

KIC 011092783

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})
011092783-01	OBS	7408.01	5.160009	132.688483	400.8	3.219	9.6	10.4	0.53	3900	1.89	25.62
011092783-02	OBS	No	331.349430	451.468921	2002.9	9.564	10.1	7.2	0.53	3900	2.42	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011092783-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011092783-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_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.

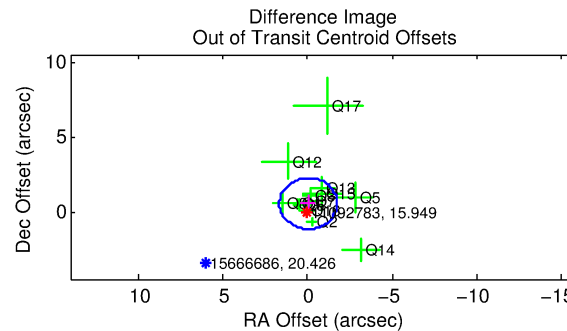
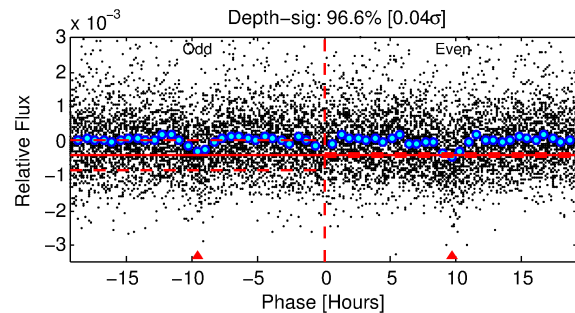
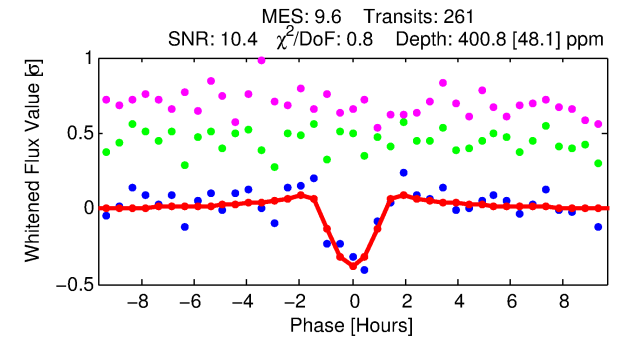
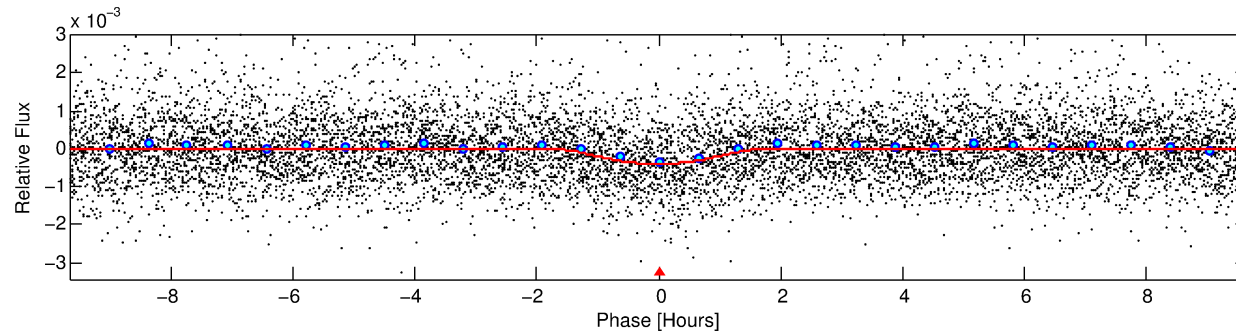
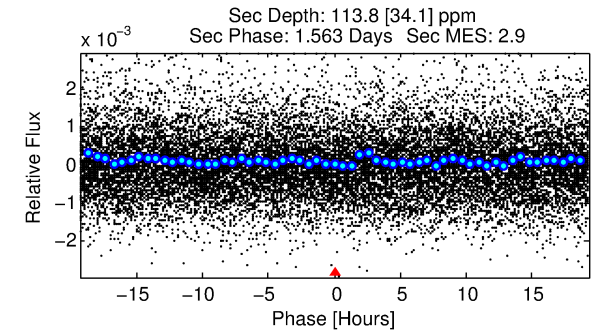
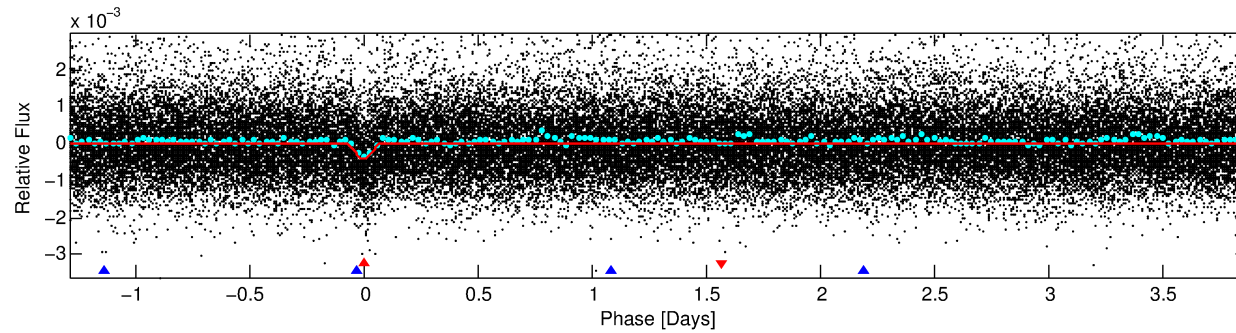
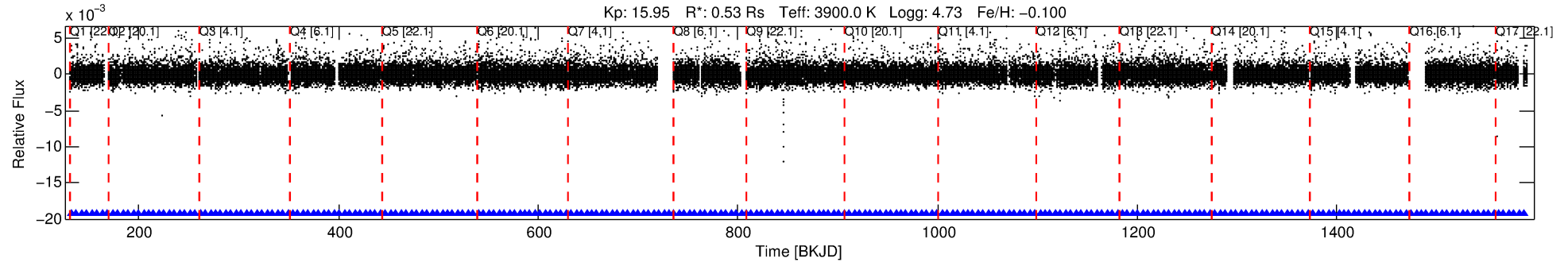
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011092783-01

No Significant Match Found

DV One-Page Summary

KIC: 11092783 Candidate: 1 of 2 Period: 5.160 d
KOI: K07408.01 Corr: 0.834



DV Fit Results:

Period = 5.16001 [0.00004] d
Epoch = 132.6885 [0.0053] BKJD
Rp/R* = 0.0324 [0.0545]
a/R* = 3.67 [1.85]
b = 0.99 [0.09]
Seff = 25.62 [1.75]
Teq = 574 [10] K
Rp = 1.89 [3.18] Re
a = 0.0480 [0.0017] AU
Ag = 40.55 [136.94] [0.29σ]
Teffp = 2238 [1890] K [0.88σ]

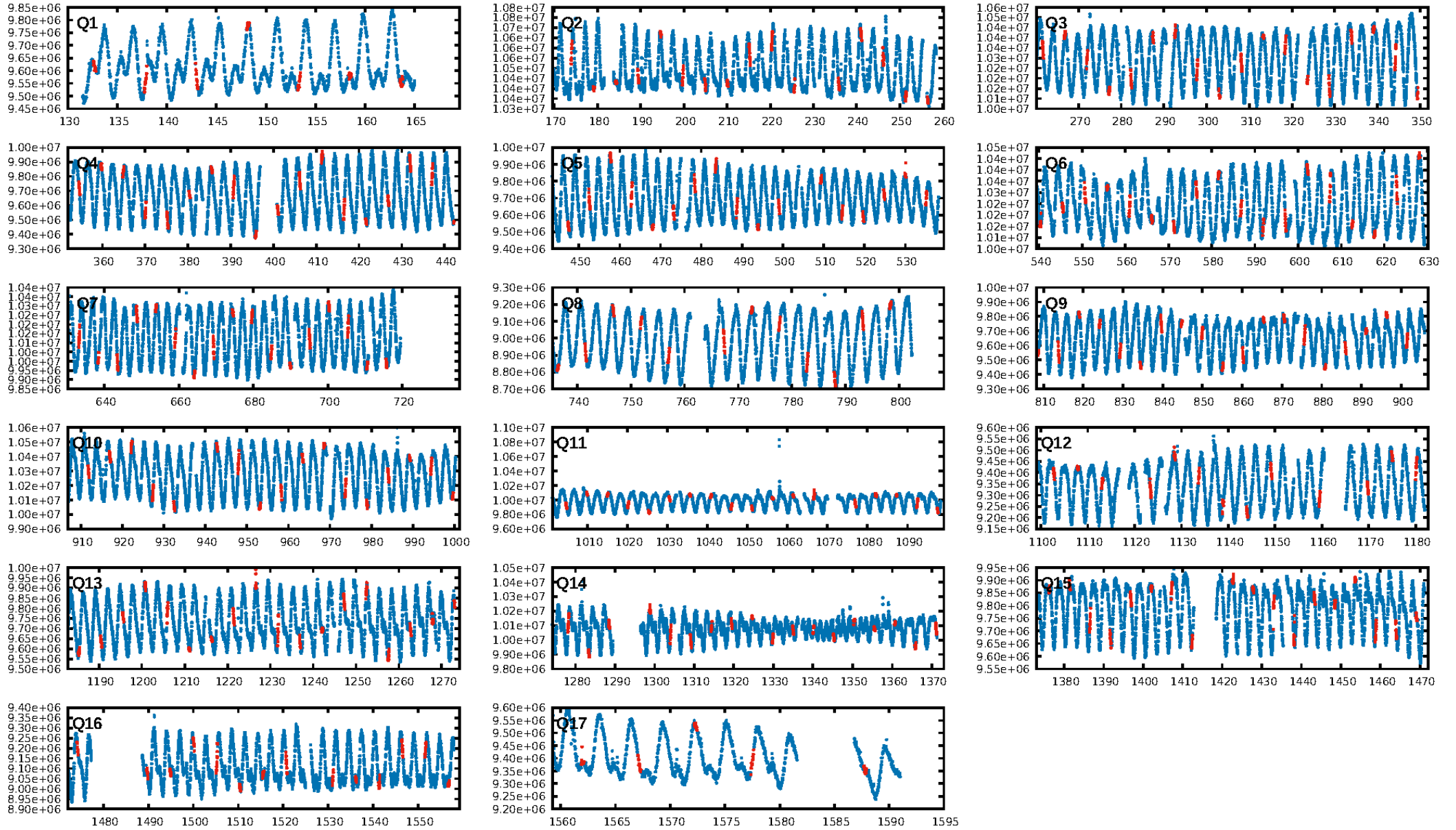
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [775.82σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.79e-16
RollingBand-fgt: 1.00 [249/249]
GhostDiagnostic-chr: -7.261
Centroid-sig: 0.0%
Centroid-so: 2.034 arcsec [2.08σ]
OotOffset-rm: 0.538 arcsec [0.95σ]
KicOffset-rm: 0.505 arcsec [0.84σ]
OotOffset-st: 3/3/3/4 [13]
KicOffset-st: 3/3/3/4 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 1.00 [17/17]

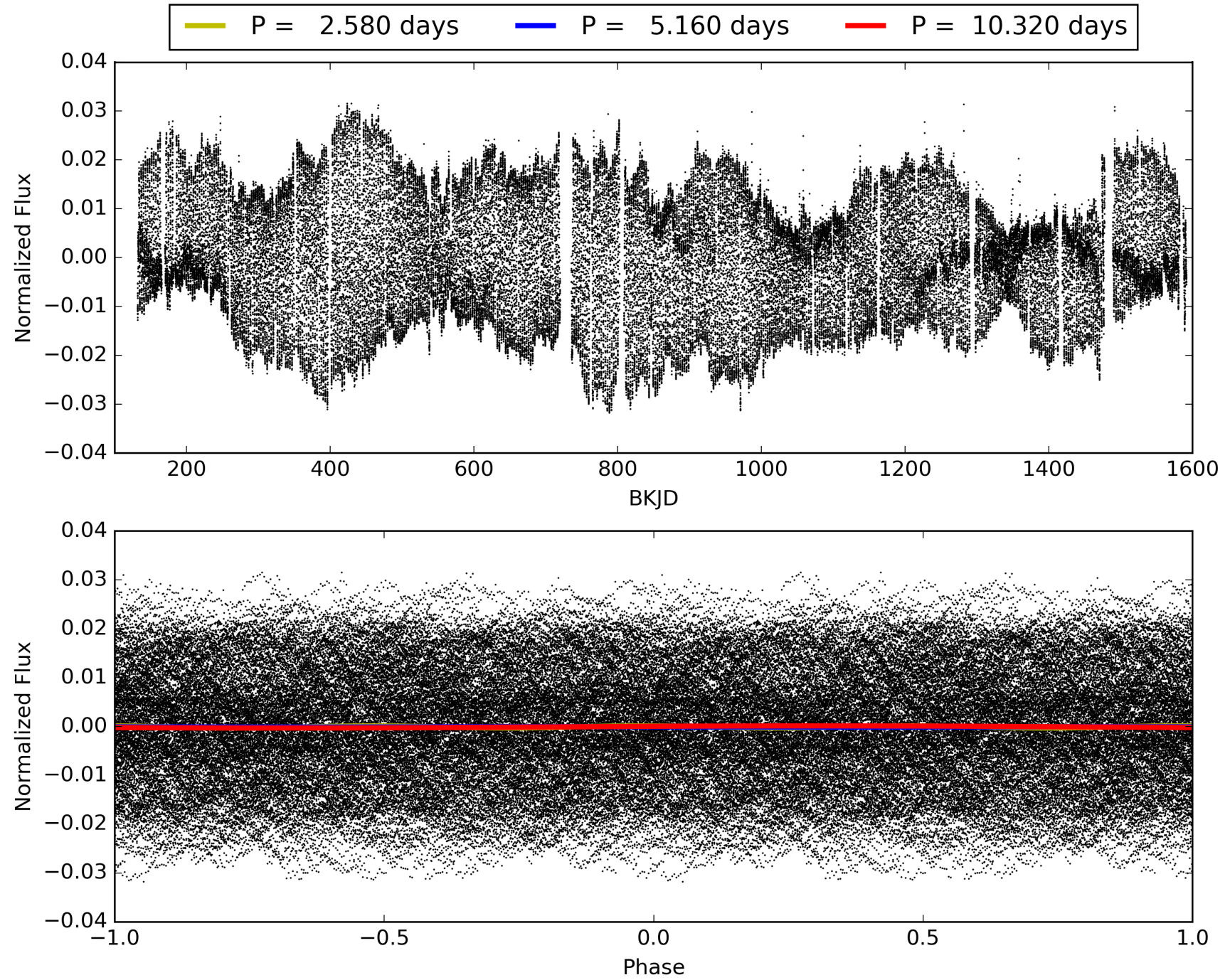
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:30:38 Z

