

KIC 011617030

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})
011617030-01	OBS	No	396.573159	133.865977	26.8	6.694	12.5	0.3	2.29	7401	1.24	9.95
011617030-02	OBS	No	527.737794	500.126644	0.5	20.659	10.8	0.0	2.29	7401	0.18	6.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011617030-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011617030-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

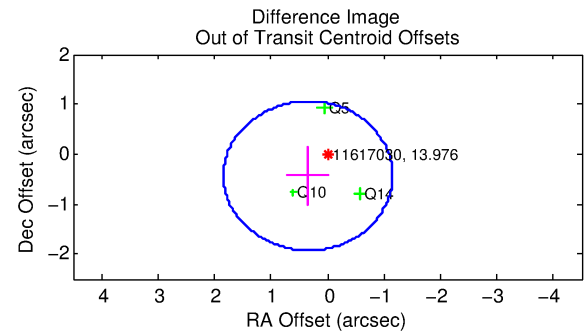
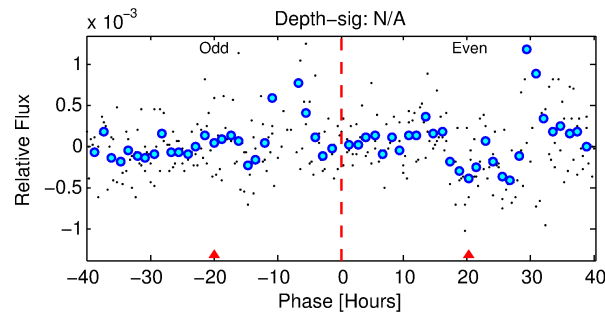
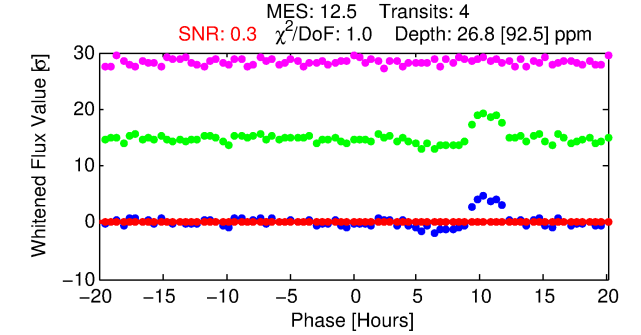
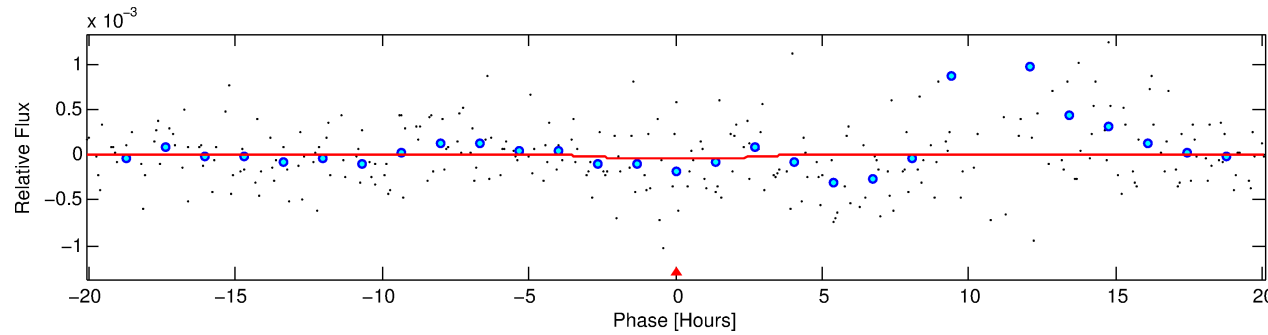
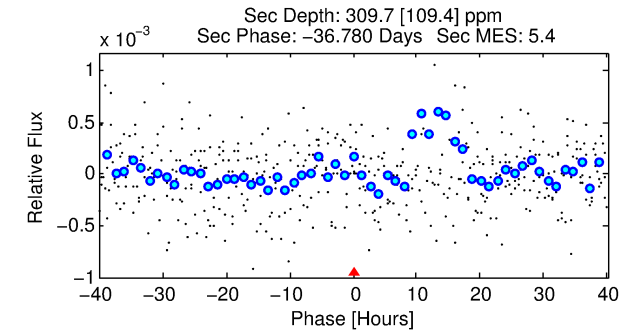
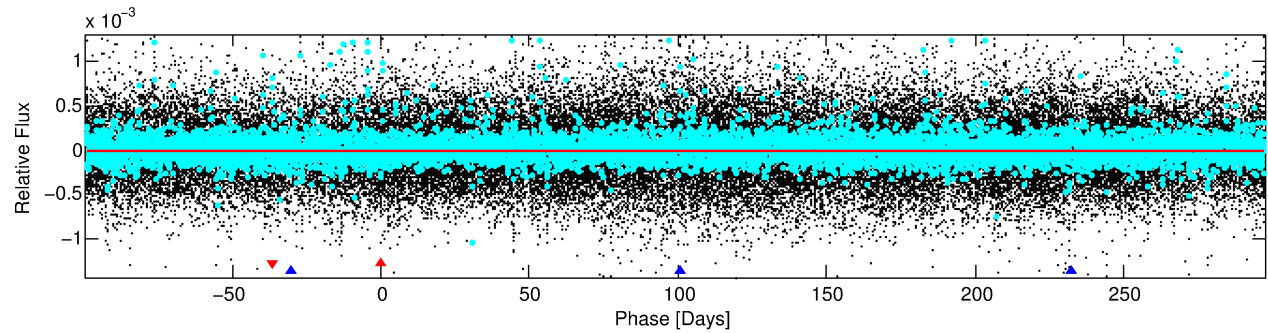
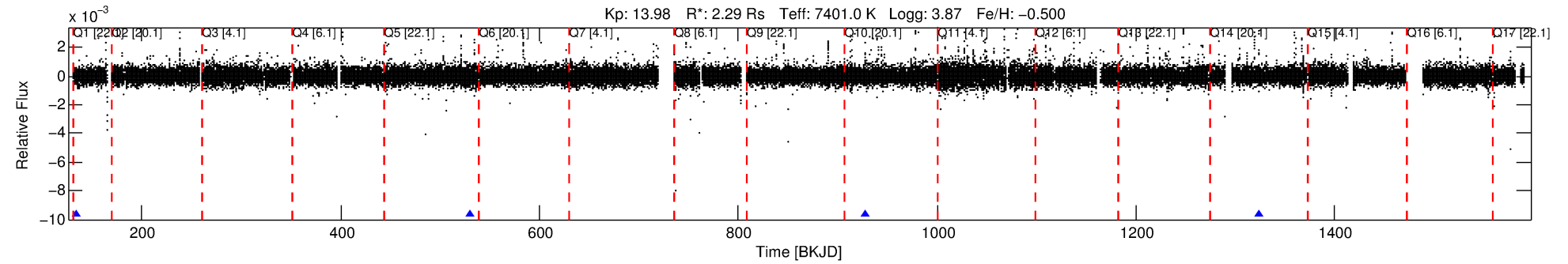
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011617030-01

No Significant Match Found

DV One-Page Summary

KIC: 11617030 Candidate: 1 of 2 Period: 396.573 d



DV Fit Results:

Period = 396.57316 [0.14829] d
Epoch = 133.8660 [0.2529] BKJD
Rp/R* = 0.0050 [0.0418]
a/R* = 383.53 [20142.63]
b = 0.54 [68.90]
Seff = 9.95 [6.88]
Teq = 453 [78] K
Rp = 1.24 [10.47] Re
a = 1.1917 [0.4869] AU
Ag = 157386.51 [2656625.82] [0.06σ]
Teffp = 13947 [58812] K [0.23σ]

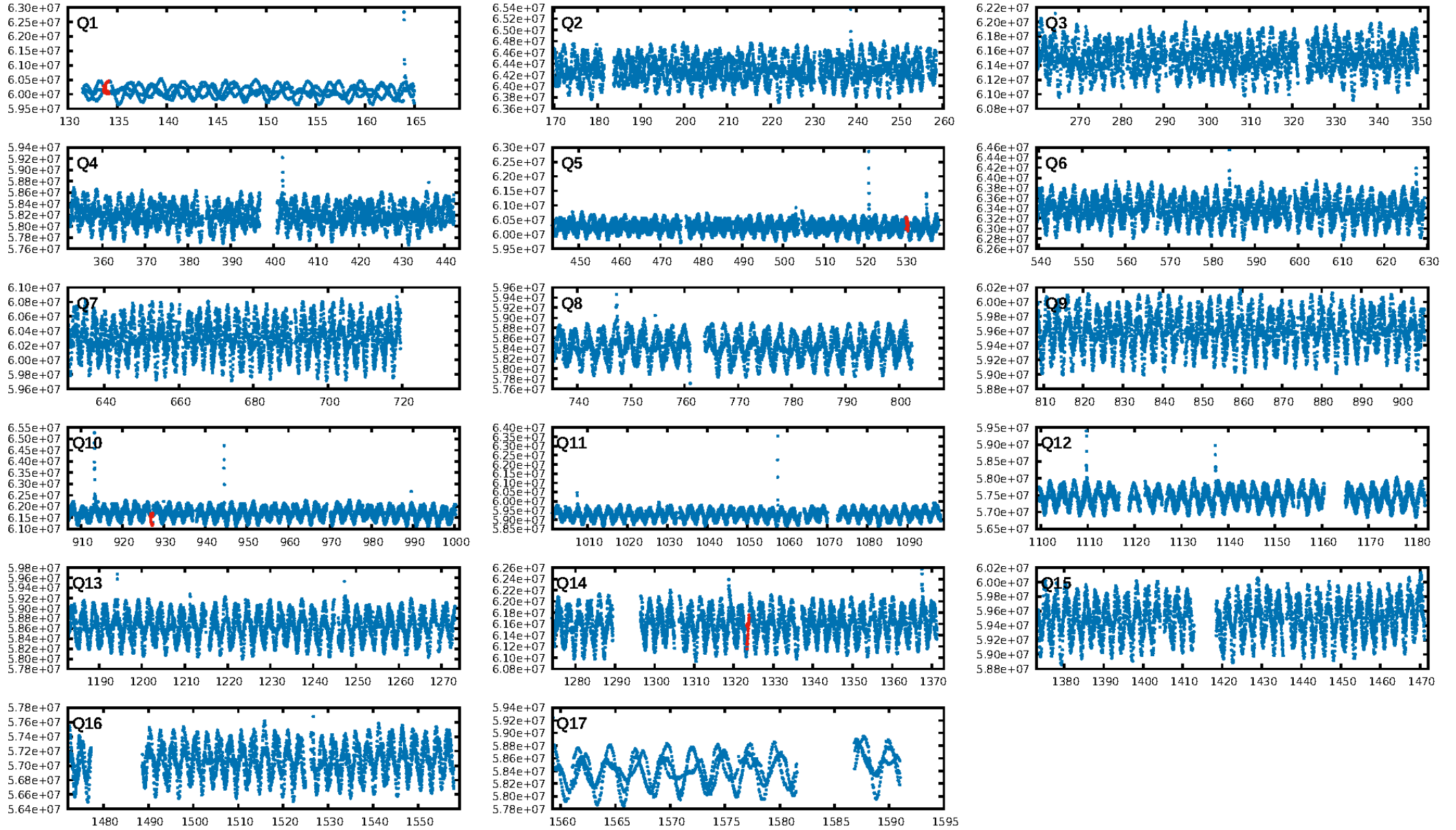
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [144.96σ]
ModelChiSquare2-sig: 13.5%
ModelChiSquareGof-sig: 91.3%
Bootstrap-pfa: 1.19e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.7291
Centroid-sig: 3.4%
Centroid-so: 29.920 arcsec [1.66σ]
OotOffset-rm: 0.554 arcsec [1.11σ]
KicOffset-rm: 0.576 arcsec [1.22σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

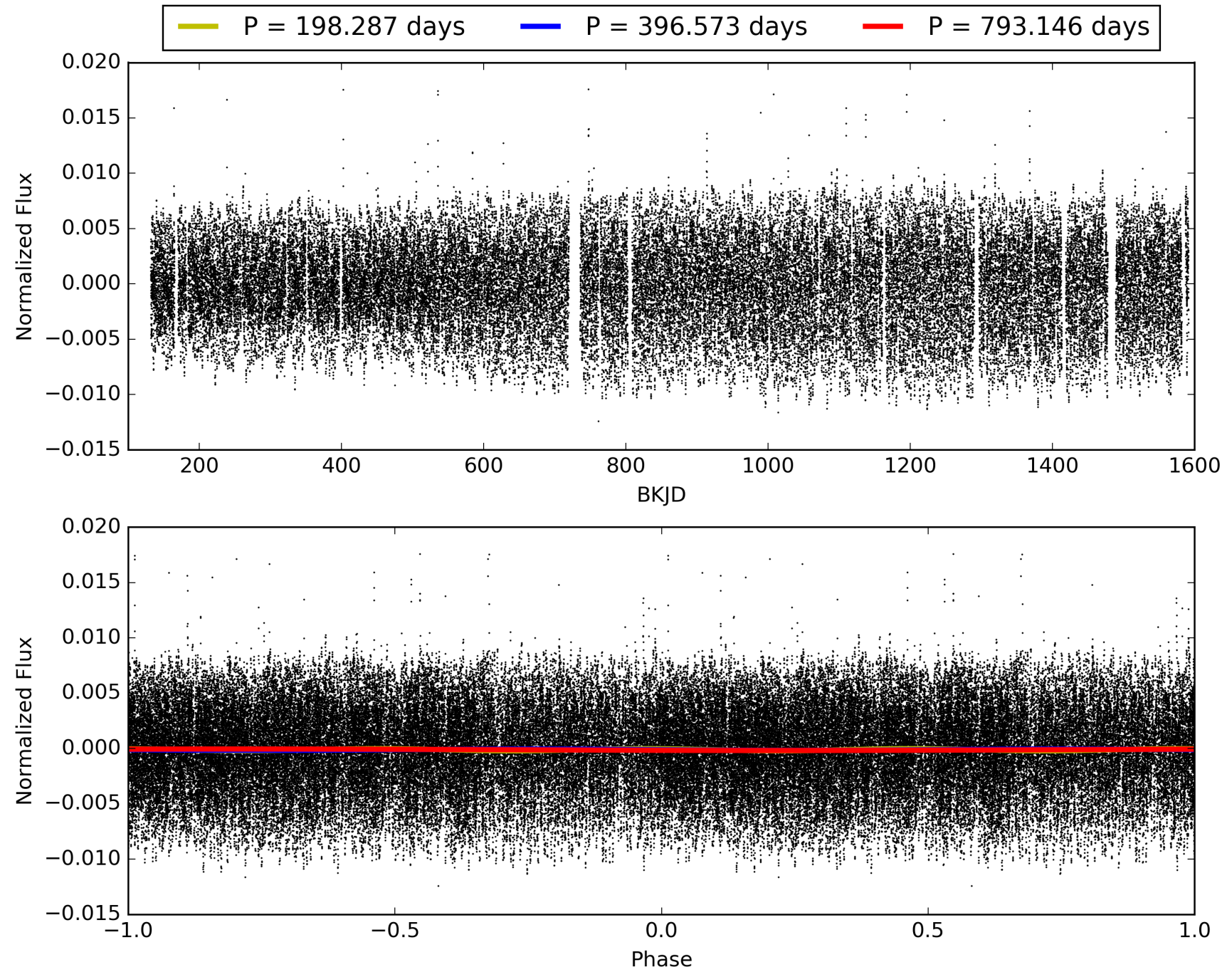
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:42:27 Z

