

KIC 008682132

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})
008682132-01	OBS	No	0.601114	131.735798	67.8	1.104	22.5	12.9	0.91	6164	0.89	5543.62
008682132-02	OBS	No	0.601128	132.021854	158.8	0.648	26.4	23.1	0.91	6164	1.41	5543.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008682132-01	OBS	FP	0.00	1	0	1	0	LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
008682132-02	OBS	FP	0.00	1	0	1	0	LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET

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

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

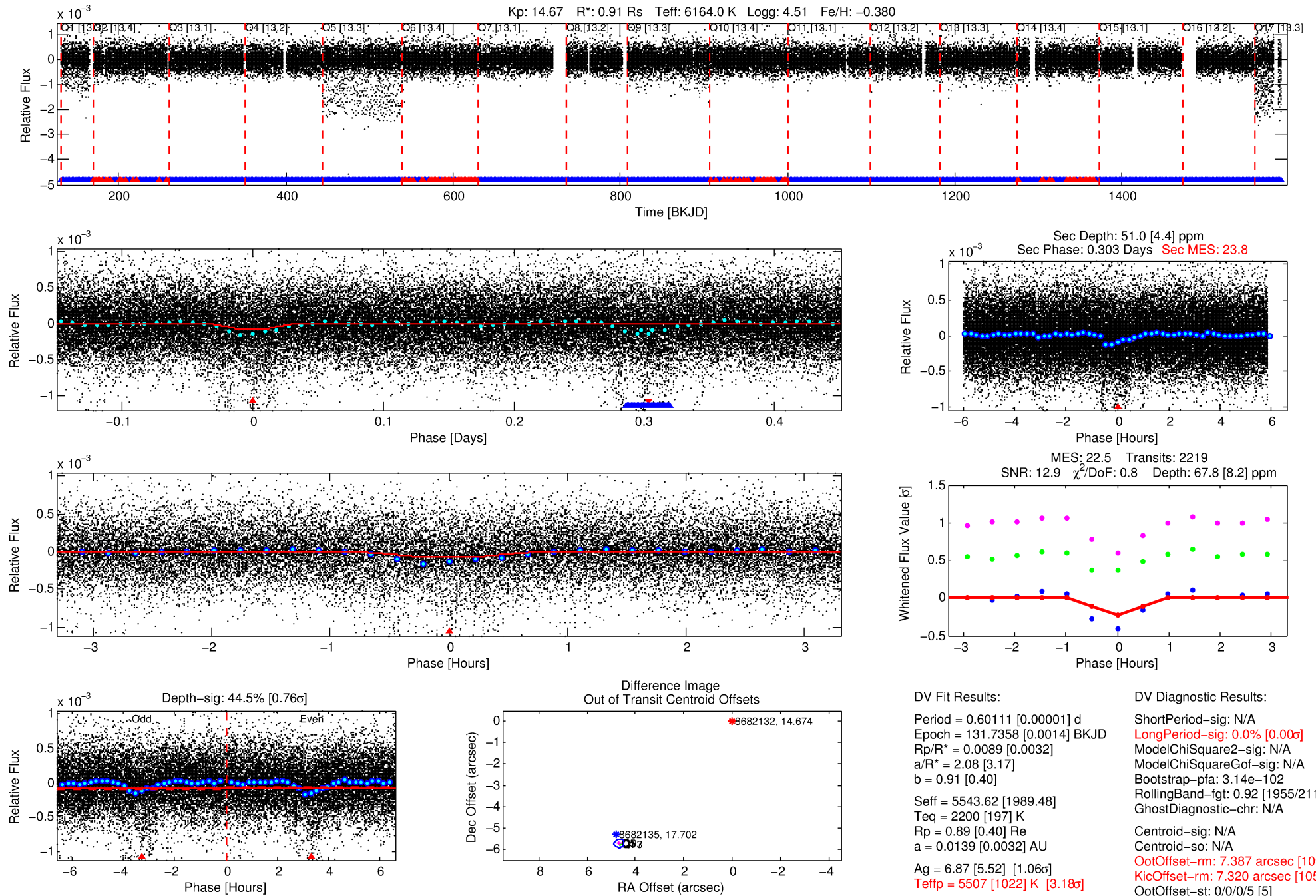
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008682132-01

No Significant Match Found

DV One-Page Summary

KIC: 8682132 Candidate: 1 of 2 Period: 0.601 d



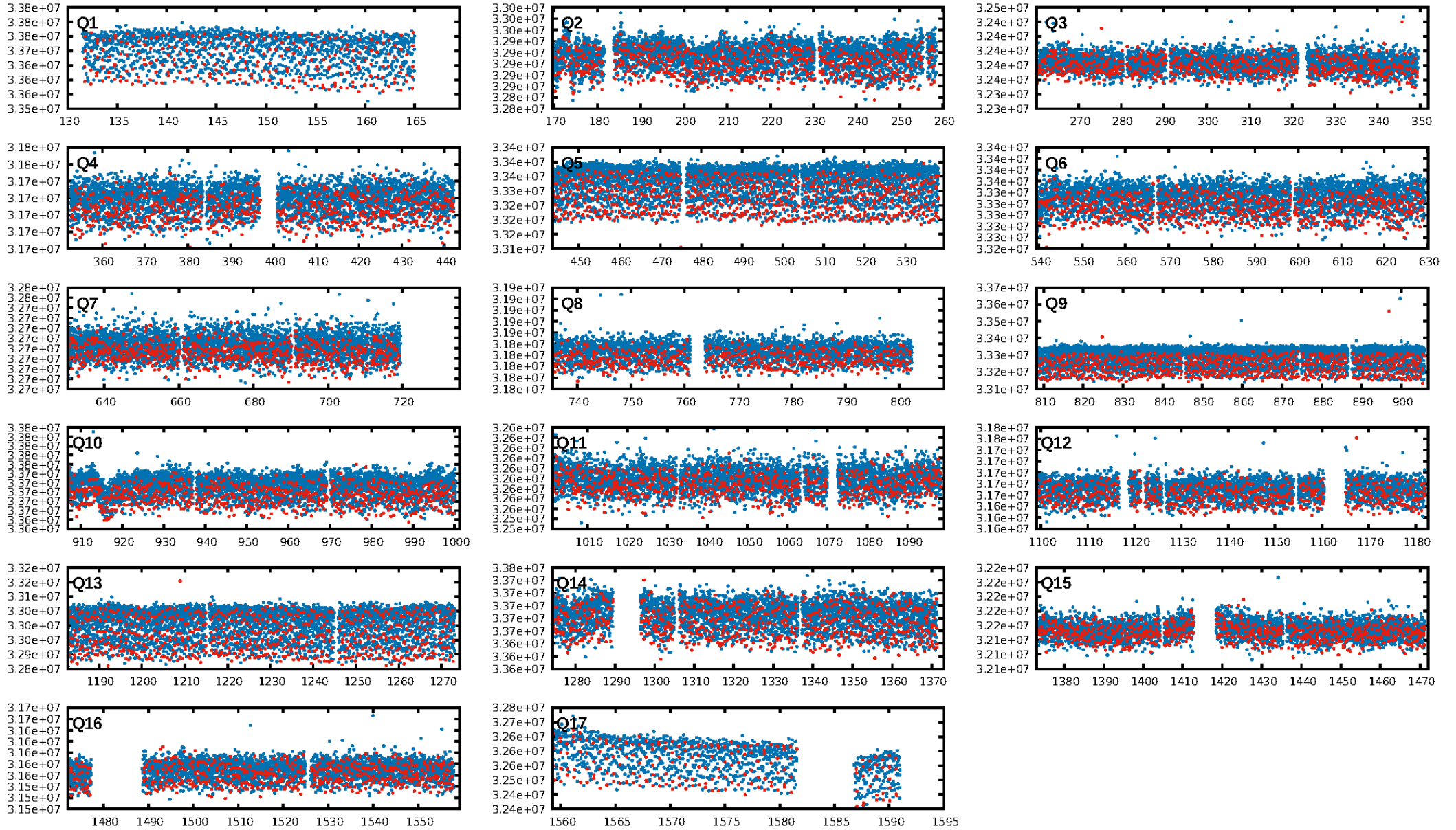
DV Fit Results:

Period = 0.60111 [0.00001] d
Epoch = 131.7358 [0.0014] BKJD
Rp/R* = 0.0089 [0.0032]
a/R* = 2.08 [3.17]
b = 0.91 [0.40]
Seff = 5543.62 [1989.48]
Teff = 2200 [197] K
Rp = 0.89 [0.40] Re
a = 0.0139 [0.0032] AU
Ag = 6.87 [5.52] [1.06 σ]
Teffp = 5507 [1022] K [3.18 σ]

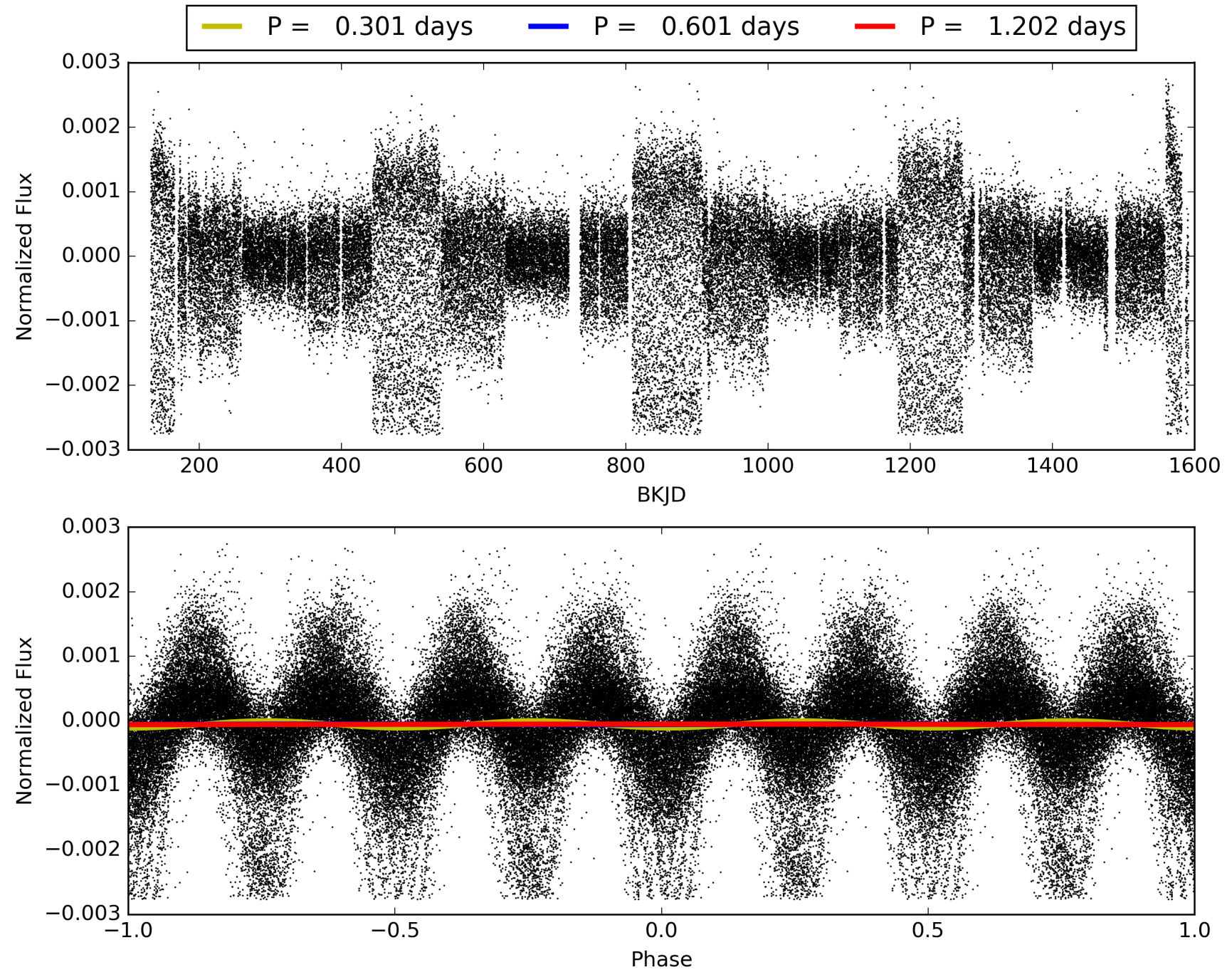
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.14e-102
RollingBand-fgt: 0.92 [1955/2118]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 7.387 arcsec [109.46 σ]
KicOffset-rm: 7.320 arcsec [105.80 σ]
OotOffset-st: 0/0/0/5 [5]
KicOffset-st: 0/0/0/5 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008682132-01, PDC Light Curves

