

KIC 010450536

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})
010450536-01	OBS	No	380.435511	224.411453	14628.5	10.639	488.1	388.5	2.50	6544	53.01	6.90
010450536-02	OBS	No	371.775002	249.324090	3397.3	10.500	250.9	-1.0	2.50	6544	14.65	7.11
010450536-05	OBS	No	386.432676	208.082354	2786.3	7.500	153.6	-1.0	2.50	6544	13.27	6.76
010450536-06	OBS	No	353.779009	247.377435	2989.1	3.777	170.1	47.8	2.50	6544	25.16	7.60
010450536-07	OBS	No	365.387311	250.632990	2478.1	20.480	173.7	99.2	2.50	6544	12.54	7.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010450536-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010450536-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010450536-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010450536-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—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_SATURATED
010450536-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

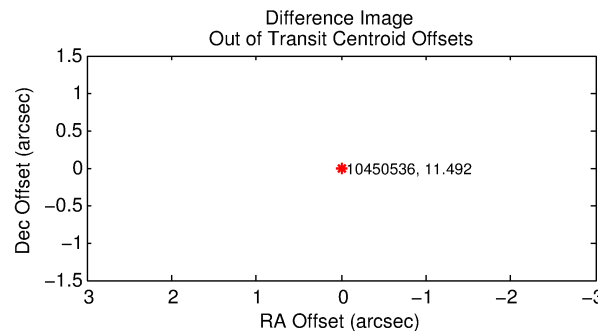
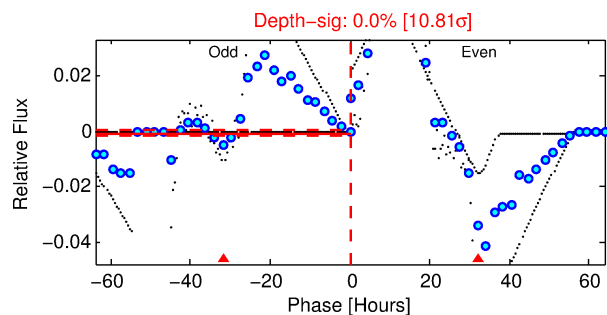
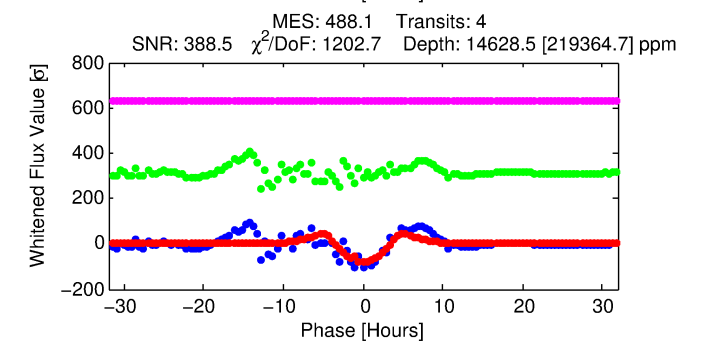
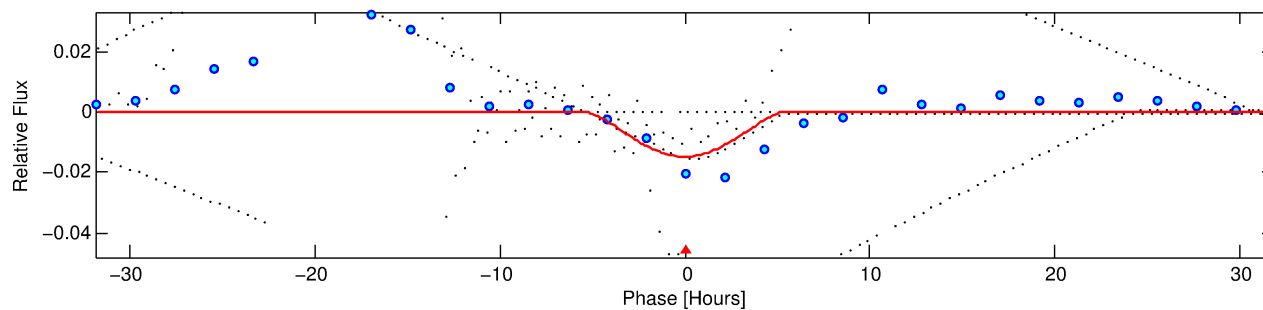
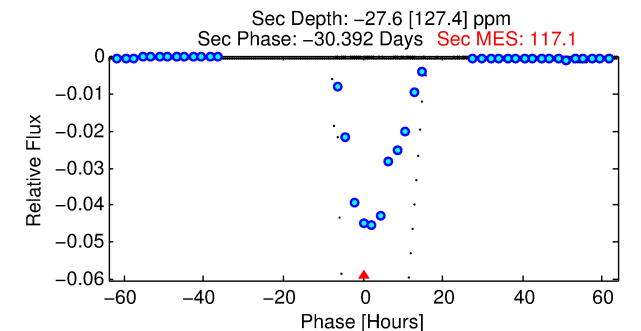
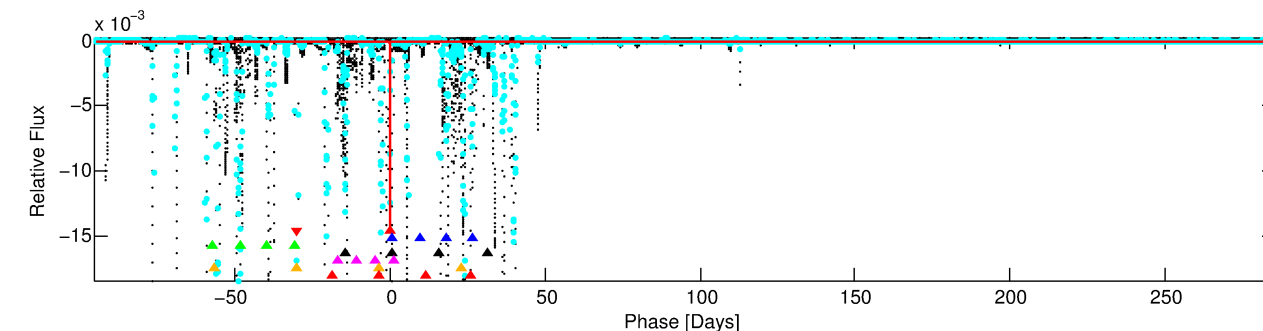
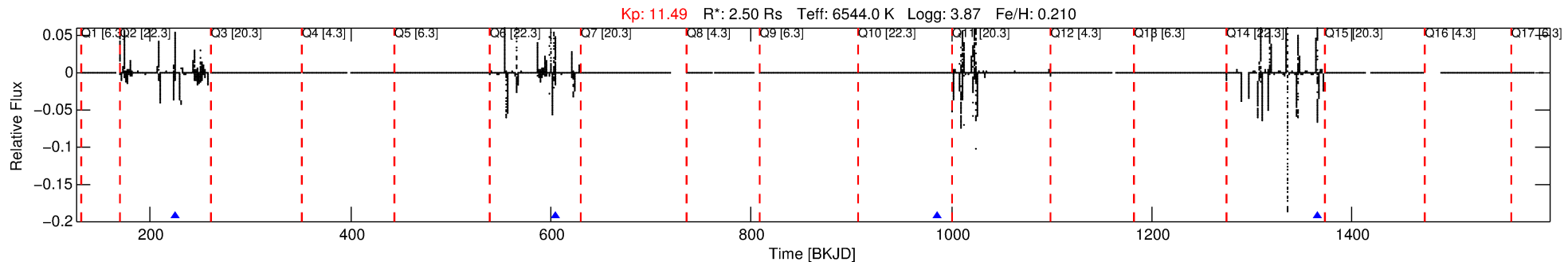
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010450536-01

No Significant Match Found

DV One-Page Summary

KIC: 10450536 Candidate: 1 of 7 Period: 380.436 d



DV Fit Results:

Period = 380.43551 [0.00524] d
Epoch = 224.4115 [0.0101] BKJD
Rp/R* = 0.1942 [0.3701]
a/R* = 178.31 [43.23]
b = 1.00 [2.45]
Seff = 6.90 [2.29]
Teq = 413 [34] K
Rp = 53.01 [101.86] Re
a = 1.2211 [0.2632] AU
Ag = N/A
Teffp = N/A

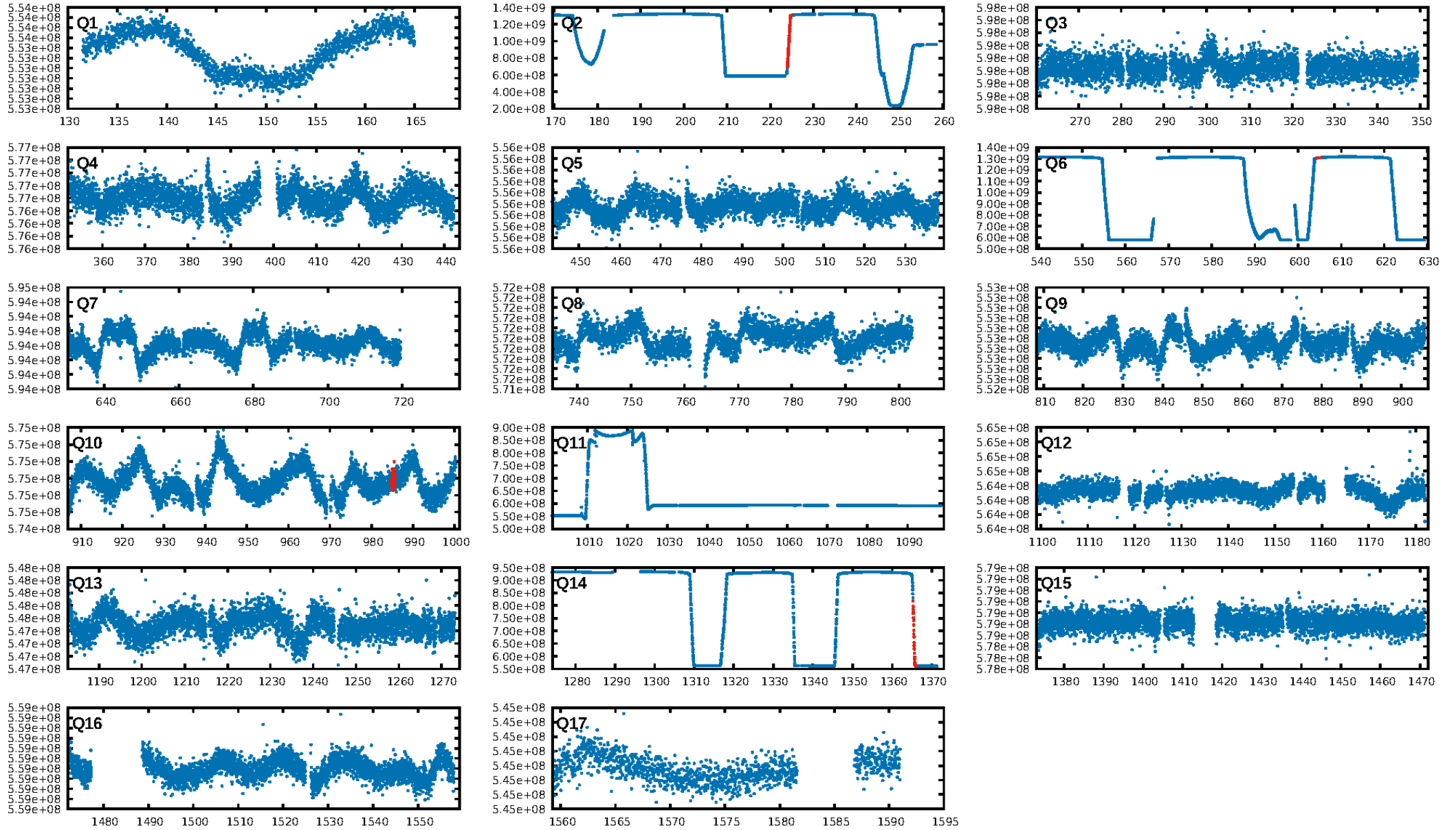
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.91 σ]
LongPeriod-sig: 100.0% [11.06 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 4.082
Centroid-sig: 6.5%
Centroid-so: 19.064 arcsec [1.35 σ]
OotOffset-rm: N/A
KicOffset-rm: 10.222 arcsec [127.58 σ]
OotOffset-st: 0/0/0 [0]
KicOffset-st: 1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.33 [1/3]

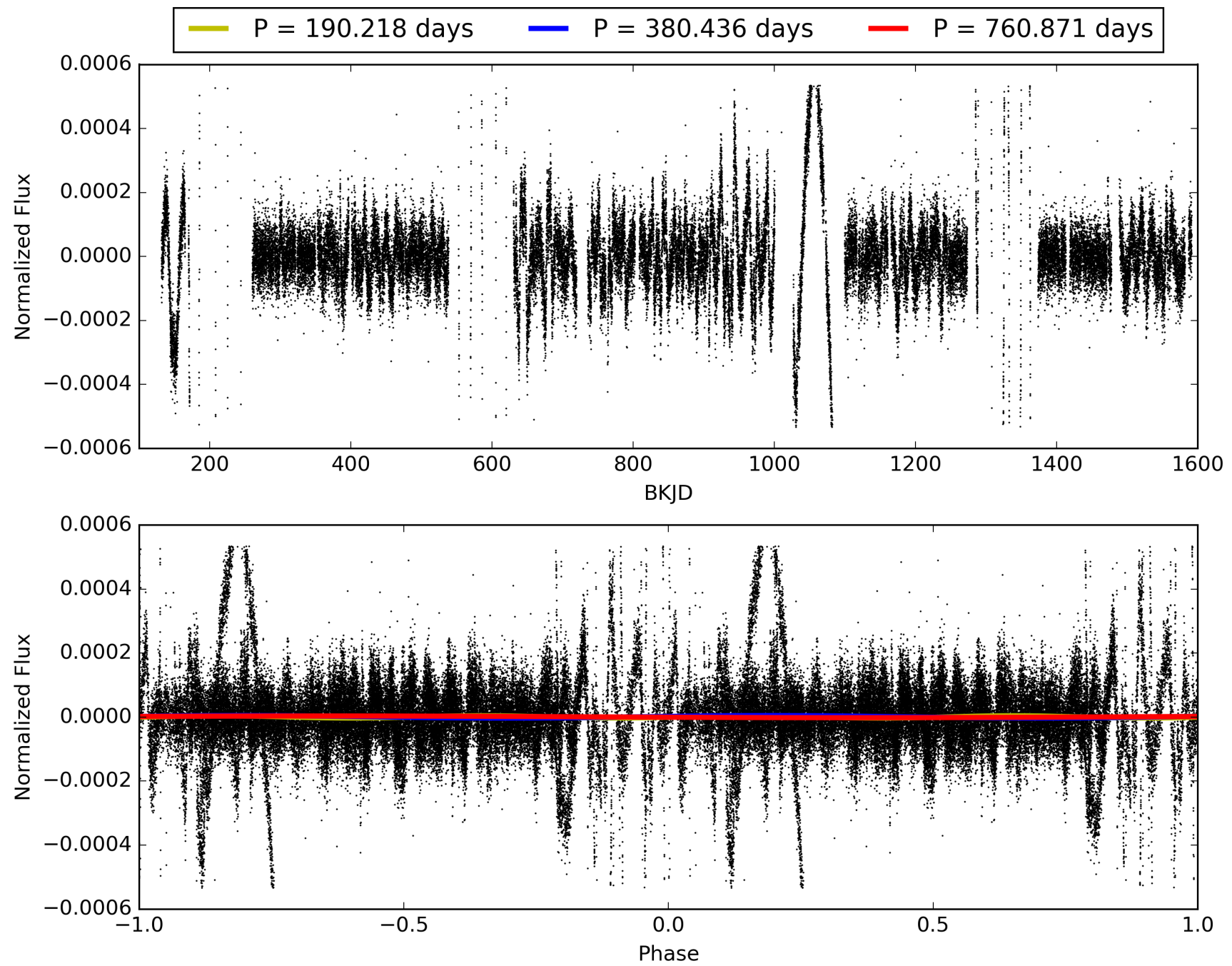
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010450536-01, PDC Light Curves

