

KIC 007685693

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})
007685693-01	OBS	No	0.650308	131.607208	135.3	1.280	96.9	16.2	3.93	4989	5.81	0.00
007685693-02	OBS	No	0.650323	131.923494	6806.8	1.500	123.9	-1.0	3.93	4989	31.57	31151.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007685693-01	OBS	FP	0.00	1	0	1	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET—EPHEM_MATCH
007685693-02	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS—EPHEM_MATCH

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.

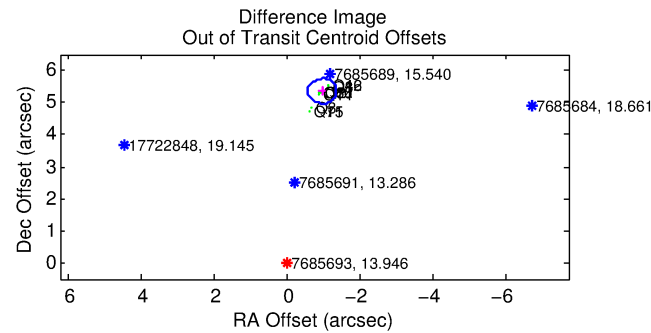
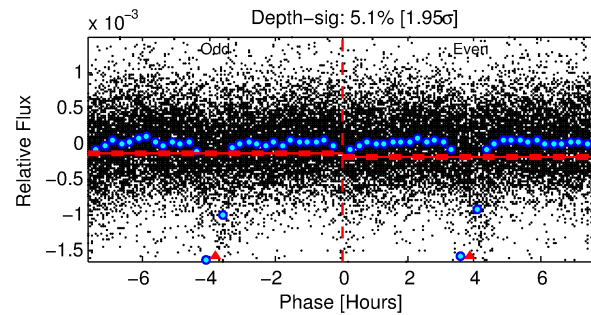
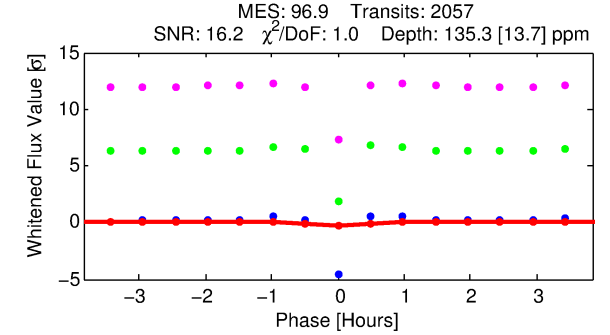
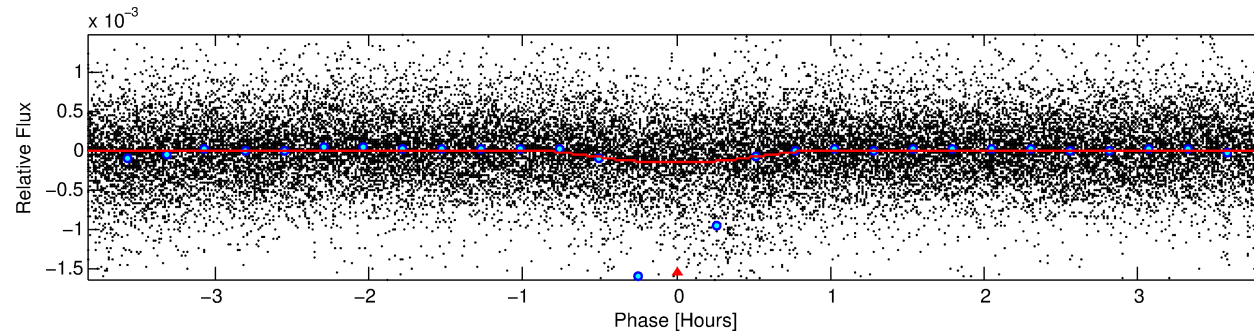
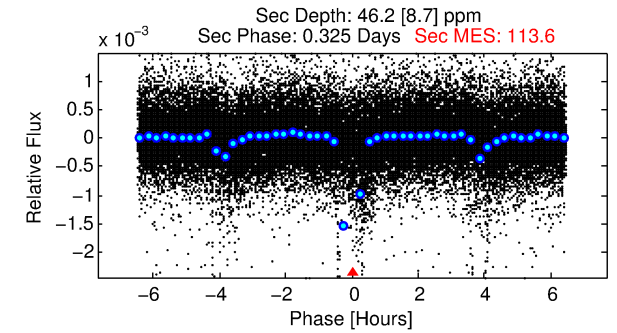
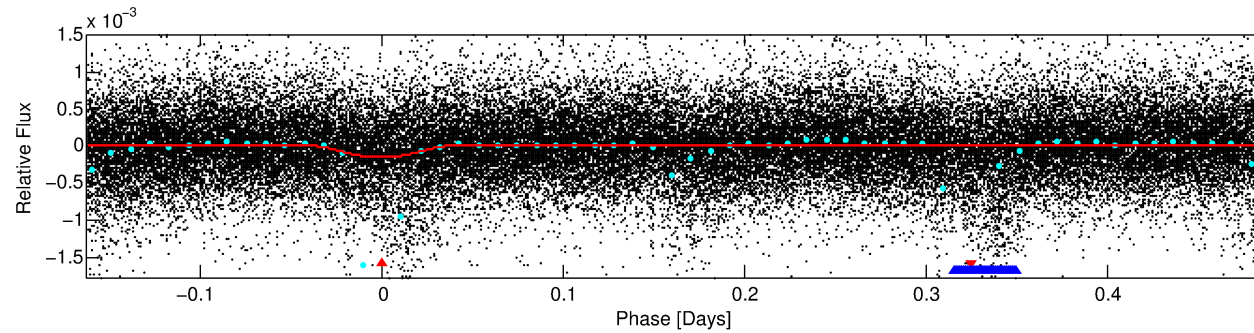
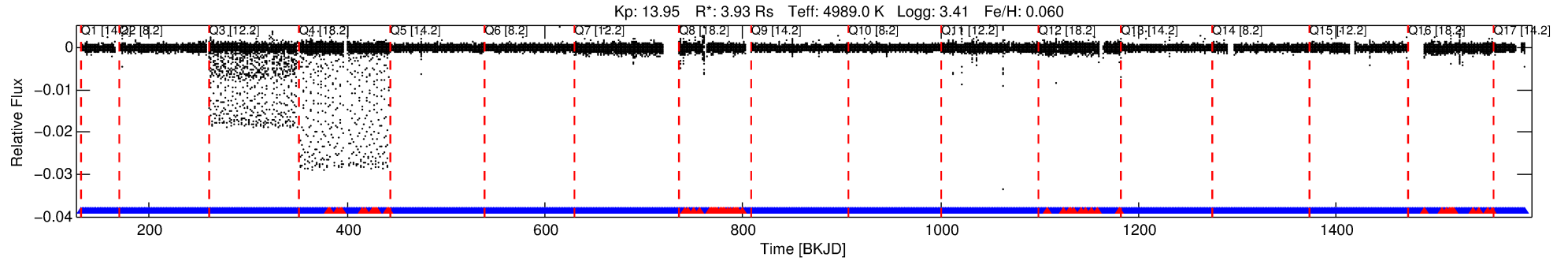
Ephemeris Match Information For 007685693-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007685693-01	7685693	007685689-pri	7685689	2:1	6.0	1	0	15.54	13.95	2502.20	Direct-PRF	0	4.72	0.65

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7685693 Candidate: 1 of 2 Period: 0.650 d



DV Fit Results:

Period = 0.65031 [0.00001] d
Epoch = 131.6072 [0.0010] BKJD
Rp/R* = 0.0136 [0.0062]
a/R* = 1.86 [2.48]
b = 0.93 [0.30]
Seff = N/A
Teff = N/A
Rp = 5.81 [3.63] Re
a = N/A
Ag = N/A
Teffp = N/A

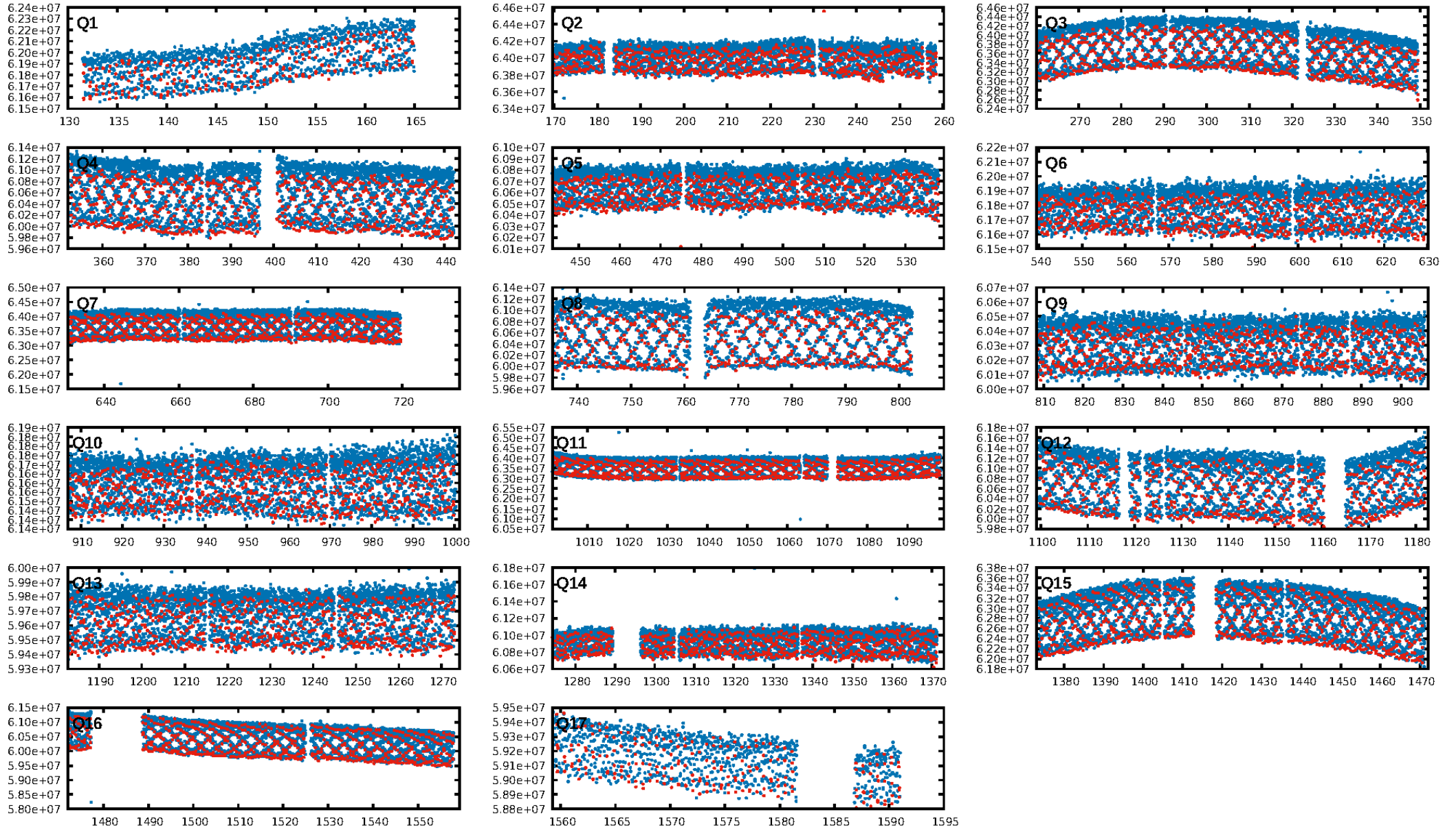
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [1898/1964]
GhostDiagnostic-chr: -0.6034
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 5.443 arcsec [42.06 σ]
KicOffset-rm: 5.918 arcsec [73.22 σ]
OotOffset-st: 4/4/4/0 [12]
KicOffset-st: 4/4/4/0 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [17/17]

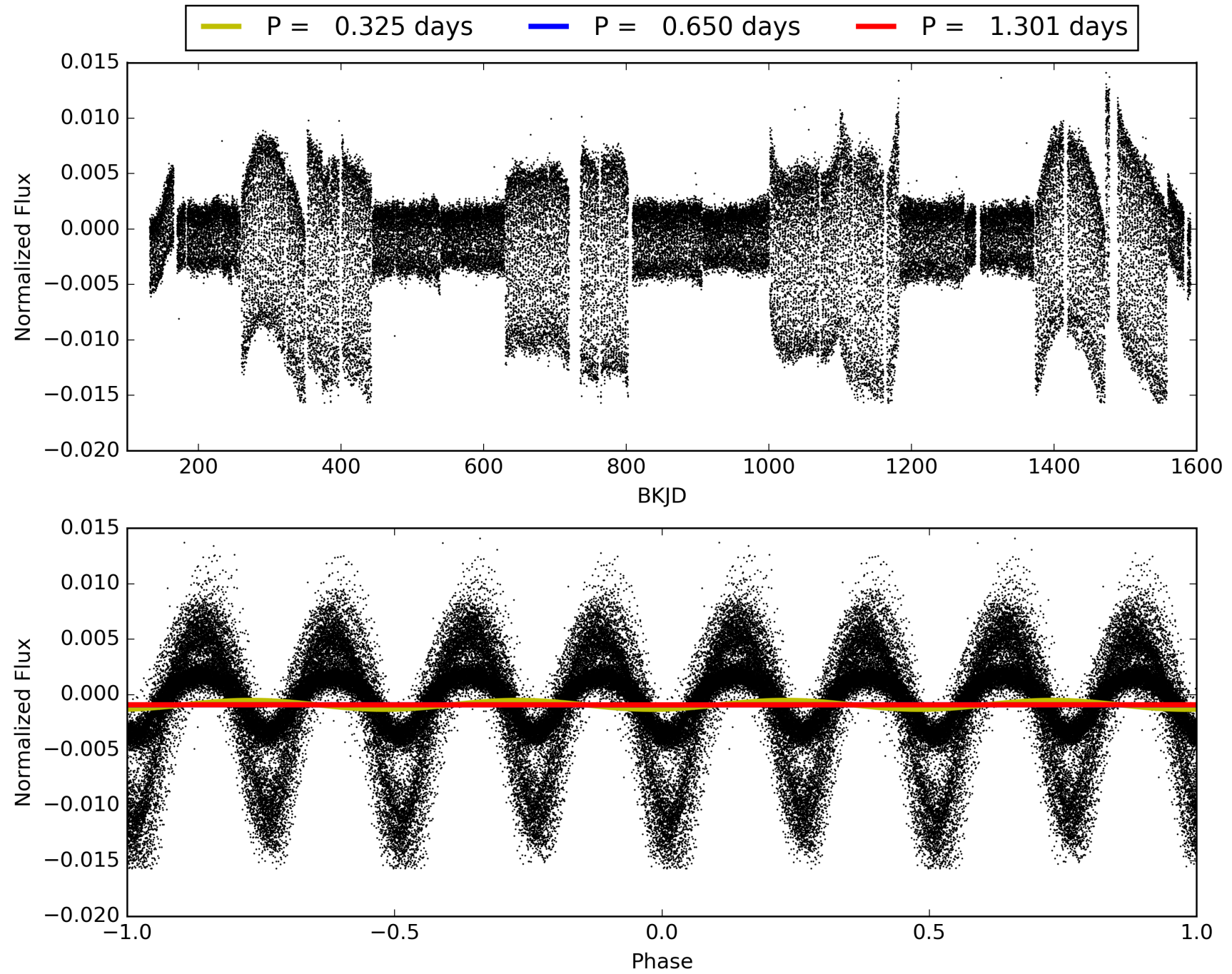
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 16:04:21 Z

