

KIC 005450166

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})
005450166-01	OBS	No	393.684381	495.248060	31.5	9.815	41.4	0.1	1.43	7122	0.97	3.50
005450166-02	OBS	No	210.833289	331.443333	1565.2	2.500	42.4	-1.0	1.43	7122	5.75	8.06
005450166-03	OBS	No	408.163613	483.058198	701.6	3.207	35.6	2.2	1.43	7122	6.78	3.34
005450166-04	OBS	No	228.325712	141.213272	304.3	4.580	38.6	1.7	1.43	7122	2.73	7.25
005450166-05	OBS	No	178.887183	200.391219	1383.6	2.500	32.9	-1.0	1.43	7122	5.40	10.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005450166-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005450166-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—NO_FITS—INCONSISTENT_TRANS—CENT_NOFITS
005450166-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005450166-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005450166-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

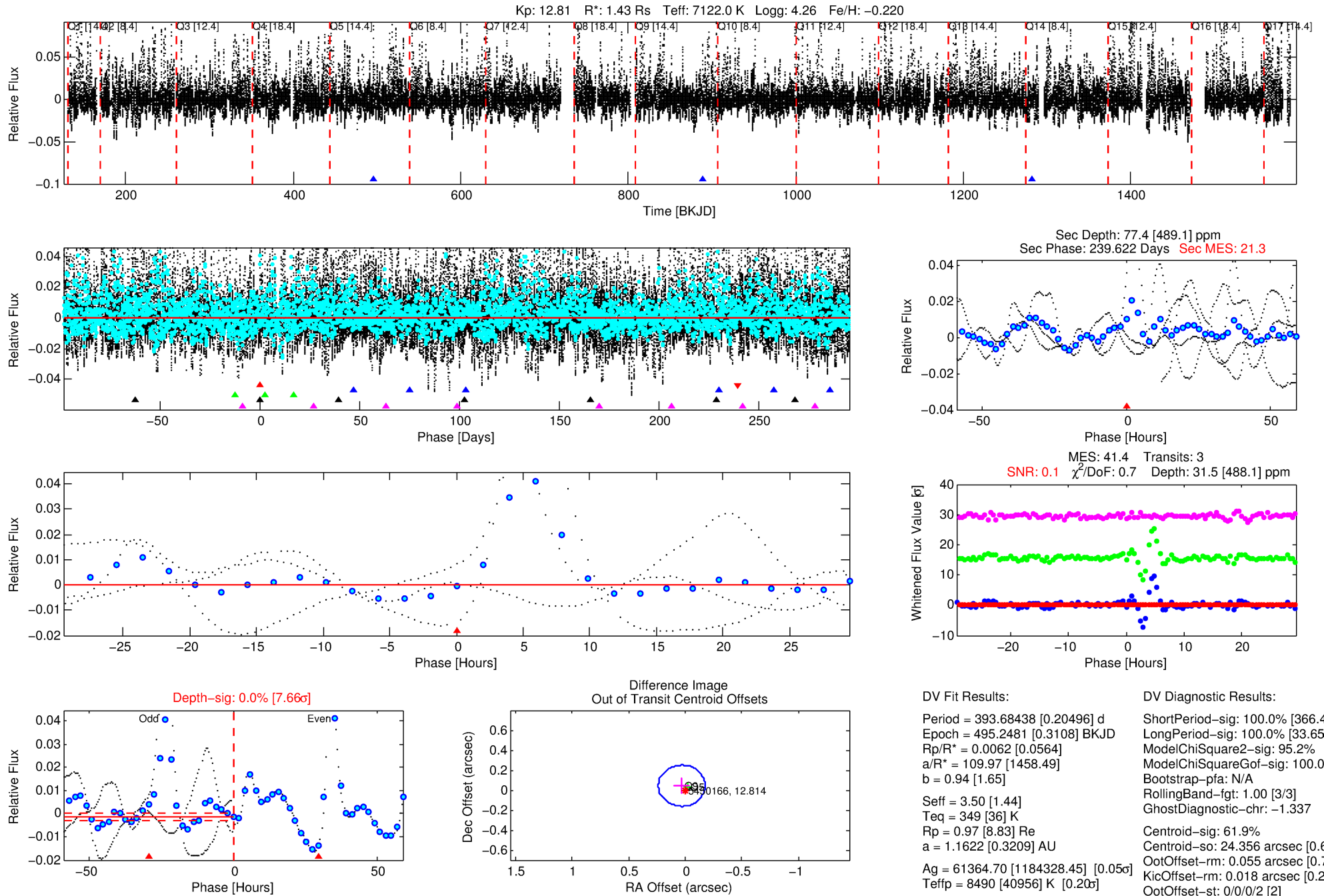
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005450166-01

No Significant Match Found

DV One-Page Summary

KIC: 5450166 Candidate: 1 of 5 Period: 393.684 d



DV Fit Results:

Period = 393.68438 [0.20496] d
Epoch = 495.2481 [0.3108] BKJD
Rp/R* = 0.0062 [0.0564]
a/R* = 109.97 [1458.49]
b = 0.94 [1.65]
Seff = 3.50 [1.44]
Teff = 349 [36] K
Rp = 0.97 [8.83] Re
a = 1.1622 [0.3209] AU
Ag = 61364.70 [1184328.45] [0.05σ]
Teffp = 8490 [40956] K [0.20σ]

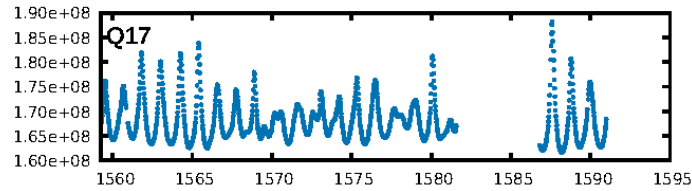
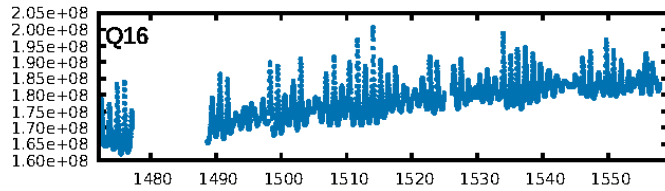
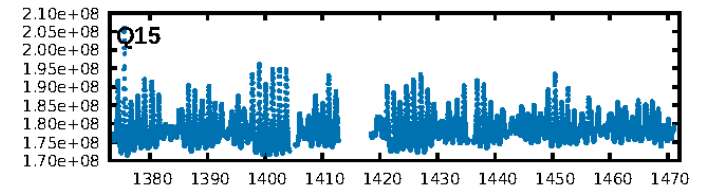
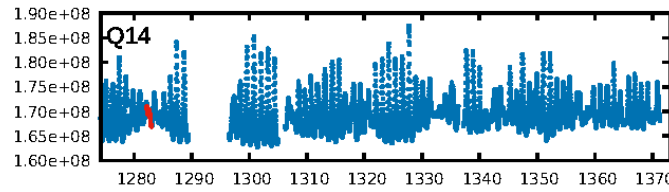
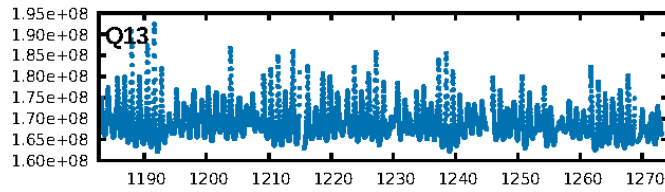
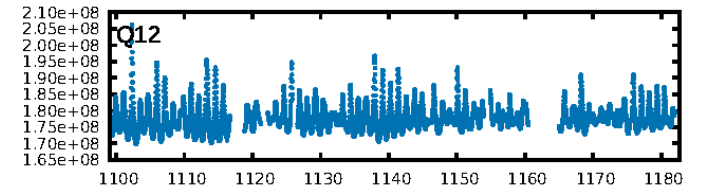
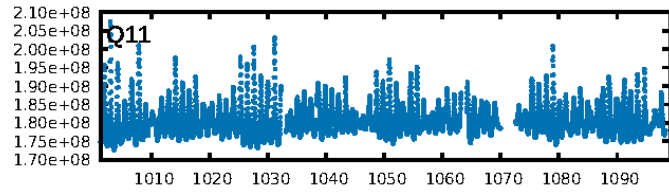
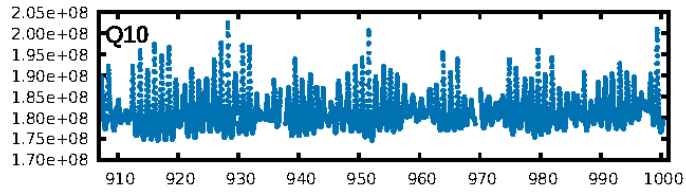
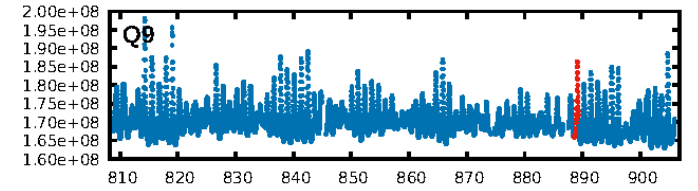
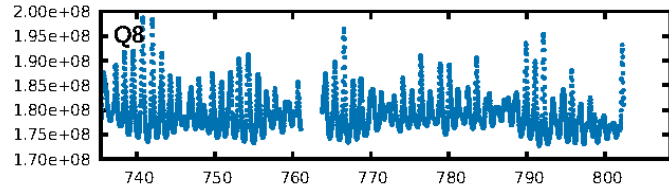
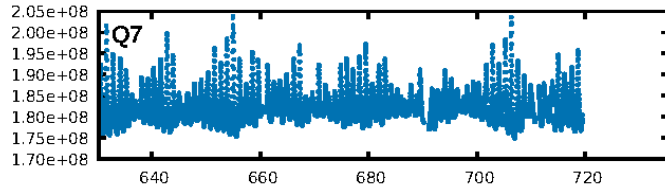
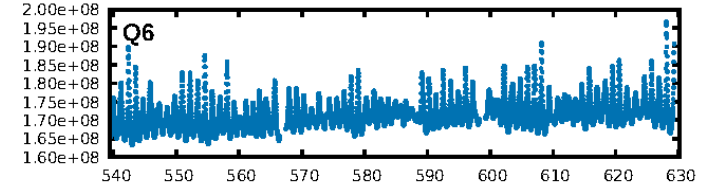
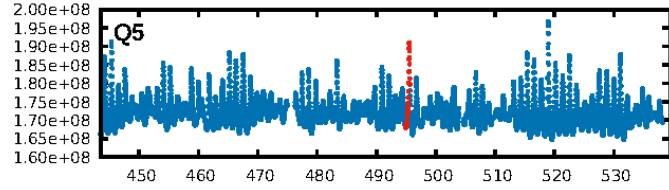
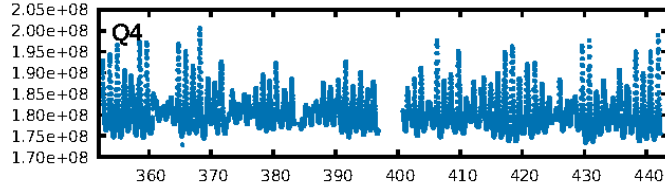
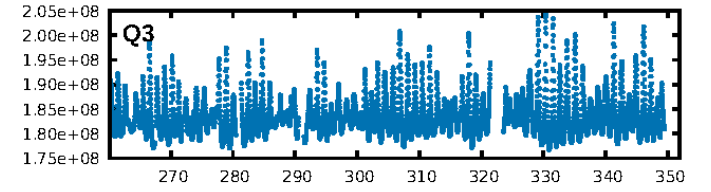
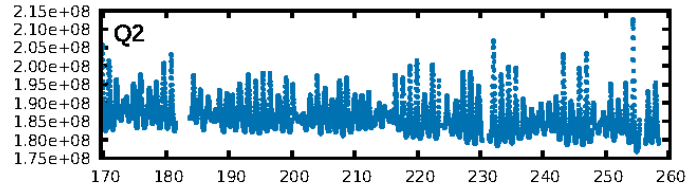
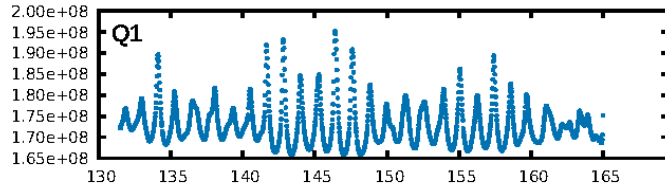
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [366.42σ]
LongPeriod-sig: 100.0% [33.65σ]
ModelChiSquare2-sig: 95.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.337
Centroid-sig: 61.9%
Centroid-so: 24.356 arcsec [0.64σ]
OotOffset-rm: 0.055 arcsec [0.79σ]
KicOffset-rm: 0.018 arcsec [0.26σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

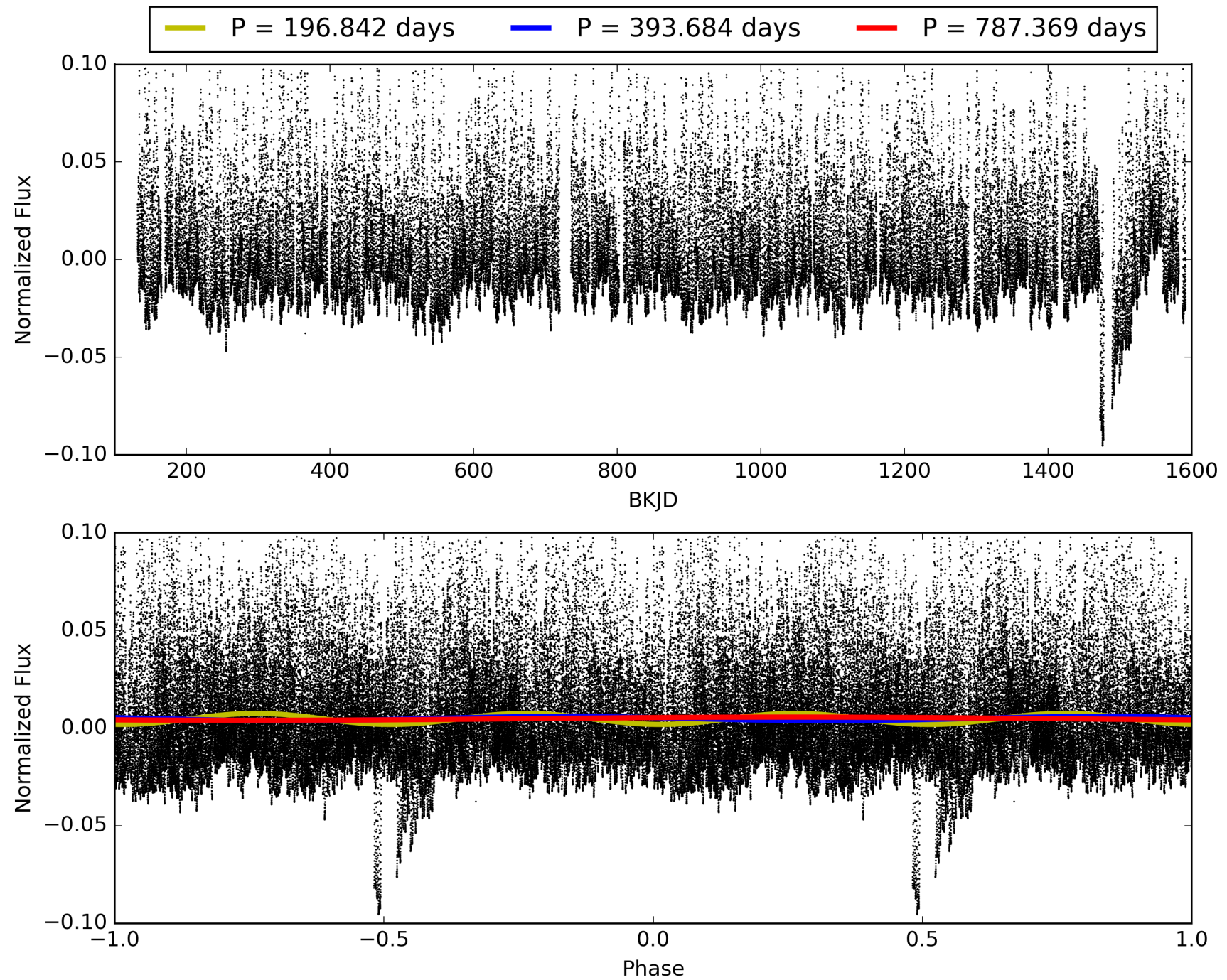
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005450166-01, PDC Light Curves

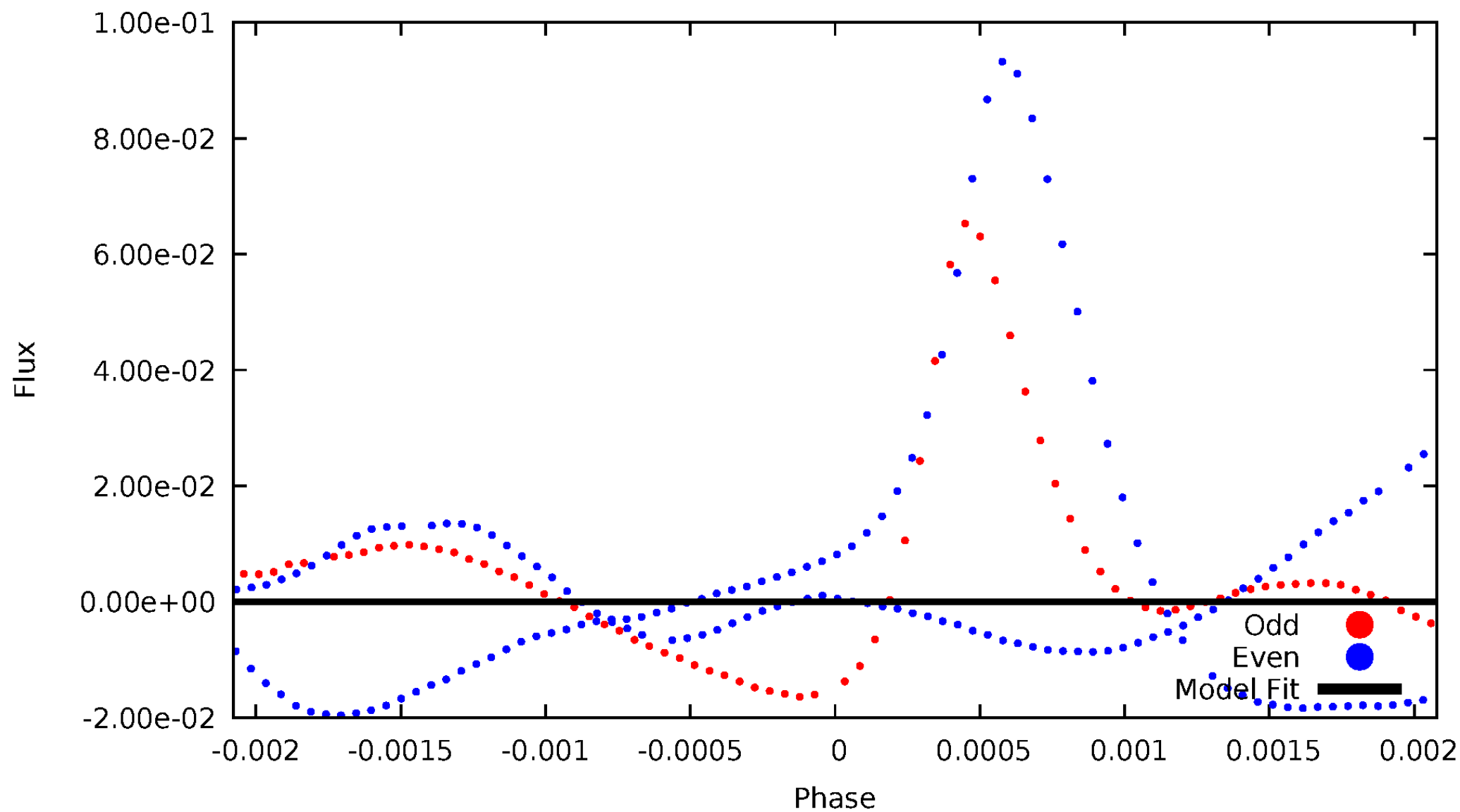


TCE 005450166-01



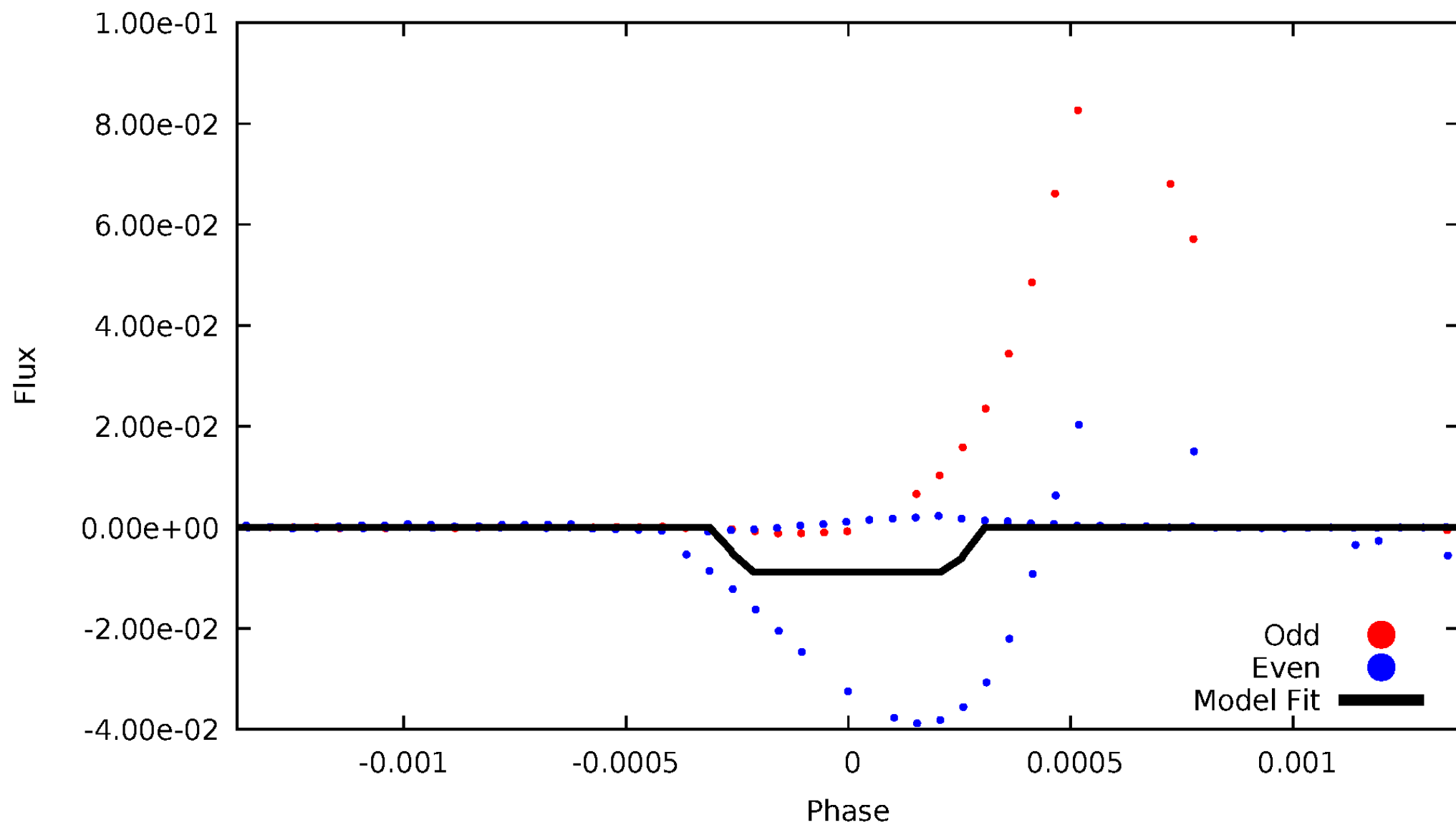
DV Odd/Even

TCE 005450166-01



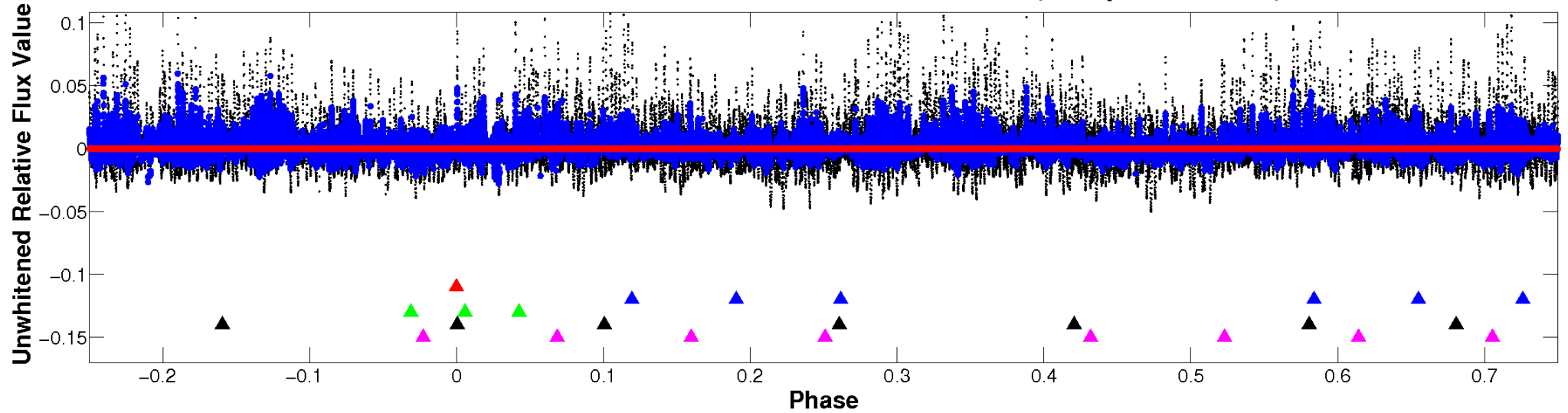
ALT Odd/Even

TCE 005450166-01

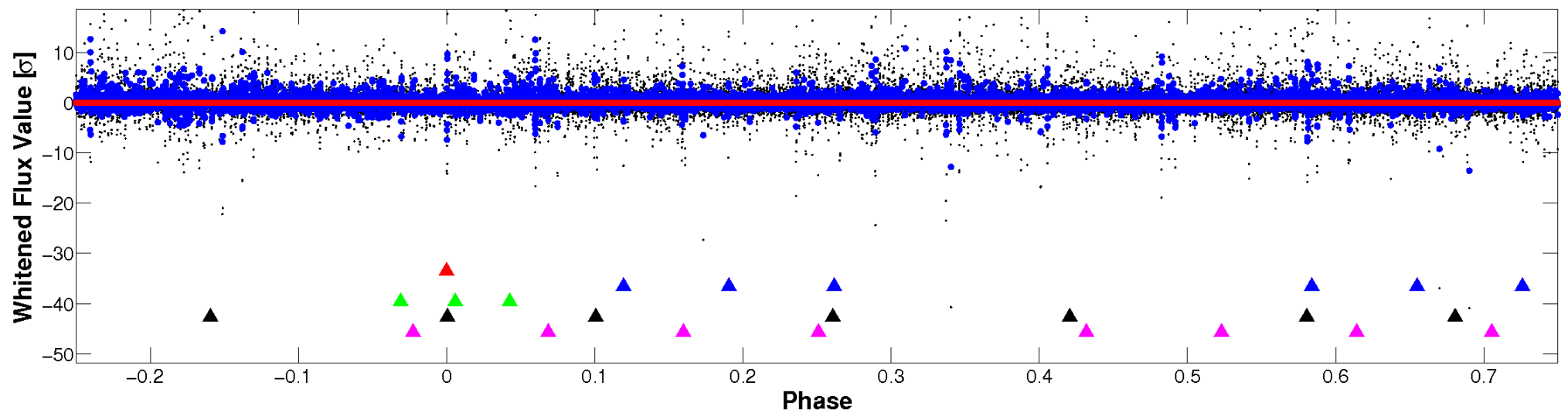


Non-Whitened Vs. Whitened Light Curve

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

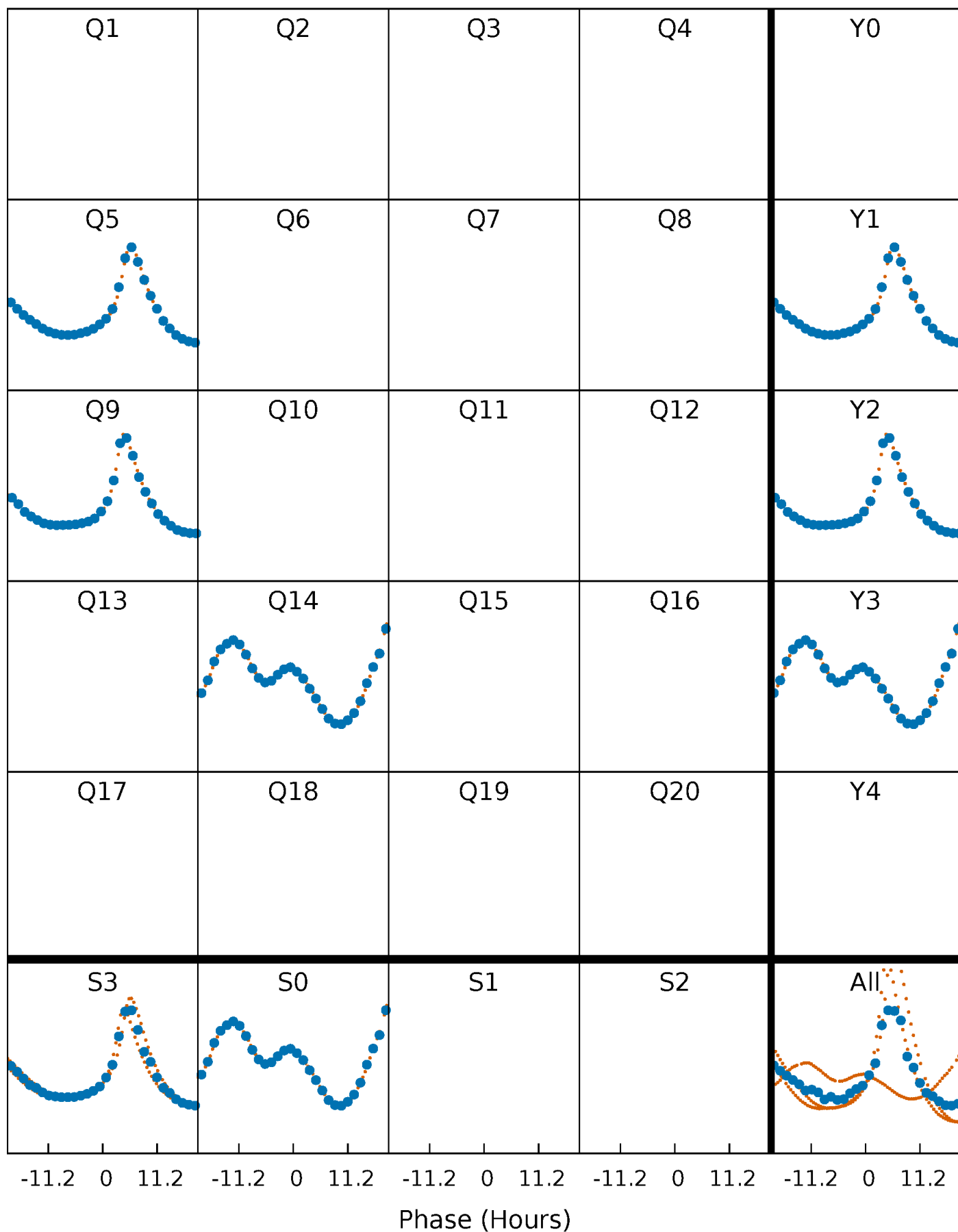


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



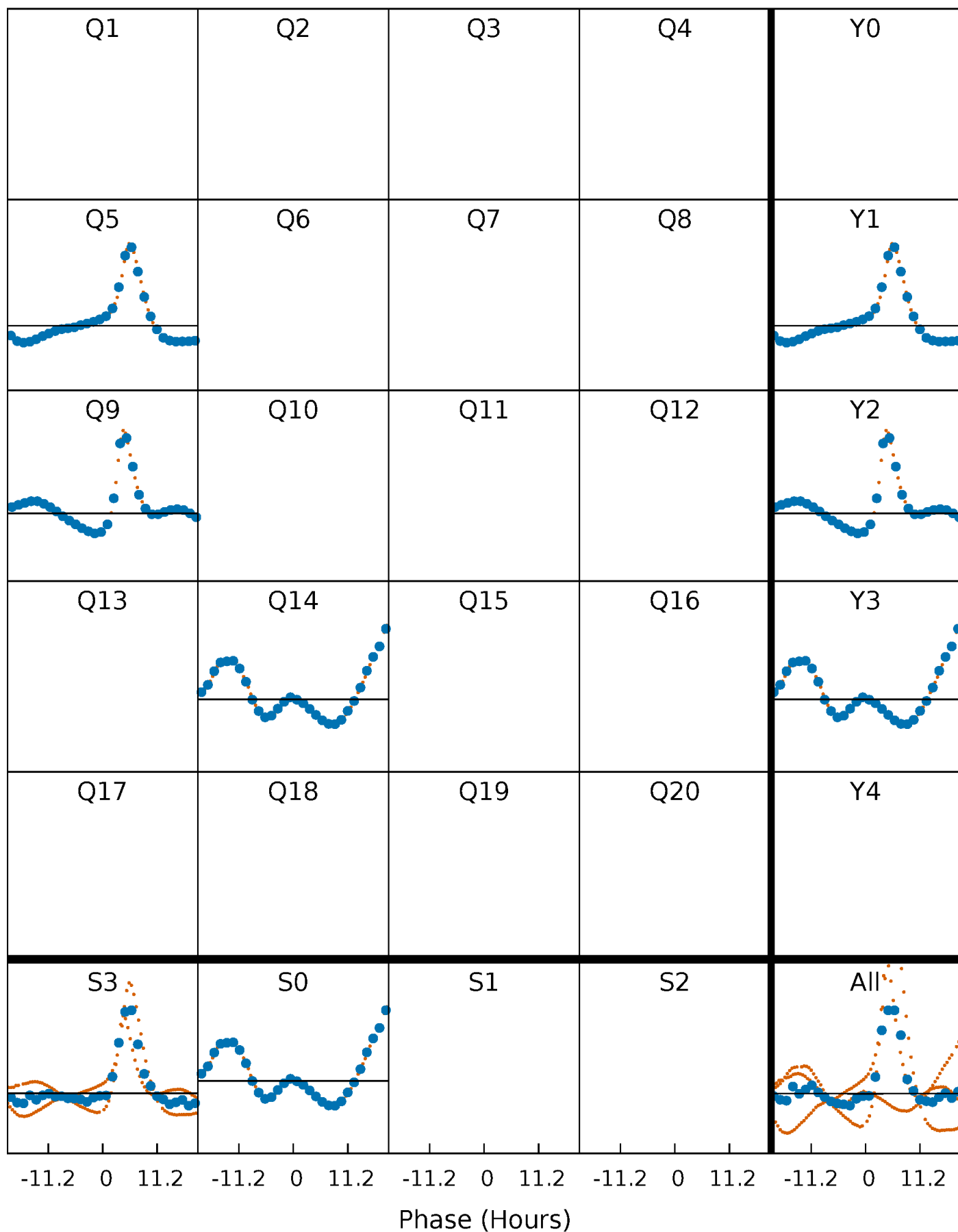
PDC Quarter-Phased Transit Curves

TCE 005450166-01 P=393.684381 Days $T_0=495.248060$ (BKJD)



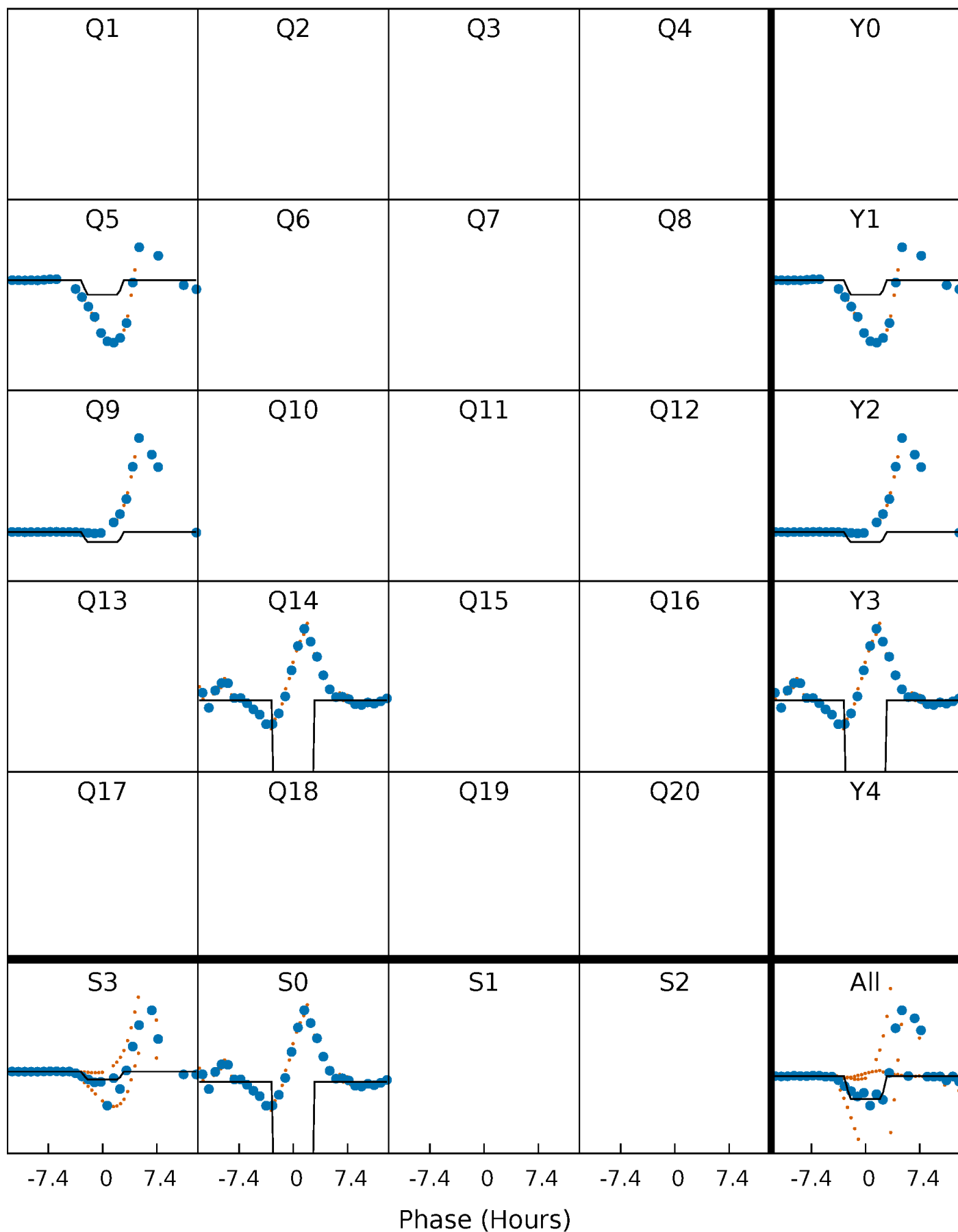
DV Quarter-Phased Transit Curves

TCE 005450166-01 $P=393.684381$ Days $T_0=495.248060$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

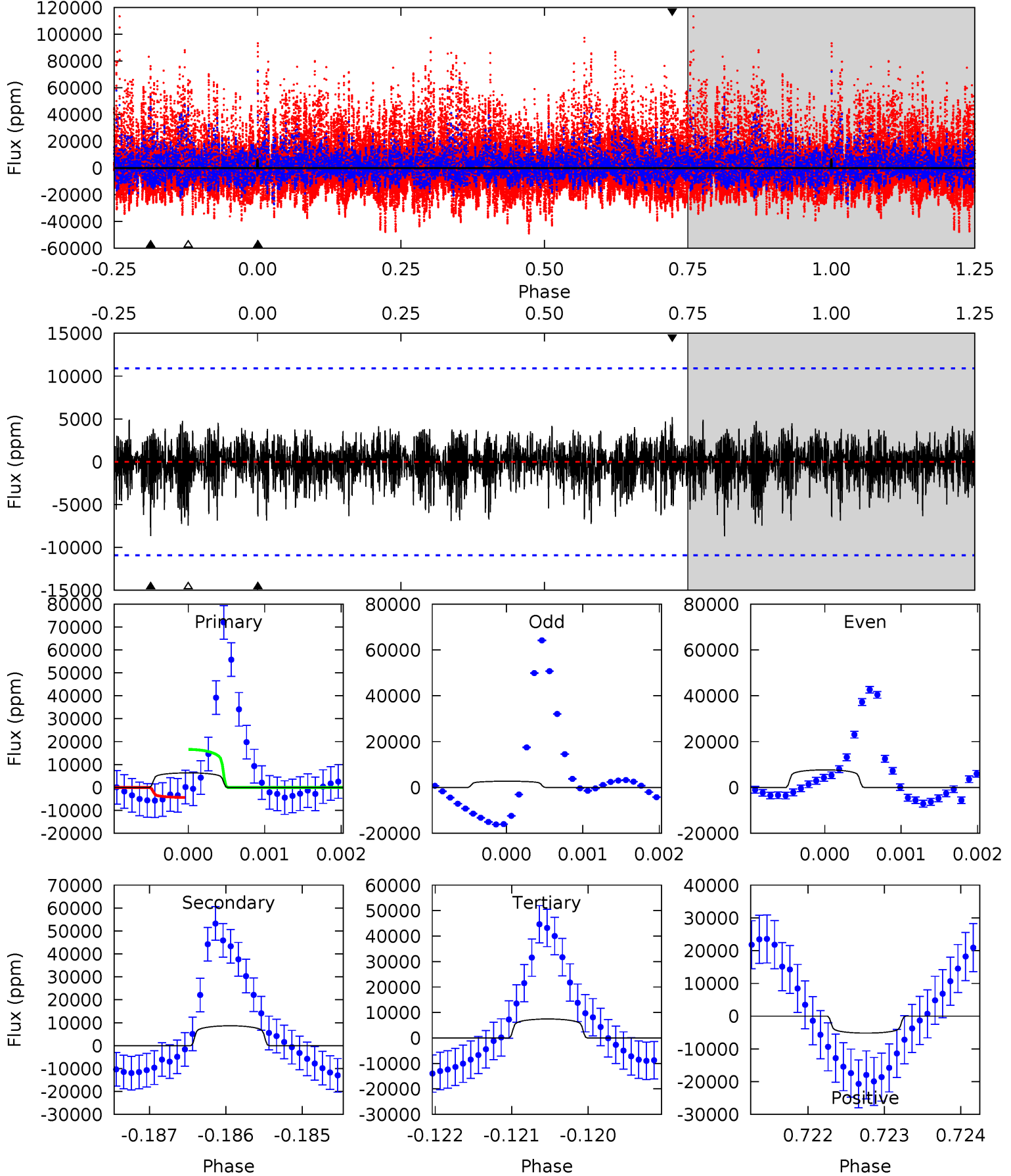
TCE 005450166-01 P=393.634444 Days $T_0=495.250950$ (BKJD)



