

KIC 004269332

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})
004269332-01	OBS	No	586.930748	247.452017	157.6	25.028	7.7	8.2	2.55	7742	3.53	7.01
004269332-02	OBS	No	3.215553	134.080408	11.8	16.592	8.2	7.0	2.55	7742	0.92	7257.39
004269332-03	OBS	No	85.043022	173.821919	664.7	2.335	16.5	16.3	2.55	7742	7.11	92.10
004269332-04	OBS	No	120.125907	193.779760	545.9	3.356	15.0	14.4	2.55	7742	6.68	58.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004269332-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004269332-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
004269332-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
004269332-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

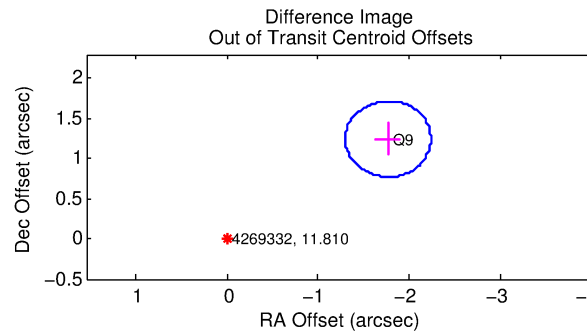
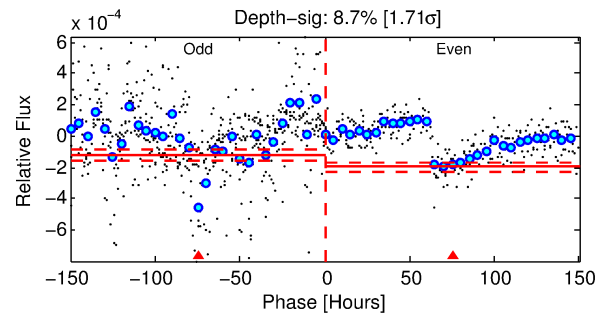
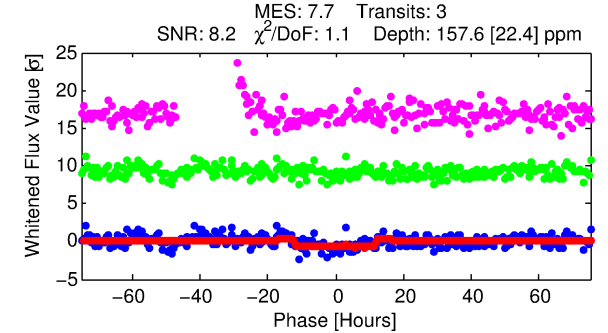
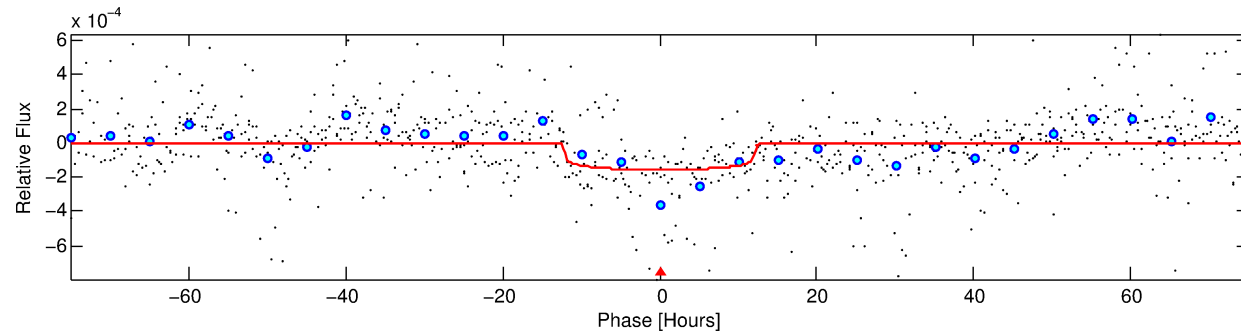
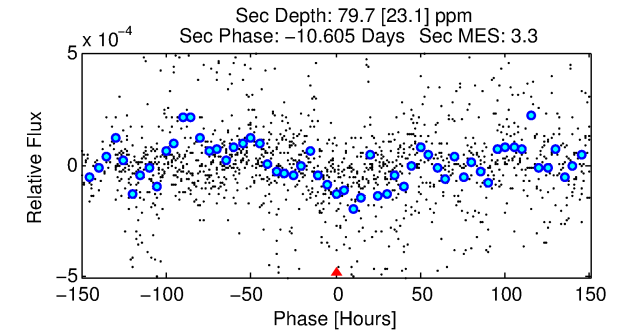
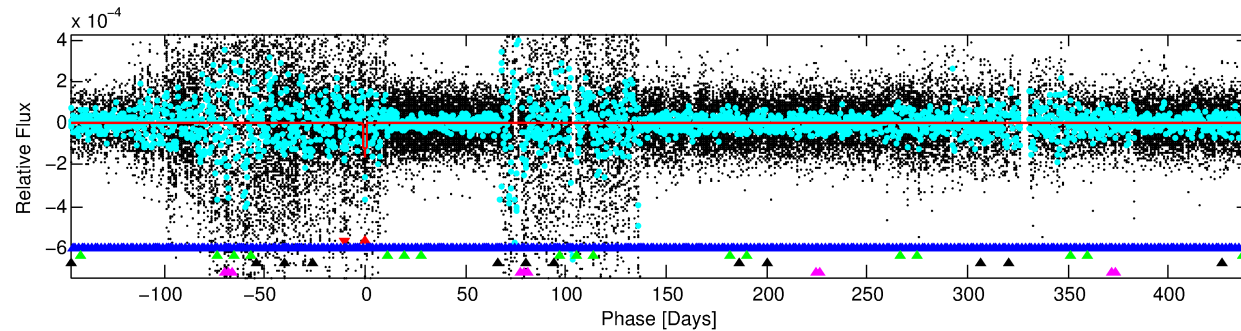
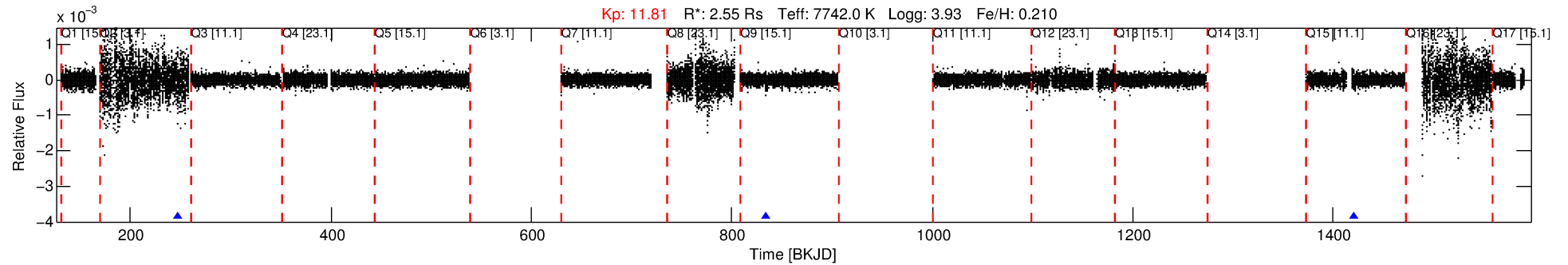
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004269332-01

No Significant Match Found

DV One-Page Summary

KIC: 4269332 Candidate: 1 of 5 Period: 586.931 d



DV Fit Results:

Period = 586.93075 [0.02072] d
Epoch = 247.4520 [0.0309] BKJD
Rp/R* = 0.0127 [0.0017]
a/R* = 112.50 [76.47]
b = 0.79 [0.32]
Seff = 7.01 [1.94]
Teq = 415 [29] K
Rp = 3.53 [0.86] Re
a = 1.7308 [0.3095] AU
Ag = 10559.04 [5096.28] [2.07σ]
Teff = 6503 [654] K [9.30σ]

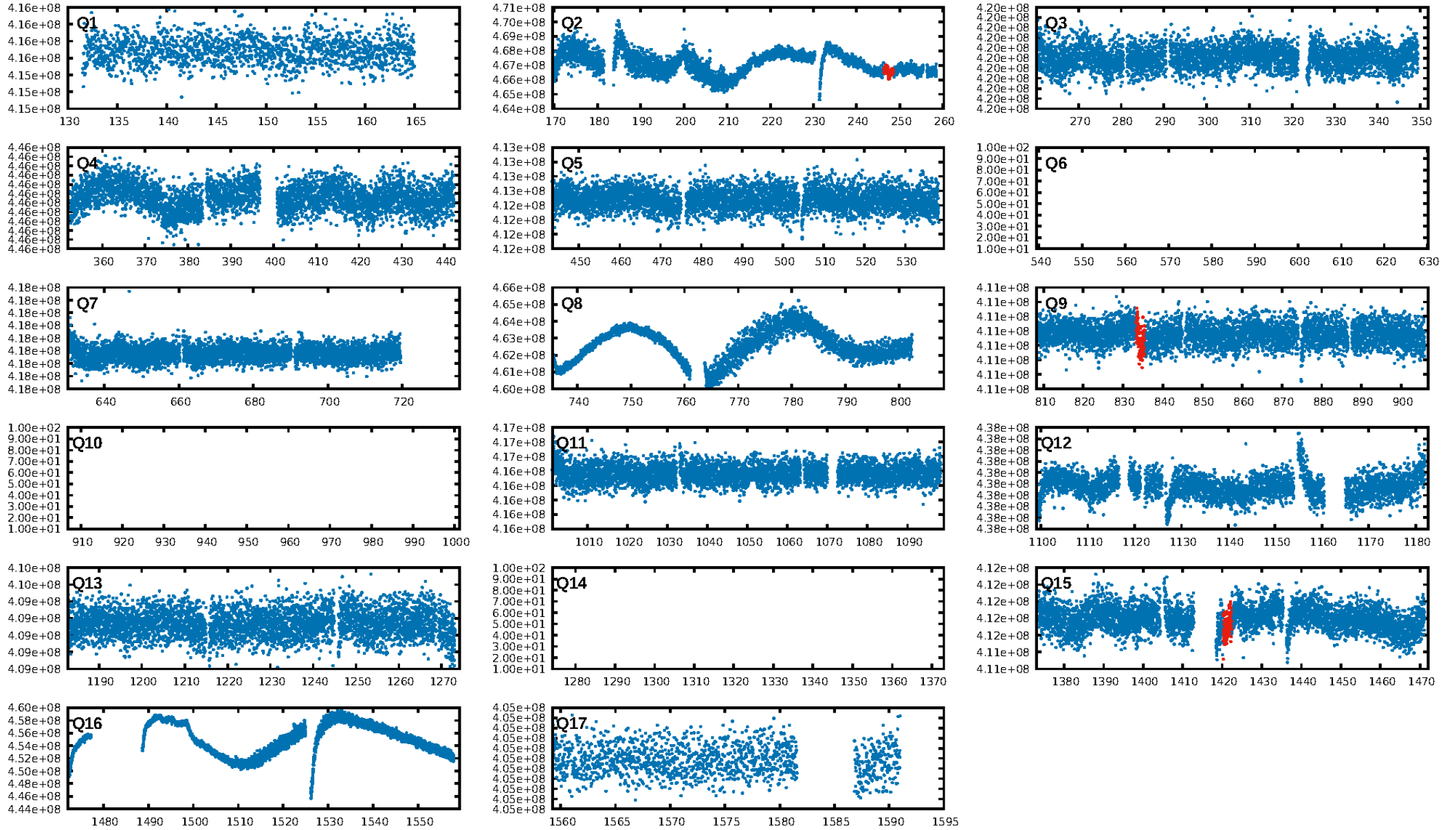
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [420.78σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 35.1%
ModelChiSquareGof-sig: 98.2%
Bootstrap-pfa: 1.13e-05
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.669
Centroid-sig: 16.6%
Centroid-so: 4.360 arcsec [1.68σ]
OotOffset-rm: 2.163 arcsec [13.74σ]
KicOffset-rm: 1.447 arcsec [7.73σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/2]

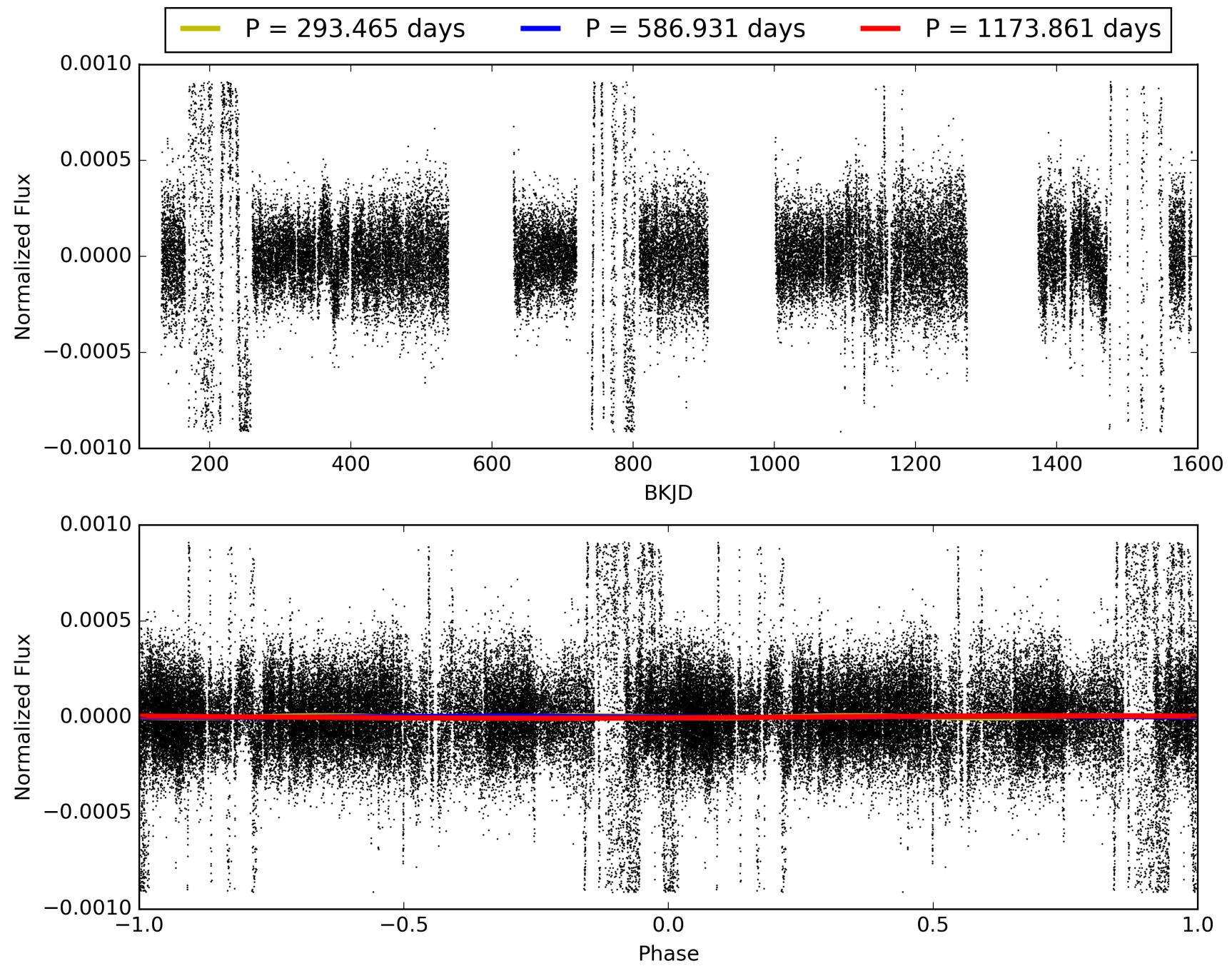
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004269332-01, PDC Light Curves

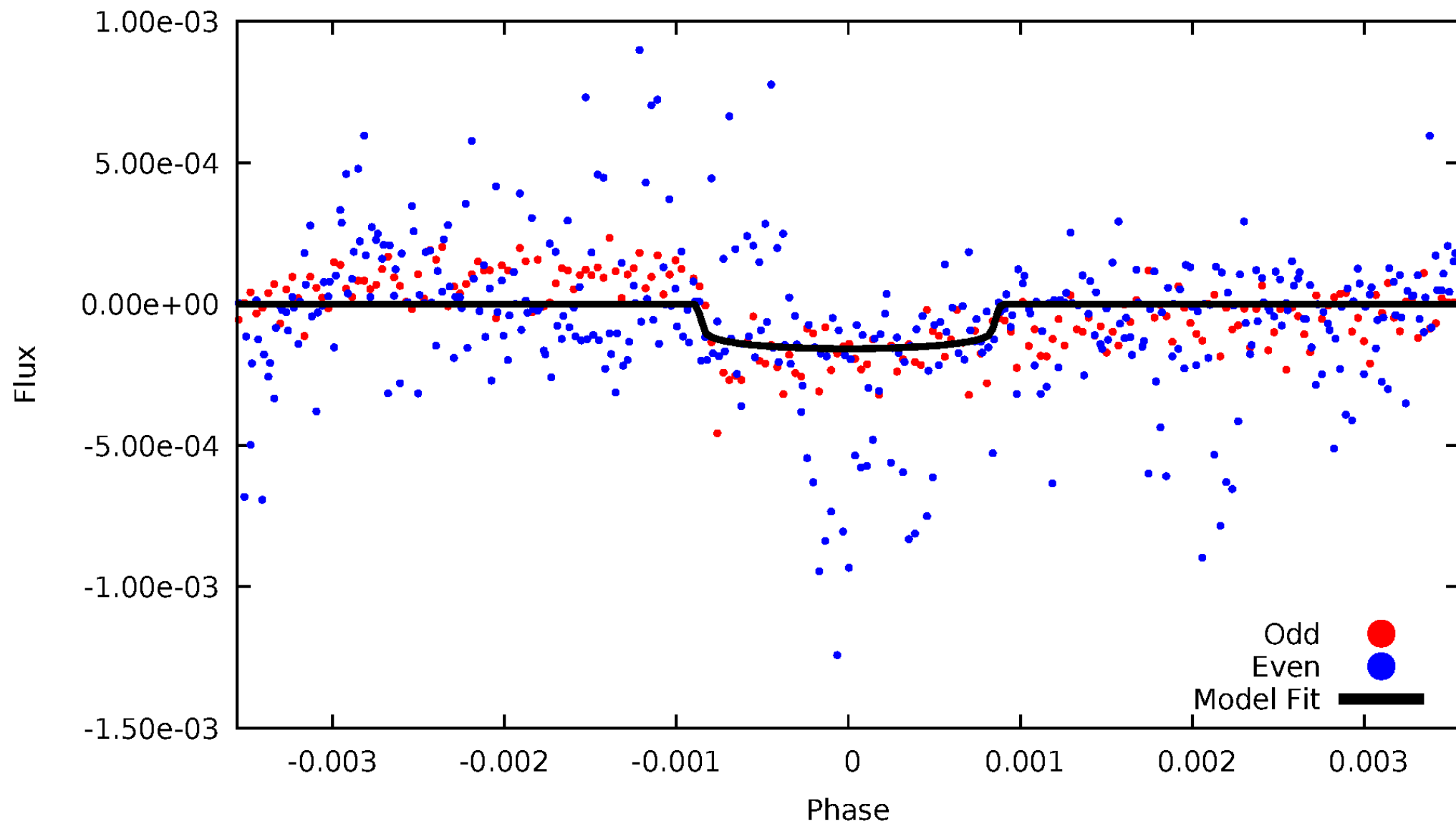


TCE 004269332-01



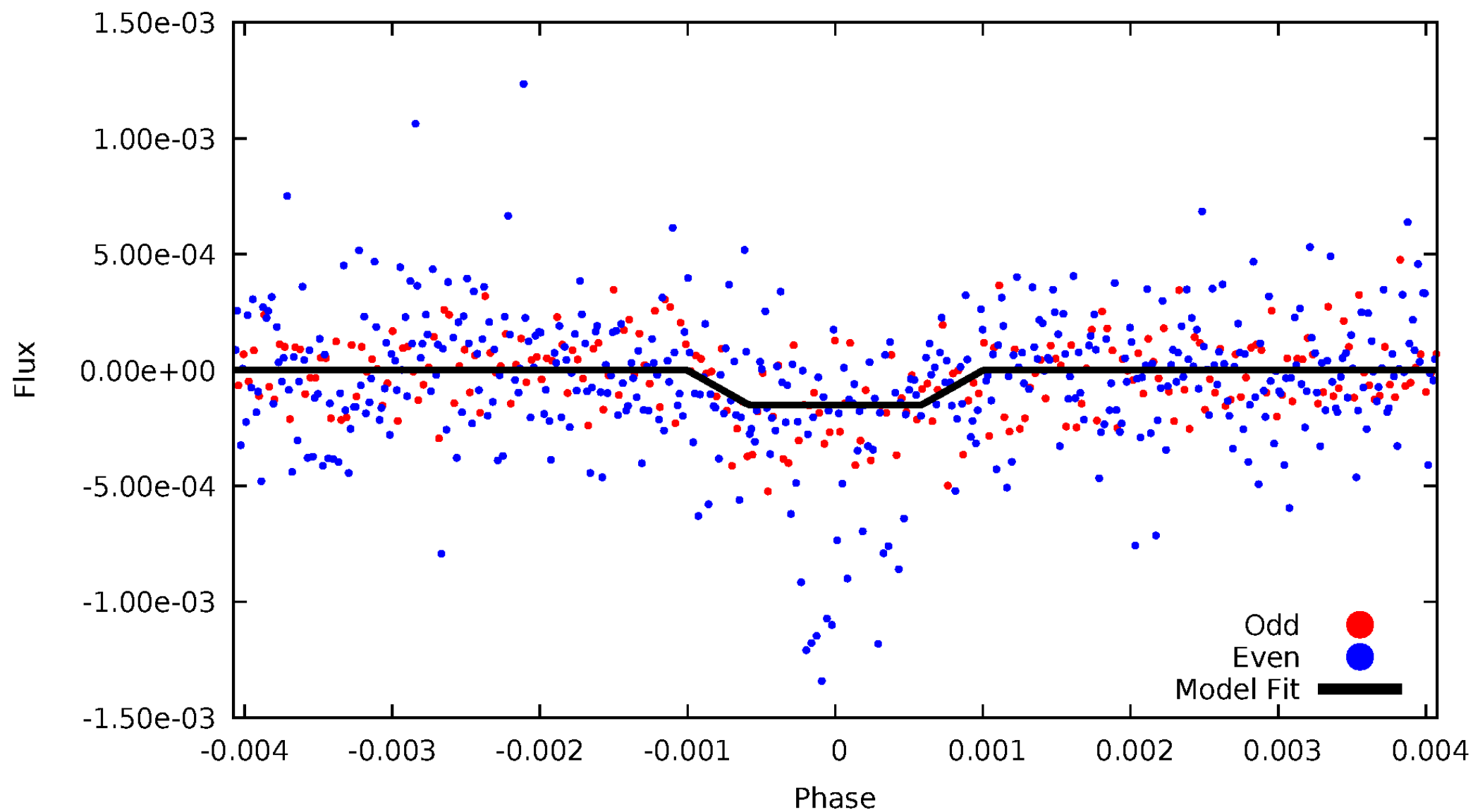
DV Odd/Even

TCE 004269332-01



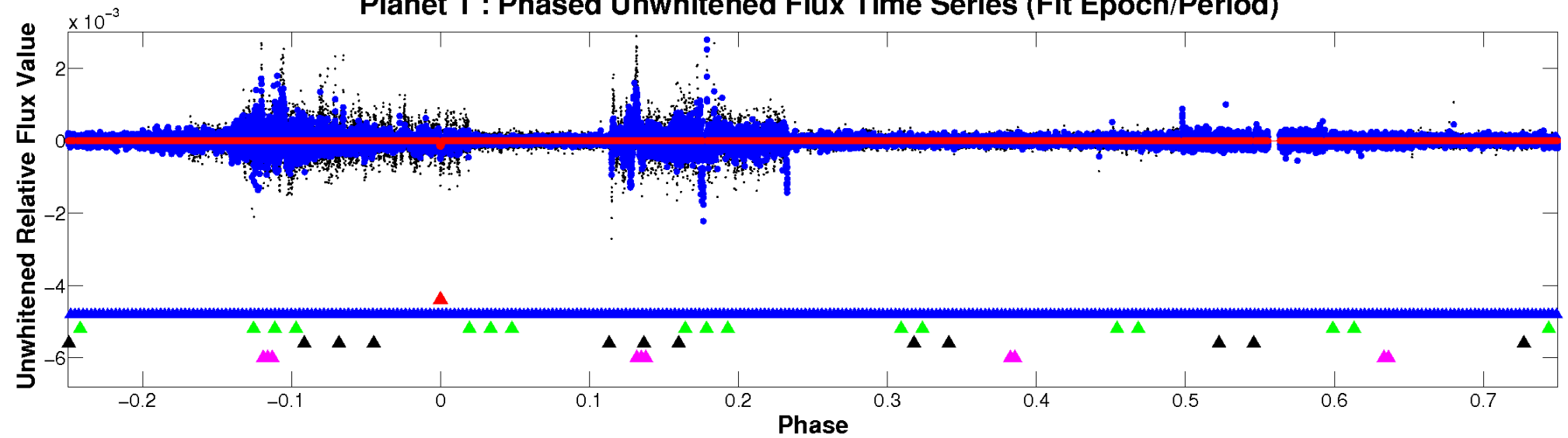
ALT Odd/Even

TCE 004269332-01

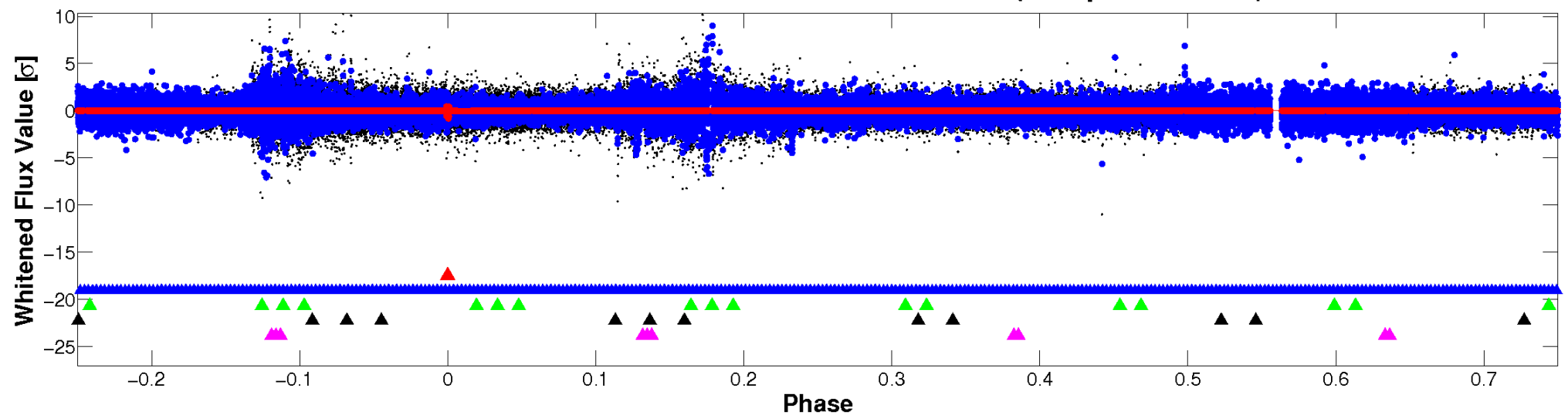


Non-Whitened Vs. Whitened Light Curve

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

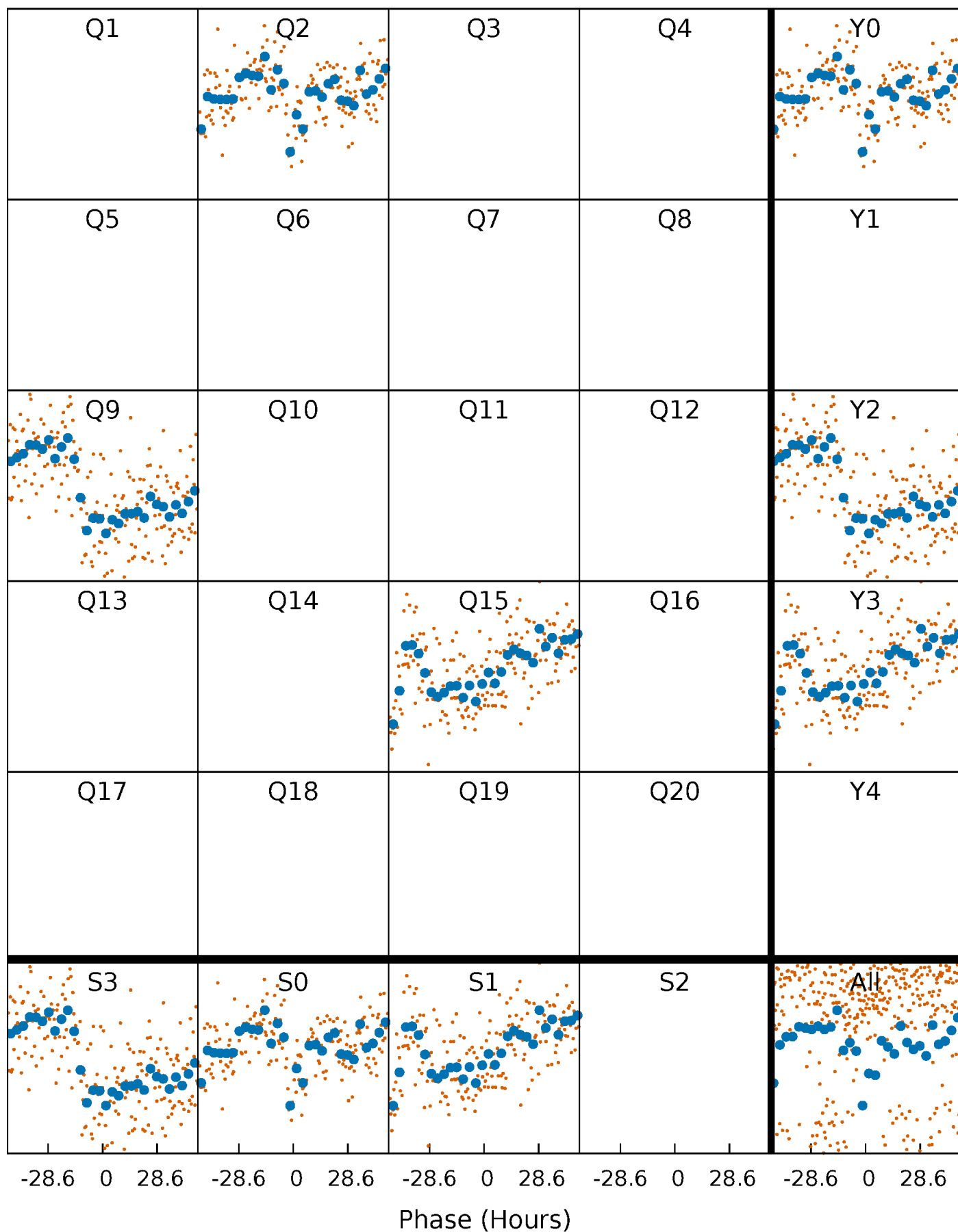


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



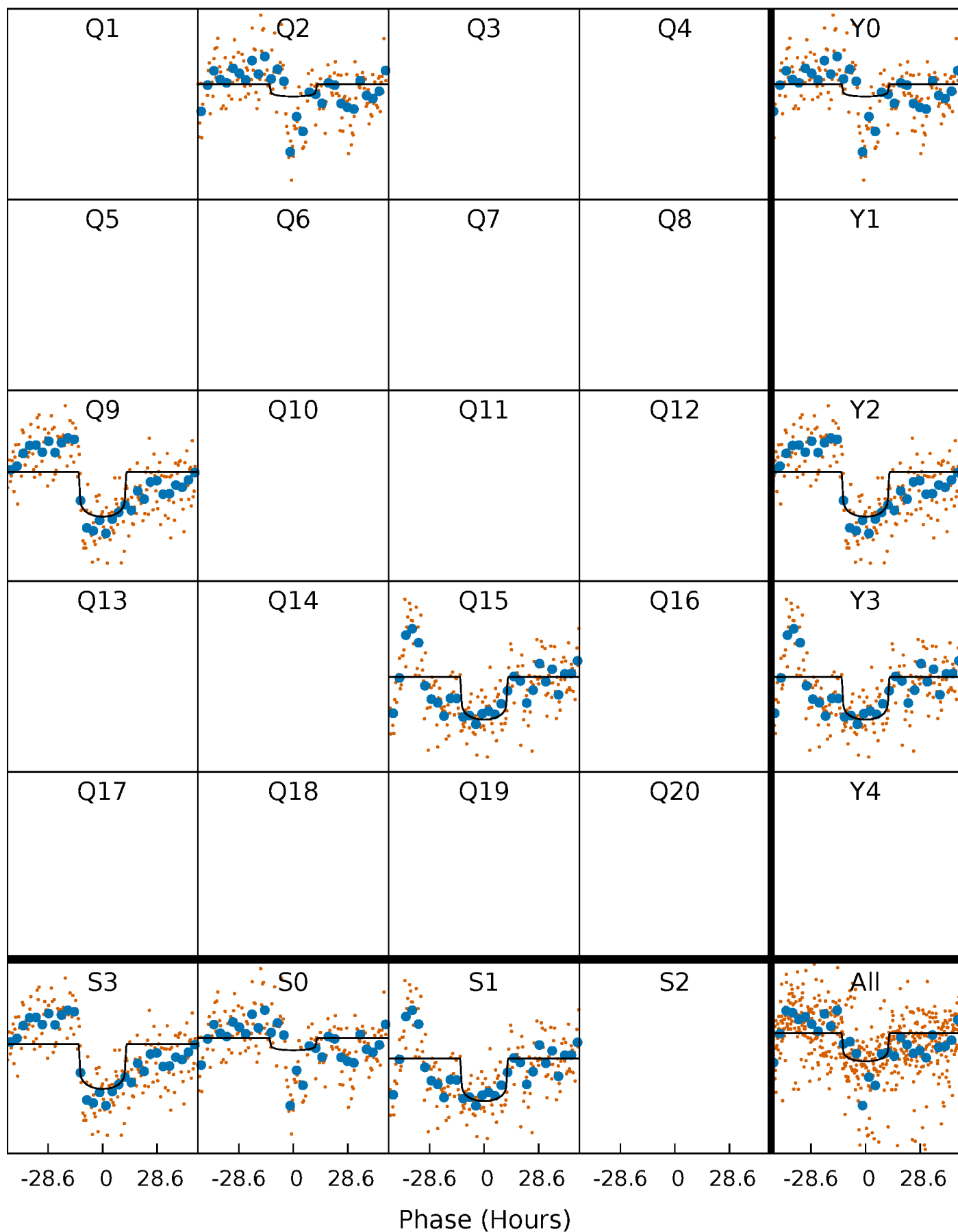
PDC Quarter-Phased Transit Curves

TCE 004269332-01 P=586.930748 Days $T_0=247.452017$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004269332-01 P=586.930748 Days $T_0=247.452017$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

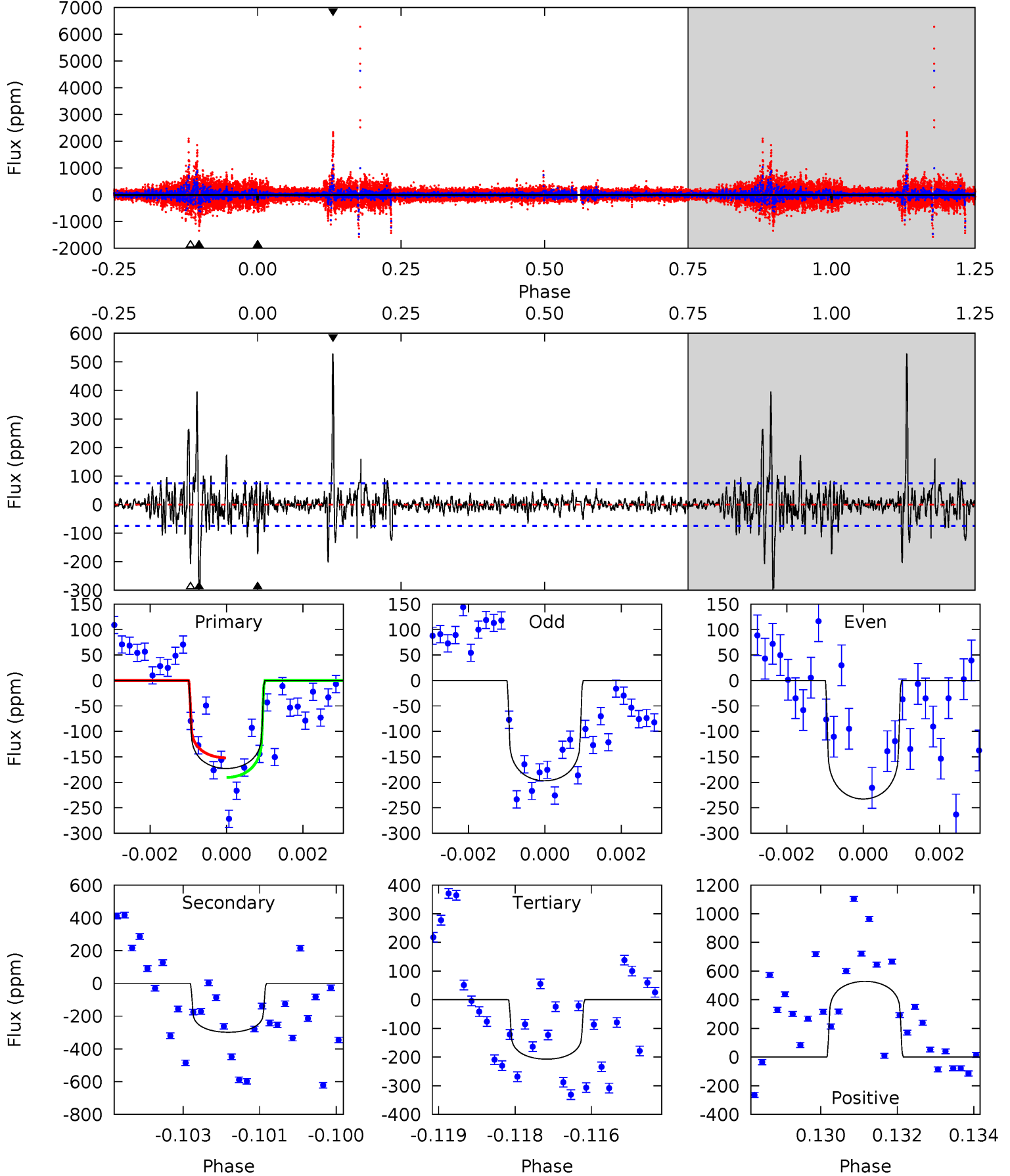
TCE 004269332-01 P=586.879088 Days $T_0=247.467391$ (BKJD)