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

TCE 007685693-01, PDC Light Curves

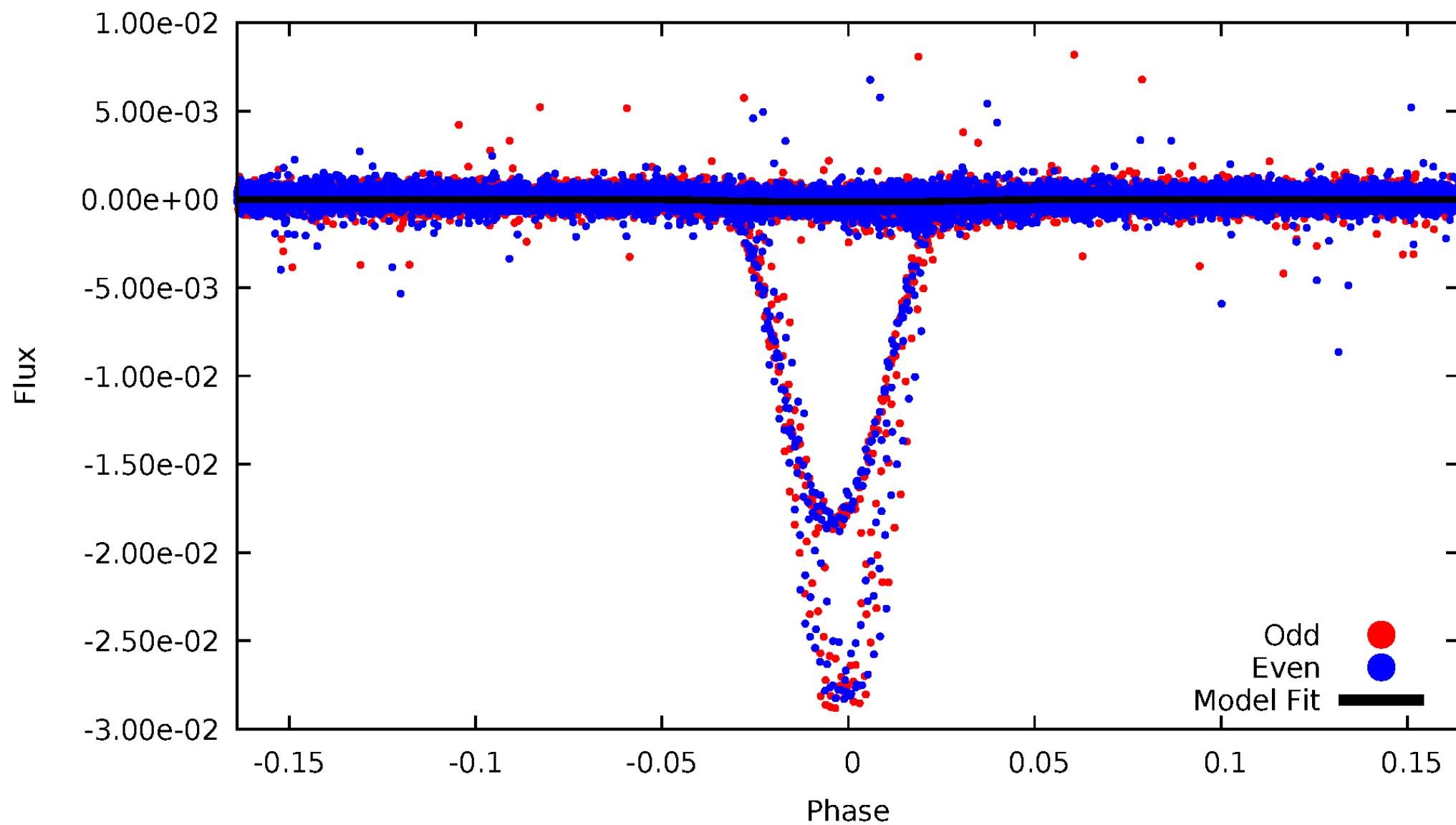


TCE 007685693-01



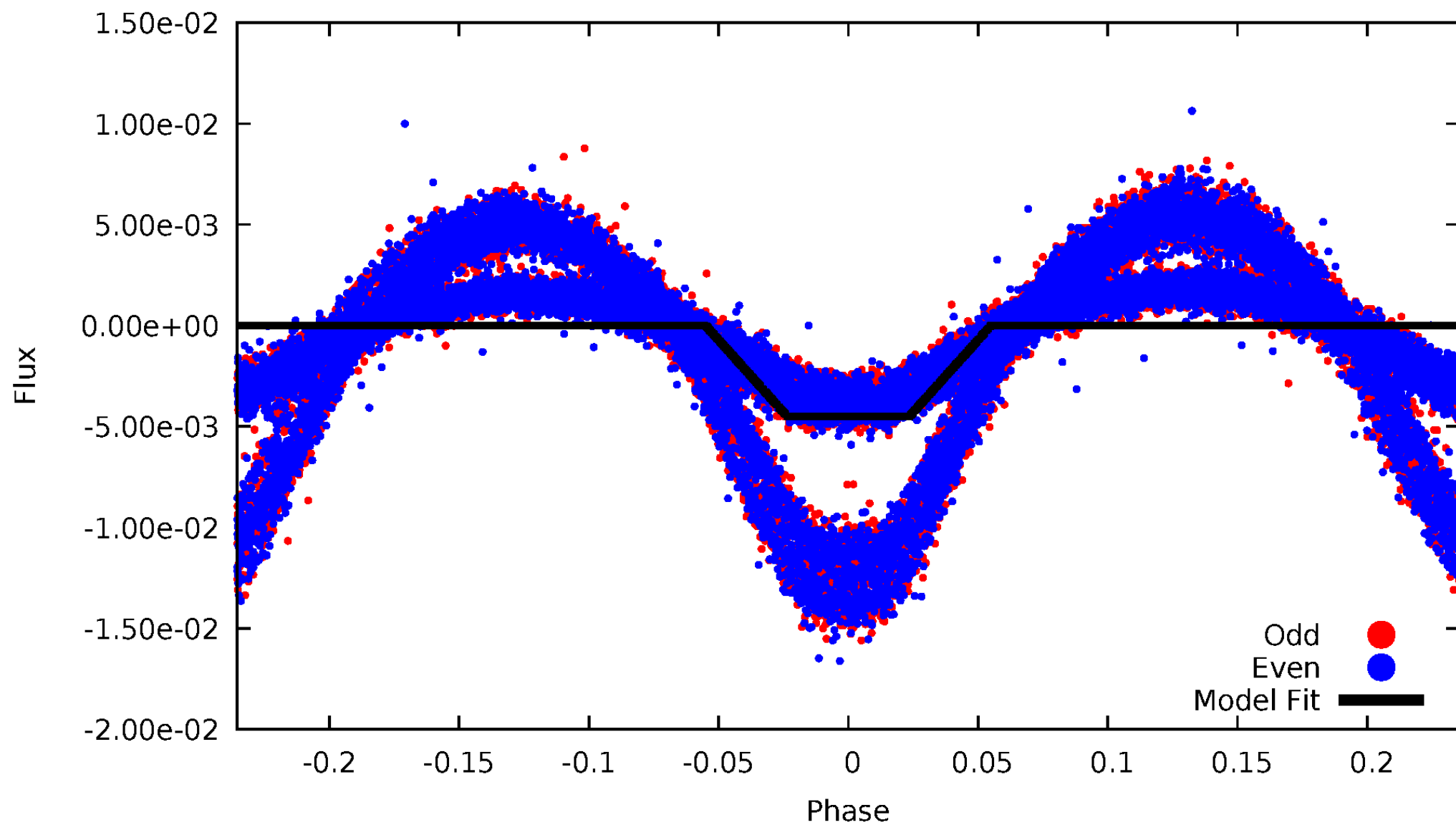
DV Odd/Even

TCE 007685693-01



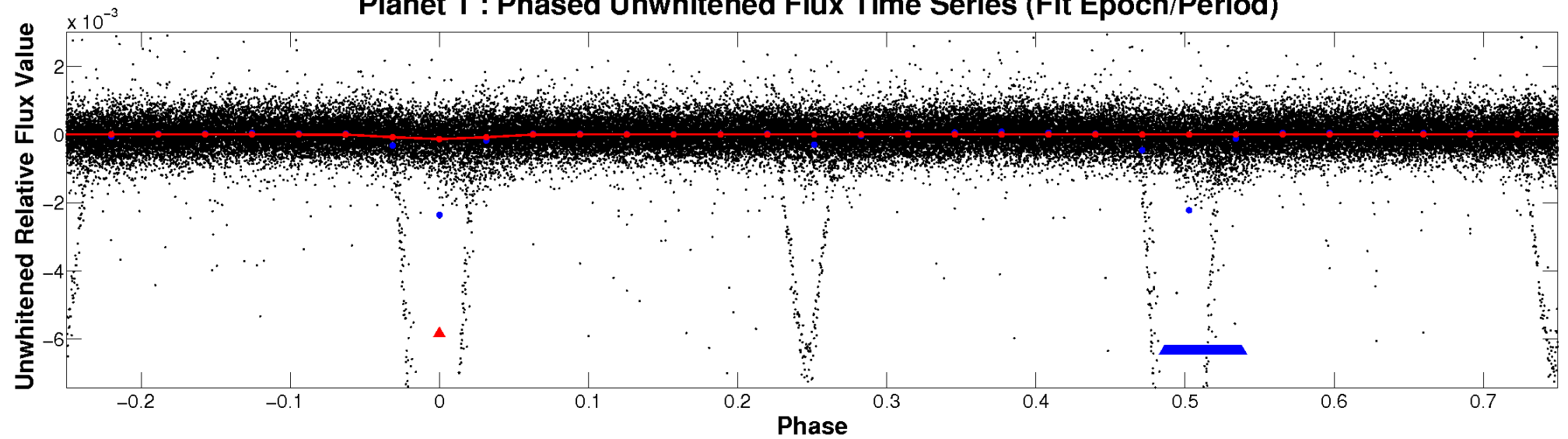
ALT Odd/Even

TCE 007685693-01

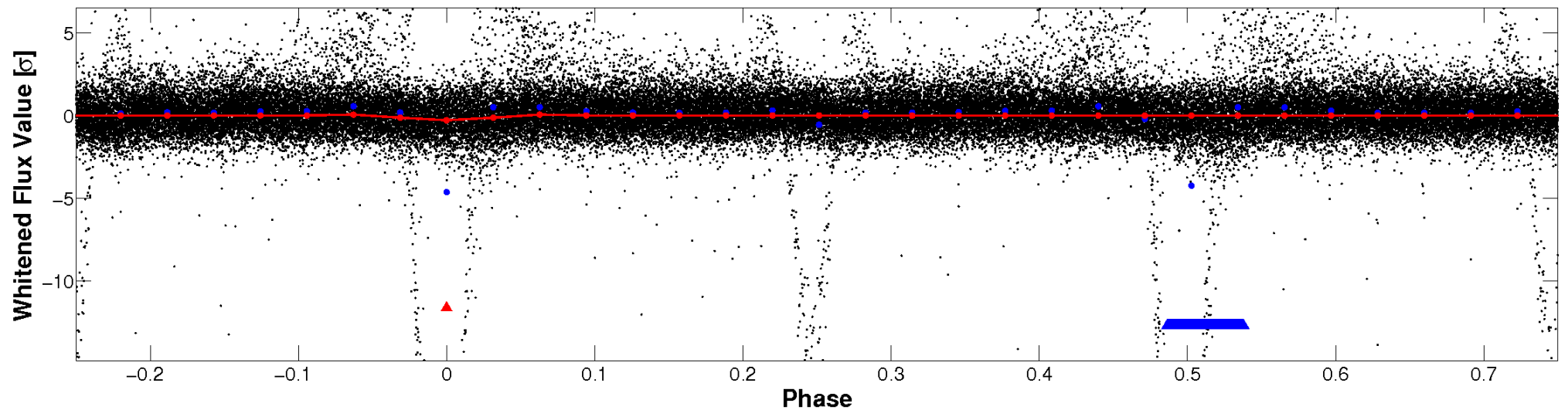


Non-Whitened Vs. Whitened Light Curve

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

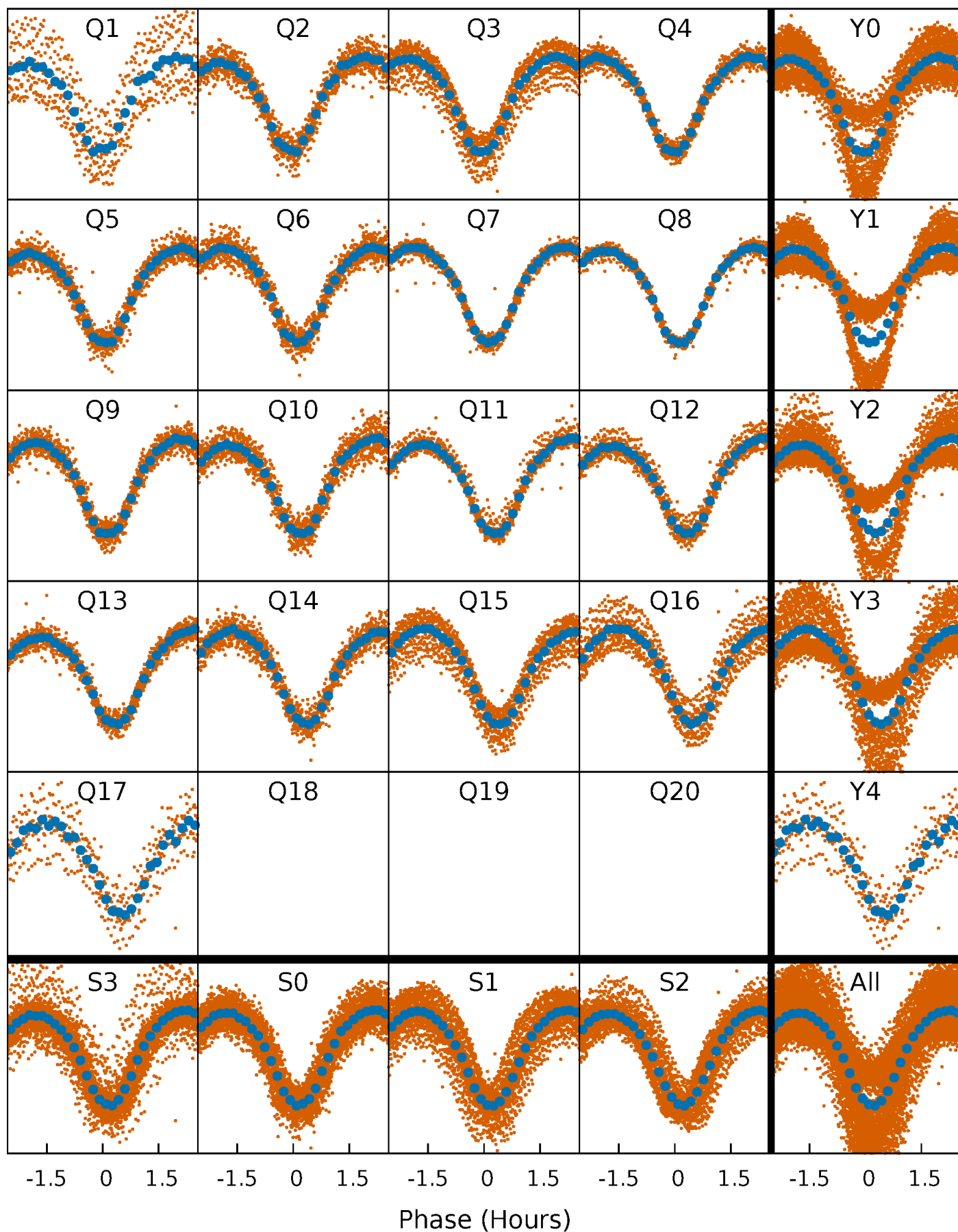


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



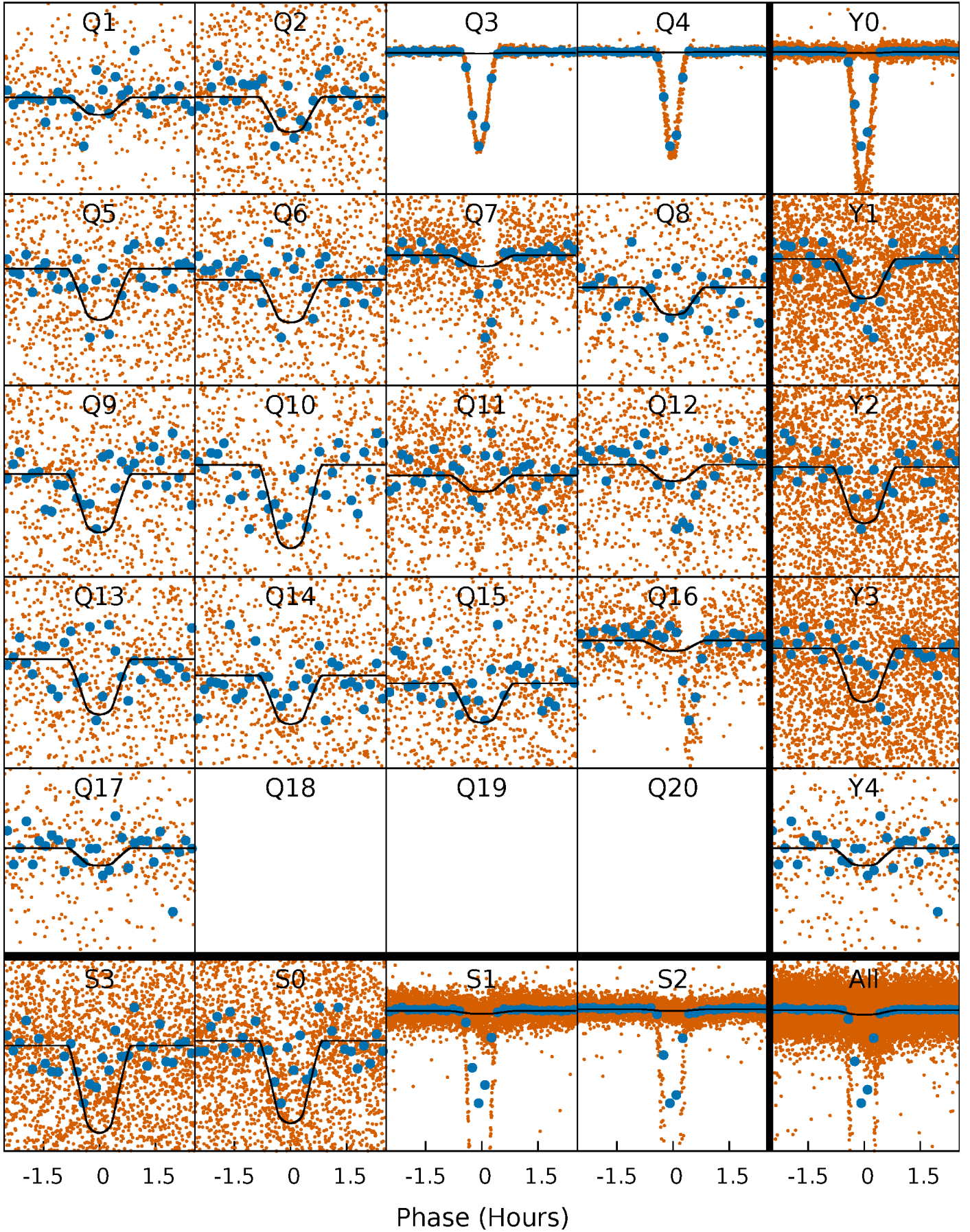
PDC Quarter-Phased Transit Curves

TCE 007685693-01 P= 0.650308 Days $T_0=131.607208$ (BKJD)



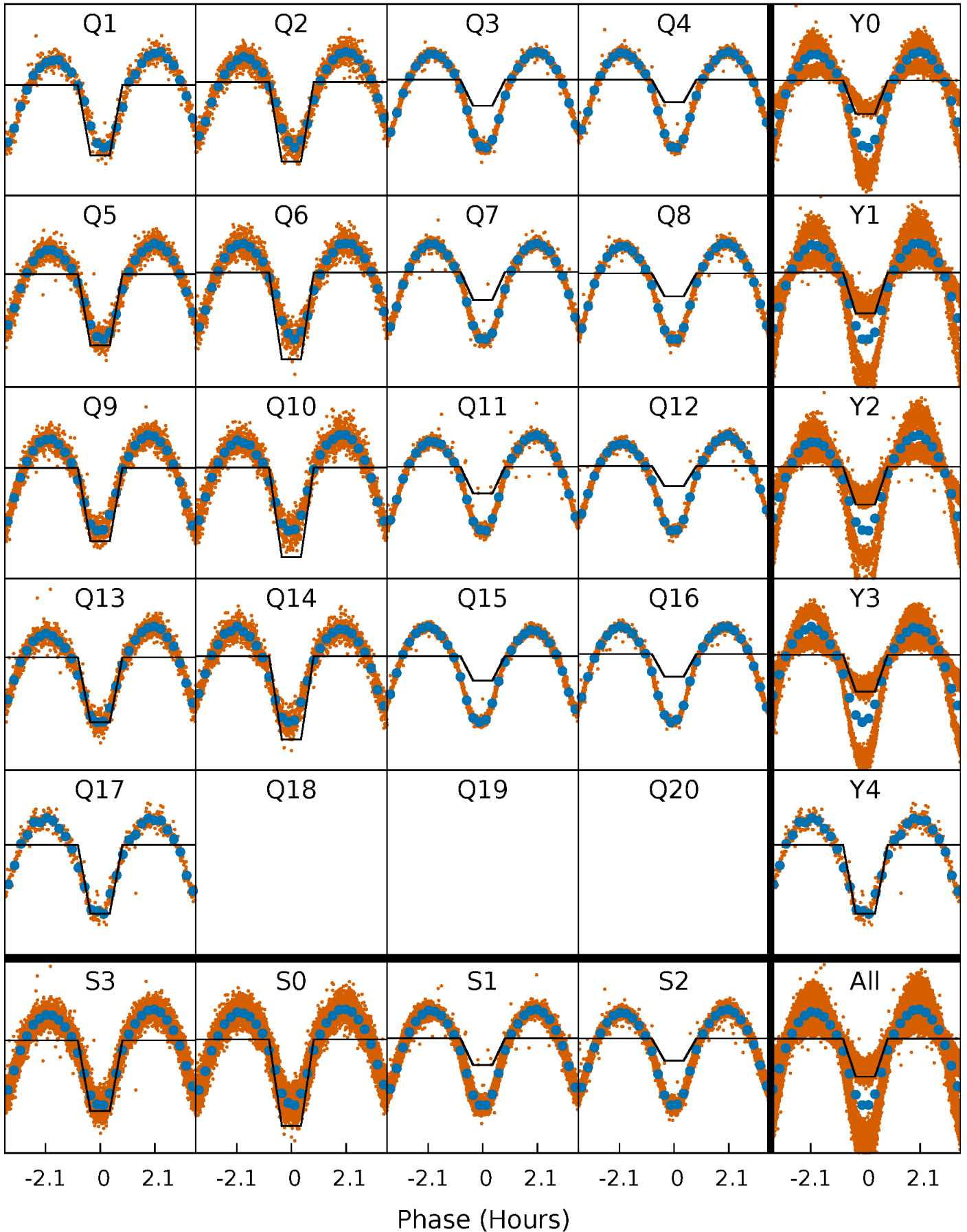
DV Quarter-Phased Transit Curves

TCE 007685693-01 P= 0.650308 Days $T_0=131.607208$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