DV Model-Shift Uniqueness Test

005450166-01, P = 393.684381 Days, E = 101.563679 Days

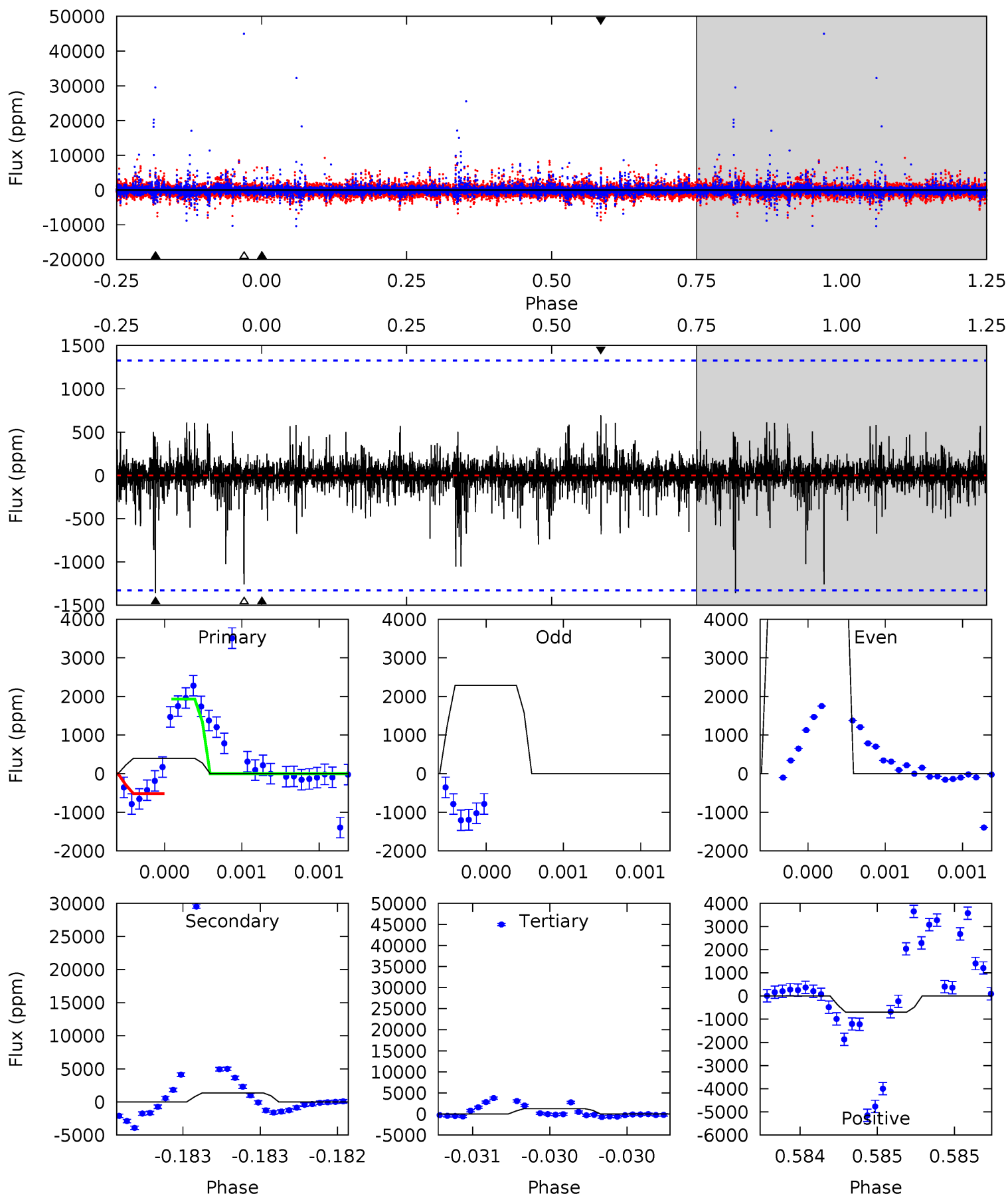
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.17	4.31	3.71	2.59	5.44	3.27	0.98	-0.54	0.58	0.60	1.73	1.05	2.23	0.37	3.07



Alt Model-Shift Uniqueness Test

005450166-01, P = 393.634444 Days, E = 101.616506 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.67	5.70	5.28	2.92	5.57	3.47	0.48	-3.61	-1.25	0.42	2.79	8.55	-8.74	0.34	0



Stellar Parameters For KIC 005450166

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7122^{+200}_{-250}	$4.256^{+0.087}_{-0.203}$	$-0.220^{+0.250}_{-0.350}$	$1.433^{+0.490}_{-0.210}$	$1.357^{+0.203}_{-0.203}$	$0.649^{+0.306}_{-0.329}$
	+3%/-4%	+2%/-5%	+114%/-159%	+34%/-15%	+15%/-15%	+47%/-51%
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 005450166-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8647 ± 2005	$6.53^{+6.96}_{-4.62}$	494^{+36}_{-28}	12501^{+41374}_{-4949}	$138273^{+1500913}_{-104271}$
Alt.	-1359 ± 238	$16.42^{+8.82}_{-8.57}$	496^{+40}_{-29}	4443^{+1651}_{-638}	3763^{+11669}_{-2231}

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

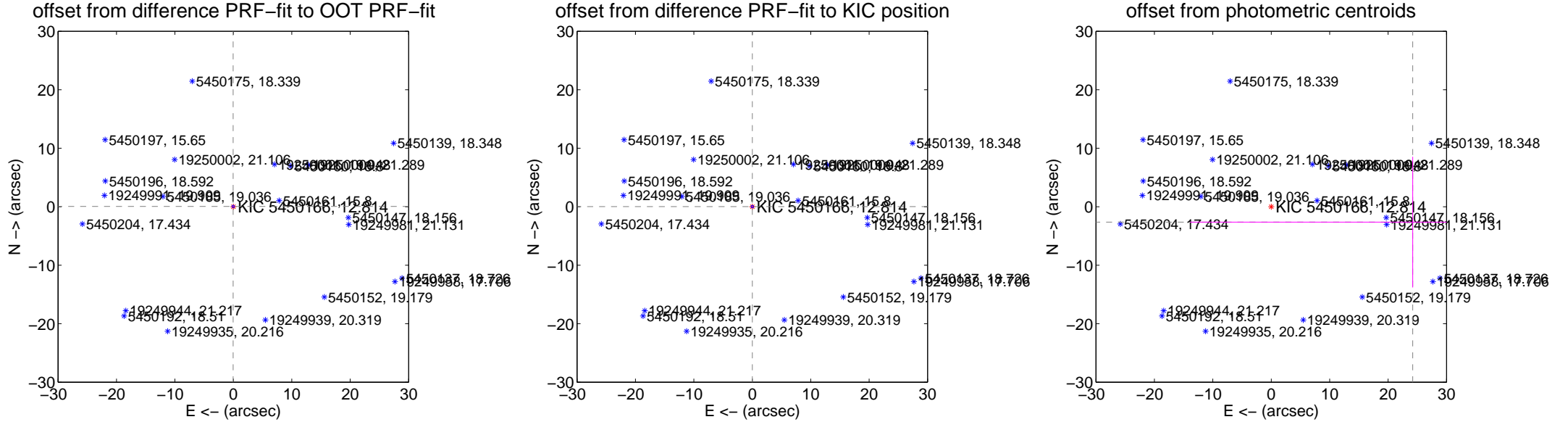
DV Centroid Data

Supplemental centroid analysis for 005450166-01. Kepler magnitude: 12.81. Transit SNR 0.11

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.055 ± 0.069	0.79	0.033 ± 0.069	0.044 ± 0.069
PRF-fit source offset from KIC position	0.018 ± 0.071	0.26	-0.007 ± 0.067	0.017 ± 0.072
photometric centroid source offset	24.36 ± 37.91	0.64	-24.21 ± 38.12	-2.63 ± 11.17

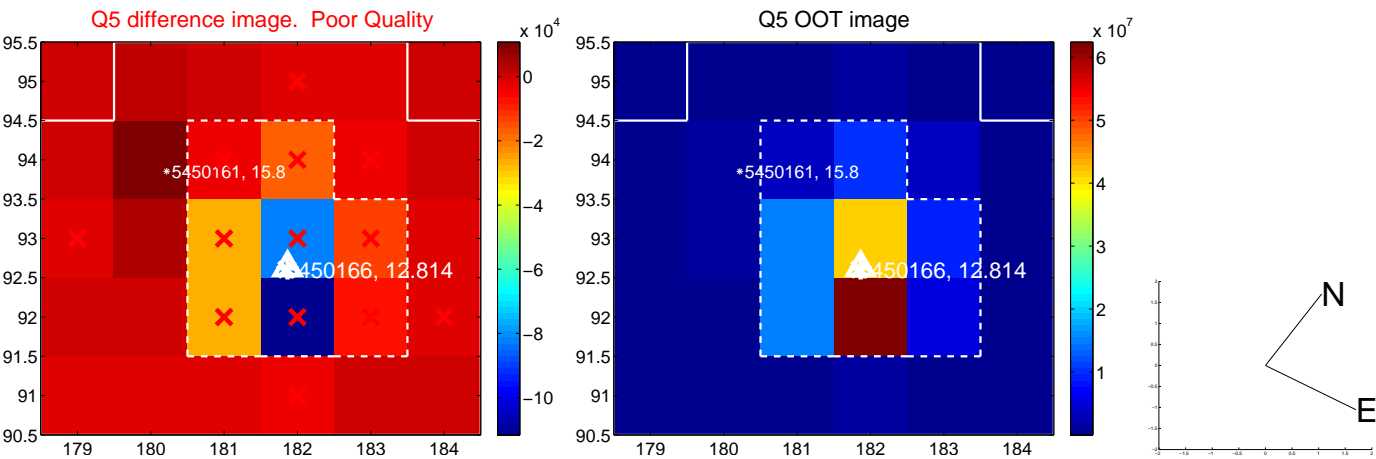


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

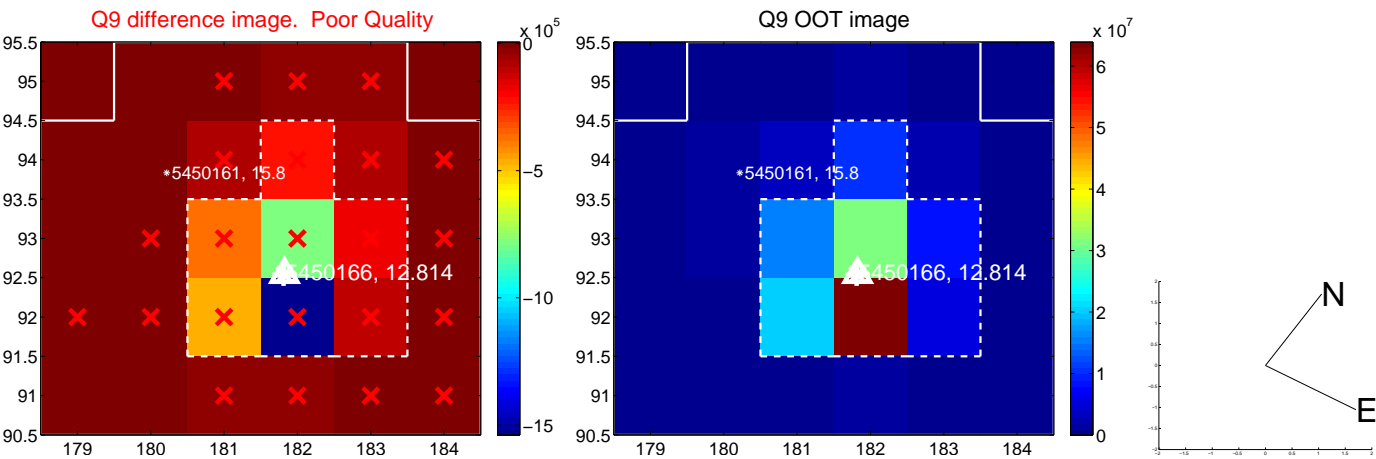
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



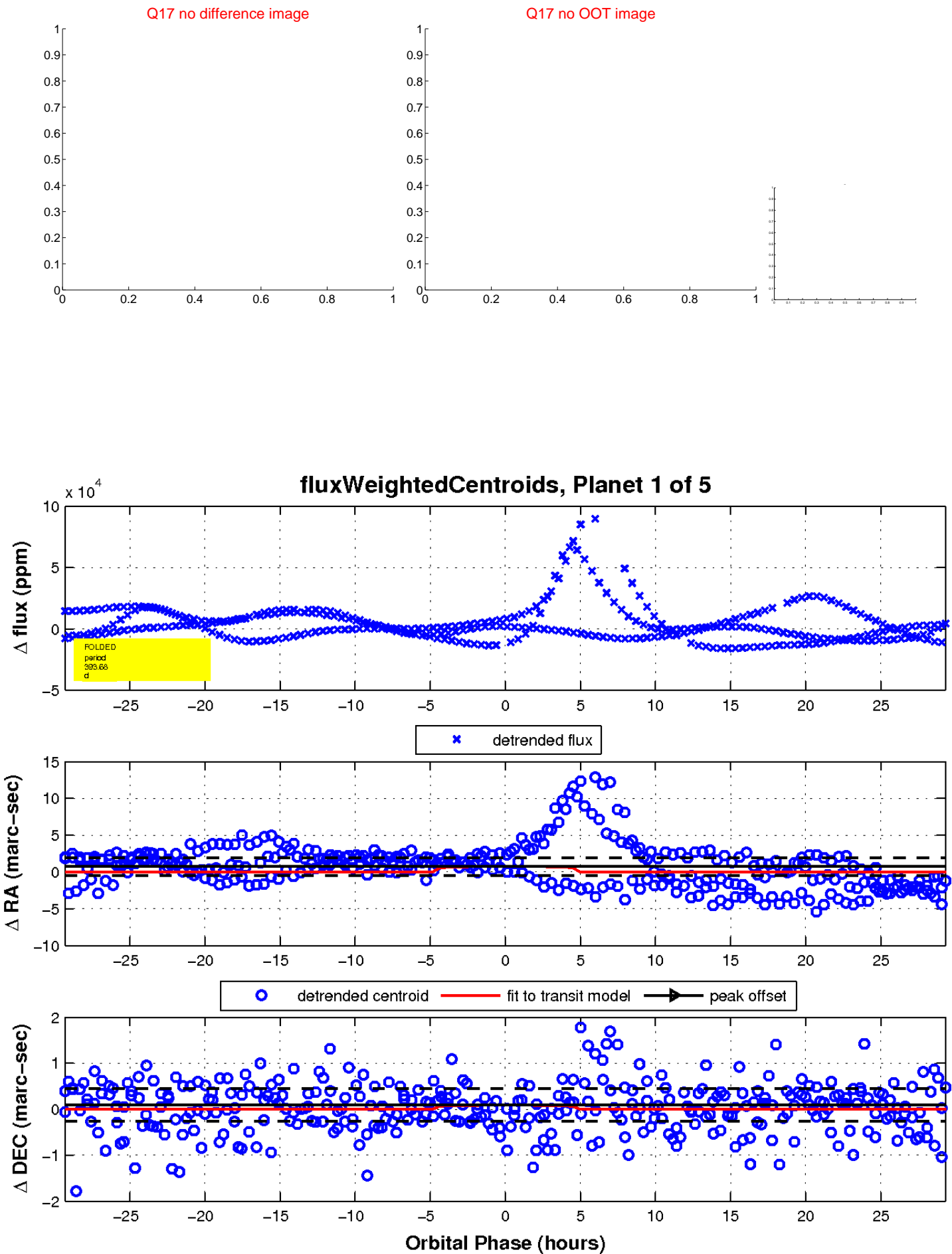
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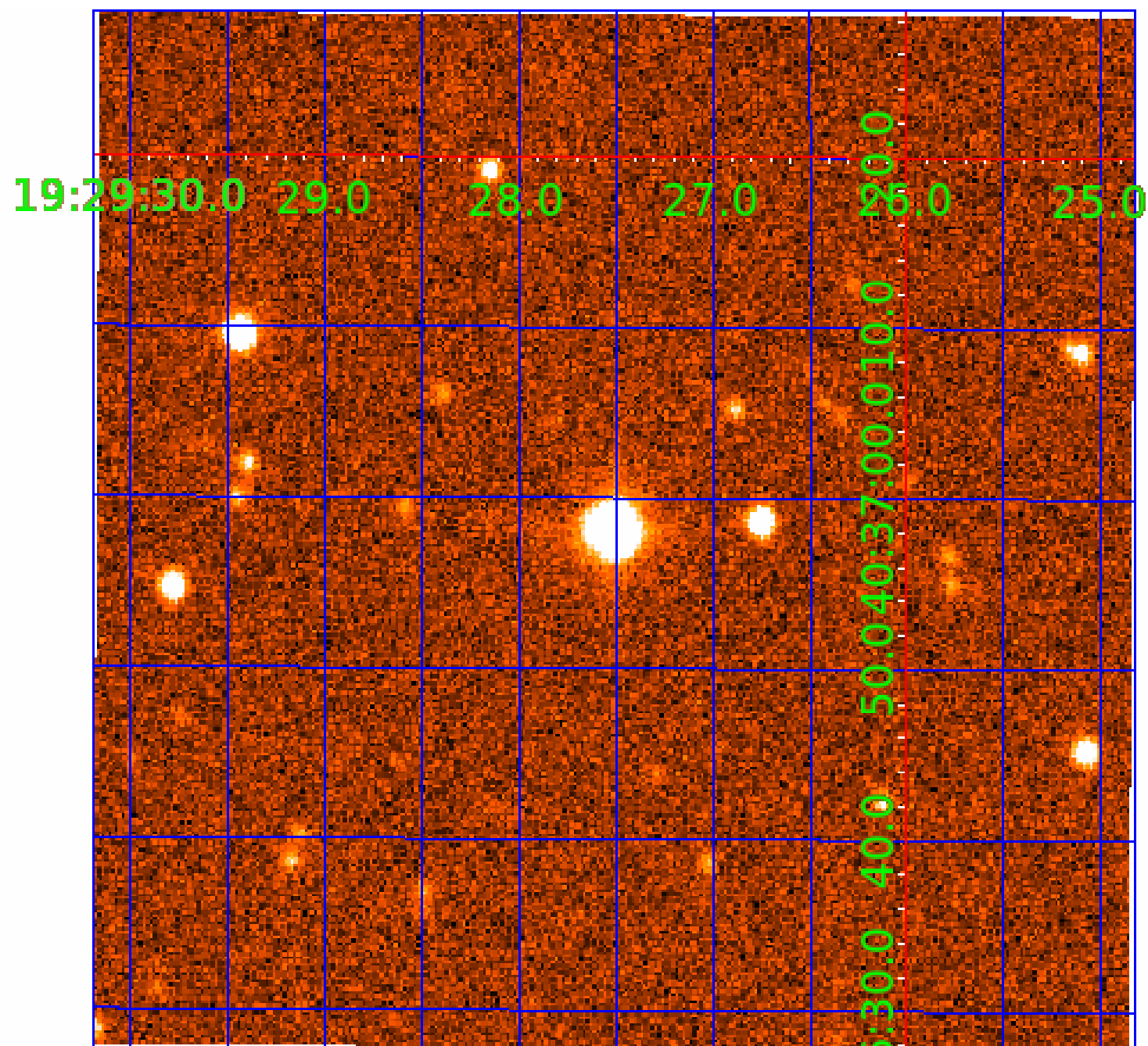


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005450166

Q1-17 DR25 TCE Parameters

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Robovetter Results

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005450166-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—NO_FITS—INCONSISTENT_TRANS—CENT_NOFITS
005450166-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005450166-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005450166-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

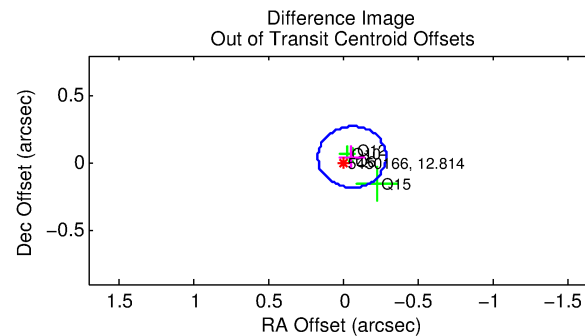
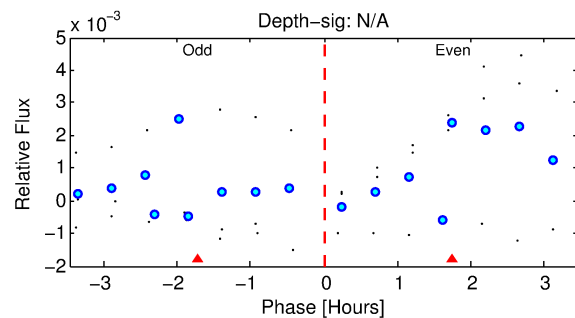
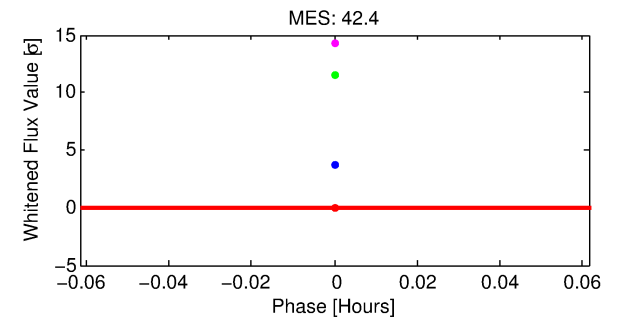
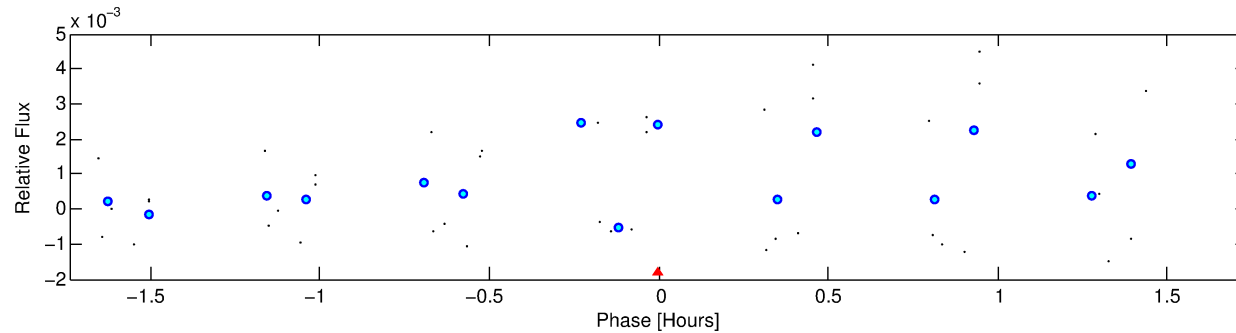
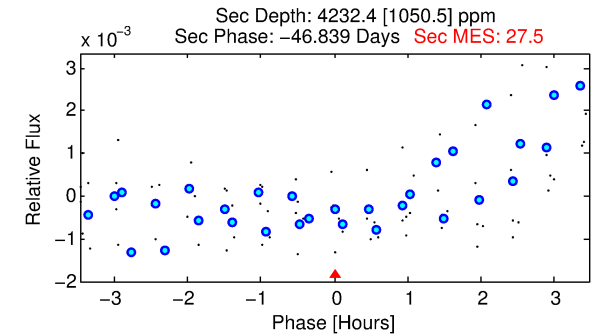
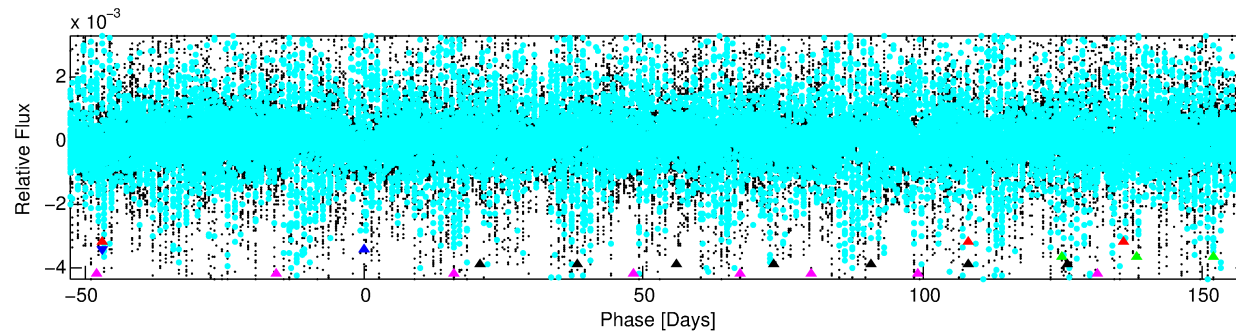
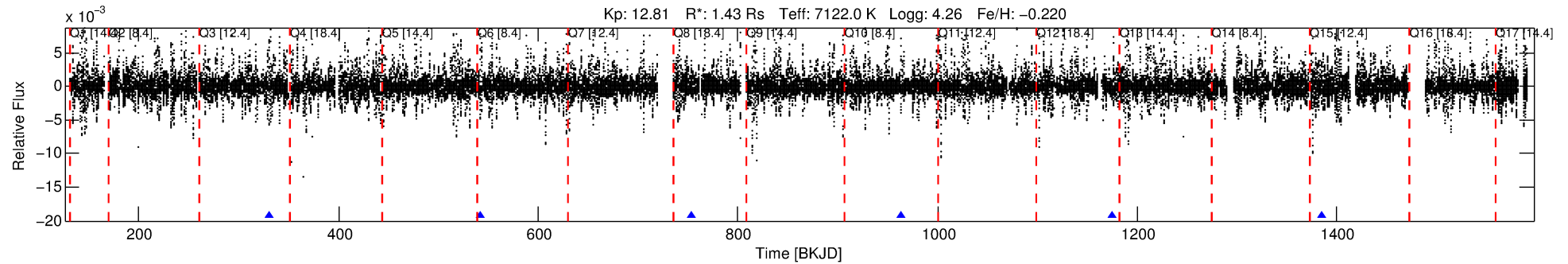
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005450166-02

No Significant Match Found

DV One-Page Summary

KIC: 5450166 Candidate: 2 of 5 Period: 210.833 d



TPS TCE Results:

Period = 210.83329 d
Epoch = 331.4433 BKJD

DV fit results are unavailable

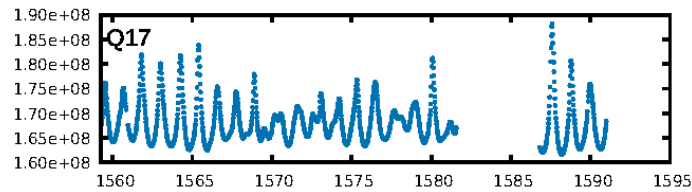
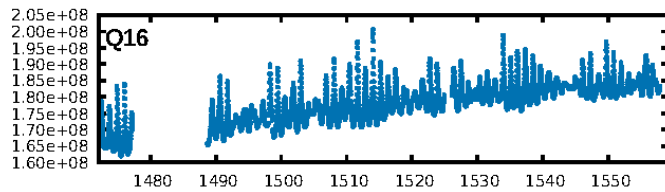
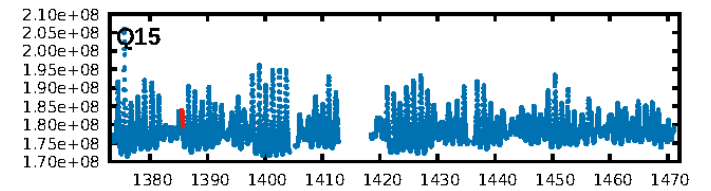
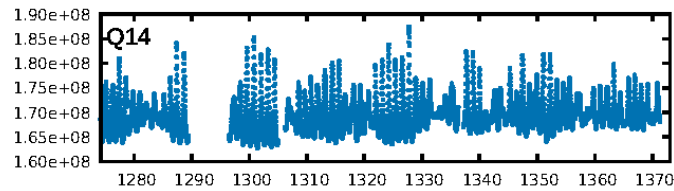
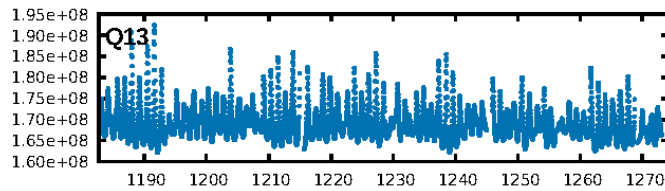
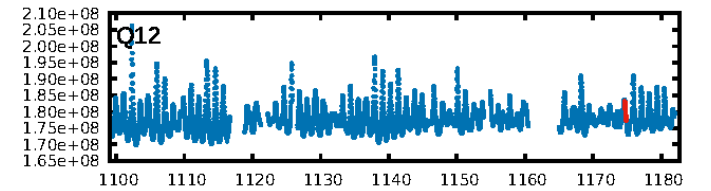
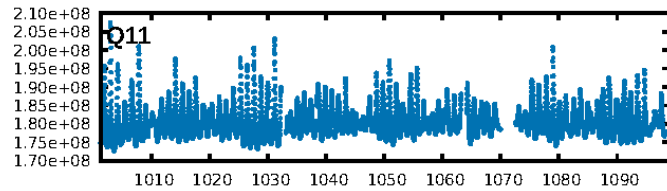
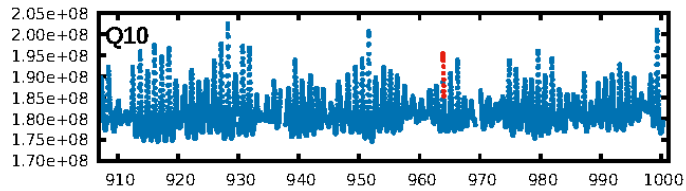
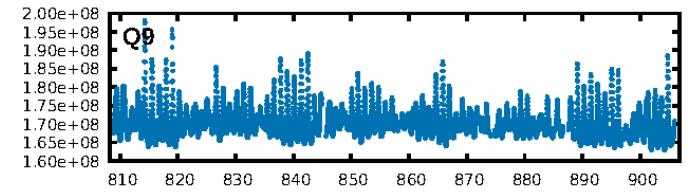
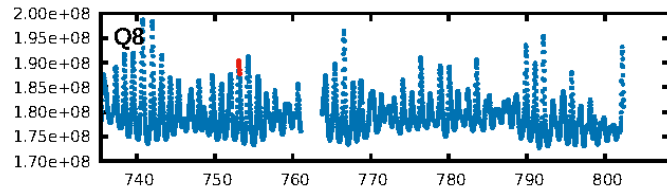
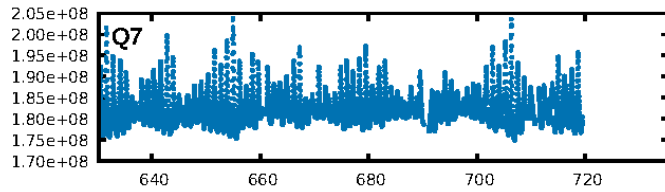
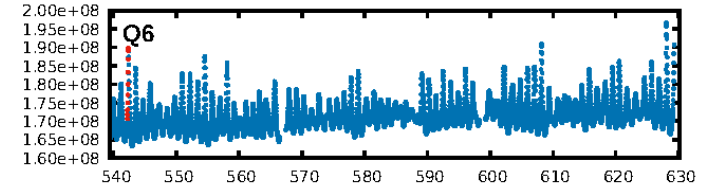
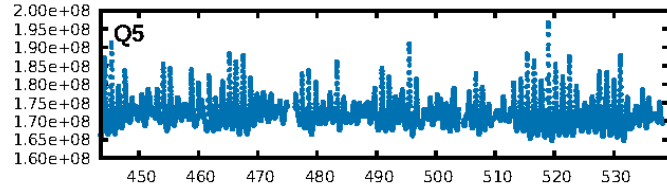
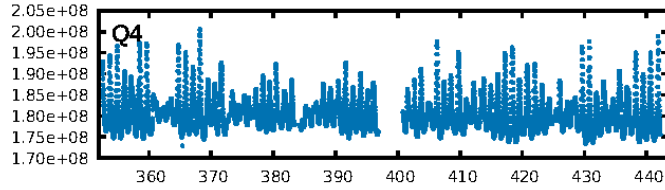
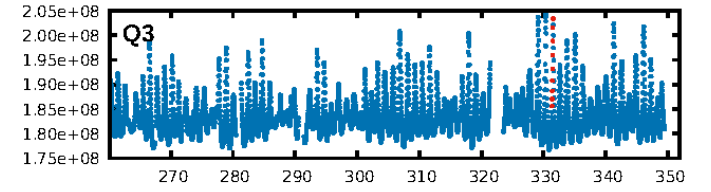
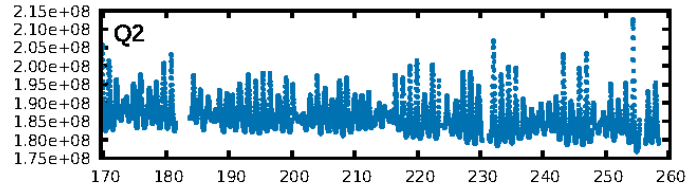
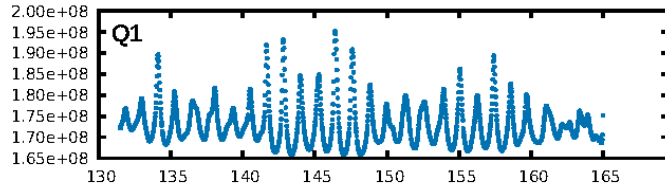
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [216.86 σ]
LongPeriod-sig: 100.0% [80.46 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.077 arcsec [1.01 σ]
KicOffset-rm: 0.203 arcsec [2.19 σ]
OotOffset-st: 2/1/1/0 [4]
KicOffset-st: 2/1/1/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

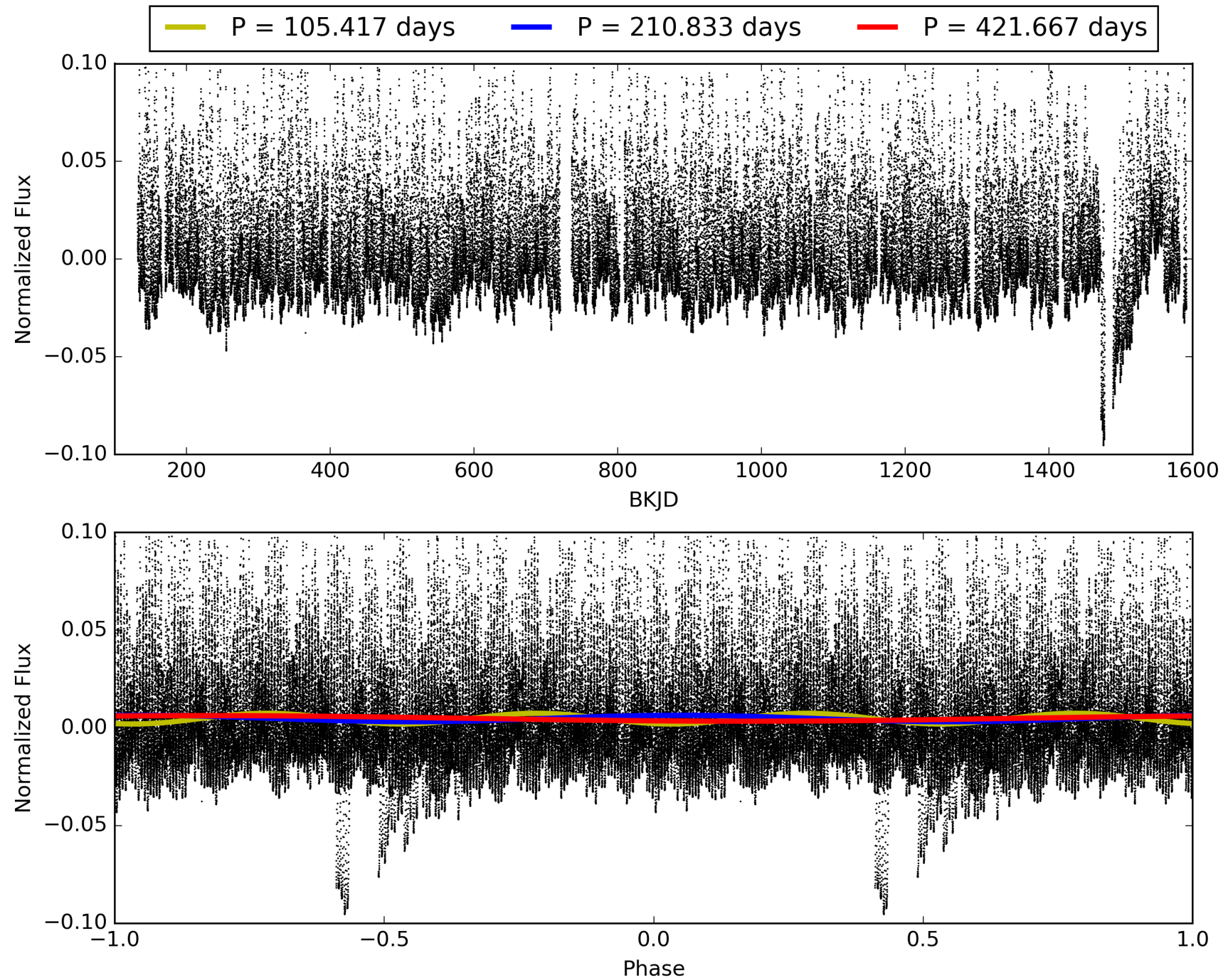
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:36:11 Z