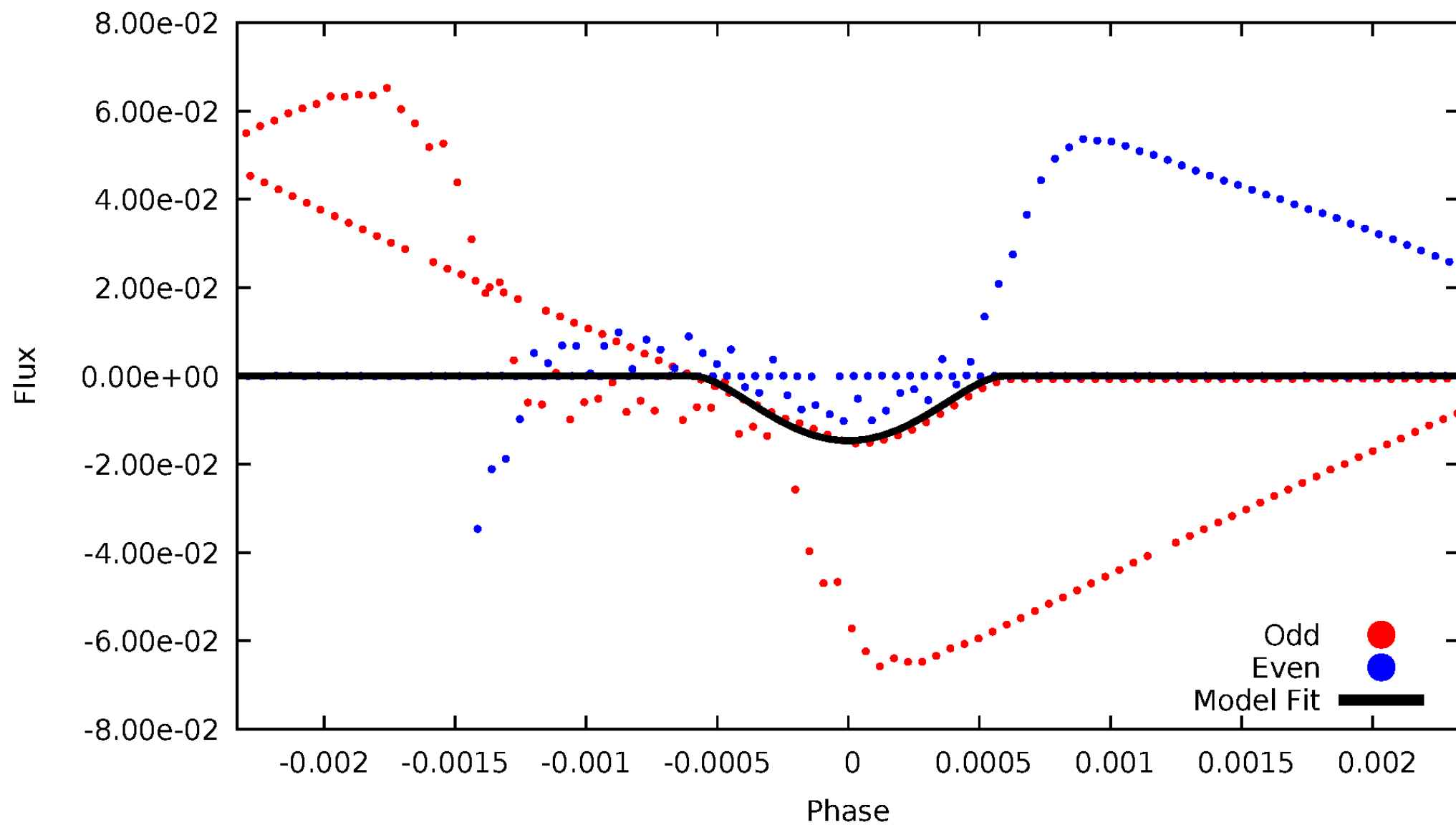


TCE 010450536-01



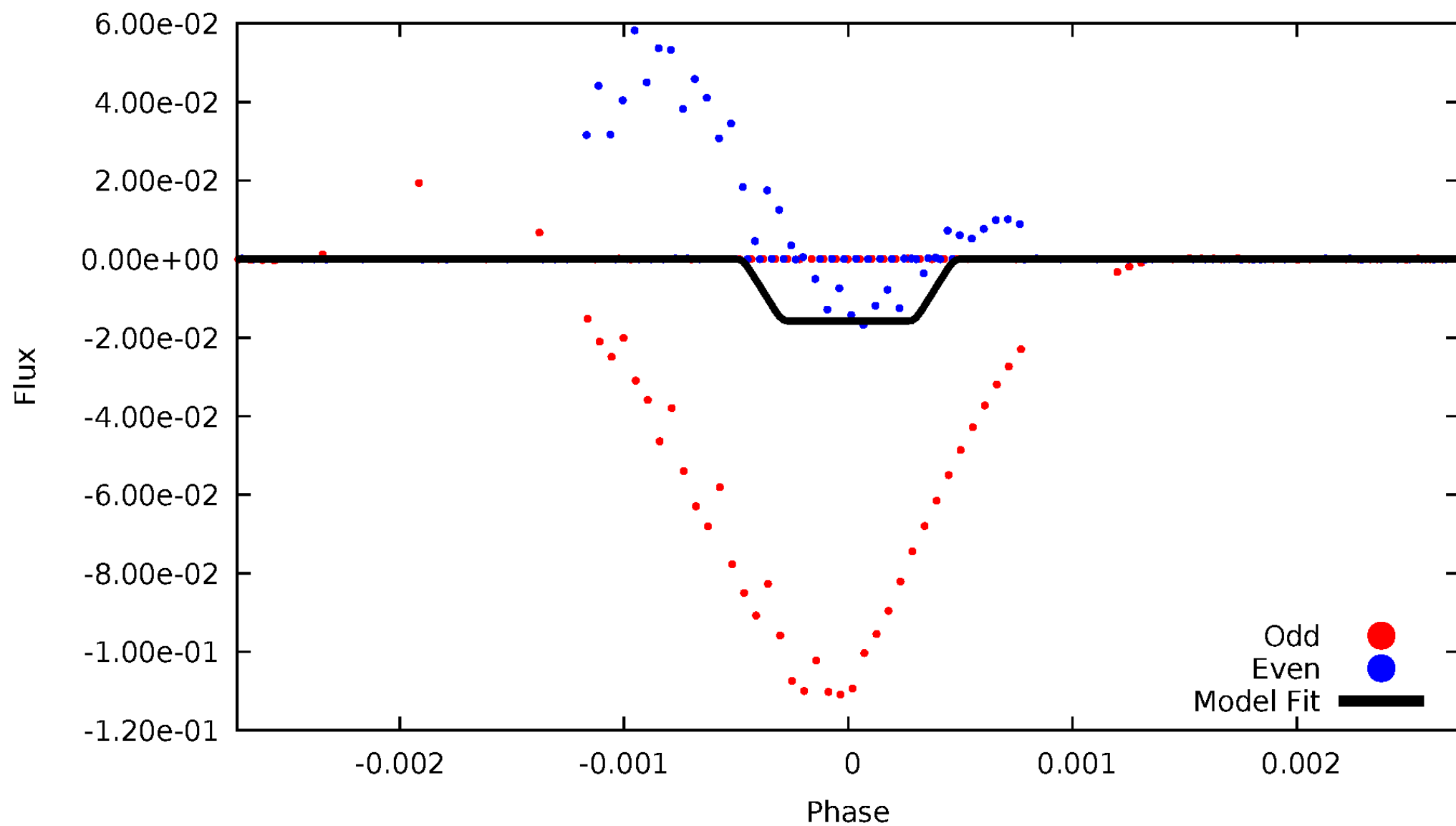
DV Odd/Even

TCE 010450536-01



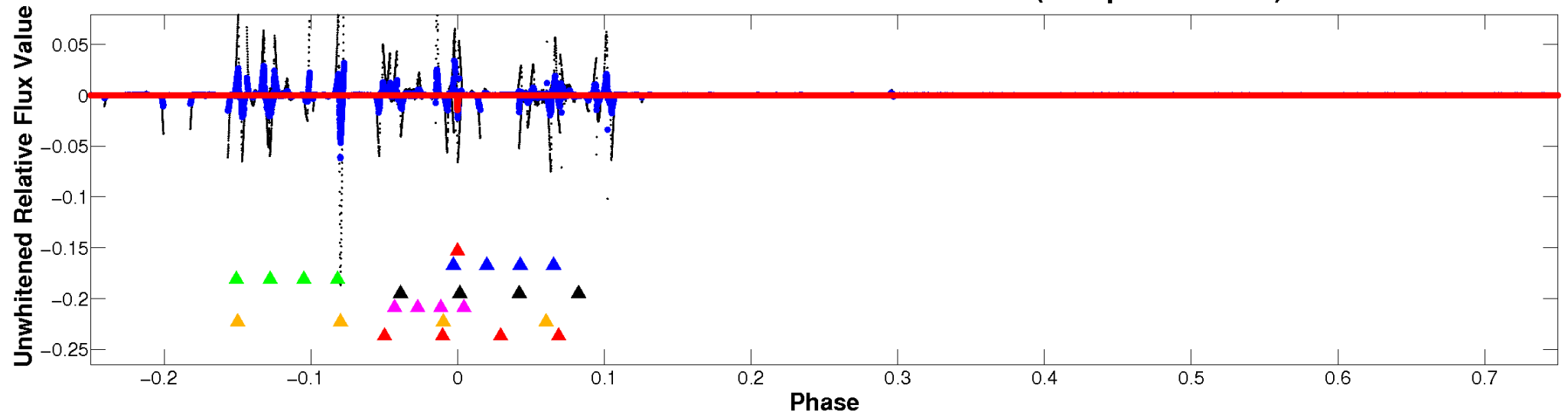
ALT Odd/Even

TCE 010450536-01

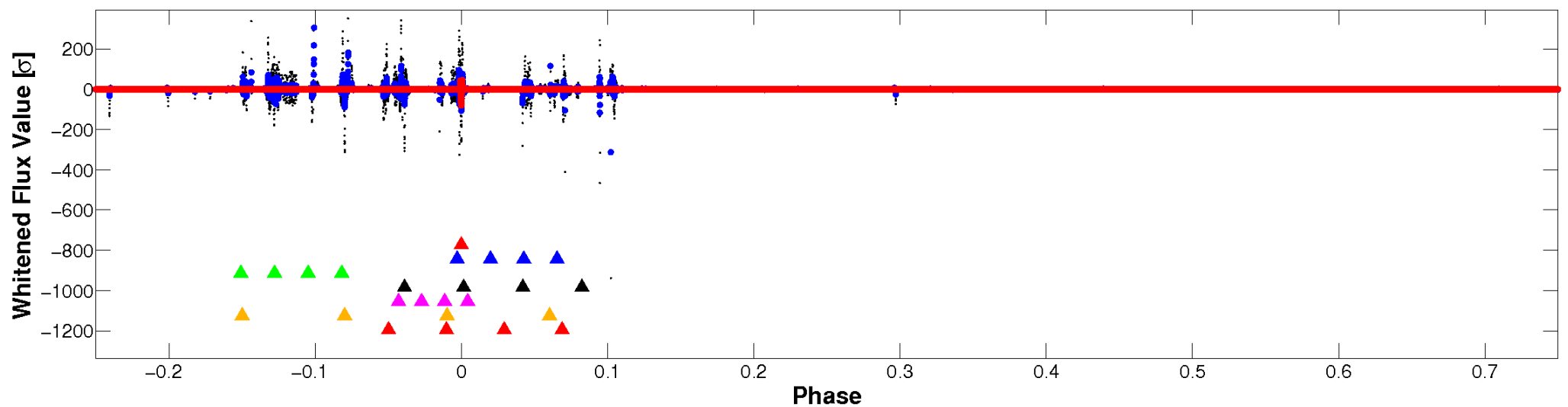


Non-Whitened Vs. Whitened Light Curve

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

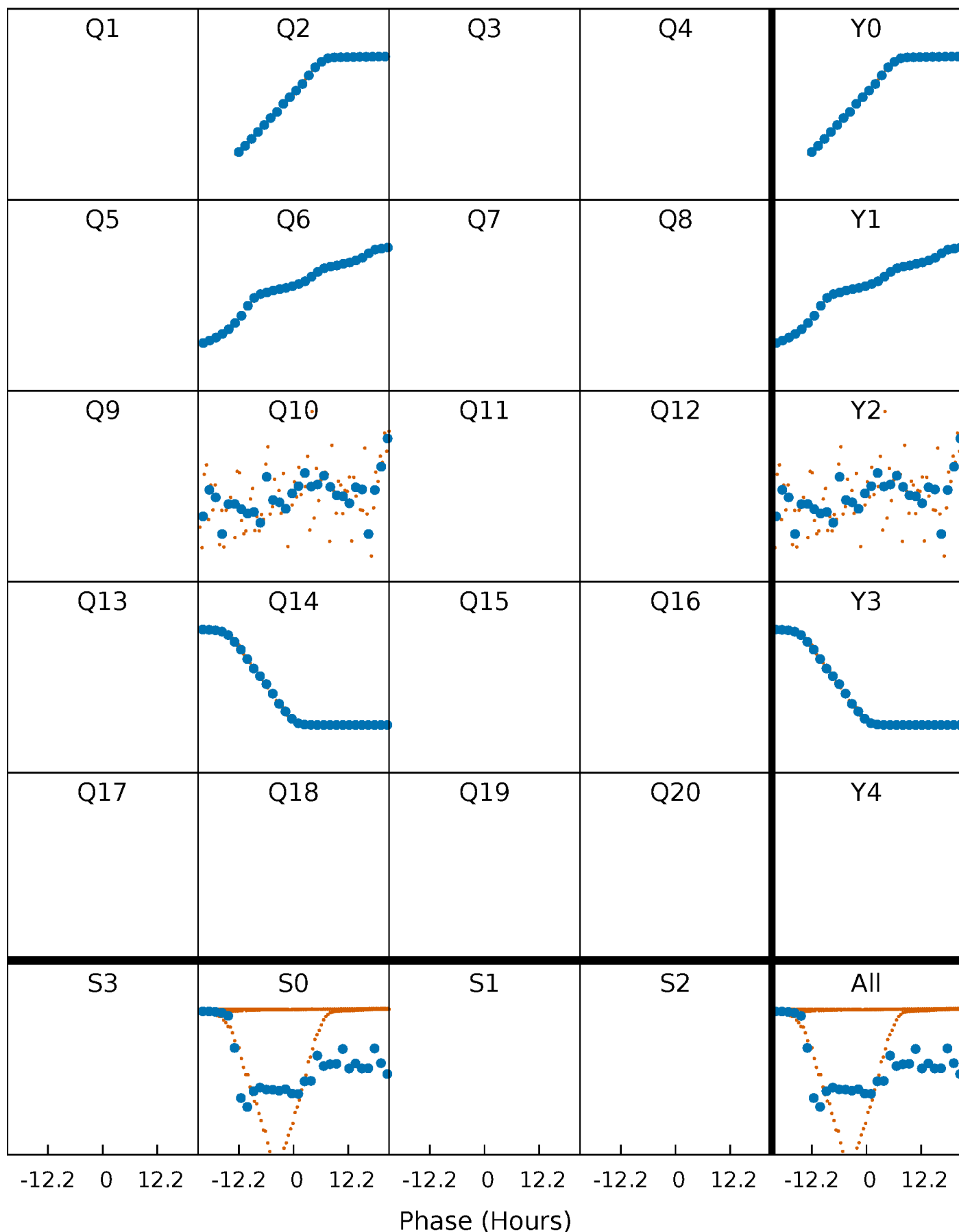


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



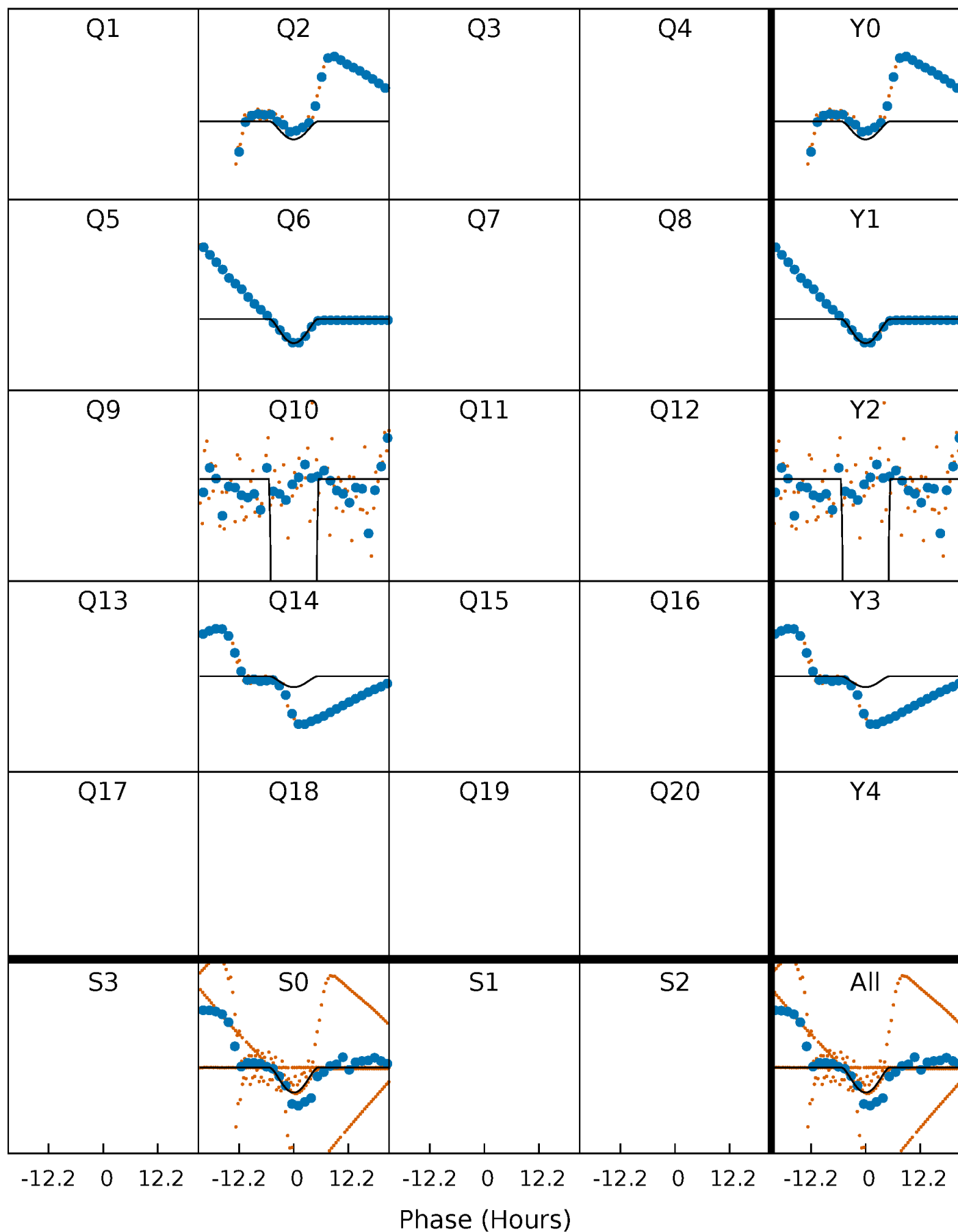
PDC Quarter-Phased Transit Curves

TCE 010450536-01 P=380.435511 Days $T_0=224.411453$ (BKJD)



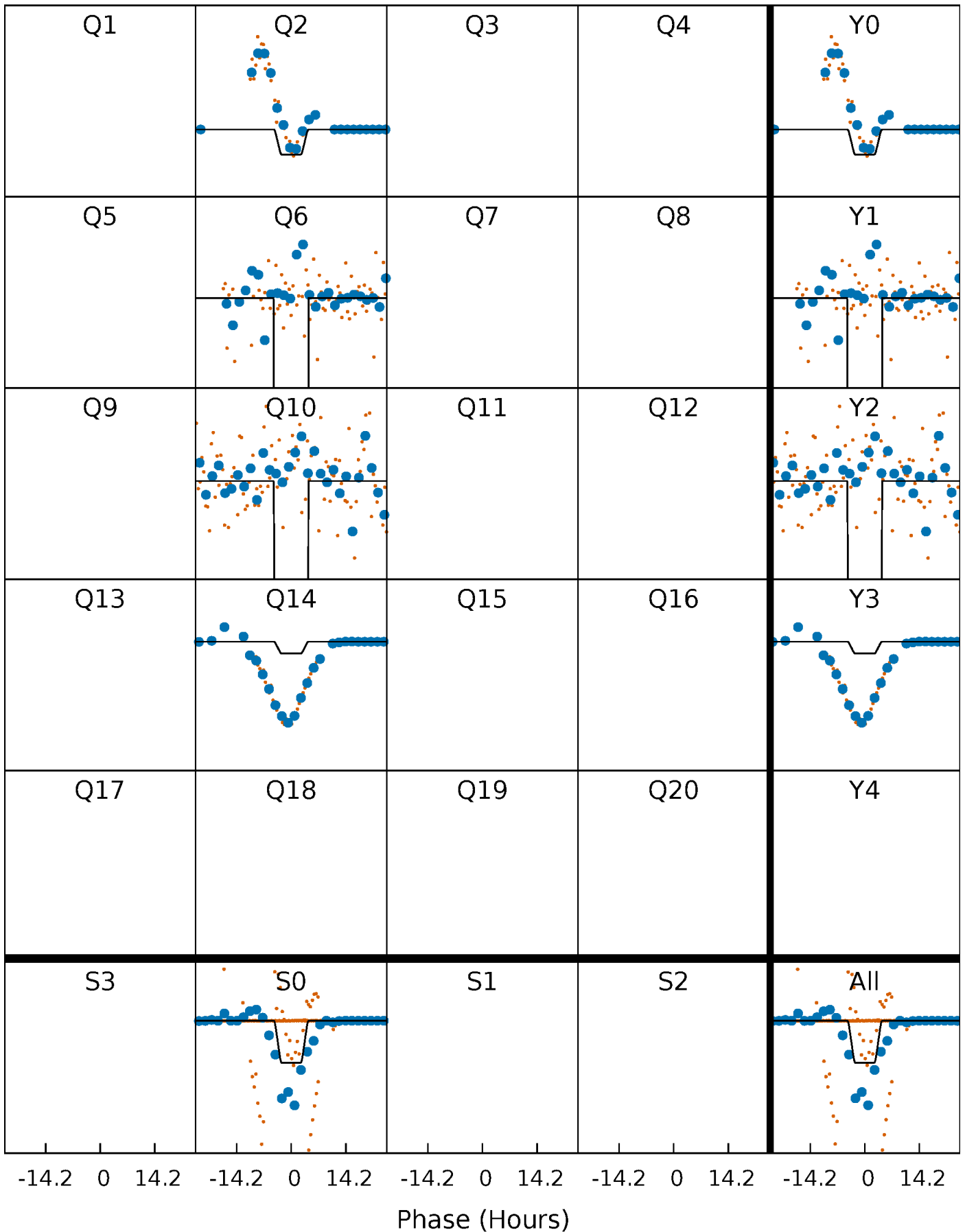
DV Quarter-Phased Transit Curves

TCE 010450536-01 P=380.435511 Days $T_0=224.411453$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

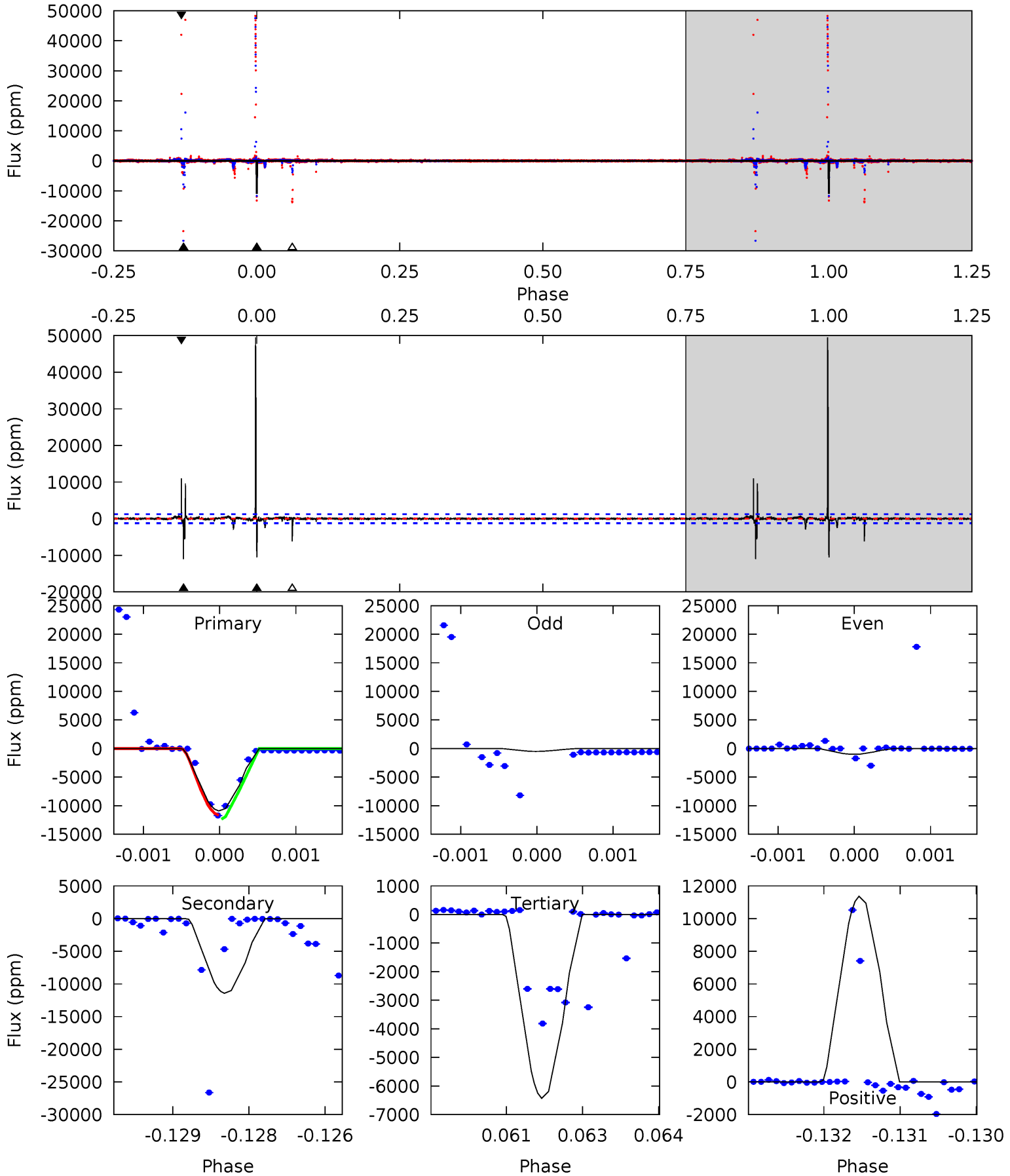
TCE 010450536-01 P=380.438831 Days $T_0=224.440500$ (BKJD)



DV Model-Shift Uniqueness Test

010450536-01, P = 380.435511 Days, E = 224.411453 Days

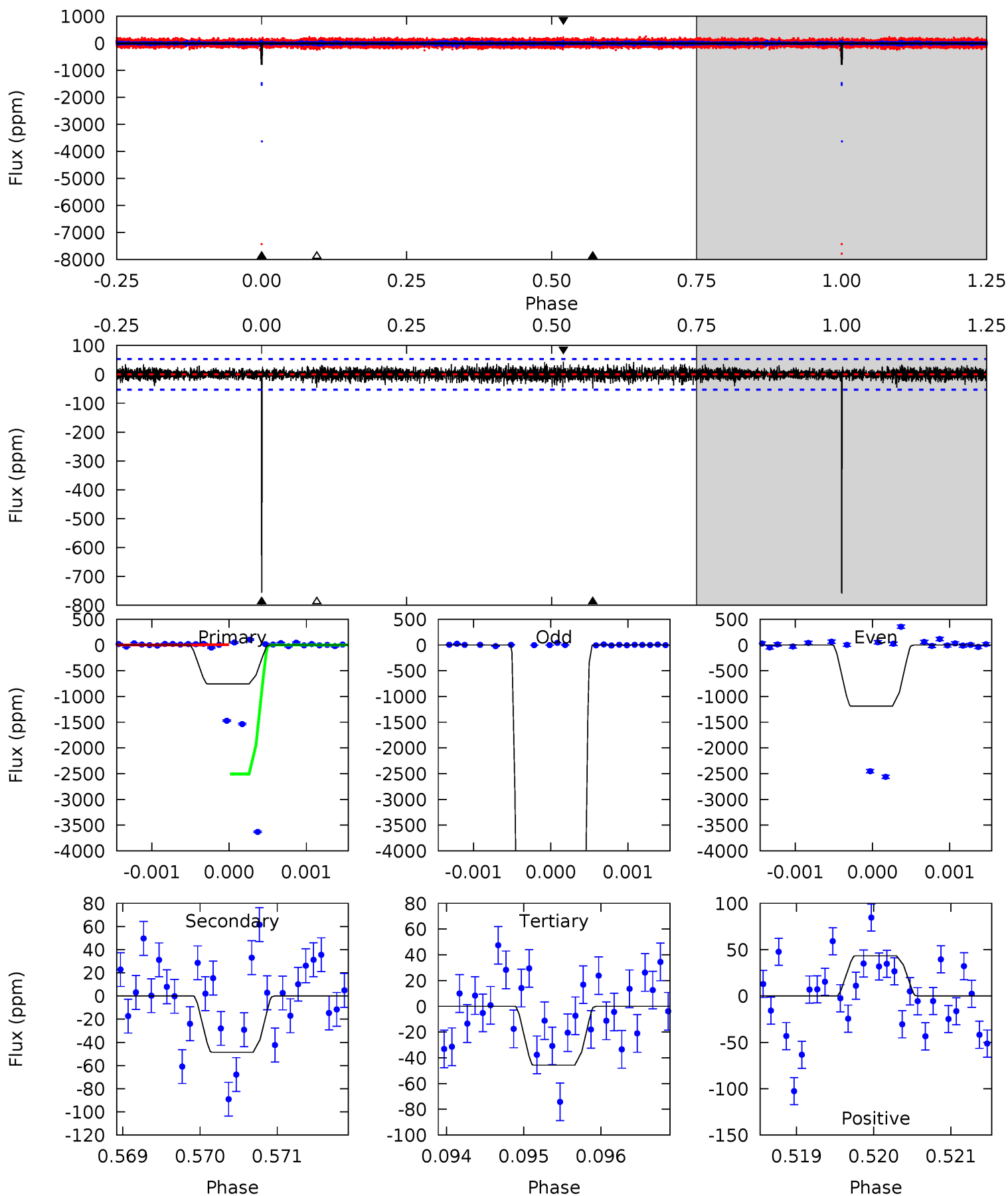
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.3	48.5	27.3	48.2	5.42	3.24	3.07	19.0	-1.92	21.2	0.29	0.50	1.92	0.82	2.09



Alt Model-Shift Uniqueness Test

010450536-01, P = 380.438831 Days, E = 224.440500 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
77.7	4.98	4.69	4.45	5.46	3.30	1.10	73.0	73.2	0.29	0.54	345.6	11.6	0.05	123.9



Stellar Parameters For KIC 010450536

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6544^{+78}_{-85}	$3.866^{+0.186}_{-0.124}$	$0.210^{+0.150}_{-0.150}$	$2.502^{+0.496}_{-0.606}$	$1.677^{+0.131}_{-0.196}$	$0.151^{+0.158}_{-0.058}$
	+1%/-1%	+5%/-3%	+71%/-71%	+20%/-24%	+8%/-12%	+104%/-38%
Source	SPE74	SPE74	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 010450536-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11014 ± 227	$90.17^{+85.35}_{-61.00}$	574^{+30}_{-36}	3950^{+2474}_{-731}	1130^{+9629}_{-839}
Alt.	-49 ± 10	$79.49^{+84.85}_{-53.23}$	574^{+32}_{-35}	1992^{+564}_{-272}	$6.313^{+51.027}_{-4.833}$

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

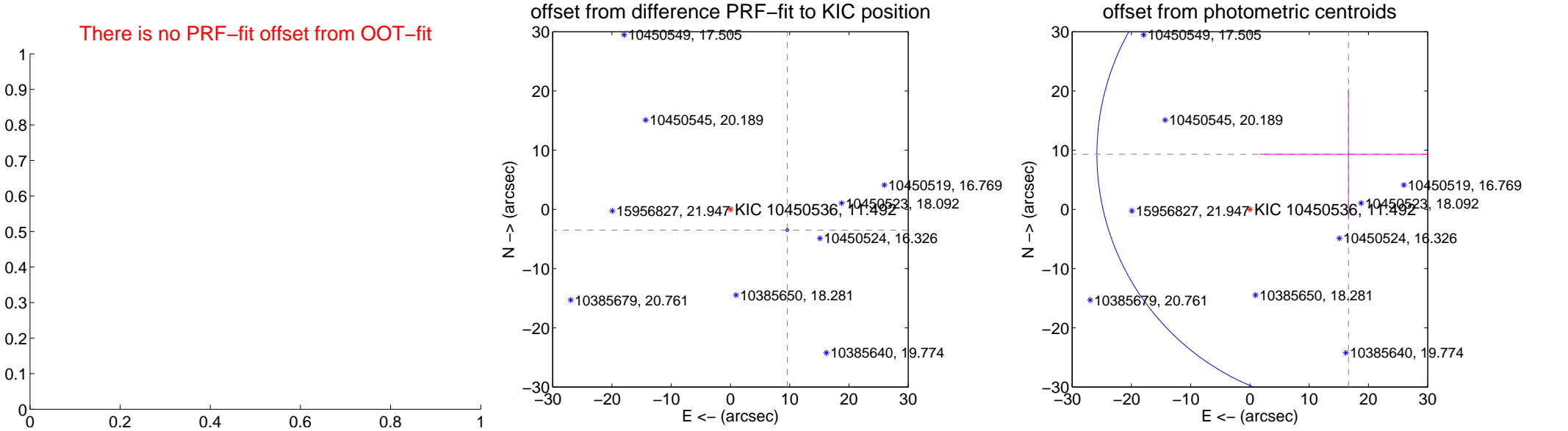
DV Centroid Data

Supplemental centroid analysis for 010450536-01. **Kepler magnitude: 11.49.** Transit SNR 388.49

There are 0 quarters with good PRF difference image offsets

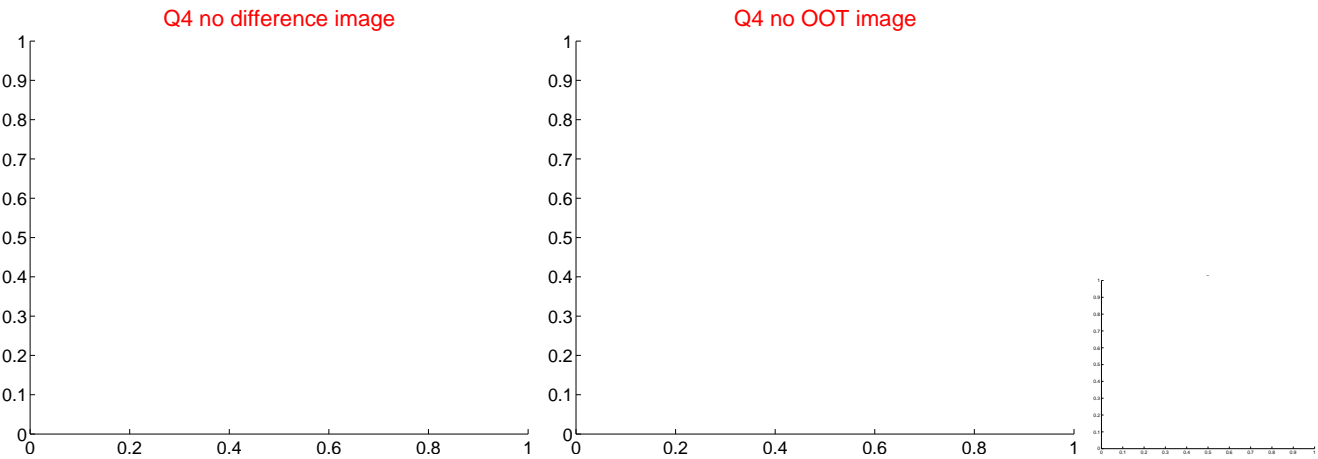
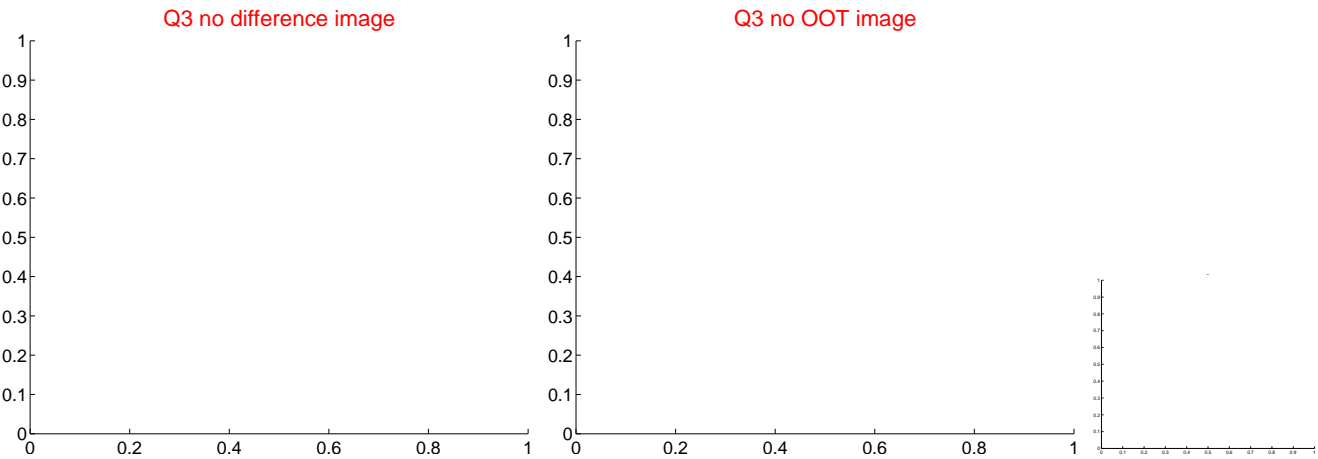
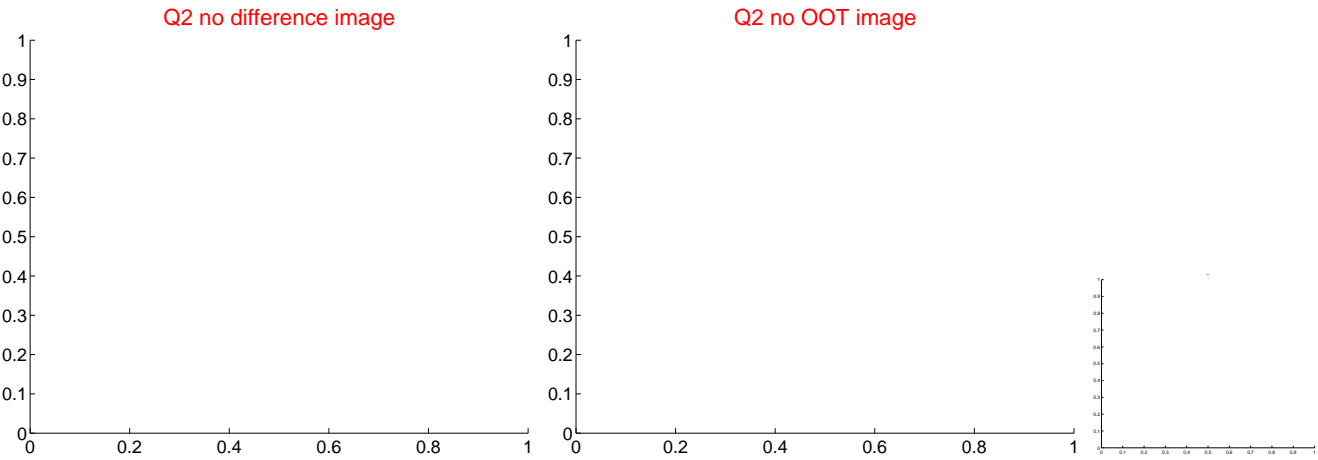
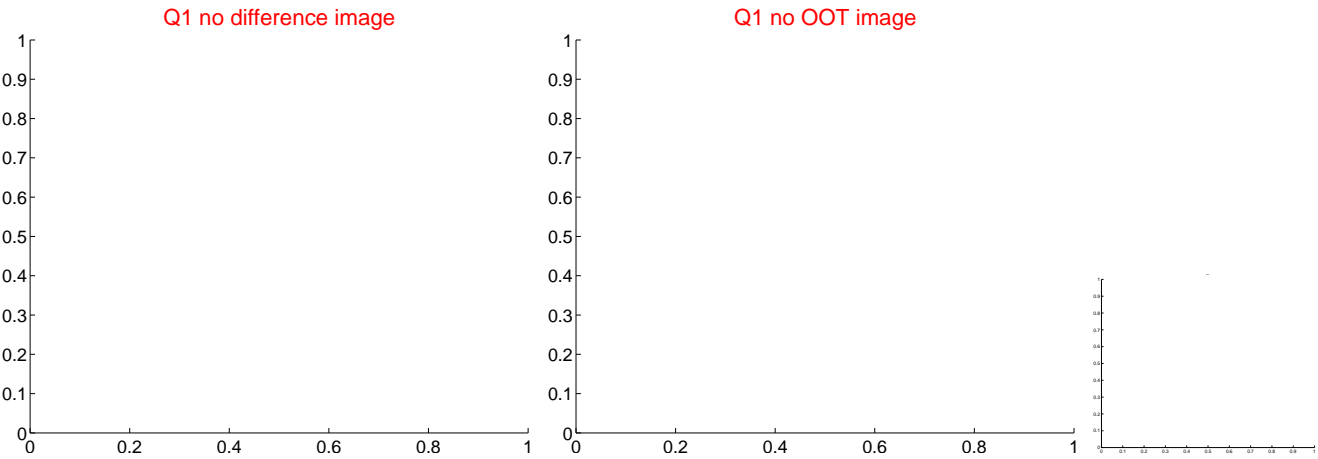
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	10.222 \pm 0.080	127.58	-9.603 \pm 0.080	-3.503 \pm 0.078
photometric centroid source offset	19.06 \pm 14.15	1.35	-16.64 \pm 14.98	9.31 \pm 11.09