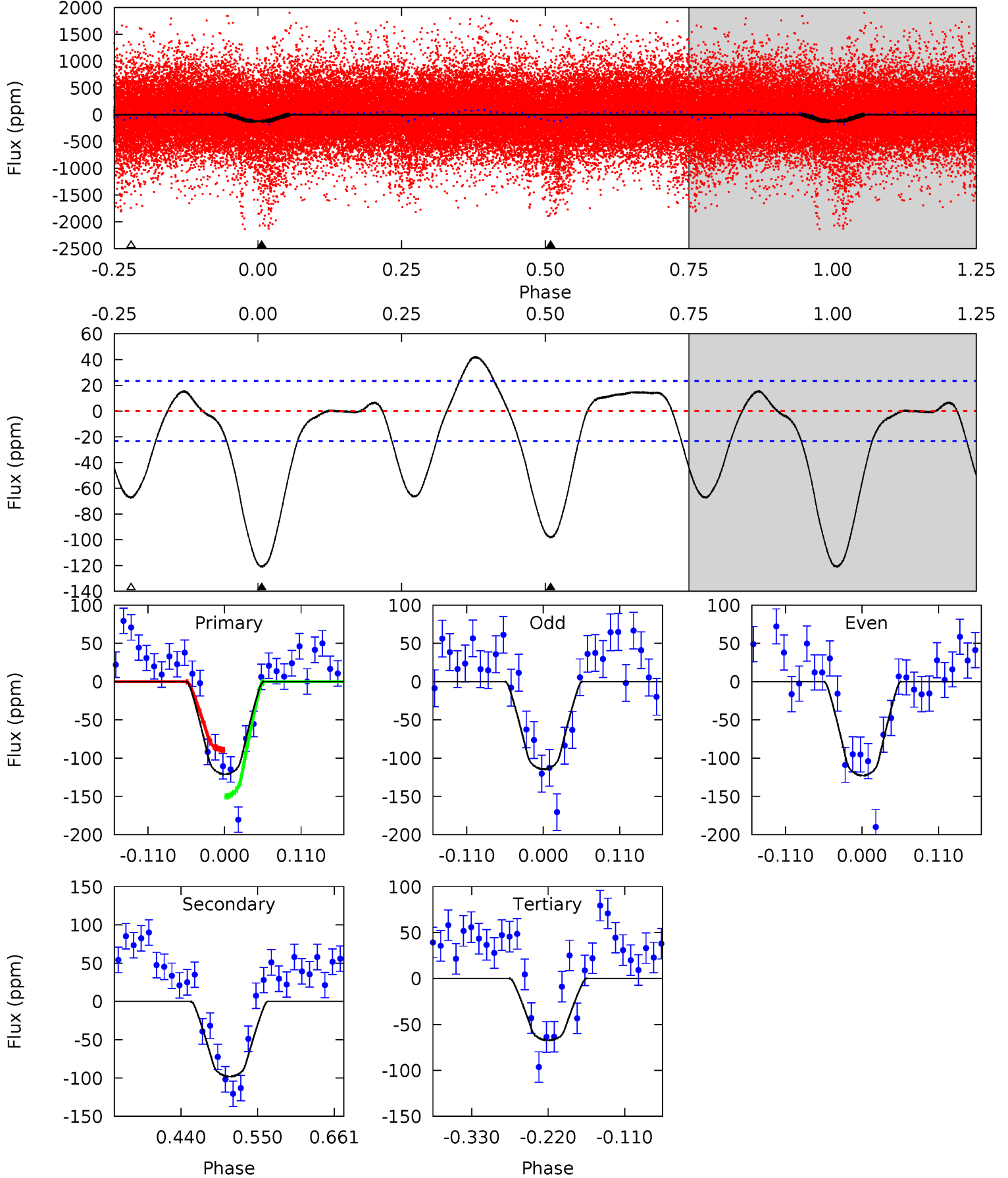
TCE 007685693-01 P= 0.650323 Days $T_0=131.598292$ (BKJD)



DV Model-Shift Uniqueness Test

007685693-01, P = 0.650308 Days, E = 130.956900 Days

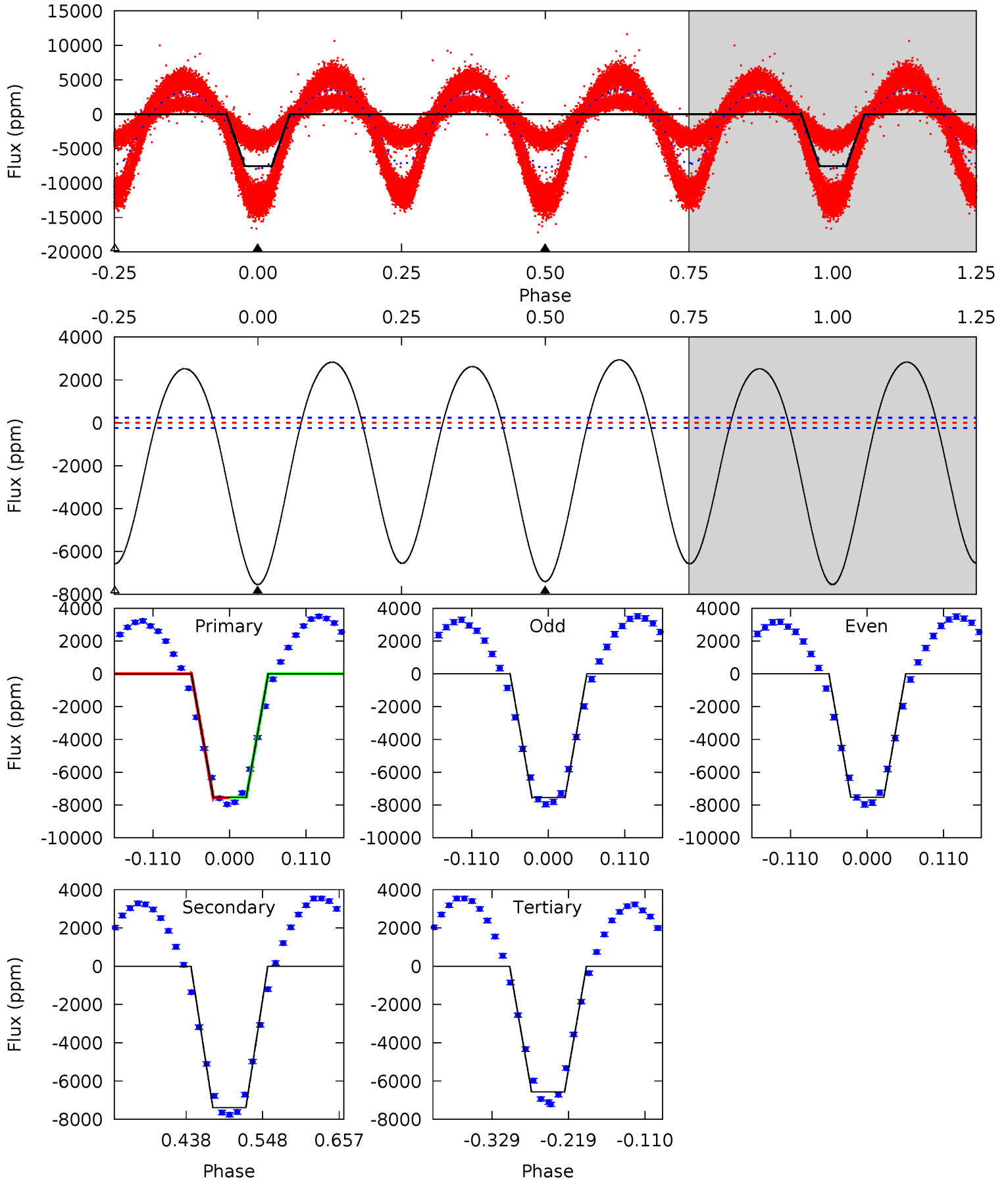
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	19.1	13.1	0	4.54	1.60	5.84	10.4	23.5	5.99	19.1	0.81	9.90	0.26	0



Alt Model-Shift Uniqueness Test

007685693-01, P = 0.650323 Days, E = 130.947969 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
144.5	141.6	125.9	0	4.55	1.60	64.6	18.6	144.5	15.8	141.6	0.19	1.60	0.28	0.41



Stellar Parameters For KIC 007685693

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4989^{+118}_{-133}	$3.407^{+0.378}_{-0.252}$	$0.060^{+0.250}_{-0.250}$	$3.927^{+1.373}_{-1.679}$	$1.436^{+0.234}_{-0.469}$	$0.033^{+0.107}_{-0.019}$
	+2%/-3%	+11%/-7%	+417%/-417%	+35%/-43%	+16%/-33%	+321%/-57%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007685693-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-98 ± 5	$5.52^{+3.17}_{-2.59}$	4724^{+482}_{-502}	3658^{+1534}_{-7223}	$0.476^{+1.147}_{-0.280}$
Alt.	-7395 ± 52	$28.73^{+7.69}_{-7.25}$	4744^{+509}_{-551}	5239^{+359}_{-354}	$1.342^{+0.924}_{-0.461}$

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

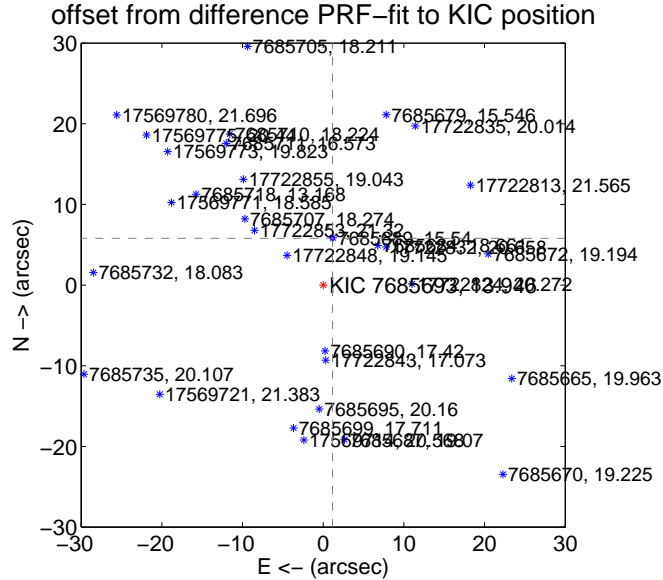
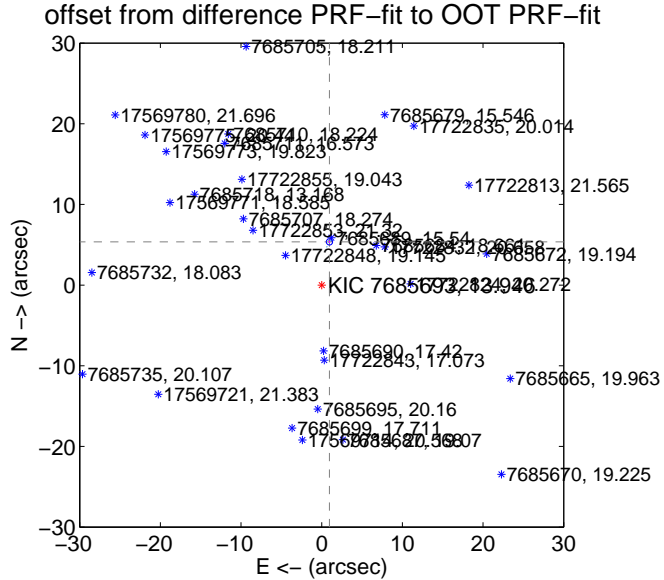
DV Centroid Data

Supplemental centroid analysis for 007685693-01. Kepler magnitude: 13.95. Transit SNR 16.20

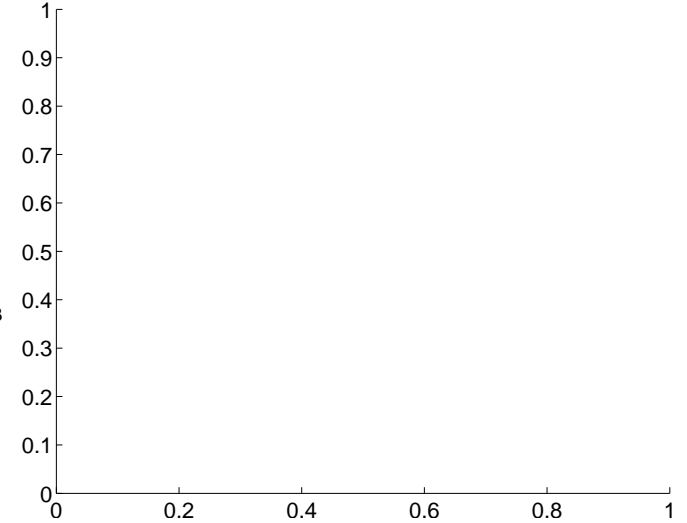
There are 12 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.443 \pm 0.129	42.06	-0.964 \pm 0.092	5.357 \pm 0.121
PRF-fit source offset from KIC position	5.918 \pm 0.081	73.22	-1.159 \pm 0.072	5.804 \pm 0.078
photometric centroid source offset	—	—	—	—

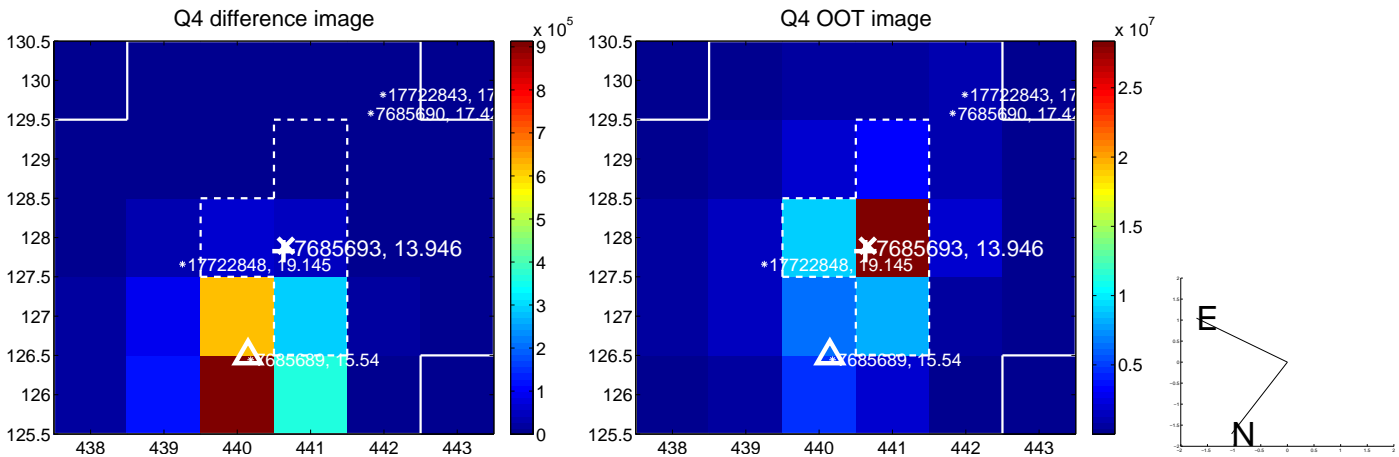
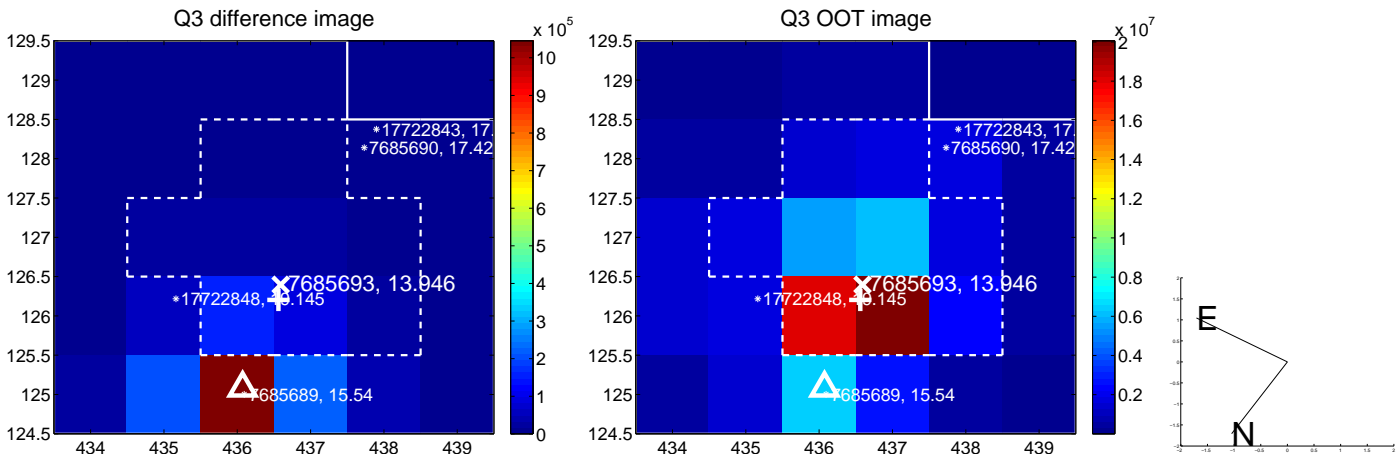
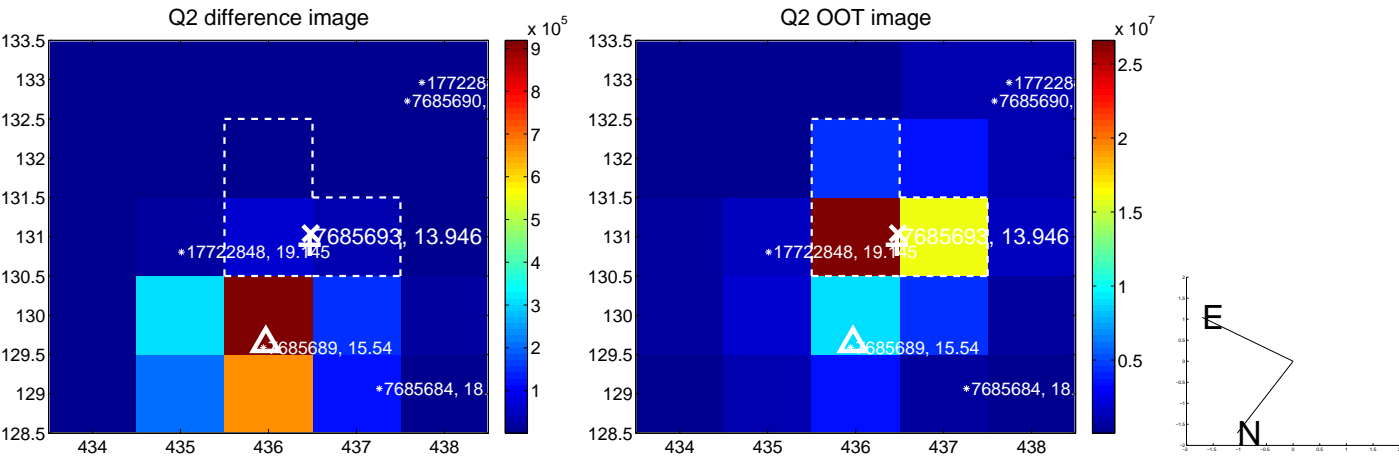
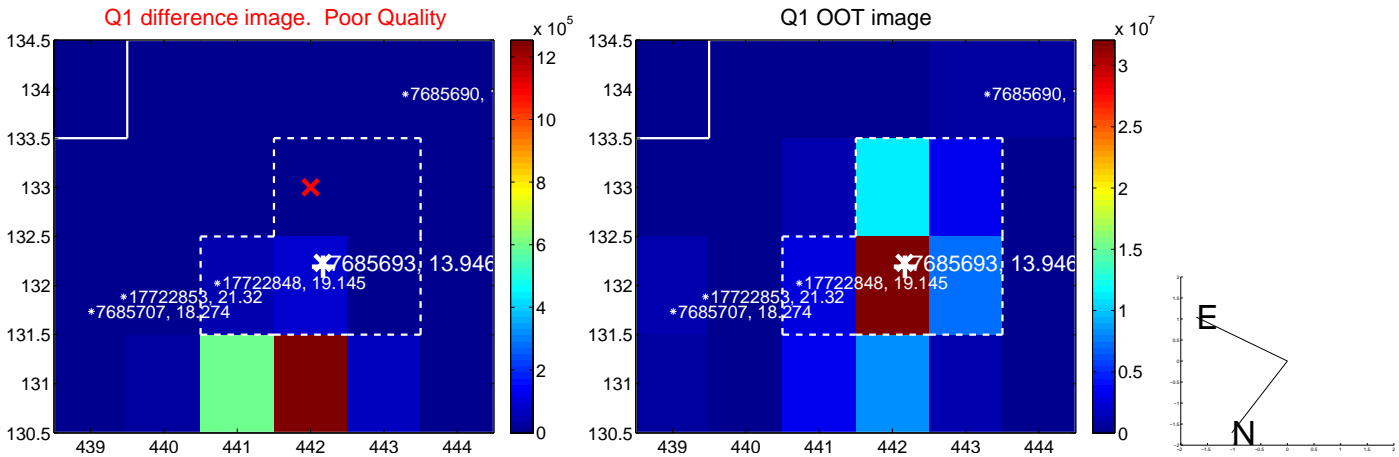