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

TCE 005450166-02, PDC Light Curves

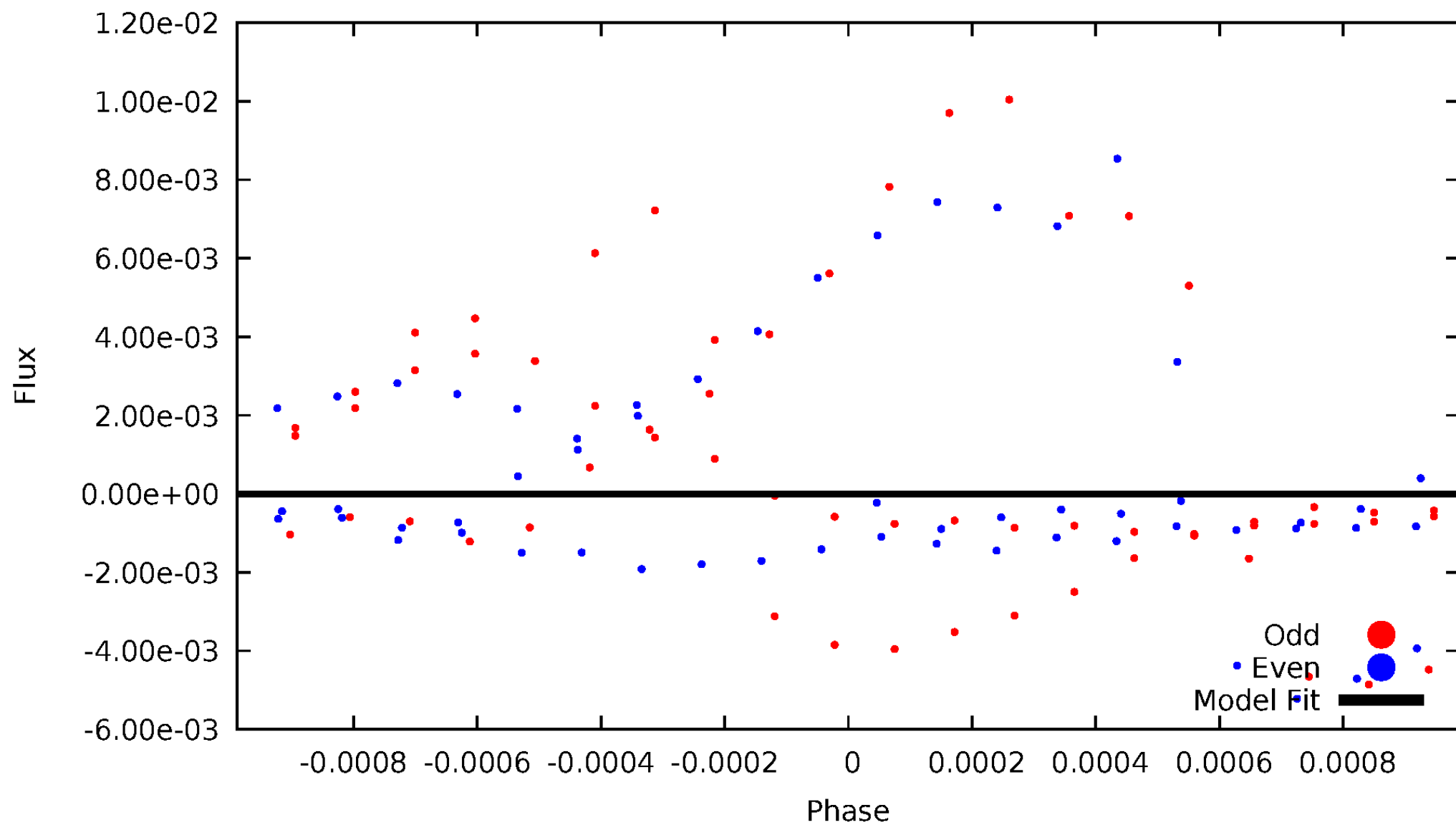


TCE 005450166-02



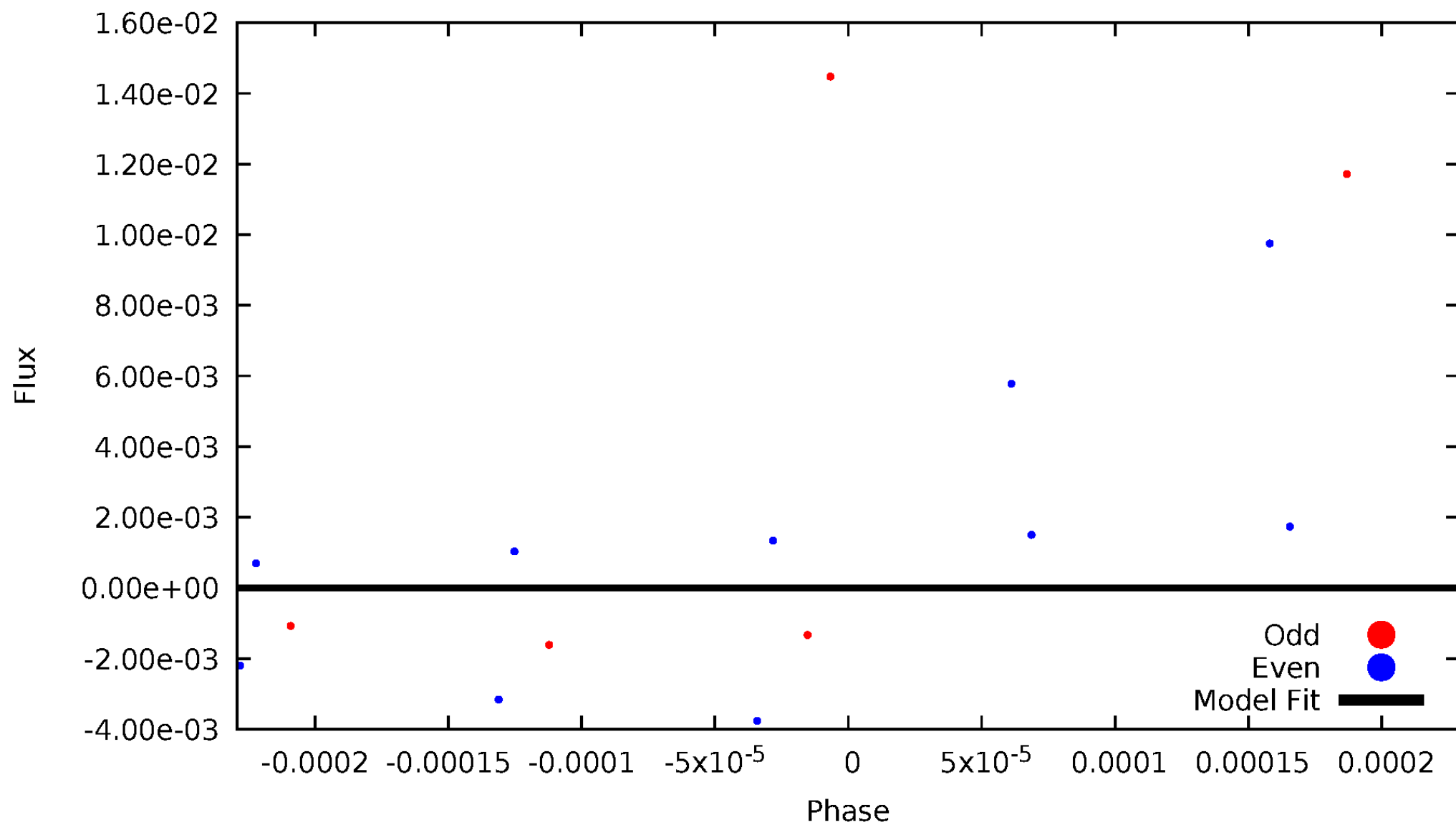
DV Odd/Even

TCE 005450166-02



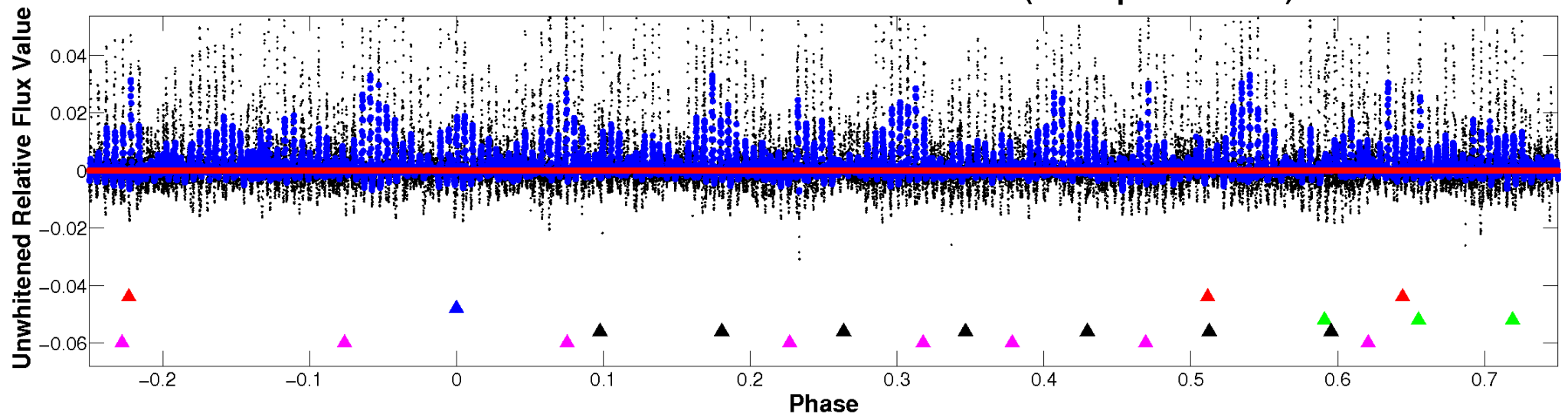
ALT Odd/Even

TCE 005450166-02



Non-Whitened Vs. Whitened Light Curve

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

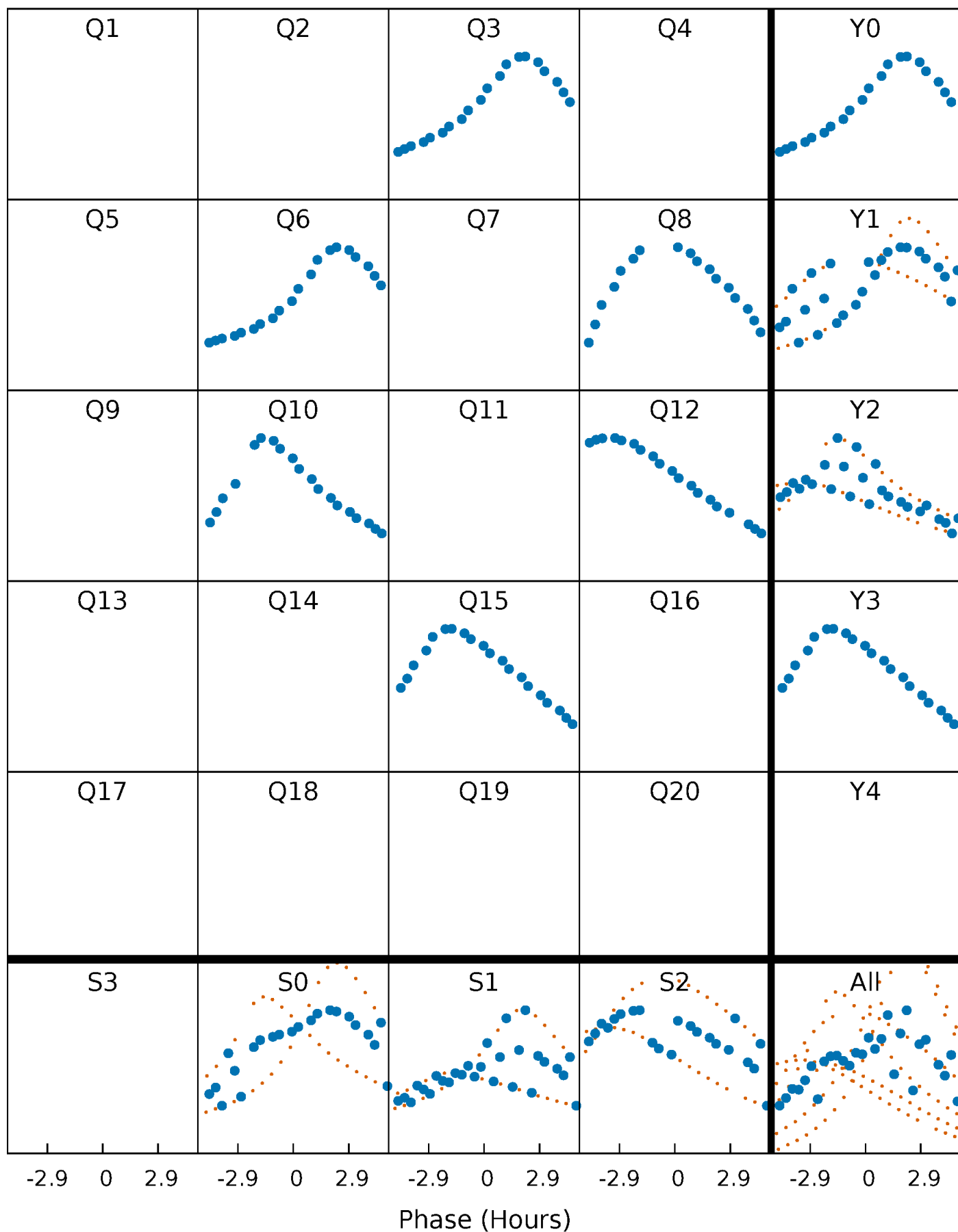


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



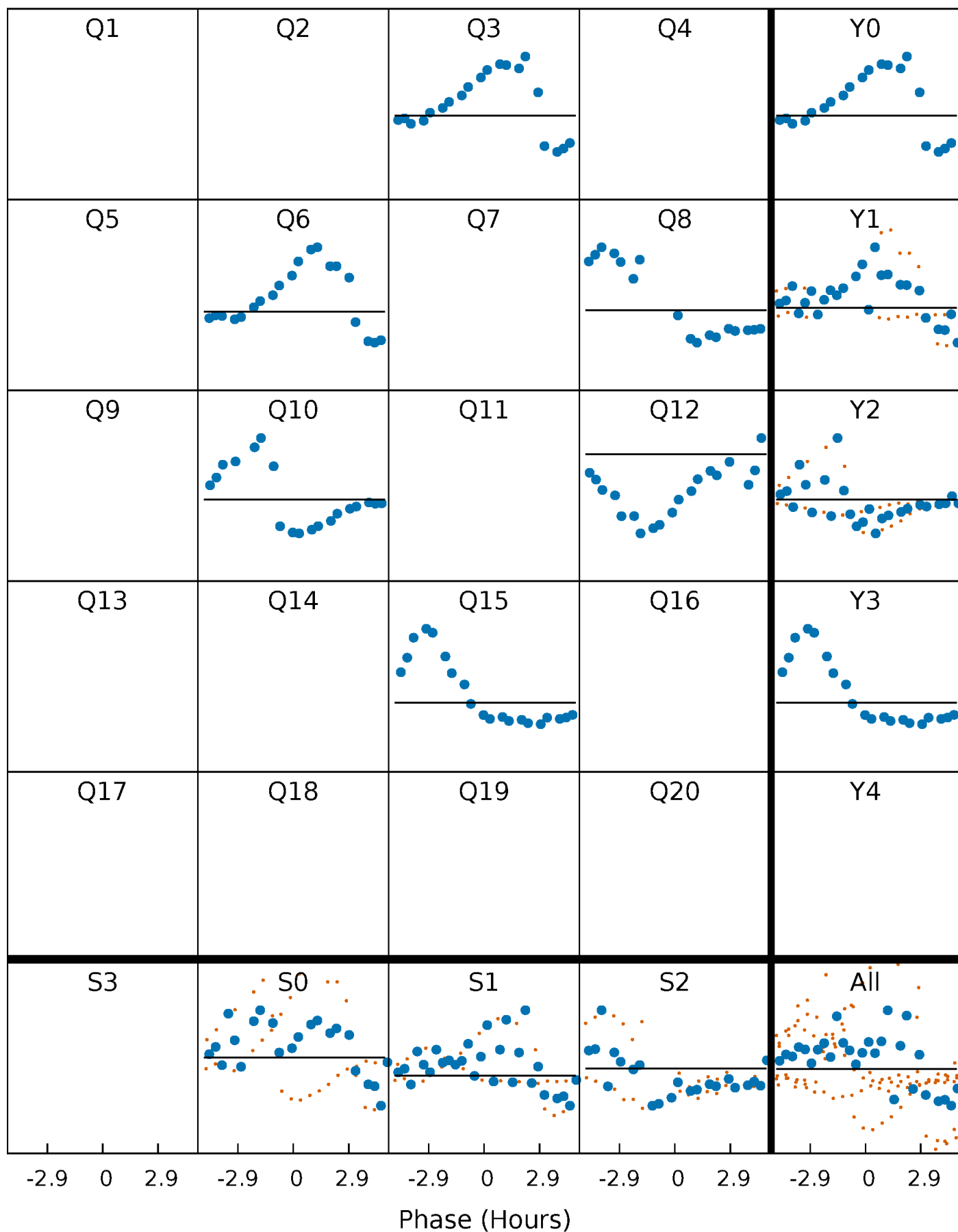
PDC Quarter-Phased Transit Curves

TCE 005450166-02 P=210.833289 Days $T_0=331.443333$ (BKJD)



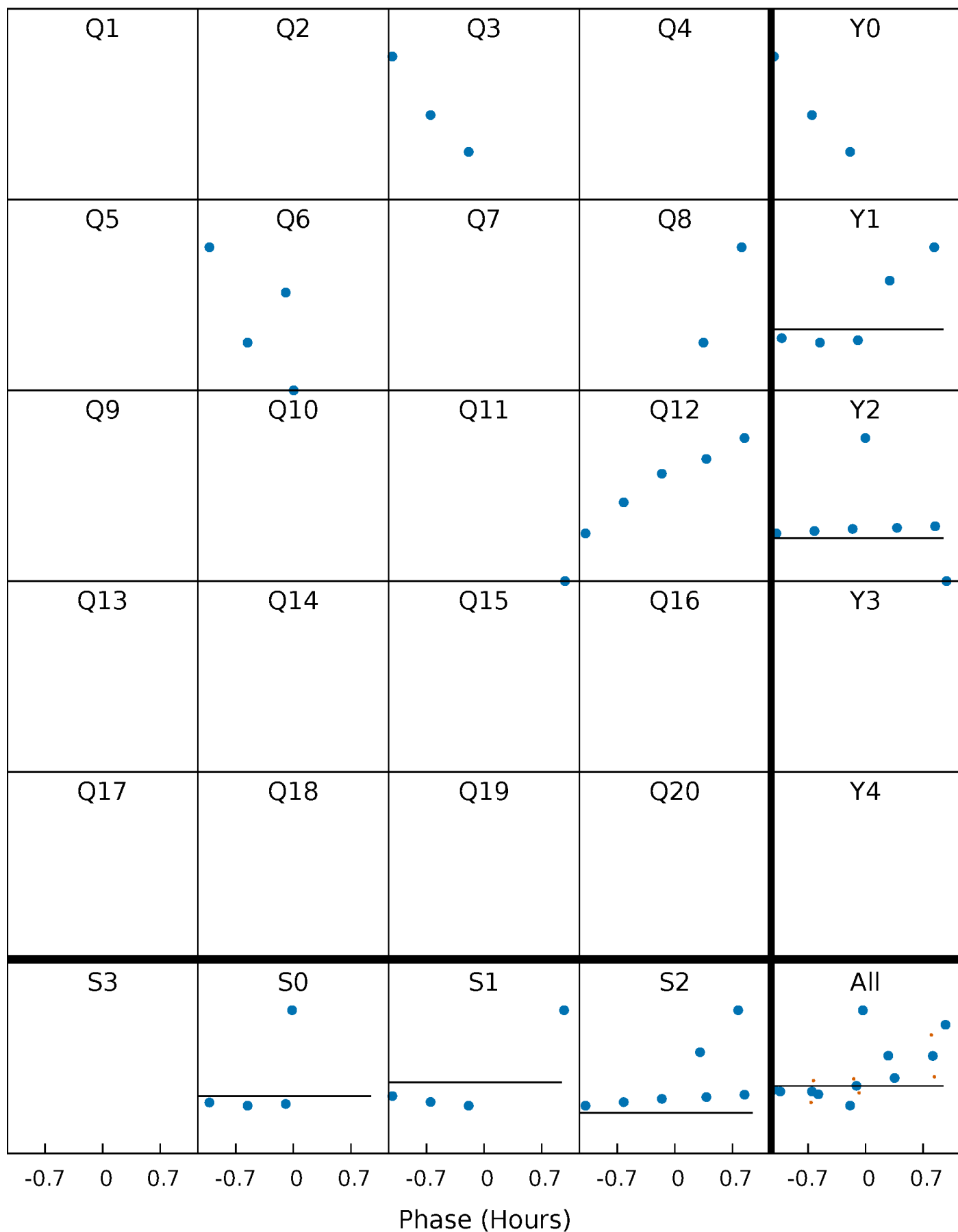
DV Quarter-Phased Transit Curves

TCE 005450166-02 P=210.833289 Days $T_0=331.443333$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

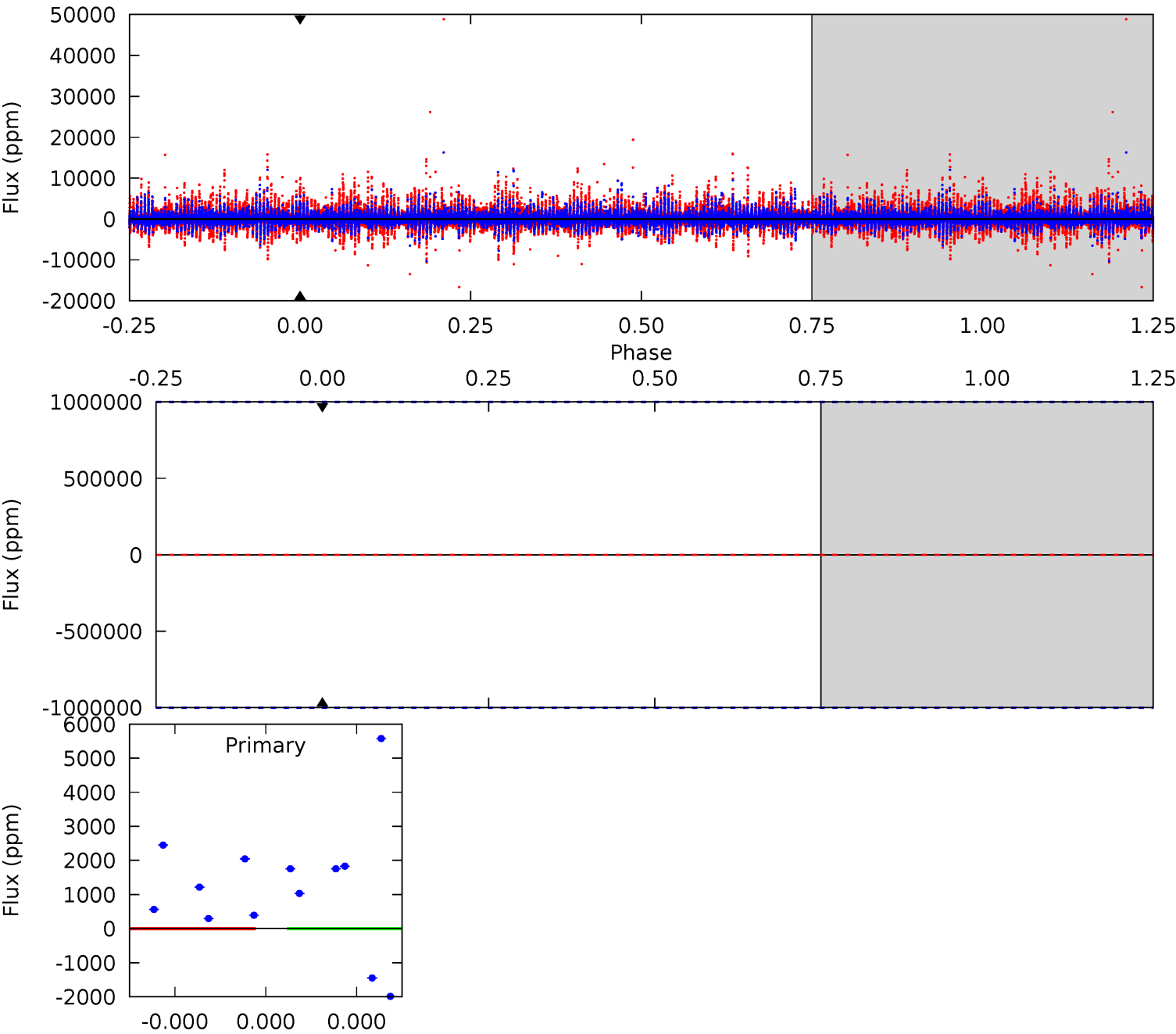
TCE 005450166-02 P=210.833289 Days $T_0=331.276636$ (BKJD)



DV Model-Shift Uniqueness Test

005450166-02, P = 210.833289 Days, E = 120.610044 Days

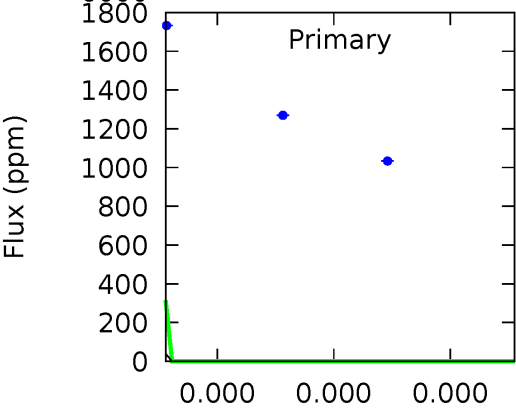
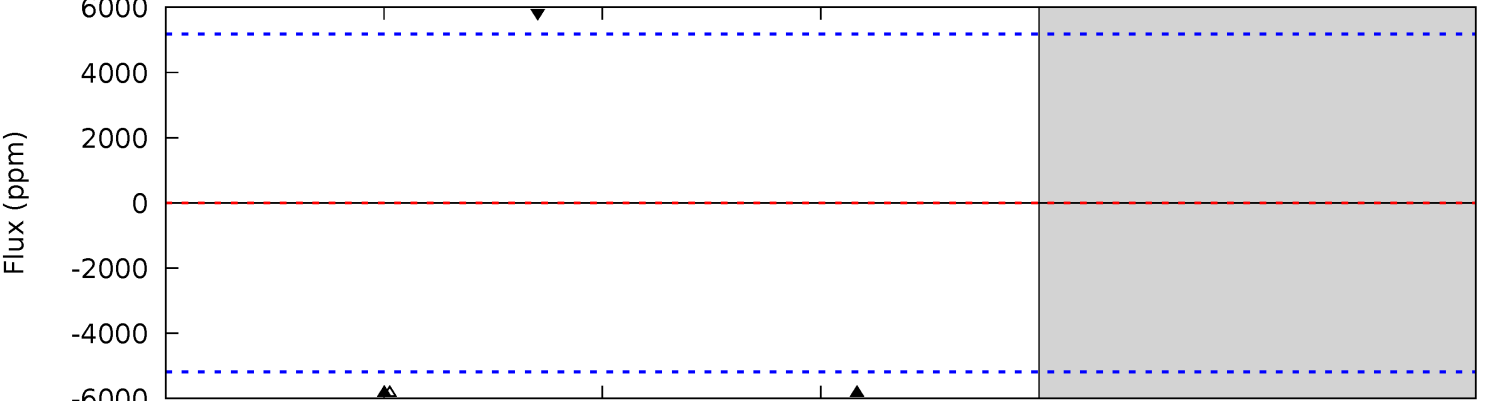
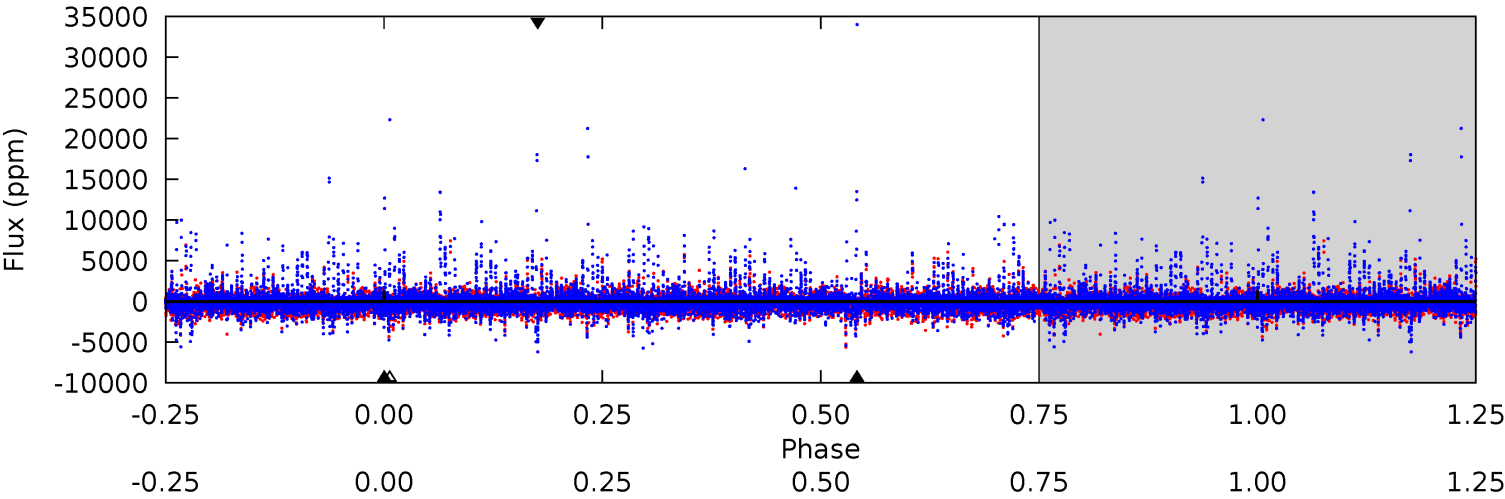
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005450166-02, P = 210.833289 Days, E = 120.443347 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	5.84	3.88	0	0	0	0	0	0	1.00	0	0



Stellar Parameters For KIC 005450166

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7122^{+200}_{-250}	$4.256^{+0.087}_{-0.203}$	$-0.220^{+0.250}_{-0.350}$	$1.433^{+0.490}_{-0.210}$	$1.357^{+0.203}_{-0.203}$	$0.649^{+0.306}_{-0.329}$
	+3%/-4%	+2%/-5%	+114%/-159%	+34%/-15%	+15%/-15%	+47%/-51%
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 005450166-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$13.24^{+14.75}_{-9.28}$	611^{+42}_{-36}	-3791^{+31988}_{-25059}	$-870.256^{+279744.393}_{-307776.992}$
Alt.	-0 ± 887	$11.12^{+13.21}_{-7.84}$	610^{+47}_{-35}	2576^{+3086}_{-7851}	49^{+4724}_{-3511}

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 $A_{obs} \gg 1.0$

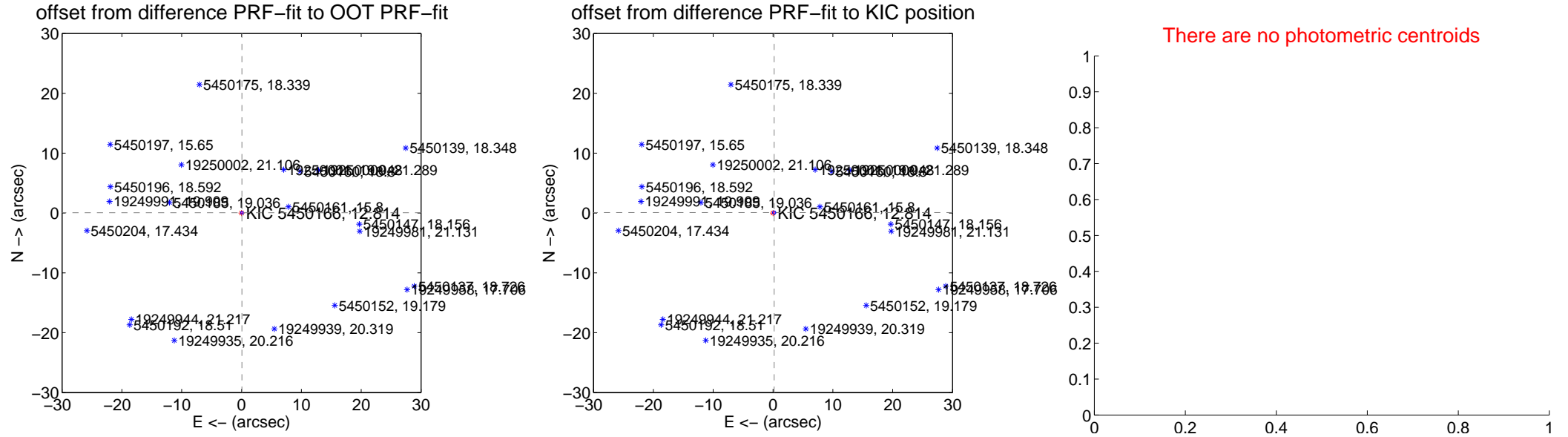
DV Centroid Data

Supplemental centroid analysis for 005450166-02. Kepler magnitude: 12.81. 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 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.077 ± 0.076	1.01	-0.062 ± 0.077	0.045 ± 0.075
PRF-fit source offset from KIC position	0.203 ± 0.093	2.19	-0.189 ± 0.095	0.074 ± 0.074
photometric centroid source offset	—	—	—	—



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.

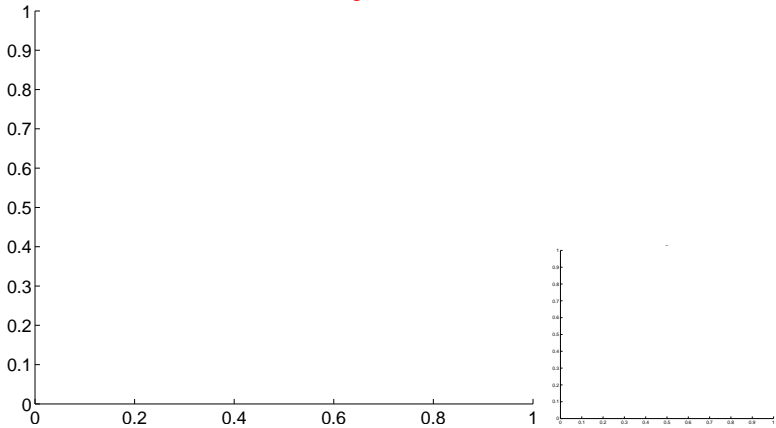


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

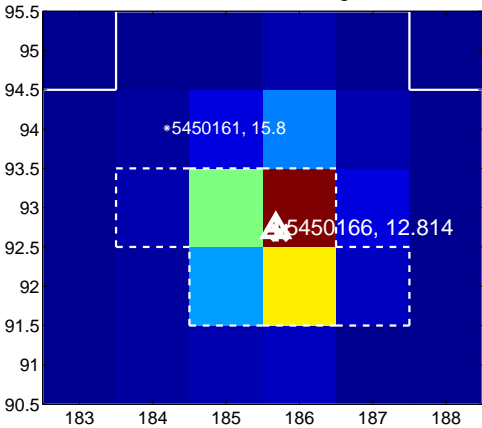
Q5 no difference image



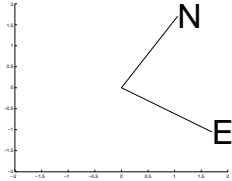
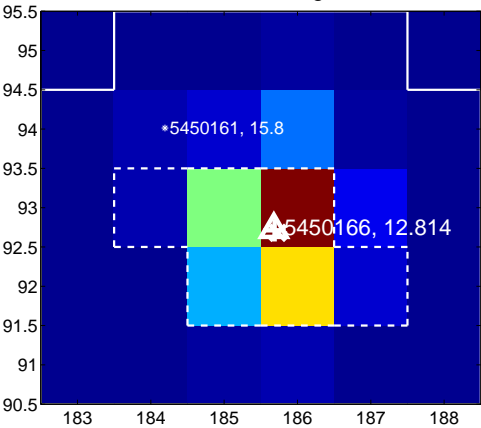
Q5 no OOT image



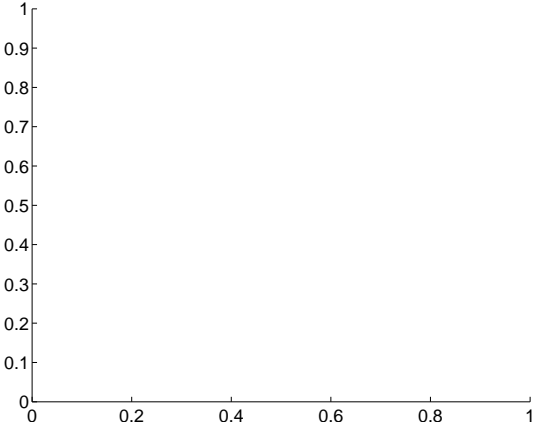
Q6 difference image



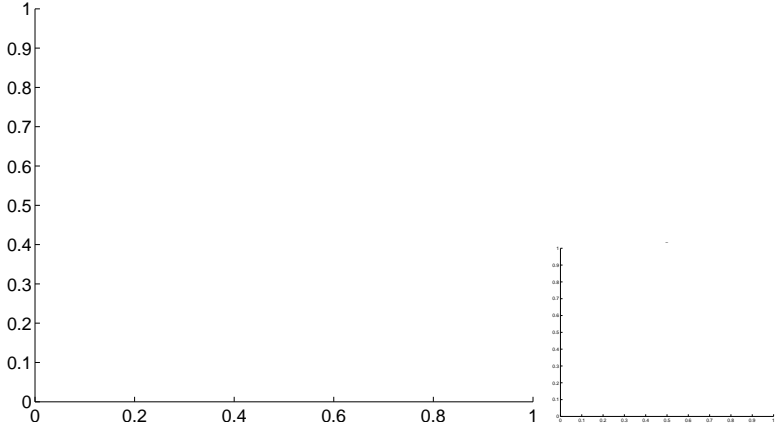
Q6 OOT image



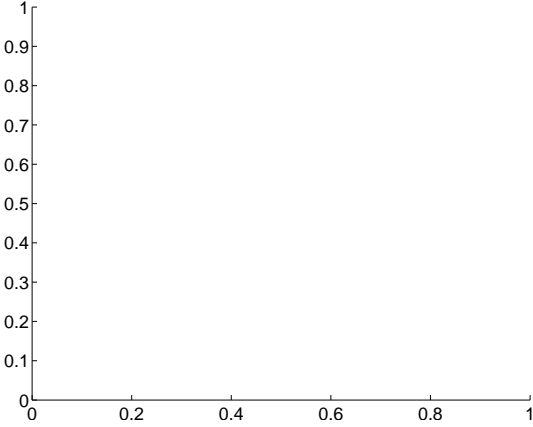
Q7 no difference image



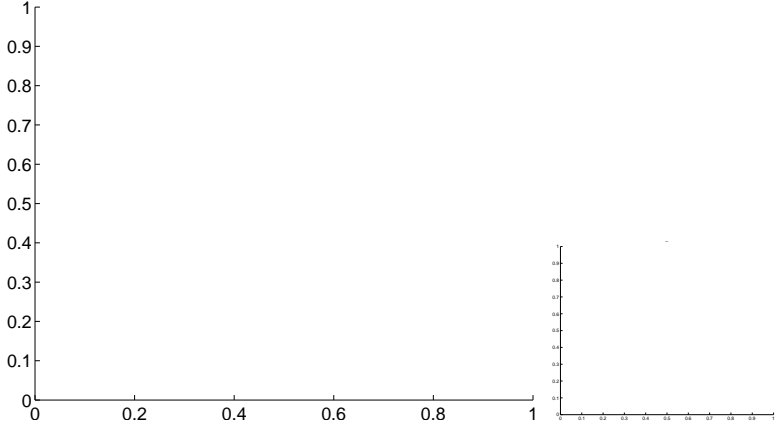
Q7 no OOT image



Q8 no difference image



Q8 no OOT image



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

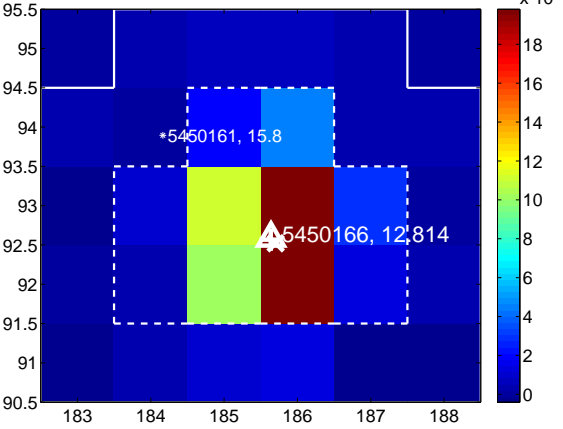
Q9 no difference image



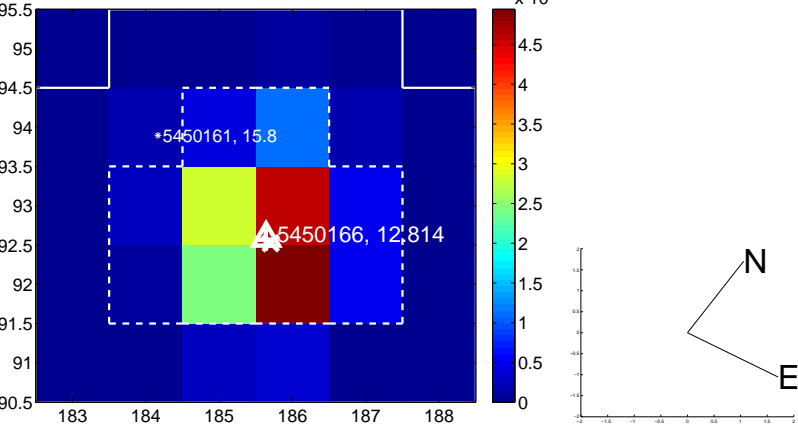
Q9 no OOT image



Q10 difference image



Q10 OOT image



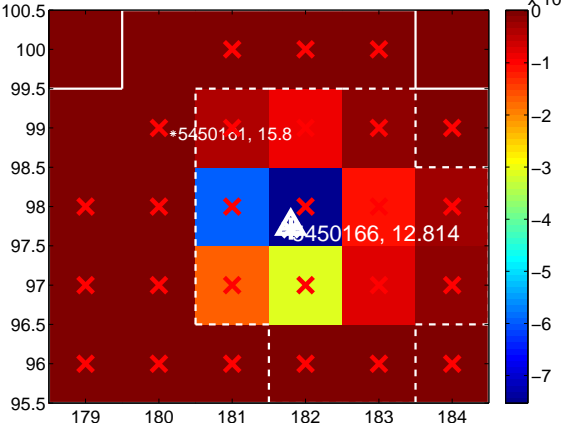
Q11 no difference image



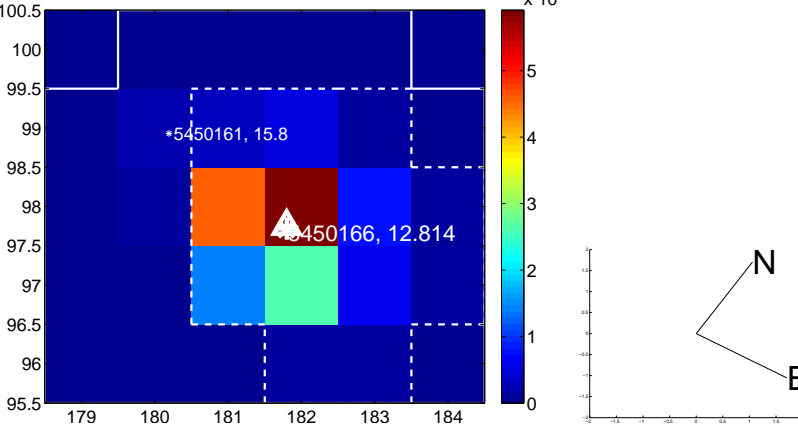
Q11 no OOT image



Q12 difference image. Poor Quality



Q12 OOT image



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

Q13 no difference image



Q13 no OOT image



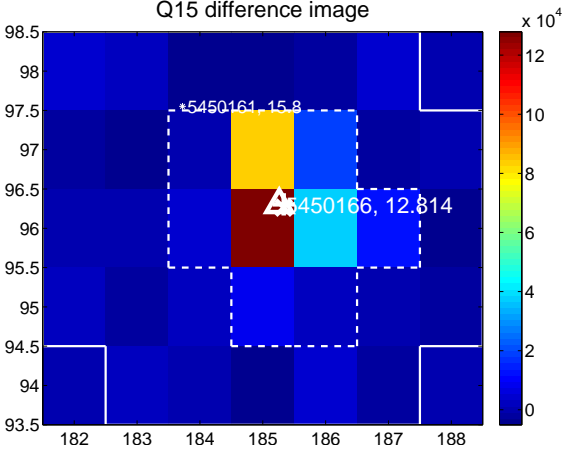
Q14 no difference image



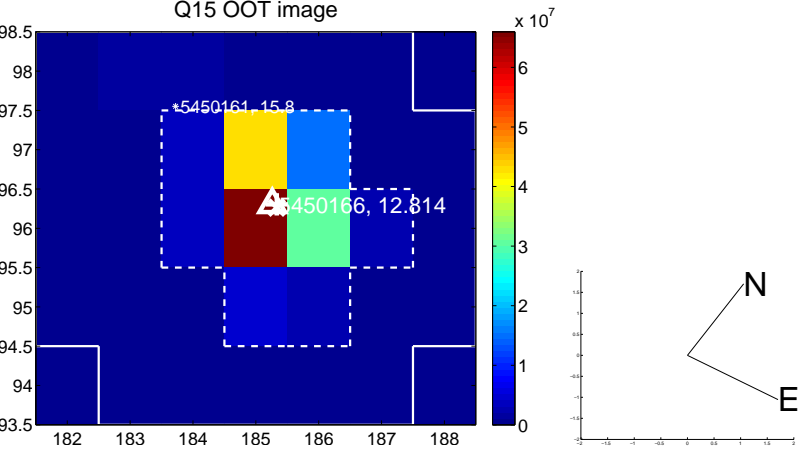
Q14 no OOT image



Q15 difference image



Q15 OOT image



Q16 no difference image



Q16 no OOT image



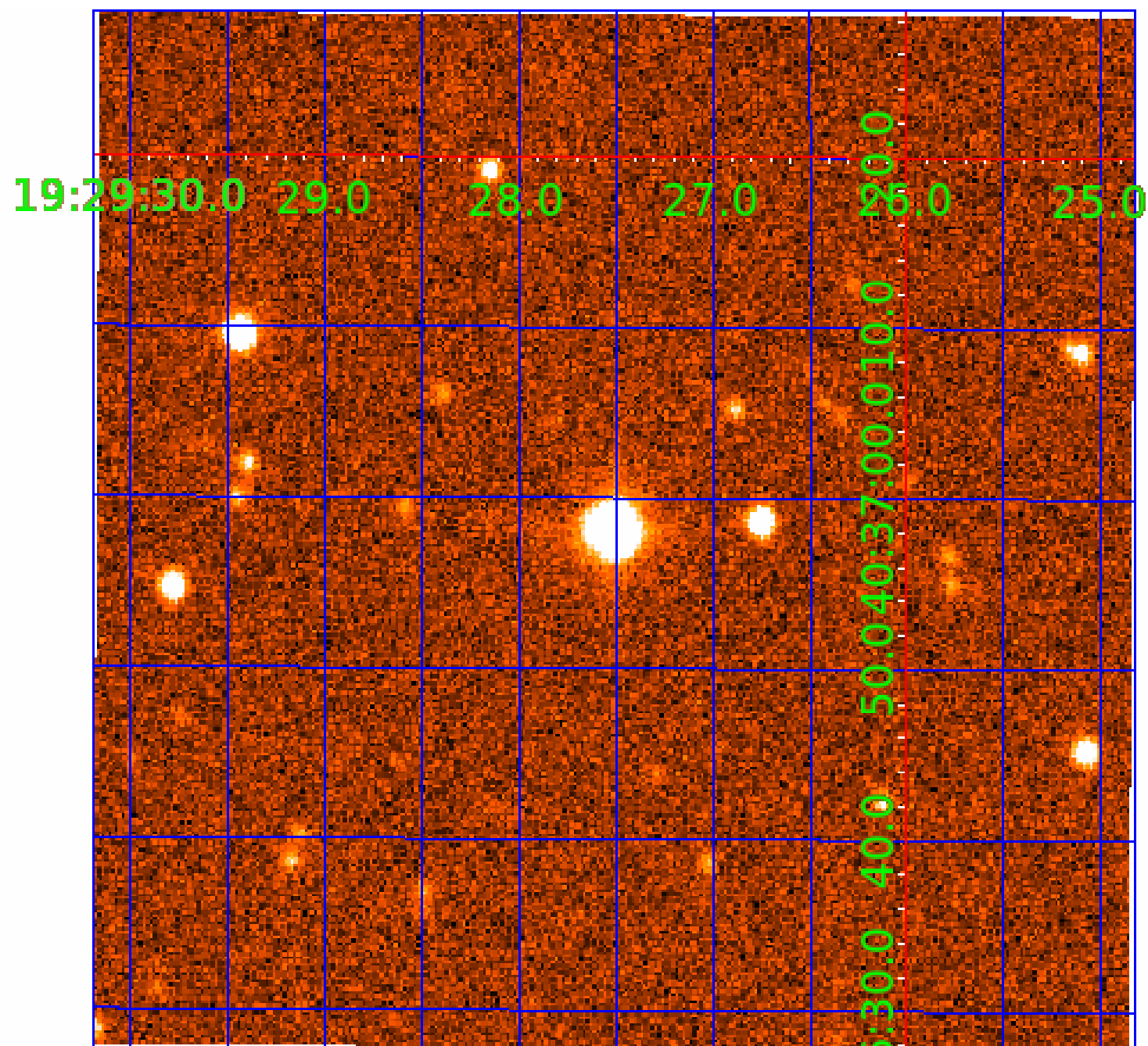
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 005450166

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})
005450166-01	OBS	No	393.684381	495.248060	31.5	9.815	41.4	0.1	1.43	7122	0.97	3.50
005450166-02	OBS	No	210.833289	331.443333	1565.2	2.500	42.4	-1.0	1.43	7122	5.75	8.06
005450166-03	OBS	No	408.163613	483.058198	701.6	3.207	35.6	2.2	1.43	7122	6.78	3.34
005450166-04	OBS	No	228.325712	141.213272	304.3	4.580	38.6	1.7	1.43	7122	2.73	7.25
005450166-05	OBS	No	178.887183	200.391219	1383.6	2.500	32.9	-1.0	1.43	7122	5.40	10.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005450166-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005450166-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—NO_FITS—INCONSISTENT_TRANS—CENT_NOFITS
005450166-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005450166-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005450166-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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.

