

KIC 011607193

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})
011607193-01	OBS	0983.02	5.177604	132.897450	1085.7	2.487	36.2	43.9	1.80	7429	11.02	1847.77
011607193-02	OBS	No	2.588752	132.893105	289.7	1.693	17.5	17.5	1.80	7429	3.55	4656.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011607193-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET—HALO_GHOST
011607193-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_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.

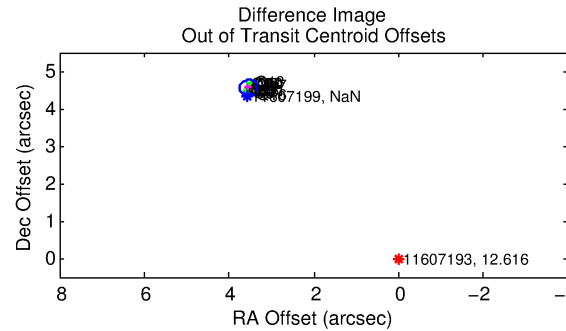
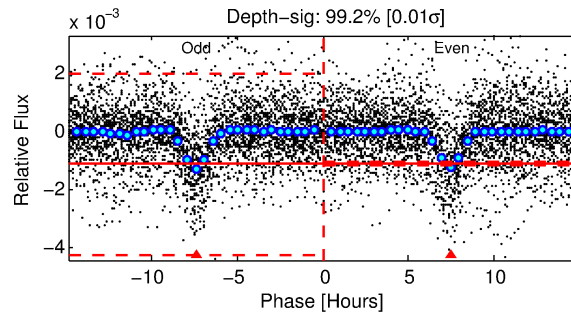
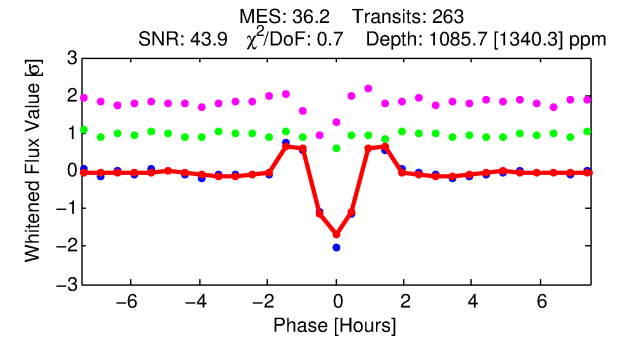
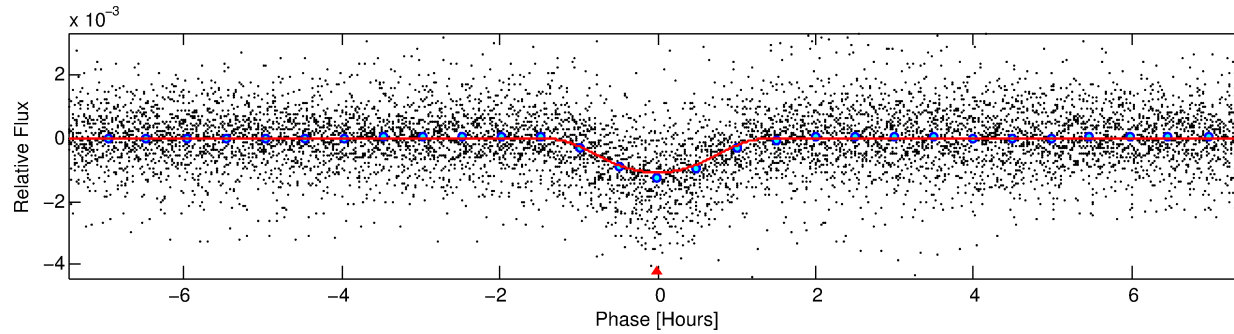
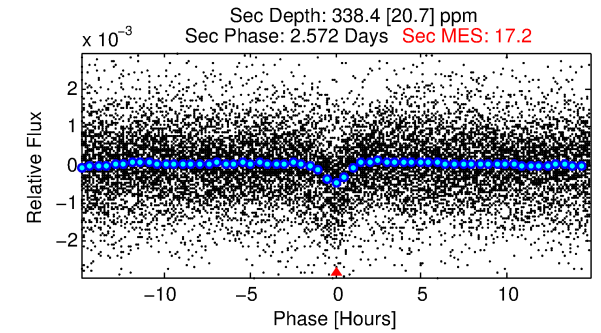
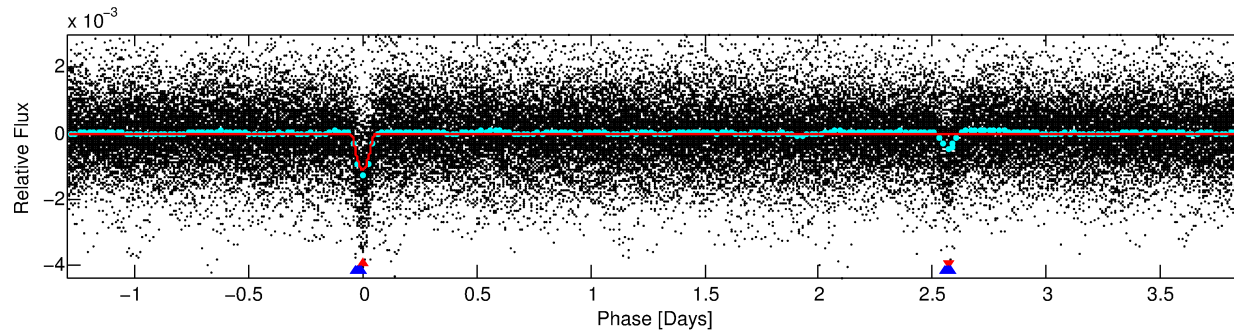
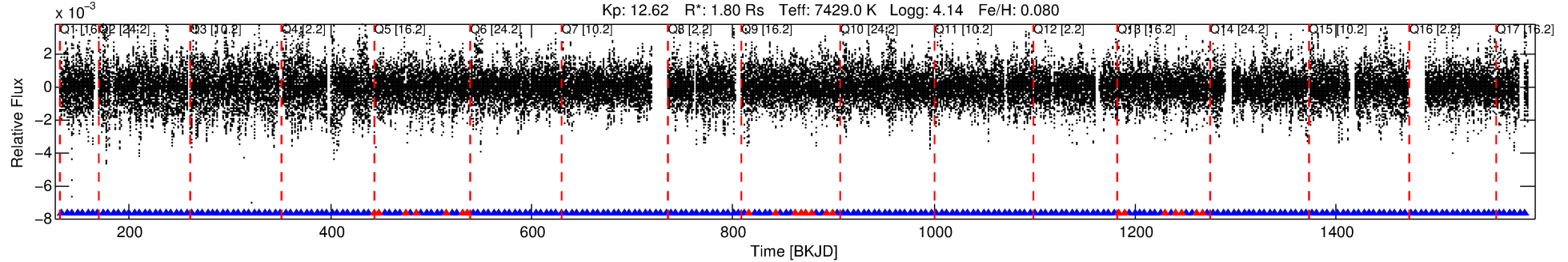
Ephemeris Match Information For 011607193-01

No Significant Match Found

DV One-Page Summary

KIC: 11607193 Candidate: 1 of 2 Period: 5.178 d
KOI: K00983.02 Corr: 0.968

Kp: 12.62 R*: 1.80 Rs Teff: 7429.0 K Logg: 4.14 Fe/H: 0.080



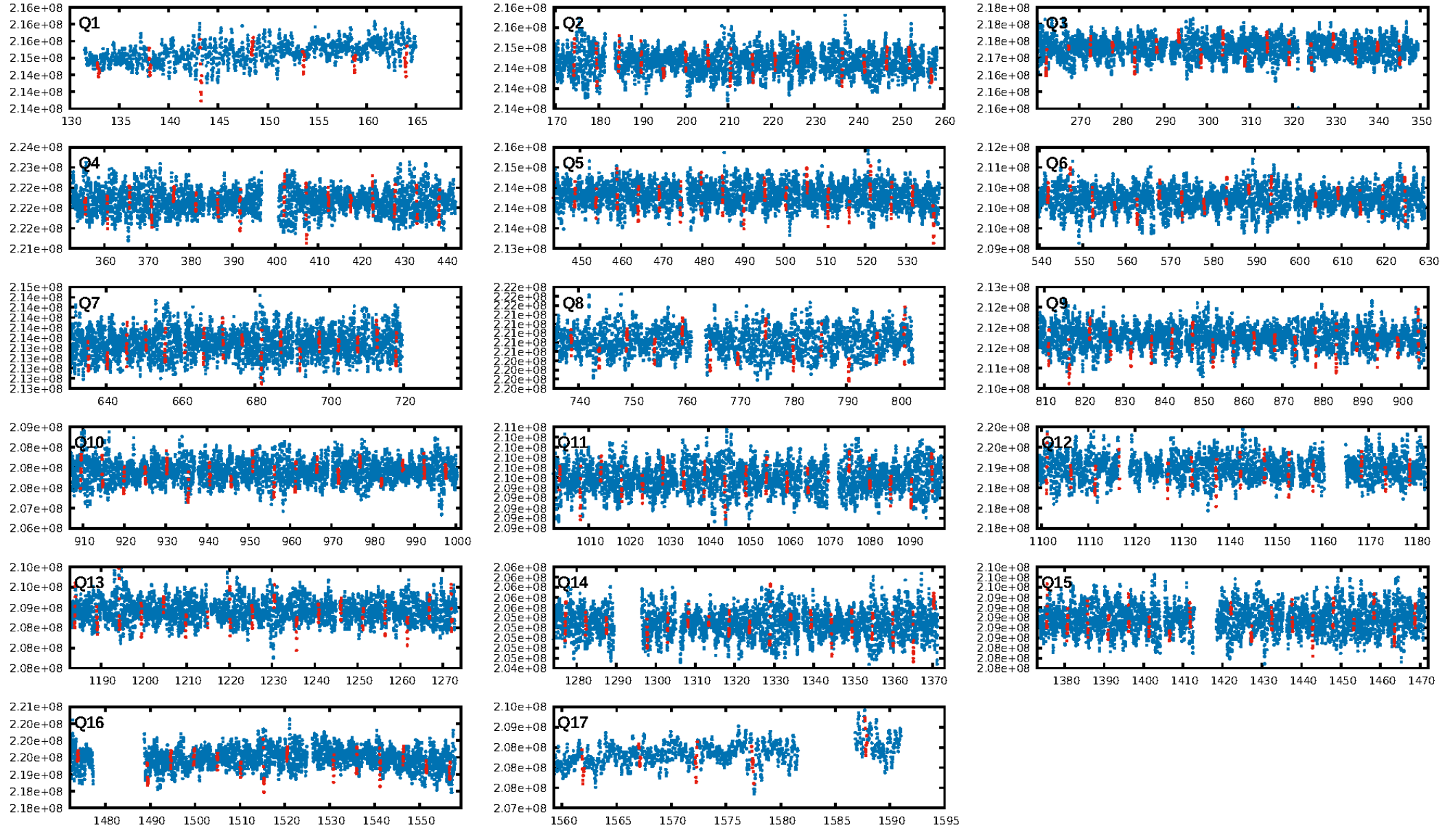
DV Fit Results:

Period = 5.17760 [0.00000] d
Epoch = 132.8975 [0.0005] BKJD
Rp/R* = 0.0562 [0.0149]
a/R* = 5.50 [0.35]
b = 1.00 [0.07]
Seff = 1847.77 [746.15]
Teq = 1672 [169] K
Rp = 11.02 [4.44] Re
a = 0.0690 [0.0174] AU
Ag = 7.31 [4.71] [1.34σ]
Teff = 4250 [598] K [4.15σ]

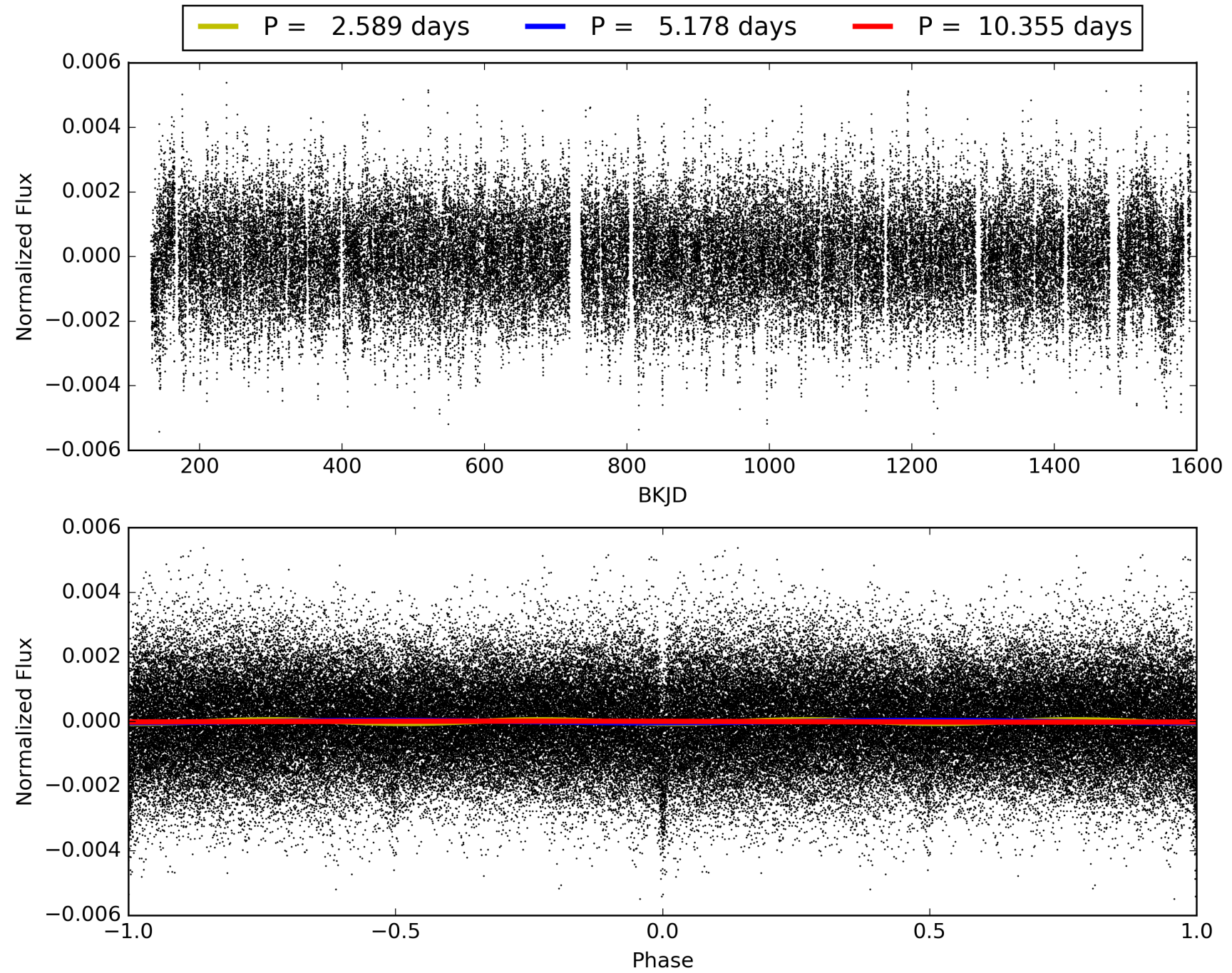
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [20.65σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.06e-270
RollingBand-fgt: 0.91 [229/251]
GhostDiagnostic-chr: 0.02512
Centroid-sig: N/A
Centroid-so: 10.328 arcsec [144.99σ]
OotOffset-rm: 5.770 arcsec [80.53σ]
KicOffset-rm: 5.707 arcsec [79.38σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 011607193-01, PDC Light Curves