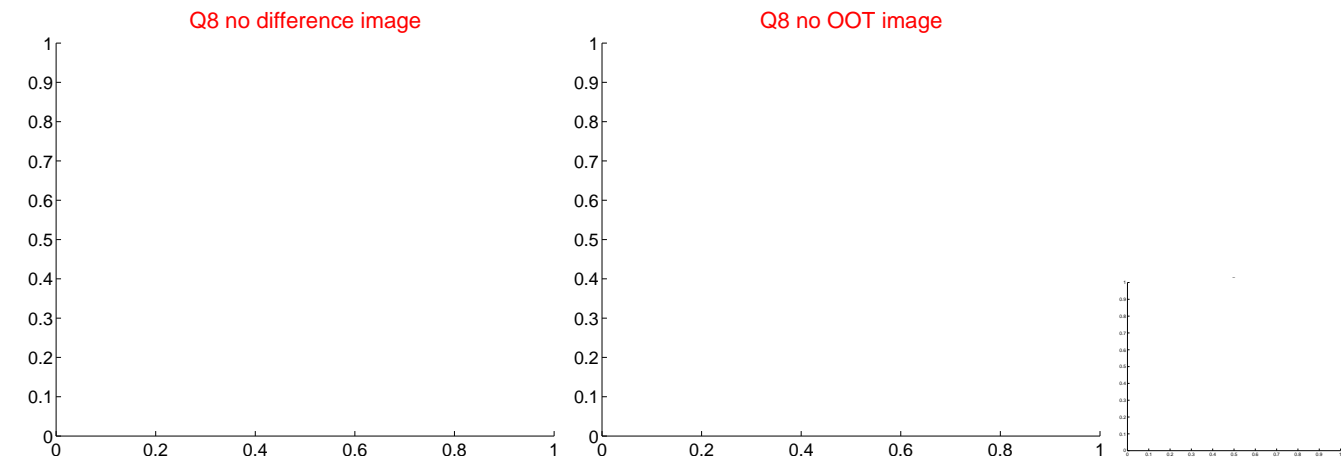
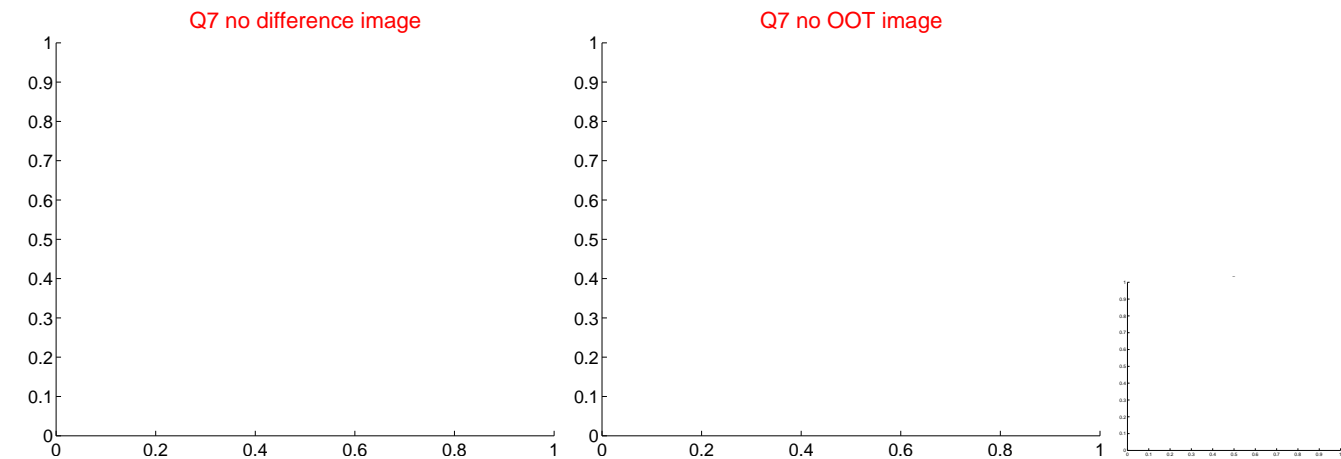
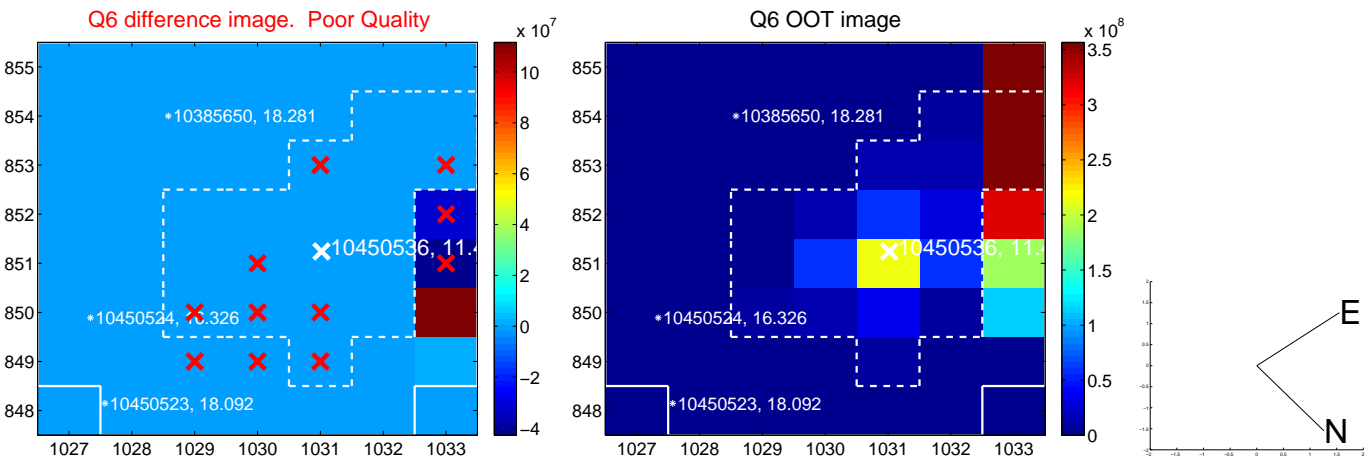
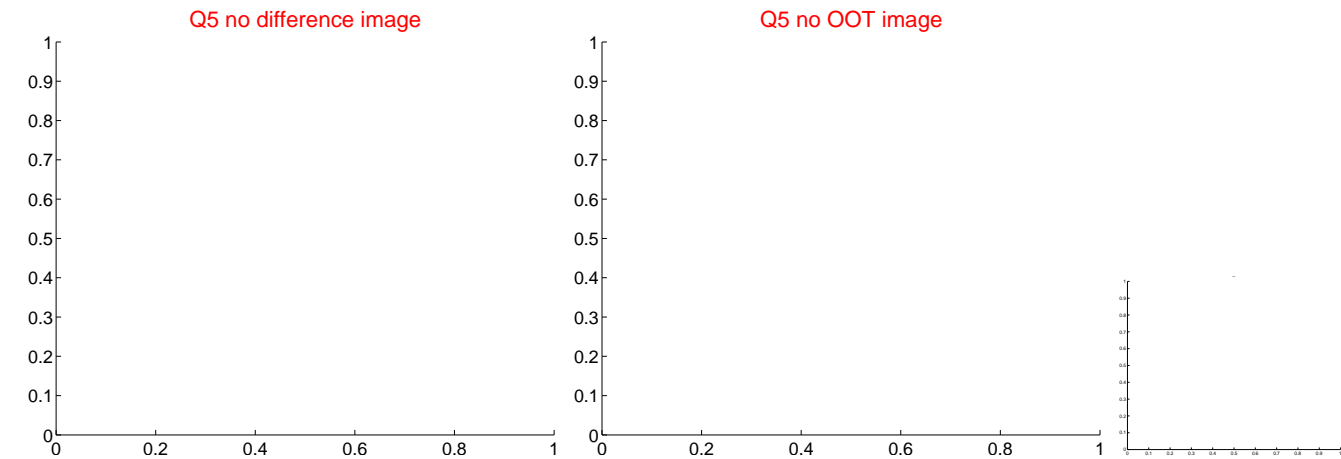


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

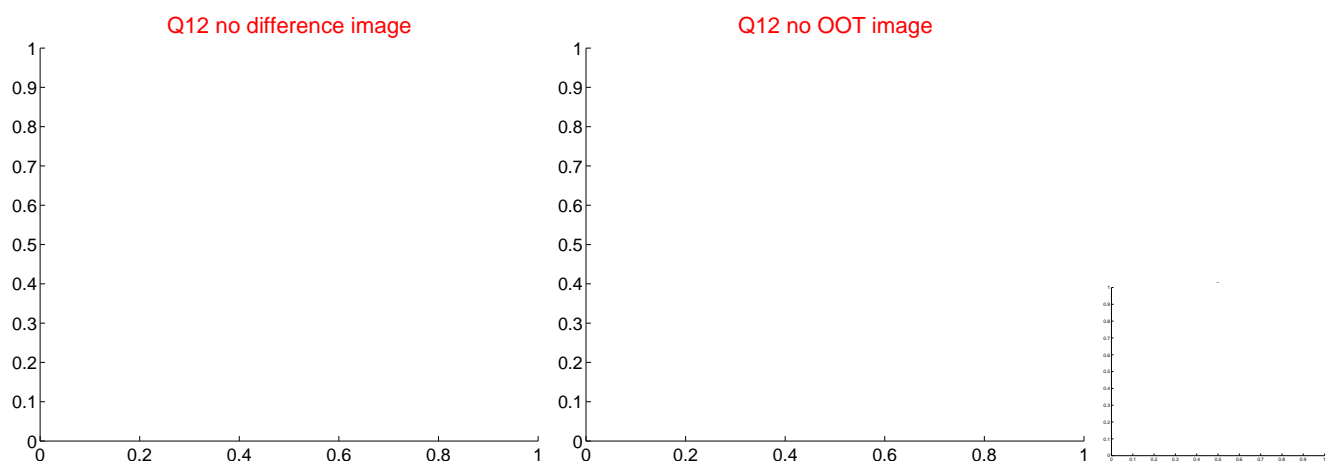
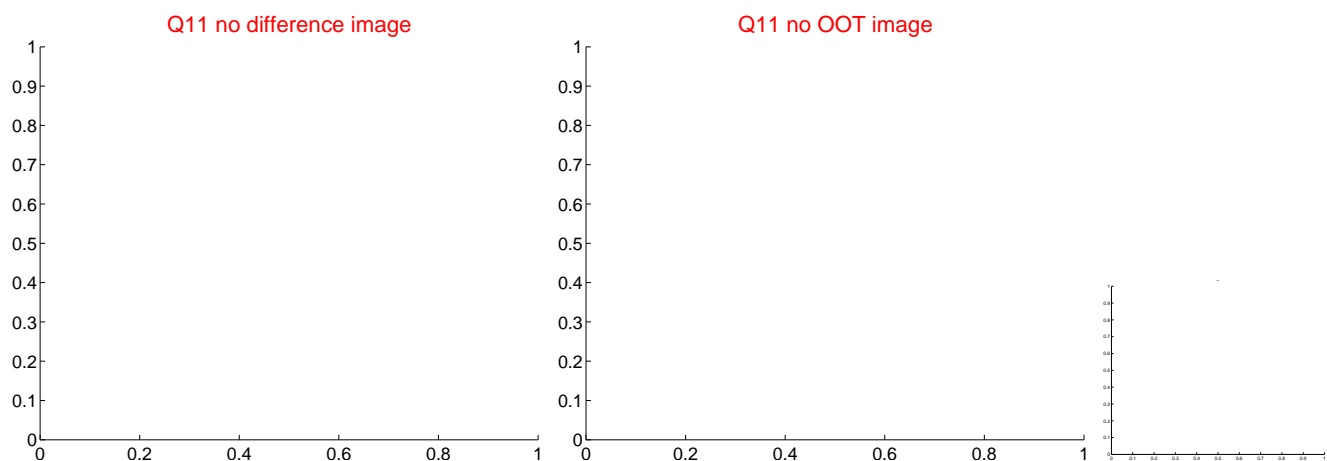
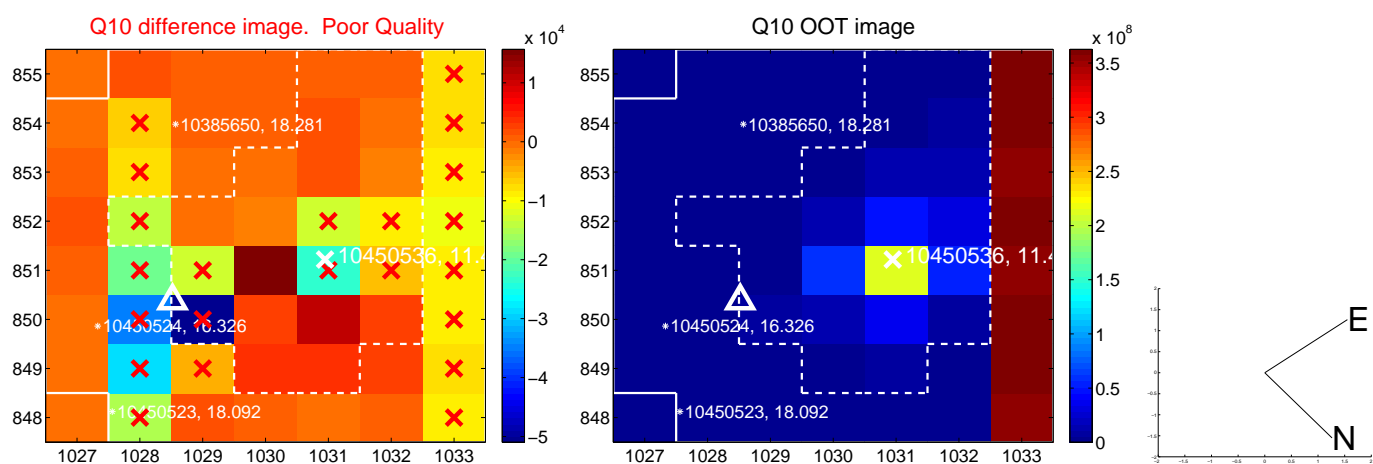
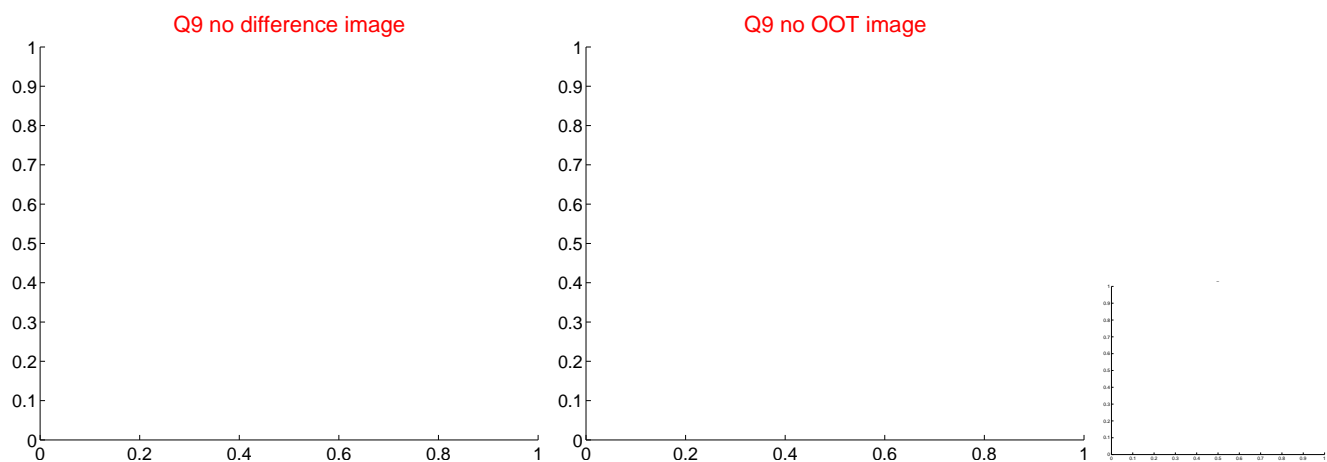
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



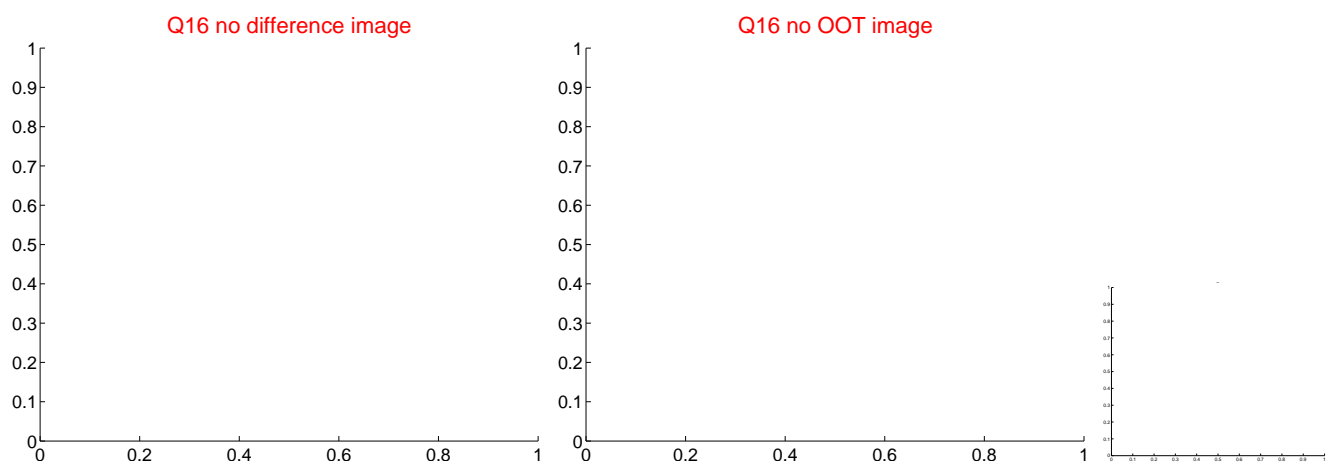
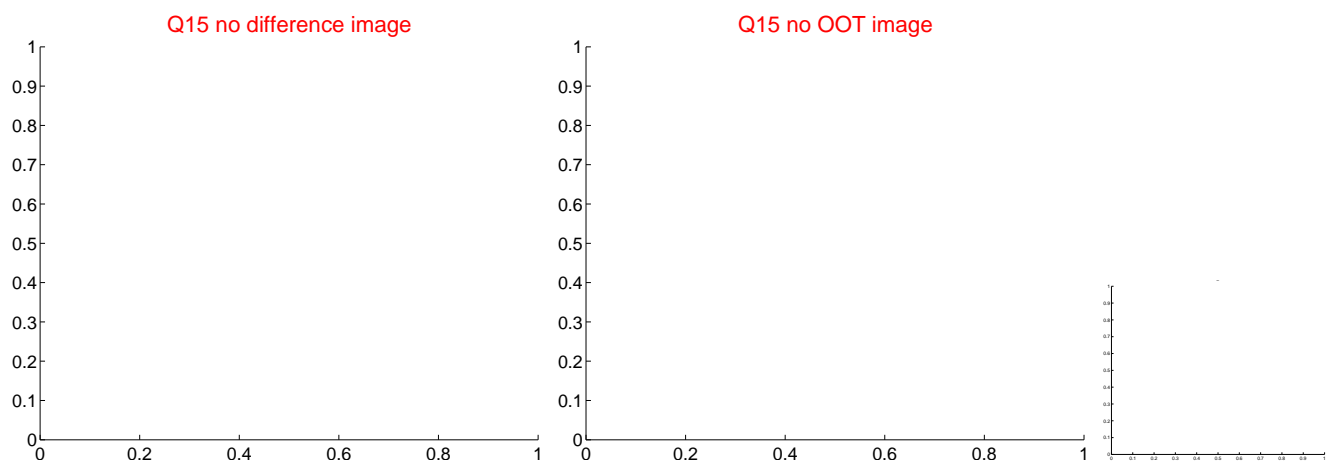
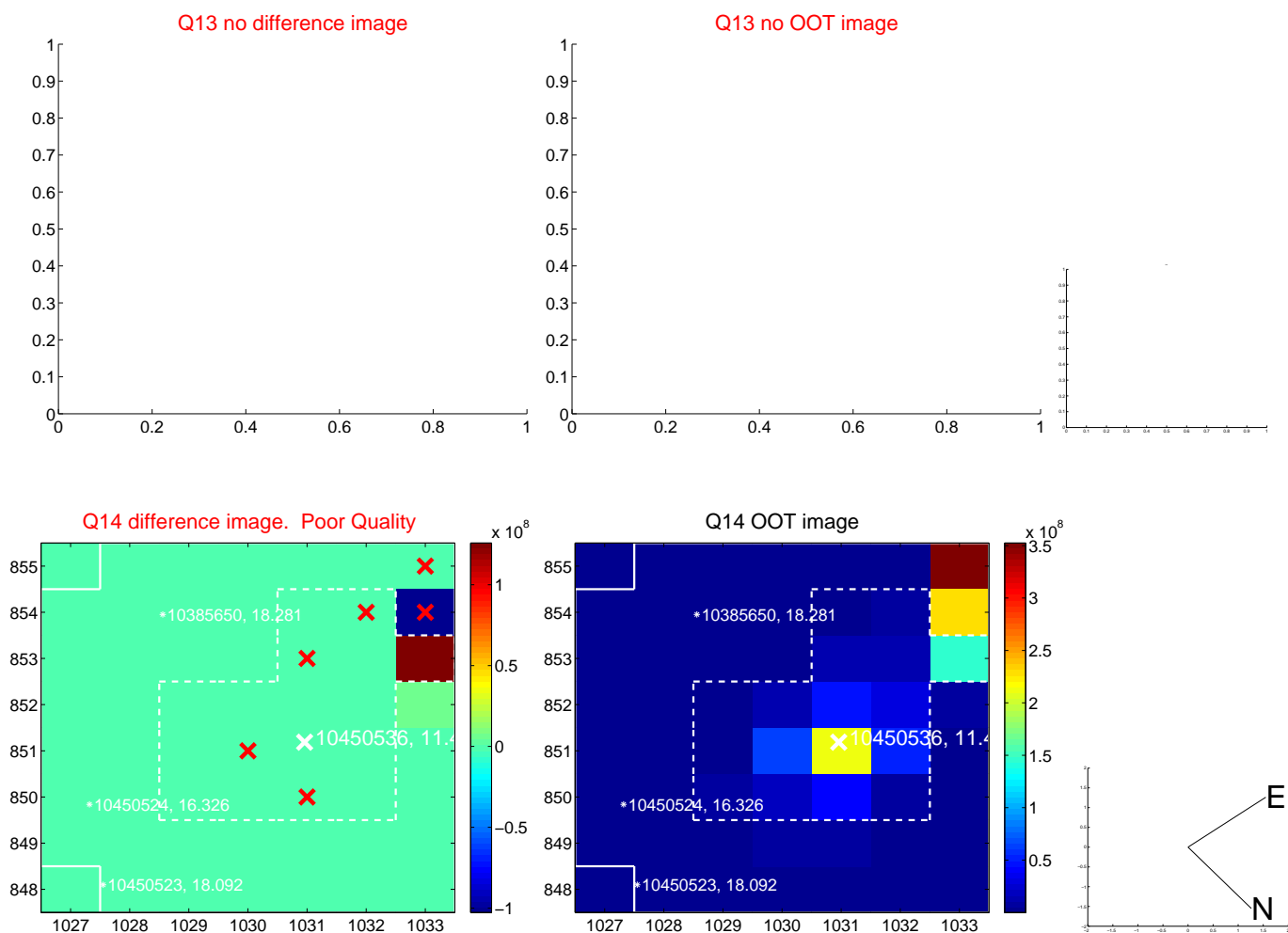
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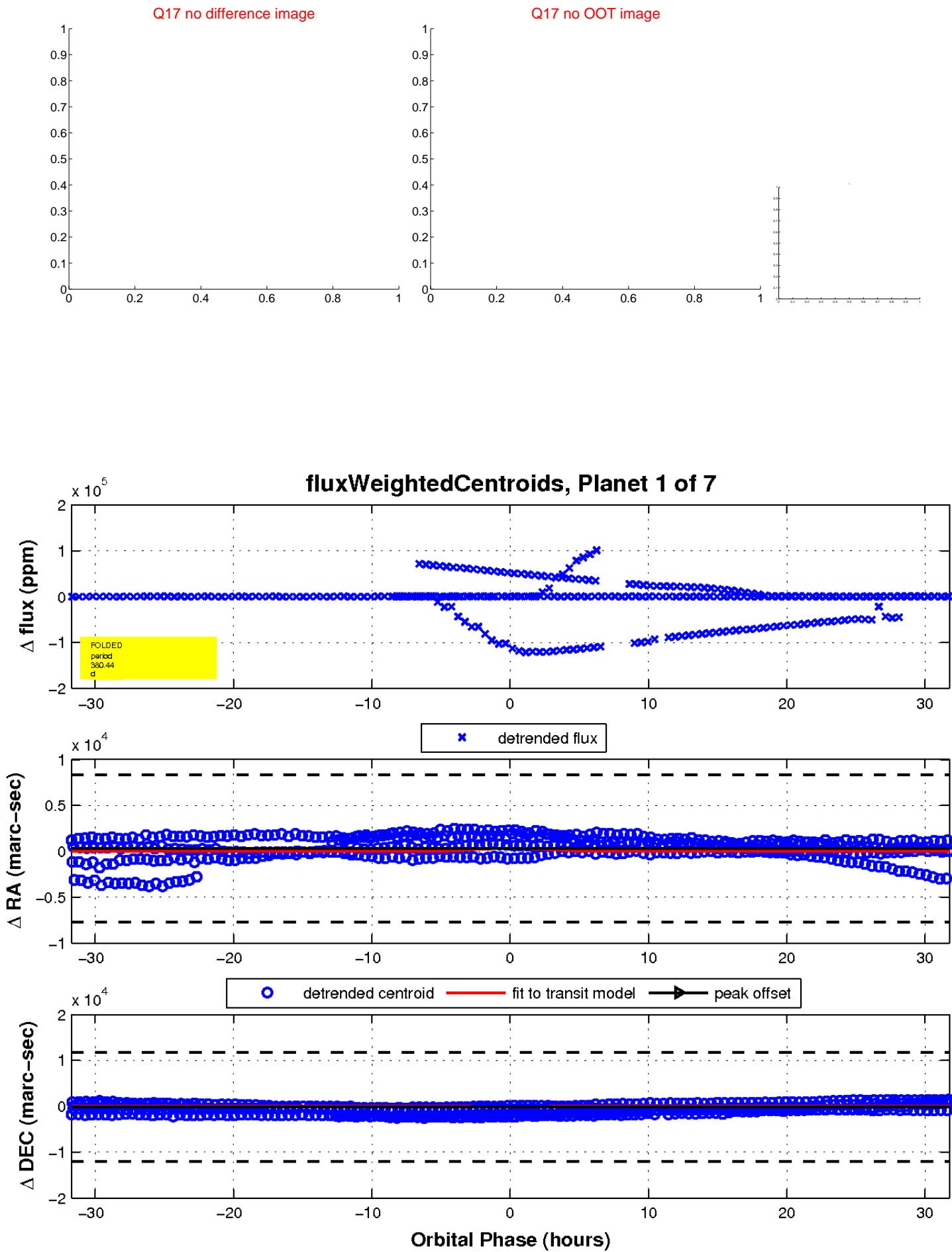
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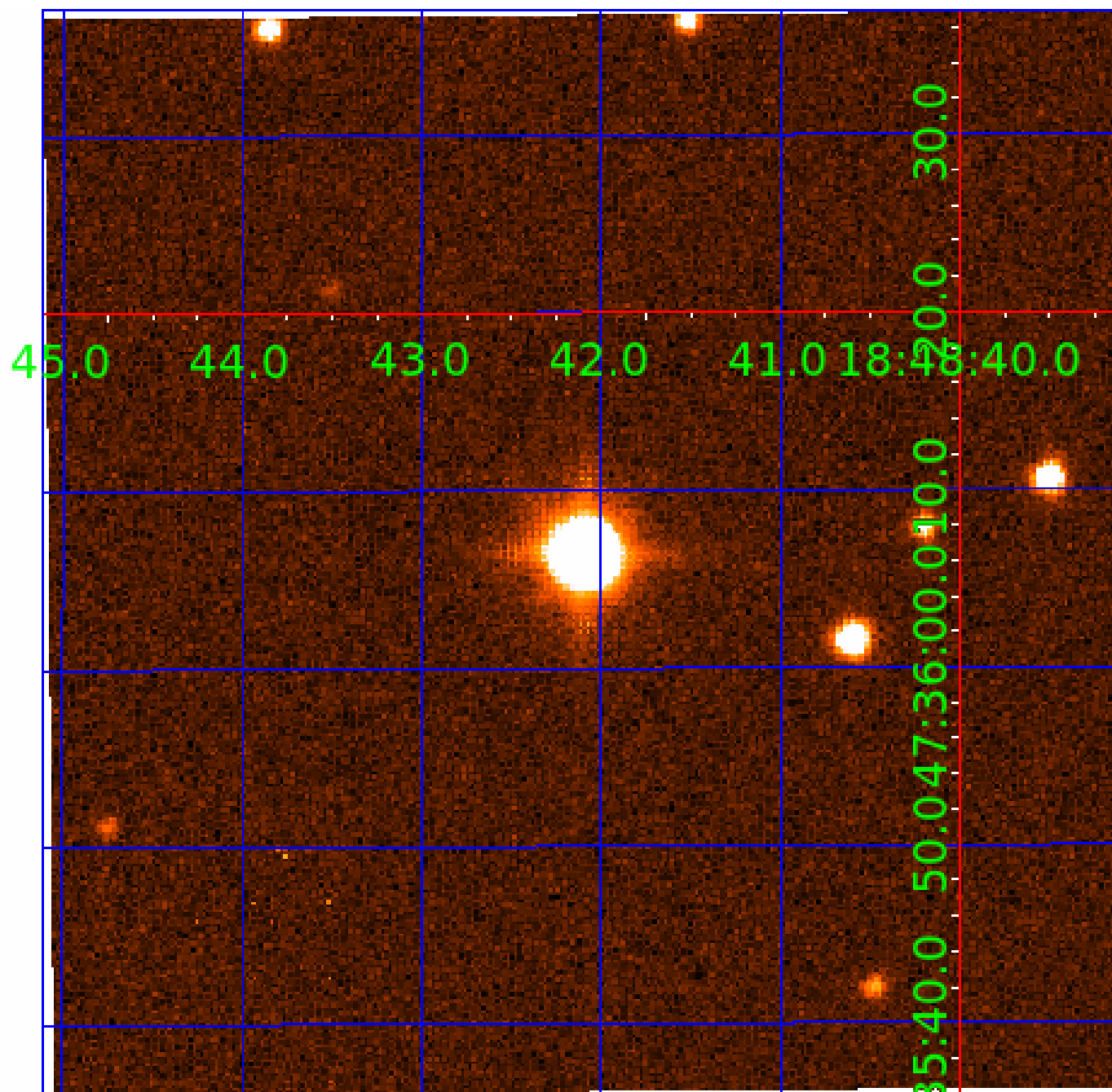


