

KIC 006543683

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})
006543683-01	OBS	3769.01	1.195492	132.319337	5830.7	5.292	1653.3	621.6	1.16	6040	10.86	3489.00
006543683-02	OBS	No	143.640853	191.662335	208.0	11.323	9.4	6.1	1.16	6040	1.95	5.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006543683-01	OBS	FP	0.00	0	1	1	1	MOD_ODDEVEN_DV—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_RESOLVED_OFFSET—EPHEM_MATCH
006543683-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET—HALO_GHOST

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.

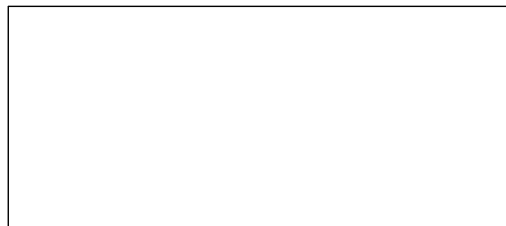
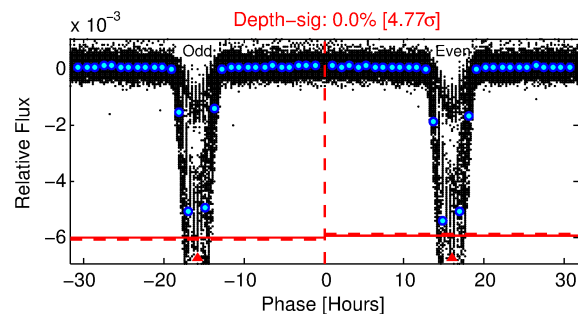
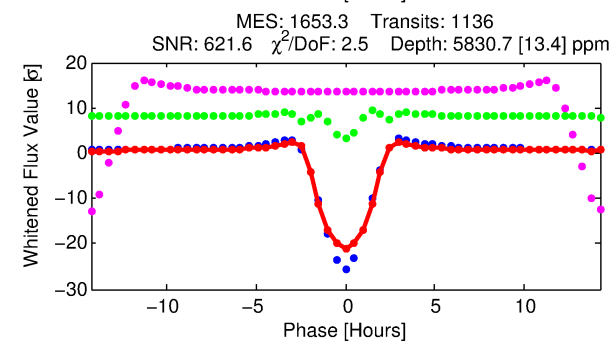
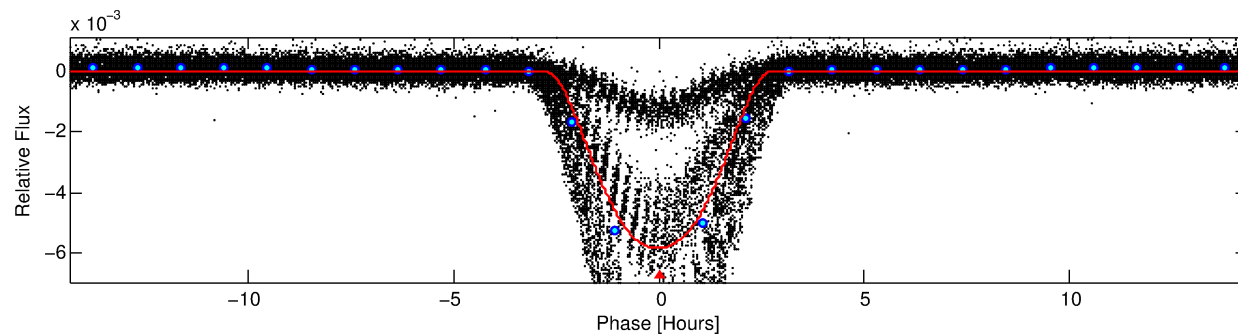
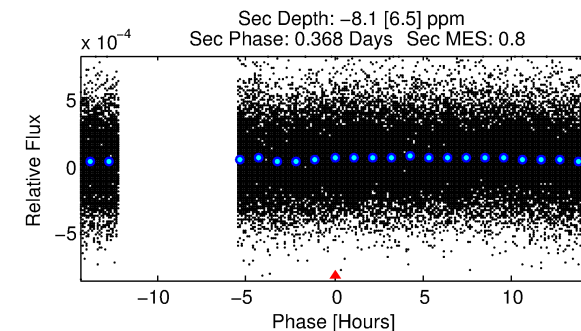
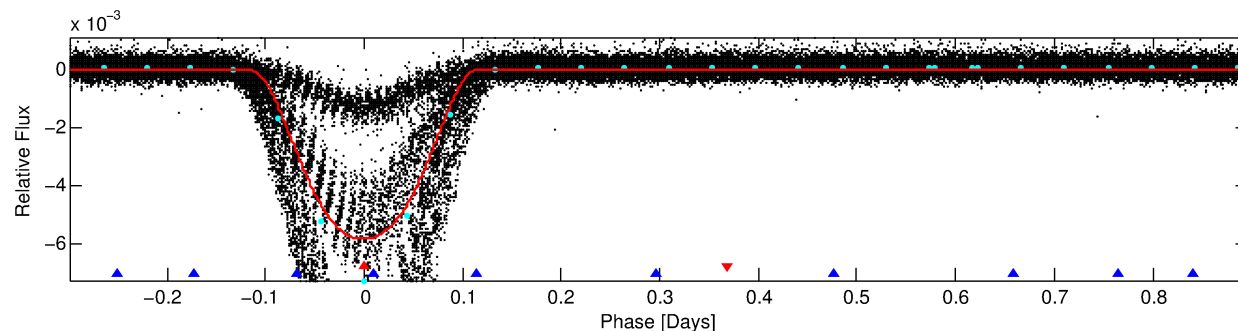
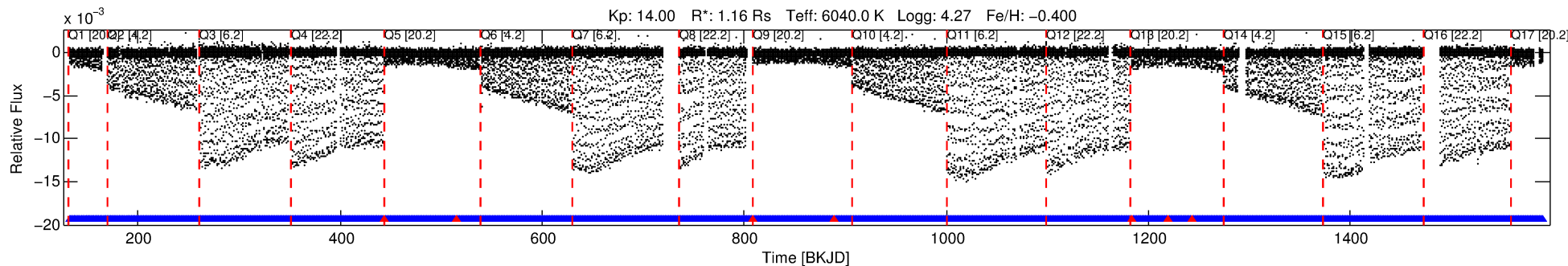
Ephemeris Match Information For 006543683-01

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
006543683-01	6543683	6728.01	6543682	1:1	13.6	3	1	13.91	14.00	93.23	Direct-PRF	0	1.74	1.11

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: 6543683 Candidate: 1 of 2 Period: 1.195 d
KOI: K03769.01 Corr: 0.965



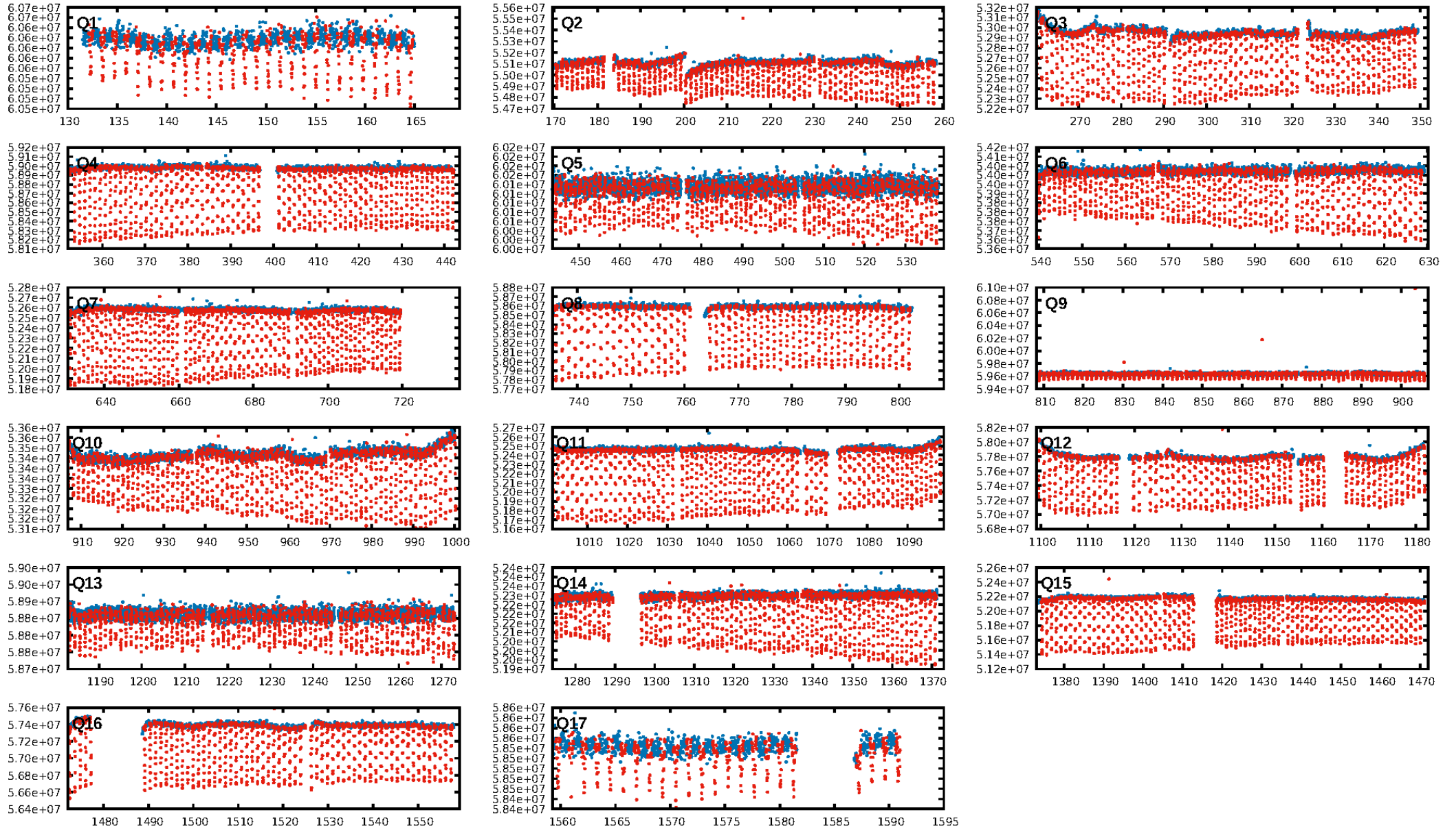
DV Fit Results:

Period = 1.19549 [0.00000] d
Epoch = 132.3193 [0.0001] BKJD
Rp/R* = 0.0862 [0.0003]
a/R* = 1.39 [0.00]
b = 0.92 [0.00]
Seff = 3489.00 [1417.58]
Teq = 1960 [199] K
Rp = 10.86 [3.11] Re
a = 0.0214 [0.0054] AU
Ag = N/A
Teffp = N/A

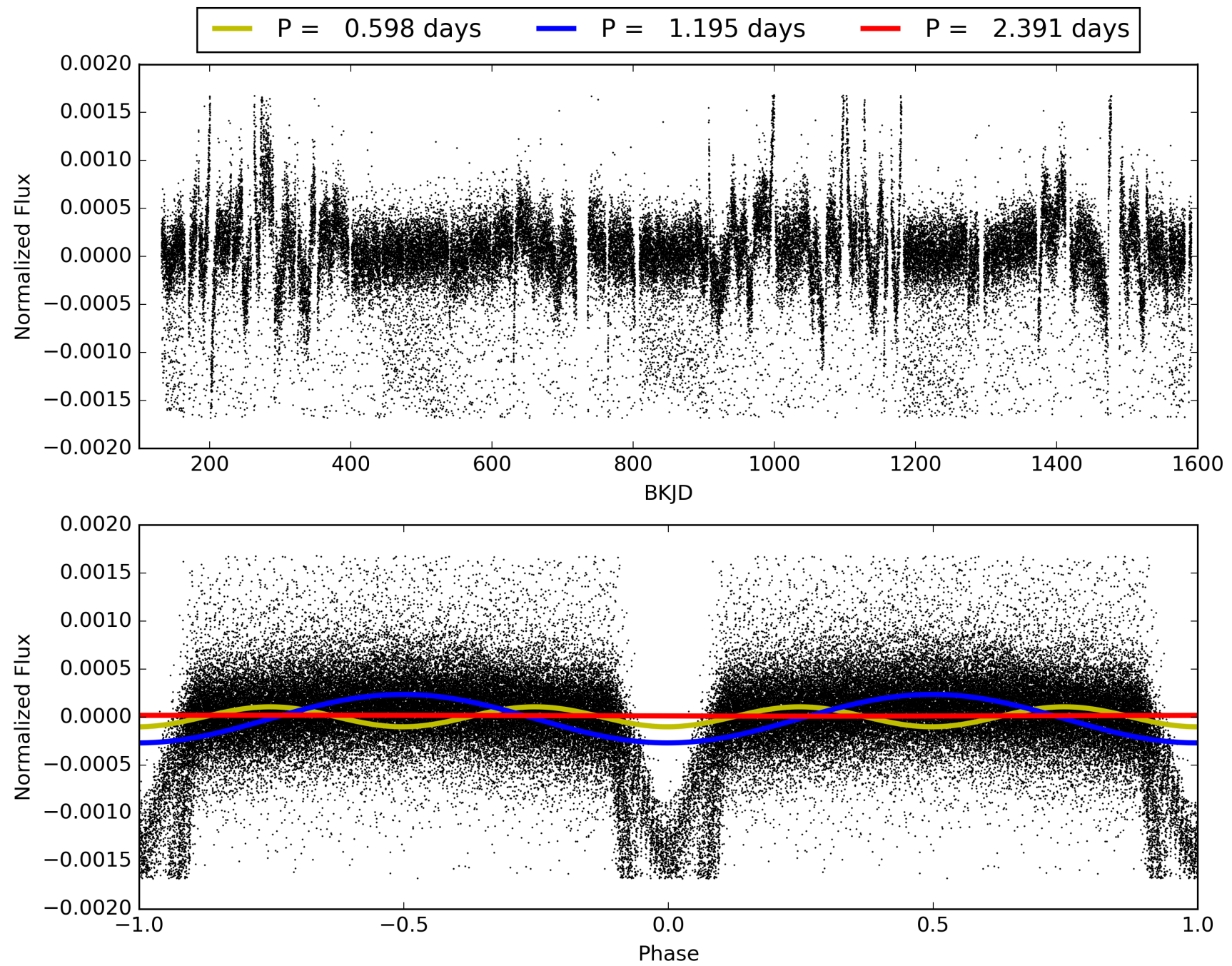
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [273.52 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [1078/1085]
GhostDiagnostic-chr: -0.3504
Centroid-sig: N/A
Centroid-so: 29.972 arcsec [2316.66 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006543683-01, PDC Light Curves

