

KIC 010657664

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})
010657664-01	OBS	0964.01	3.273696	133.592014	18974.0	3.105	5358.3	4120.5	2.49	10816	35.40	20777.42
010657664-02	OBS	No	3.273699	131.954348	6721.9	3.067	1929.6	1906.3	2.49	10816	22.16	20777.39
010657664-03	OBS	No	3.273571	133.653118	22.4	39.283	9.3	12.7	2.49	10816	1.40	20778.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010657664-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010657664-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010657664-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—RESIDUAL_TCE

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.

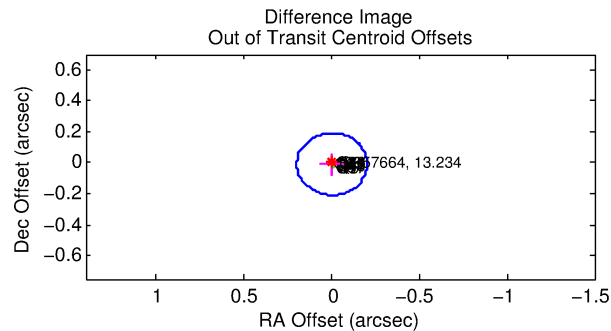
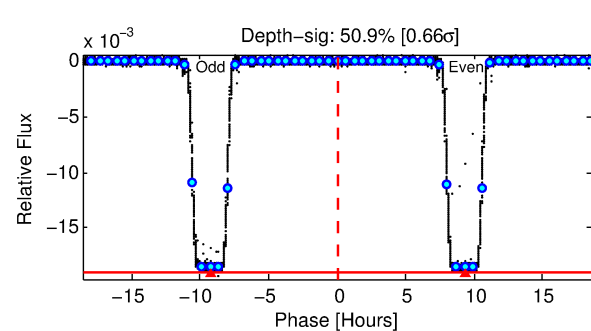
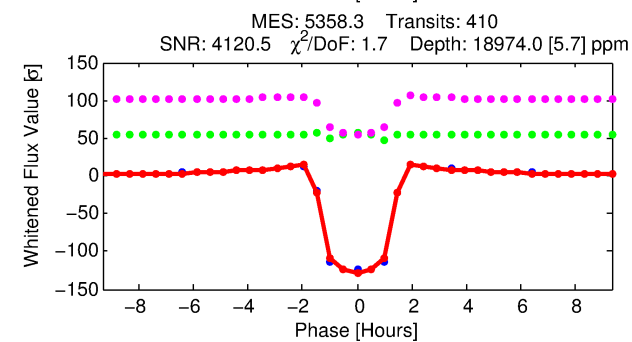
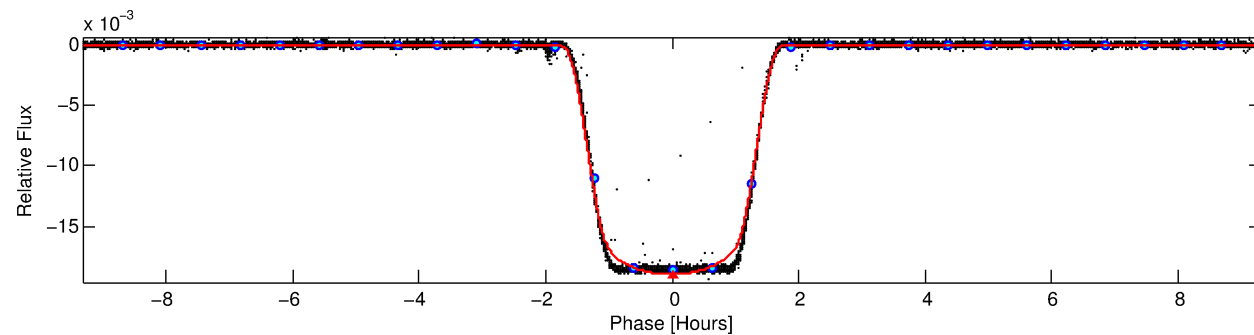
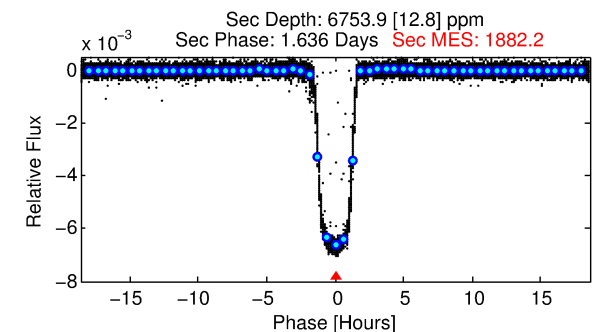
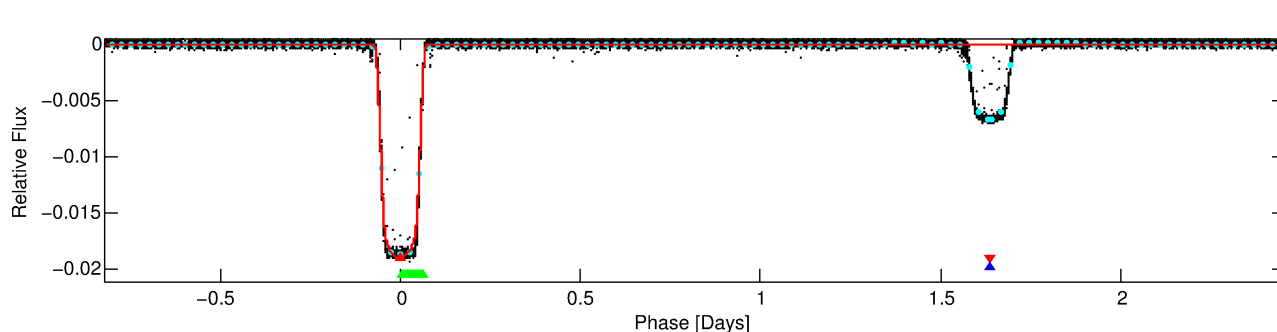
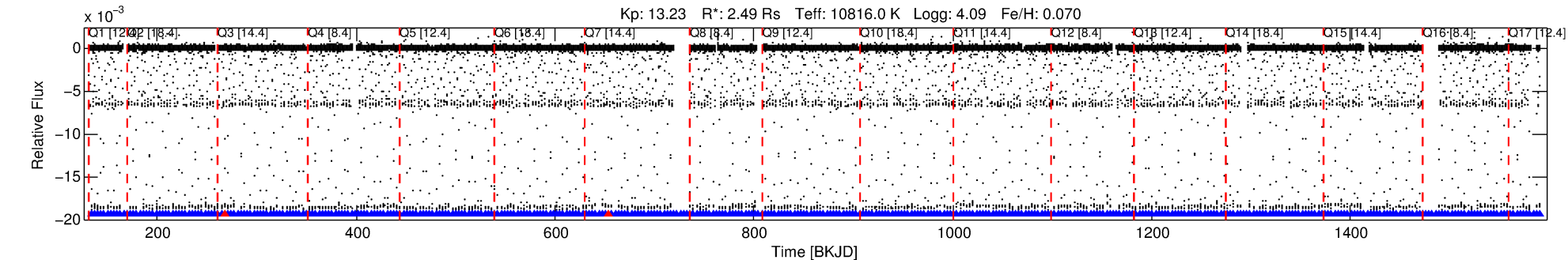
Ephemeris Match Information For 010657664-01

No Significant Match Found

DV One-Page Summary

KIC: 10657664 Candidate: 1 of 3 Period: 3.274 d
KOI: K00964 Corr: No Ephemeris Match

Kp: 13.23 R*: 2.49 Rs Teff: 10816.0 K Logg: 4.09 Fe/H: 0.070



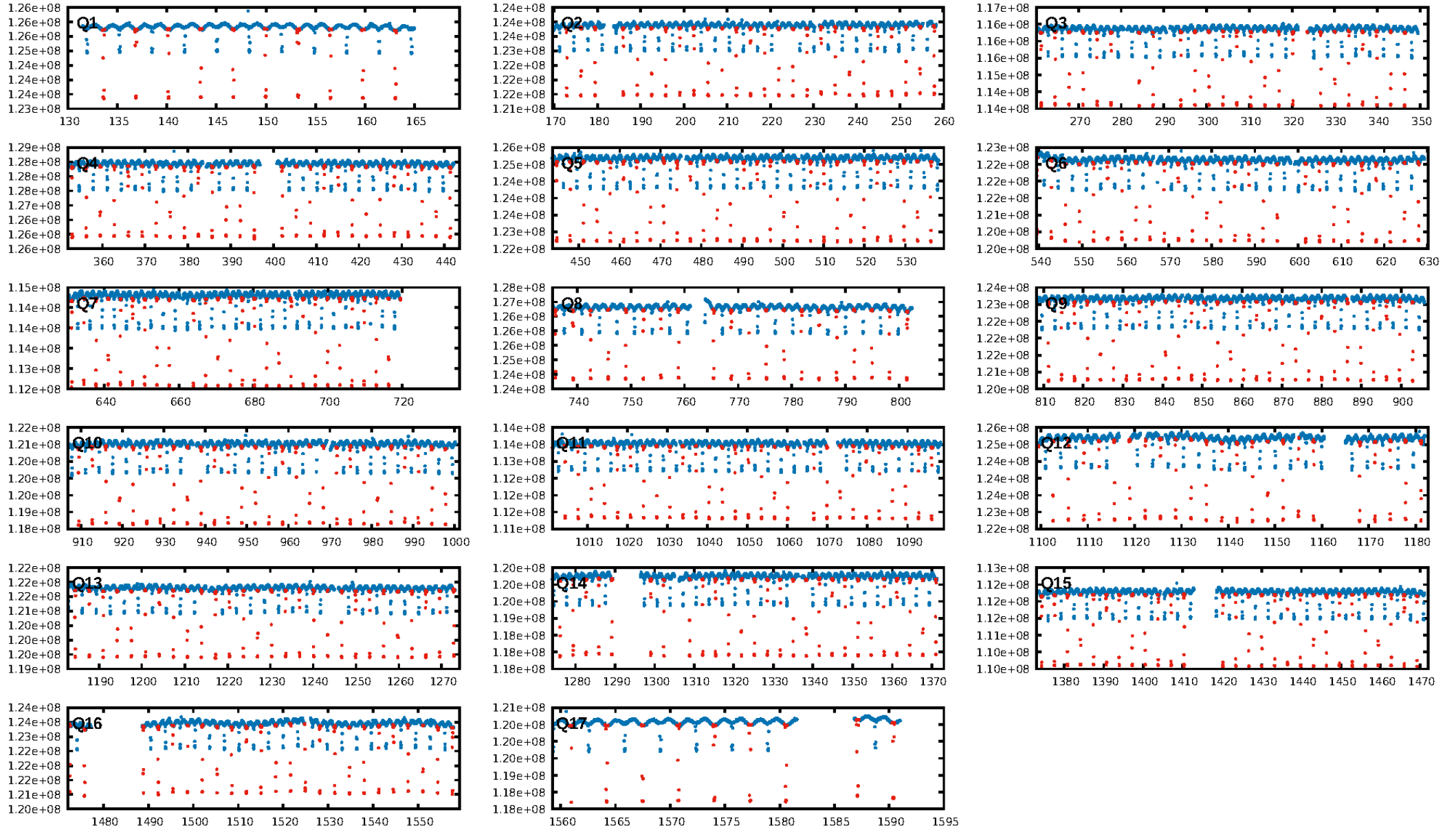
DV Fit Results:

Period = 3.27370 [0.00000] d
Epoch = 133.5920 [0.0000] BKJD
Rp/R* = 0.1301 [0.0001]
a/R* = 9.09 [0.03]
b = 0.10 [0.04]
Seff = 20777.42 [9056.59]
Teq = 3061 [334] K
Rp = 35.40 [11.56] Re
a = 0.0606 [0.0167] AU
Ag = 10.88 [4.37] [2.26σ]
Teff = 8596 [363] K [11.22σ]

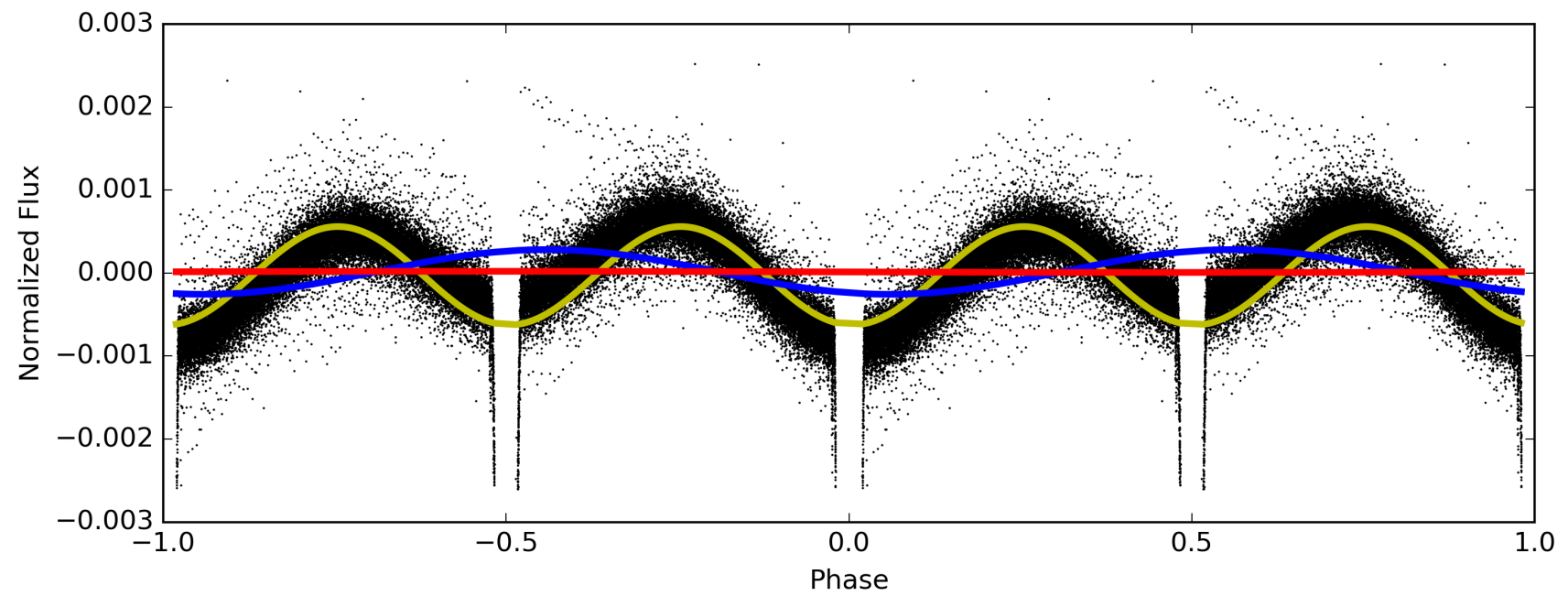
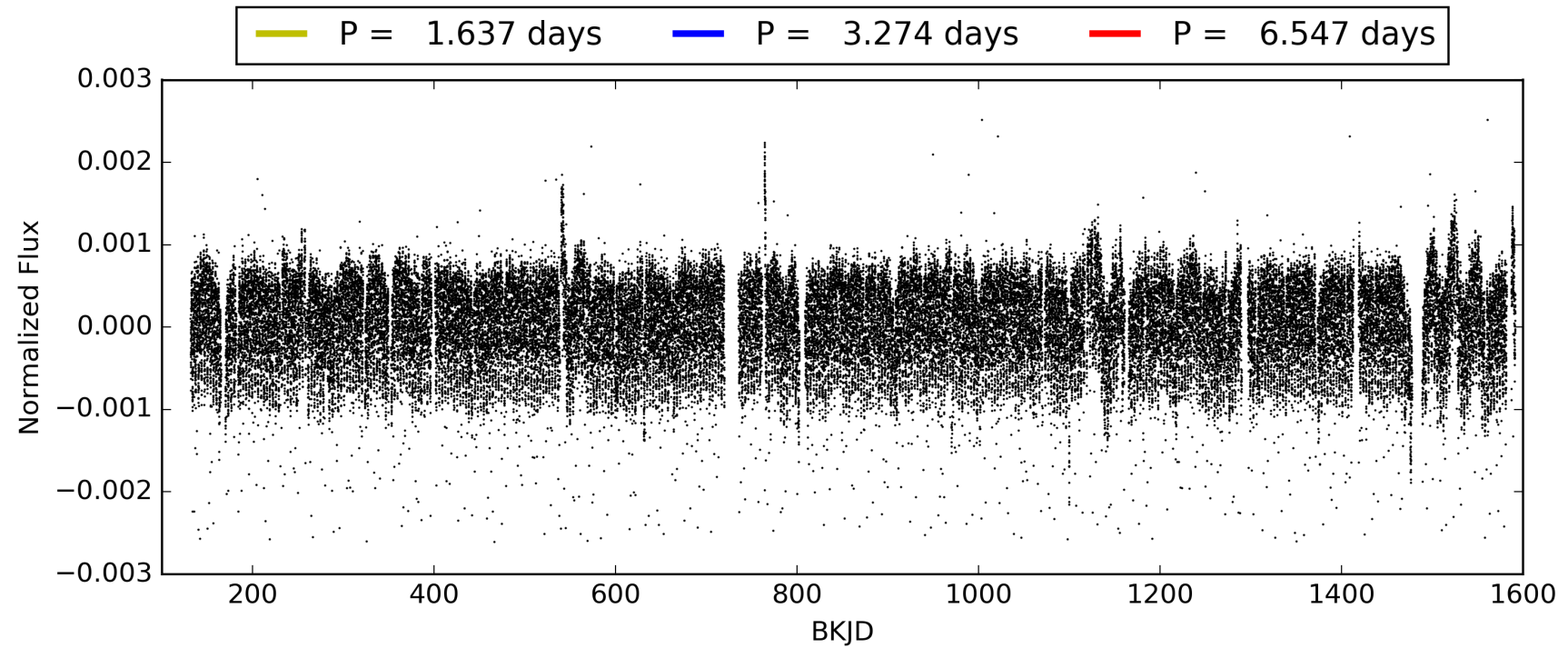
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [389/391]
GhostDiagnostic-chr: 4.715
Centroid-sig: 0.0%
Centroid-so: 0.173 arcsec [79.49σ]
OotOffset-rm: 0.009 arcsec [0.13σ]
KicOffset-rm: 0.108 arcsec [1.57σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 010657664-01, PDC Light Curves

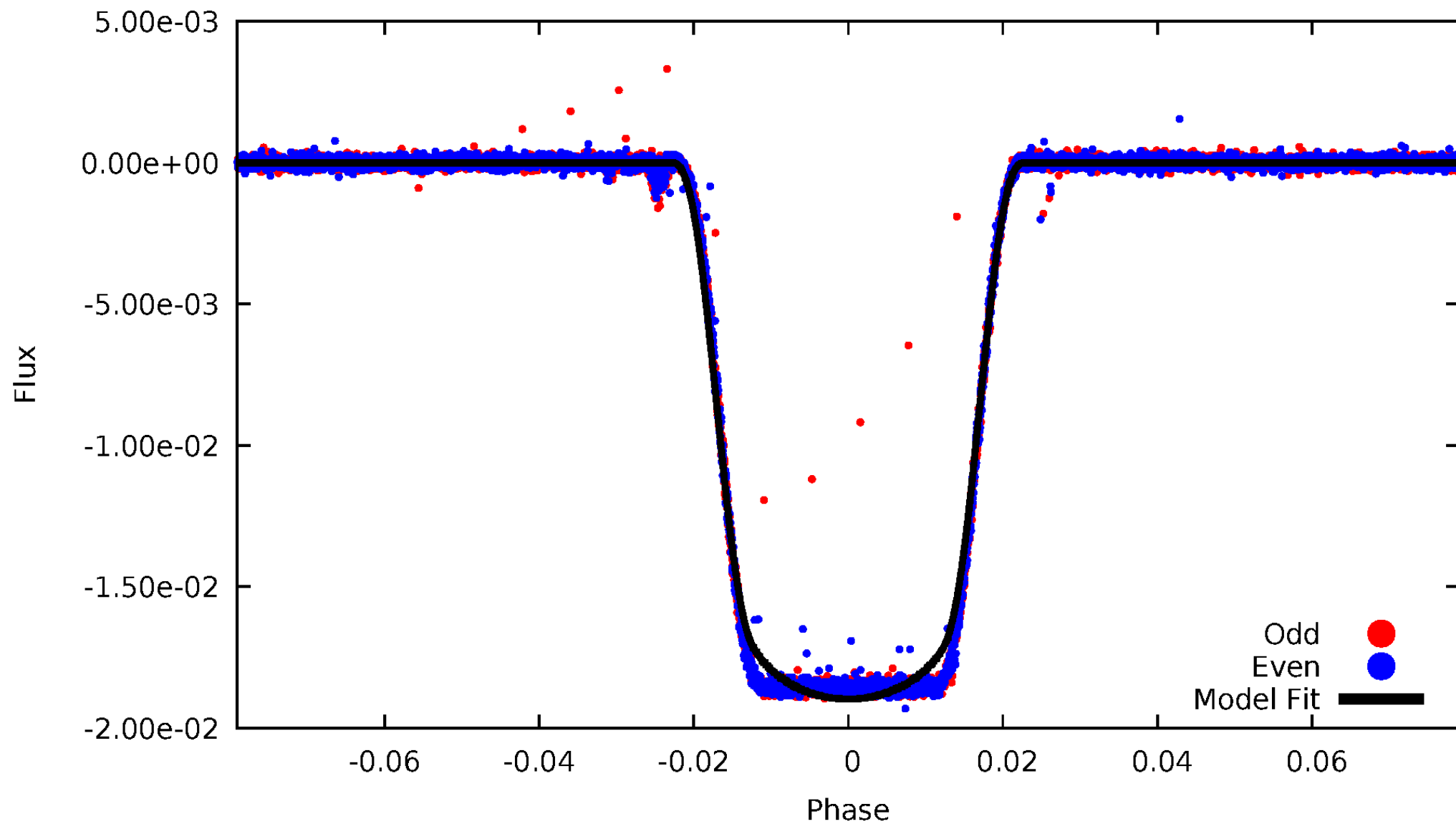


TCE 010657664-01



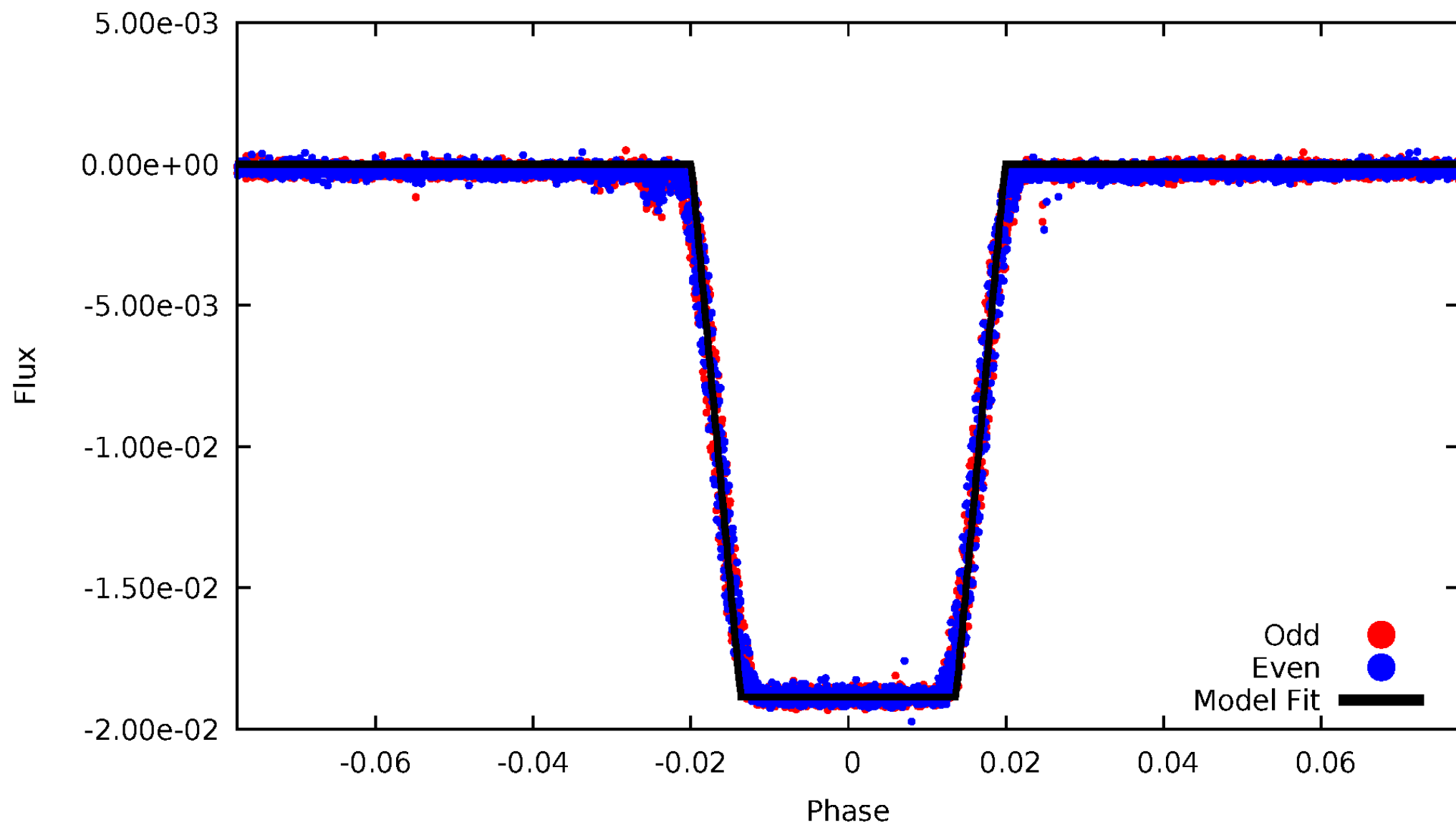
DV Odd/Even

TCE 010657664-01



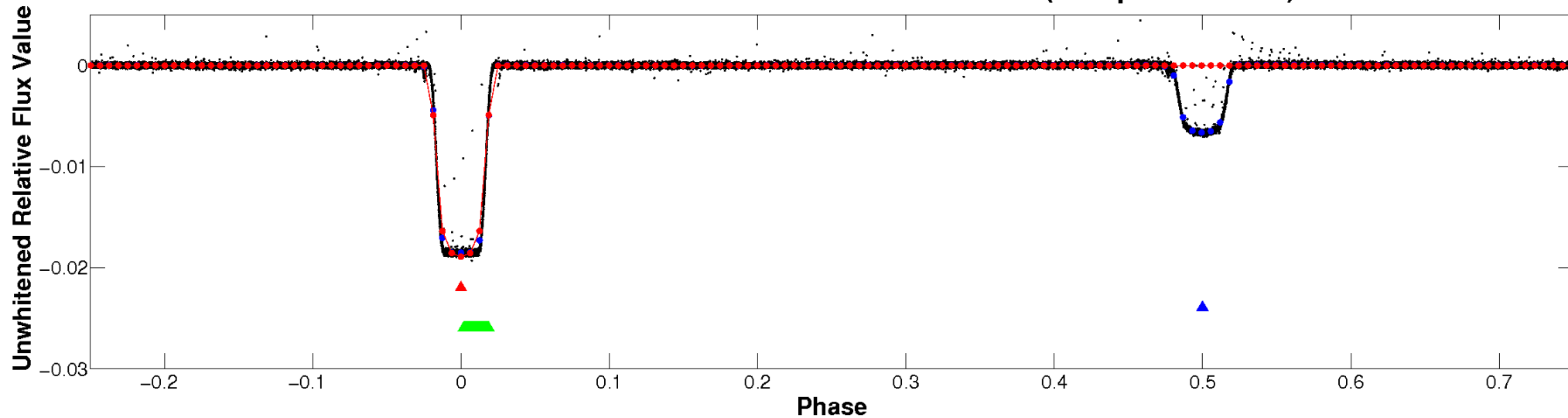
ALT Odd/Even

TCE 010657664-01

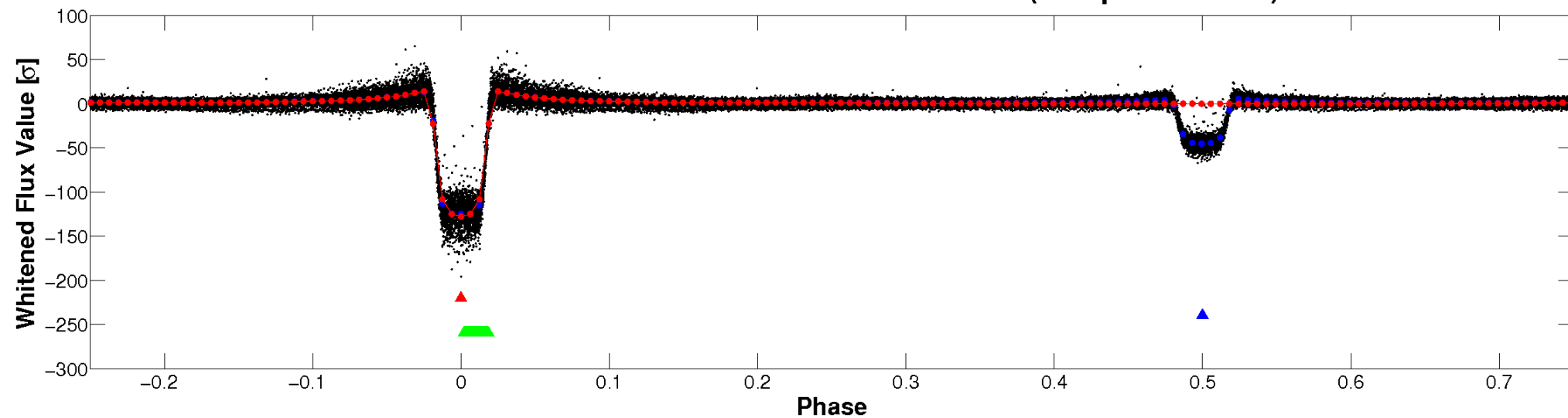


Non-Whitened Vs. Whitened Light Curve

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

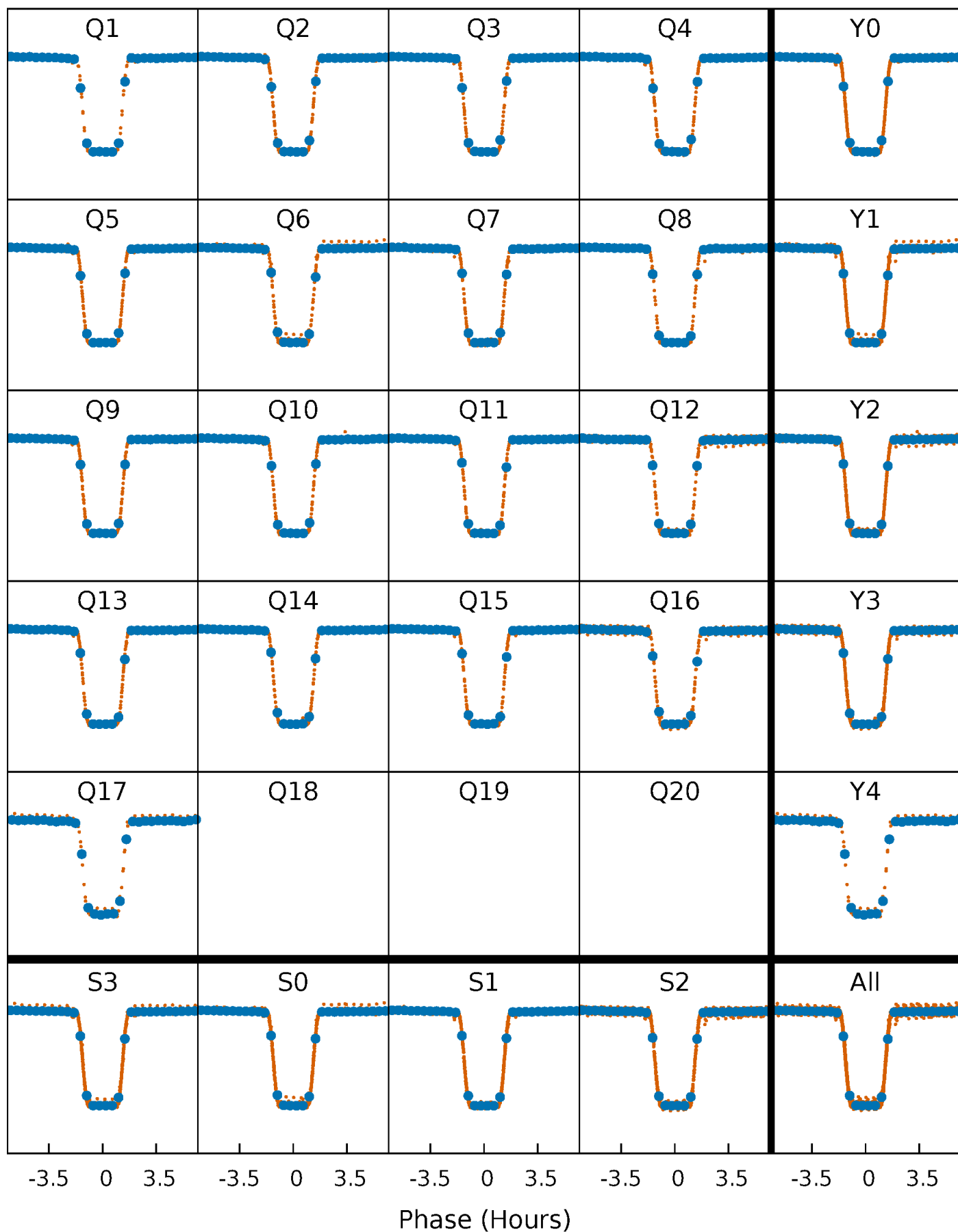


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



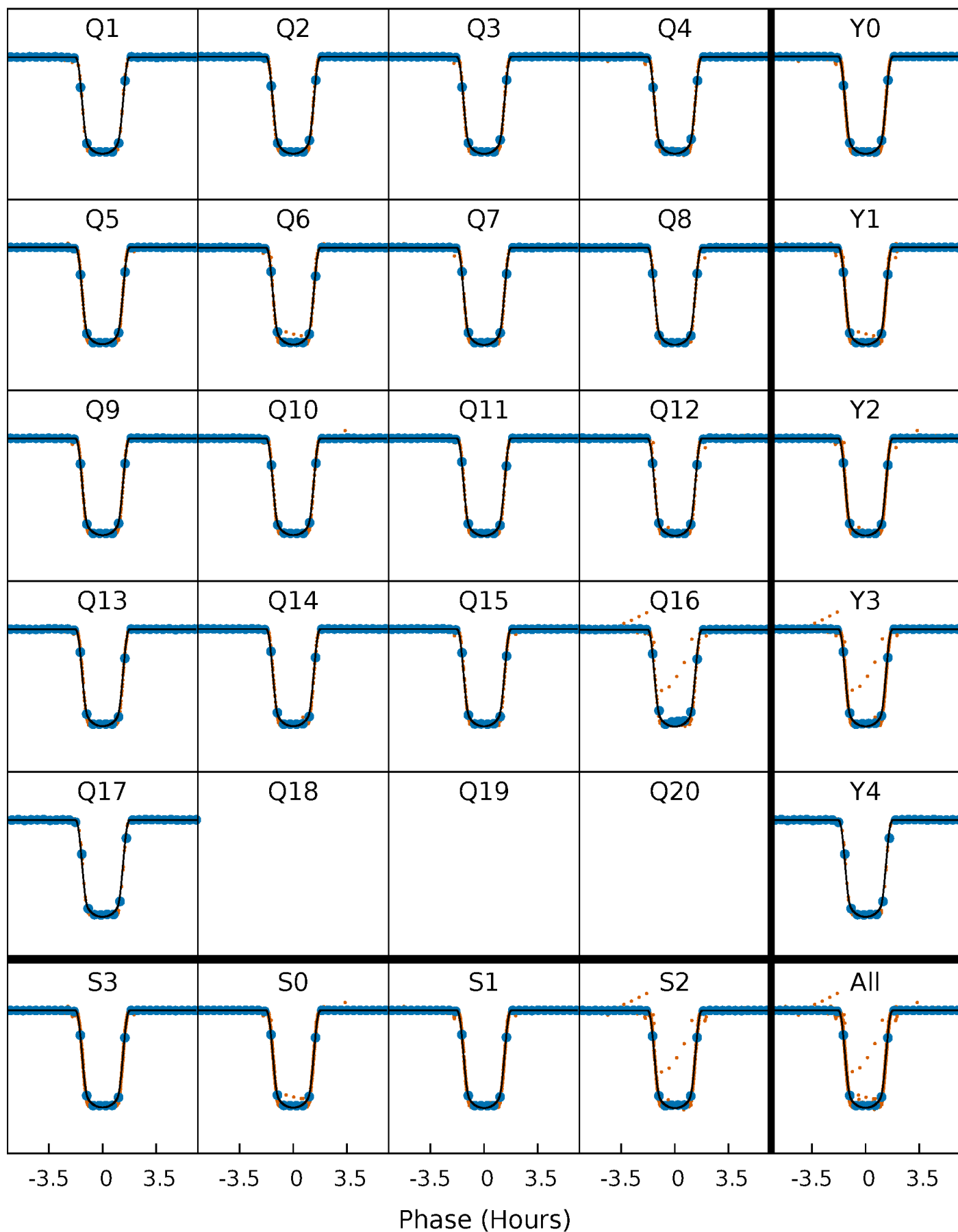
PDC Quarter-Phased Transit Curves

TCE 010657664-01 P= 3.273696 Days $T_0=133.592014$ (BKJD)