DV Model-Shift Uniqueness Test

004269332-01, P = 586.930748 Days, E = 247.452017 Days

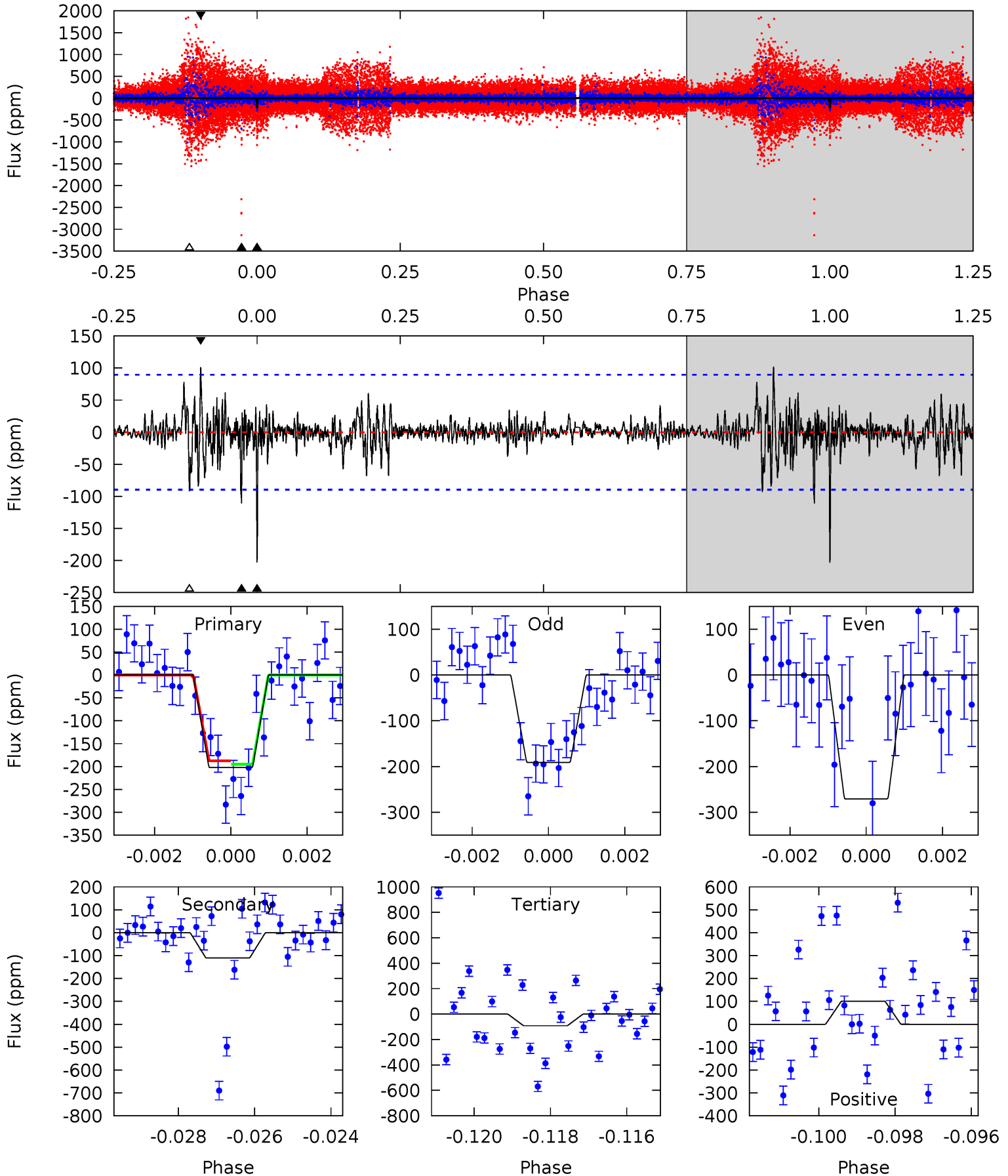
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	21.4	14.9	37.9	5.34	3.12	3.12	-2.48	-25.5	6.54	-16.5	1.28	1.08	0.64	1.36



Alt Model-Shift Uniqueness Test

004269332-01, P = 586.879088 Days, E = 247.467391 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	6.57	5.46	5.98	5.32	3.09	0.96	6.54	6.02	1.12	0.59	2.35	1.34	0.33	0.22



Stellar Parameters For KIC 004269332

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7742^{+69}_{-100}	$3.926^{+0.154}_{-0.077}$	$0.210^{+0.150}_{-0.200}$	$2.554^{+0.277}_{-0.514}$	$2.007^{+0.149}_{-0.223}$	$0.170^{+0.128}_{-0.045}$
	+1%/-1%	+4%/-2%	+71%/-95%	+11%/-20%	+7%/-11%	+75%/-26%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004269332-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-298 ± 14	$3.46^{+0.57}_{-0.56}$	576^{+19}_{-27}	9484^{+1055}_{-838}	41116^{+16633}_{-10998}
Alt.	-111 ± 17	$3.31^{+0.61}_{-0.54}$	576^{+21}_{-29}	7116^{+735}_{-614}	16828^{+7370}_{-5510}

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 $A_{obs} \gg 1.0$

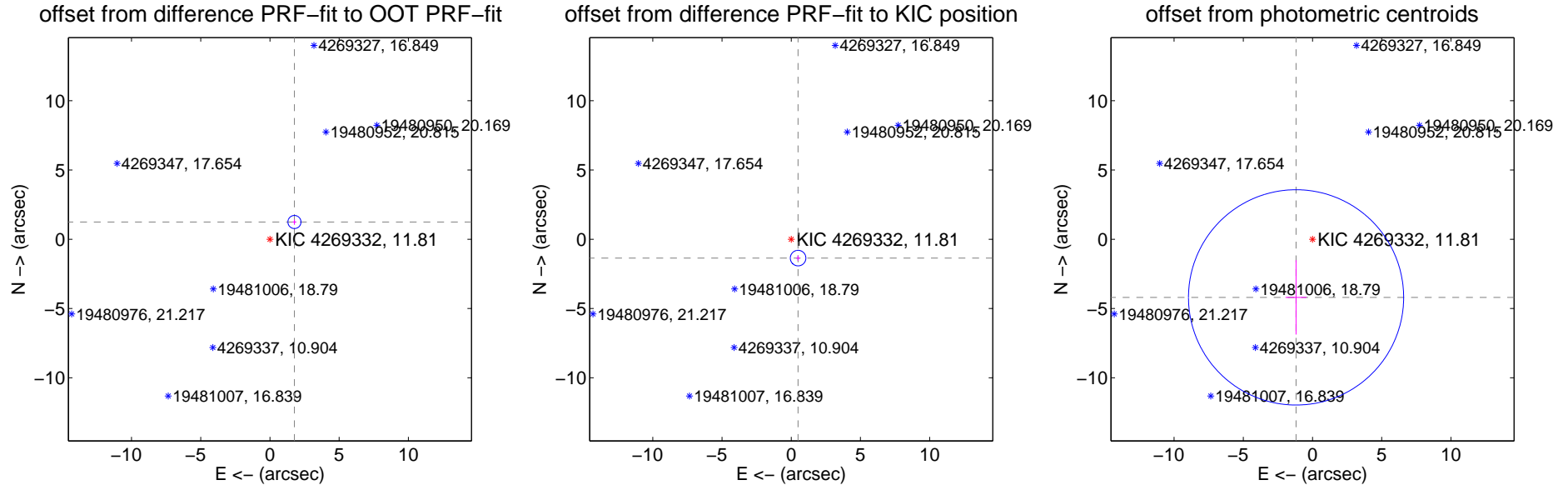
DV Centroid Data

Supplemental centroid analysis for 004269332-01. **Kepler magnitude: 11.81.** Transit SNR 8.22

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 2.90 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.163 ± 0.157	13.74	-1.770 ± 0.136	1.244 ± 0.193
PRF-fit source offset from KIC position	1.447 ± 0.187	7.73	-0.495 ± 0.136	-1.360 ± 0.193
photometric centroid source offset	4.36 ± 2.59	1.68	1.19 ± 0.76	-4.19 ± 2.68



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.

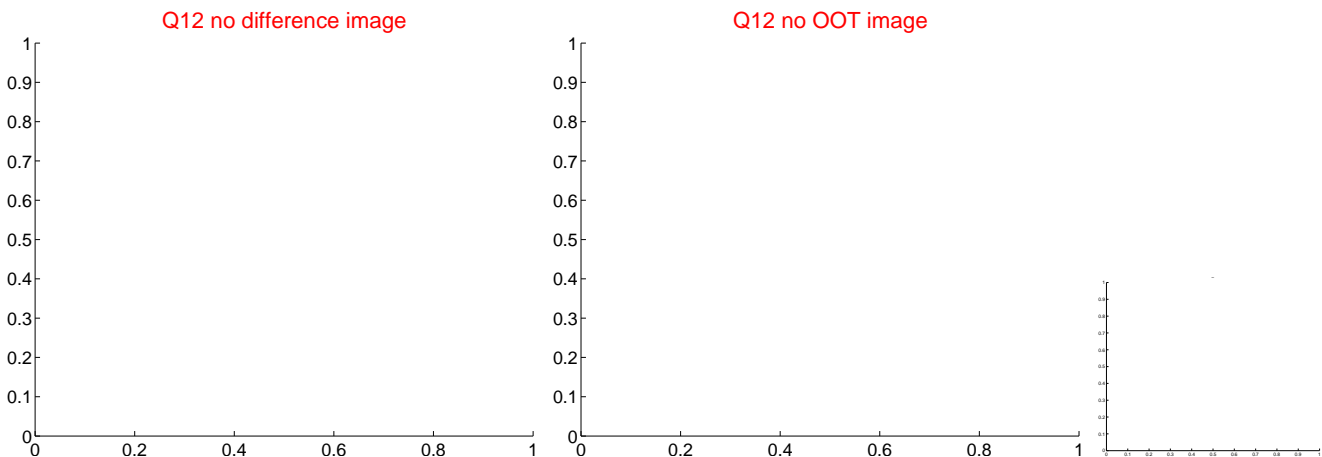
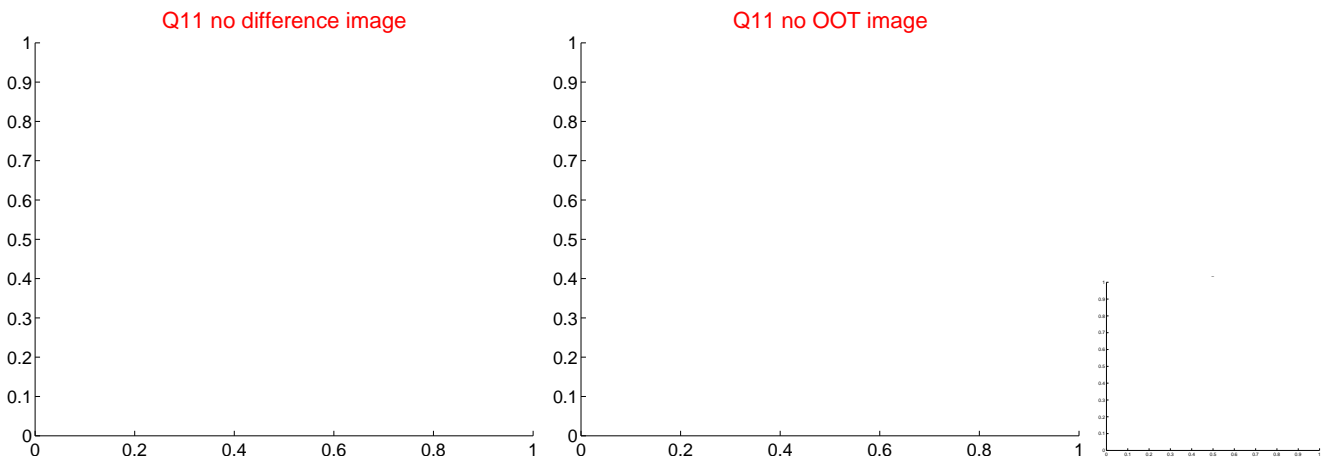
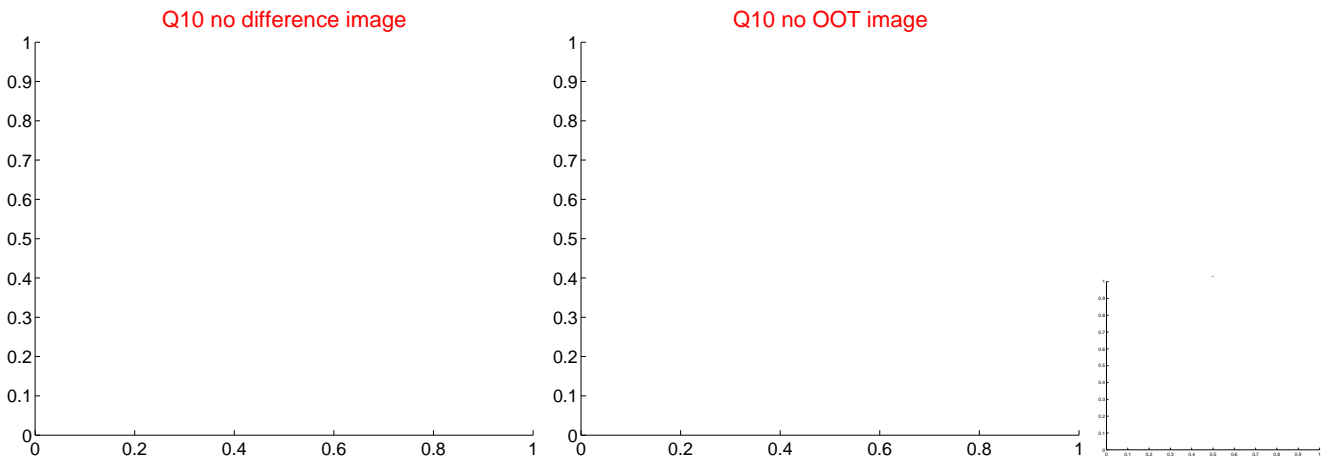
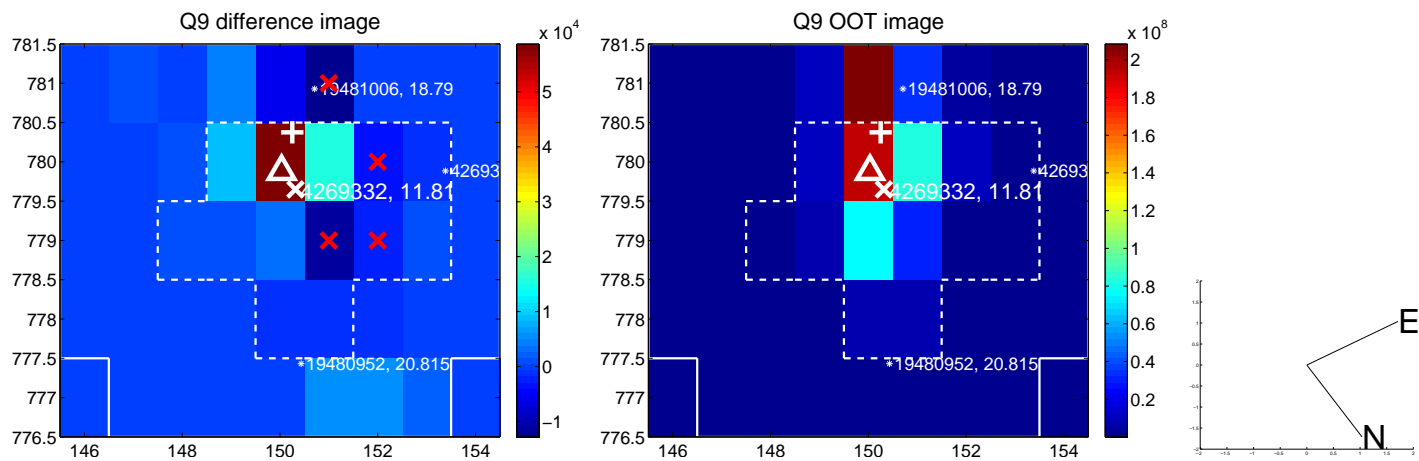
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



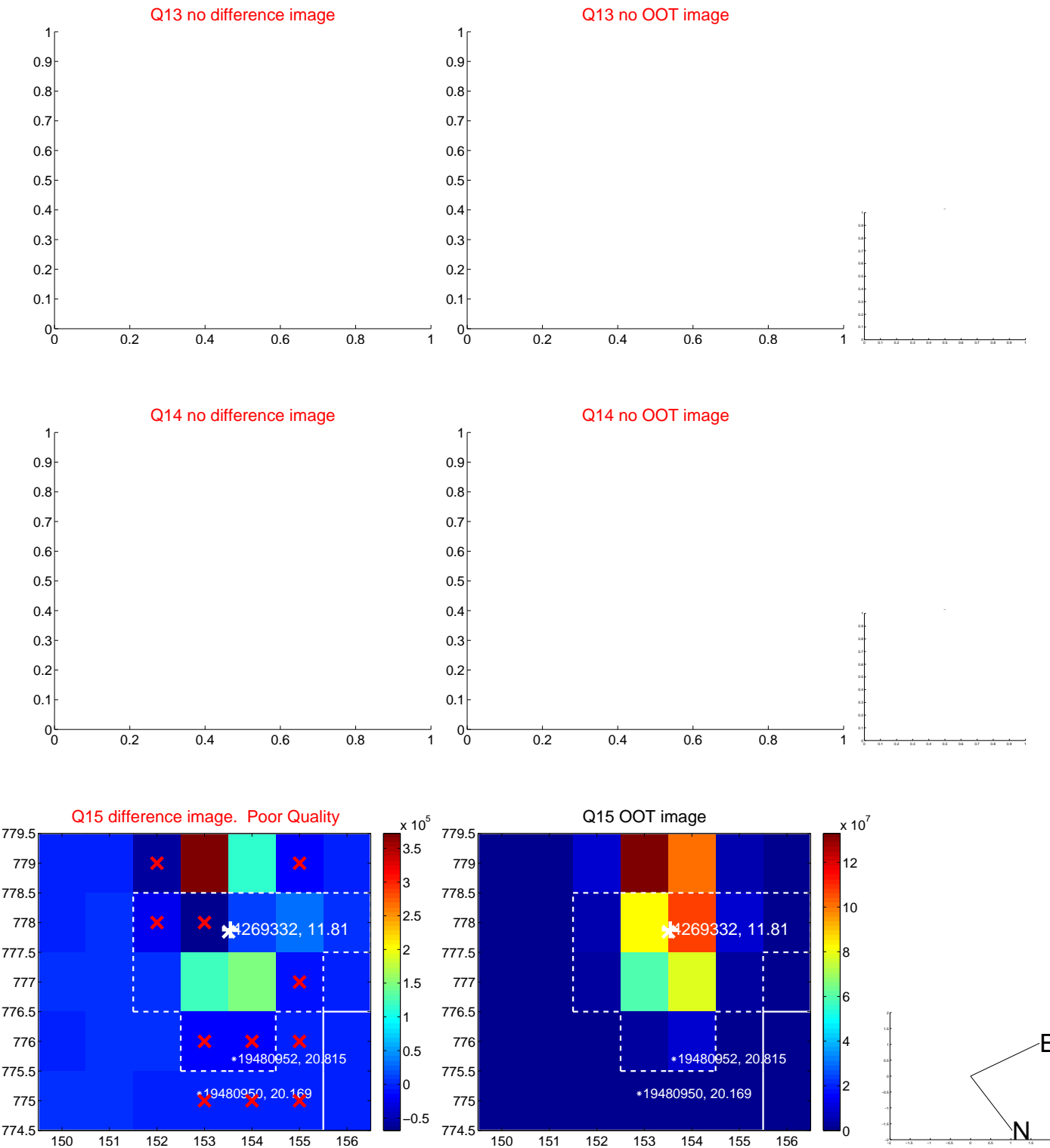
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



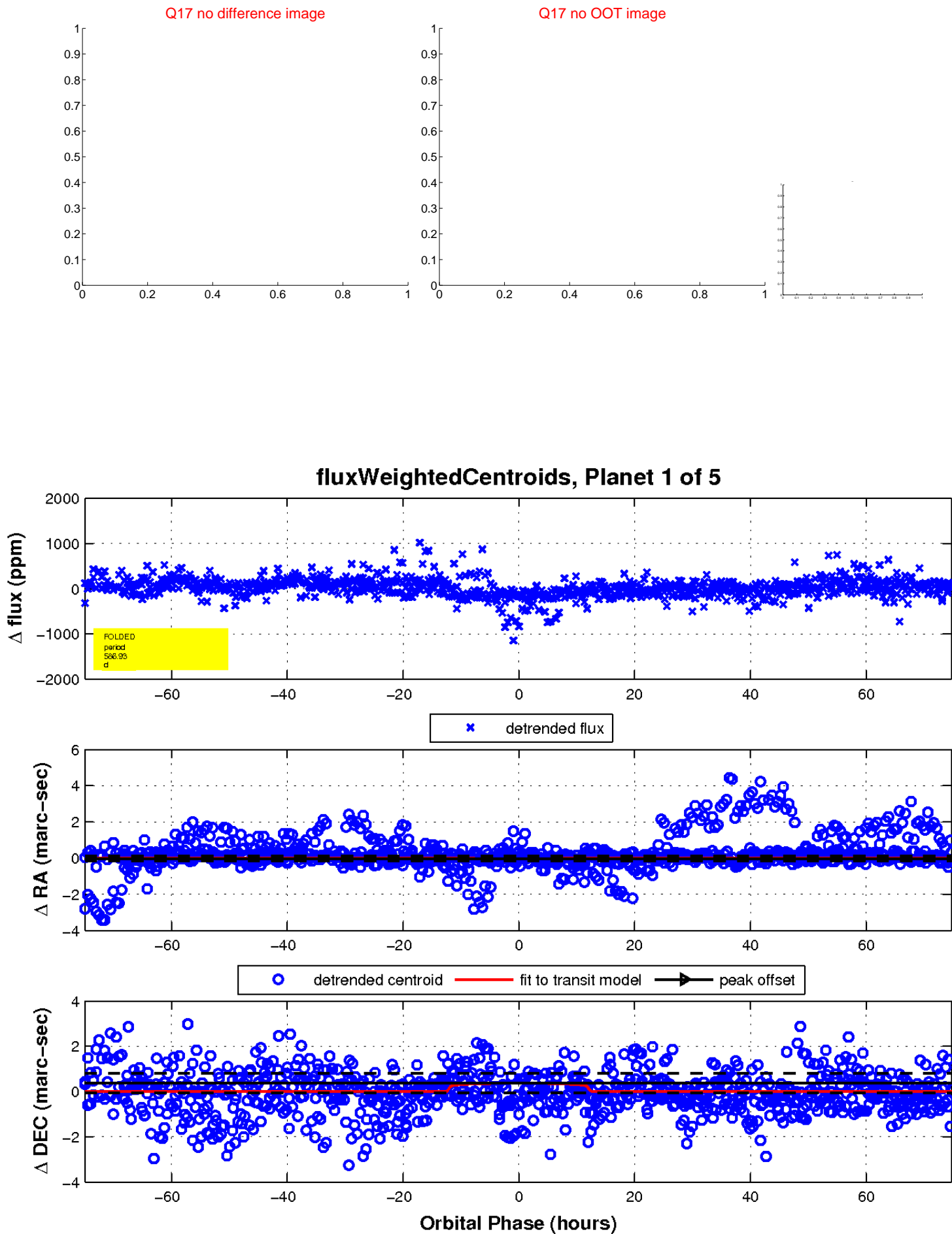
white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



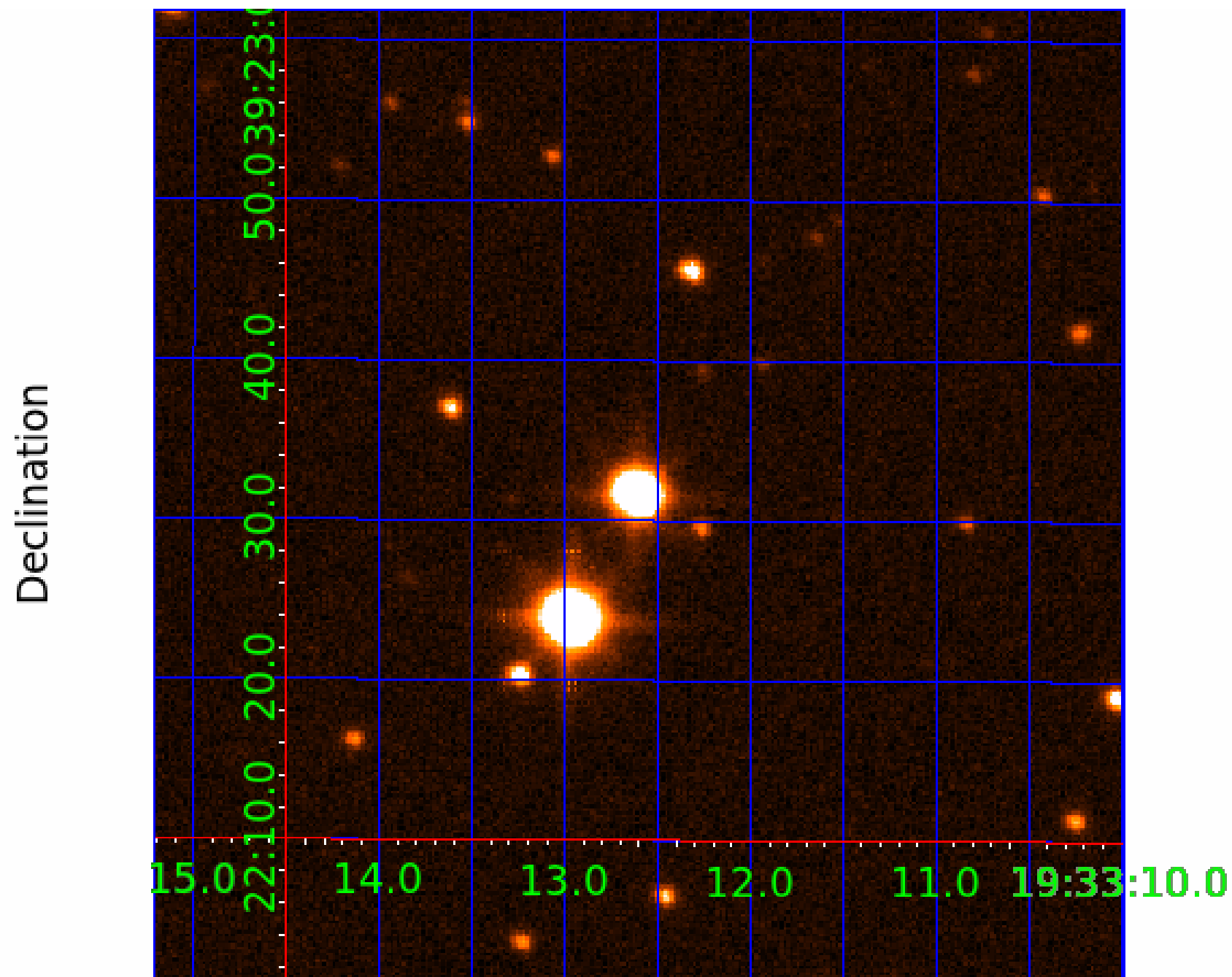
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004269332

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})
004269332-01	OBS	No	586.930748	247.452017	157.6	25.028	7.7	8.2	2.55	7742	3.53	7.01
004269332-02	OBS	No	3.215553	134.080408	11.8	16.592	8.2	7.0	2.55	7742	0.92	7257.39
004269332-03	OBS	No	85.043022	173.821919	664.7	2.335	16.5	16.3	2.55	7742	7.11	92.10
004269332-04	OBS	No	120.125907	193.779760	545.9	3.356	15.0	14.4	2.55	7742	6.68	58.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004269332-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004269332-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
004269332-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
004269332-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

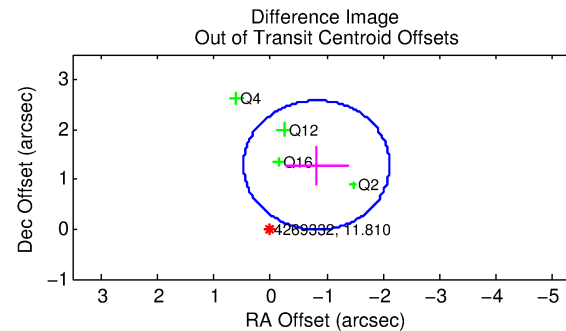
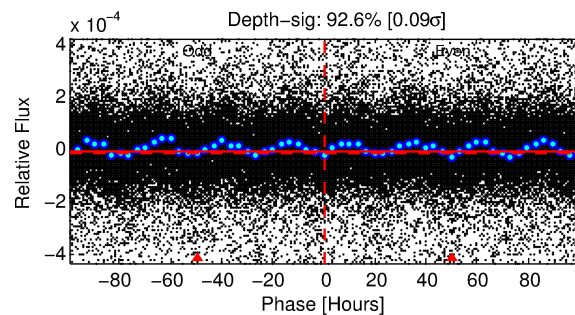
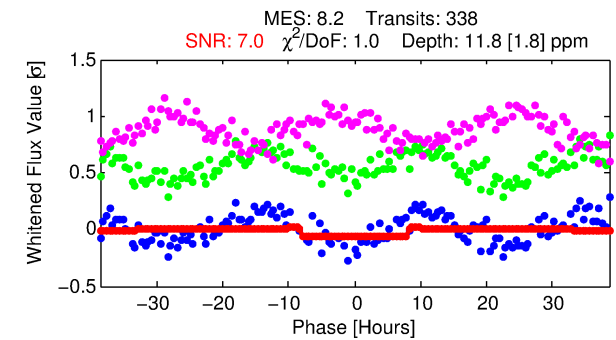
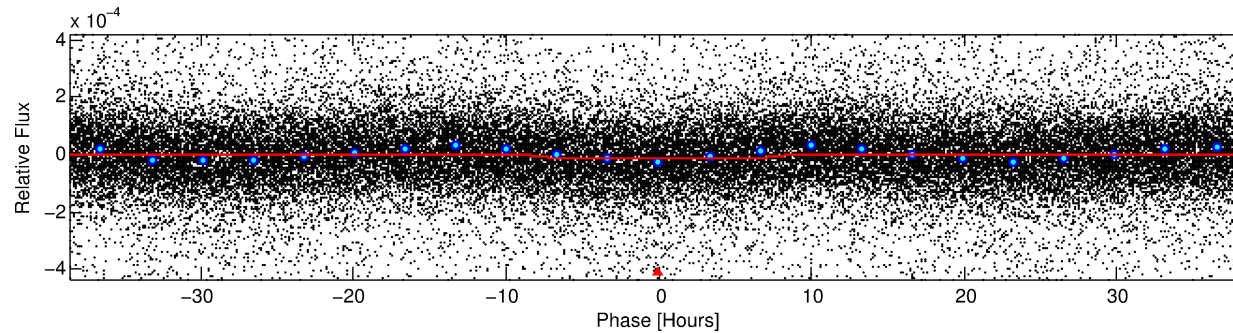
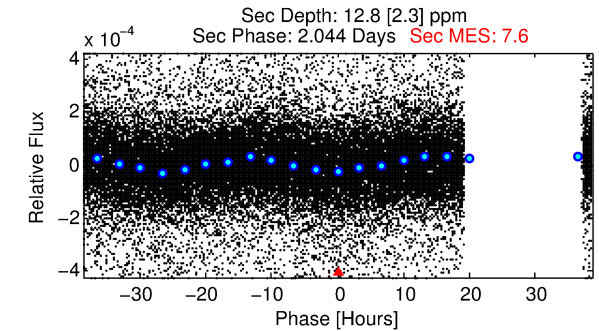
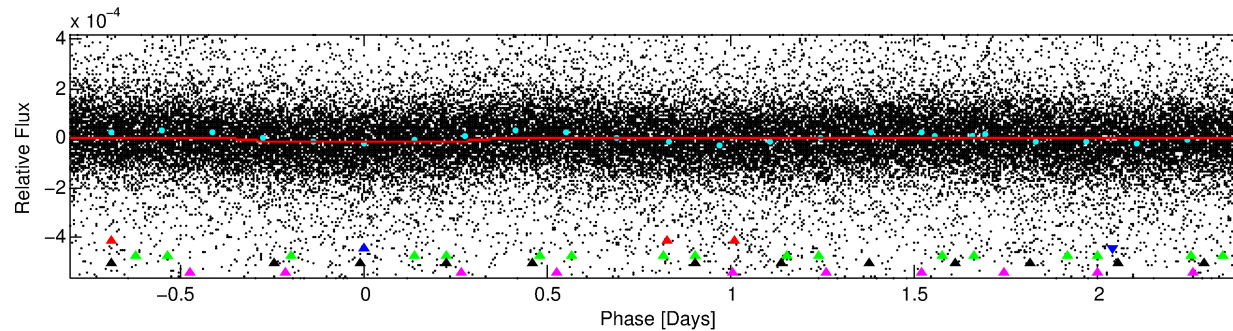
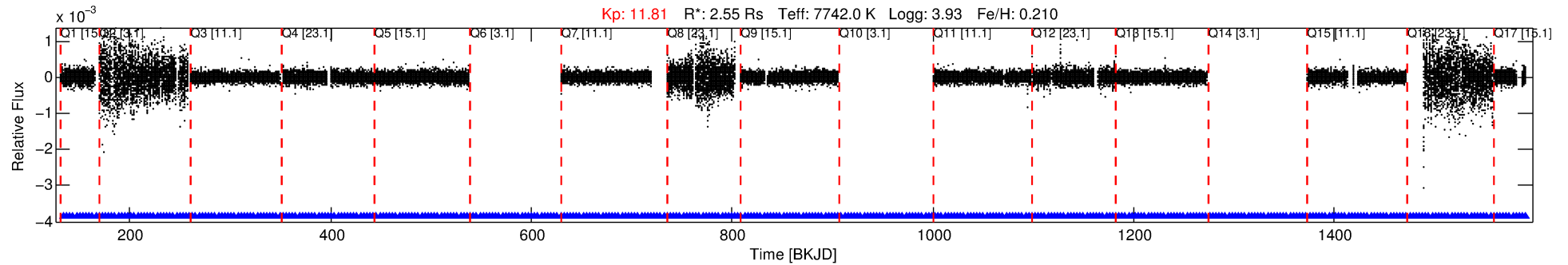
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004269332-02

No Significant Match Found

DV One-Page Summary

KIC: 4269332 Candidate: 2 of 5 Period: 3.216 d



DV Fit Results:

Period = 3.21555 [0.00008] d
Epoch = 134.0804 [0.0145] BKJD
 $R_p/R^* = 0.0033$ [0.0014]
 $a/R^* = 1.42$ [1.83]
 $b = 0.59$ [2.78]
 $S_{\text{eff}} = 7257.38$ [2008.01]
 $T_{\text{eq}} = 2354$ [163] K
 $R_p = 0.92$ [0.43] R_{e}
 $a = 0.0538$ [0.0096] AU
 $A_g = 24.02$ [21.92] [1.05σ]
 $T_{\text{eff}} = 8056$ [1757] K [3.23σ]

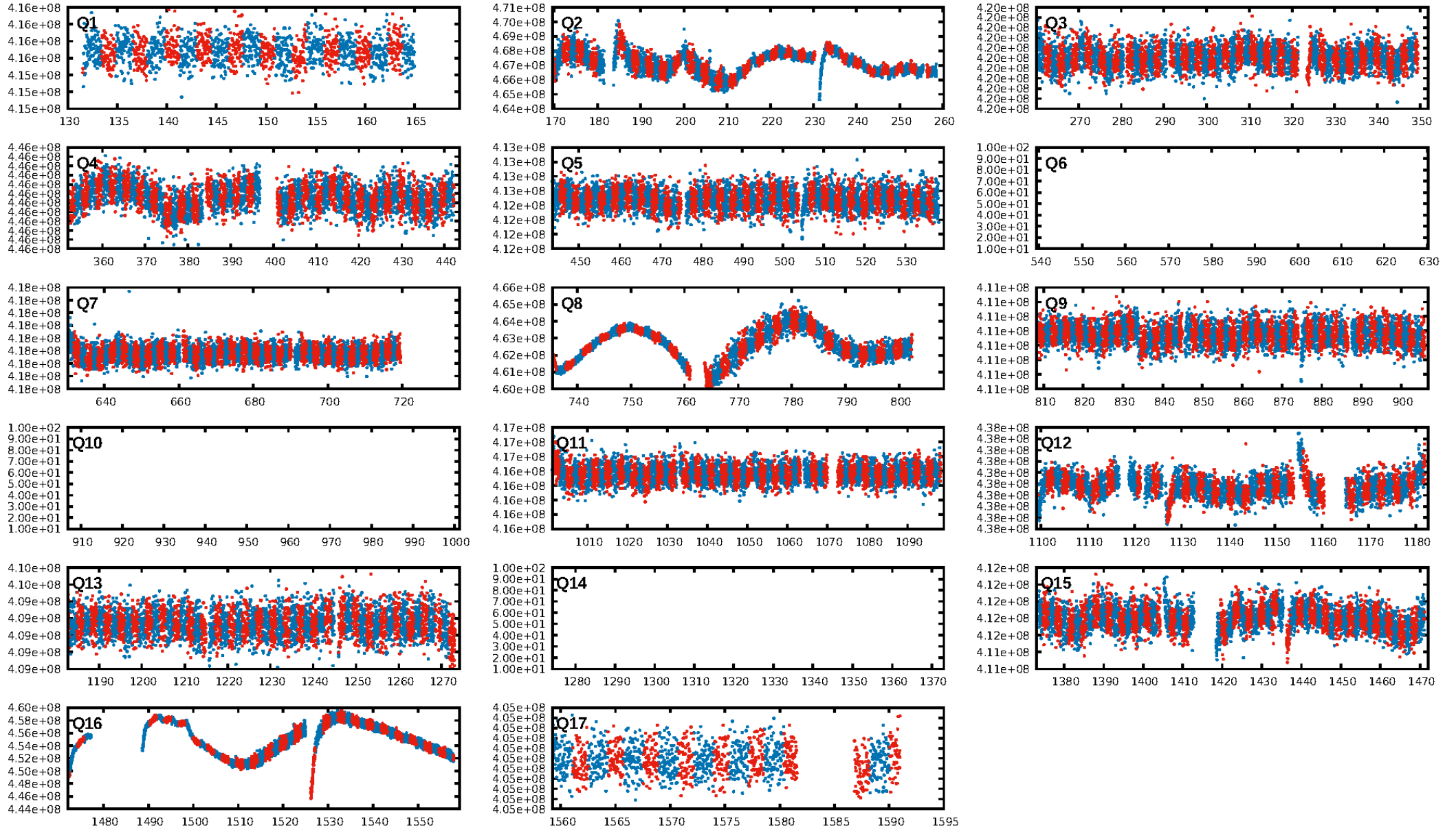
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [117.20σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.23e-08
RollingBand-fgt: 1.00 [319/319]
GhostDiagnostic-chr: -0.2281
Centroid-sig: 1.3%
Centroid-so: 4.807 arcsec [2.29σ]
OotOffset-rm: 1.521 arcsec [3.53σ]
KicOffset-rm: 4.849 arcsec [12.61σ]
OotOffset-st: 1/0/3/0 [4]
KicOffset-st: 1/0/3/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [14/14]

