

KIC 004054905

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})
004054905-01	OBS	No	274.715829	395.758920	143225.2	81.227	342.8	1195.1	7.50	4782	283.39	43.15
004054905-02	OBS	No	274.763270	310.849539	5260.5	15.000	269.5	-1.0	7.50	4782	52.70	43.14
004054905-03	OBS	No	274.293298	313.165342	6338.8	15.000	293.9	-1.0	7.50	4782	57.86	43.24
004054905-06	OBS	No	696.567206	173.078726	597.5	6.552	13.3	3.6	7.50	4782	19.93	12.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004054905-01	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—CENT_FEW_DIFFS
004054905-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_NOFITS
004054905-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
004054905-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

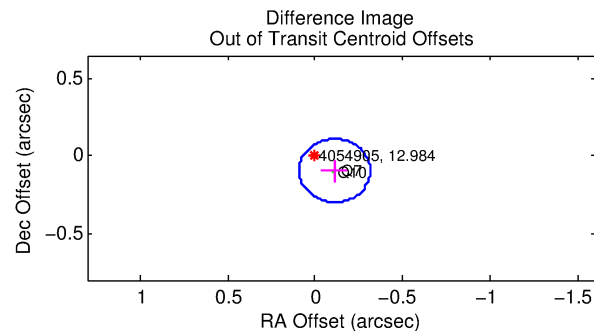
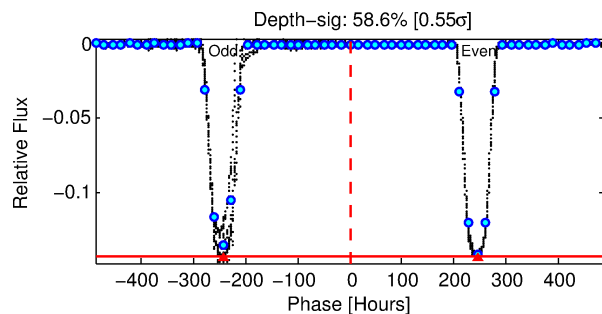
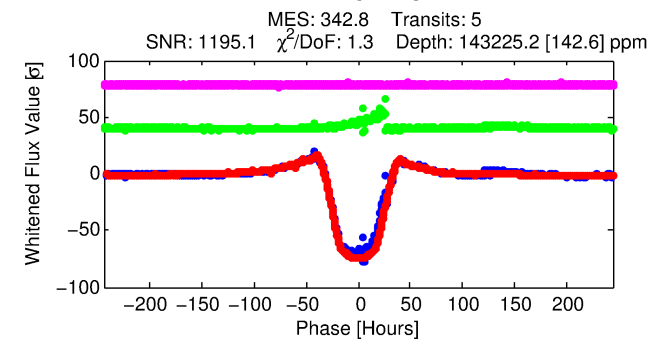
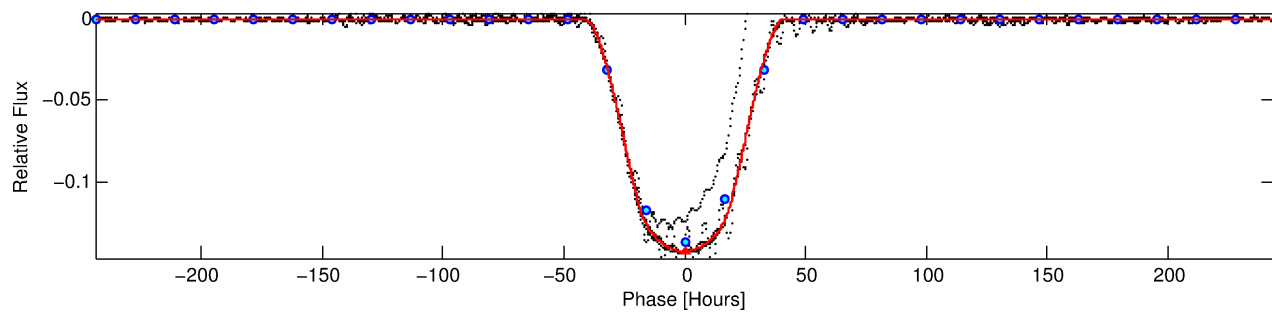
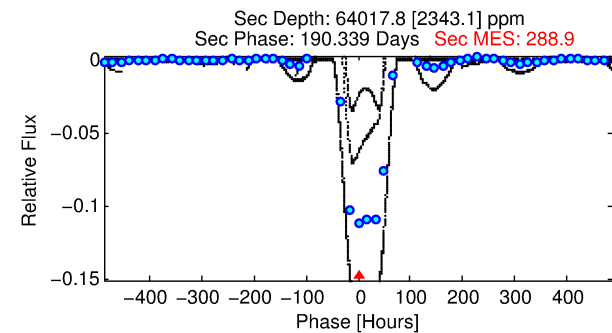
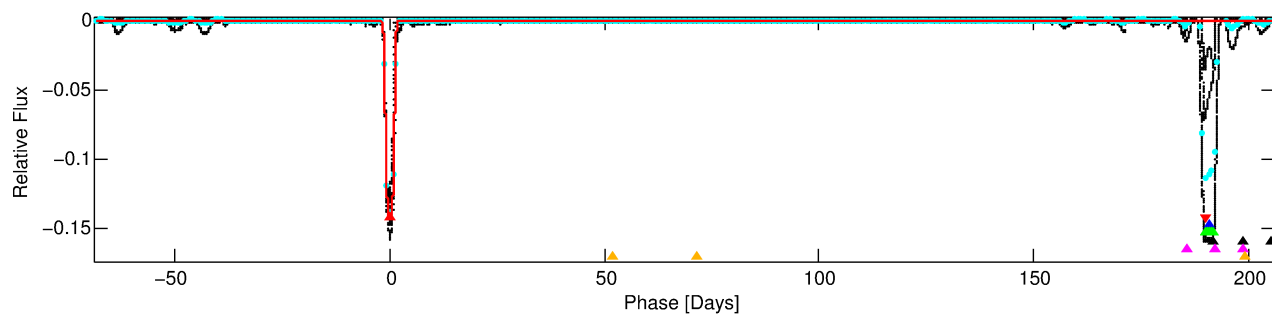
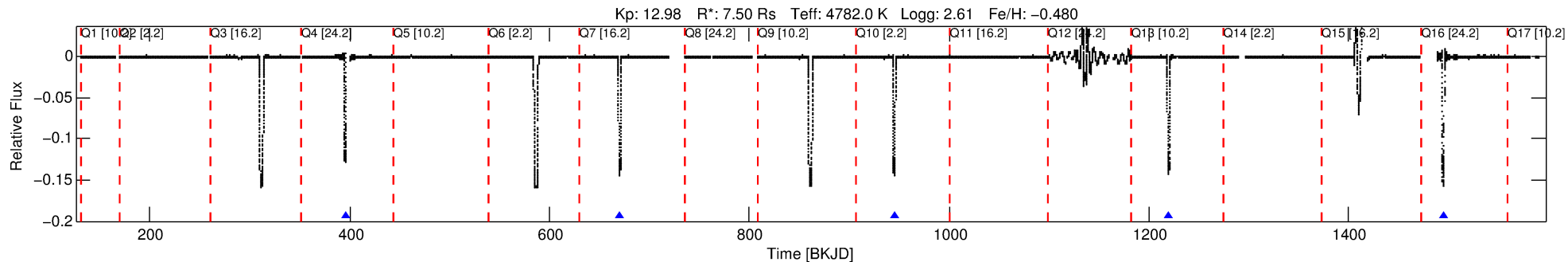
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004054905-01

No Significant Match Found

DV One-Page Summary

KIC: 4054905 Candidate: 1 of 6 Period: 274.716 d



DV Fit Results:

Period = 274.71583 [0.00051] d
Epoch = 395.7589 [0.0013] BKJD
Rp/R* = 0.3461 [0.0003]
a/R* = 33.52 [0.05]
b = 0.36 [0.00]
Seff = 43.15 [6.95]
Teff = 654 [26] K
Rp = 283.39 [57.90] Re
a = 0.7818 [0.1087] AU
Ag = 268.06 [40.61] [6.58σ]
Teffp = 4089 [77] K [42.10σ]

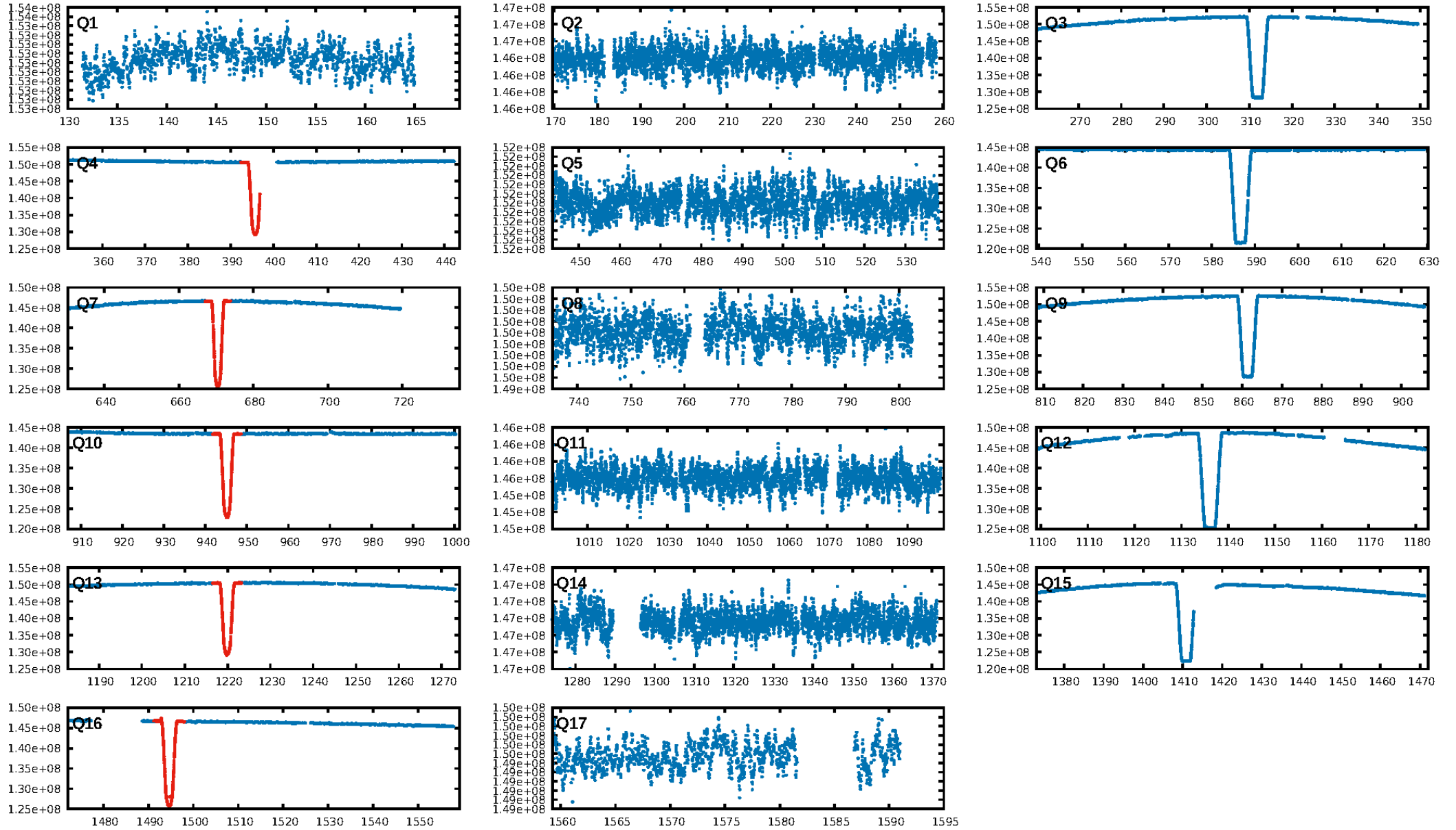
DV Diagnostic Results:

ShortPeriod-sig: 9.8% [0.12σ]
LongPeriod-sig: 1.1% [0.01σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 23.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.205
Centroid-sig: N/A
Centroid-so: 0.199 arcsec [45.95σ]
OotOffset-rm: 0.145 arcsec [2.13σ]
KicOffset-rm: 0.287 arcsec [1.89σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

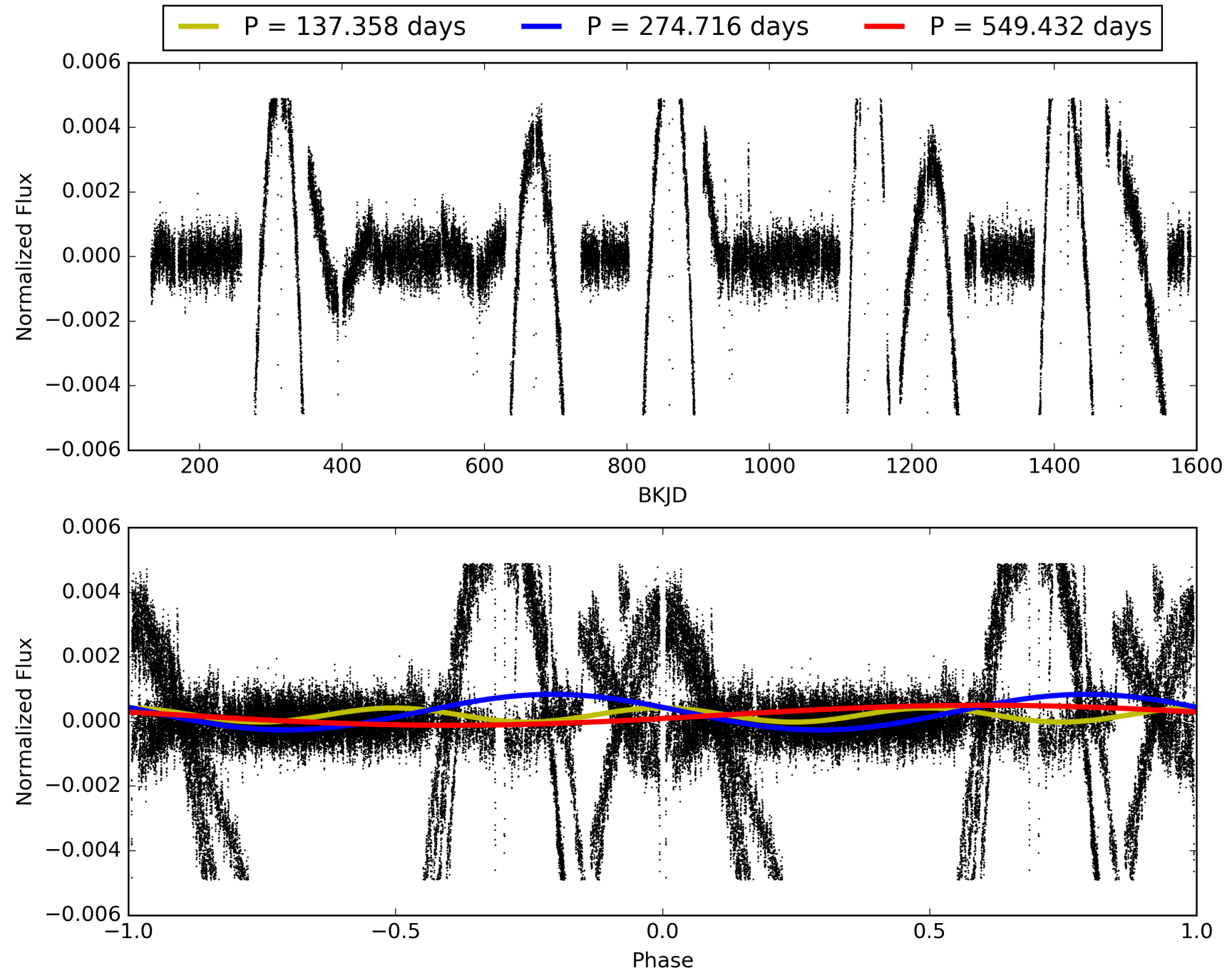
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:59:41 Z

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

TCE 004054905-01, PDC Light Curves

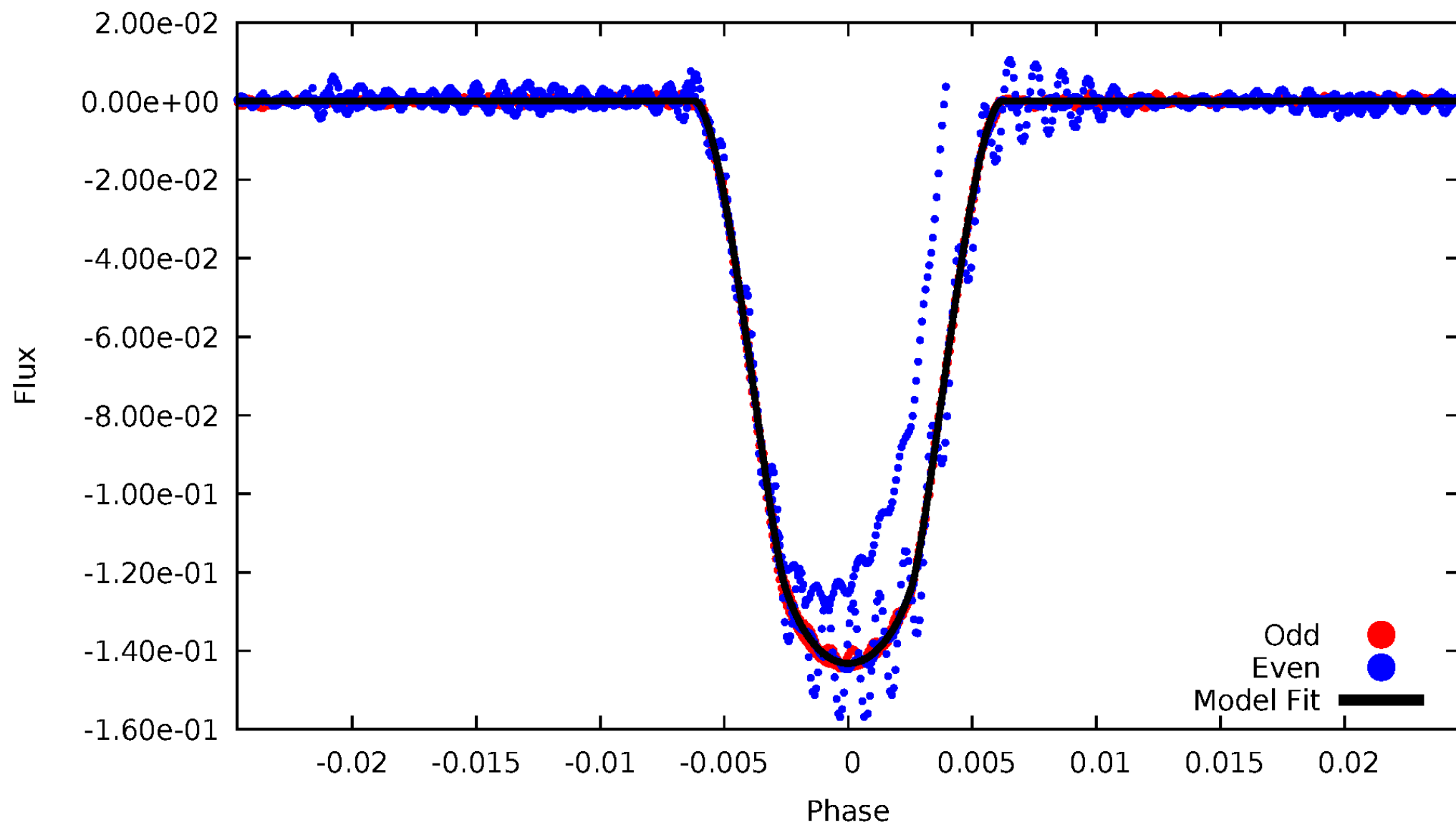


TCE 004054905-01



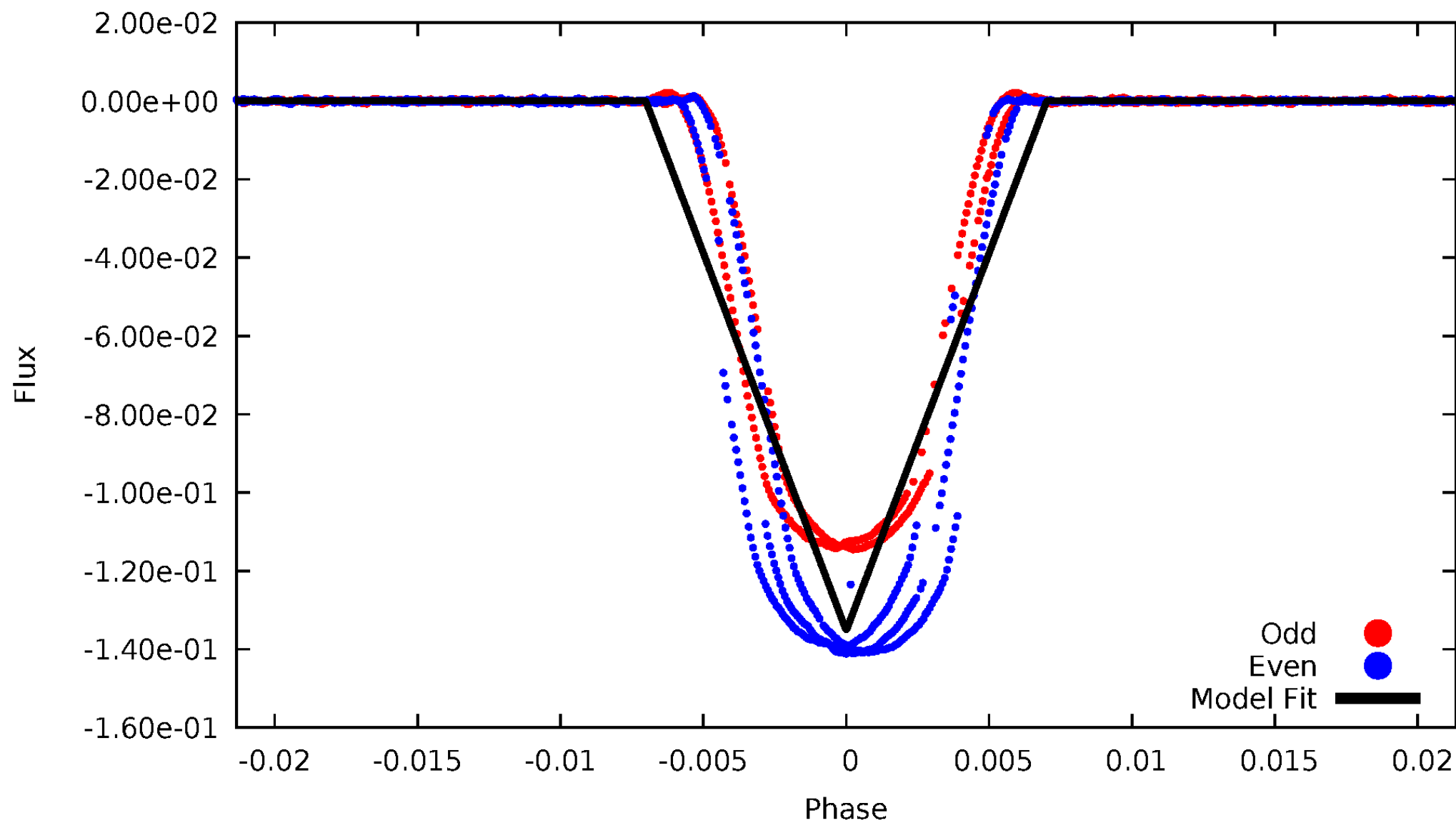
DV Odd/Even

TCE 004054905-01



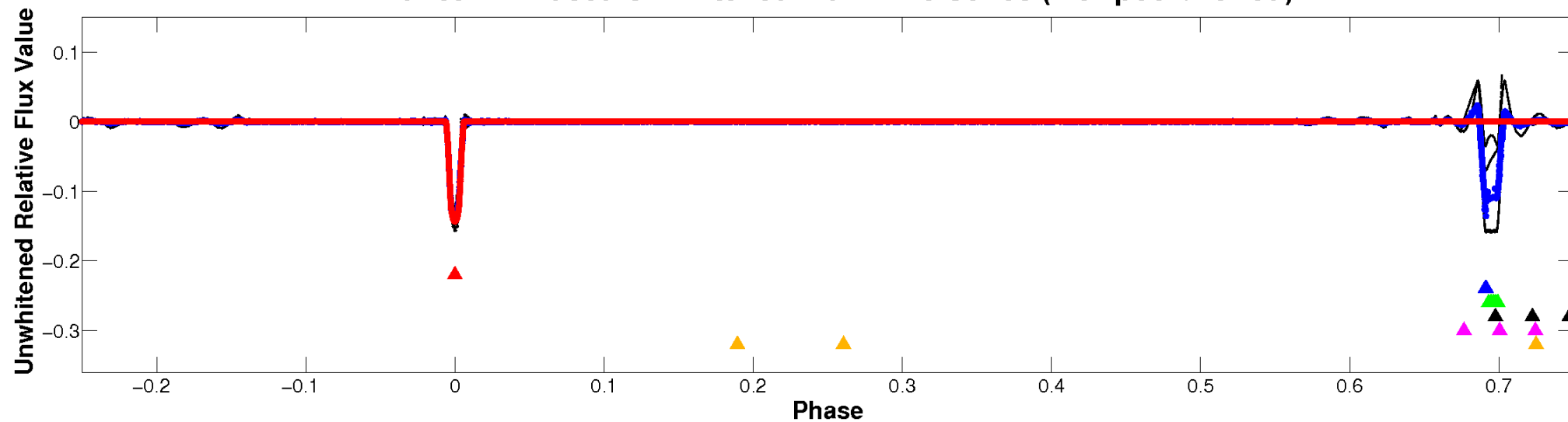
ALT Odd/Even

TCE 004054905-01

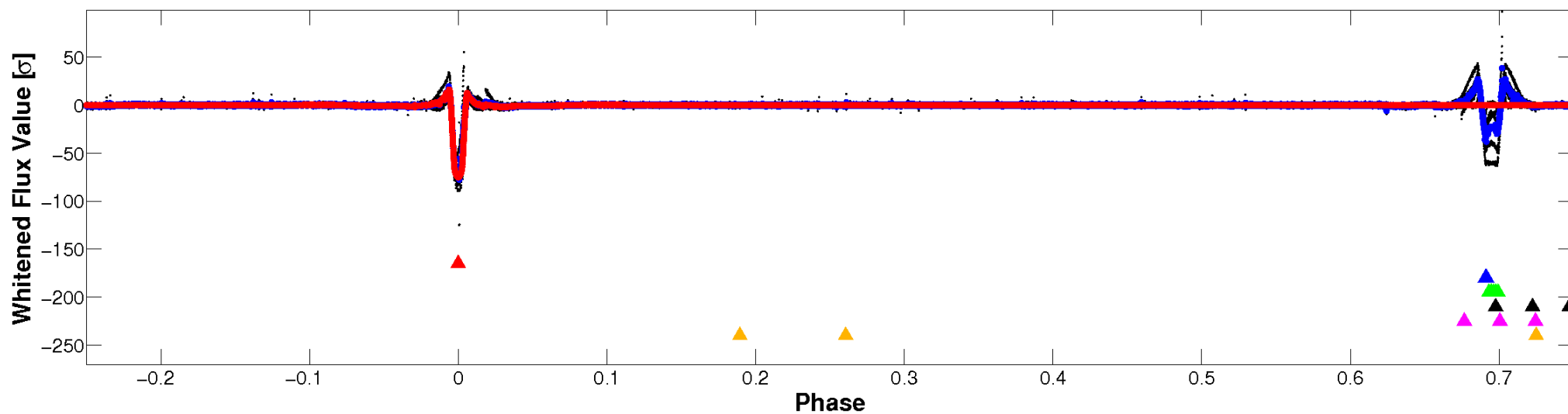


Non-Whitened Vs. Whitened Light Curve

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

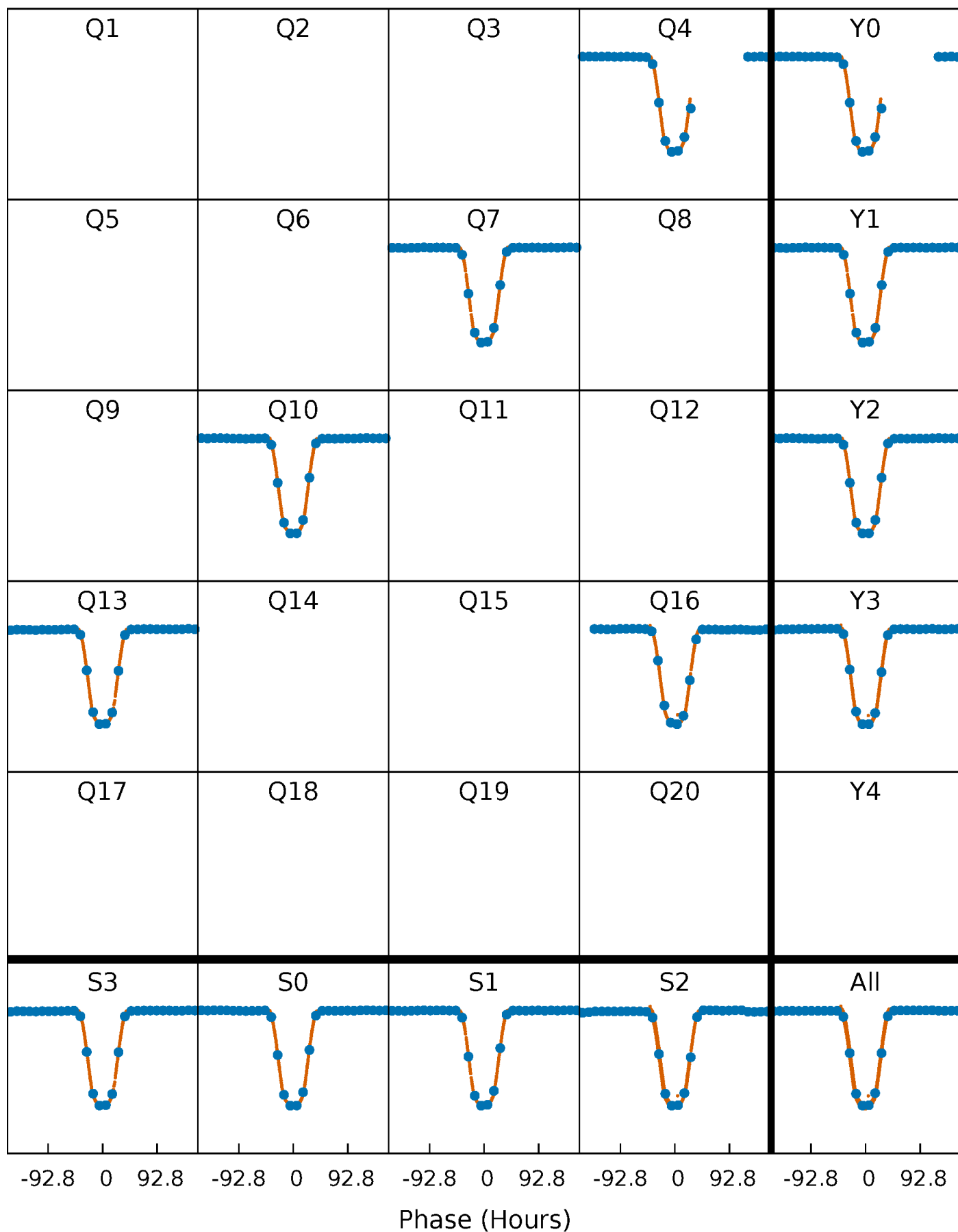


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



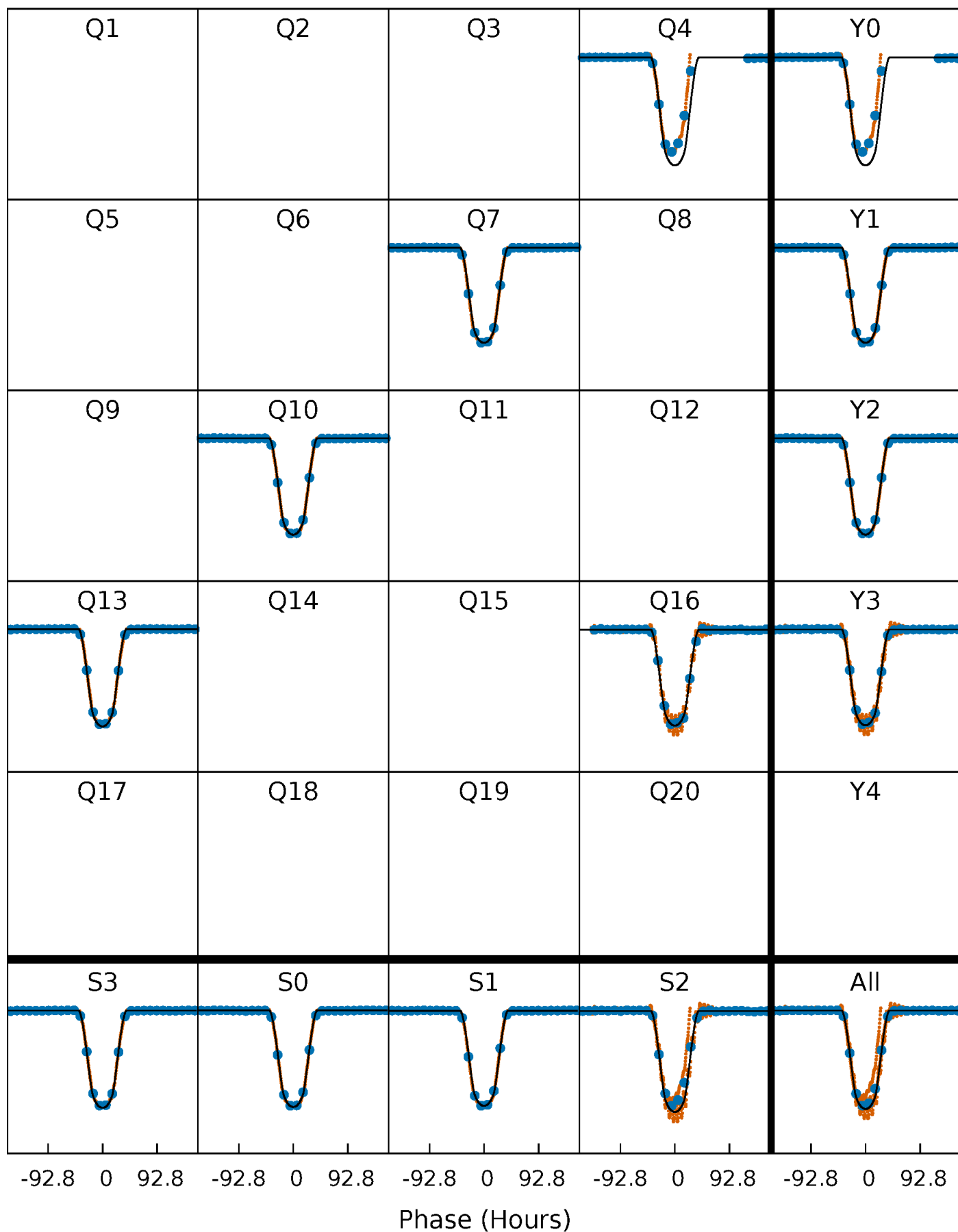
PDC Quarter-Phased Transit Curves

TCE 004054905-01 P=274.715829 Days $T_0=395.758920$ (BKJD)



