-Phased Transit Curves

TCE 004663658-01 P= 0.705847 Days $T_0=131.683041$ (BKJD)



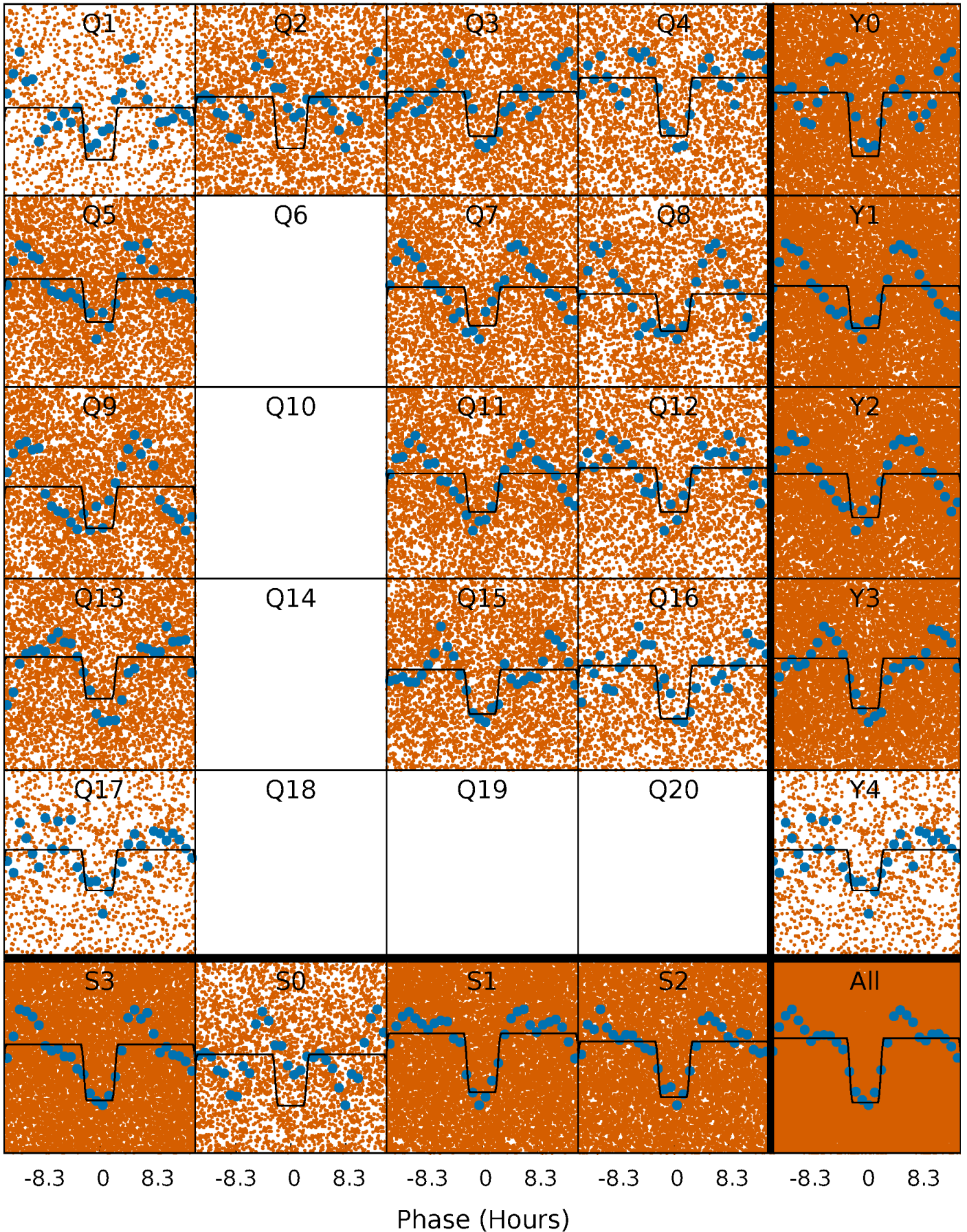
DV Quarter-Phased Transit Curves

TCE 004663658-01 P= 0.705847 Days $T_0=131.683041$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

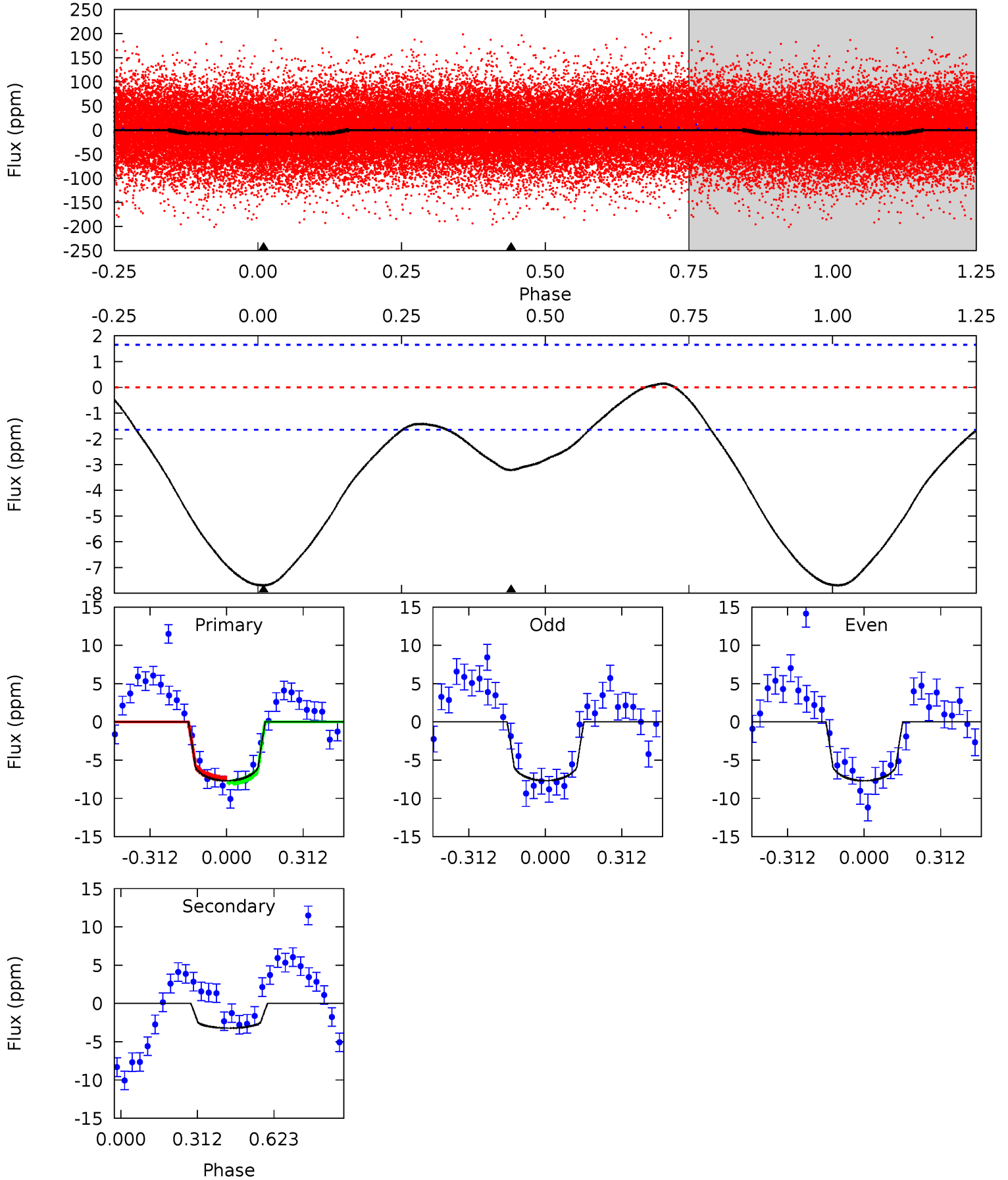
TCE 004663658-01 P= 0.705891 Days $T_0=131.623444$ (BKJD)



DV Model-Shift Uniqueness Test

004663658-01, P = 0.705847 Days, E = 130.977194 Days

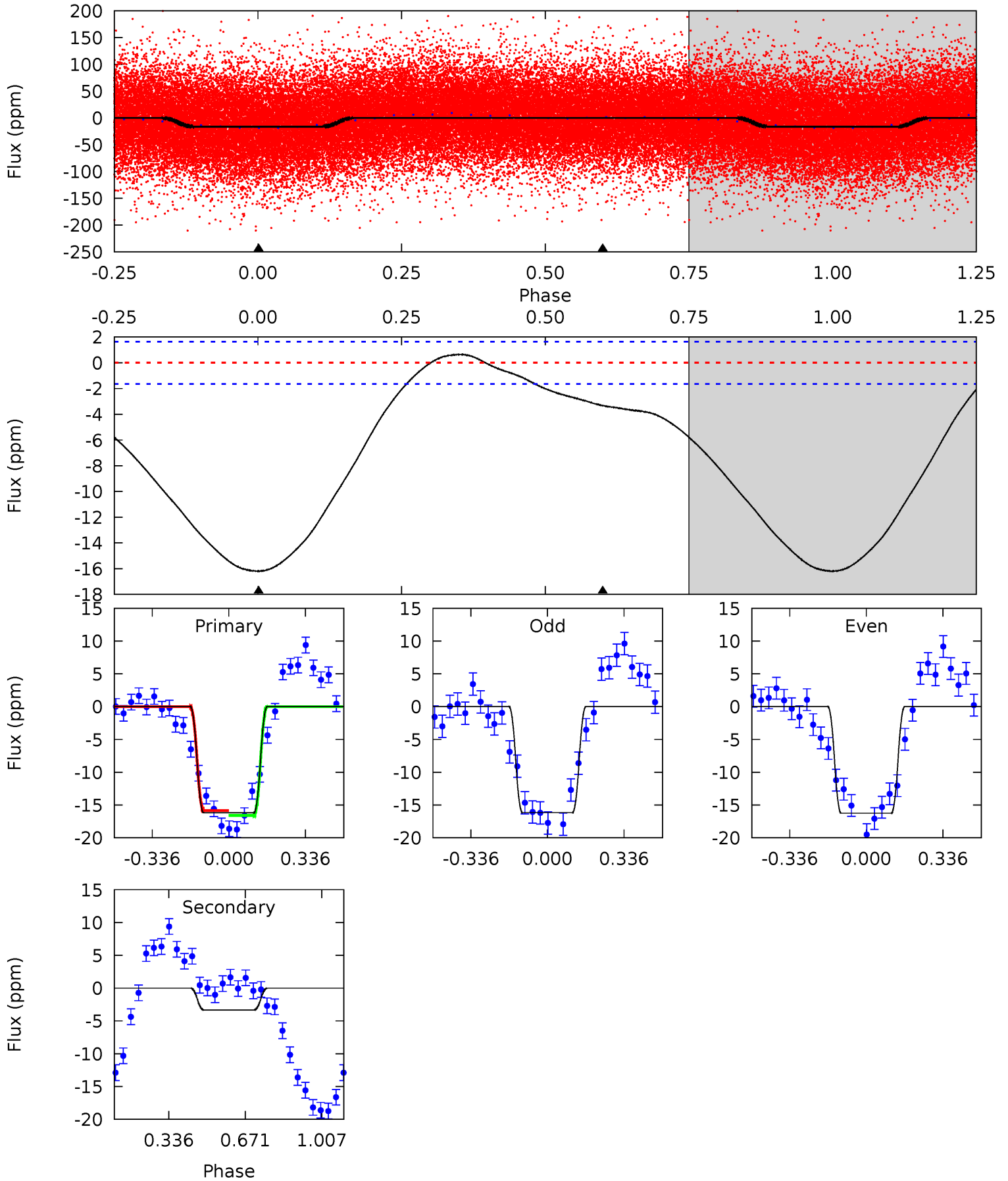
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	8.43	0	0	4.32	1.01	1.06	20.1	20.1	8.43	8.43	0.02	0.96	0.02	0.70



Alt Model-Shift Uniqueness Test

004663658-01, P = 0.705891 Days, E = 130.917553 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.5	8.73	0	0	4.30	0.96	2.18	42.5	42.5	8.73	8.73	0.13	0.97	0.04	1.05



Stellar Parameters For KIC 004663658

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10346^{+286}_{-464}	$4.077^{+0.242}_{-0.198}$	$0.070^{+0.050}_{-0.600}$	$2.449^{+0.838}_{-0.838}$	$2.609^{+0.354}_{-0.658}$	$0.250^{+0.377}_{-0.130}$
	+3%/-4%	+6%/-5%	+71%/-857%	+34%/-34%	+14%/-25%	+151%/-52%
Source	KIC0	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 004663658-01 / KOI 3187.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3 ± 0	$0.63^{+0.43}_{-0.39}$	6781^{+652}_{-611}	7814^{+9538}_{-2255}	$1.963^{+11.160}_{-1.282}$
Alt.	-3 ± 0	$1.09^{+0.49}_{-0.40}$	6824^{+582}_{-665}	5373^{+1941}_{-1953}	$0.685^{+0.920}_{-0.353}$

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 $A_{obs} \gg 1.0$

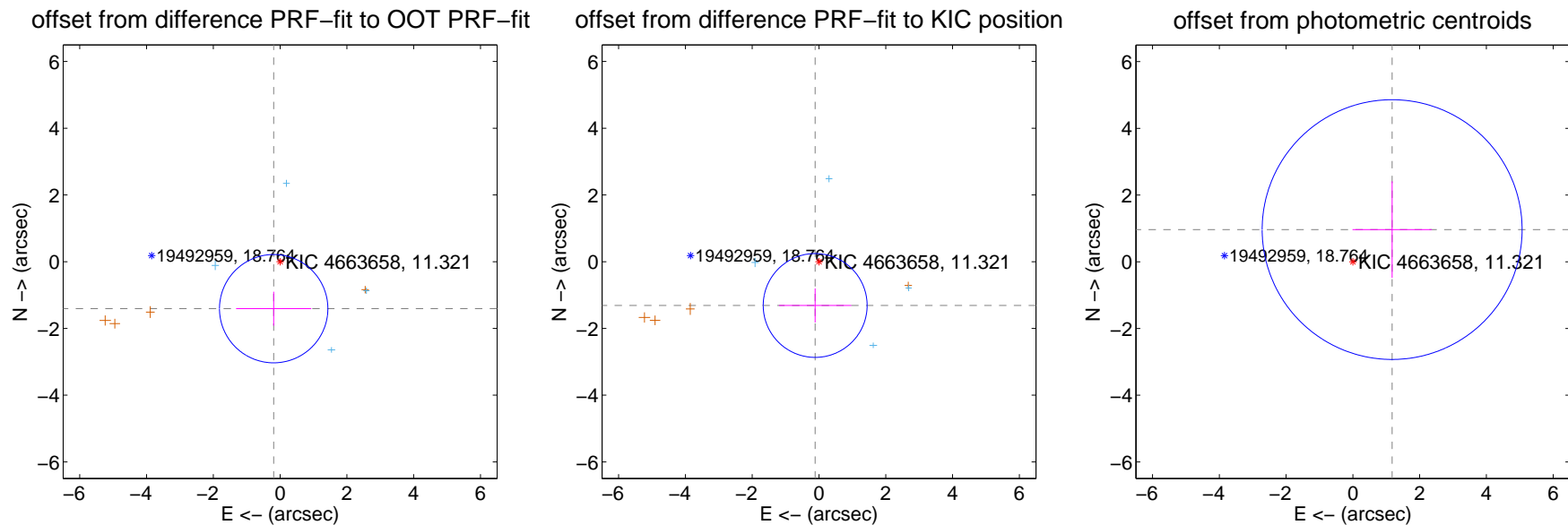
DV Centroid Data

Supplemental centroid analysis for 004663658-01. **Kepler magnitude: 11.32.** Transit SNR 10.76

There are 4 quarters with good PRF difference image offsets

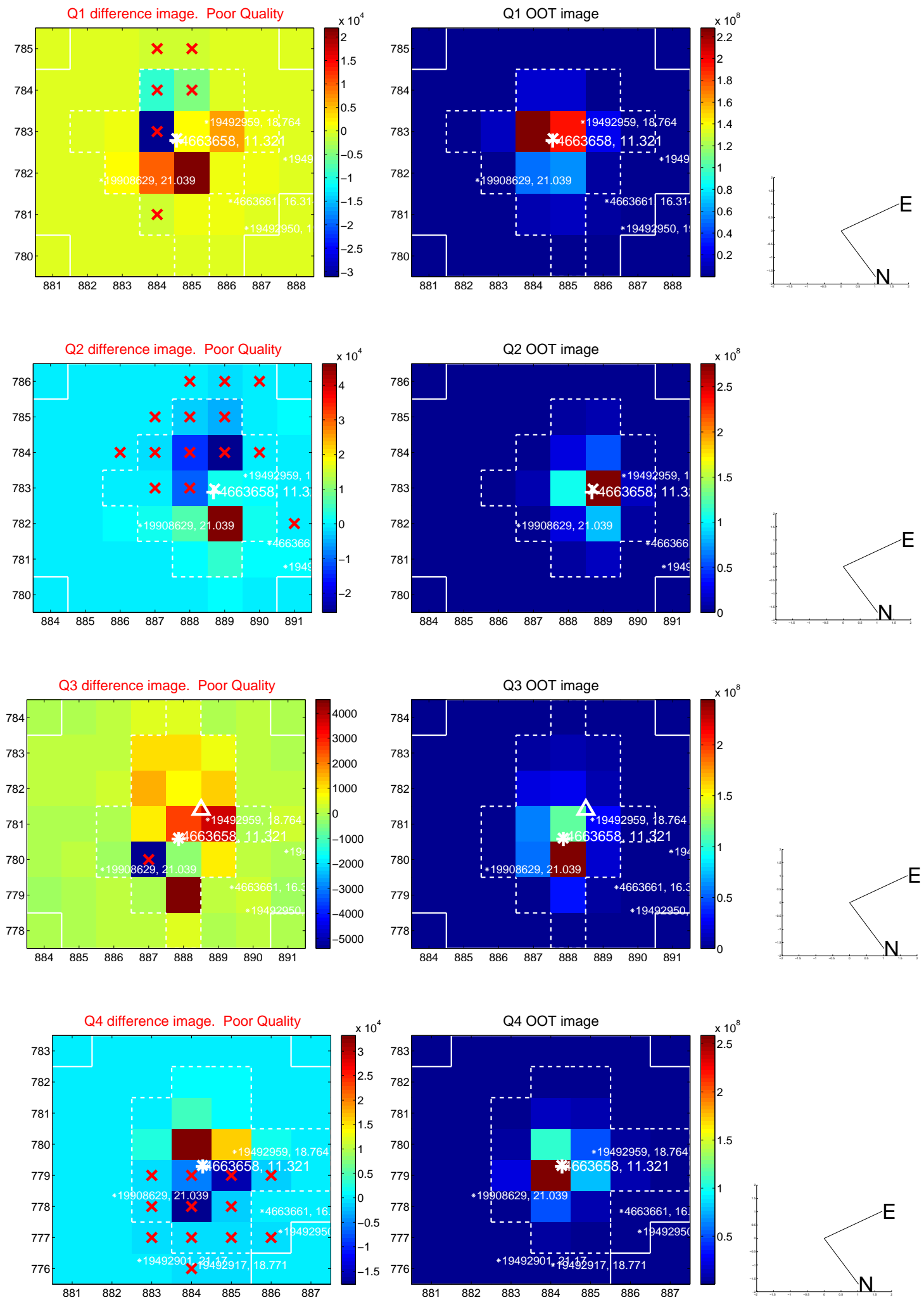
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.421 ± 0.541	2.63	0.192 ± 1.125	-1.408 ± 0.509
PRF-fit source offset from KIC position	1.317 ± 0.519	2.54	0.114 ± 1.082	-1.312 ± 0.510
photometric centroid source offset	1.52 ± 1.30	1.17	-1.18 ± 1.19	0.96 ± 1.45

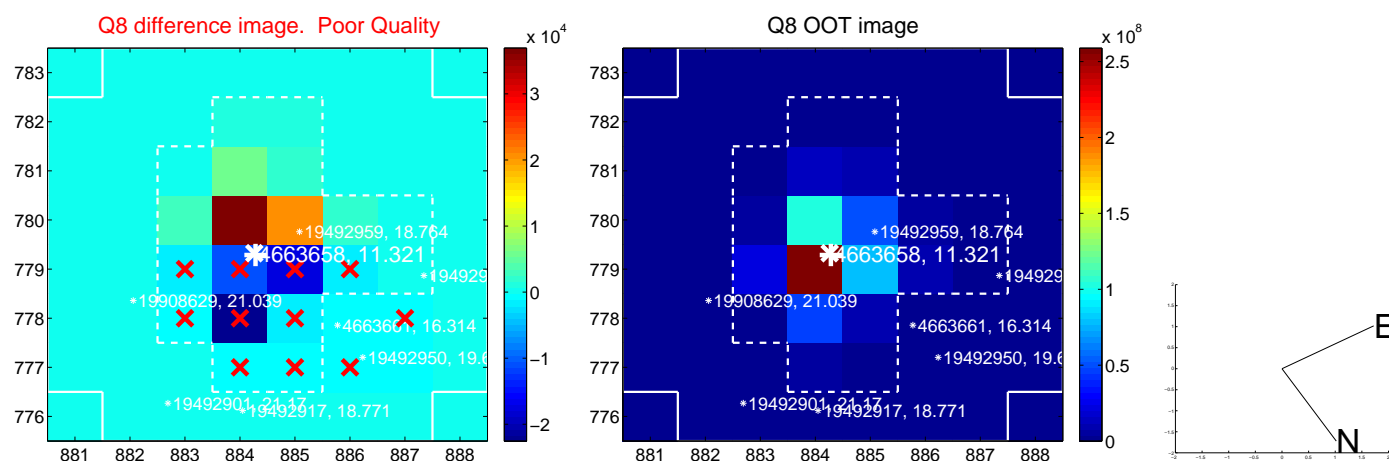
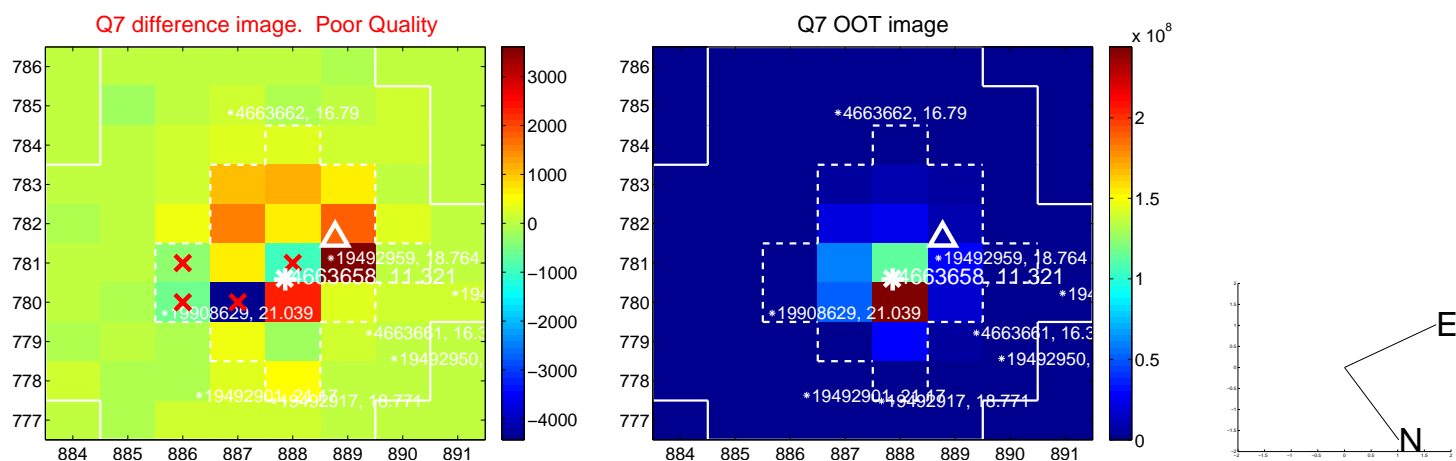
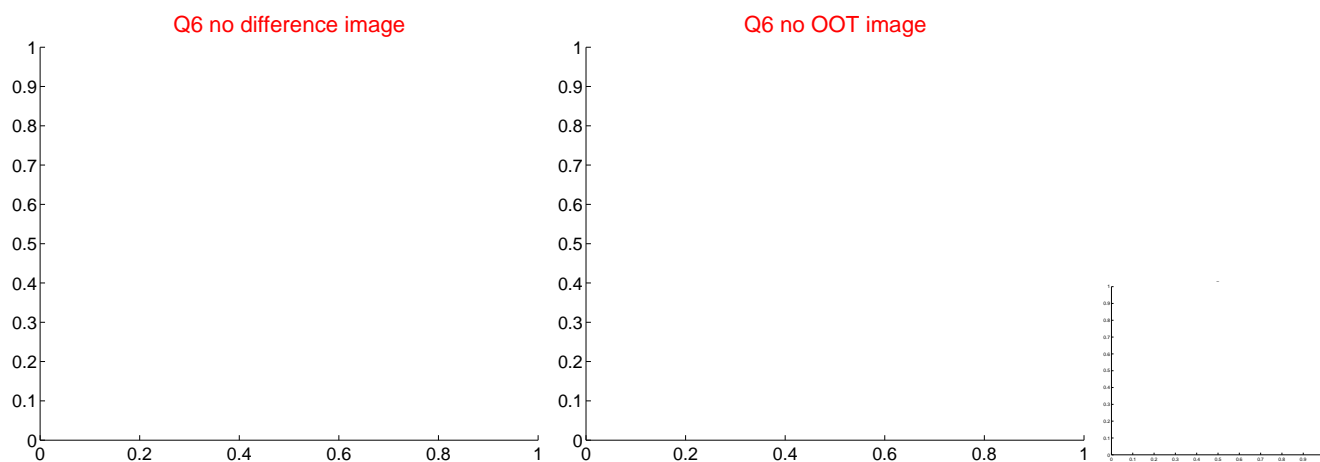
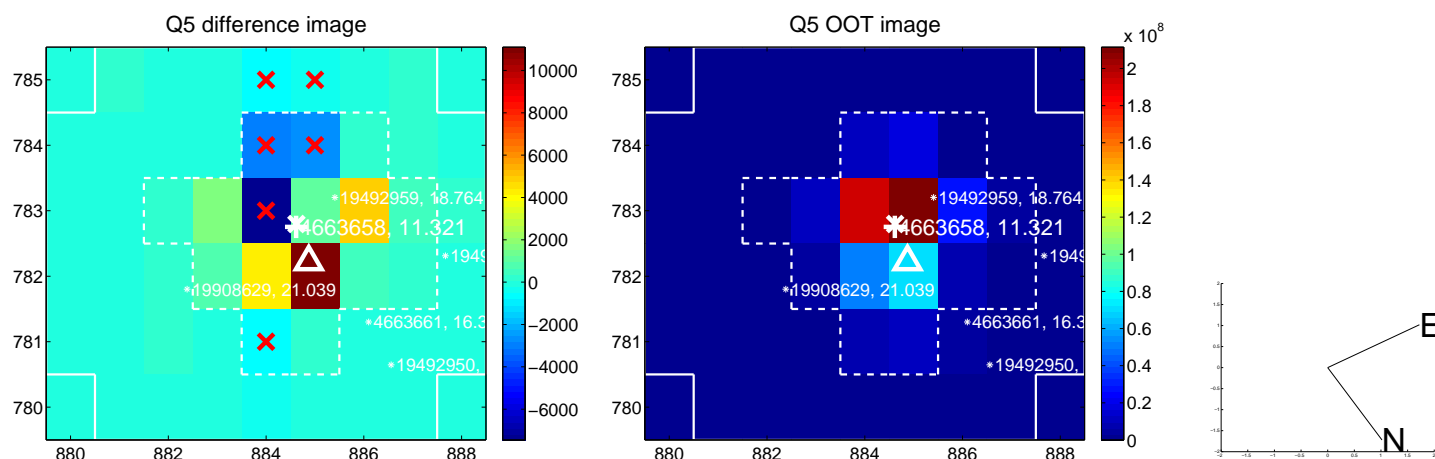


