

KIC 009693282

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})
009693282-01	OBS	No	1.006089	132.010115	252.0	5.441	11.2	12.9	3.00	6964	4.80	33939.24
009693282-02	OBS	No	0.582336	131.767212	2165.2	0.531	11.3	14.9	3.00	6964	18.41	70358.94
009693282-03	OBS	No	0.582335	131.885994	53.6	1.500	11.0	-1.0	3.00	6964	2.23	70359.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009693282-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
009693282-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009693282-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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.

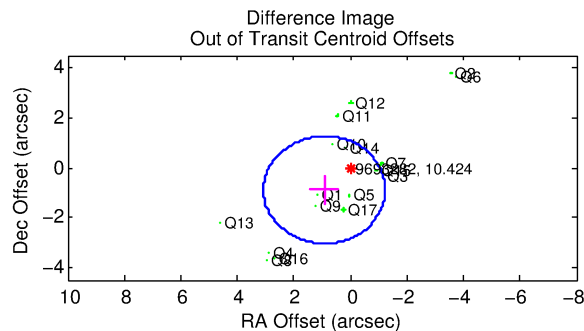
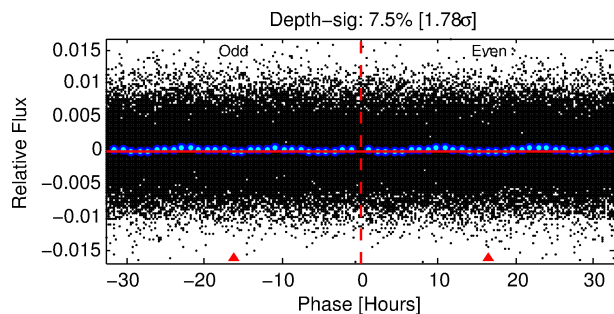
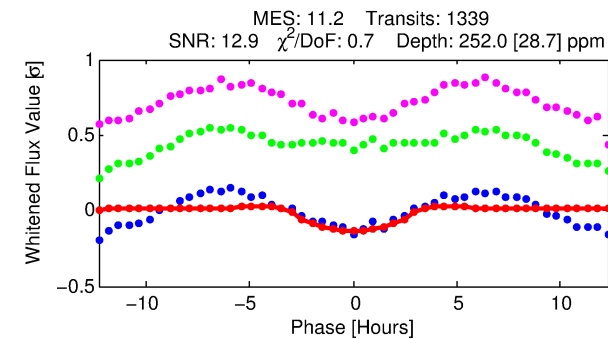
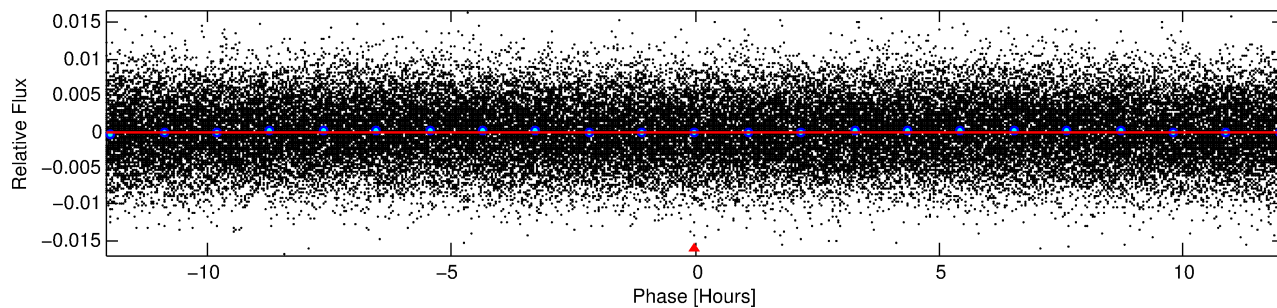
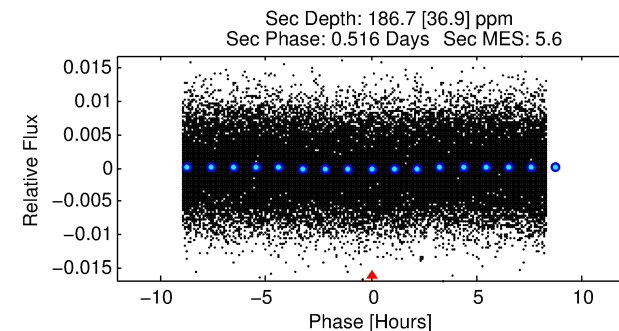
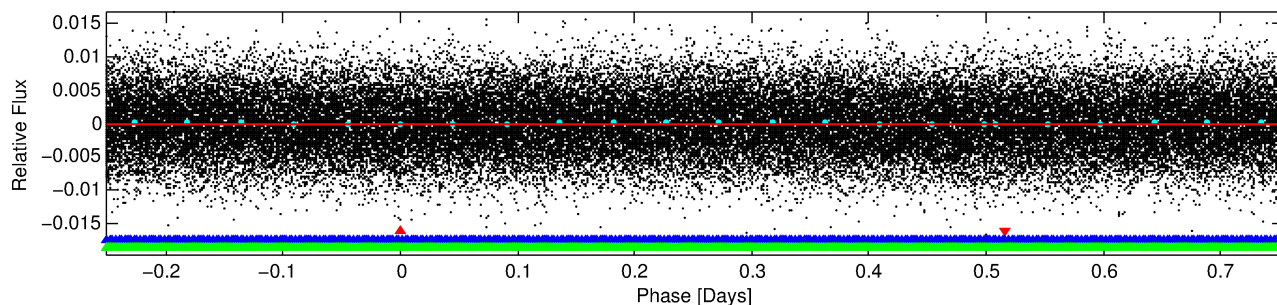
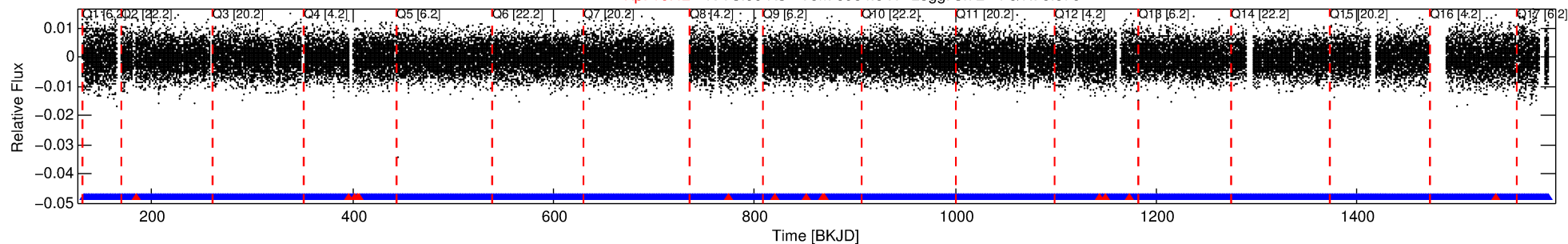
Ephemeris Match Information For 009693282-01

No Significant Match Found

DV One-Page Summary

KIC: 9693282 Candidate: 1 of 3 Period: 1.006 d

Kp: 10.42 R*: 3.00 Rs Teff: 6964.0 K Logg: 3.72 Fe/H: 0.070



DV Fit Results:

Period = 1.00609 [0.00001] d
Epoch = 132.0101 [0.0068] BKJD
Rp/R* = 0.0147 [0.0239]
a/R* = 1.56 [8.30]
b = 0.01 [1331.39]
Seff = 33939.24 [24902.42]
Teq = 3461 [635] K
Rp = 4.80 [8.11] Re
a = 0.0236 [0.0104] AU
Ag = 2.48 [8.30] [0.18σ]
Teff = 6717 [5492] K [0.59σ]

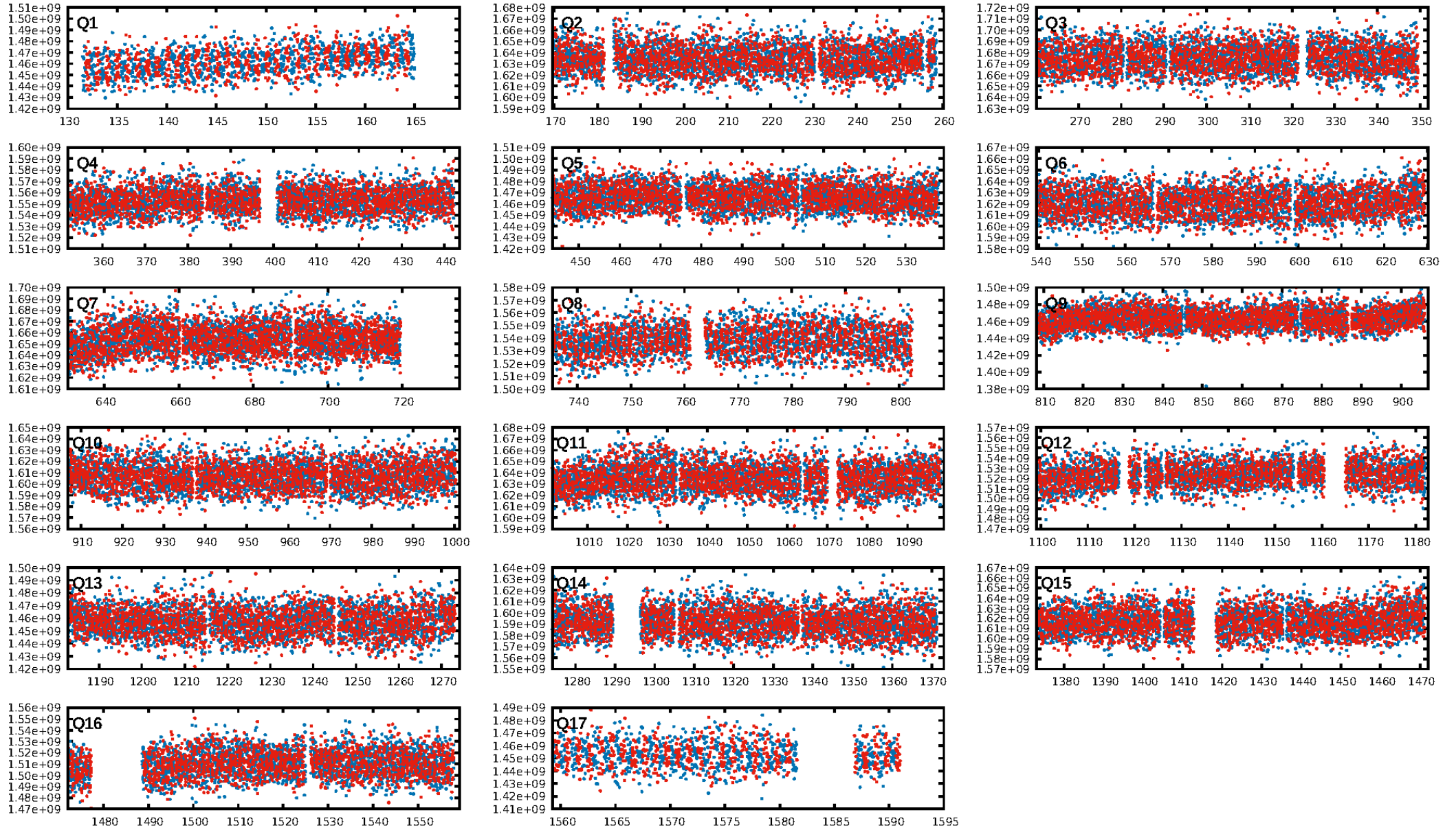
DV Diagnostic Results:

ShortPeriod-sig: 93.7% [1.86σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1265/1279]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.601 arcsec [3.51σ]
OotOffset-rm: 1.287 arcsec [1.79σ]
KicOffset-rm: 1.856 arcsec [2.73σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.41 [7/17]
DiffImageOverlap-fno: 0.00 [0/17]

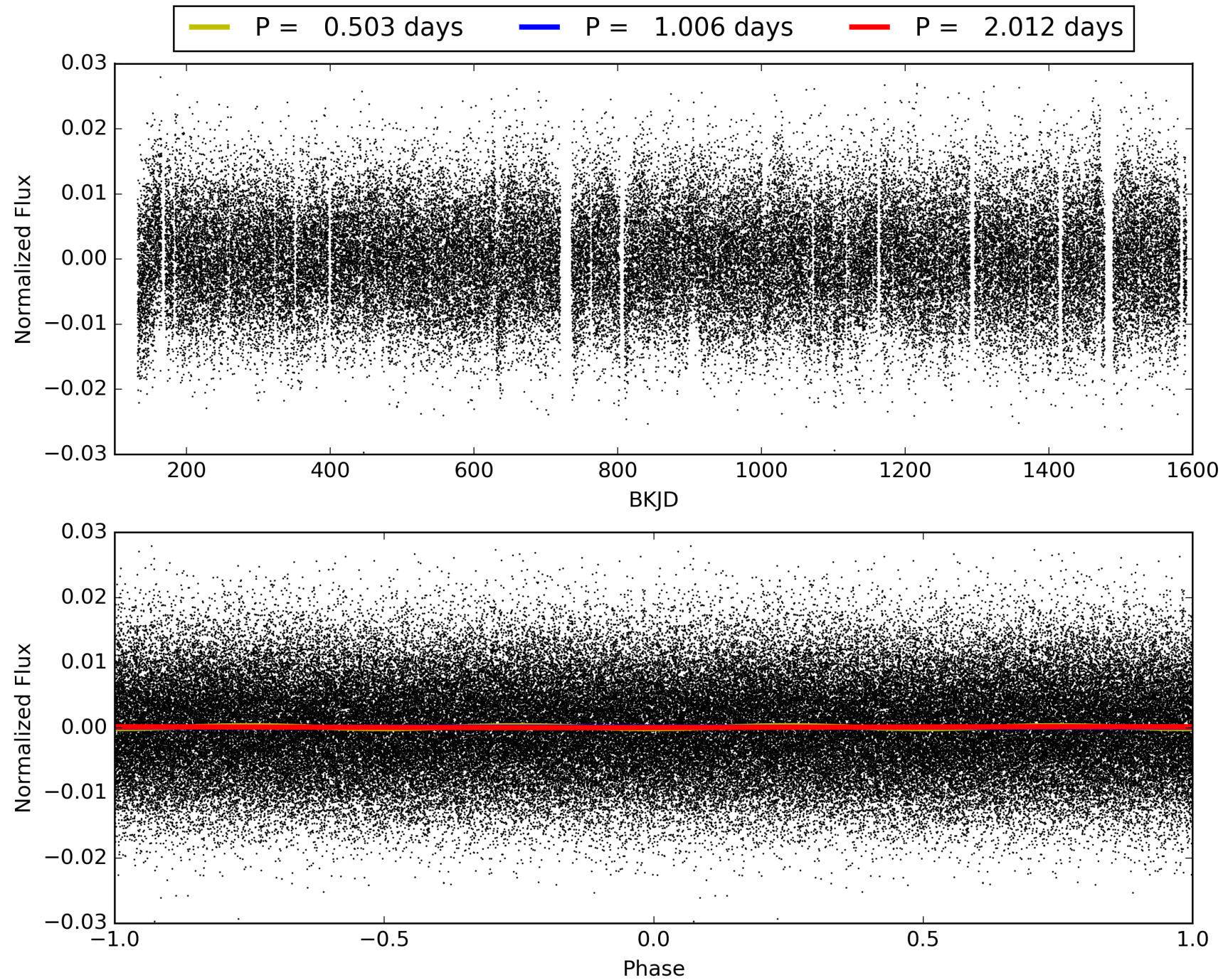
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:00:02 Z

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

TCE 009693282-01, PDC Light Curves

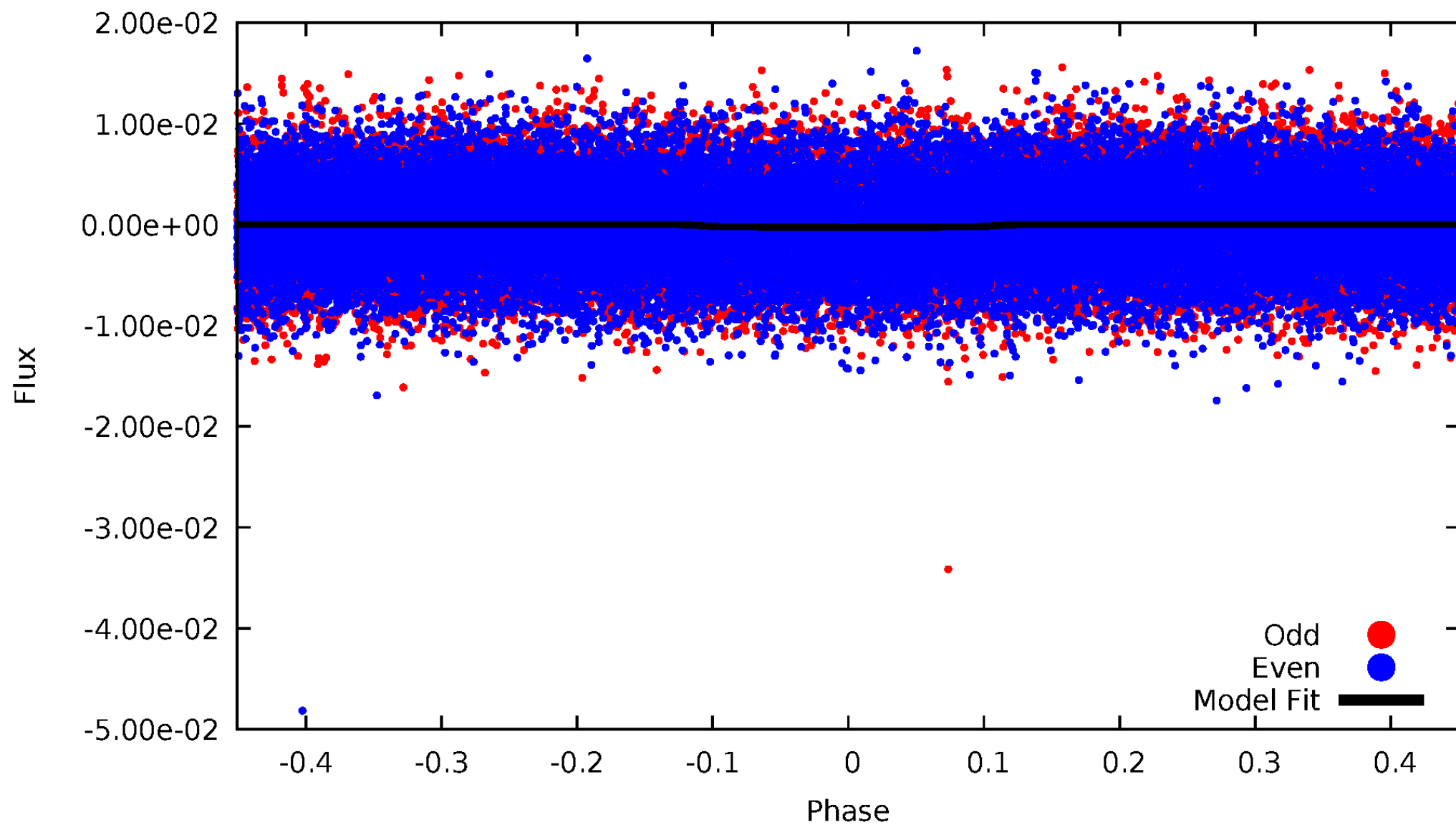


TCE 009693282-01



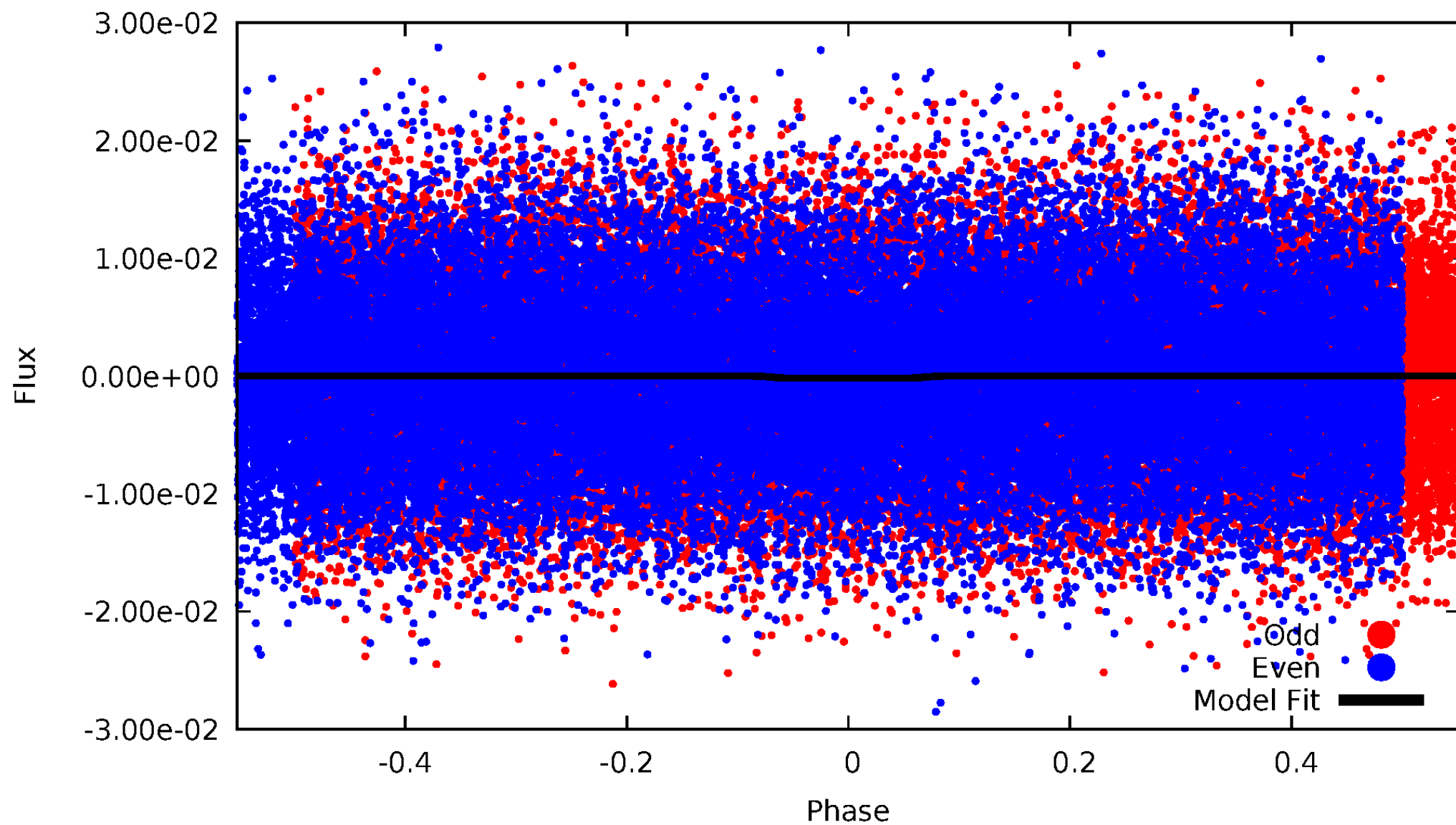
DV Odd/Even

TCE 009693282-01



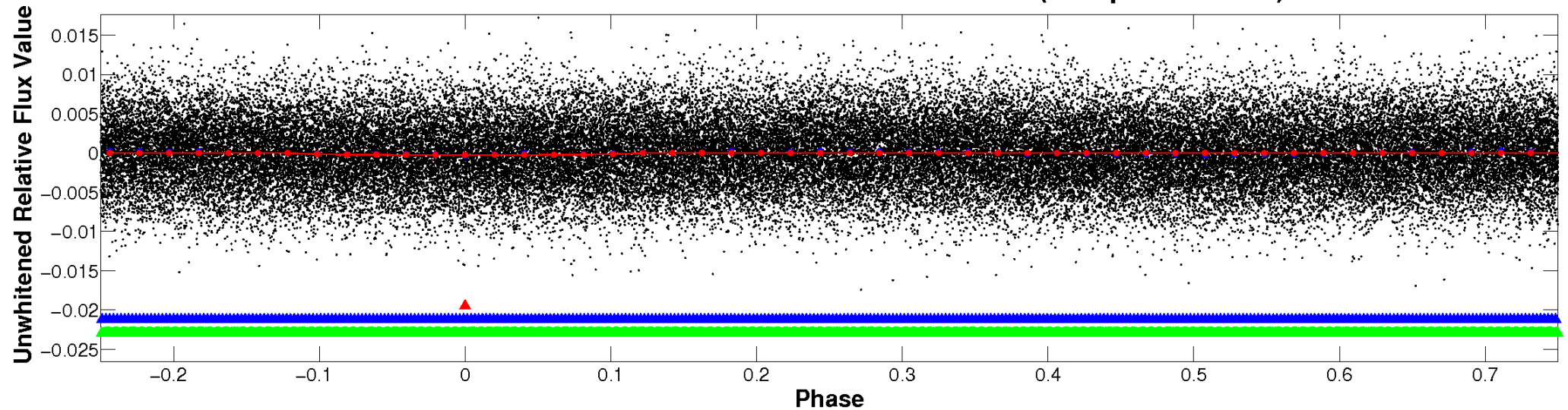
ALT Odd/Even

TCE 009693282-01

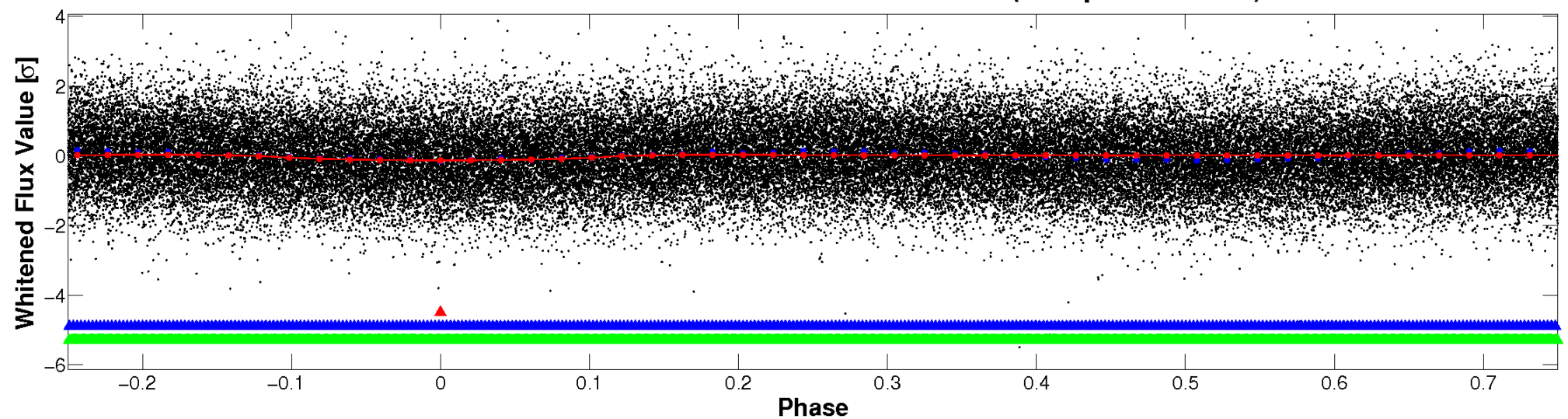


Non-Whitened Vs. Whitened Light Curve

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

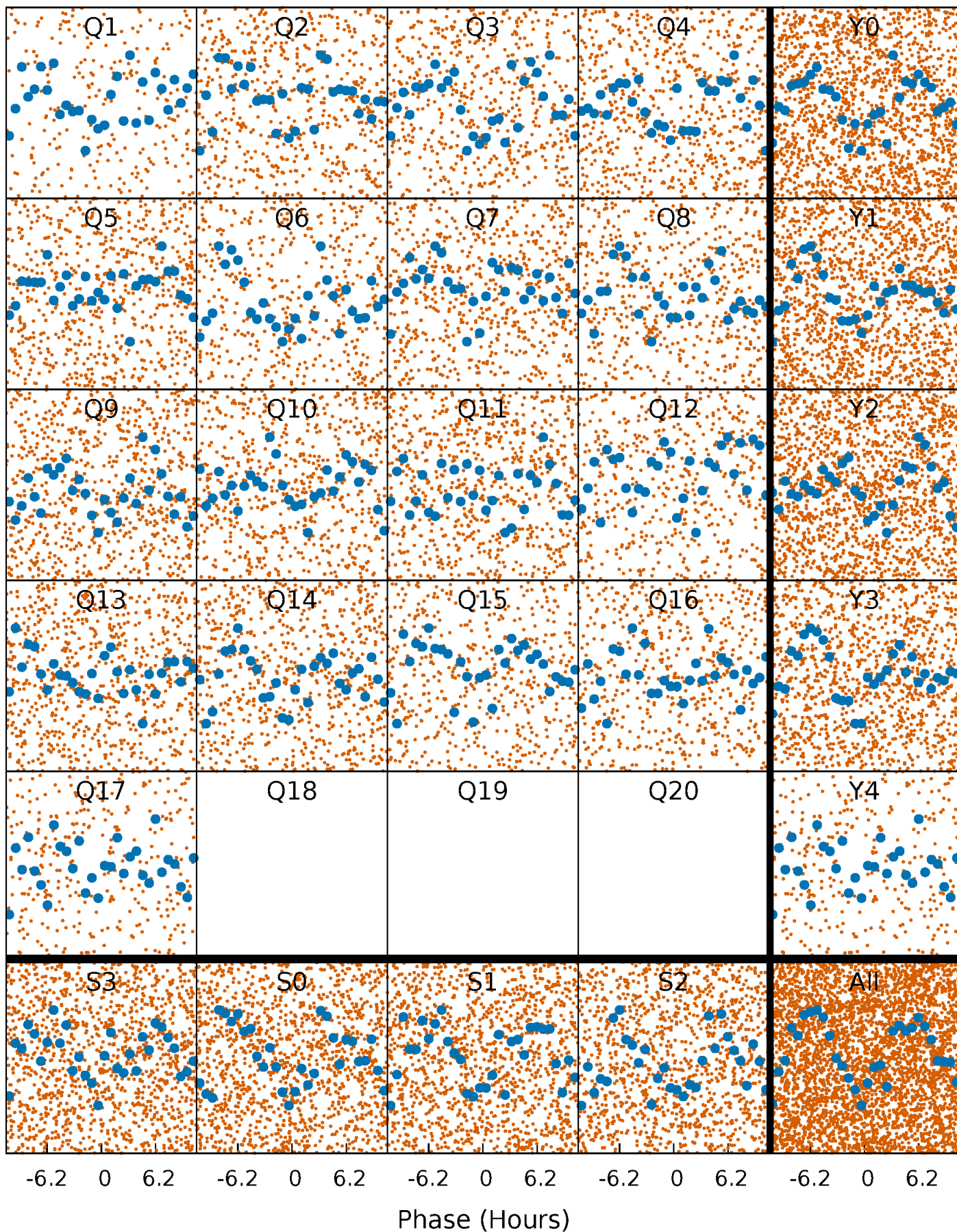


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



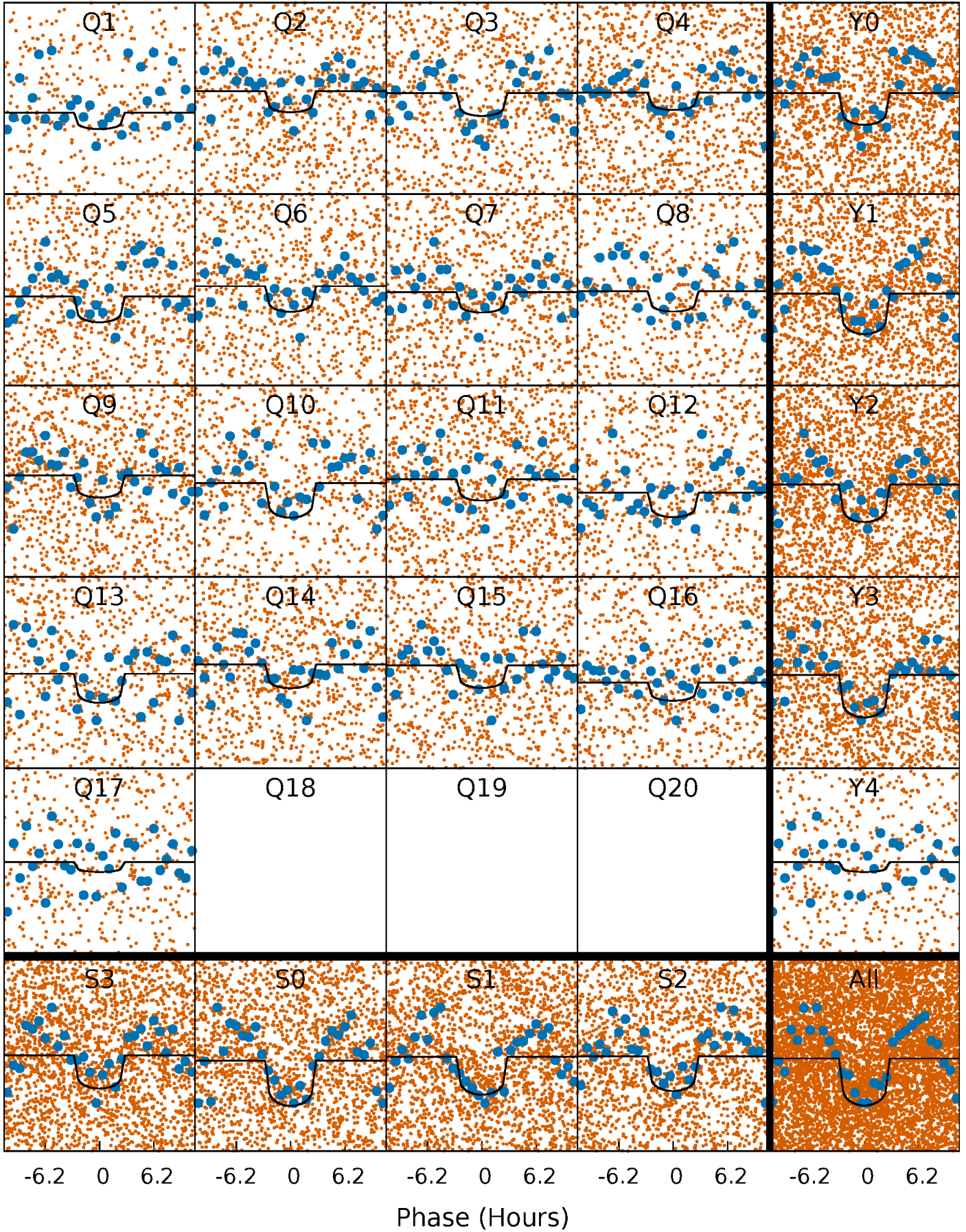
PDC Quarter-Phased Transit Curves

TCE 009693282-01 P= 1.006089 Days $T_0=132.010115$ (BKJD)



