

KIC 010483062

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})
010483062-01	OBS	No	411.225582	411.173676	1242.8	9.739	9.1	6.9	0.64	5263	4.41	0.33
010483062-03	OBS	No	421.678403	437.713620	898.5	10.274	10.3	6.6	0.64	5263	2.11	0.32
010483062-04	OBS	No	476.808919	138.688909	1030.5	5.955	9.7	6.2	0.64	5263	2.16	0.27
010483062-05	OBS	No	587.850172	342.905755	951.4	5.079	11.1	7.1	0.64	5263	2.03	0.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010483062-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
010483062-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
010483062-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010483062-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

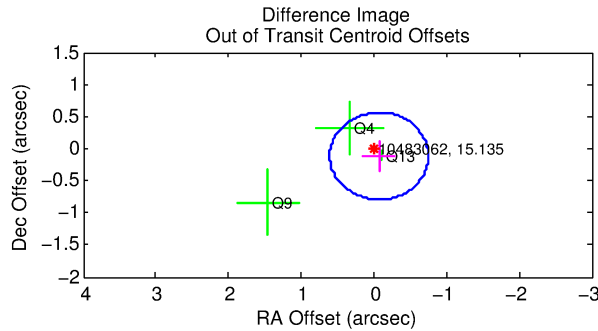
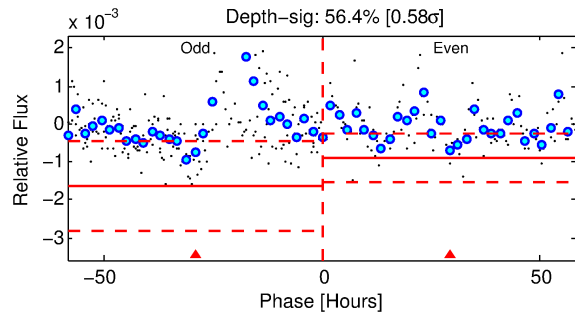
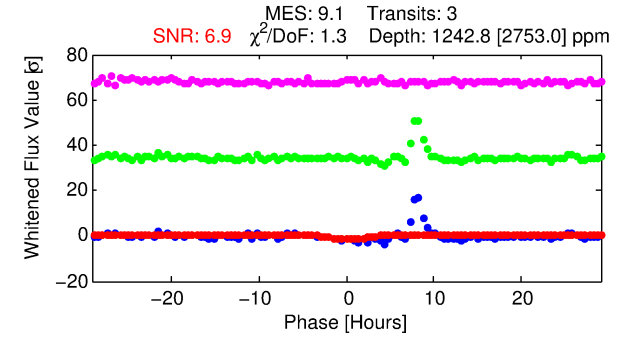
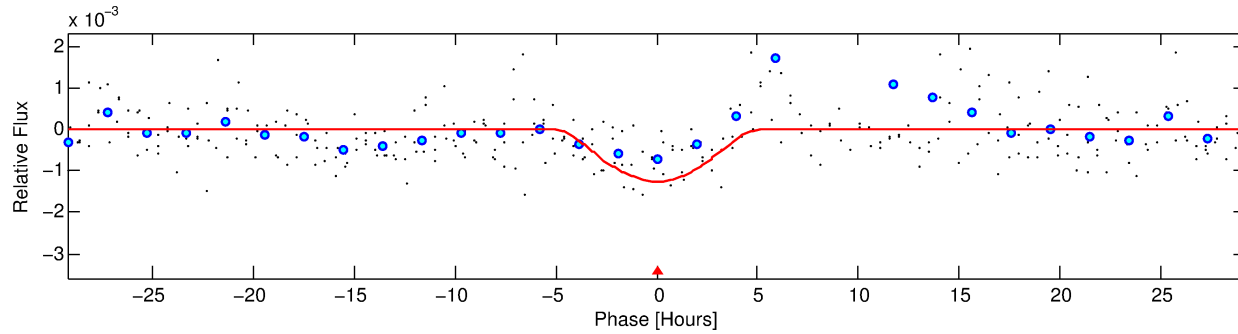
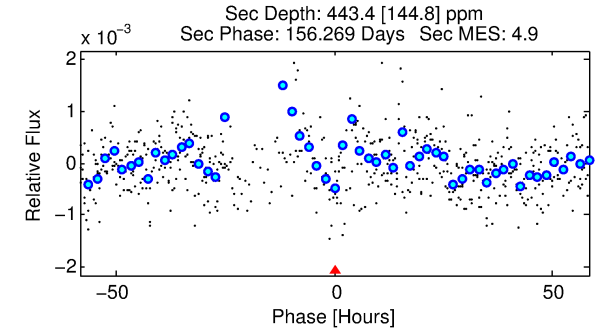
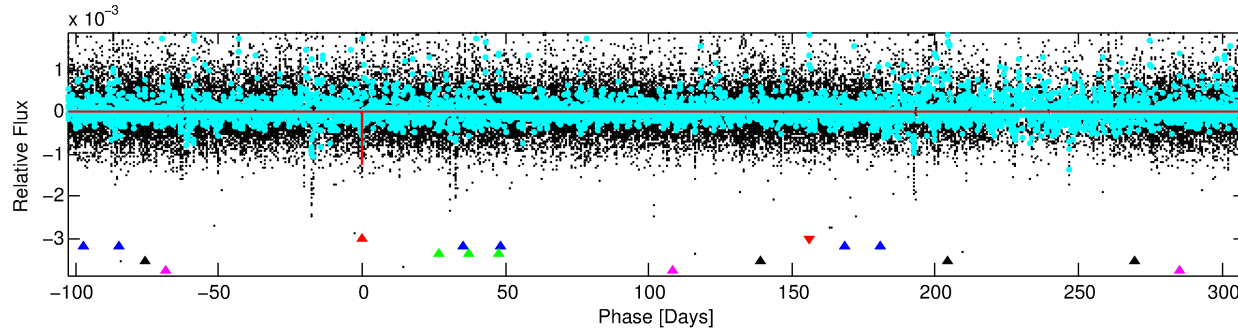
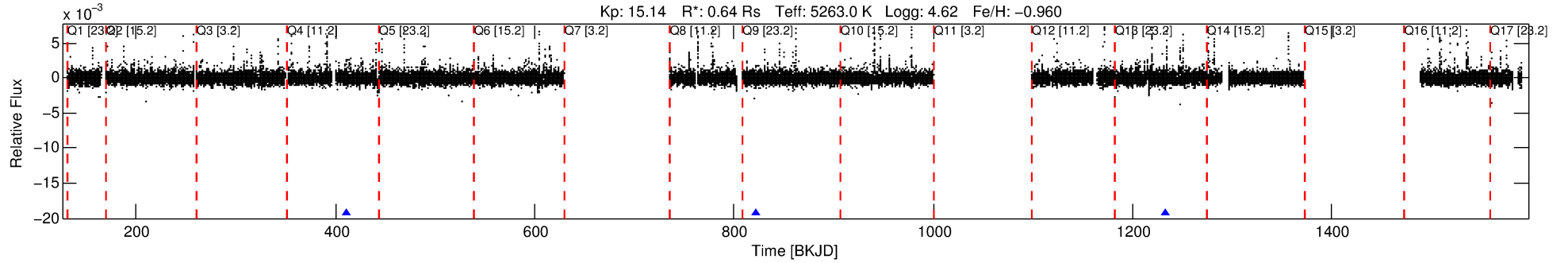
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010483062-01

No Significant Match Found

DV One-Page Summary

KIC: 10483062 Candidate: 1 of 5 Period: 411.226 d



DV Fit Results:

Period = 411.22558 [0.02504] d
Epoch = 411.1737 [0.0317] BKJD
Rp/R* = 0.0629 [0.4268]
a/R* = 116.20 [180.19]
b = 1.00 [0.52]
Seff = 0.33 [0.06]
Teq = 193 [9] K
Rp = 4.41 [29.95] Re
a = 0.9280 [0.0737] AU
Ag = 10788.37 [146470.92] [0.07 σ]
Teffp = 3045 [10337] K [0.28 σ]

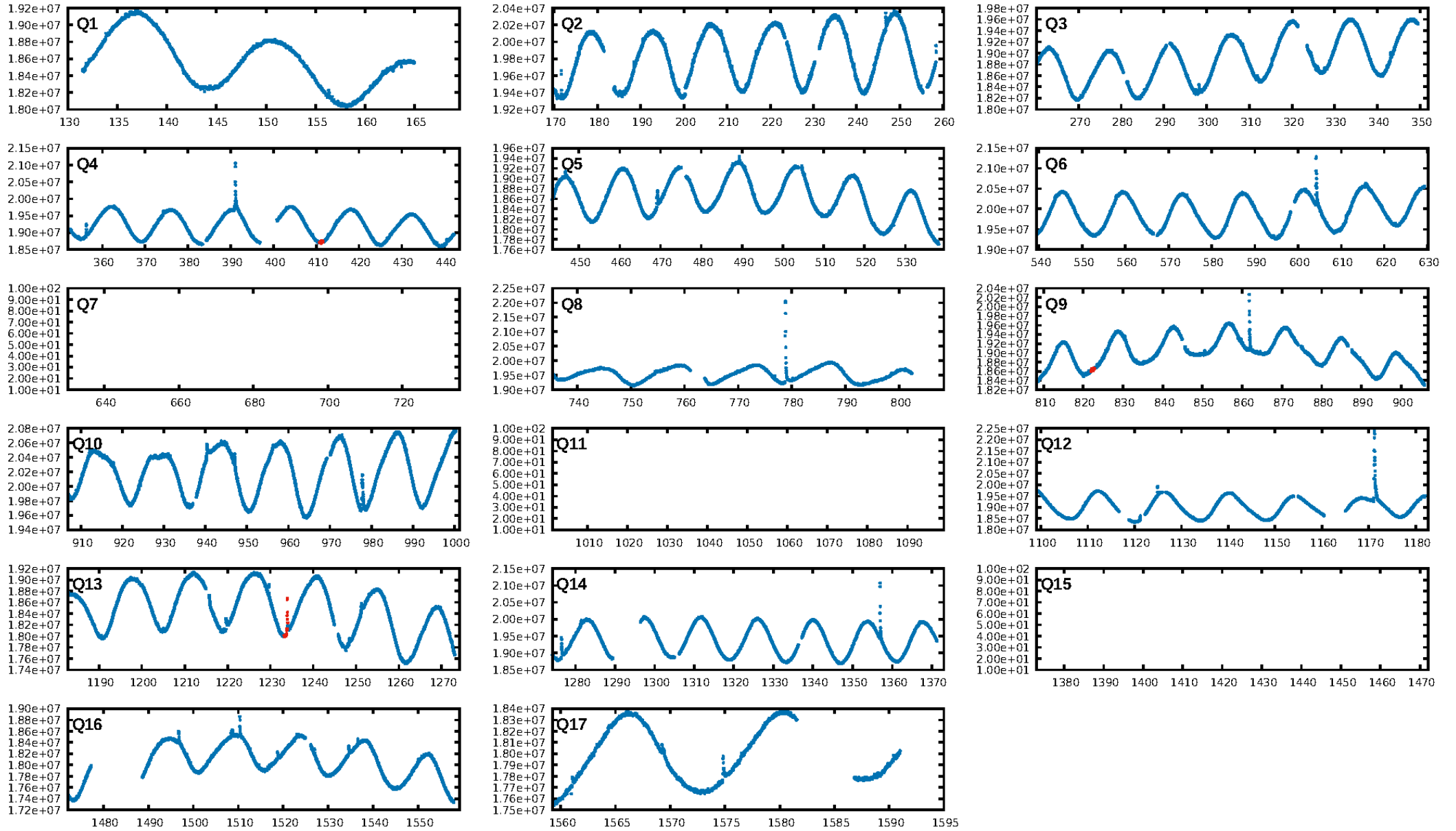
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [312.12 σ]
LongPeriod-sig: 100.0% [17.72 σ]
ModelChiSquare2-sig: 0.1%
a/R* = 116.20 [180.19]
Bootstrap-pfa: 5.33e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.643
Centroid-sig: 77.3%
Centroid-so: 0.559 arcsec [0.42 σ]
OotOffset-rm: 0.134 arcsec [0.60 σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-rm: 0.277 arcsec [1.22 σ]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

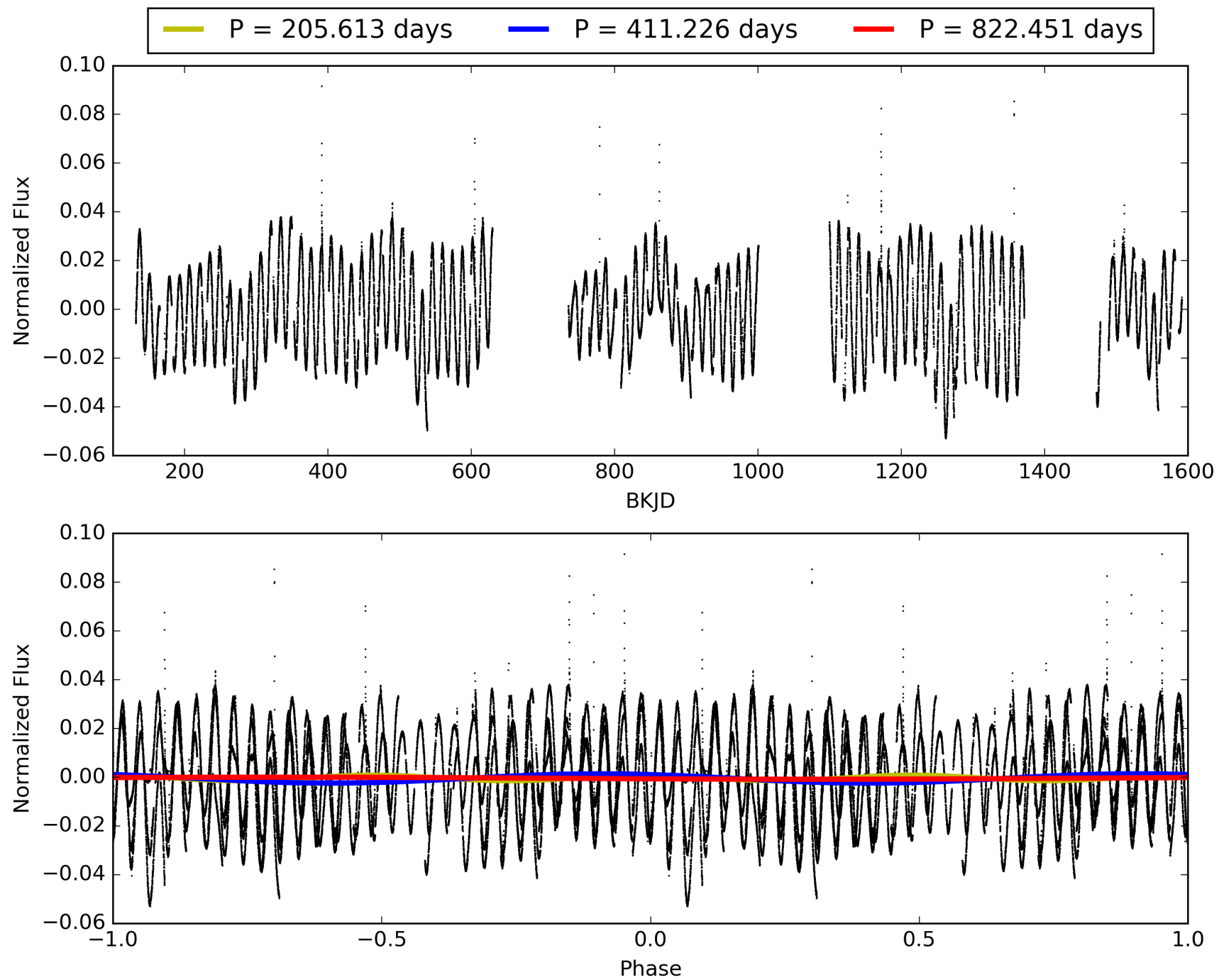
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:42:28 Z

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

TCE 010483062-01, PDC Light Curves

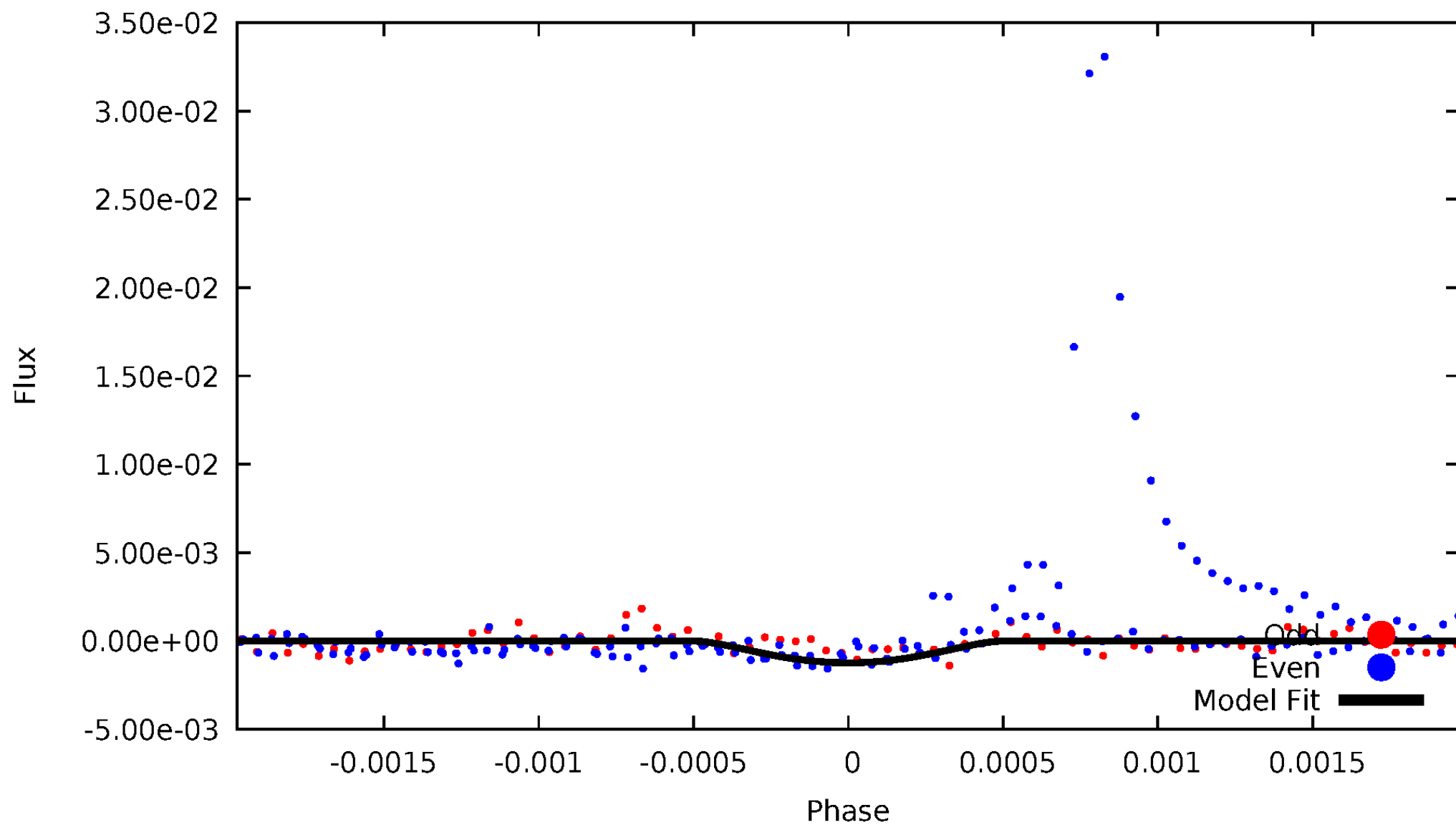


TCE 010483062-01



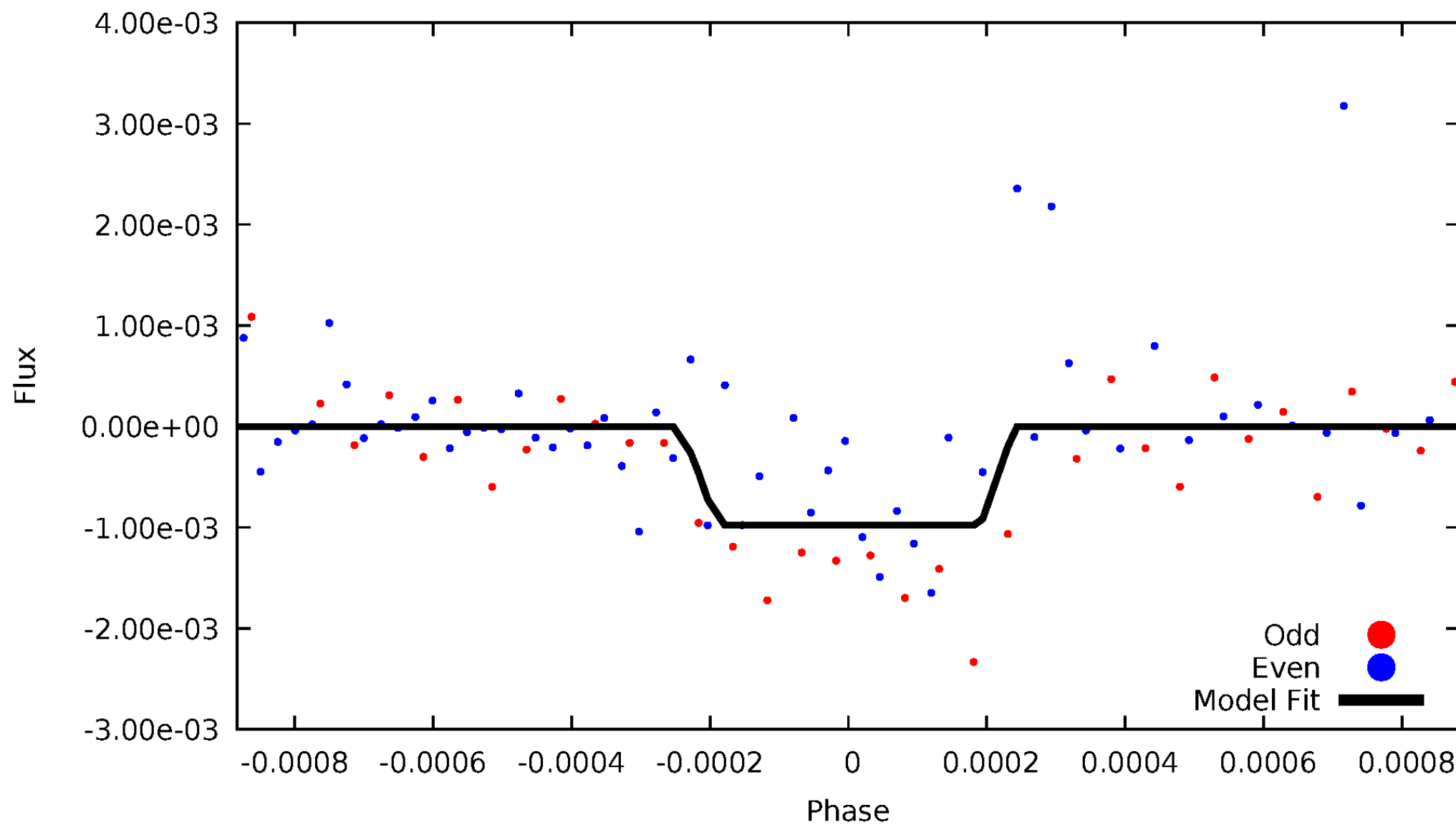
DV Odd/Even

TCE 010483062-01



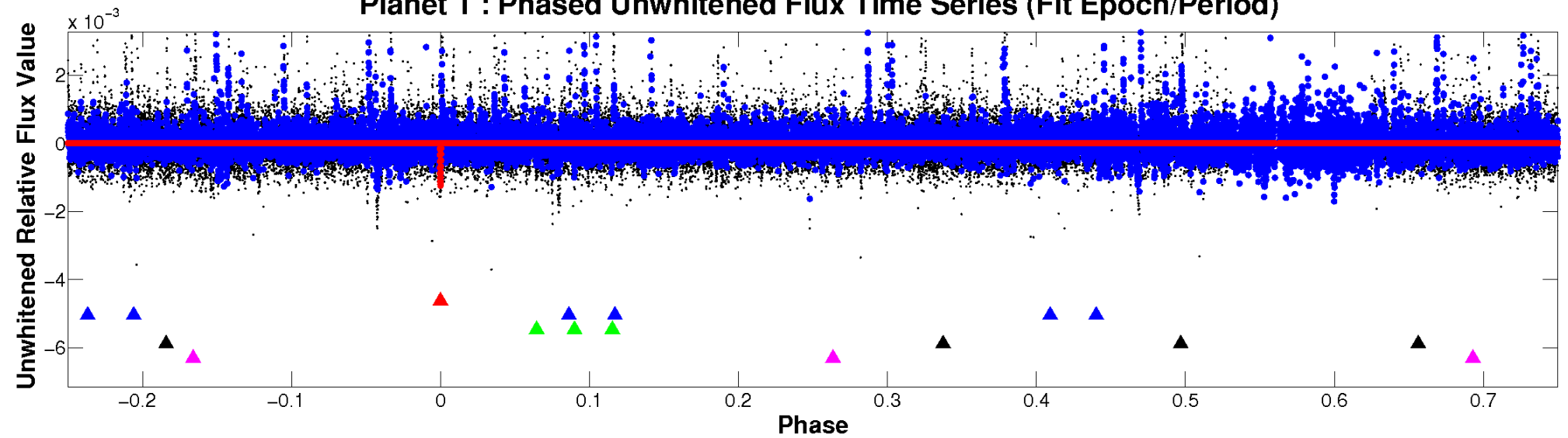
ALT Odd/Even

TCE 010483062-01

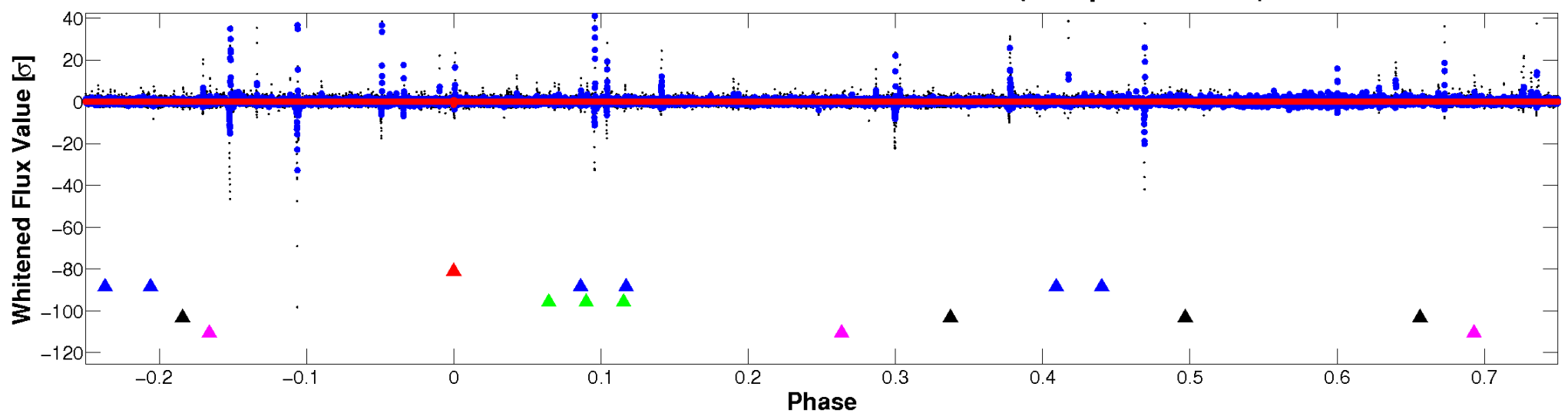


Non-Whitened Vs. Whitened Light Curve

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

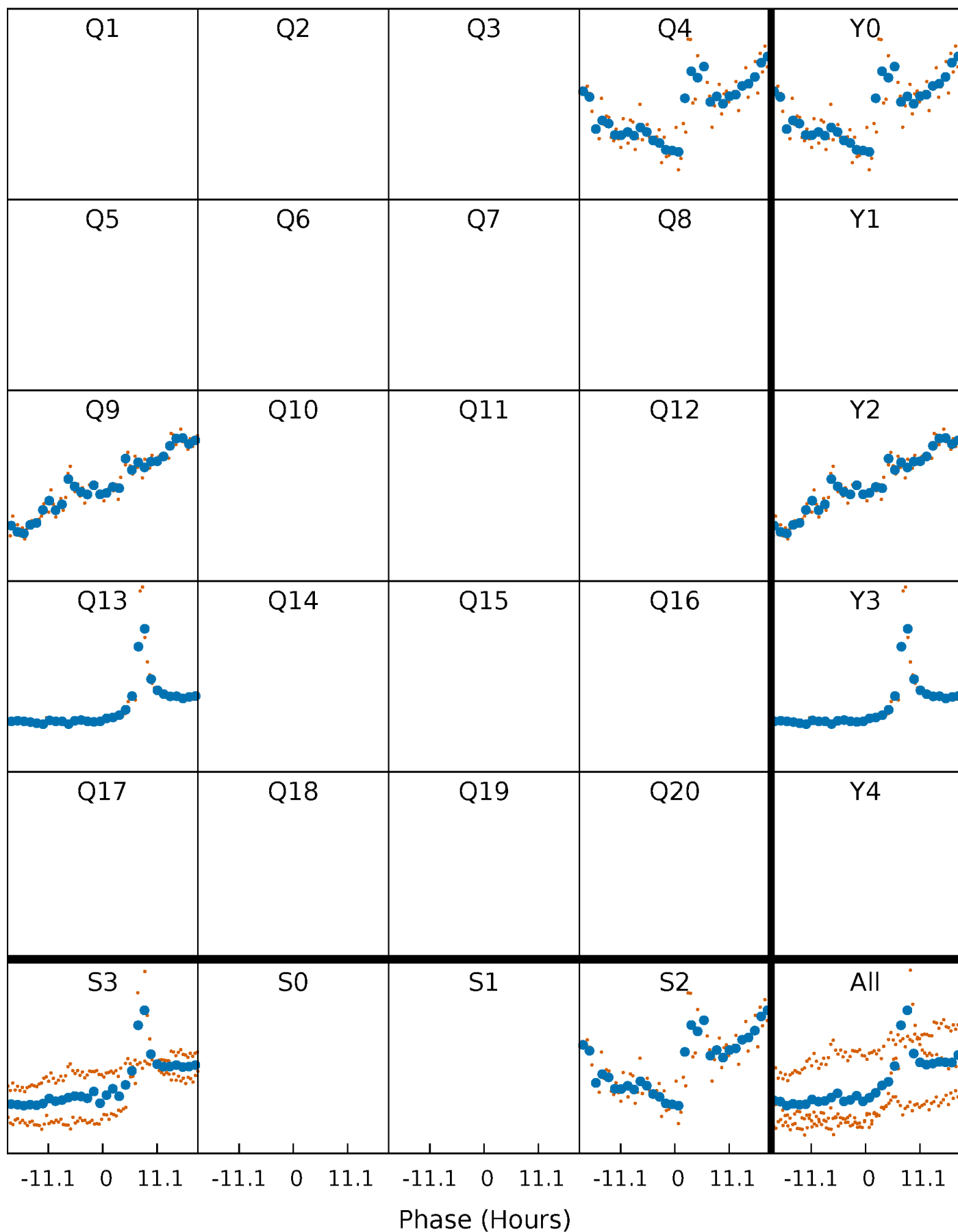


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



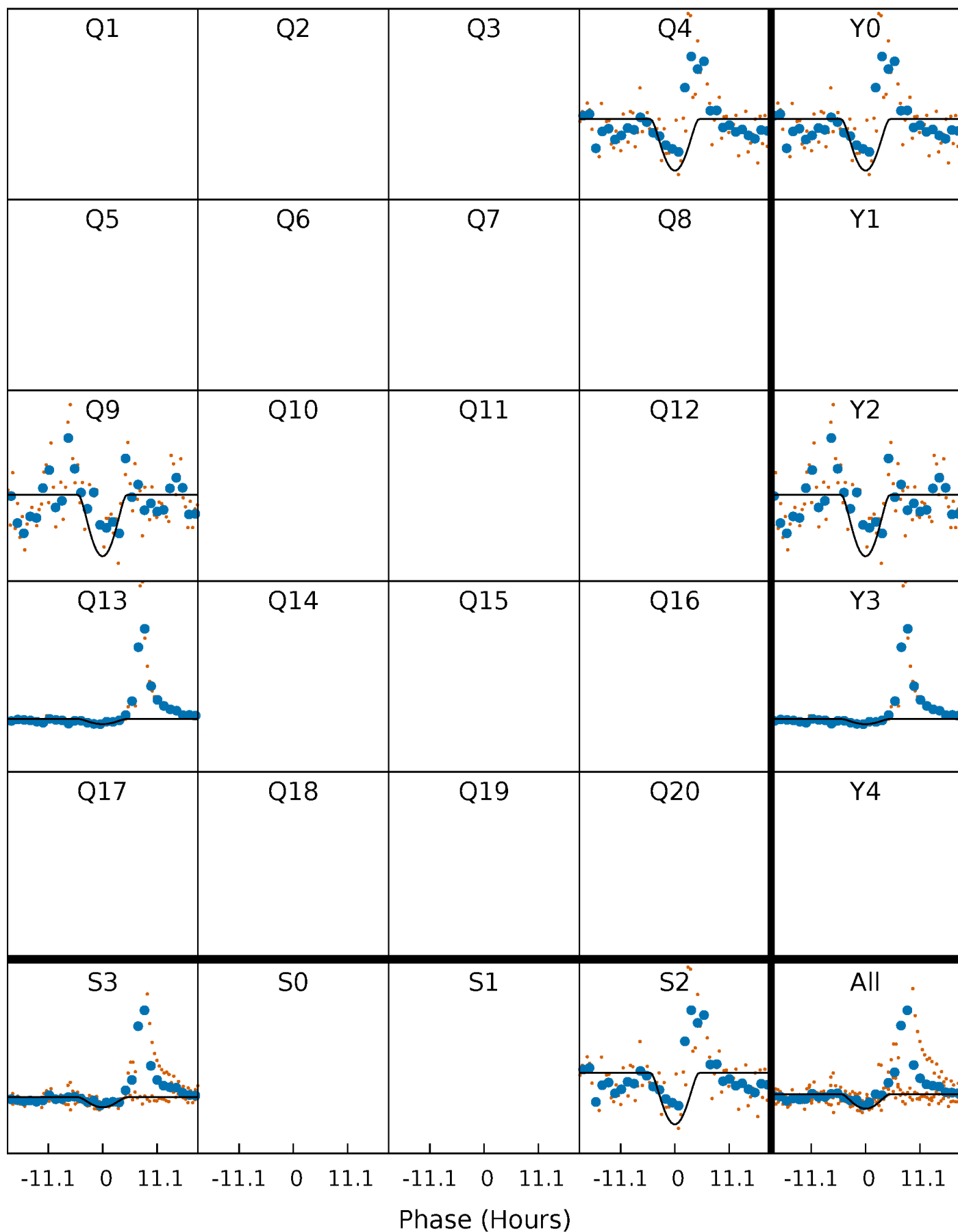
PDC Quarter-Phased Transit Curves

TCE 010483062-01 P=411.225582 Days $T_0=411.173676$ (BKJD)