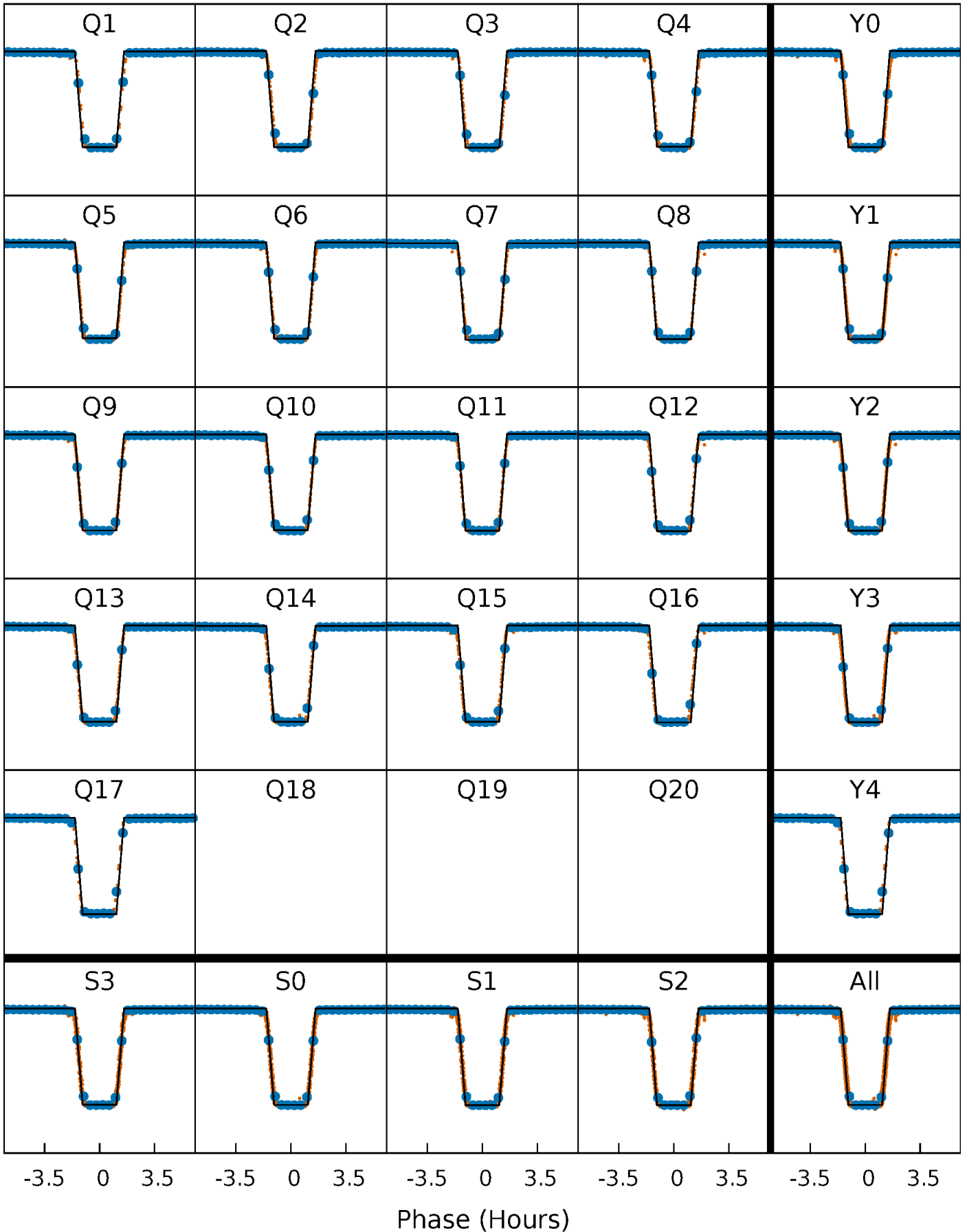
DV Quarter-Phased Transit Curves

TCE 010657664-01 P= 3.273696 Days $T_0=133.592014$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

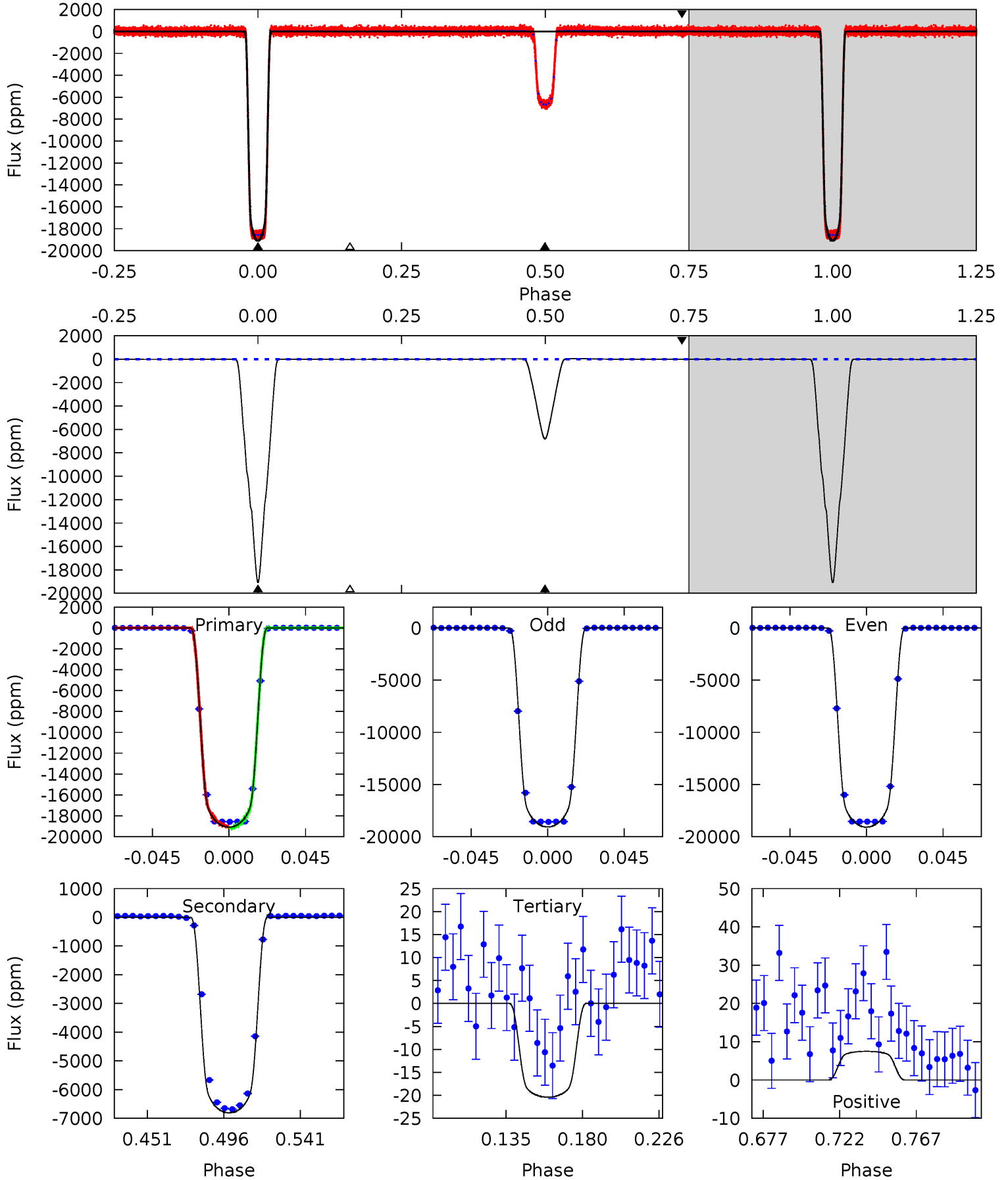
TCE 010657664-01 P= 3.273714 Days $T_0=133.588397$ (BKJD)



DV Model-Shift Uniqueness Test

010657664-01, P = 3.273696 Days, E = 130.318318 Days

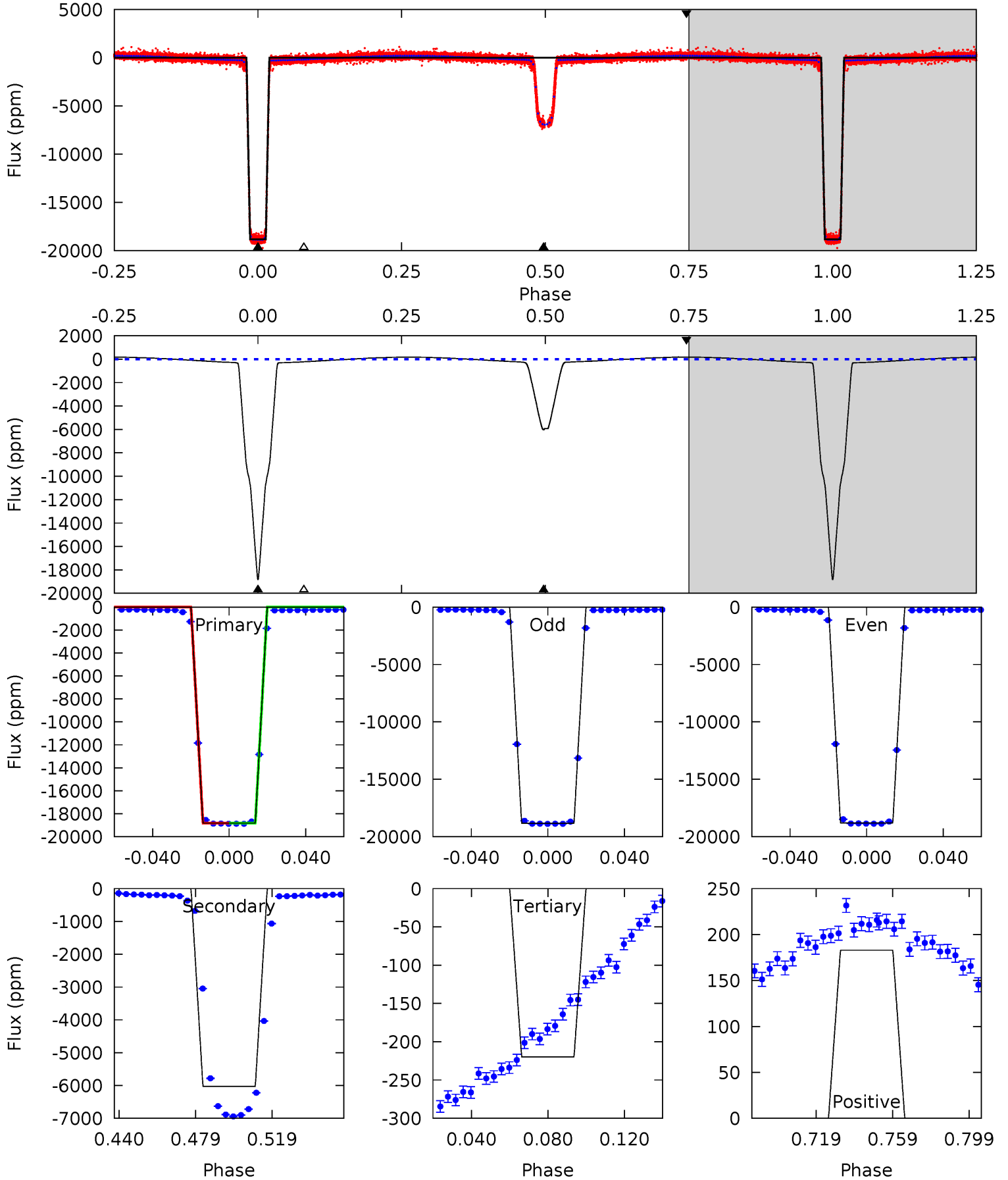
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7442	2655	7.96	2.92	4.73	2.00	5.74	7434	7439	2647	2652	2.42	1.00	0.00	30.3



Alt Model-Shift Uniqueness Test

010657664-01, P = 3.273714 Days, E = 130.314683 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4307	1379	50.3	41.9	4.75	2.05	33.6	4257	4265	1329	1337	1.71	1.00	0.01	0.47



Stellar Parameters For KIC 010657664

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10816^{+304}_{-457}	$4.086^{+0.220}_{-0.220}$	$0.070^{+0.050}_{-0.600}$	$2.493^{+0.814}_{-0.814}$	$2.760^{+0.289}_{-0.674}$	$0.251^{+0.374}_{-0.132}$
	+3%/-4%	+5%/-5%	+71%/-857%	+33%/-33%	+10%/-24%	+149%/-53%
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 010657664-01 / KOI 0964.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6809 ± 3	$35.66^{+6.38}_{-5.98}$	4290^{+377}_{-382}	7855^{+172}_{-276}	11^{+4}_{-3}
Alt.	-6026 ± 4	$37.42^{+6.98}_{-6.26}$	4275^{+401}_{-364}	7301^{+176}_{-242}	$8.466^{+3.231}_{-2.295}$

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

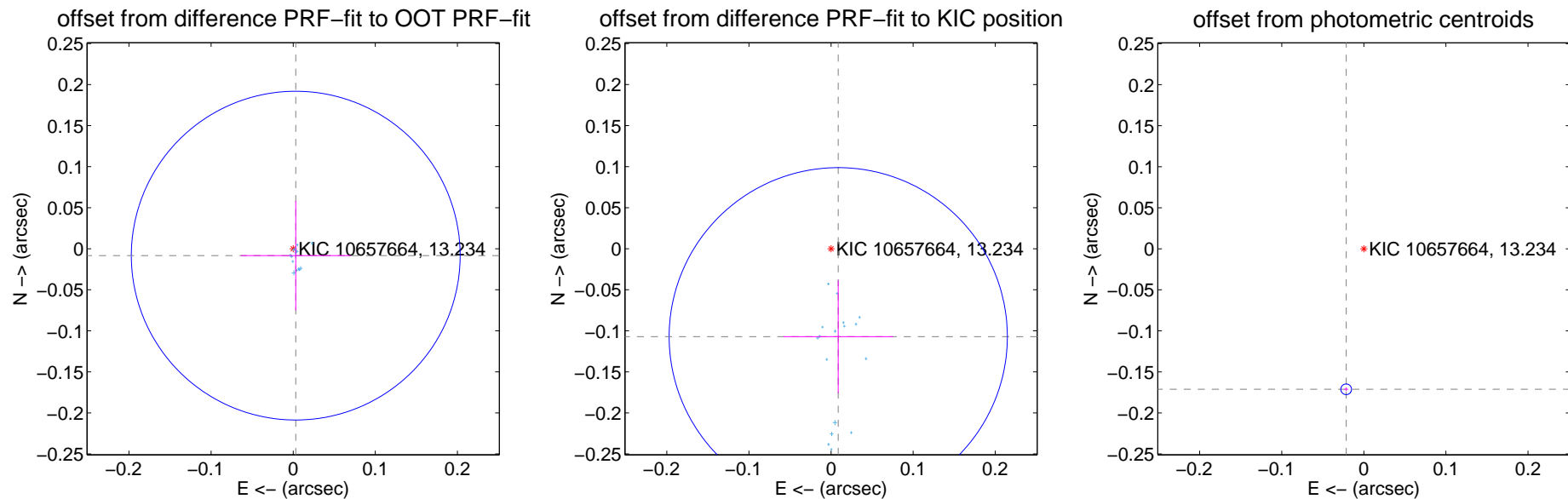
DV Centroid Data

Supplemental centroid analysis for 010657664-01. Kepler magnitude: 13.23. Transit SNR 4120.52

There are 17 quarters with good PRF difference image offsets

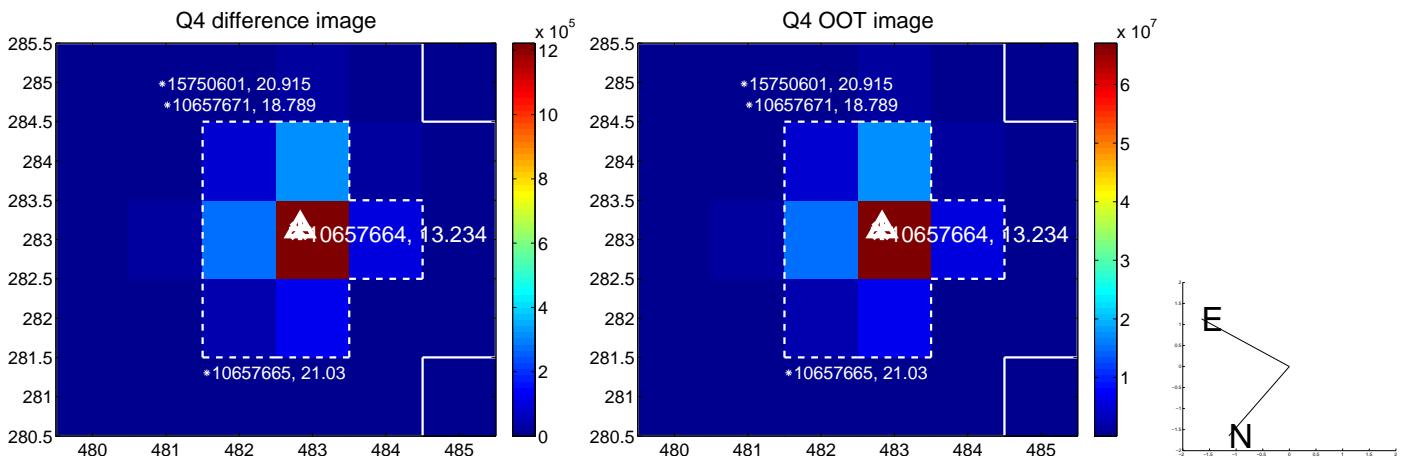
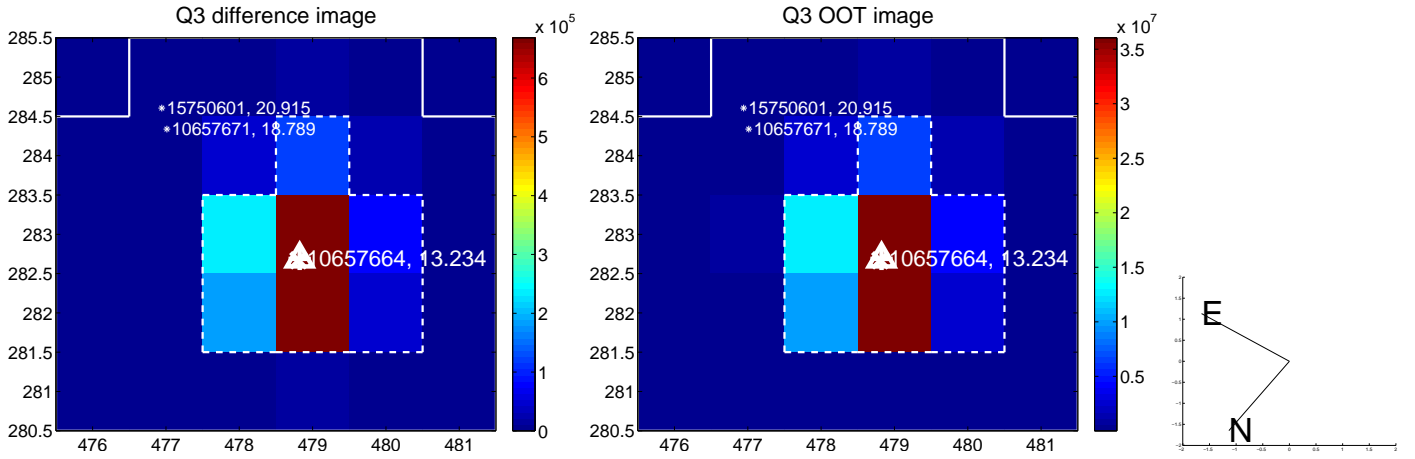
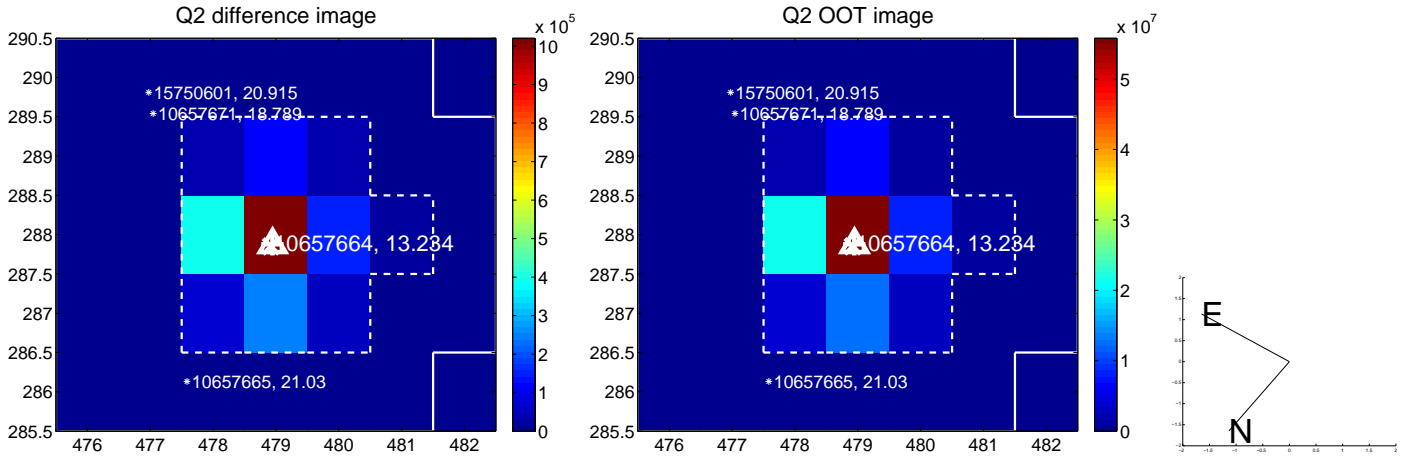
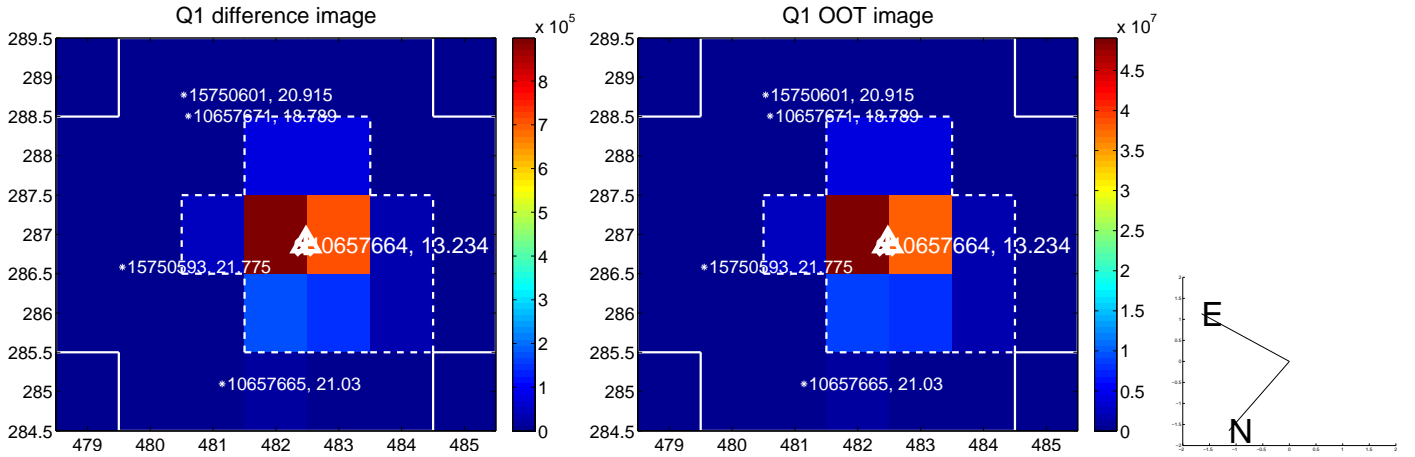
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.067	0.13	-0.003 ± 0.067	-0.008 ± 0.067
PRF-fit source offset from KIC position	0.108 ± 0.069	1.57	-0.009 ± 0.067	-0.107 ± 0.069
photometric centroid source offset	0.17 ± 0.00	79.49	0.02 ± 0.00	-0.17 ± 0.00

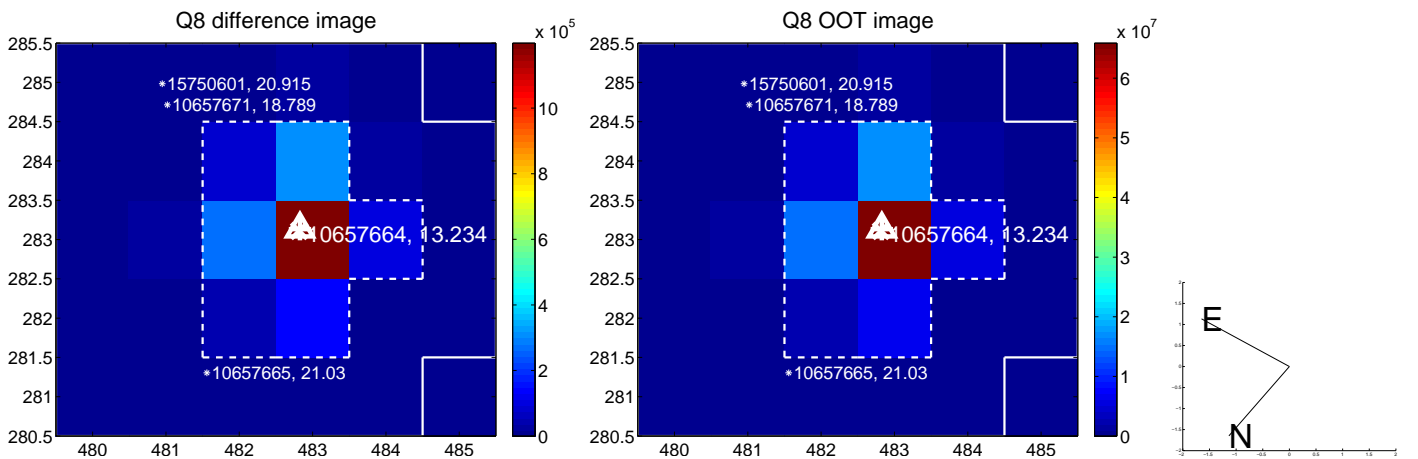
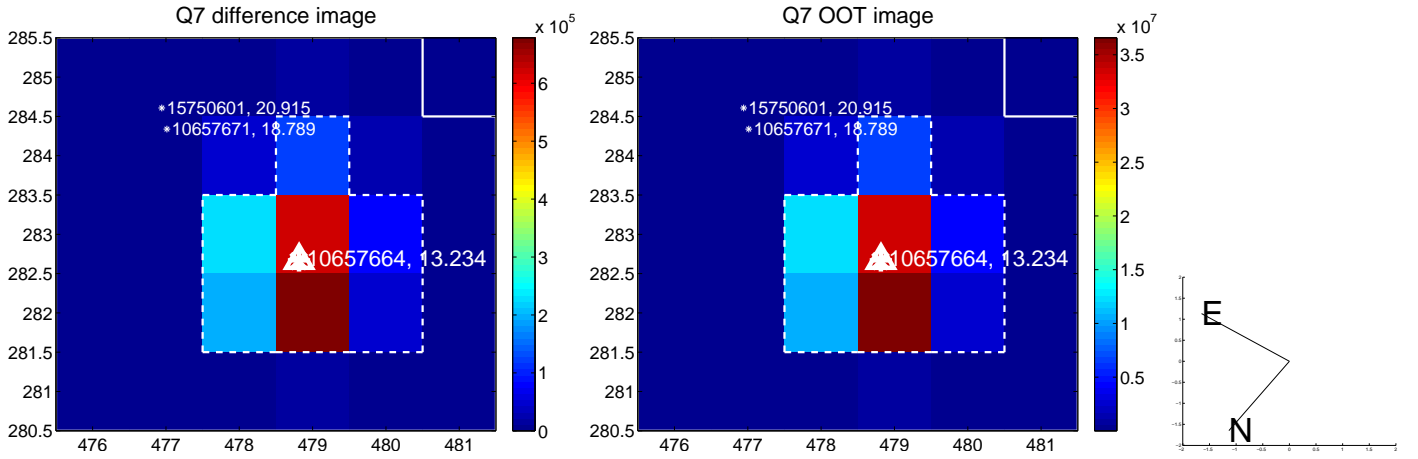
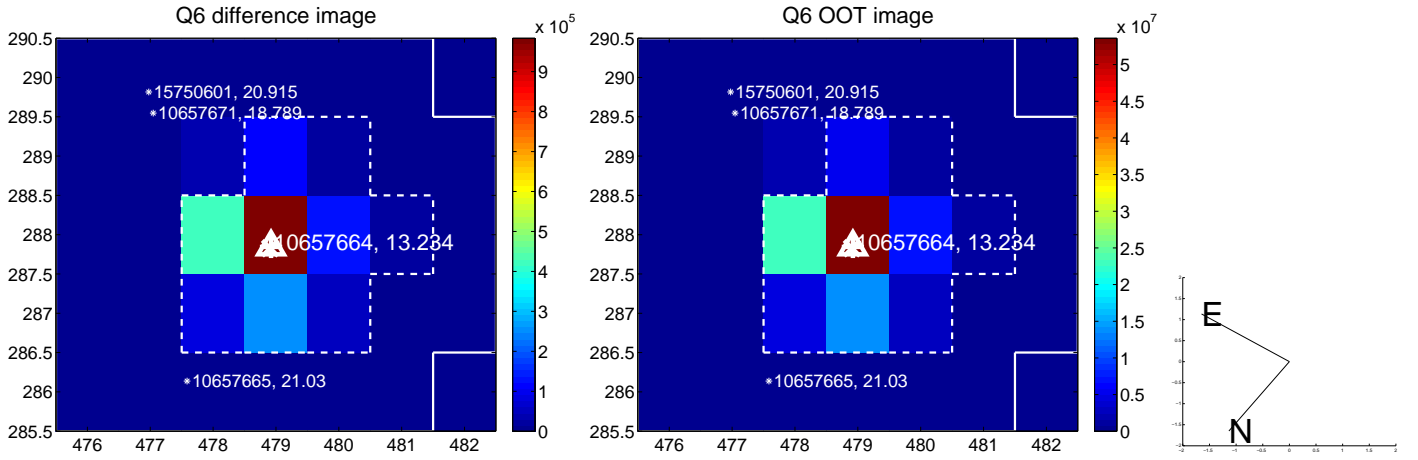
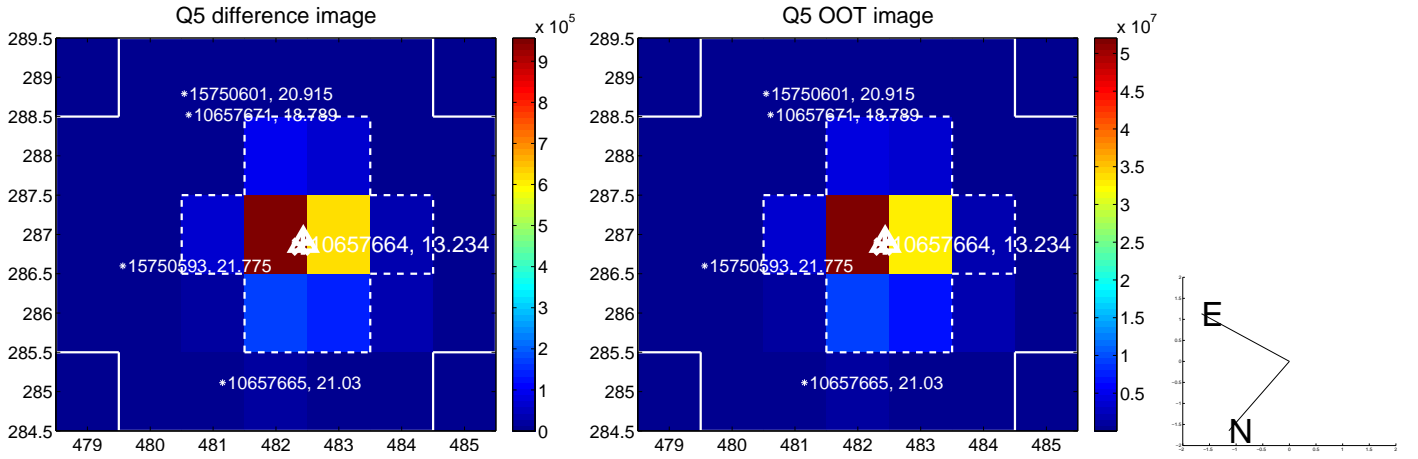