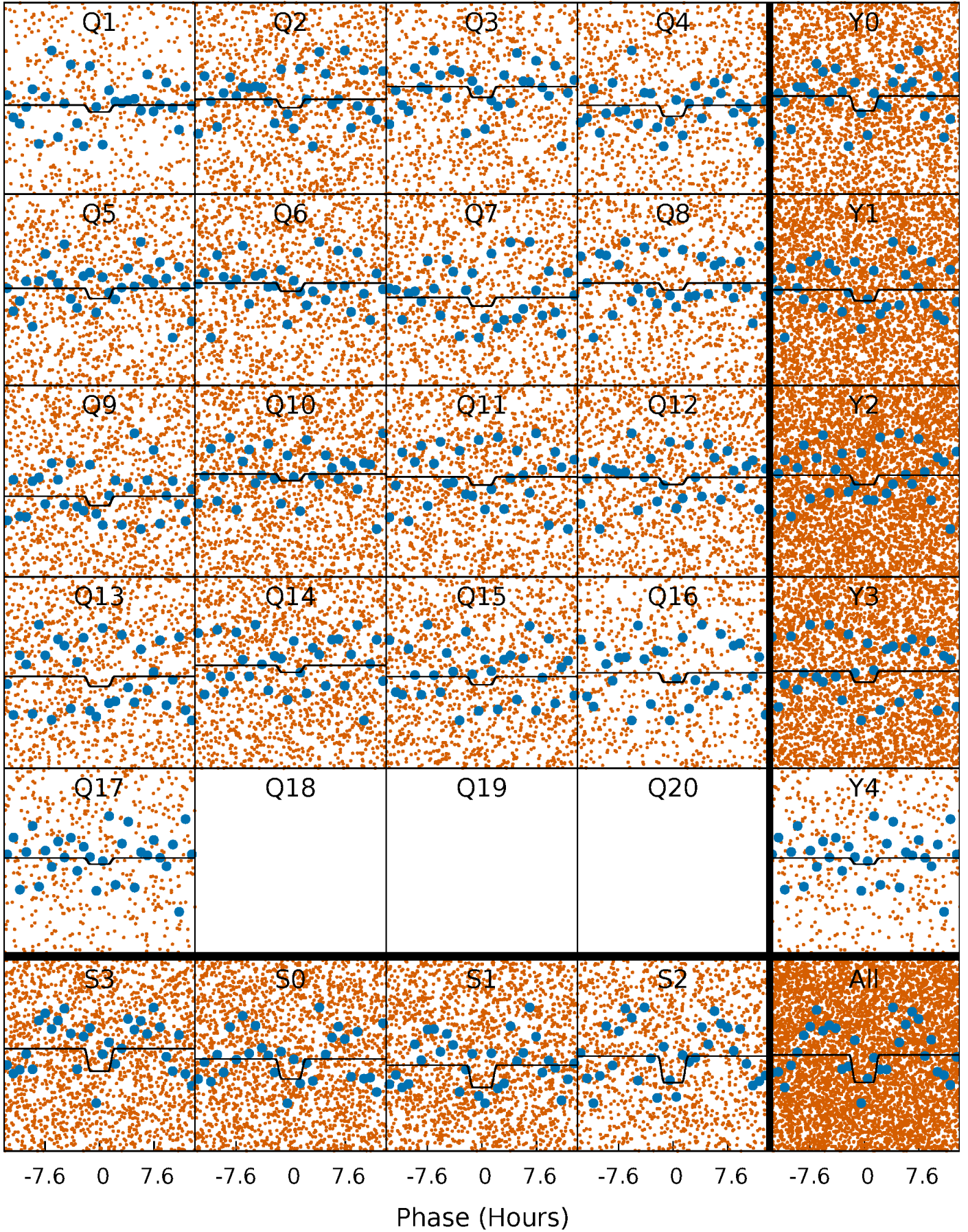
DV Quarter-Phased Transit Curves

TCE 009693282-01 P= 1.006089 Days $T_0=132.010115$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

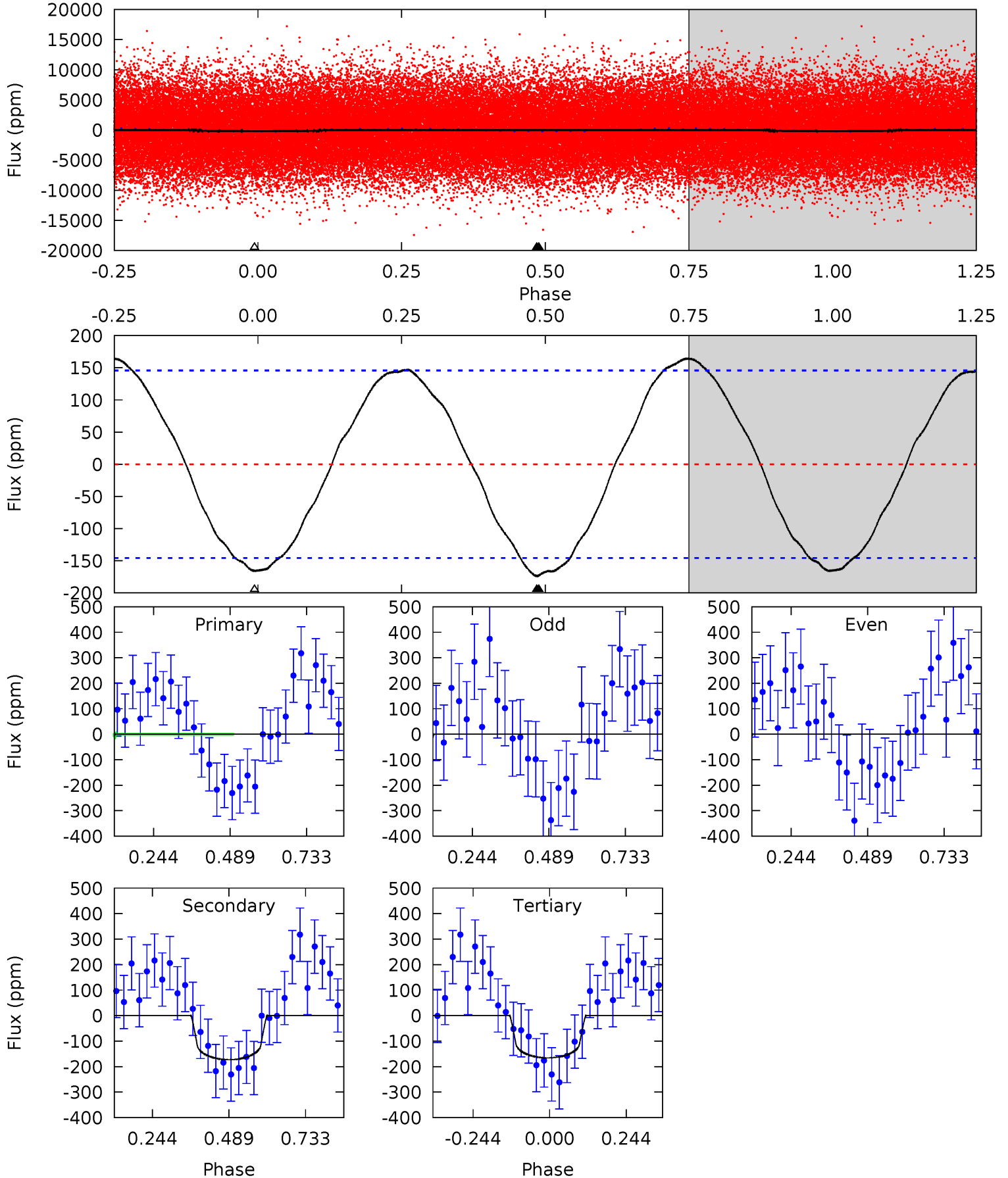
TCE 009693282-01 P= 1.006096 Days $T_0=132.002252$ (BKJD)



DV Model-Shift Uniqueness Test

009693282-01, P = 1.006089 Days, E = 131.004026 Days

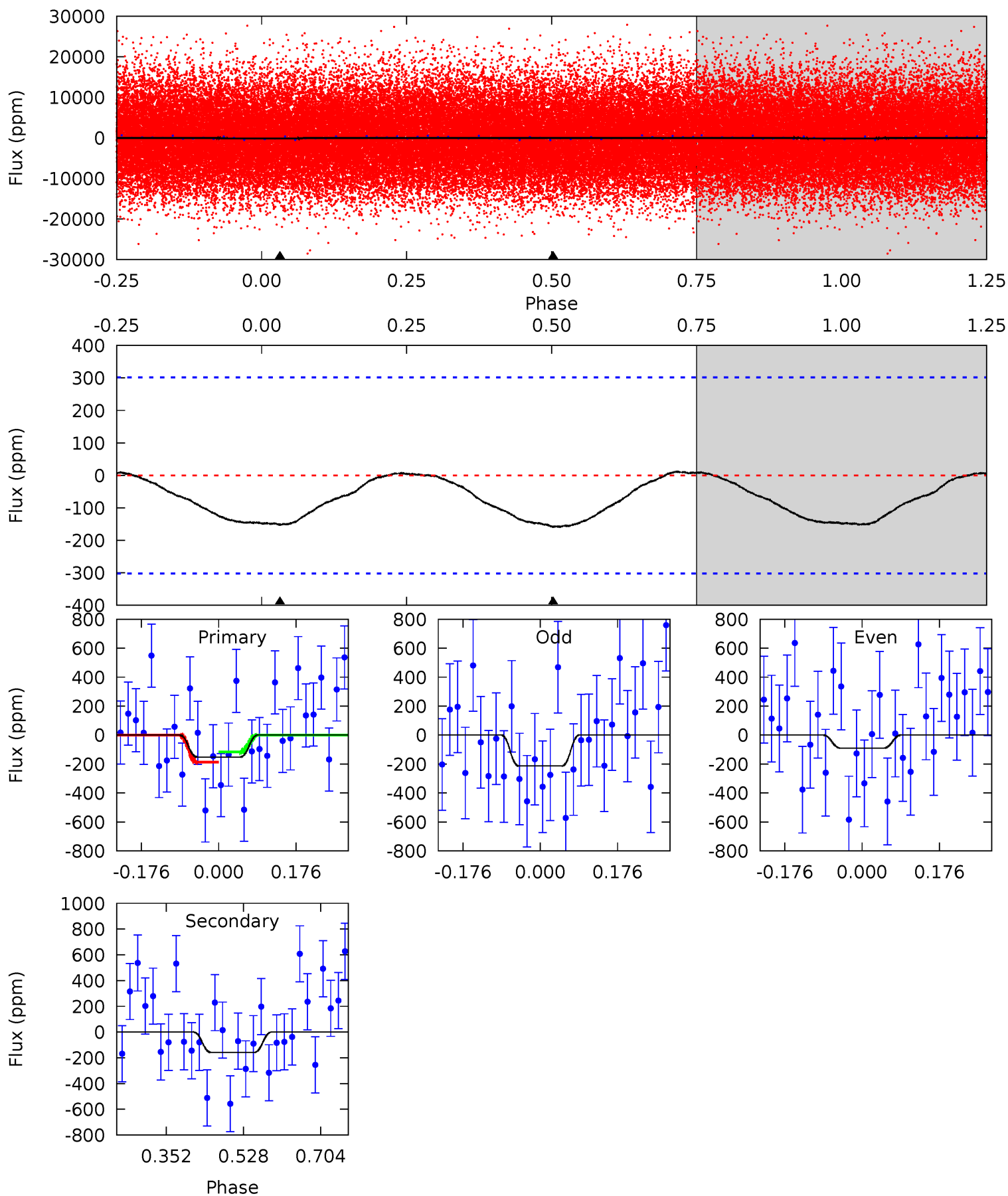
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.22	5.18	4.97	0	4.37	1.16	3.42	0.24	5.22	0.21	5.18	1.99	0.85	0.49	0.03



Alt Model-Shift Uniqueness Test

009693282-01, P = 1.006096 Days, E = 130.996156 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.23	2.33	0	0	4.44	1.35	0.26	2.23	2.23	2.33	2.33	0.91	0.91	0.07	0.52



Stellar Parameters For KIC 009693282

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6964^{+195}_{-293}	$3.724^{+0.424}_{-0.106}$	$0.070^{+0.200}_{-0.300}$	$2.998^{+0.566}_{-1.322}$	$1.735^{+0.170}_{-0.369}$	$0.091^{+0.385}_{-0.029}$
	+3%/-4%	+11%/-3%	+286%/-429%	+19%/-44%	+10%/-21%	+424%/-32%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 009693282-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-173 ± 33	$6.72^{+6.29}_{-4.34}$	4694^{+354}_{-550}	4848^{+4508}_{-2425}	$1.108^{+8.055}_{-0.798}$
Alt.	-158 ± 68	$6.59^{+6.52}_{-4.28}$	4690^{+344}_{-516}	4714^{+4292}_{-7841}	$0.997^{+8.620}_{-0.754}$

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

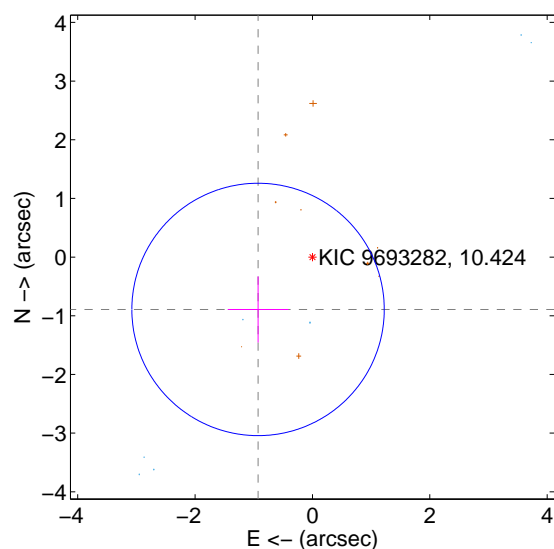
Supplemental centroid analysis for 009693282-01. **Kepler magnitude: 10.42.** Transit SNR 12.88

There are 7 quarters with good PRF difference image offsets

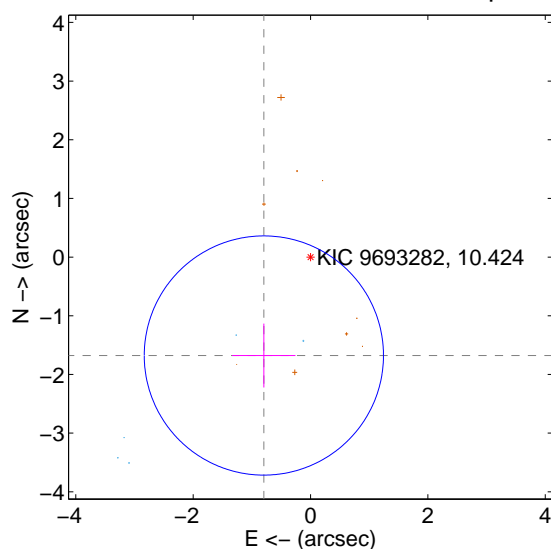
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.287 ± 0.717	1.79	0.927 ± 0.517	-0.892 ± 0.564
PRF-fit source offset from KIC position	1.856 ± 0.680	2.73	0.795 ± 0.539	-1.677 ± 0.545
photometric centroid source offset	0.60 ± 0.17	3.51	0.49 ± 0.16	-0.34 ± 0.19

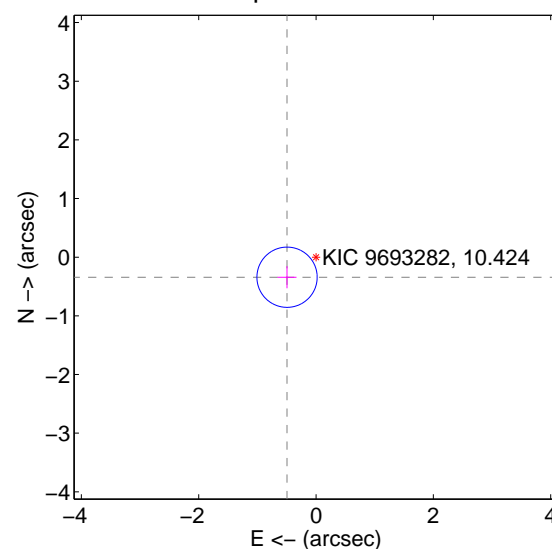
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

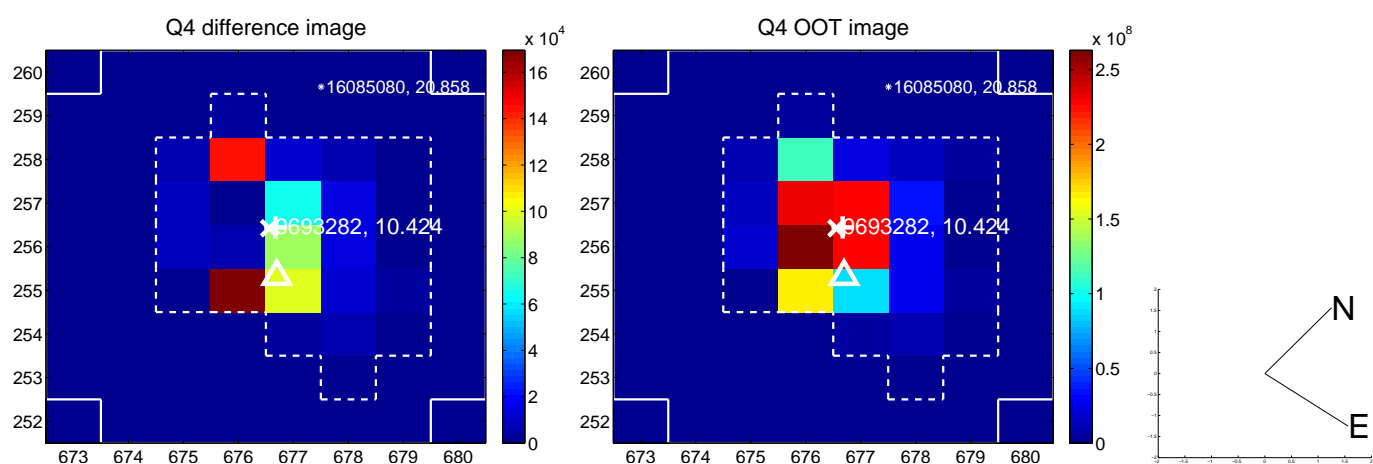
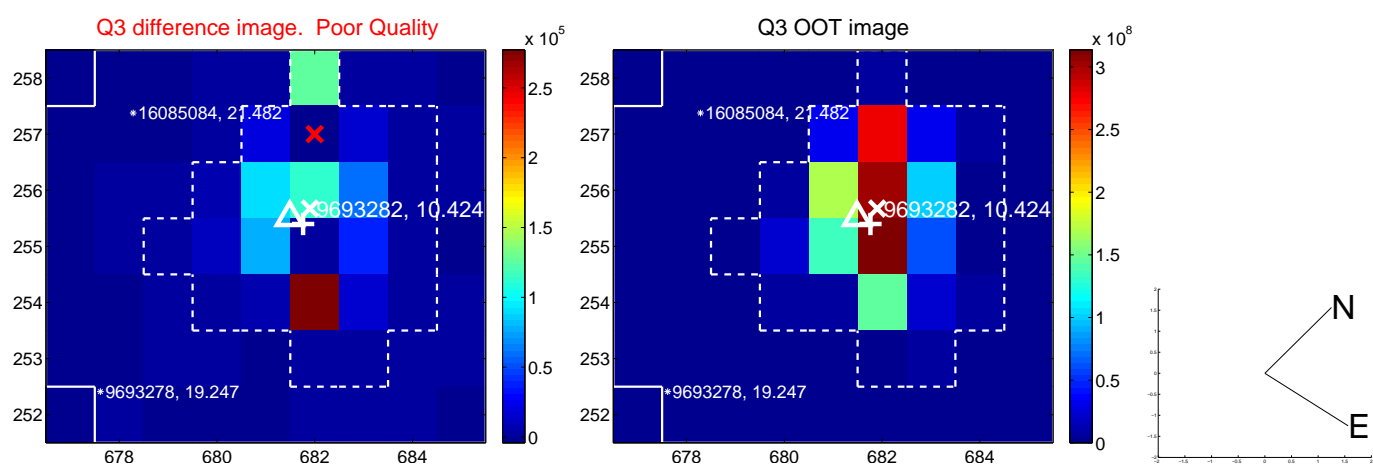
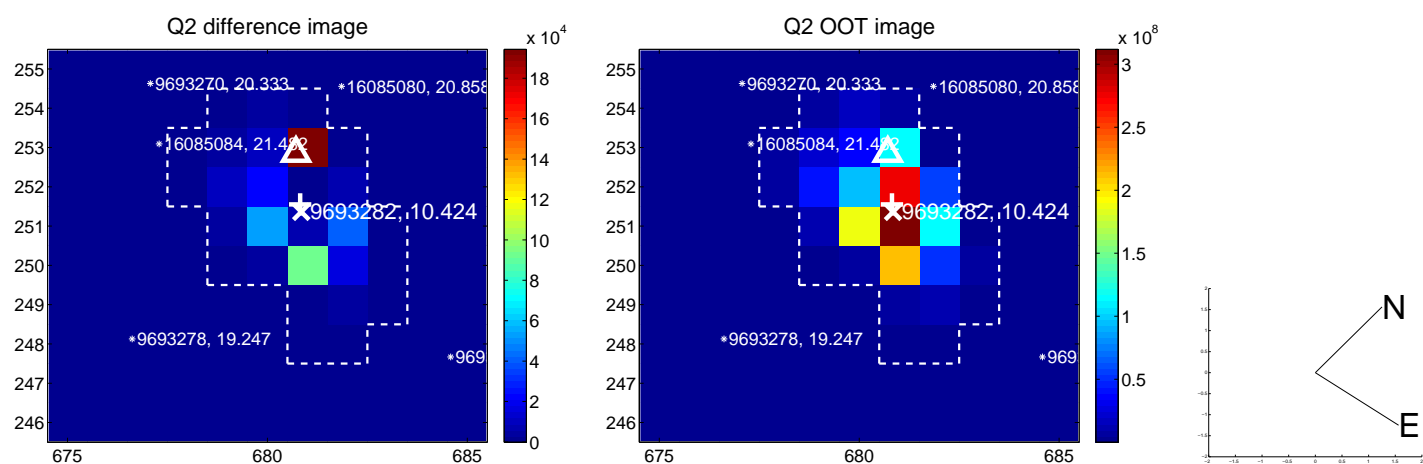
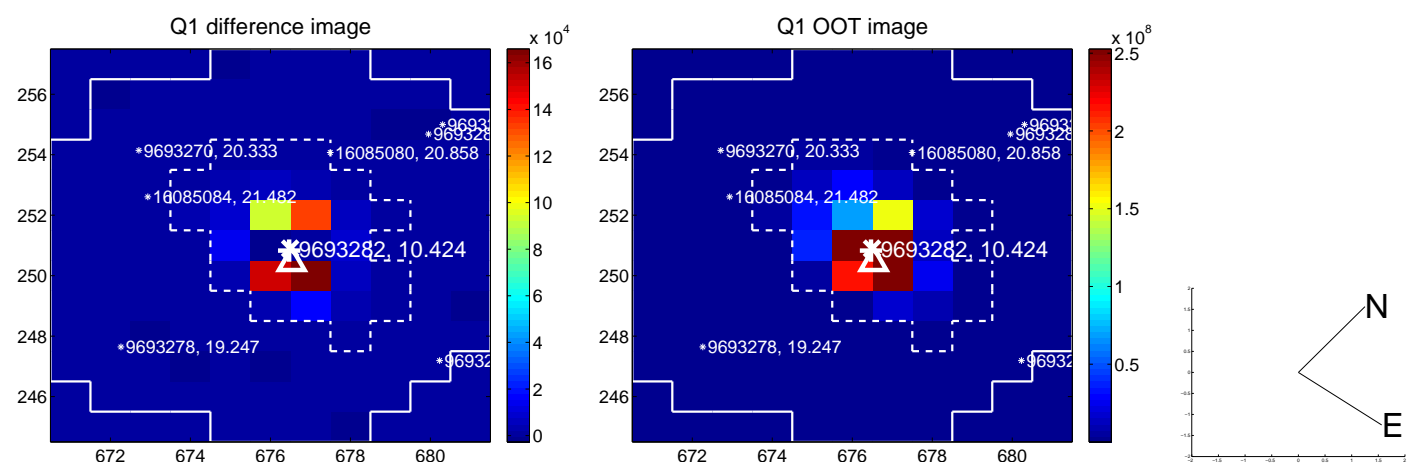


offset from photometric centroids

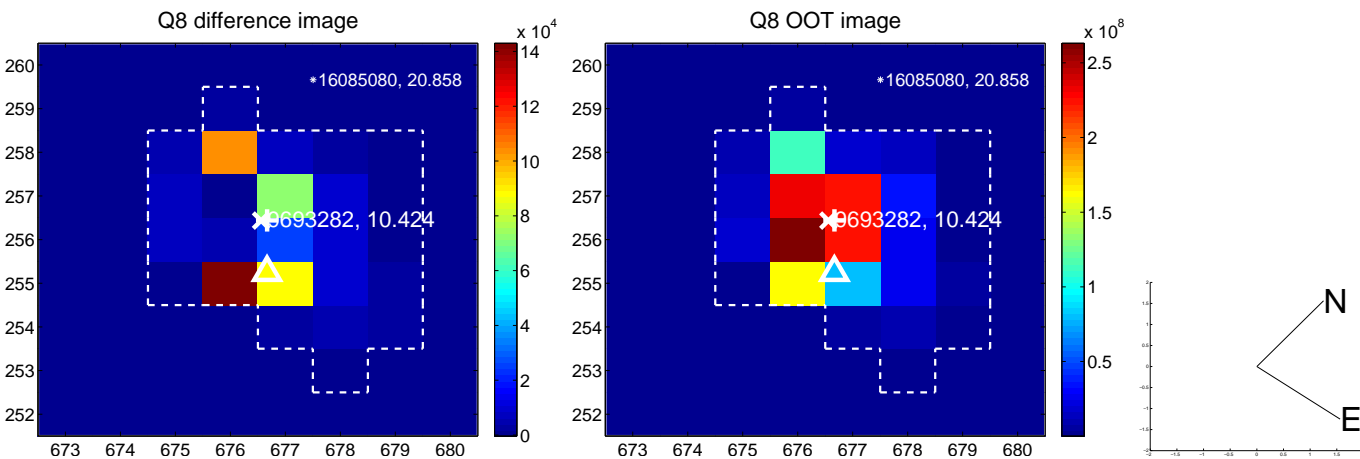
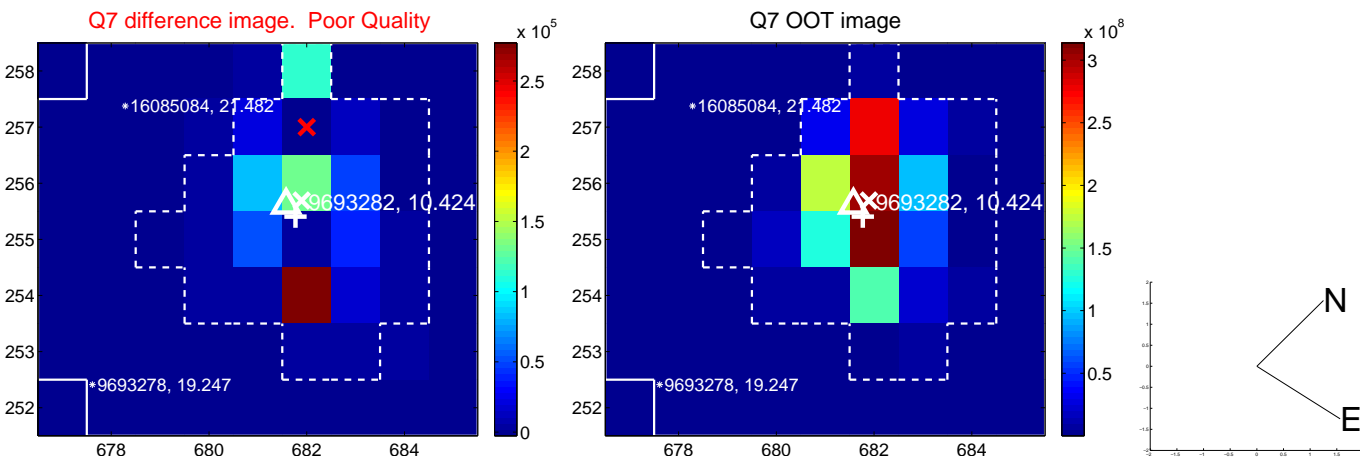
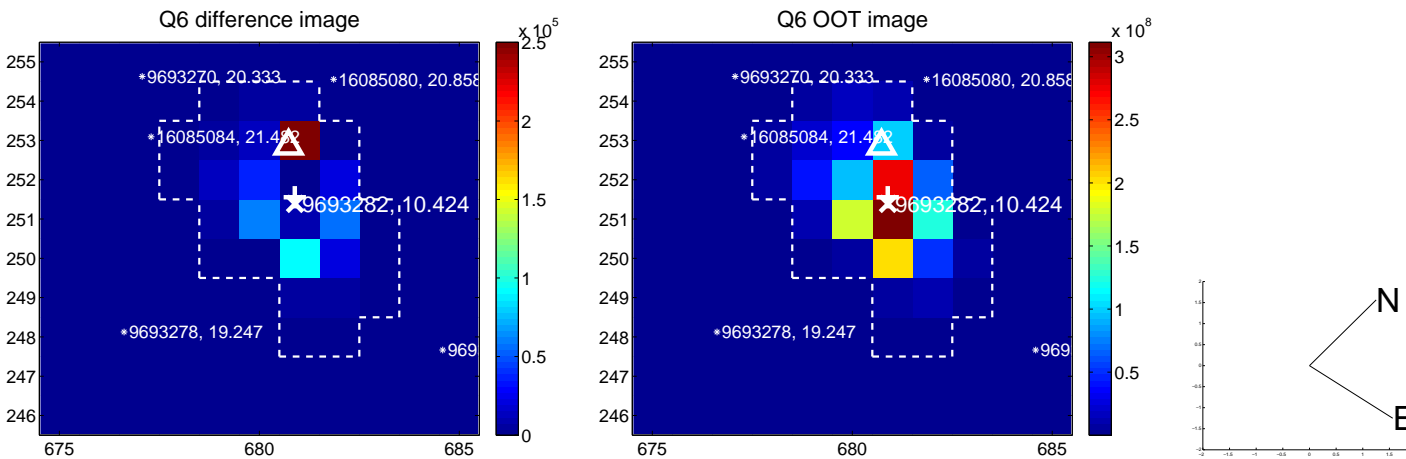
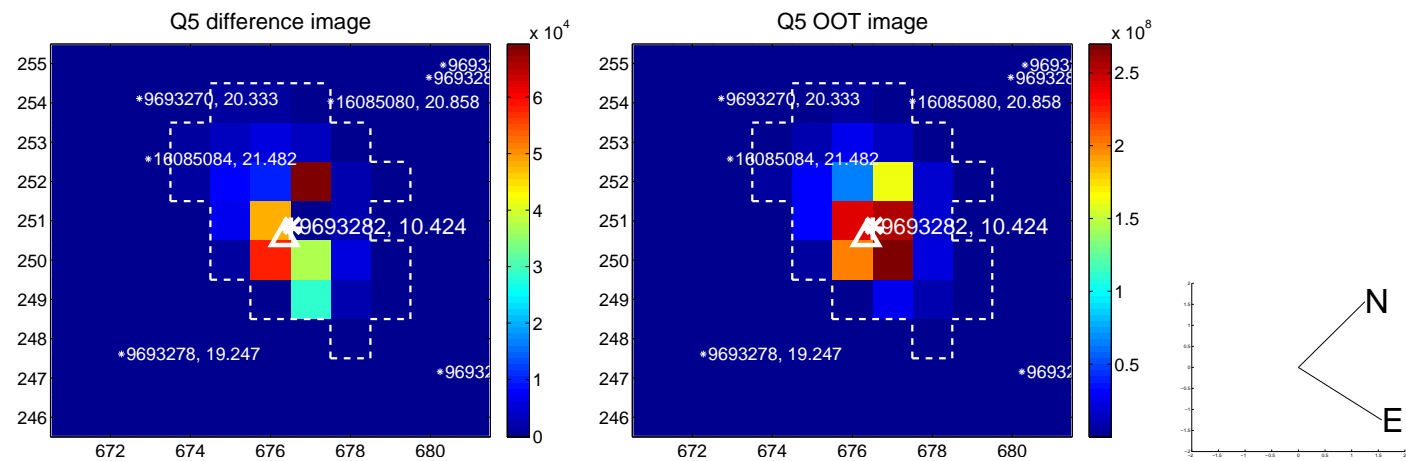