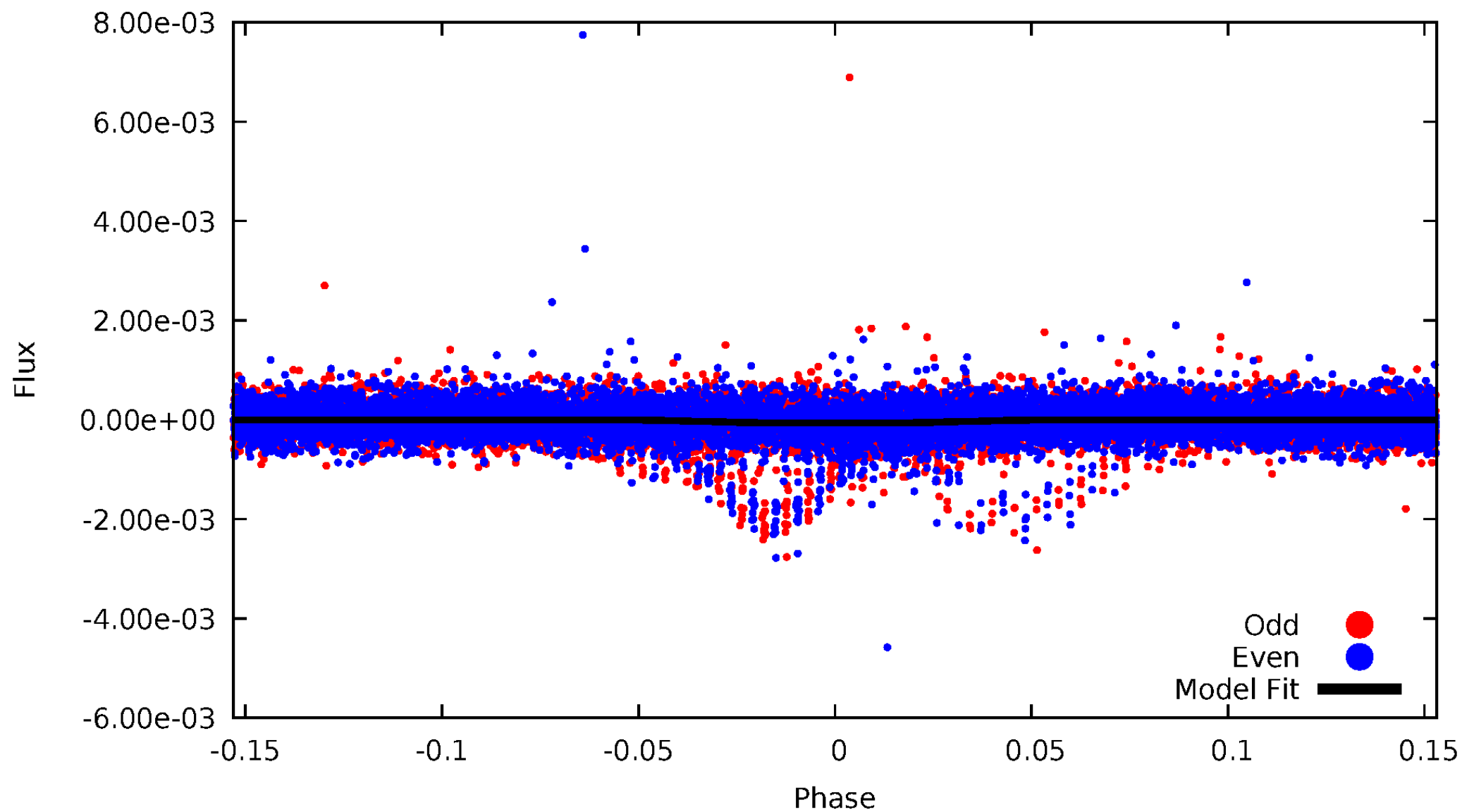


TCE 008682132-01



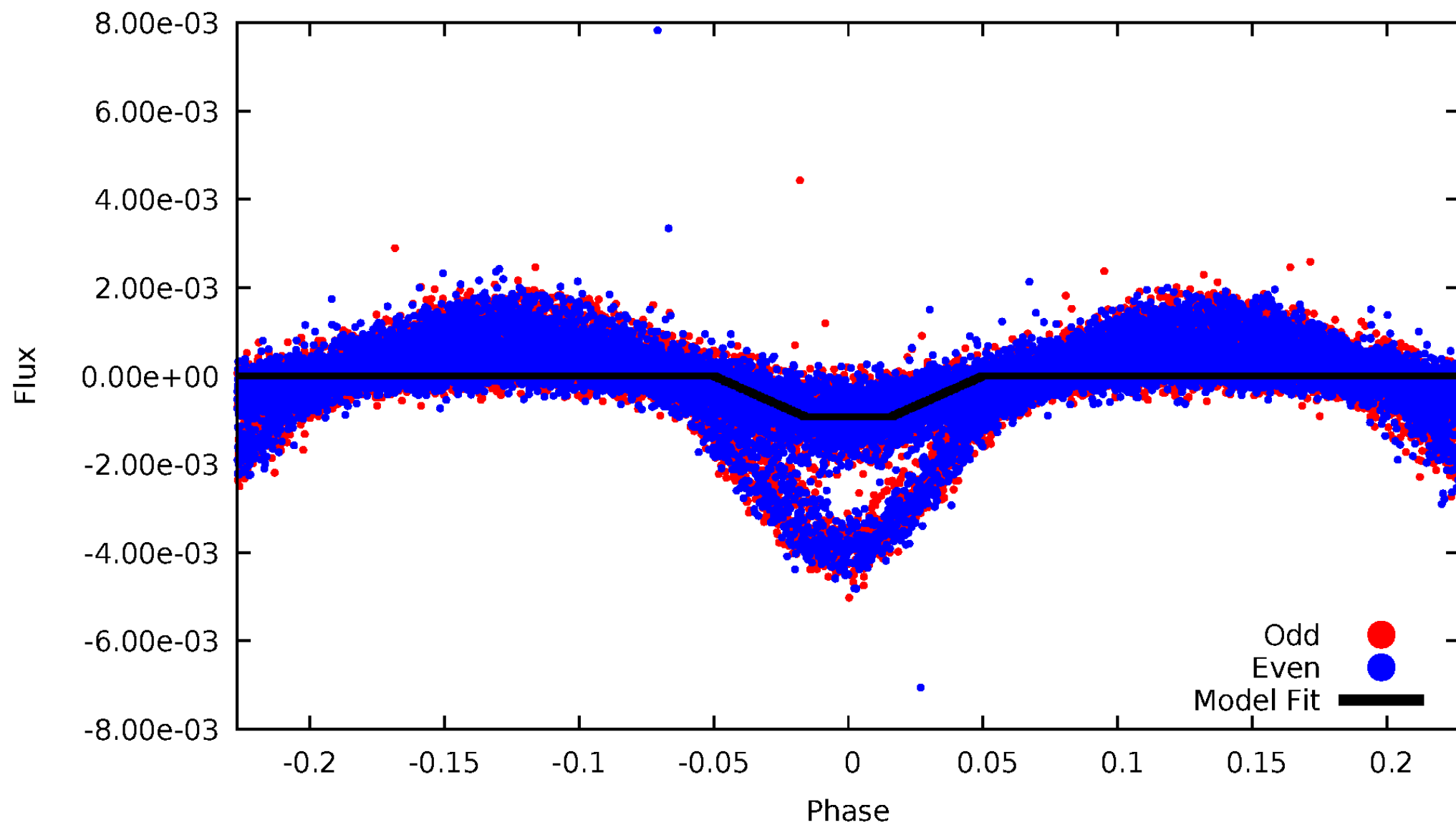
DV Odd/Even

TCE 008682132-01



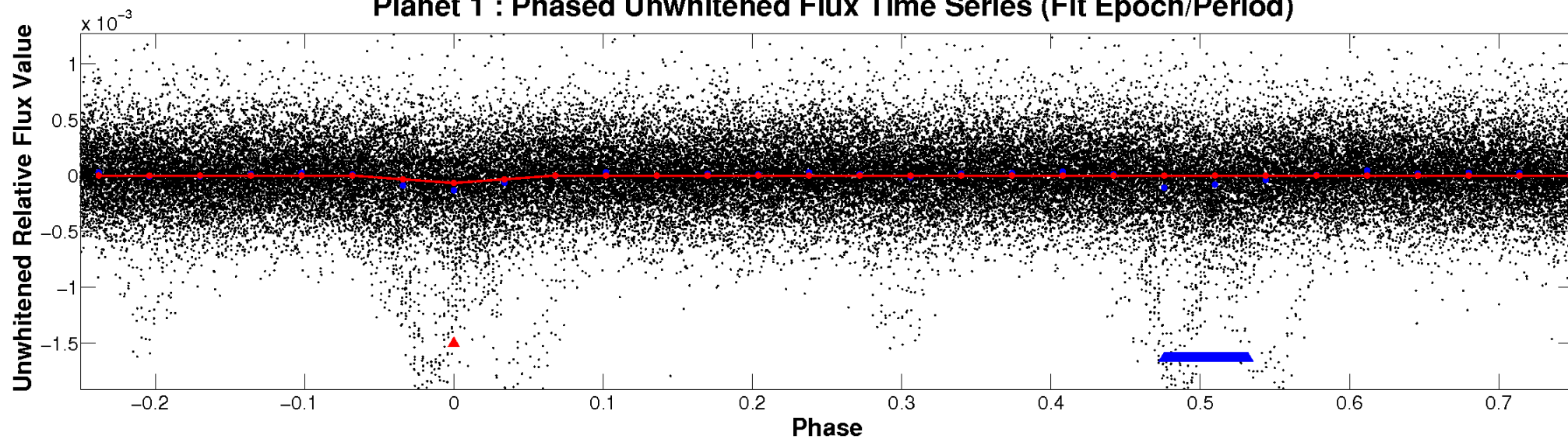
ALT Odd/Even

TCE 008682132-01

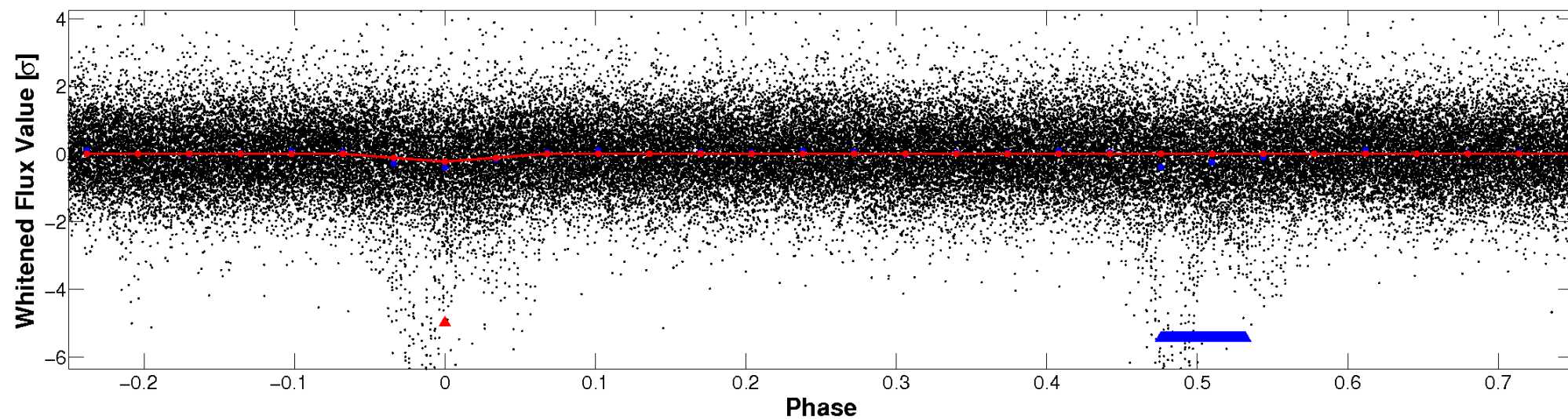


Non-Whitened Vs. Whitened Light Curve

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

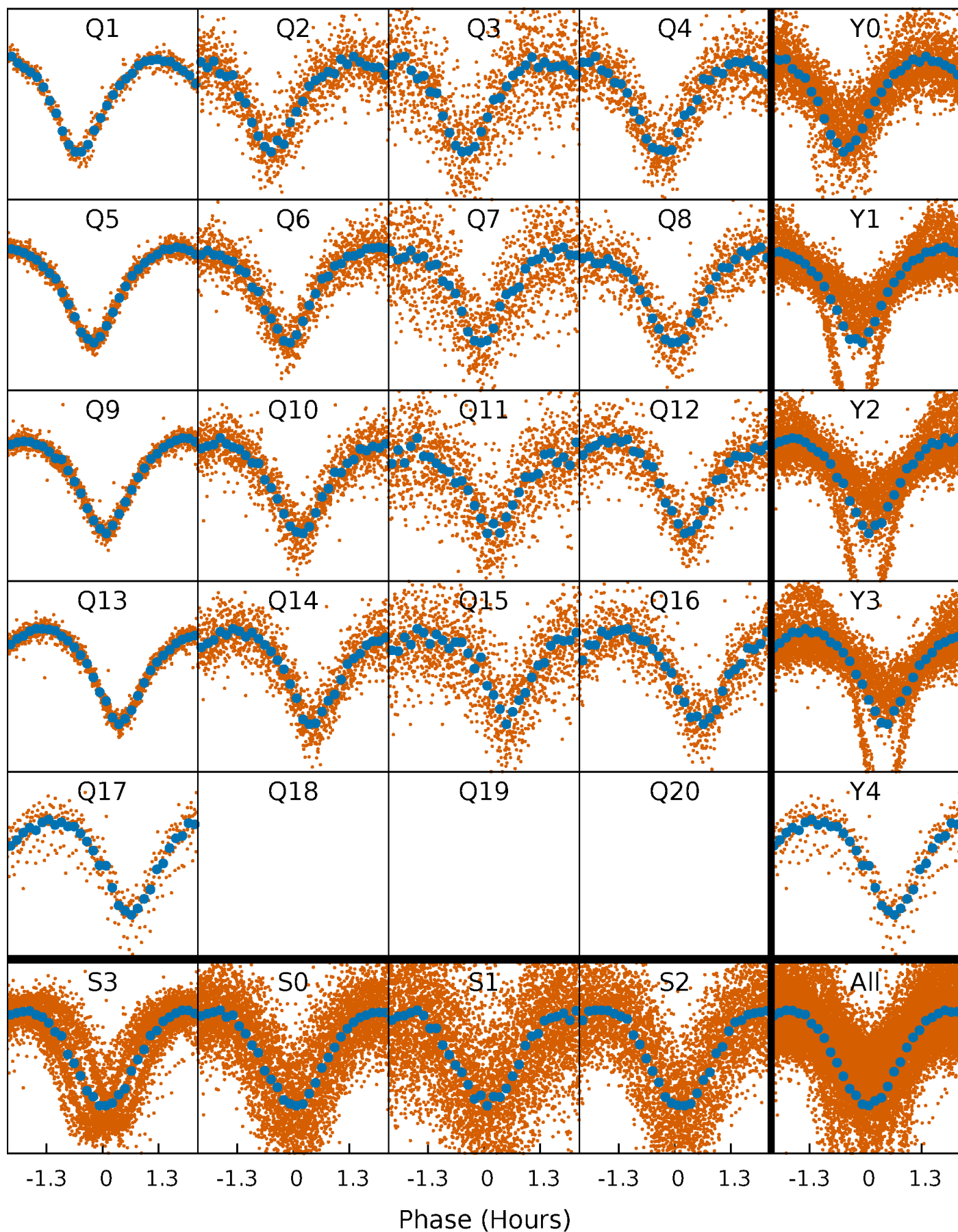


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



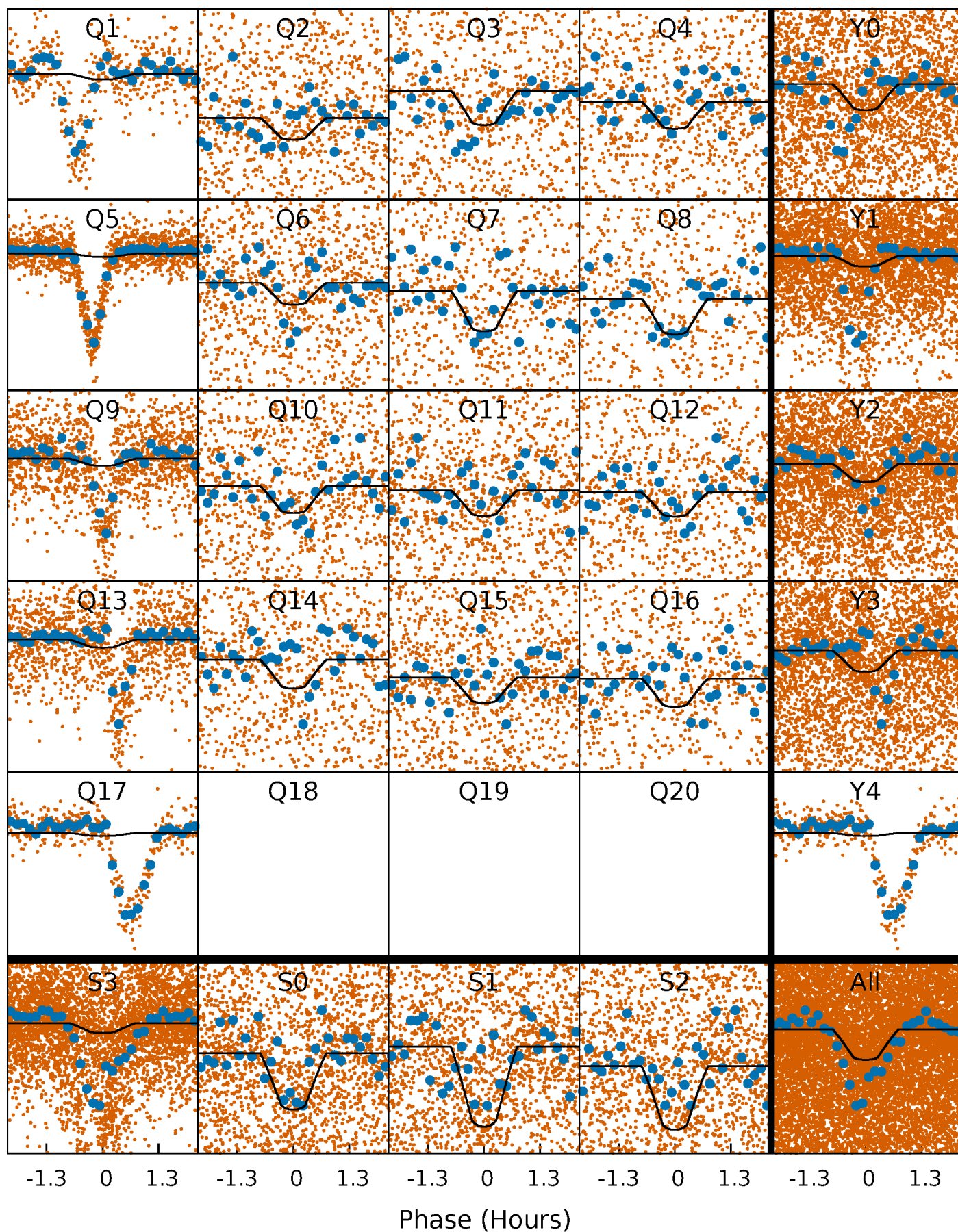
PDC Quarter-Phased Transit Curves

TCE 008682132-01 P= 0.601114 Days $T_0=131.735798$ (BKJD)



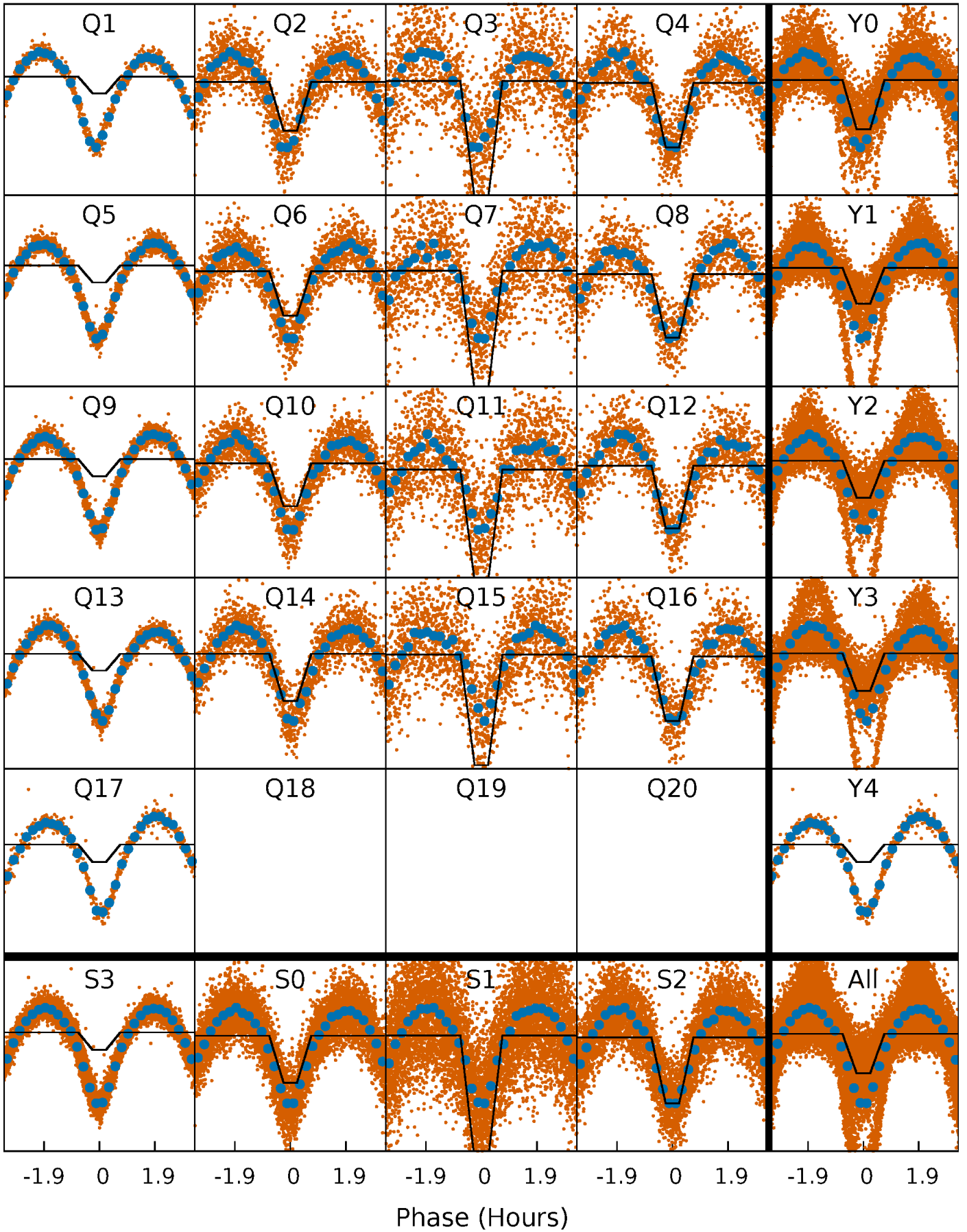
DV Quarter-Phased Transit Curves

TCE 008682132-01 P= 0.601114 Days $T_0=131.735798$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

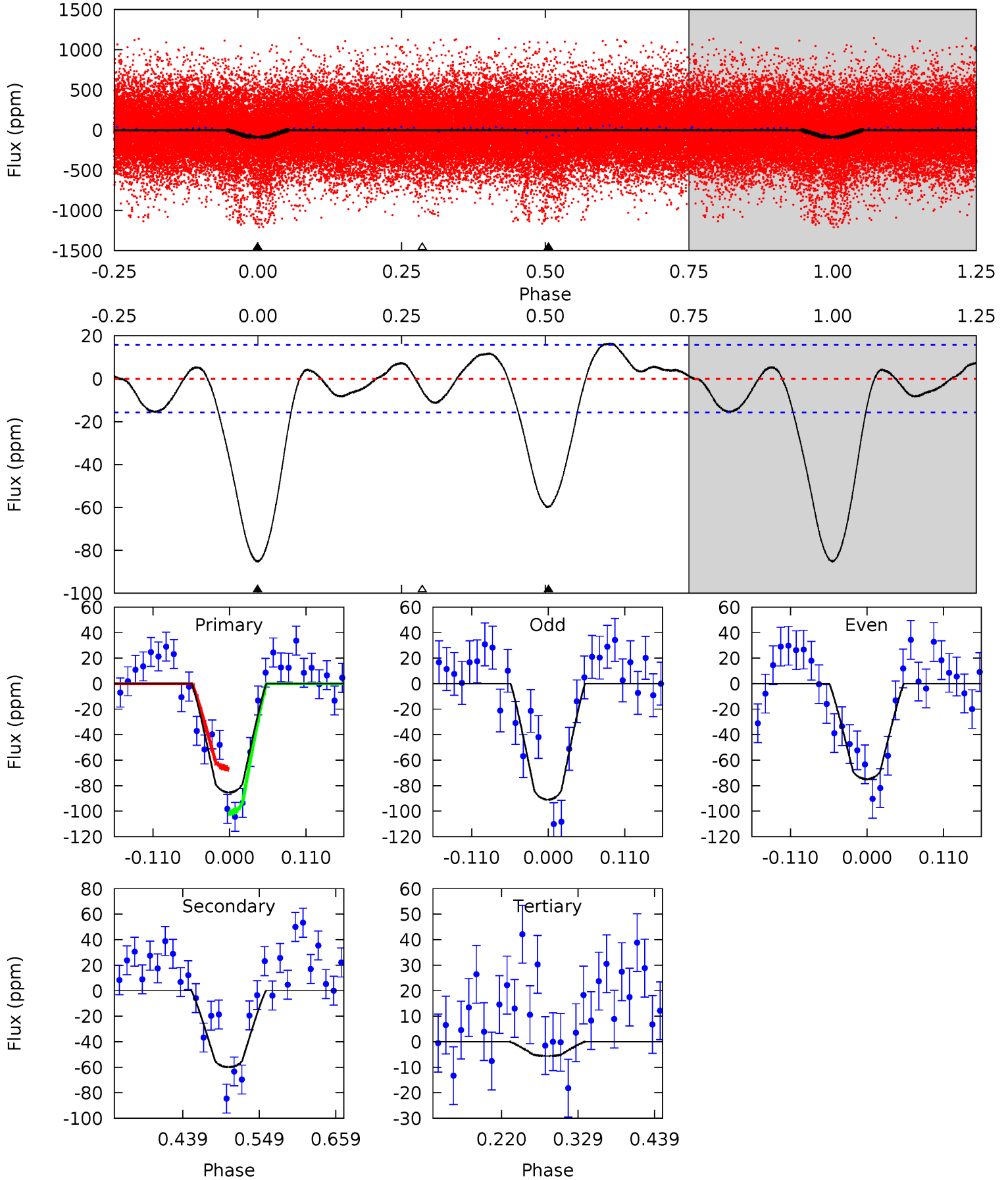
TCE 008682132-01 P= 0.601131 Days $T_0=131.717757$ (BKJD)