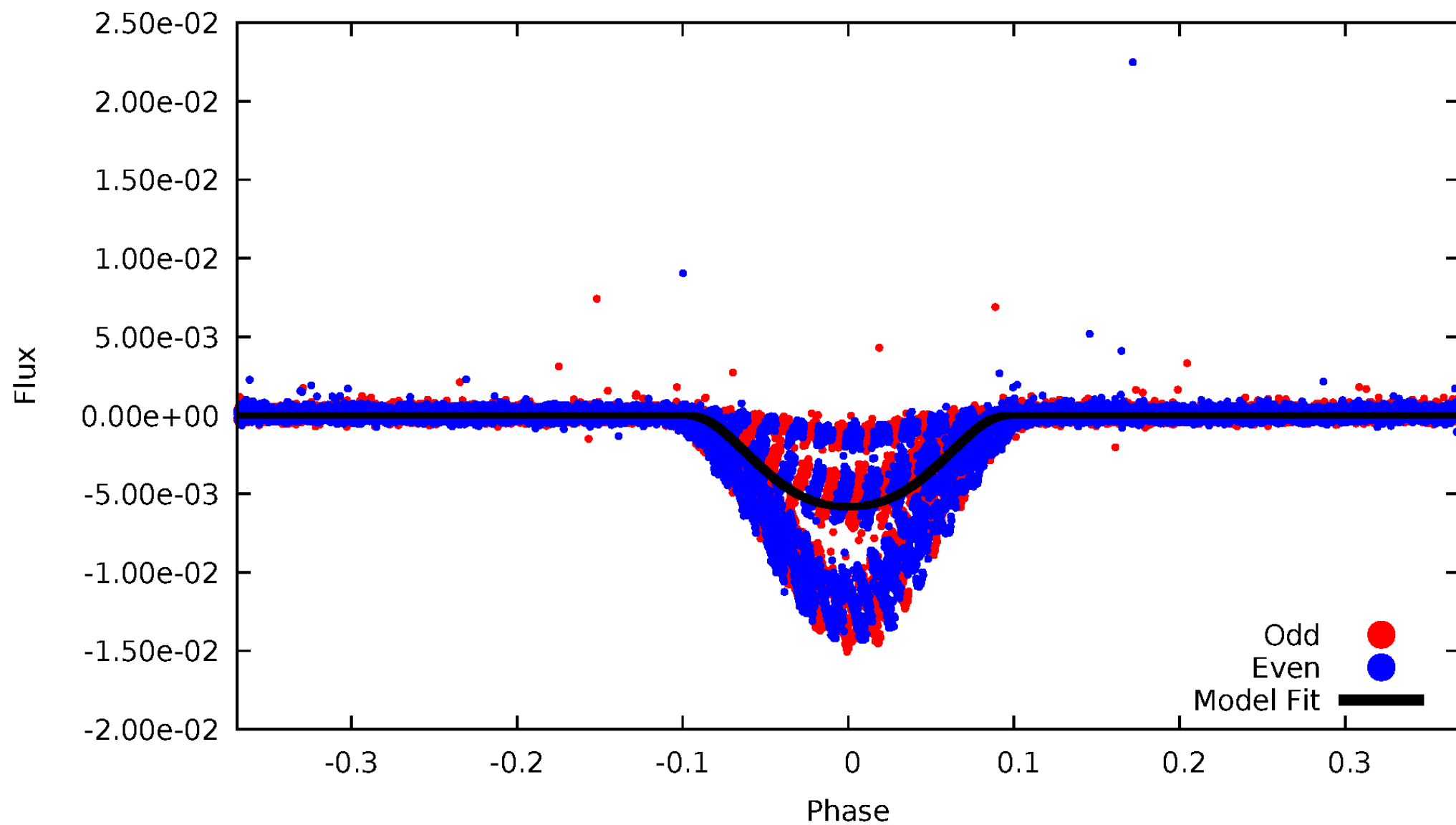


TCE 006543683-01



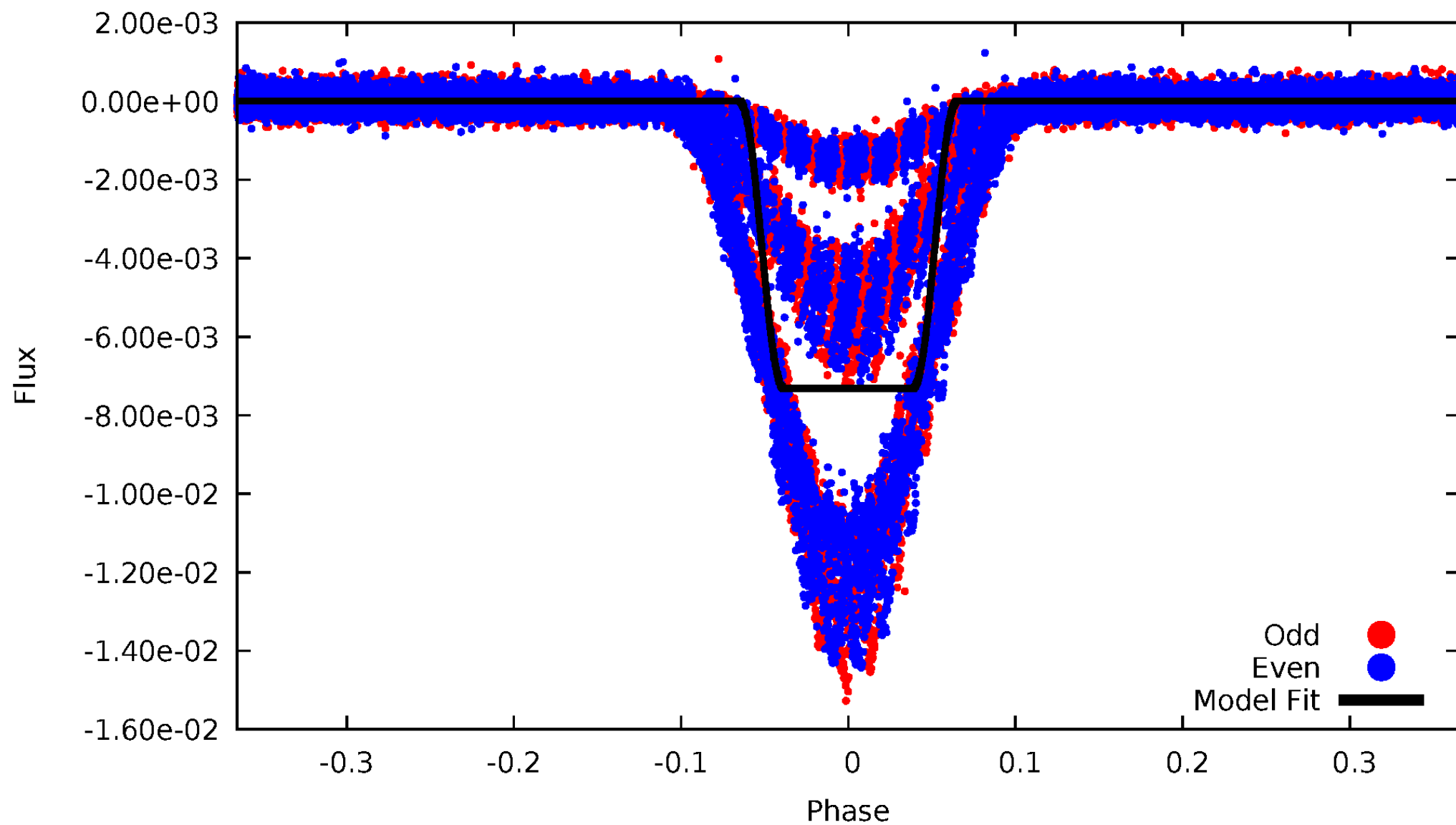
DV Odd/Even

TCE 006543683-01



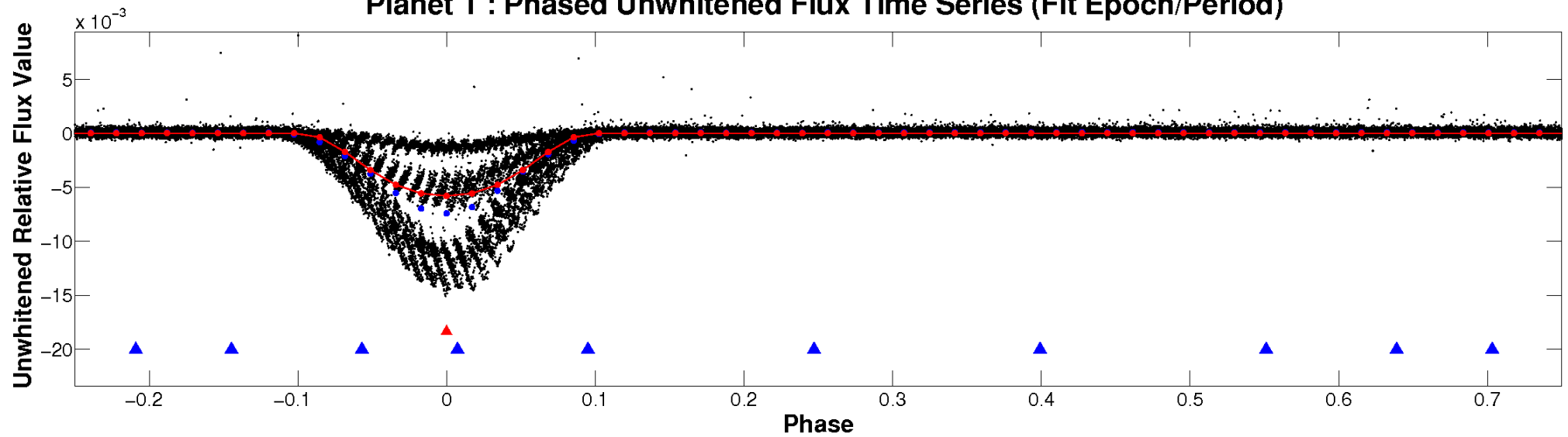
ALT Odd/Even

TCE 006543683-01

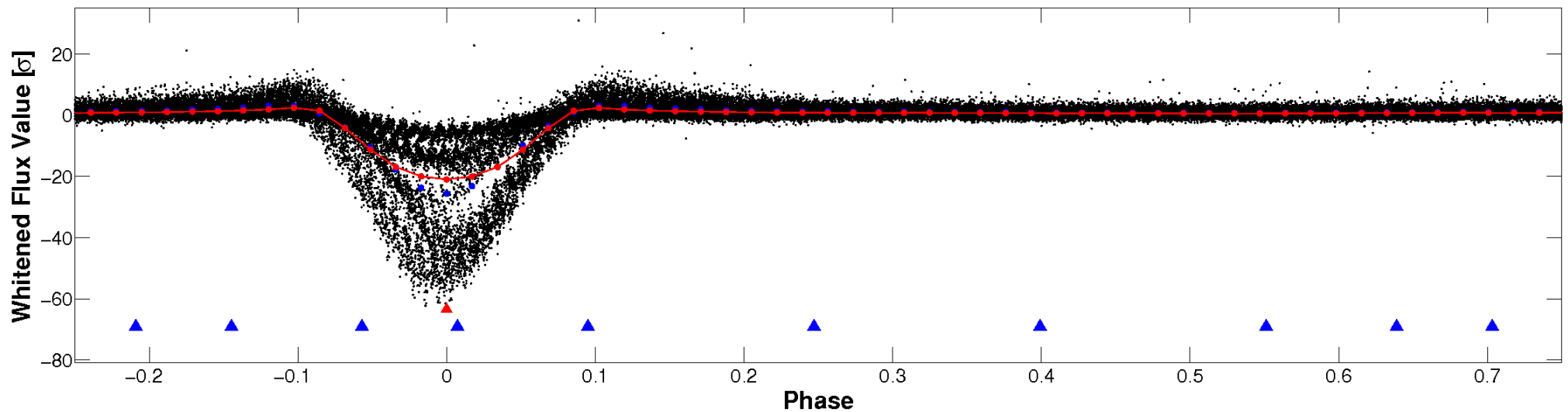


Non-Whitened Vs. Whitened Light Curve

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

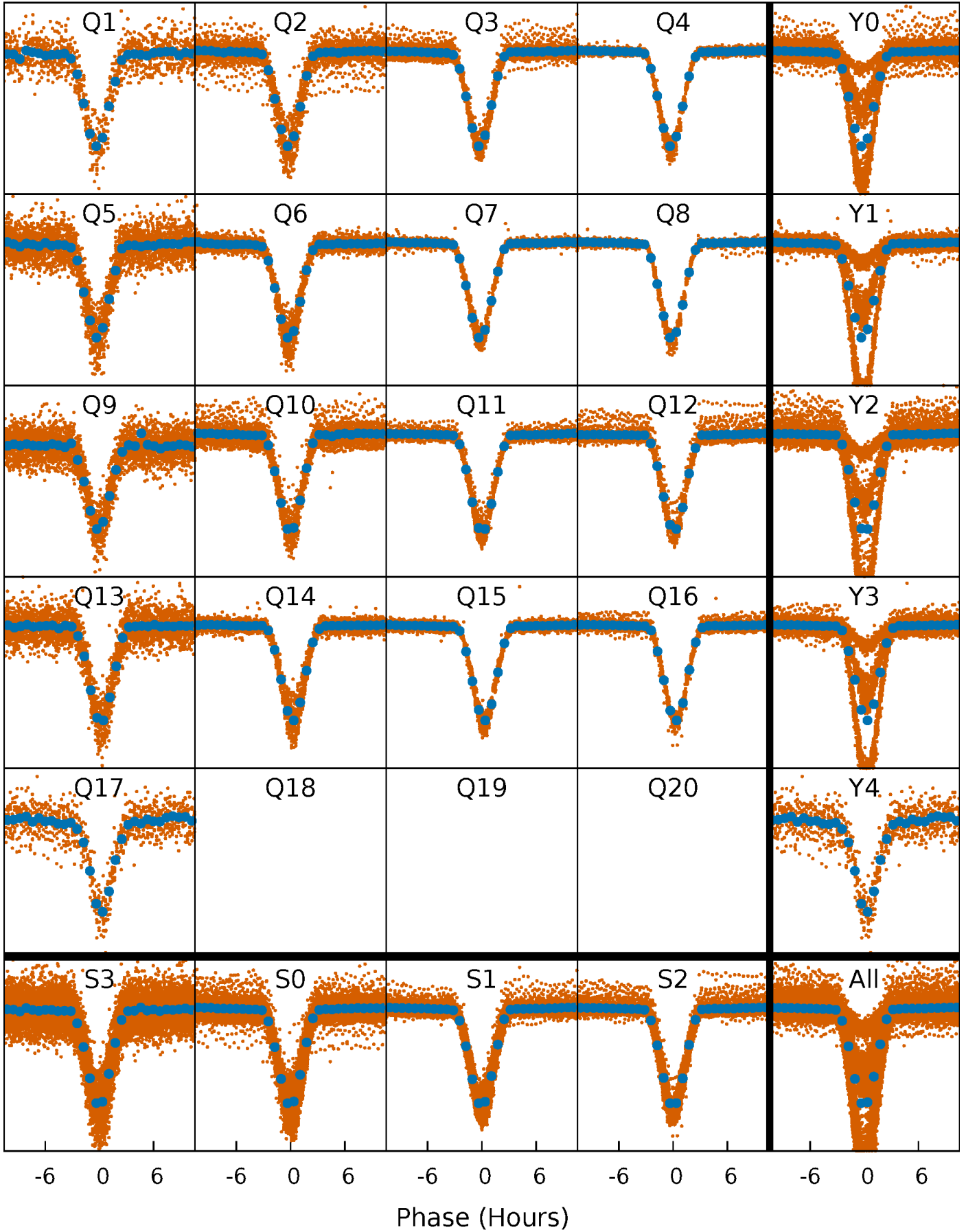


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



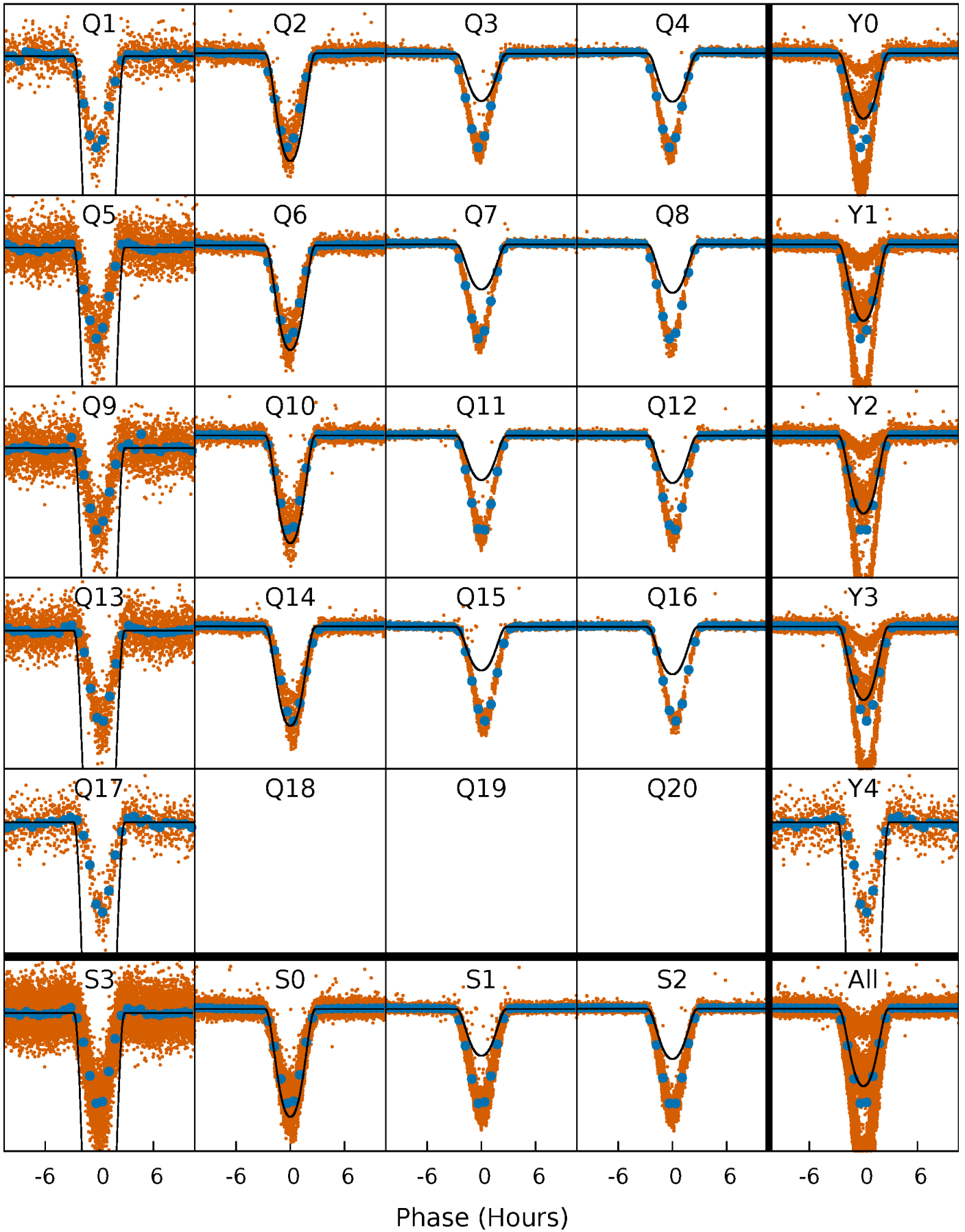
PDC Quarter-Phased Transit Curves

TCE 006543683-01 P= 1.195492 Days $T_0=132.319337$ (BKJD)



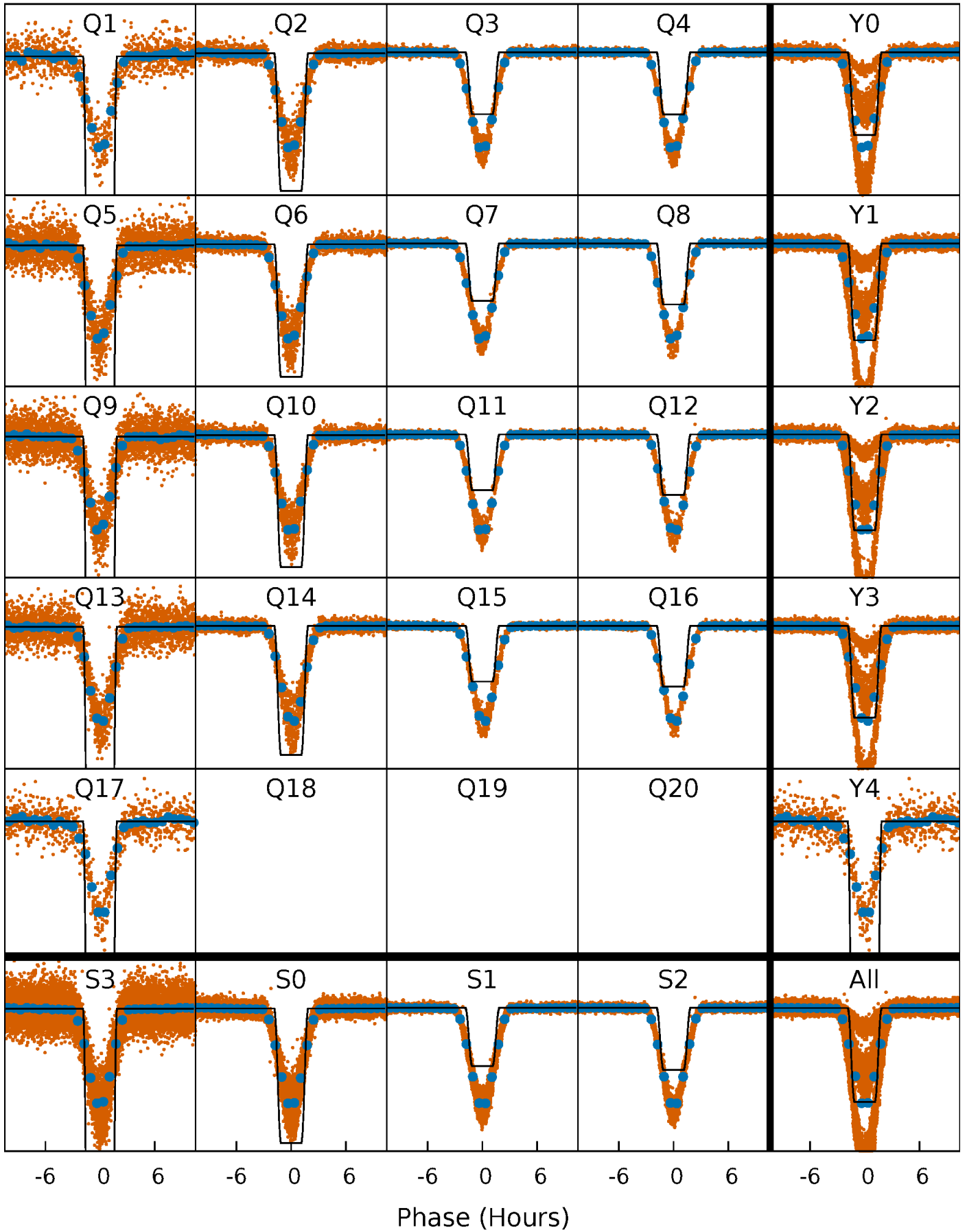
DV Quarter-Phased Transit Curves

TCE 006543683-01 P= 1.195492 Days $T_0=132.319337$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

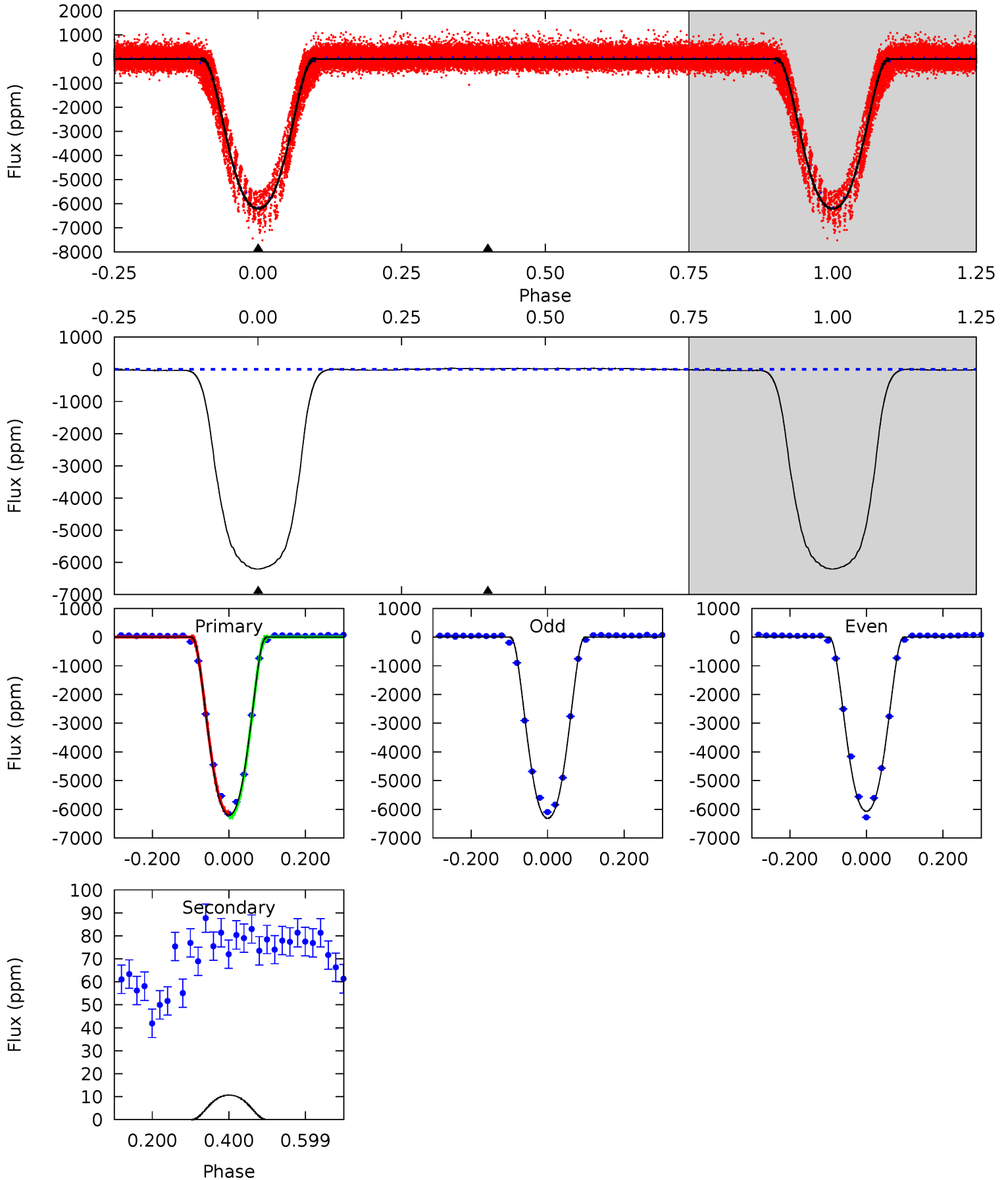
TCE 006543683-01 P= 1.195509 Days $T_0=132.307701$ (BKJD)