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

TCE 011092783-01, PDC Light Curves

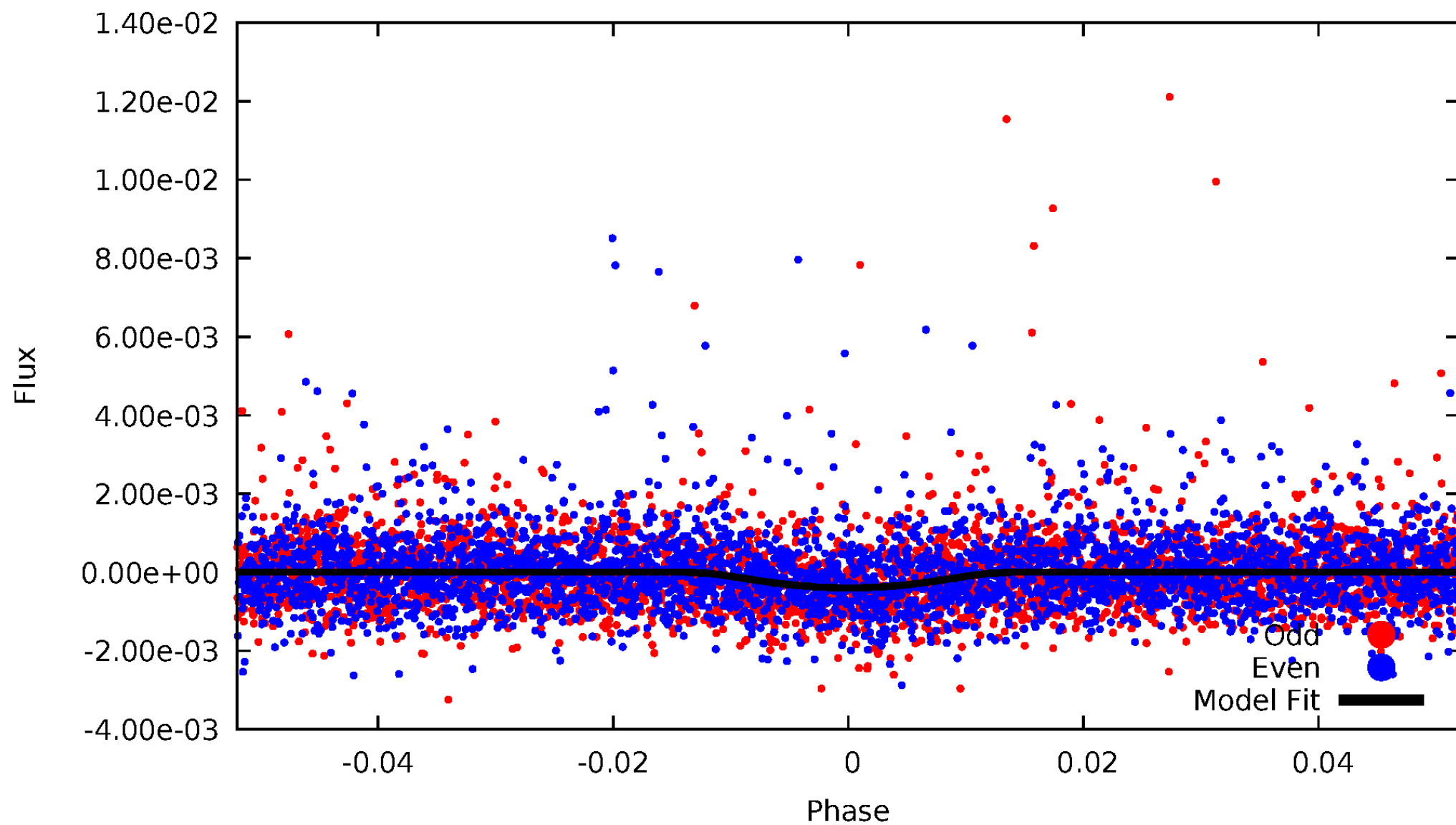


TCE 011092783-01



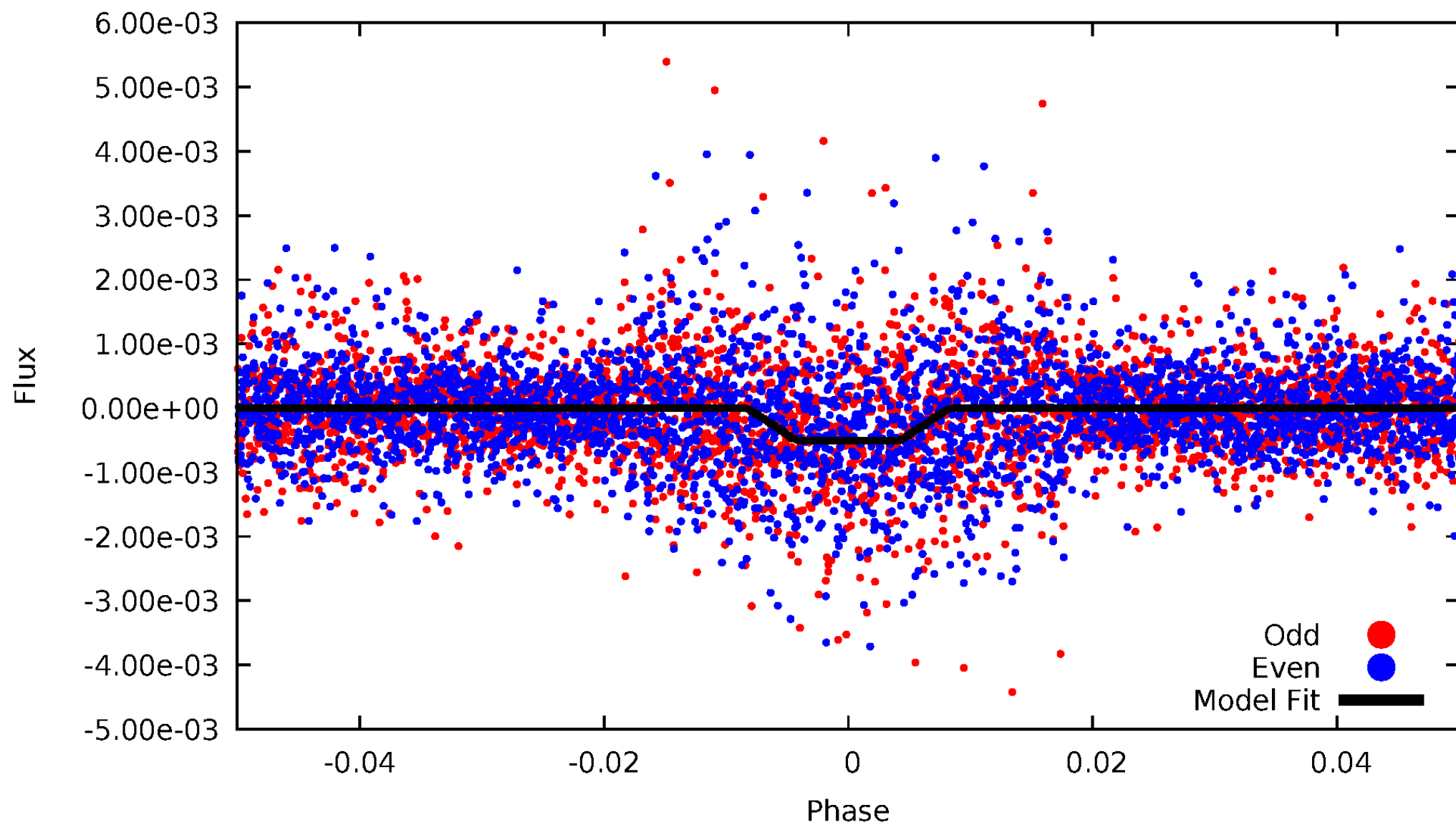
DV Odd/Even

TCE 011092783-01



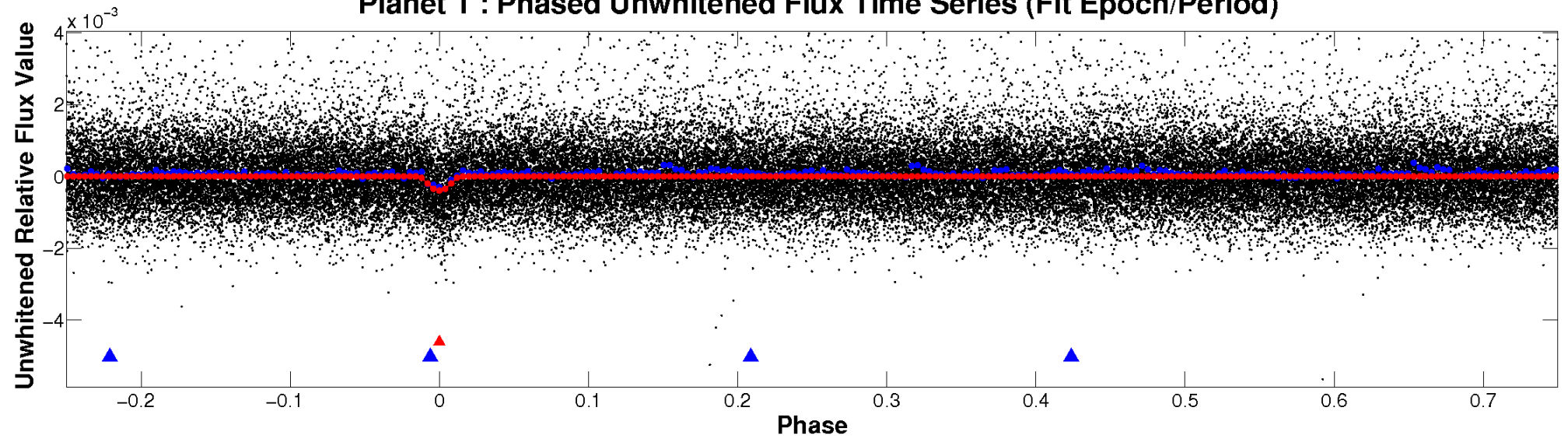
ALT Odd/Even

TCE 011092783-01

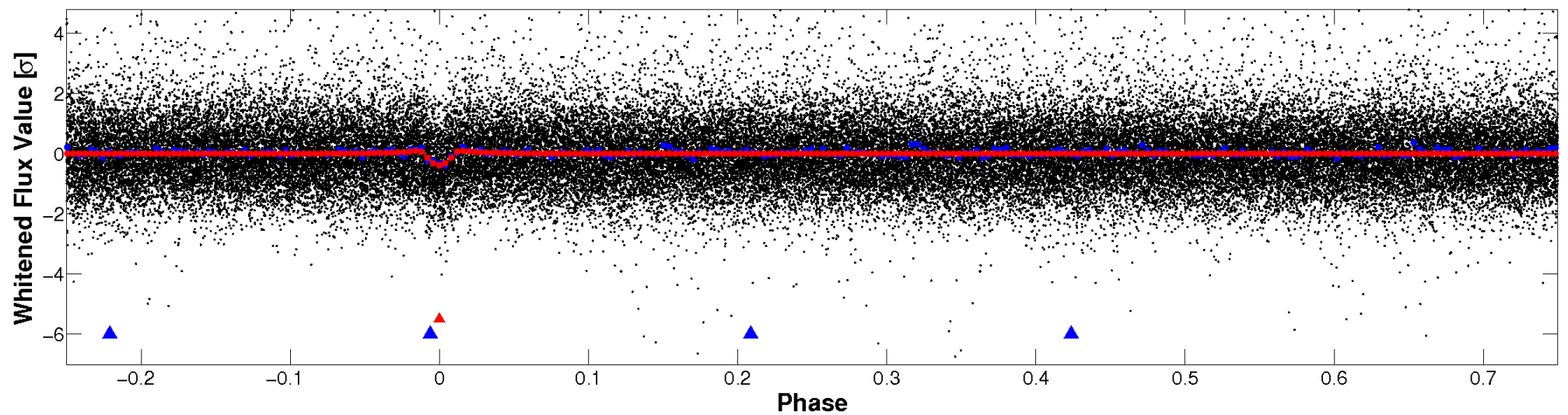


Non-Whitened Vs. Whitened Light Curve

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

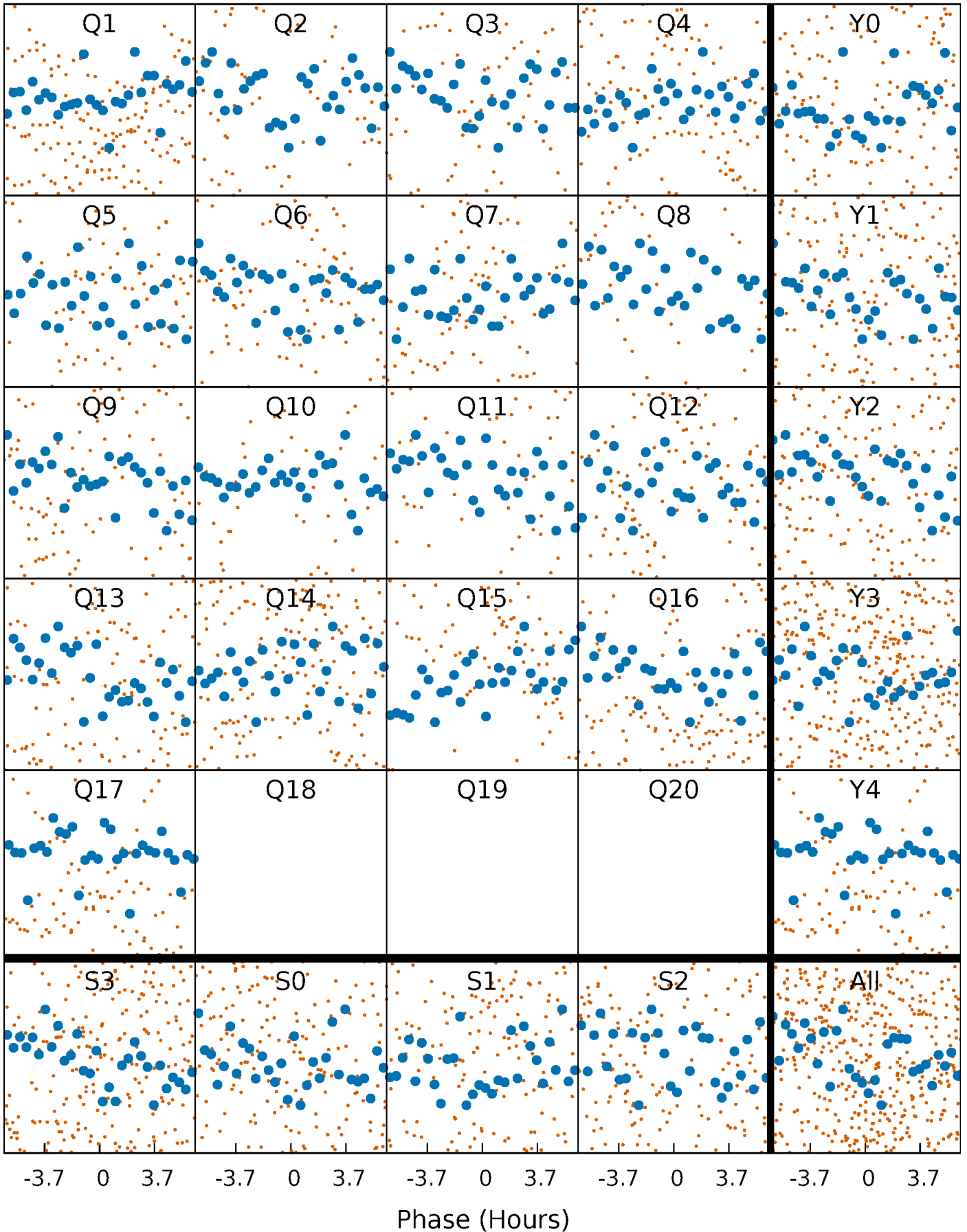


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



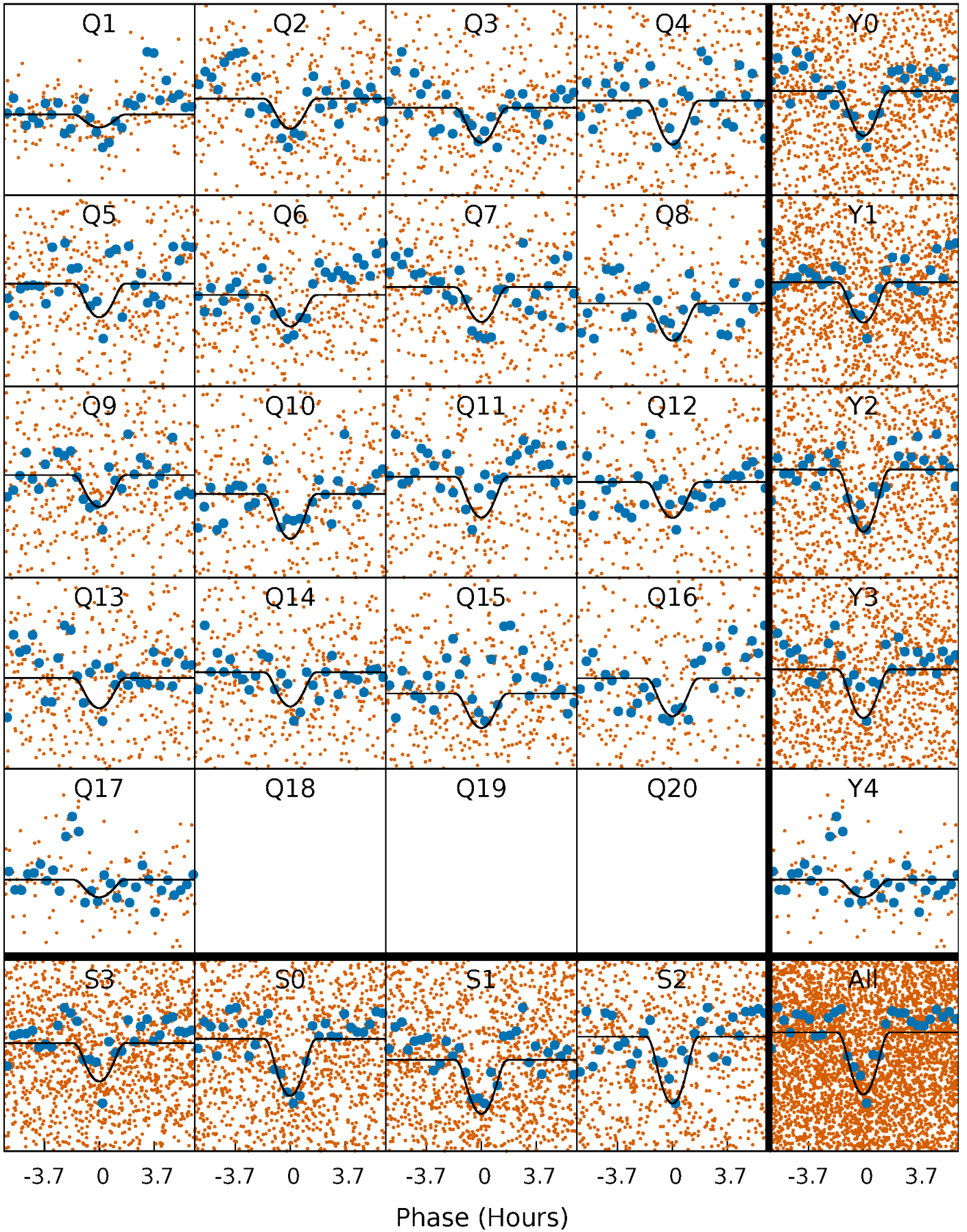
PDC Quarter-Phased Transit Curves

TCE 011092783-01 P= 5.160009 Days $T_0=132.688483$ (BKJD)



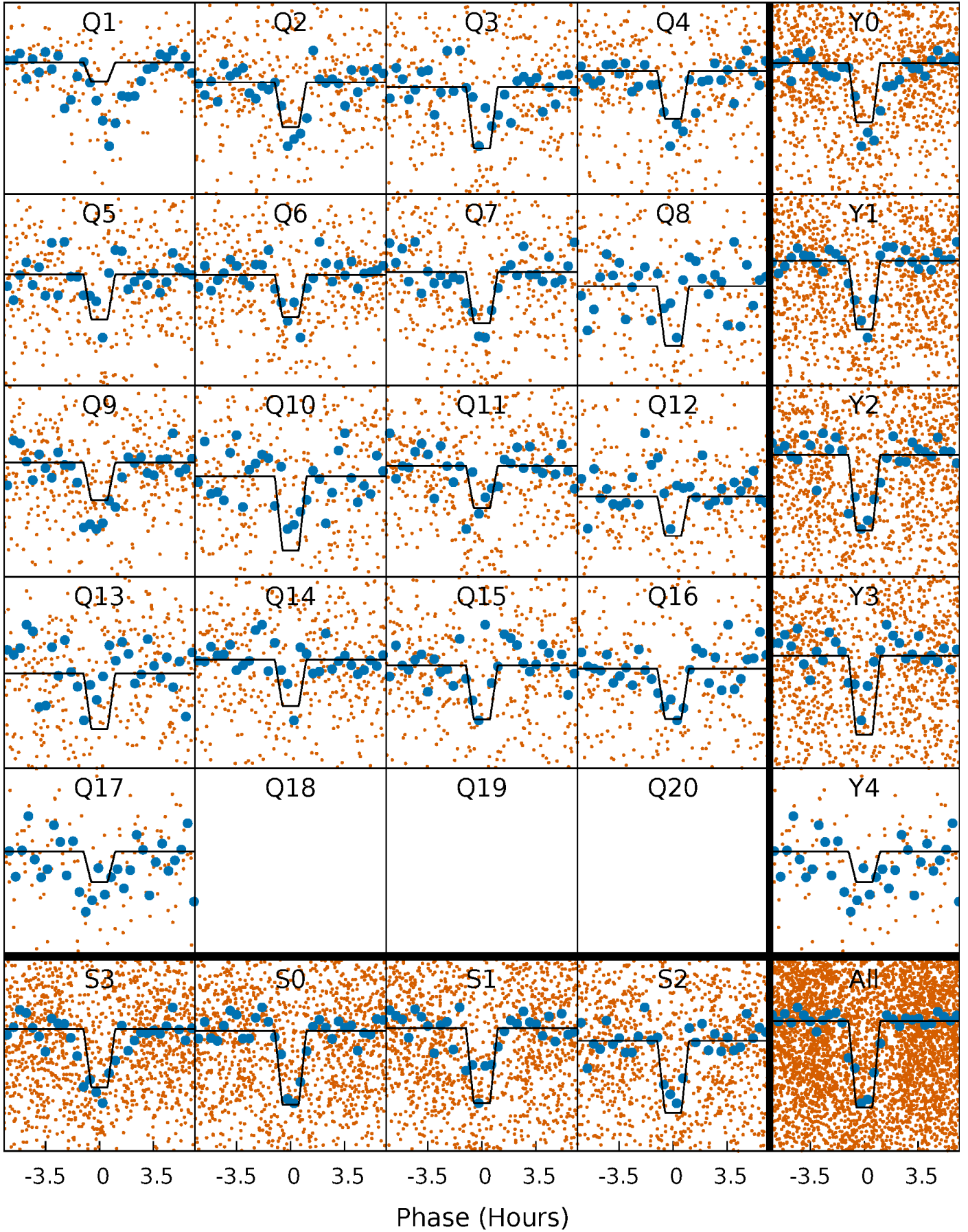
DV Quarter-Phased Transit Curves

TCE 011092783-01 P= 5.160009 Days $T_0=132.688483$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

