

KIC 008620561

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})
008620561-01	OBS	3753.01	0.782049	131.671435	312807.5	1.910	2833.3	1065.1	0.59	4768	37.81	838.79
008620561-02	OBS	No	0.782045	132.064119	148542.4	1.500	1360.0	-1.0	0.59	4768	22.59	838.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008620561-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
008620561-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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.

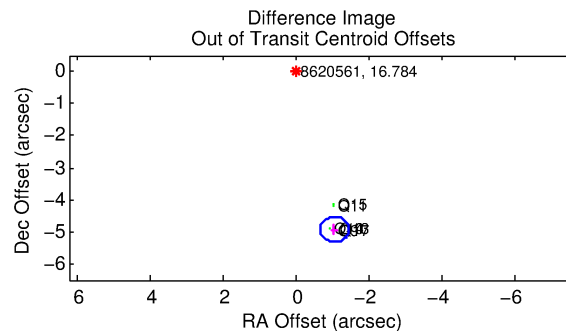
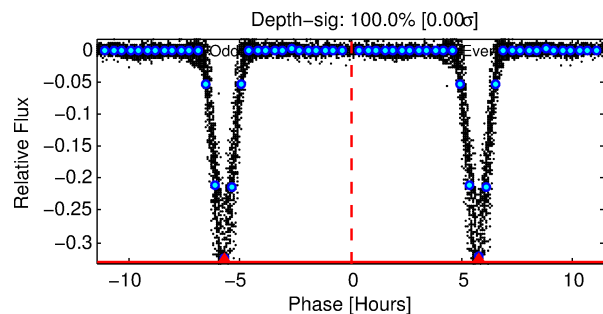
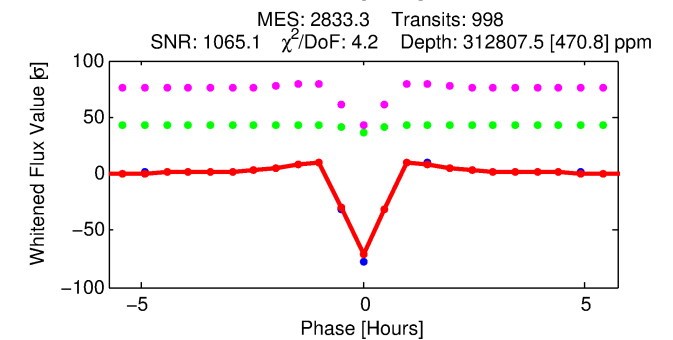
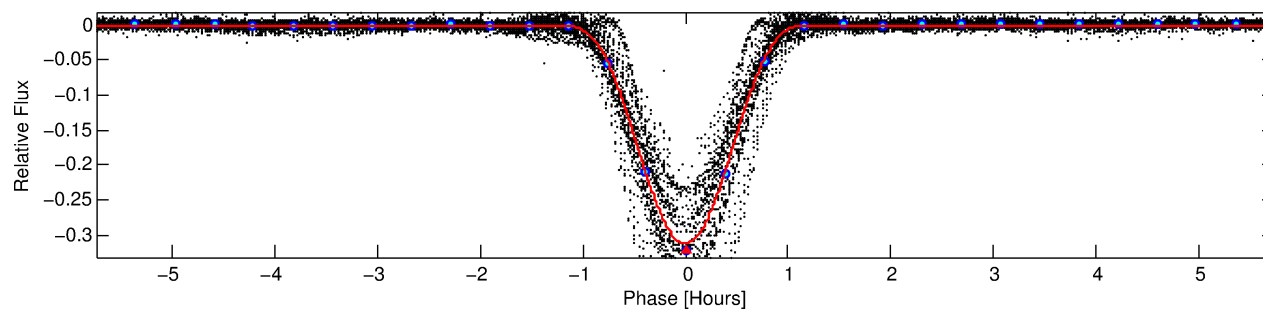
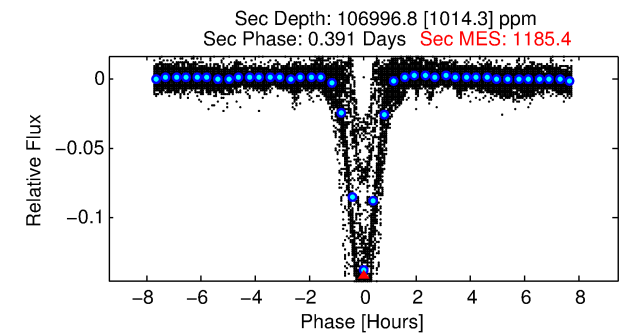
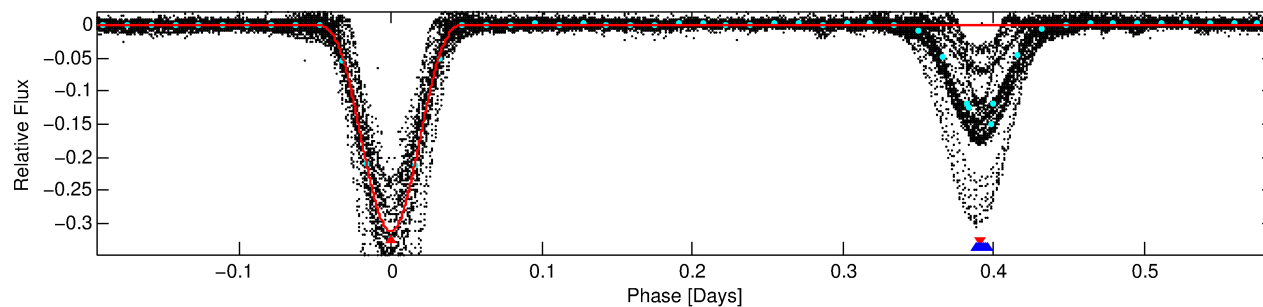
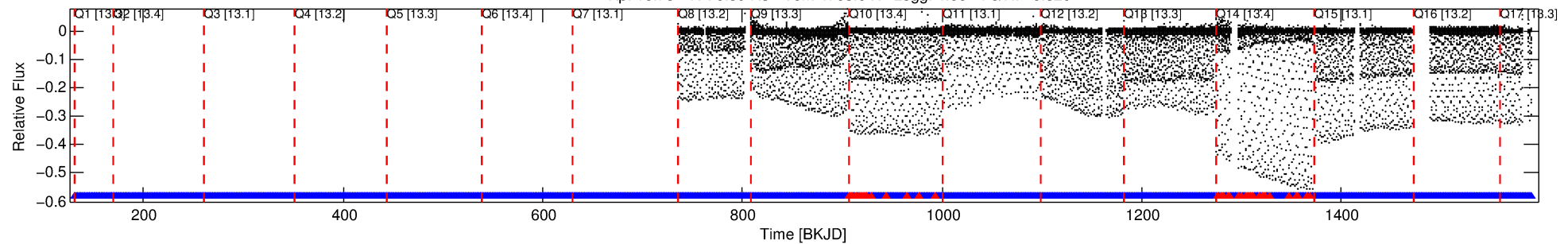
Ephemeris Match Information For 008620561-01

No Significant Match Found

DV One-Page Summary

KIC: 8620561 Candidate: 1 of 2 Period: 0.782 d
KOI: K03753 Corr: No Ephemeris Match

Kp: 16.78 R*: 0.59 Rs Teff: 4768.0 K Logg: 4.66 Fe/H: -0.820



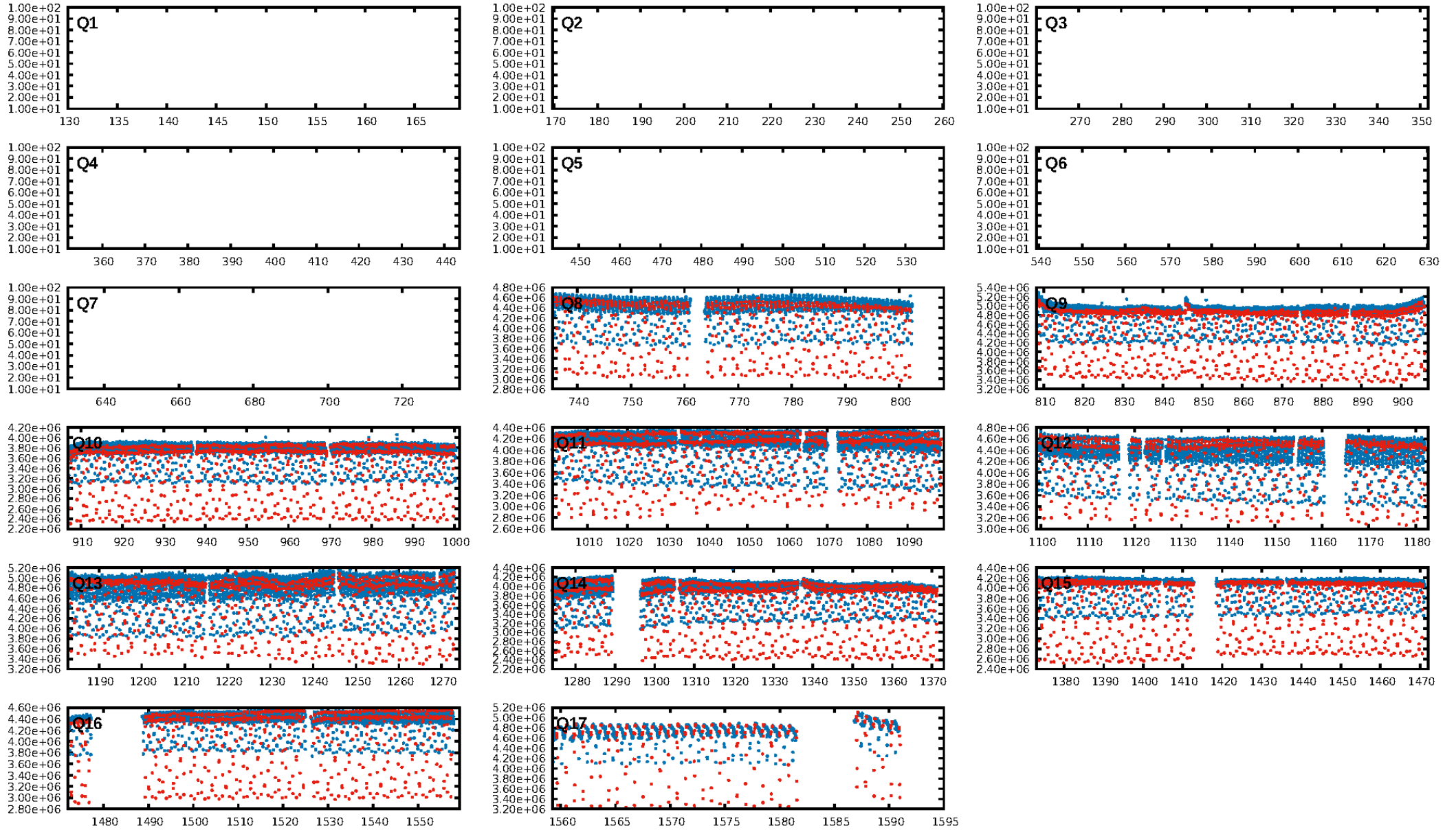
DV Fit Results:

Period = 0.78205 [0.00000] d
Epoch = 131.6714 [0.0000] BKJD
Rp/R* = 0.5863 [0.0427]
a/R* = 4.77 [0.05]
b = 0.55 [0.09]
Seff = 838.79 [146.30]
Teff = 1372 [60] K
Rp = 37.81 [4.03] Re
a = 0.0139 [0.0009] AU
Ag = 7.94 [1.41] [4.94σ]
Teffp = 3562 [182] K [11.45σ]

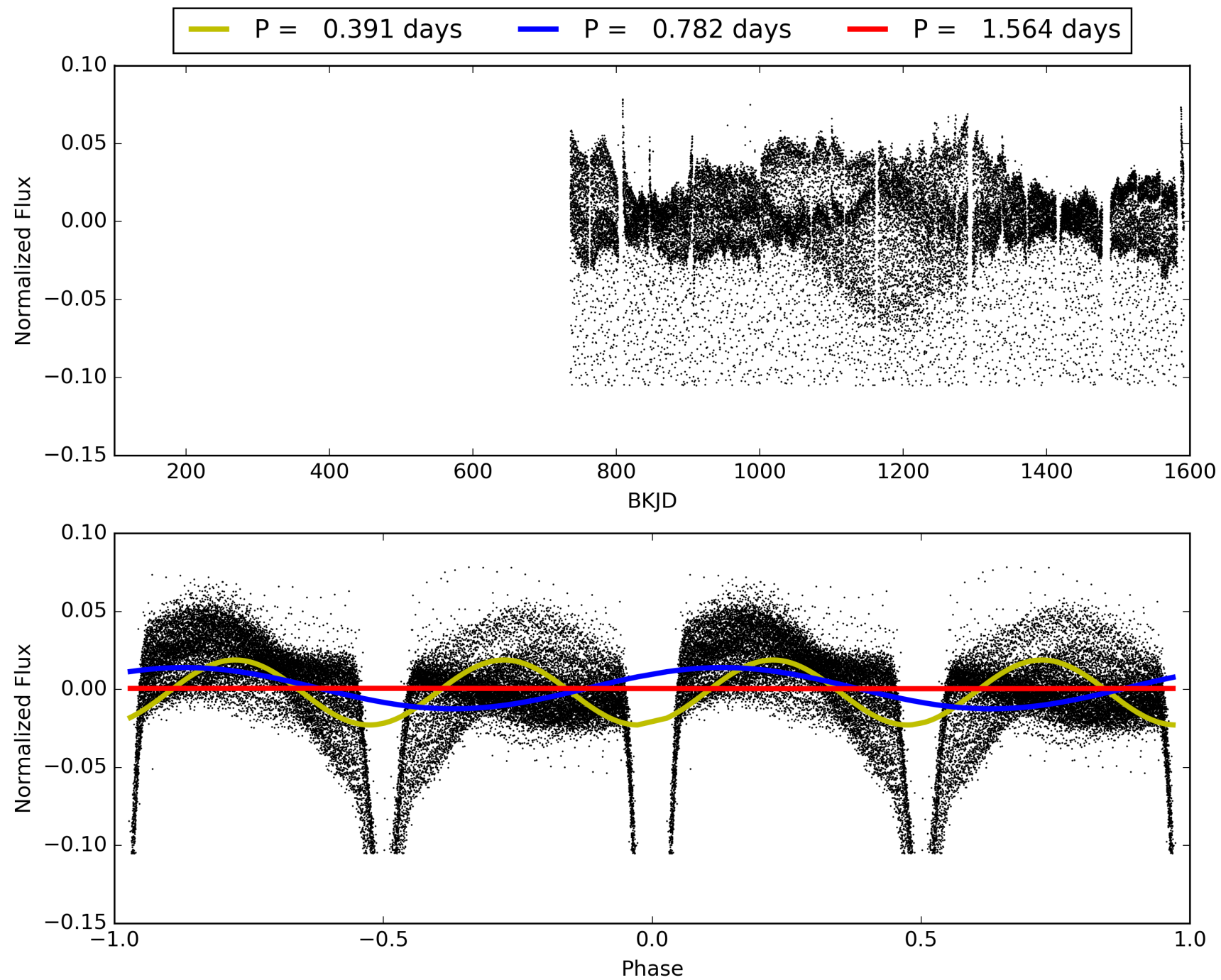
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [915/963]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 5.037 arcsec [38.53σ]
KicOffset-rm: 0.071 arcsec [1.01σ]
OotOffset-st: 2/2/0/3 [7]
KicOffset-st: 2/2/3/3 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [10/10]

