

KIC 007825680

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})
007825680-01	OBS	No	3.069738	133.511066	7.7	13.702	7.8	5.8	1.93	7705	0.54	4791.13
007825680-02	OBS	No	211.367075	266.695444	407.7	27.720	35.3	22.1	1.93	7705	7.35	16.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007825680-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007825680-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

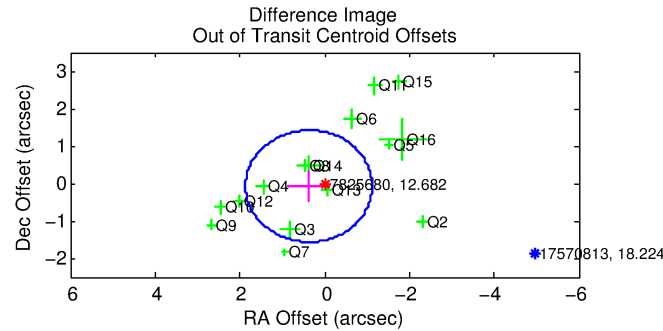
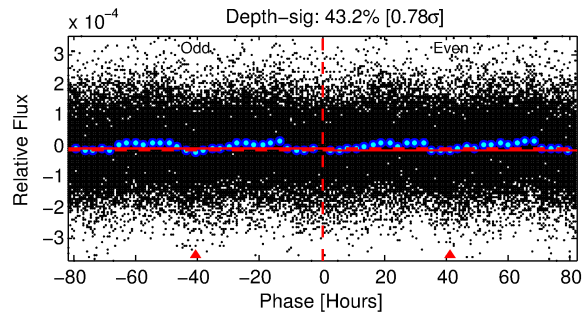
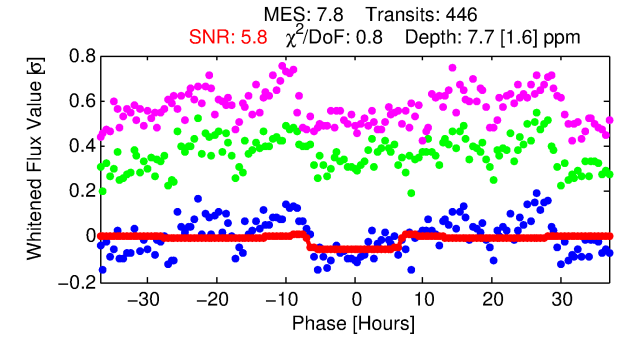
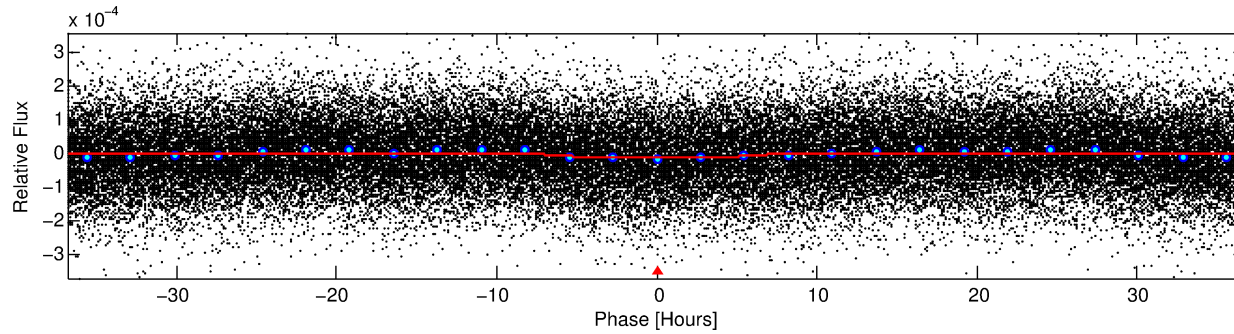
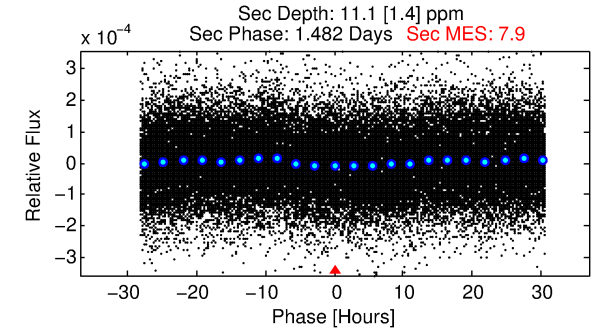
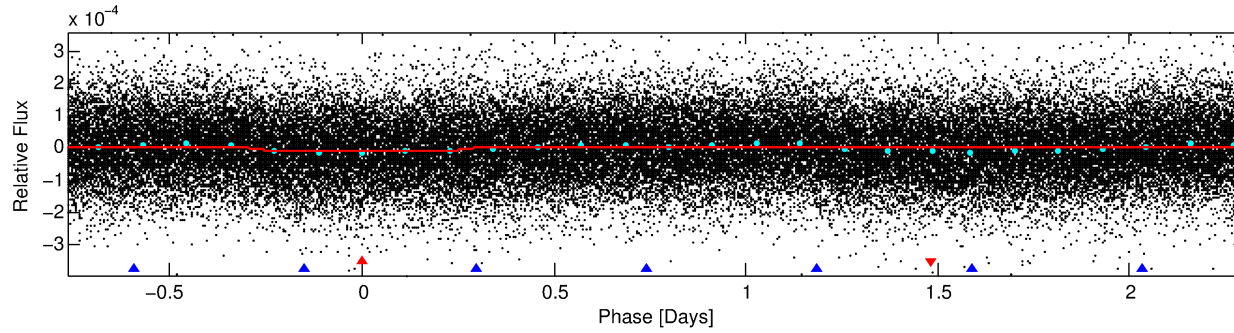
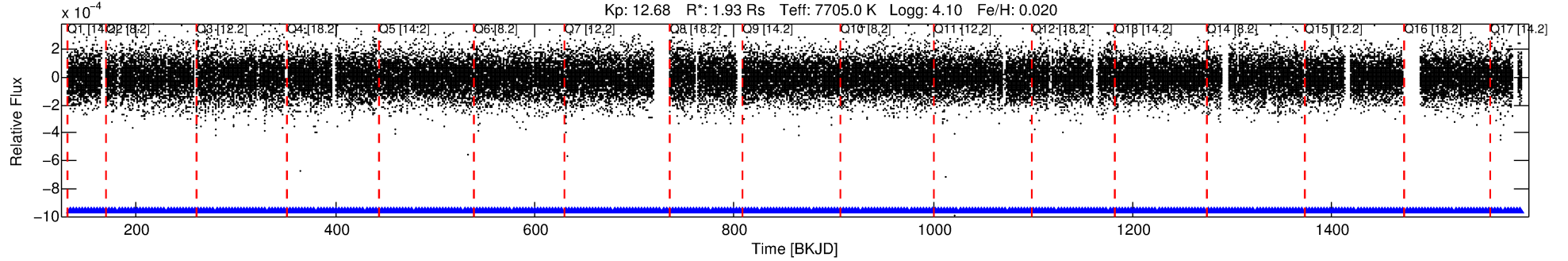
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007825680-01

No Significant Match Found

DV One-Page Summary

KIC: 7825680 Candidate: 1 of 2 Period: 3.070 d



DV Fit Results:

Period = 3.06974 [0.00008] d
Epoch = 133.5111 [0.0162] BKJD
Rp/R* = 0.0026 [0.0041]
a/R* = 1.81 [12.28]
b = 0.11 [85.13]
Seff = 4791.13 [1707.40]
Teff = 2121 [189] K
Rp = 0.54 [0.88] Re
a = 0.0495 [0.0112] AU
Ag = 50.88 [163.38] [0.31σ]
Teffp = 8760 [7009] K [0.95σ]

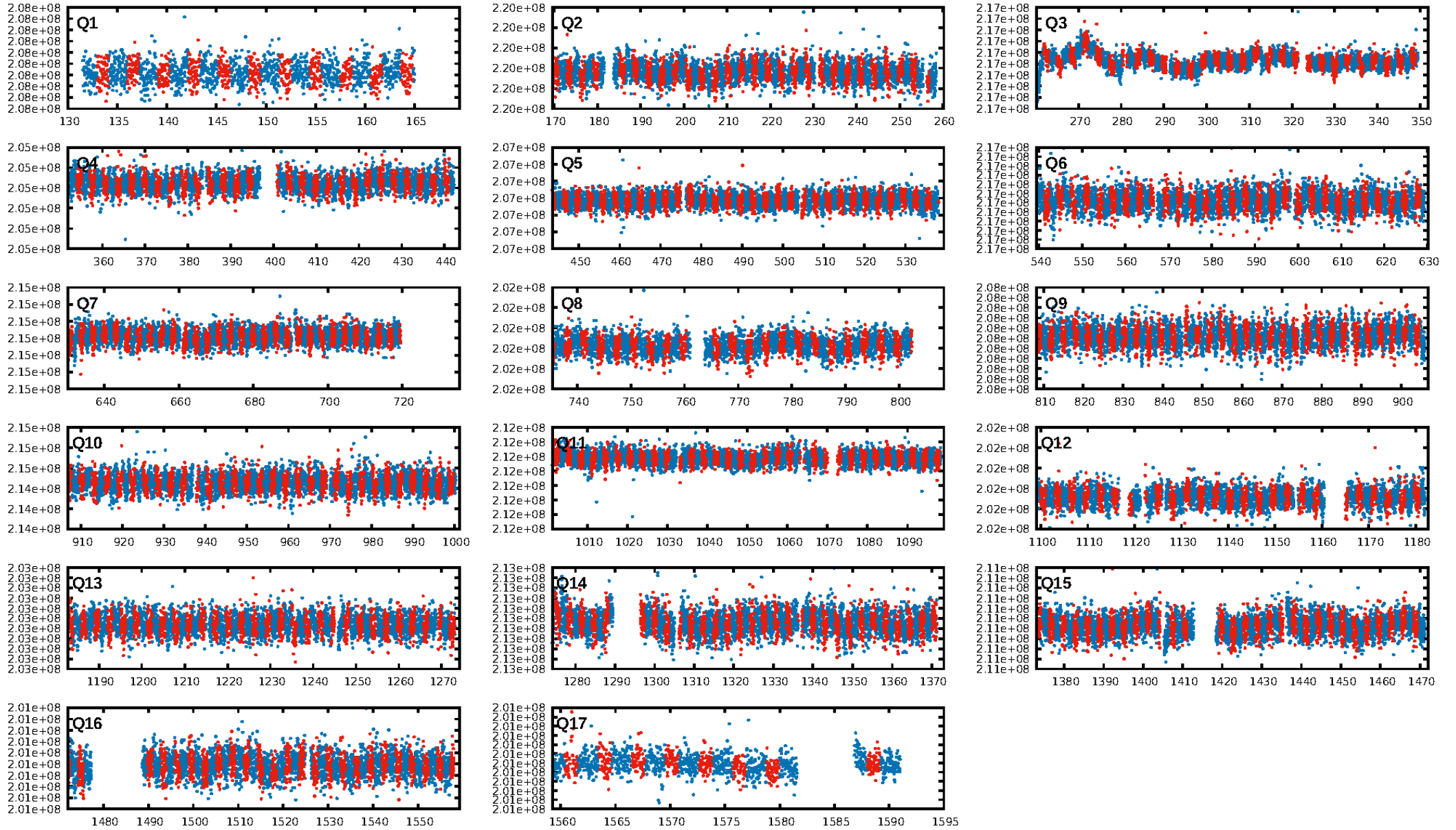
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [161.67σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.63e-10
RollingBand-fgt: 1.00 [427/427]
GhostDiagnostic-chr: 9.714
Centroid-sig: 9.5%
Centroid-so: 2.000 arcsec [1.21σ]
OotOffset-rm: 0.383 arcsec [0.77σ]
KicOffset-rm: 0.426 arcsec [0.86σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 1.00 [17/17]

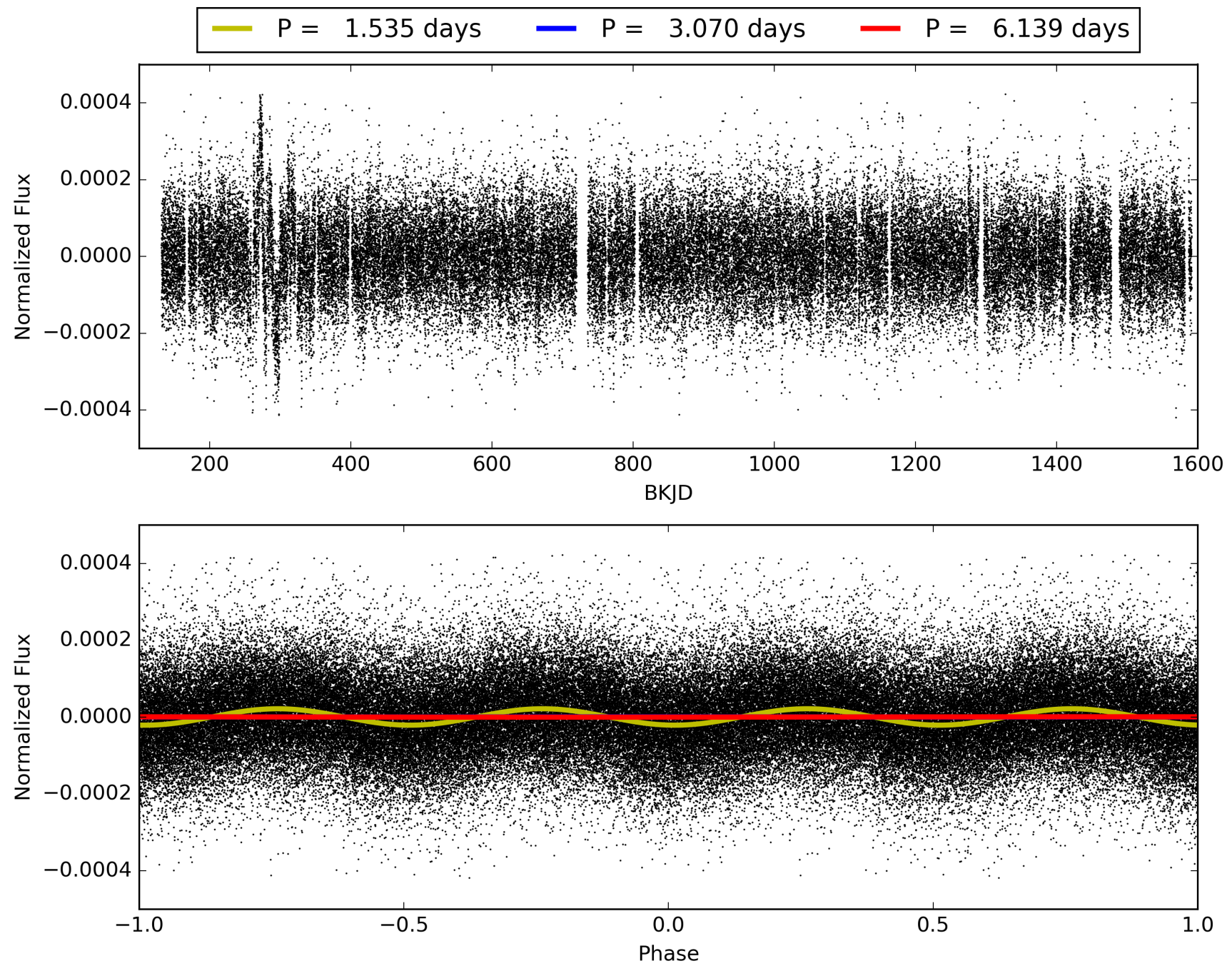
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:39:24 Z