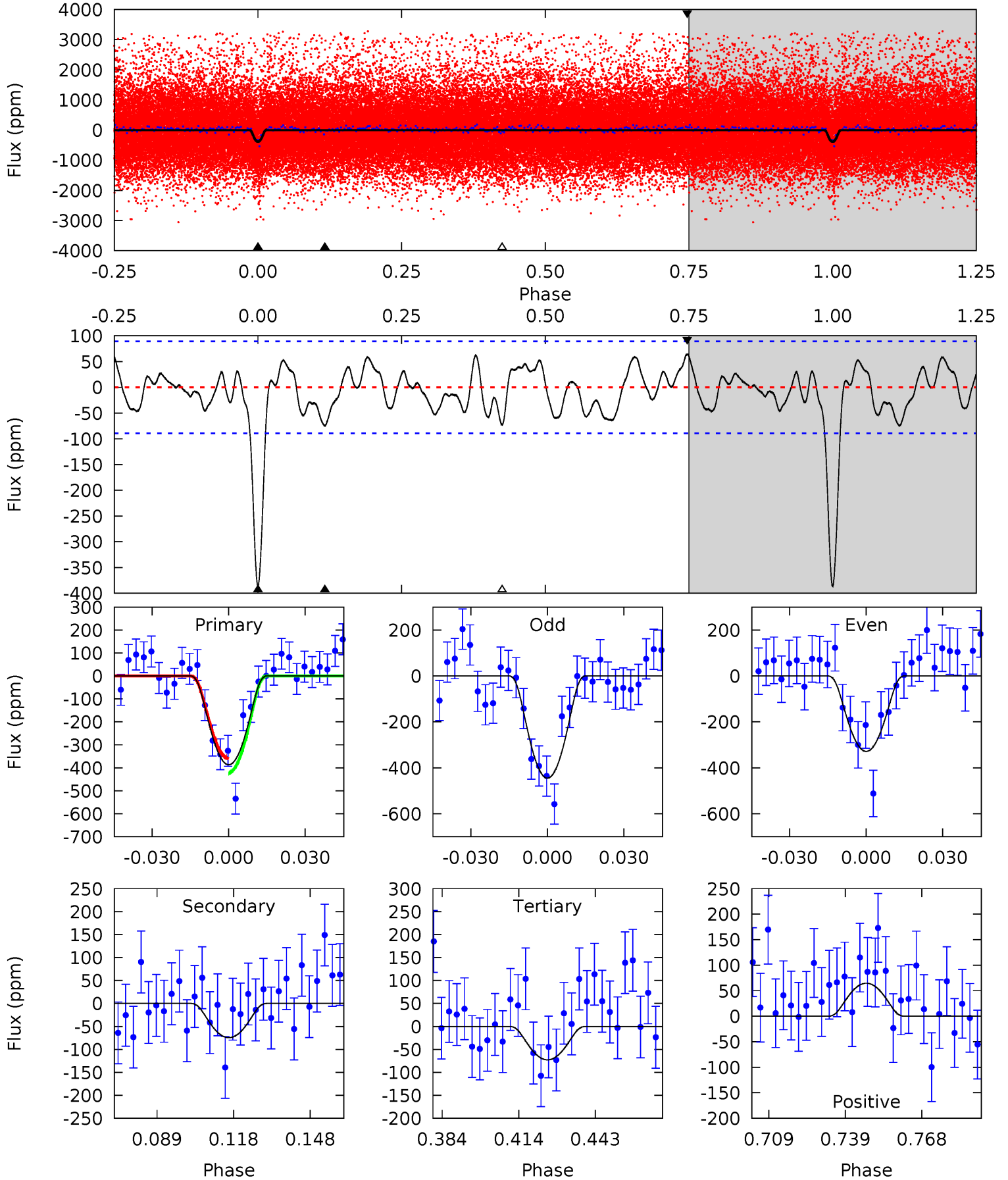
TCE 011092783-01 P= 5.160119 Days $T_0=132.678442$ (BKJD)



DV Model-Shift Uniqueness Test

011092783-01, P = 5.160009 Days, E = 127.528474 Days

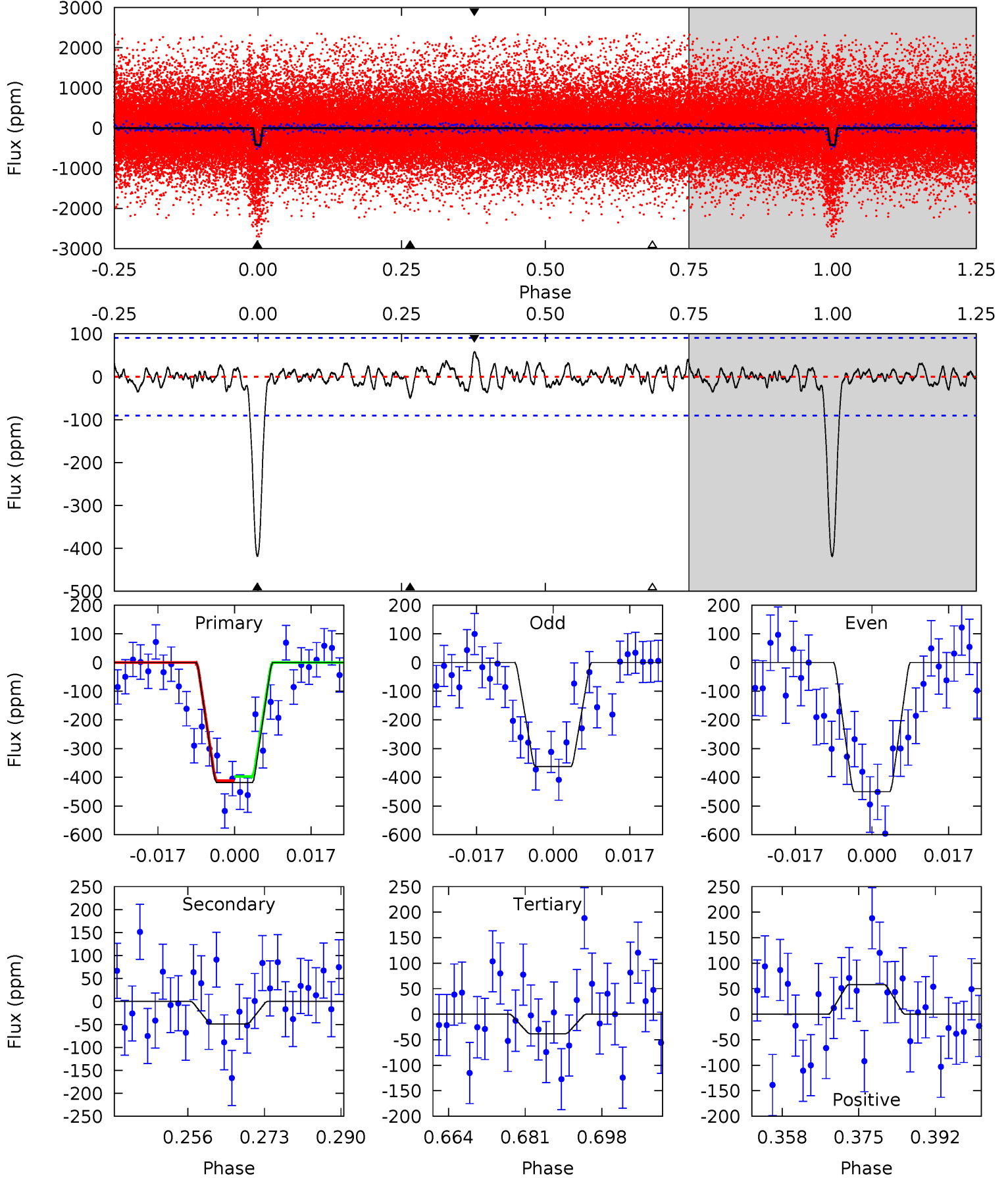
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.8	4.02	3.92	3.48	4.81	2.18	1.80	16.9	17.4	0.09	0.53	3.16	0.86	0.14	1.65



Alt Model-Shift Uniqueness Test

011092783-01, P = 5.160119 Days, E = 127.518323 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	2.68	2.08	3.16	4.92	2.39	0.90	20.7	19.6	0.61	-0.48	2.39	1.11	0.12	0.40



Stellar Parameters For KIC 011092783

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3900^{+46}_{-50}	$4.727^{+0.017}_{-0.022}$	$-0.100^{+0.100}_{-0.100}$	$0.534^{+0.024}_{-0.021}$	$0.555^{+0.020}_{-0.025}$	$5.136^{+0.442}_{-0.450}$
	+1%/-1%	+0%/-0%	+100%/-100%	+4%/-4%	+4%/-5%	+9%/-9%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011092783-01 / KOI 7408.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-75 ± 19	$2.89^{+2.58}_{-2.06}$	803^{+12}_{-12}	2370^{+950}_{-340}	11^{+132}_{-8}
Alt.	-49 ± 18	$2.74^{+2.53}_{-1.81}$	803^{+11}_{-13}	2273^{+784}_{-334}	$8.042^{+70.728}_{-6.020}$

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

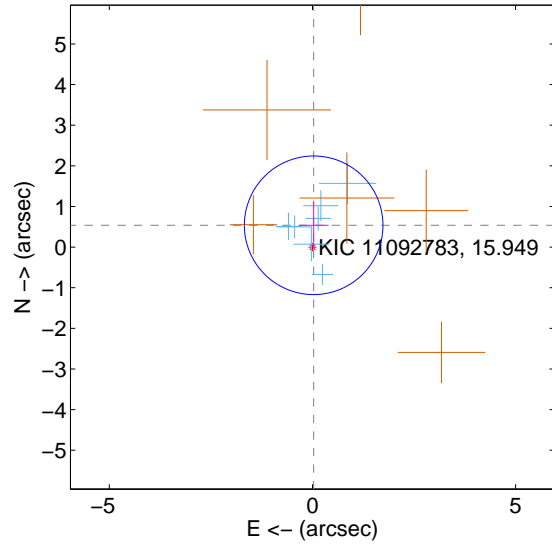
Supplemental centroid analysis for 011092783-01. Kepler magnitude: 15.95. Transit SNR 10.44

There are 7 quarters with good PRF difference image offsets

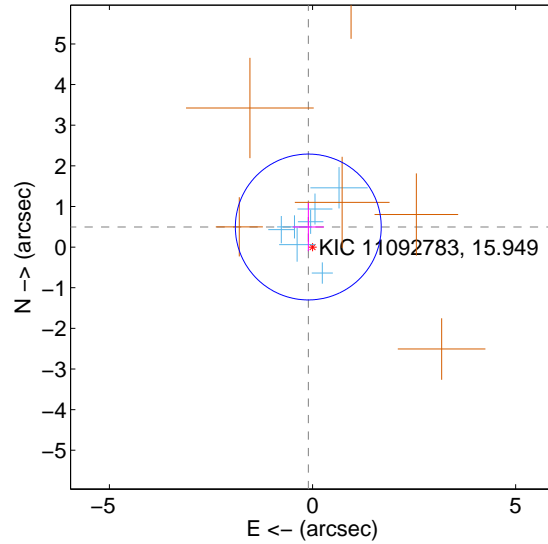
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.538 ± 0.568	0.95	-0.030 ± 0.365	0.537 ± 0.576
PRF-fit source offset from KIC position	0.505 ± 0.598	0.84	0.104 ± 0.386	0.494 ± 0.595
photometric centroid source offset	2.03 ± 0.98	2.08	0.70 ± 0.85	1.91 ± 0.99

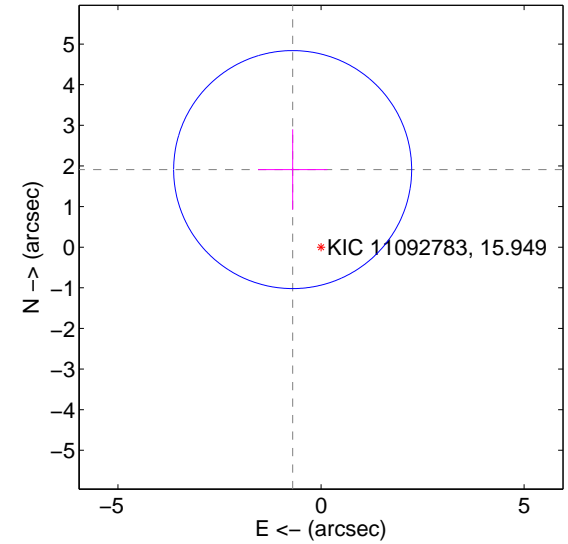
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

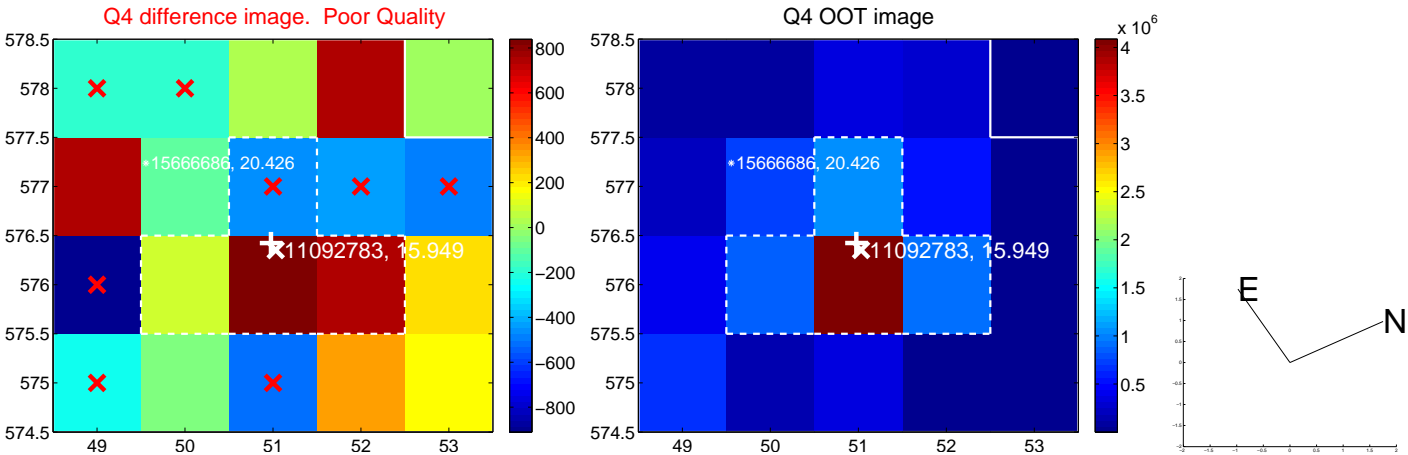
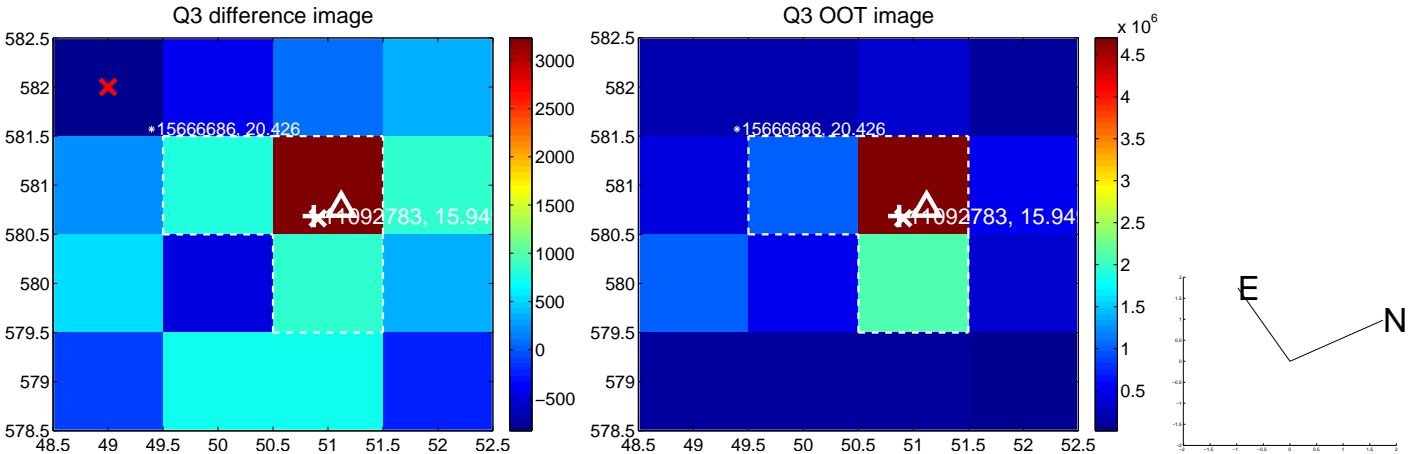
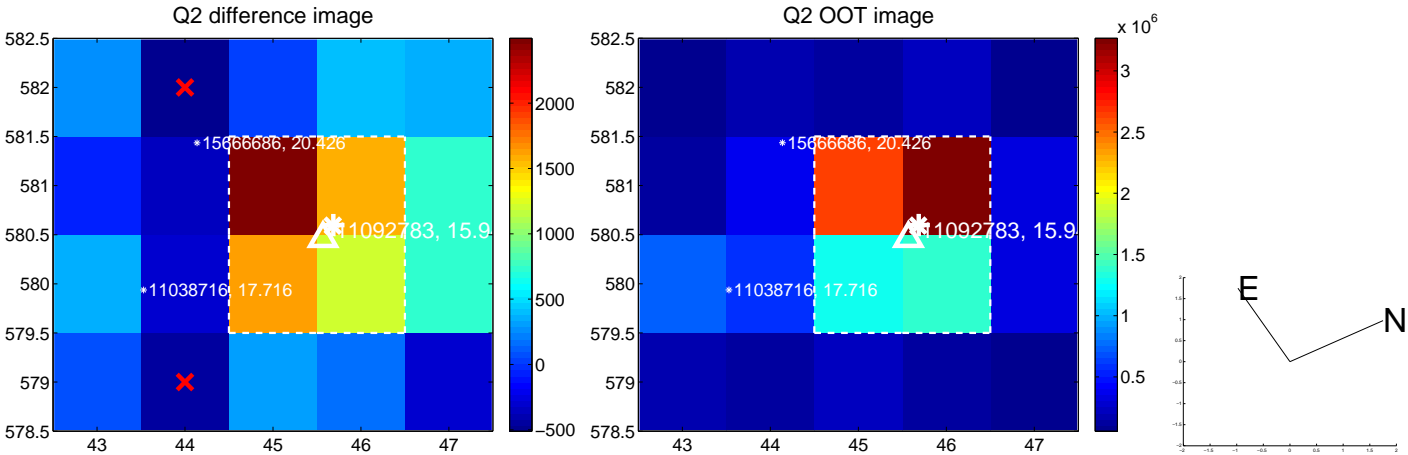
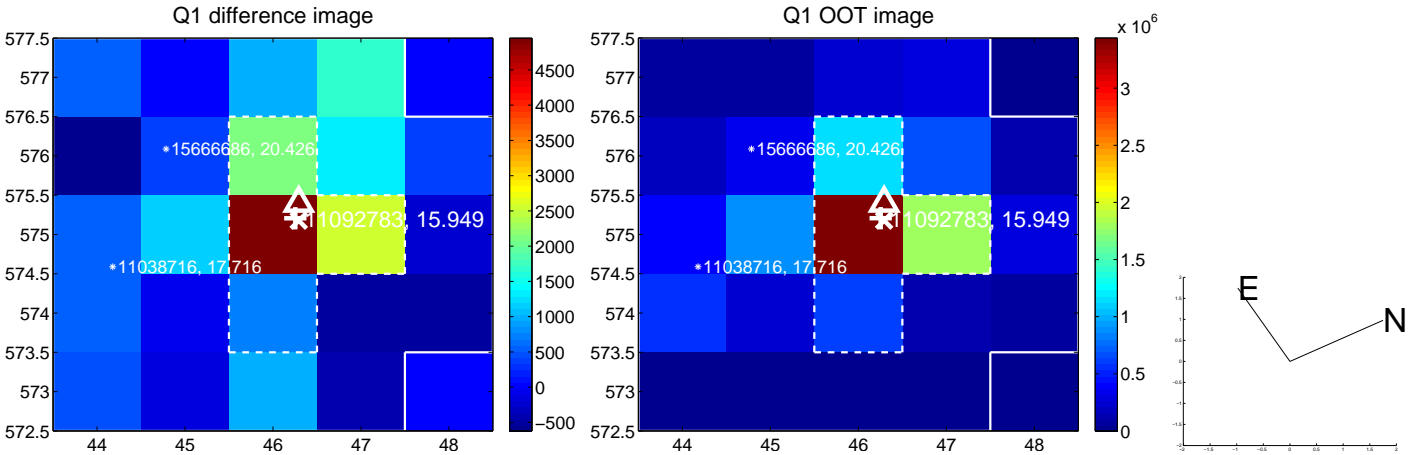