TCE 008620561-01, PDC Light Curves

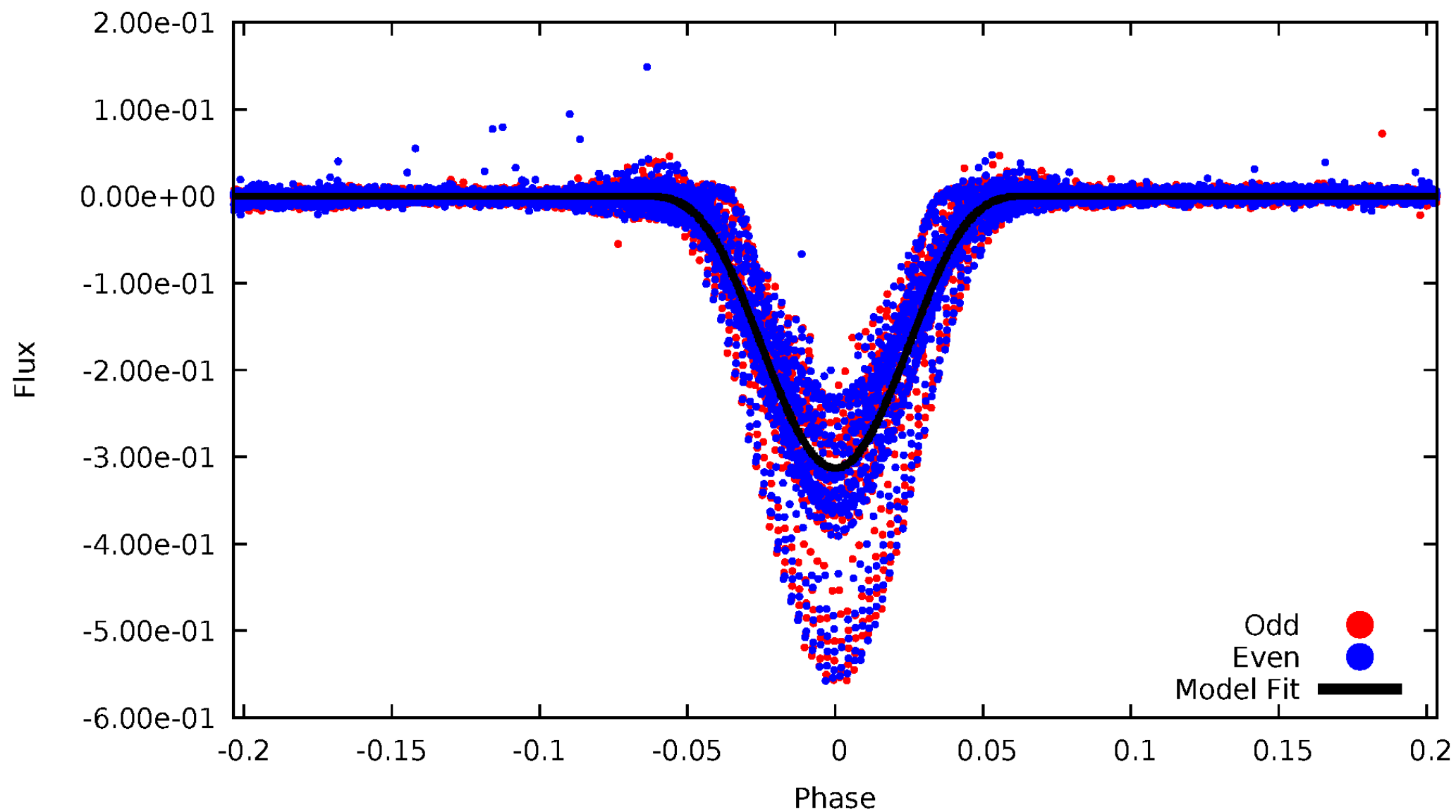


TCE 008620561-01



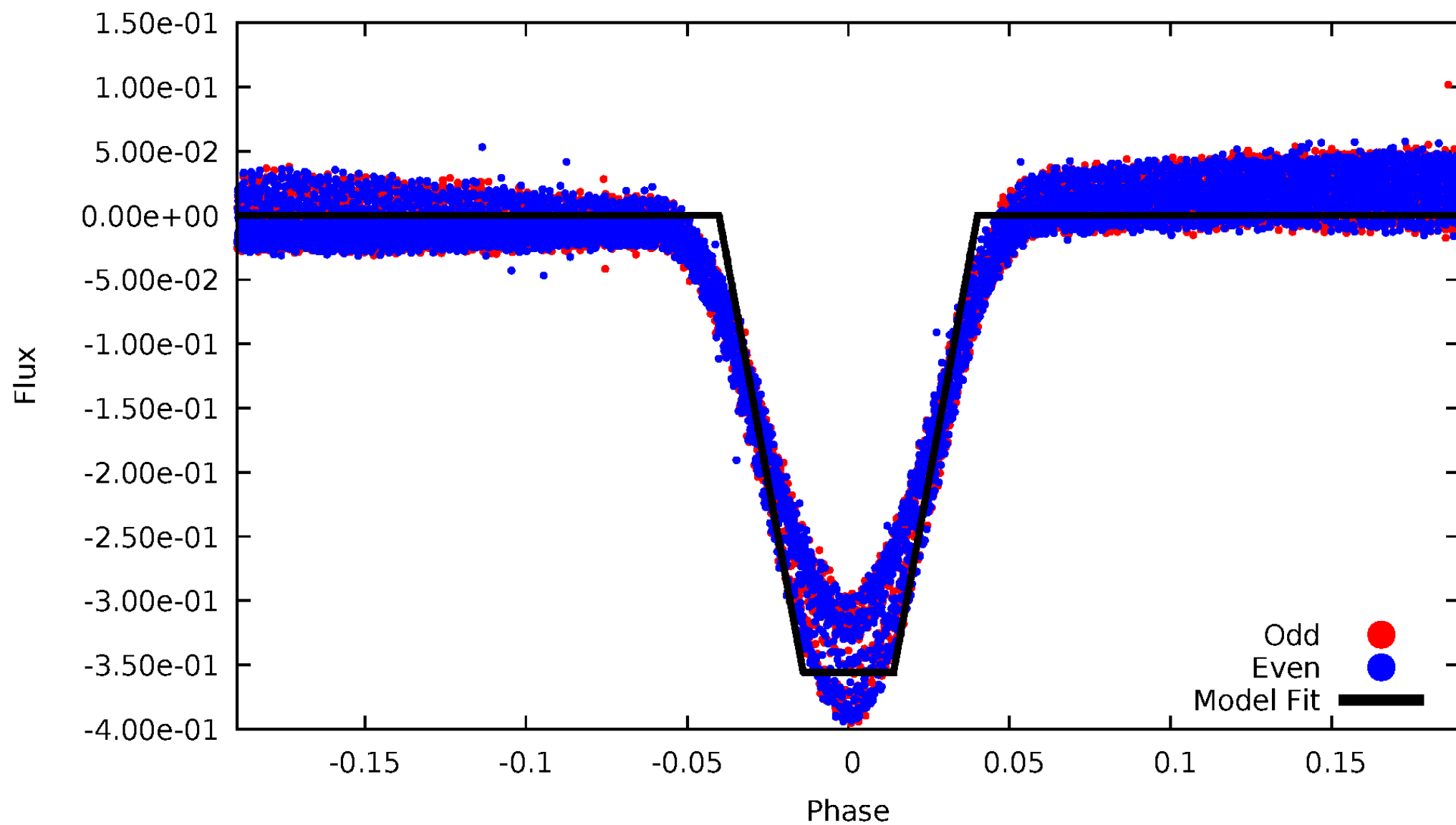
DV Odd/Even

TCE 008620561-01



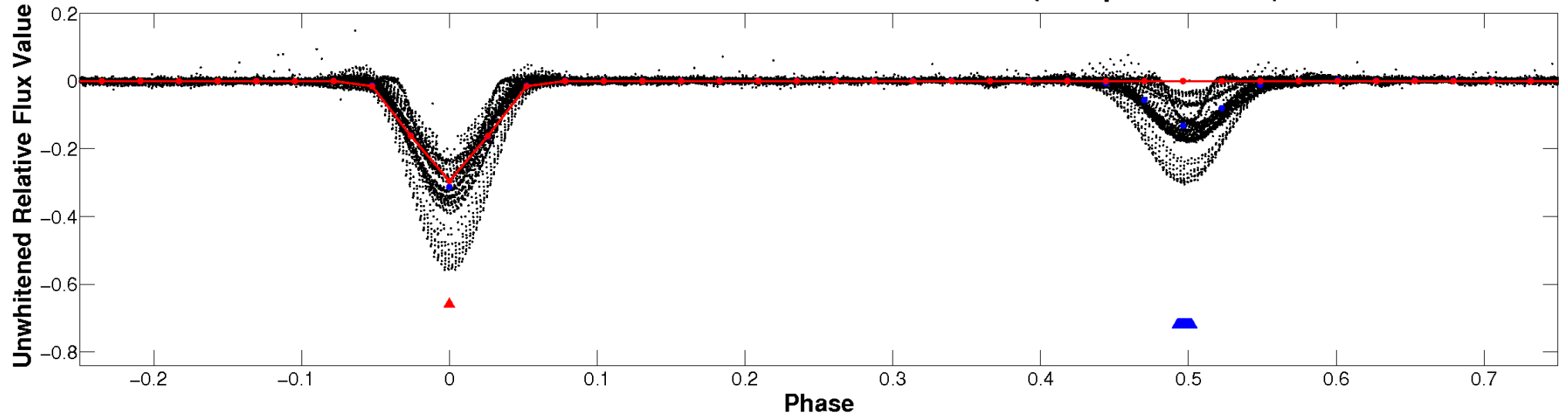
ALT Odd/Even

TCE 008620561-01

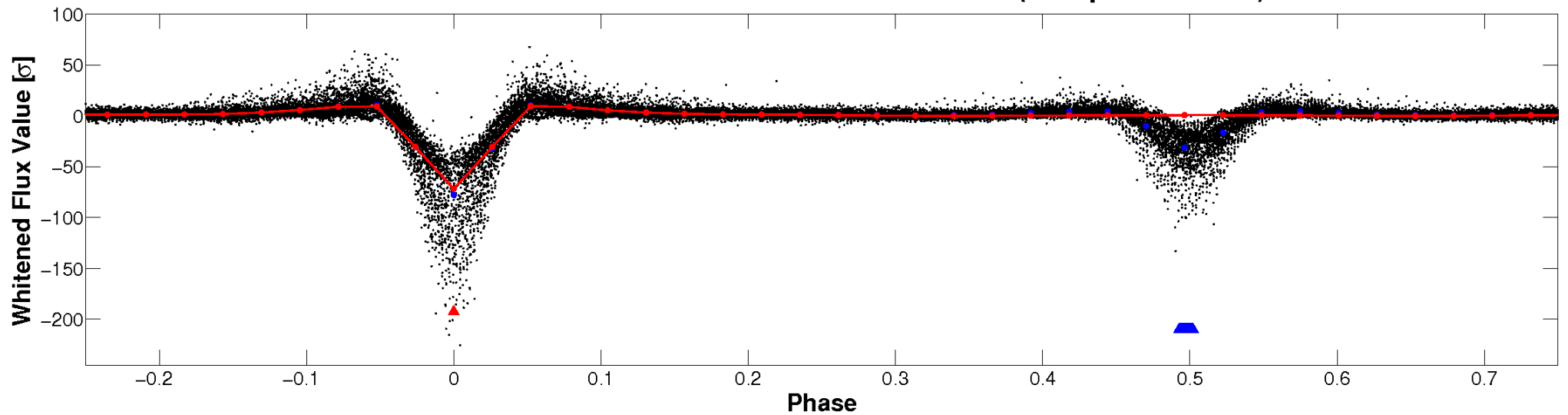


Non-Whitened Vs. Whitened Light Curve

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

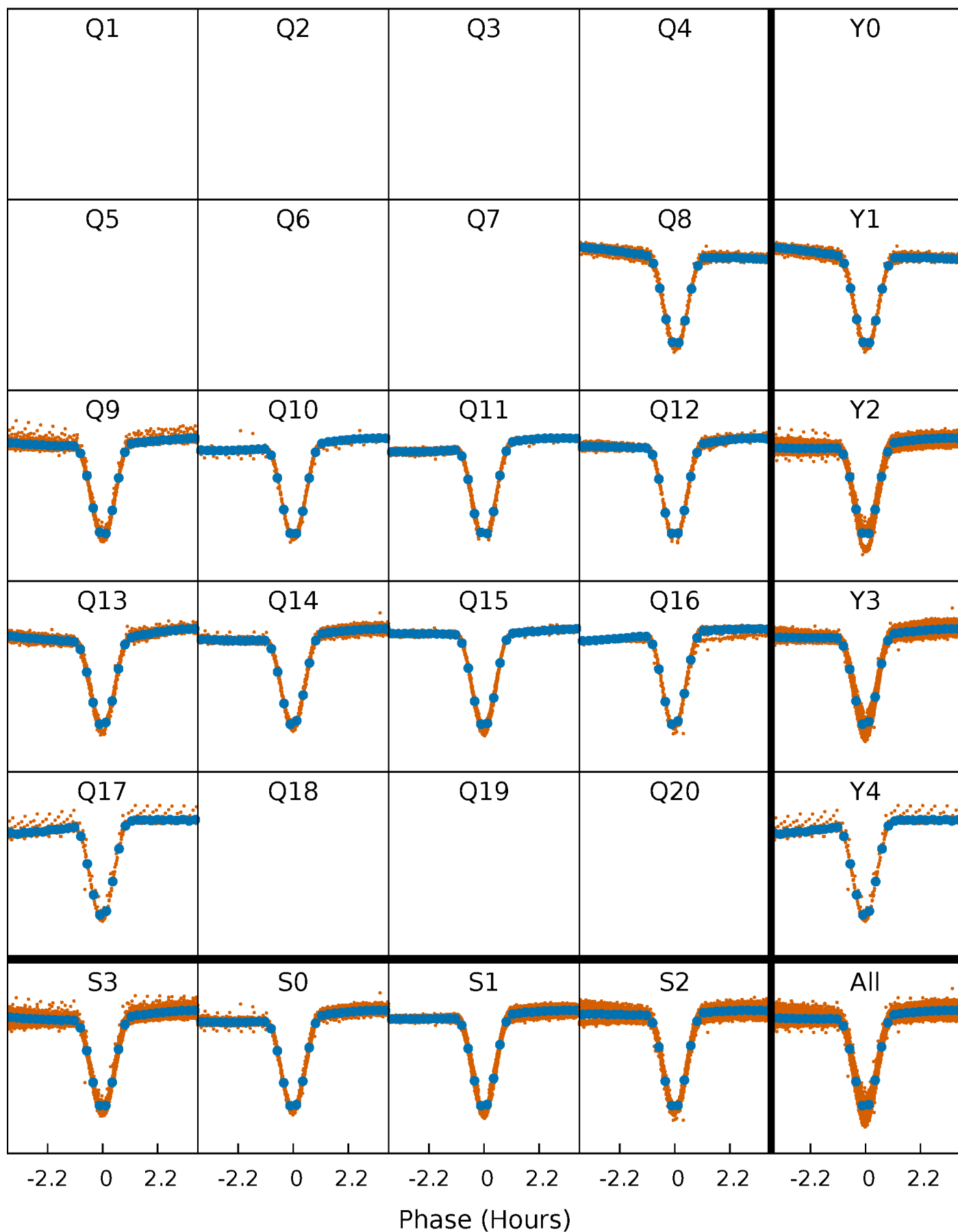


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



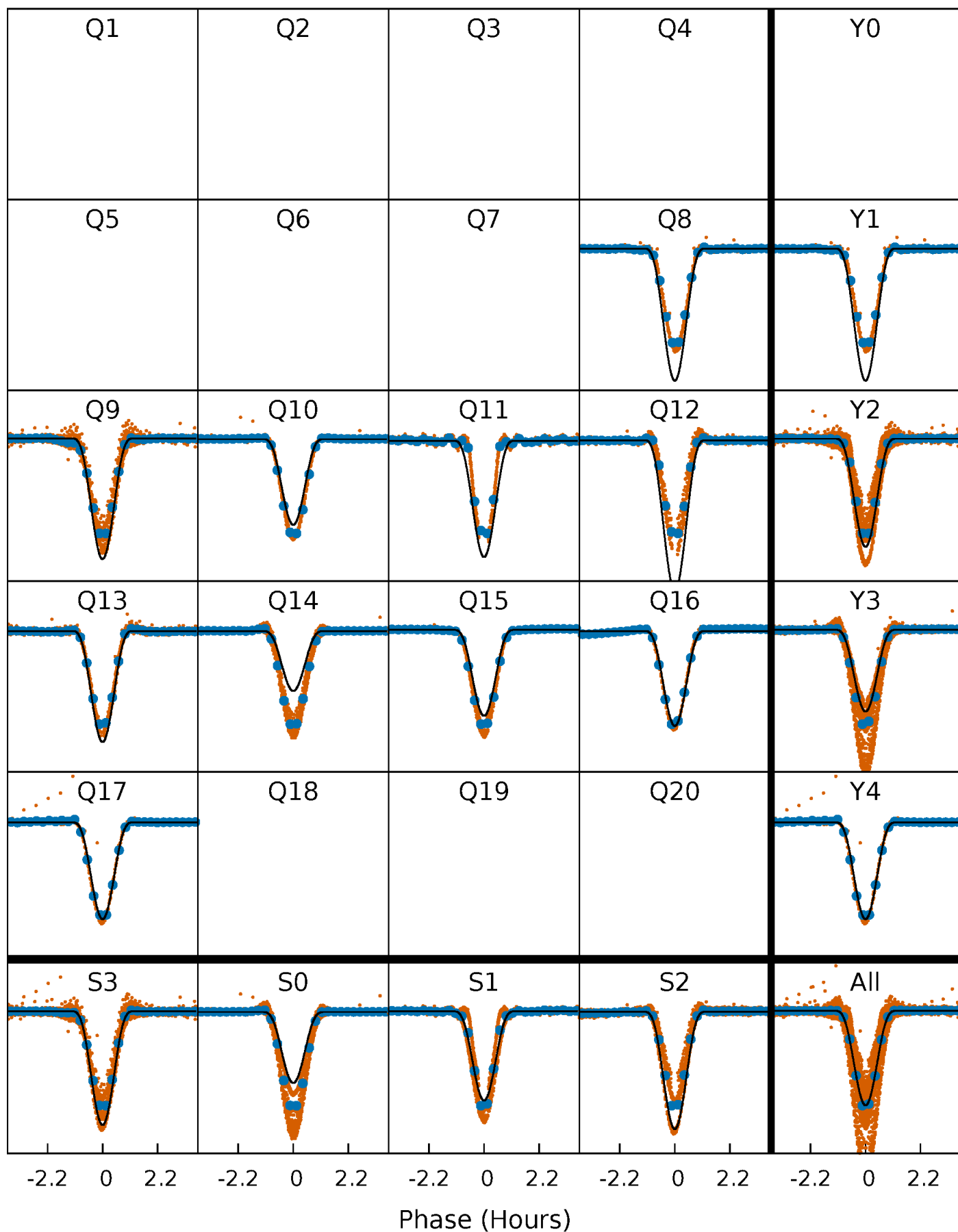
PDC Quarter-Phased Transit Curves

TCE 008620561-01 P= 0.782049 Days $T_0=131.671435$ (BKJD)



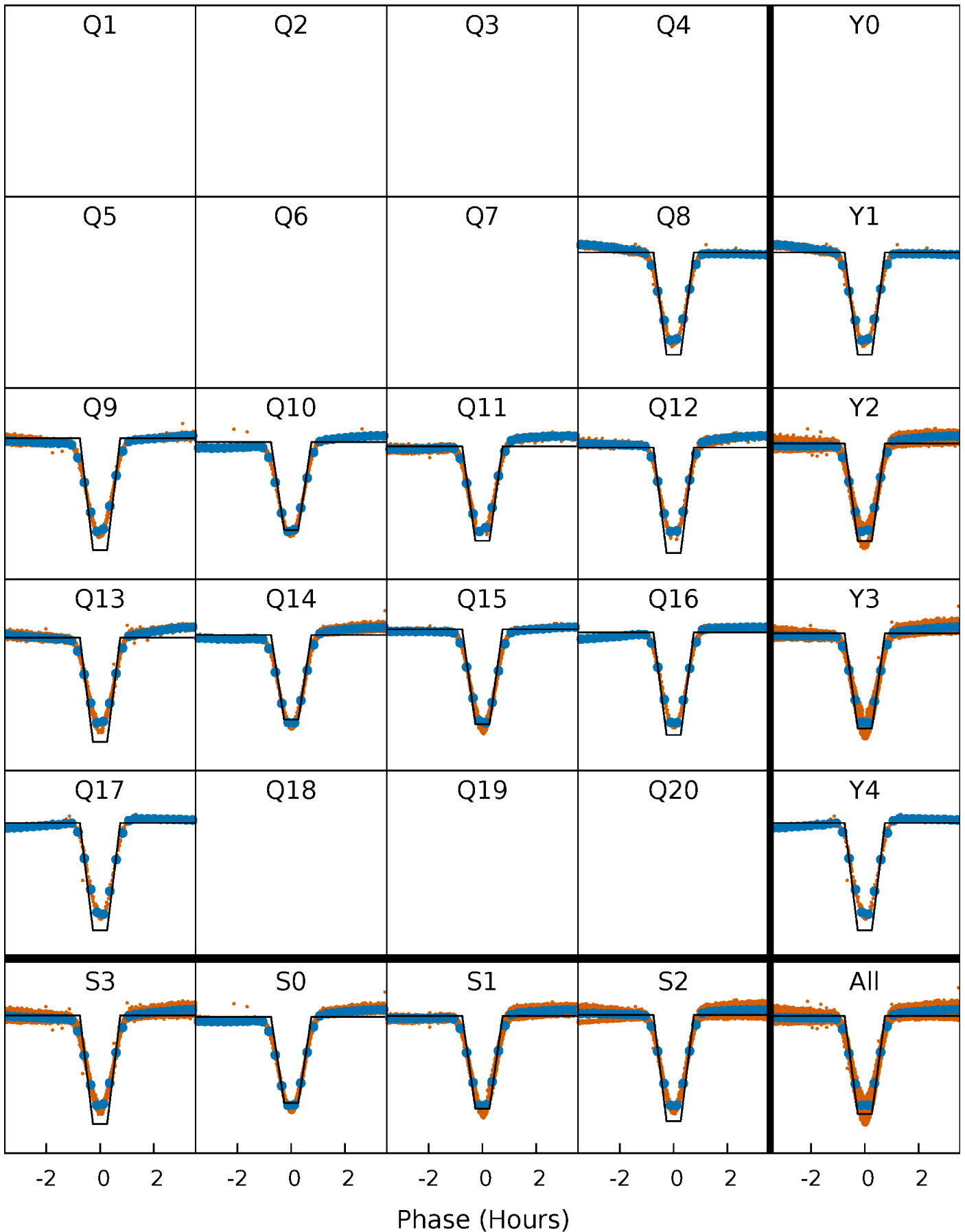
DV Quarter-Phased Transit Curves

TCE 008620561-01 P= 0.782049 Days $T_0=131.671435$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