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

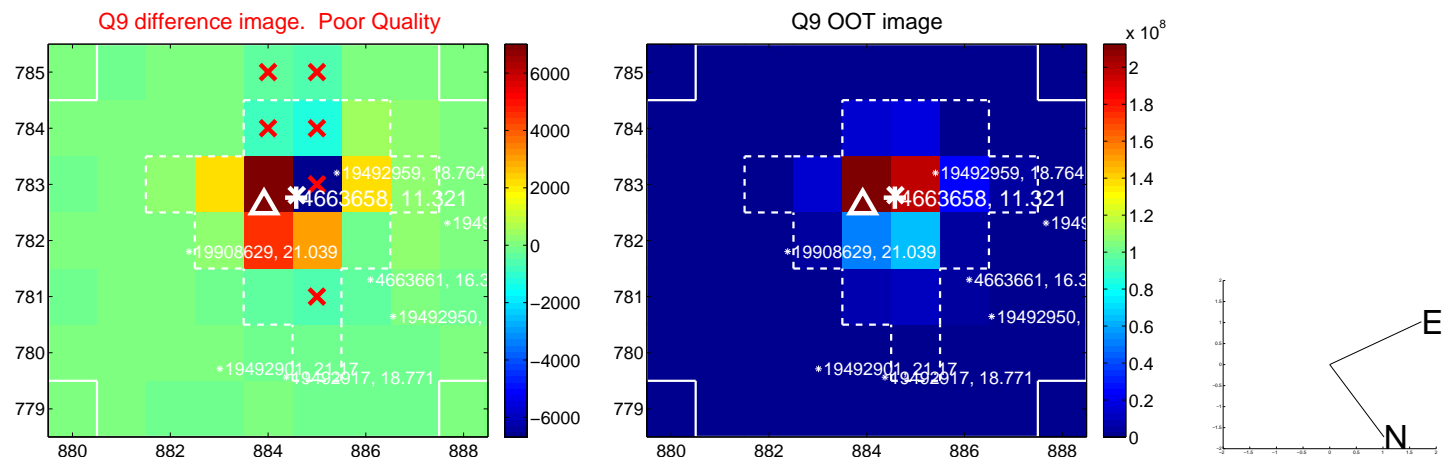
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



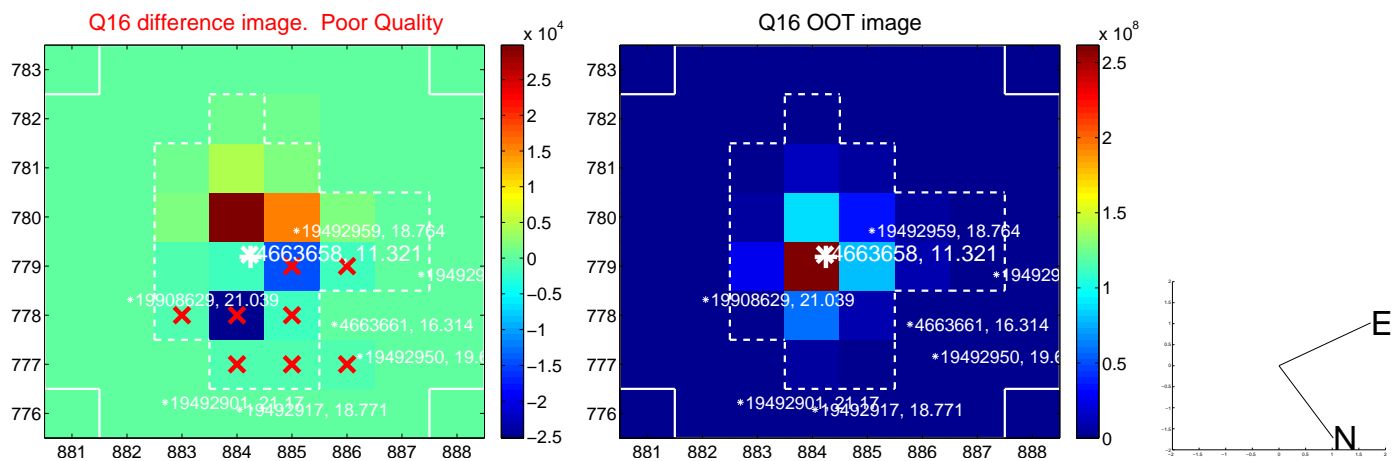
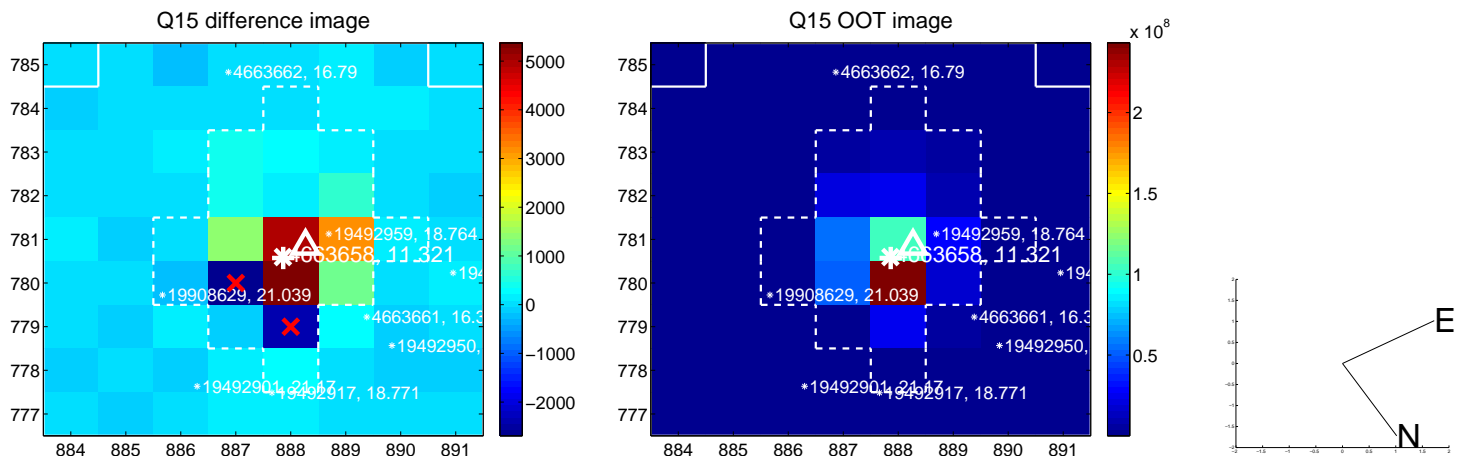
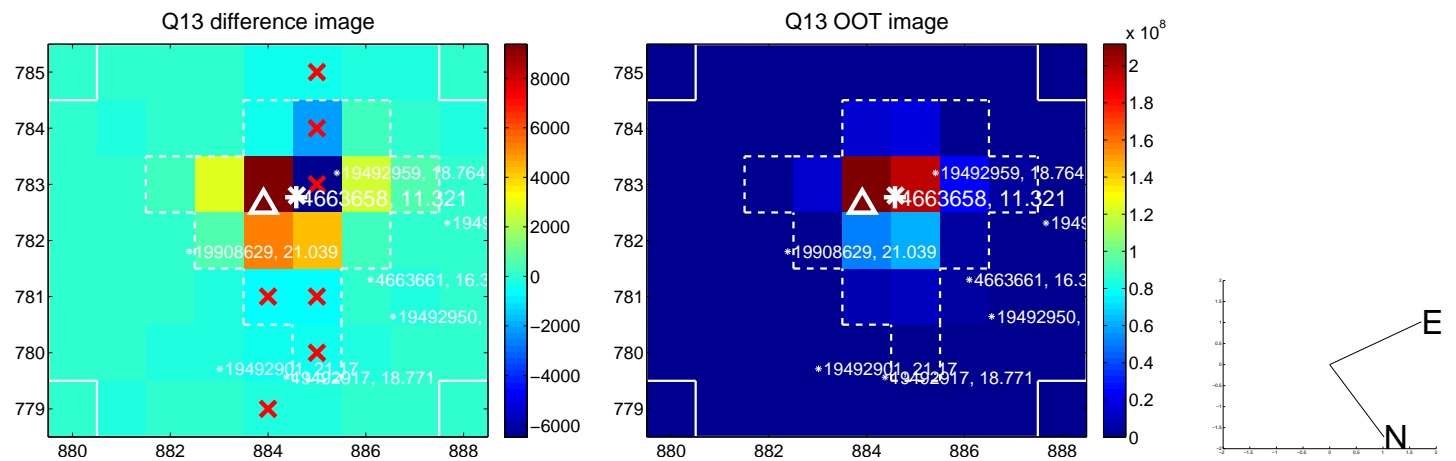
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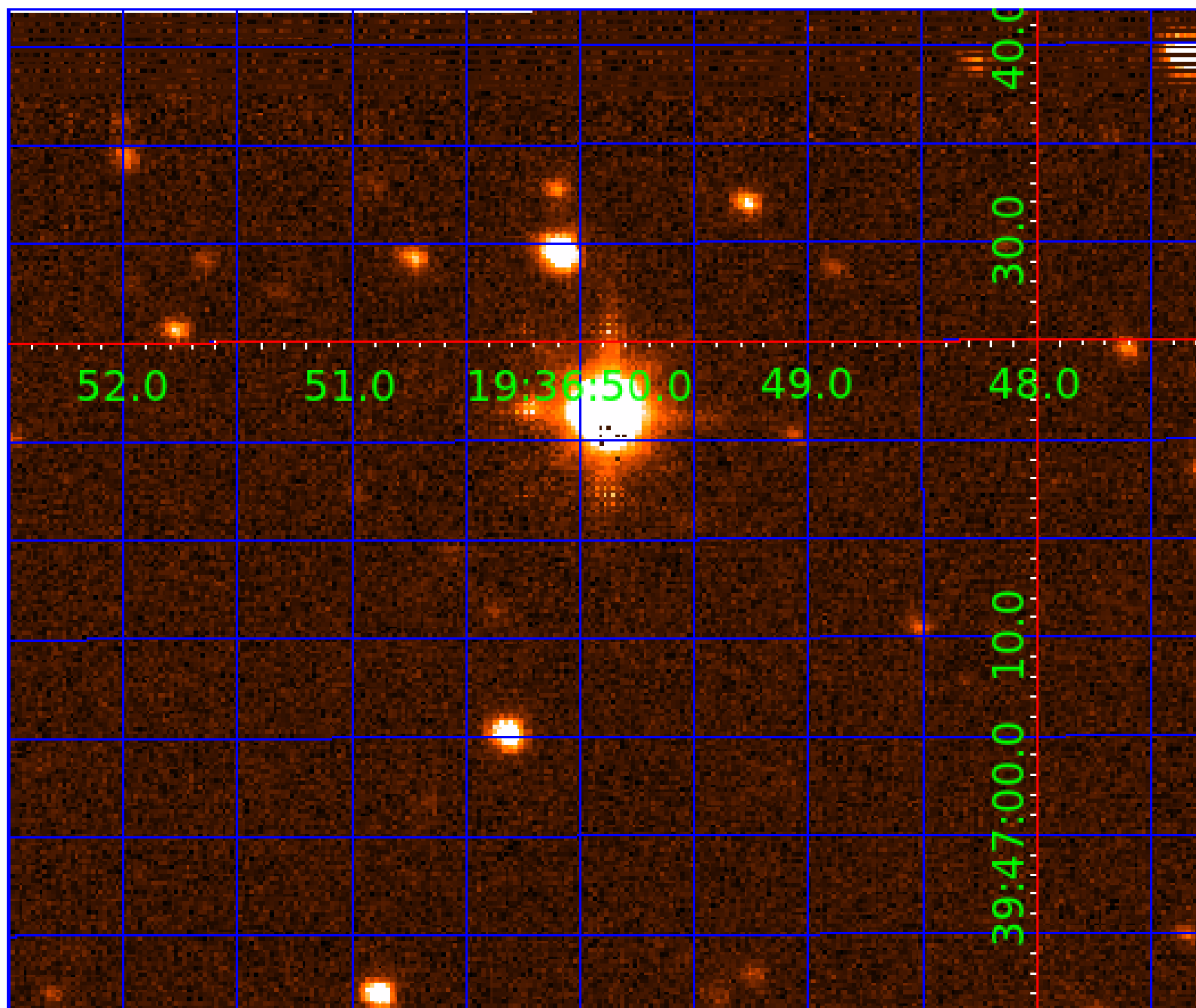


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004663658

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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004663658-03	OBS	No	32.961355	159.438795	63.7	2.046	8.1	9.2	2.45	10346	2.24	801.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004663658-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
004663658-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
004663658-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST

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

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

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

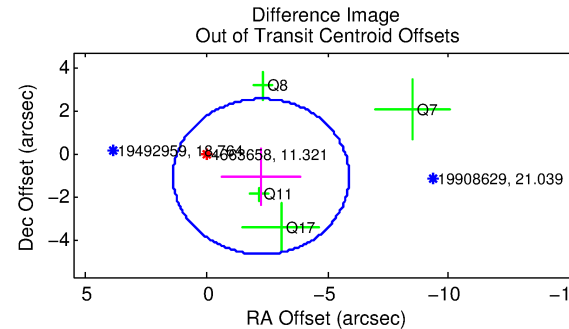
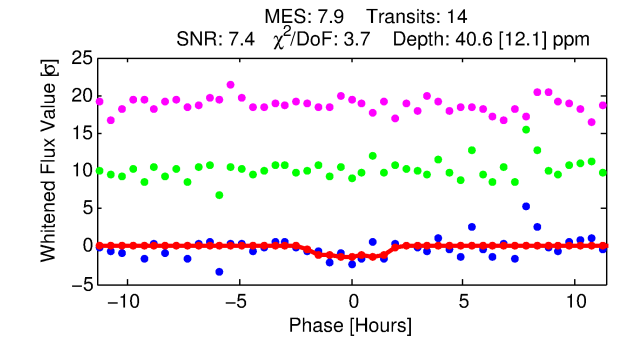
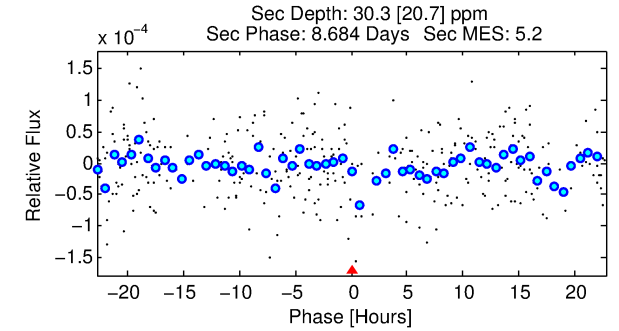
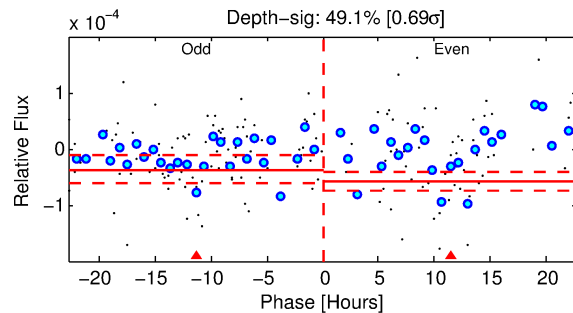
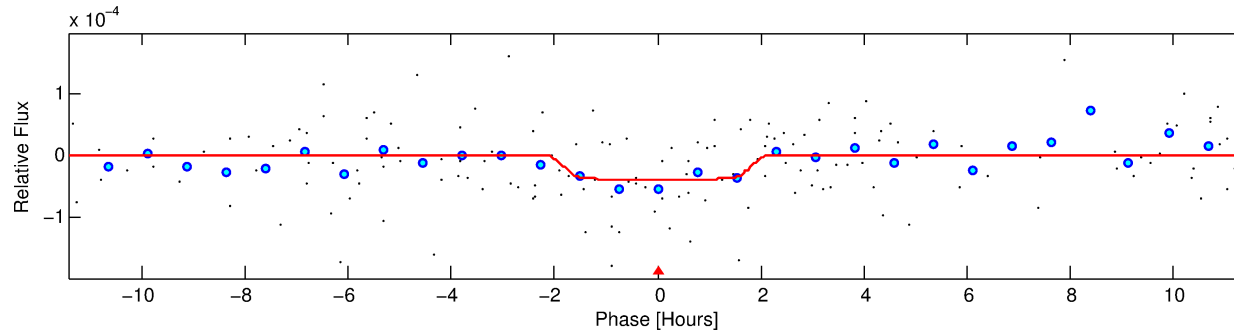
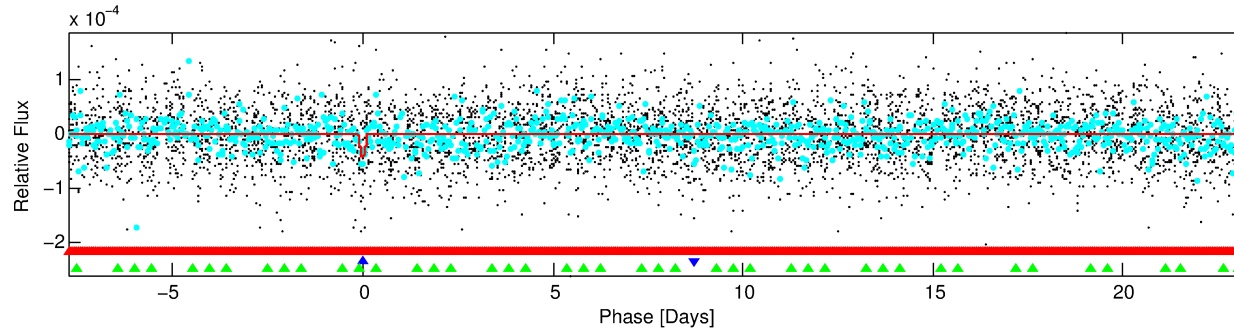
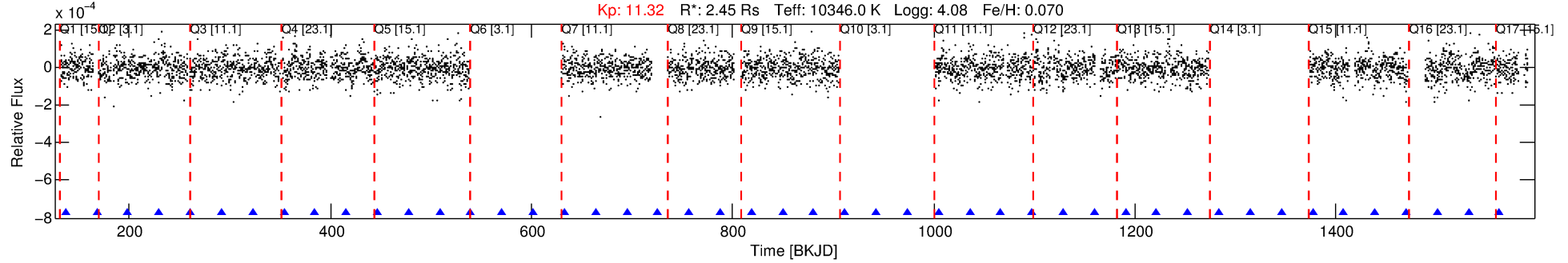
Ephemeris Match Information For 004663658-02

No Significant Match Found

DV One-Page Summary

KIC: 4663658 Candidate: 2 of 3 Period: 30.997 d
KOI: K03187 Corr: No Ephemeris Match

Kp: 11.32 R*: 2.45 Rs Teff: 10346.0 K Logg: 4.08 Fe/H: 0.070



DV Fit Results:

Period = 30.99659 [0.00094] d
Epoch = 136.8287 [0.0302] BKJD
Rp/R* = 0.0067 [0.0056]
a/R* = 28.00 [191.47]
b = 0.90 [1.44]
Seff = 870.08 [410.16]
Teq = 1385 [163] K
Rp = 1.79 [1.63] Re
a = 0.2660 [0.0783] AU
Ag = 369.71 [692.03] [0.53σ]
Teffp = 9389 [4294] K [1.86σ]

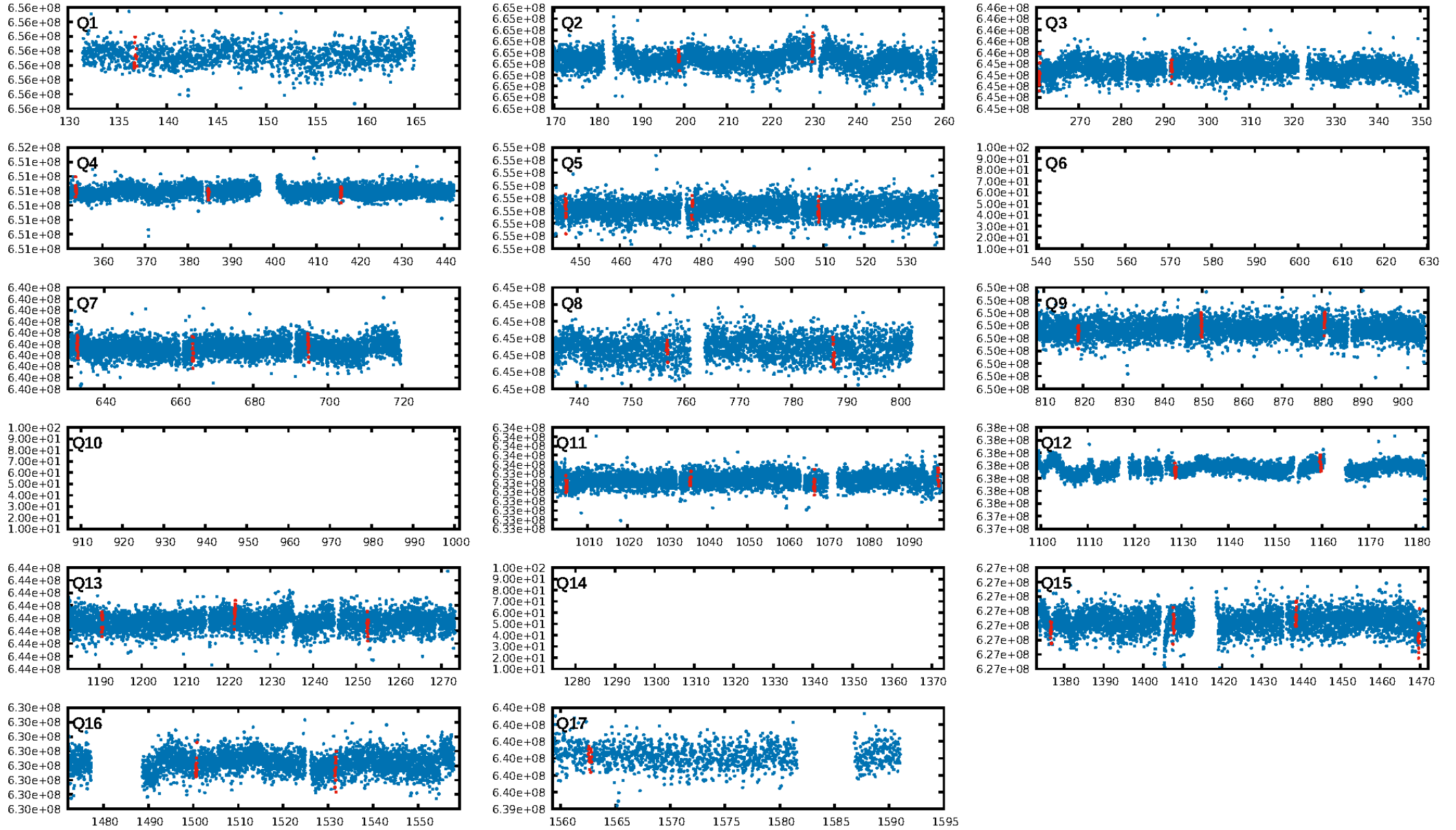
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [118.01σ]
LongPeriod-sig: 100.0% [10.91σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 39.4%
Bootstrap-pfa: 4.57e-11
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: -1.213
Centroid-sig: N/A
Centroid-so: 1.785 arcsec [1.13σ]
OotOffset-rm: 2.496 arcsec [2.06σ]
KicOffset-rm: 2.474 arcsec [2.04σ]
OotOffset-st: 0/2/1/1 [4]
KicOffset-st: 0/2/1/1 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.00 [0/13]

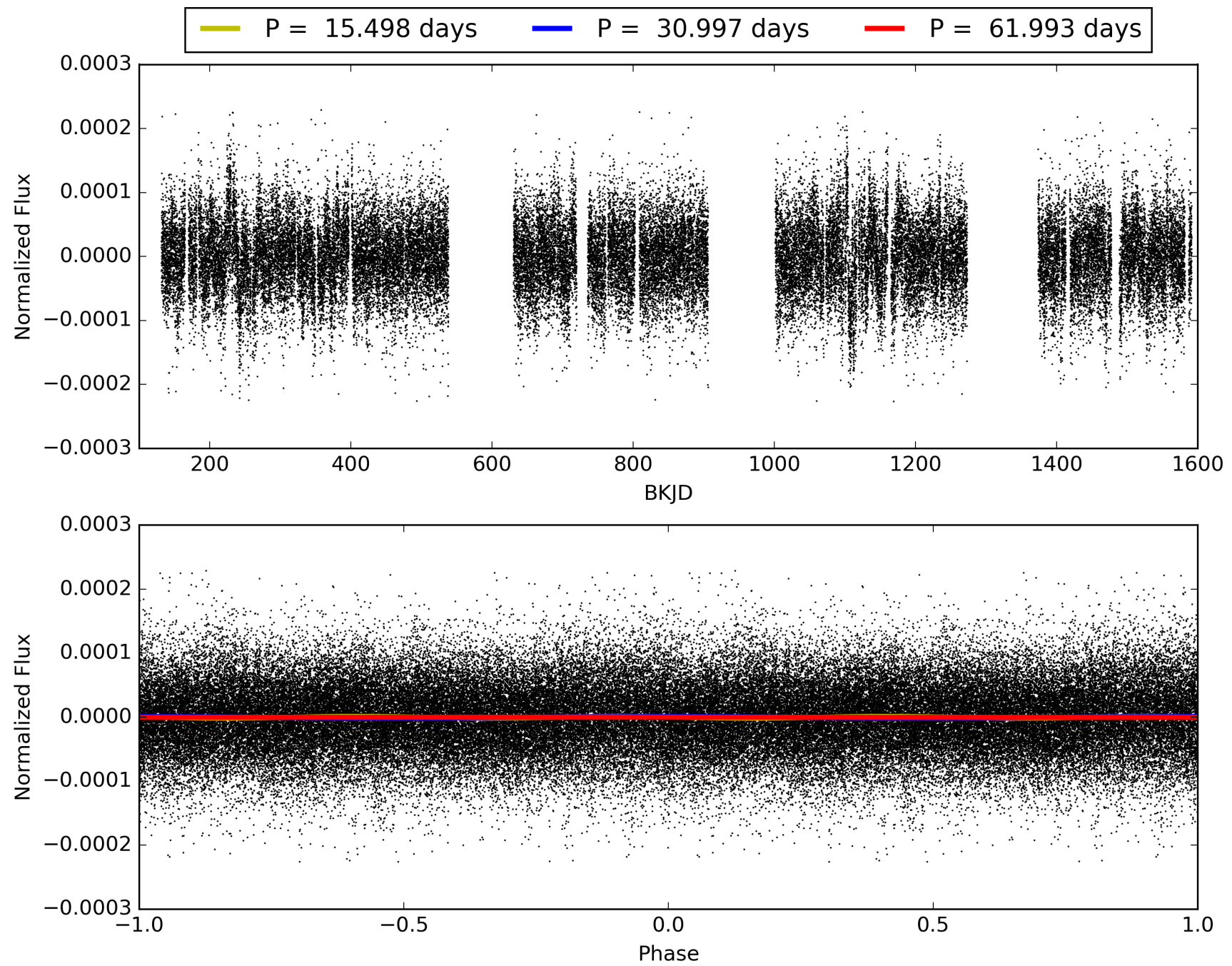
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:11:09 Z