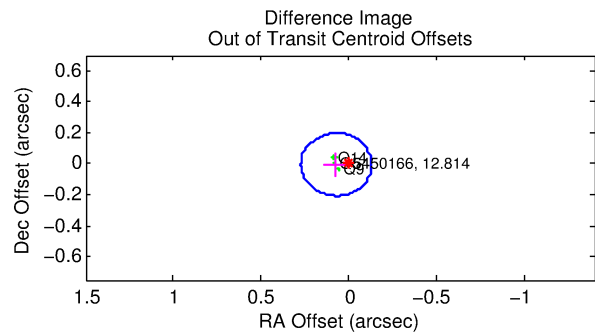
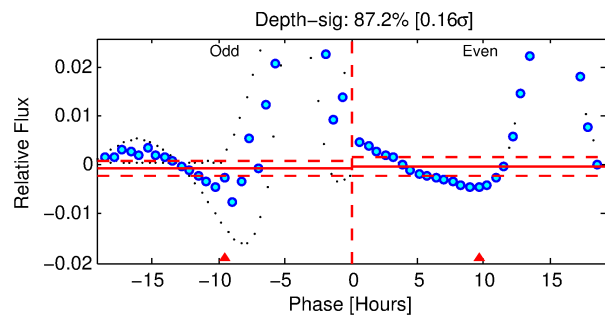
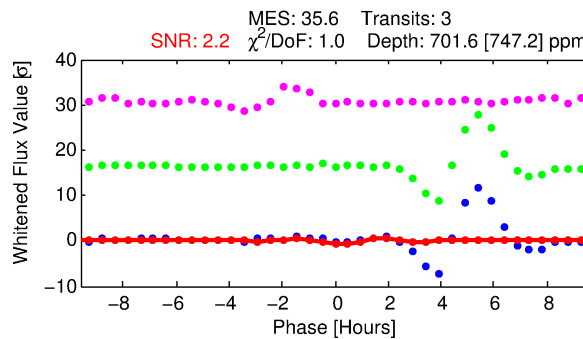
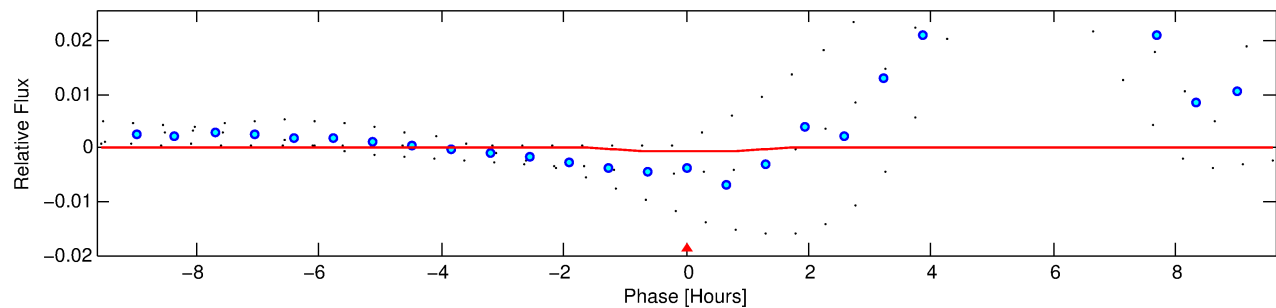
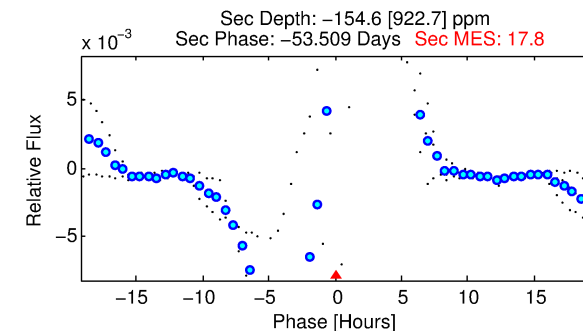
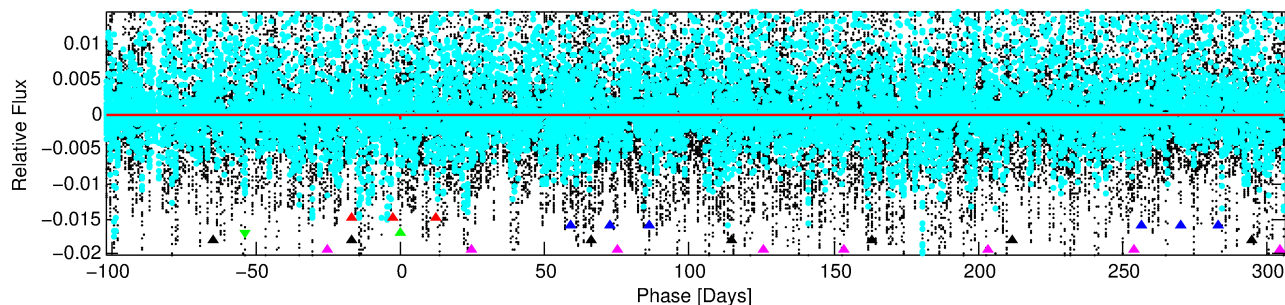
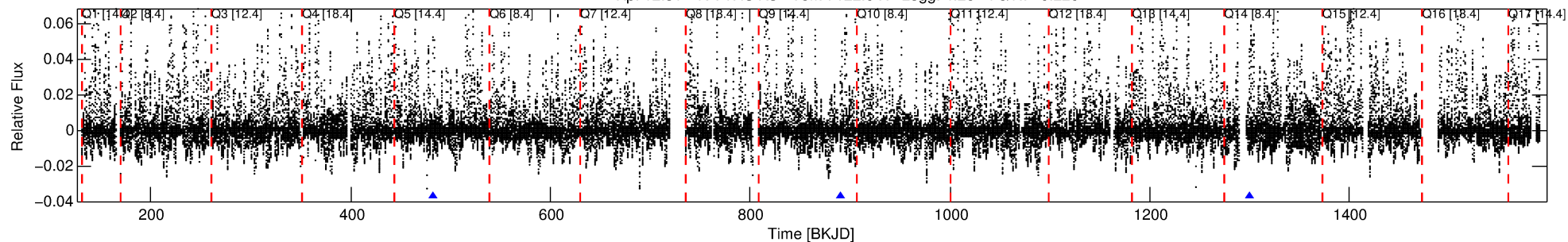
Ephemeris Match Information For 005450166-03

No Significant Match Found

DV One-Page Summary

KIC: 5450166 Candidate: 3 of 5 Period: 408.164 d

Kp: 12.81 R*: 1.43 Rs Teff: 7122.0 K Logg: 4.26 Fe/H: -0.220



DV Fit Results:

Period = 408.16361 [0.02242] d
Epoch = 483.0582 [0.0355] BKJD
Rp/R* = 0.0434 [0.3855]
a/R* = 303.11 [742.57]
b = 1.00 [0.59]
Seff = 3.34 [1.37]
Teq = 345 [35] K
Rp = 6.78 [60.33] Re
a = 1.1906 [0.3287] AU
Ag = N/A
Teffp = N/A

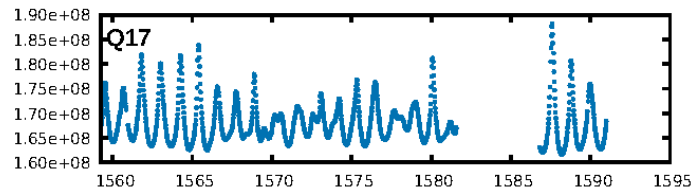
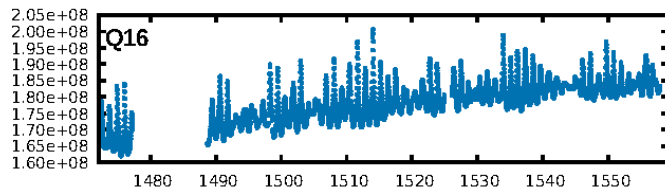
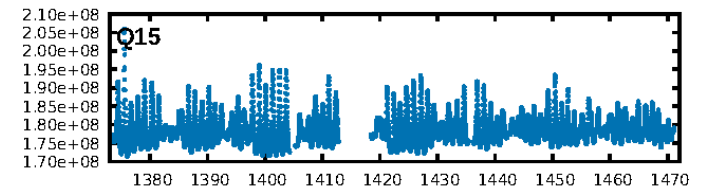
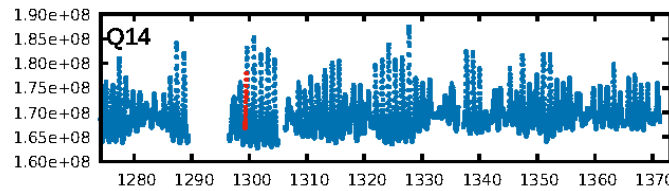
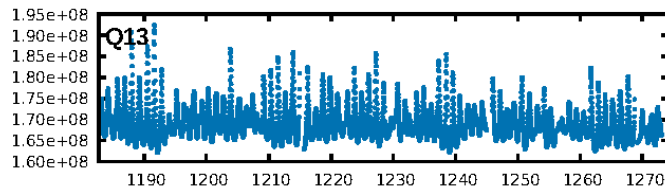
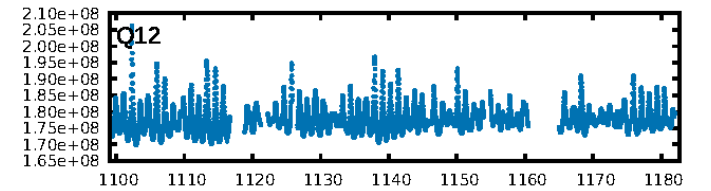
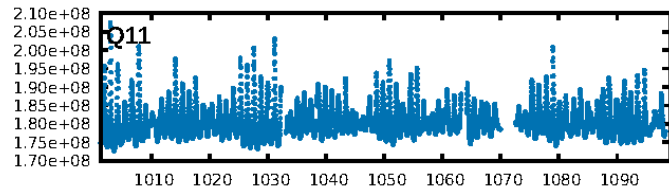
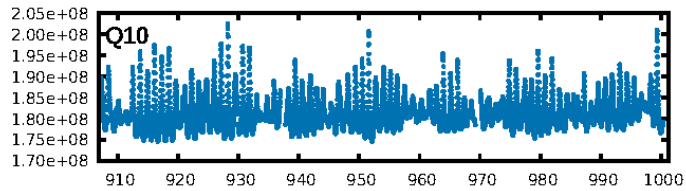
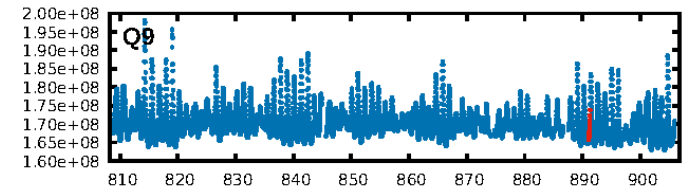
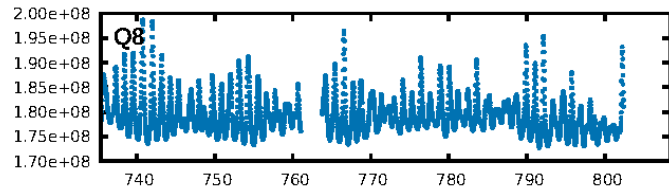
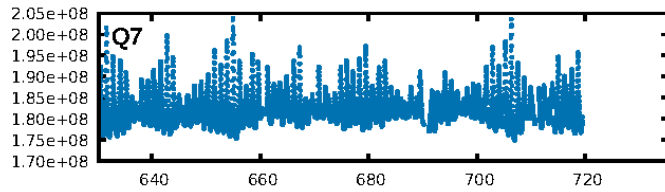
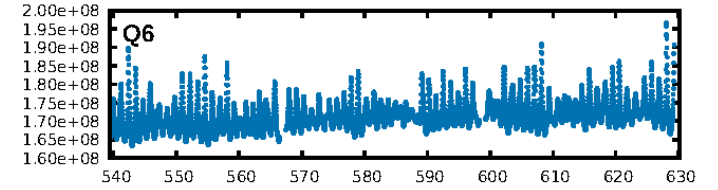
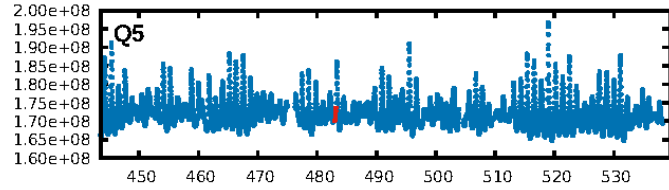
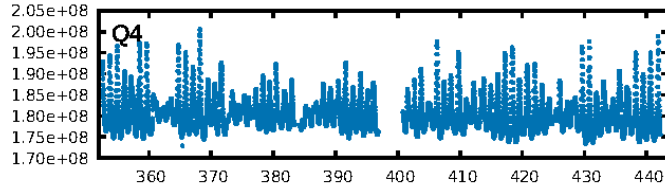
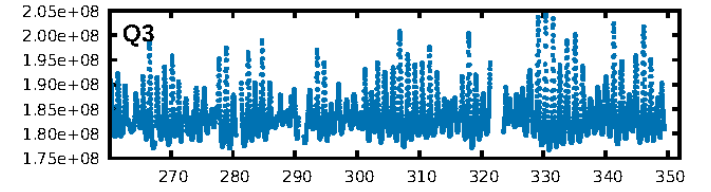
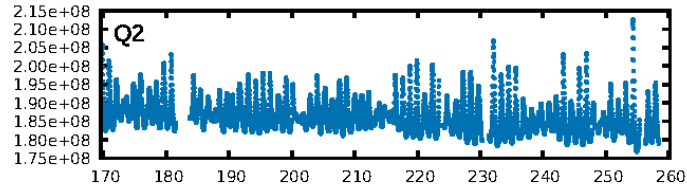
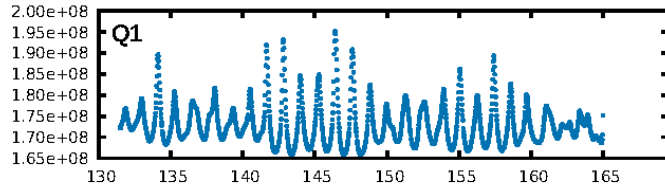
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [33.65σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 93.3%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.9356
Centroid-sig: 53.4%
Centroid-so: 1.191 arcsec [0.78σ]
OotOffset-rm: 0.072 arcsec [1.07σ]
KicOffset-rm: 0.060 arcsec [0.49σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

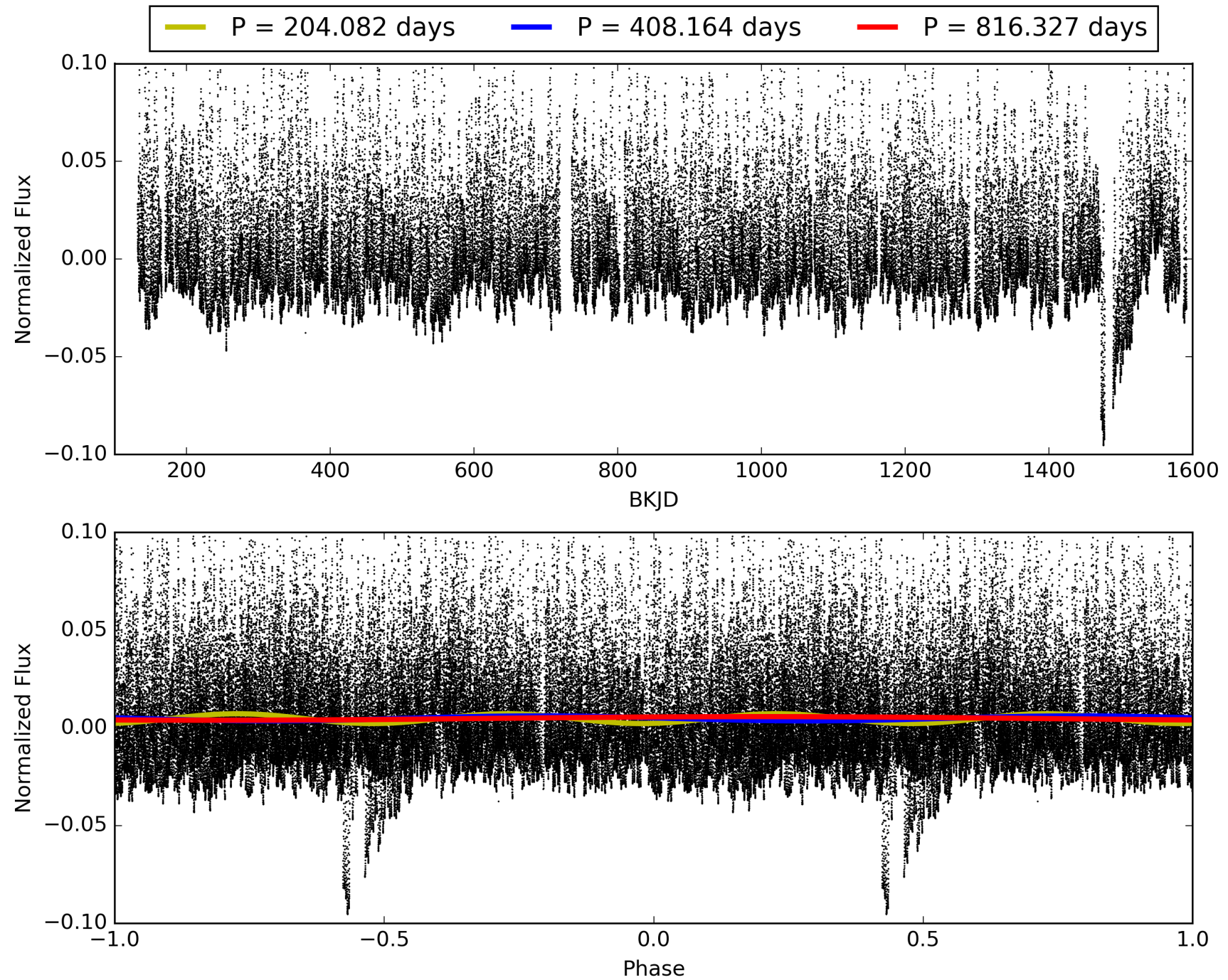
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:36:29 Z

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

TCE 005450166-03, PDC Light Curves

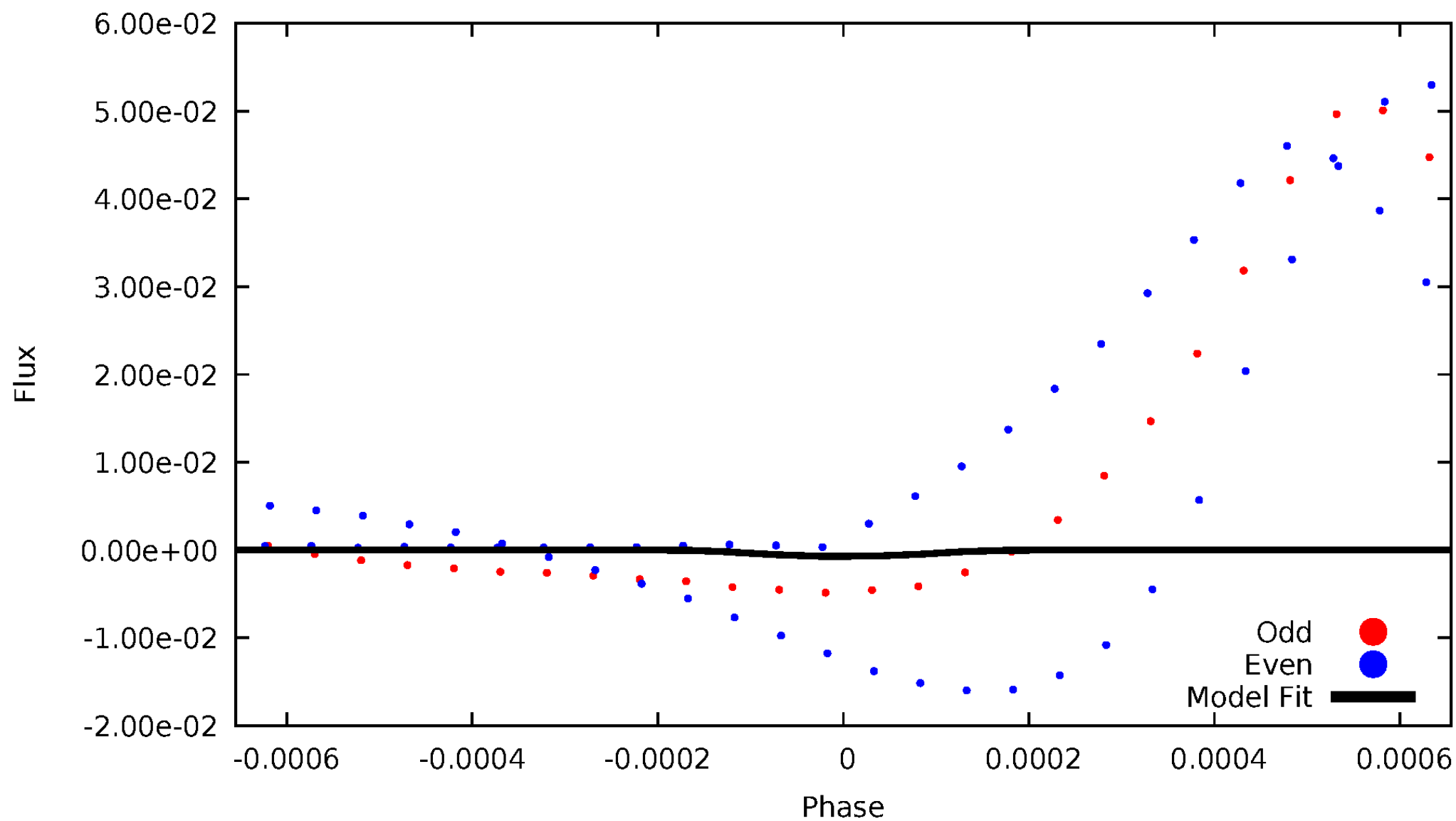


TCE 005450166-03



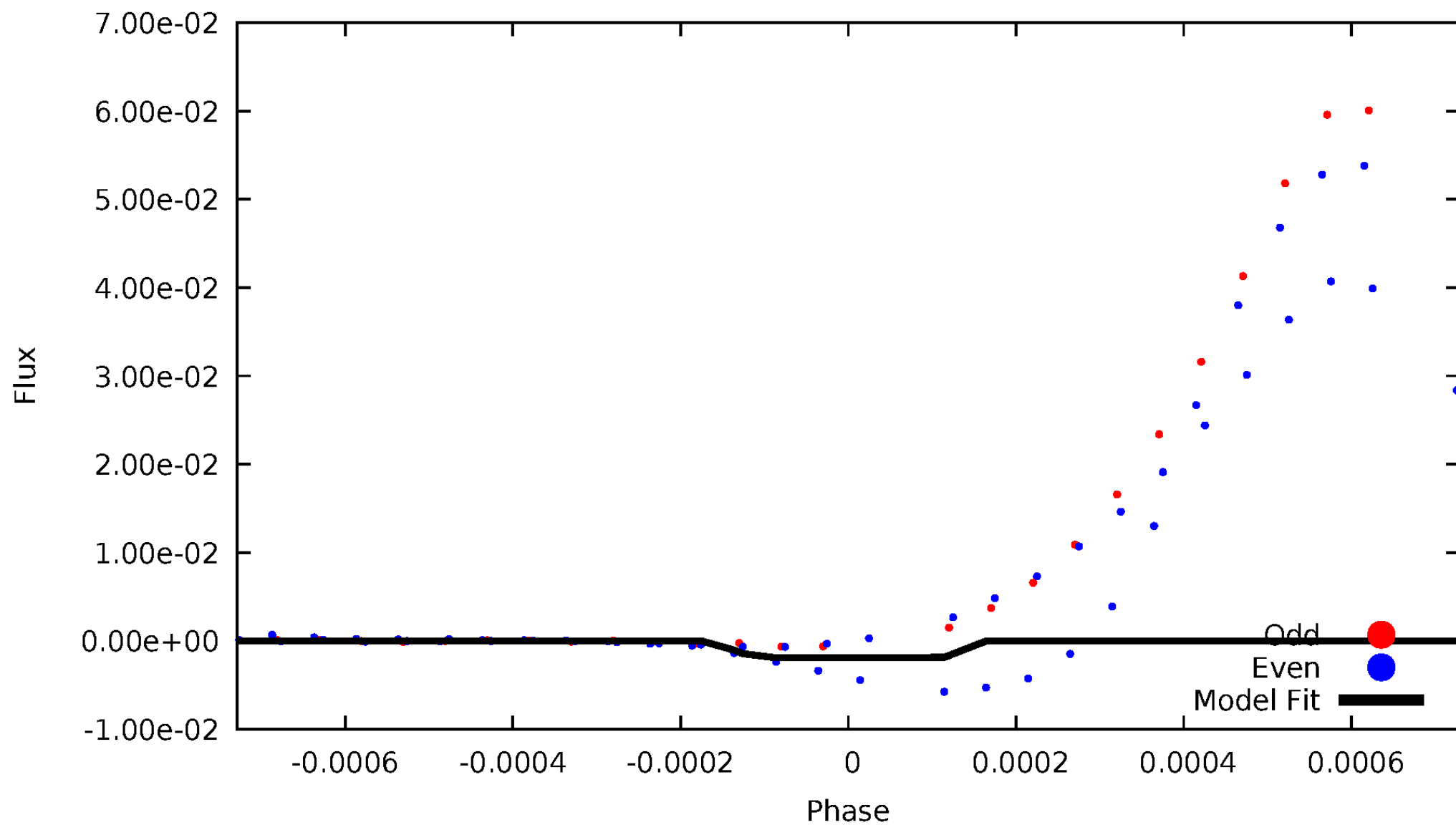
DV Odd/Even

TCE 005450166-03



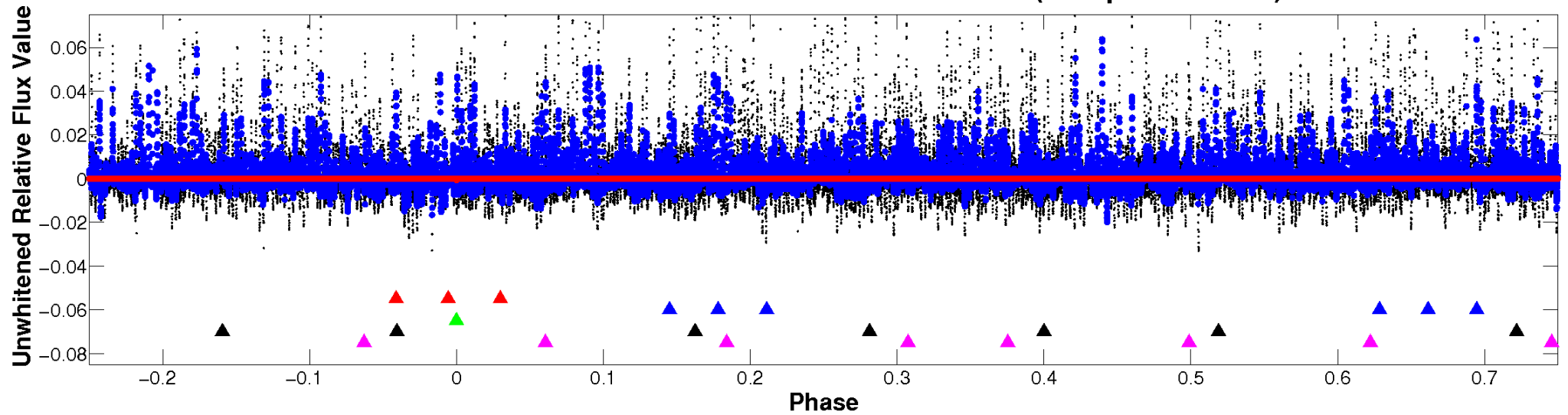
ALT Odd/Even

TCE 005450166-03

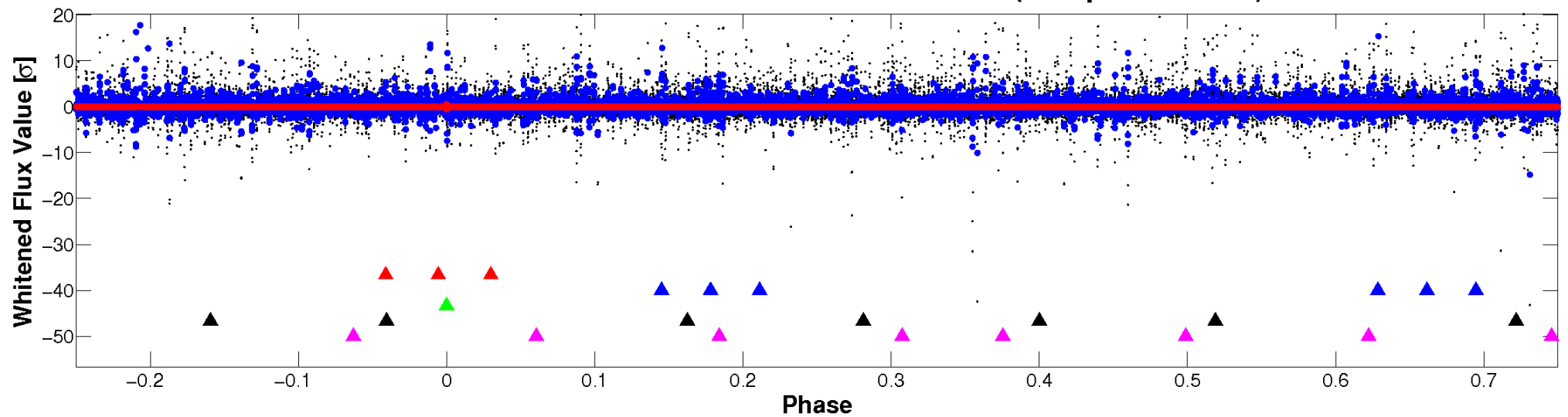


Non-Whitened Vs. Whitened Light Curve

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

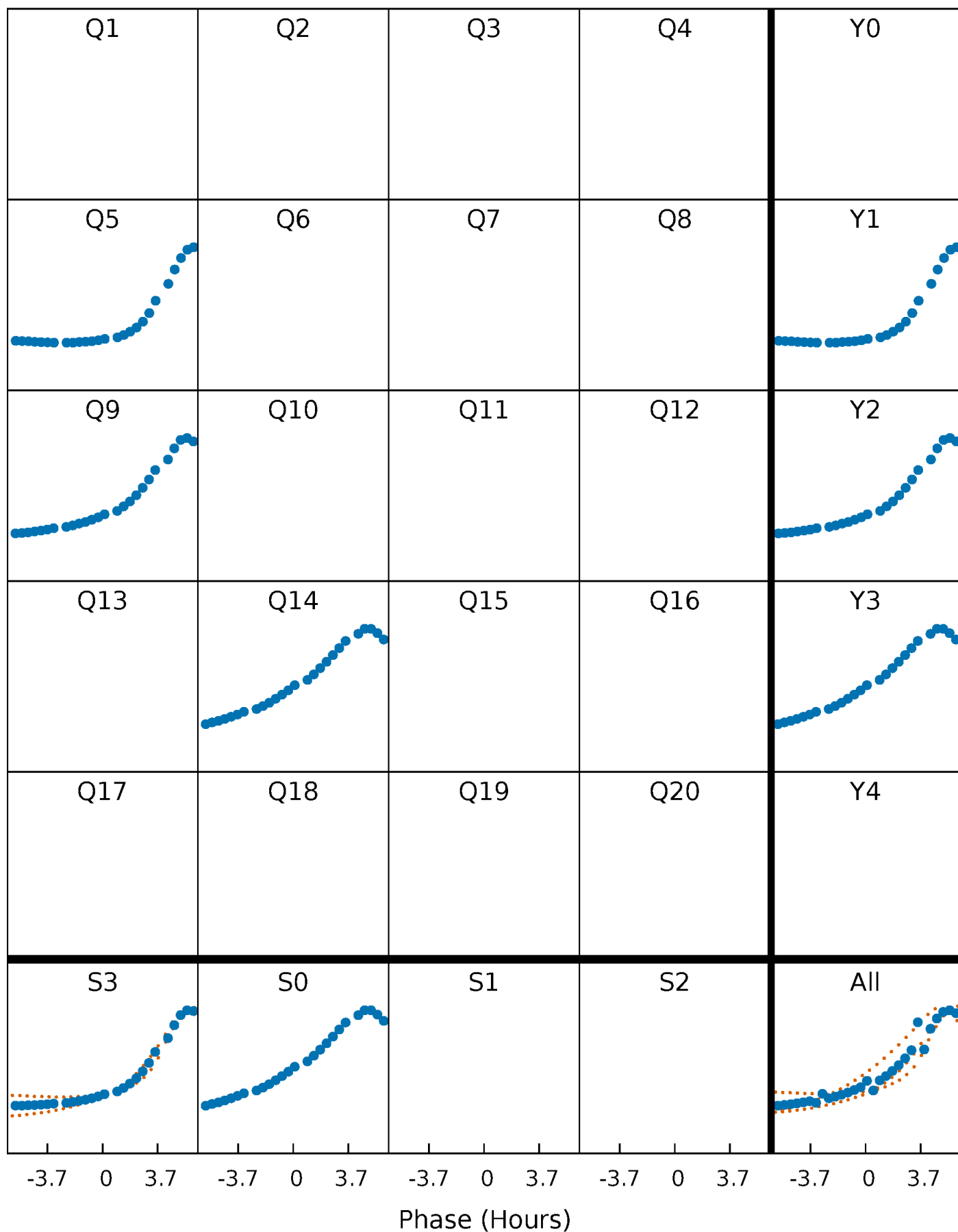


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



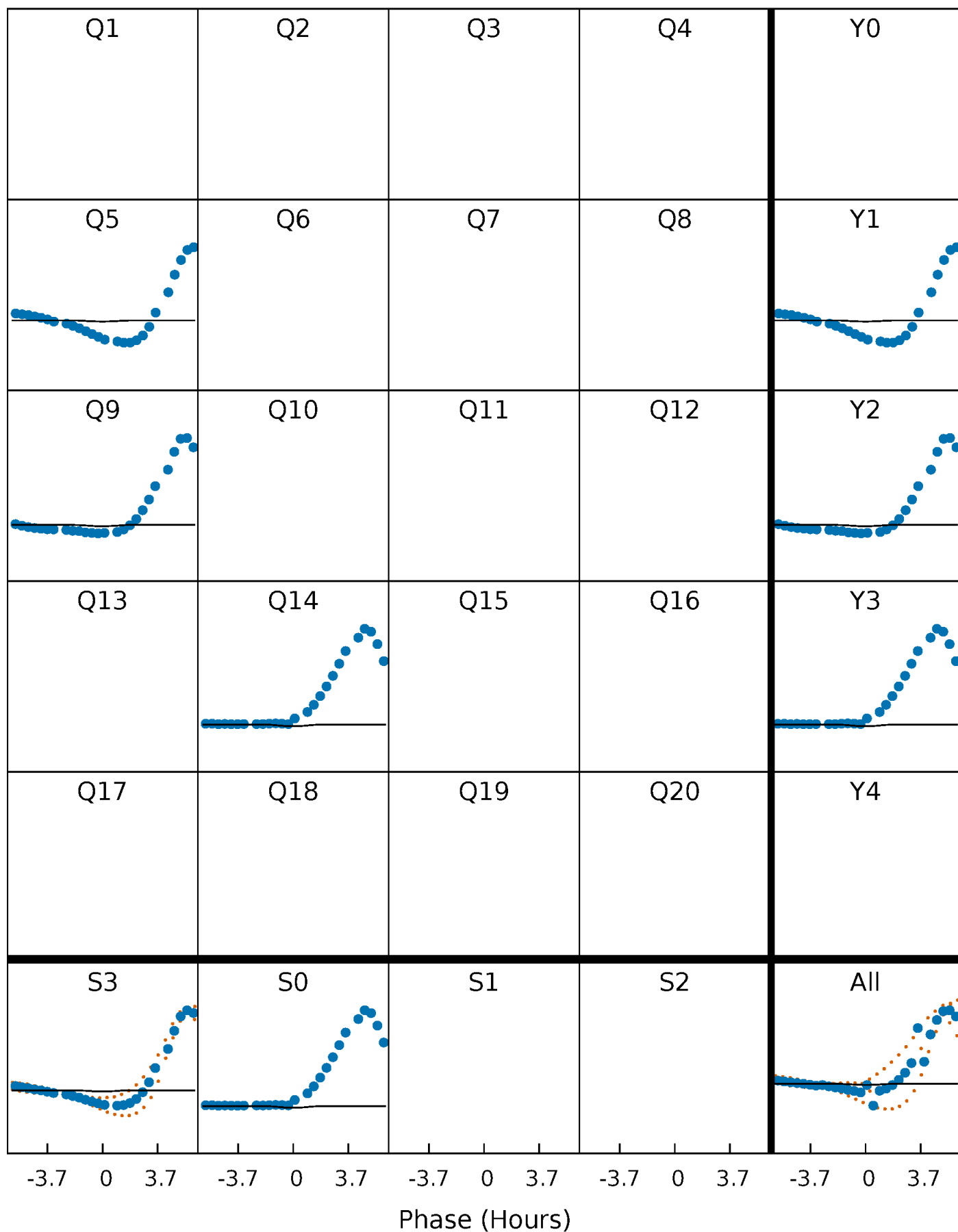
PDC Quarter-Phased Transit Curves

TCE 005450166-03 P=408.163613 Days $T_0=483.058198$ (BKJD)



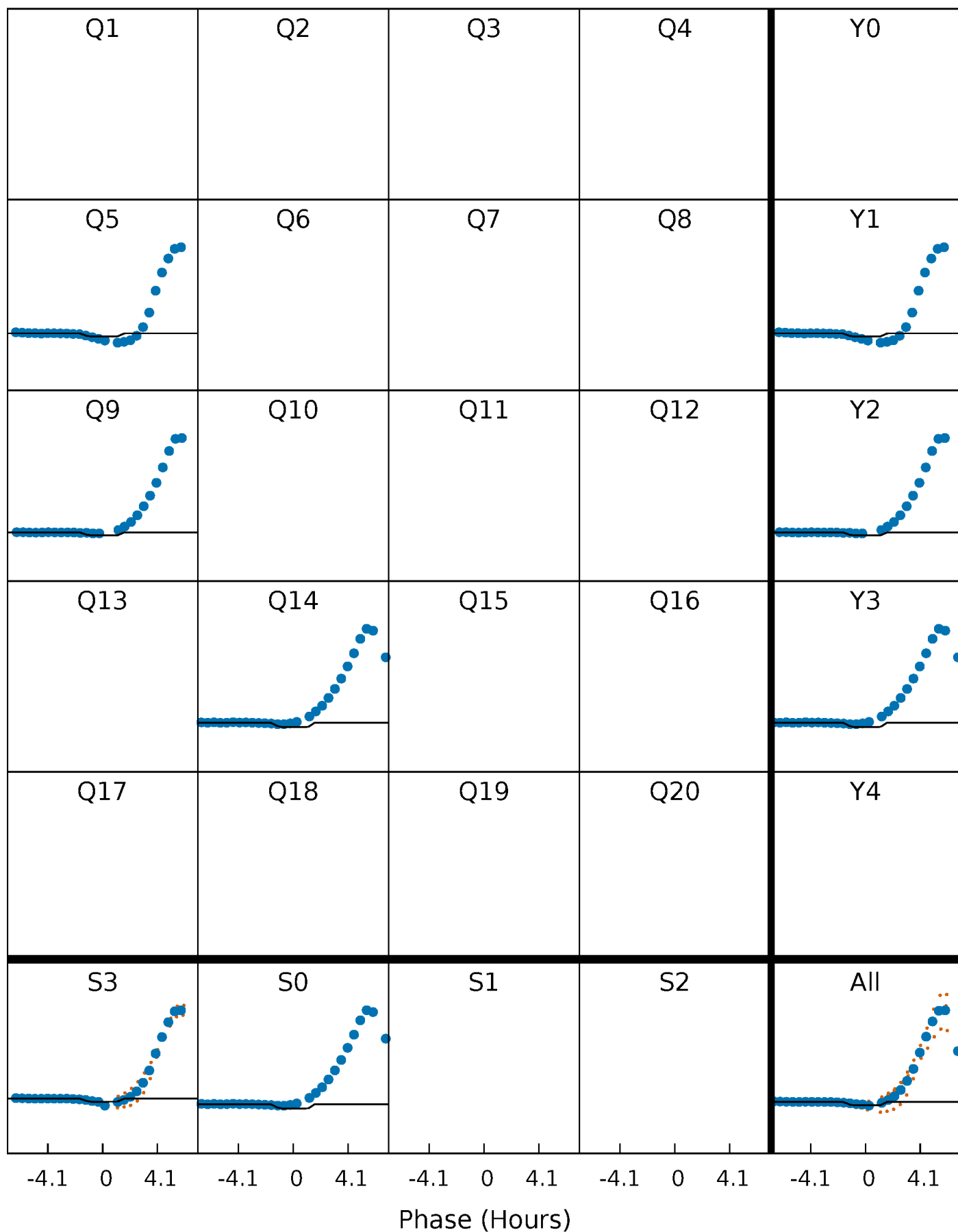
DV Quarter-Phased Transit Curves

TCE 005450166-03 $P=408.163613$ Days $T_0=483.058198$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

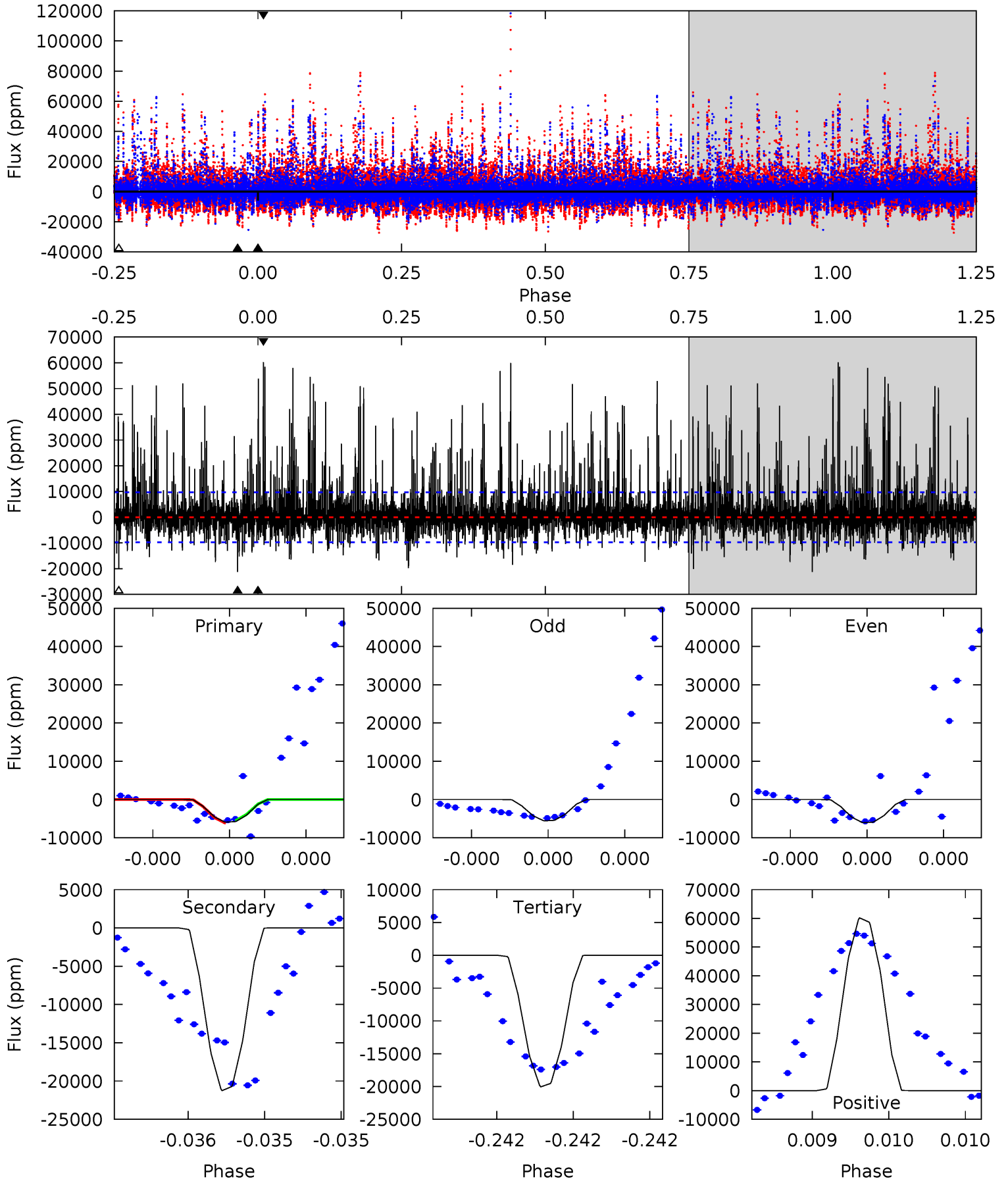
TCE 005450166-03 P=408.139927 Days $T_0=483.065875$ (BKJD)