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

TCE 011617030-01, PDC Light Curves

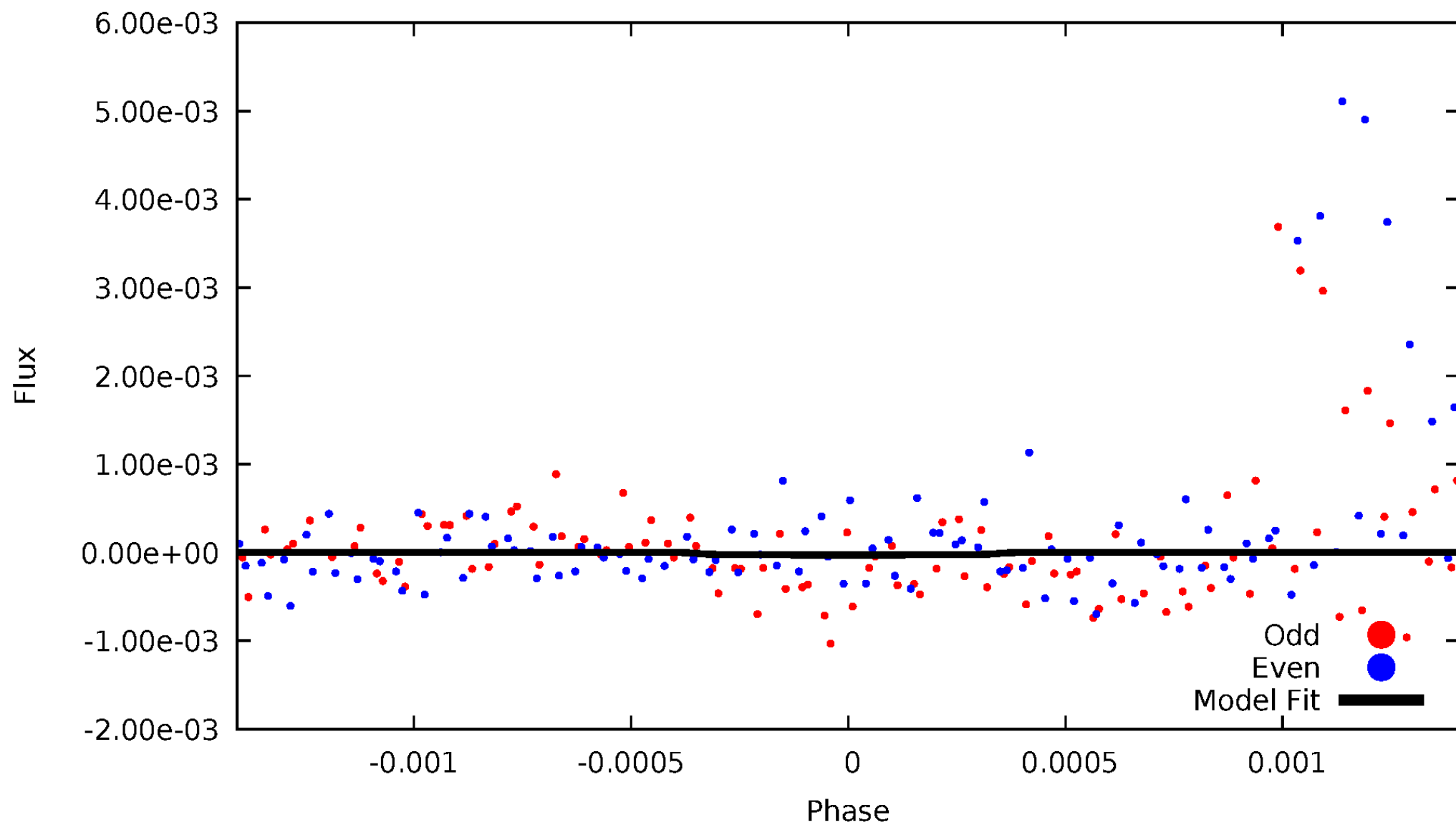


TCE 011617030-01



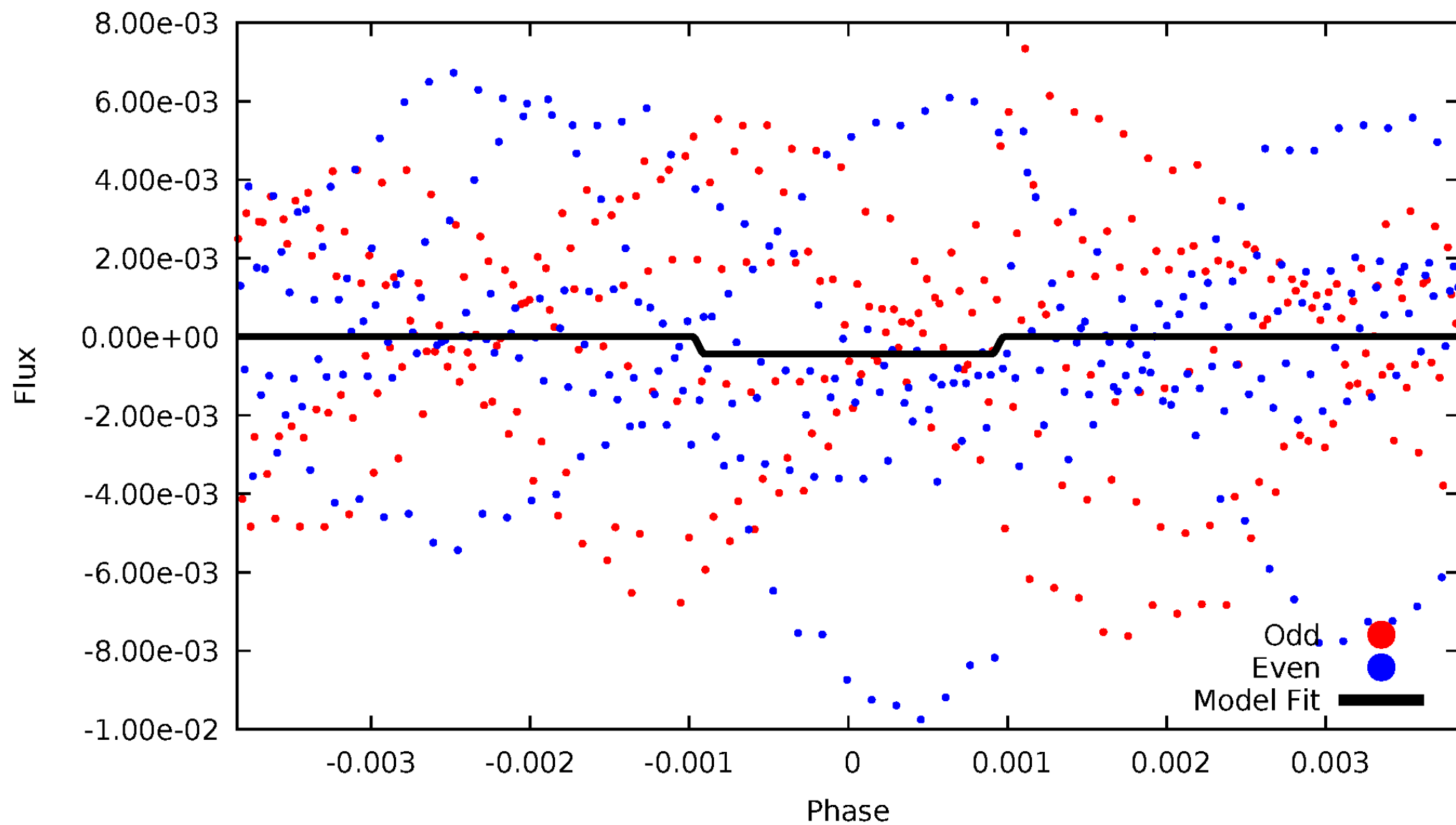
DV Odd/Even

TCE 011617030-01



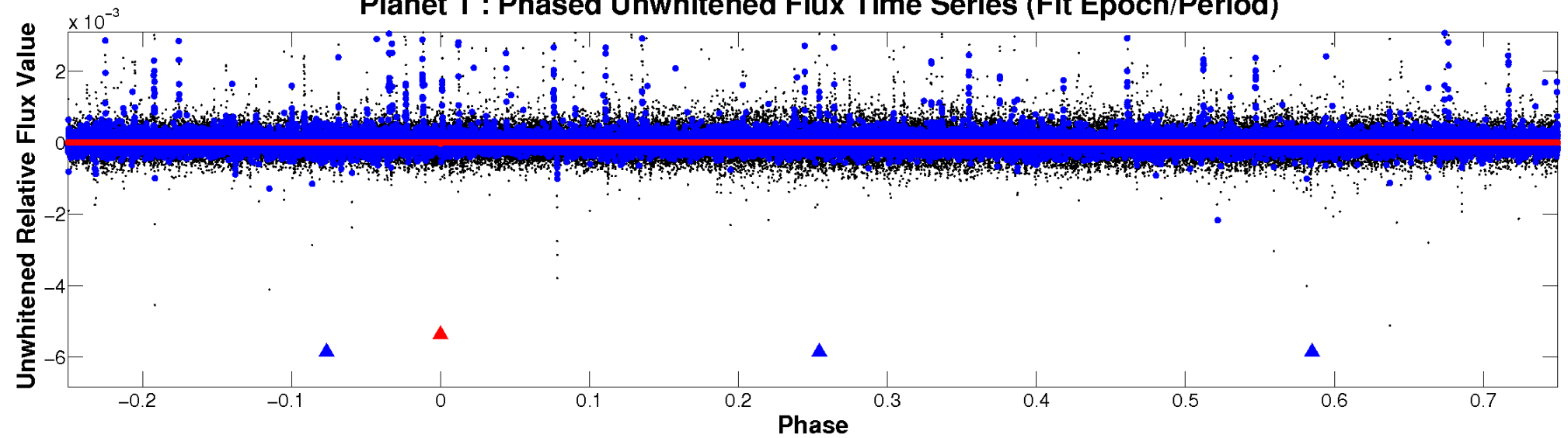
ALT Odd/Even

TCE 011617030-01

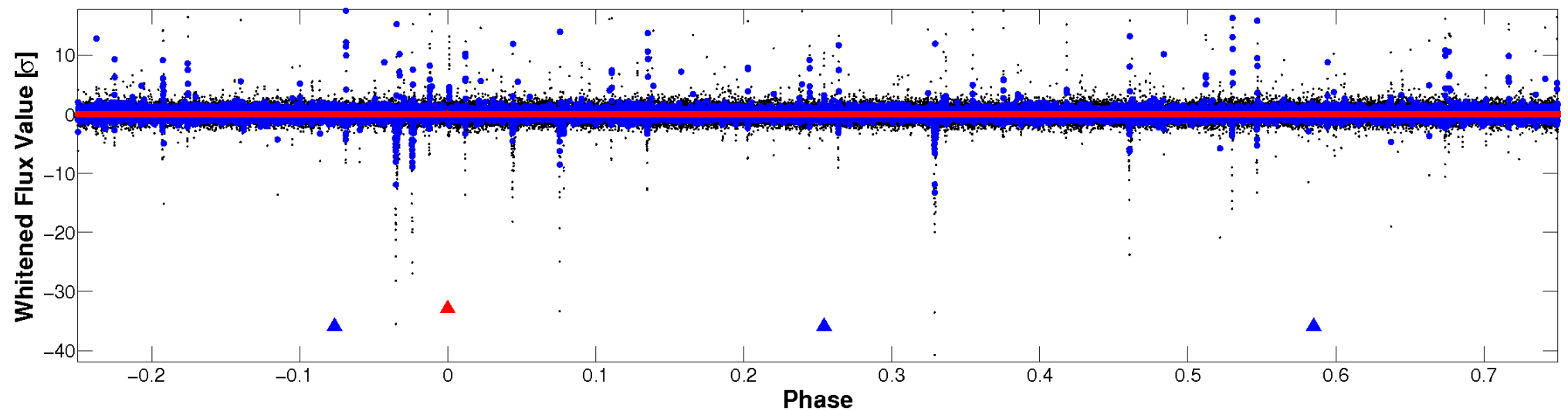


Non-Whitened Vs. Whitened Light Curve

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

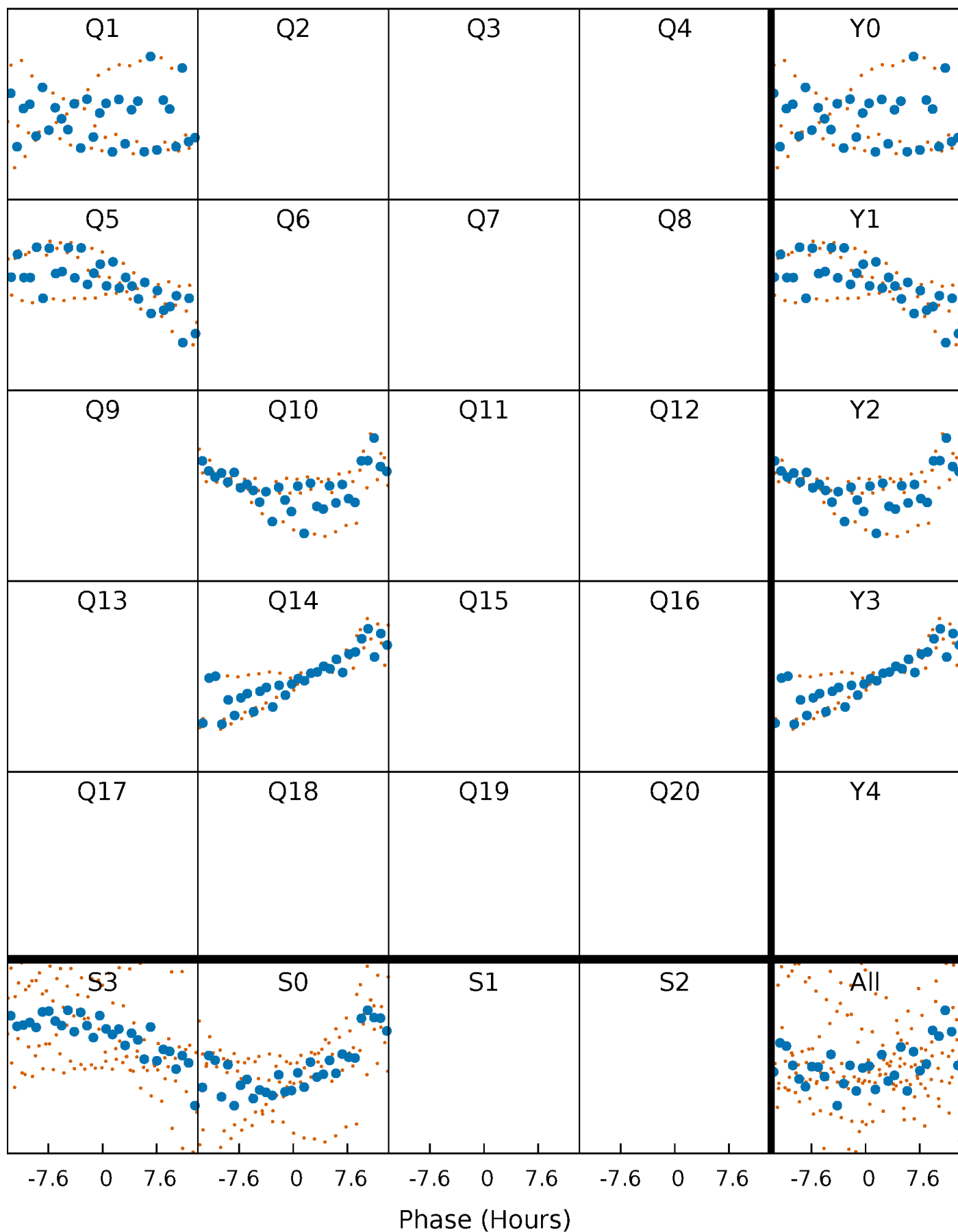


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



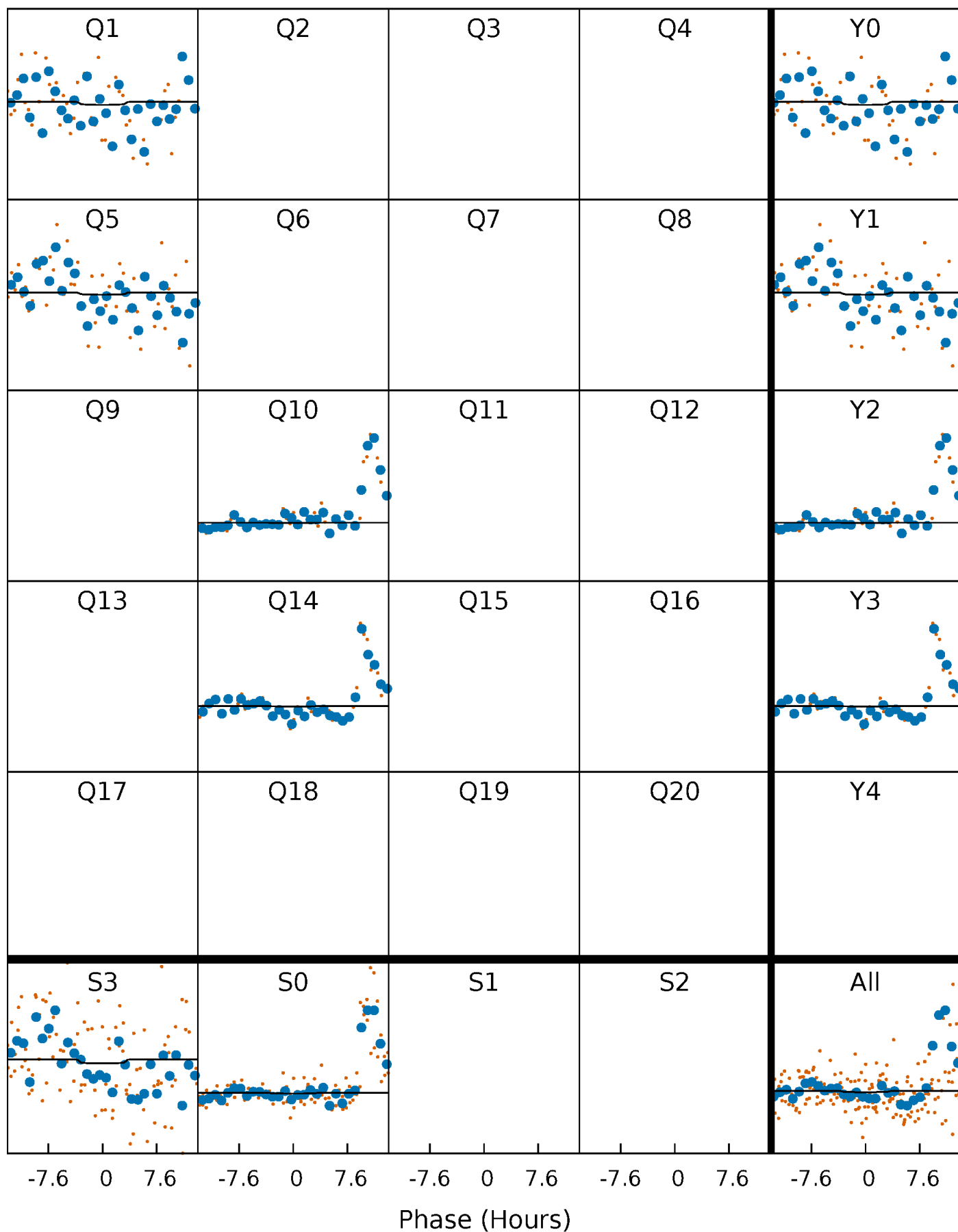
PDC Quarter-Phased Transit Curves

TCE 011617030-01 P=396.573159 Days $T_0=133.865977$ (BKJD)



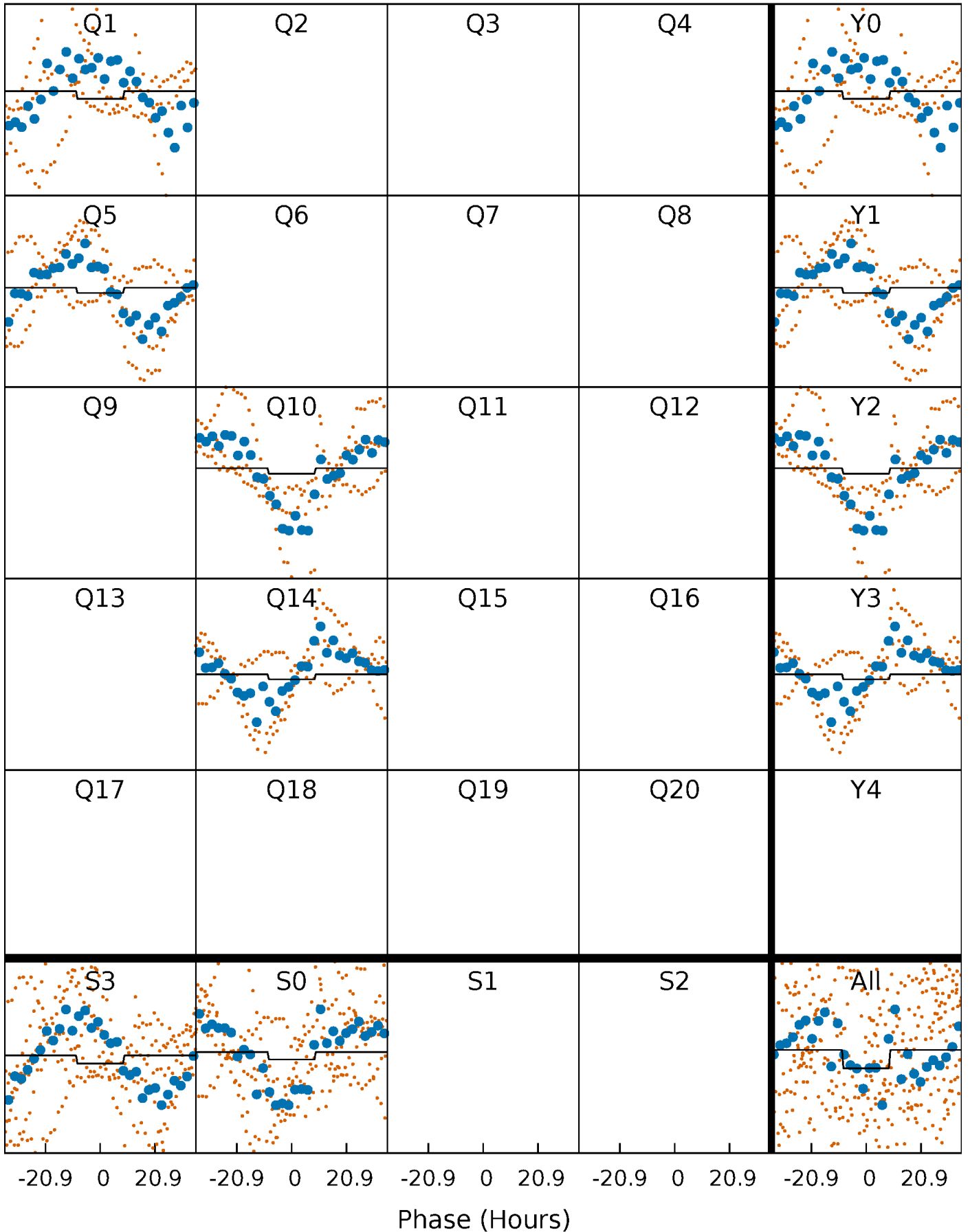
DV Quarter-Phased Transit Curves

TCE 011617030-01 P=396.573159 Days $T_0=133.865977$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