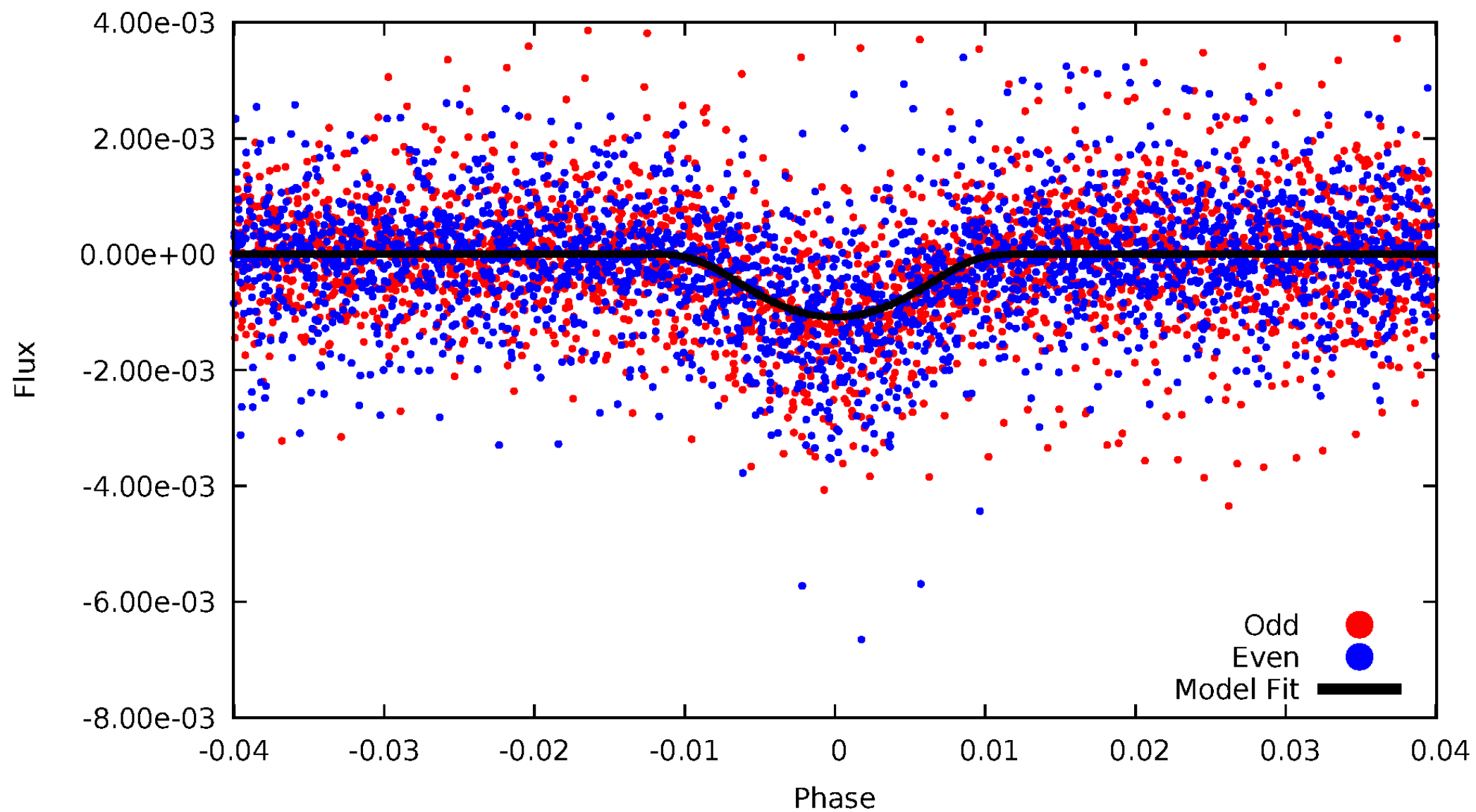


TCE 011607193-01



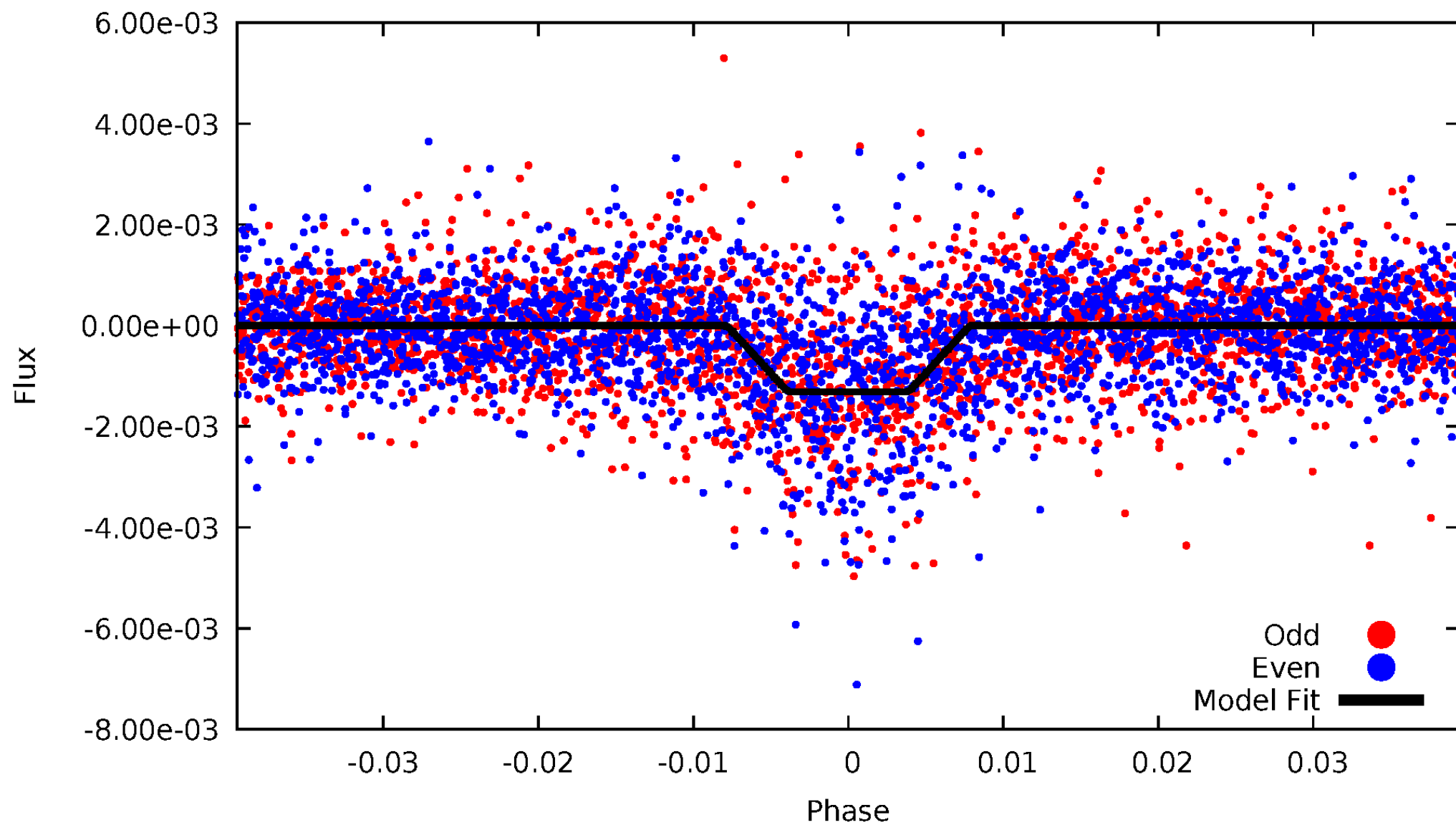
DV Odd/Even

TCE 011607193-01



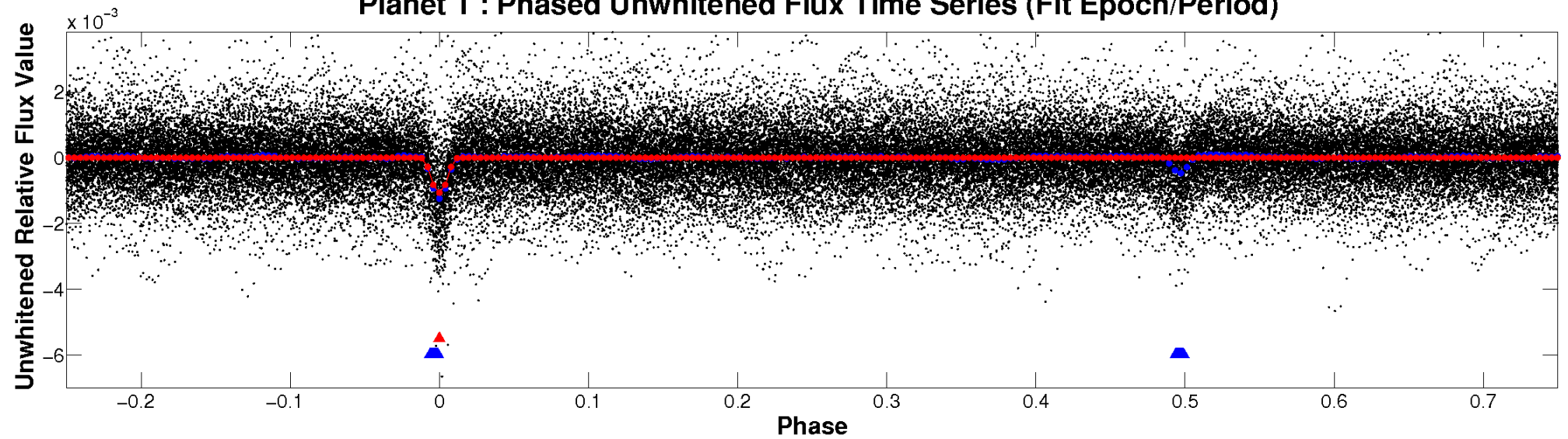
ALT Odd/Even

TCE 011607193-01

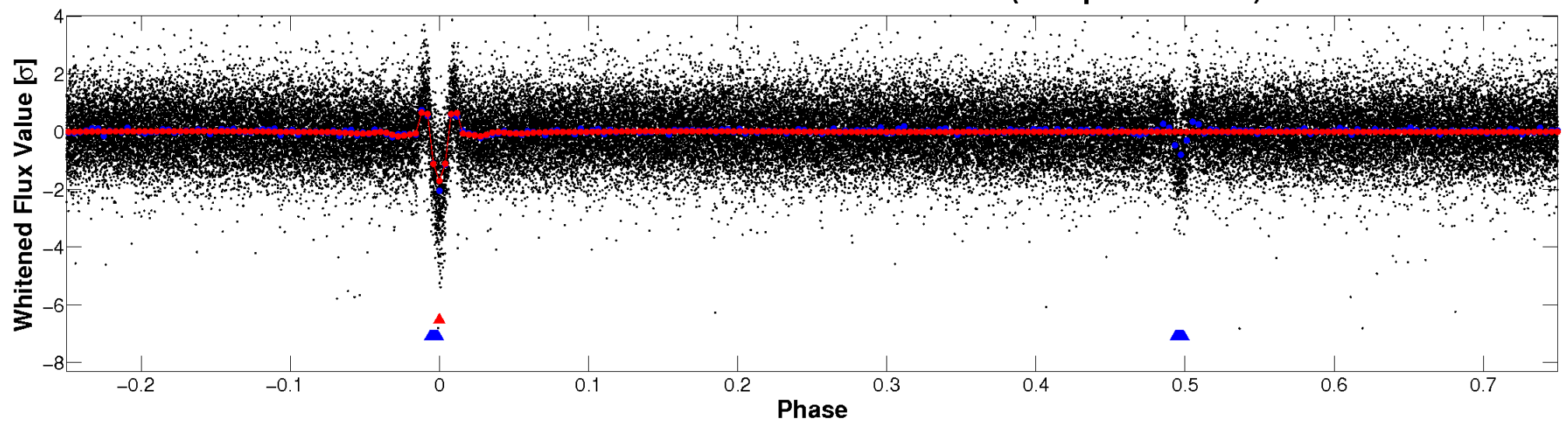


Non-Whitened Vs. Whitened Light Curve

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

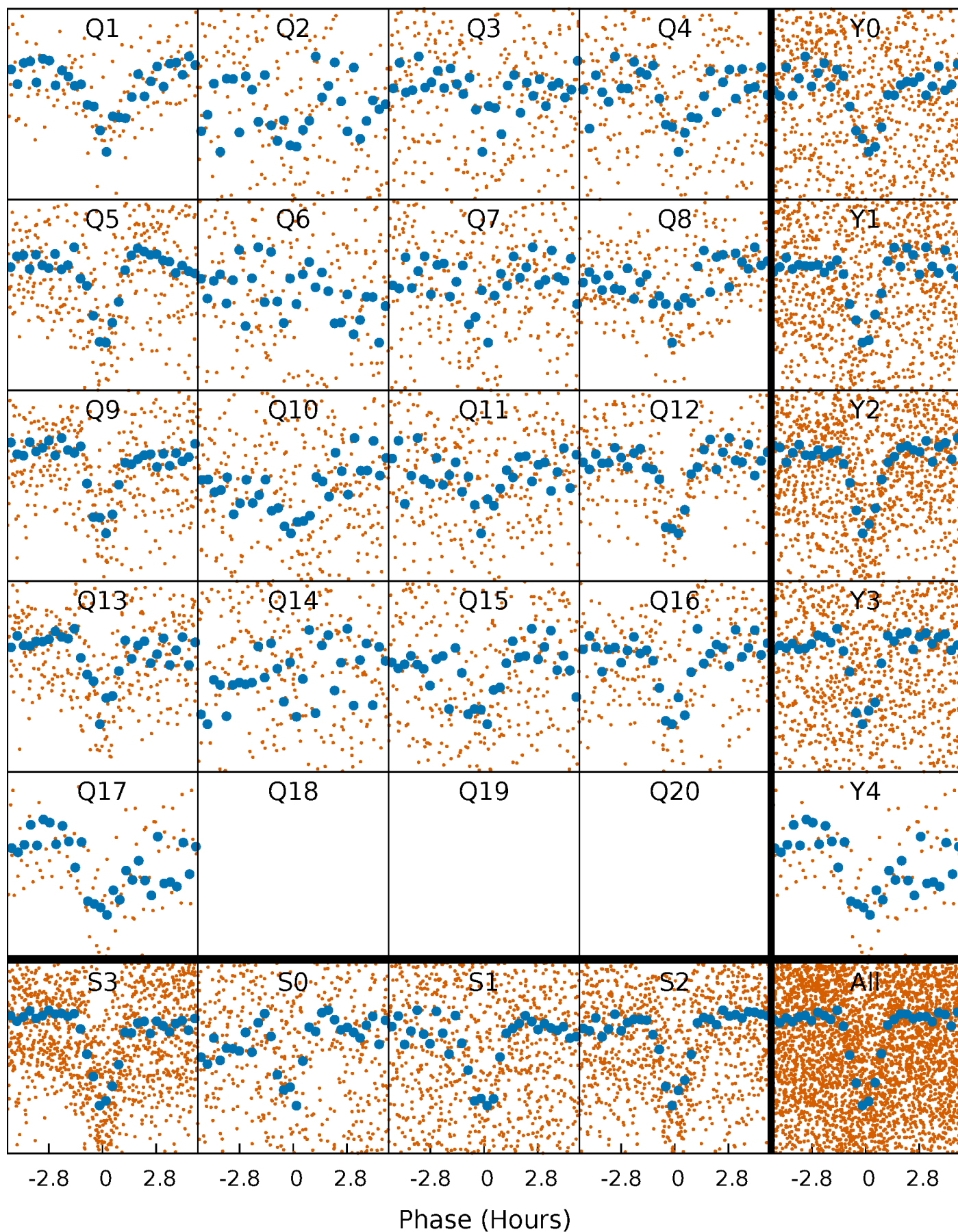


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



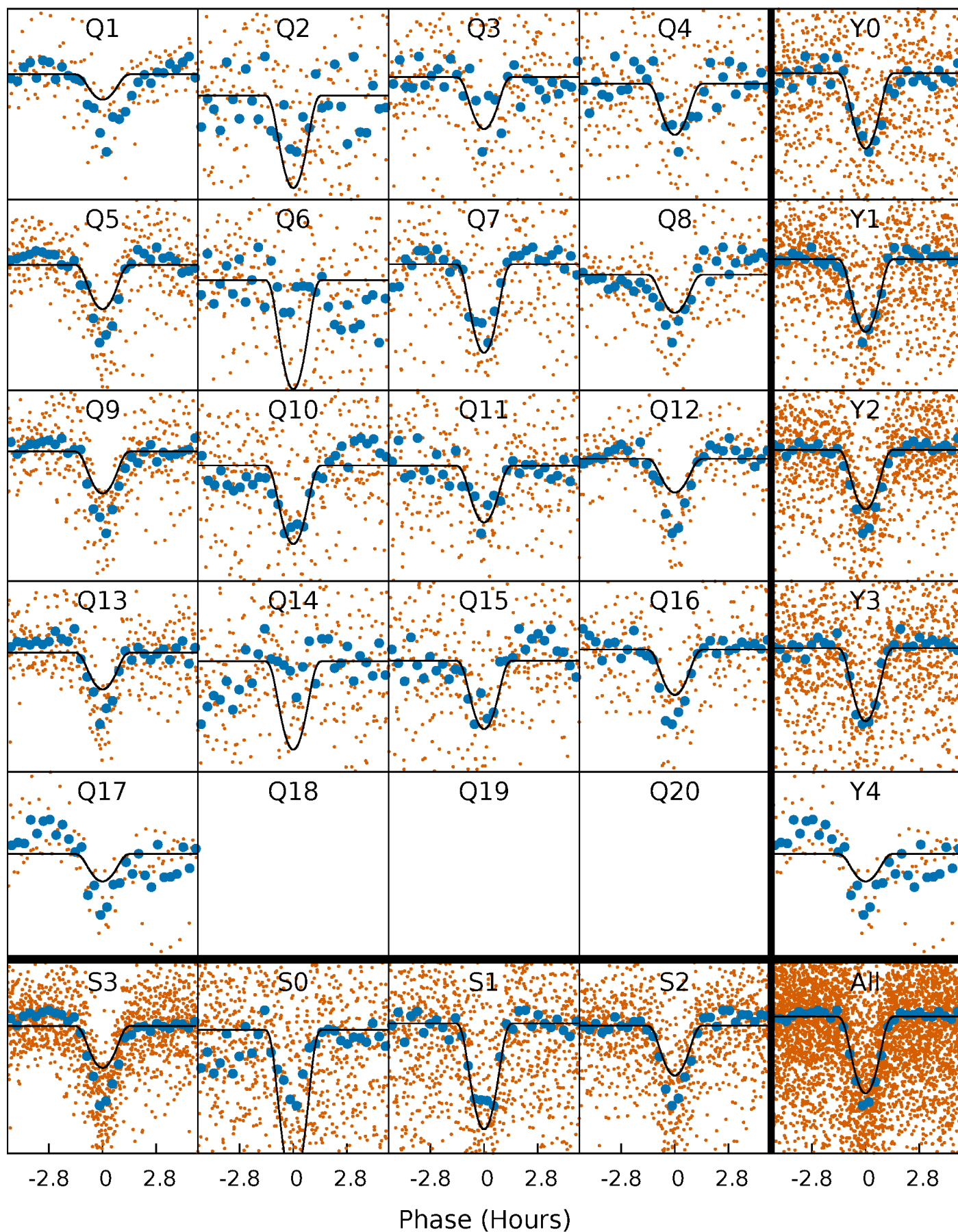
PDC Quarter-Phased Transit Curves

TCE 011607193-01 P= 5.177604 Days $T_0=132.897450$ (BKJD)



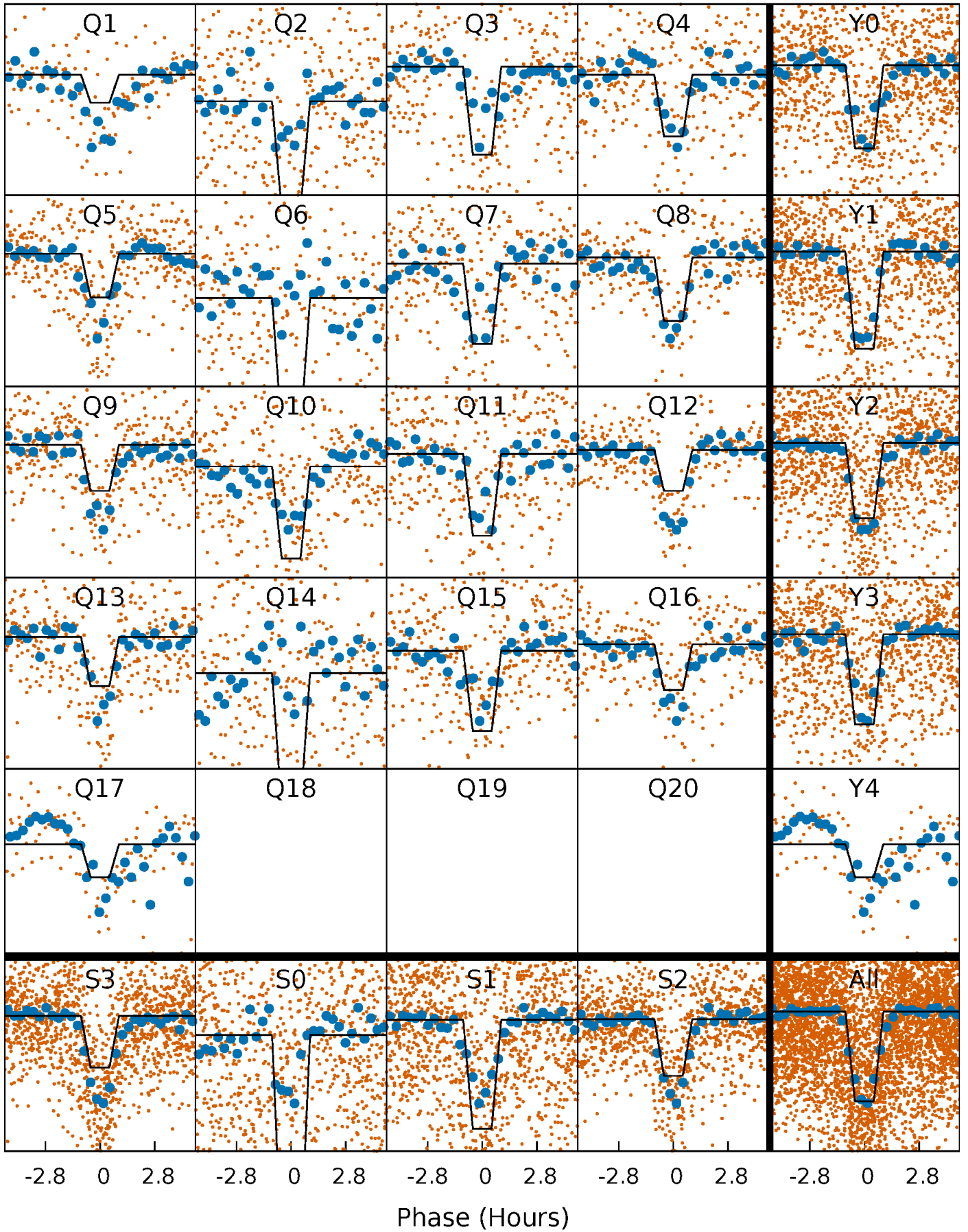
DV Quarter-Phased Transit Curves

TCE 011607193-01 P= 5.177604 Days $T_0=132.897450$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

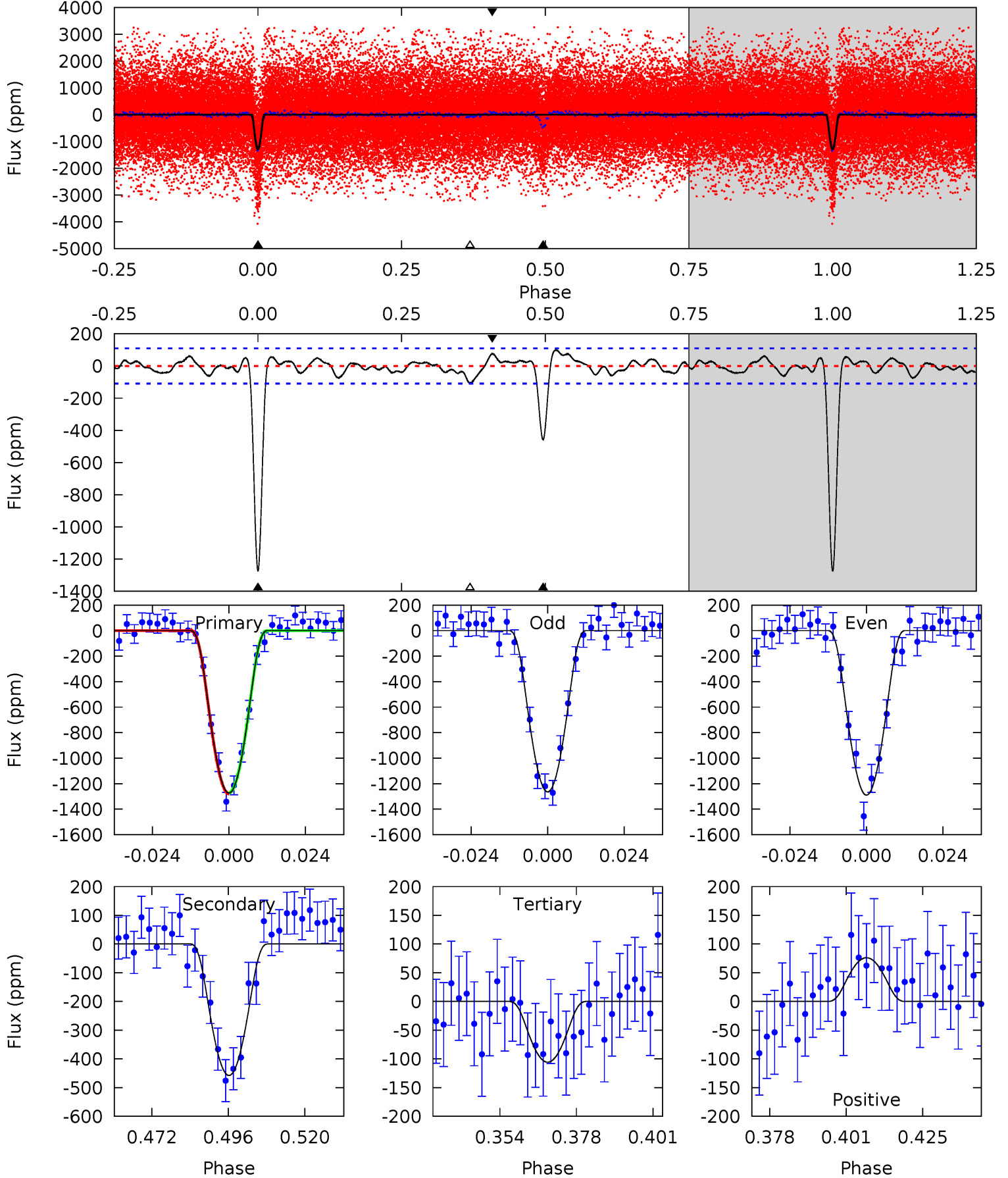
TCE 011607193-01 P= 5.177559 Days $T_0=132.903898$ (BKJD)