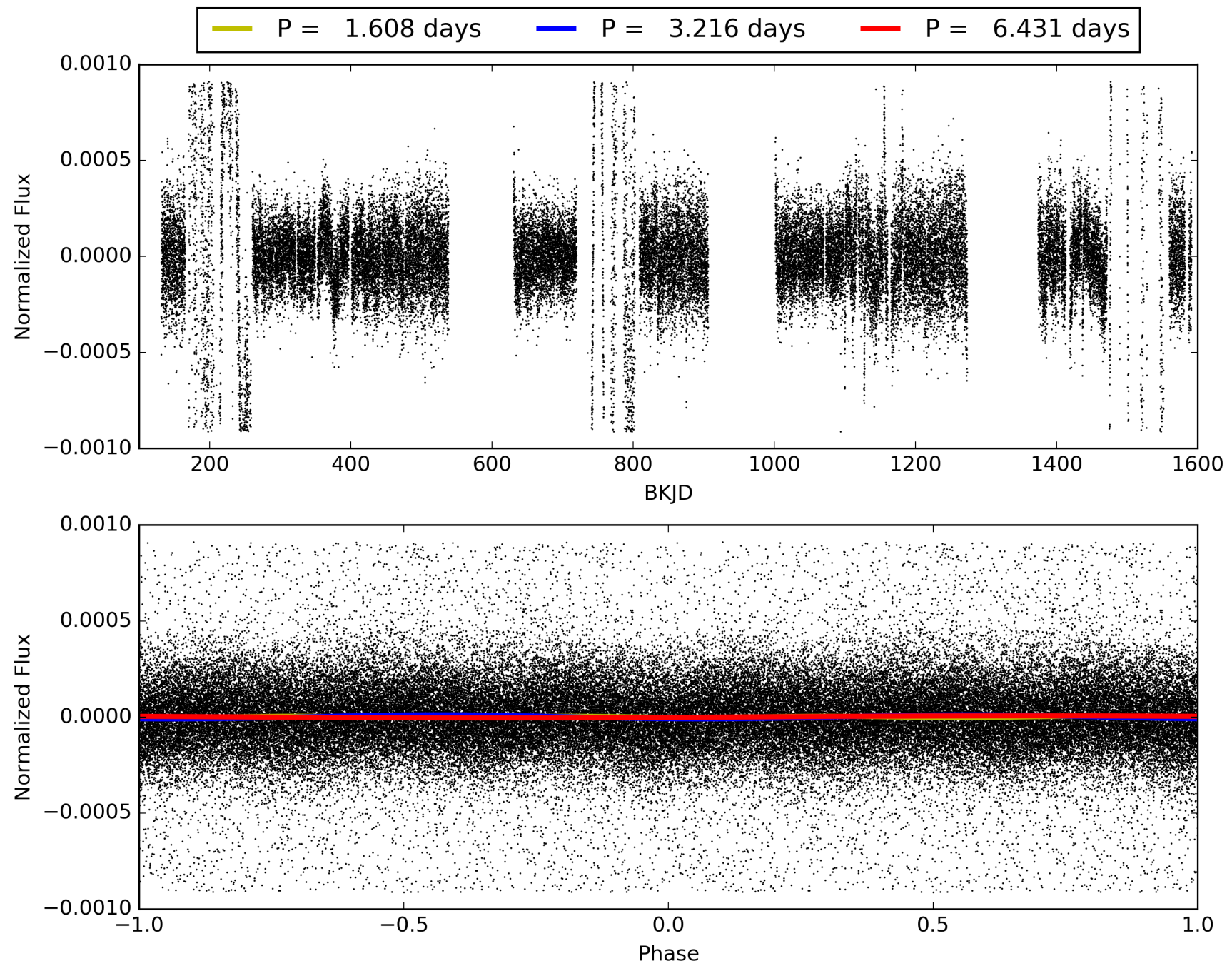
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:10:13 Z

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

TCE 004269332-02, PDC Light Curves

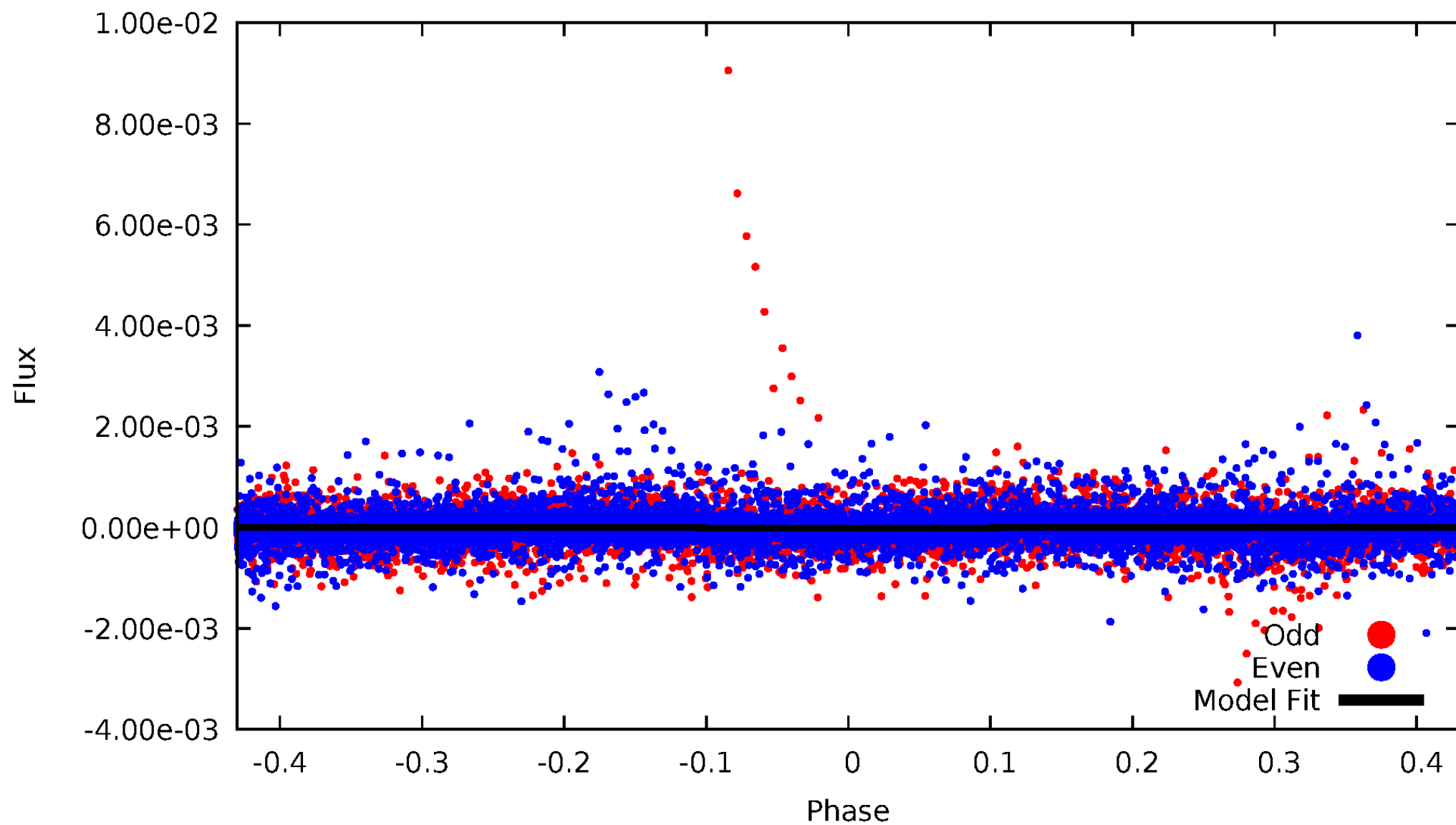


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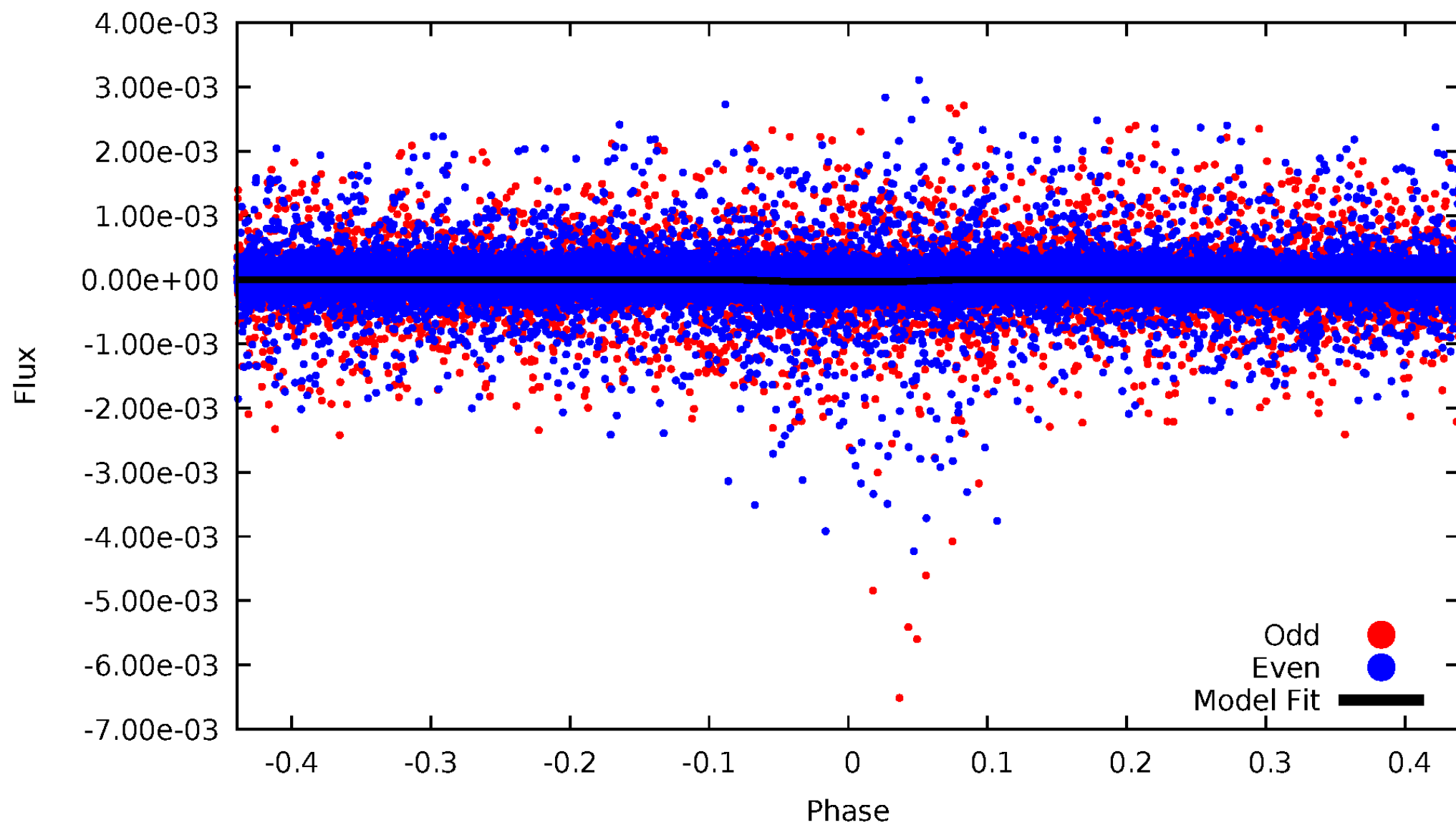
DV Odd/Even

TCE 004269332-02



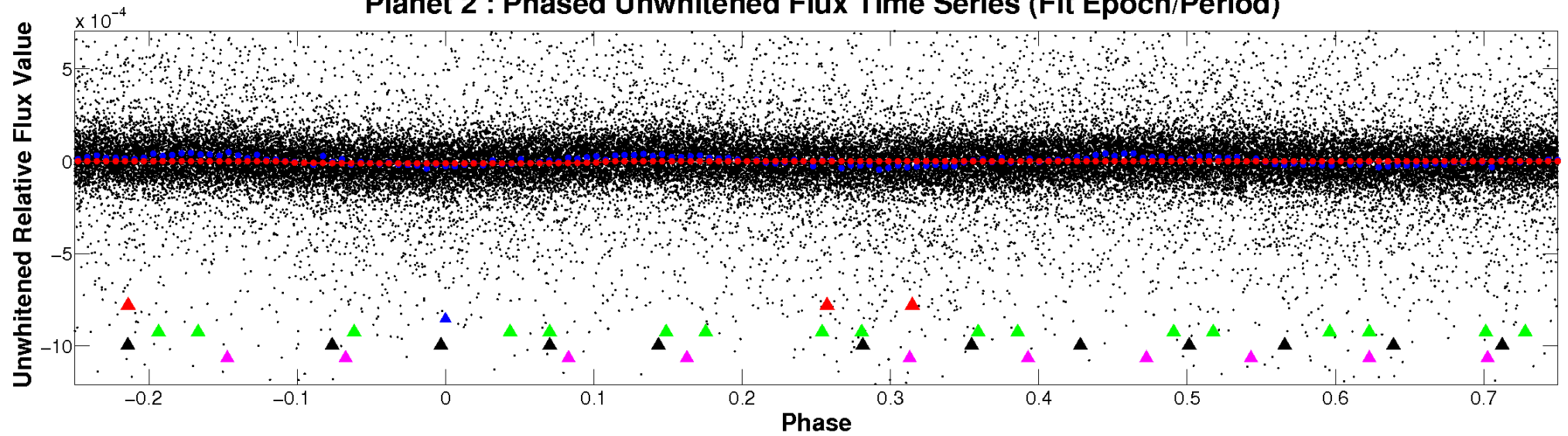
ALT Odd/Even

TCE 004269332-02

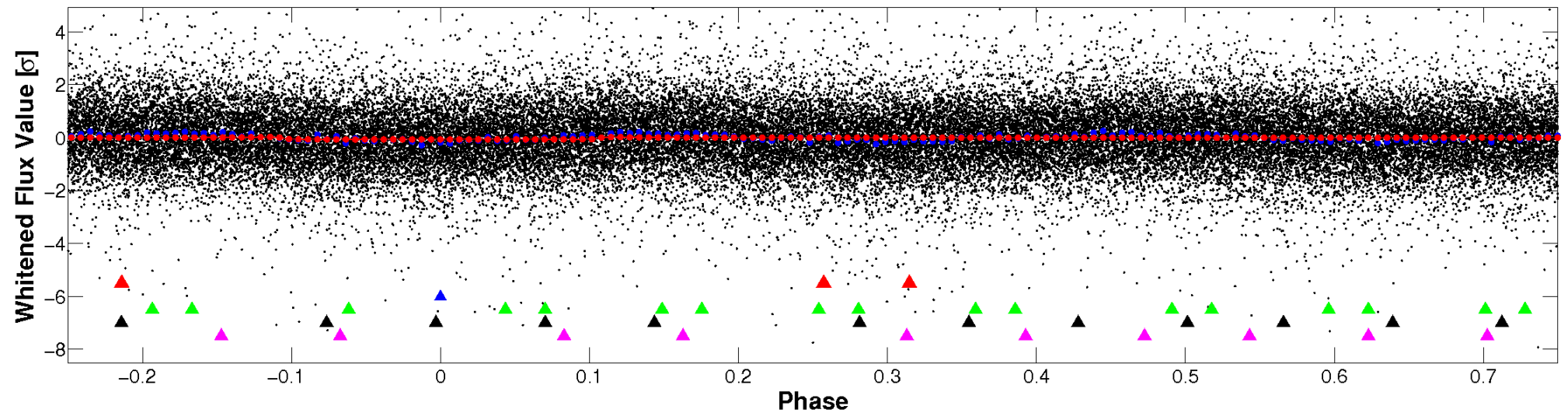


Non-Whitened Vs. Whitened Light Curve

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

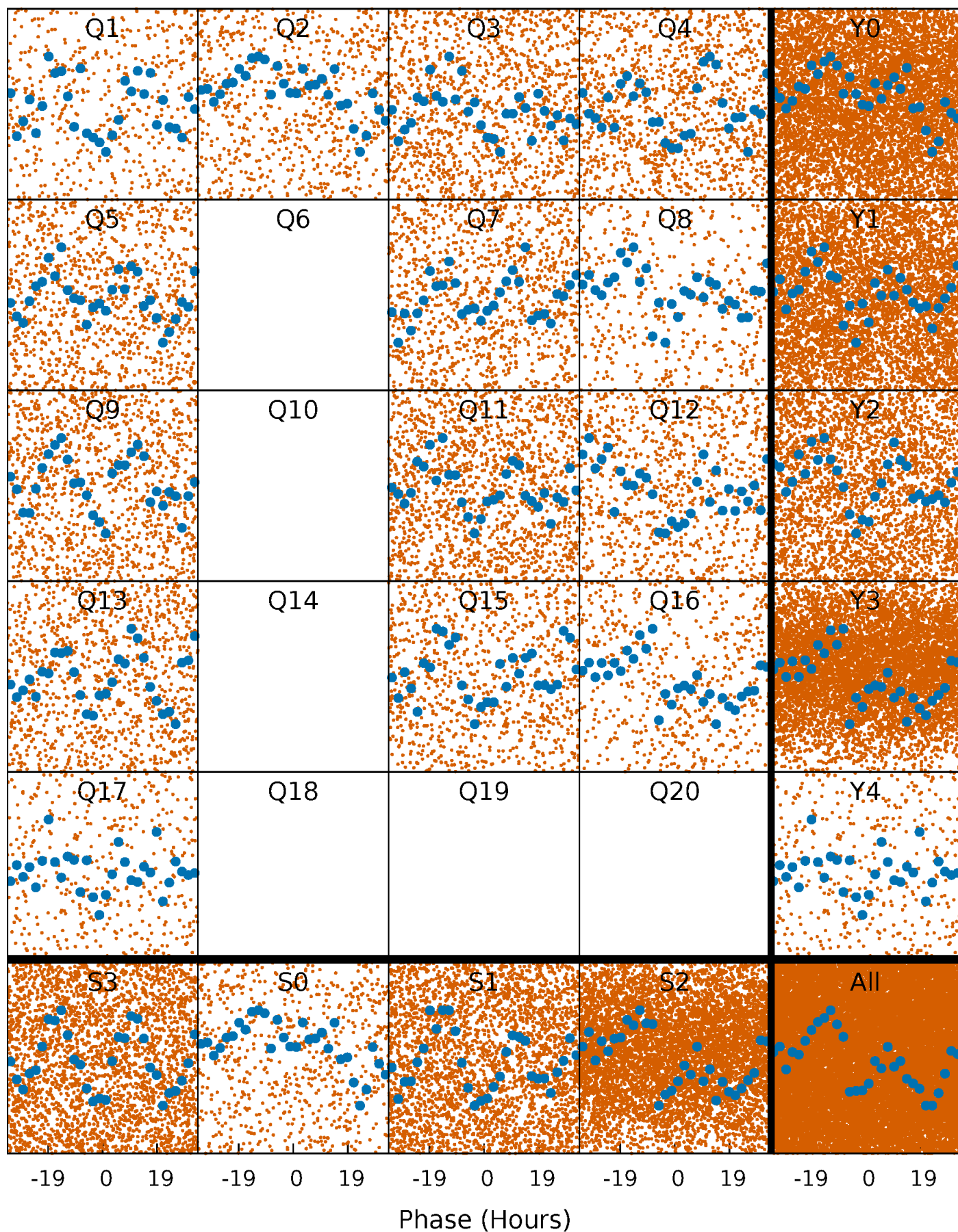


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



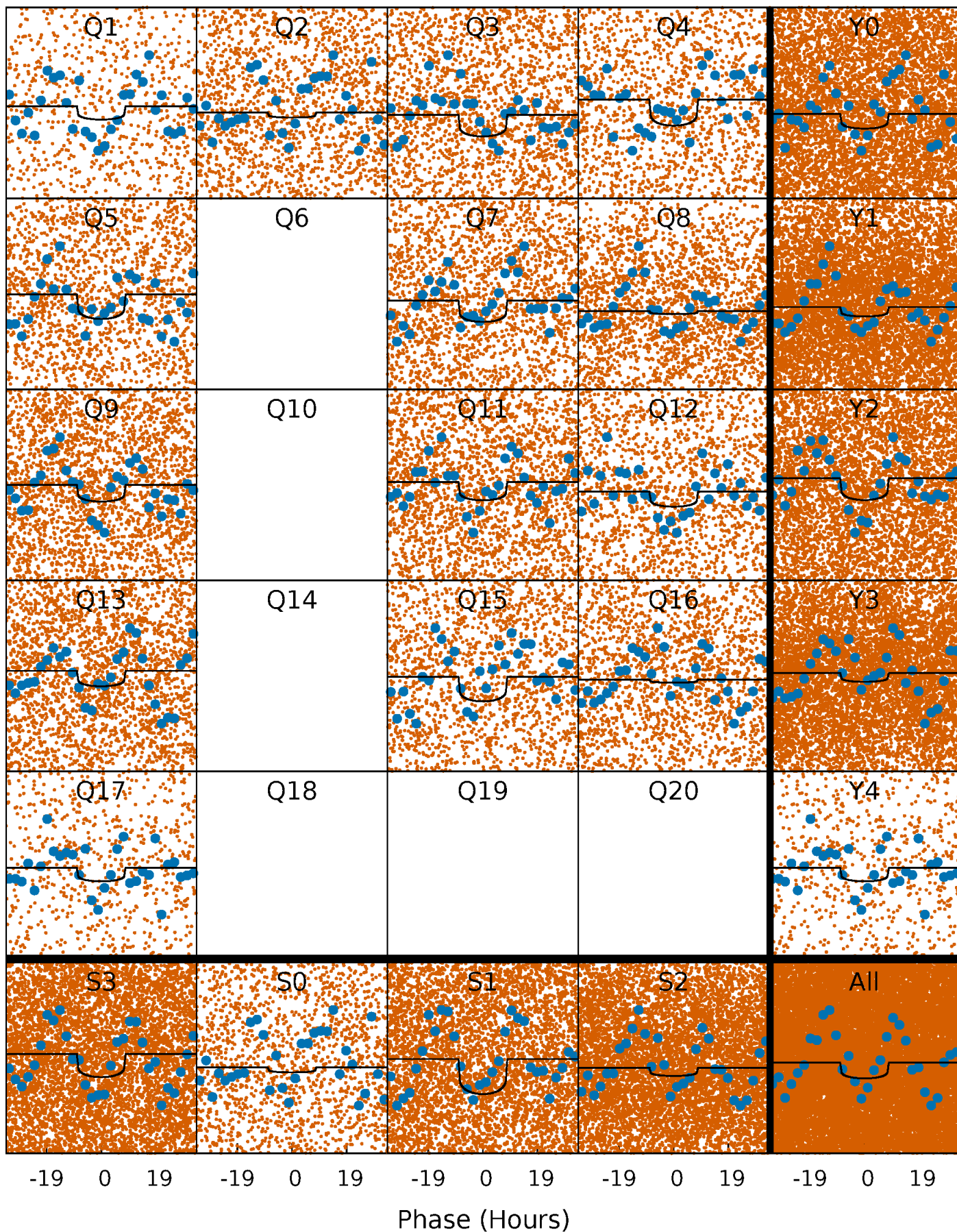
PDC Quarter-Phased Transit Curves

TCE 004269332-02 P= 3.215553 Days $T_0=134.080408$ (BKJD)



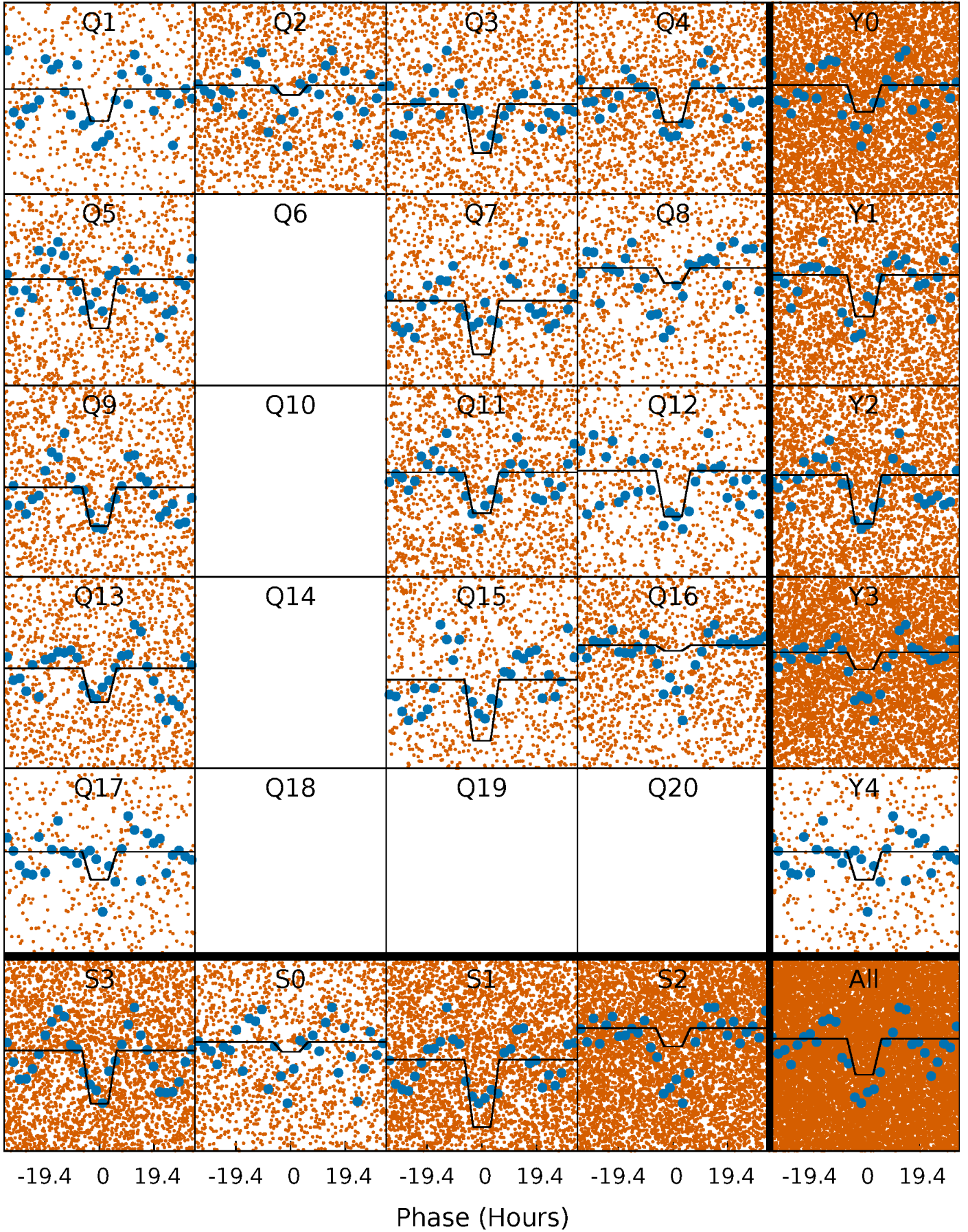
DV Quarter-Phased Transit Curves

TCE 004269332-02 P= 3.215553 Days $T_0=134.080408$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

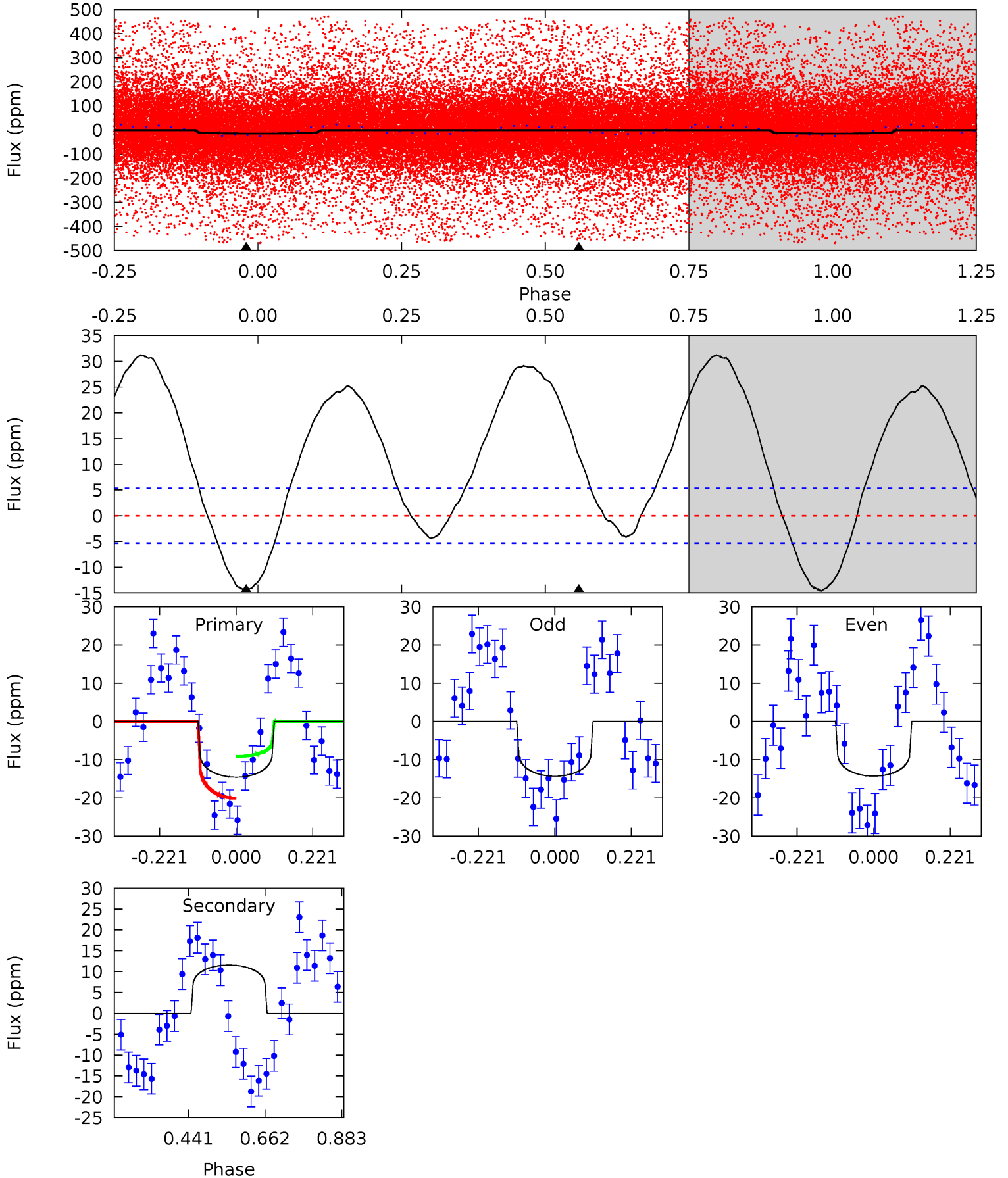
TCE 004269332-02 P= 3.215242 Days $T_0=134.090898$ (BKJD)



DV Model-Shift Uniqueness Test

004269332-02, P = 3.215553 Days, E = 130.864855 Days

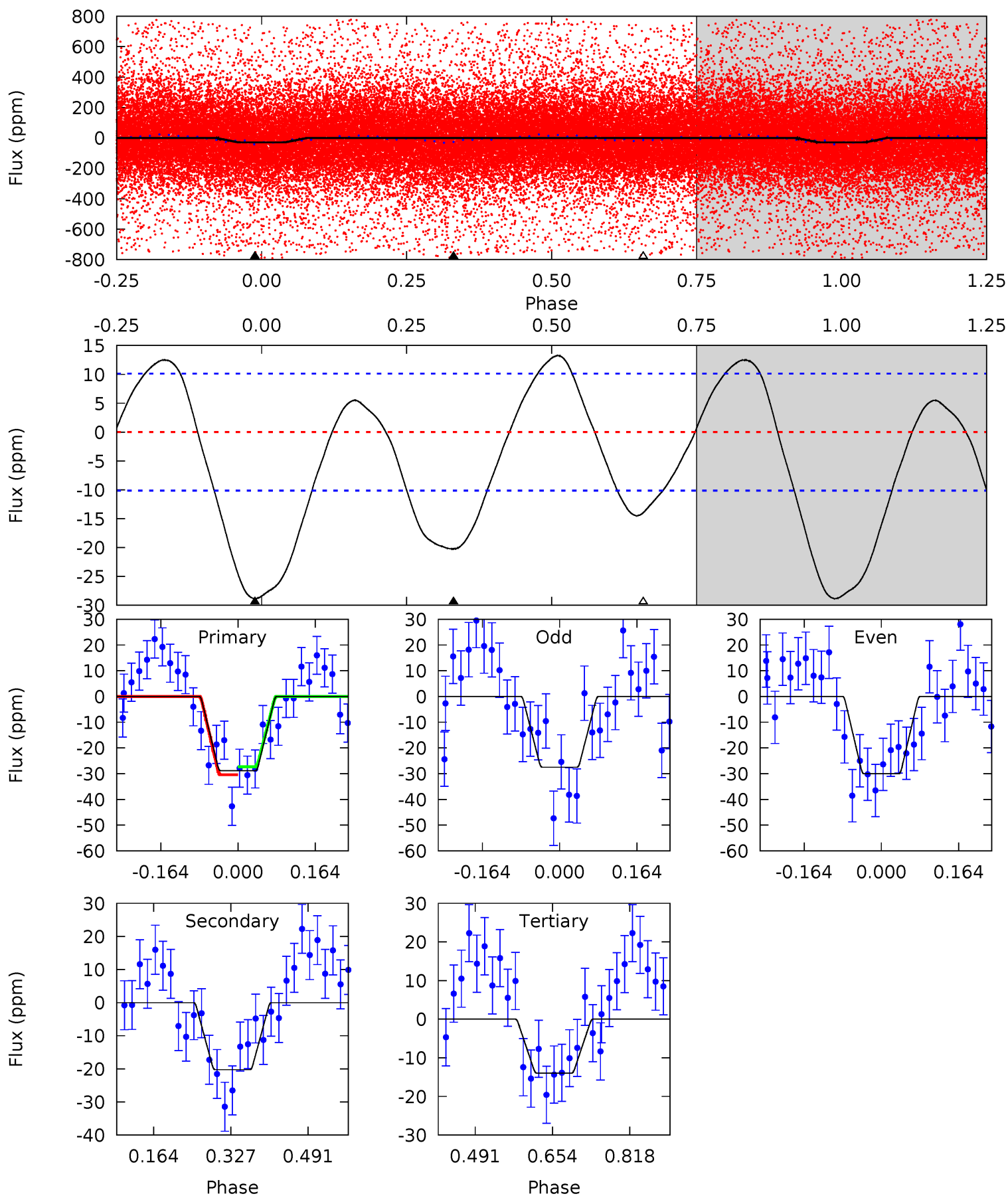
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	-9.57	0	0	4.40	1.22	5.72	12.1	12.1	-9.57	-9.57	0.01	0.65	0.68	4.72



Alt Model-Shift Uniqueness Test

004269332-02, P = 3.215242 Days, E = 130.875656 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	8.91	6.14	0	4.46	1.39	4.11	6.55	12.7	2.77	8.91	0.57	2.51	0.31	0.67



Stellar Parameters For KIC 004269332

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7742^{+69}_{-100}	$3.926^{+0.154}_{-0.077}$	$0.210^{+0.150}_{-0.200}$	$2.554^{+0.277}_{-0.514}$	$2.007^{+0.149}_{-0.223}$	$0.170^{+0.128}_{-0.045}$
	+1%/-1%	+4%/-2%	+71%/-95%	+11%/-20%	+7%/-11%	+75%/-26%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004269332-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	12 ± 1	$0.92^{+0.38}_{-0.37}$	3274^{+107}_{-153}	-7786^{+1325}_{-3355}	$-21.458^{+10.665}_{-40.938}$
Alt.	-20 ± 2	$1.42^{+0.42}_{-0.40}$	3269^{+113}_{-160}	6999^{+1525}_{-848}	16^{+14}_{-6}

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 $A_{obs} \gg 1.0$

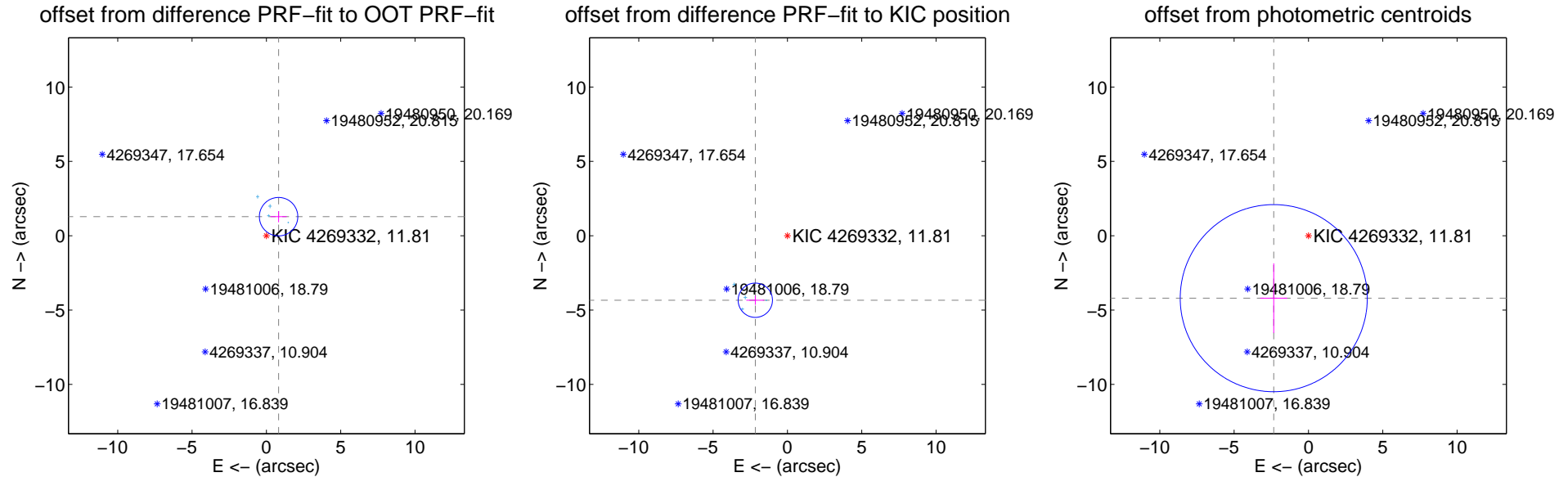
DV Centroid Data

Supplemental centroid analysis for 004269332-02. **Kepler magnitude: 11.81.** Transit SNR 7.00