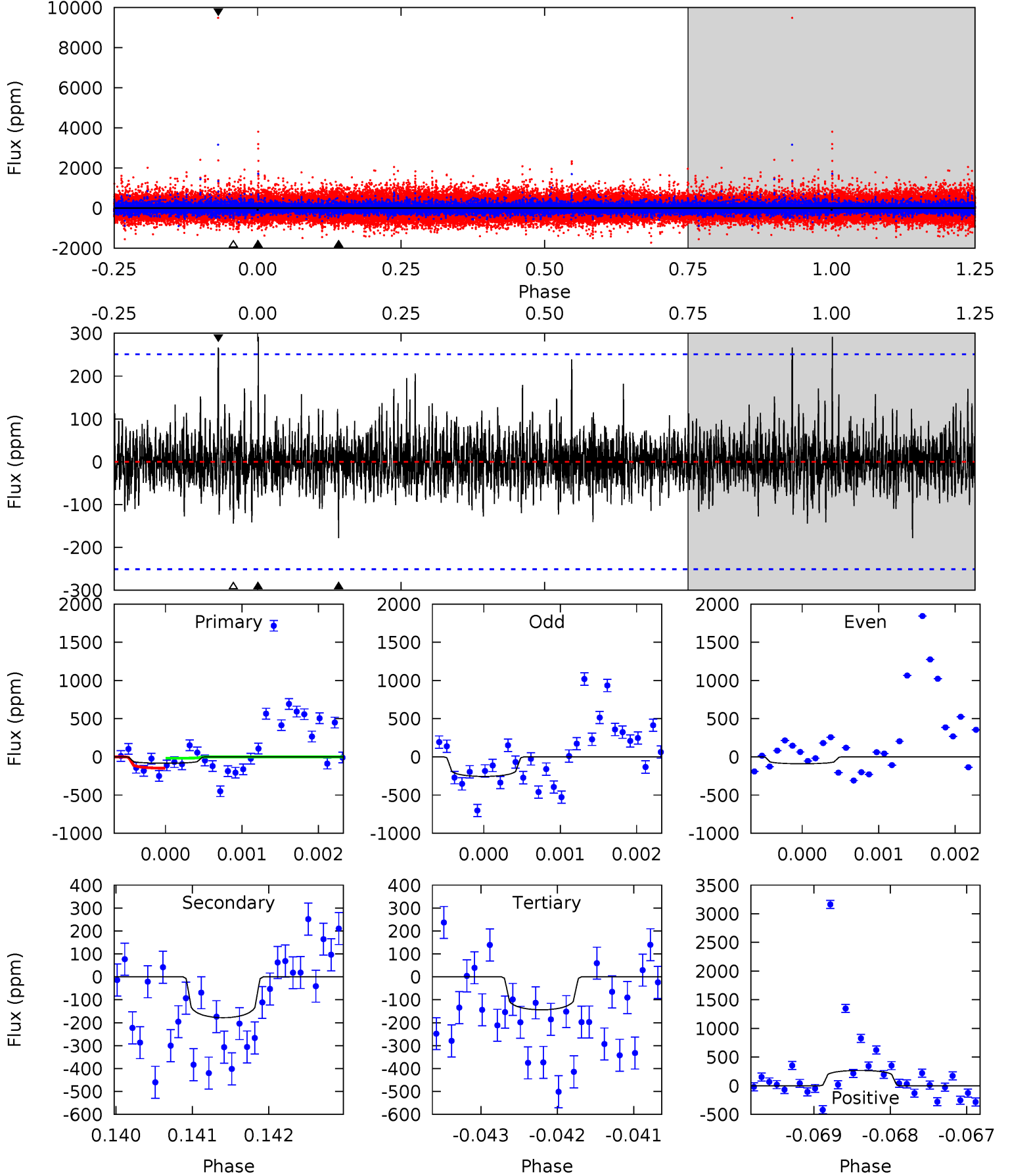
TCE 011617030-01 P=396.560910 Days $T_0=133.895137$ (BKJD)



DV Model-Shift Uniqueness Test

011617030-01, P = 396.573159 Days, E = 133.865977 Days

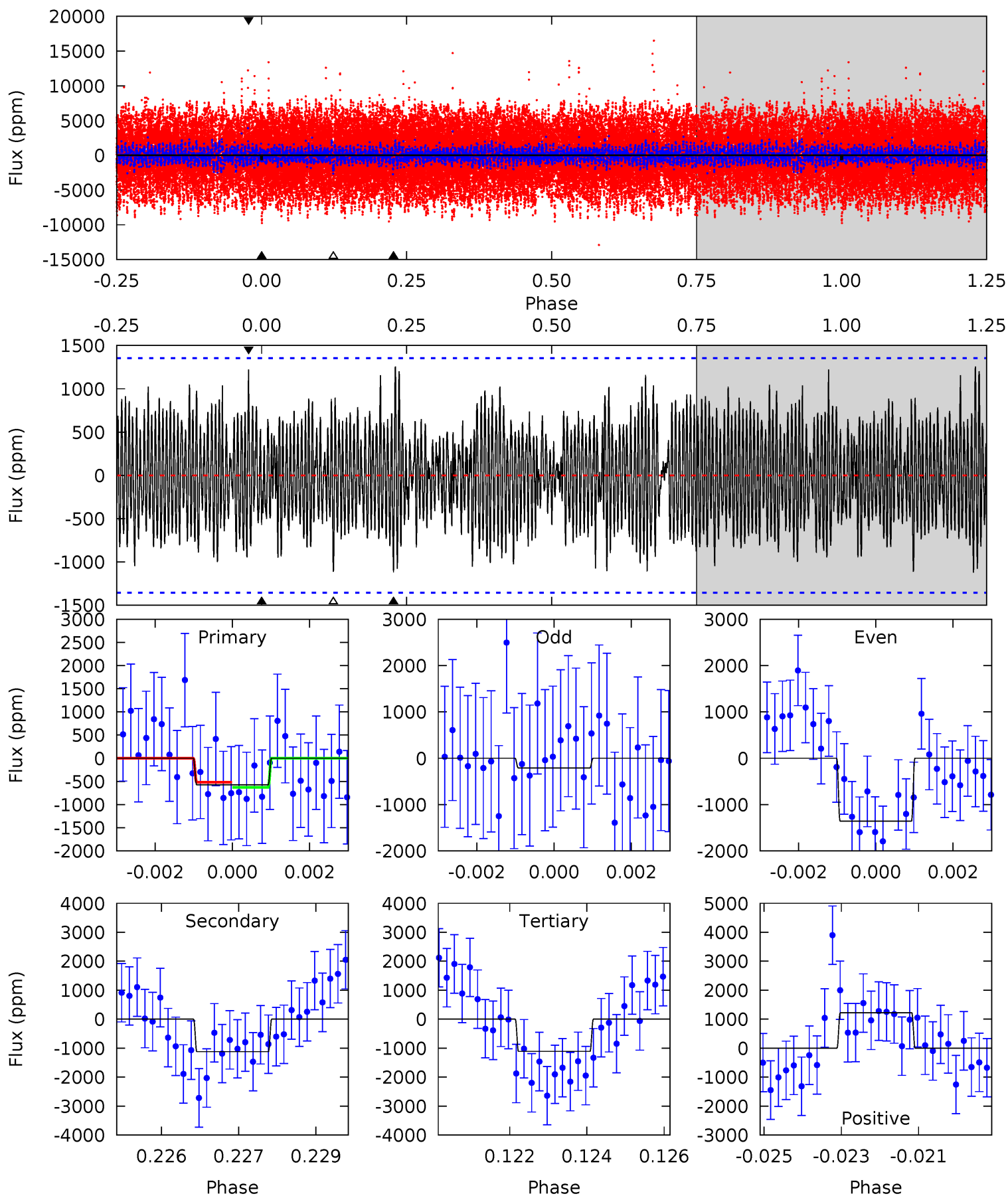
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.82	3.91	3.15	5.84	5.50	3.37	0.97	-1.33	-4.01	0.76	-1.93	1.58	0.93	0.62	1.44



Alt Model-Shift Uniqueness Test

011617030-01, P = 396.560910 Days, E = 133.895137 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.25	4.41	4.37	4.81	5.33	3.10	1.82	-2.12	-2.55	0.04	-0.40	2.24	-2.61	0.53	0.22



Stellar Parameters For KIC 011617030

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7401^{+233}_{-311}	$3.874^{+0.400}_{-0.100}$	$-0.500^{+0.250}_{-0.300}$	$2.293^{+0.499}_{-0.927}$	$1.436^{+0.198}_{-0.272}$	$0.168^{+0.540}_{-0.059}$
	+3%/-4%	+10%/-3%	+50%/-60%	+22%/-40%	+14%/-19%	+322%/-35%
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 011617030-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-178 ± 46	$6.74^{+7.69}_{-4.92}$	610^{+48}_{-69}	5005^{+4786}_{-1276}	3039^{+34899}_{-2422}
Alt.	-1121 ± 254	$8.05^{+8.82}_{-5.39}$	611^{+46}_{-66}	7110^{+8530}_{-2106}	$13504^{+111425}_{-10553}$

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

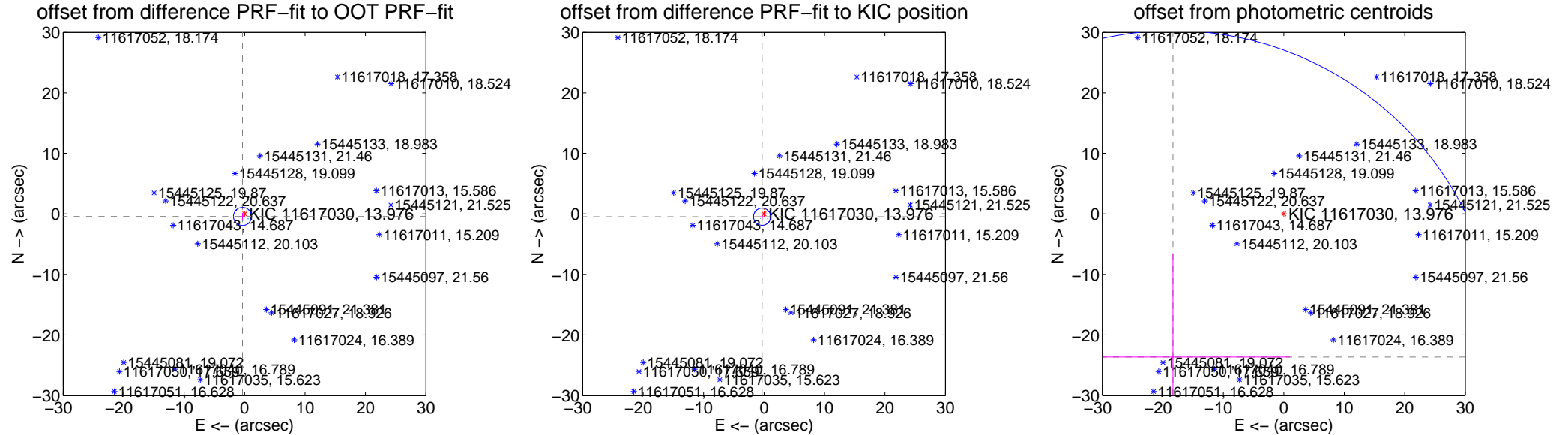
DV Centroid Data

Supplemental centroid analysis for 011617030-01. Kepler magnitude: 13.98. Transit SNR 0.34

There are 2 quarters with good PRF difference image offsets

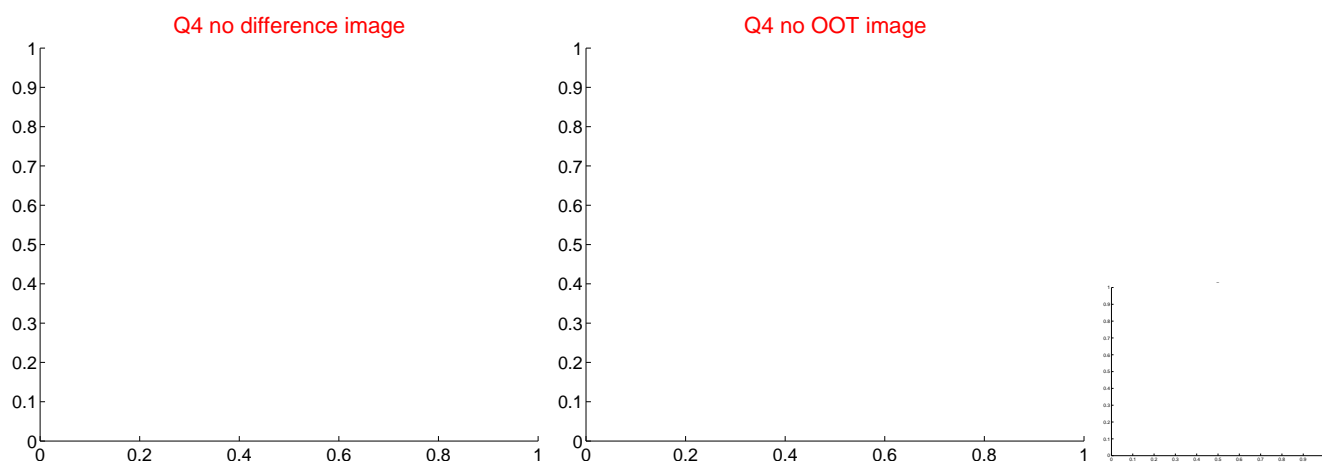
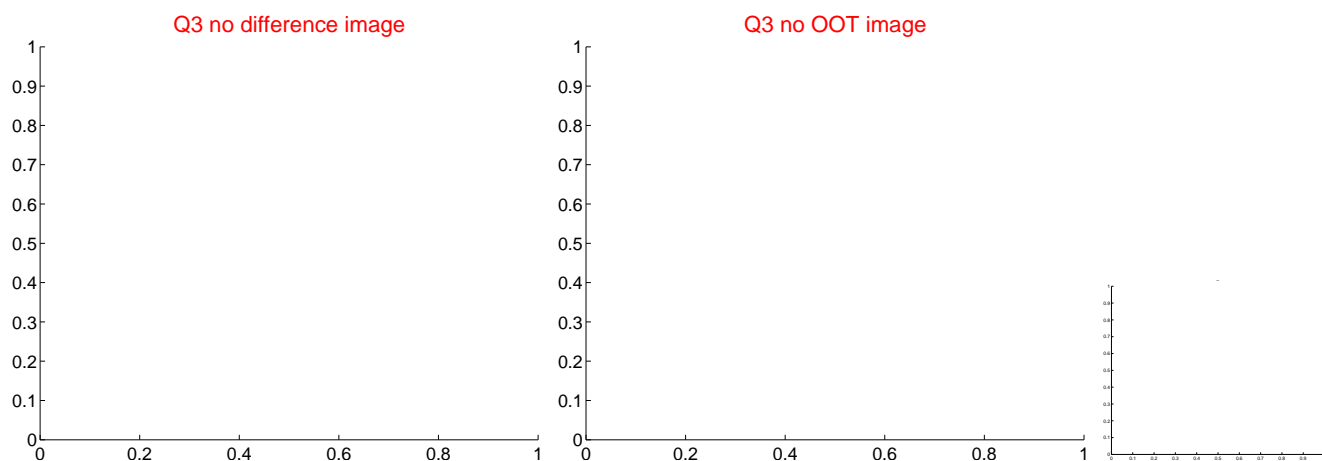
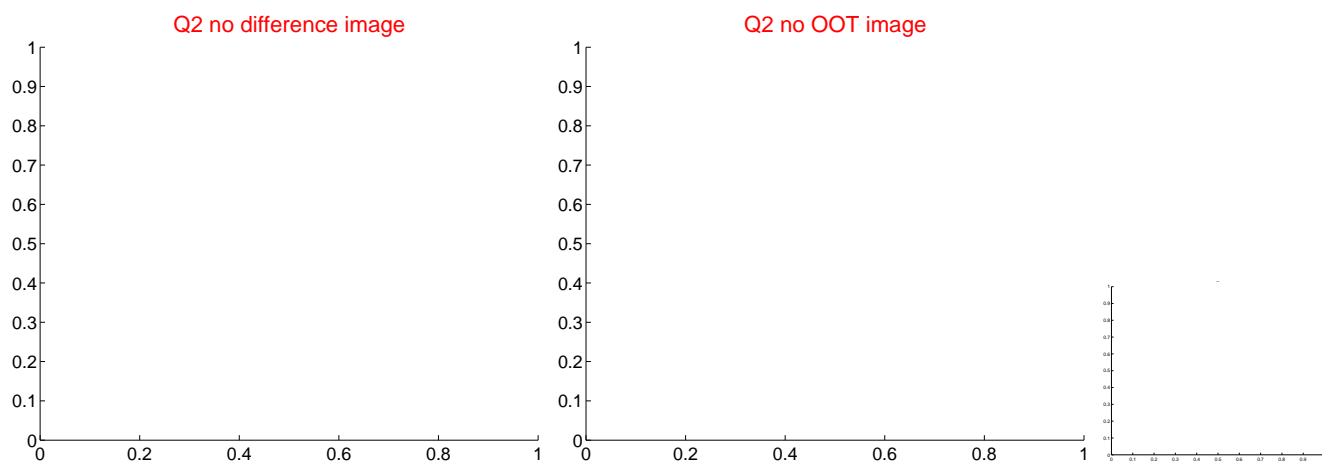
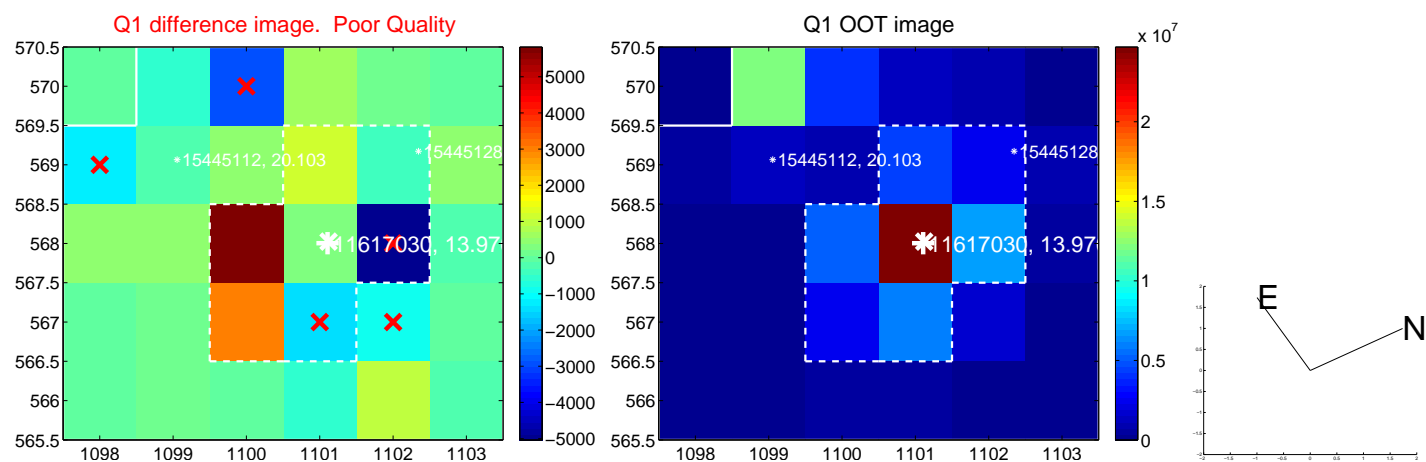
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.554 ± 0.498	1.11	0.343 ± 0.357	-0.434 ± 0.568
PRF-fit source offset from KIC position	0.576 ± 0.473	1.22	0.320 ± 0.359	-0.479 ± 0.515
photometric centroid source offset	29.92 ± 17.97	1.66	18.34 ± 19.37	-23.64 ± 17.08