DV Model-Shift Uniqueness Test

006543683-01, P = 1.195492 Days, E = 131.123845 Days

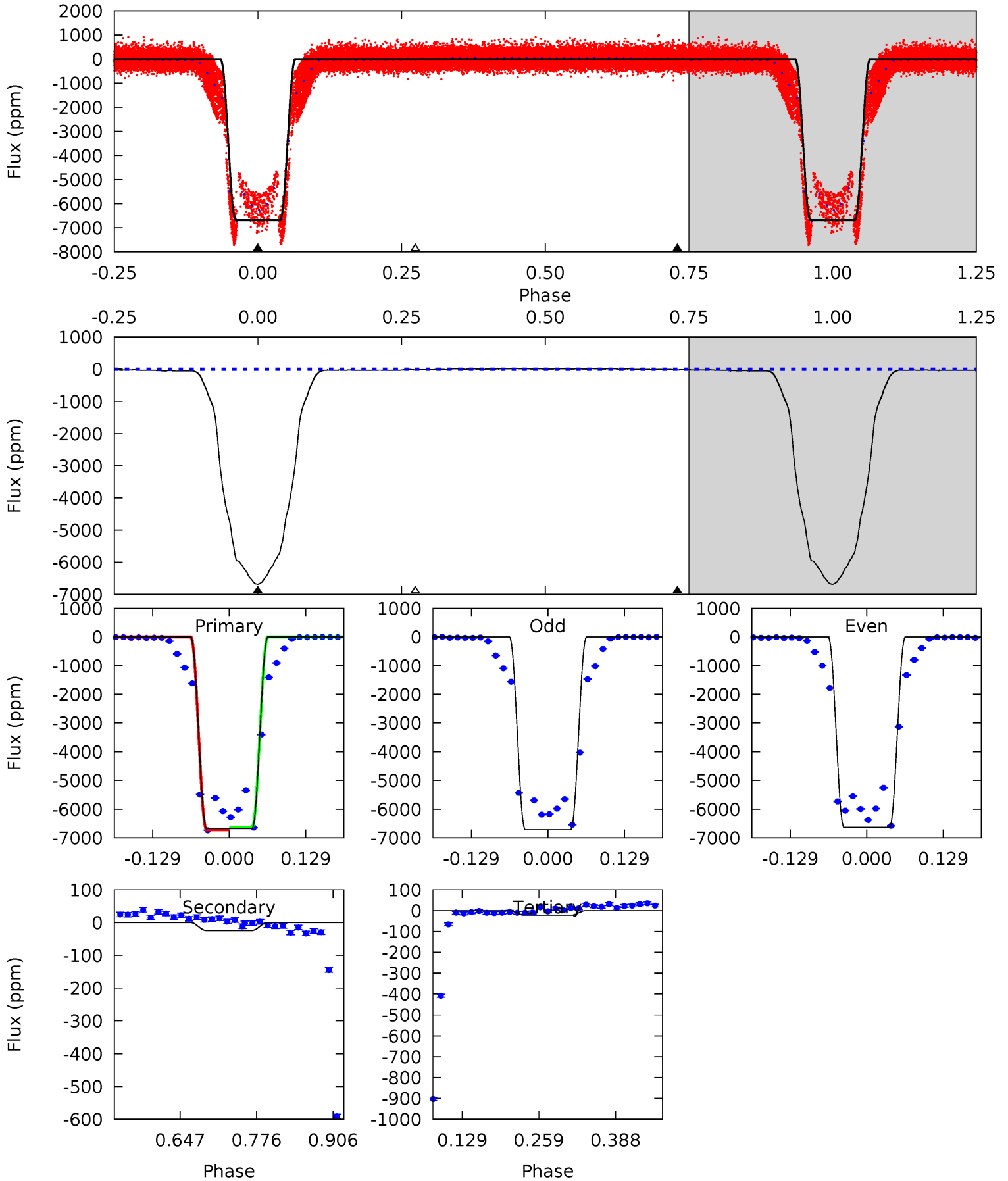
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1890	-3.25	0	0	4.42	1.28	4.96	1890	1890	-3.25	-3.25	37.4	1.12	0.00	0



Alt Model-Shift Uniqueness Test

006543683-01, P = 1.195509 Days, E = 131.112192 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1204	4.40	4.05	0	4.51	1.52	3.38	1200	1204	0.35	4.40	6.72	1.14	0.00	0



Stellar Parameters For KIC 006543683

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6040^{+182}_{-182}	$4.271^{+0.220}_{-0.180}$	$-0.400^{+0.300}_{-0.300}$	$1.155^{+0.331}_{-0.271}$	$0.909^{+0.130}_{-0.095}$	$0.831^{+0.987}_{-0.427}$
	+3%/-3%	+5%/-4%	+75%/-75%	+29%/-23%	+14%/-10%	+119%/-51%
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 006543683-01 / KOI 3769.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	11 ± 3	$10.79^{+1.86}_{-1.49}$	2722^{+234}_{-201}	-2957^{+119}_{-136}	$-0.022^{+0.009}_{-0.011}$
Alt.	-24 ± 6	$10.72^{+1.78}_{-1.41}$	2738^{+214}_{-202}	-2858^{+138}_{-143}	$0.053^{+0.022}_{-0.017}$

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 $A_{obs} \gg 1.0$

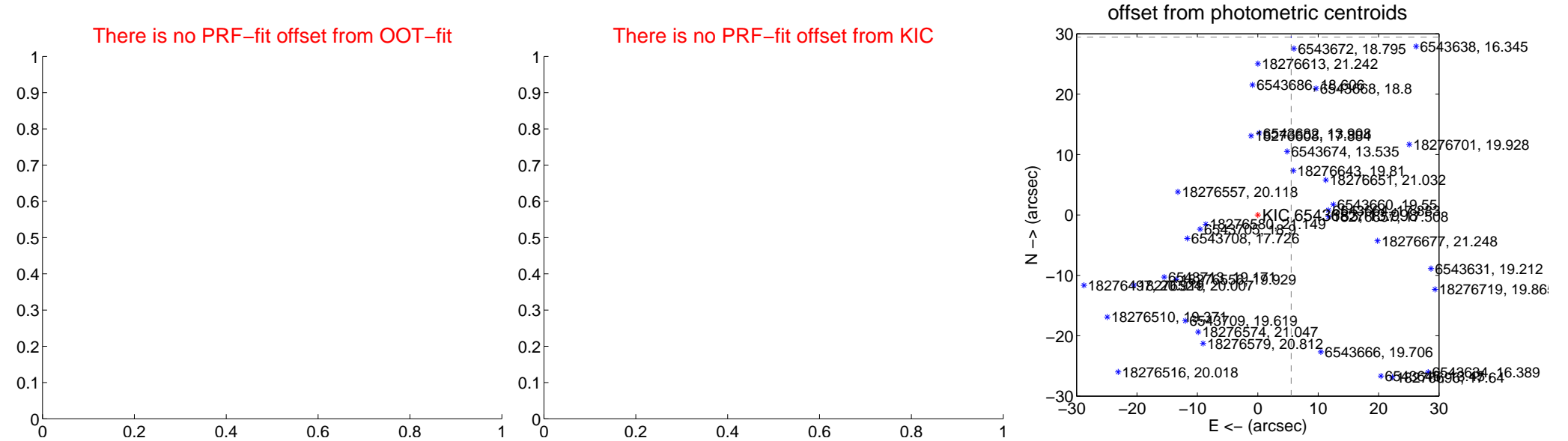
DV Centroid Data

Supplemental centroid analysis for 006543683-01. Kepler magnitude: 14.00. Transit SNR 621.63

There are 0 quarters with good PRF difference image offsets

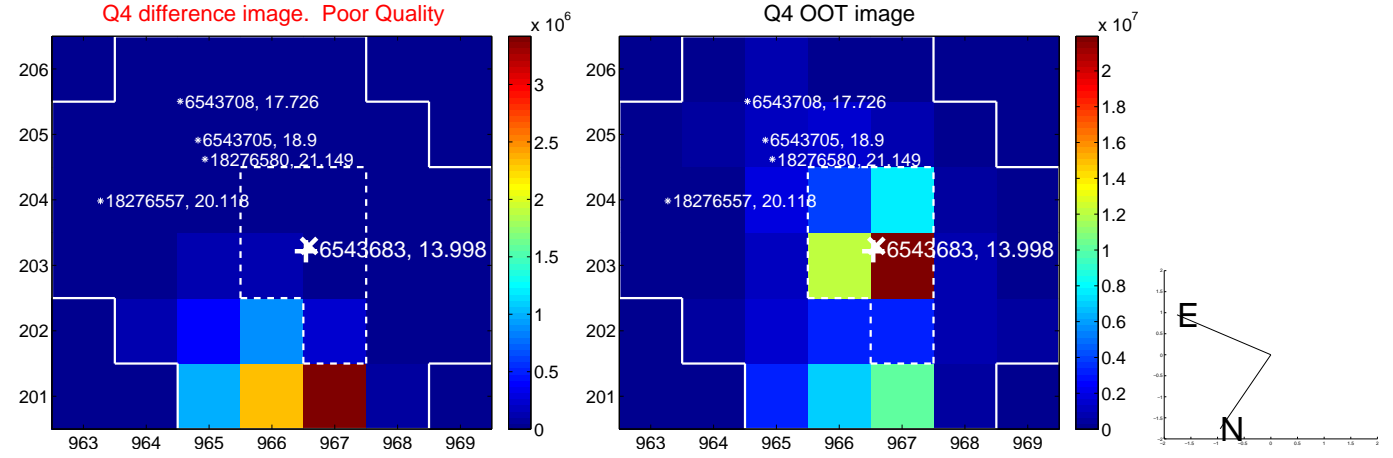
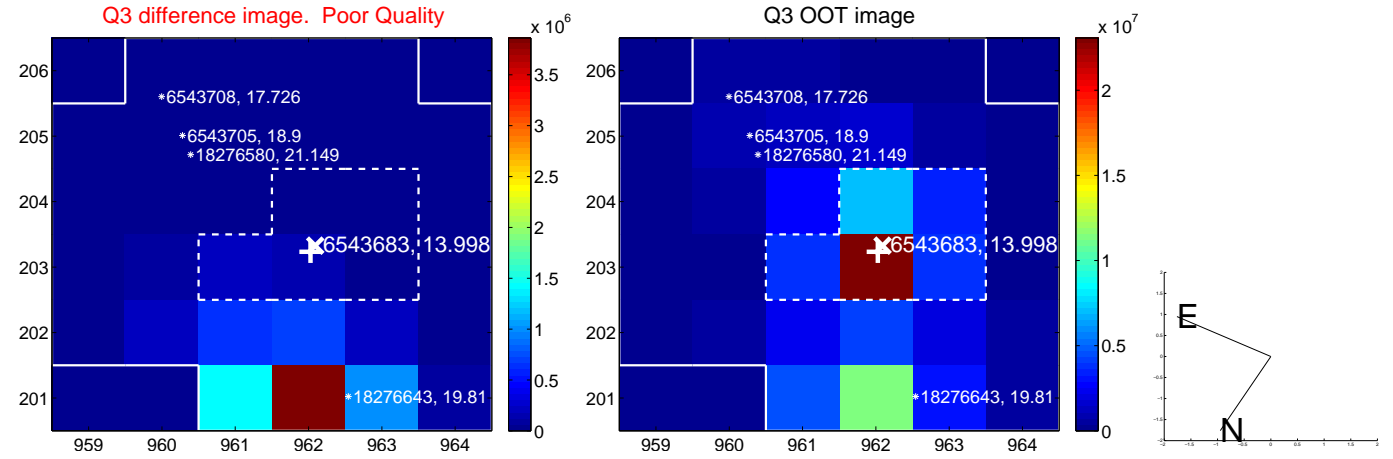
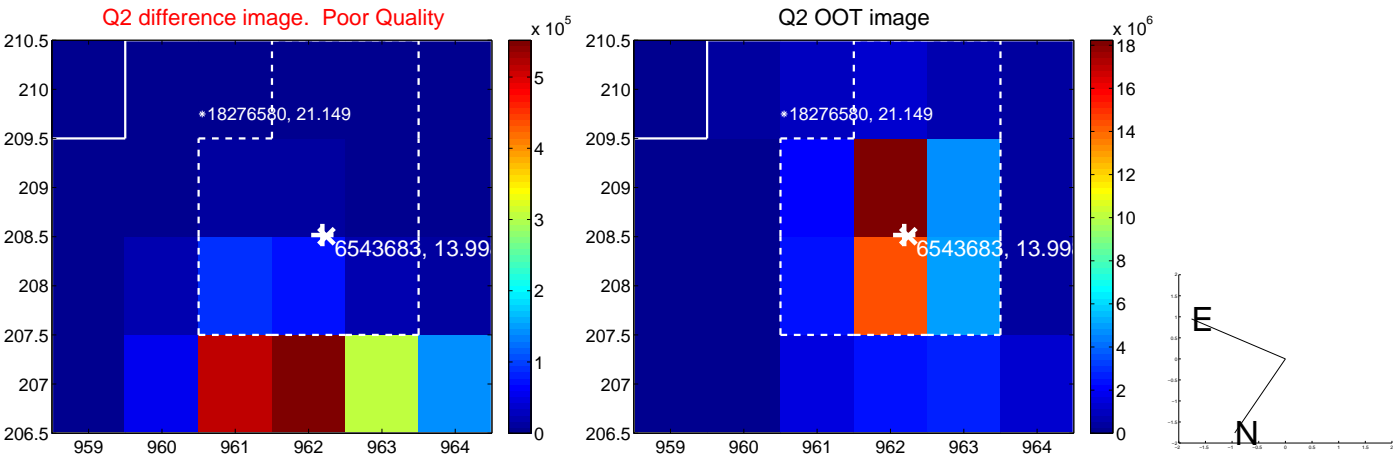
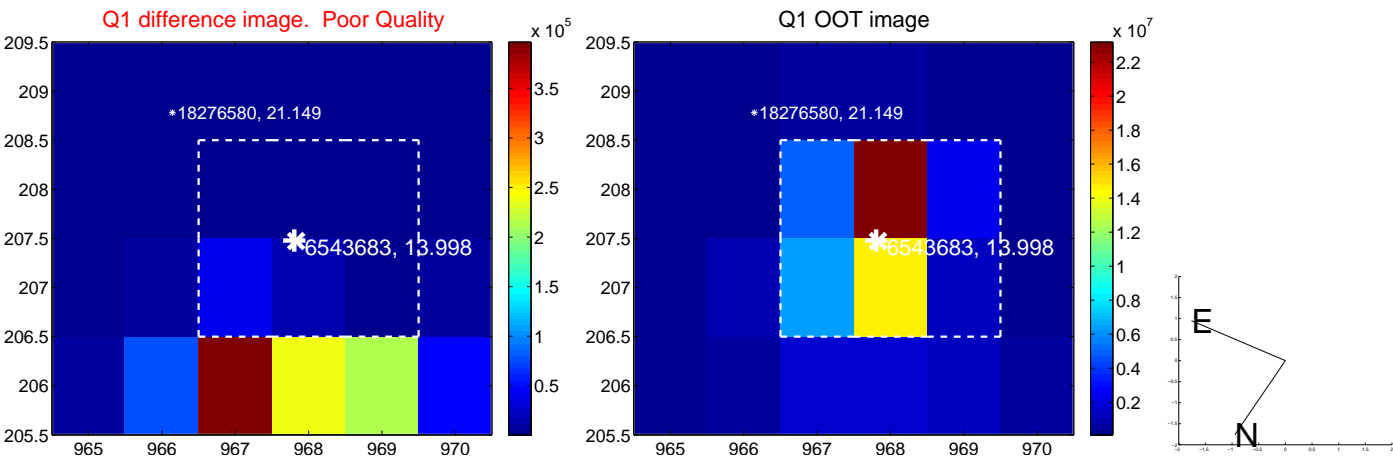
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	29.97 ± 0.01	2316.65	-5.54 ± 0.01	29.46 ± 0.01

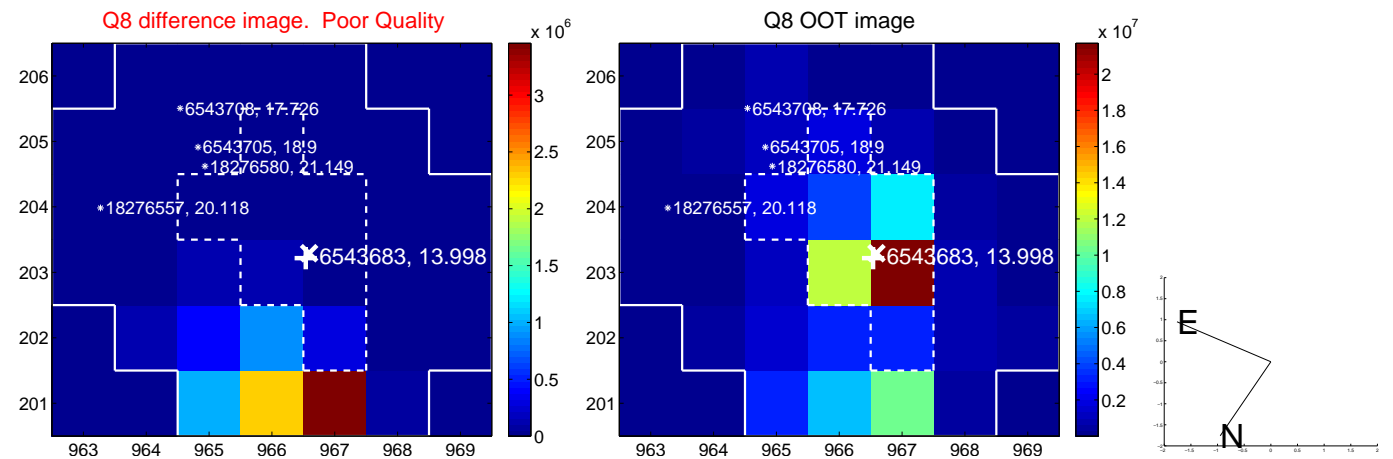
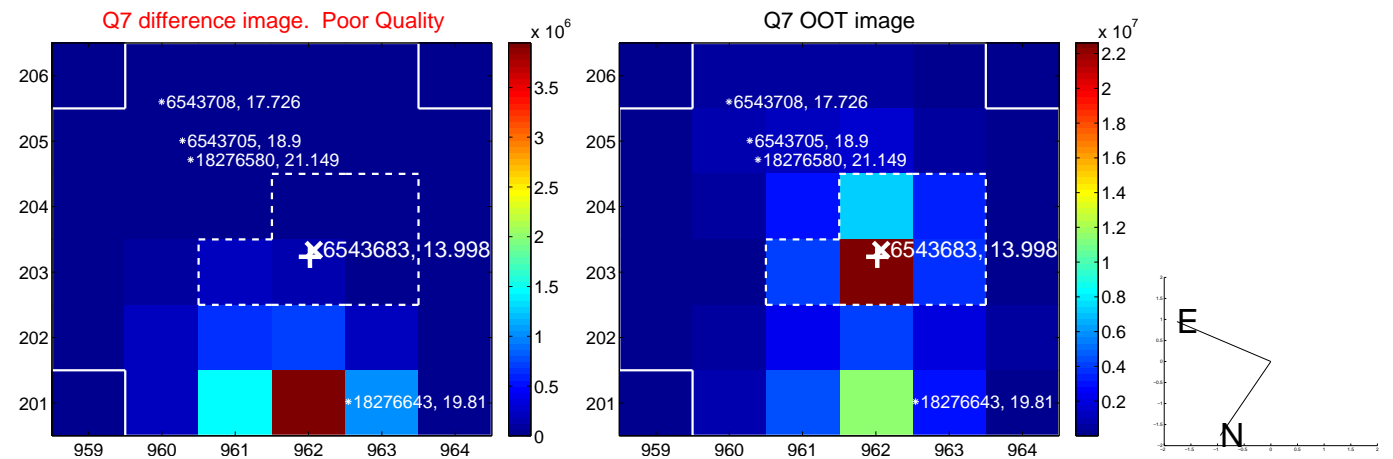
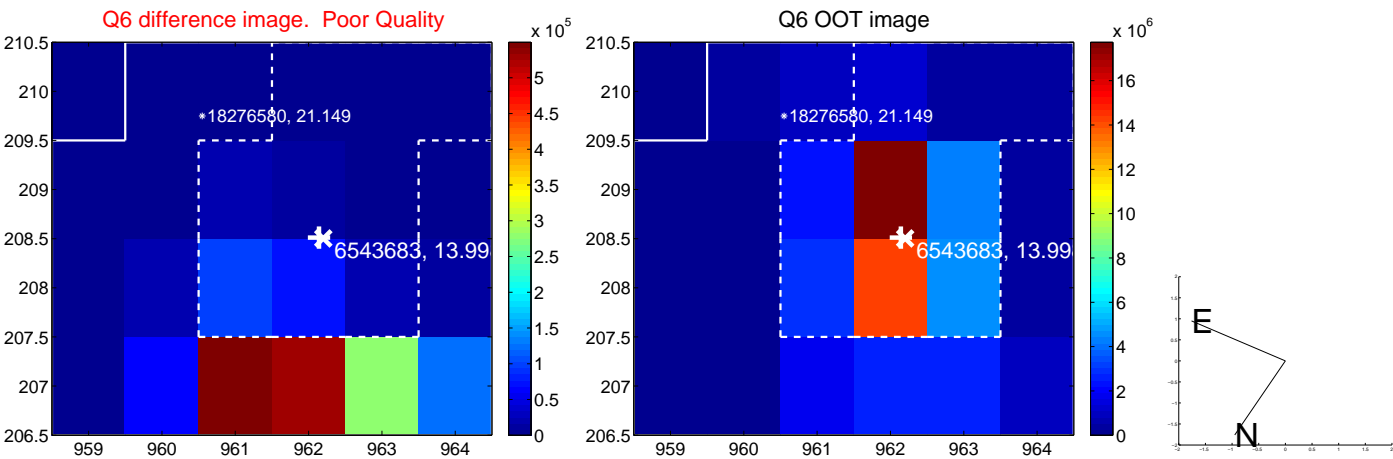
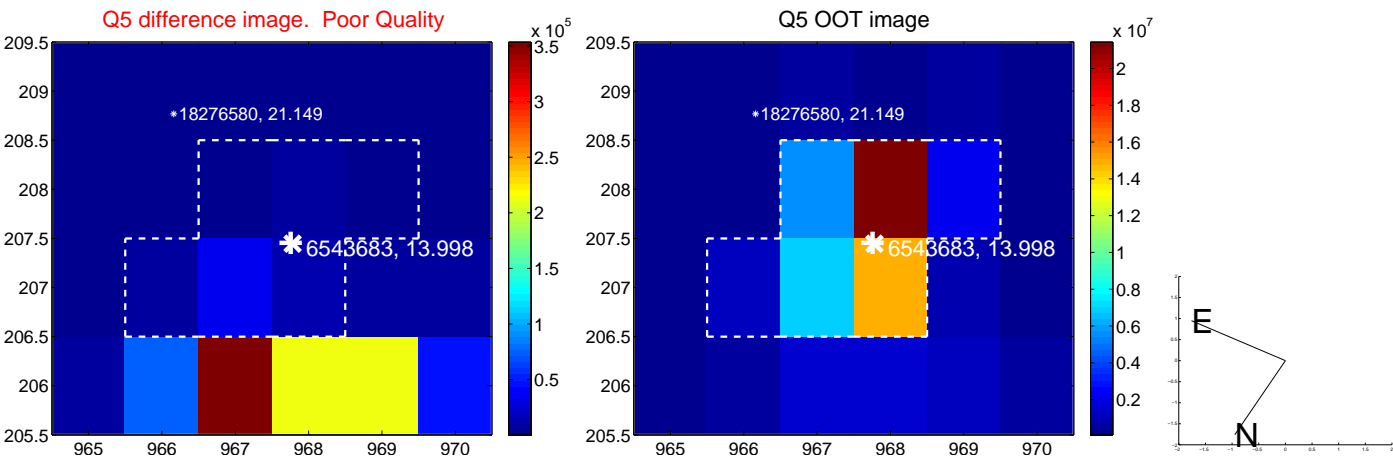