There are 4 quarters with good PRF difference image offsets

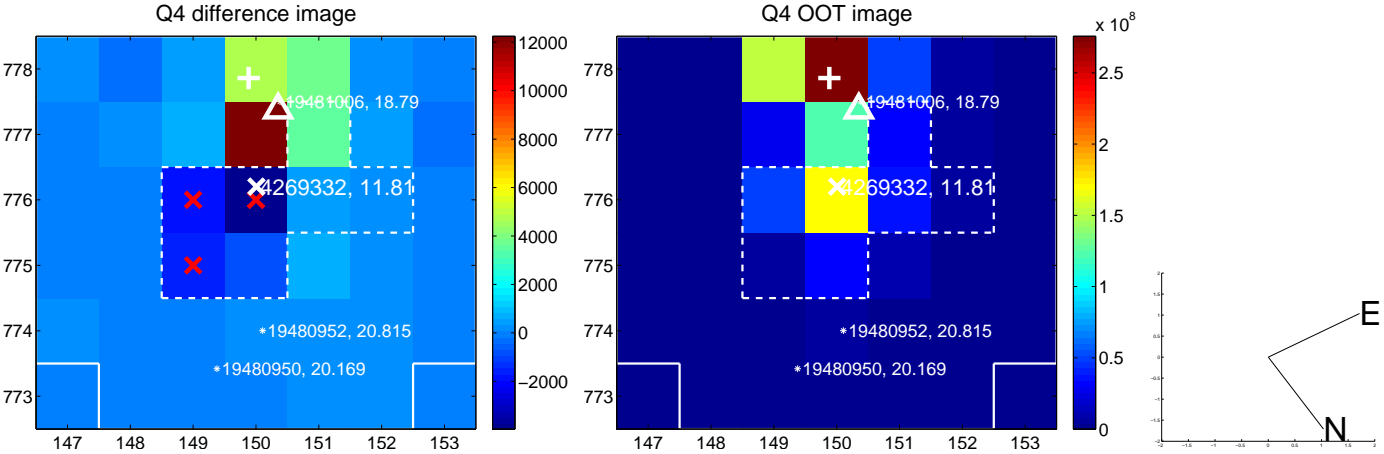
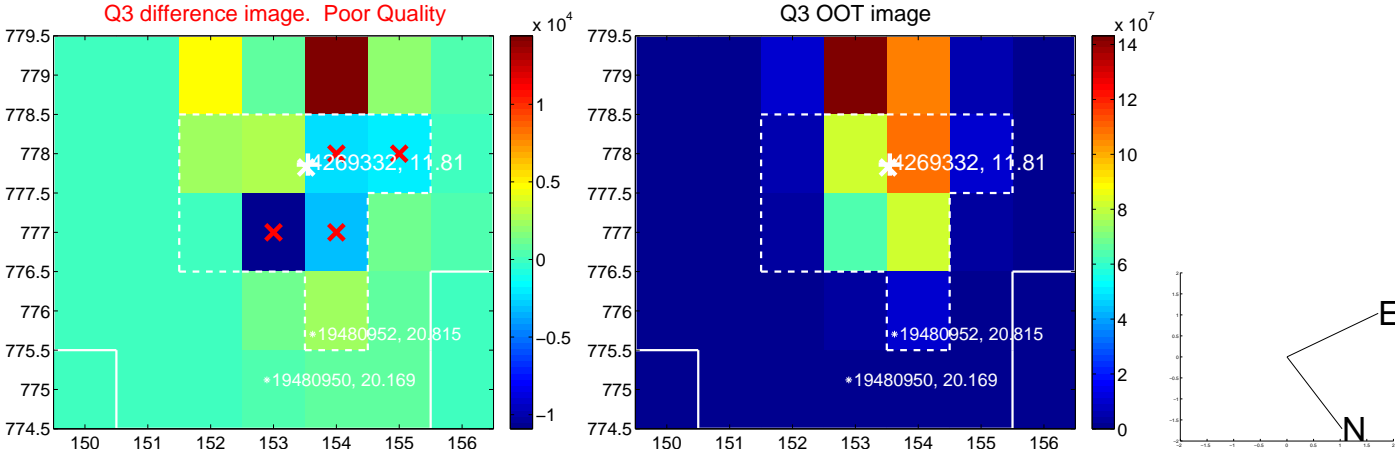
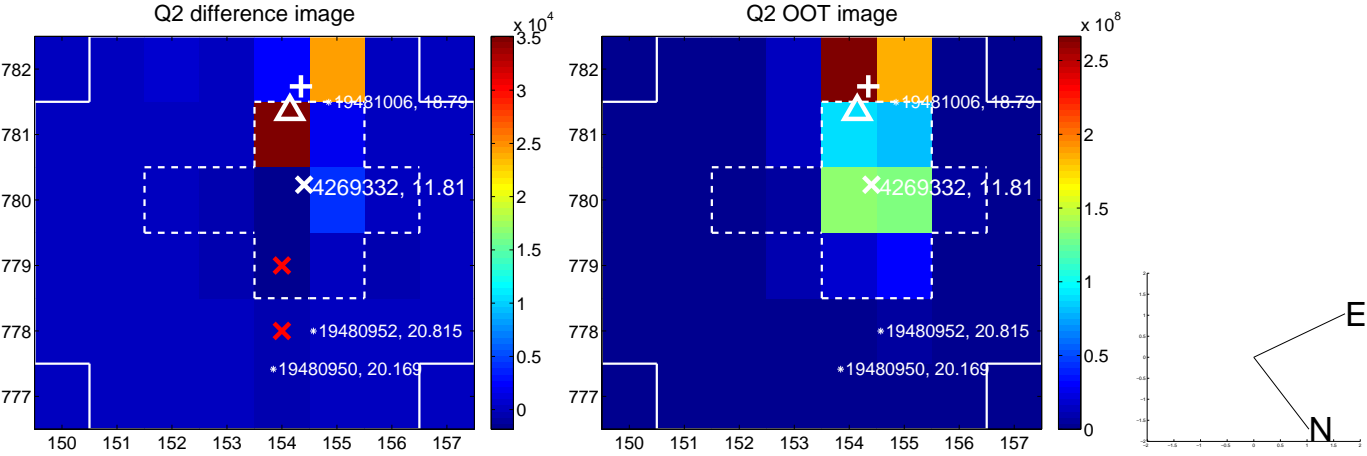
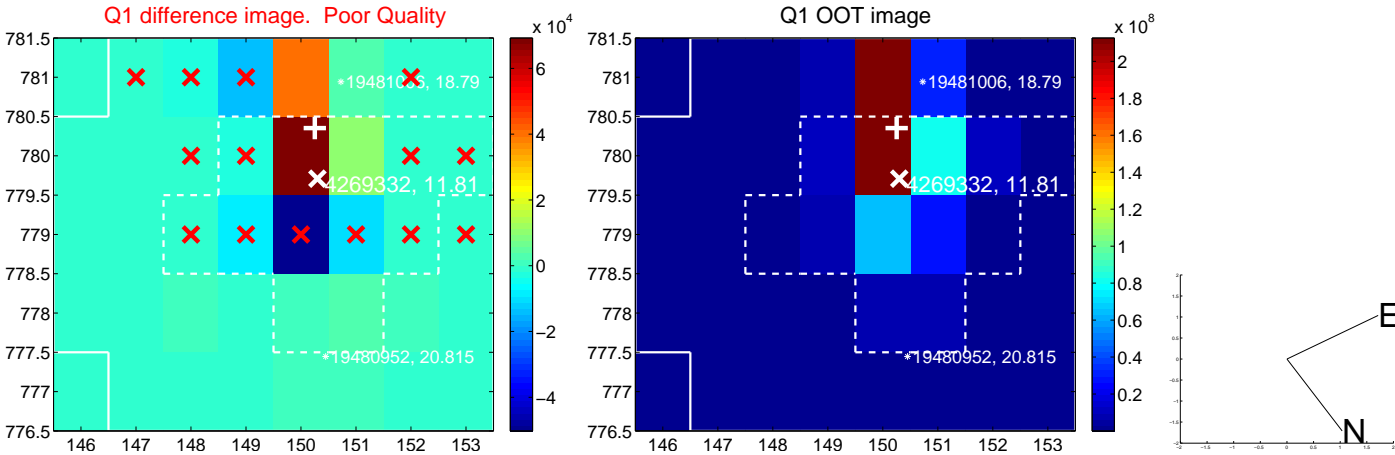
The OOT PRF centroid is offset from the target star catalog position by about 7.03 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.521 ± 0.431	3.53	-0.820 ± 0.544	1.281 ± 0.375
PRF-fit source offset from KIC position	4.849 ± 0.385	12.61	2.161 ± 0.602	-4.341 ± 0.308
photometric centroid source offset	4.81 ± 2.10	2.29	2.33 ± 0.91	-4.20 ± 2.35

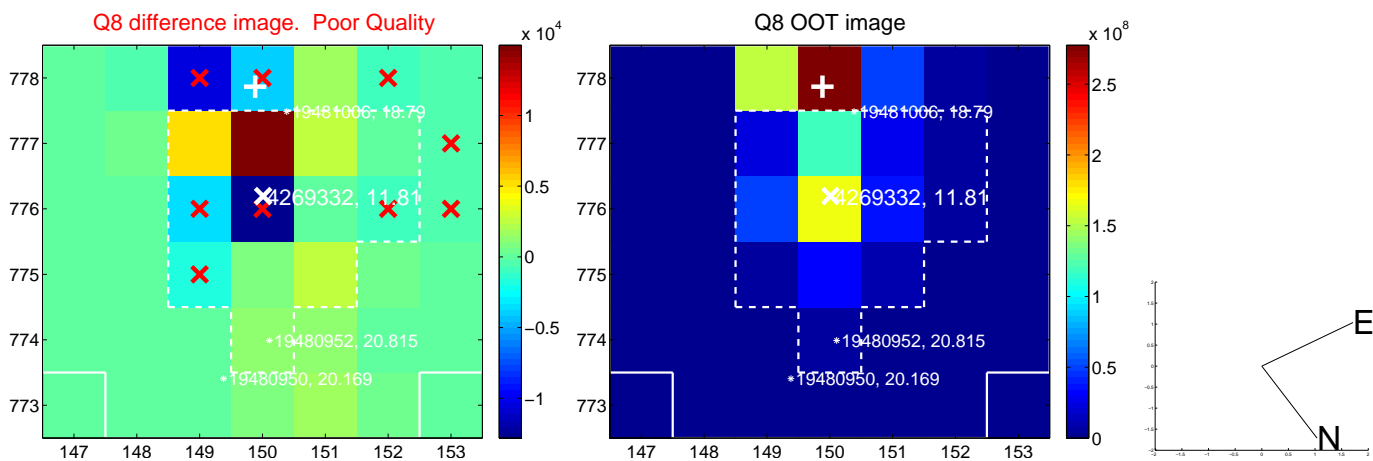
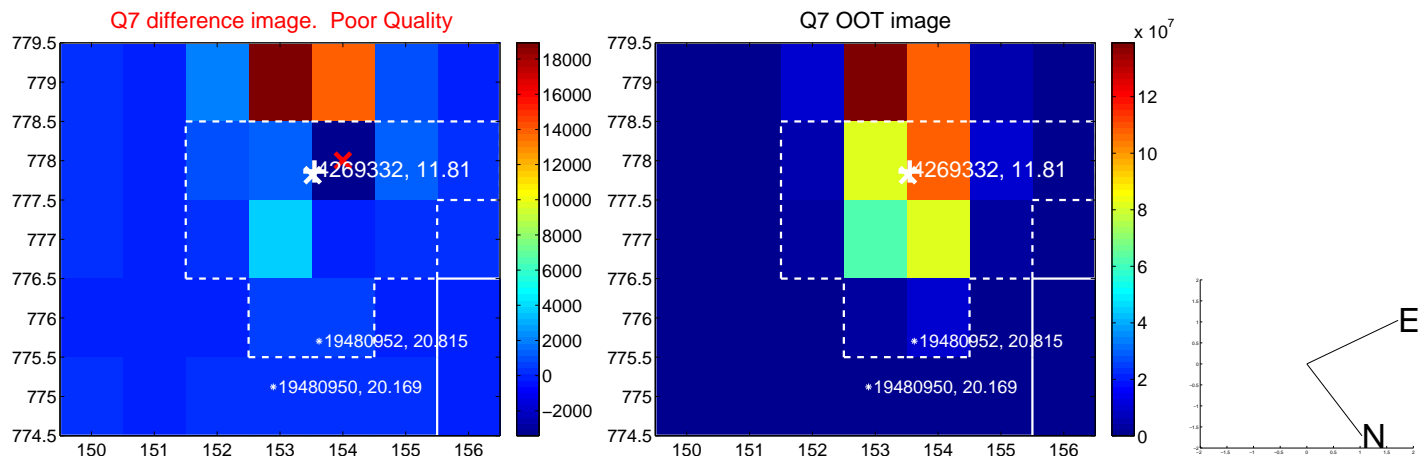
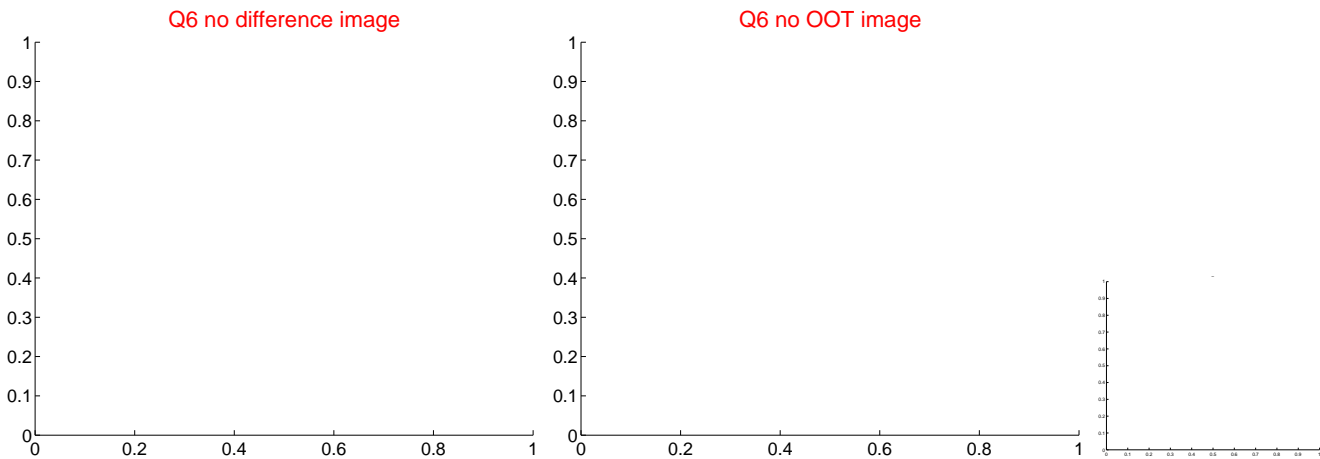
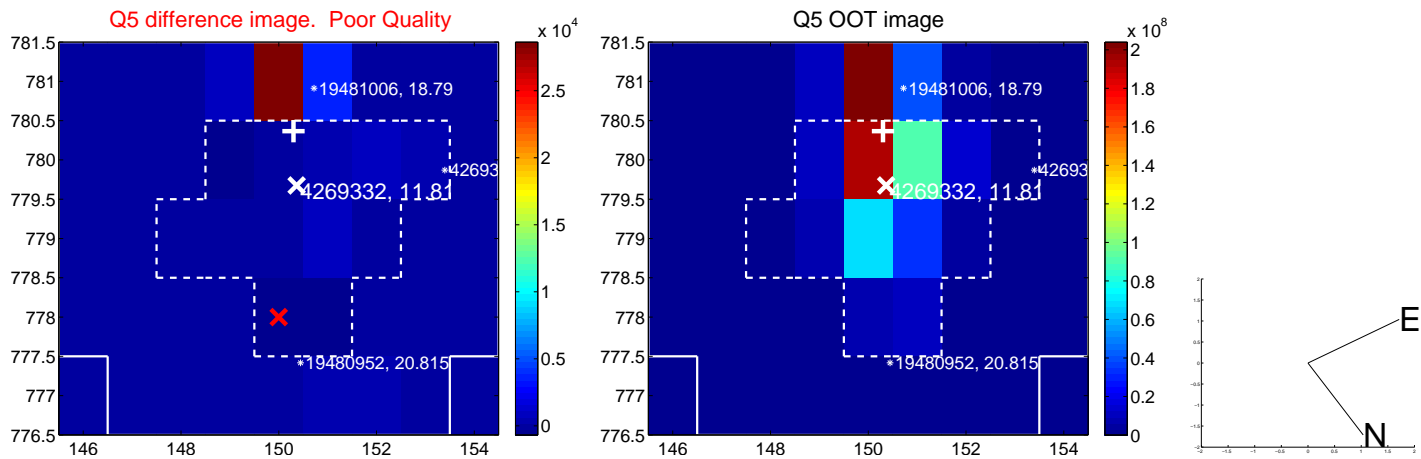


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

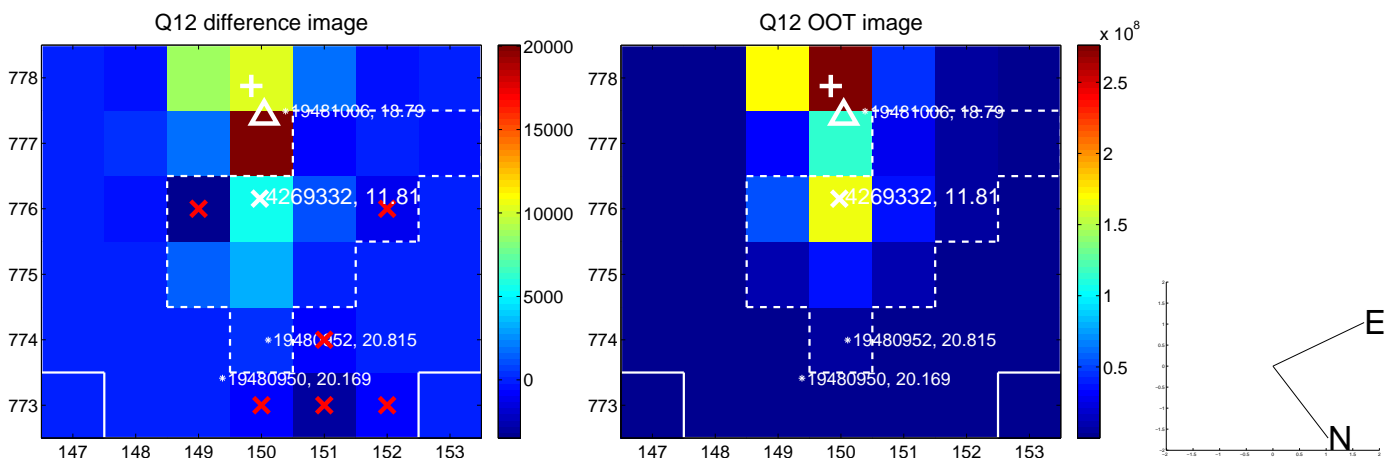
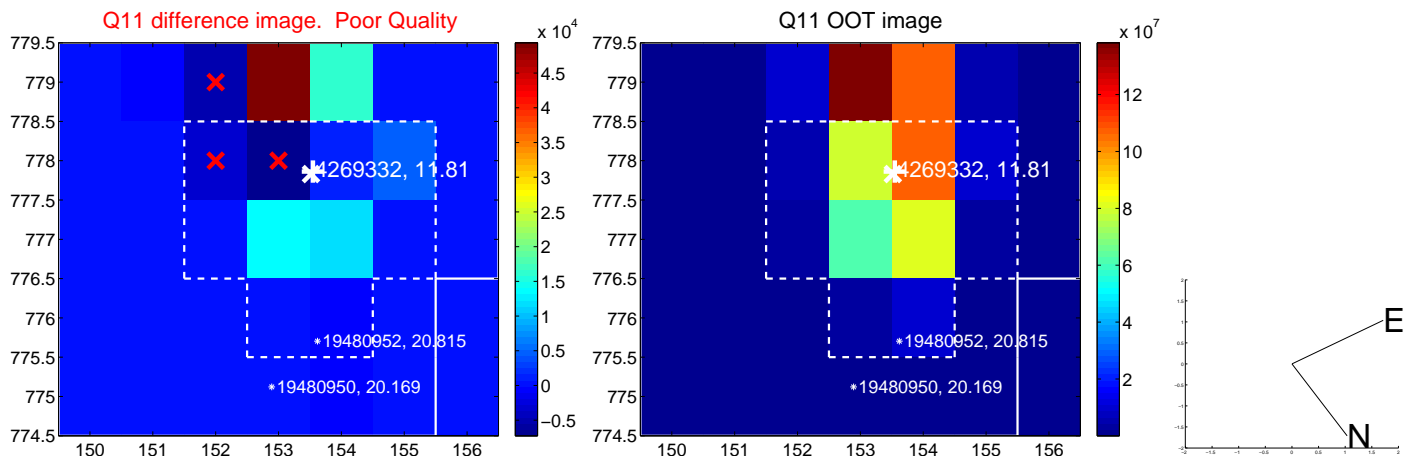
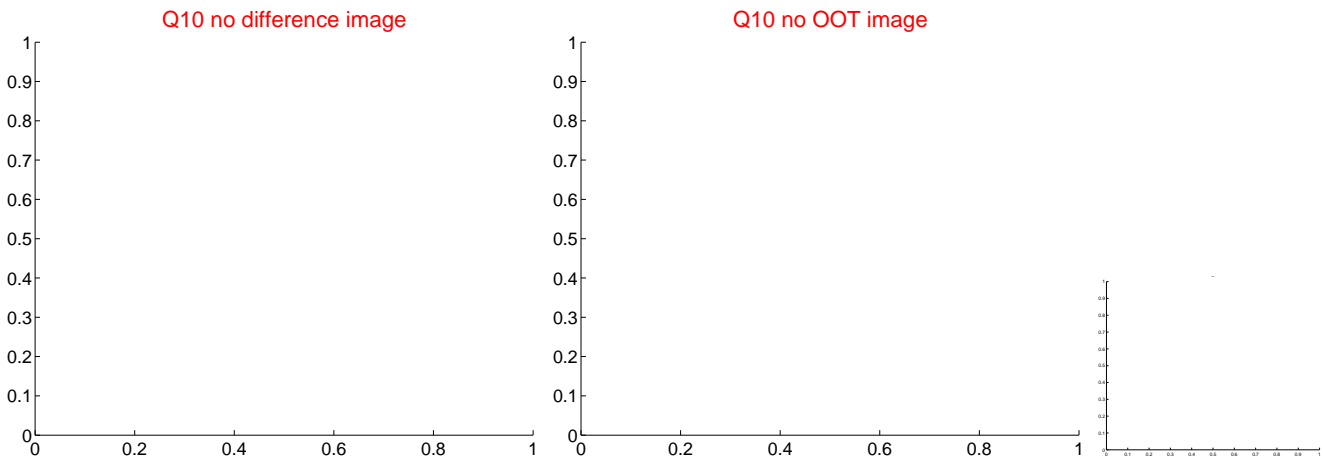
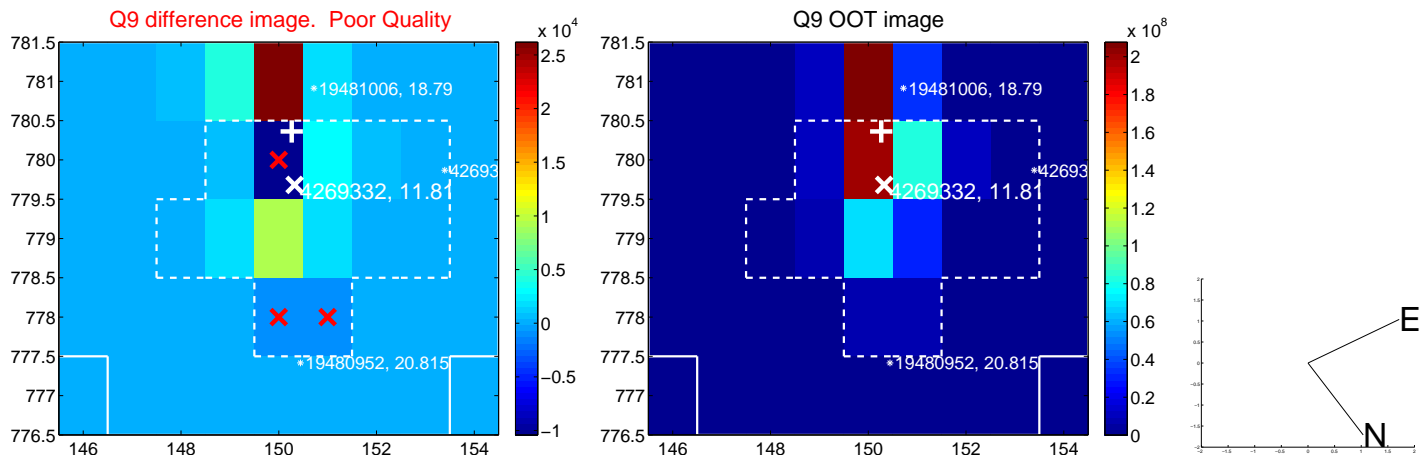
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



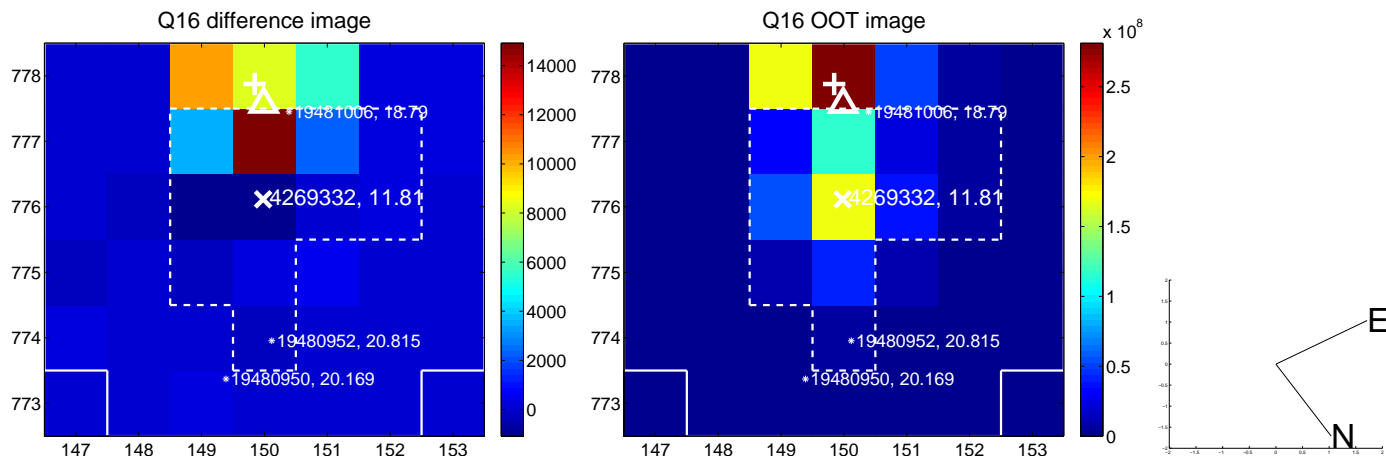
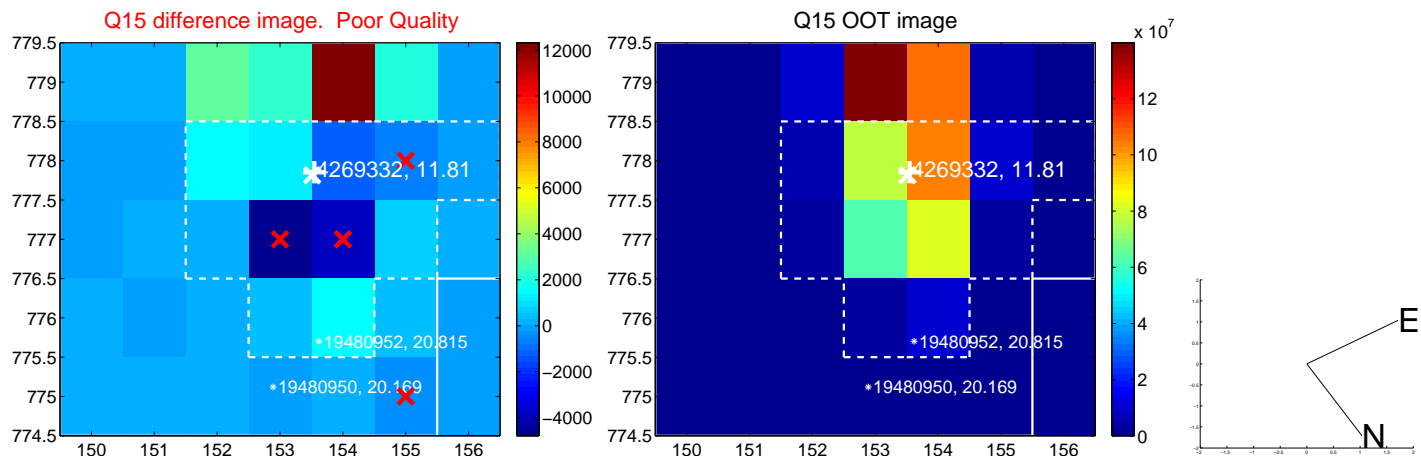
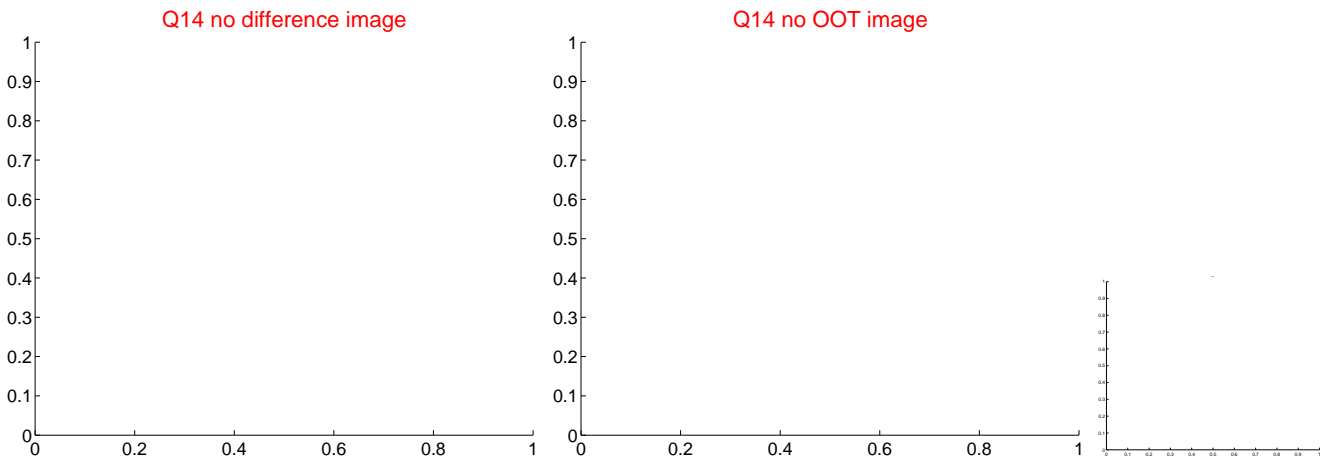
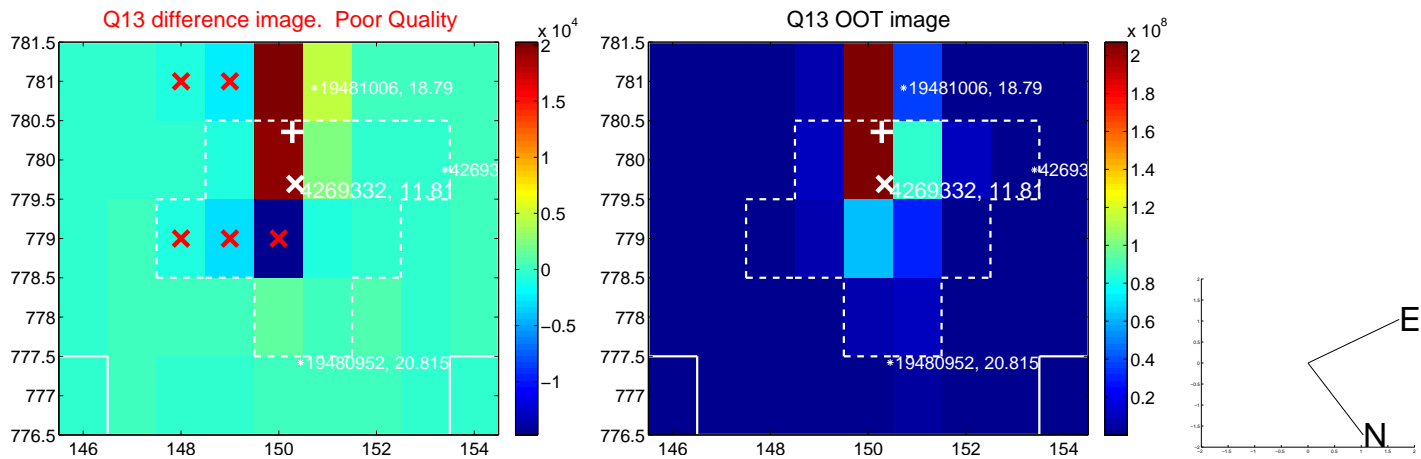
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



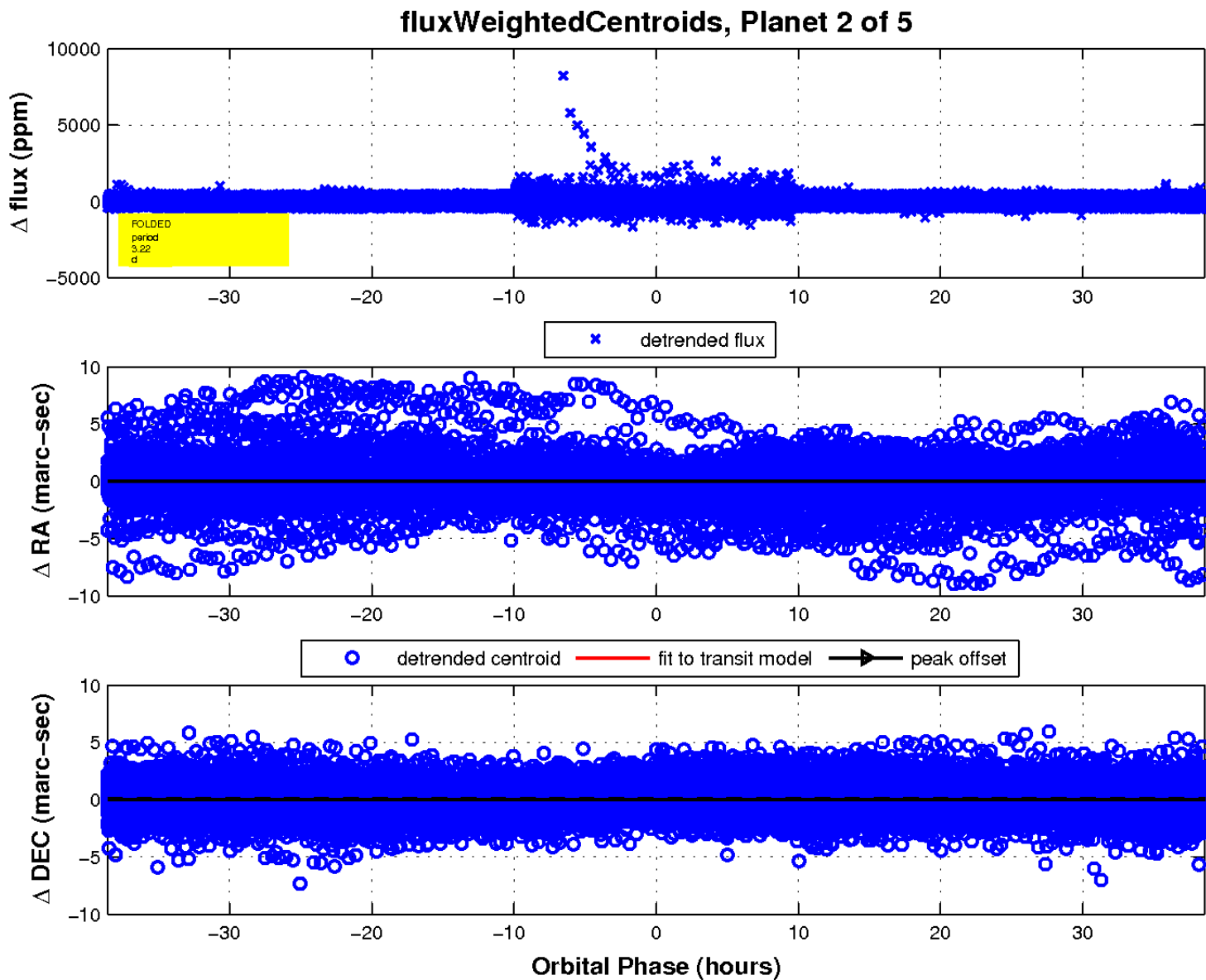
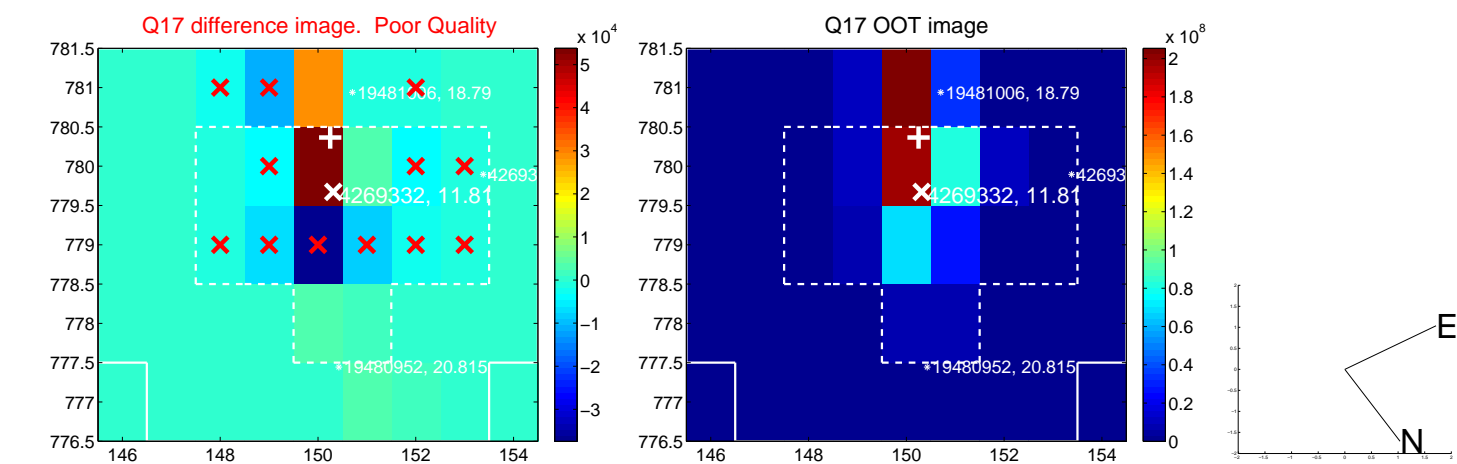
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