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

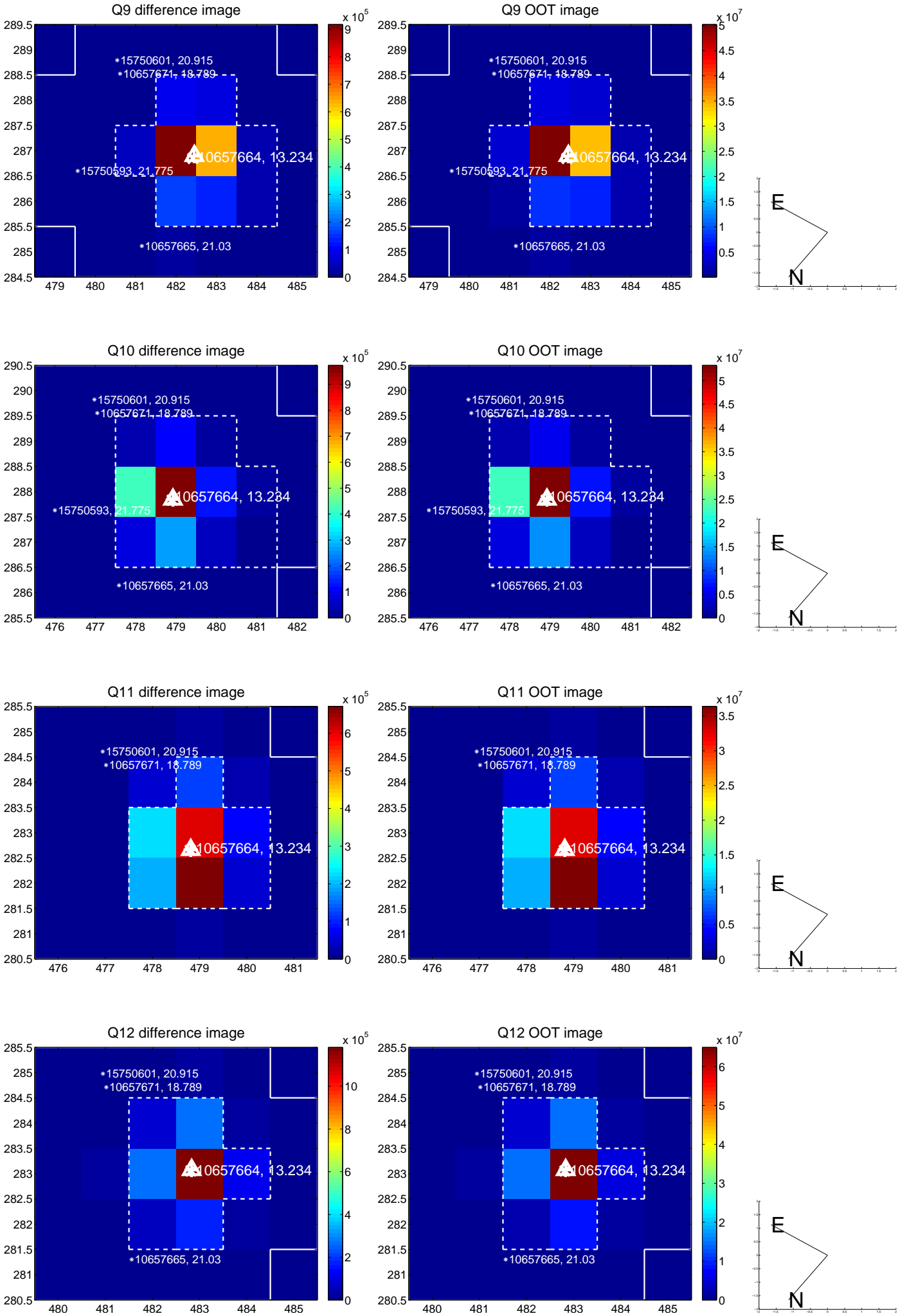
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



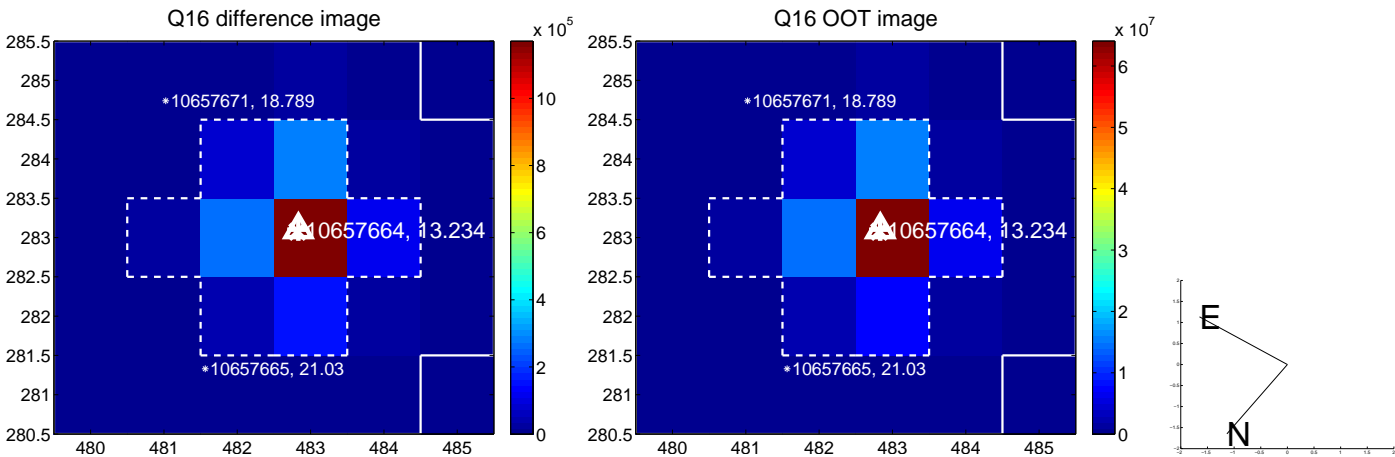
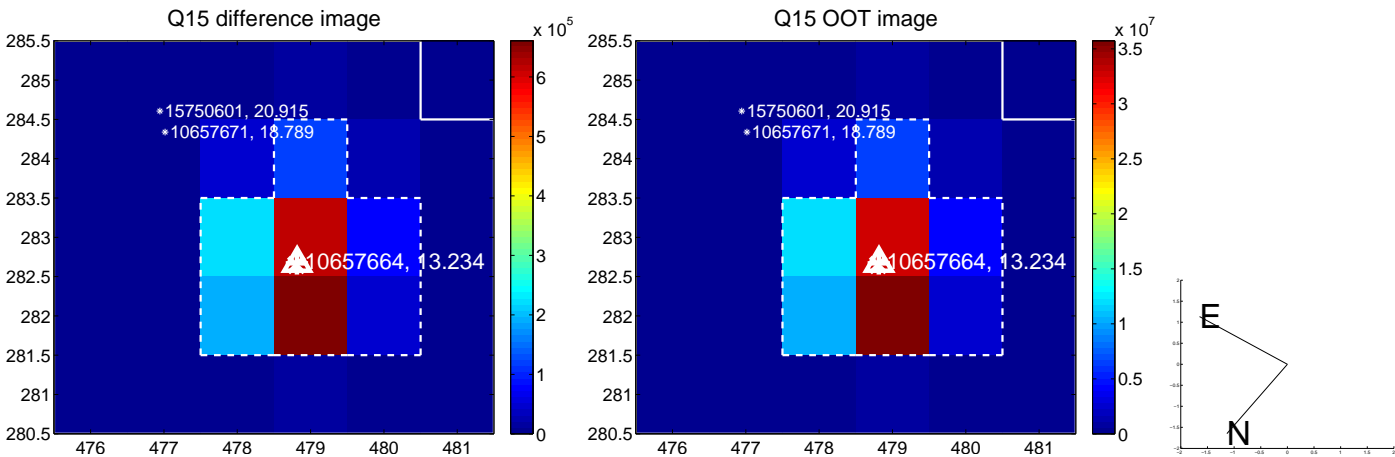
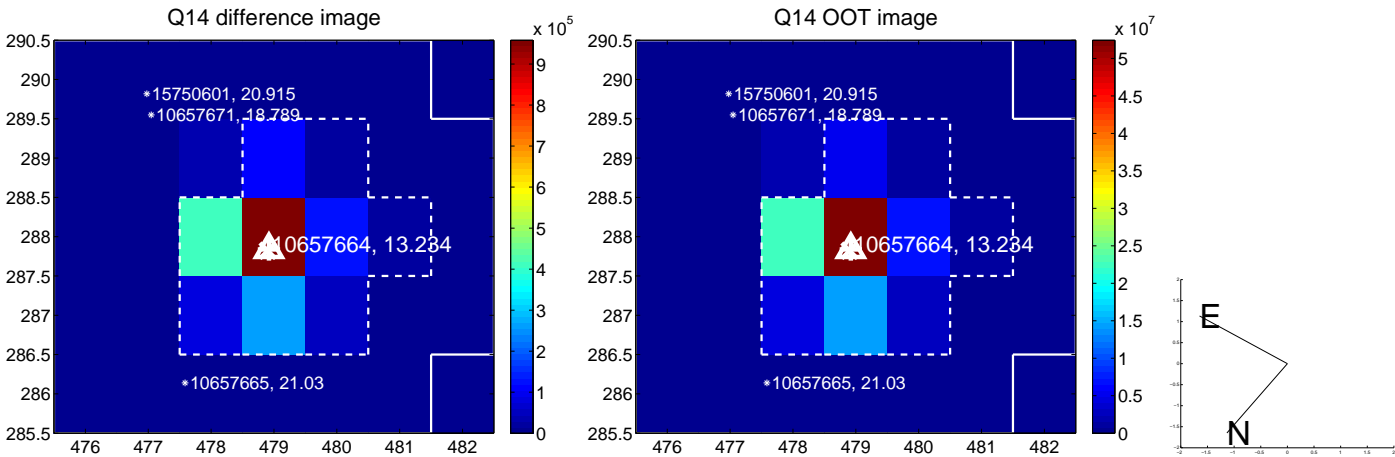
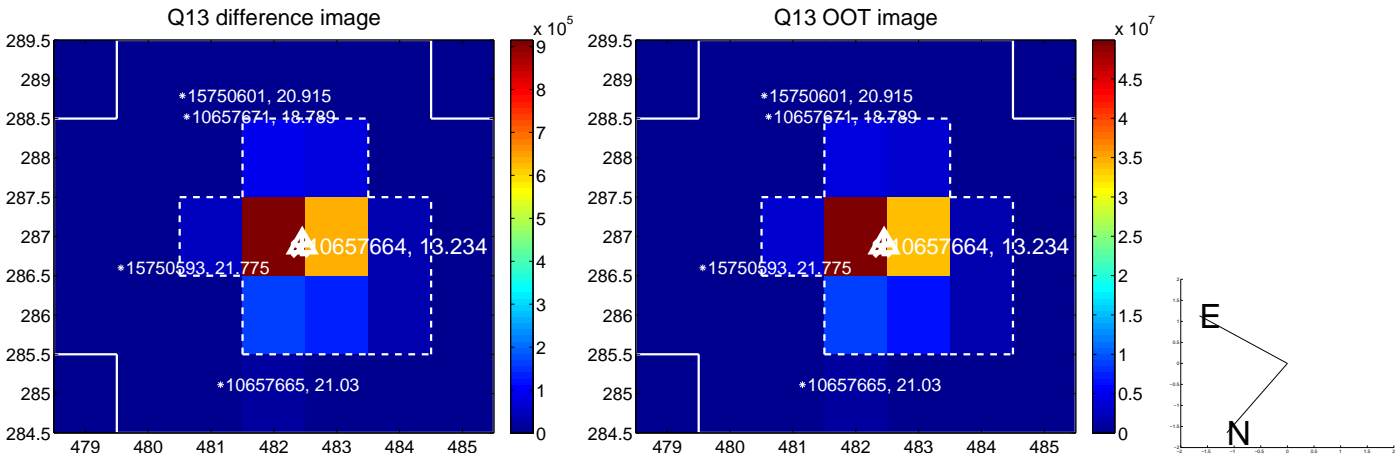
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



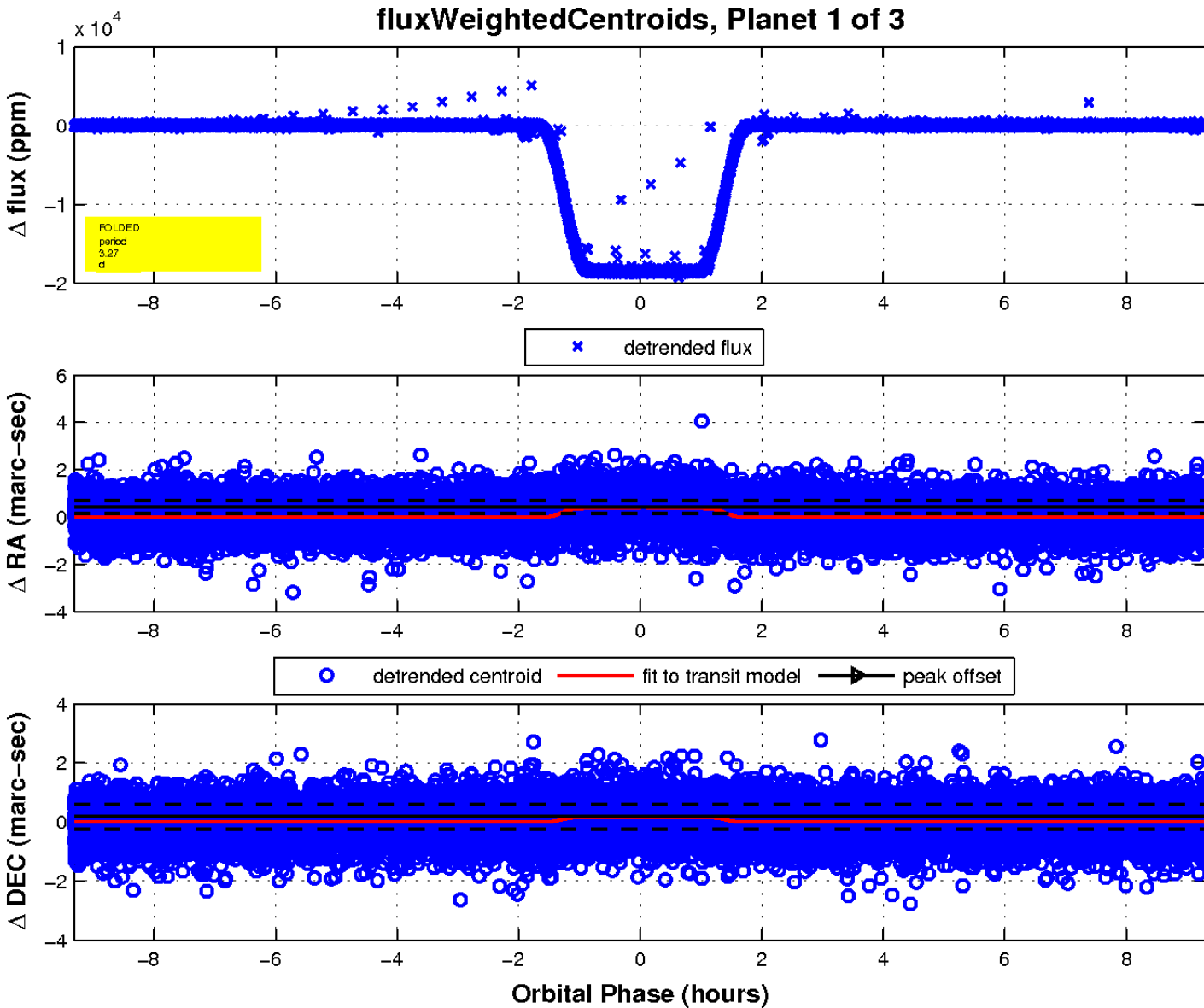
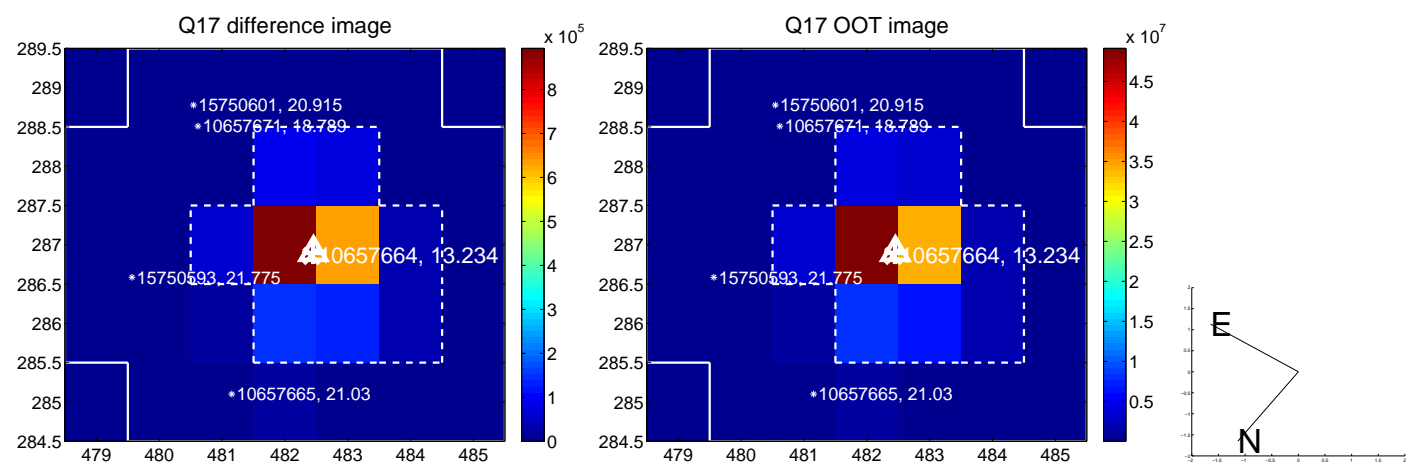
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

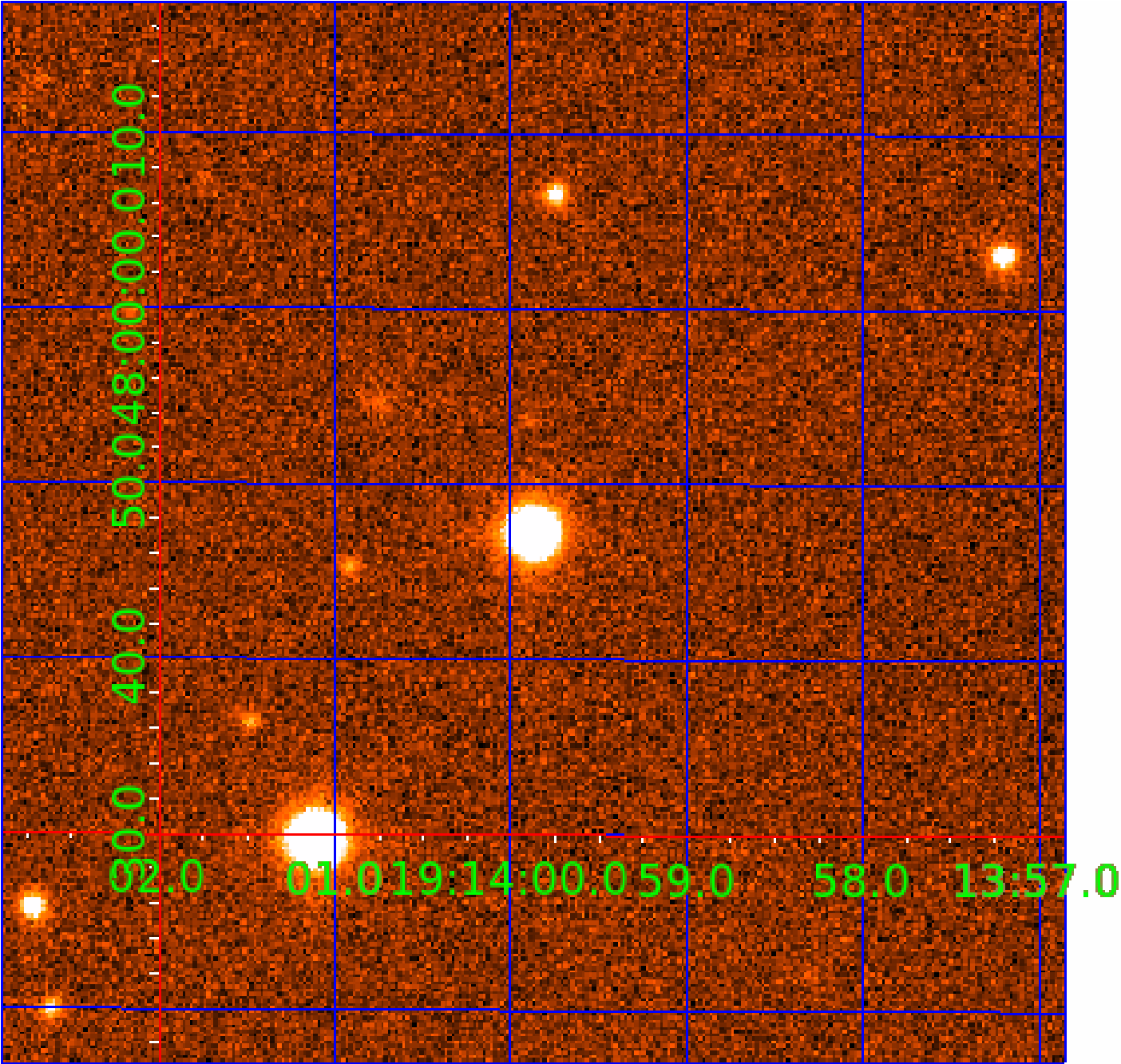


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010657664

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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010657664-02	OBS	No	3.273699	131.954348	6721.9	3.067	1929.6	1906.3	2.49	10816	22.16	20777.39
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010657664-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010657664-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010657664-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—RESIDUAL_TCE

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

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

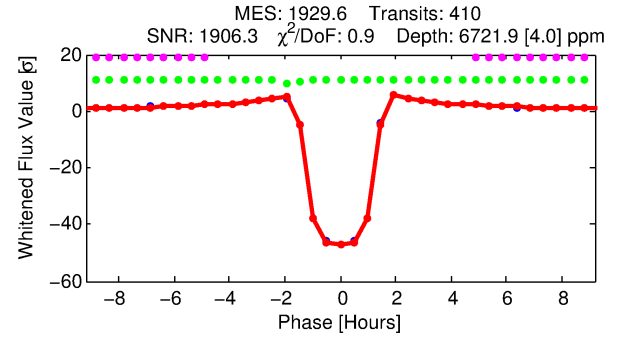
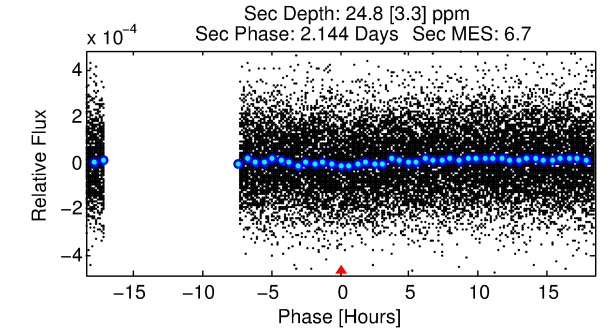
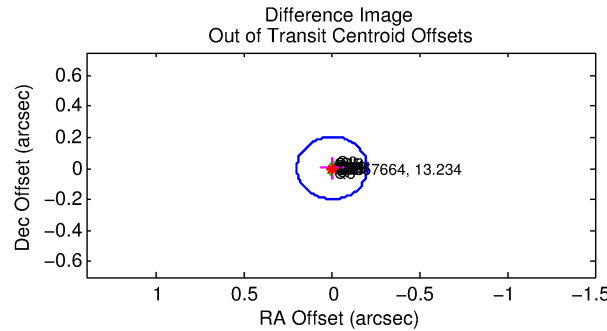
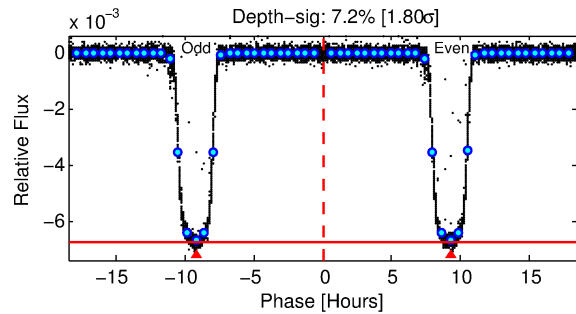
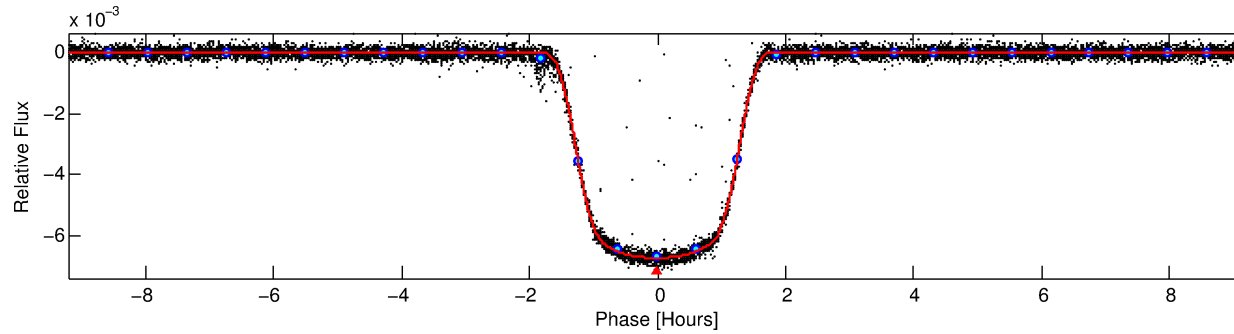
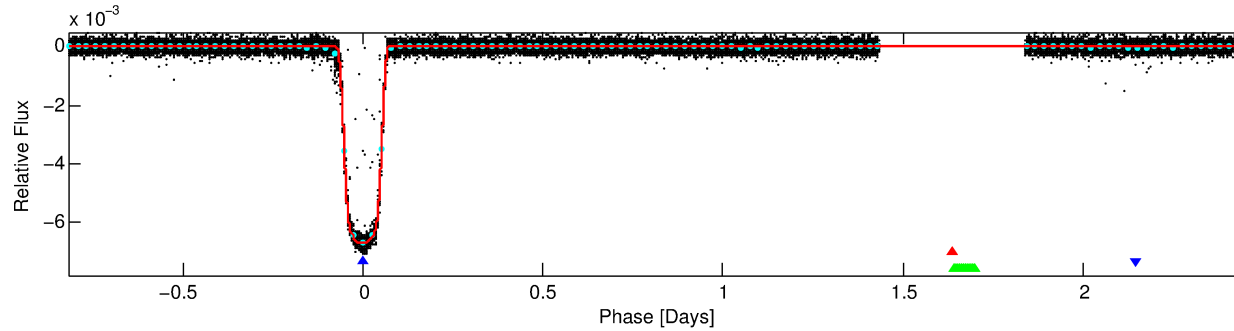
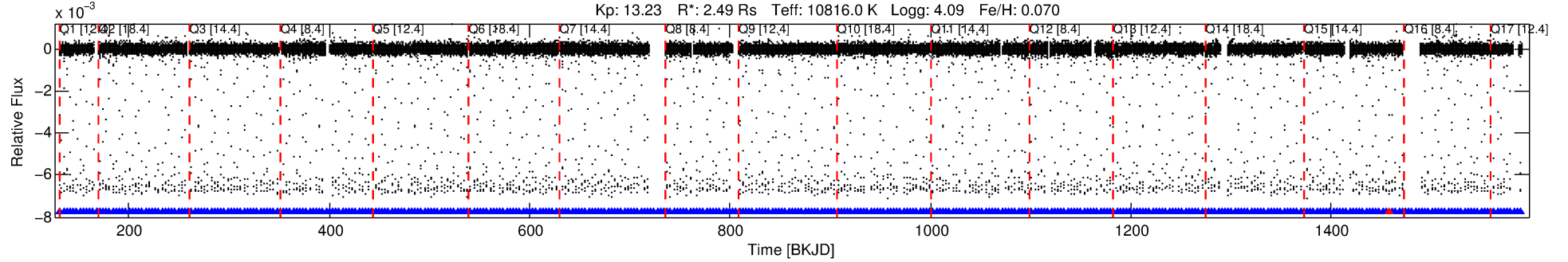
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010657664-02