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

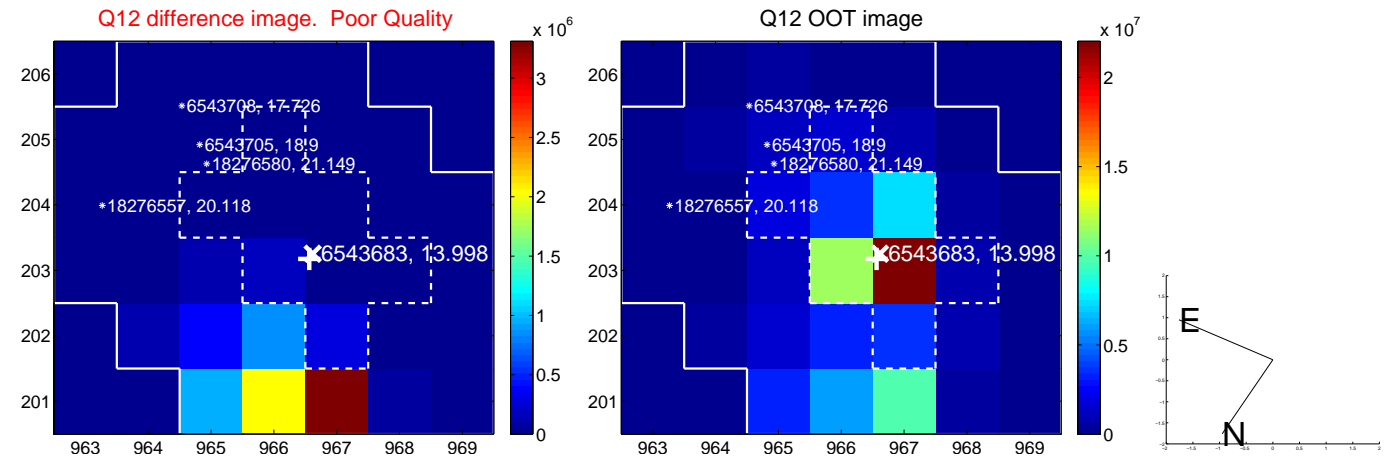
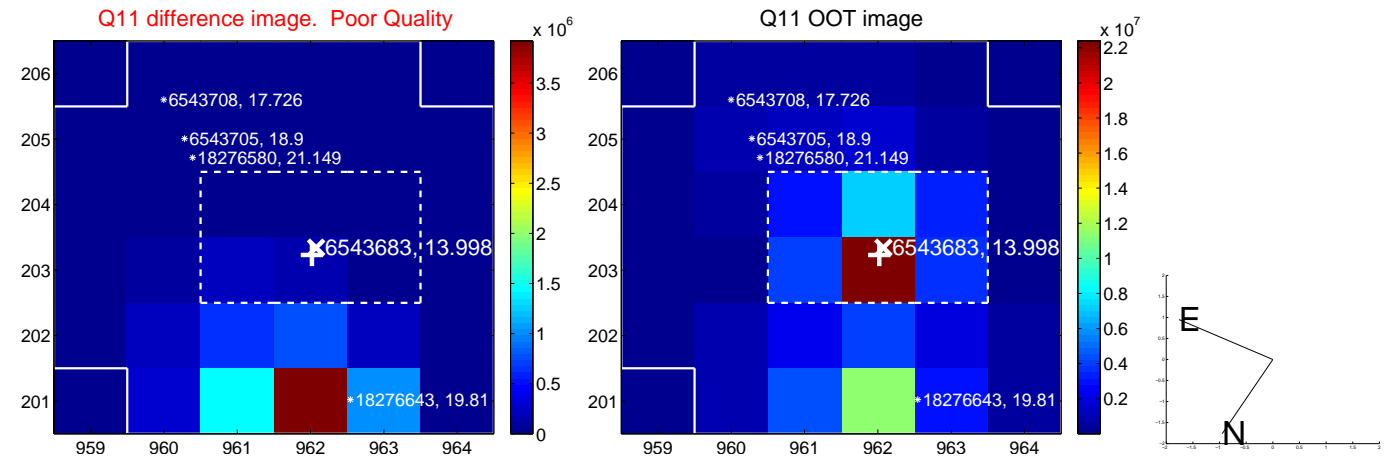
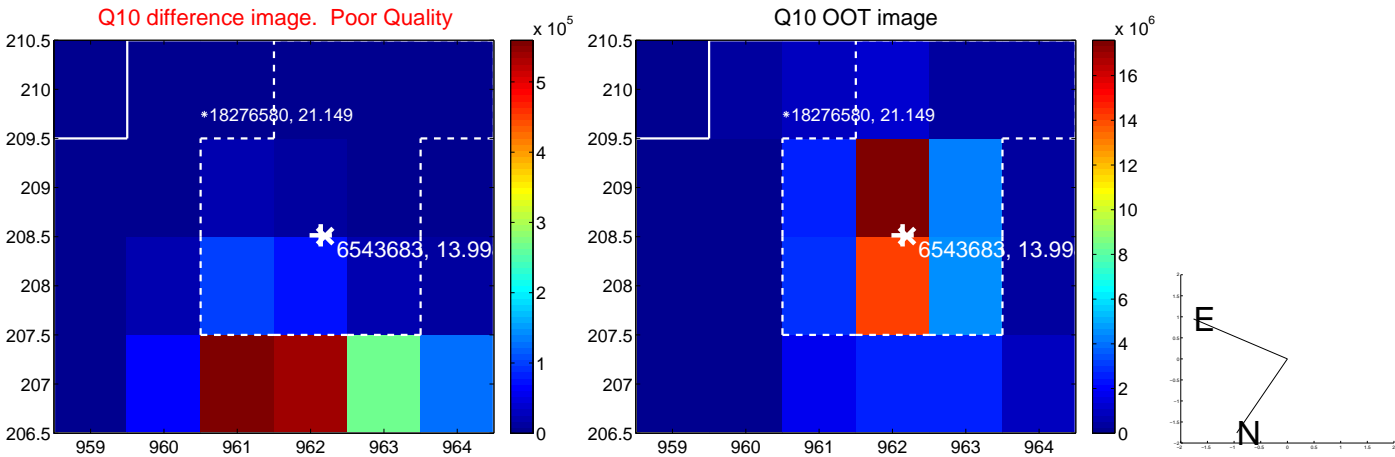
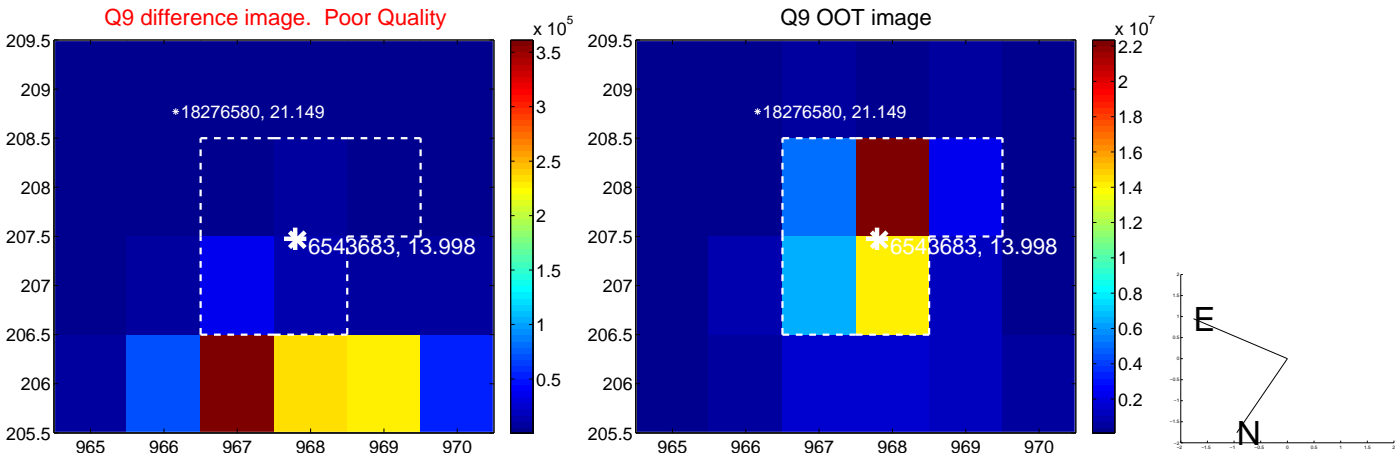
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



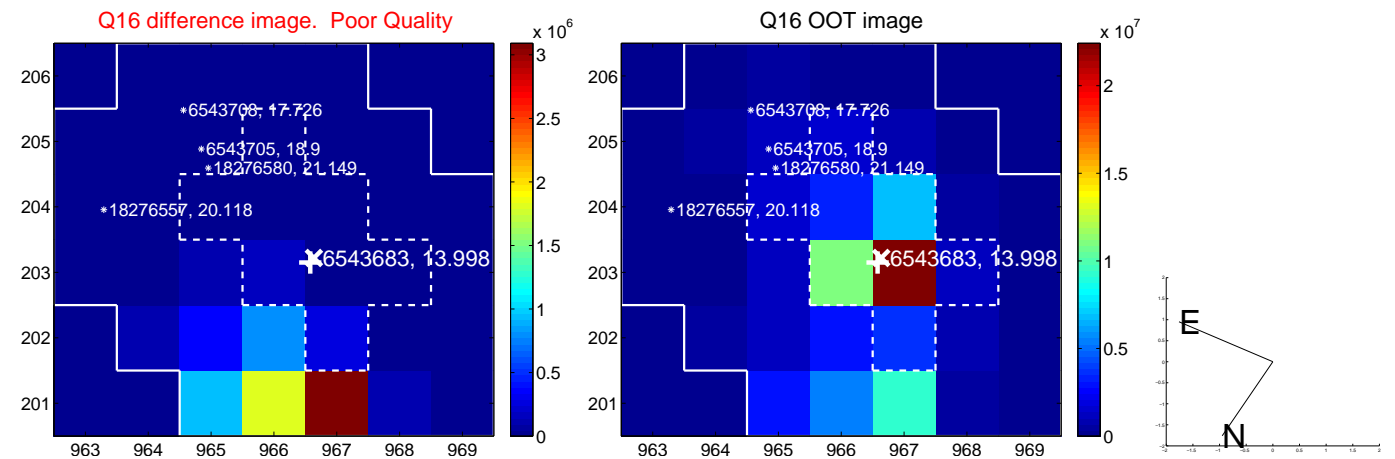
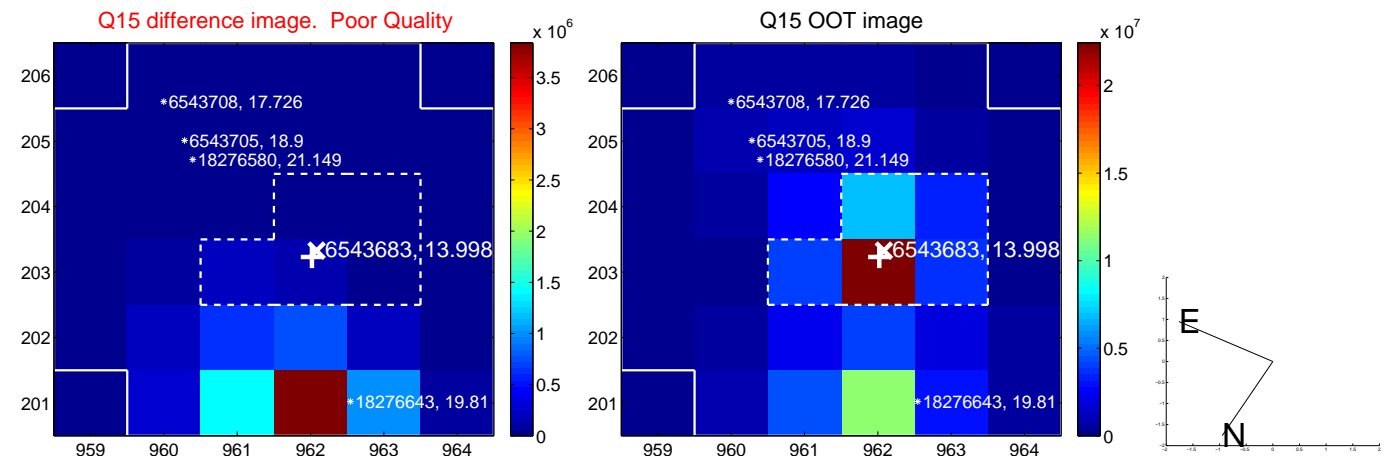
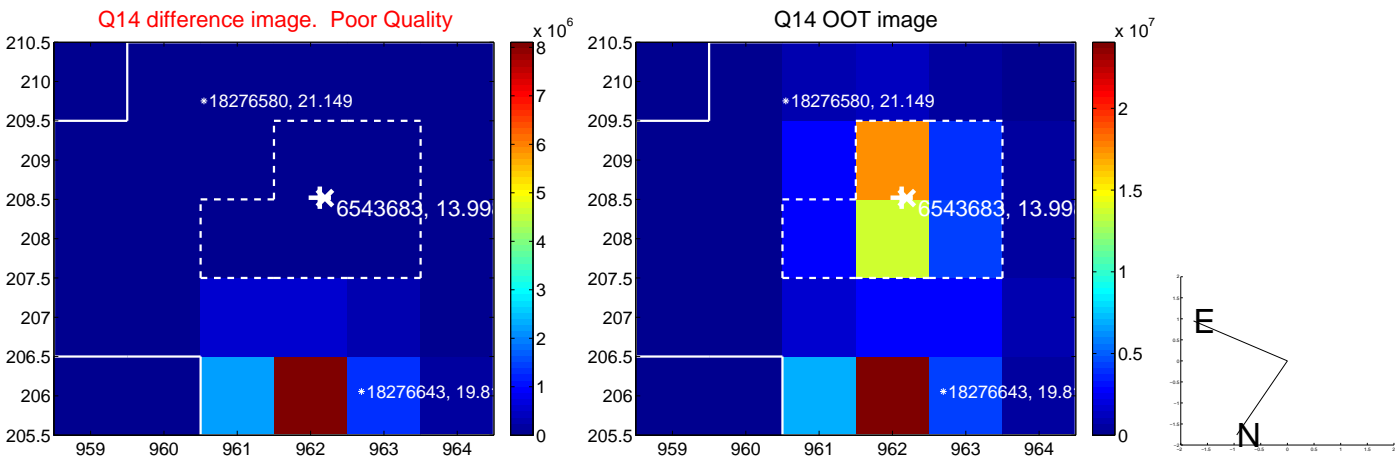
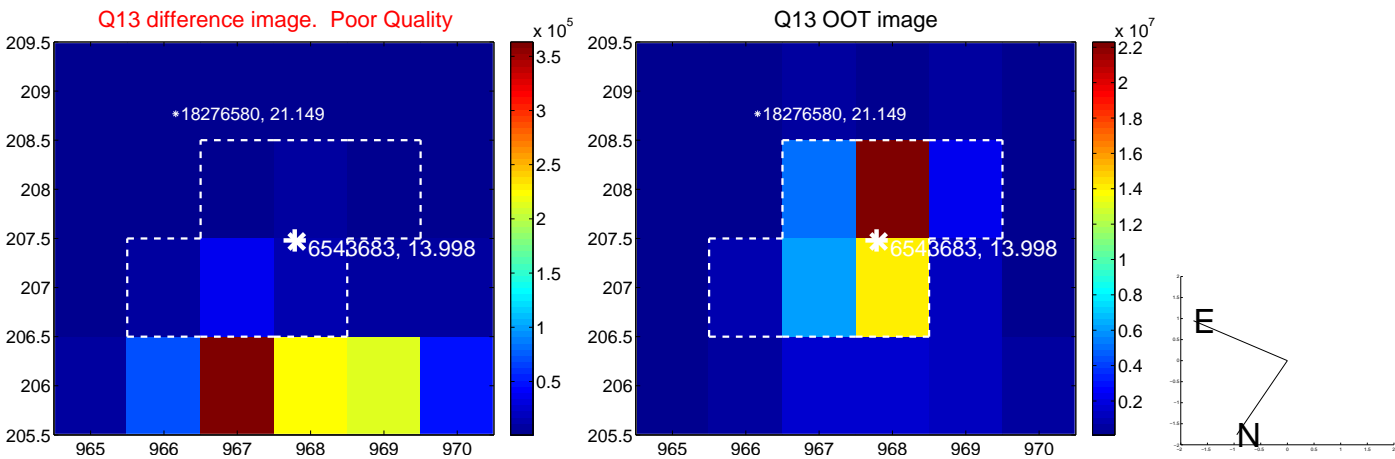
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



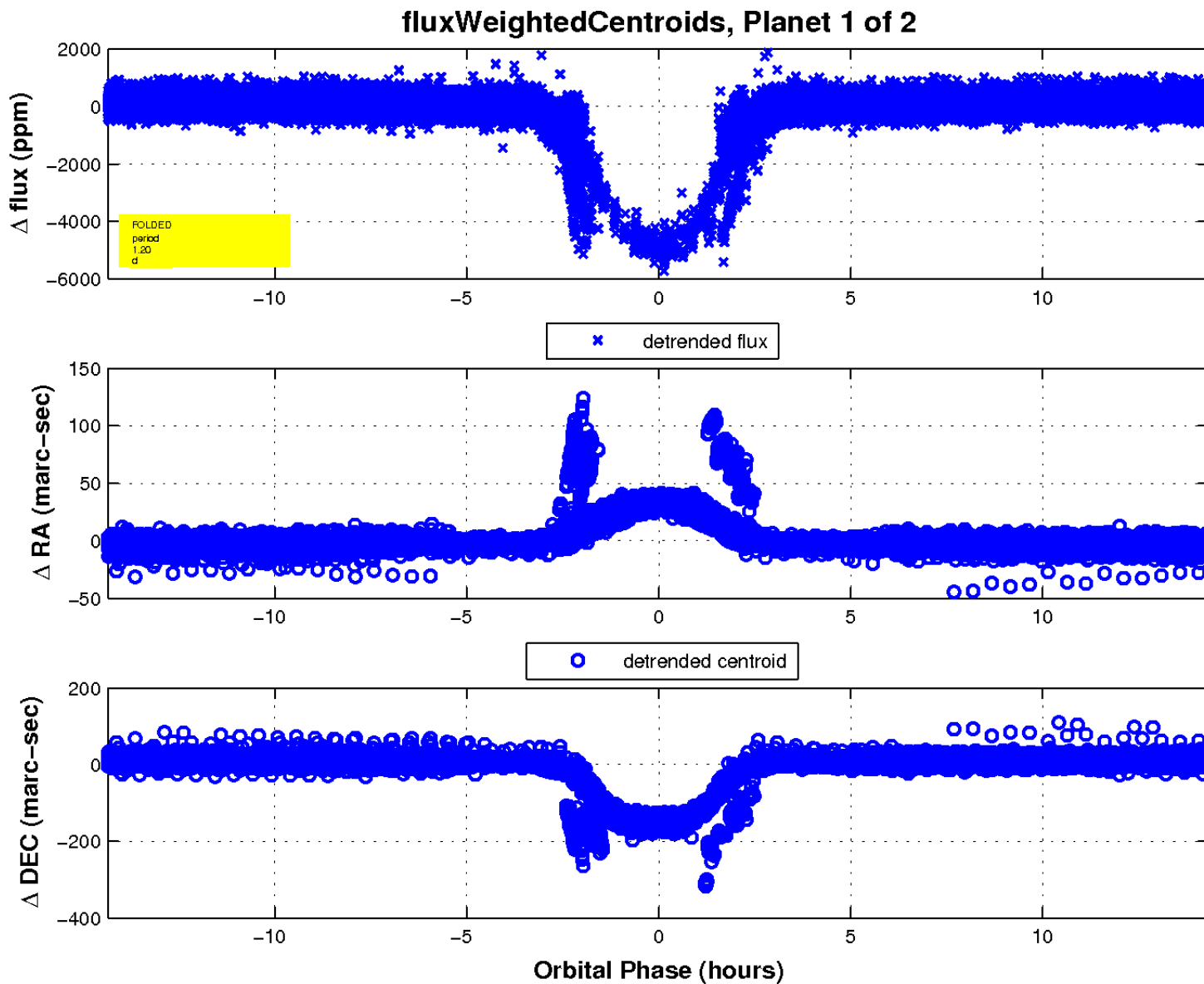
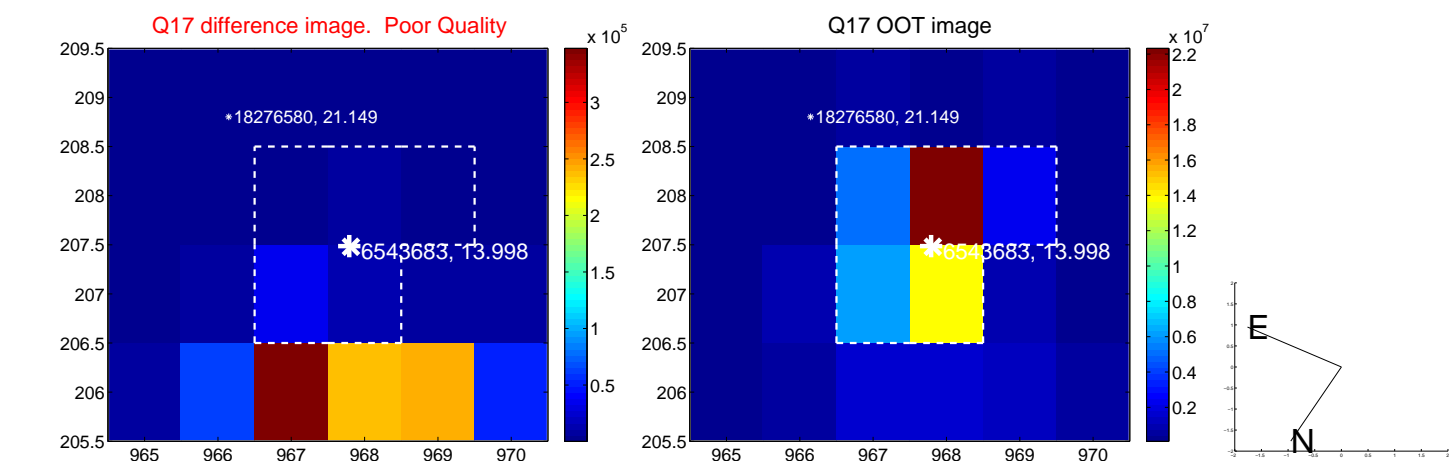
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