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

TCE 007825680-01, PDC Light Curves

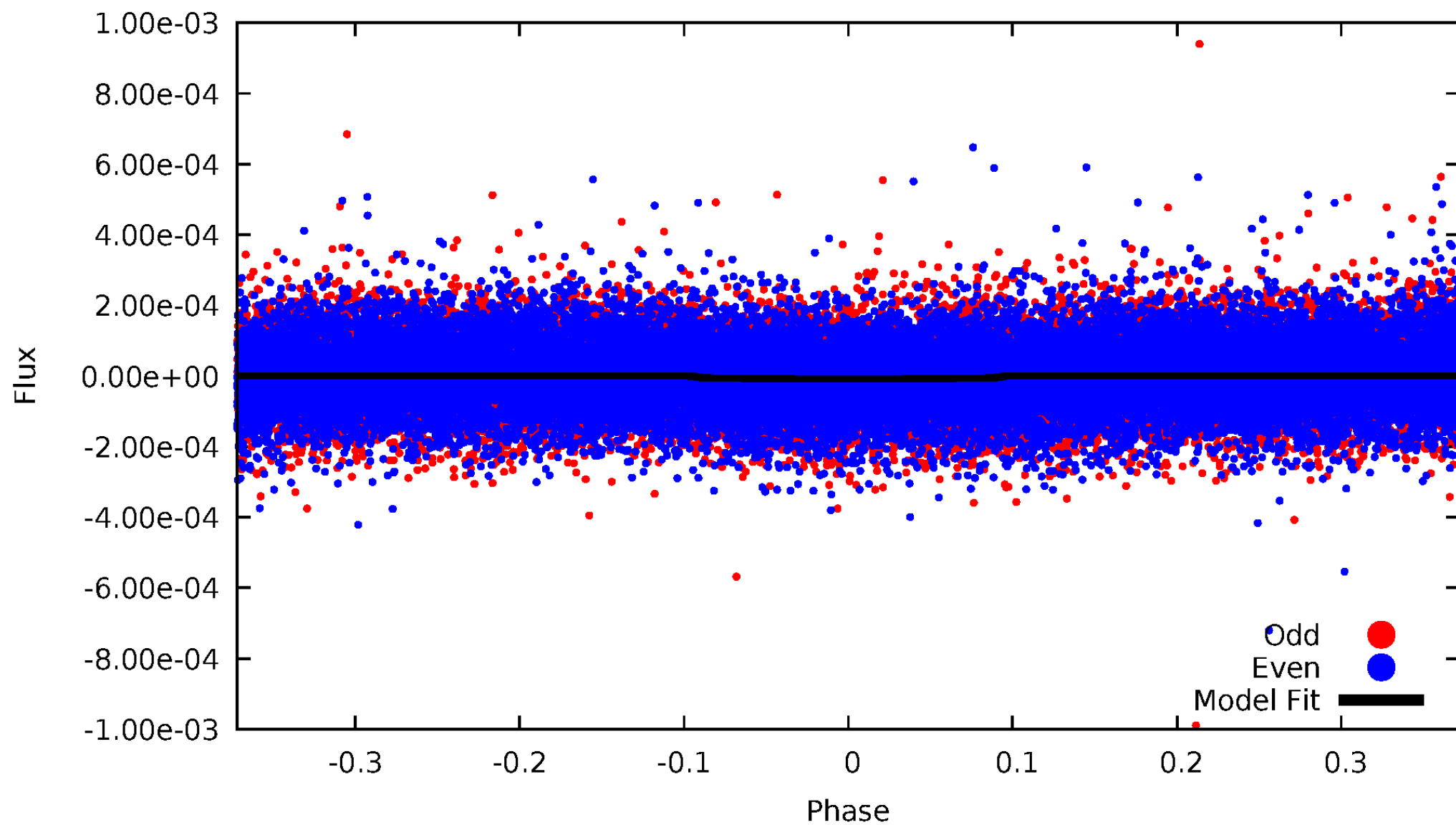


TCE 007825680-01



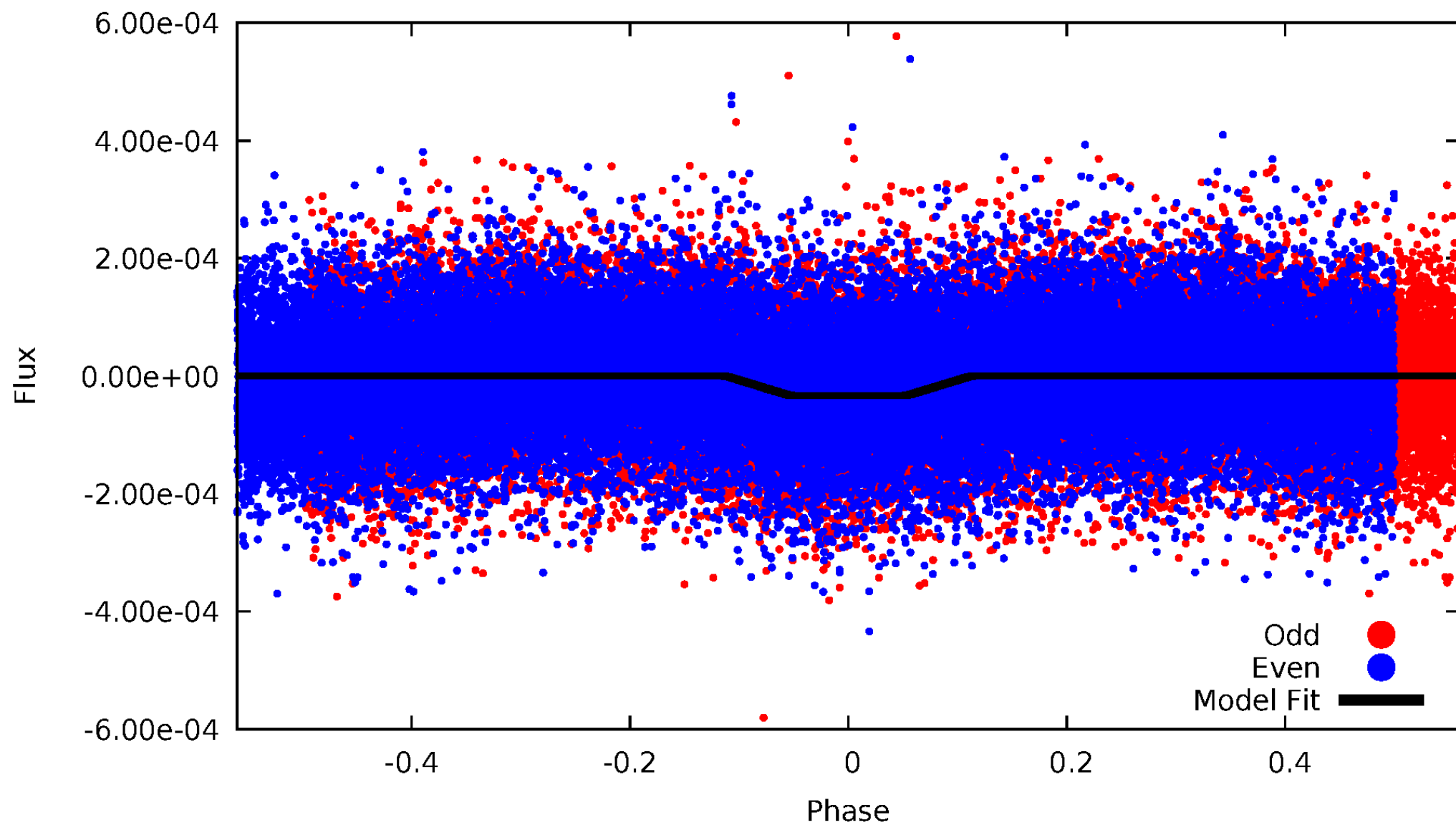
DV Odd/Even

TCE 007825680-01



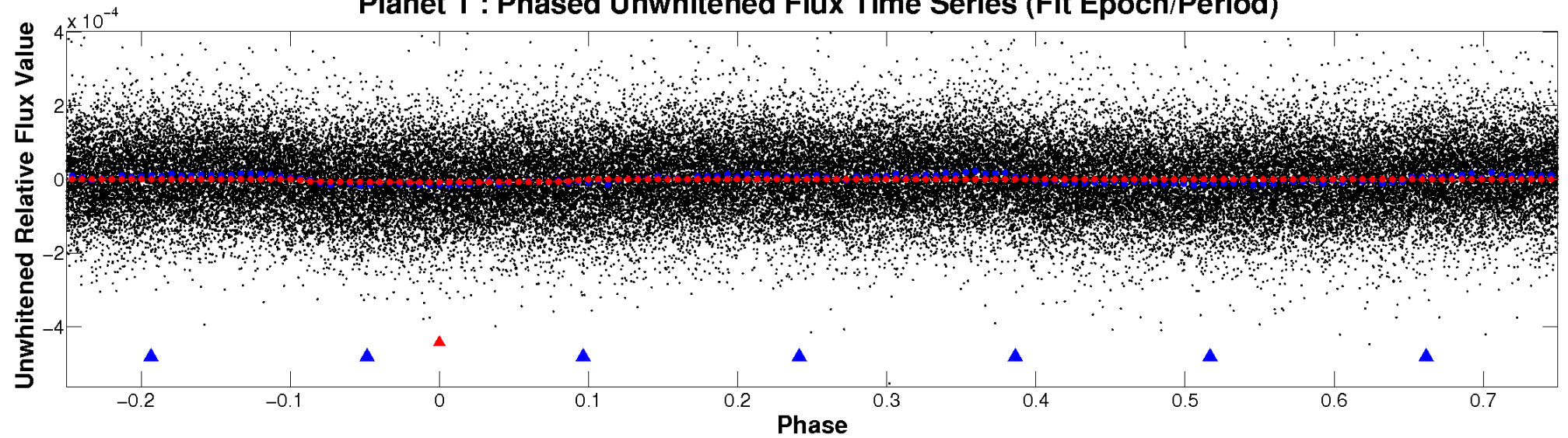
ALT Odd/Even

TCE 007825680-01

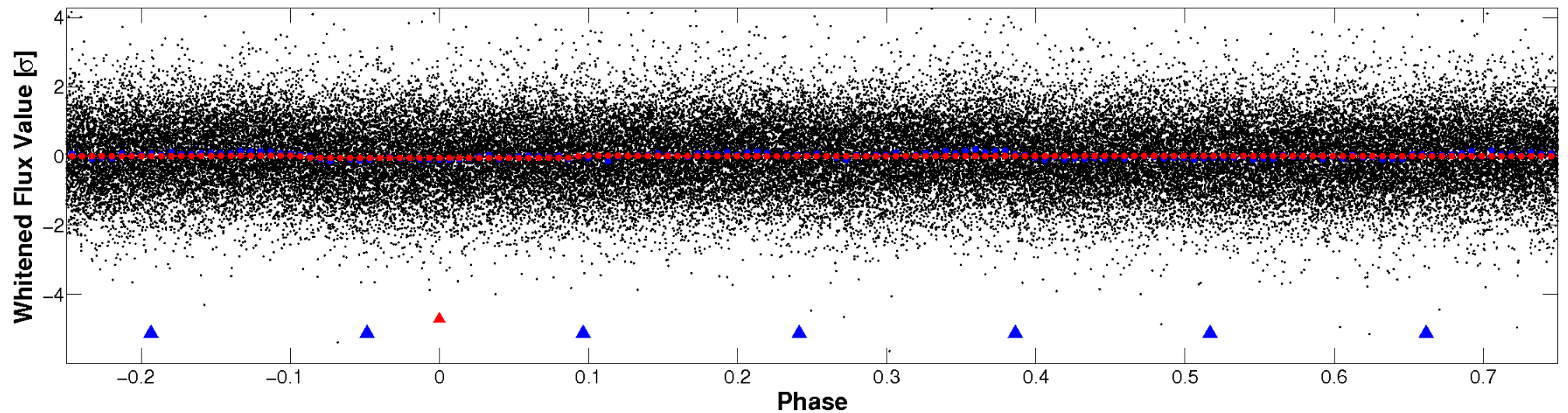


Non-Whitened Vs. Whitened Light Curve

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

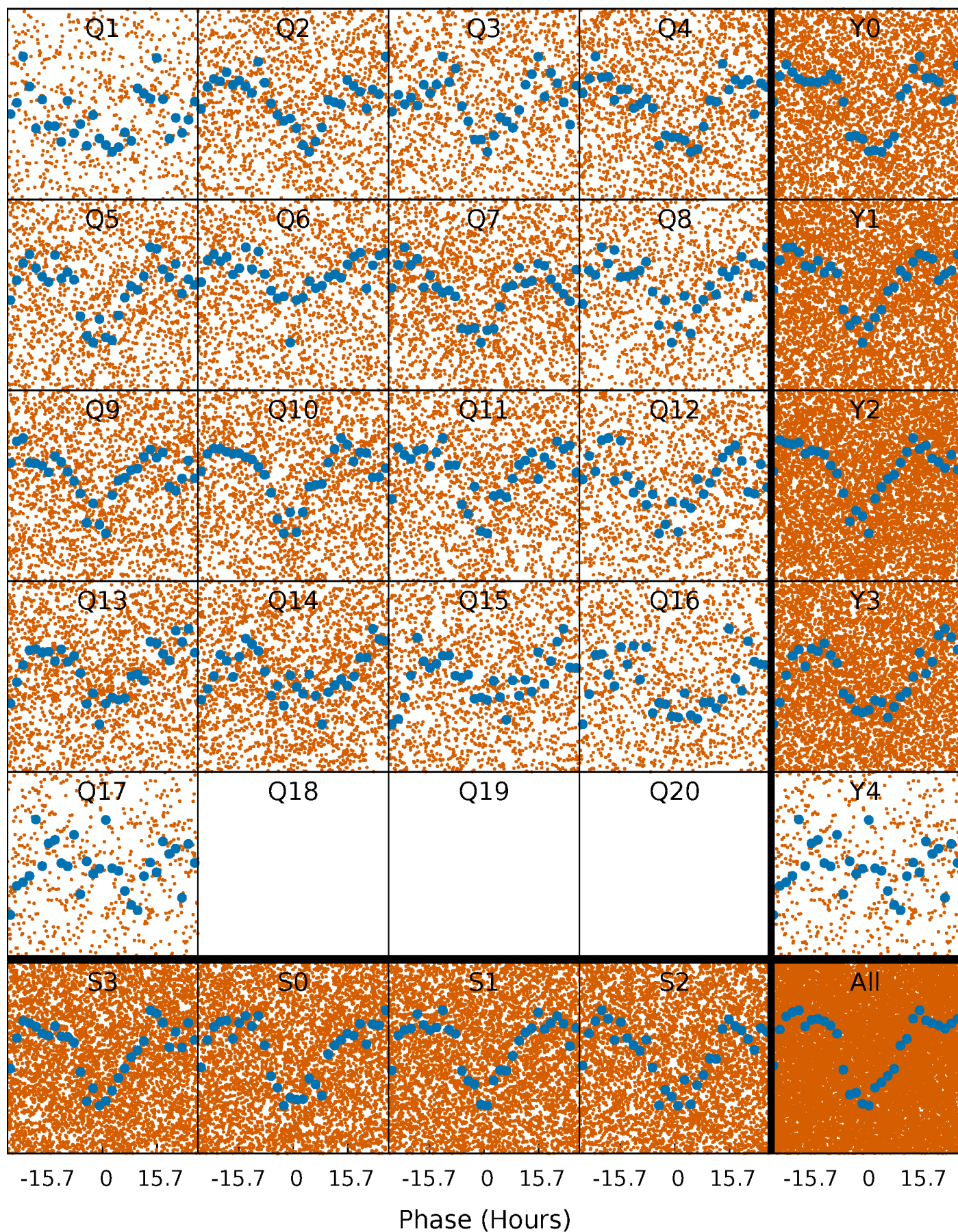


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



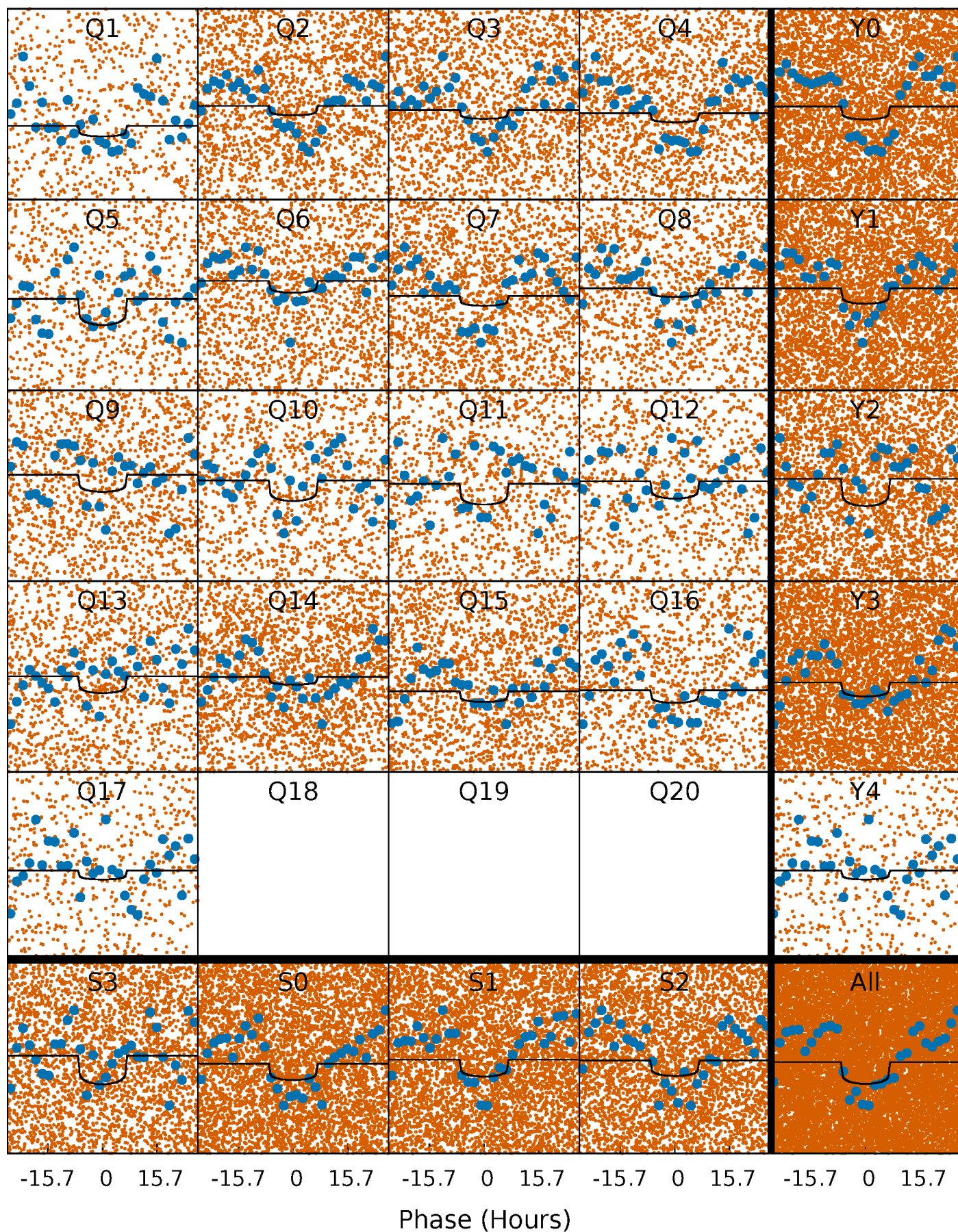
PDC Quarter-Phased Transit Curves

TCE 007825680-01 P= 3.069738 Days $T_0=133.511066$ (BKJD)



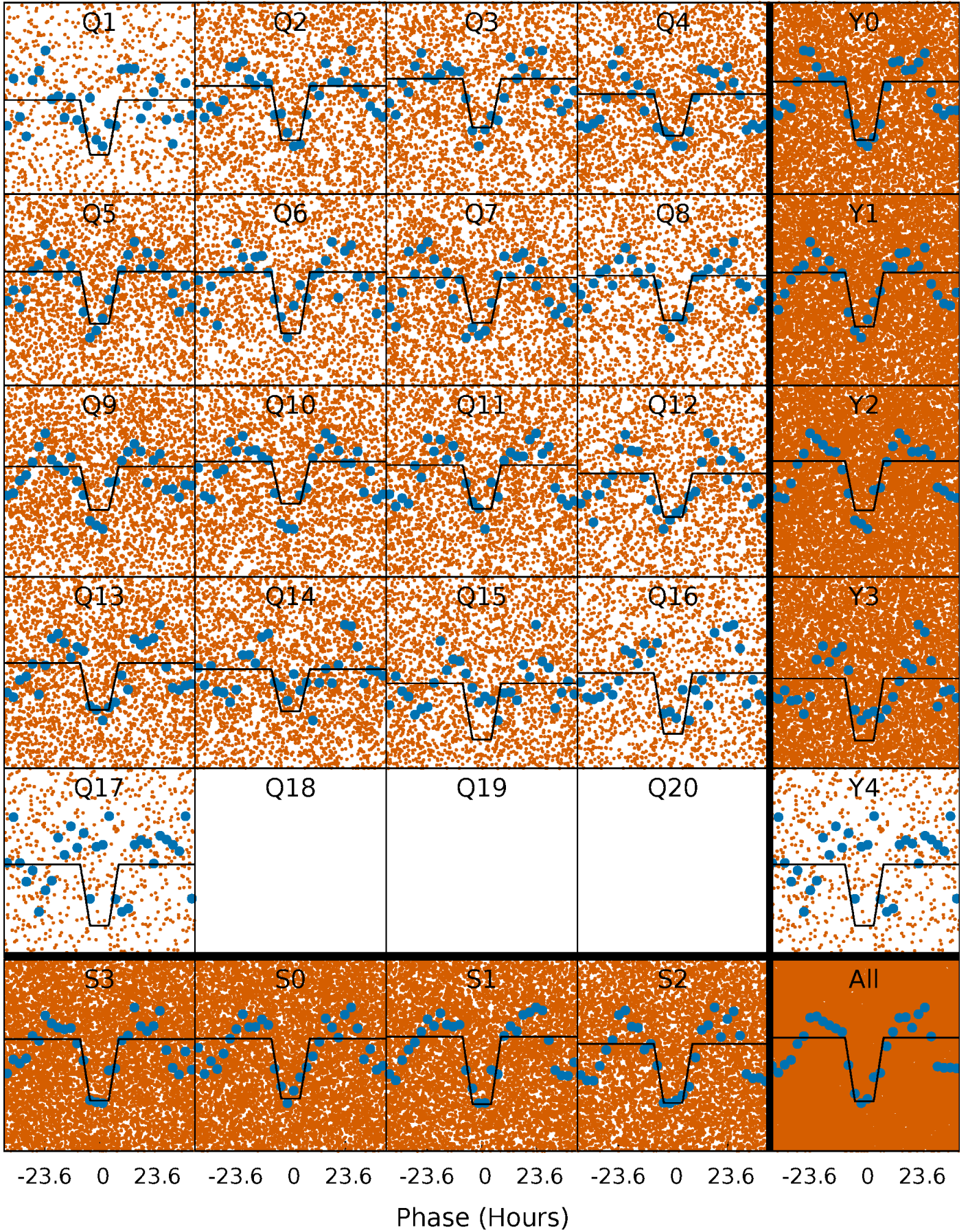
DV Quarter-Phased Transit Curves

TCE 007825680-01 P= 3.069738 Days $T_0=133.511066$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