No Significant Match Found

DV One-Page Summary

KIC: 10657664 Candidate: 2 of 3 Period: 3.274 d
KOI: K00964.01 Corr: 0.981



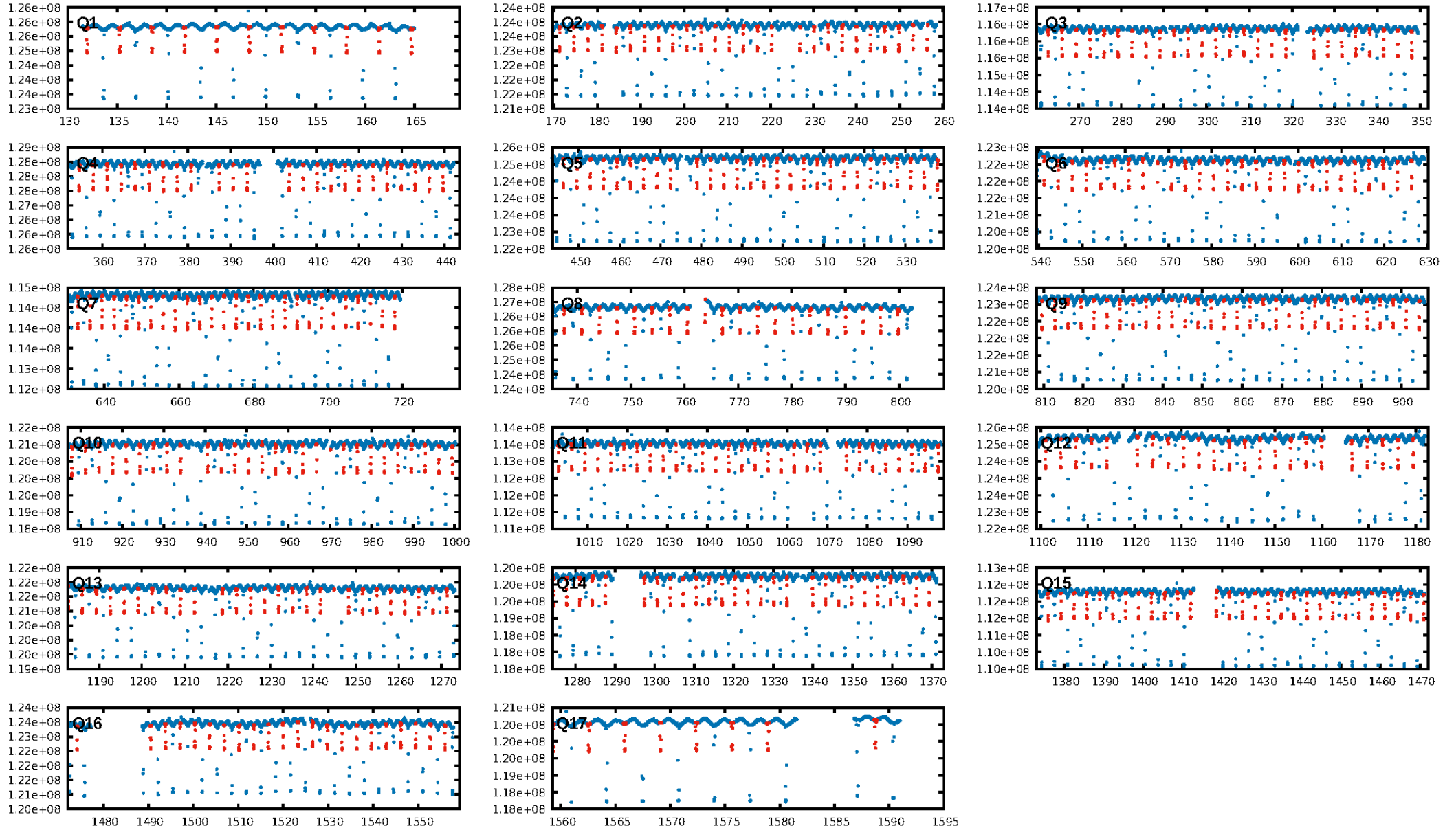
DV Fit Results:

Period = 3.27370 [0.00000] d
Epoch = 131.9543 [0.0000] BKJD
Rp/R* = 0.0815 [0.0001]
a/R* = 6.53 [0.03]
b = 0.73 [0.00]
Seff = 20777.39 [9056.57]
Teff = 3061 [334] K
Rp = 22.16 [7.24] Re
a = 0.0606 [0.0167] AU
Ag = 0.10 [0.04] [-20.83 σ]
Teffp = 2674 [144] K [-1.07 σ]

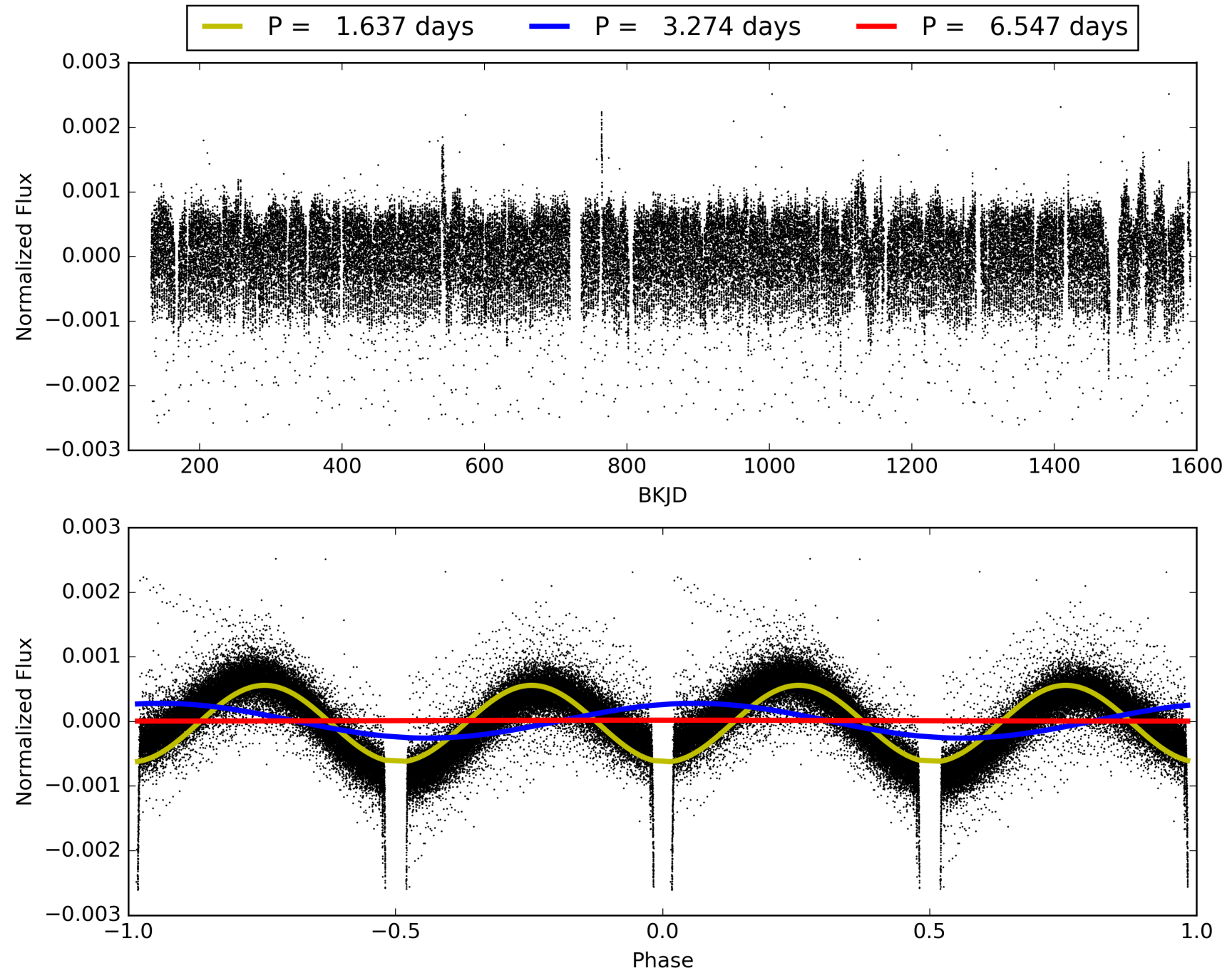
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [390/391]
GhostDiagnostic-chr: 8.875
Centroid-sig: 0.2%
Centroid-so: 0.166 arcsec [27.75 σ]
OotOffset-rm: 0.003 arcsec [0.05 σ]
KicOffset-rm: 0.103 arcsec [1.51 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010657664-02, PDC Light Curves

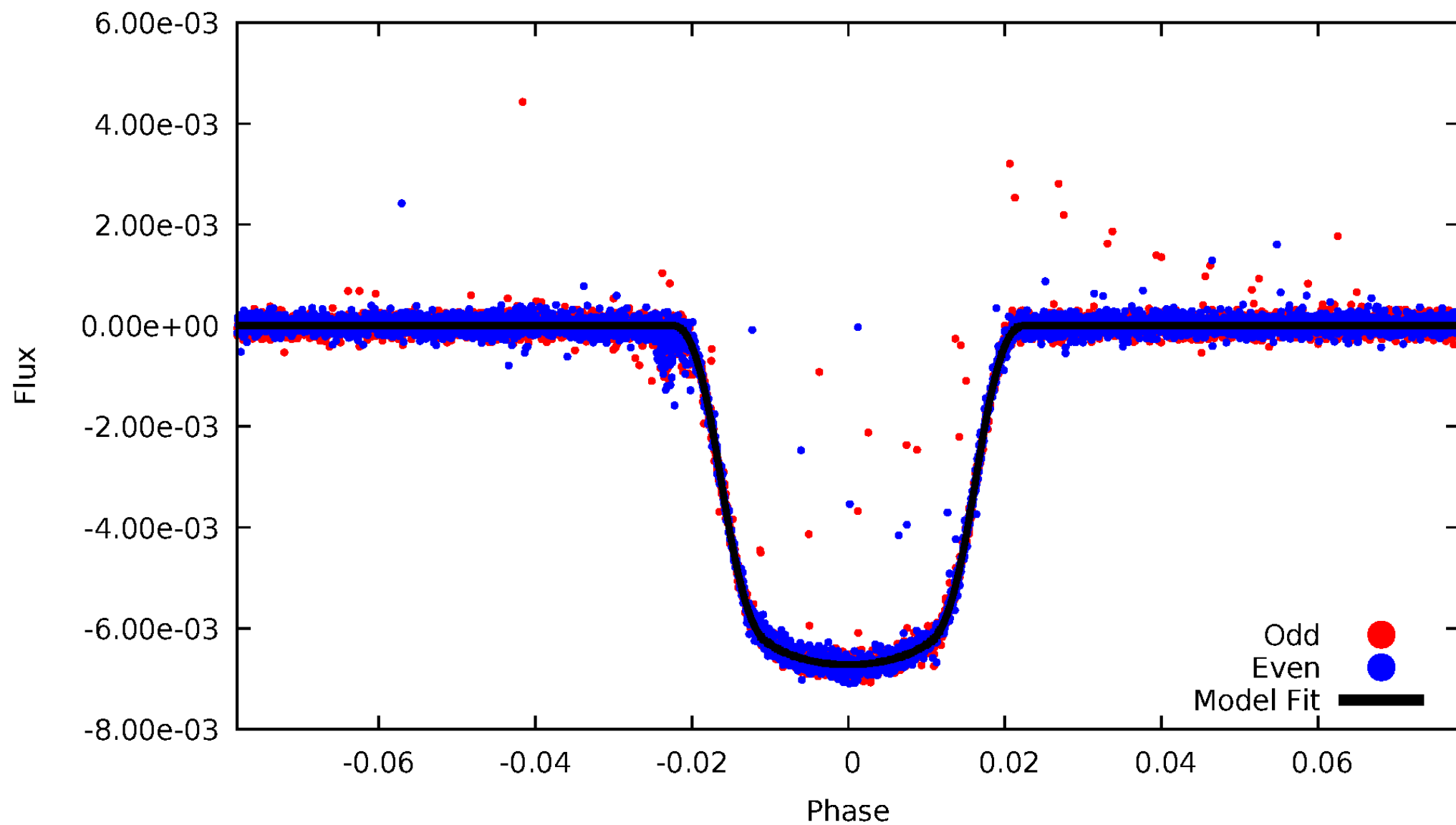


TCE 010657664-02



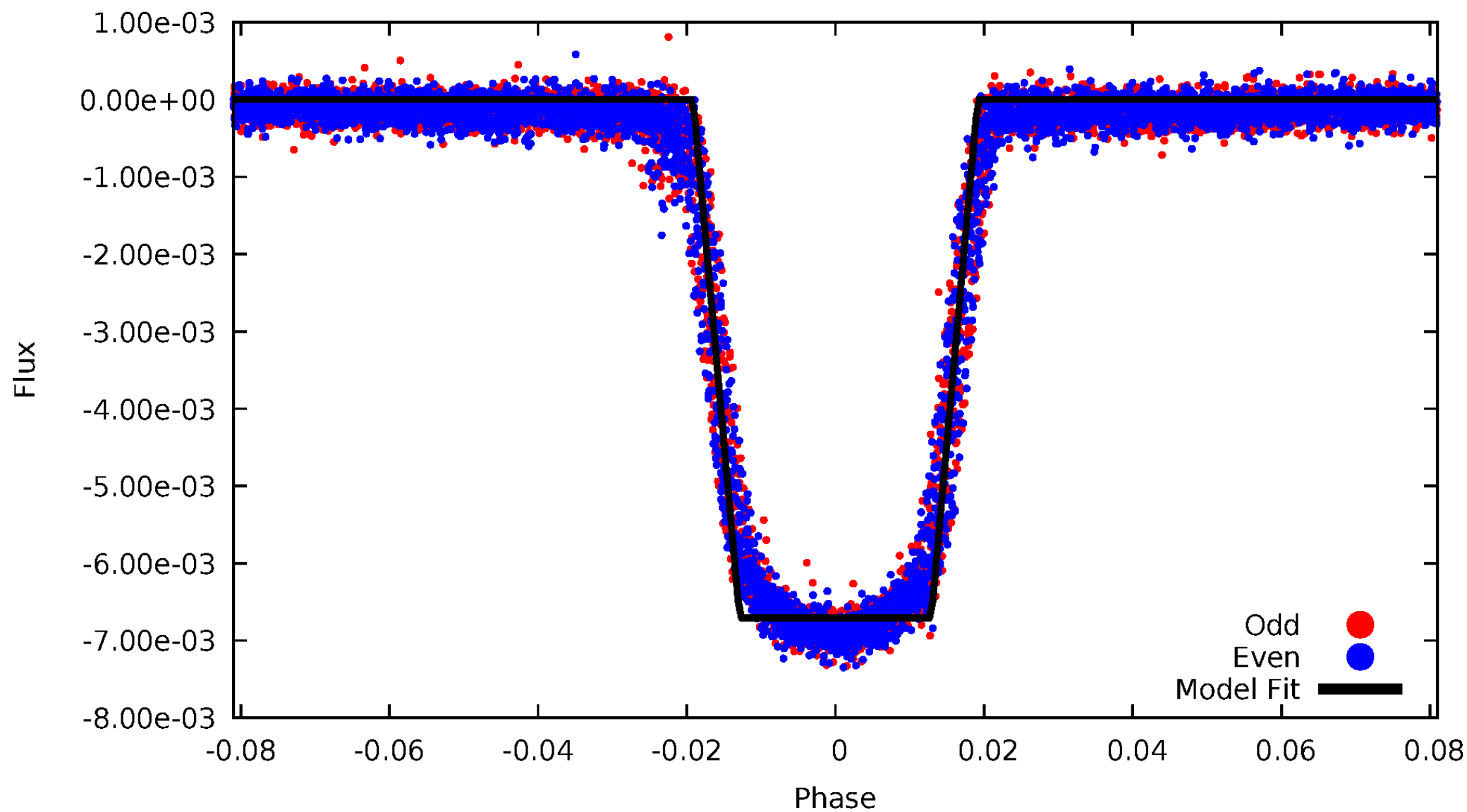
DV Odd/Even

TCE 010657664-02



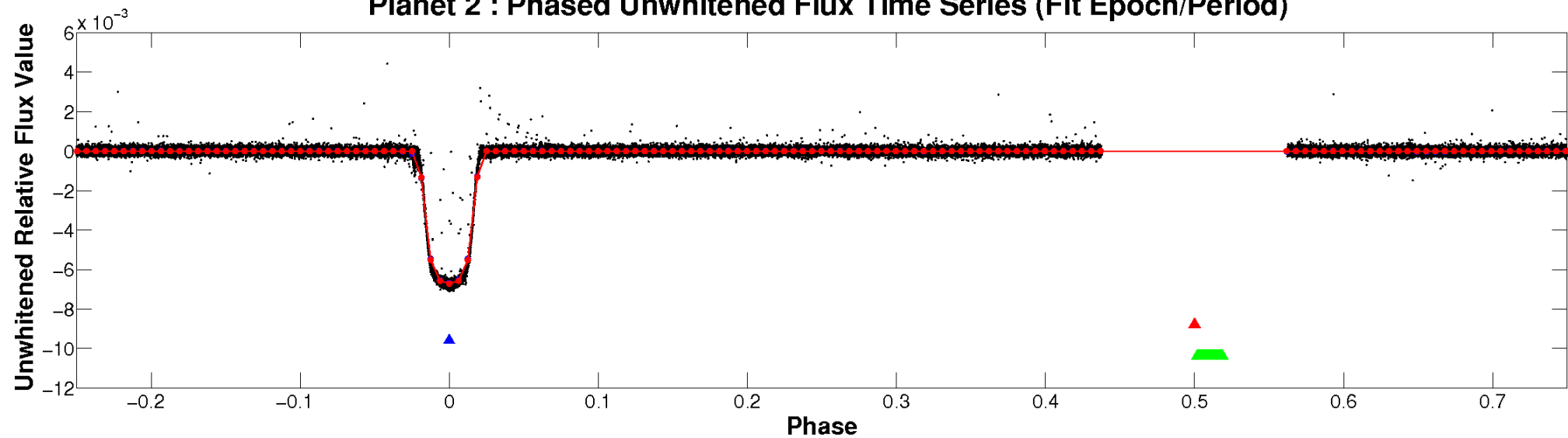
ALT Odd/Even

TCE 010657664-02

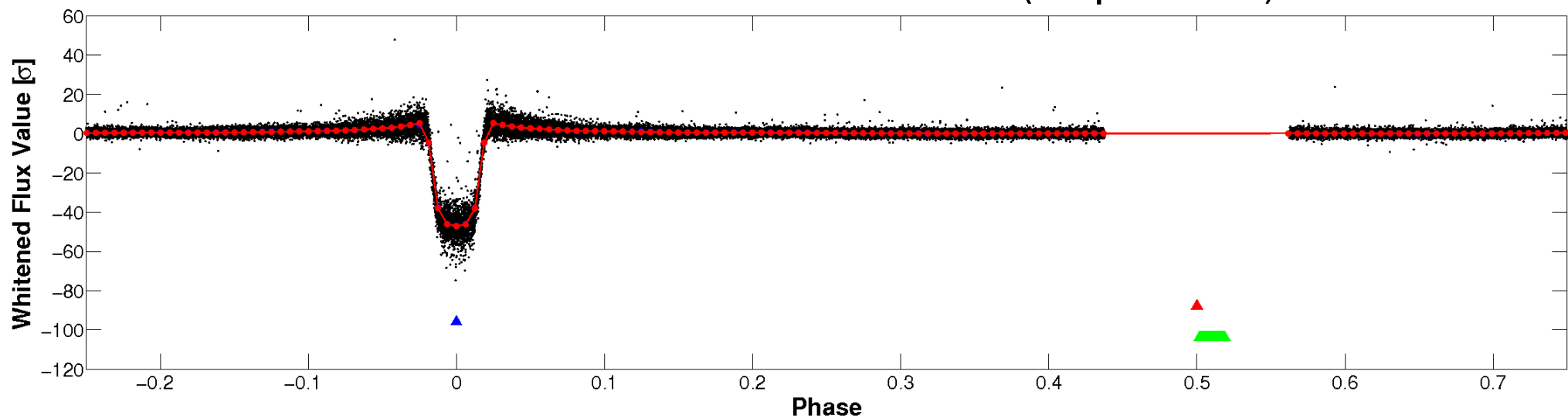


Non-Whitened Vs. Whitened Light Curve

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

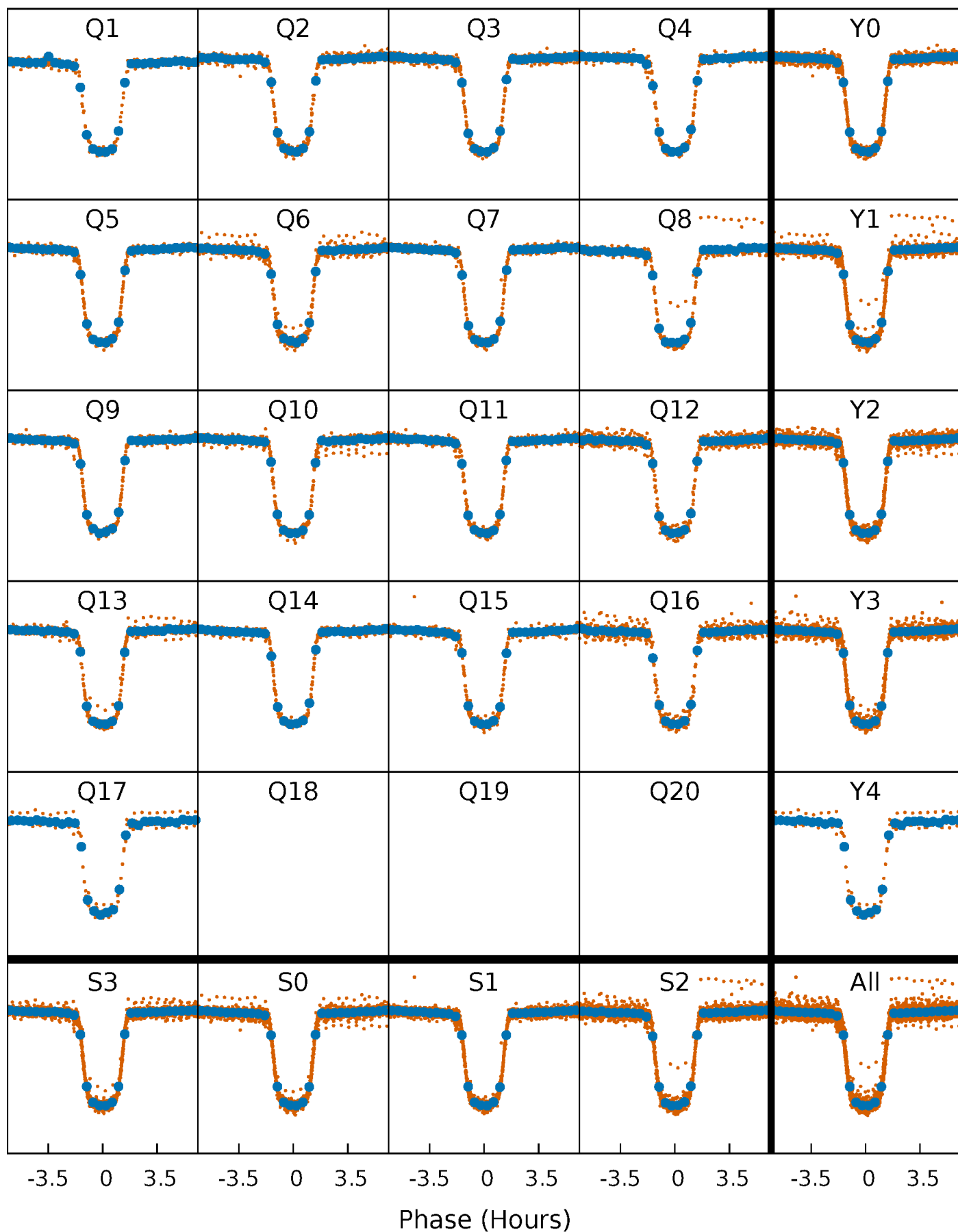


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



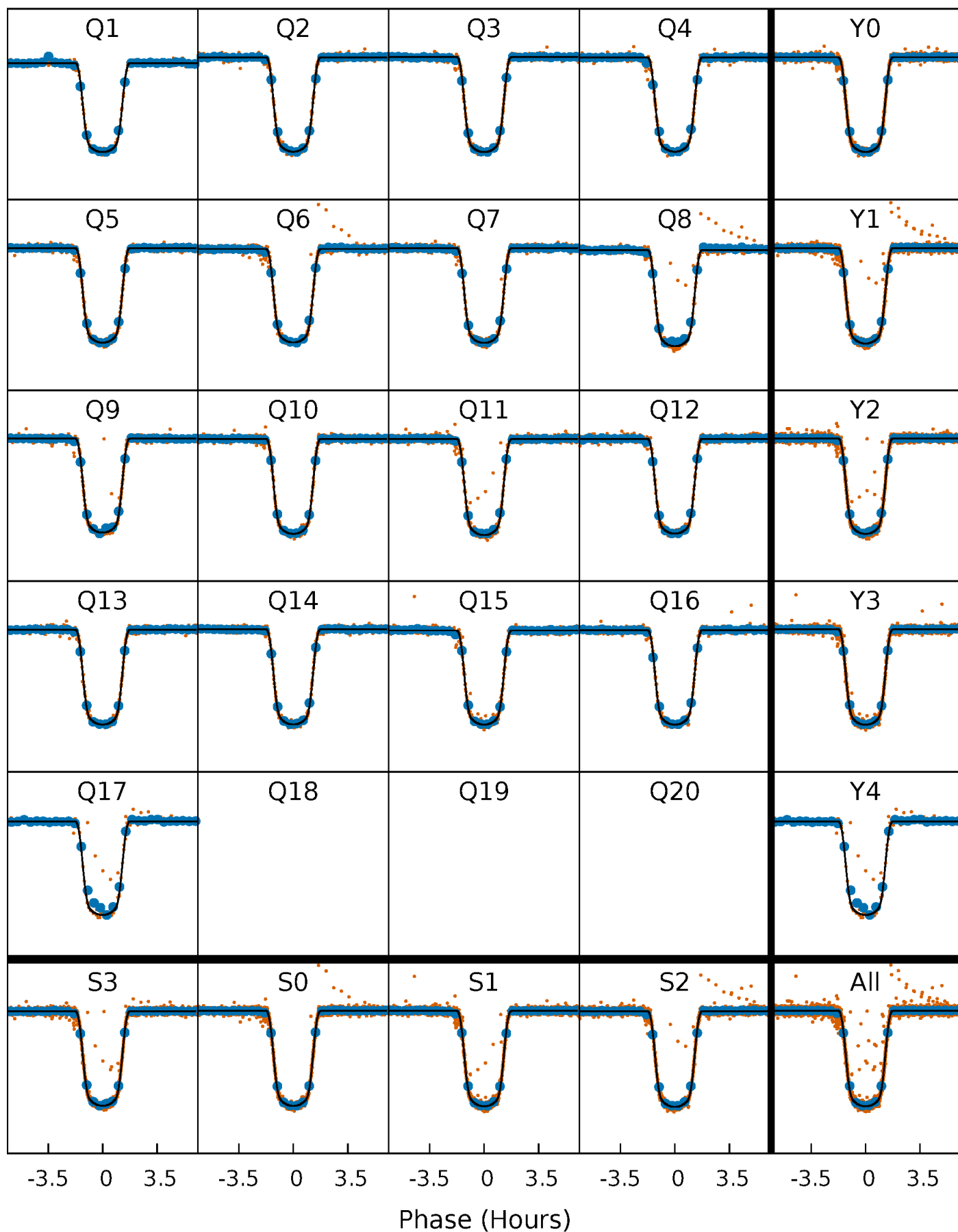
PDC Quarter-Phased Transit Curves

TCE 010657664-02 P= 3.273699 Days $T_0=131.954348$ (BKJD)



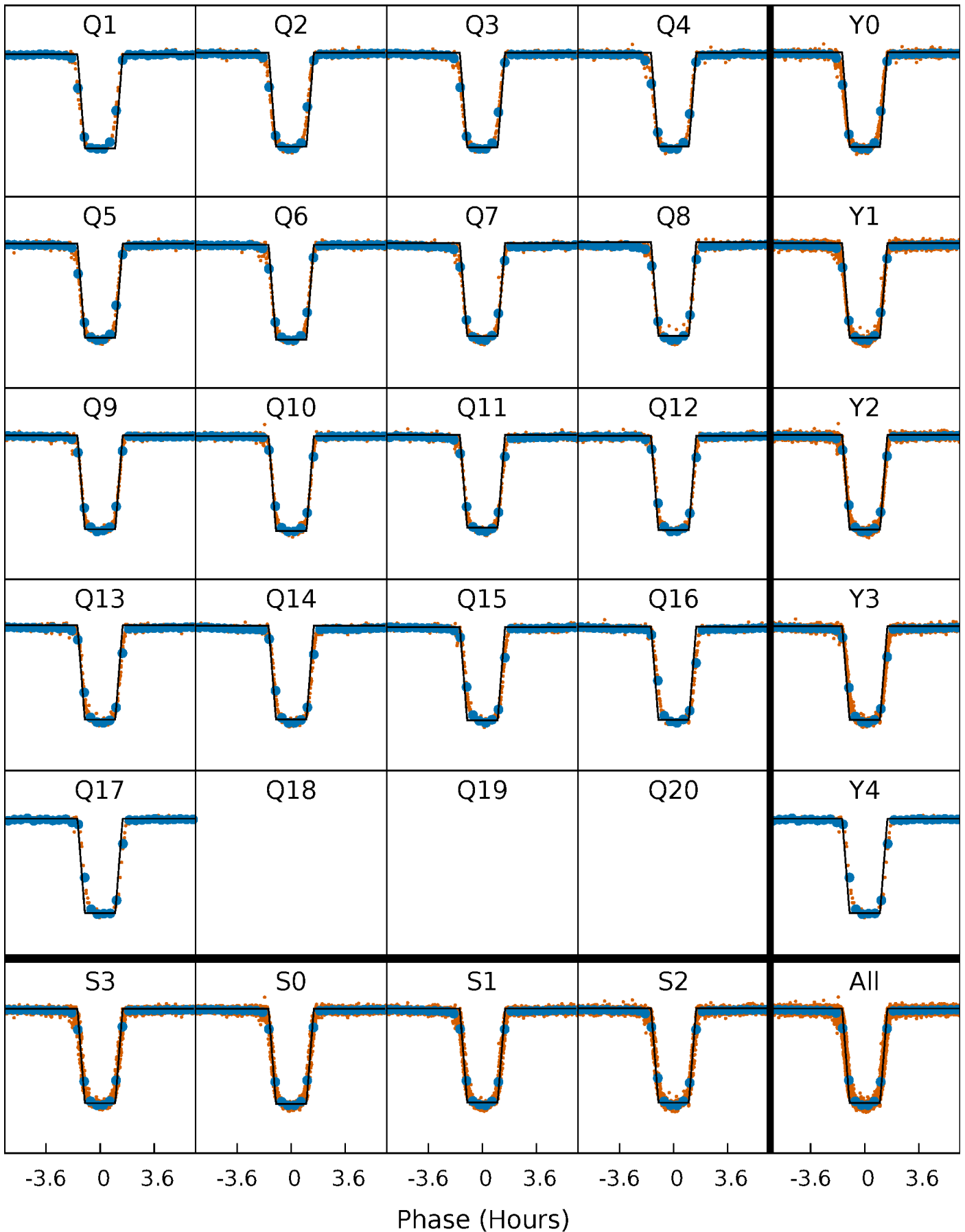
DV Quarter-Phased Transit Curves

TCE 010657664-02 P= 3.273699 Days $T_0=131.954348$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

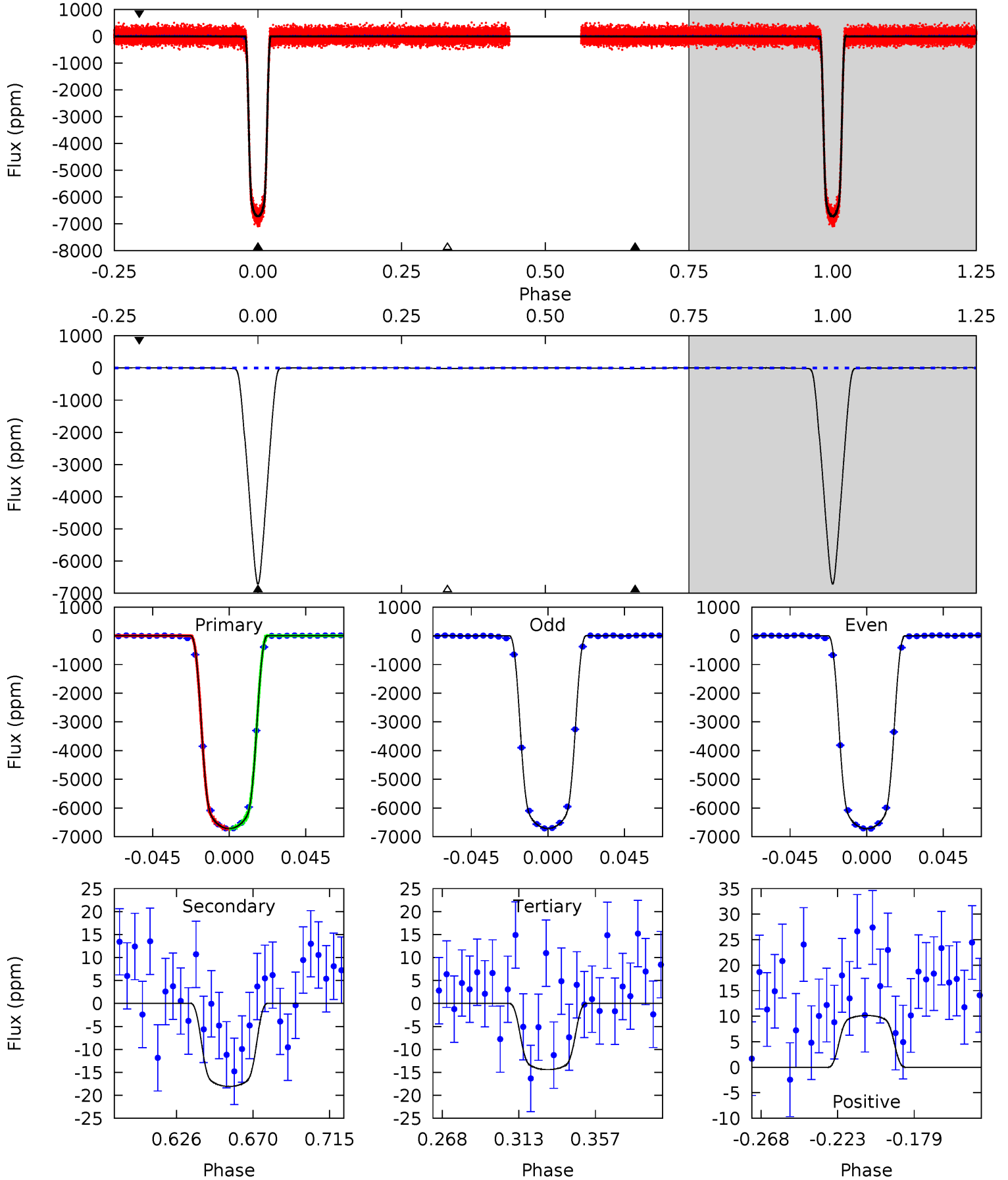
TCE 010657664-02 P= 3.273671 Days $T_0=131.960216$ (BKJD)