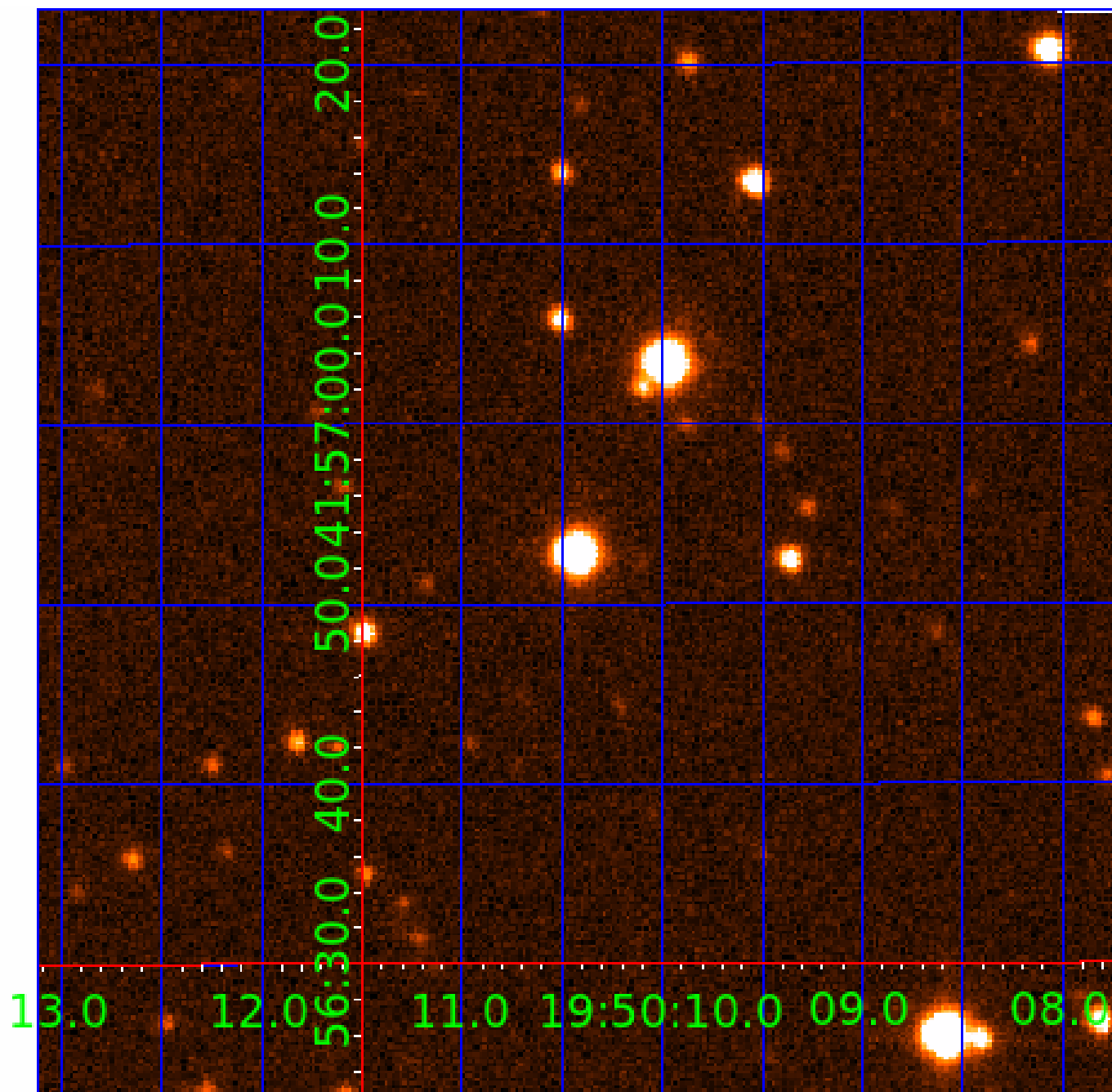


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006543683

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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006543683-02	OBS	No	143.640853	191.662335	208.0	11.323	9.4	6.1	1.16	6040	1.95	5.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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006543683-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

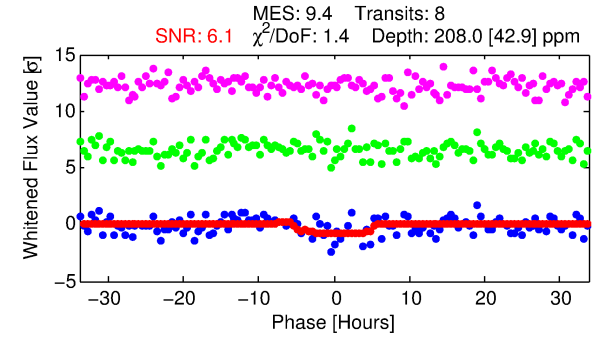
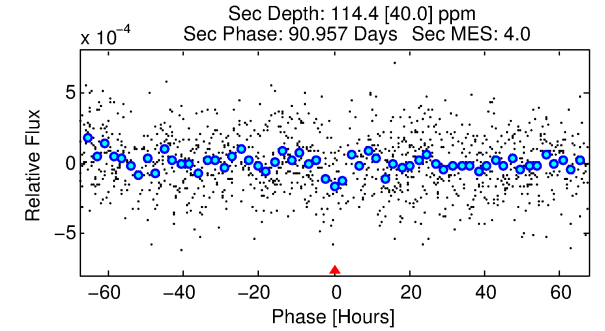
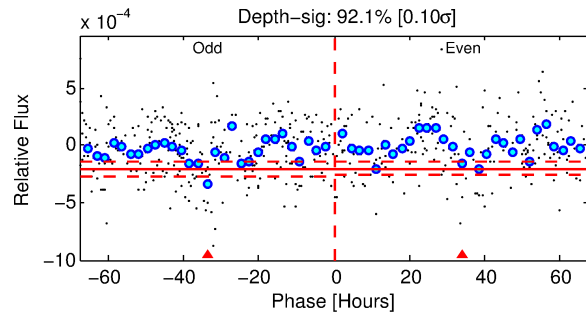
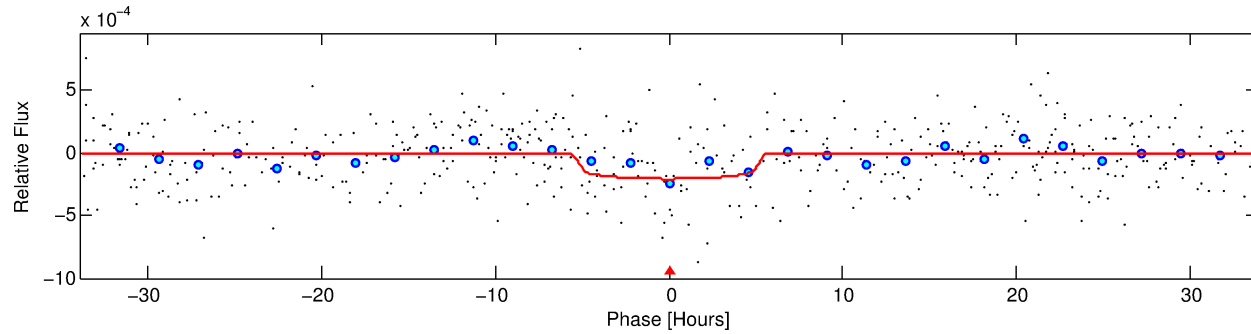
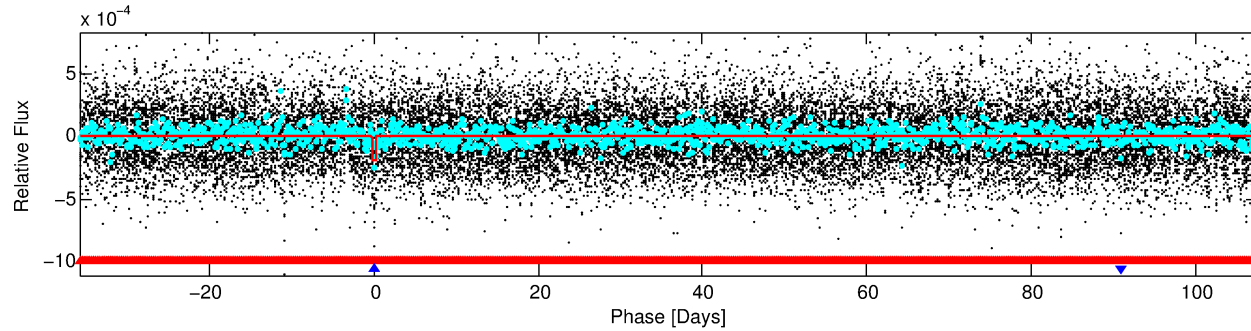
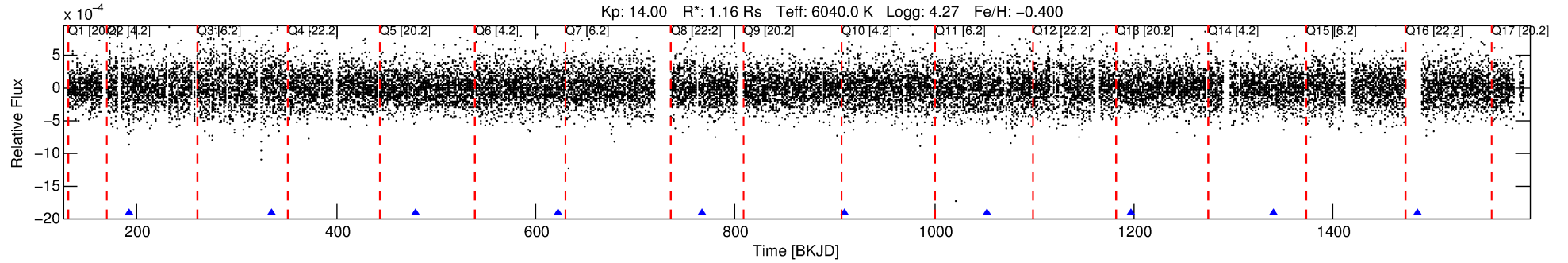
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006543683-02

No Significant Match Found

DV One-Page Summary

KIC: 6543683 Candidate: 2 of 2 Period: 143.641 d
KOI: K03769 Corr: No Ephemeris Match



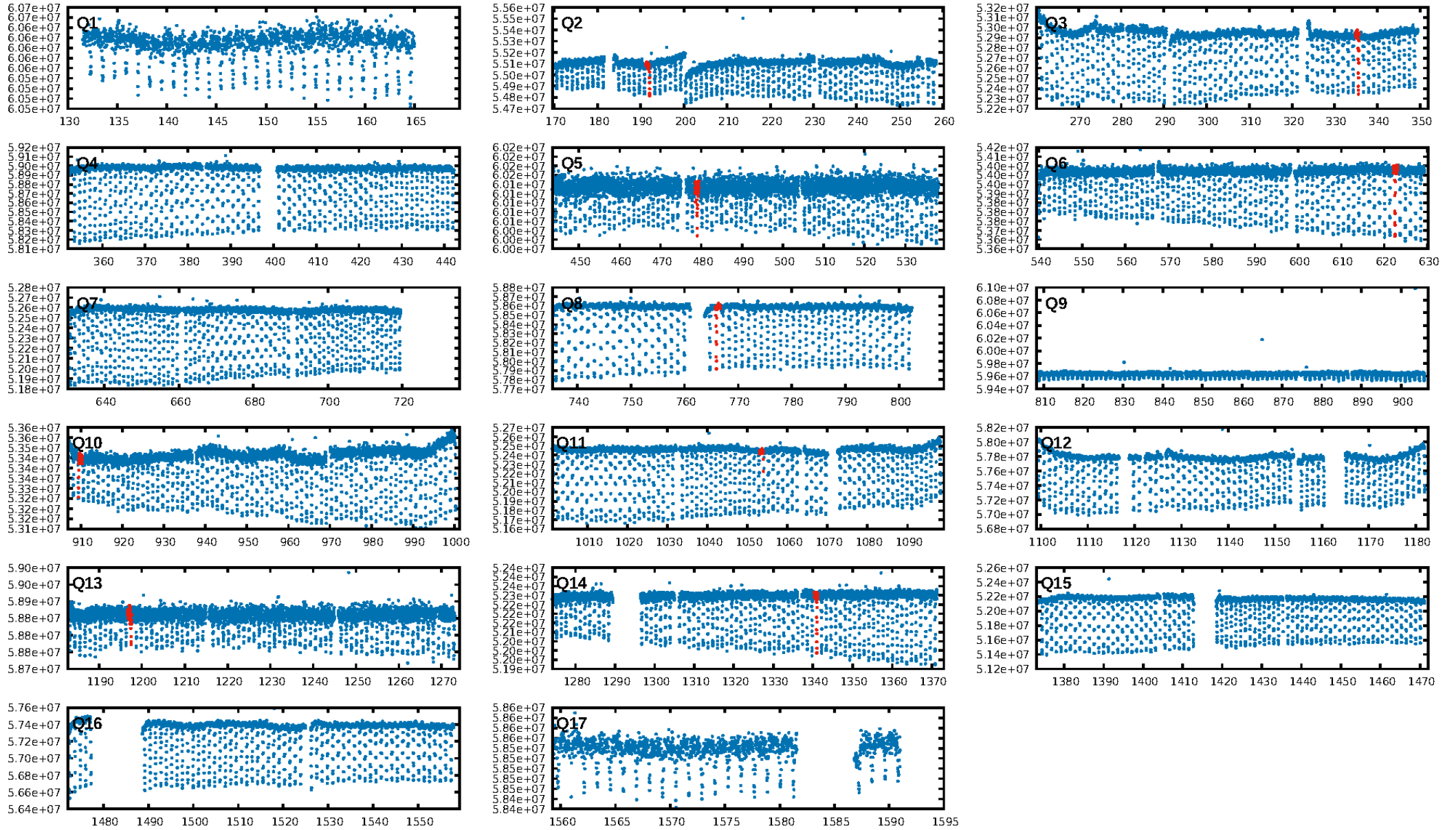
DV Fit Results:

Period = 143.64085 [0.00653] d
Epoch = 191.6623 [0.0368] BKJD
Rp/R* = 0.0155 [0.0043]
a/R* = 46.48 [62.81]
b = 0.90 [0.30]
Seff = 5.88 [2.39]
Teq = 397 [40] K
Rp = 1.95 [0.78] Re
a = 0.5199 [0.1326] AU
Ag = 4482.84 [3430.44] [1.31 σ]
Teffp = 5024 [842] K [5.49 σ]

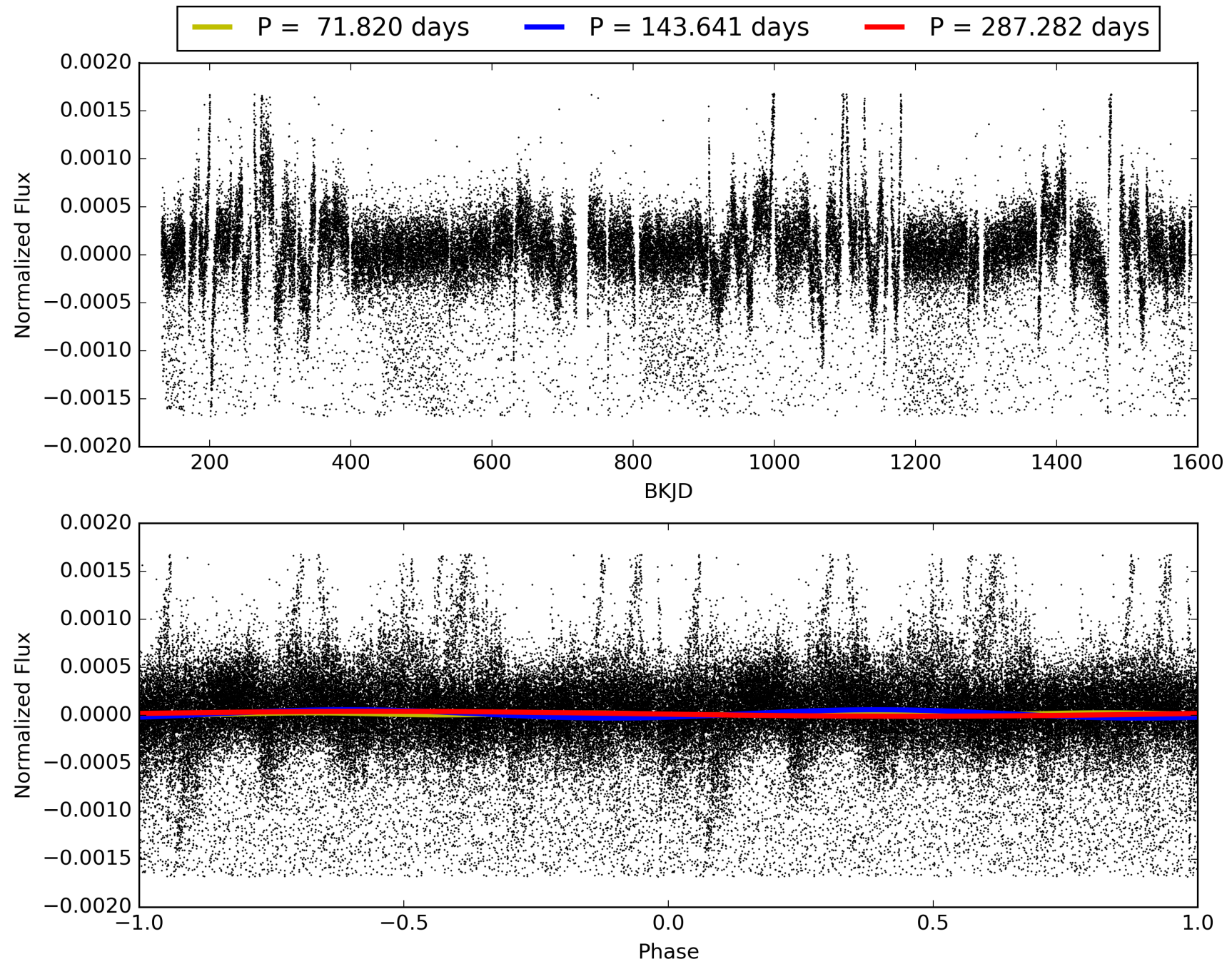
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [273.52 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.32e-15
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.01447
Centroid-sig: N/A
Centroid-so: 5.566 arcsec [1.68 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/8]