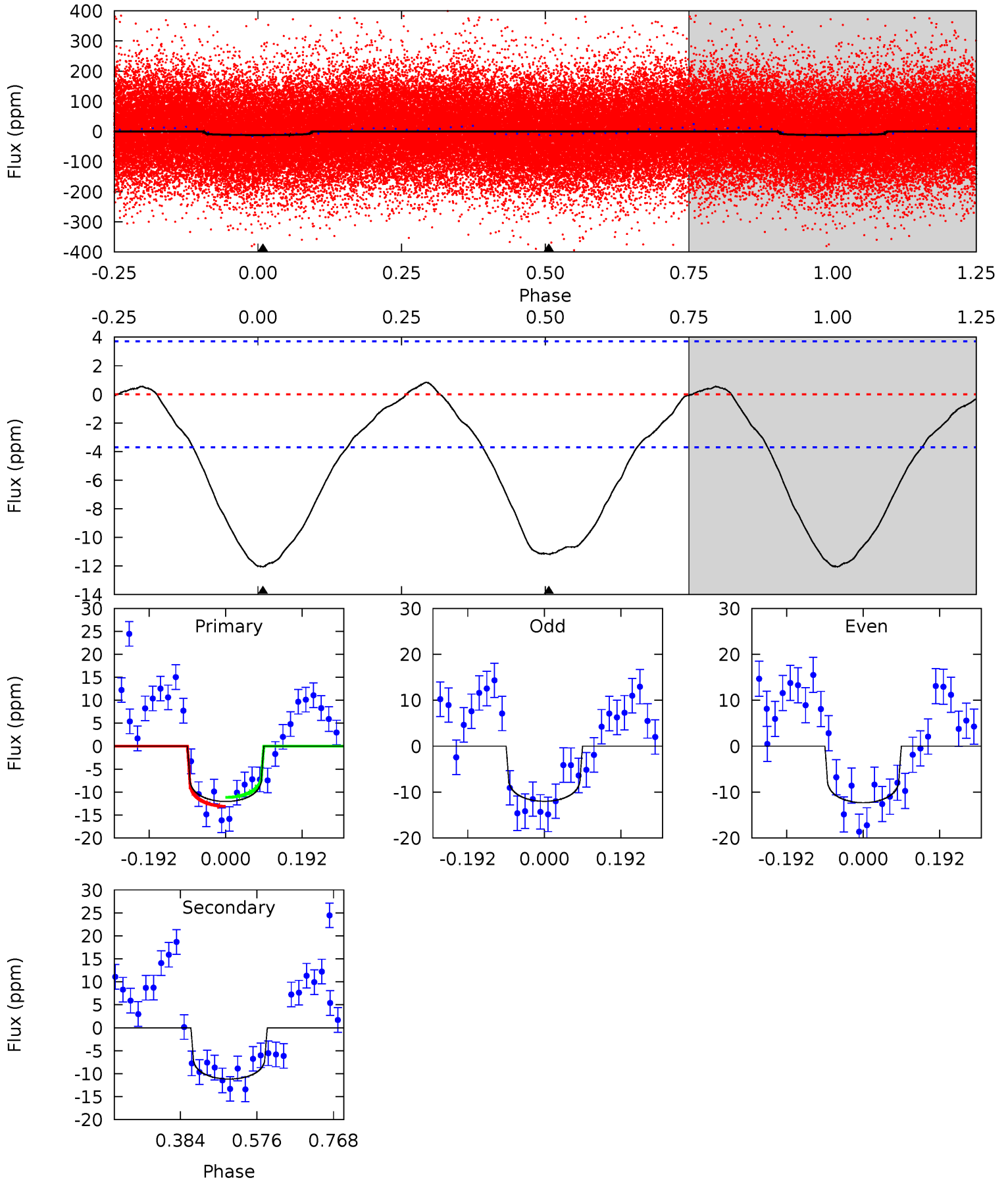
TCE 007825680-01 P= 3.069409 Days $T_0=133.593851$ (BKJD)



DV Model-Shift Uniqueness Test

007825680-01, P = 3.069738 Days, E = 130.441328 Days

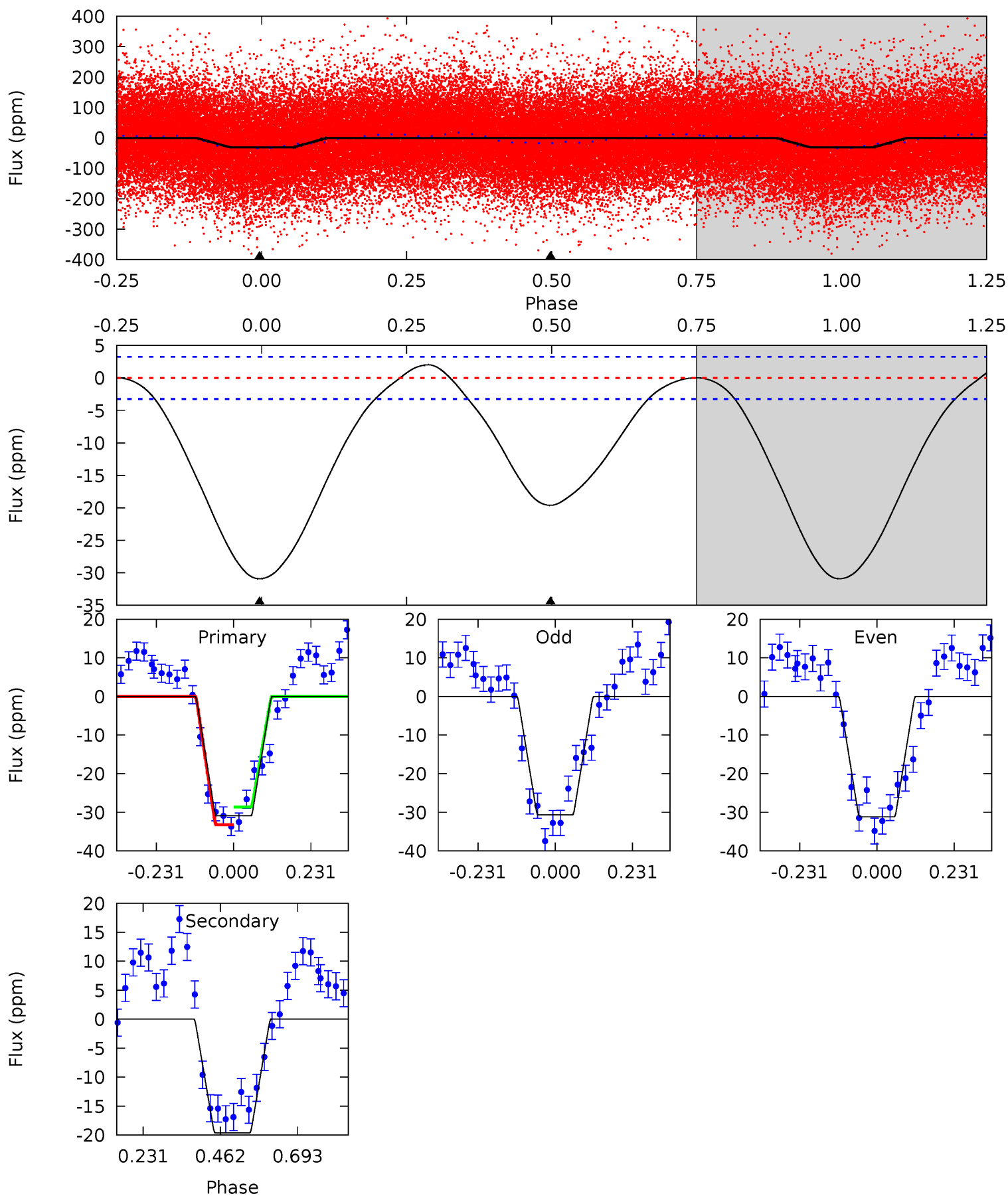
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	13.4	0	0	4.43	1.30	0.96	14.4	14.4	13.4	13.4	0.18	1.17	0.07	1.16



Alt Model-Shift Uniqueness Test

007825680-01, P = 3.069409 Days, E = 130.524442 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.7	26.4	0	0	4.39	1.20	1.00	41.7	41.7	26.4	26.4	0.35	1.09	0.06	3.09



Stellar Parameters For KIC 007825680

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7705^{+214}_{-322}	$4.102^{+0.135}_{-0.165}$	$0.020^{+0.150}_{-0.350}$	$1.927^{+0.540}_{-0.405}$	$1.713^{+0.194}_{-0.267}$	$0.337^{+0.230}_{-0.159}$
	+3%/-4%	+3%/-4%	+750%/-1750%	+28%/-21%	+11%/-16%	+68%/-47%
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 007825680-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-11 ± 1	$0.85^{+0.78}_{-0.55}$	2964^{+209}_{-187}	6807^{+7656}_{-1805}	21^{+141}_{-15}
Alt.	-20 ± 1	$1.28^{+0.81}_{-0.76}$	2968^{+200}_{-207}	6420^{+5277}_{-1352}	16^{+81}_{-10}

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 $A_{obs} \gg 1.0$

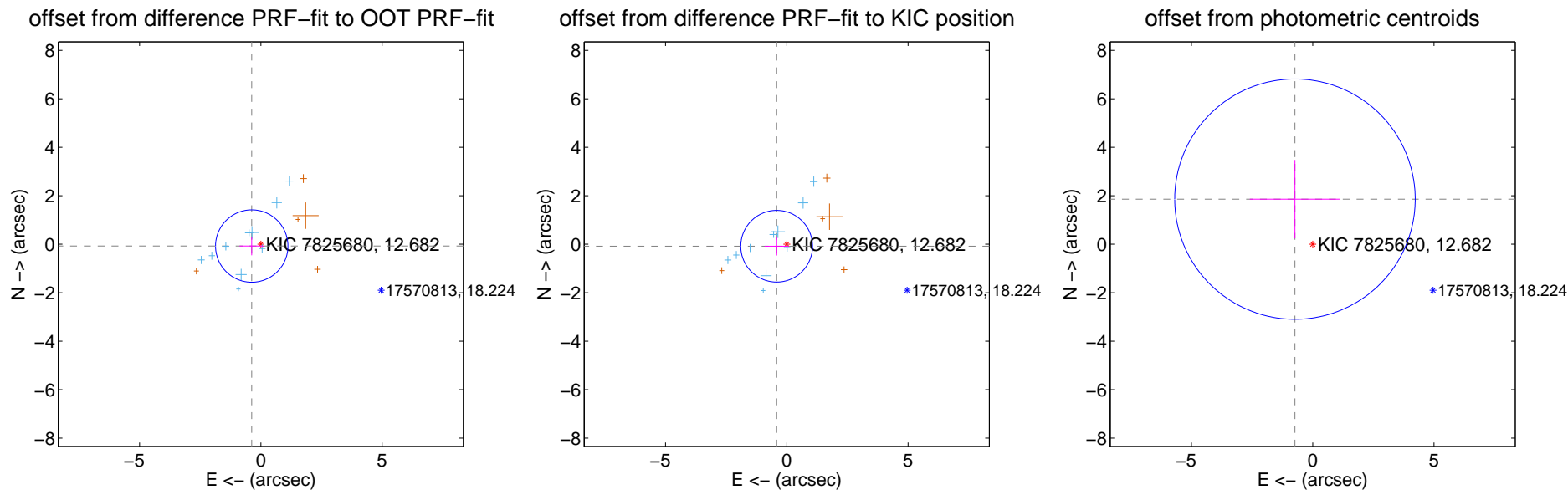
DV Centroid Data

Supplemental centroid analysis for 007825680-01. Kepler magnitude: 12.68. Transit SNR 5.79

There are 10 quarters with good PRF difference image offsets

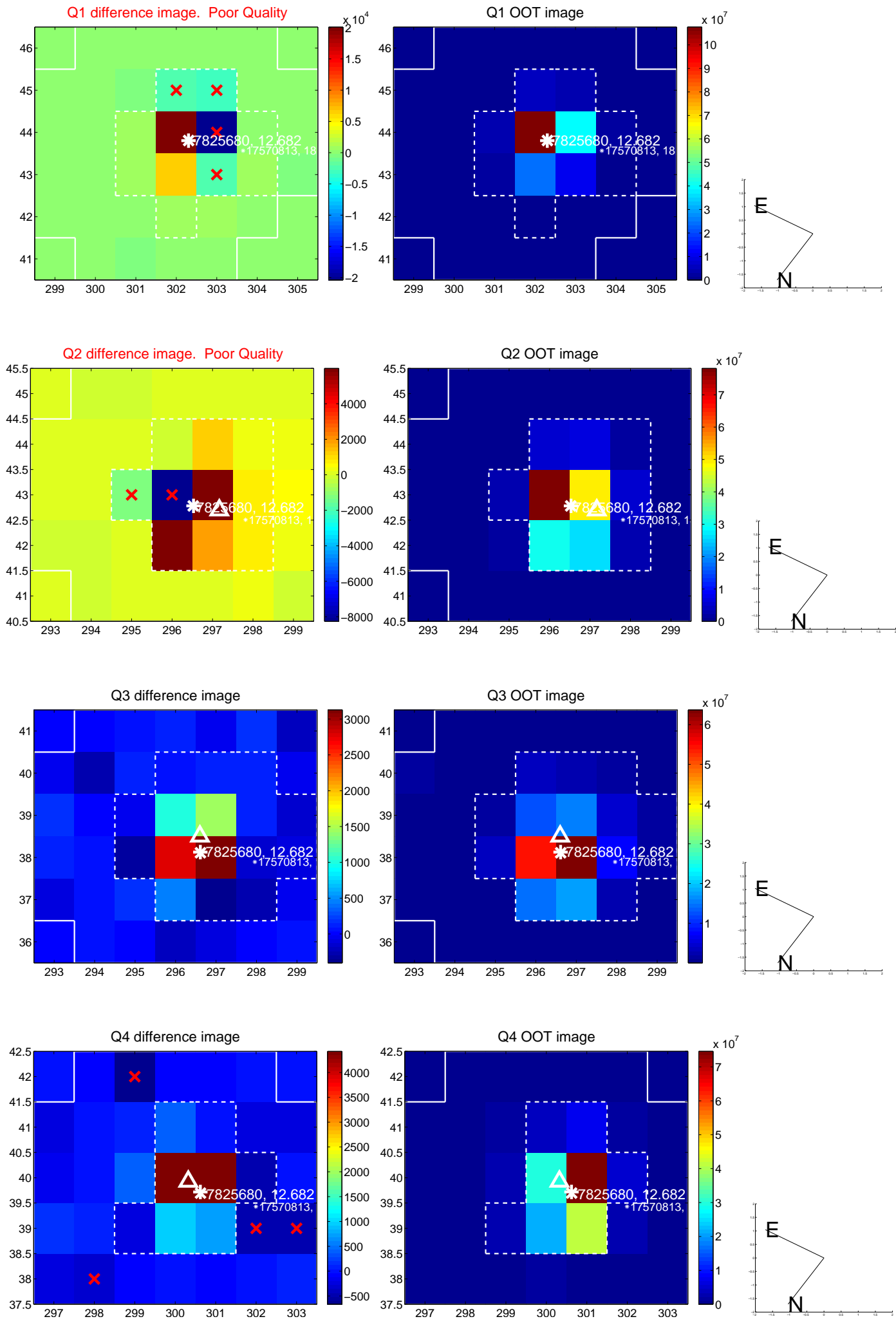
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.383 ± 0.498	0.77	0.376 ± 0.502	-0.074 ± 0.381
PRF-fit source offset from KIC position	0.426 ± 0.493	0.86	0.418 ± 0.497	-0.082 ± 0.380
photometric centroid source offset	2.00 ± 1.65	1.21	0.73 ± 1.86	1.86 ± 1.62

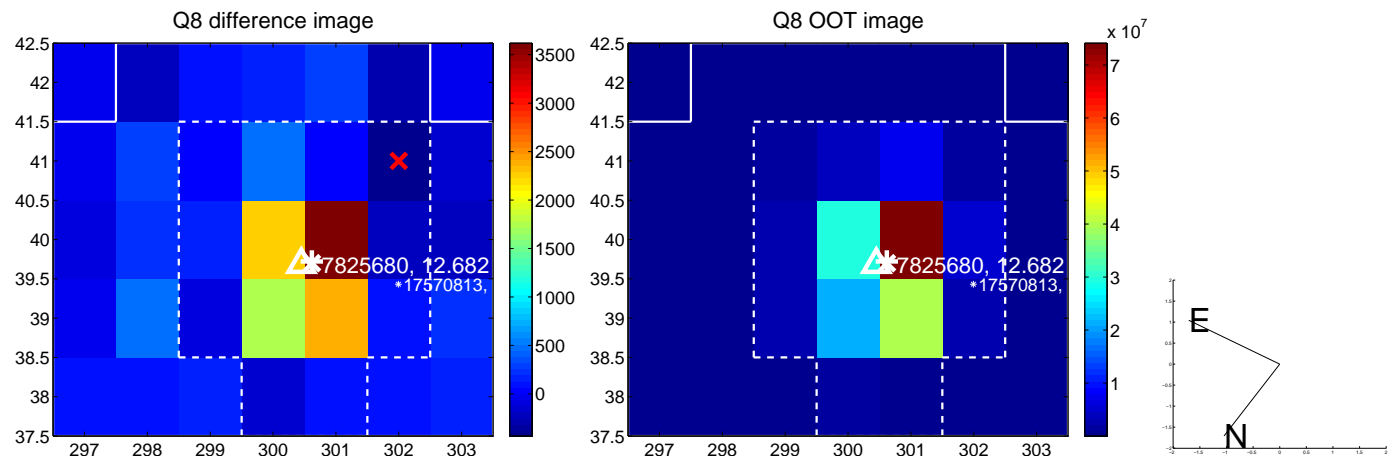
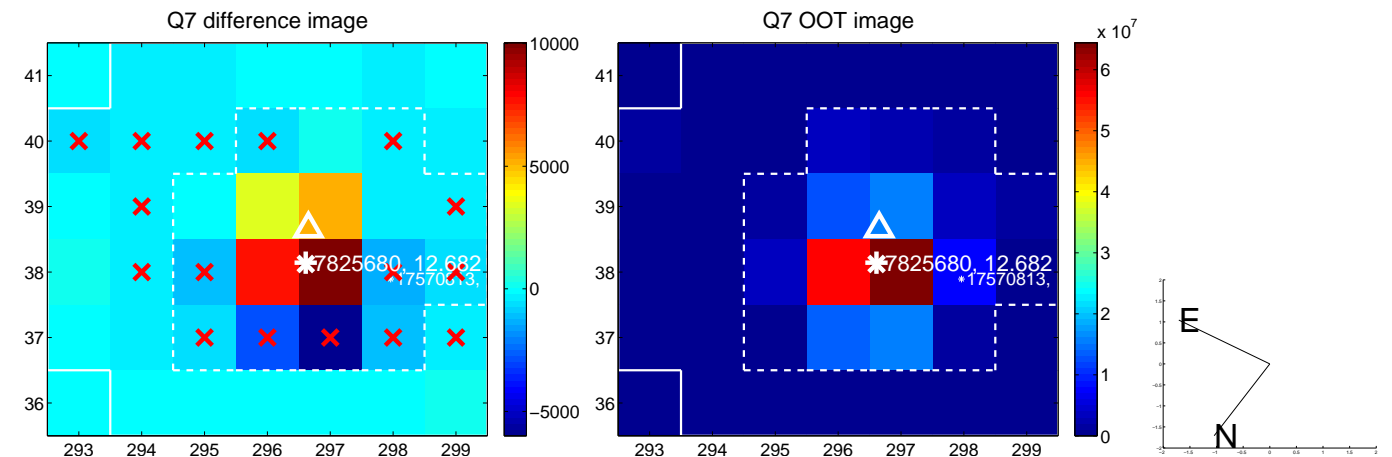
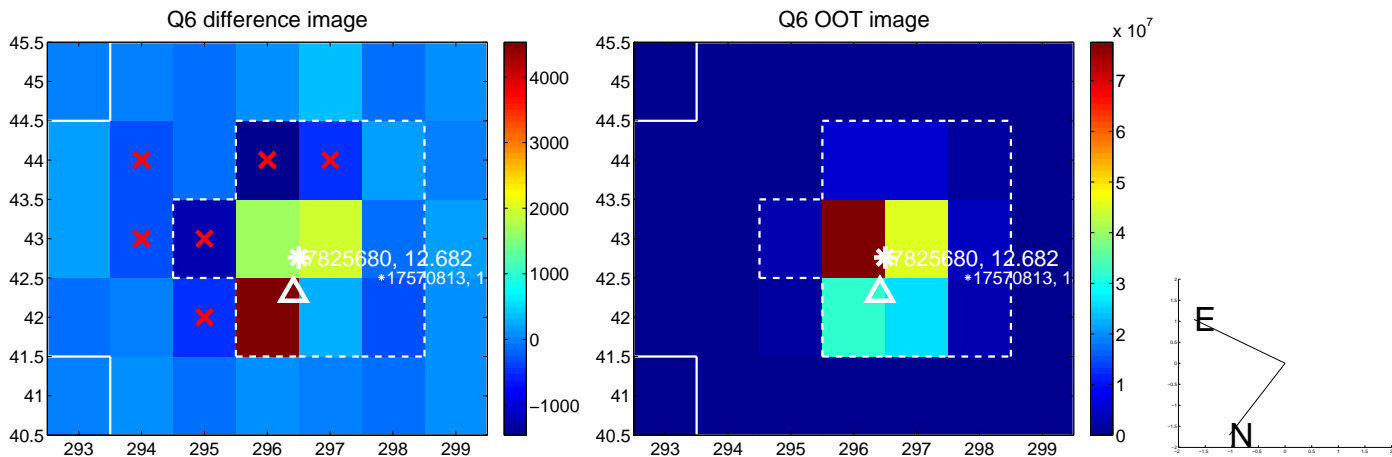
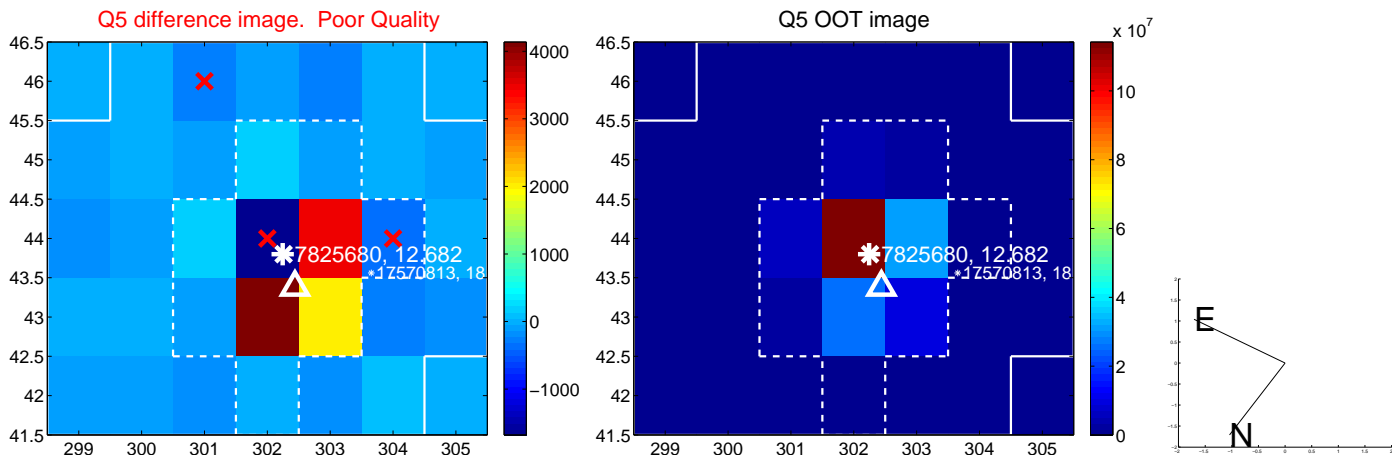