DV Model-Shift Uniqueness Test

005450166-03, P = 408.163613 Days, E = 74.894585 Days

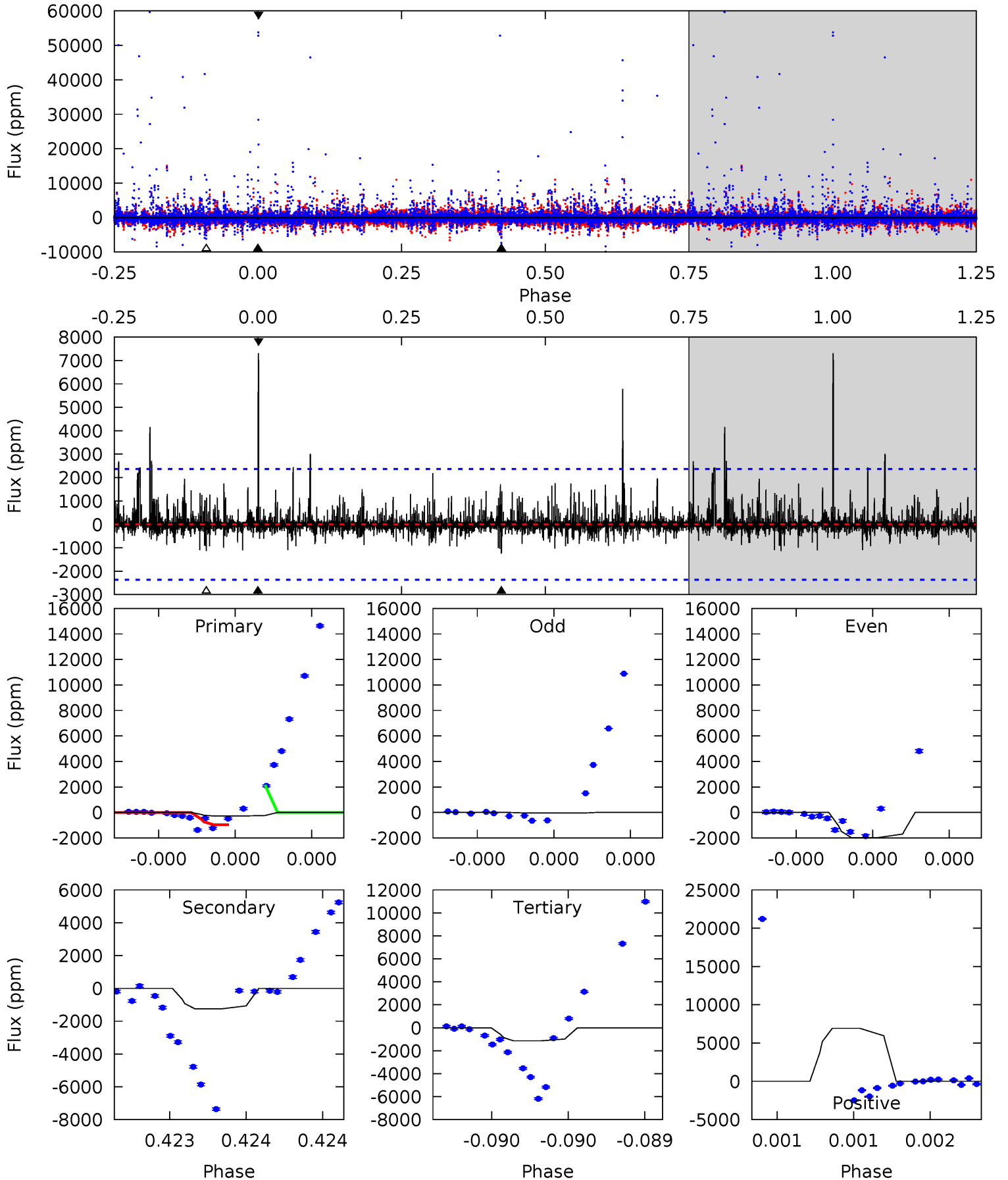
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.43	12.3	11.6	34.9	5.63	3.57	4.14	-8.20	-31.5	0.70	-22.6	0.10	1.06	0.74	0.19



Alt Model-Shift Uniqueness Test

005450166-03, P = 408.139927 Days, E = 74.925948 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.67	2.97	2.72	16.6	5.66	3.61	0.61	-2.06	-15.9	0.25	-13.6	1.64	28.5	0.85	1.36



Stellar Parameters For KIC 005450166

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7122^{+200}_{-250}	$4.256^{+0.087}_{-0.203}$	$-0.220^{+0.250}_{-0.350}$	$1.433^{+0.490}_{-0.210}$	$1.357^{+0.203}_{-0.203}$	$0.649^{+0.306}_{-0.329}$
	+3%/-4%	+2%/-5%	+114%/-159%	+34%/-15%	+15%/-15%	+47%/-51%
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 005450166-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-21254 ± 1723	$44.39^{+48.58}_{-30.98}$	486^{+37}_{-26}	5185^{+5031}_{-1262}	8650^{+85533}_{-6696}
Alt.	-1242 ± 418	$42.74^{+49.71}_{-30.76}$	486^{+39}_{-27}	3150^{+1808}_{-601}	490^{+6177}_{-385}

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 $A_{obs} \gg 1.0$

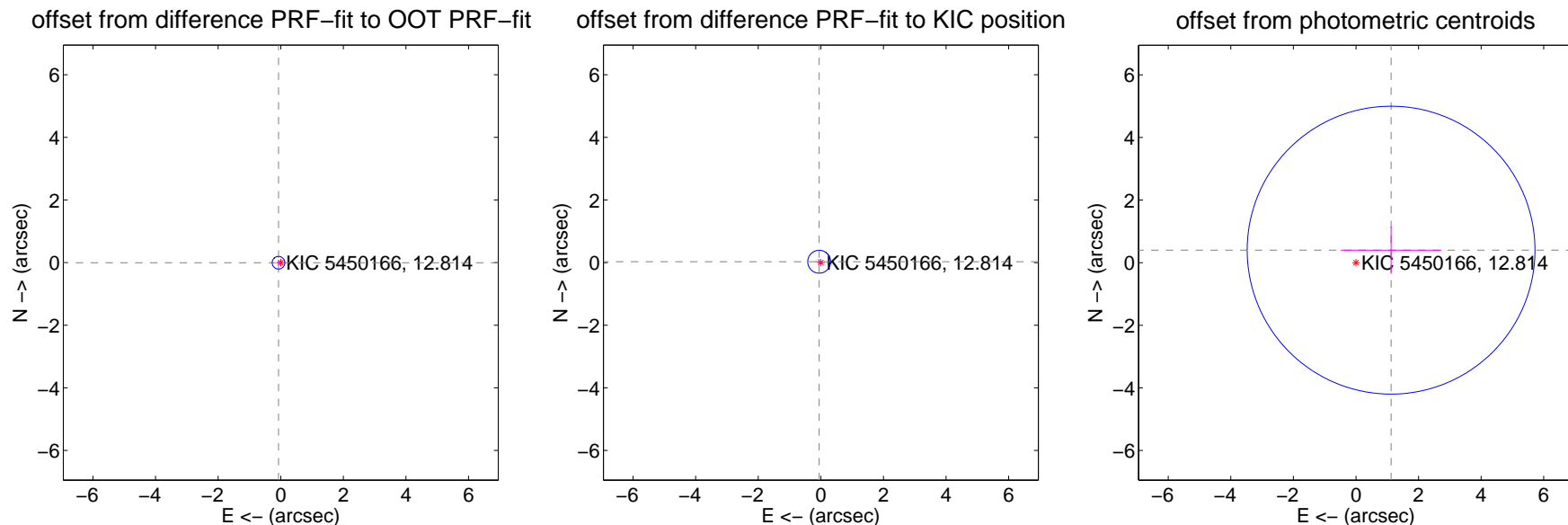
DV Centroid Data

Supplemental centroid analysis for 005450166-03. Kepler magnitude: 12.81. Transit SNR 2.23

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.072 ± 0.067	1.07	0.072 ± 0.067	-0.005 ± 0.070
PRF-fit source offset from KIC position	0.060 ± 0.122	0.49	0.054 ± 0.115	0.028 ± 0.087
photometric centroid source offset	1.19 ± 1.53	0.78	-1.12 ± 1.60	0.40 ± 0.76

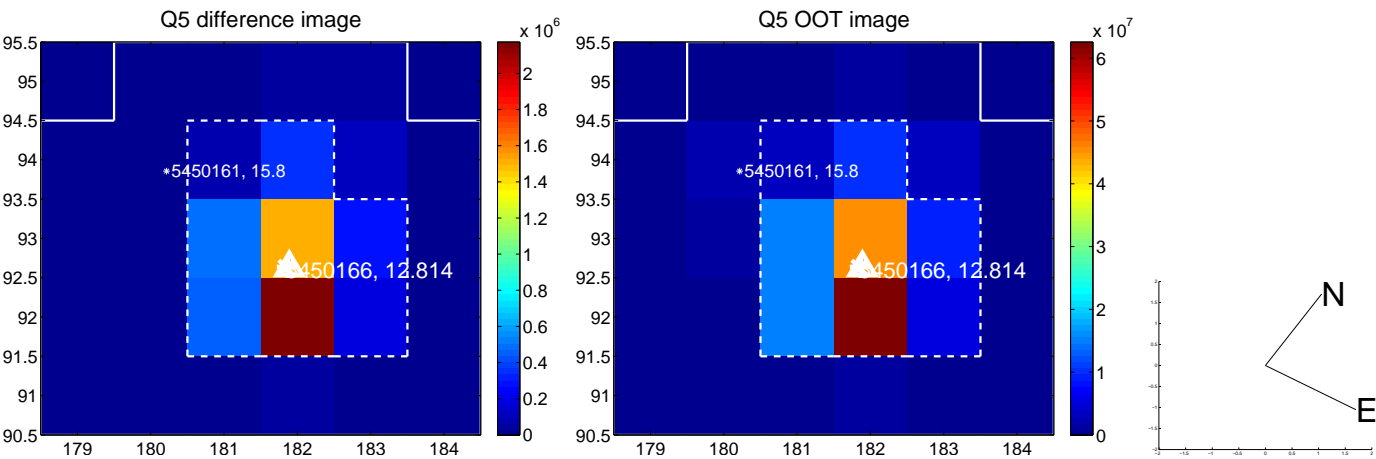


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

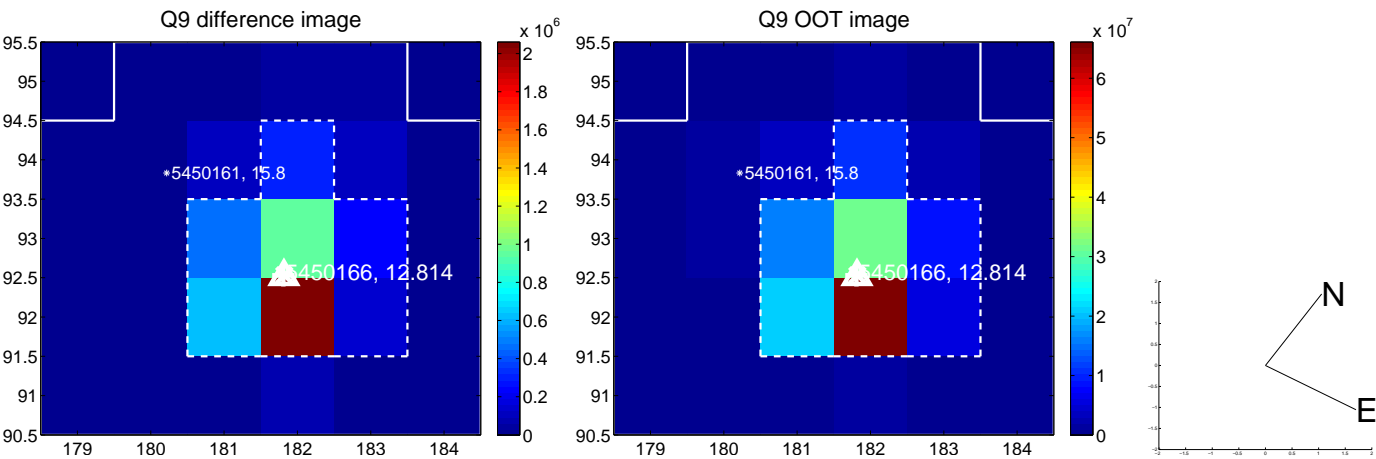
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



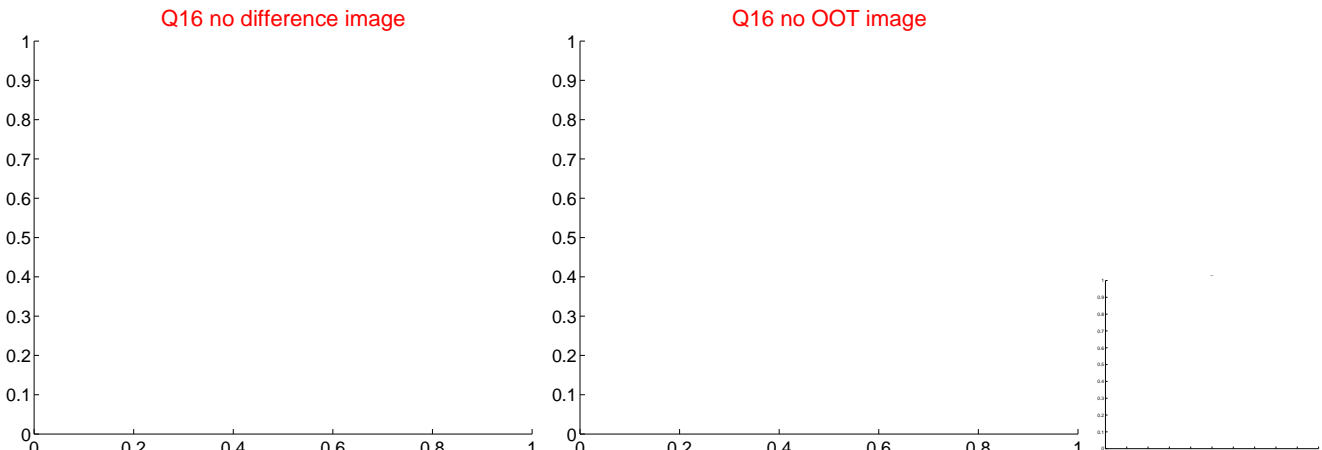
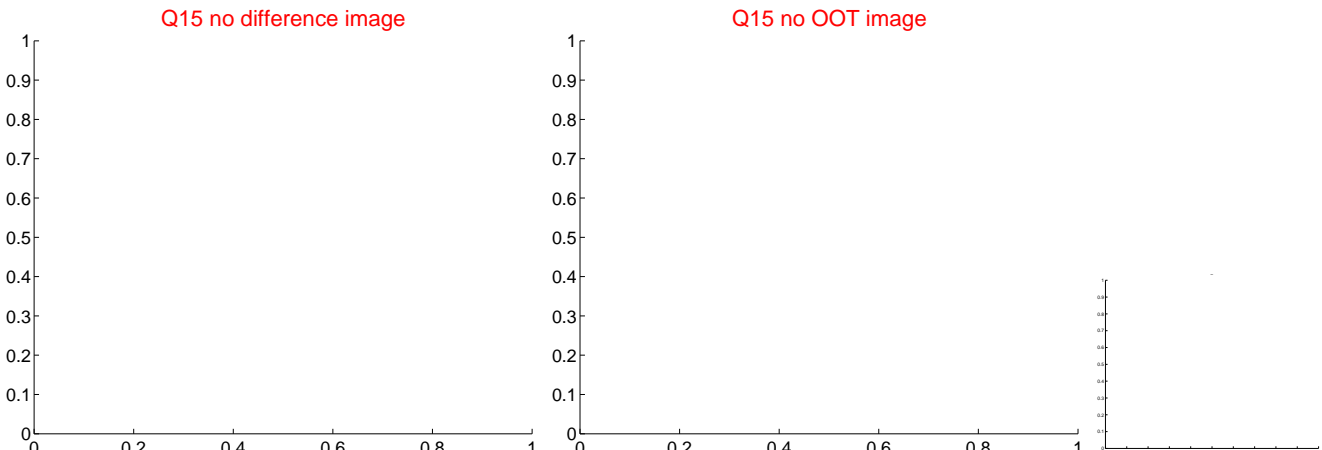
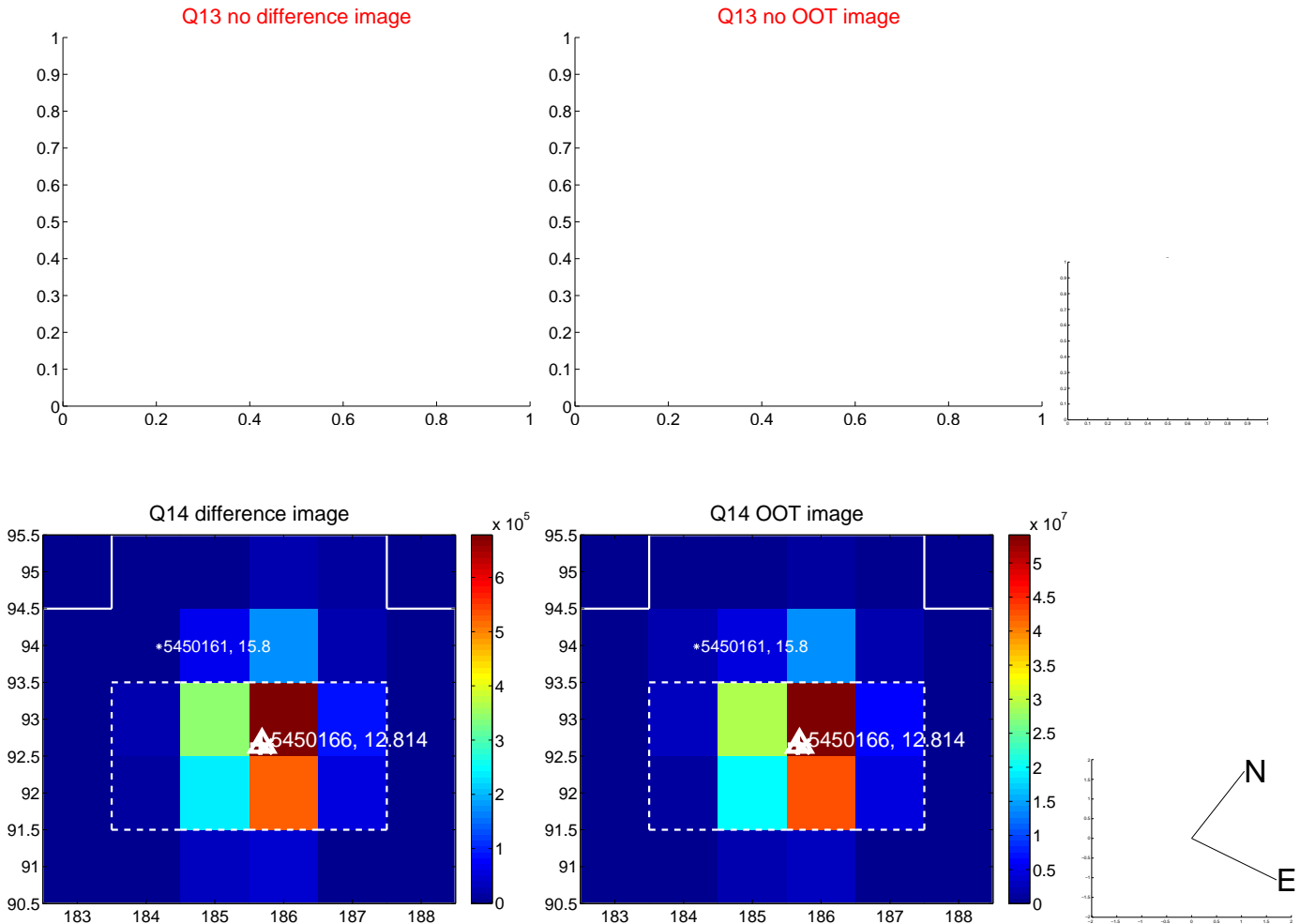
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



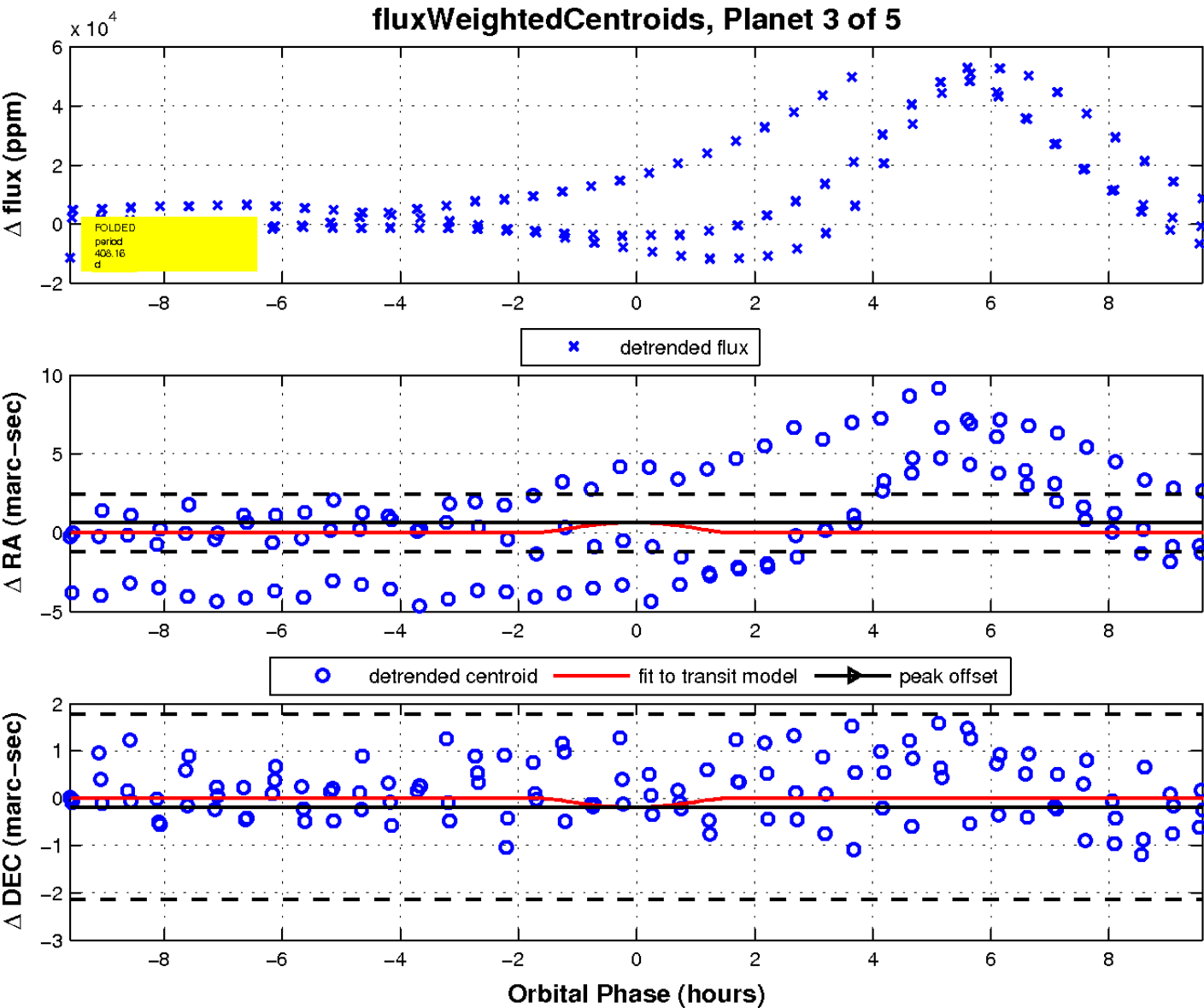
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

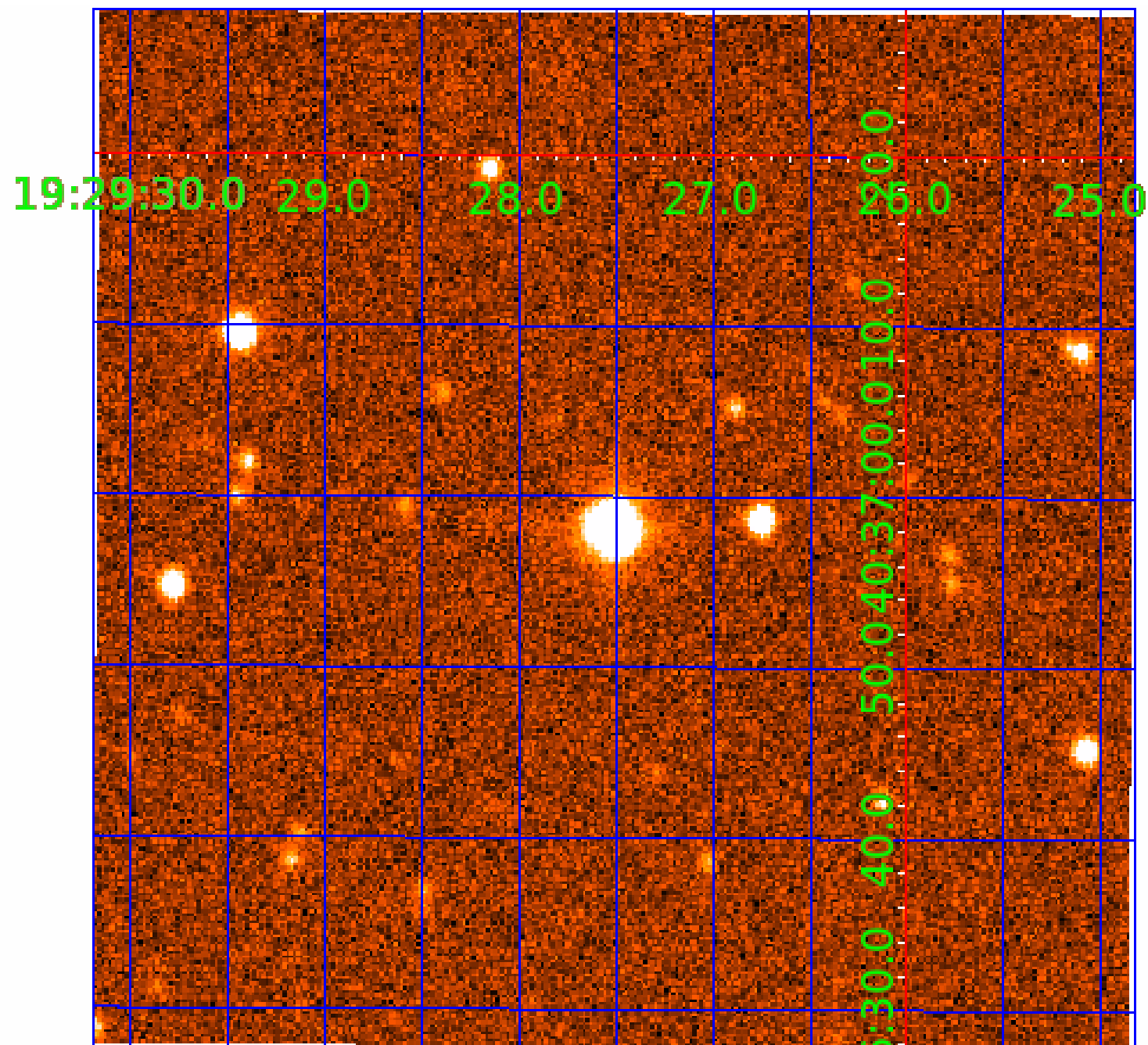


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005450166

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})
005450166-01	OBS	No	393.684381	495.248060	31.5	9.815	41.4	0.1	1.43	7122	0.97	3.50
005450166-02	OBS	No	210.833289	331.443333	1565.2	2.500	42.4	-1.0	1.43	7122	5.75	8.06
005450166-03	OBS	No	408.163613	483.058198	701.6	3.207	35.6	2.2	1.43	7122	6.78	3.34
005450166-04	OBS	No	228.325712	141.213272	304.3	4.580	38.6	1.7	1.43	7122	2.73	7.25
005450166-05	OBS	No	178.887183	200.391219	1383.6	2.500	32.9	-1.0	1.43	7122	5.40	10.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005450166-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005450166-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—NO_FITS—INCONSISTENT_TRANS—CENT_NOFITS
005450166-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005450166-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005450166-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

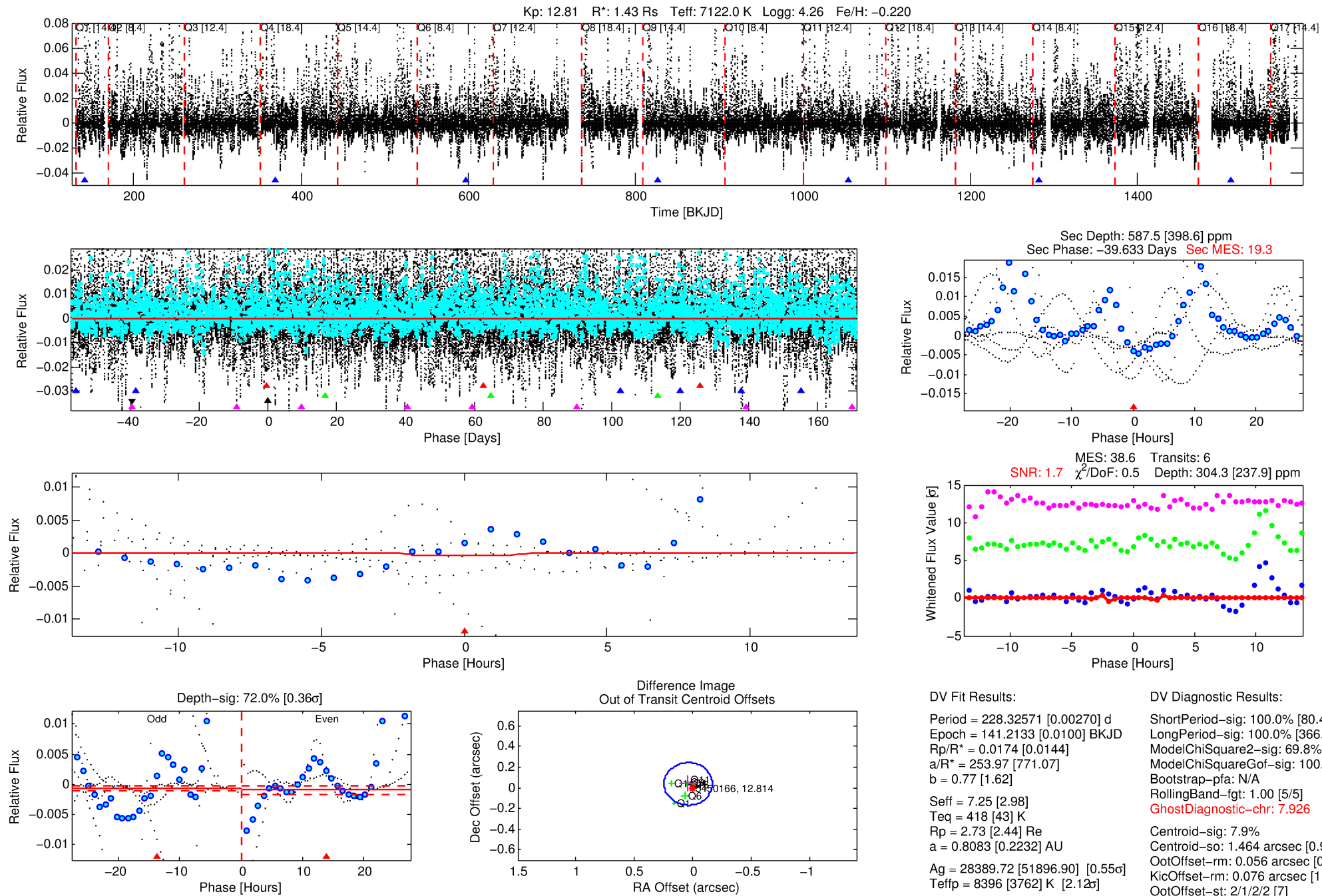
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005450166-04

No Significant Match Found

DV One-Page Summary

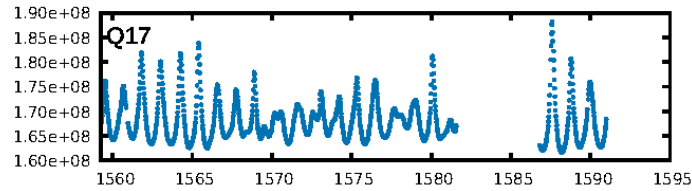
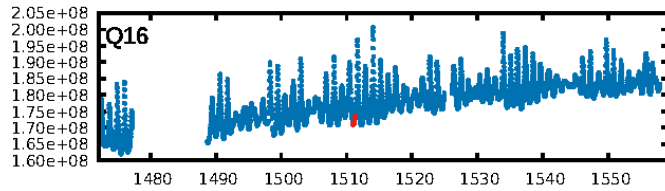
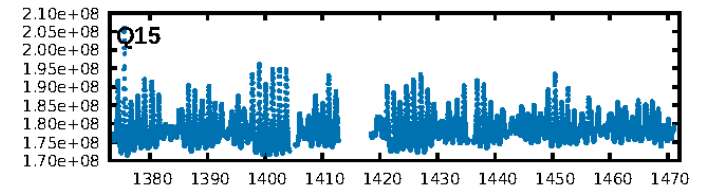
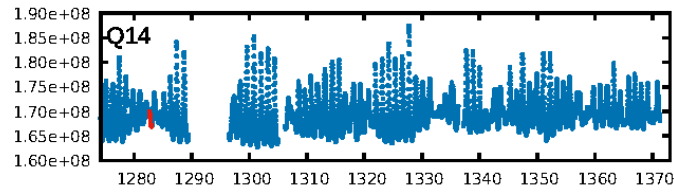
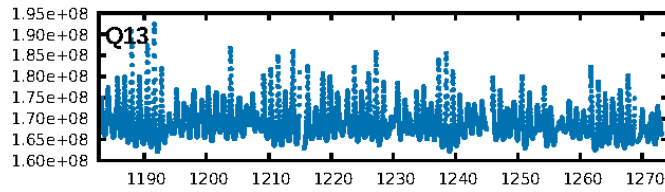
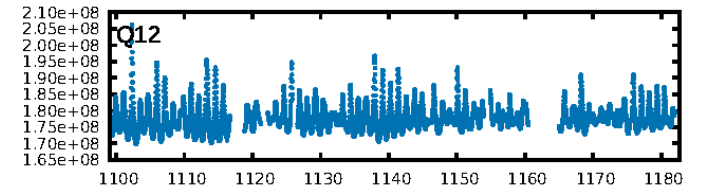
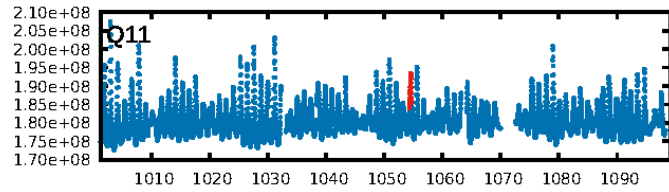
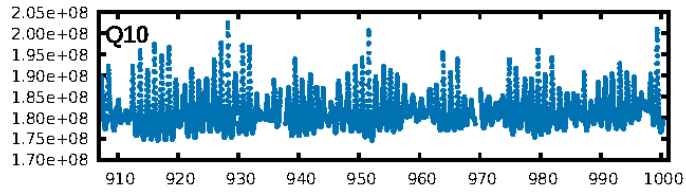
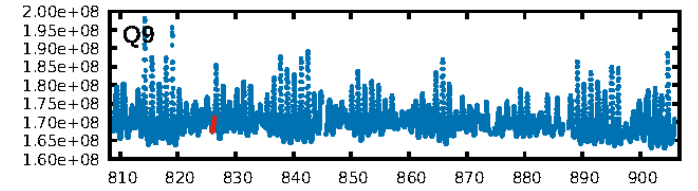
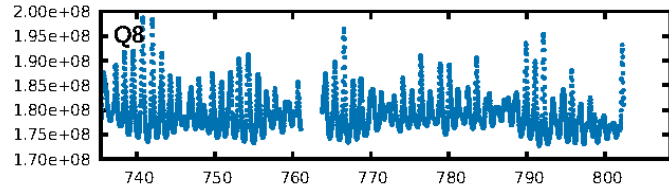
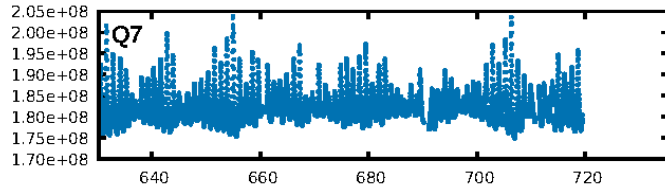
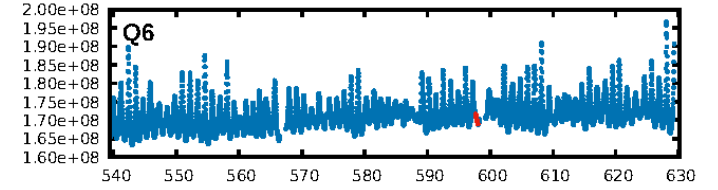
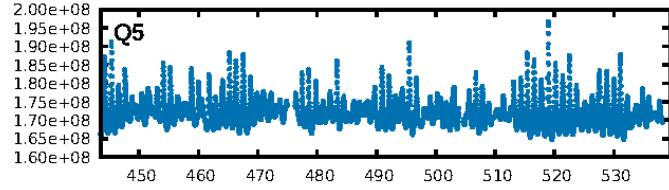
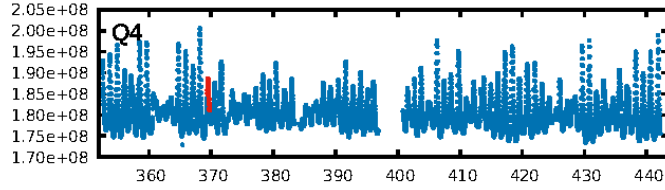
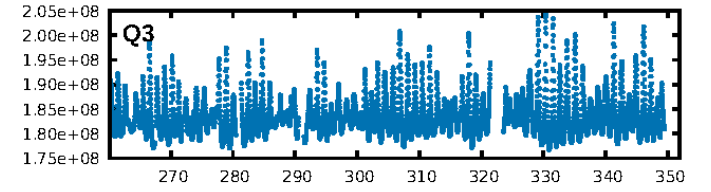
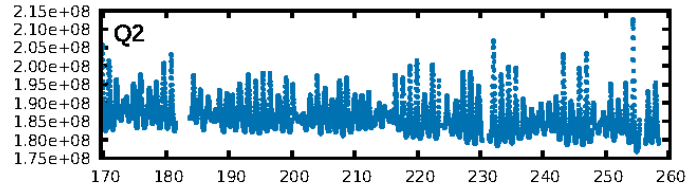
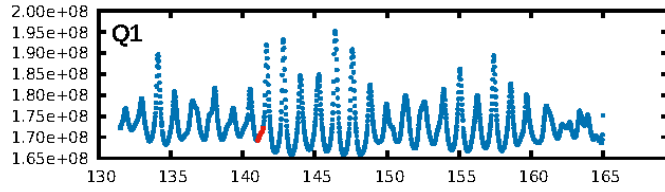
KIC: 5450166 Candidate: 4 of 5 Period: 228.326 d



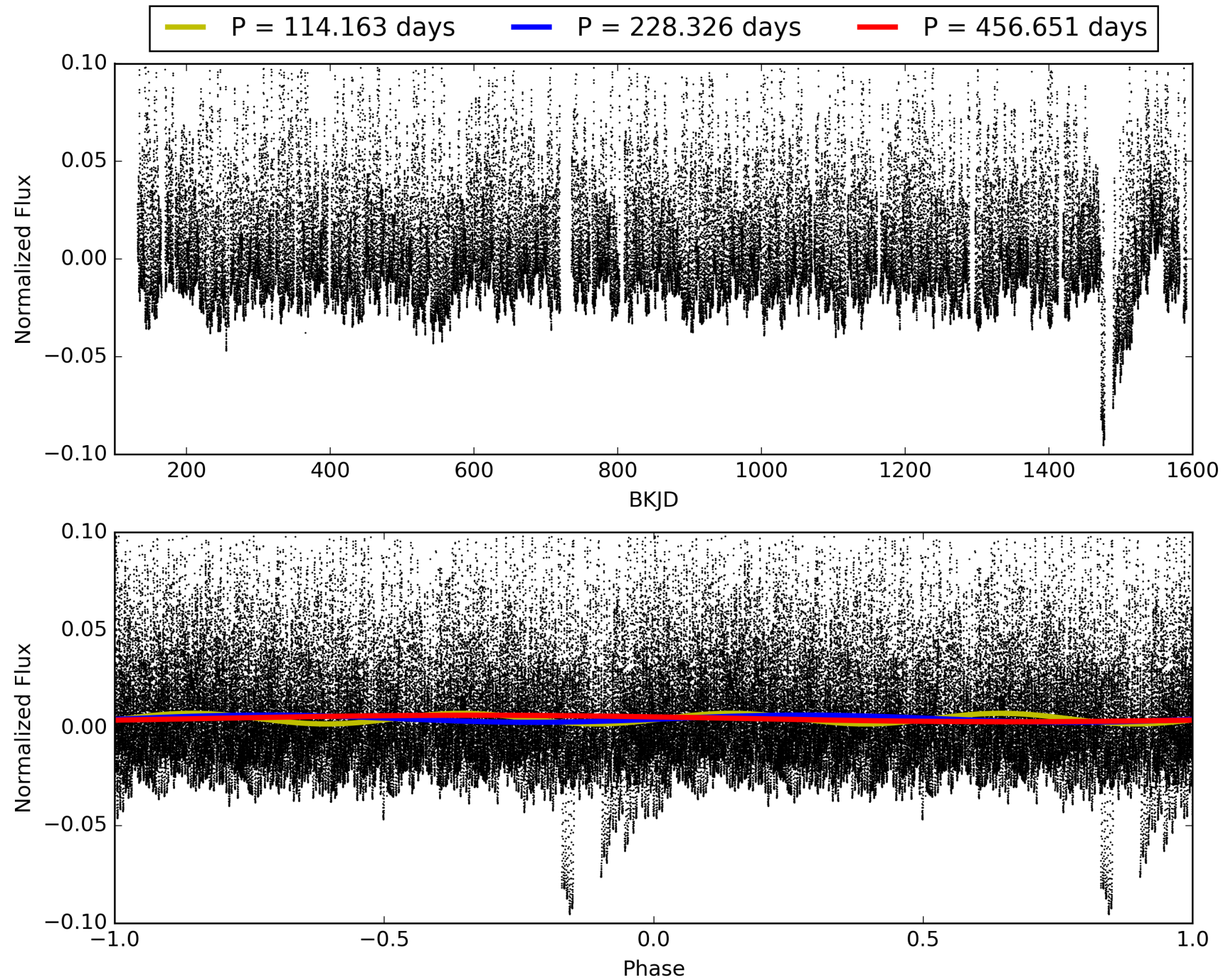
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:36:40 Z