TCE 006543683-02, PDC Light Curves

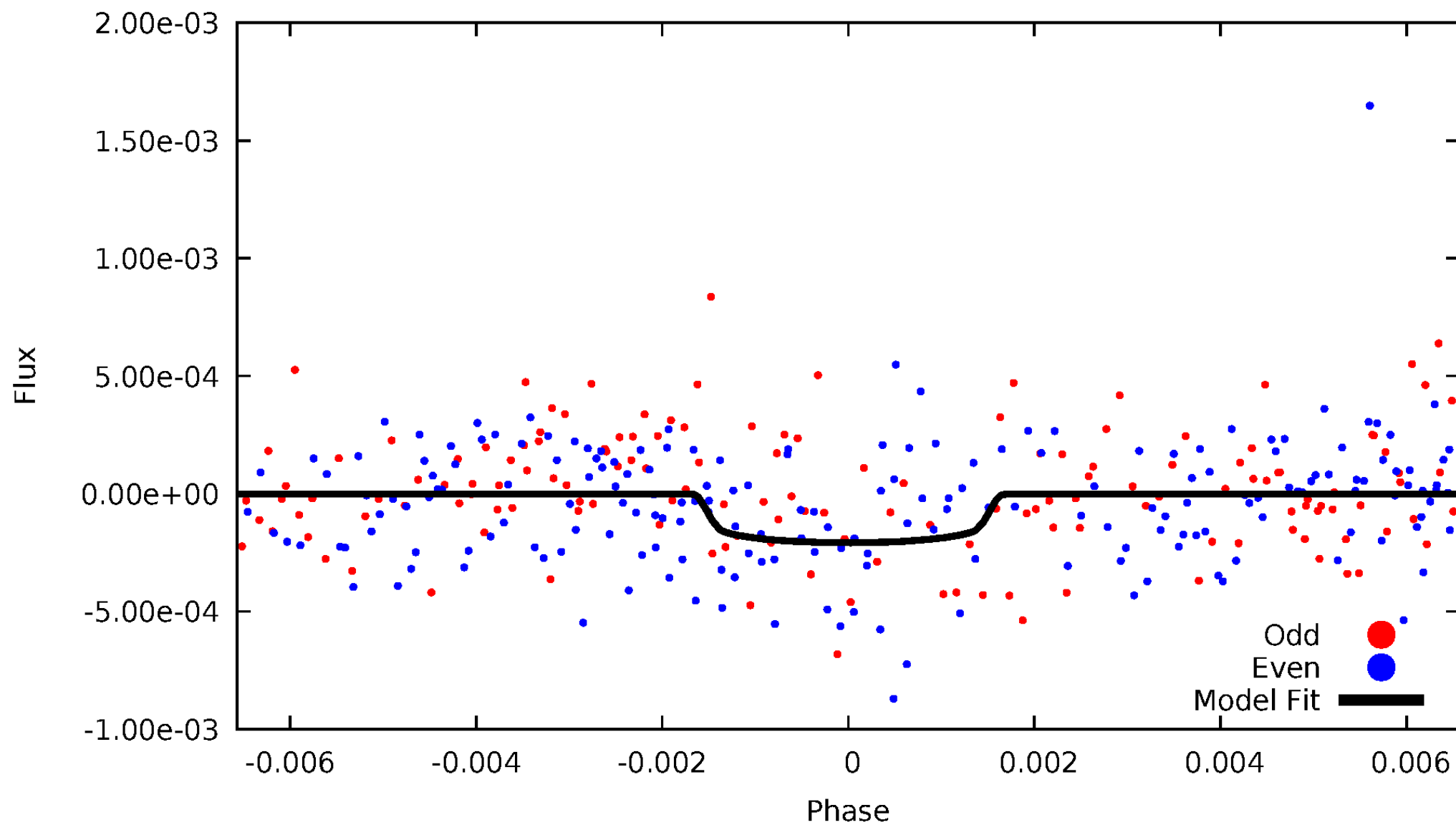


TCE 006543683-02



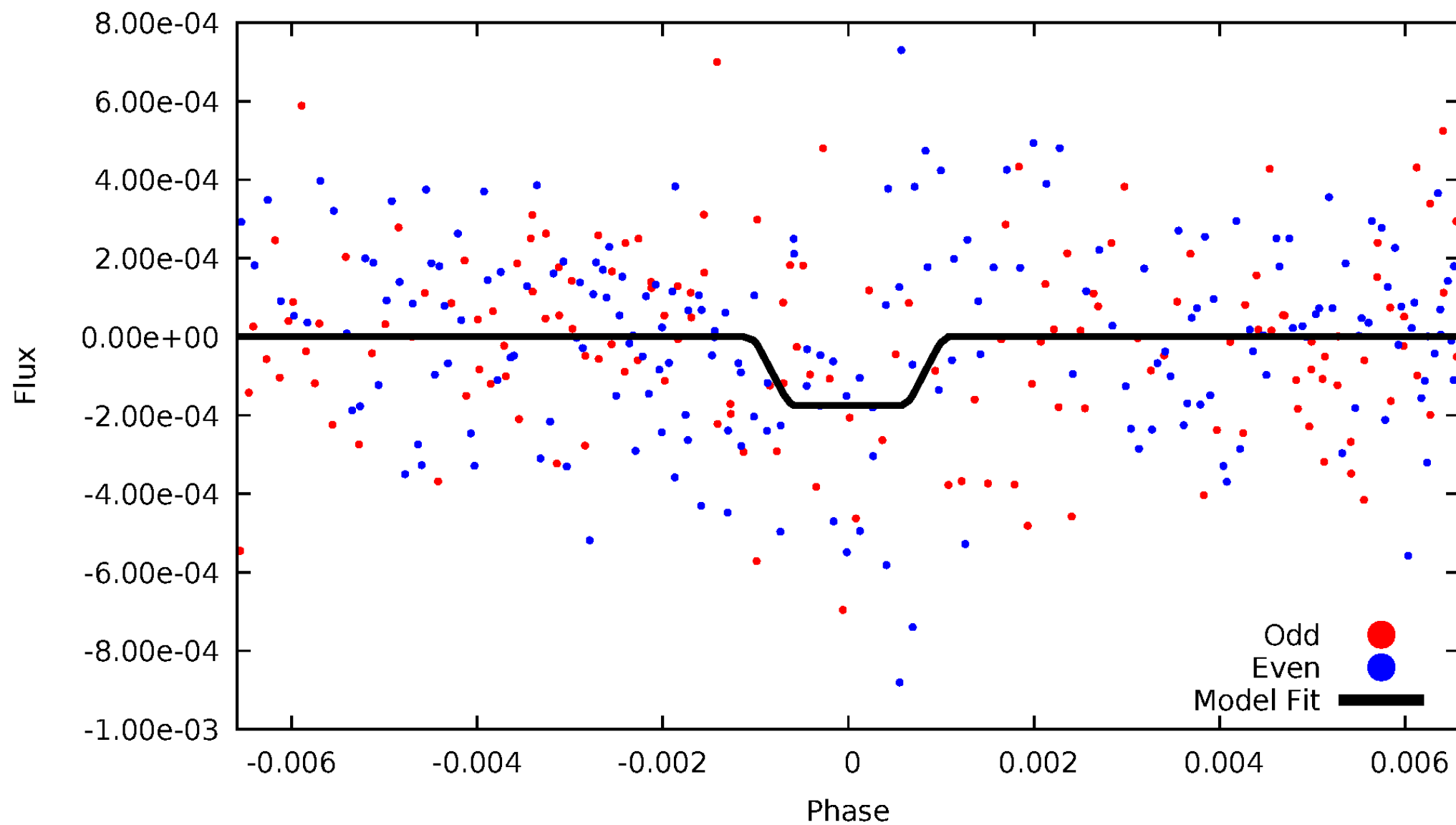
DV Odd/Even

TCE 006543683-02



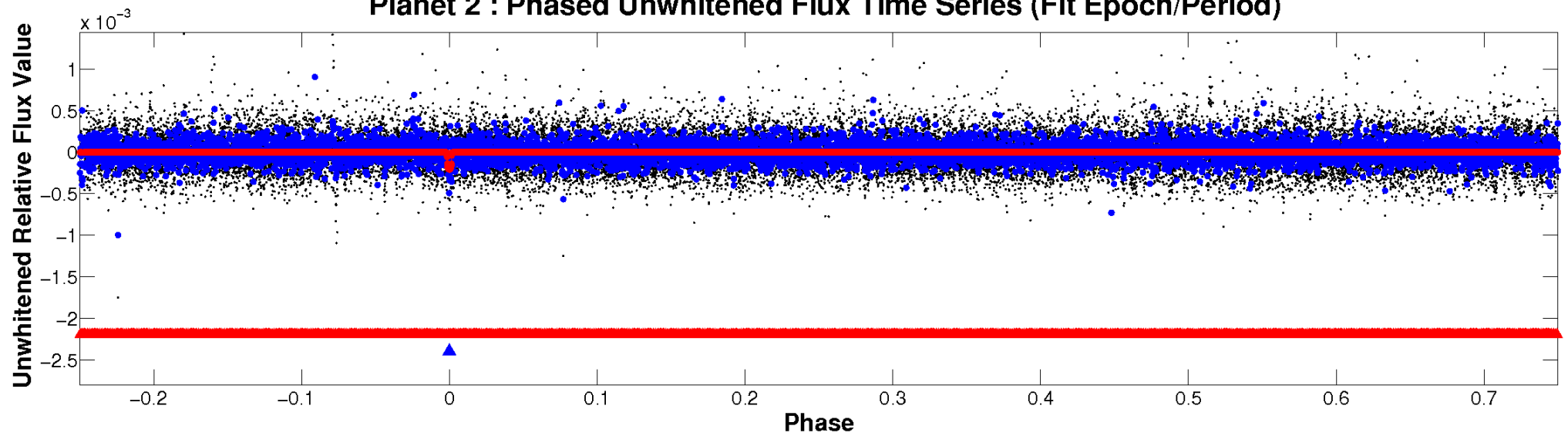
ALT Odd/Even

TCE 006543683-02

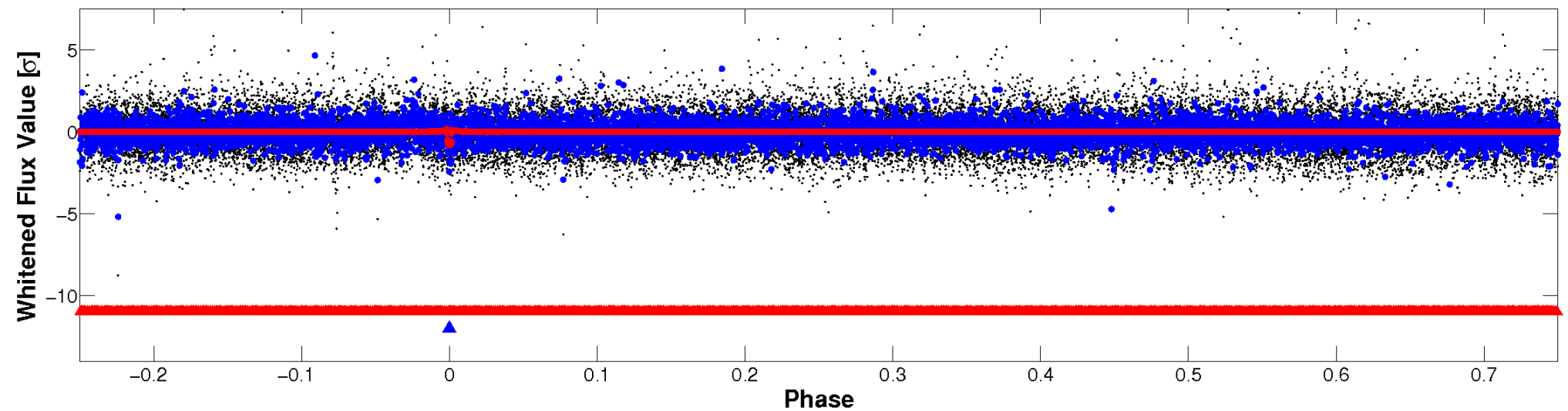


Non-Whitened Vs. Whitened Light Curve

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

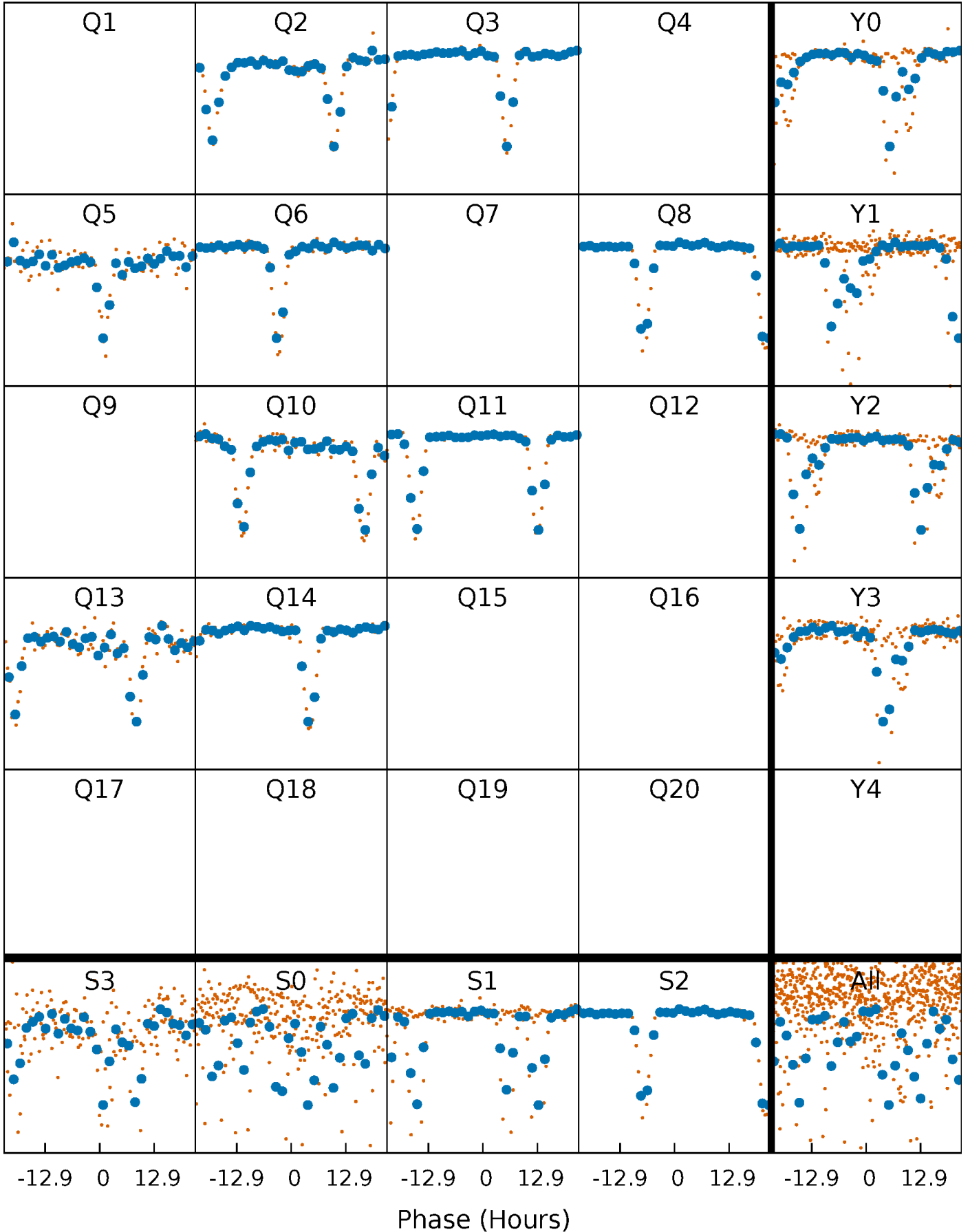


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



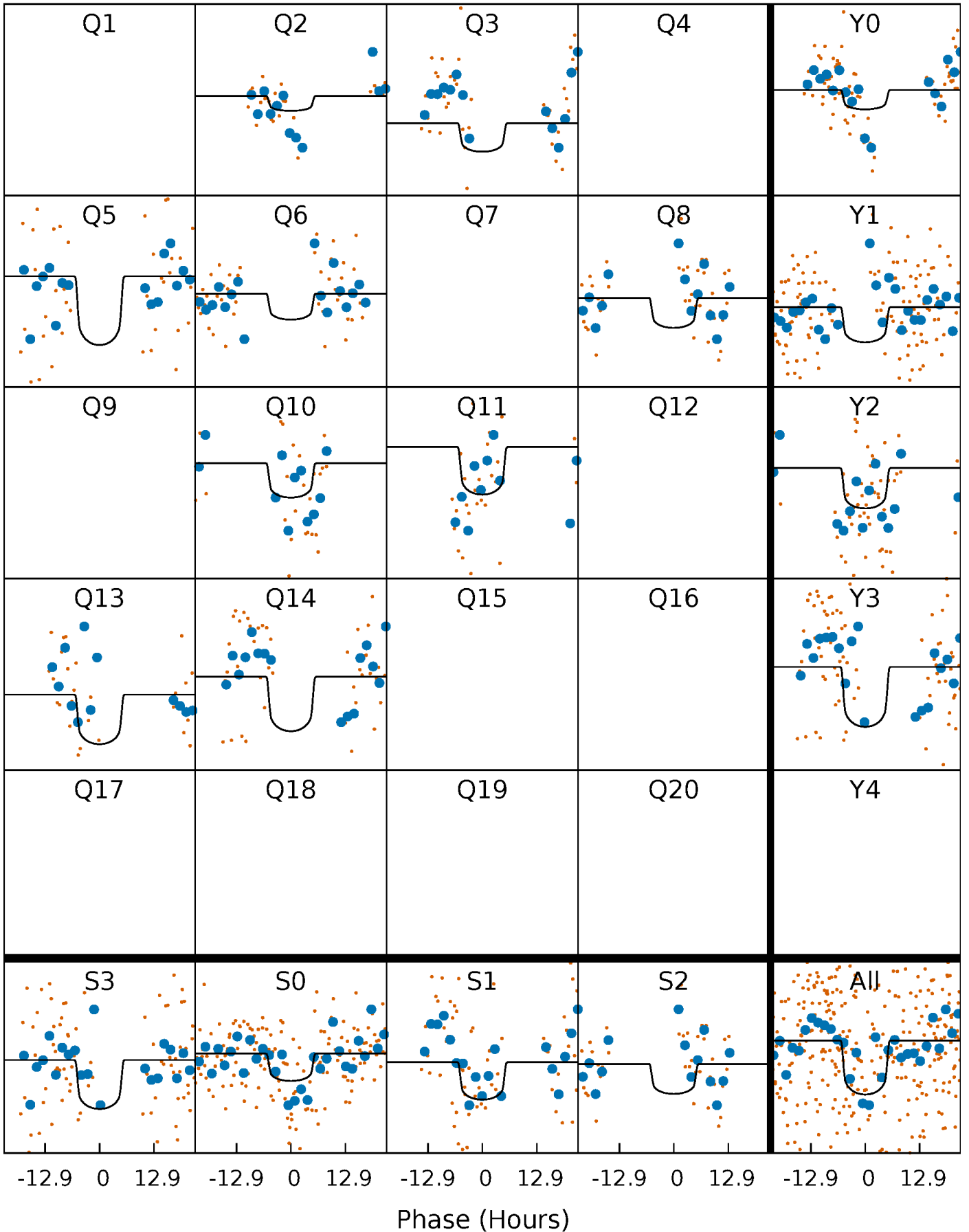
PDC Quarter-Phased Transit Curves

TCE 006543683-02 P=143.640853 Days $T_0=191.662335$ (BKJD)



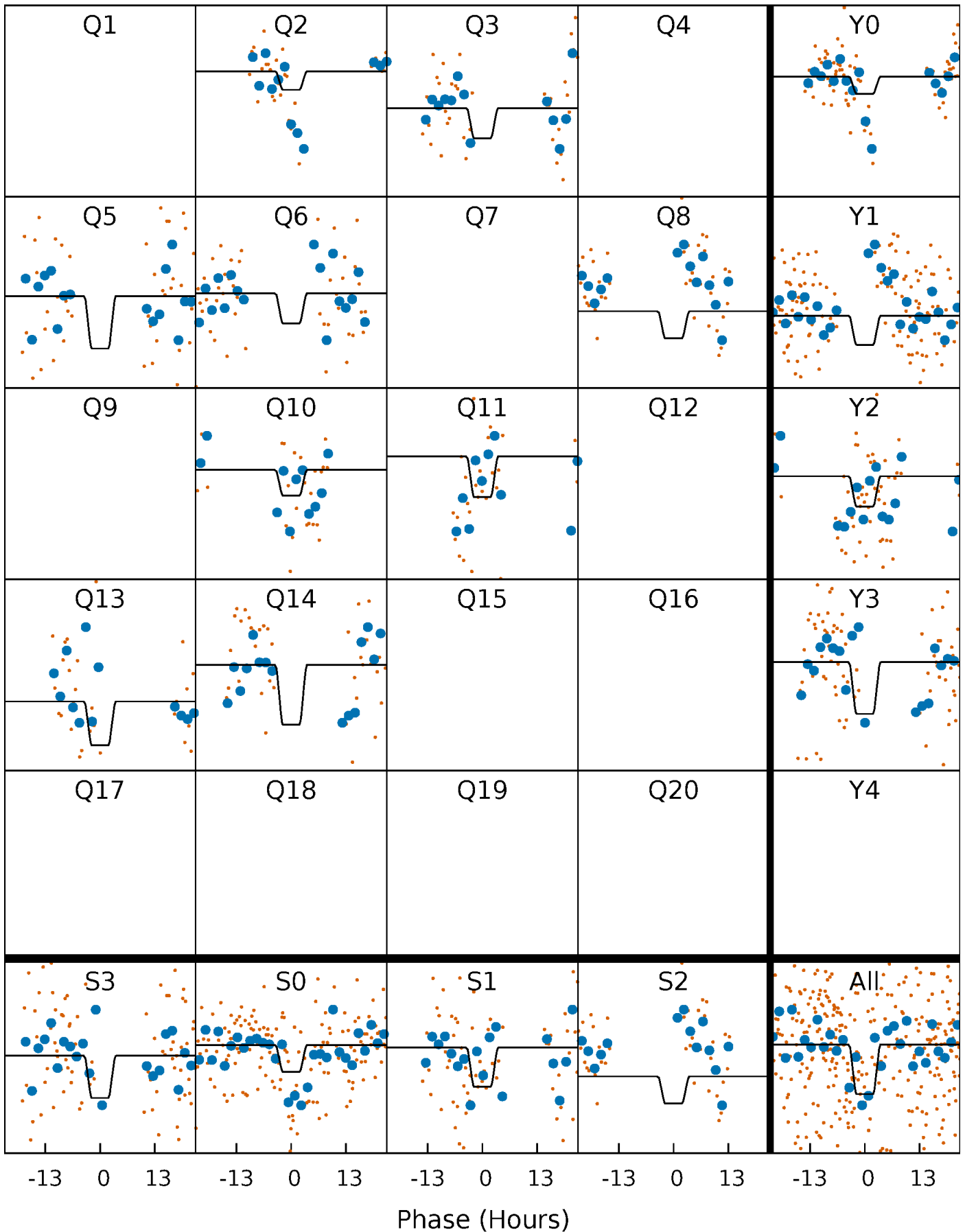
DV Quarter-Phased Transit Curves

TCE 006543683-02 P=143.640853 Days $T_0=191.662335$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