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

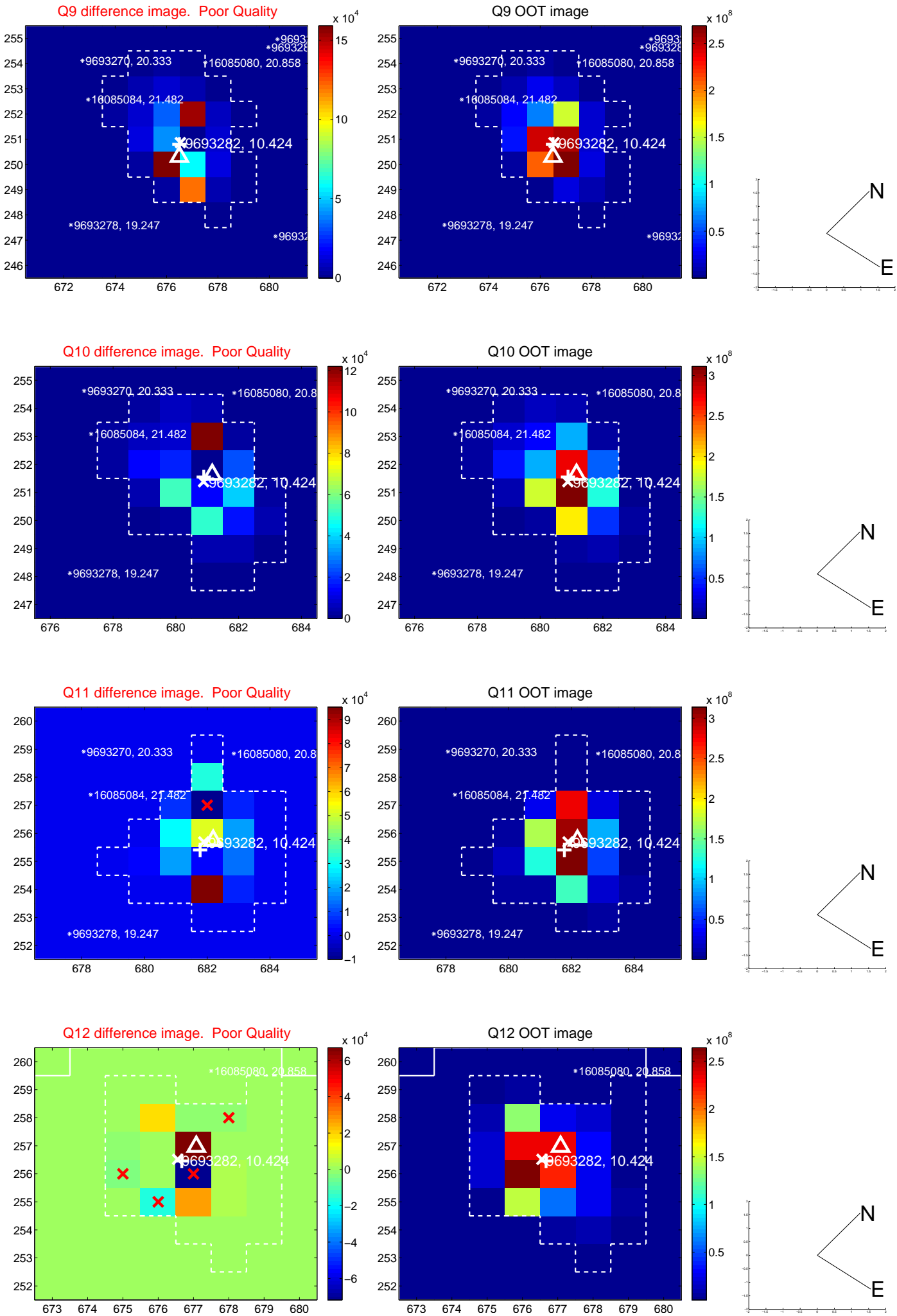
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



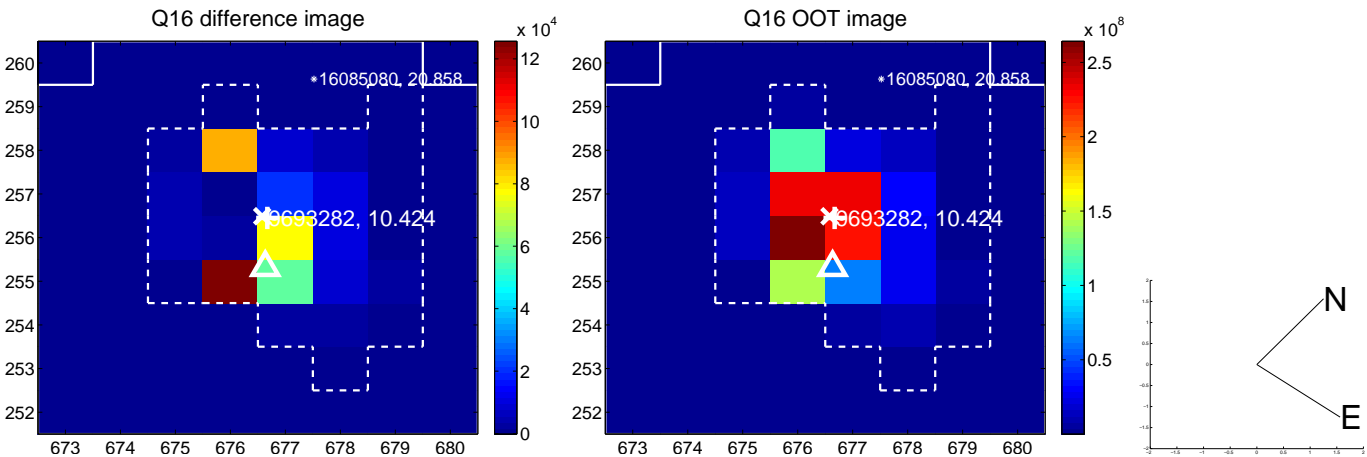
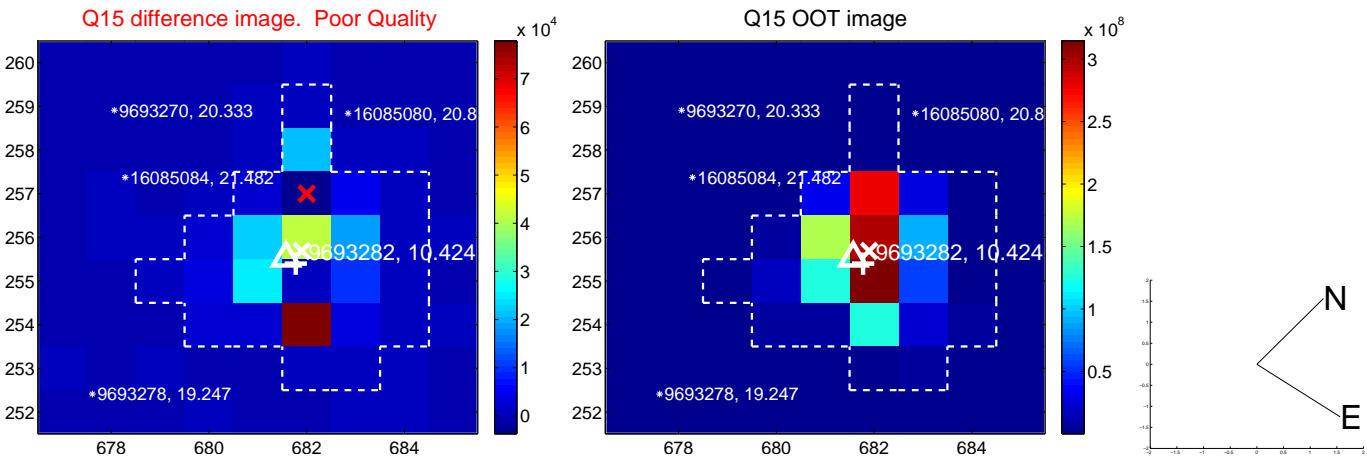
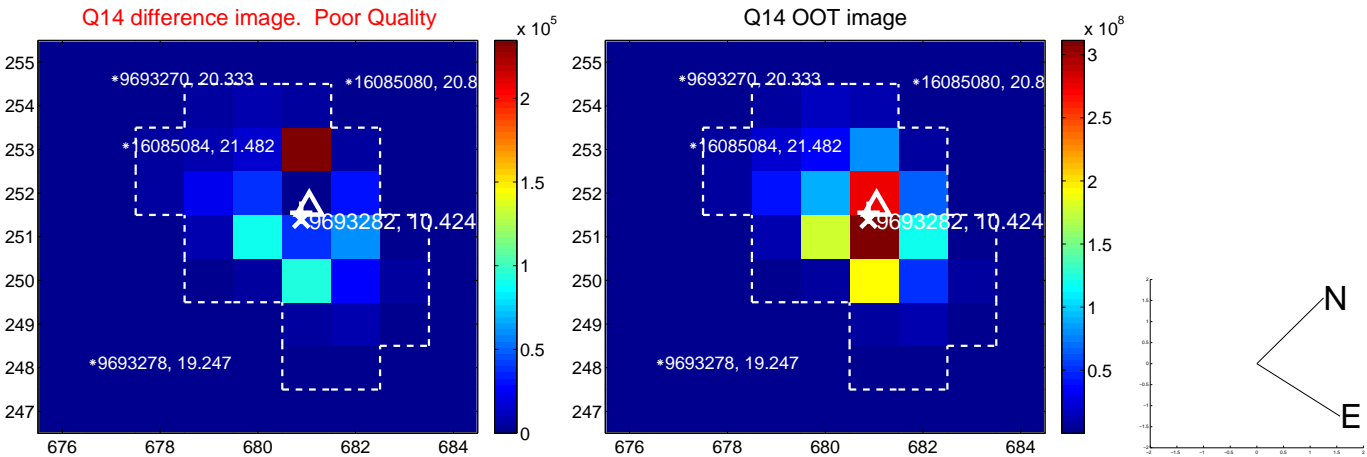
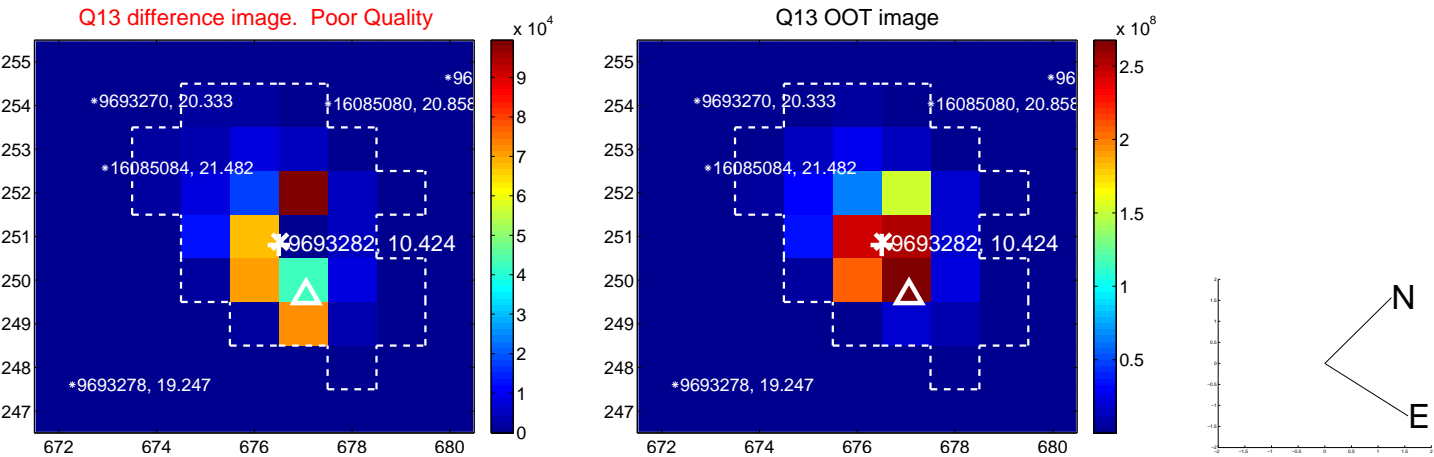
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



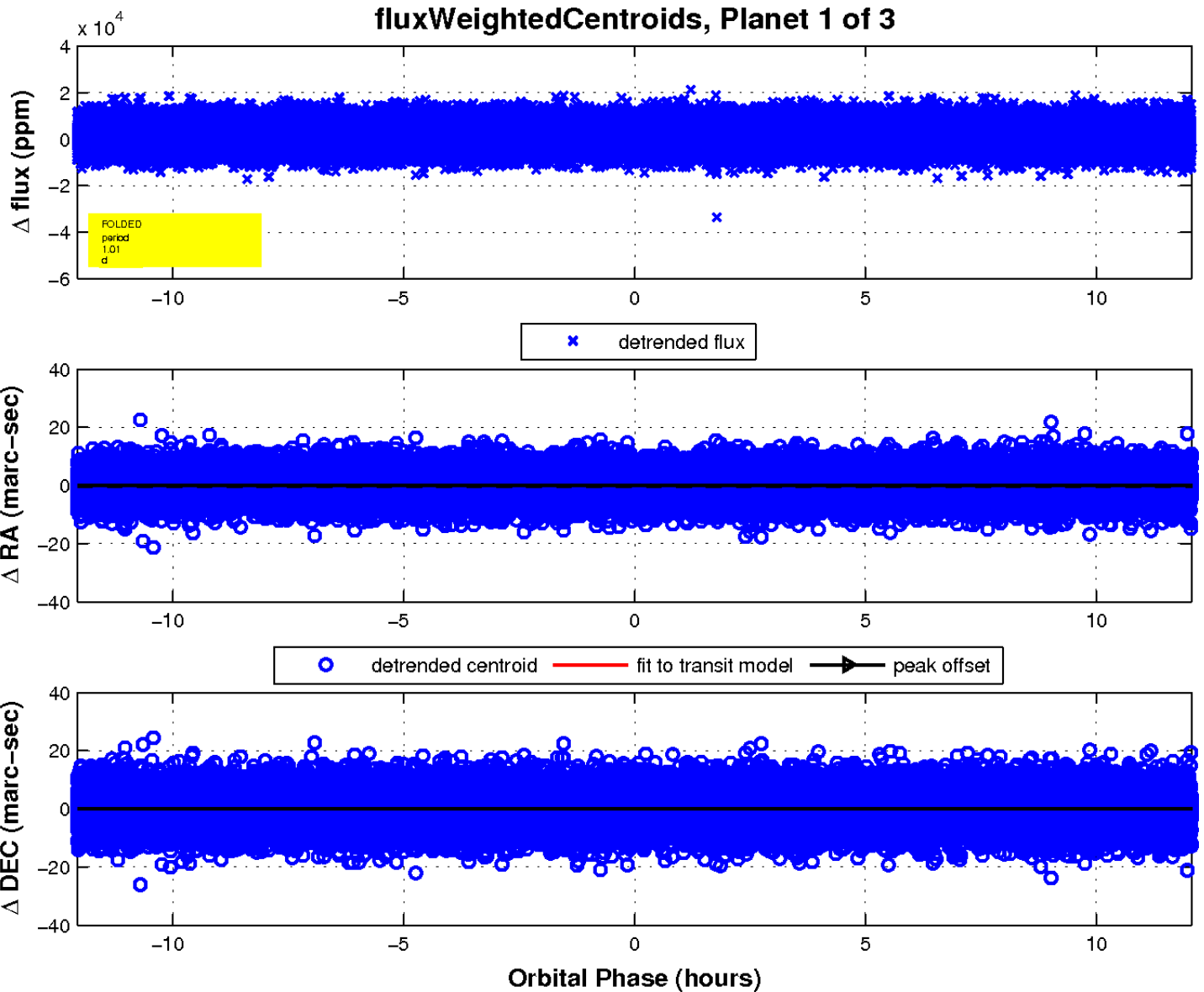
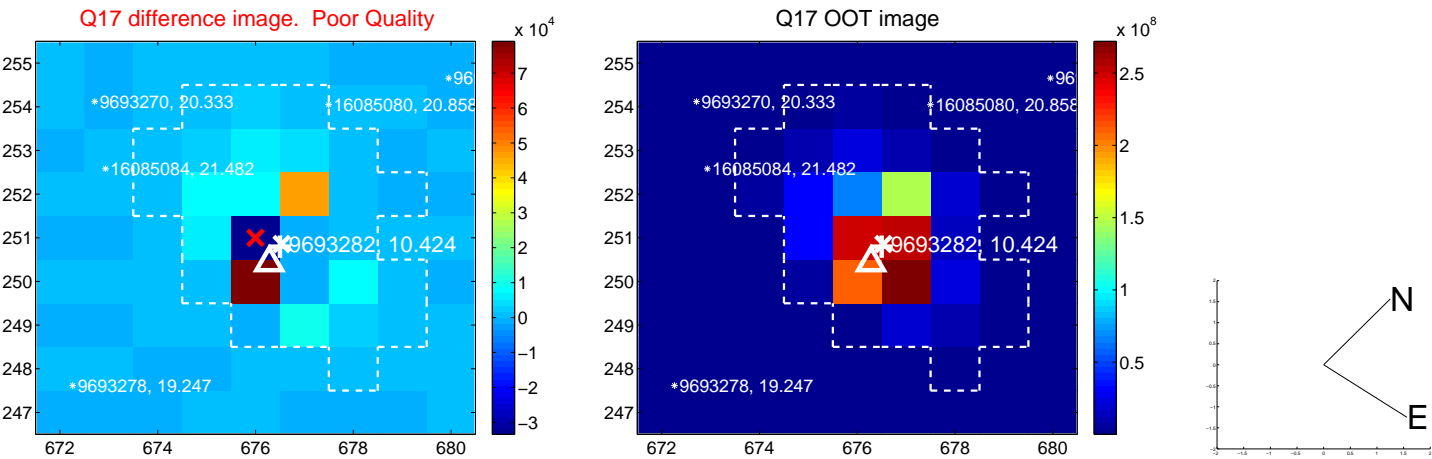
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

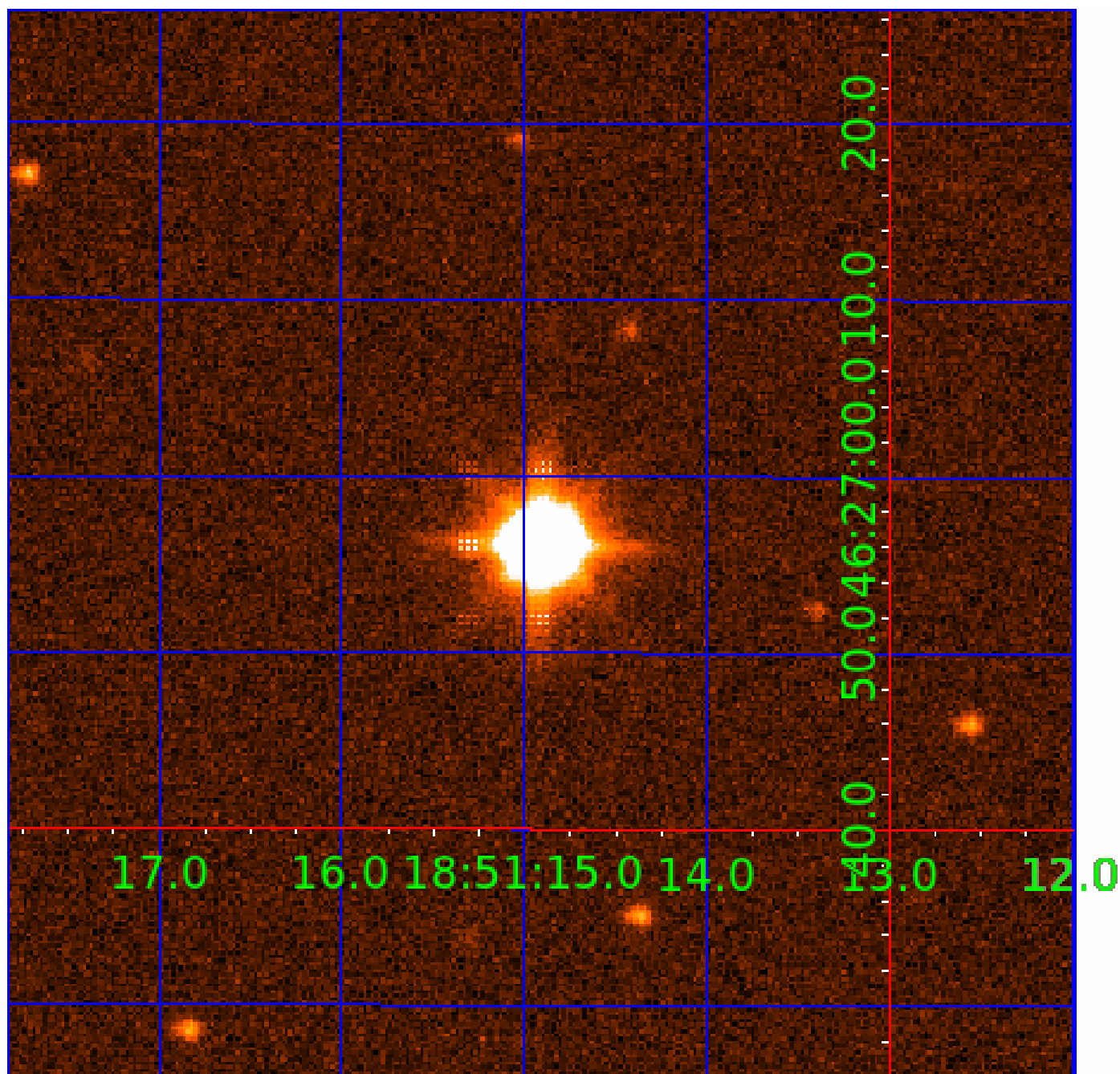


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009693282

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})
009693282-01	OBS	No	1.006089	132.010115	252.0	5.441	11.2	12.9	3.00	6964	4.80	33939.24
009693282-02	OBS	No	0.582336	131.767212	2165.2	0.531	11.3	14.9	3.00	6964	18.41	70358.94
009693282-03	OBS	No	0.582335	131.885994	53.6	1.500	11.0	-1.0	3.00	6964	2.23	70359.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009693282-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
009693282-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009693282-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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.

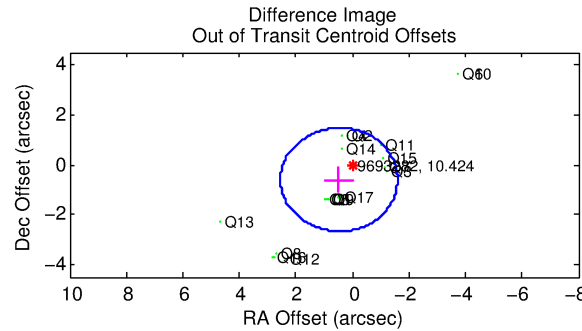
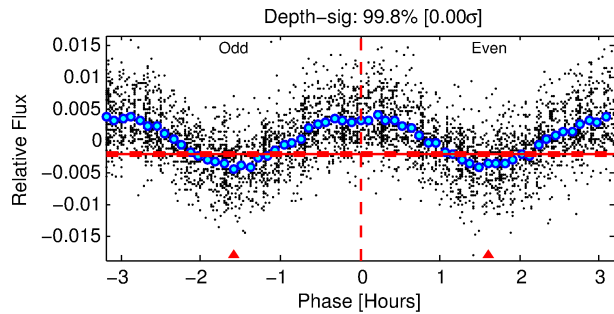
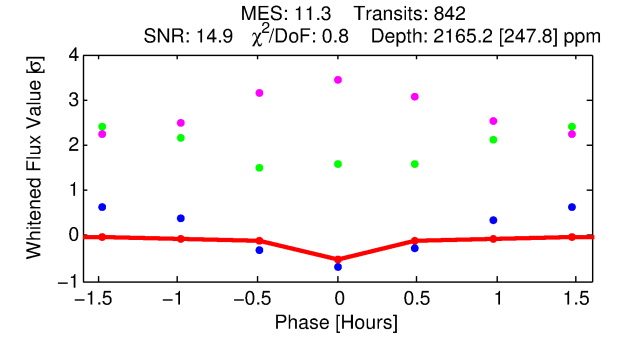
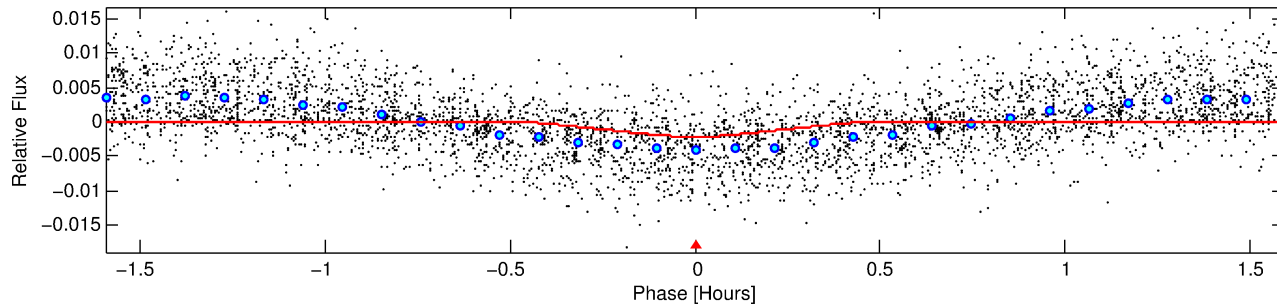
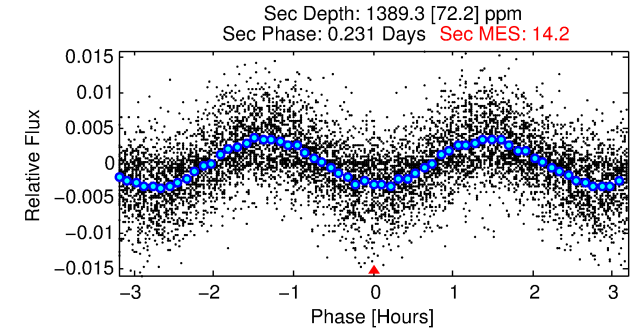
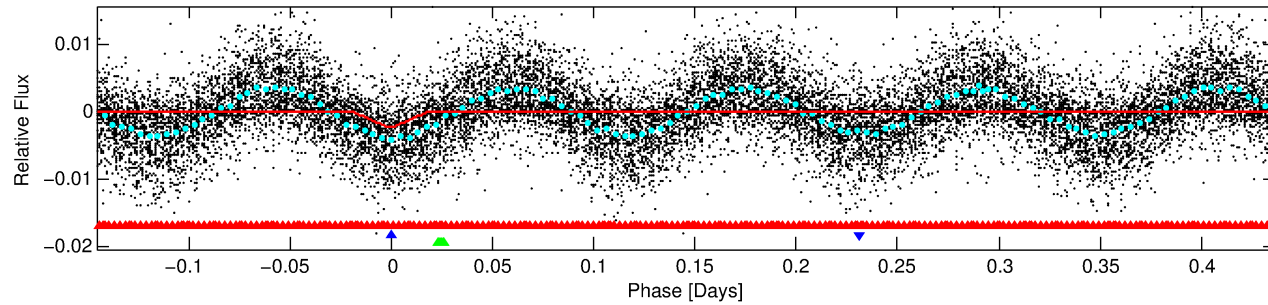
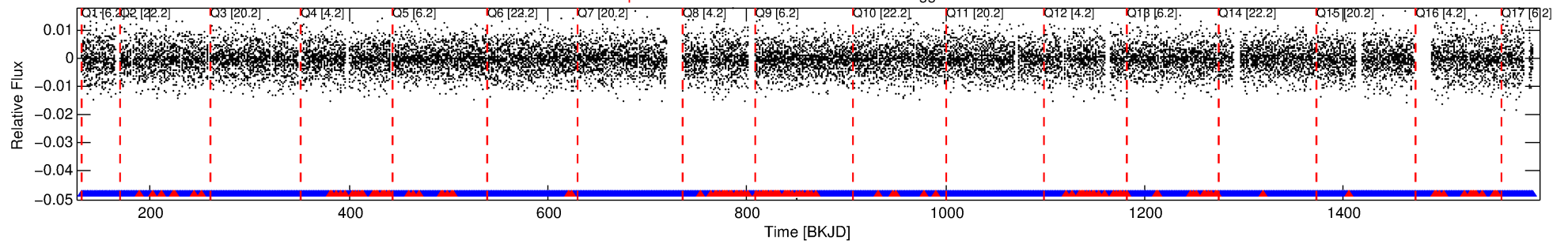
Ephemeris Match Information For 009693282-02

No Significant Match Found

DV One-Page Summary

KIC: 9693282 Candidate: 2 of 3 Period: 0.582 d

Kp: 10.42 R*: 3.00 Rs Teff: 6964.0 K Logg: 3.72 Fe/H: 0.070



DV Fit Results:

Period = 0.58234 [0.00001] d
Epoch = 131.7672 [0.0009] BKJD
Rp/R* = 0.0563 [0.0215]
a/R* = 4.72 [7.20]
b = 0.90 [0.36]
Seff = 70358.94 [51624.84]
Teff = 4153 [762] K
Rp = 18.41 [10.75] Re
a = 0.0164 [0.0072] AU
Ag = 0.61 [0.64] [-0.62σ]
Teffp = 5668 [1114] K [1.12σ]

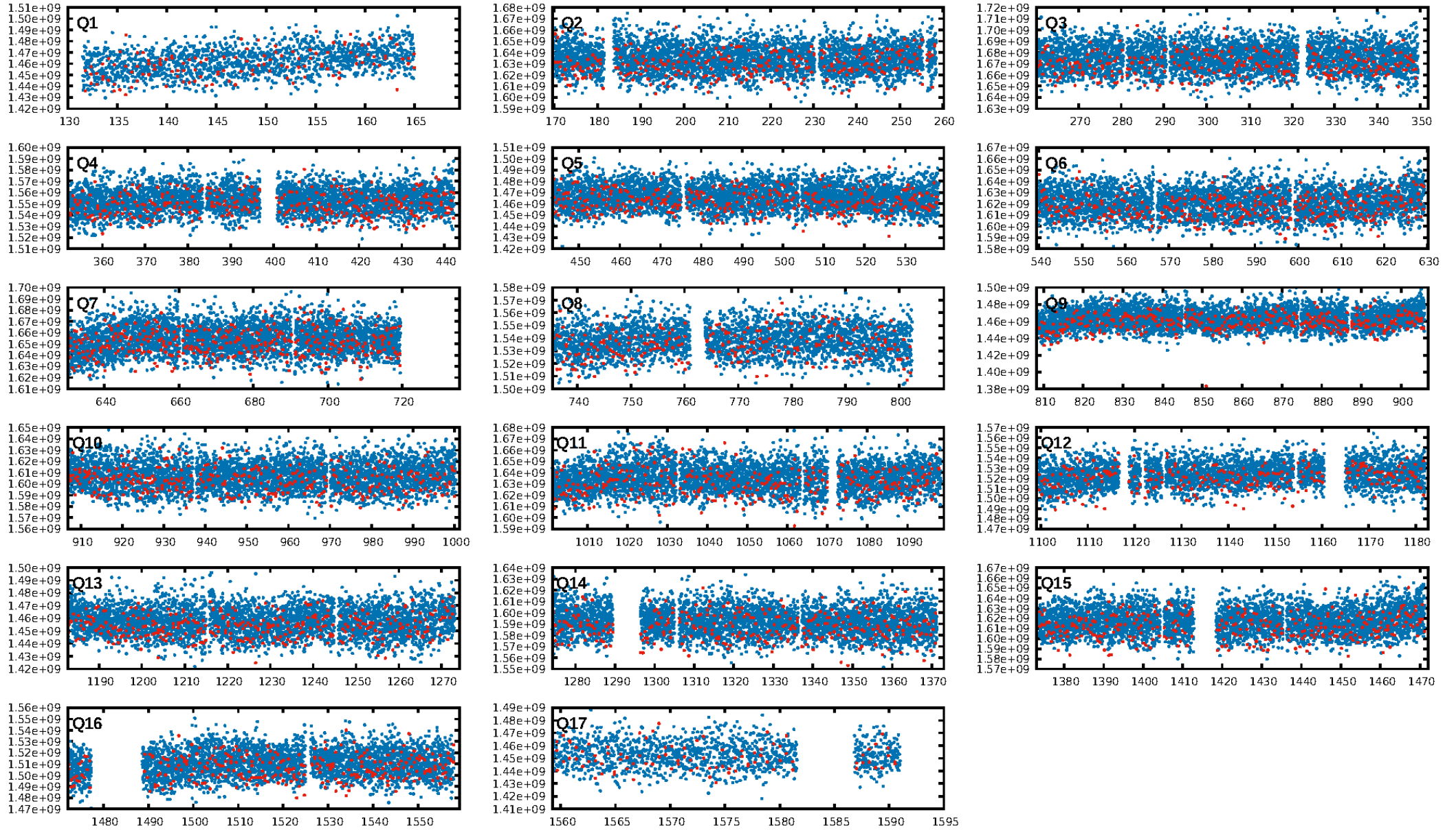
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 93.7% [1.86σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-igt: 0.83 [671/805]
GhostDiagnostic-chr: N/A
Centroid-sig: 5.3%
Centroid-so: 0.164 arcsec [1.94σ]
OotOffset-rm: 0.767 arcsec [1.11σ]
KicOffset-rm: 1.675 arcsec [2.27σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.35 [6/17]
DiffImageOverlap-fno: 0.00 [0/17]