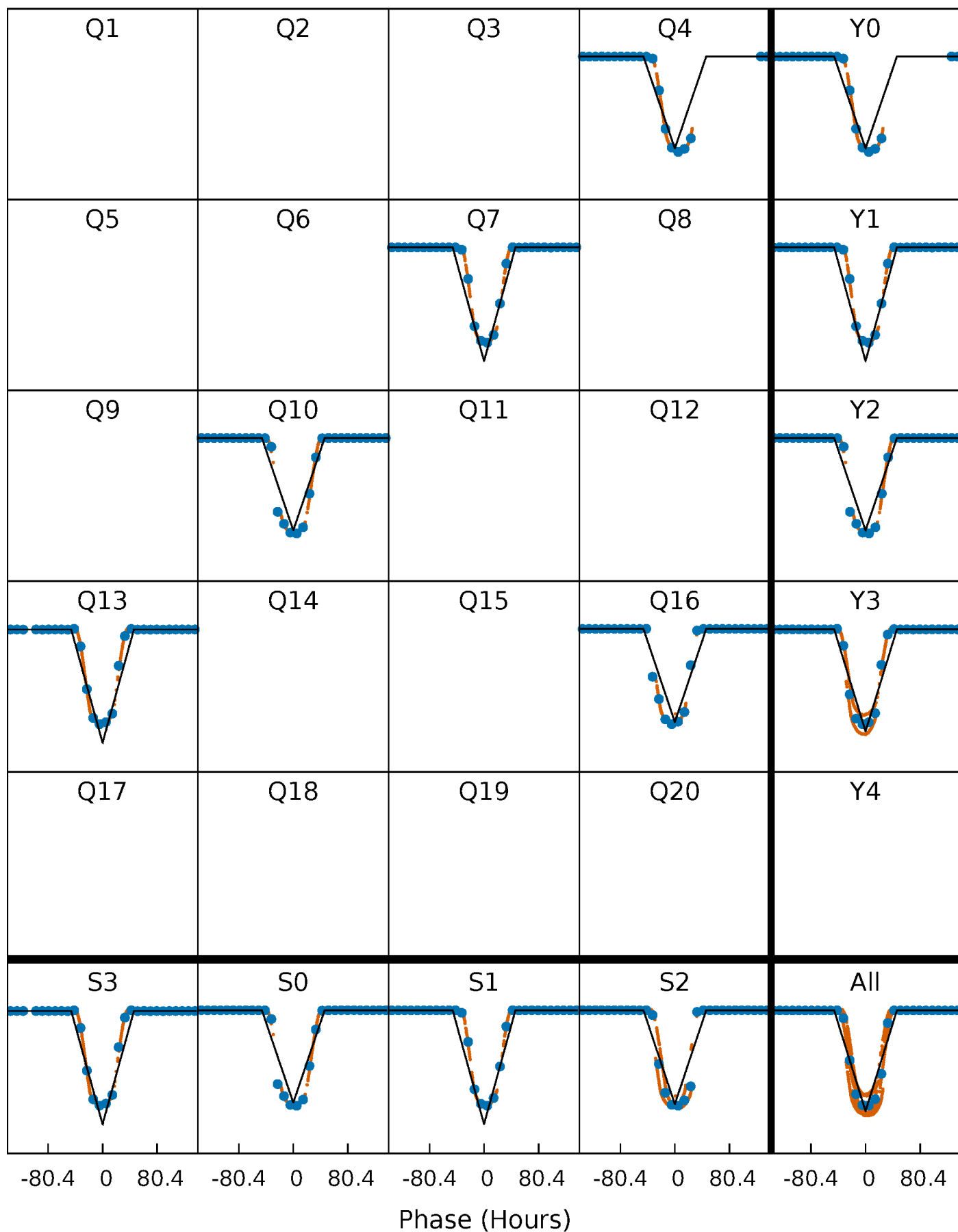
DV Quarter-Phased Transit Curves

TCE 004054905-01 P=274.715829 Days $T_0=395.758920$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

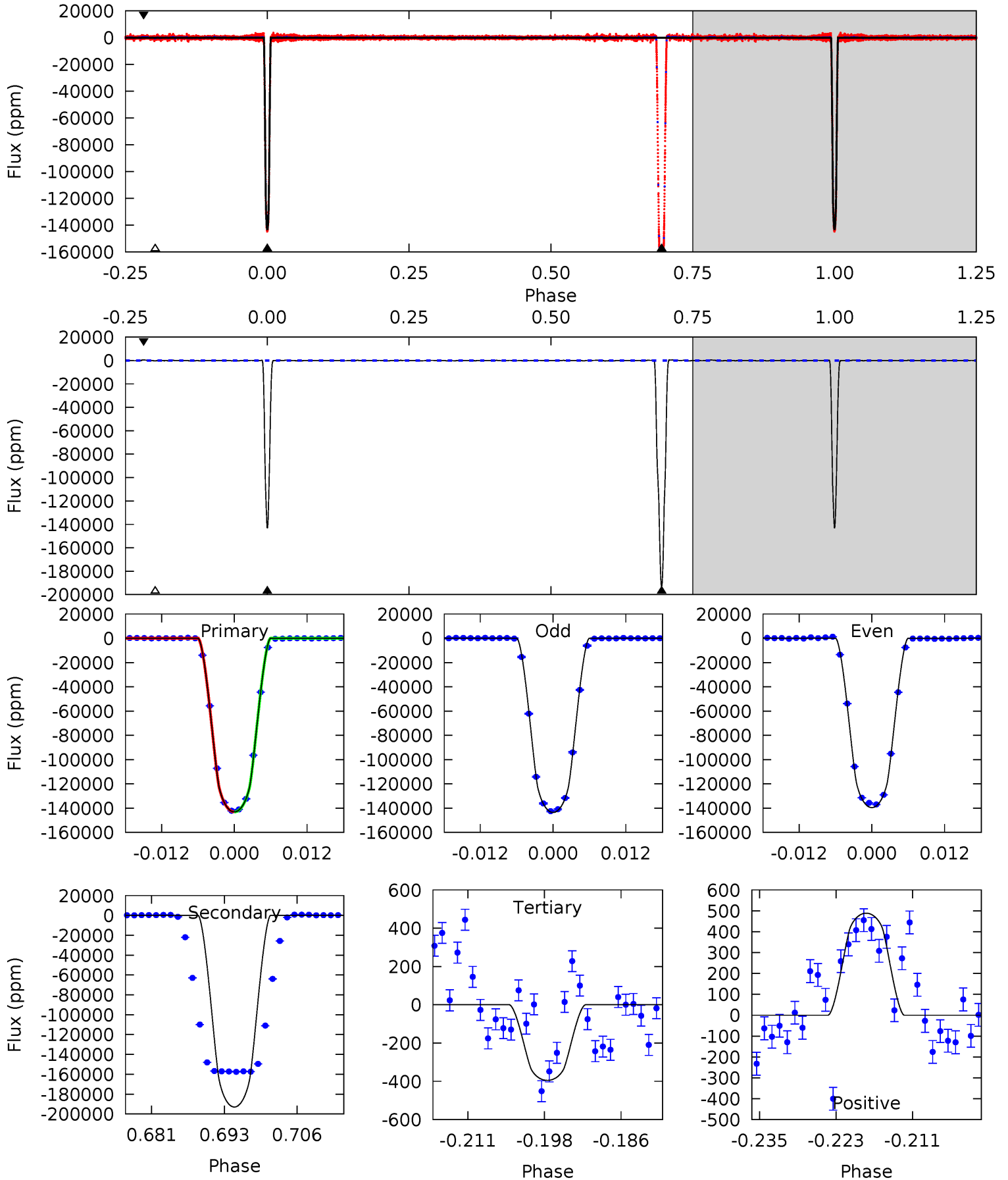
TCE 004054905-01 P=274.817760 Days $T_0=395.503803$ (BKJD)



DV Model-Shift Uniqueness Test

004054905-01, P = 274.715829 Days, E = 121.043091 Days

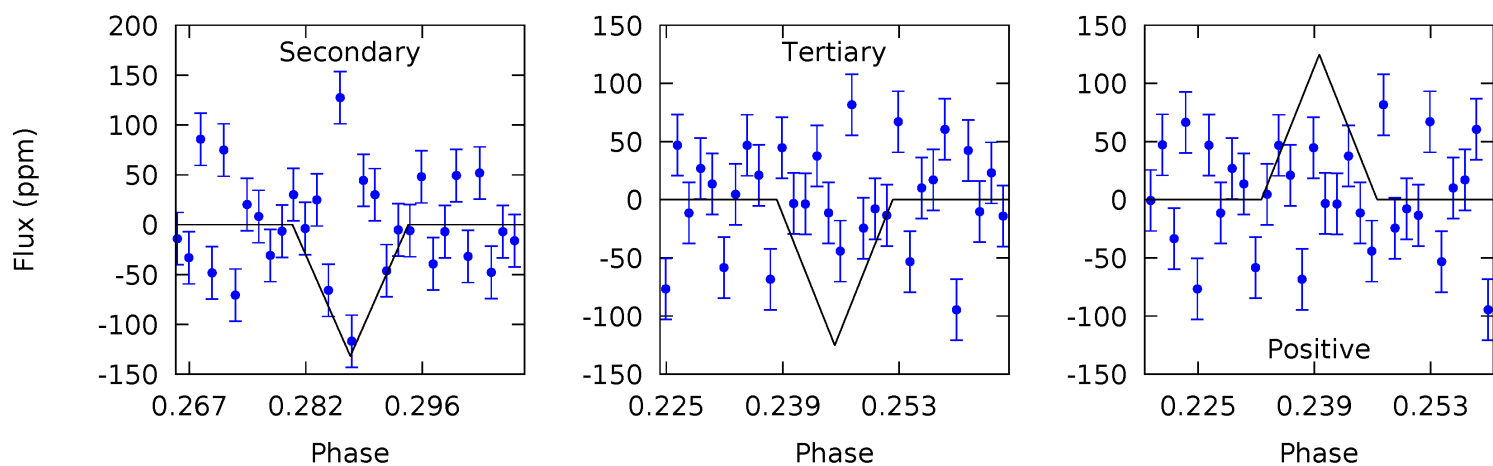
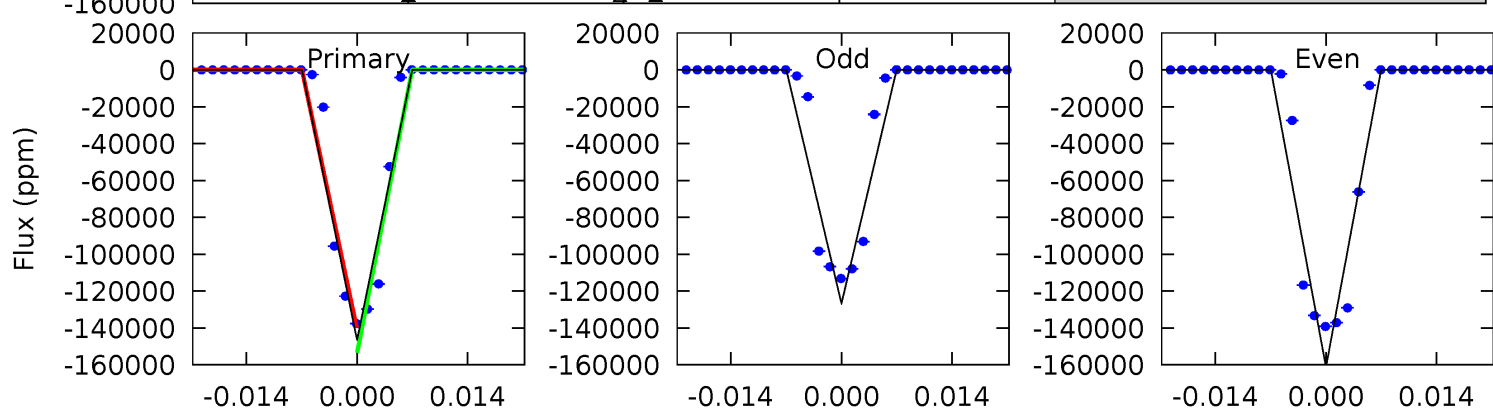
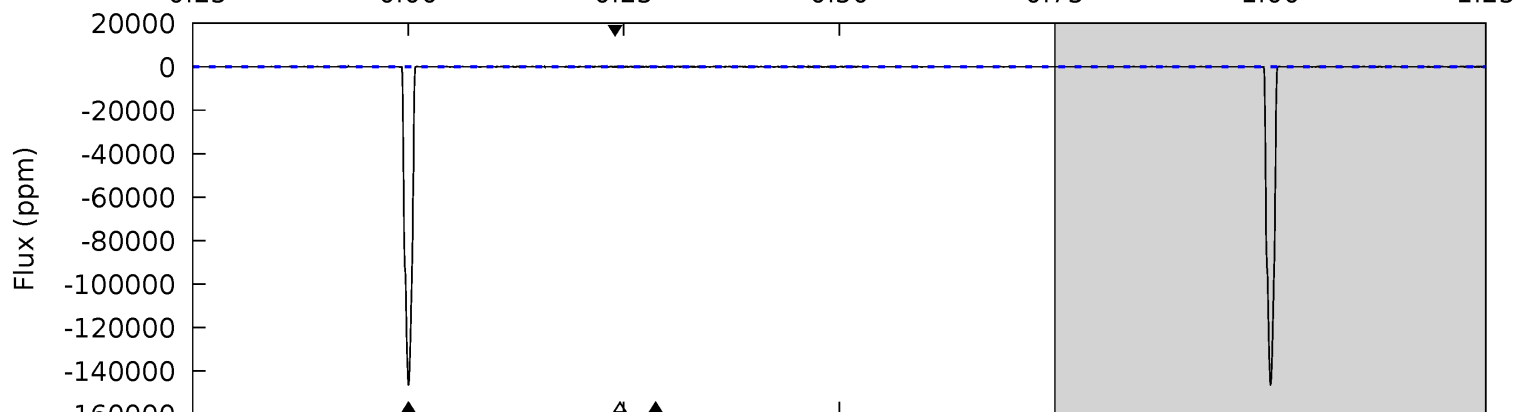
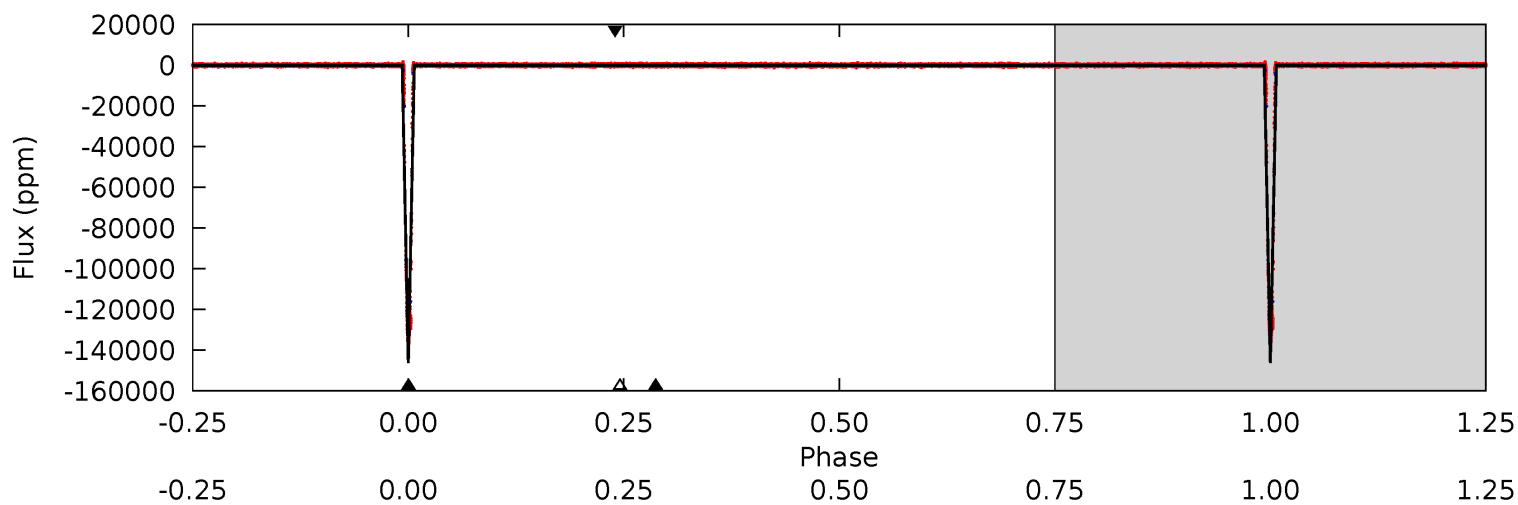
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5718	7713	15.8	19.5	4.99	2.50	5.53	5703	5699	7697	7693	33.1	0.96	0.00	0



Alt Model-Shift Uniqueness Test

004054905-01, P = 274.817760 Days, E = 120.686043 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9497	8.54	8.11	8.08	4.96	2.46	1.57	9489	9489	0.43	0.46	1377	0.93	0.00	0



Stellar Parameters For KIC 004054905

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4782^{+79}_{-50}	$2.614^{+0.027}_{-0.036}$	$-0.480^{+0.150}_{-0.100}$	$7.503^{+1.533}_{-0.170}$	$0.843^{+0.355}_{-0.019}$	$0.003^{+0.000}_{-0.001}$
	+2%/-1%	+1%/-1%	+31%/-21%	+20%/-2%	+42%/-2%	+8%/-21%
Source	SPE74	AST9	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 004054905-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-192985 ± 25	$281.68^{+12.39}_{-4.04}$	915^{+19}_{-15}	5552^{+112}_{-65}	1005^{+29}_{-56}
Alt.	-131 ± 15	$302.90^{+12.07}_{-3.91}$	913^{+18}_{-13}	1687^{+41}_{-64}	$0.472^{+0.058}_{-0.062}$

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

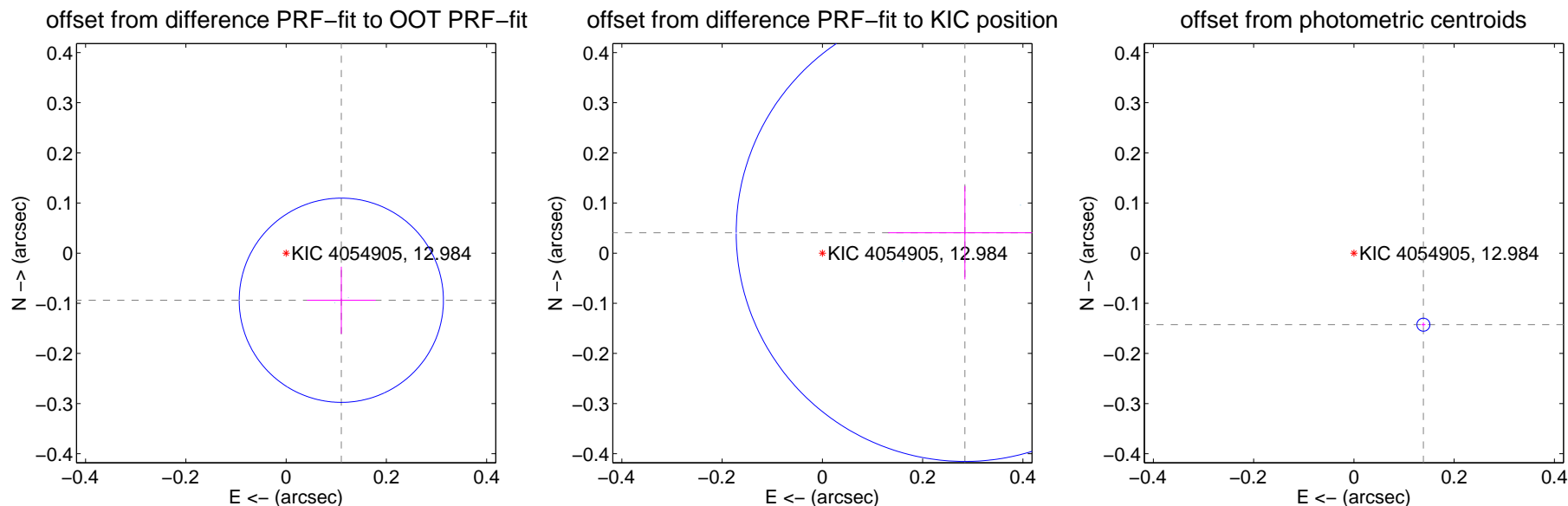
DV Centroid Data

Supplemental centroid analysis for 004054905-01. Kepler magnitude: 12.98. Transit SNR 1195.05

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.145 ± 0.068	2.13	-0.110 ± 0.069	-0.094 ± 0.067
PRF-fit source offset from KIC position	0.287 ± 0.152	1.89	-0.284 ± 0.153	0.041 ± 0.093
photometric centroid source offset	0.20 ± 0.00	45.95	-0.14 ± 0.00	-0.14 ± 0.00

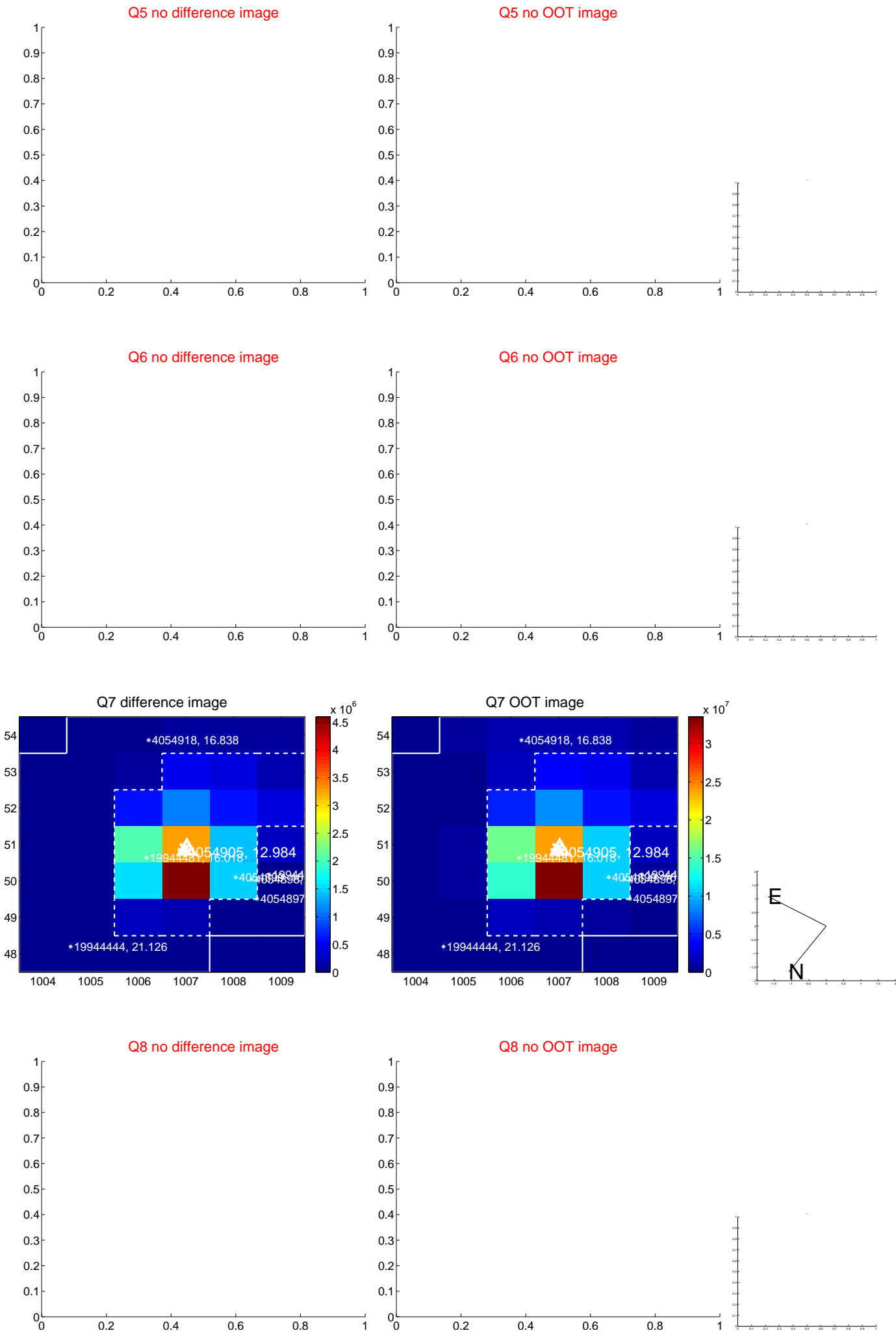


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

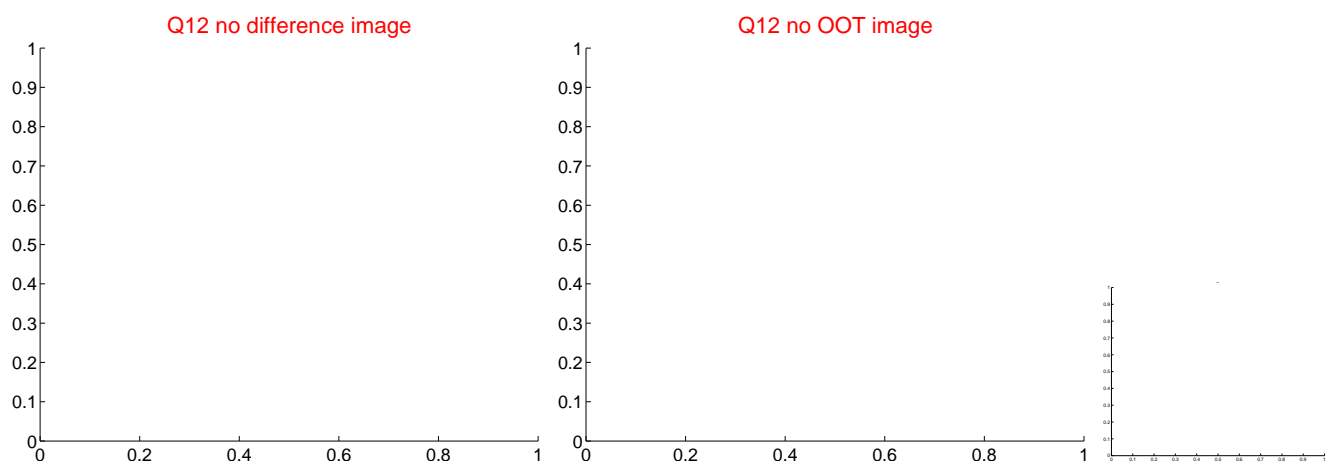
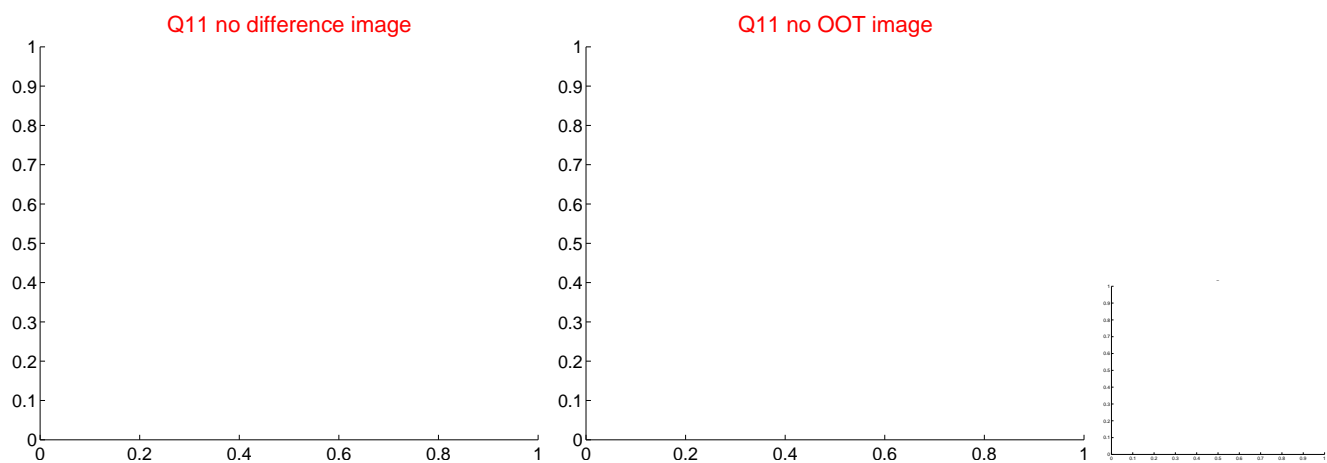
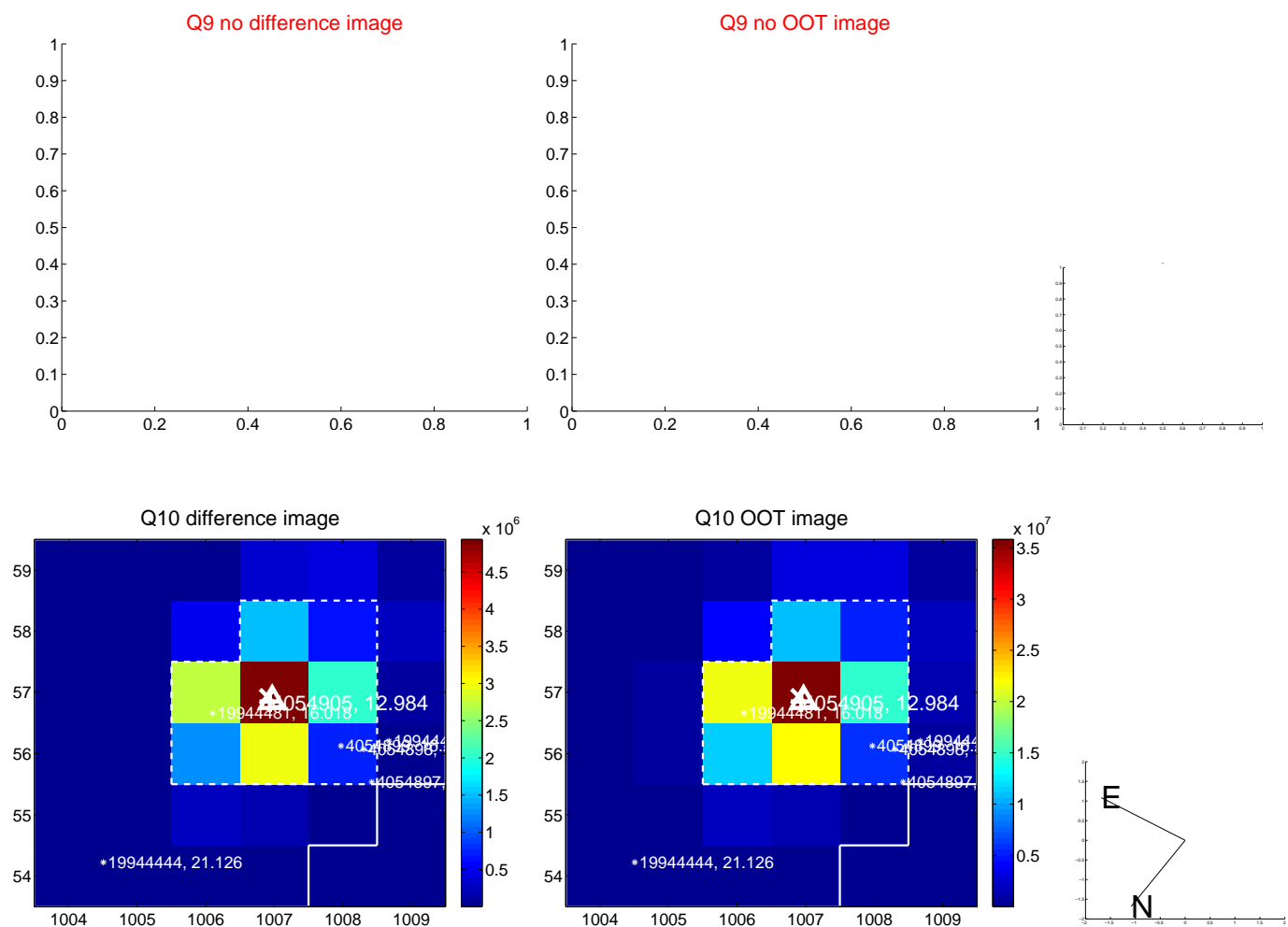
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



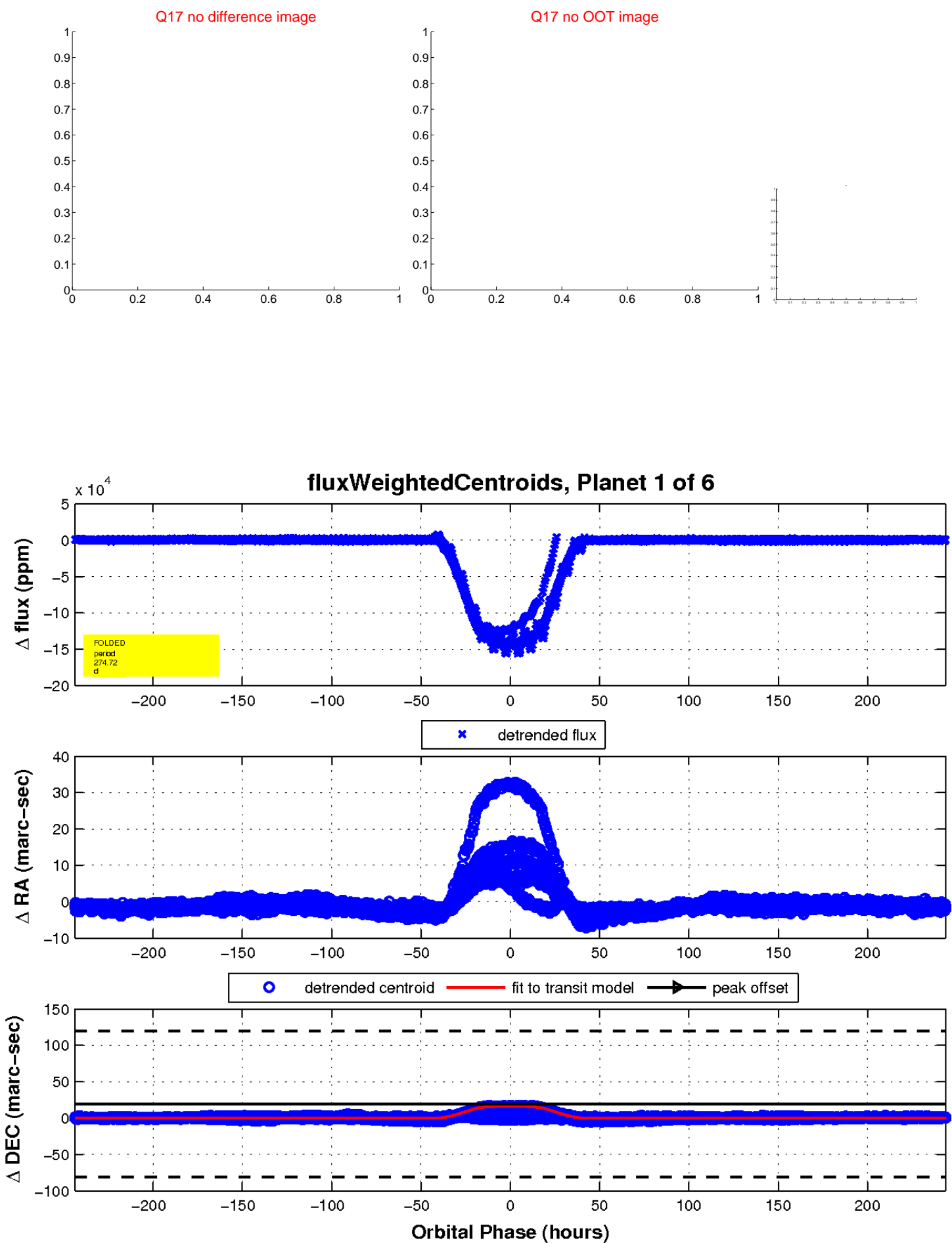
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