DV Model-Shift Uniqueness Test

008682132-01, P = 0.601114 Days, E = 131.134684 Days

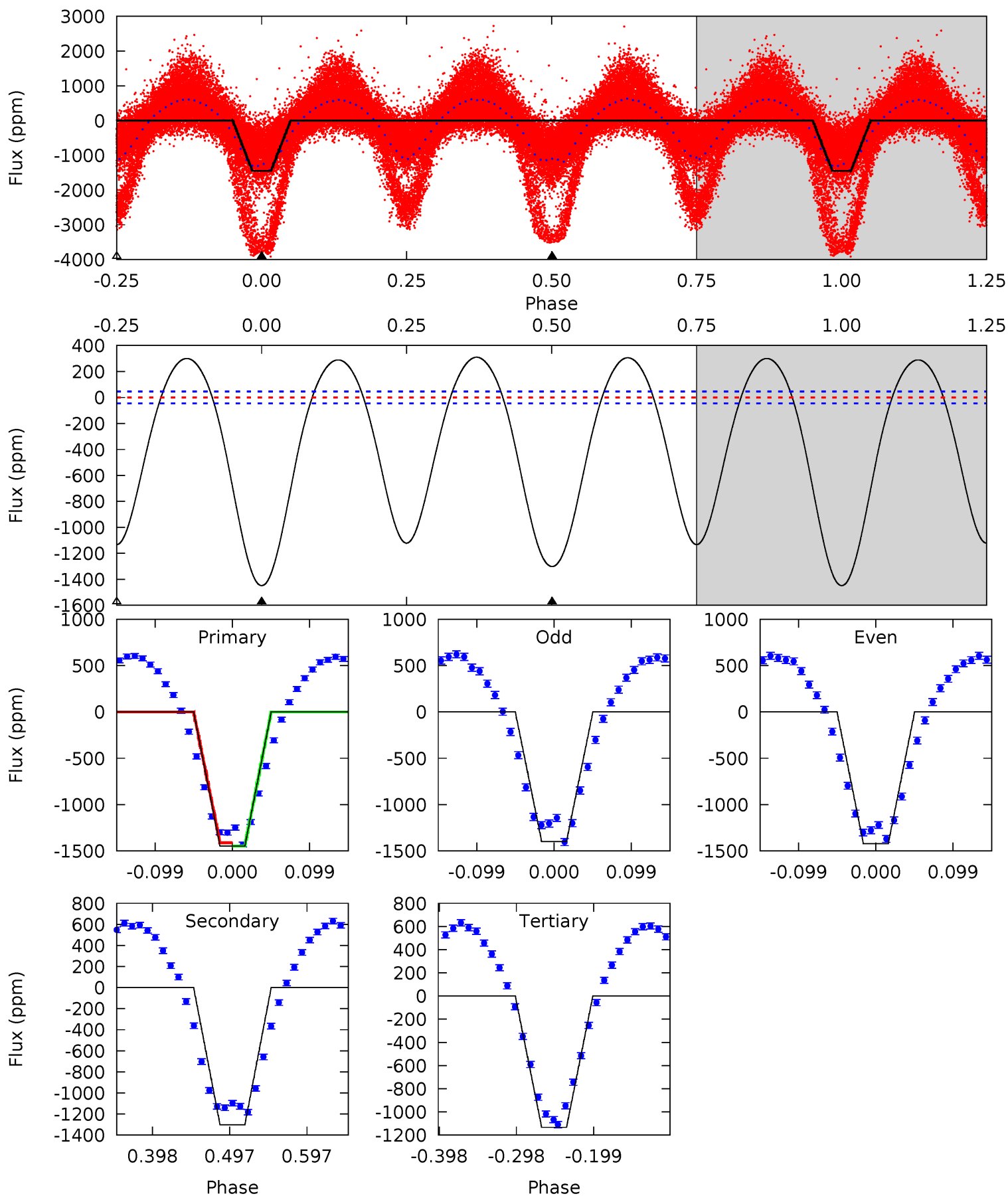
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.7	17.3	1.61	0	4.55	1.60	2.14	23.1	24.7	15.7	17.3	2.33	1.55	0.16	5.03



Alt Model-Shift Uniqueness Test

008682132-01, P = 0.601131 Days, E = 131.116626 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
145.0	130.3	113.4	0	4.57	1.65	50.6	31.6	145.0	16.9	130.3	1.22	1.48	0.18	1.83



Stellar Parameters For KIC 008682132

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6164^{+165}_{-202}	$4.515^{+0.046}_{-0.184}$	$-0.380^{+0.300}_{-0.350}$	$0.908^{+0.243}_{-0.081}$	$0.985^{+0.114}_{-0.126}$	$1.853^{+0.441}_{-0.877}$
	+3%/-3%	+1%/-4%	+79%/-92%	+27%/-9%	+12%/-13%	+24%/-47%
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 008682132-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-60 ± 3	$0.92^{+0.35}_{-0.35}$	3135^{+208}_{-129}	5700^{+1665}_{-797}	$7.359^{+11.488}_{-3.480}$
Alt.	-1302 ± 10	$3.08^{+0.60}_{-0.39}$	3134^{+195}_{-142}	6689^{+524}_{-404}	14^{+4}_{-4}

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

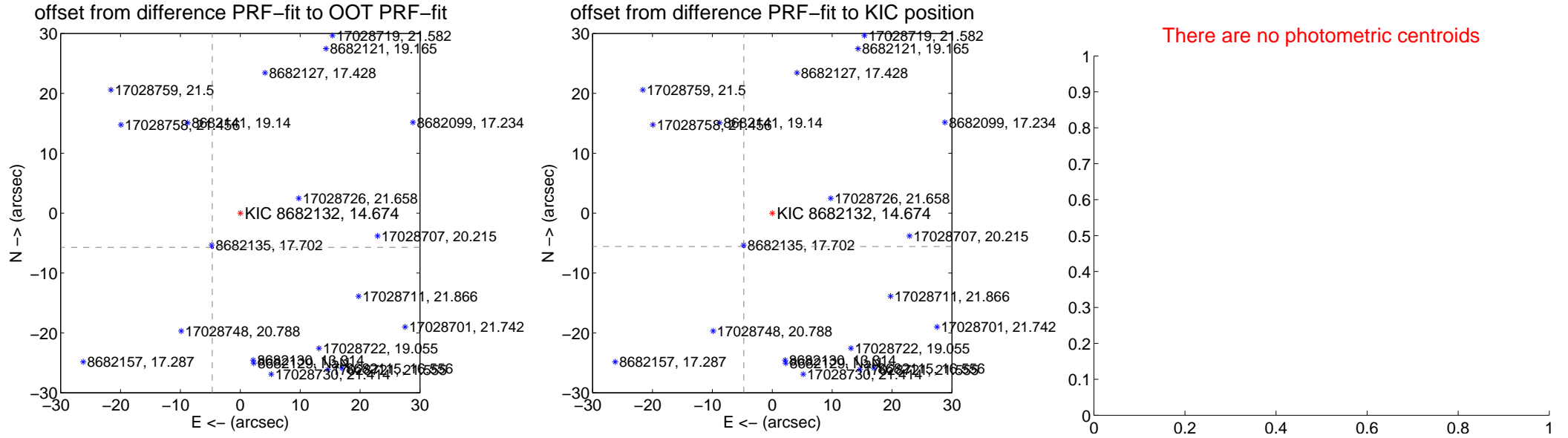
DV Centroid Data

Supplemental centroid analysis for 008682132-01. Kepler magnitude: 14.67. Transit SNR 12.93

There are 5 quarters with good PRF difference image offsets

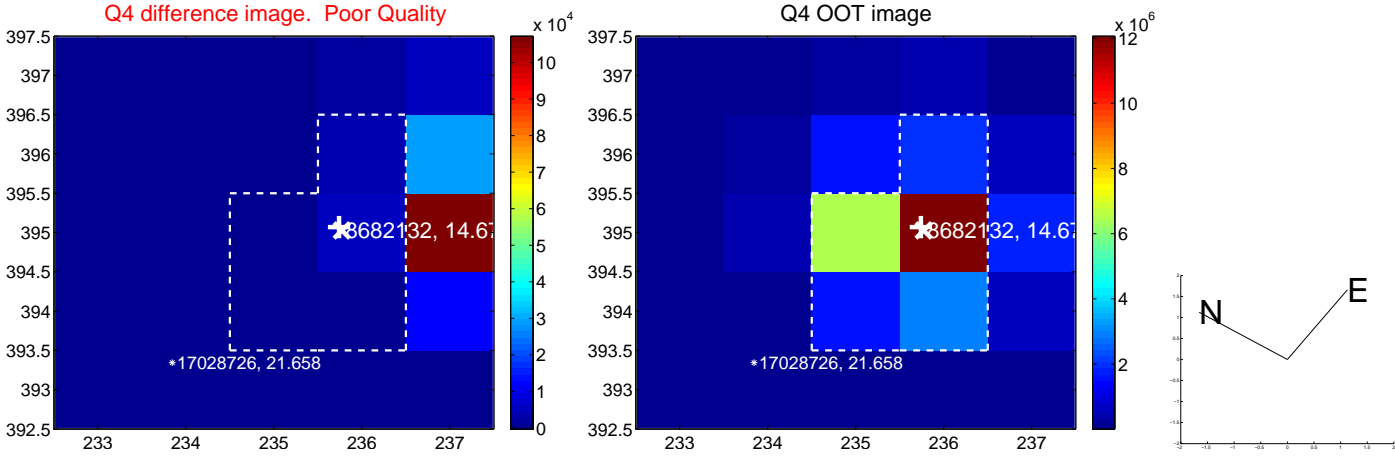
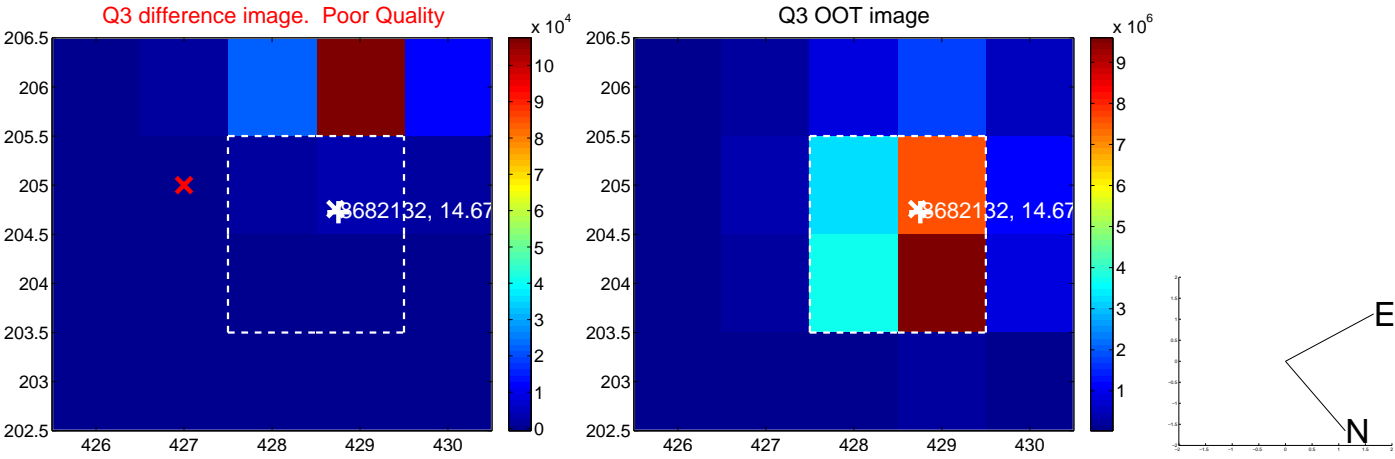
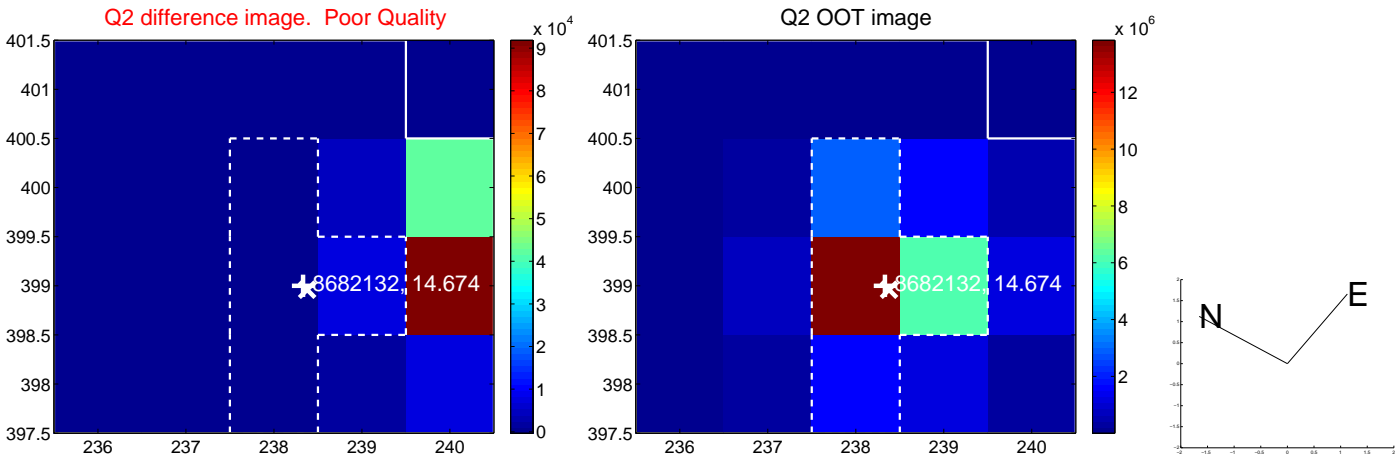
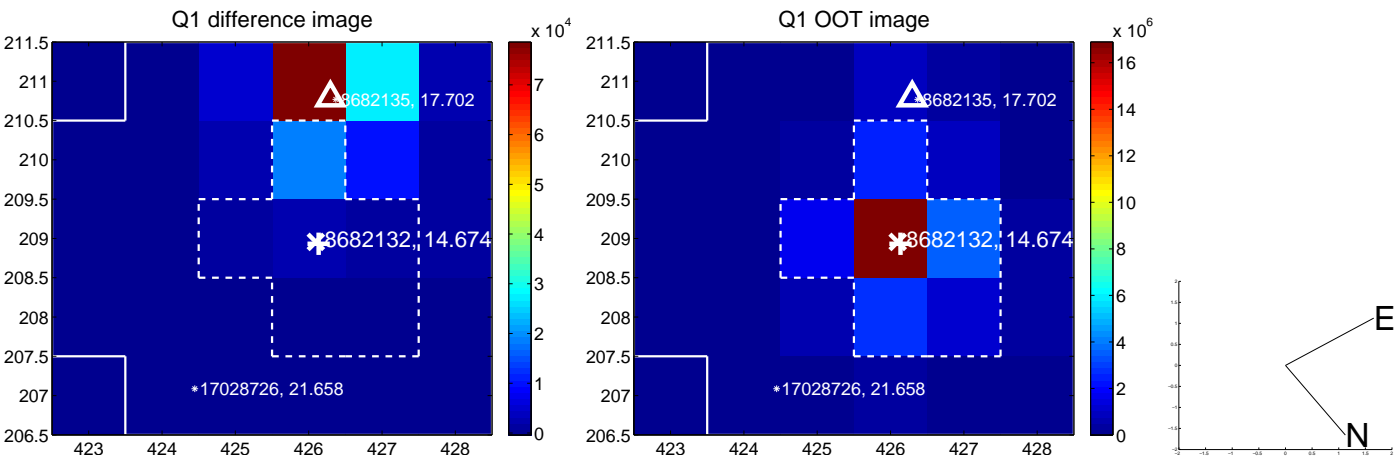
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.387 ± 0.067	109.46	4.674 ± 0.067	-5.720 ± 0.068
PRF-fit source offset from KIC position	7.320 ± 0.069	105.80	4.748 ± 0.067	-5.571 ± 0.070
photometric centroid source offset	—	—	—	—

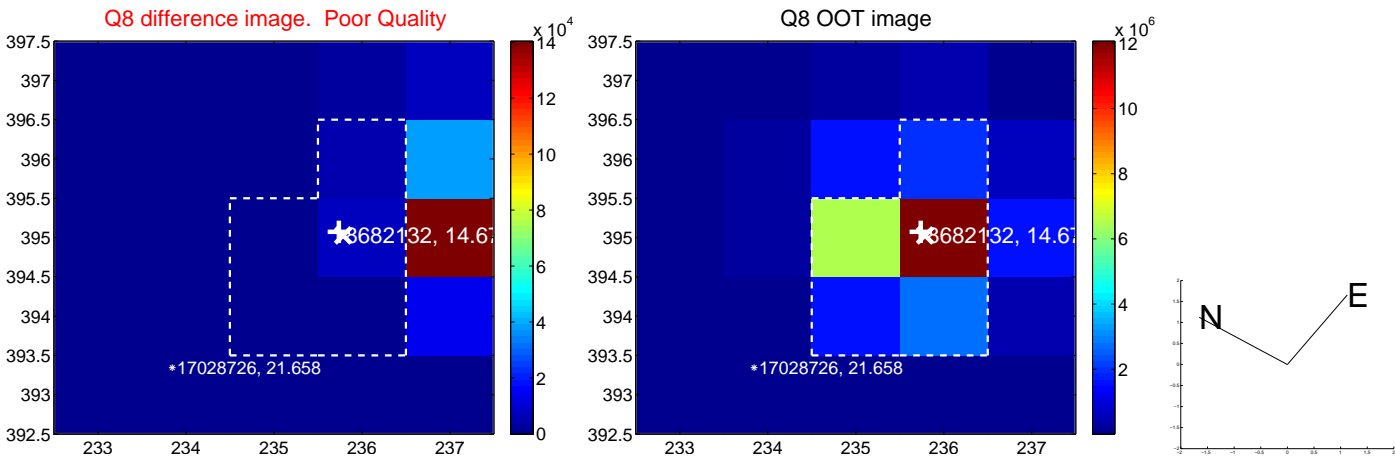
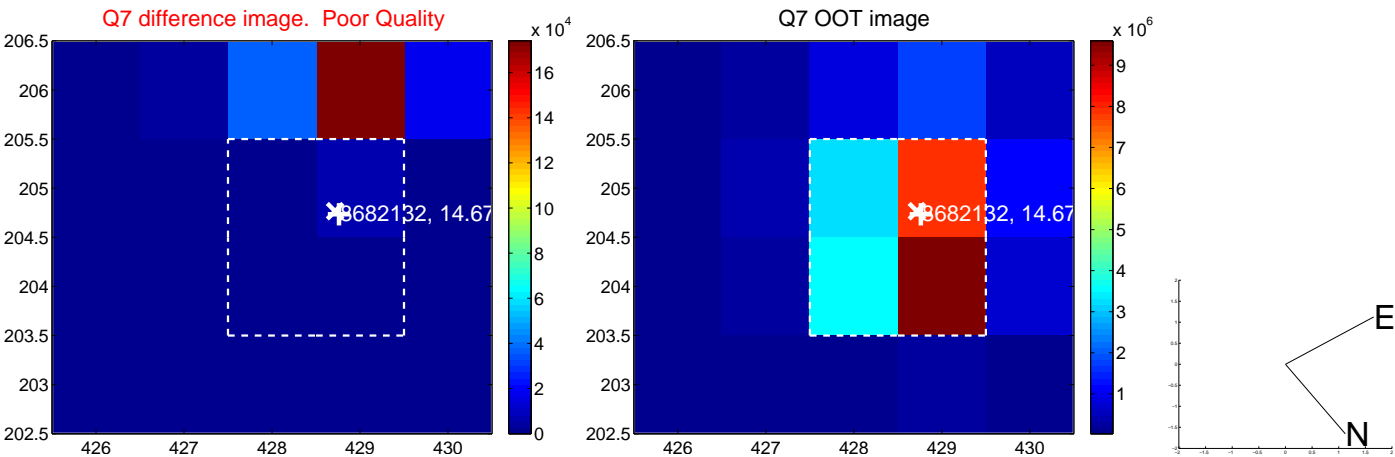
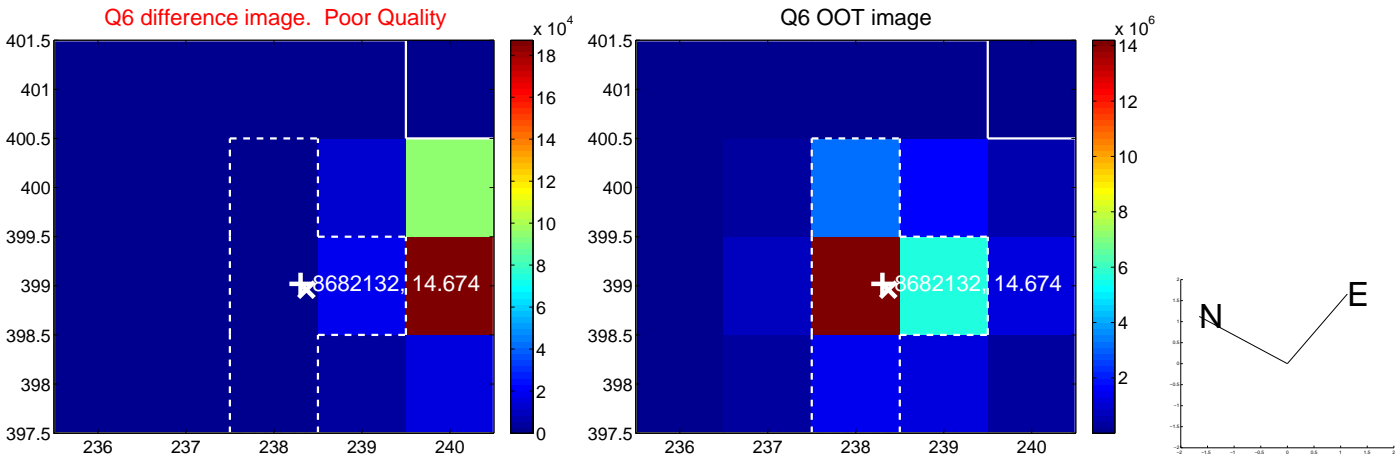
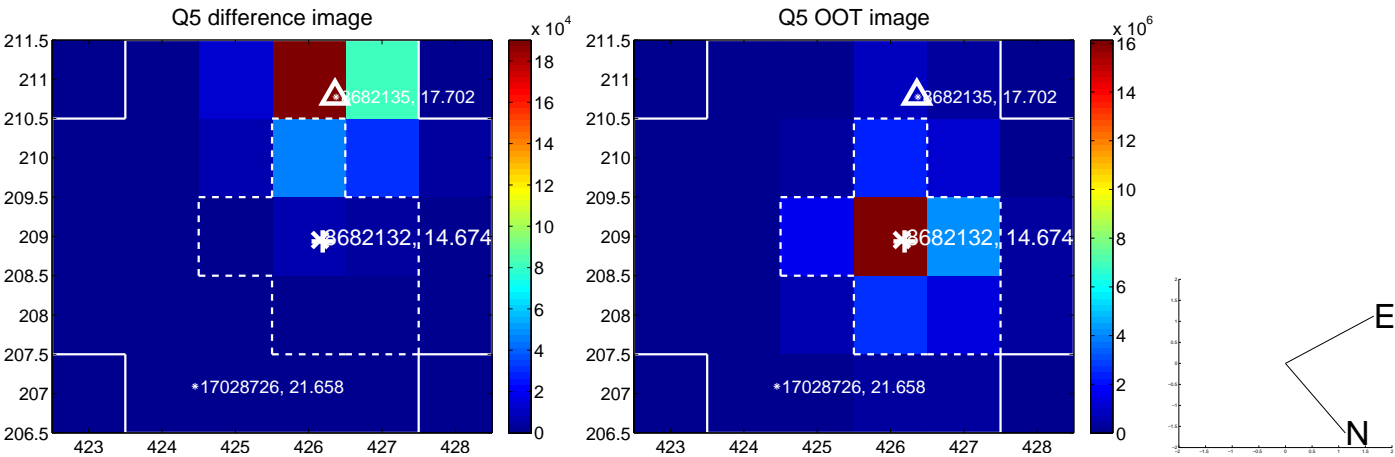