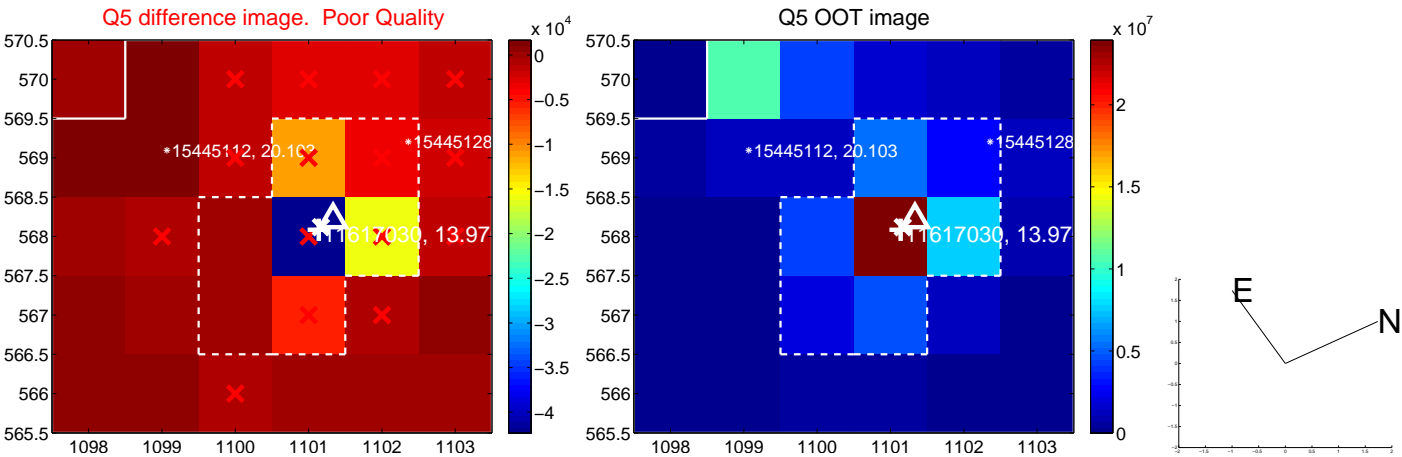


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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

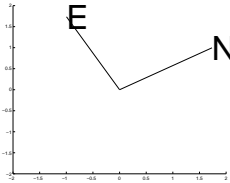
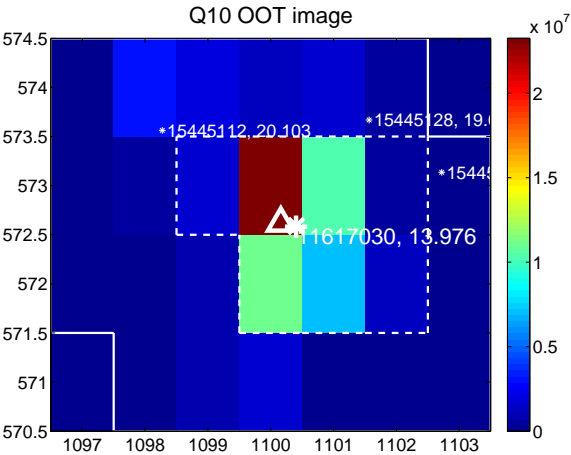
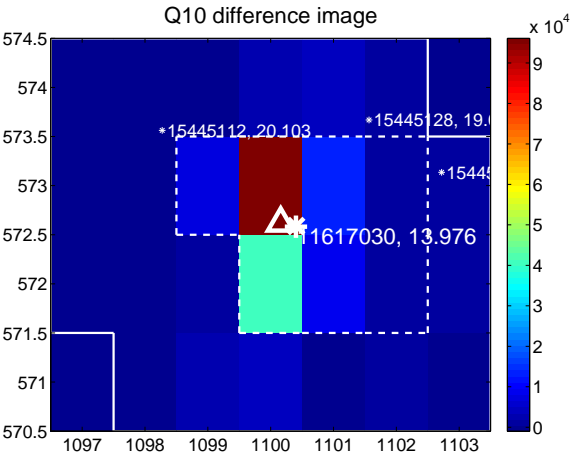


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

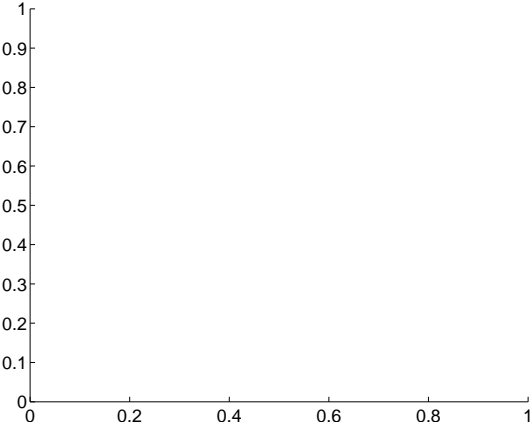
Q9 no difference image



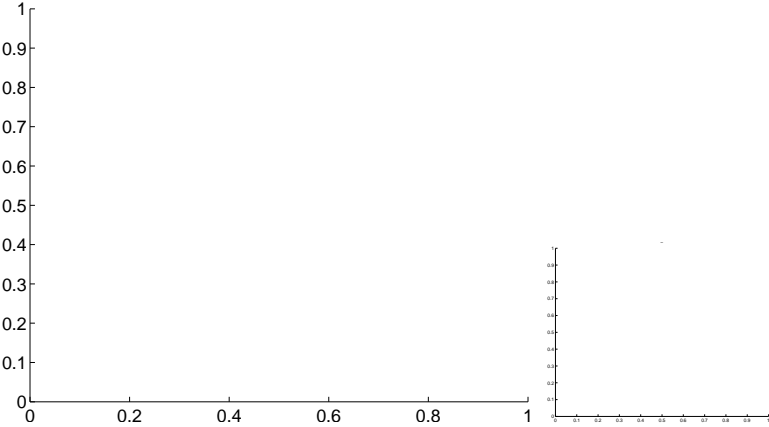
Q9 no OOT image



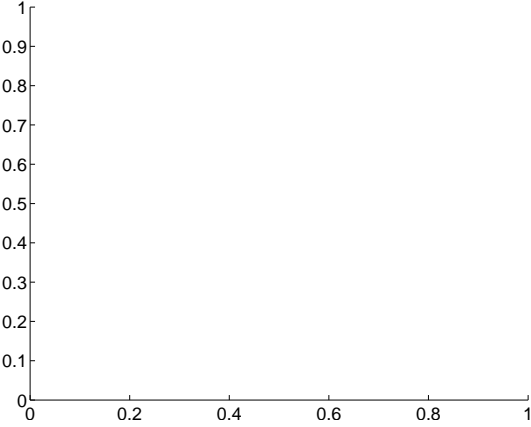
Q11 no difference image



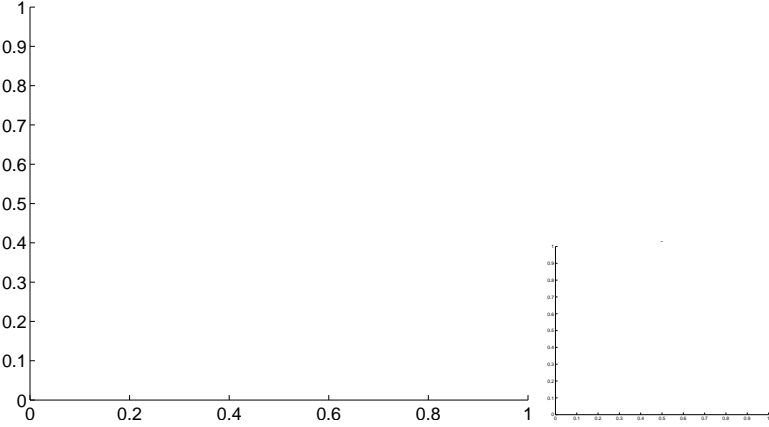
Q11 no OOT image



Q12 no difference image

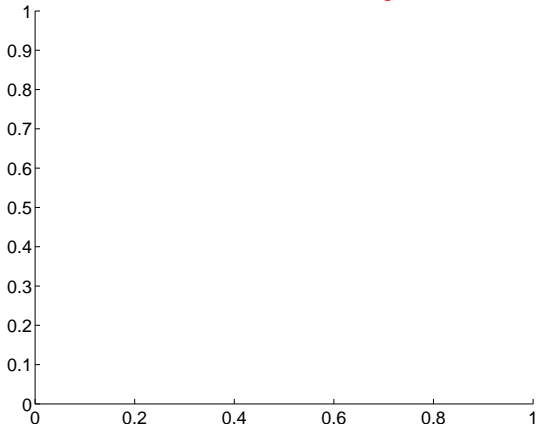


Q12 no OOT image

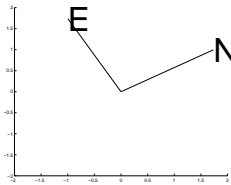
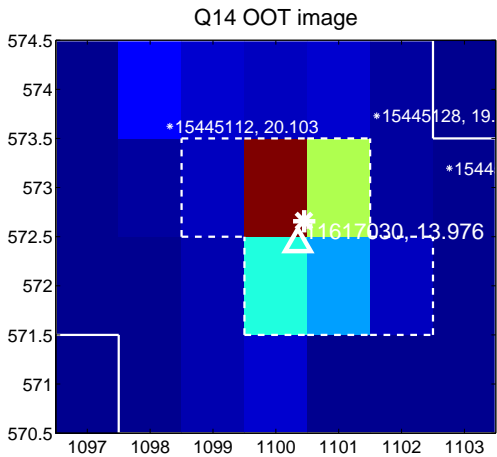
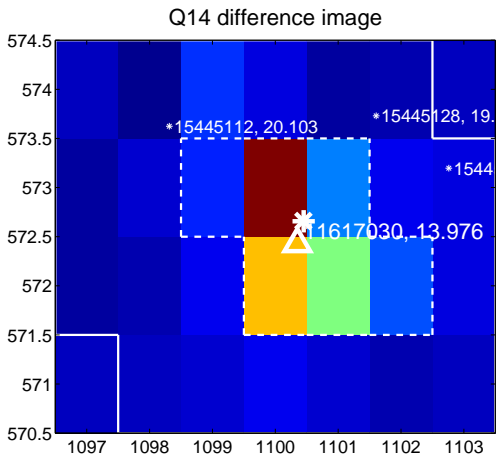