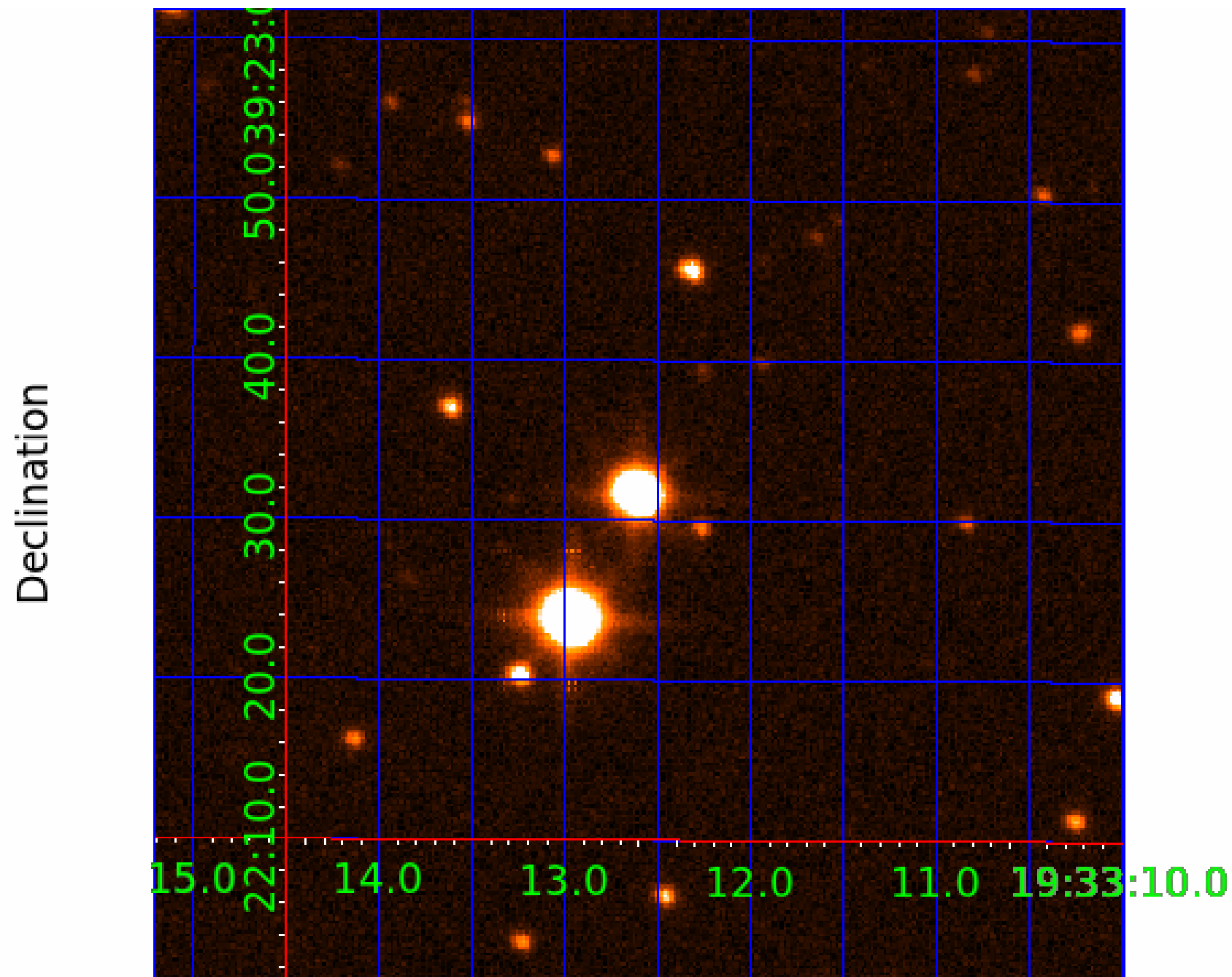
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004269332

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})
004269332-01	OBS	No	586.930748	247.452017	157.6	25.028	7.7	8.2	2.55	7742	3.53	7.01
004269332-02	OBS	No	3.215553	134.080408	11.8	16.592	8.2	7.0	2.55	7742	0.92	7257.39
004269332-03	OBS	No	85.043022	173.821919	664.7	2.335	16.5	16.3	2.55	7742	7.11	92.10
004269332-04	OBS	No	120.125907	193.779760	545.9	3.356	15.0	14.4	2.55	7742	6.68	58.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004269332-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004269332-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
004269332-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
004269332-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

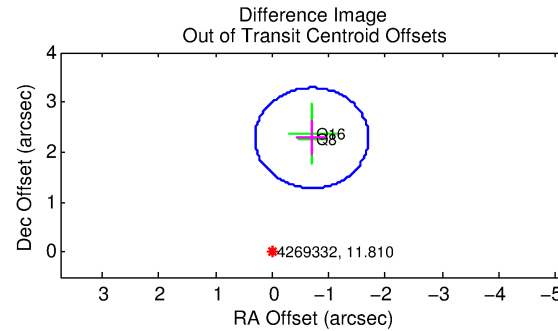
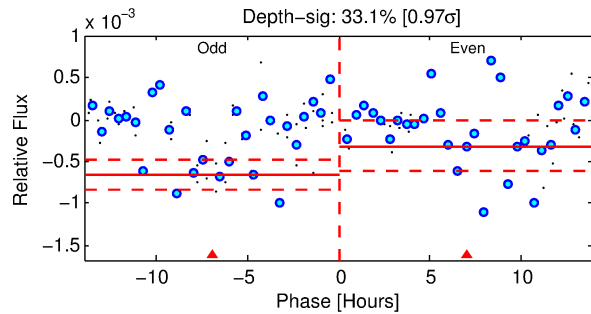
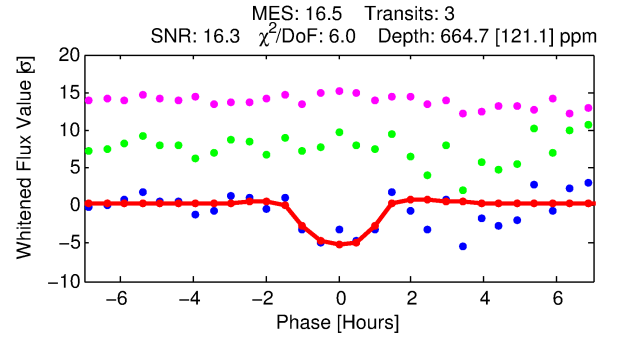
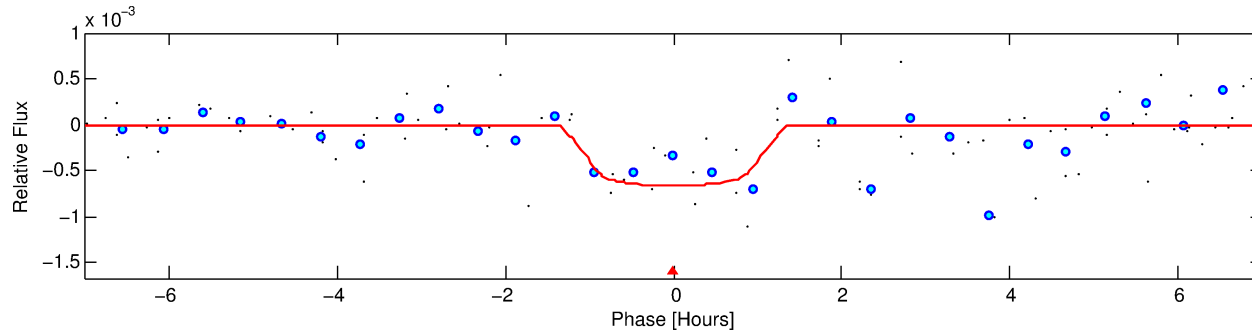
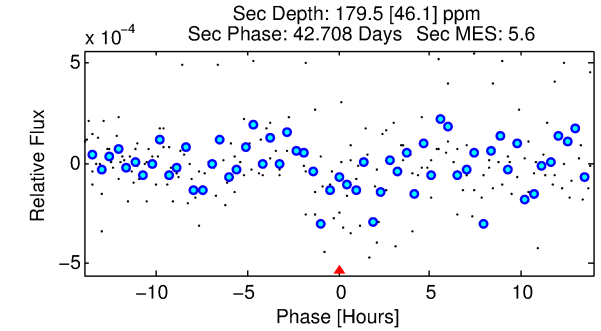
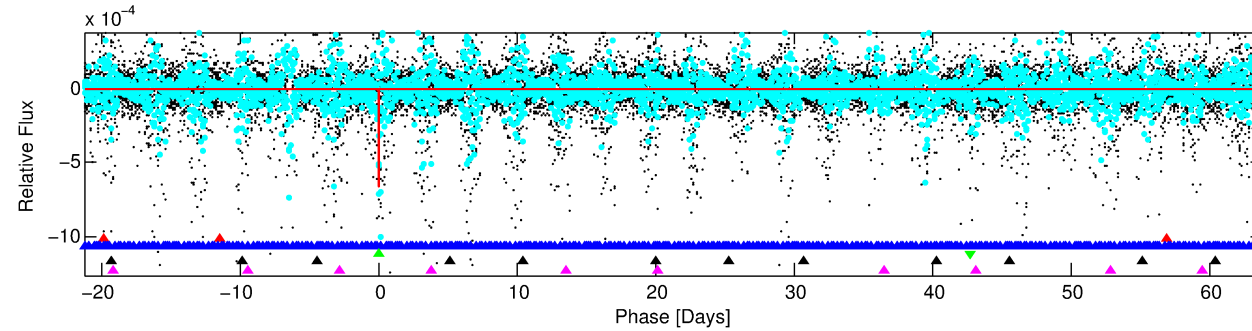
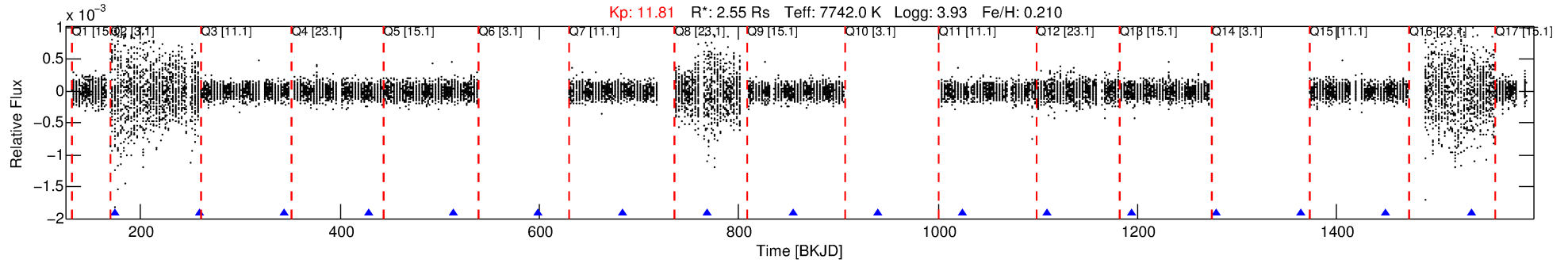
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004269332-03

No Significant Match Found

DV One-Page Summary

KIC: 4269332 Candidate: 3 of 5 Period: 85.043 d



DV Fit Results:

Period = 85.04302 [0.00103] d
Epoch = 173.8219 [0.0084] BKJD
Rp/R* = 0.0255 [0.0465]
a/R* = 201.29 [2222.16]
b = 0.73 [7.18]
Seff = 92.10 [25.48]
Teq = 790 [55] K
Rp = 7.11 [13.04] Re
a = 0.4775 [0.0854] AU
Ag = 445.35 [1632.24] [0.27σ]
Teffp = 5611 [5127] K [0.94σ]

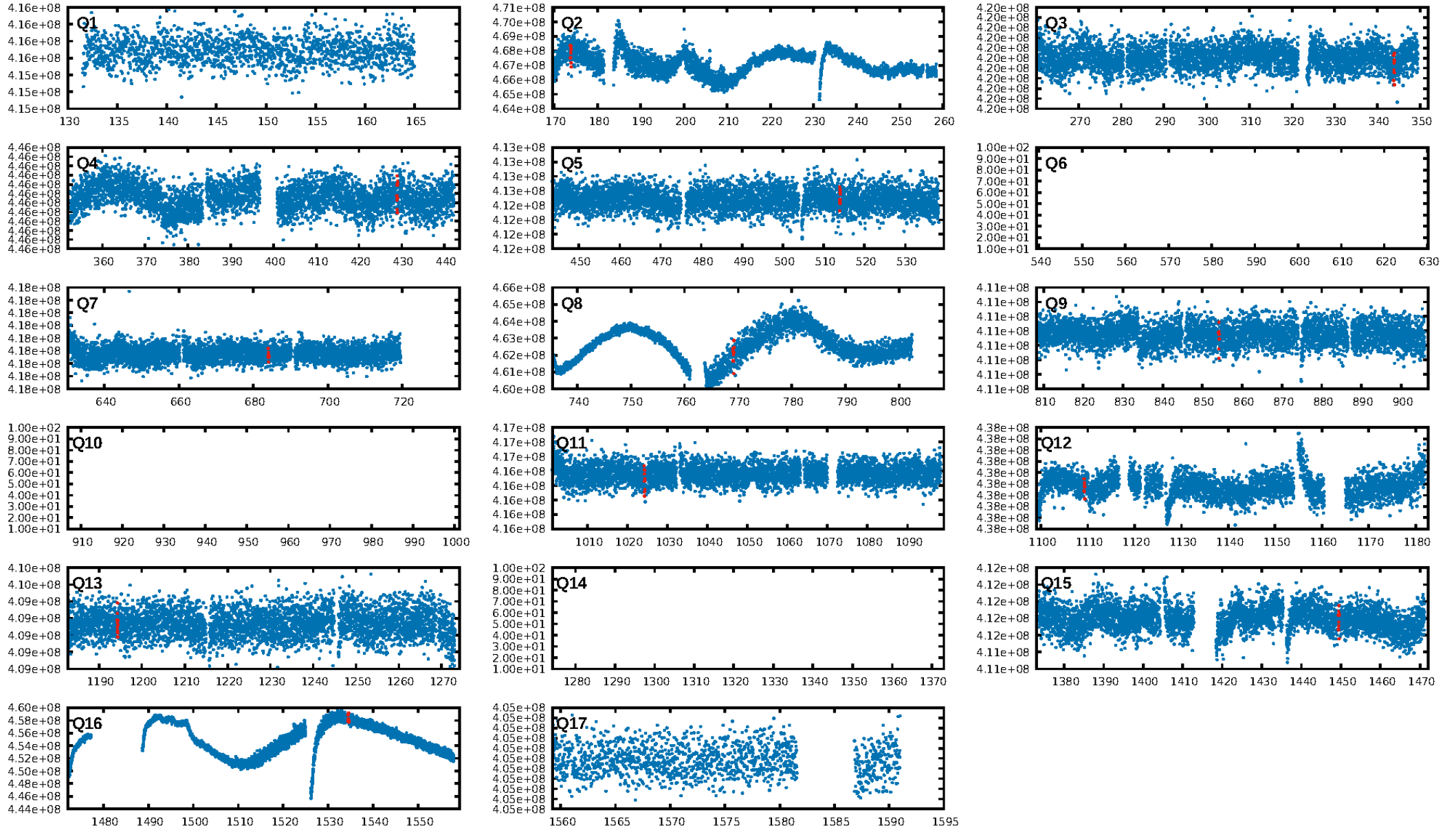
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [117.20σ]
LongPeriod-sig: 100.0% [205.94σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 1.50e-19
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.495
Centroid-sig: 65.7%
Centroid-so: 2.268 arcsec [6.31σ]
OotOffset-rm: 2.388 arcsec [7.12σ]
KicOffset-rm: 4.526 arcsec [14.21σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.58 [7/12]

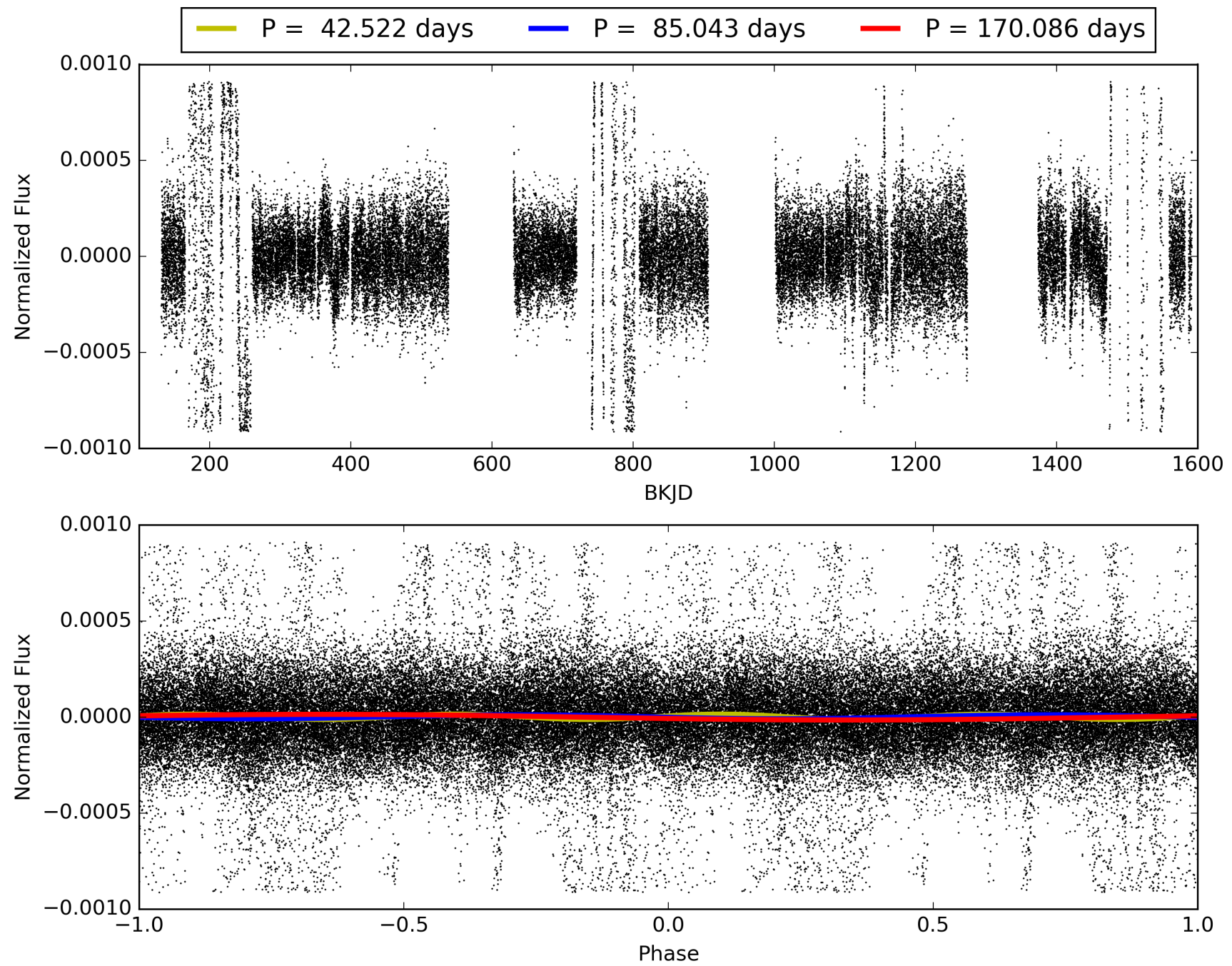
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:10:23 Z

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

TCE 004269332-03, PDC Light Curves

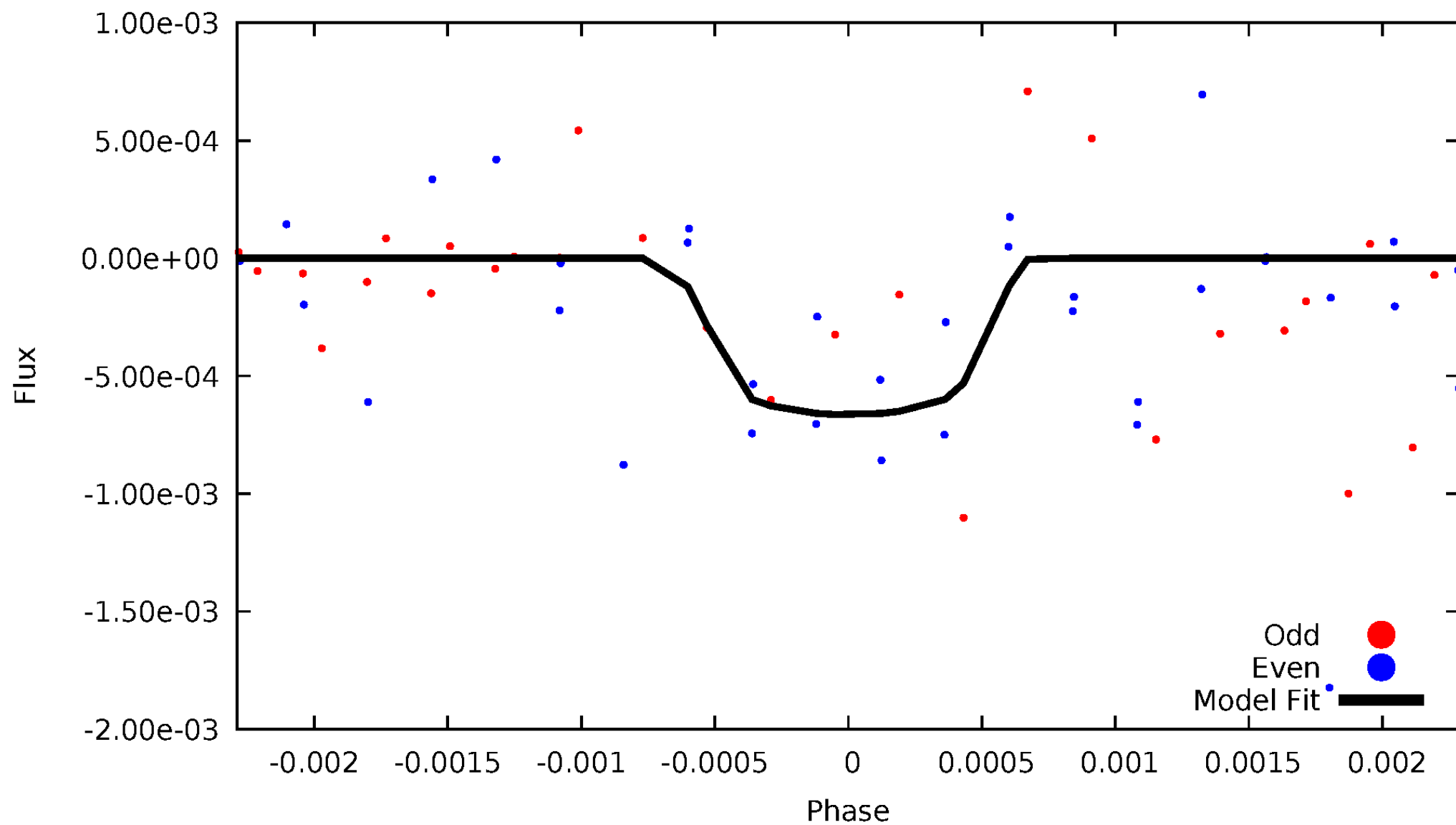


TCE 004269332-03



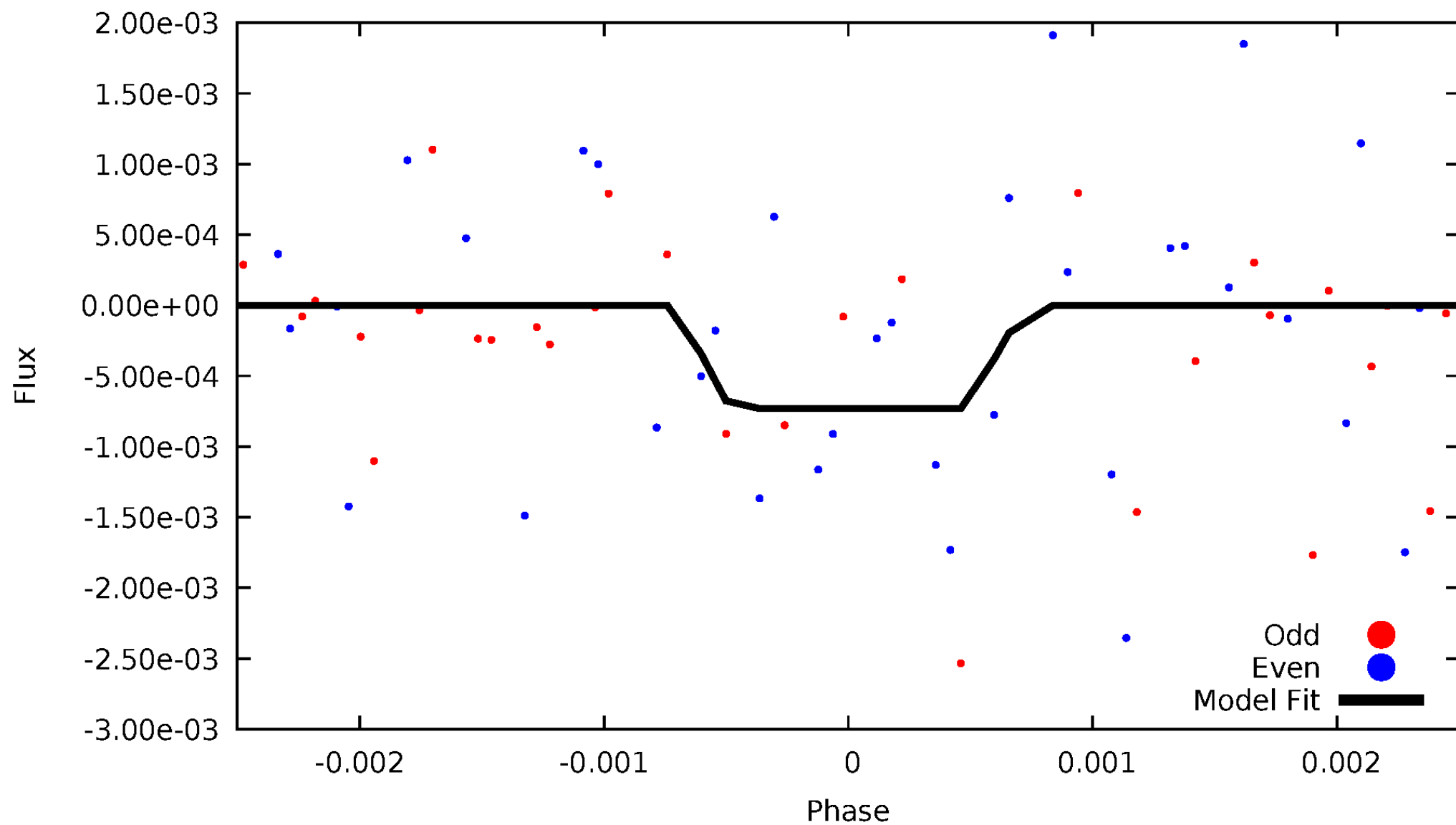
DV Odd/Even

TCE 004269332-03



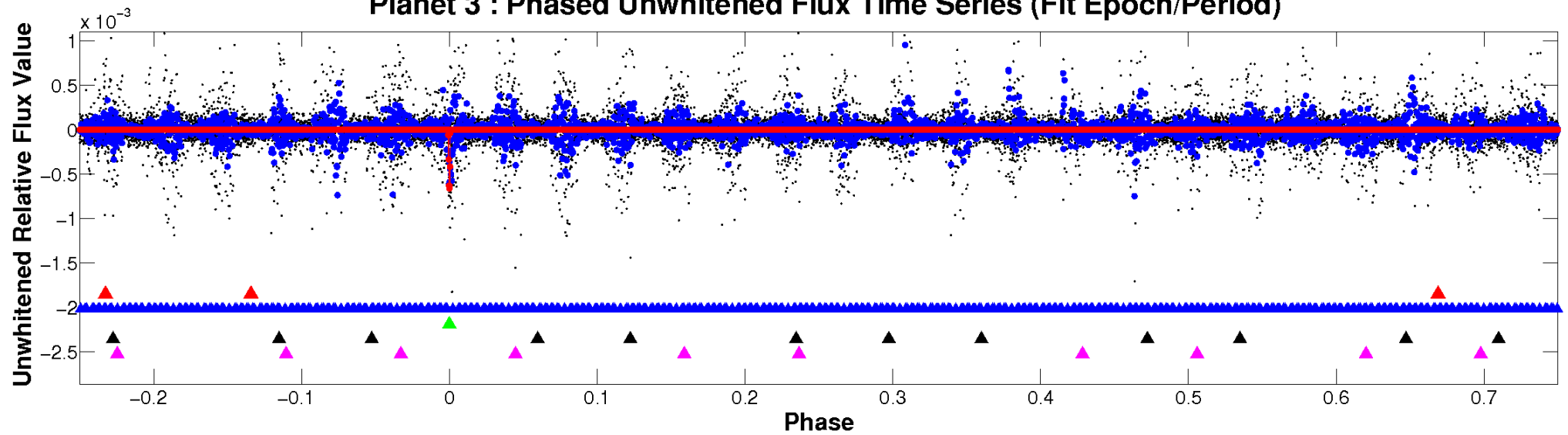
ALT Odd/Even

TCE 004269332-03

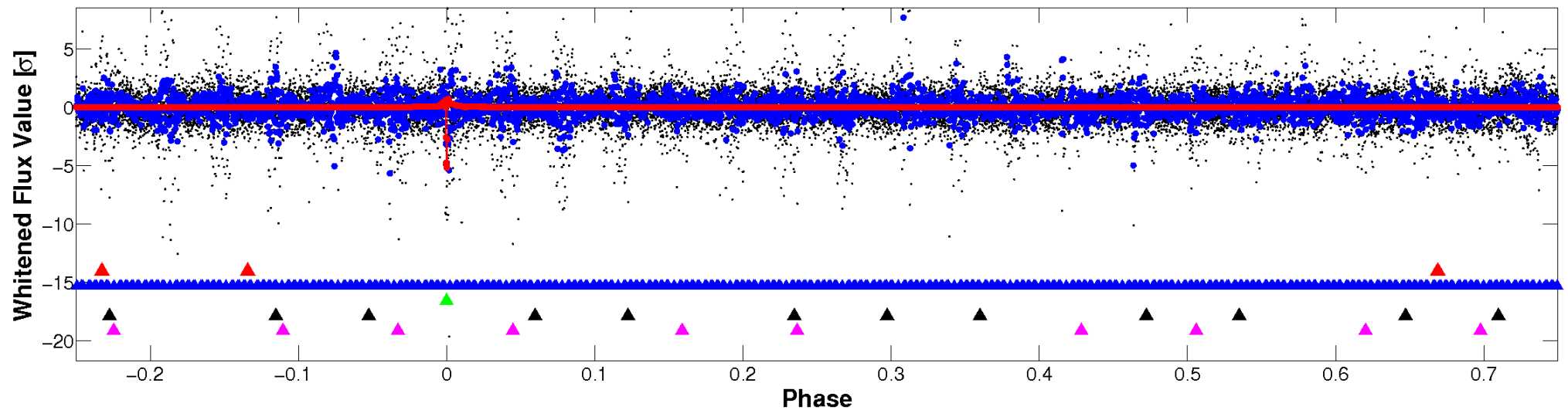


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

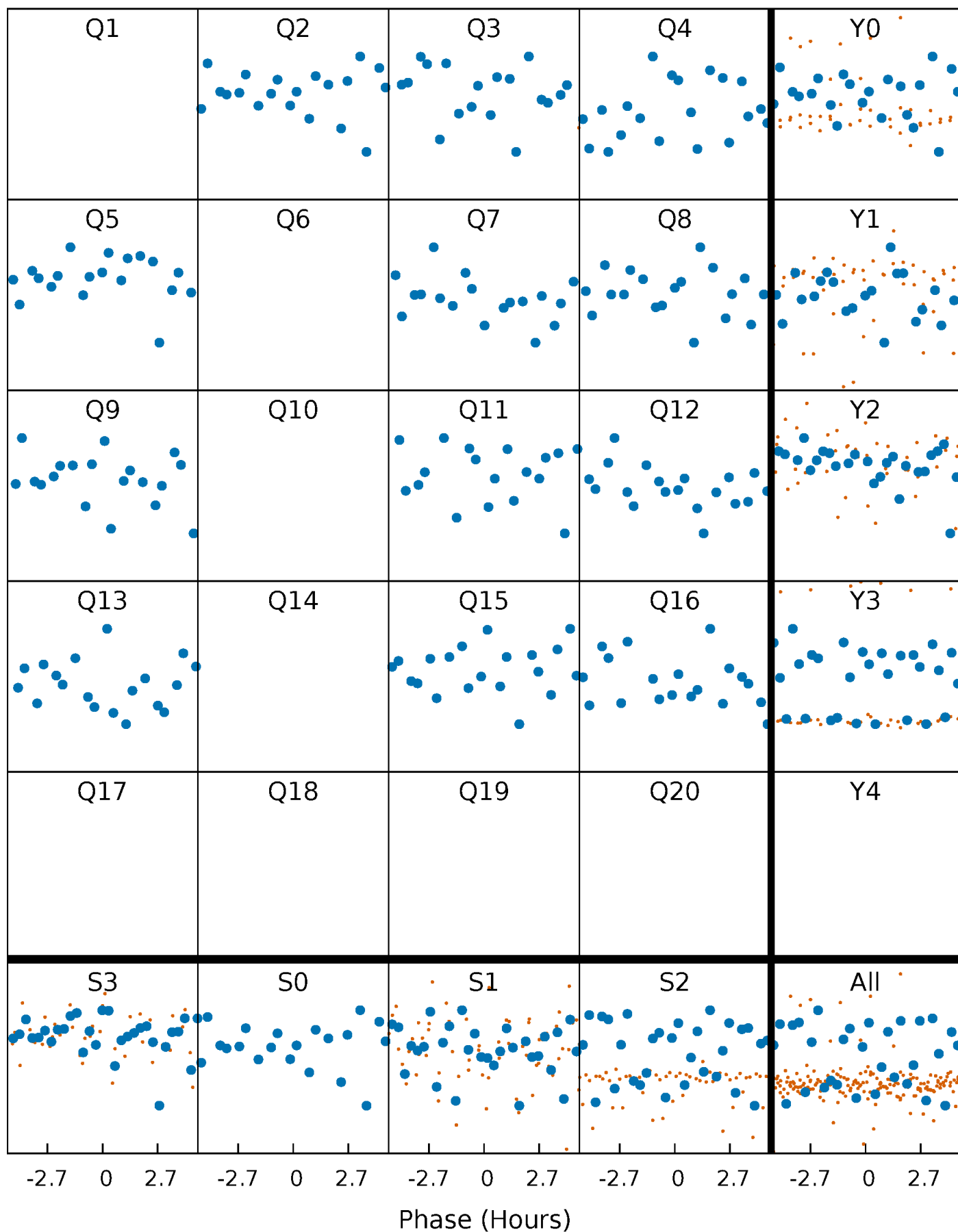


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



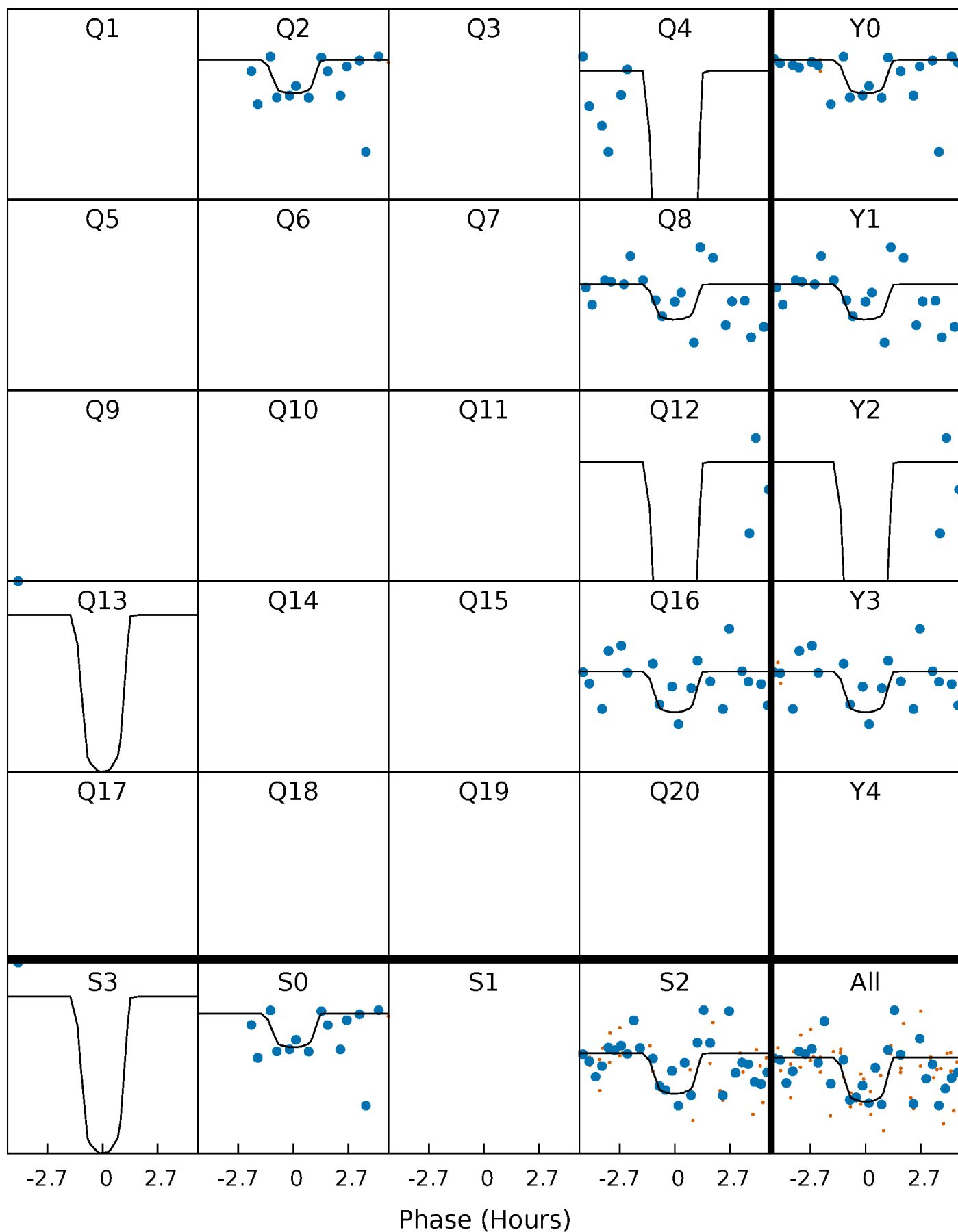
PDC Quarter-Phased Transit Curves

TCE 004269332-03 P= 85.043022 Days $T_0=173.821919$ (BKJD)