DV Model-Shift Uniqueness Test

010657664-02, P = 3.273699 Days, E = 128.680649 Days

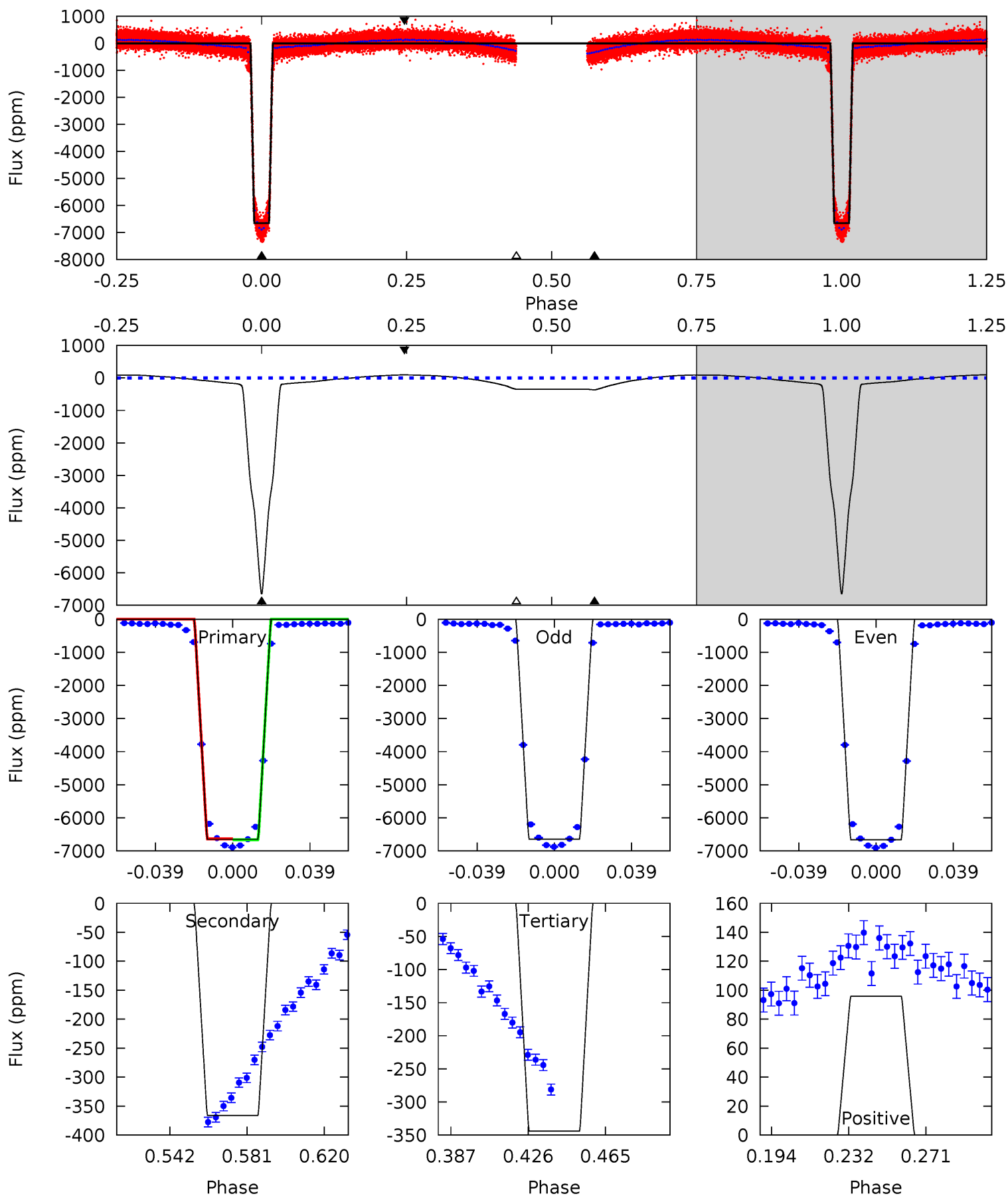
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2831	7.62	6.07	4.27	4.73	2.01	2.58	2825	2827	1.54	3.34	1.56	0.99	0.00	0.56



Alt Model-Shift Uniqueness Test

010657664-02, P = 3.273671 Days, E = 128.686545 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1797	99.0	93.0	25.9	4.76	2.07	26.5	1704	1772	6.00	73.1	2.39	1.00	0.01	3.38



Stellar Parameters For KIC 010657664

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10816^{+304}_{-457}	$4.086^{+0.220}_{-0.220}$	$0.070^{+0.050}_{-0.600}$	$2.493^{+0.814}_{-0.814}$	$2.760^{+0.289}_{-0.674}$	$0.251^{+0.374}_{-0.132}$
	+3%/-4%	+5%/-5%	+71%/-857%	+33%/-33%	+10%/-24%	+149%/-53%
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 010657664-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 2	$22.20^{+3.97}_{-3.87}$	4269^{+391}_{-355}	-3448^{+240}_{-235}	$0.071^{+0.031}_{-0.021}$
Alt.	-366 ± 4	$22.30^{+4.08}_{-3.69}$	4292^{+390}_{-389}	4583^{+105}_{-135}	$1.466^{+0.506}_{-0.415}$

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

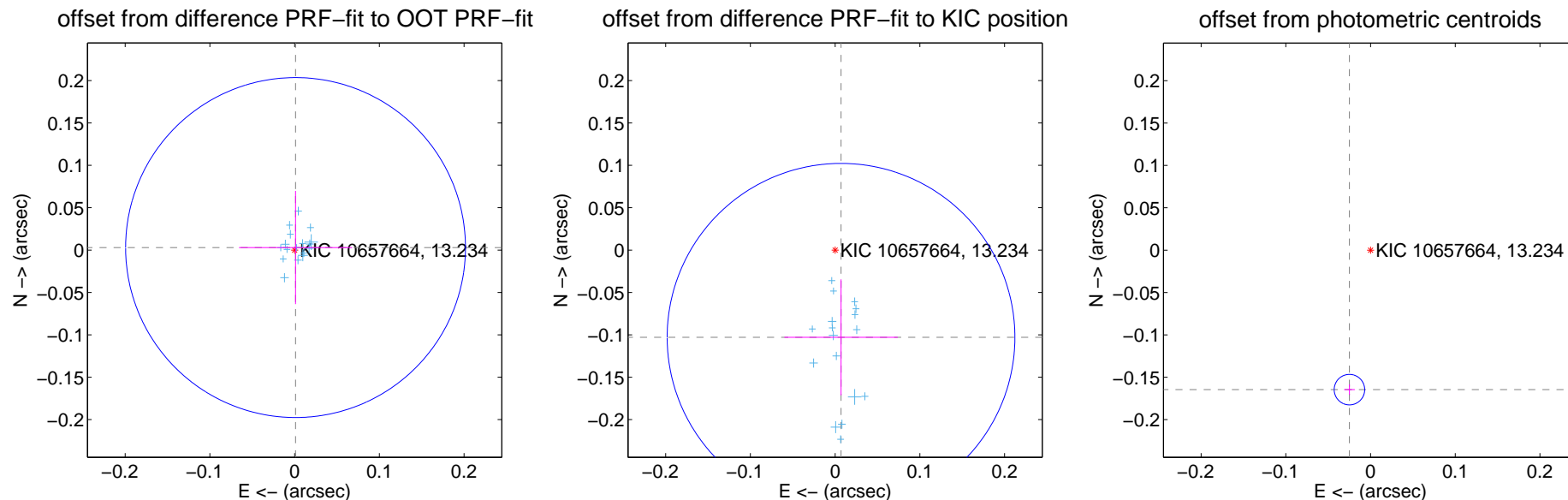
DV Centroid Data

Supplemental centroid analysis for 010657664-02. Kepler magnitude: 13.23. Transit SNR 1906.28

There are 17 quarters with good PRF difference image offsets

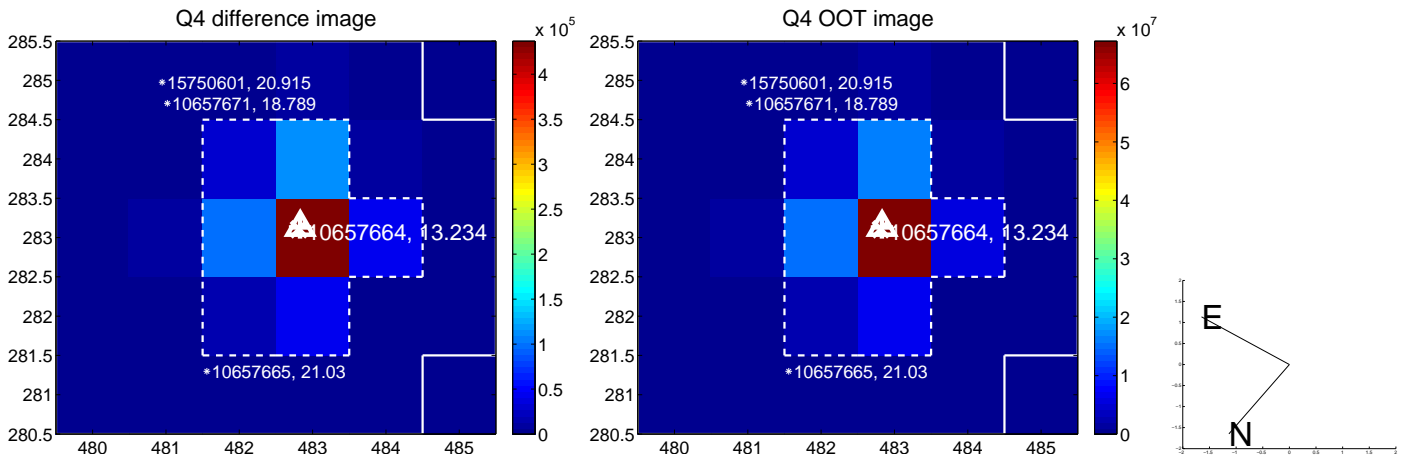
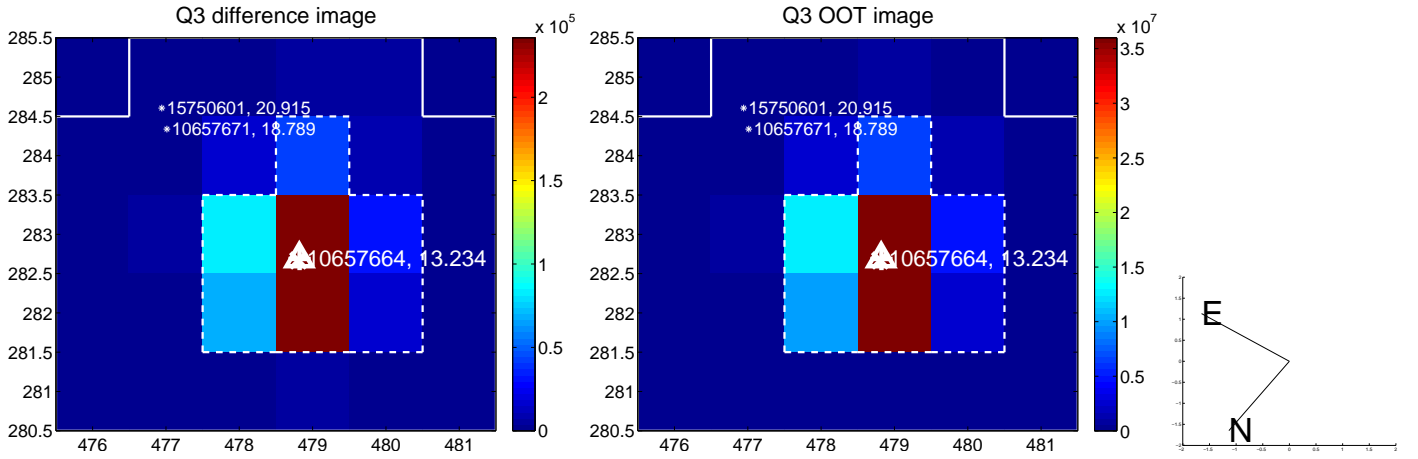
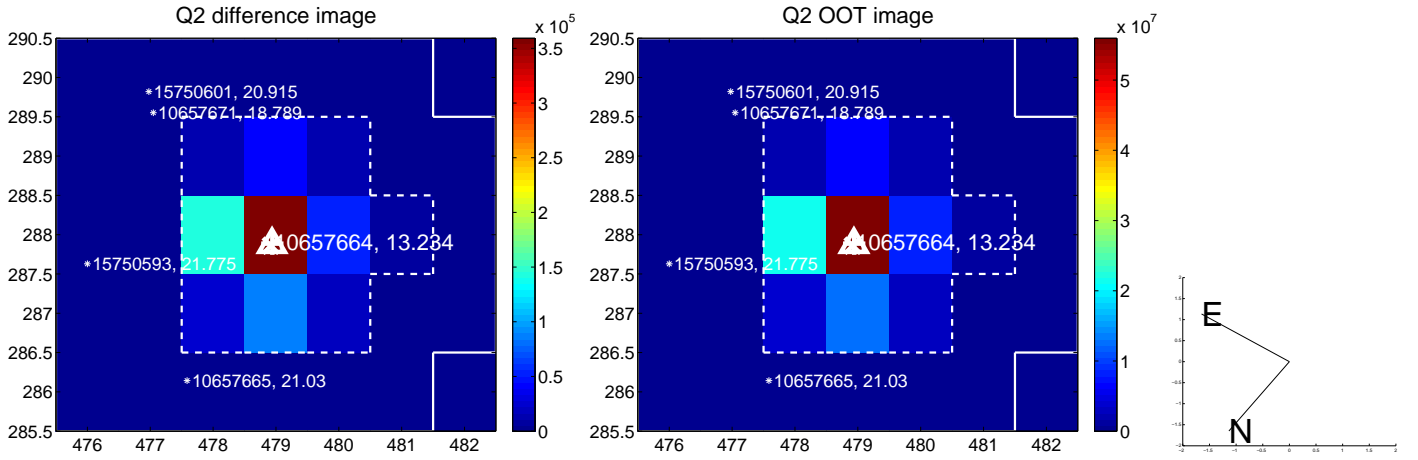
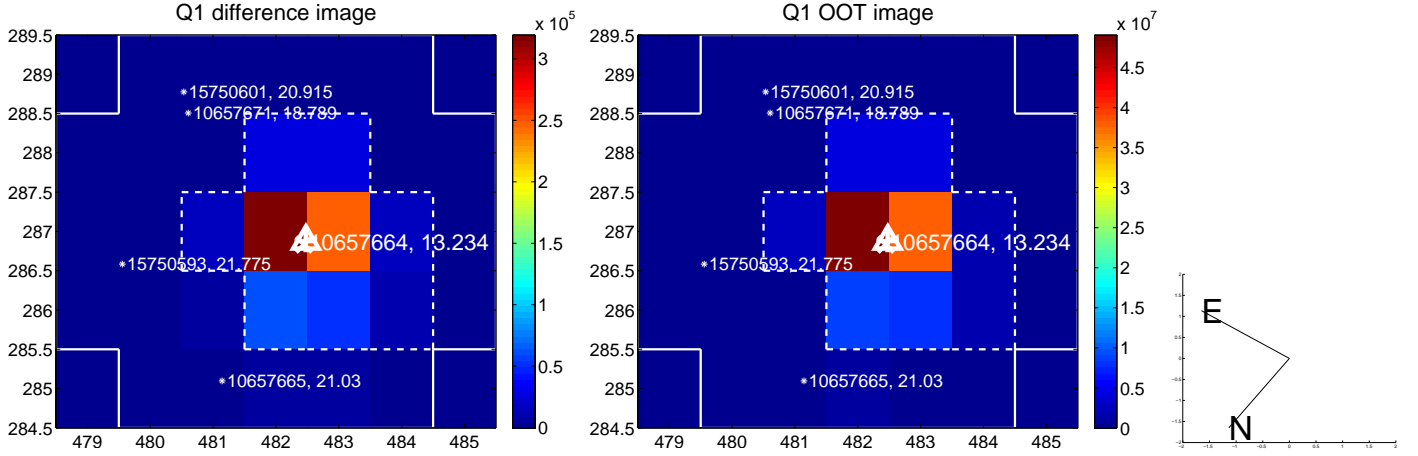
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.003 ± 0.067	0.05	-0.001 ± 0.067	0.003 ± 0.067
PRF-fit source offset from KIC position	0.103 ± 0.068	1.51	-0.007 ± 0.067	-0.103 ± 0.068
photometric centroid source offset	0.17 ± 0.01	27.75	0.02 ± 0.01	-0.16 ± 0.01

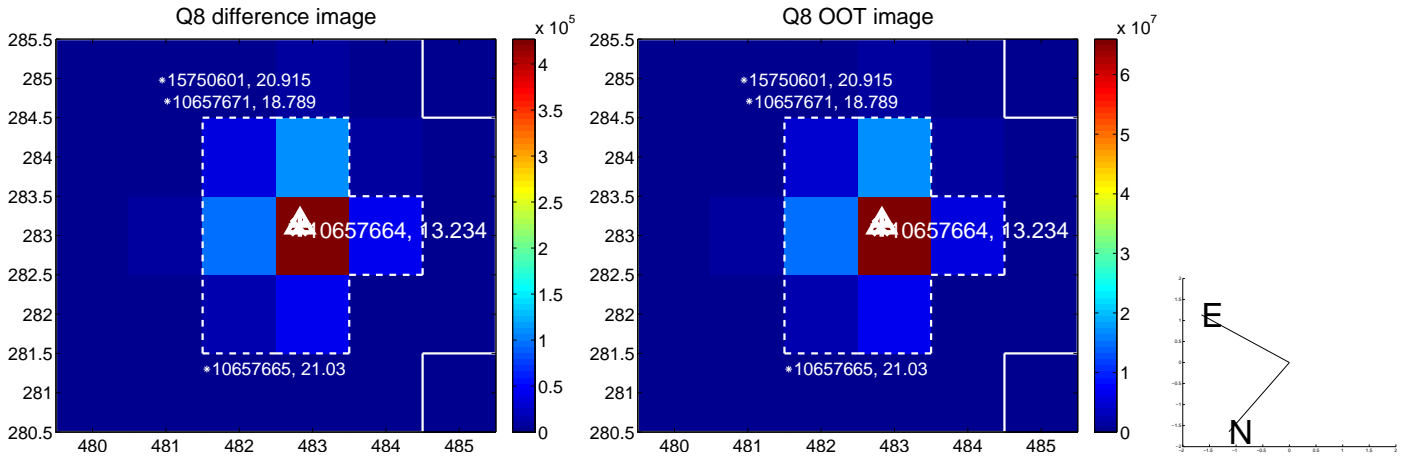
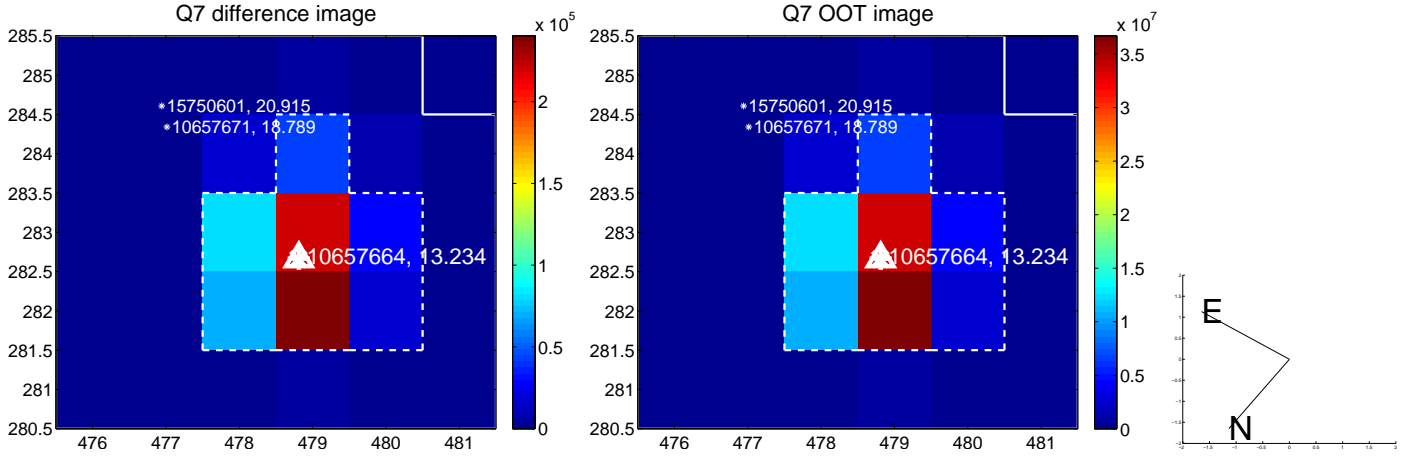
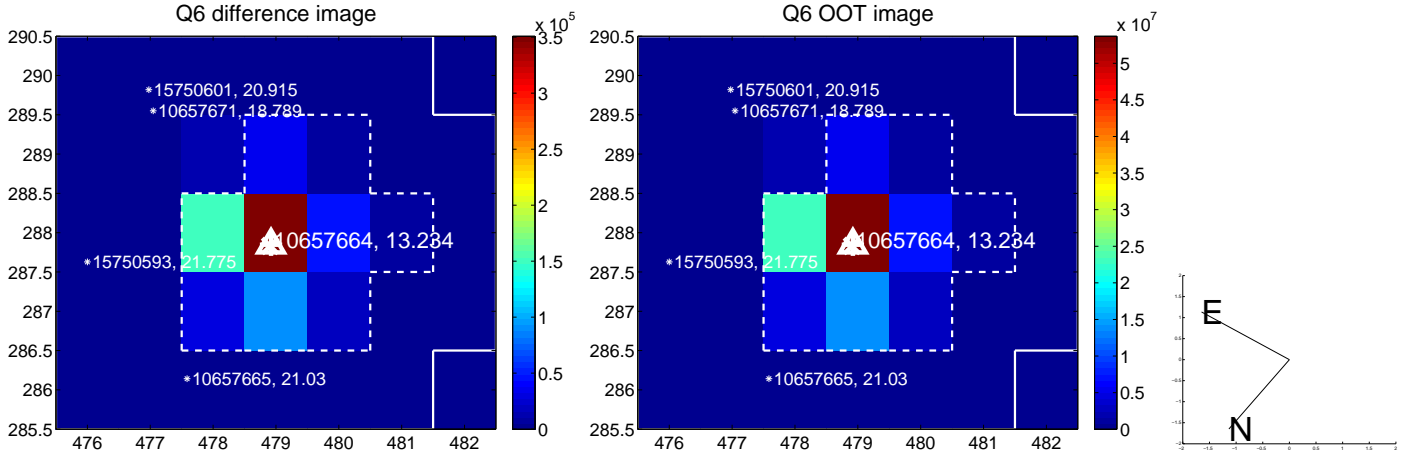
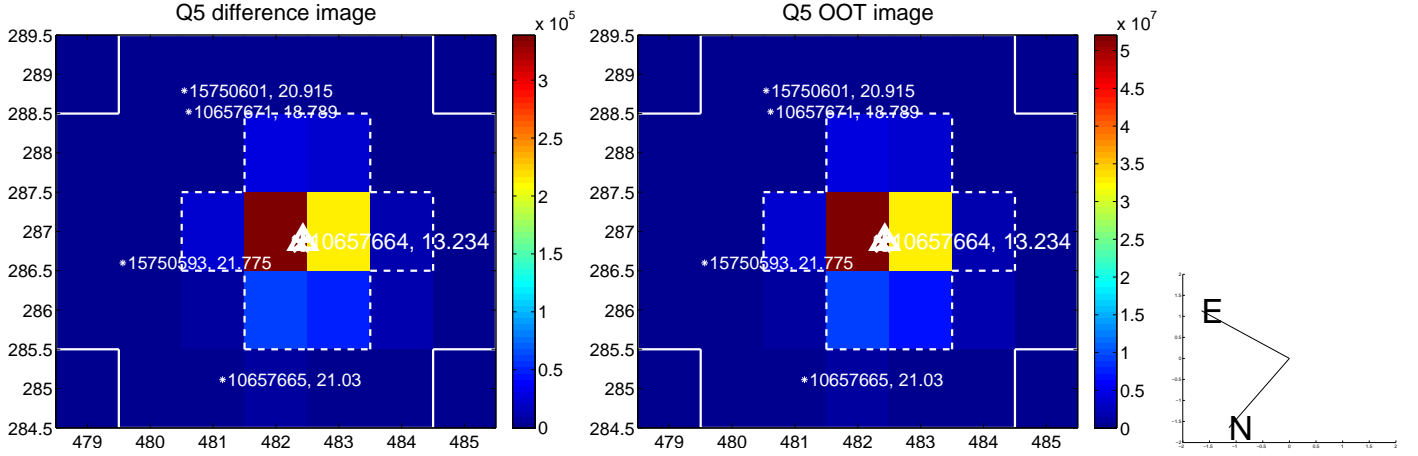


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

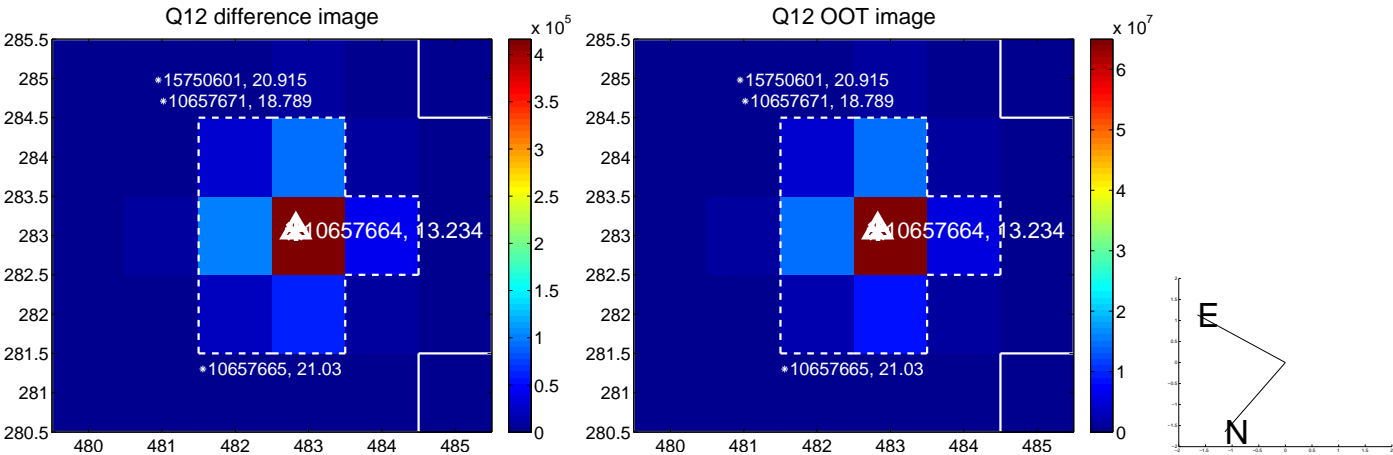
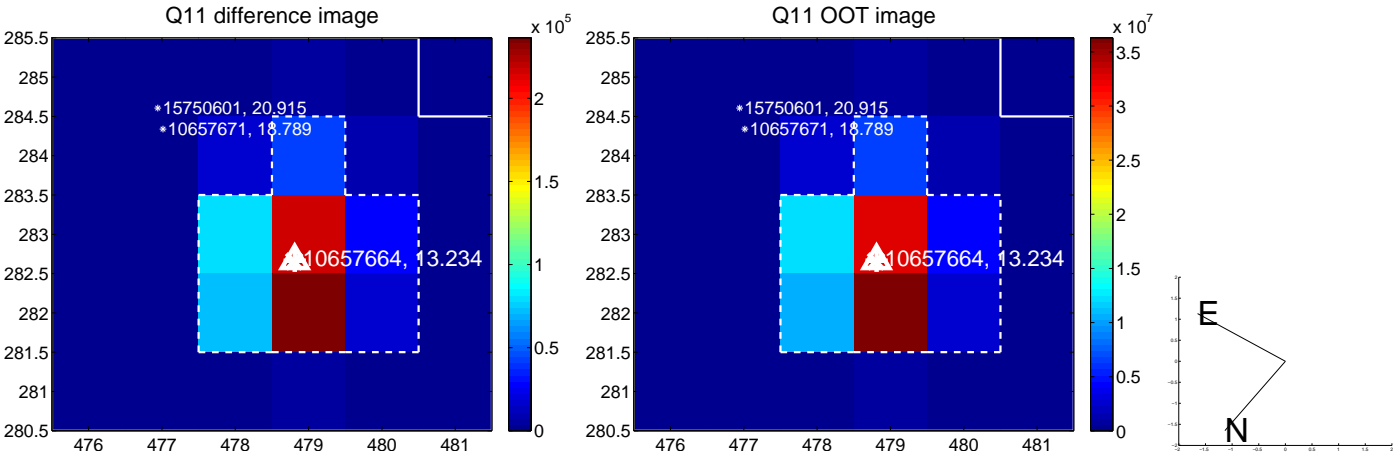
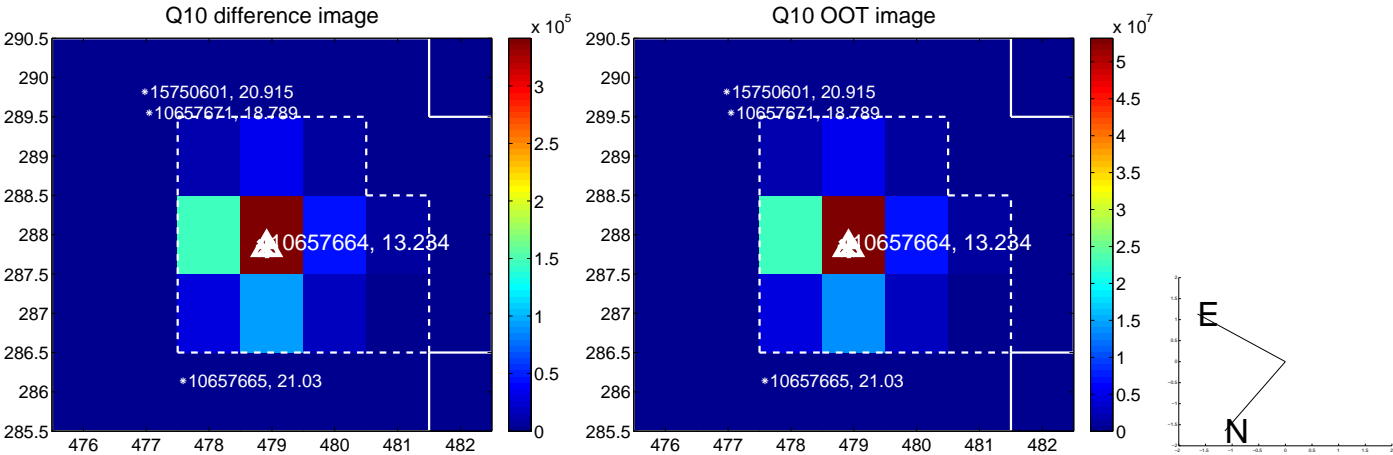
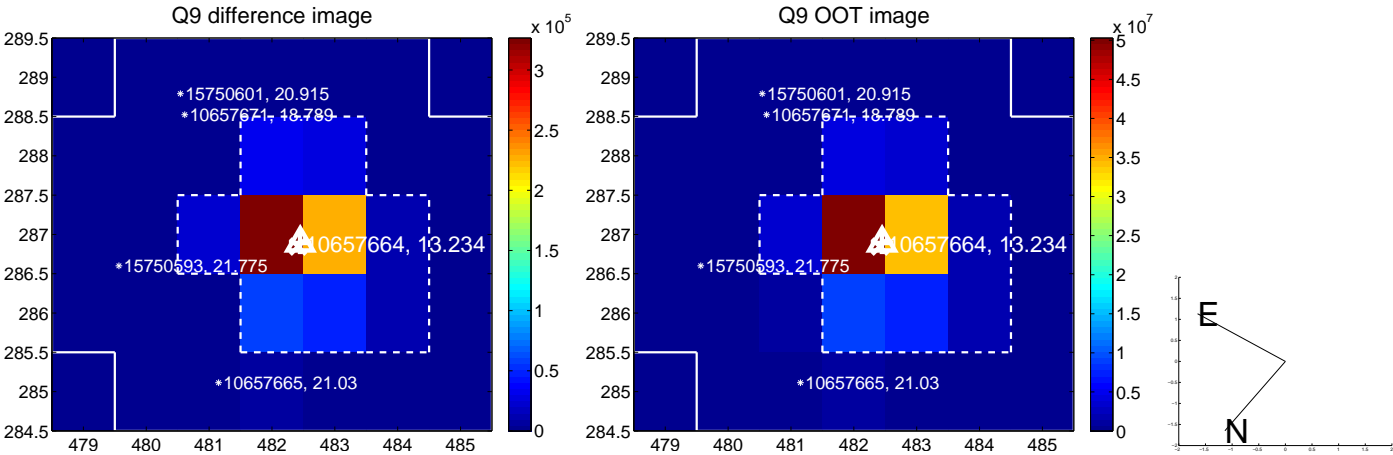
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