There are no photometric centroids

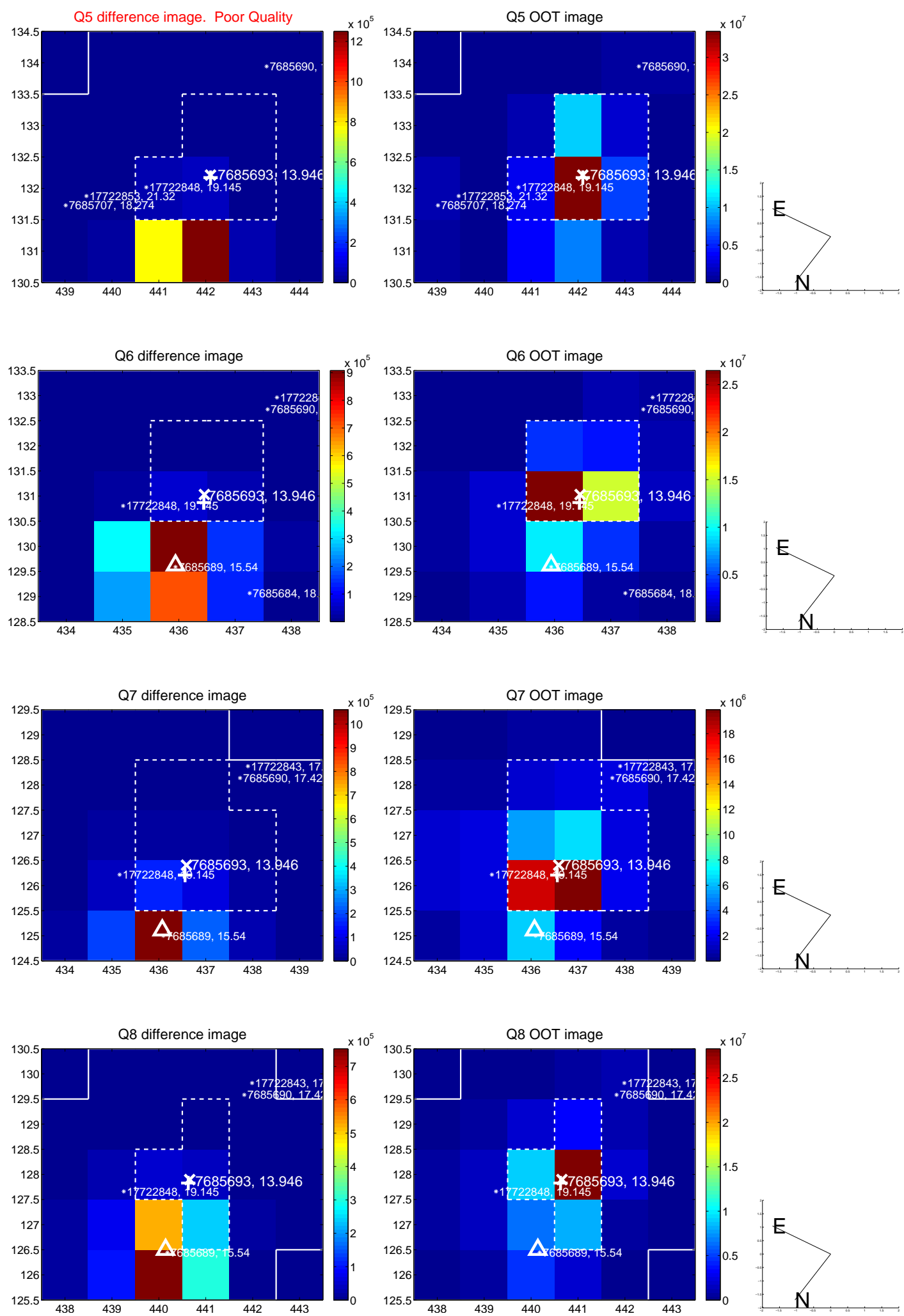


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

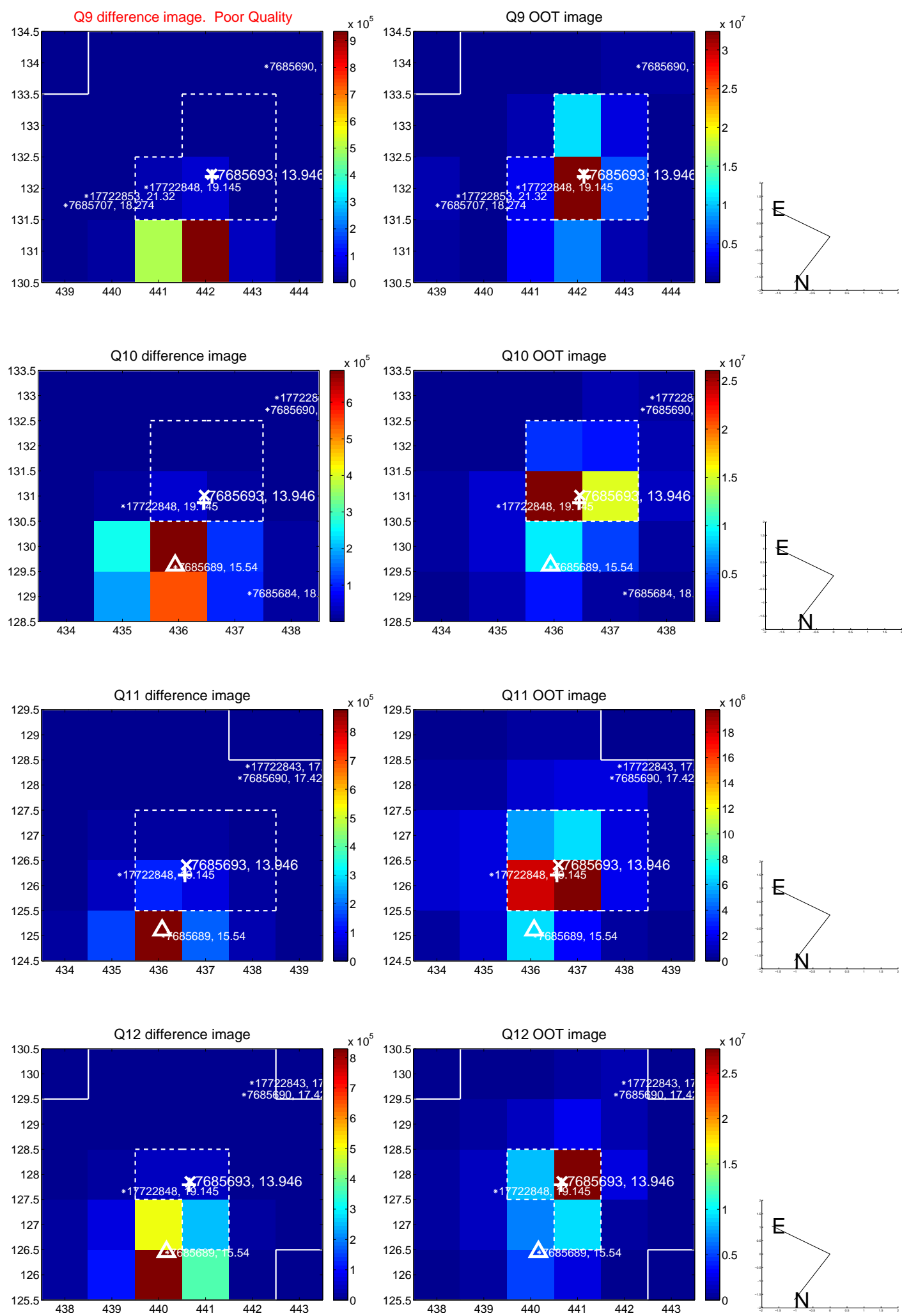
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



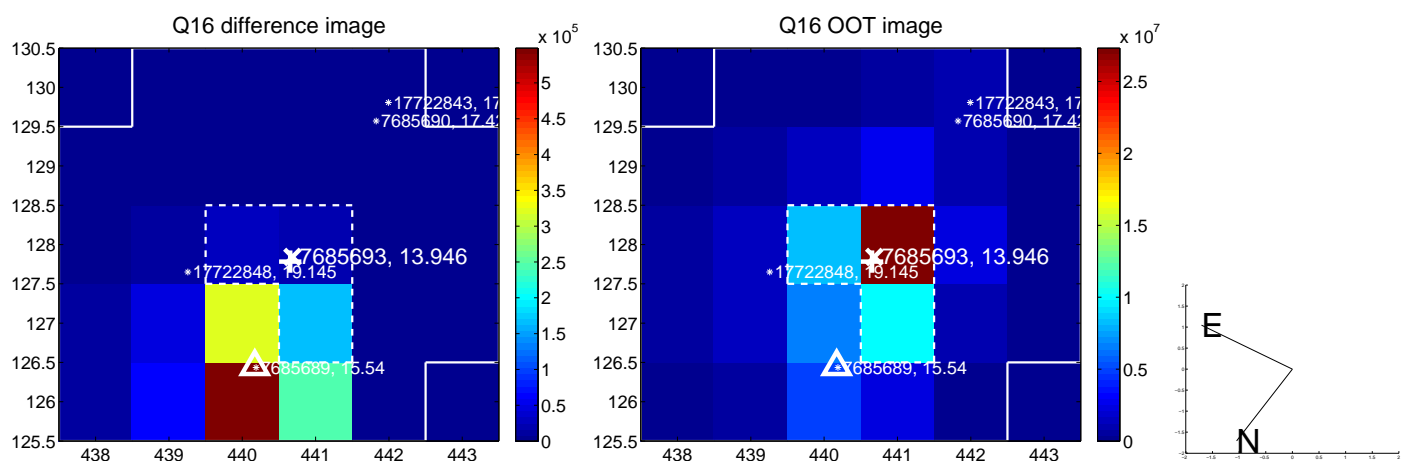
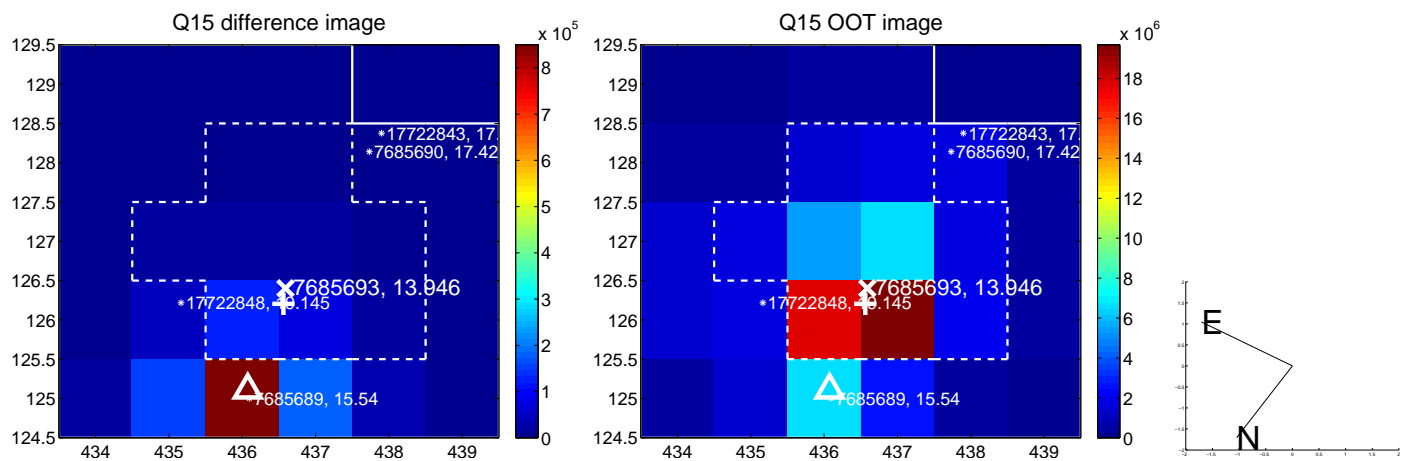
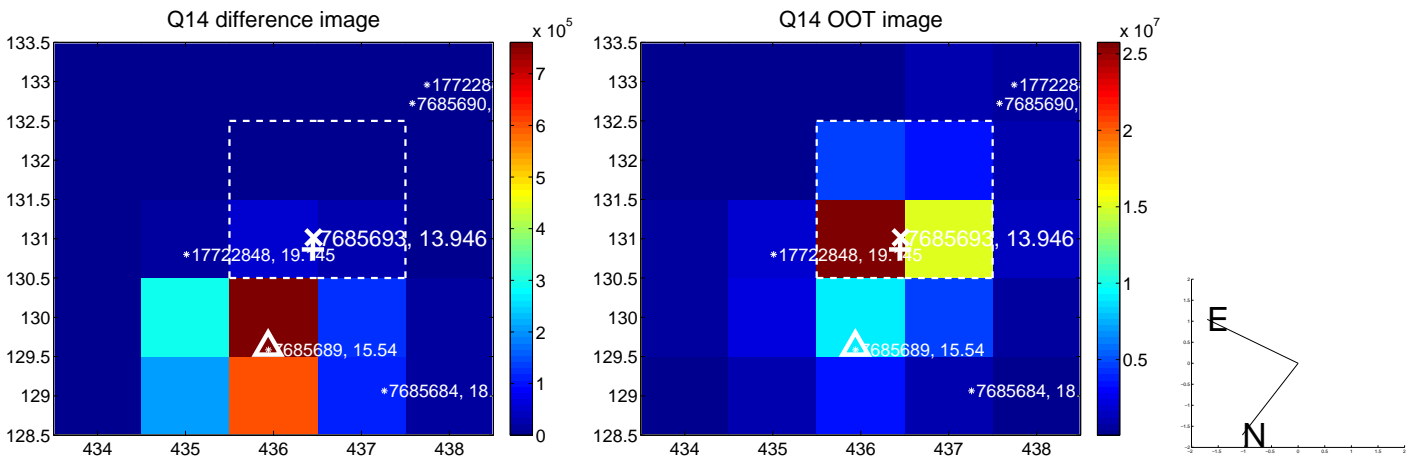
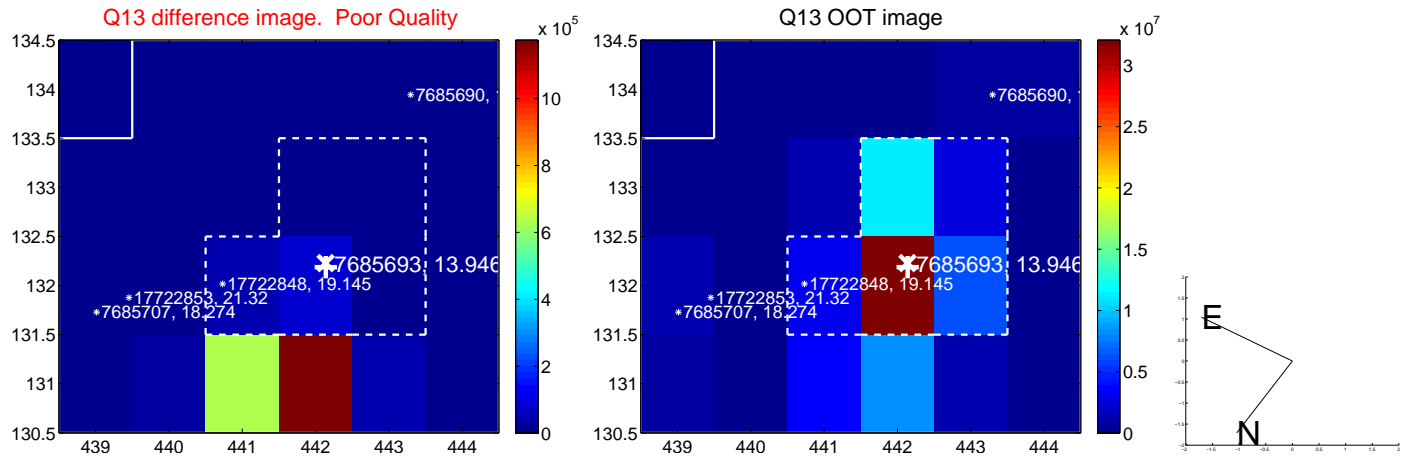
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



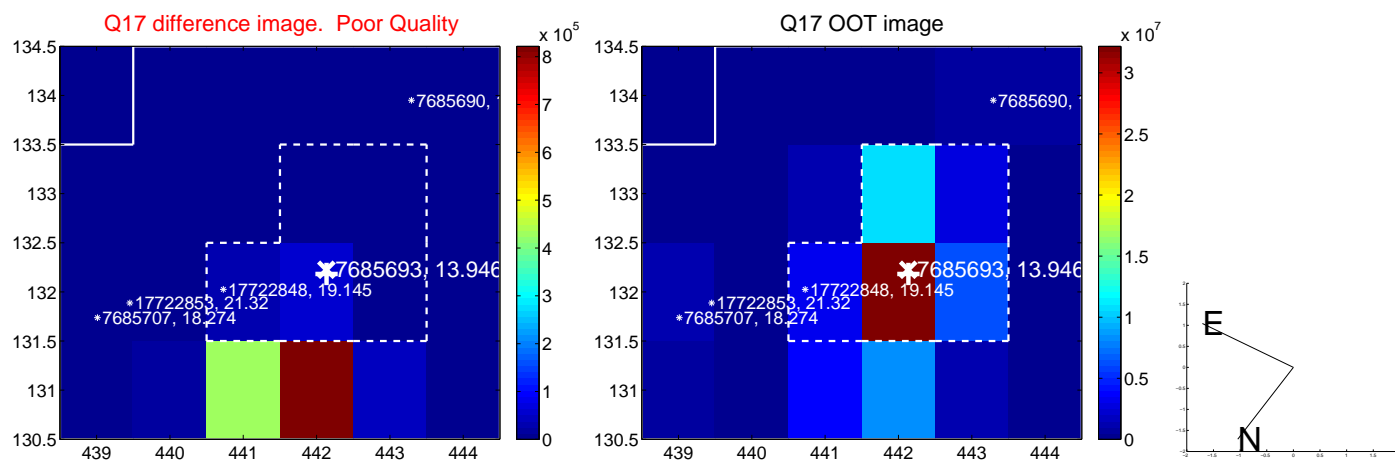
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