offset from photometric centroids

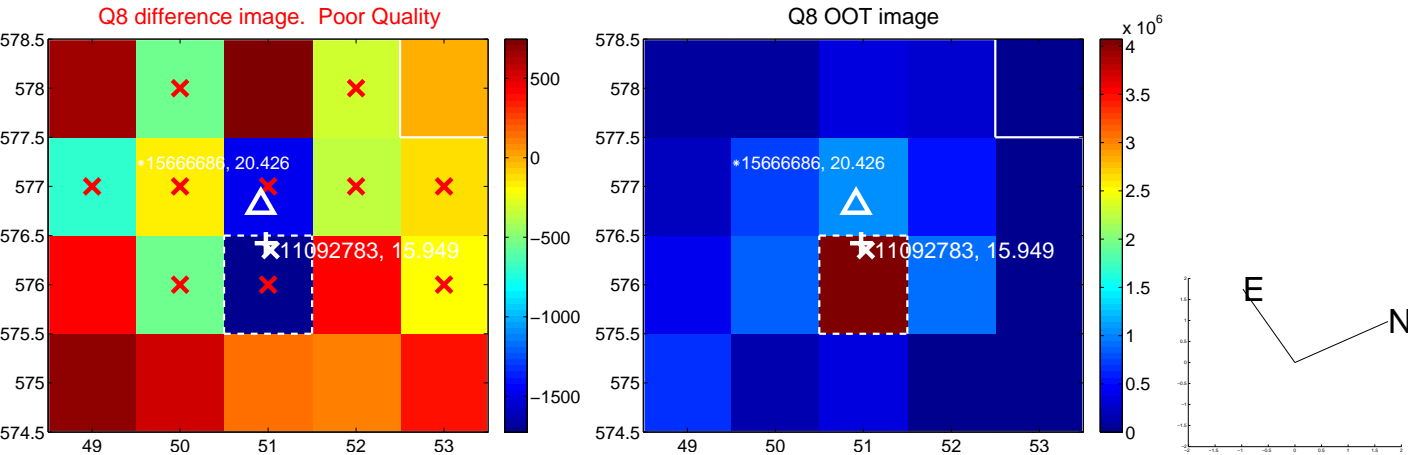
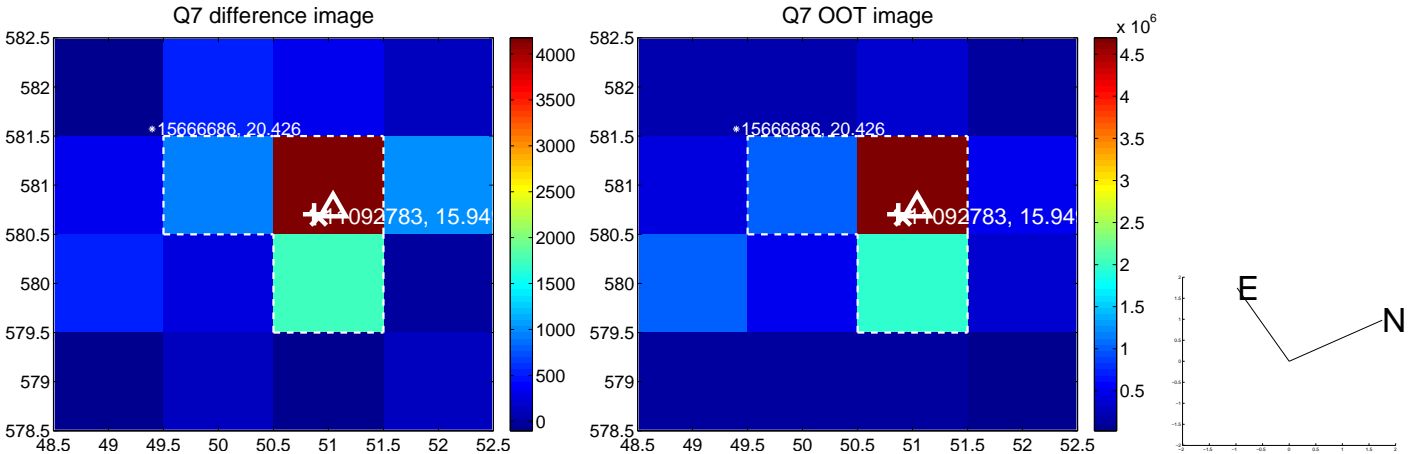
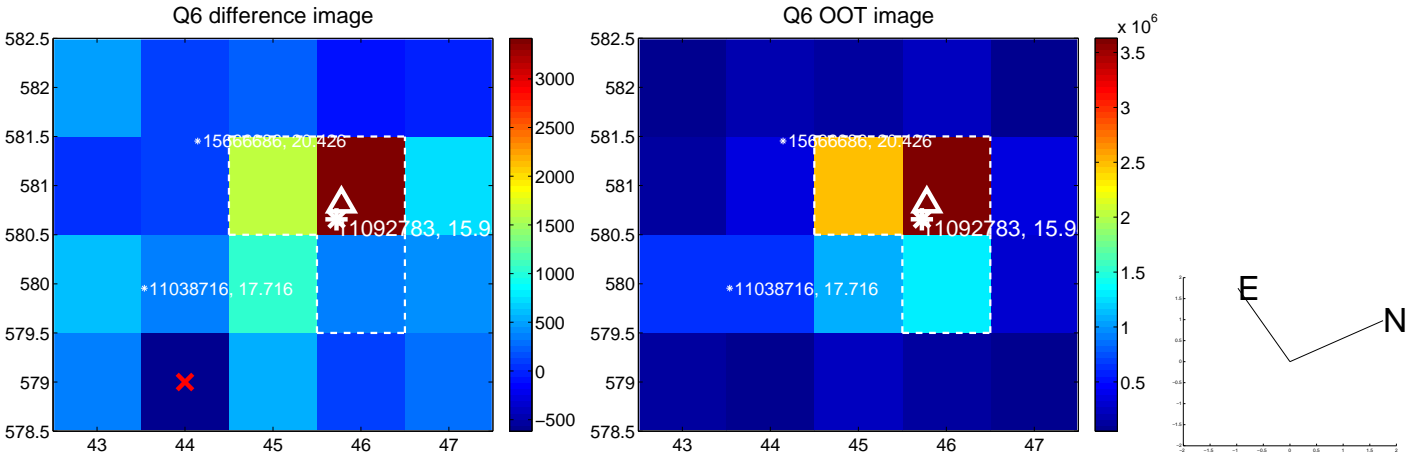
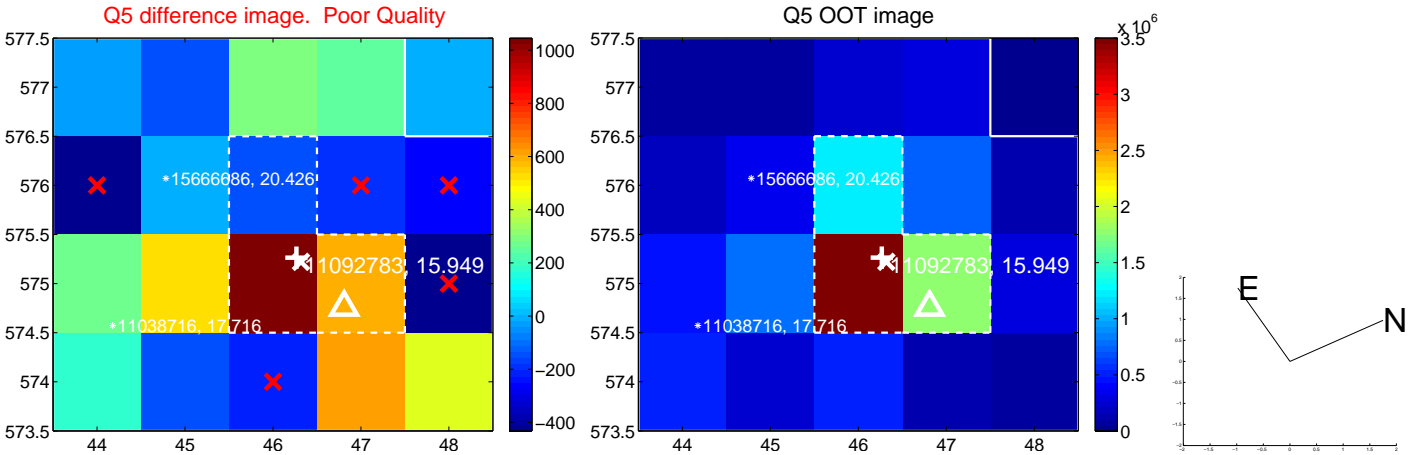


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

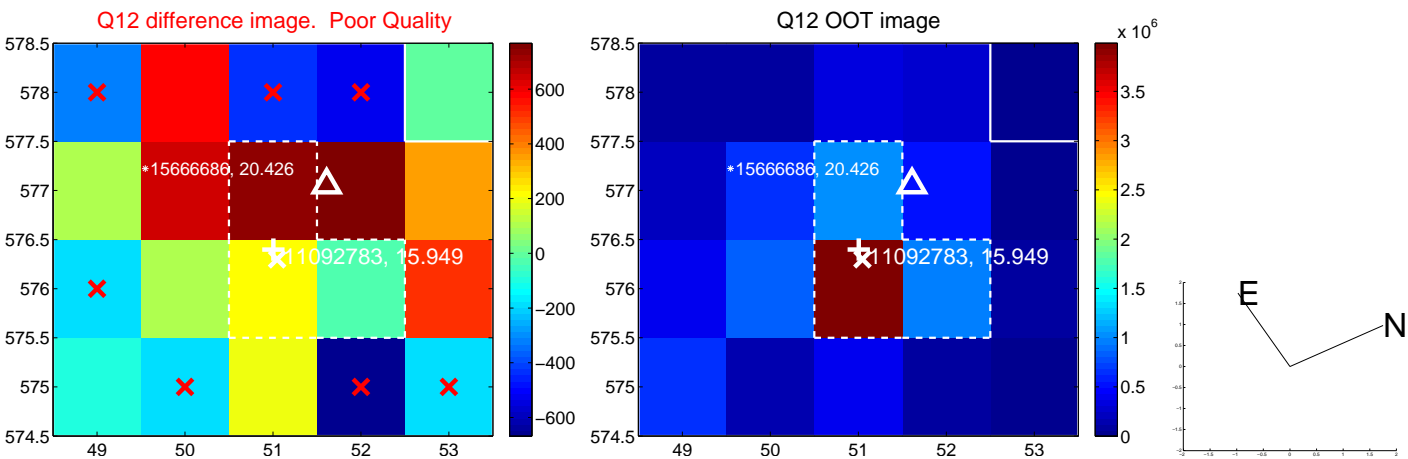
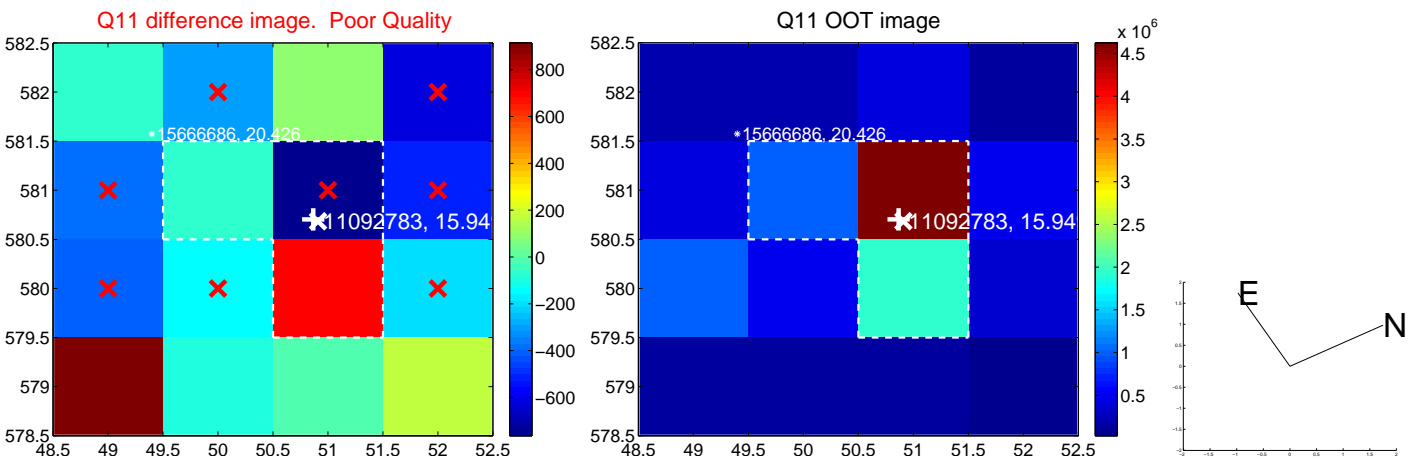
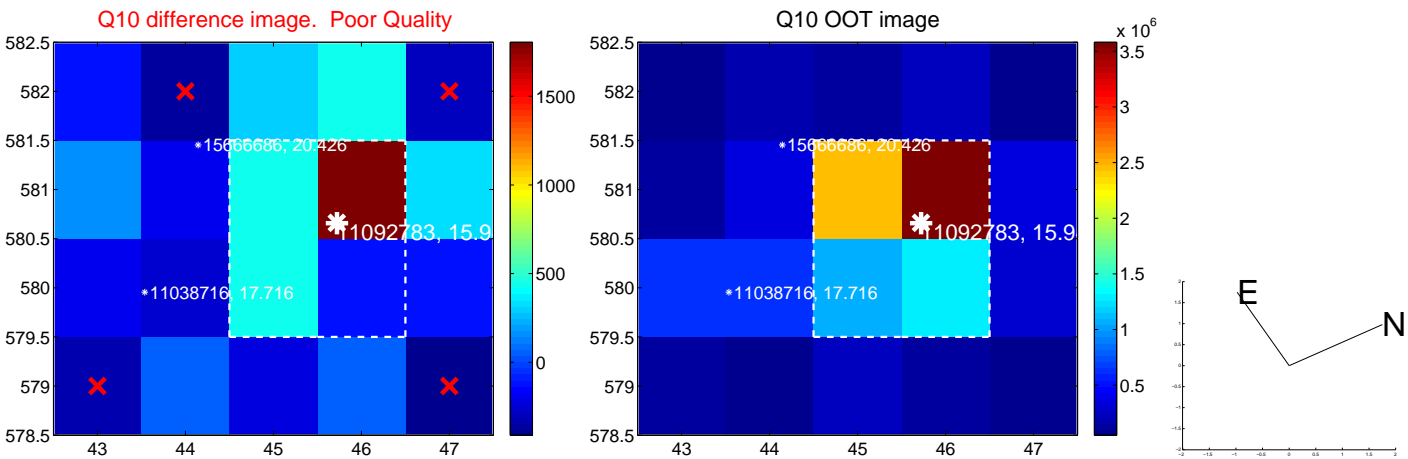
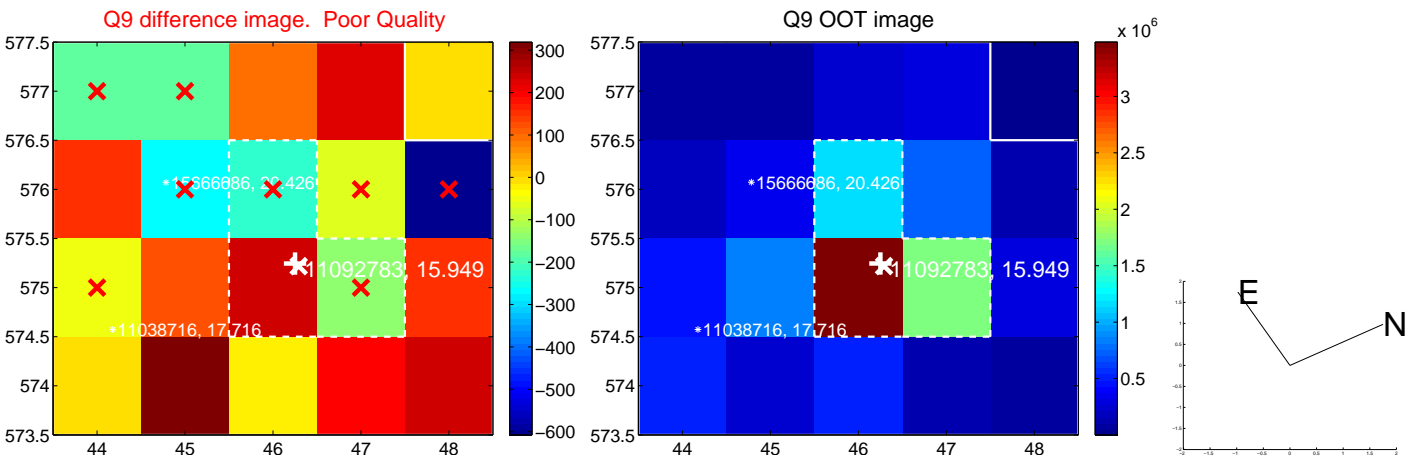
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