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

TCE 004663658-02, PDC Light Curves

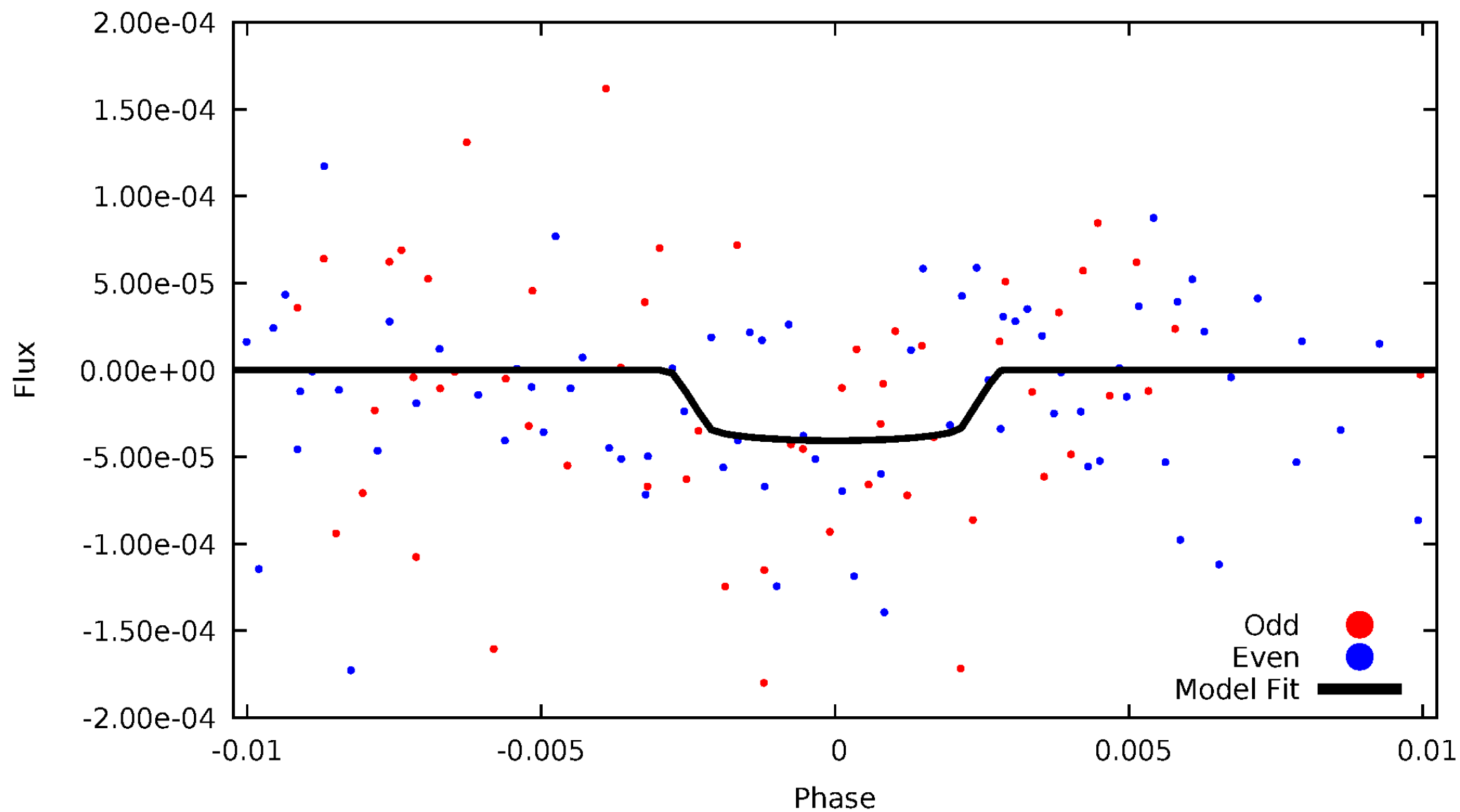


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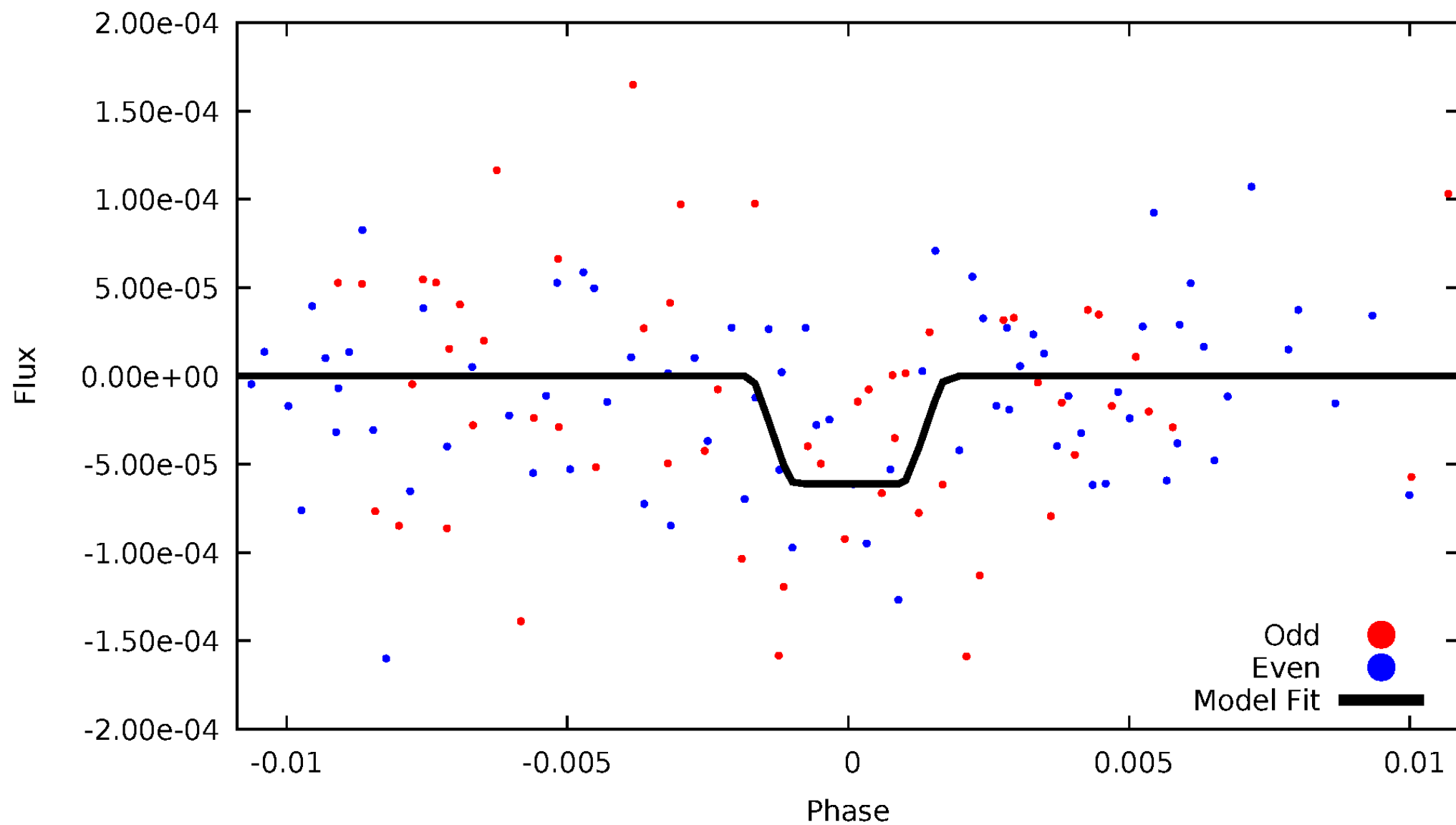
DV Odd/Even

TCE 004663658-02



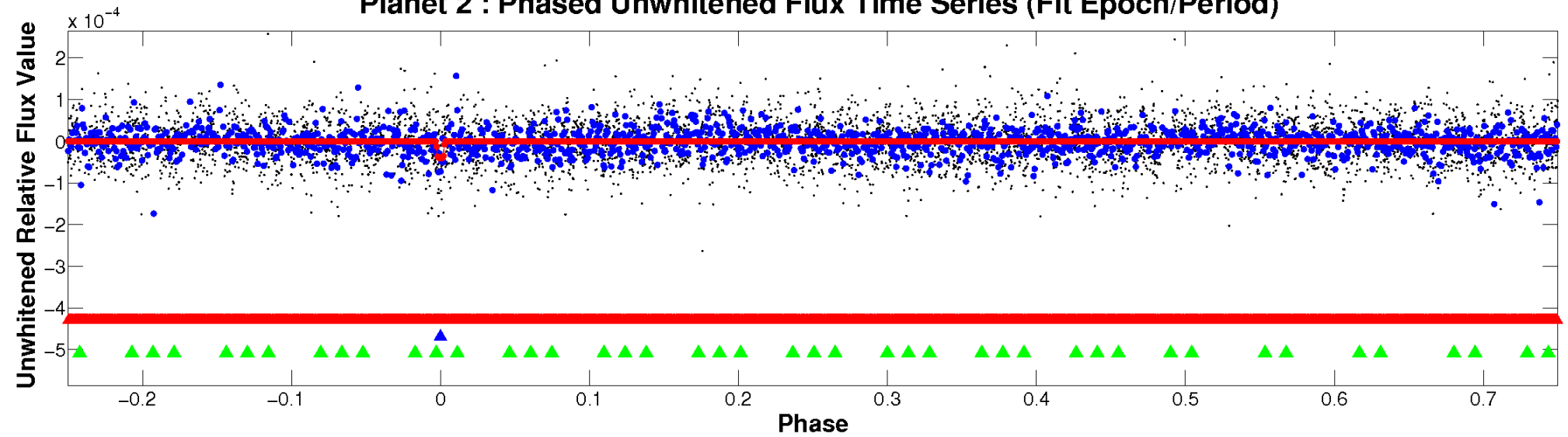
ALT Odd/Even

TCE 004663658-02

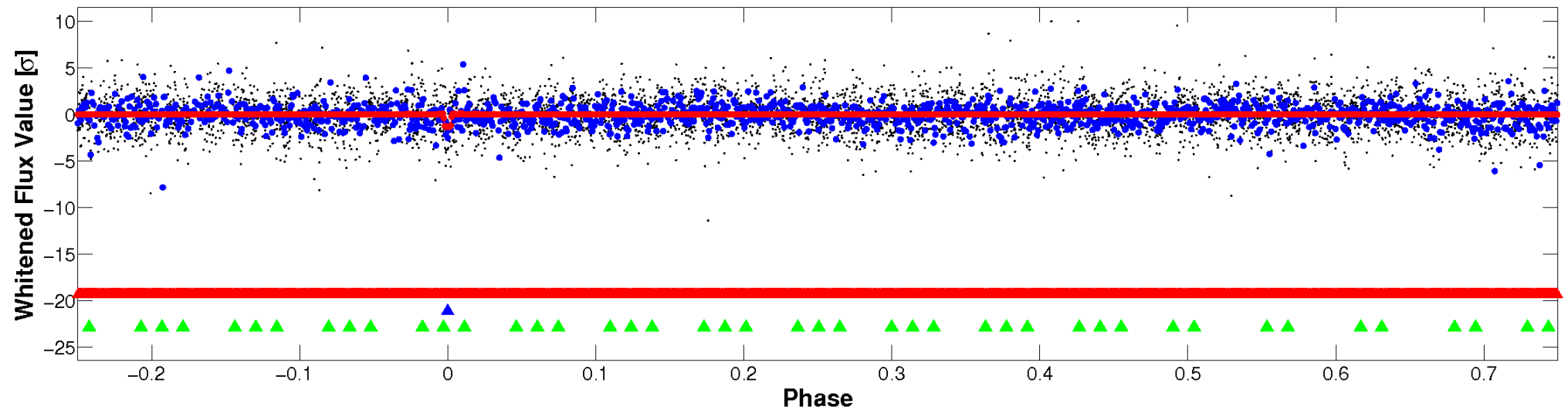


Non-Whitened Vs. Whitened Light Curve

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

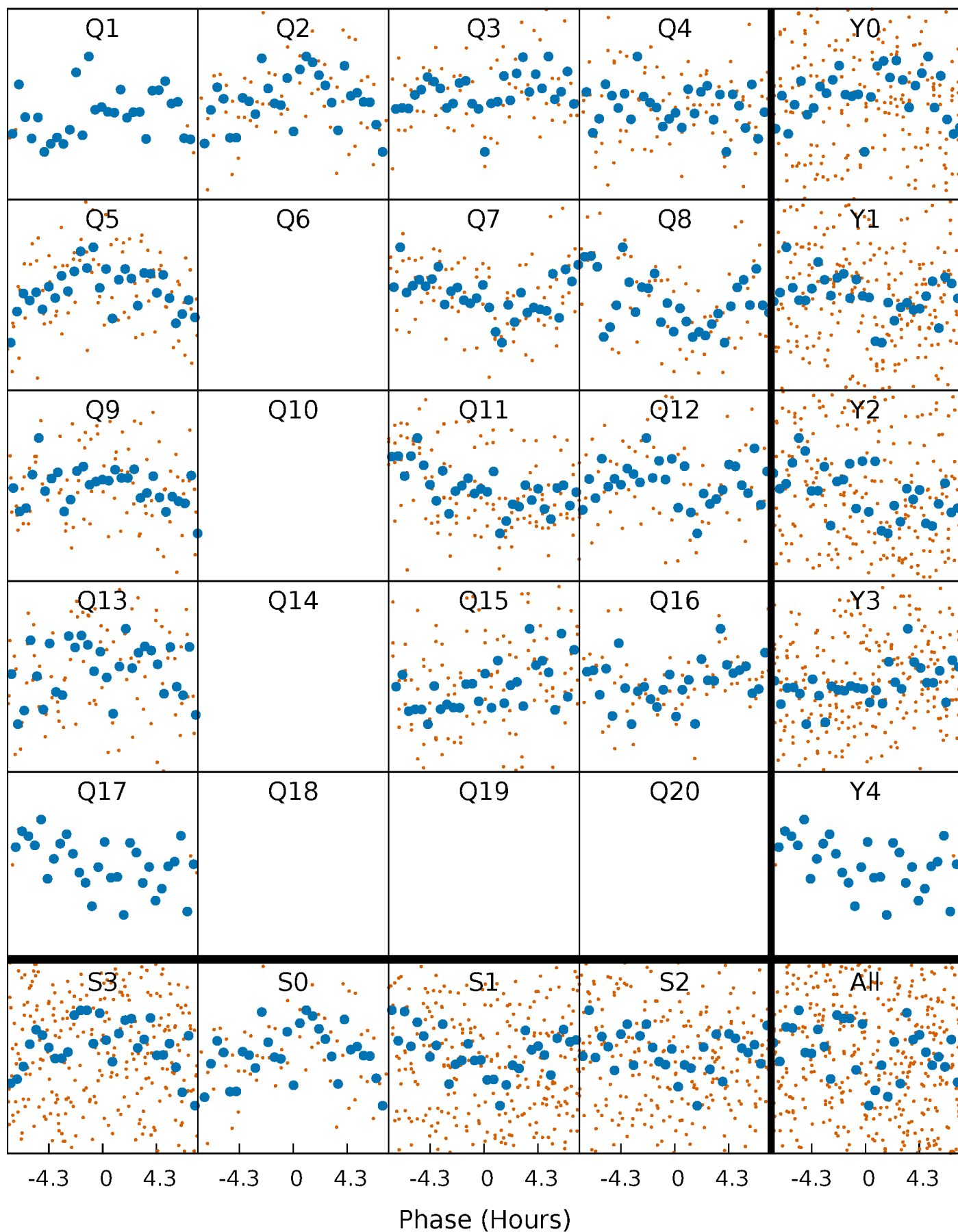


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



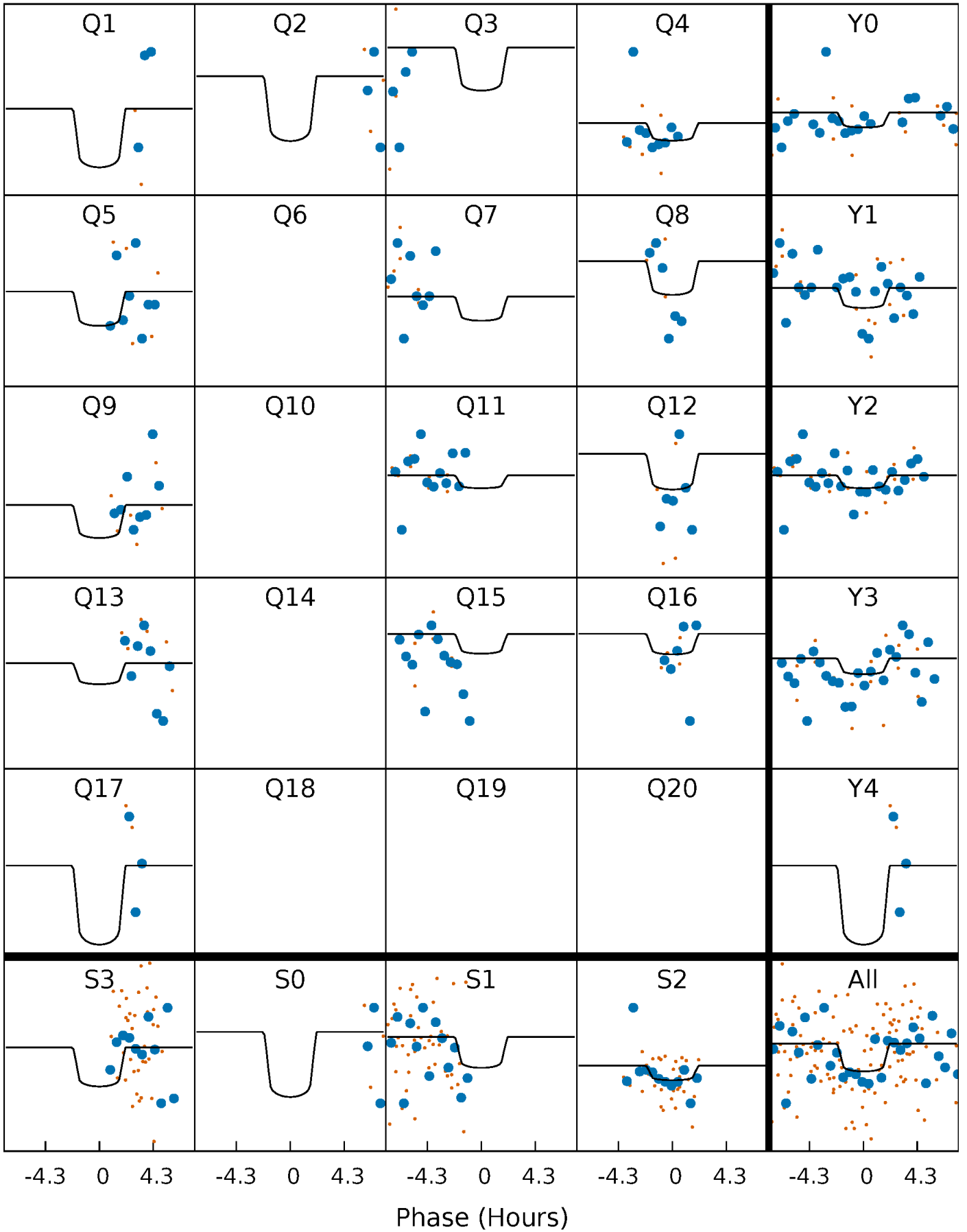
PDC Quarter-Phased Transit Curves

TCE 004663658-02 P= 30.996595 Days $T_0=136.828737$ (BKJD)



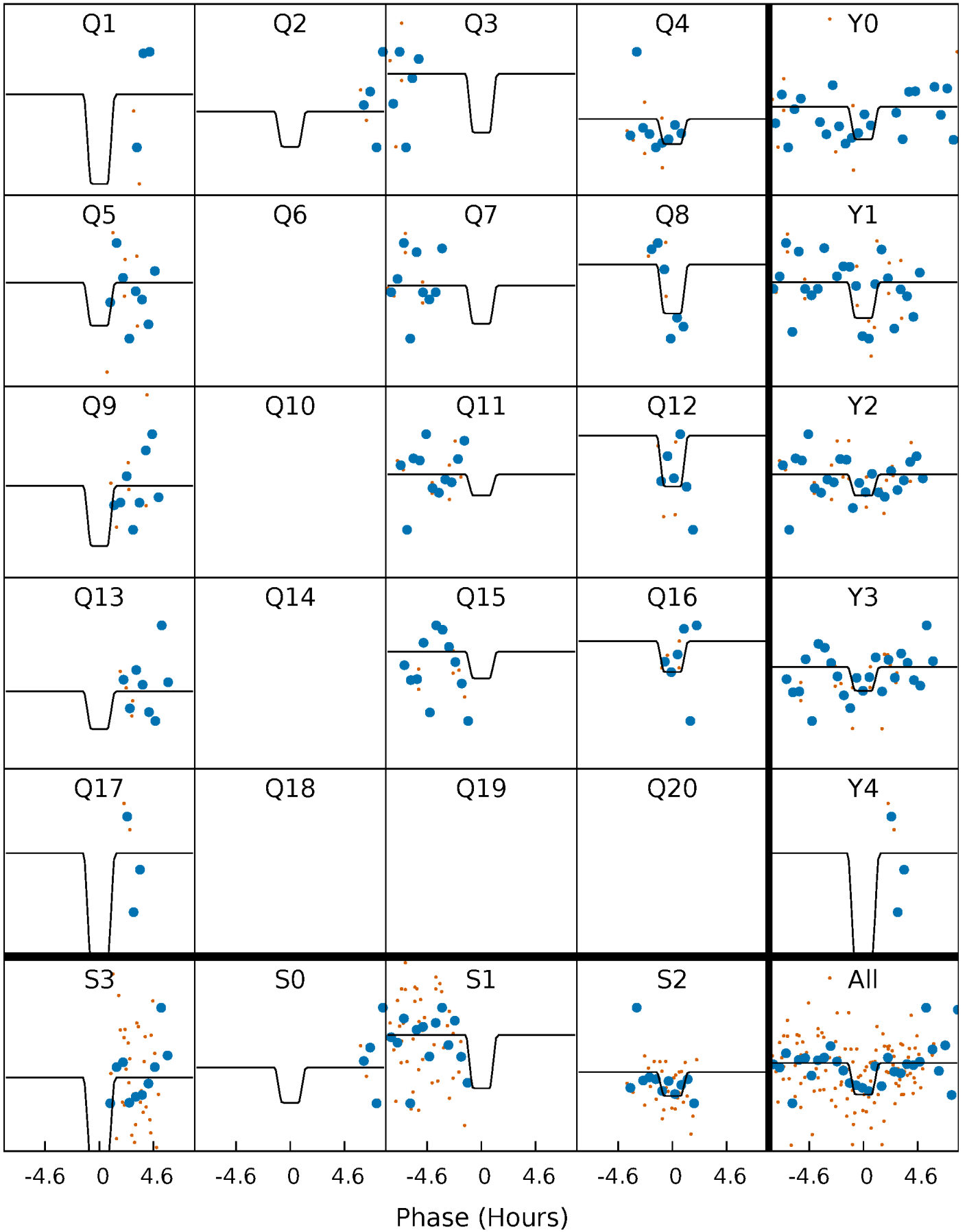
DV Quarter-Phased Transit Curves

TCE 004663658-02 P= 30.996595 Days $T_0=136.828737$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

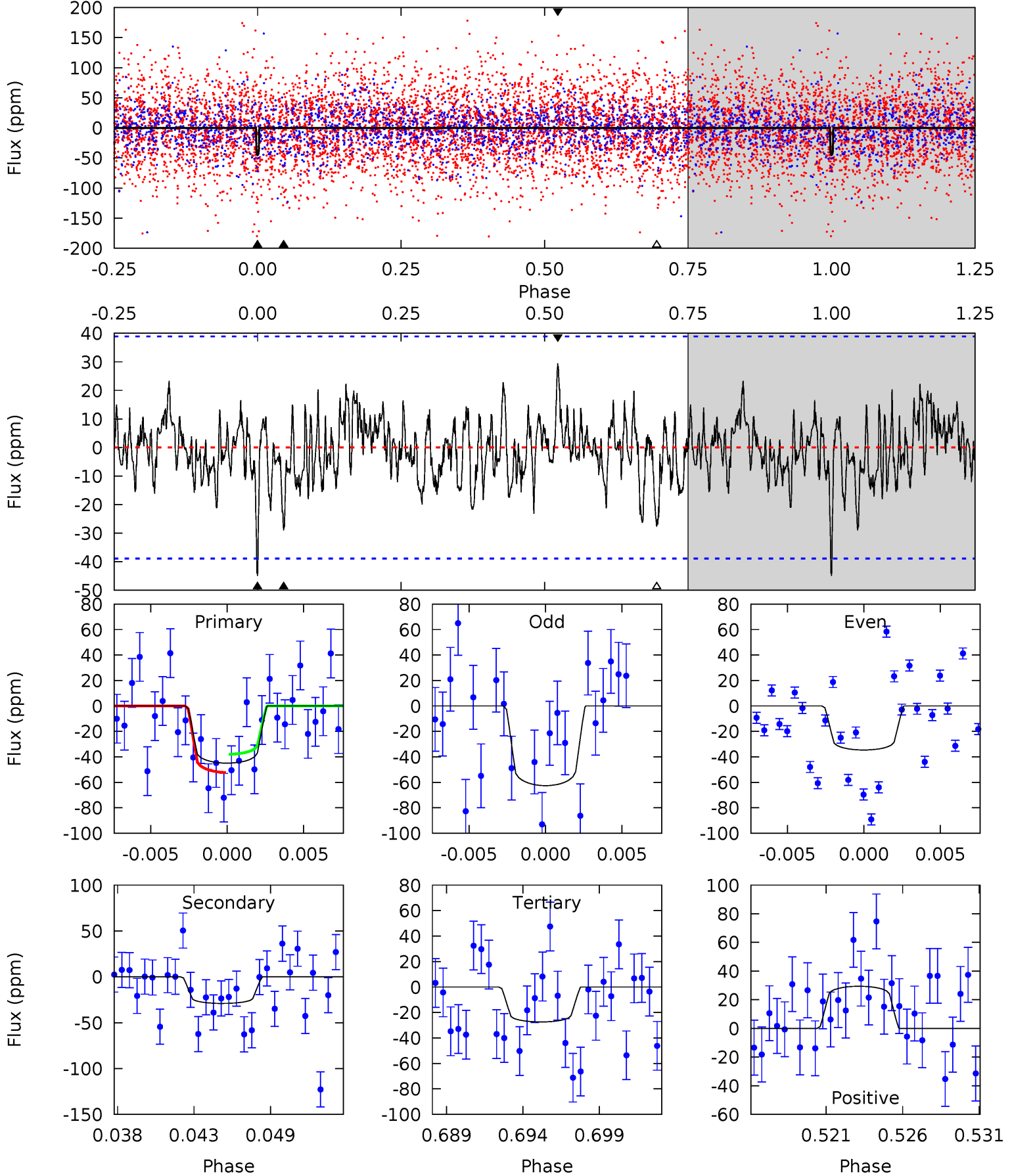
TCE 004663658-02 $P = 30.996670$ Days $T_0 = 136.826380$ (BKJD)