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010450536

Q1-17 DR25 TCE Parameters

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010450536-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010450536-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010450536-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—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_SATURATED
010450536-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

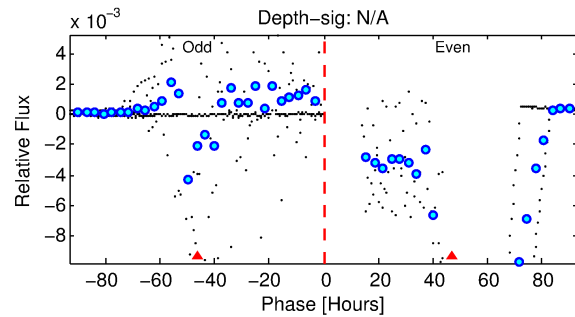
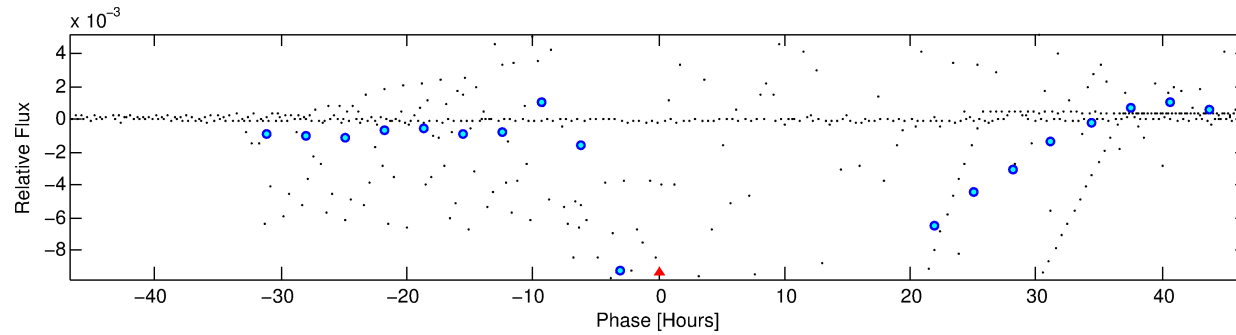
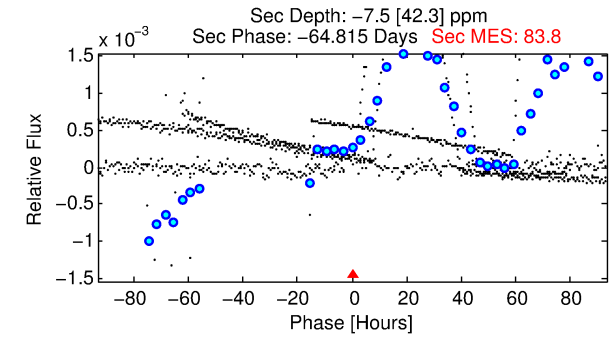
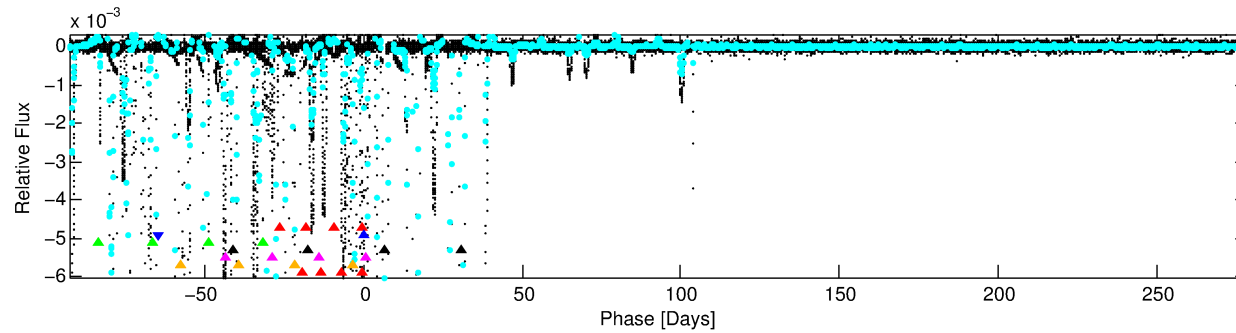
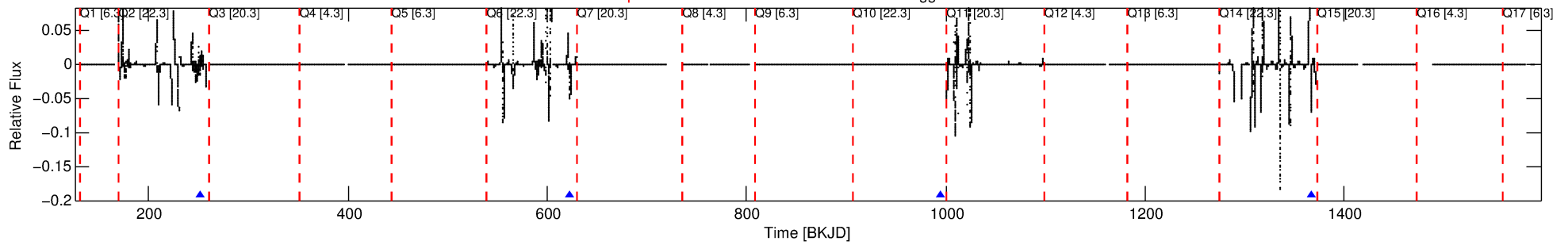
Ephemeris Match Information For 010450536-02

No Significant Match Found

DV One-Page Summary

KIC: 10450536 Candidate: 2 of 7 Period: 371.775 d

Kp: 11.49 R*: 2.50 Rs Teff: 6544.0 K Logg: 3.87 Fe/H: 0.210



TPS TCE Results:

Period = 371.77500 d
Epoch = 249.3241 BKJD

DV fit results are unavailable

DV Diagnostic Results:

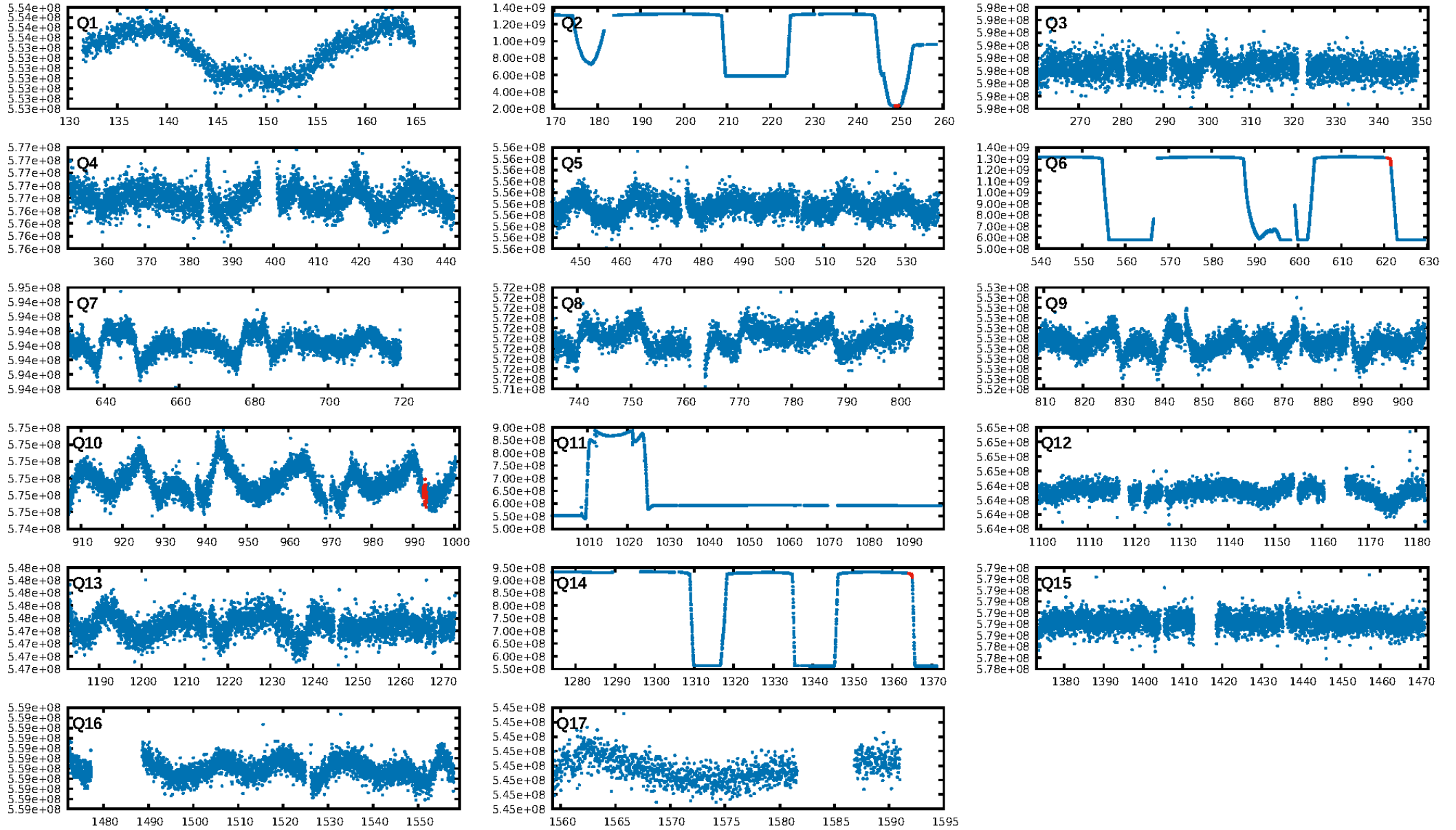
ShortPeriod-sig: 100.0% [6.66σ]
LongPeriod-sig: 100.0% [13.91σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.72

Centroid-sig: 1.4%
Centroid-so: 51.539 arcsec [1.96σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.50 [2/4]

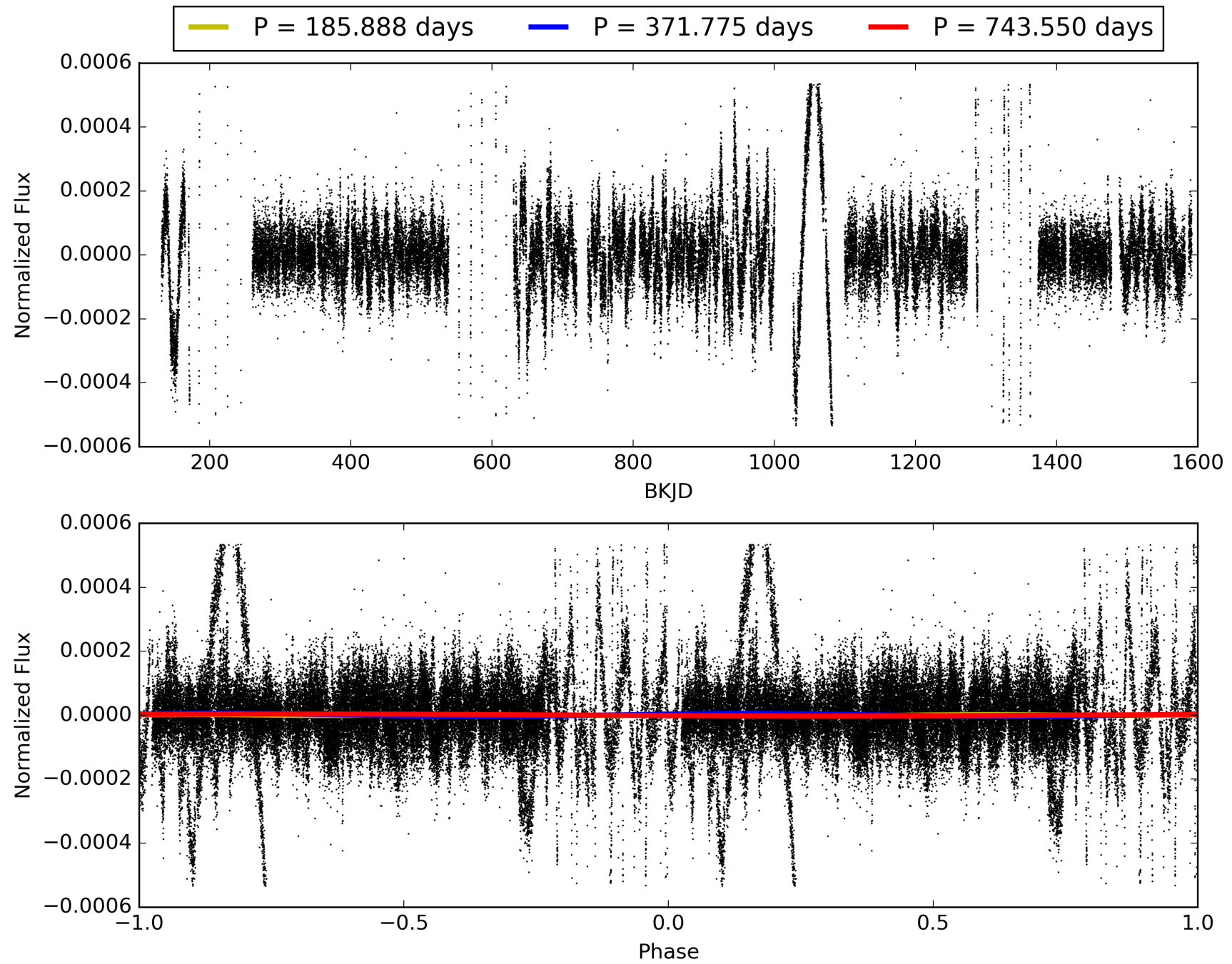
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010450536-02, PDC Light Curves