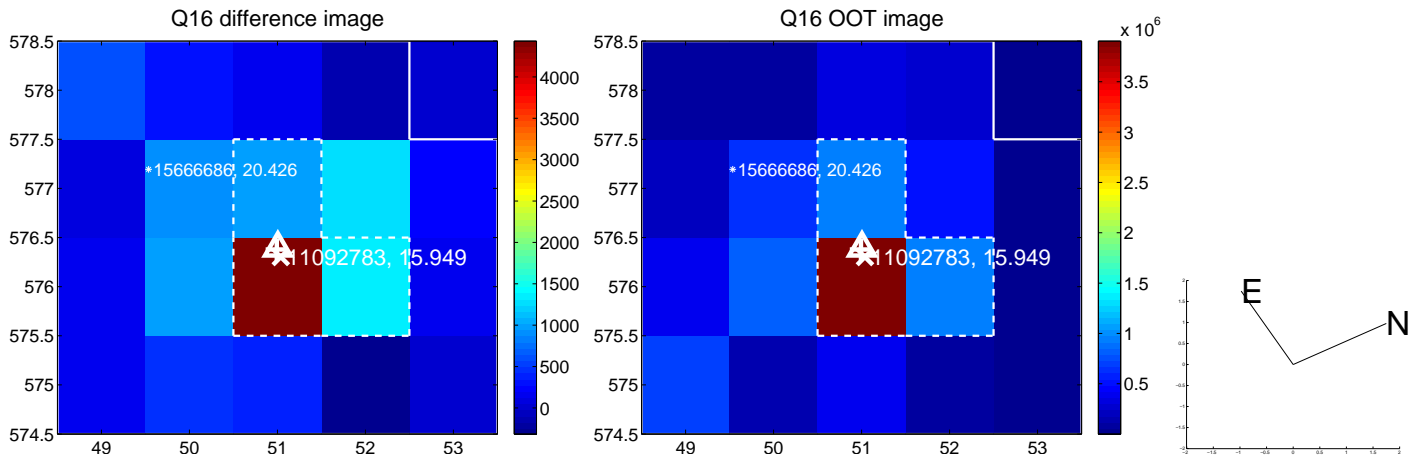
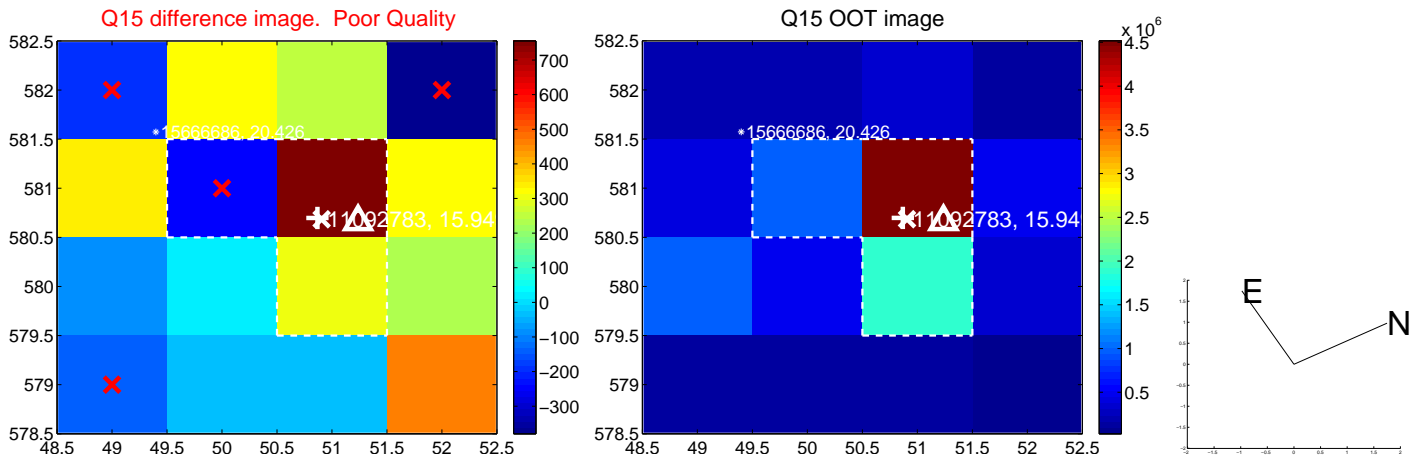
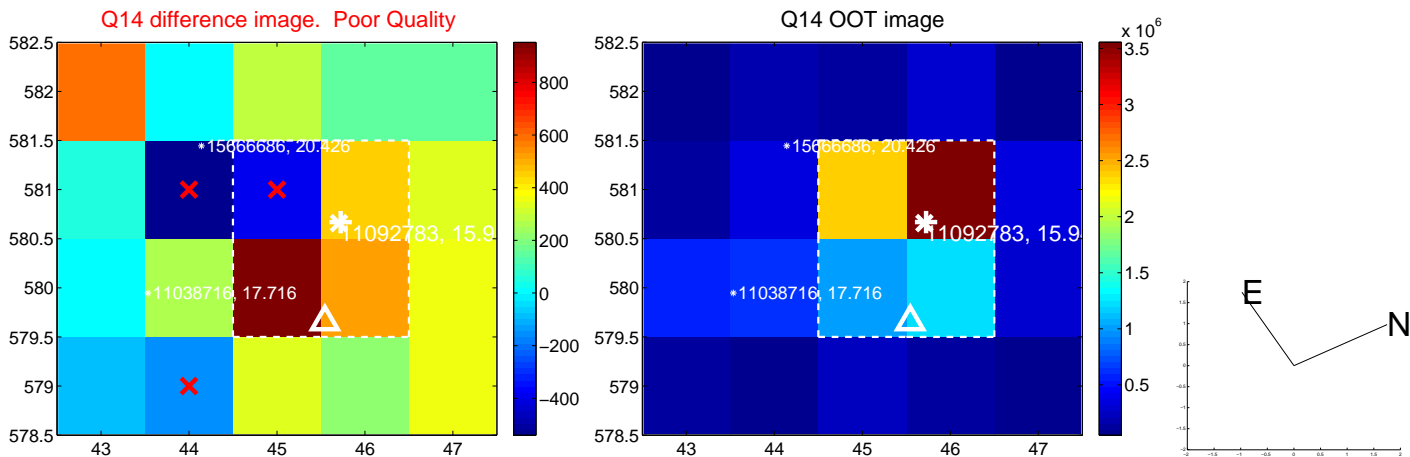
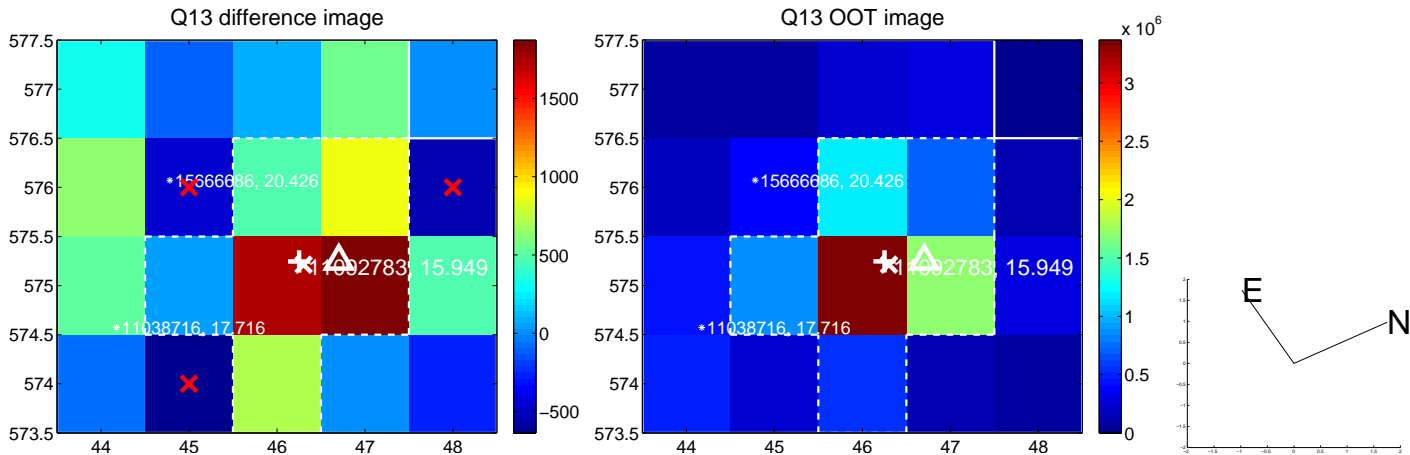
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



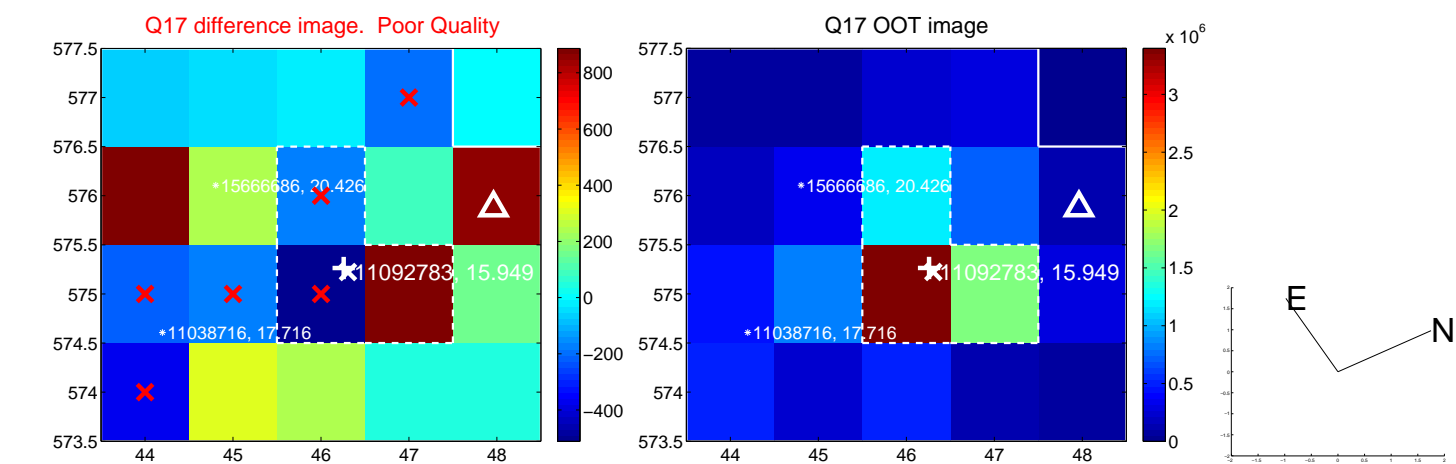
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



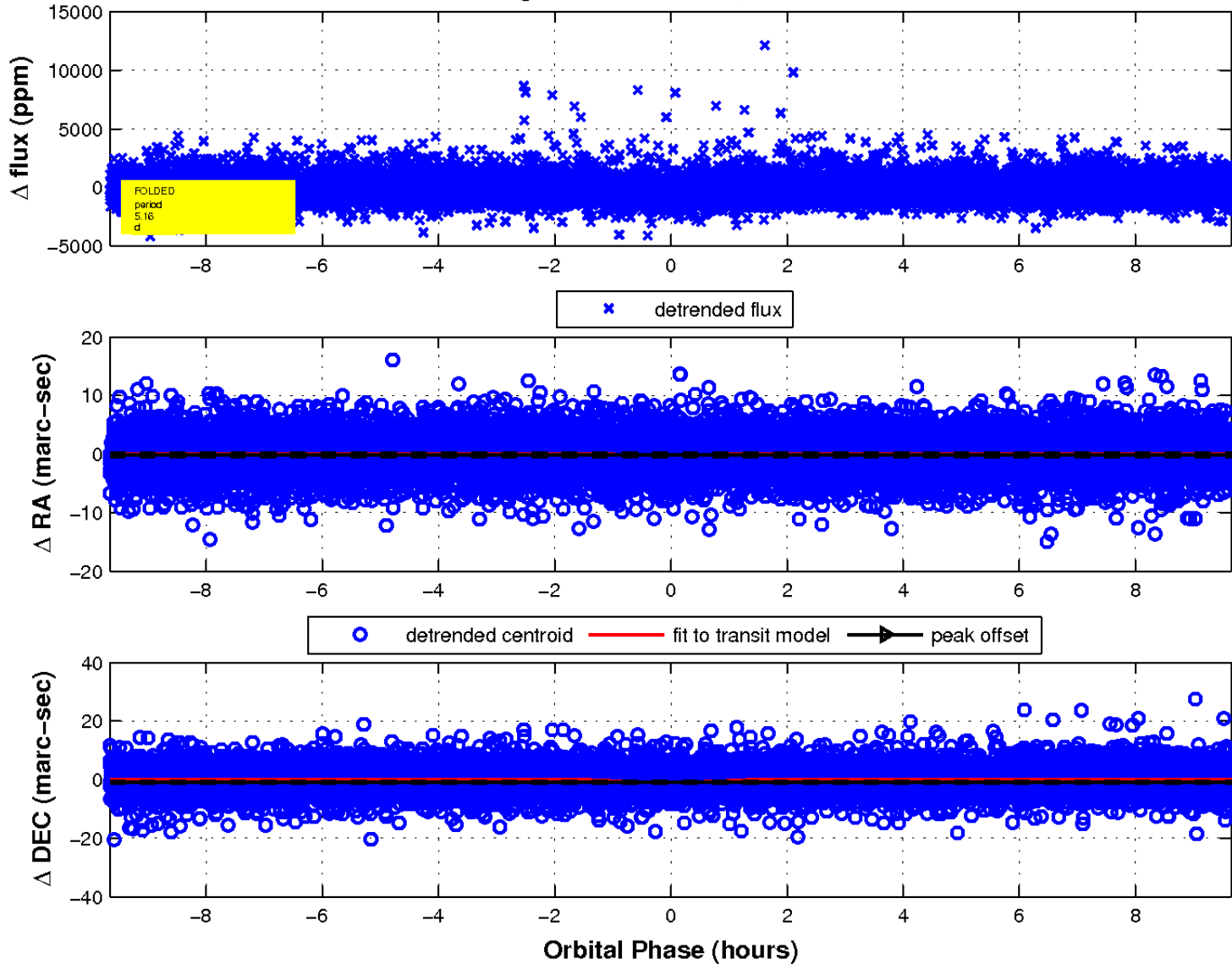
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

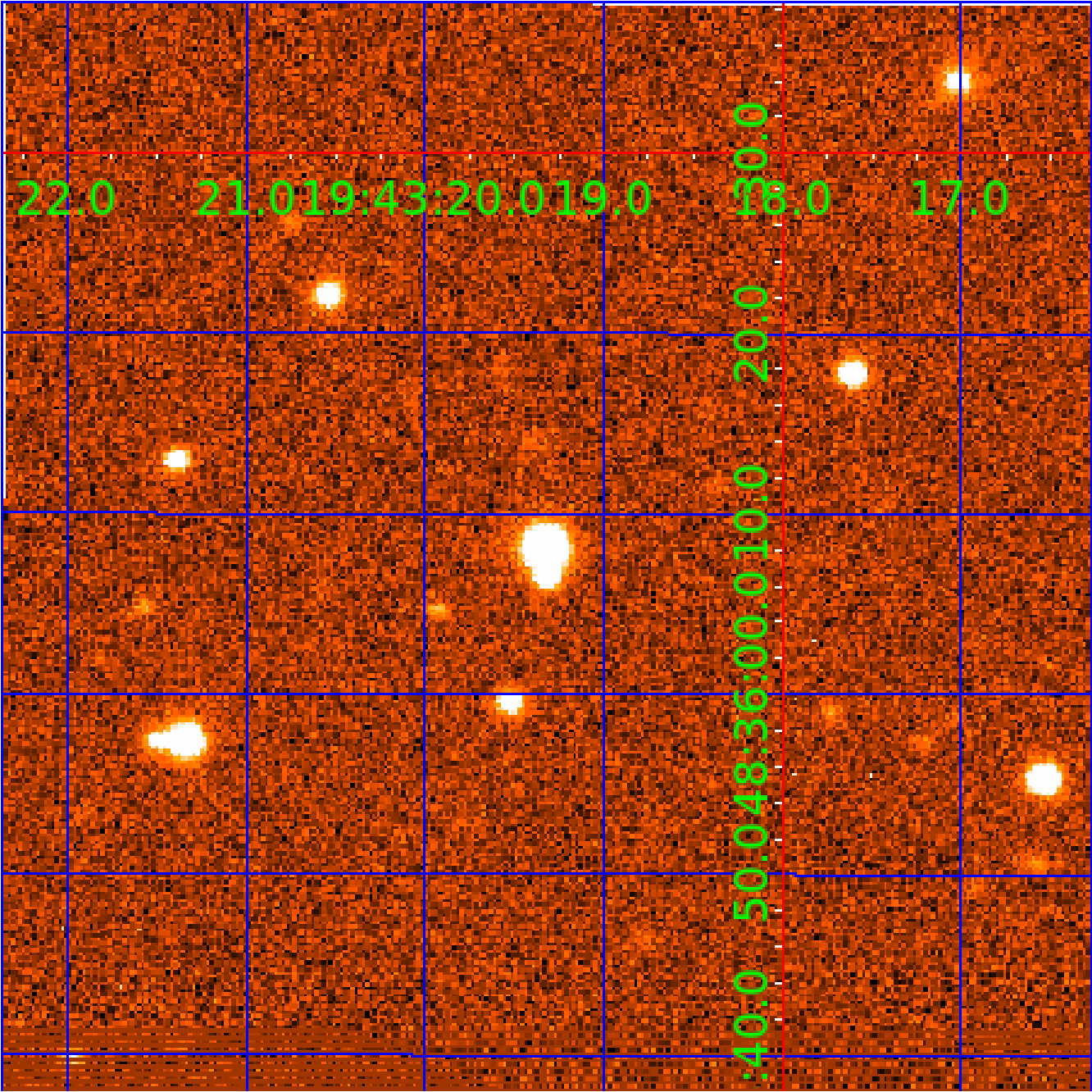


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 011092783

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})
011092783-01	OBS	7408.01	5.160009	132.688483	400.8	3.219	9.6	10.4	0.53	3900	1.89	25.62
011092783-02	OBS	No	331.349430	451.468921	2002.9	9.564	10.1	7.2	0.53	3900	2.42	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011092783-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011092783-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_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.

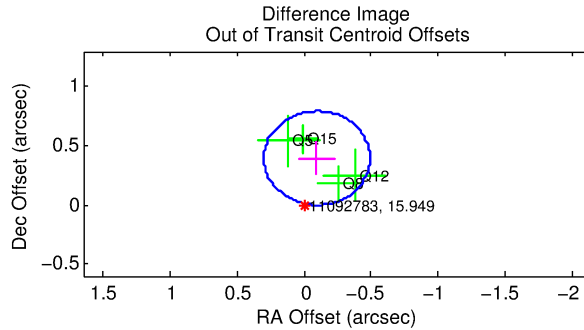
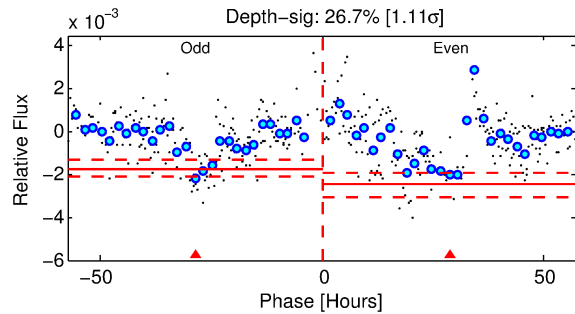
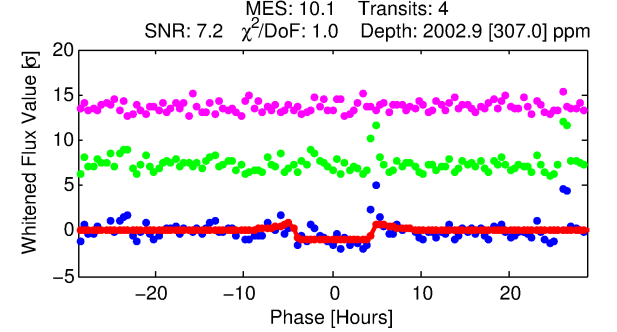
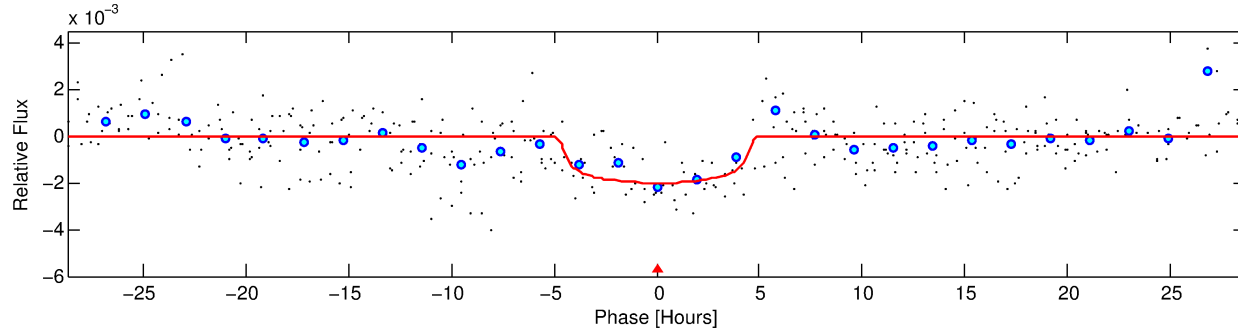
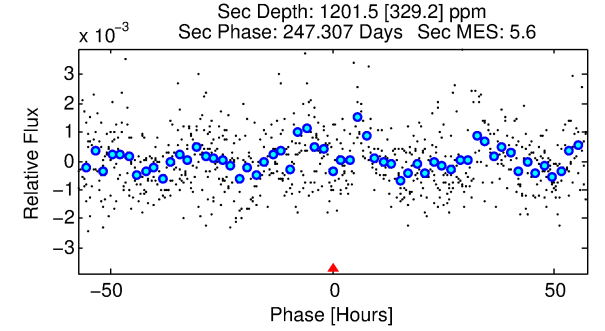
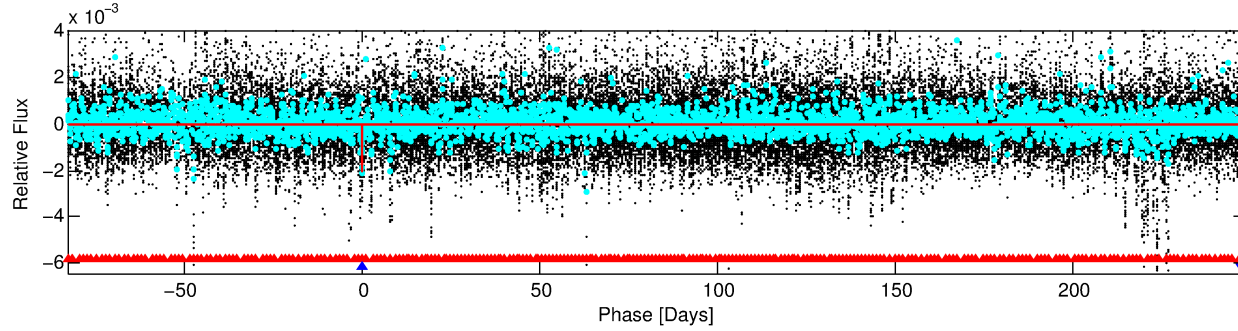
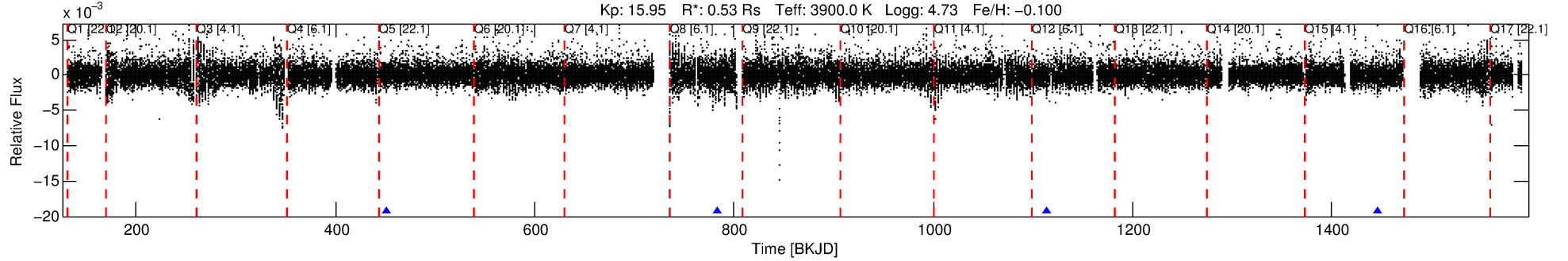
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011092783-02