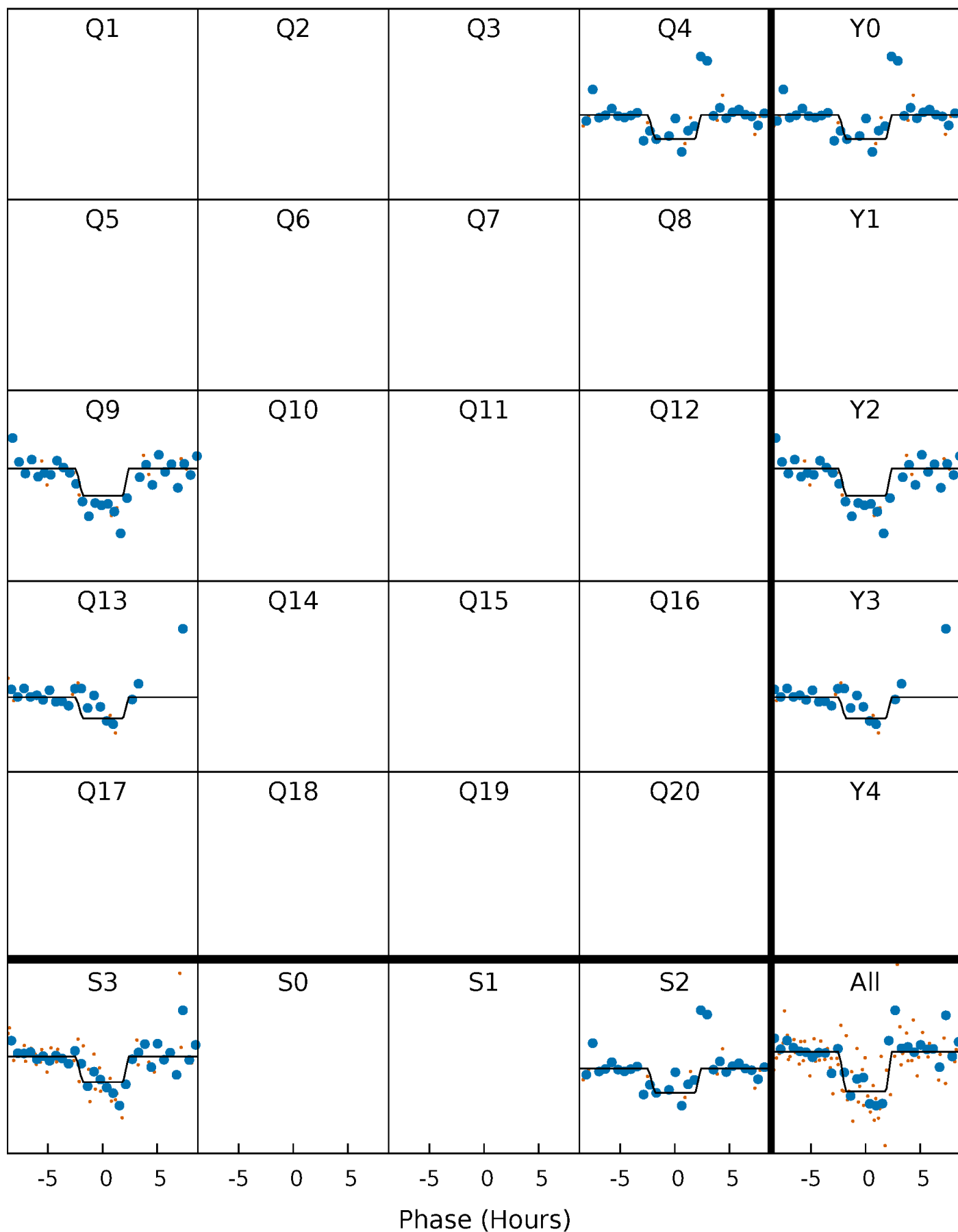
DV Quarter-Phased Transit Curves

TCE 010483062-01 P=411.225582 Days $T_0=411.173676$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

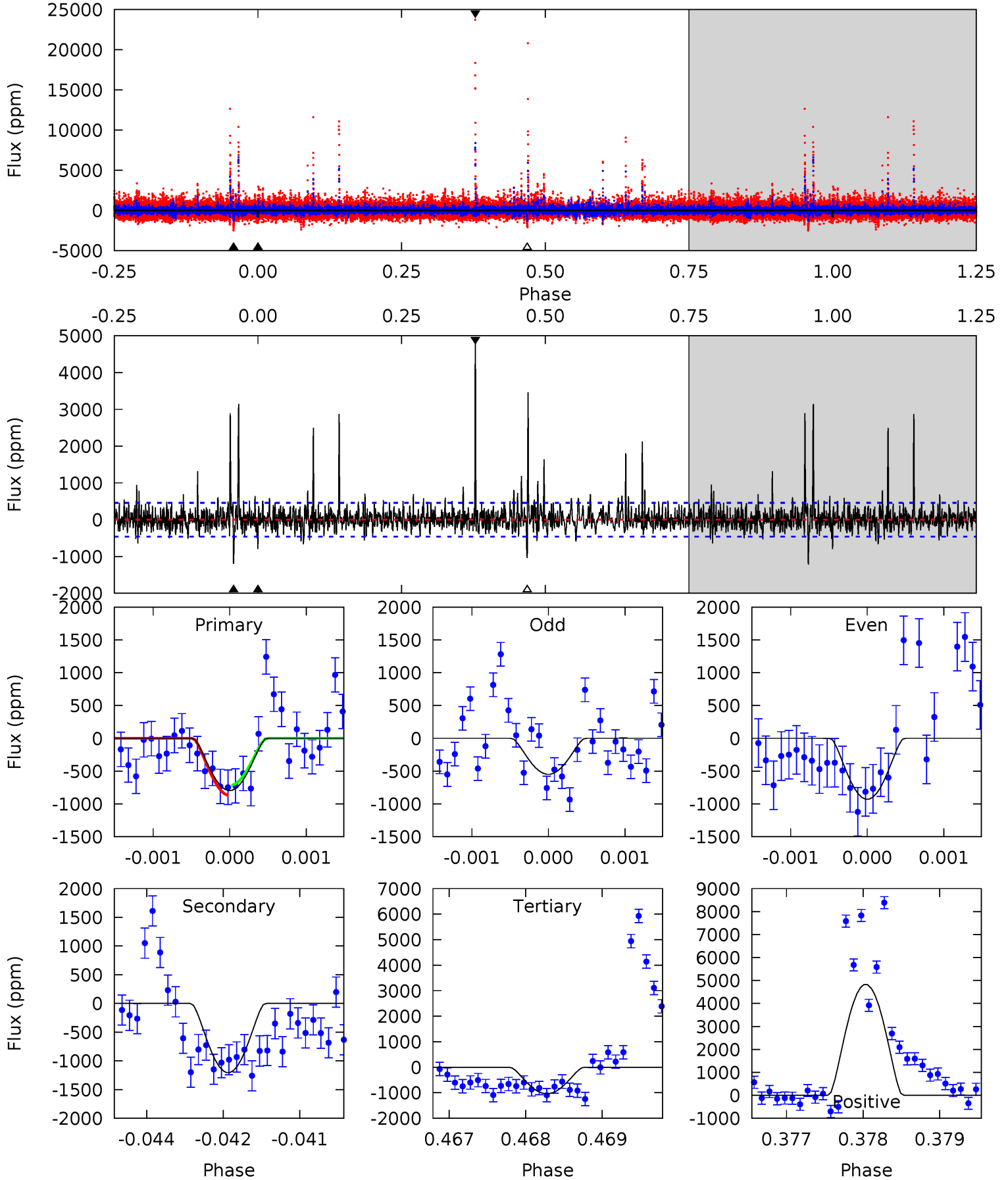
TCE 010483062-01 P=411.273073 Days $T_0=411.185969$ (BKJD)



DV Model-Shift Uniqueness Test

010483062-01, P = 411.225582 Days, E = 411.173676 Days

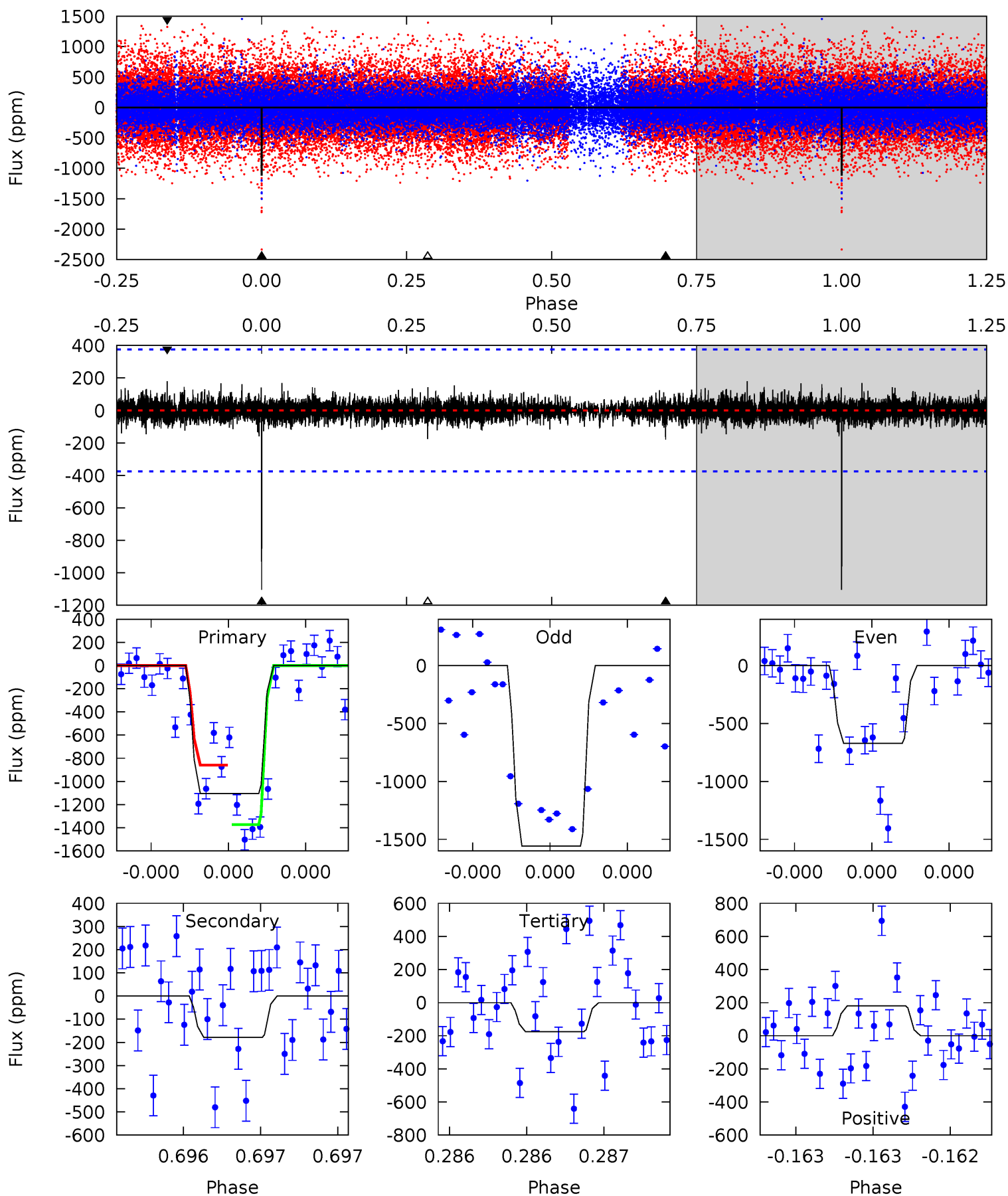
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.45	14.3	12.3	57.3	5.45	3.28	3.50	-2.86	-47.9	1.99	-43.0	0.81	1.22	0.80	0.92



Alt Model-Shift Uniqueness Test

010483062-01, P = 411.273073 Days, E = 411.185969 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	2.65	2.60	2.68	5.59	3.50	0.51	13.8	13.7	0.05	-0.03	5.66	1.22	0.14	3.82



Stellar Parameters For KIC 010483062

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5263^{+173}_{-157}	$4.621^{+0.072}_{-0.044}$	$-0.960^{+0.300}_{-0.300}$	$0.643^{+0.055}_{-0.050}$	$0.631^{+0.060}_{-0.028}$	$3.337^{+0.900}_{-0.531}$
	+3%/-3%	+2%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+27%/-16%
Source	PHO1	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 010483062-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1204 ± 84	$22.87^{+22.37}_{-15.65}$	269^{+11}_{-10}	2560^{+975}_{-395}	1144^{+10081}_{-860}
Alt.	-178 ± 67	$19.66^{+22.70}_{-13.21}$	268^{+11}_{-10}	2086^{+668}_{-303}	203^{+1977}_{-161}

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 $A_{obs} \gg 1.0$

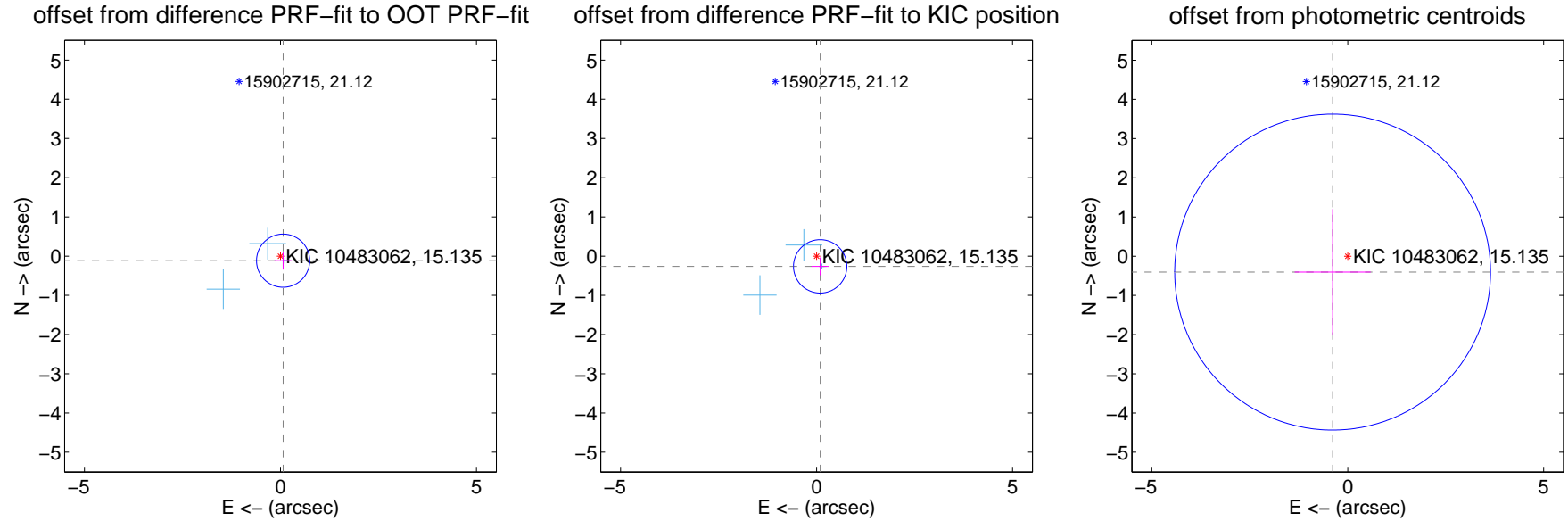
DV Centroid Data

Supplemental centroid analysis for 010483062-01. Kepler magnitude: 15.13. Transit SNR 6.94

There are 3 quarters with good PRF difference image offsets

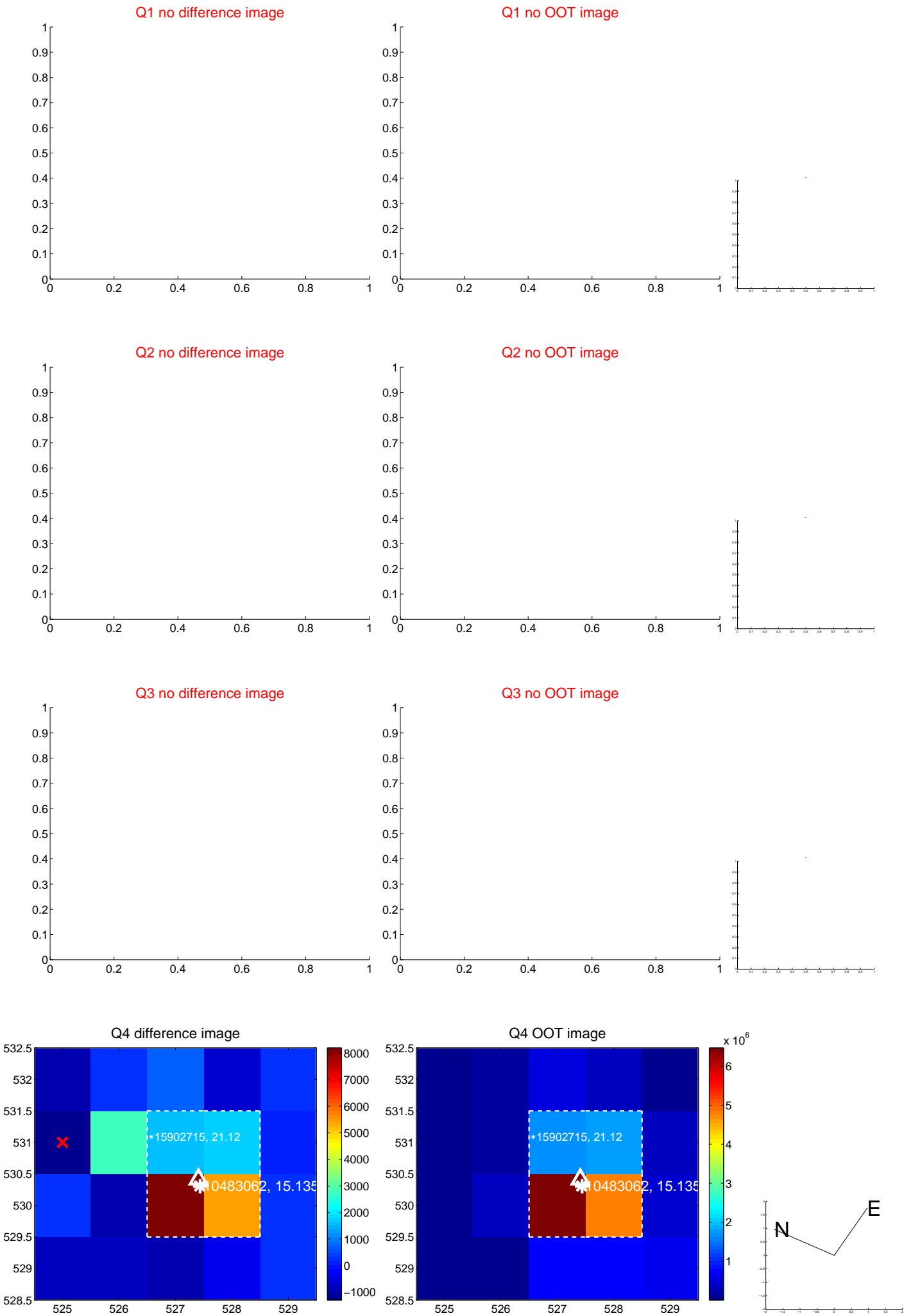
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.134 ± 0.226	0.60	-0.068 ± 0.222	-0.116 ± 0.227
PRF-fit source offset from KIC position	0.277 ± 0.227	1.22	-0.092 ± 0.222	-0.261 ± 0.227
photometric centroid source offset	0.56 ± 1.34	0.42	0.39 ± 0.97	-0.41 ± 1.61



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.

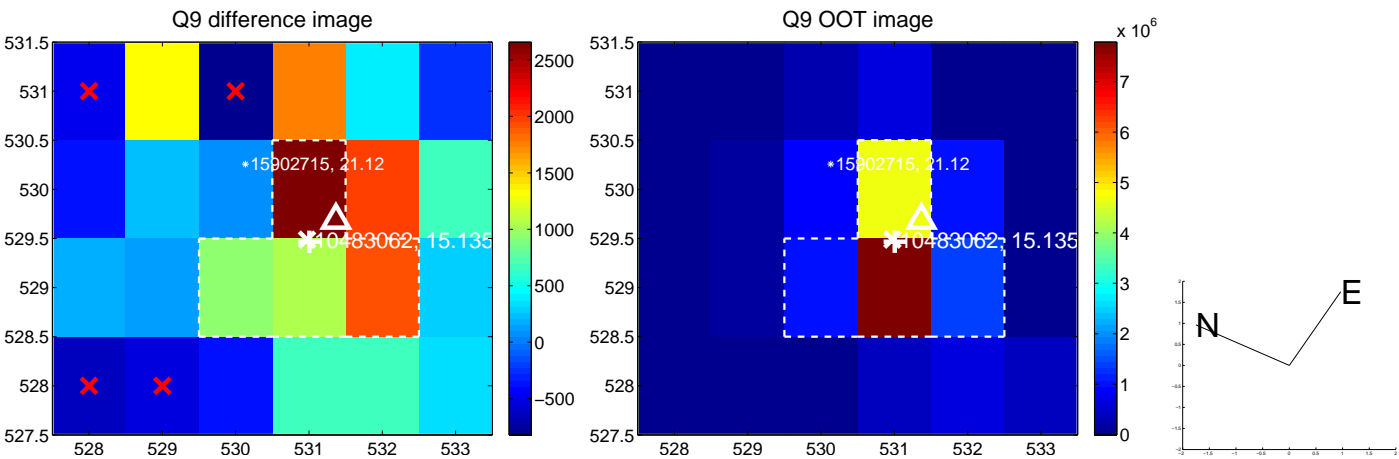
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



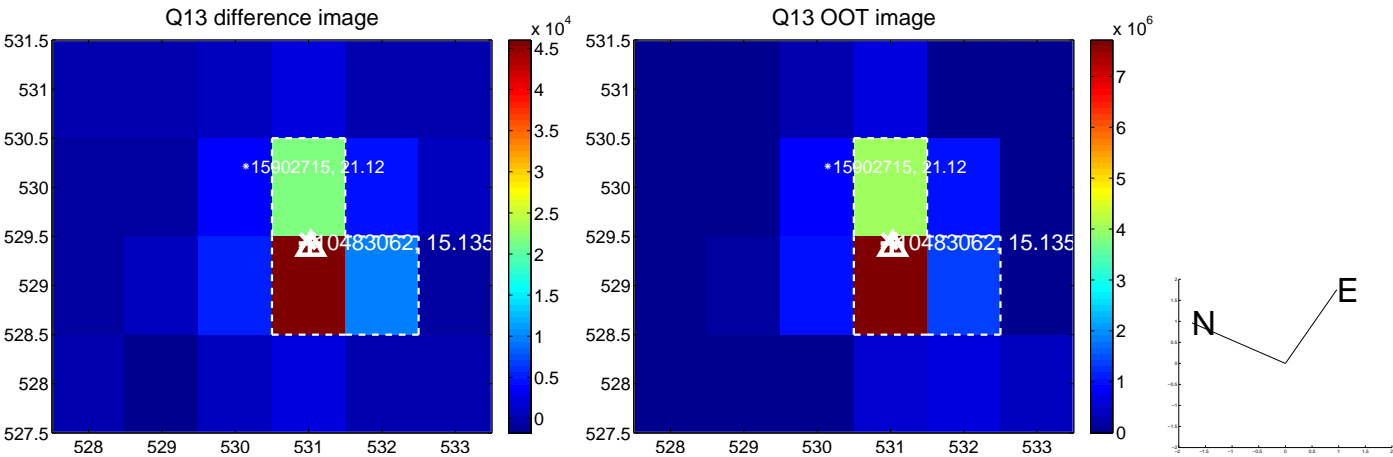
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



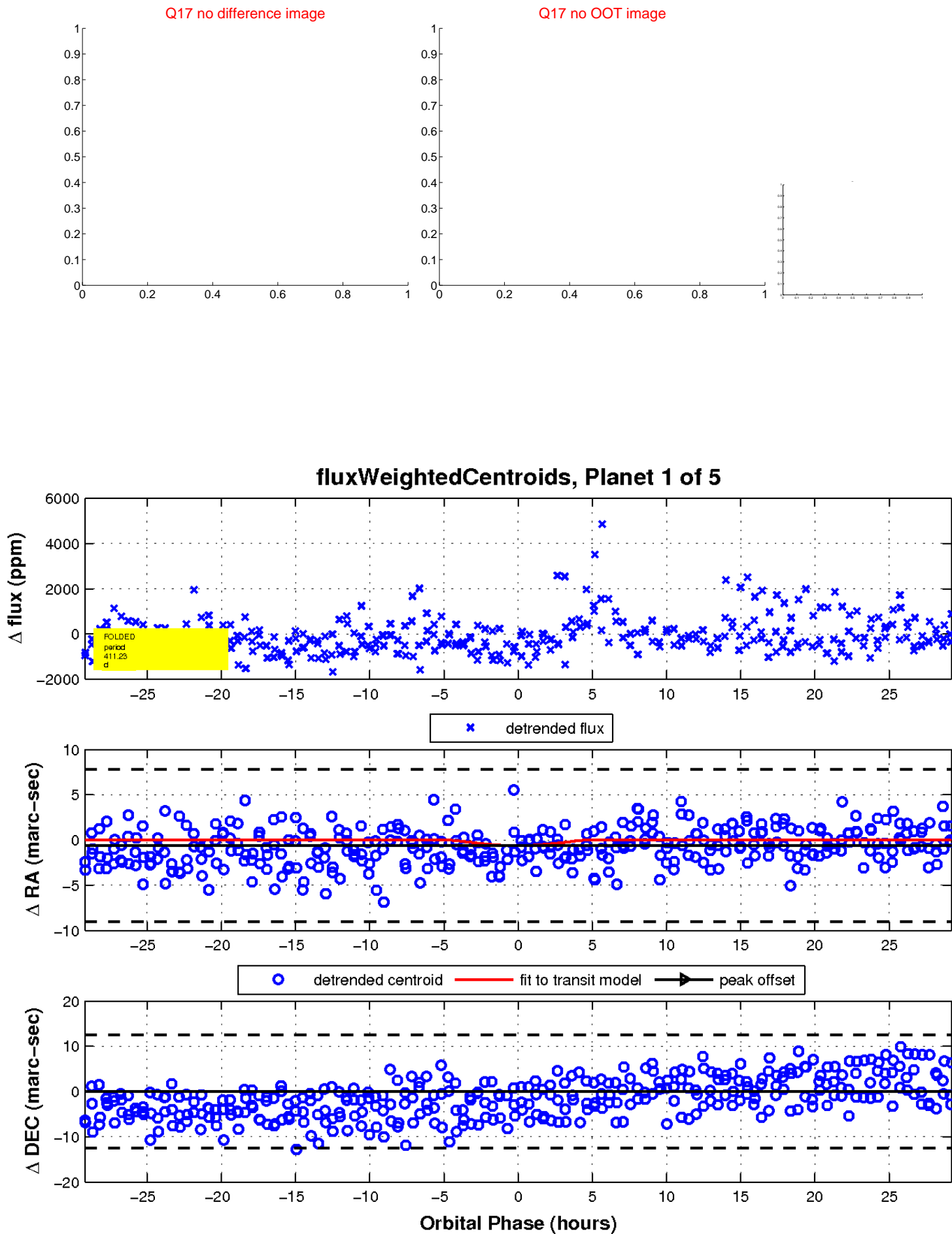
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

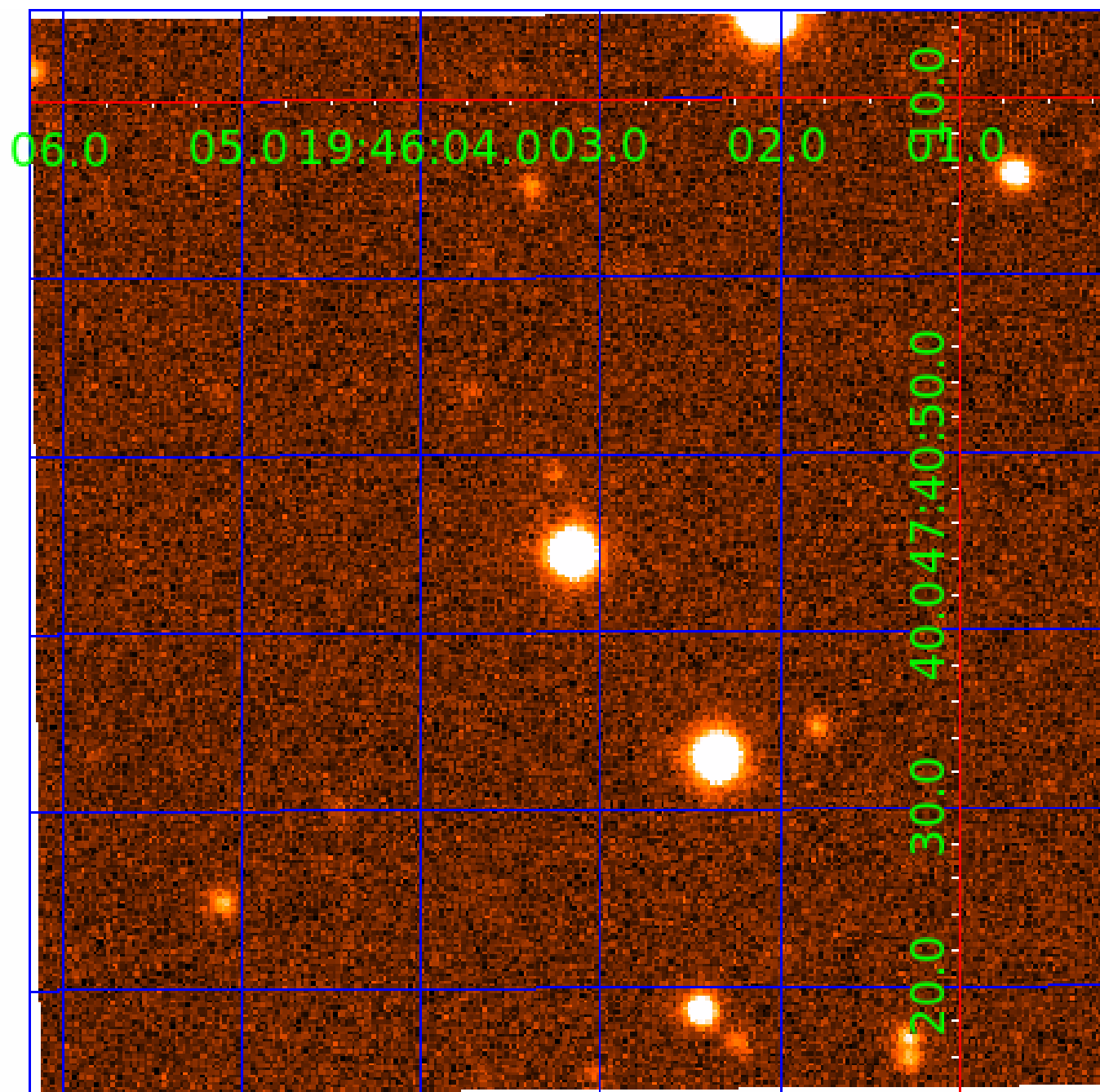


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010483062

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})
010483062-01	OBS	No	411.225582	411.173676	1242.8	9.739	9.1	6.9	0.64	5263	4.41	0.33
010483062-03	OBS	No	421.678403	437.713620	898.5	10.274	10.3	6.6	0.64	5263	2.11	0.32
010483062-04	OBS	No	476.808919	138.688909	1030.5	5.955	9.7	6.2	0.64	5263	2.16	0.27
010483062-05	OBS	No	587.850172	342.905755	951.4	5.079	11.1	7.1	0.64	5263	2.03	0.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010483062-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
010483062-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
010483062-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010483062-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