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

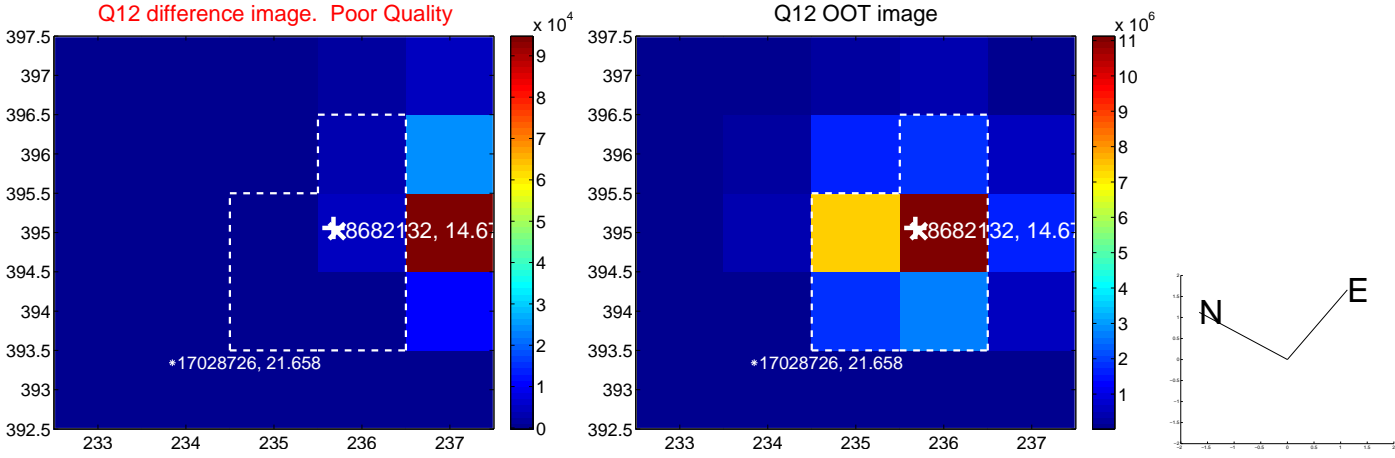
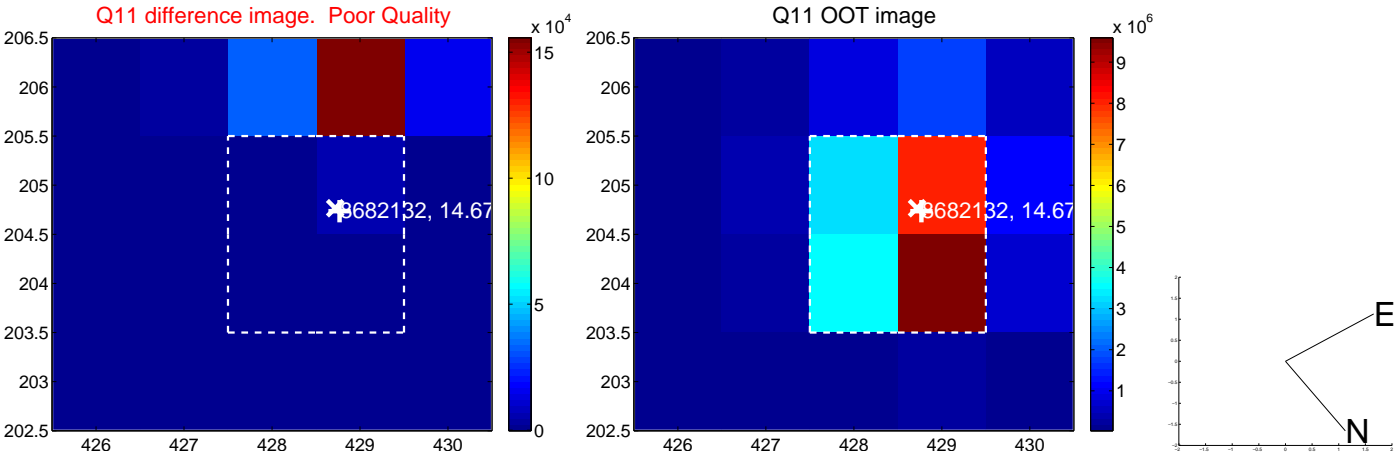
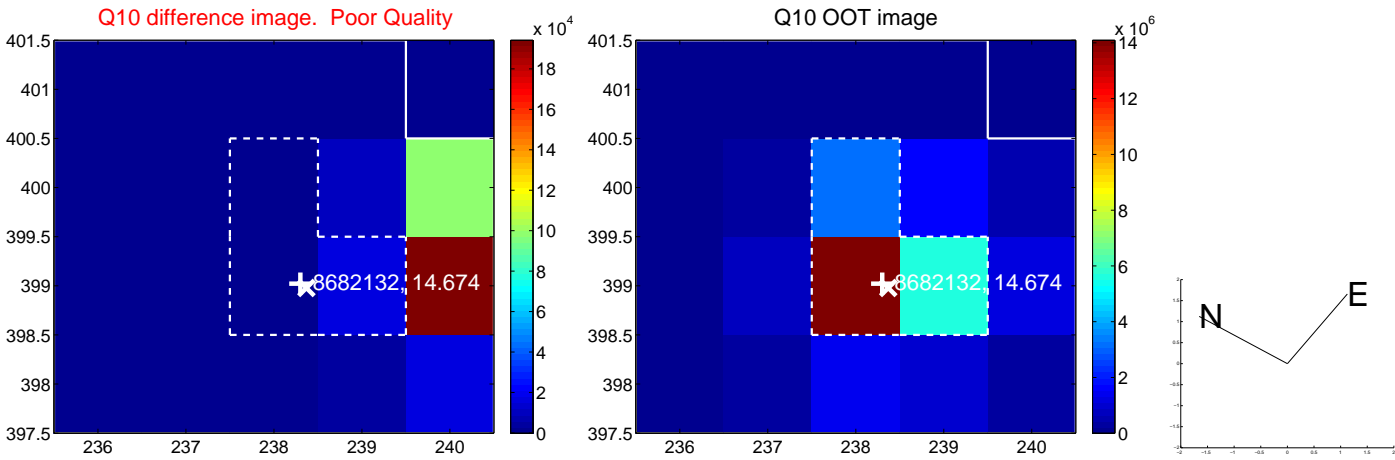
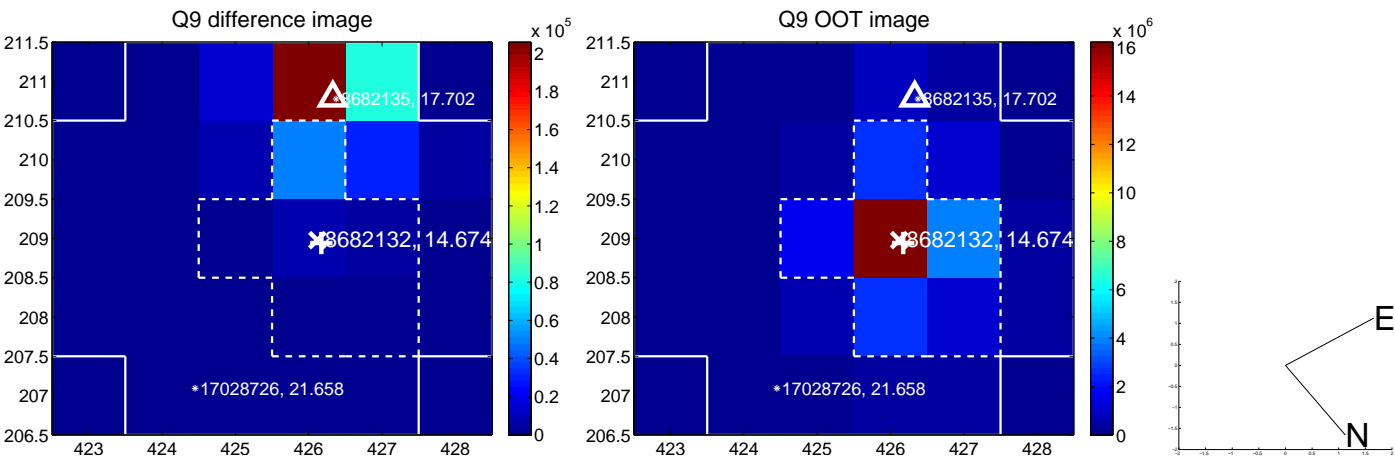
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



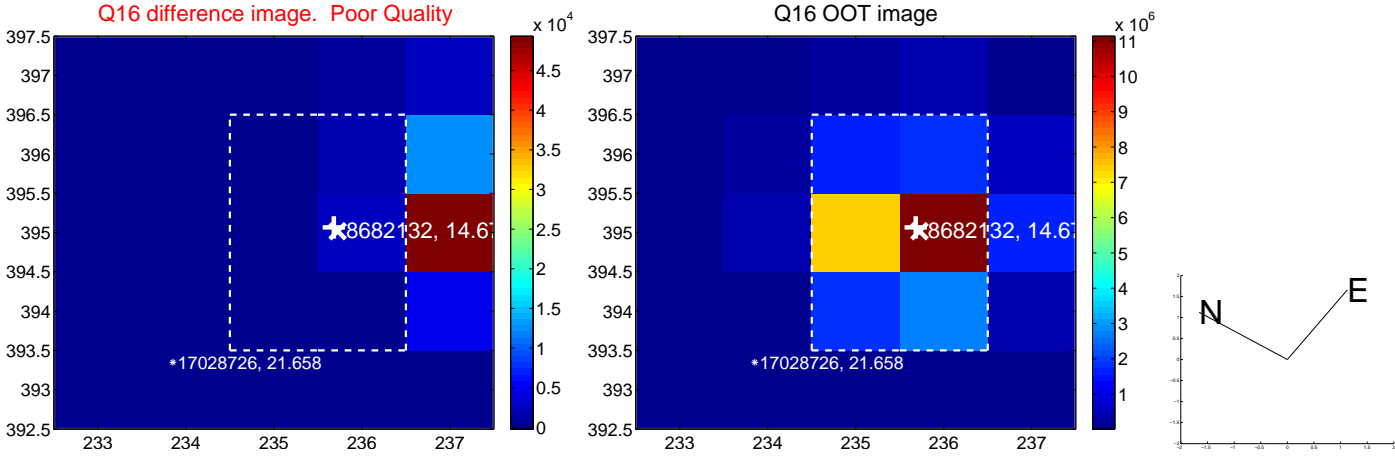
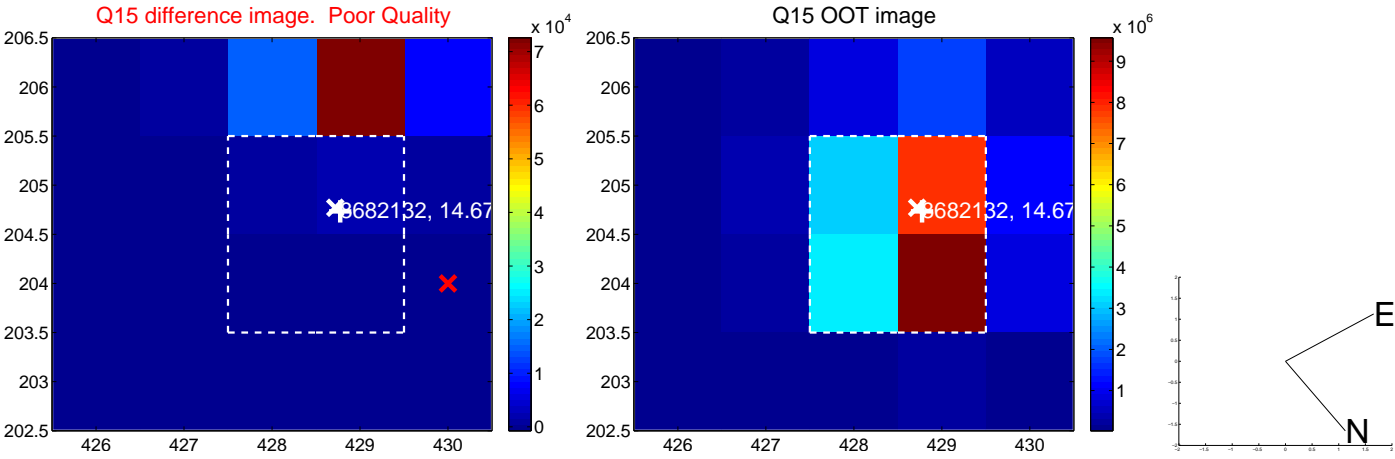
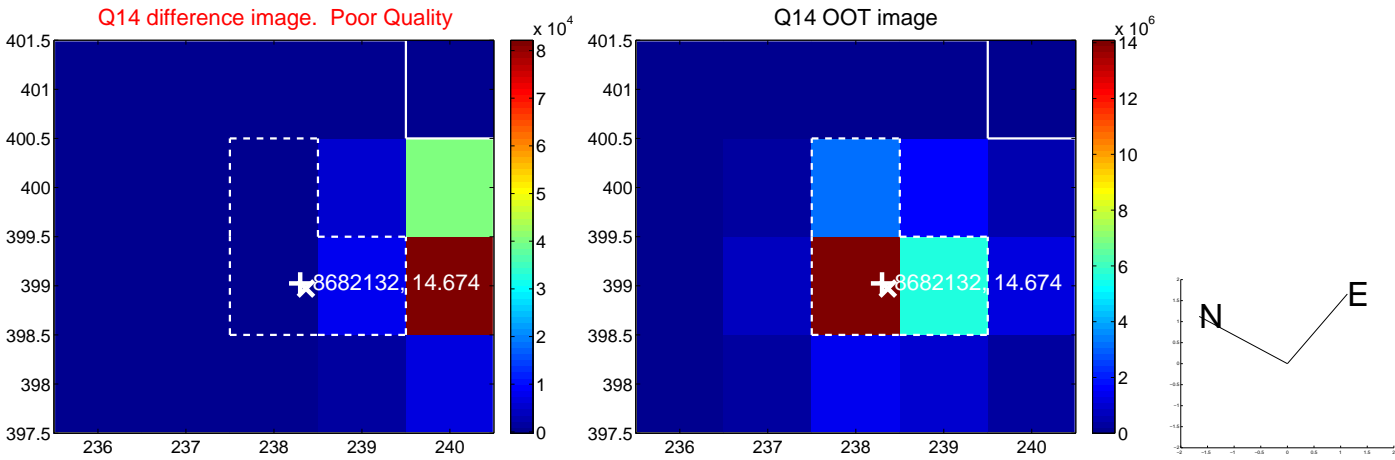
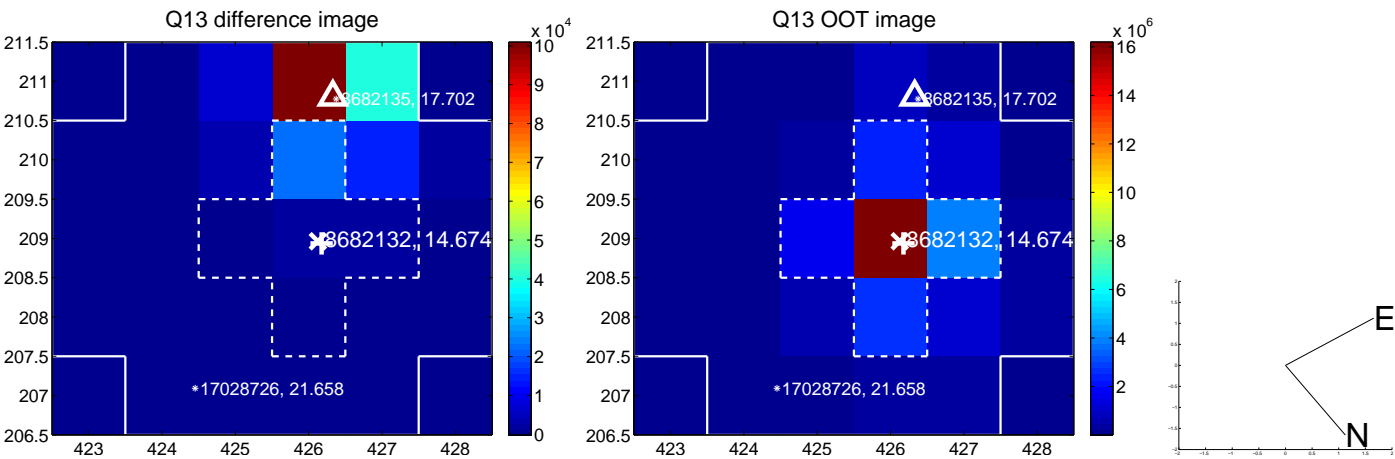
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



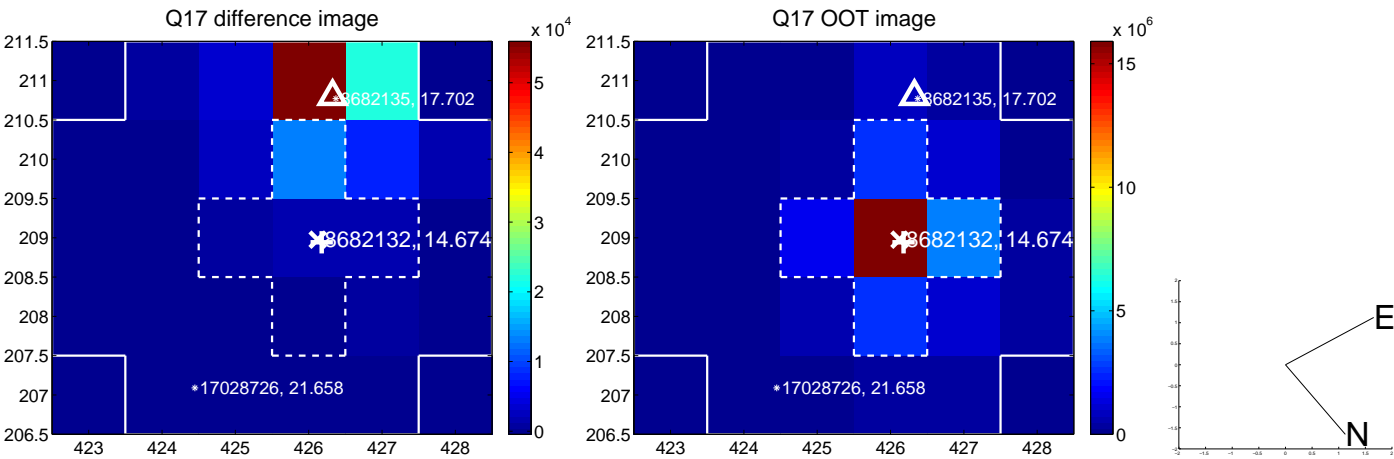
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