DV Model-Shift Uniqueness Test

011607193-01, P = 5.177604 Days, E = 127.719846 Days

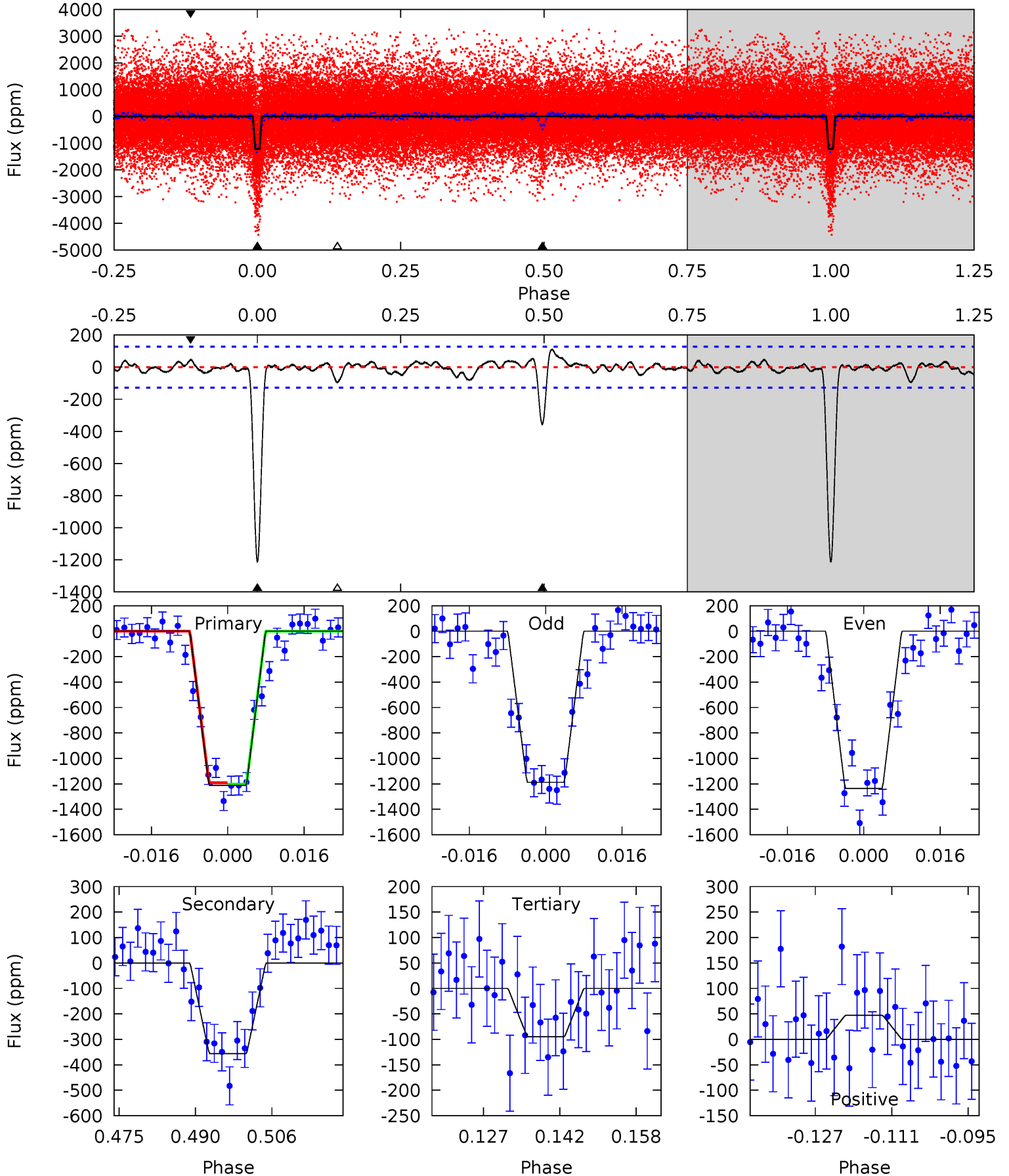
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.5	20.3	4.69	3.38	4.86	2.26	1.54	51.8	53.1	15.6	16.9	0.56	1.03	0.07	0.20



Alt Model-Shift Uniqueness Test

011607193-01, P = 5.177559 Days, E = 127.726339 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.0	13.8	3.67	1.83	4.94	2.41	1.08	43.3	45.1	10.1	12.0	0.94	1.01	0.08	0.22



Stellar Parameters For KIC 011607193

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7429^{+206}_{-335}	$4.143^{+0.105}_{-0.195}$	$0.080^{+0.200}_{-0.350}$	$1.796^{+0.545}_{-0.336}$	$1.634^{+0.193}_{-0.235}$	$0.397^{+0.223}_{-0.192}$
	+3%/-5%	+3%/-5%	+250%/-438%	+30%/-19%	+12%/-14%	+56%/-48%
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 011607193-01 / KOI 0983.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-458 ± 23	$11.38^{+3.71}_{-3.13}$	2354^{+175}_{-147}	4596^{+671}_{-453}	$9.135^{+8.569}_{-3.749}$
Alt.	-356 ± 26	$7.28^{+3.31}_{-2.94}$	2357^{+180}_{-148}	5297^{+1423}_{-736}	17^{+33}_{-9}

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

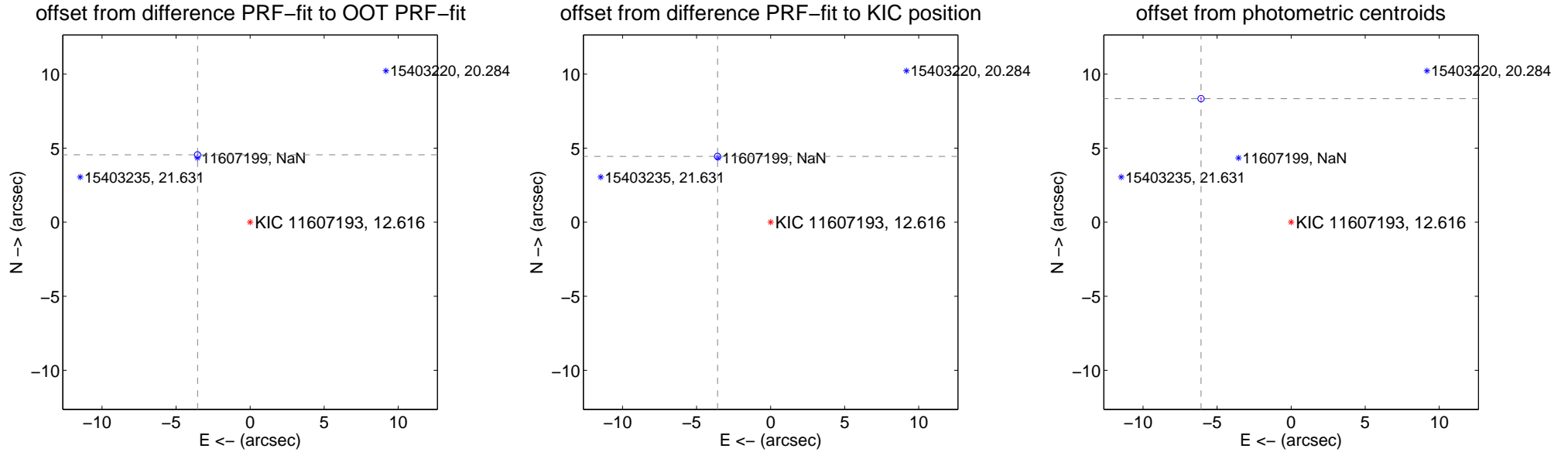
DV Centroid Data

Supplemental centroid analysis for 011607193-01. Kepler magnitude: 12.62. Transit SNR 43.90

There are 17 quarters with good PRF difference image offsets

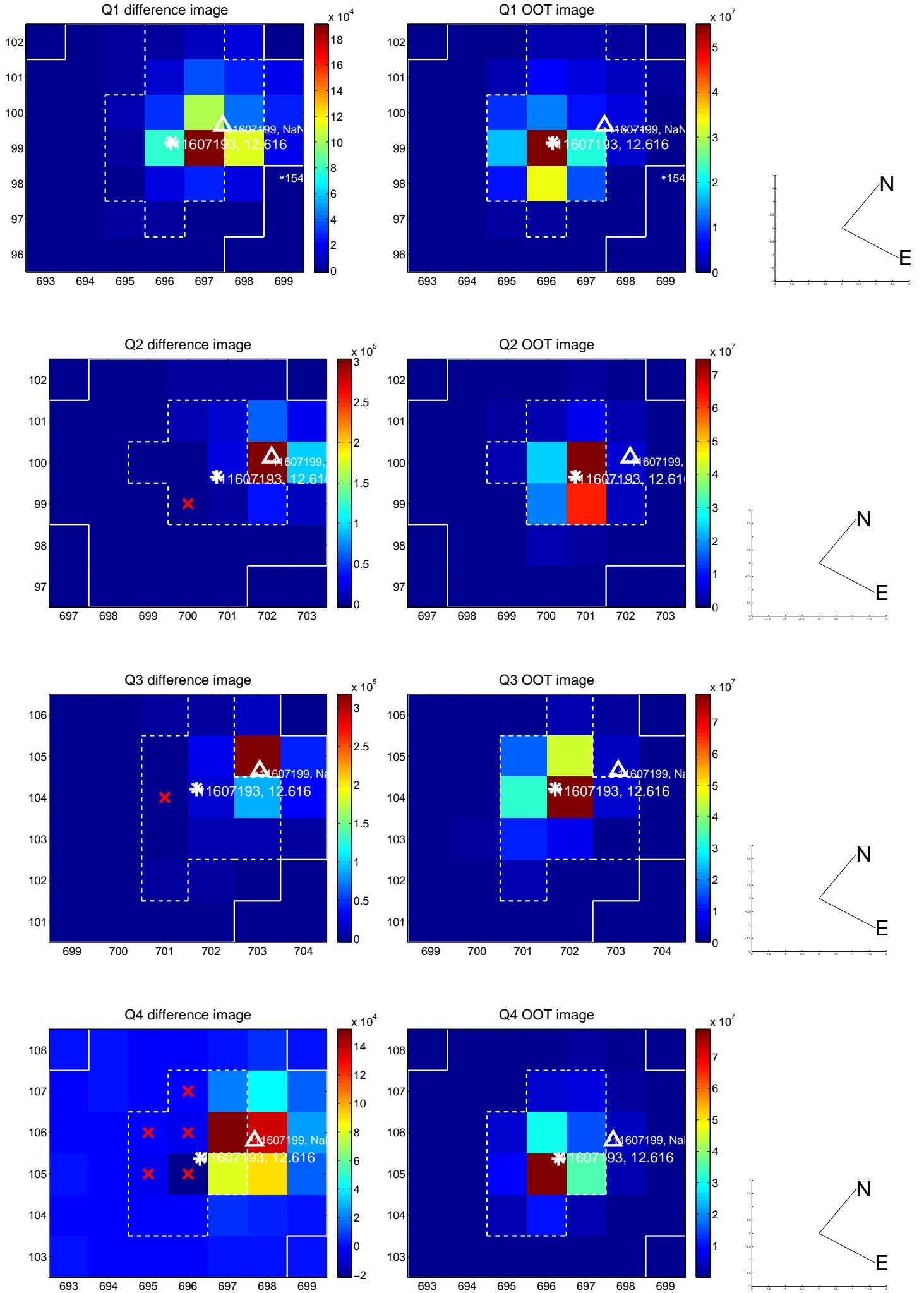
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.770 ± 0.072	80.53	3.549 ± 0.069	4.550 ± 0.073
PRF-fit source offset from KIC position	5.707 ± 0.072	79.38	3.583 ± 0.069	4.442 ± 0.074
photometric centroid source offset	10.33 ± 0.07	144.99	6.09 ± 0.06	8.34 ± 0.08

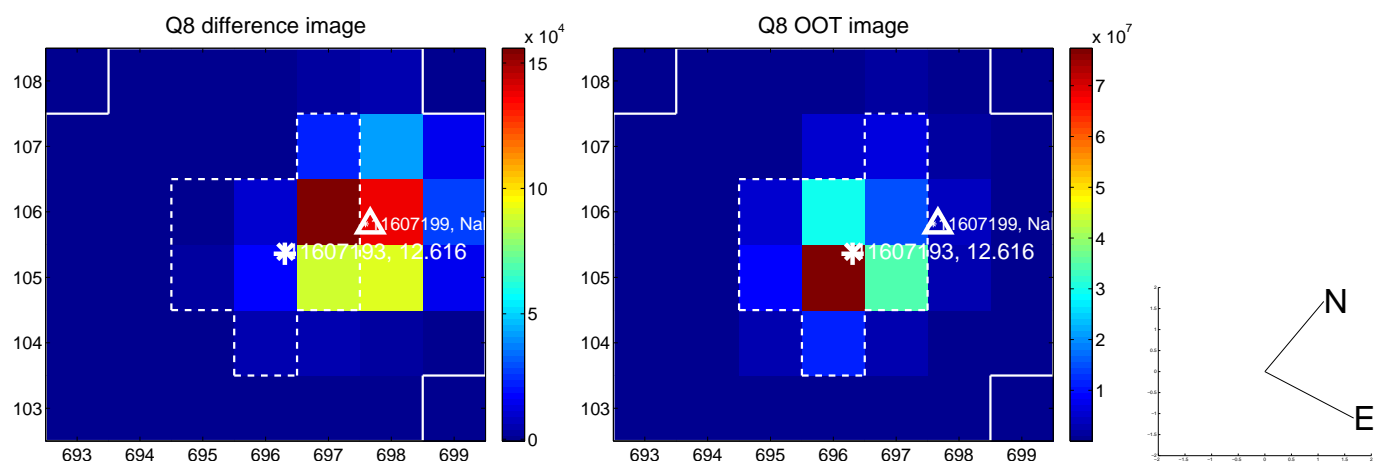
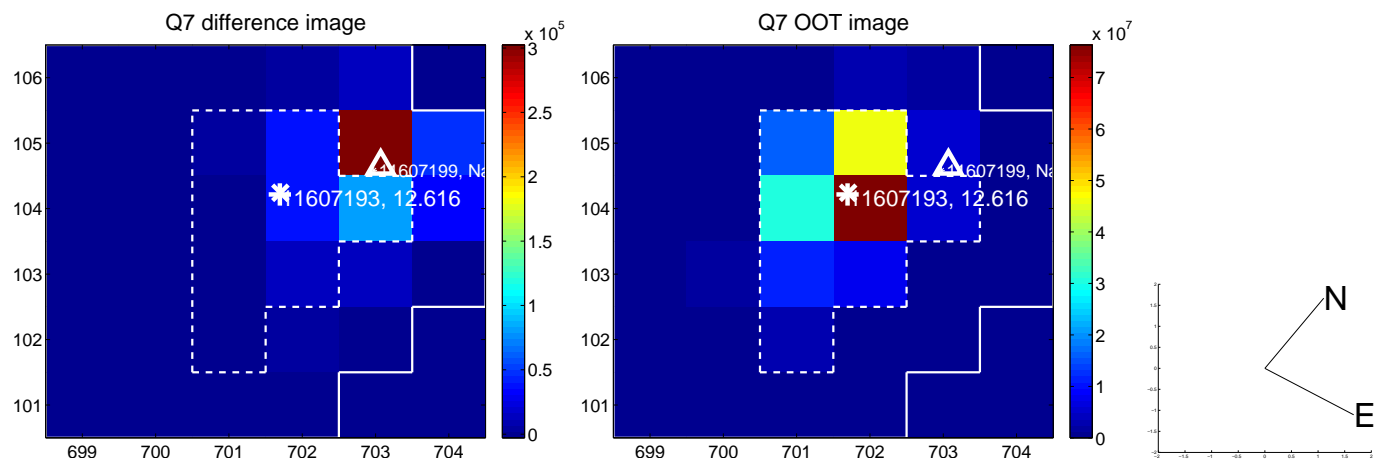
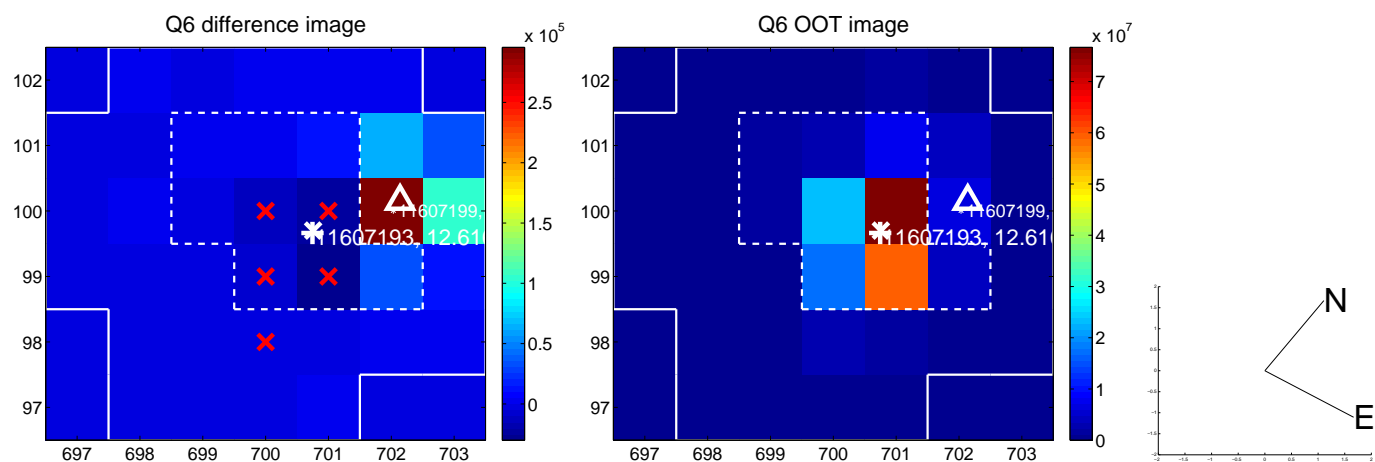
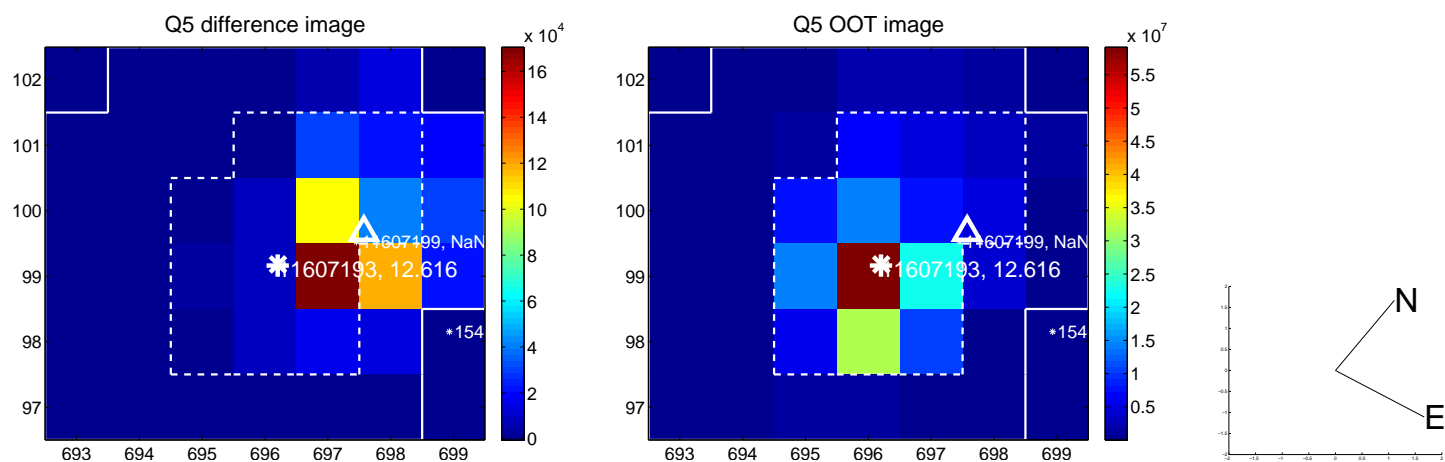