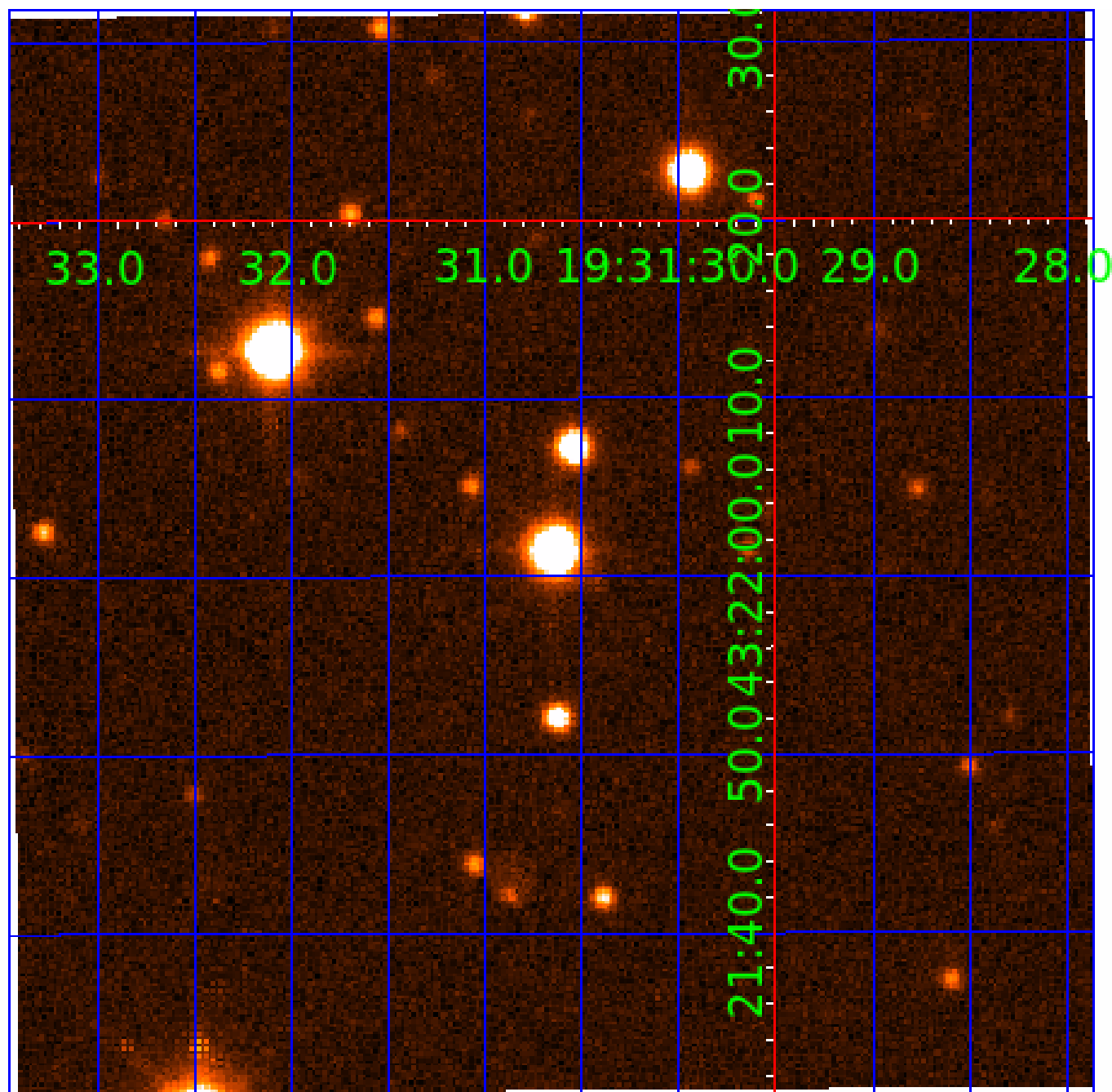


folded centroid time series figure for this object.



UKIRT Image

Declination



KIC 007685693

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})
007685693-01	OBS	No	0.650308	131.607208	135.3	1.280	96.9	16.2	3.93	4989	5.81	0.00
007685693-02	OBS	No	0.650323	131.923494	6806.8	1.500	123.9	-1.0	3.93	4989	31.57	31151.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007685693-01	OBS	FP	0.00	1	0	1	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET—EPHEM_MATCH
007685693-02	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS—EPHEM_MATCH

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.

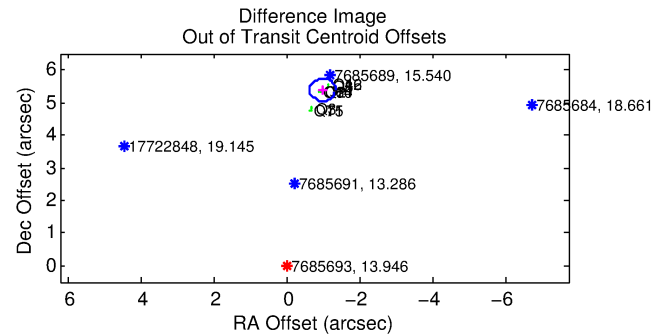
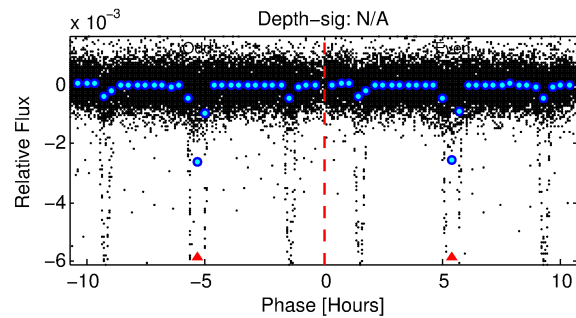
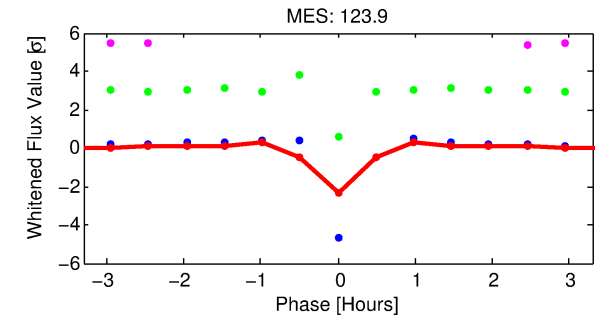
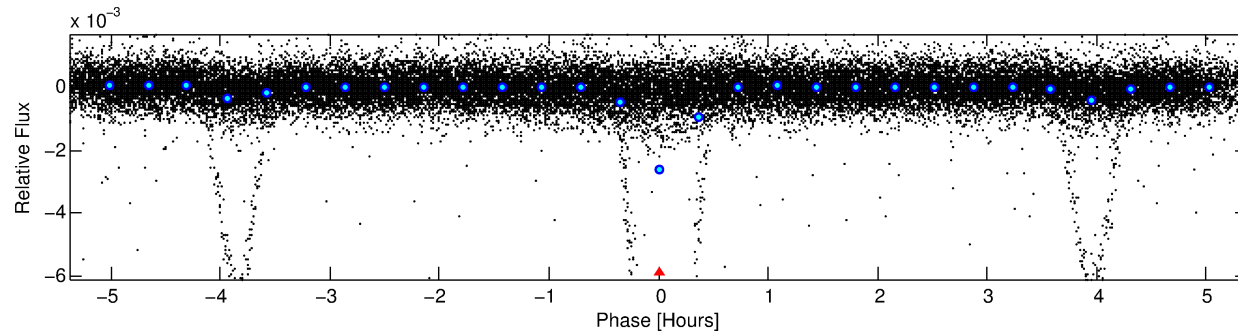
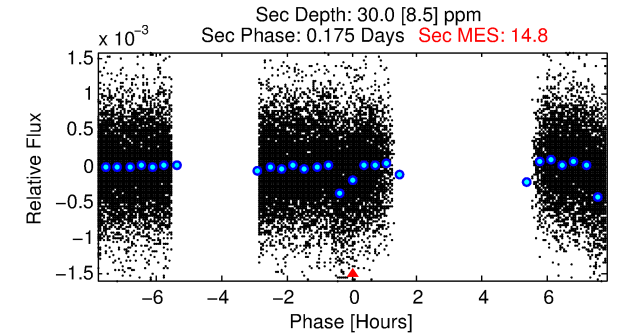
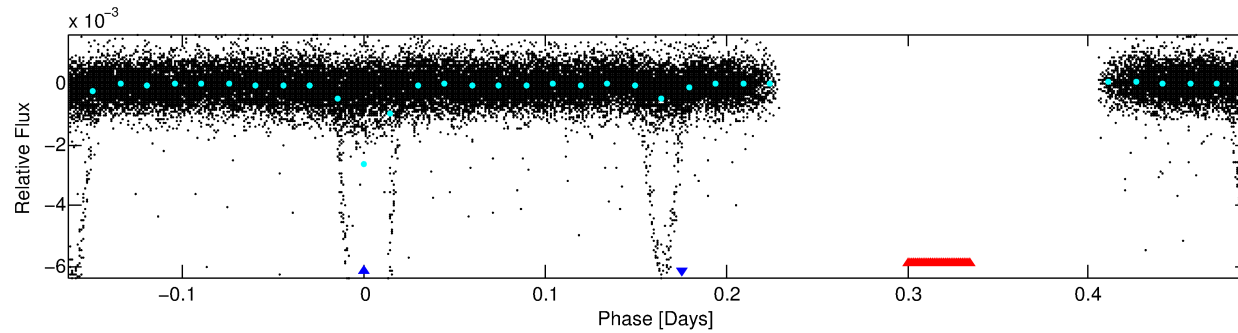
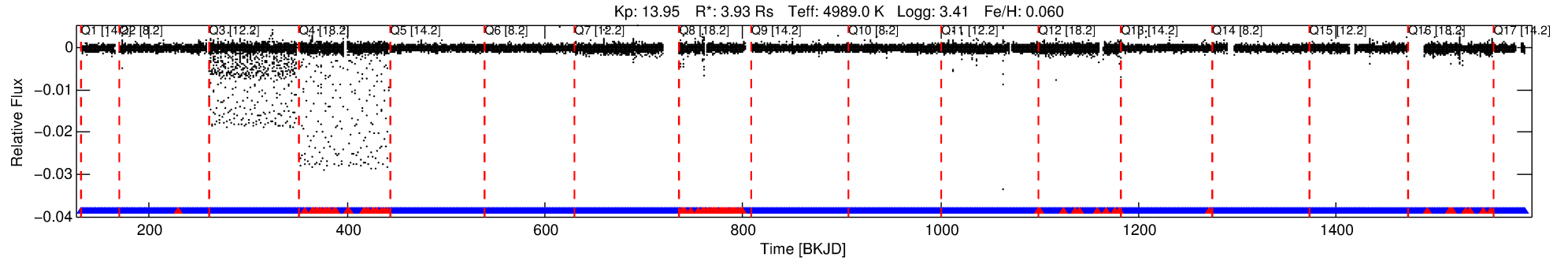
Ephemeris Match Information For 007685693-02

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007685693-02	7685693	007685689-pri	7685689	2:1	6.0	1	0	15.54	13.95	49.62	Direct-PRF	0	1.76	0.33

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7685693 Candidate: 2 of 2 Period: 0.650 d



TPS TCE Results:

Period = 0.65032 d
Epoch = 131.9235 BKJD

DV fit results are unavailable

DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]

LongPeriod-sig: N/A

ModelChiSquare2-sig: N/A

ModelChiSquareGof-sig: N/A

Bootstrap-pfa: N/A

RollingBand-fgt: 0.96 [1882/1962]

GhostDiagnostic-chr: -1.049

Centroid-sig: N/A

Centroid-so: N/A

OotOffset-rm: 5.480 arcsec [46.91σ]

KicOffset-rm: 5.915 arcsec [71.05σ]

OotOffset-st: 4/4/4/0 [12]

KicOffset-st: 4/4/4/0 [12]

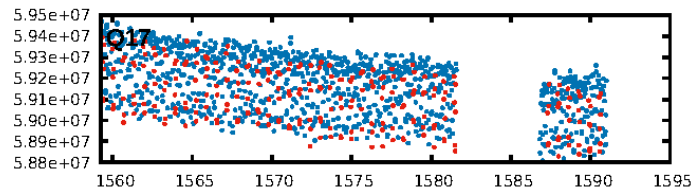
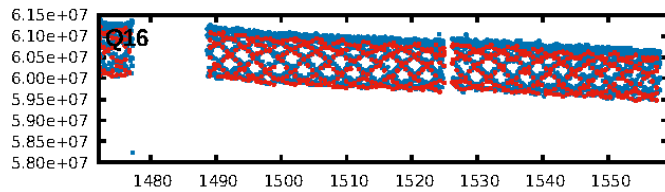
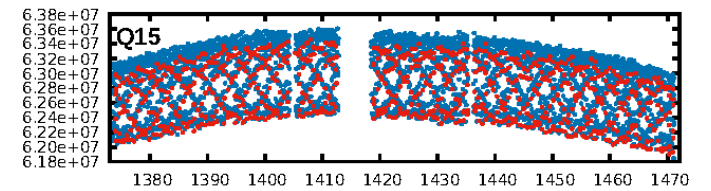
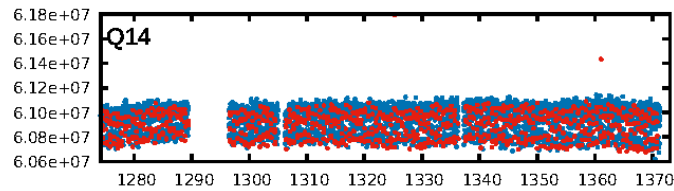
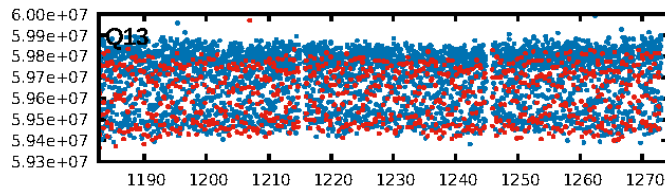
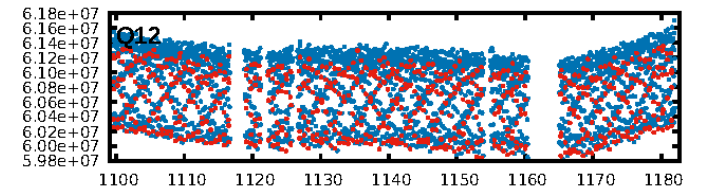
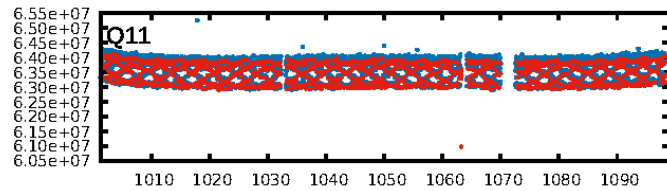
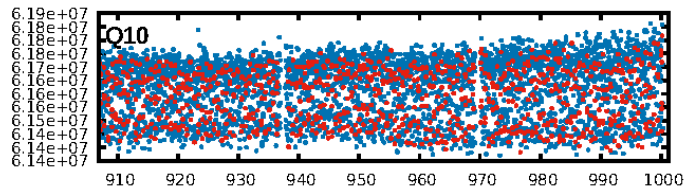
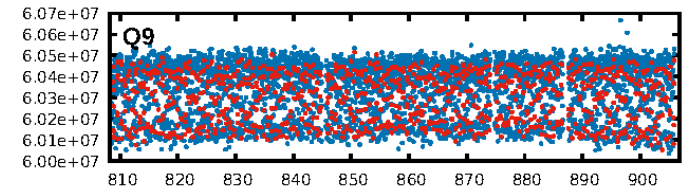
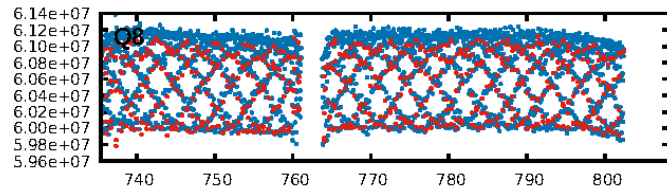
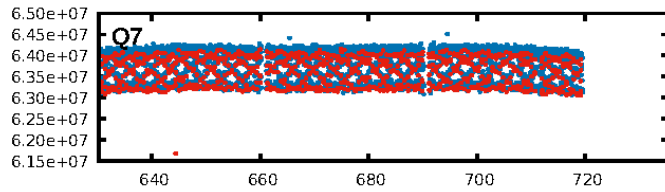
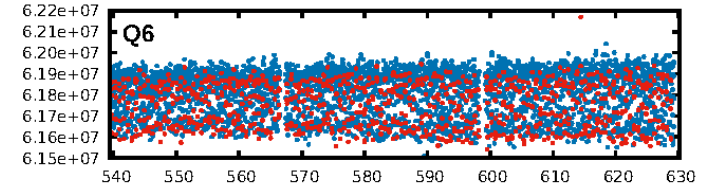
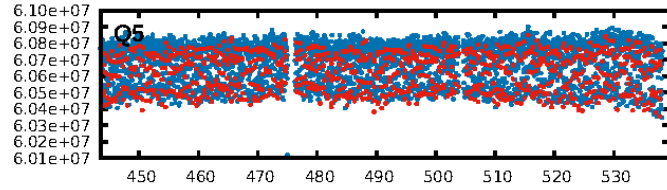
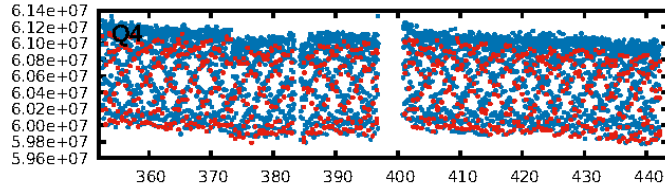
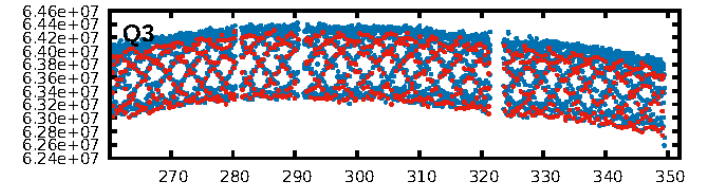
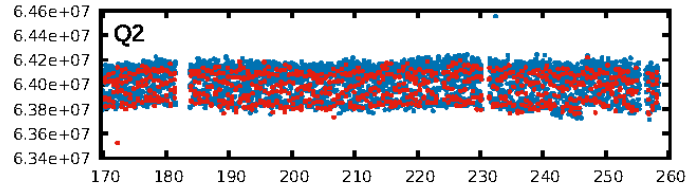
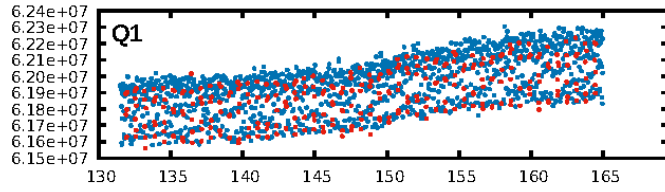
DiffImageQuality-fgm: 1.00 [12/12]