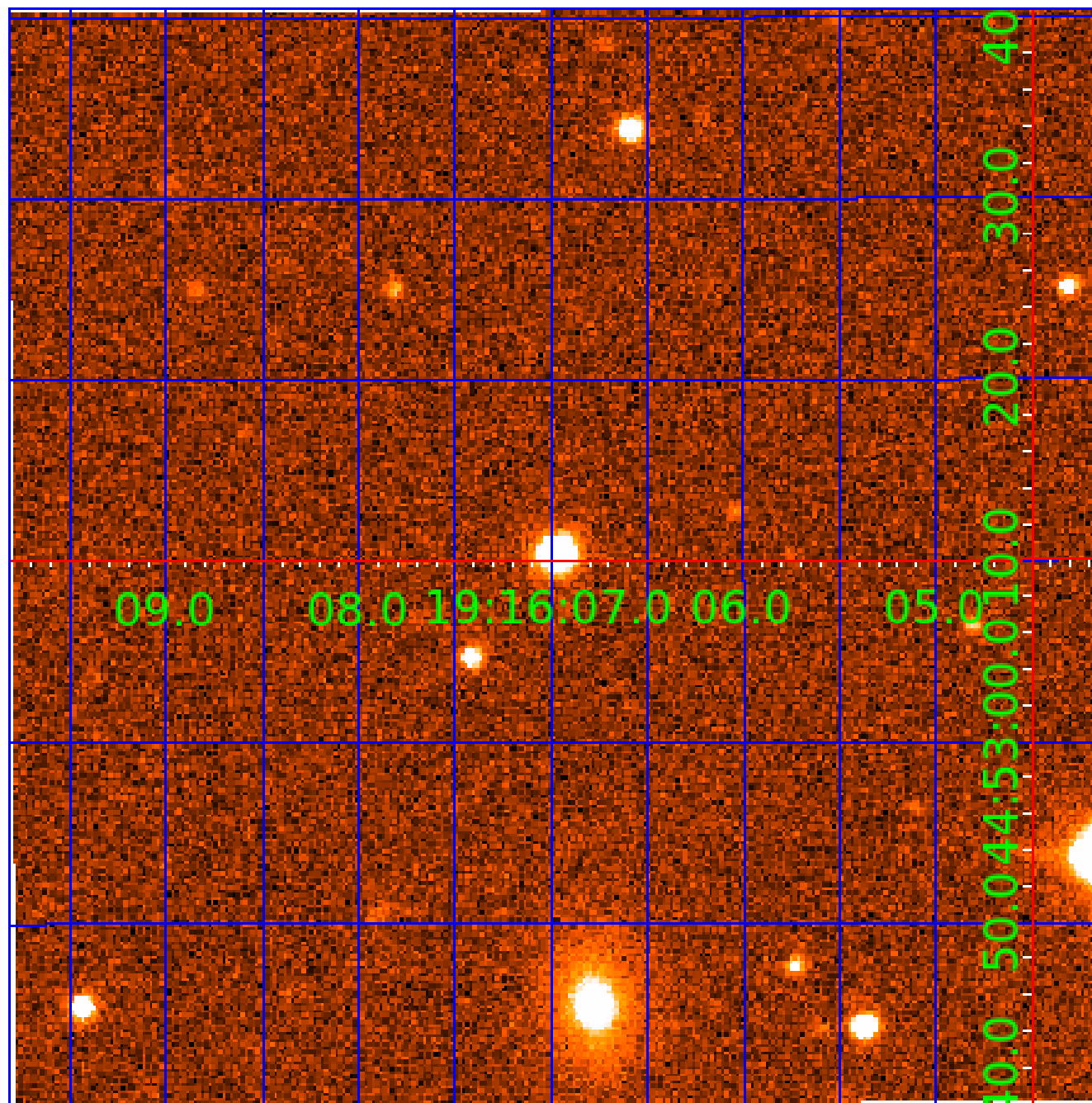
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 008682132

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})
008682132-01	OBS	No	0.601114	131.735798	67.8	1.104	22.5	12.9	0.91	6164	0.89	5543.62
008682132-02	OBS	No	0.601128	132.021854	158.8	0.648	26.4	23.1	0.91	6164	1.41	5543.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008682132-01	OBS	FP	0.00	1	0	1	0	LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
008682132-02	OBS	FP	0.00	1	0	1	0	LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET

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

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

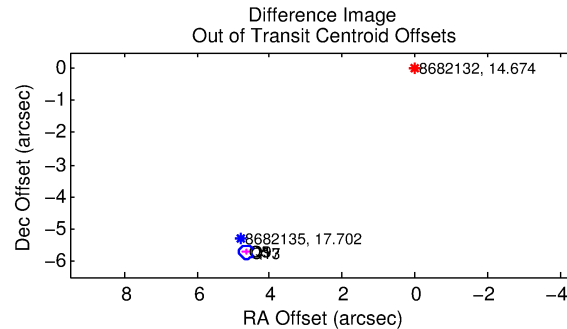
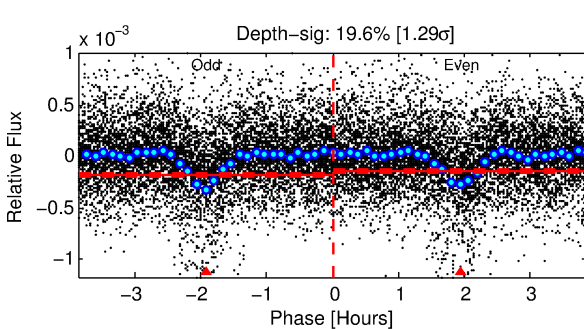
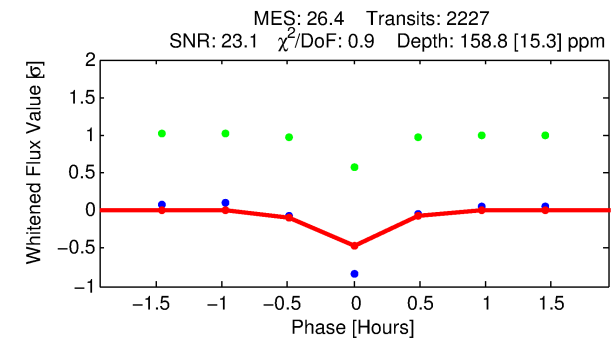
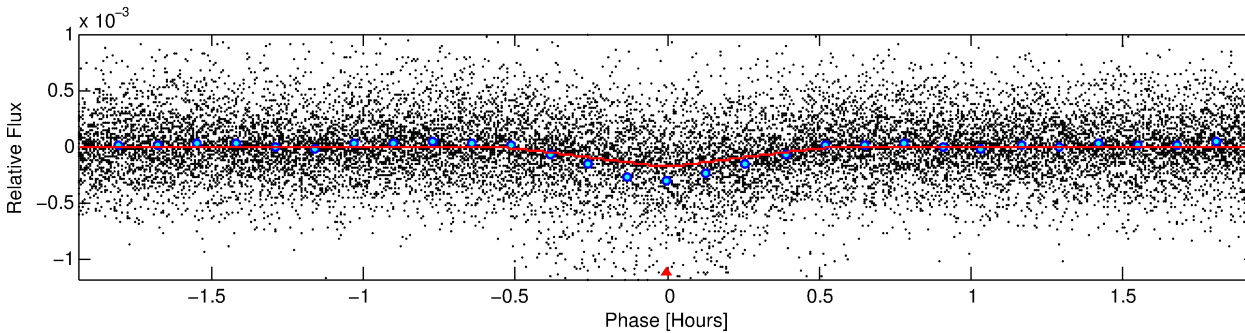
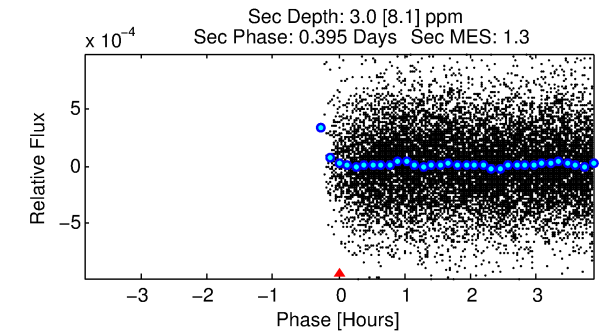
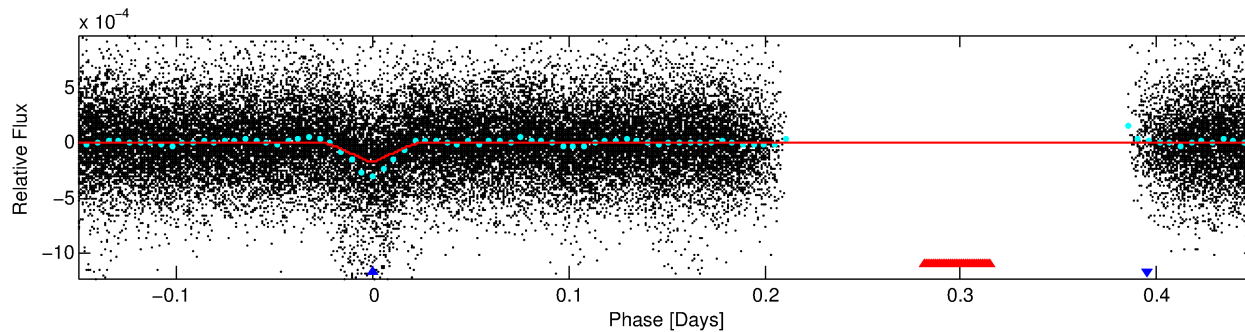
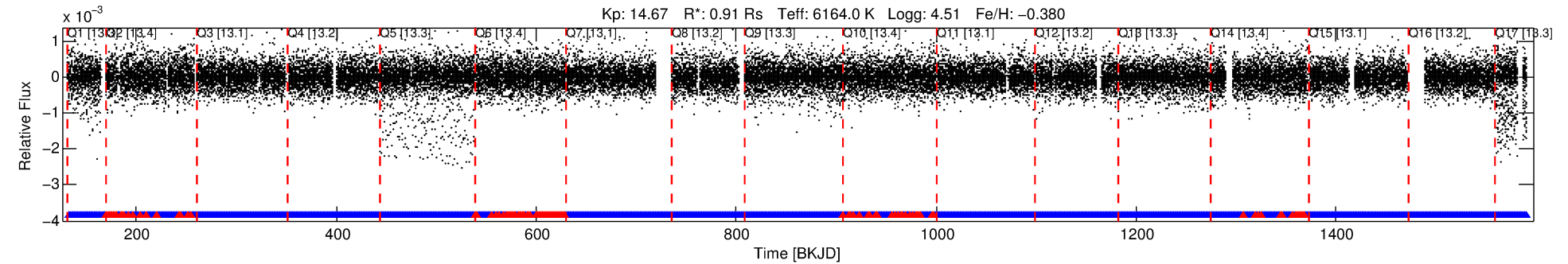
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008682132-02

No Significant Match Found

DV One-Page Summary

KIC: 8682132 Candidate: 2 of 2 Period: 0.601 d



DV Fit Results:

Period = 0.60113 [0.00001] d
Epoch = 132.0219 [0.0006] BKJD
Rp/R* = 0.0142 [0.0033]
a/R* = 3.08 [3.44]
b = 0.93 [0.20]
Seff = 5543.45 [1989.42]
Teq = 2200 [197] K
Rp = 1.41 [0.50] Re
a = 0.0139 [0.0032] AU
Ag = 0.16 [0.44] [-1.90σ]
Teffp = 2152 [1479] K [-0.03σ]

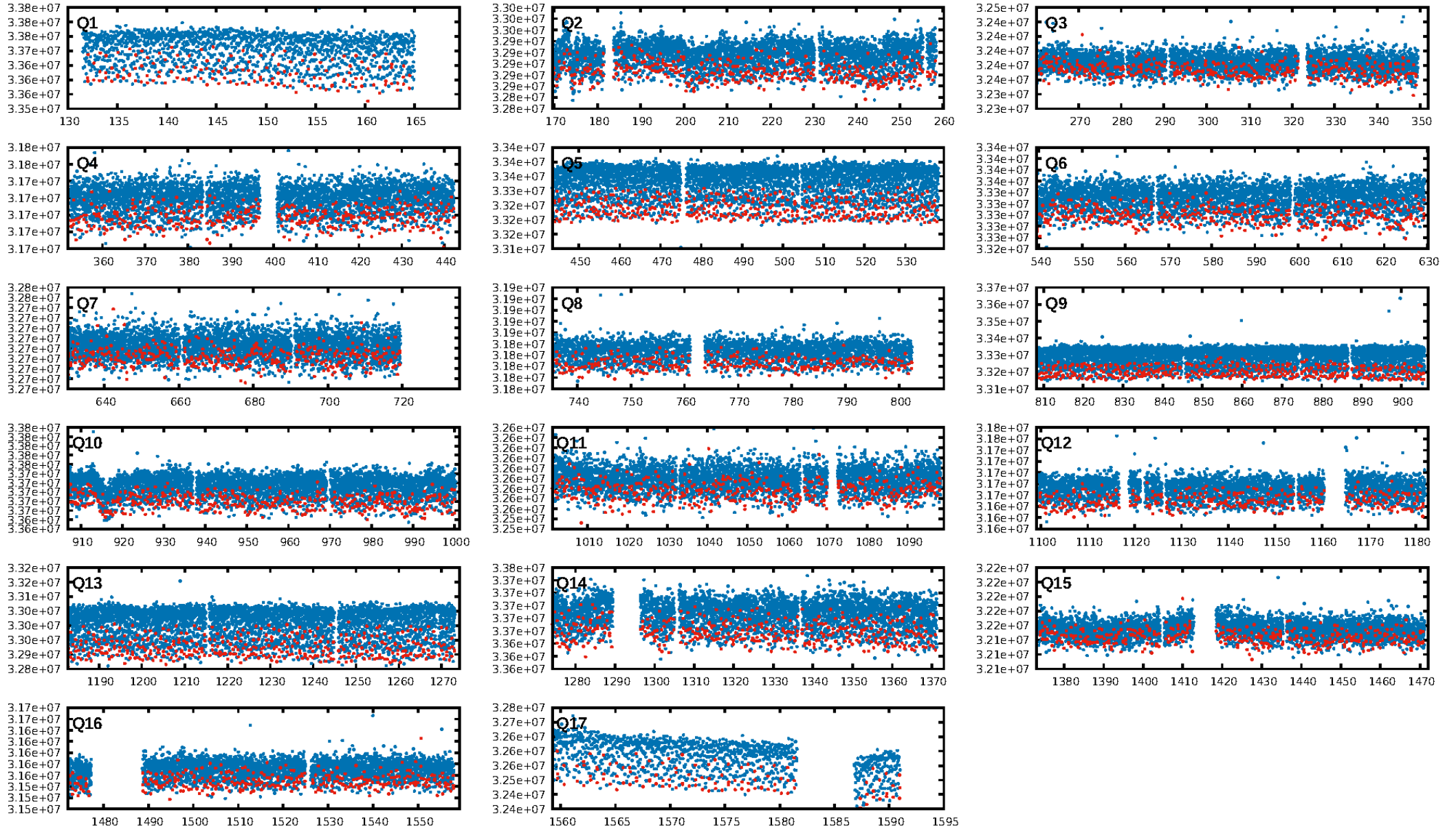
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.70e-137
RollingBand-fgt: 0.93 [1982/2129]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 7.380 arcsec [108.95σ]
KicOffset-rm: 7.303 arcsec [108.48σ]
OotOffset-st: 0/0/0/5 [5]
KicOffset-st: 0/0/0/5 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [17/17]

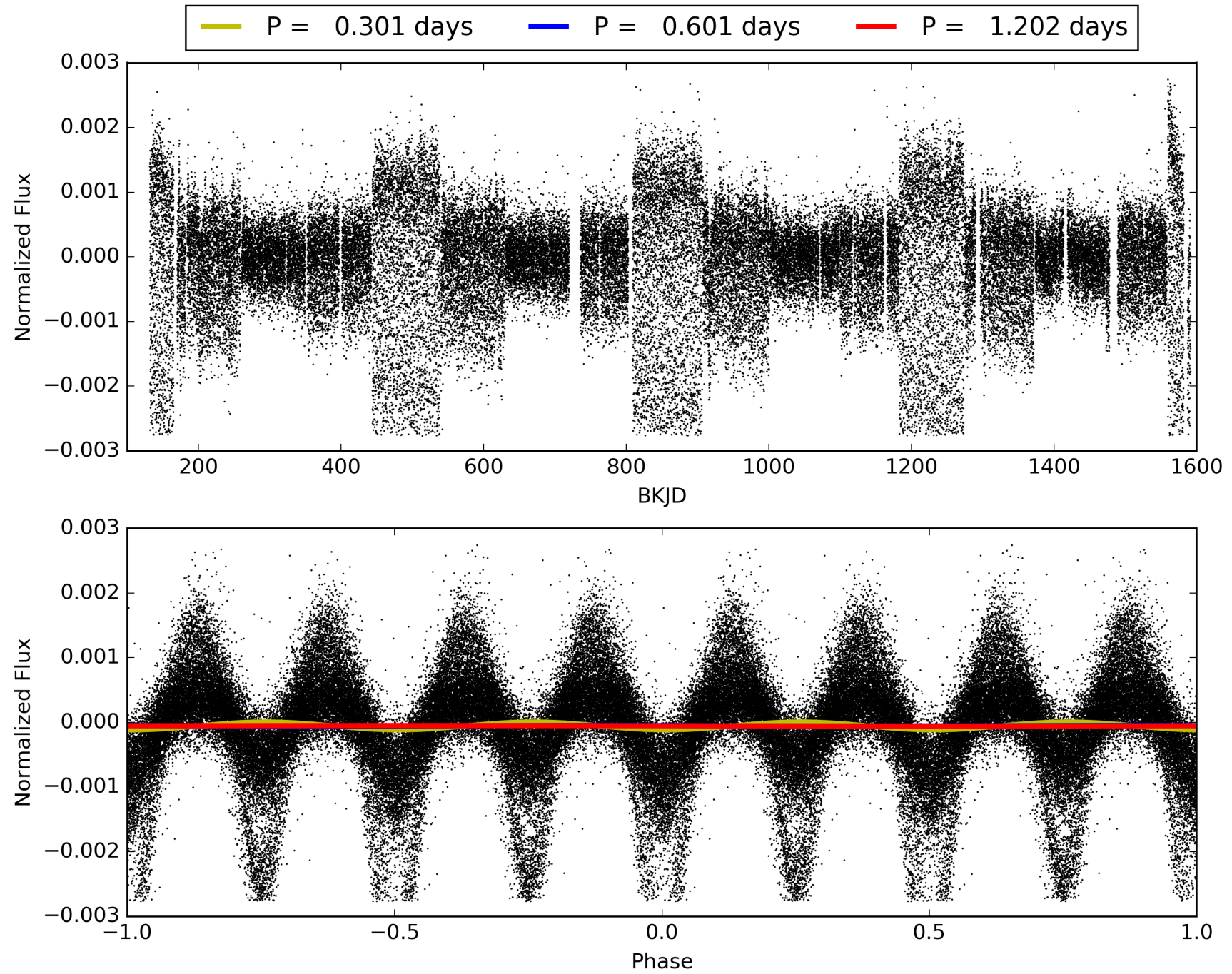
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:25:13 Z