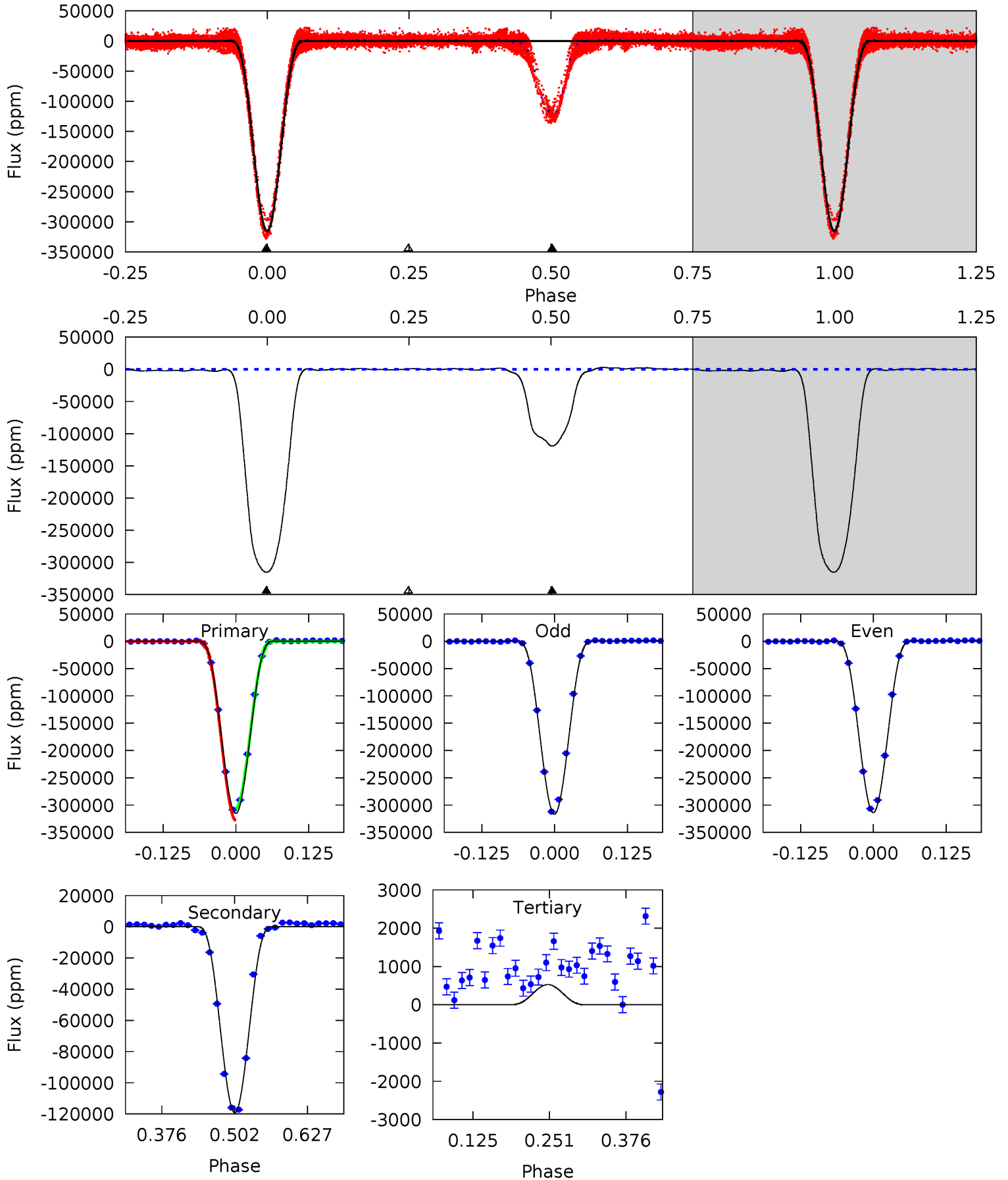
TCE 008620561-01 P= 0.782045 Days $T_0=131.676547$ (BKJD)



DV Model-Shift Uniqueness Test

008620561-01, P = 0.782049 Days, E = 131.671435 Days

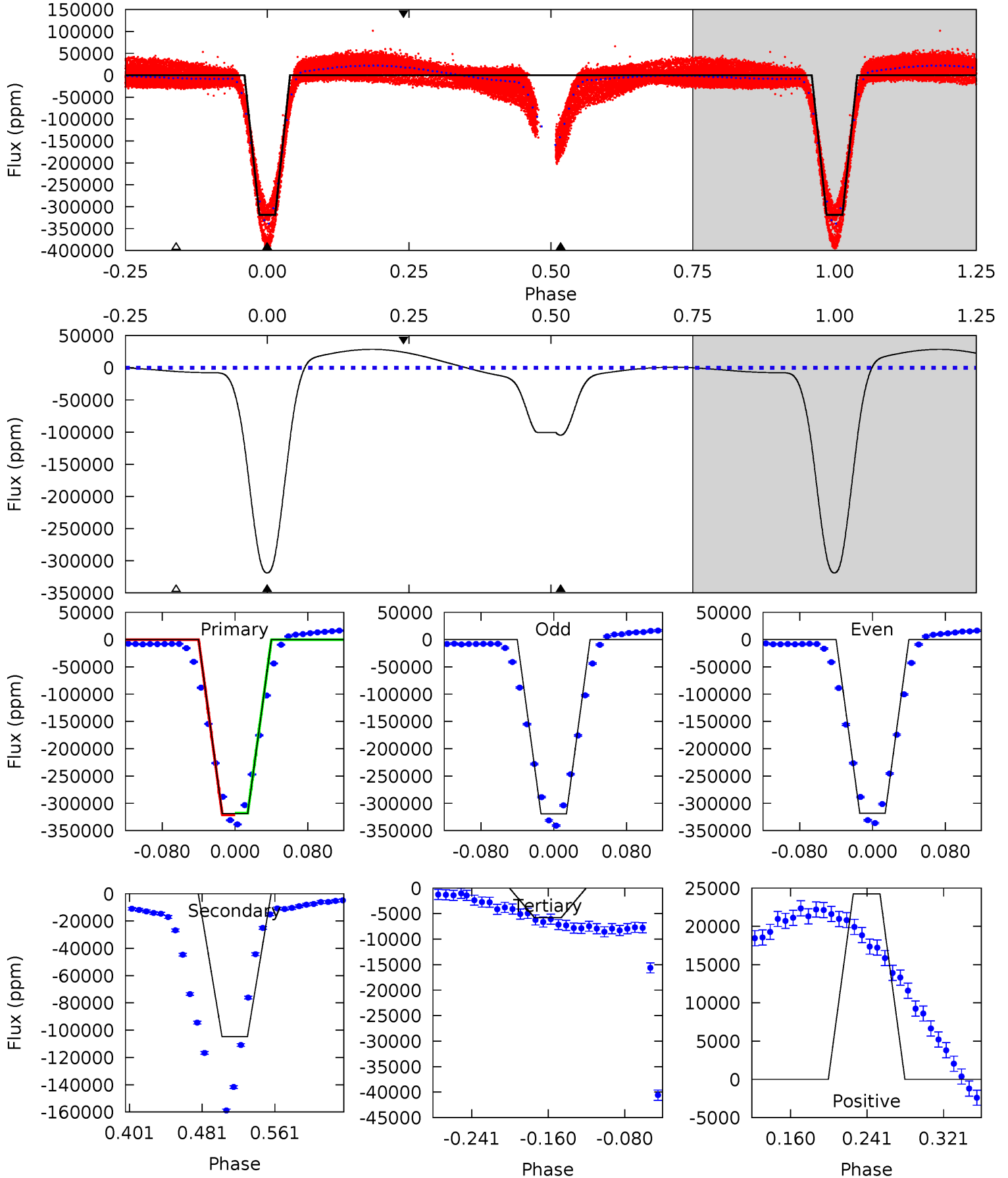
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3574	1352	-5.99	0	4.52	1.53	13.7	3580	3574	1358	1352	15.5	1.05	0.01	0



Alt Model-Shift Uniqueness Test

008620561-01, P = 0.782045 Days, E = 131.676547 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
914.1	300.5	16.6	69.5	4.61	1.75	38.9	897.4	844.6	283.8	231.0	1.84	1.02	0.08	4.67



Stellar Parameters For KIC 008620561

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4768^{+151}_{-170}	$4.661^{+0.056}_{-0.032}$	$-0.820^{+0.300}_{-0.300}$	$0.591^{+0.046}_{-0.046}$	$0.584^{+0.057}_{-0.033}$	$3.981^{+0.982}_{-0.544}$
	+3%/-4%	+1%/-1%	+37%/-37%	+8%/-8%	+10%/-6%	+25%/-14%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008620561-01 / KOI 3753.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-119182 ± 88	$37.83^{+3.10}_{-3.35}$	1906^{+69}_{-75}	3966^{+156}_{-157}	10^{+2}_{-1}
Alt.	-104806 ± 349	$38.39^{+3.24}_{-3.04}$	1907^{+62}_{-76}	3842^{+151}_{-146}	$8.556^{+1.479}_{-1.275}$

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 $A_{obs} \gg 1.0$

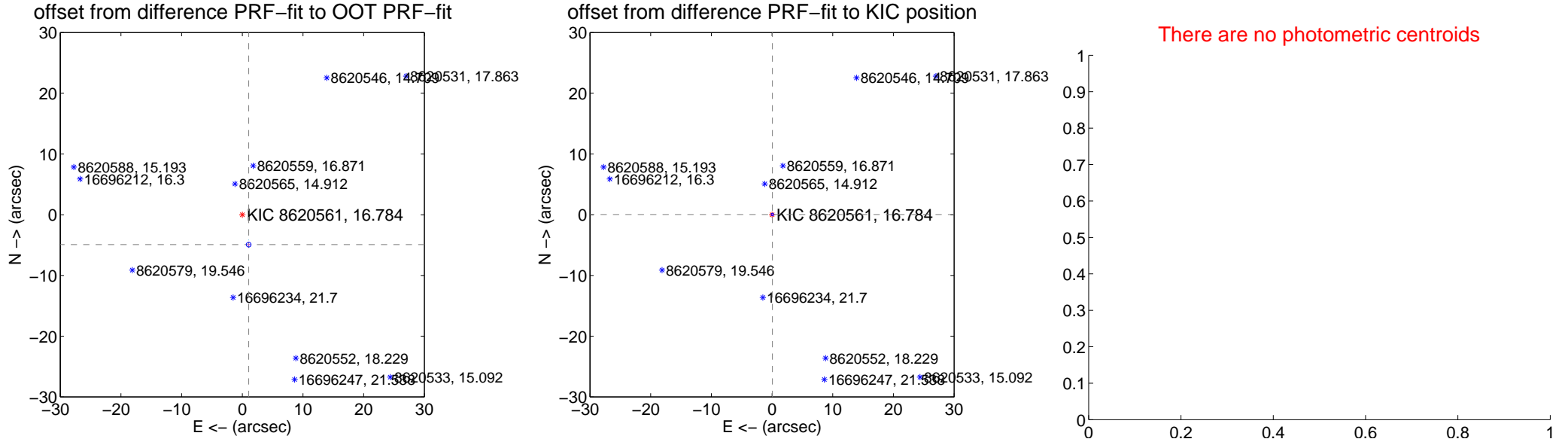
DV Centroid Data

Supplemental centroid analysis for 008620561-01. Kepler magnitude: 16.78. Transit SNR 1065.14

There are 10 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 5.06 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.037 ± 0.131	38.53	-1.053 ± 0.069	-4.926 ± 0.134
PRF-fit source offset from KIC position	0.071 ± 0.070	1.01	-0.061 ± 0.069	0.037 ± 0.073
photometric centroid source offset	—	—	—	—