No Significant Match Found

DV One-Page Summary

KIC: 11092783 Candidate: 2 of 2 Period: 331.349 d
KOI: K07408 Corr: No Ephemeris Match



DV Fit Results:

Period = 331.34943 [0.00525] d
Epoch = 451.4689 [0.0115] BKJD
Rp/R* = 0.0416 [0.0148]
a/R* = 246.23 [345.66]
b = 0.47 [2.36]
Seff = 0.10 [0.01]
Teq = 143 [2] K
Rp = 2.43 [0.87] Re
a = 0.7702 [0.0265] AU
Ag = 66663.12 [50766.20] [1.31σ]
Teffp = 3559 [678] K [5.04σ]

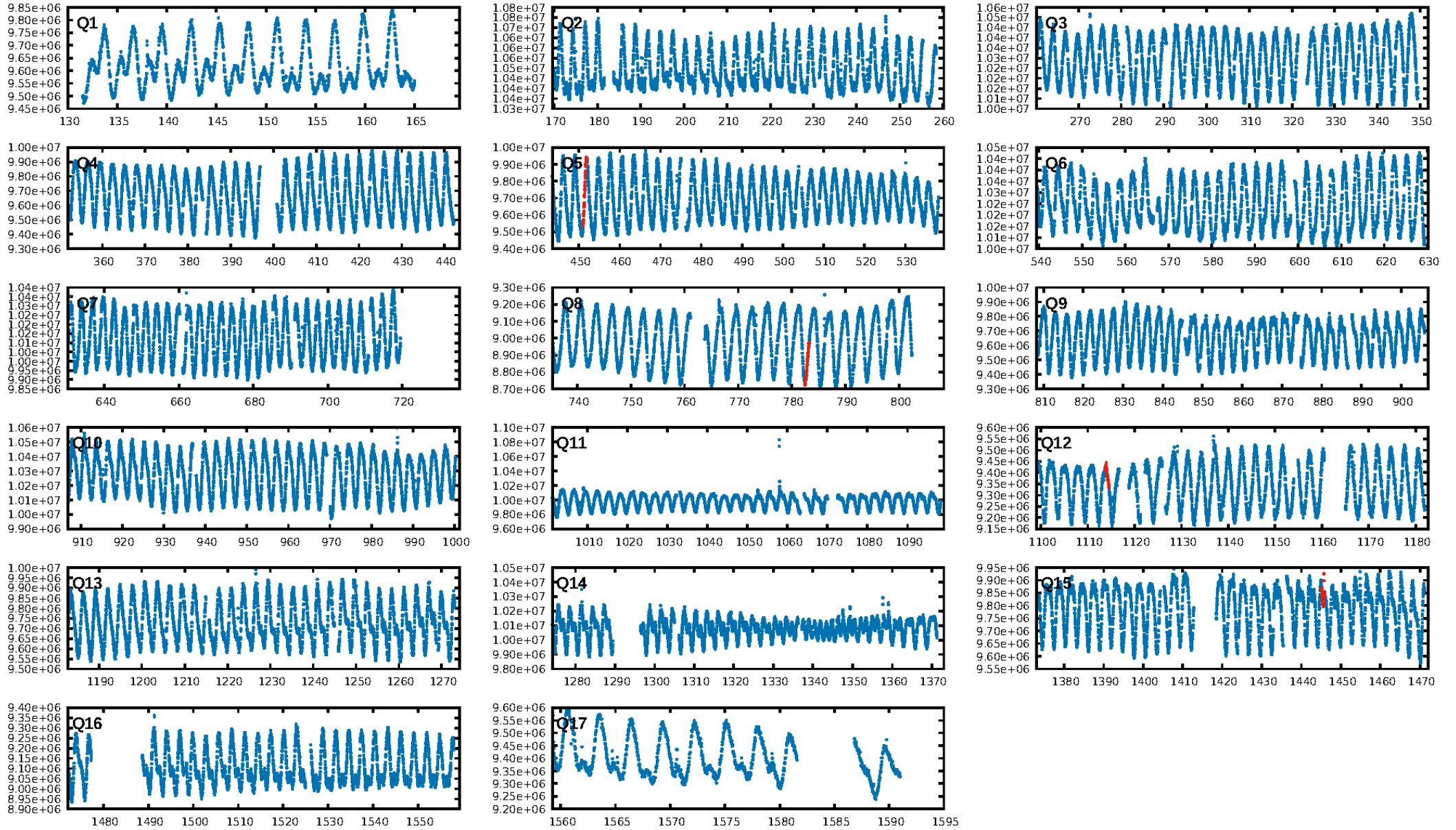
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [775.82σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 22.7%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 1.82e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -30.39
Centroid-sig: 6.2%
Centroid-so: 0.595 arcsec [0.72σ]
OotOffset-rm: 0.408 arcsec [3.08σ]
KicOffset-rm: 0.369 arcsec [3.19σ]
OotOffset-st: 0/1/2/1 [4]
KicOffset-st: 0/1/2/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.75 [3/4]

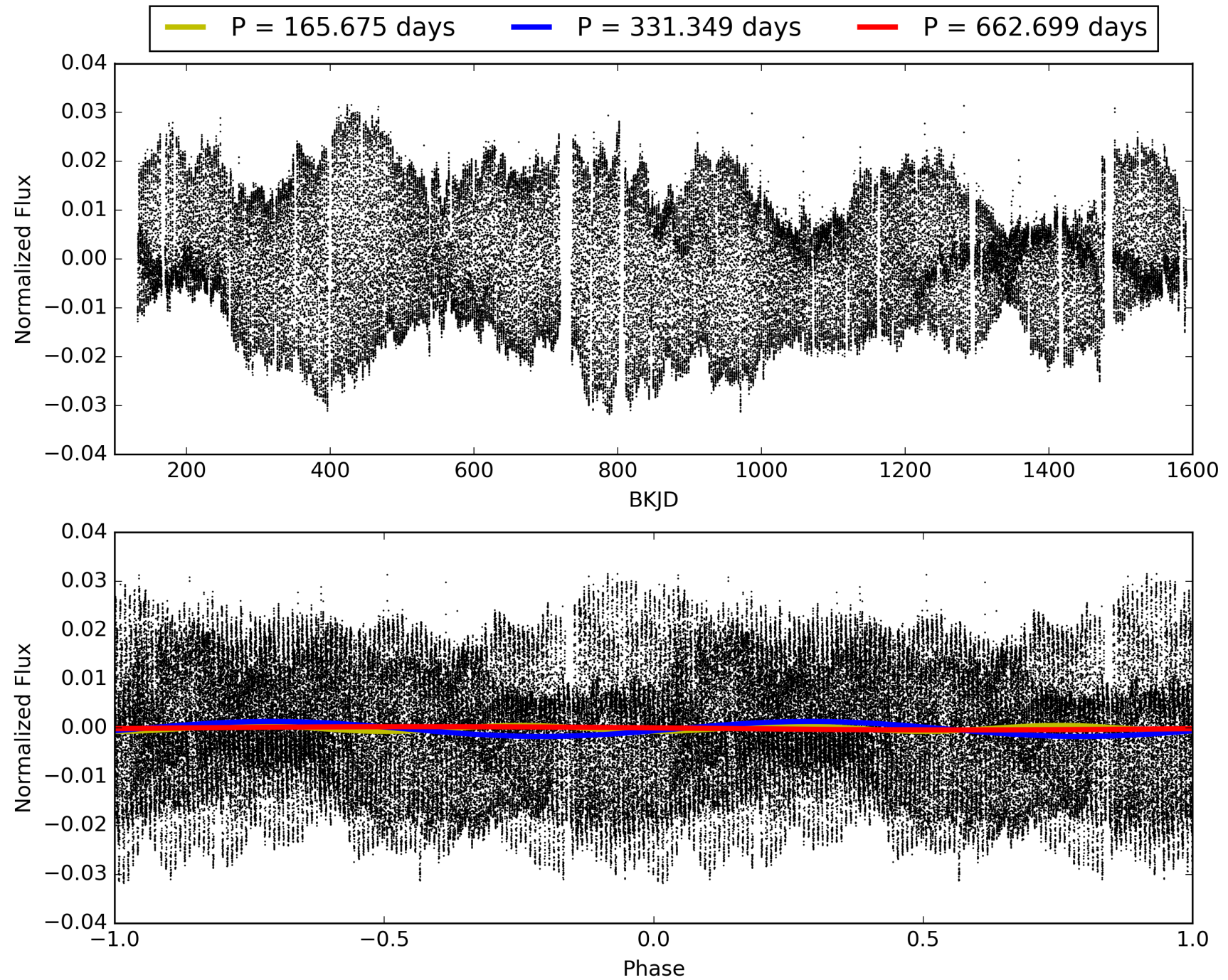
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:30:48 Z