DiffImageOverlap-fno: 1.00 [17/17]

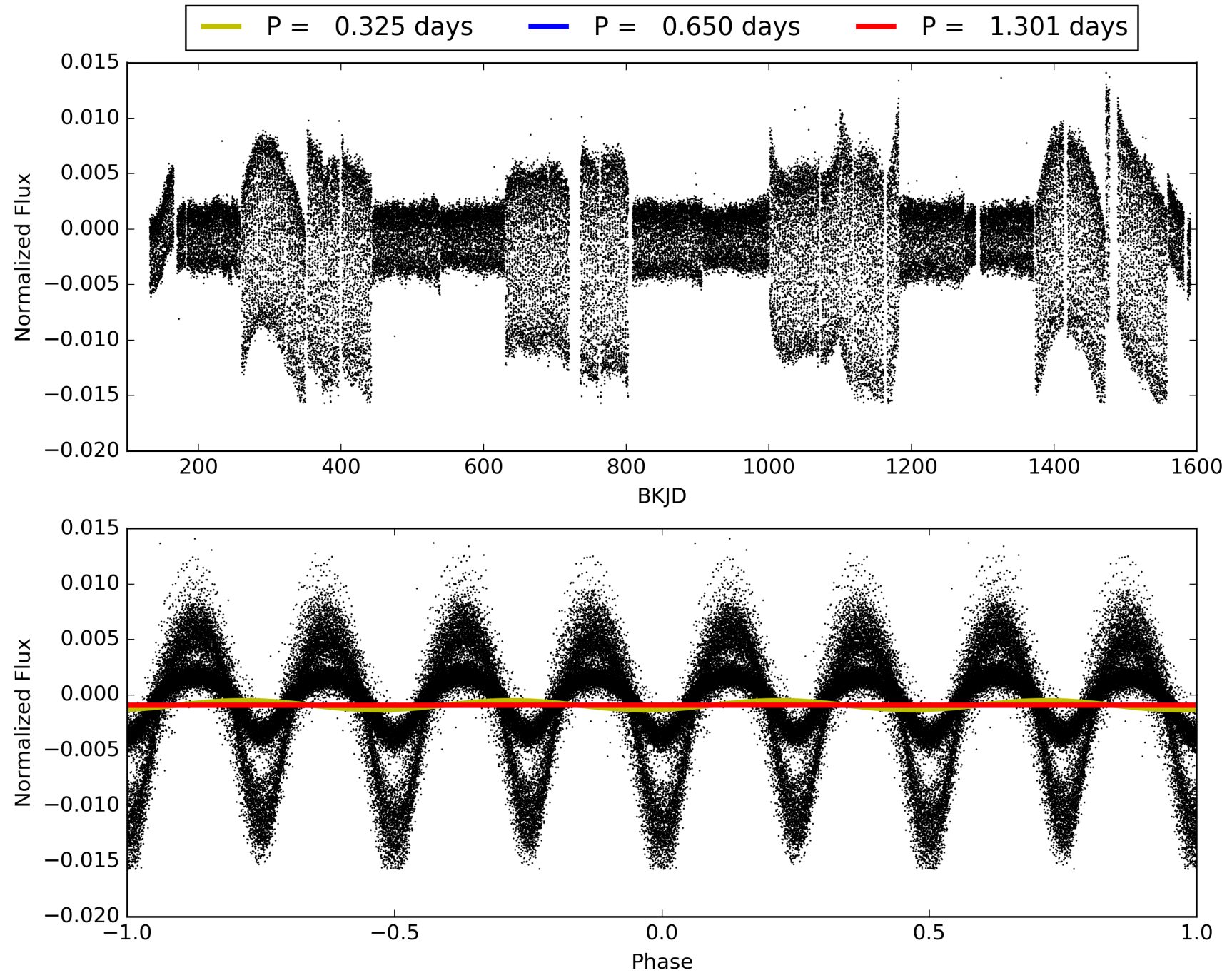
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 16:04:31 Z