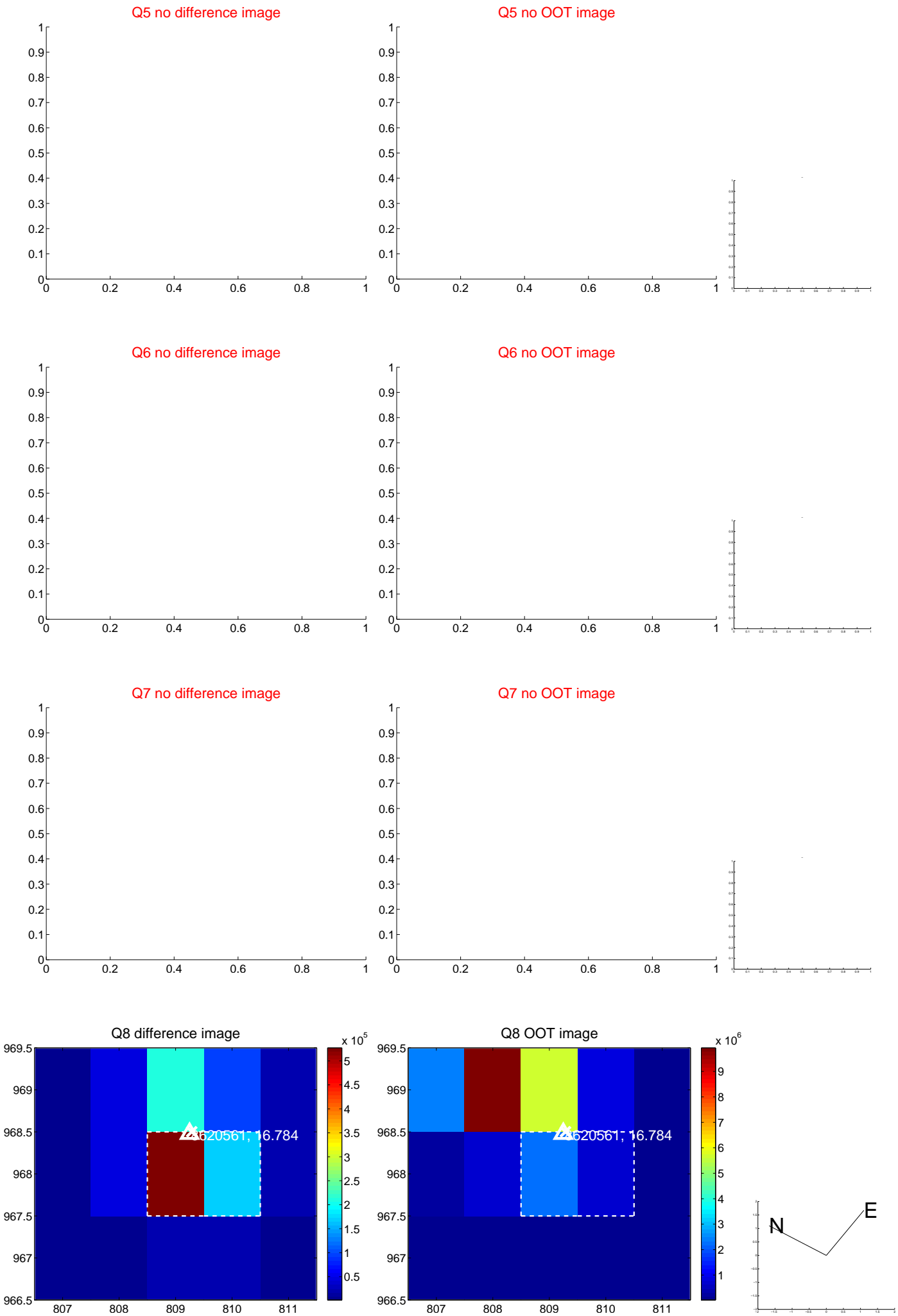


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

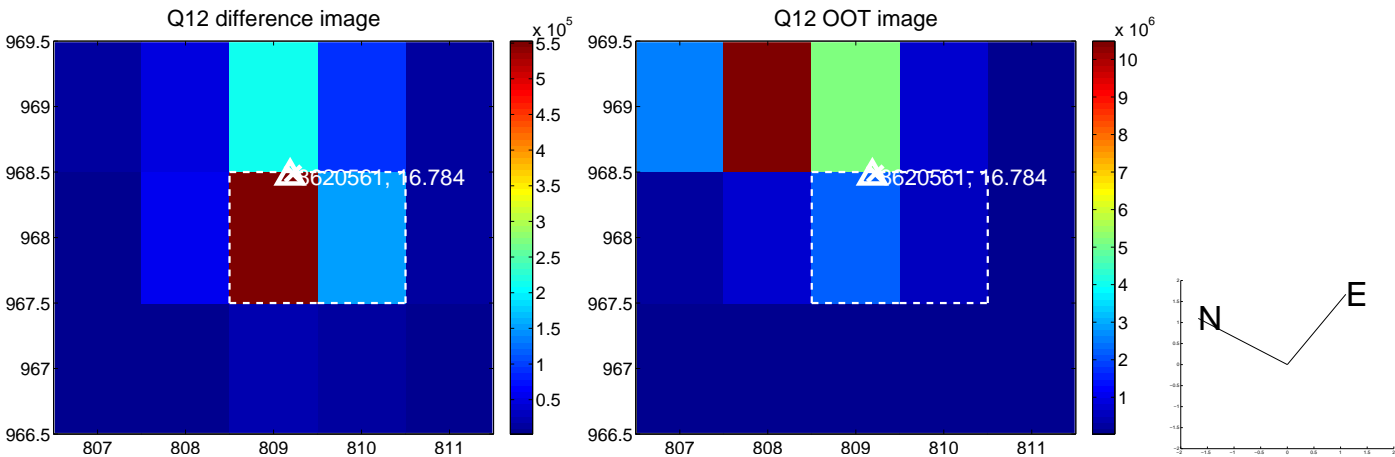
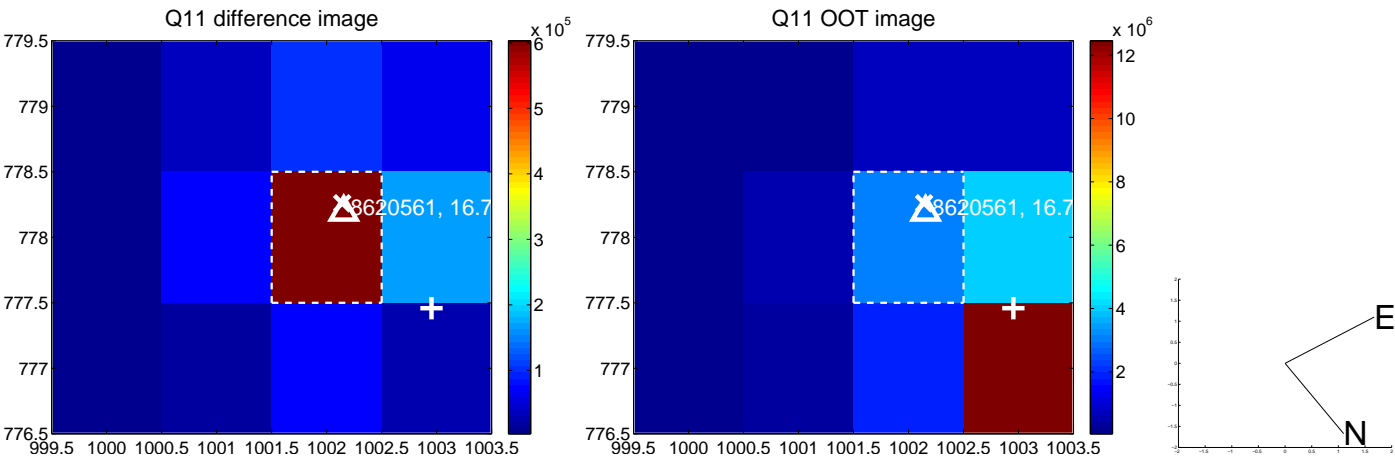
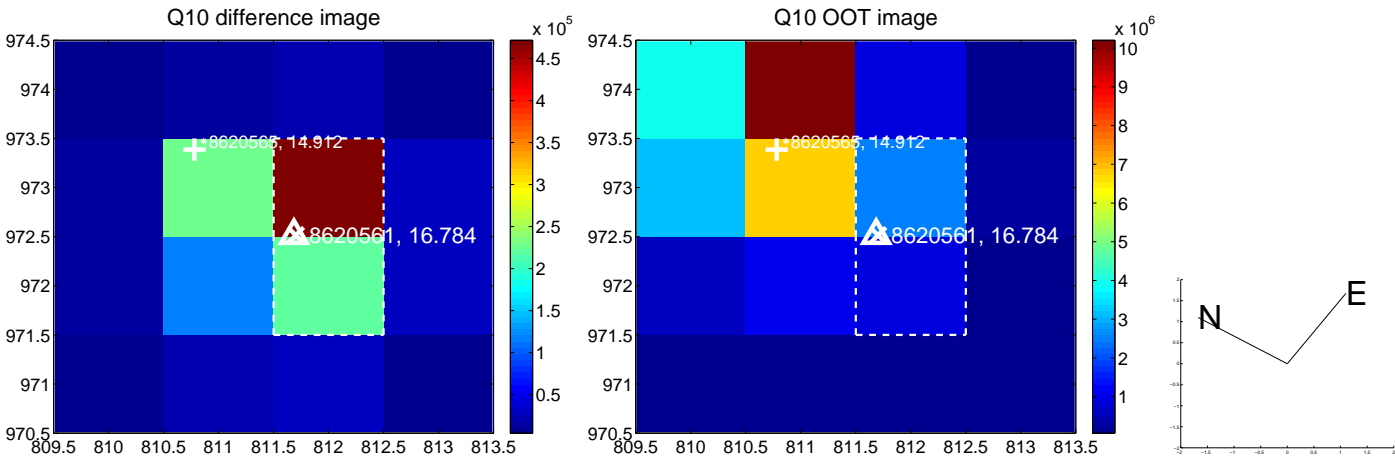
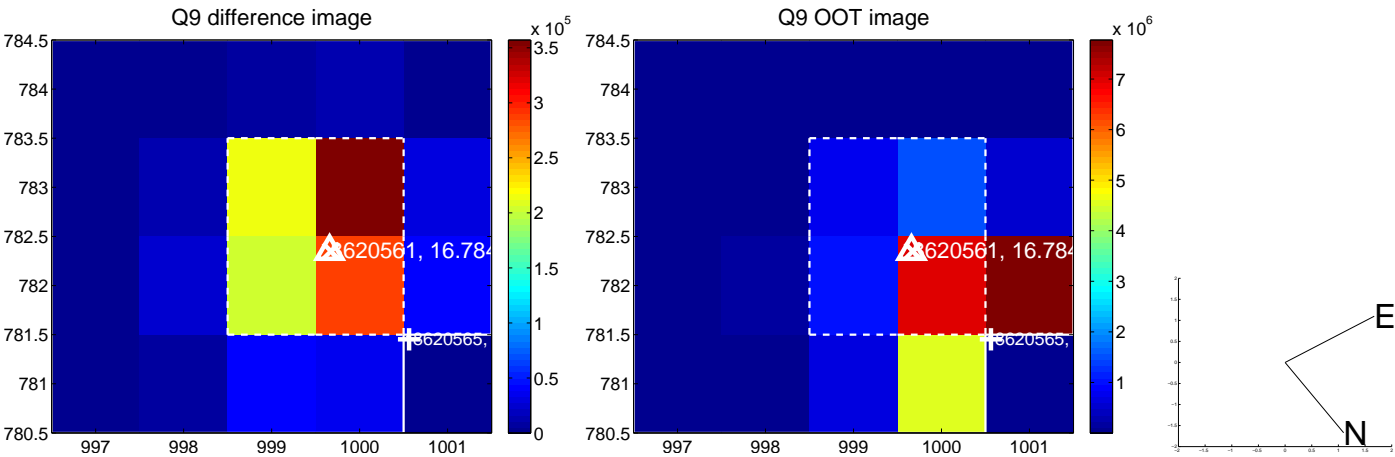
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



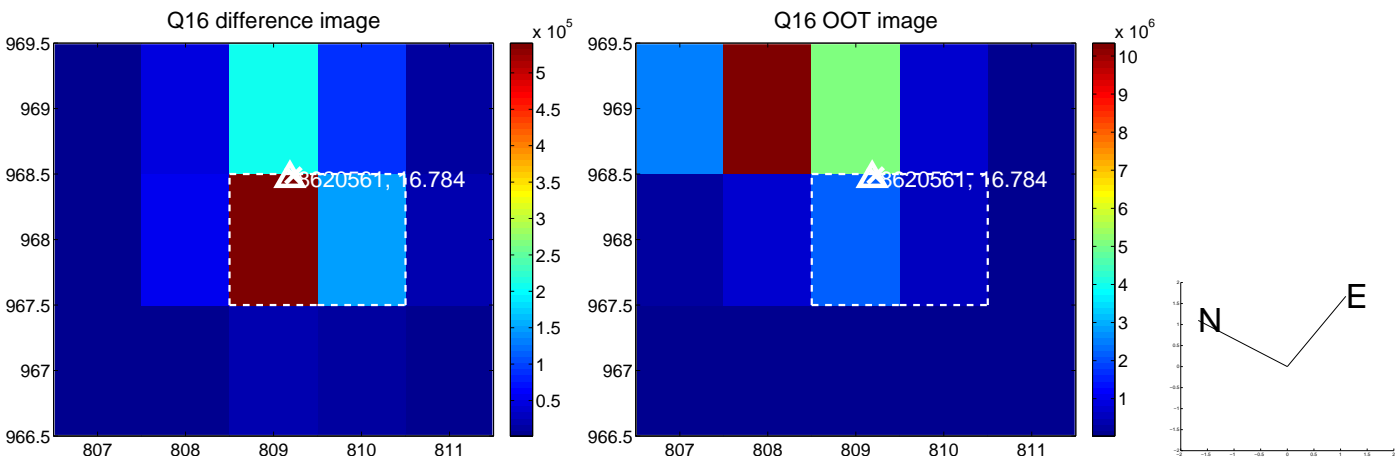
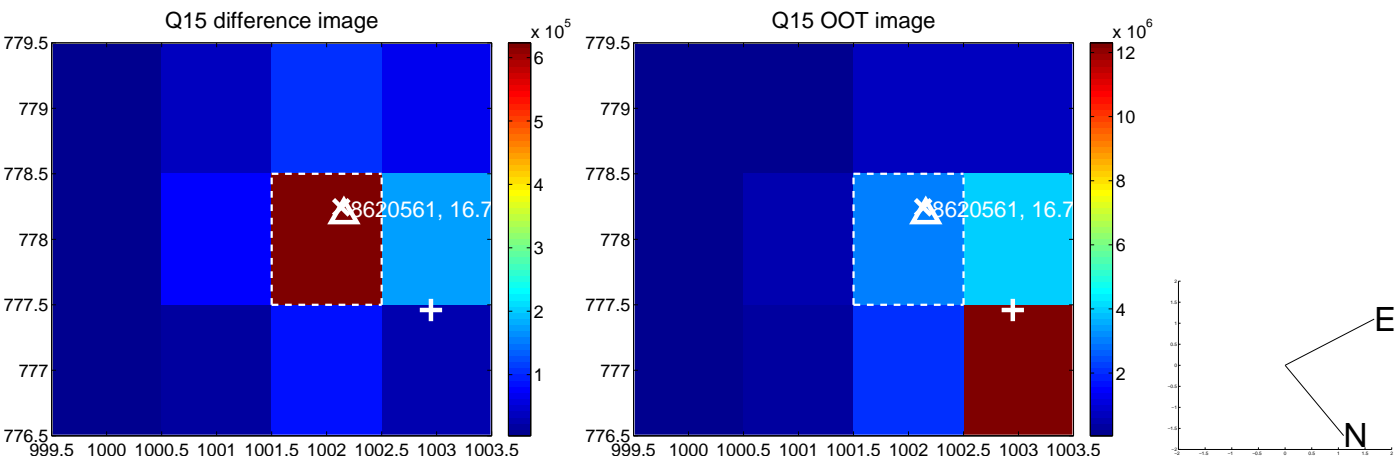
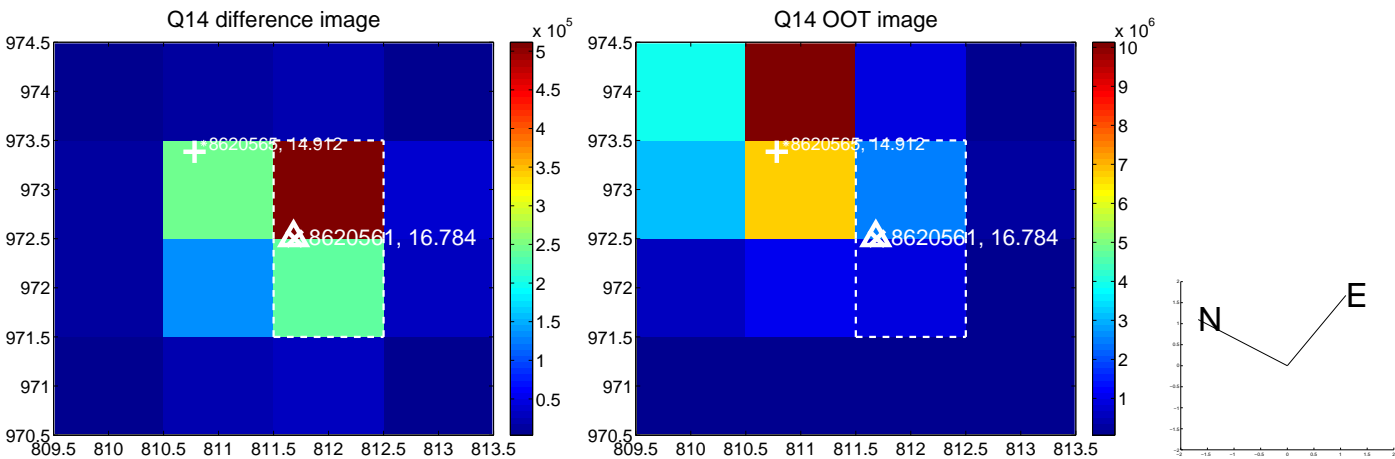
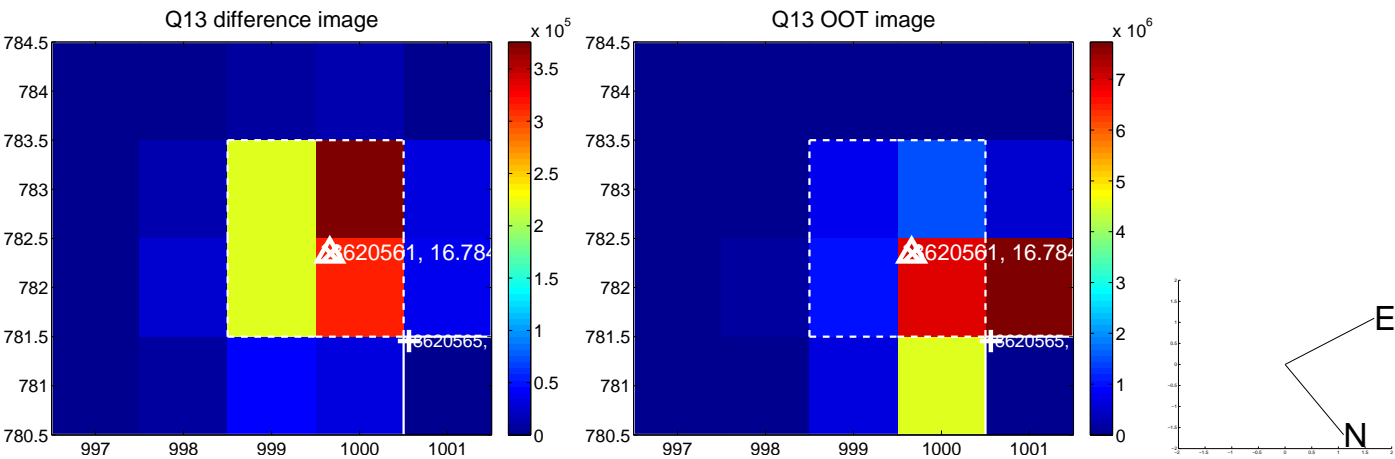
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



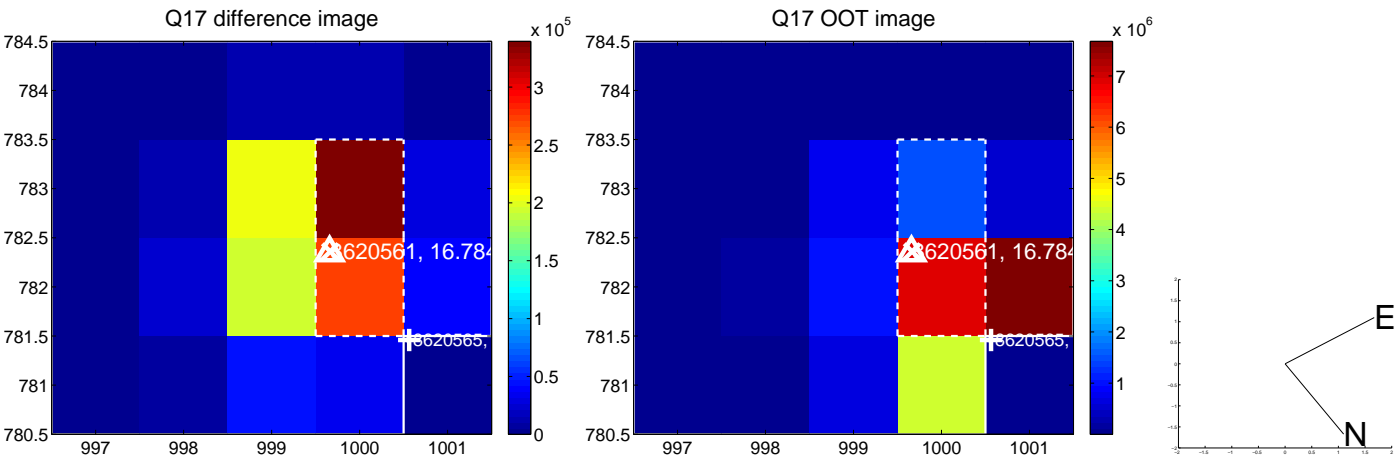
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



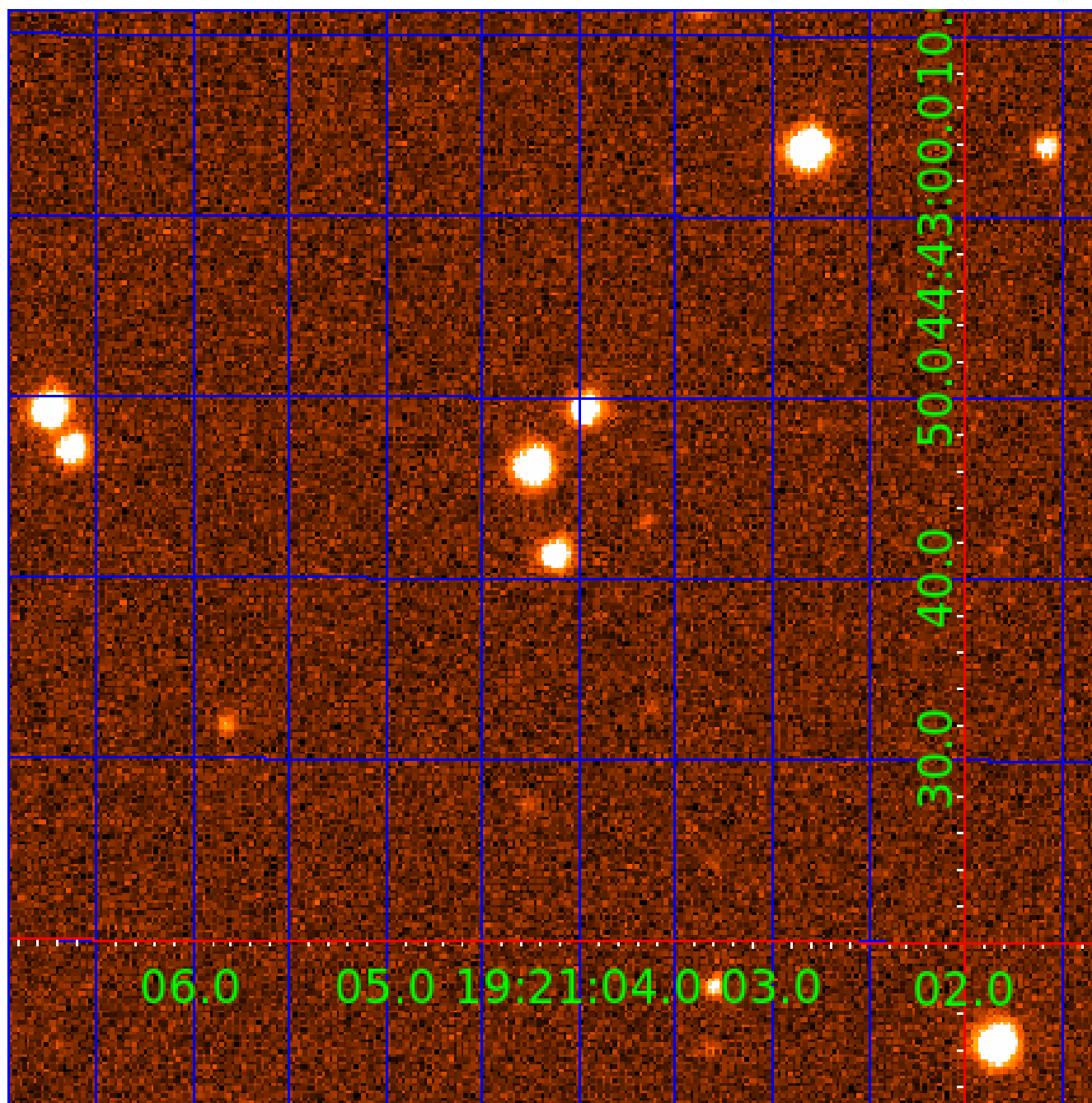
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 008620561

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})
008620561-01	OBS	3753.01	0.782049	131.671435	312807.5	1.910	2833.3	1065.1	0.59	4768	37.81	838.79
008620561-02	OBS	No	0.782045	132.064119	148542.4	1.500	1360.0	-1.0	0.59	4768	22.59	838.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008620561-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
008620561-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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.