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

TCE 011092783-02, PDC Light Curves

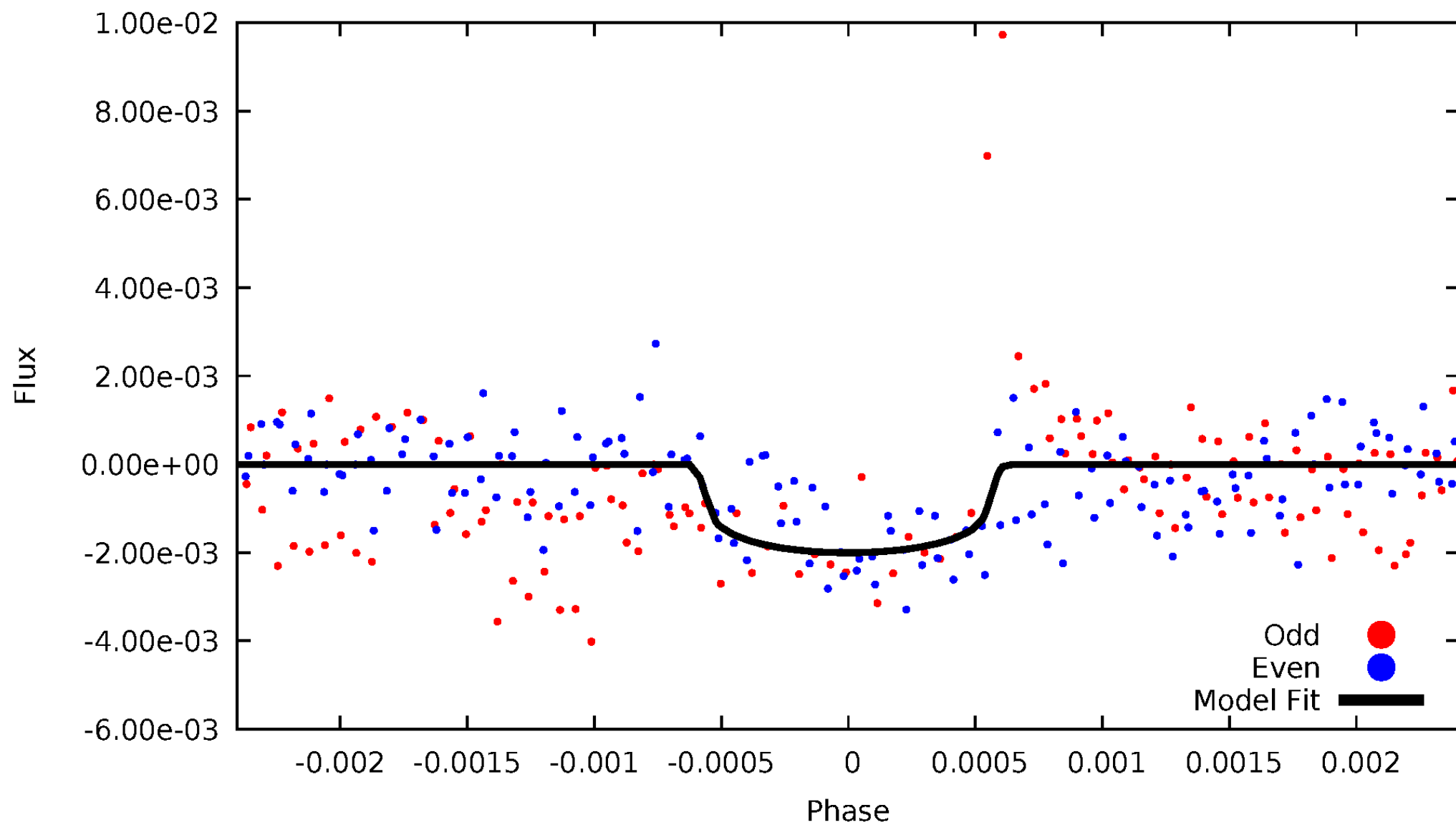


TCE 011092783-02



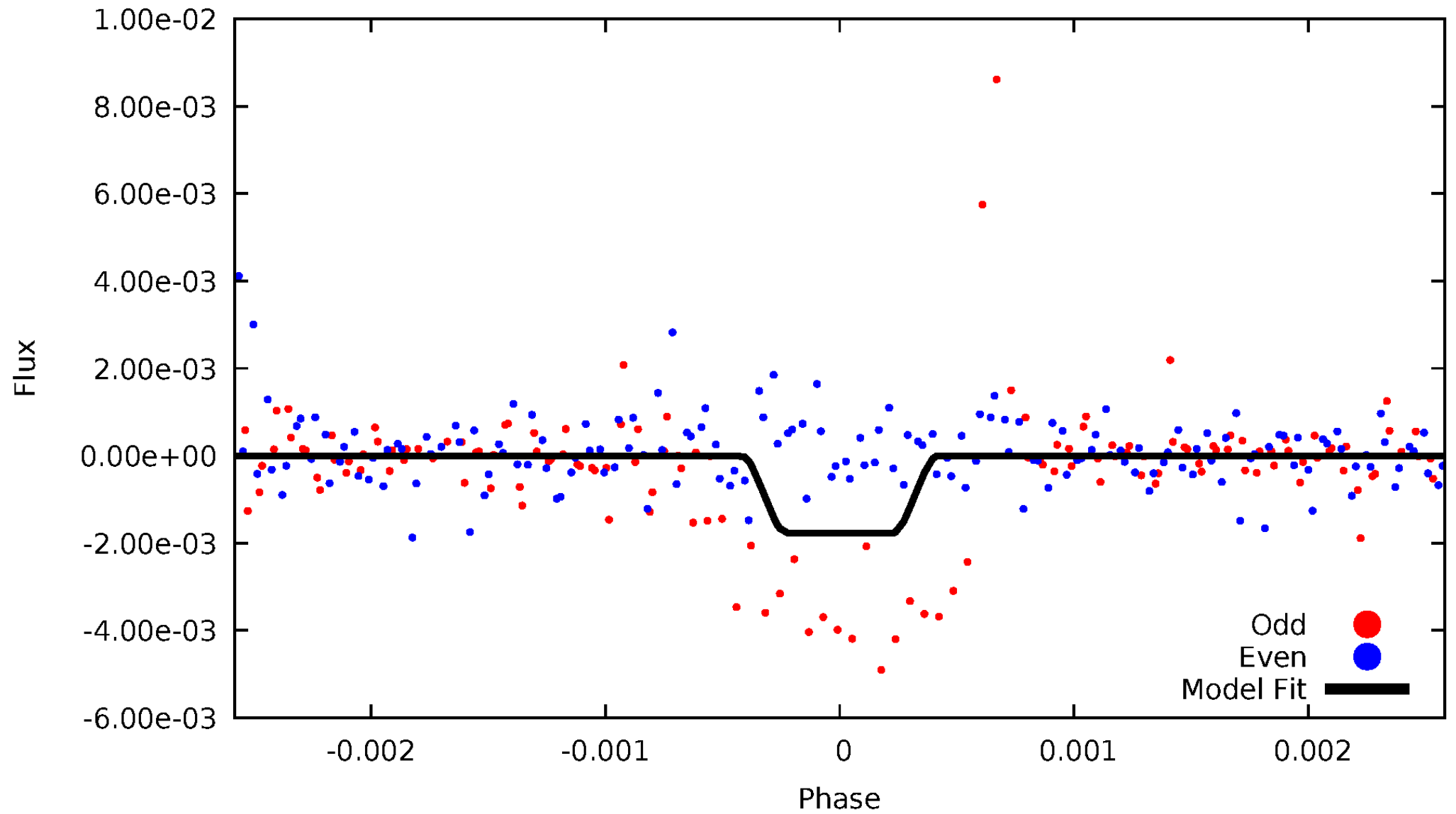
DV Odd/Even

TCE 011092783-02



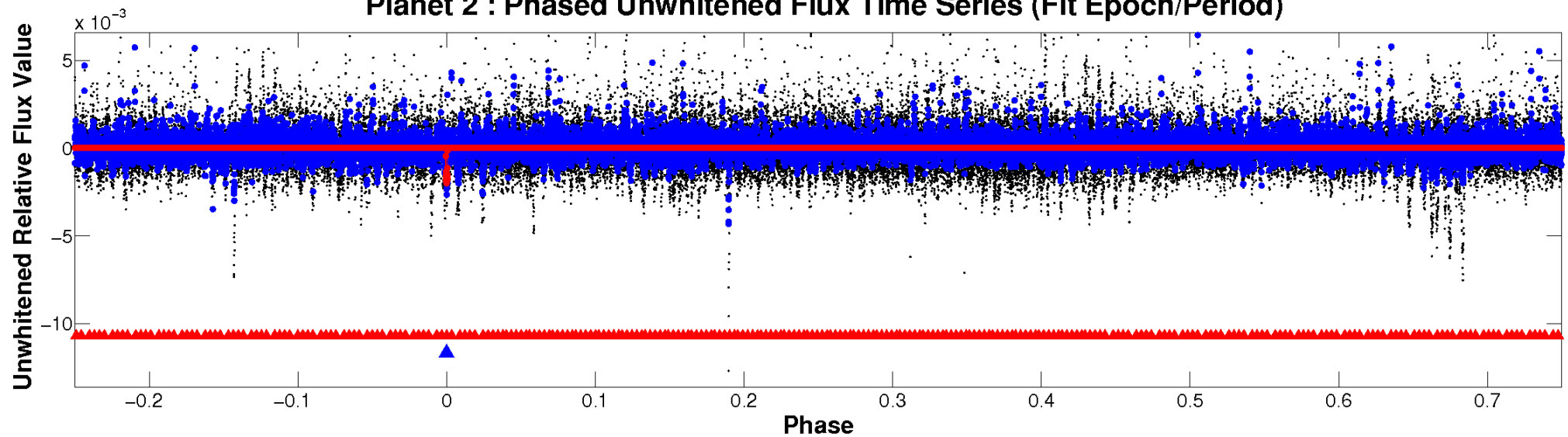
ALT Odd/Even

TCE 011092783-02

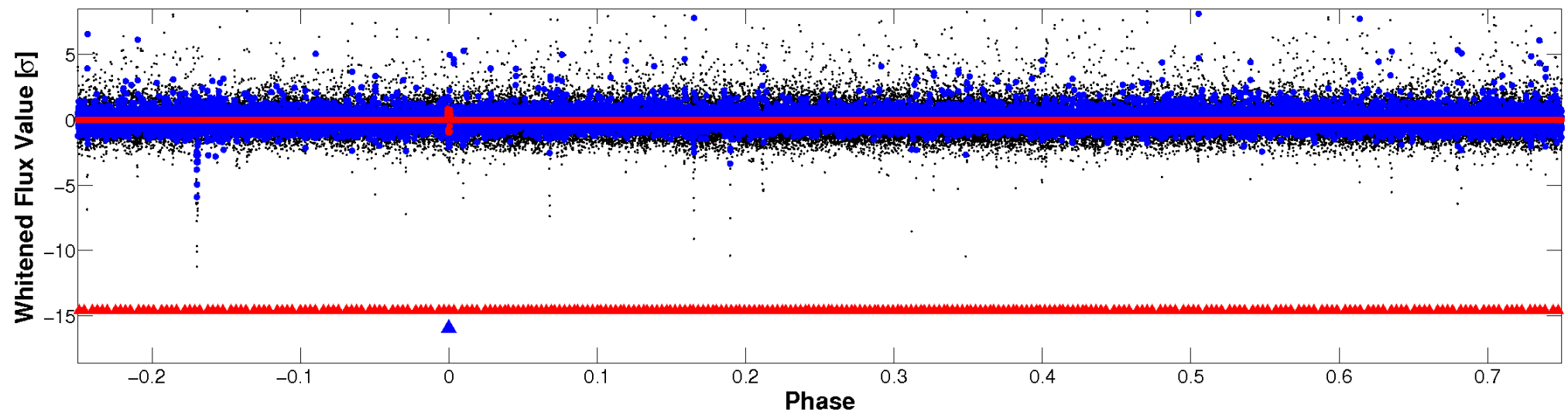


Non-Whitened Vs. Whitened Light Curve

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

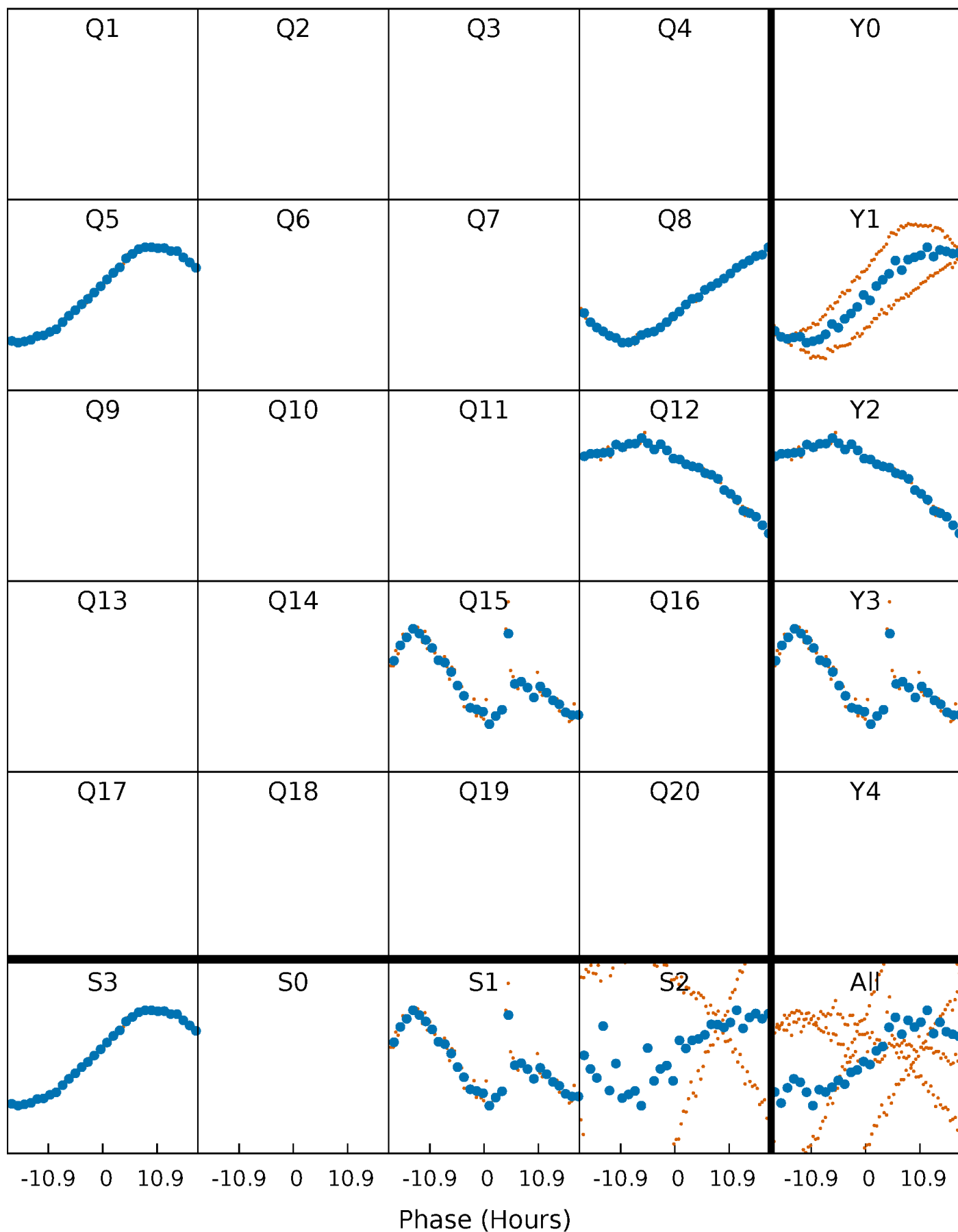


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 011092783-02 $P=331.349430$ Days $T_0=451.468921$ (BKJD)



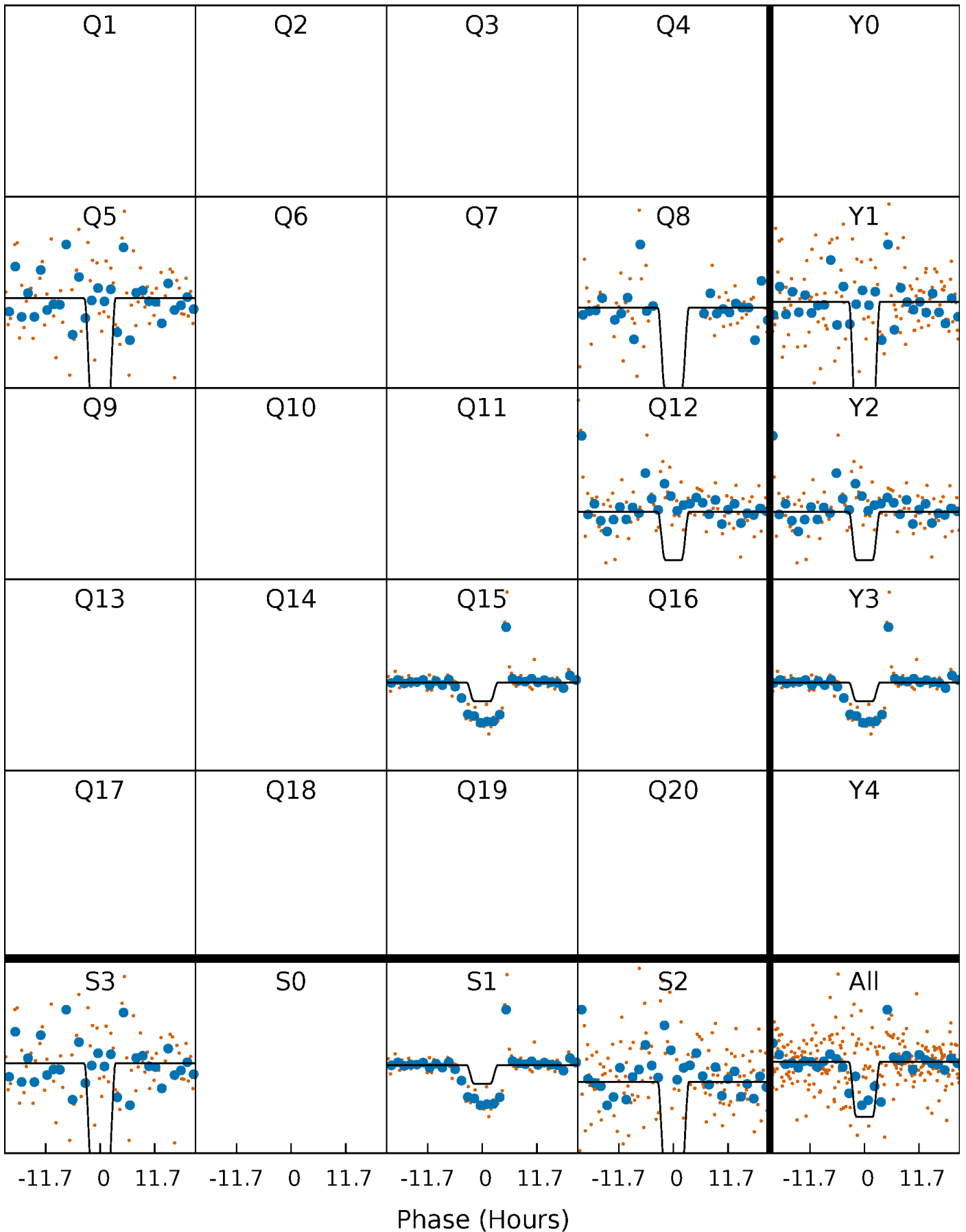
DV Quarter-Phased Transit Curves

TCE 011092783-02 $P=331.349430$ Days $T_0=451.468921$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

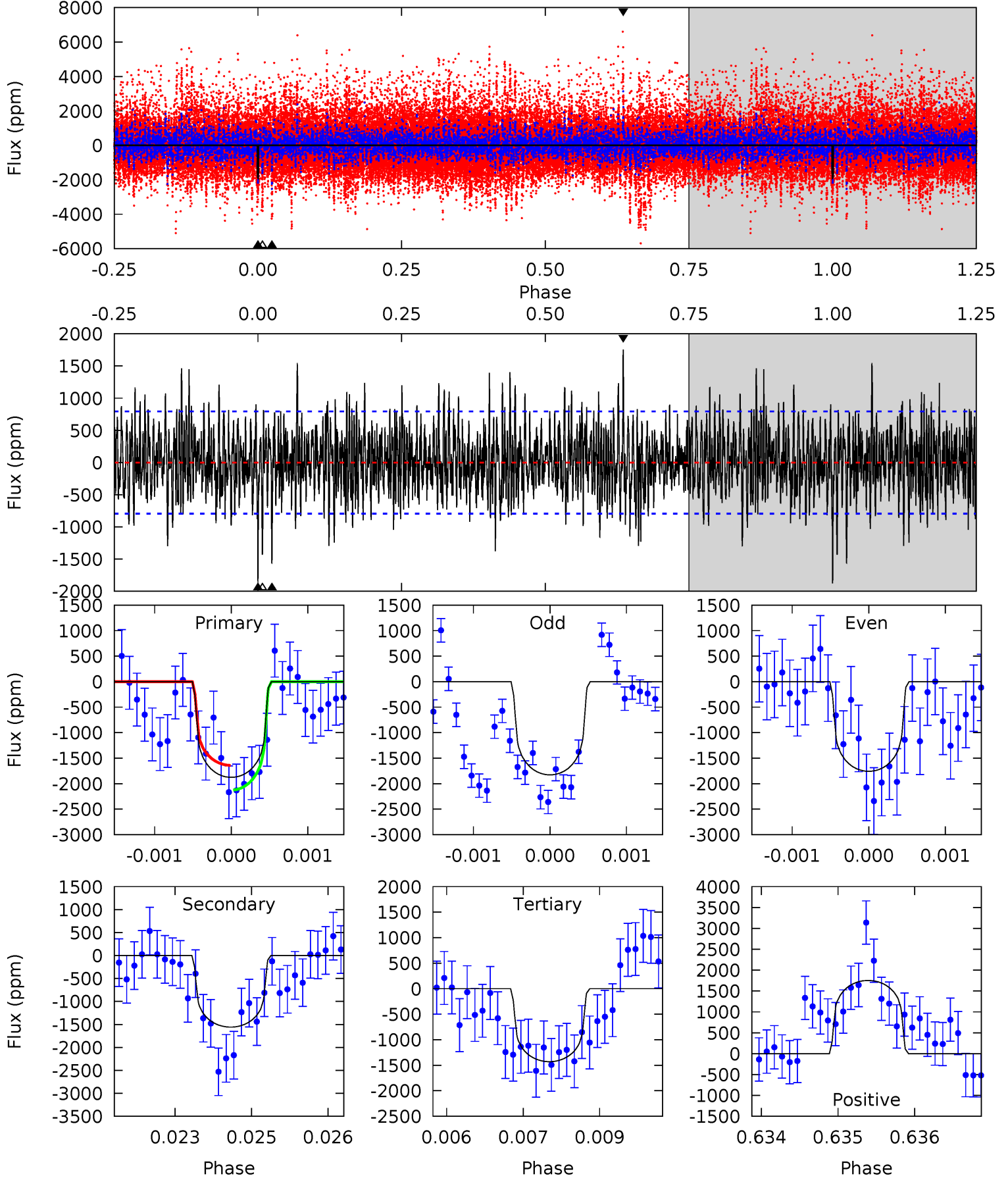
TCE 011092783-02 P=331.343798 Days $T_0=451.465311$ (BKJD)



DV Model-Shift Uniqueness Test

011092783-02, P = 331.349430 Days, E = 120.119491 Days

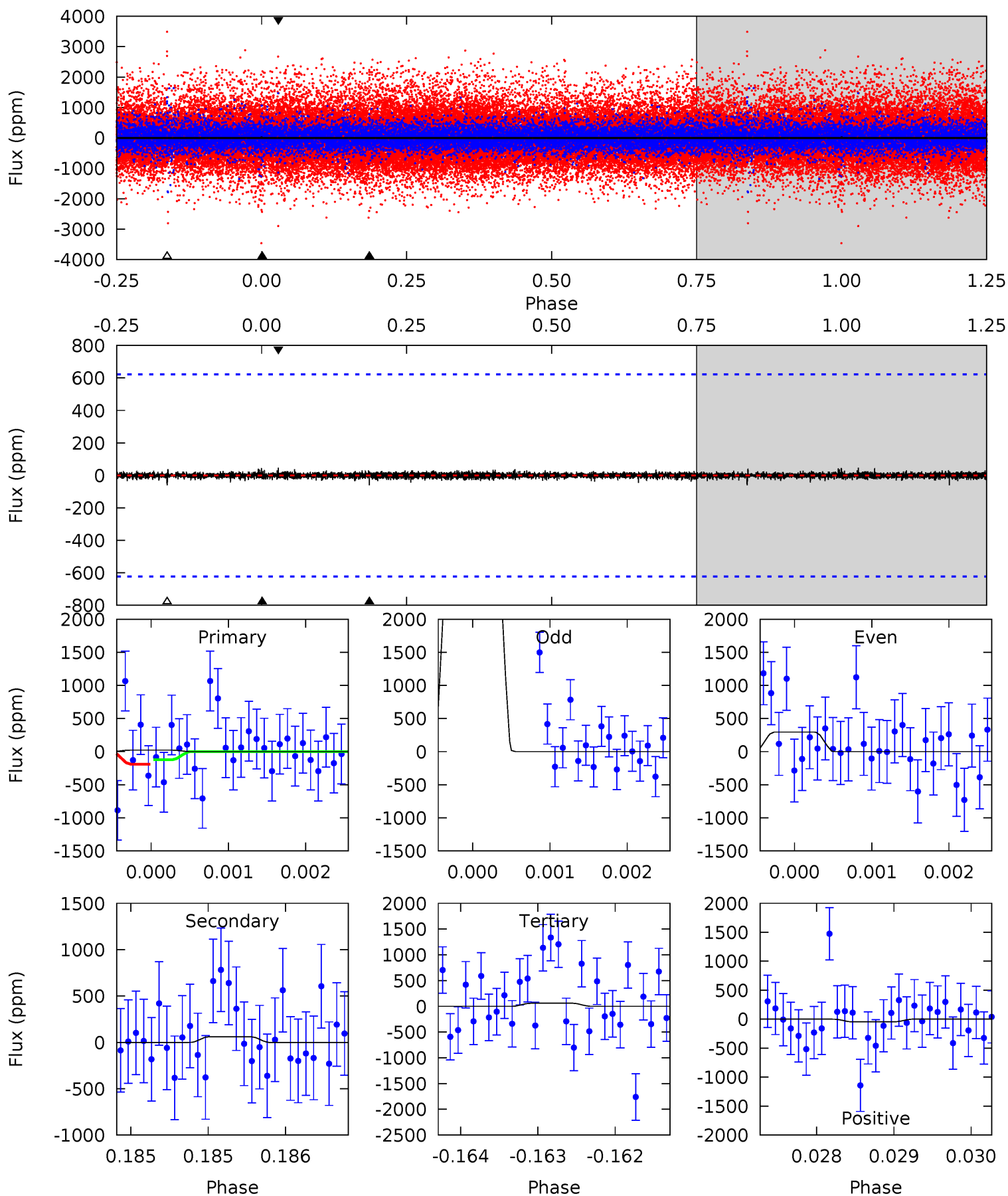
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	10.6	9.74	11.9	5.41	3.23	2.91	3.04	0.84	0.88	-1.32	0.21	0.98	0.48	1.66



Alt Model-Shift Uniqueness Test

011092783-02, P = 331.343798 Days, E = 120.121513 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.20	0.53	0.53	0.41	5.48	3.34	0.08	-0.32	-0.21	0.01	0.13	17.3	-22.4	0.43	0.30



Stellar Parameters For KIC 011092783

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3900^{+46}_{-50}	$4.727^{+0.017}_{-0.022}$	$-0.100^{+0.100}_{-0.100}$	$0.534^{+0.024}_{-0.021}$	$0.555^{+0.020}_{-0.025}$	$5.136^{+0.442}_{-0.450}$
	+1%/-1%	+0%/-0%	+100%/-100%	+4%/-4%	+4%/-5%	+9%/-9%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011092783-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1559±147	$2.44^{+0.84}_{-0.84}$	201^{+3}_{-3}	3822^{+645}_{-344}	$84591^{+113652}_{-37103}$
Alt.	-61±113	$2.43^{+0.80}_{-0.86}$	200^{+3}_{-3}	2421^{+424}_{-4758}	3400^{+8516}_{-5918}

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

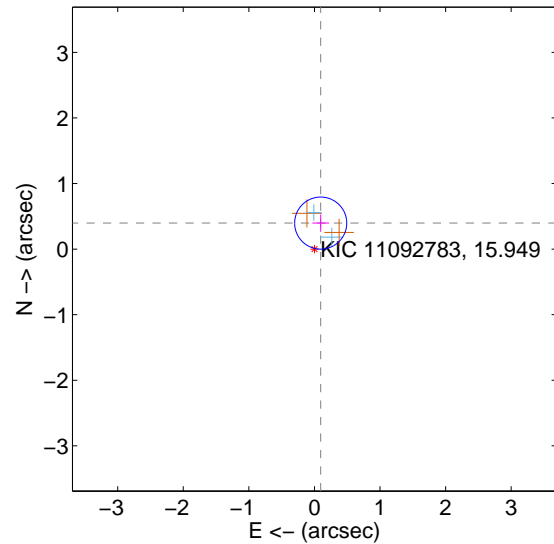
Supplemental centroid analysis for 011092783-02. Kepler magnitude: 15.95. Transit SNR 7.18