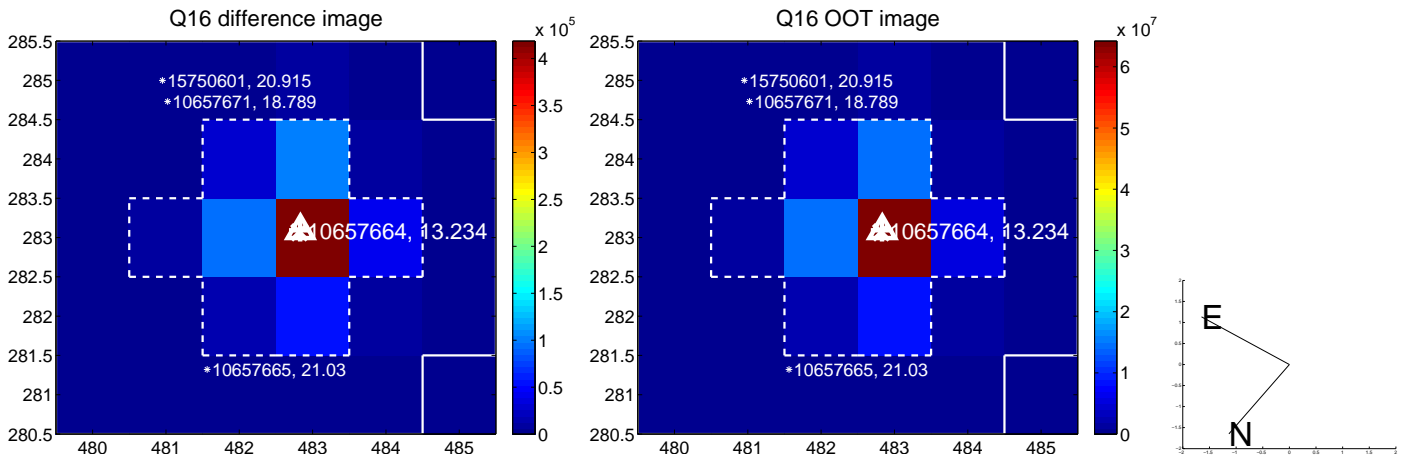
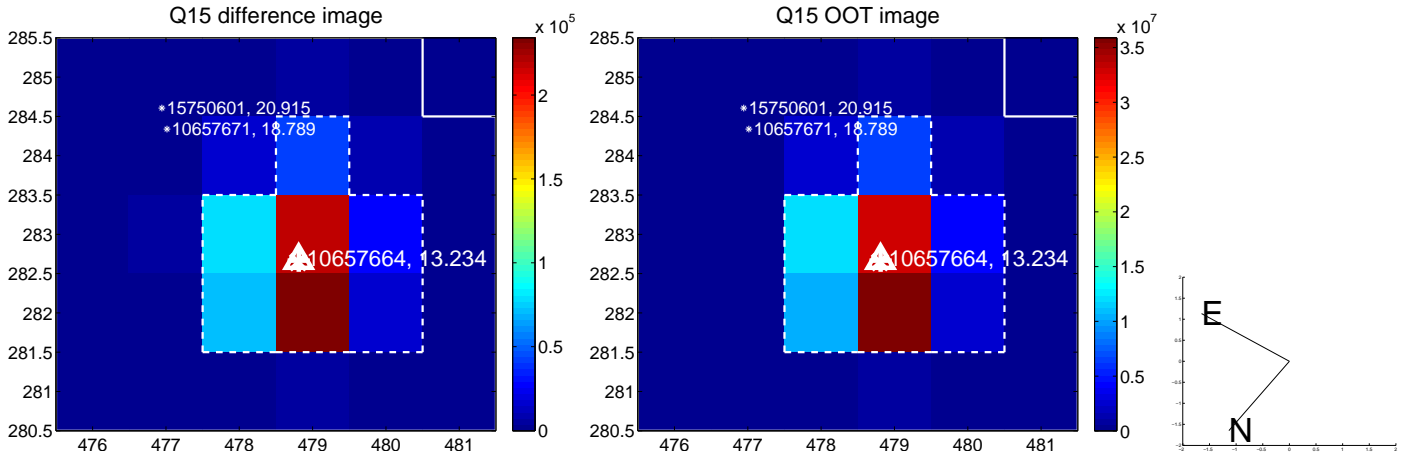
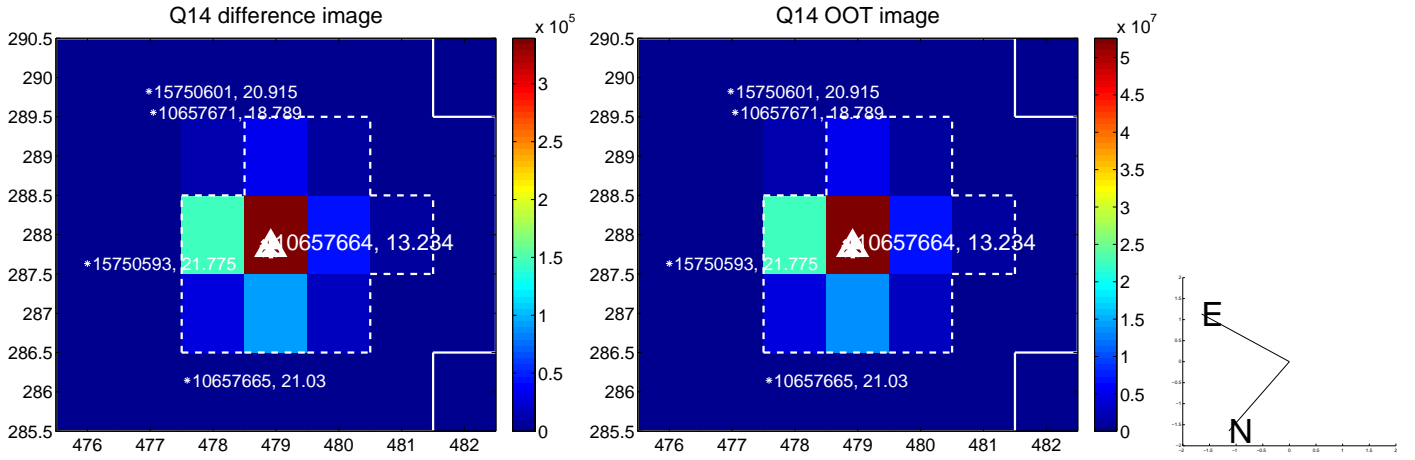
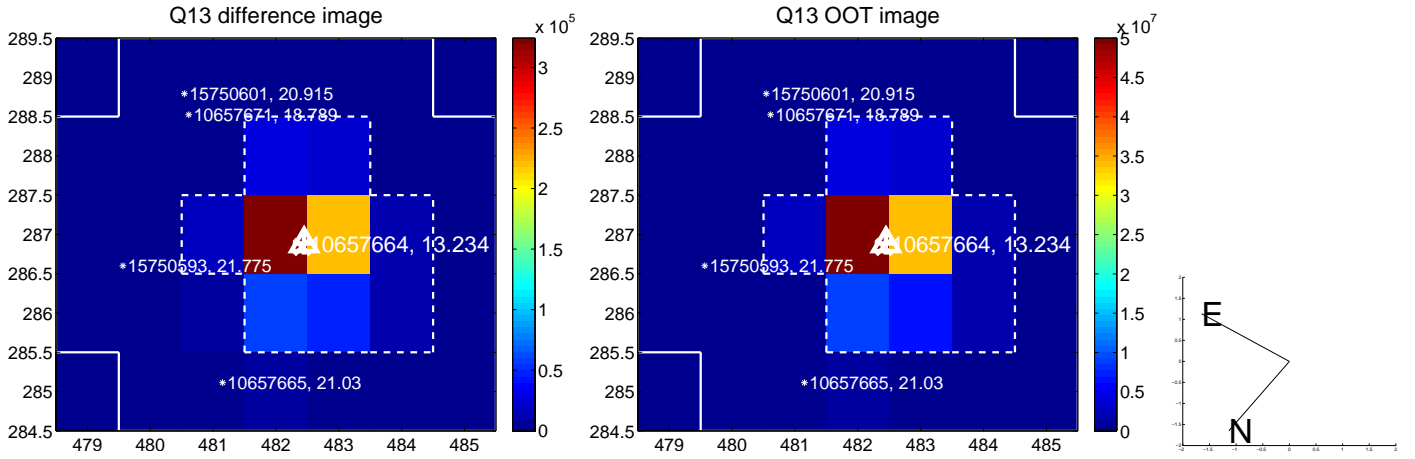
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



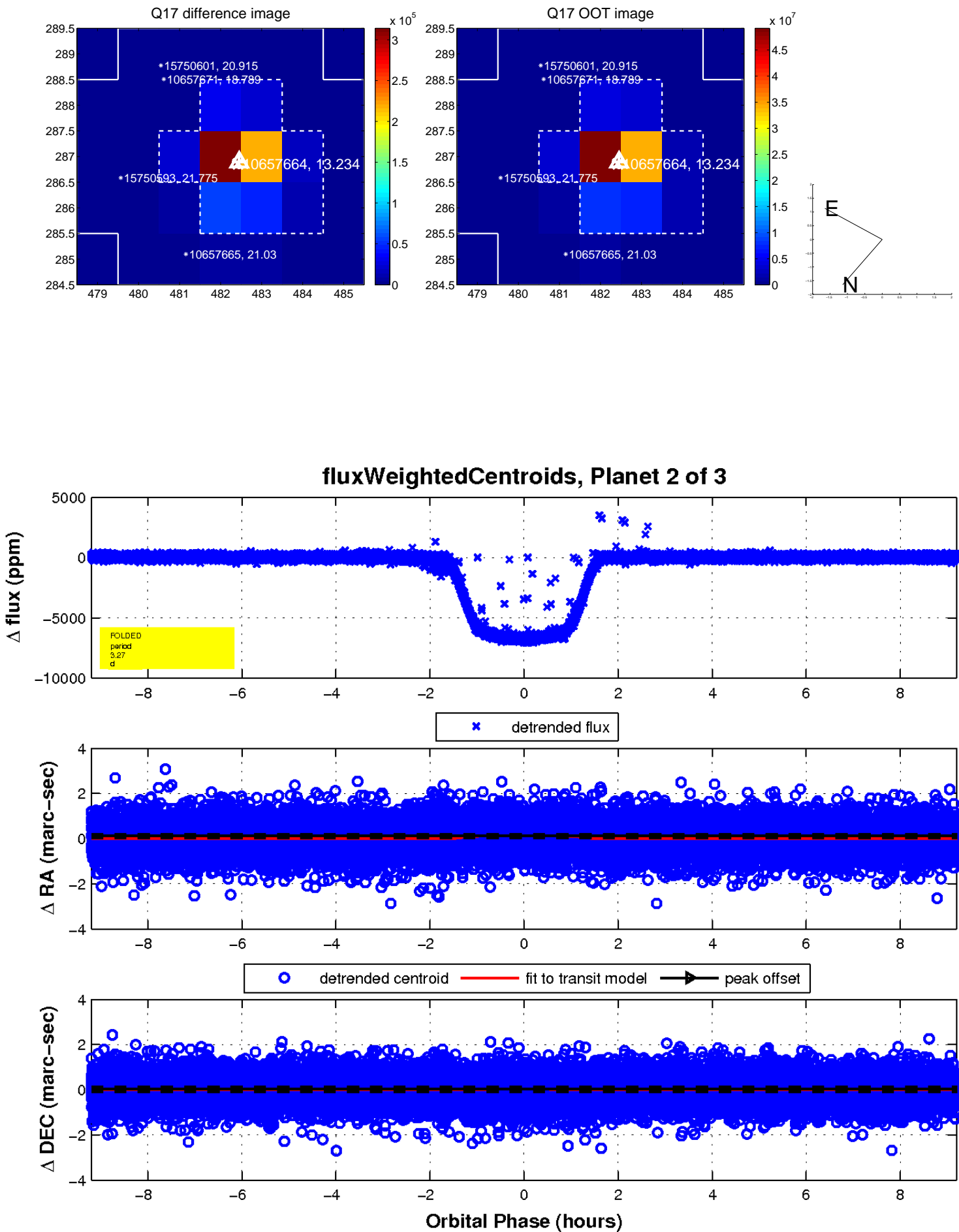
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

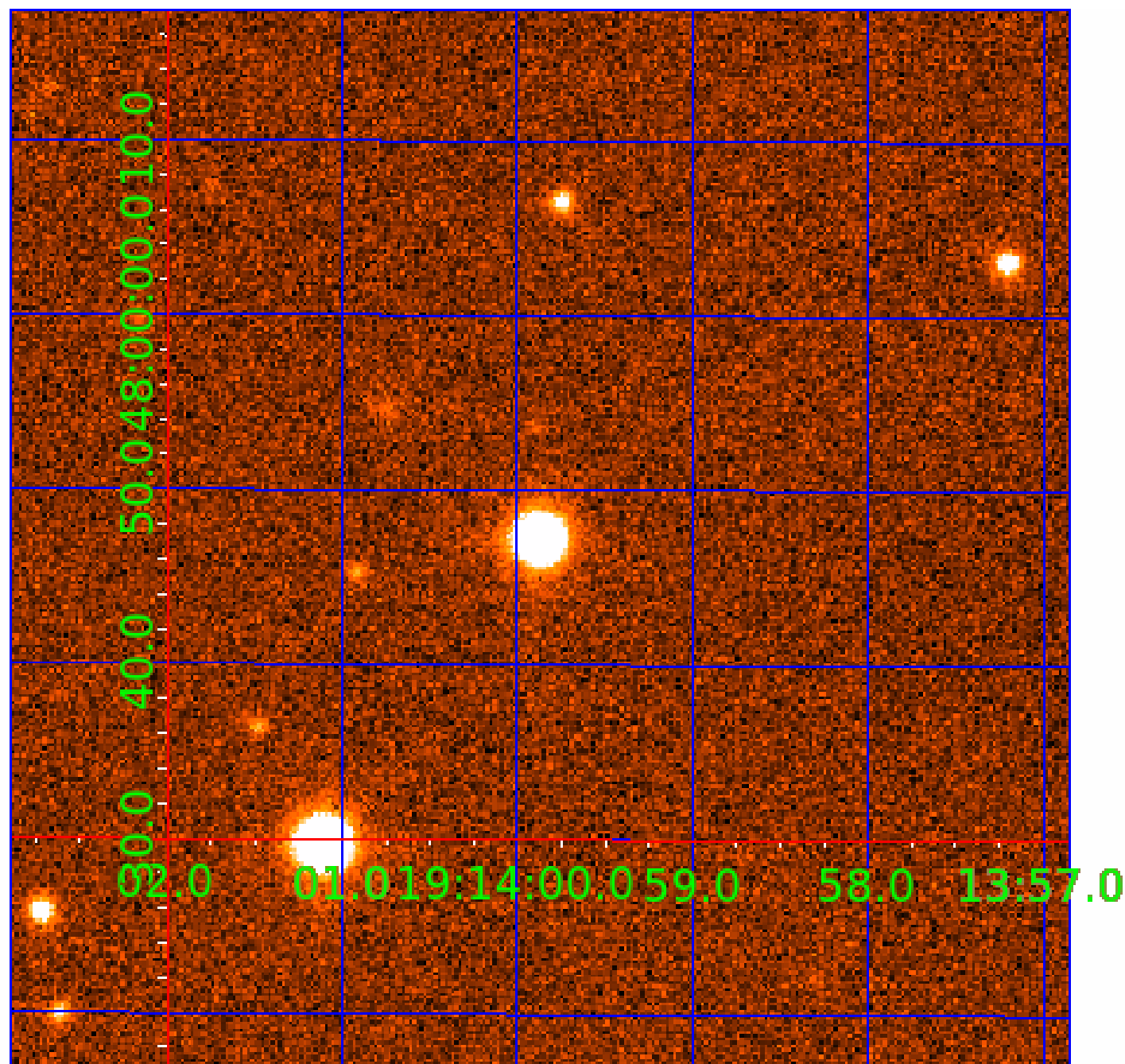


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010657664

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})
010657664-01	OBS	0964.01	3.273696	133.592014	18974.0	3.105	5358.3	4120.5	2.49	10816	35.40	20777.42
010657664-02	OBS	No	3.273699	131.954348	6721.9	3.067	1929.6	1906.3	2.49	10816	22.16	20777.39
010657664-03	OBS	No	3.273571	133.653118	22.4	39.283	9.3	12.7	2.49	10816	1.40	20778.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010657664-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010657664-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010657664-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—RESIDUAL_TCE

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 010657664-03

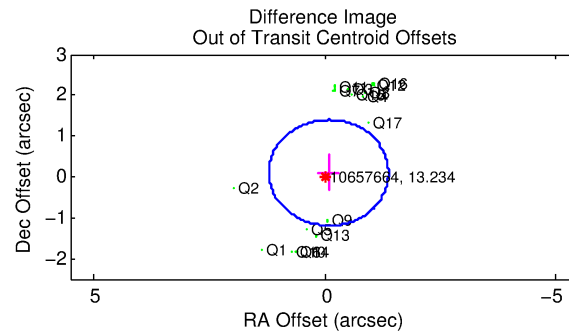
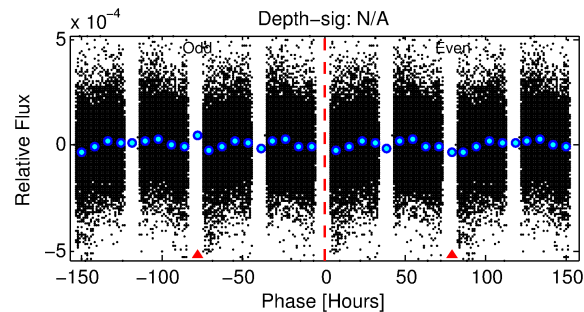
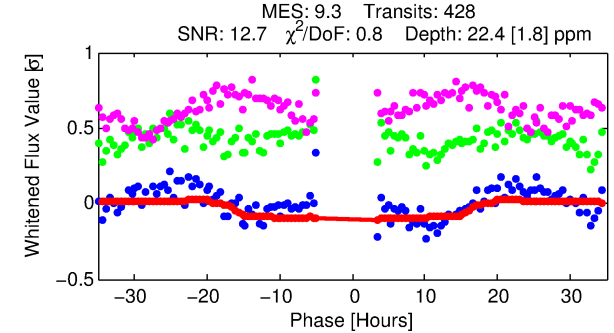
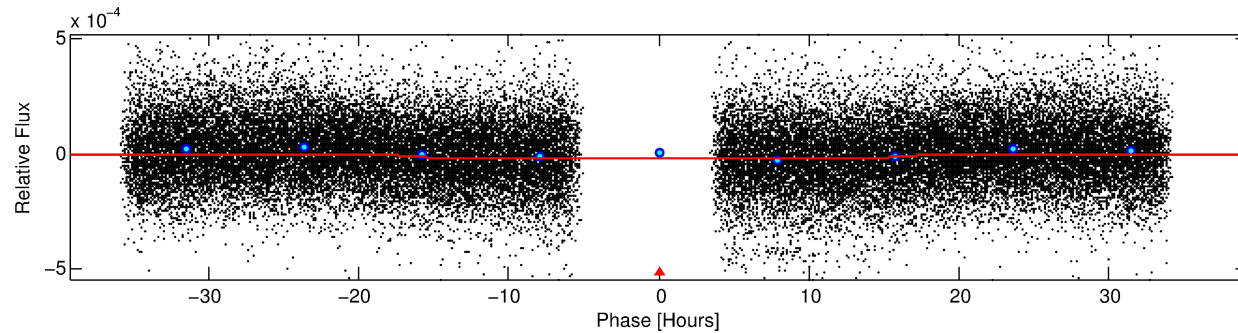
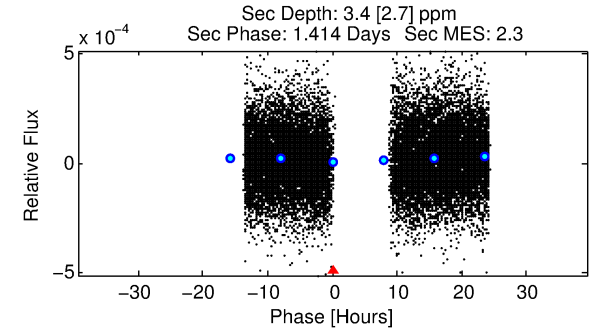
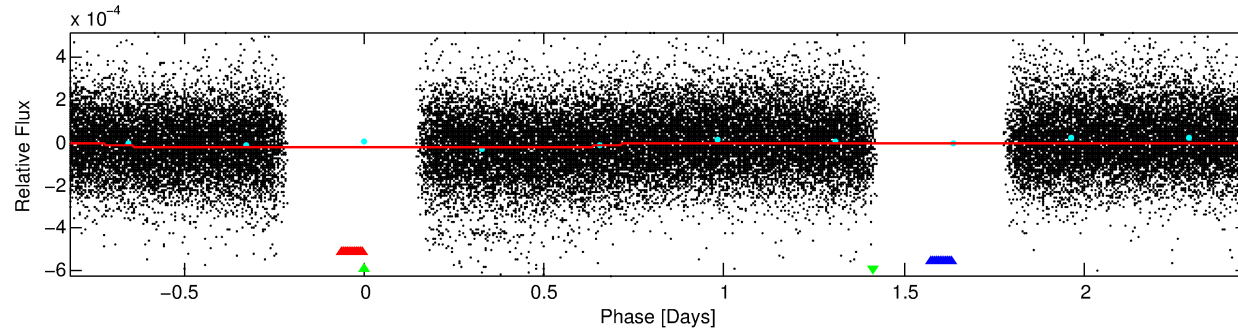
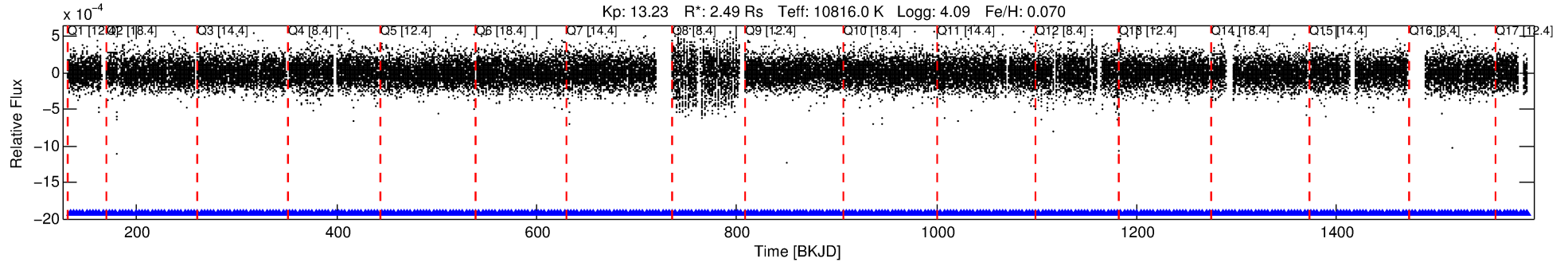
No Significant Match Found

DV One-Page Summary

KIC: 10657664 Candidate: 3 of 3 Period: 3.274 d

KOI: K00964 Corr: No Ephemeris Match

Kp: 13.23 R*: 2.49 Rs Teff: 10816.0 K Logg: 4.09 Fe/H: 0.070



DV Fit Results:

Period = 3.27357 [0.00012] d
Epoch = 133.6531 [0.0260] BKJD
Rp/R* = 0.0051 [0.0002]
a/R* = 1.00 [0.00]
b = 0.95 [0.02]
Seff = 20778.47 [9057.04]
Teq = 3061 [334] K
Rp = 1.40 [0.46] Re
a = 0.0606 [0.0167] AU
Ag = 3.53 [3.18] [0.80σ]
Teffp = 6489 [1335] K [2.49σ]

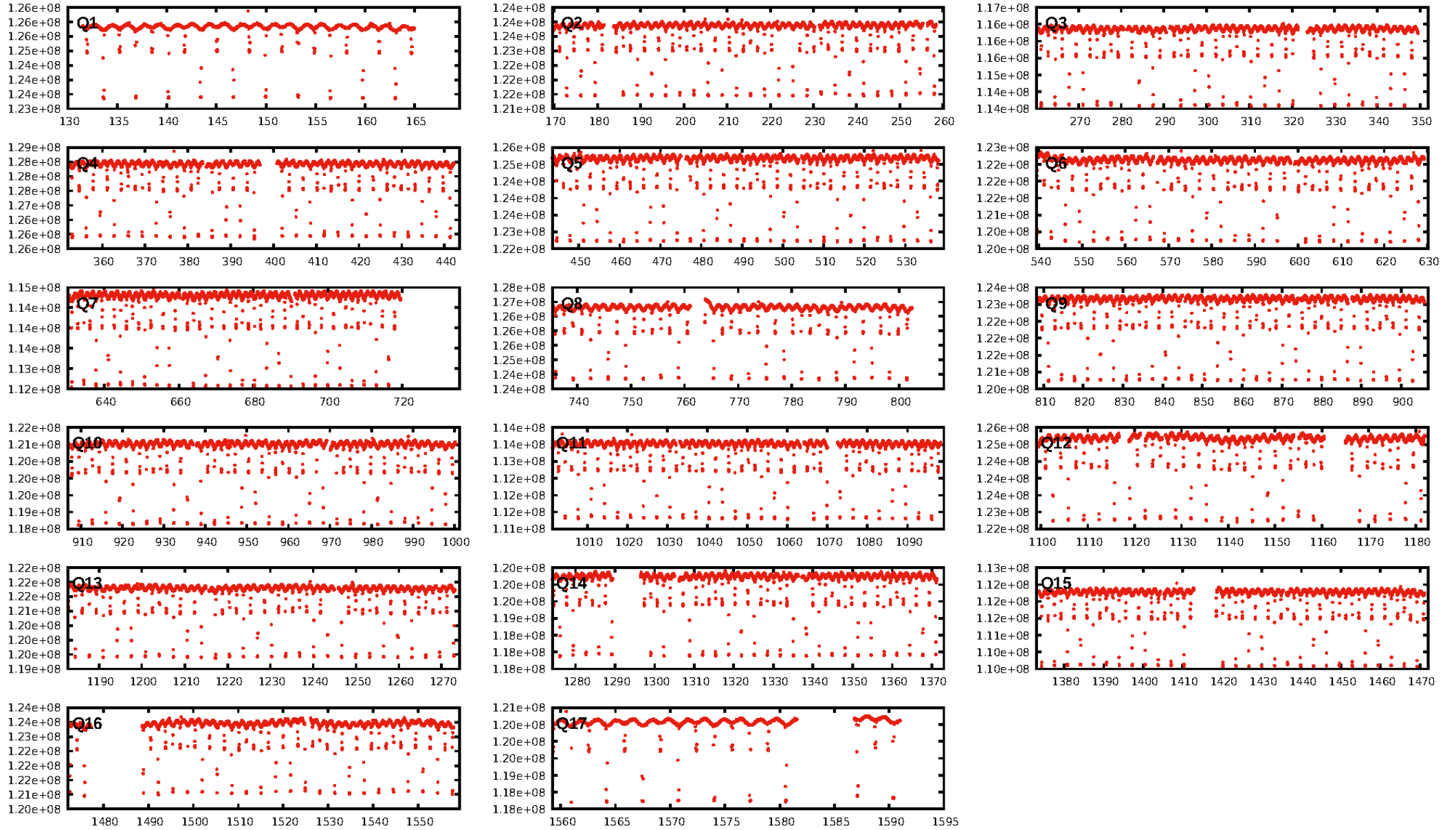
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [409/409]
GhostDiagnostic-chr: 1.334
Centroid-sig: 0.0%
Centroid-so: 1.898 arcsec [3.38σ]
OotOffset-rm: 0.133 arcsec [0.31σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.093 arcsec [0.37σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 0.00 [0/17]

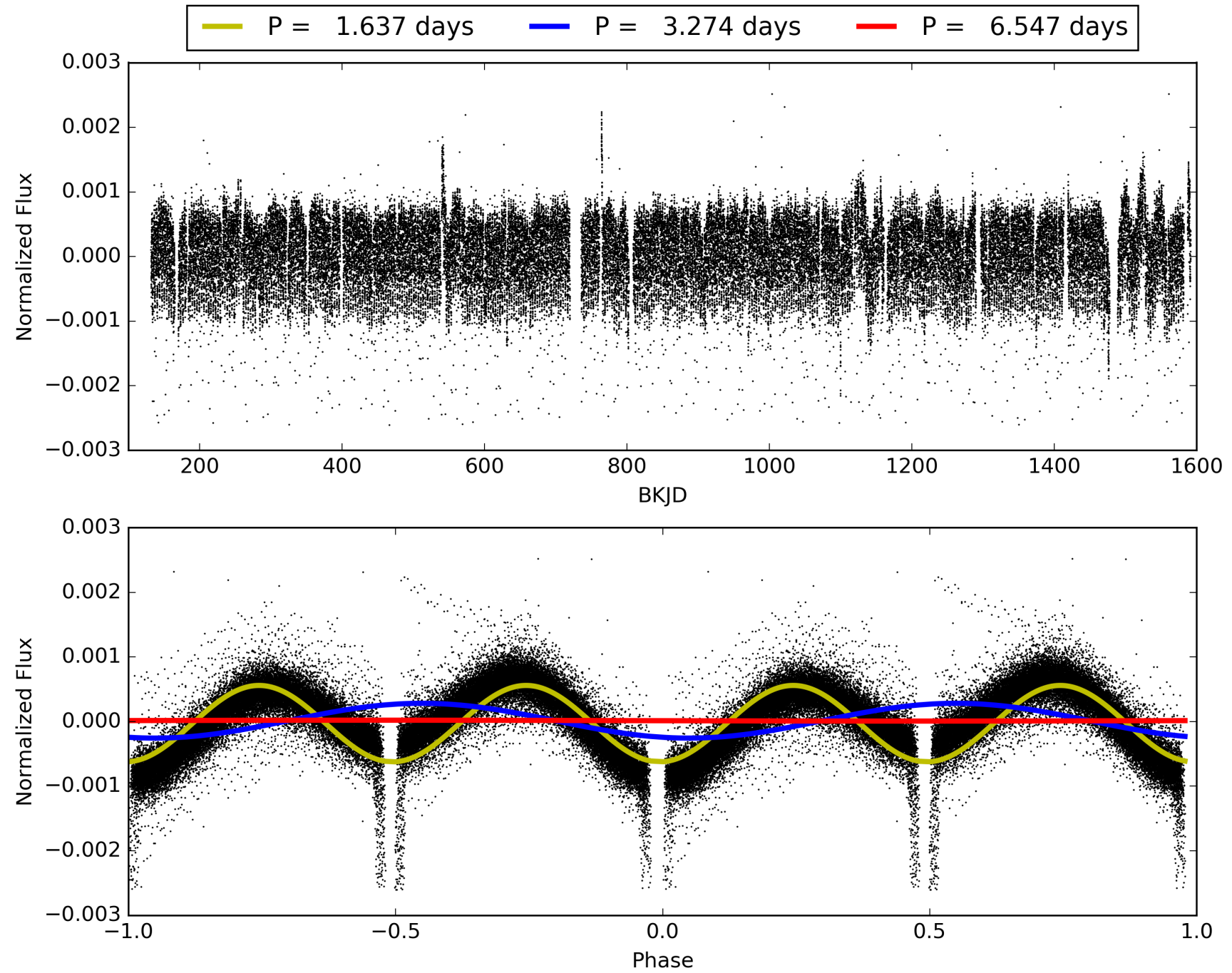
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:51:43 Z