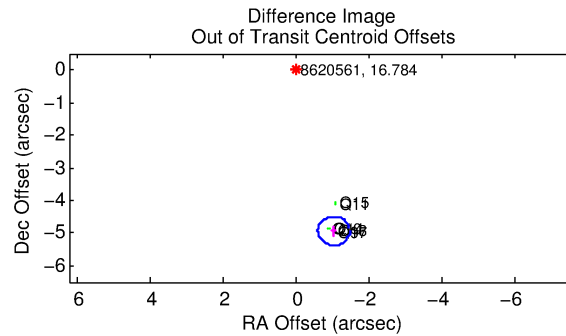
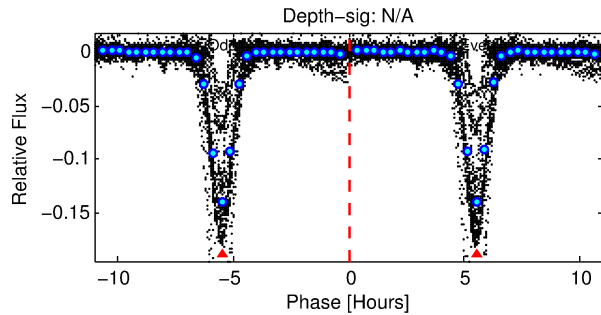
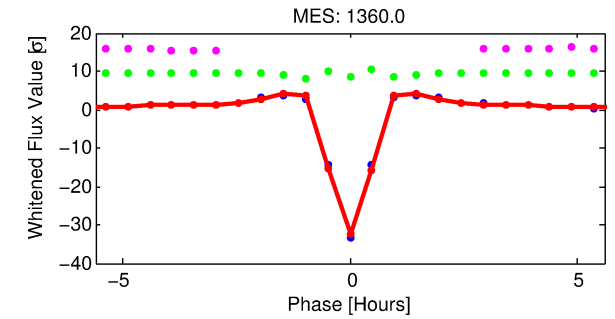
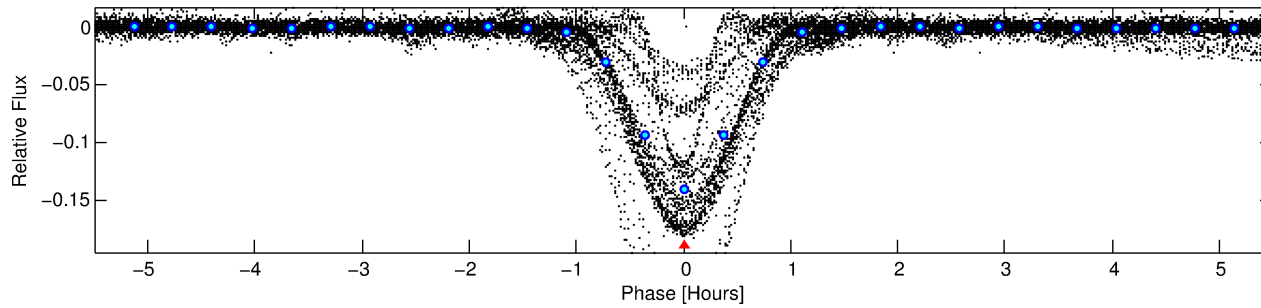
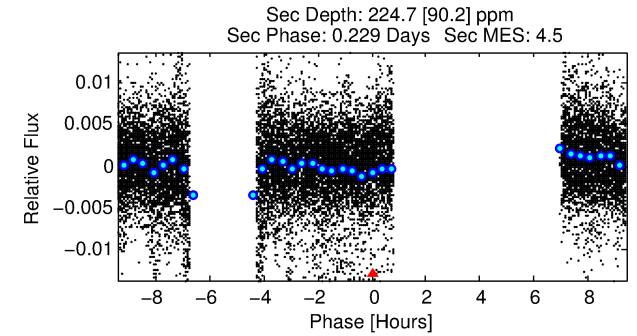
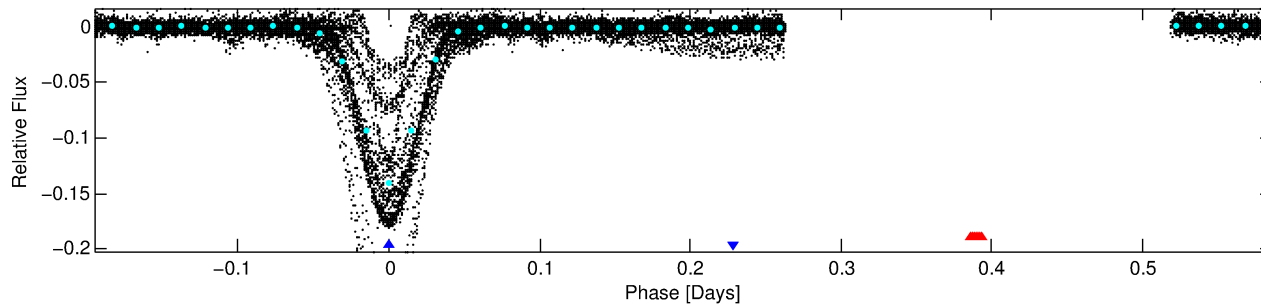
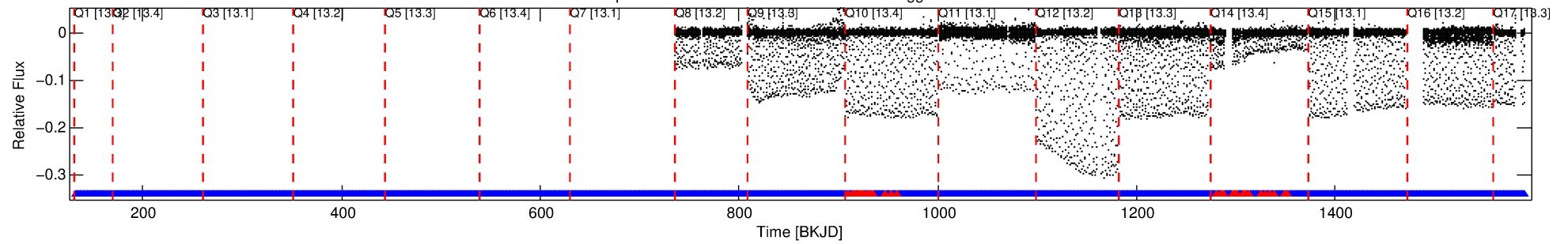
Ephemeris Match Information For 008620561-02

No Significant Match Found

DV One-Page Summary

KIC: 8620561 Candidate: 2 of 2 Period: 0.782 d
KOI: K03753.01 Corr: 0.852

Kp: 16.78 R*: 0.59 Rs Teff: 4768.0 K Logg: 4.66 Fe/H: -0.820



TPS TCE Results:

Period = 0.78204 d
Epoch = 132.0641 BKJD

DV fit results are unavailable

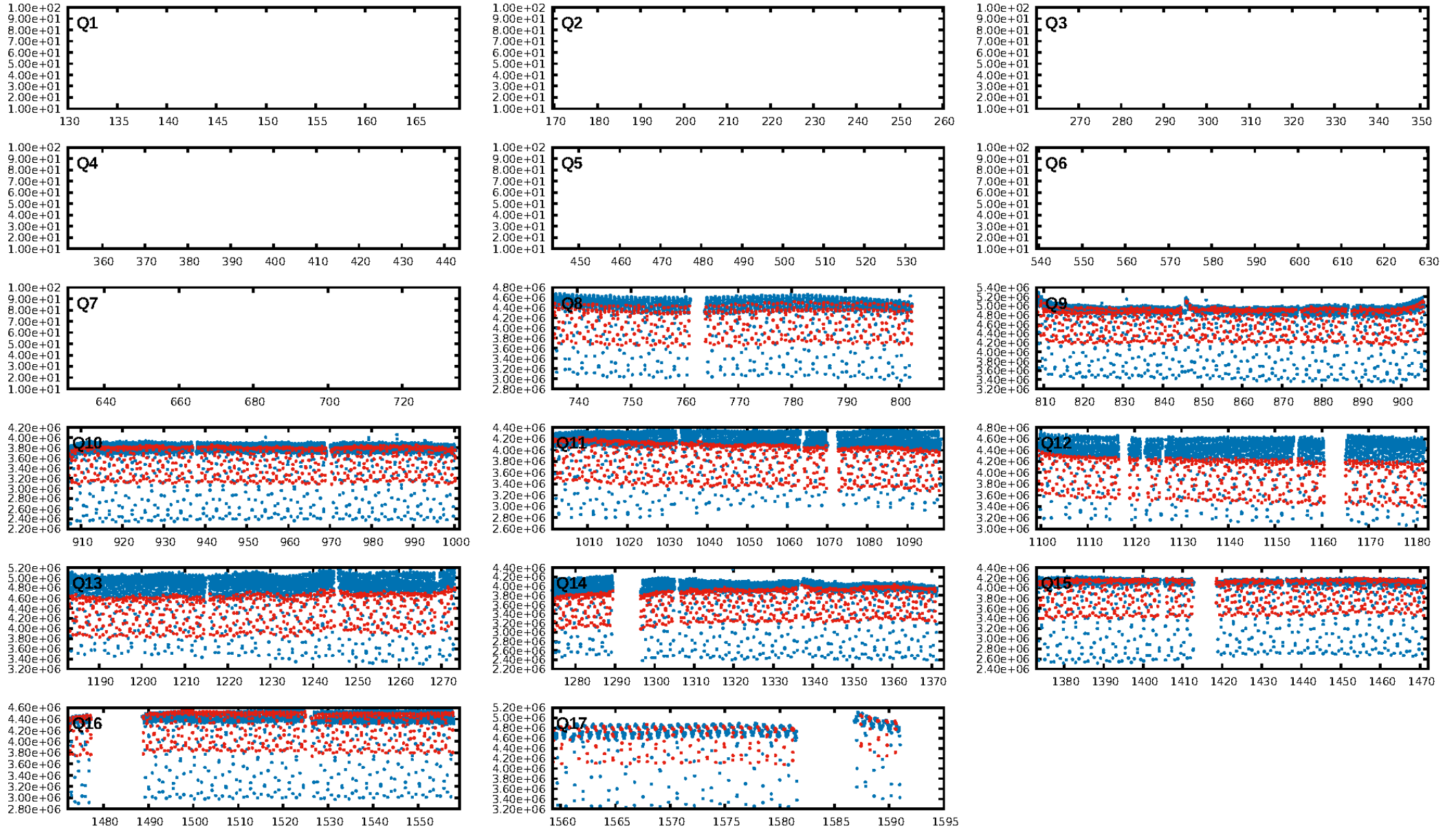
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [925/964]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 5.048 arcsec [34.19σ]
OotOffset-st: 2/2/0/3 [7]
KicOffset-st: 2/2/3/3 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [10/10]

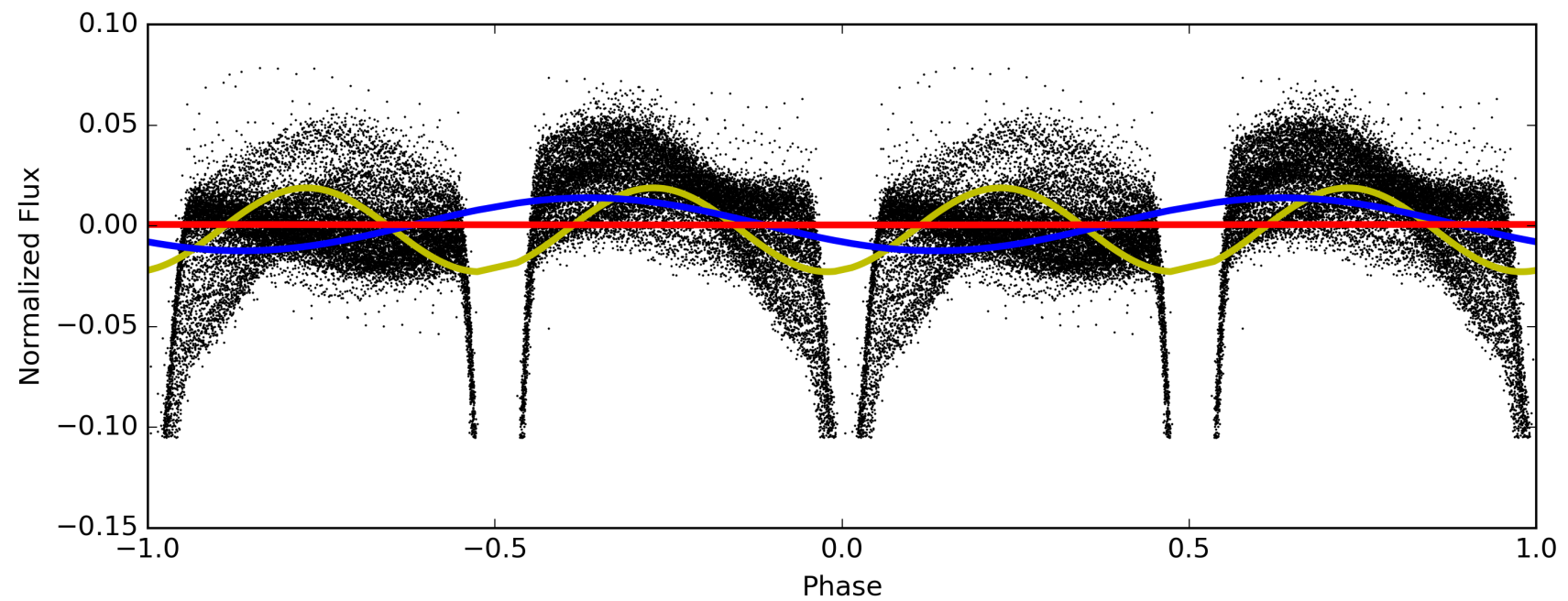
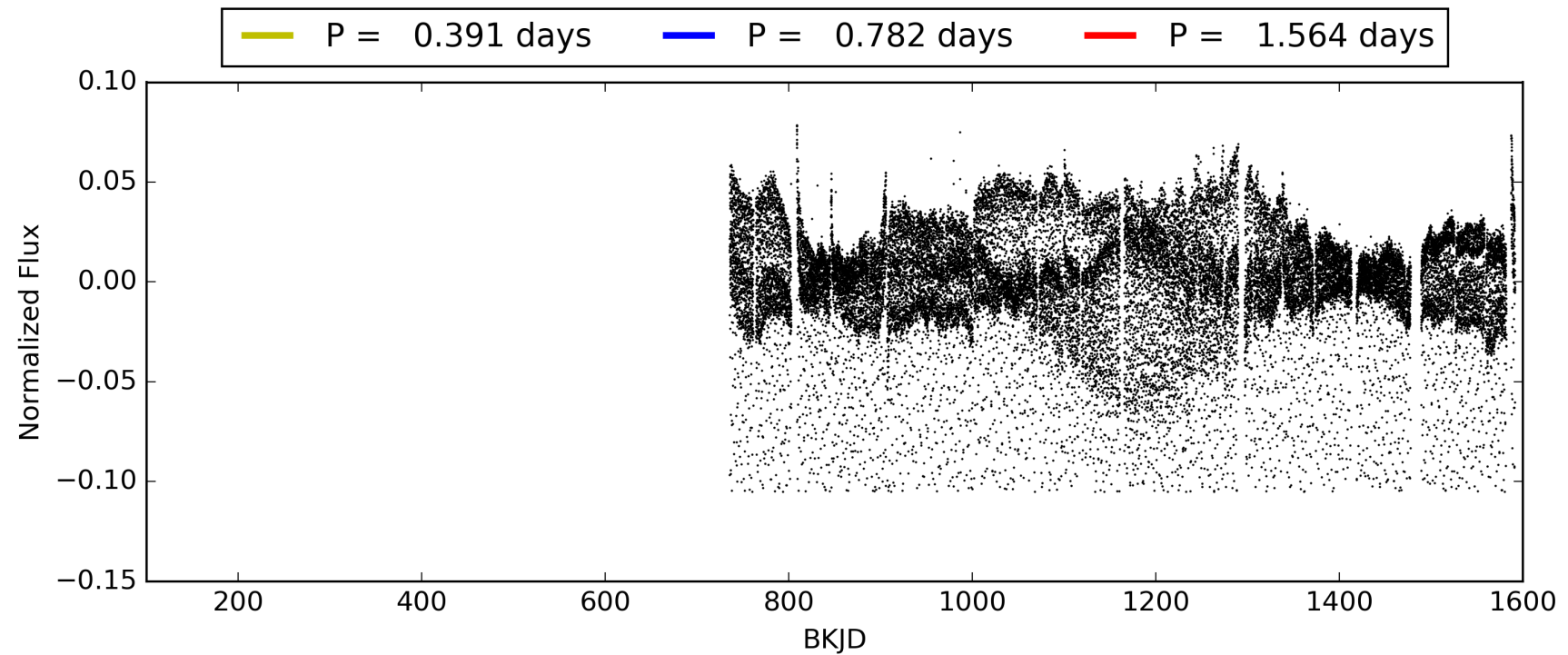
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008620561-02, PDC Light Curves