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

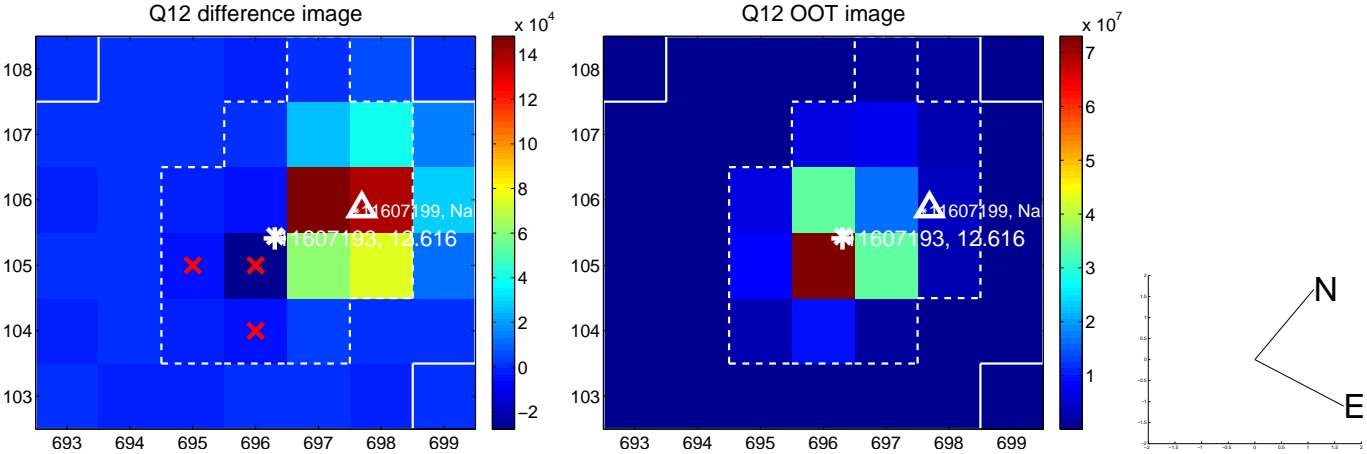
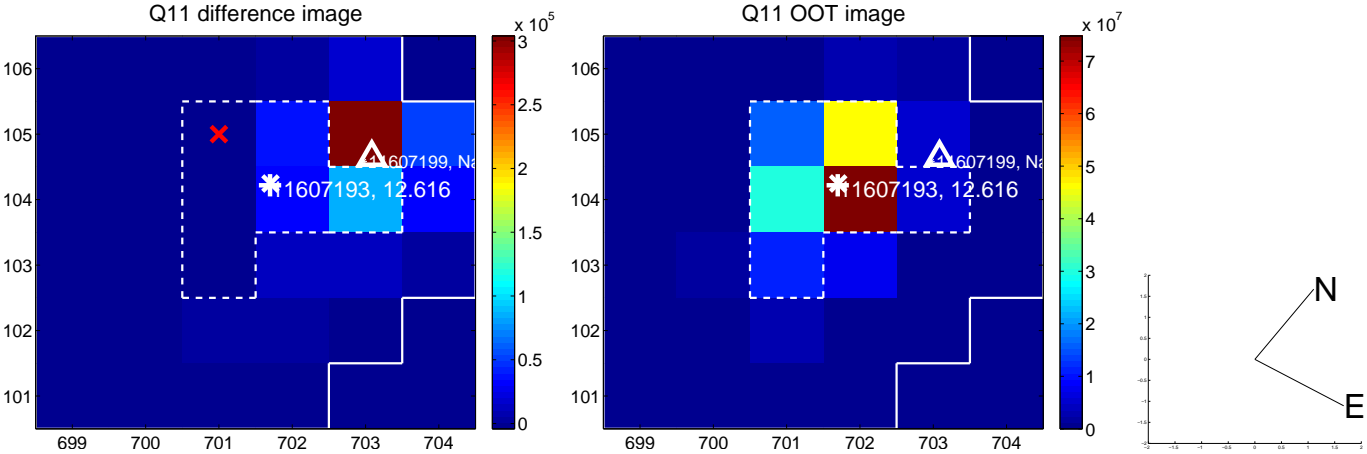
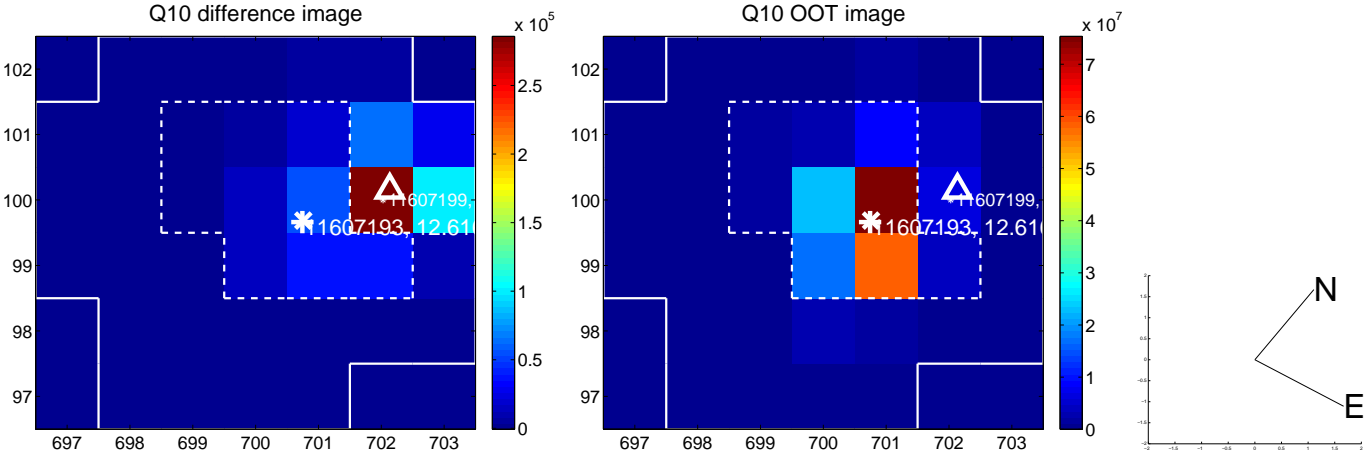
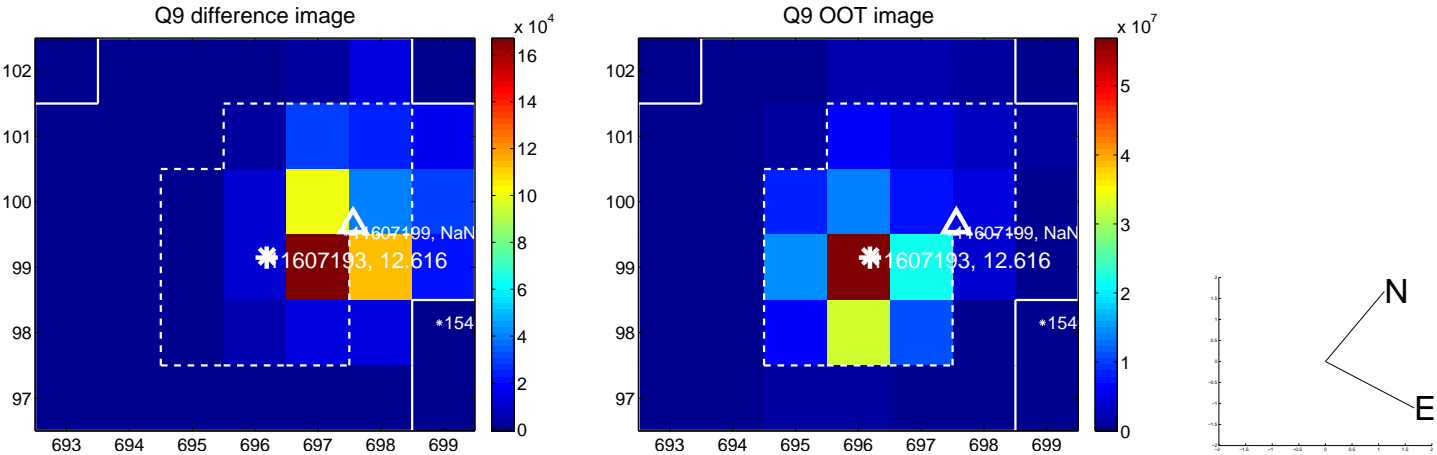
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



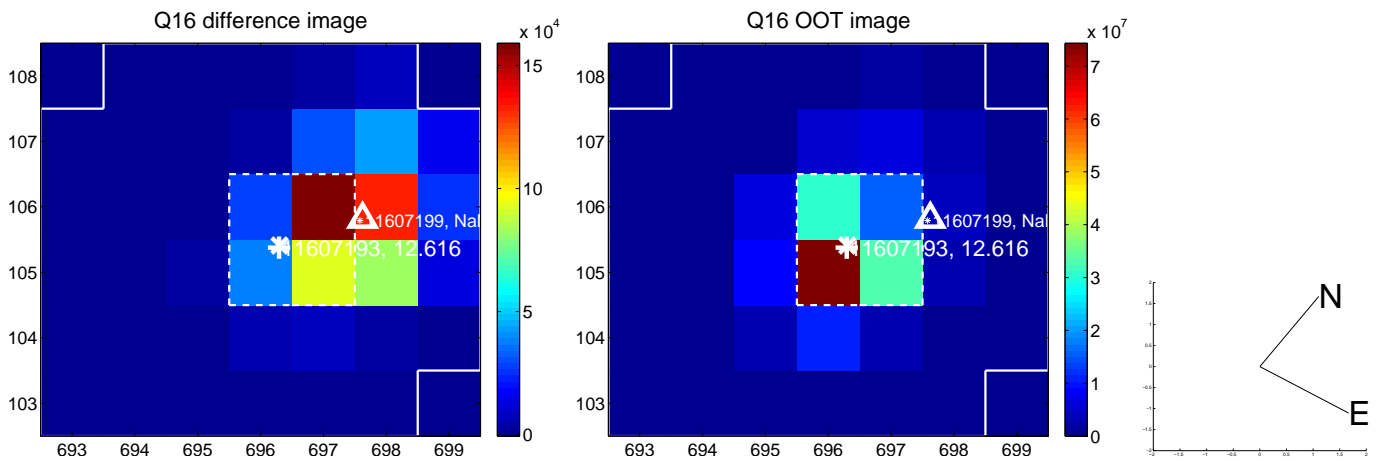
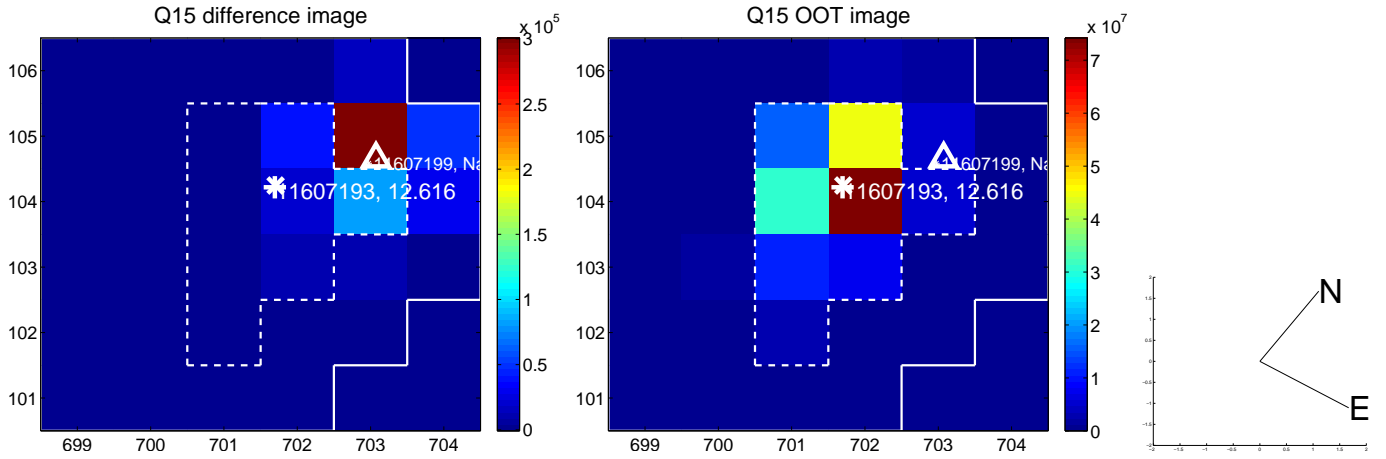
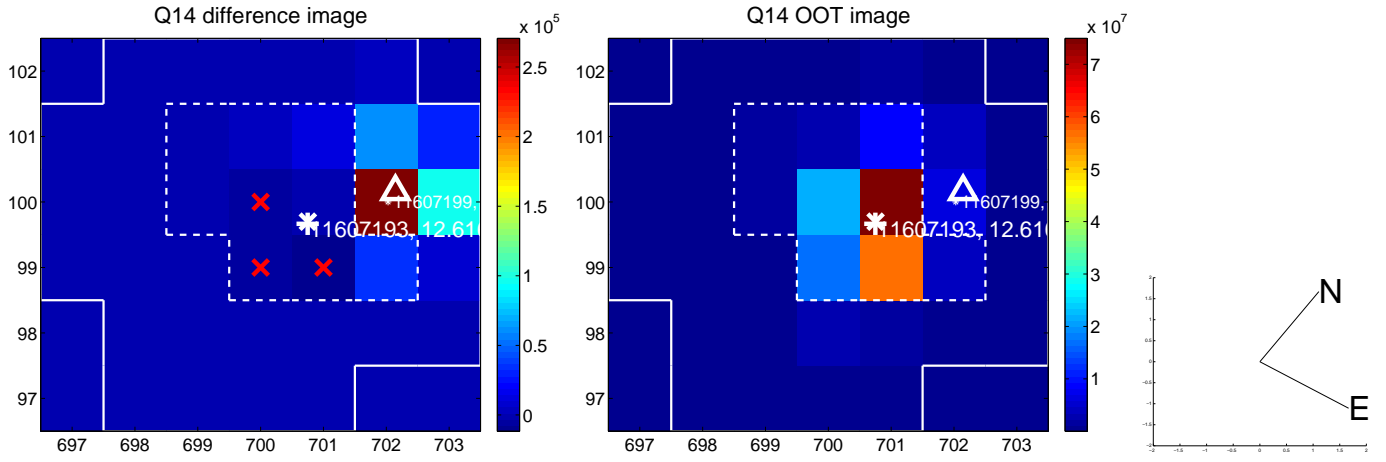
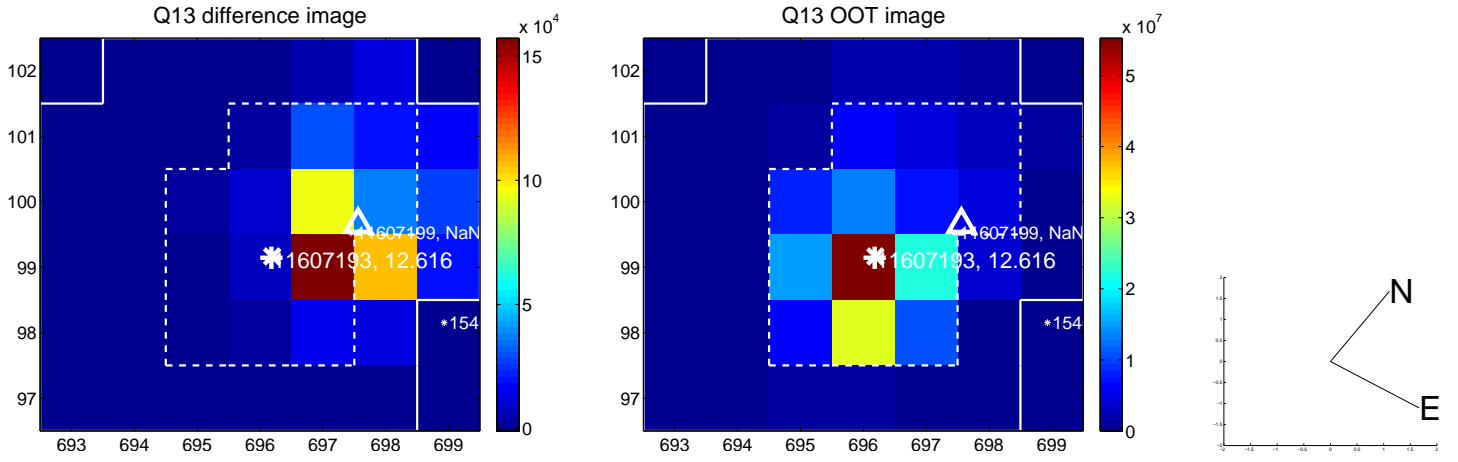
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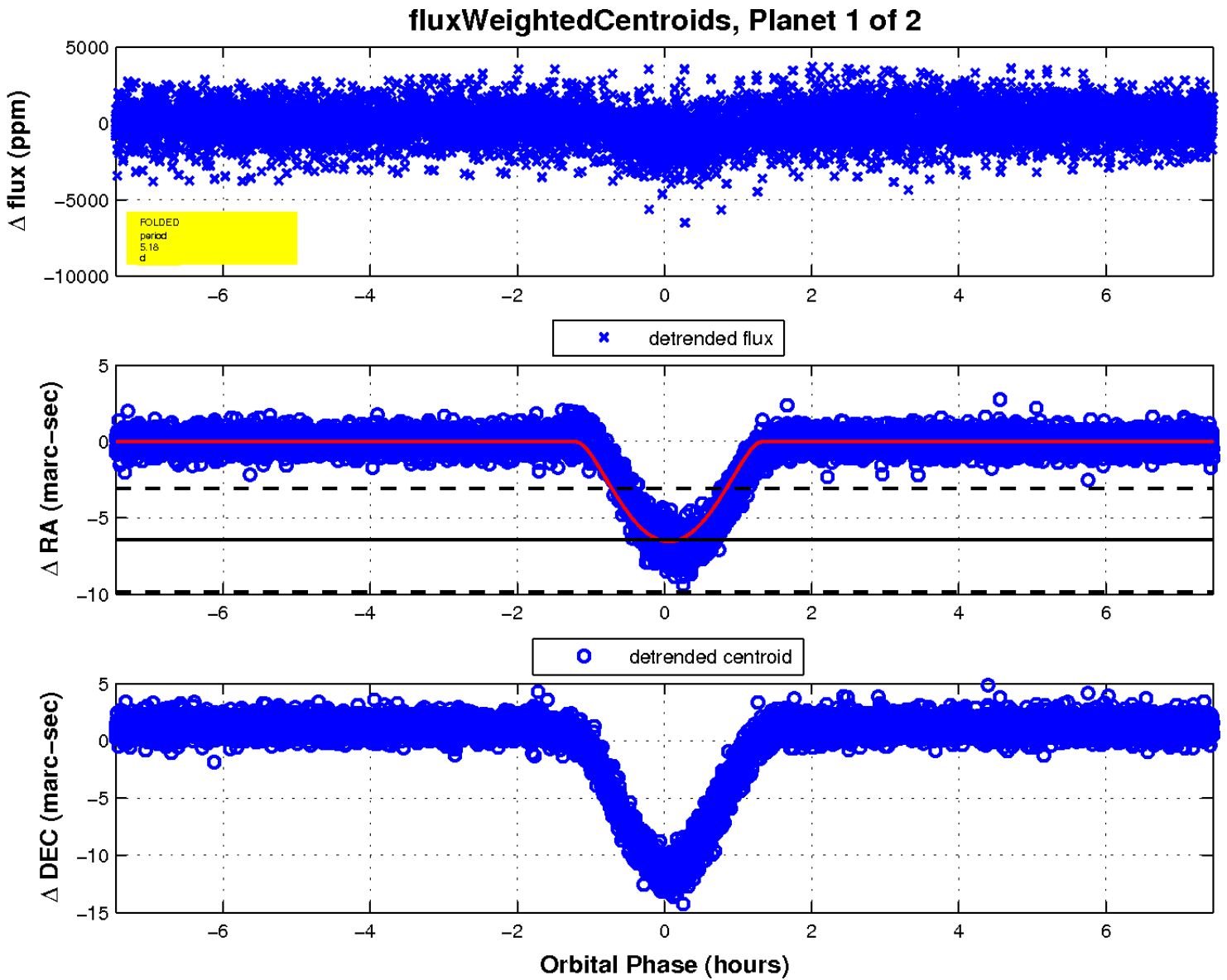
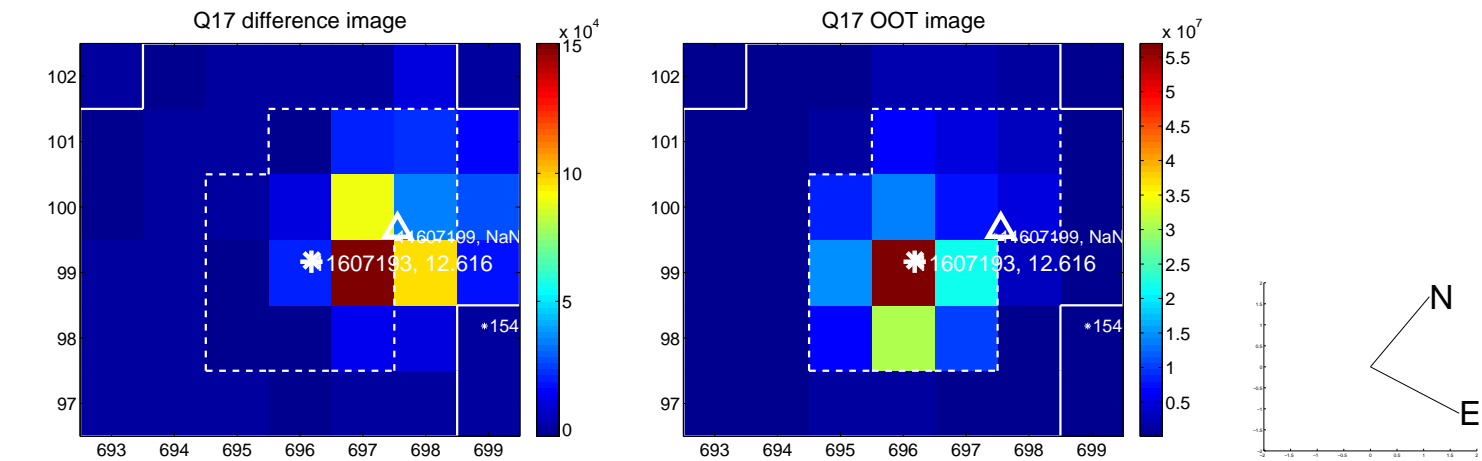
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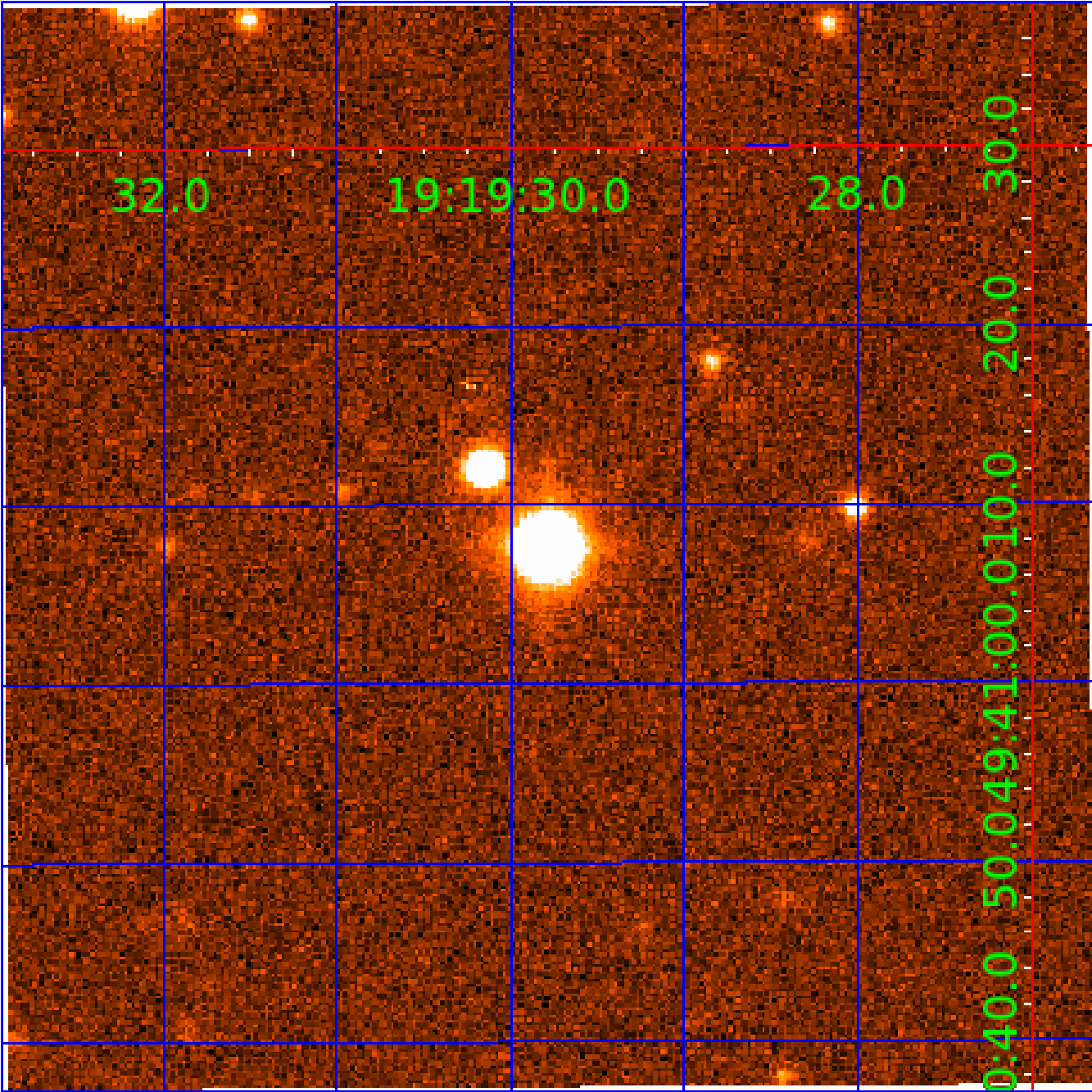