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

TCE 008682132-02, PDC Light Curves

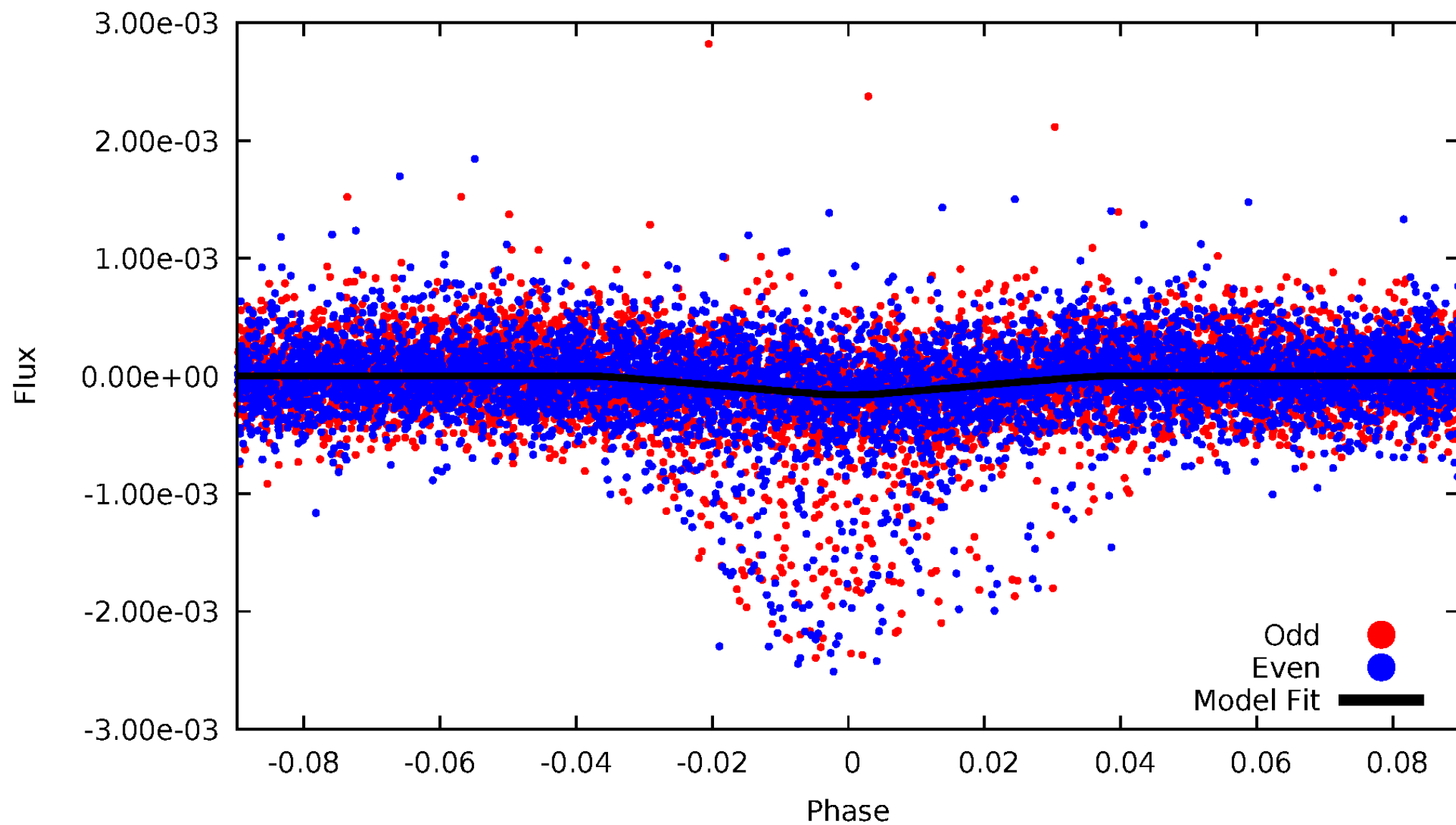


TCE 008682132-02



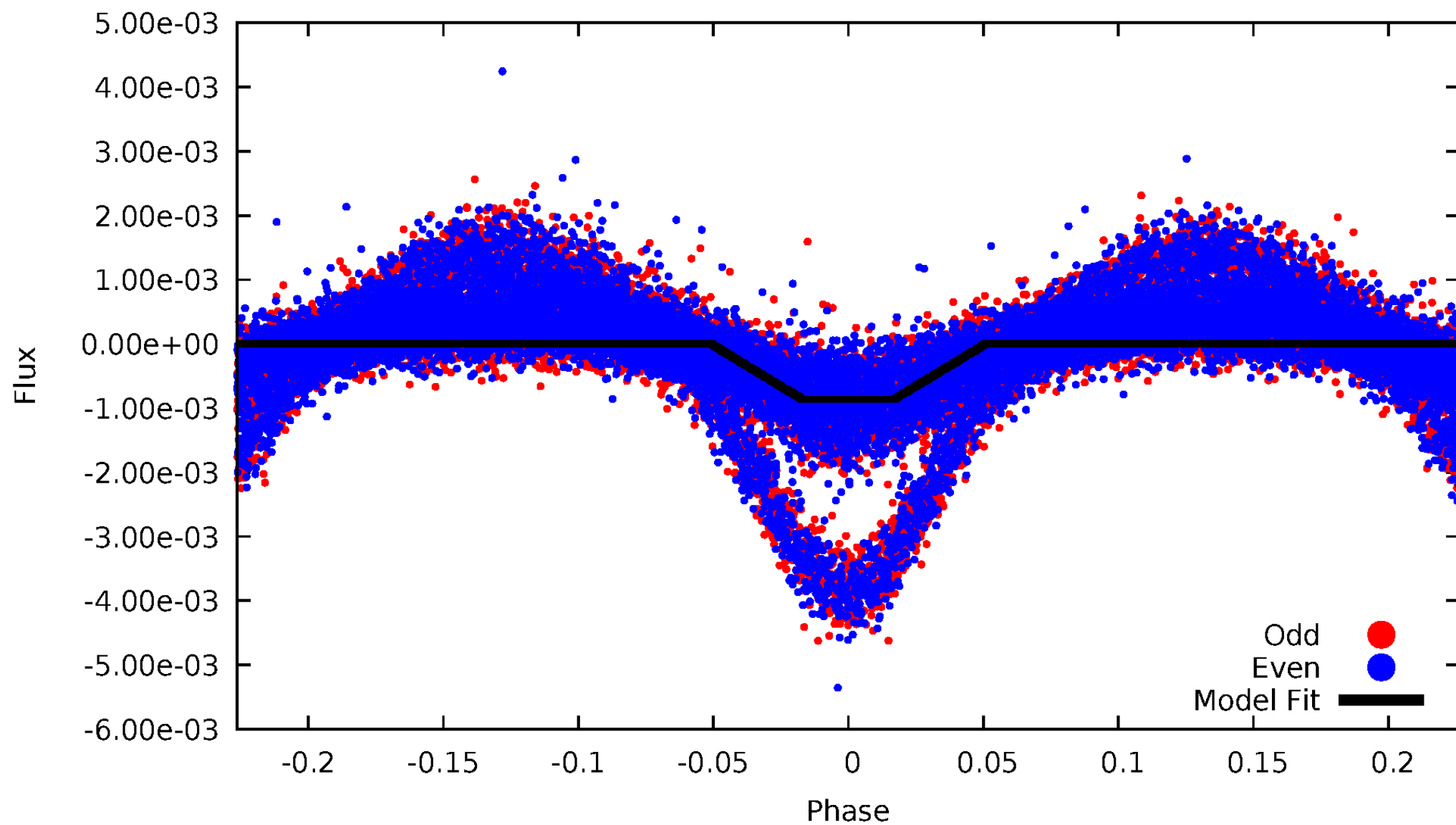
DV Odd/Even

TCE 008682132-02



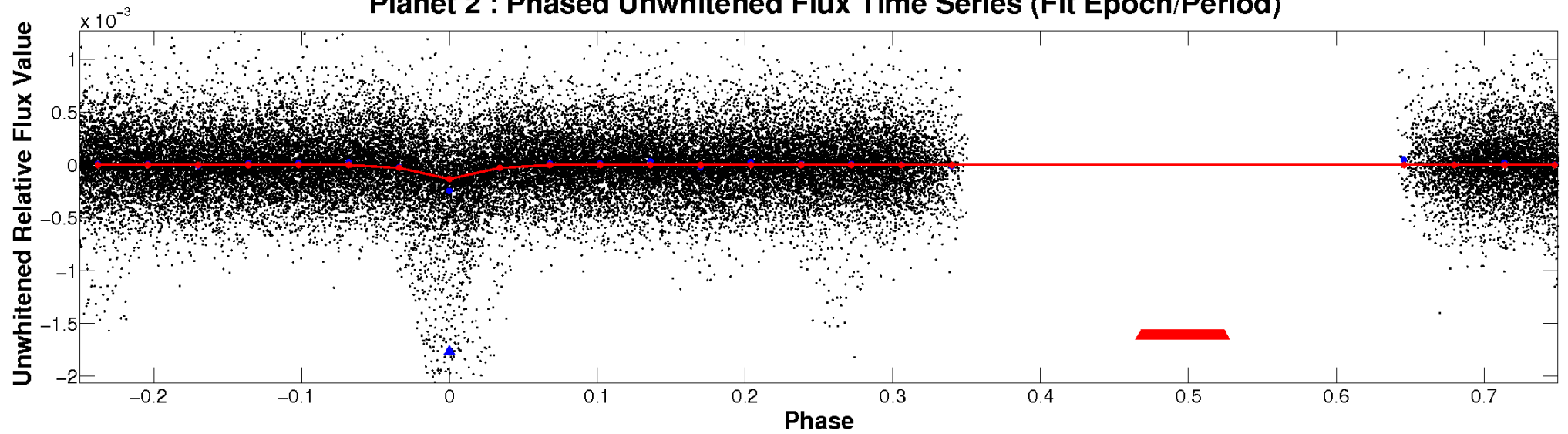
ALT Odd/Even

TCE 008682132-02

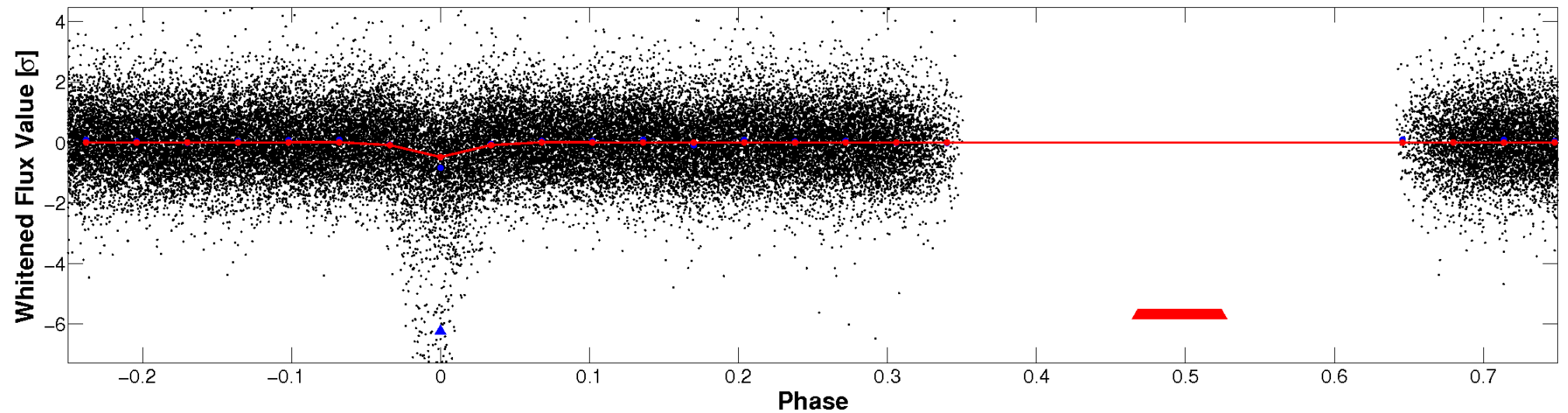


Non-Whitened Vs. Whitened Light Curve

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

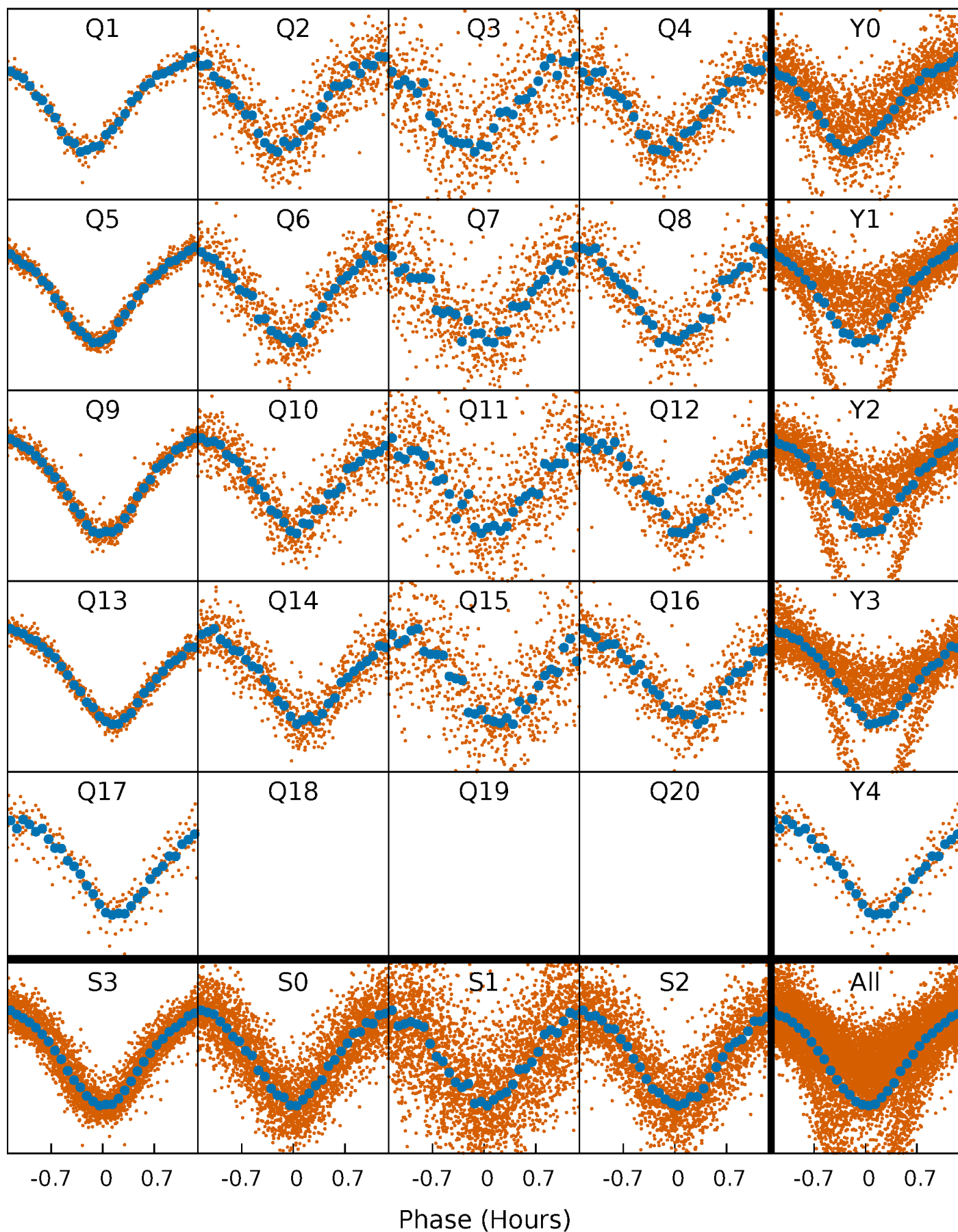


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



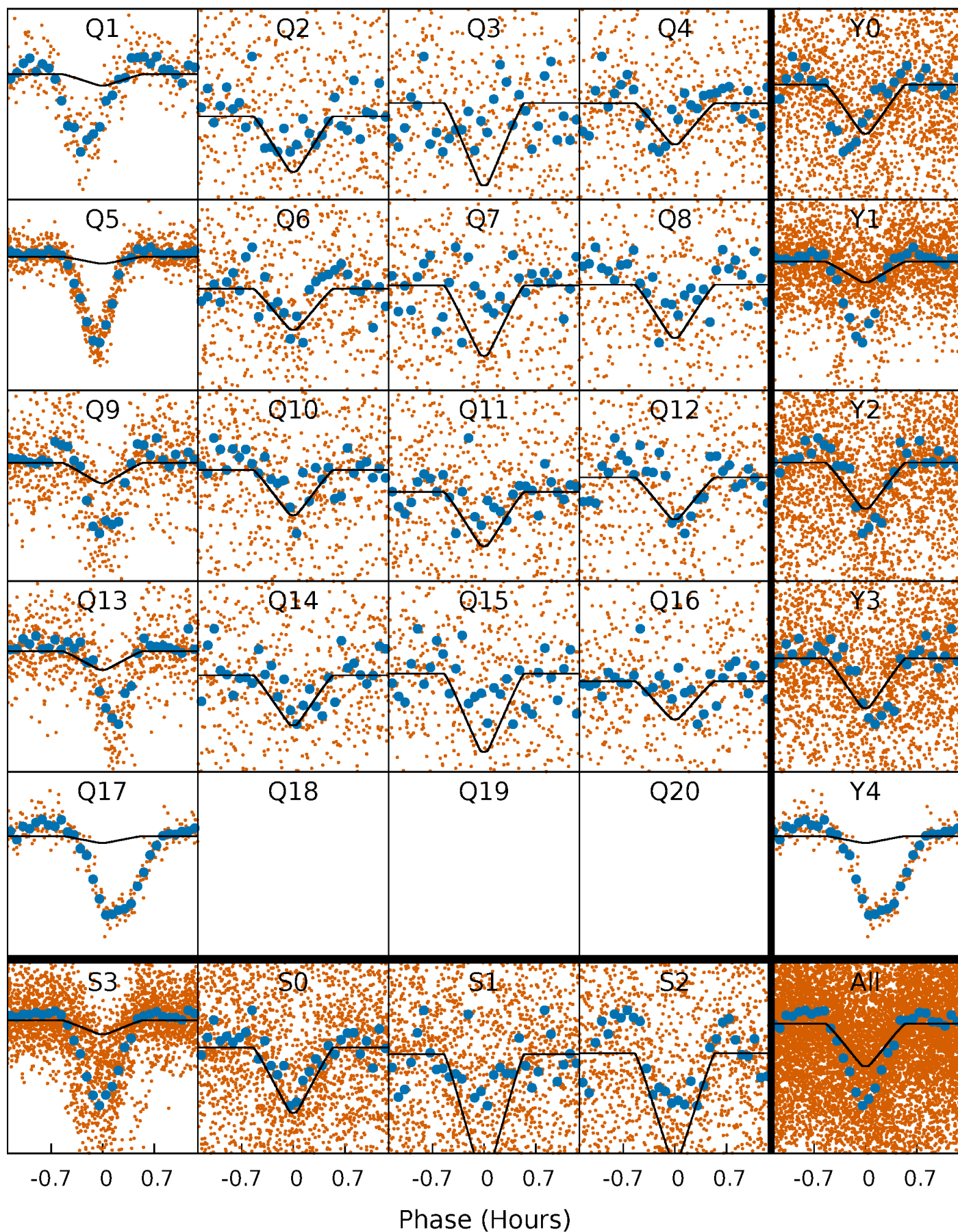
PDC Quarter-Phased Transit Curves

TCE 008682132-02 P= 0.601128 Days $T_0=132.021854$ (BKJD)



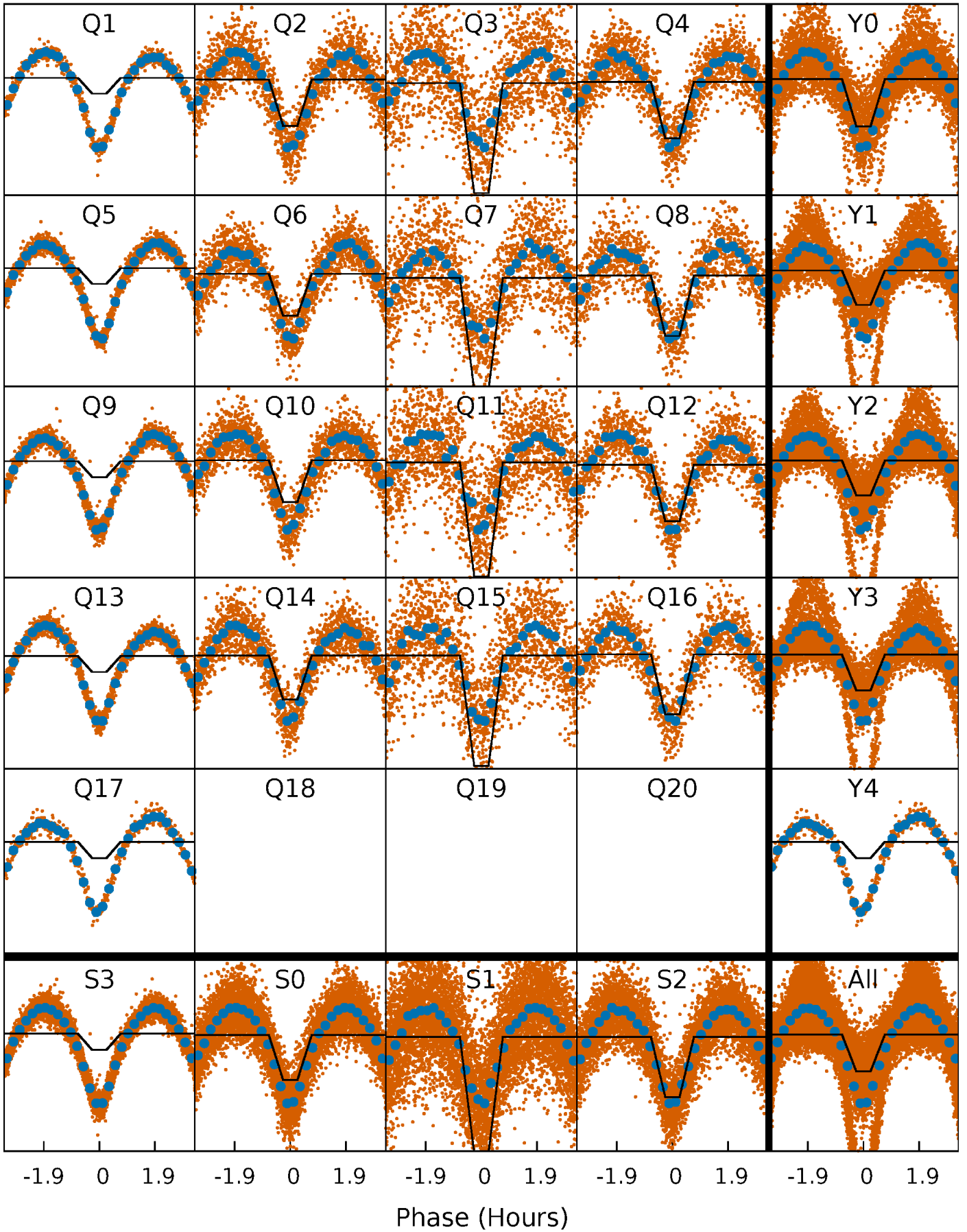
DV Quarter-Phased Transit Curves

TCE 008682132-02 $P = 0.601128$ Days $T_0 = 132.021854$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