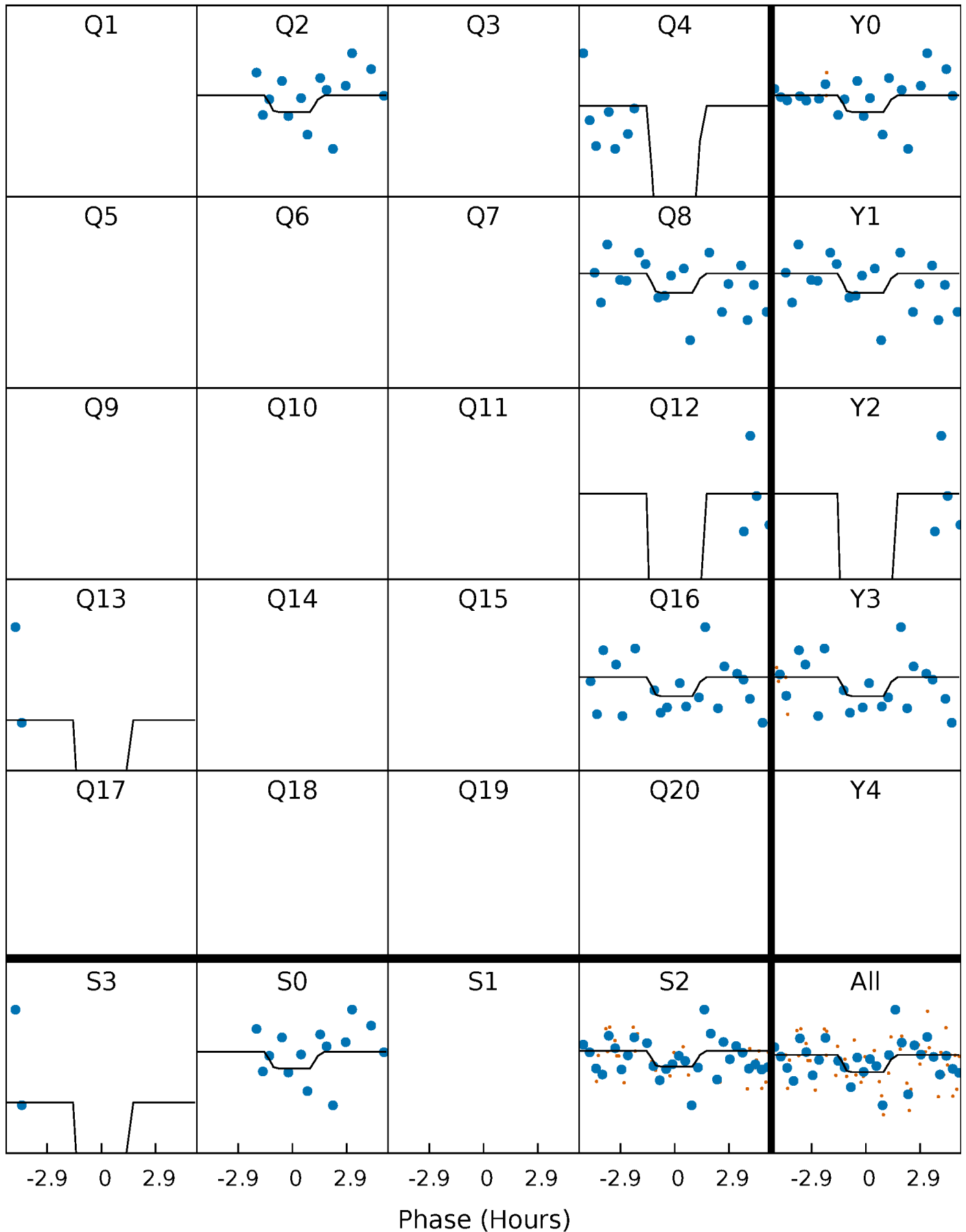
DV Quarter-Phased Transit Curves

TCE 004269332-03 $P = 85.043022$ Days $T_0 = 173.821919$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

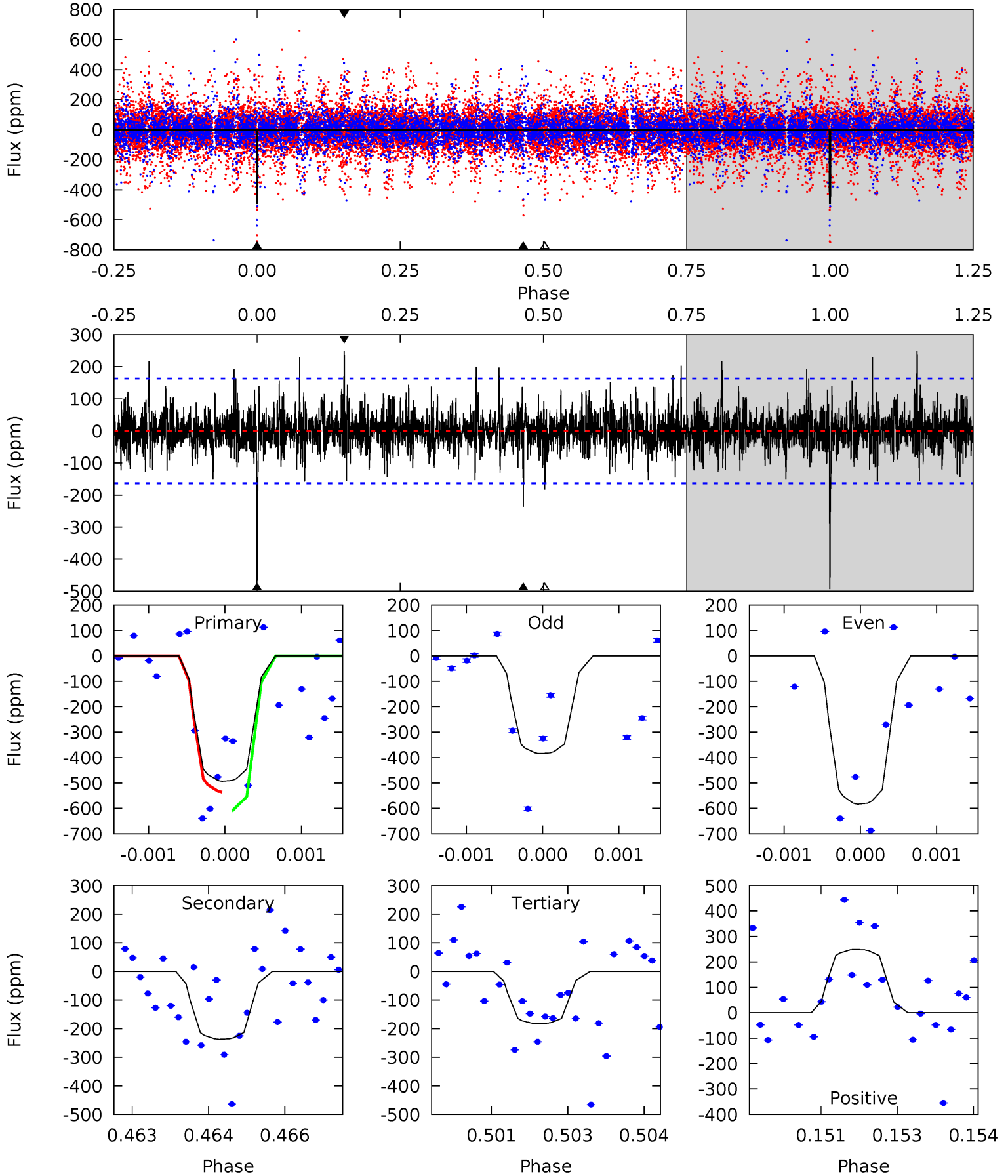
TCE 004269332-03 $P = 85.043365$ Days $T_0 = 173.817035$ (BKJD)



DV Model-Shift Uniqueness Test

004269332-03, P = 85.043022 Days, E = 88.778897 Days

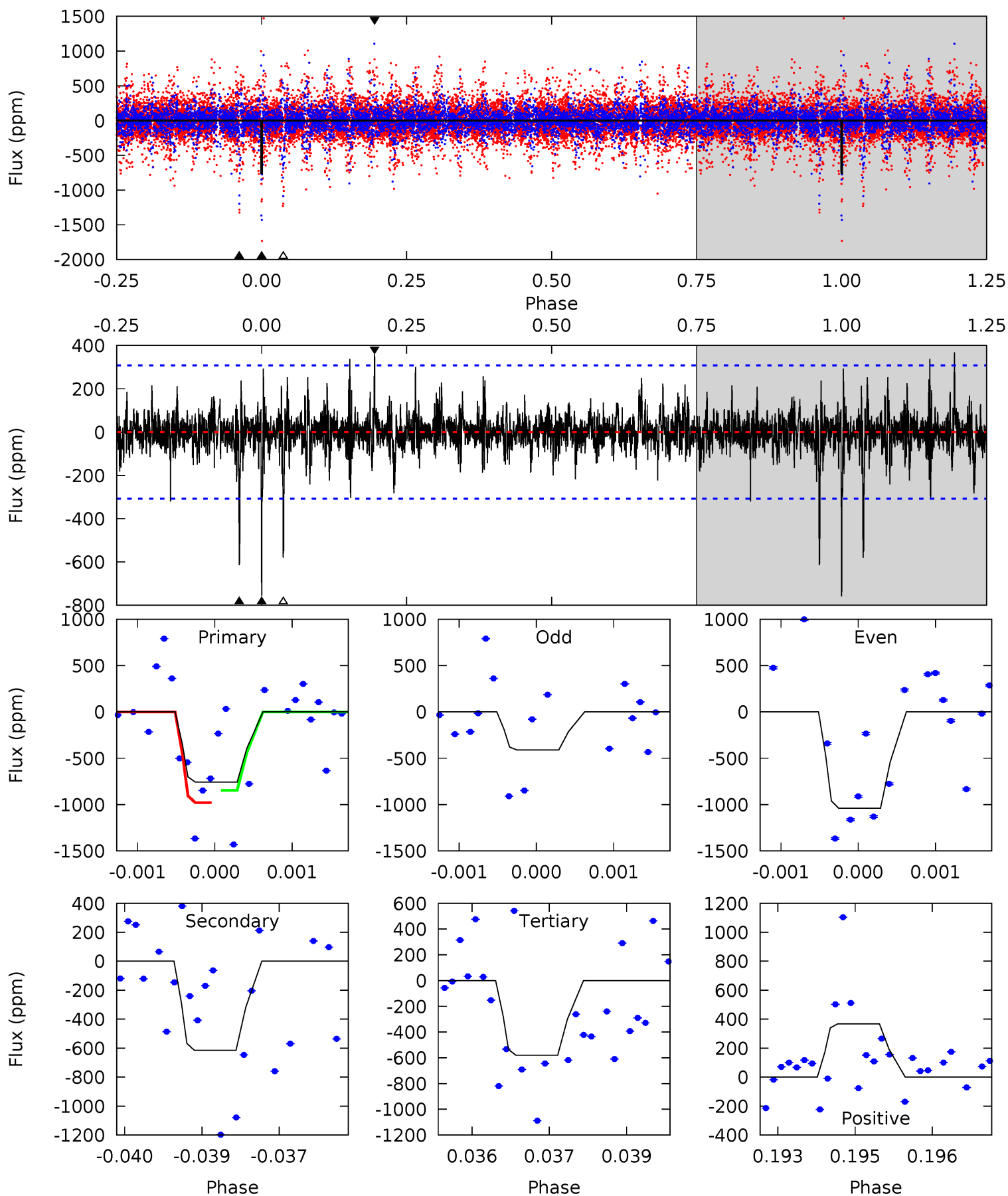
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	7.83	6.03	8.23	5.41	3.22	1.41	10.3	8.06	1.80	-0.40	2.79	1.04	0.34	1.23



Alt Model-Shift Uniqueness Test

004269332-03, P = 85.043365 Days, E = 88.773670 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	10.7	10.1	6.43	5.39	3.19	1.09	3.12	6.84	0.60	4.31	4.86	0.91	0.33	0



Stellar Parameters For KIC 004269332

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7742^{+69}_{-100}	$3.926^{+0.154}_{-0.077}$	$0.210^{+0.150}_{-0.200}$	$2.554^{+0.277}_{-0.514}$	$2.007^{+0.149}_{-0.223}$	$0.170^{+0.128}_{-0.045}$
	+1%/-1%	+4%/-2%	+71%/-95%	+11%/-20%	+7%/-11%	+75%/-26%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004269332-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-237 ± 30	$11.97^{+10.82}_{-8.29}$	1096^{+36}_{-57}	4594^{+3899}_{-901}	204^{+1858}_{-146}
Alt.	-614 ± 57	$11.54^{+11.58}_{-7.43}$	1098^{+40}_{-62}	5770^{+5026}_{-1442}	560^{+3983}_{-420}

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 $A_{obs} \gg 1.0$

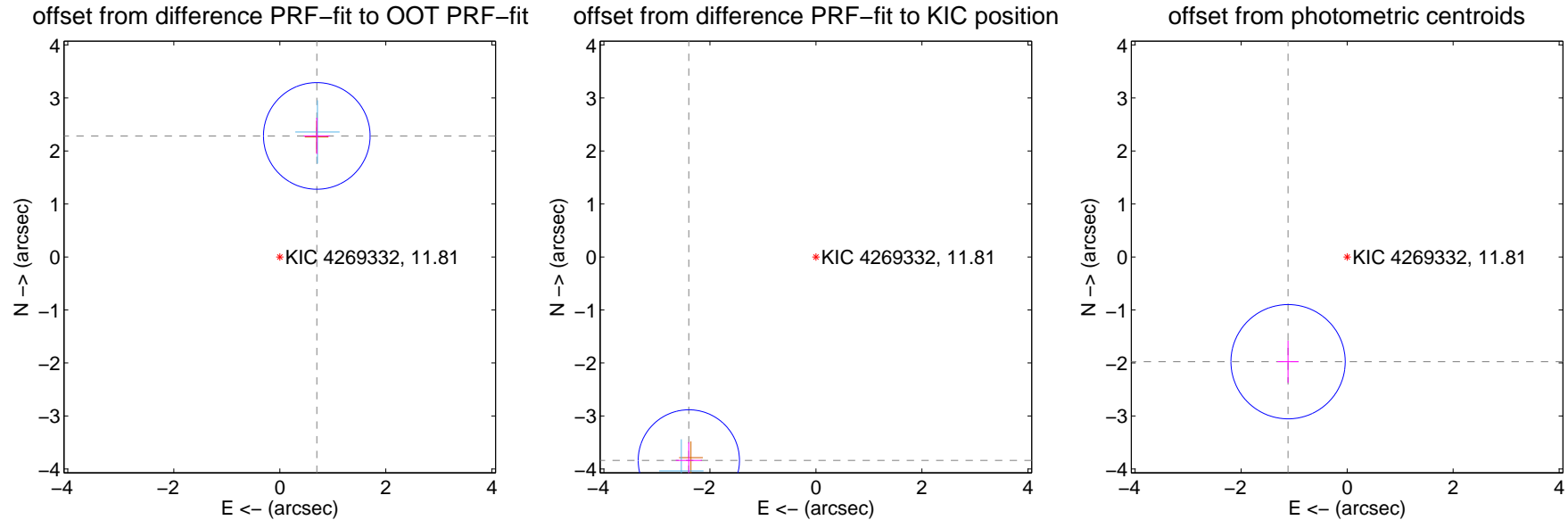
DV Centroid Data

Supplemental centroid analysis for 004269332-03. **Kepler magnitude: 11.81.** Transit SNR 16.27

There are 1 quarters with good PRF difference image offsets

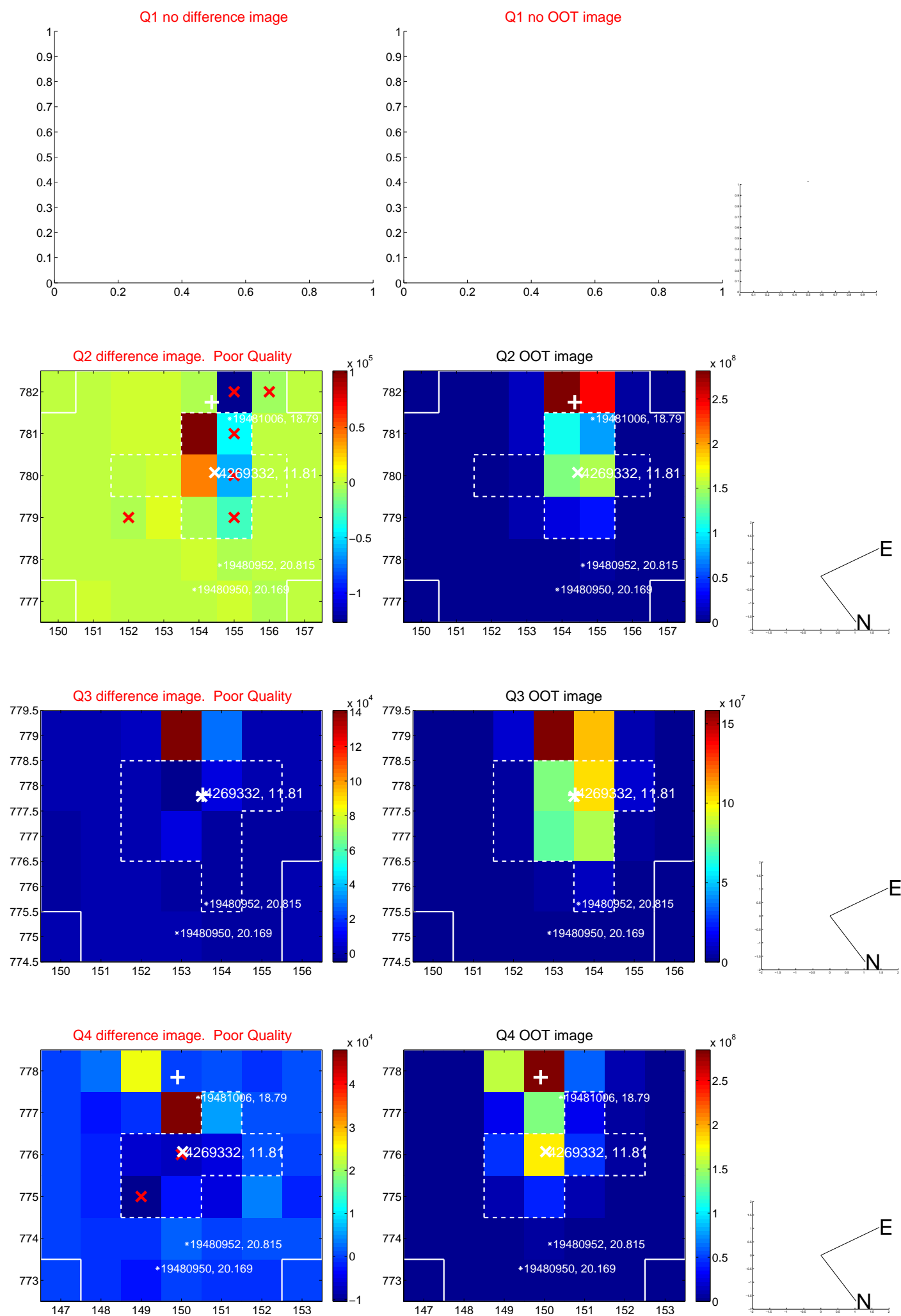
The OOT PRF centroid is offset from the target star catalog position by about 7.17 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.388 ± 0.335	7.12	-0.698 ± 0.247	2.284 ± 0.342
PRF-fit source offset from KIC position	4.526 ± 0.318	14.21	2.398 ± 0.247	-3.838 ± 0.342
photometric centroid source offset	2.27 ± 0.36	6.31	1.11 ± 0.20	-1.98 ± 0.40

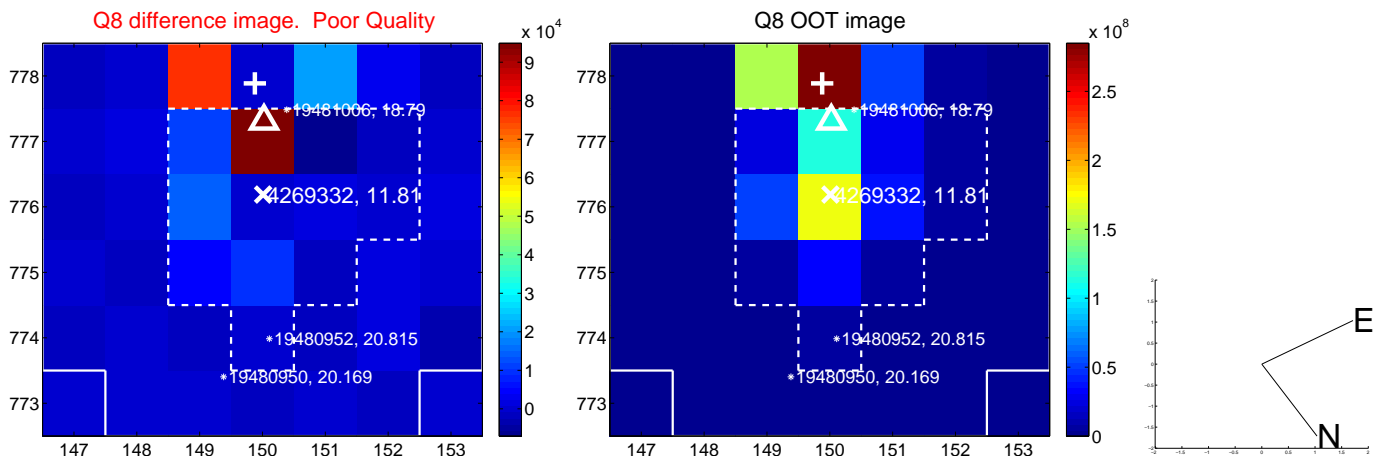
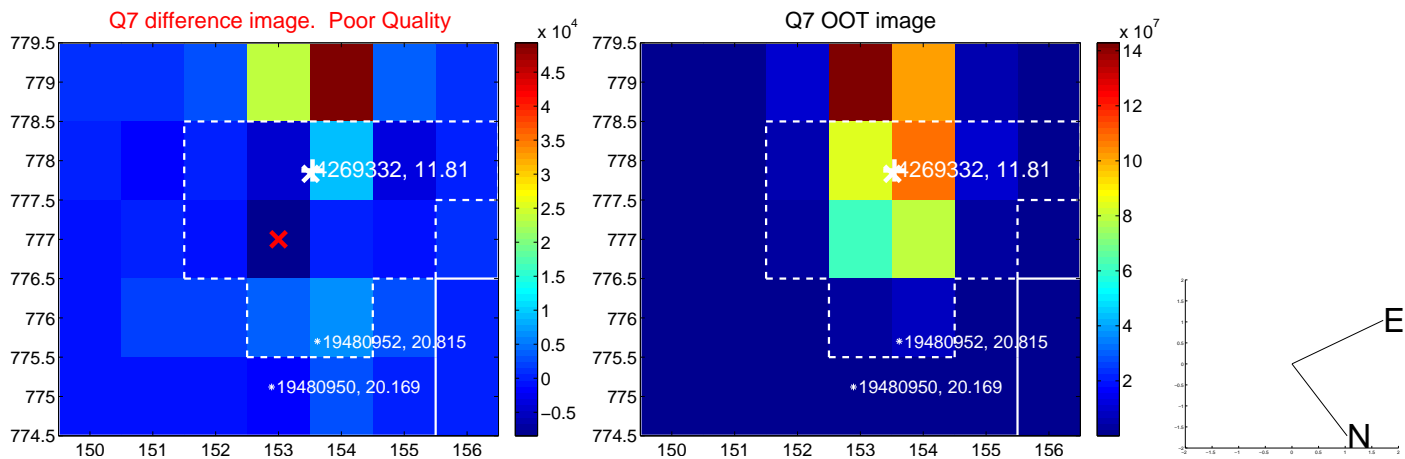
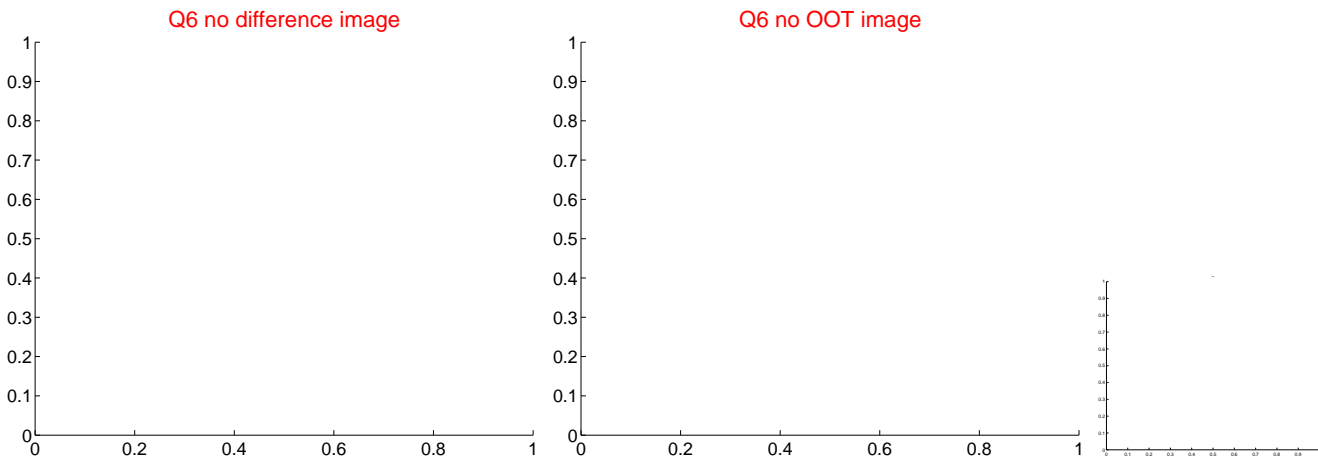
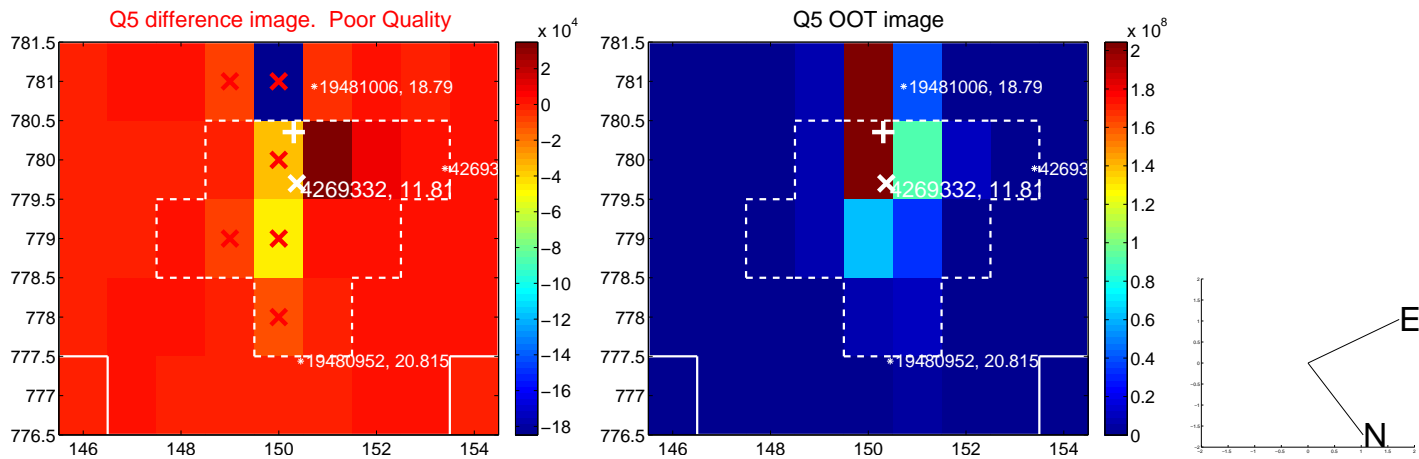


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

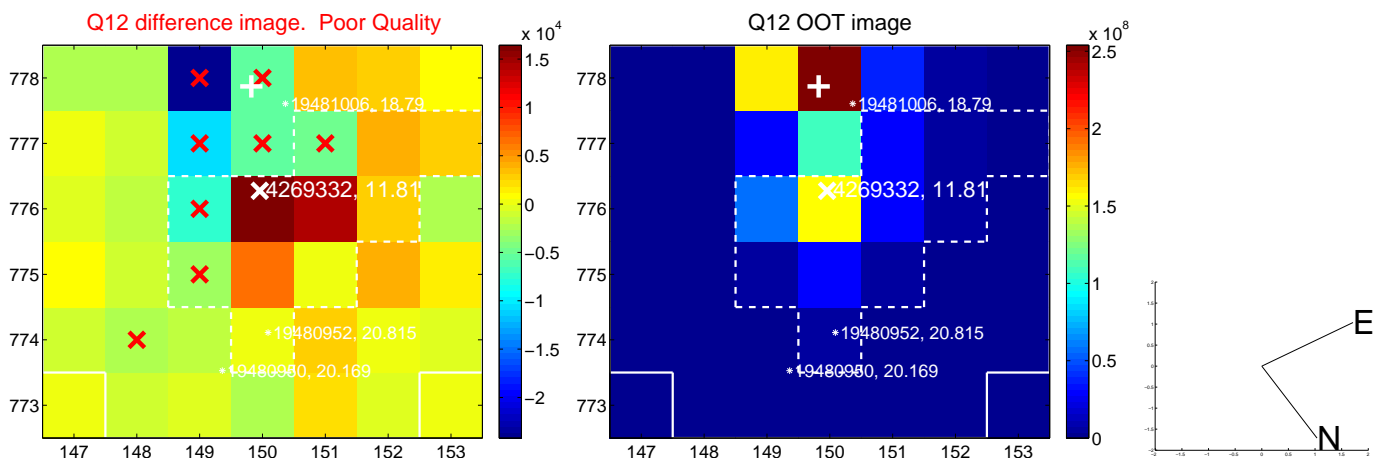
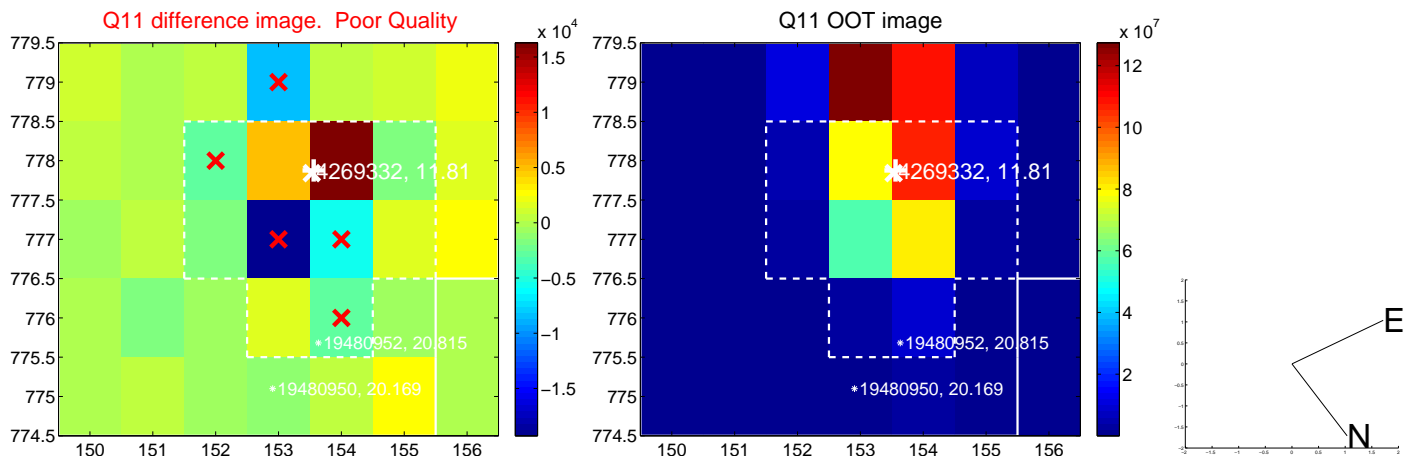
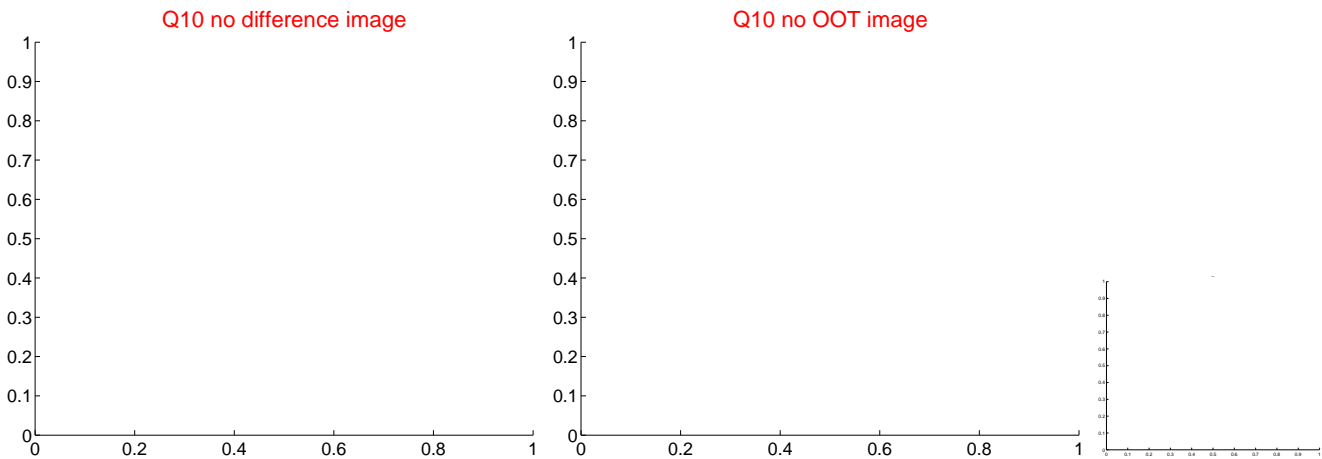
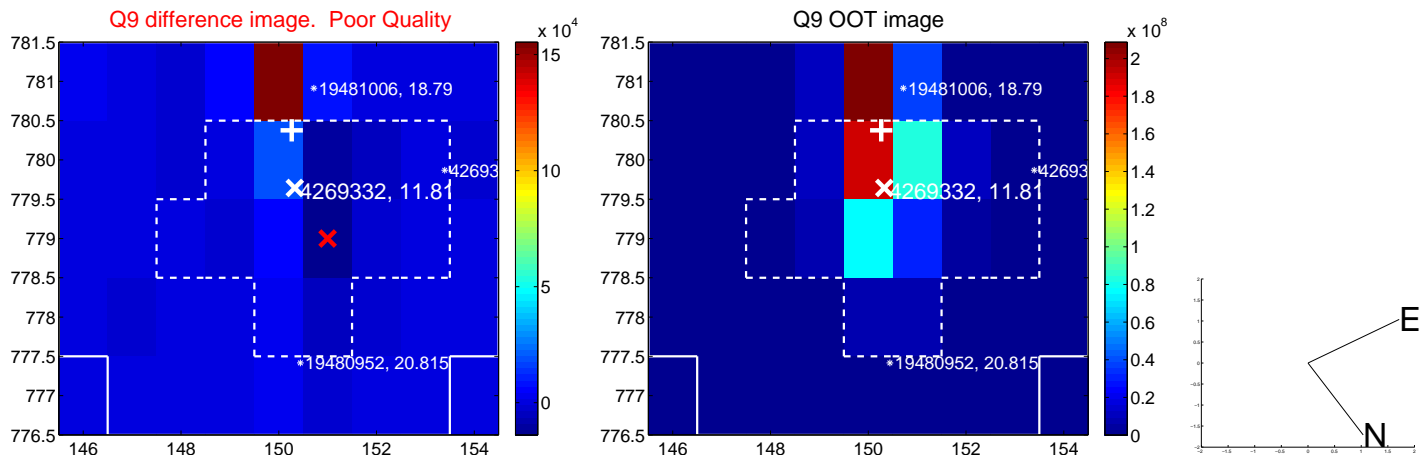
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



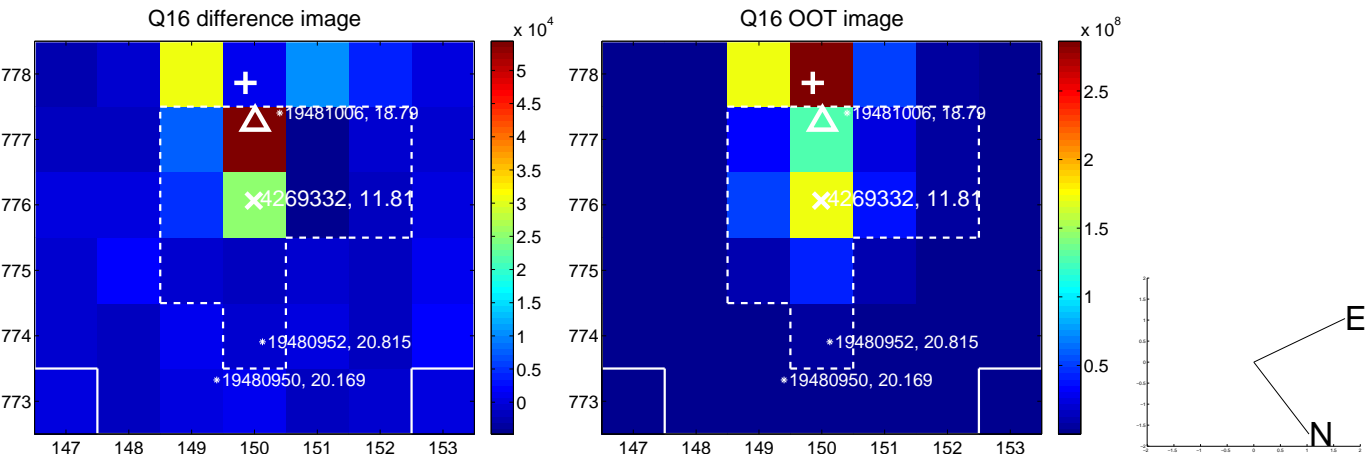
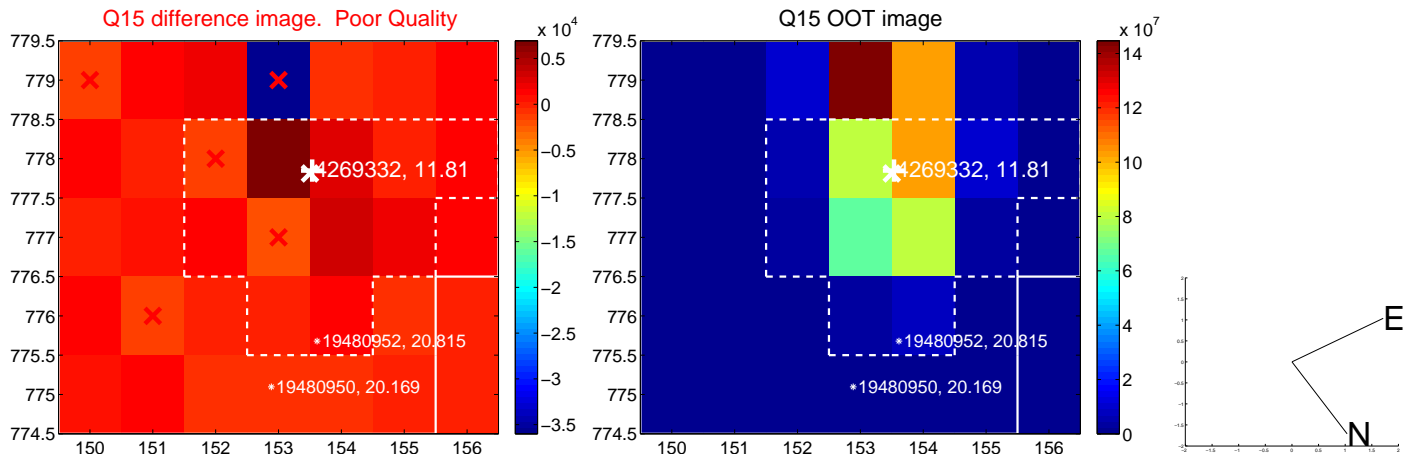
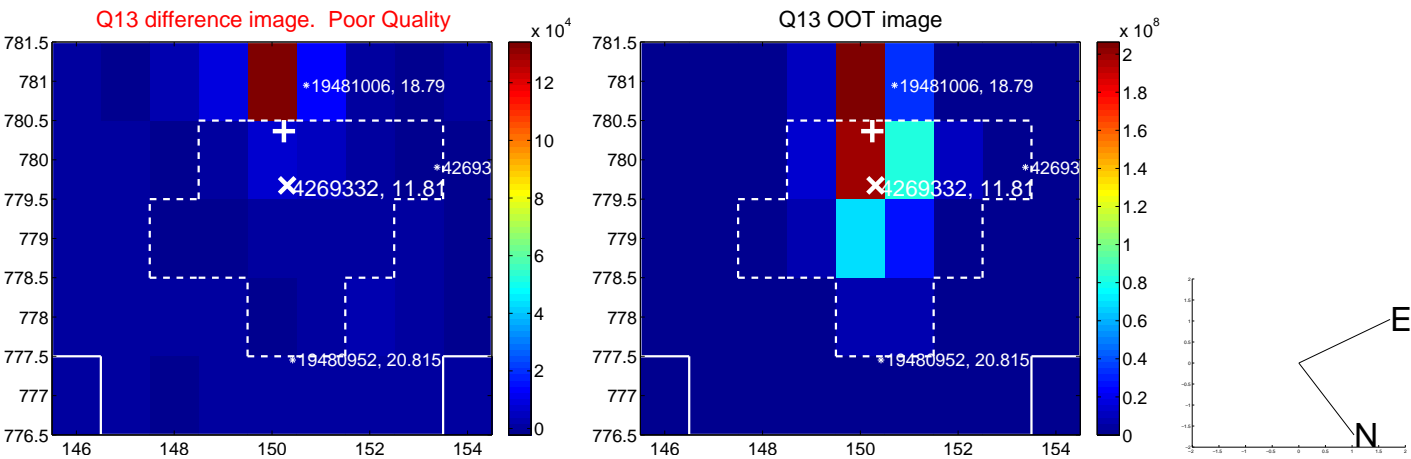
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