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

TCE 007685693-02, PDC Light Curves

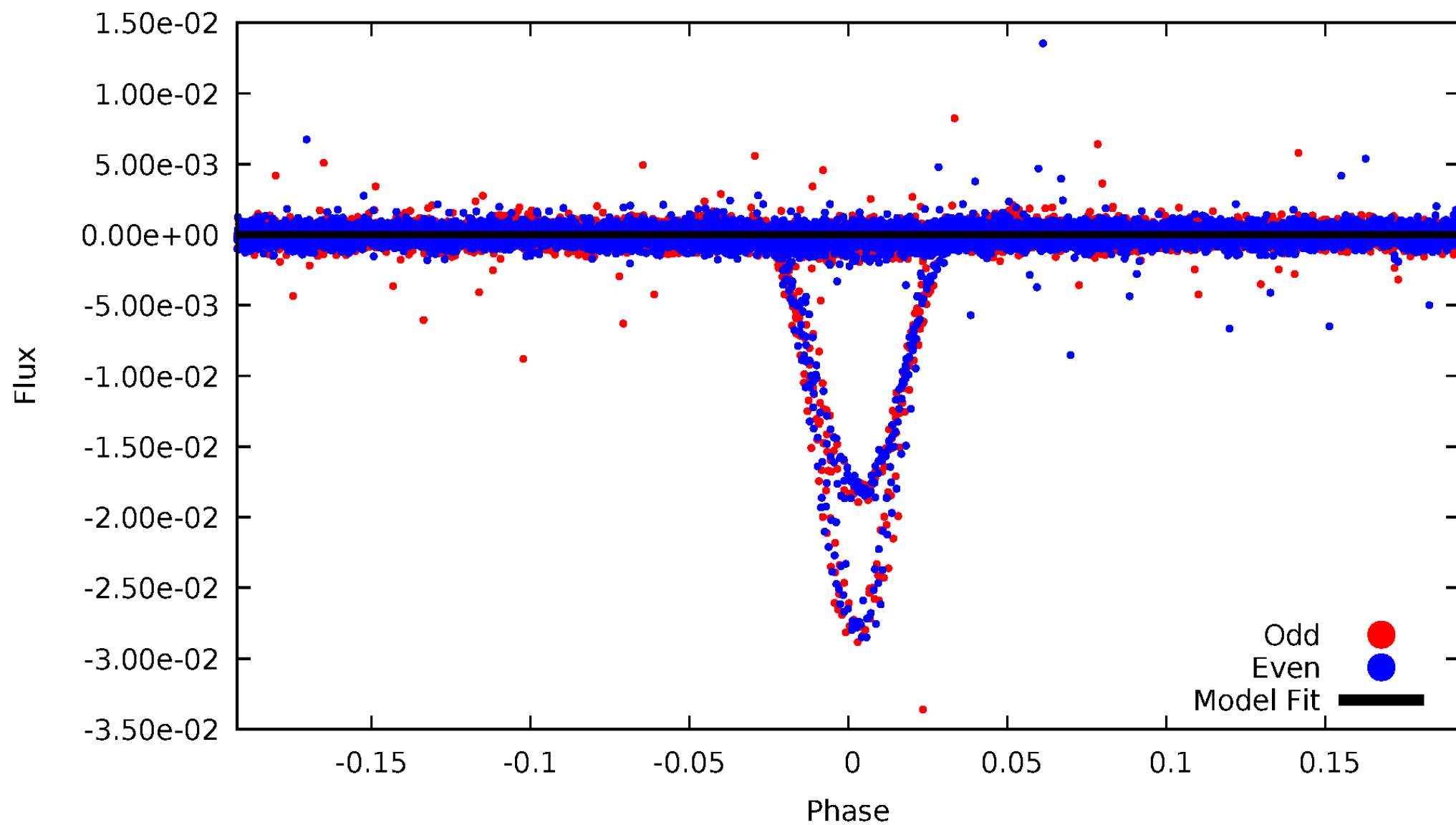


TCE 007685693-02



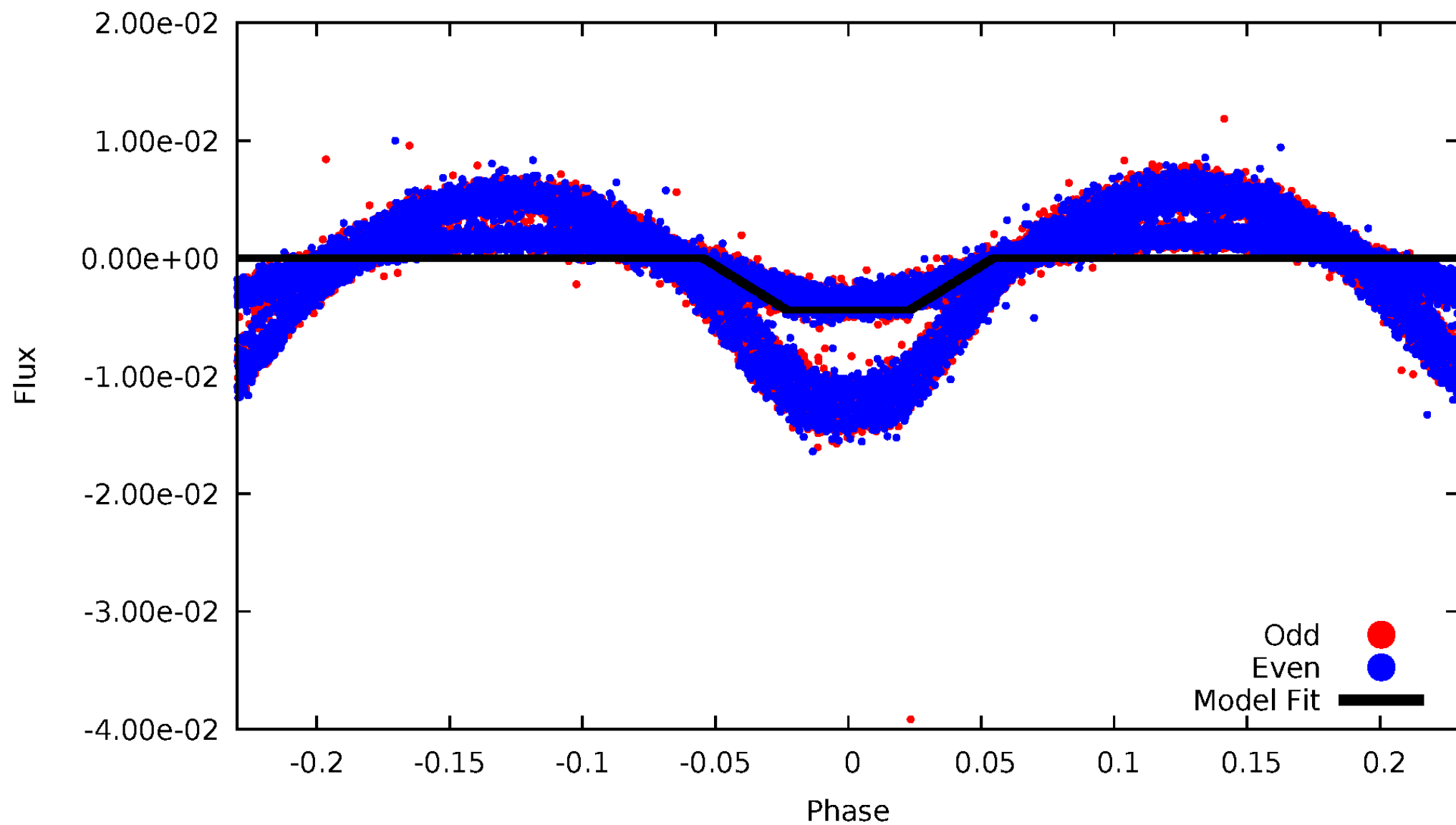
DV Odd/Even

TCE 007685693-02



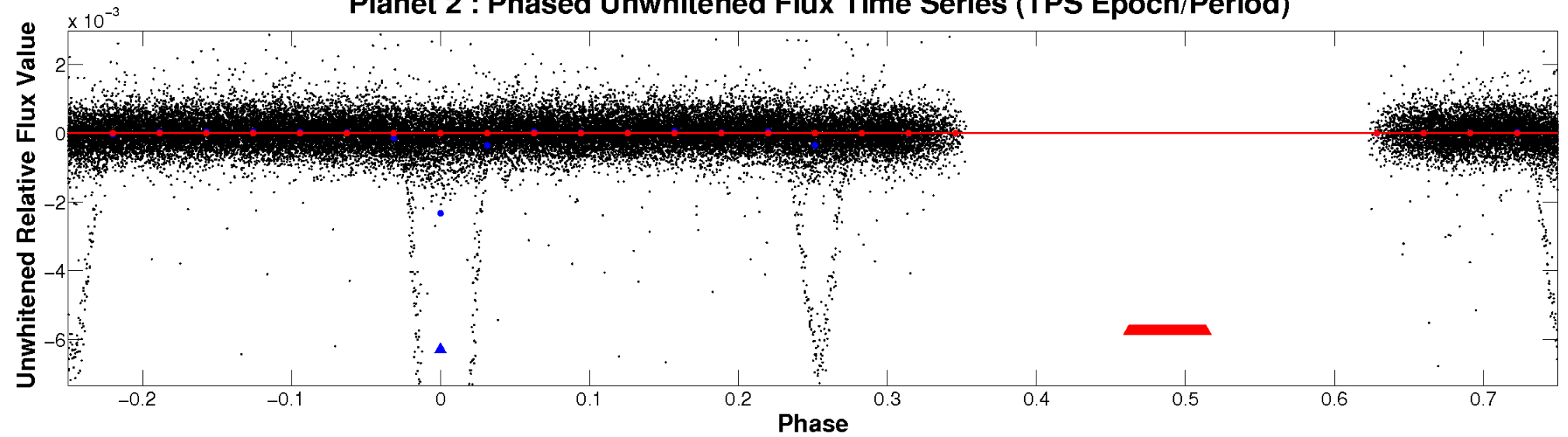
ALT Odd/Even

TCE 007685693-02

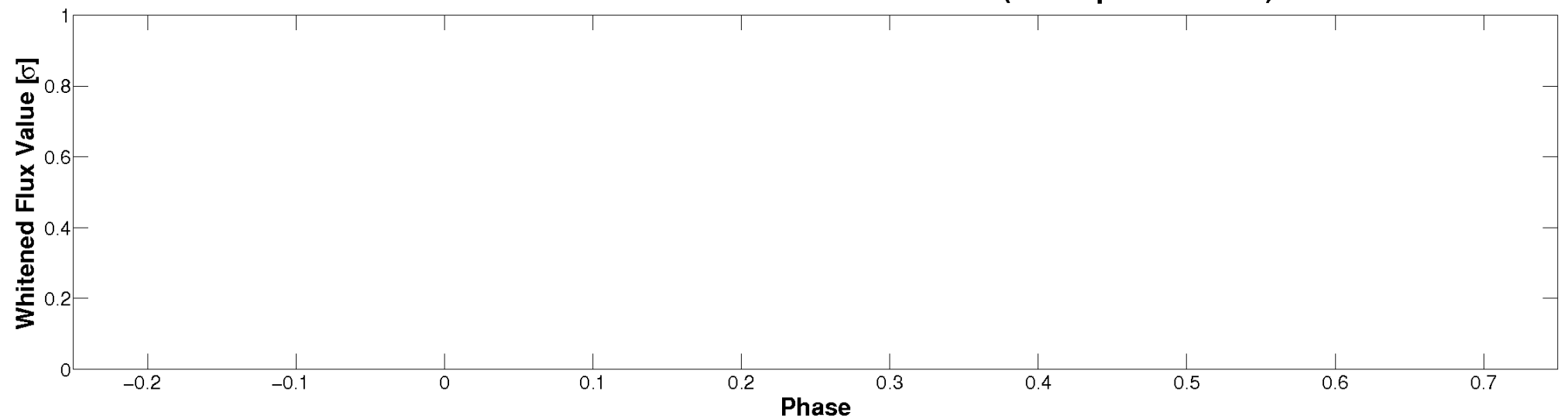


Non-Whitened Vs. Whitened Light Curve

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

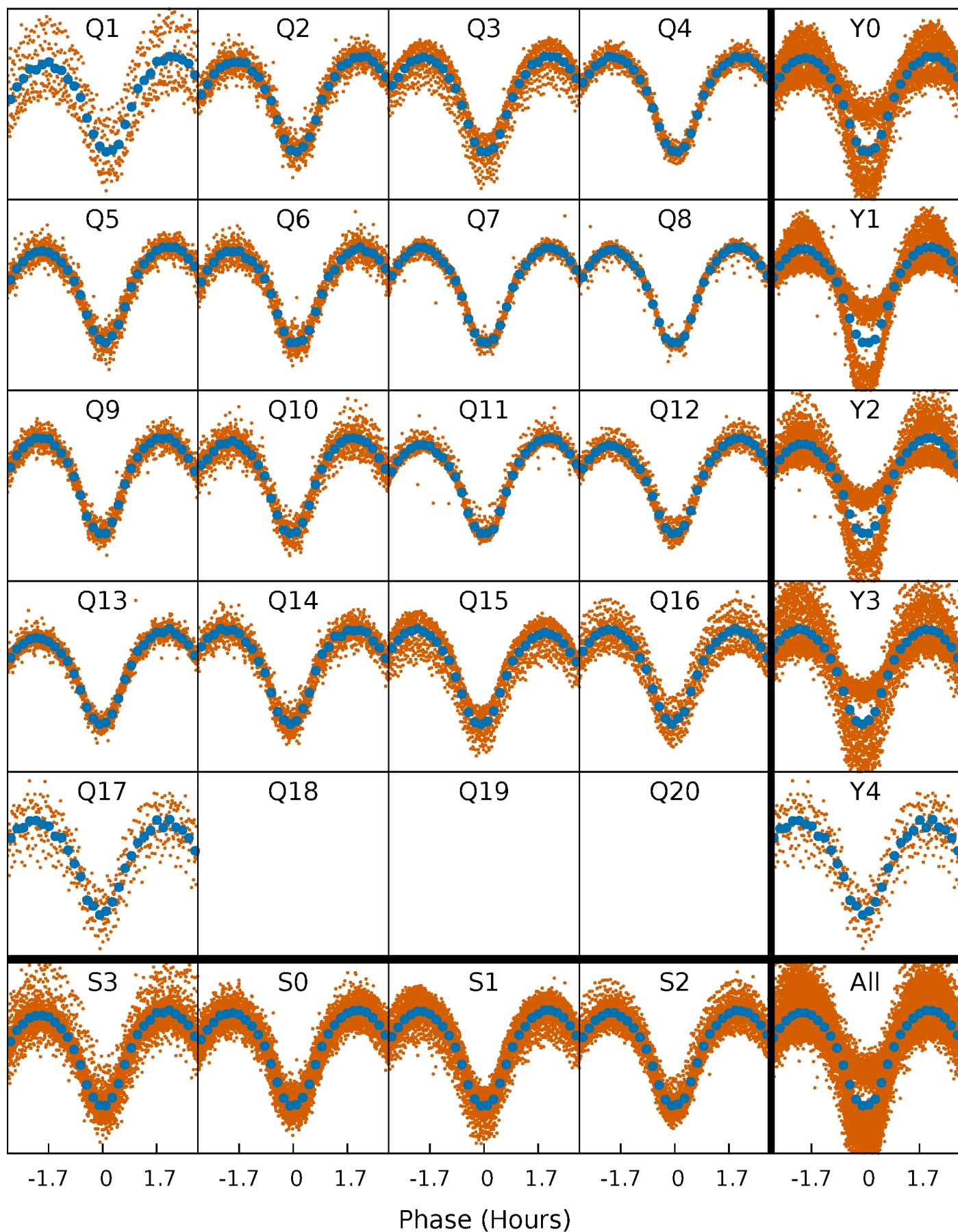


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



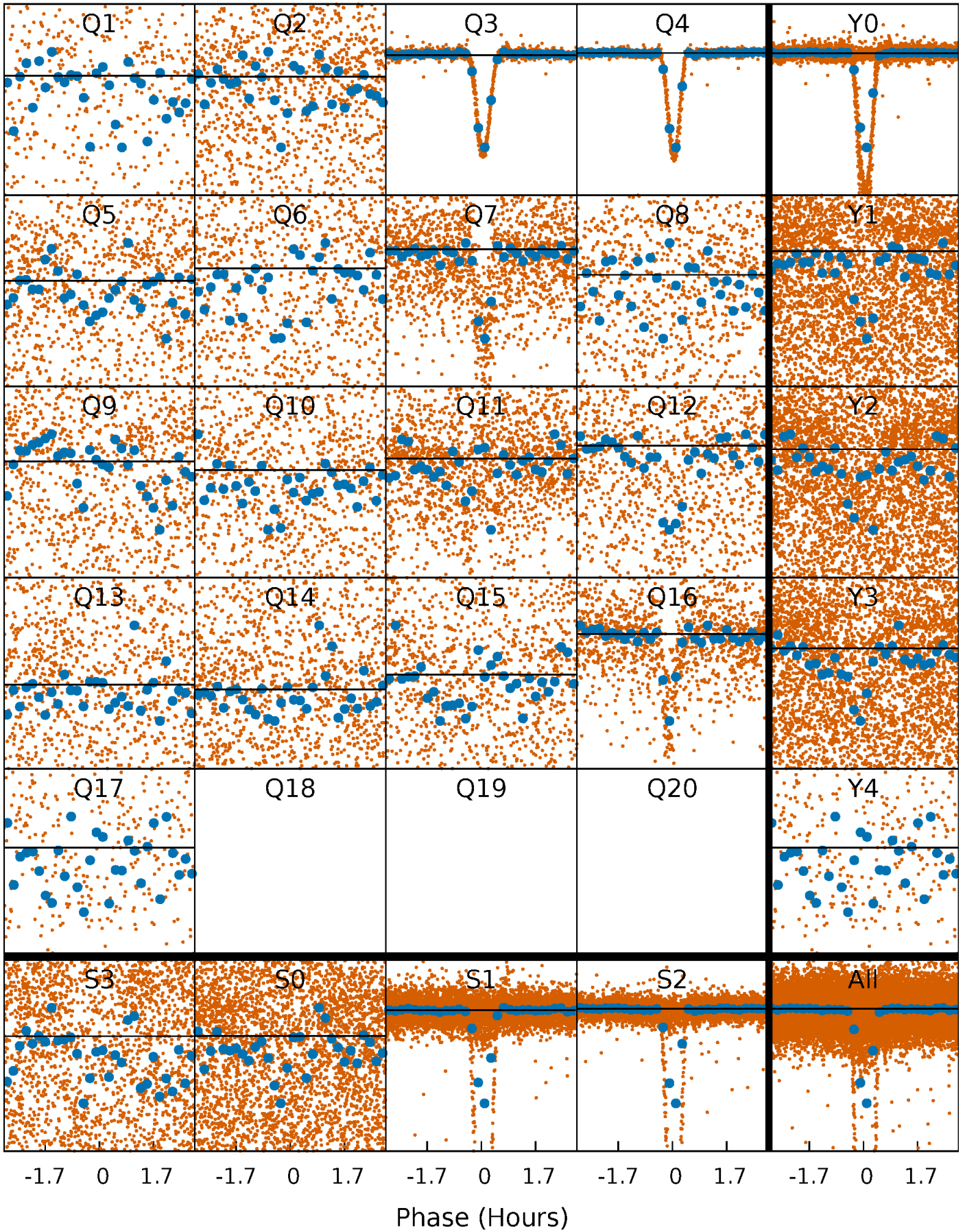
PDC Quarter-Phased Transit Curves

TCE 007685693-02 P= 0.650323 Days $T_0=131.923494$ (BKJD)



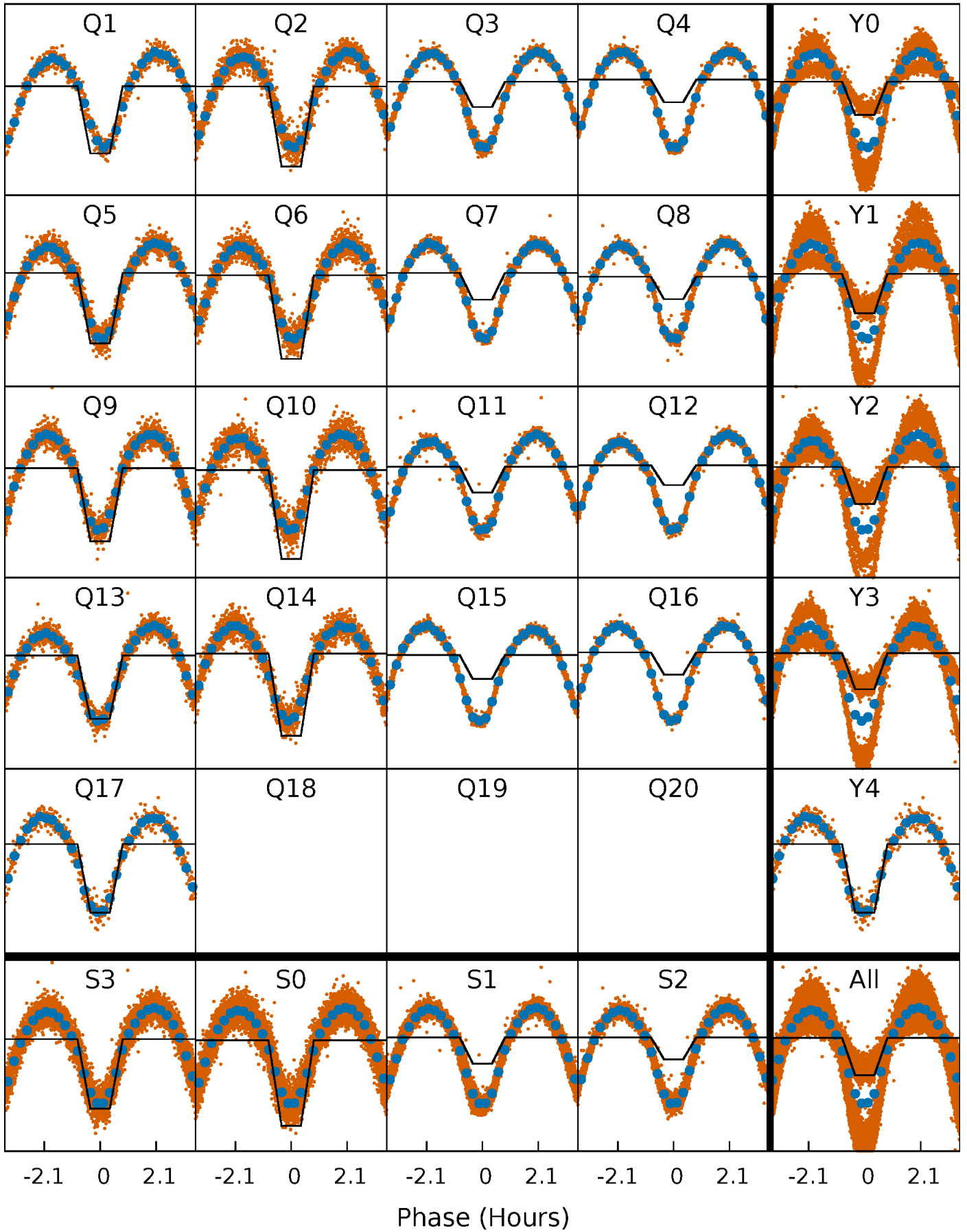
DV Quarter-Phased Transit Curves

TCE 007685693-02 P= 0.650323 Days $T_0=131.923494$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

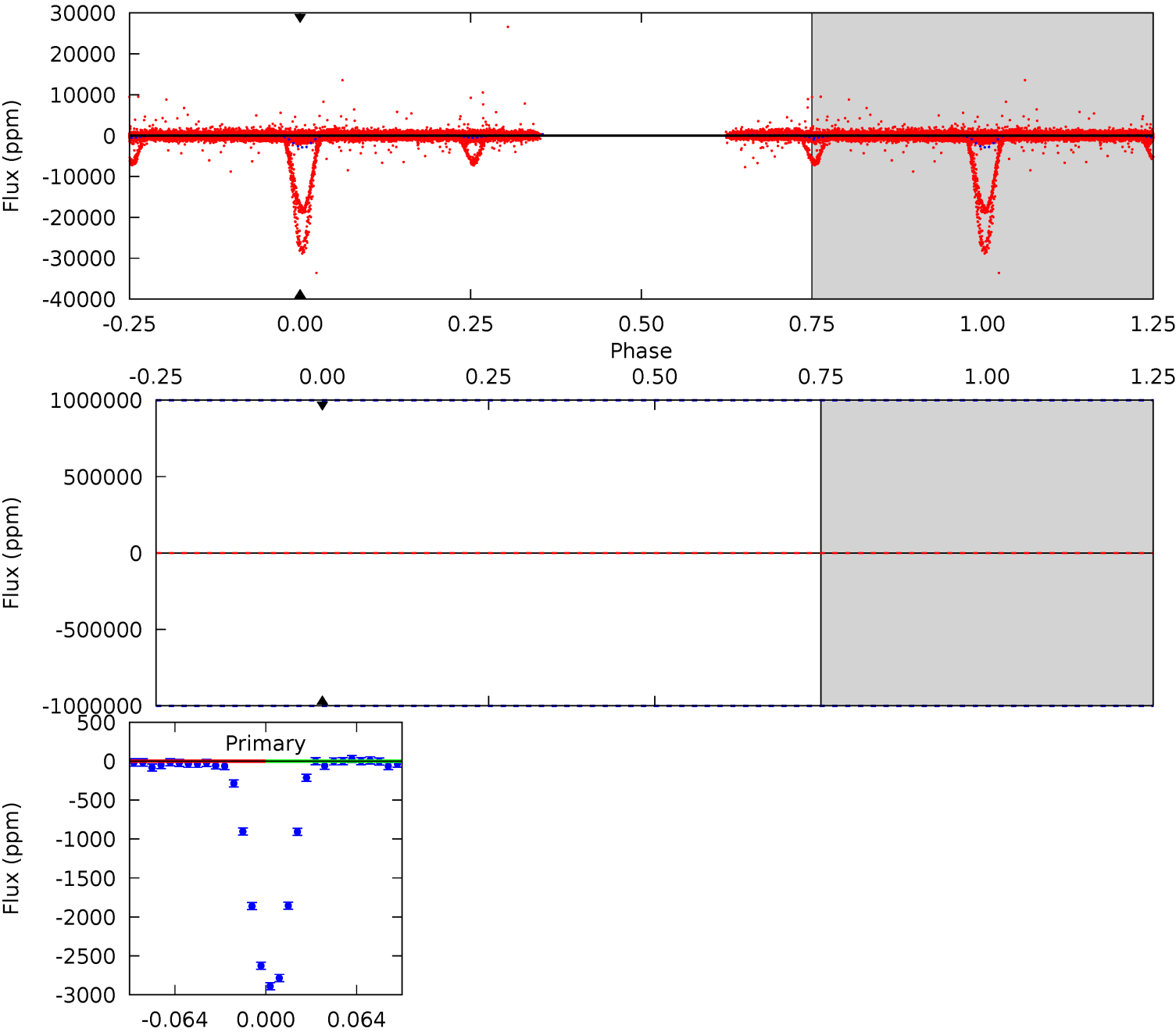
TCE 007685693-02 $P = 0.650323$ Days $T_0 = 131.923543$ (BKJD)



DV Model-Shift Uniqueness Test

007685693-02, P = 0.650323 Days, E = 131.273171 Days

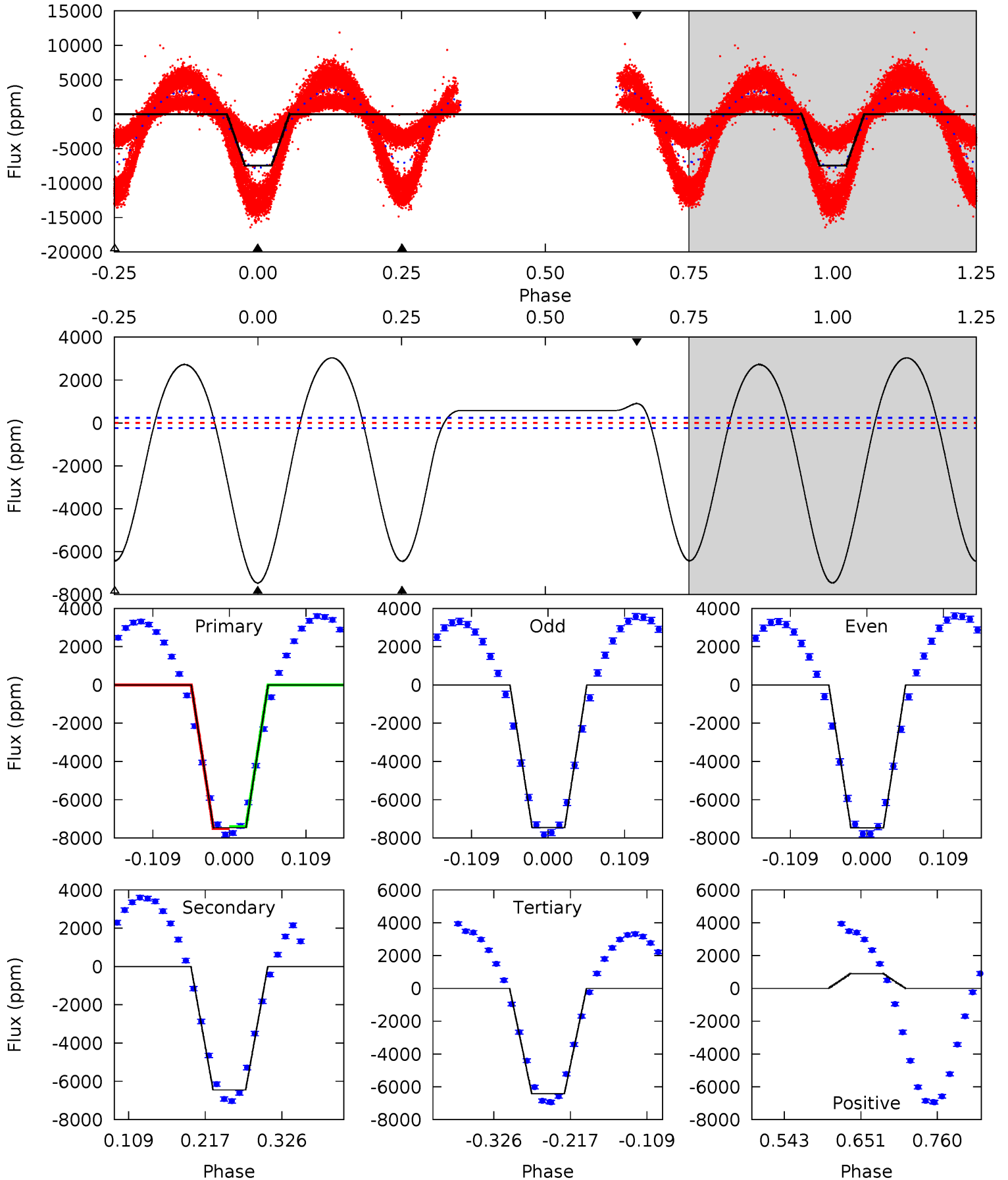
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007685693-02, P = 0.650323 Days, E = 131.273220 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
142.6	123.3	122.9	17.2	4.55	1.60	62.9	19.8	125.4	0.49	106.1	0.11	1.55	0.29	1.00



Stellar Parameters For KIC 007685693

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4989^{+118}_{-133}	$3.407^{+0.378}_{-0.252}$	$0.060^{+0.250}_{-0.250}$	$3.927^{+1.373}_{-1.679}$	$1.436^{+0.234}_{-0.469}$	$0.033^{+0.107}_{-0.019}$
	+2%/-3%	+11%/-7%	+417%/-417%	+35%/-43%	+16%/-33%	+321%/-57%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007685693-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$43.05^{+40.66}_{-28.39}$	4723^{+494}_{-543}	-4254^{+15682}_{-5566}	$-0.092^{+16.118}_{-9.996}$
Alt.	-6449 ± 52	$39.10^{+40.17}_{-25.55}$	4746^{+445}_{-526}	4018^{+3544}_{-7651}	$0.602^{+4.366}_{-0.442}$

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 $A_{obs} \gg 1.0$

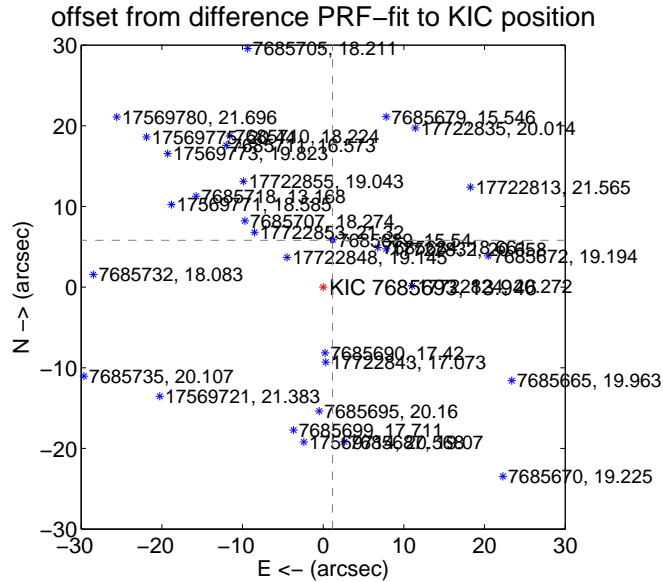
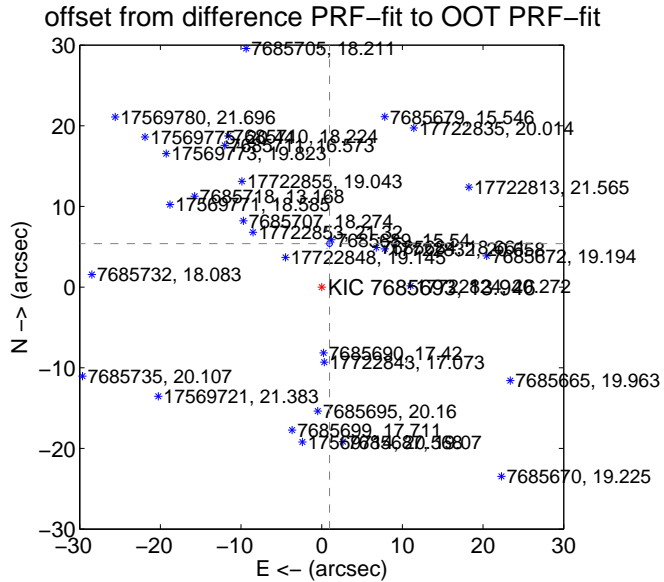
DV Centroid Data