DV Model-Shift Uniqueness Test

004663658-02, P = 30.996595 Days, E = 105.832142 Days

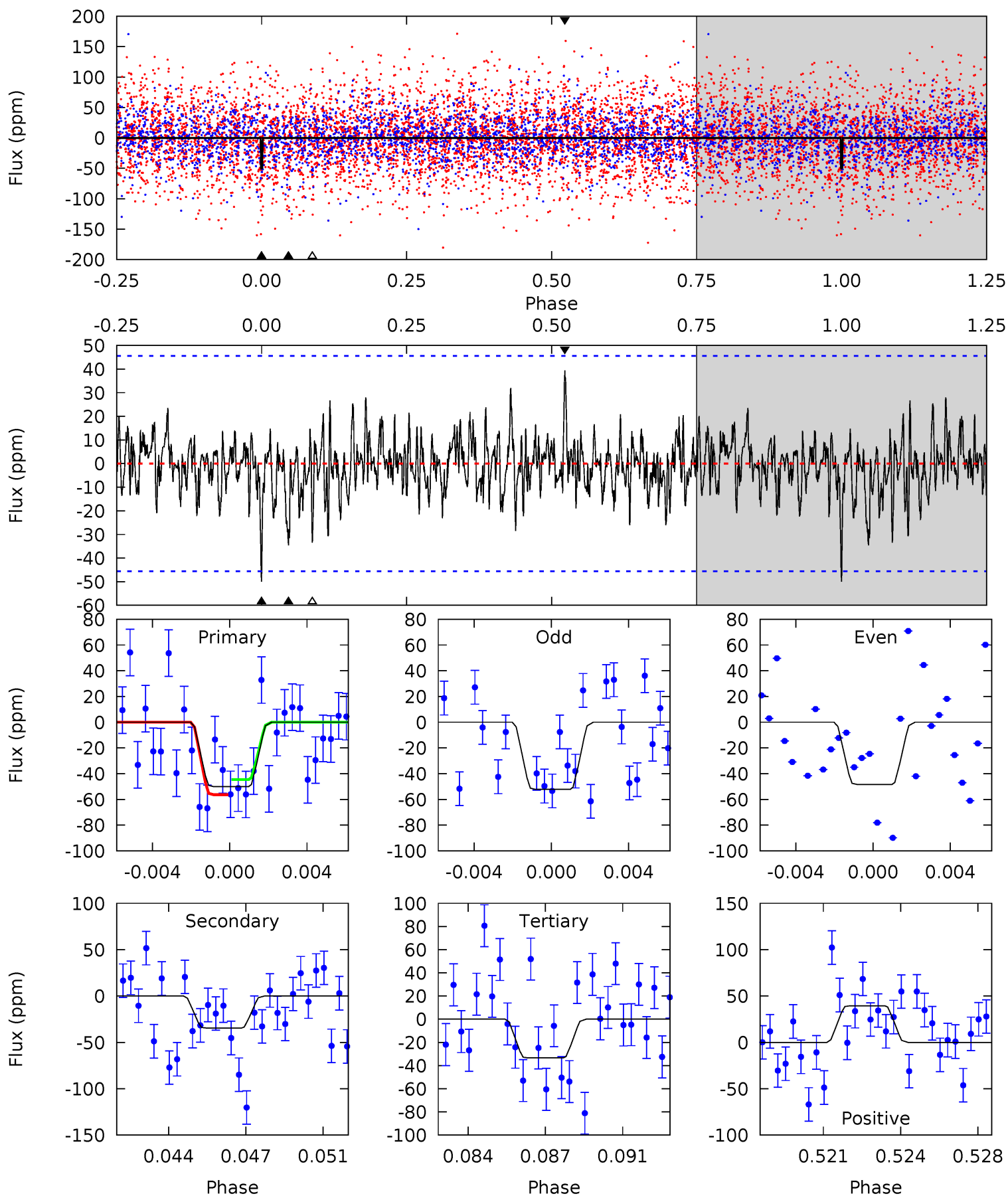
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.94	3.83	3.62	3.89	5.14	2.78	1.21	2.31	2.05	0.21	-0.05	1.85	1.12	0.40	0.94



Alt Model-Shift Uniqueness Test

004663658-02, P = 30.996670 Days, E = 105.829710 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.72	3.95	3.82	4.50	5.22	2.91	1.15	1.90	1.22	0.13	-0.55	0.22	0.76	0.44	0.67



Stellar Parameters For KIC 004663658

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10346^{+286}_{-464}	$4.077^{+0.242}_{-0.198}$	$0.070^{+0.050}_{-0.600}$	$2.449^{+0.838}_{-0.838}$	$2.609^{+0.354}_{-0.658}$	$0.250^{+0.377}_{-0.130}$
	+3%/-4%	+6%/-5%	+71%/-857%	+34%/-34%	+14%/-25%	+151%/-52%
Source	KIC0	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 004663658-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-29 ± 8	$1.96^{+1.32}_{-1.23}$	1918^{+170}_{-170}	8081^{+9591}_{-1990}	290^{+1646}_{-196}
Alt.	-35 ± 9	$2.22^{+1.53}_{-1.27}$	1911^{+170}_{-173}	7893^{+6643}_{-1976}	261^{+1165}_{-175}

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 $A_{obs} \gg 1.0$

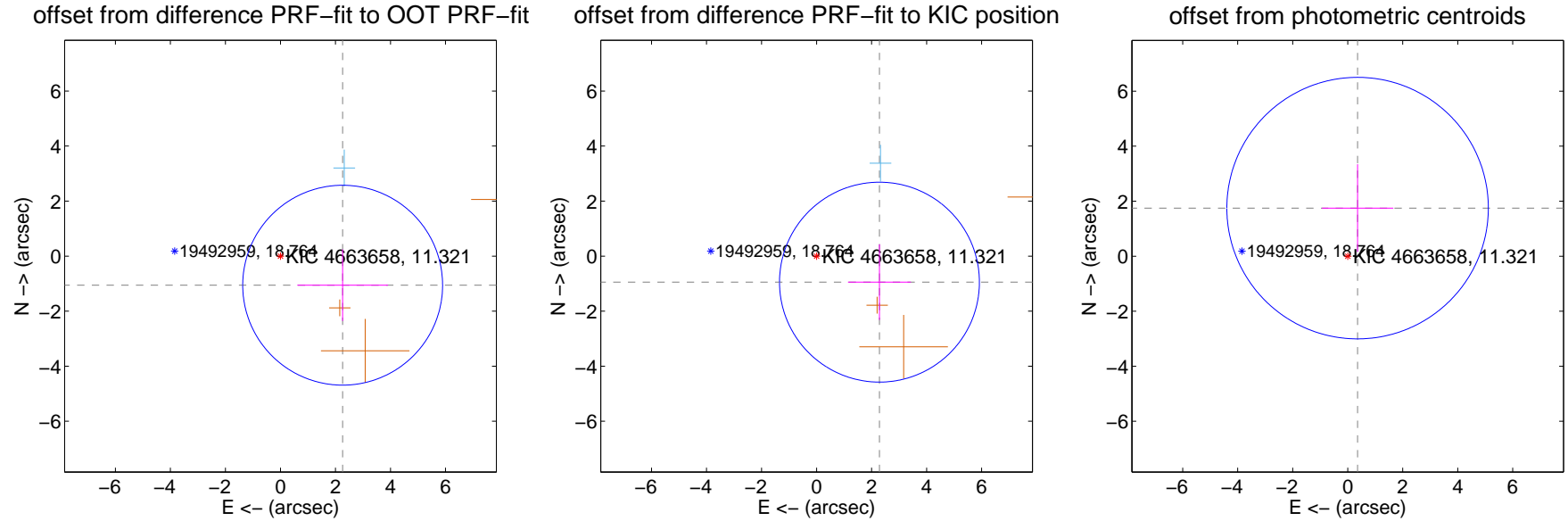
DV Centroid Data

Supplemental centroid analysis for 004663658-02. **Kepler magnitude: 11.32.** Transit SNR 7.36

There are 1 quarters with good PRF difference image offsets

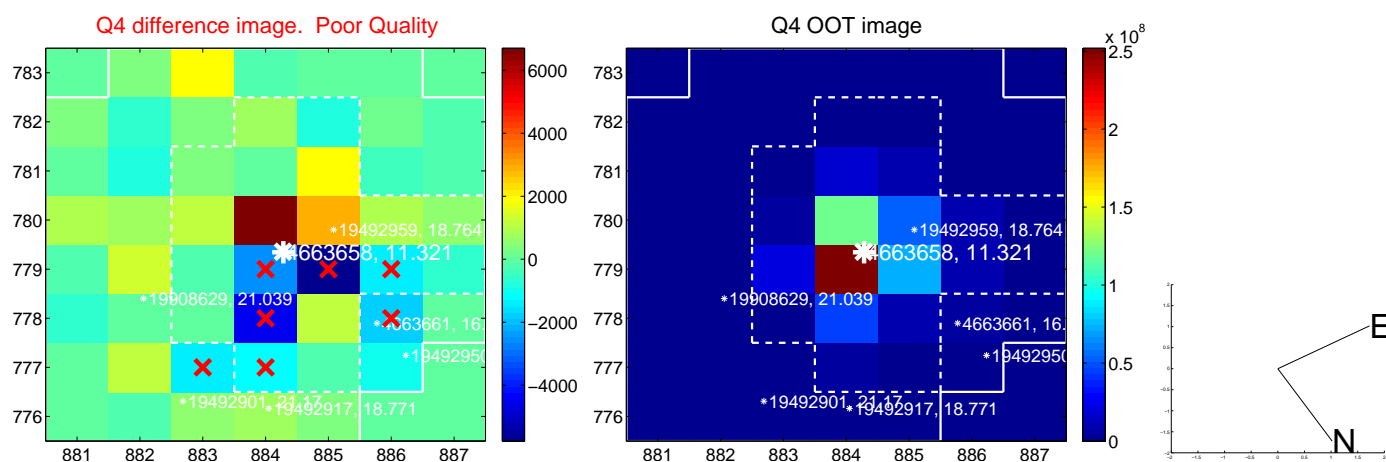
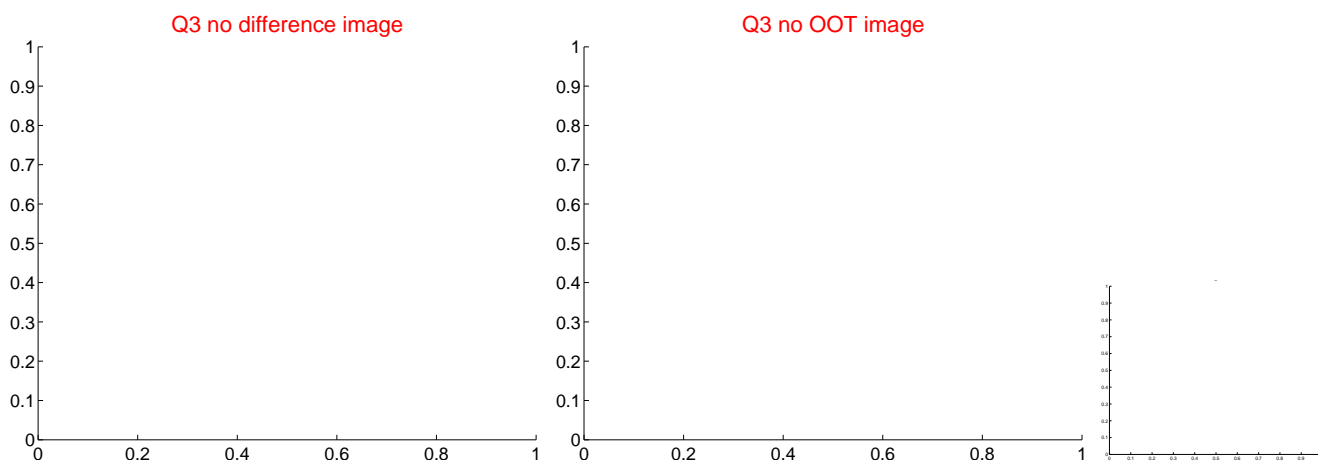
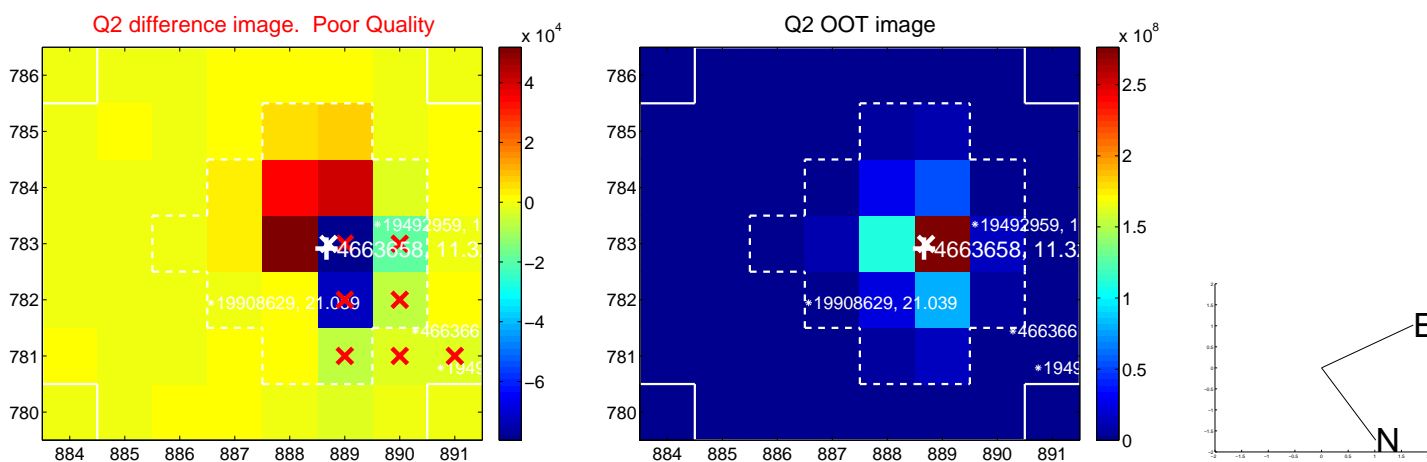
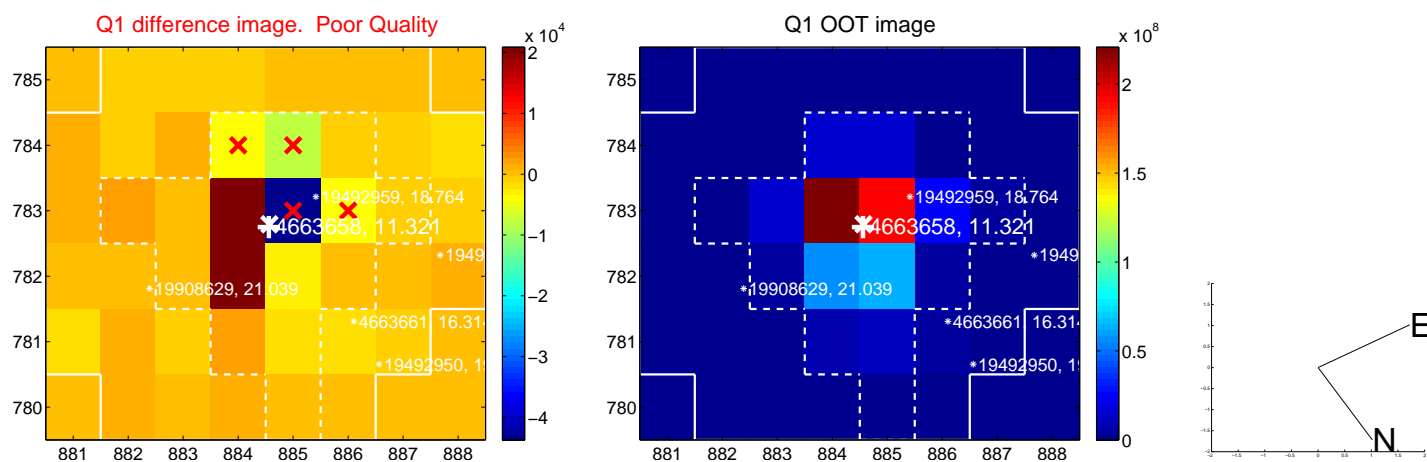
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.496 ± 1.211	2.06	-2.261 ± 1.646	-1.057 ± 1.301
PRF-fit source offset from KIC position	2.474 ± 1.211	2.04	-2.286 ± 1.144	-0.946 ± 1.375
photometric centroid source offset	1.79 ± 1.58	1.13	-0.36 ± 1.30	1.75 ± 1.60

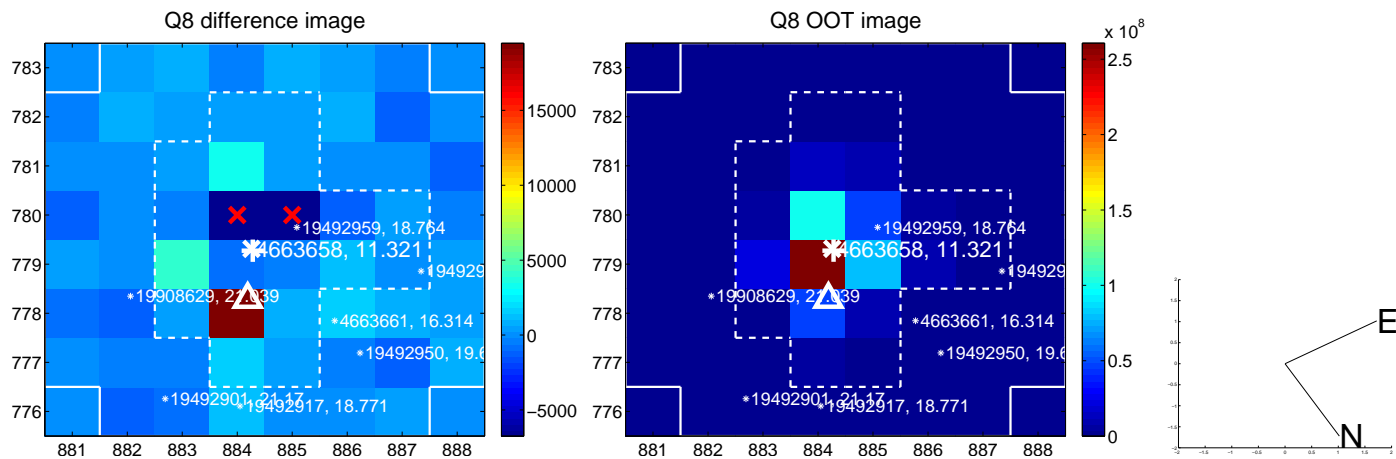
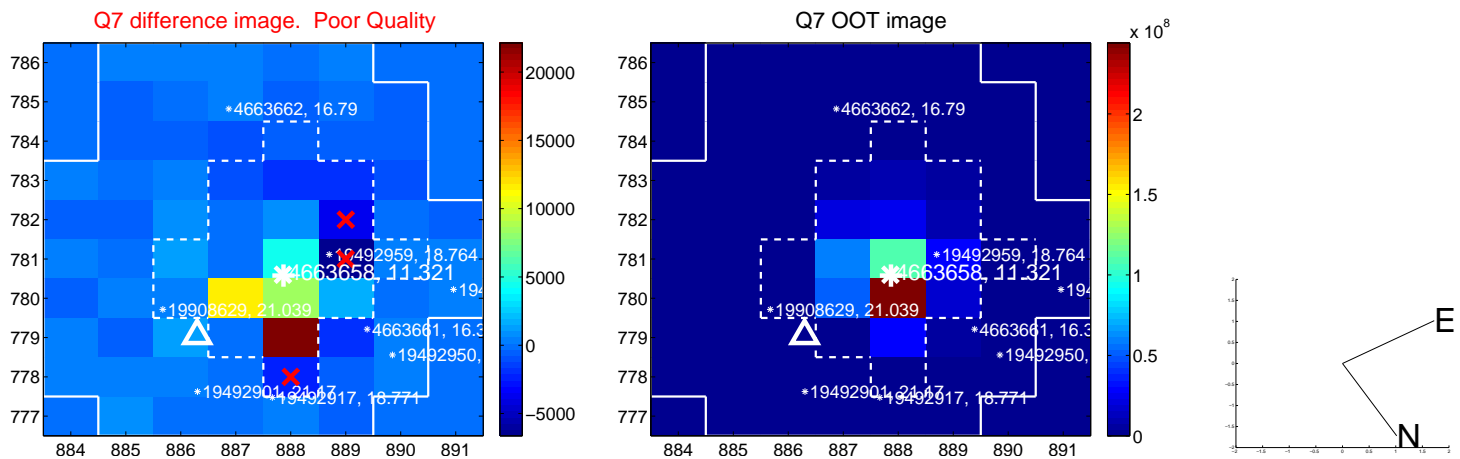
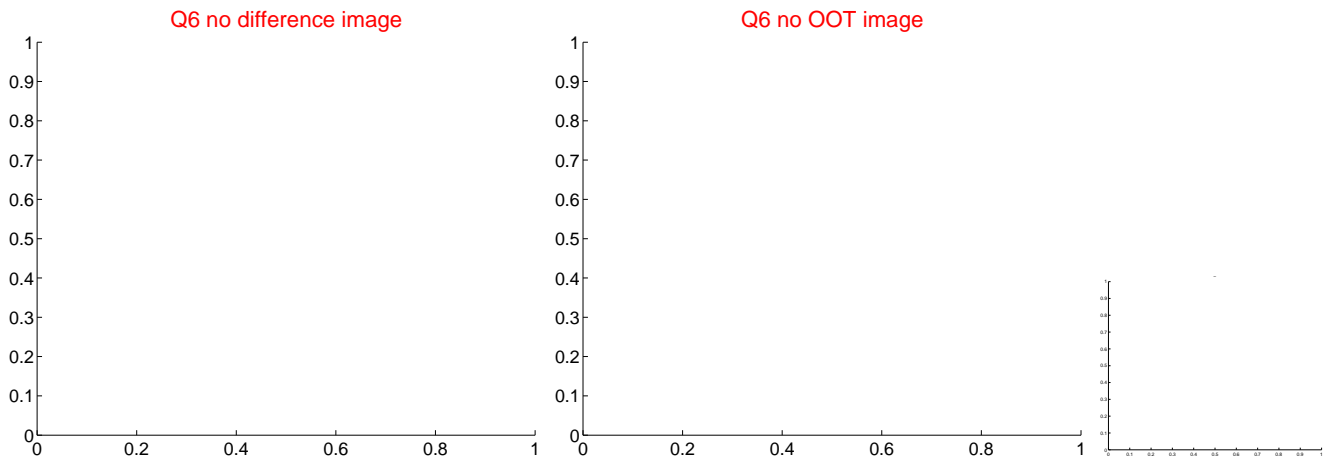
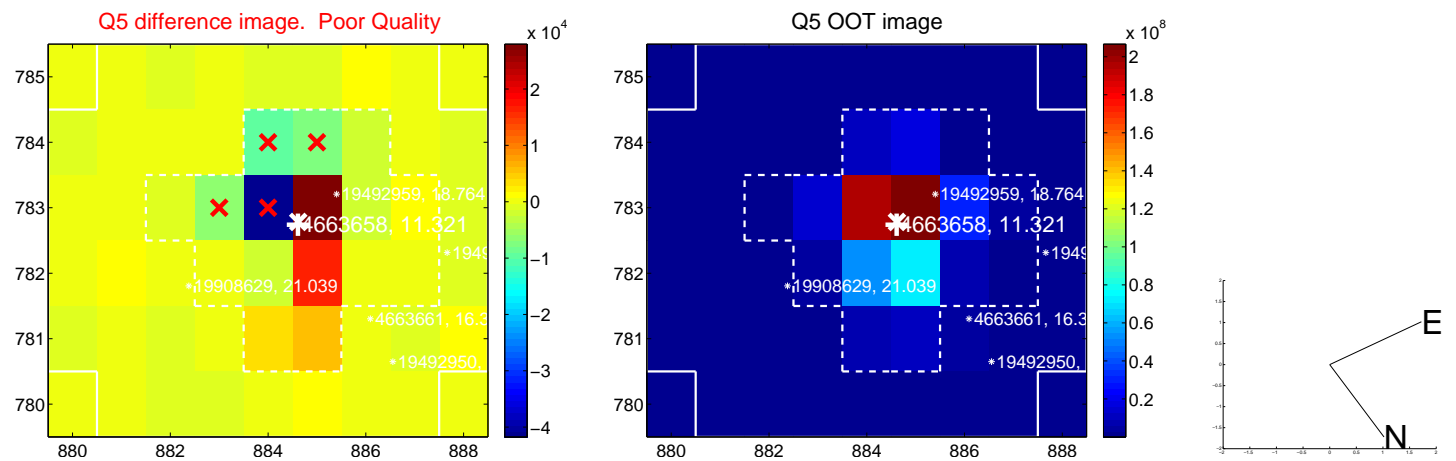