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

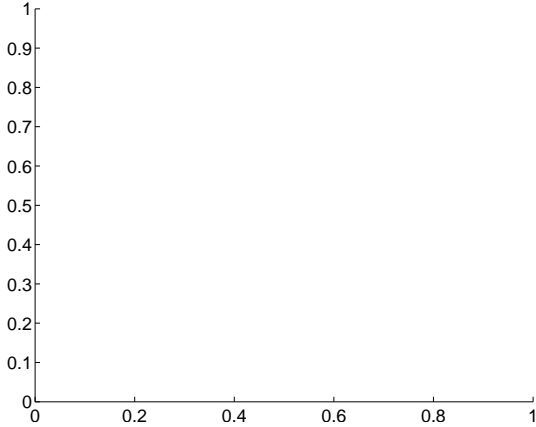
Q13 no difference image



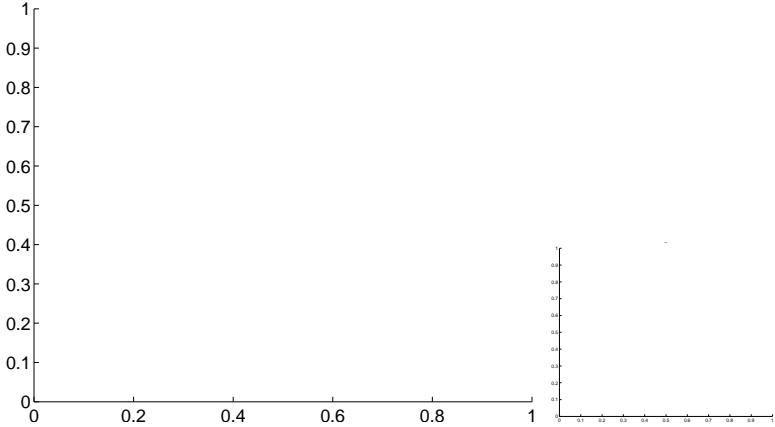
Q13 no OOT image



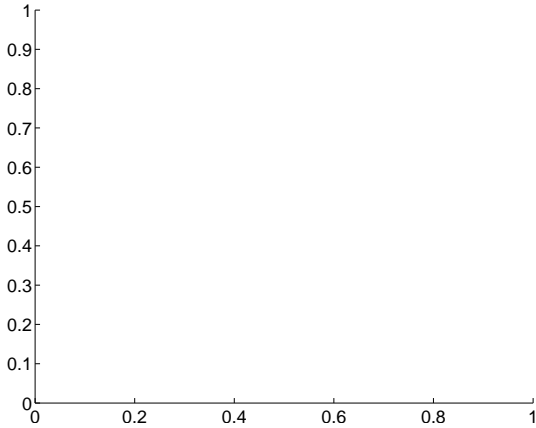
Q15 no difference image



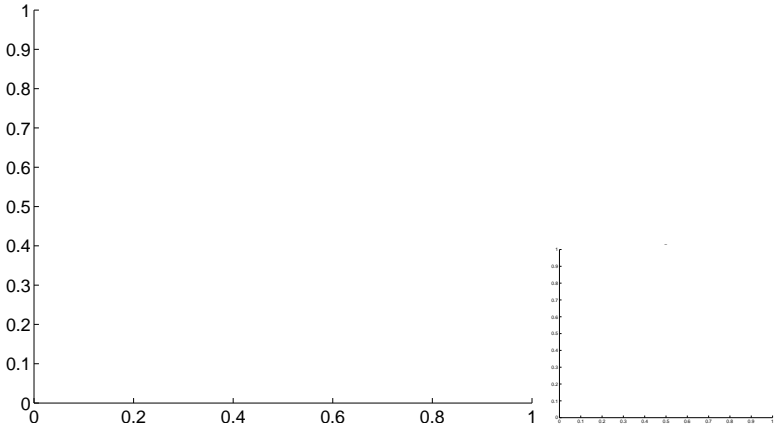
Q15 no OOT image



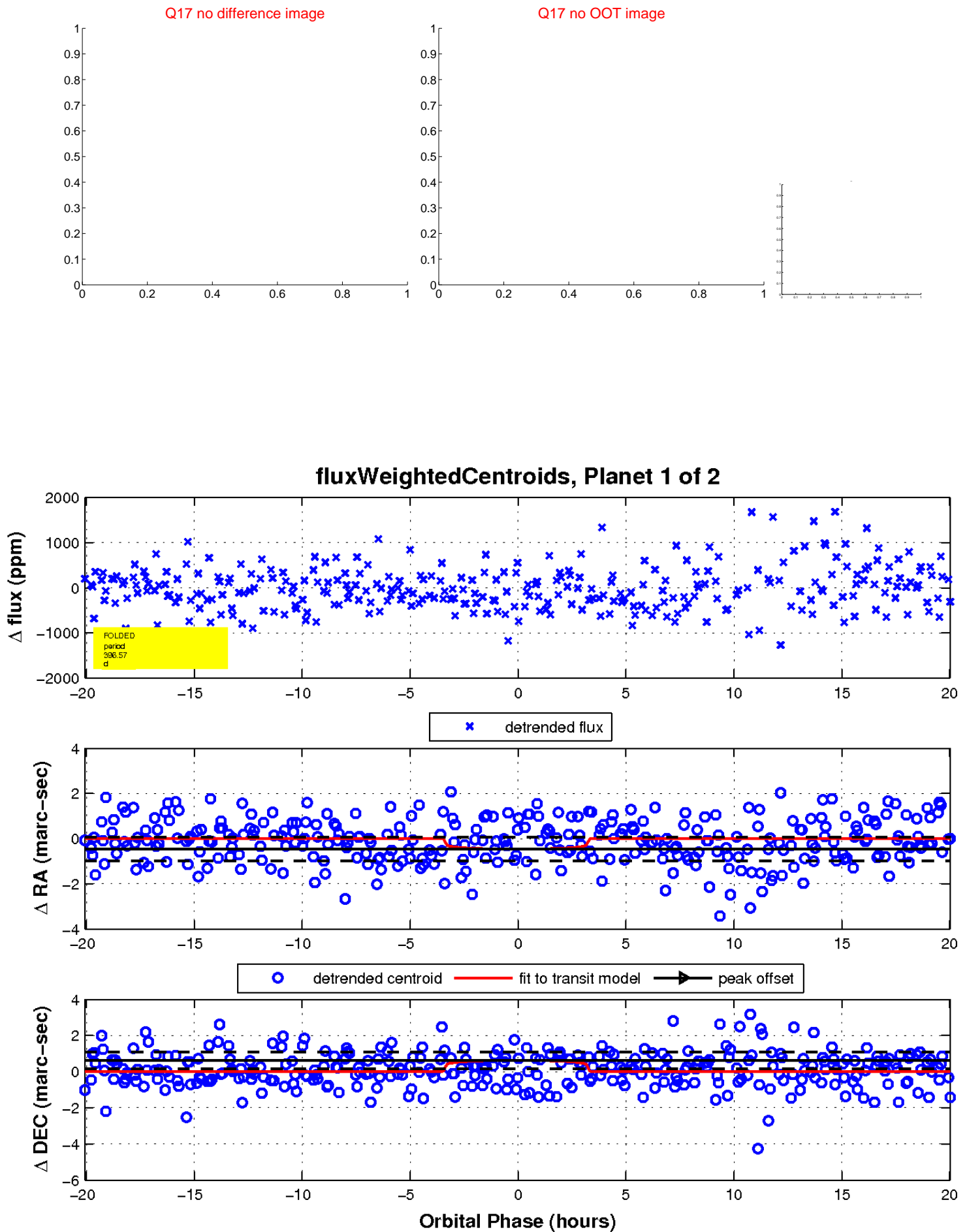
Q16 no difference image



Q16 no OOT image

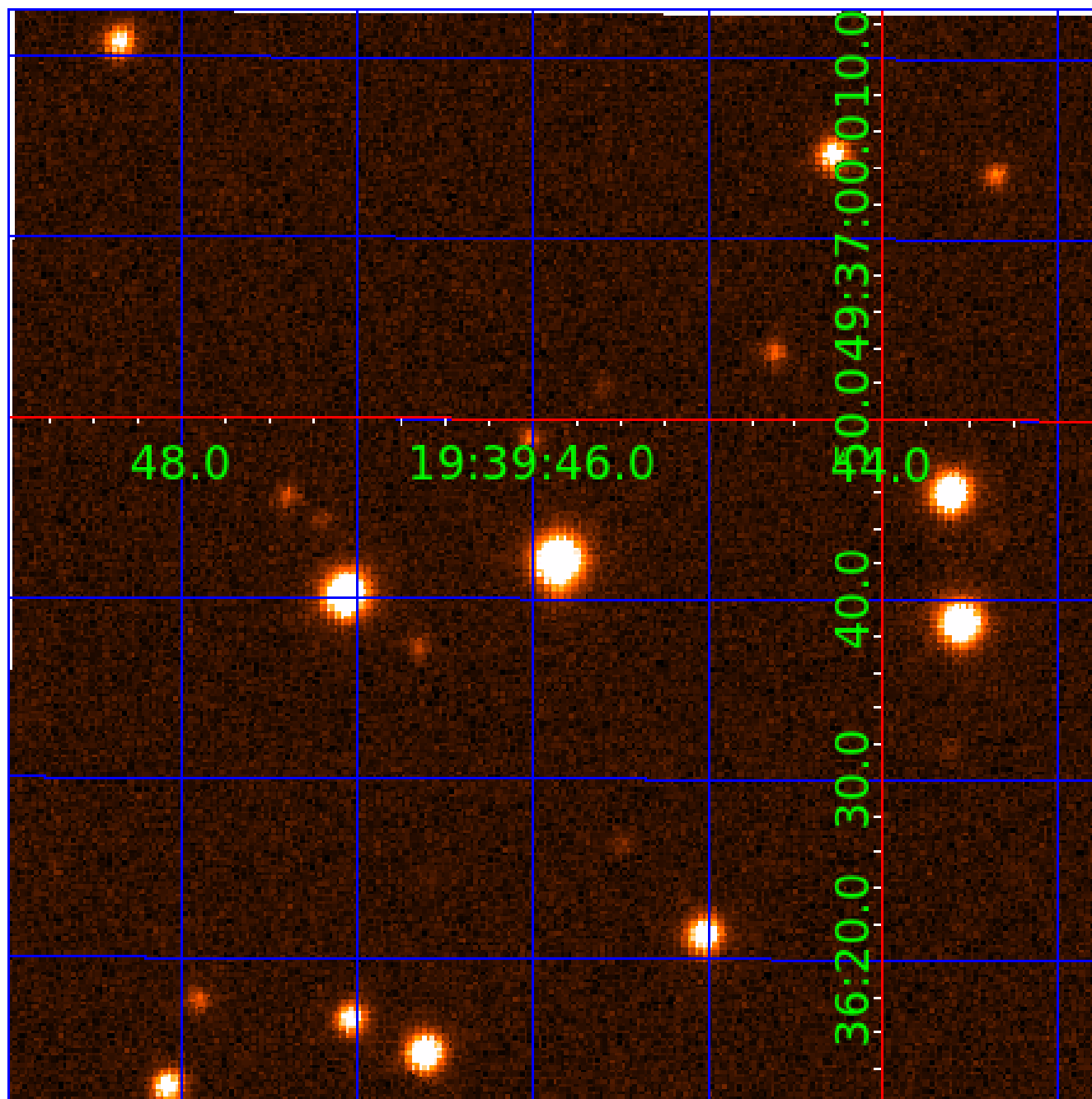


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011617030

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})
011617030-01	OBS	No	396.573159	133.865977	26.8	6.694	12.5	0.3	2.29	7401	1.24	9.95
011617030-02	OBS	No	527.737794	500.126644	0.5	20.659	10.8	0.0	2.29	7401	0.18	6.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011617030-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011617030-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

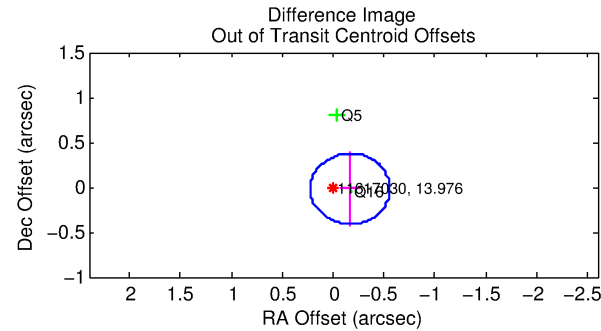
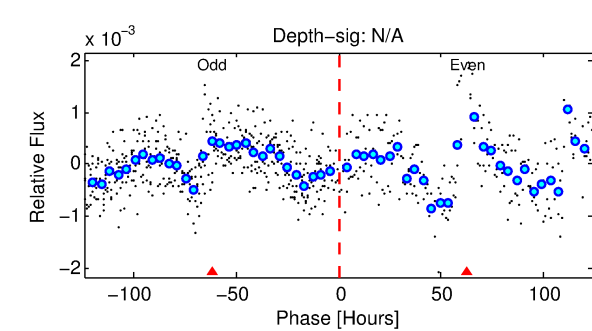
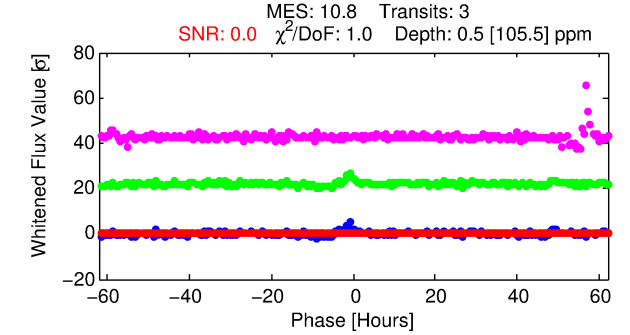
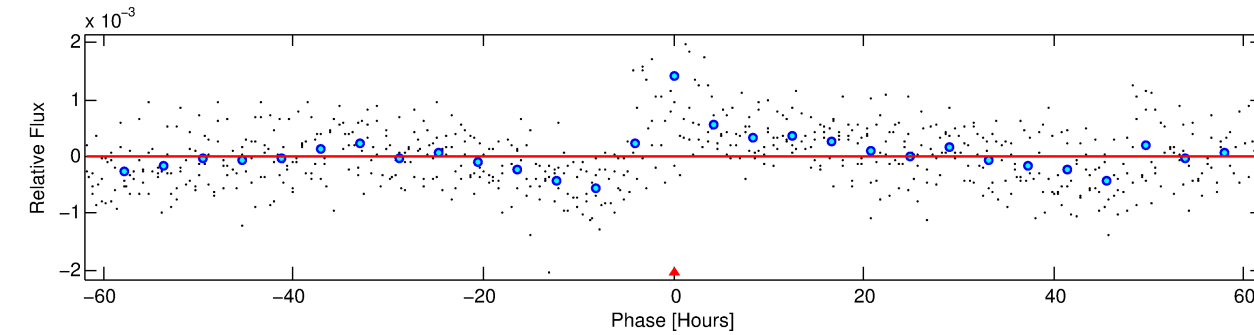
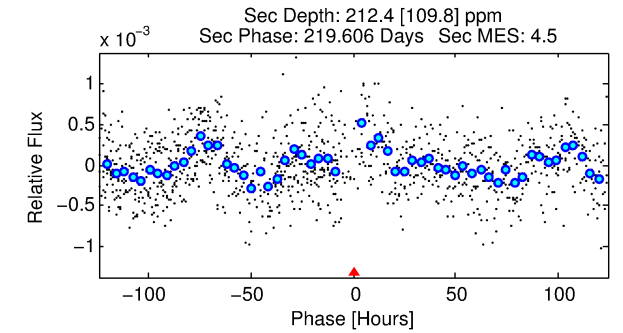
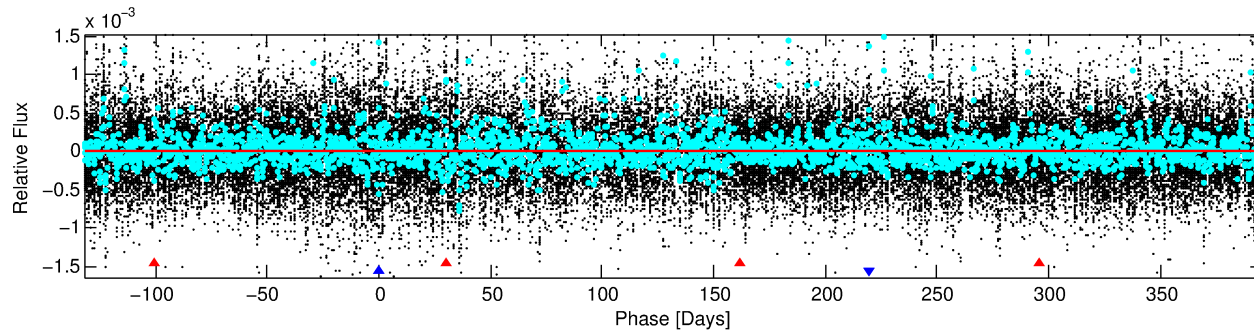
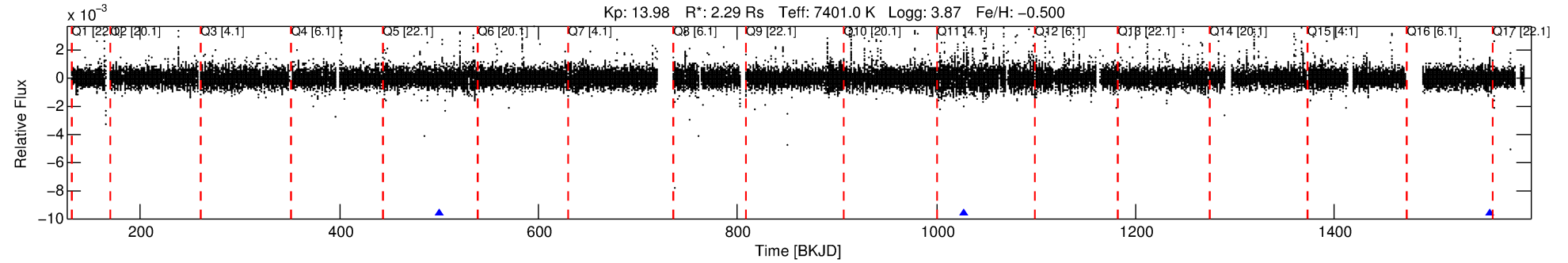
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011617030-02

No Significant Match Found

DV One-Page Summary

KIC: 11617030 Candidate: 2 of 2 Period: 527.738 d



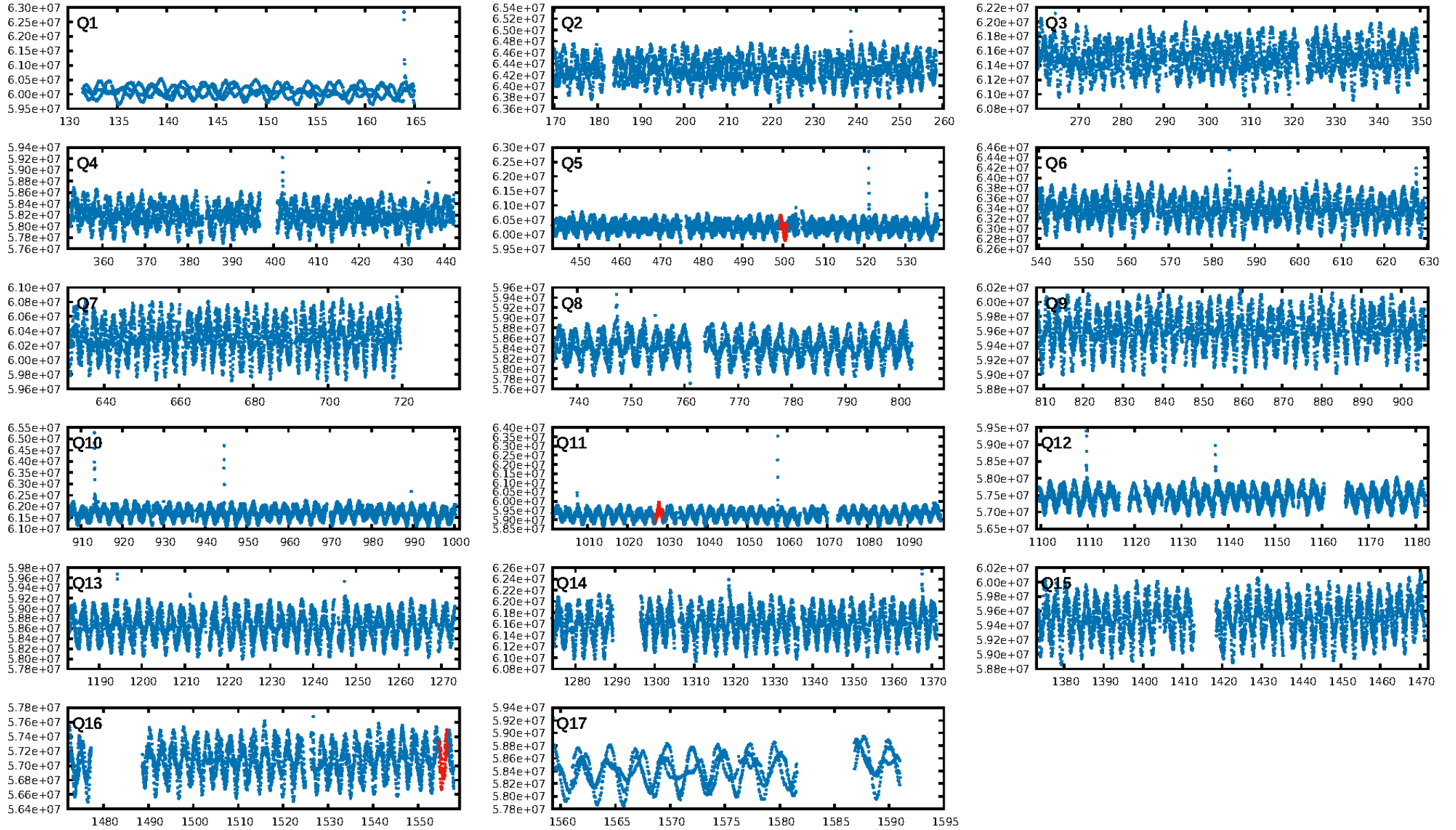
DV Fit Results:

Period = 527.73779 [14.31331] d
Epoch = 500.1266 [17.5544] BKJD
Rp/R* = 0.0007 [0.0701]
a/R* = 145.47 [28106.47]
b = 0.67 [120.71]
Seff = 6.80 [4.71]
Teq = 412 [71] K
Rp = 0.18 [17.54] Re
a = 1.4418 [0.5896] AU
Ag = 7763277.95 [1539821434.19] [0.016]
Teffp = 33604 [1666274] K [0.025]

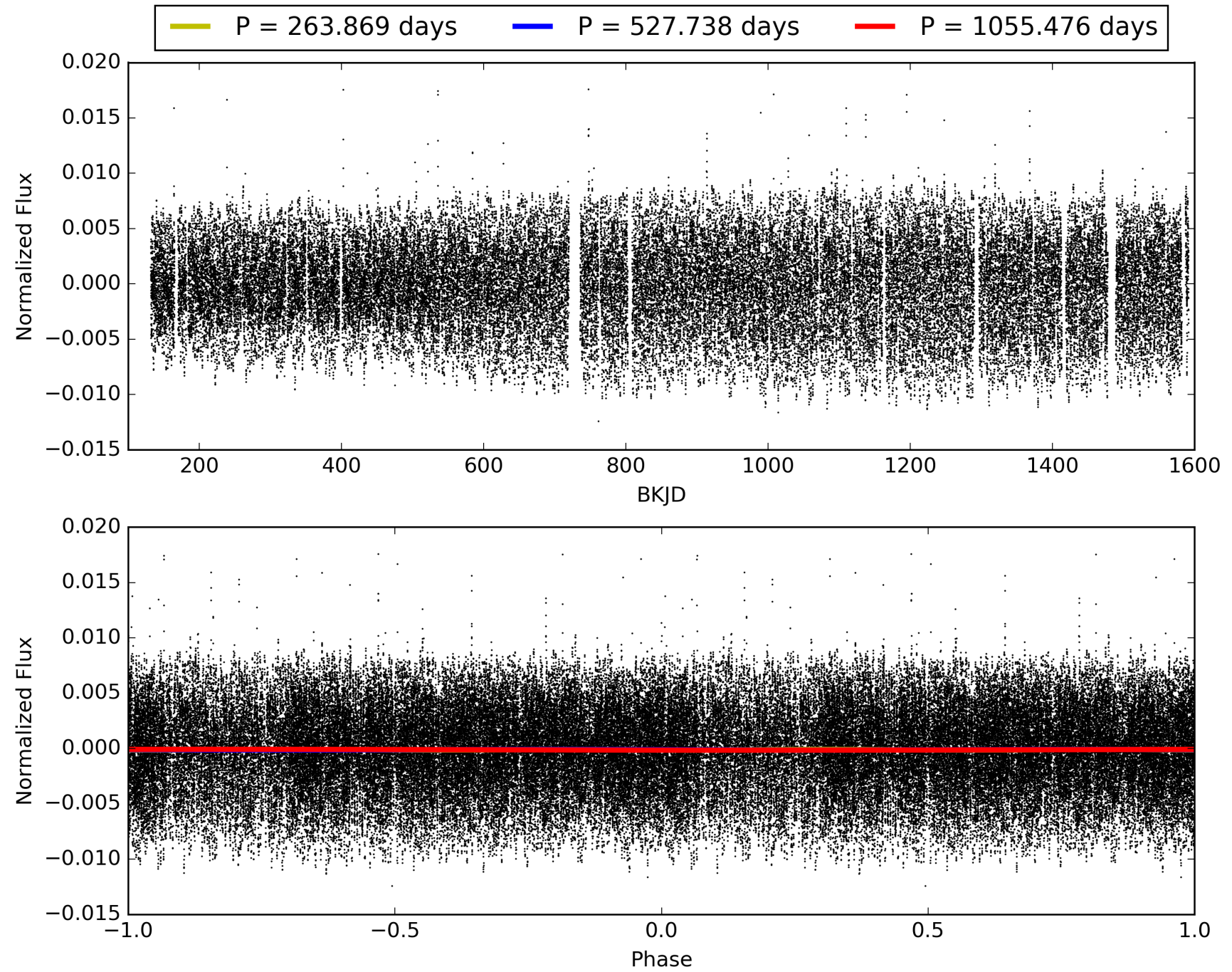
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [144.96σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.4%
ModelChiSquareGof-sig: 94.1%
Bootstrap-pfa: 1.75e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.165 arcsec [1.26σ]
KicOffset-rm: 0.272 arcsec [1.97σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 011617030-02, PDC Light Curves