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011607193

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})
011607193-01	OBS	0983.02	5.177604	132.897450	1085.7	2.487	36.2	43.9	1.80	7429	11.02	1847.77
011607193-02	OBS	No	2.588752	132.893105	289.7	1.693	17.5	17.5	1.80	7429	3.55	4656.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011607193-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET—HALO_GHOST
011607193-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_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.

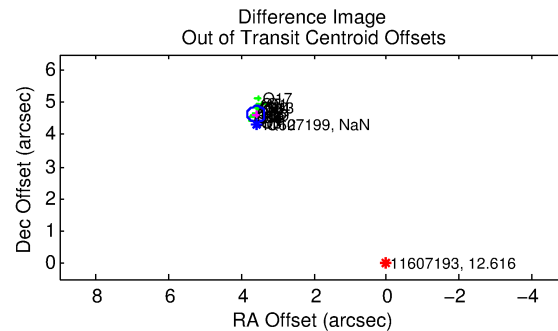
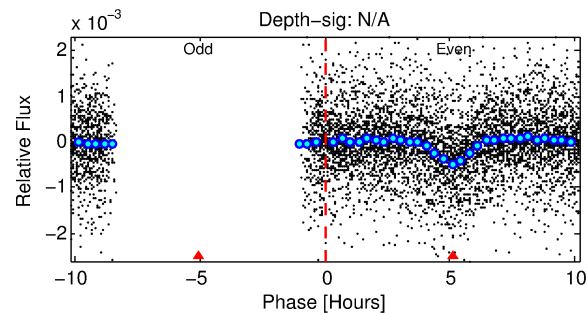
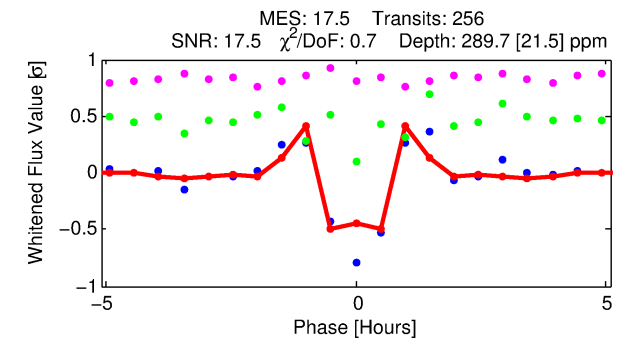
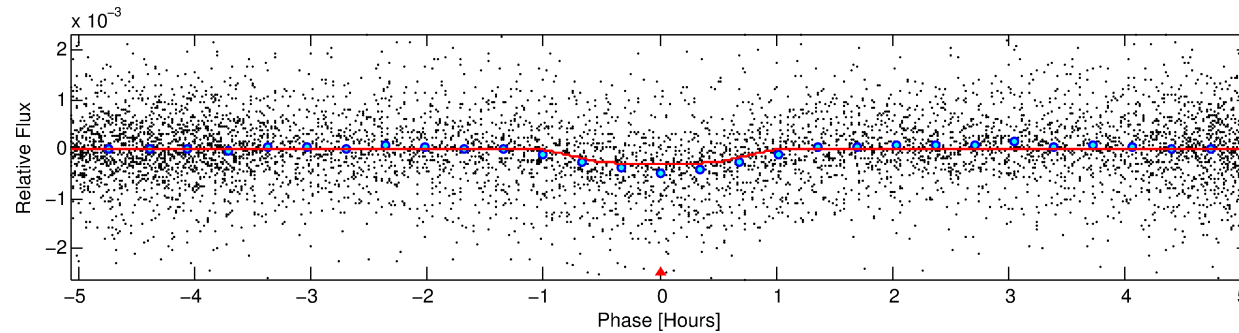
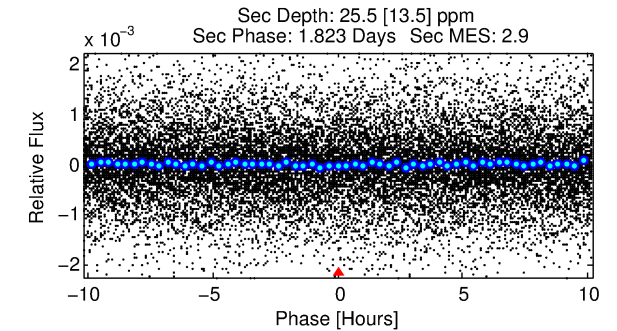
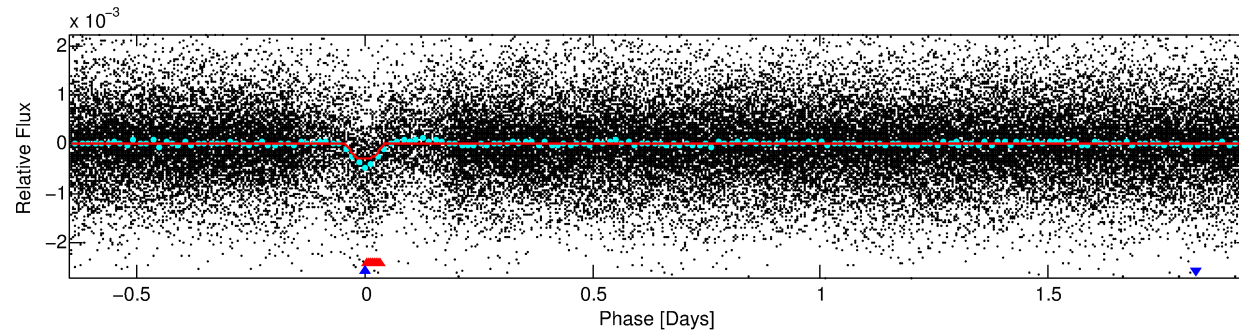
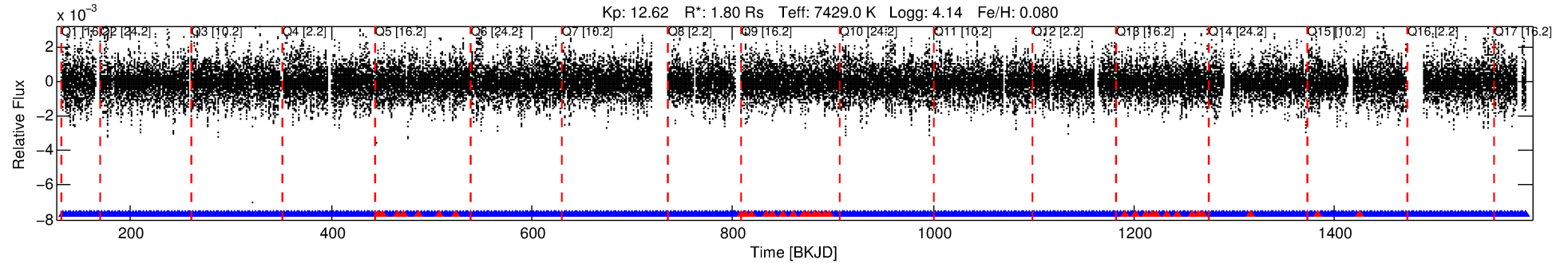
Ephemeris Match Information For 011607193-02

No Significant Match Found

DV One-Page Summary

KIC: 11607193 Candidate: 2 of 2 Period: 2.589 d
KOI: K00983 Corr: No Ephemeris Match

Kp: 12.62 R*: 1.80 Rs Teff: 7429.0 K Logg: 4.14 Fe/H: 0.080



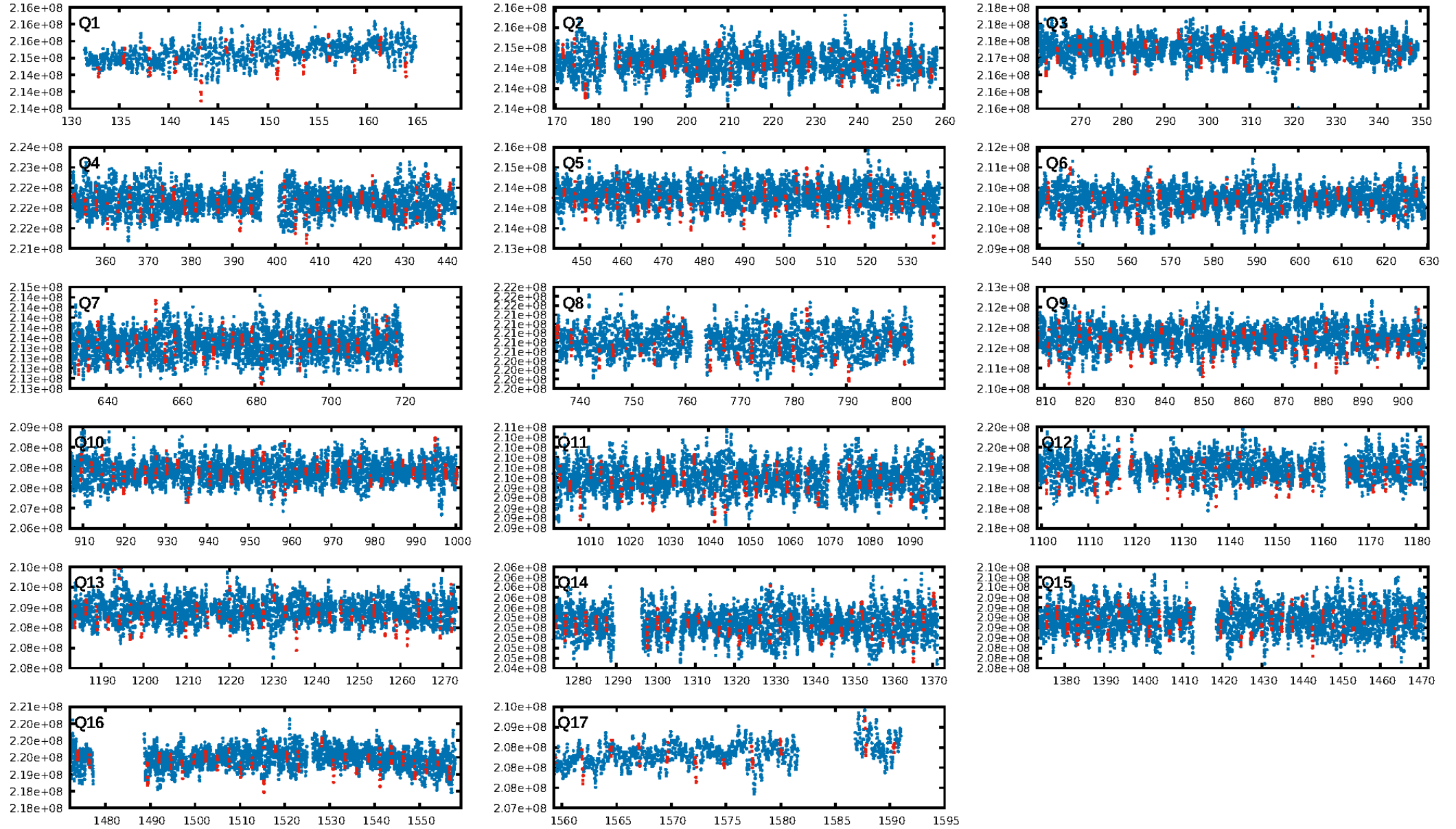
DV Fit Results:

Period = 2.58875 [0.00001] d
Epoch = 132.8931 [0.0006] BKJD
Rp/R* = 0.0181 [0.0019]
a/R* = 5.62 [3.18]
b = 0.90 [0.12]
Seff = 4656.21 [1880.23]
Teq = 2106 [213] K
Rp = 3.55 [1.14] Re
a = 0.0435 [0.0109] AU
Ag = 2.11 [1.42] [0.78σ]
Teff = 3924 [586] K [2.91σ]

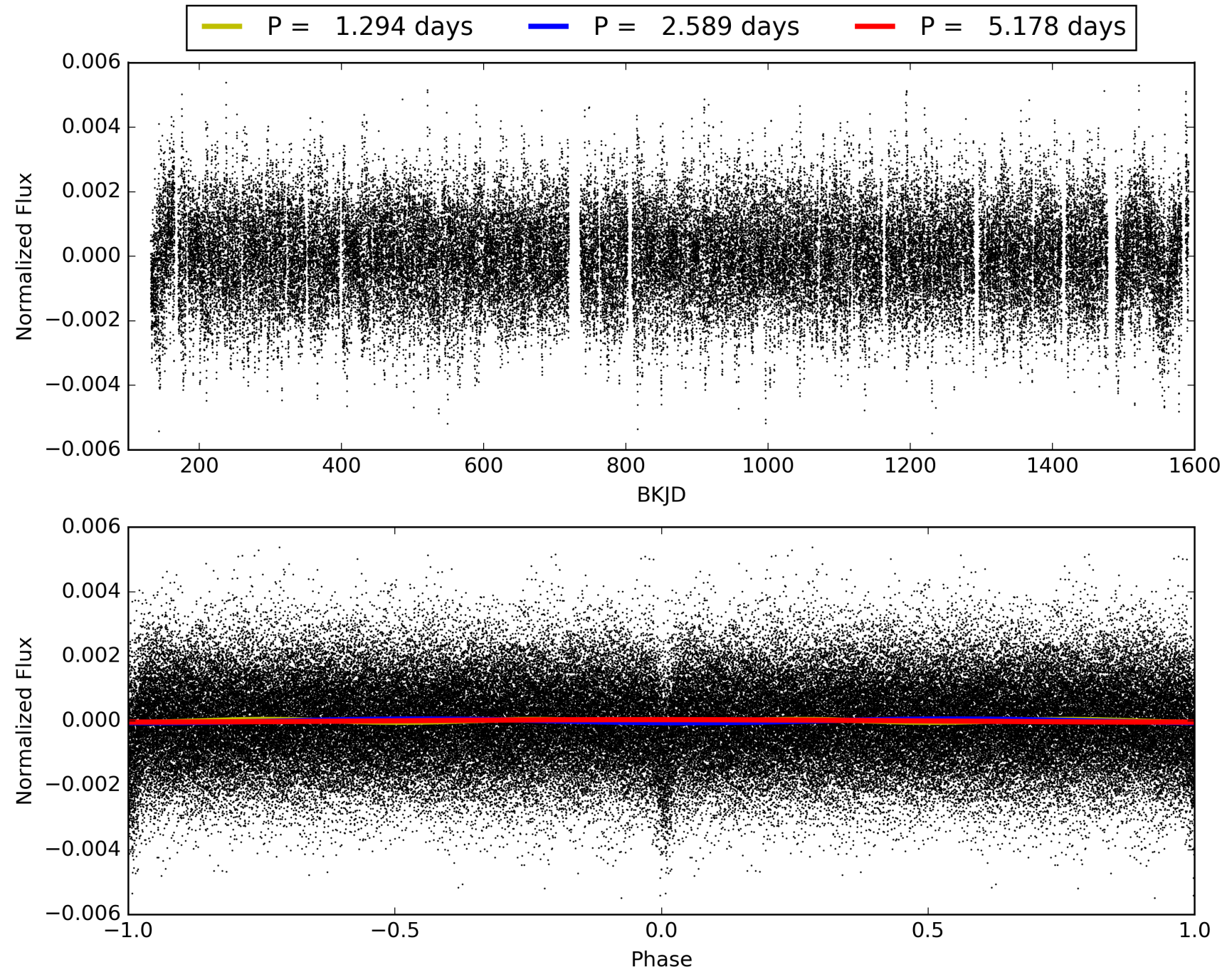
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [20.65σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.81e-72
RollingBand-fgt: 0.86 [211/244]
GhostDiagnostic-chr: 0.04312
Centroid-sig: N/A
Centroid-so: 15.169 arcsec [89.80σ]
OotOffset-rm: 5.858 arcsec [72.67σ]
KicOffset-rm: 5.790 arcsec [72.41σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011607193-02, PDC Light Curves