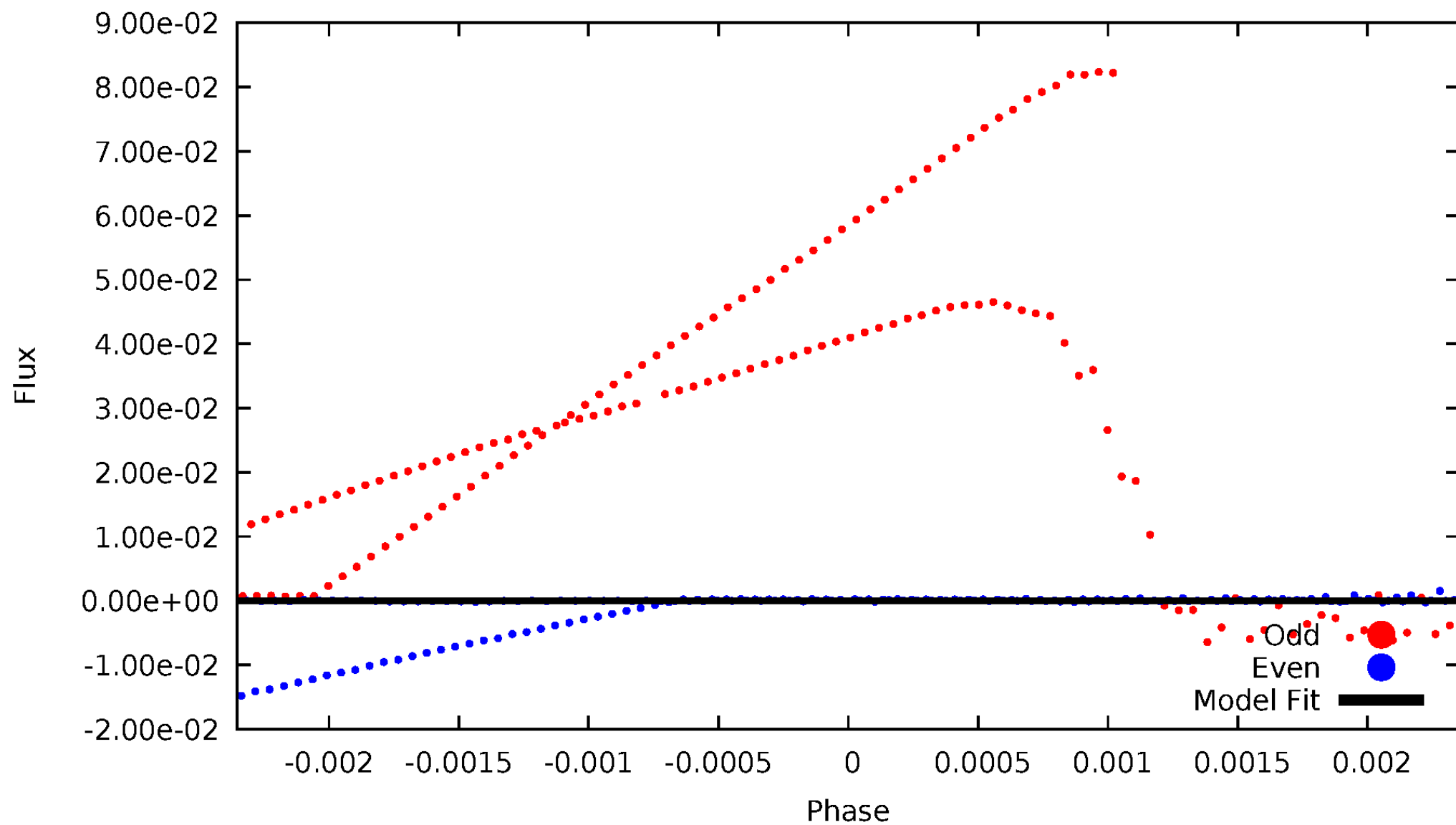


TCE 010450536-02



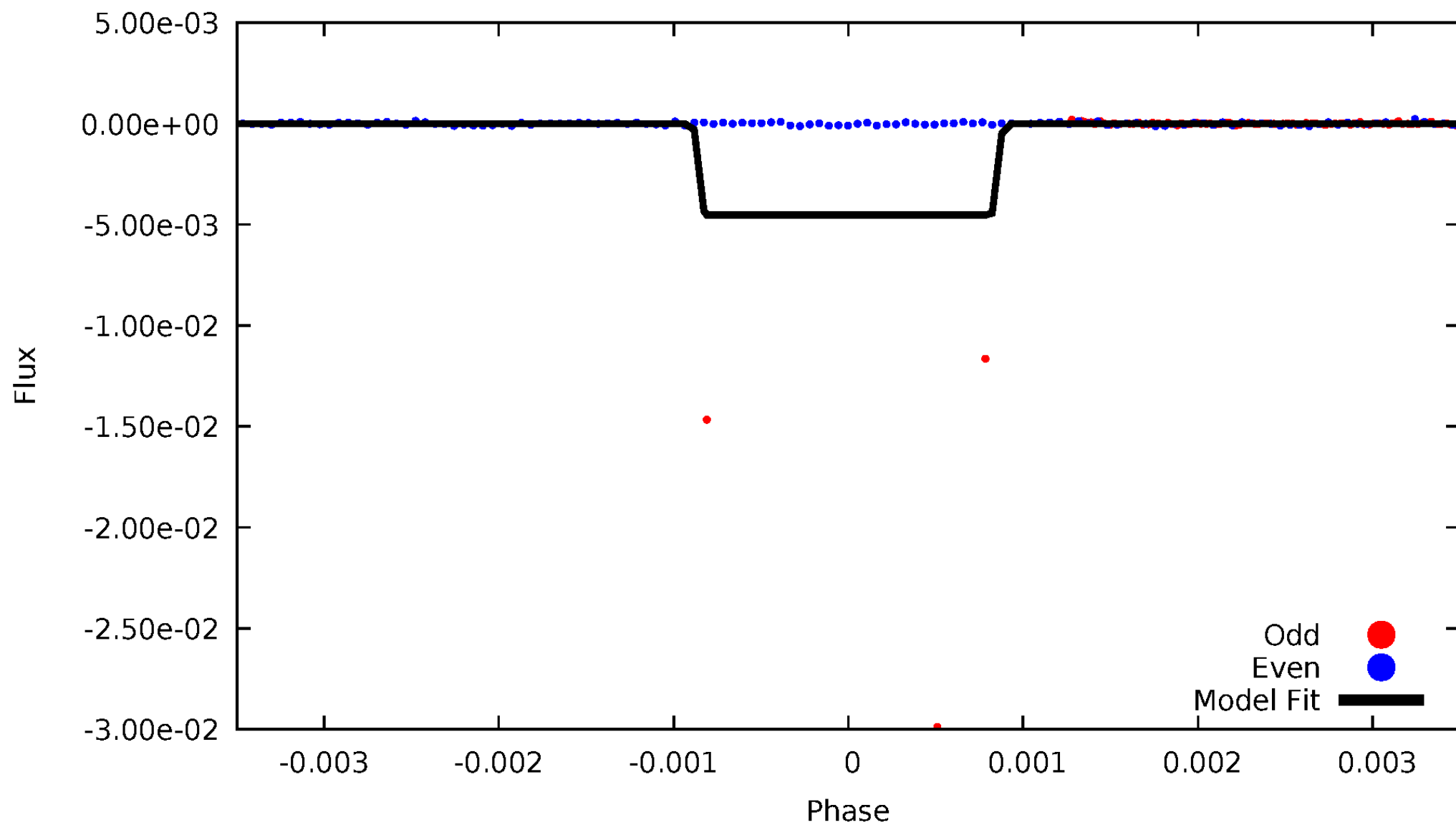
DV Odd/Even

TCE 010450536-02



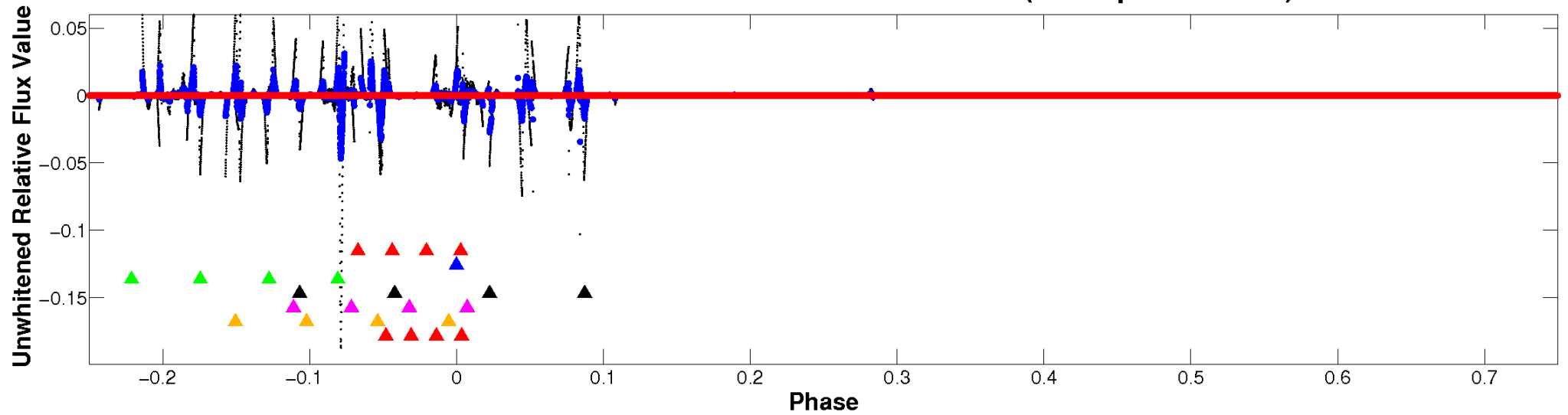
ALT Odd/Even

TCE 010450536-02

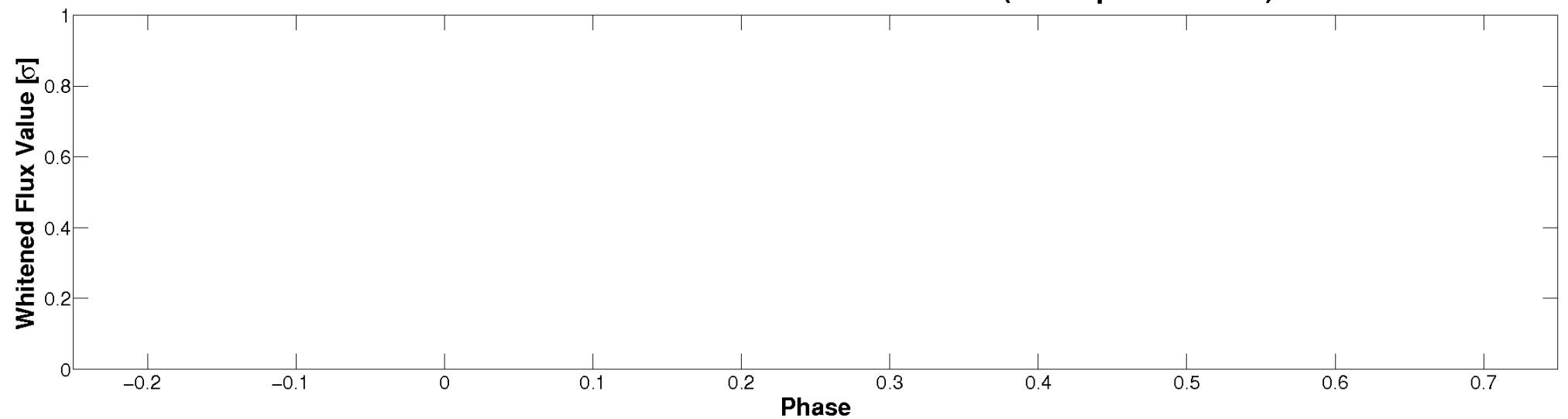


Non-Whitened Vs. Whitened Light Curve

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

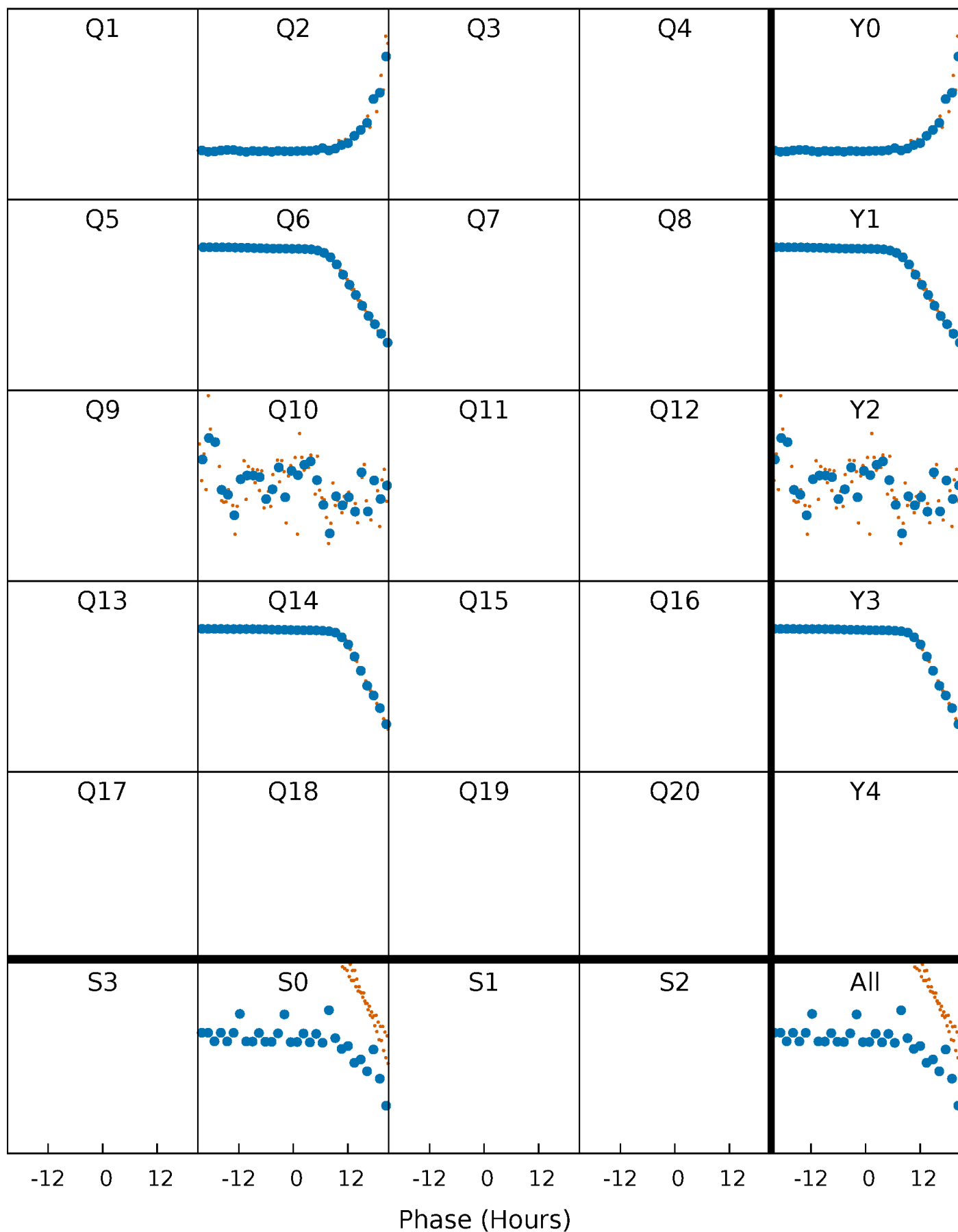


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



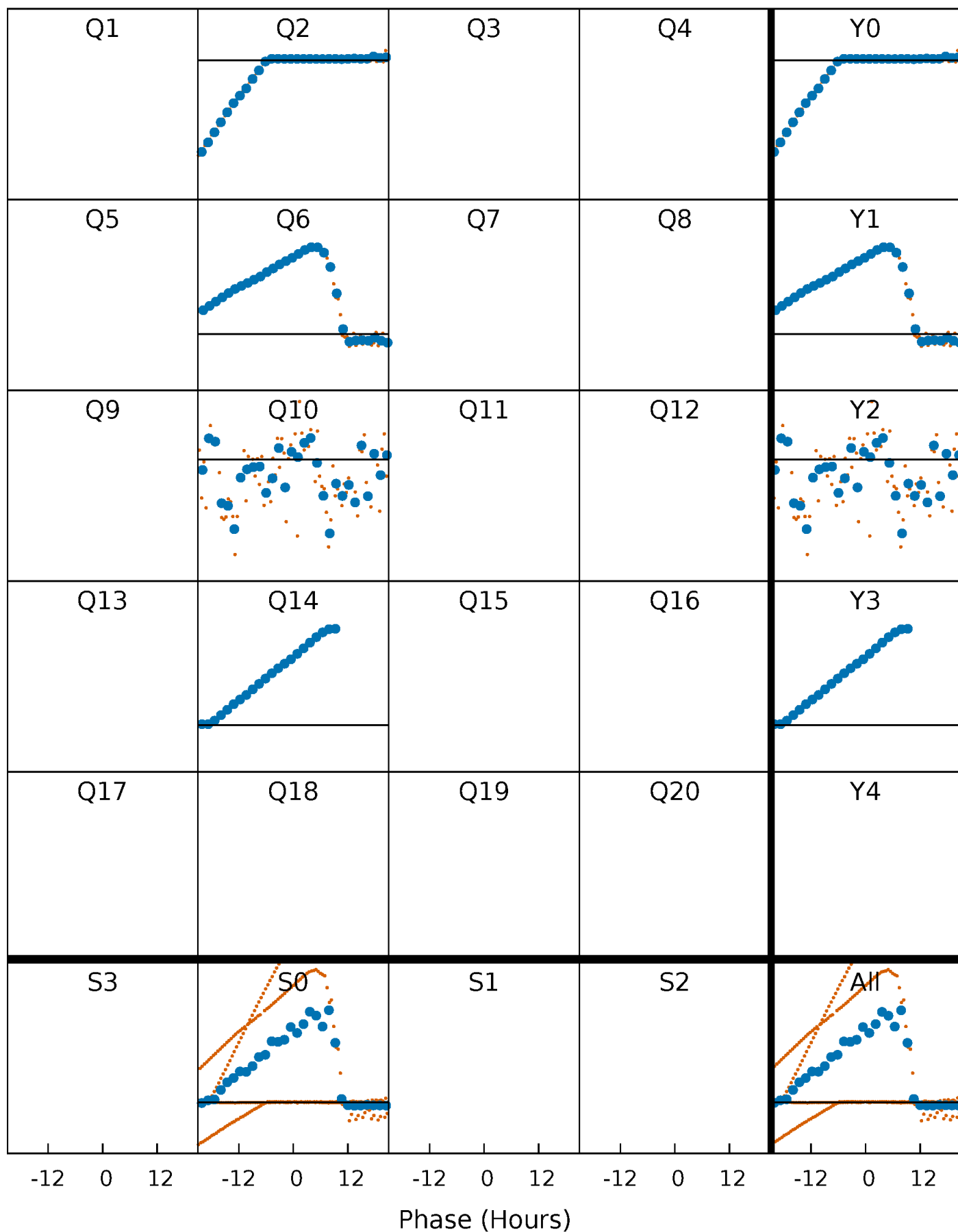
PDC Quarter-Phased Transit Curves

TCE 010450536-02 $P=371.775002$ Days $T_0=249.324090$ (BKJD)



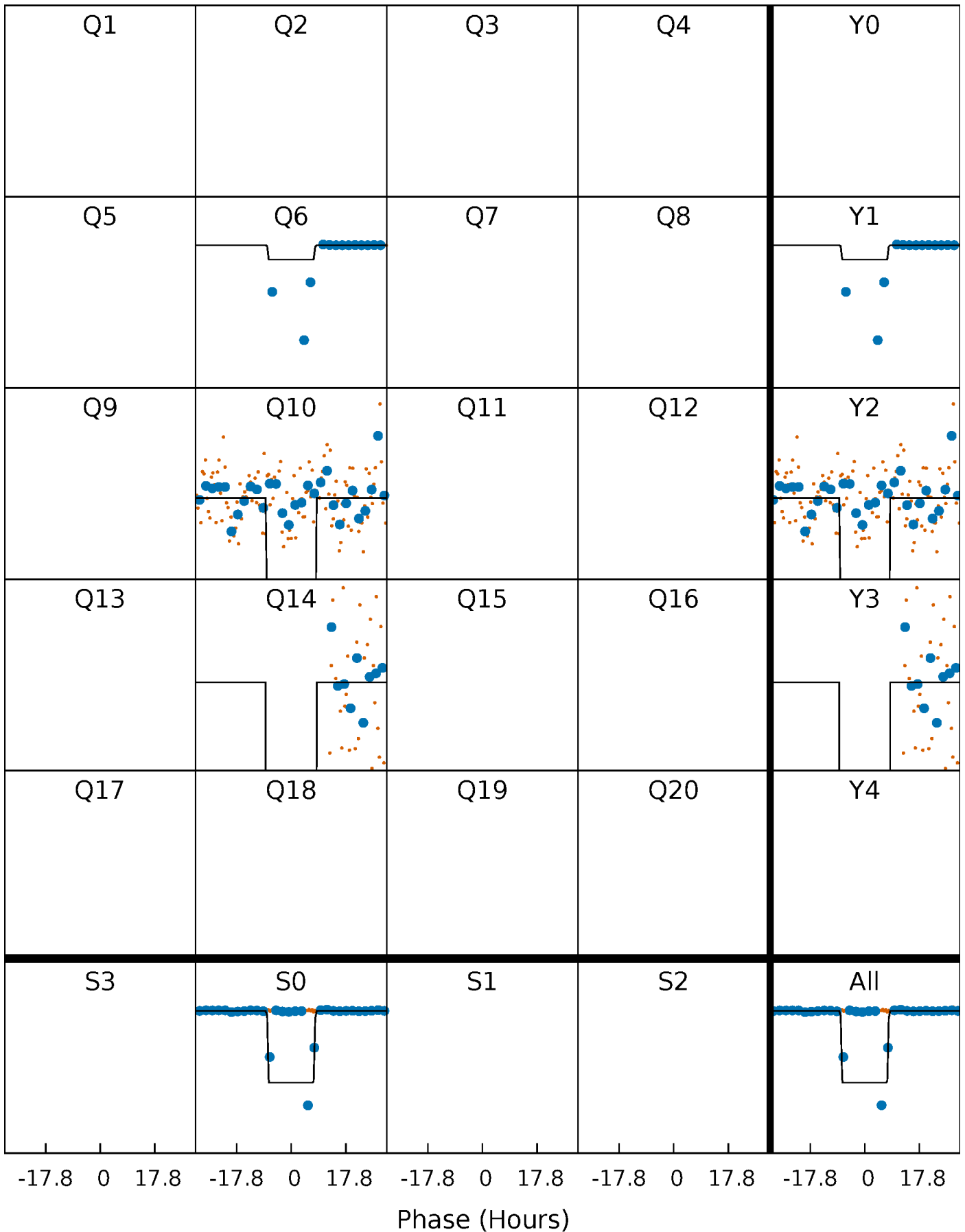
DV Quarter-Phased Transit Curves

TCE 010450536-02 P=371.775002 Days $T_0=249.324090$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

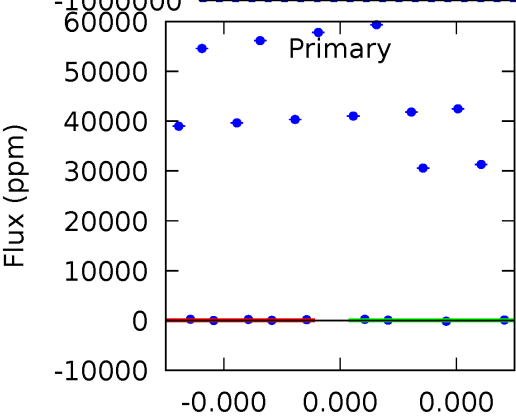
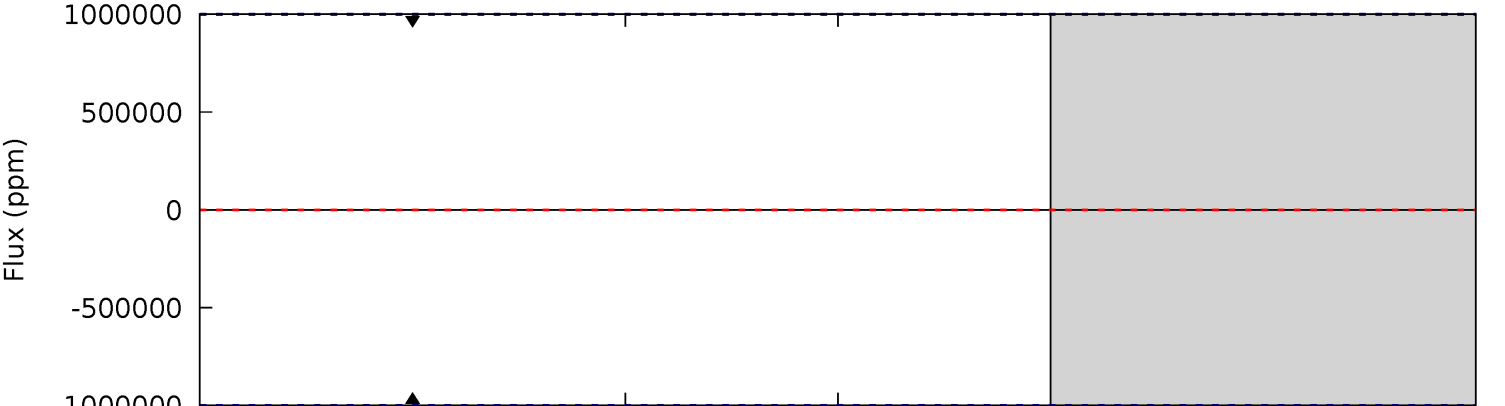
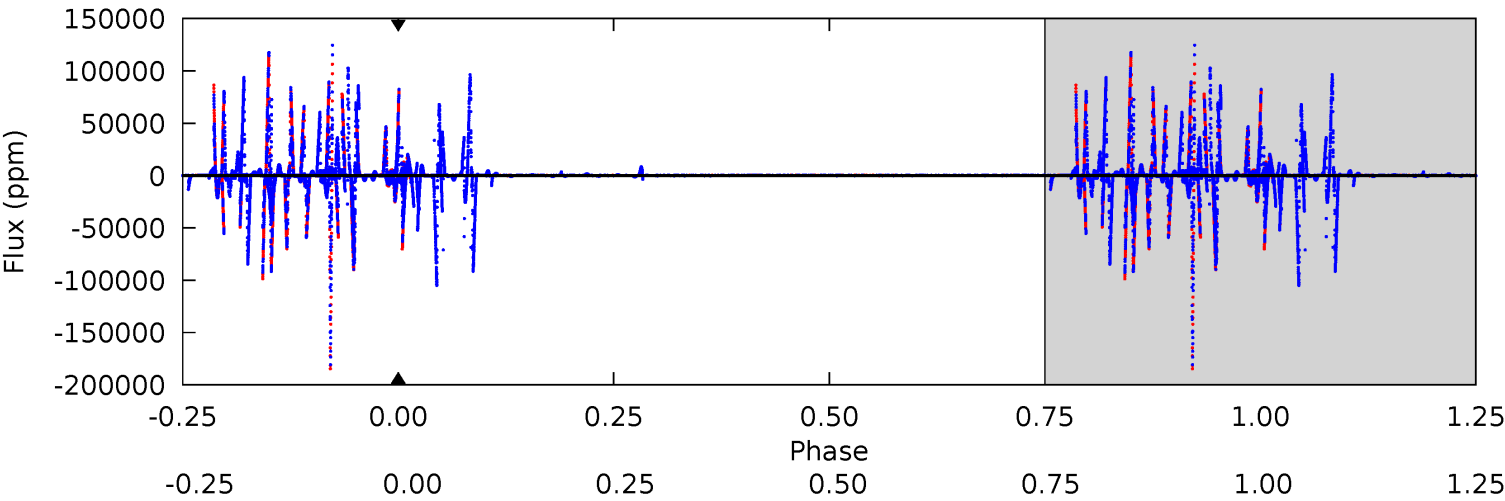
TCE 010450536-02 P=371.775002 Days $T_0=251.140311$ (BKJD)



DV Model-Shift Uniqueness Test

010450536-02, P = 371.775002 Days, E = 249.324090 Days

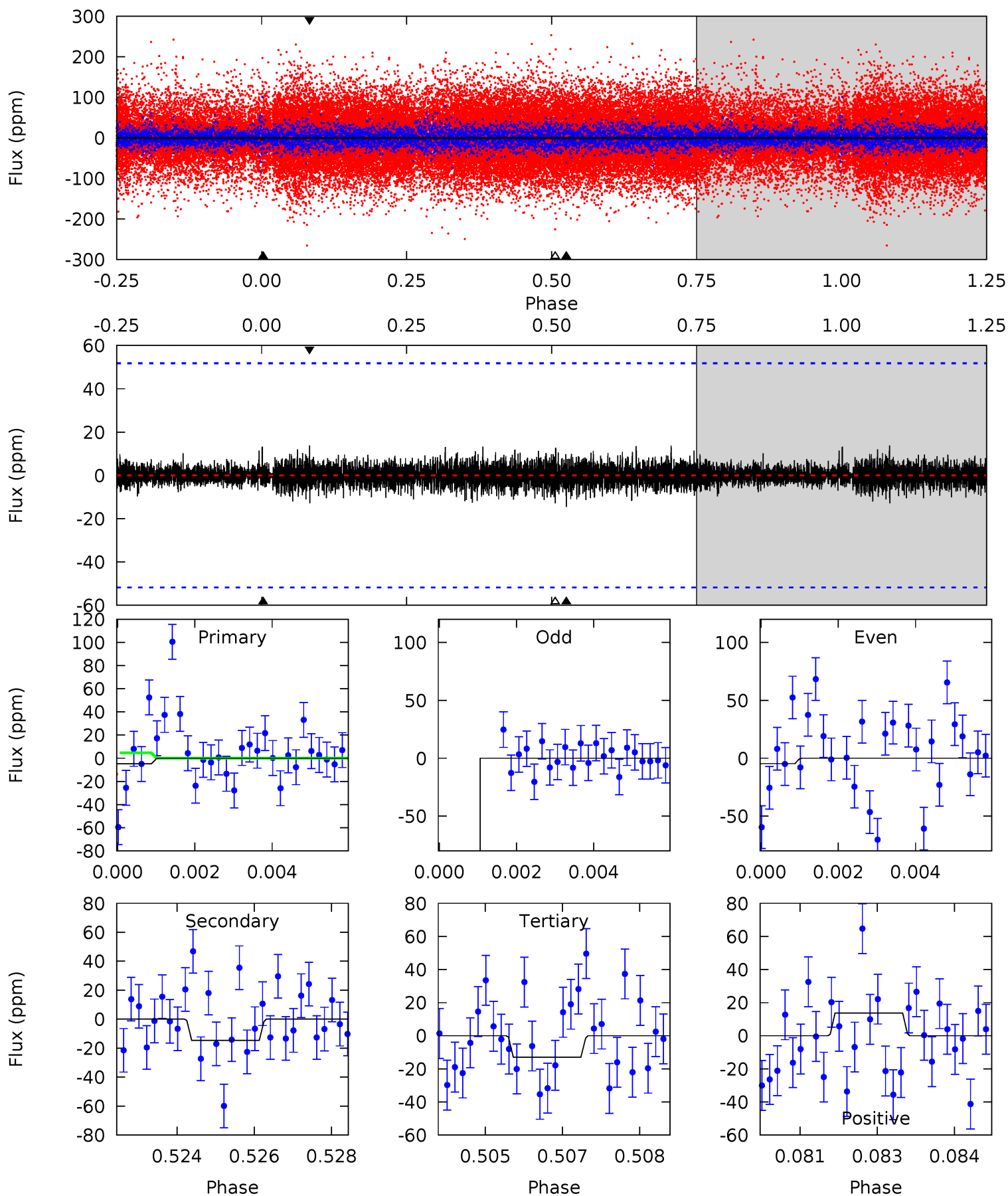
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010450536-02, P = 371.775002 Days, E = 251.140311 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.51	1.50	1.34	1.42	5.35	3.13	0.35	-0.83	-0.91	0.17	0.08	220.3	1.00	0.49	0.48



Stellar Parameters For KIC 010450536

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6544^{+78}_{-85}	$3.866^{+0.186}_{-0.124}$	$0.210^{+0.150}_{-0.150}$	$2.502^{+0.496}_{-0.606}$	$1.677^{+0.131}_{-0.196}$	$0.151^{+0.158}_{-0.058}$
	+1%/-1%	+5%/-3%	+71%/-71%	+20%/-24%	+8%/-12%	+104%/-38%
Source	SPE74	SPE74	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 010450536-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$24.42^{+25.49}_{-16.85}$	580^{+27}_{-31}	4424^{+19888}_{-23140}	$1761^{+271099}_{-173594}$
Alt.	-15 ± 10	$26.27^{+25.05}_{-17.10}$	581^{+32}_{-35}	2152^{+722}_{-352}	13^{+111}_{-11}

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

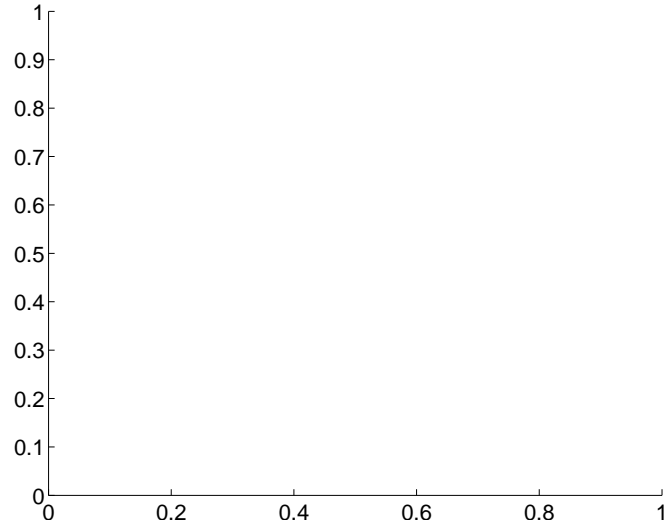
Supplemental centroid analysis for 010450536-02. **Kepler magnitude: 11.49.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

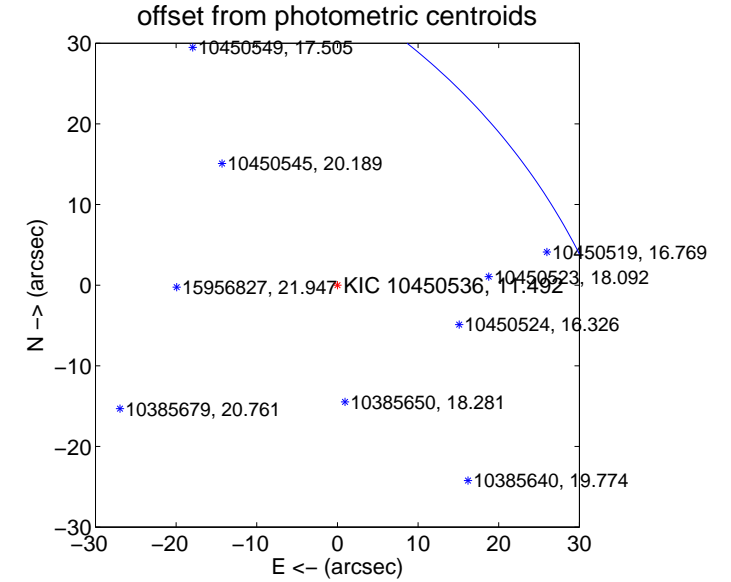
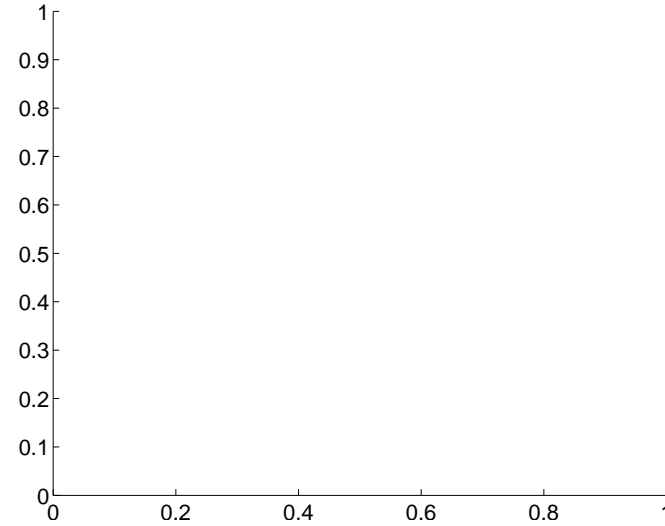
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	51.54 ± 26.34	1.96	40.45 ± 29.58	-31.94 ± 20.10

There is no PRF-fit offset from OOT-fit

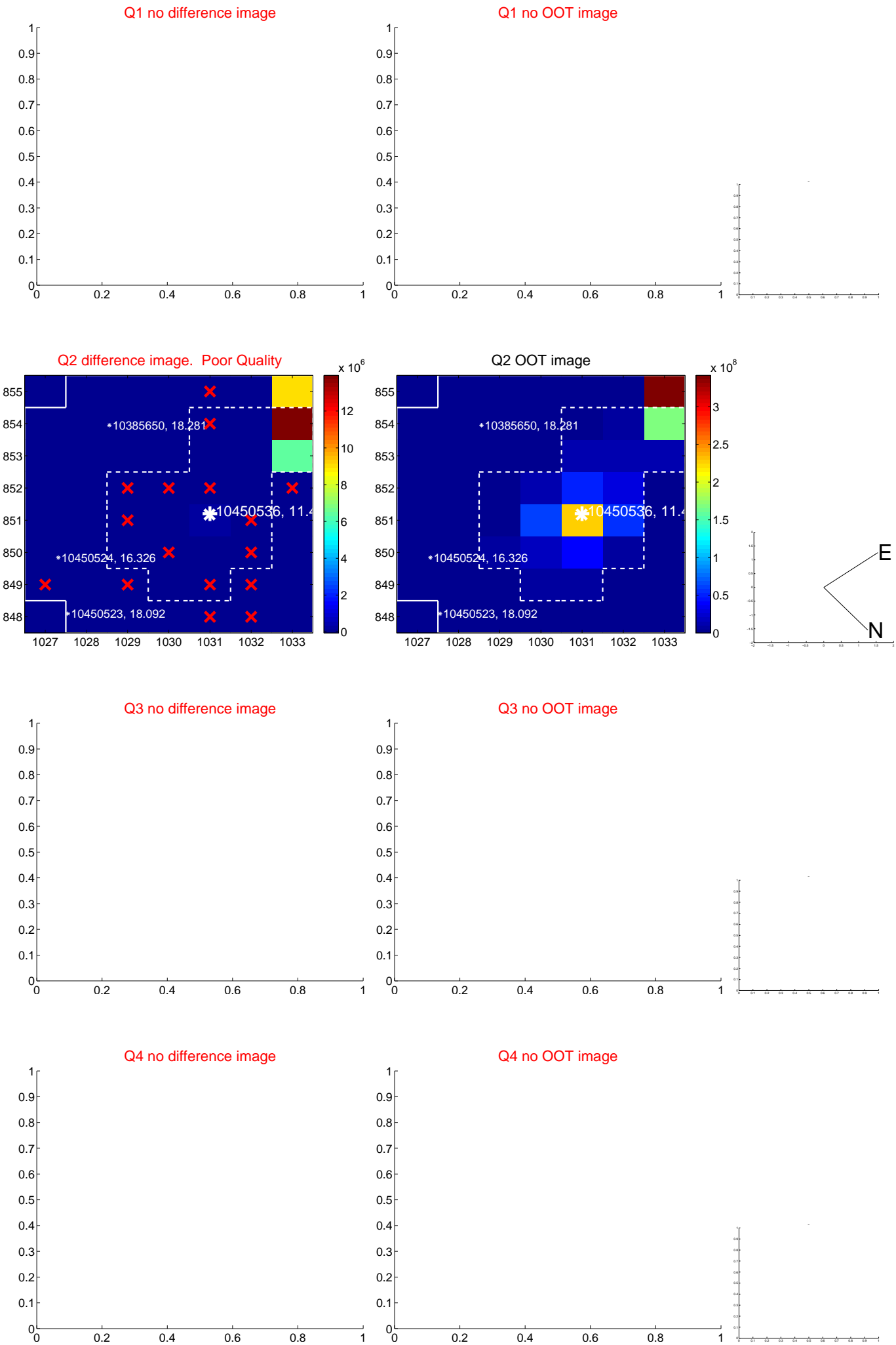


There is no PRF-fit offset from KIC

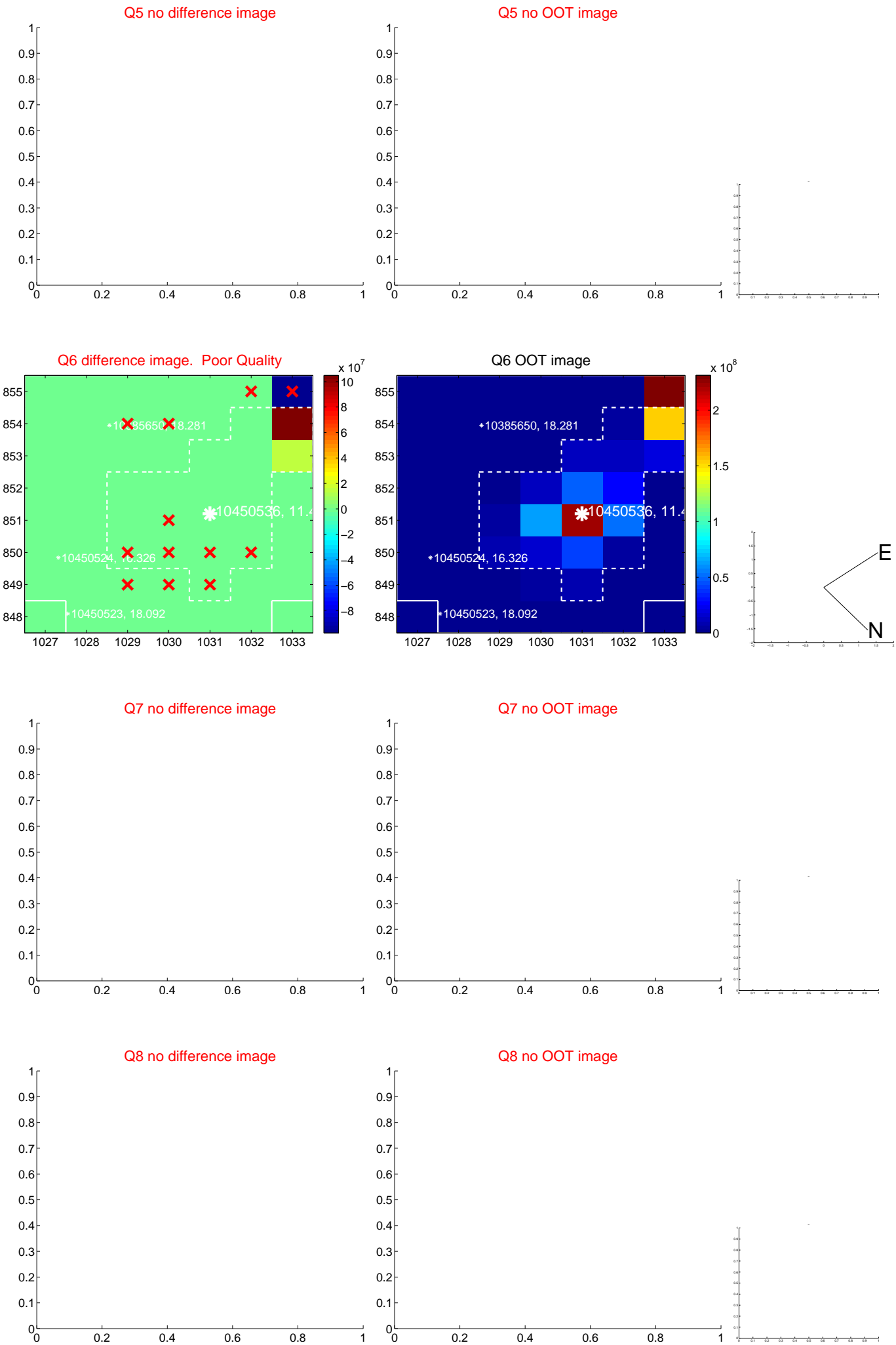


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

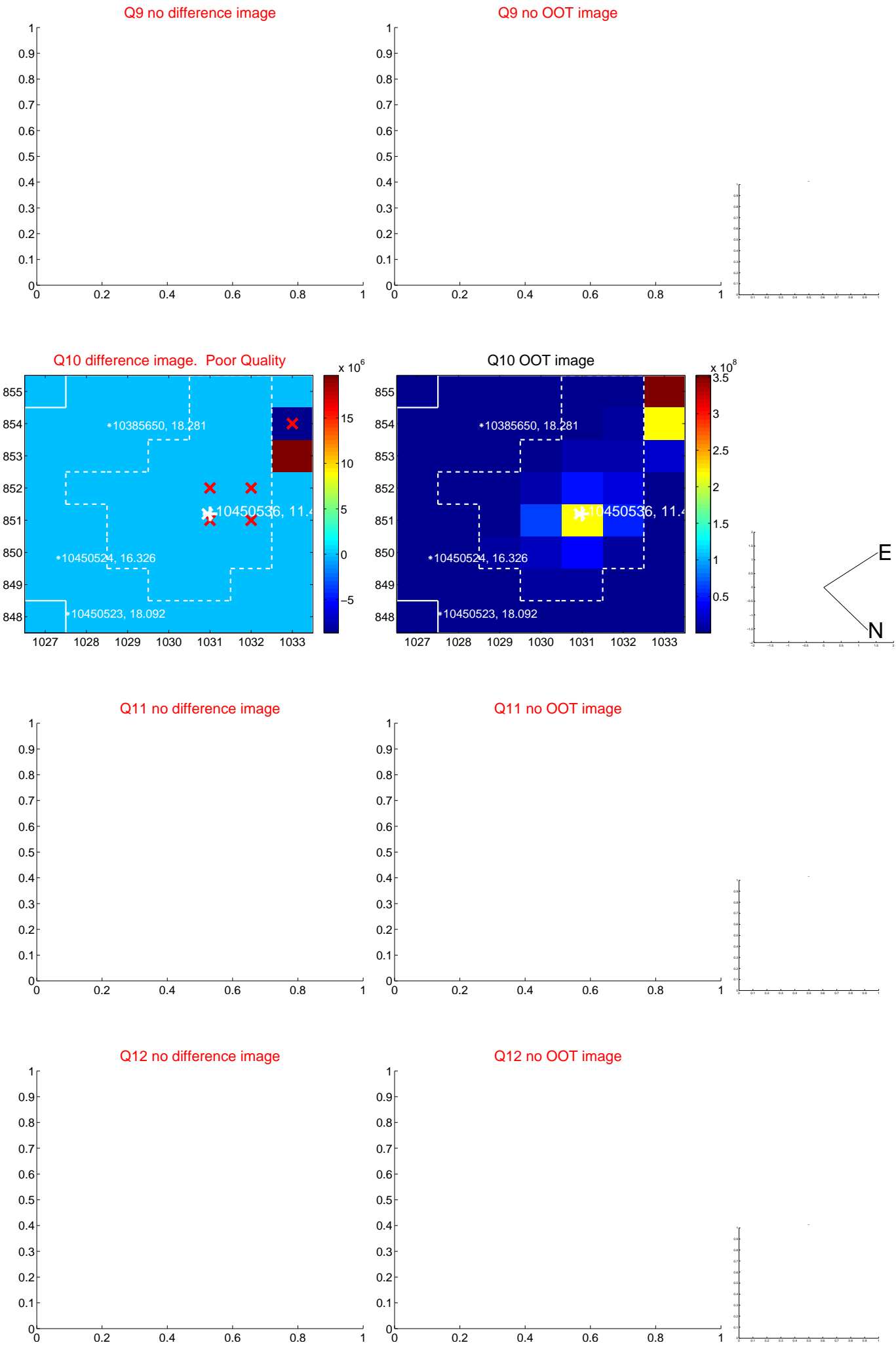
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