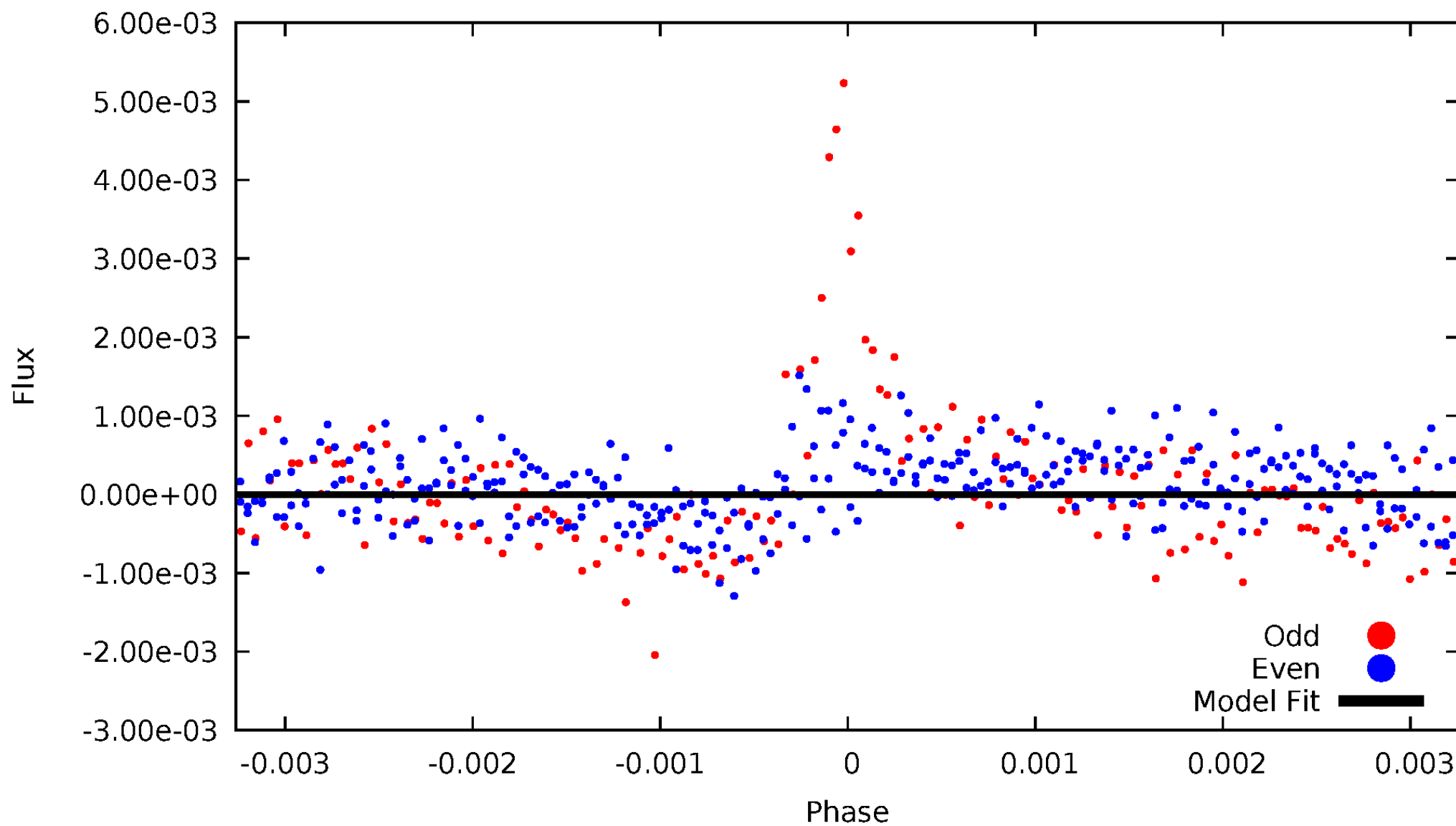


TCE 011617030-02



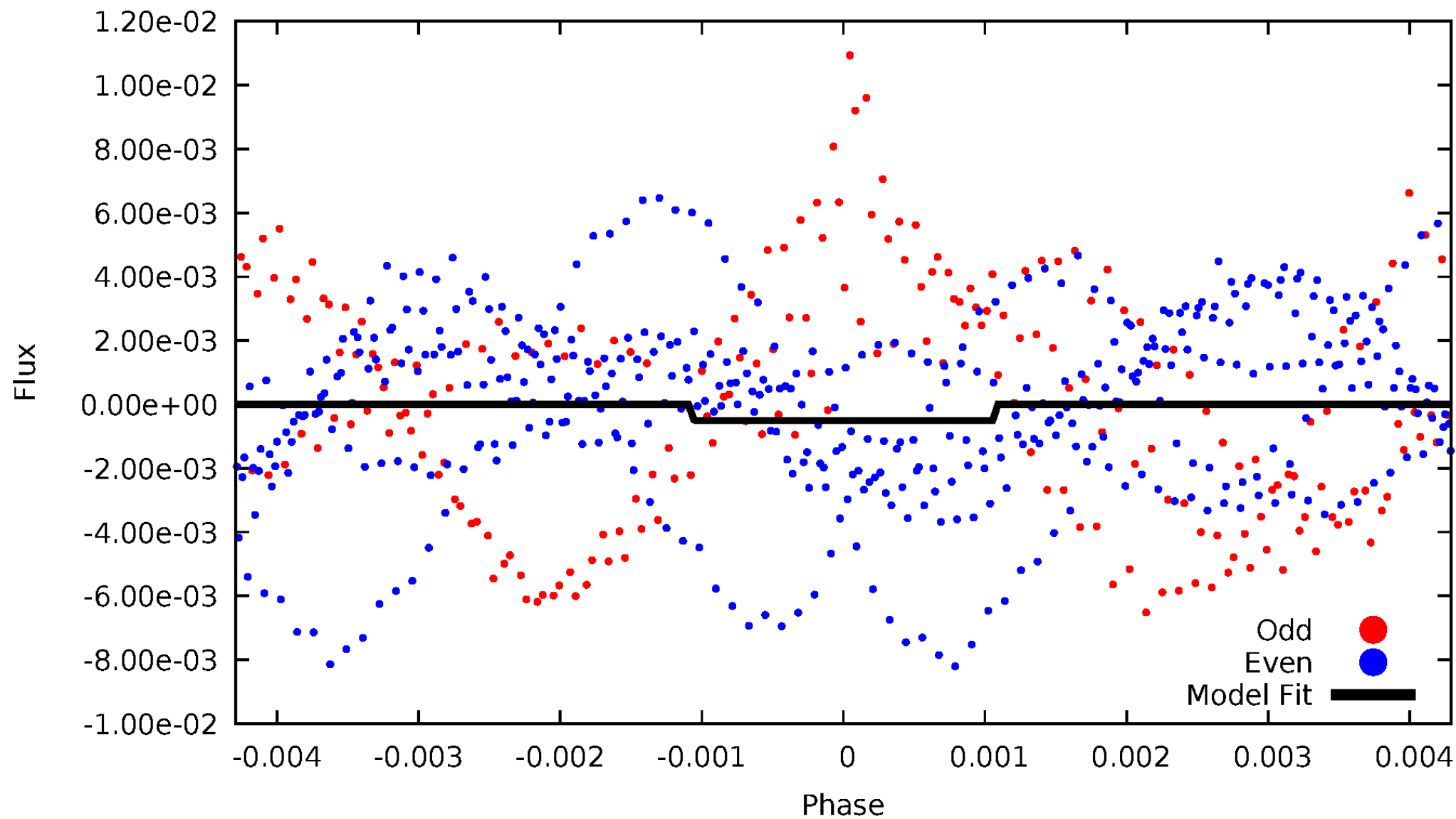
DV Odd/Even

TCE 011617030-02



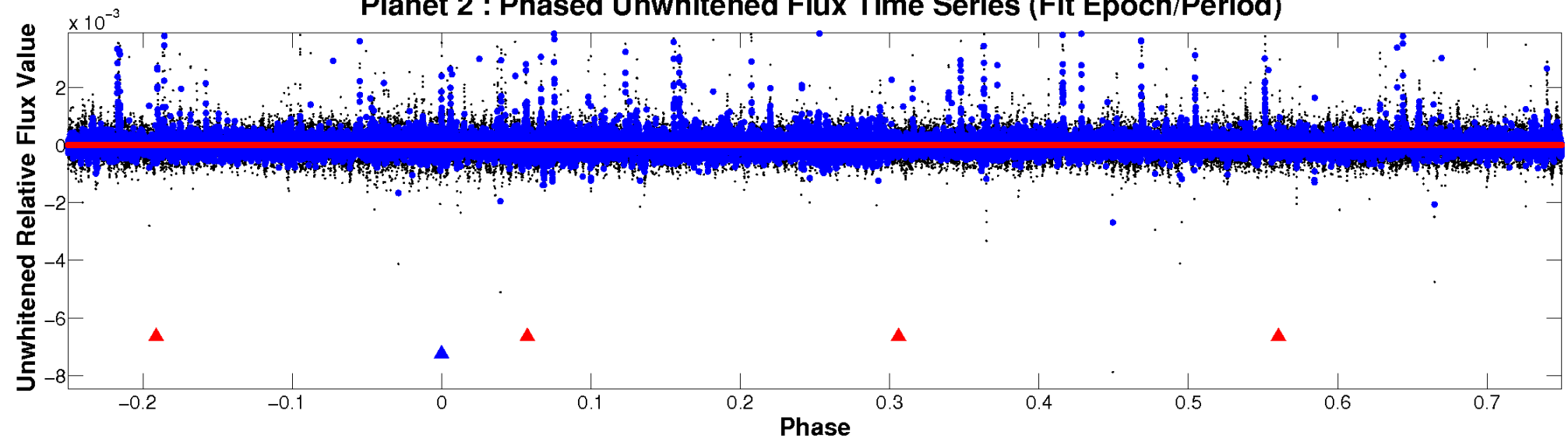
ALT Odd/Even

TCE 011617030-02

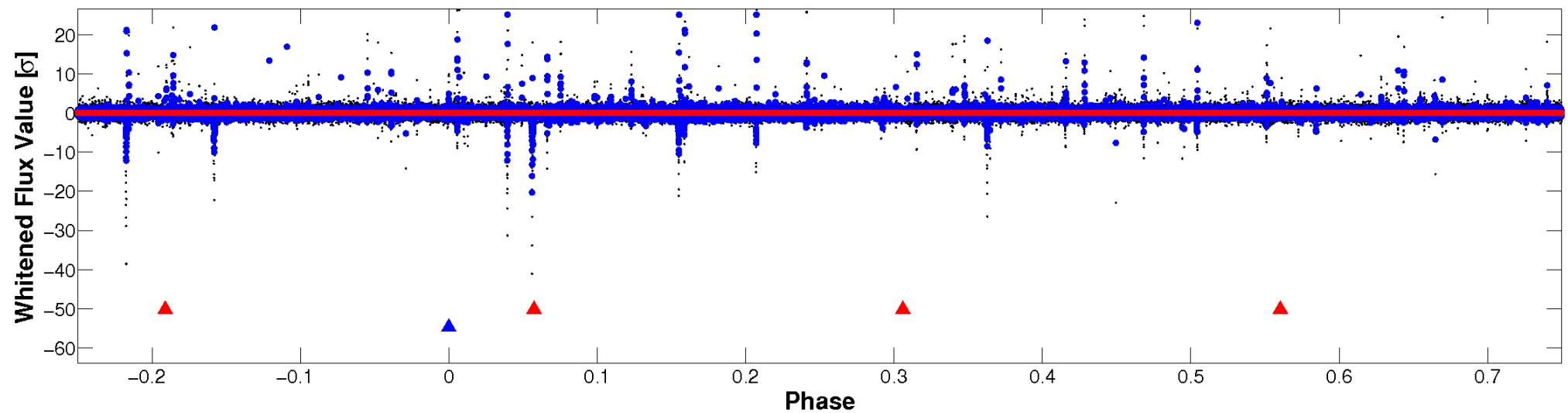


Non-Whitened Vs. Whitened Light Curve

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

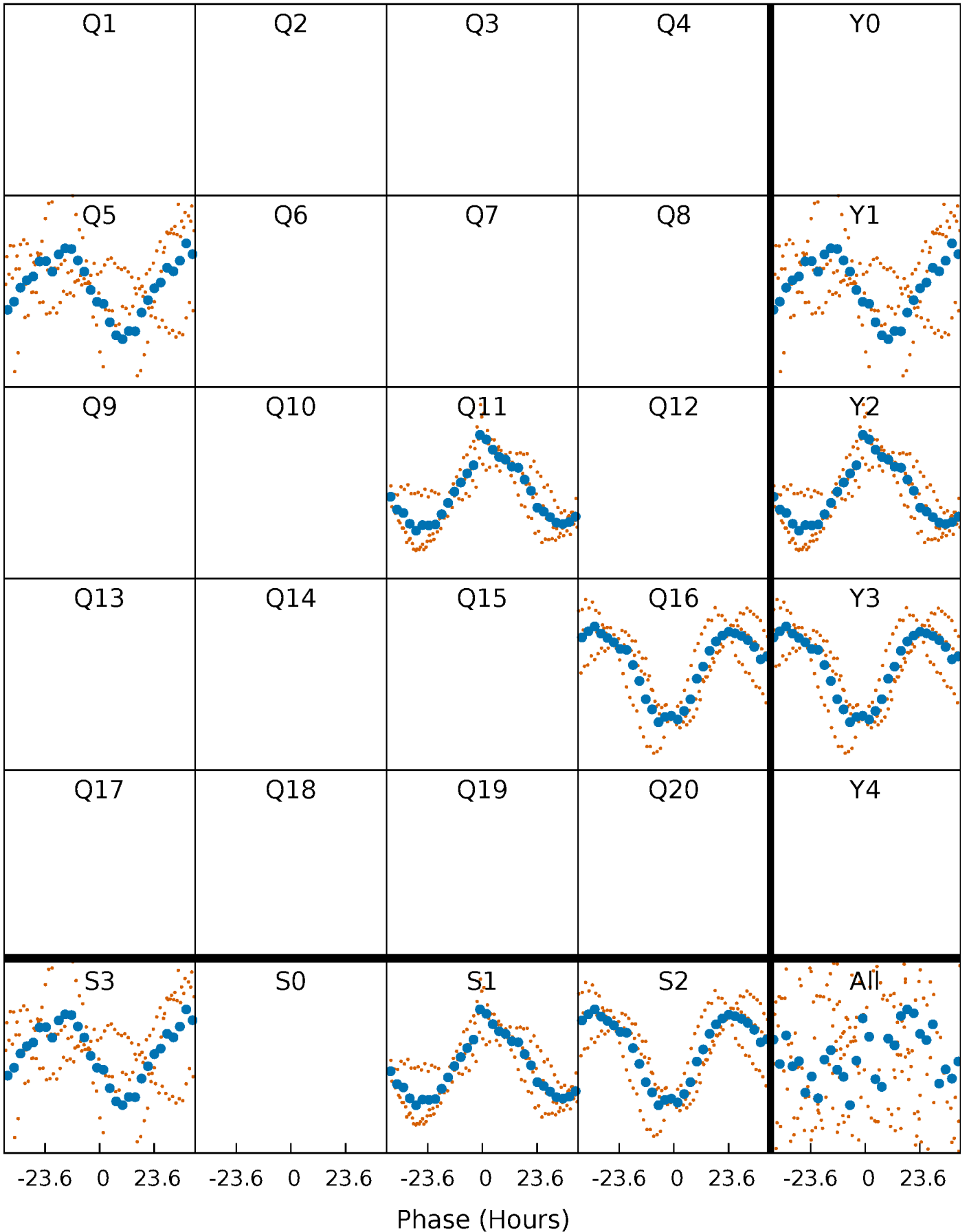


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



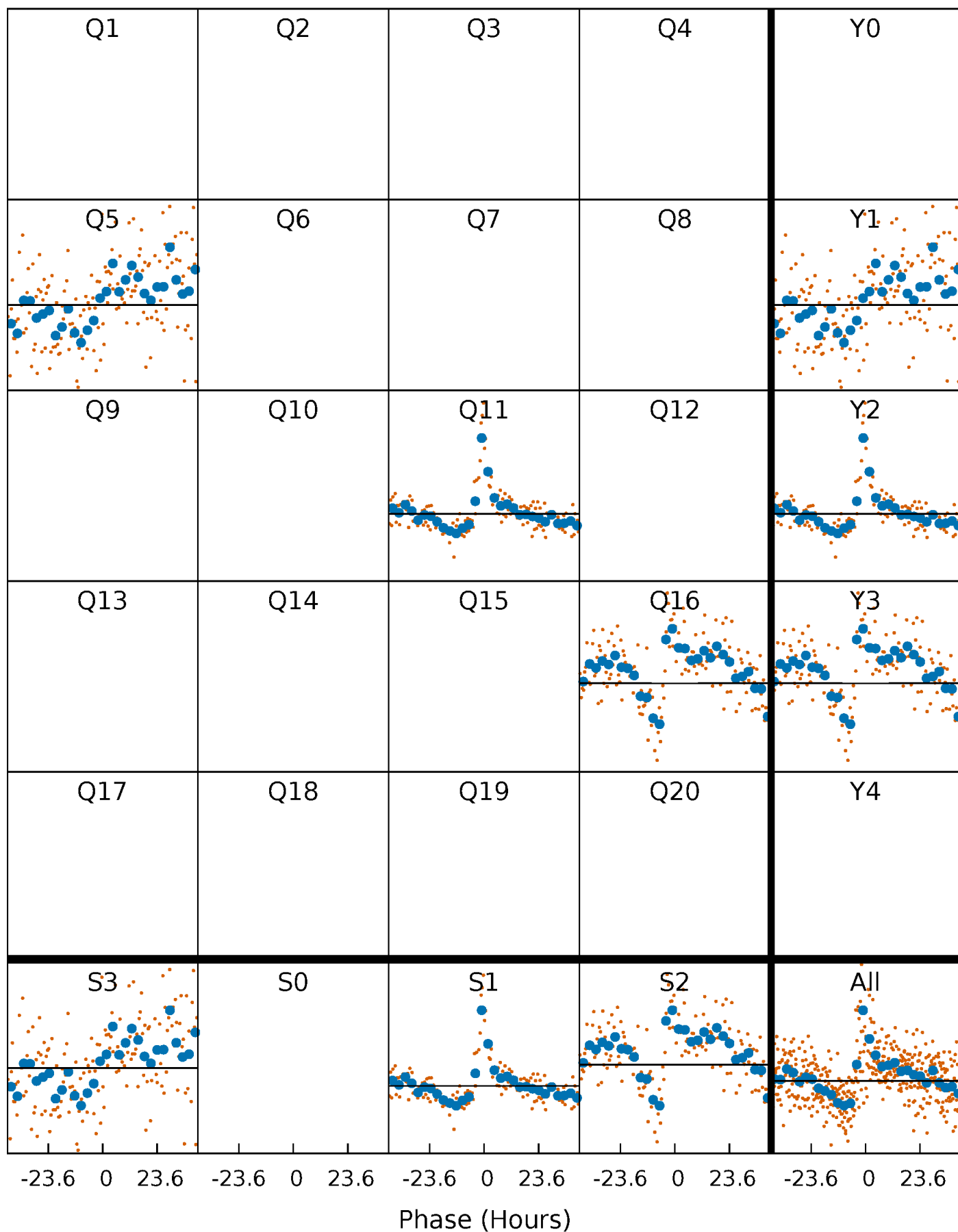
PDC Quarter-Phased Transit Curves

TCE 011617030-02 $P=527.737794$ Days $T_0=500.126644$ (BKJD)