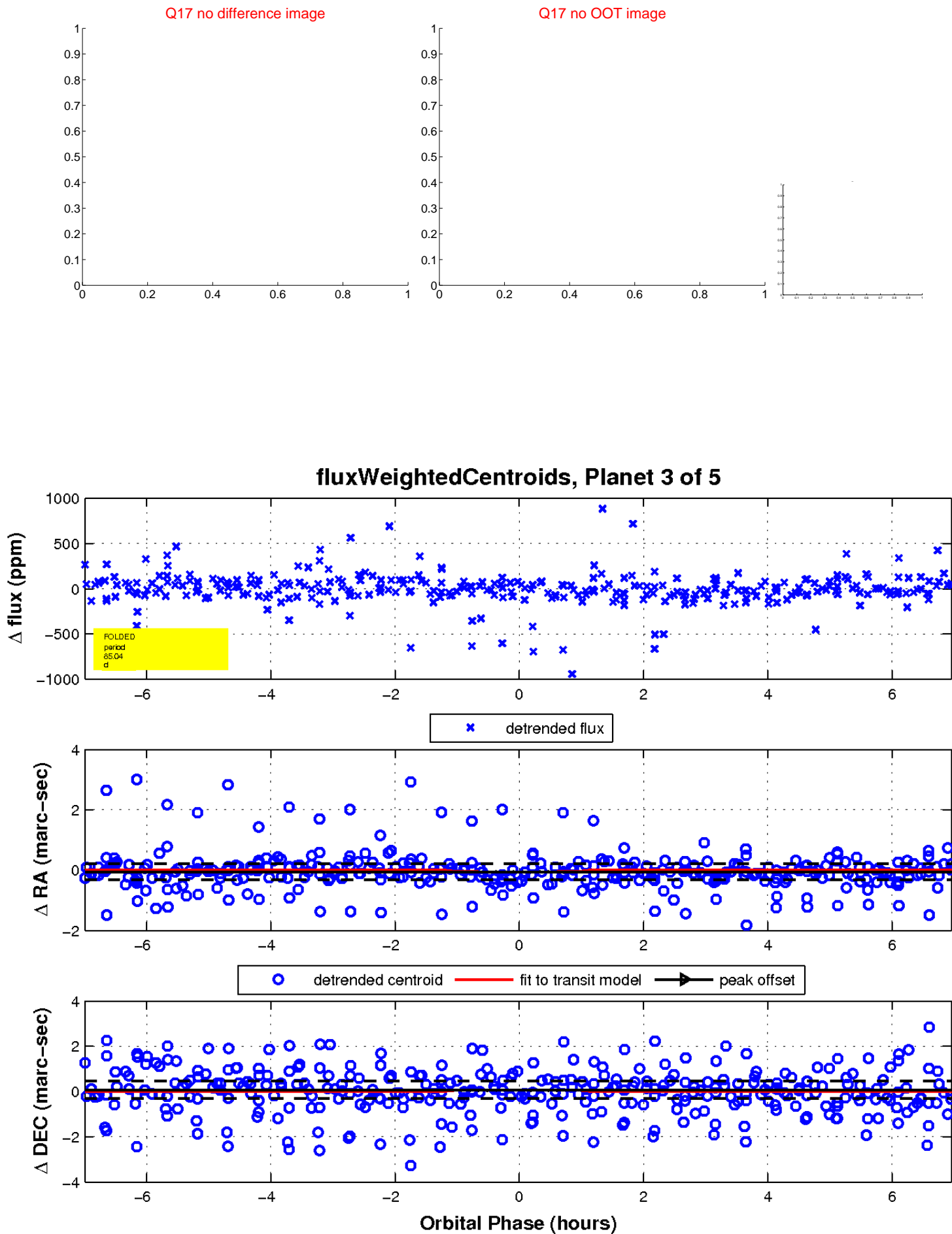
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



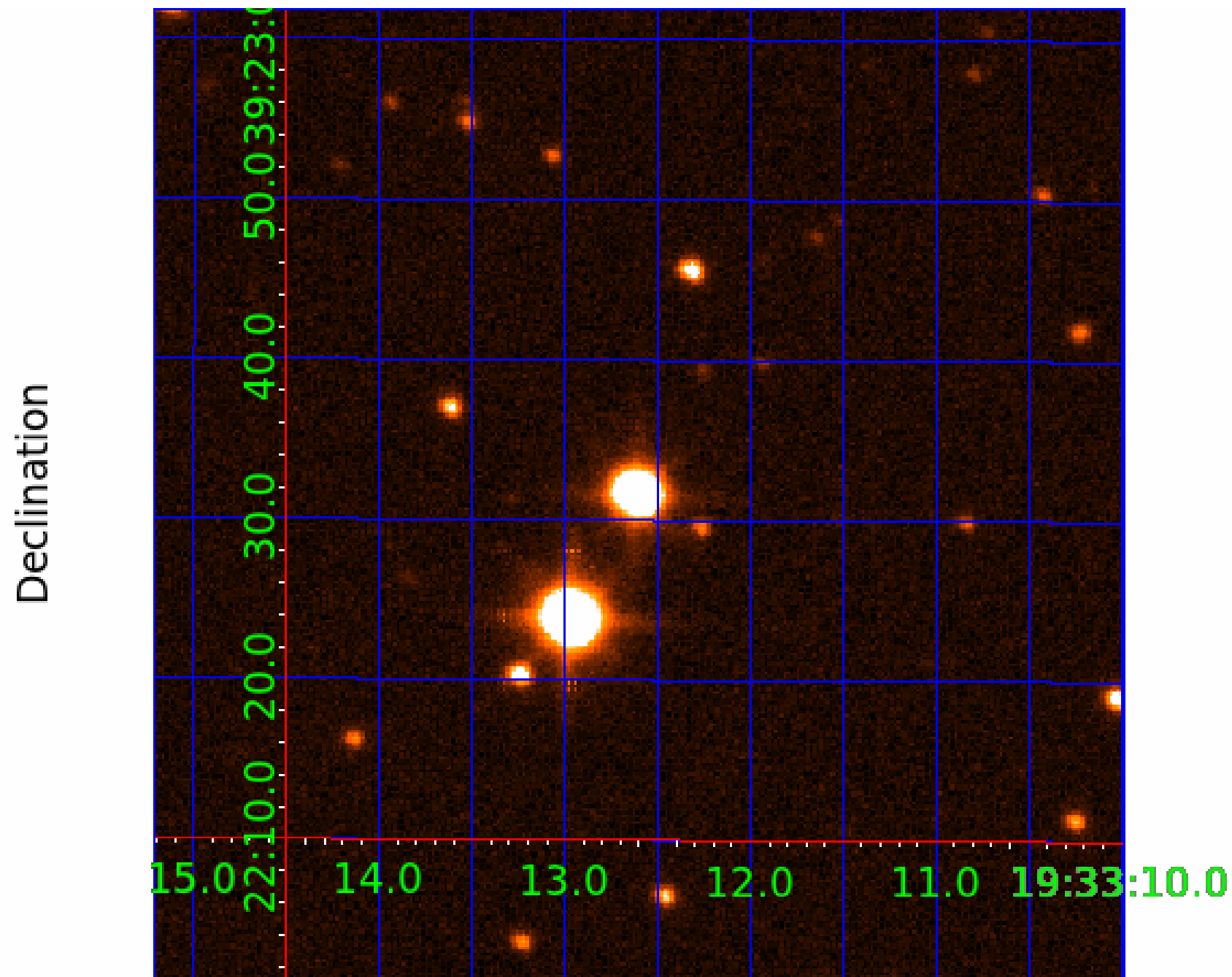
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004269332

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})
004269332-01	OBS	No	586.930748	247.452017	157.6	25.028	7.7	8.2	2.55	7742	3.53	7.01
004269332-02	OBS	No	3.215553	134.080408	11.8	16.592	8.2	7.0	2.55	7742	0.92	7257.39
004269332-03	OBS	No	85.043022	173.821919	664.7	2.335	16.5	16.3	2.55	7742	7.11	92.10
004269332-04	OBS	No	120.125907	193.779760	545.9	3.356	15.0	14.4	2.55	7742	6.68	58.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004269332-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004269332-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
004269332-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
004269332-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

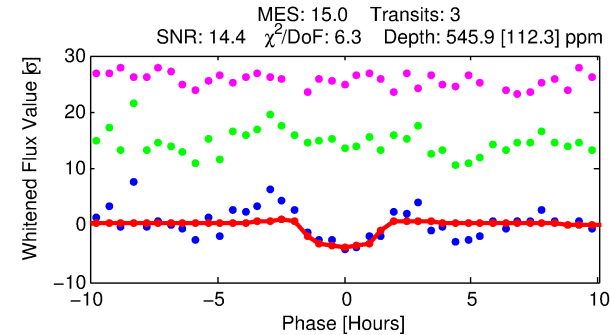
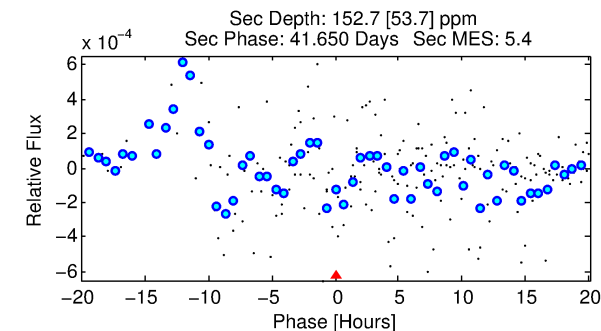
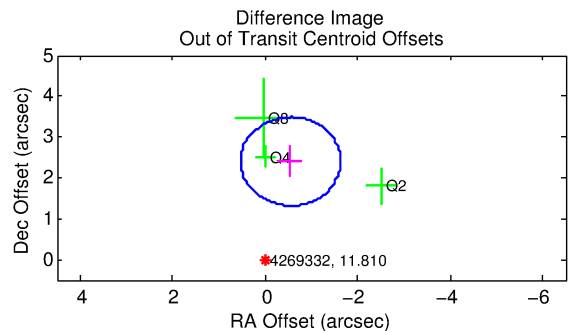
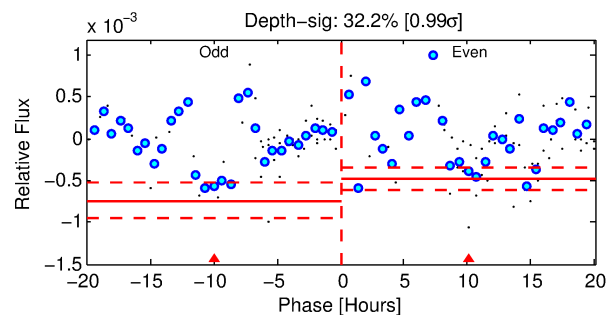
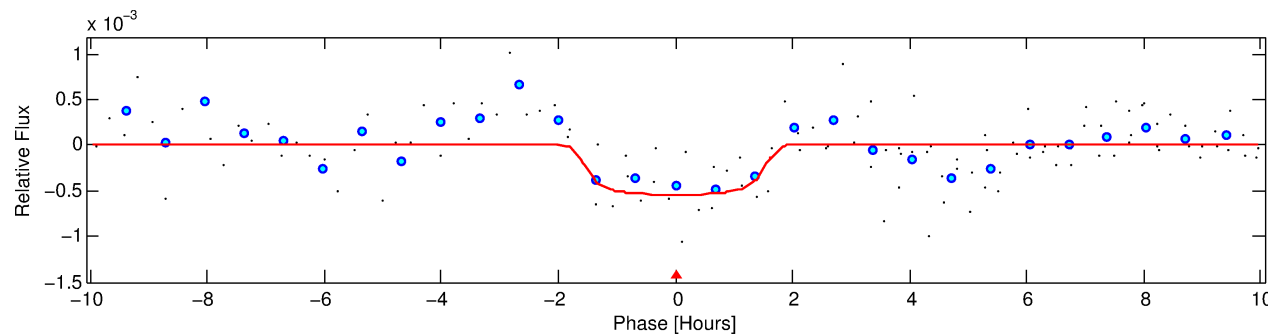
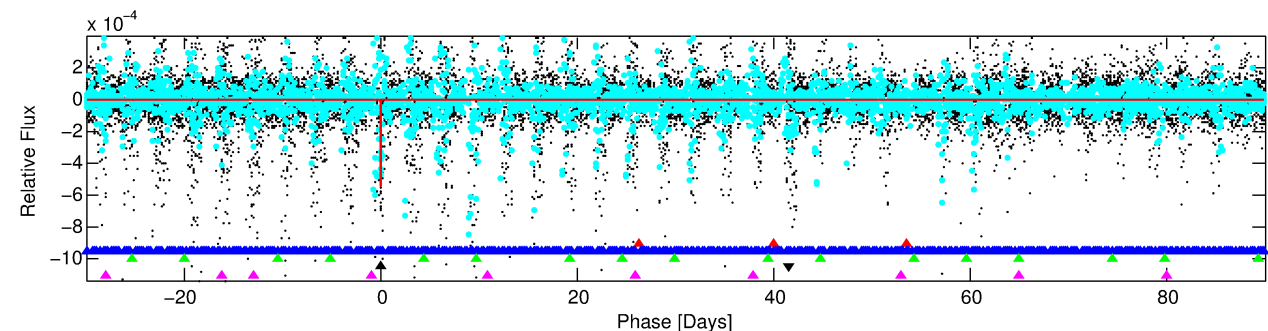
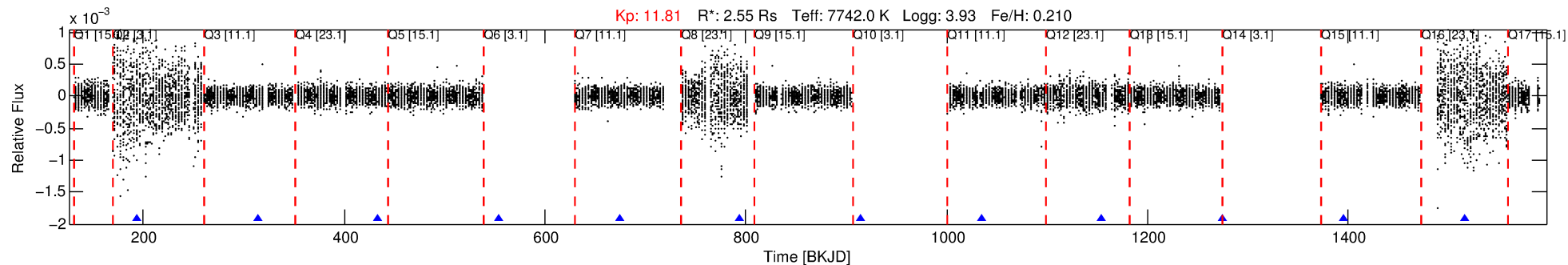
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004269332-04

No Significant Match Found

DV One-Page Summary

KIC: 4269332 Candidate: 4 of 5 Period: 120.126 d



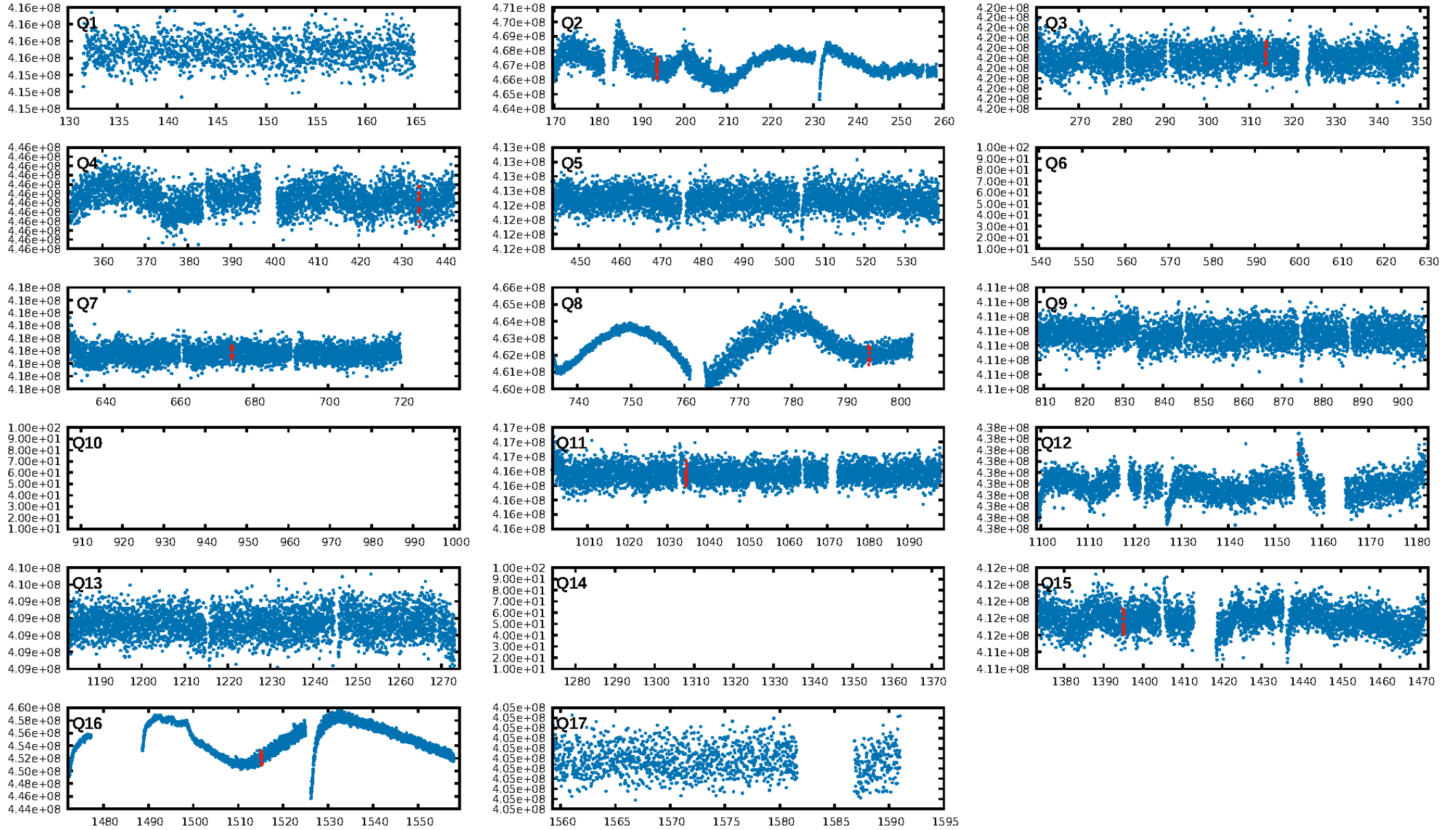
DV Fit Results:

Period = 120.12591 [0.00159] d
Epoch = 193.7798 [0.0116] BKJD
 $R_p/R^* = 0.0240$ [0.0193]
 $a/R^* = 161.28$ [783.03]
 $b = 0.84$ [1.74]
 $S_{\text{eff}} = 58.11$ [16.08]
 $T_{\text{eq}} = 704$ [49] K
 $R_p = 6.68$ [5.55] R_e
 $a = 0.6011$ [0.1075] AU
 $A_g = 679.52$ [1135.80] [0.60 σ]
 $T_{\text{eff}} = 5558$ [2293] K [2.12 σ]

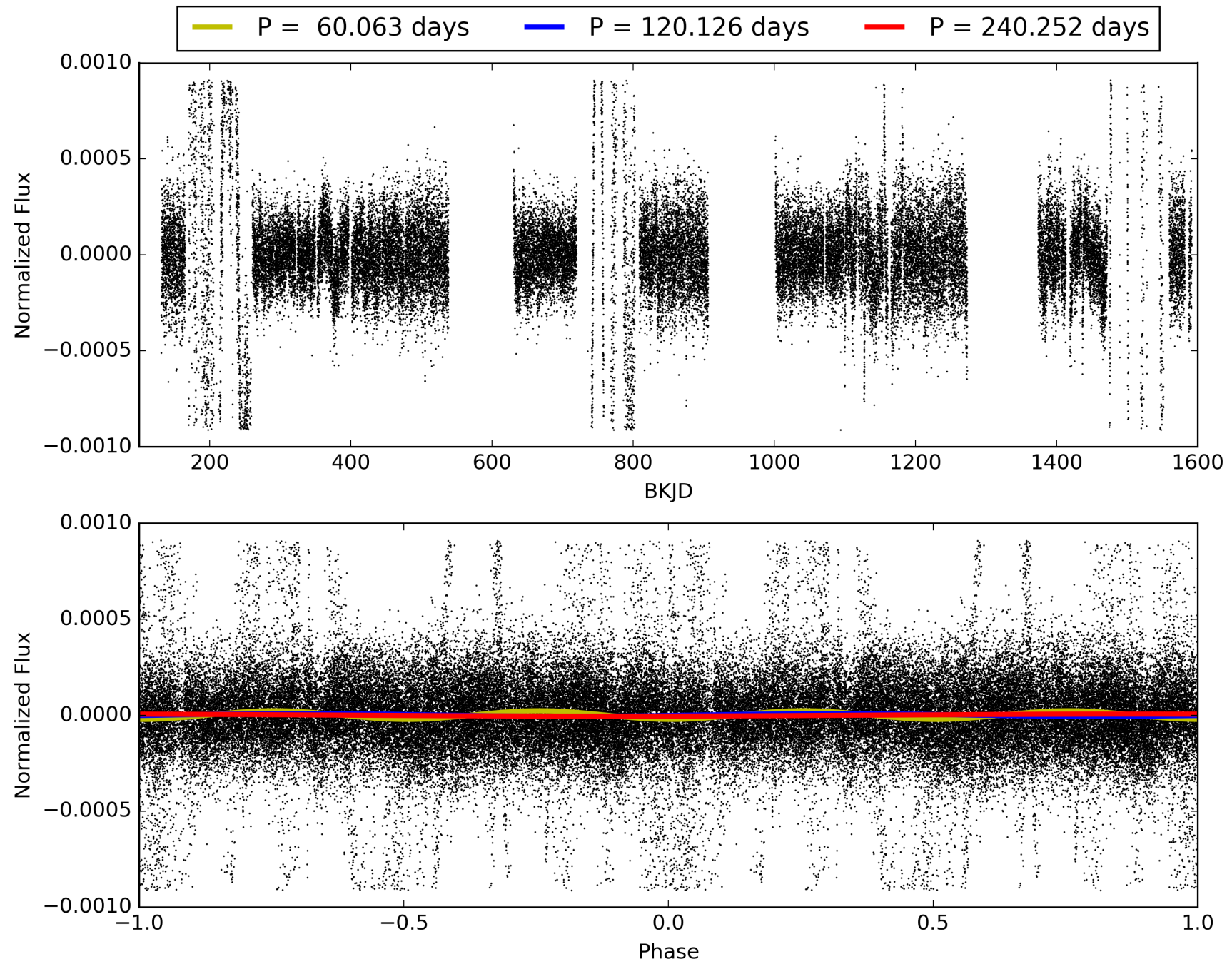
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [205.94 σ]
LongPeriod-sig: 100.0% [173.58 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 3.77e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.143
Centroid-sig: 53.2%
Centroid-so: 2.078 arcsec [4.45 σ]
OotOffset-rm: 2.466 arcsec [6.83 σ]
KicOffset-rm: 4.591 arcsec [8.72 σ]
OotOffset-st: 1/0/2/0 [3]
KicOffset-st: 1/0/2/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.50 [4/8]

TCE 004269332-04, PDC Light Curves

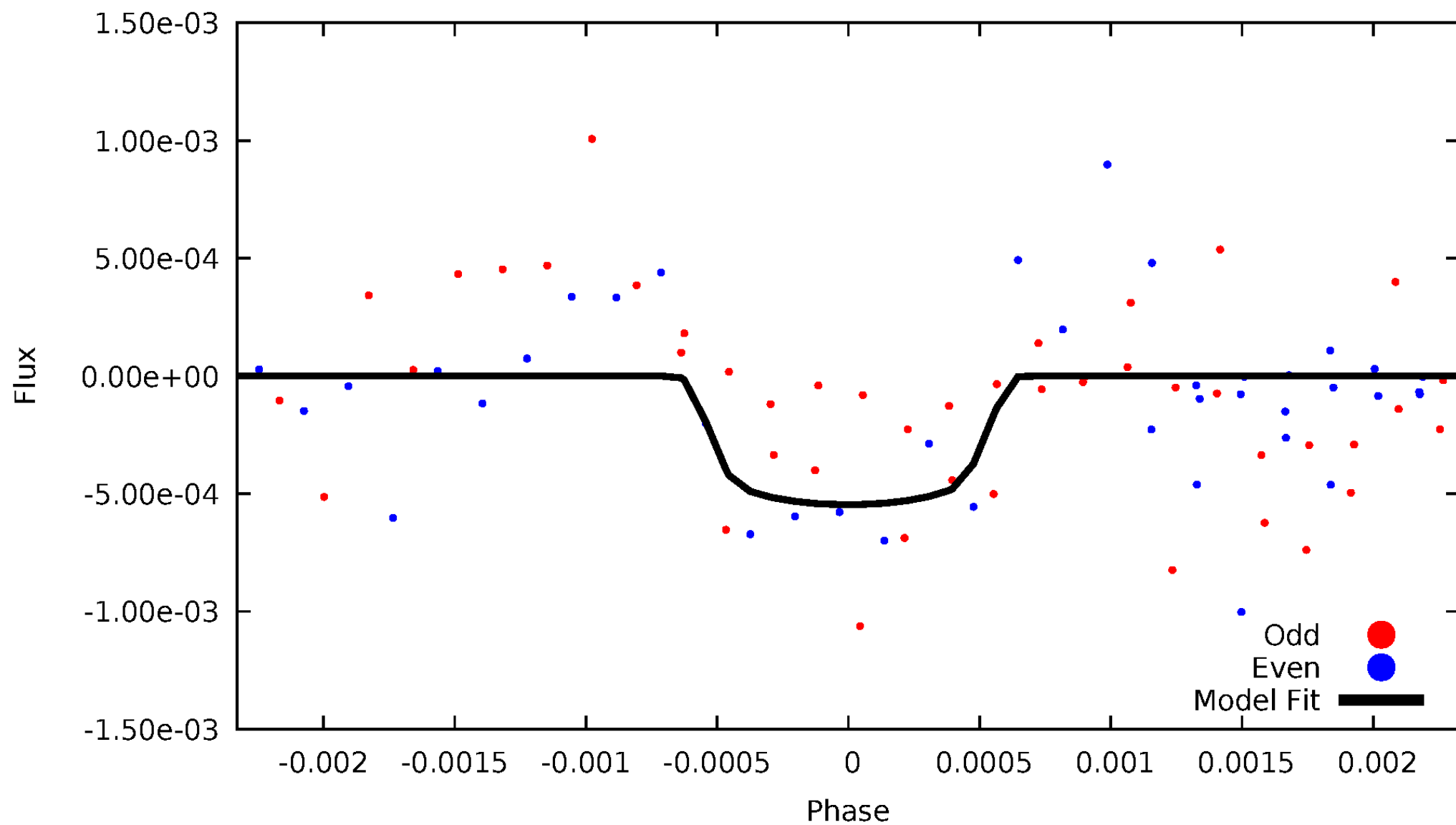


TCE 004269332-04



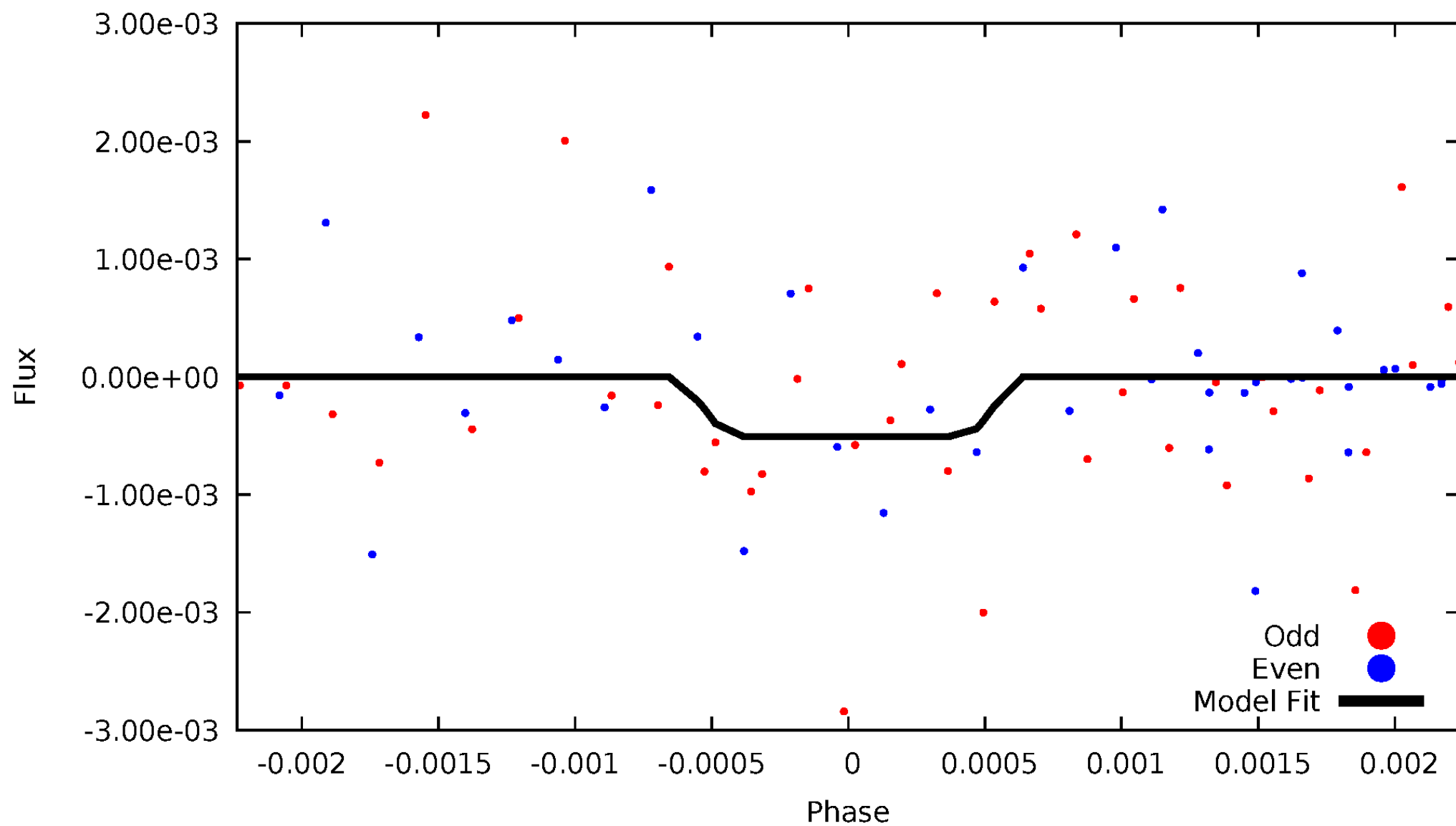
DV Odd/Even

TCE 004269332-04



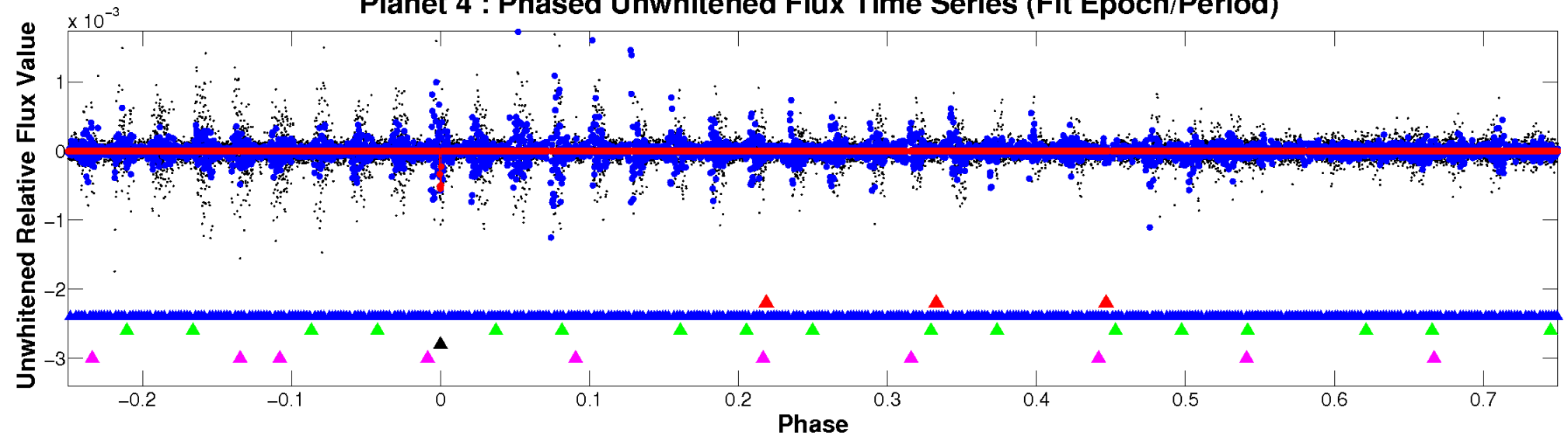
ALT Odd/Even

TCE 004269332-04

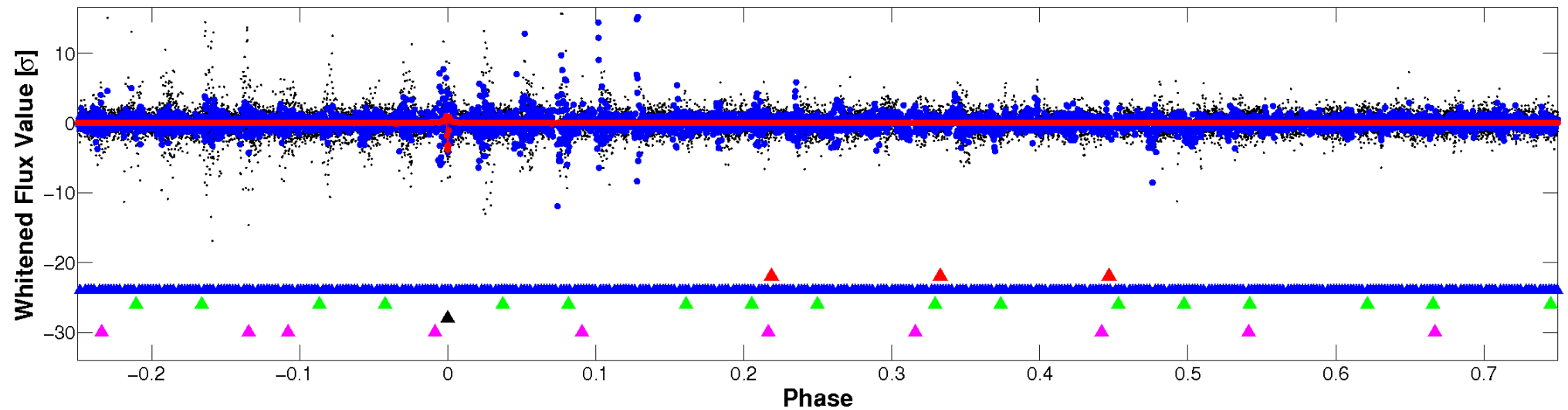


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

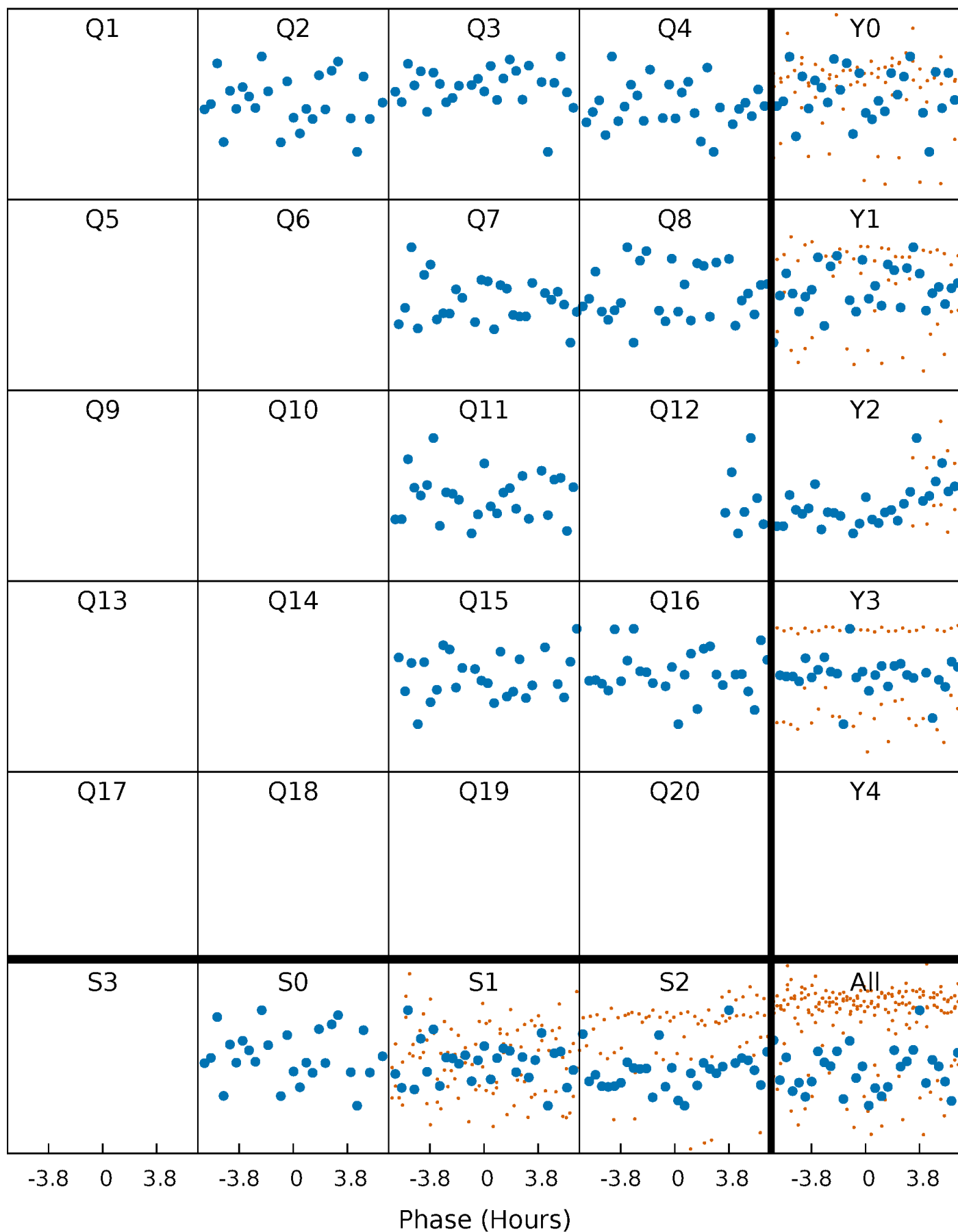


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



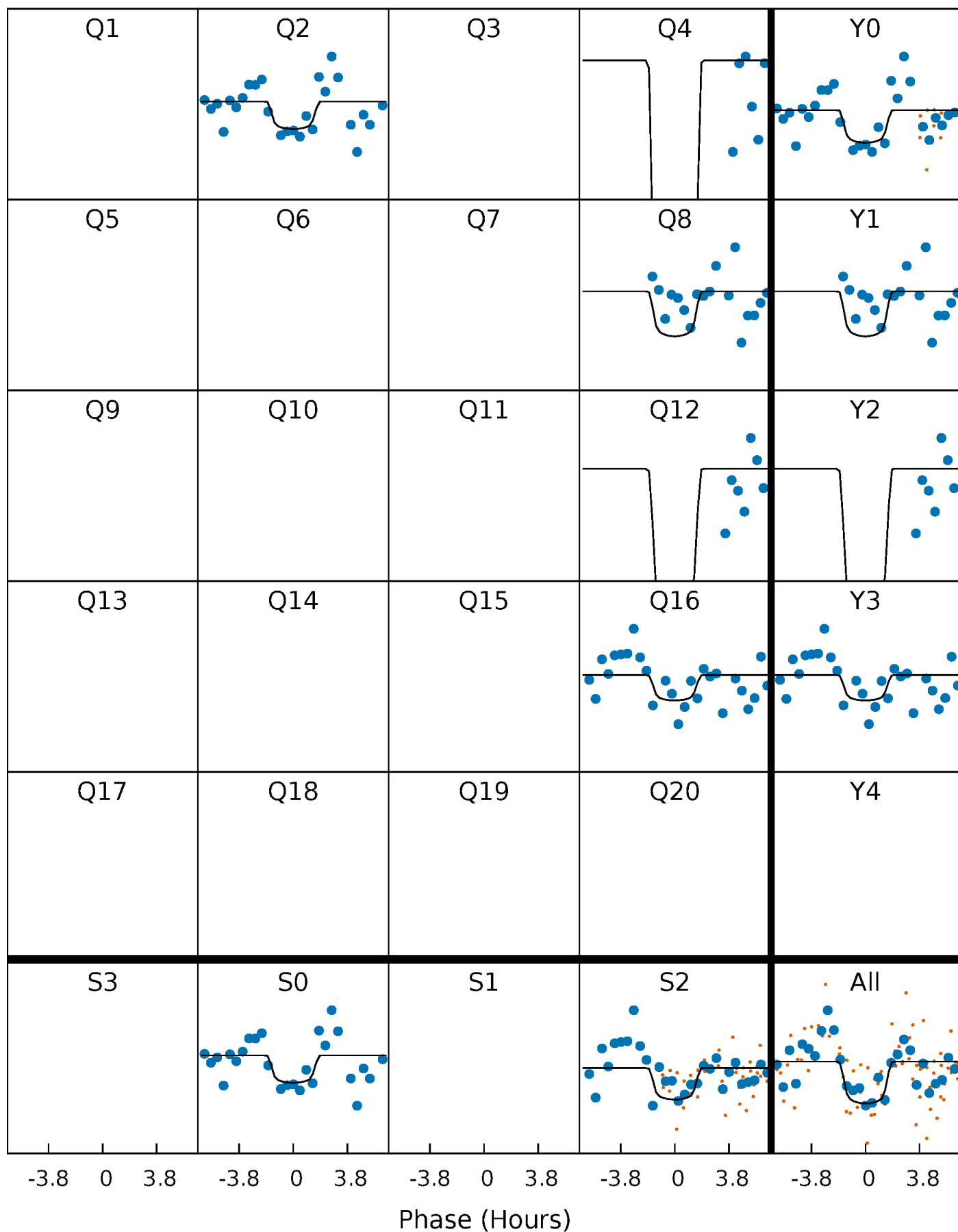
PDC Quarter-Phased Transit Curves

TCE 004269332-04 P=120.125907 Days $T_0=193.779760$ (BKJD)