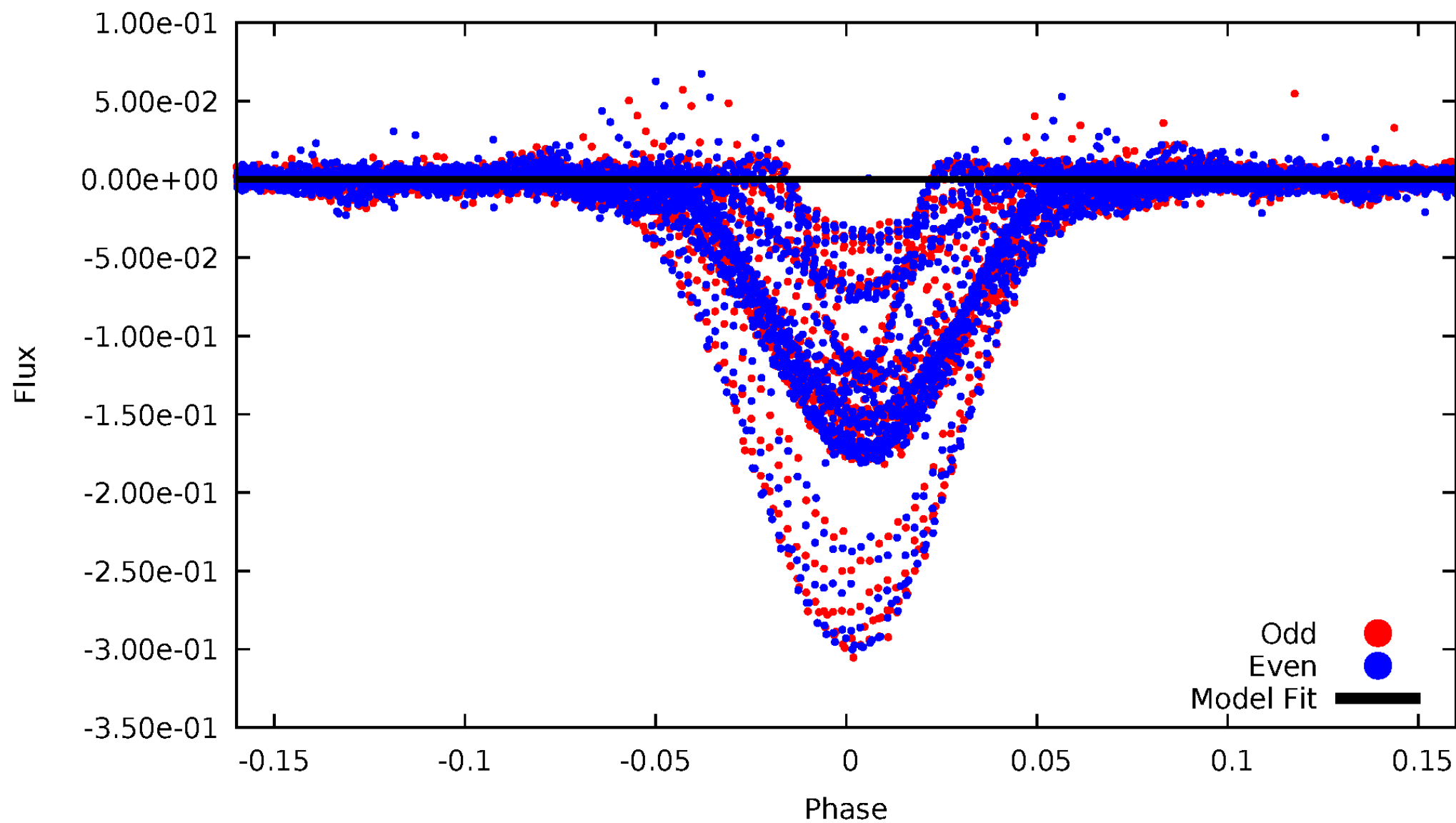


TCE 008620561-02



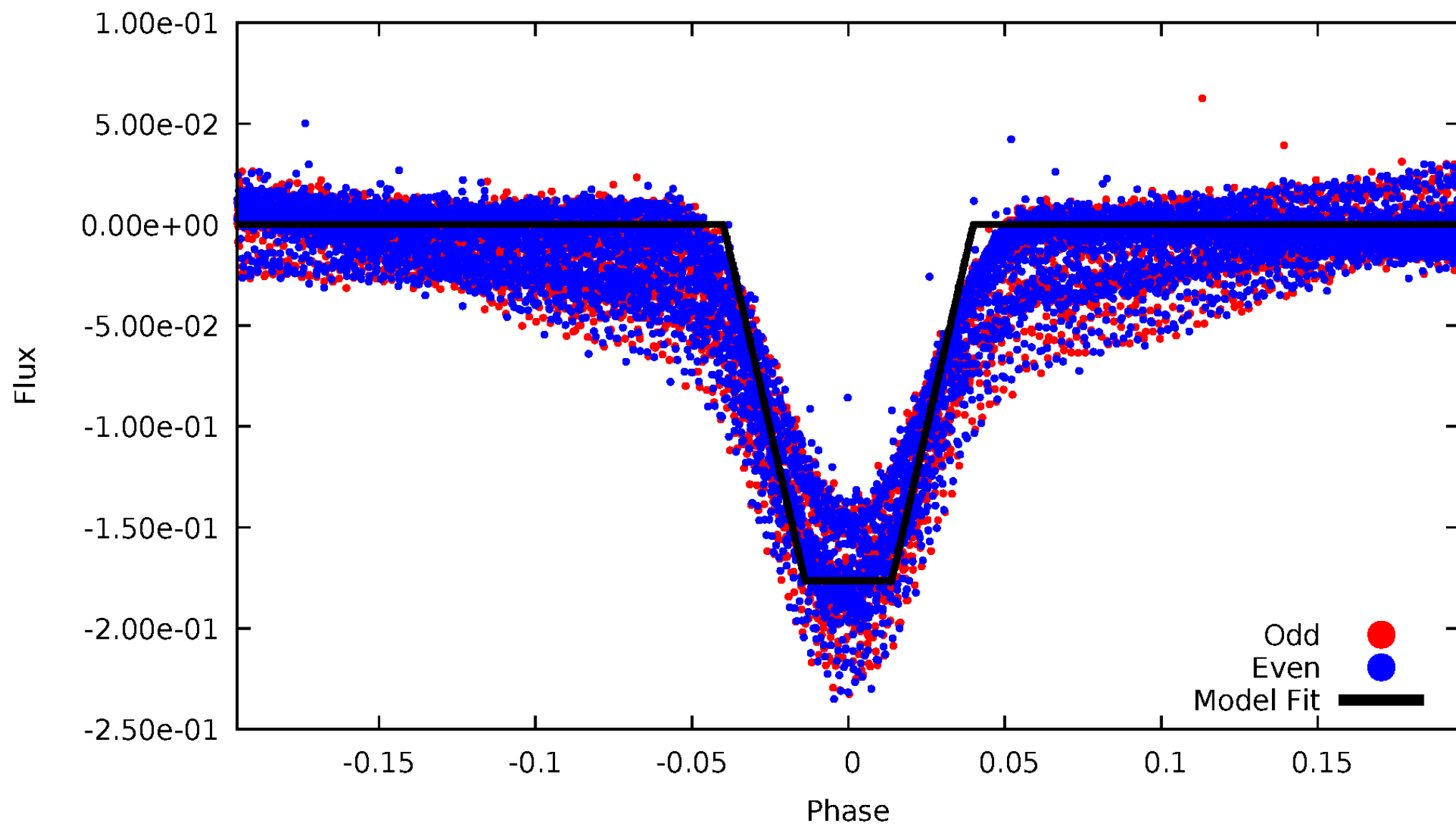
DV Odd/Even

TCE 008620561-02



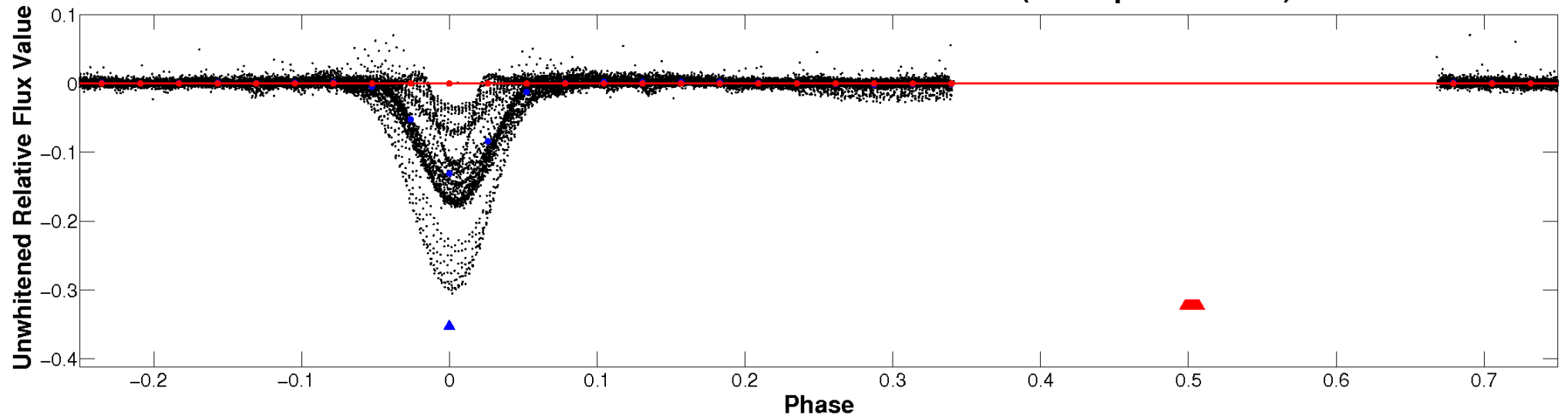
ALT Odd/Even

TCE 008620561-02



Non-Whitened Vs. Whitened Light Curve

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

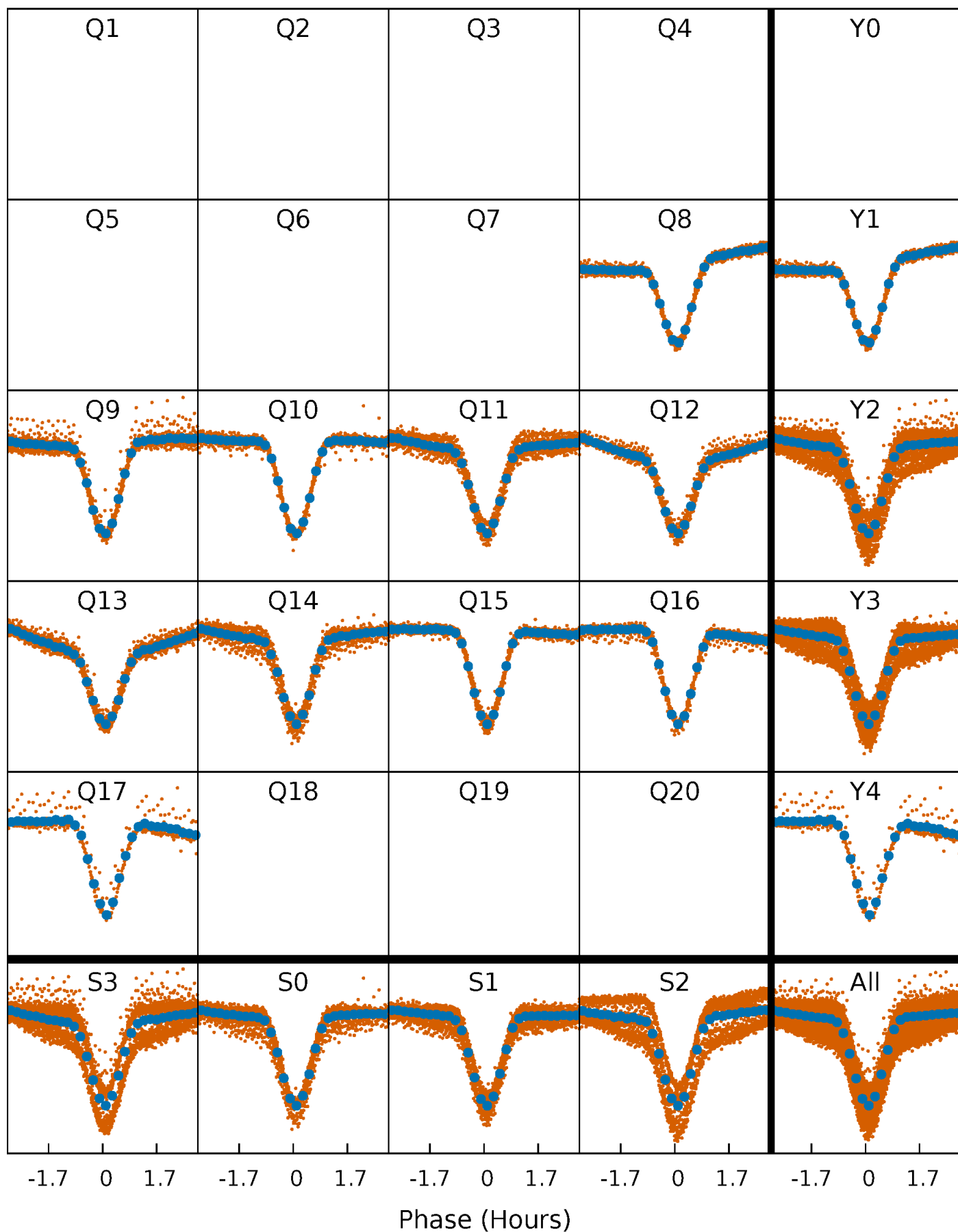


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



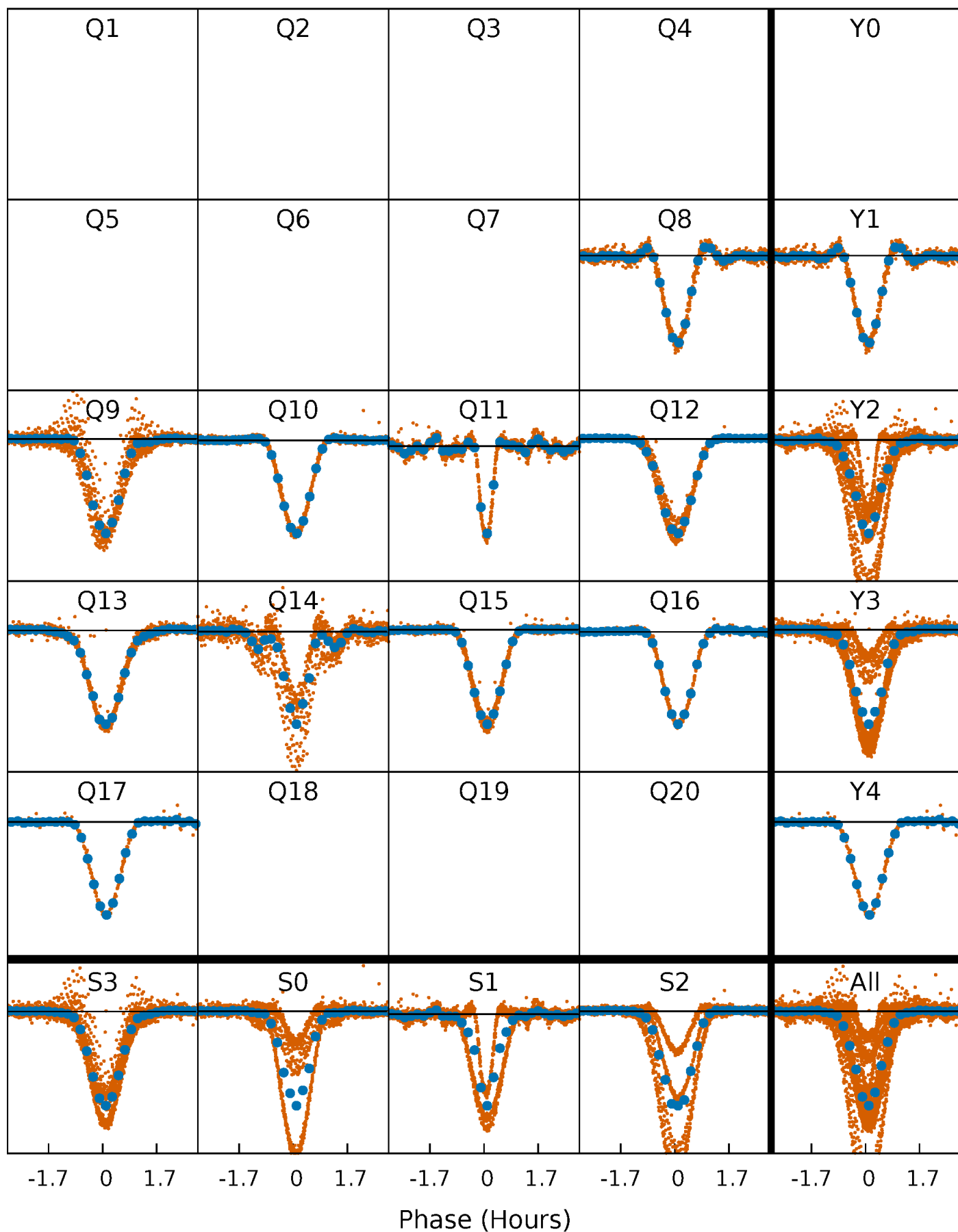
PDC Quarter-Phased Transit Curves

TCE 008620561-02 P= 0.782045 Days $T_0=132.064119$ (BKJD)