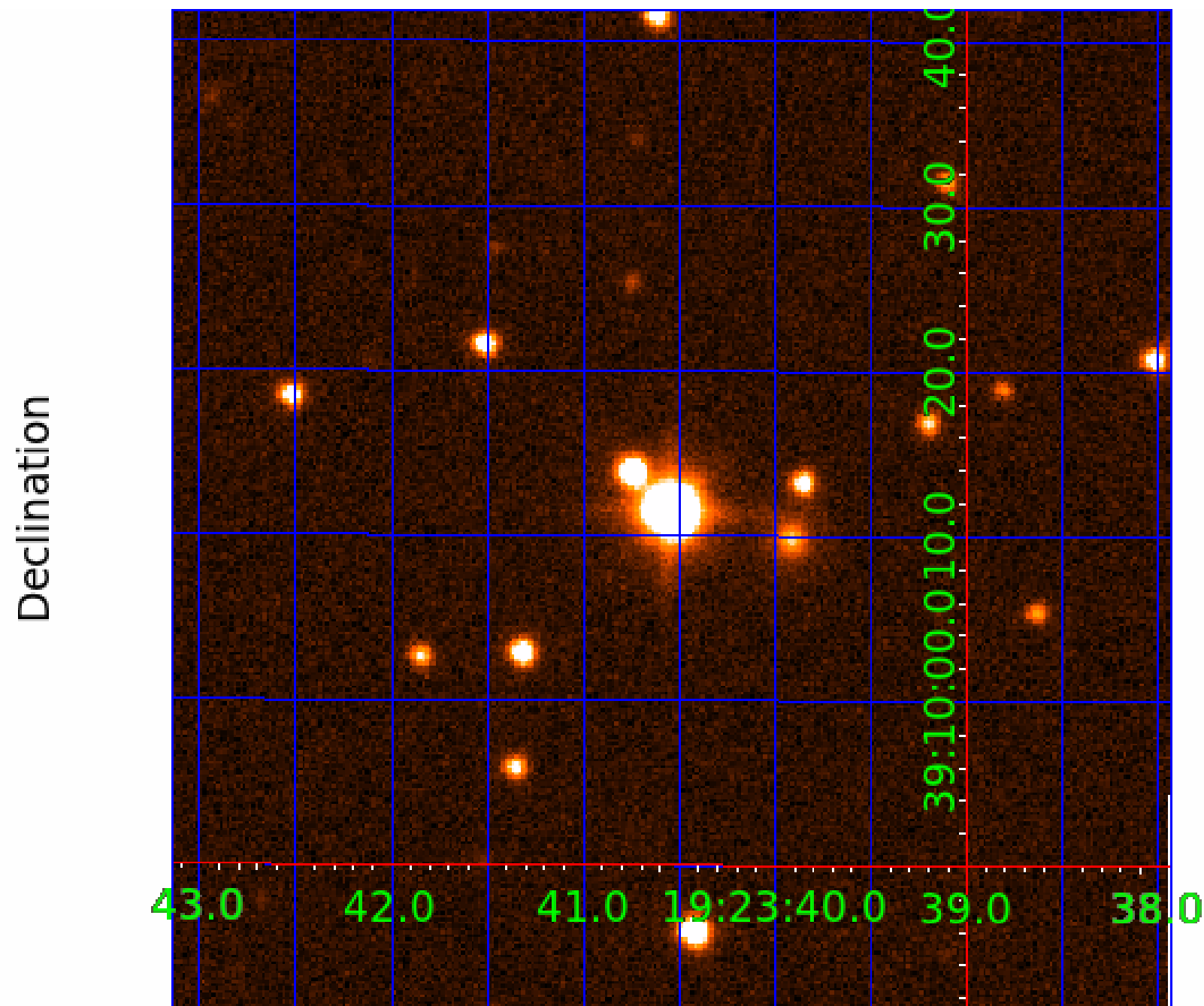
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004054905

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})
004054905-01	OBS	No	274.715829	395.758920	143225.2	81.227	342.8	1195.1	7.50	4782	283.39	43.15
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004054905-01	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—CENT_FEW_DIFFS
004054905-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_NOFITS
004054905-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
004054905-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

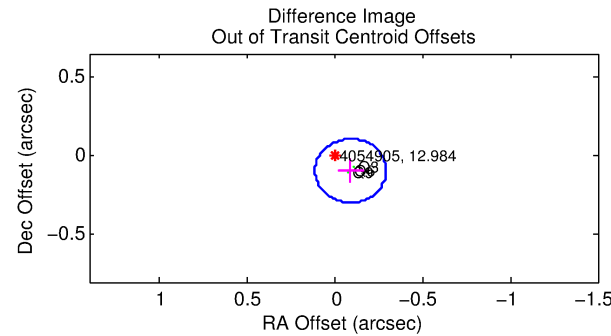
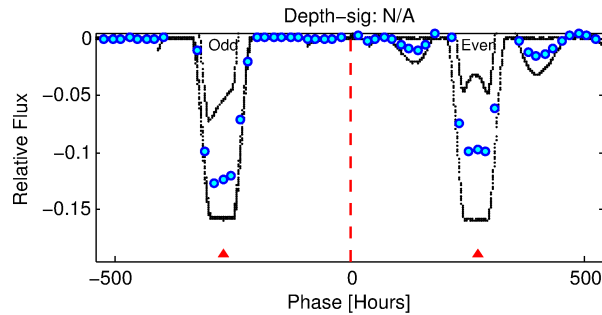
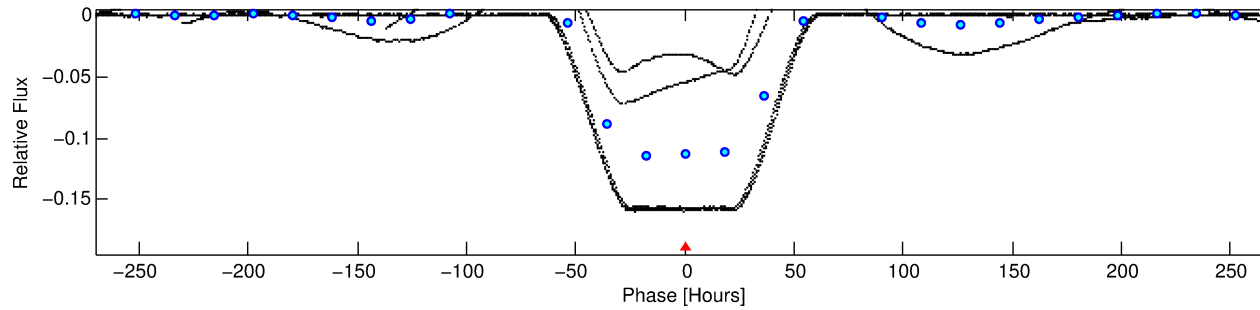
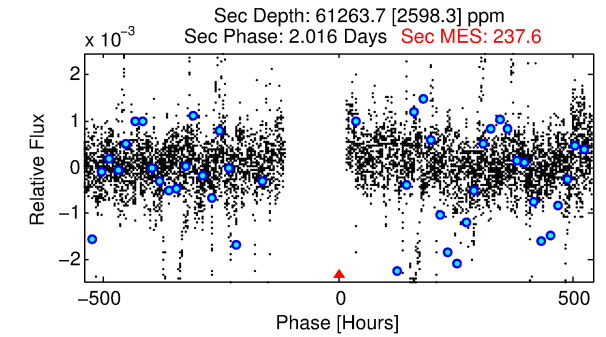
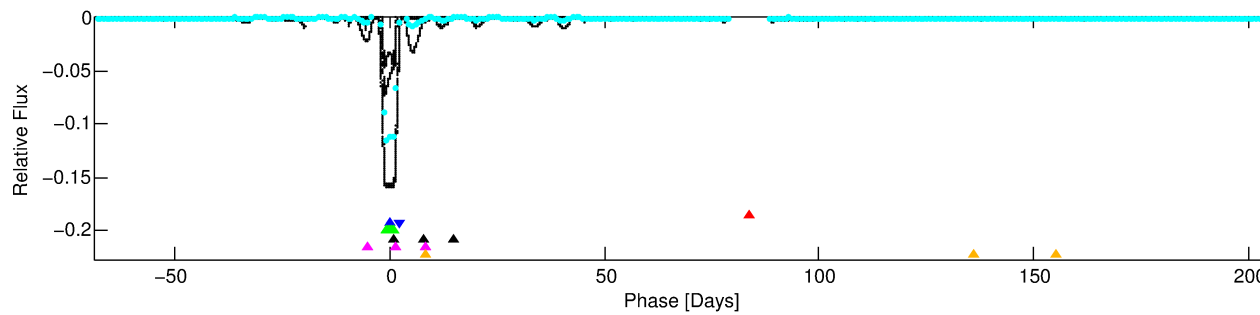
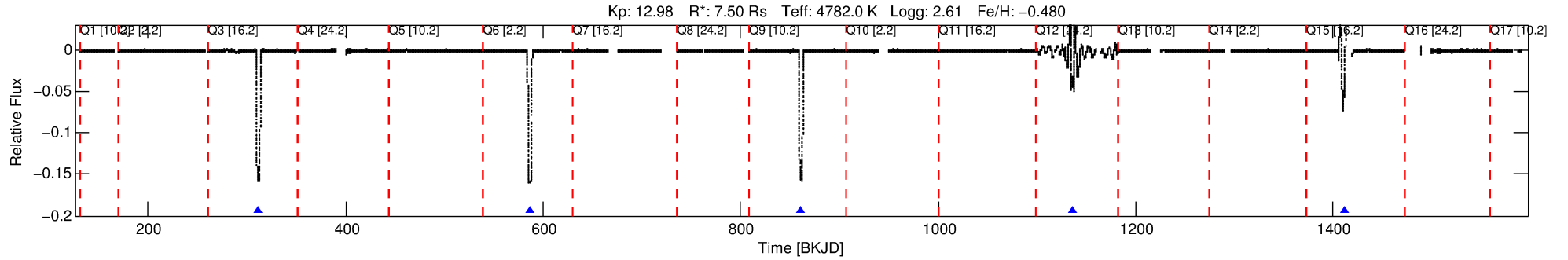
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004054905-02

No Significant Match Found

DV One-Page Summary

KIC: 4054905 Candidate: 2 of 6 Period: 274.763 d



TPS TCE Results:

Period = 274.76327 d
Epoch = 310.8495 BKJD

DV fit results are unavailable

DV Diagnostic Results:

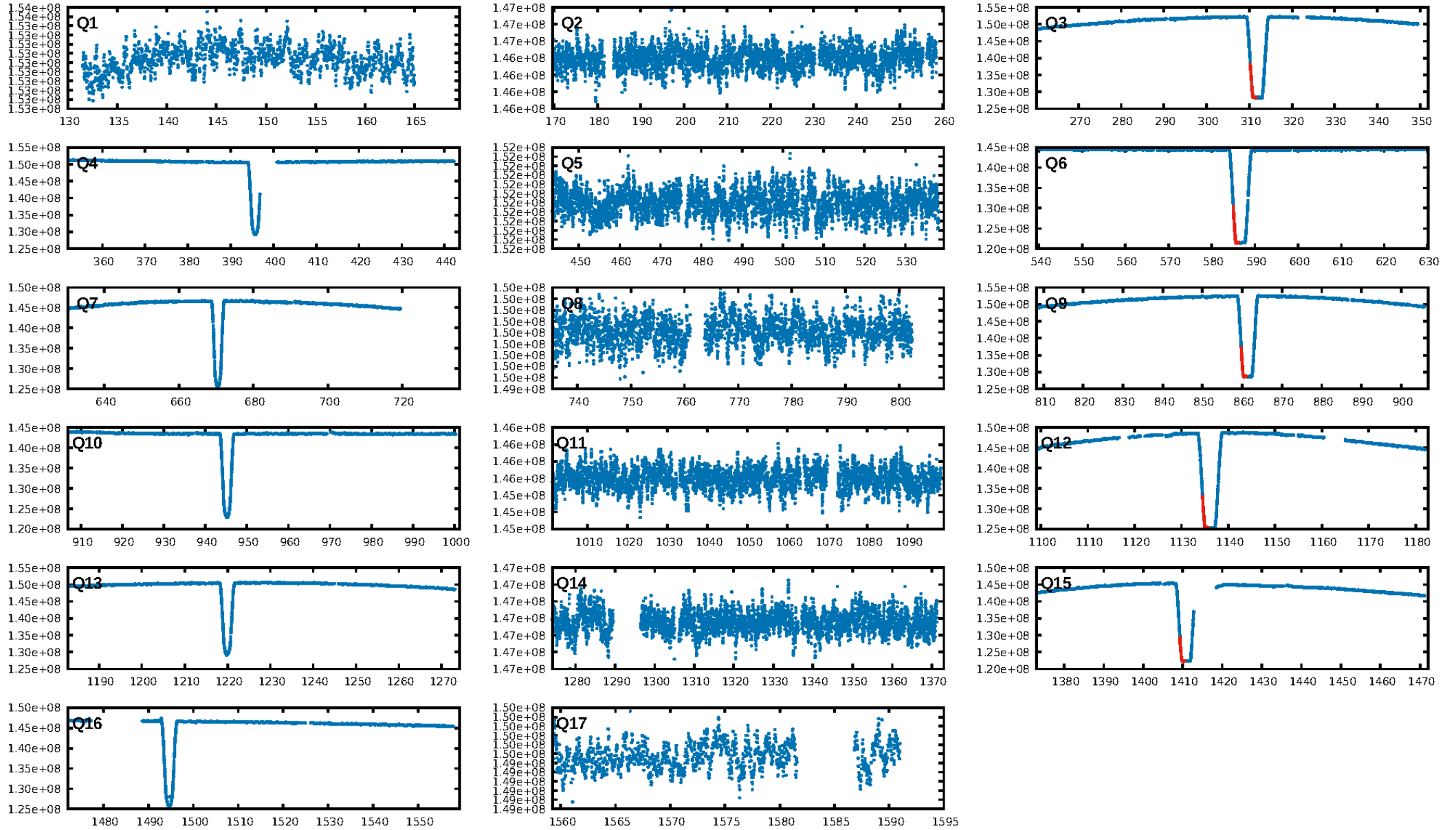
ShortPeriod-sig: 1.1% [0.01 σ]
LongPeriod-sig: 100.0% [351.10 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.6884

Centroid-sig: N/A
Centroid-so: 0.135 arcsec [7.15 σ]
OotOffset-rm: 0.130 arcsec [1.93 σ]
KicOffset-rm: 0.219 arcsec [1.78 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

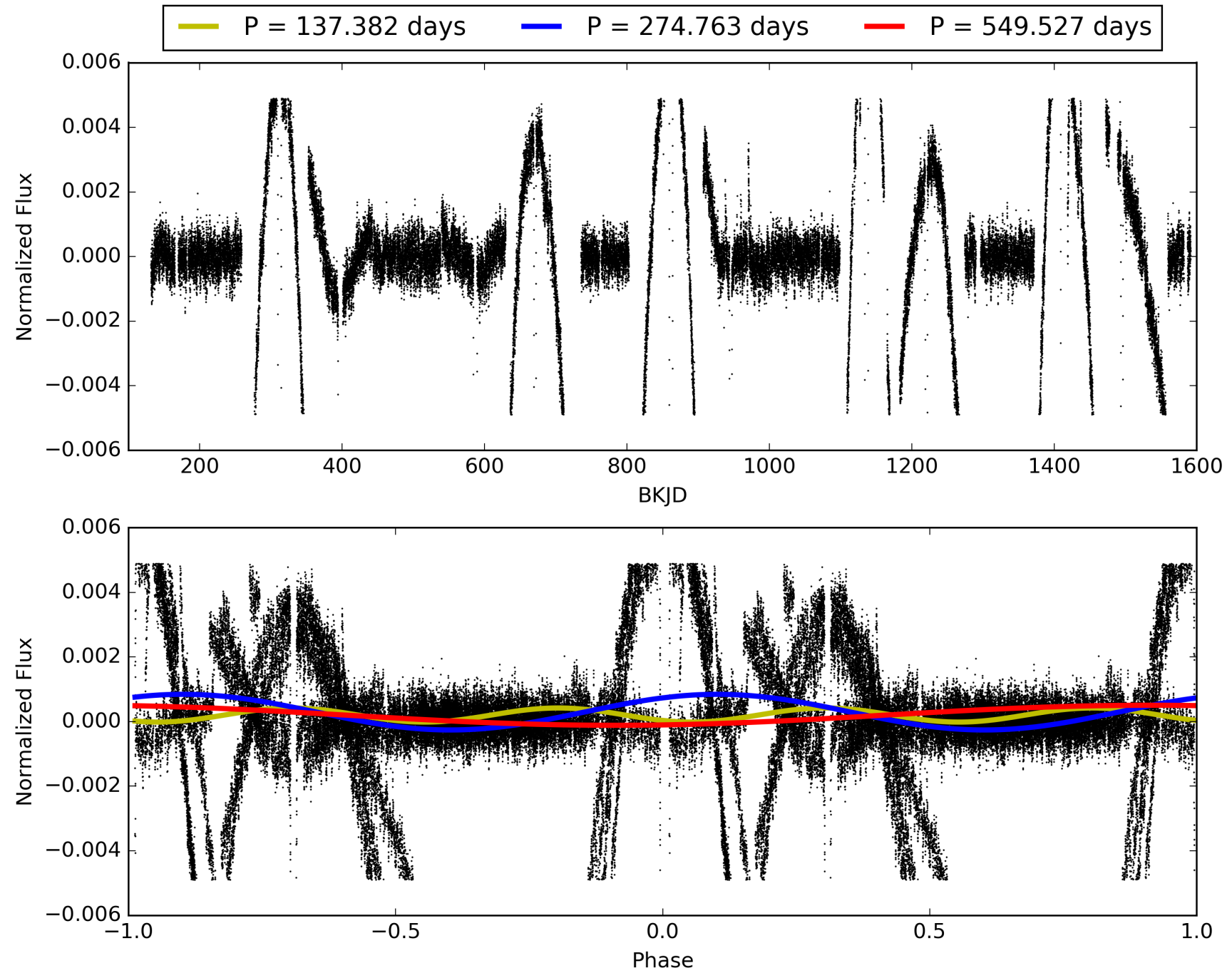
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:59:48 Z

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

TCE 004054905-02, PDC Light Curves

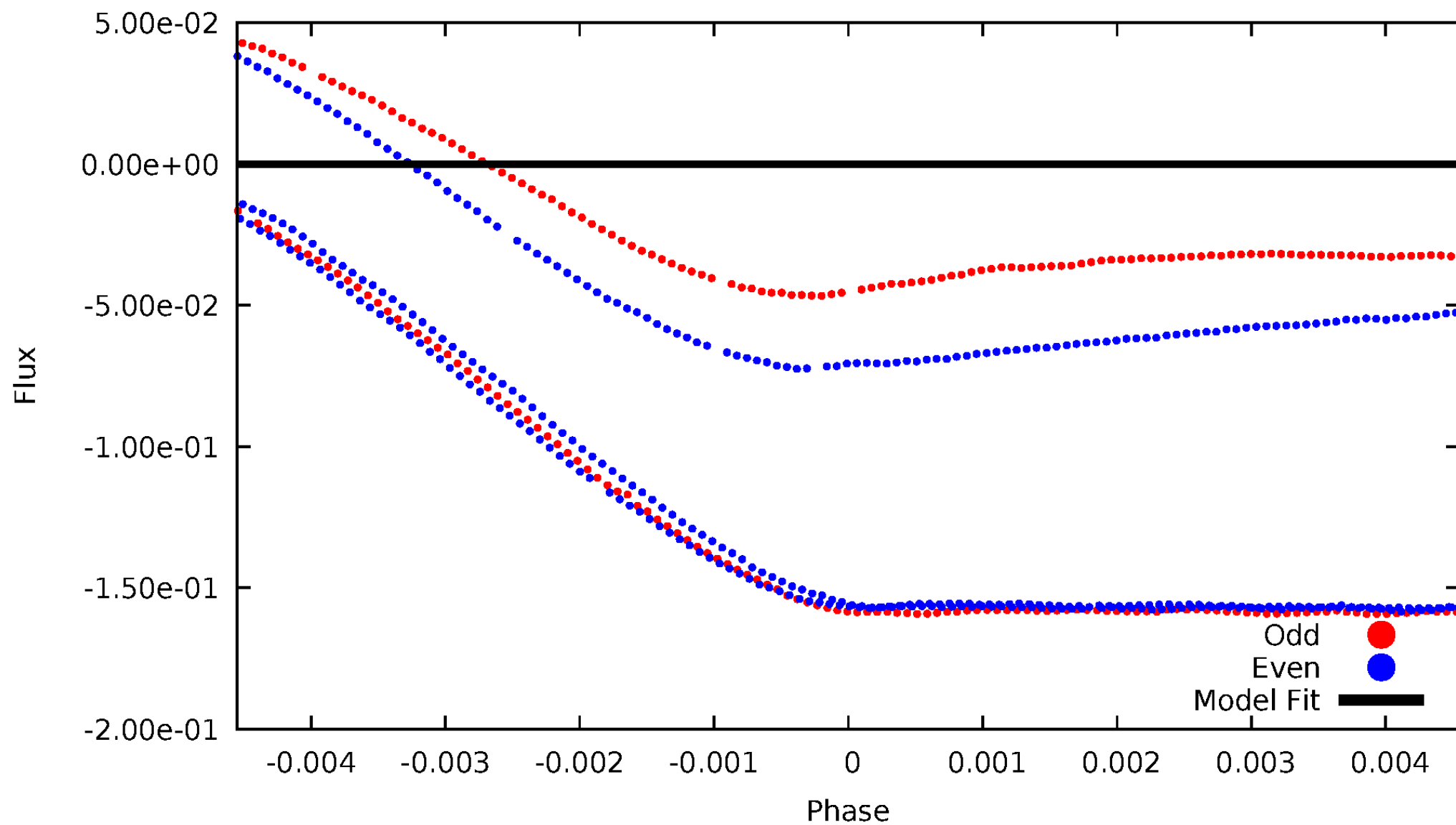


TCE 004054905-02



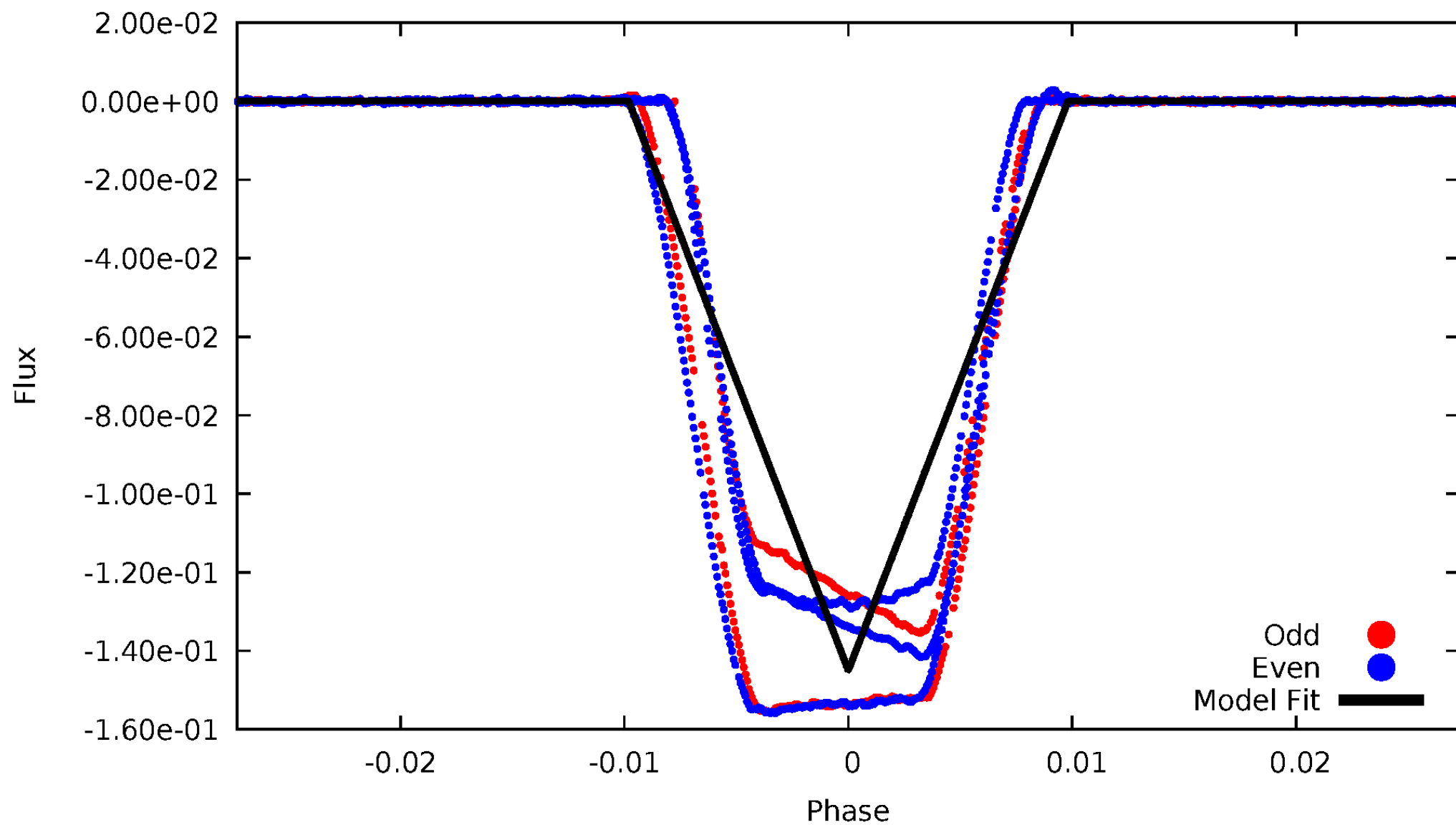
DV Odd/Even

TCE 004054905-02



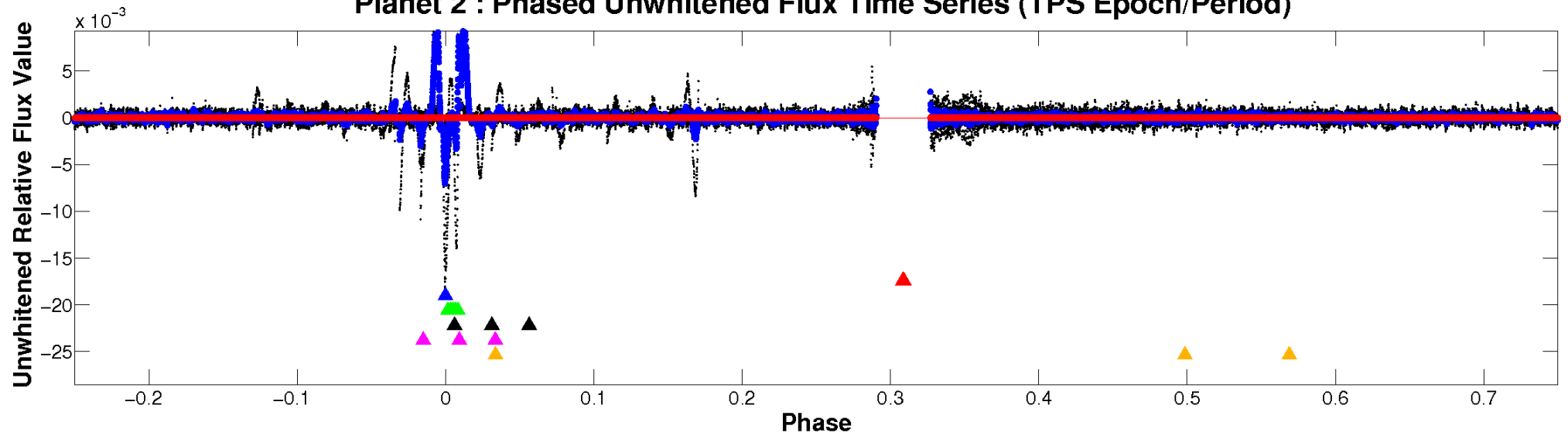
ALT Odd/Even

TCE 004054905-02



Non-Whitened Vs. Whitened Light Curve

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

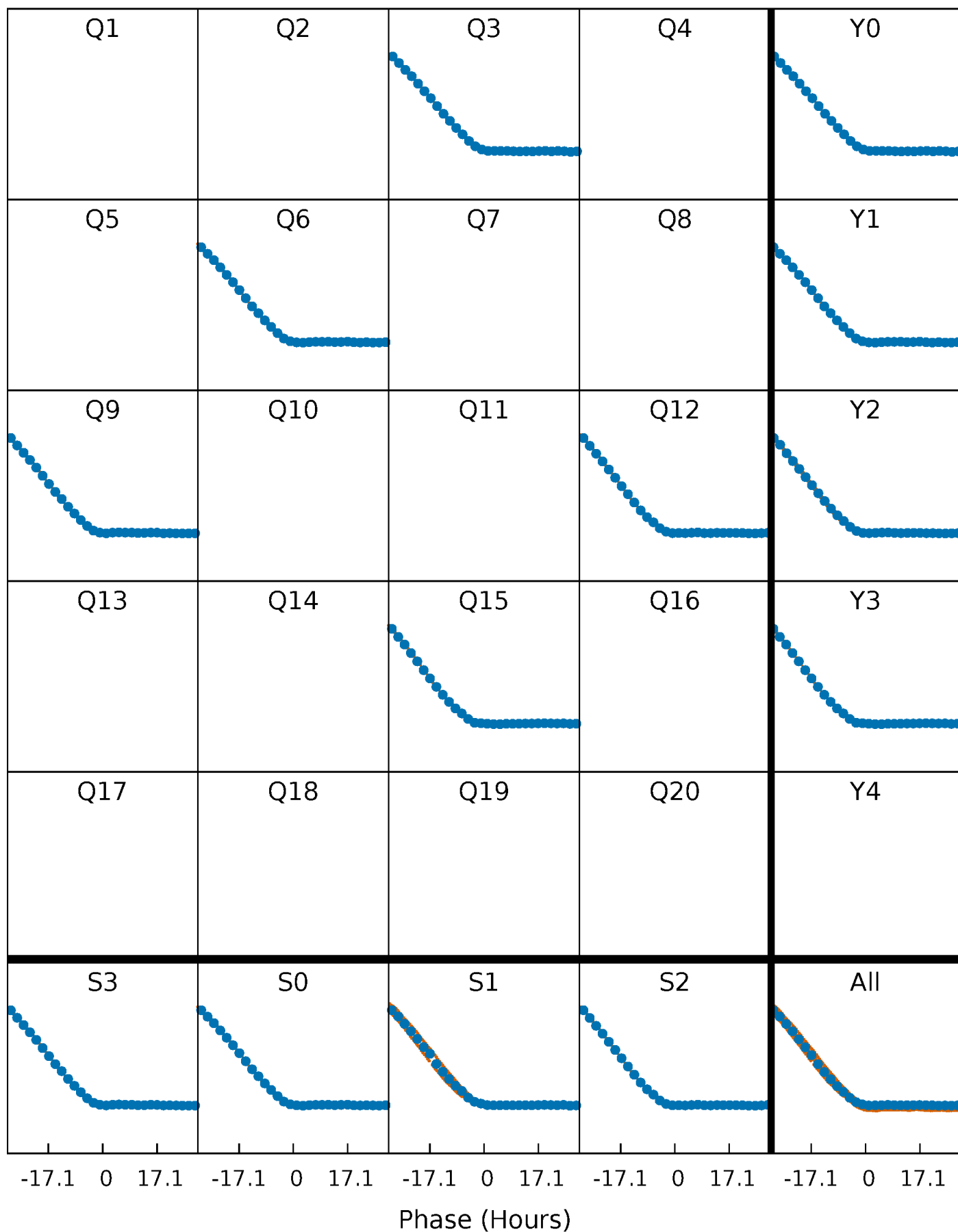


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



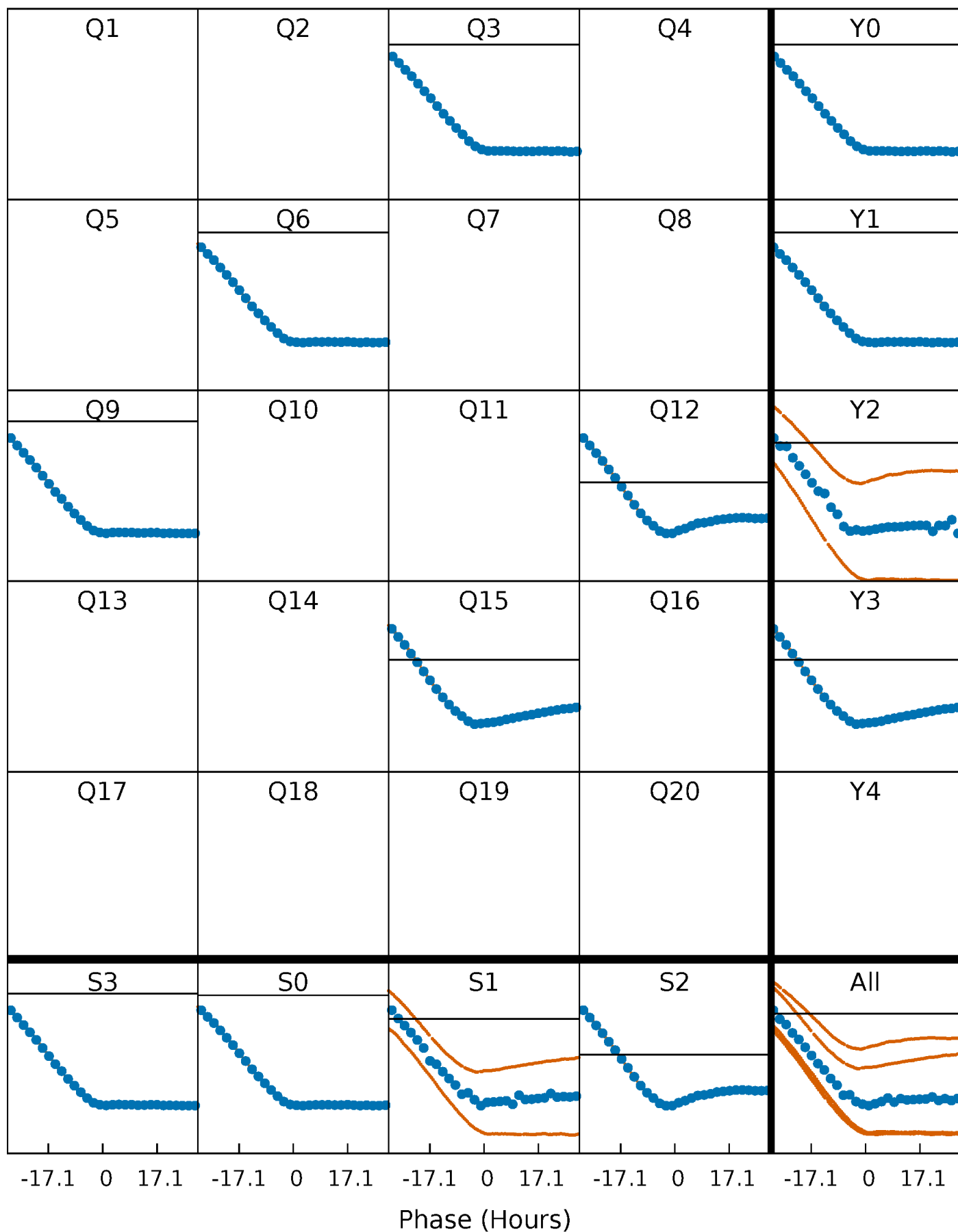
PDC Quarter-Phased Transit Curves

TCE 004054905-02 $P=274.763270$ Days $T_0=310.849539$ (BKJD)