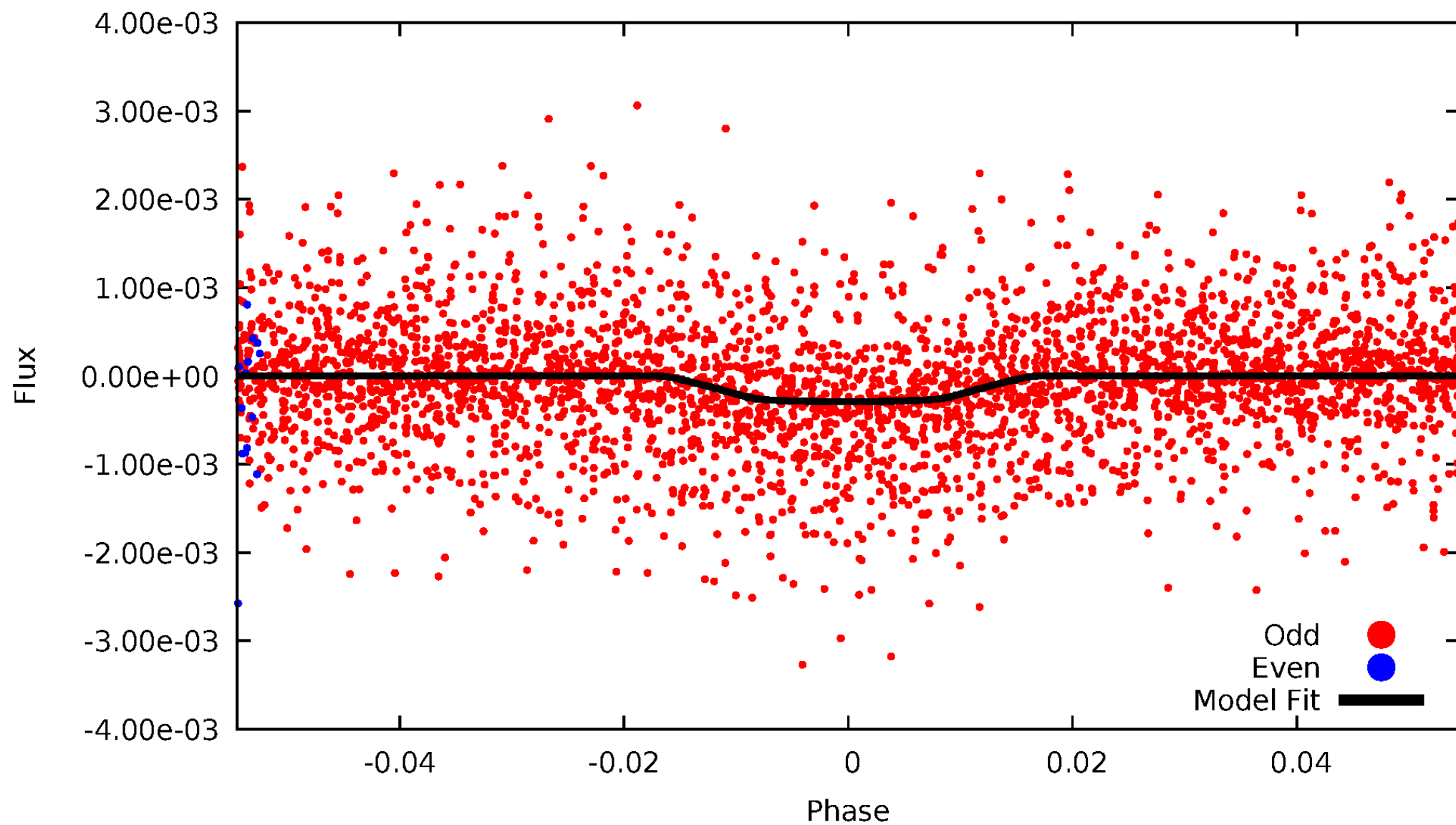


TCE 011607193-02



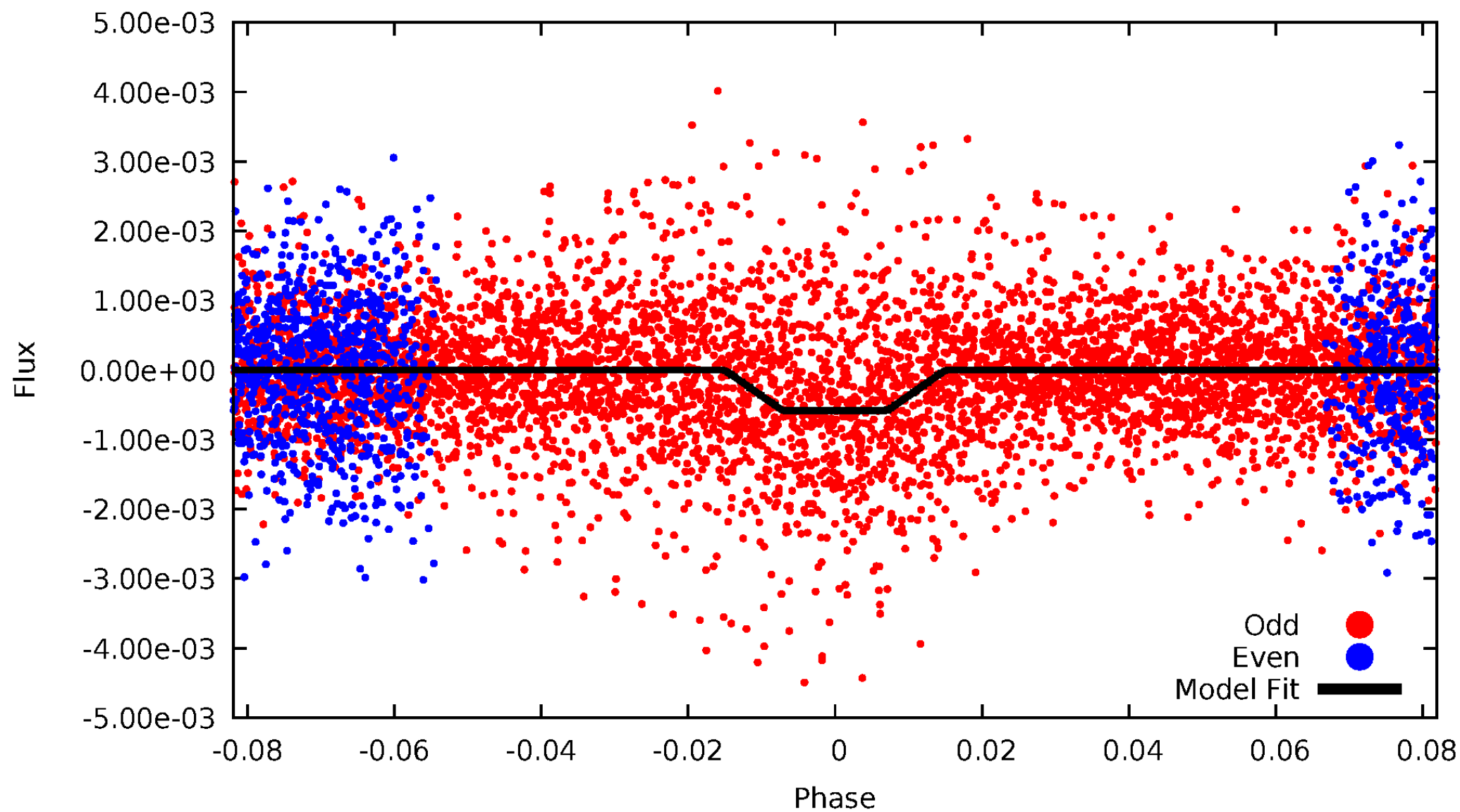
DV Odd/Even

TCE 011607193-02



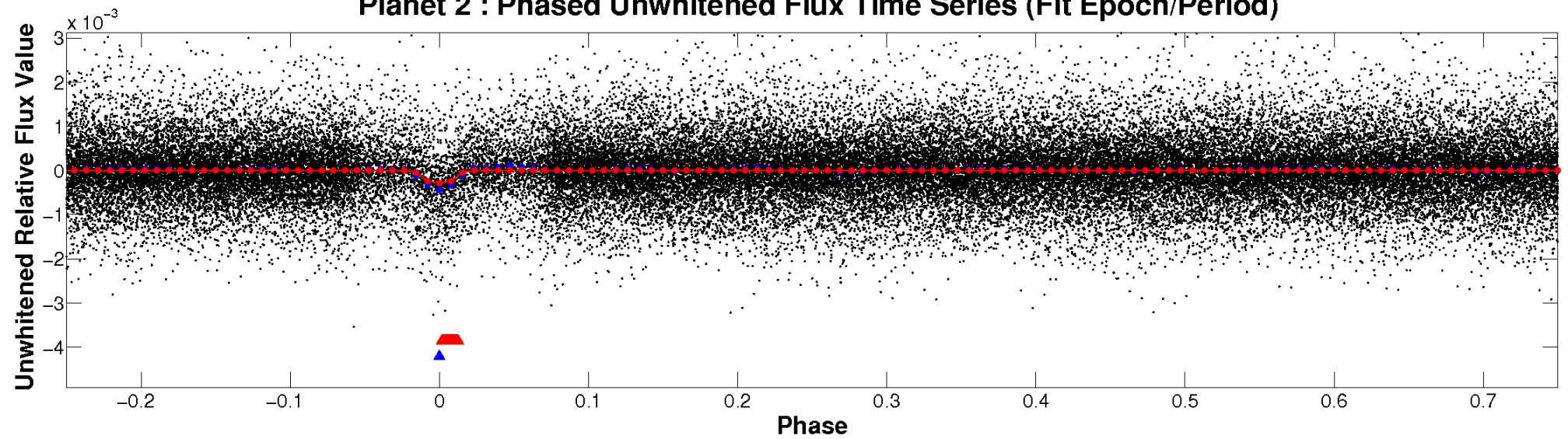
ALT Odd/Even

TCE 011607193-02

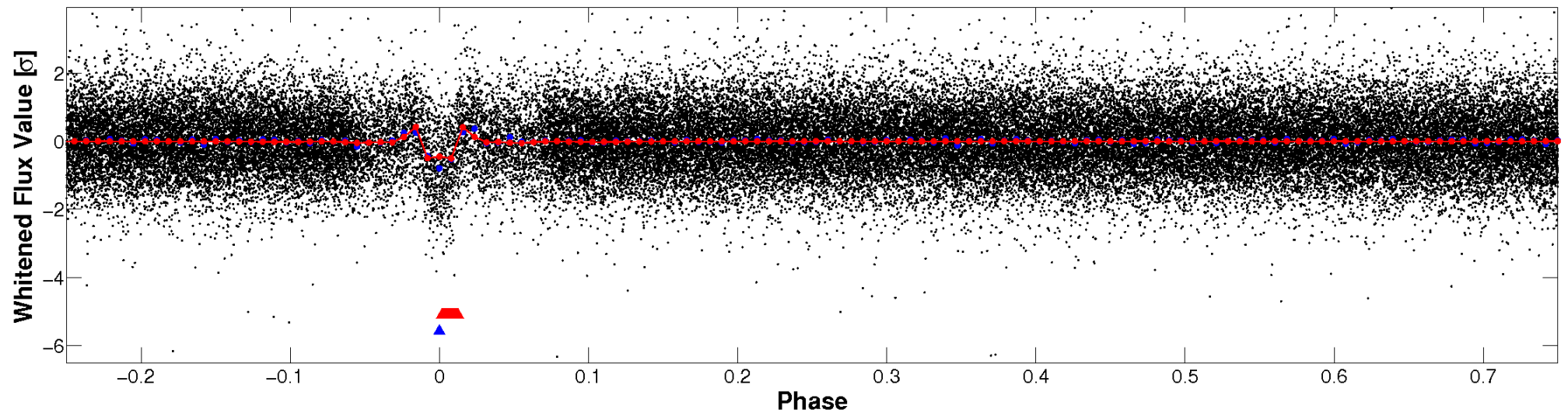


Non-Whitened Vs. Whitened Light Curve

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

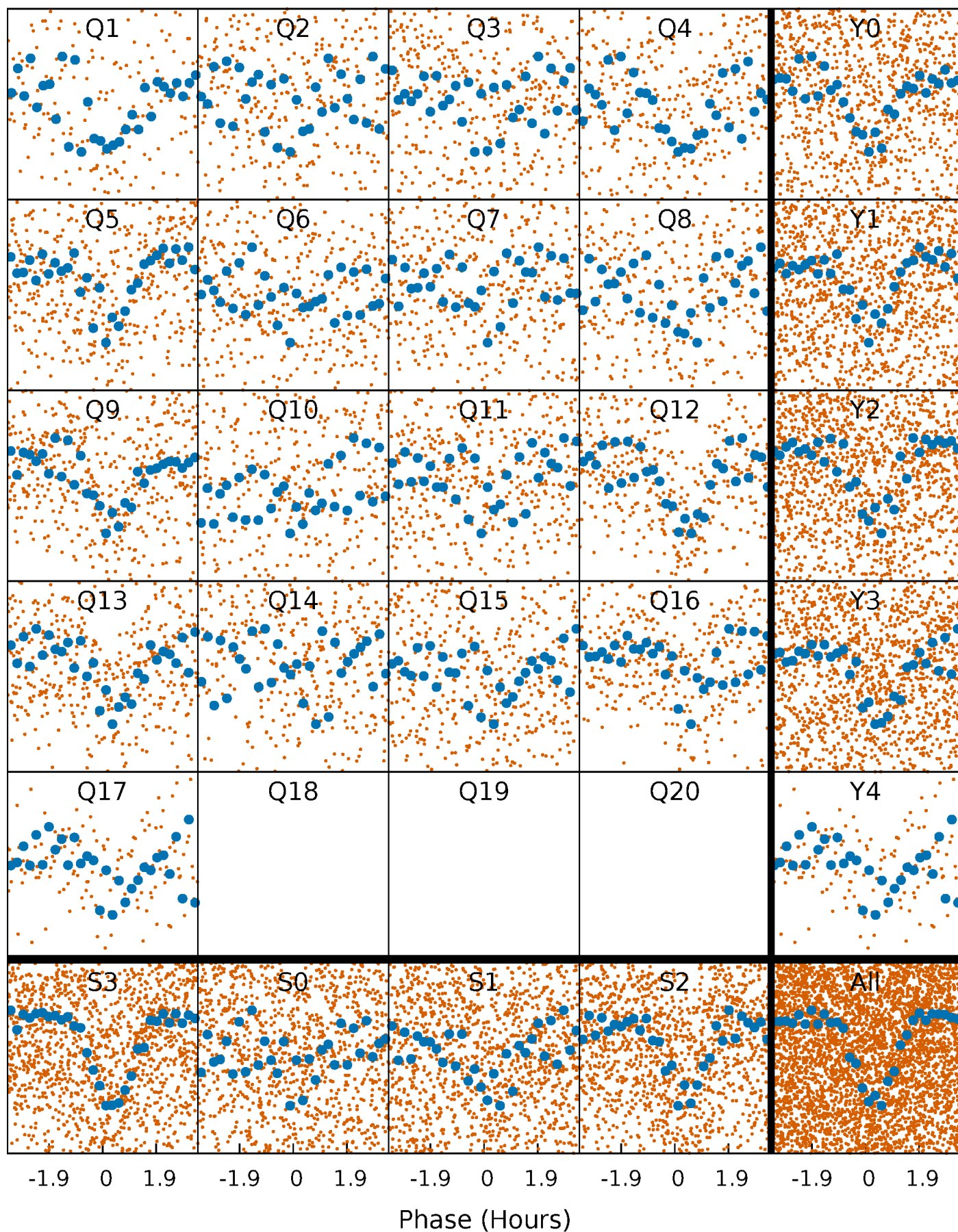


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



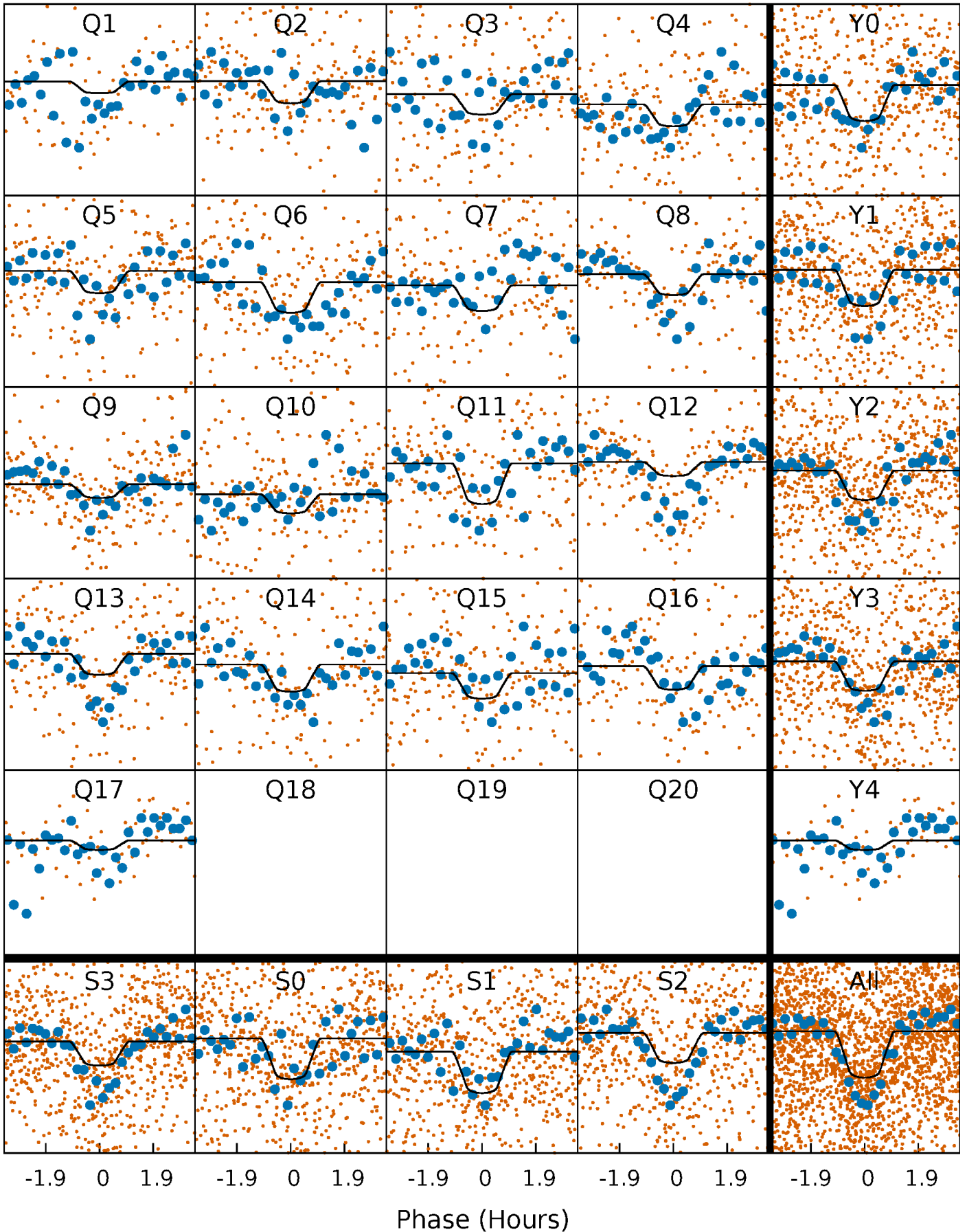
PDC Quarter-Phased Transit Curves

TCE 011607193-02 P= 2.588752 Days $T_0=132.893105$ (BKJD)



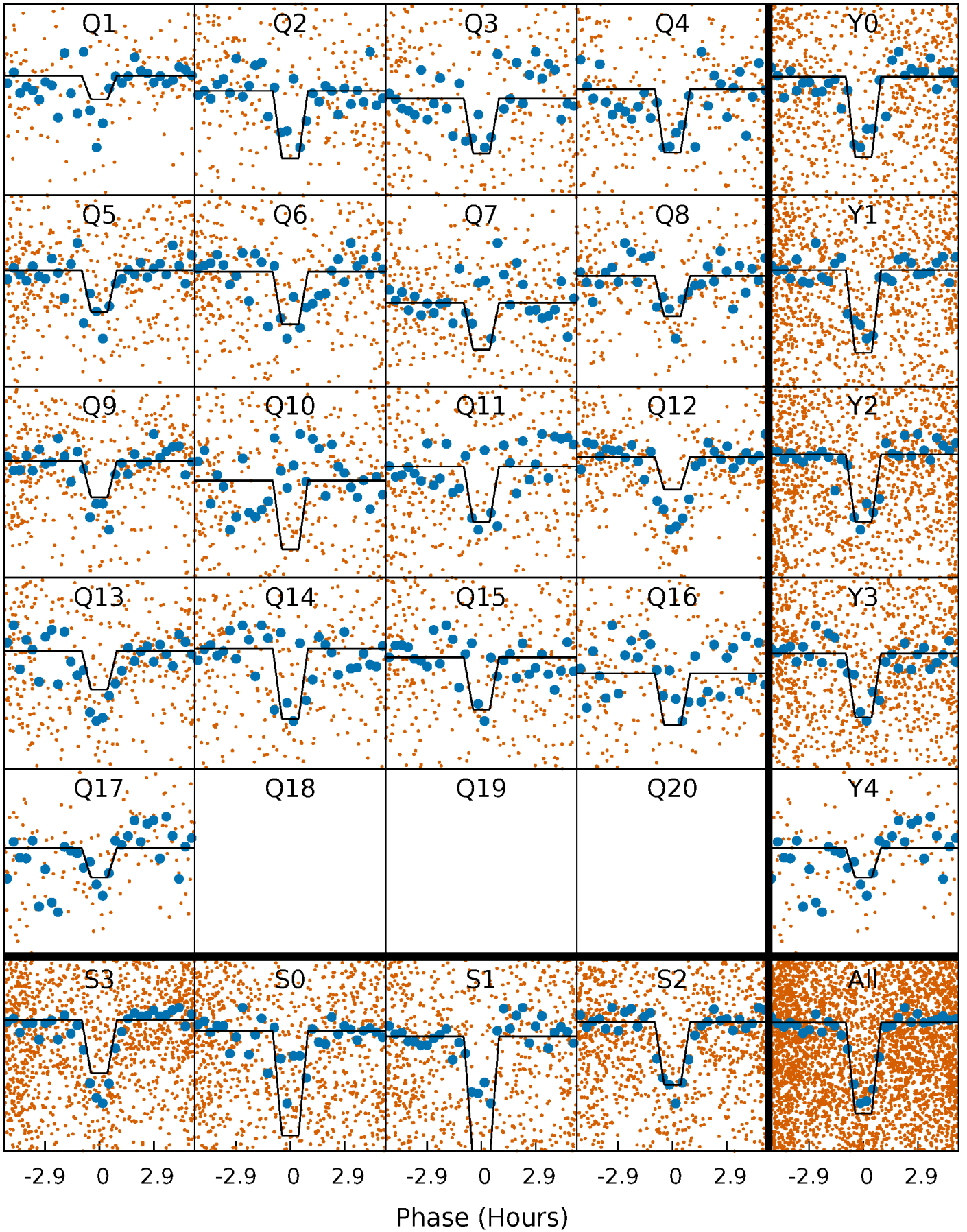
DV Quarter-Phased Transit Curves

TCE 011607193-02 P= 2.588752 Days $T_0=132.893105$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