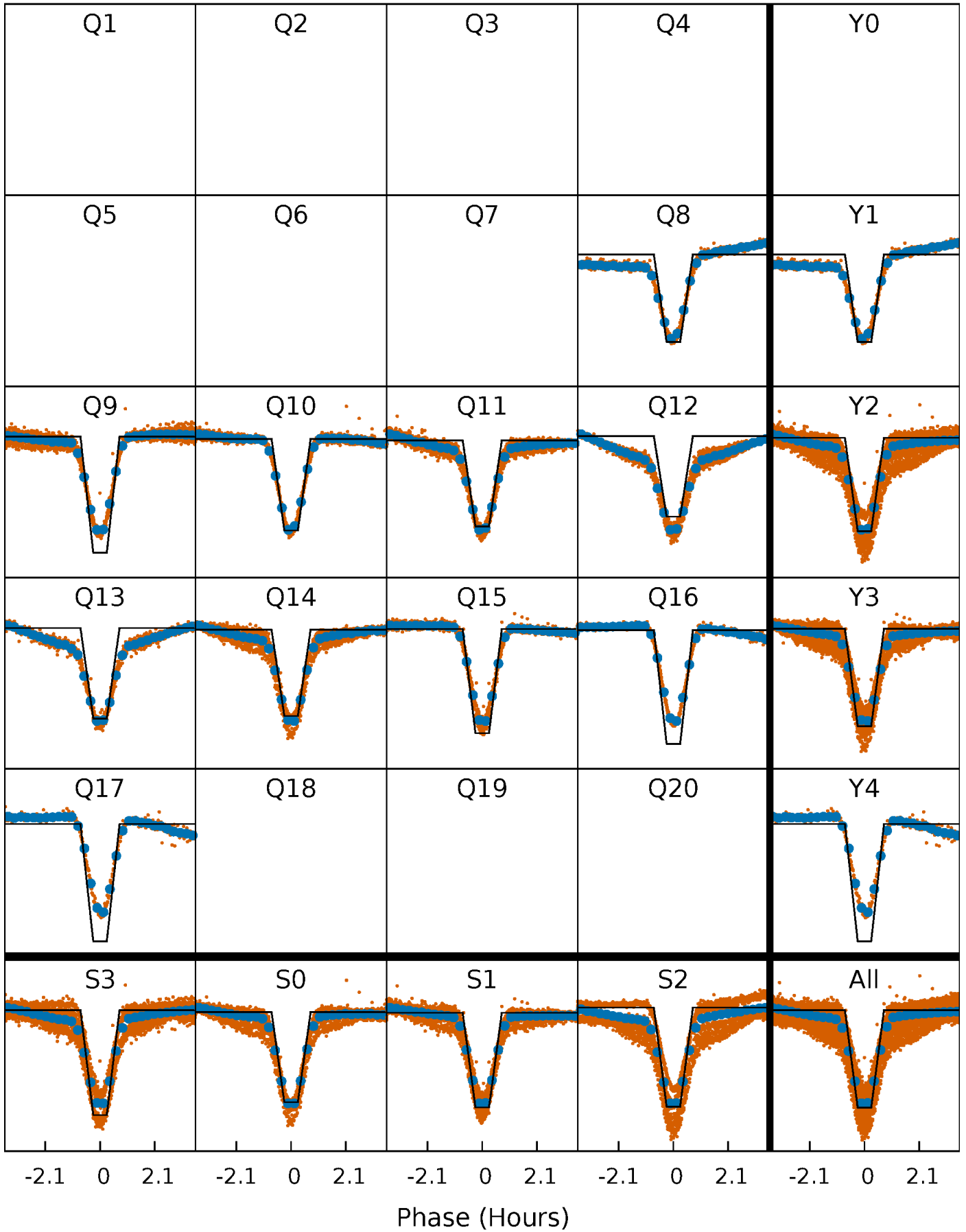
DV Quarter-Phased Transit Curves

TCE 008620561-02 P= 0.782045 Days $T_0=132.064119$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

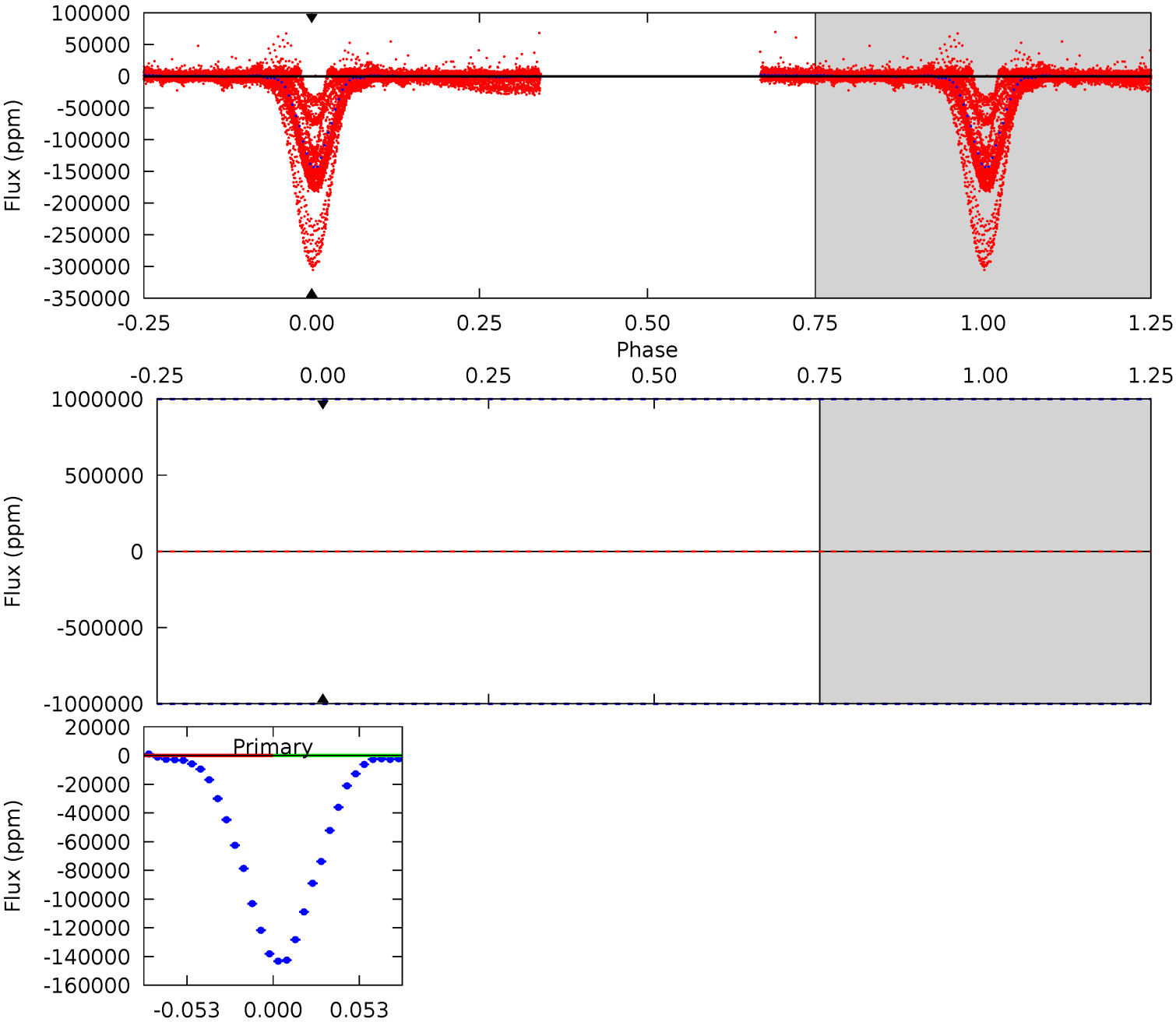
TCE 008620561-02 $P = 0.782045$ Days $T_0 = 132.067643$ (BKJD)



DV Model-Shift Uniqueness Test

008620561-02, P = 0.782045 Days, E = 132.064119 Days

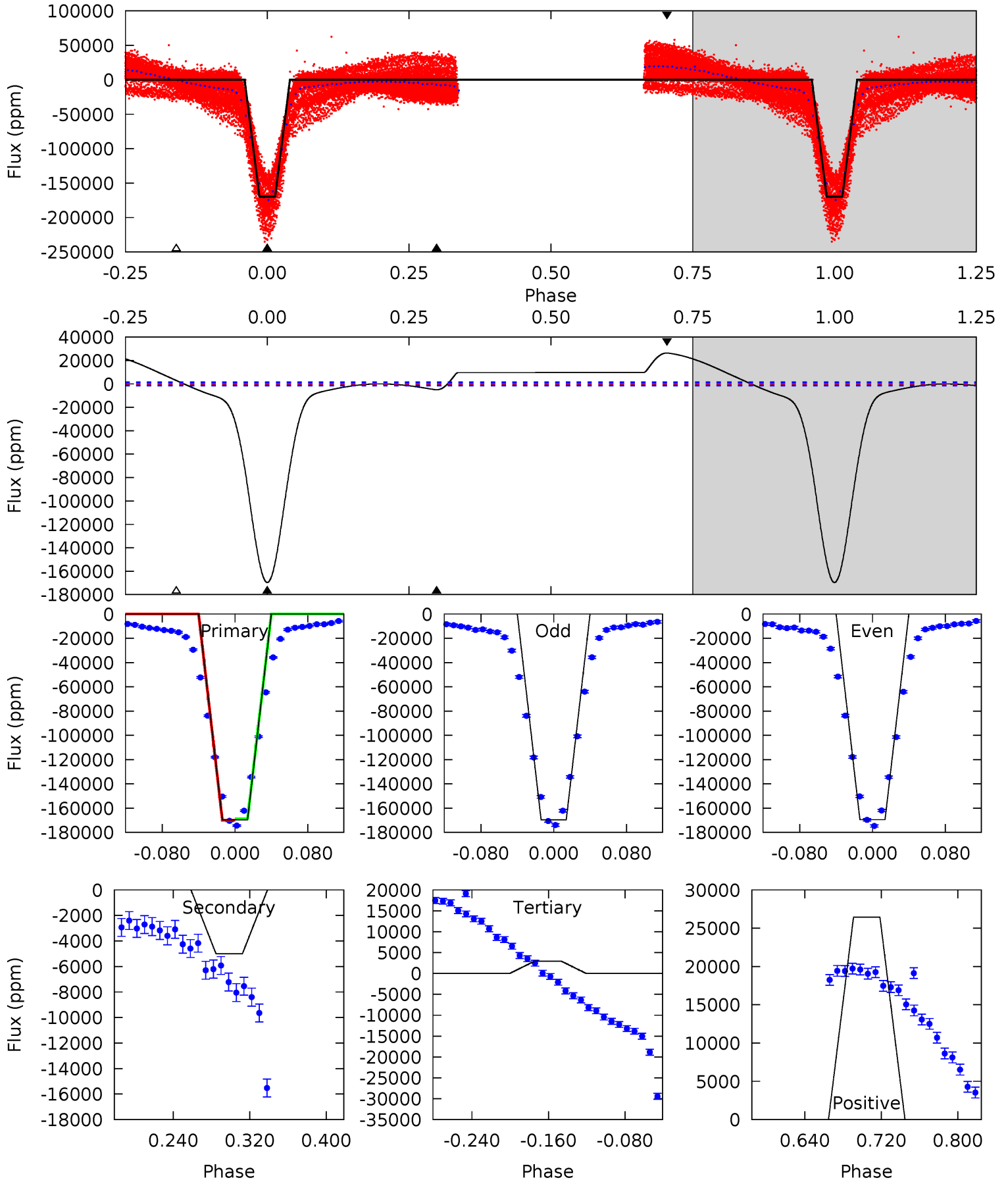
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008620561-02, P = 0.782045 Days, E = 132.067643 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
550.9	16.2	-9.60	85.9	4.61	1.75	38.0	560.5	465.0	25.8	-69.6	0.30	1.00	0.13	2.38



Stellar Parameters For KIC 008620561

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4768^{+151}_{-170}	$4.661^{+0.056}_{-0.032}$	$-0.820^{+0.300}_{-0.300}$	$0.591^{+0.046}_{-0.046}$	$0.584^{+0.057}_{-0.033}$	$3.981^{+0.982}_{-0.544}$
	+3%/-4%	+1%/-1%	+37%/-37%	+8%/-8%	+10%/-6%	+25%/-14%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008620561-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$22.20^{+7.11}_{-6.50}$	1903^{+69}_{-73}	2395^{+2368}_{-6946}	$0.710^{+25.018}_{-21.583}$
Alt.	-5001 ± 308	$27.04^{+5.84}_{-6.20}$	1905^{+70}_{-67}	2522^{+246}_{-254}	$0.737^{+0.486}_{-0.244}$

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

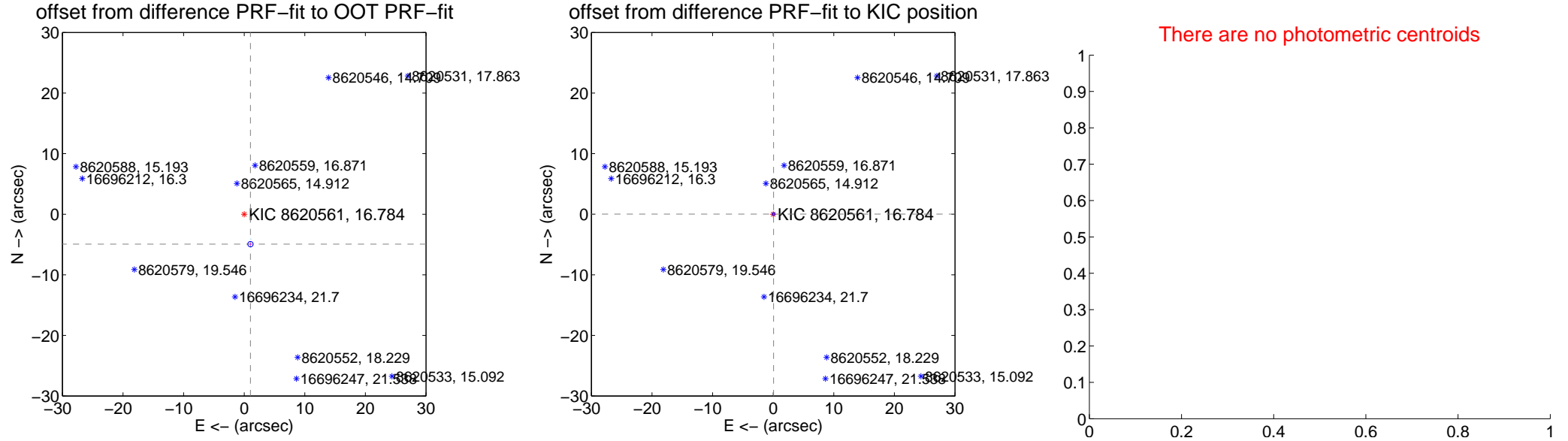
DV Centroid Data

Supplemental centroid analysis for 008620561-02. Kepler magnitude: 16.78. Transit SNR -1.00

There are 10 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 5.06 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.048 ± 0.148	34.19	-1.034 ± 0.072	-4.940 ± 0.153
PRF-fit source offset from KIC position	0.068 ± 0.074	0.92	-0.063 ± 0.073	0.025 ± 0.077
photometric centroid source offset	—	—	—	—