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

TCE 005450166-04, PDC Light Curves

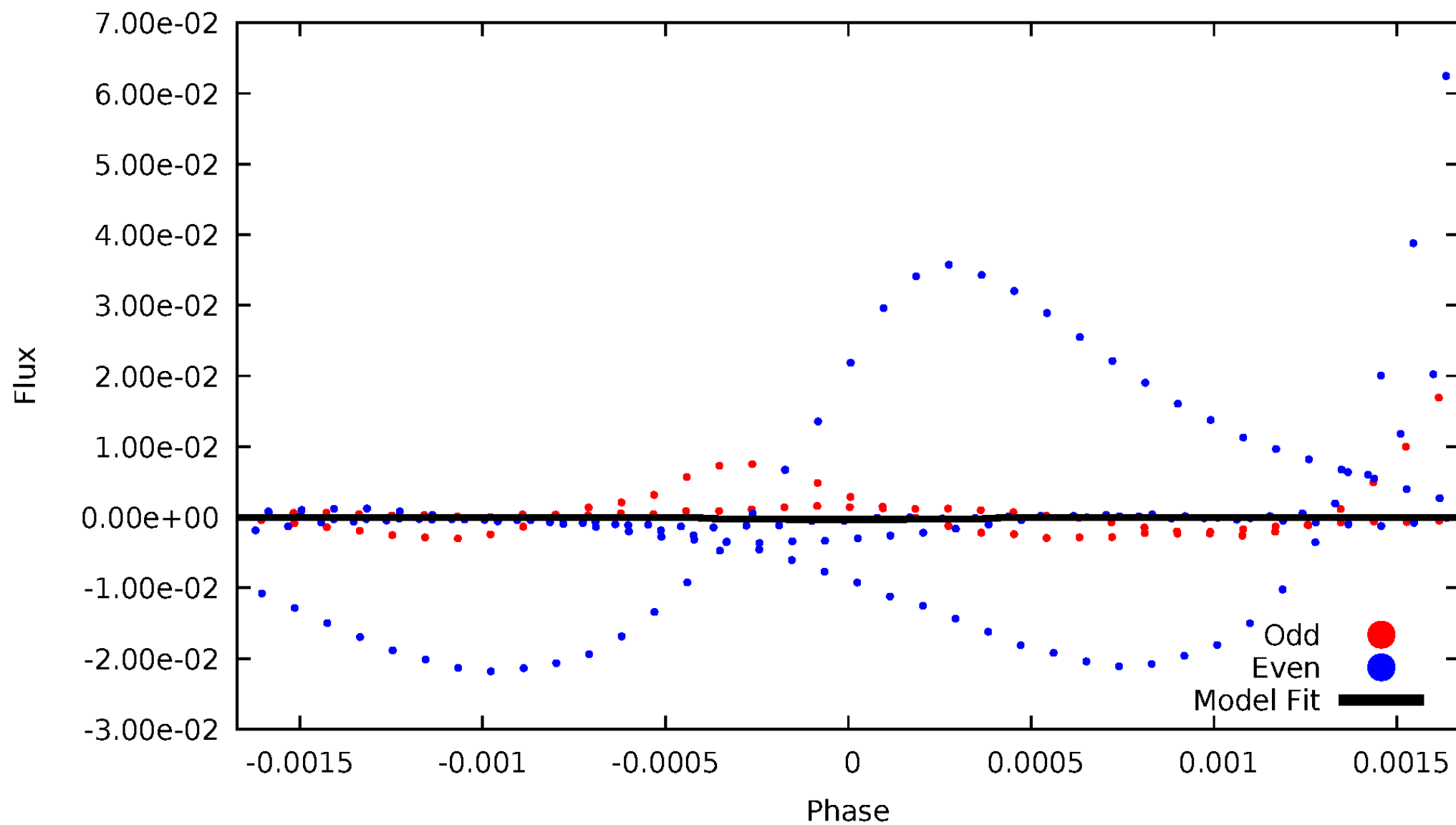


TCE 005450166-04



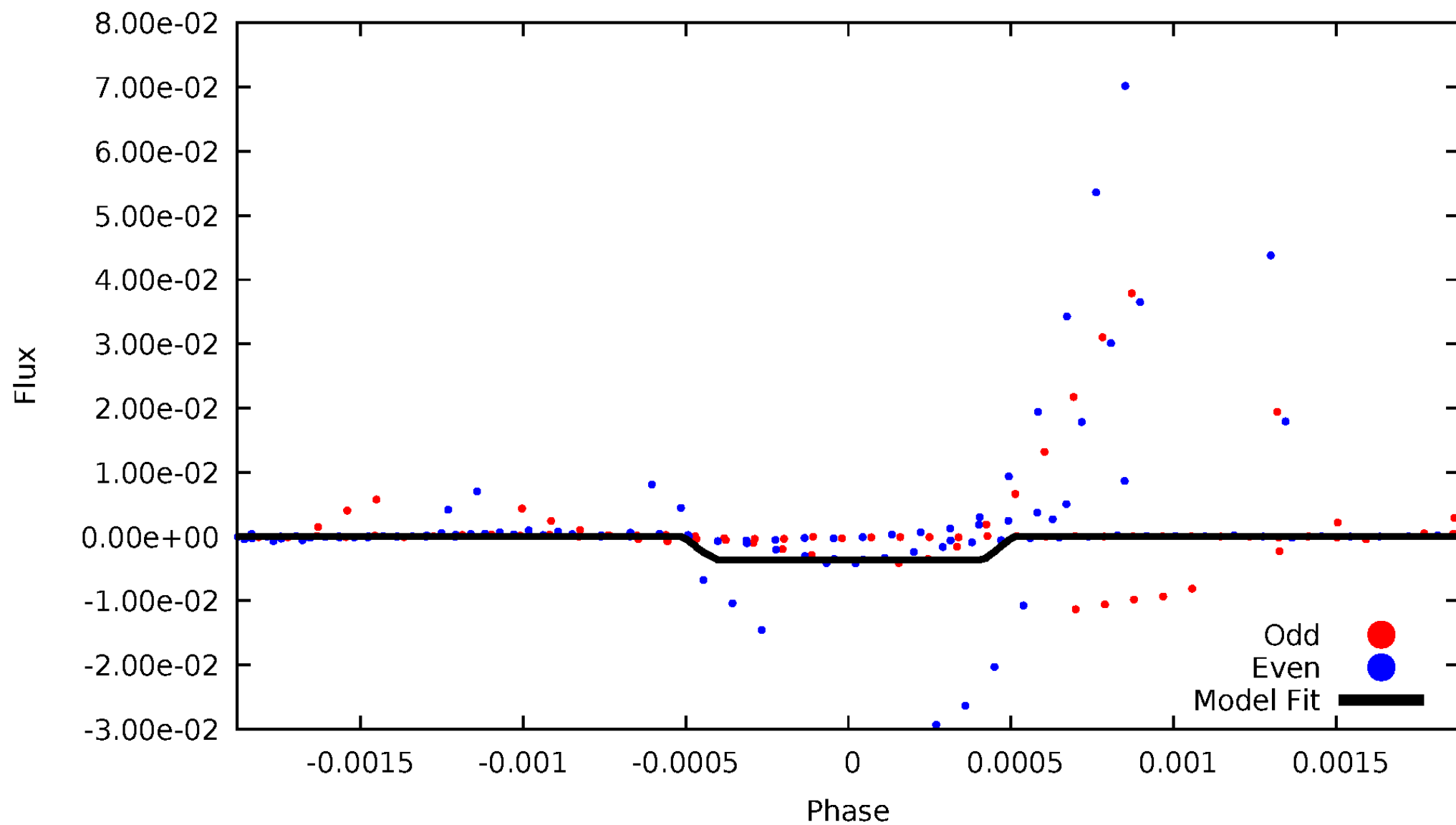
DV Odd/Even

TCE 005450166-04



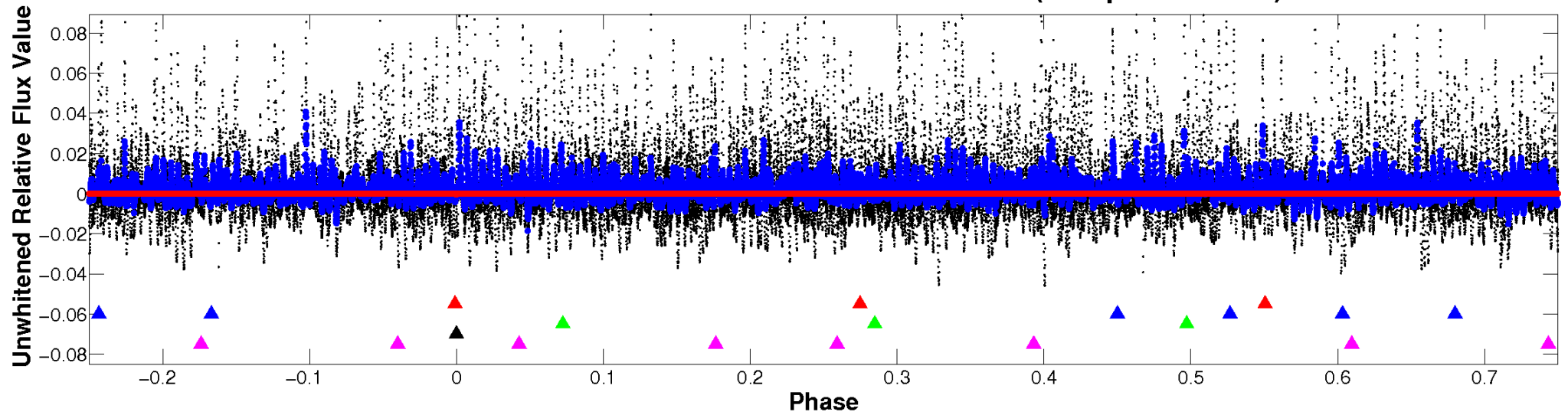
ALT Odd/Even

TCE 005450166-04

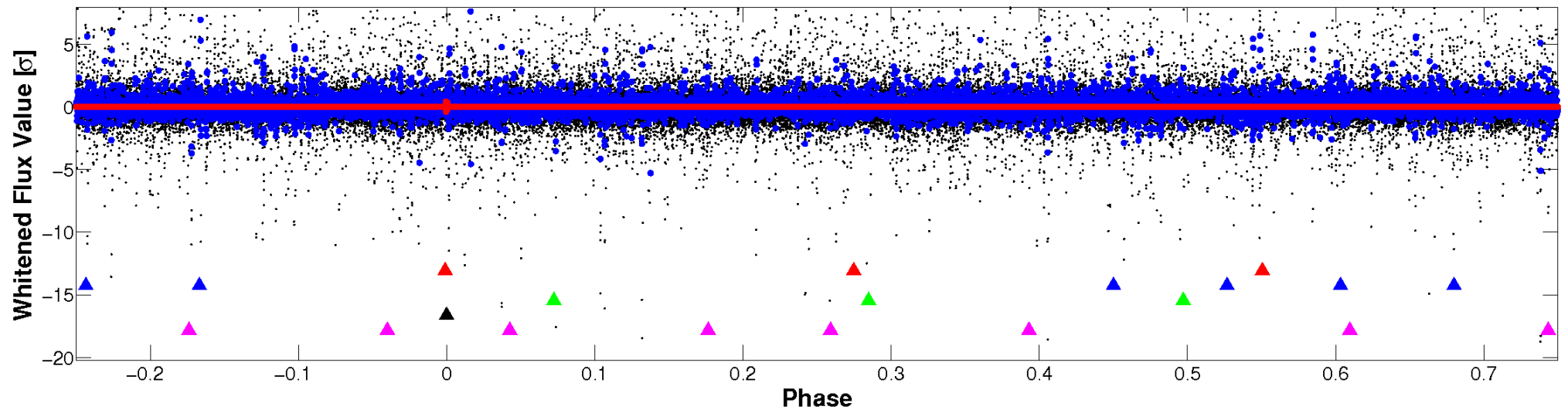


Non-Whitened Vs. Whitened Light Curve

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

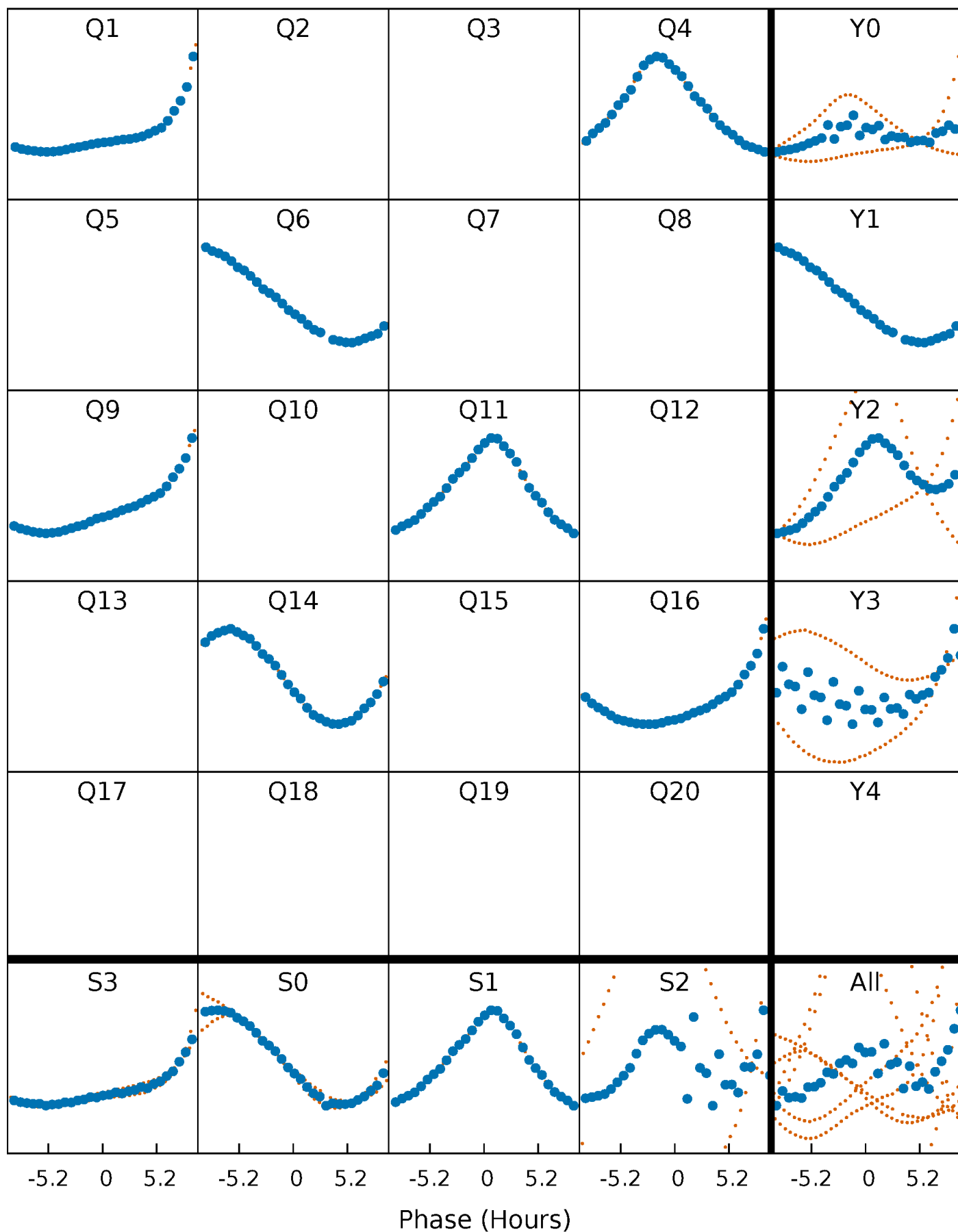


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



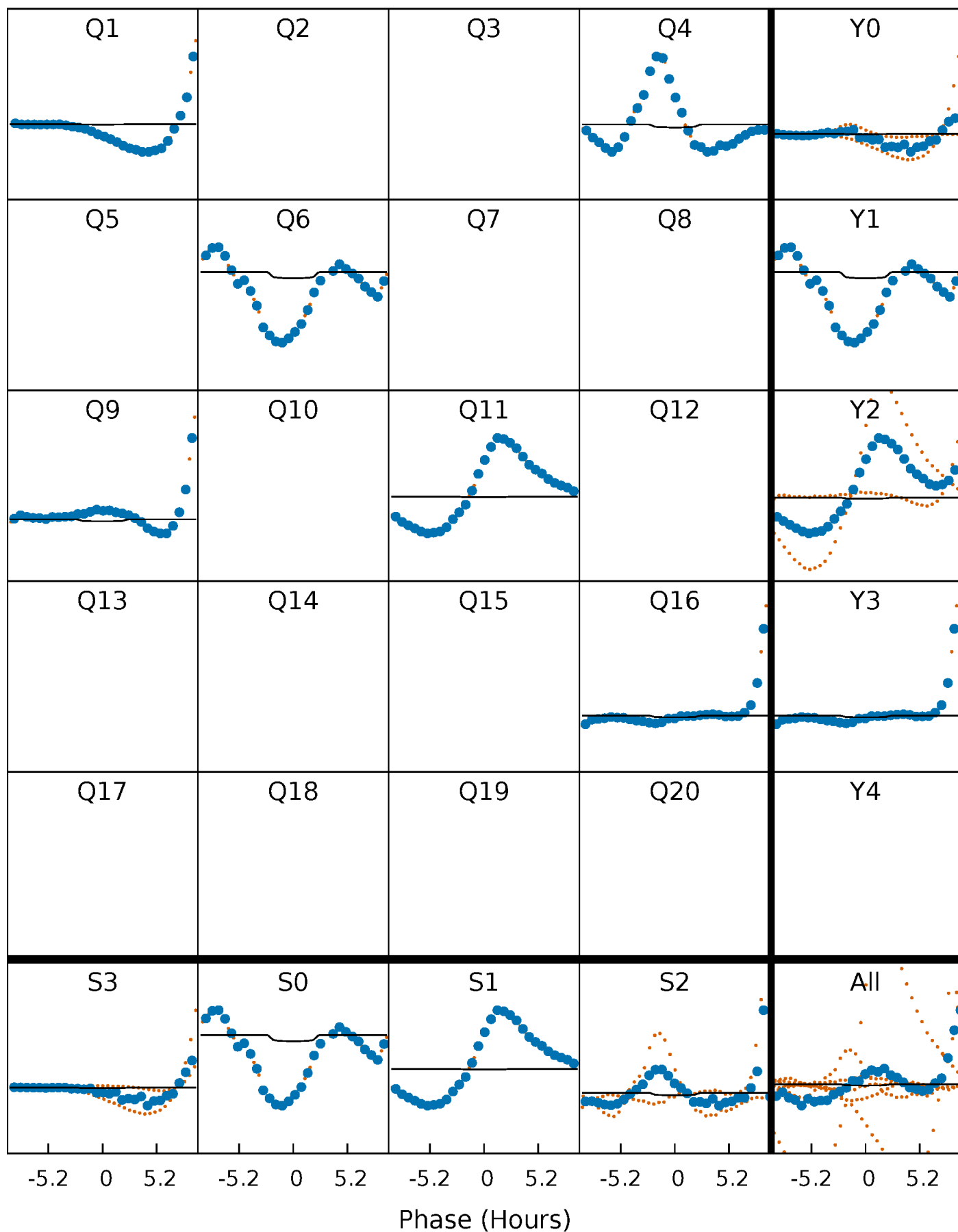
PDC Quarter-Phased Transit Curves

TCE 005450166-04 P=228.325712 Days $T_0=141.213272$ (BKJD)



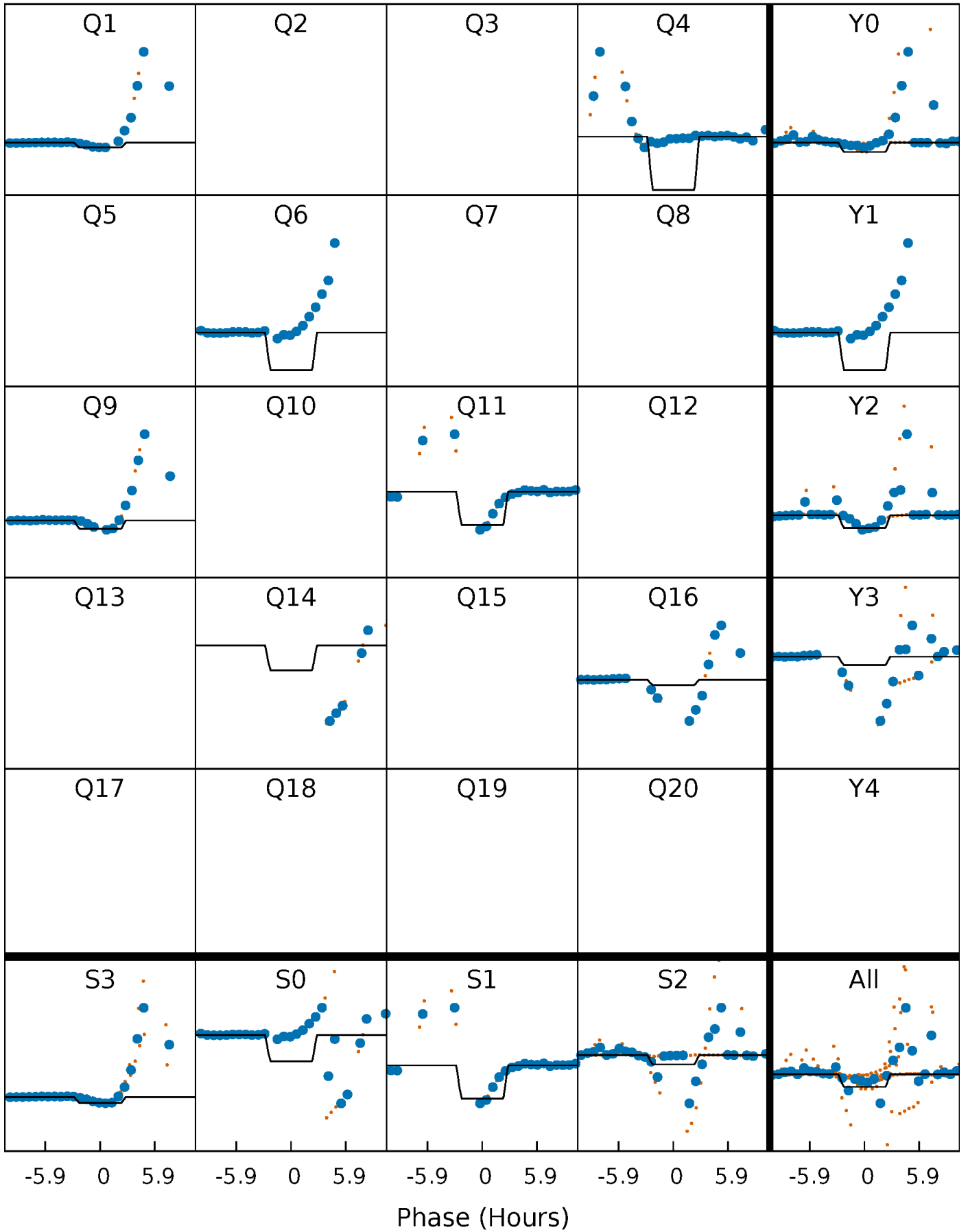
DV Quarter-Phased Transit Curves

TCE 005450166-04 P=228.325712 Days $T_0=141.213272$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

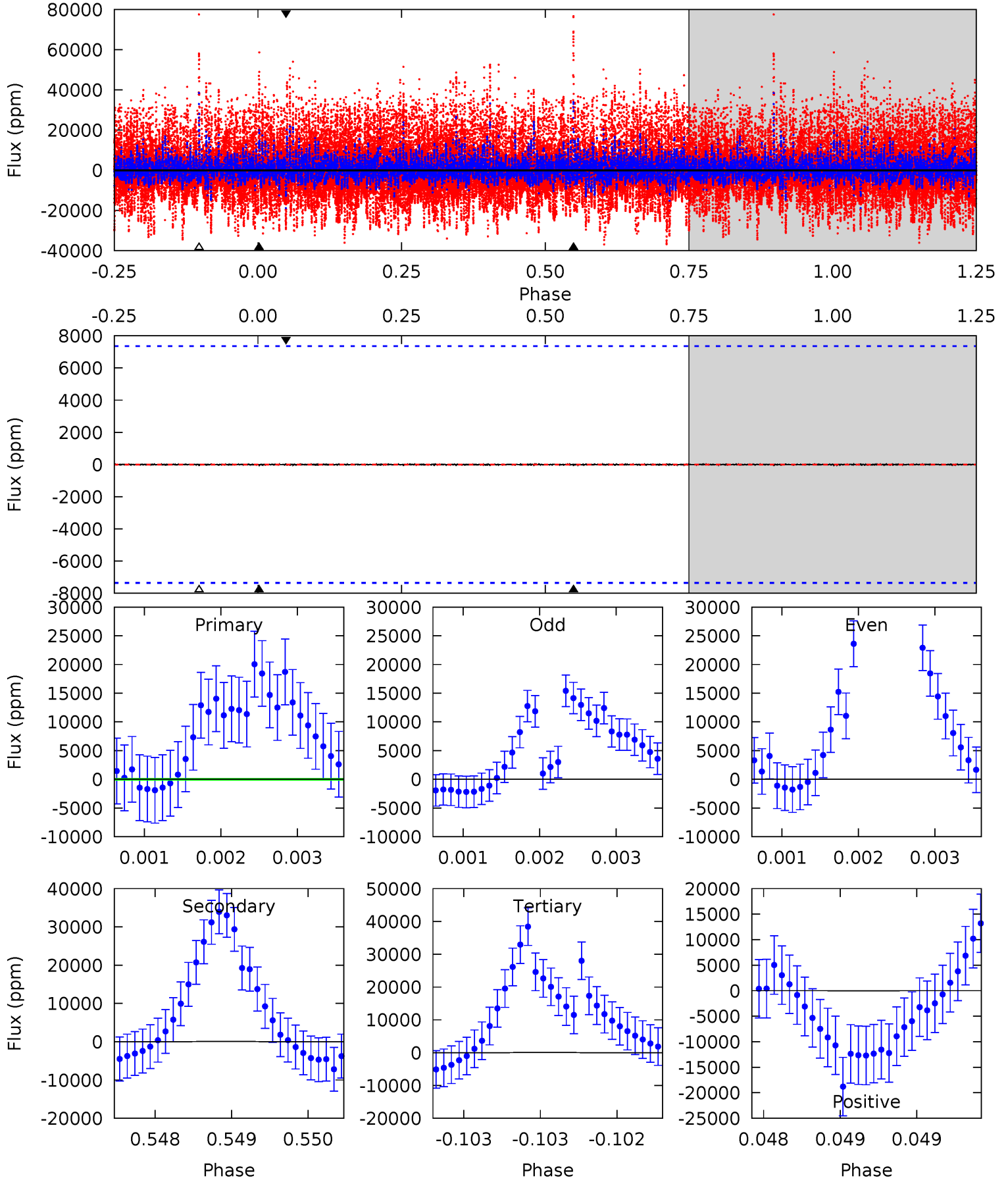
TCE 005450166-04 P=228.336269 Days $T_0=141.412688$ (BKJD)



DV Model-Shift Uniqueness Test

005450166-04, P = 228.325712 Days, E = 141.213272 Days

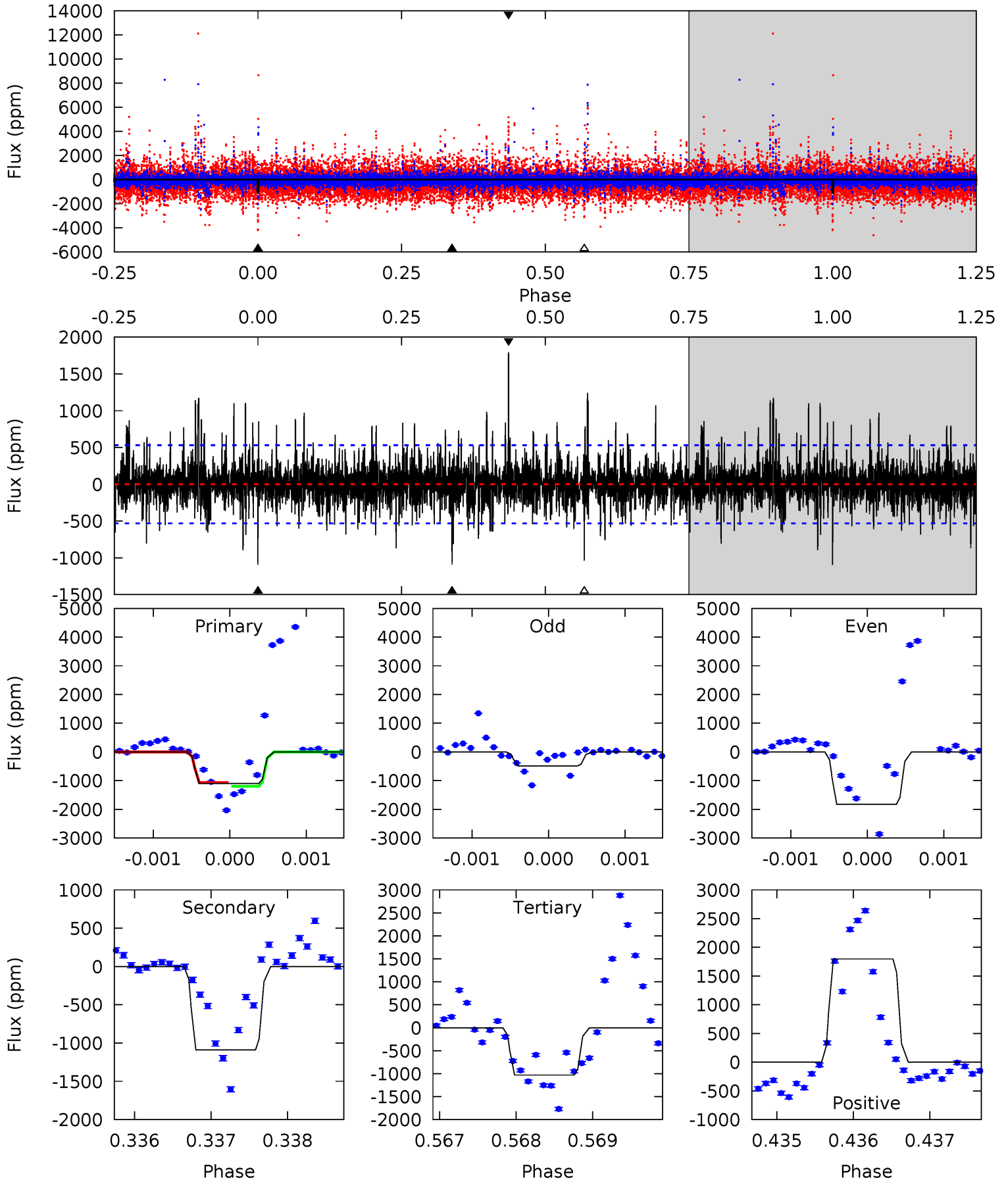
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.03	0.05	0.05	0.03	5.47	3.32	0.01	-0.02	-0.00	0.00	0.02	0.38	4.95	0.36	0.03



Alt Model-Shift Uniqueness Test

005450166-04, P = 228.336269 Days, E = 141.412688 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	11.2	10.6	18.4	5.45	3.29	2.44	0.70	-7.18	0.63	-7.25	4.63	2.92	0.62	0.62



Stellar Parameters For KIC 005450166

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7122^{+200}_{-250}	$4.256^{+0.087}_{-0.203}$	$-0.220^{+0.250}_{-0.350}$	$1.433^{+0.490}_{-0.210}$	$1.357^{+0.203}_{-0.203}$	$0.649^{+0.306}_{-0.329}$
	+3%/-4%	+2%/-5%	+114%/-159%	+34%/-15%	+15%/-15%	+47%/-51%
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 005450166-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-69 ± 1346	$3.14^{+2.29}_{-1.91}$	592^{+44}_{-33}	4741^{+7768}_{-17405}	2177^{+69643}_{-75459}
Alt.	-1091 ± 98	$9.80^{+2.92}_{-2.67}$	593^{+46}_{-33}	5262^{+838}_{-509}	4050^{+3415}_{-1692}

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

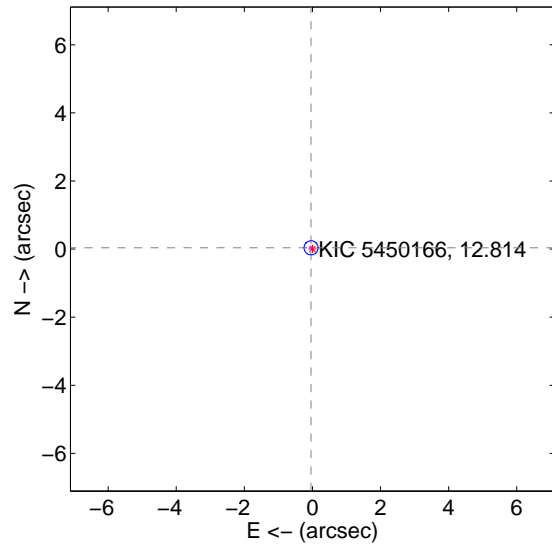
Supplemental centroid analysis for 005450166-04. Kepler magnitude: 12.81. Transit SNR 1.72

There are 5 quarters with good PRF difference image offsets

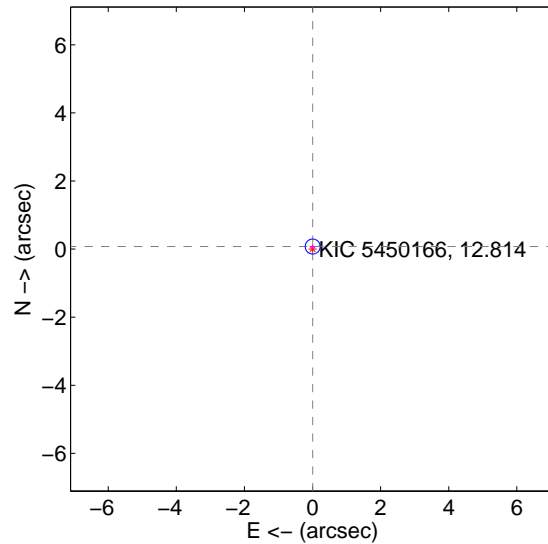
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.056 ± 0.069	0.81	0.041 ± 0.069	0.038 ± 0.072
PRF-fit source offset from KIC position	0.076 ± 0.073	1.03	-0.005 ± 0.077	0.075 ± 0.073
photometric centroid source offset	1.46 ± 1.49	0.99	-0.79 ± 2.32	1.23 ± 0.95

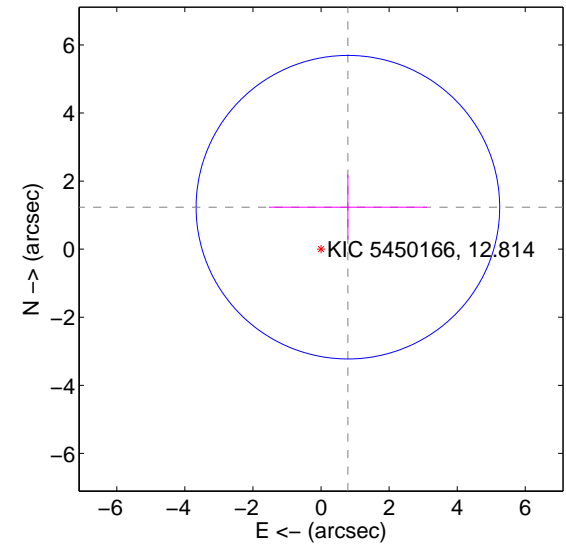
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

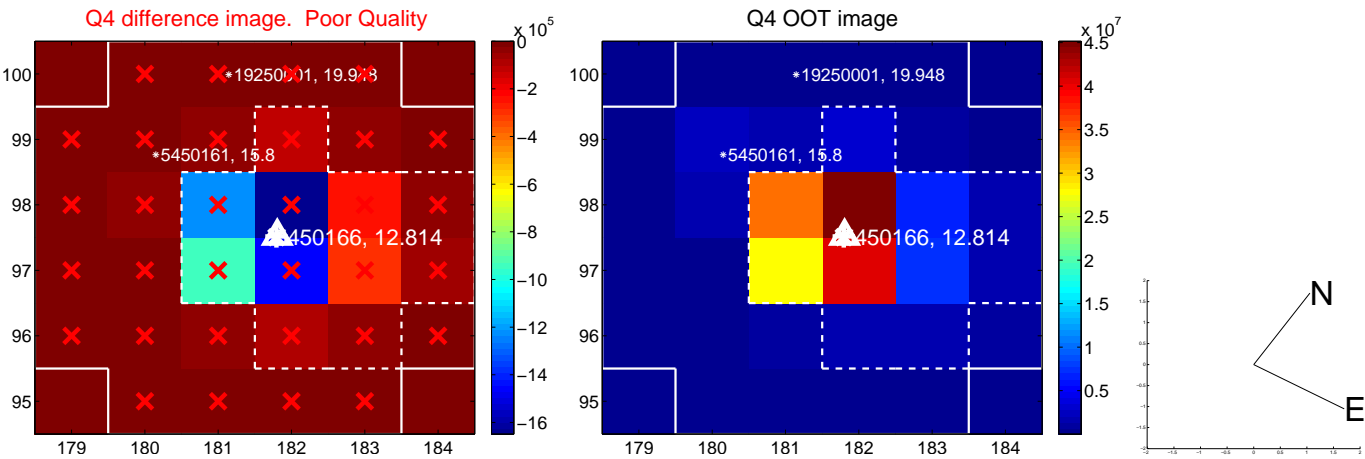
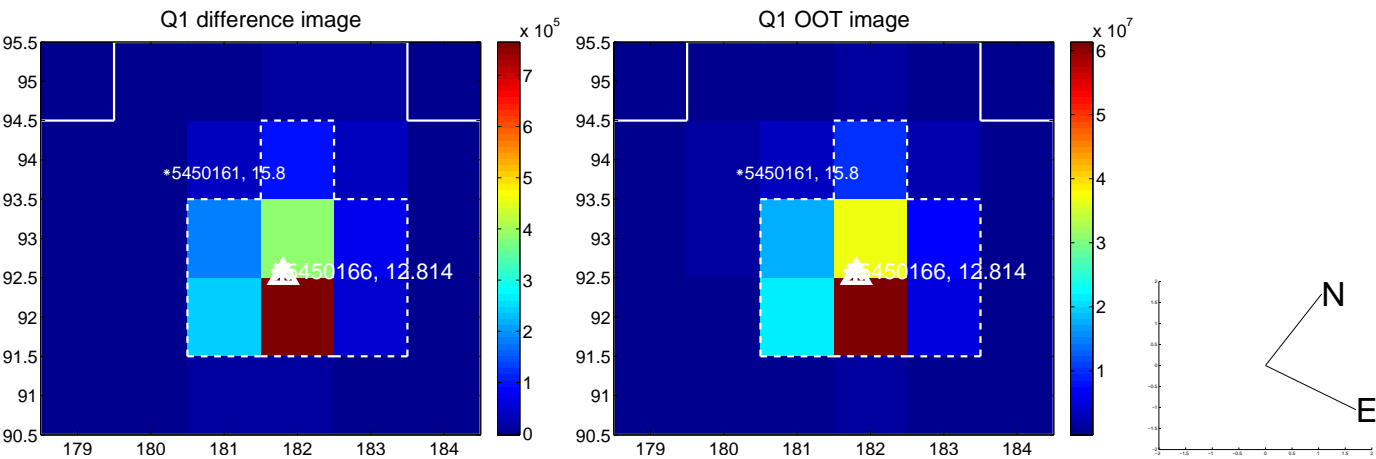


offset from photometric centroids

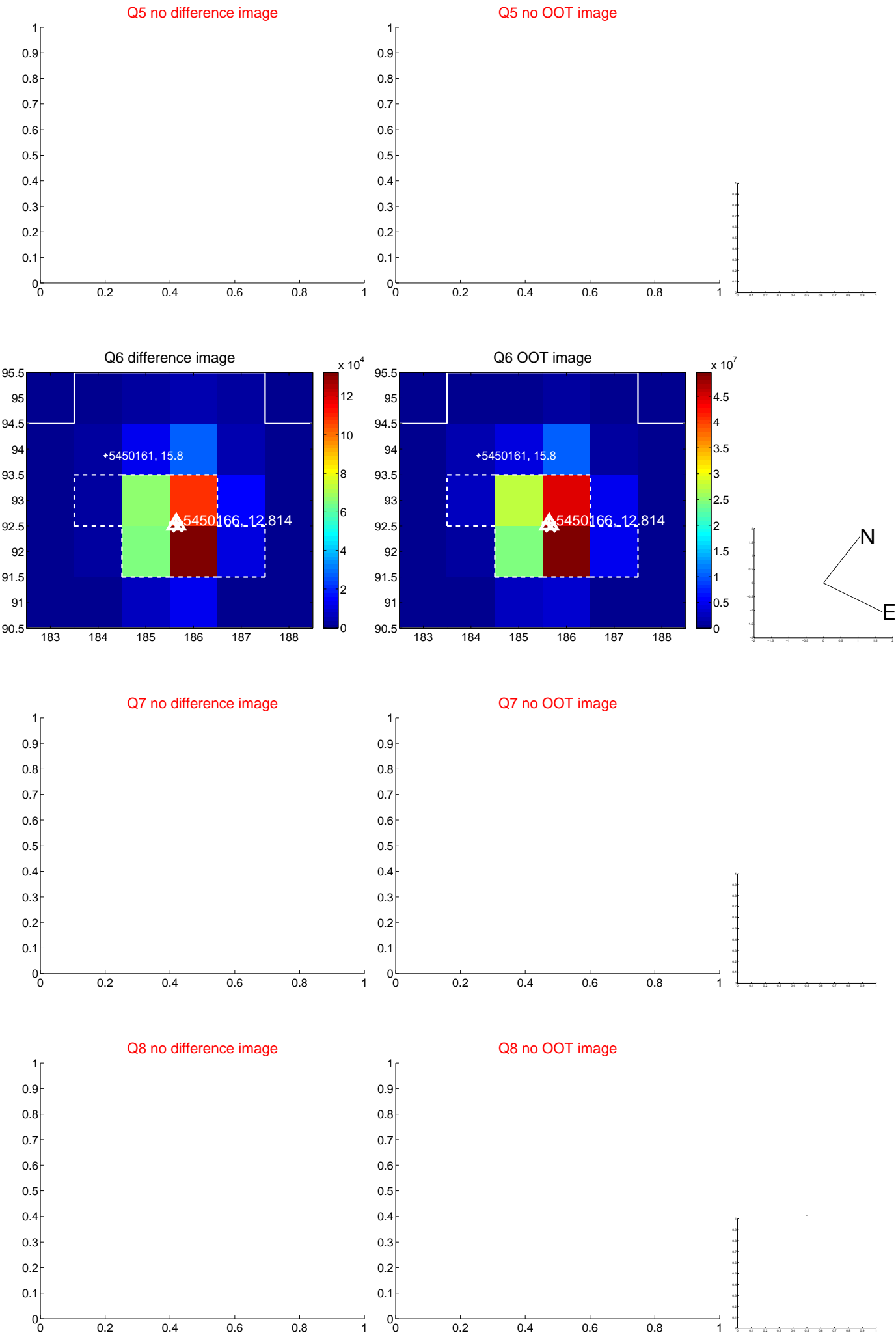


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

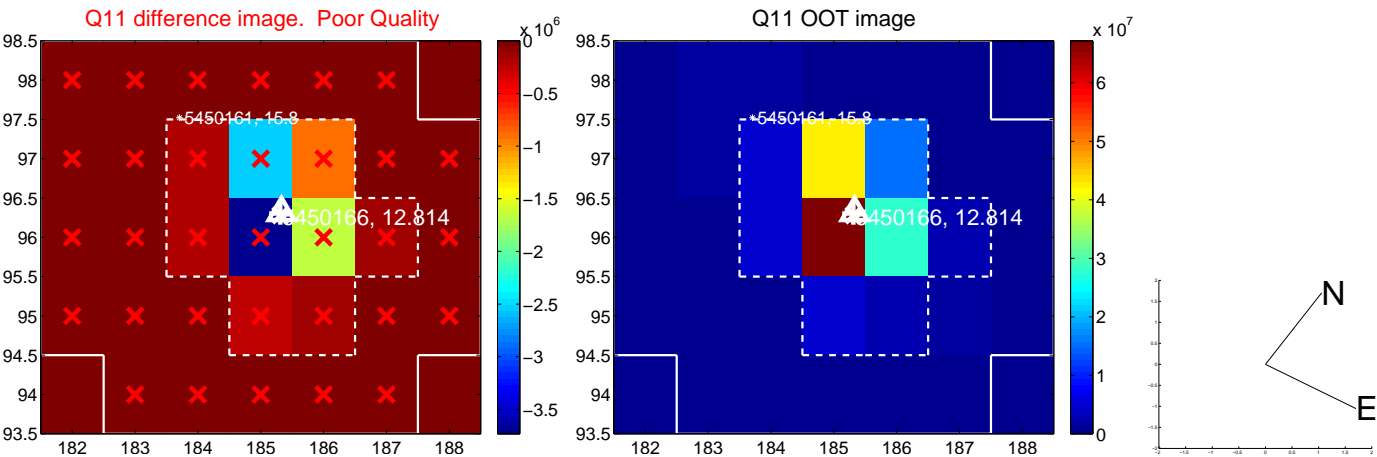
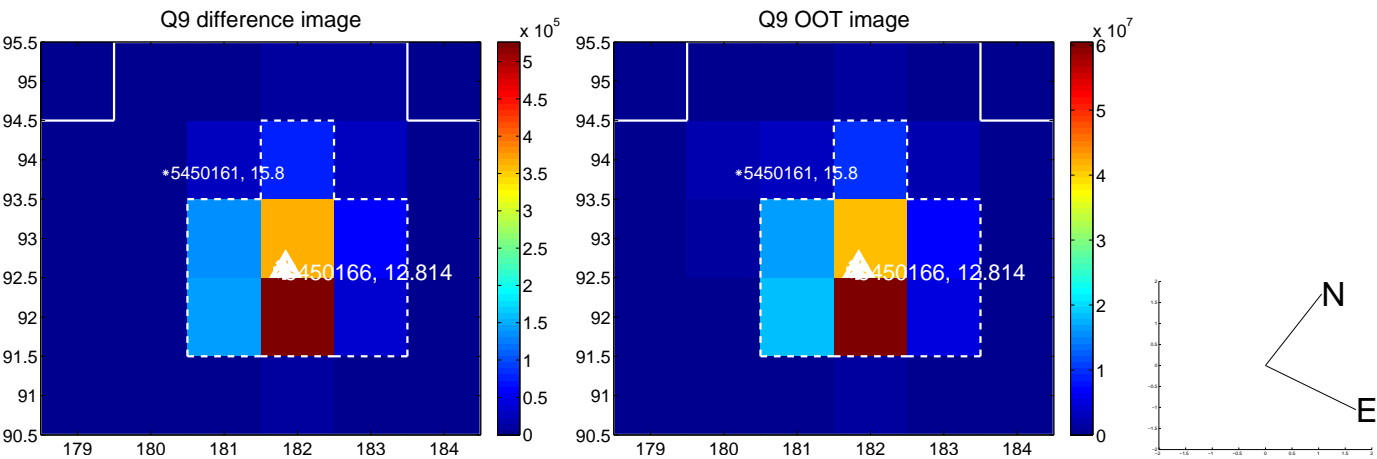
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.