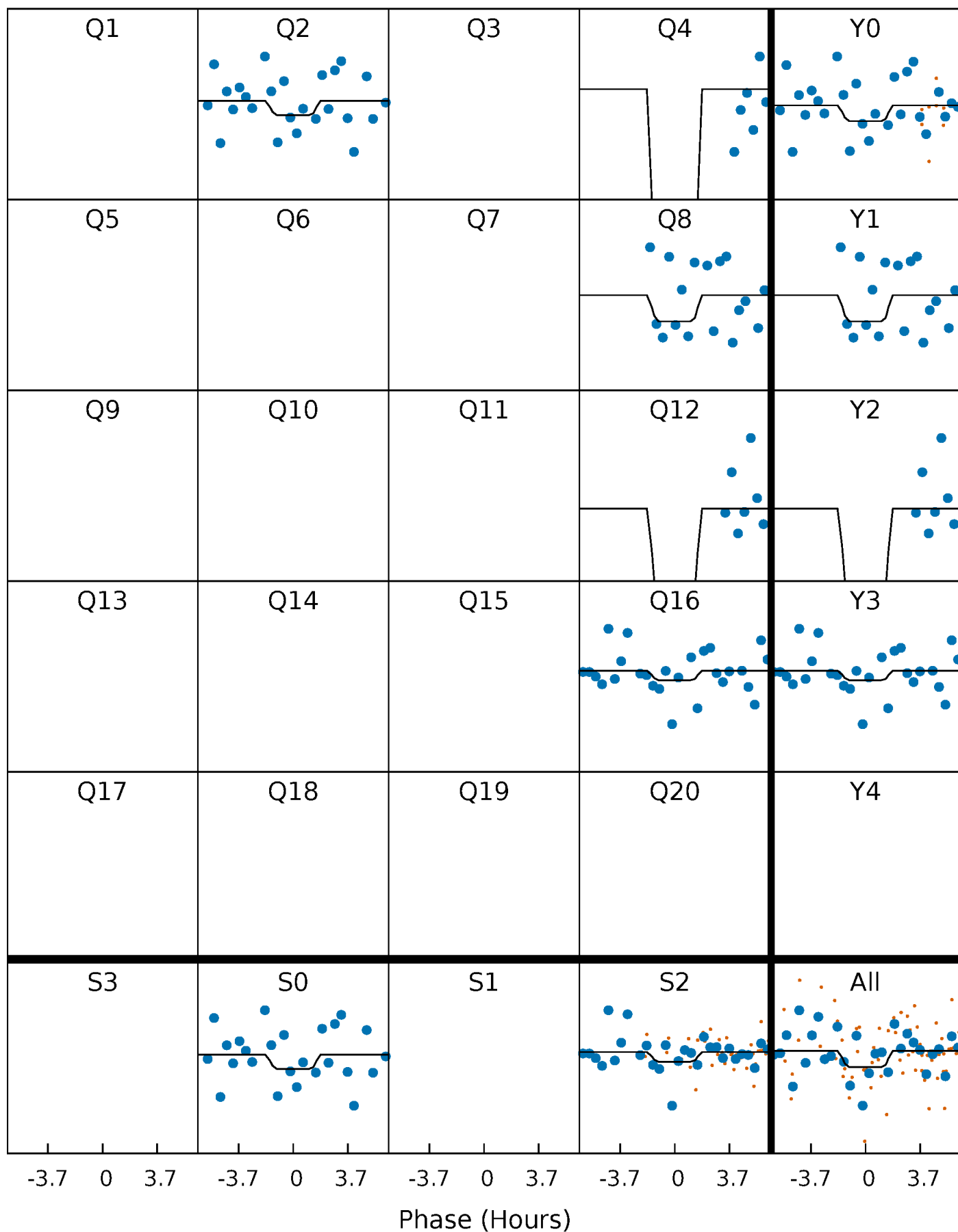
DV Quarter-Phased Transit Curves

TCE 004269332-04 P=120.125907 Days $T_0=193.779760$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

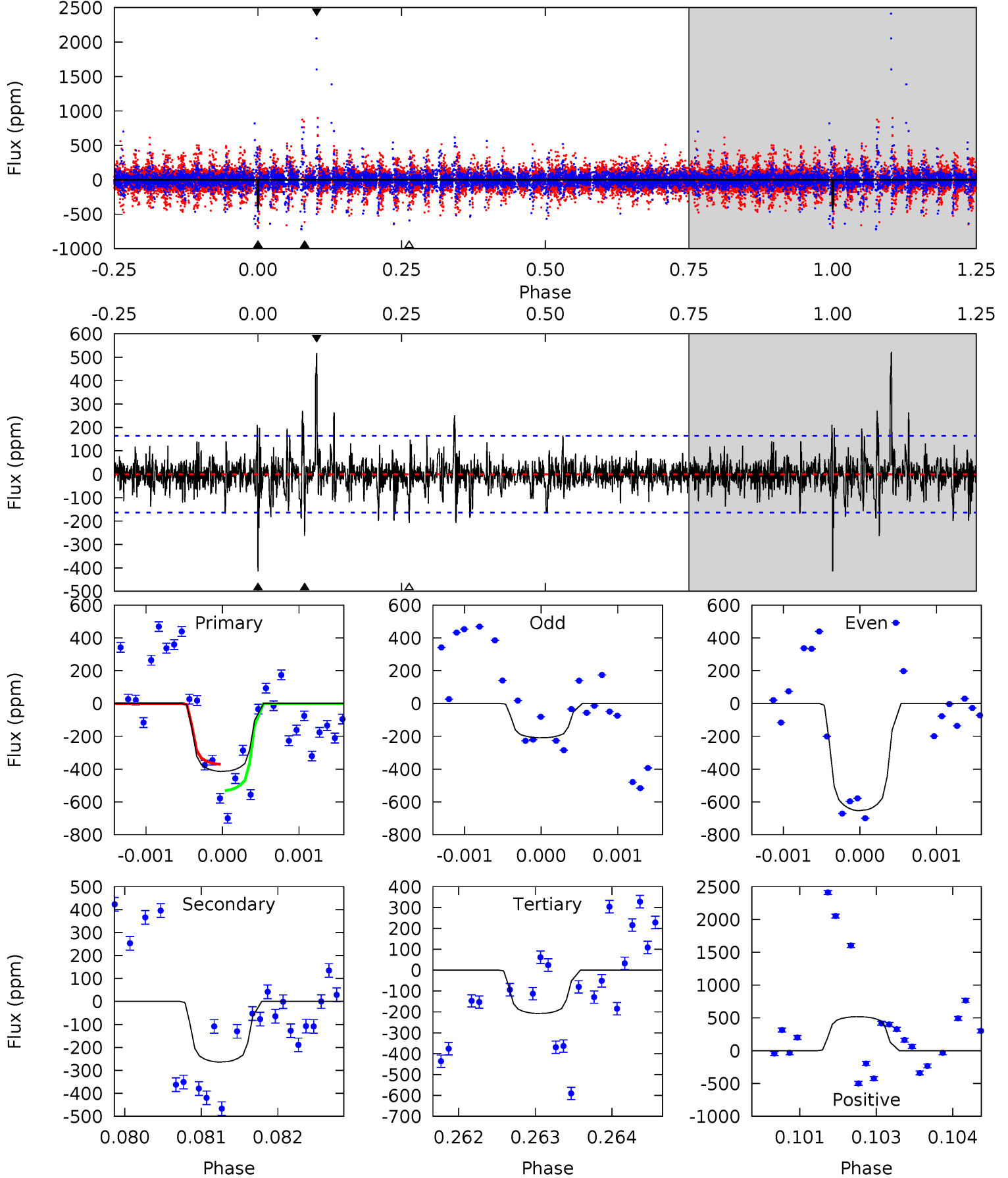
TCE 004269332-04 P=120.126474 Days $T_0=193.780679$ (BKJD)



DV Model-Shift Uniqueness Test

004269332-04, P = 120.125907 Days, E = 73.653853 Days

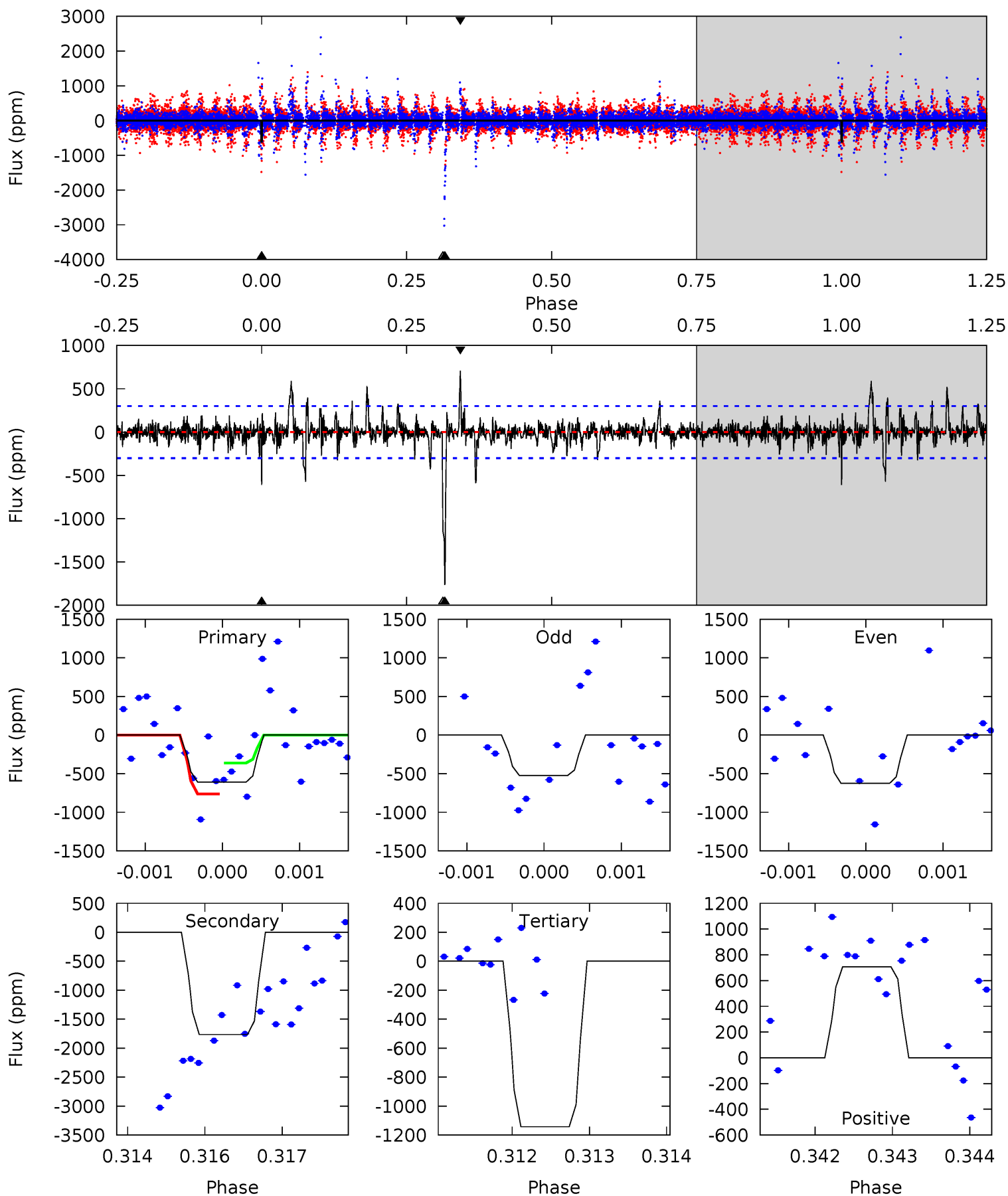
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	8.69	6.84	17.1	5.40	3.21	1.46	6.80	-3.41	1.85	-8.37	6.55	0.81	0.56	2.68



Alt Model-Shift Uniqueness Test

004269332-04, P = 120.126474 Days, E = 73.654205 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	31.8	20.6	12.7	5.42	3.24	1.42	-9.60	-1.75	11.2	19.1	0.81	1.05	0.29	0



Stellar Parameters For KIC 004269332

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7742^{+69}_{-100}	$3.926^{+0.154}_{-0.077}$	$0.210^{+0.150}_{-0.200}$	$2.554^{+0.277}_{-0.514}$	$2.007^{+0.149}_{-0.223}$	$0.170^{+0.128}_{-0.045}$
	+1%/-1%	+4%/-2%	+71%/-95%	+11%/-20%	+7%/-11%	+75%/-26%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004269332-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-264 ± 30	$7.47^{+4.81}_{-4.56}$	976^{+35}_{-47}	5908^{+4169}_{-1261}	947^{+5655}_{-613}
Alt.	-1765 ± 56	$6.92^{+4.68}_{-4.07}$	977^{+37}_{-51}	10812^{+15981}_{-3069}	7305^{+36648}_{-4699}

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 $A_{obs} \gg 1.0$

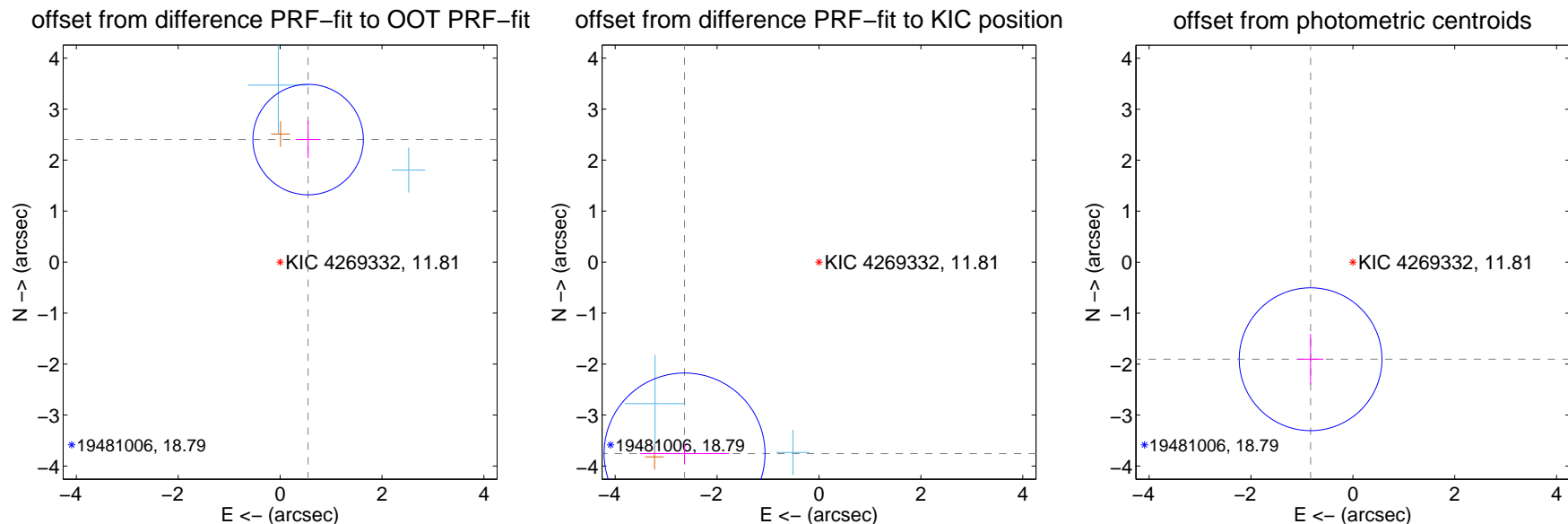
DV Centroid Data

Supplemental centroid analysis for 004269332-04. **Kepler magnitude: 11.81.** Transit SNR 14.43

There are 2 quarters with good PRF difference image offsets

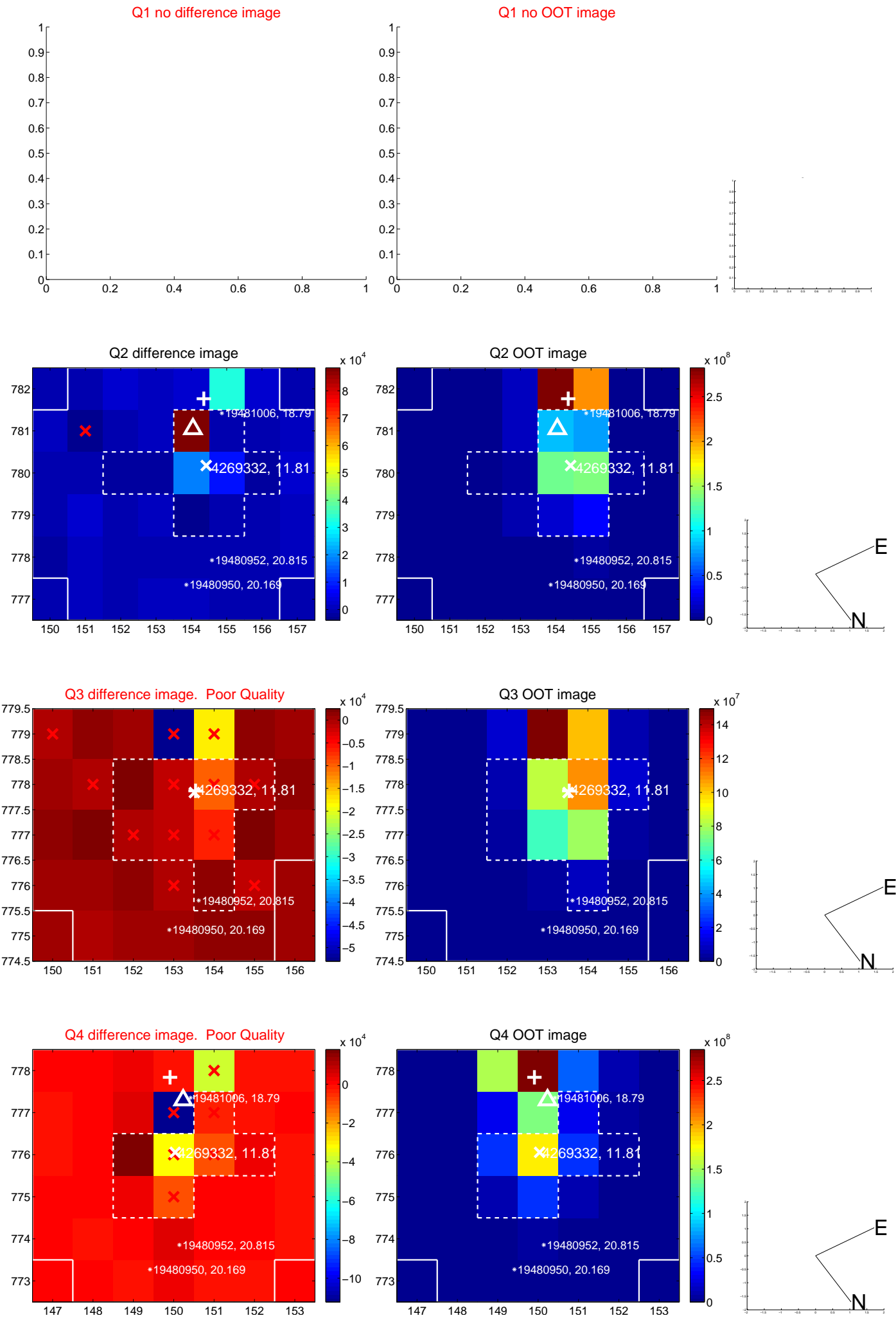
The OOT PRF centroid is offset from the target star catalog position by about 7.01 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.466 ± 0.361	6.83	-0.550 ± 0.244	2.404 ± 0.366
PRF-fit source offset from KIC position	4.591 ± 0.527	8.72	2.639 ± 0.873	-3.756 ± 0.196
photometric centroid source offset	2.08 ± 0.47	4.45	0.83 ± 0.25	-1.90 ± 0.50

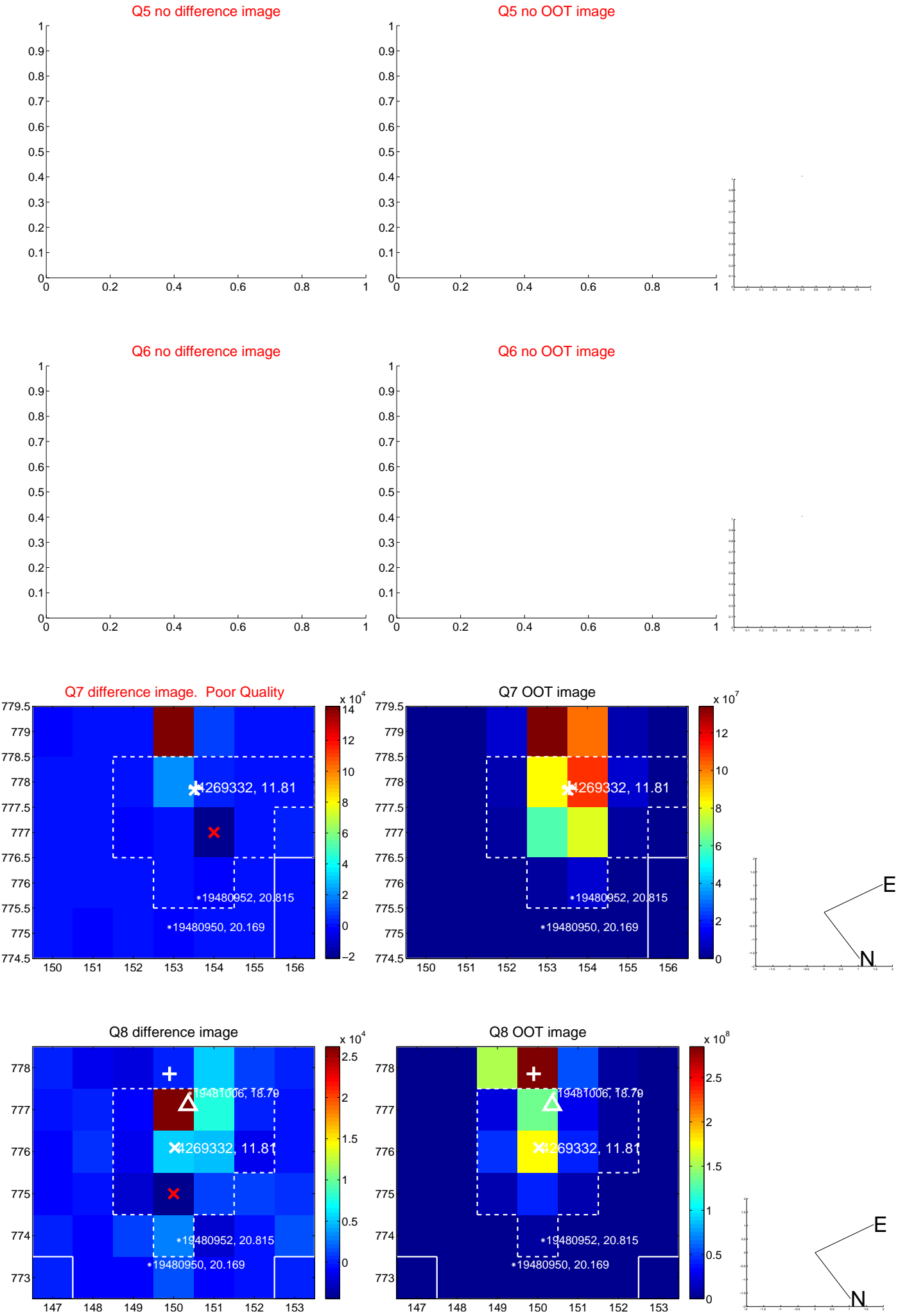


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

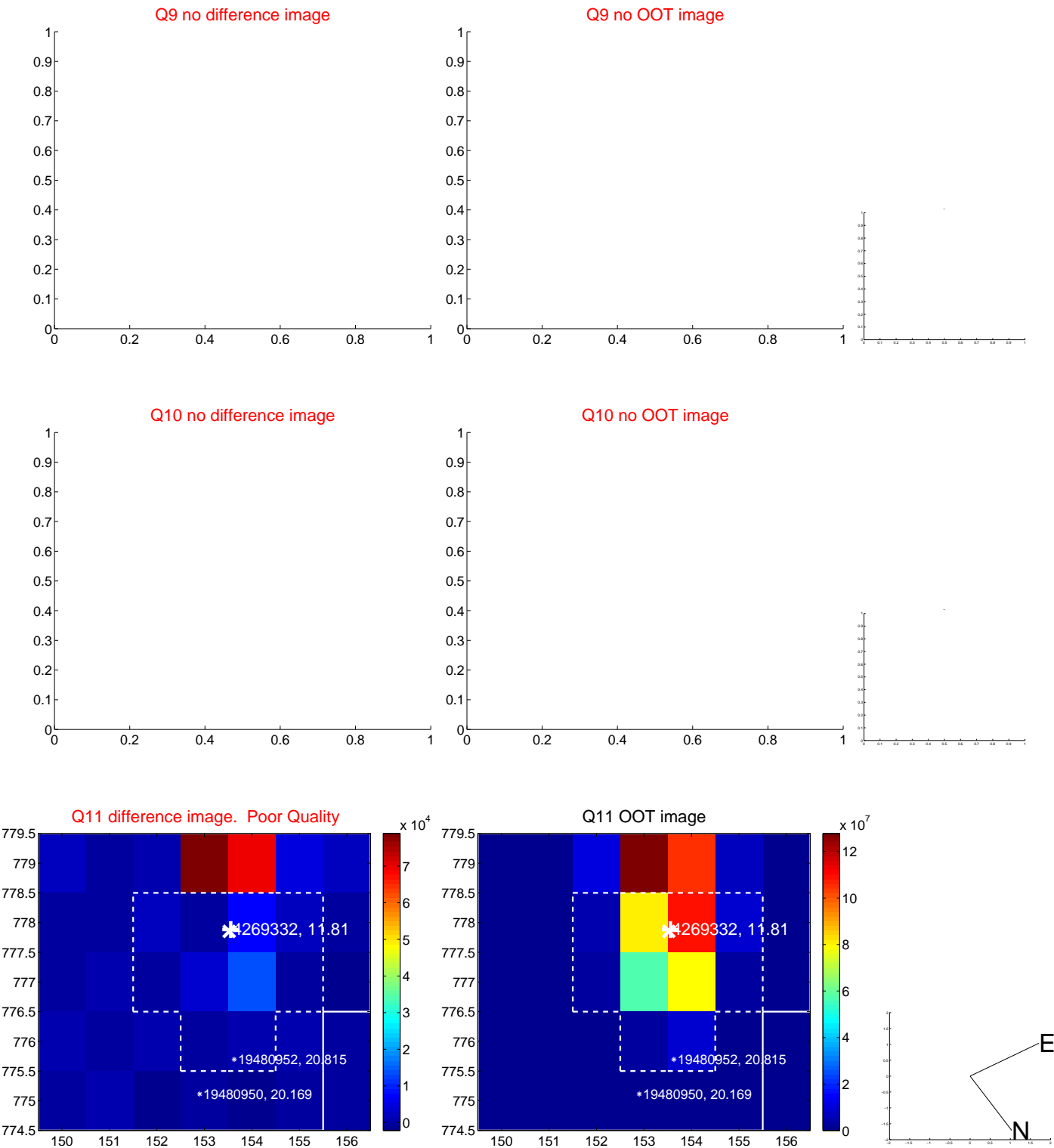
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



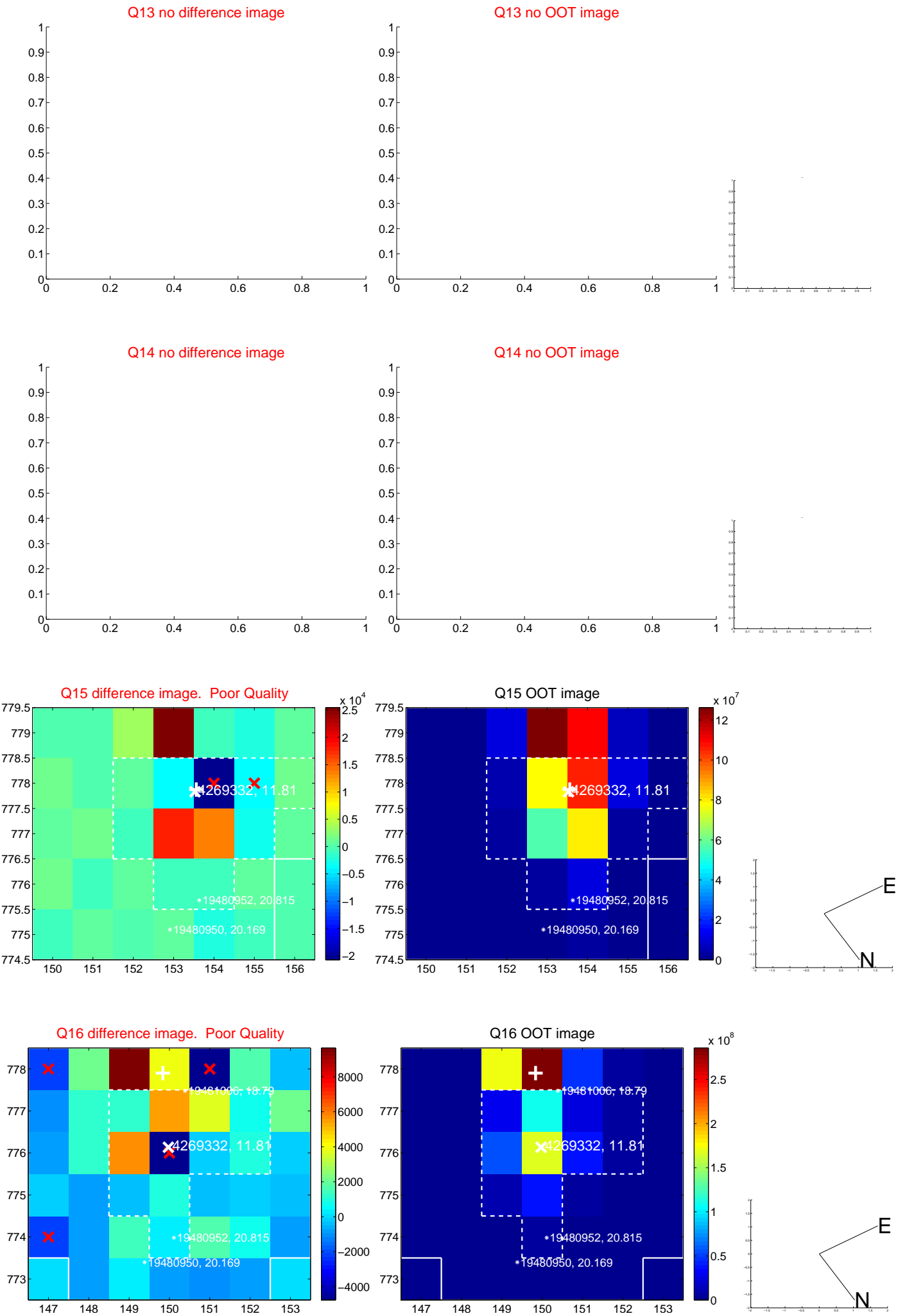
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



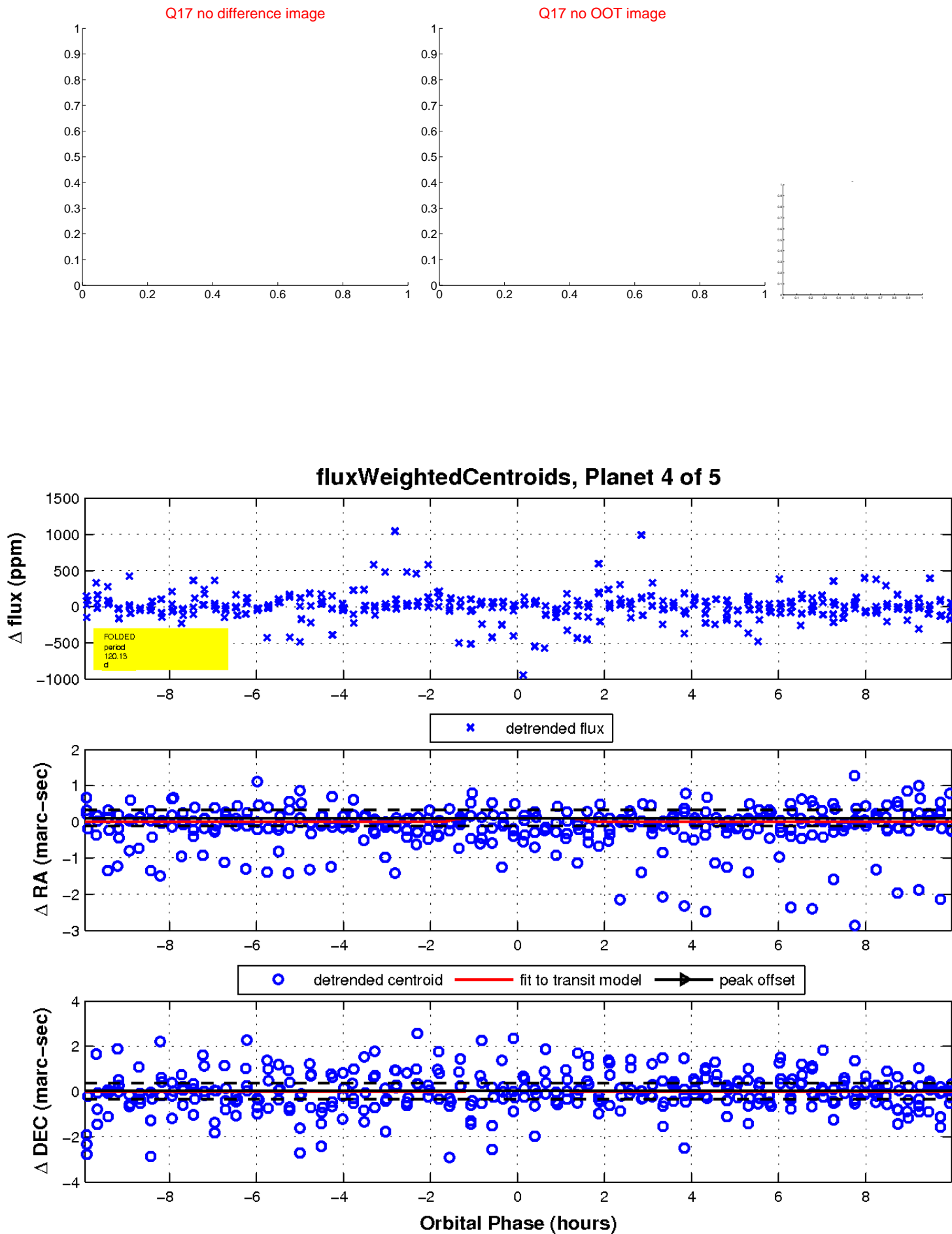
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