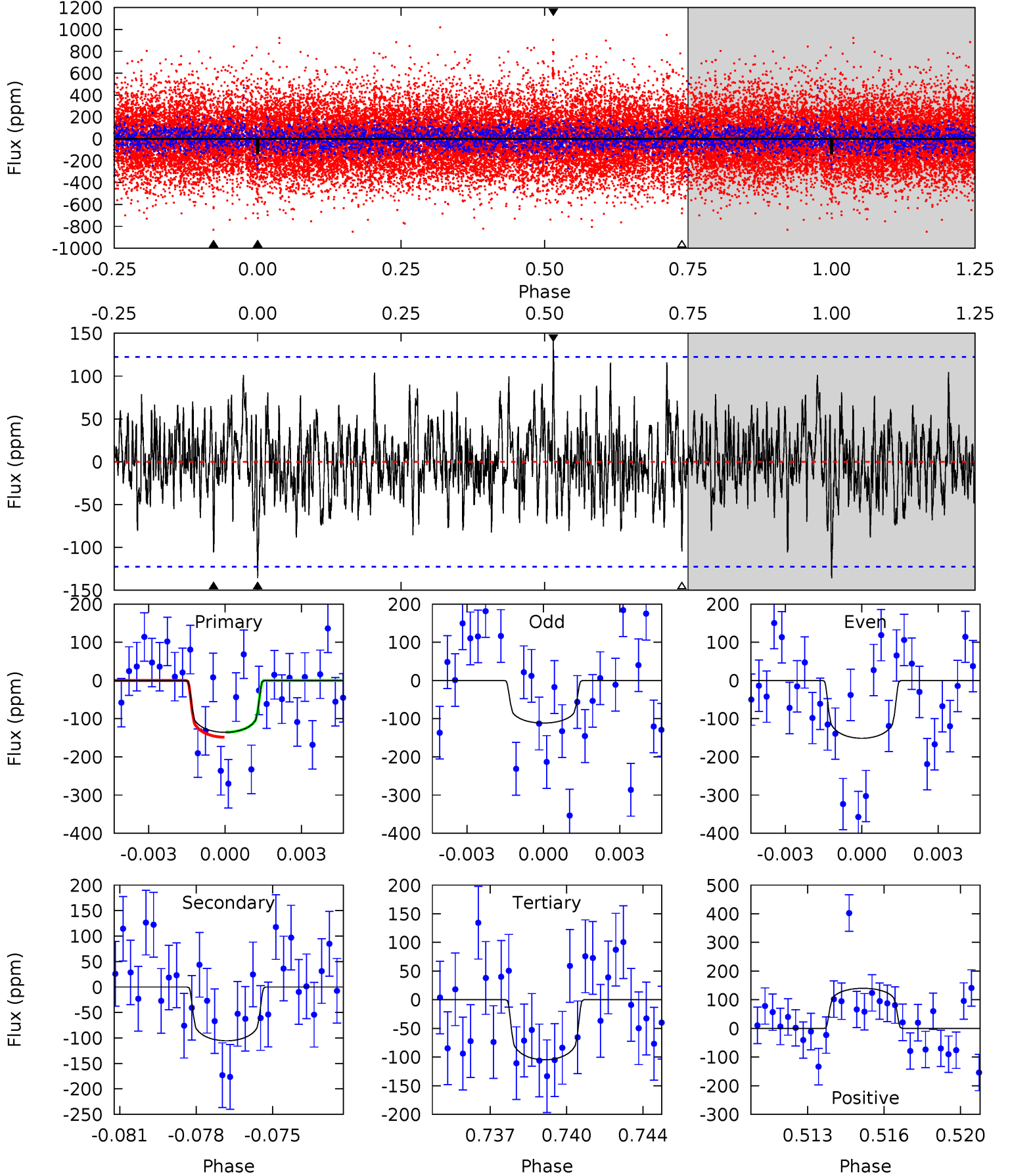
TCE 006543683-02 P=143.641116 Days $T_0=191.652740$ (BKJD)



DV Model-Shift Uniqueness Test

006543683-02, $P = 143.640853$ Days, $E = 48.021482$ Days

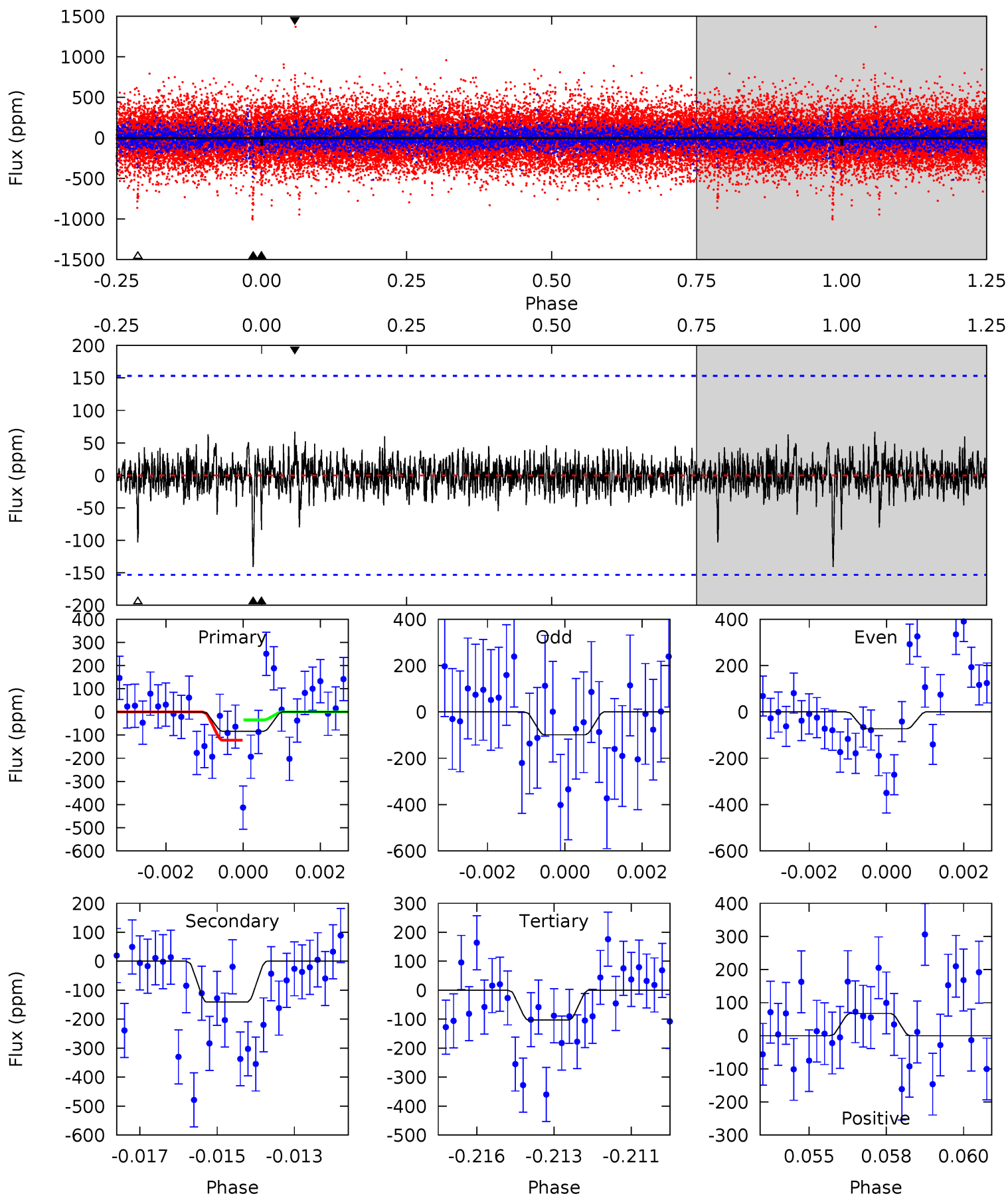
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.80	4.51	4.47	5.98	5.23	2.93	1.45	1.33	-0.18	0.04	-1.47	0.83	8.31	0.51	0.27



Alt Model-Shift Uniqueness Test

006543683-02, P = 143.641116 Days, E = 48.011624 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.90	4.88	3.56	2.33	5.31	3.07	0.64	-0.66	0.57	1.32	2.55	0.45	0.28	0.32	1.51



Stellar Parameters For KIC 006543683

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6040^{+182}_{-182}	$4.271^{+0.220}_{-0.180}$	$-0.400^{+0.300}_{-0.300}$	$1.155^{+0.331}_{-0.271}$	$0.909^{+0.130}_{-0.095}$	$0.831^{+0.987}_{-0.427}$
	+3%/-3%	+5%/-4%	+75%/-75%	+29%/-23%	+14%/-10%	+119%/-51%
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 006543683-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-105 ± 23	$1.93^{+0.65}_{-0.57}$	554^{+43}_{-43}	5003^{+893}_{-561}	4205^{+4704}_{-2006}
Alt.	-141 ± 29	$1.67^{+0.60}_{-0.59}$	551^{+42}_{-39}	5667^{+1343}_{-719}	7300^{+10213}_{-3579}

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

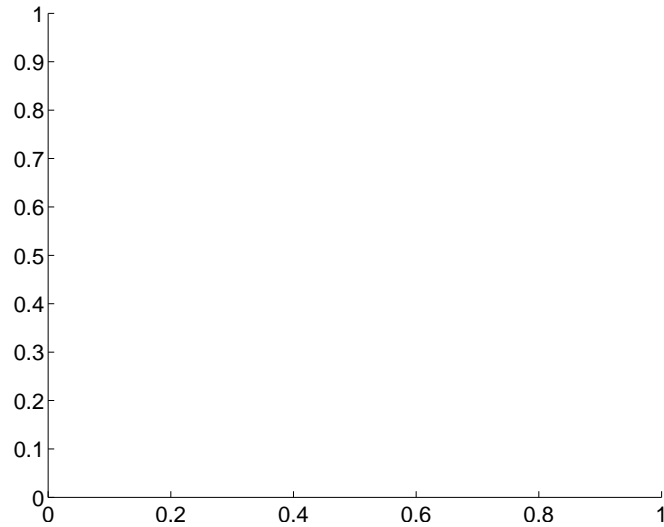
Supplemental centroid analysis for 006543683-02. Kepler magnitude: 14.00. Transit SNR 6.09

There are 0 quarters with good PRF difference image offsets

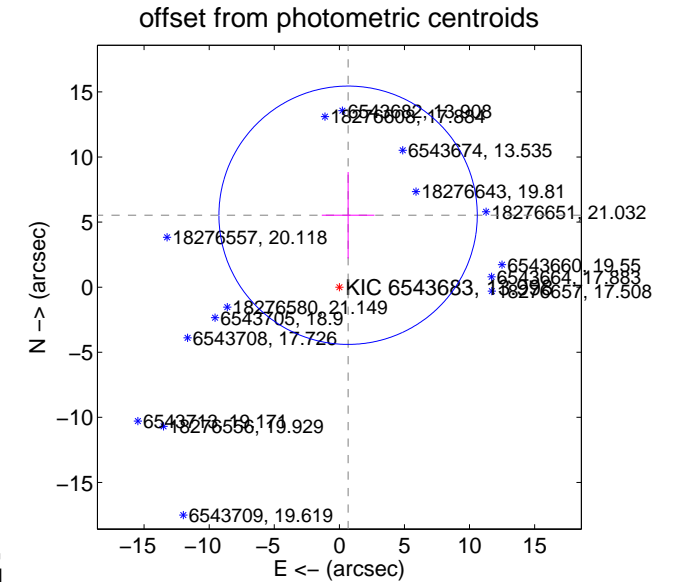
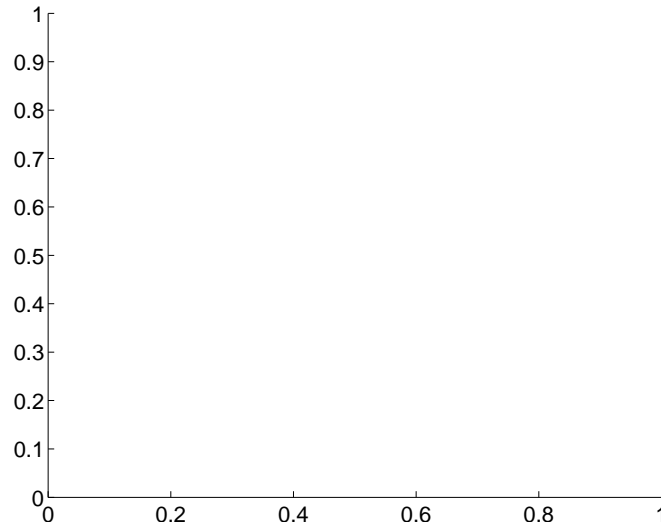
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	5.57 ± 3.31	1.68	-0.67 ± 2.02	5.53 ± 3.32

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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.

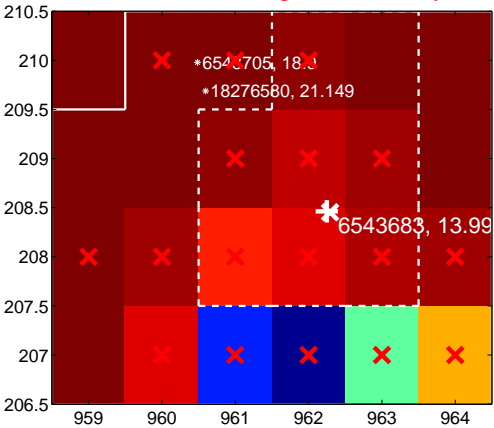
Q1 no difference image



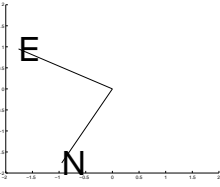
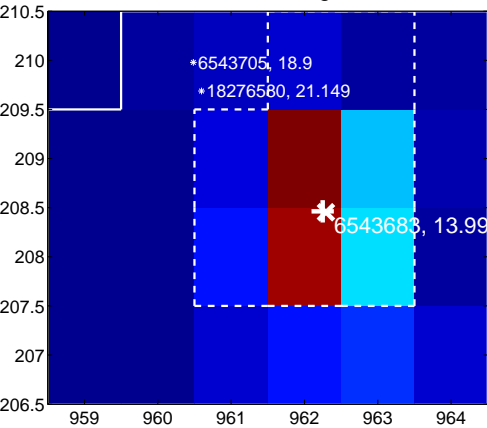
Q1 no OOT image



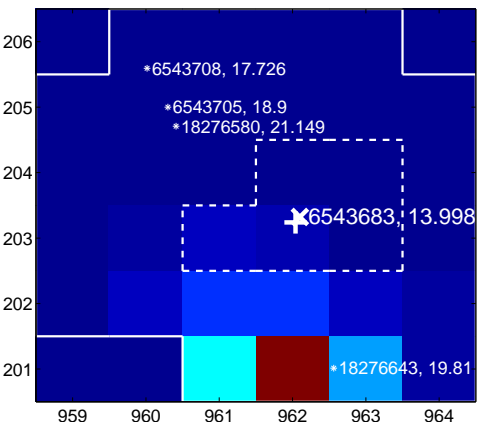
Q2 difference image. Poor Quality



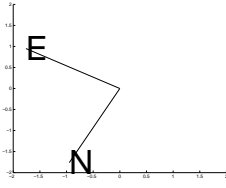
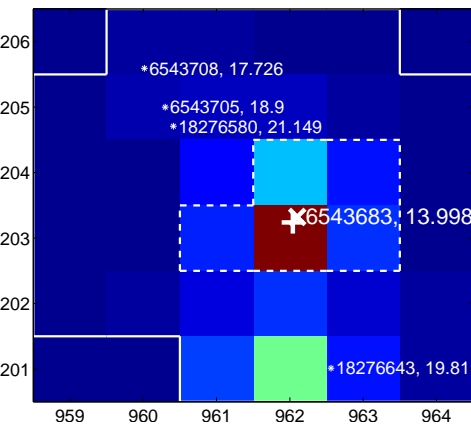
Q2 OOT image



Q3 difference image. Poor Quality



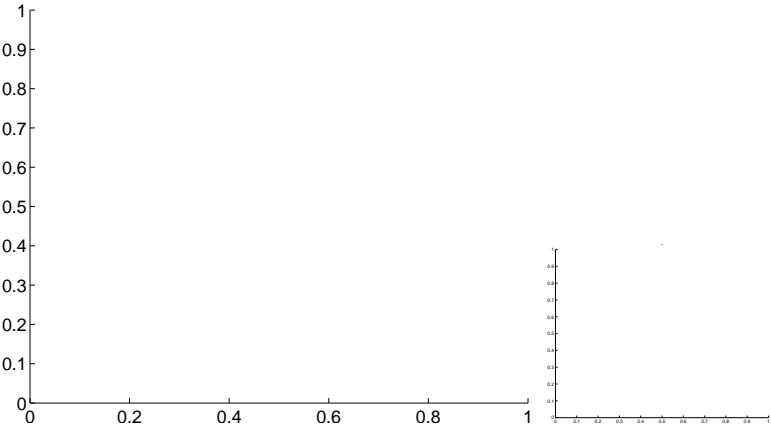
Q3 OOT image



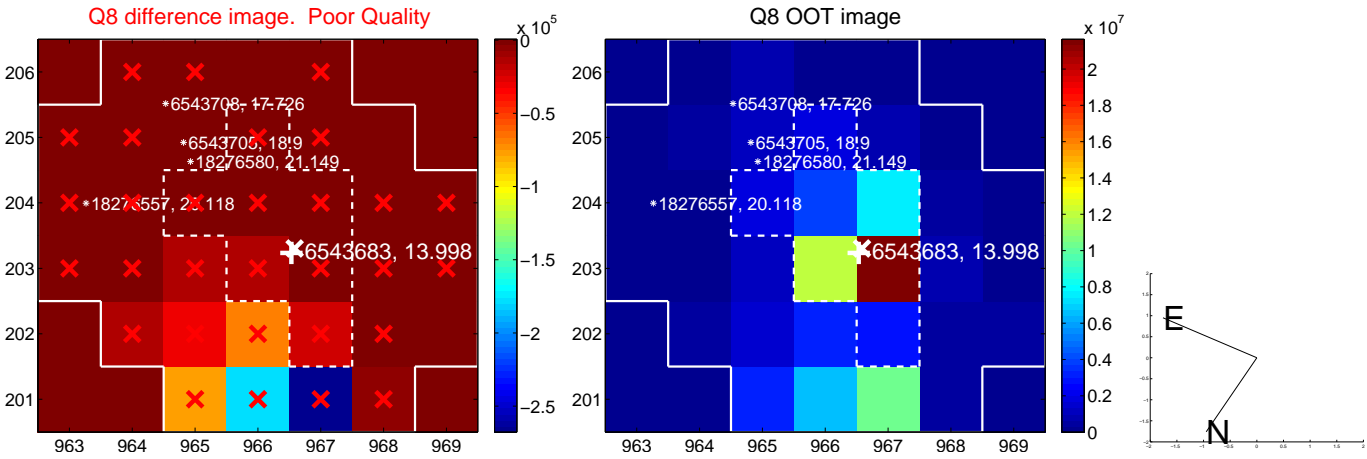
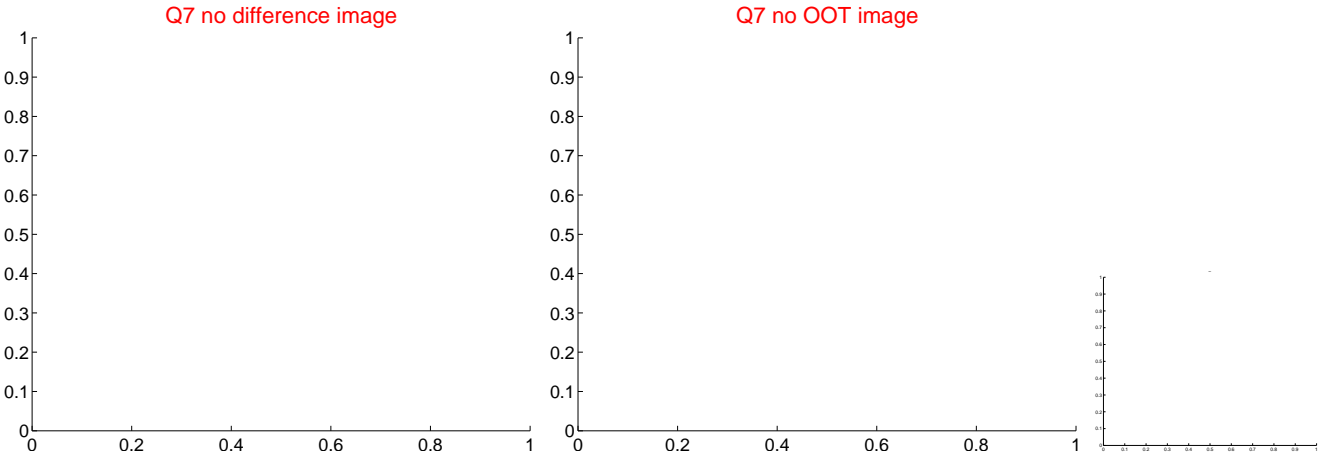
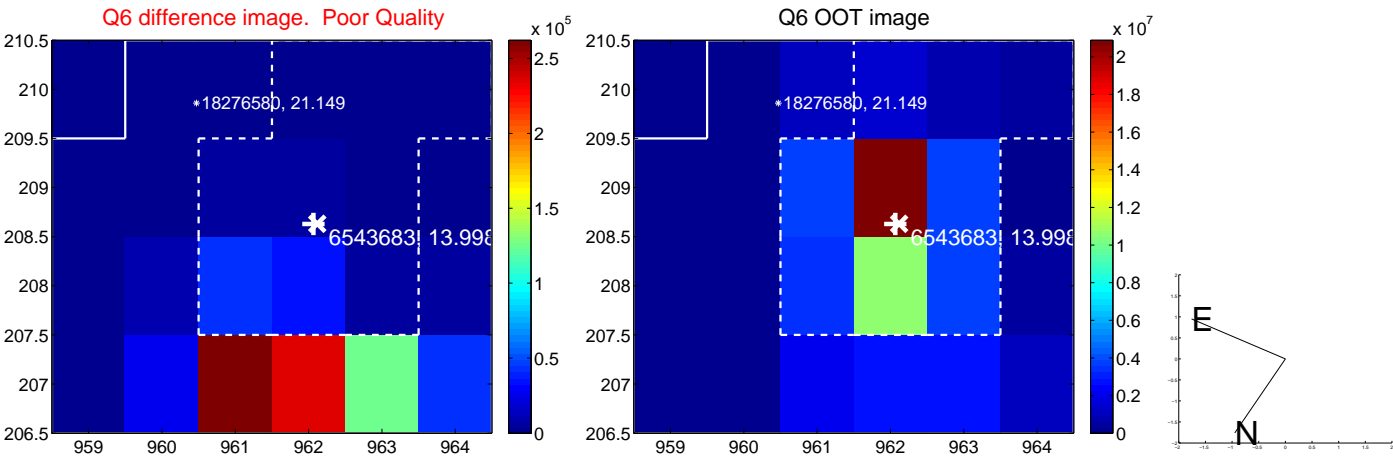
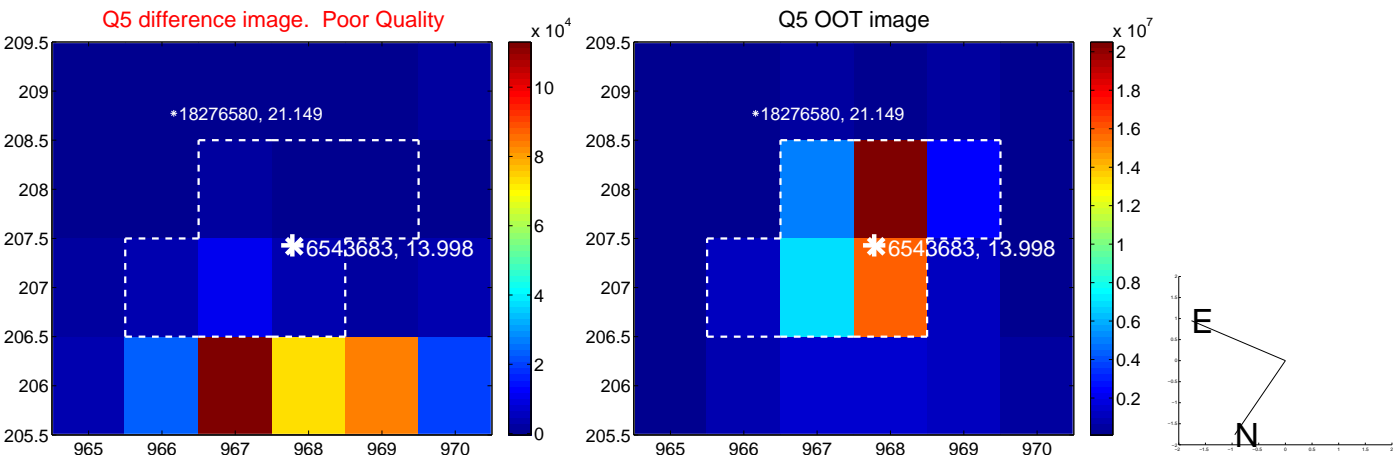
Q4 no difference image