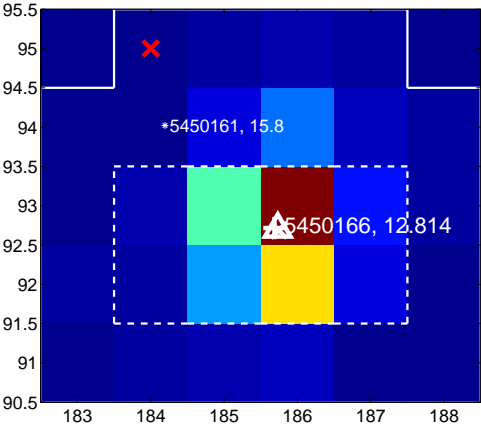
Q13 no difference image



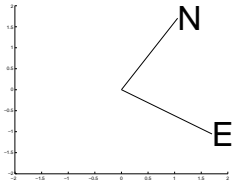
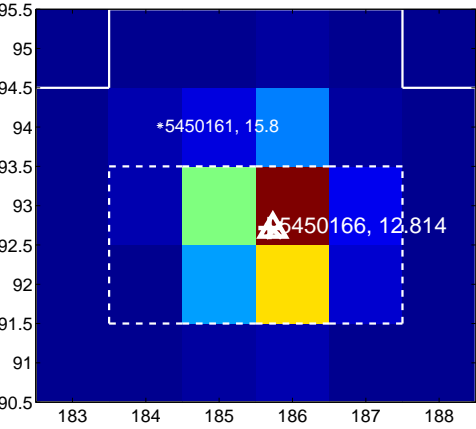
Q13 no OOT image



Q14 difference image



Q14 OOT image



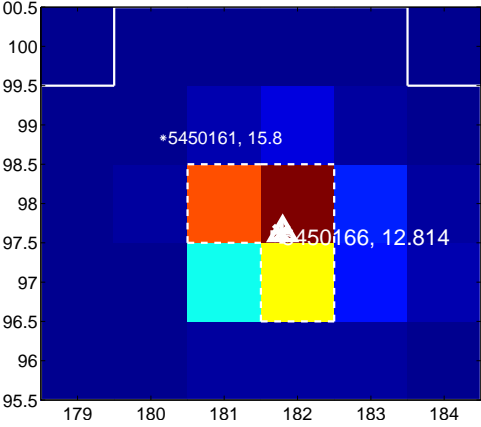
Q15 no difference image



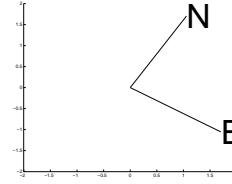
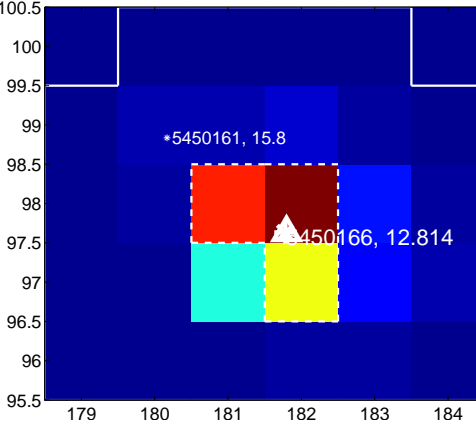
Q15 no OOT image



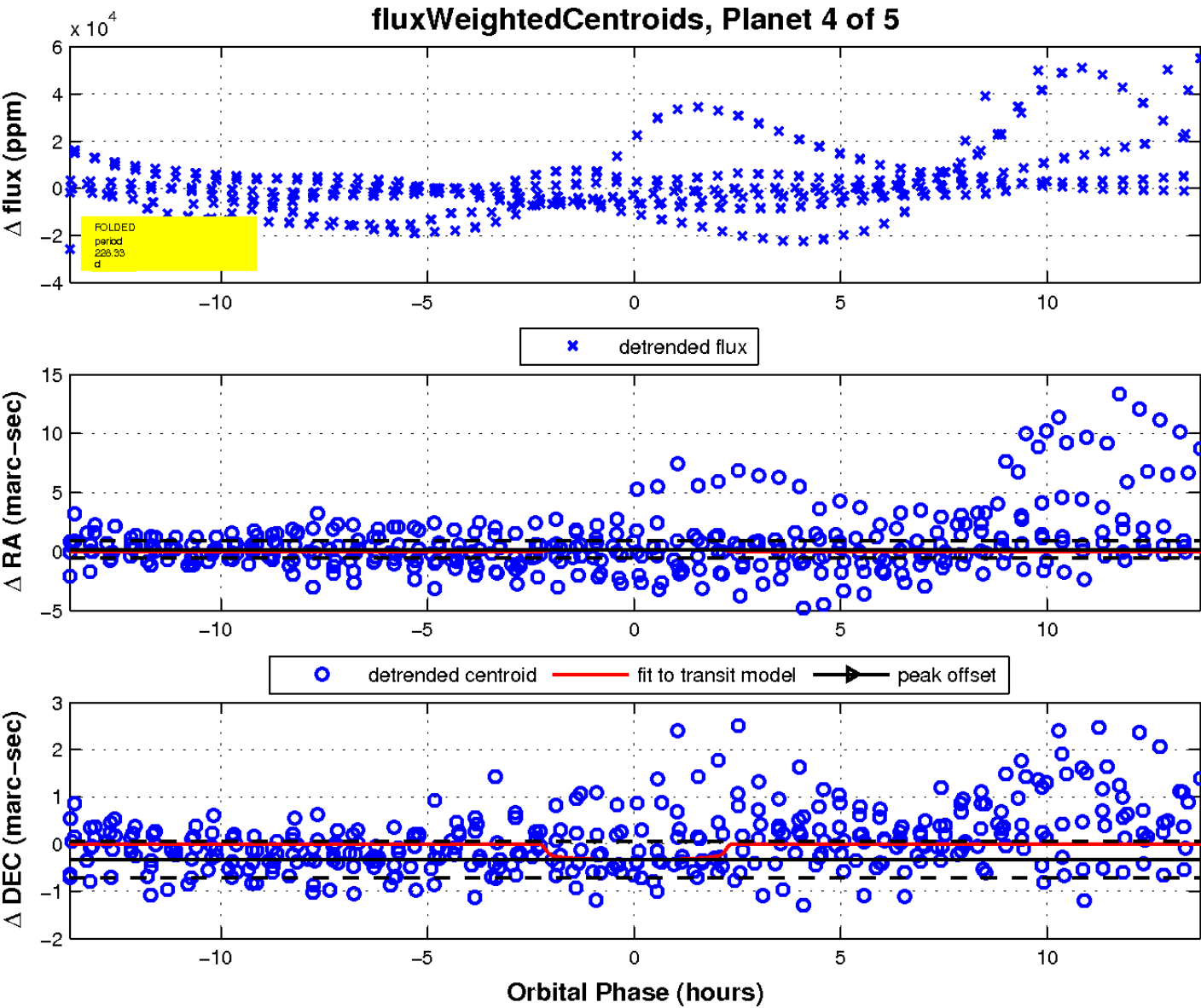
Q16 difference image



Q16 OOT image

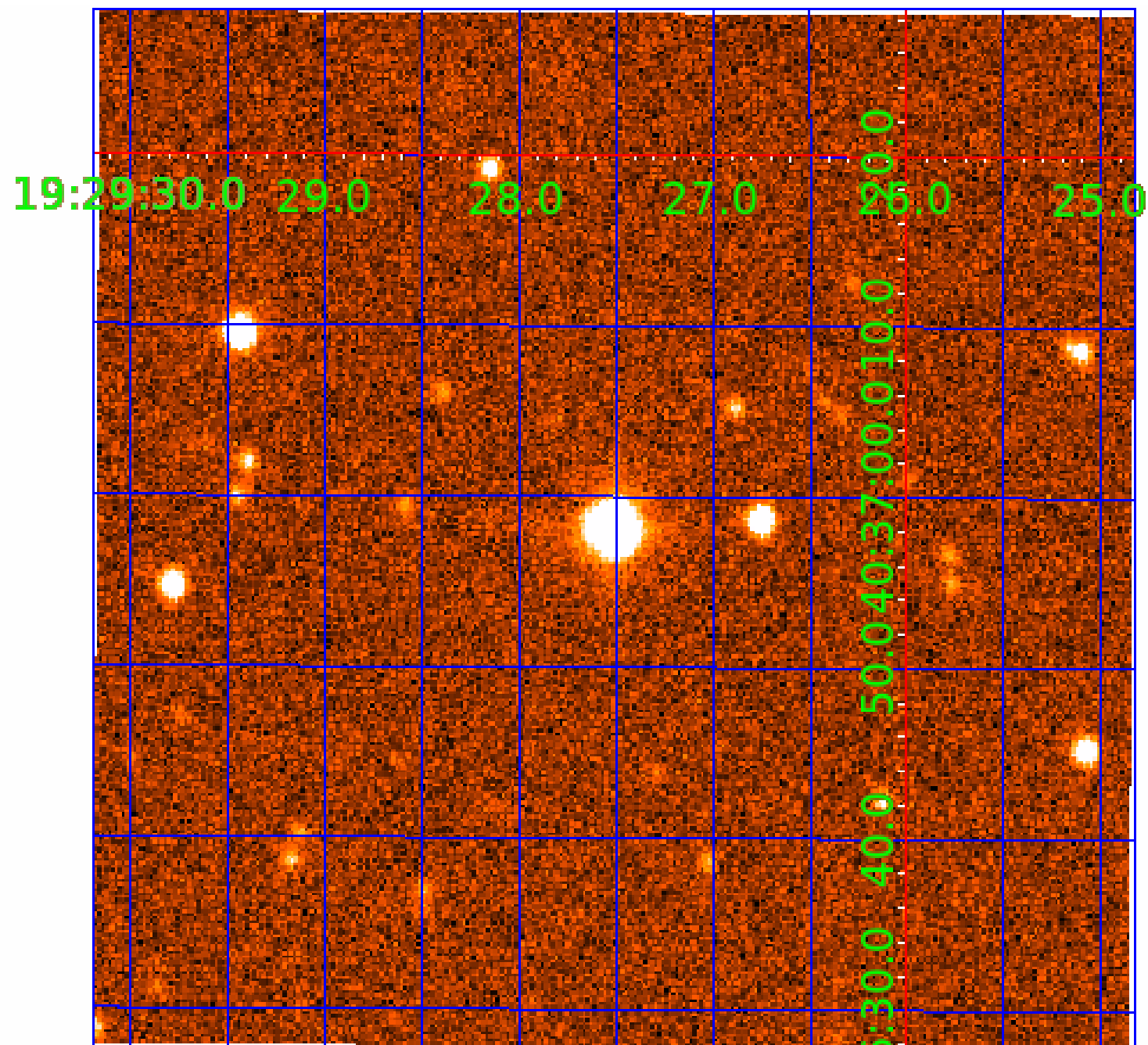


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005450166

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})
005450166-01	OBS	No	393.684381	495.248060	31.5	9.815	41.4	0.1	1.43	7122	0.97	3.50
005450166-02	OBS	No	210.833289	331.443333	1565.2	2.500	42.4	-1.0	1.43	7122	5.75	8.06
005450166-03	OBS	No	408.163613	483.058198	701.6	3.207	35.6	2.2	1.43	7122	6.78	3.34
005450166-04	OBS	No	228.325712	141.213272	304.3	4.580	38.6	1.7	1.43	7122	2.73	7.25
005450166-05	OBS	No	178.887183	200.391219	1383.6	2.500	32.9	-1.0	1.43	7122	5.40	10.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005450166-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005450166-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—NO_FITS—INCONSISTENT_TRANS—CENT_NOFITS
005450166-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005450166-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005450166-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

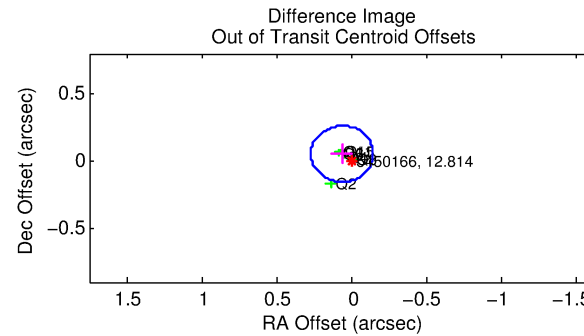
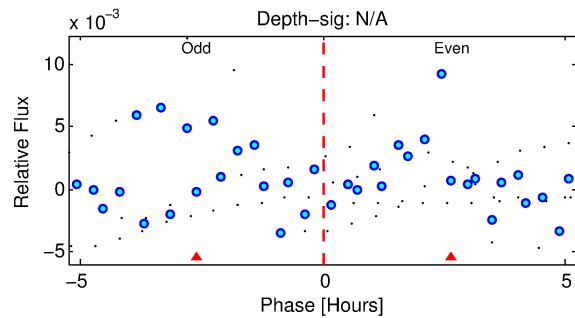
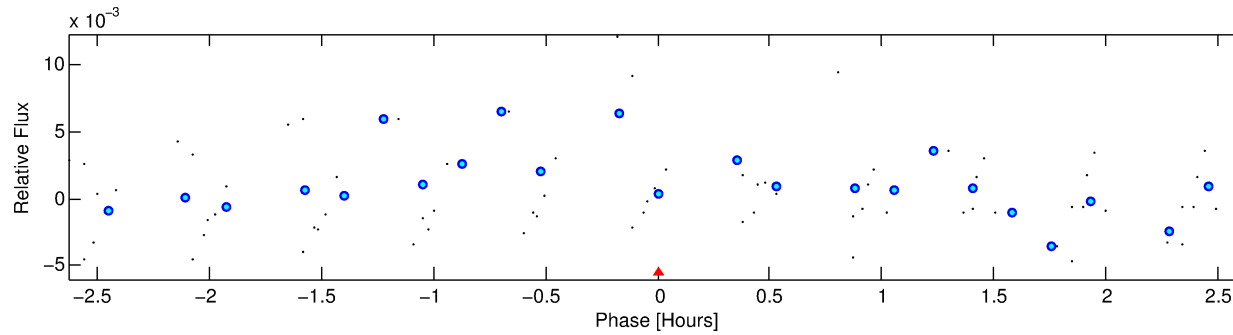
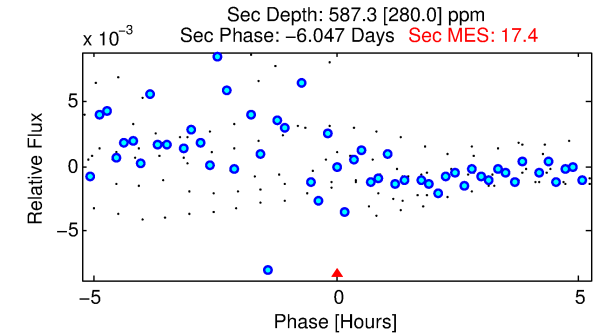
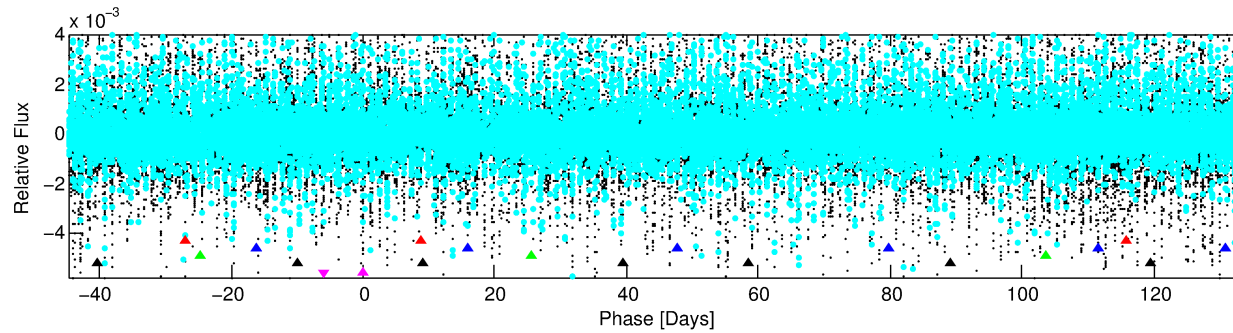
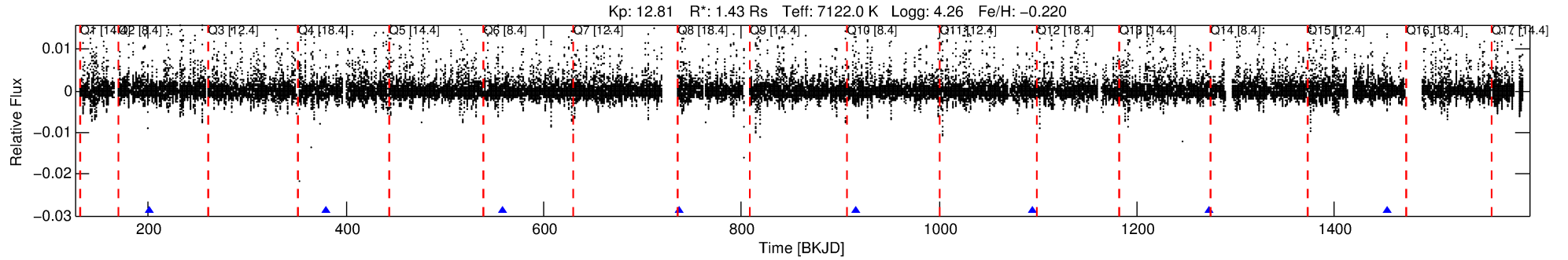
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005450166-05

No Significant Match Found

DV One-Page Summary

KIC: 5450166 Candidate: 5 of 5 Period: 178.887 d



TPS TCE Results:

Period = 178.88718 d
Epoch = 200.3912 BKJD

DV fit results are unavailable

DV Diagnostic Results:

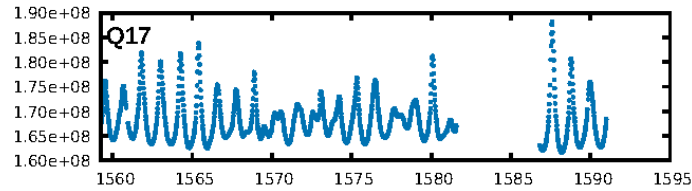
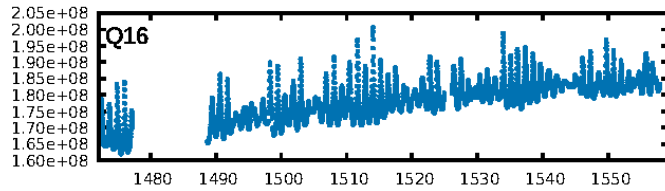
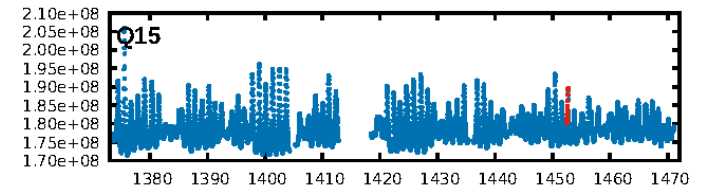
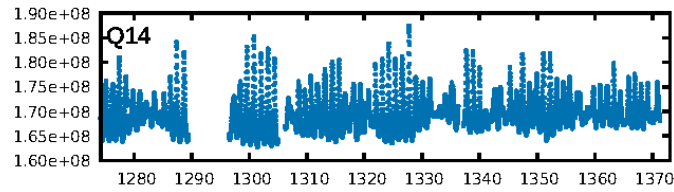
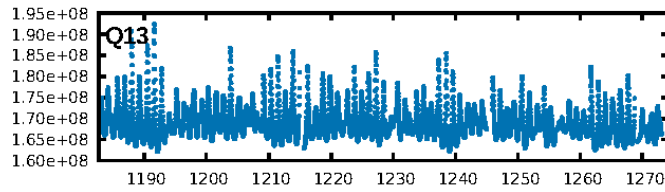
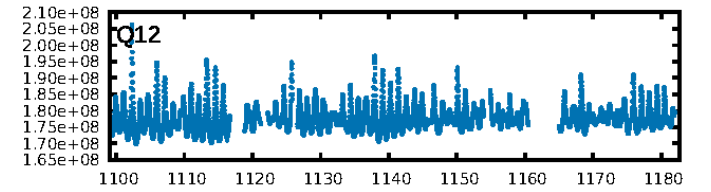
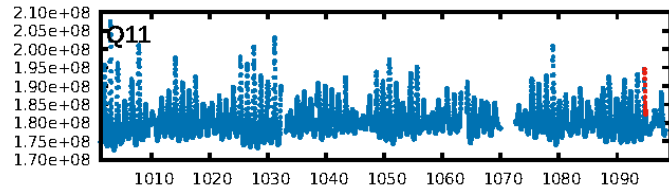
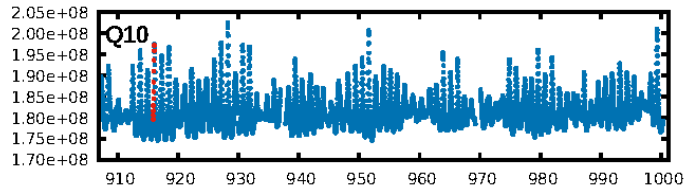
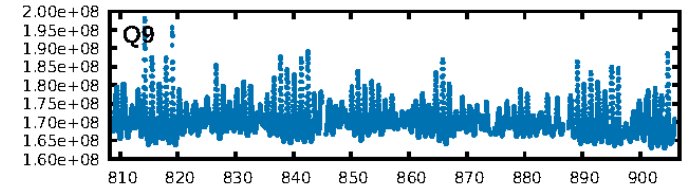
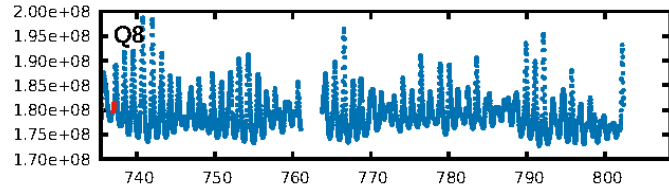
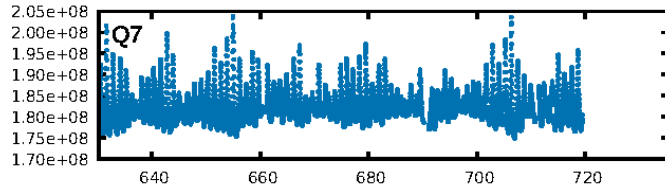
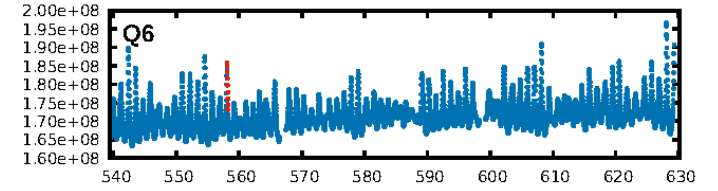
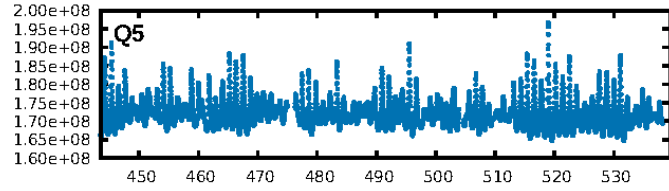
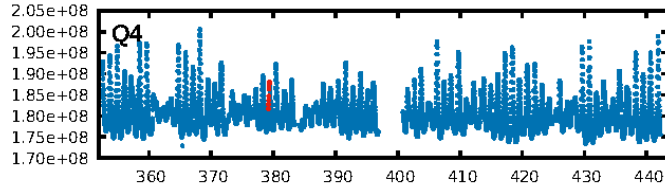
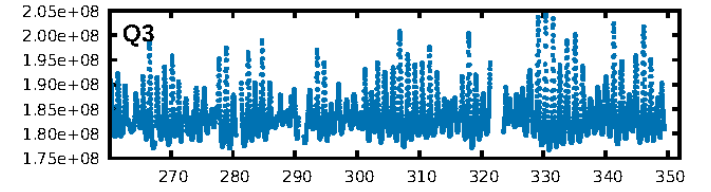
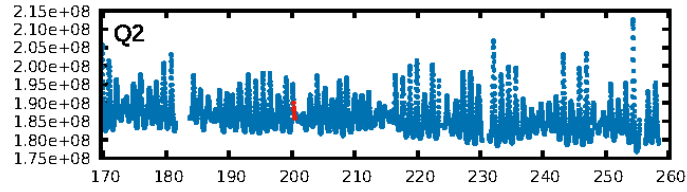
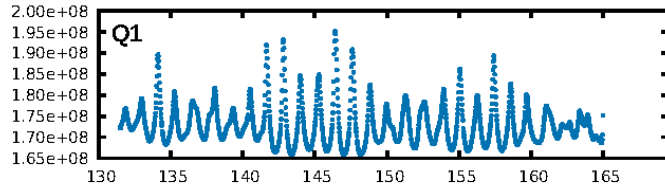
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [216.86σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 2.438

Centroid-sig: 14.2%
Centroid-so: 2.059 arcsec [1.22σ]
OotOffset-rm: 0.082 arcsec [1.18σ]
KicOffset-rm: 0.135 arcsec [1.58σ]
OotOffset-st: 2/2/2/0 [6]
KicOffset-st: 2/2/2/0 [6]
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DiffImageOverlap-fno: 1.00 [6/6]

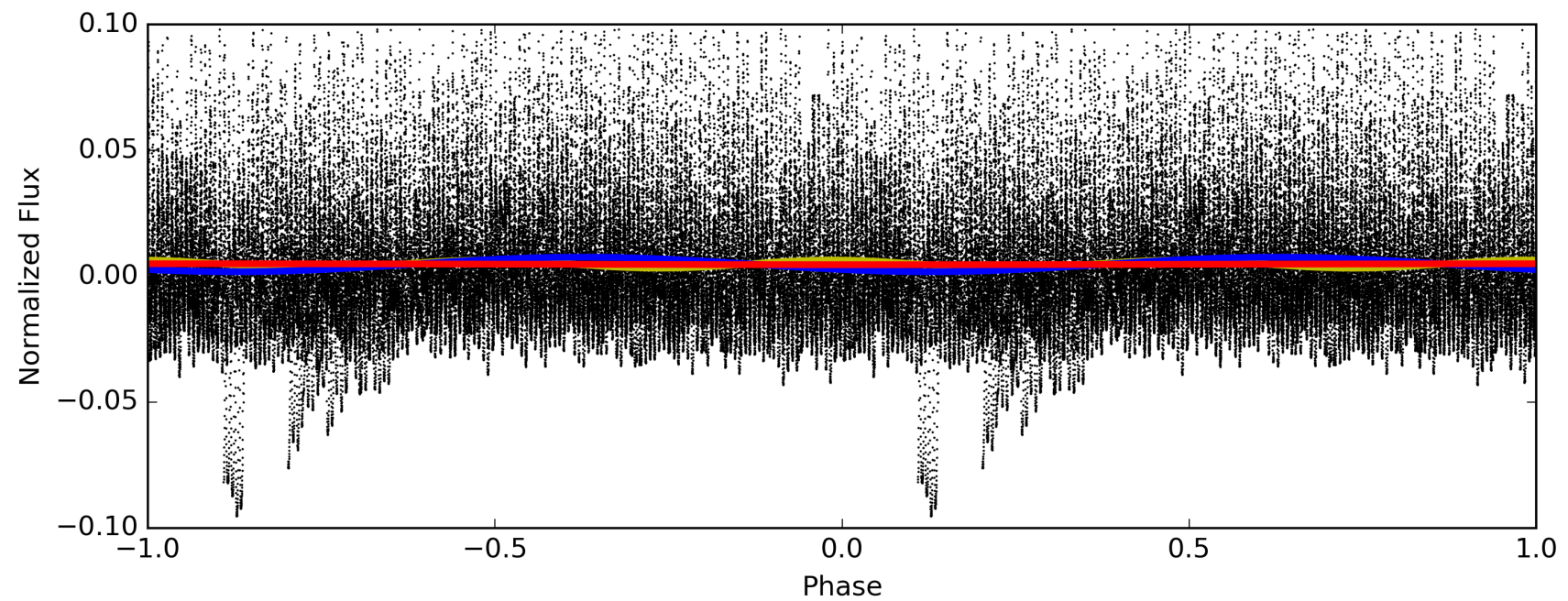
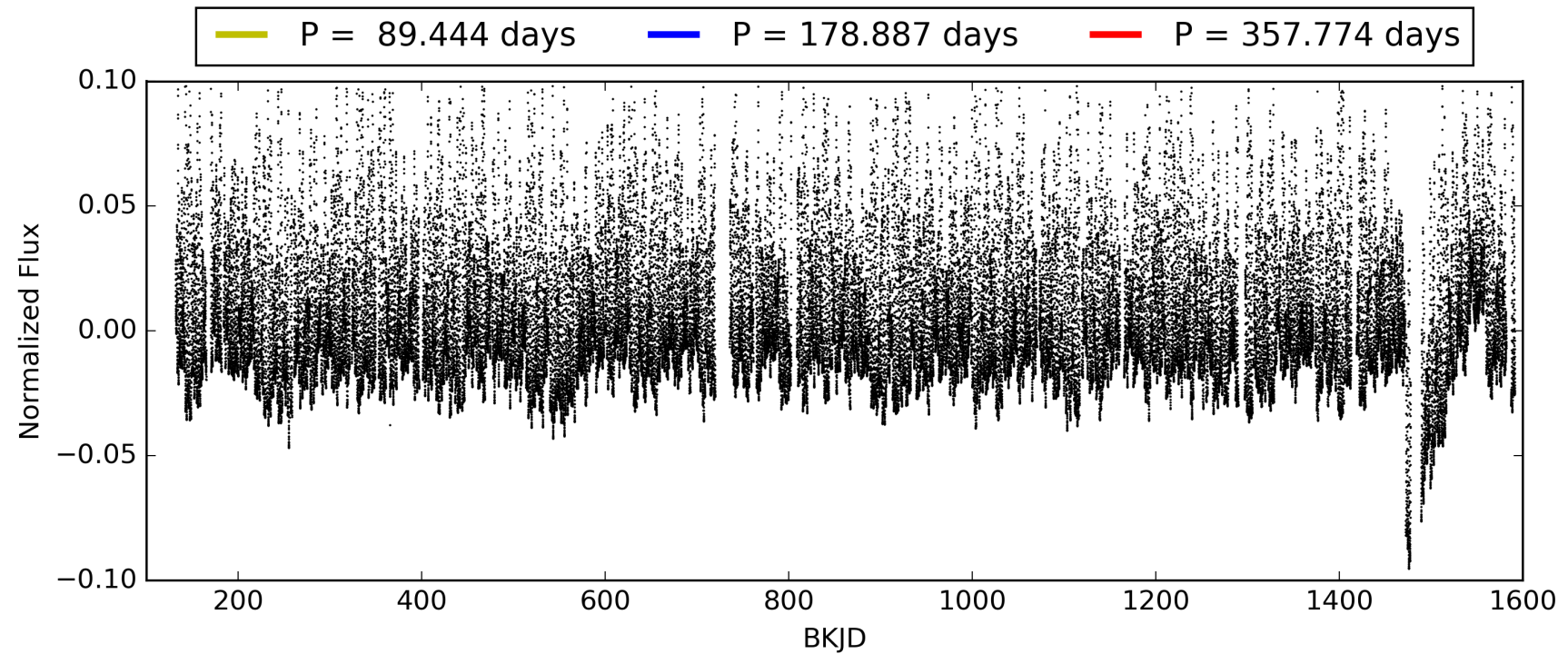
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:37:06 Z

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

TCE 005450166-05, PDC Light Curves

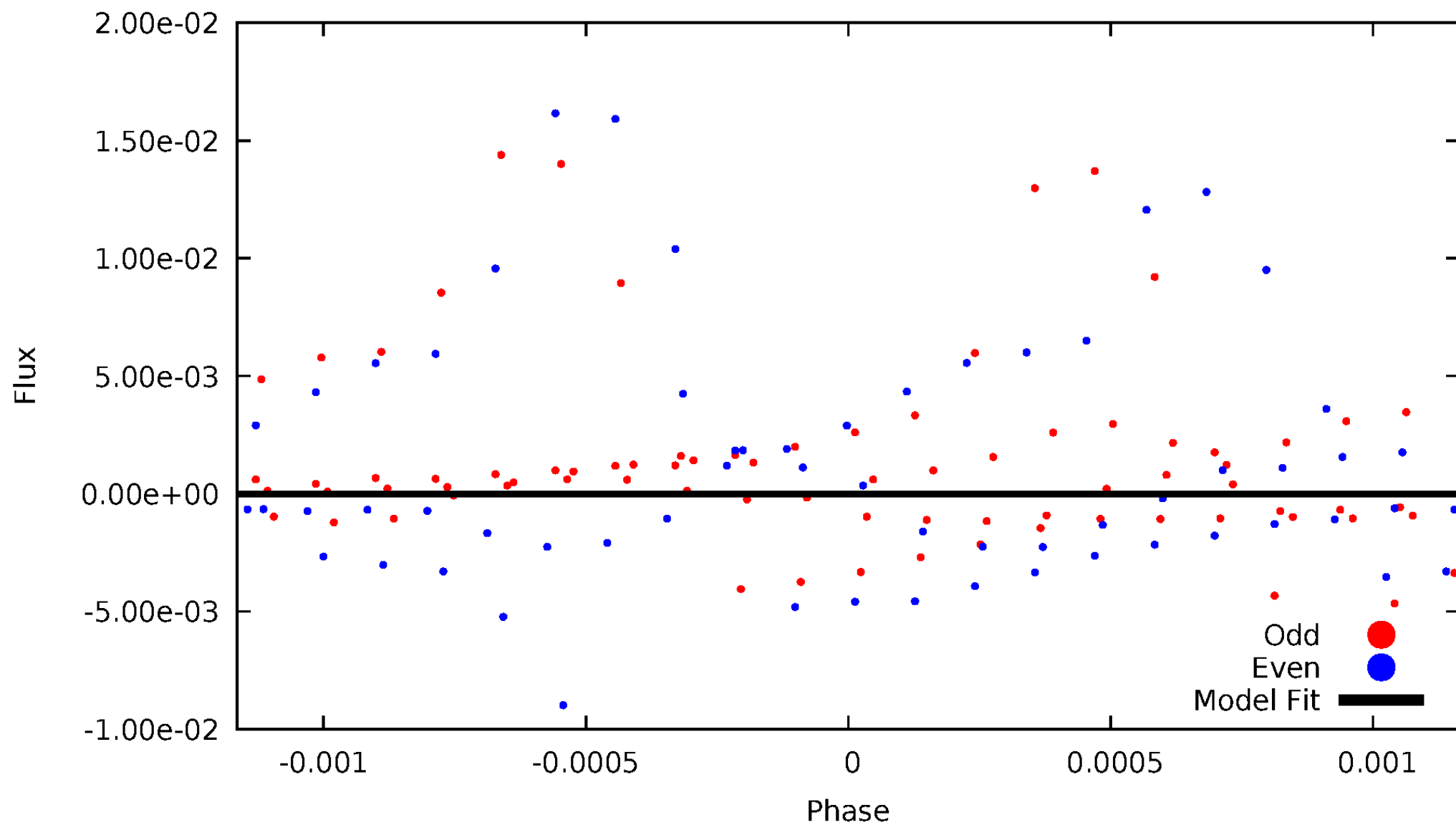


TCE 005450166-05



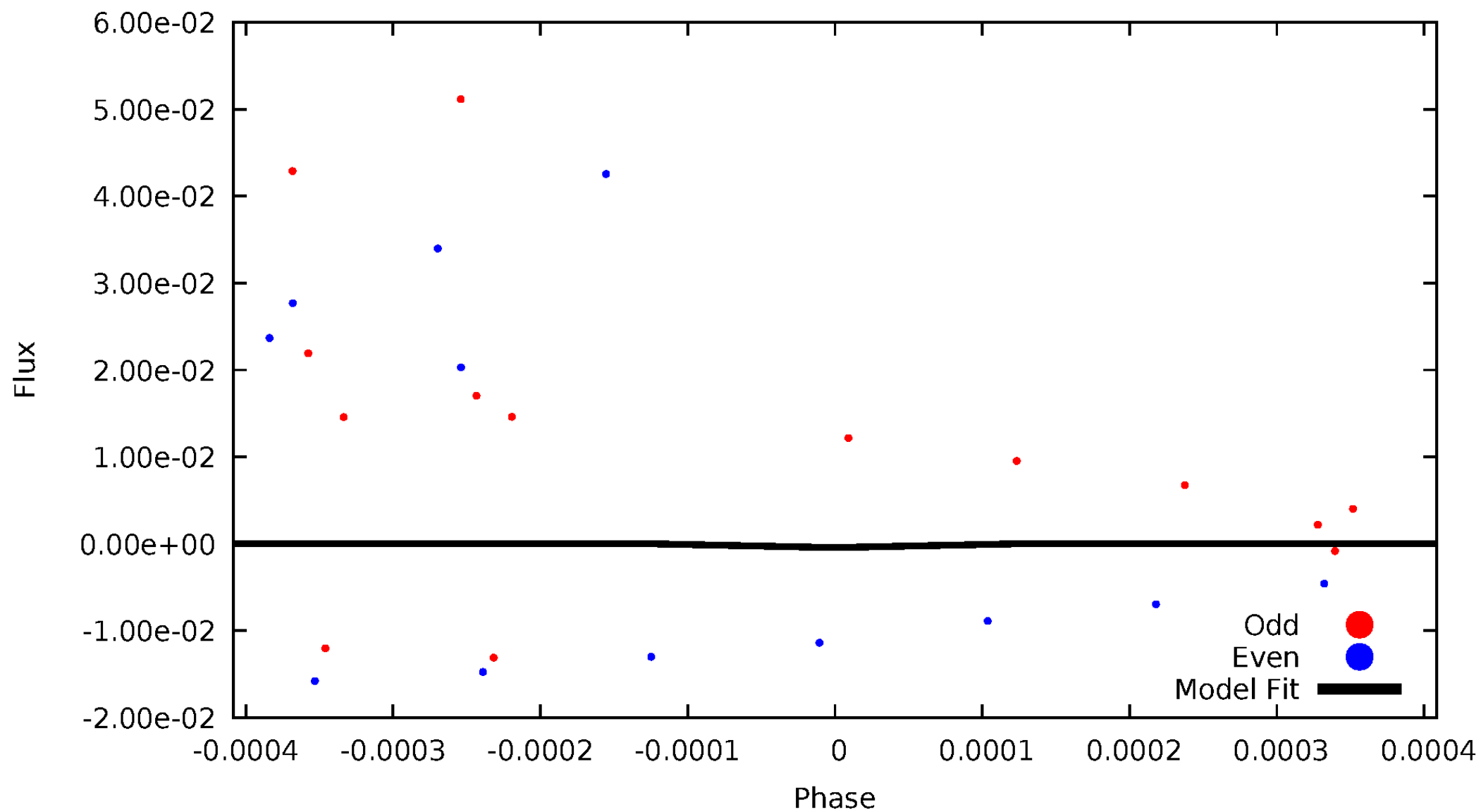
DV Odd/Even

TCE 005450166-05



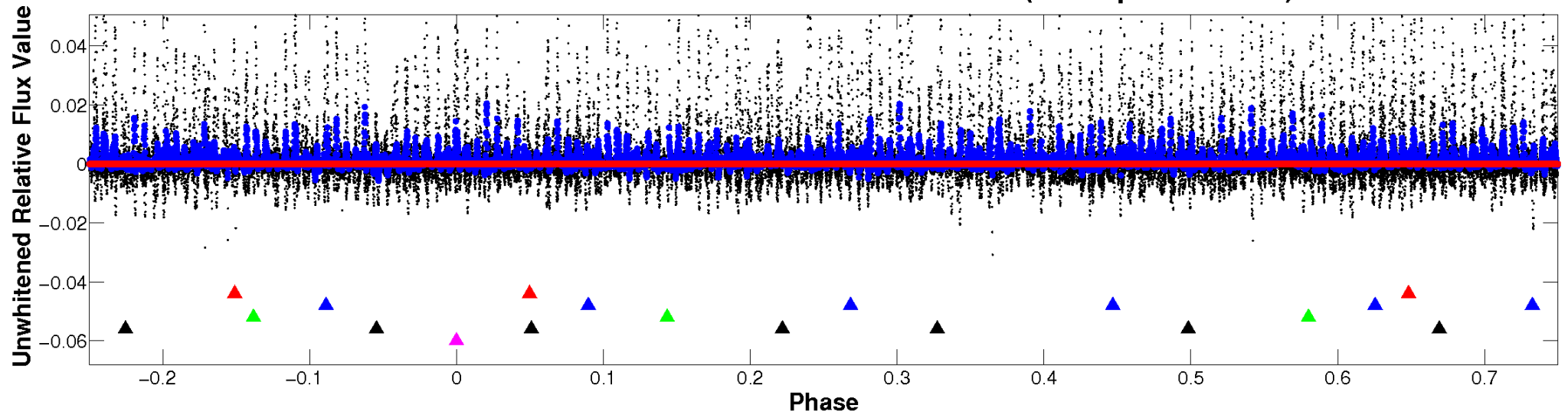
ALT Odd/Even

TCE 005450166-05



Non-Whitened Vs. Whitened Light Curve

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

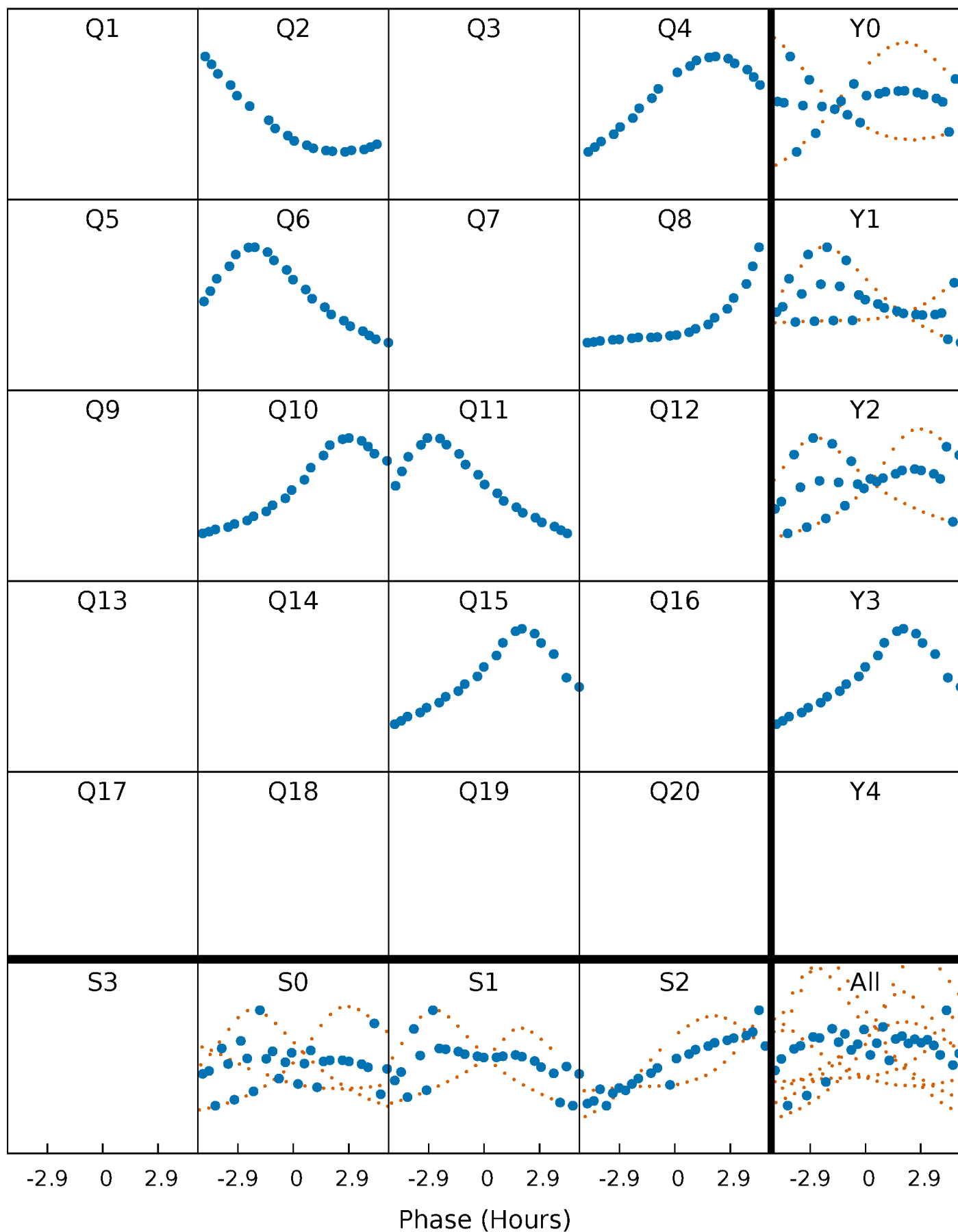


Planet 5 : Phased Whitened Flux Time Series (TPS Epoch/Period)