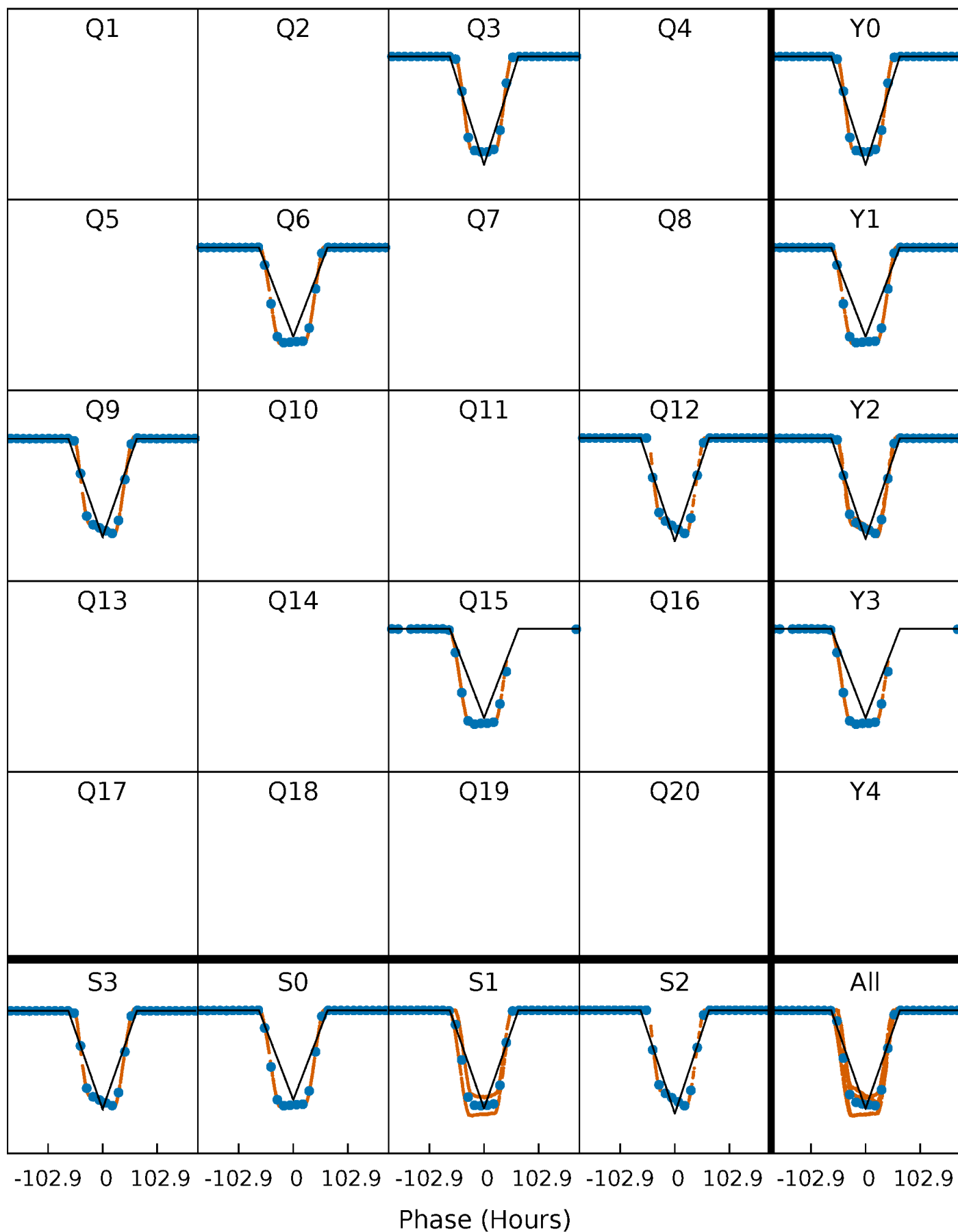
DV Quarter-Phased Transit Curves

TCE 004054905-02 $P=274.763270$ Days $T_0=310.849539$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

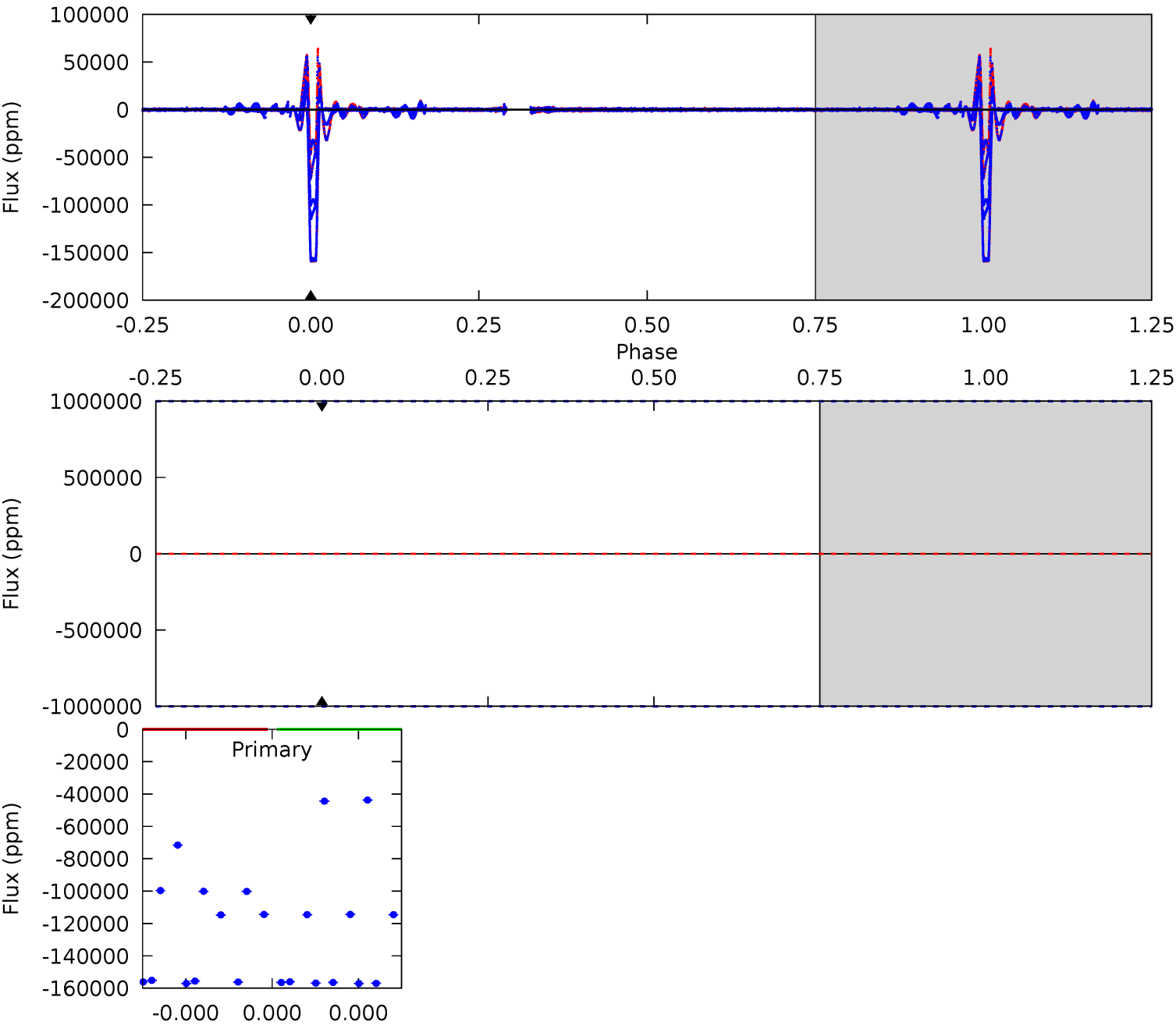
TCE 004054905-02 P=274.763270 Days $T_0=311.946448$ (BKJD)



DV Model-Shift Uniqueness Test

004054905-02, P = 274.763270 Days, E = 36.086269 Days

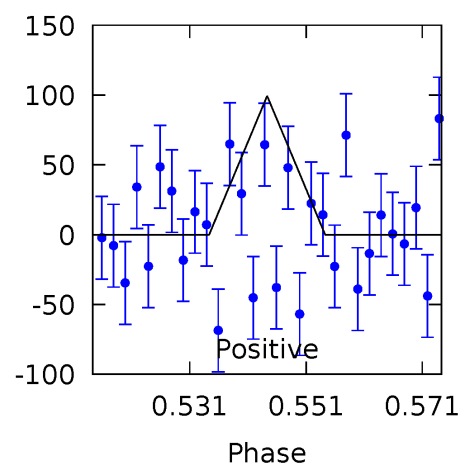
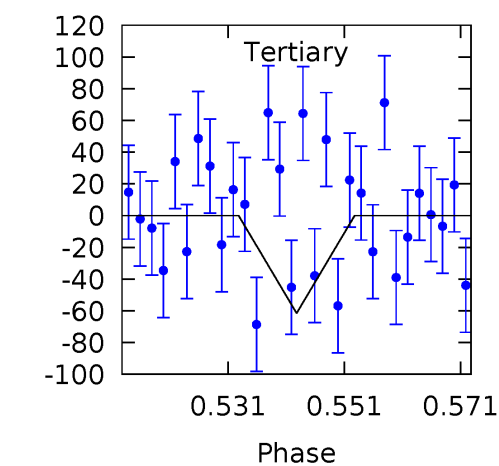
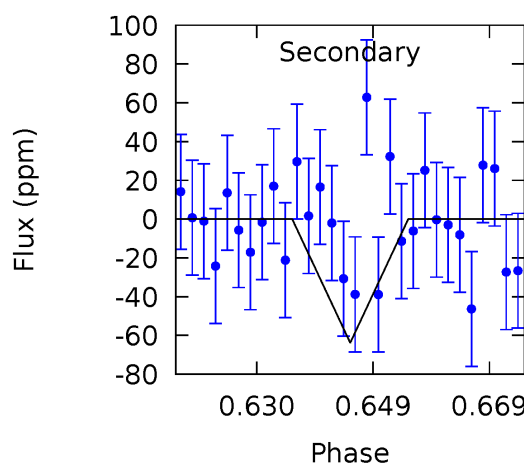
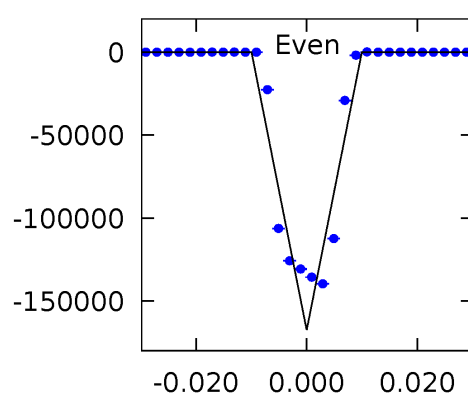
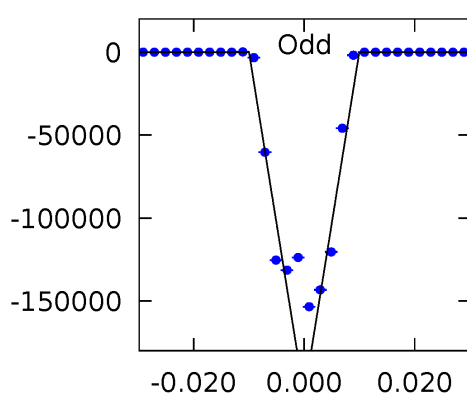
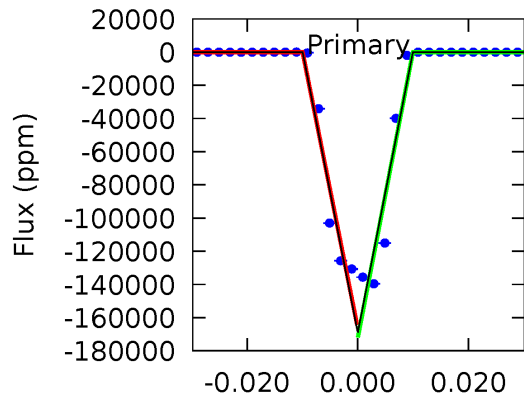
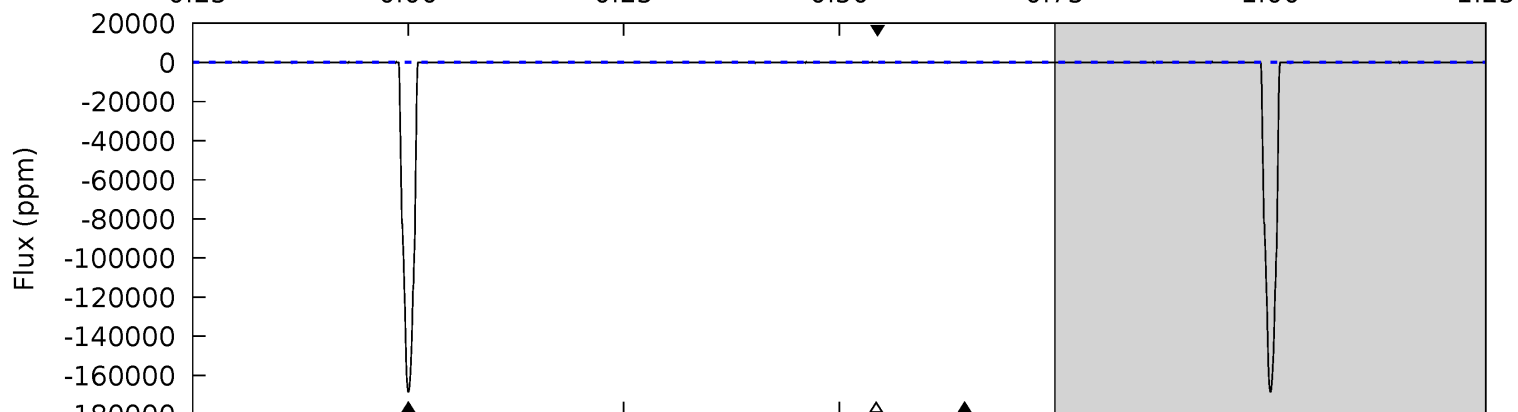
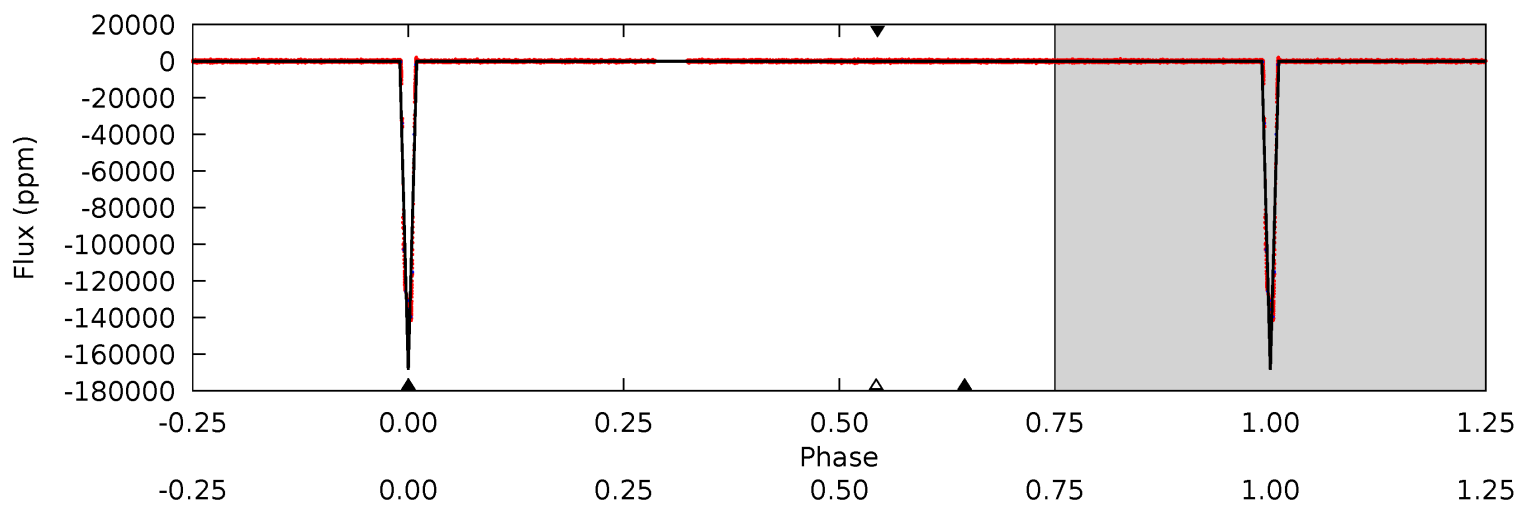
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004054905-02, P = 274.763270 Days, E = 37.183178 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12391	4.68	4.51	7.28	4.89	2.33	1.07	12386	12383	0.16	-2.60	1644	1.04	0.00	0



Stellar Parameters For KIC 004054905

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4782^{+79}_{-50}	$2.614^{+0.027}_{-0.036}$	$-0.480^{+0.150}_{-0.100}$	$7.503^{+1.533}_{-0.170}$	$0.843^{+0.355}_{-0.019}$	$0.003^{+0.000}_{-0.001}$
	+2%/-1%	+1%/-1%	+31%/-21%	+20%/-2%	+42%/-2%	+8%/-21%
Source	SPE74	AST9	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 004054905-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$79.26^{+70.62}_{-53.57}$	915^{+20}_{-15}	3089^{+8761}_{-13692}	40^{+11875}_{-8751}
Alt.	-64 ± 14	$356.32^{+88.19}_{-78.06}$	914^{+21}_{-14}	-1645^{+245}_{-65}	$0.168^{+0.114}_{-0.063}$

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

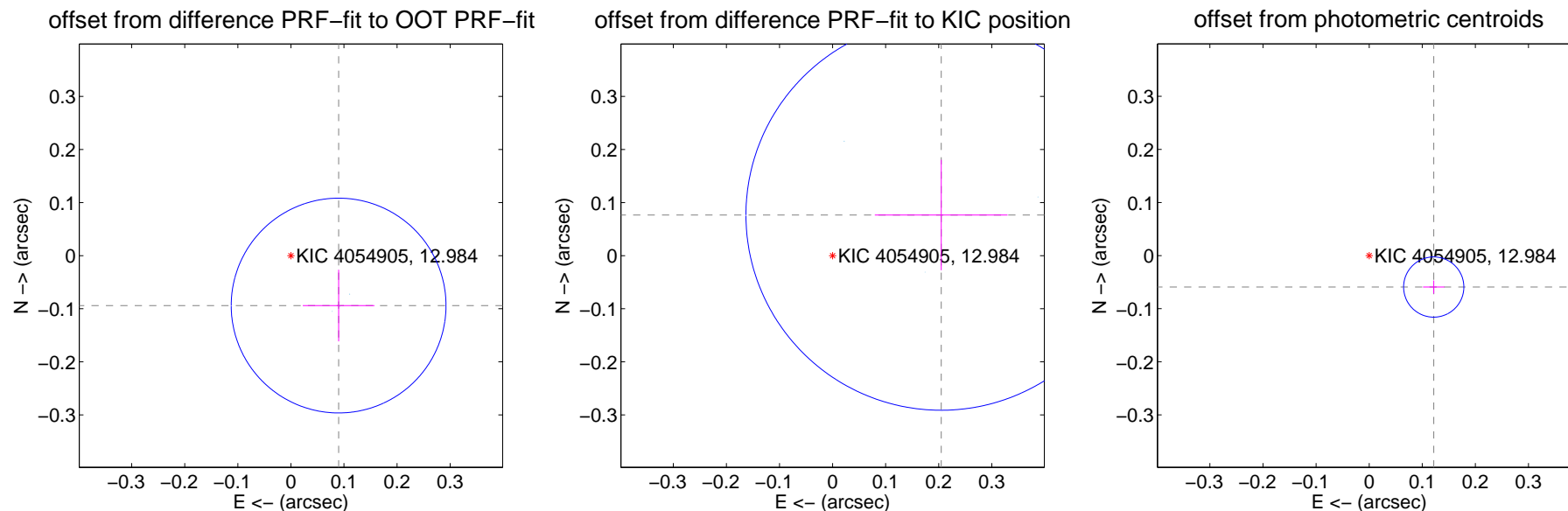
DV Centroid Data

Supplemental centroid analysis for 004054905-02. Kepler magnitude: 12.98. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

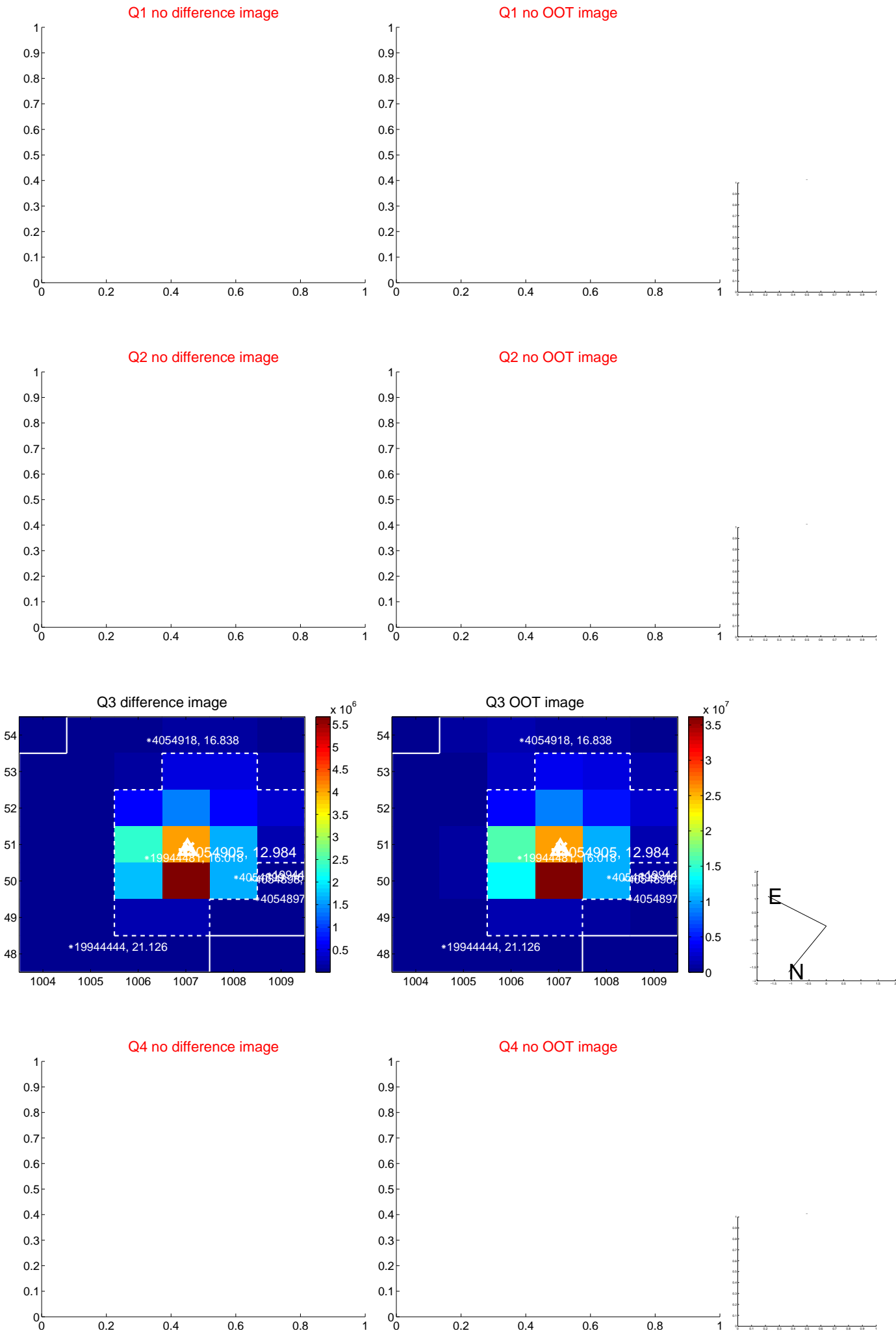
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.130 ± 0.067	1.93	-0.090 ± 0.067	-0.094 ± 0.067
PRF-fit source offset from KIC position	0.219 ± 0.123	1.78	-0.205 ± 0.125	0.077 ± 0.104
photometric centroid source offset	0.14 ± 0.02	7.15	-0.12 ± 0.02	-0.06 ± 0.01

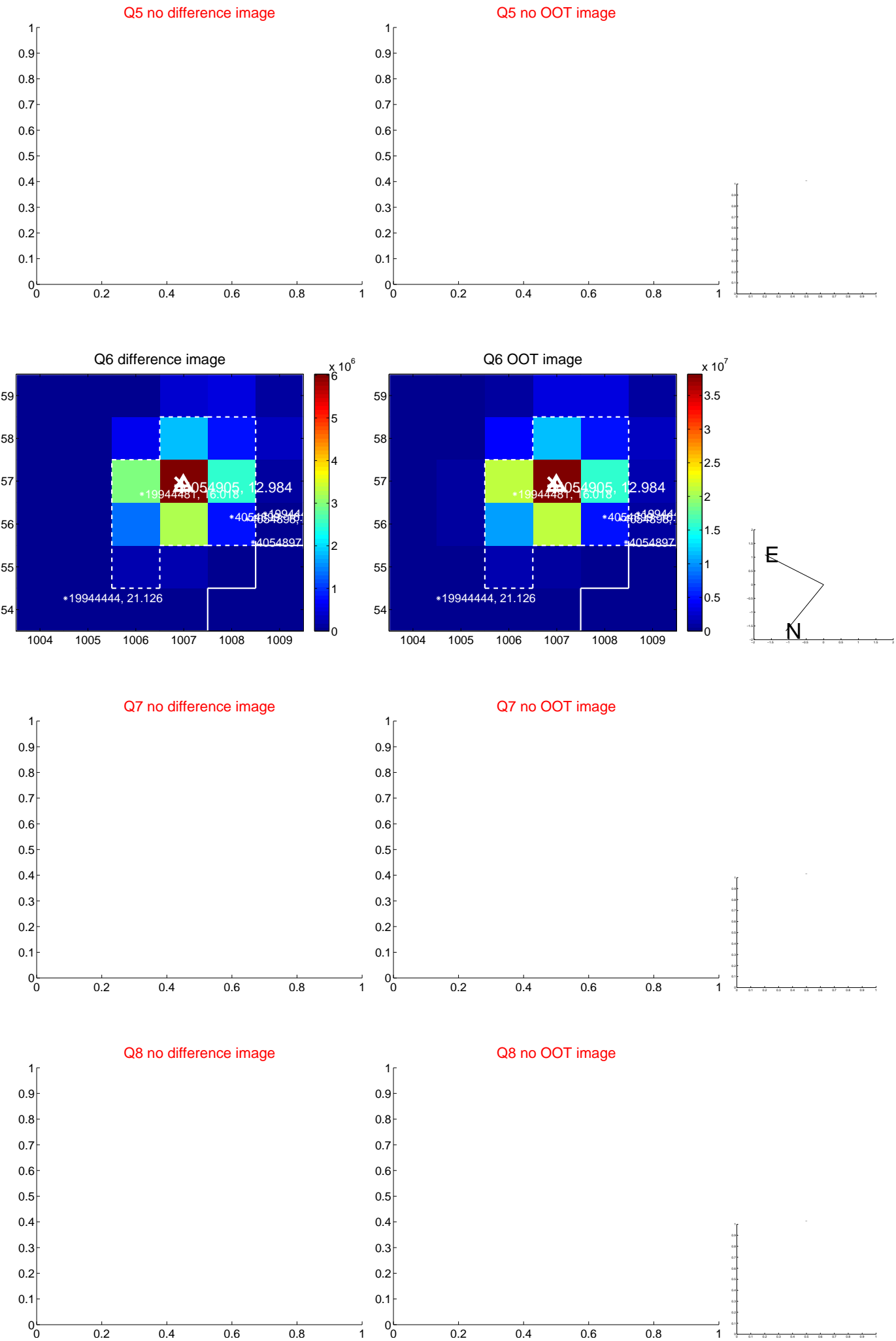


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

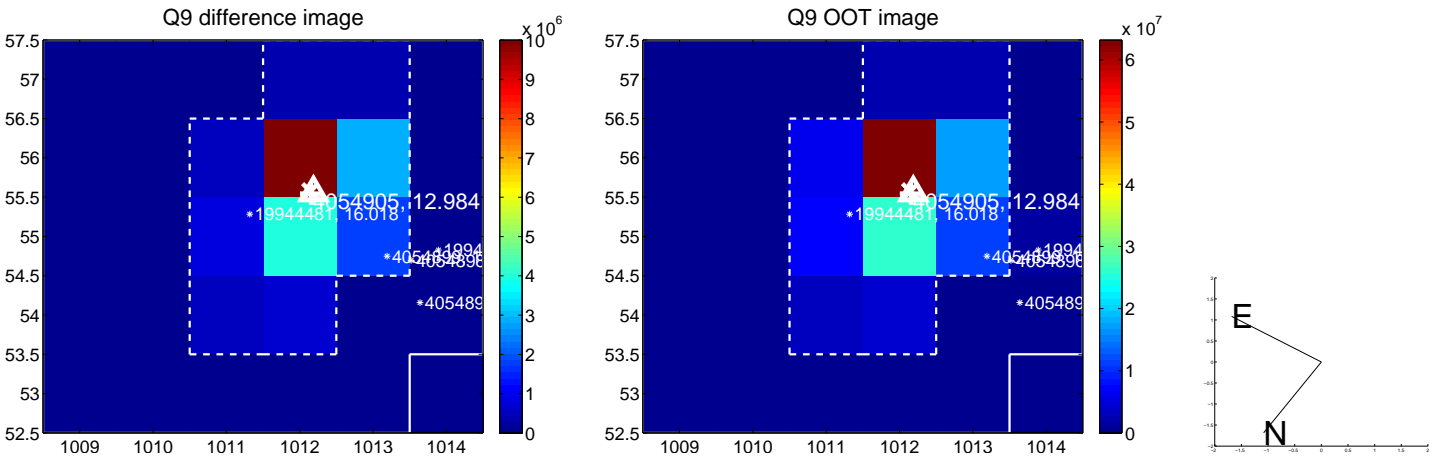
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



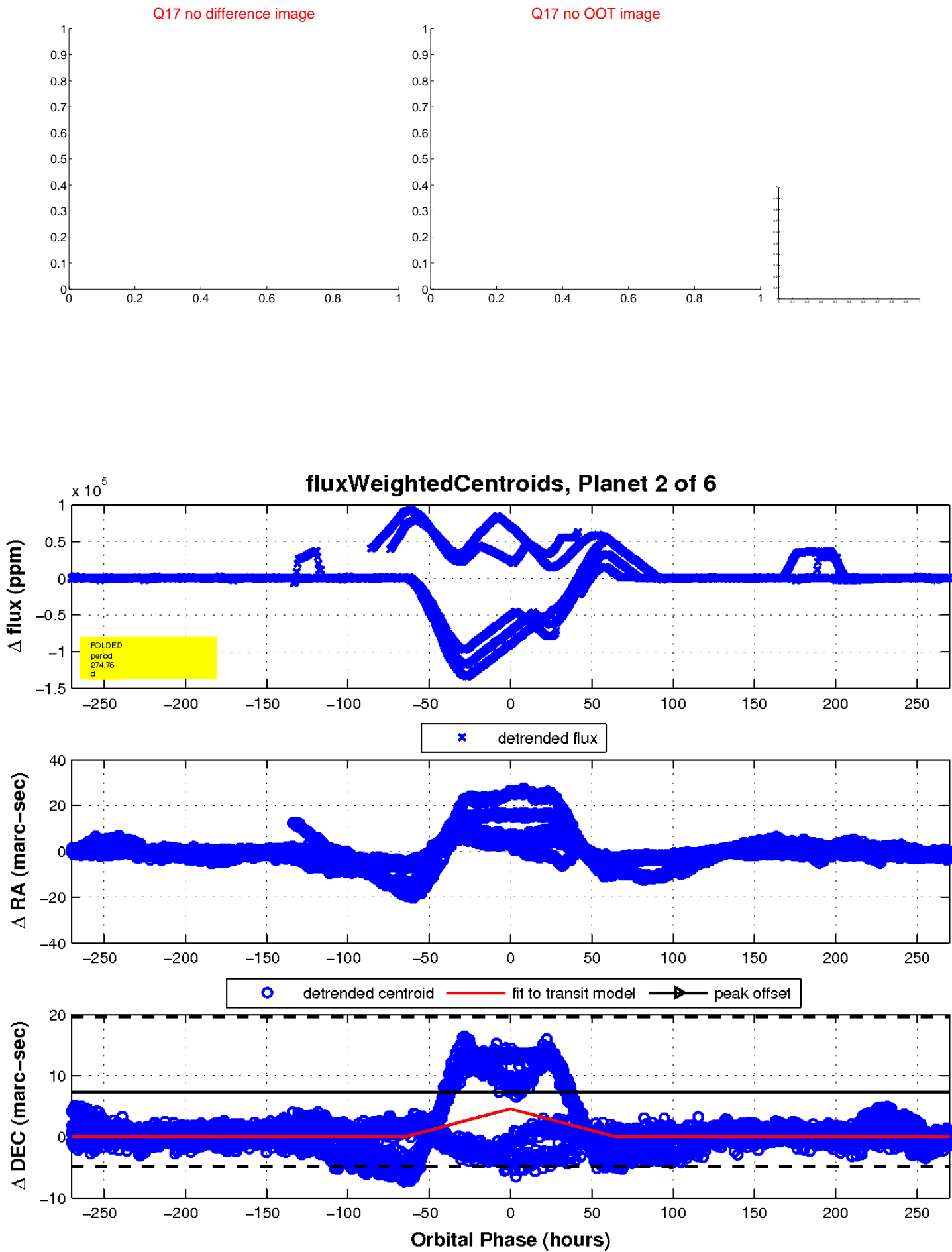
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