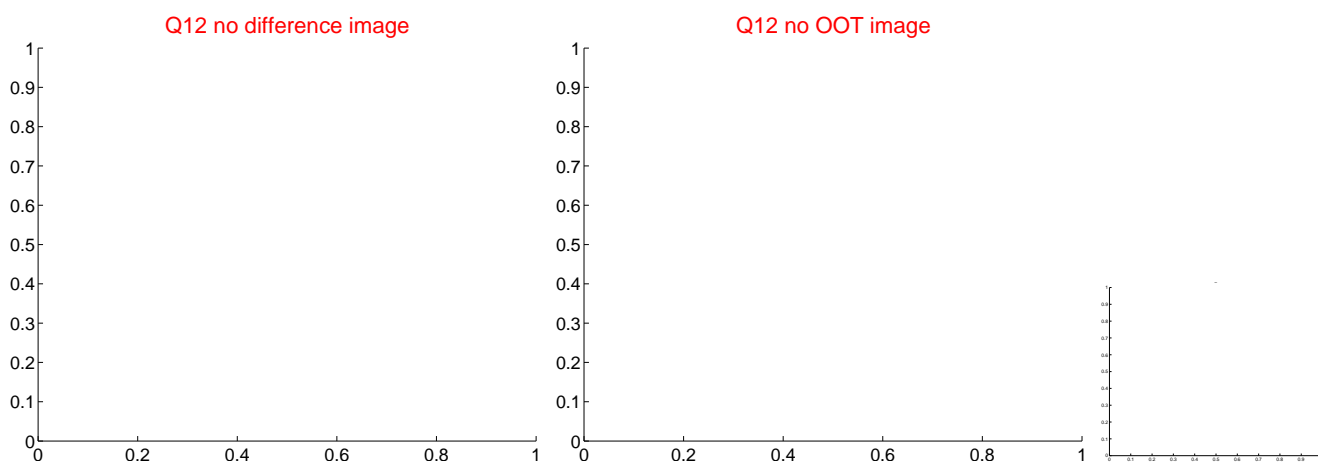
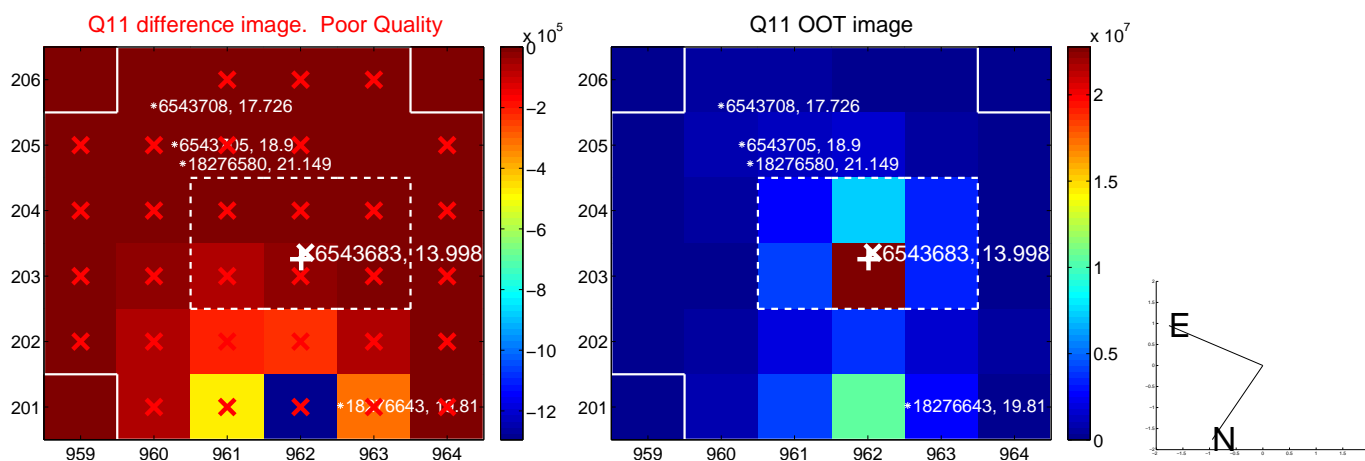
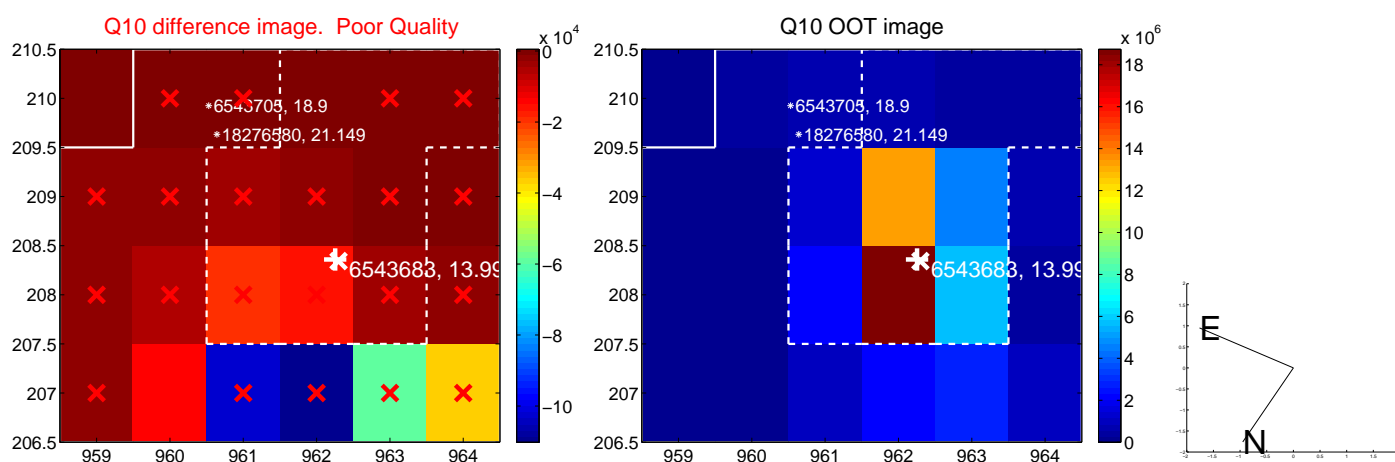
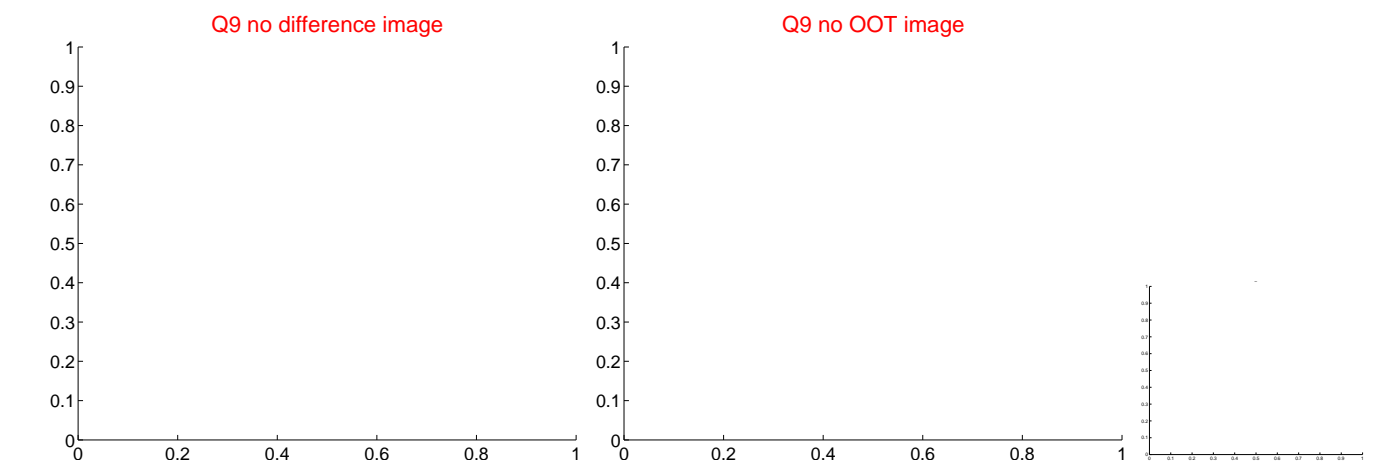
Q4 no OOT image



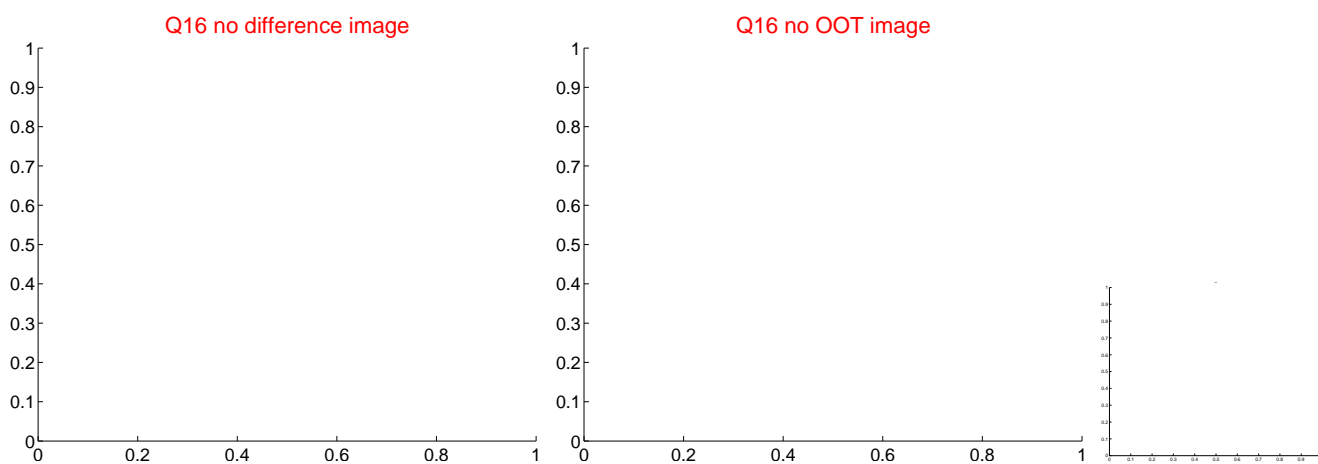
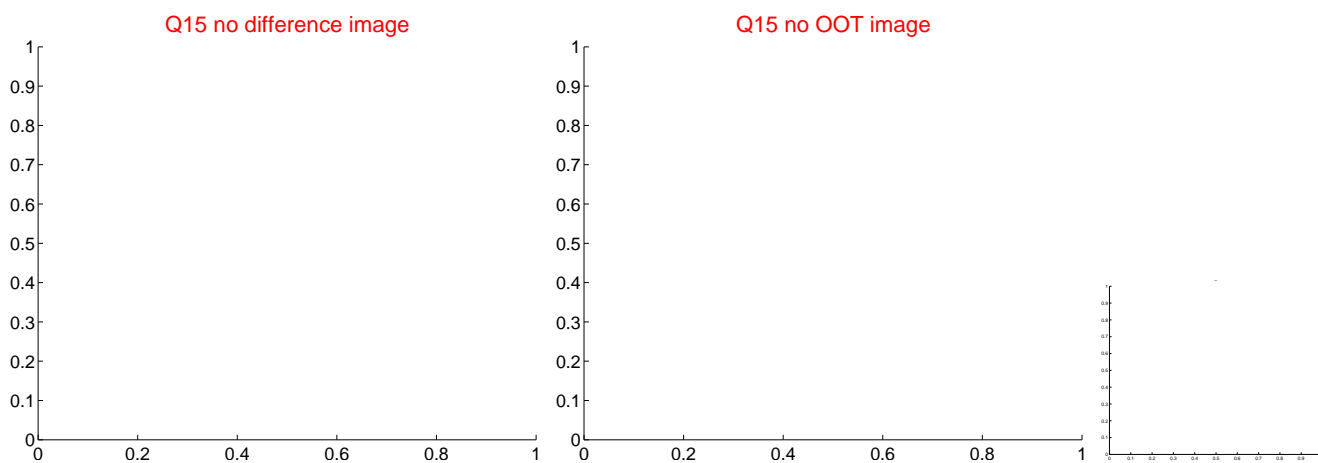
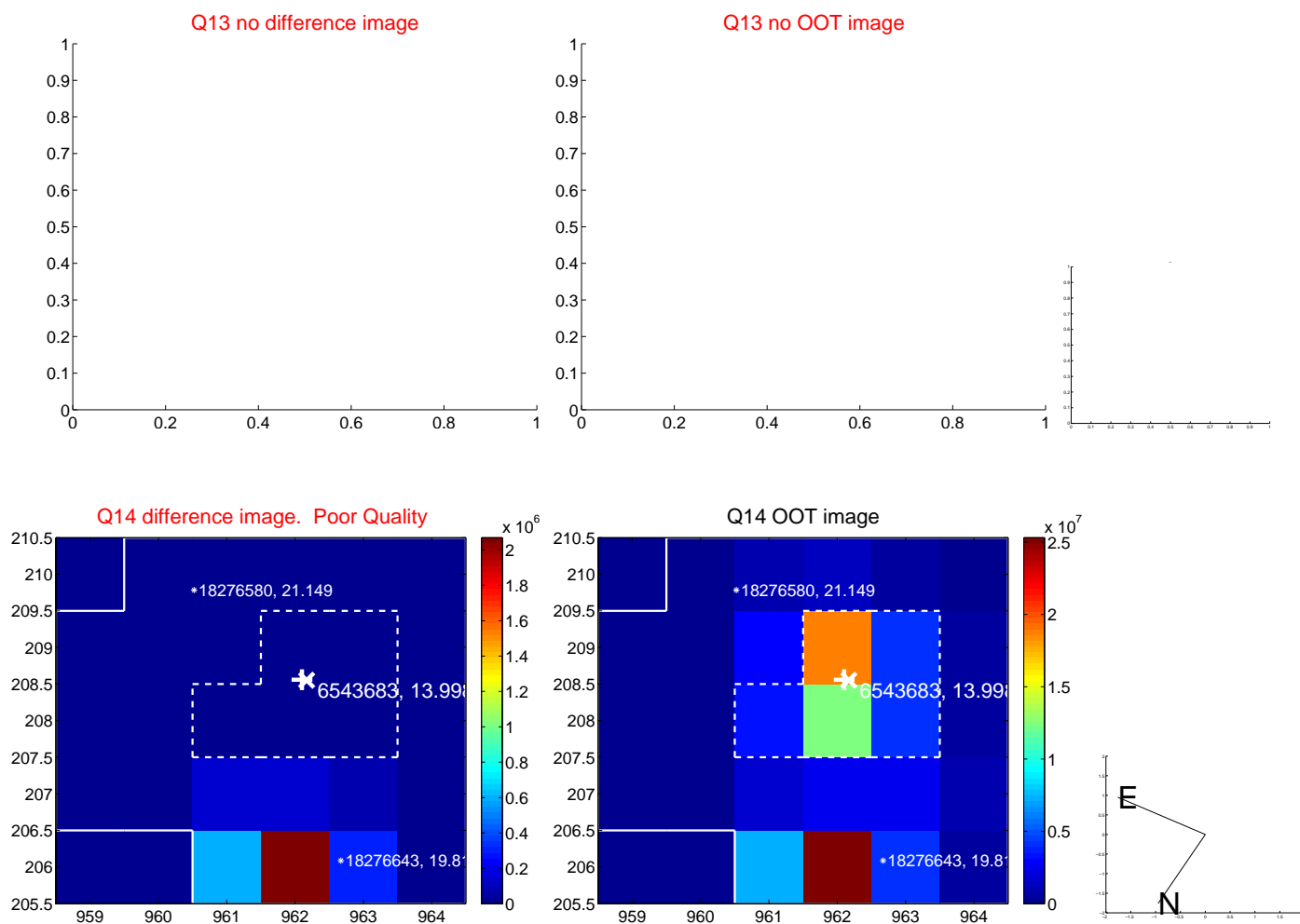
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



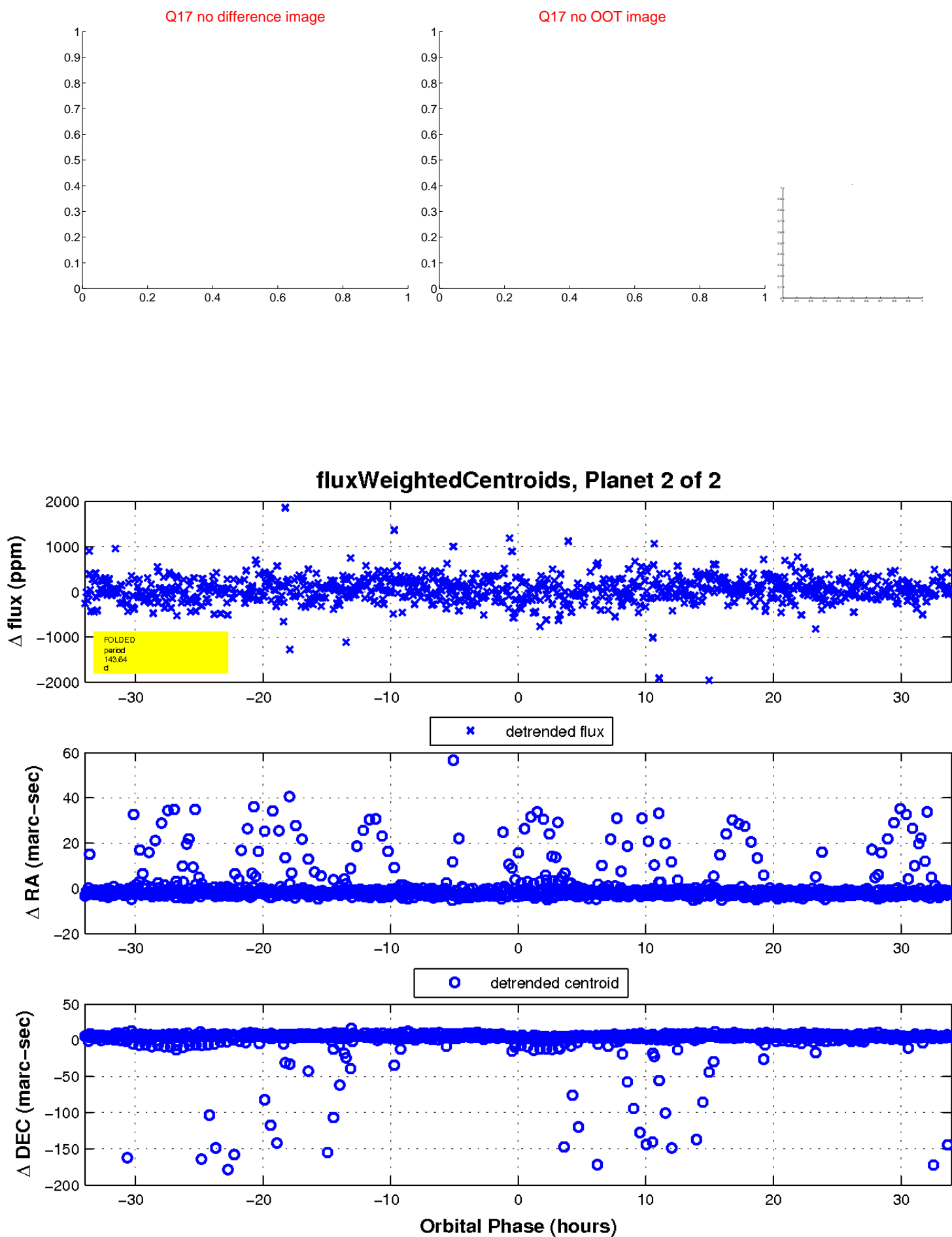
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