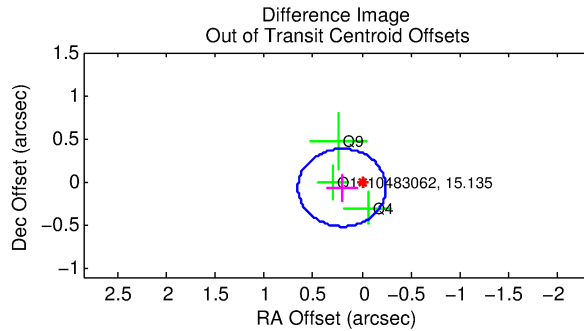
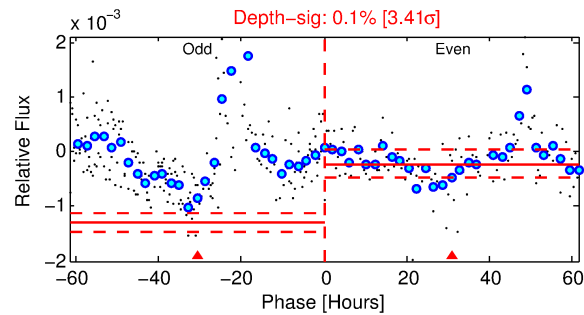
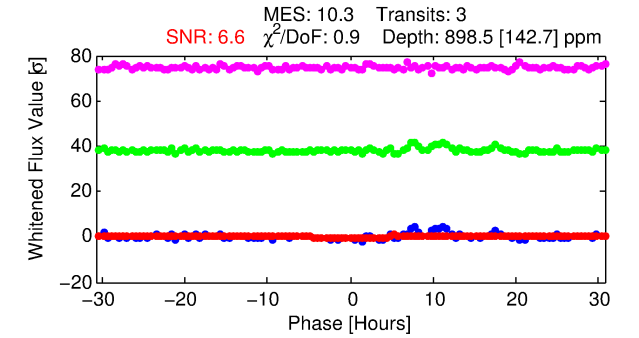
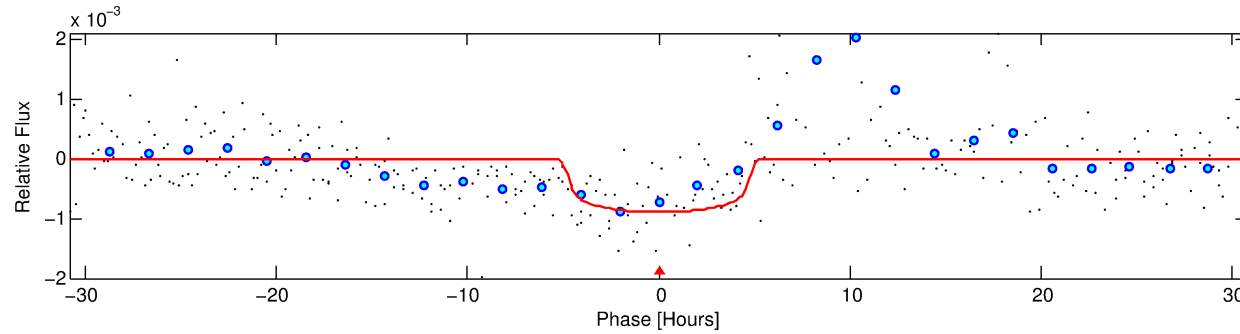
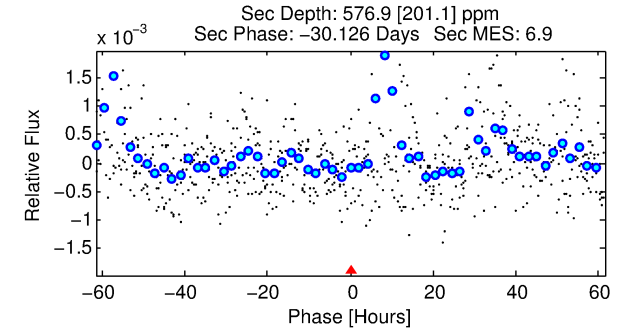
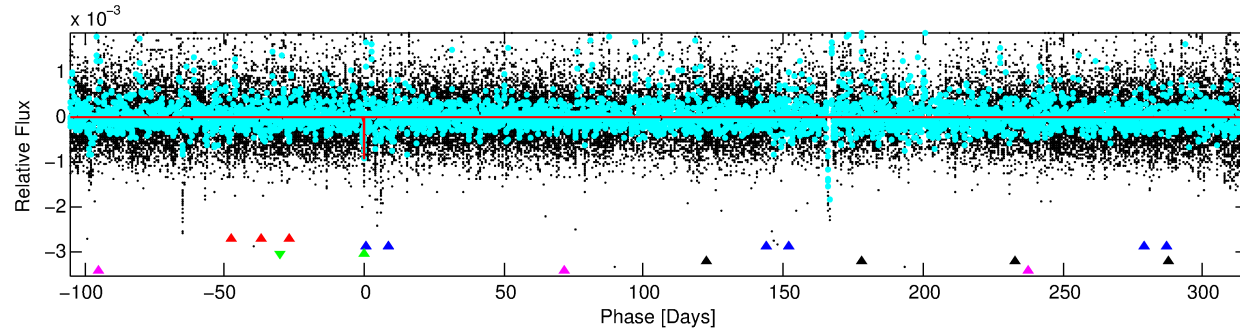
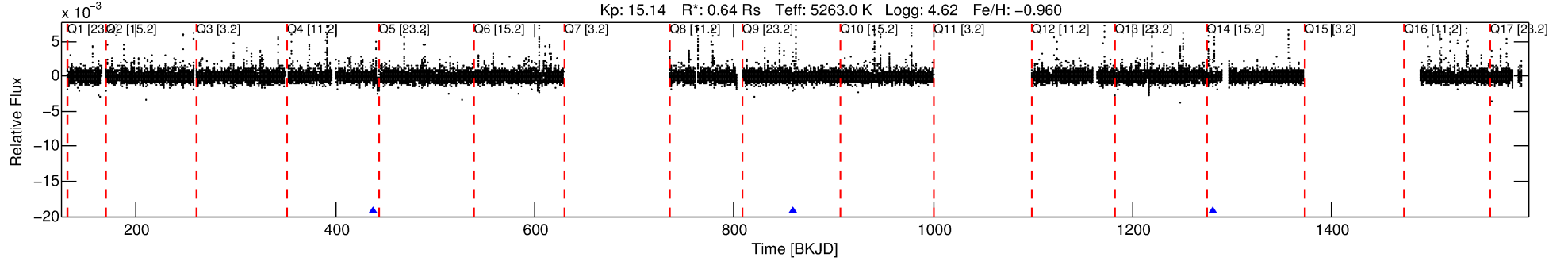
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010483062-03

No Significant Match Found

DV One-Page Summary

KIC: 10483062 Candidate: 3 of 5 Period: 421.678 d



DV Fit Results:

Period = 421.67840 [0.01015] d
Epoch = 437.7136 [0.0134] BKJD
Rp/R* = 0.0300 [0.0064]
a/R* = 215.08 [177.64]
b = 0.77 [0.44]
Seff = 0.32 [0.06]
Teq = 192 [9] K
Rp = 2.11 [0.48] Re
a = 0.9437 [0.0749] AU
Ag = 63655.44 [35920.01] [1.77 σ]
Teffp = 4707 [666] K [6.78 σ]

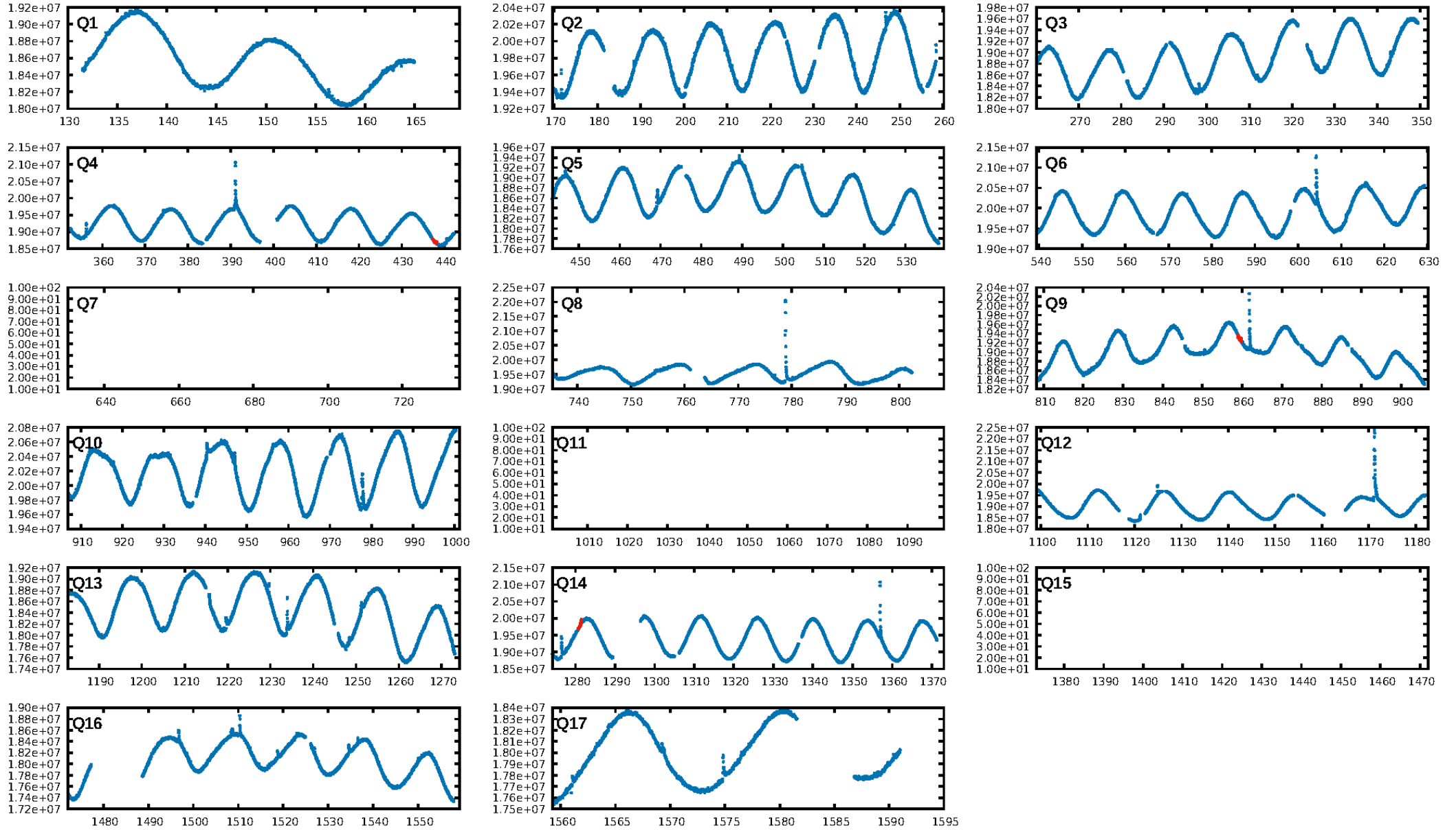
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.72 σ]
LongPeriod-sig: 100.0% [111.42 σ]
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: 1.85e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.1405
Centroid-sig: 14.4%
Centroid-so: 1.885 arcsec [1.21 σ]
OotOffset-rm: 0.217 arcsec [1.45 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.296 arcsec [1.82 σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.67 [2/3]

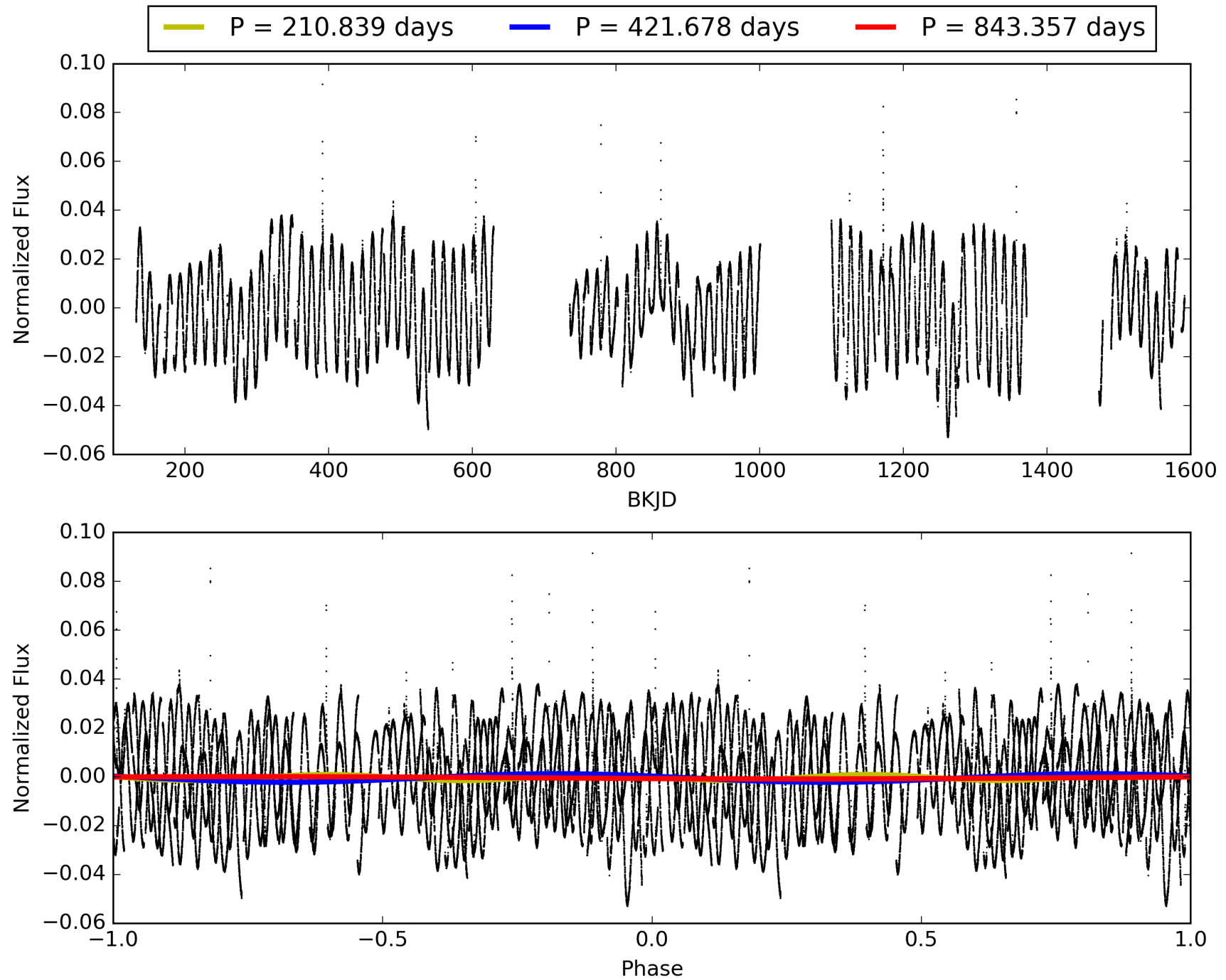
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:42:49 Z

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

TCE 010483062-03, PDC Light Curves

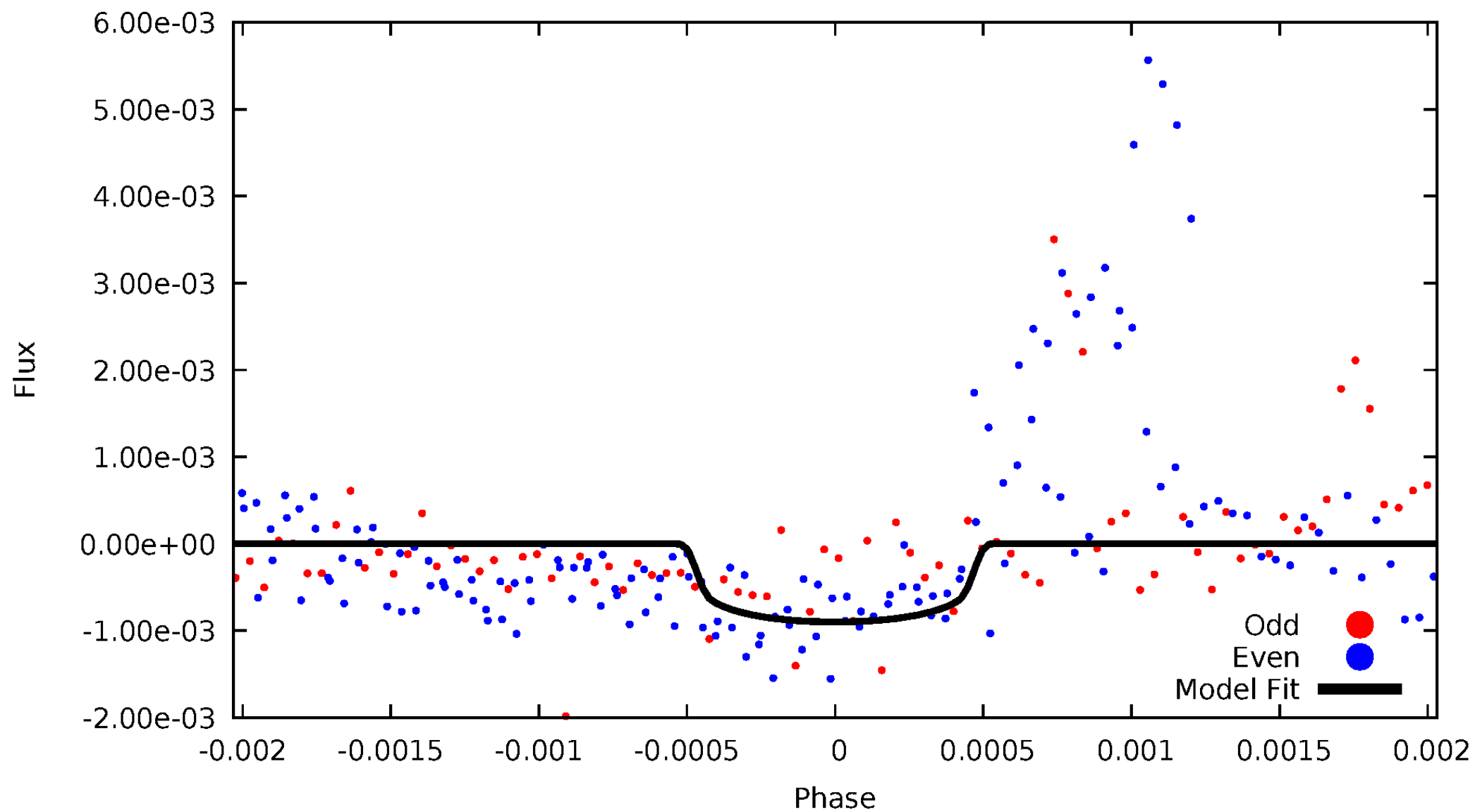


TCE 010483062-03



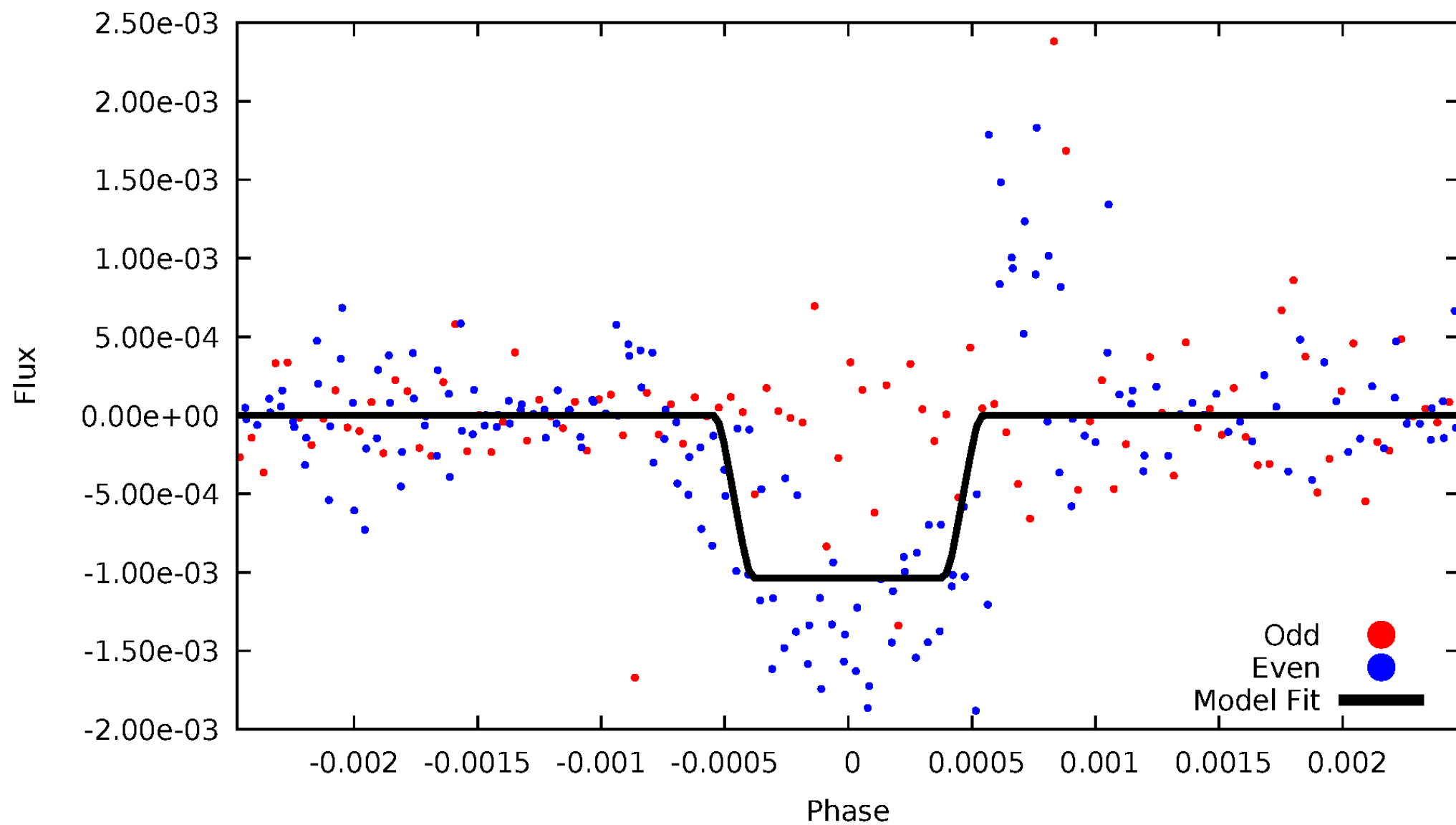
DV Odd/Even

TCE 010483062-03



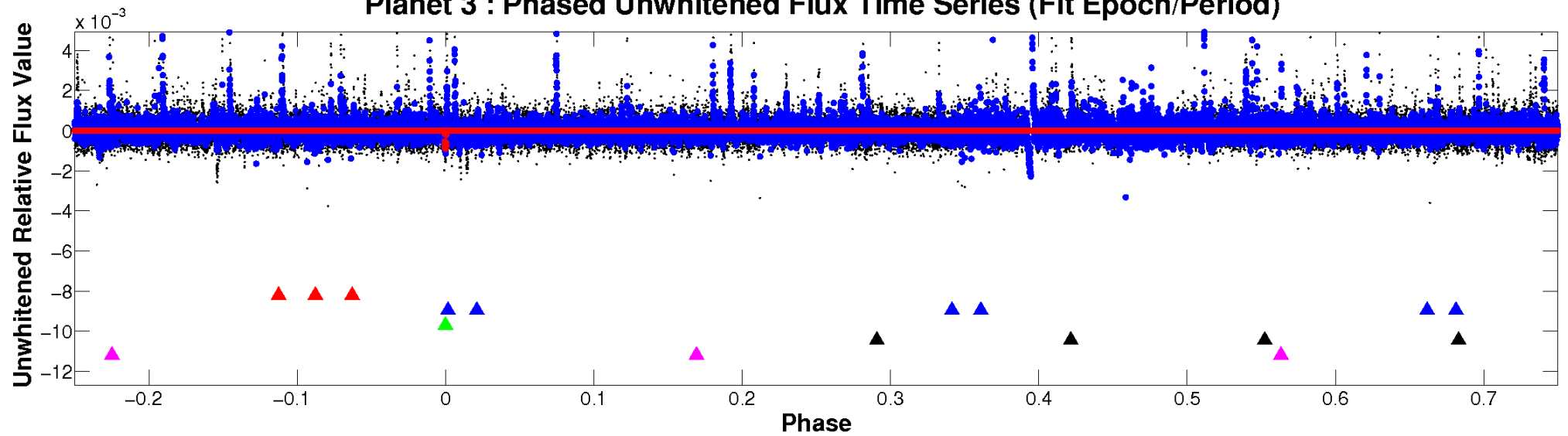
ALT Odd/Even

TCE 010483062-03

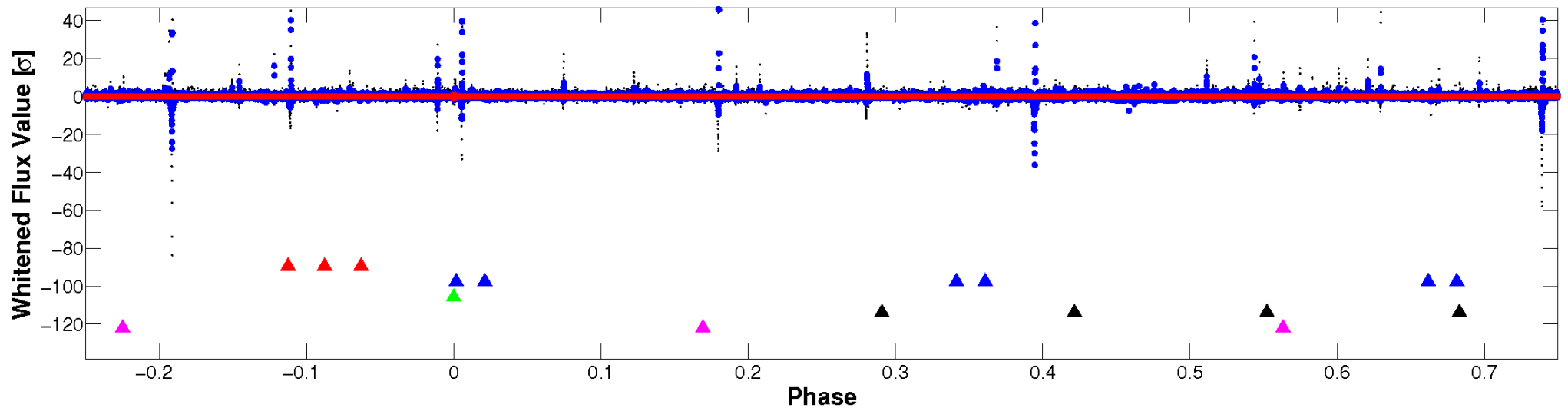


Non-Whitened Vs. Whitened Light Curve

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

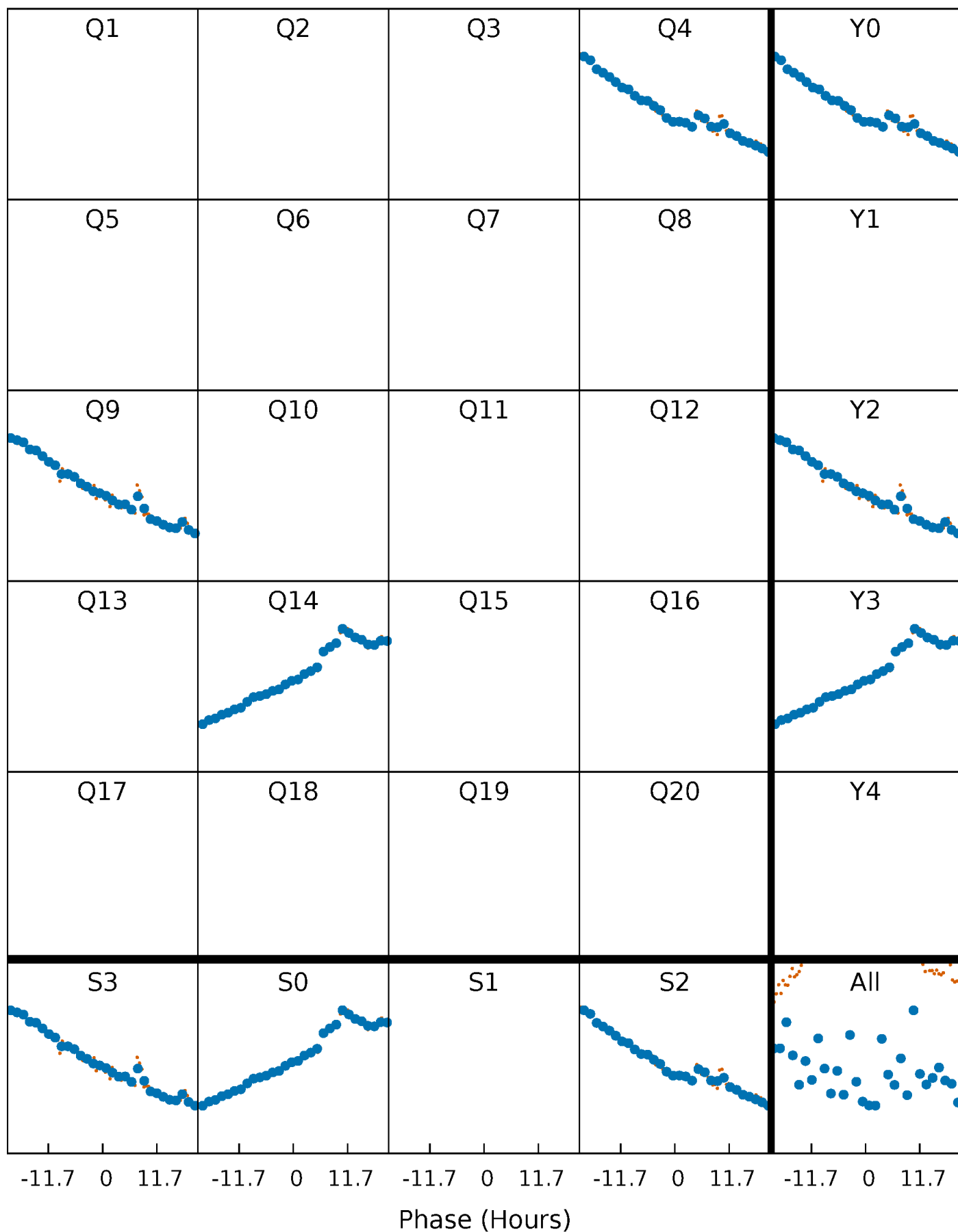


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



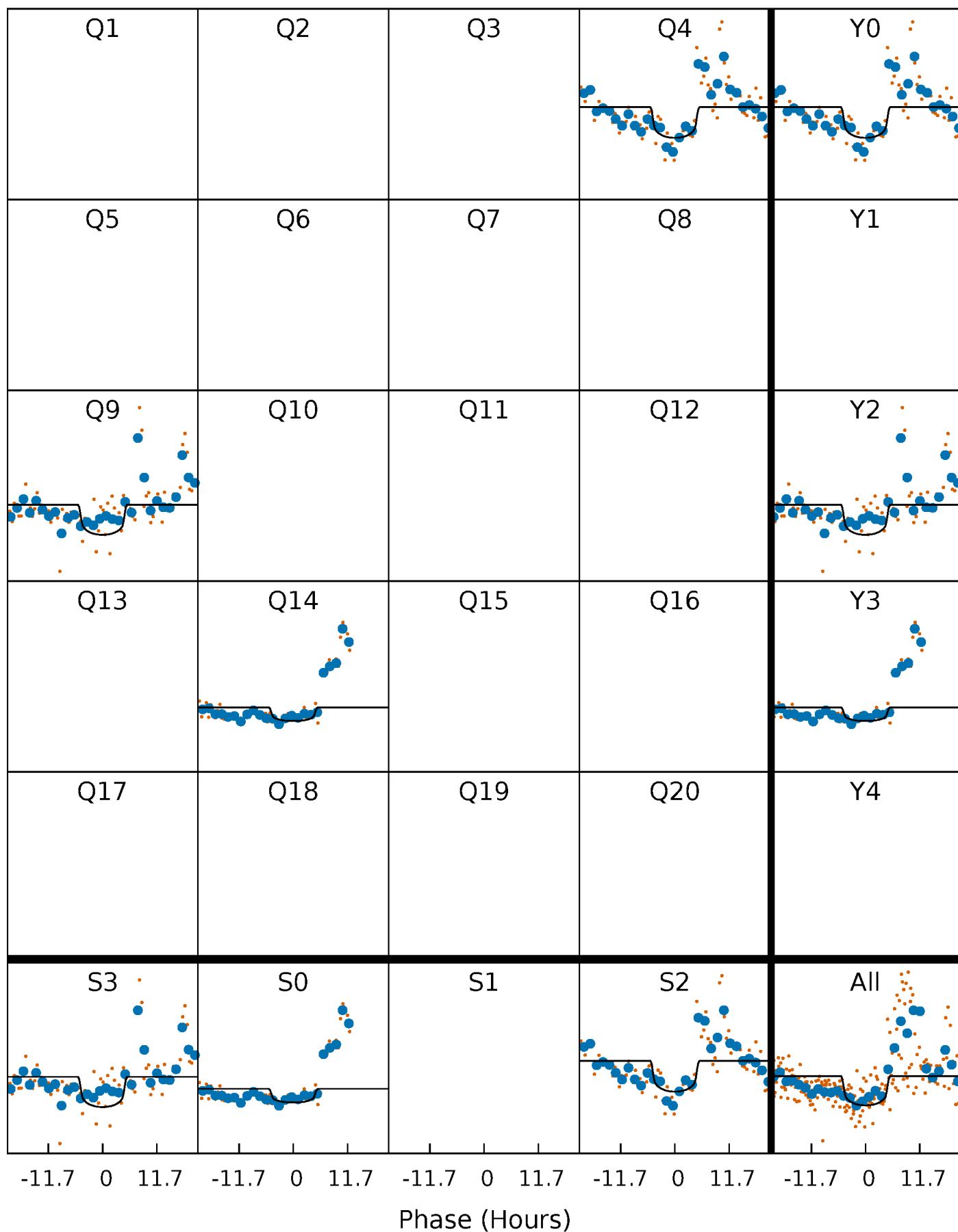
PDC Quarter-Phased Transit Curves

TCE 010483062-03 $P=421.678403$ Days $T_0=437.713620$ (BKJD)