Supplemental centroid analysis for 007685693-02. Kepler magnitude: 13.95. Transit SNR -1.00

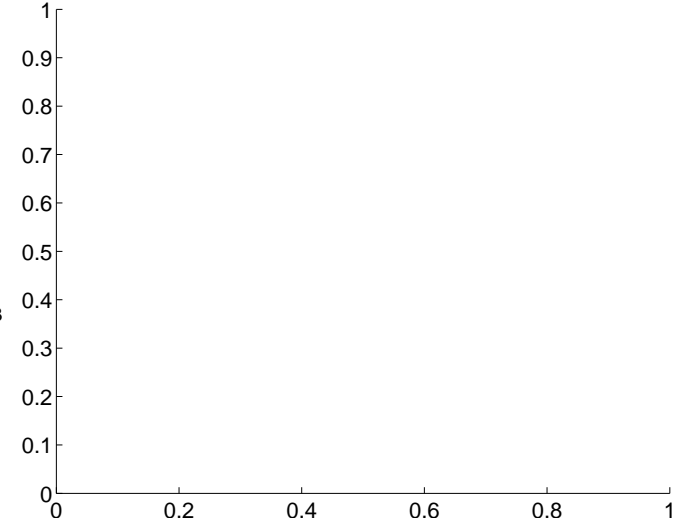
There are 12 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.480 \pm 0.117	46.91	-0.978 \pm 0.086	5.392 \pm 0.110
PRF-fit source offset from KIC position	5.915 \pm 0.083	71.05	-1.157 \pm 0.073	5.801 \pm 0.080
photometric centroid source offset	—	—	—	—

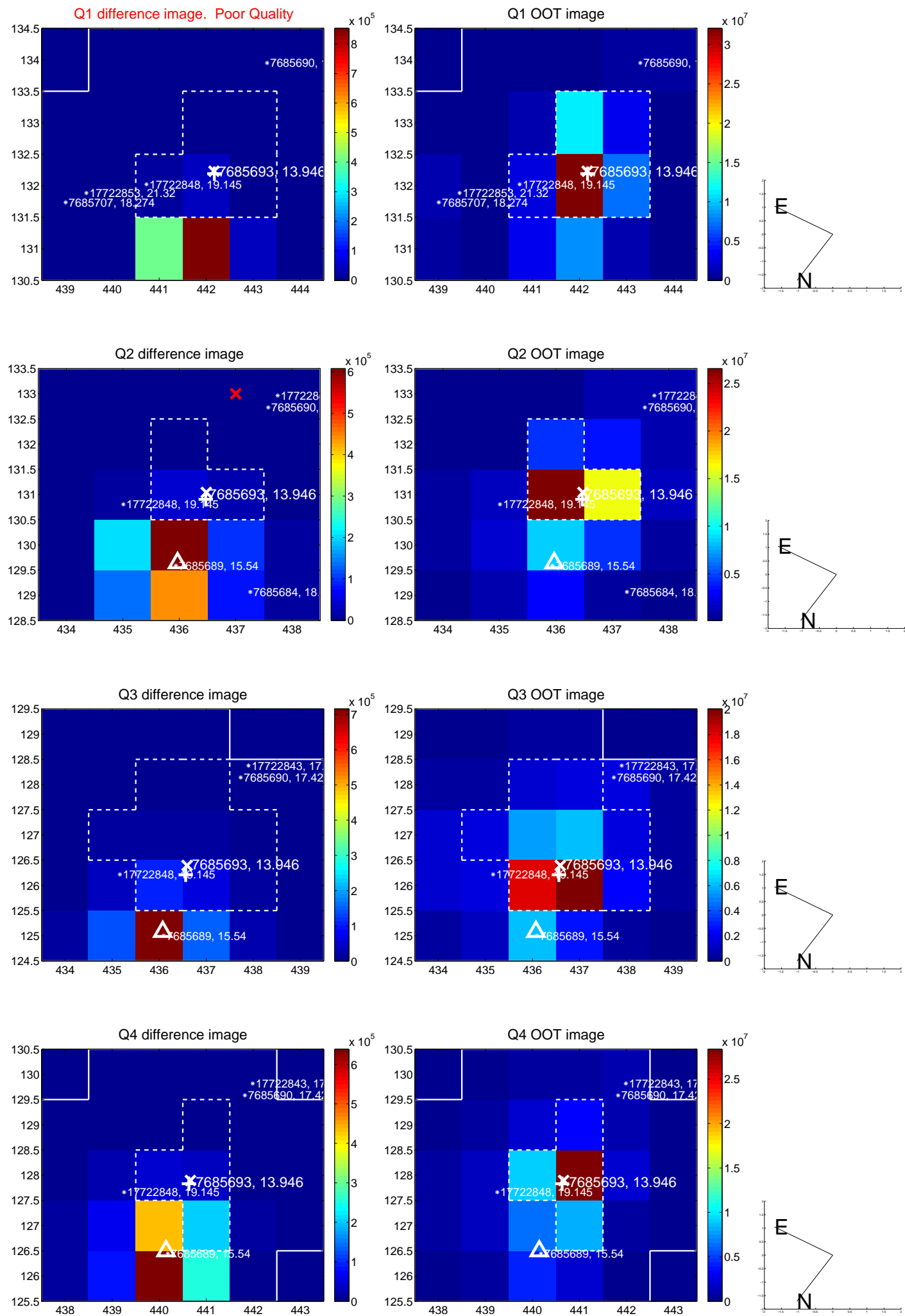


There are no photometric centroids

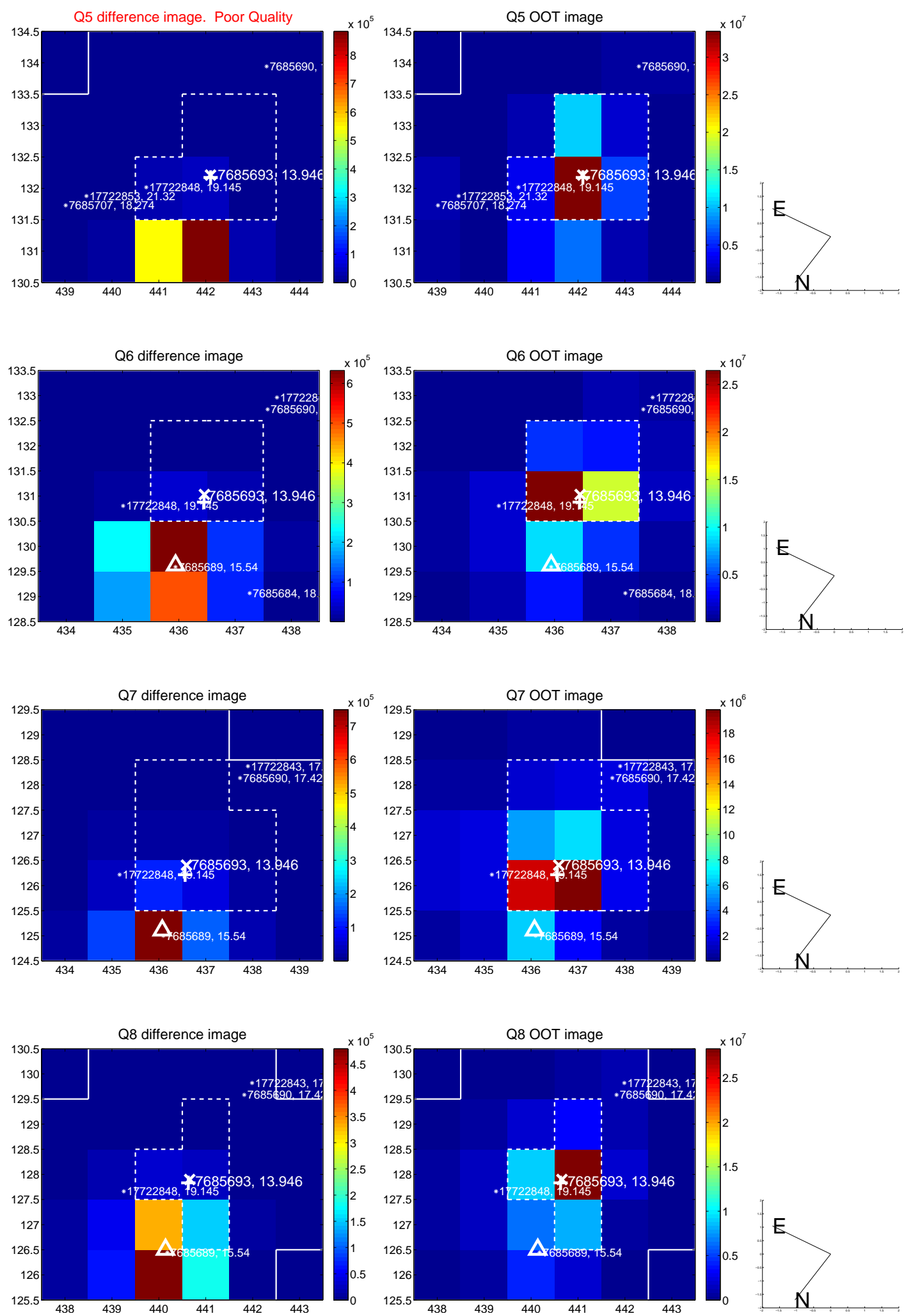


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

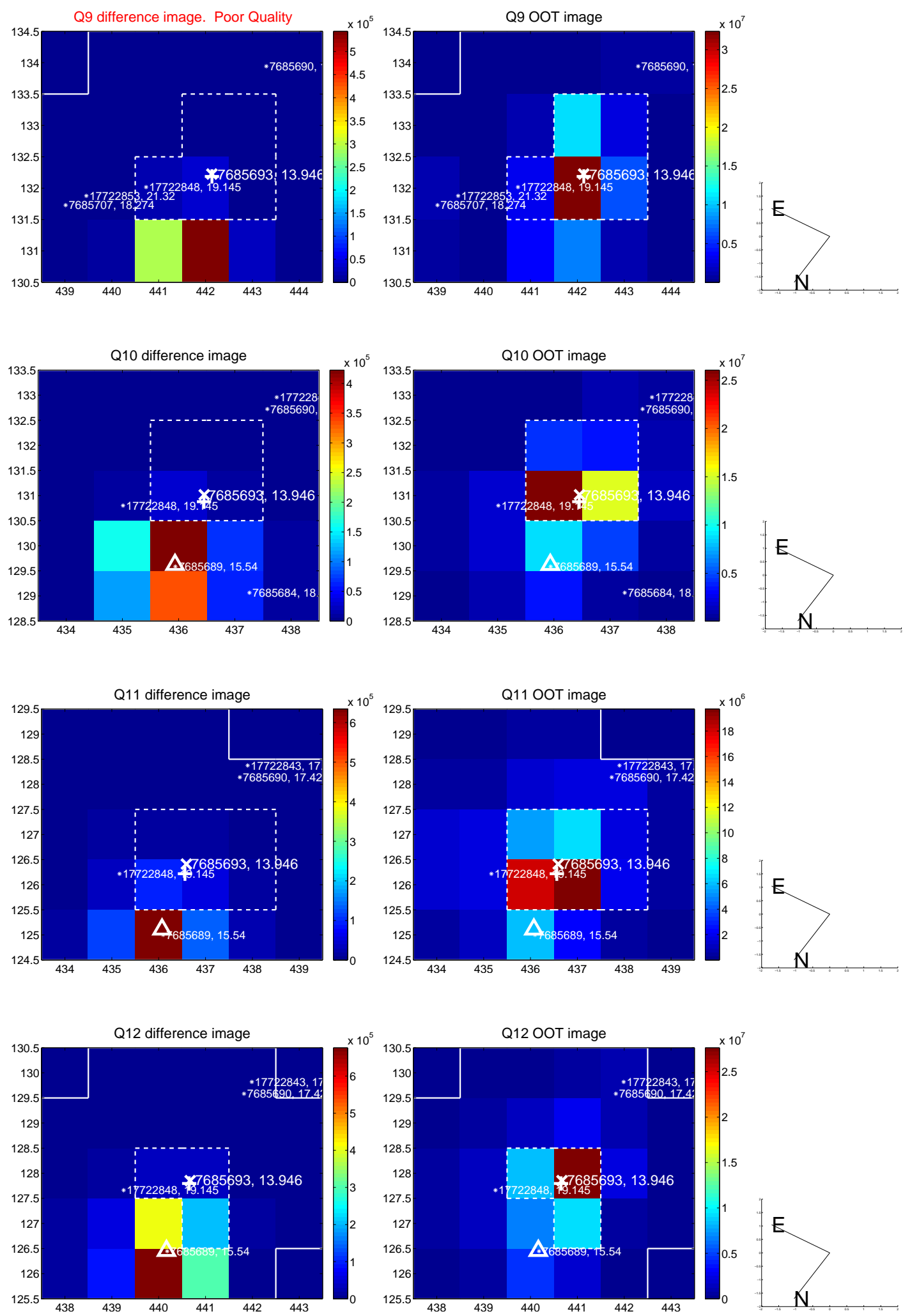
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



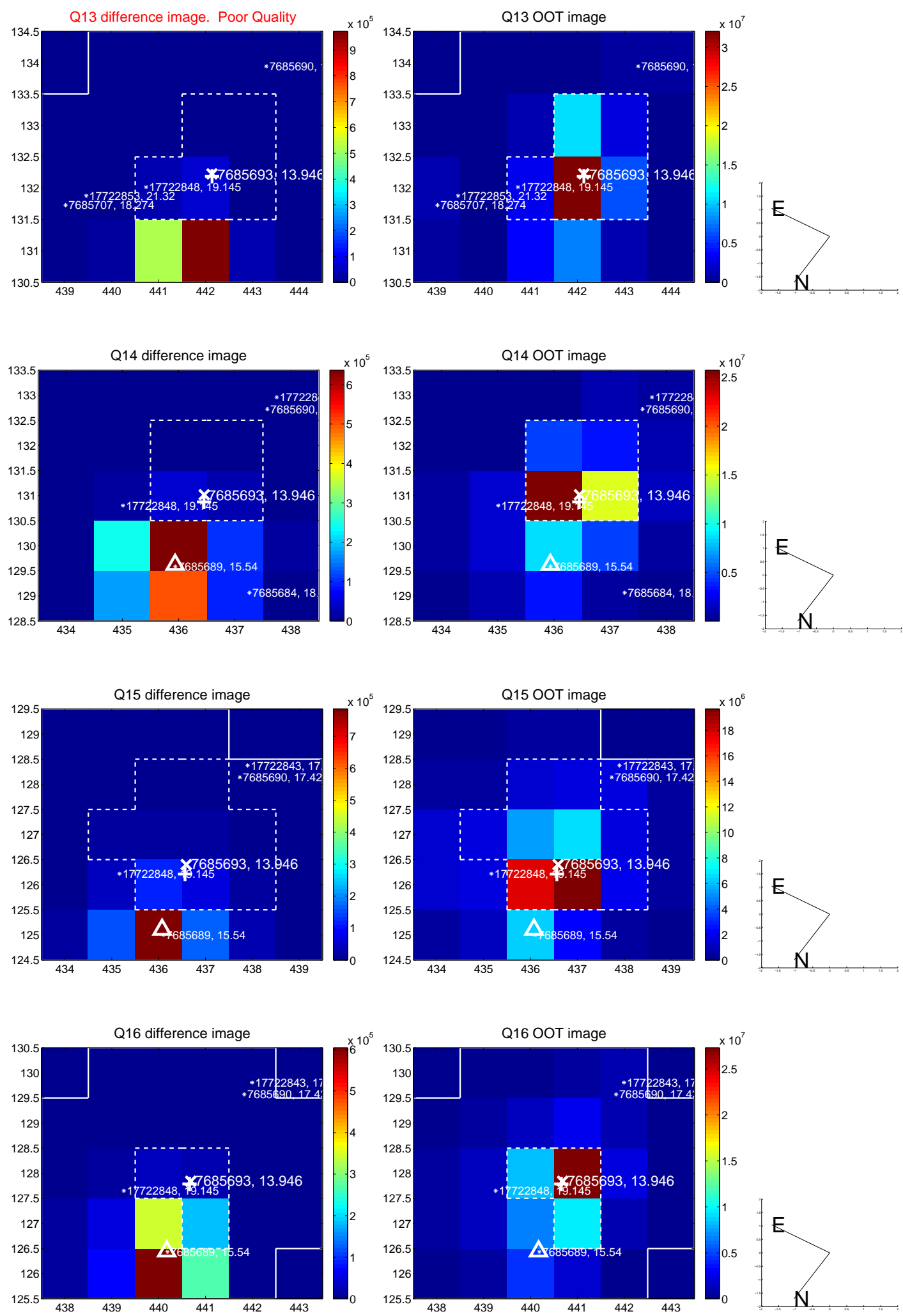
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



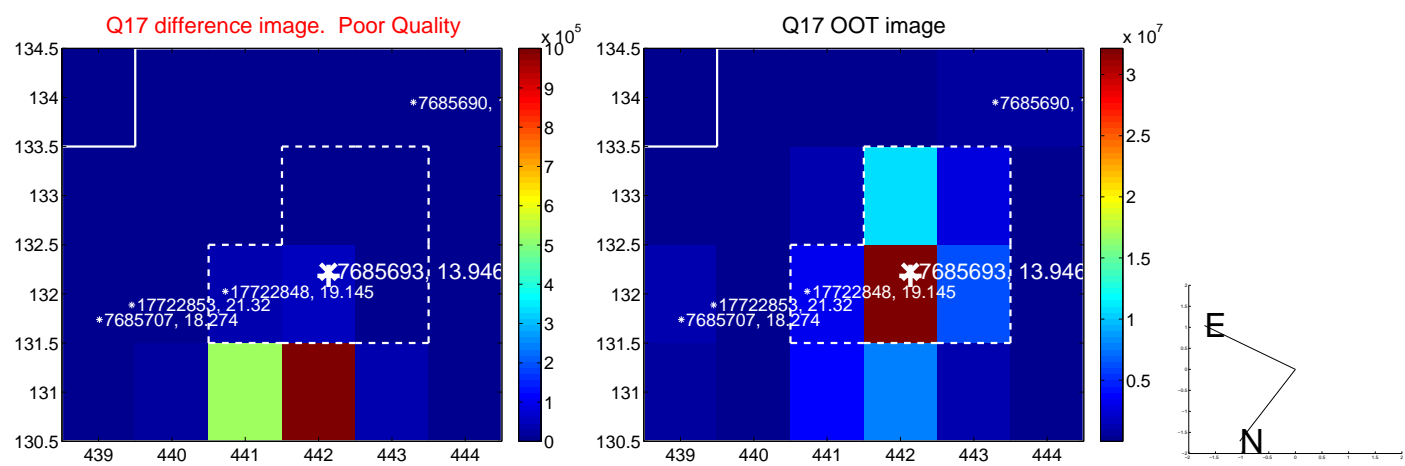
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