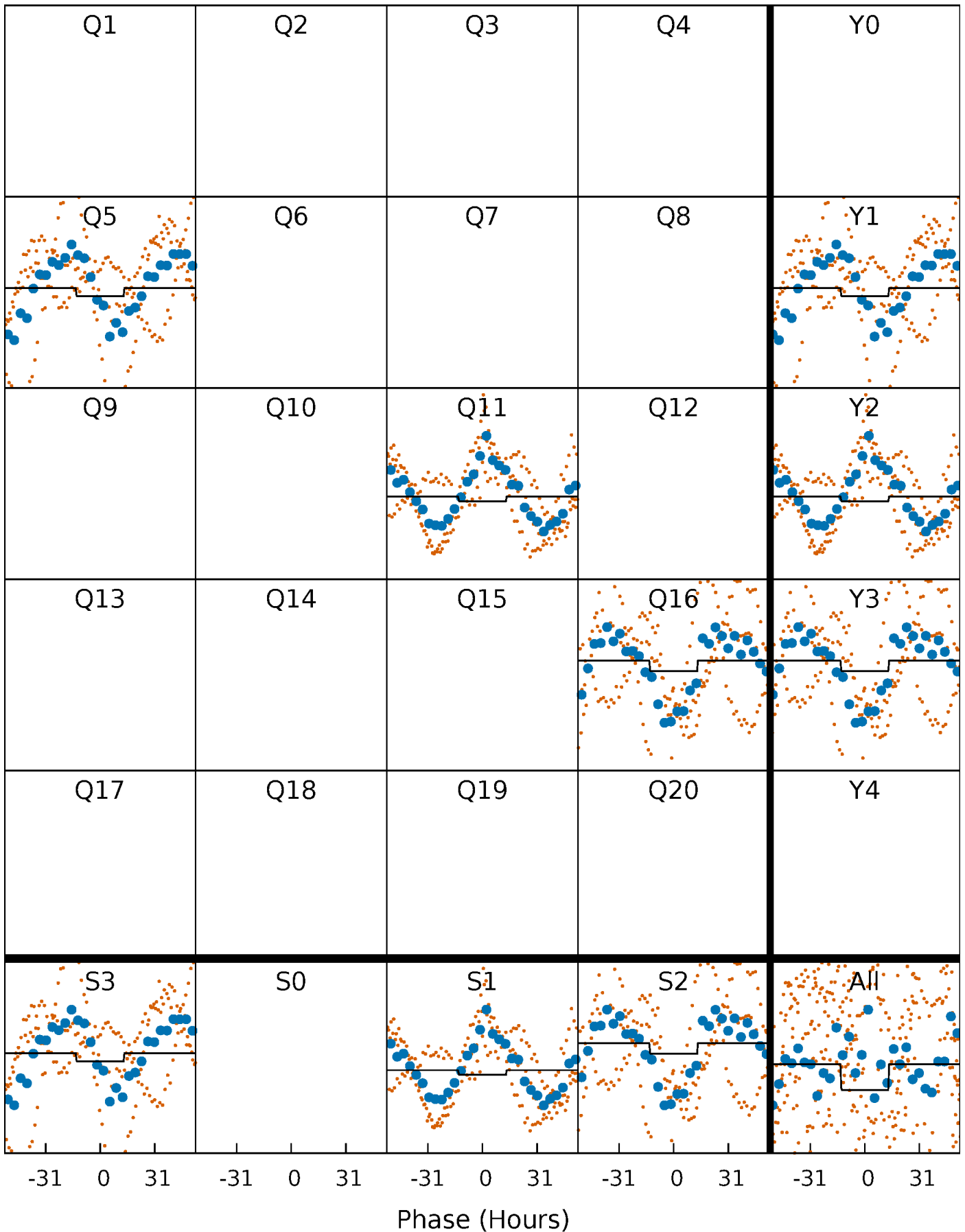
DV Quarter-Phased Transit Curves

TCE 011617030-02 $P=527.737794$ Days $T_0=500.126644$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

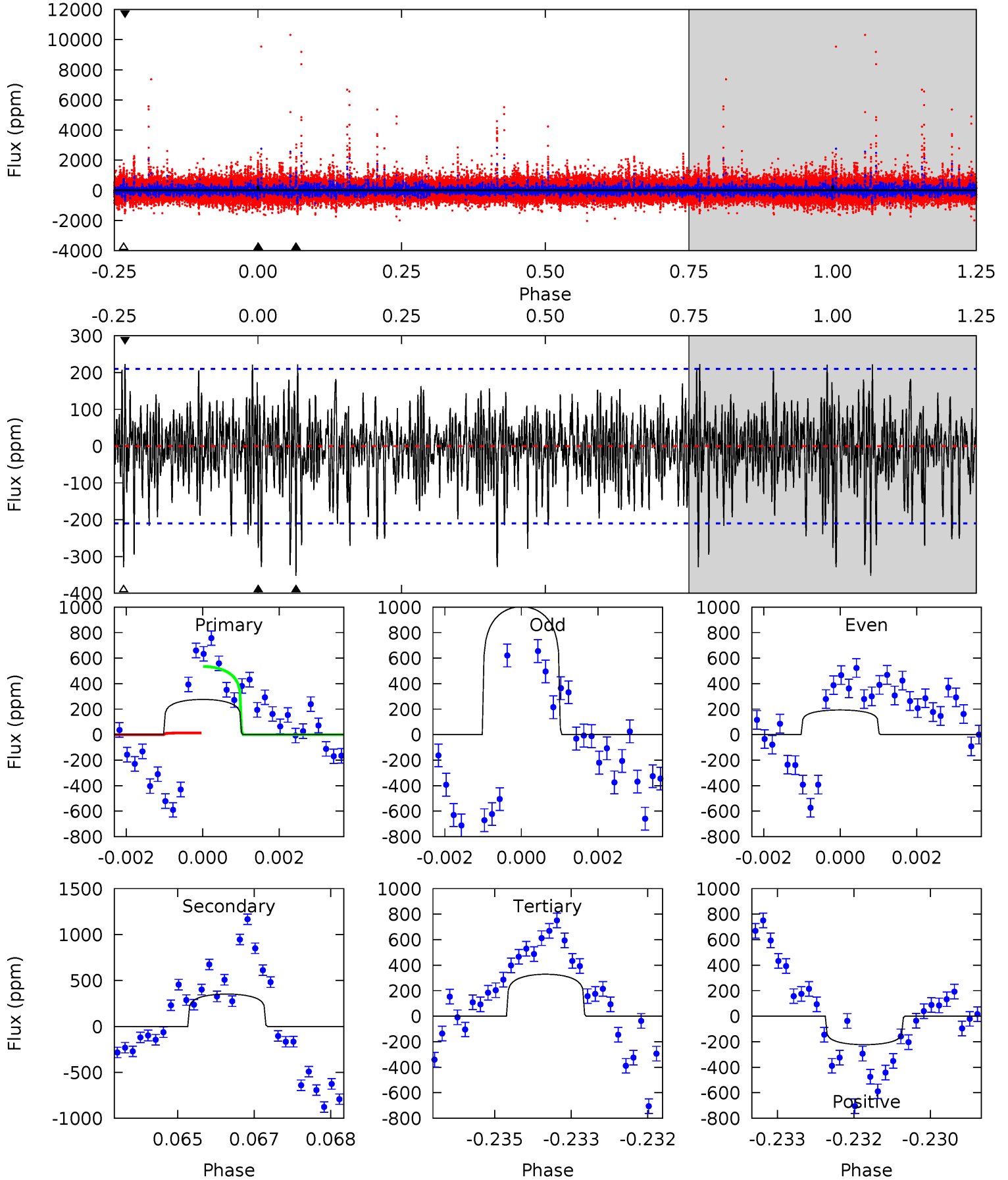
TCE 011617030-02 $P=527.662631$ Days $T_0=500.145934$ (BKJD)



DV Model-Shift Uniqueness Test

011617030-02, P = 527.737794 Days, E = 500.126644 Days

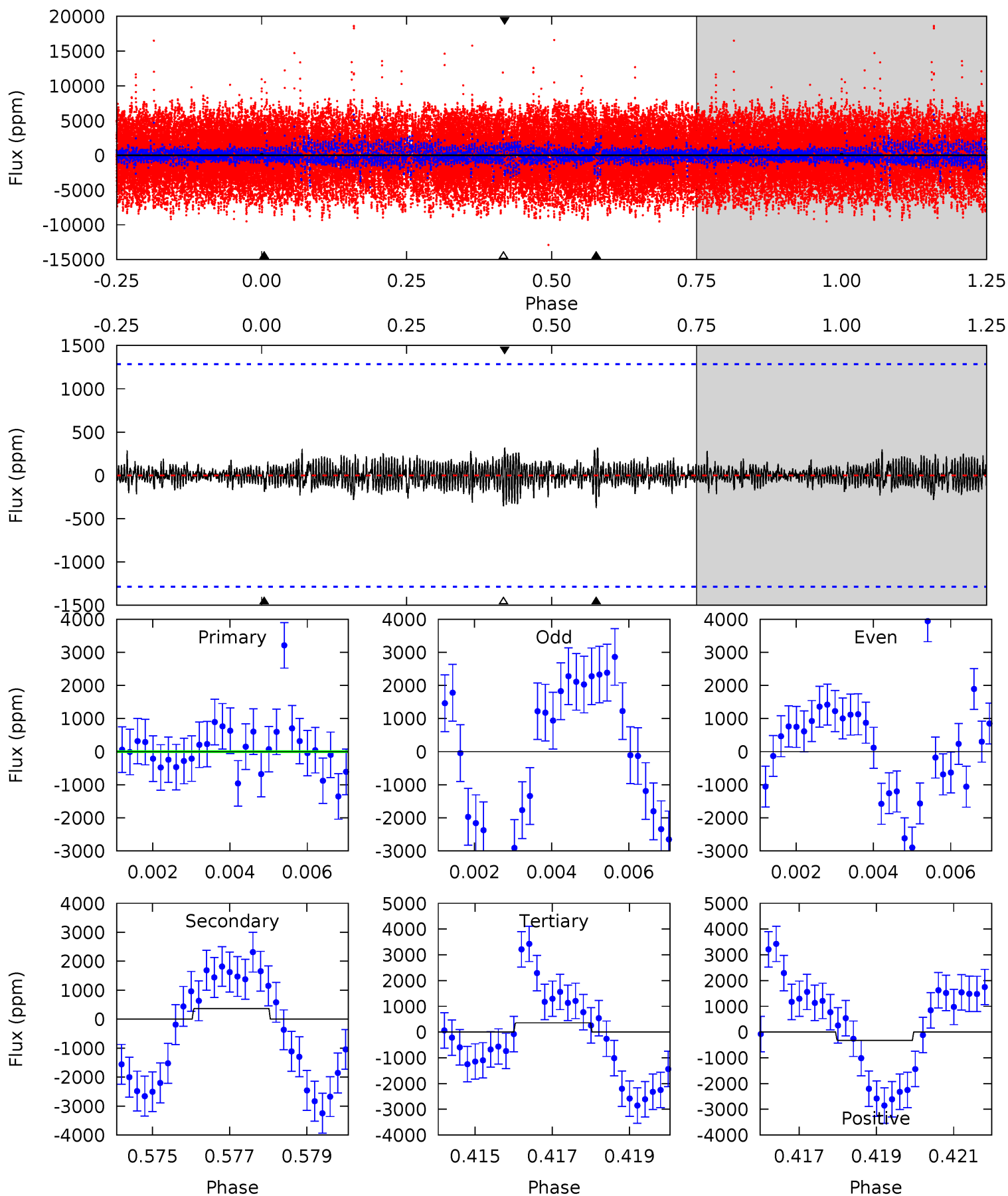
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.06	9.00	8.41	5.70	5.36	3.15	1.99	-1.35	1.36	0.59	3.30	5.94	1.35	0.39	0



Alt Model-Shift Uniqueness Test

011617030-02, P = 527.662631 Days, E = 500.145934 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.59	1.52	1.47	1.33	5.31	3.07	0.39	-0.88	-0.74	0.05	0.19	3.66	-0.28	0.47	0.30



Stellar Parameters For KIC 011617030

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7401^{+233}_{-311}	$3.874^{+0.400}_{-0.100}$	$-0.500^{+0.250}_{-0.300}$	$2.293^{+0.499}_{-0.927}$	$1.436^{+0.198}_{-0.272}$	$0.168^{+0.540}_{-0.059}$
	+3%/-4%	+10%/-3%	+50%/-60%	+22%/-40%	+14%/-19%	+322%/-35%
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 011617030-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-352 ± 39	$10.71^{+11.09}_{-7.90}$	555^{+43}_{-61}	4716^{+4607}_{-1032}	3445^{+47301}_{-2583}
Alt.	-368 ± 242	$12.08^{+15.02}_{-8.31}$	558^{+44}_{-66}	4386^{+3000}_{-1234}	2469^{+22871}_{-2160}

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 $A_{obs} \gg 1.0$

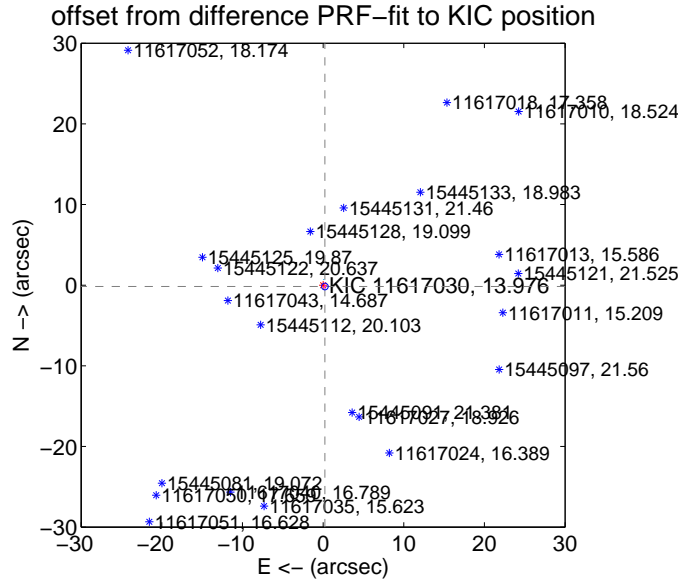
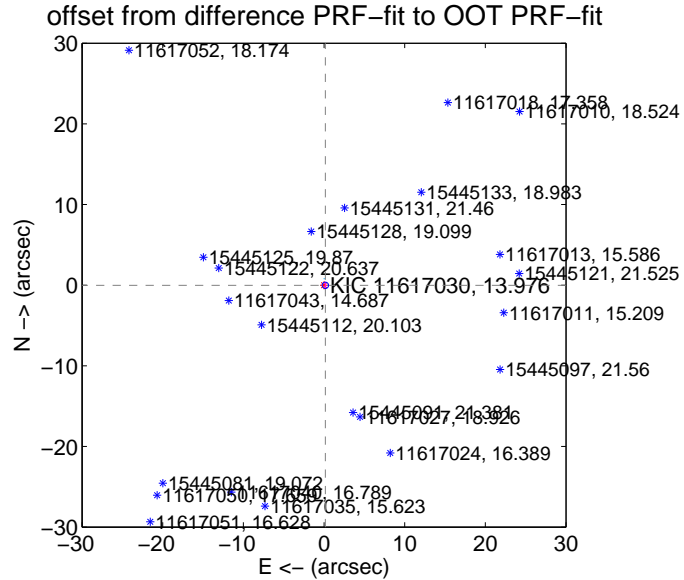
DV Centroid Data

Supplemental centroid analysis for 011617030-02. Kepler magnitude: 13.98. Transit SNR 0.01

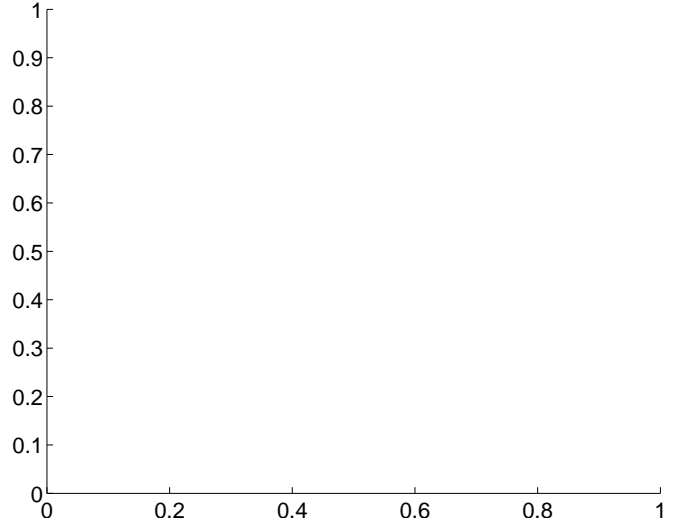
There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.165 ± 0.131	1.26	-0.164 ± 0.093	-0.019 ± 0.414
PRF-fit source offset from KIC position	0.272 ± 0.139	1.97	-0.215 ± 0.072	-0.167 ± 0.206
photometric centroid source offset	—	—	—	—