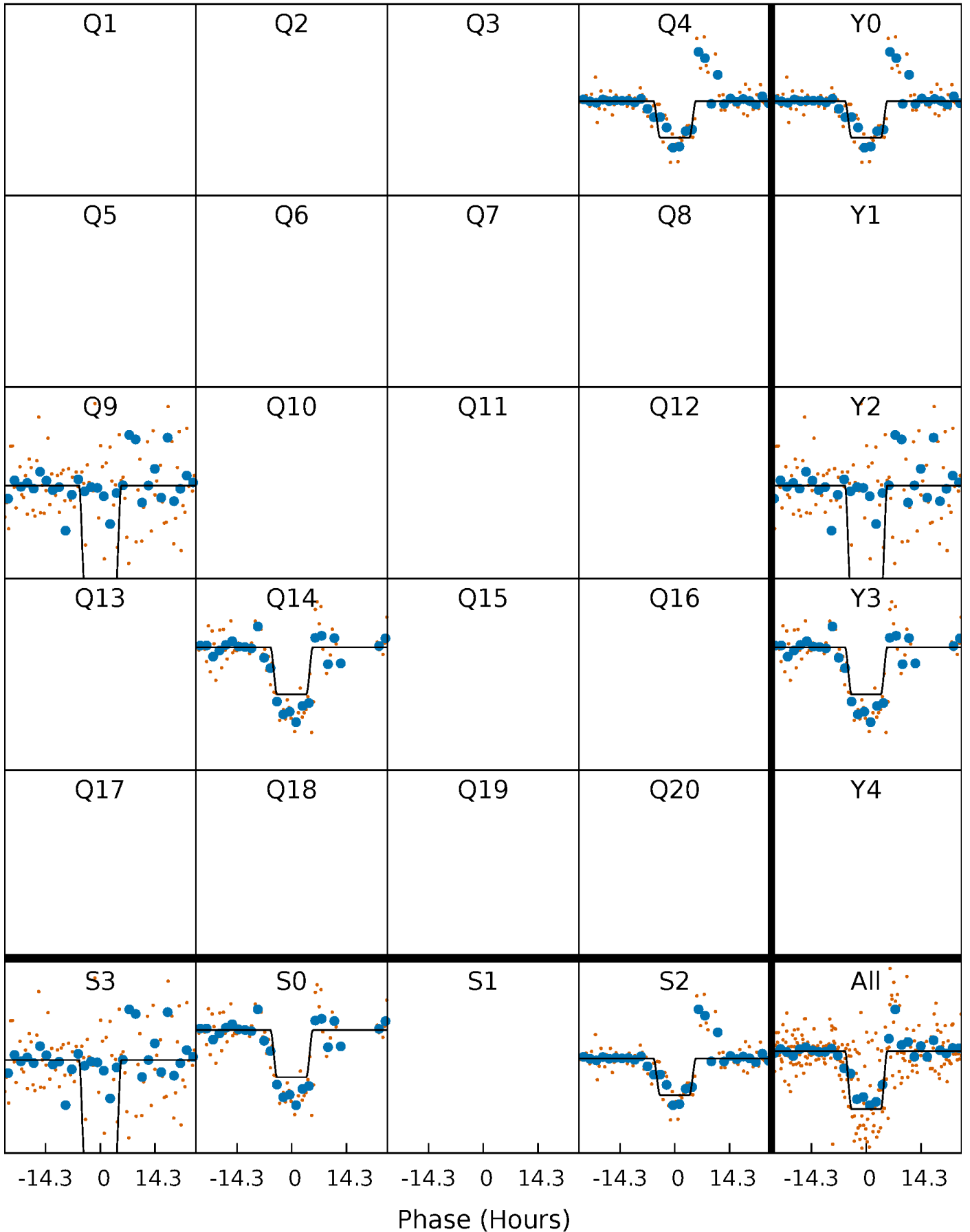
DV Quarter-Phased Transit Curves

TCE 010483062-03 $P=421.678403$ Days $T_0=437.713620$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

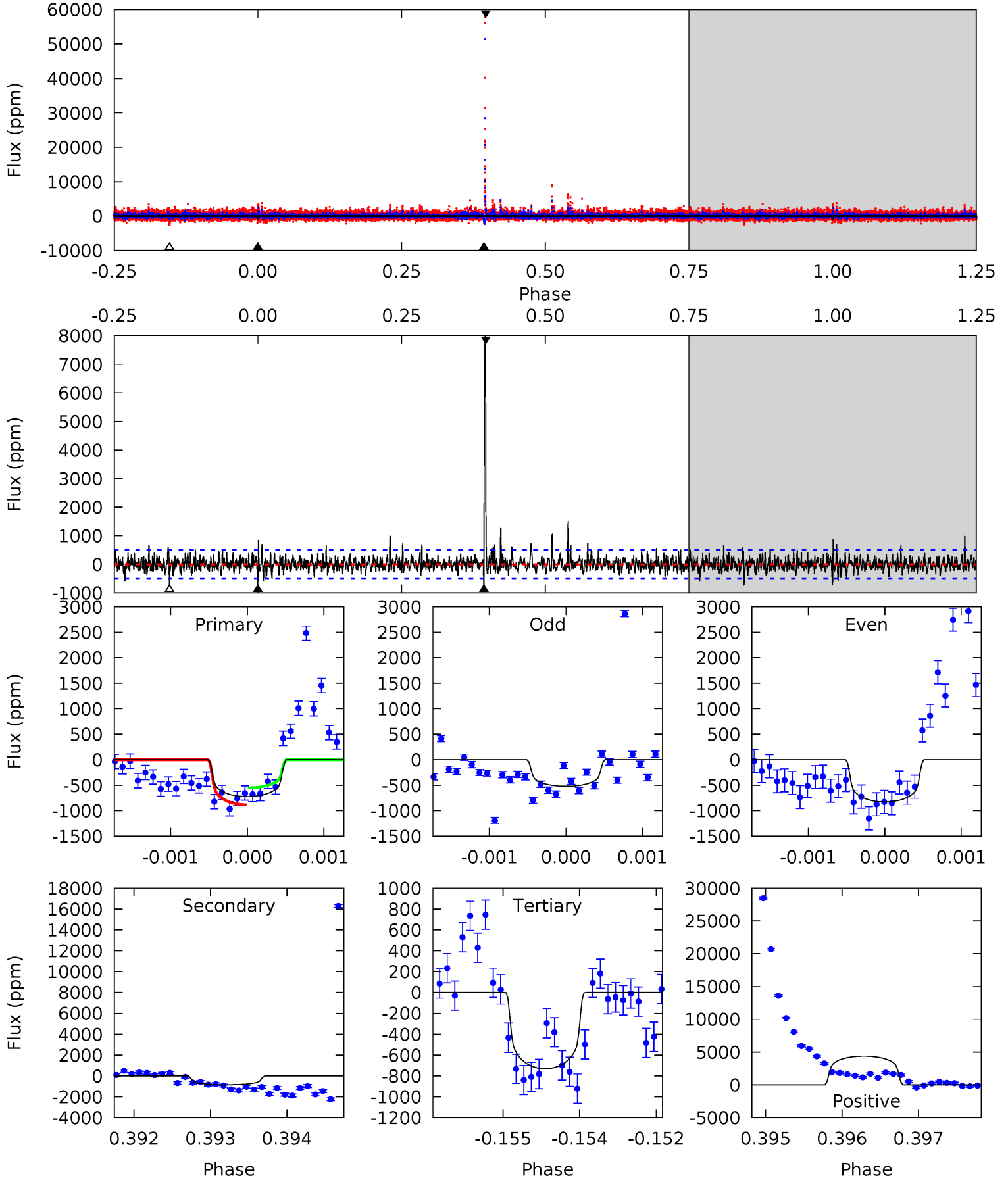
TCE 010483062-03 $P=421.701000$ Days $T_0=437.671864$ (BKJD)



DV Model-Shift Uniqueness Test

010483062-03, P = 421.678403 Days, E = 16.035217 Days

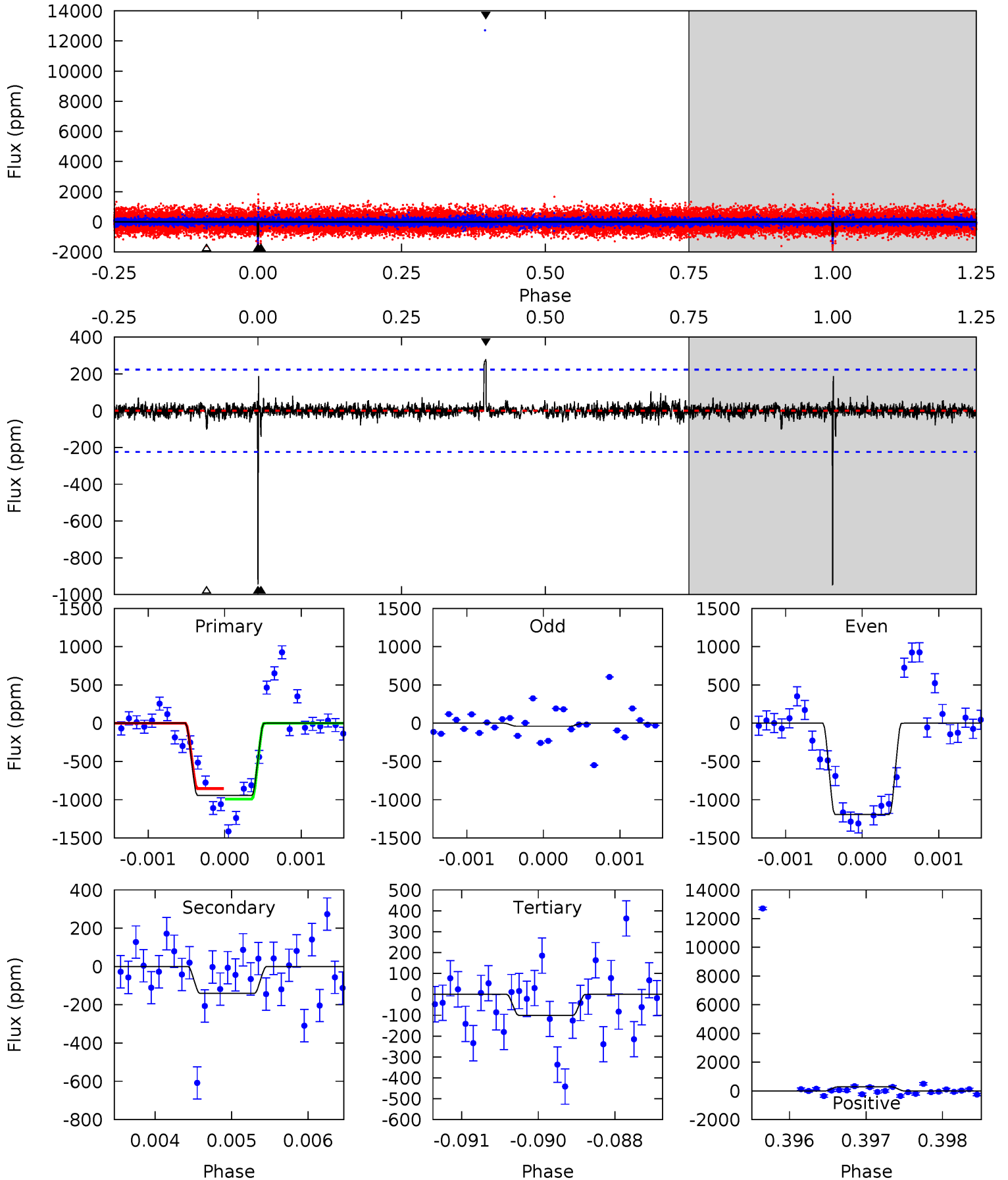
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.75	9.11	7.83	46.9	5.45	3.28	3.02	-0.08	-39.1	1.28	-37.8	0.68	0.96	0.90	1.77



Alt Model-Shift Uniqueness Test

010483062-03, P = 421.701000 Days, E = 15.970864 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.9	3.42	2.44	6.79	5.44	3.27	0.51	20.5	16.2	0.98	-3.37	12.8	0.85	0.23	1.71



Stellar Parameters For KIC 010483062

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5263^{+173}_{-157}	$4.621^{+0.072}_{-0.044}$	$-0.960^{+0.300}_{-0.300}$	$0.643^{+0.055}_{-0.050}$	$0.631^{+0.060}_{-0.028}$	$3.337^{+0.900}_{-0.531}$
	+3%/-3%	+2%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+27%/-16%
Source	PHO1	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 010483062-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-850 ± 93	$2.09^{+0.48}_{-0.42}$	267^{+10}_{-10}	5191^{+608}_{-442}	96369^{+59290}_{-33039}
Alt.	-141 ± 41	$2.27^{+0.45}_{-0.43}$	266^{+10}_{-9}	3583^{+314}_{-270}	13334^{+8380}_{-5319}

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

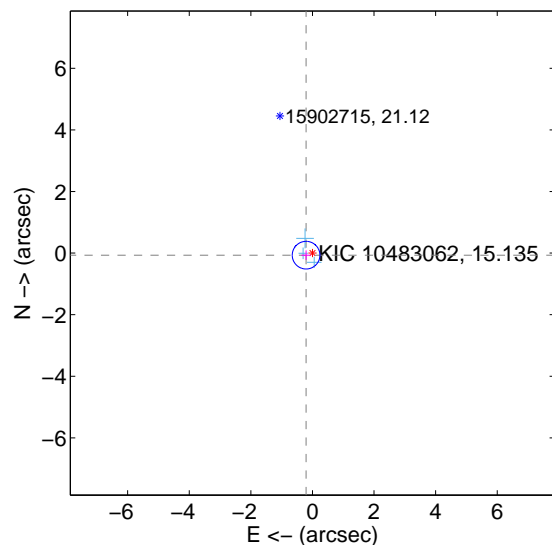
Supplemental centroid analysis for 010483062-03. Kepler magnitude: 15.13. Transit SNR 6.62

There are 3 quarters with good PRF difference image offsets

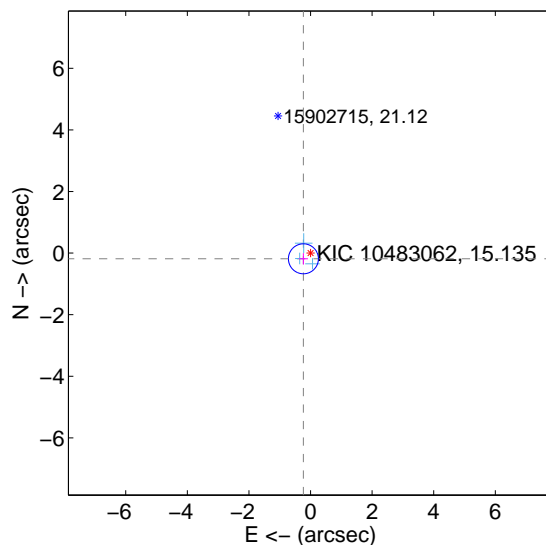
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.217 ± 0.150	1.45	0.206 ± 0.149	-0.067 ± 0.154
PRF-fit source offset from KIC position	0.296 ± 0.162	1.82	0.231 ± 0.147	-0.185 ± 0.183
photometric centroid source offset	1.89 ± 1.55	1.21	0.45 ± 1.00	-1.83 ± 1.58

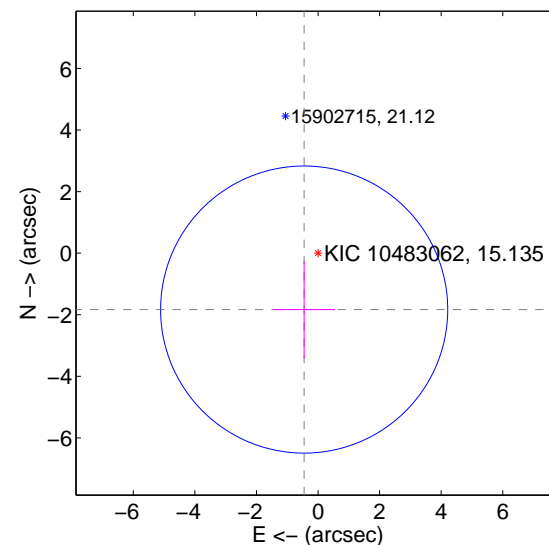
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

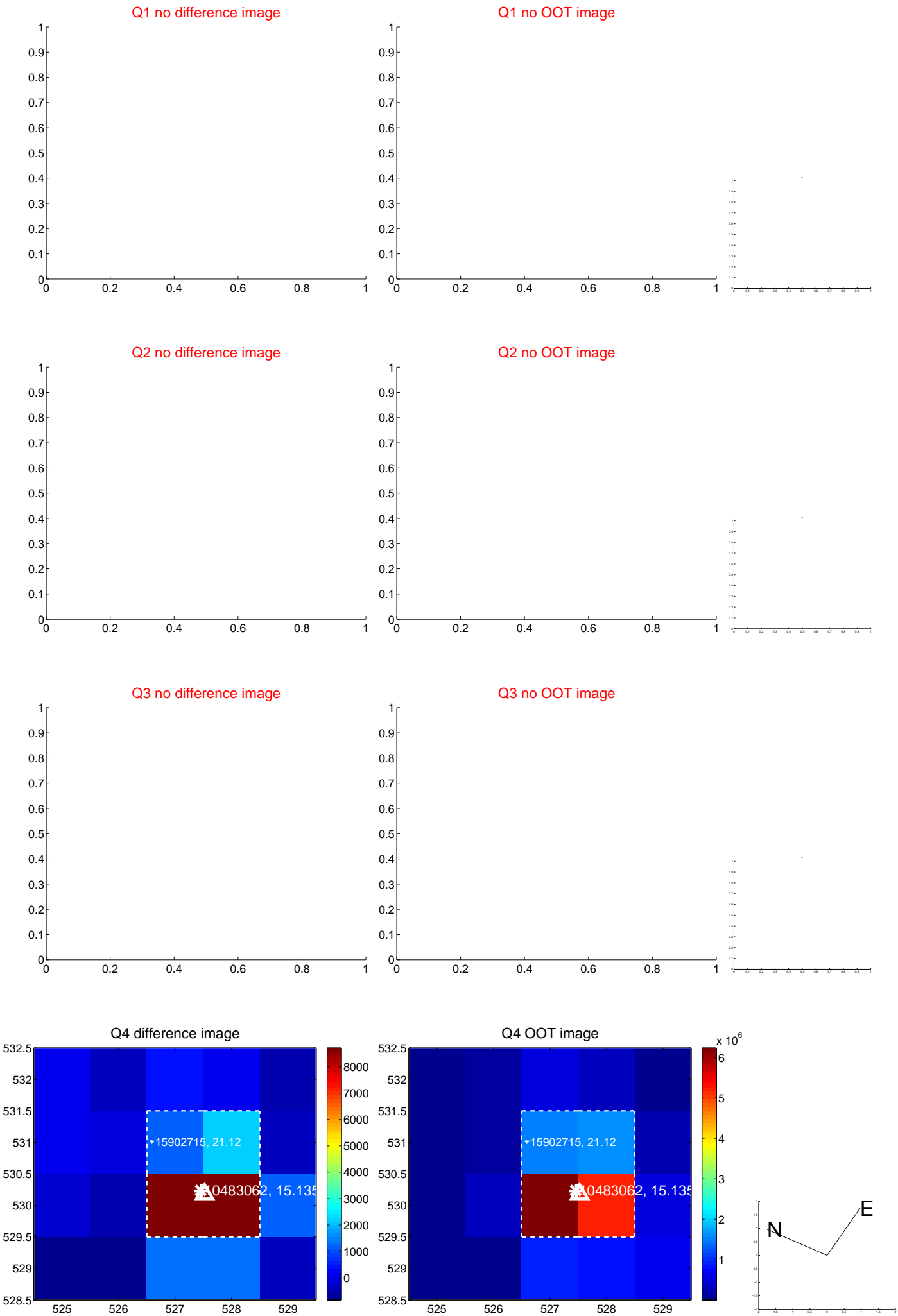


offset from photometric centroids



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.

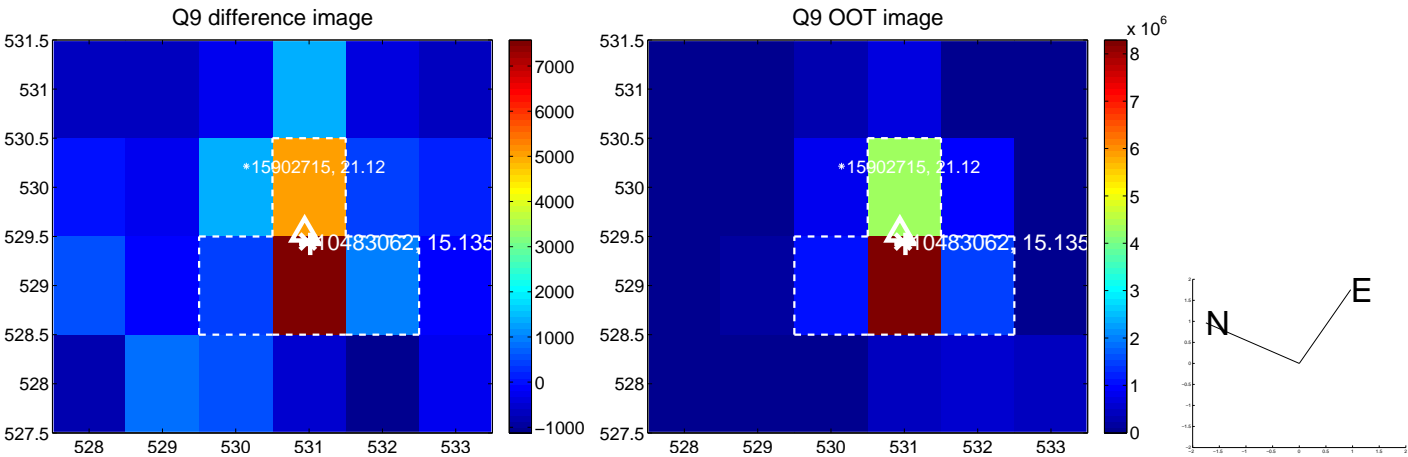
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.

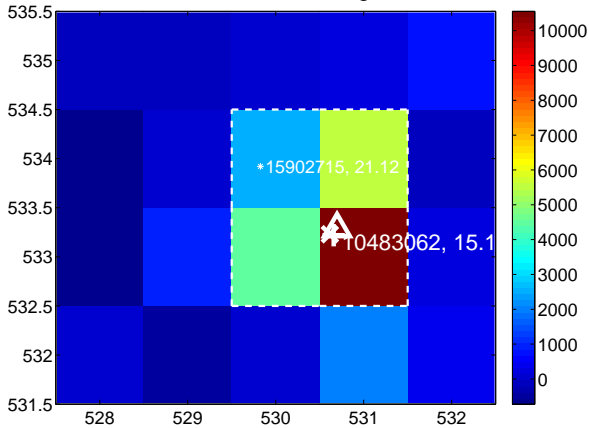
Q13 no difference image



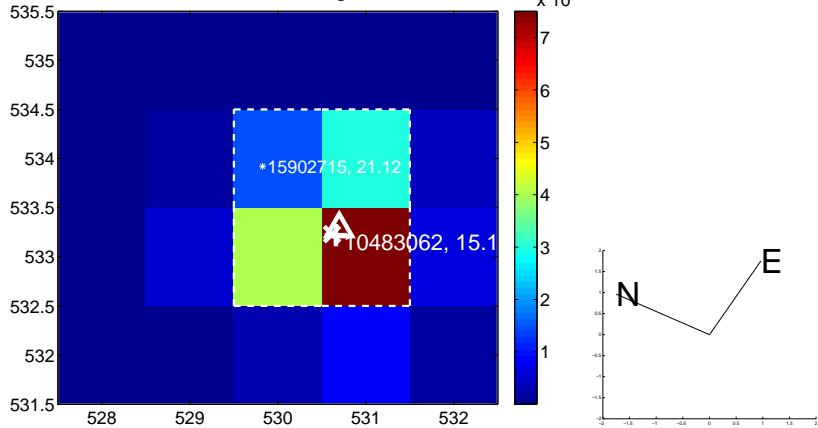
Q13 no OOT image



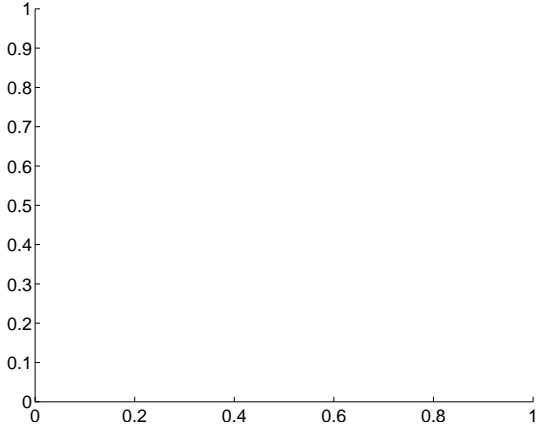
Q14 difference image



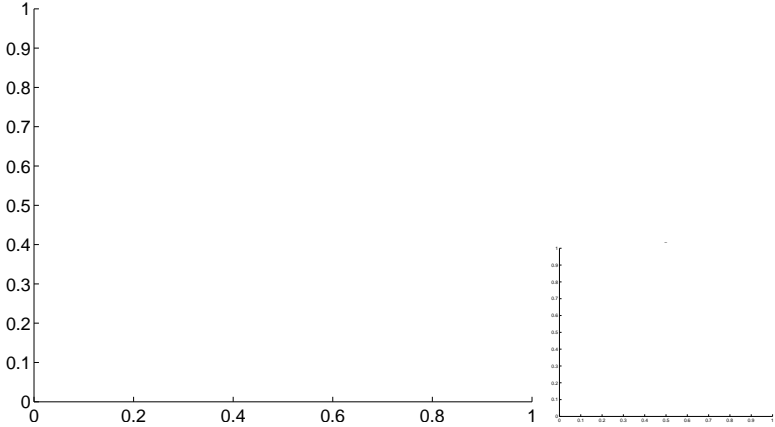
Q14 OOT image



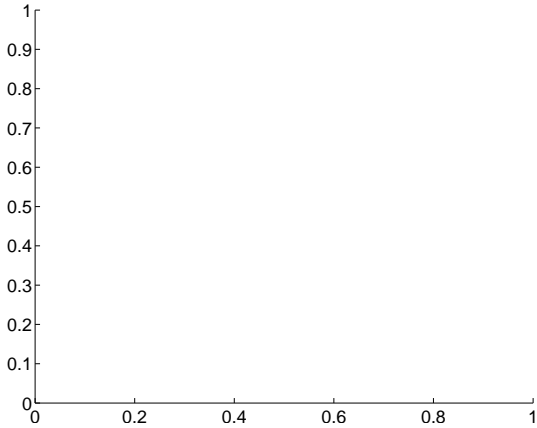
Q15 no difference image



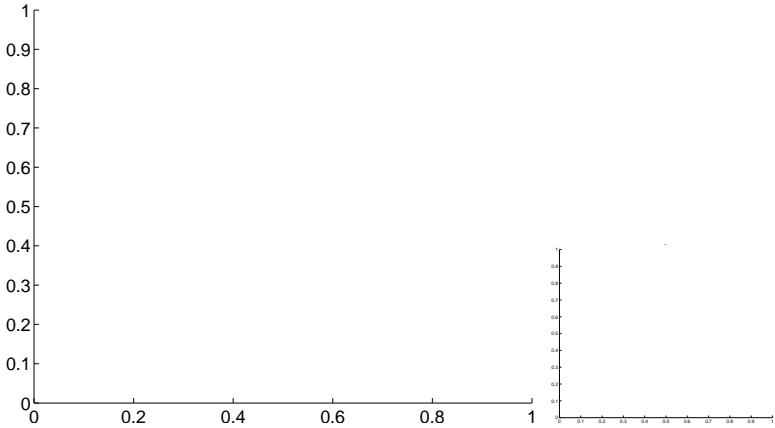
Q15 no OOT image



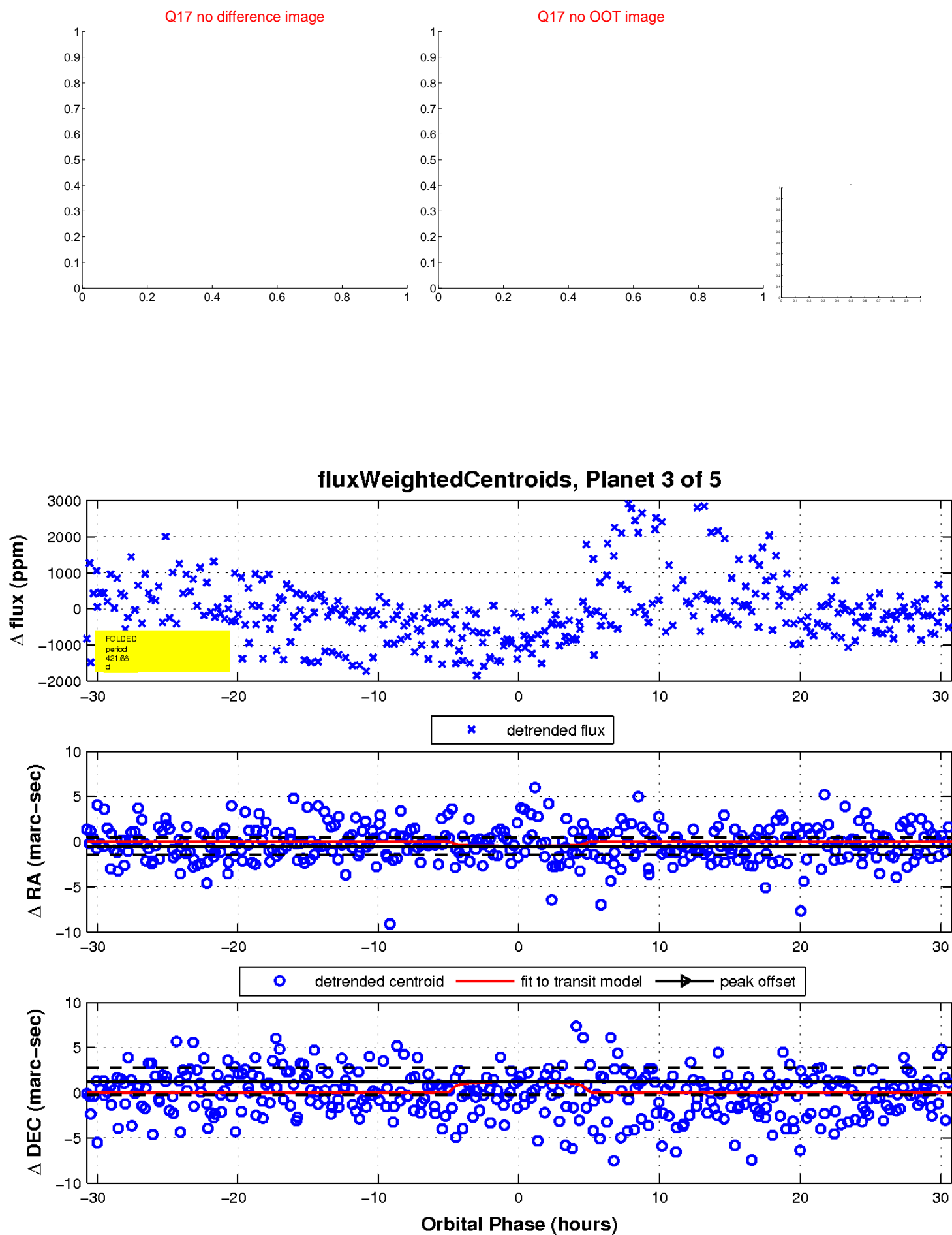
Q16 no difference image



Q16 no OOT image

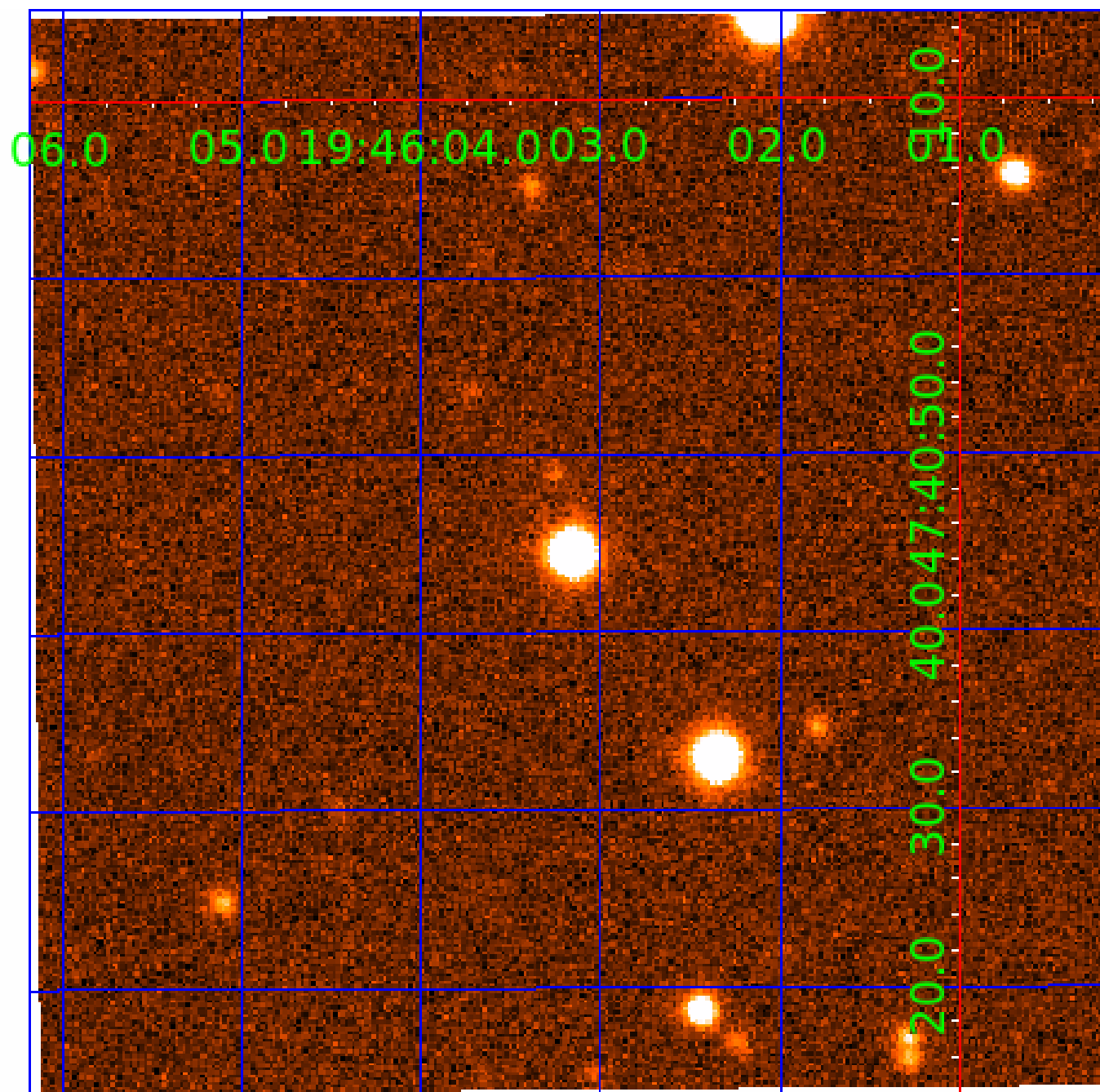


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010483062

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})
010483062-01	OBS	No	411.225582	411.173676	1242.8	9.739	9.1	6.9	0.64	5263	4.41	0.33
010483062-03	OBS	No	421.678403	437.713620	898.5	10.274	10.3	6.6	0.64	5263	2.11	0.32
010483062-04	OBS	No	476.808919	138.688909	1030.5	5.955	9.7	6.2	0.64	5263	2.16	0.27
010483062-05	OBS	No	587.850172	342.905755	951.4	5.079	11.1	7.1	0.64	5263	2.03	0.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010483062-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
010483062-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
010483062-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010483062-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