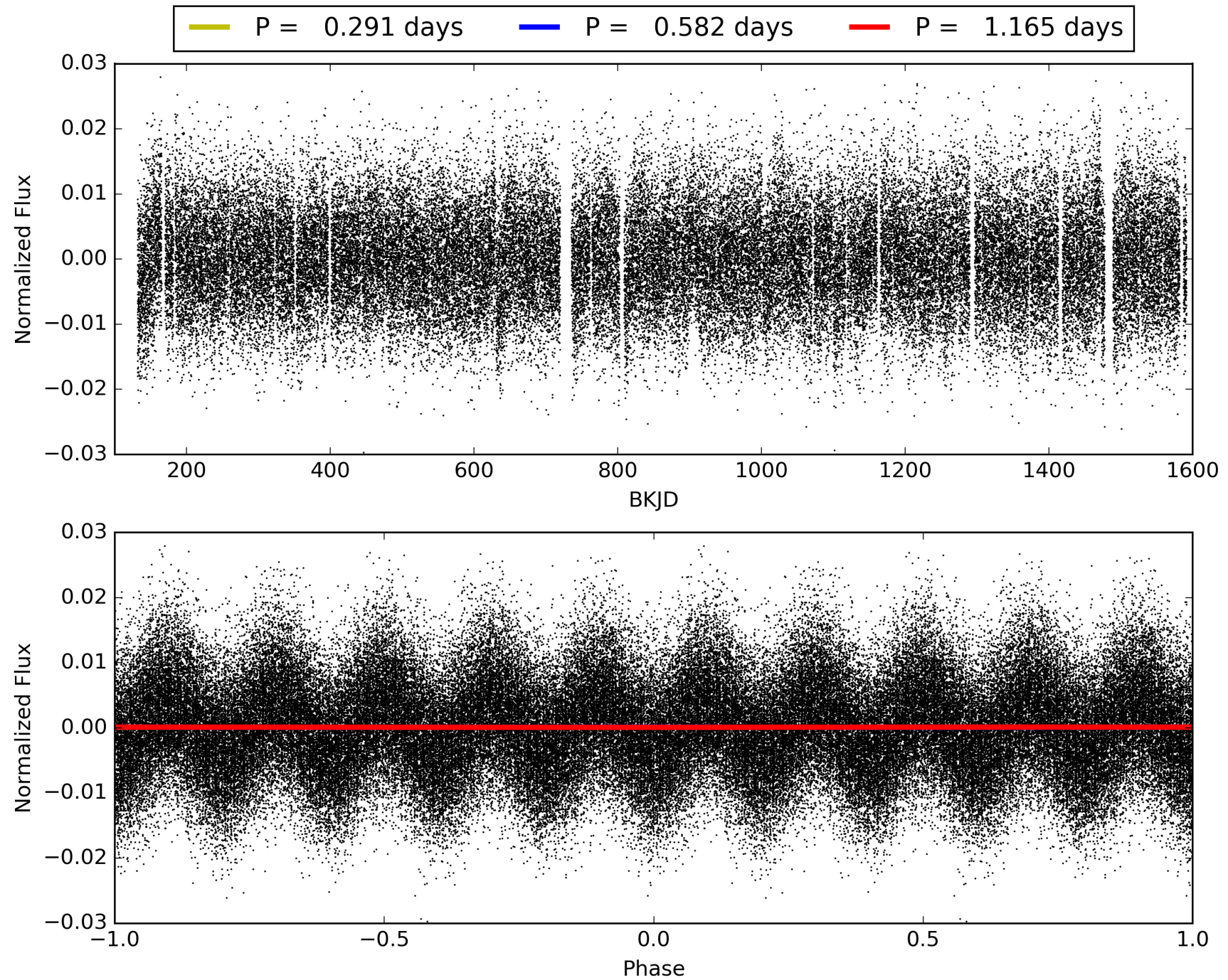
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:00:14 Z

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

TCE 009693282-02, PDC Light Curves

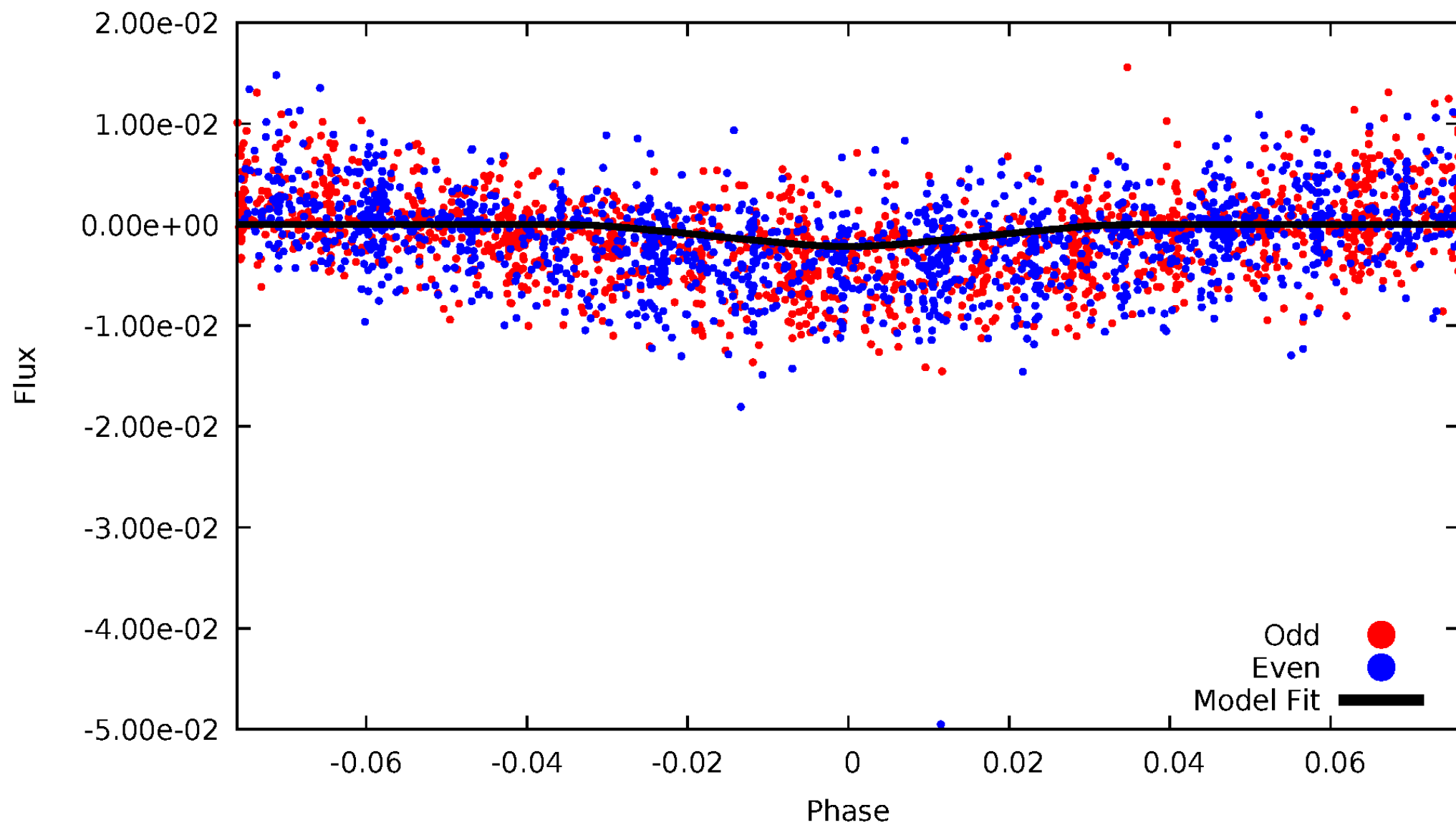


TCE 009693282-02



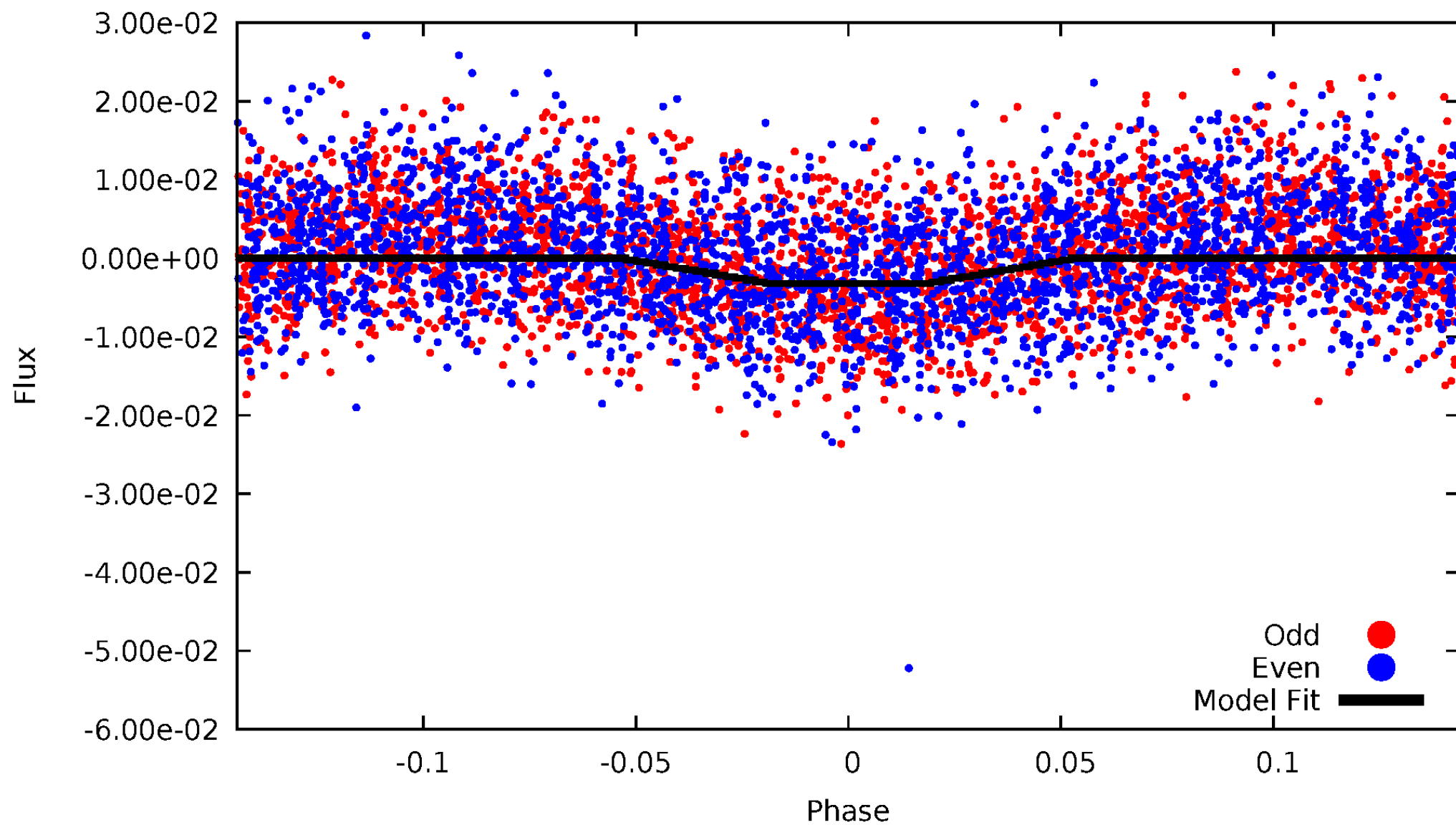
DV Odd/Even

TCE 009693282-02



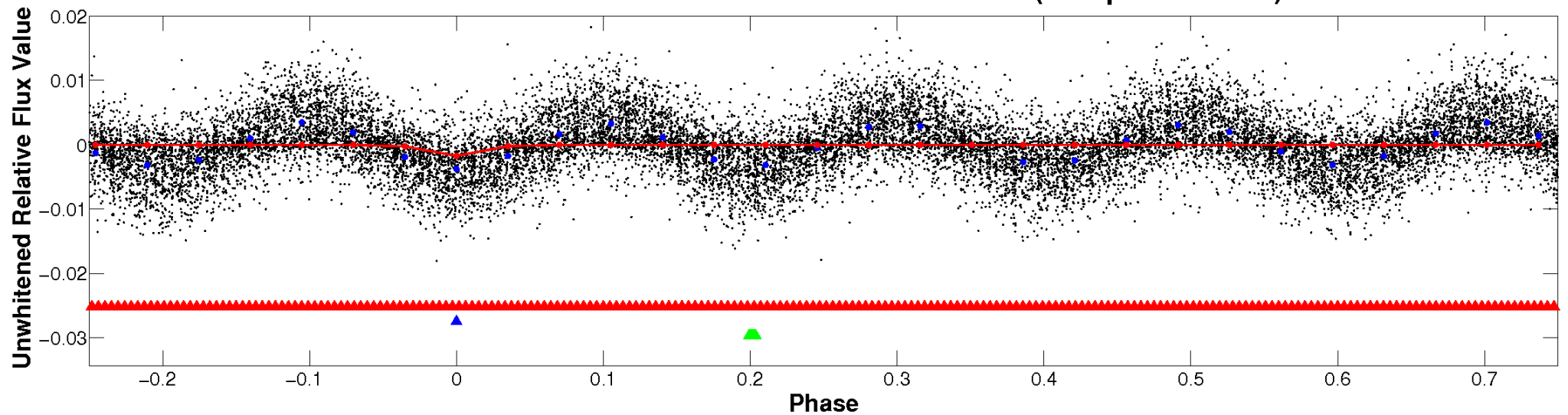
ALT Odd/Even

TCE 009693282-02

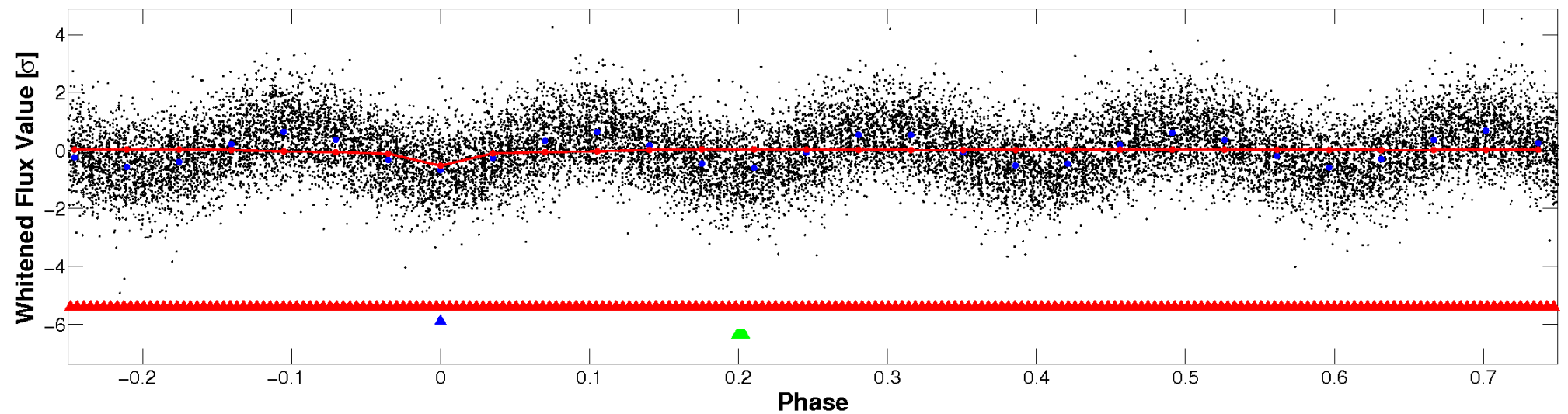


Non-Whitened Vs. Whitened Light Curve

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

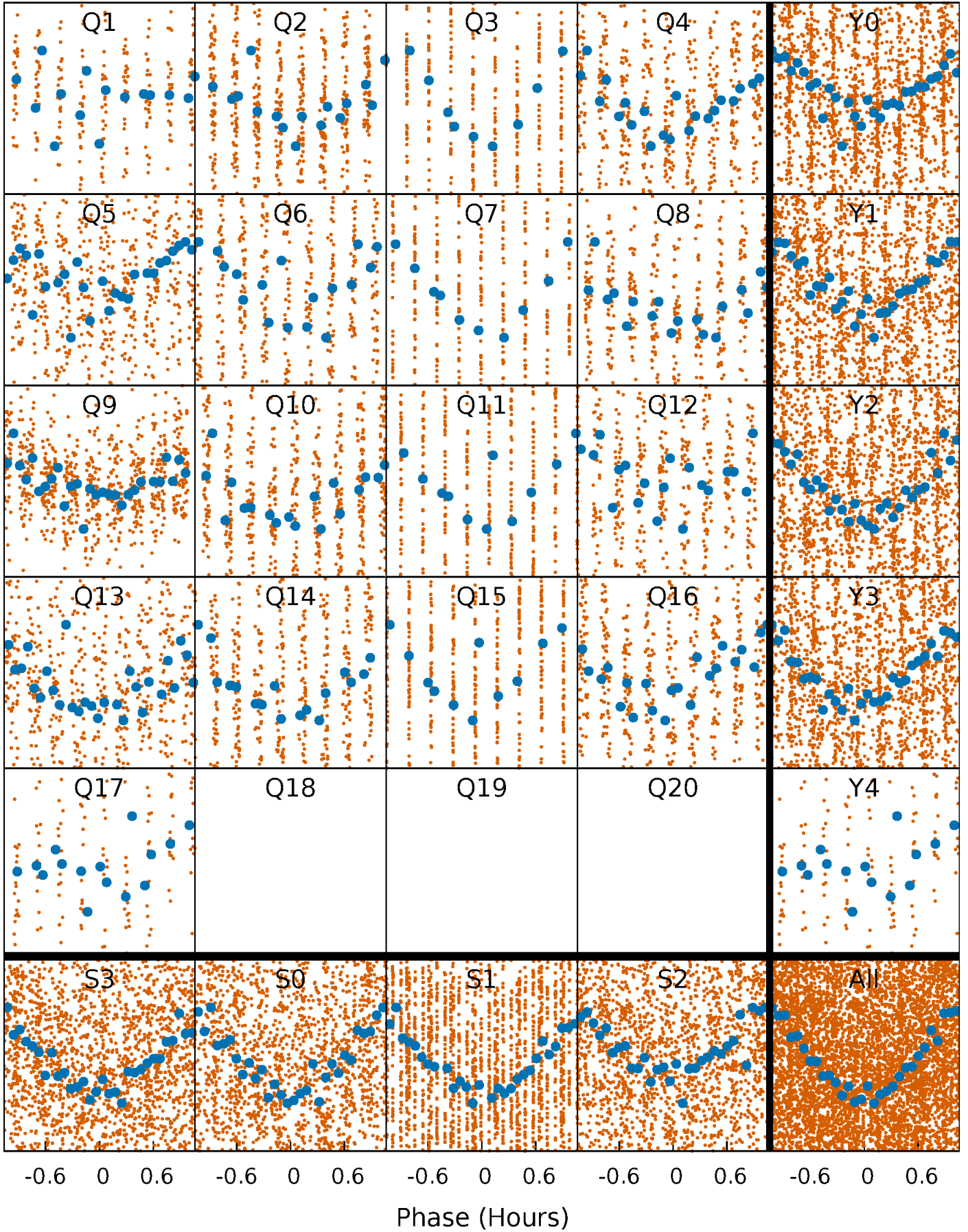


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



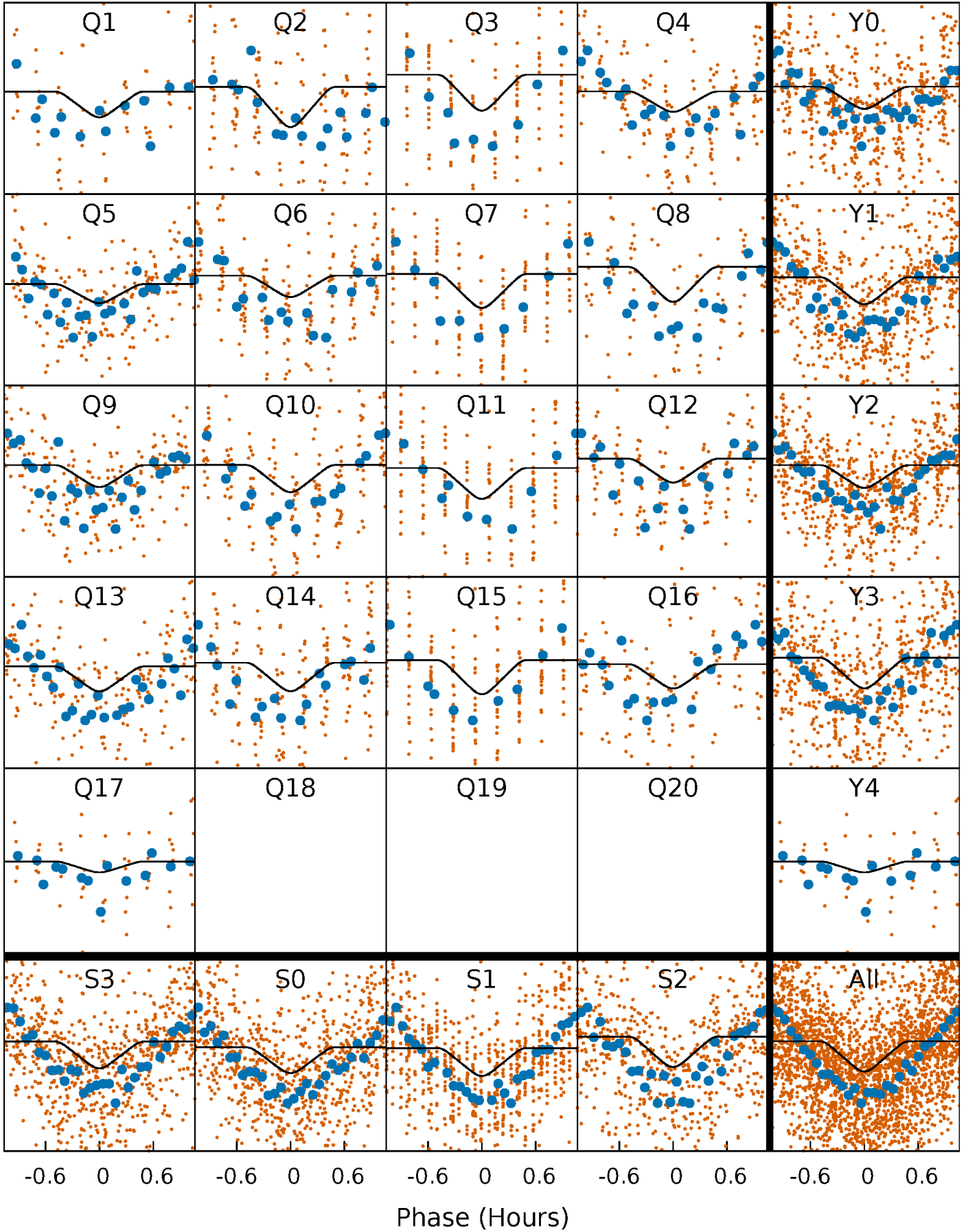
PDC Quarter-Phased Transit Curves

TCE 009693282-02 P= 0.582336 Days $T_0=131.767212$ (BKJD)



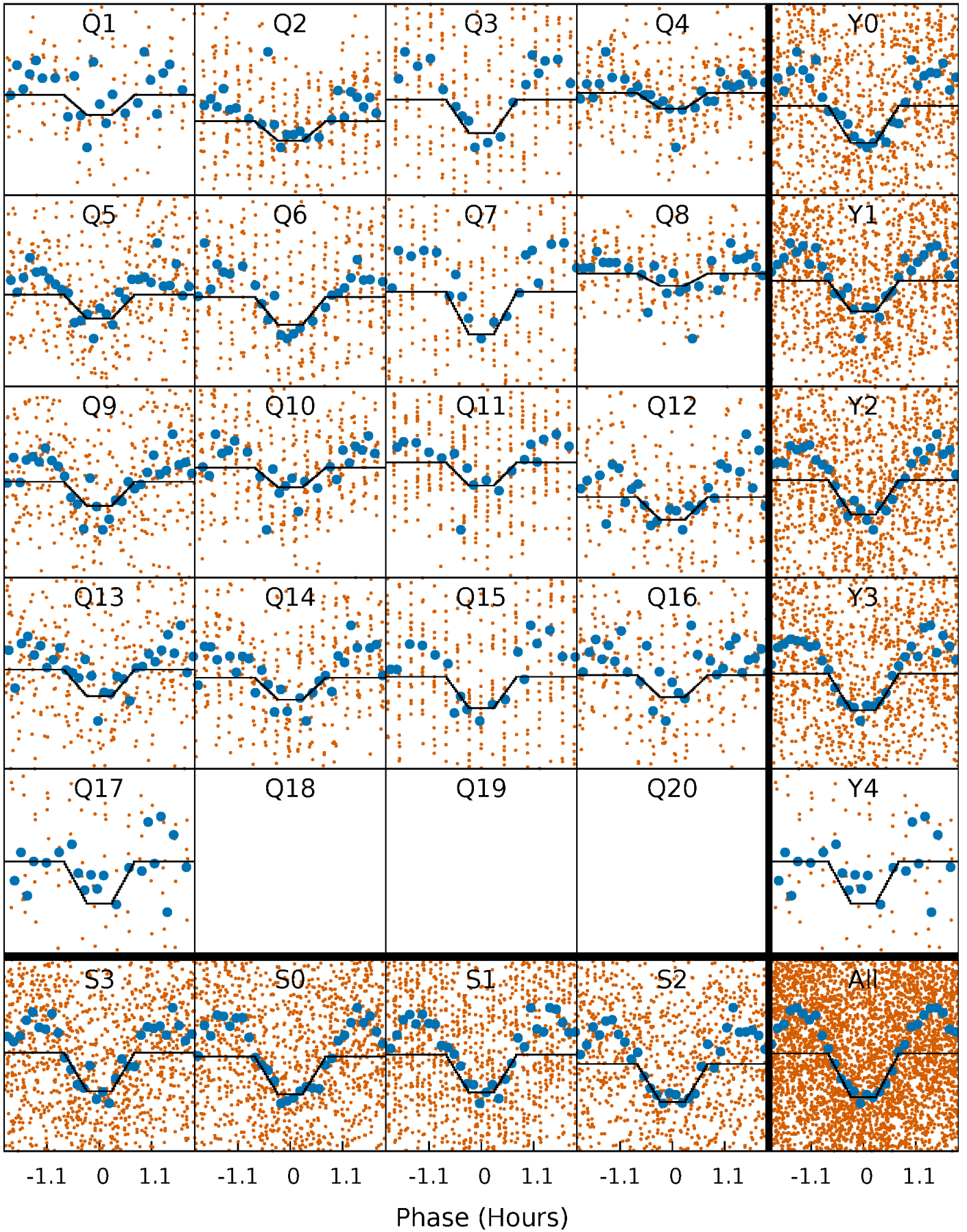
DV Quarter-Phased Transit Curves

TCE 009693282-02 $P = 0.582336$ Days $T_0 = 131.767212$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

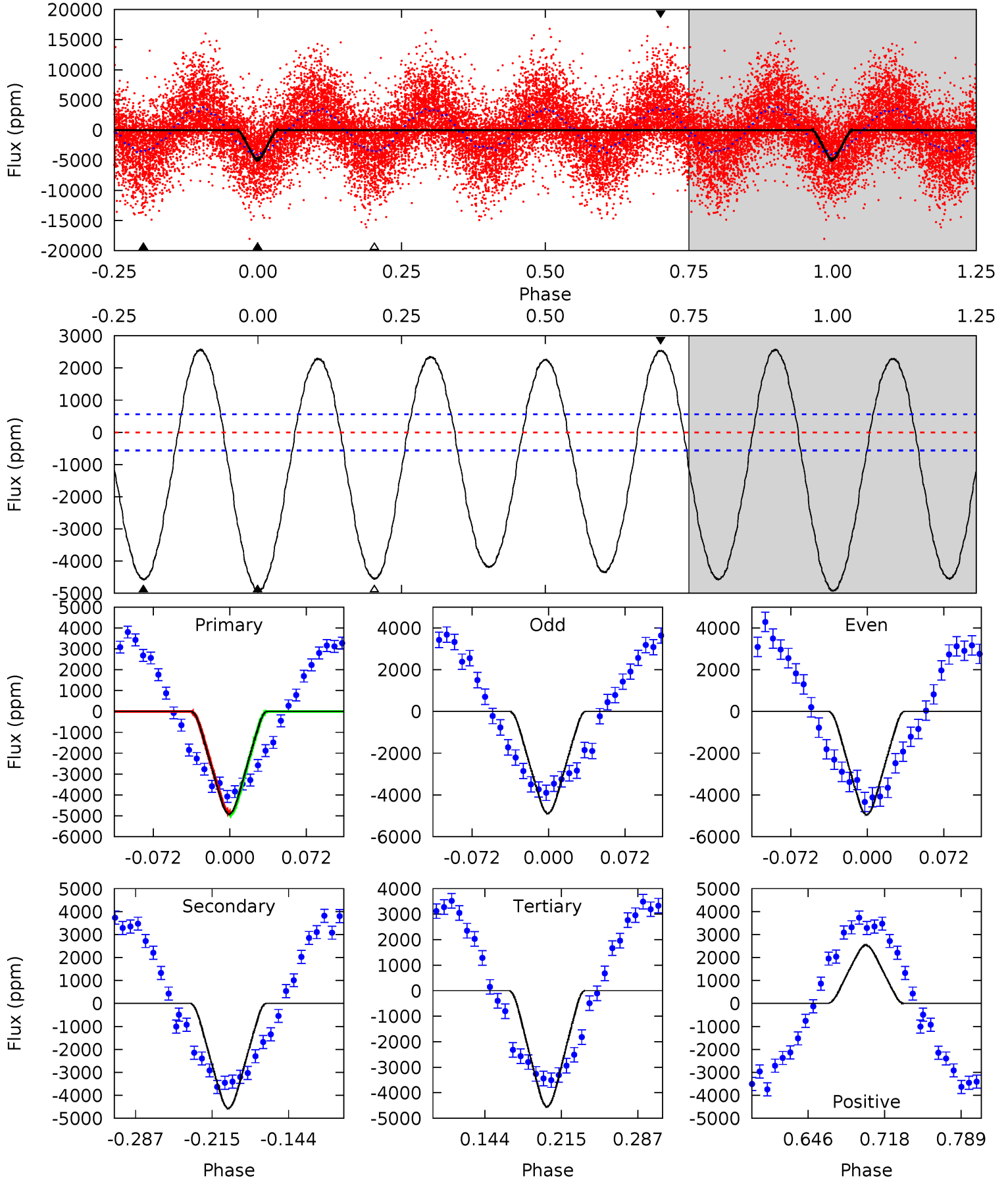
TCE 009693282-02 P= 0.582335 Days $T_0=131.767059$ (BKJD)