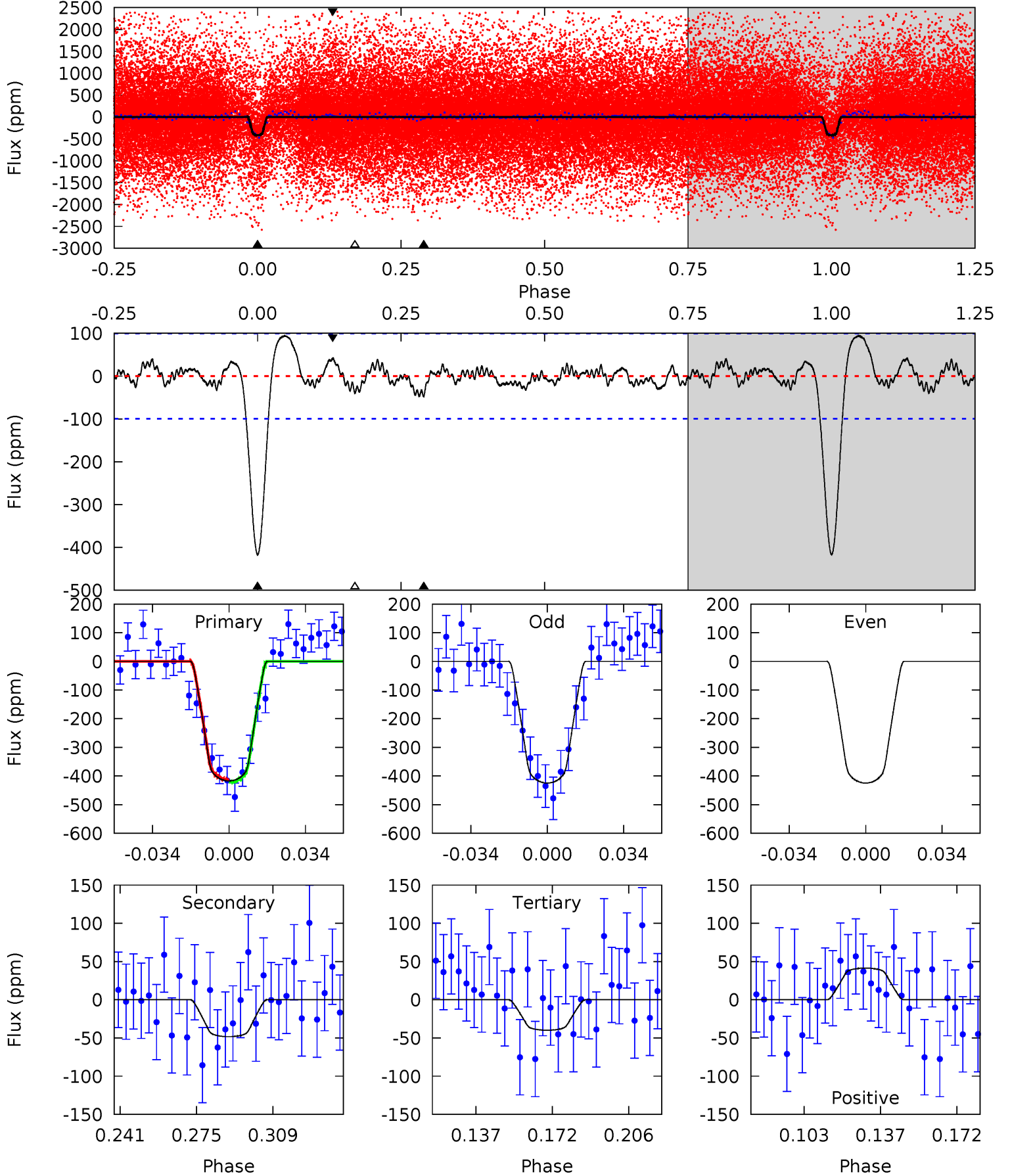
TCE 011607193-02 P= 2.588762 Days $T_0=132.891901$ (BKJD)



DV Model-Shift Uniqueness Test

011607193-02, P = 2.588752 Days, E = 130.304353 Days

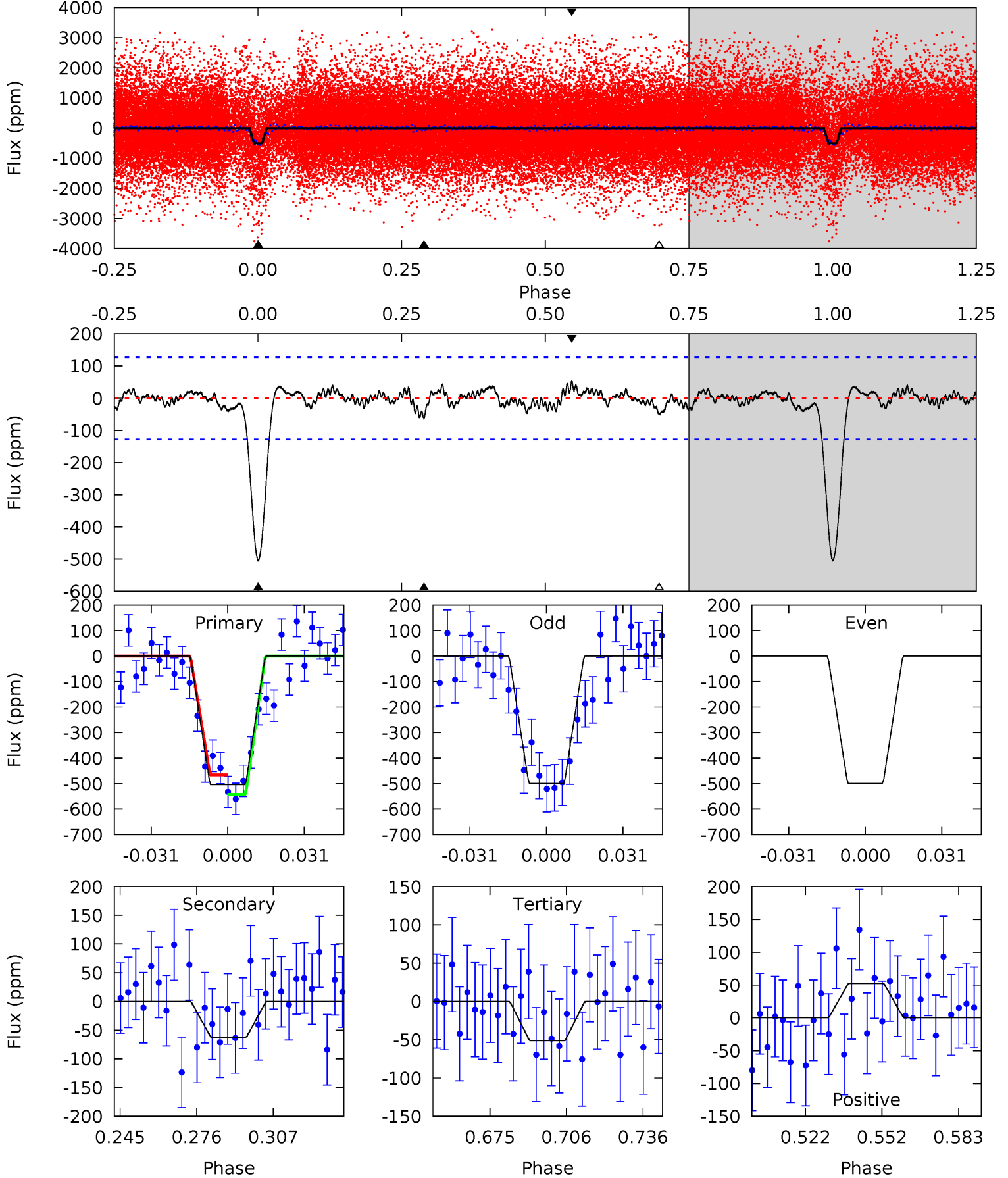
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	2.33	1.92	1.99	4.78	2.12	0.97	18.2	18.1	0.41	0.33	0	1.15	0.18	0.19



Alt Model-Shift Uniqueness Test

011607193-02, P = 2.588762 Days, E = 130.303139 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	2.35	1.92	1.97	4.81	2.16	0.71	17.0	17.0	0.42	0.37	0	0.95	0.09	1.45



Stellar Parameters For KIC 011607193

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7429^{+206}_{-335}	$4.143^{+0.105}_{-0.195}$	$0.080^{+0.200}_{-0.350}$	$1.796^{+0.545}_{-0.336}$	$1.634^{+0.193}_{-0.235}$	$0.397^{+0.223}_{-0.192}$
	+3%/-5%	+3%/-5%	+250%/-438%	+30%/-19%	+12%/-14%	+56%/-48%
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 011607193-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-48 ± 21	$3.65^{+0.71}_{-0.55}$	2974^{+238}_{-190}	4568^{+479}_{-577}	$3.581^{+2.381}_{-1.885}$
Alt.	-62 ± 27	$4.88^{+0.86}_{-0.66}$	2973^{+223}_{-186}	4230^{+420}_{-527}	$2.530^{+1.662}_{-1.212}$

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

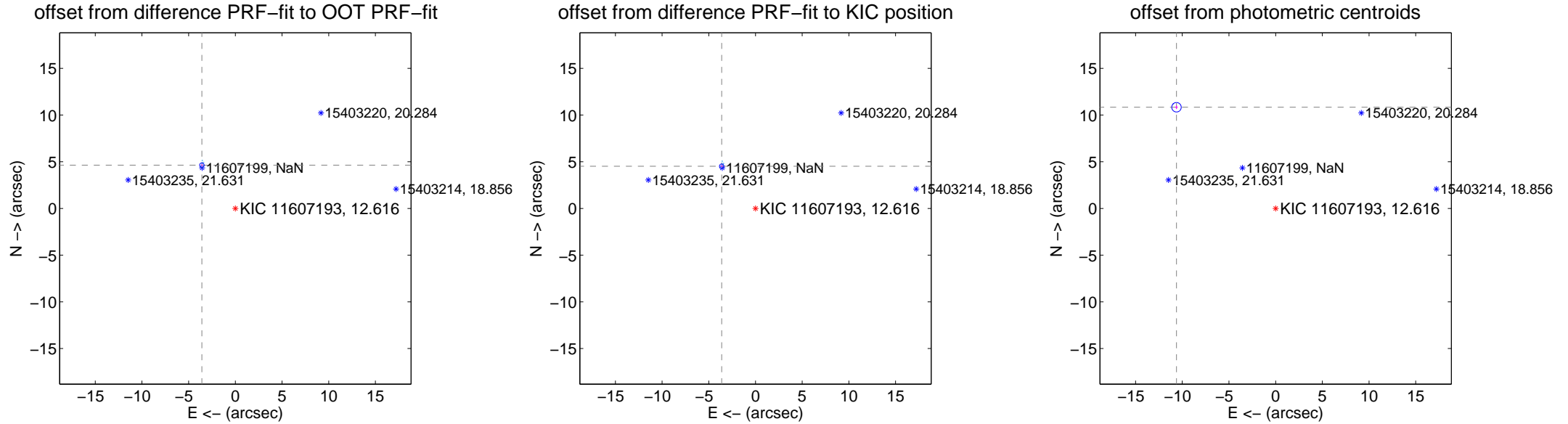
DV Centroid Data

Supplemental centroid analysis for 011607193-02. Kepler magnitude: 12.62. Transit SNR 17.47

There are 17 quarters with good PRF difference image offsets

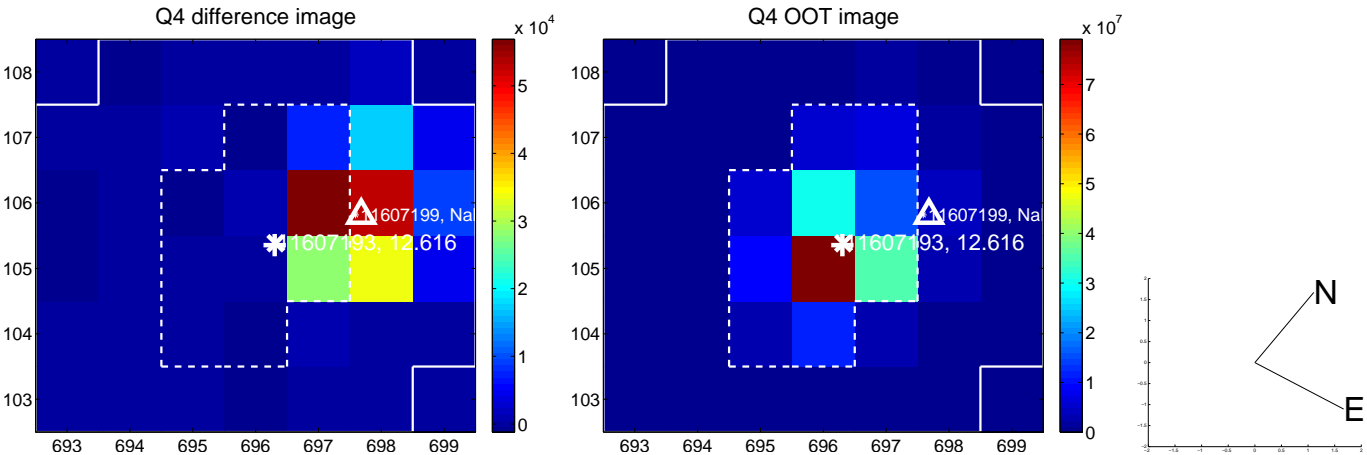
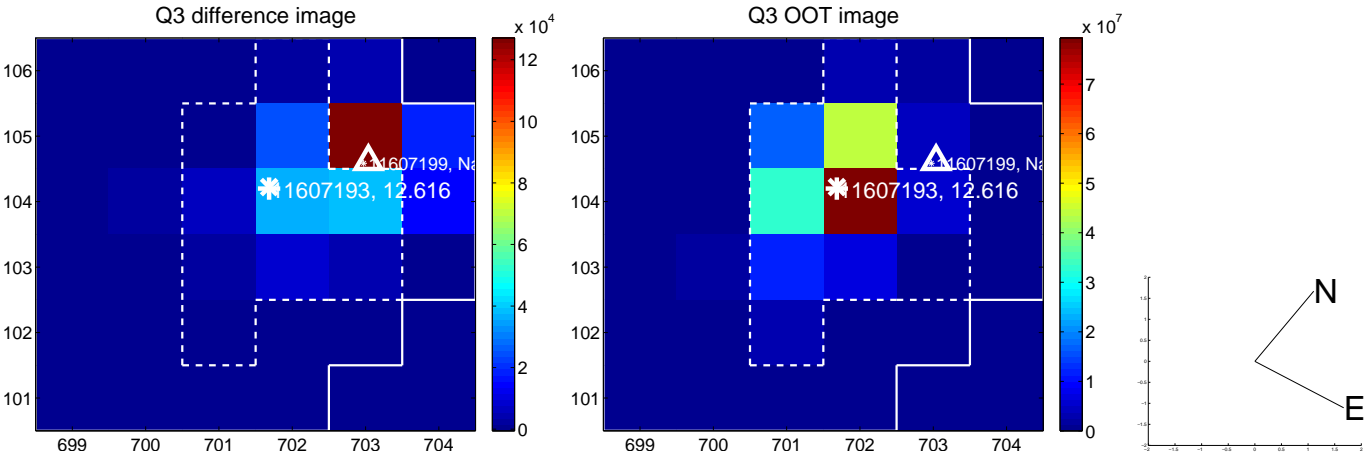
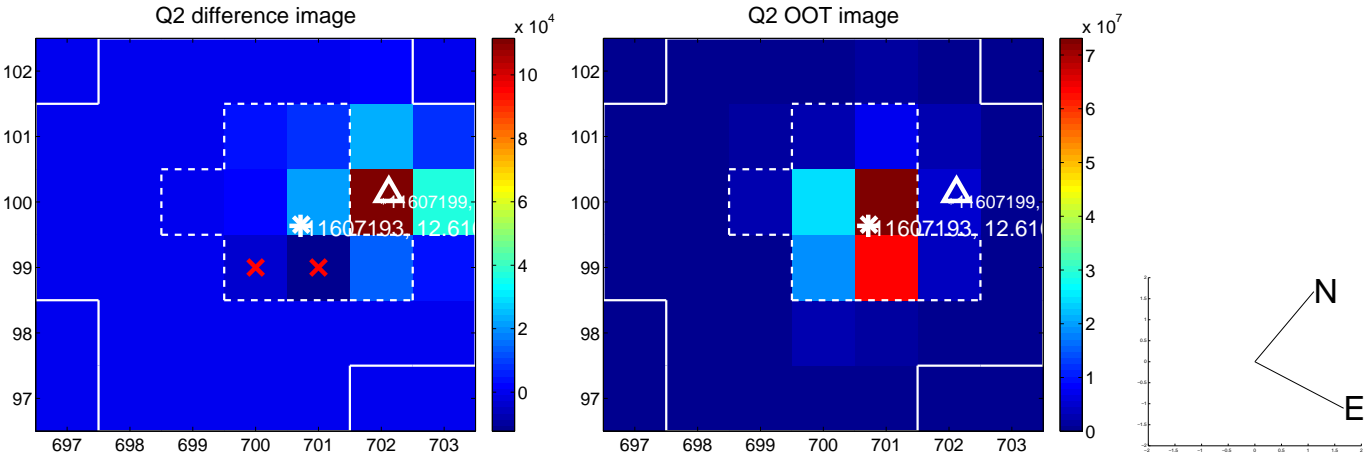
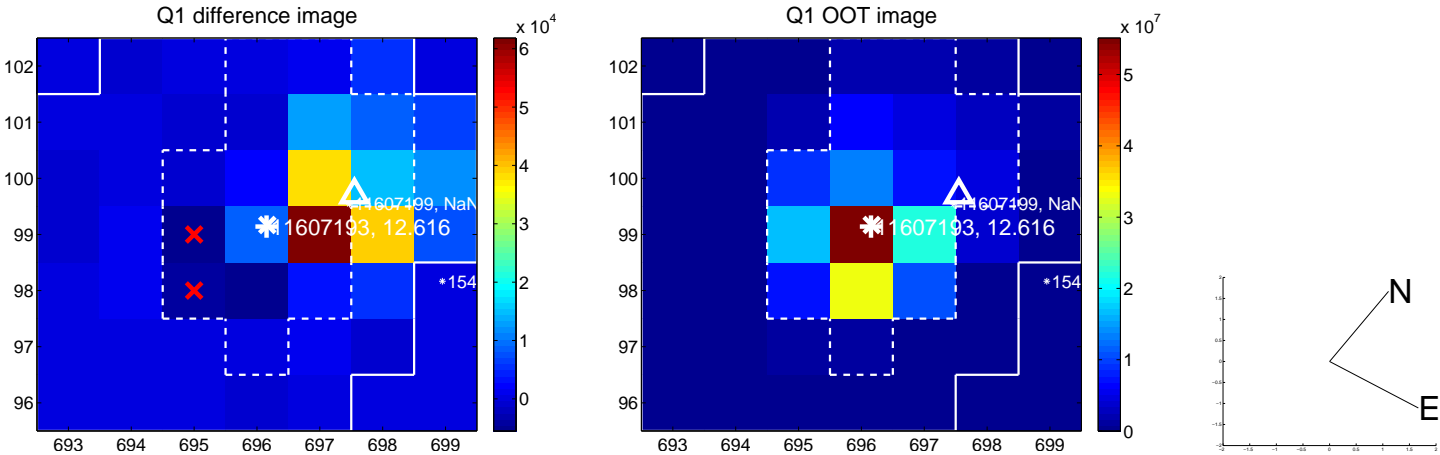
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.858 ± 0.081	72.67	3.584 ± 0.071	4.633 ± 0.086
PRF-fit source offset from KIC position	5.790 ± 0.080	72.41	3.620 ± 0.071	4.519 ± 0.085
photometric centroid source offset	15.17 ± 0.17	89.79	10.62 ± 0.15	10.83 ± 0.19