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

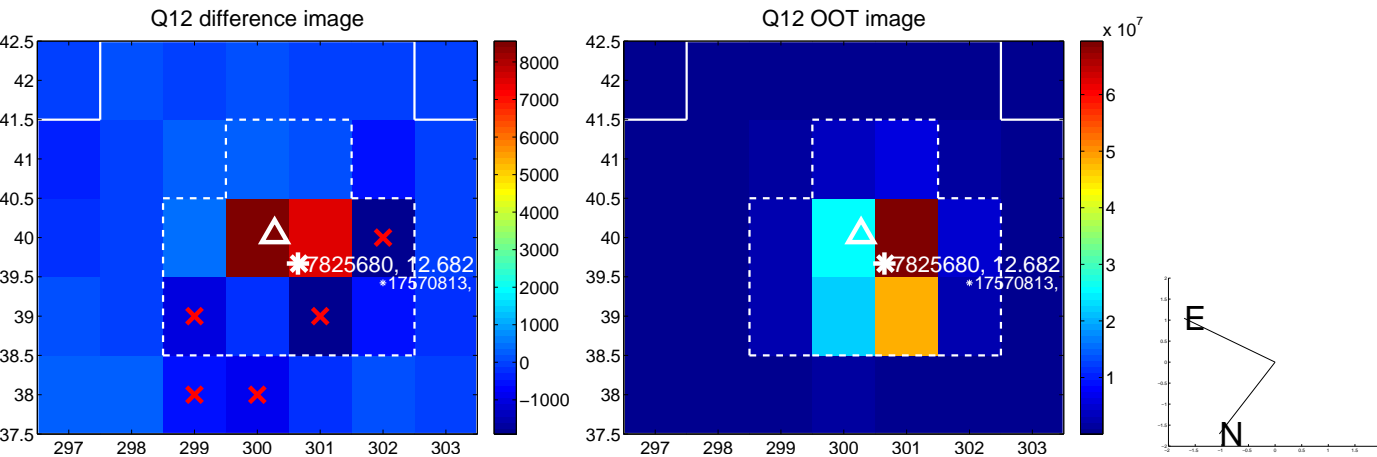
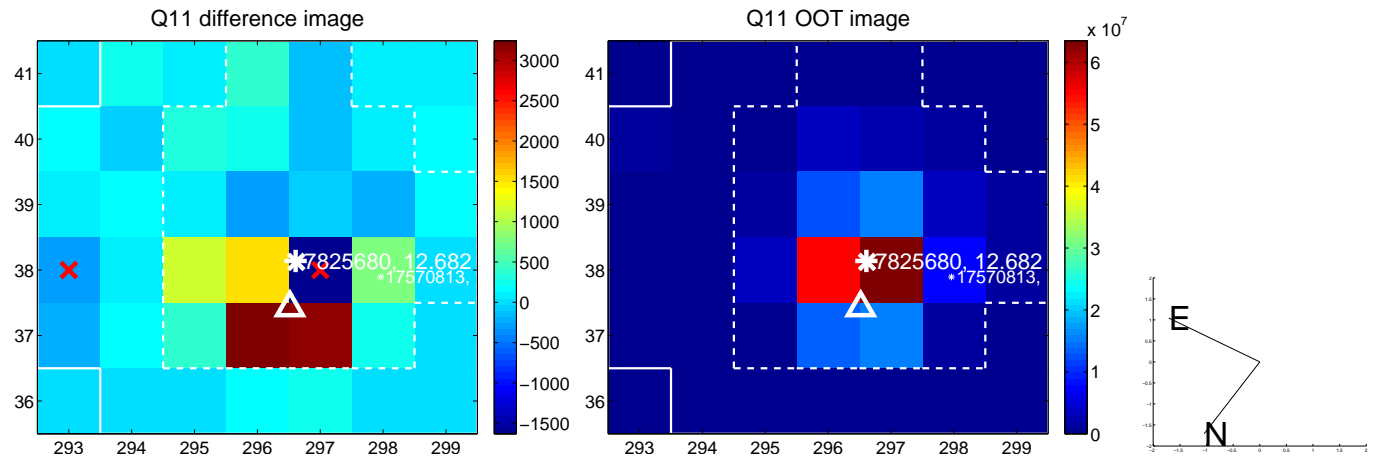
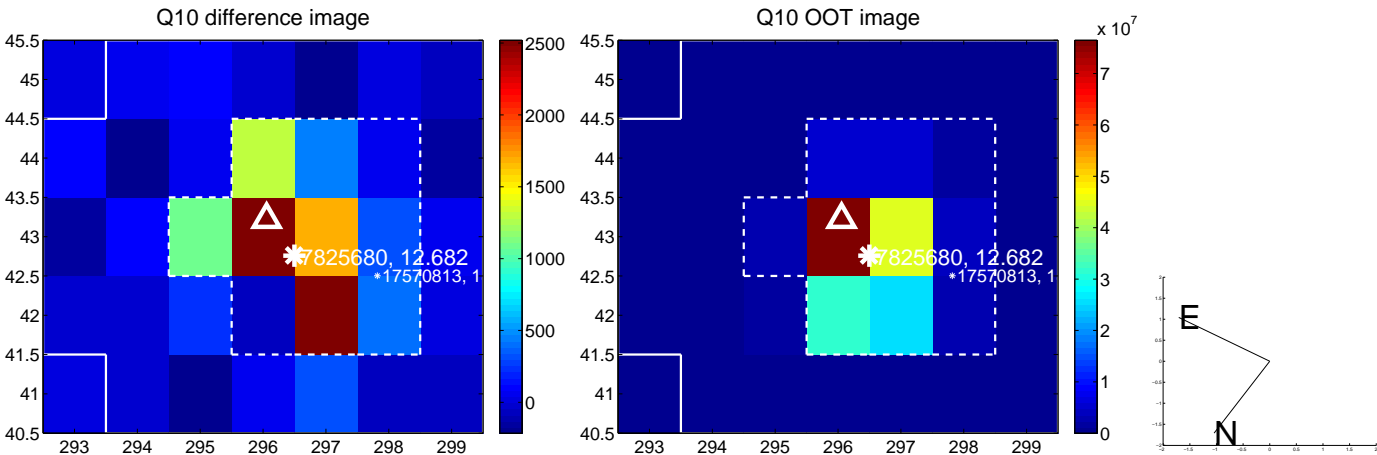
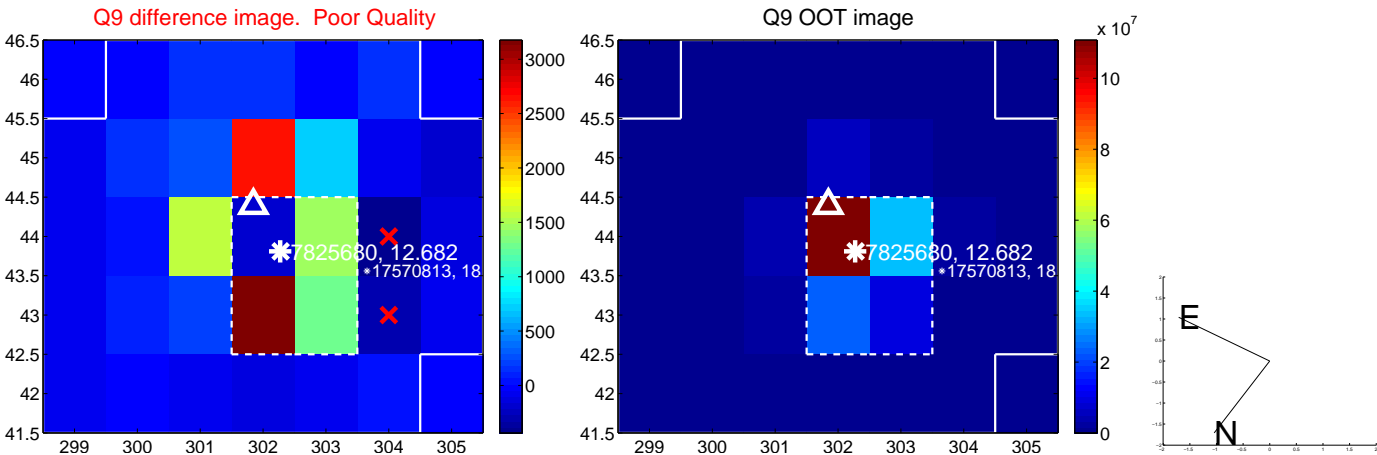
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



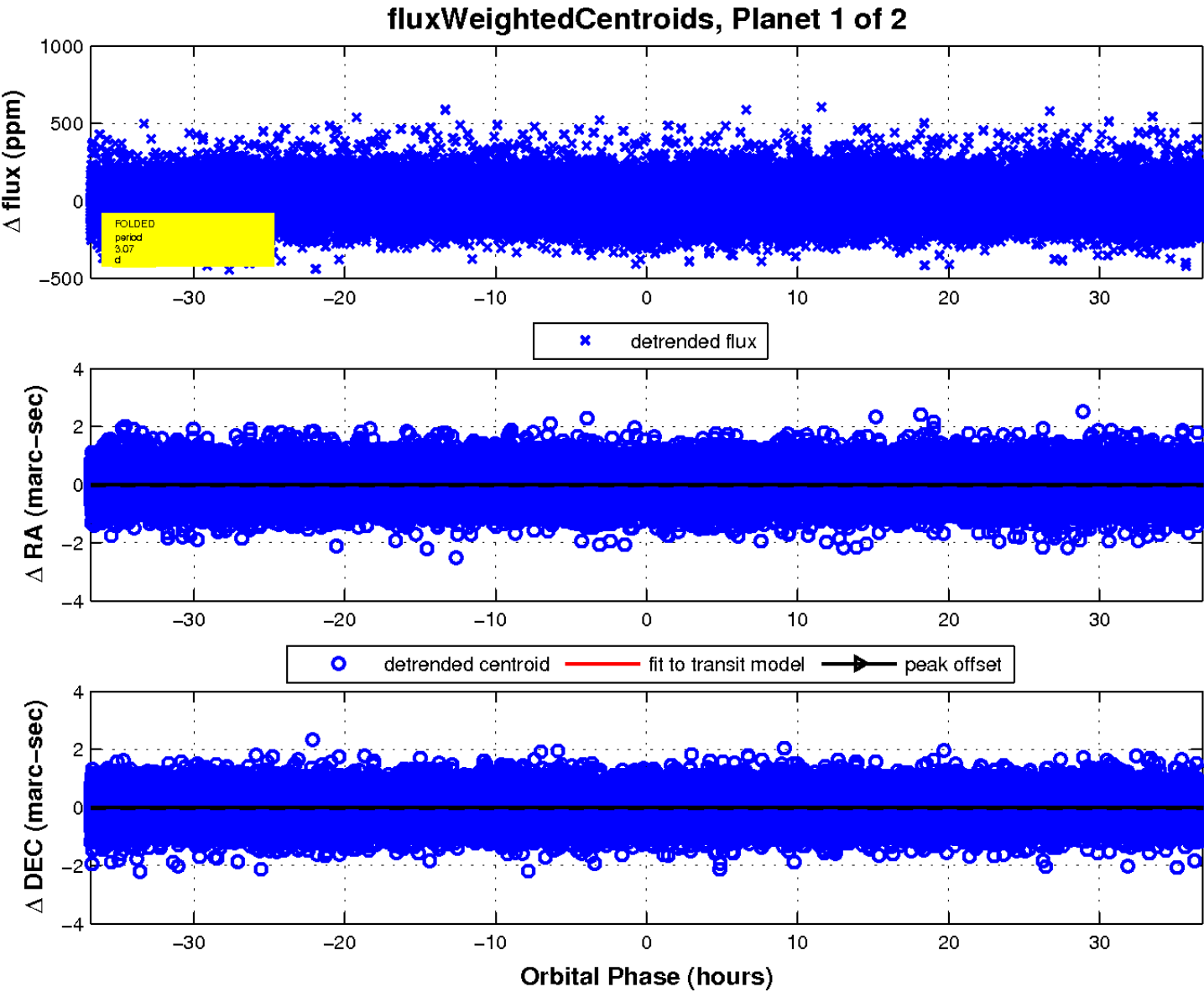
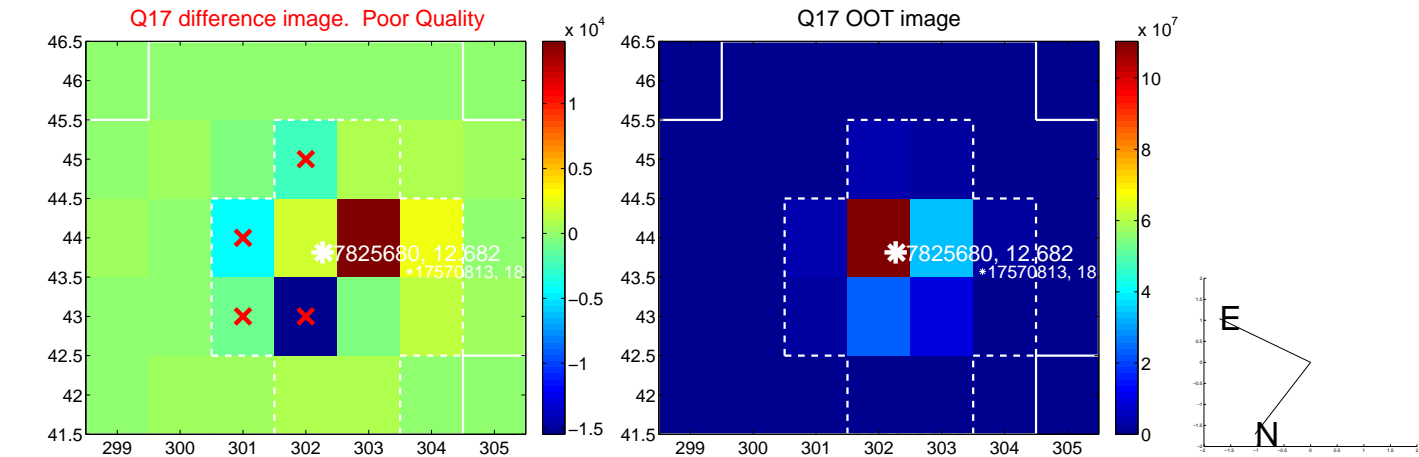
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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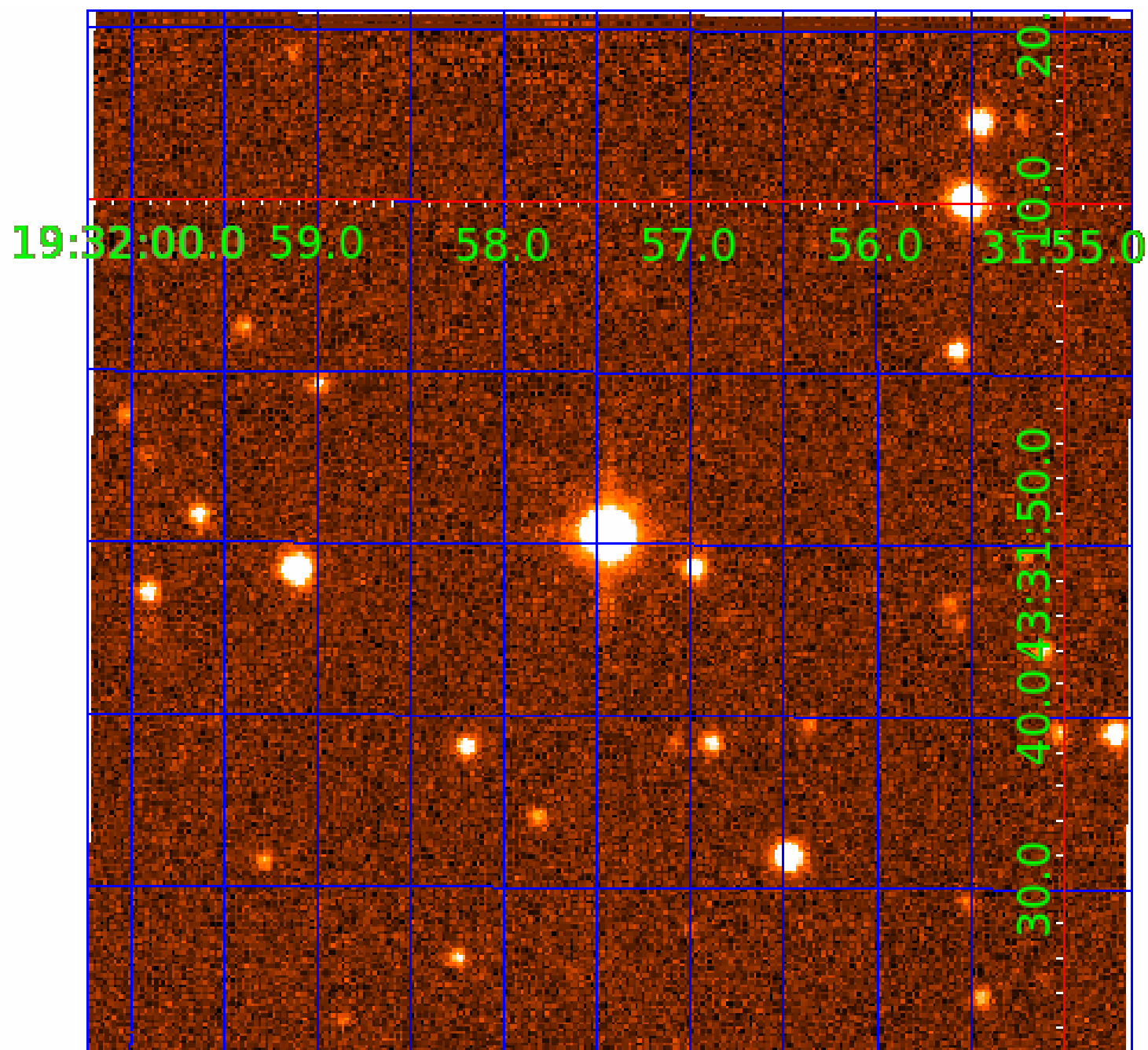