DV Model-Shift Uniqueness Test

009693282-02, P = 0.582336 Days, E = 131.184876 Days

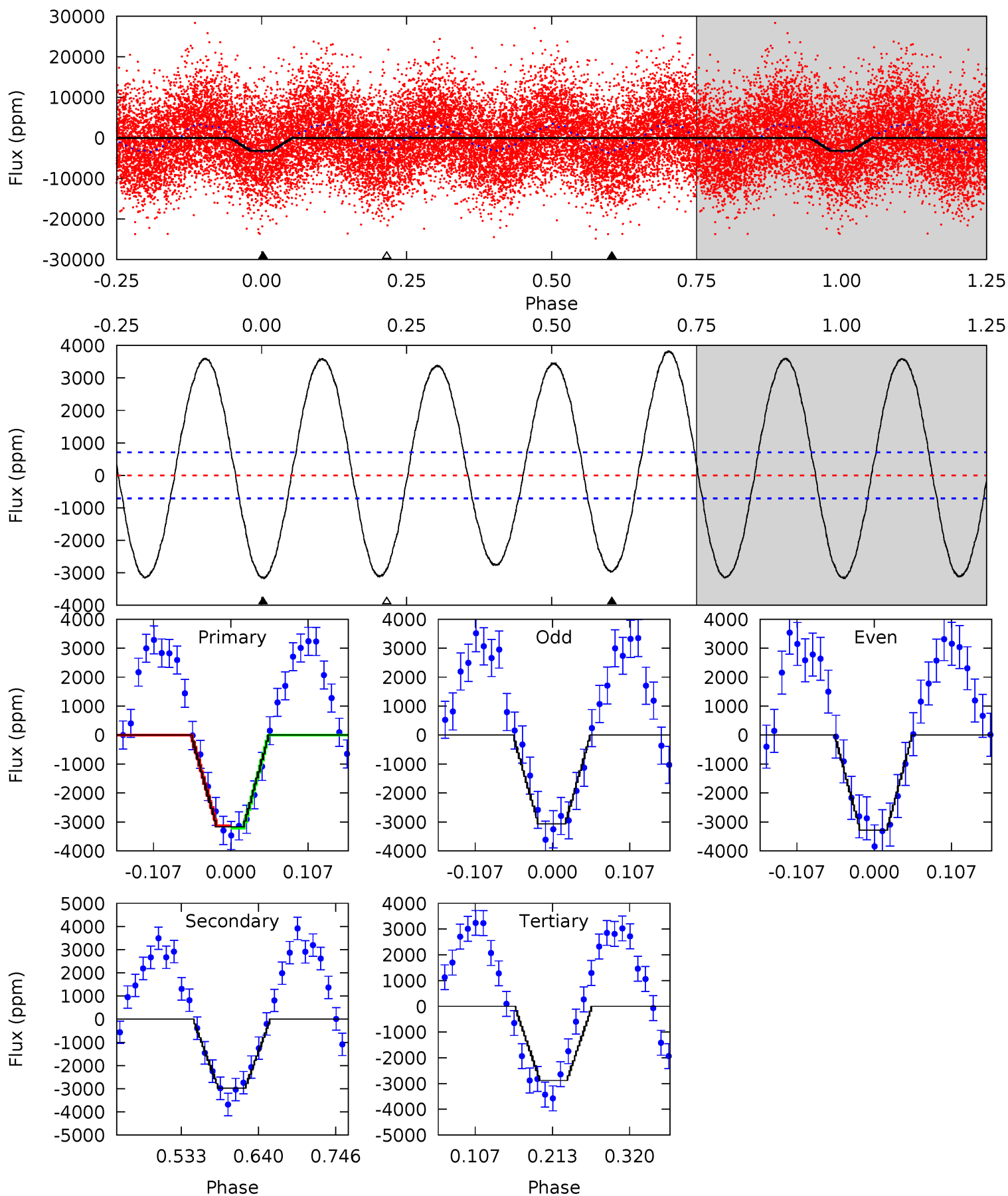
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.6	37.7	37.5	20.9	4.63	1.80	19.9	3.04	19.7	0.16	16.8	0.26	1.08	0.34	0.73



Alt Model-Shift Uniqueness Test

009693282-02, P = 0.582335 Days, E = 131.184724 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	19.1	18.5	0	4.55	1.61	14.4	1.85	20.3	0.60	19.1	0.70	0.96	0.55	0.28



Stellar Parameters For KIC 009693282

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6964^{+195}_{-293}	$3.724^{+0.424}_{-0.106}$	$0.070^{+0.200}_{-0.300}$	$2.998^{+0.566}_{-1.322}$	$1.735^{+0.170}_{-0.369}$	$0.091^{+0.385}_{-0.029}$
	+3%/-4%	+11%/-3%	+286%/-429%	+19%/-44%	+10%/-21%	+424%/-32%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 009693282-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4572 ± 121	$16.35^{+7.87}_{-6.82}$	5619^{+437}_{-631}	7464^{+3125}_{-1443}	$2.503^{+4.710}_{-1.348}$
Alt.	-2975 ± 156	$16.73^{+8.22}_{-6.65}$	5626^{+425}_{-611}	6376^{+2461}_{-1323}	$1.556^{+2.777}_{-0.849}$

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

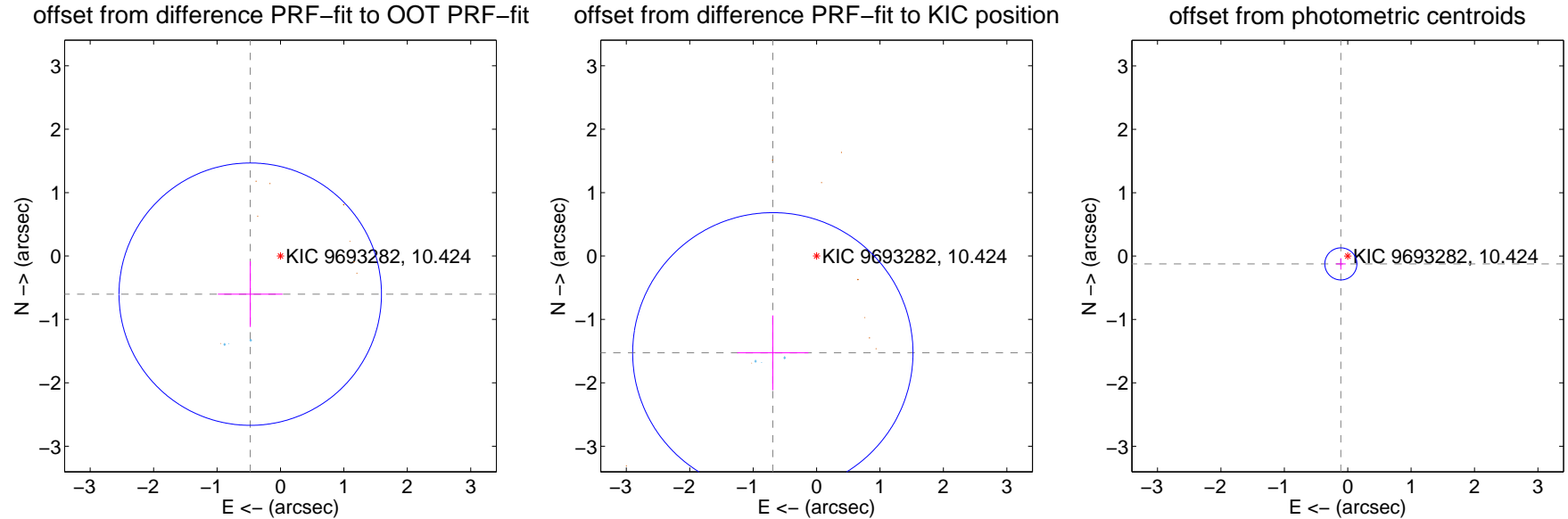
DV Centroid Data

Supplemental centroid analysis for 009693282-02. **Kepler magnitude: 10.42.** Transit SNR 14.94

There are 6 quarters with good PRF difference image offsets

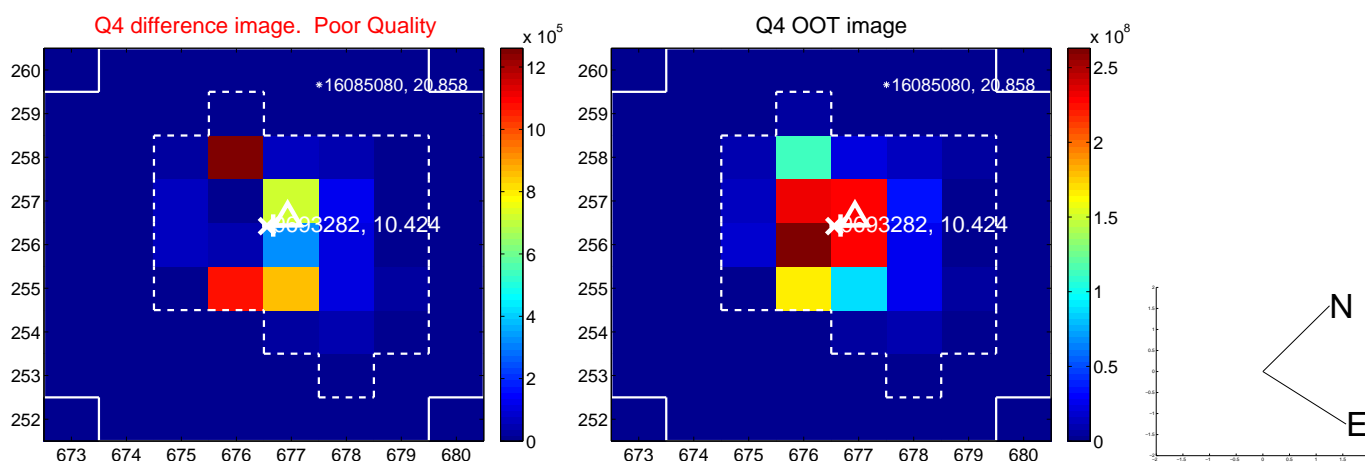
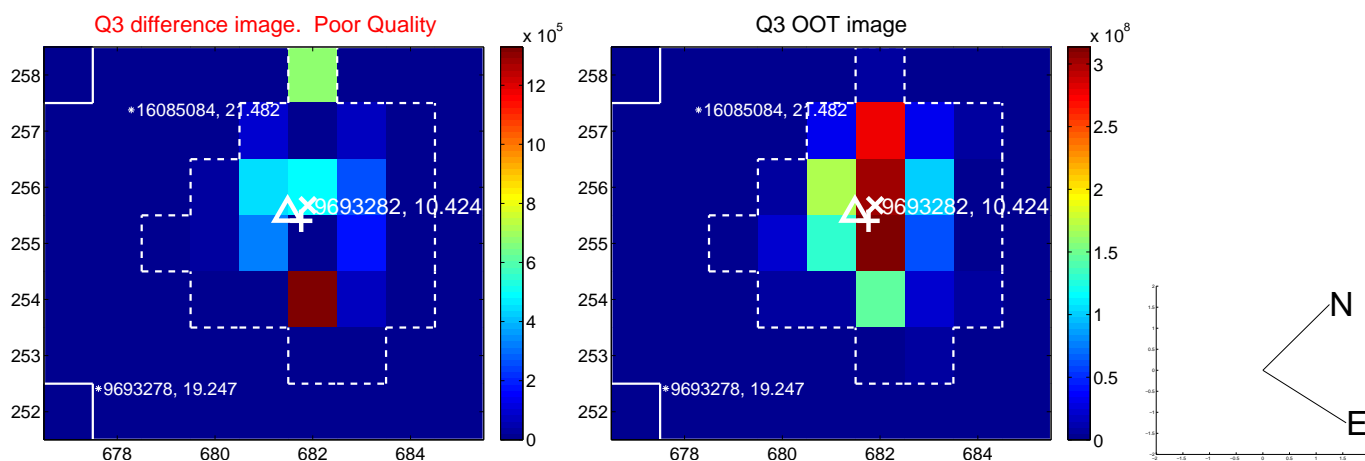
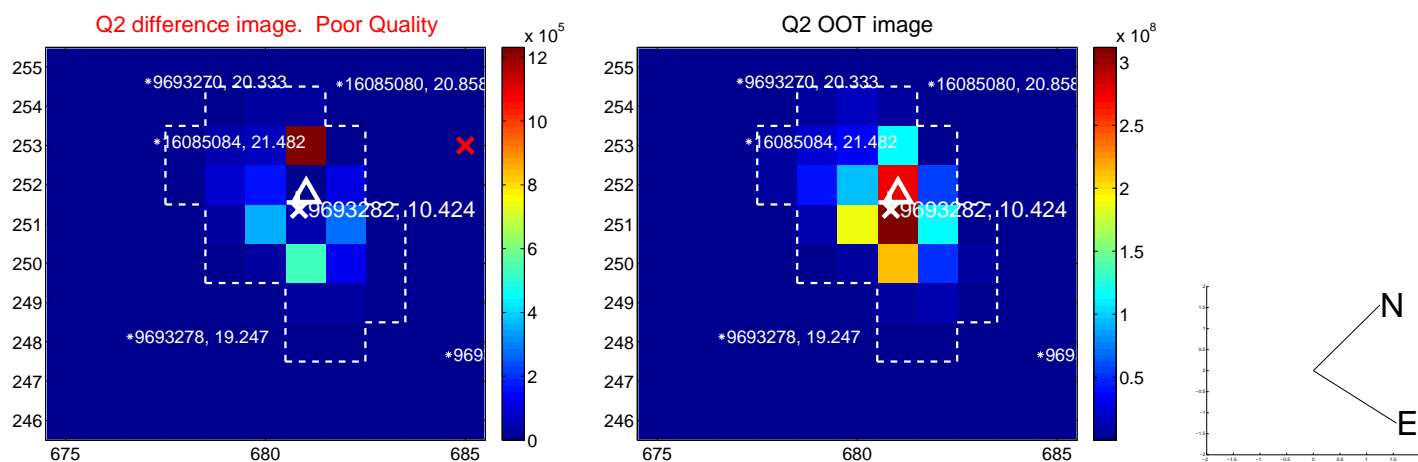
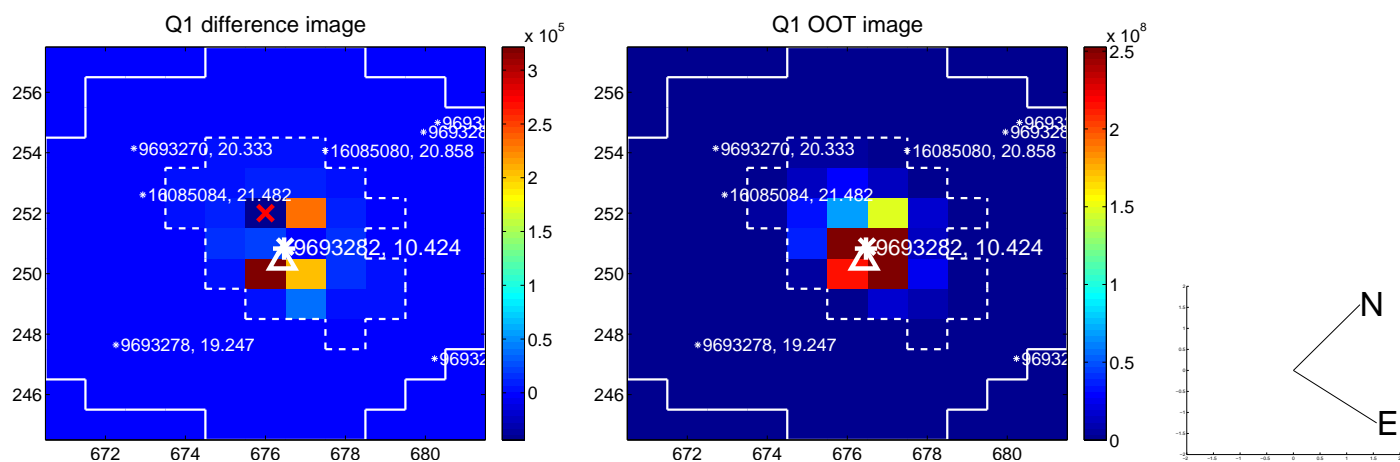
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.767 ± 0.690	1.11	0.476 ± 0.510	-0.602 ± 0.516
PRF-fit source offset from KIC position	1.675 ± 0.737	2.27	0.690 ± 0.561	-1.526 ± 0.590
photometric centroid source offset	0.16 ± 0.08	1.94	0.11 ± 0.08	-0.12 ± 0.09

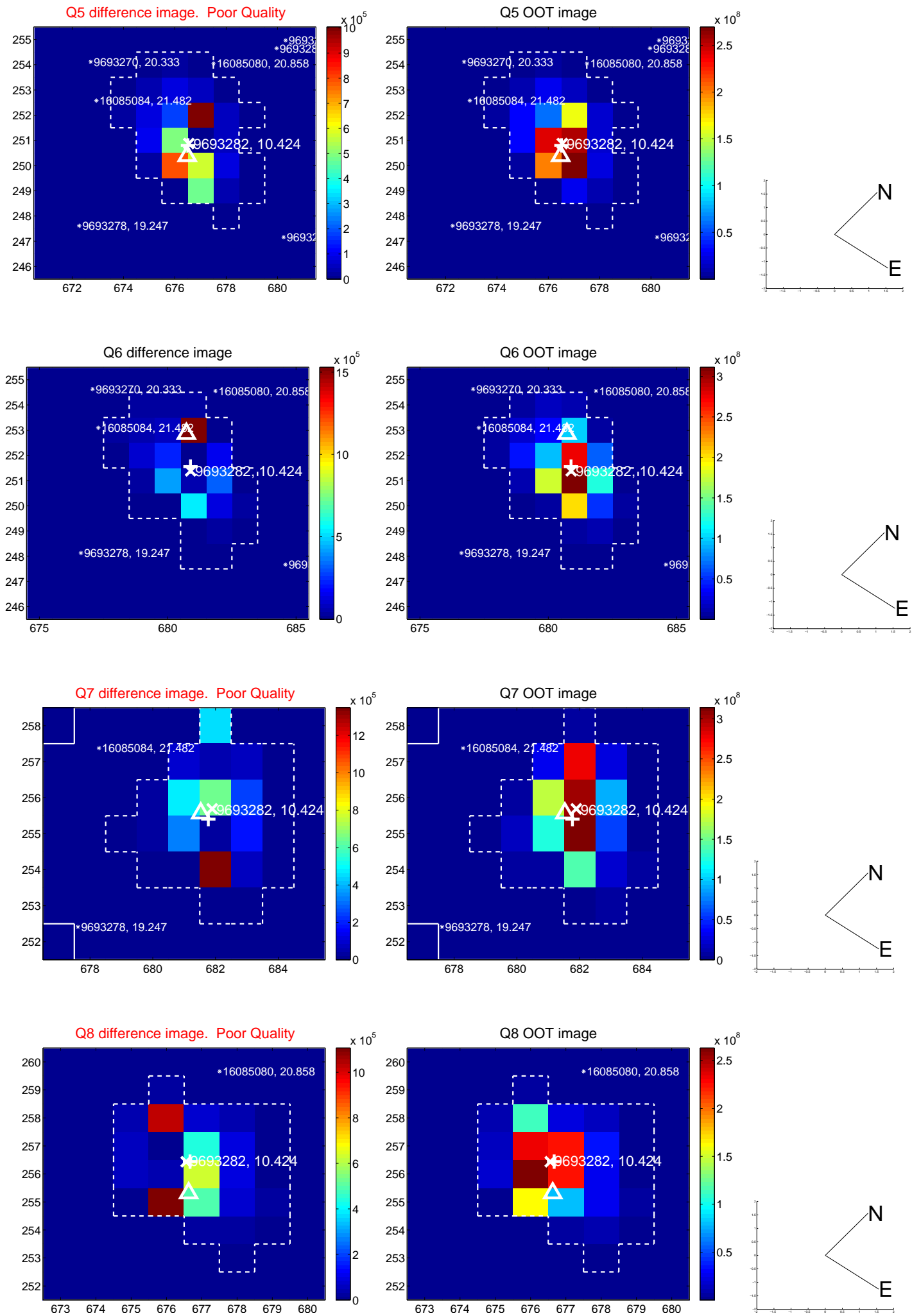


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

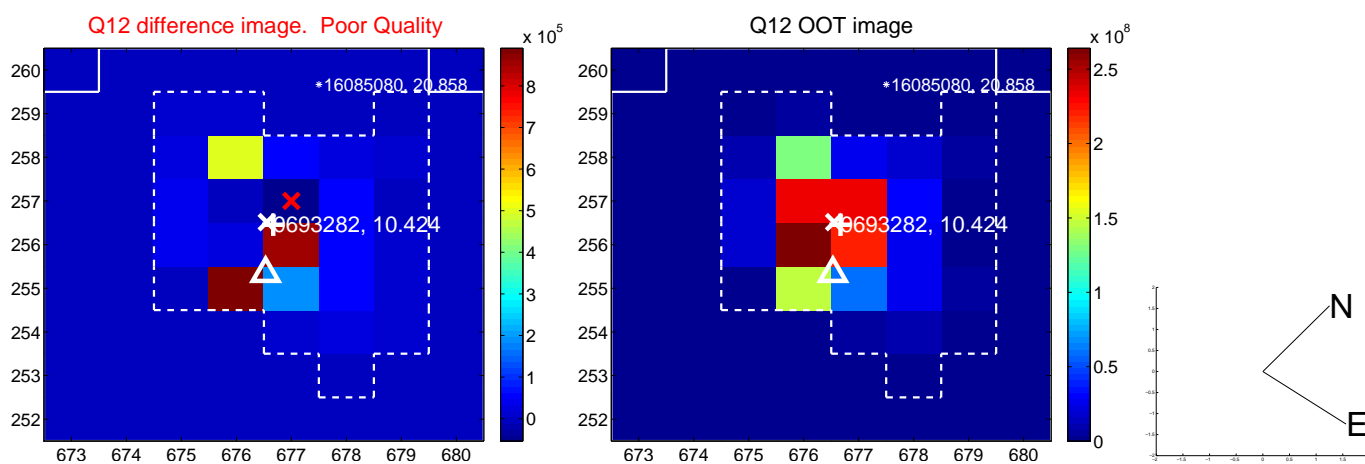
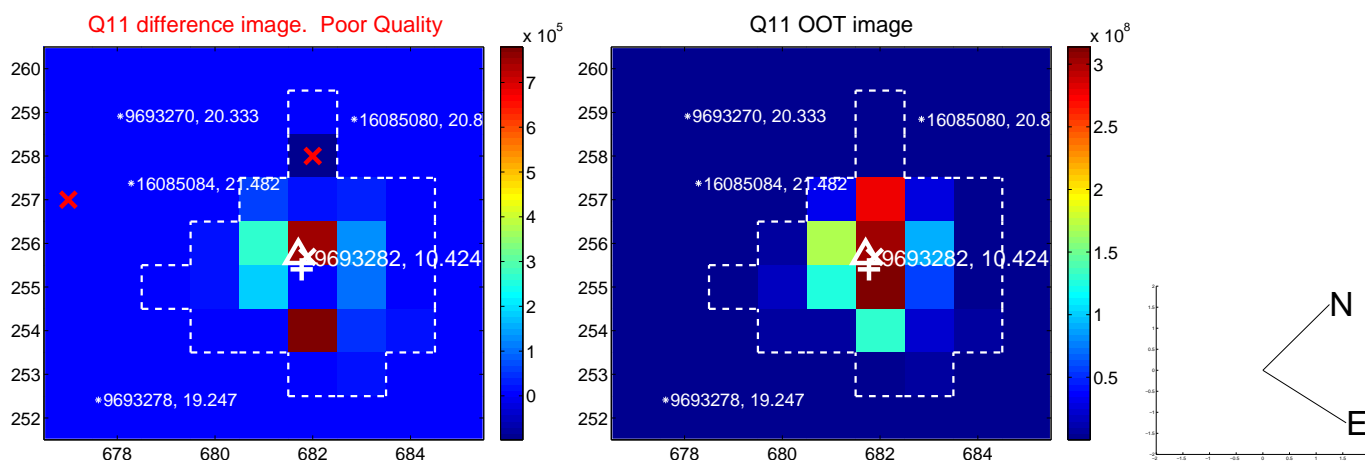
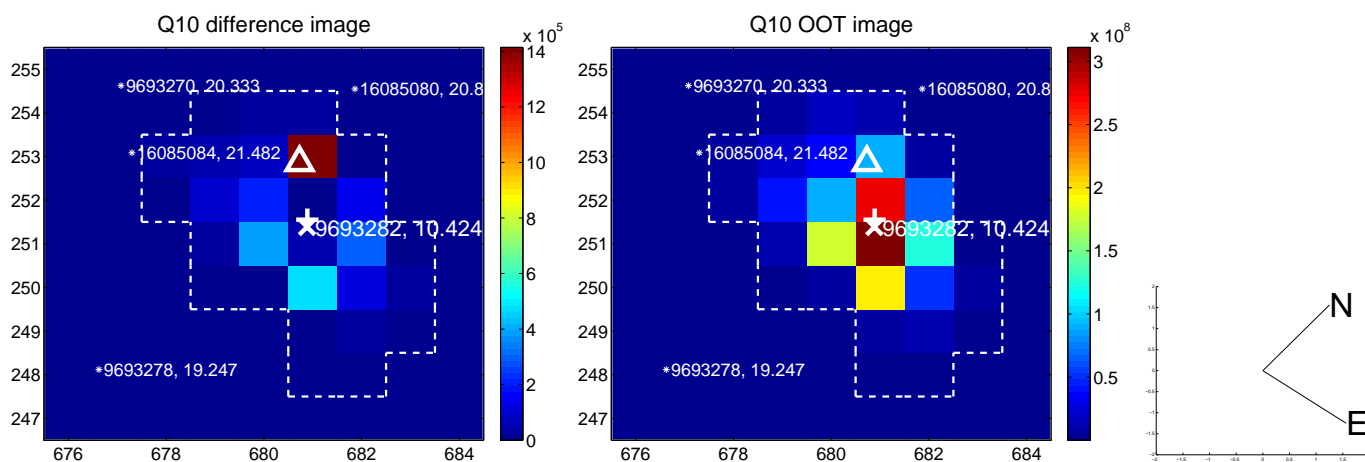
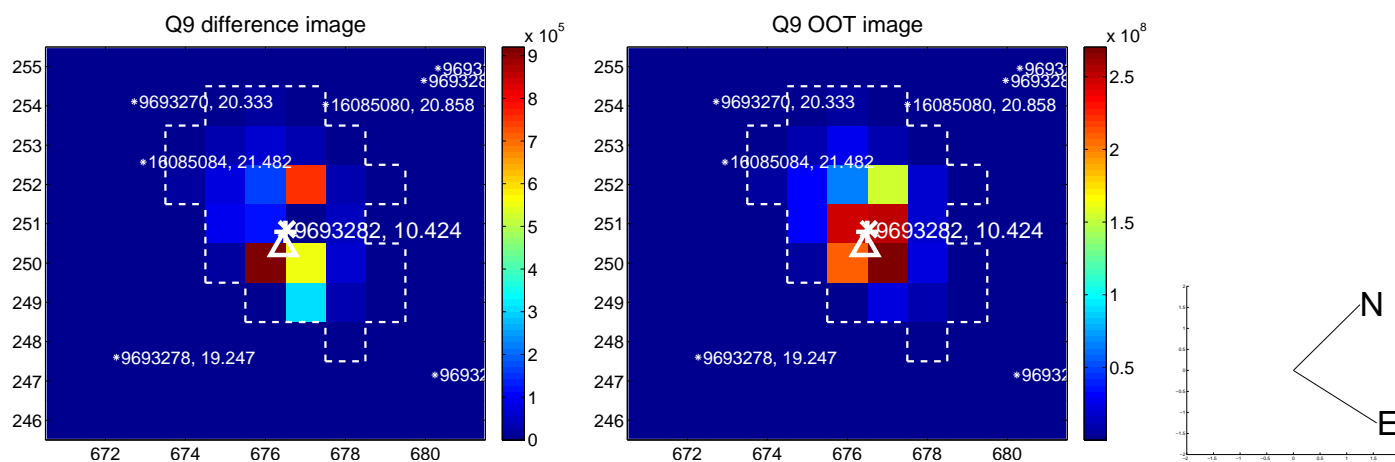
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



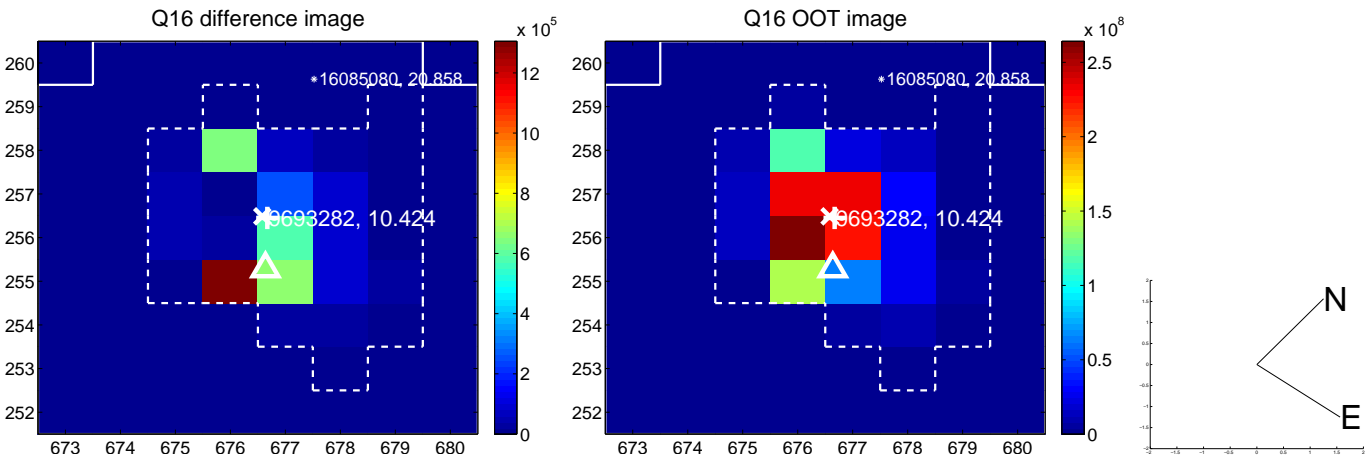
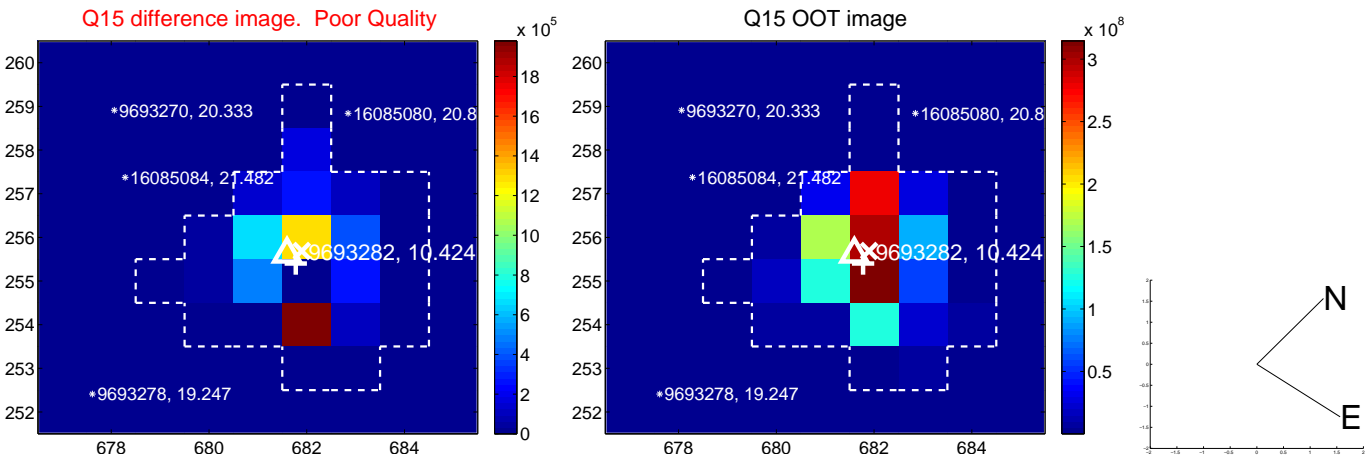
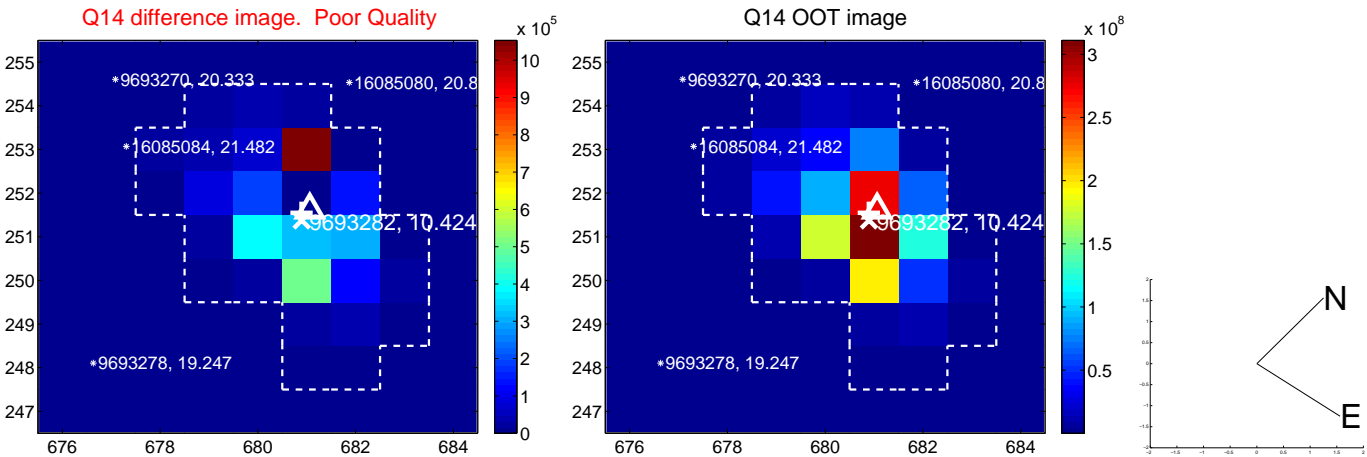
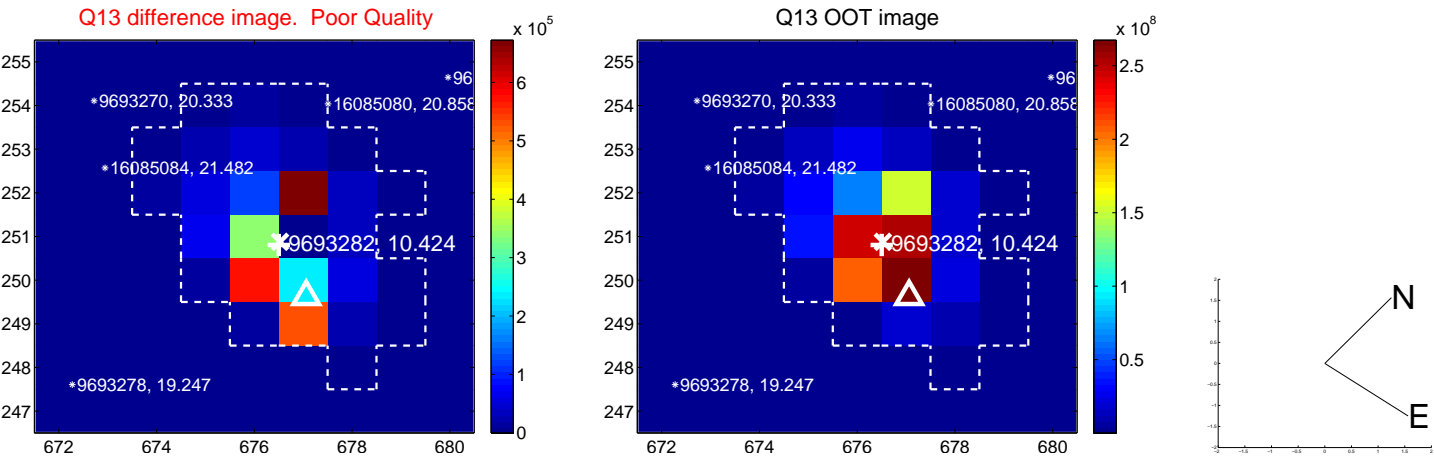
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