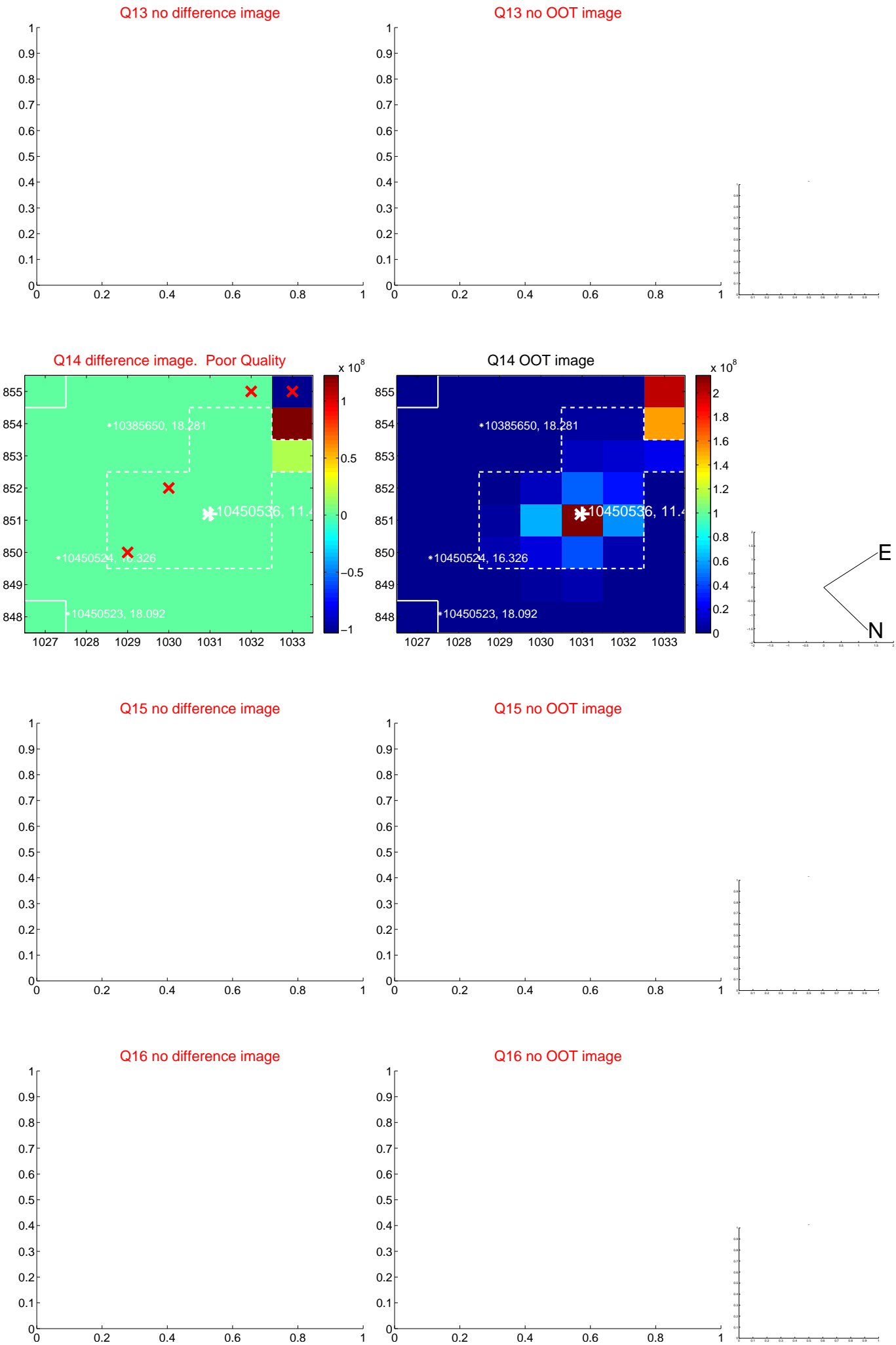
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



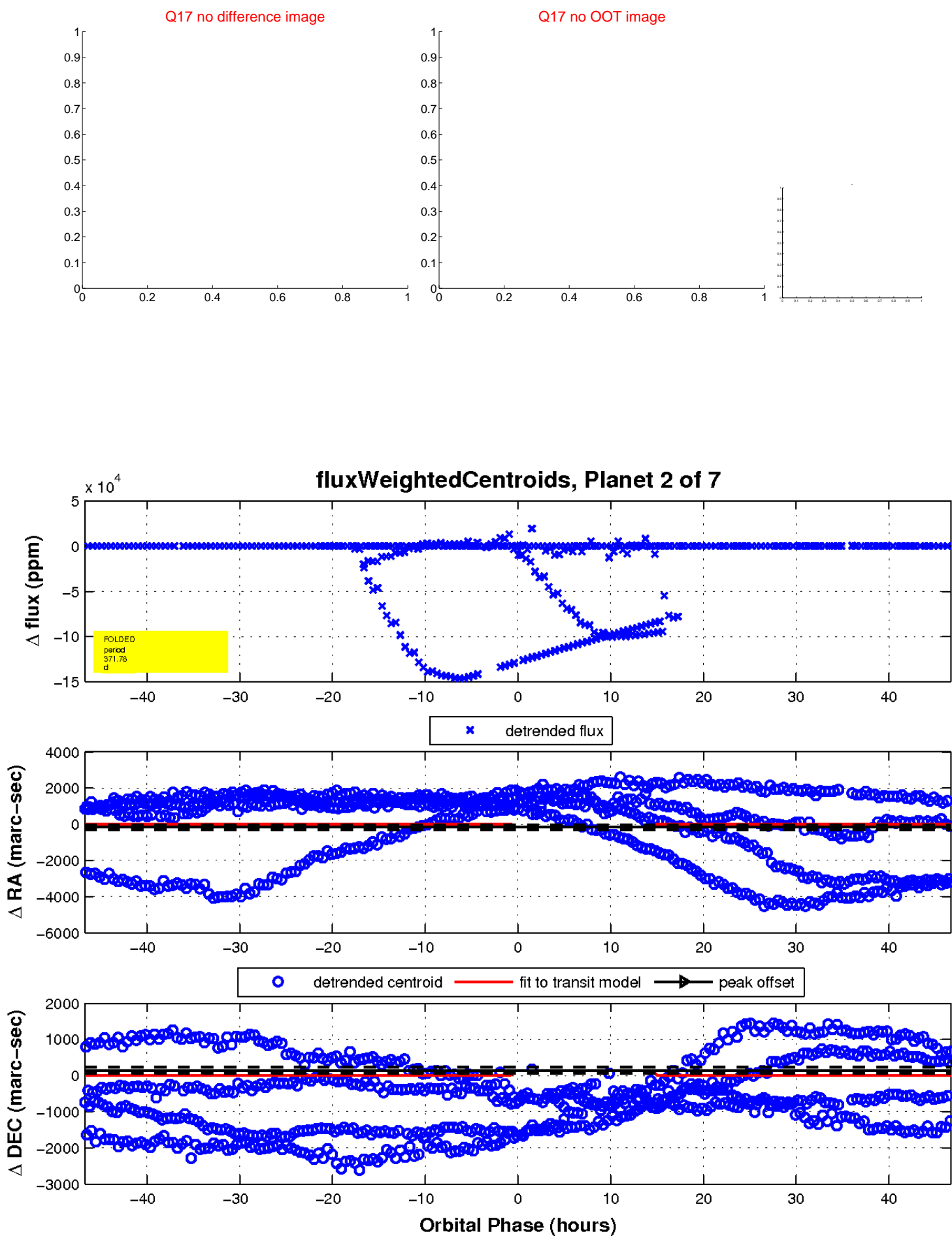
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

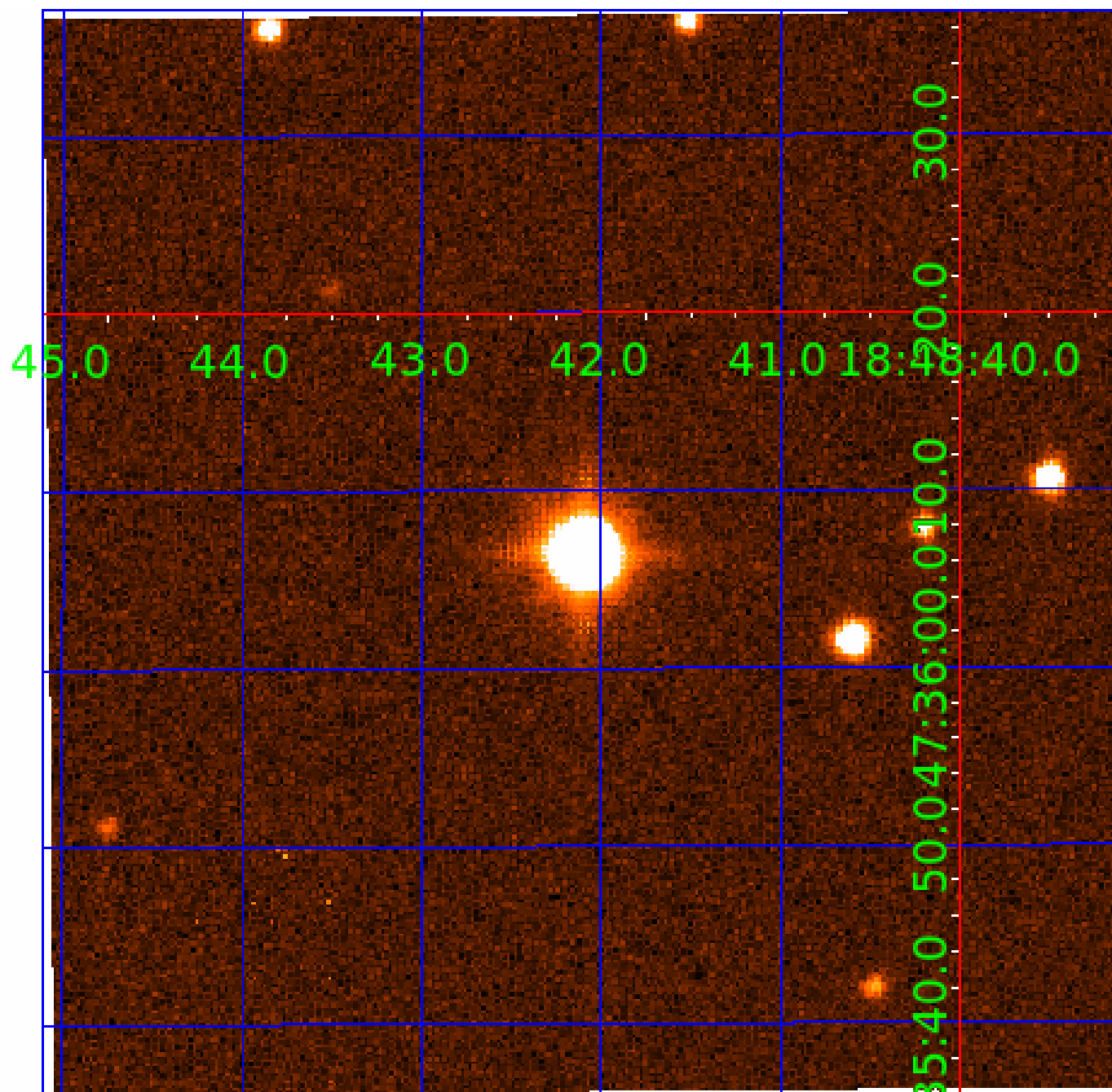


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010450536

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})
010450536-01	OBS	No	380.435511	224.411453	14628.5	10.639	488.1	388.5	2.50	6544	53.01	6.90
010450536-02	OBS	No	371.775002	249.324090	3397.3	10.500	250.9	-1.0	2.50	6544	14.65	7.11
010450536-05	OBS	No	386.432676	208.082354	2786.3	7.500	153.6	-1.0	2.50	6544	13.27	6.76
010450536-06	OBS	No	353.779009	247.377435	2989.1	3.777	170.1	47.8	2.50	6544	25.16	7.60
010450536-07	OBS	No	365.387311	250.632990	2478.1	20.480	173.7	99.2	2.50	6544	12.54	7.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010450536-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010450536-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010450536-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010450536-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—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_SATURATED
010450536-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

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.

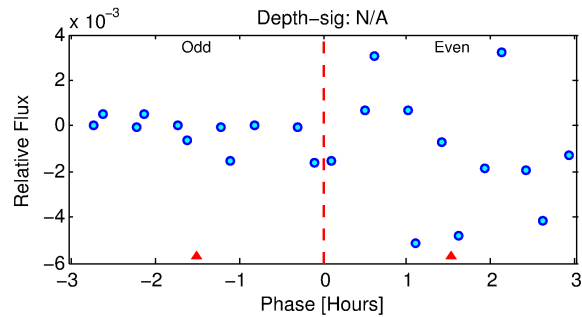
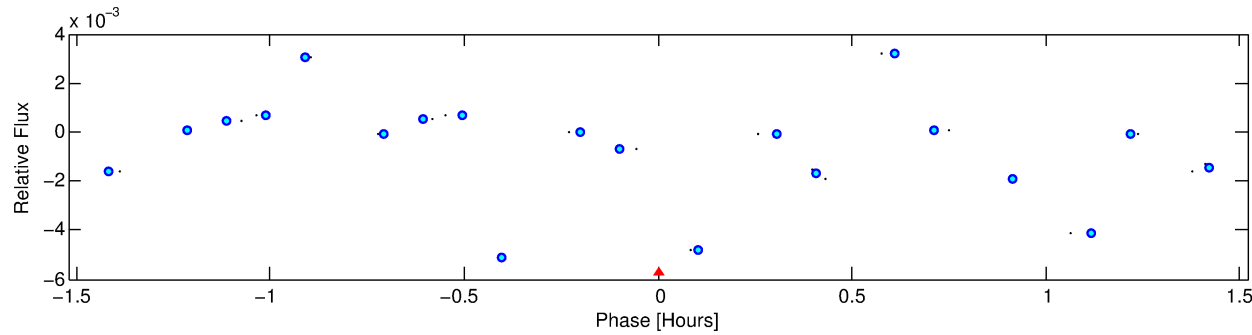
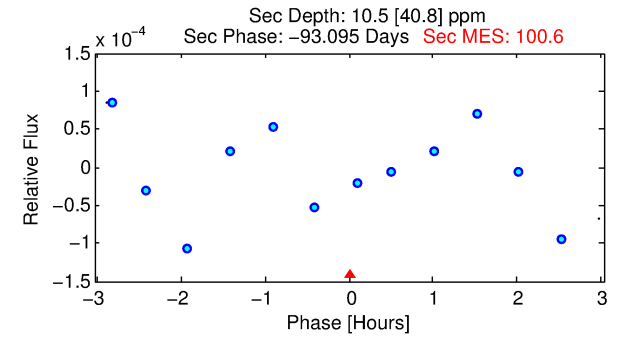
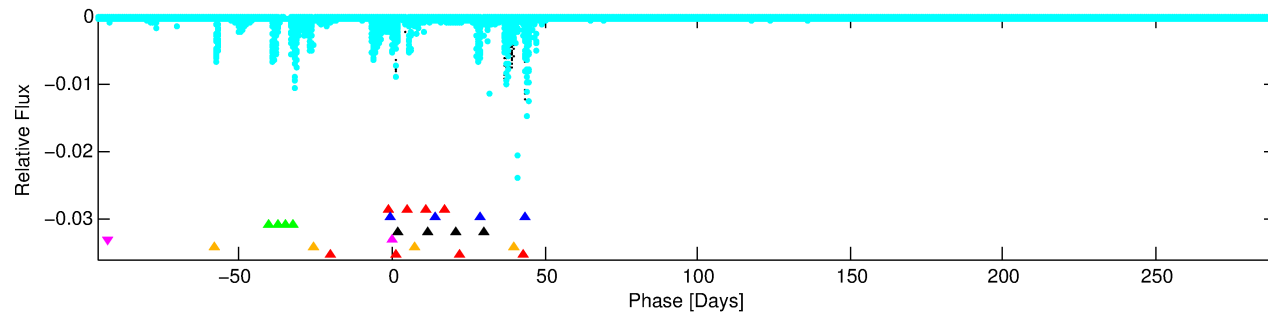
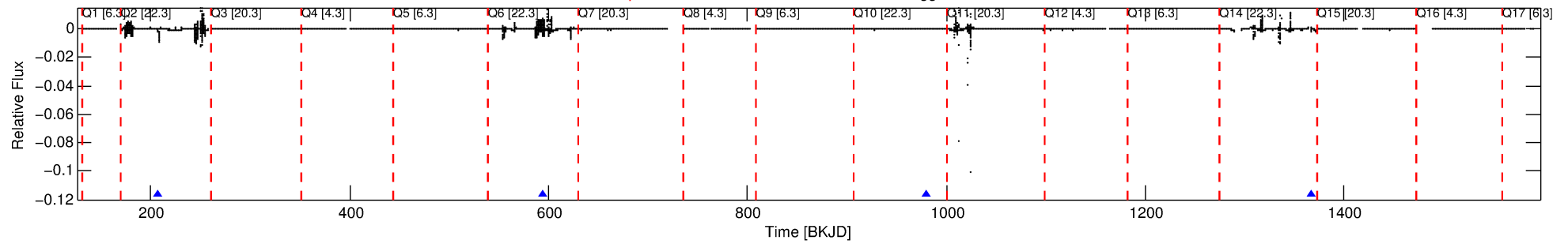
Ephemeris Match Information For 010450536-05

No Significant Match Found

DV One-Page Summary

KIC: 10450536 Candidate: 5 of 7 Period: 386.433 d

Kp: 11.49 R*: 2.50 Rs Teff: 6544.0 K Logg: 3.87 Fe/H: 0.210



TPS TCE Results:

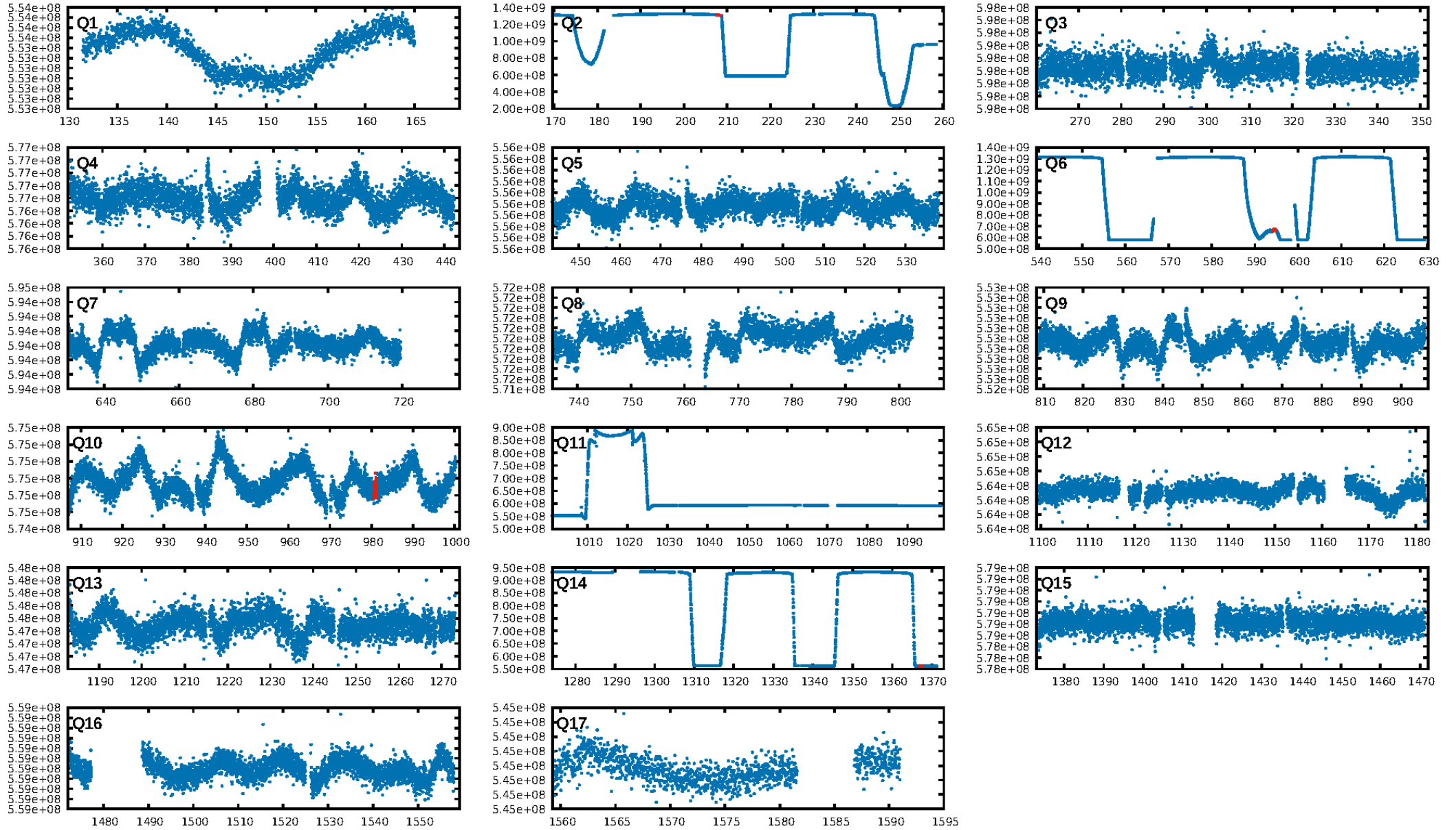
Period = 386.43268 d
Epoch = 208.0824 BKJD

DV fit results are unavailable

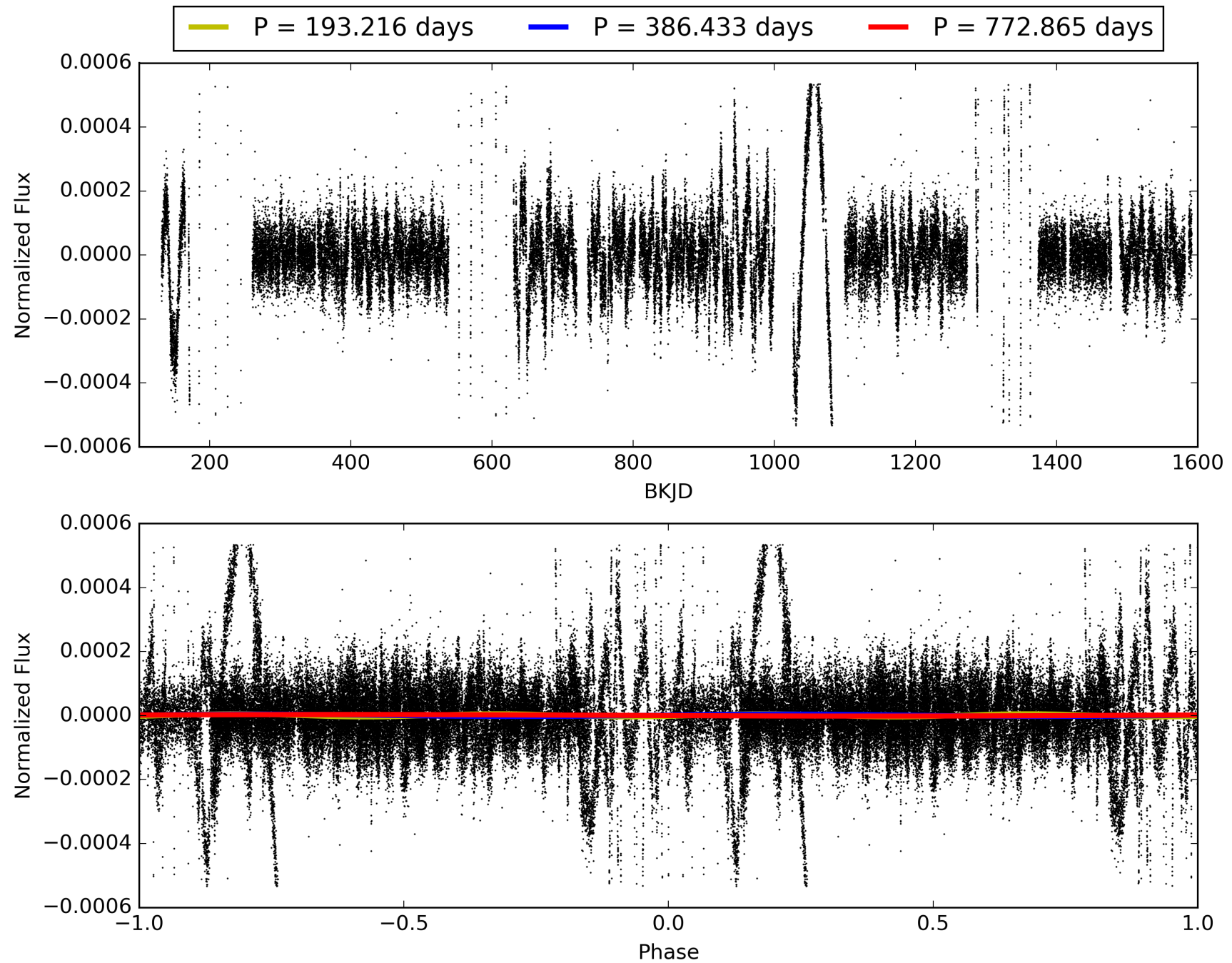
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.06σ]
LongPeriod-sig: 100.0% [8.14σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.033
Centroid-sig: 86.7%
Centroid-so: 4.294 arcsec [0.63σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.67 [2/3]