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

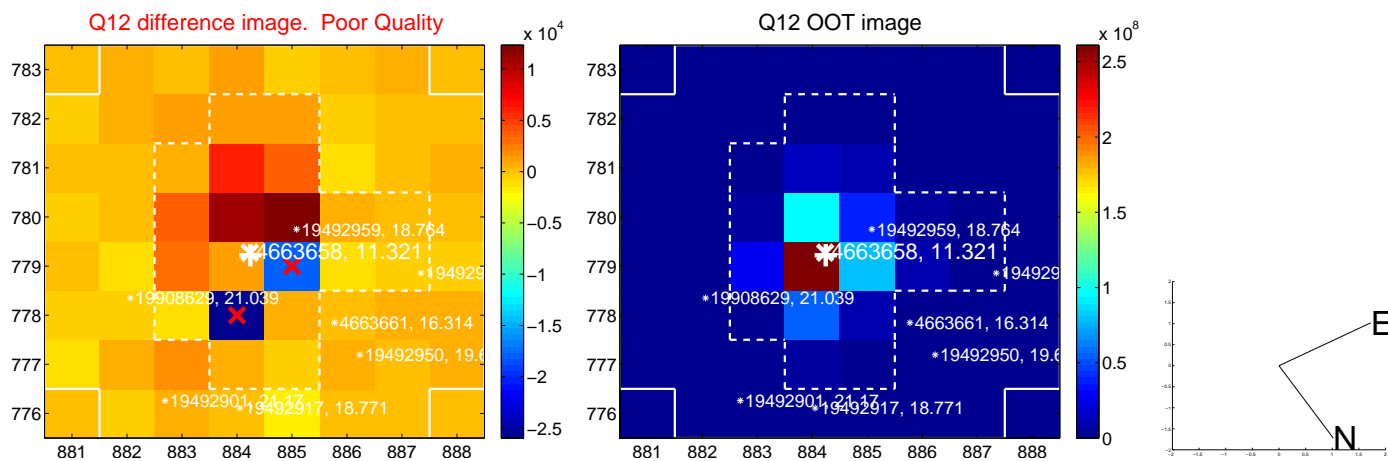
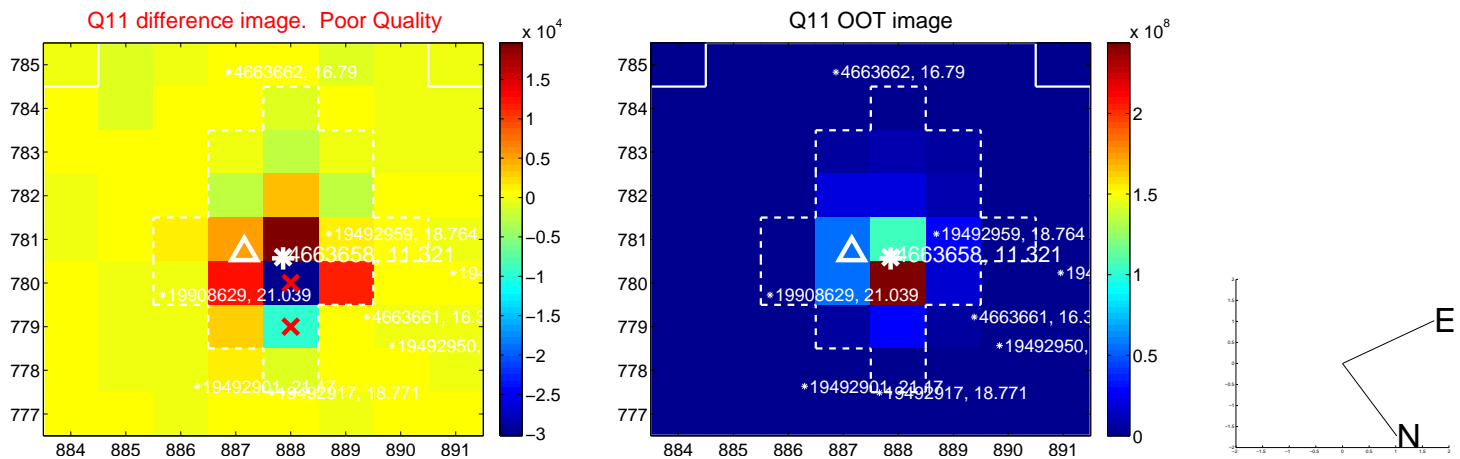
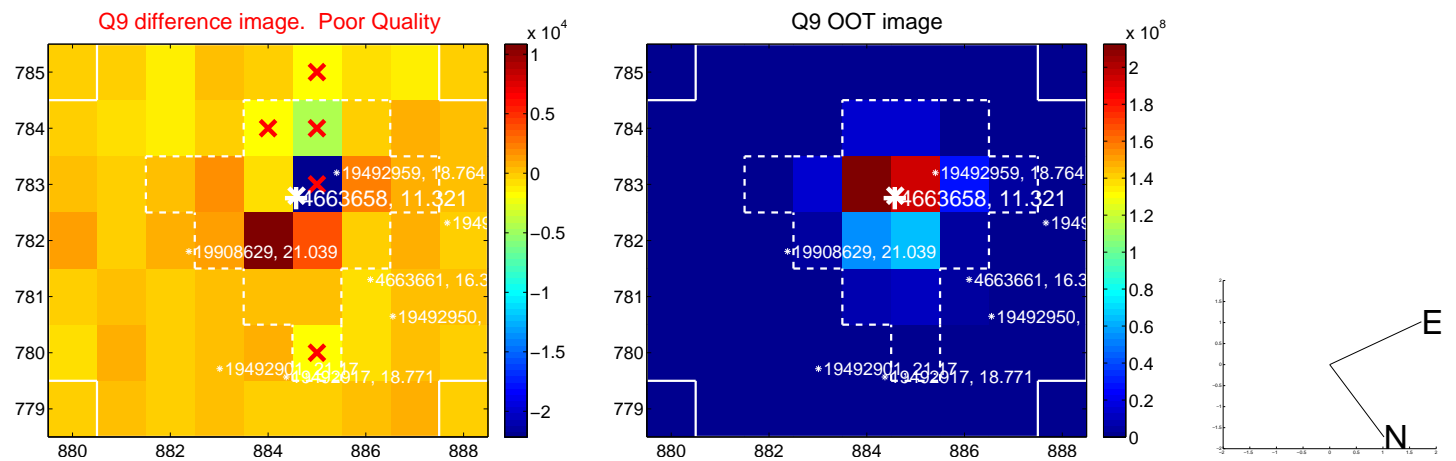
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



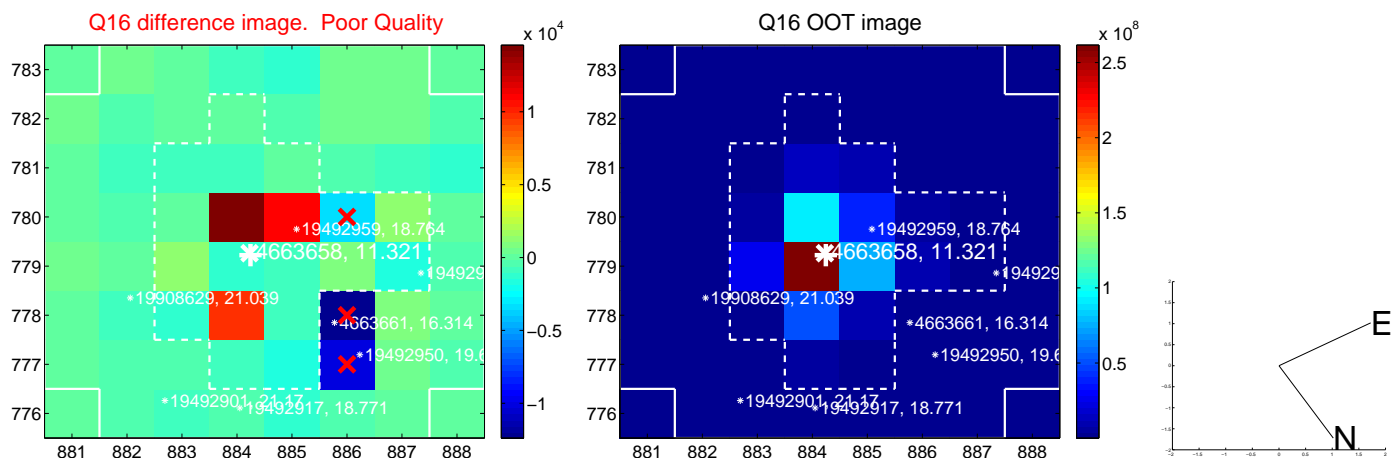
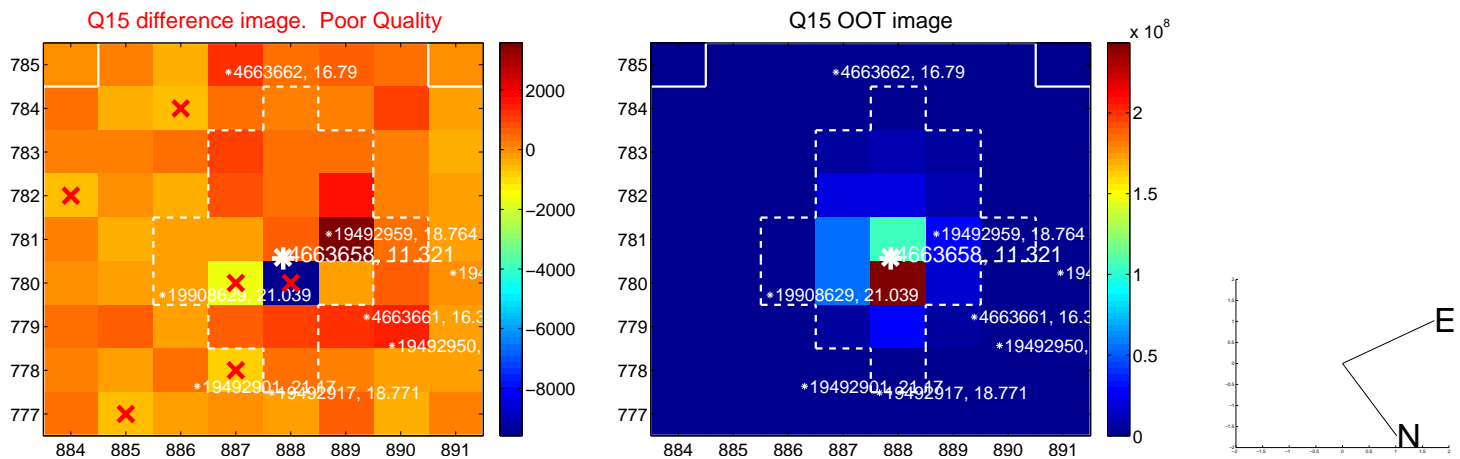
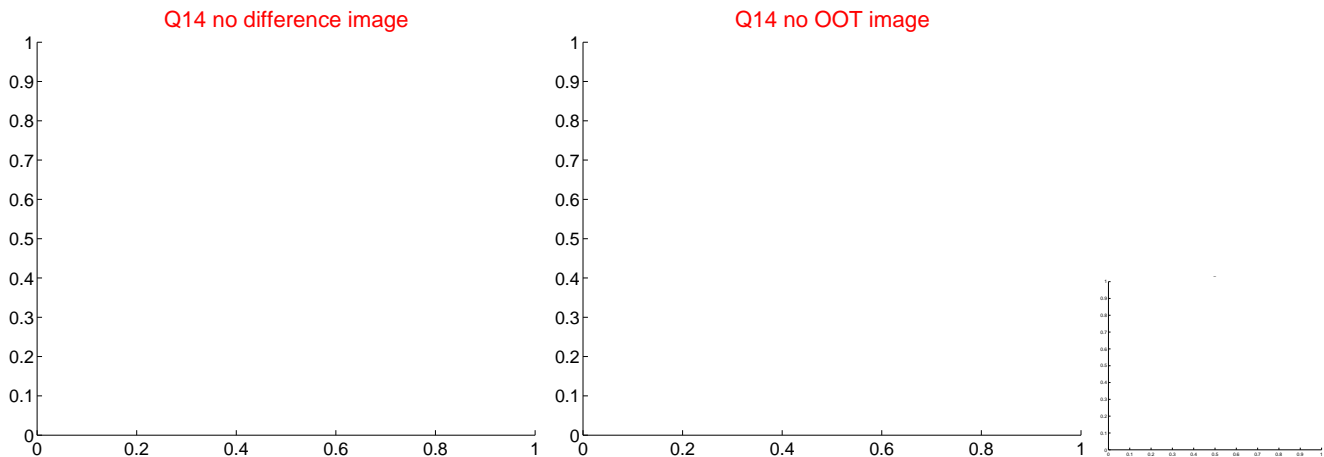
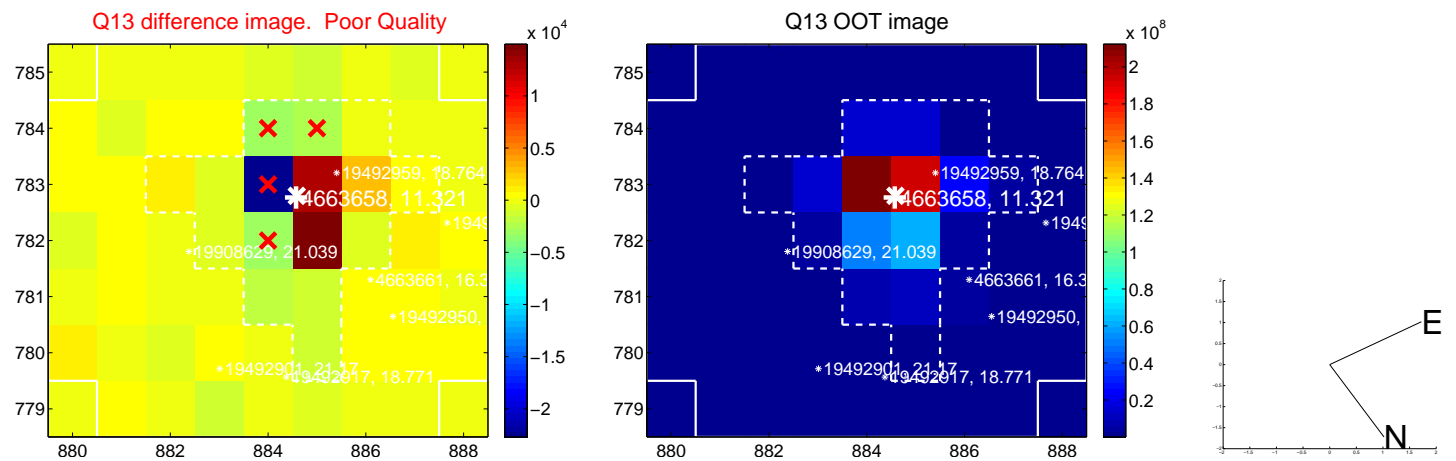
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



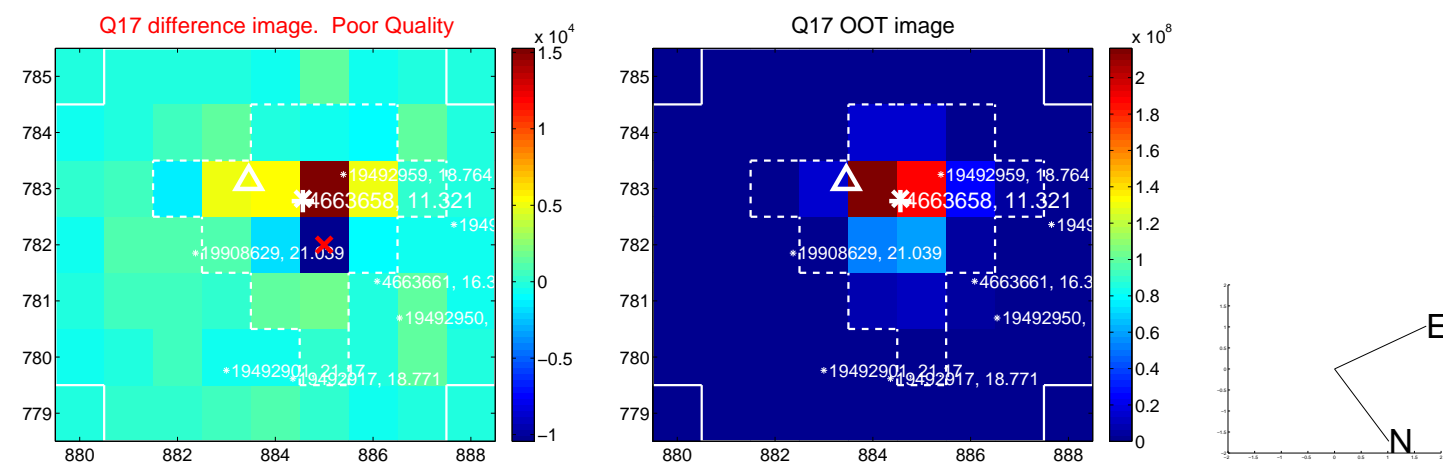
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



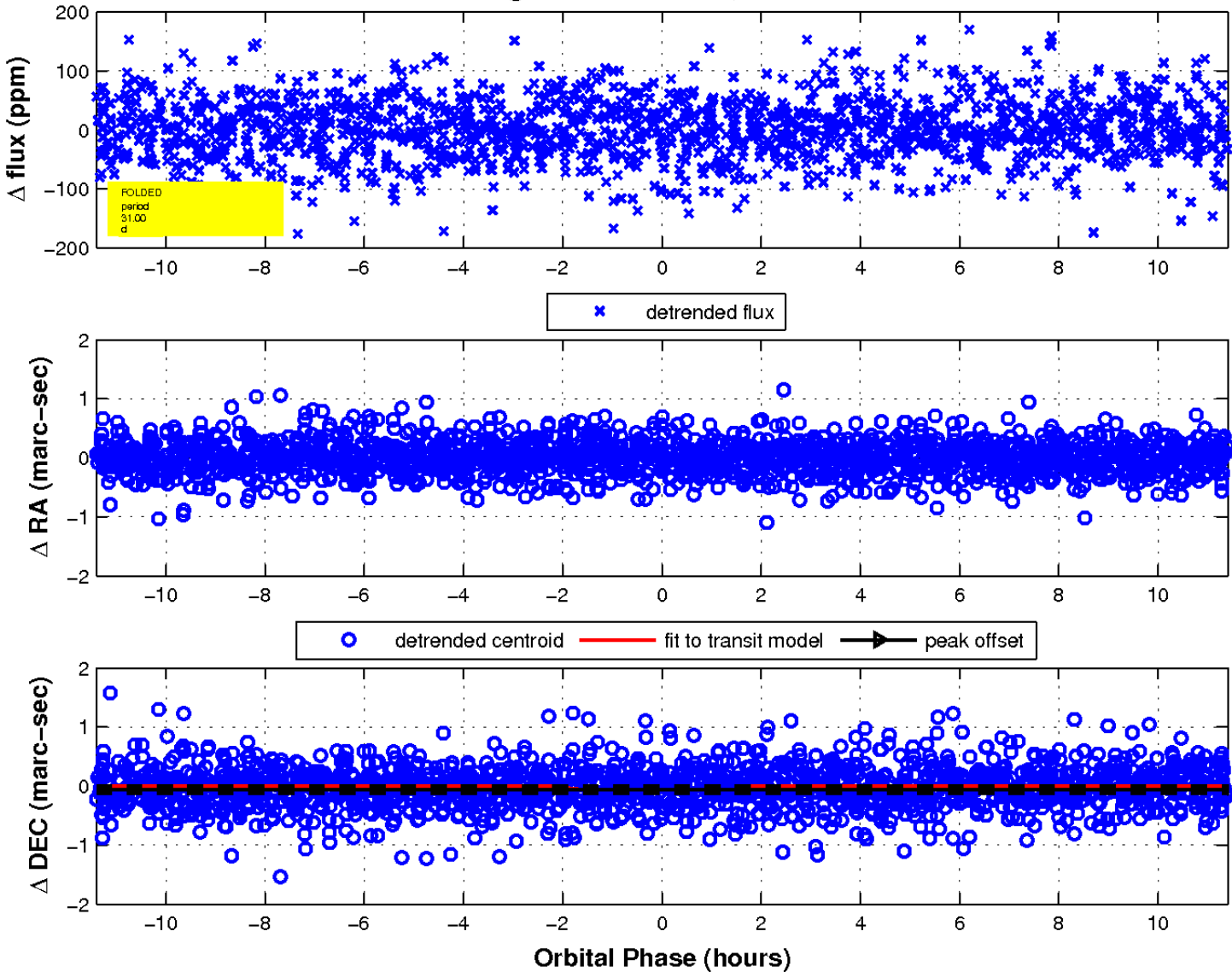
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

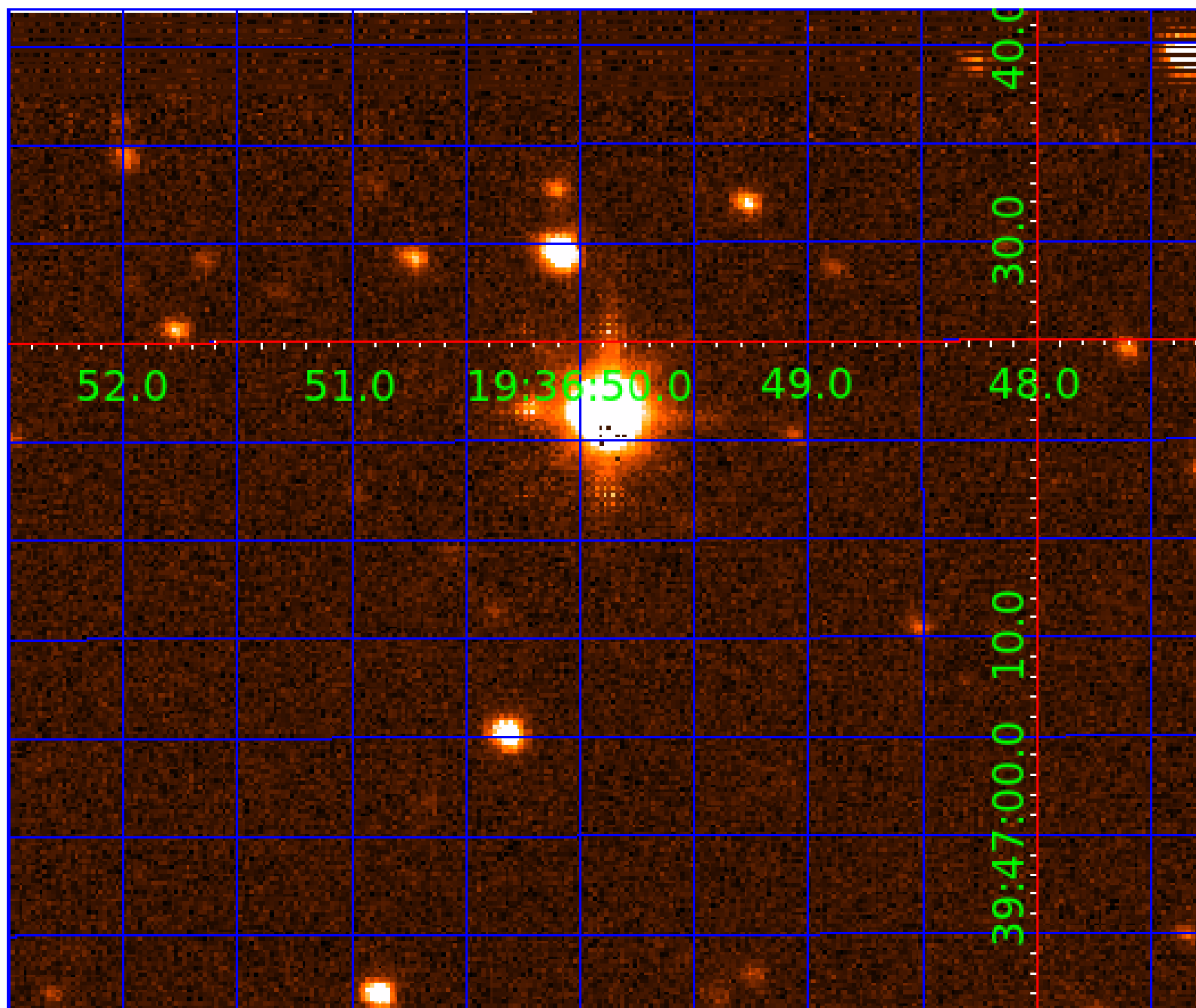


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 004663658

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})
004663658-01	OBS	3187.01	0.705847	131.683041	5.8	4.844	10.0	10.8	2.45	10346	0.61	134801.79
004663658-02	OBS	No	30.996595	136.828737	40.6	3.806	7.9	7.4	2.45	10346	1.79	870.08
004663658-03	OBS	No	32.961355	159.438795	63.7	2.046	8.1	9.2	2.45	10346	2.24	801.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004663658-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
004663658-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
004663658-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST

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

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

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

Ephemeris Match Information For 004663658-03

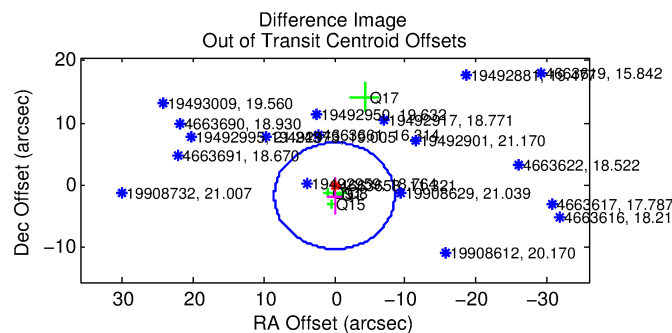
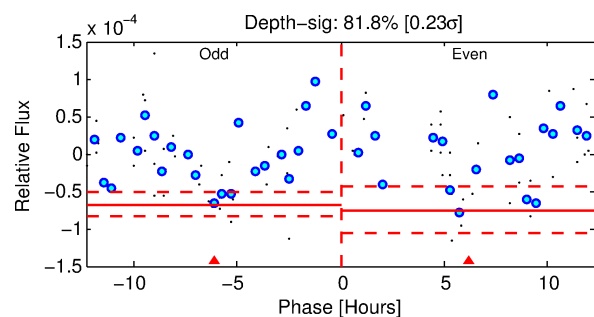
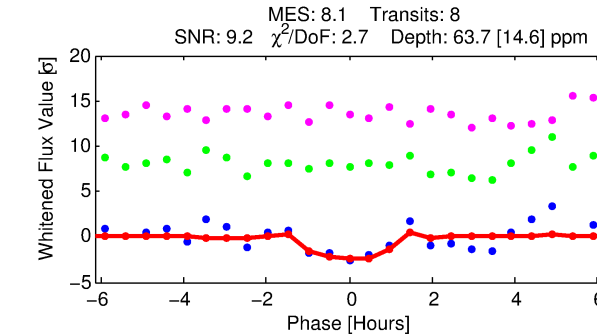
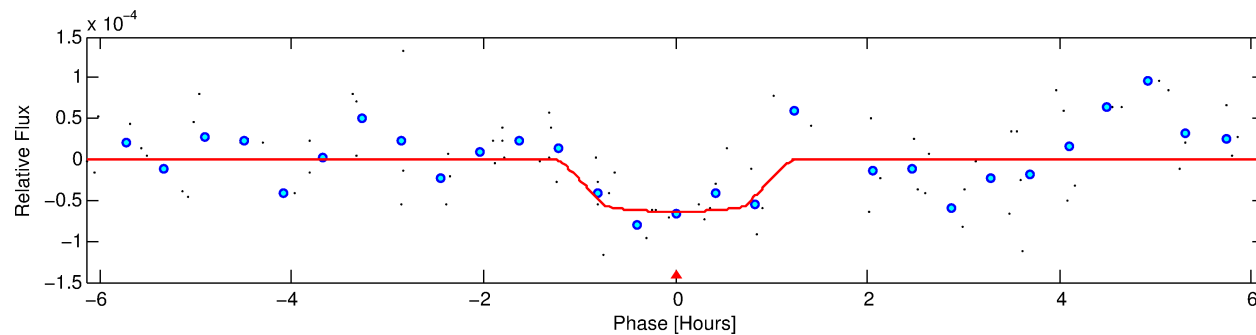
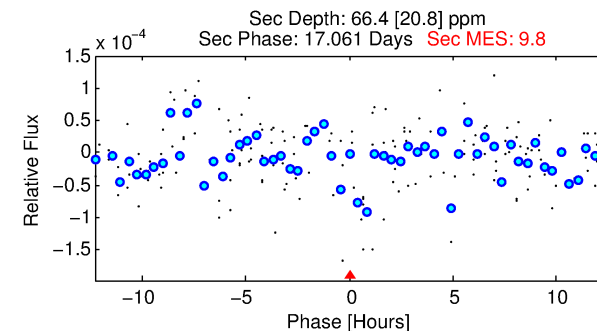
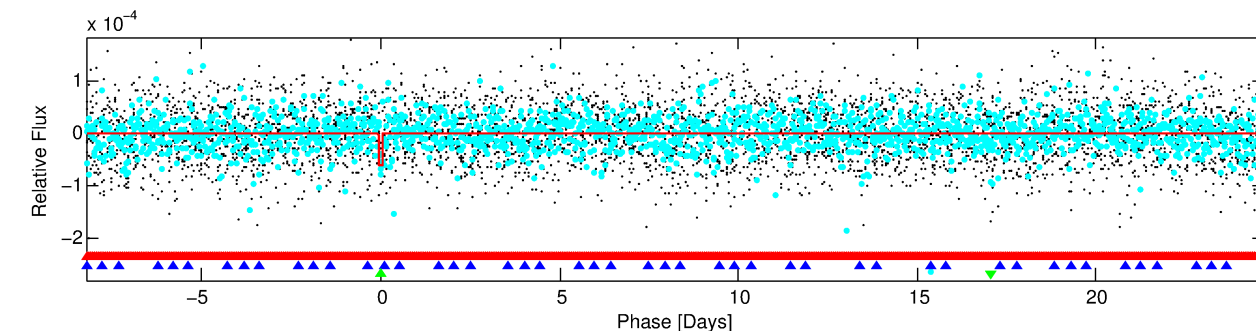
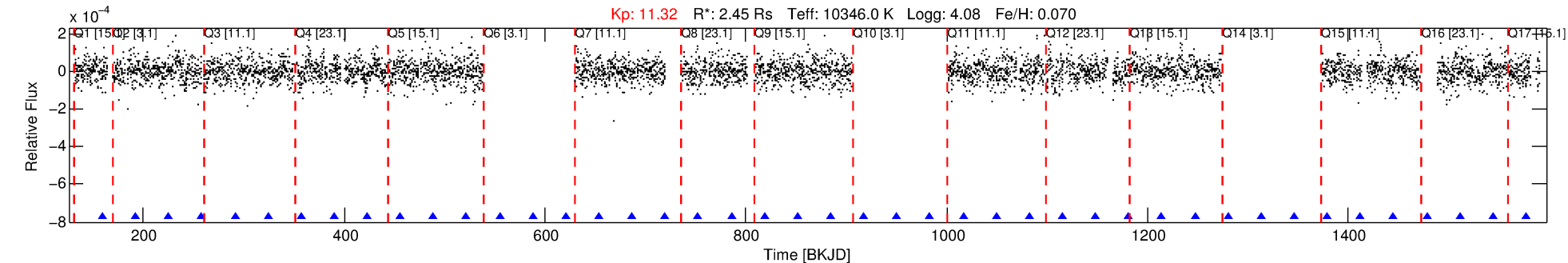
No Significant Match Found