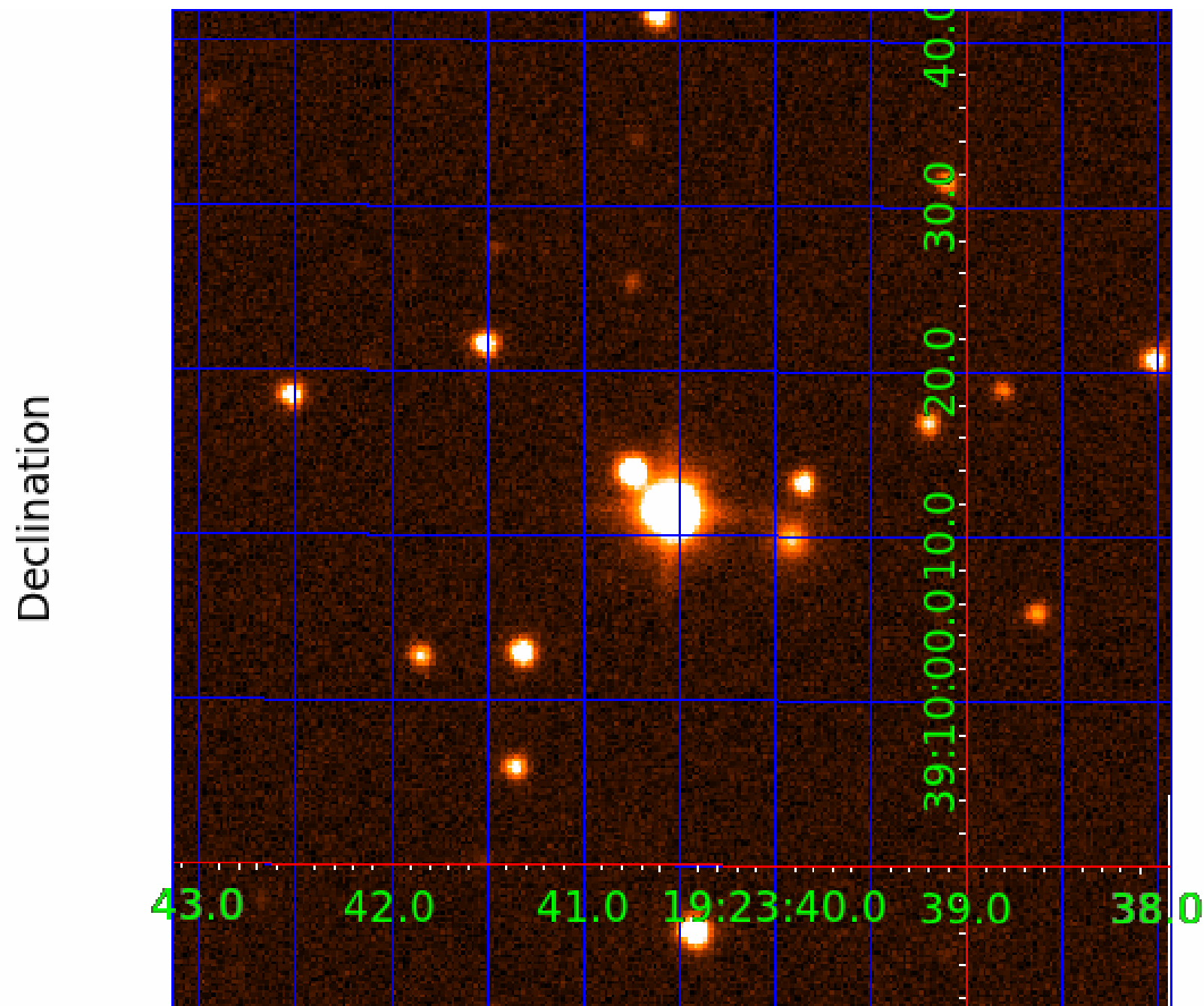
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004054905

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})
004054905-01	OBS	No	274.715829	395.758920	143225.2	81.227	342.8	1195.1	7.50	4782	283.39	43.15
004054905-02	OBS	No	274.763270	310.849539	5260.5	15.000	269.5	-1.0	7.50	4782	52.70	43.14
004054905-03	OBS	No	274.293298	313.165342	6338.8	15.000	293.9	-1.0	7.50	4782	57.86	43.24
004054905-06	OBS	No	696.567206	173.078726	597.5	6.552	13.3	3.6	7.50	4782	19.93	12.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004054905-01	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—CENT_FEW_DIFFS
004054905-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_NOFITS
004054905-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
004054905-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

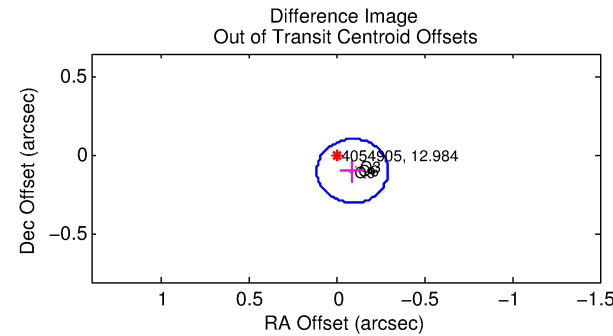
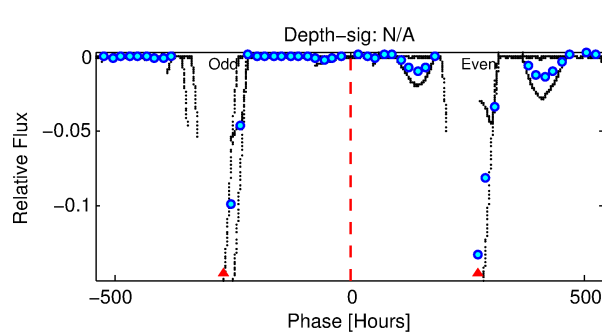
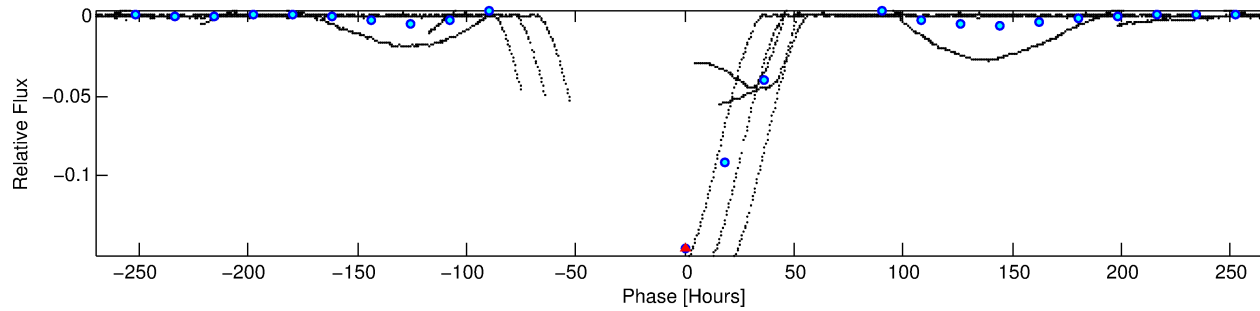
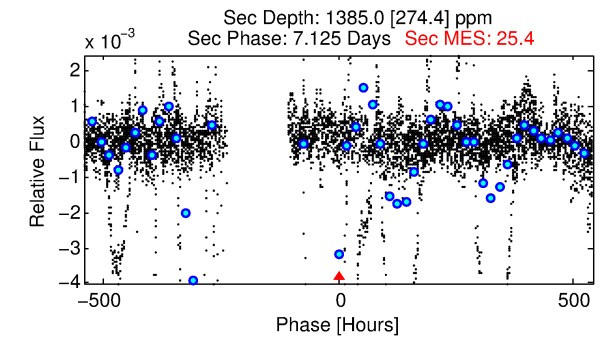
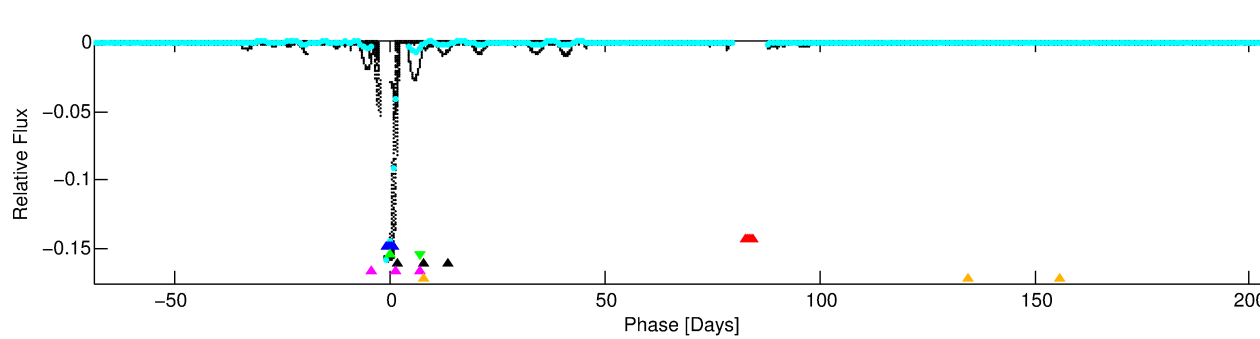
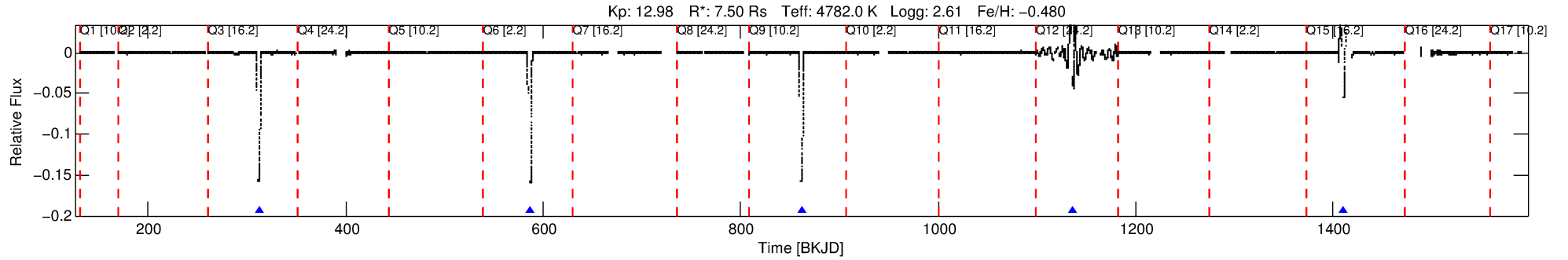
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004054905-03

No Significant Match Found

DV One-Page Summary

KIC: 4054905 Candidate: 3 of 6 Period: 274.293 d



TPS TCE Results:

Period = 274.29330 d
Epoch = 313.1653 BKJD

DV fit results are unavailable

DV Diagnostic Results:

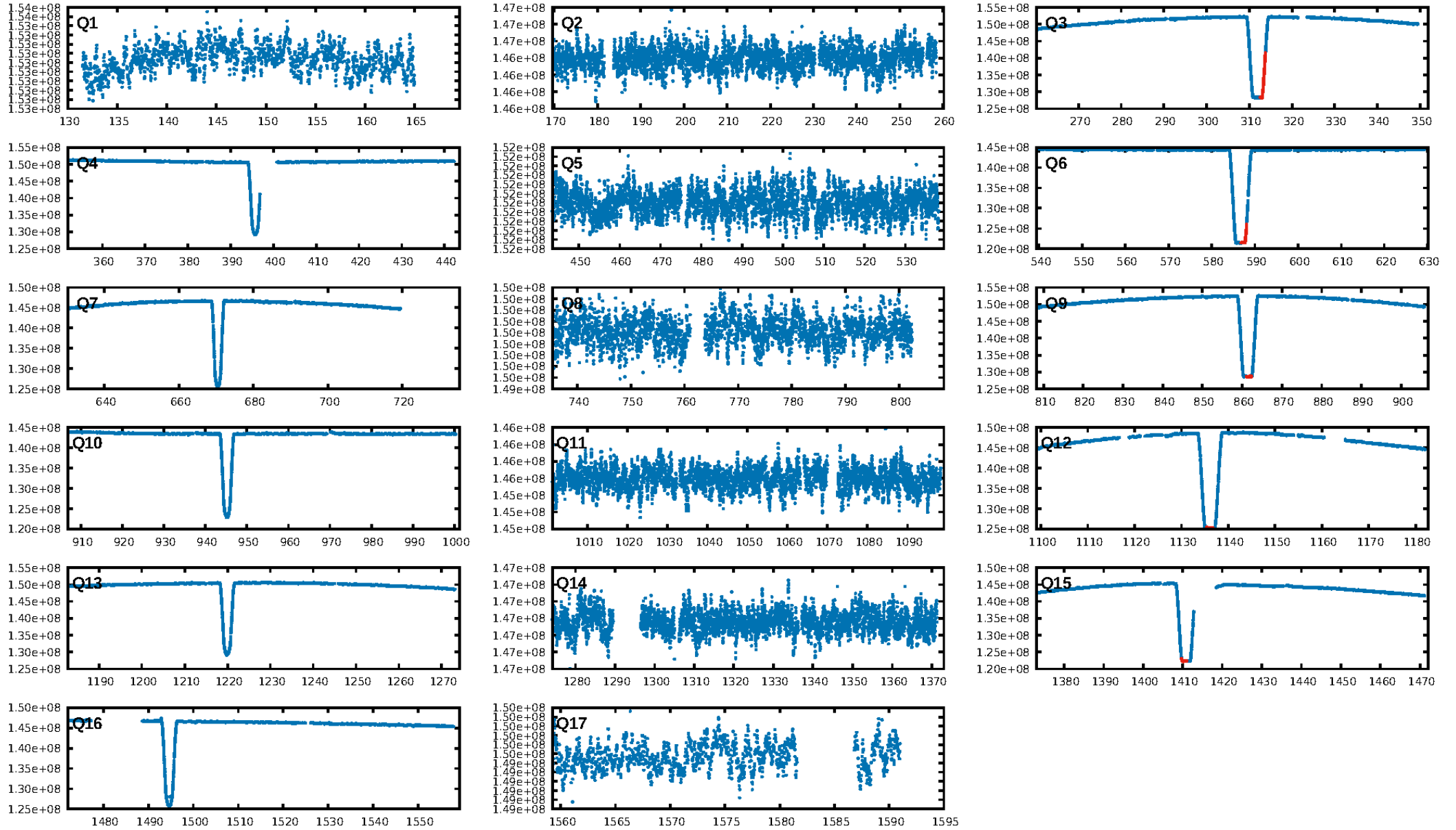
ShortPeriod-sig: N/A
LongPeriod-sig: 9.8% [0.12 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.4833

Centroid-sig: N/A
Centroid-so: 0.081 arcsec [3.25 σ]
OotOffset-rm: 0.130 arcsec [1.93 σ]
KicOffset-rm: 0.223 arcsec [1.85 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

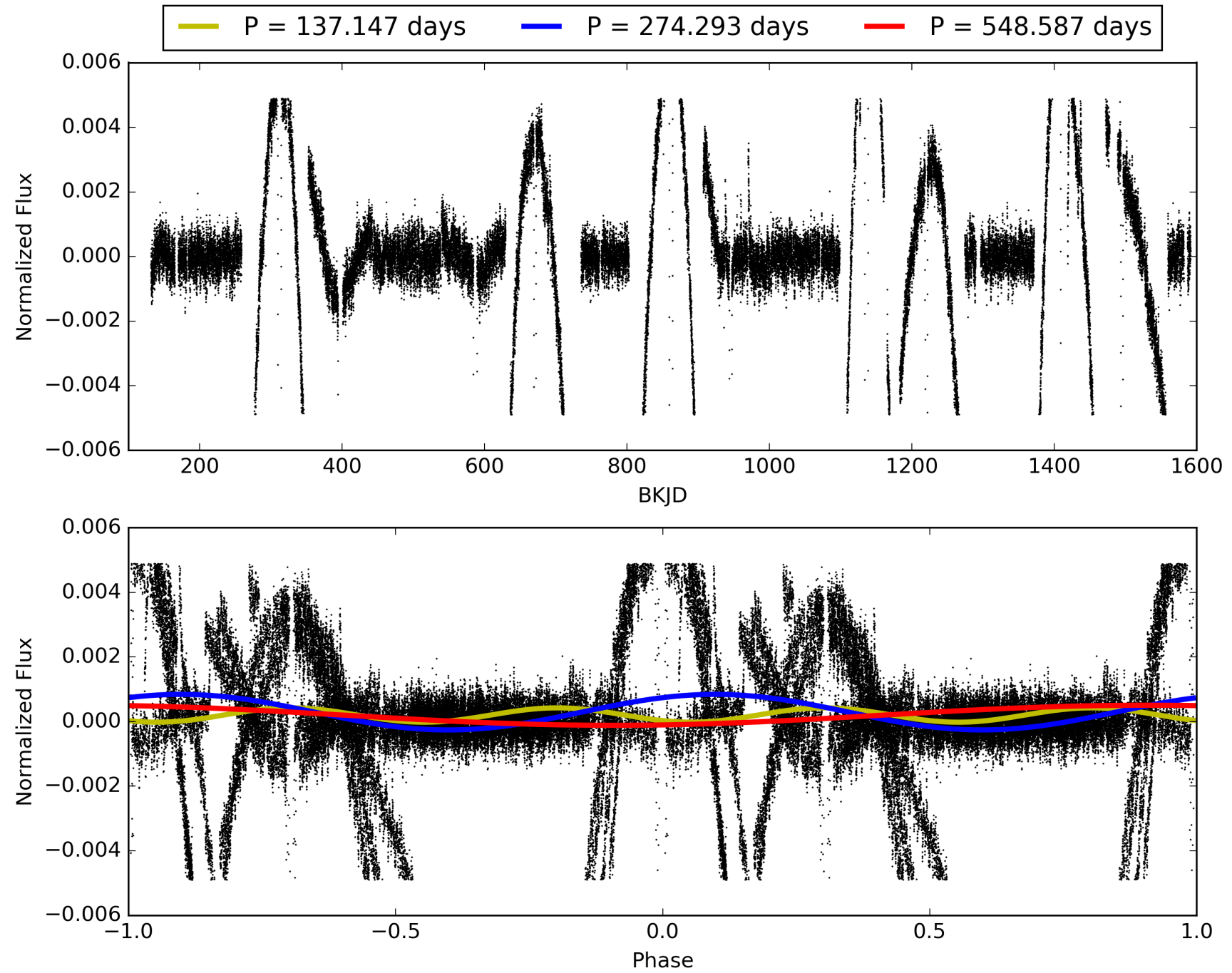
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:59:55 Z

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

TCE 004054905-03, PDC Light Curves

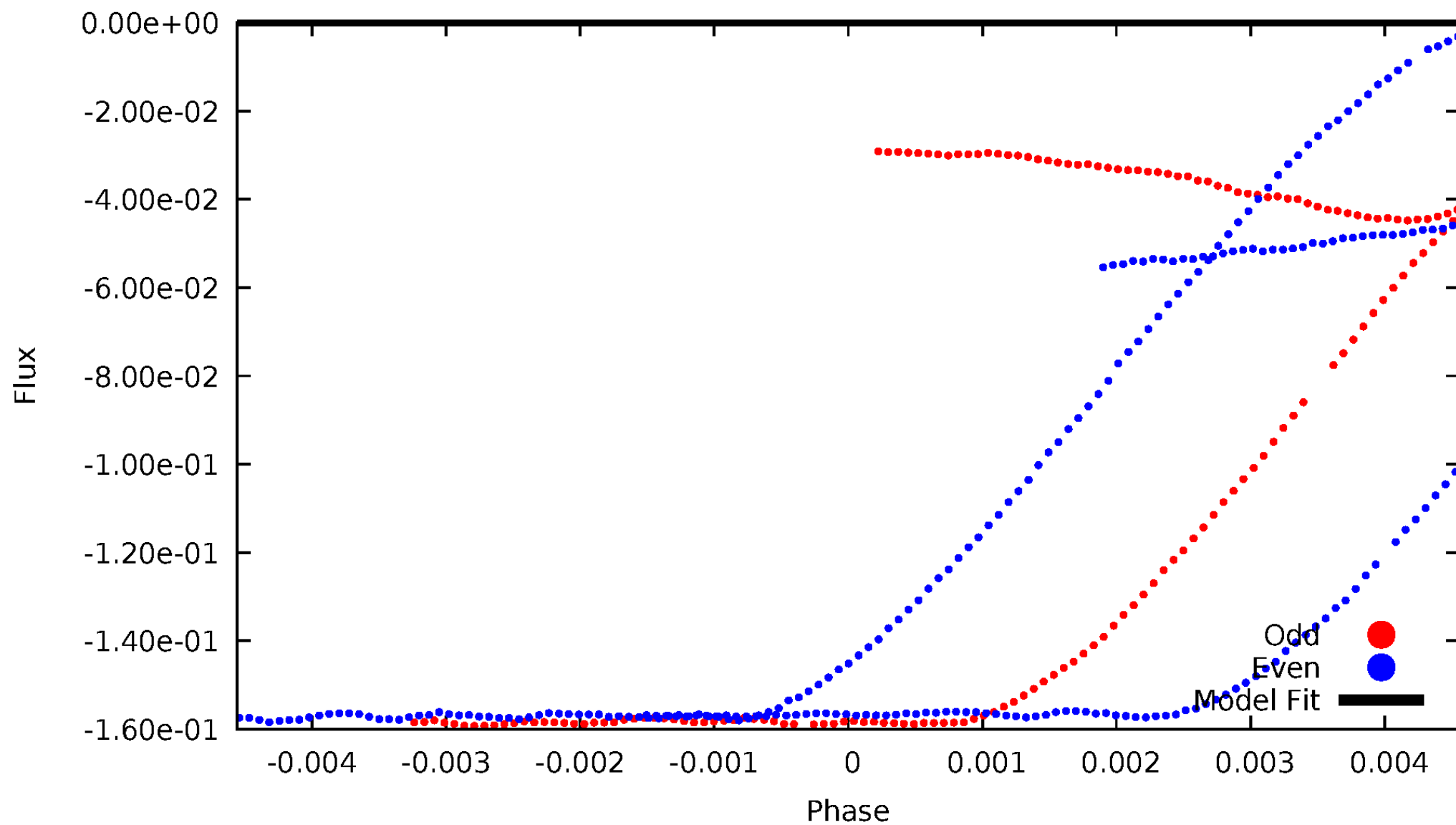


TCE 004054905-03



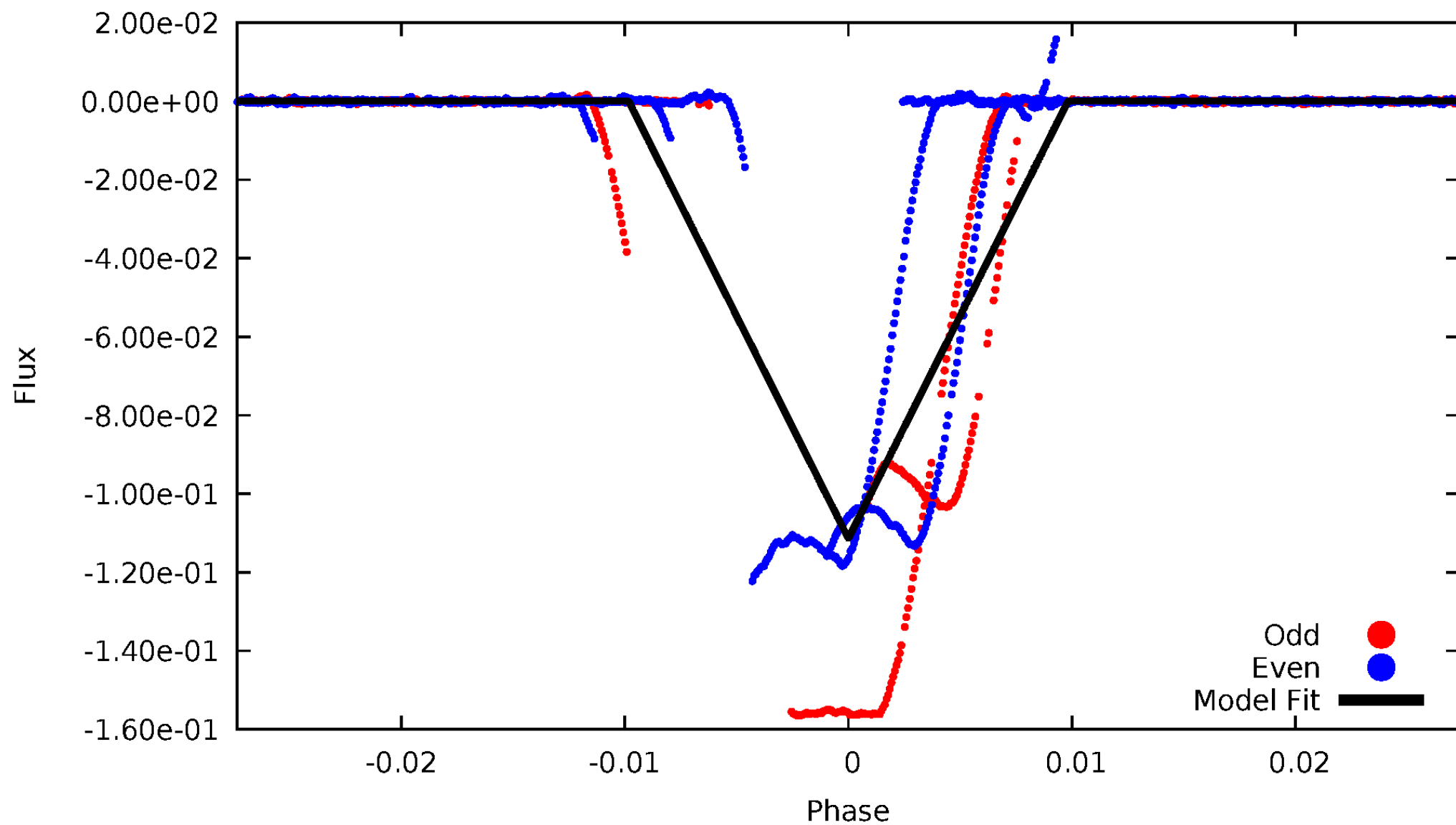
DV Odd/Even

TCE 004054905-03

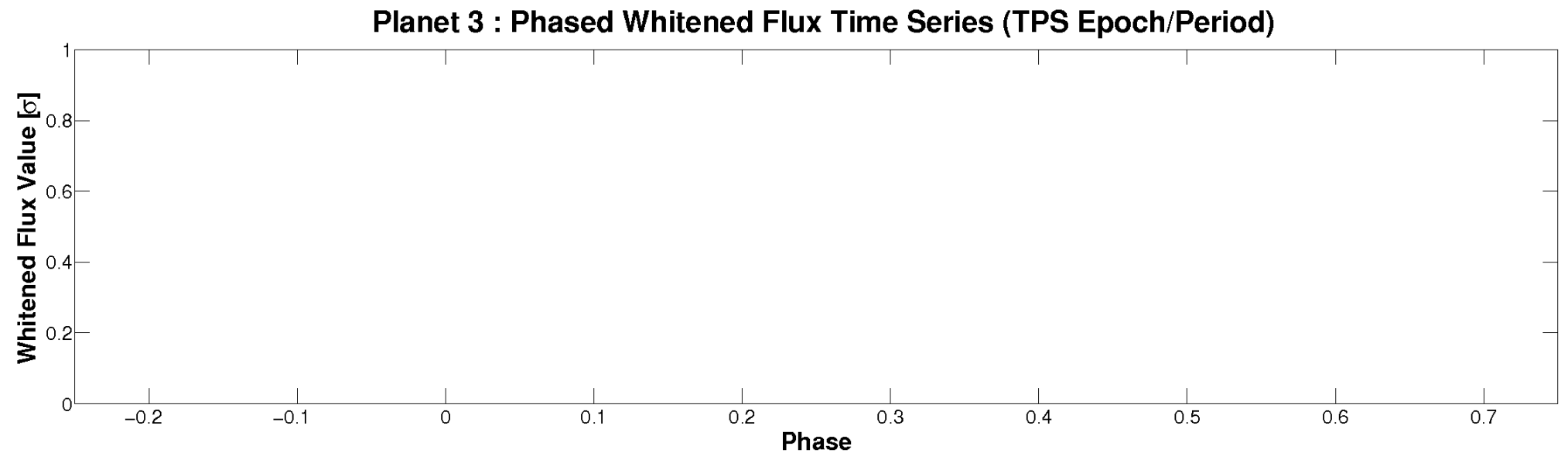
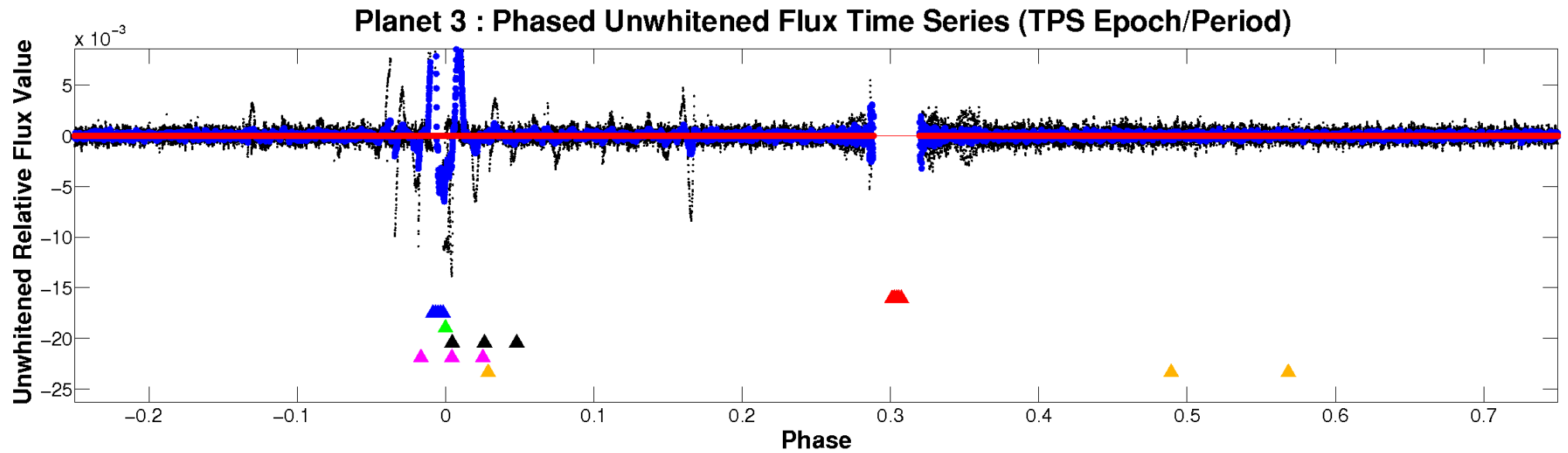