TCE 010450536-05, PDC Light Curves

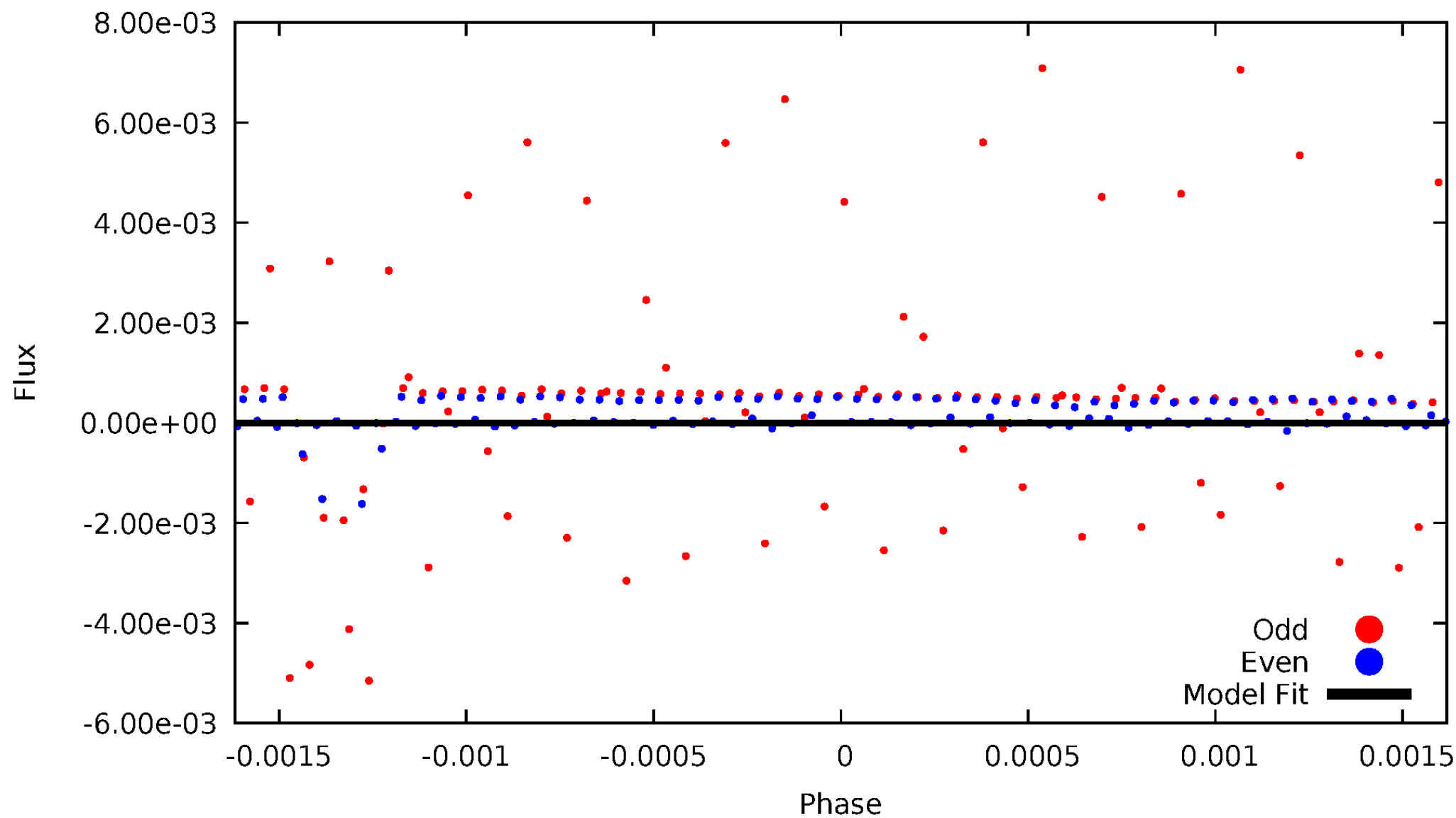


TCE 010450536-05



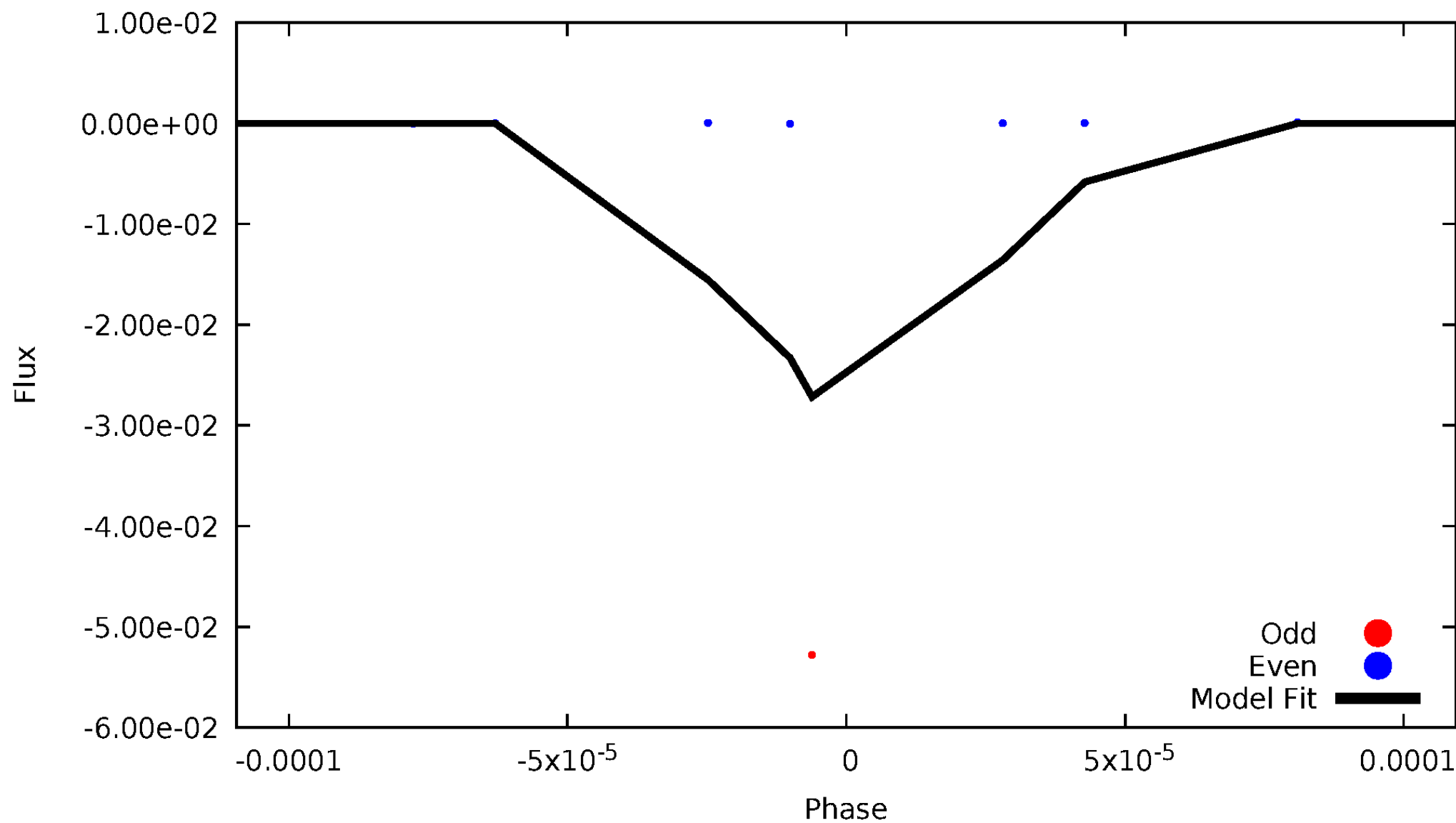
DV Odd/Even

TCE 010450536-05



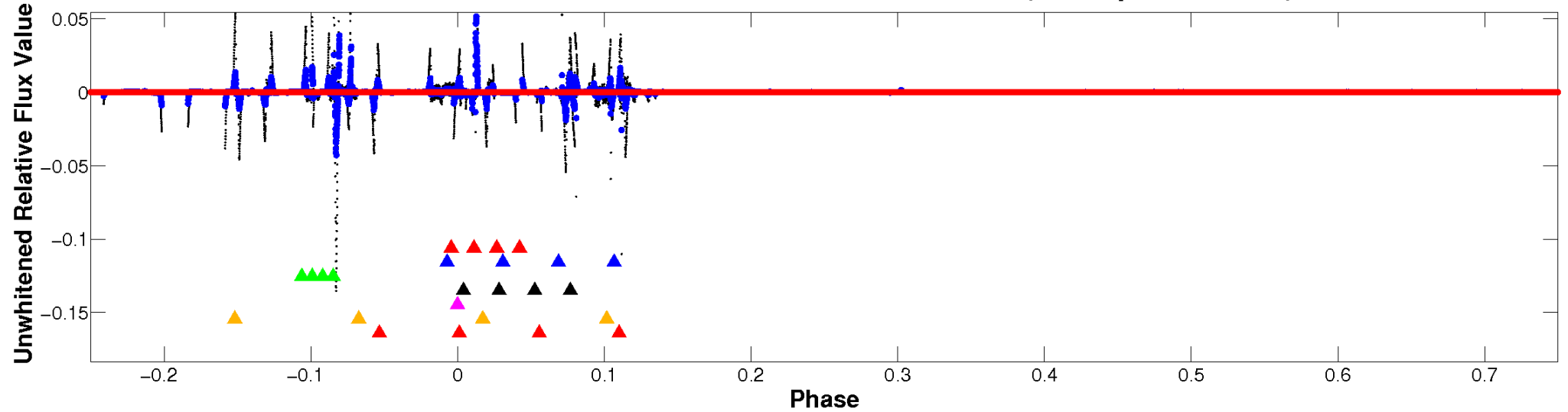
ALT Odd/Even

TCE 010450536-05

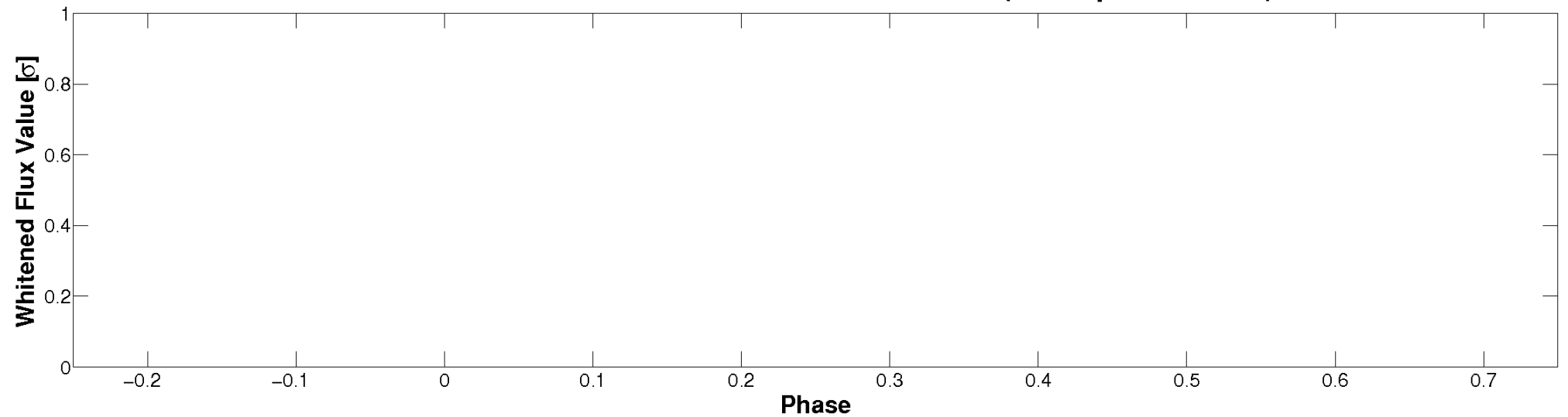


Non-Whitened Vs. Whitened Light Curve

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

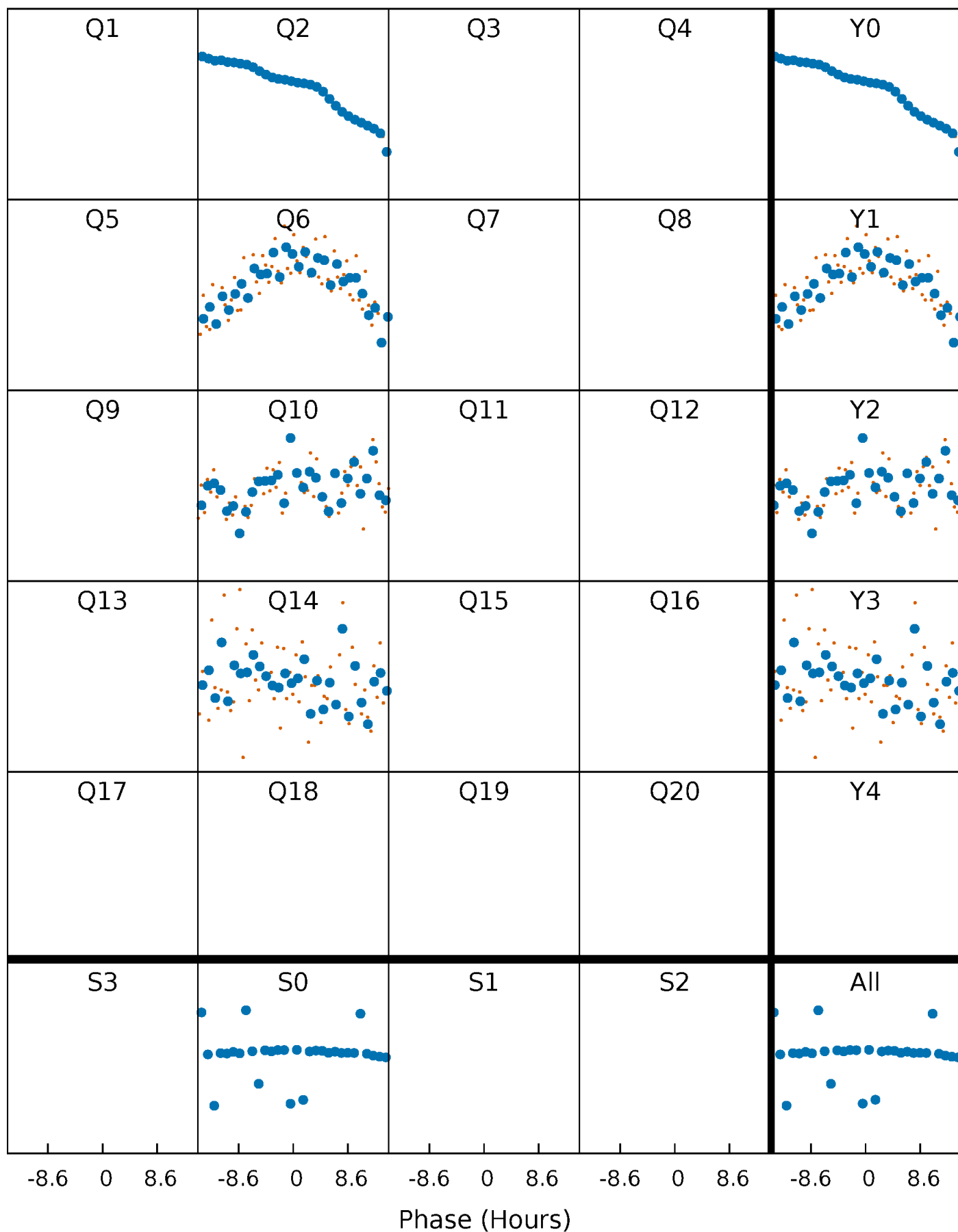


Planet 5 : Phased Whitened Flux Time Series (TPS Epoch/Period)



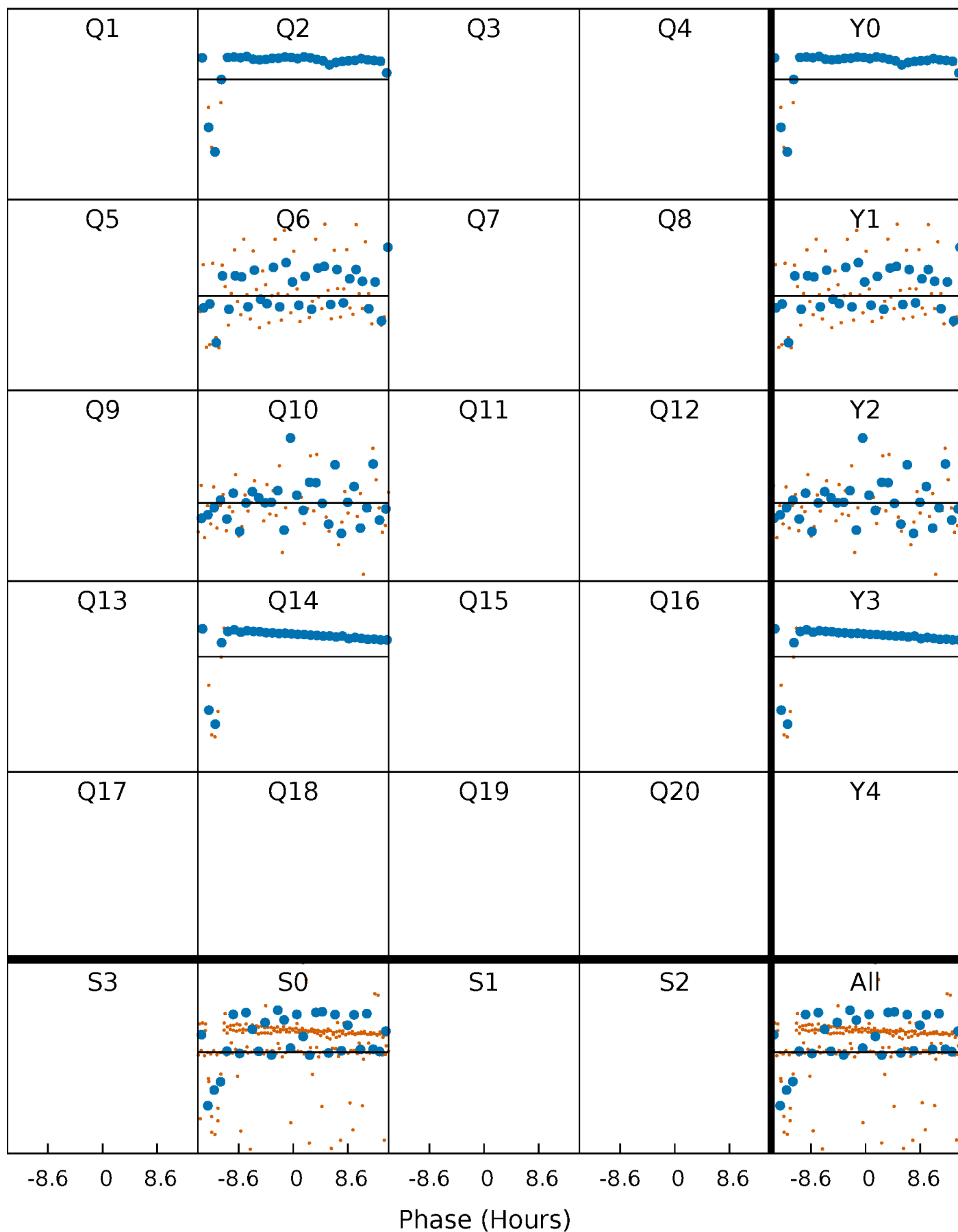
PDC Quarter-Phased Transit Curves

TCE 010450536-05 $P=386.432676$ Days $T_0=208.082354$ (BKJD)



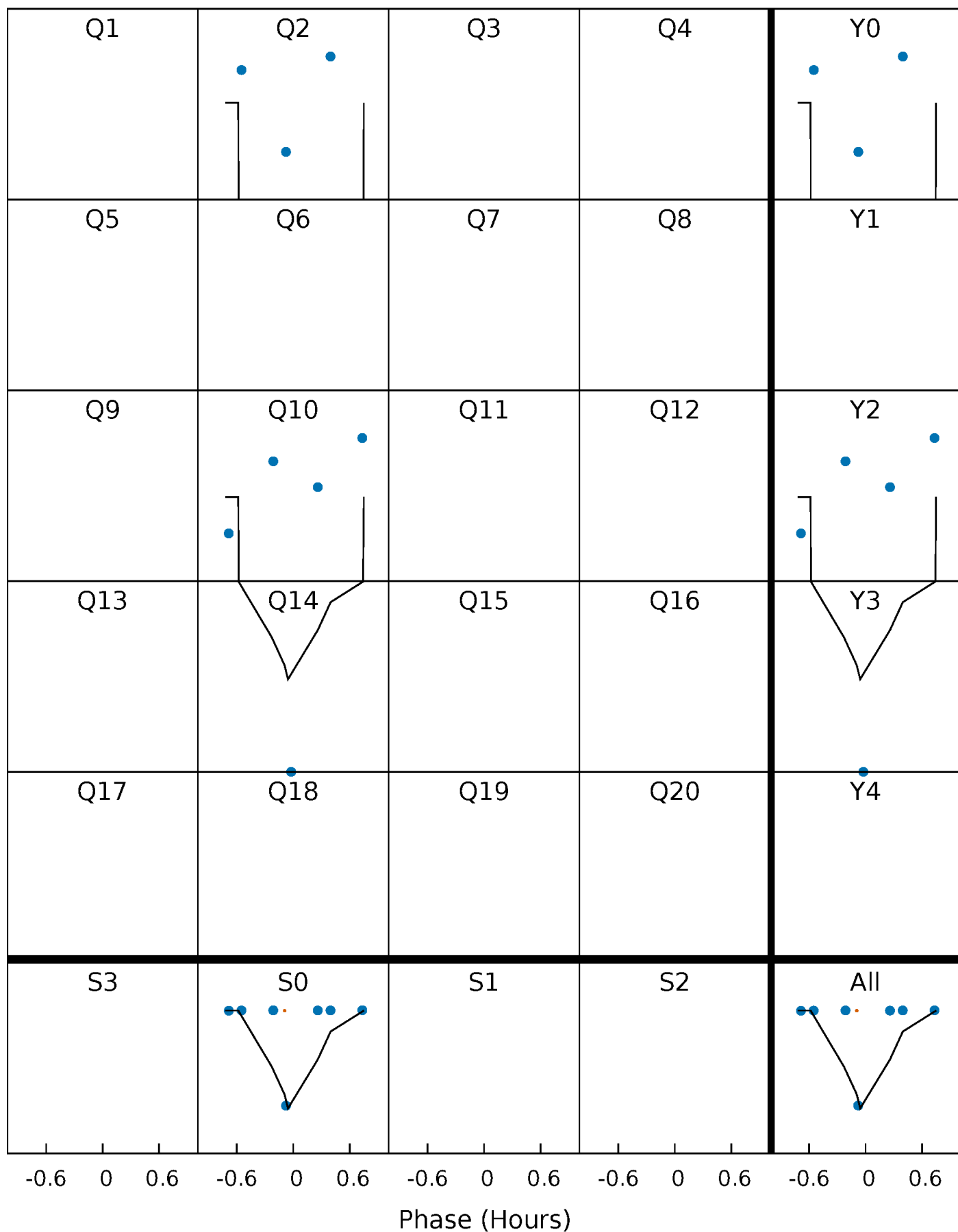
DV Quarter-Phased Transit Curves

TCE 010450536-05 $P=386.432676$ Days $T_0=208.082354$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

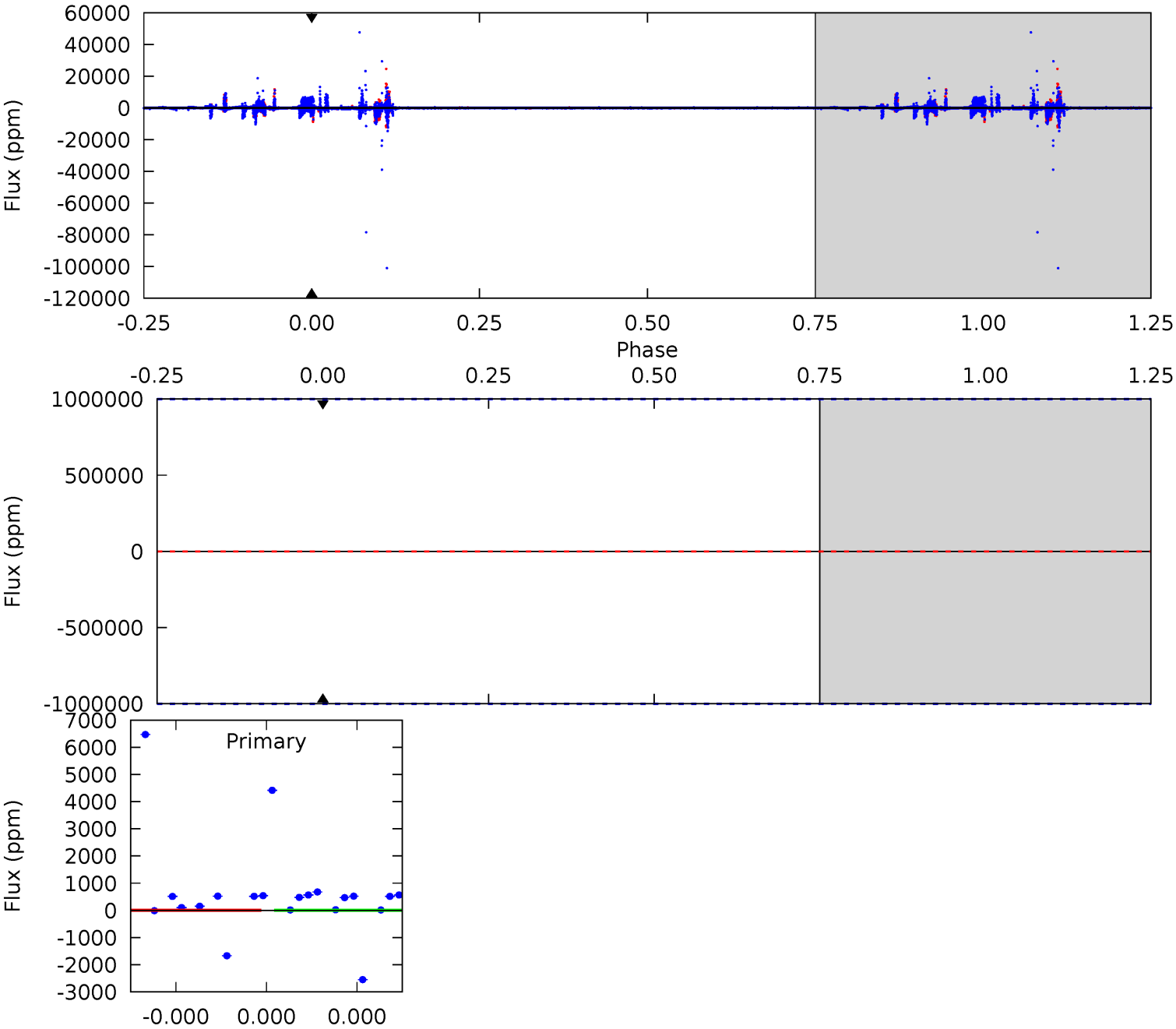
TCE 010450536-05 P=386.432676 Days $T_0=207.530671$ (BKJD)



DV Model-Shift Uniqueness Test

010450536-05, P = 386.432676 Days, E = 208.082354 Days

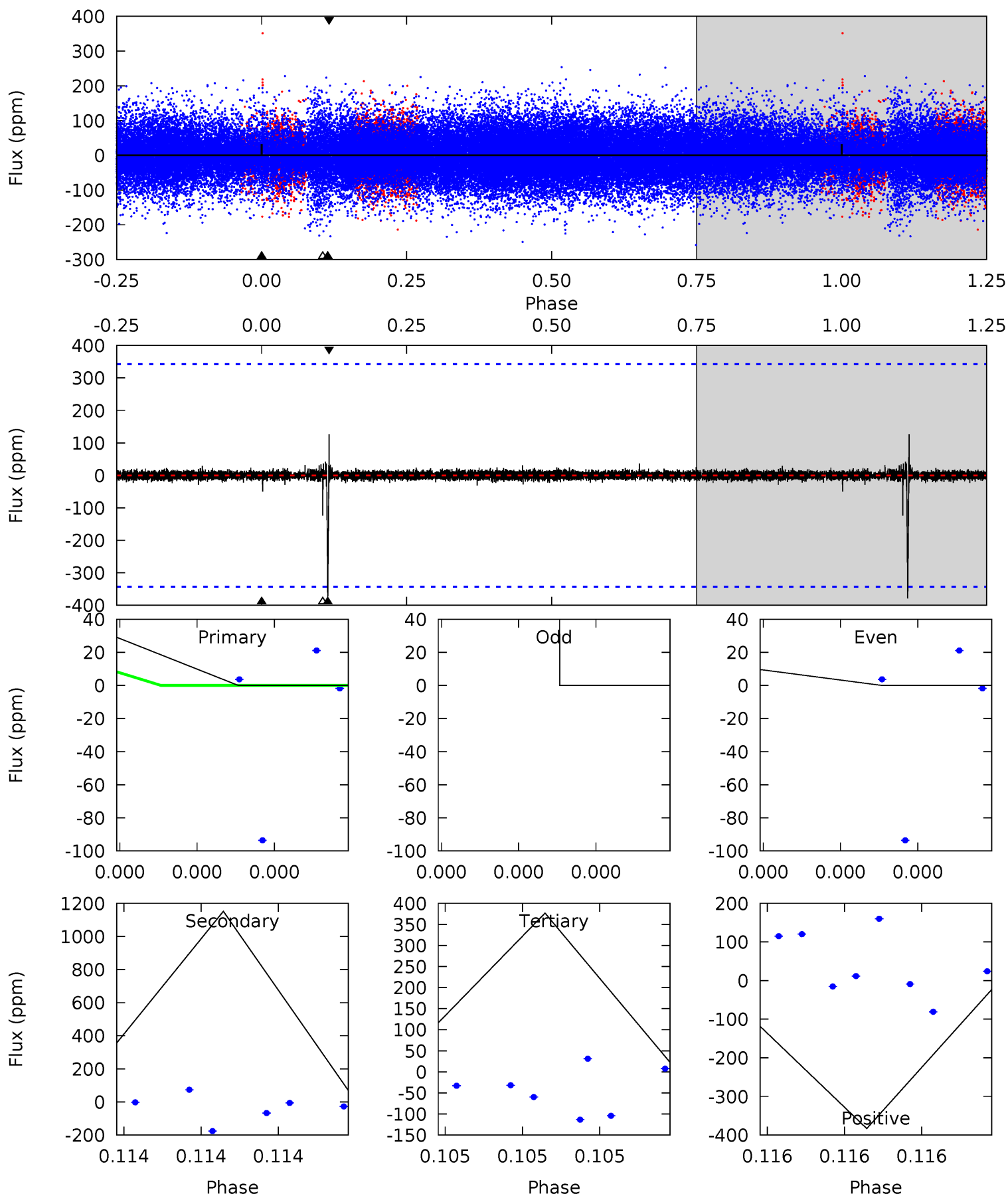
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010450536-05, P = 386.432676 Days, E = 207.530671 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.18	6.58	2.15	2.19	5.95	4.04	0.11	-1.97	-2.01	4.43	4.39	681.5	1.00	0.35	0