DV One-Page Summary

KIC: 4663658 Candidate: 3 of 3 Period: 32.961 d

KOI: K03187 Corr: No Ephemeris Match

Kp: 11.32 R*: 2.45 Rs Teff: 10346.0 K Logg: 4.08 Fe/H: 0.070



DV Fit Results:

Period = 32.96136 [0.00057] d
Epoch = 159.4388 [0.0119] BKJD
Rp/R* = 0.0084 [0.0074]
a/R* = 56.00 [410.32]
b = 0.90 [1.56]
Seff = 801.62 [377.89]
Teff = 1357 [160] K
Rp = 2.24 [2.13] Re
a = 0.2771 [0.0815] AU
Ag = 558.55 [1033.01] [0.54σ]
Teffp = 10198 [4605] K [1.92σ]

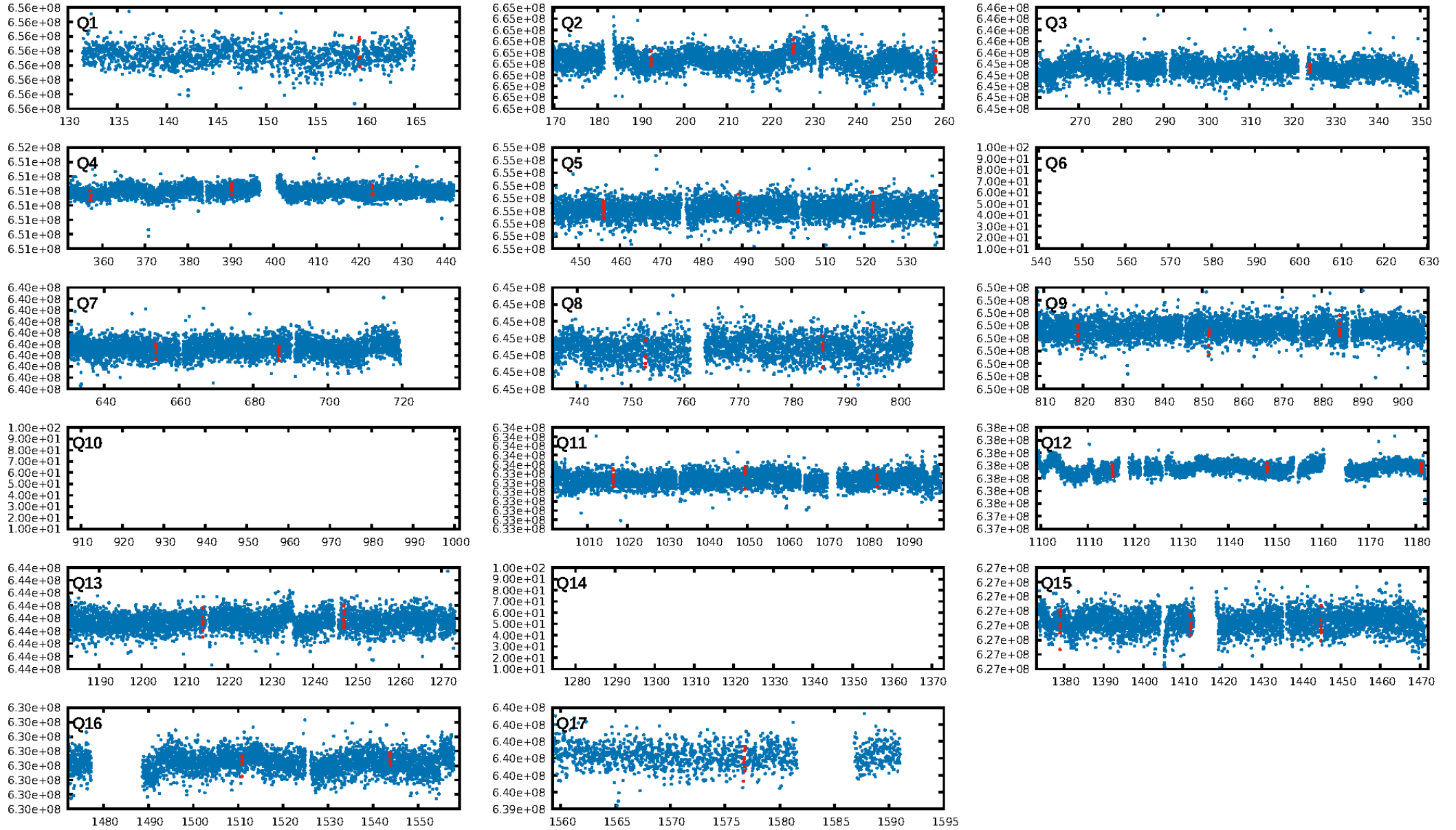
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.91σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.1%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 6.32e-07
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -0.2326
Centroid-sig: N/A
Centroid-so: 1.347 arcsec [1.03σ]
OotOffset-rm: 1.704 arcsec [0.60σ]
KicOffset-rm: 1.559 arcsec [0.53σ]
OotOffset-st: 0/1/1/3 [5]
KicOffset-st: 0/1/1/3 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.00 [0/13]

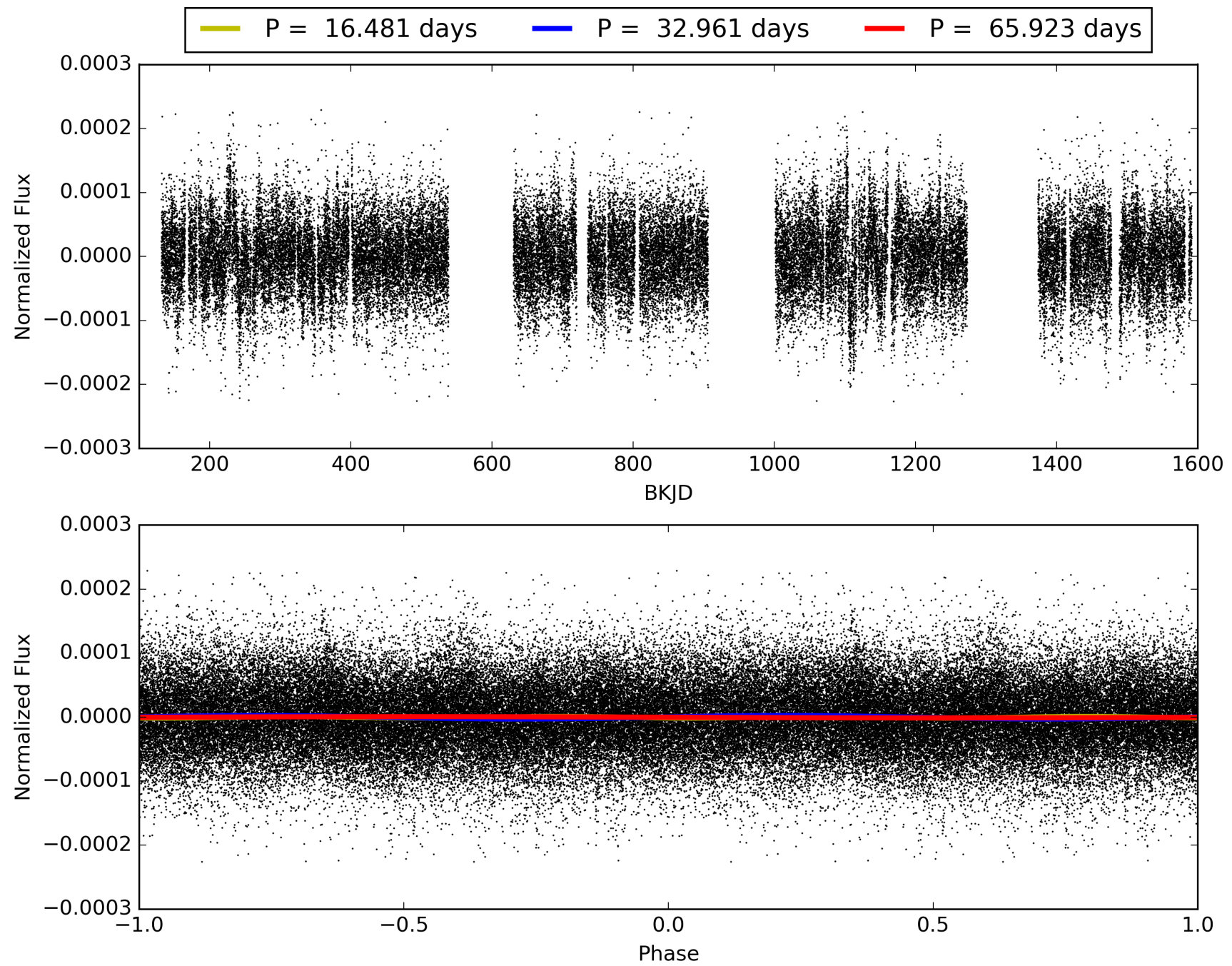
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:11:12 Z

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

TCE 004663658-03, PDC Light Curves

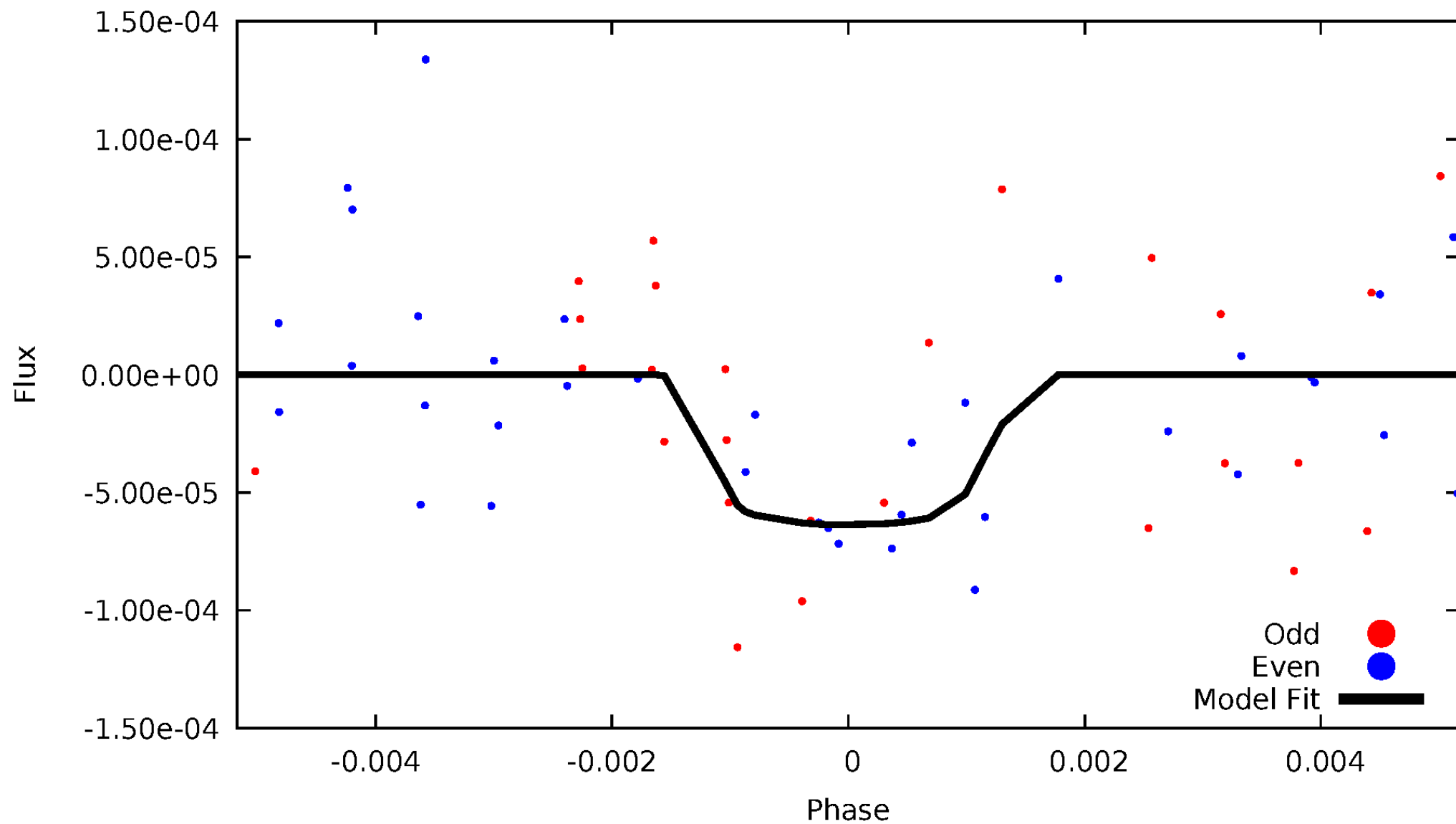


TCE 004663658-03



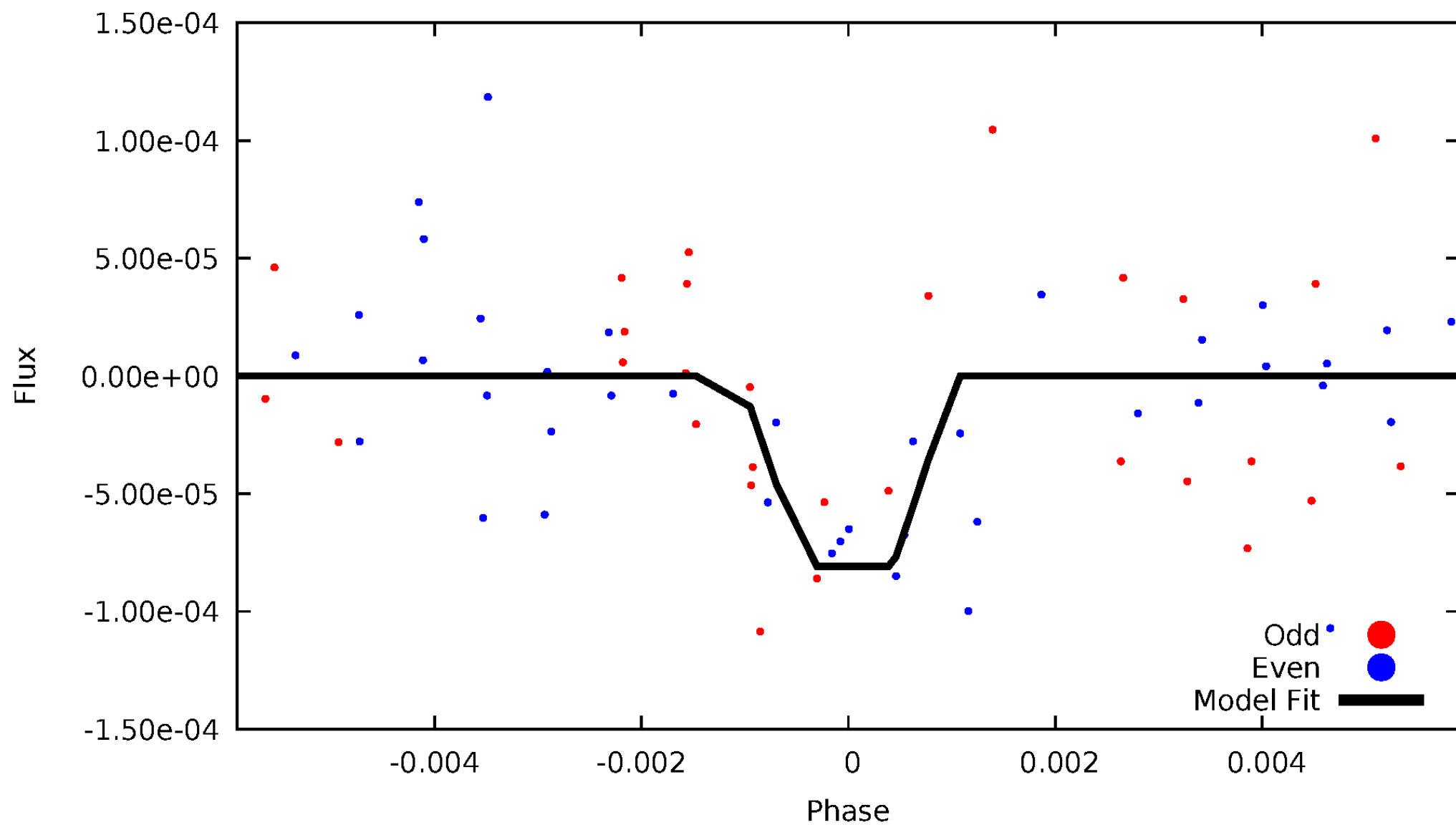
DV Odd/Even

TCE 004663658-03



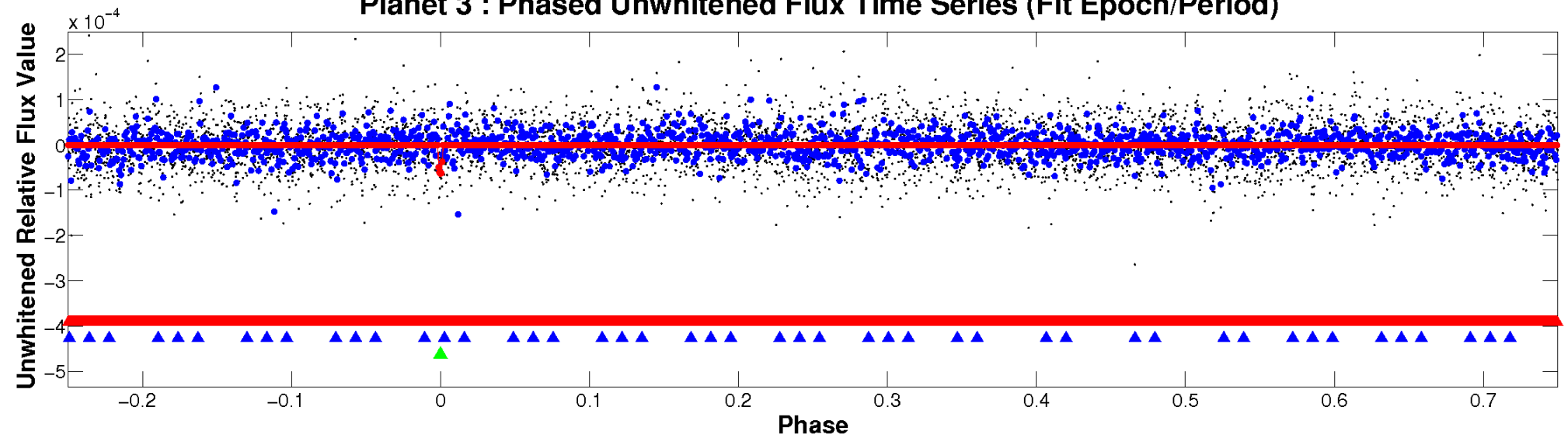
ALT Odd/Even

TCE 004663658-03

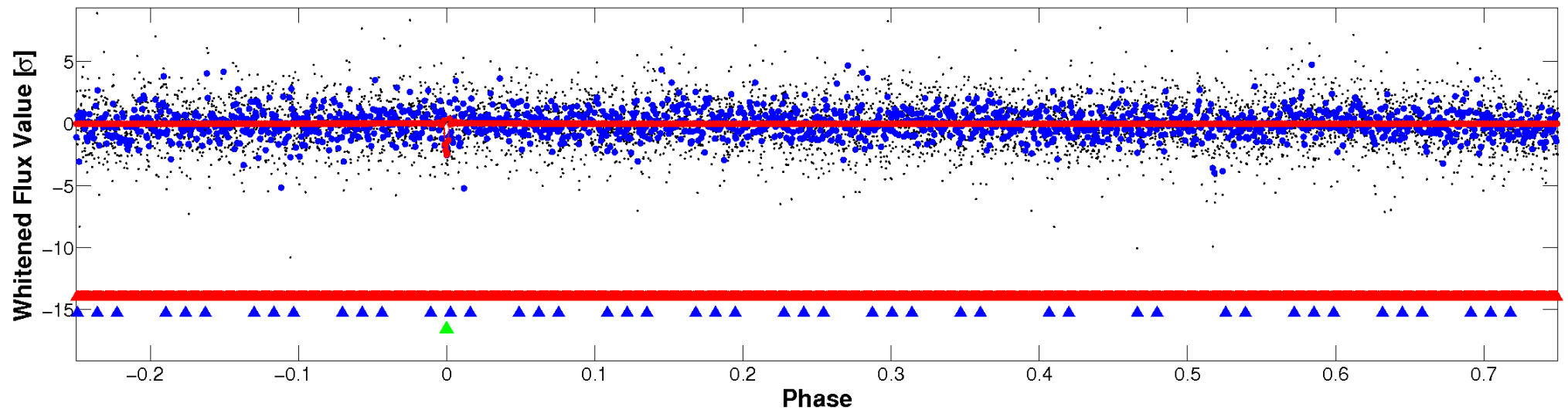


Non-Whitened Vs. Whitened Light Curve

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

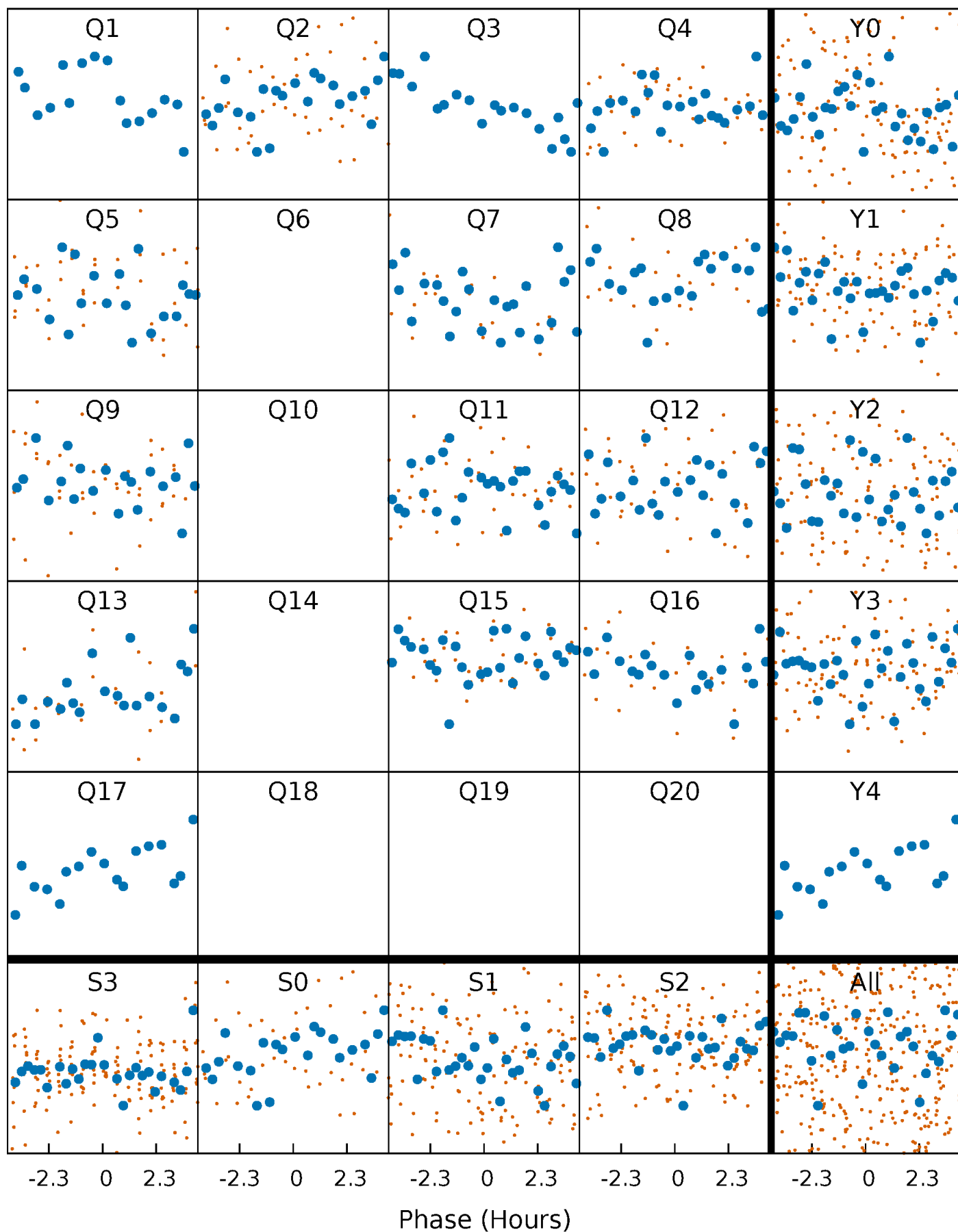


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



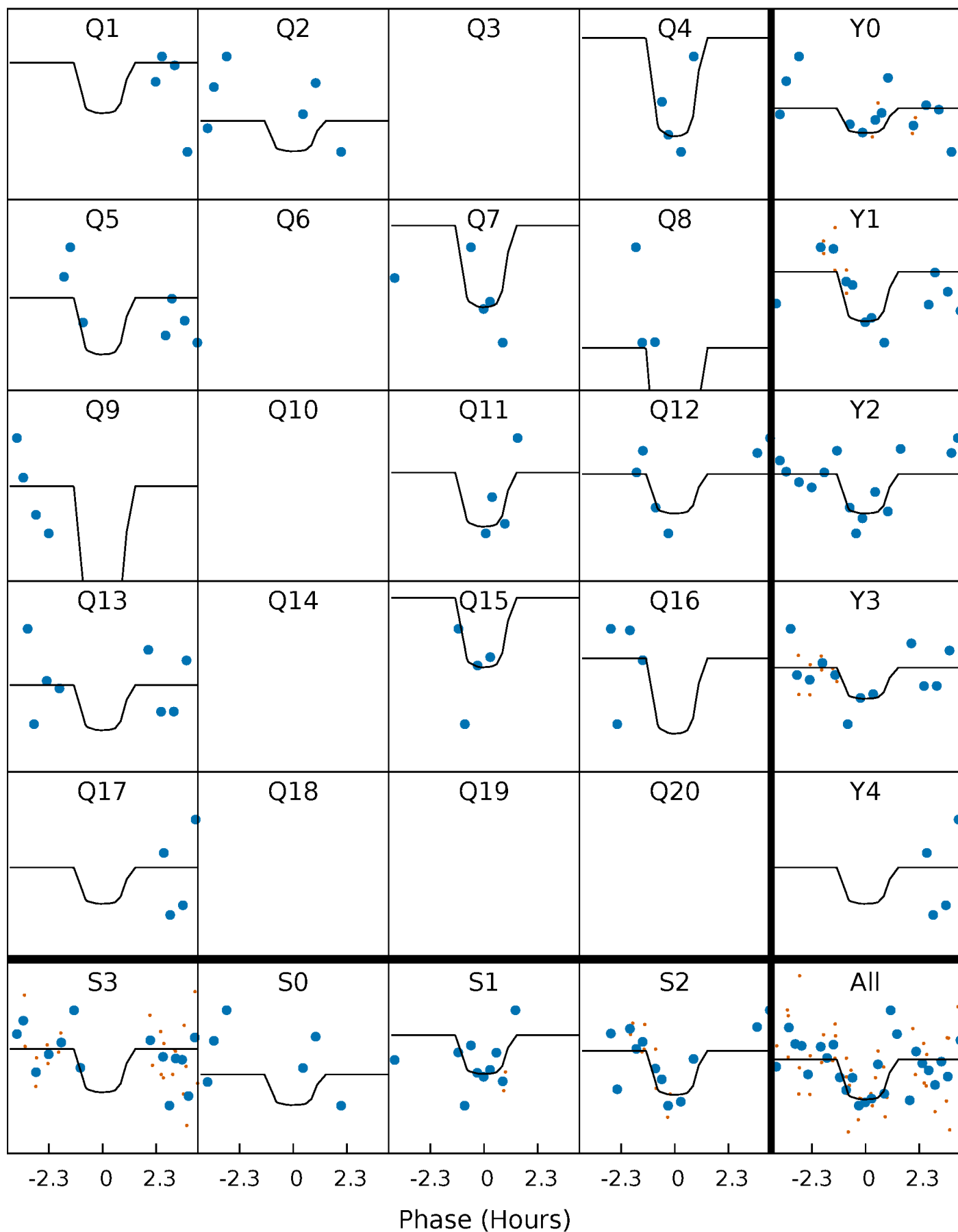
PDC Quarter-Phased Transit Curves

TCE 004663658-03 P= 32.961355 Days $T_0=159.438795$ (BKJD)