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007825680

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})
007825680-01	OBS	No	3.069738	133.511066	7.7	13.702	7.8	5.8	1.93	7705	0.54	4791.13
007825680-02	OBS	No	211.367075	266.695444	407.7	27.720	35.3	22.1	1.93	7705	7.35	16.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007825680-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007825680-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

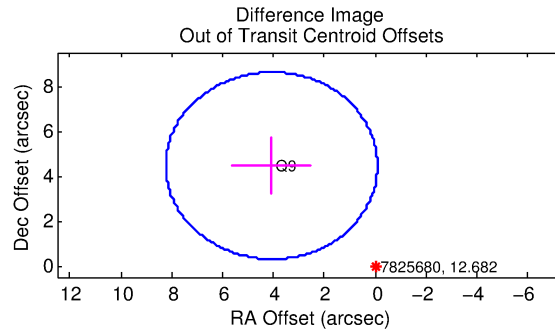
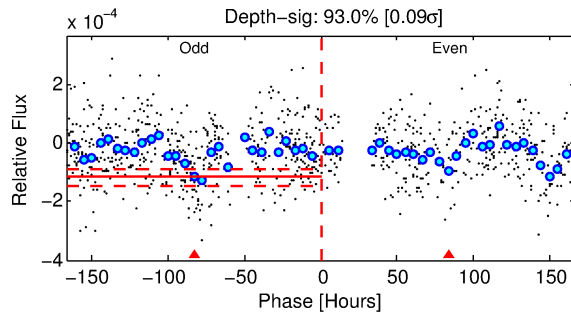
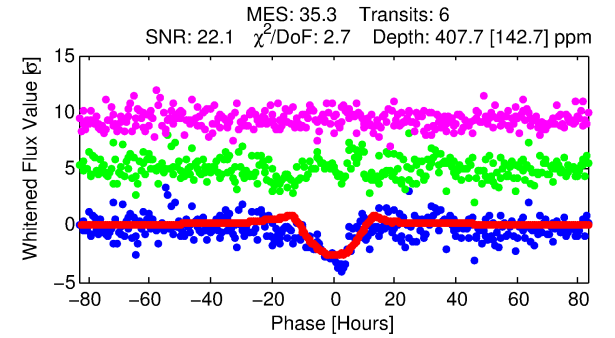
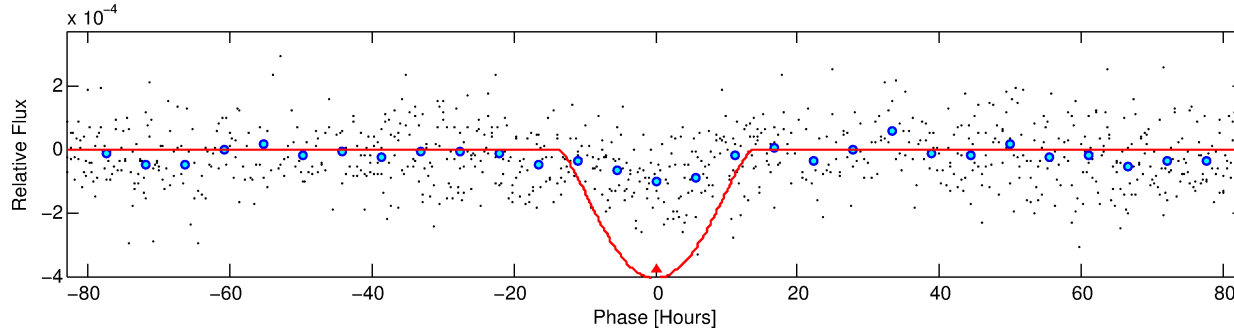
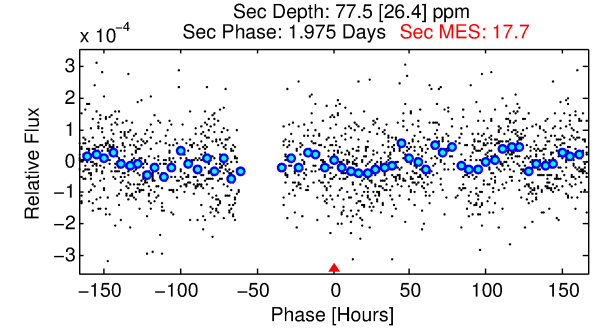
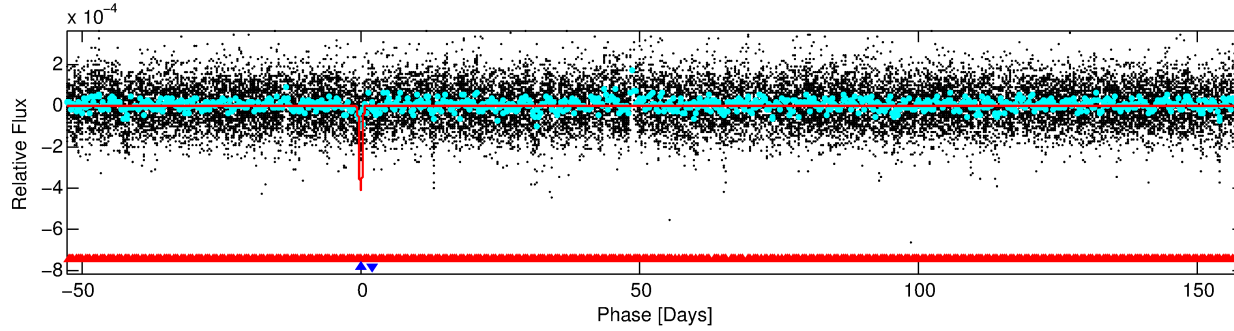
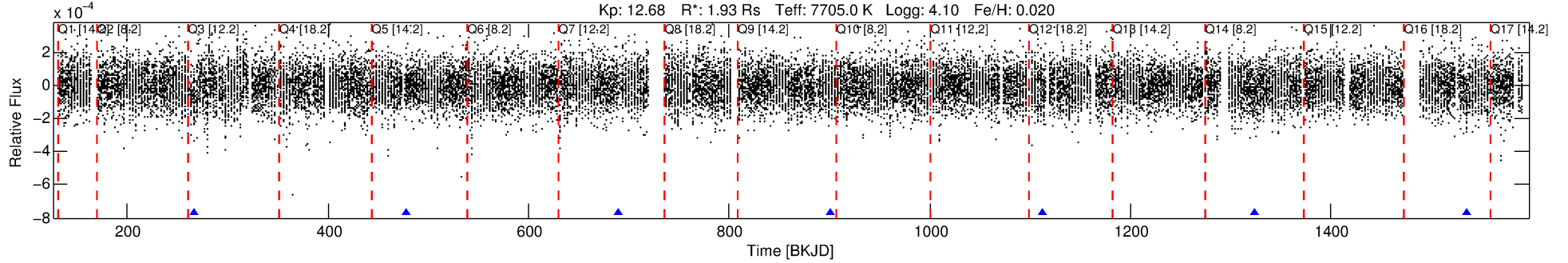
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007825680-02

No Significant Match Found

DV One-Page Summary

KIC: 7825680 Candidate: 2 of 2 Period: 211.367 d



DV Fit Results:

Period = 211.36707 [0.00939] d
Epoch = 266.6954 [0.0413] BKJD
Rp/R* = 0.0350 [0.0570]
a/R* = 15.58 [6.57]
b = 1.00 [0.07]
Seff = 16.98 [6.05]
Teq = 518 [46] K
Rp = 7.35 [12.16] Re
a = 0.8311 [0.1876] AU
Ag = 544.33 [1792.04] [0.30σ]
Teffp = 3865 [3171] K [1.06σ]

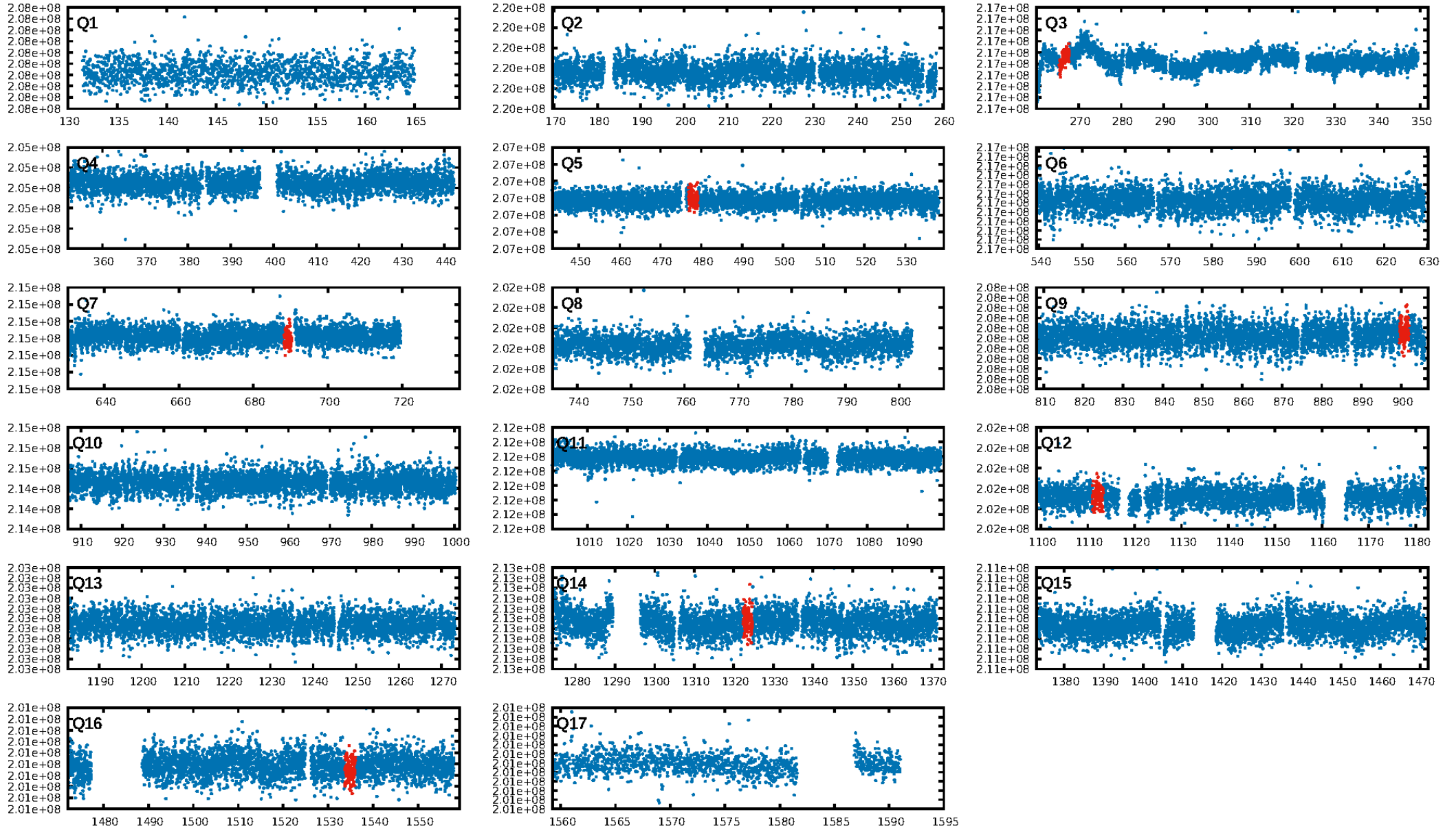
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [161.67σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 62.9%
Bootstrap-pfa: 1.68e-119
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -22.64
Centroid-sig: 10.3%
Centroid-so: 0.346 arcsec [1.21σ]
OotOffset-rm: 6.032 arcsec [4.35σ]
KicOffset-rm: 6.039 arcsec [4.37σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/2]

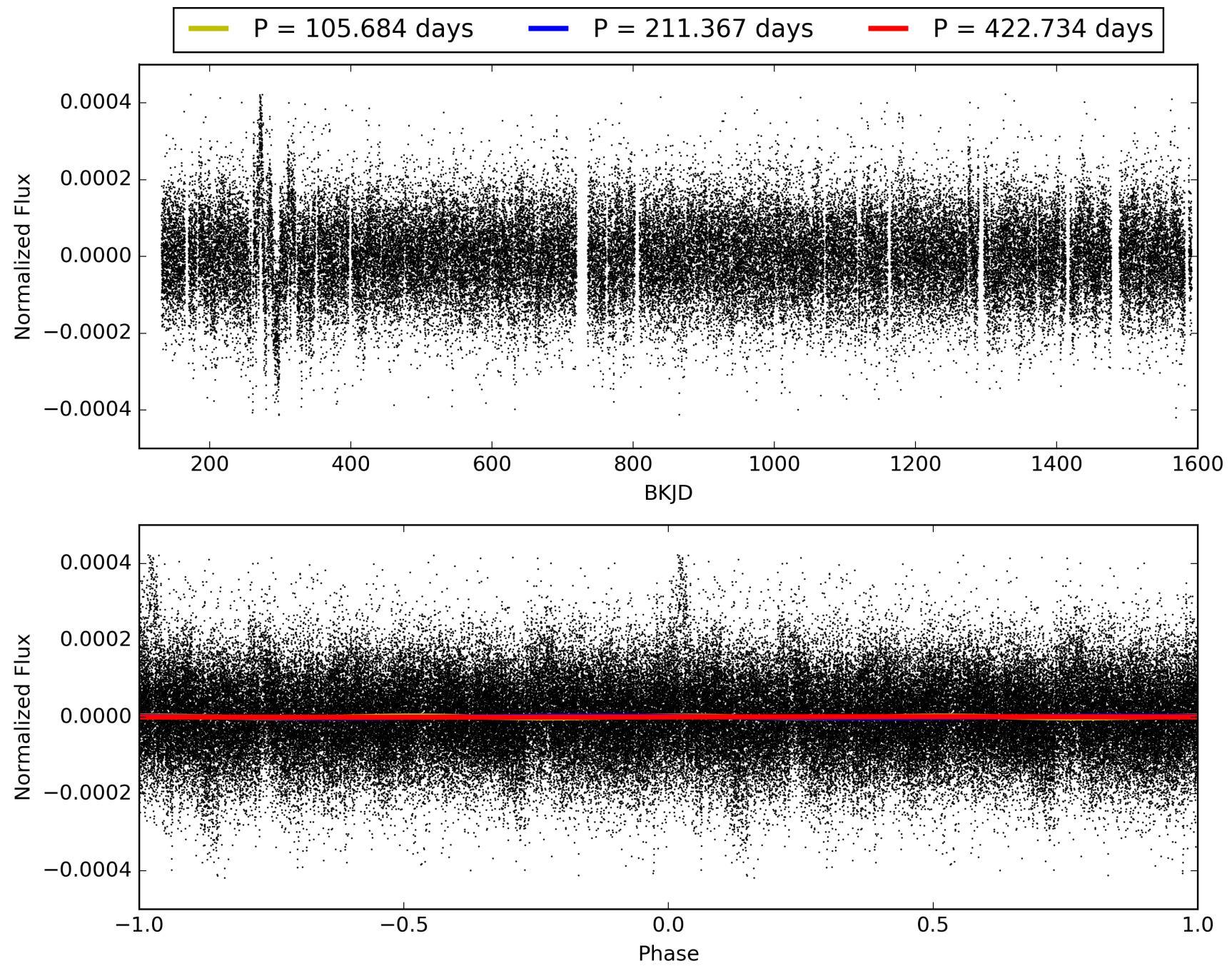
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:39:35 Z