There are no photometric centroids

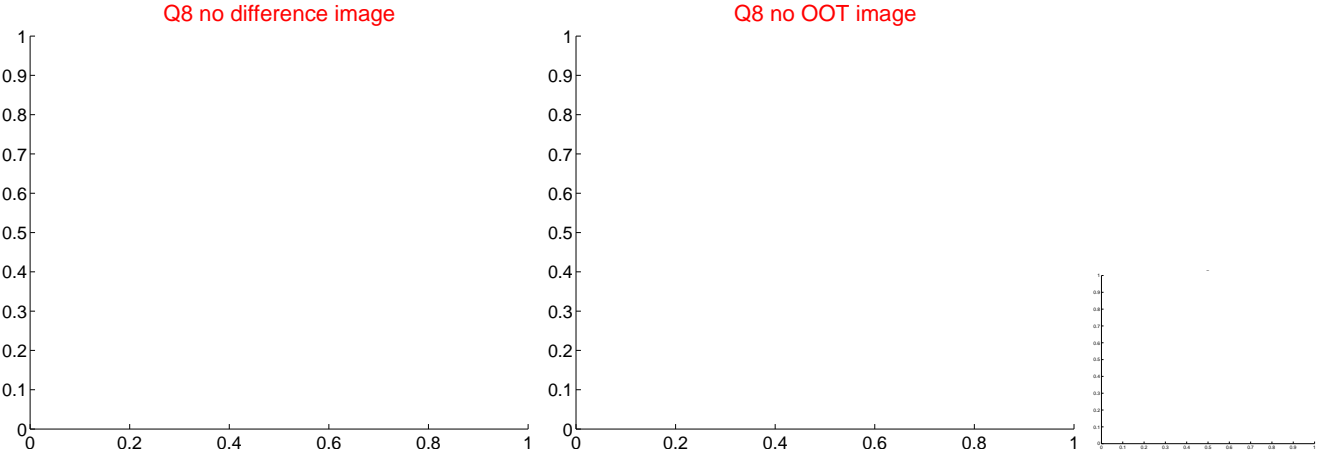
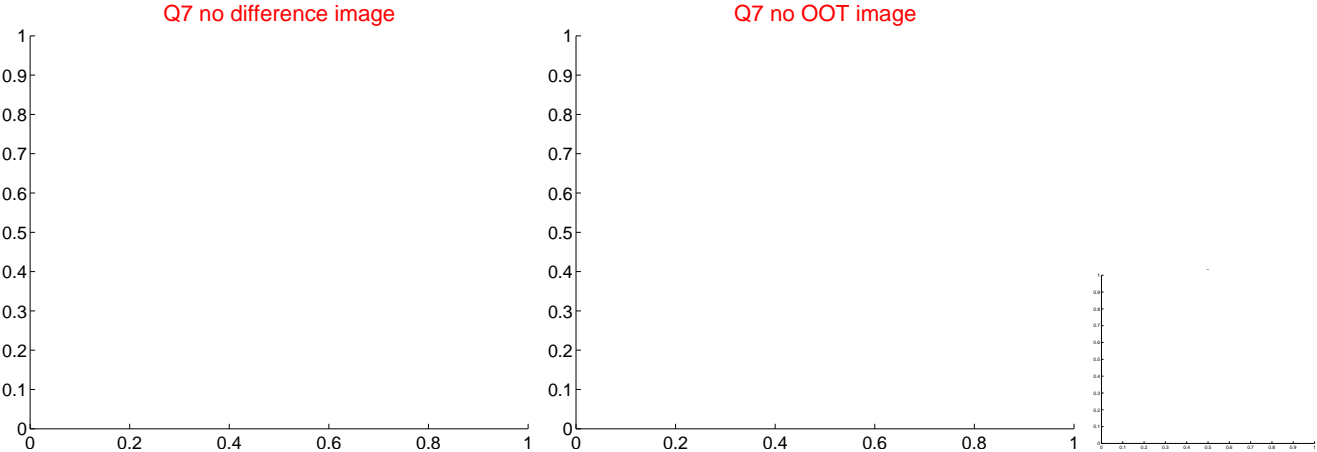
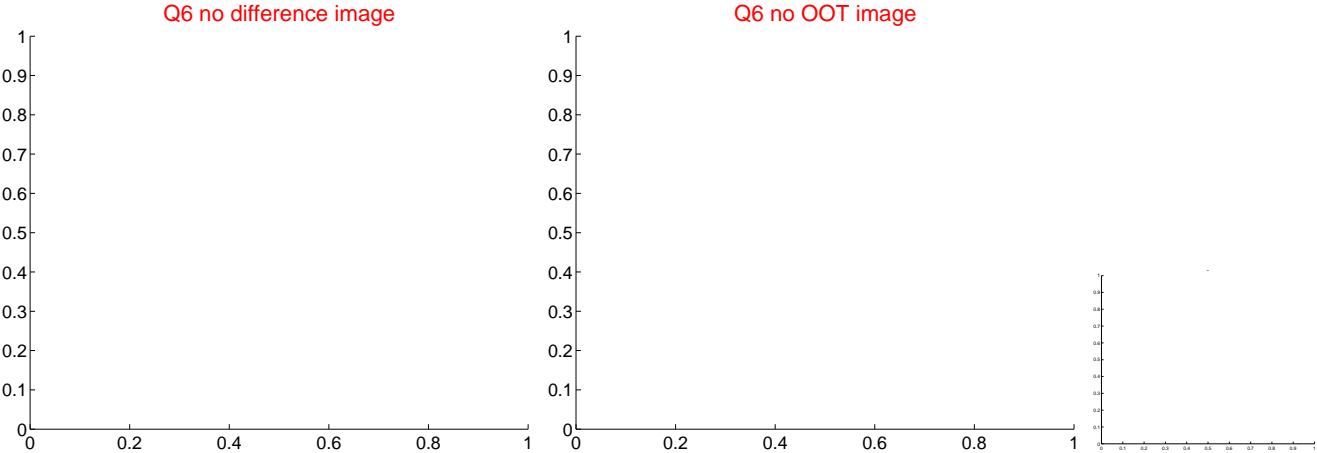
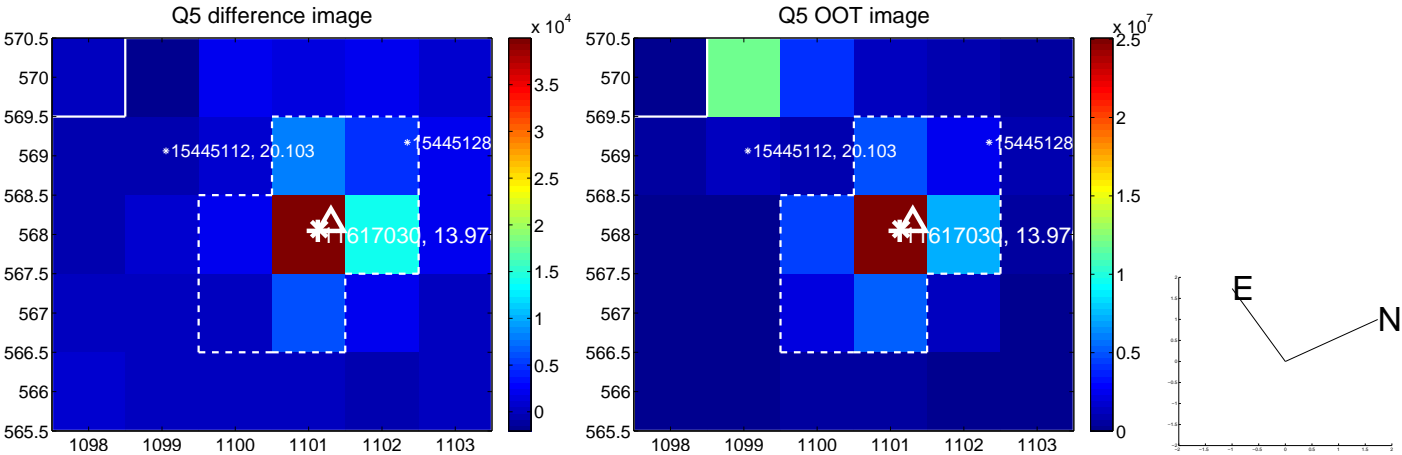


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

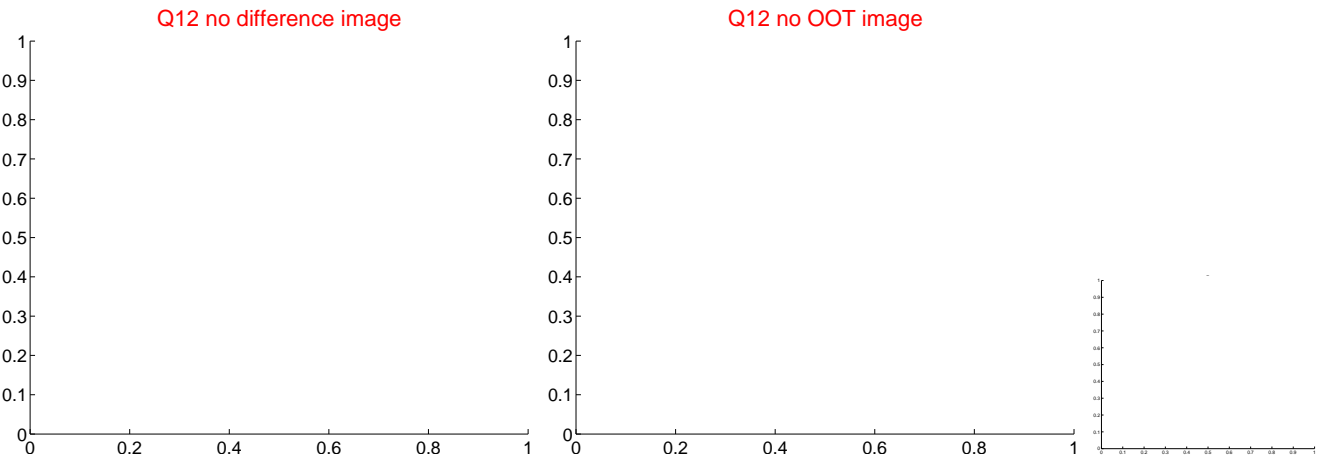
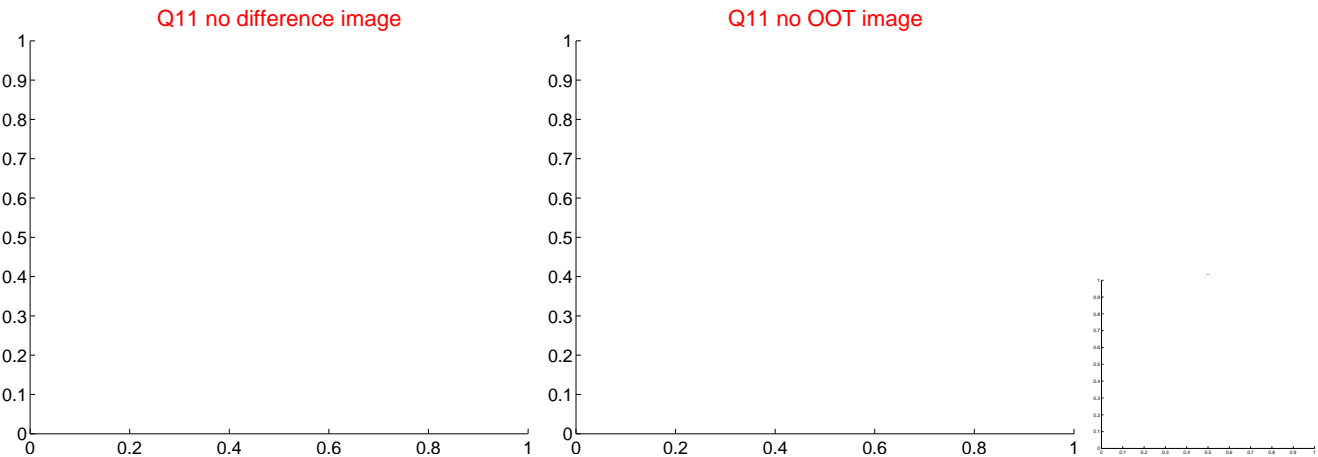
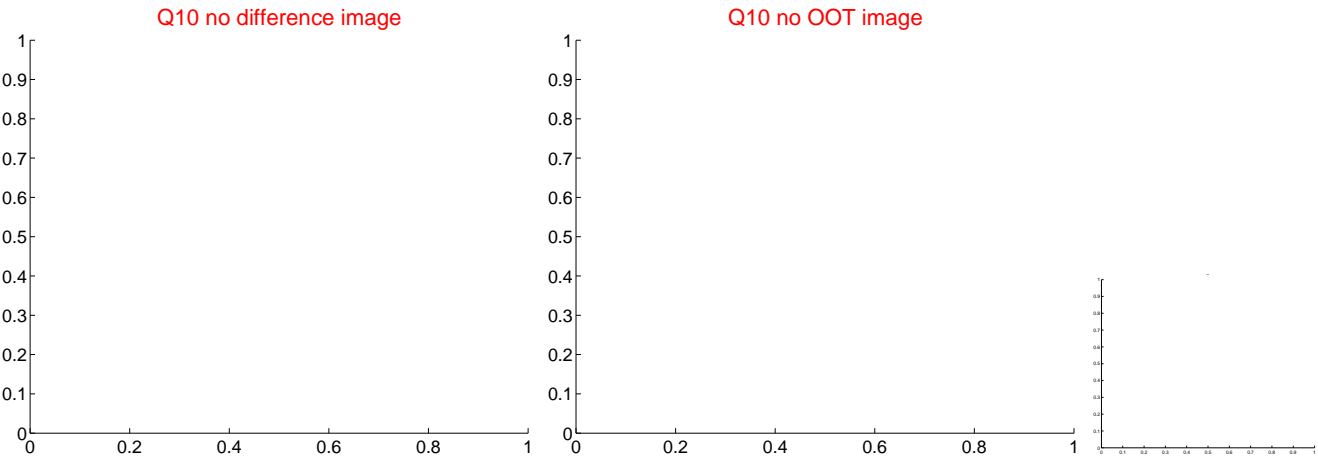
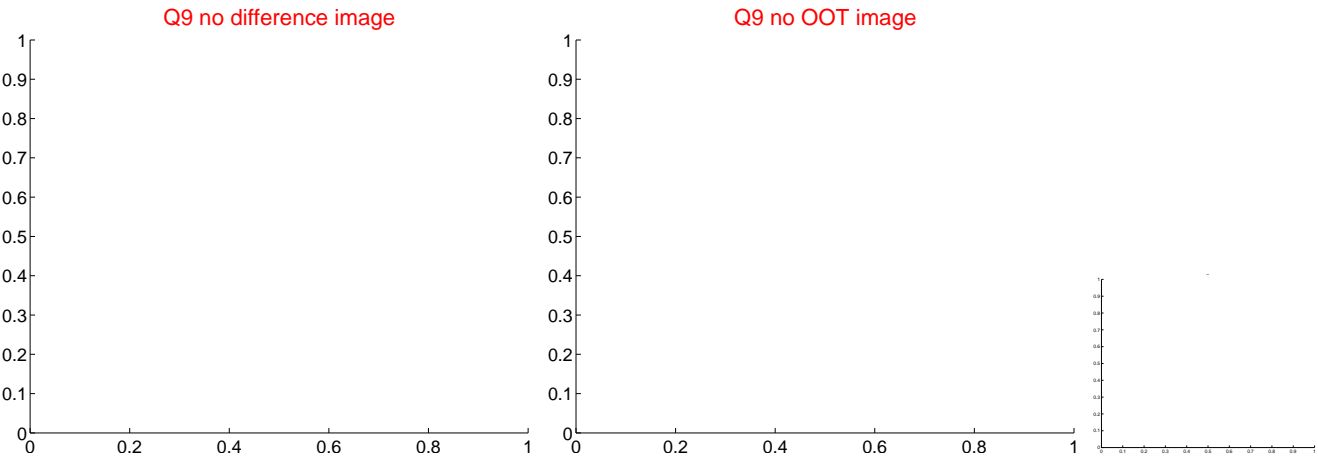
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



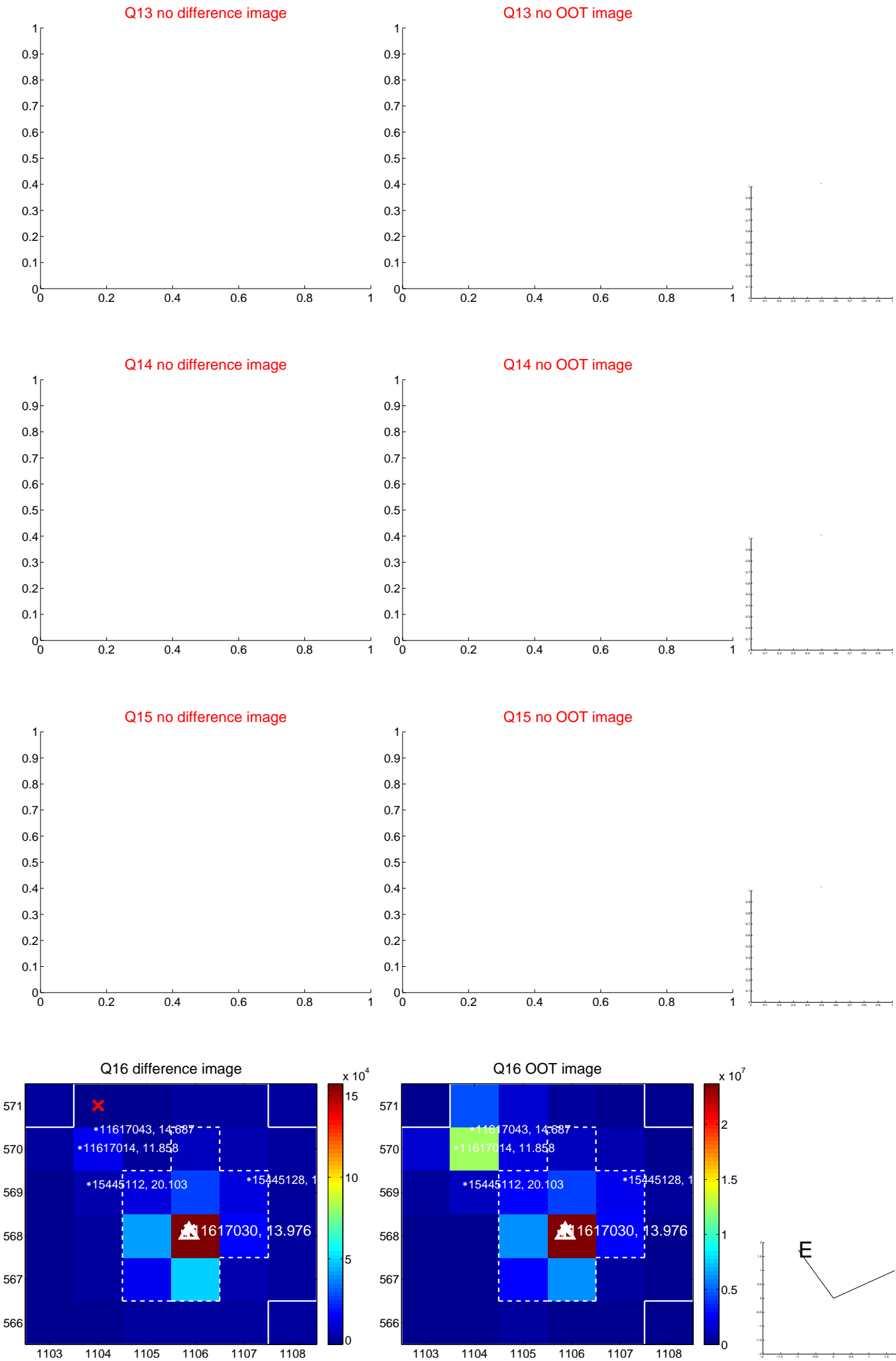
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



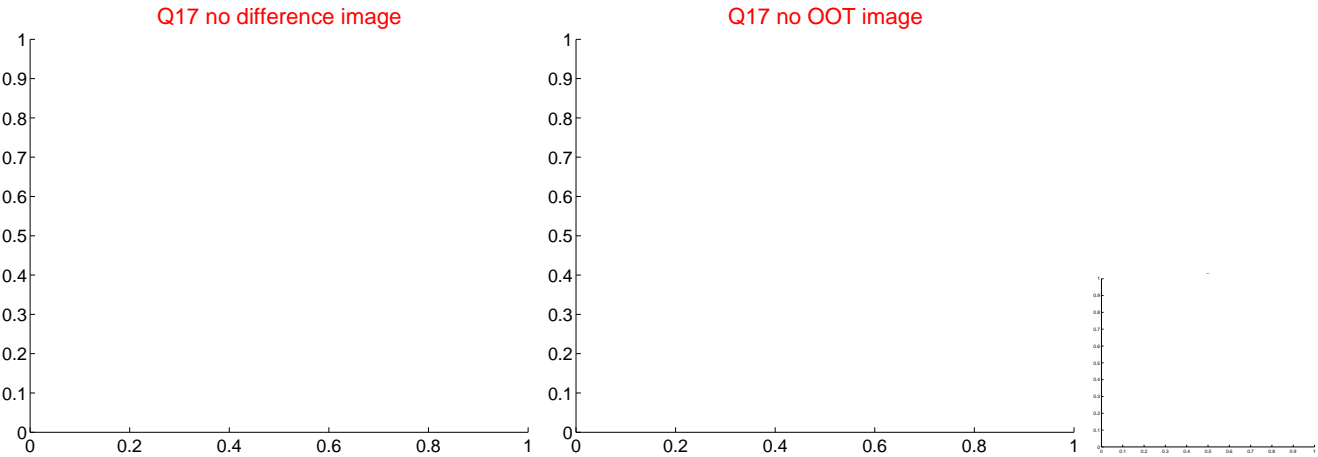
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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.



folded centroid time series figure for this object.

UKIRT Image

Declination