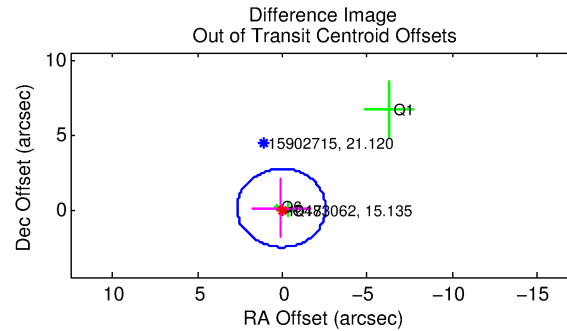
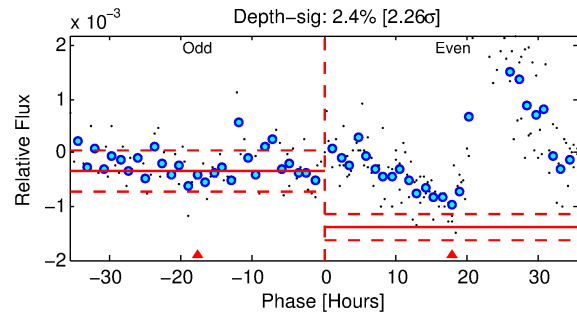
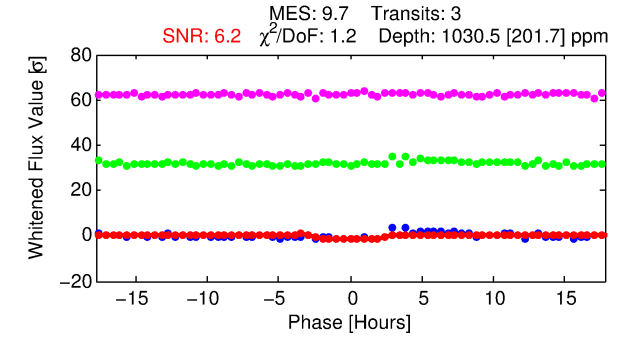
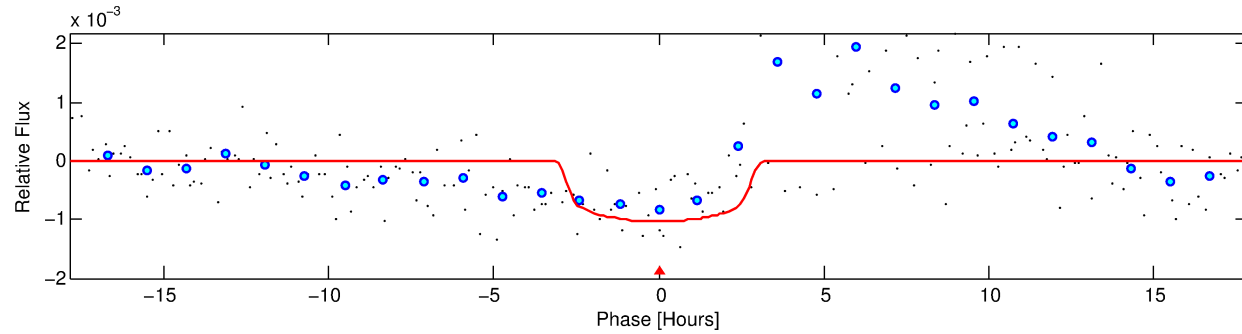
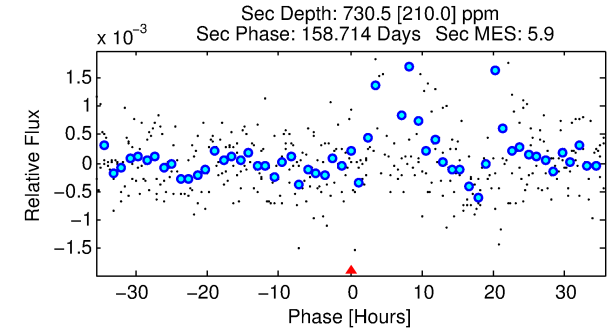
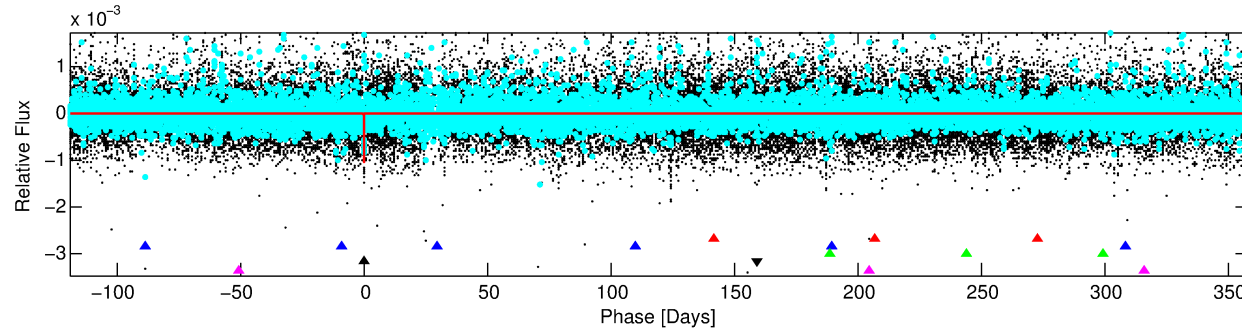
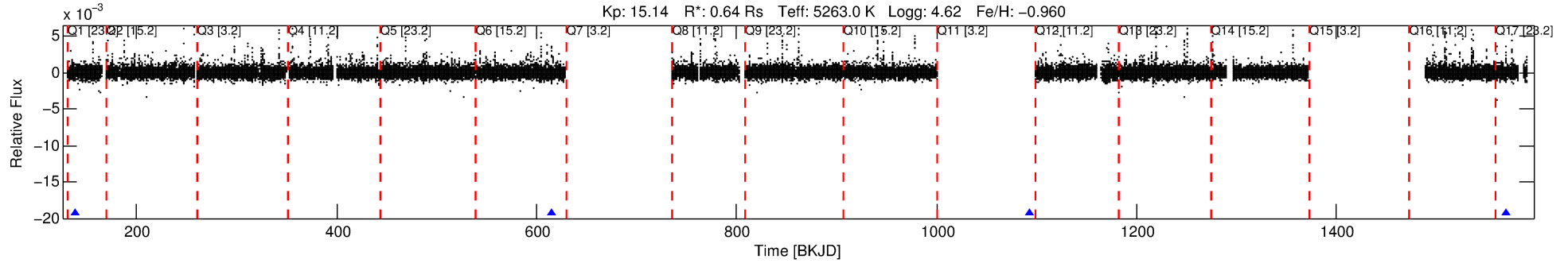
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010483062-04

No Significant Match Found

DV One-Page Summary

KIC: 10483062 Candidate: 4 of 5 Period: 476.809 d



DV Fit Results:

Period = 476.80892 [0.00566] d
Epoch = 138.6889 [0.0110] BKJD
Rp/R* = 0.0308 [0.0221]
a/R* = 498.02 [1522.73]
b = 0.63 [2.93]
Seff = 0.27 [0.05]
Teq = 184 [8] K
Rp = 2.16 [1.56] Re
a = 1.0242 [0.0813] AU
Ag = 90178.30 [132371.70] [0.68 σ]
Teffp = 4929 [1810] K [2.62 σ]

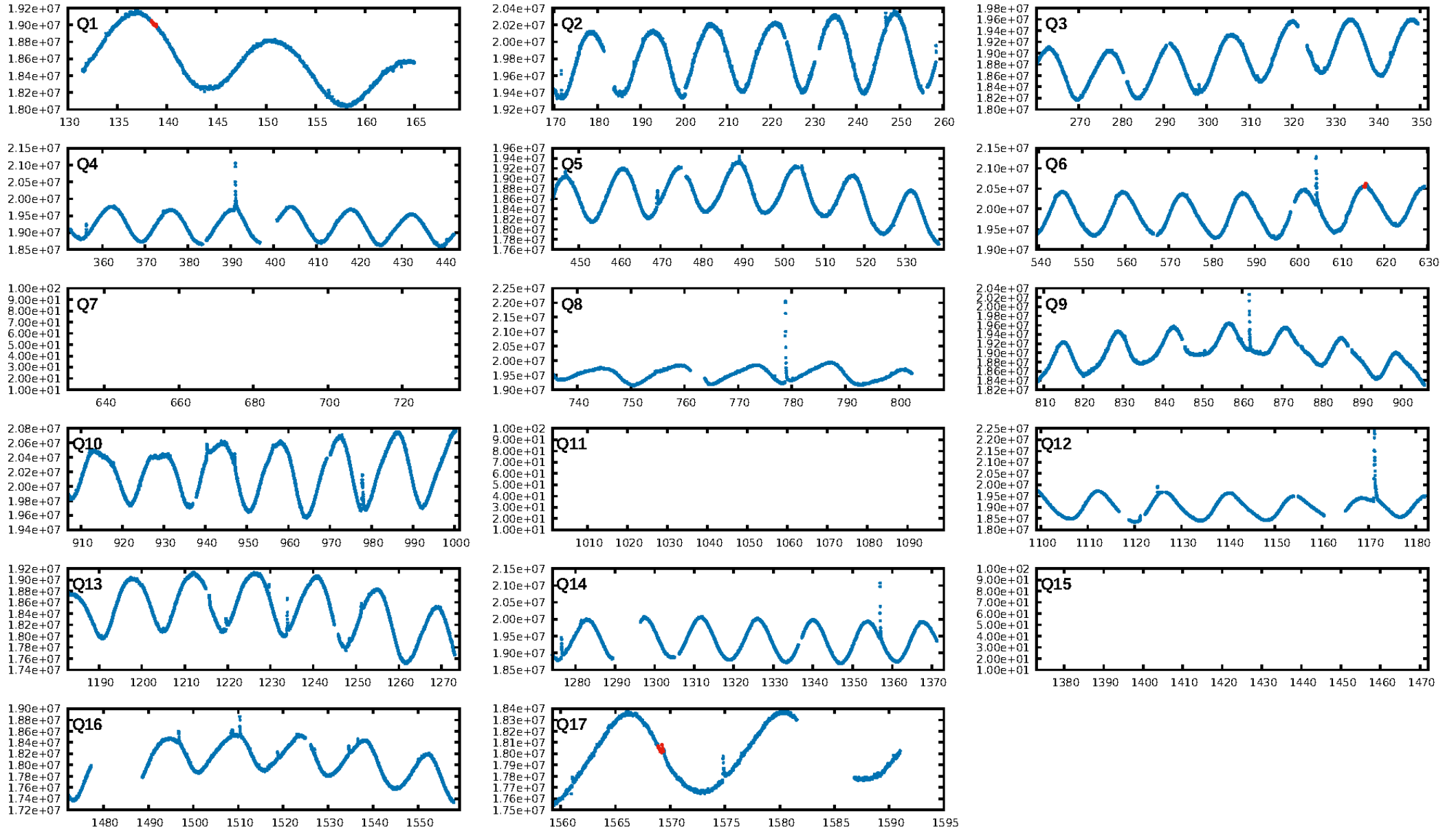
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [111.42 σ]
LongPeriod-sig: 100.0% [340.48 σ]
ModelChiSquare2-sig: 2.4%
ModelChiSquareGof-sig: 92.3%
Bootstrap-pfa: 3.04e-11
RollingBand-fgt: 1.00 [1/1]
GhostDiagnostic-chr: 1.412
Centroid-sig: 11.9%
Centroid-so: 1.529 arcsec [1.55 σ]
OotOffset-rm: 0.121 arcsec [0.14 σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-rm: 0.251 arcsec [0.10 σ]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

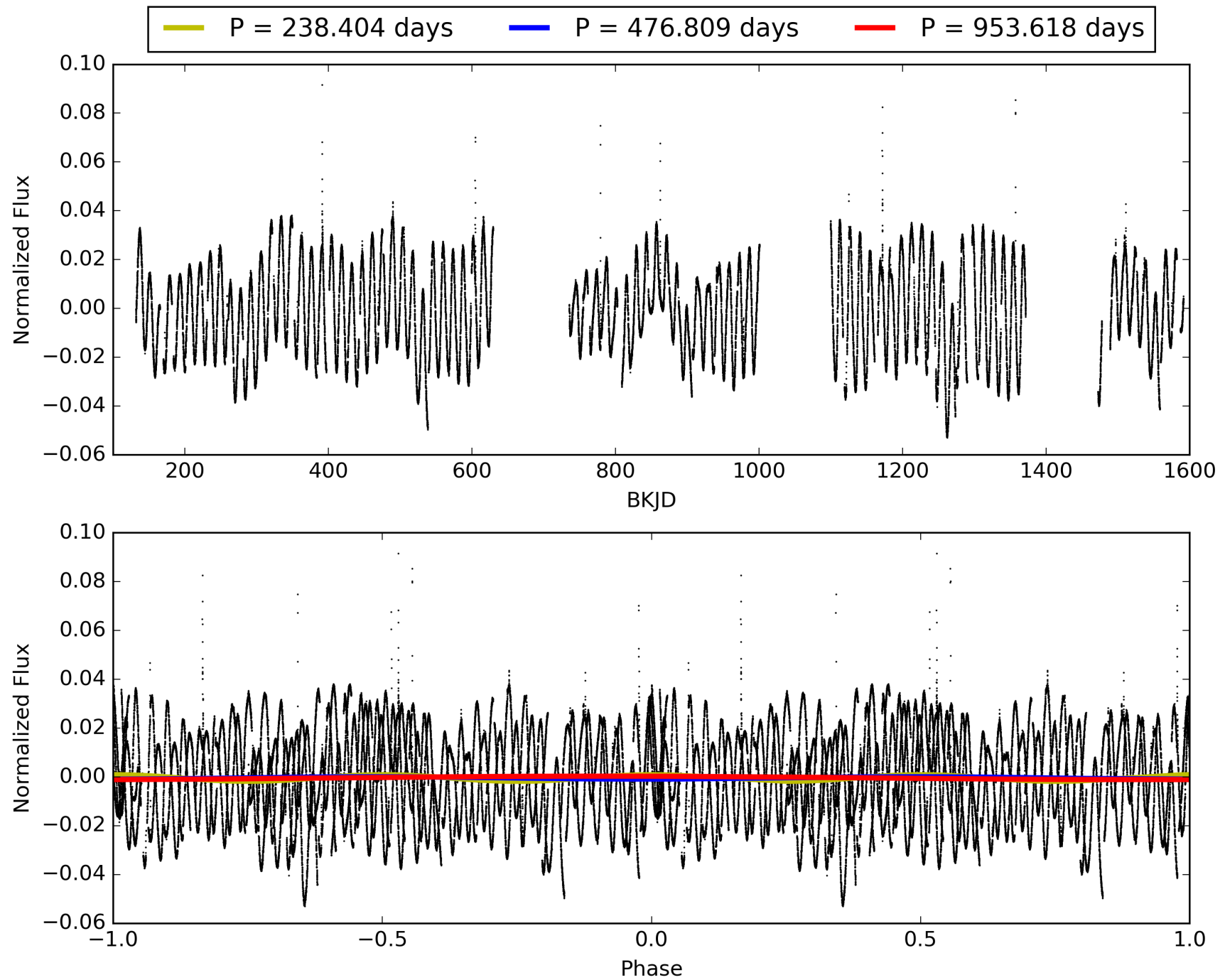
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:43:00 Z

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

TCE 010483062-04, PDC Light Curves

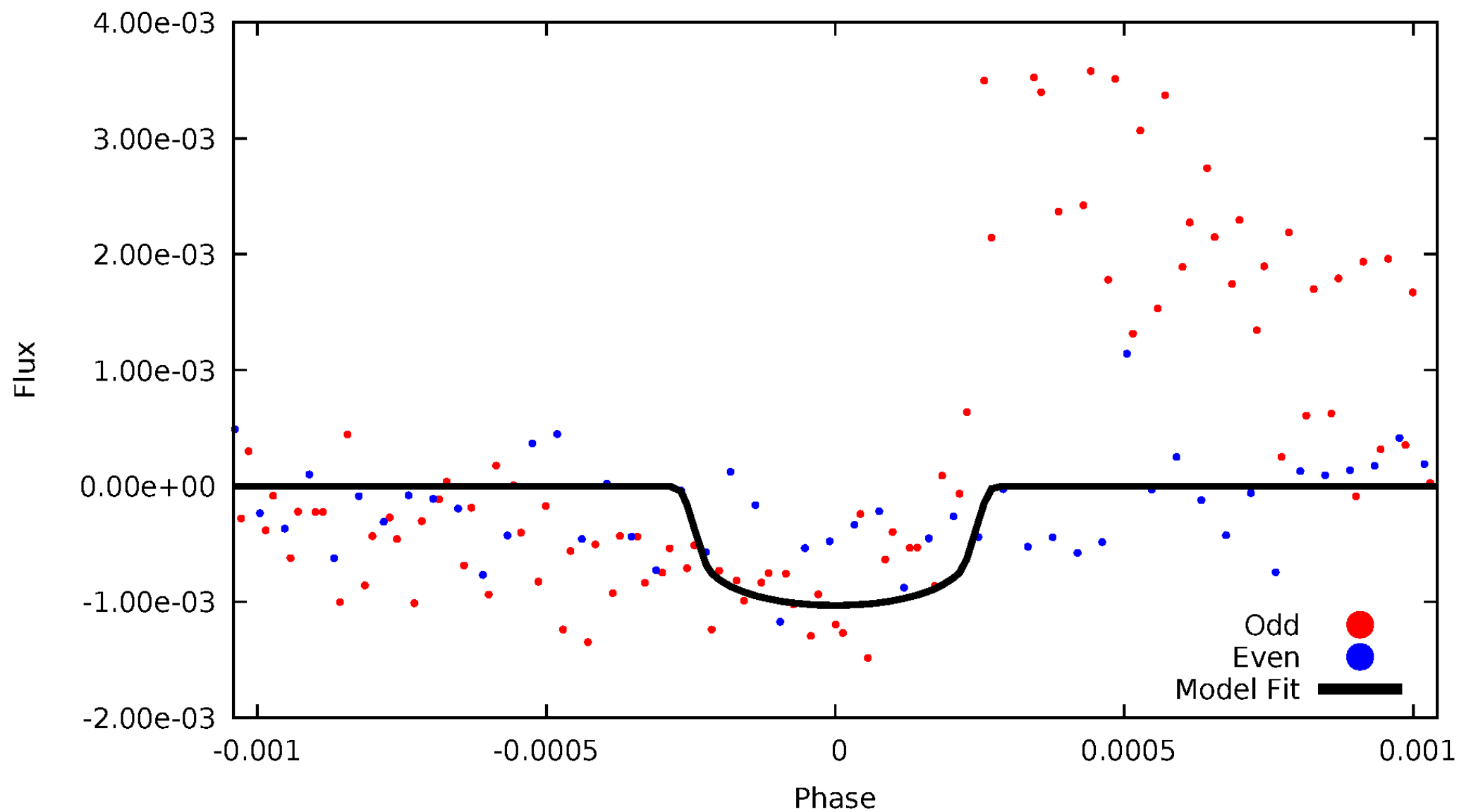


TCE 010483062-04



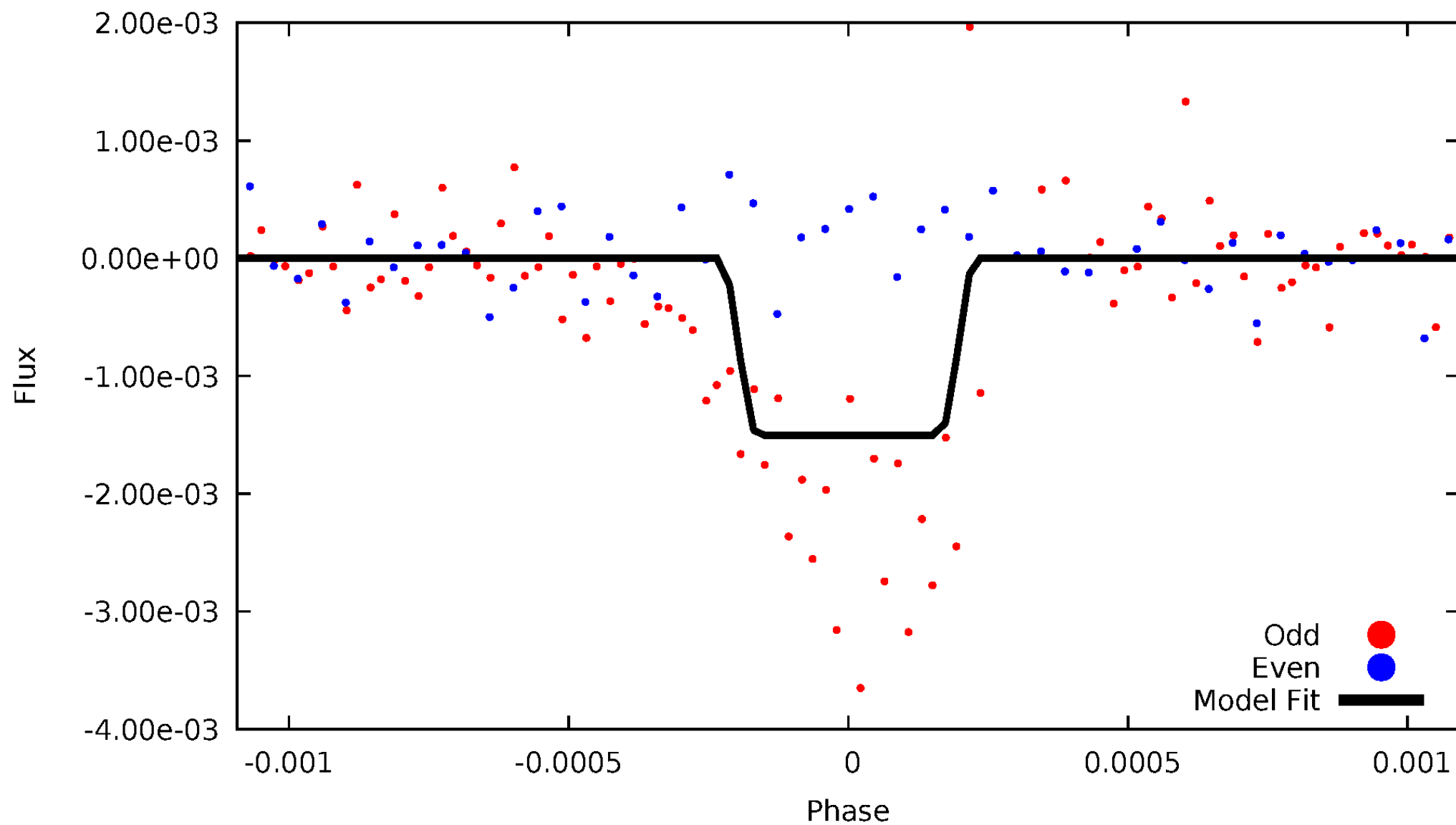
DV Odd/Even

TCE 010483062-04



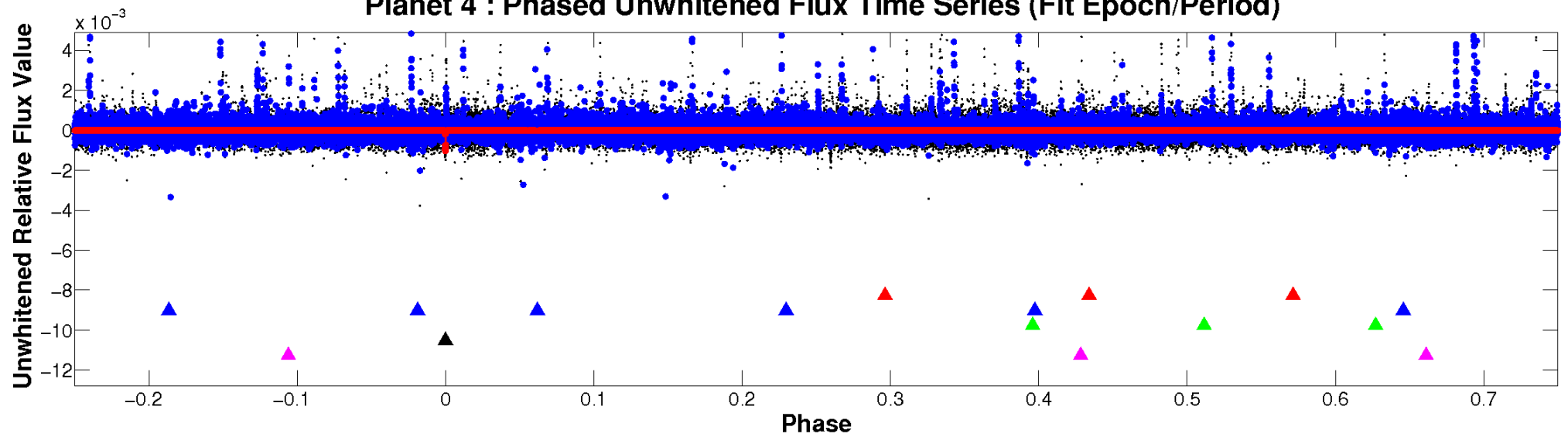
ALT Odd/Even

TCE 010483062-04

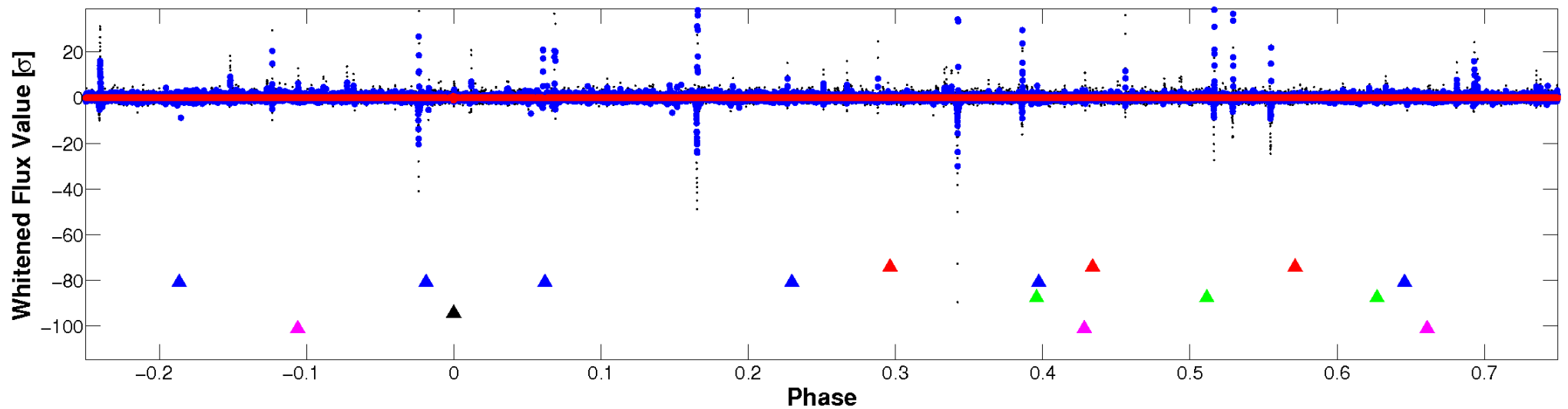


Non-Whitened Vs. Whitened Light Curve

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

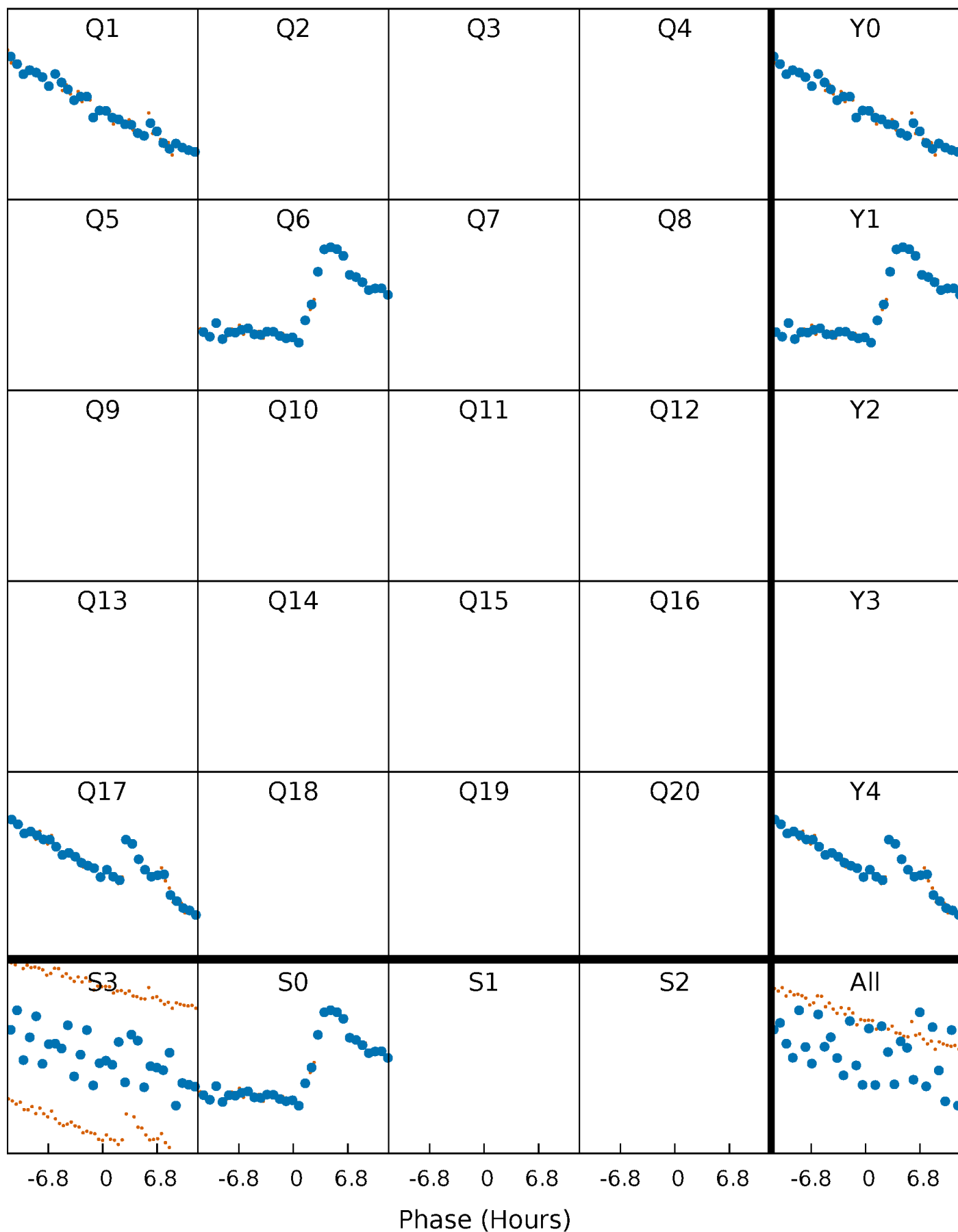


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



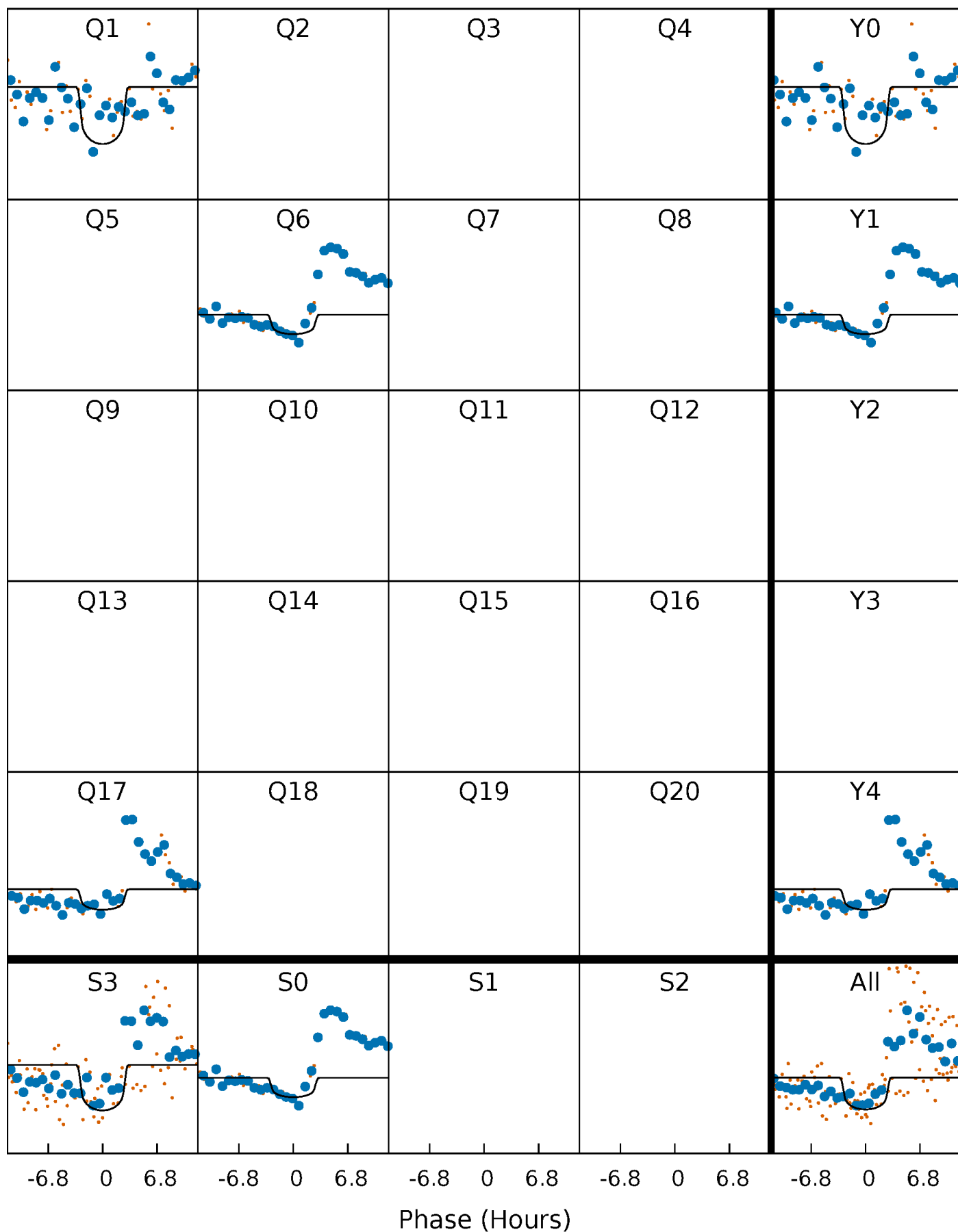
PDC Quarter-Phased Transit Curves

TCE 010483062-04 $P=476.808919$ Days $T_0=138.688909$ (BKJD)