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

TCE 007825680-02, PDC Light Curves

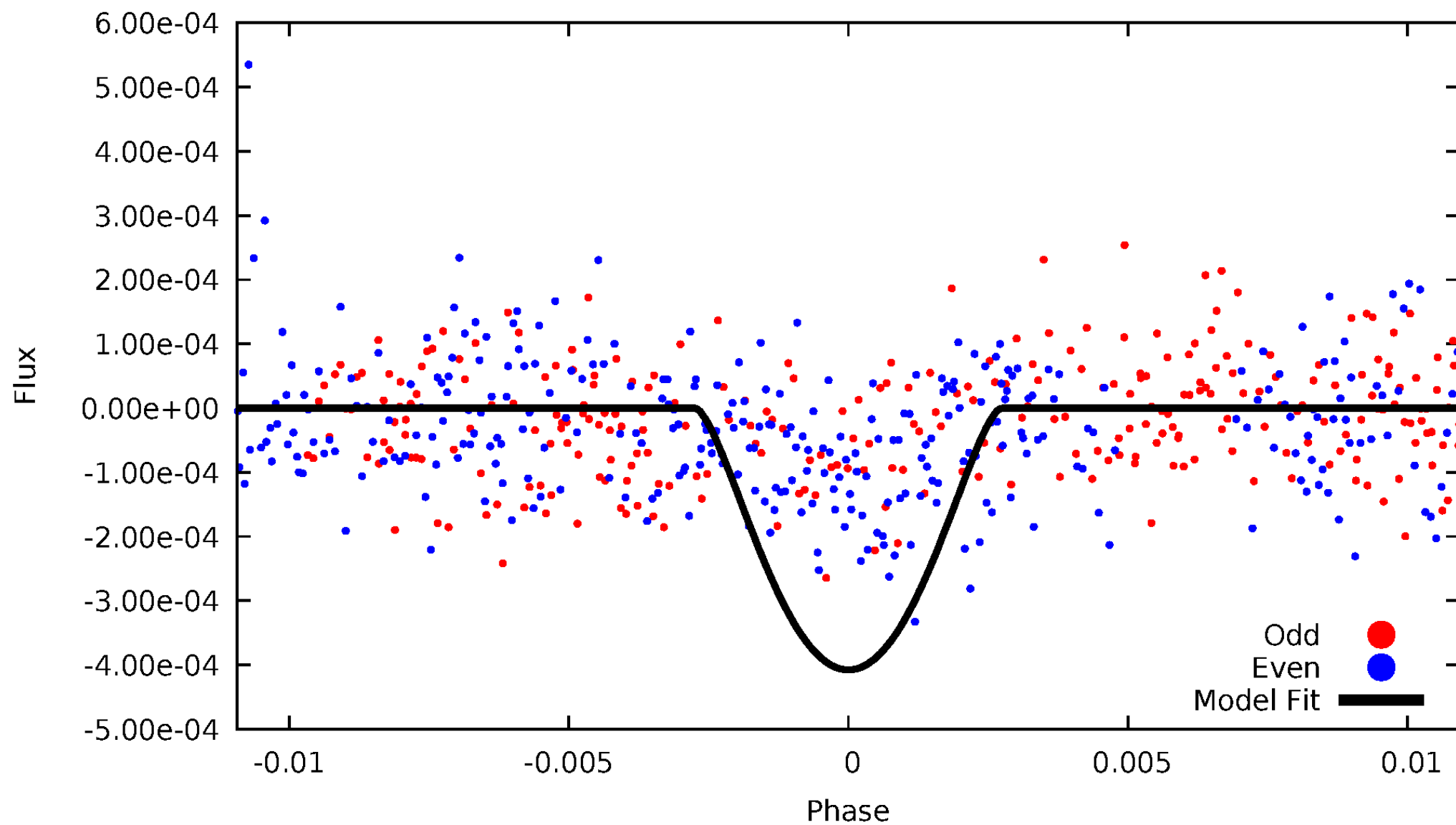


TCE 007825680-02



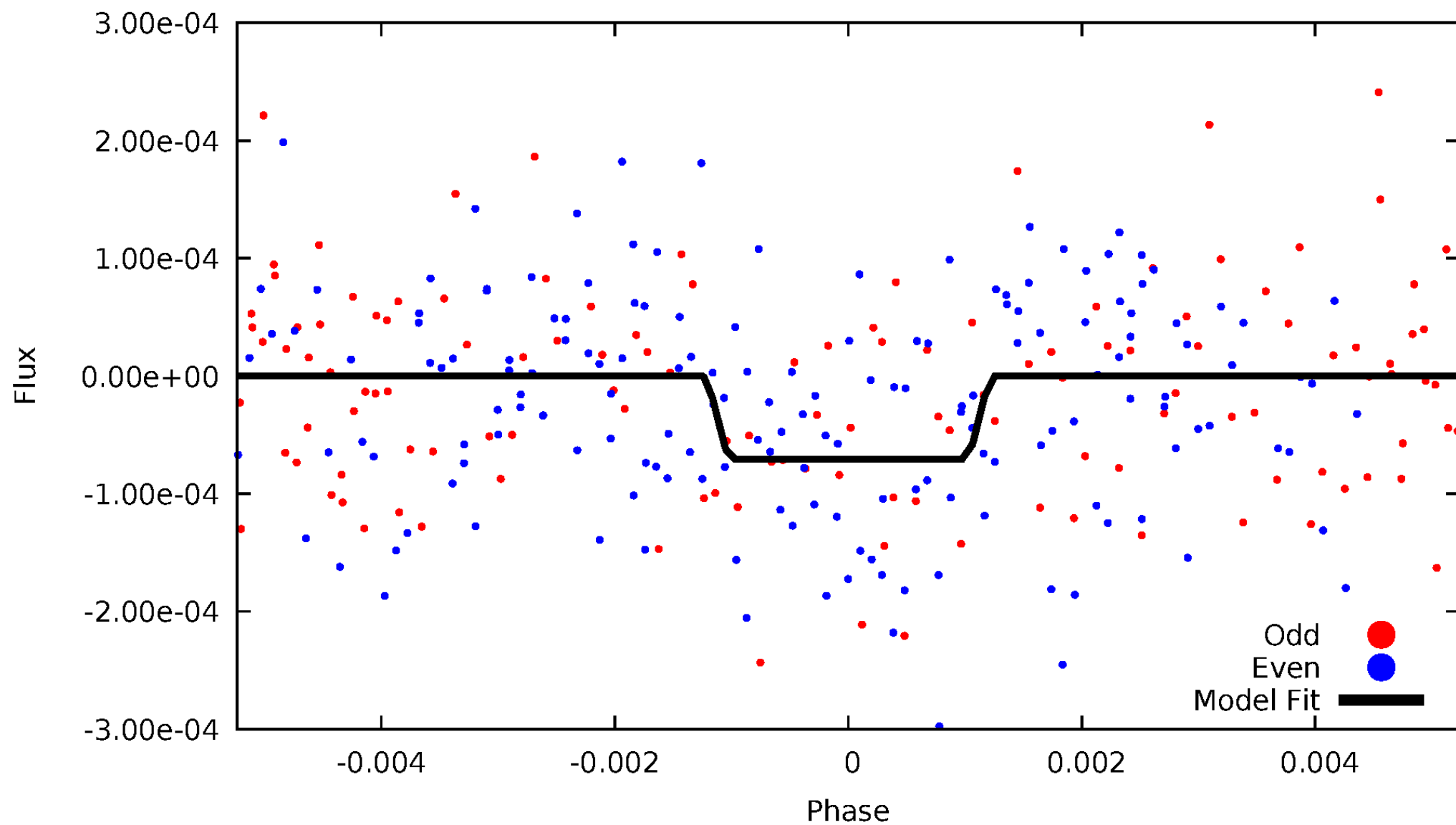
DV Odd/Even

TCE 007825680-02



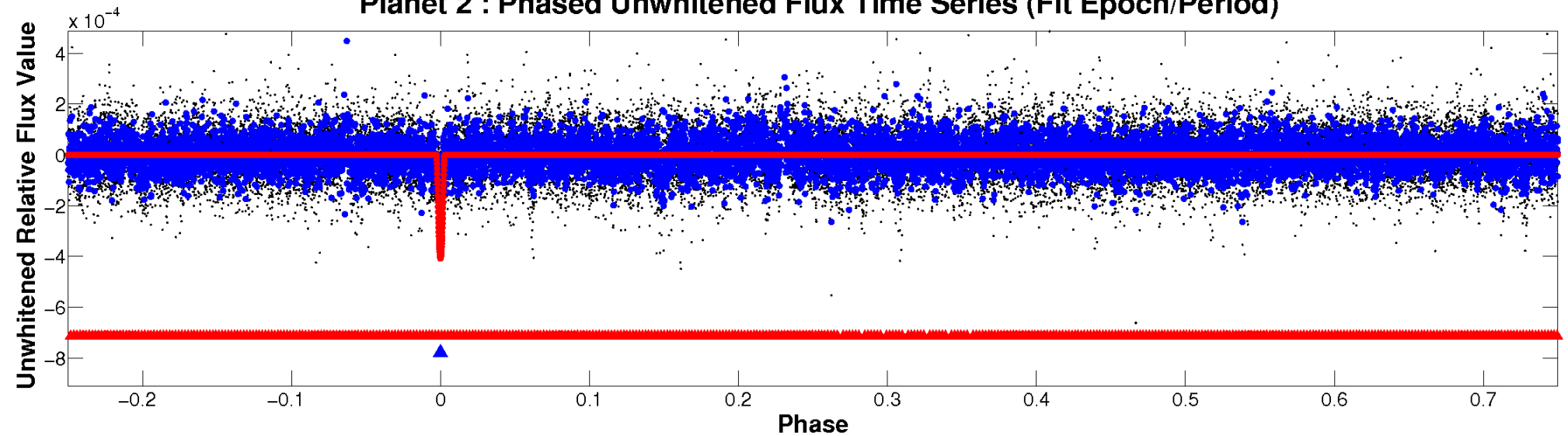
ALT Odd/Even

TCE 007825680-02

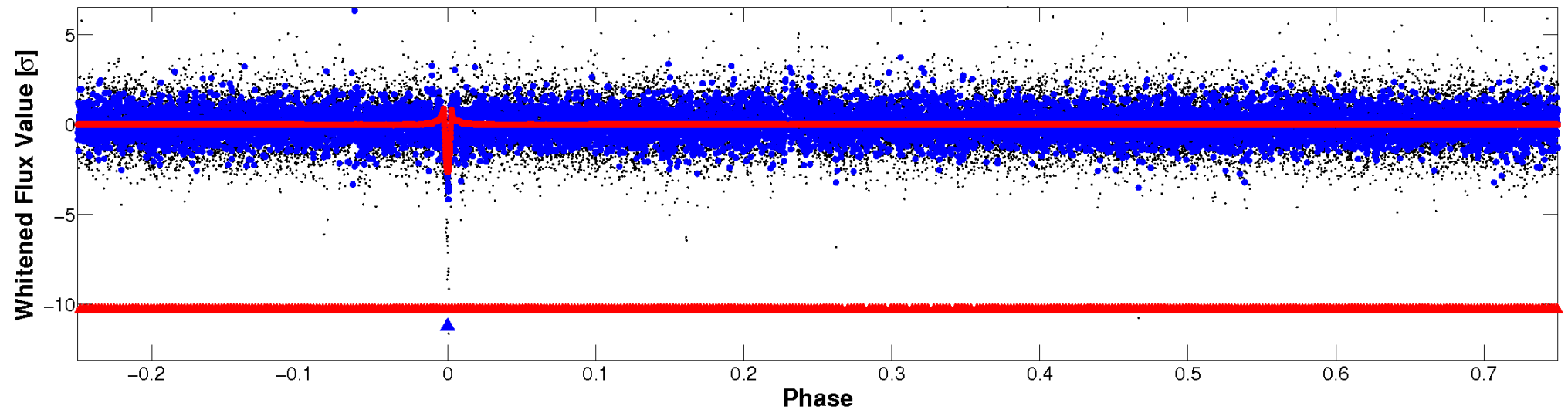


Non-Whitened Vs. Whitened Light Curve

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

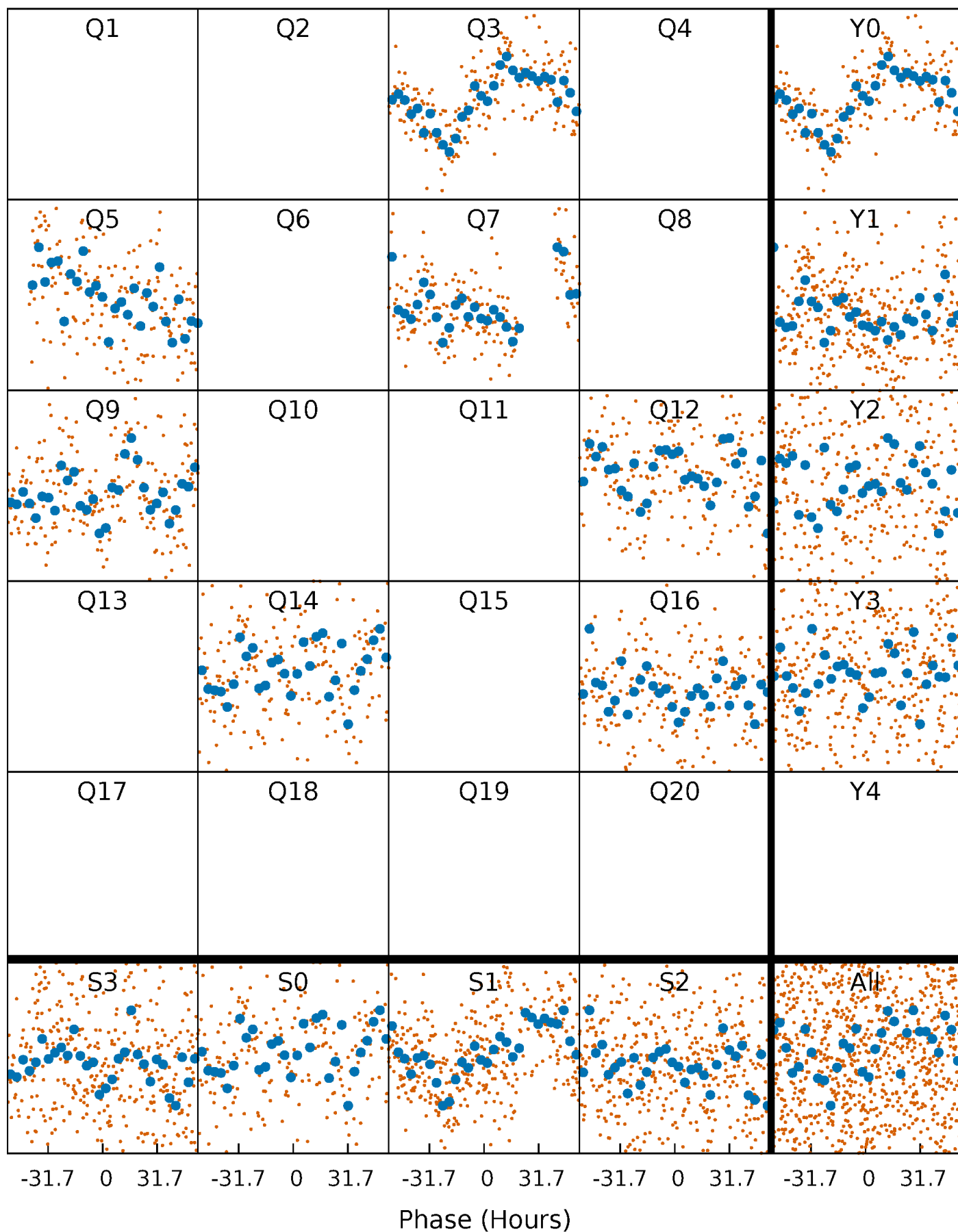


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



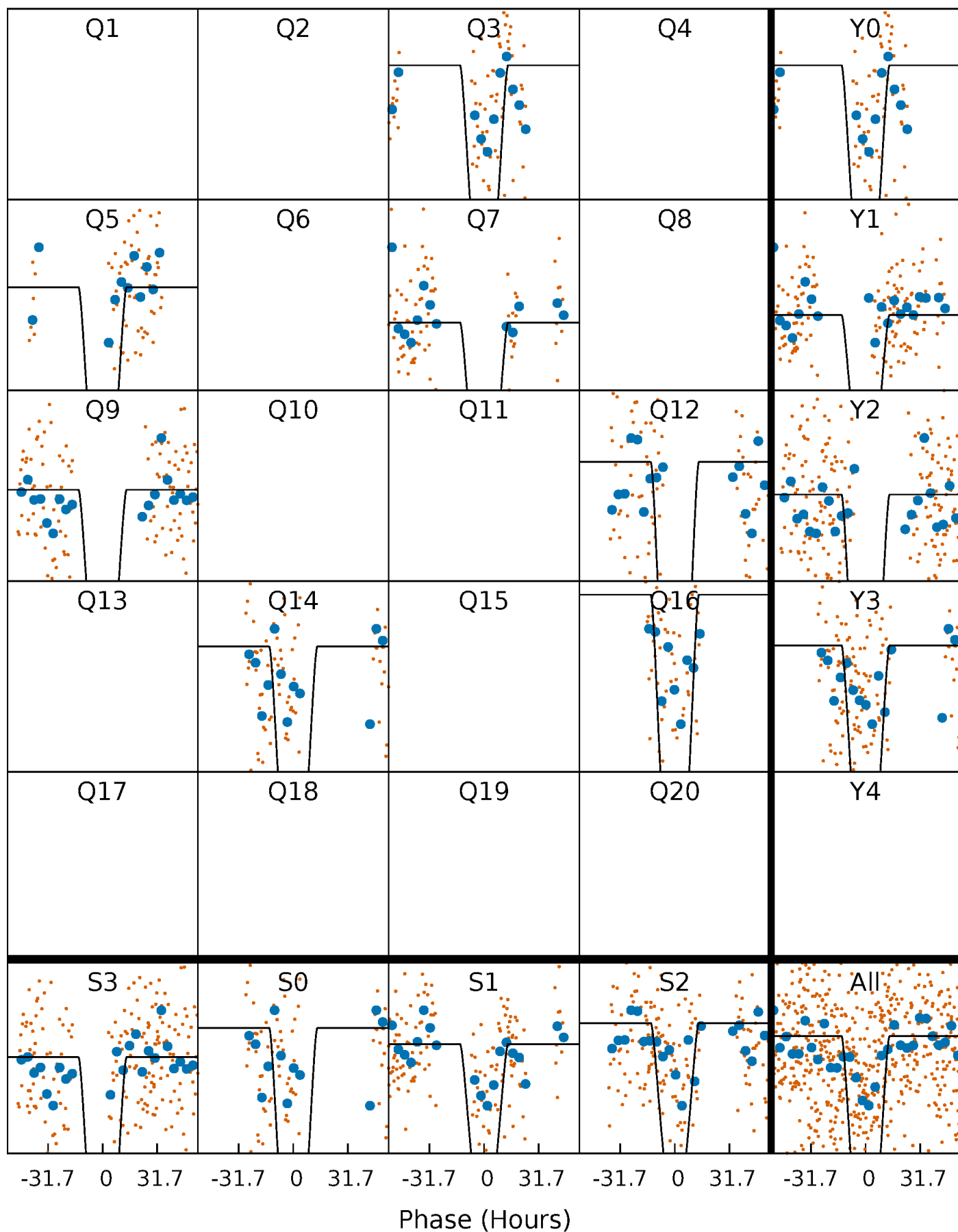
PDC Quarter-Phased Transit Curves

TCE 007825680-02 P=211.367075 Days $T_0=266.695444$ (BKJD)



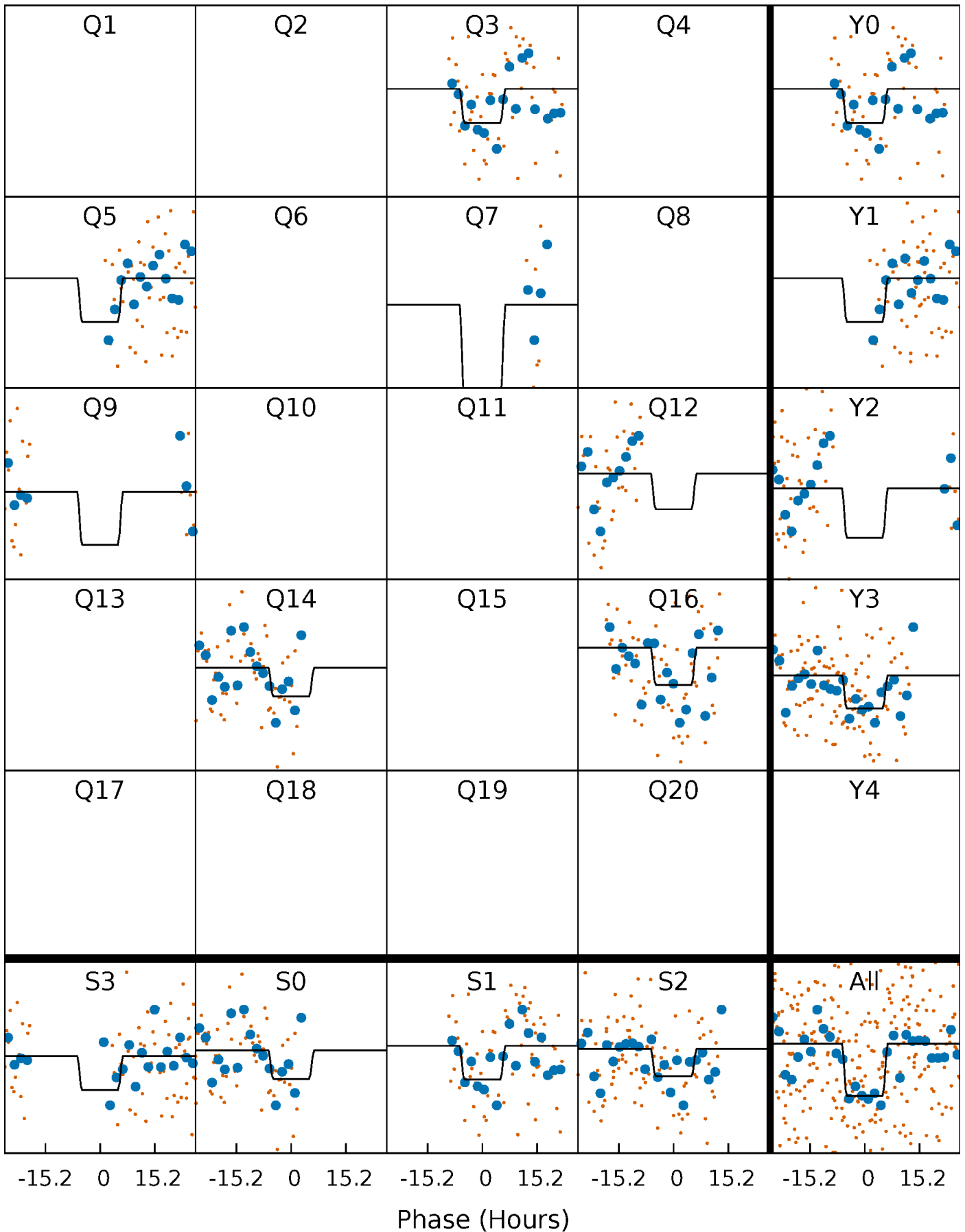
DV Quarter-Phased Transit Curves

TCE 007825680-02 P=211.367075 Days $T_0=266.695444$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