ALT Odd/Even

TCE 004054905-03

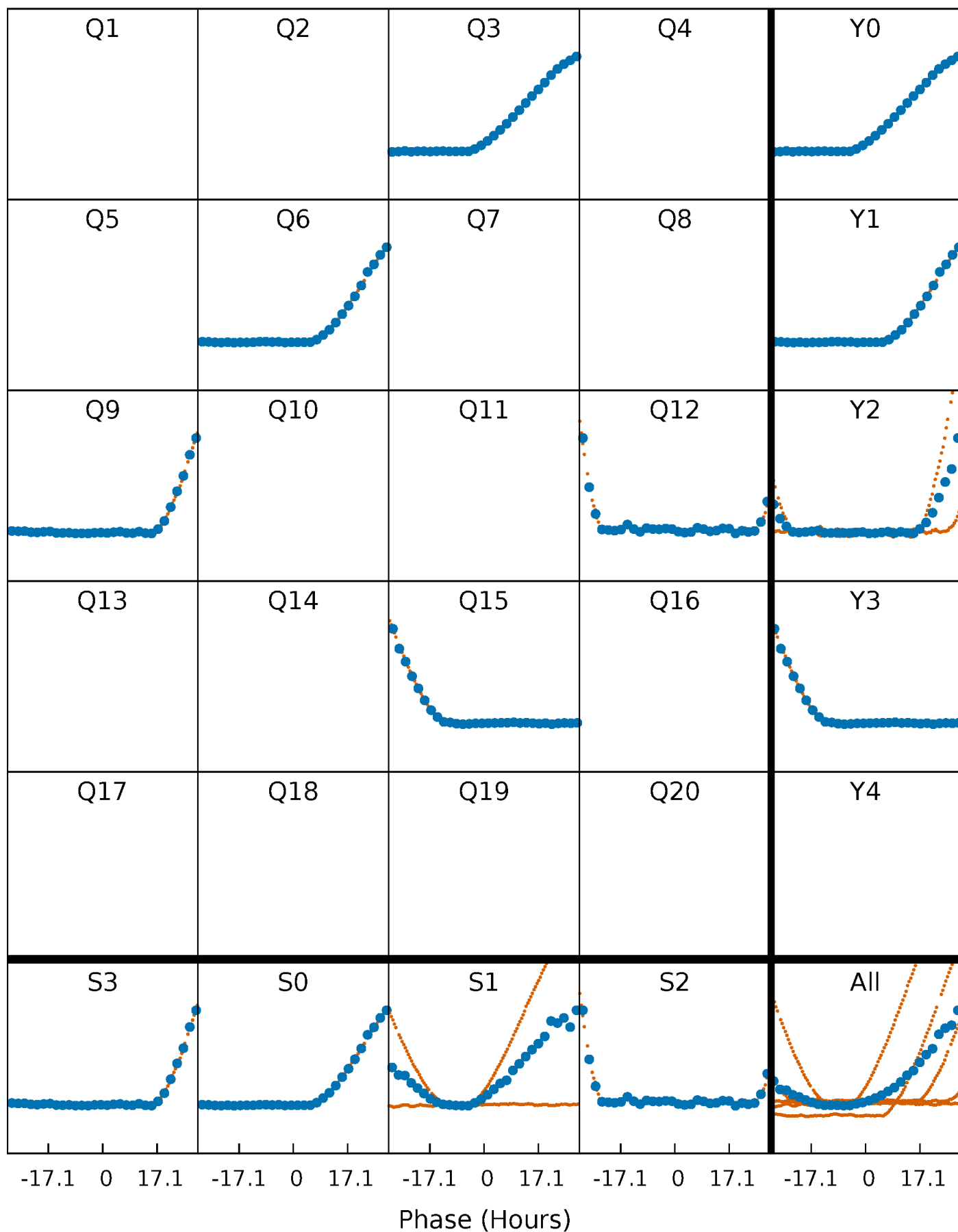


Non-Whitened Vs. Whitened Light Curve



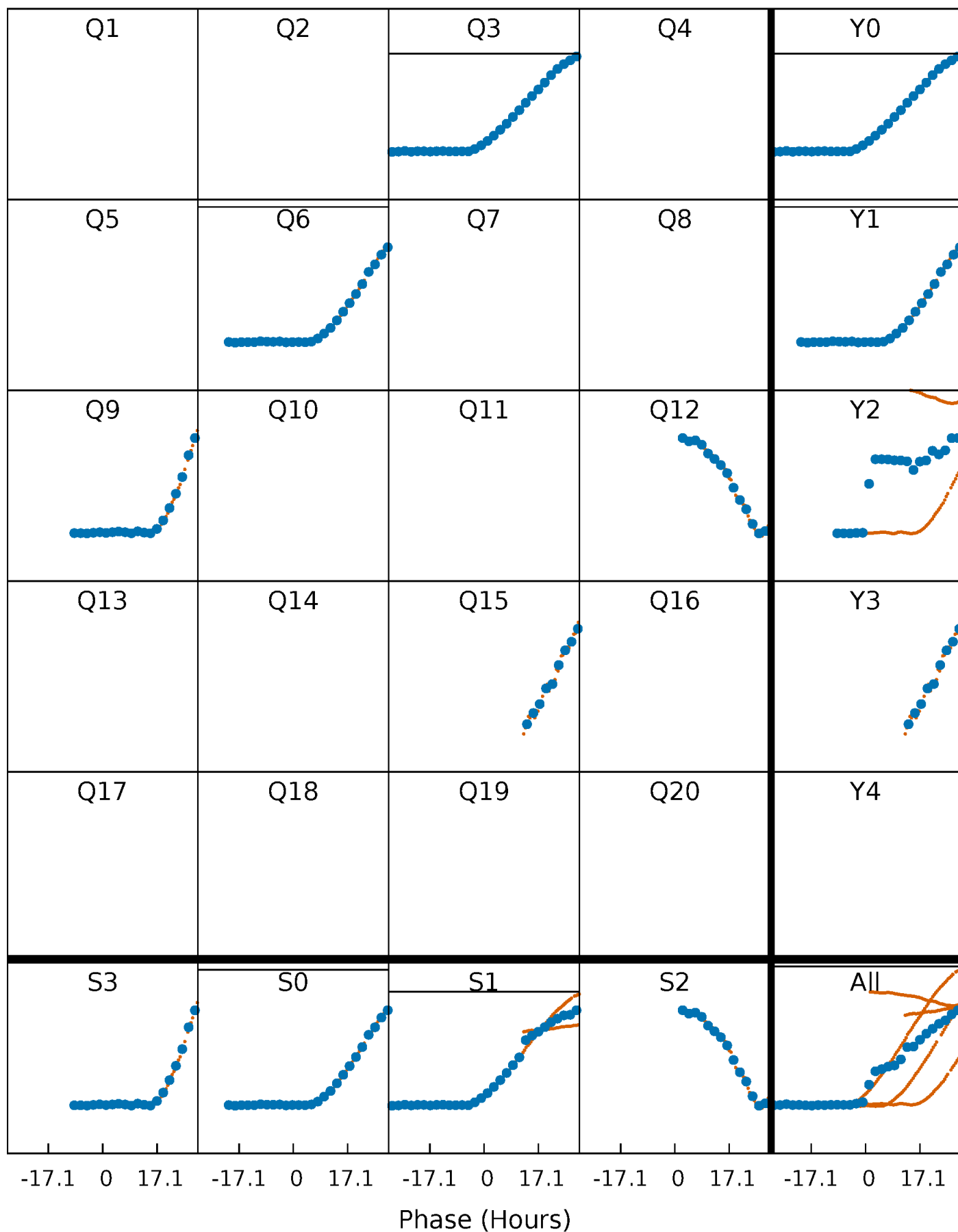
PDC Quarter-Phased Transit Curves

TCE 004054905-03 P=274.293298 Days $T_0=313.165342$ (BKJD)



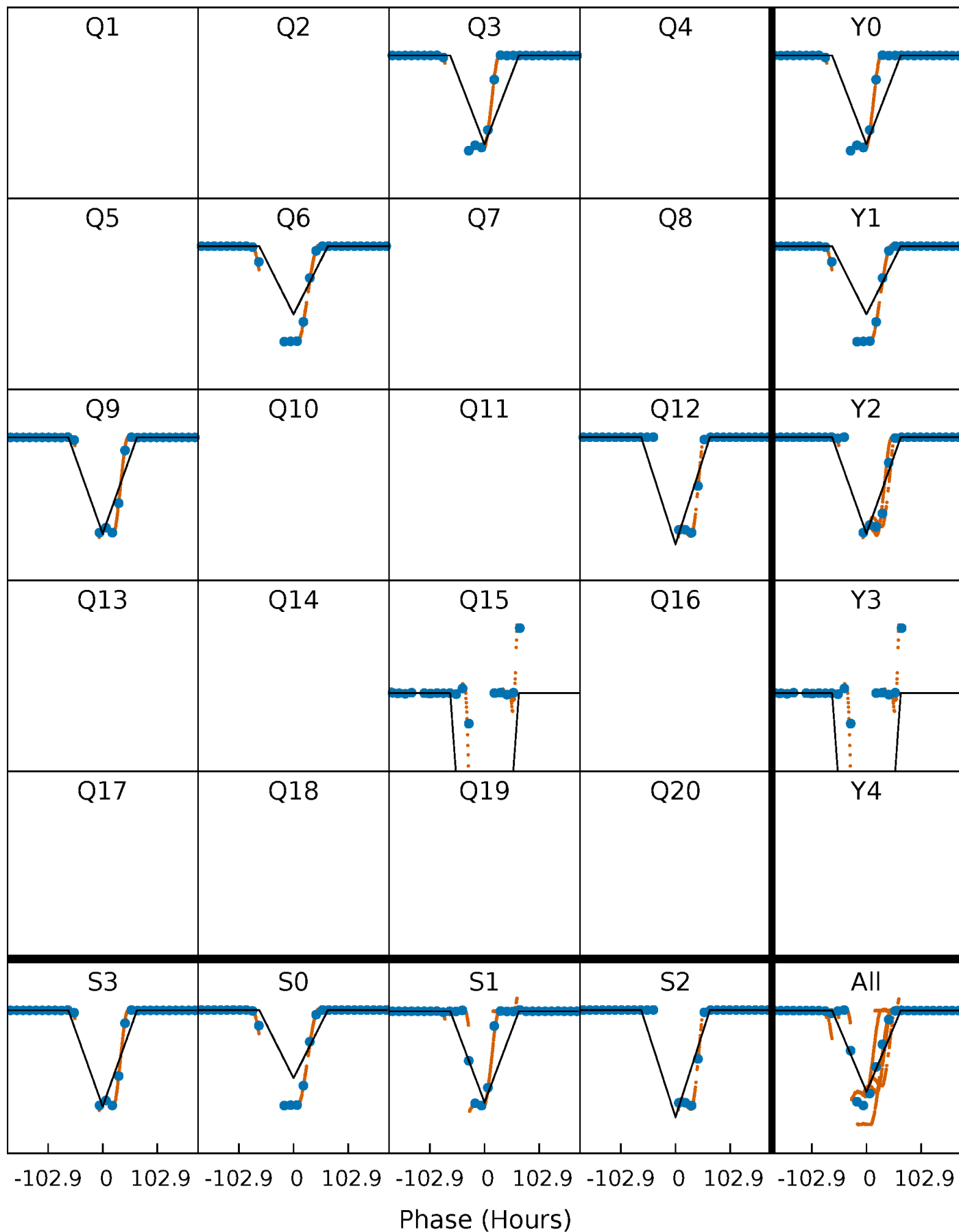
DV Quarter-Phased Transit Curves

TCE 004054905-03 P=274.293298 Days $T_0=313.165342$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

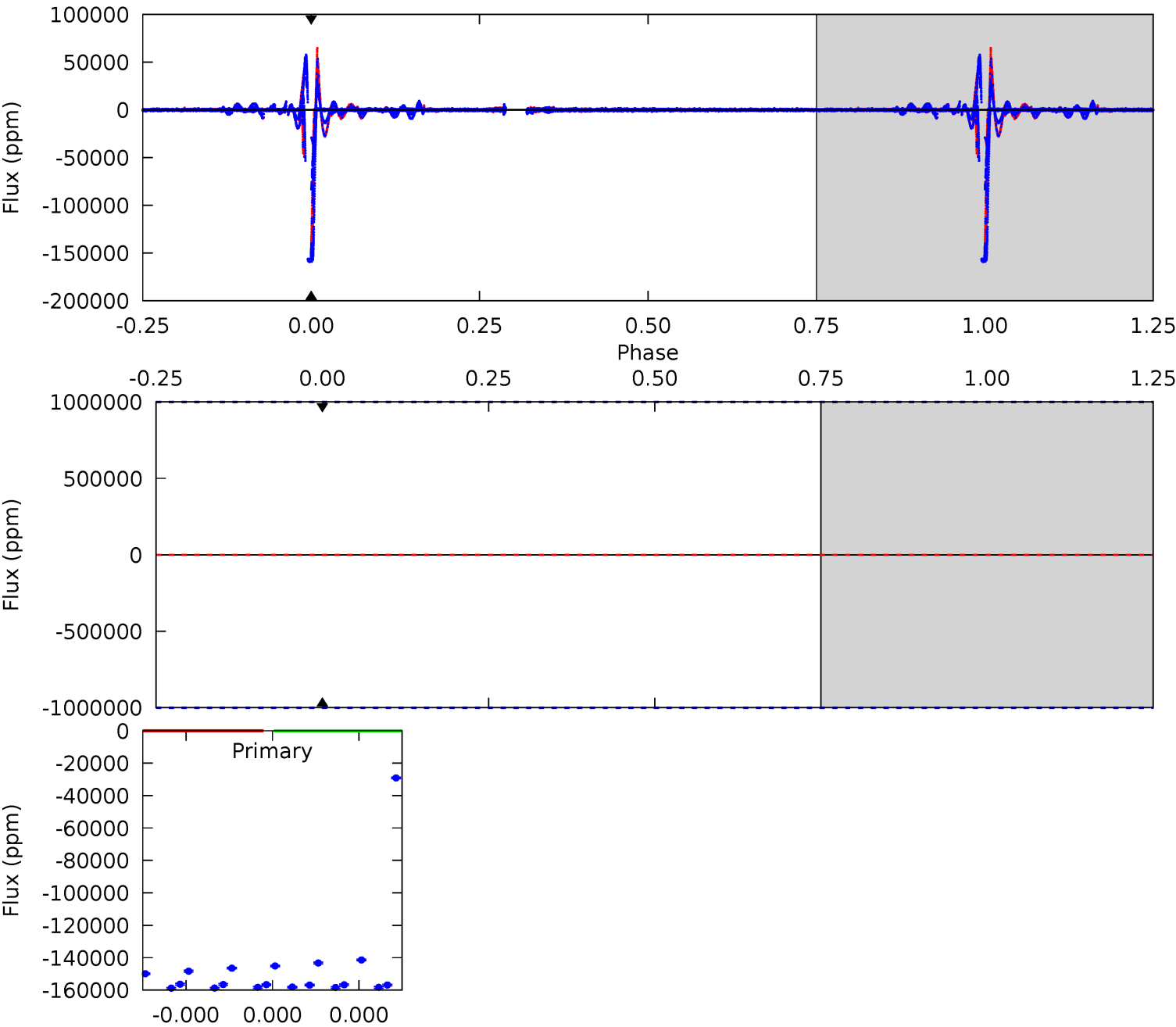
TCE 004054905-03 P=274.293298 Days $T_0=313.015500$ (BKJD)



DV Model-Shift Uniqueness Test

004054905-03, P = 274.293298 Days, E = 38.872044 Days

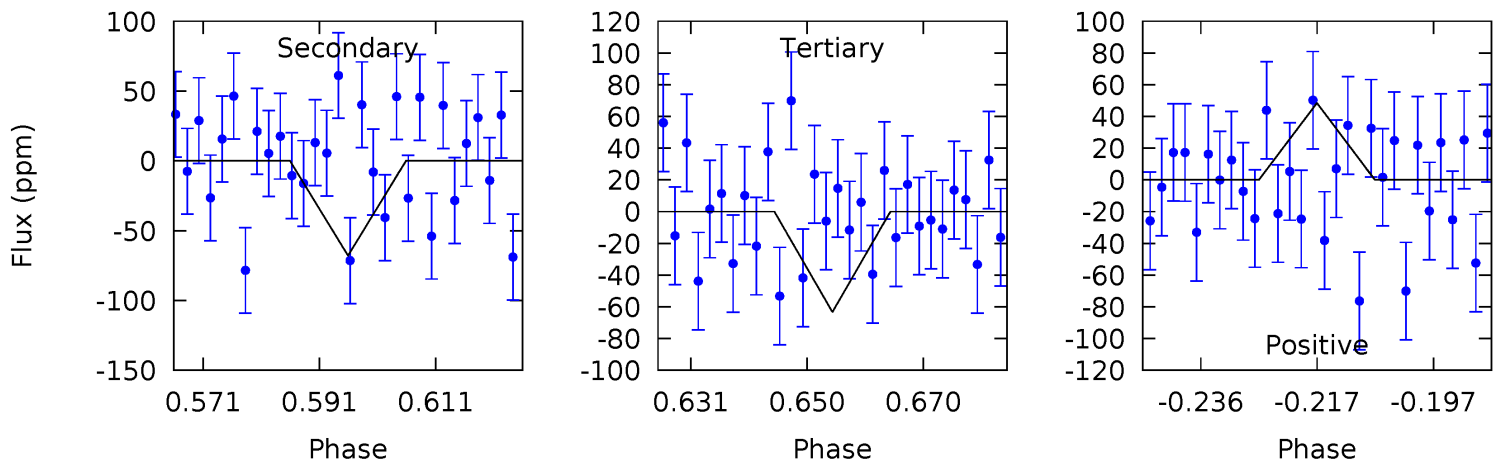
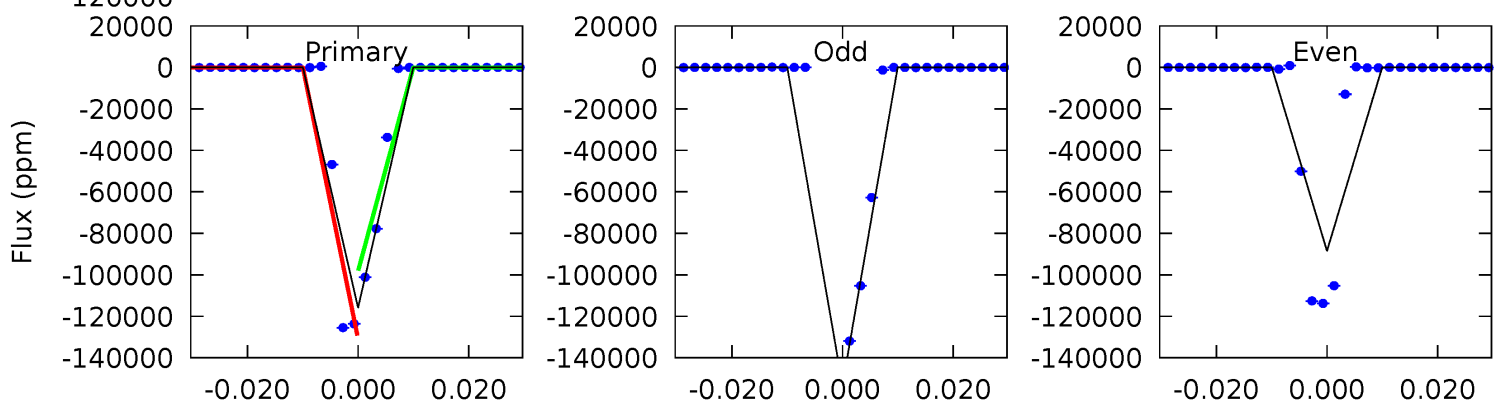
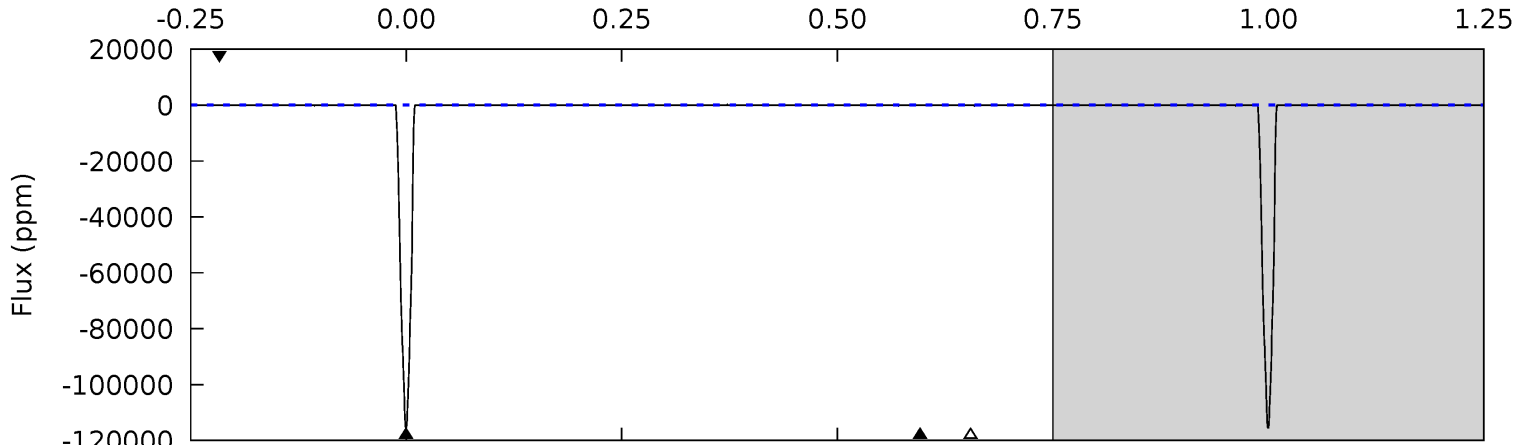
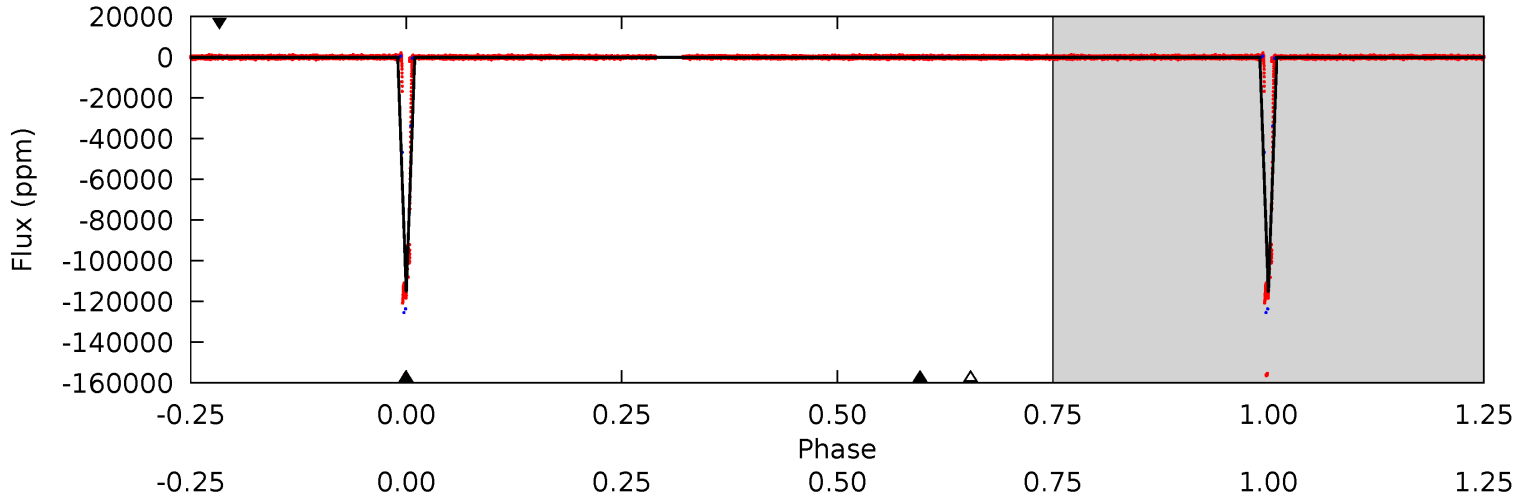
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004054905-03, P = 274.293298 Days, E = 38.722202 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9033	5.29	4.94	3.78	4.89	2.33	1.04	9028	9029	0.36	1.52	2790	0.84	0.00	0



Stellar Parameters For KIC 004054905

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4782^{+79}_{-50}	$2.614^{+0.027}_{-0.036}$	$-0.480^{+0.150}_{-0.100}$	$7.503^{+1.533}_{-0.170}$	$0.843^{+0.355}_{-0.019}$	$0.003^{+0.000}_{-0.001}$
	+2%/-1%	+1%/-1%	+31%/-21%	+20%/-2%	+42%/-2%	+8%/-21%
Source	SPE74	AST9	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 004054905-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$84.27^{+70.54}_{-55.91}$	914^{+19}_{-13}	3711^{+6471}_{-13614}	126^{+7931}_{-7539}
Alt.	-68 ± 13	$316.88^{+81.84}_{-79.67}$	915^{+20}_{-13}	-1574^{+3205}_{-104}	$0.223^{+0.193}_{-0.084}$

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 $A_{obs} \gg 1.0$

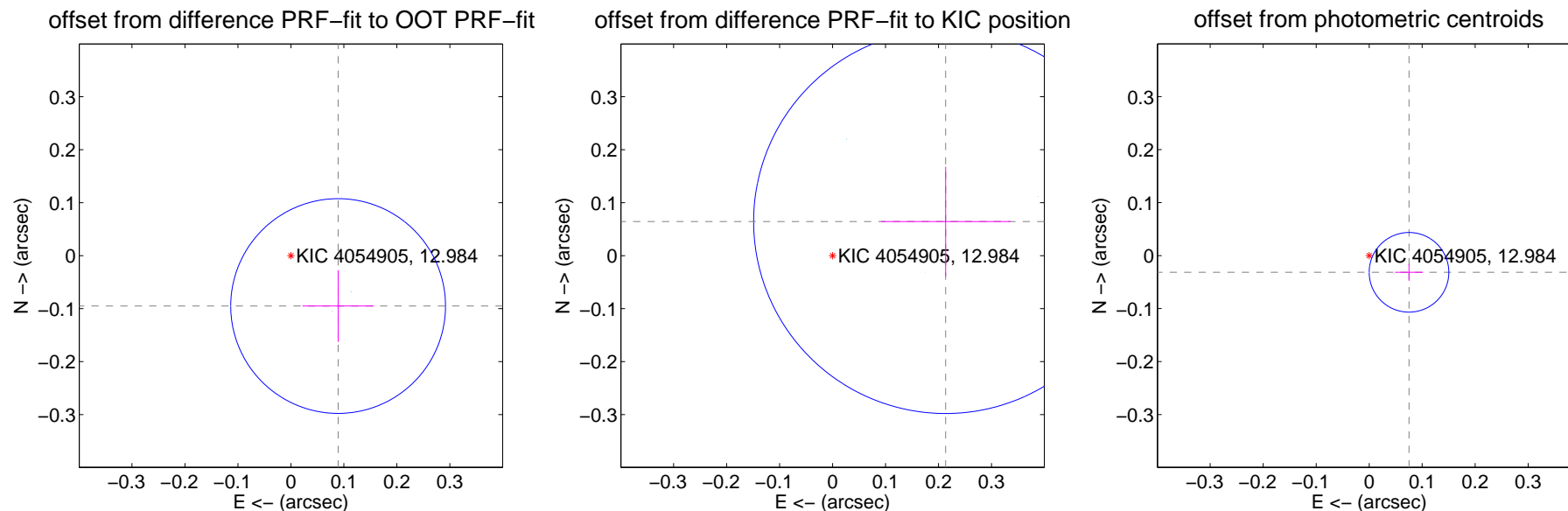
DV Centroid Data

Supplemental centroid analysis for 004054905-03. Kepler magnitude: 12.98. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

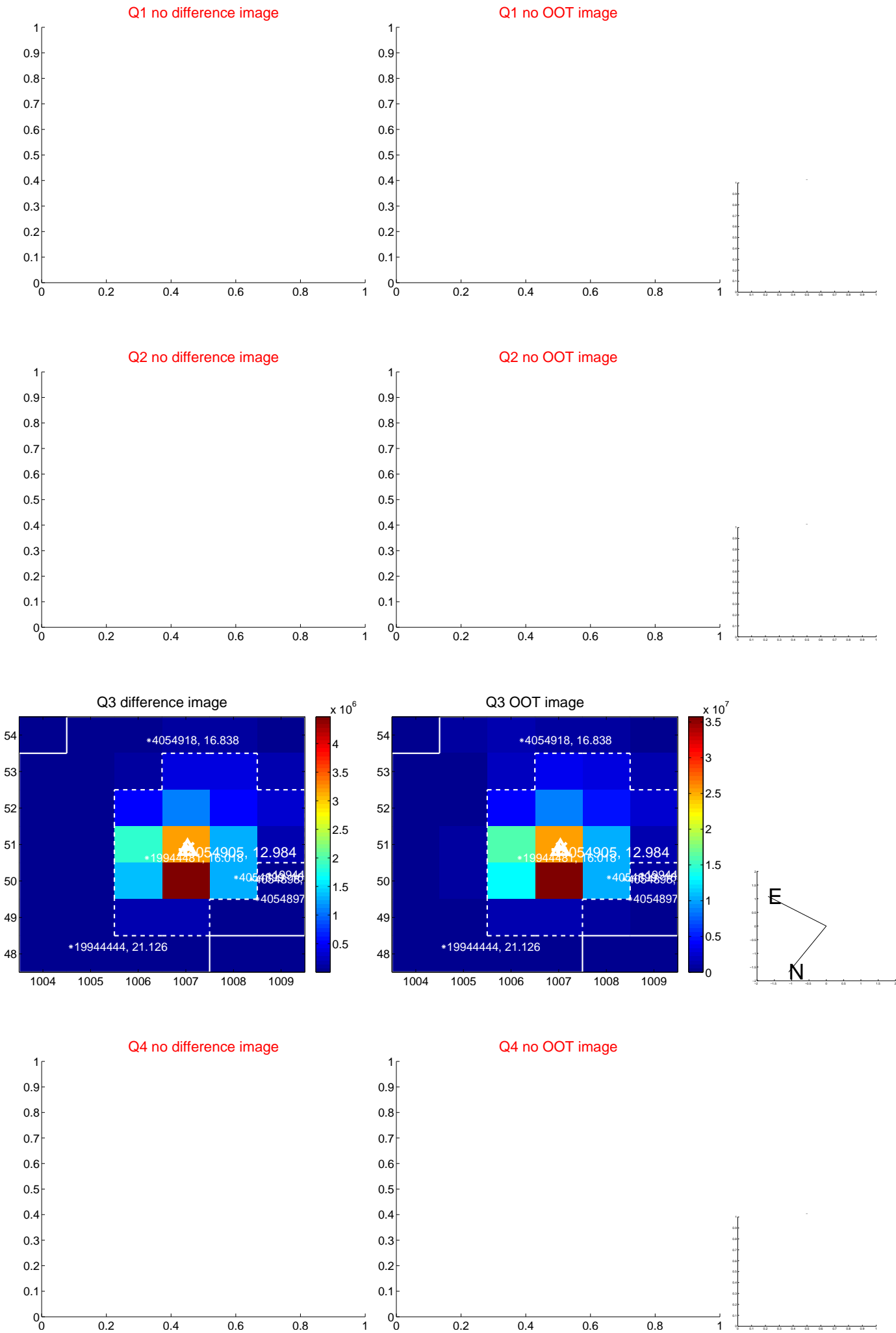
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.130 ± 0.068	1.93	-0.089 ± 0.067	-0.095 ± 0.068
PRF-fit source offset from KIC position	0.223 ± 0.121	1.85	-0.213 ± 0.122	0.064 ± 0.103
photometric centroid source offset	0.08 ± 0.03	3.25	-0.08 ± 0.03	-0.03 ± 0.02

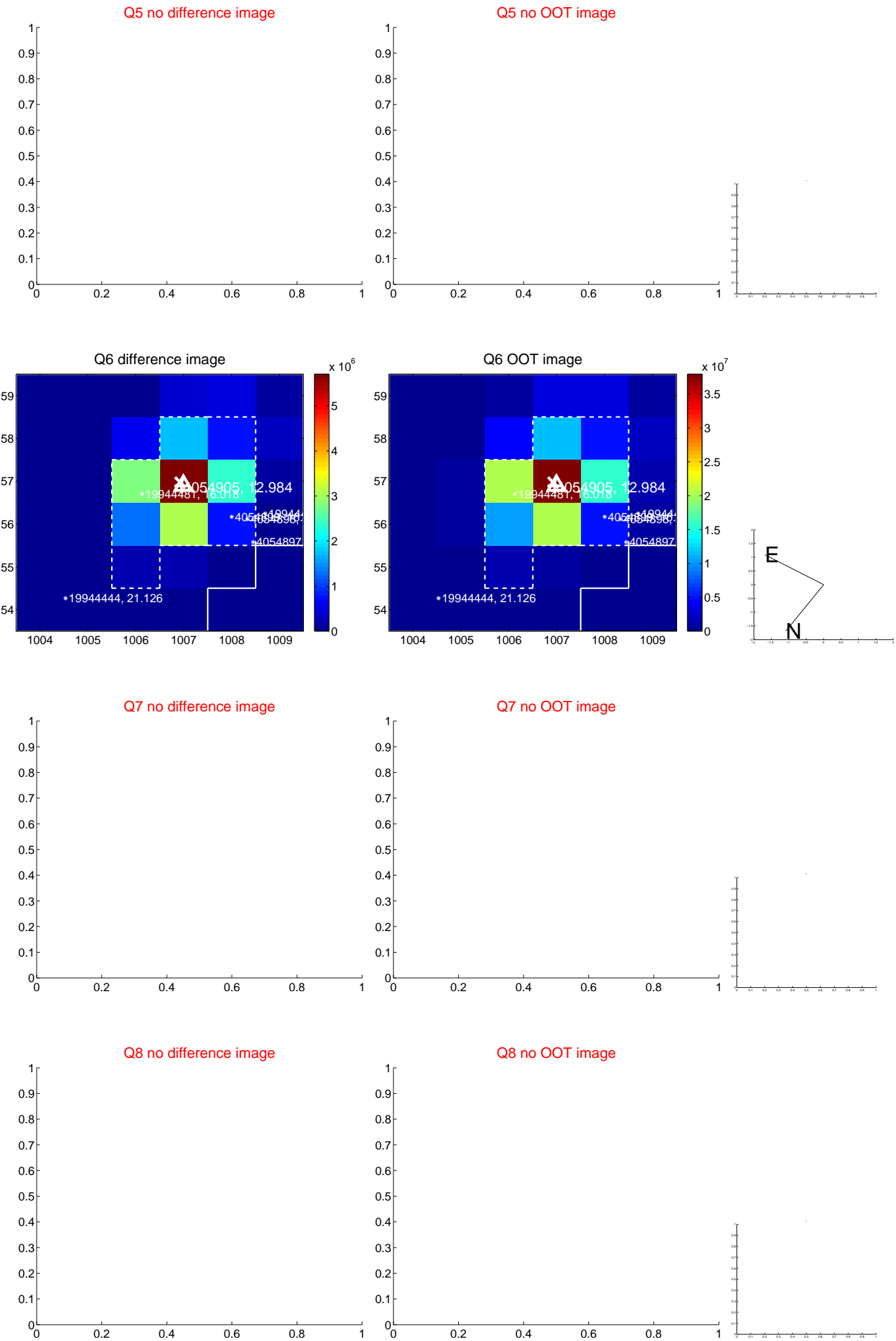


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

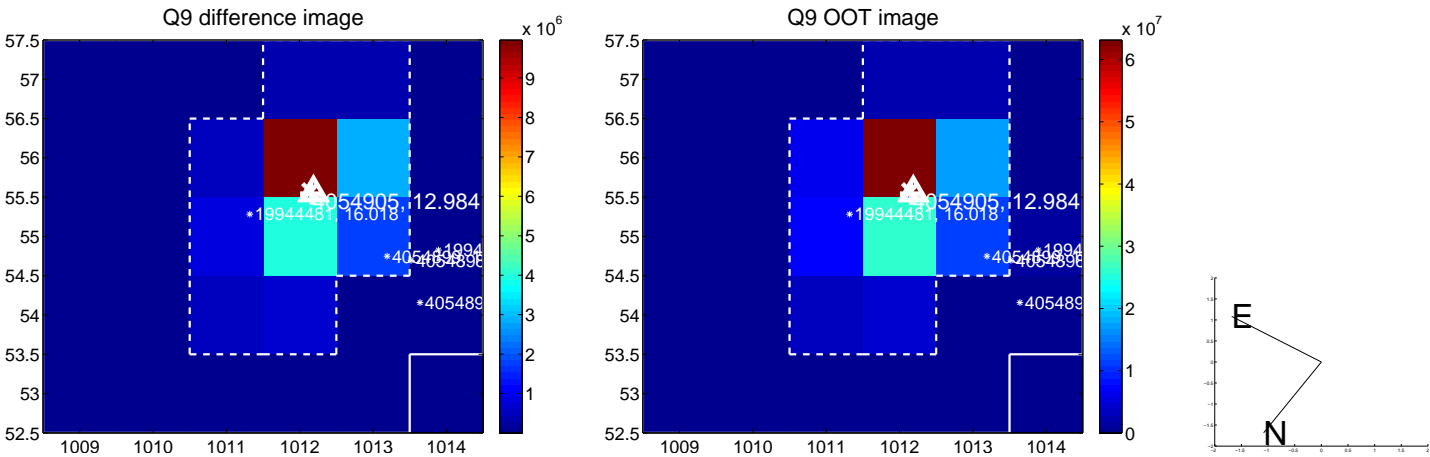
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