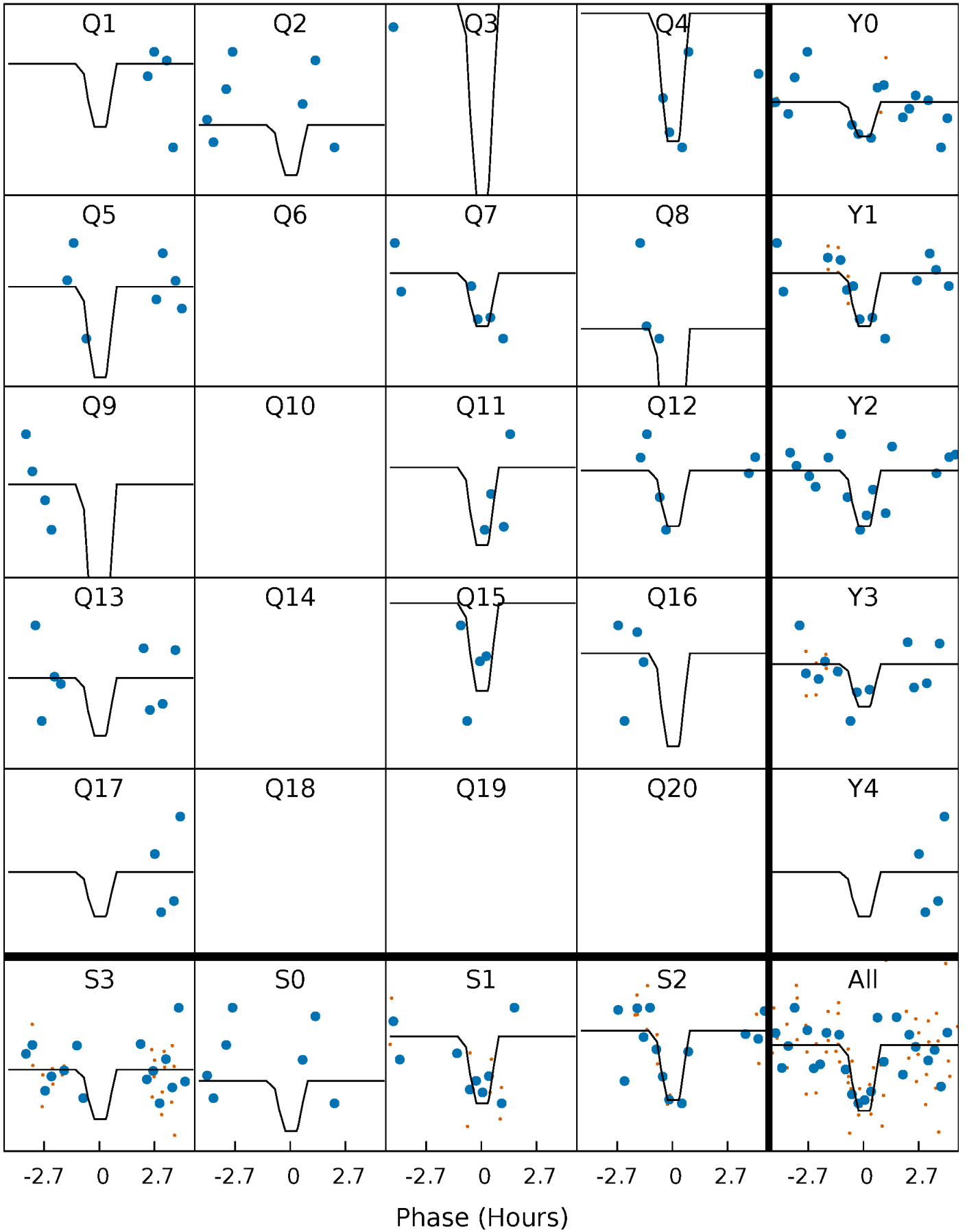
DV Quarter-Phased Transit Curves

TCE 004663658-03 P= 32.961355 Days $T_0=159.438795$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

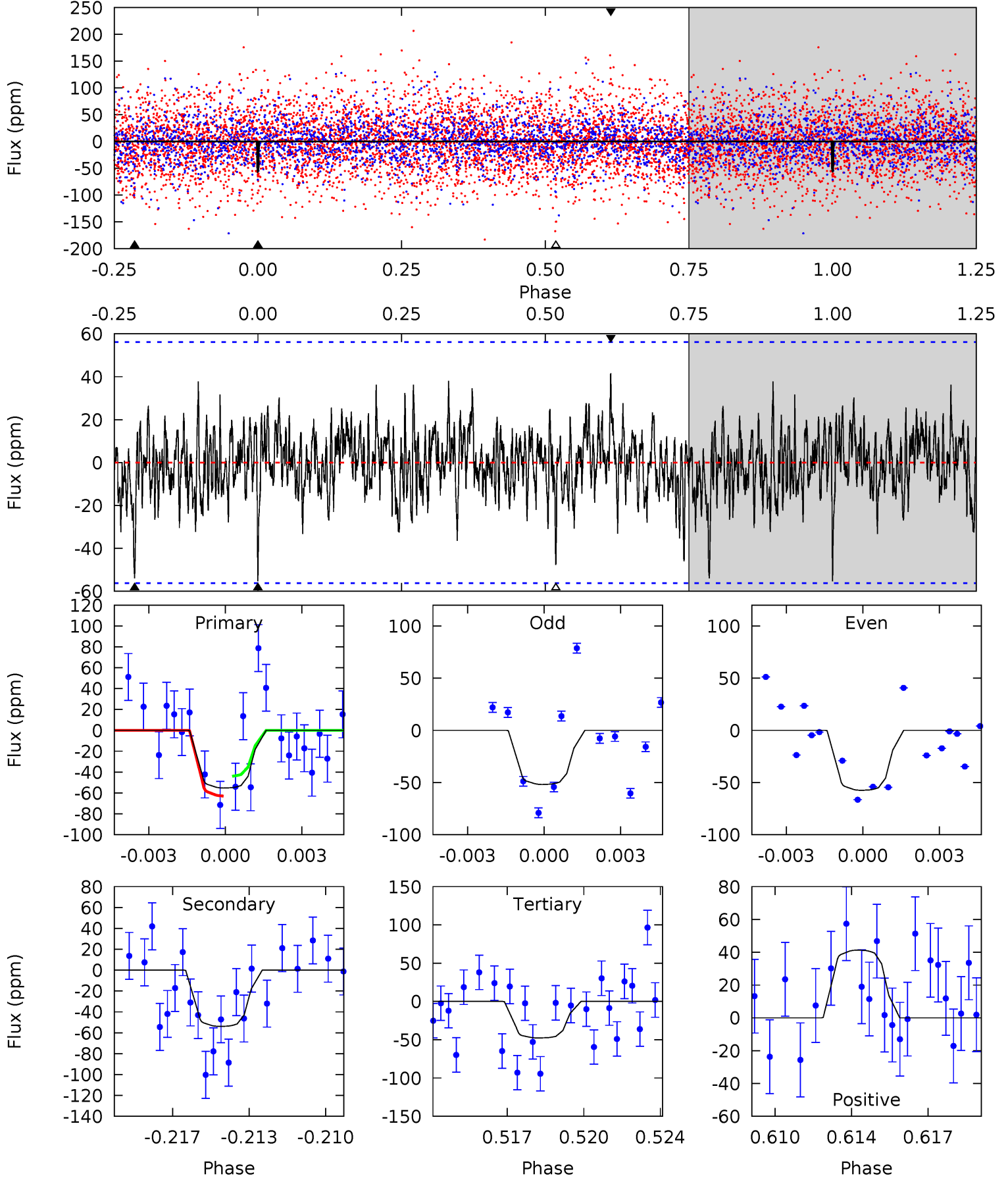
TCE 004663658-03 P= 32.961361 Days $T_0=159.435721$ (BKJD)



DV Model-Shift Uniqueness Test

004663658-03, P = 32.961355 Days, E = 126.477440 Days

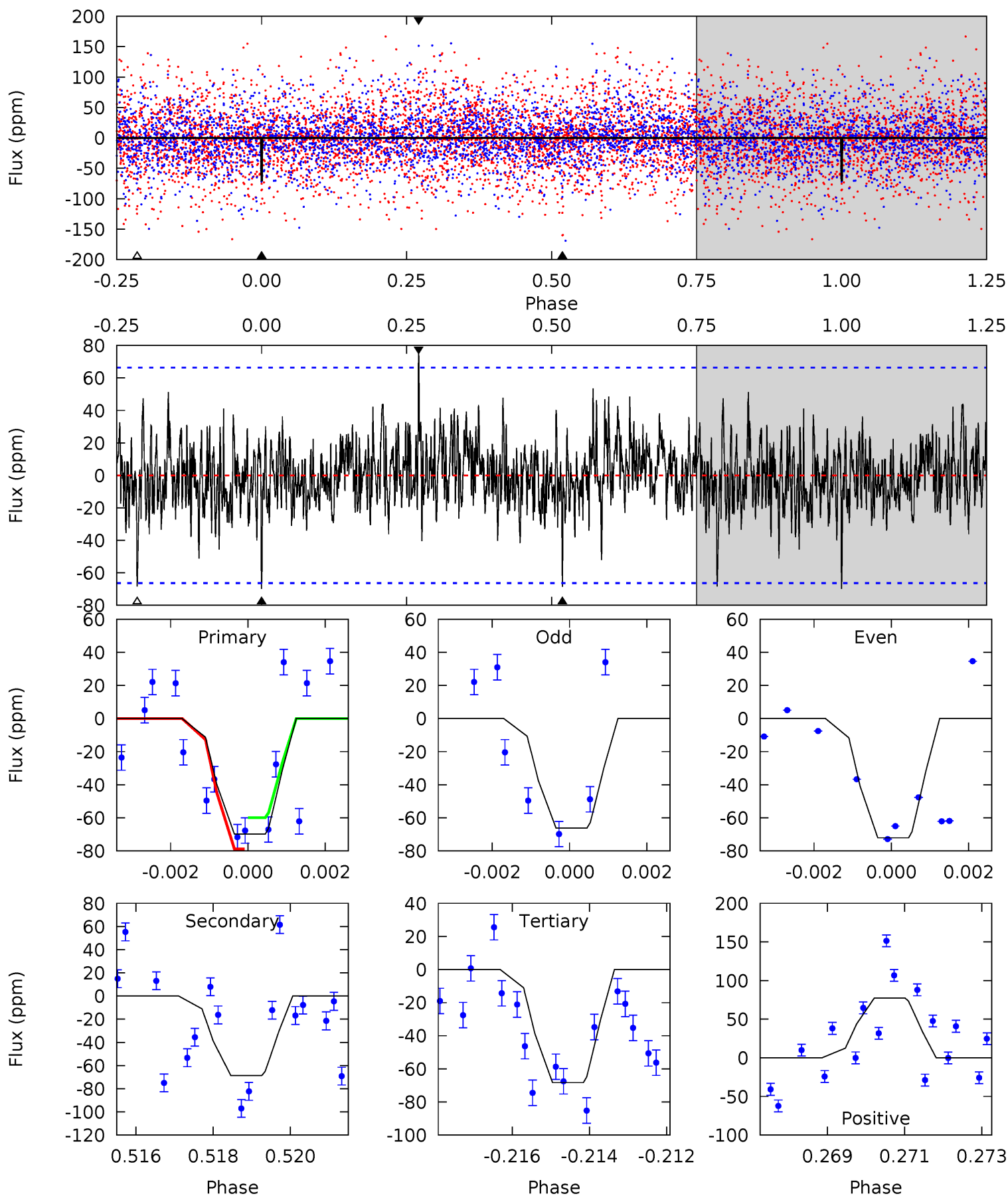
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.15	5.03	4.44	3.85	5.23	2.94	1.18	0.71	1.30	0.58	1.18	0.26	0.84	0.43	0.89



Alt Model-Shift Uniqueness Test

004663658-03, P = 32.961361 Days, E = 126.474360 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.64	5.54	5.51	6.24	5.35	3.13	1.34	0.13	-0.60	0.03	-0.70	0.23	1.07	0.53	0.74



Stellar Parameters For KIC 004663658

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10346^{+286}_{-464}	$4.077^{+0.242}_{-0.198}$	$0.070^{+0.050}_{-0.600}$	$2.449^{+0.838}_{-0.838}$	$2.609^{+0.354}_{-0.658}$	$0.250^{+0.377}_{-0.130}$
	+3%/-4%	+6%/-5%	+71%/-857%	+34%/-34%	+14%/-25%	+151%/-52%
Source	KIC0	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 004663658-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-54 ± 11	$2.47^{+1.89}_{-1.49}$	1878^{+166}_{-177}	8542^{+10041}_{-2329}	359^{+2061}_{-244}
Alt.	-69 ± 12	$2.68^{+2.00}_{-1.58}$	1872^{+181}_{-178}	8803^{+10343}_{-2408}	407^{+2032}_{-273}

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

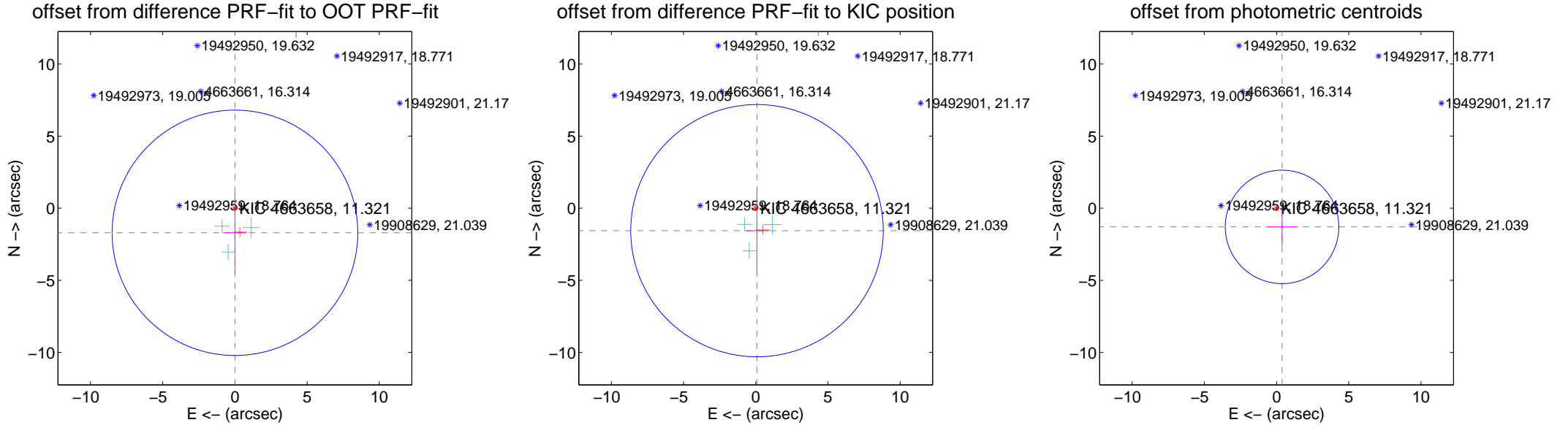
DV Centroid Data

Supplemental centroid analysis for 004663658-03. **Kepler magnitude: 11.32.** Transit SNR 9.25

There are 3 quarters with good PRF difference image offsets

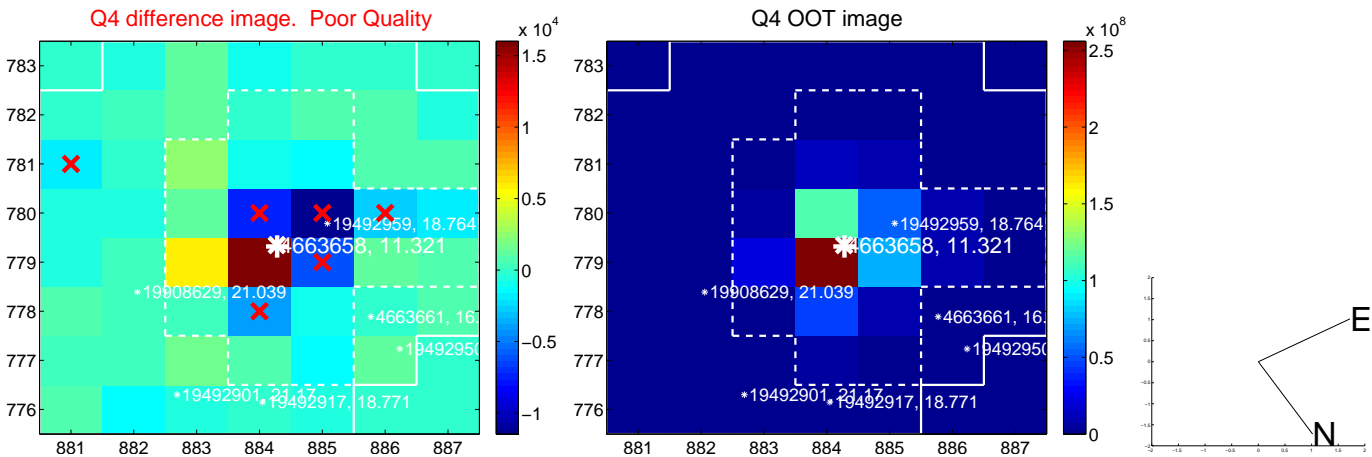
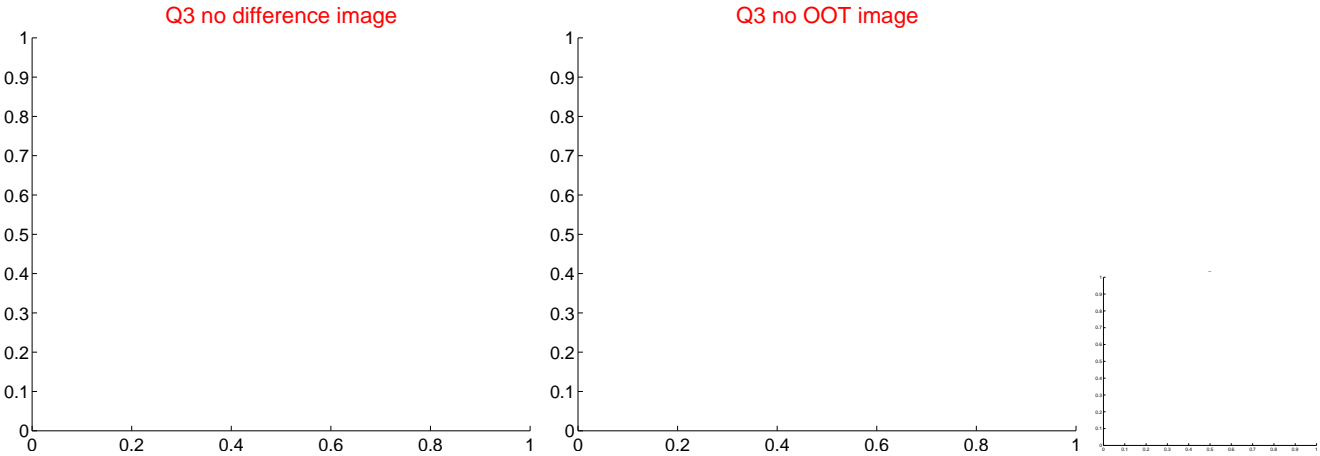
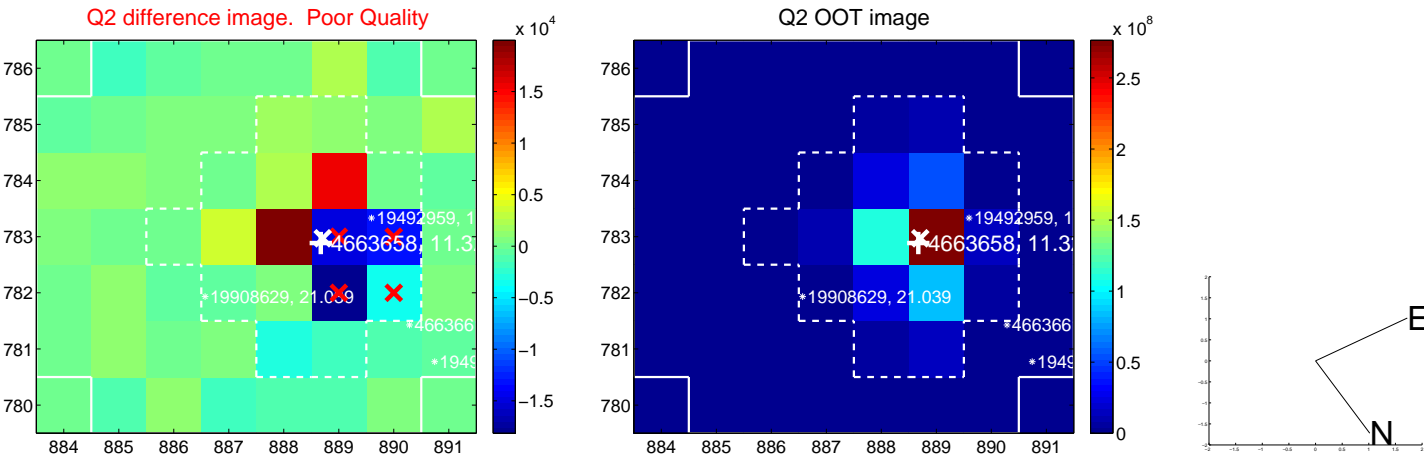
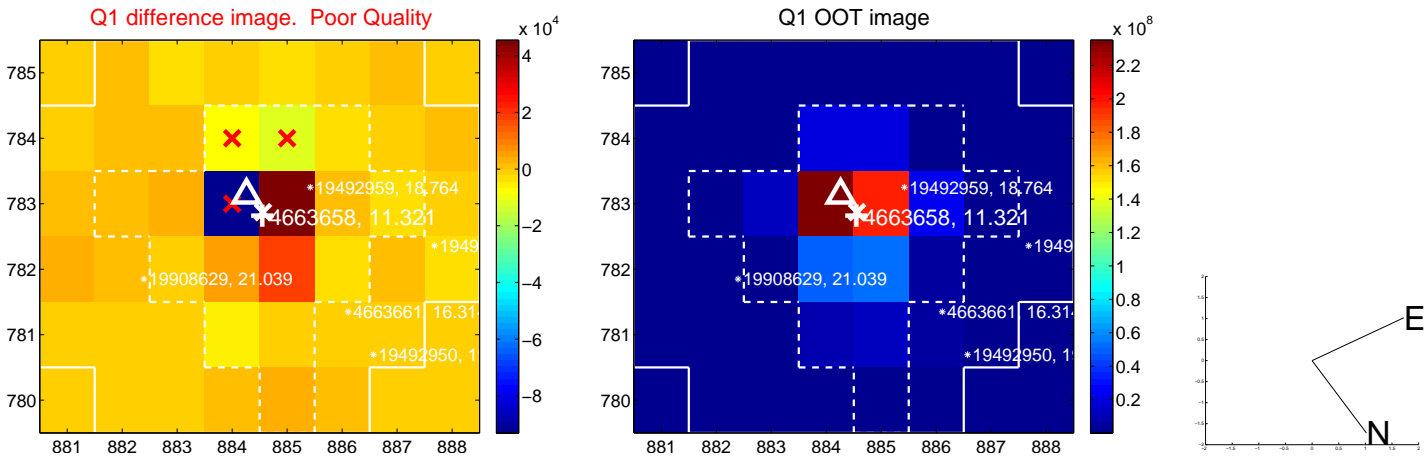
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.704 ± 2.837	0.60	-0.004 ± 0.811	-1.704 ± 2.838
PRF-fit source offset from KIC position	1.559 ± 2.916	0.53	-0.085 ± 0.821	-1.557 ± 2.964
photometric centroid source offset	1.35 ± 1.31	1.03	-0.38 ± 1.06	-1.29 ± 1.33