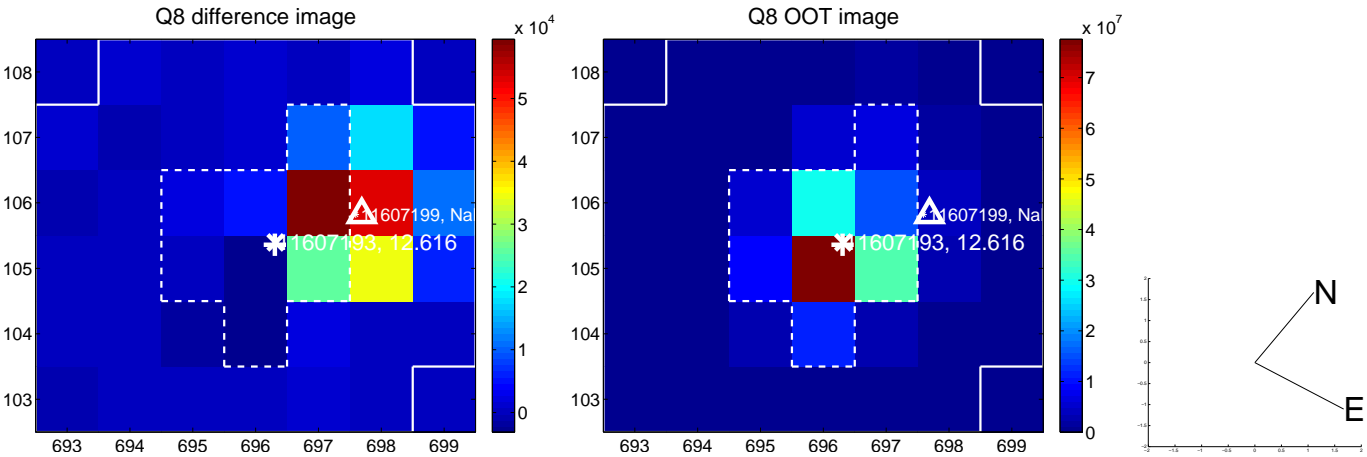
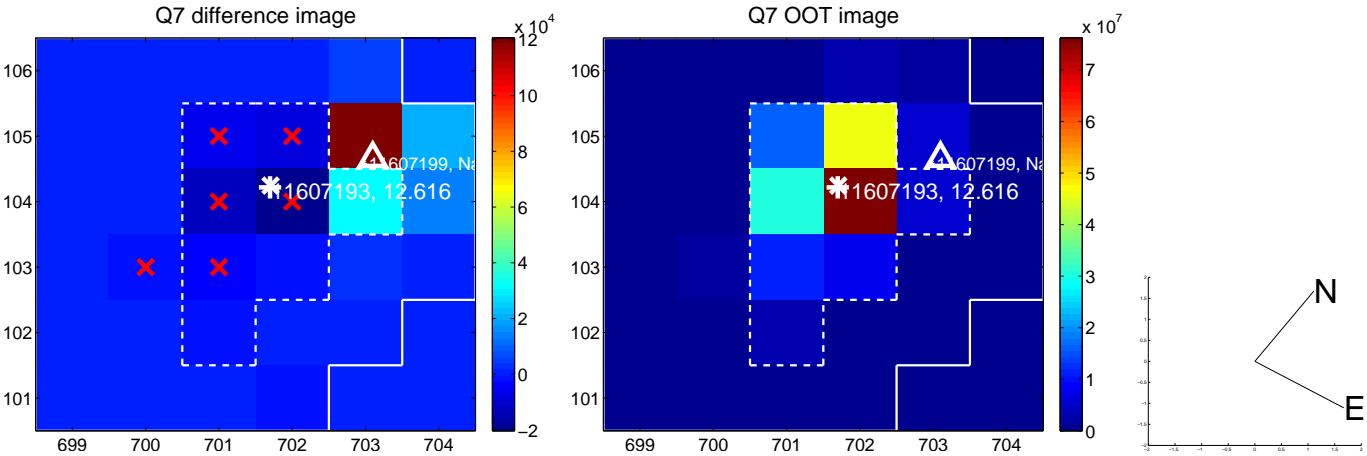
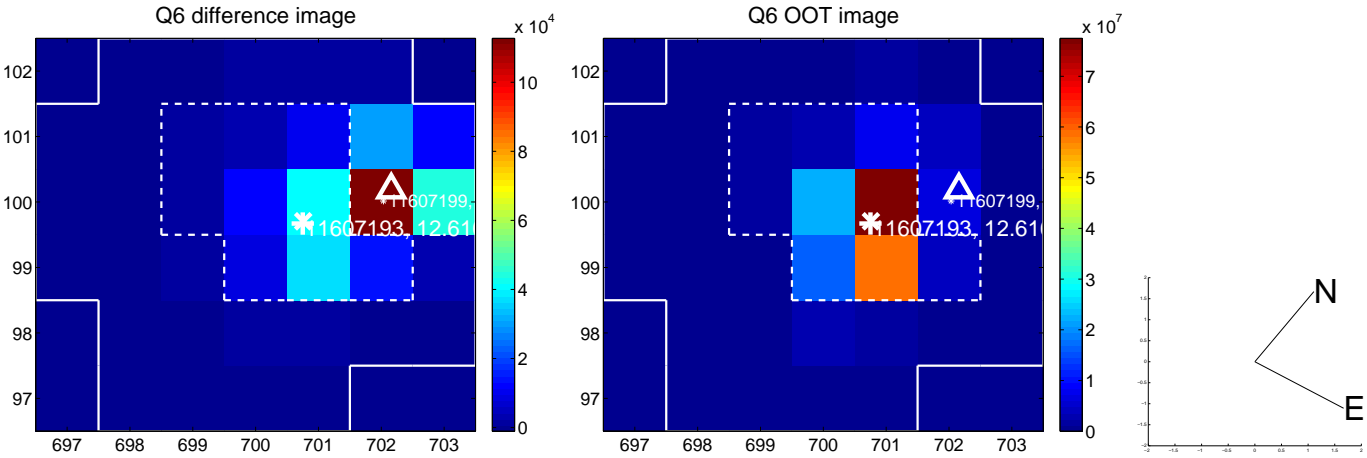
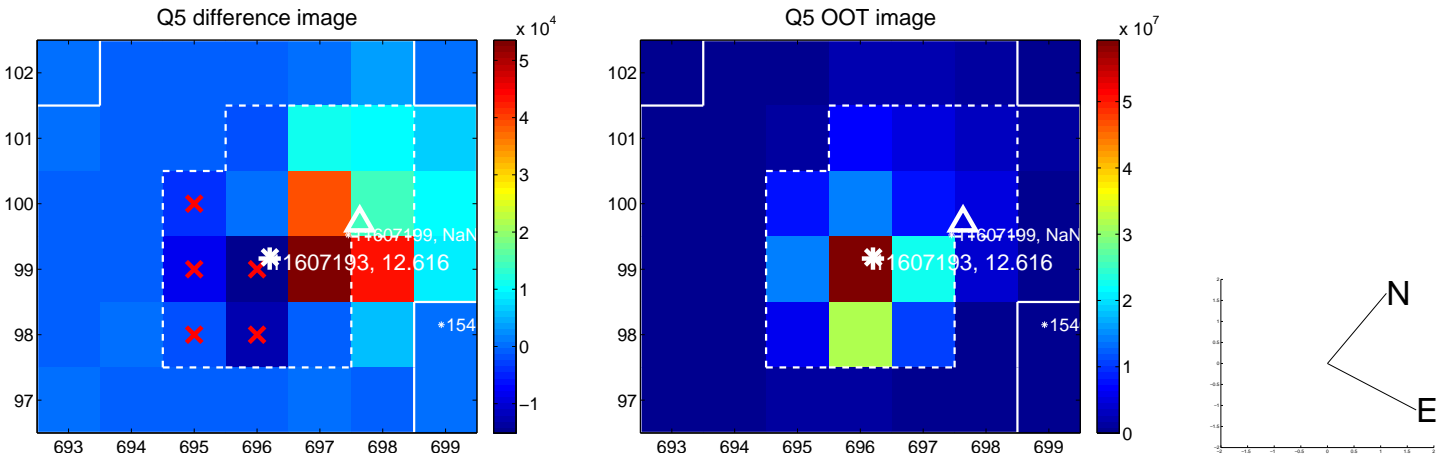


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

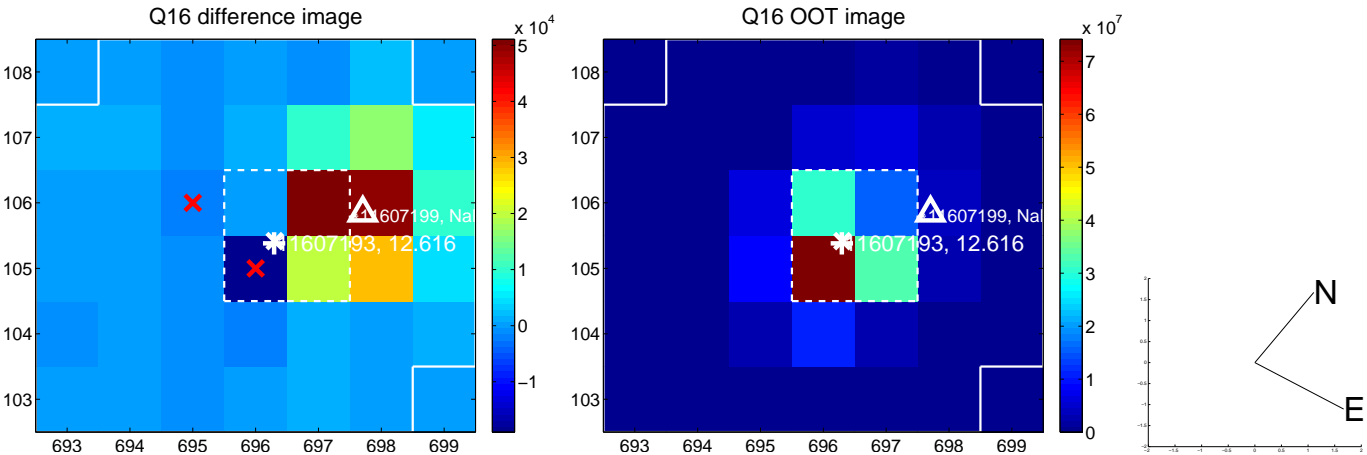
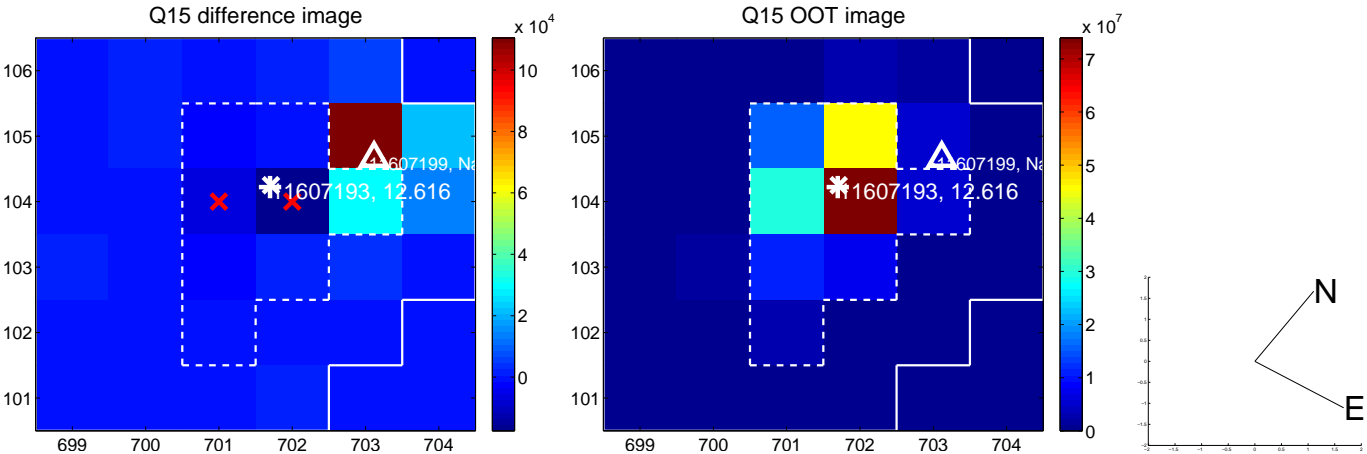
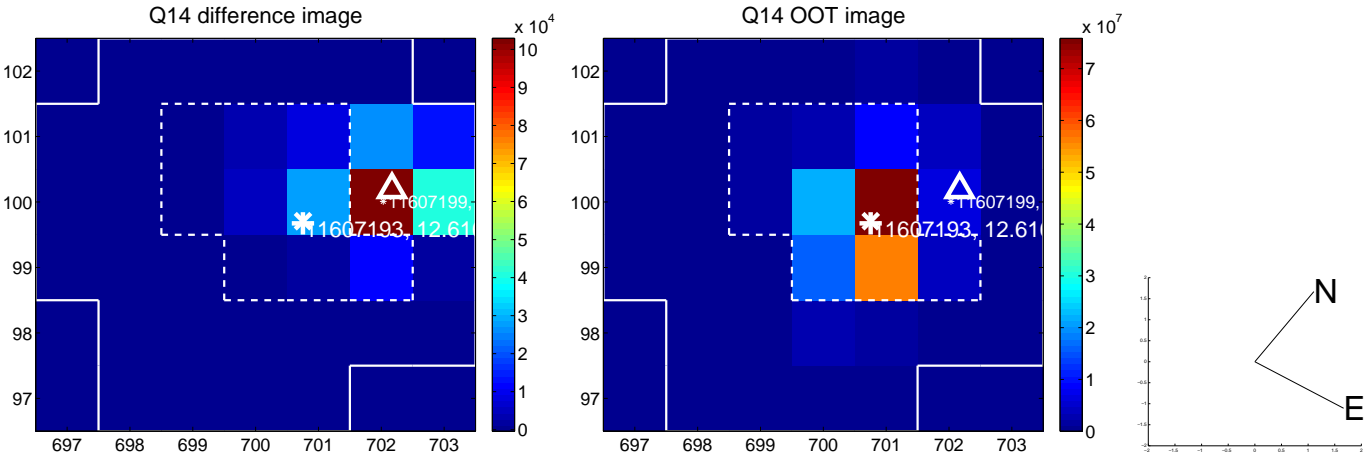
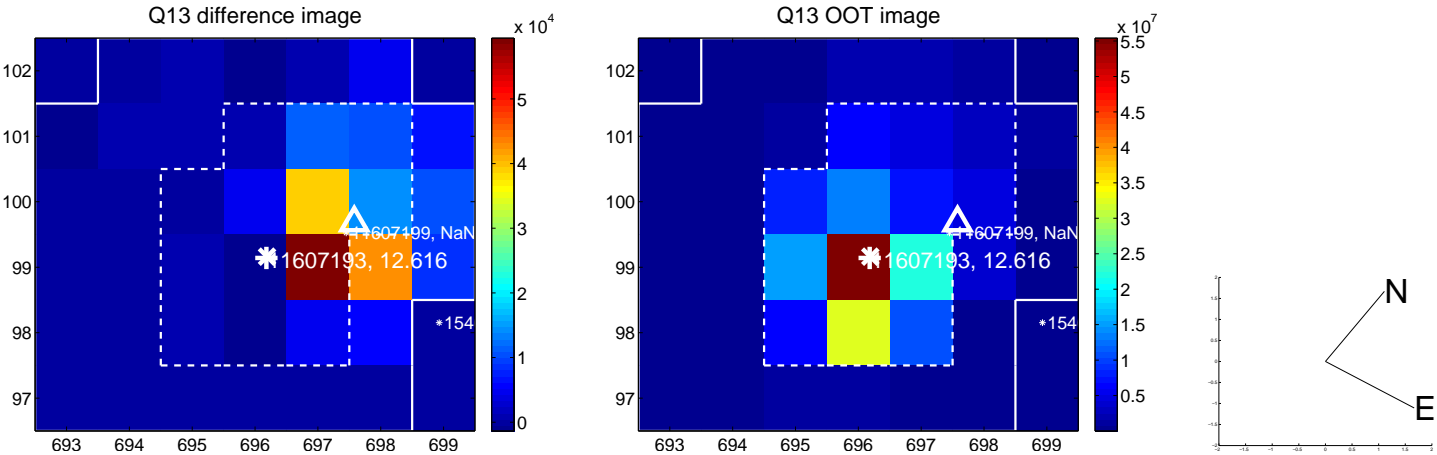
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



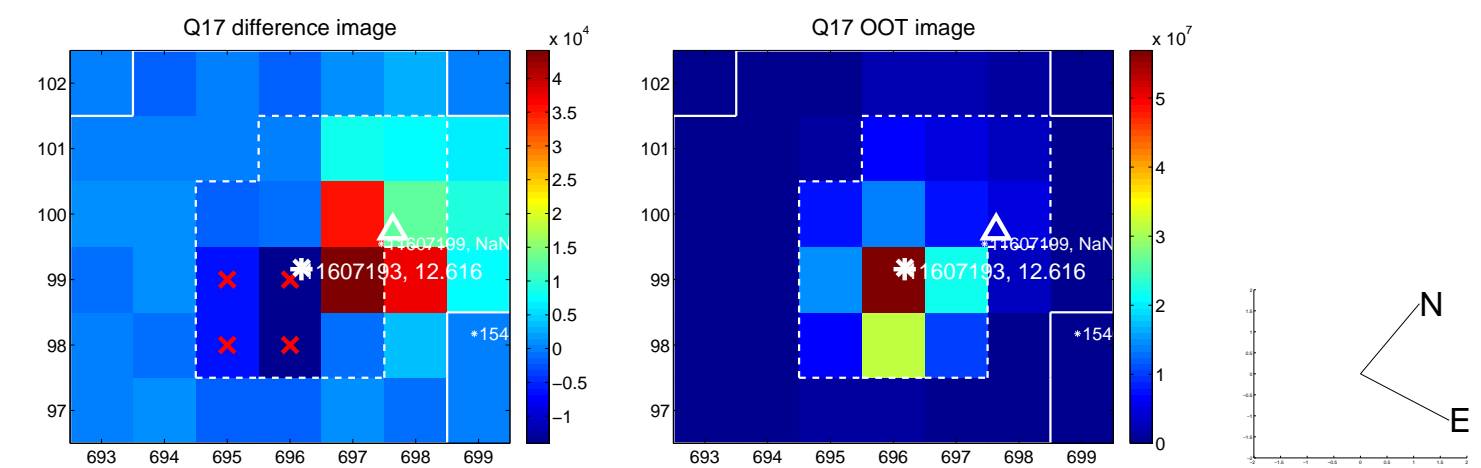
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



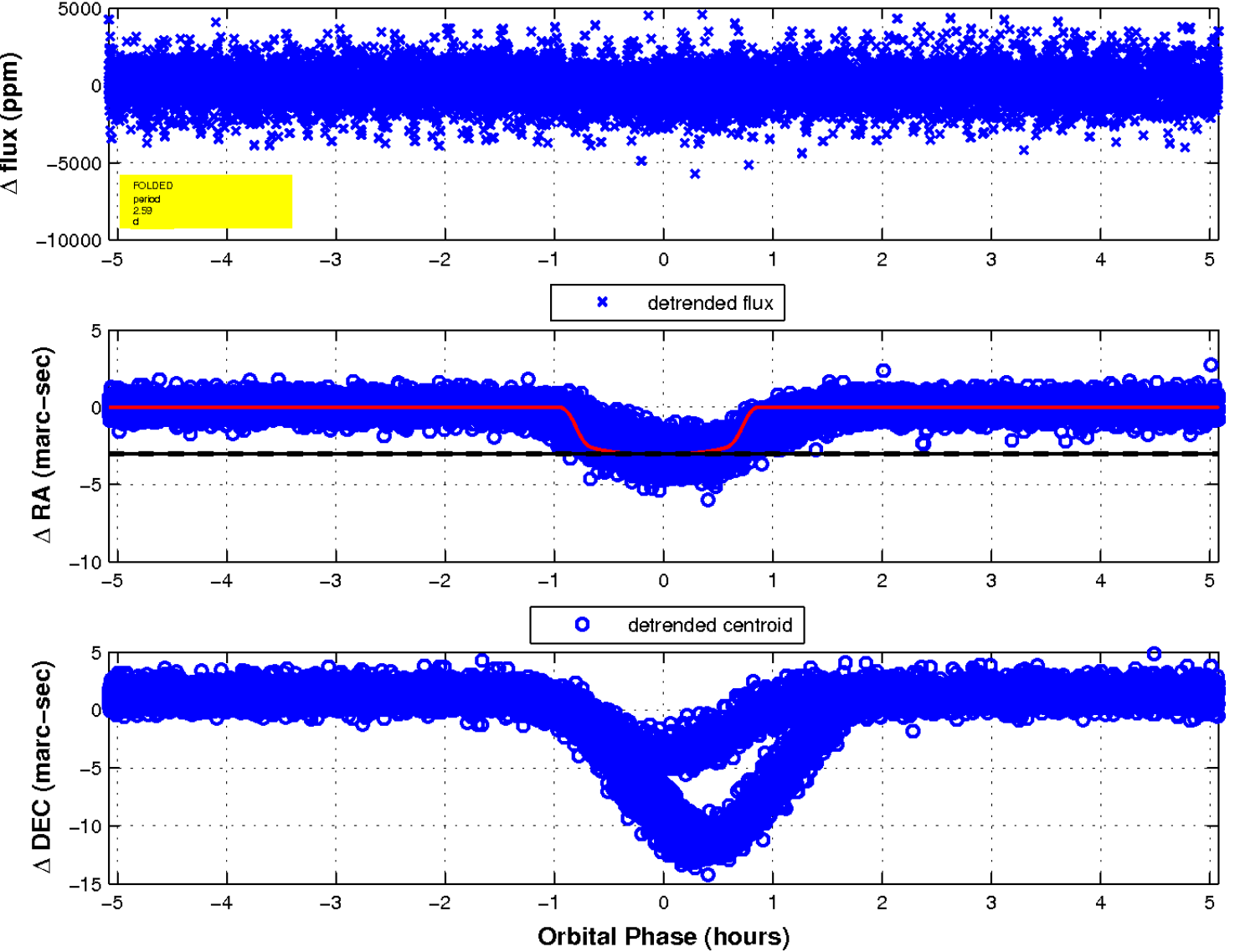
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