There are 2 quarters with good PRF difference image offsets

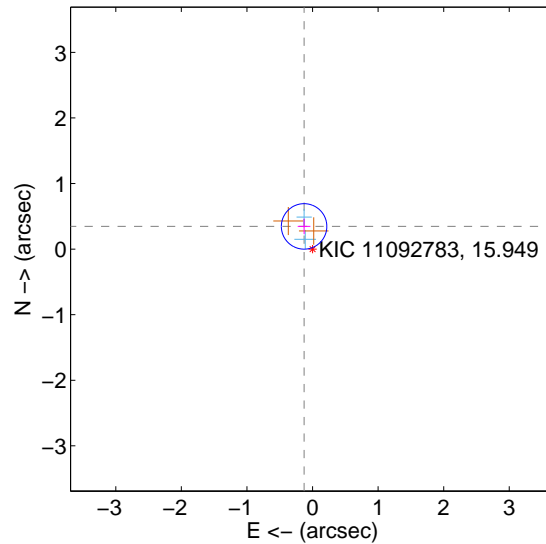
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.408 ± 0.132	3.08	-0.095 ± 0.128	0.397 ± 0.133
PRF-fit source offset from KIC position	0.369 ± 0.116	3.19	0.129 ± 0.097	0.346 ± 0.118
photometric centroid source offset	0.60 ± 0.83	0.72	0.28 ± 0.77	0.53 ± 0.84

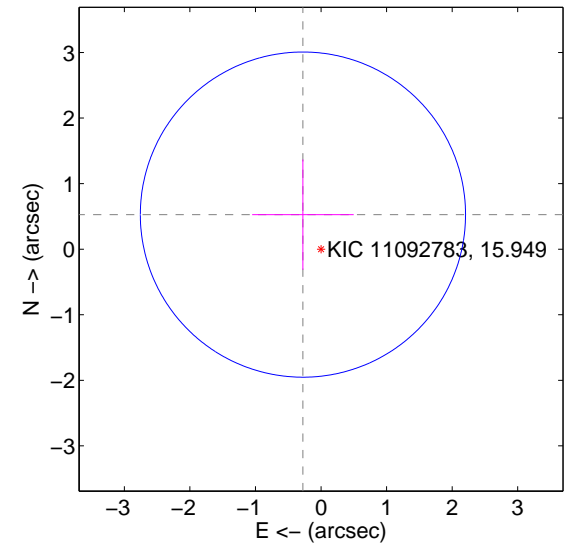
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

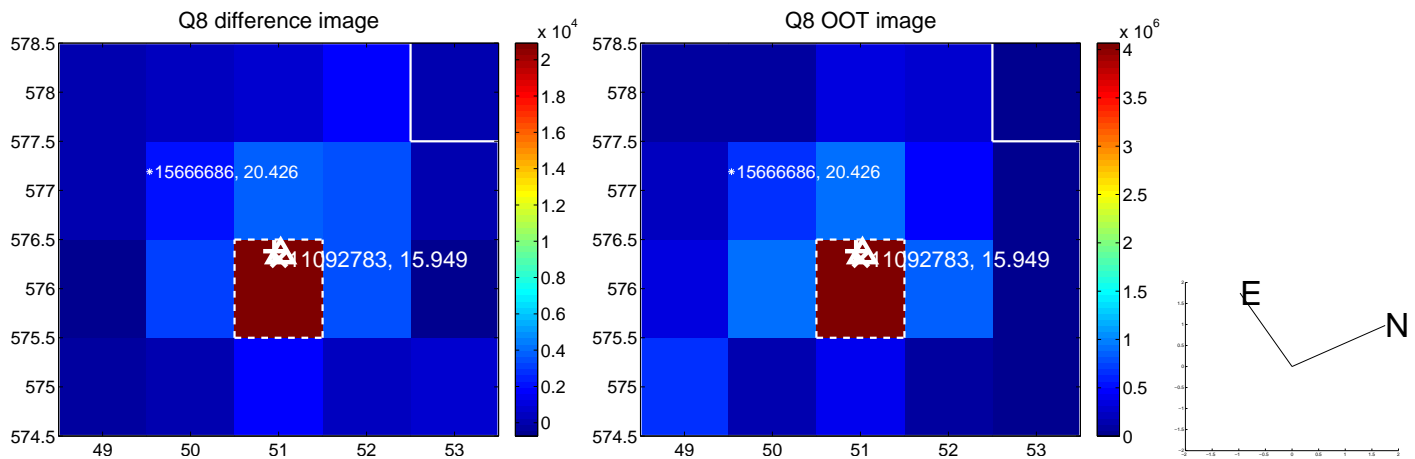
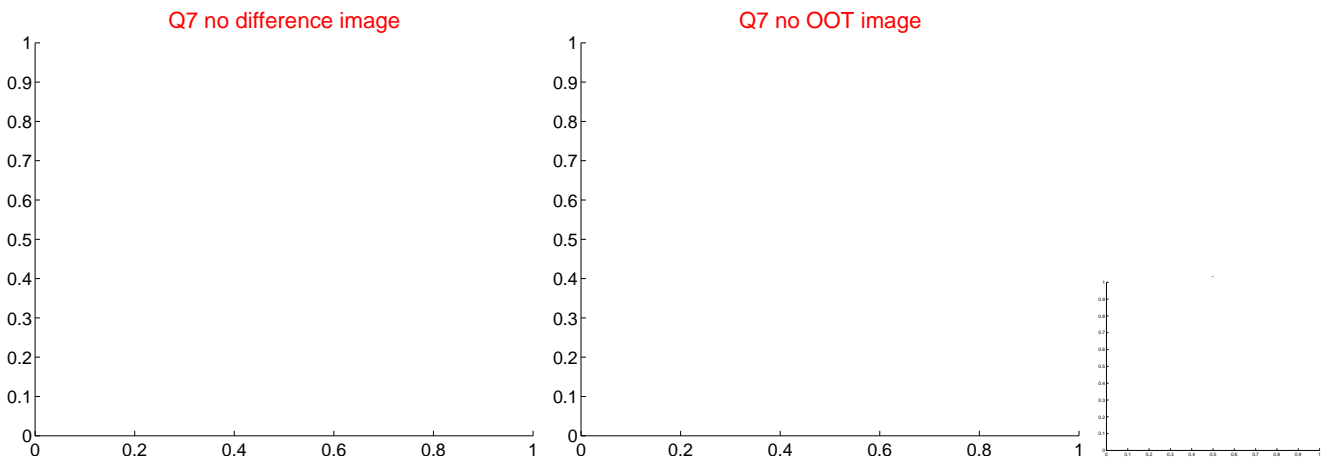
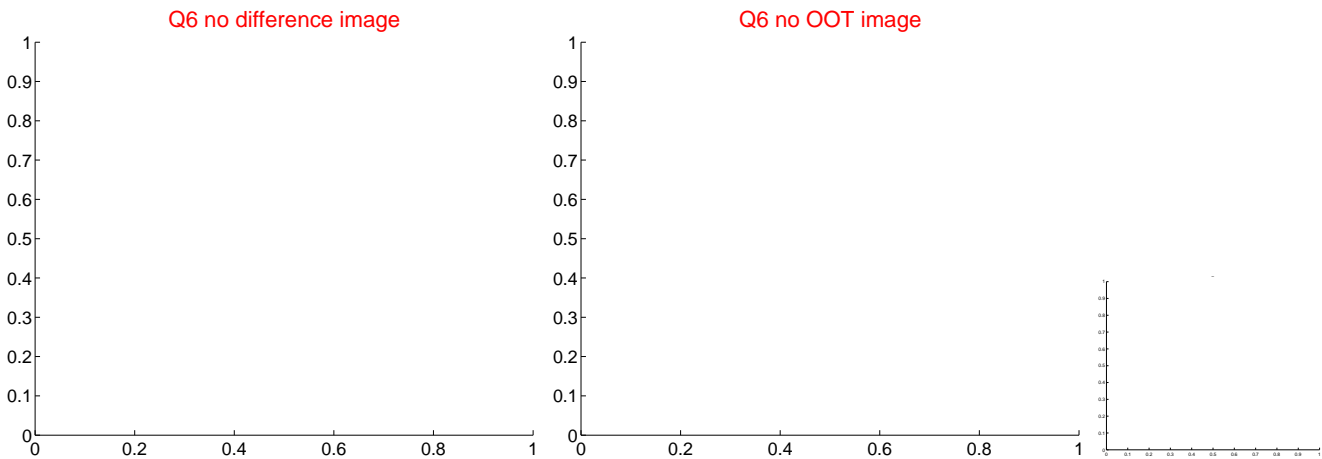
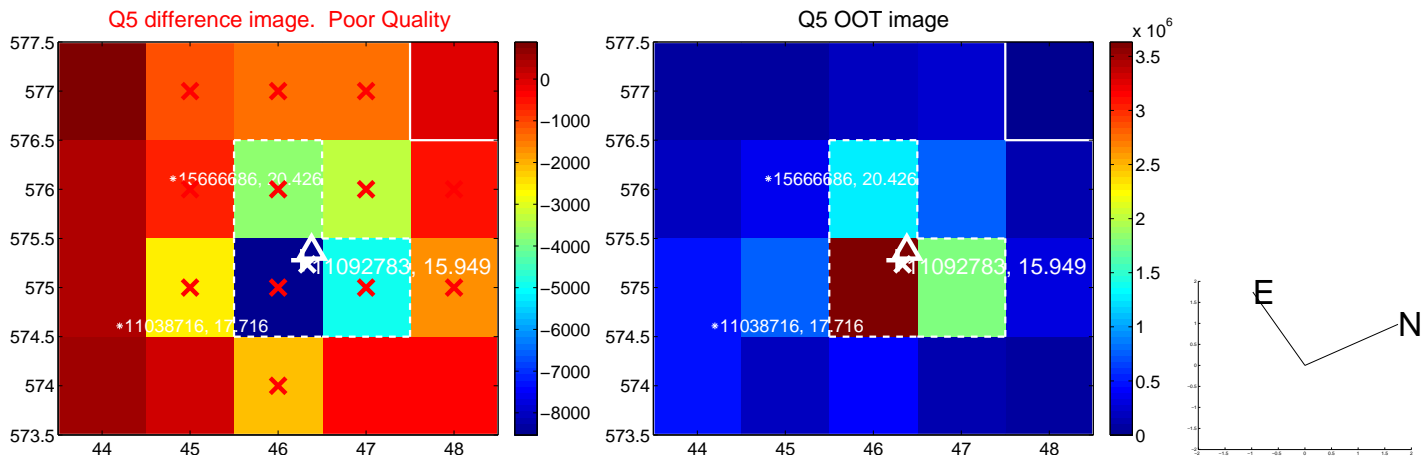


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

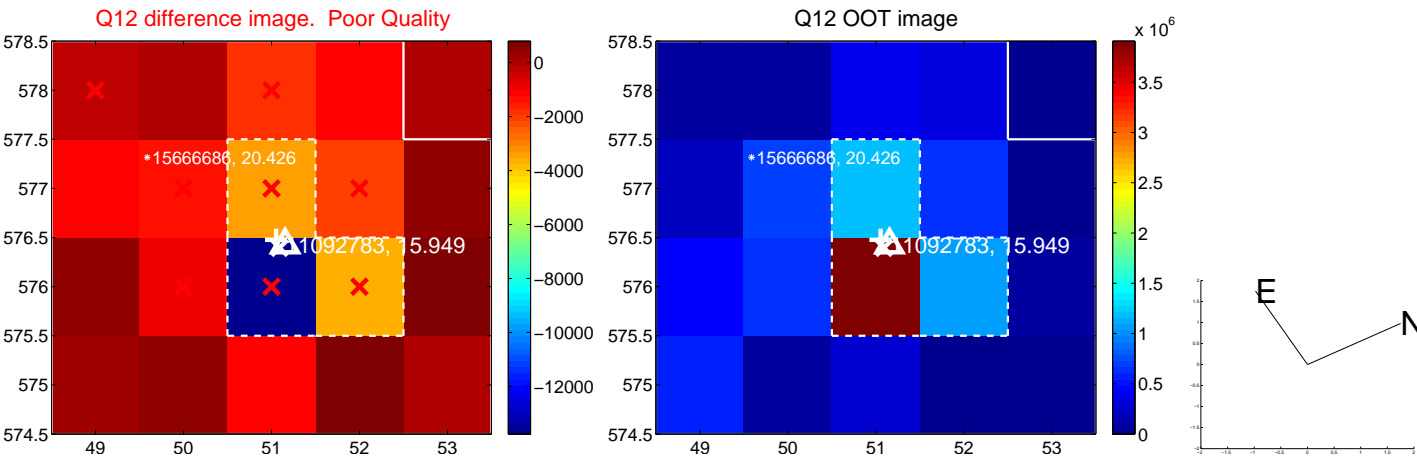
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



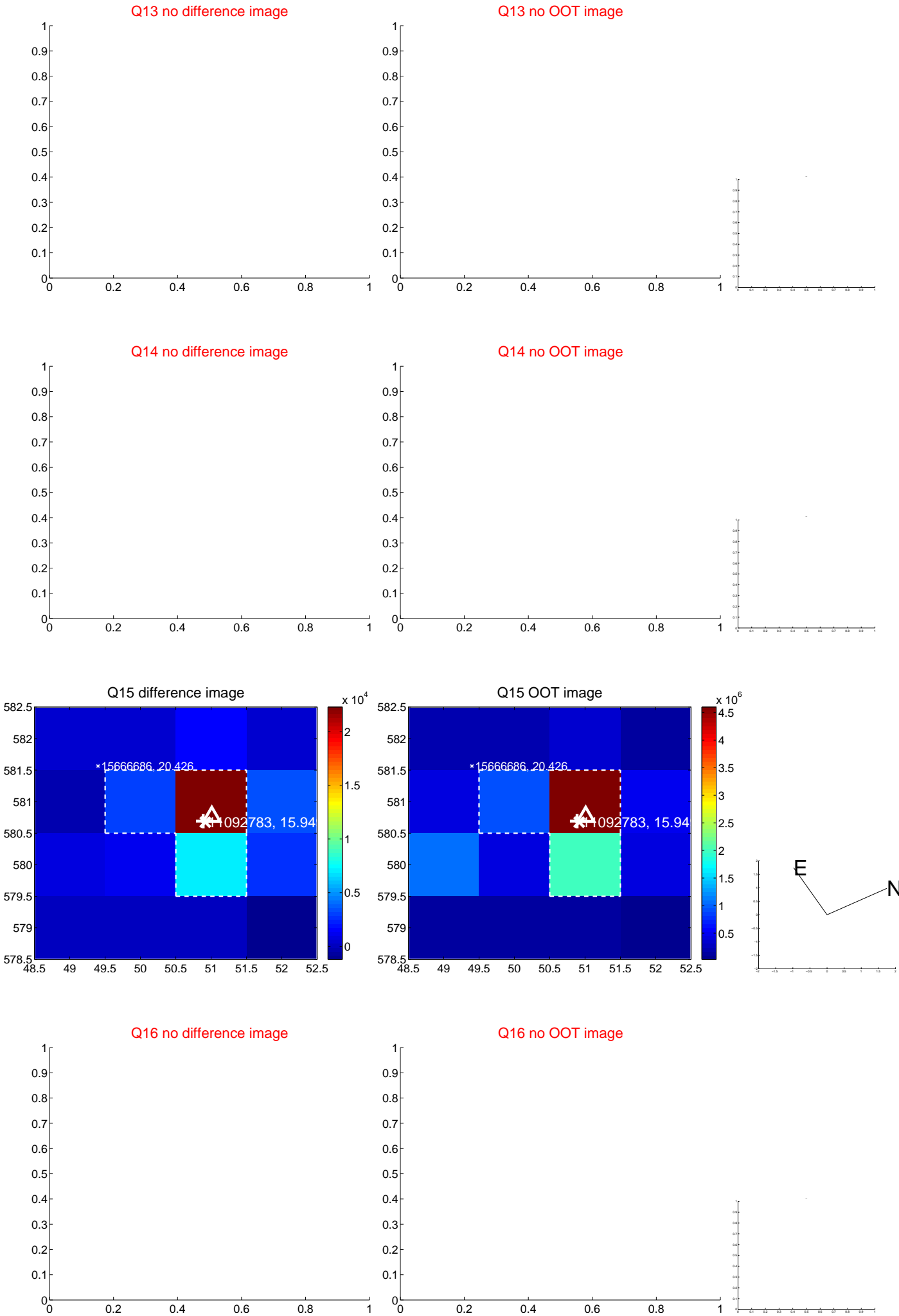
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



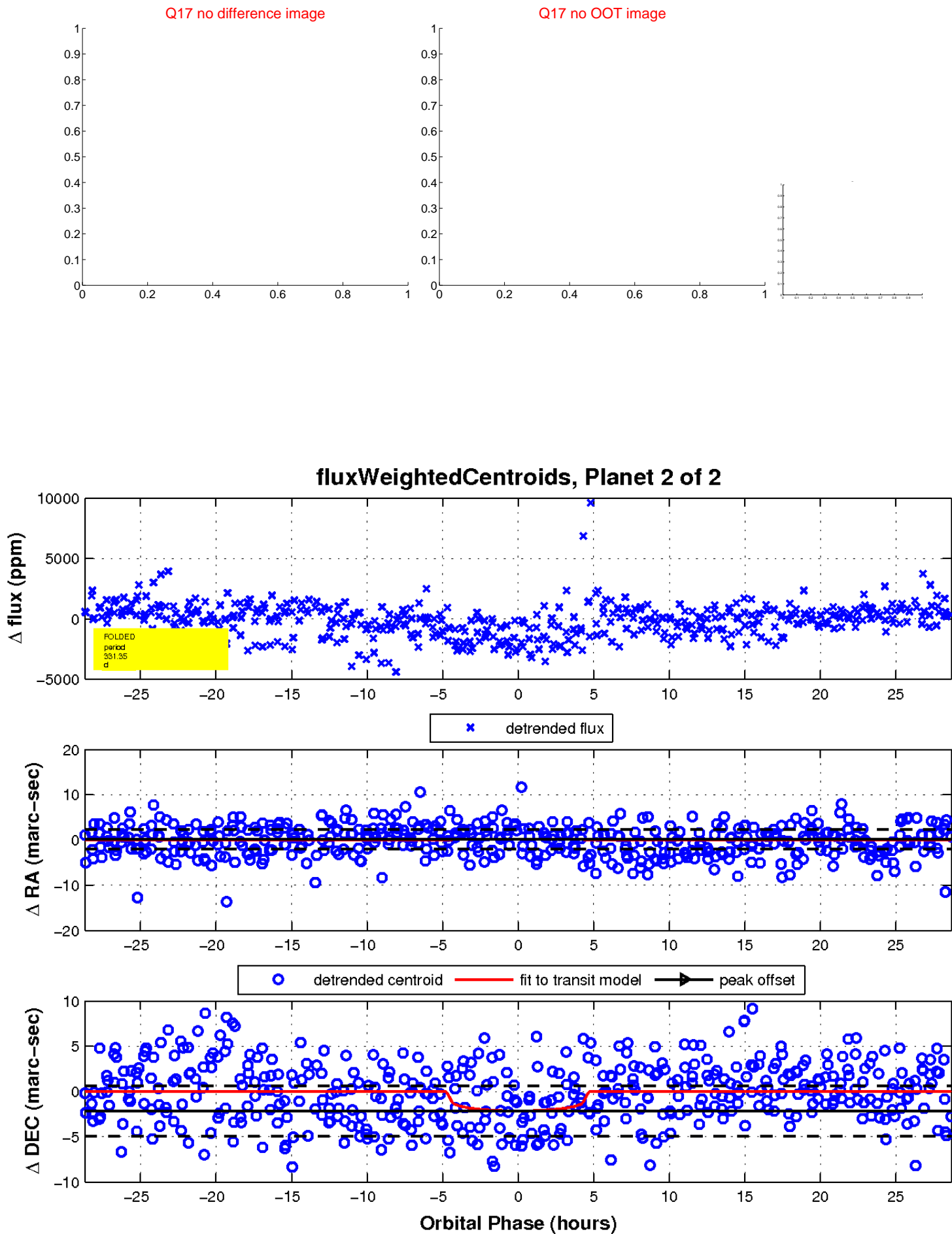
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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.



UKIRT Image

Declination