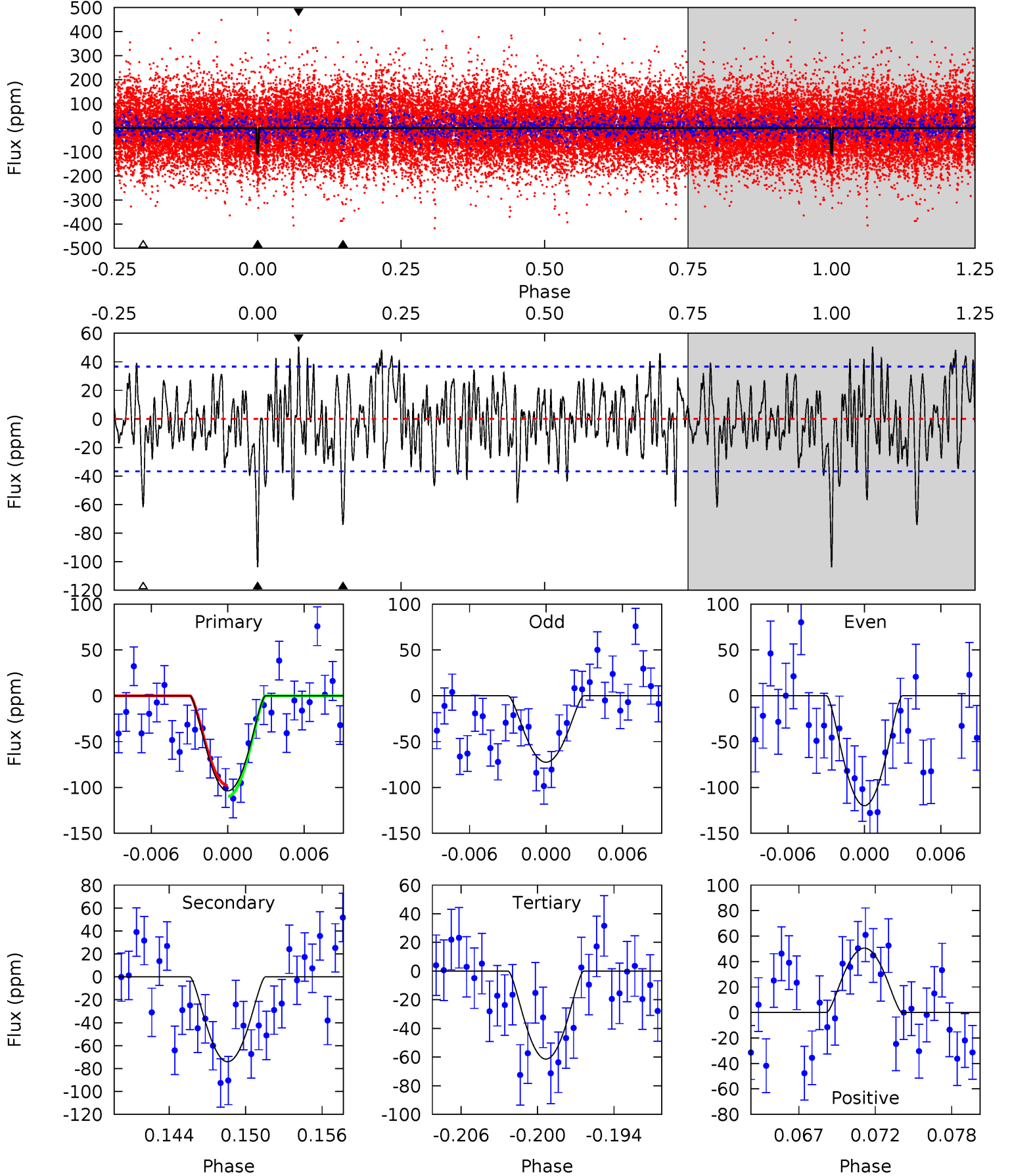
TCE 007825680-02 P=211.364745 Days $T_0=266.782521$ (BKJD)



DV Model-Shift Uniqueness Test

007825680-02, P = 211.367075 Days, E = 55.328369 Days

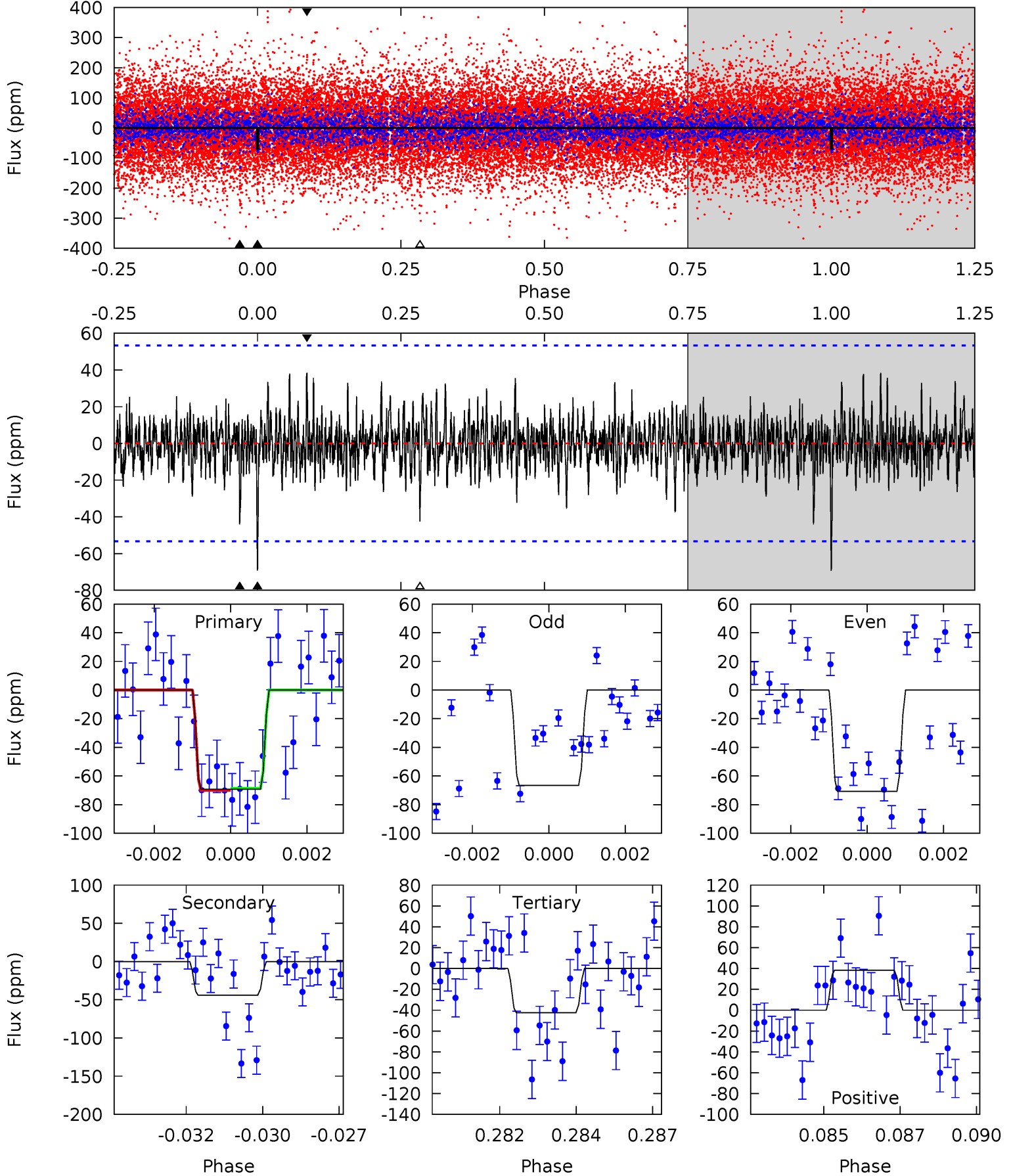
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	10.4	8.60	7.08	5.14	2.77	2.64	5.94	7.46	1.77	3.29	3.16	1.01	0.33	0.84



Alt Model-Shift Uniqueness Test

007825680-02, P = 211.364745 Days, E = 55.417776 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.86	4.36	4.21	3.80	5.29	3.02	1.04	2.65	3.06	0.15	0.56	0.20	1.02	0.36	0.06



Stellar Parameters For KIC 007825680

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7705^{+214}_{-322}	$4.102^{+0.135}_{-0.165}$	$0.020^{+0.150}_{-0.350}$	$1.927^{+0.540}_{-0.405}$	$1.713^{+0.194}_{-0.267}$	$0.337^{+0.230}_{-0.159}$
	+3%/-4%	+3%/-4%	+750%/-1750%	+28%/-21%	+11%/-16%	+68%/-47%
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 007825680-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-74 ± 7	$11.08^{+10.49}_{-6.84}$	722^{+51}_{-53}	3509^{+1470}_{-624}	227^{+1270}_{-170}
Alt.	-44 ± 10	$8.97^{+9.13}_{-6.23}$	721^{+53}_{-45}	3424^{+1966}_{-613}	193^{+2015}_{-144}

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

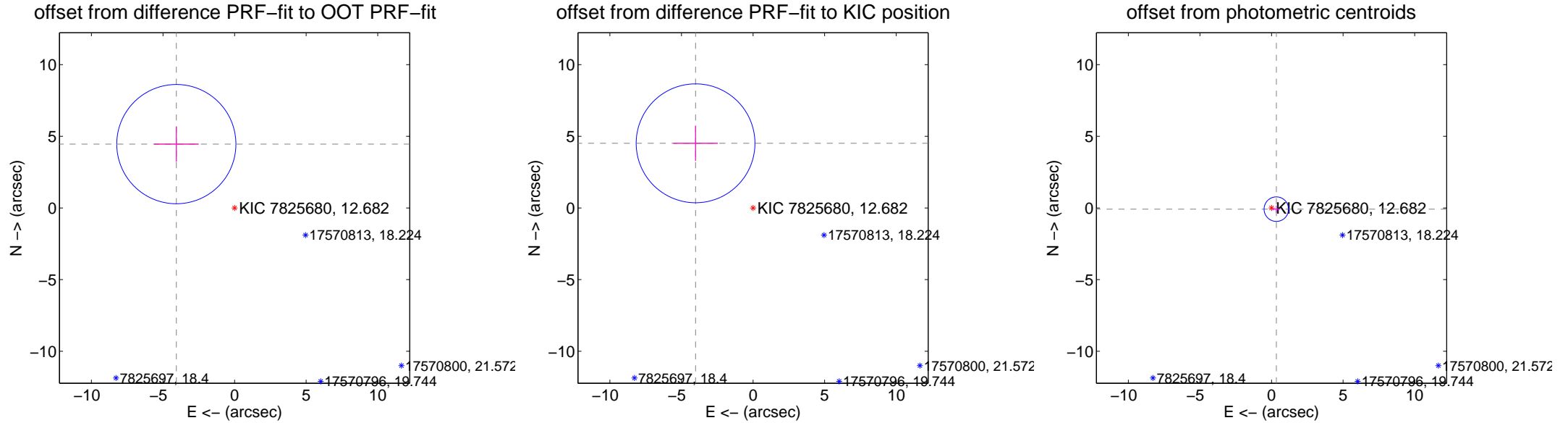
DV Centroid Data

Supplemental centroid analysis for 007825680-02. Kepler magnitude: 12.68. Transit SNR 22.08

There are 0 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	6.032 ± 1.387	4.35	4.067 ± 1.558	4.454 ± 1.226
PRF-fit source offset from KIC position	6.039 ± 1.383	4.37	4.015 ± 1.558	4.511 ± 1.226
photometric centroid source offset	0.35 ± 0.29	1.21	-0.34 ± 0.29	-0.08 ± 0.25

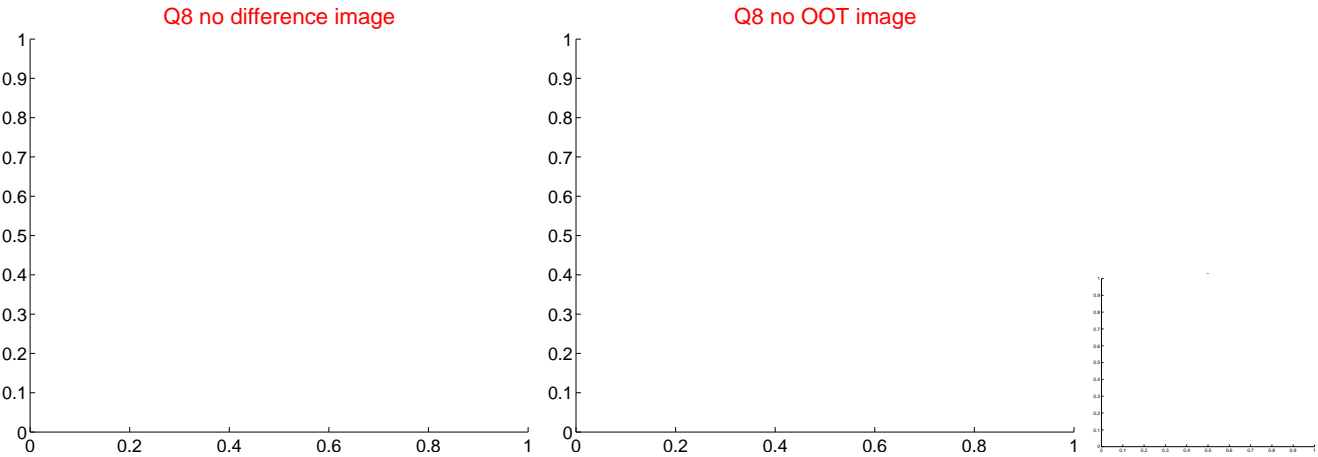
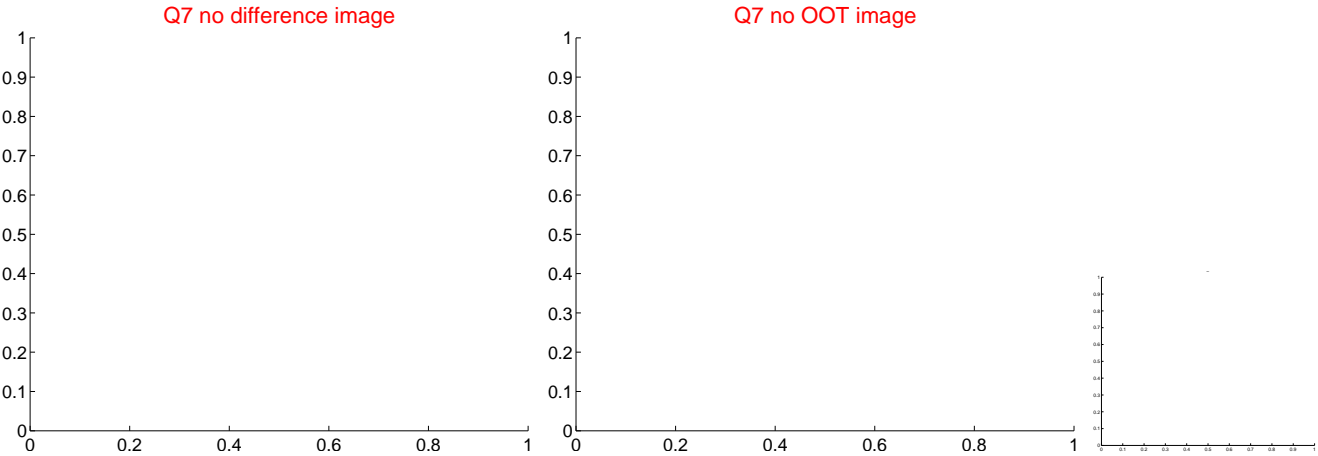
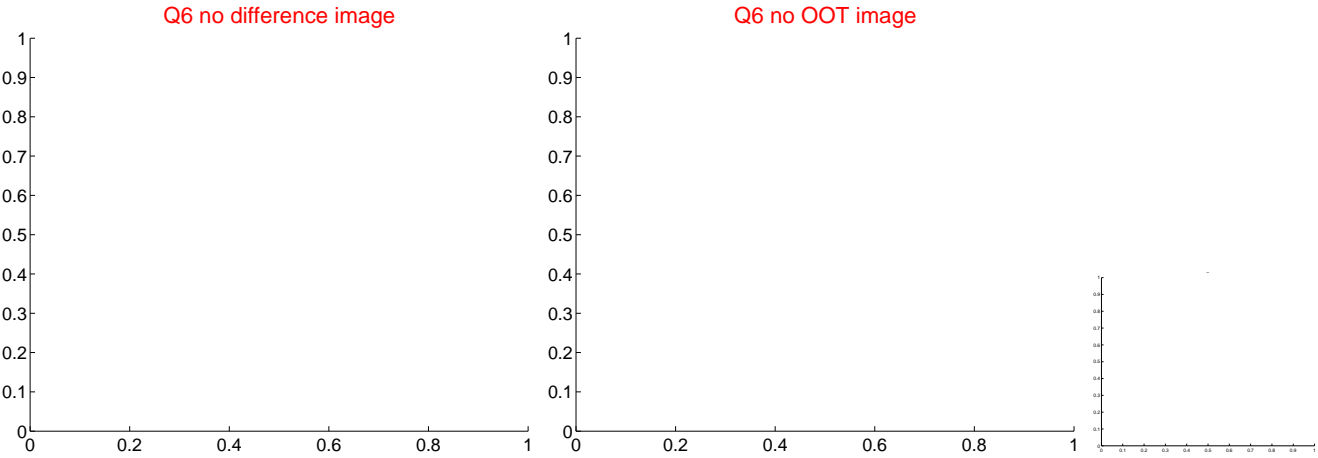
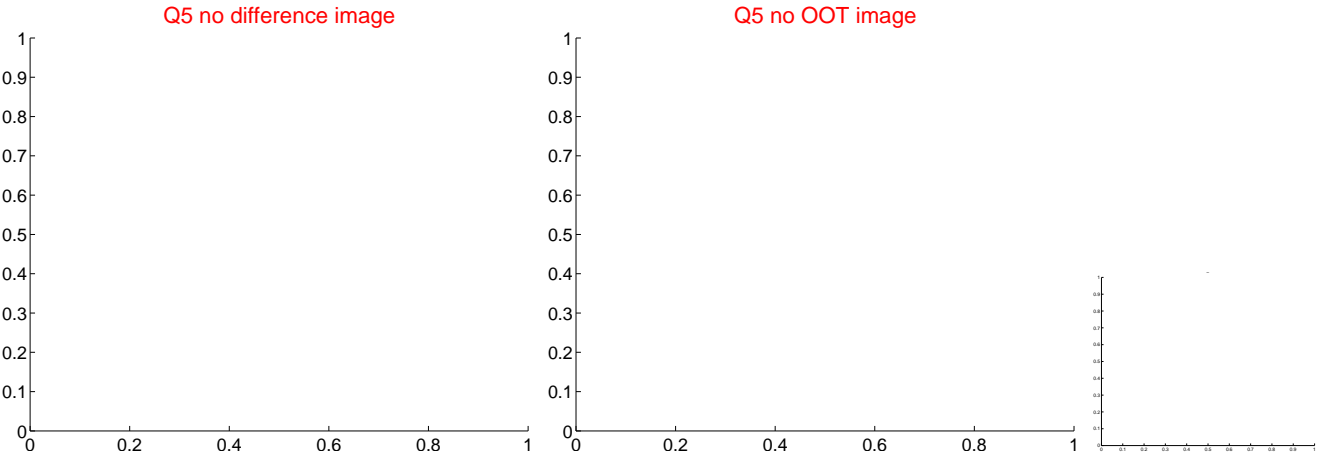