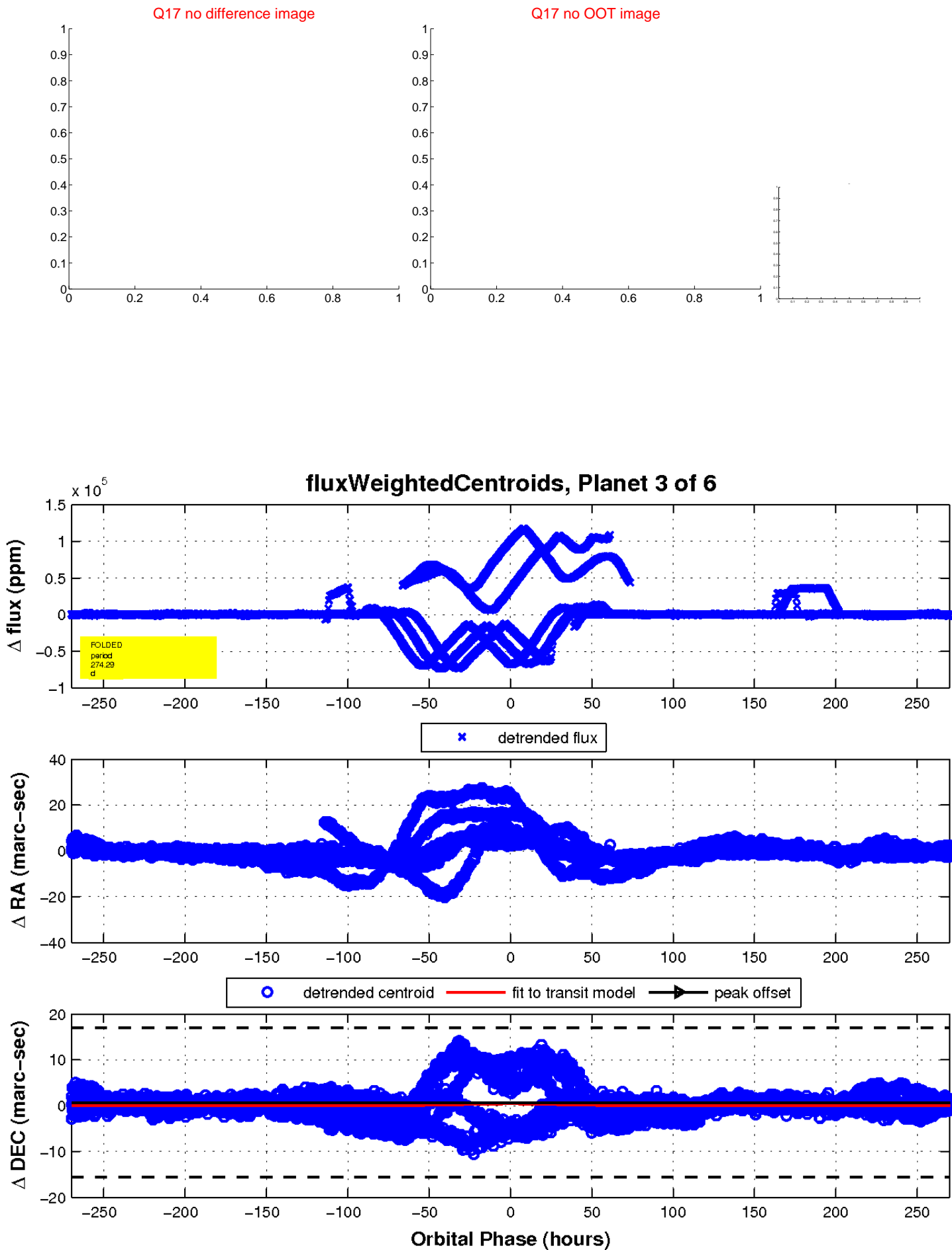
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



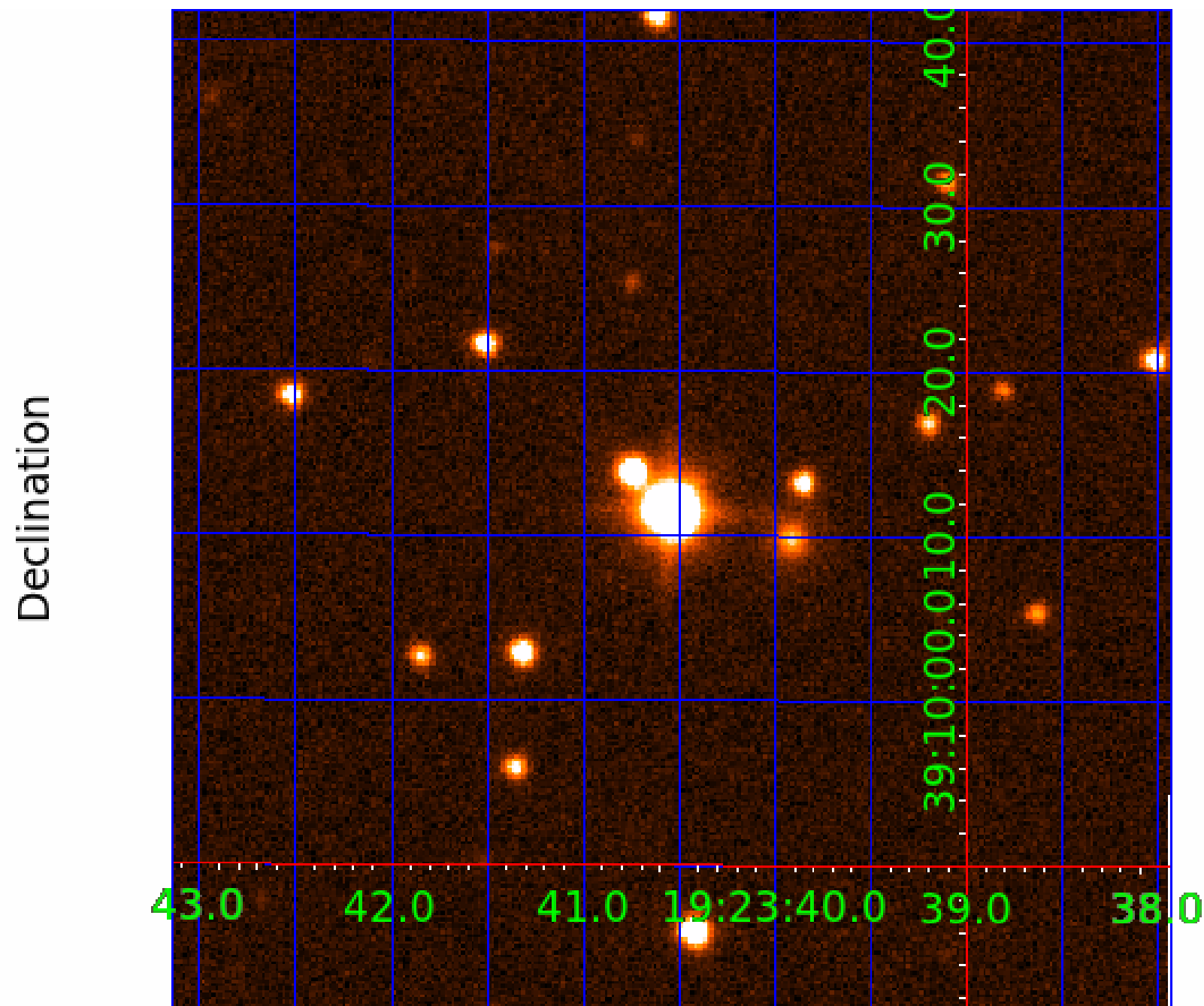
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004054905

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})
004054905-01	OBS	No	274.715829	395.758920	143225.2	81.227	342.8	1195.1	7.50	4782	283.39	43.15
004054905-02	OBS	No	274.763270	310.849539	5260.5	15.000	269.5	-1.0	7.50	4782	52.70	43.14
004054905-03	OBS	No	274.293298	313.165342	6338.8	15.000	293.9	-1.0	7.50	4782	57.86	43.24
004054905-06	OBS	No	696.567206	173.078726	597.5	6.552	13.3	3.6	7.50	4782	19.93	12.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004054905-01	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—CENT_FEW_DIFFS
004054905-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_NOFITS
004054905-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
004054905-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

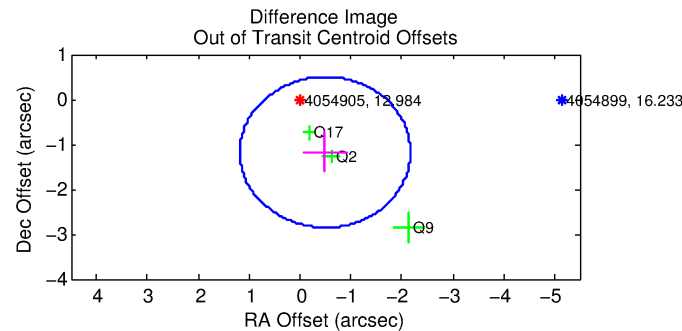
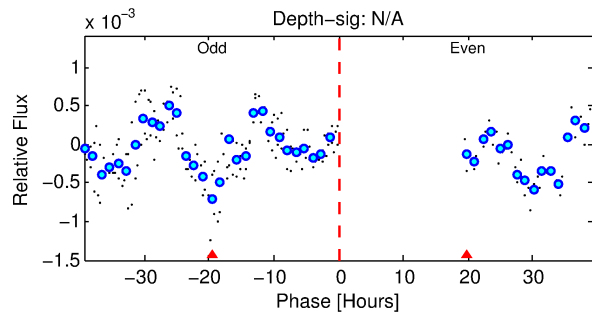
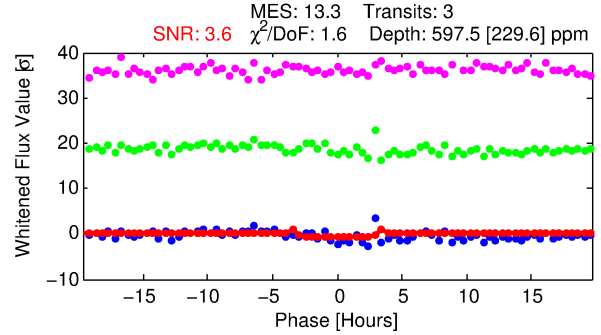
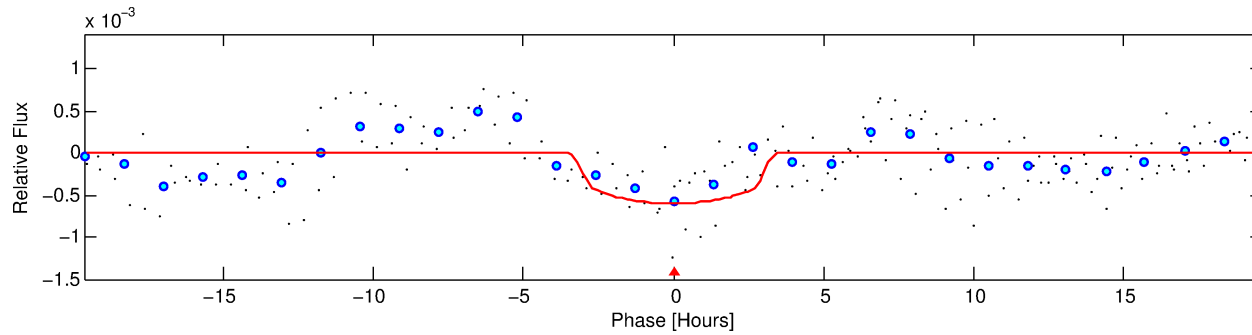
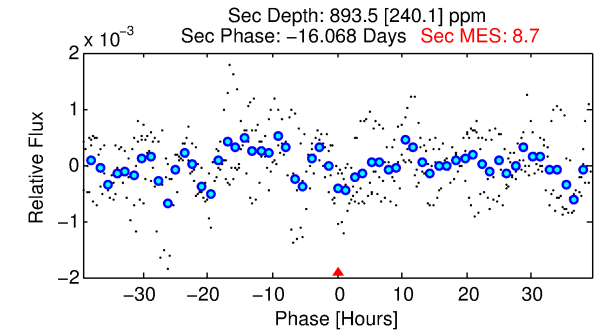
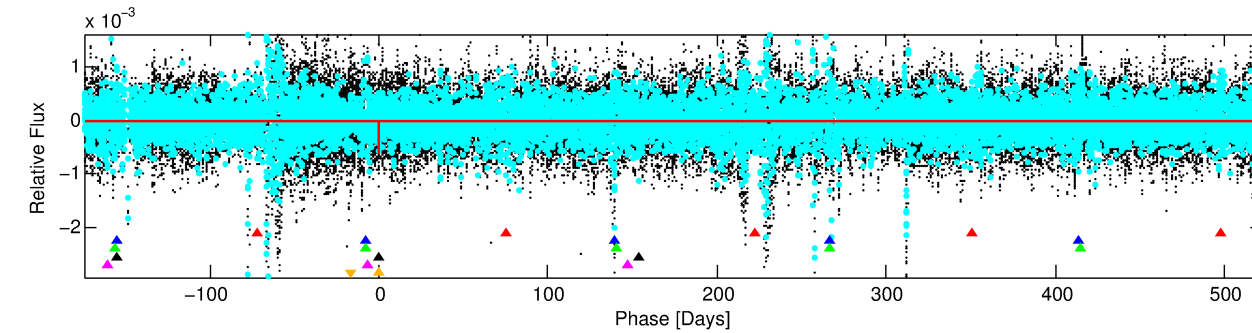
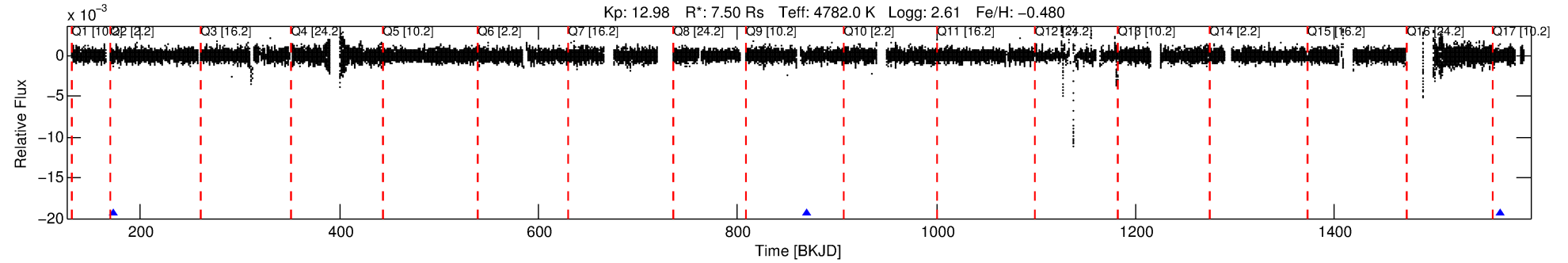
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004054905-06

No Significant Match Found

DV One-Page Summary

KIC: 4054905 Candidate: 6 of 6 Period: 696.567 d



DV Fit Results:

Period = 696.56721 [0.00825] d
Epoch = 173.0787 [0.0125] BKJD
Rp/R* = 0.0243 [0.0187]
a/R* = 571.14 [1450.02]
b = 0.74 [1.52]
Seff = 12.48 [2.01]
Teq = 479 [19] K
Rp = 19.93 [15.82] Re
a = 1.4538 [0.2021] AU
Ag = 2615.67 [4092.77] [0.64σ]
Teffp = 5299 [2066] K [2.33σ]

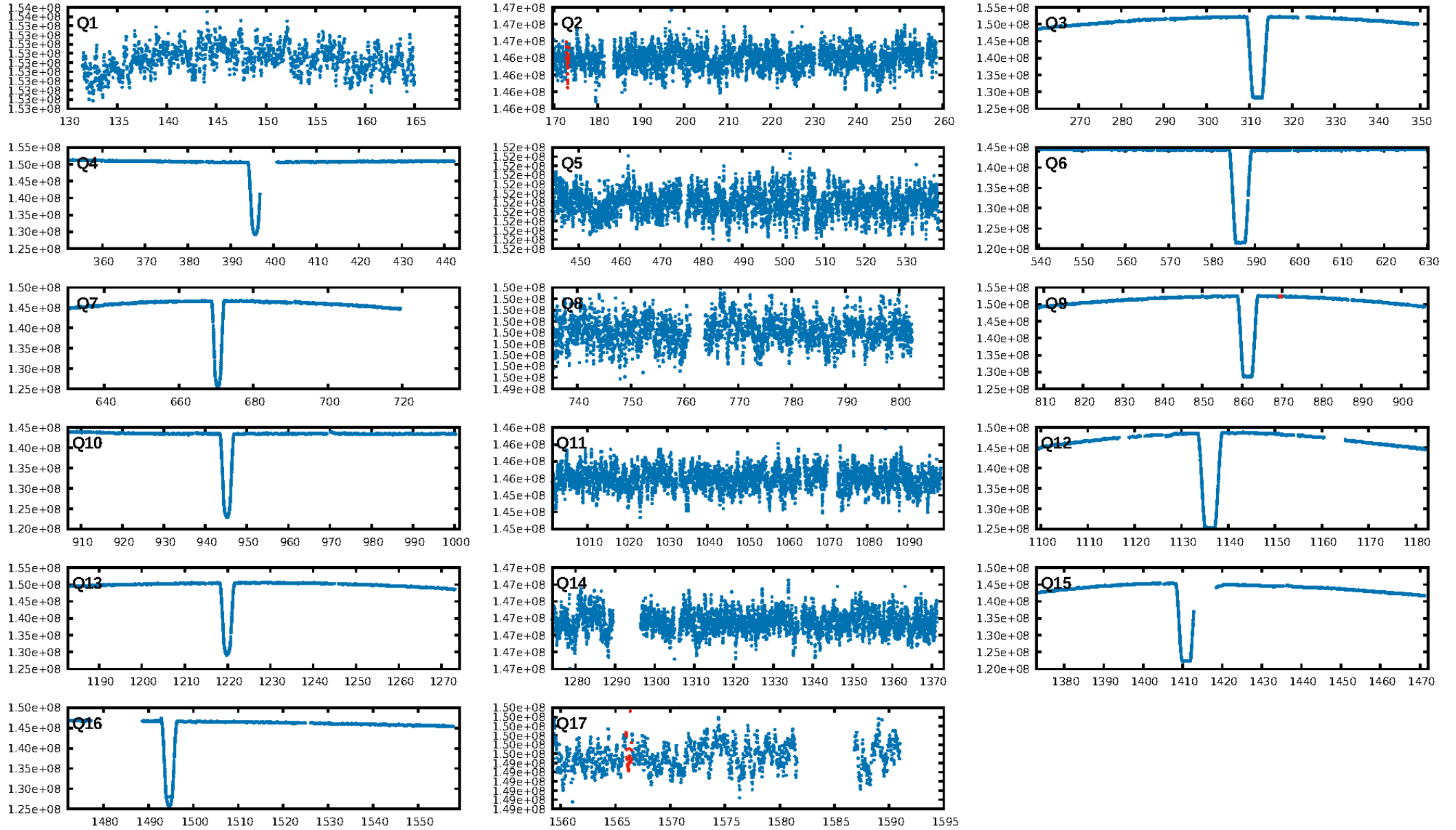
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [269.82σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 79.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 3.441
Centroid-sig: N/A
Centroid-so: 1.992 arcsec [2.59σ]
OotOffset-rm: 1.278 arcsec [2.29σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-rm: 1.217 arcsec [1.83σ]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.67 [2/3]

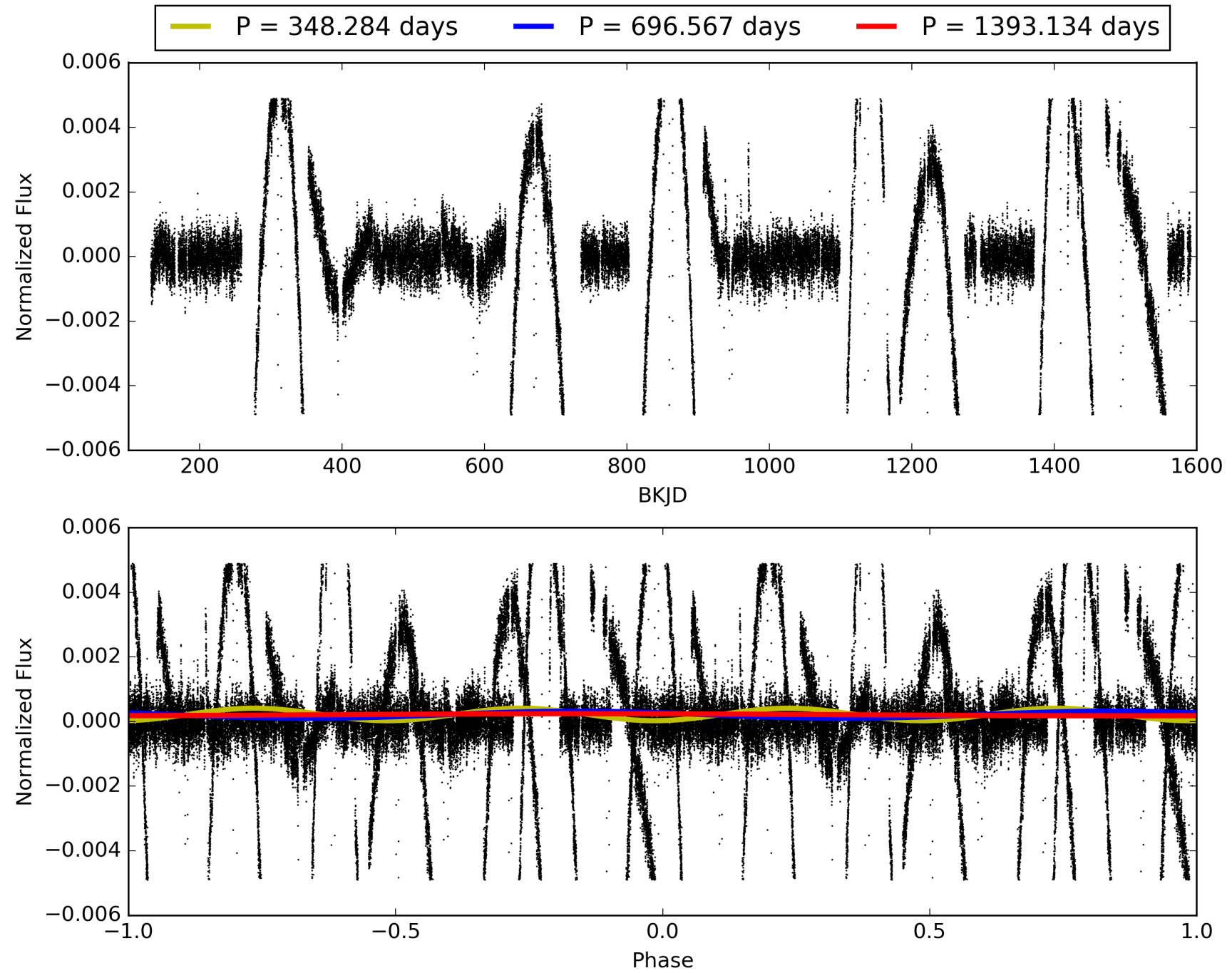
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:00:23 Z