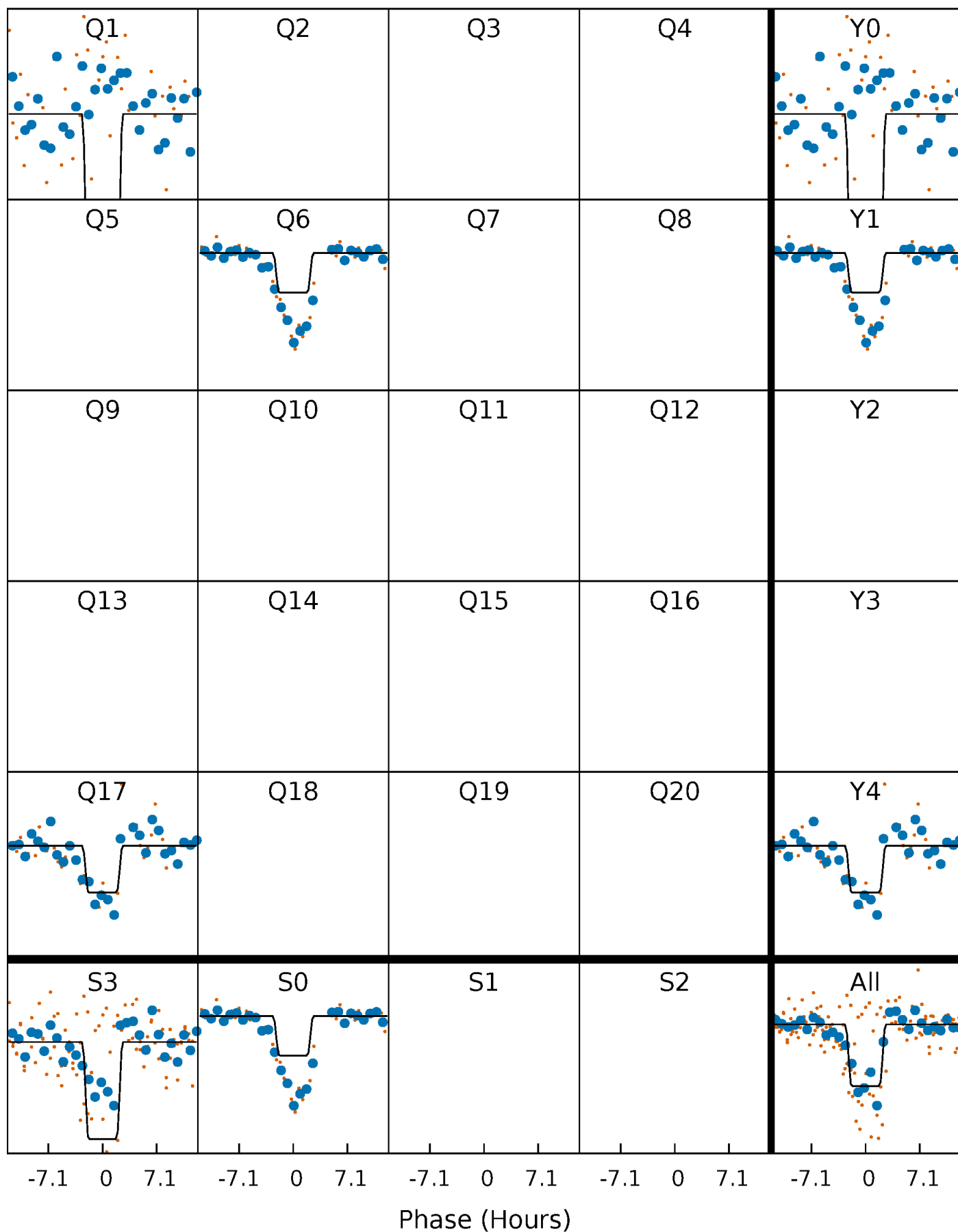
DV Quarter-Phased Transit Curves

TCE 010483062-04 P=476.808919 Days $T_0=138.688909$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

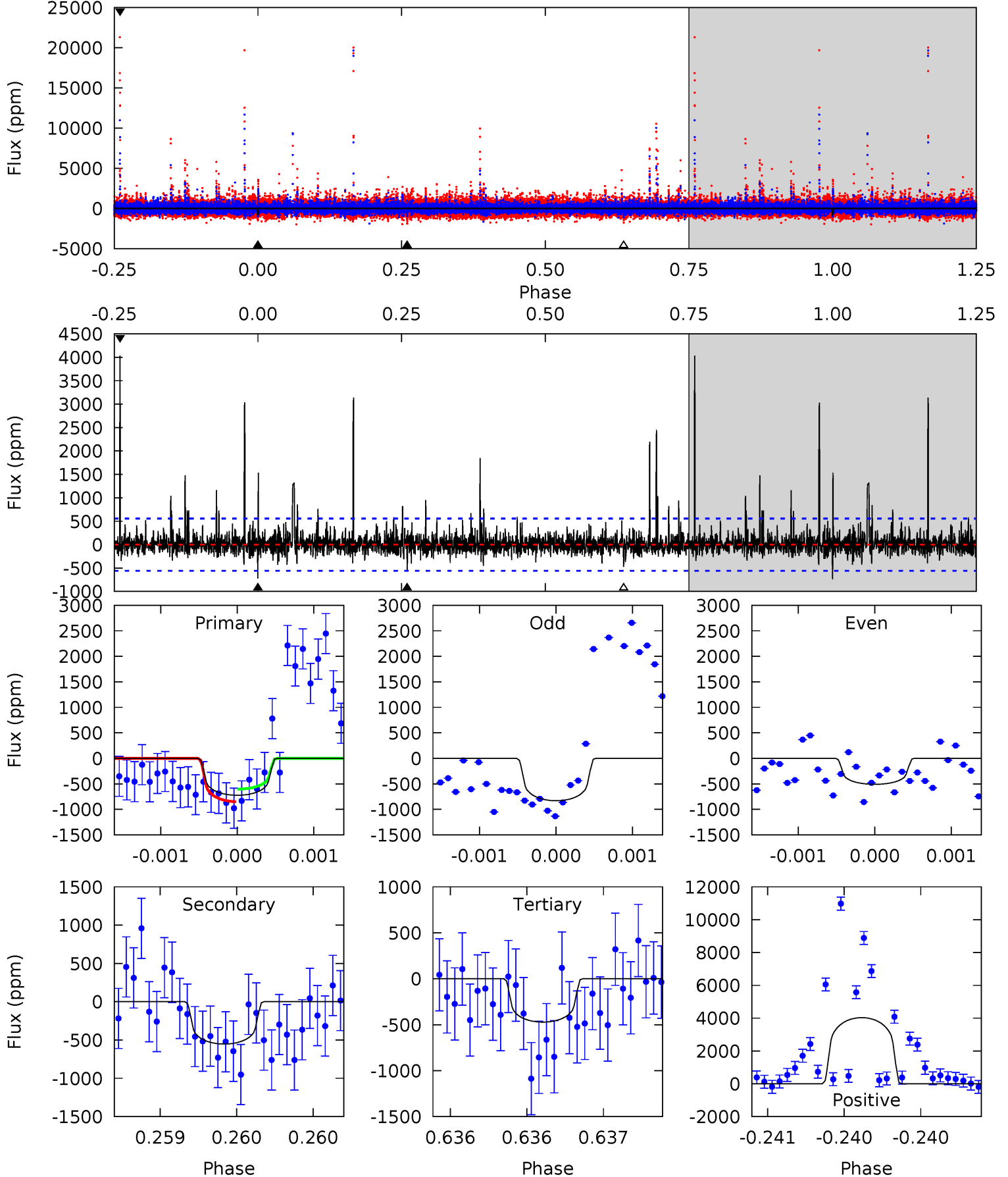
TCE 010483062-04 $P=476.810311$ Days $T_0=138.703954$ (BKJD)



DV Model-Shift Uniqueness Test

010483062-04, P = 476.808919 Days, E = 138.688909 Days

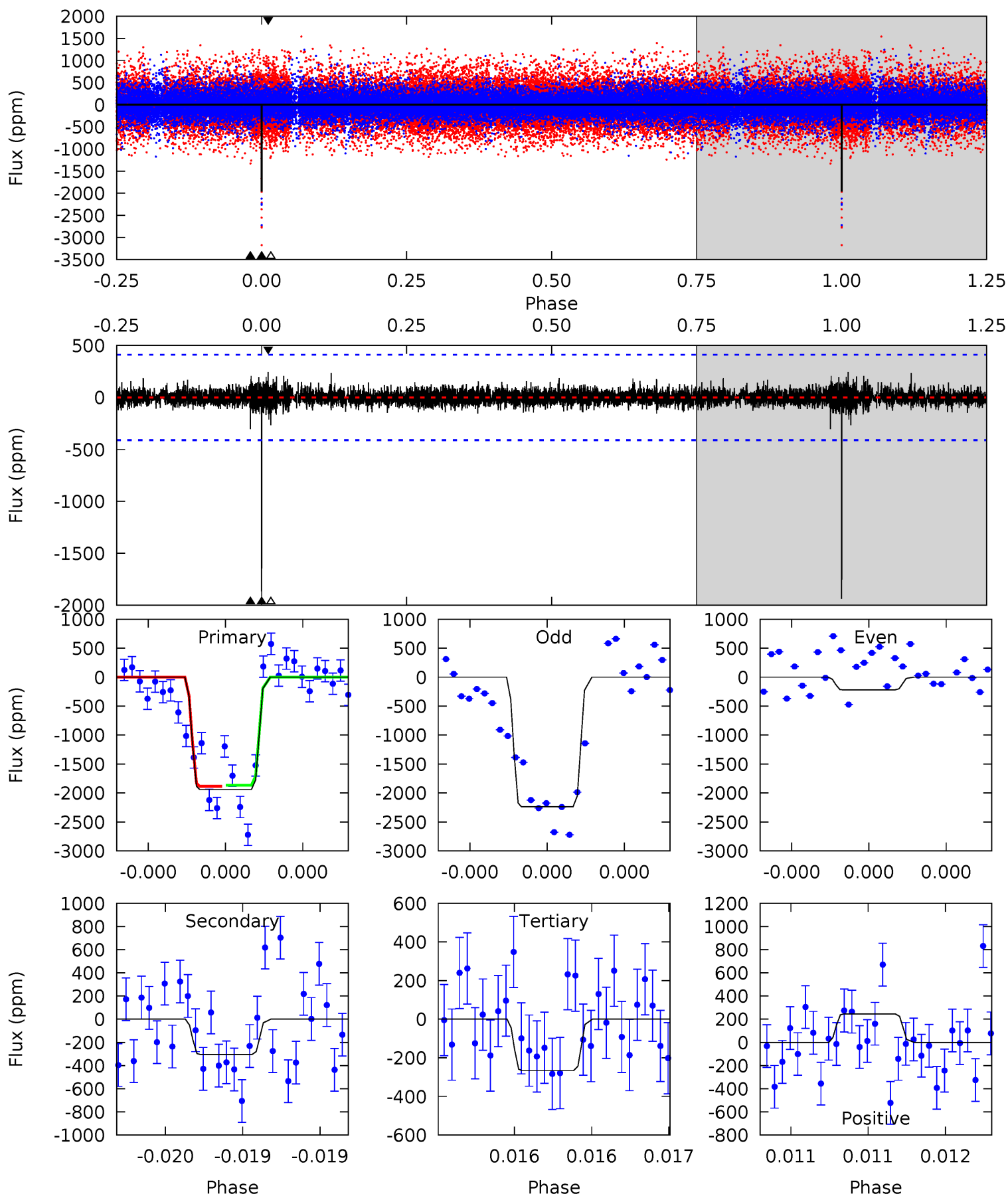
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.20	5.50	4.70	40.1	5.55	3.45	2.23	2.50	-32.9	0.80	-34.6	0.76	0.88	0.85	1.23



Alt Model-Shift Uniqueness Test

010483062-04, P = 476.810311 Days, E = 138.703954 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.4	4.15	3.63	3.33	5.59	3.51	0.56	22.8	23.1	0.53	0.82	14.2	0.87	0.11	0.14



Stellar Parameters For KIC 010483062

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5263^{+173}_{-157}	$4.621^{+0.072}_{-0.044}$	$-0.960^{+0.300}_{-0.300}$	$0.643^{+0.055}_{-0.050}$	$0.631^{+0.060}_{-0.028}$	$3.337^{+0.900}_{-0.531}$
	+3%/-3%	+2%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+27%/-16%
Source	PHO1	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 010483062-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-552 ± 100	$2.30^{+1.46}_{-1.33}$	256^{+10}_{-10}	4600^{+2068}_{-781}	$59554^{+268068}_{-36478}$
Alt.	-305 ± 73	$2.67^{+1.62}_{-1.31}$	255^{+10}_{-9}	3862^{+1179}_{-545}	24826^{+71162}_{-15535}

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

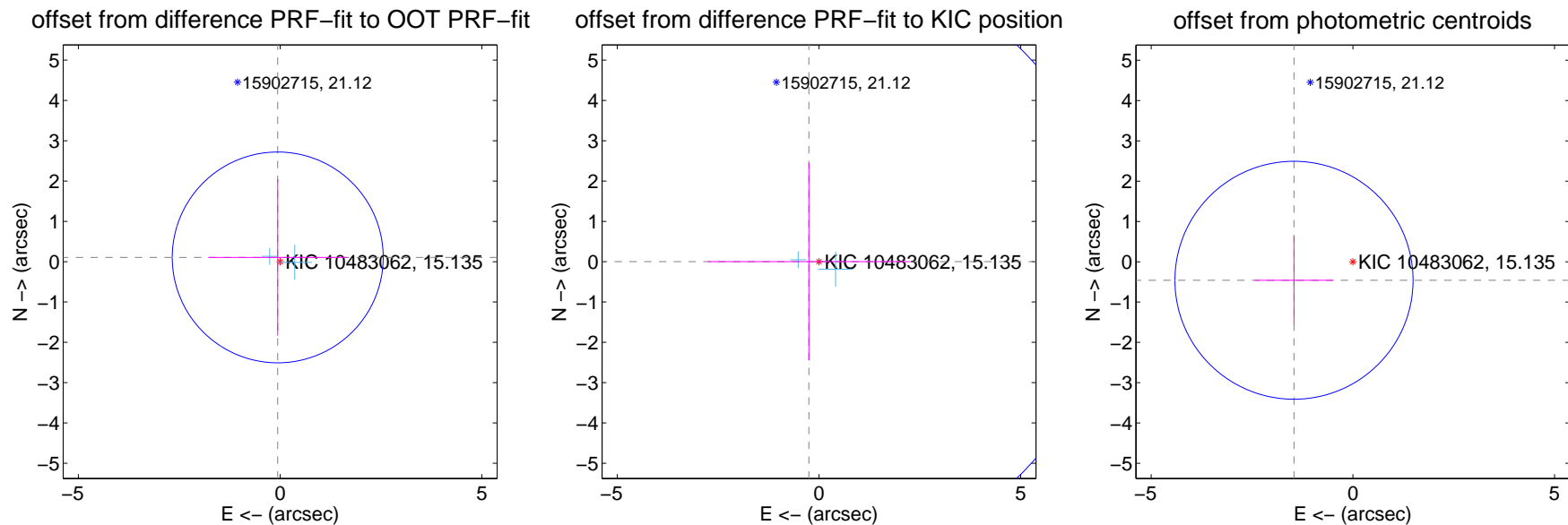
DV Centroid Data

Supplemental centroid analysis for 010483062-04. Kepler magnitude: 15.13. Transit SNR 6.22

There are 2 quarters with good PRF difference image offsets

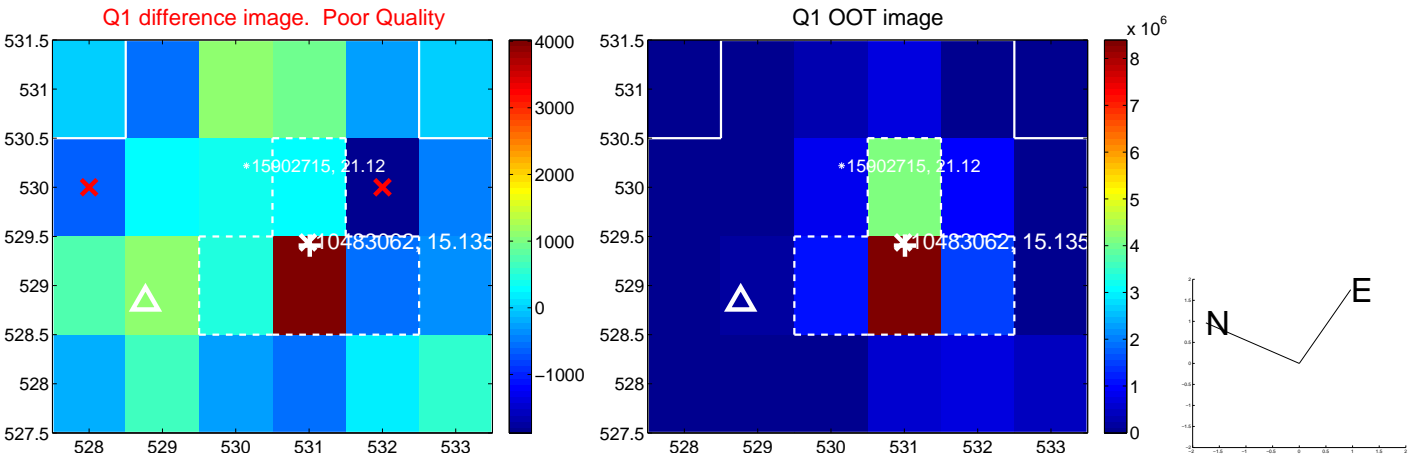
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.121 ± 0.871	0.14	0.059 ± 1.721	0.106 ± 1.942
PRF-fit source offset from KIC position	0.251 ± 2.481	0.10	0.251 ± 2.502	0.002 ± 2.447
photometric centroid source offset	1.53 ± 0.98	1.55	1.46 ± 0.97	-0.46 ± 1.09

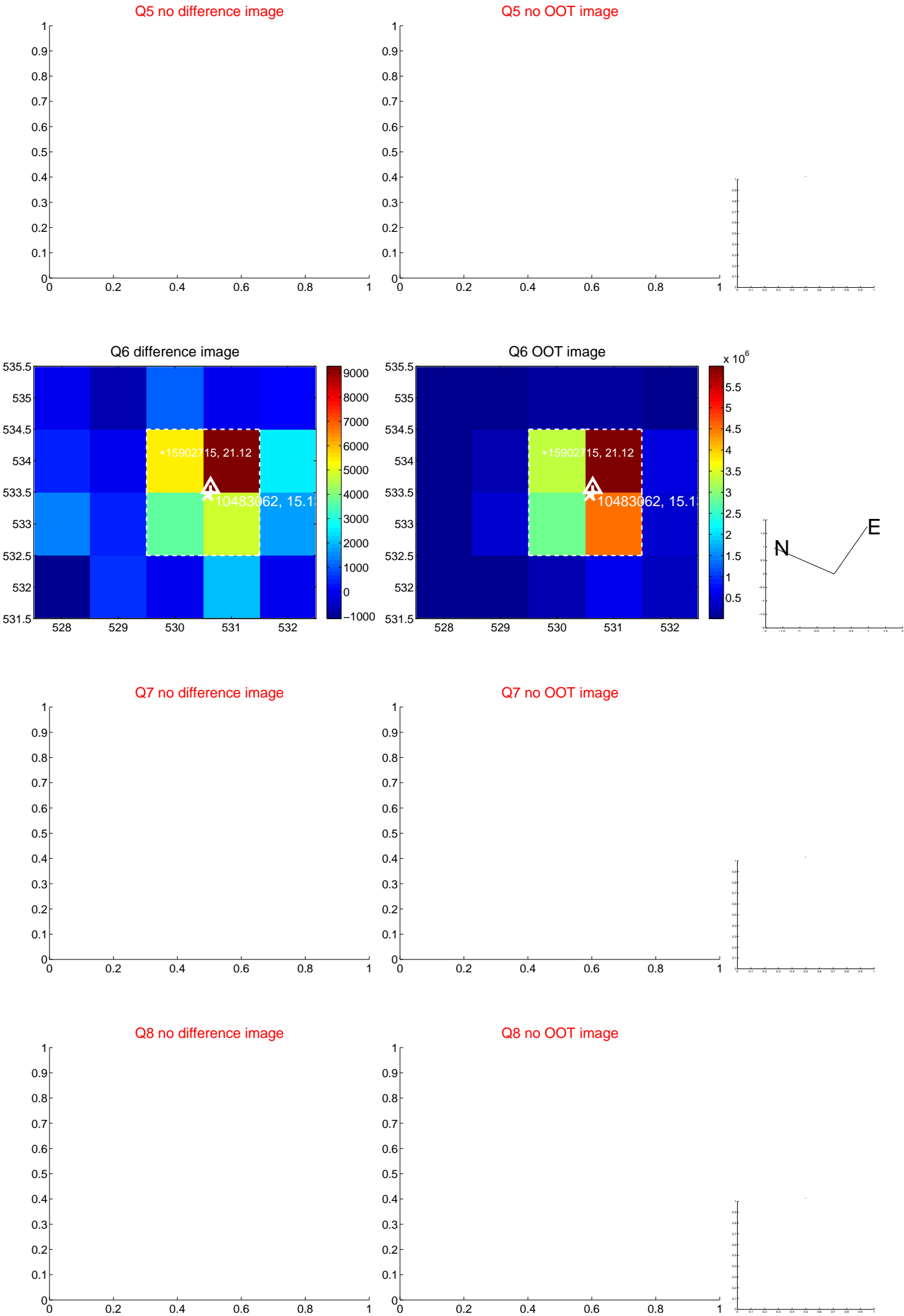


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



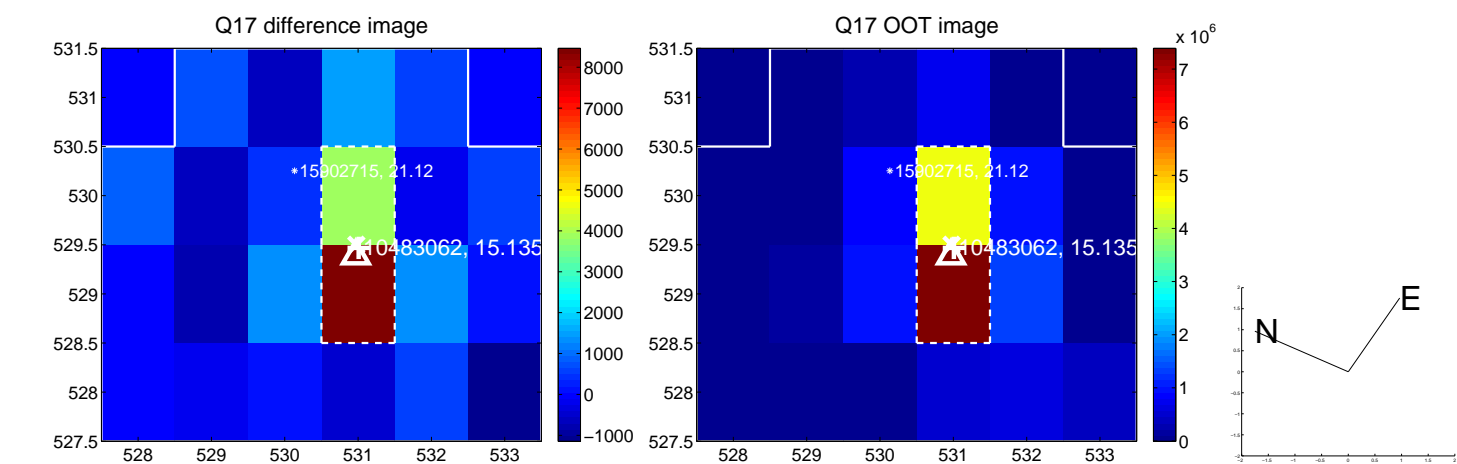
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



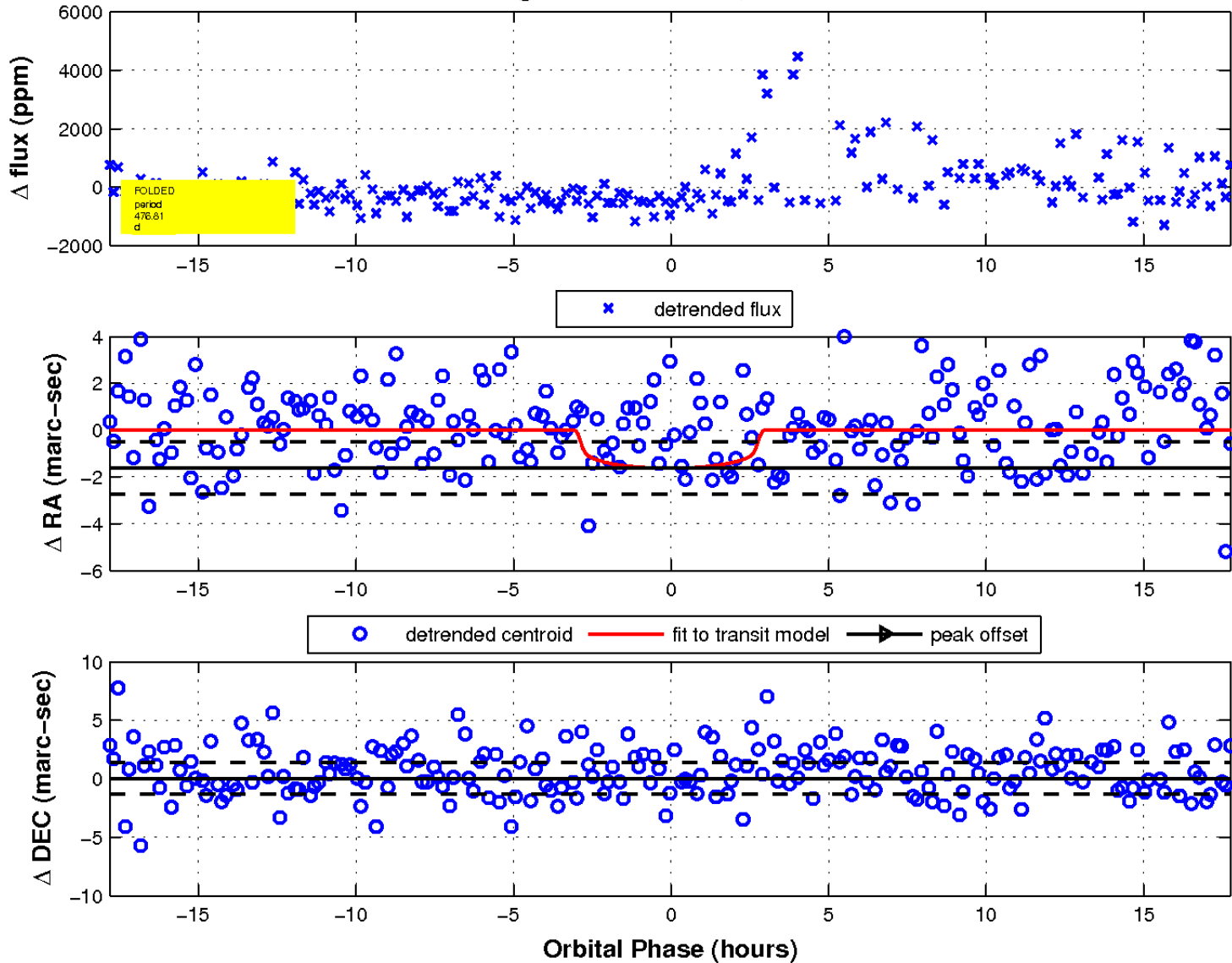
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

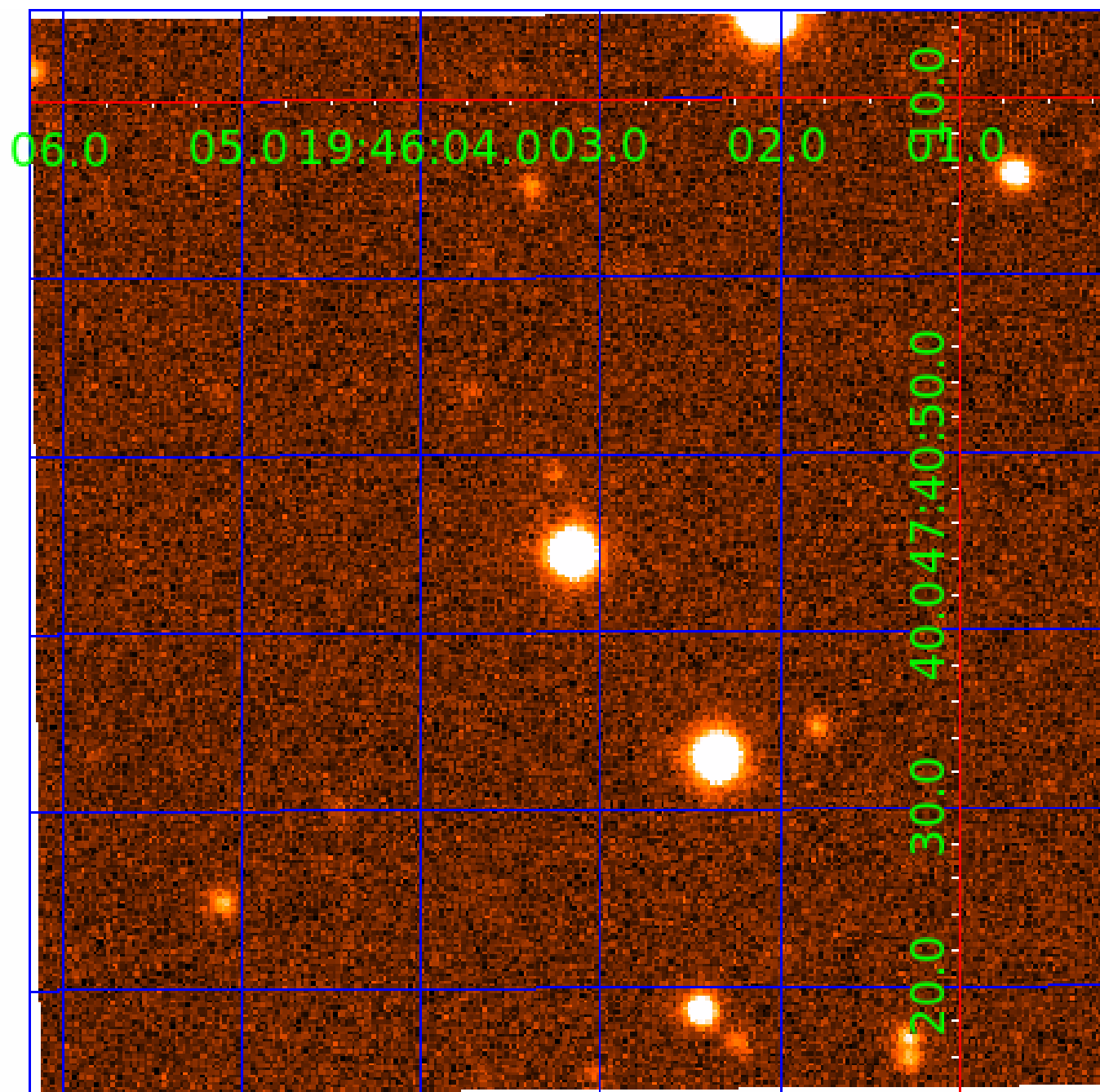


fluxWeightedCentroids, Planet 4 of 5



UKIRT Image

Declination



KIC 010483062

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})
010483062-01	OBS	No	411.225582	411.173676	1242.8	9.739	9.1	6.9	0.64	5263	4.41	0.33
010483062-03	OBS	No	421.678403	437.713620	898.5	10.274	10.3	6.6	0.64	5263	2.11	0.32
010483062-04	OBS	No	476.808919	138.688909	1030.5	5.955	9.7	6.2	0.64	5263	2.16	0.27
010483062-05	OBS	No	587.850172	342.905755	951.4	5.079	11.1	7.1	0.64	5263	2.03	0.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010483062-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
010483062-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
010483062-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010483062-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