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

TCE 010657664-03, PDC Light Curves

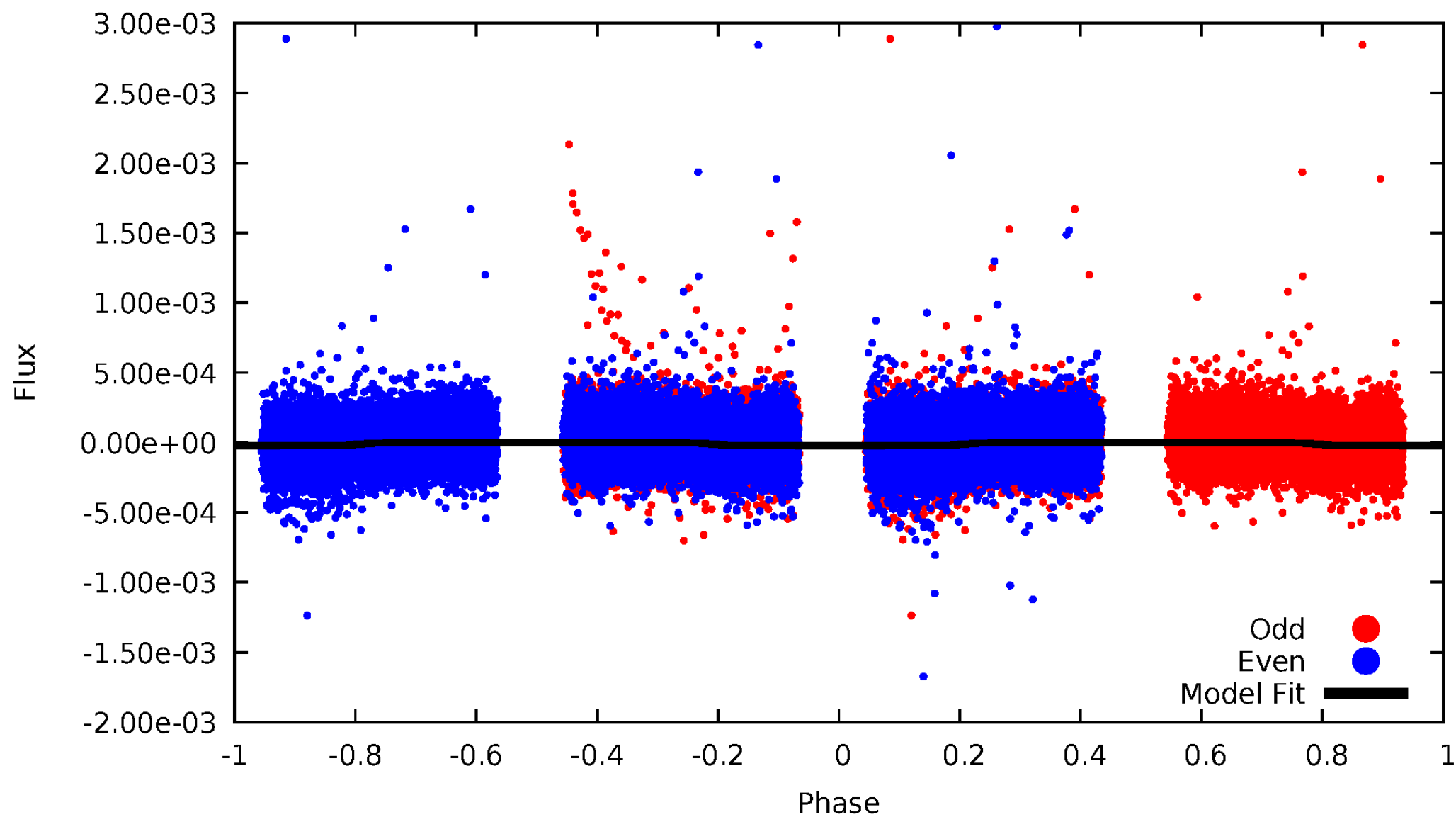


TCE 010657664-03



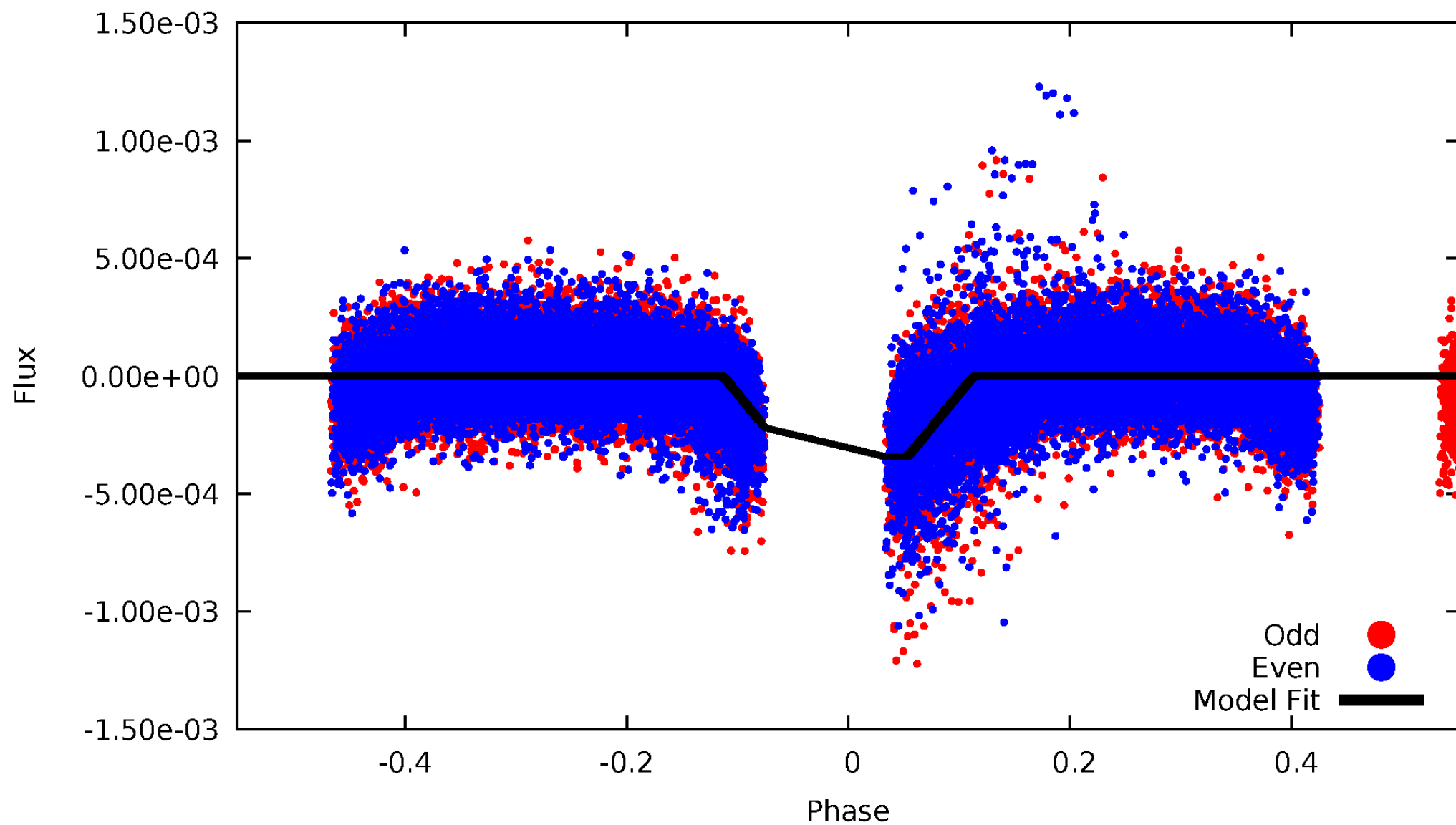
DV Odd/Even

TCE 010657664-03



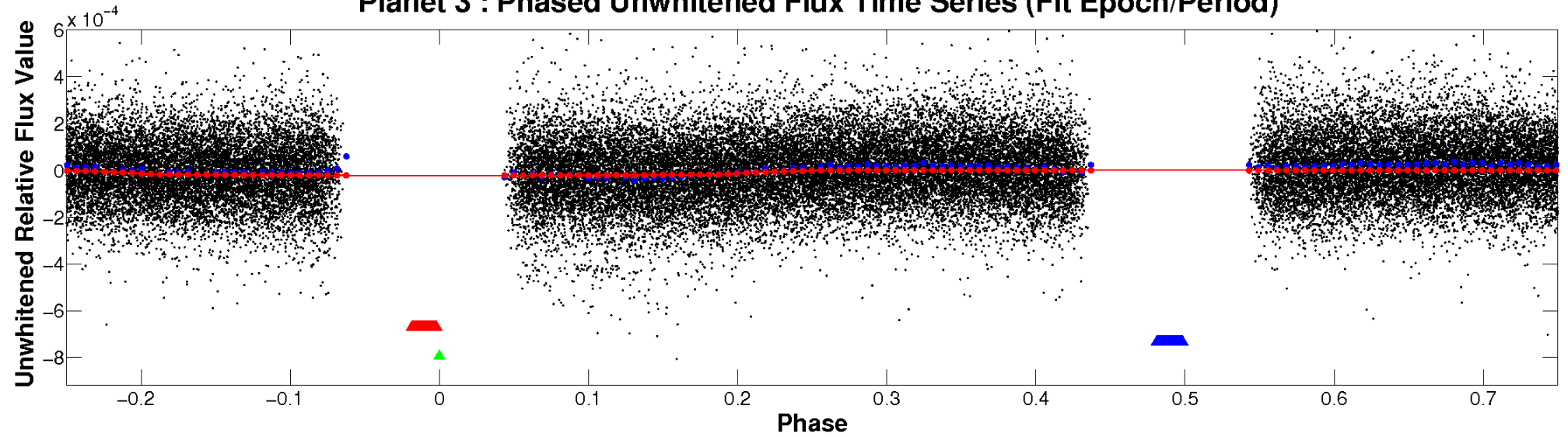
ALT Odd/Even

TCE 010657664-03

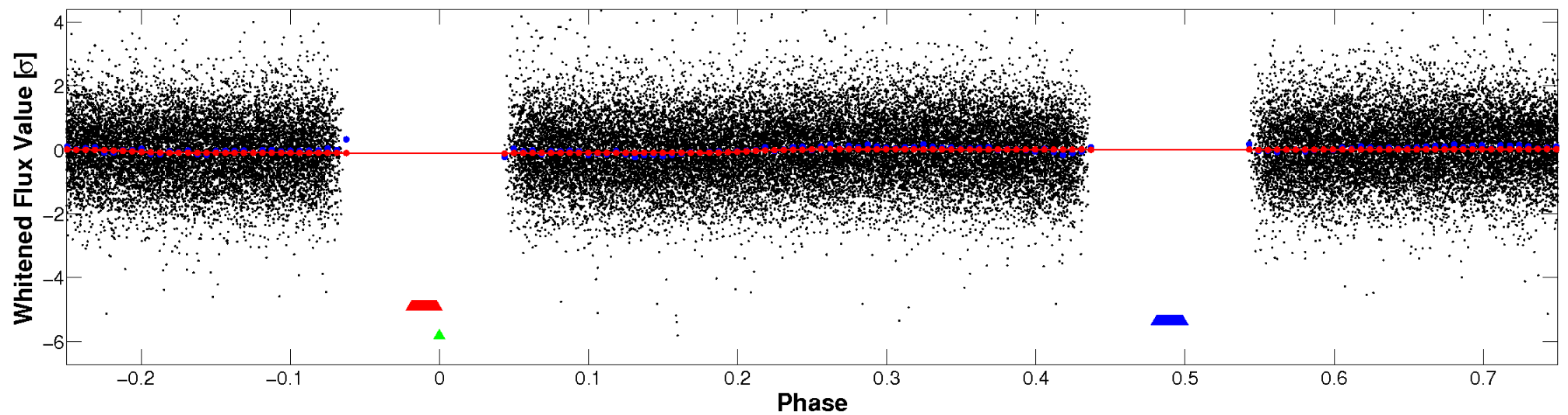


Non-Whitened Vs. Whitened Light Curve

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

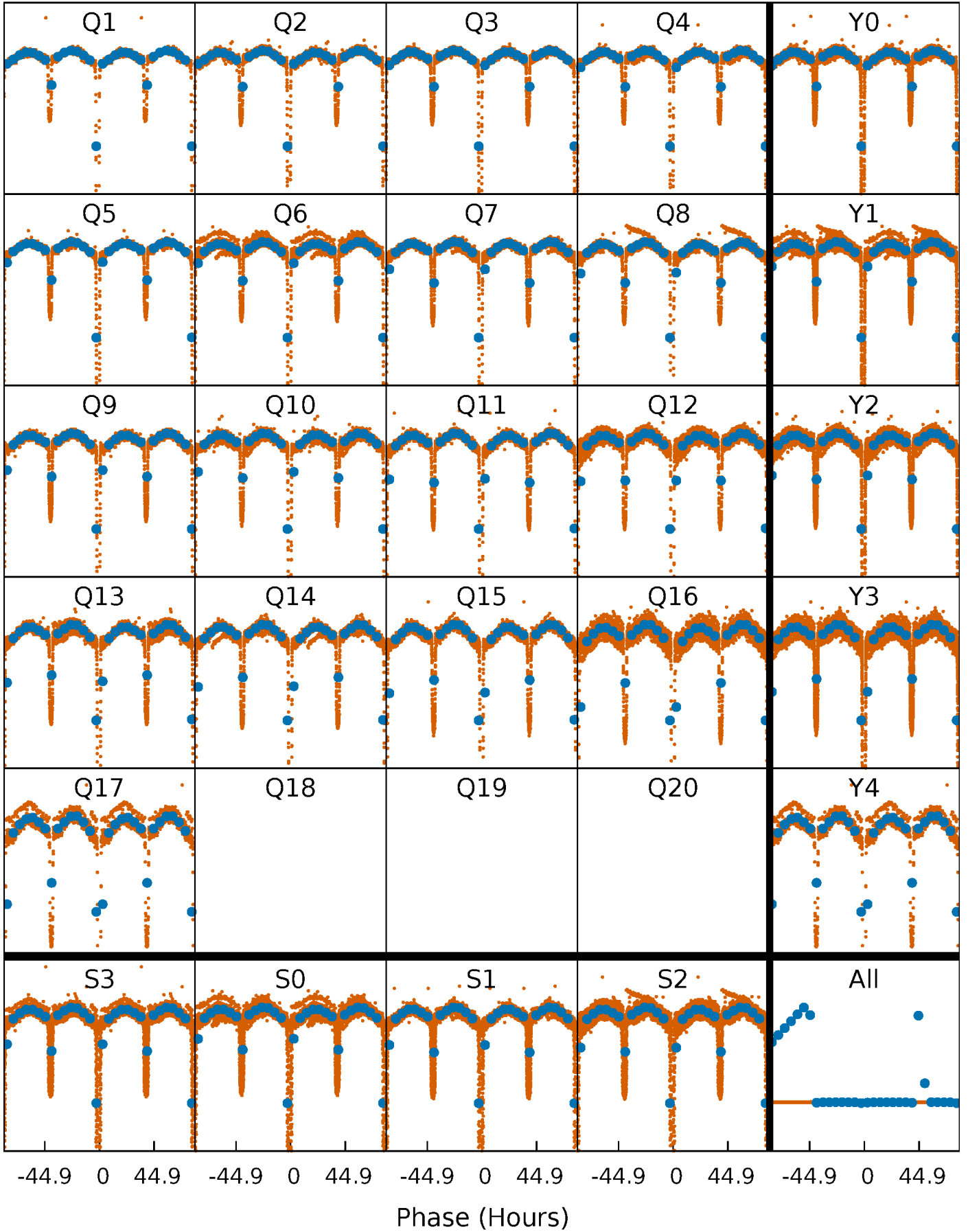


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



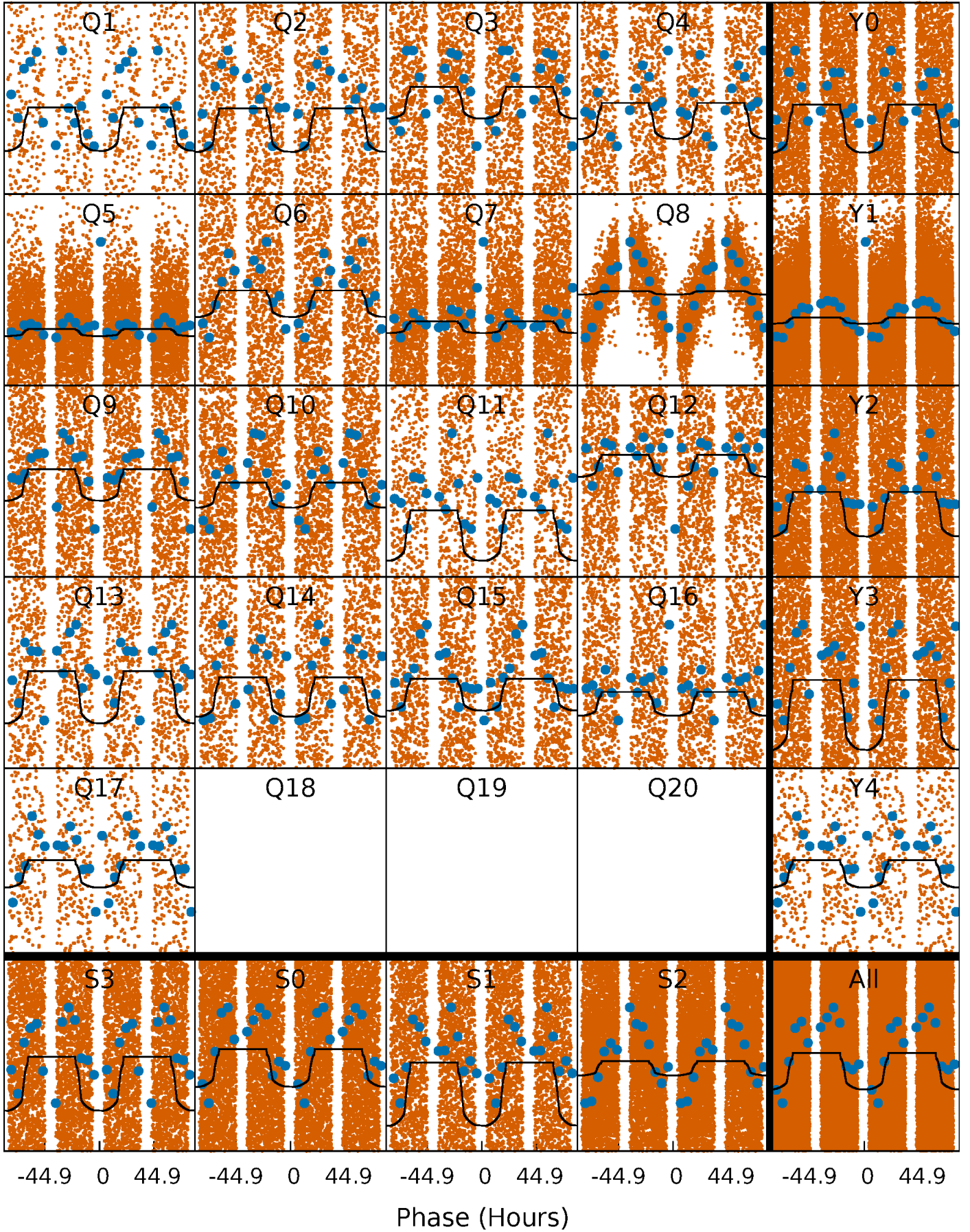
PDC Quarter-Phased Transit Curves

TCE 010657664-03 P= 3.273571 Days $T_0=133.653118$ (BKJD)



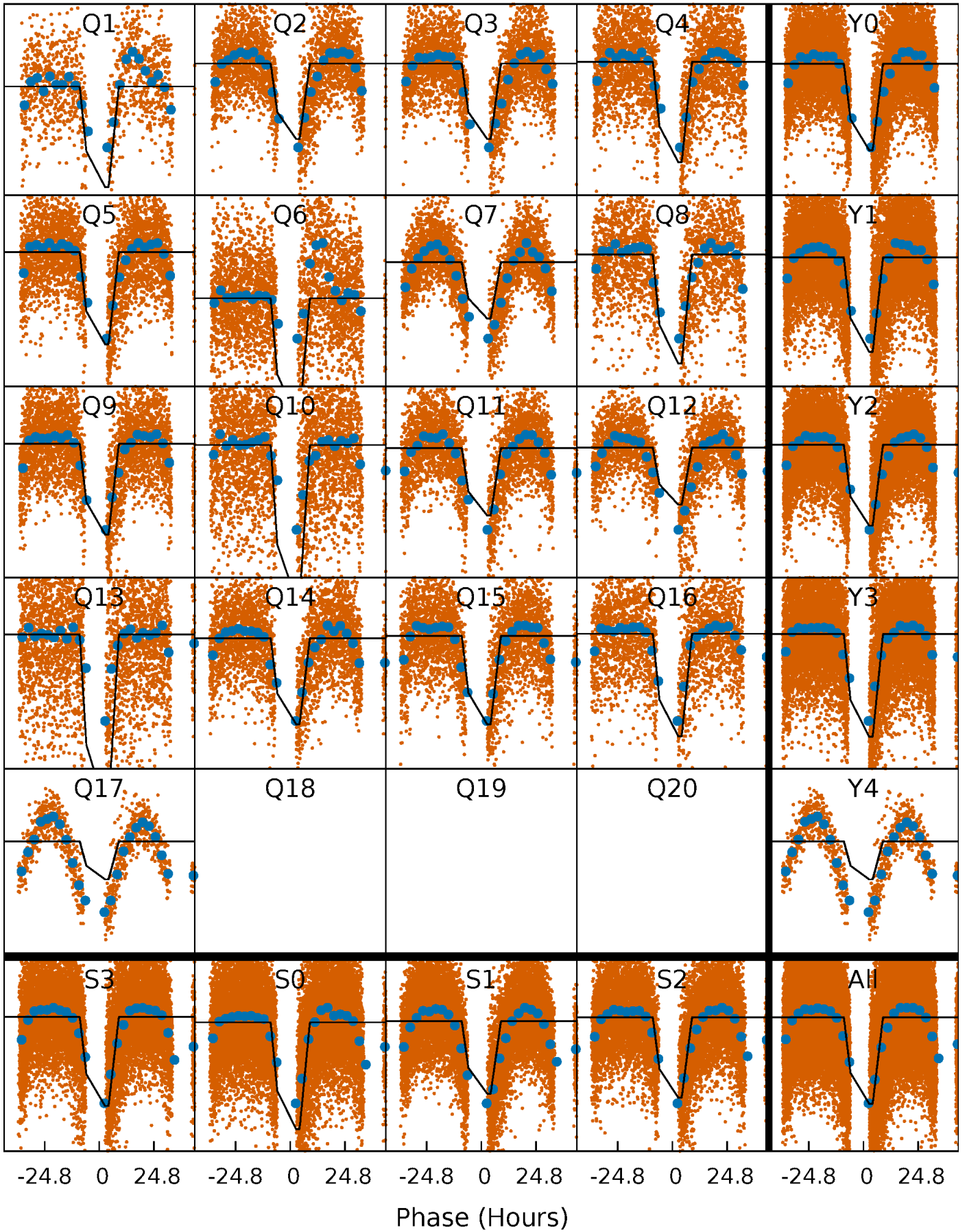
DV Quarter-Phased Transit Curves

TCE 010657664-03 P= 3.273571 Days $T_0=133.653118$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

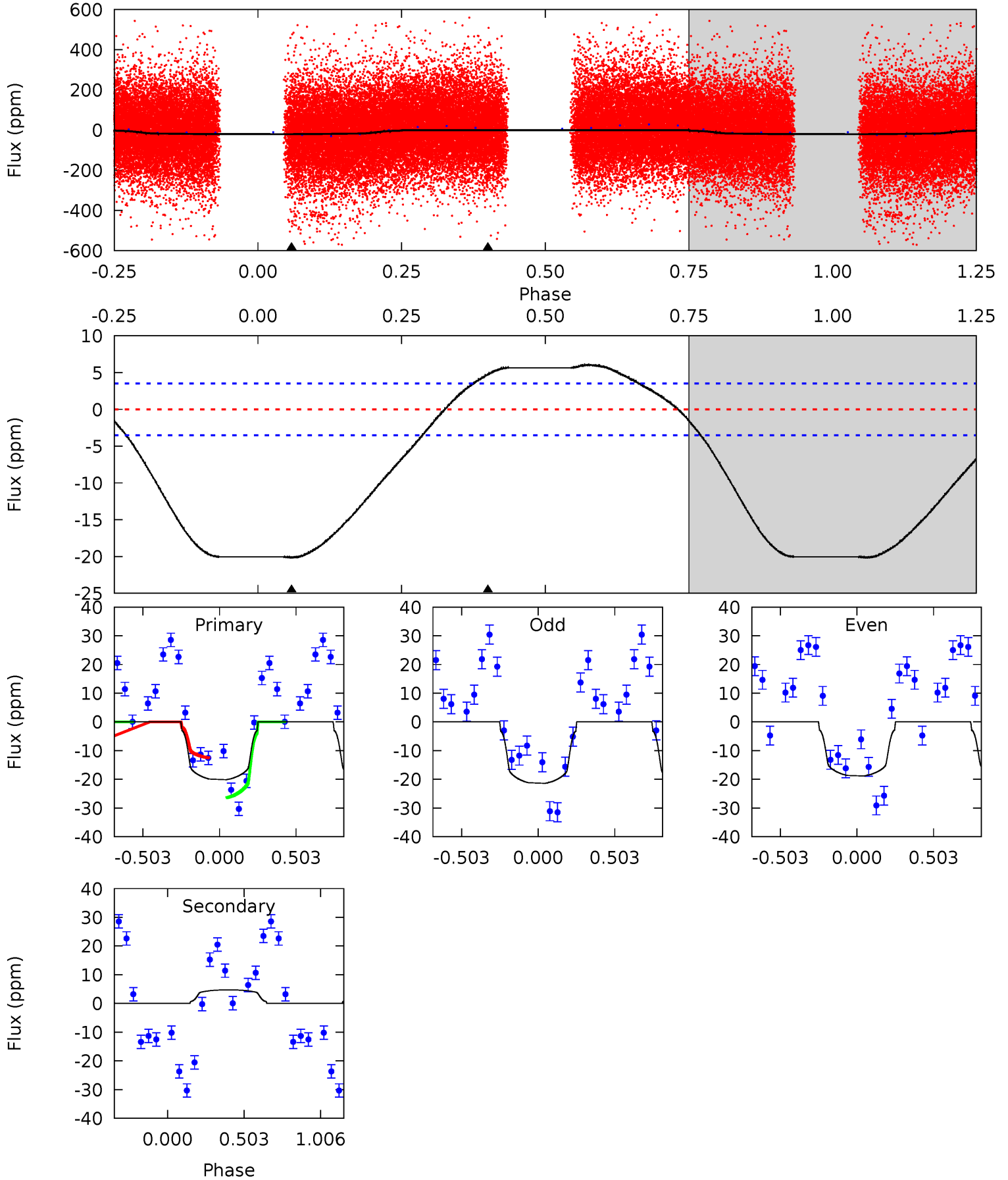
TCE 010657664-03 P= 3.273825 Days $T_0=133.631471$ (BKJD)



DV Model-Shift Uniqueness Test

010657664-03, P = 3.273571 Days, E = 130.379547 Days

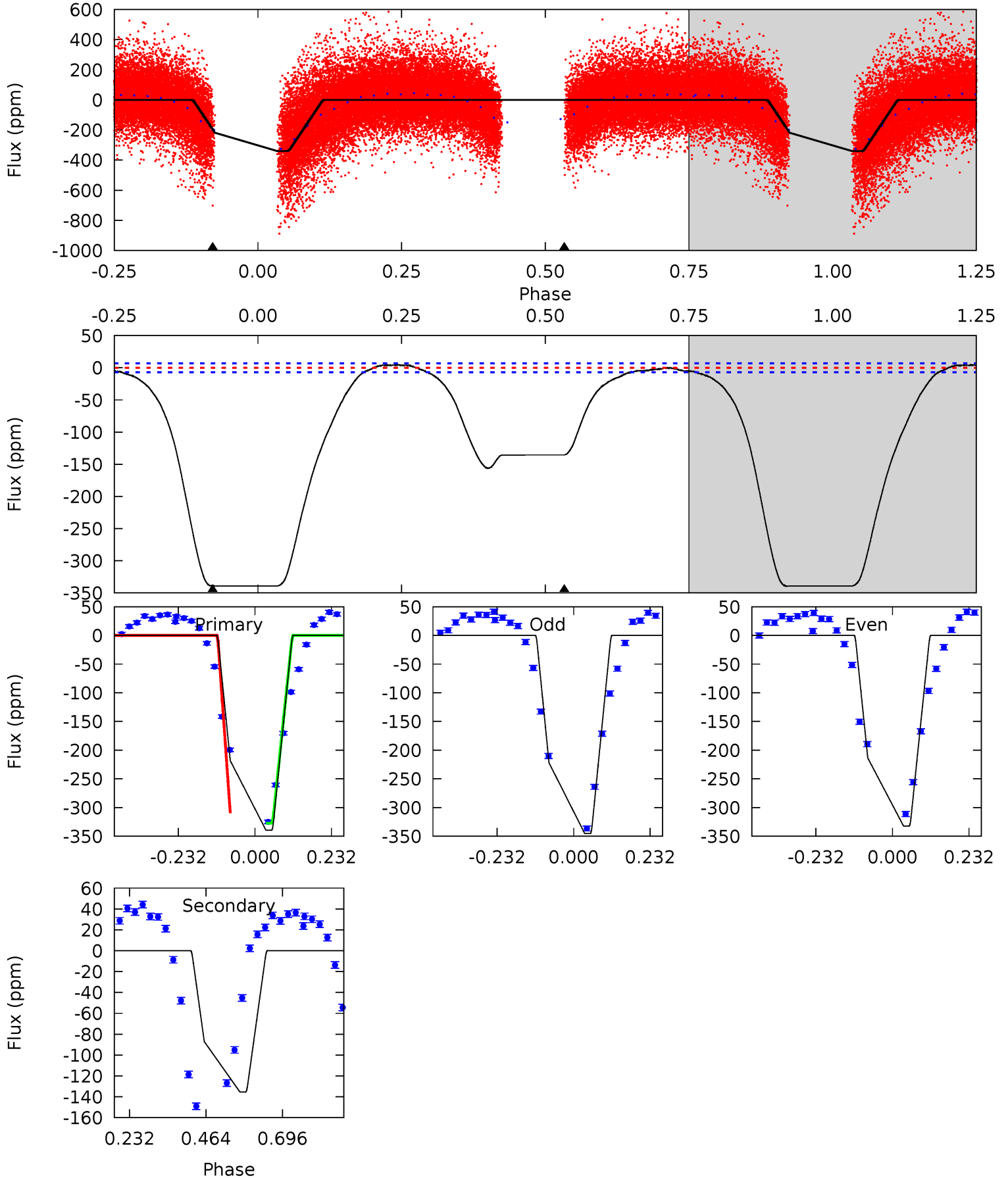
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	-5.66	0	0	4.21	0.67	1.90	24.1	24.1	-5.66	-5.66	1.54	2.48	0.24	8.03



Alt Model-Shift Uniqueness Test

010657664-03, P = 3.273825 Days, E = 130.357646 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
212.1	84.7	0	0	4.39	1.20	6.64	212.1	212.1	84.7	84.7	4.11	1.07	0.01	4.72



Stellar Parameters For KIC 010657664

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10816^{+304}_{-457}	$4.086^{+0.220}_{-0.220}$	$0.070^{+0.050}_{-0.600}$	$2.493^{+0.814}_{-0.814}$	$2.760^{+0.289}_{-0.674}$	$0.251^{+0.374}_{-0.132}$
	+3%/-4%	+5%/-5%	+71%/-857%	+33%/-33%	+10%/-24%	+149%/-53%
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 010657664-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	5 ± 1	$1.40^{+0.28}_{-0.26}$	4294^{+381}_{-363}	-6389^{+360}_{-361}	$-4.586^{+1.418}_{-2.422}$
Alt.	-136 ± 2	$4.99^{+0.98}_{-0.83}$	4249^{+414}_{-336}	7767^{+207}_{-257}	11^{+4}_{-3}

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

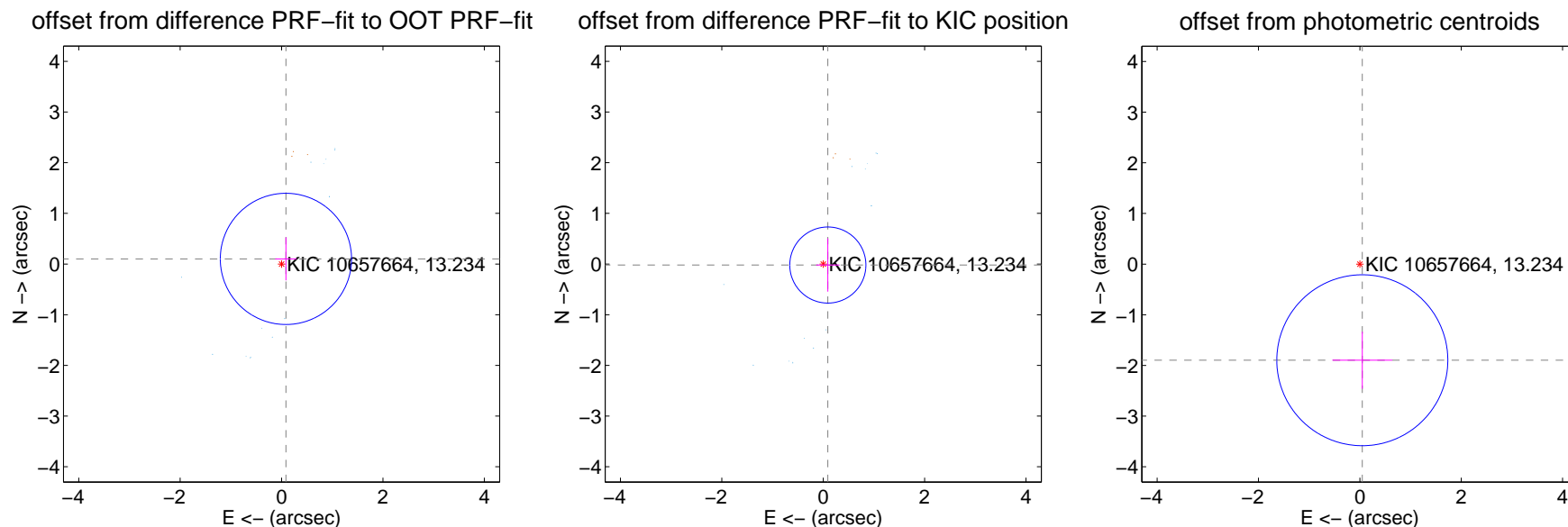
DV Centroid Data

Supplemental centroid analysis for 010657664-03. Kepler magnitude: 13.23. Transit SNR 12.74