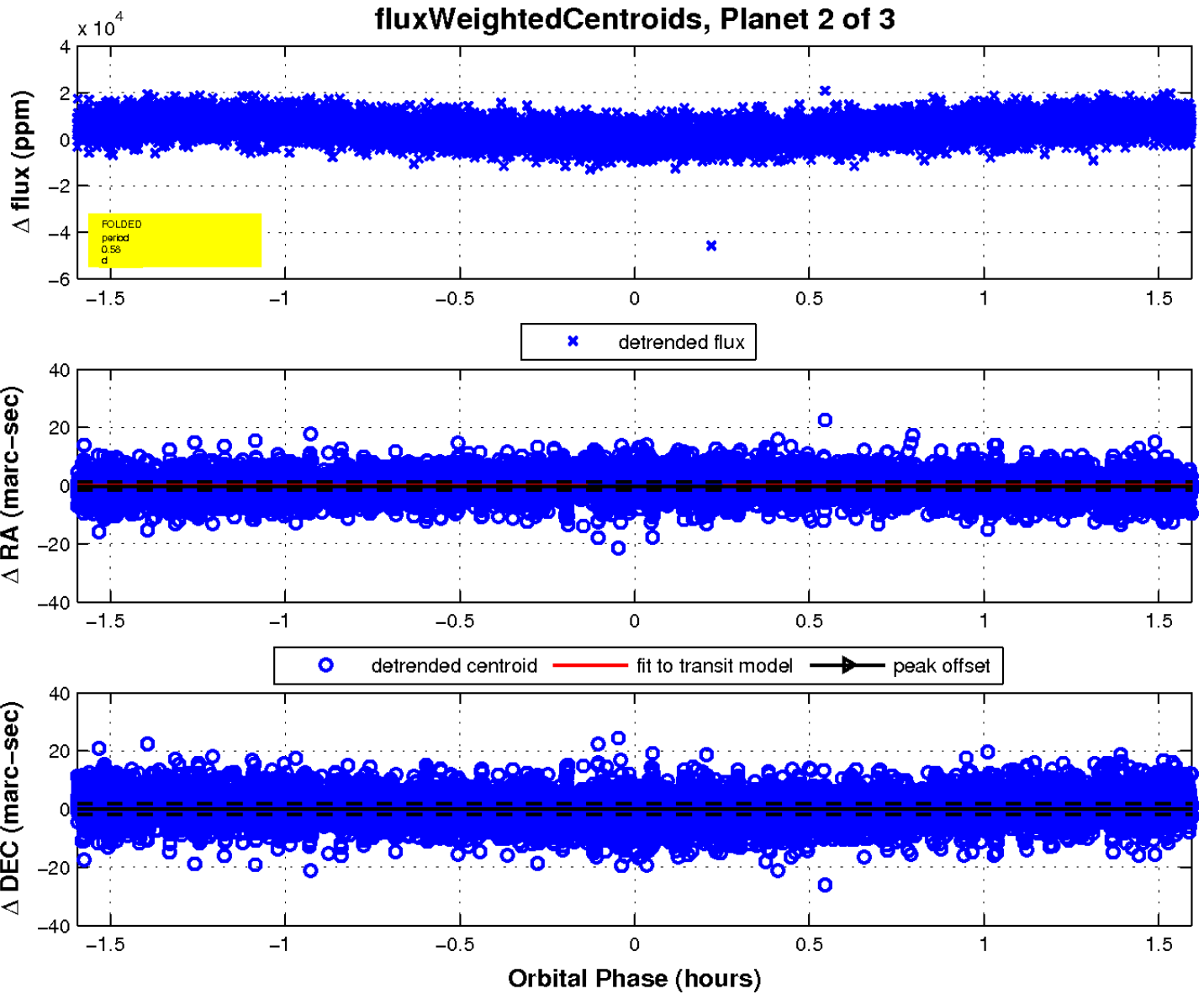
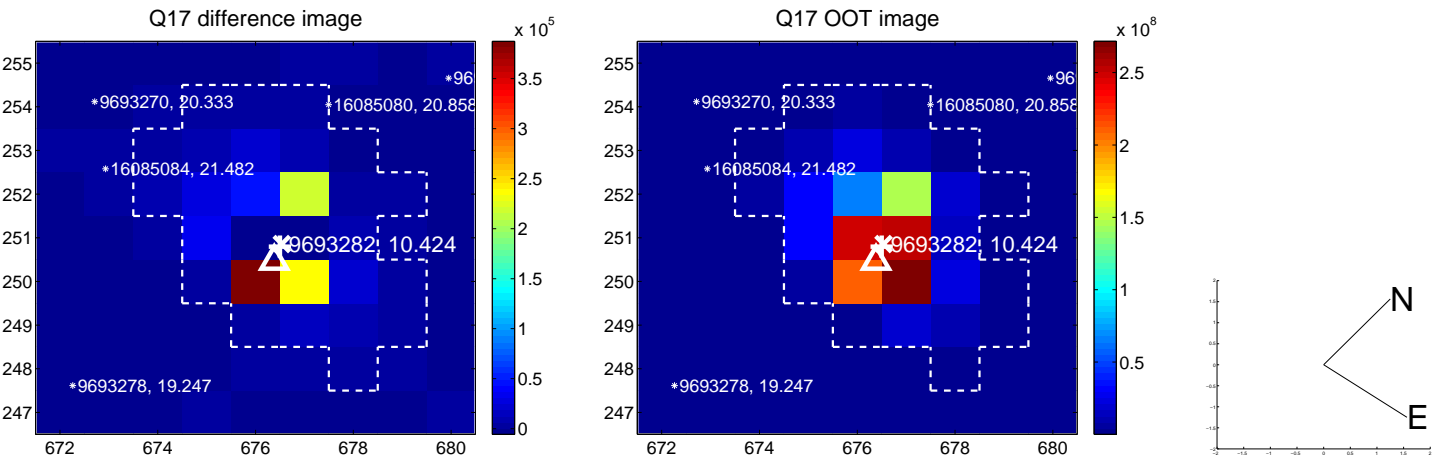
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

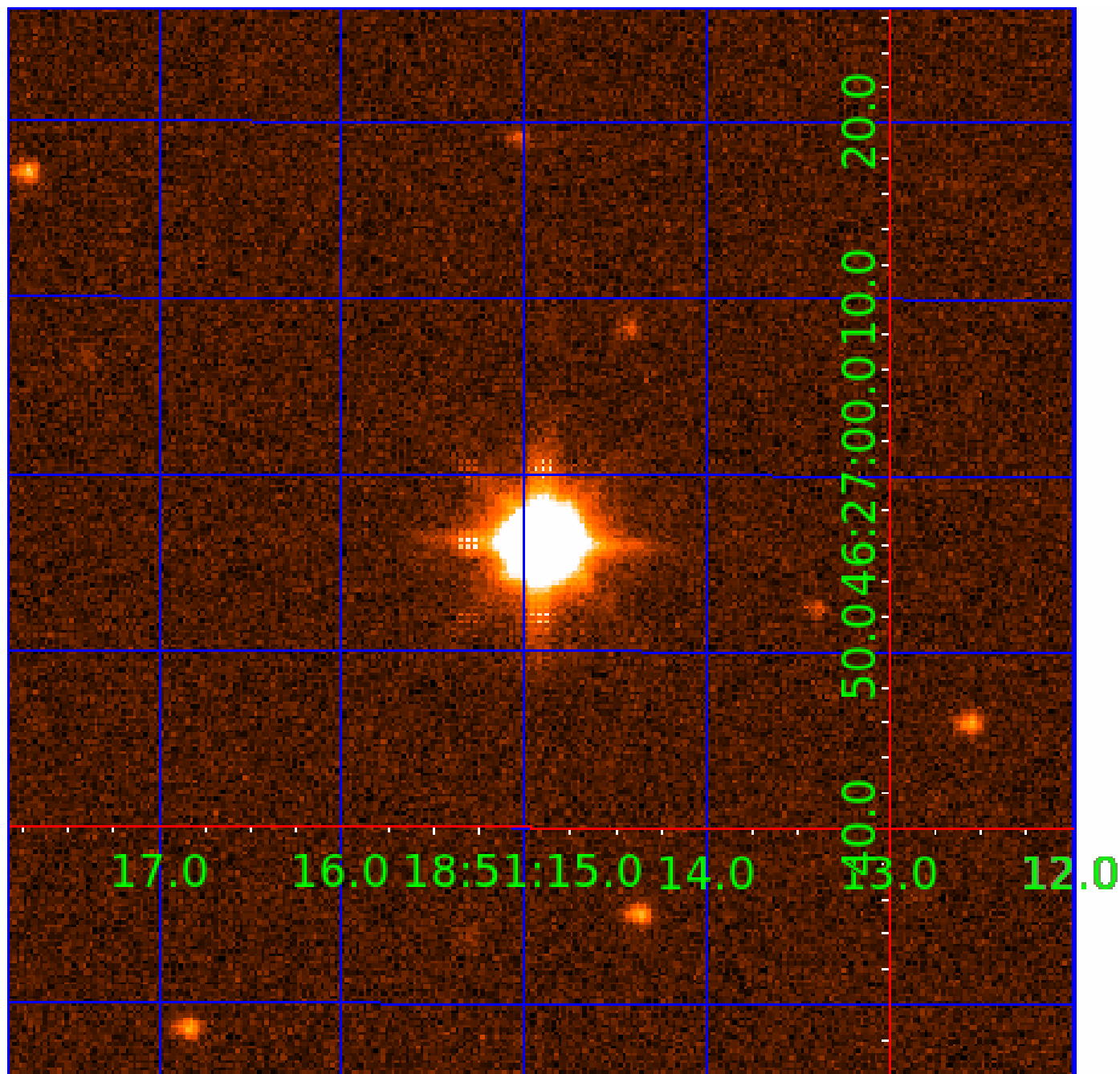


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009693282

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})
009693282-01	OBS	No	1.006089	132.010115	252.0	5.441	11.2	12.9	3.00	6964	4.80	33939.24
009693282-02	OBS	No	0.582336	131.767212	2165.2	0.531	11.3	14.9	3.00	6964	18.41	70358.94
009693282-03	OBS	No	0.582335	131.885994	53.6	1.500	11.0	-1.0	3.00	6964	2.23	70359.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009693282-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
009693282-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009693282-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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.

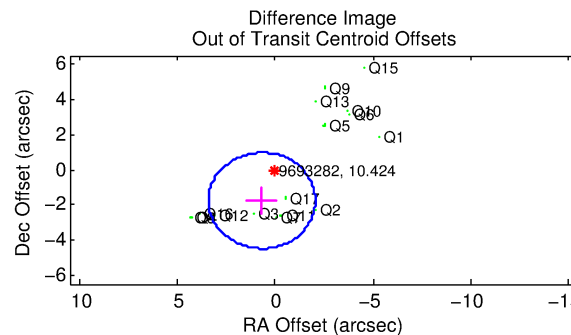
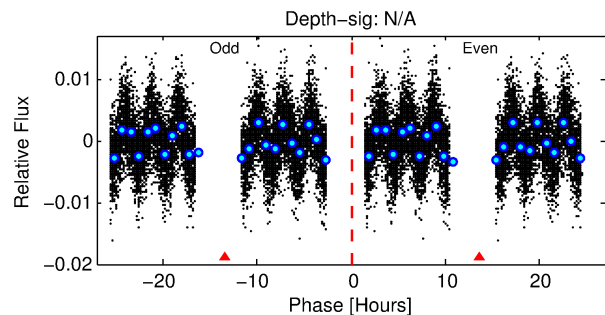
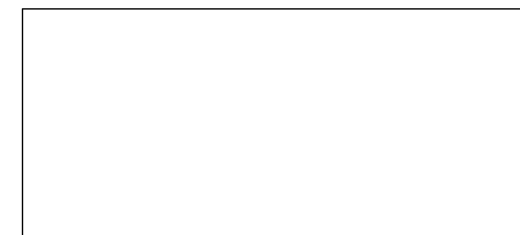
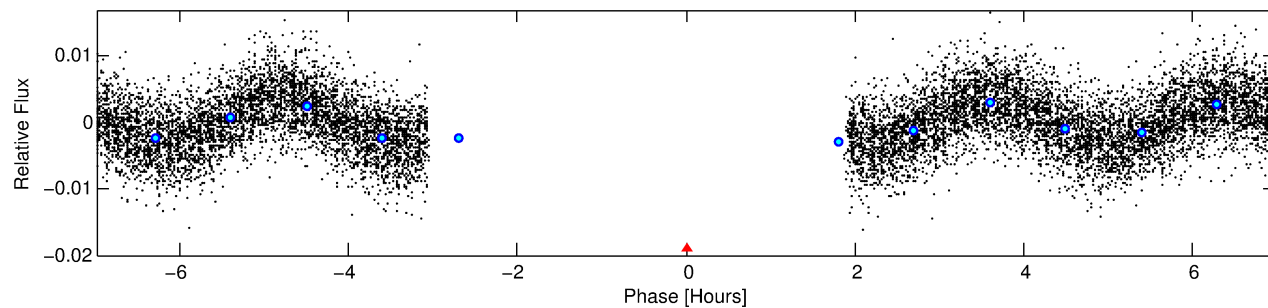
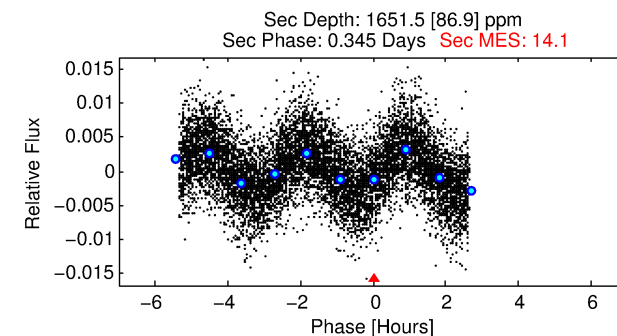
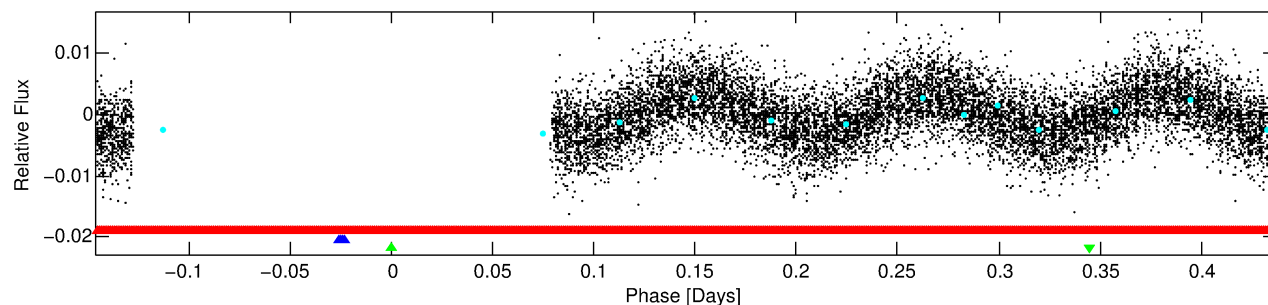
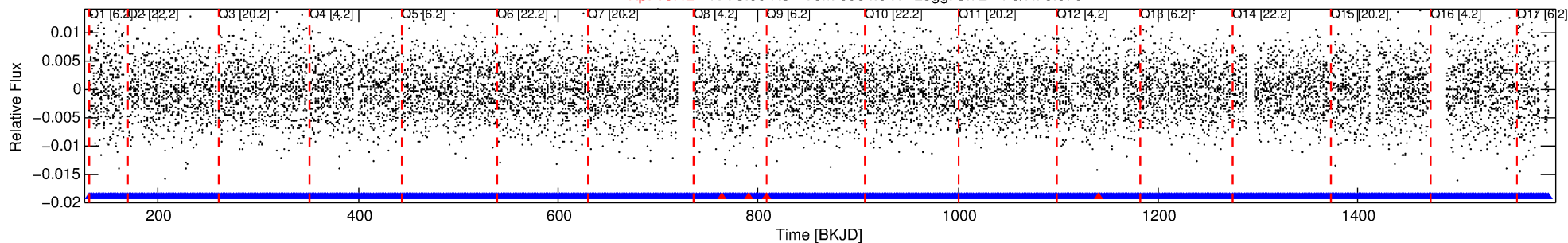
Ephemeris Match Information For 009693282-03

No Significant Match Found

DV One-Page Summary

KIC: 9693282 Candidate: 3 of 3 Period: 0.582 d

Kp: 10.42 R*: 3.00 Rs Teff: 6964.0 K Logg: 3.72 Fe/H: 0.070



TPS TCE Results:

Period = 0.58233 d
Epoch = 131.8860 BKJD

DV fit results are unavailable

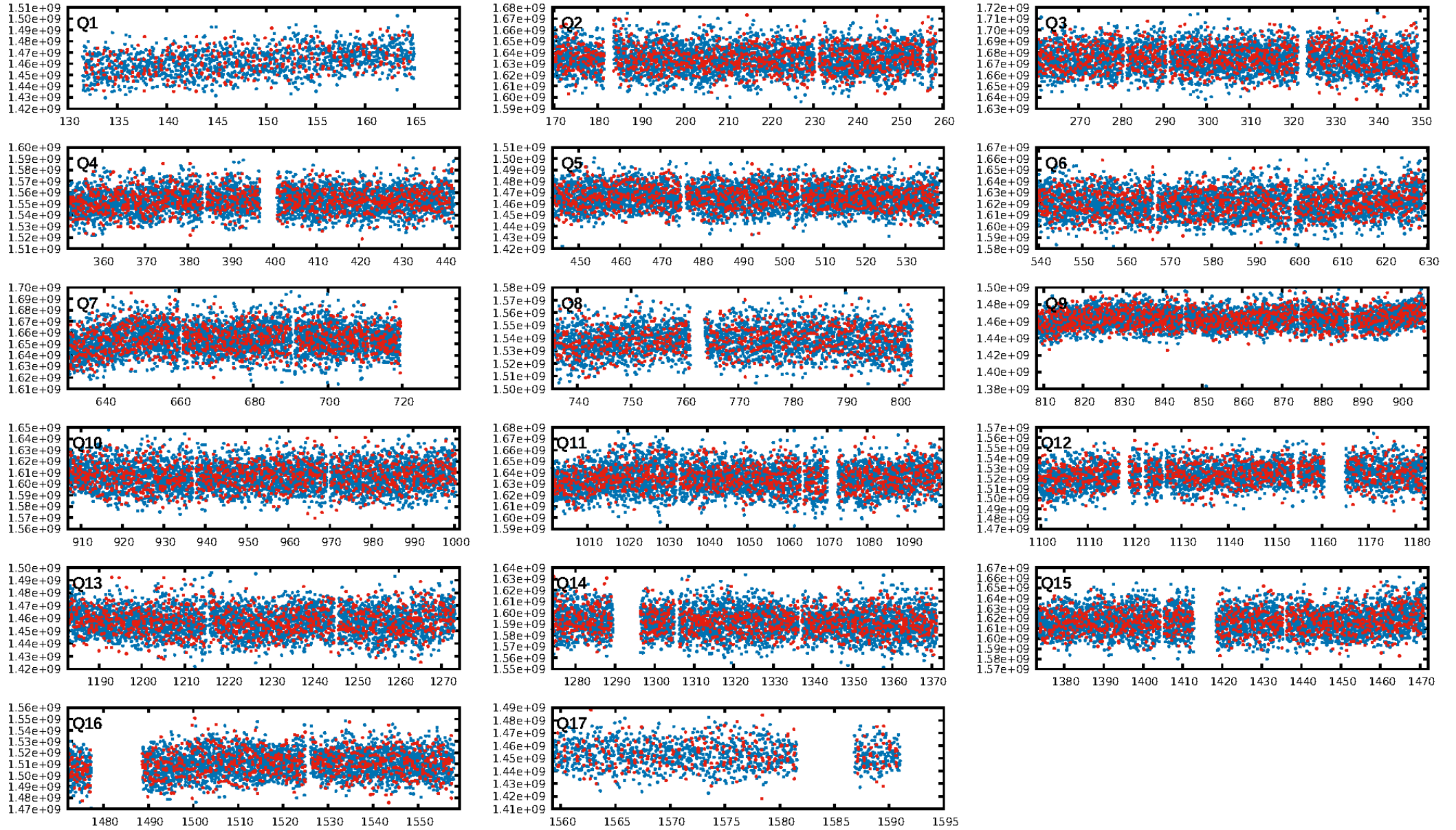
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [663/667]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.126 arcsec [10.69σ]
OotOffset-rm: 1.886 arcsec [2.07σ]
KicOffset-rm: 1.033 arcsec [1.07σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.12 [2/16]
DiffImageOverlap-fno: 0.00 [0/17]

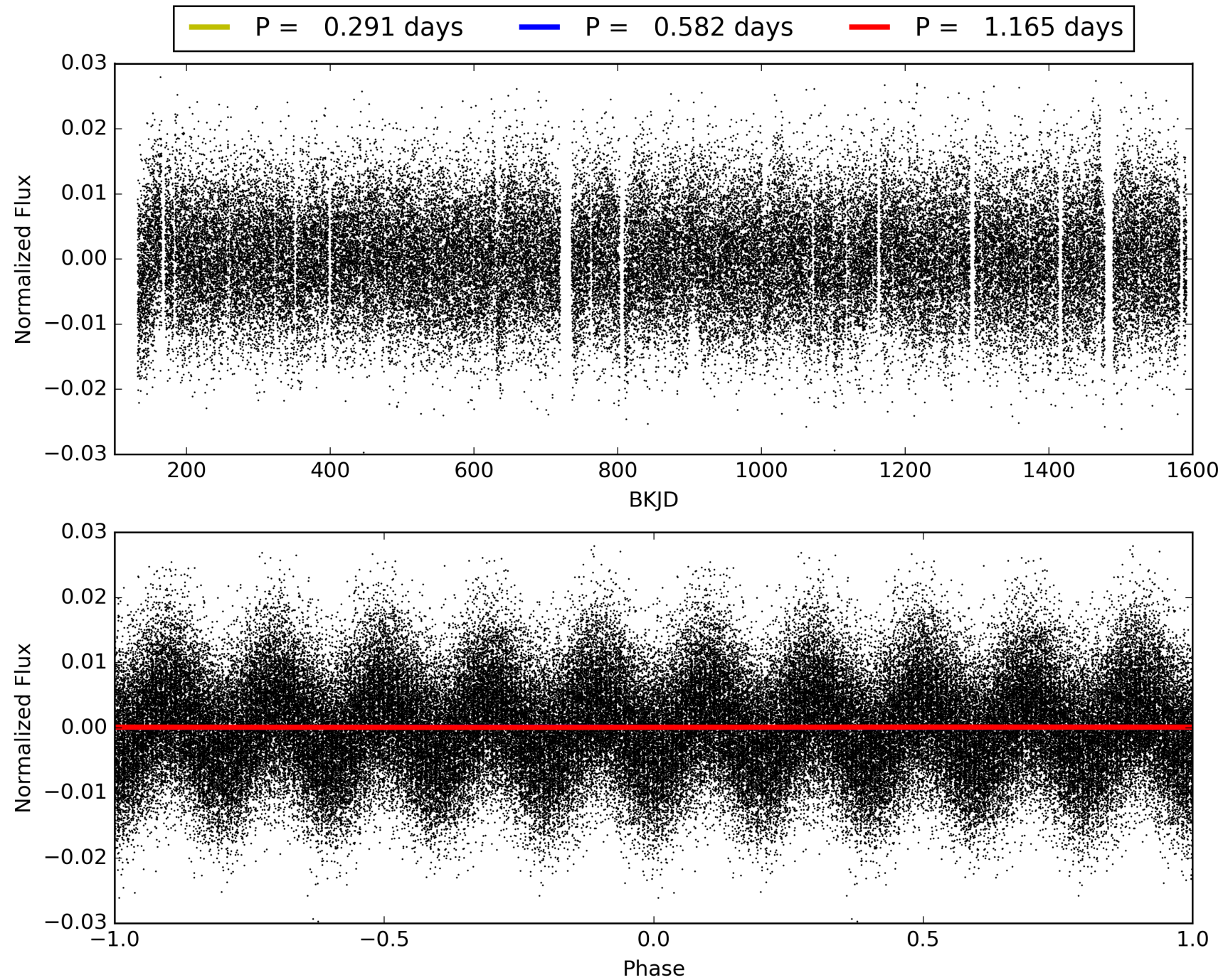
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:00:23 Z