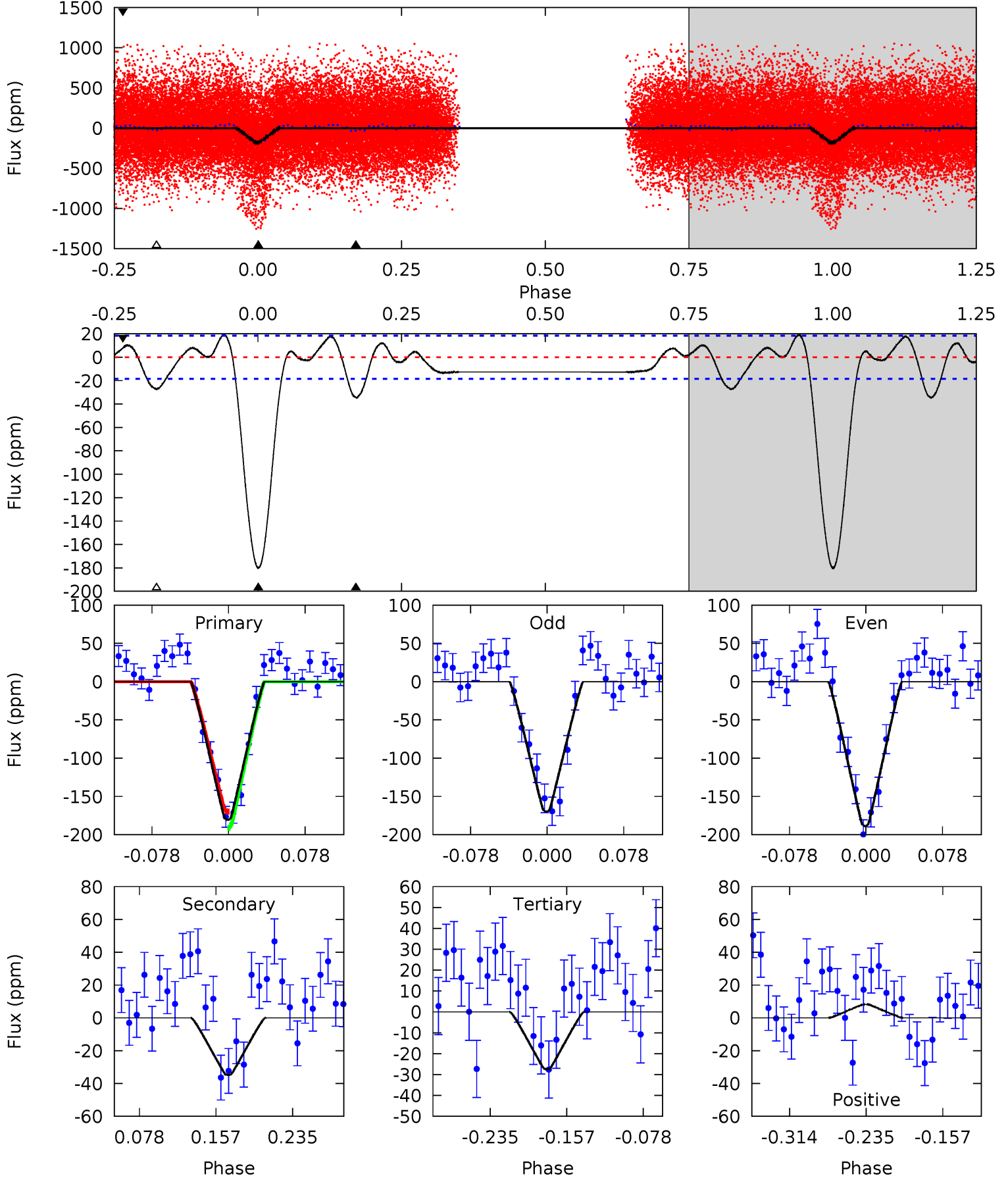
TCE 008682132-02 P= 0.601136 Days $T_0=132.012414$ (BKJD)



DV Model-Shift Uniqueness Test

008682132-02, P = 0.601128 Days, E = 131.420726 Days

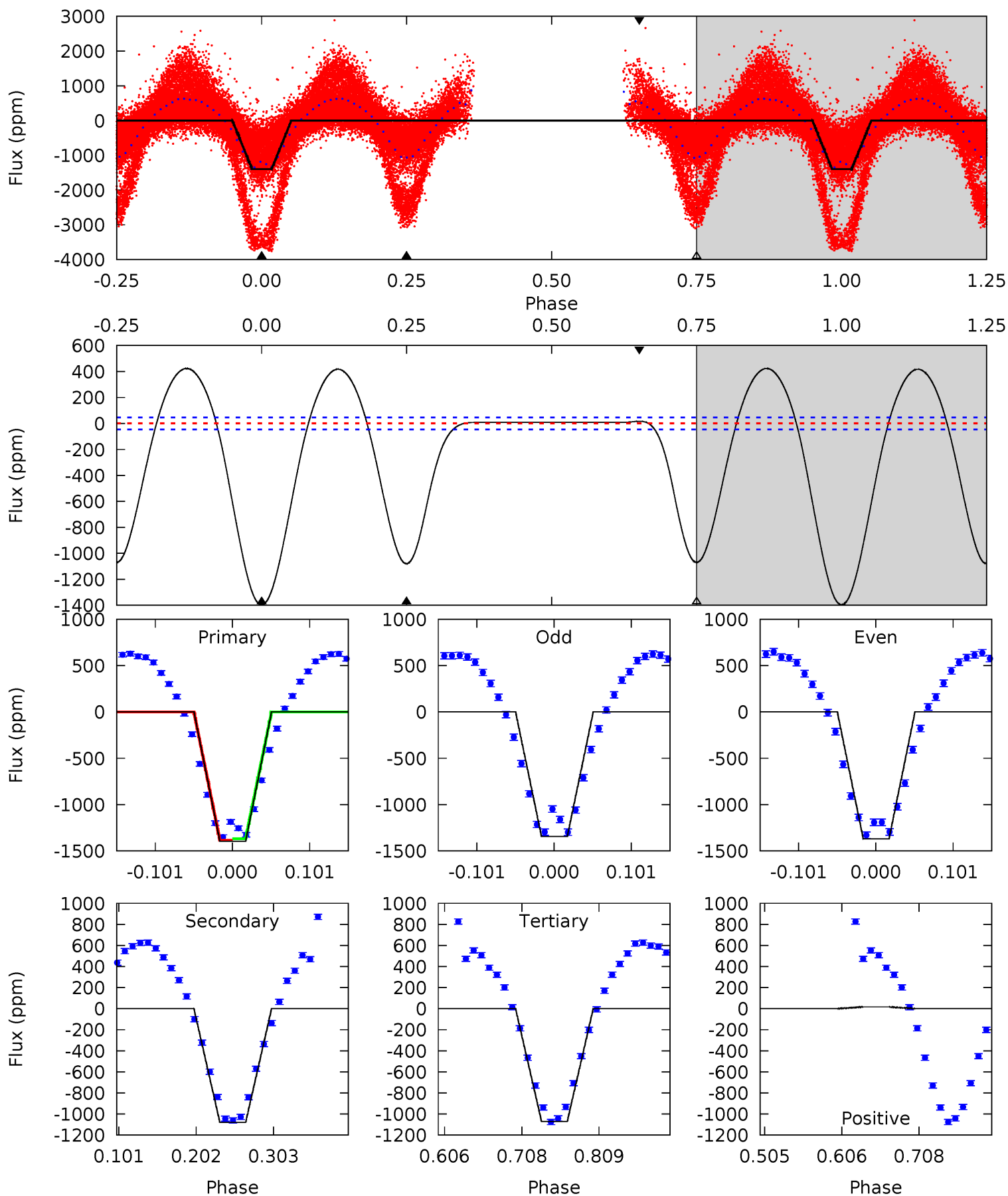
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.2	8.69	6.86	2.05	4.62	1.76	2.42	38.3	43.2	1.82	6.64	2.36	1.67	0.10	2.79



Alt Model-Shift Uniqueness Test

008682132-02, P = 0.601136 Days, E = 131.411278 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
138.1	106.8	105.8	1.63	4.56	1.64	52.4	32.2	136.4	0.98	105.2	1.21	1.44	0.23	0.76



Stellar Parameters For KIC 008682132

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6164^{+165}_{-202}	$4.515^{+0.046}_{-0.184}$	$-0.380^{+0.300}_{-0.350}$	$0.908^{+0.243}_{-0.081}$	$0.985^{+0.114}_{-0.126}$	$1.853^{+0.441}_{-0.877}$
	+3%/-3%	+1%/-4%	+79%/-92%	+27%/-9%	+12%/-13%	+24%/-47%
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 008682132-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-35 ± 4	$1.47^{+0.36}_{-0.37}$	3128^{+184}_{-156}	4072^{+534}_{-389}	$1.651^{+1.304}_{-0.575}$
Alt.	-1080 ± 10	$3.02^{+0.51}_{-0.41}$	3130^{+187}_{-142}	6453^{+509}_{-405}	12^{+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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

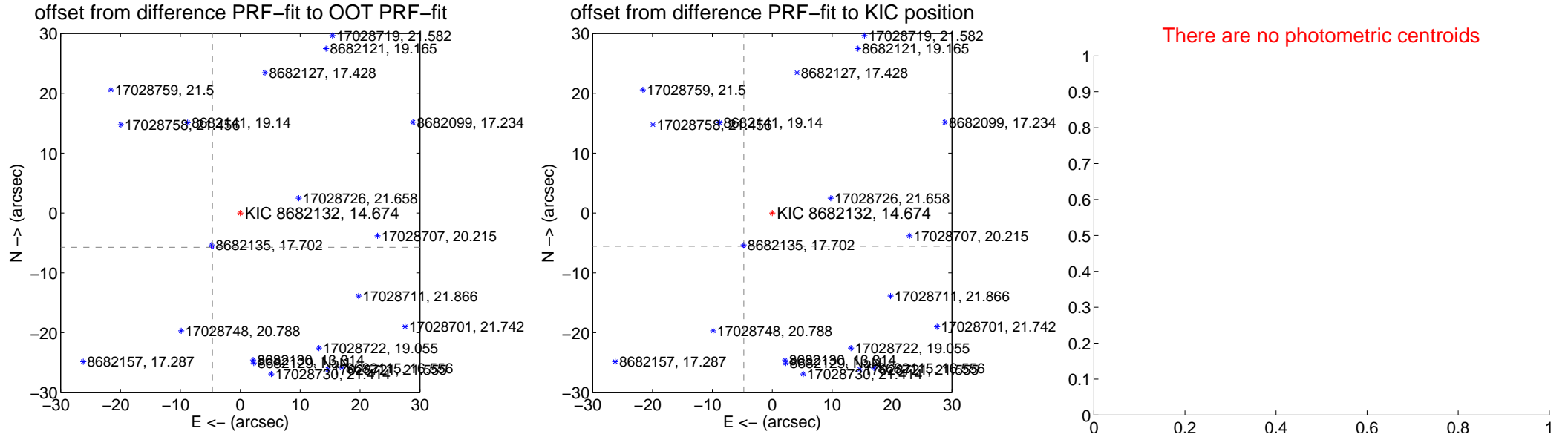
DV Centroid Data

Supplemental centroid analysis for 008682132-02. Kepler magnitude: 14.67. Transit SNR 23.14

There are 5 quarters with good PRF difference image offsets

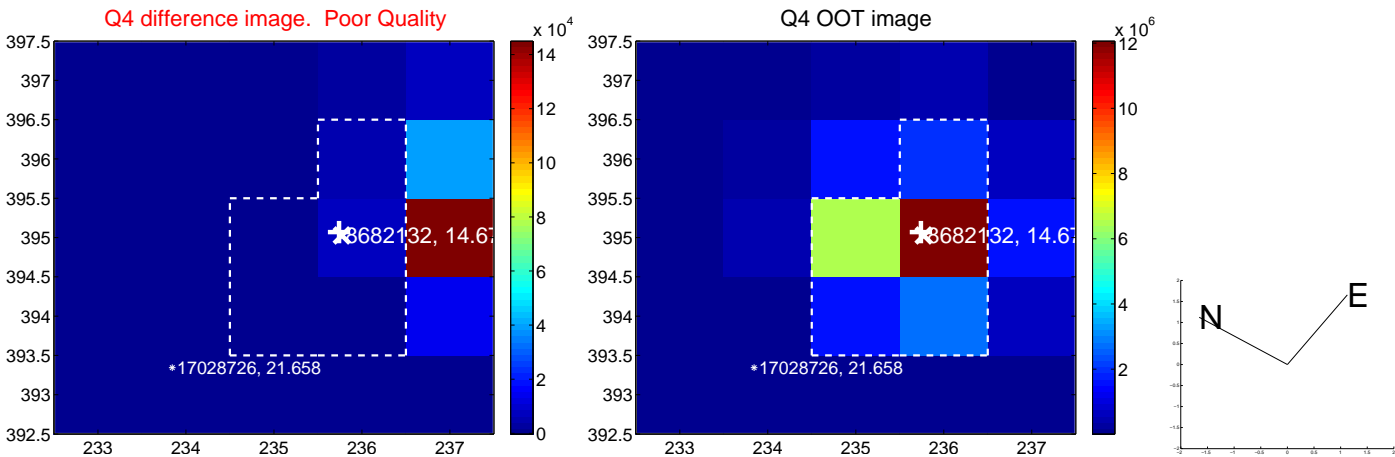
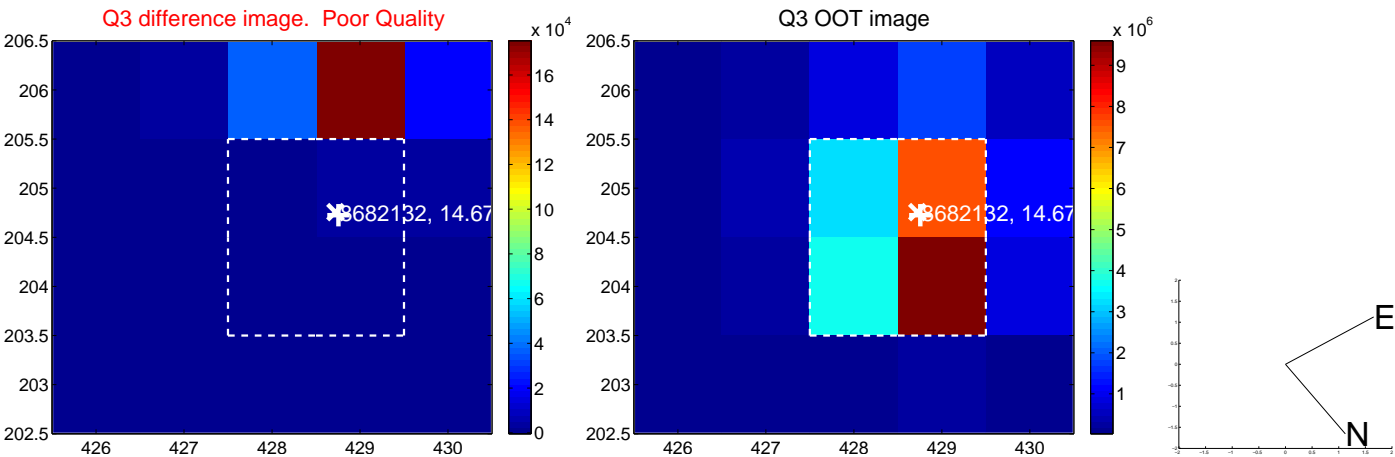
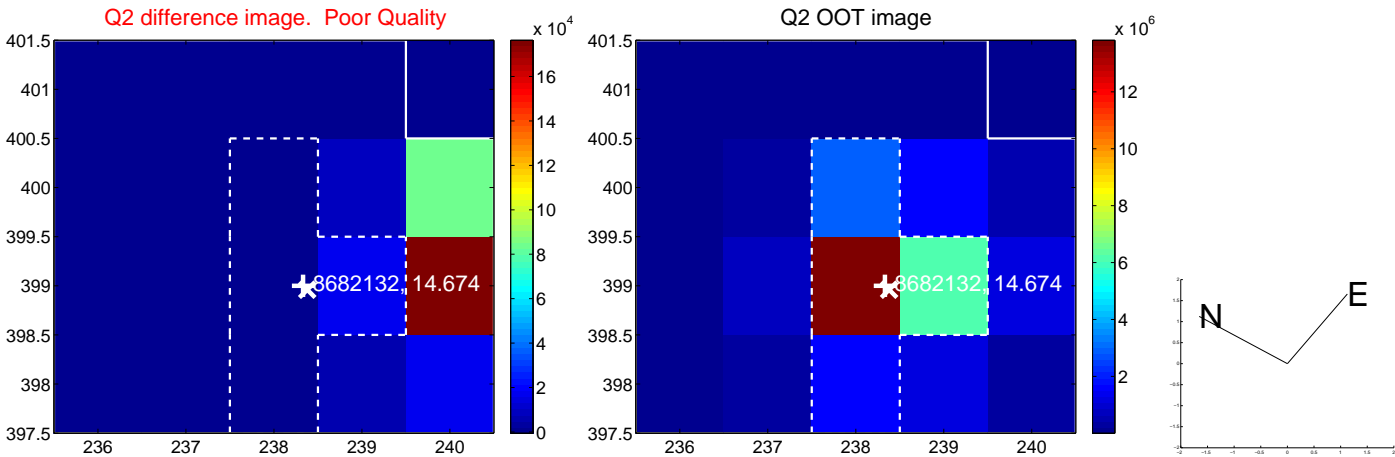
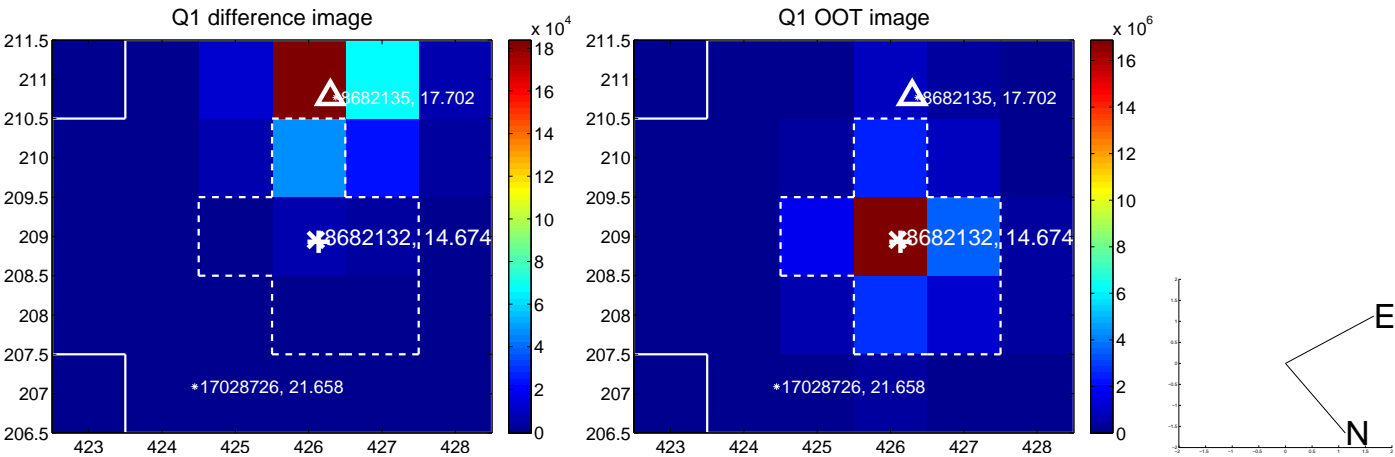
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.380 \pm 0.068	108.95	4.654 \pm 0.067	-5.727 \pm 0.068
PRF-fit source offset from KIC position	7.303 \pm 0.067	108.48	4.744 \pm 0.067	-5.552 \pm 0.068
photometric centroid source offset	—	—	—	—