There are 14 quarters with good PRF difference image offsets

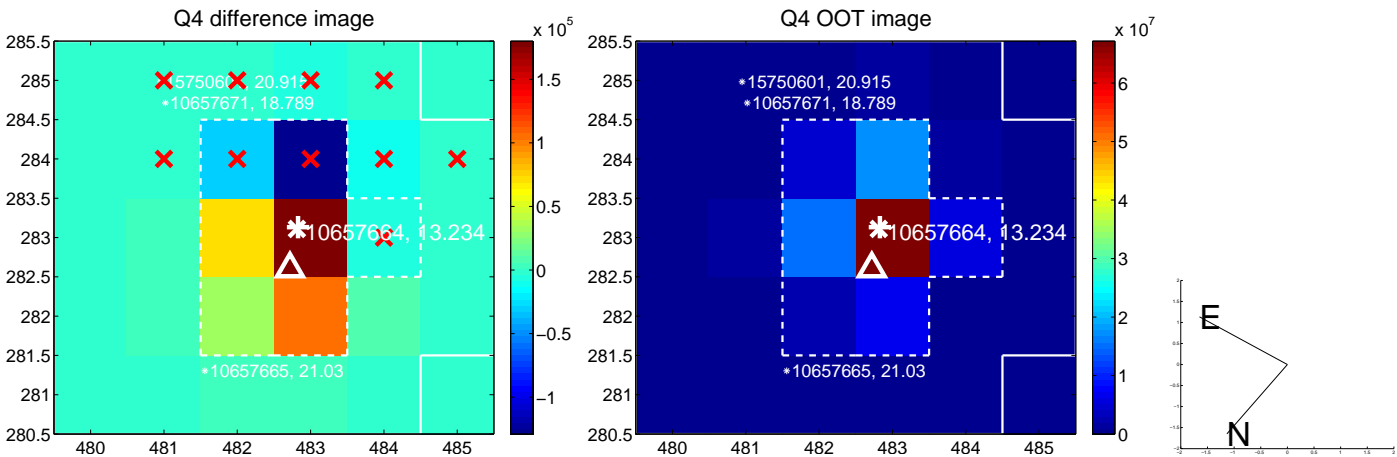
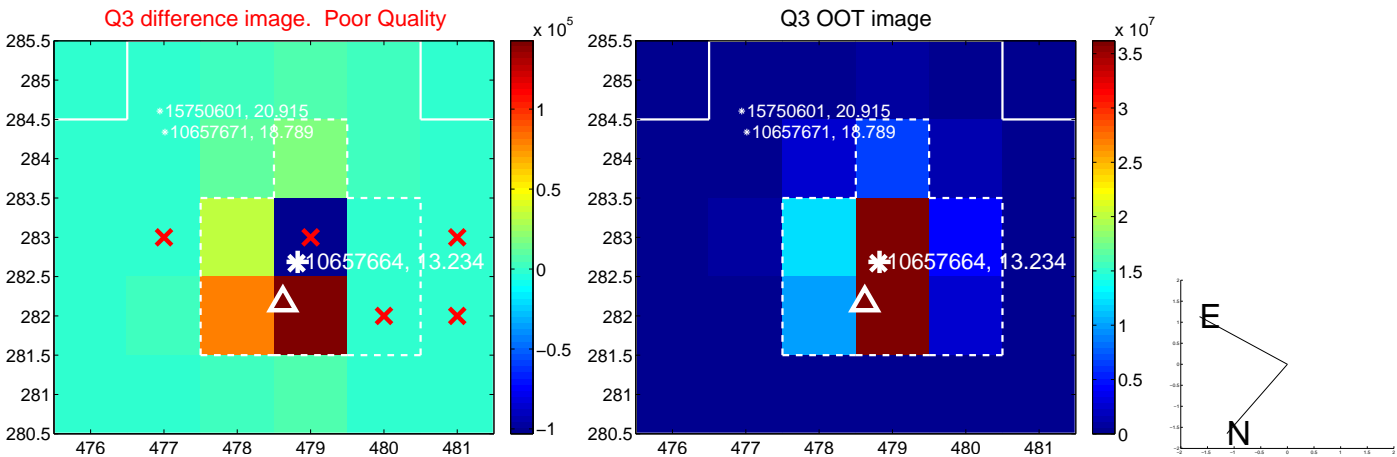
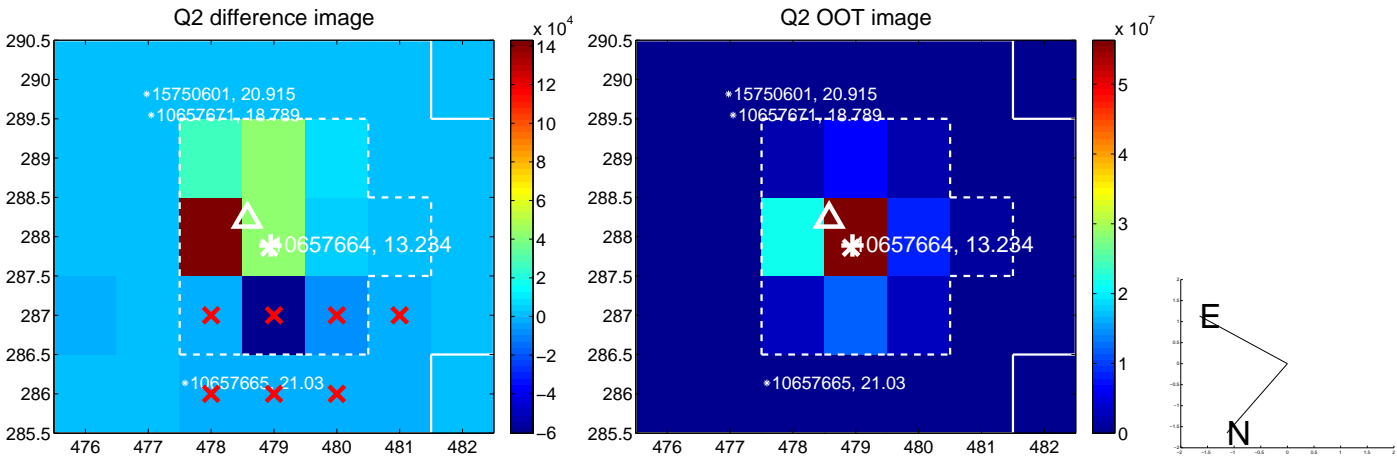
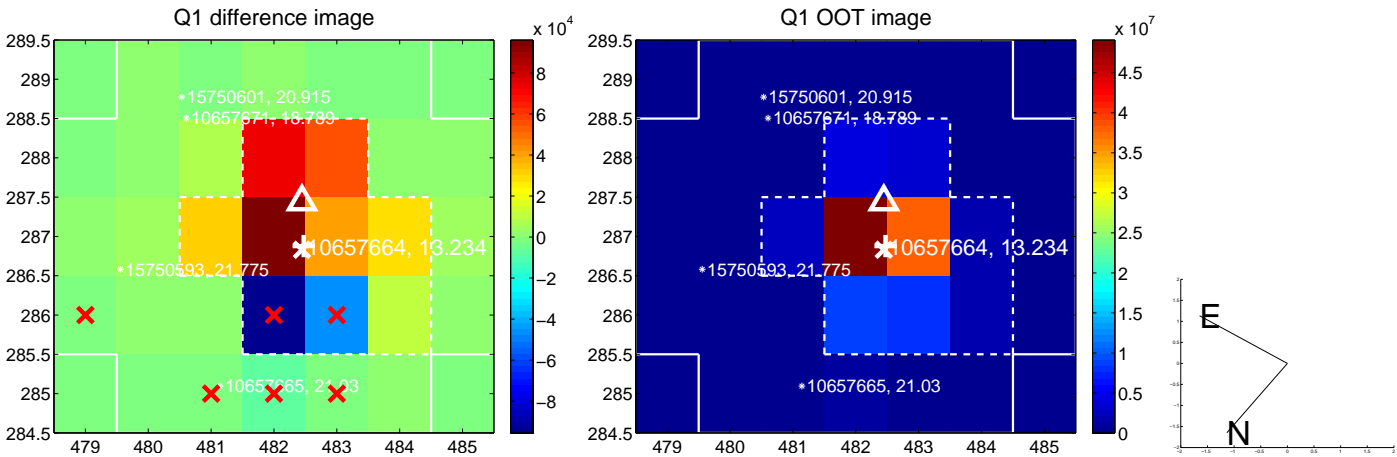
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.133 ± 0.432	0.31	-0.086 ± 0.210	0.101 ± 0.425
PRF-fit source offset from KIC position	0.093 ± 0.250	0.37	-0.091 ± 0.230	-0.020 ± 0.525
photometric centroid source offset	1.90 ± 0.56	3.38	-0.05 ± 0.59	-1.90 ± 0.56

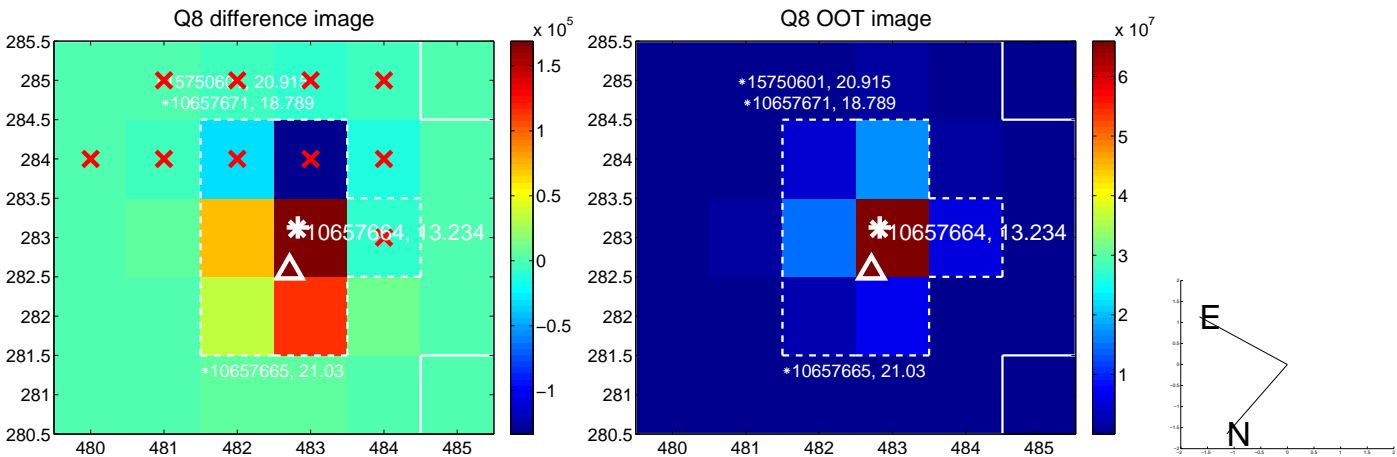
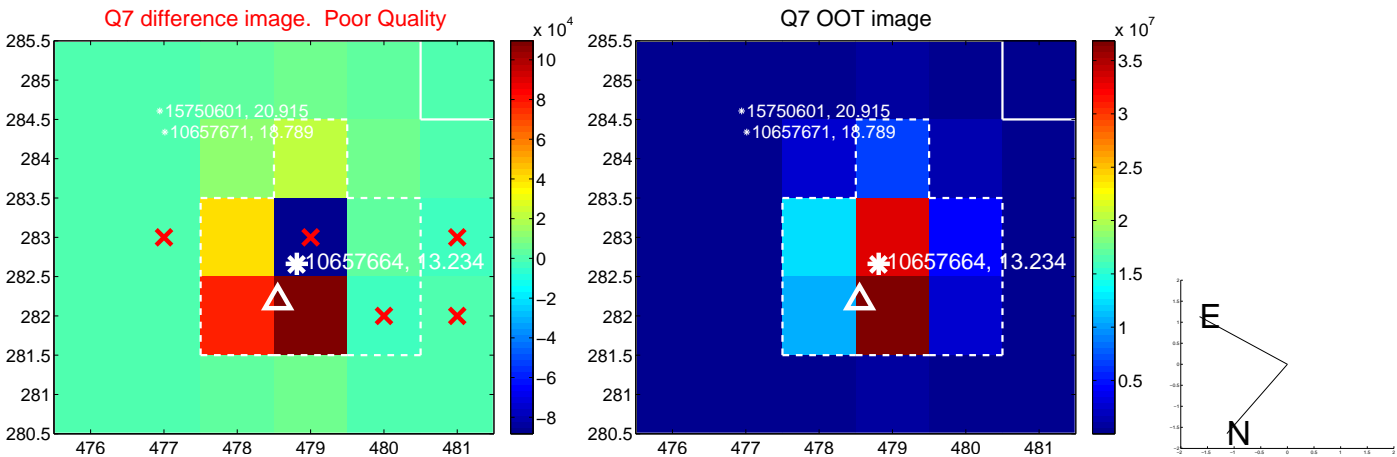
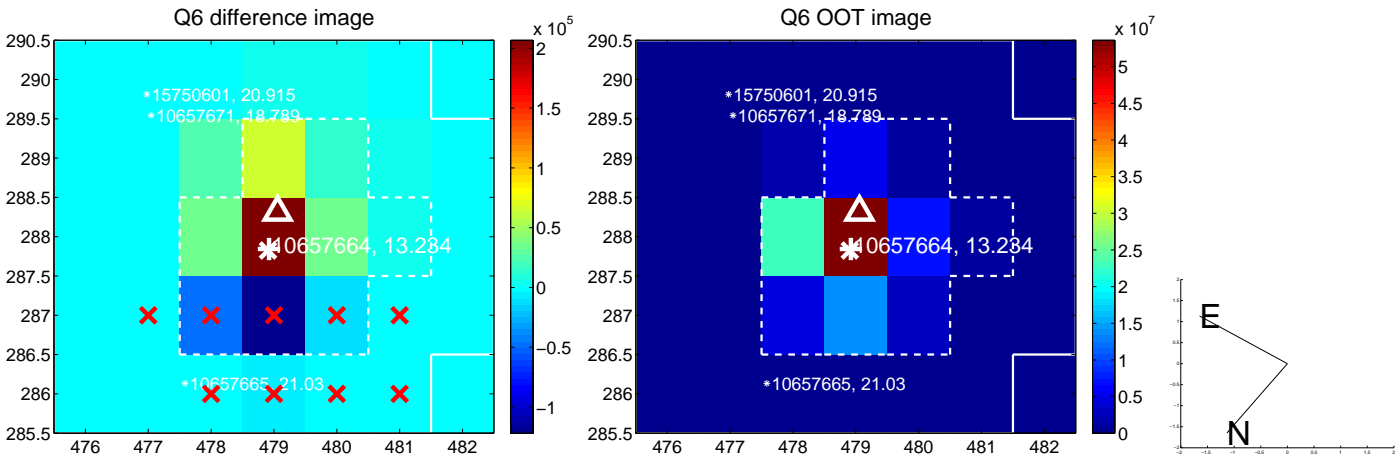
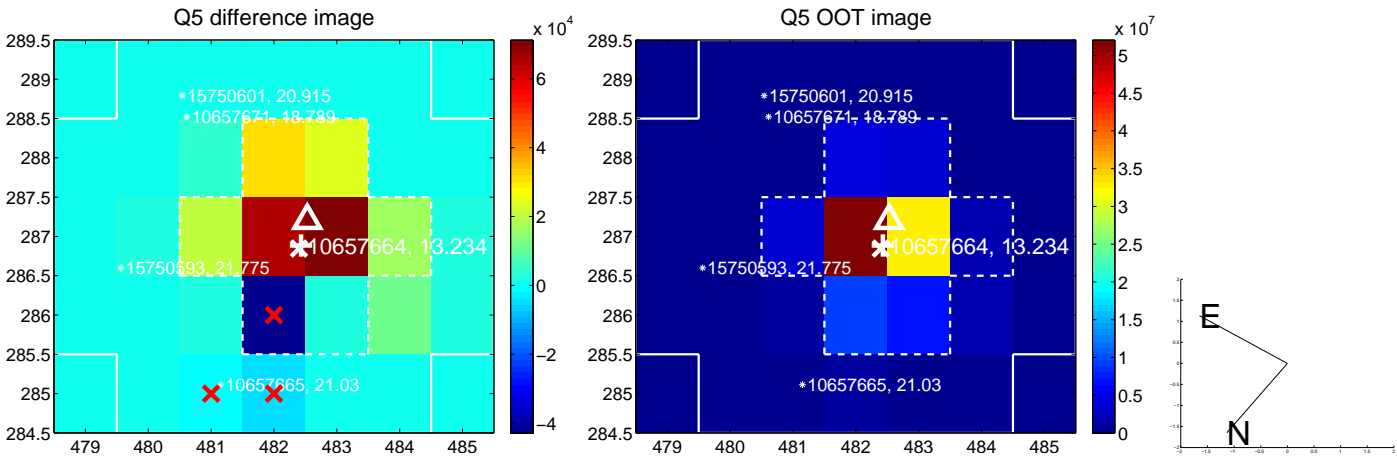


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

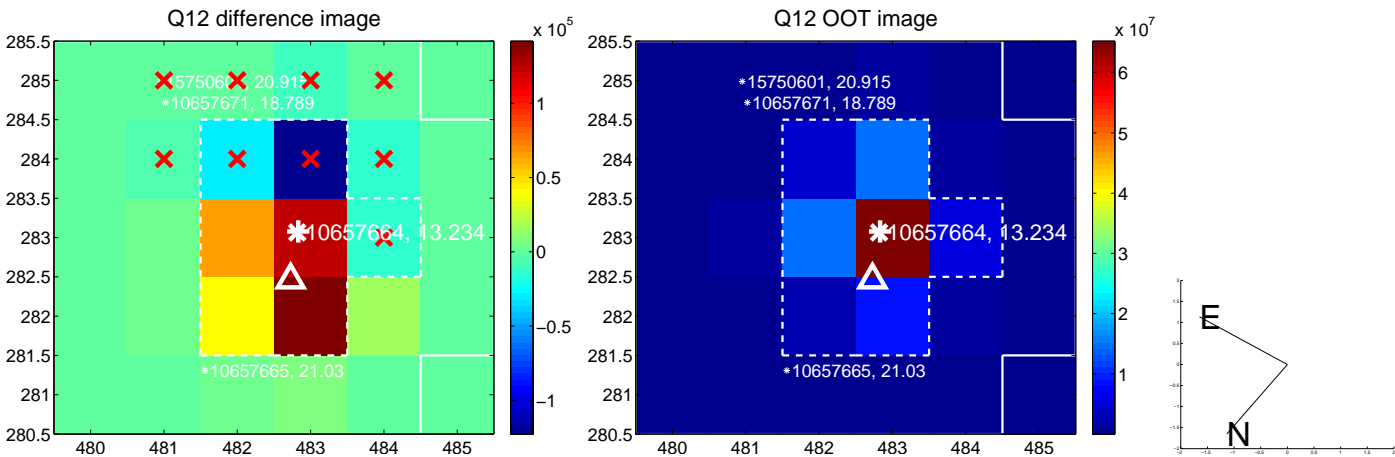
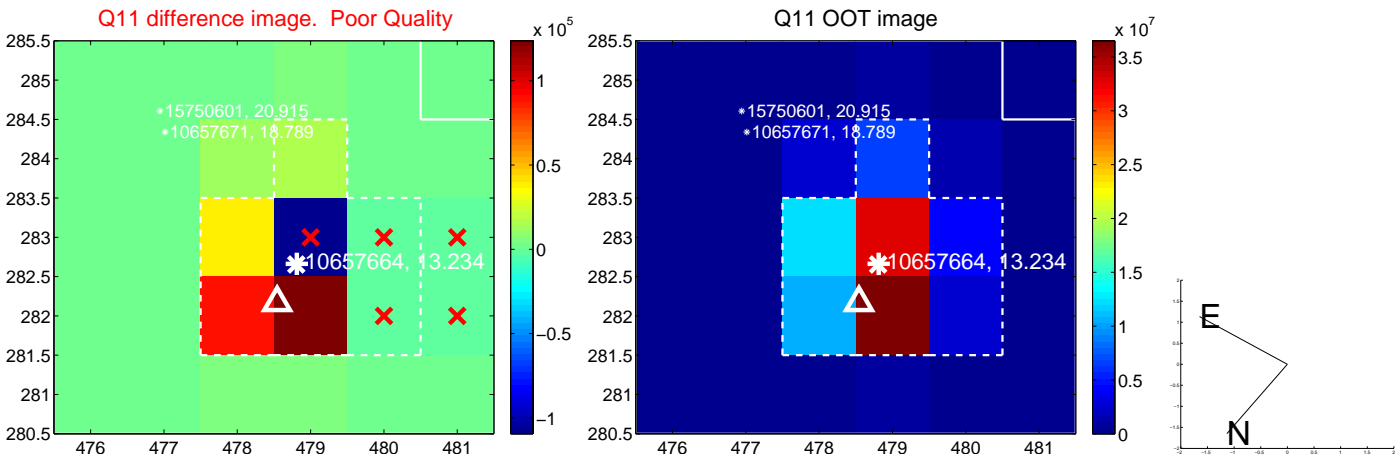
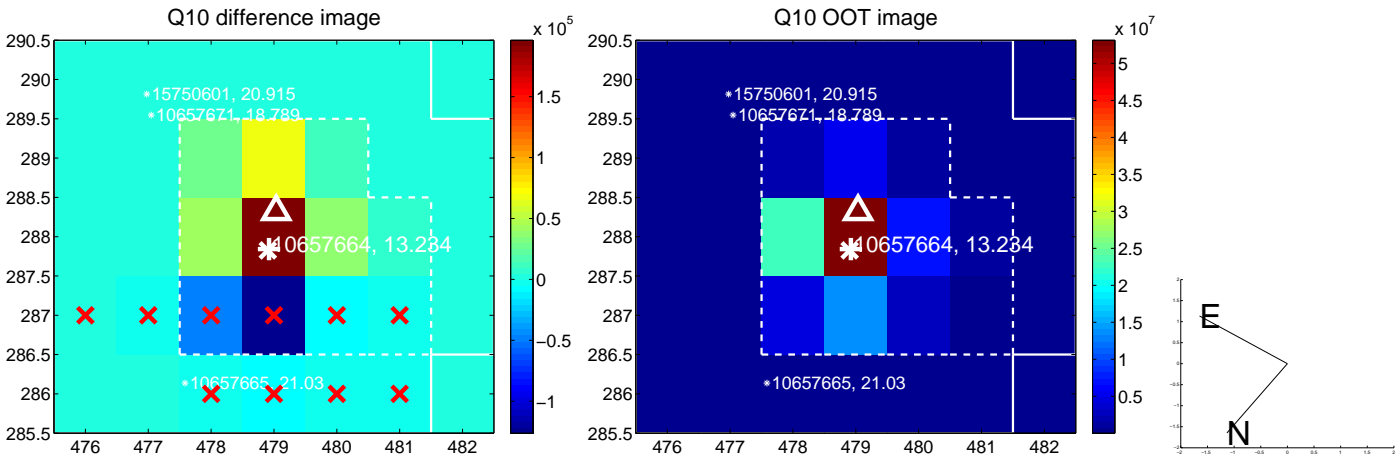
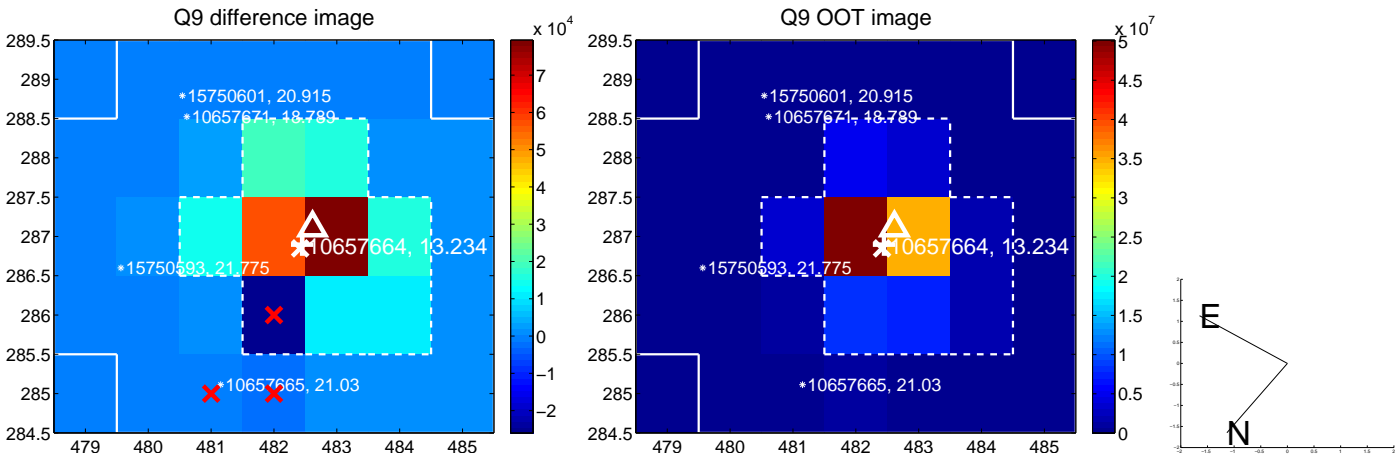
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



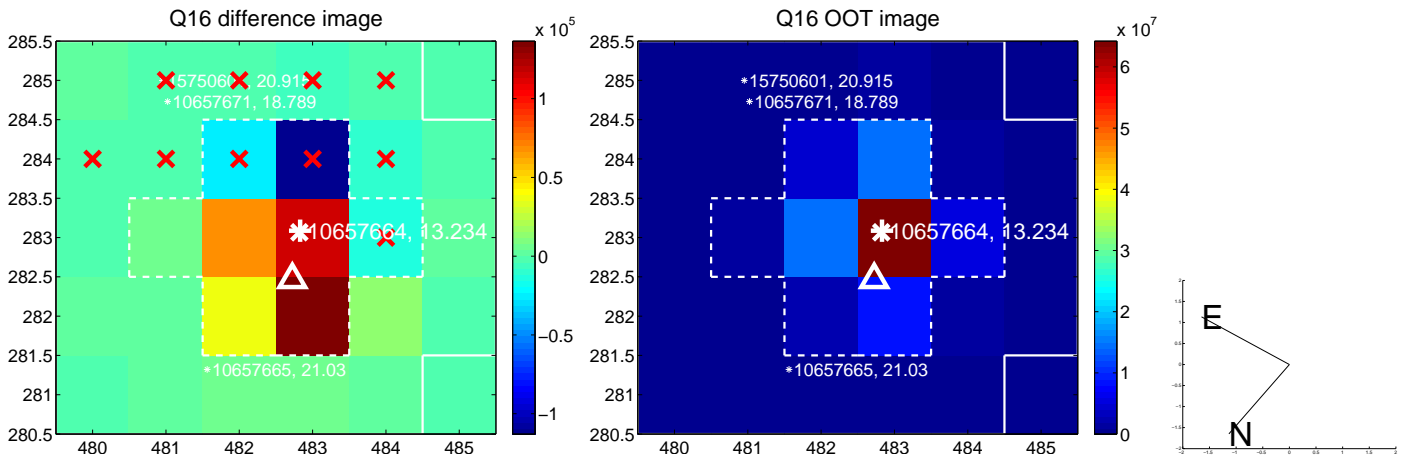
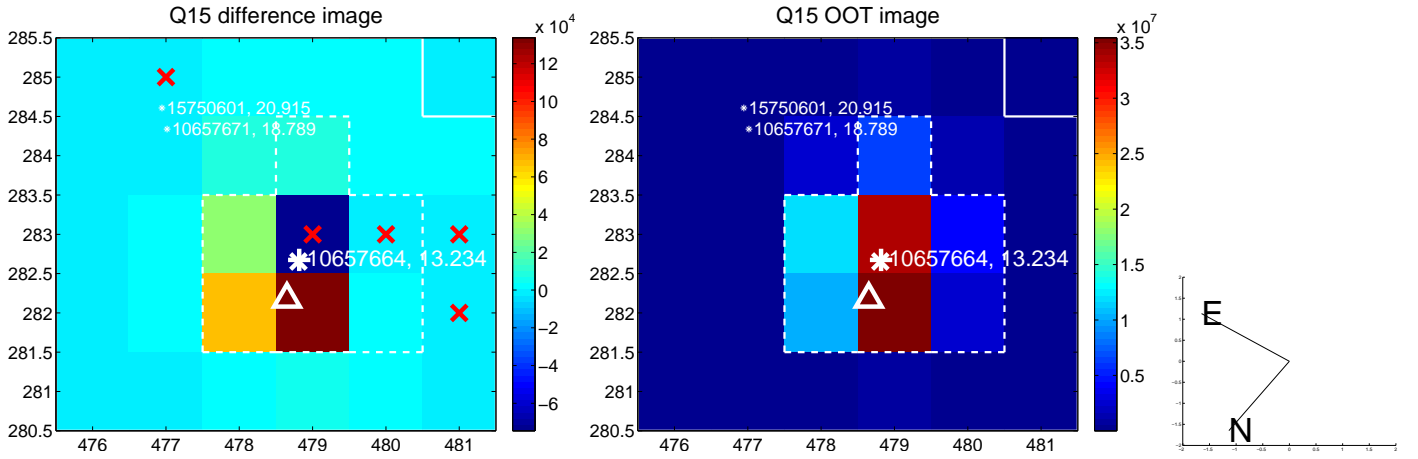
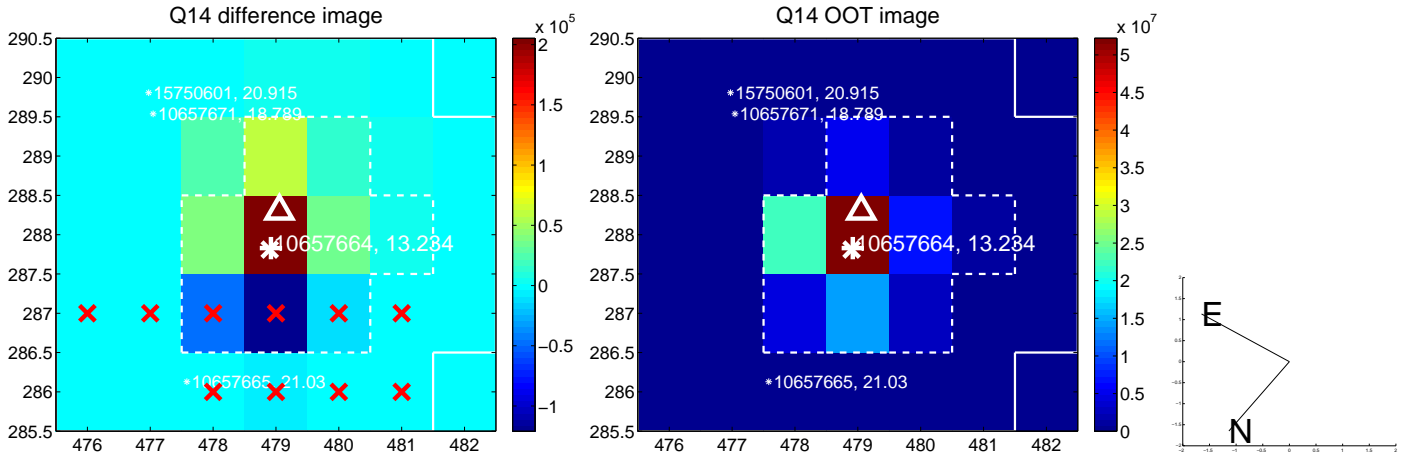
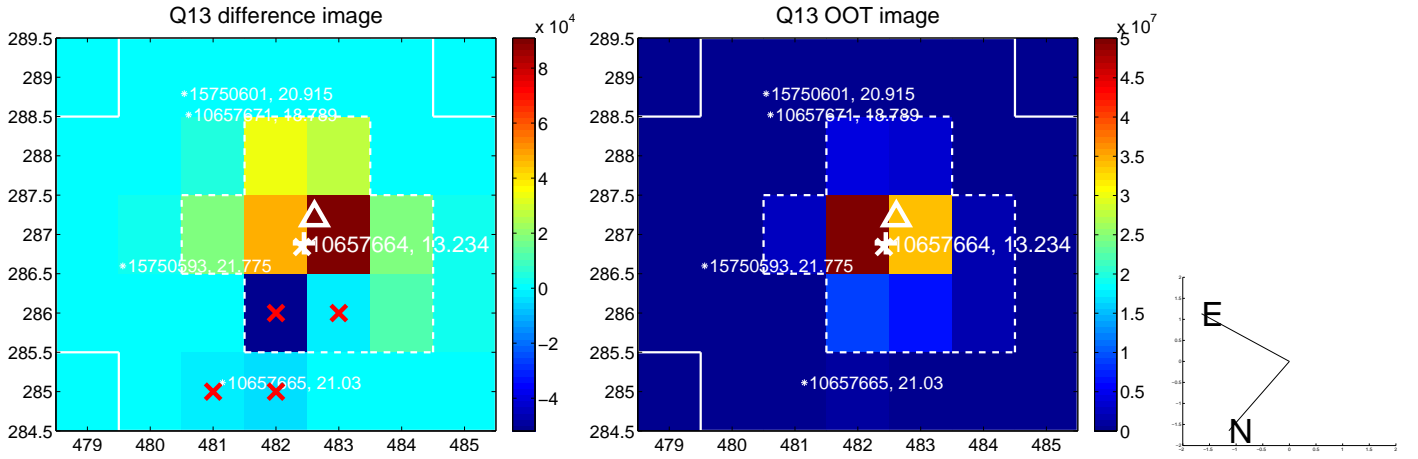
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