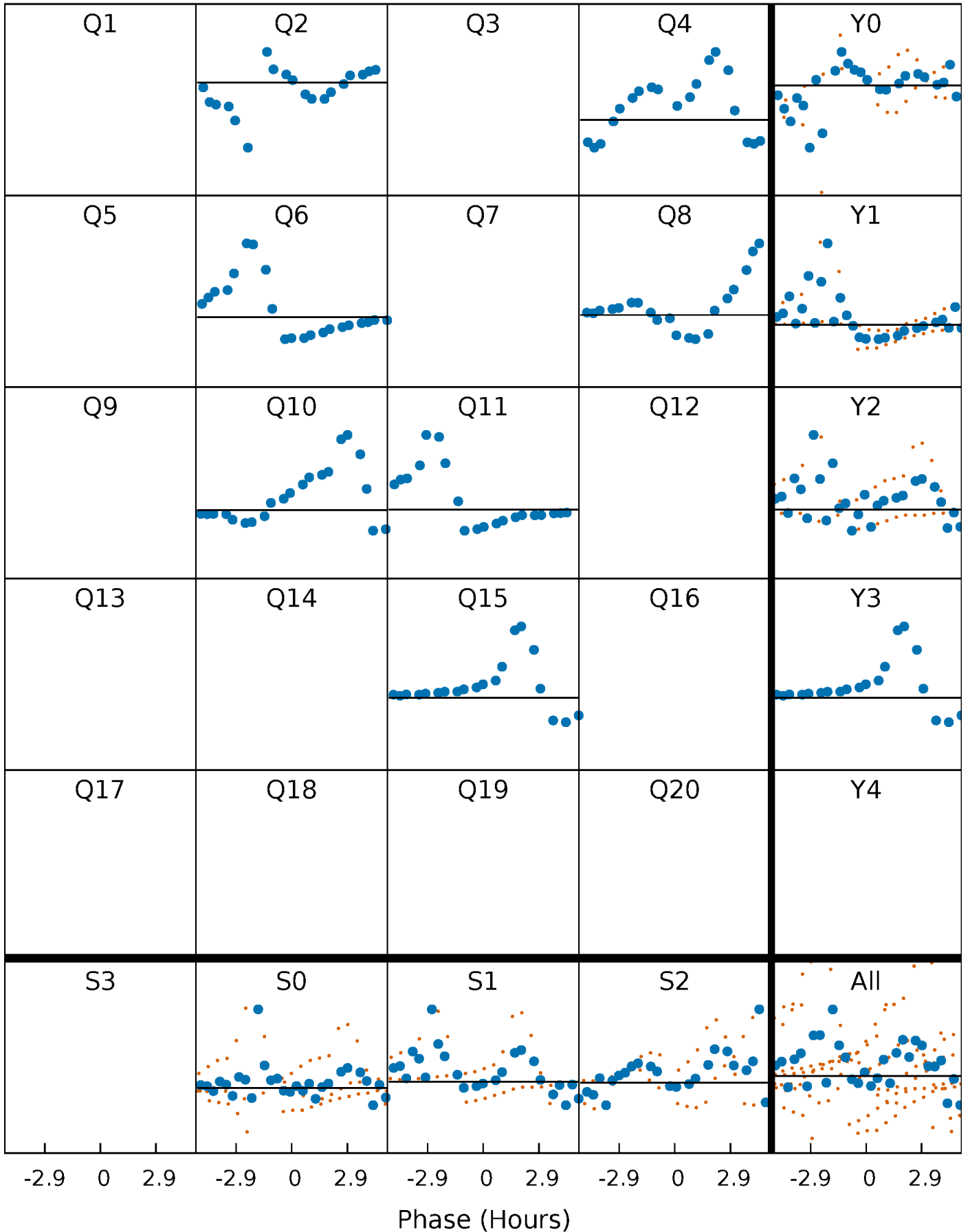
PDC Quarter-Phased Transit Curves

TCE 005450166-05 P=178.887183 Days $T_0=200.391219$ (BKJD)



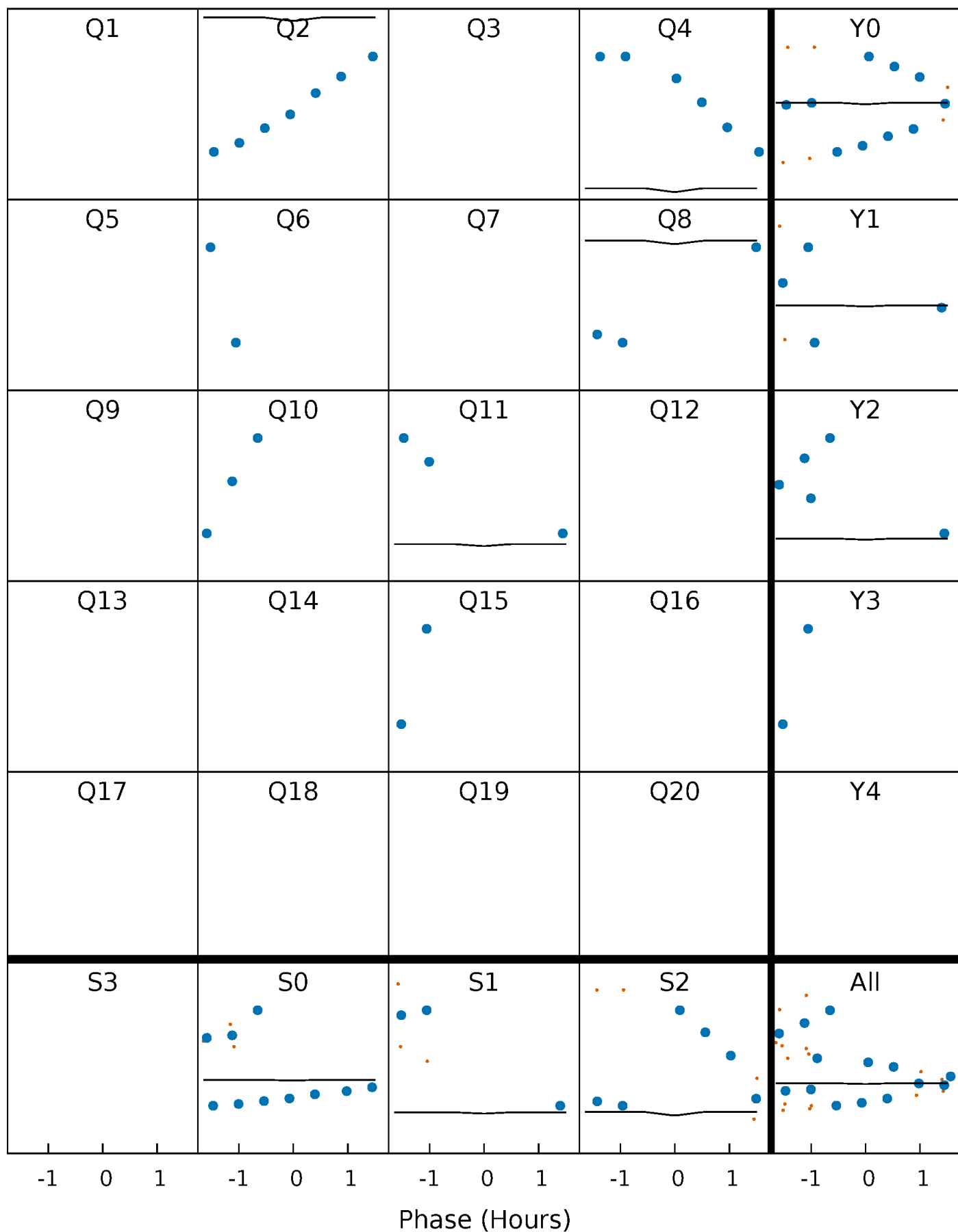
DV Quarter-Phased Transit Curves

TCE 005450166-05 P=178.887183 Days $T_0=200.391219$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

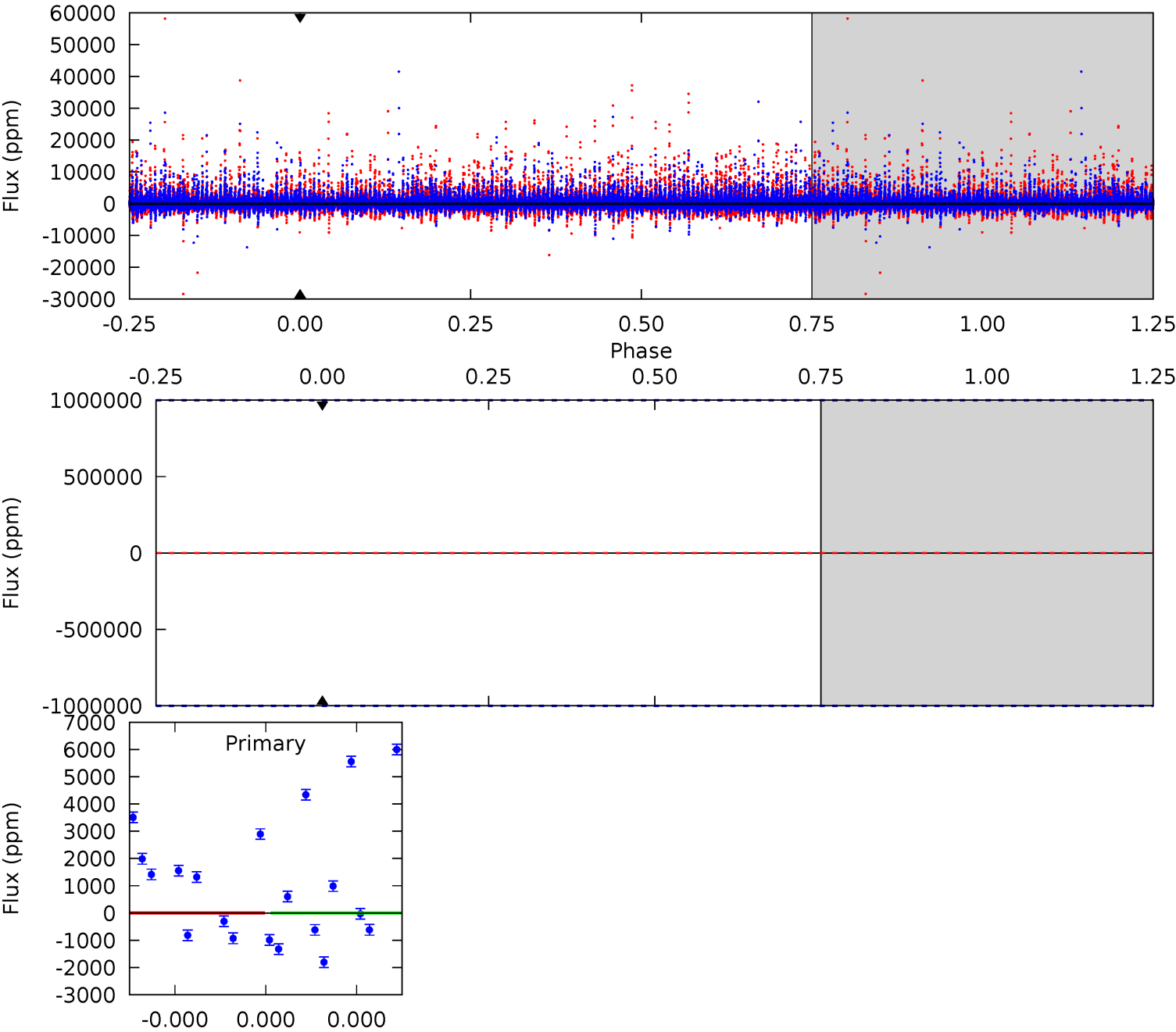
TCE 005450166-05 P=178.887183 Days $T_0=200.500251$ (BKJD)



DV Model-Shift Uniqueness Test

005450166-05, P = 178.887183 Days, E = 21.504036 Days

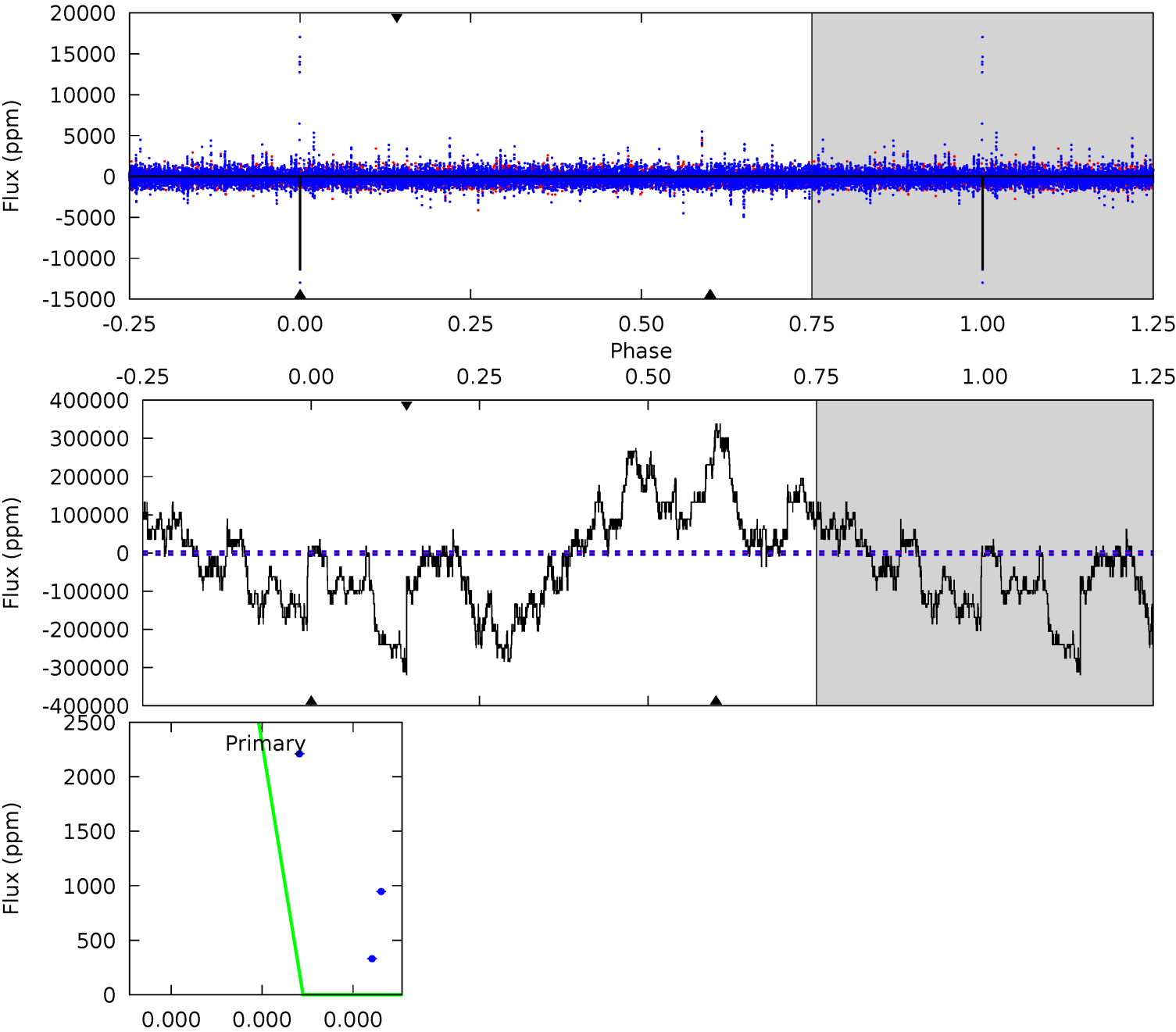
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005450166-05, P = 178.887183 Days, E = 21.613068 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	-460.5	-460.5	-436.3	5.80	3.82	180.3	472.6	448.4	0	-24.2	0	1.00	0.51	0



Stellar Parameters For KIC 005450166

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7122^{+200}_{-250}	$4.256^{+0.087}_{-0.203}$	$-0.220^{+0.250}_{-0.350}$	$1.433^{+0.490}_{-0.210}$	$1.357^{+0.203}_{-0.203}$	$0.649^{+0.306}_{-0.329}$
	+3%/-4%	+2%/-5%	+114%/-159%	+34%/-15%	+15%/-15%	+47%/-51%
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 005450166-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$12.43^{+14.15}_{-8.84}$	643^{+46}_{-38}	-3760^{+37531}_{-29031}	$-705.233^{+297230.347}_{-307964.166}$
Alt.	0 ± 733	$12.12^{+12.08}_{-8.28}$	644^{+47}_{-38}	-2358^{+7250}_{-2816}	$-14.214^{+2042.221}_{-2793.081}$

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 $A_{obs} \gg 1.0$

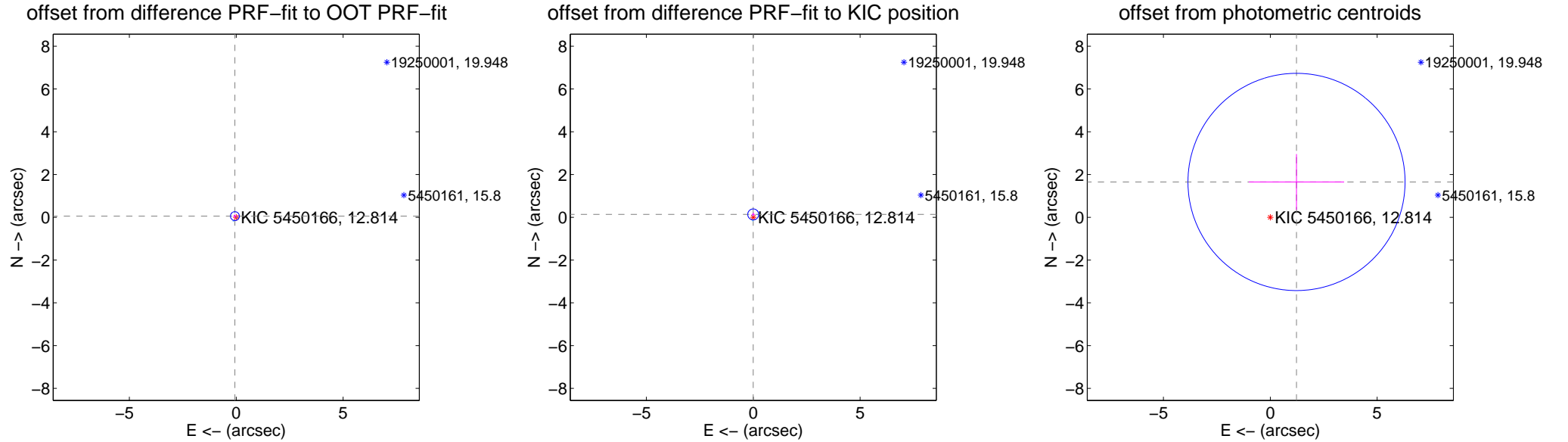
DV Centroid Data

Supplemental centroid analysis for 005450166-05. Kepler magnitude: 12.81. Transit SNR -1.00

There are 4 quarters with good PRF difference image offsets

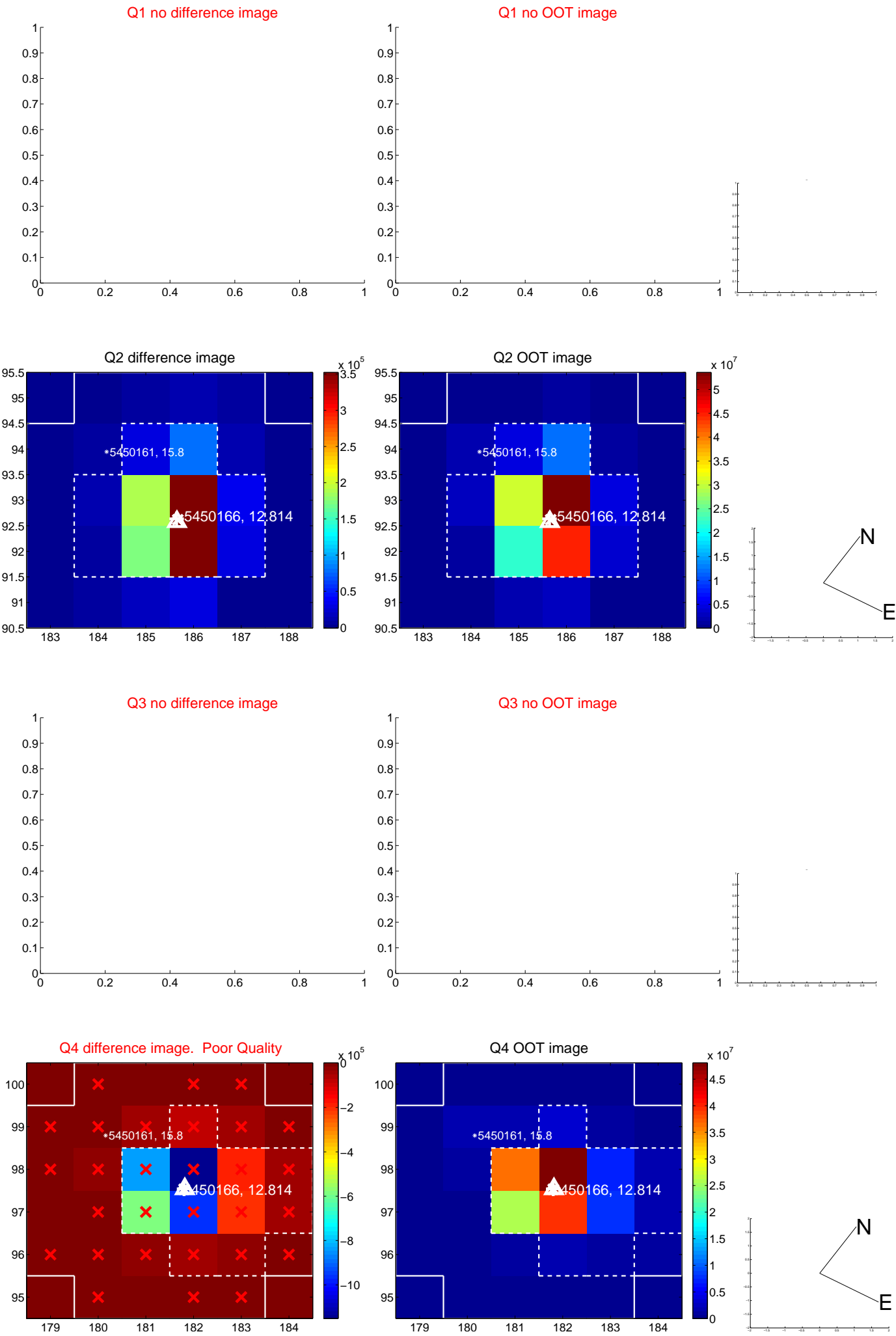
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.082 ± 0.069	1.18	0.061 ± 0.068	0.054 ± 0.074
PRF-fit source offset from KIC position	0.135 ± 0.085	1.58	0.002 ± 0.075	0.135 ± 0.086
photometric centroid source offset	2.06 ± 1.69	1.22	-1.23 ± 2.23	1.65 ± 1.31



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.

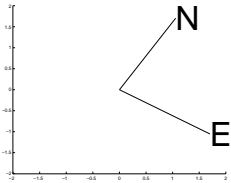
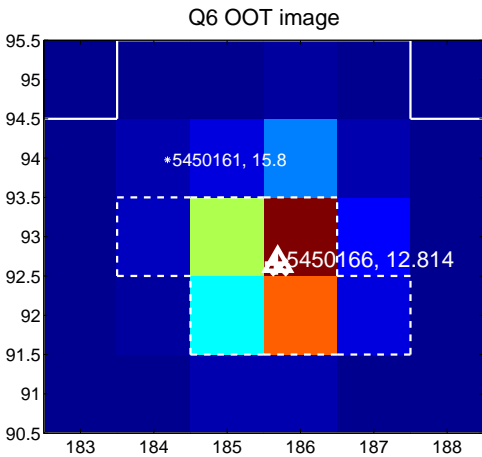
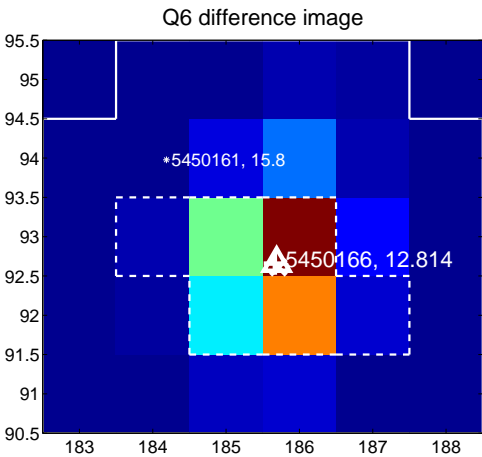


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

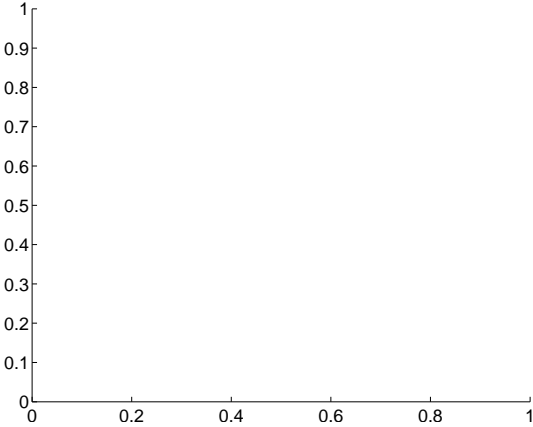
Q5 no difference image



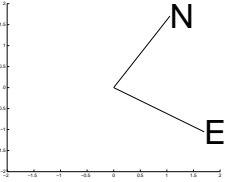
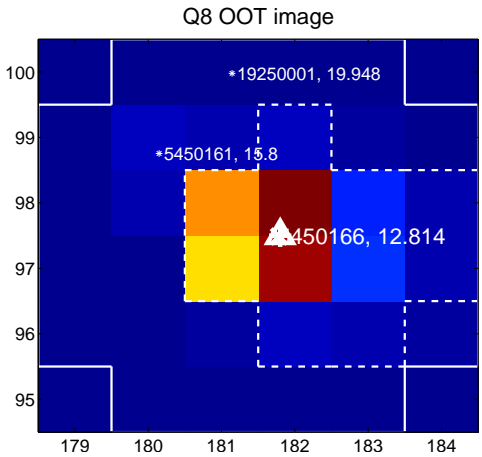
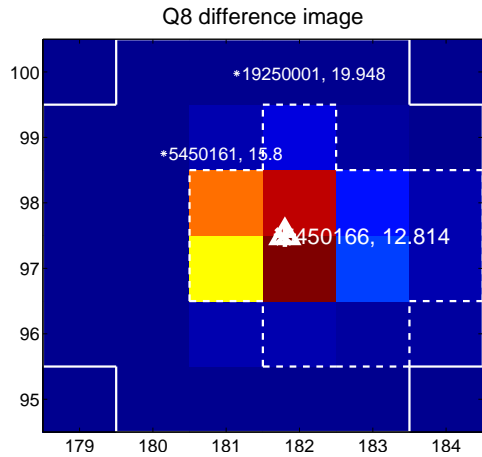
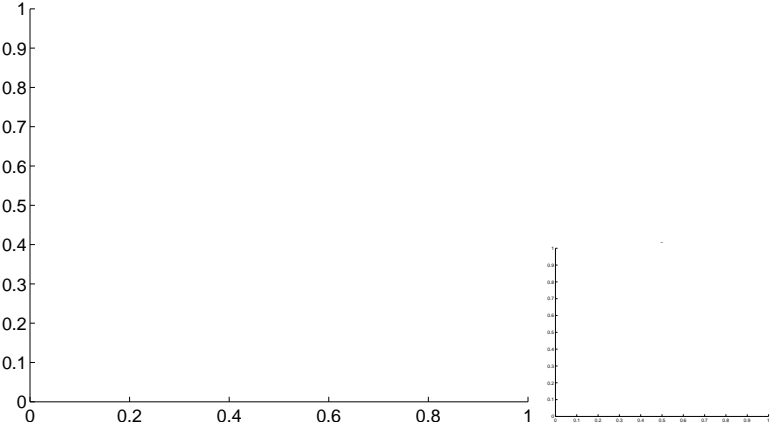
Q5 no OOT image



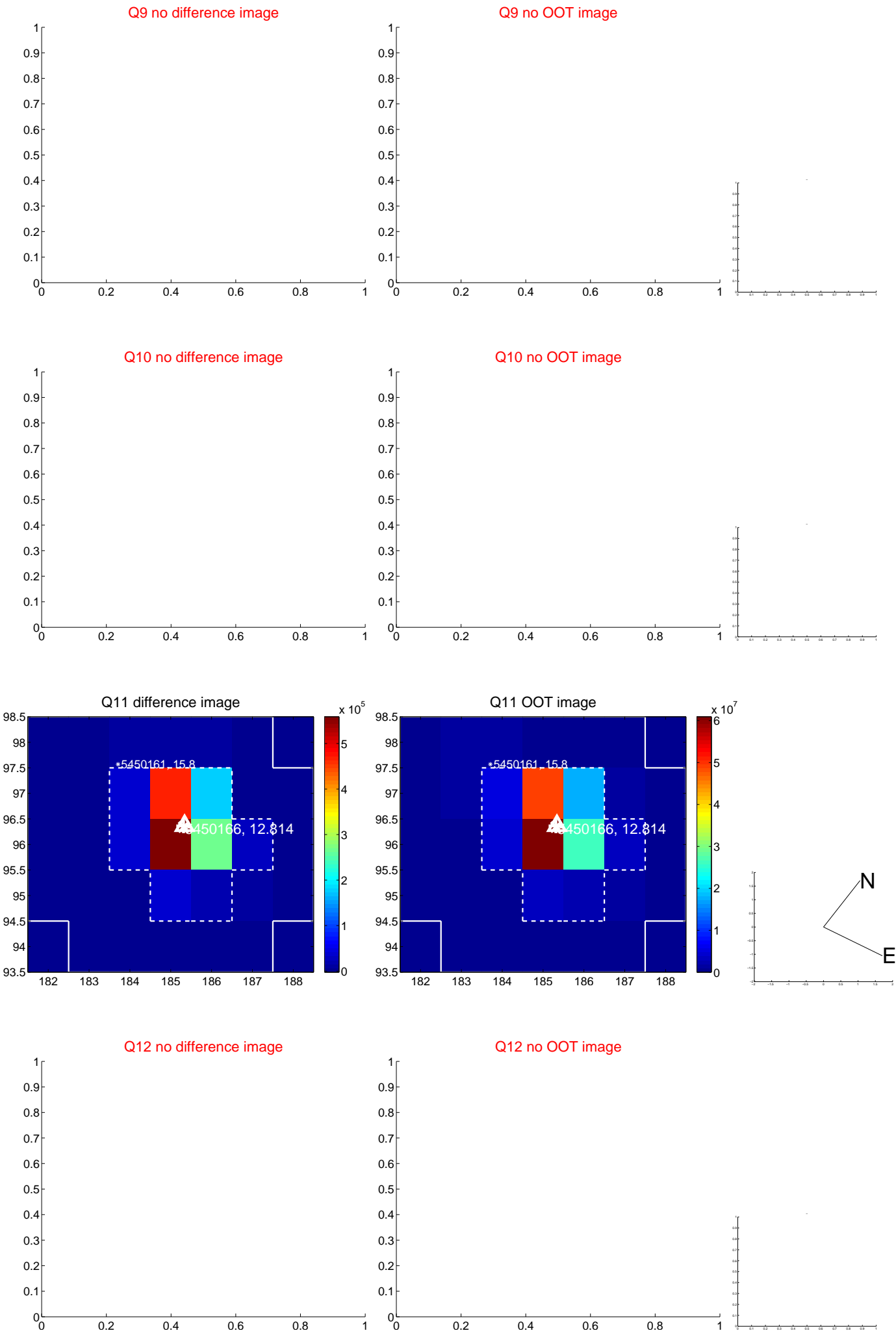
Q7 no difference image



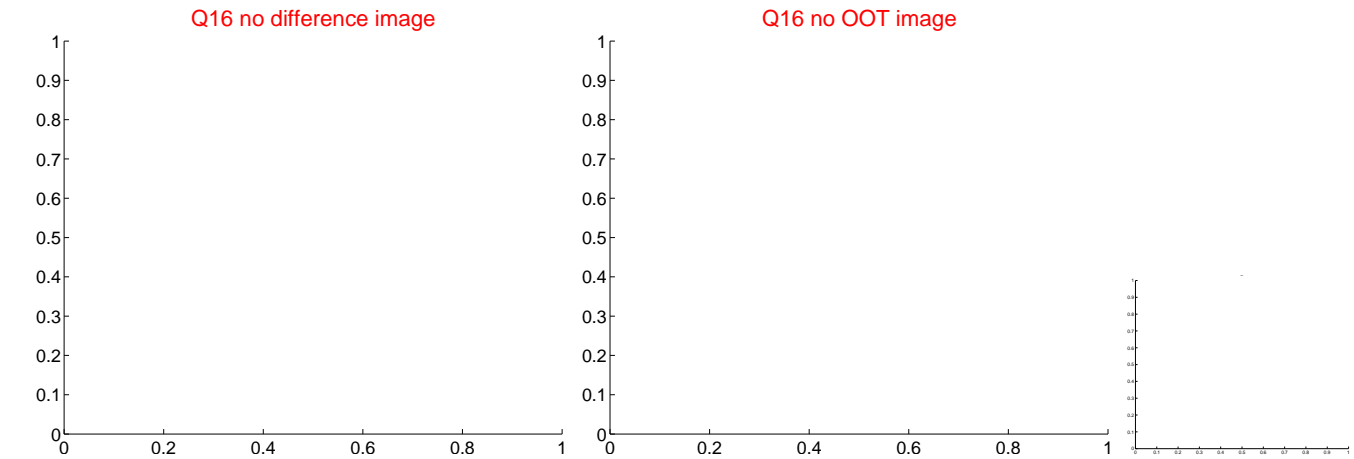
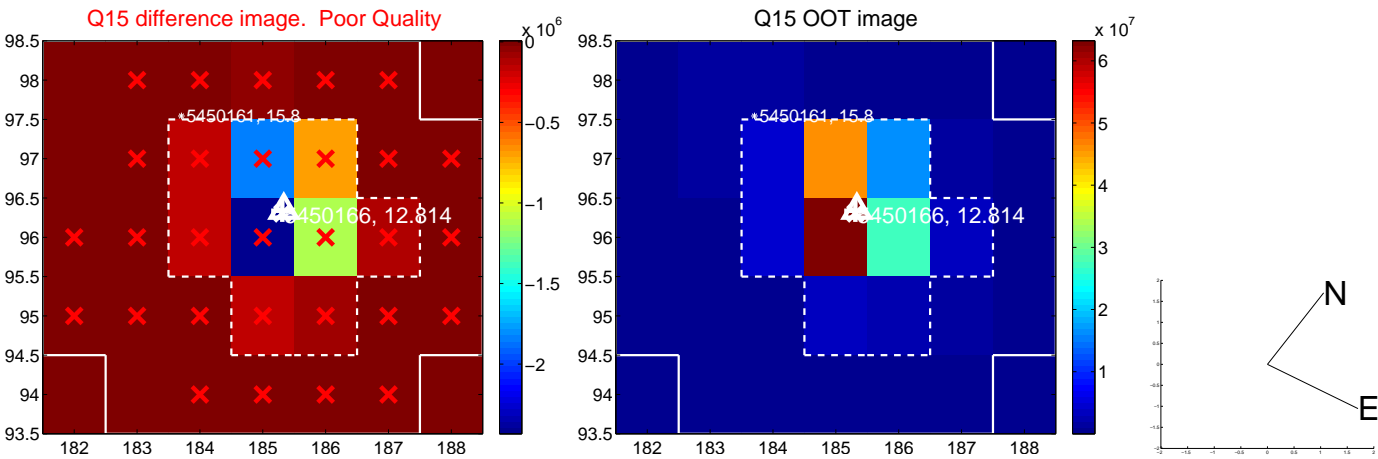
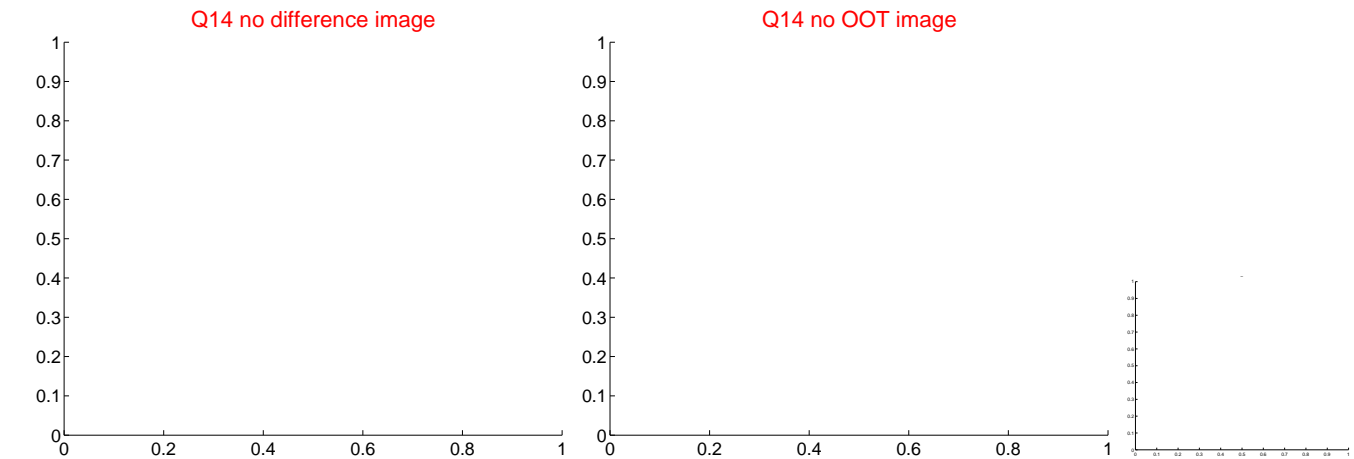
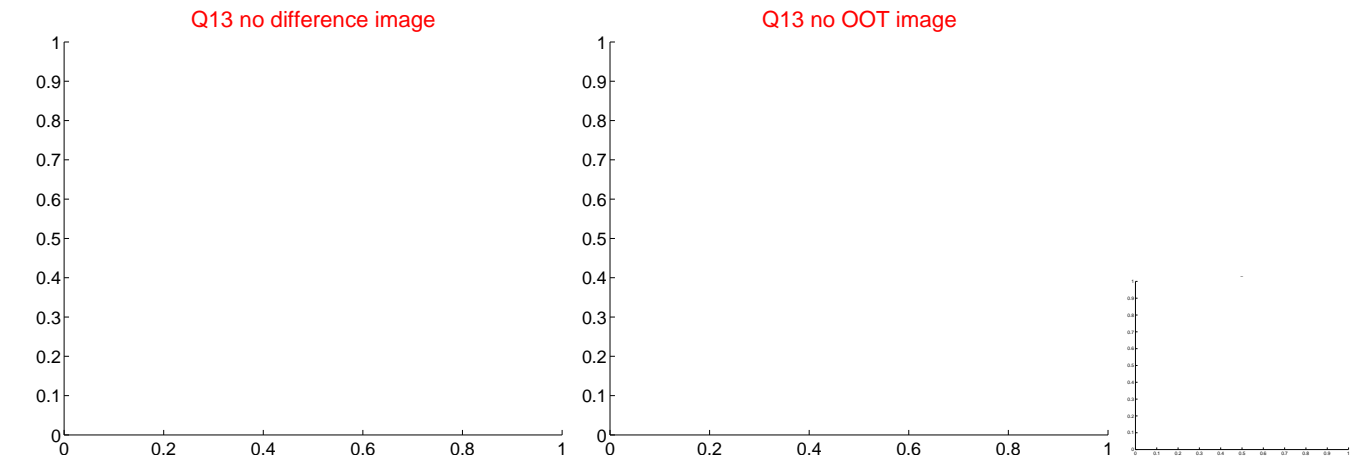
Q7 no OOT image



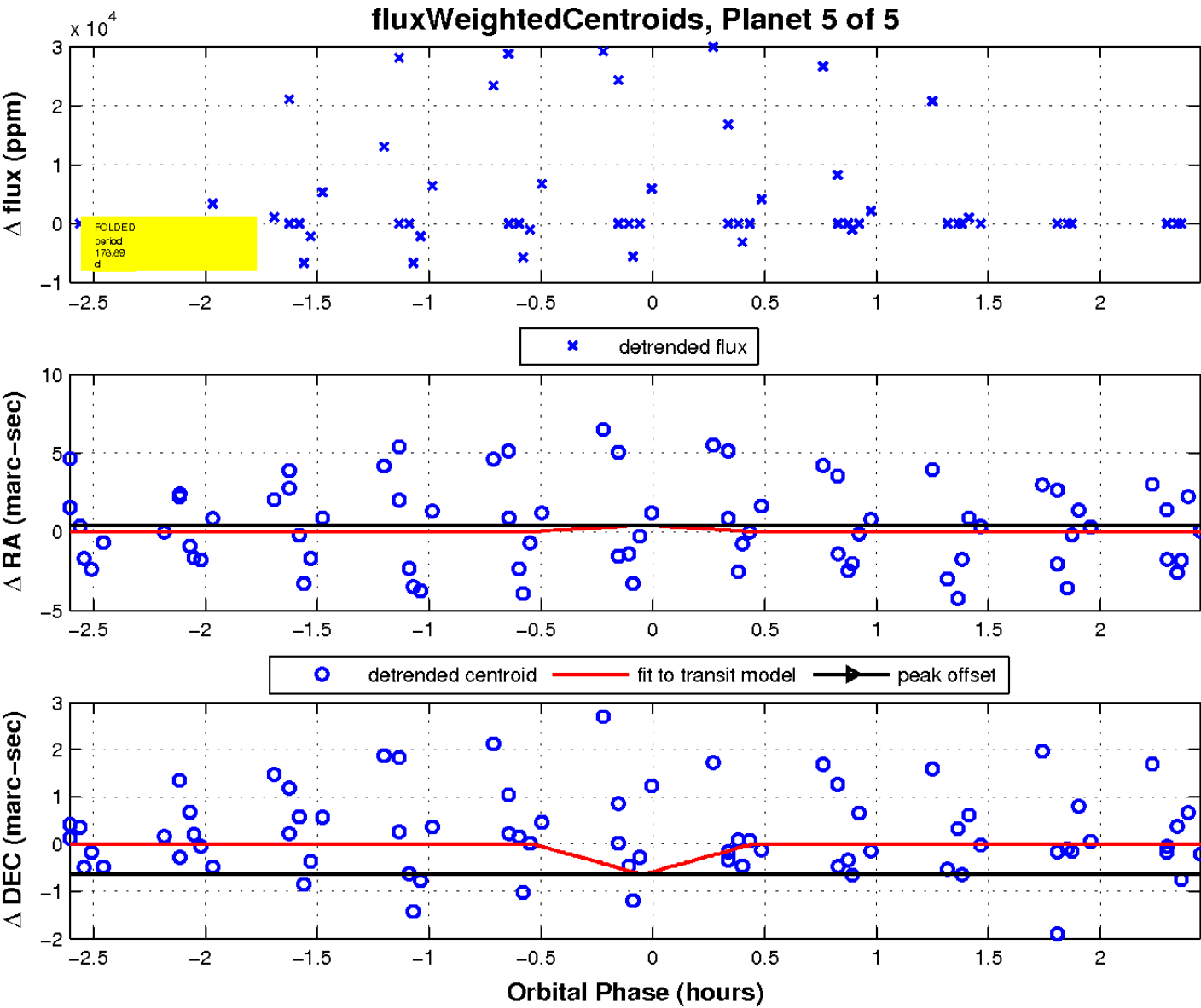
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