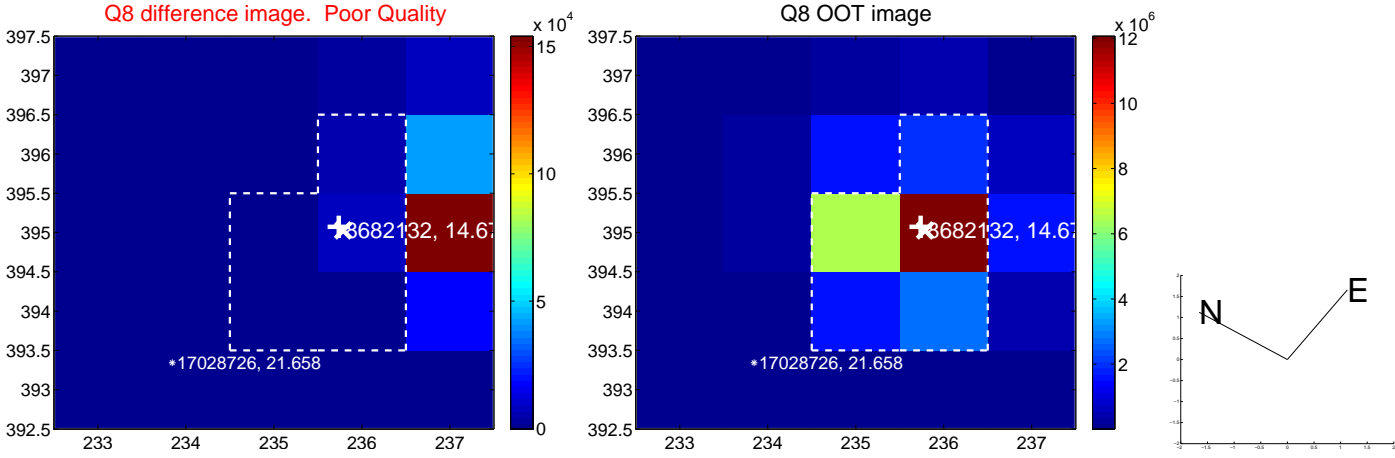
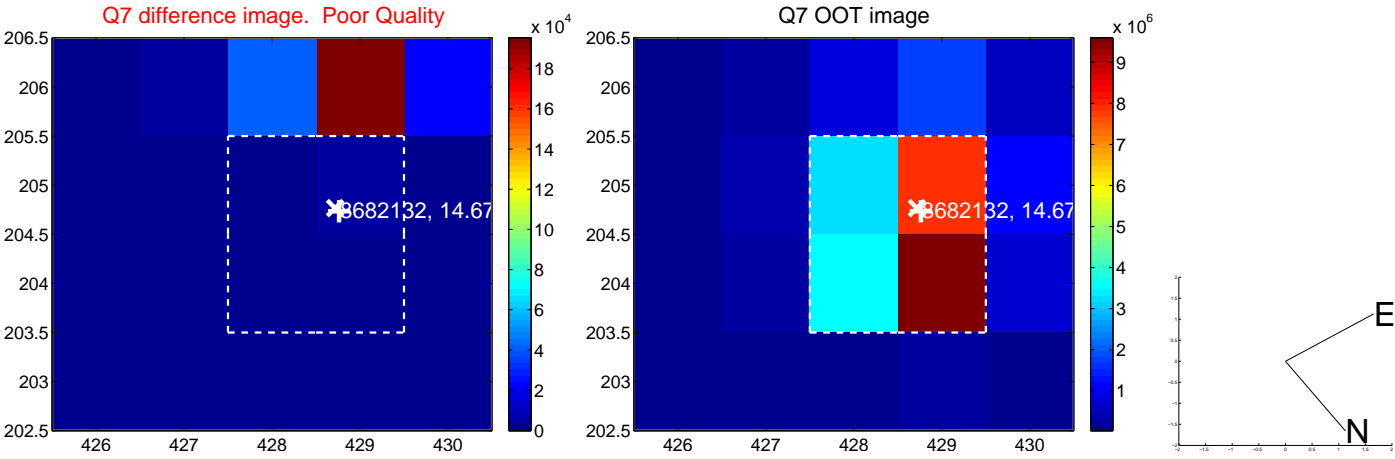
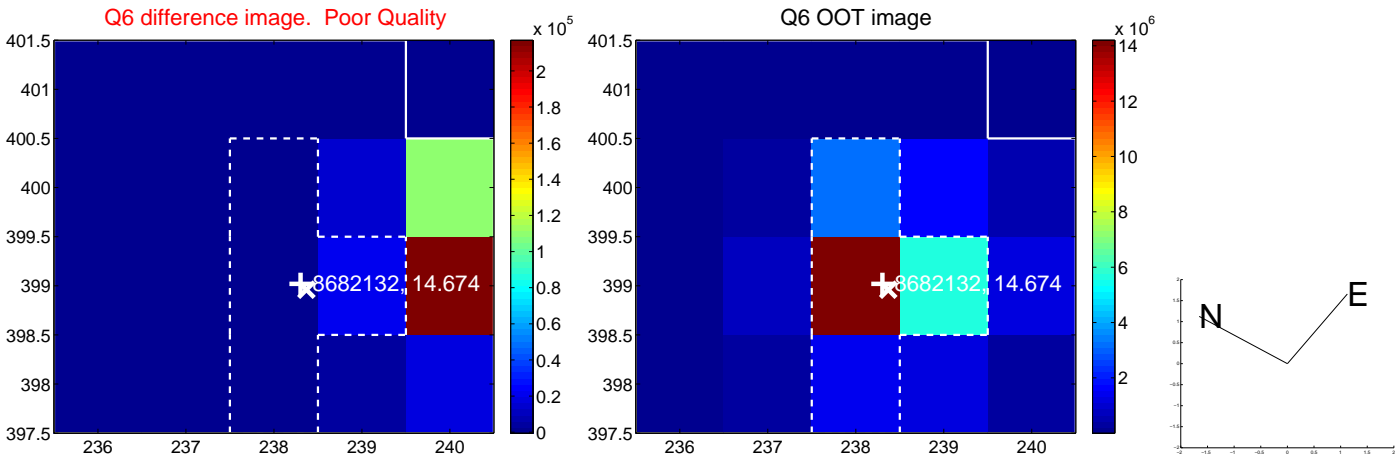
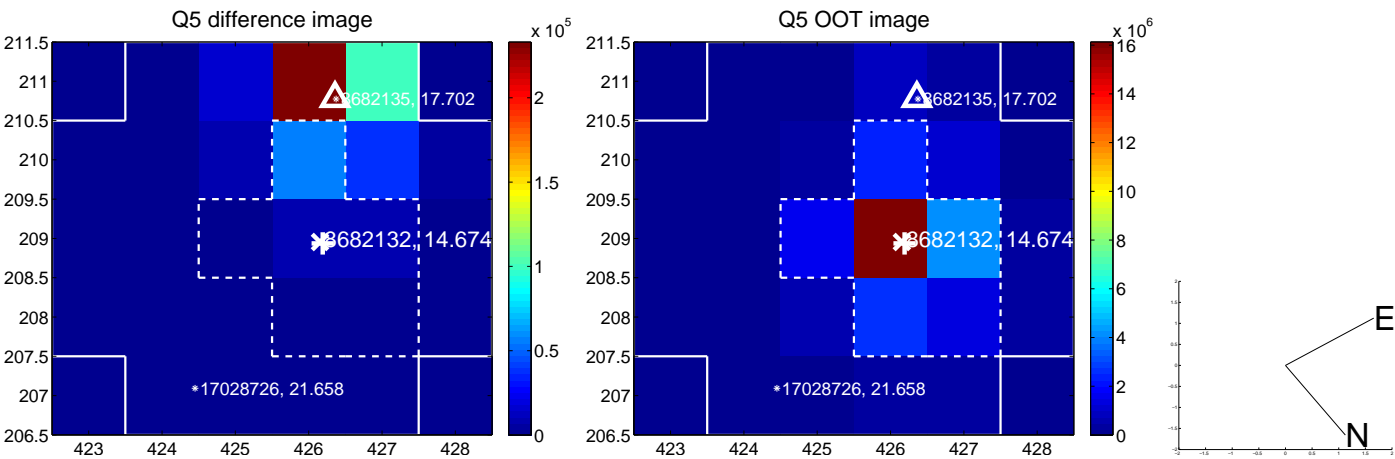


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

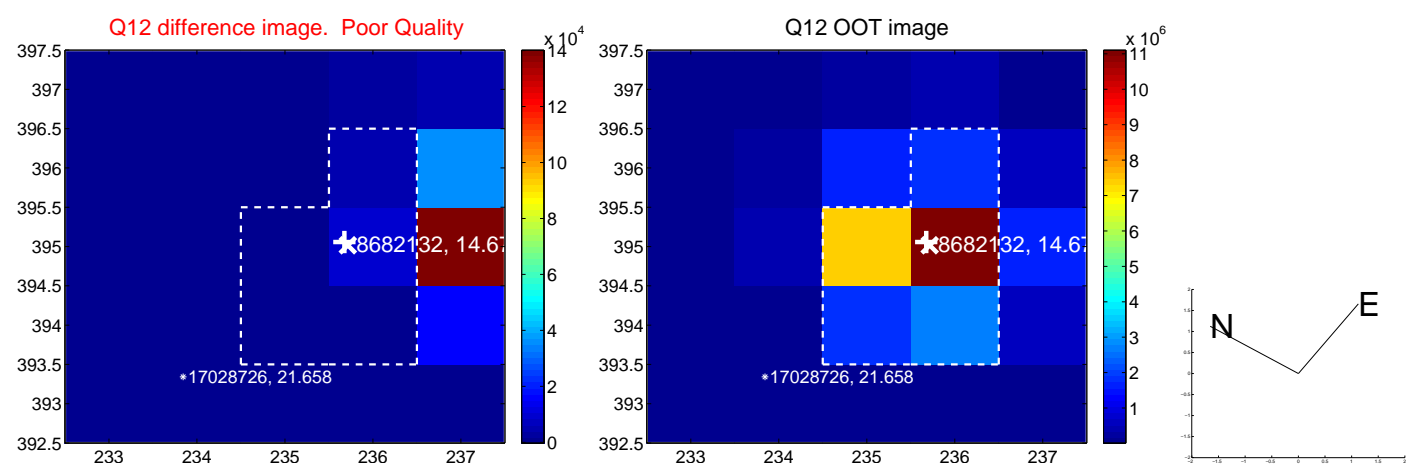
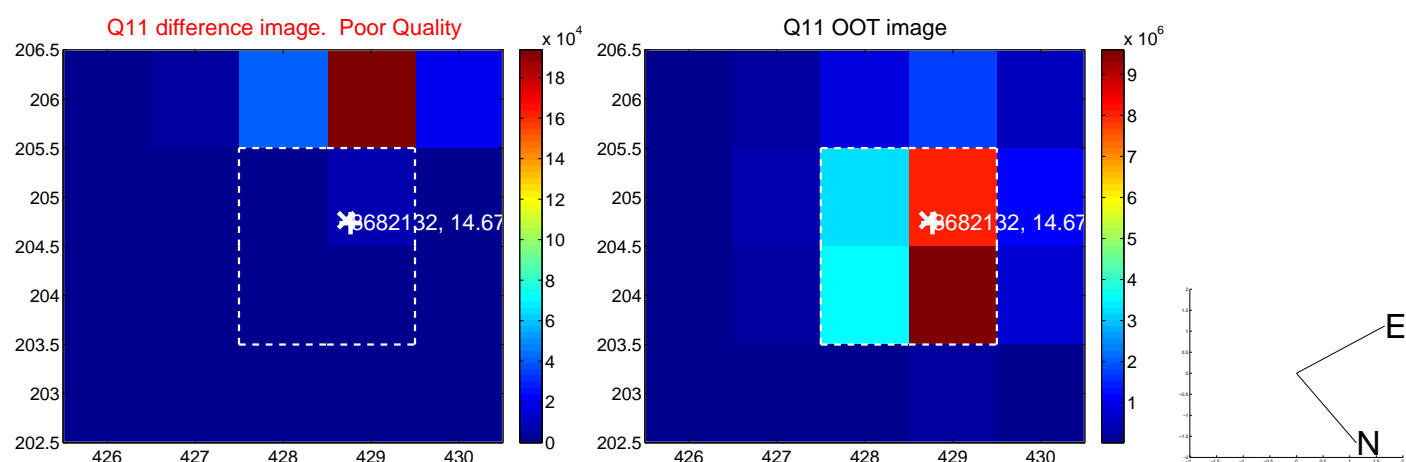
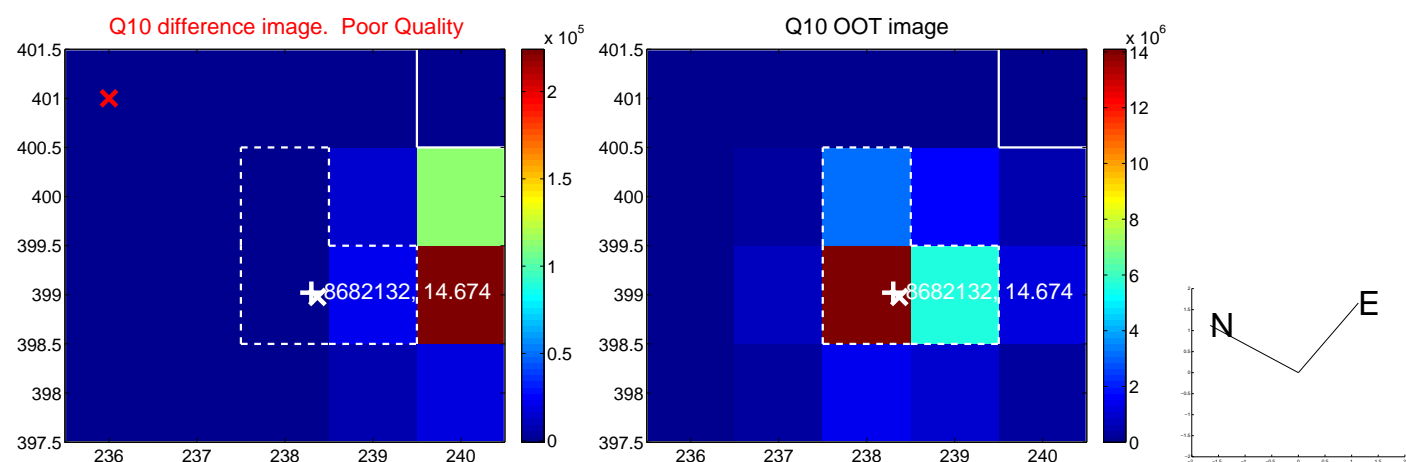
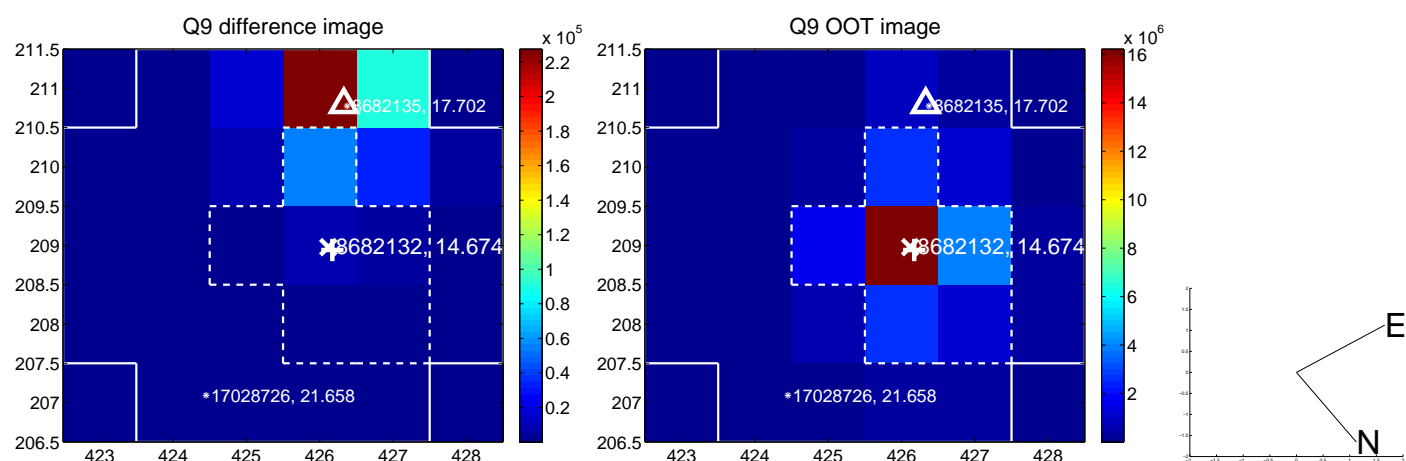
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



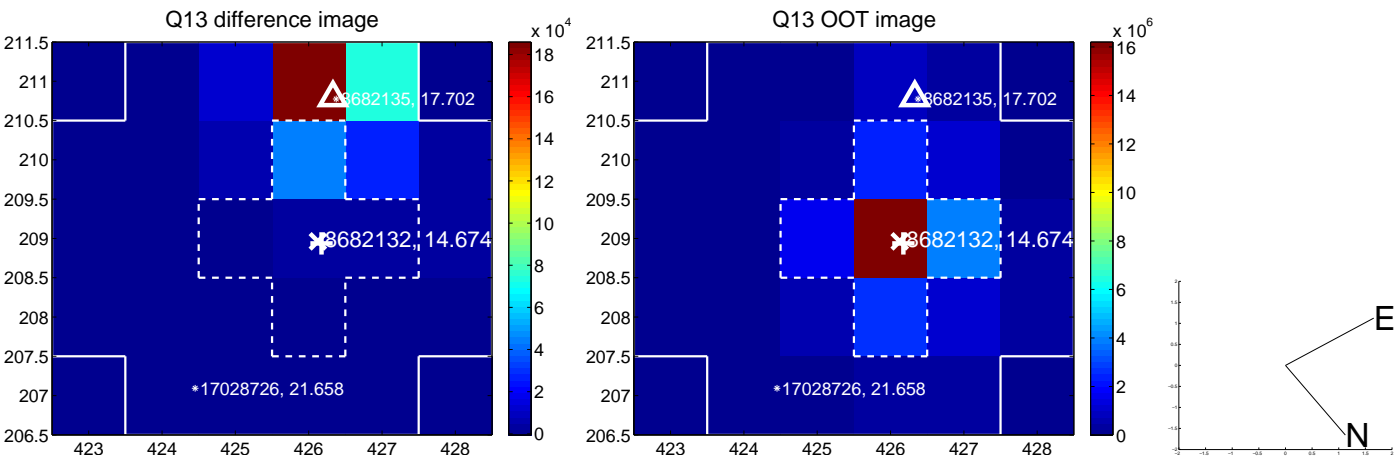
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



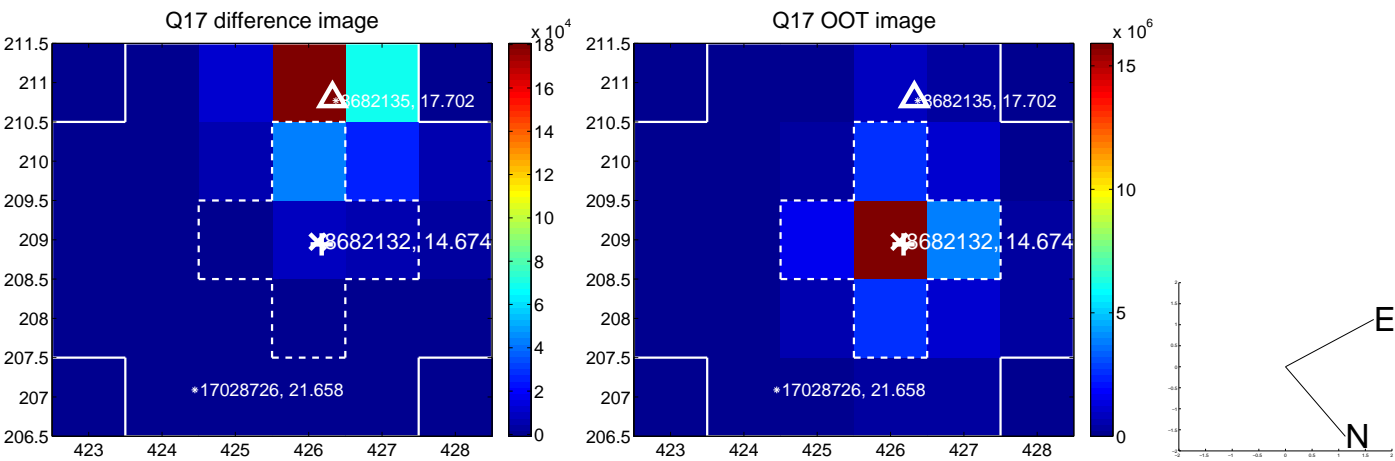
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