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

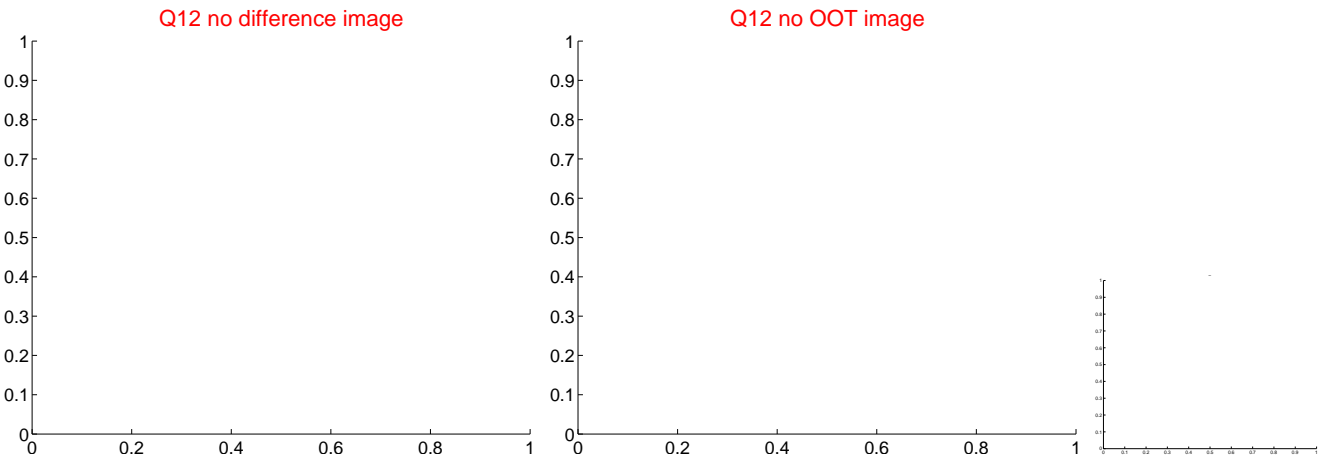
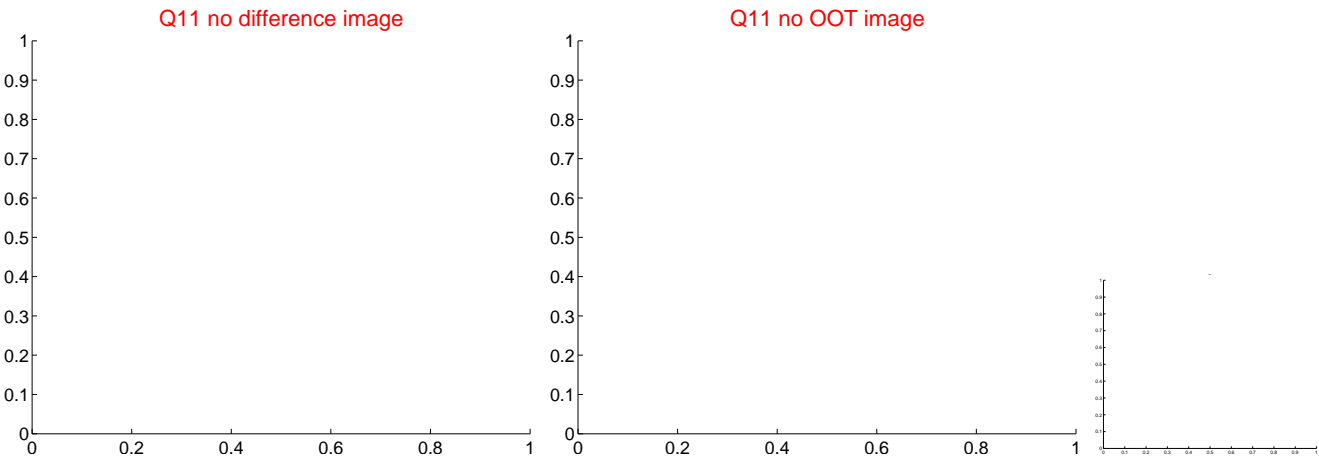
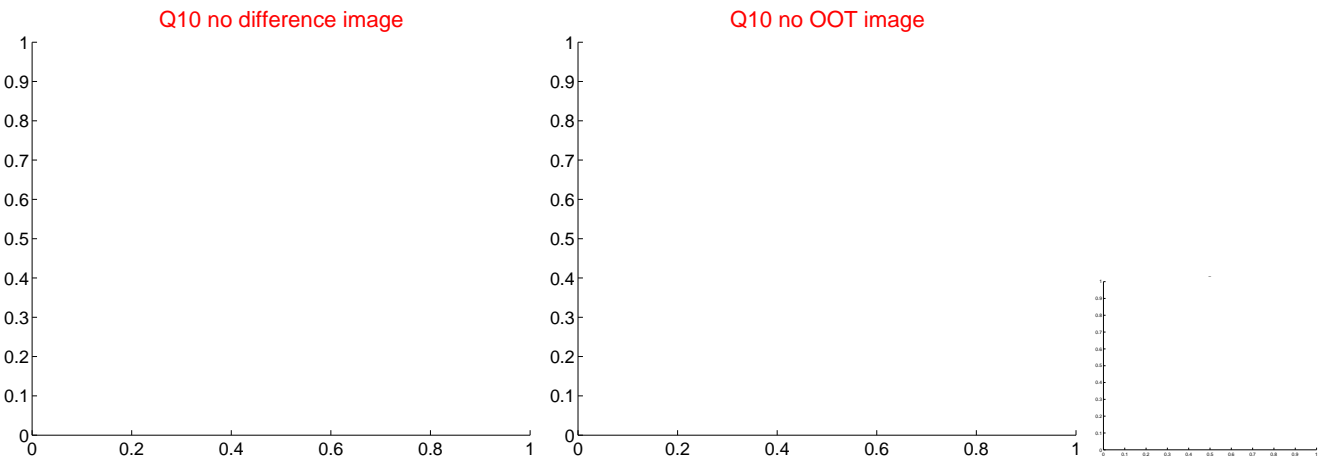
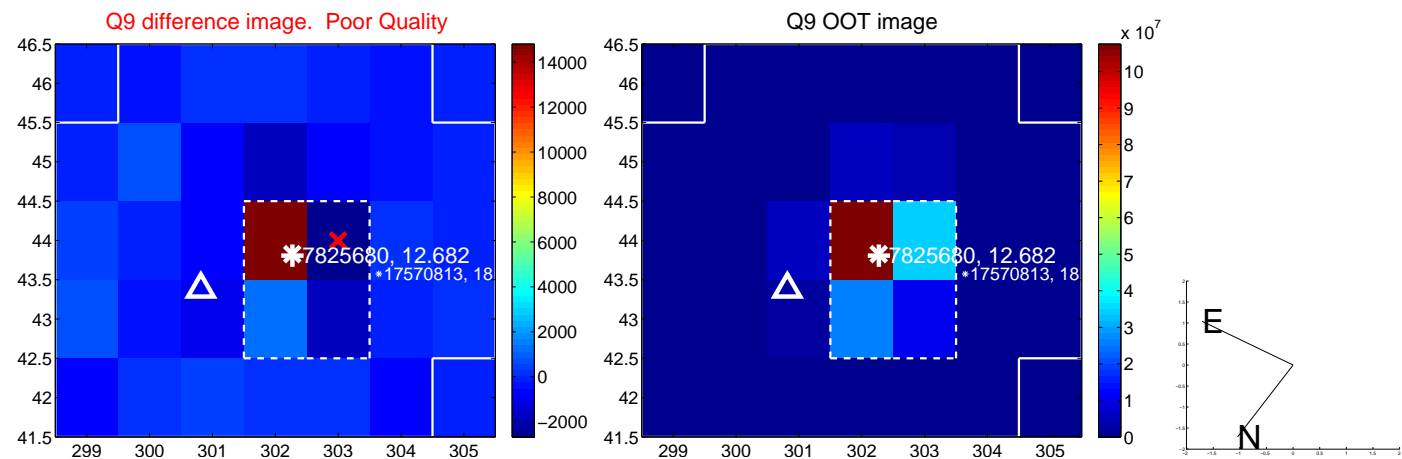
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



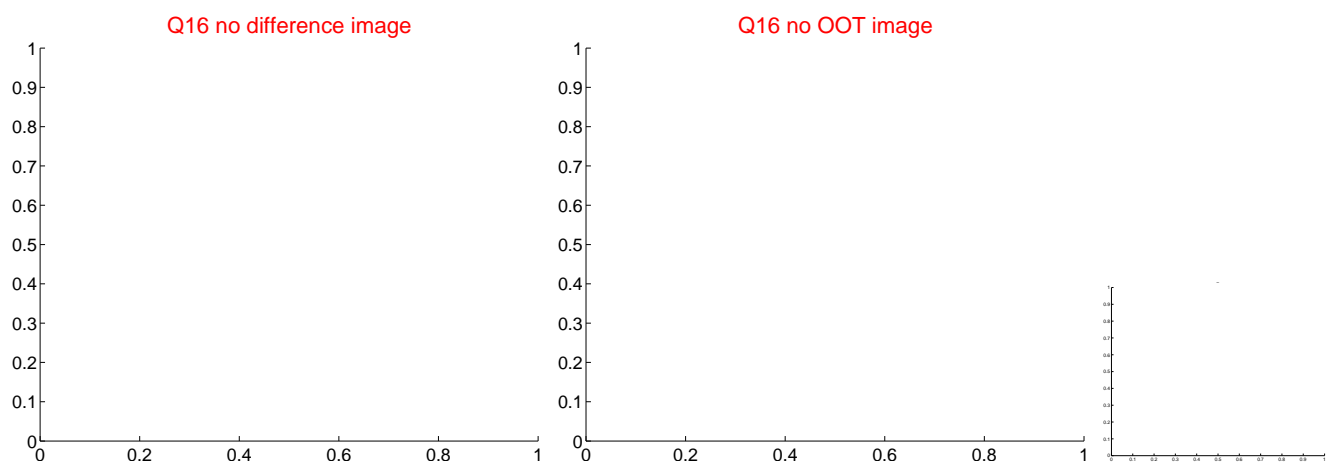
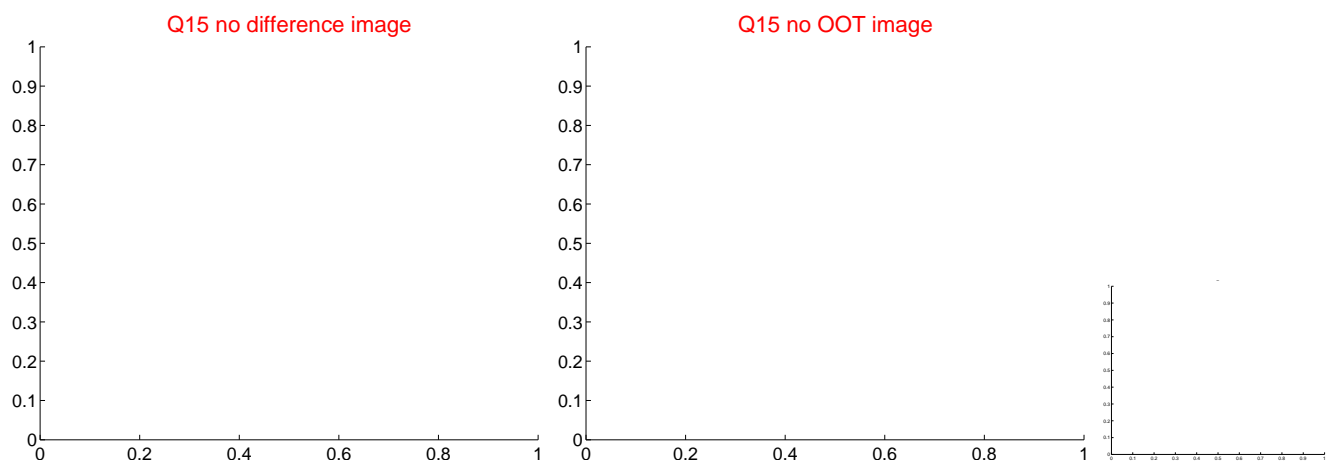
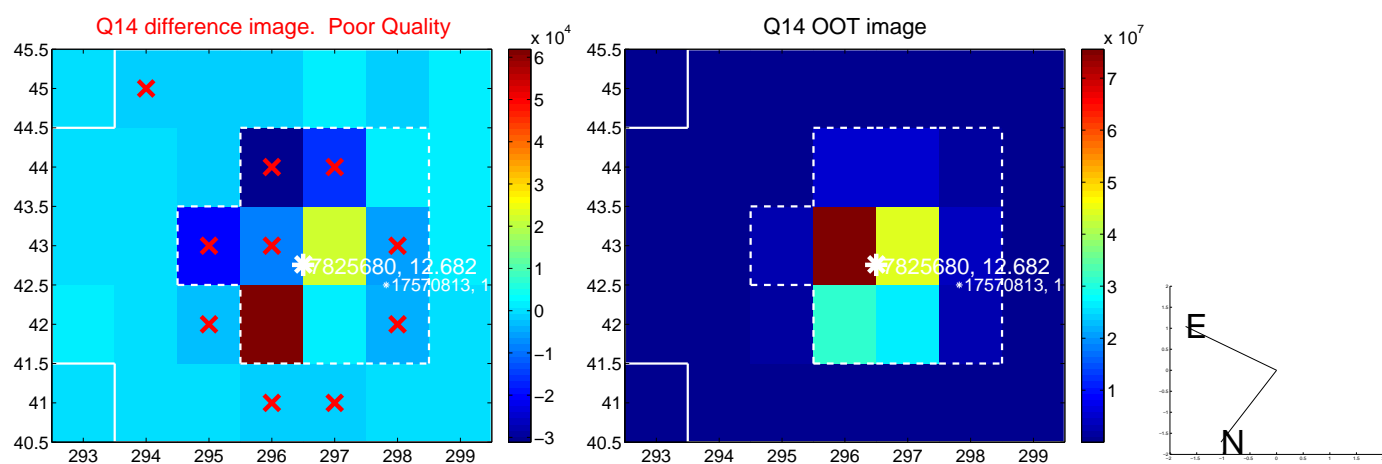
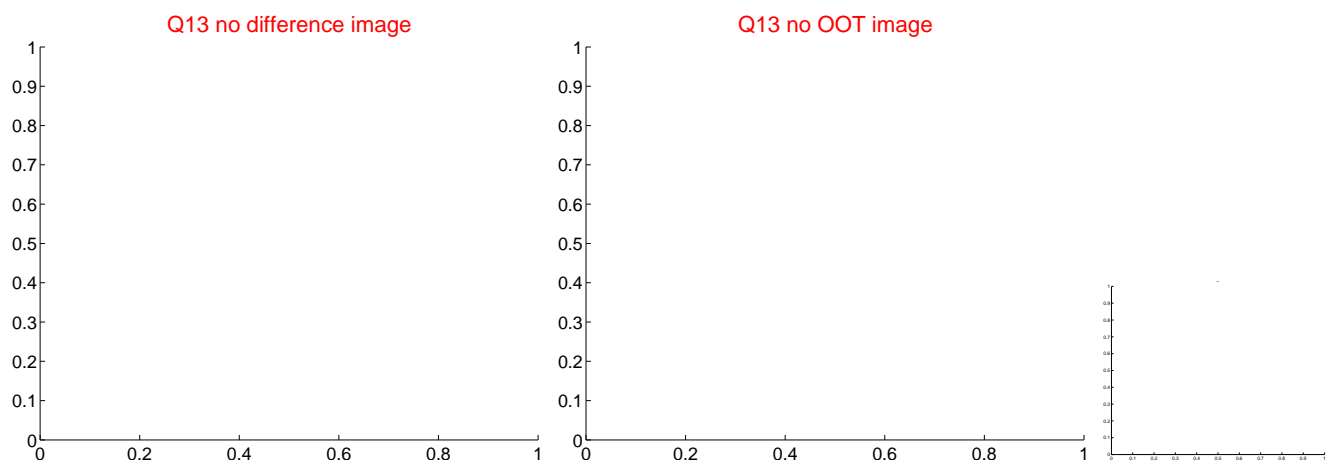
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



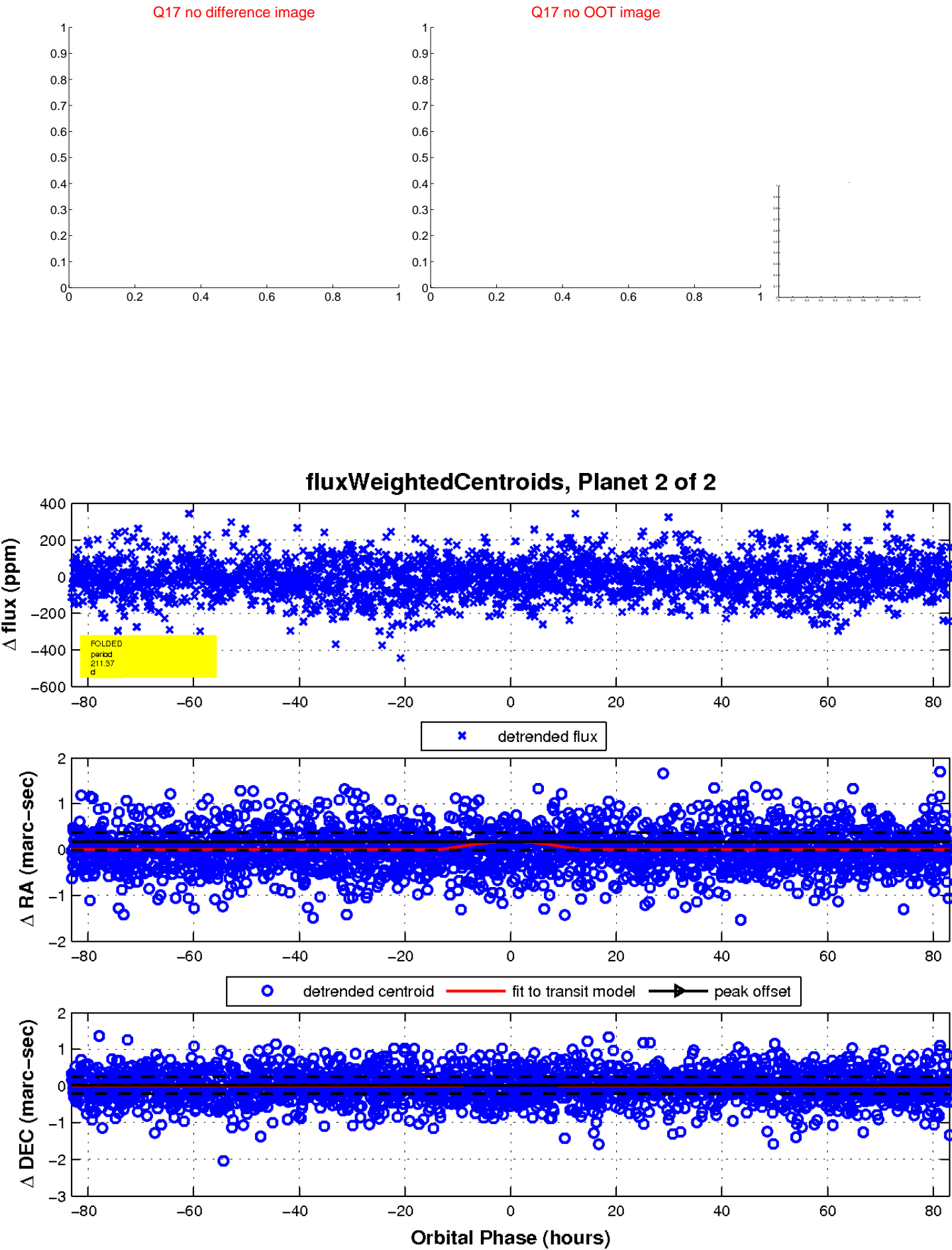
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