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

TCE 009693282-03, PDC Light Curves

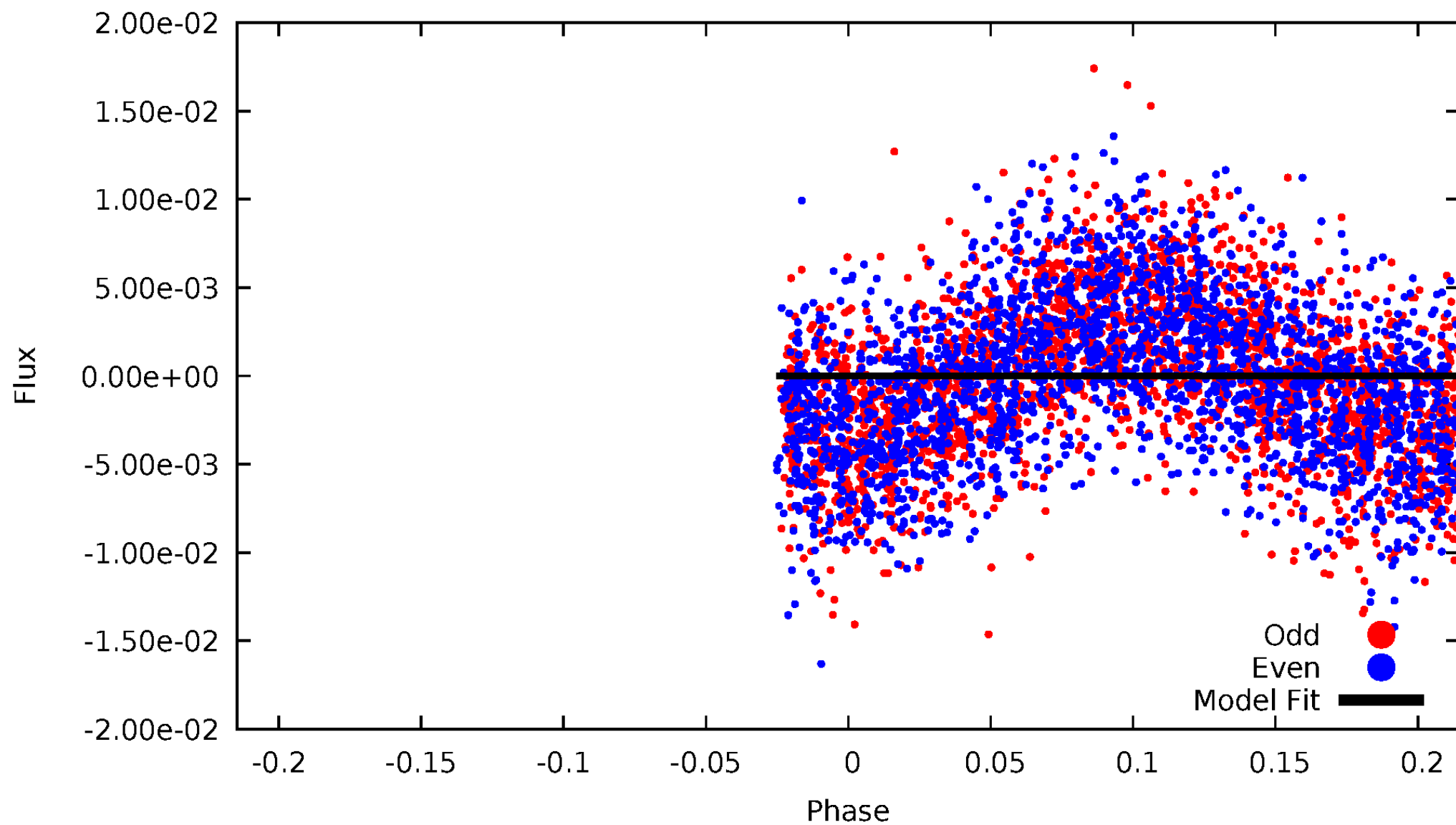


TCE 009693282-03



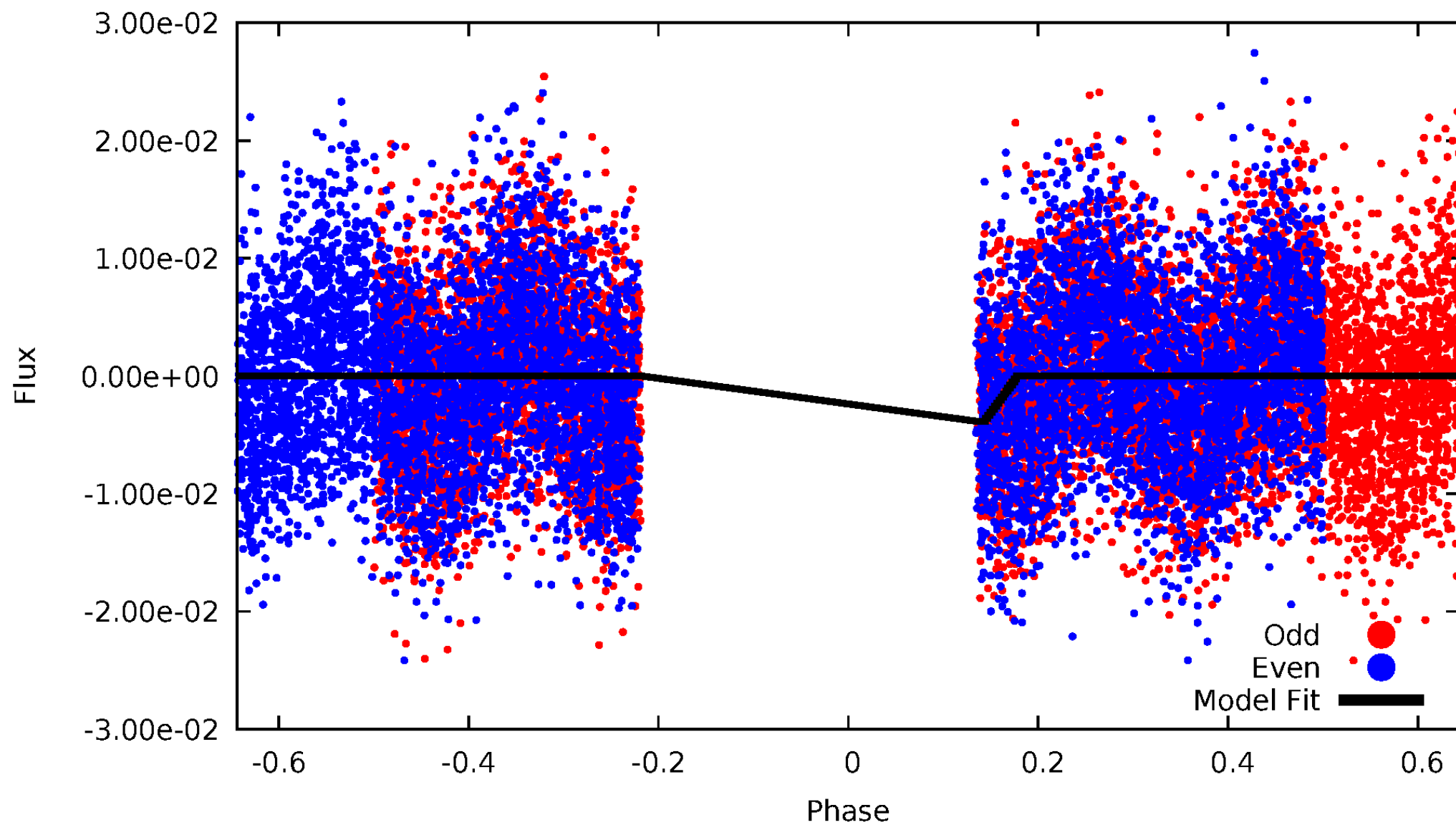
DV Odd/Even

TCE 009693282-03



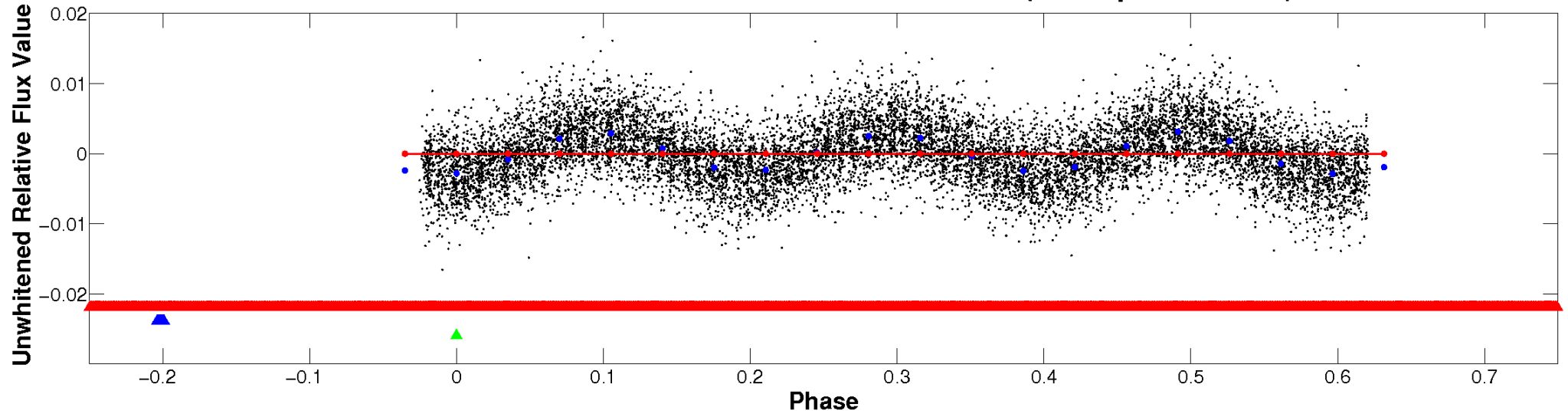
ALT Odd/Even

TCE 009693282-03



Non-Whitened Vs. Whitened Light Curve

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

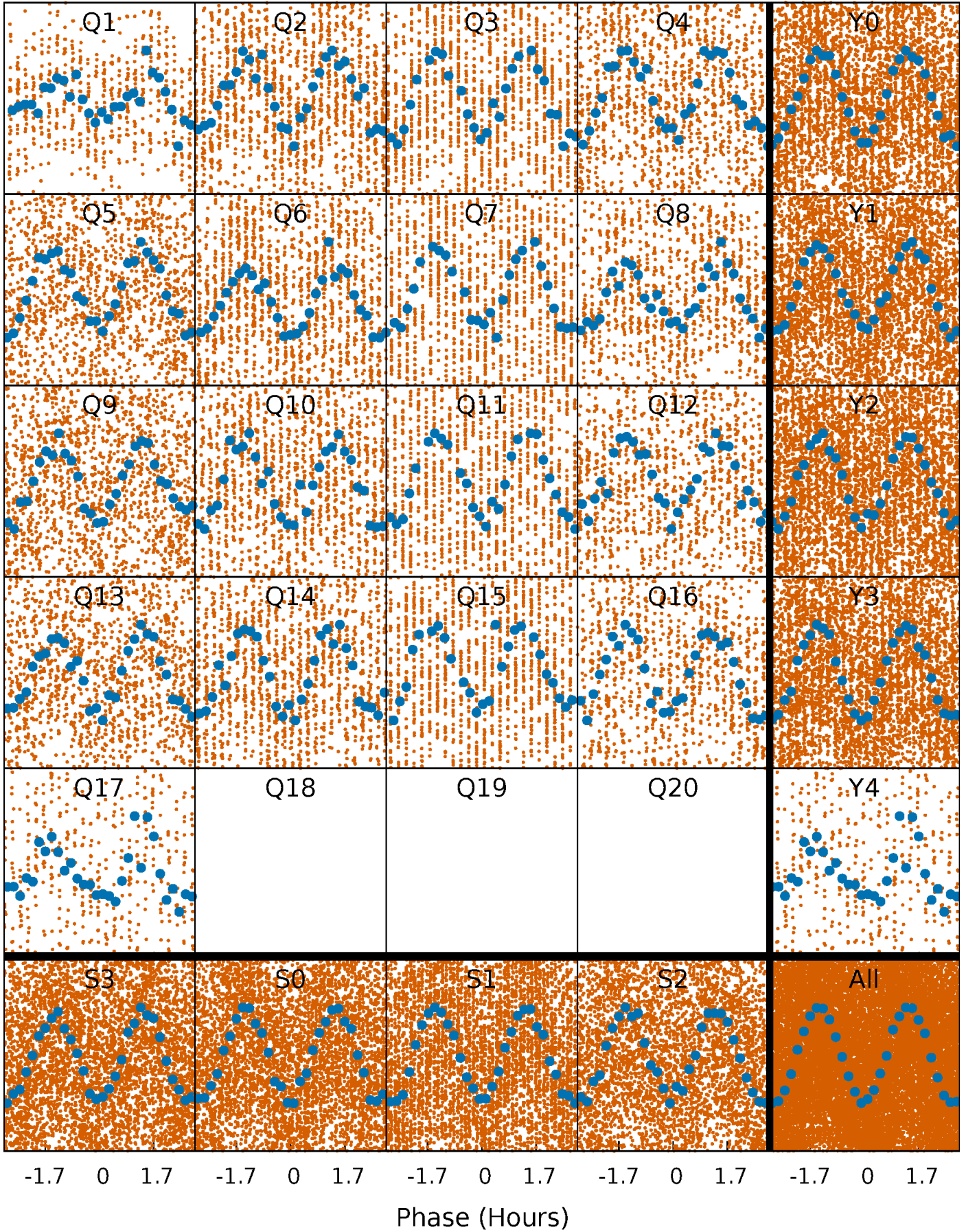


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



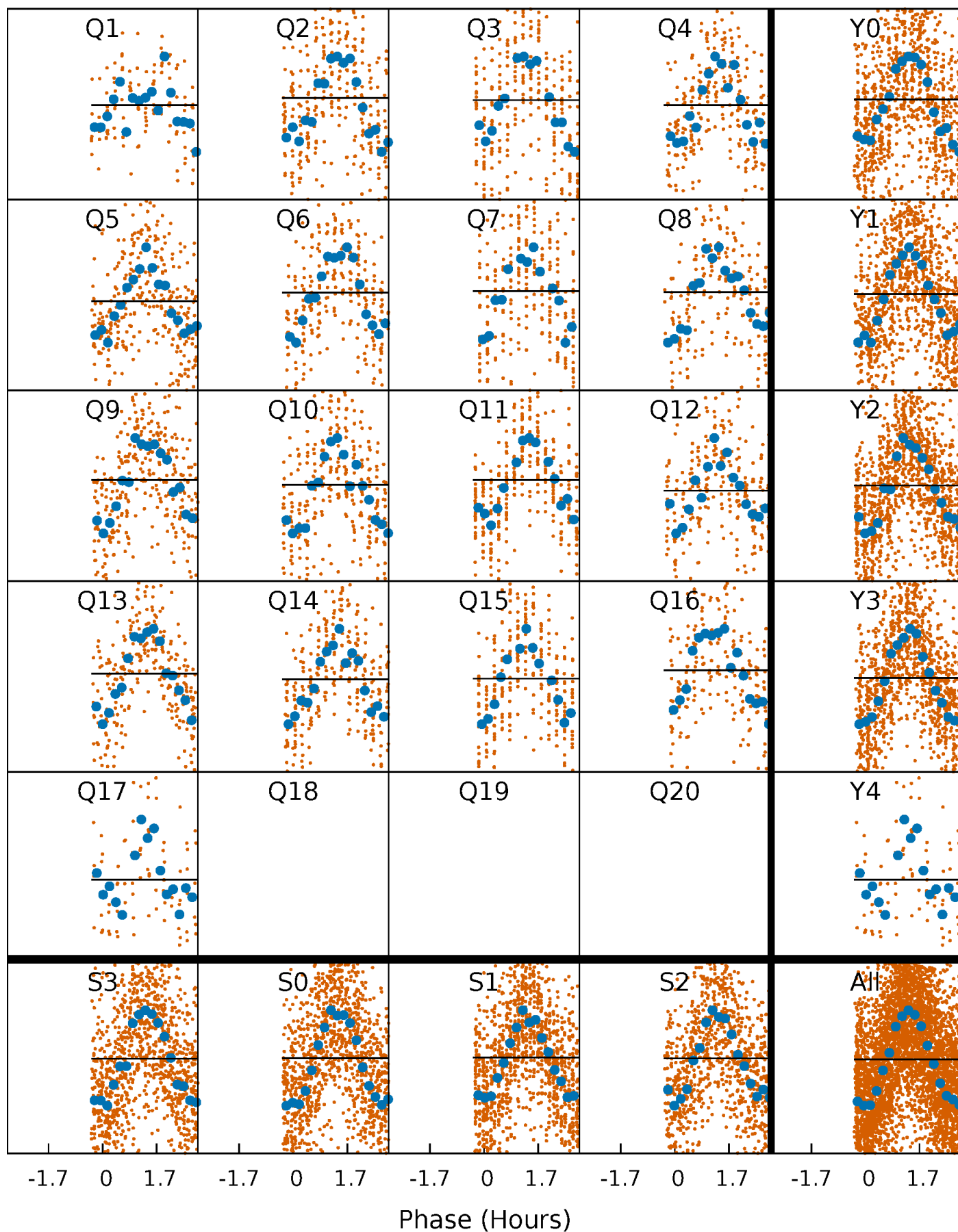
PDC Quarter-Phased Transit Curves

TCE 009693282-03 P= 0.582335 Days $T_0=131.885994$ (BKJD)



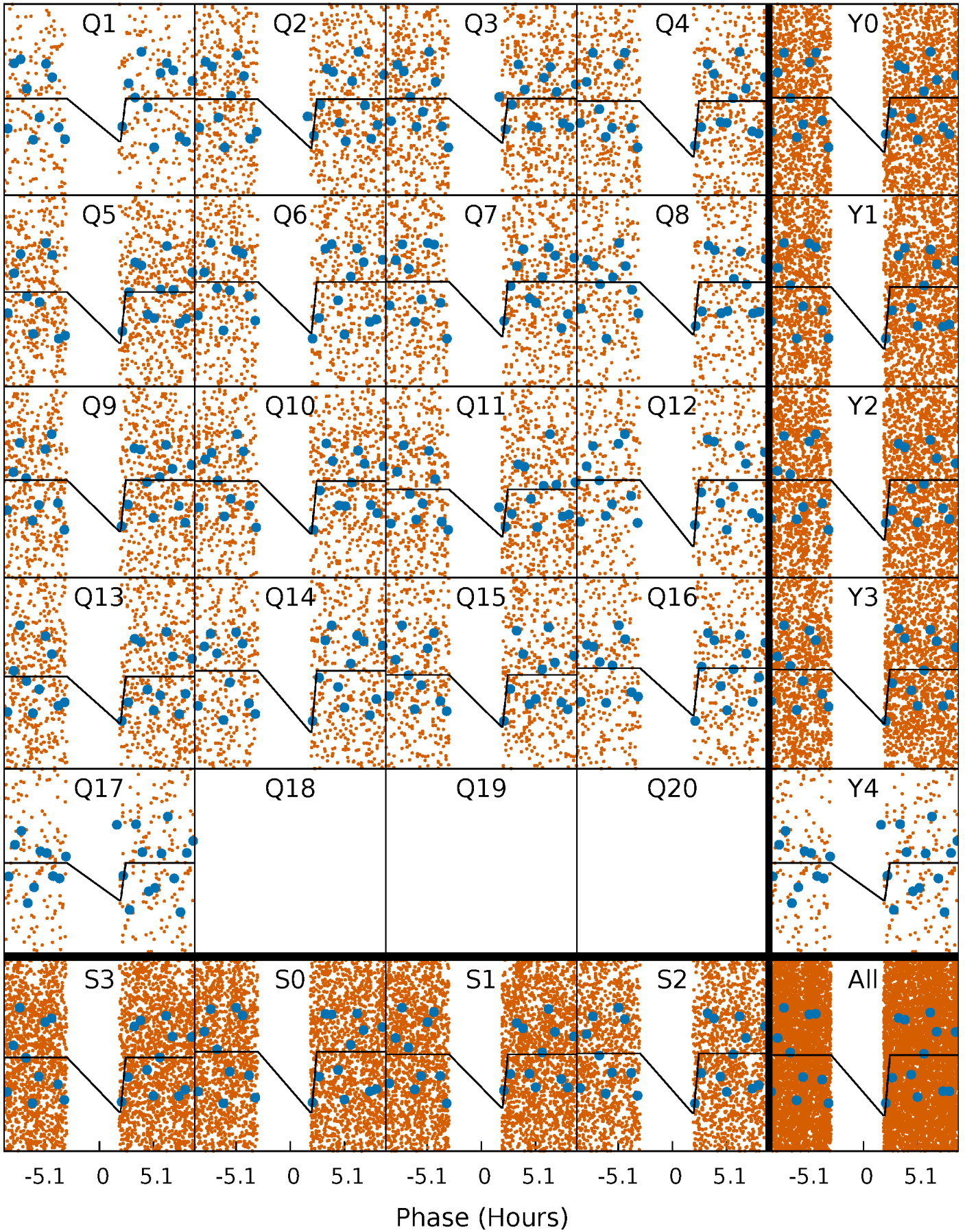
DV Quarter-Phased Transit Curves

TCE 009693282-03 P= 0.582335 Days $T_0=131.885994$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

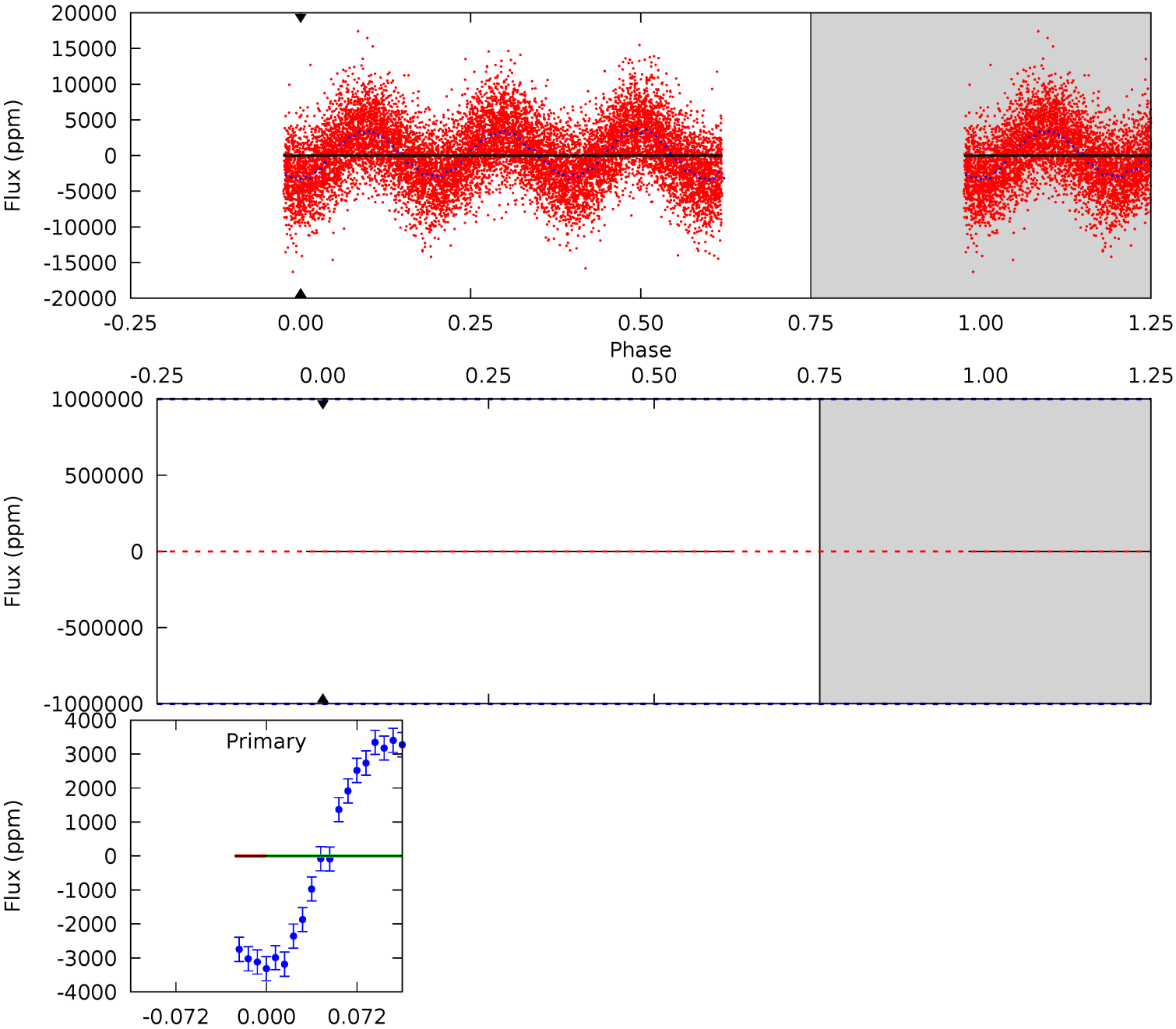
TCE 009693282-03 P= 0.582335 Days $T_0=131.792931$ (BKJD)



DV Model-Shift Uniqueness Test

009693282-03, P = 0.582335 Days, E = 131.303659 Days

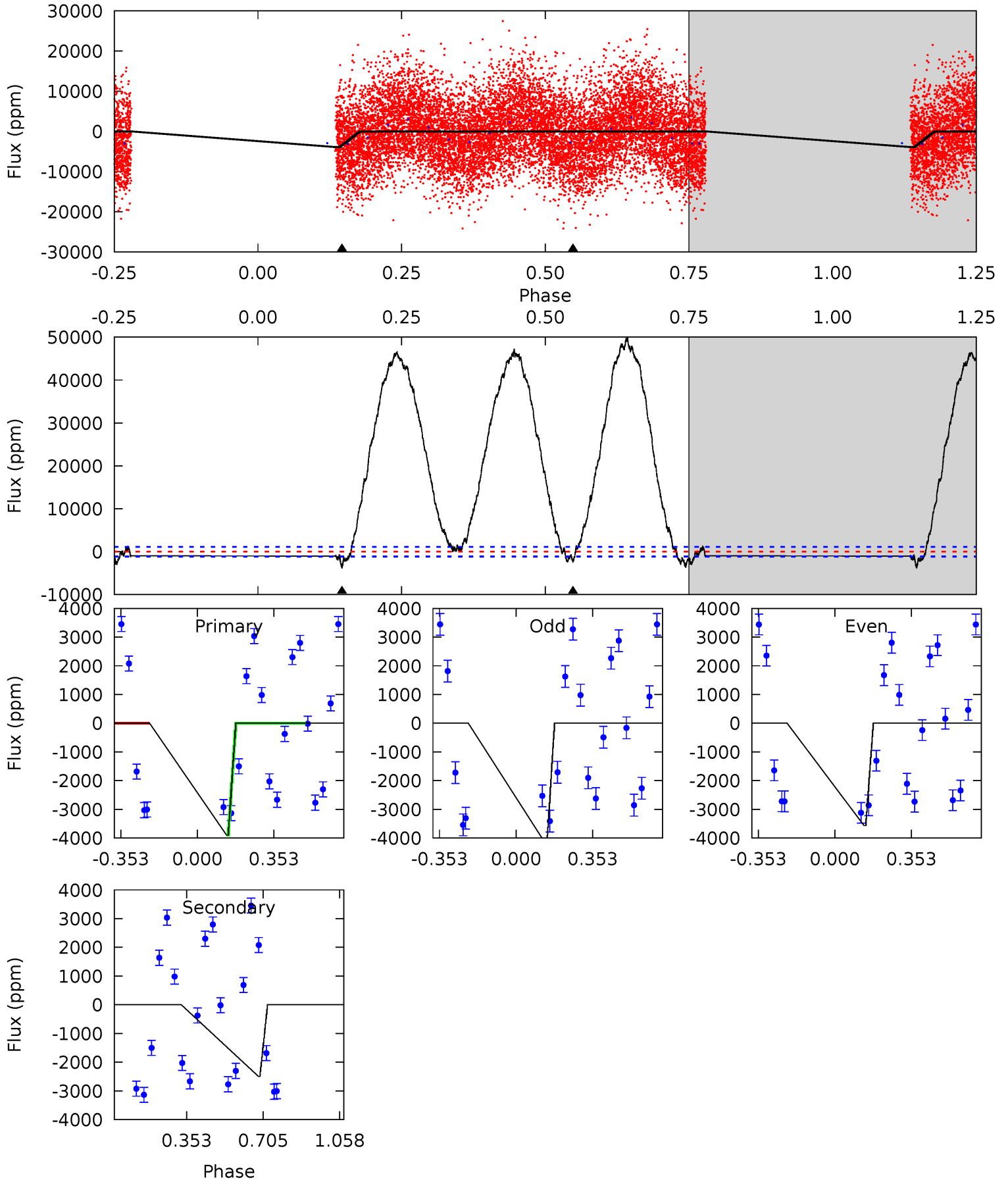
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009693282-03, P = 0.582335 Days, E = 131.210596 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	9.47	0	0	4.29	0.93	5.74	14.8	14.8	9.47	9.47	1.22	1.13	0.93	0



Stellar Parameters For KIC 009693282

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6964^{+195}_{-293}	$3.724^{+0.424}_{-0.106}$	$0.070^{+0.200}_{-0.300}$	$2.998^{+0.566}_{-1.322}$	$1.735^{+0.170}_{-0.369}$	$0.091^{+0.385}_{-0.029}$
	+3%/-4%	+11%/-3%	+286%/-429%	+19%/-44%	+10%/-21%	+424%/-32%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 009693282-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$19.86^{+23.91}_{-14.56}$	5644^{+431}_{-662}	-5491^{+49610}_{-32796}	$-0.167^{+81.556}_{-65.719}$
Alt.	-2490 ± 263	$29.91^{+27.85}_{-19.79}$	5608^{+426}_{-609}	3722^{+4498}_{-8033}	$0.394^{+3.252}_{-0.281}$

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 $A_{obs} \gg 1.0$

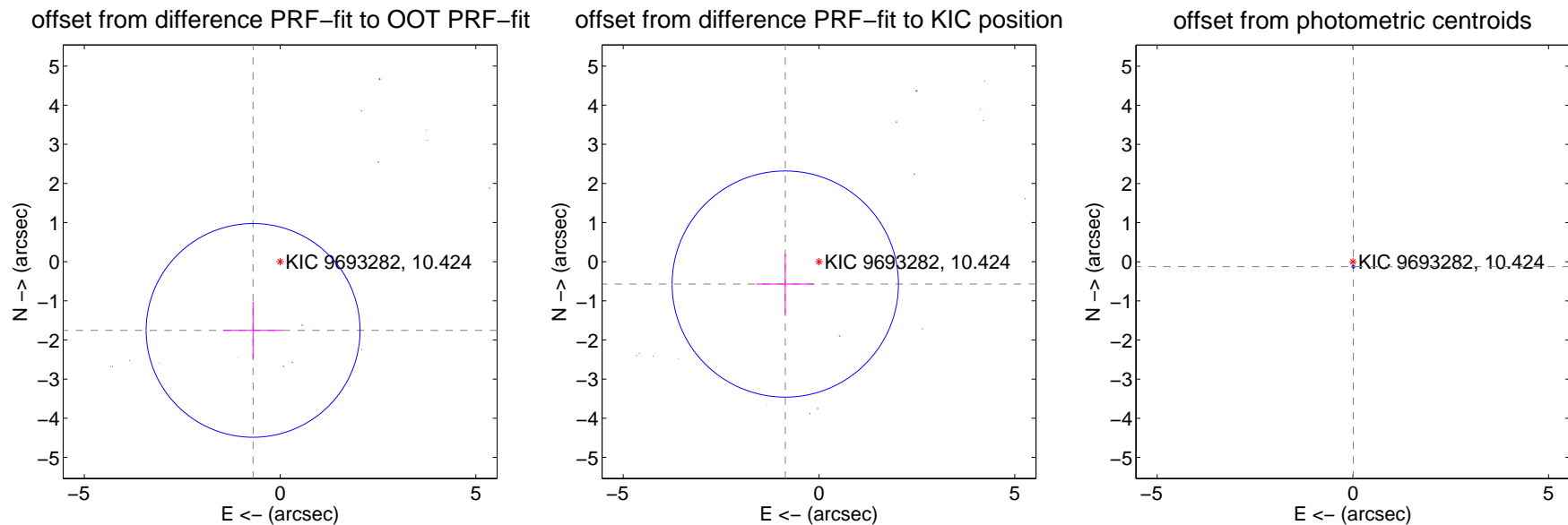
DV Centroid Data

Supplemental centroid analysis for 009693282-03. **Kepler magnitude: 10.42.** Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

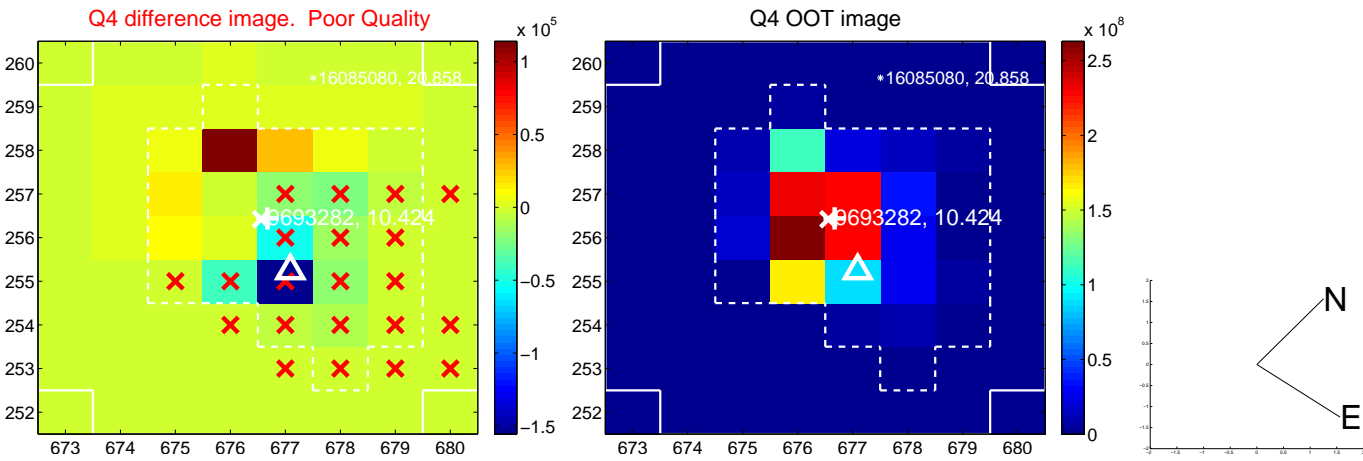
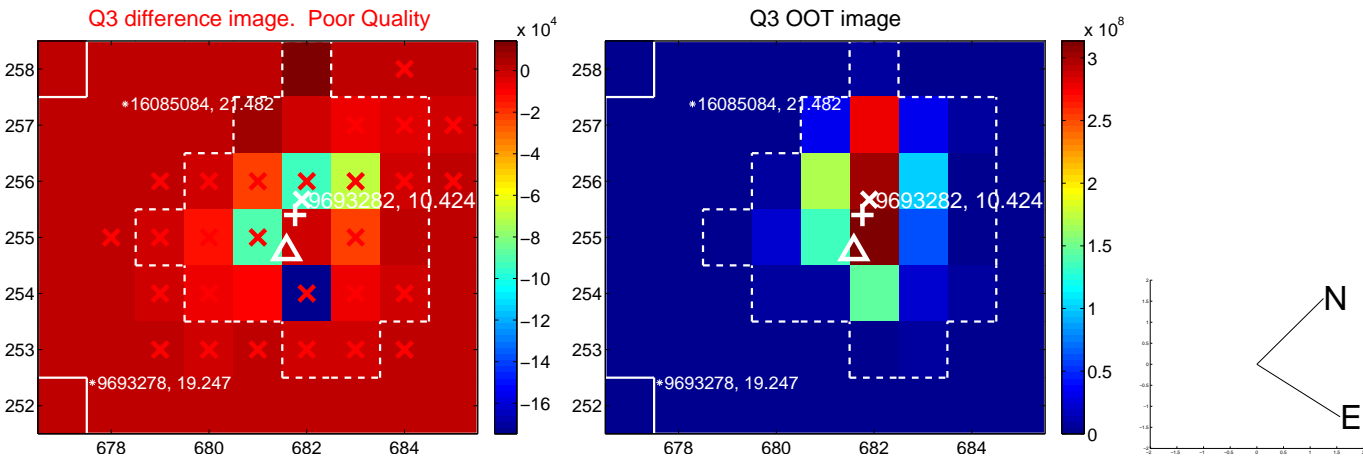
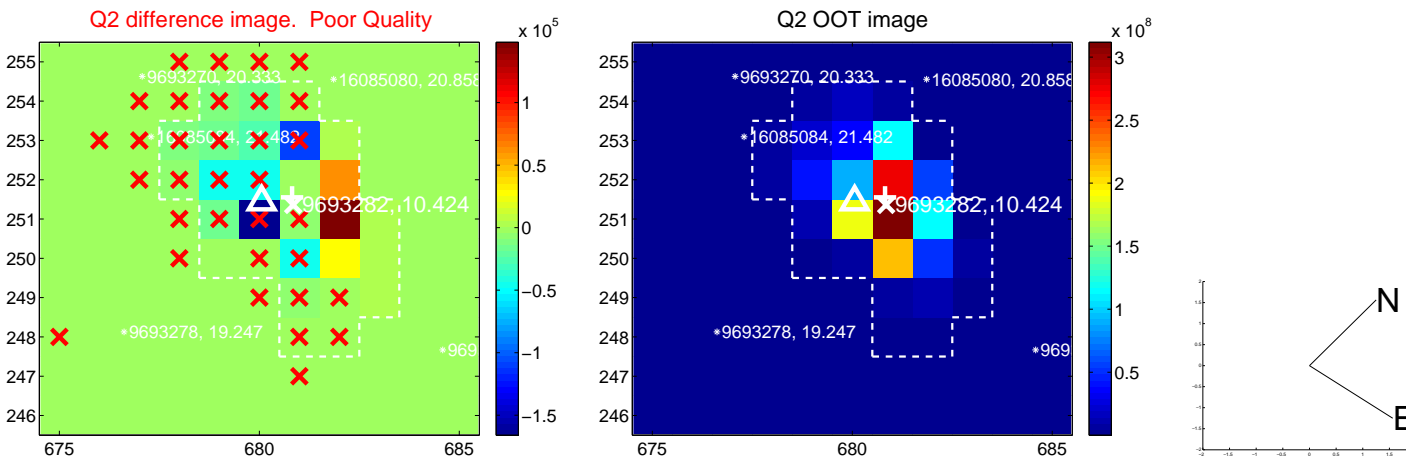
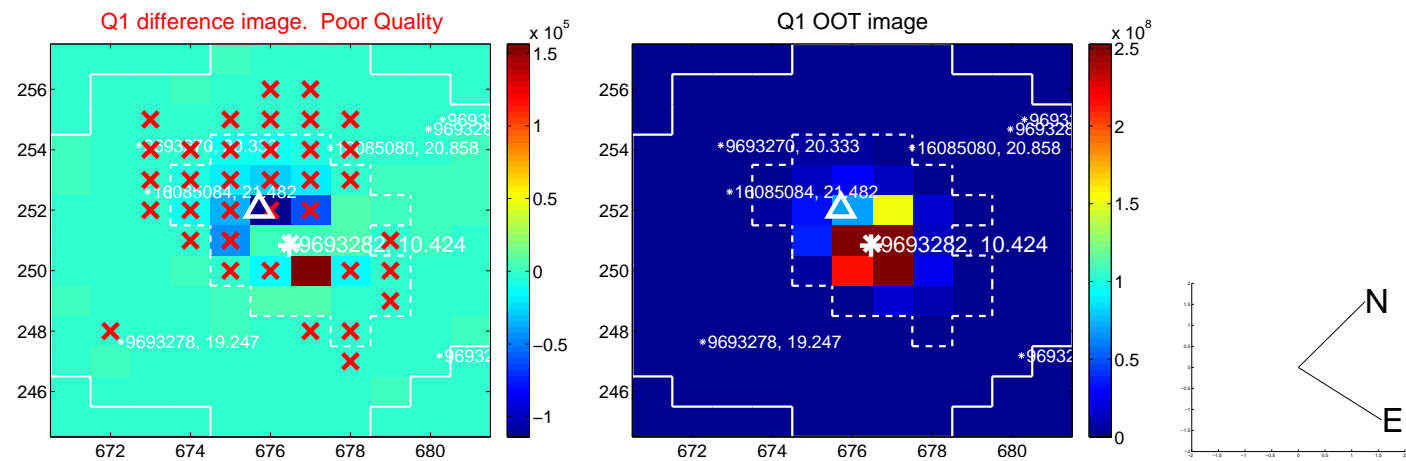
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.886 ± 0.910	2.07	0.690 ± 0.766	-1.756 ± 0.726
PRF-fit source offset from KIC position	1.033 ± 0.963	1.07	0.861 ± 0.737	-0.571 ± 0.781
photometric centroid source offset	0.13 ± 0.01	10.69	-0.01 ± 0.01	-0.13 ± 0.01