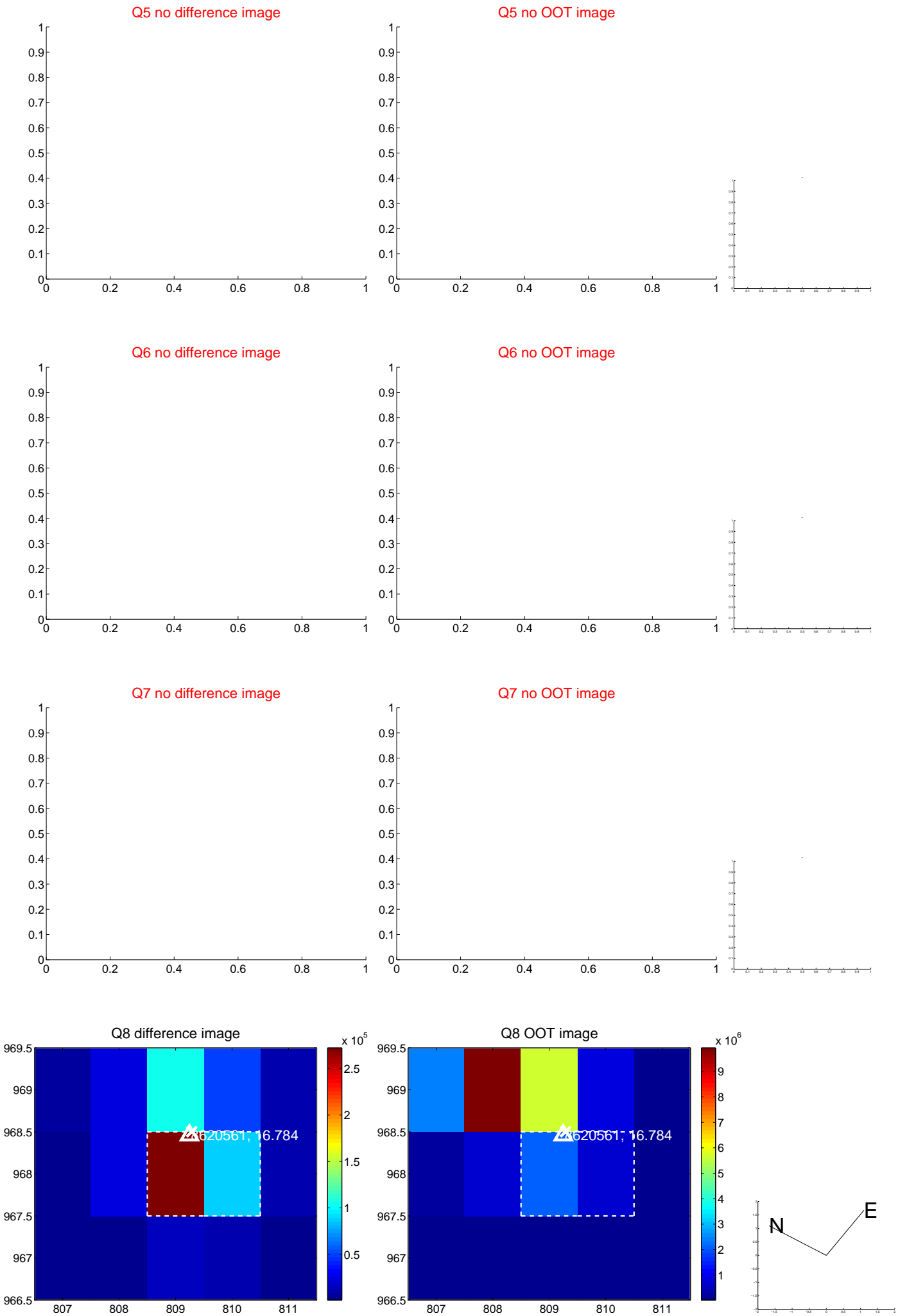


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

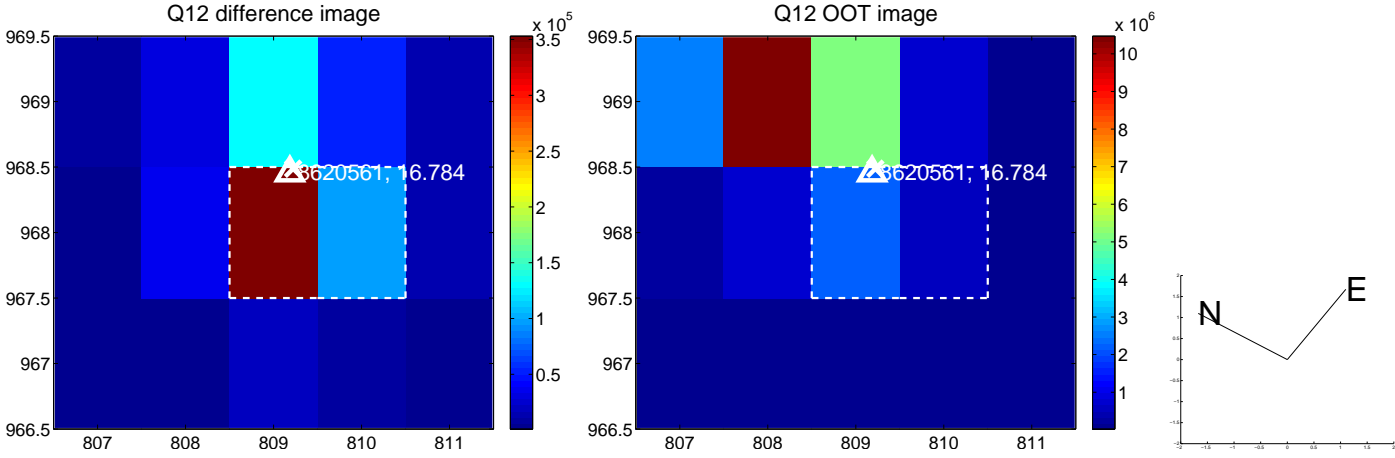
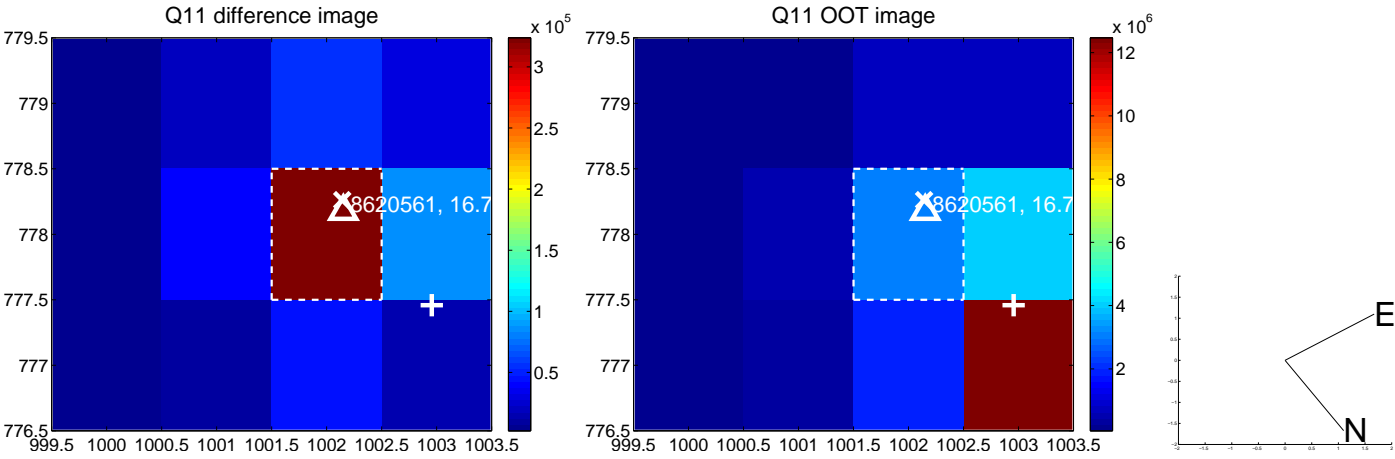
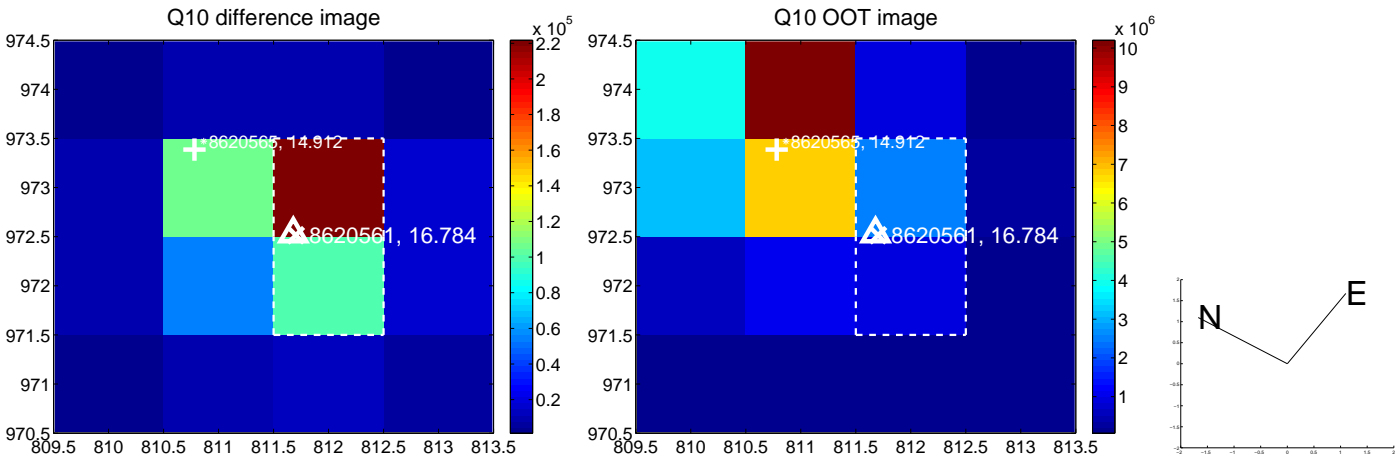
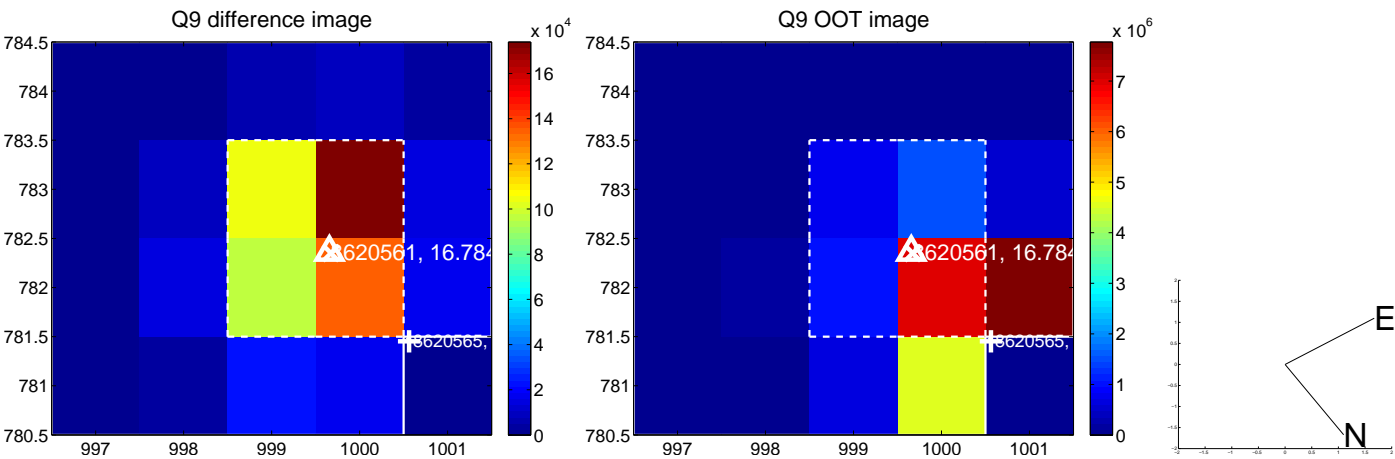
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



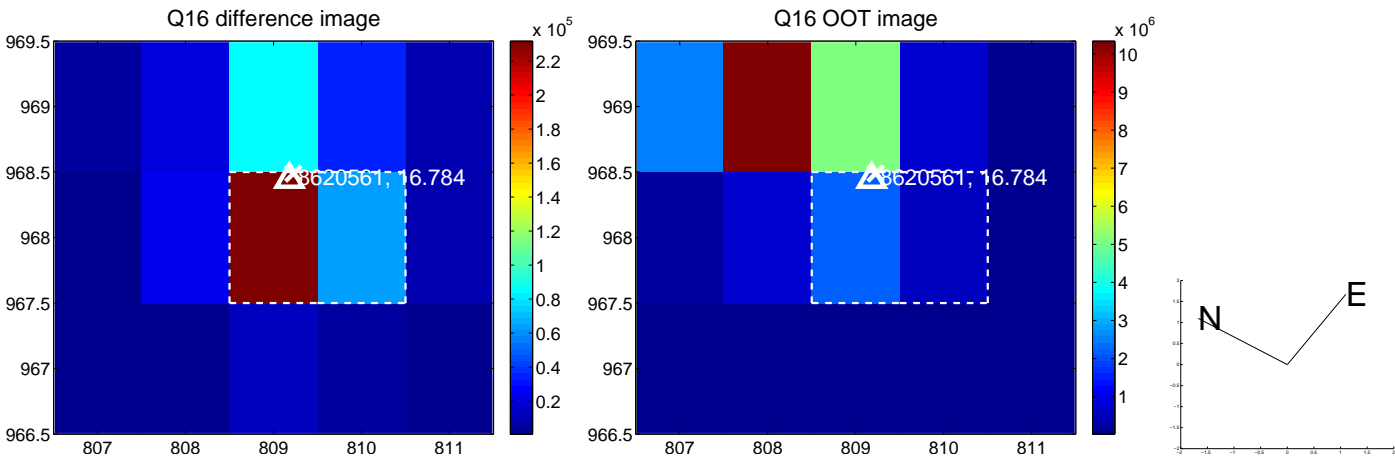
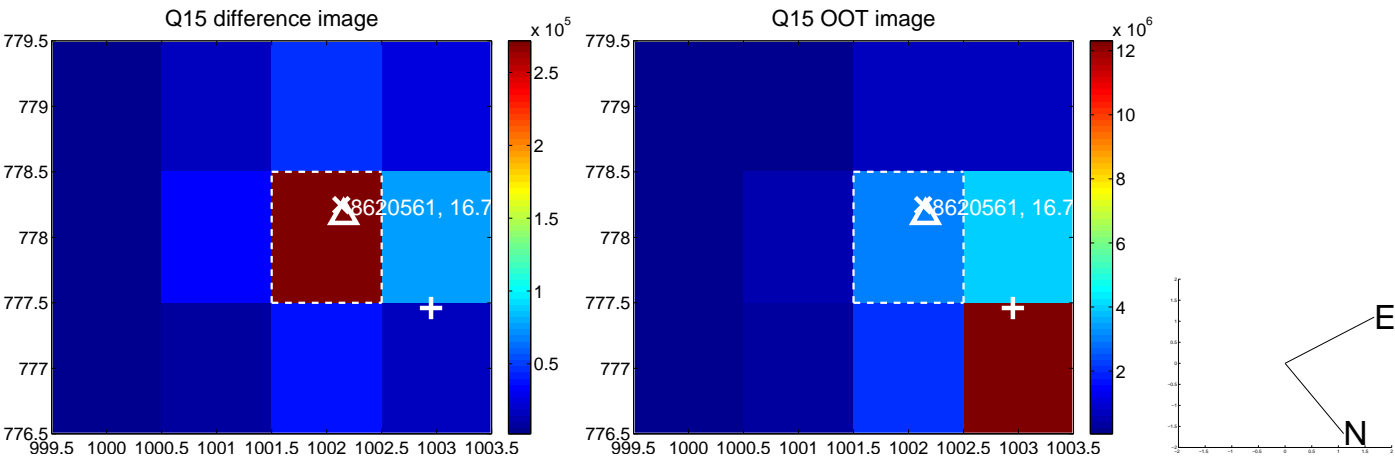
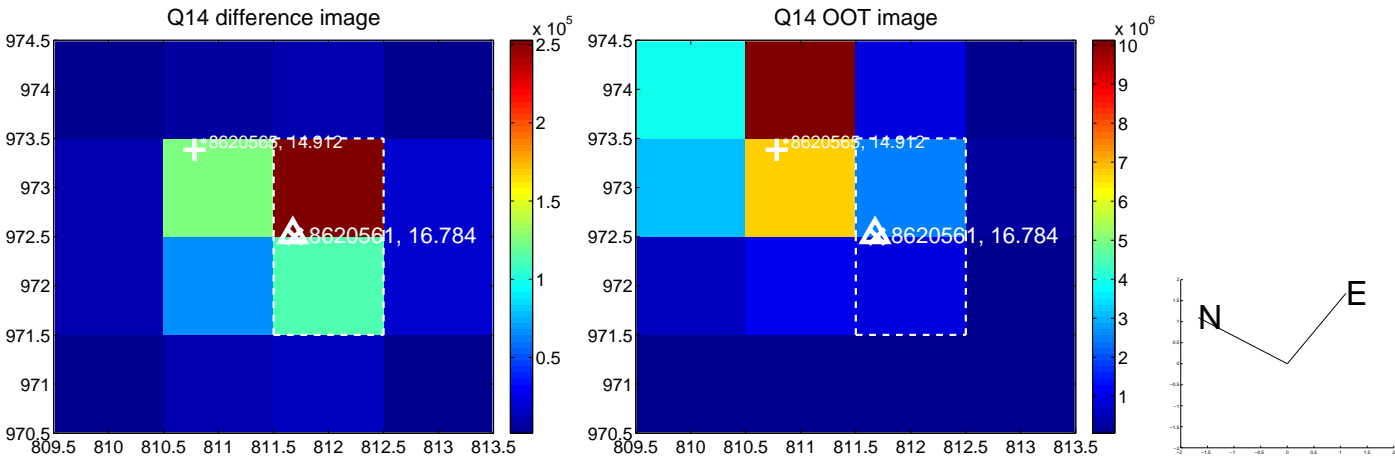
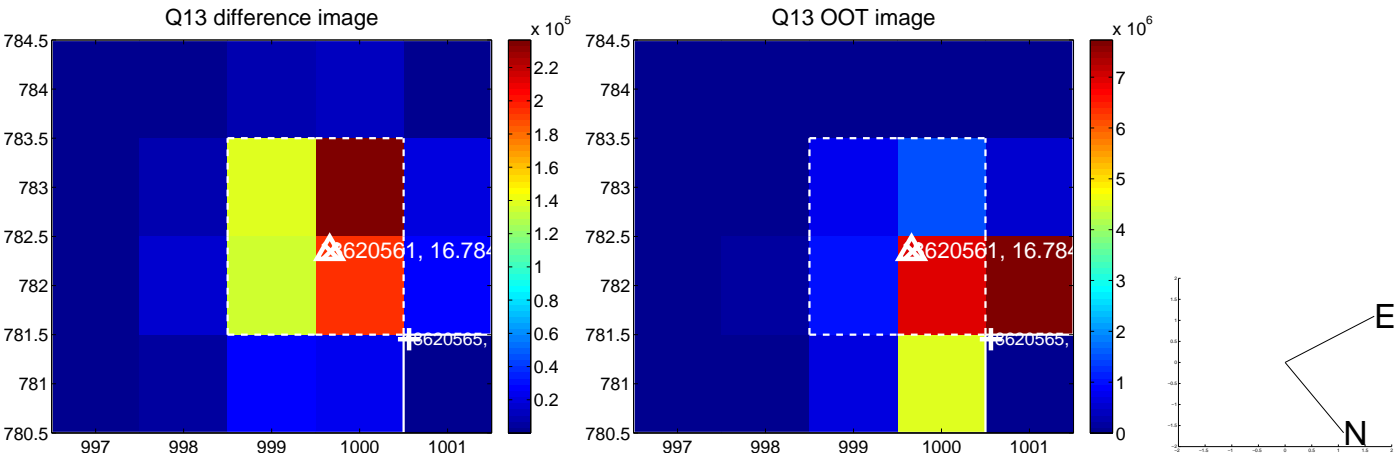
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



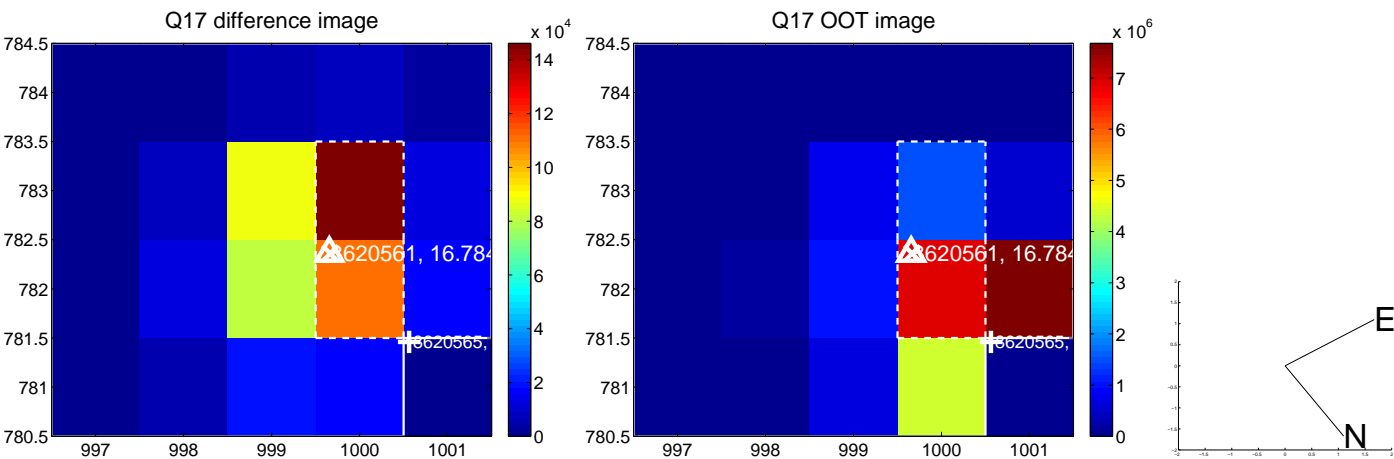
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