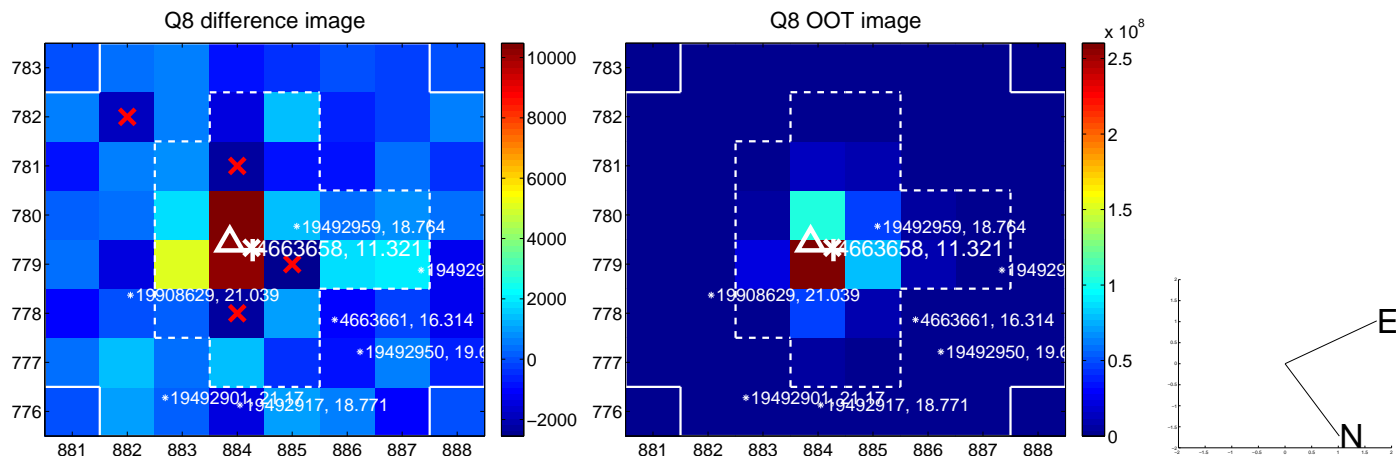
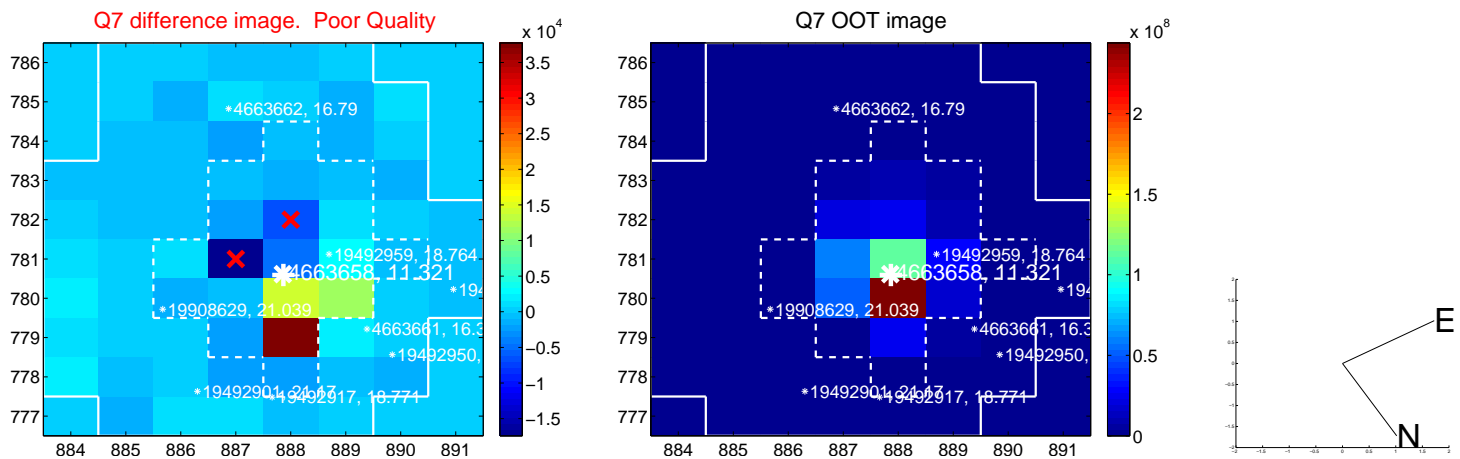
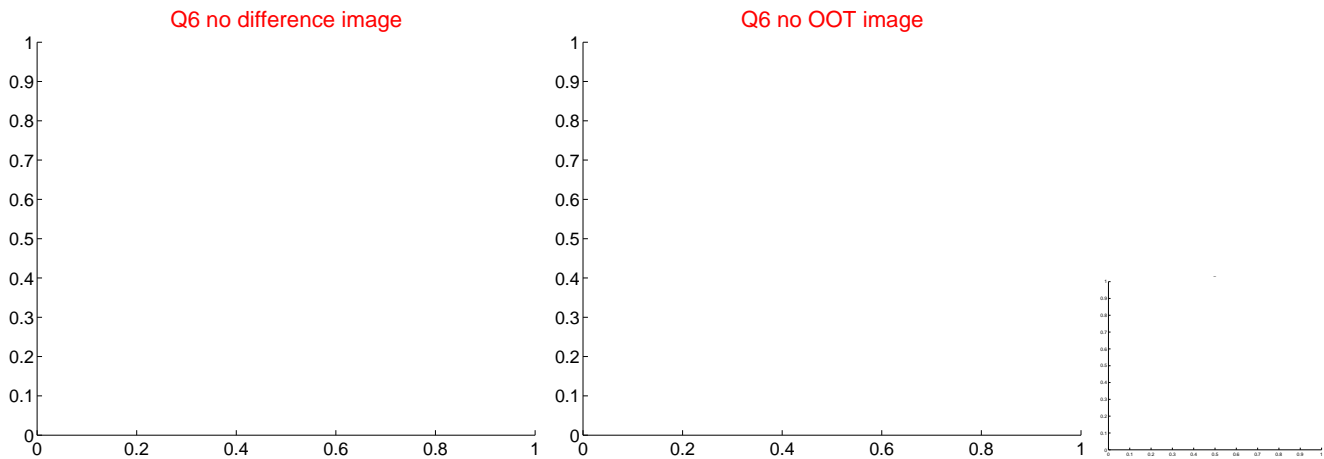
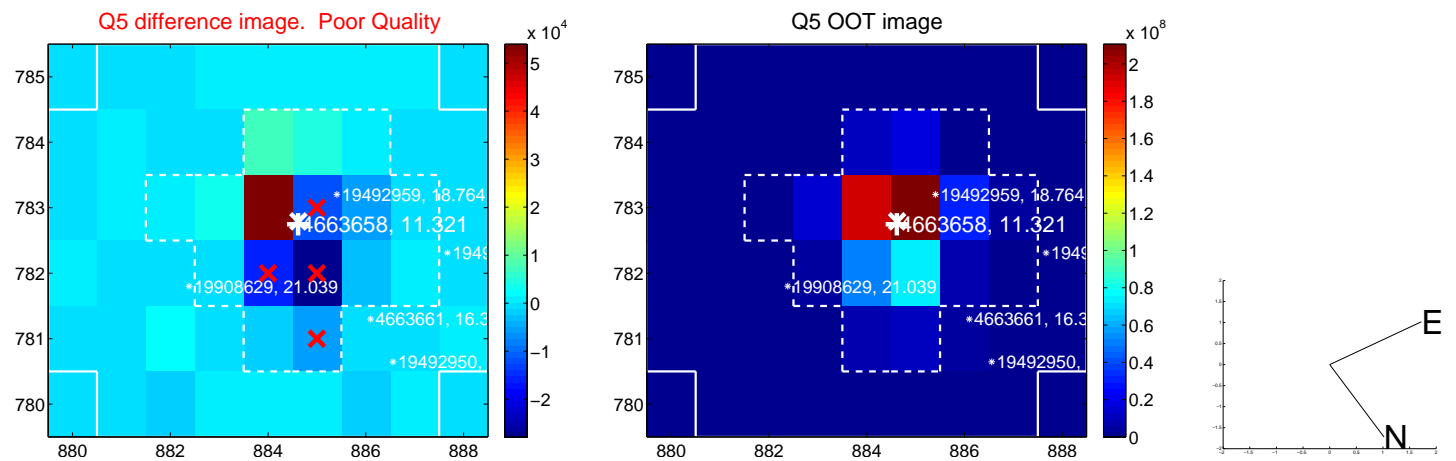


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

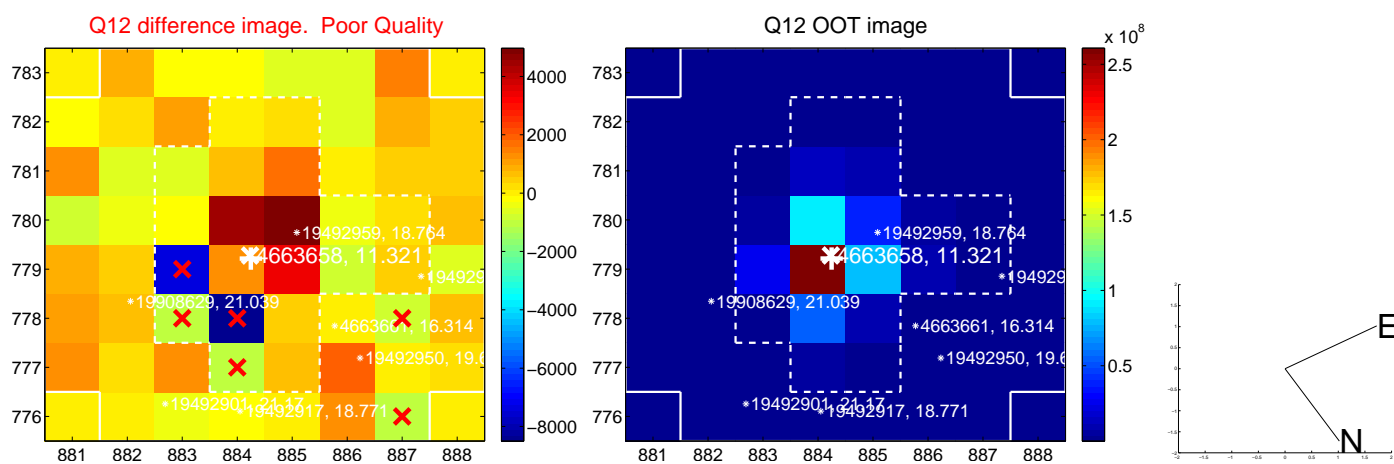
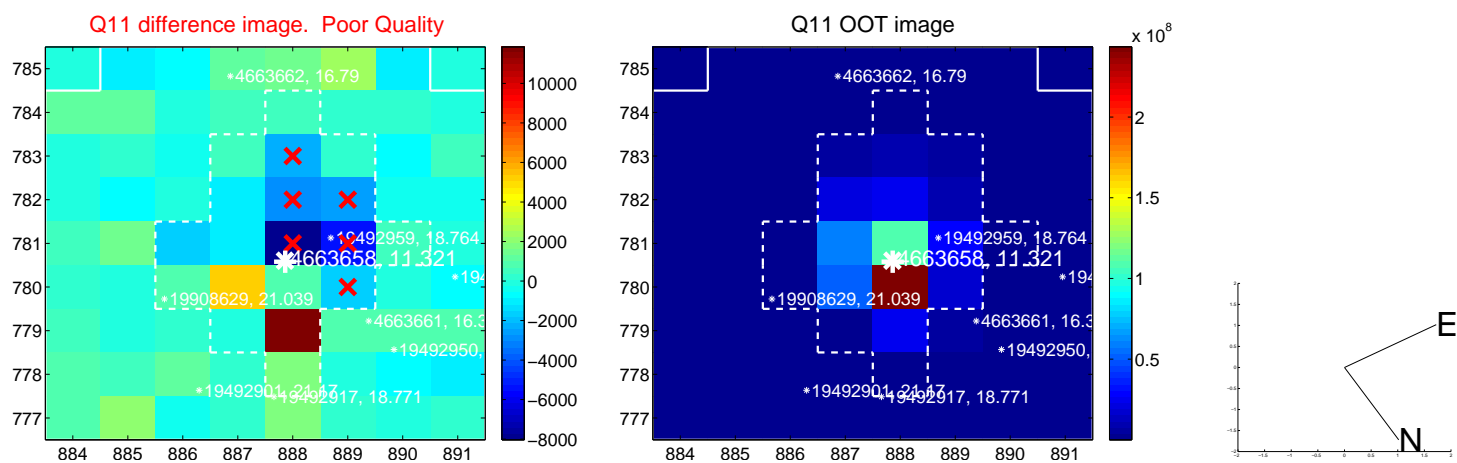
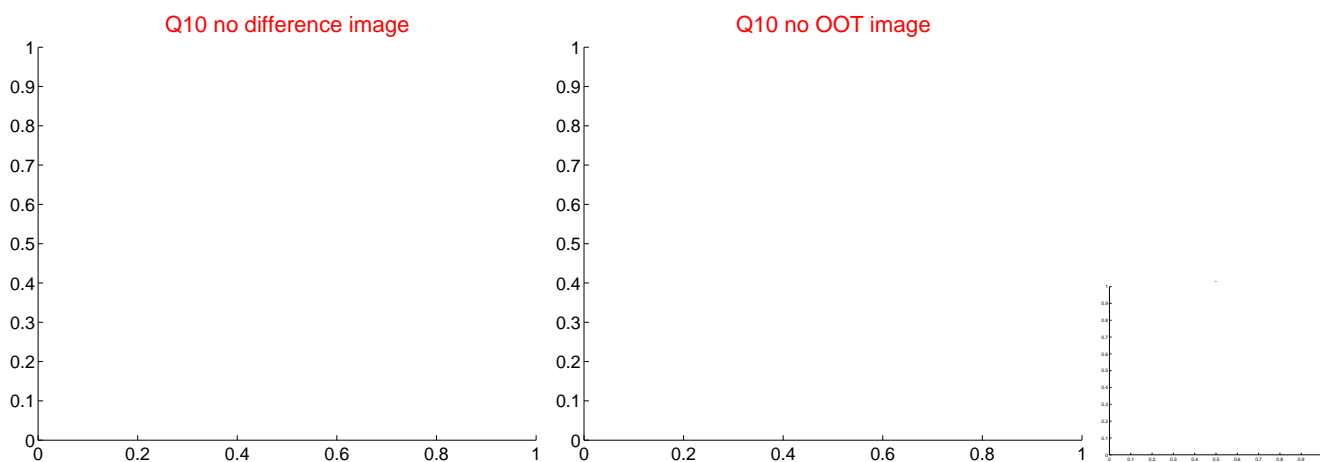
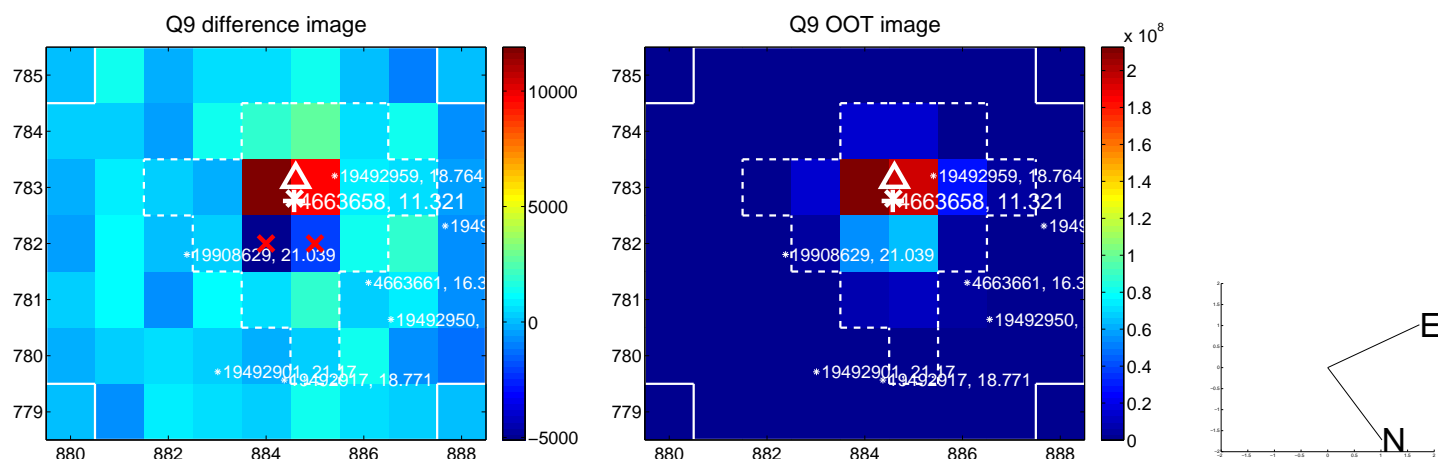
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



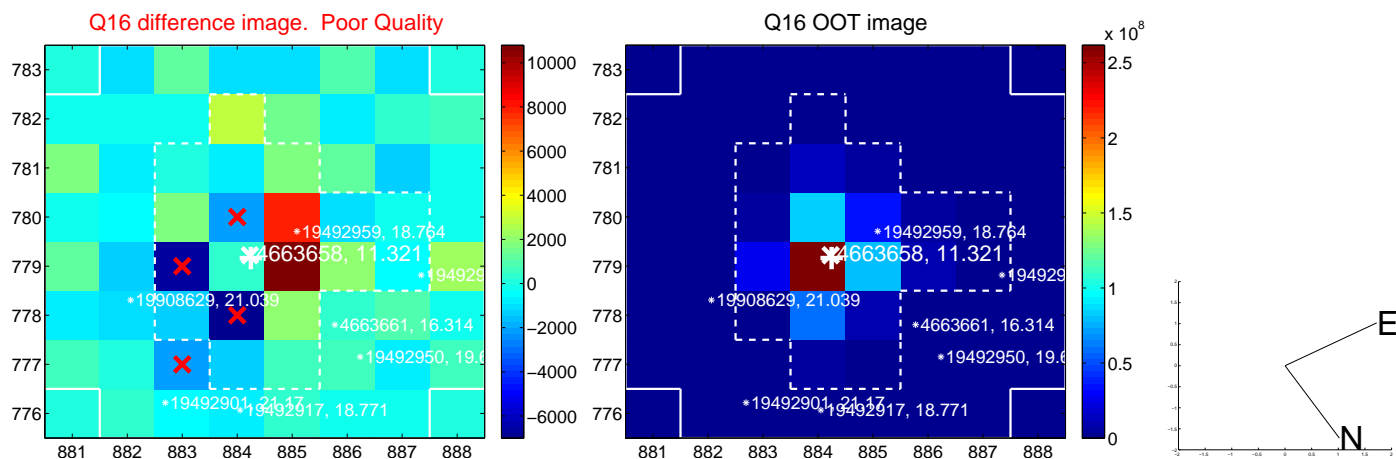
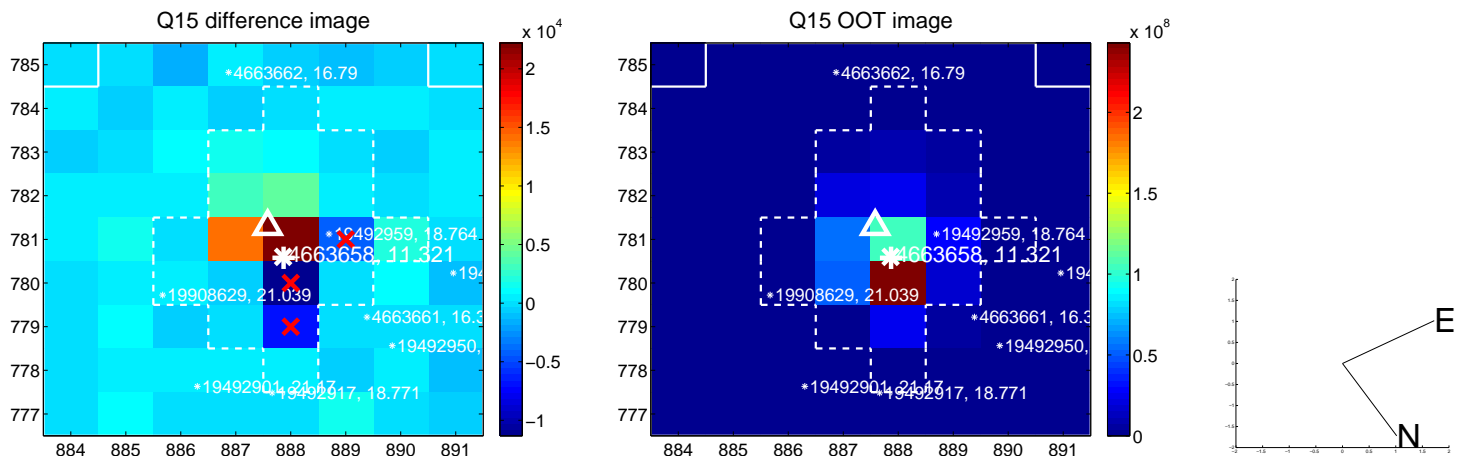
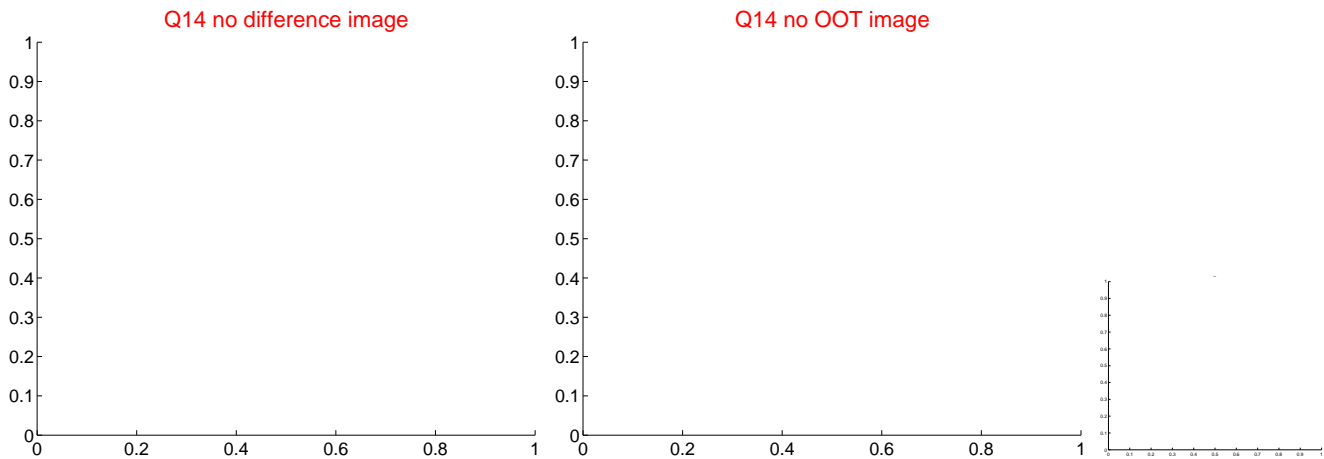
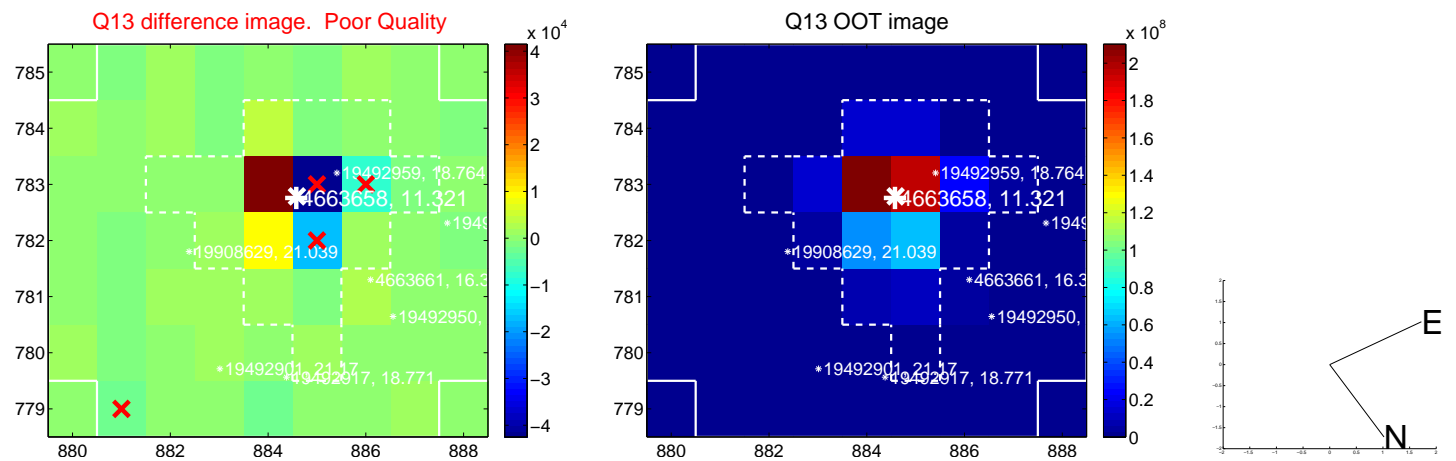
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



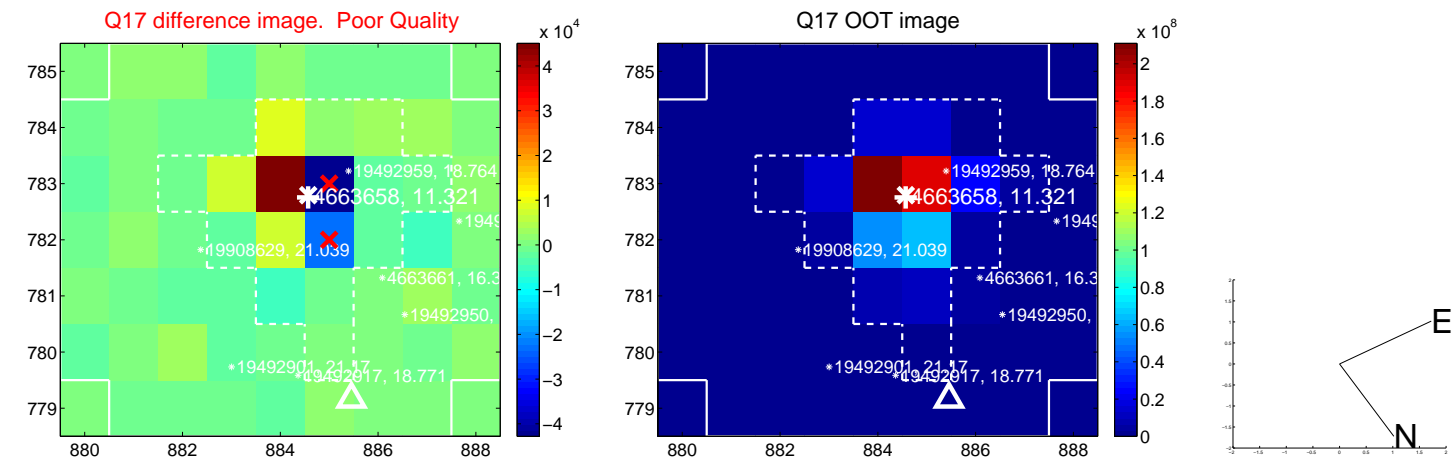
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



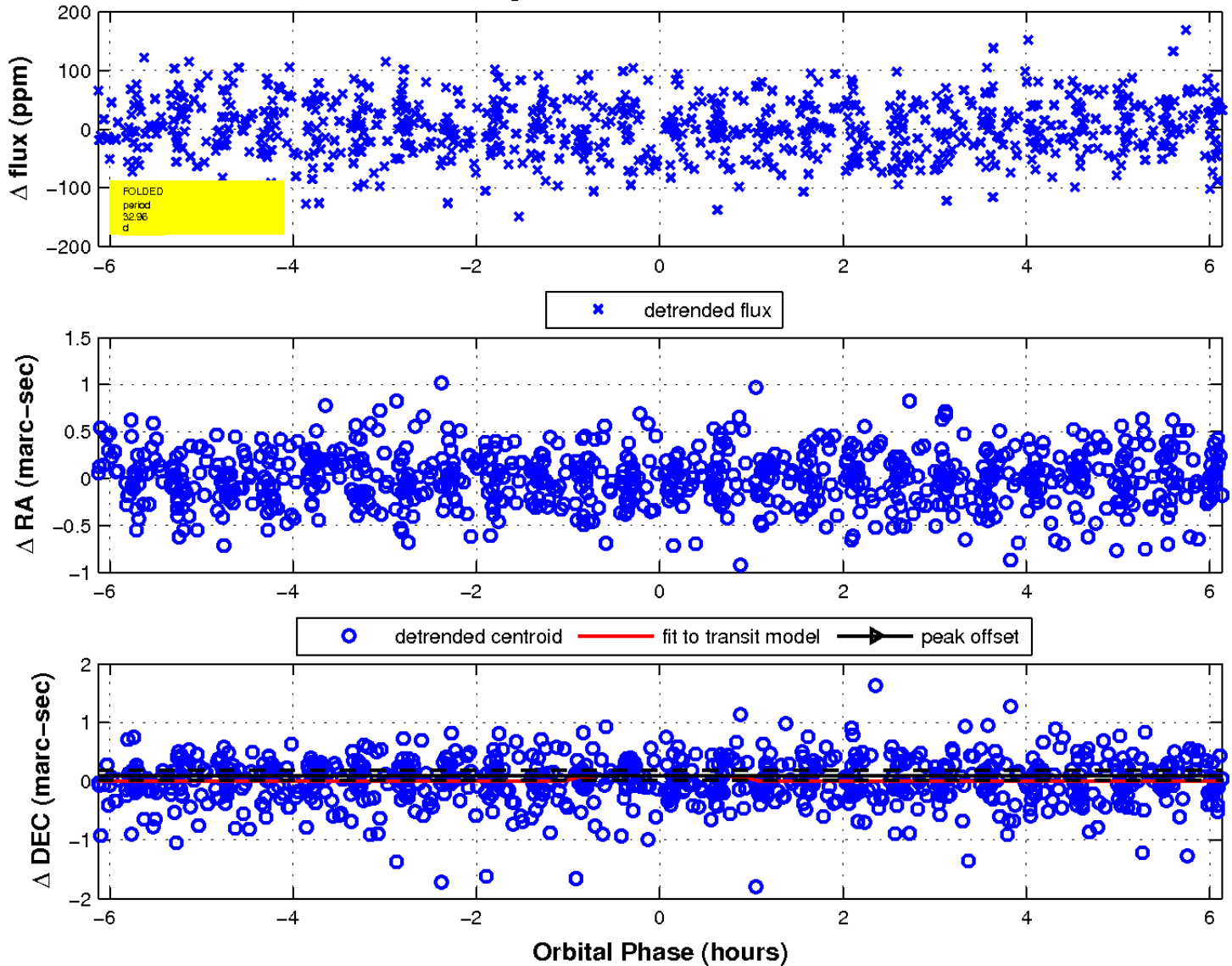
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