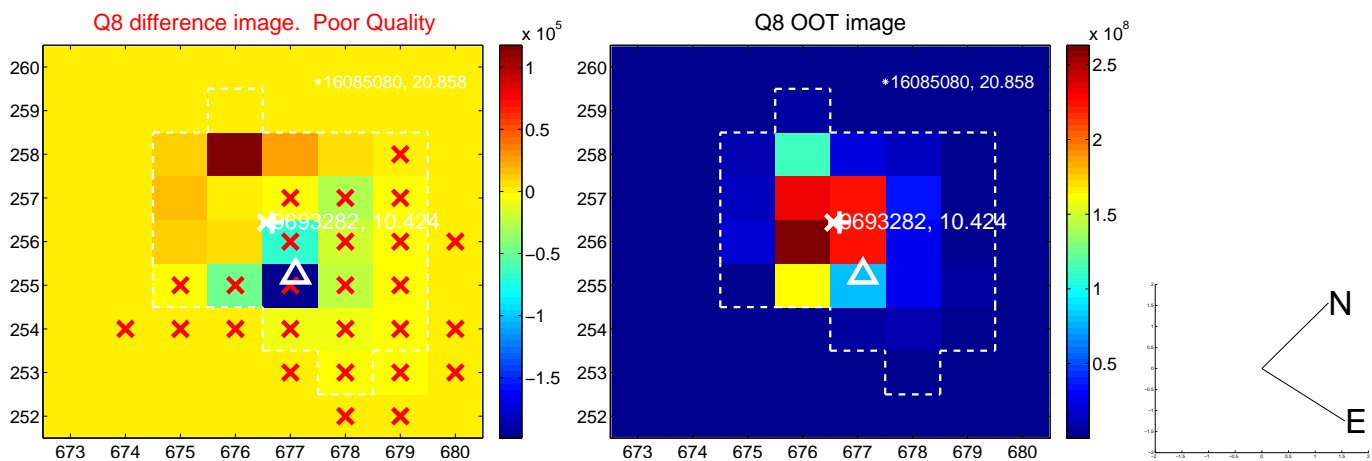
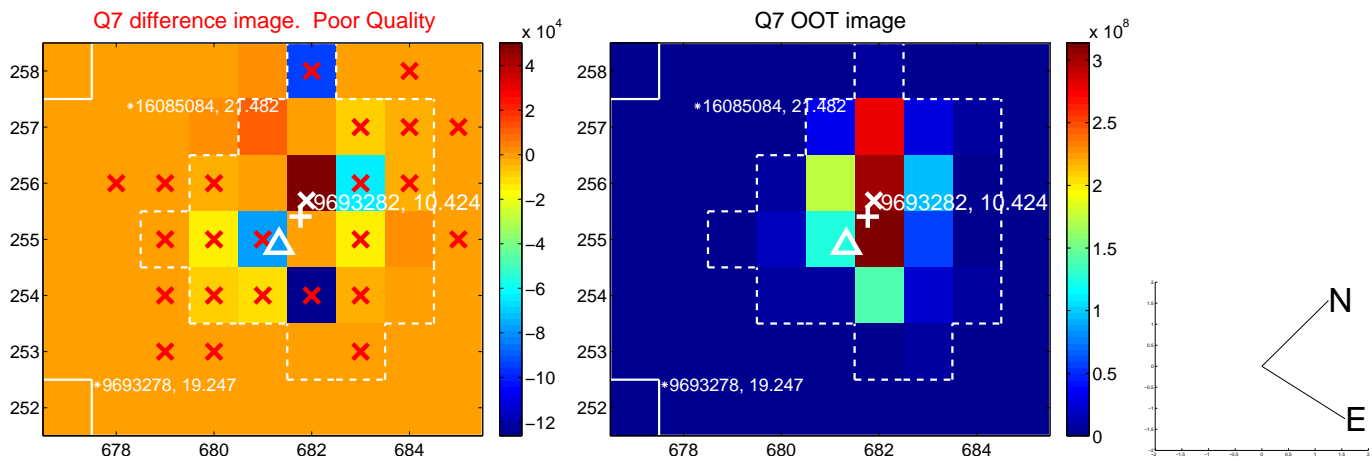
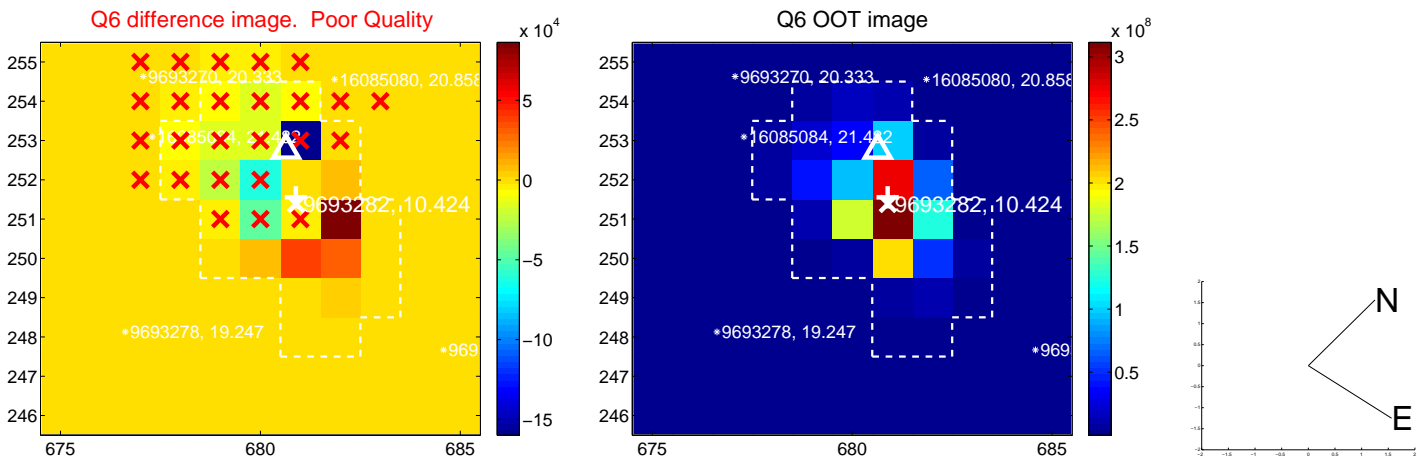
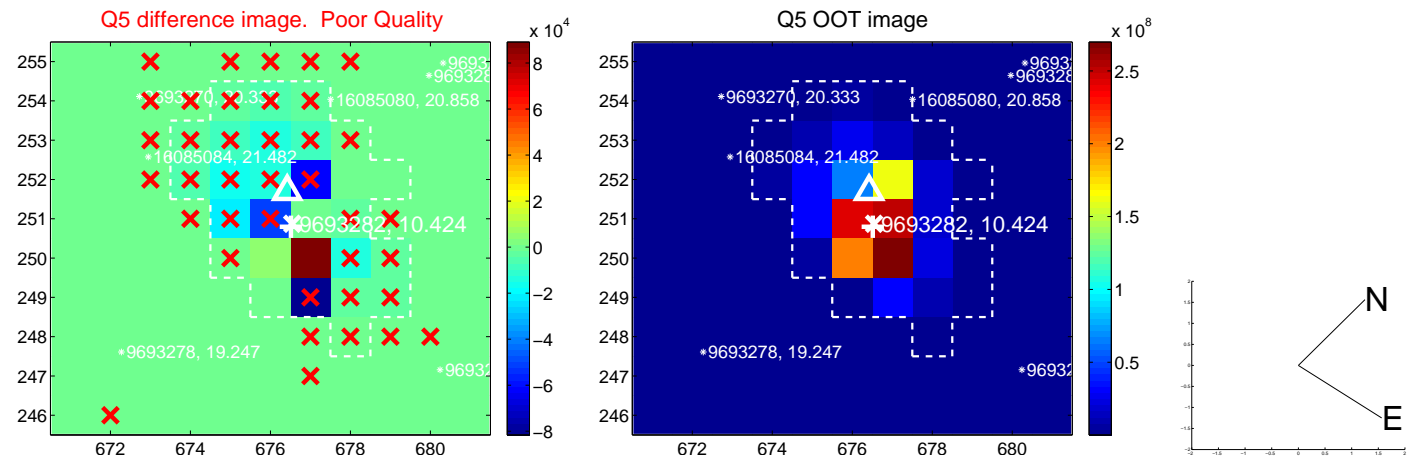


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

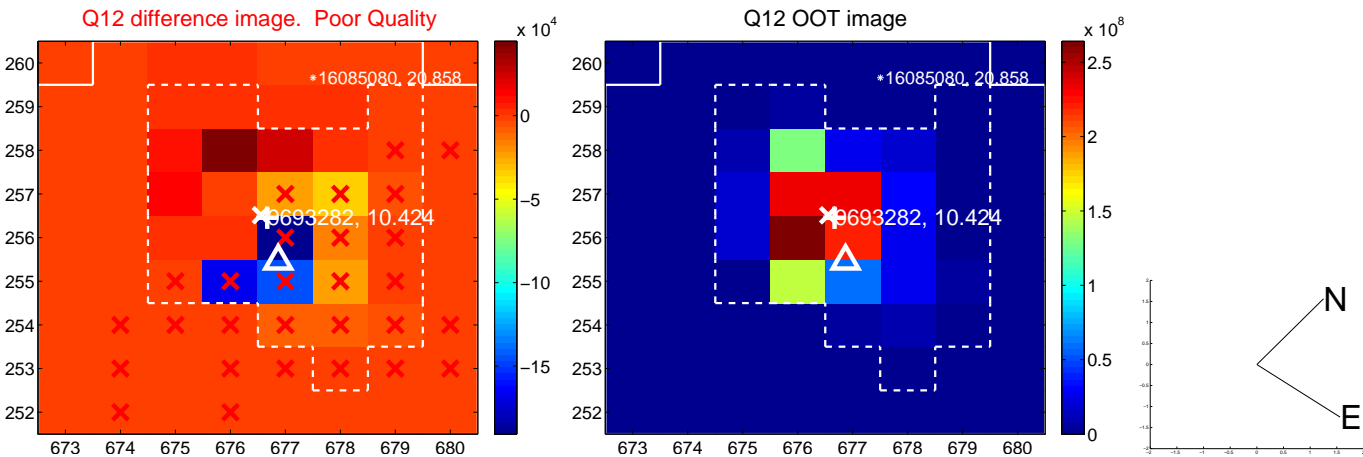
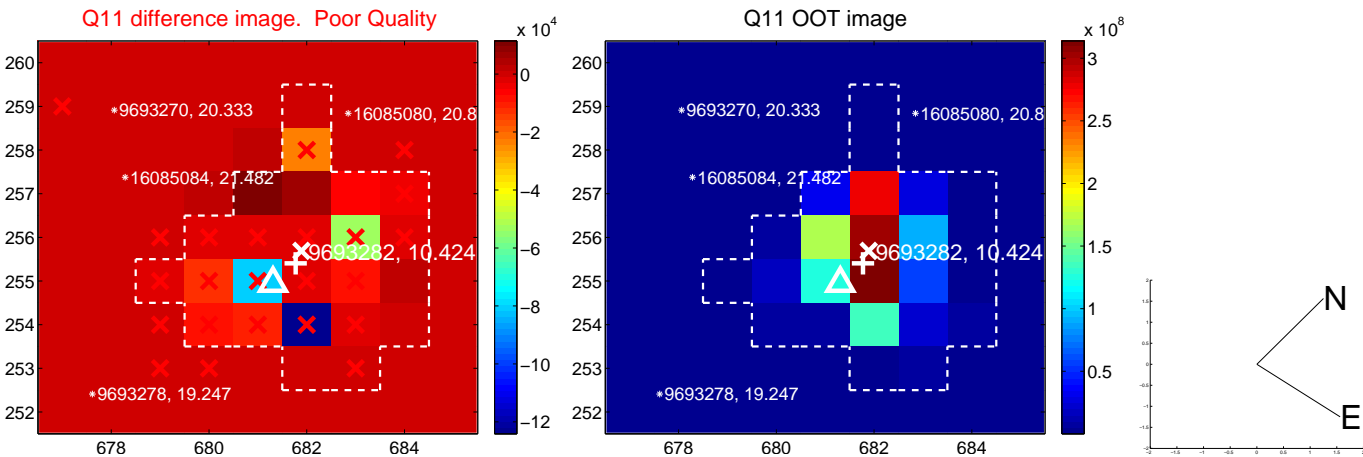
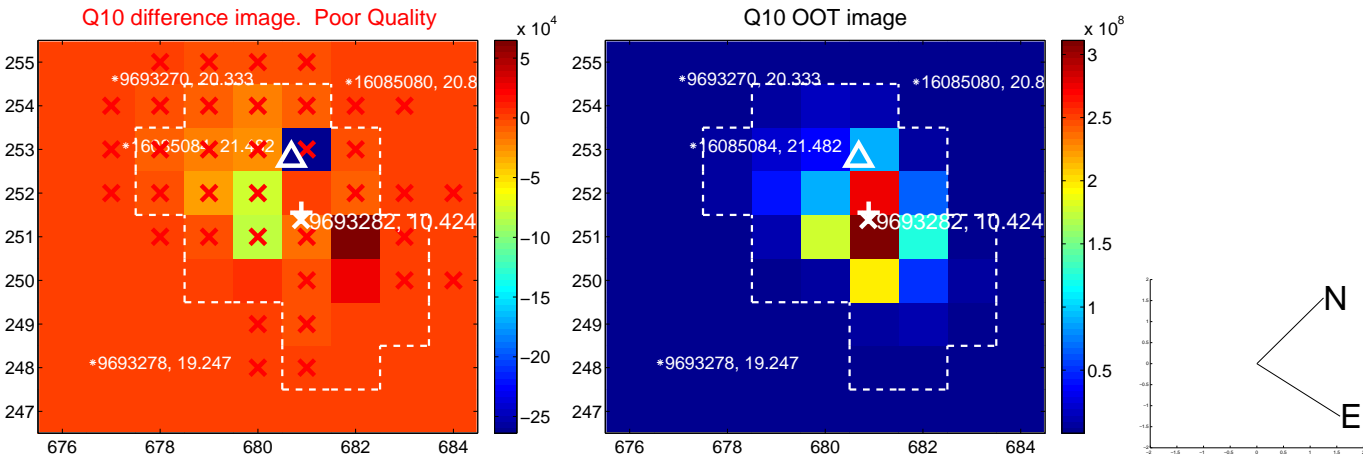
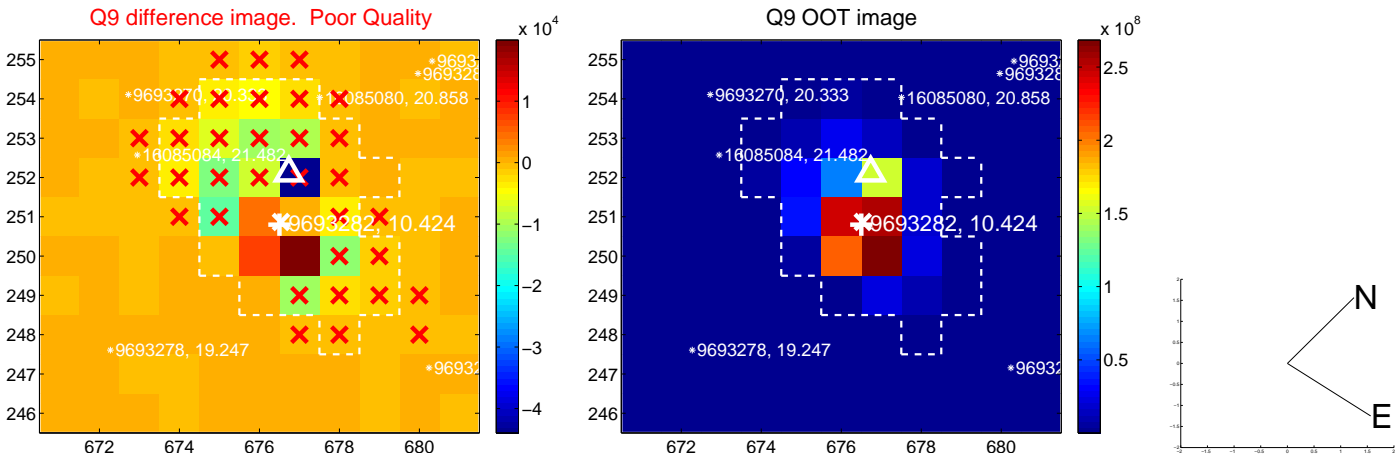
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



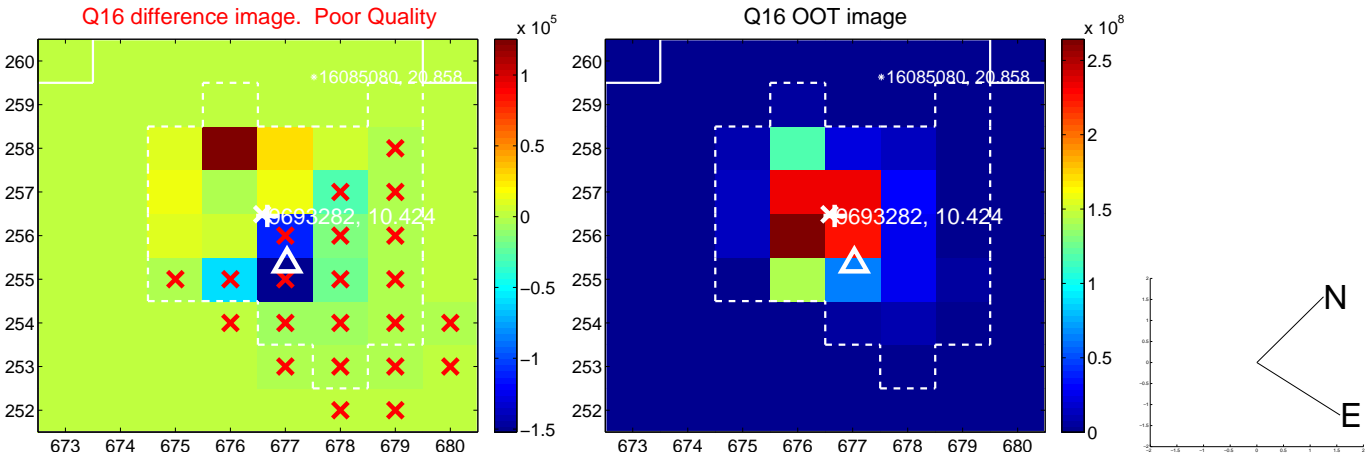
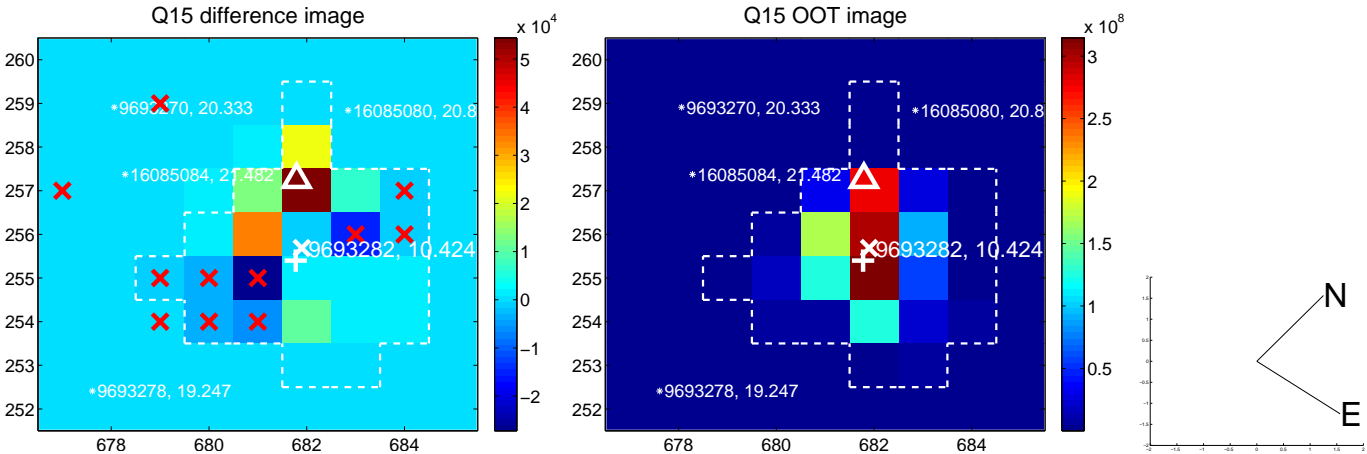
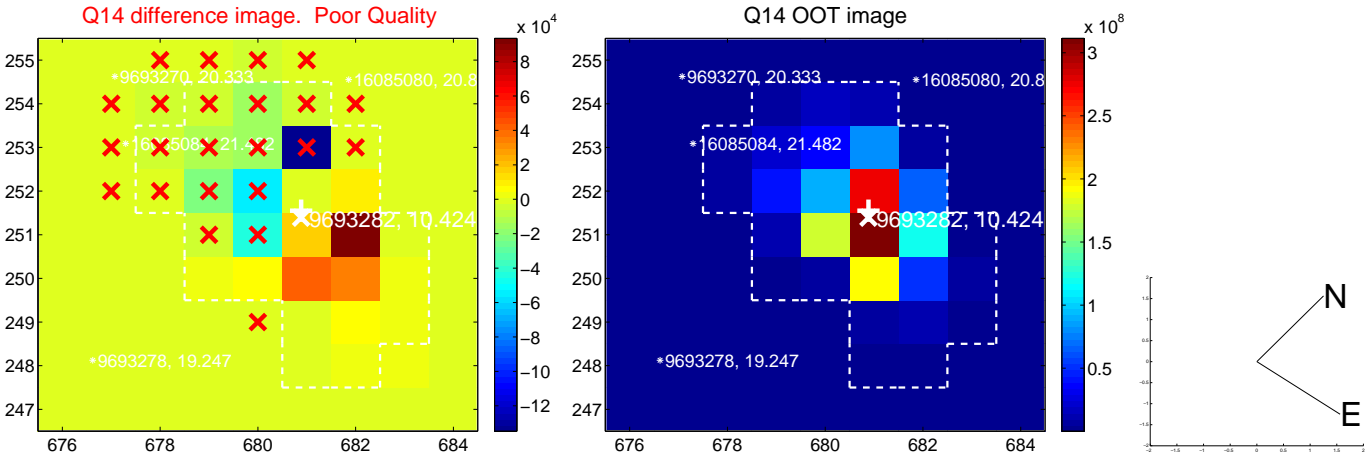
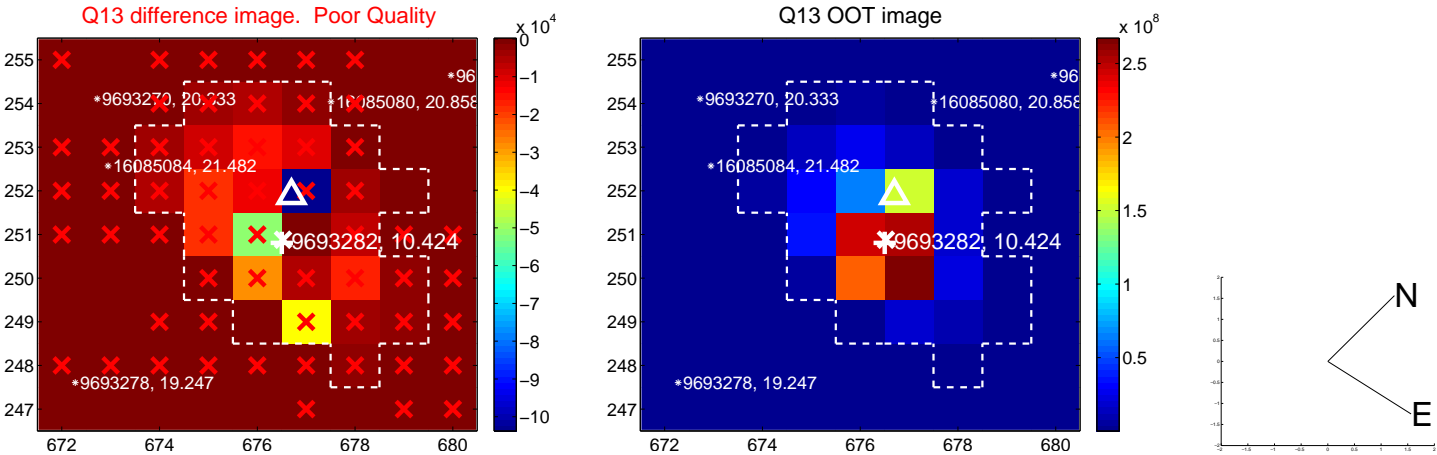
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



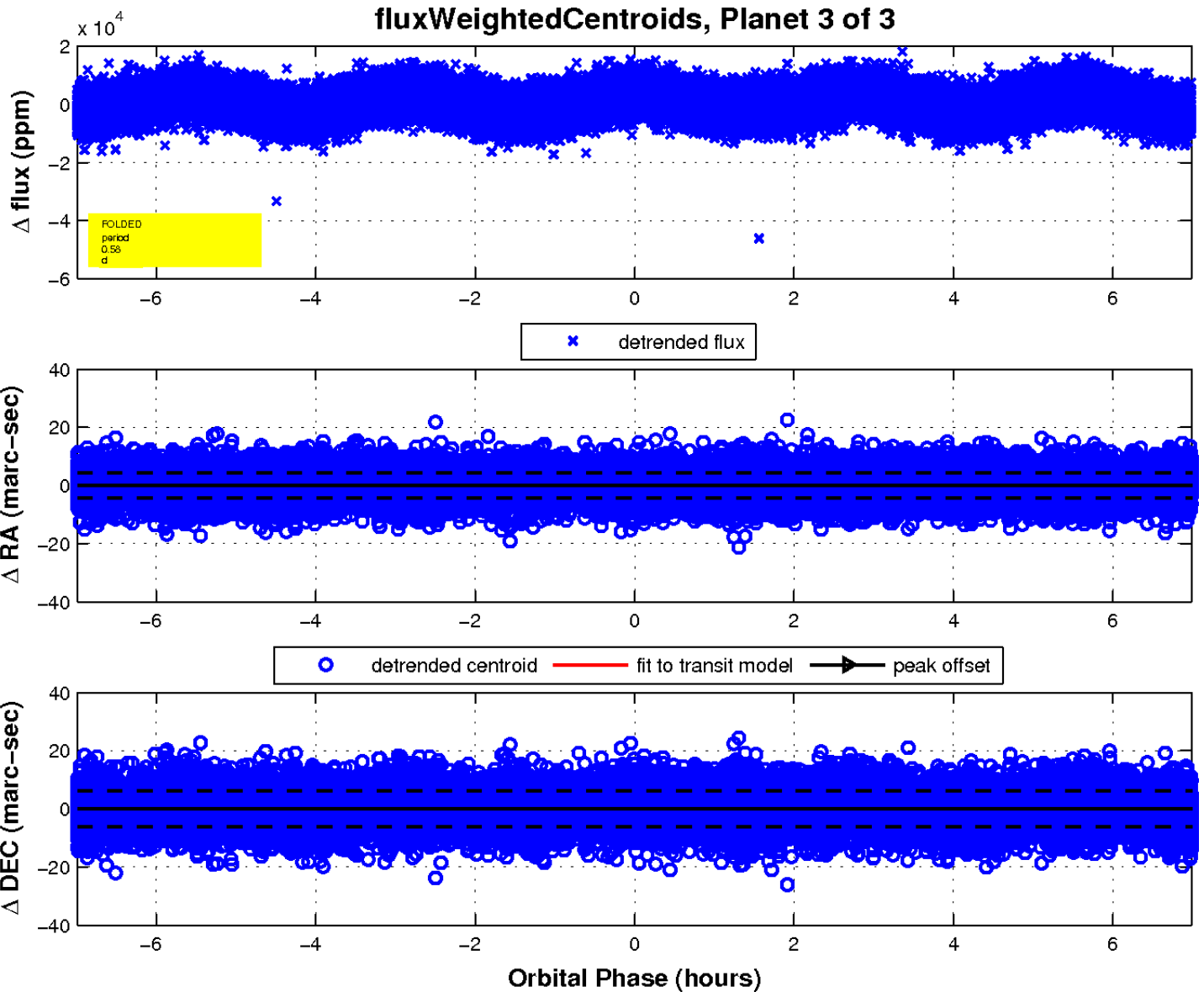
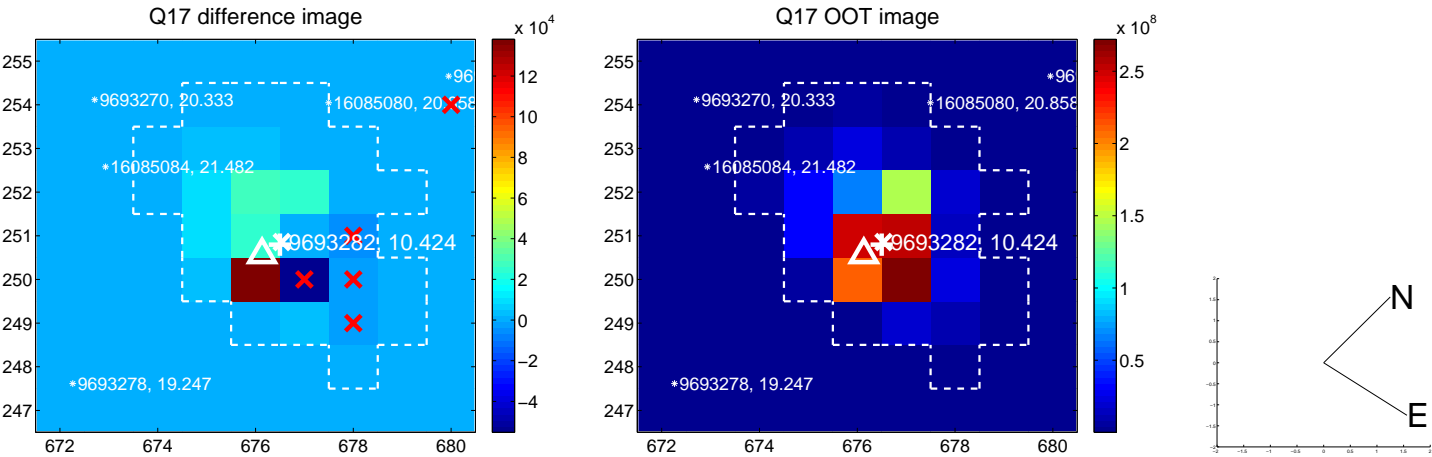
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