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

TCE 004054905-06, PDC Light Curves

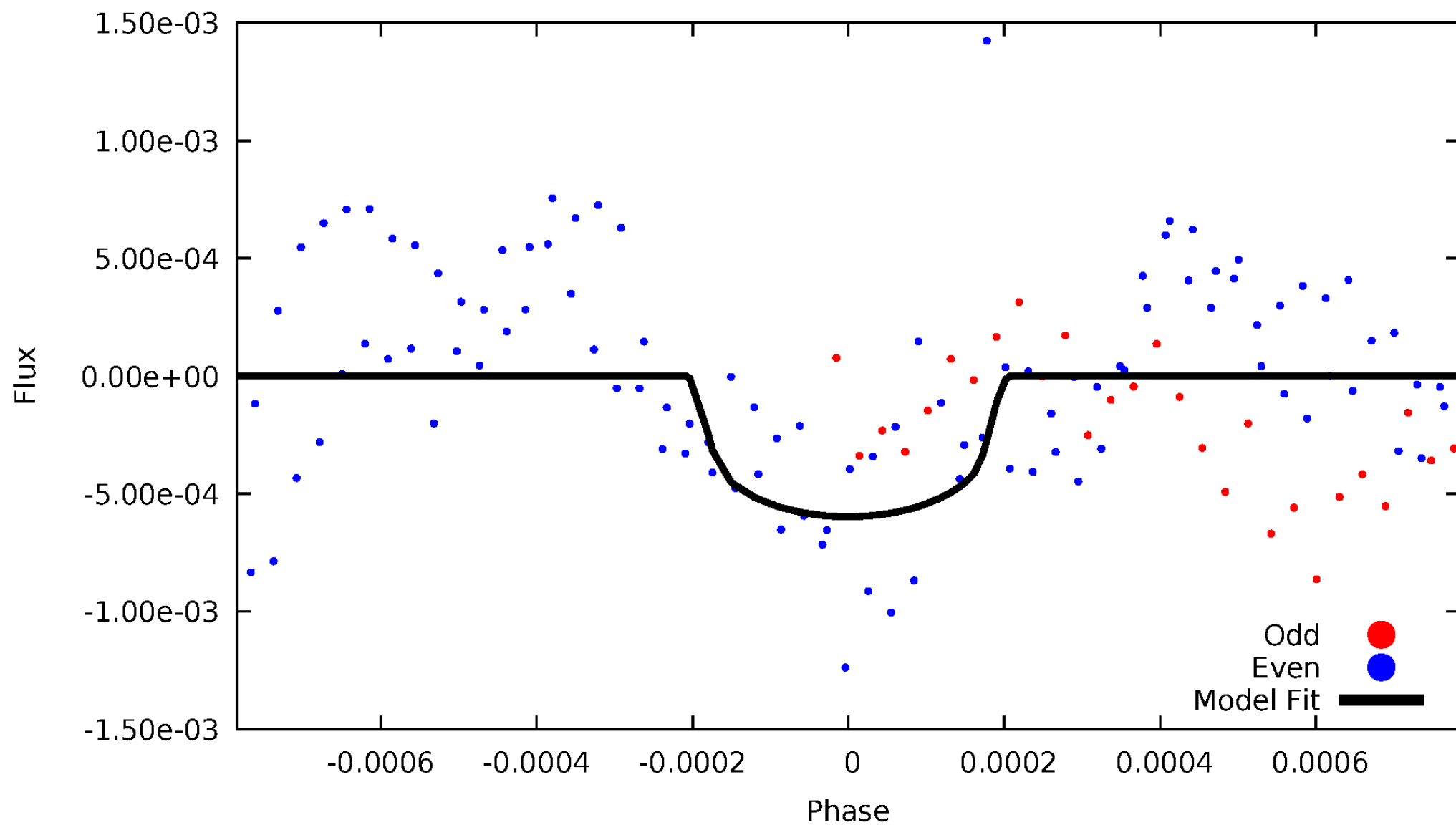


TCE 004054905-06



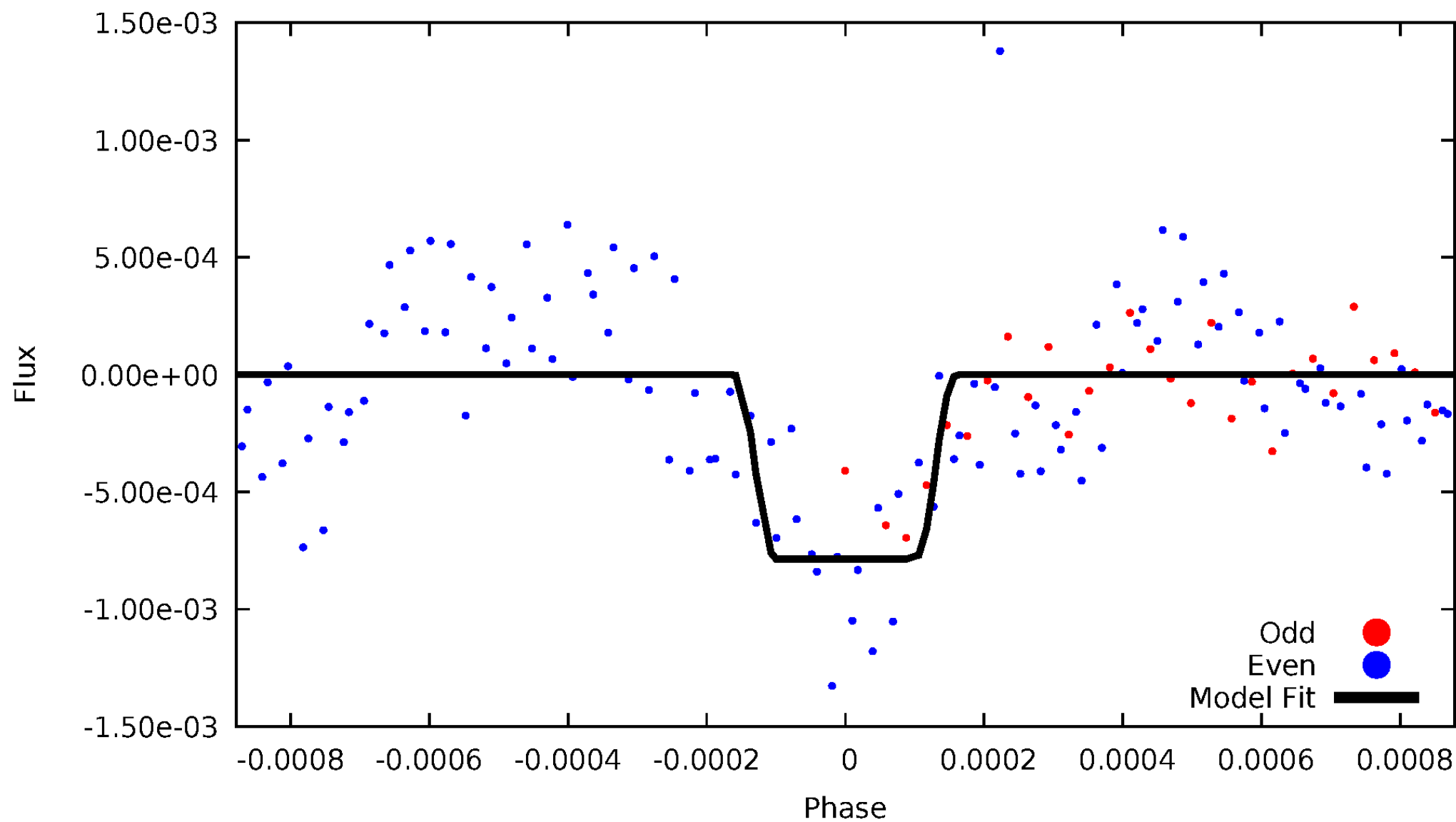
DV Odd/Even

TCE 004054905-06



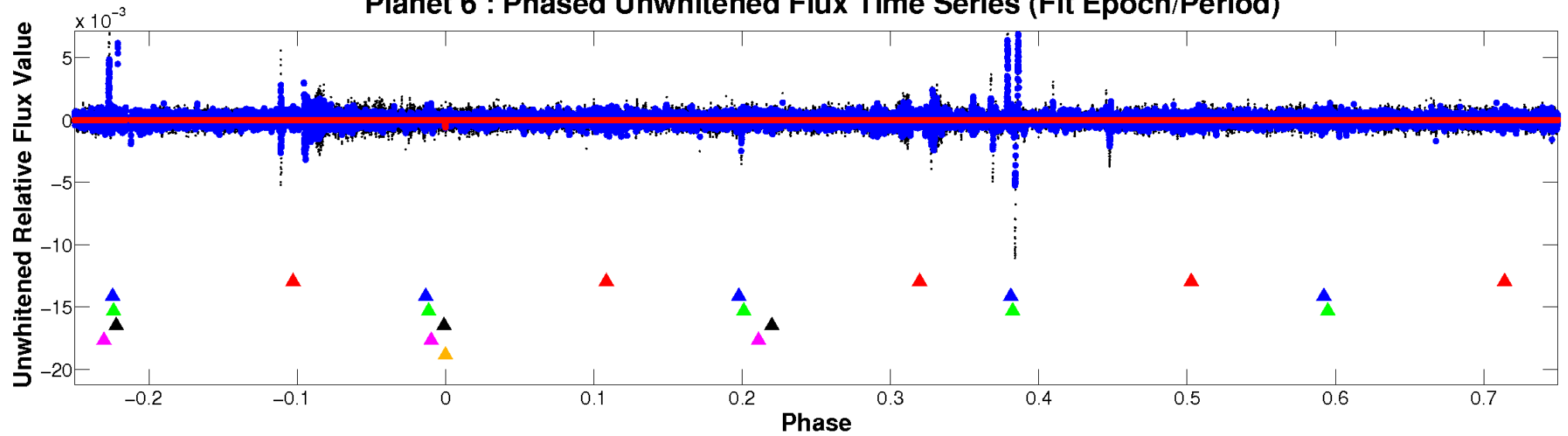
ALT Odd/Even

TCE 004054905-06

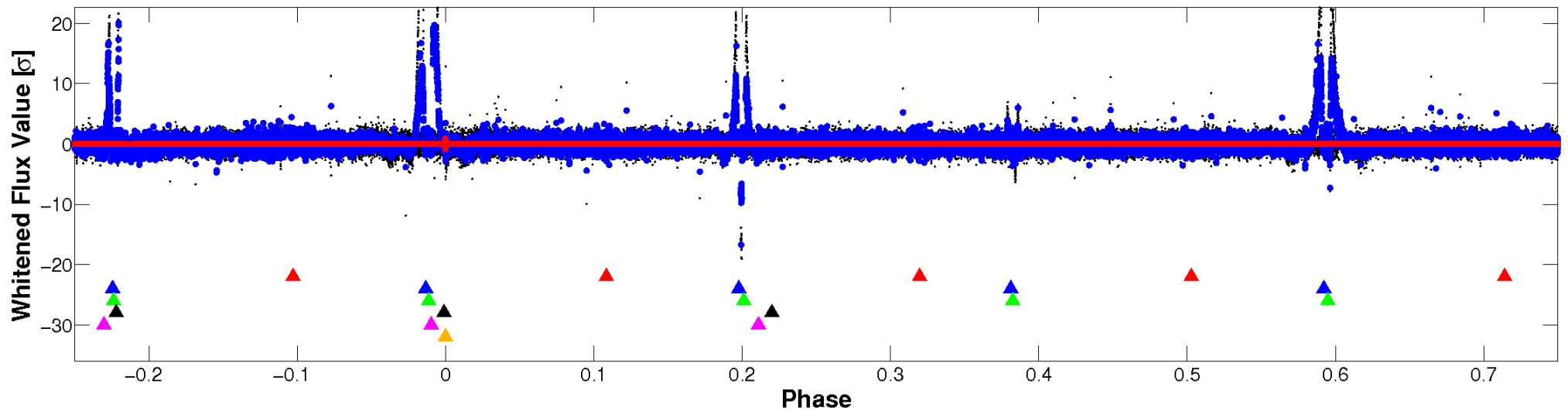


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

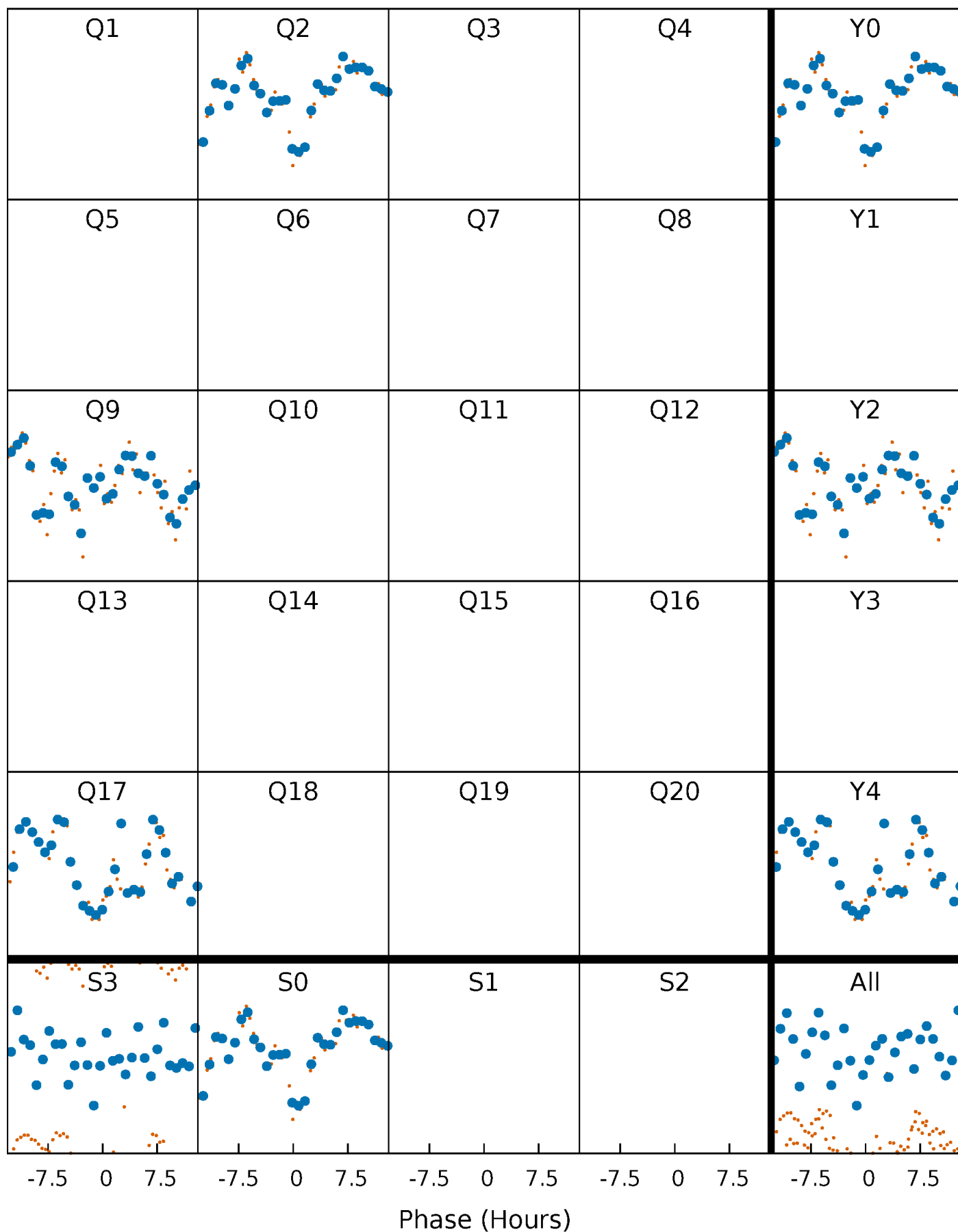


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



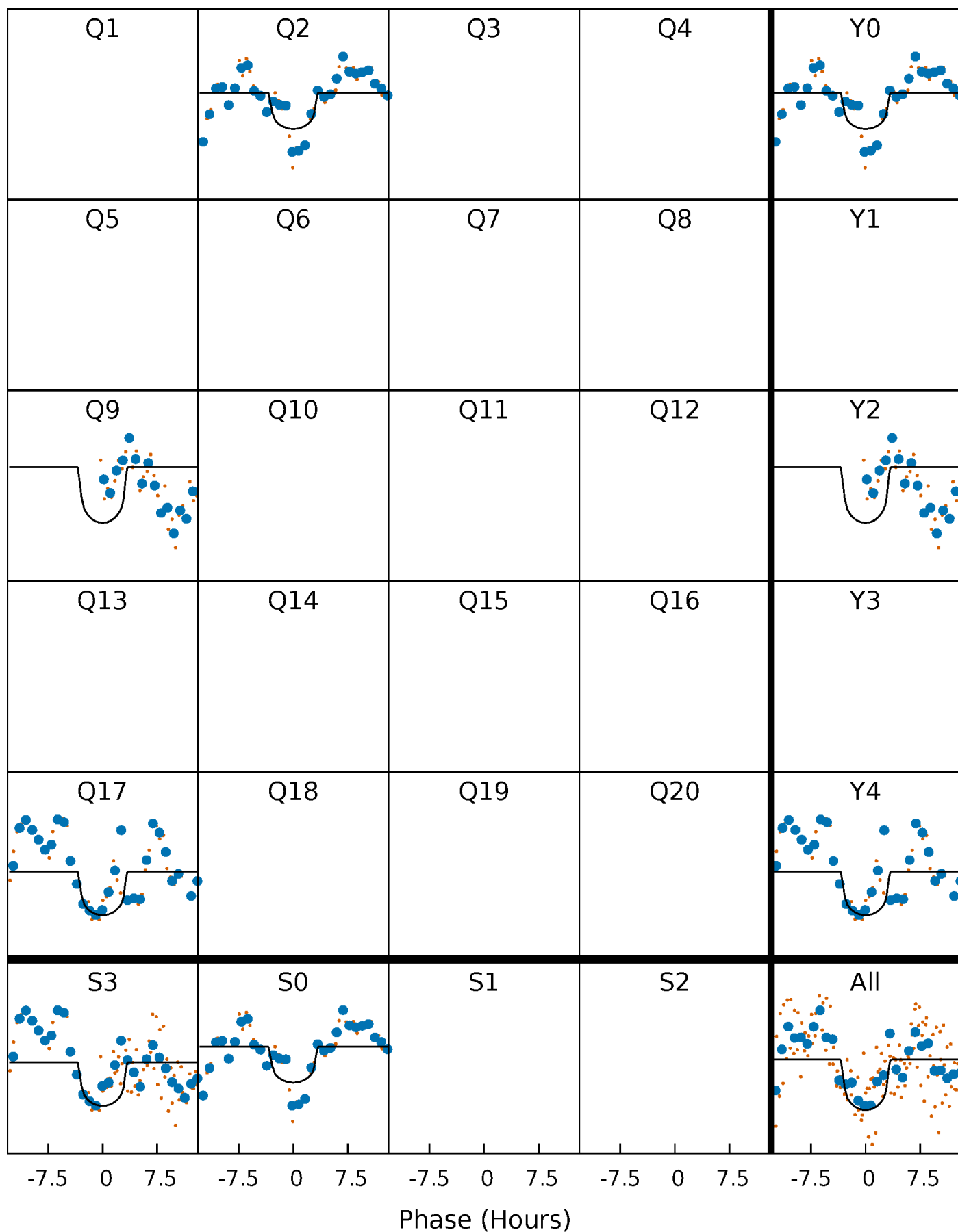
PDC Quarter-Phased Transit Curves

TCE 004054905-06 $P=696.567206$ Days $T_0=173.078726$ (BKJD)



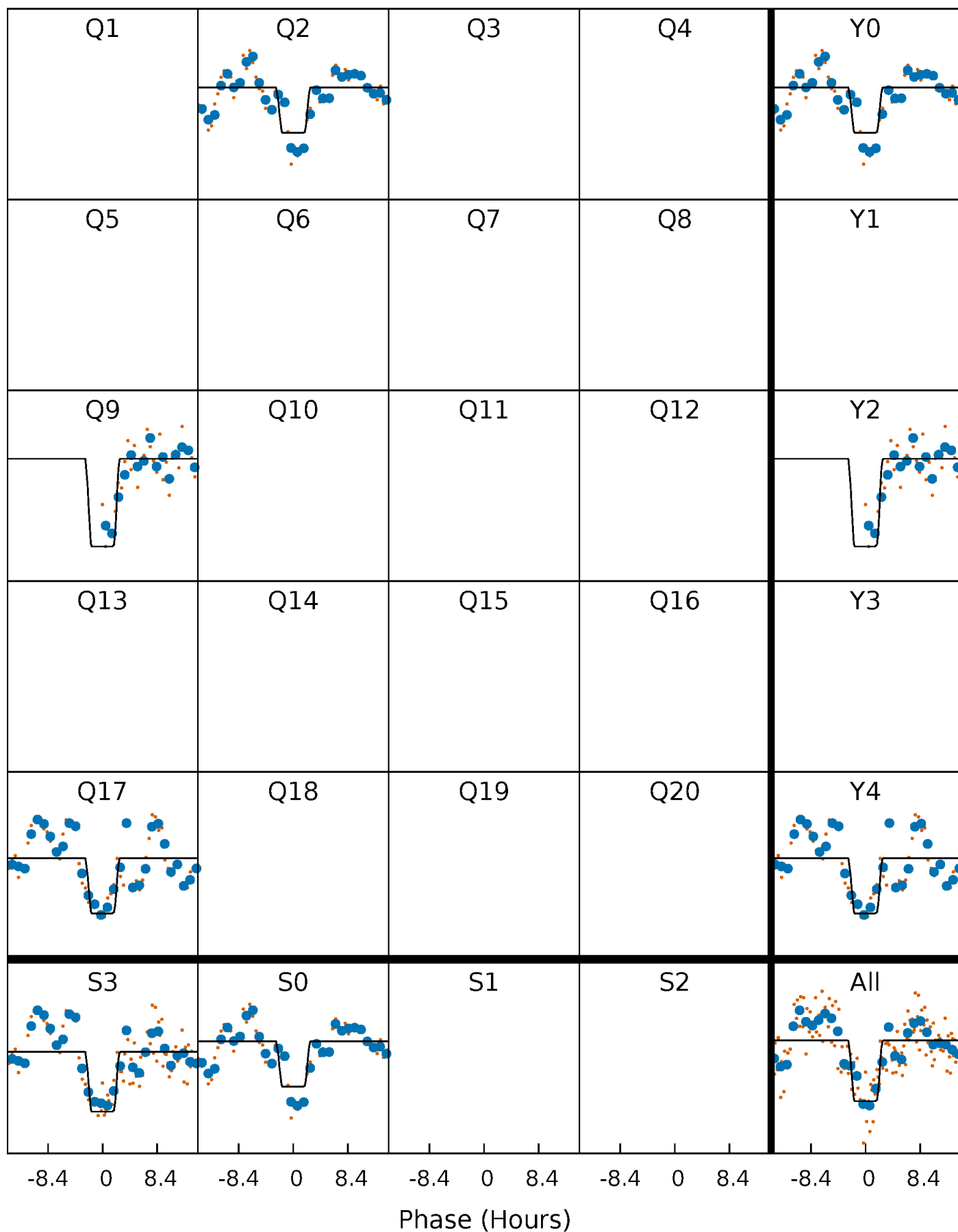
DV Quarter-Phased Transit Curves

TCE 004054905-06 P=696.567206 Days $T_0=173.078726$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

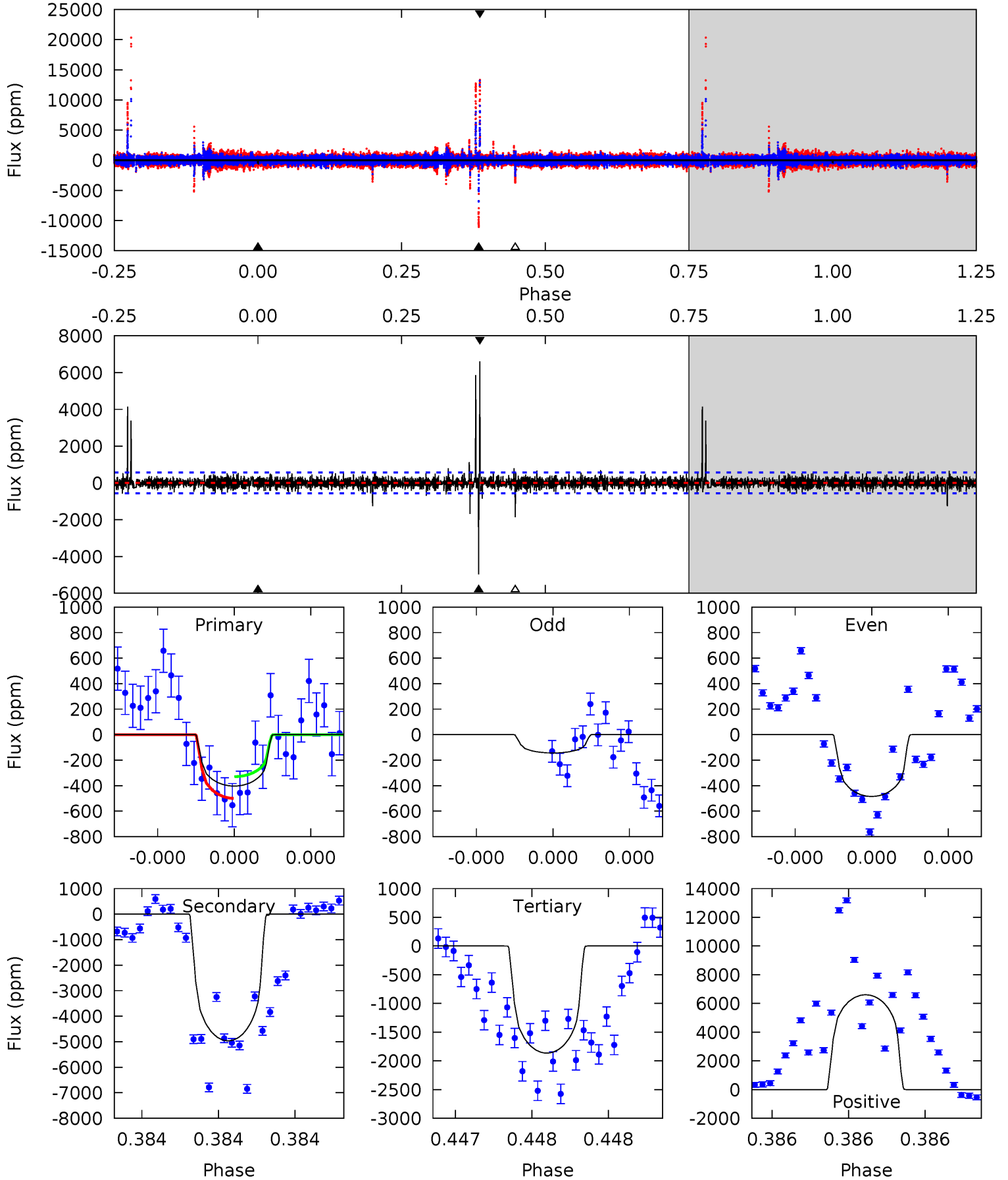
TCE 004054905-06 $P=696.546004$ Days $T_0=173.089642$ (BKJD)



DV Model-Shift Uniqueness Test

004054905-06, P = 696.567206 Days, E = 173.078726 Days

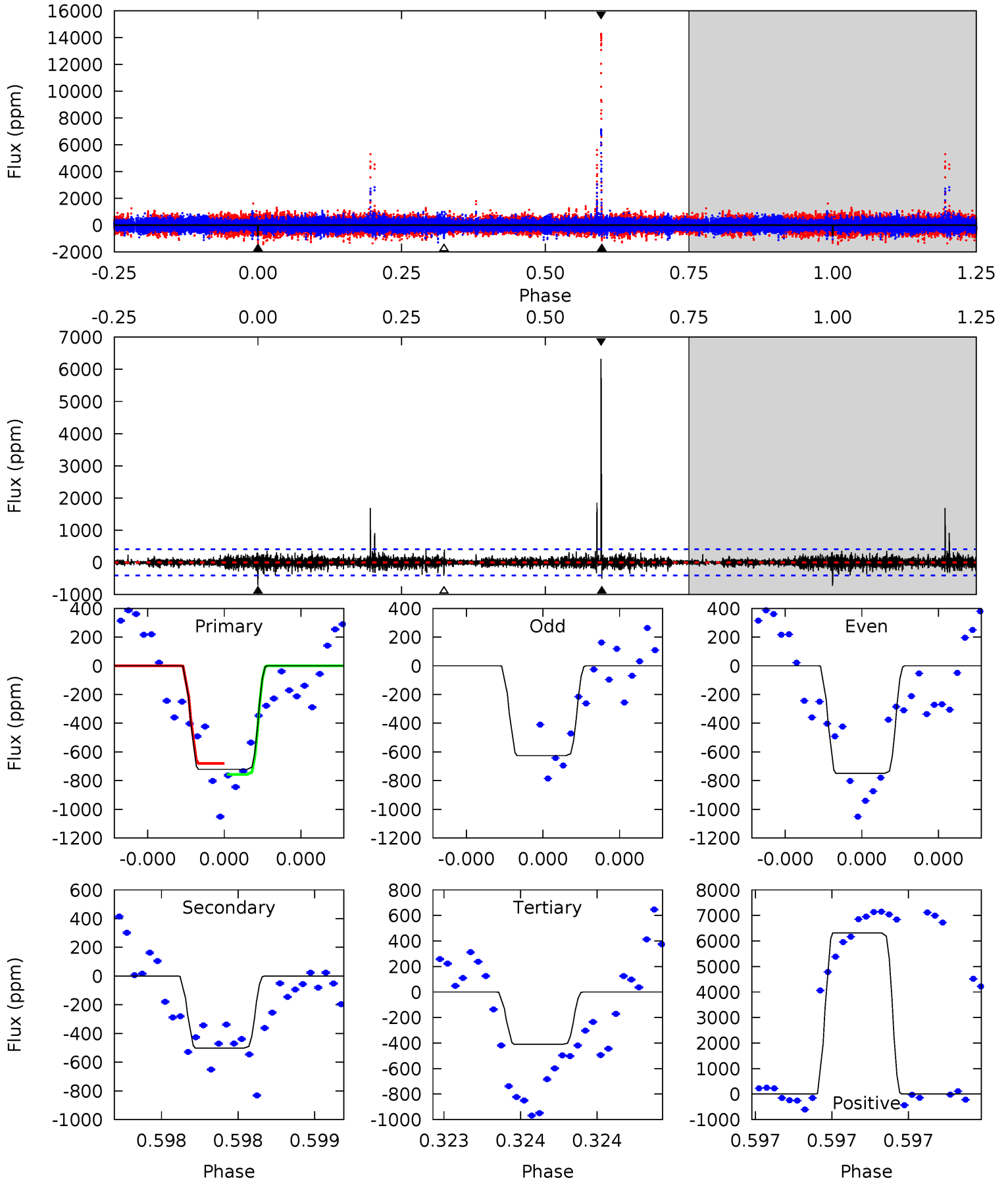
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.99	49.1	18.5	65.4	5.61	3.53	2.93	-14.5	-61.4	30.7	-16.2	1.15	1.12	0.57	0.85



Alt Model-Shift Uniqueness Test

004054905-06, P = 696.546004 Days, E = 173.089642 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	6.96	5.70	87.8	5.67	3.62	2.30	4.33	-77.8	1.26	-80.8	0.60	1.08	0.90	0.53



Stellar Parameters For KIC 004054905

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4782^{+79}_{-50}	$2.614^{+0.027}_{-0.036}$	$-0.480^{+0.150}_{-0.100}$	$7.503^{+1.533}_{-0.170}$	$0.843^{+0.355}_{-0.019}$	$0.003^{+0.000}_{-0.001}$
	+2%/-1%	+1%/-1%	+31%/-21%	+20%/-2%	+42%/-2%	+8%/-21%
Source	SPE74	AST9	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 004054905-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4963 ± 101	$22.99^{+14.81}_{-13.54}$	670^{+16}_{-10}	7590^{+7104}_{-1775}	11337^{+57948}_{-7184}
Alt.	-501 ± 72	$25.35^{+15.33}_{-14.34}$	670^{+14}_{-9}	4224^{+1899}_{-626}	912^{+4058}_{-554}

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

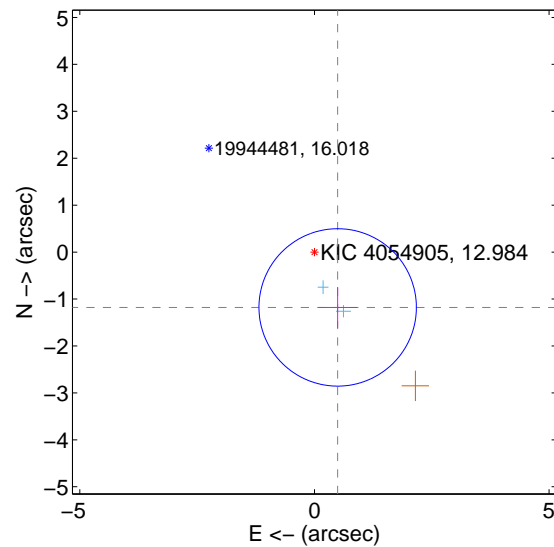
Supplemental centroid analysis for 004054905-06. Kepler magnitude: 12.98. Transit SNR 3.60

There are 2 quarters with good PRF difference image offsets

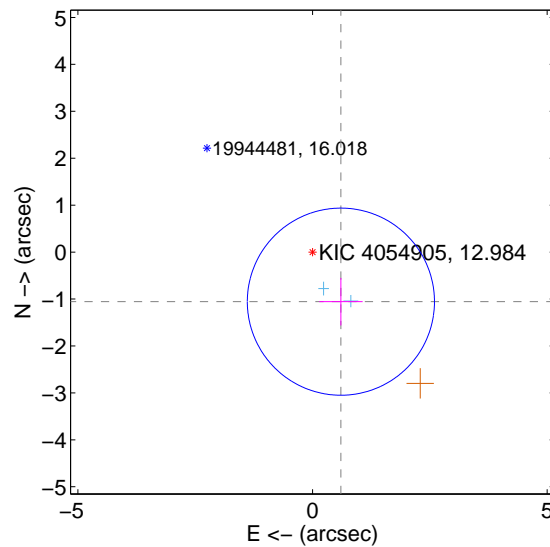
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.278 ± 0.559	2.29	-0.495 ± 0.413	-1.179 ± 0.436
PRF-fit source offset from KIC position	1.217 ± 0.665	1.83	-0.605 ± 0.462	-1.056 ± 0.507
photometric centroid source offset	1.99 ± 0.77	2.59	-0.24 ± 0.60	-1.98 ± 0.77

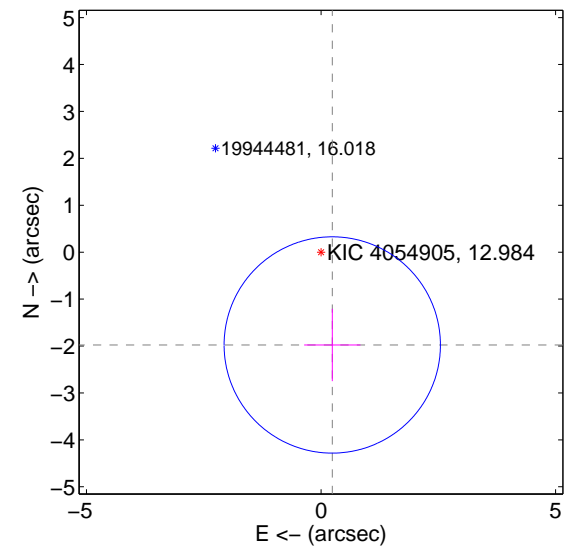
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

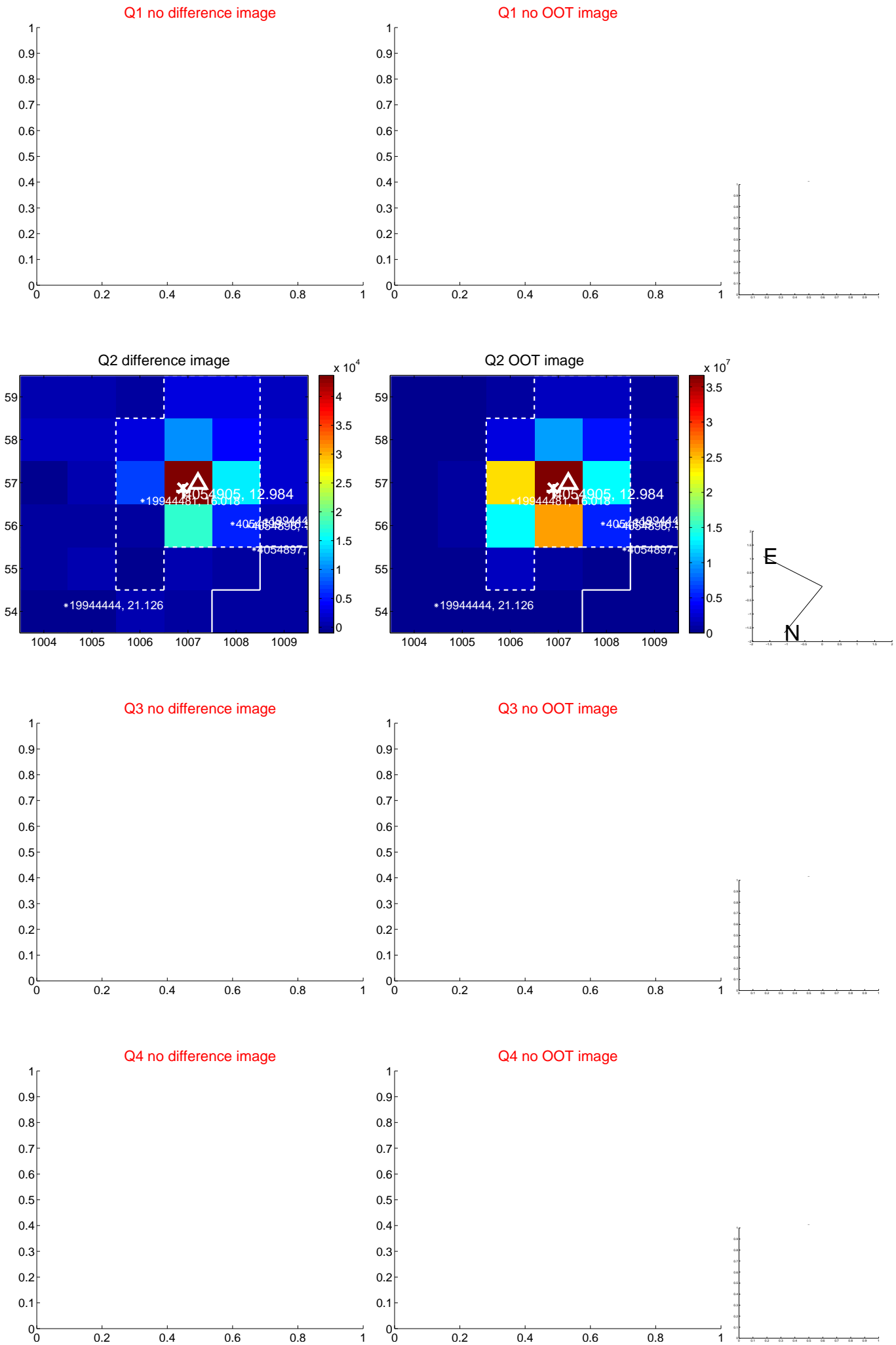


offset from photometric centroids



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

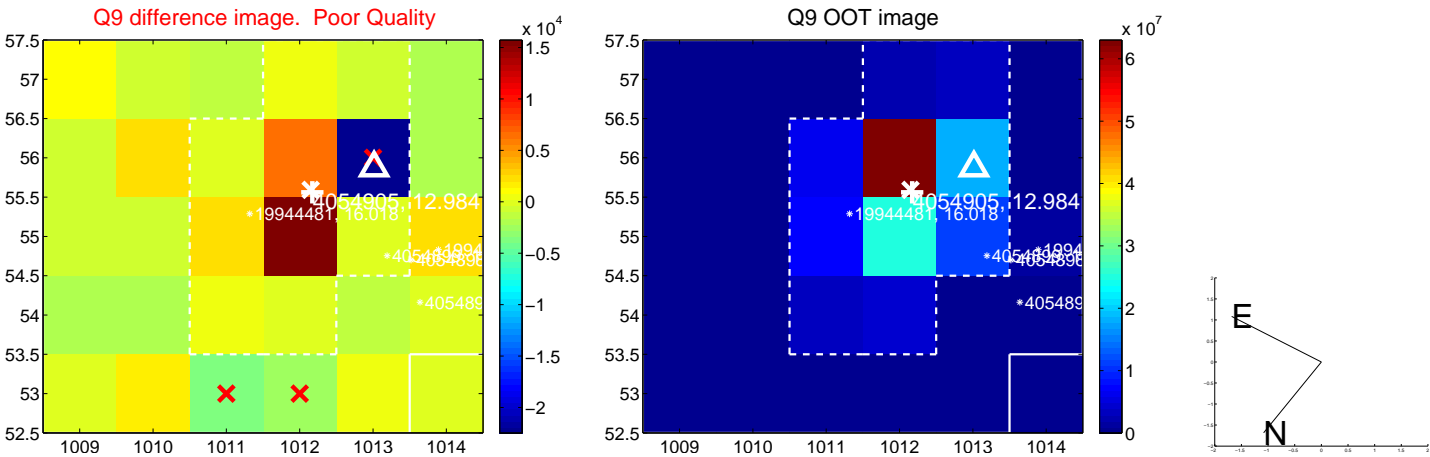
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



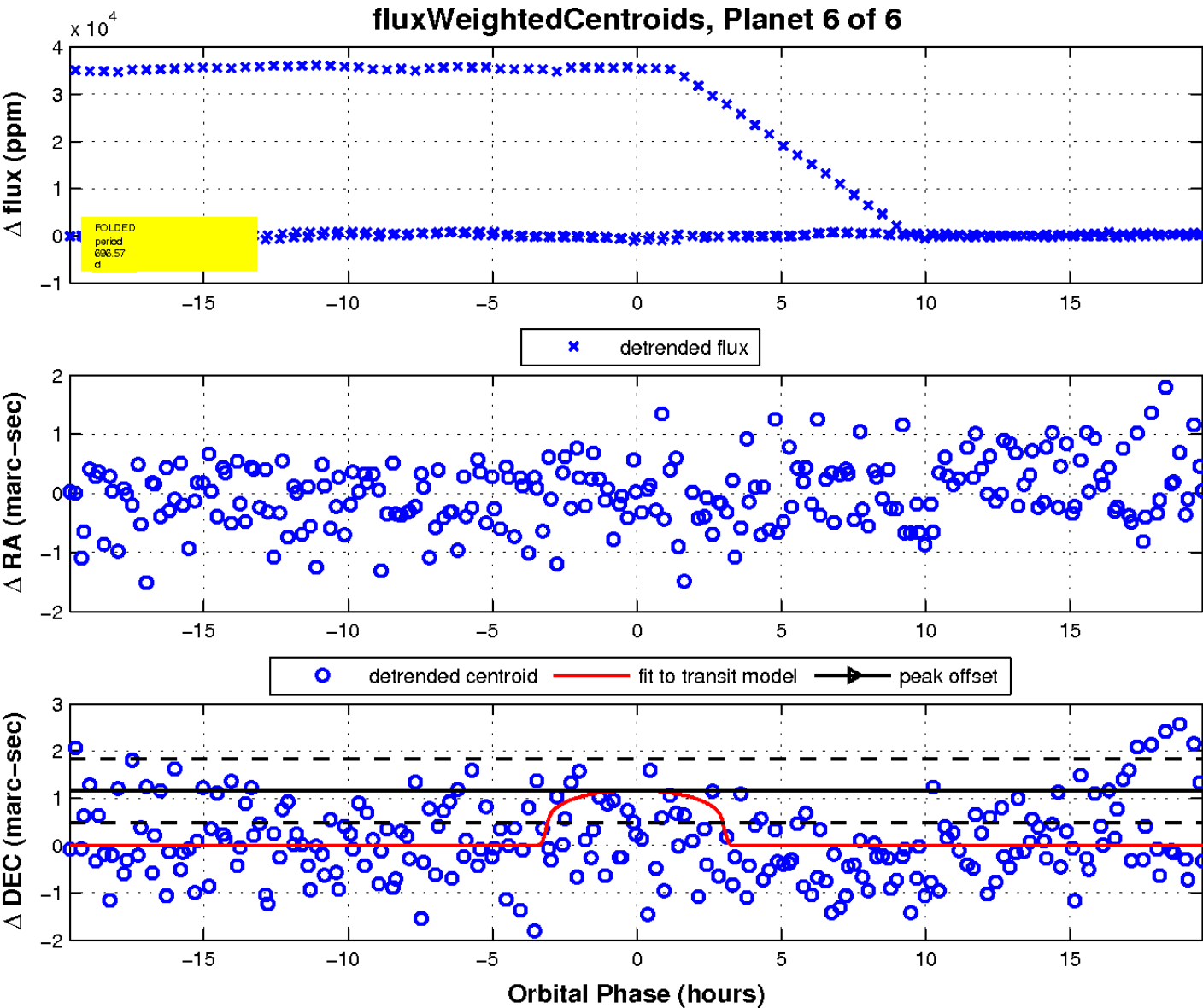
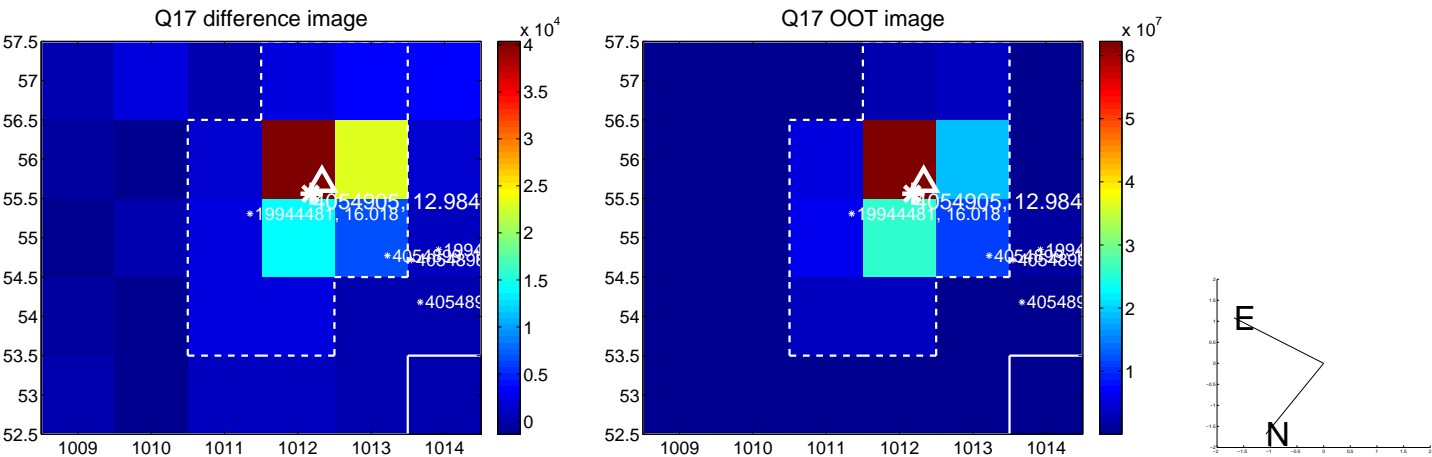
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