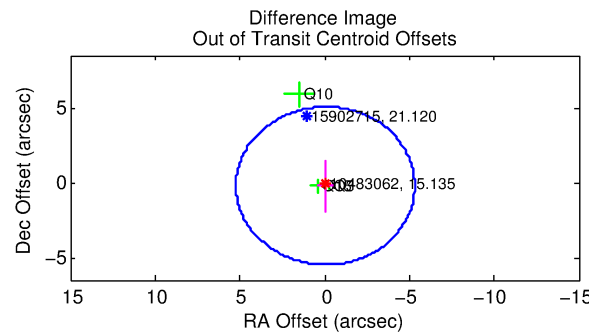
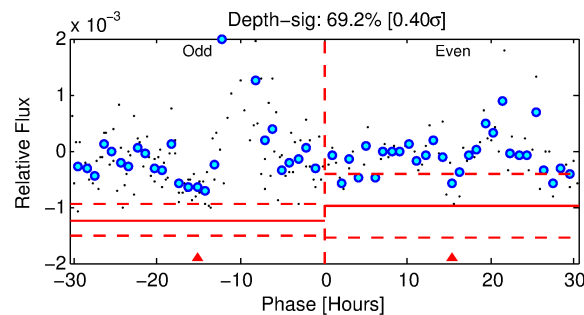
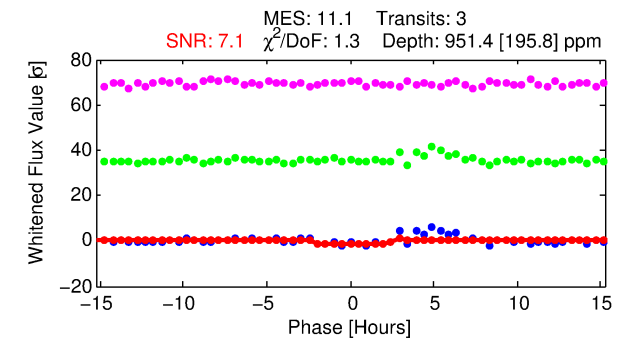
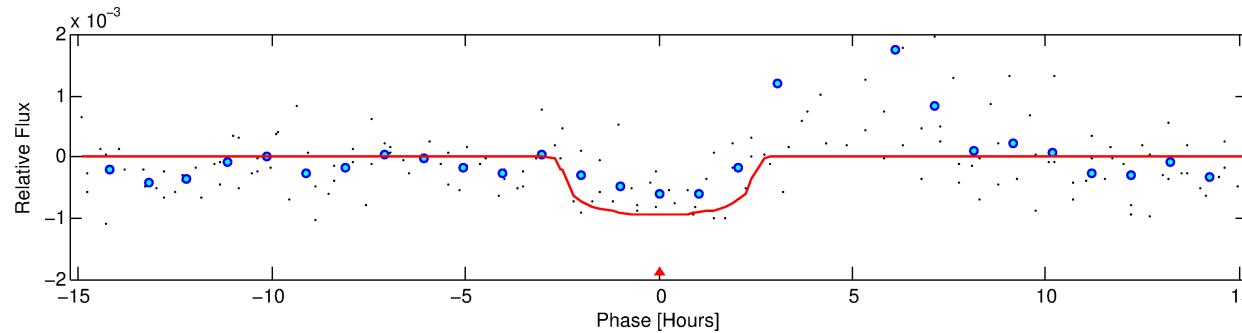
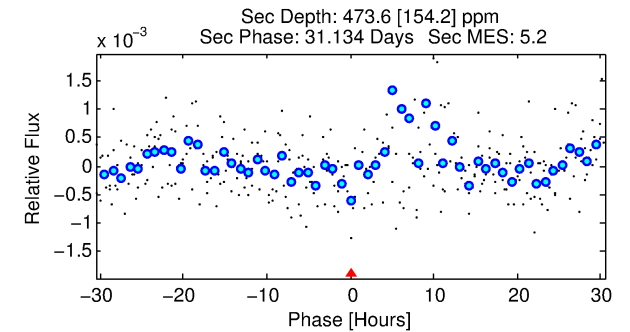
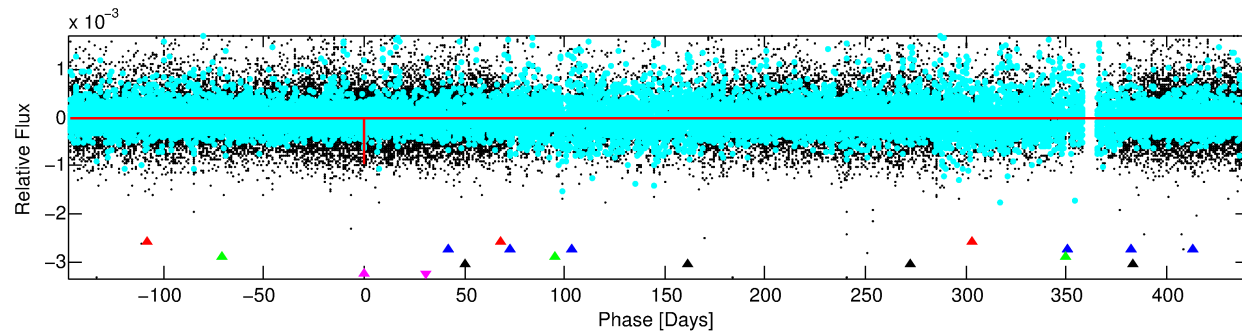
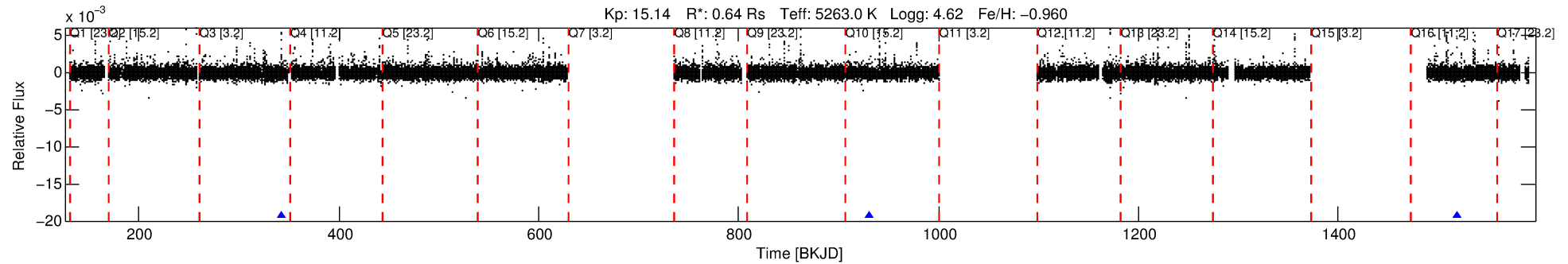
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010483062-05

No Significant Match Found

DV One-Page Summary

KIC: 10483062 Candidate: 5 of 5 Period: 587.850 d



DV Fit Results:

Period = 587.85017 [0.00928] d
Epoch = 342.9058 [0.0116] BKJD
Rp/R* = 0.0289 [0.0316]
a/R* = 788.09 [3737.09]
b = 0.51 [6.81]
Seff = 0.20 [0.04]
Teq = 172 [8] K
Rp = 2.03 [2.23] Re
a = 1.1776 [0.0935] AU
Ag = 87602.34 [193809.97] [0.45 σ]
Teffp = 4564 [2525] K [1.74 σ]

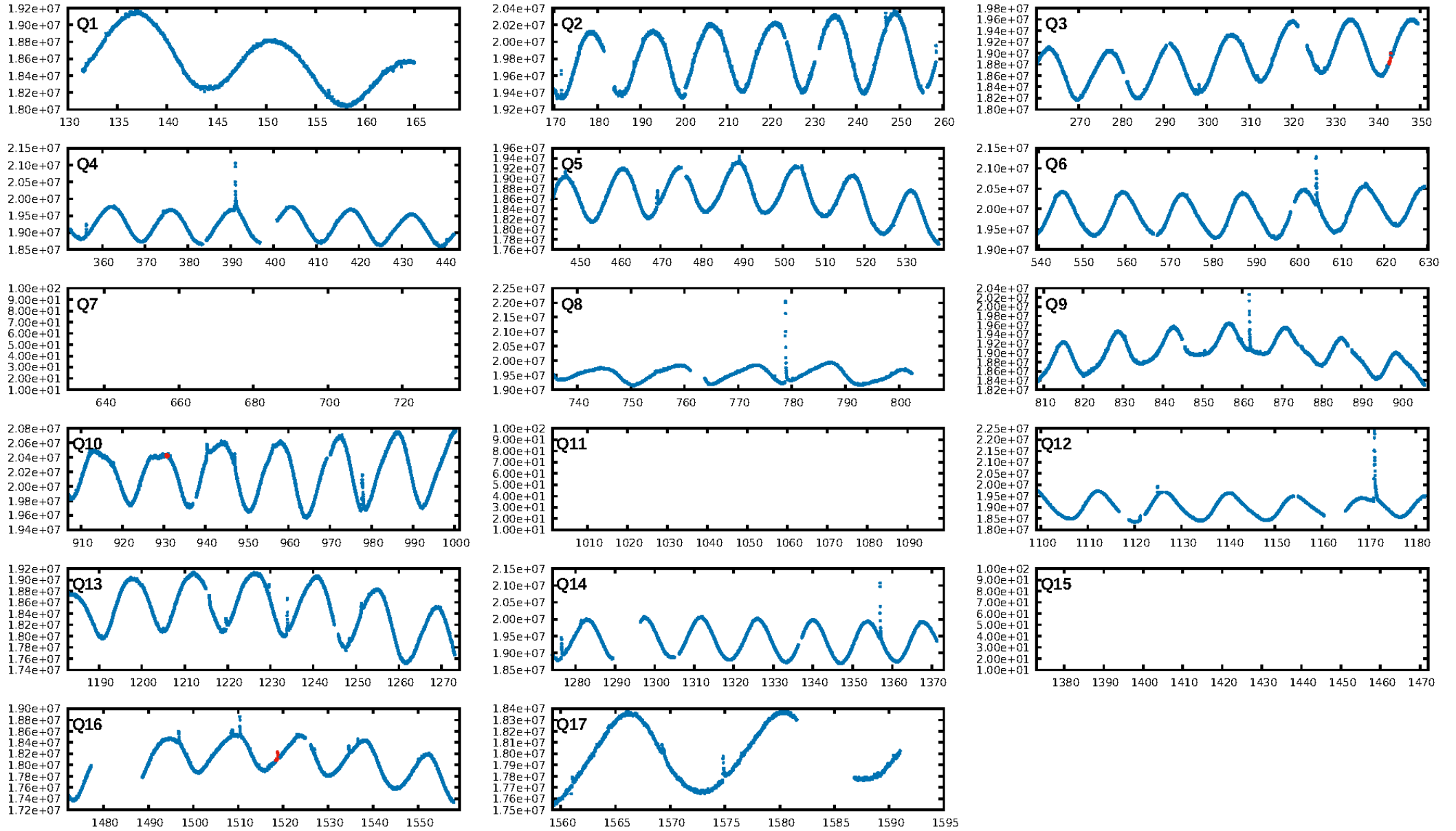
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [340.48 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.7%
ModelChiSquareGof-sig: 89.5%
Bootstrap-pfa: 6.20e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.572
Centroid-sig: 74.4%
Centroid-so: 0.756 arcsec [0.60 σ]
OotOffset-rm: 0.218 arcsec [0.12 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 0.246 arcsec [0.16 σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

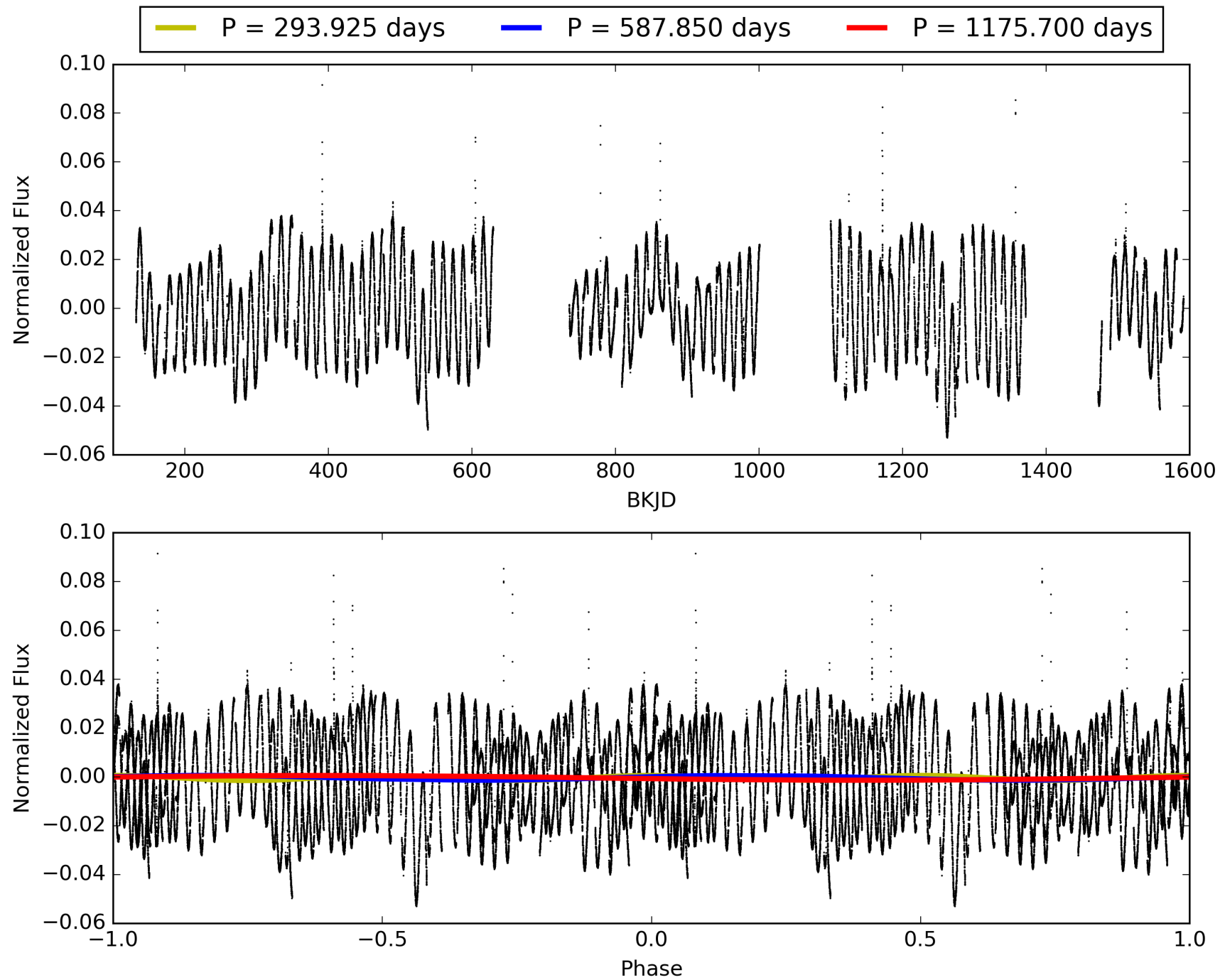
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:43:14 Z

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

TCE 010483062-05, PDC Light Curves

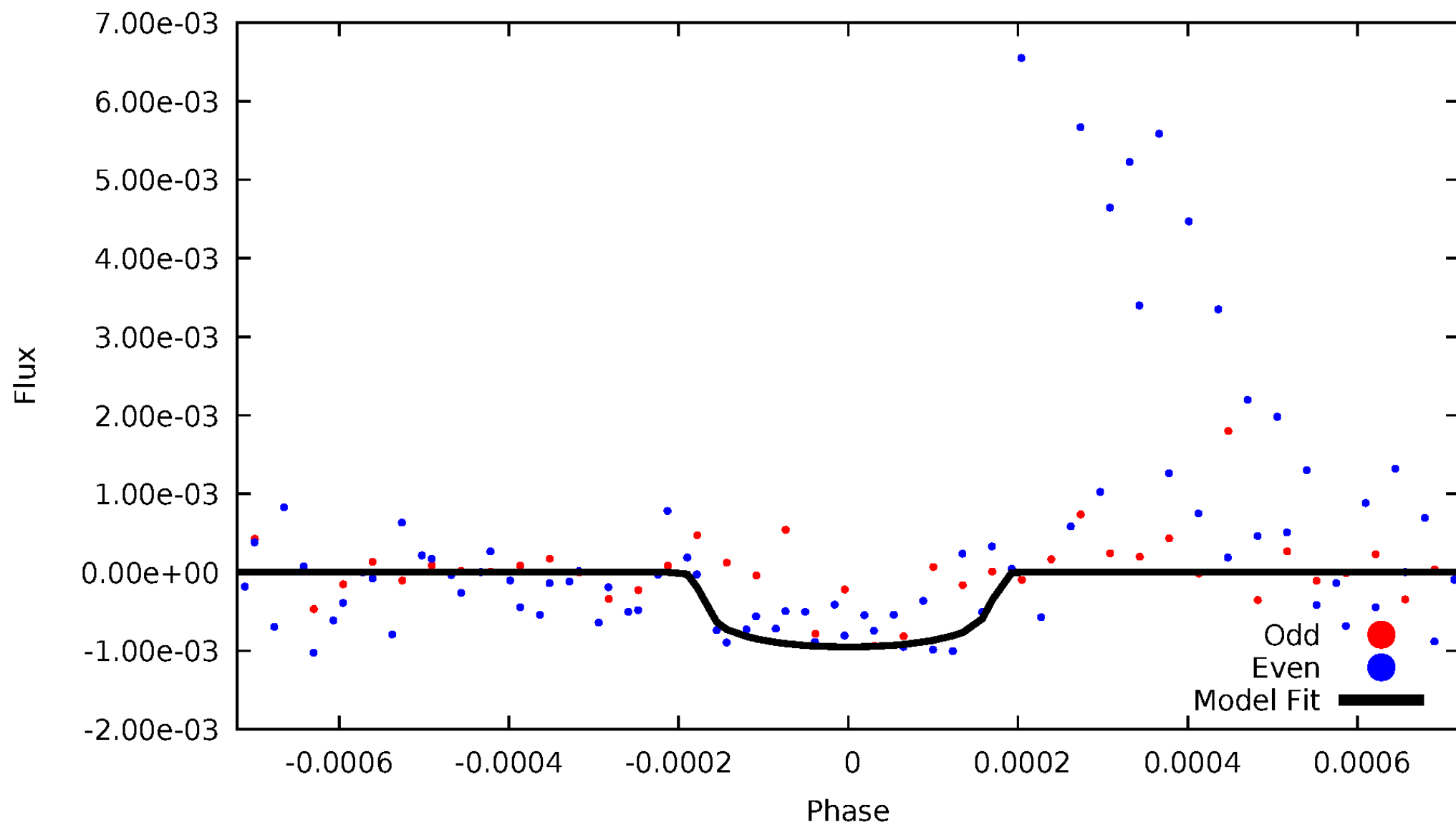


TCE 010483062-05



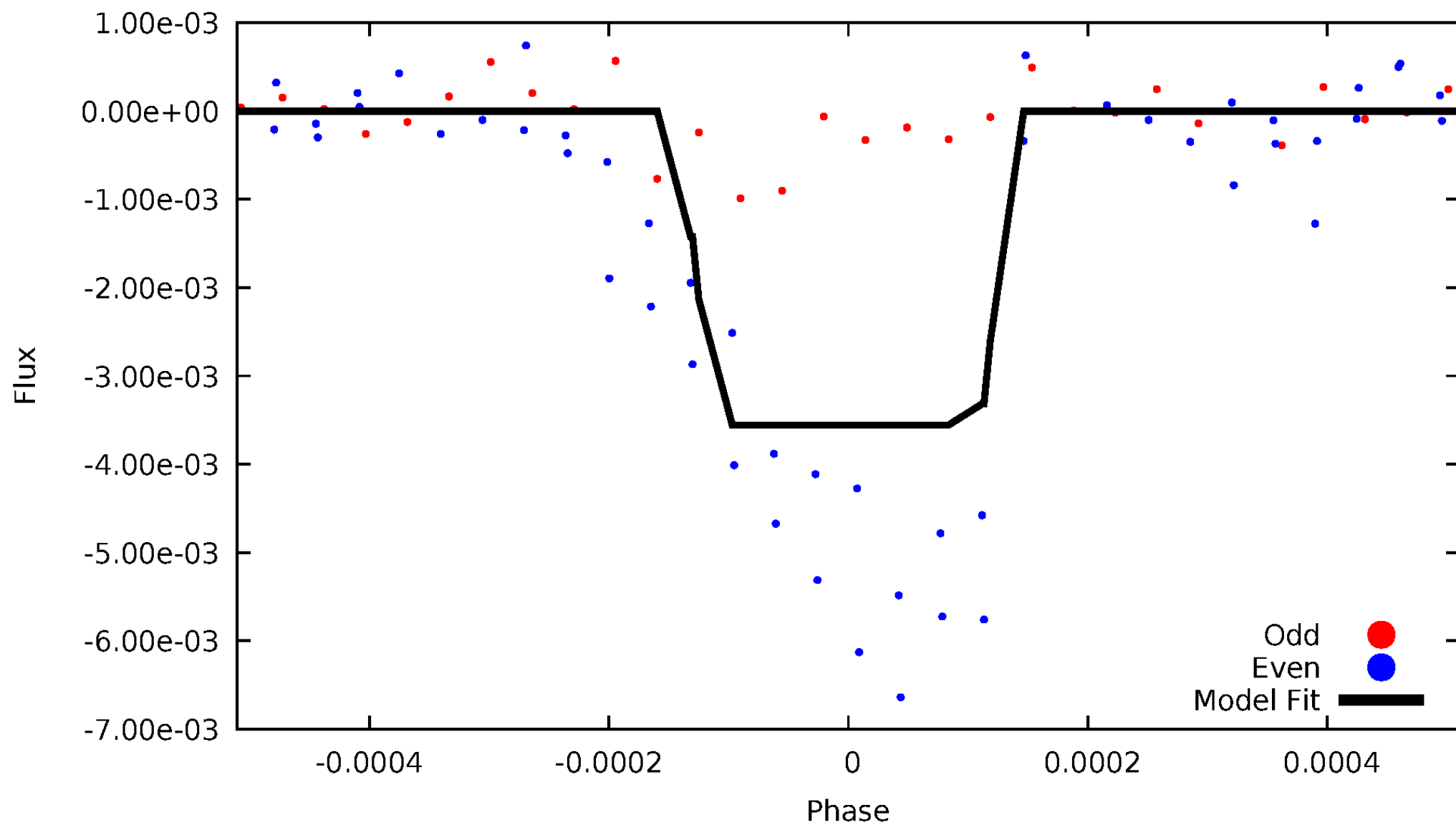
DV Odd/Even

TCE 010483062-05



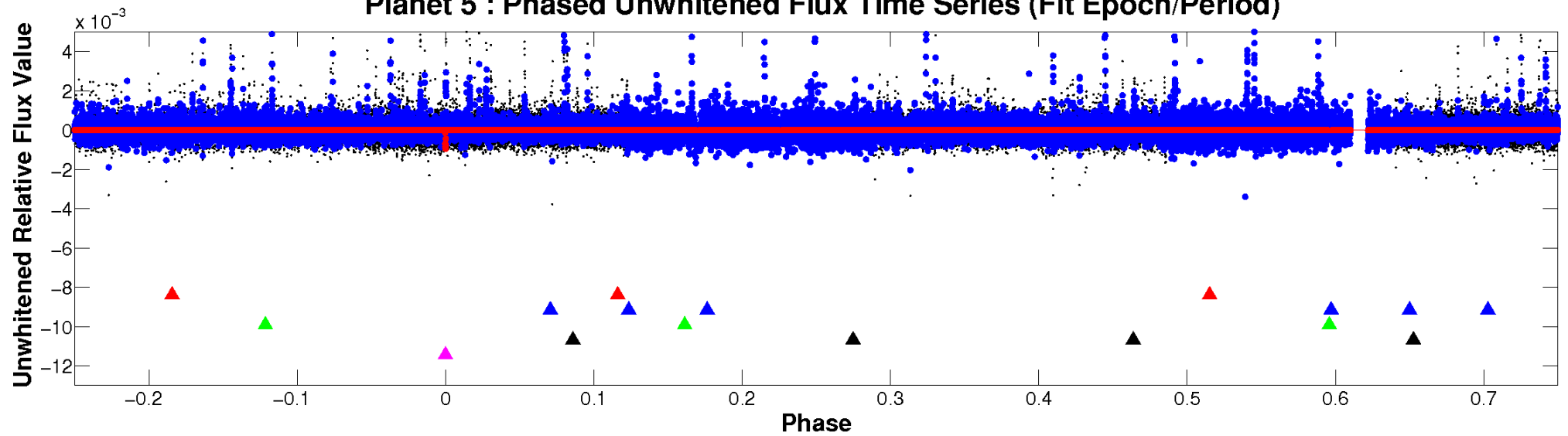
ALT Odd/Even

TCE 010483062-05

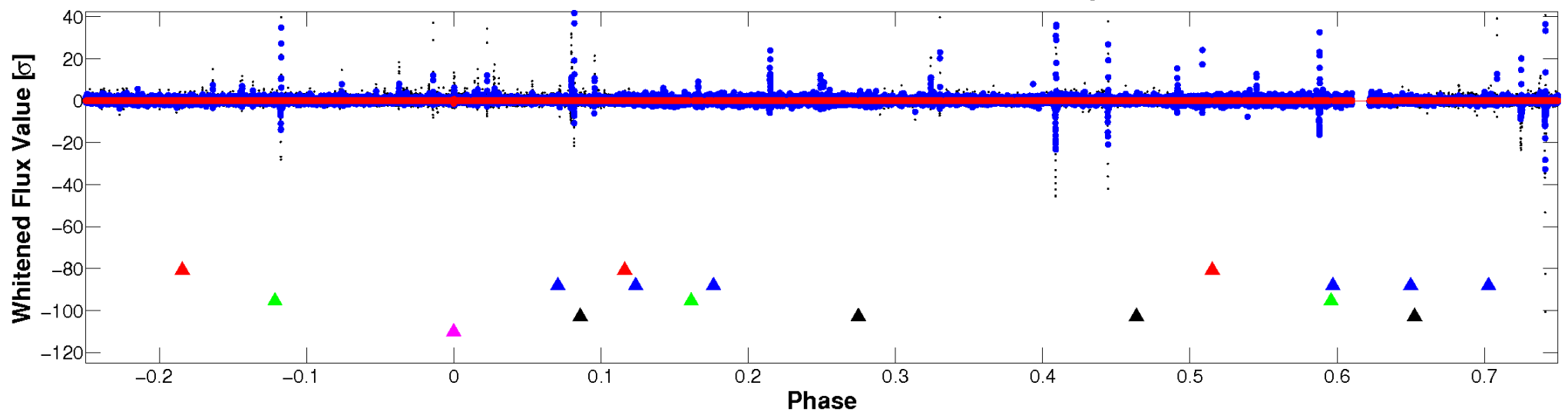


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

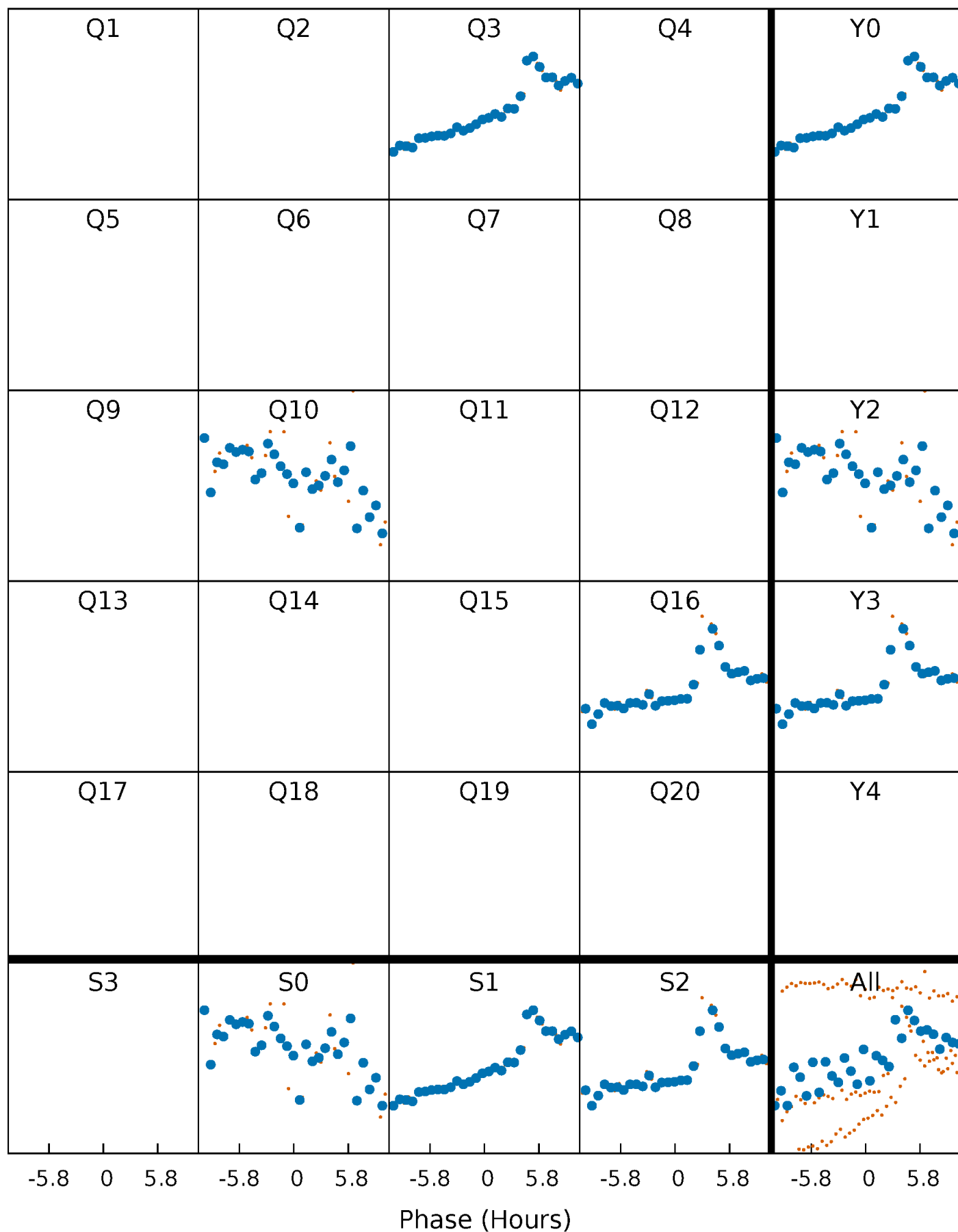


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



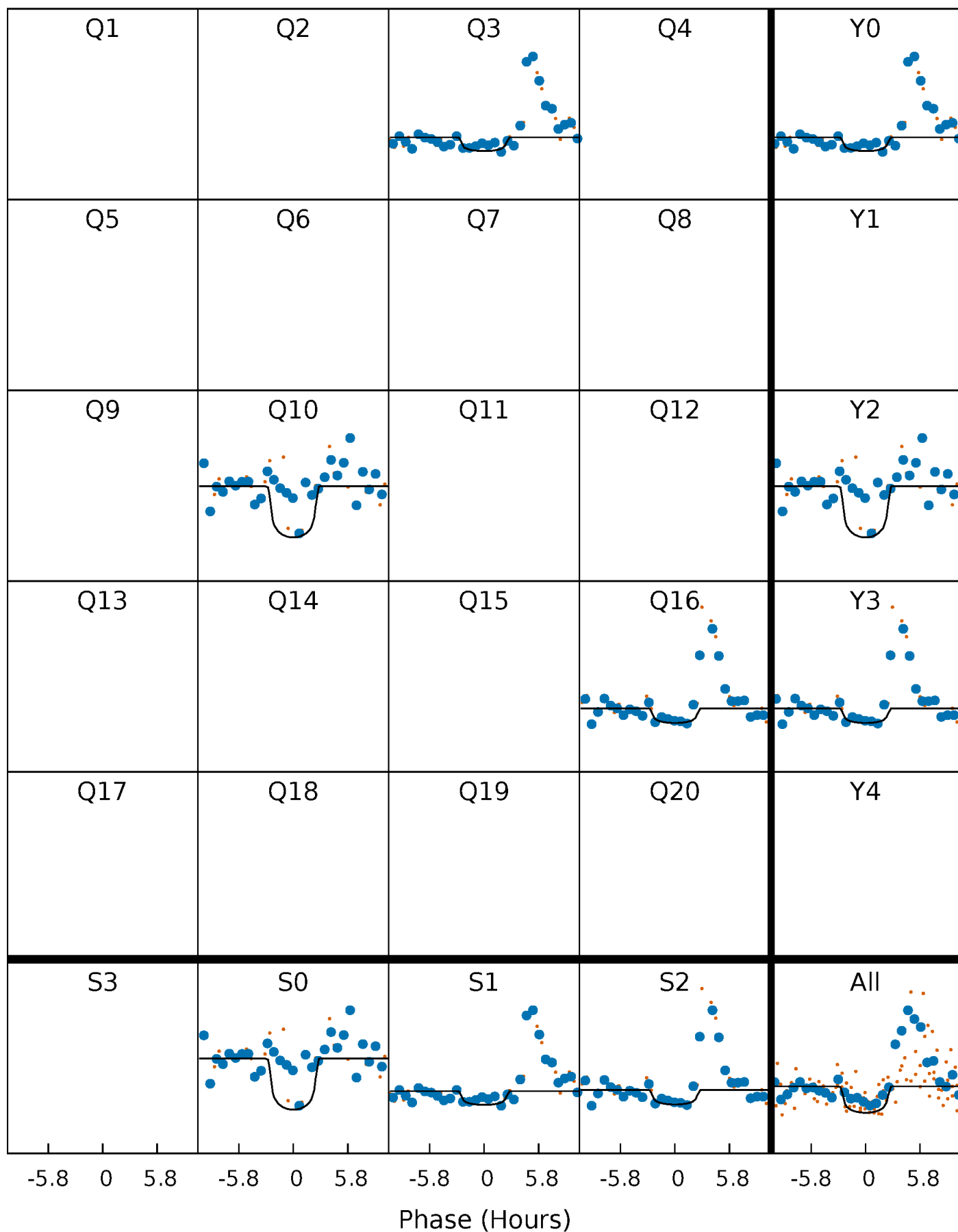
PDC Quarter-Phased Transit Curves

TCE 010483062-05 $P=587.850172$ Days $T_0=342.905755$ (BKJD)



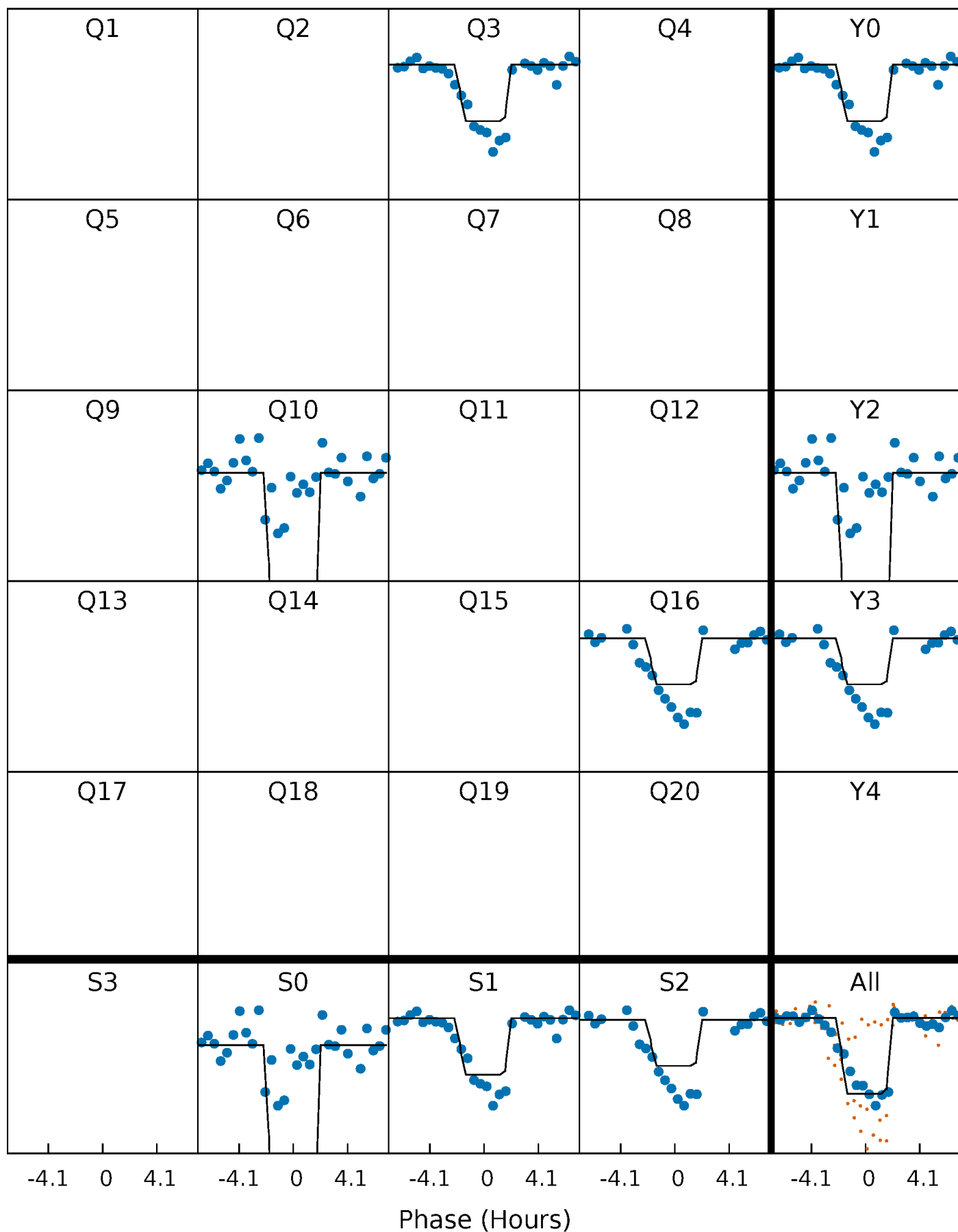
DV Quarter-Phased Transit Curves

TCE 010483062-05 $P=587.850172$ Days $T_0=342.905755$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

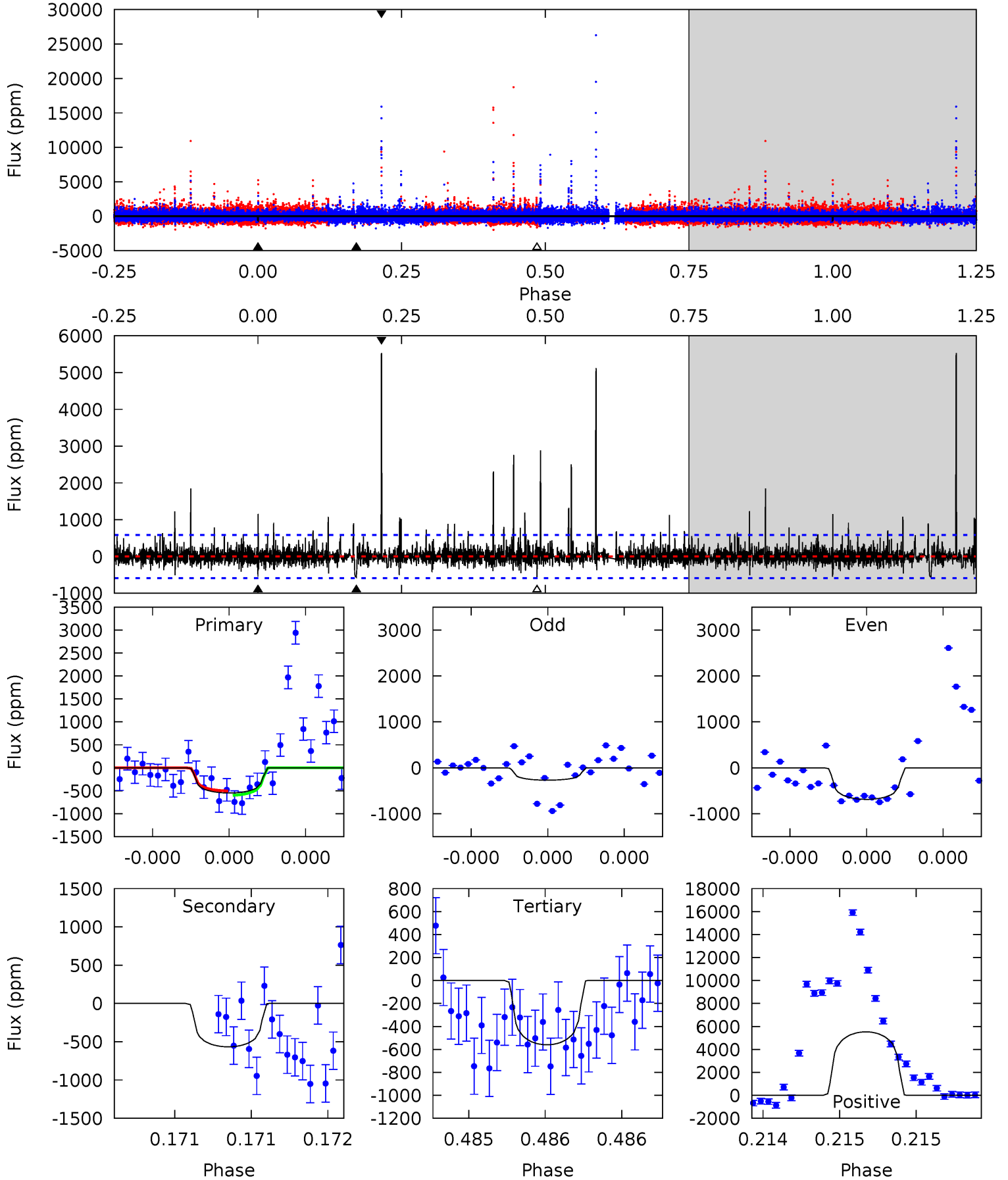
TCE 010483062-05 $P=587.812220$ Days $T_0=343.014581$ (BKJD)



DV Model-Shift Uniqueness Test

010483062-05, P = 587.850172 Days, E = 342.905755 Days

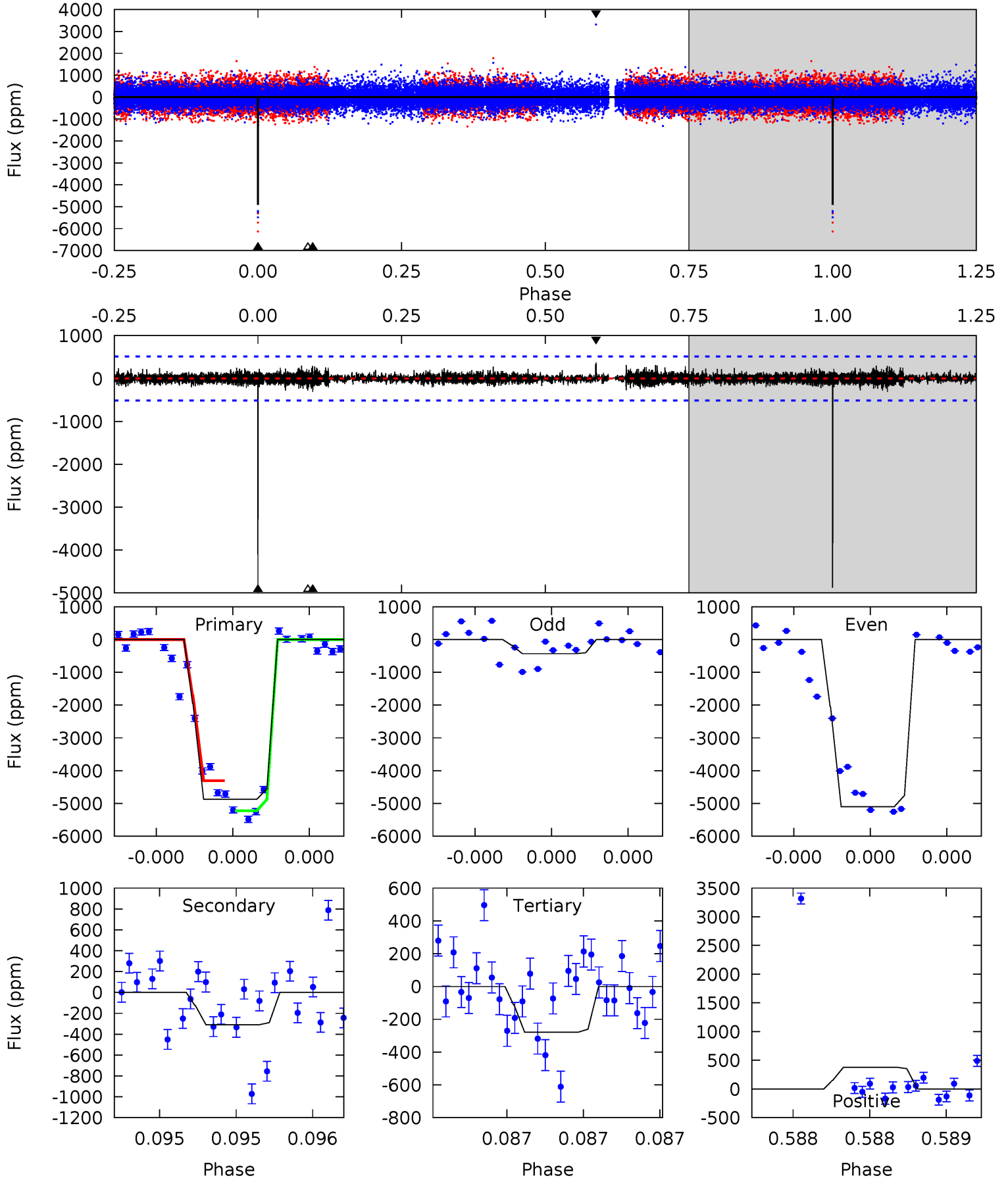
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.25	5.42	5.36	52.9	5.62	3.55	2.40	-0.11	-47.6	0.06	-47.5	0.44	0.83	0.91	0.46



Alt Model-Shift Uniqueness Test

010483062-05, P = 587.812220 Days, E = 343.014581 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.2	3.45	3.10	4.21	5.69	3.66	0.64	51.1	50.0	0.34	-0.76	30.7	0.80	0.07	0



Stellar Parameters For KIC 010483062

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5263^{+173}_{-157}	$4.621^{+0.072}_{-0.044}$	$-0.960^{+0.300}_{-0.300}$	$0.643^{+0.055}_{-0.050}$	$0.631^{+0.060}_{-0.028}$	$3.337^{+0.900}_{-0.531}$
	+3%/-3%	+2%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+27%/-16%
Source	PHO1	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 010483062-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-567 ± 105	$2.46^{+1.97}_{-1.61}$	239^{+9}_{-9}	4500^{+2814}_{-888}	$73326^{+532823}_{-51347}$
Alt.	-310 ± 90	$4.15^{+2.22}_{-2.03}$	239^{+9}_{-8}	3353^{+940}_{-423}	13595^{+42717}_{-8252}

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

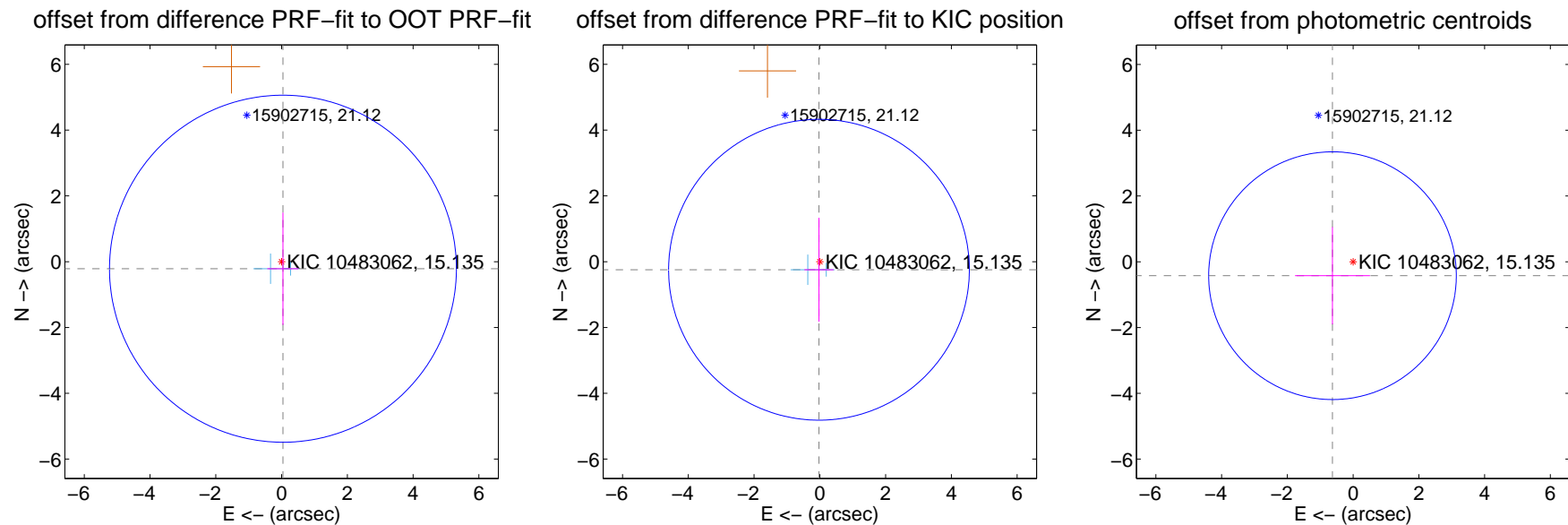
DV Centroid Data

Supplemental centroid analysis for 010483062-05. Kepler magnitude: 15.13. Transit SNR 7.06

There are 2 quarters with good PRF difference image offsets

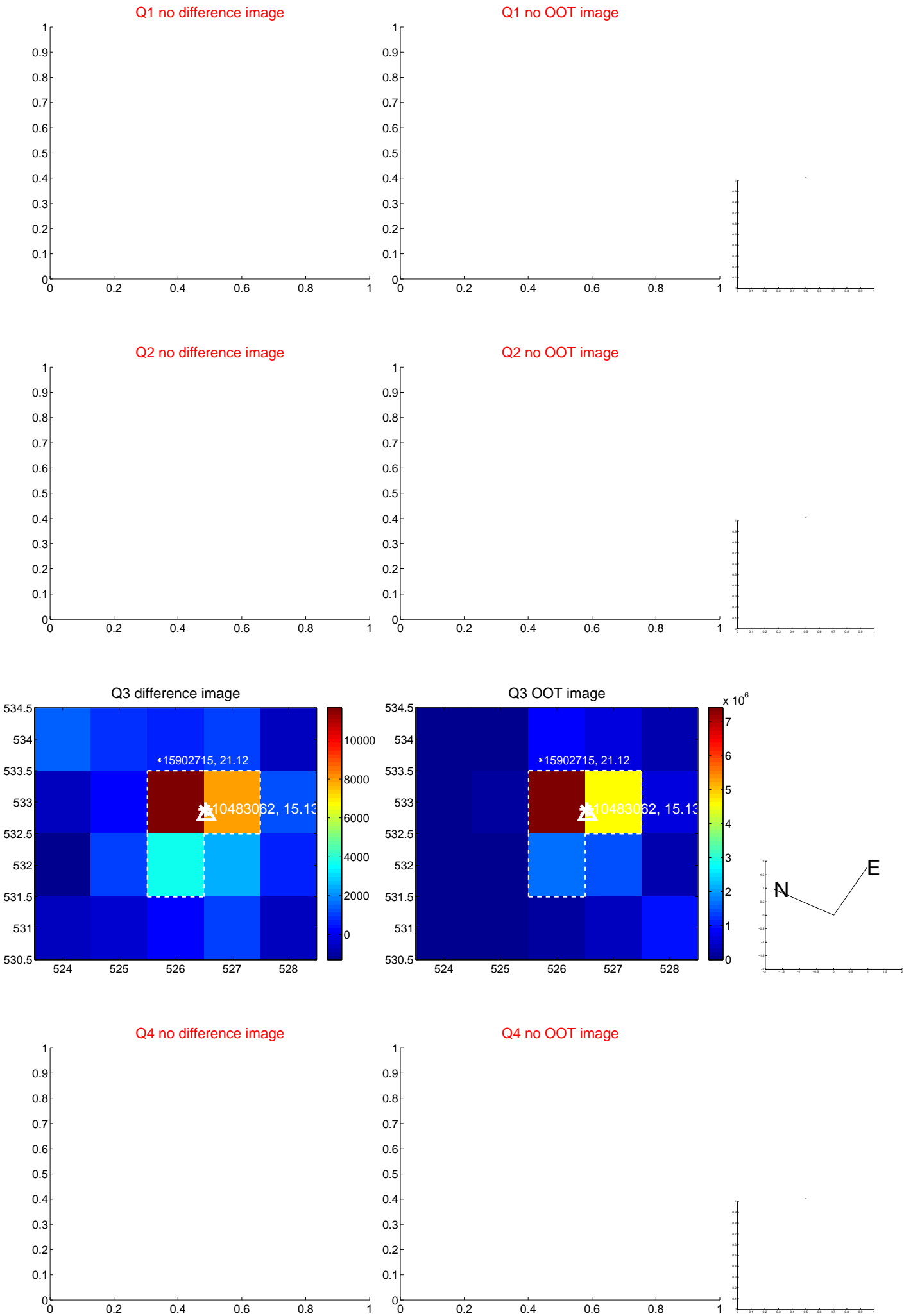
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.218 ± 1.758	0.12	-0.042 ± 0.473	-0.214 ± 1.707
PRF-fit source offset from KIC position	0.246 ± 1.524	0.16	0.026 ± 0.442	-0.245 ± 1.577
photometric centroid source offset	0.76 ± 1.26	0.60	0.63 ± 1.14	-0.42 ± 1.48



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.

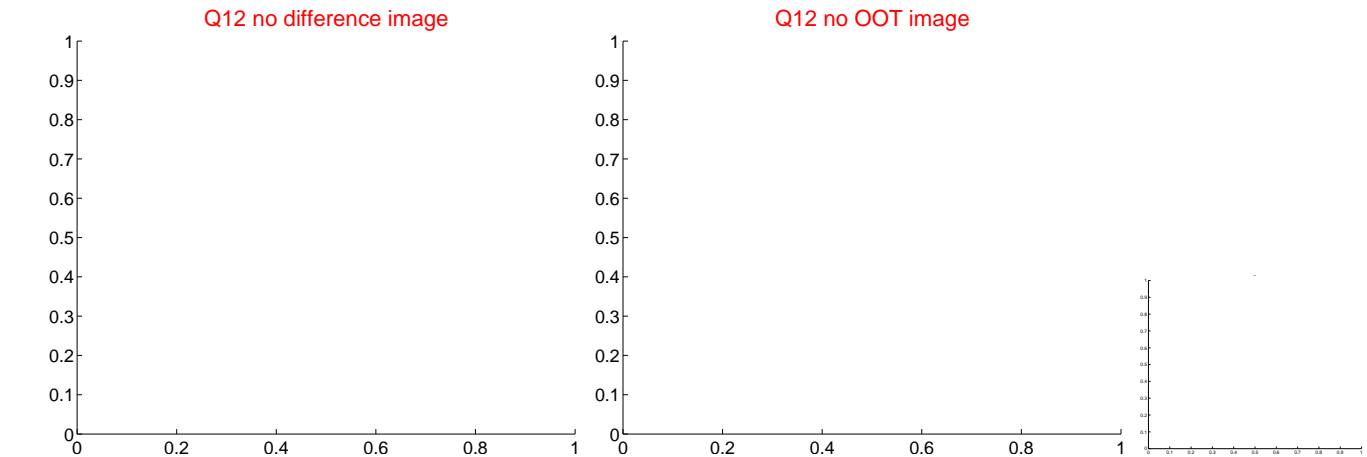
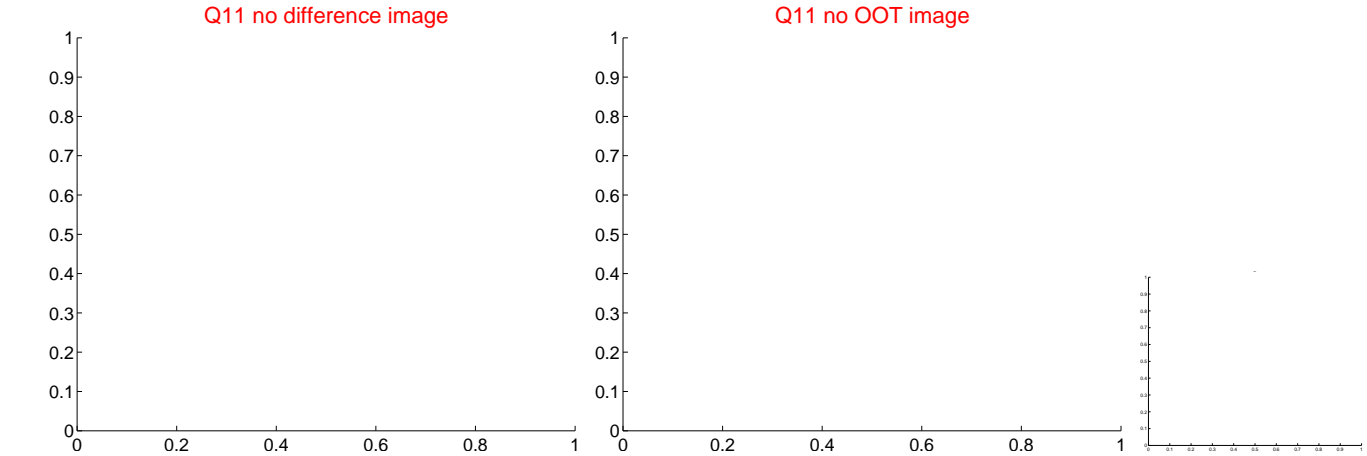
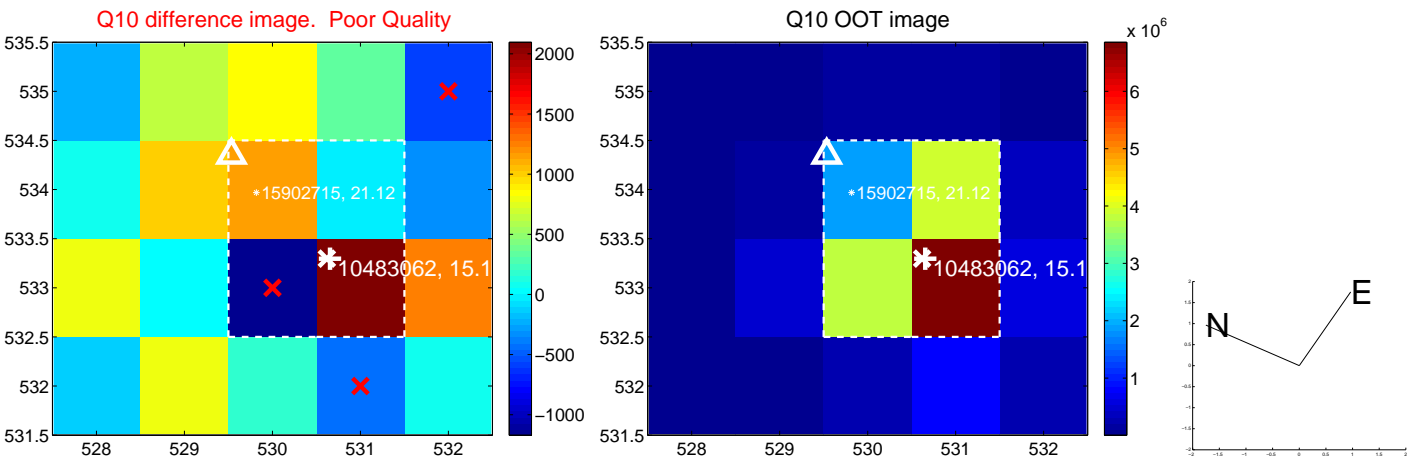
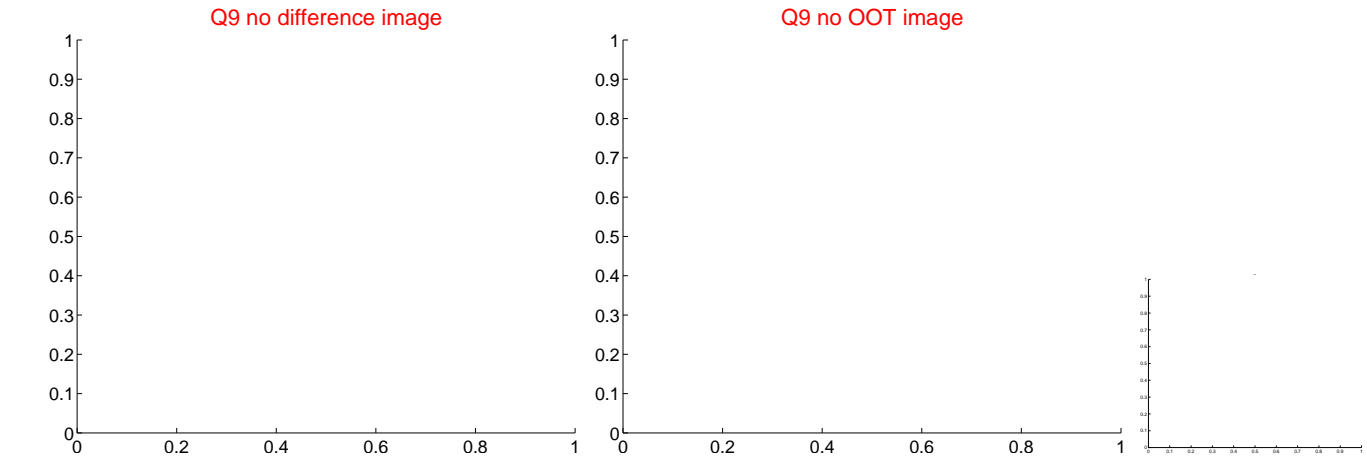
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



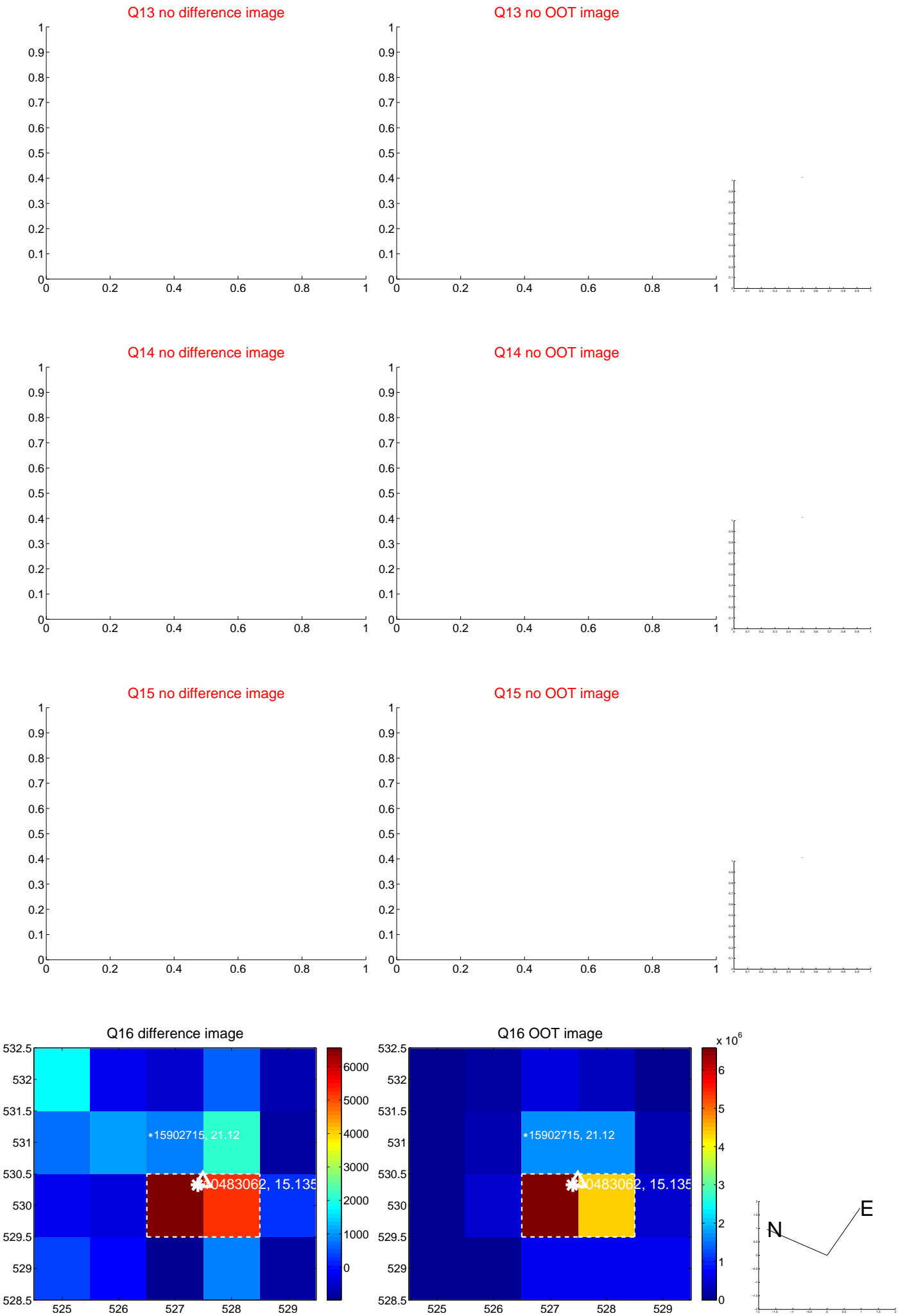
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



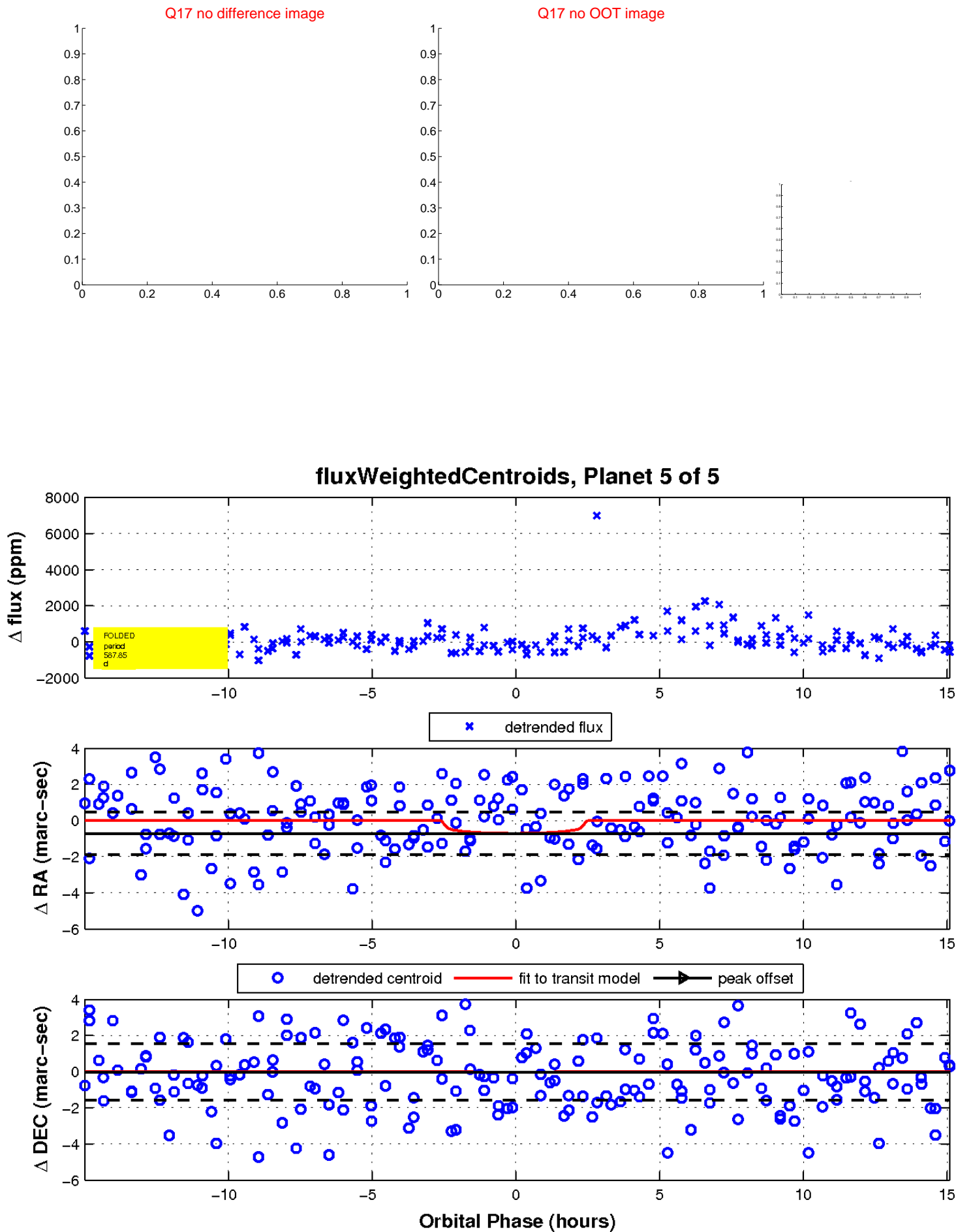
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Declination