Stellar Parameters For KIC 010450536

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6544^{+78}_{-85}	$3.866^{+0.186}_{-0.124}$	$0.210^{+0.150}_{-0.150}$	$2.502^{+0.496}_{-0.606}$	$1.677^{+0.131}_{-0.196}$	$0.151^{+0.158}_{-0.058}$
	+1%/-1%	+5%/-3%	+71%/-71%	+20%/-24%	+8%/-12%	+104%/-38%
Source	SPE74	SPE74	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 010450536-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$24.91^{+21.26}_{-16.08}$	572^{+32}_{-34}	4768^{+17164}_{-22756}	$2566^{+276706}_{-180197}$
Alt.	-1152 ± 58	$45.52^{+29.20}_{-23.98}$	571^{+32}_{-34}	3428^{+1015}_{-450}	469^{+1583}_{-295}

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

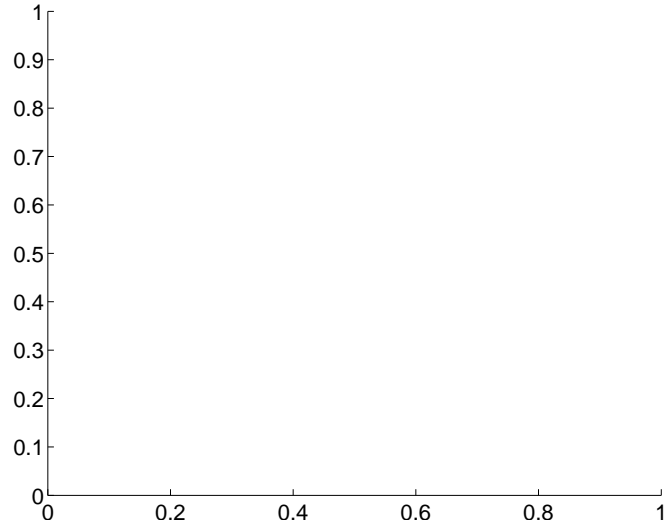
Supplemental centroid analysis for 010450536-05. **Kepler magnitude: 11.49.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

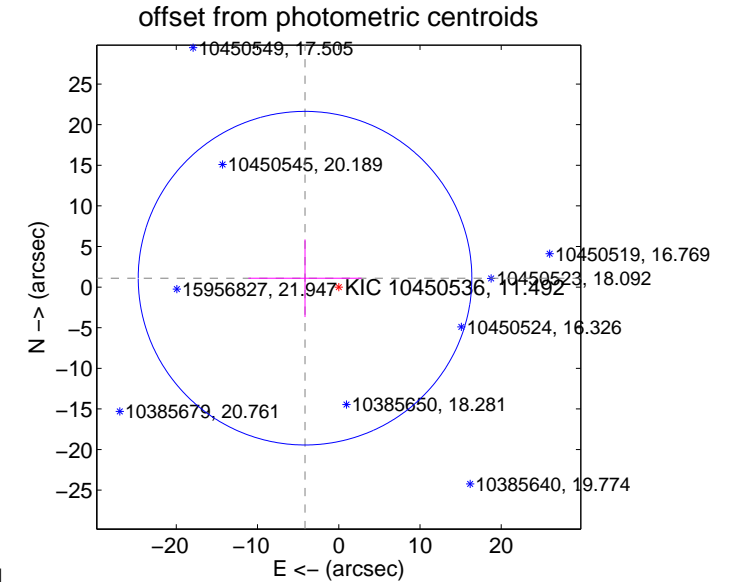
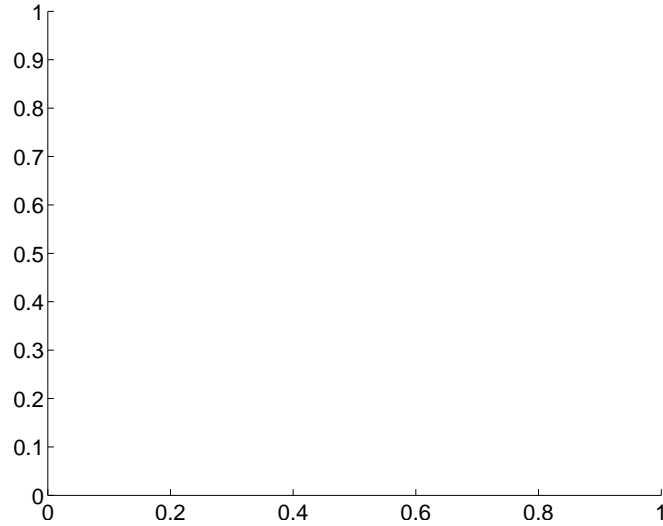
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	4.29 ± 6.85	0.63	4.15 ± 6.97	1.10 ± 4.78

There is no PRF-fit offset from OOT-fit

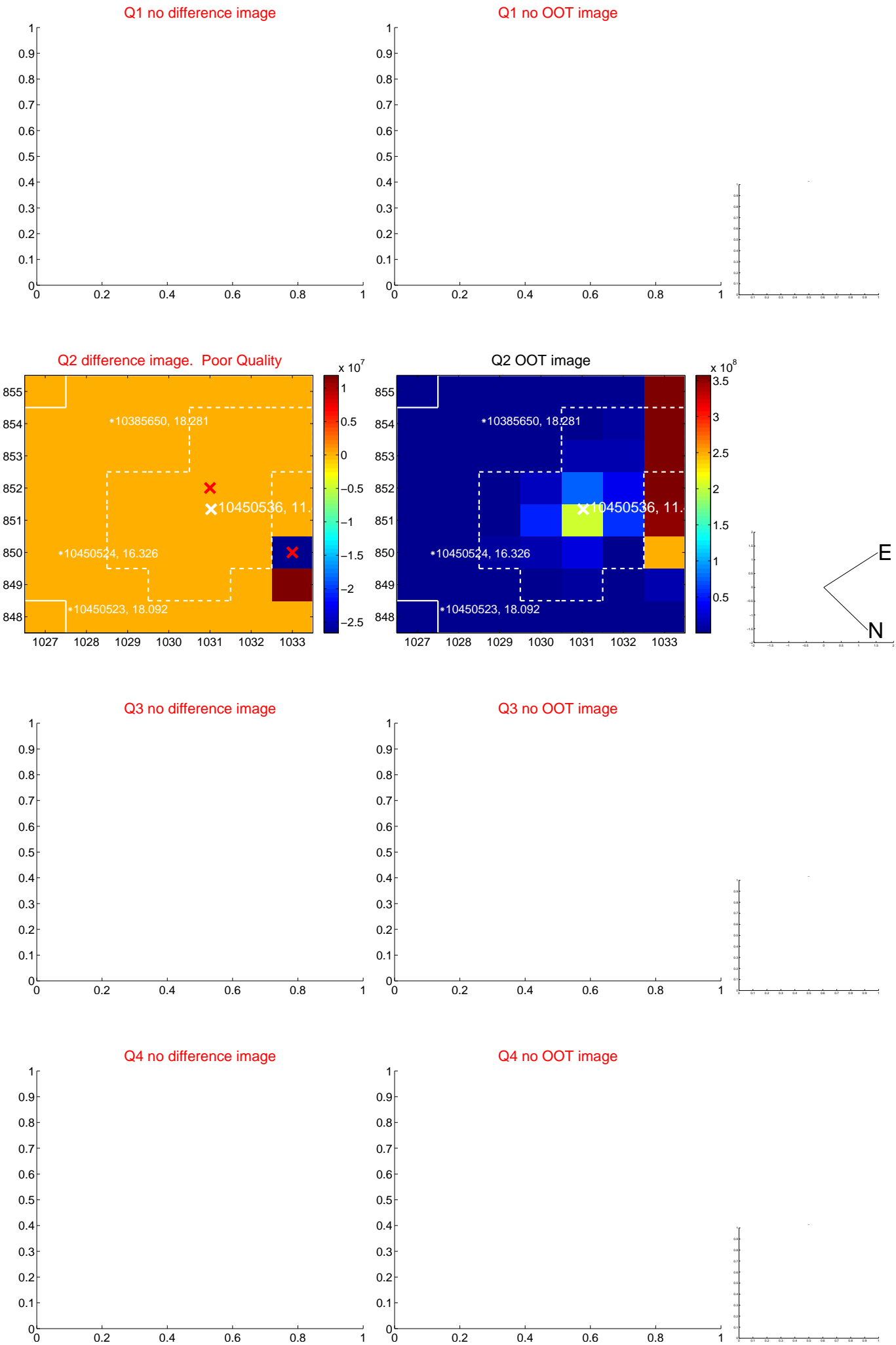


There is no PRF-fit offset from KIC

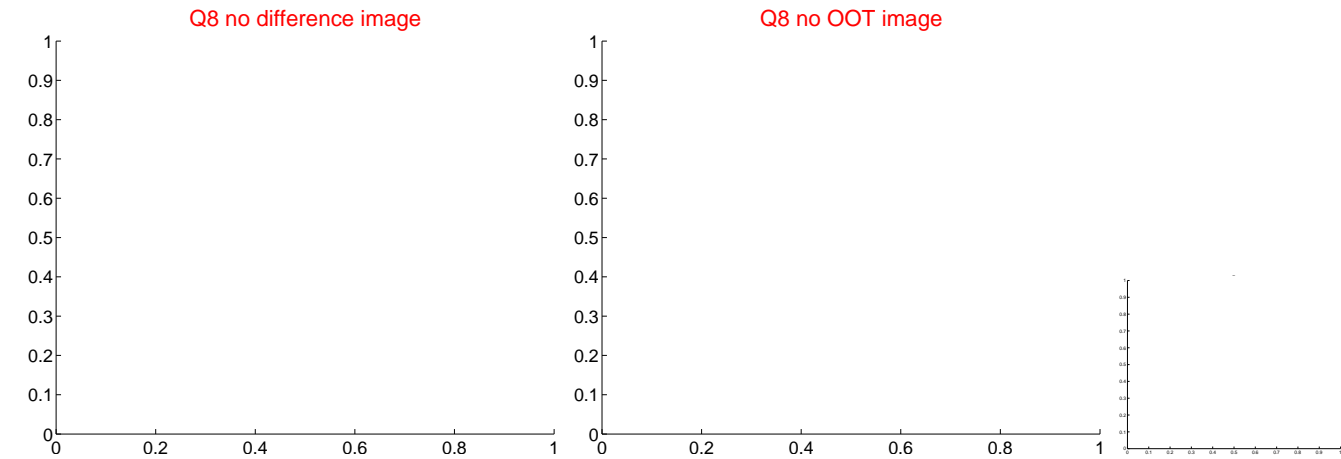
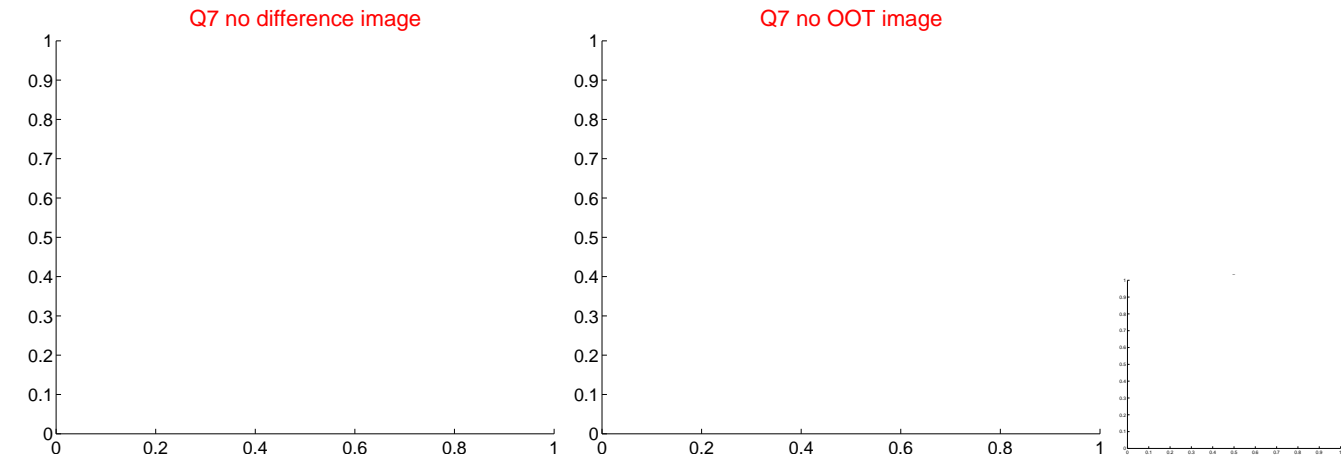
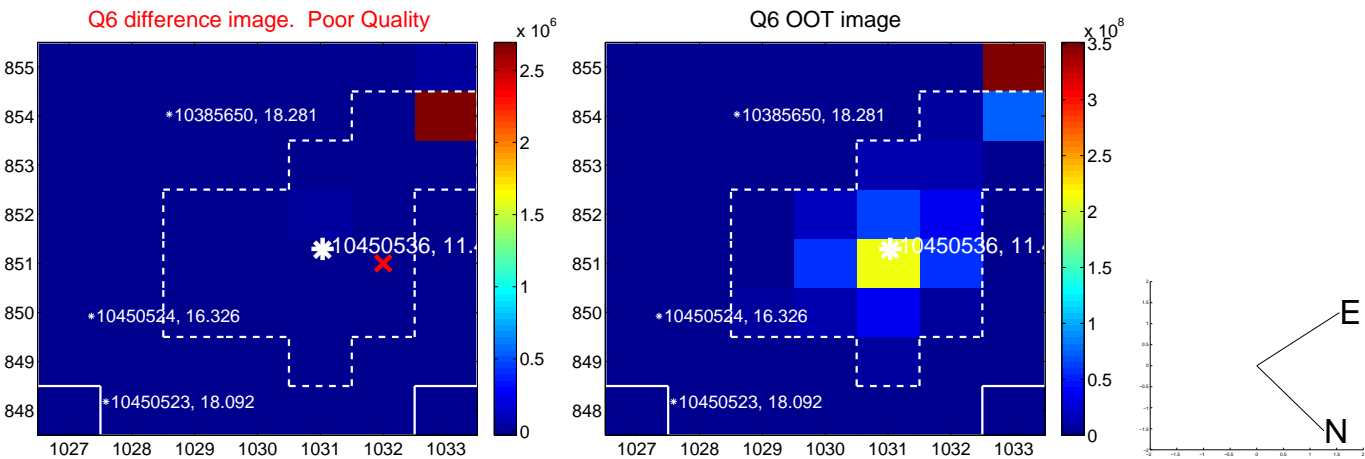
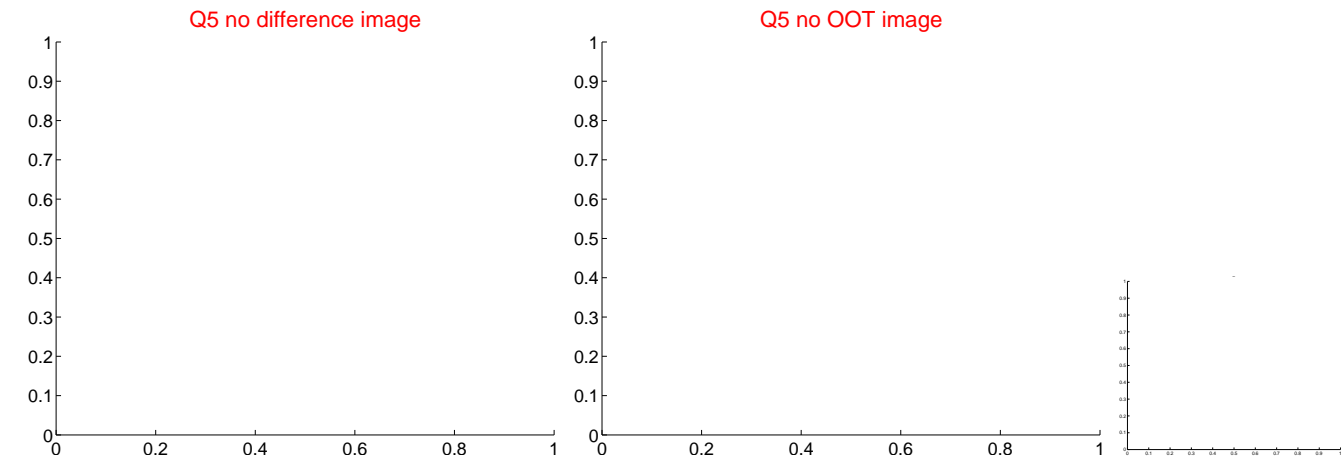


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

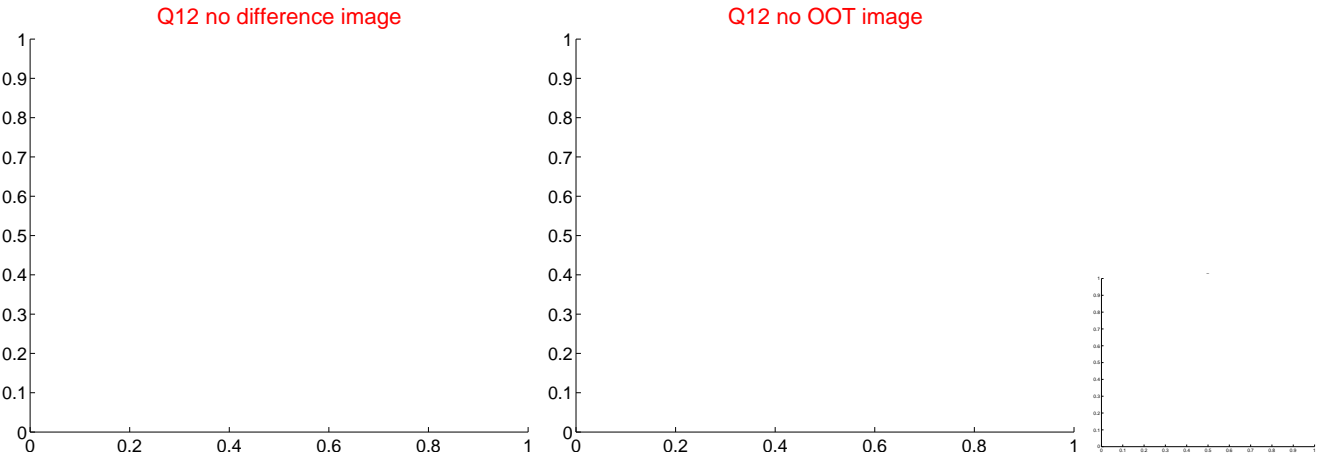
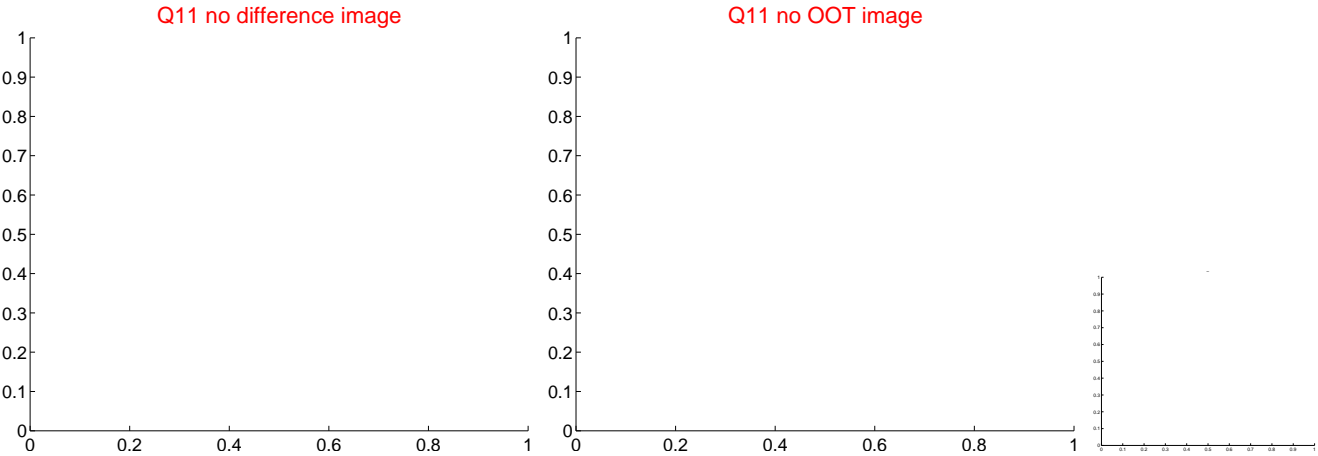
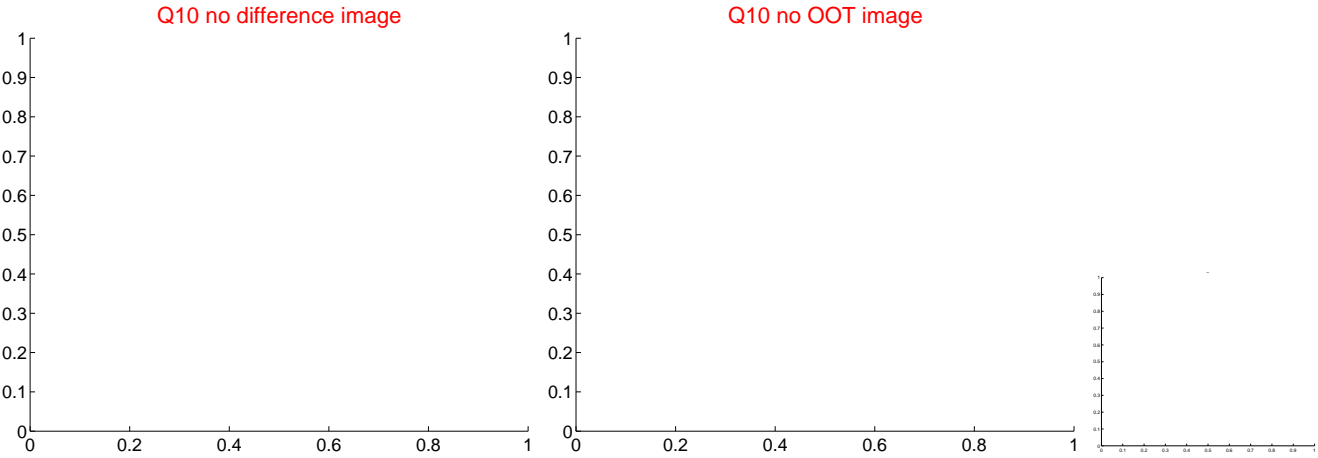
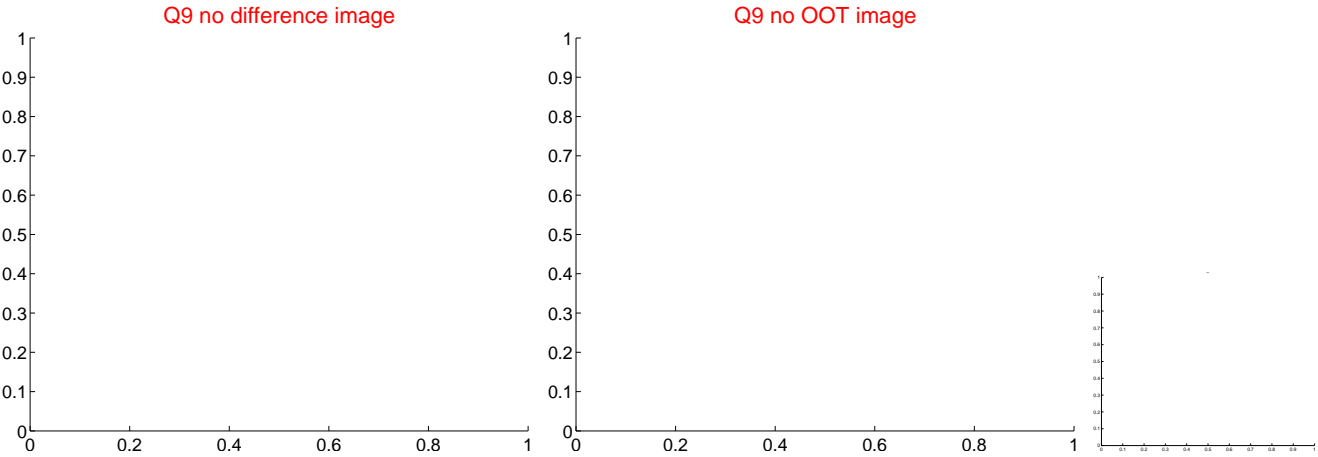
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



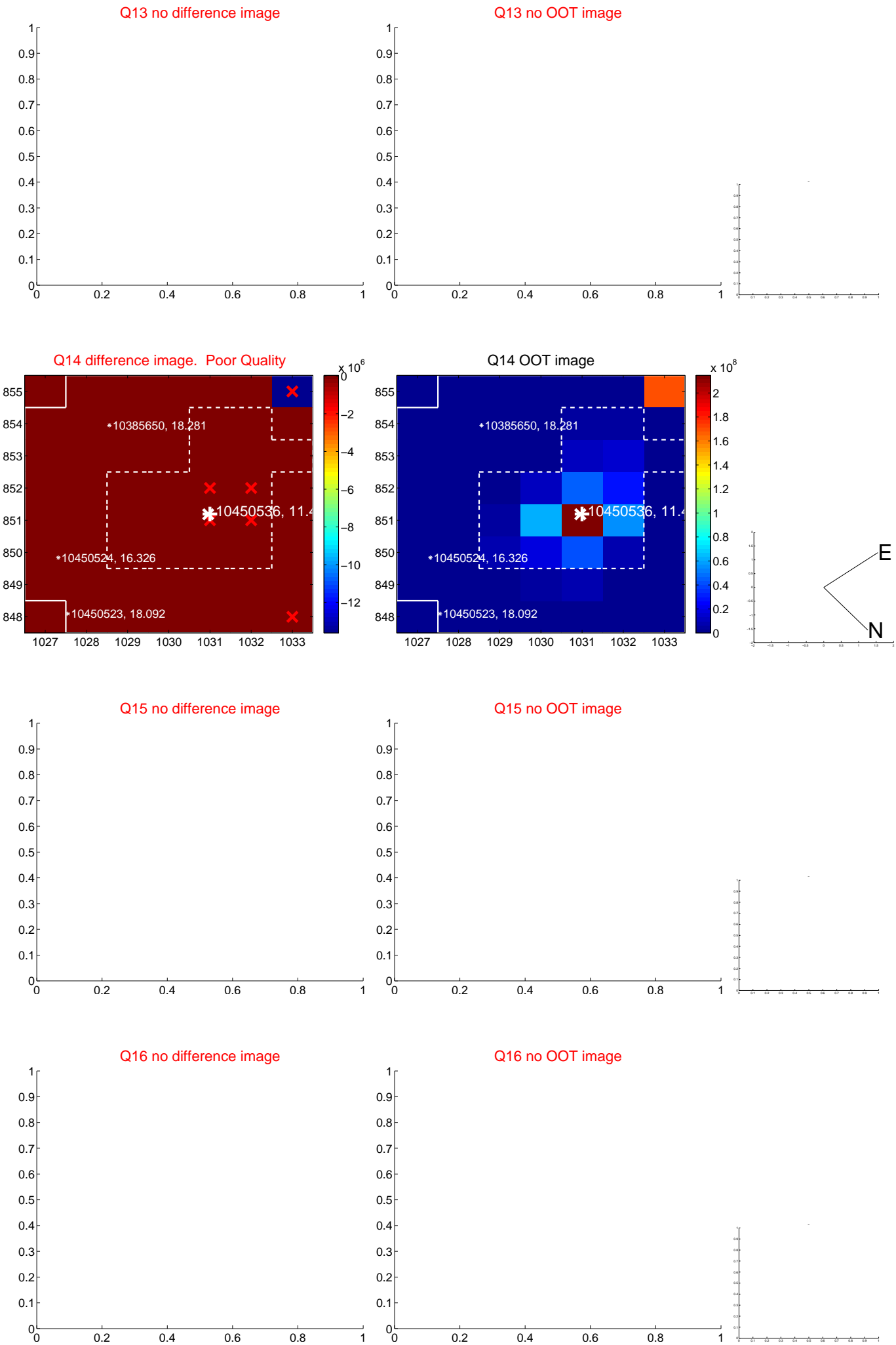
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



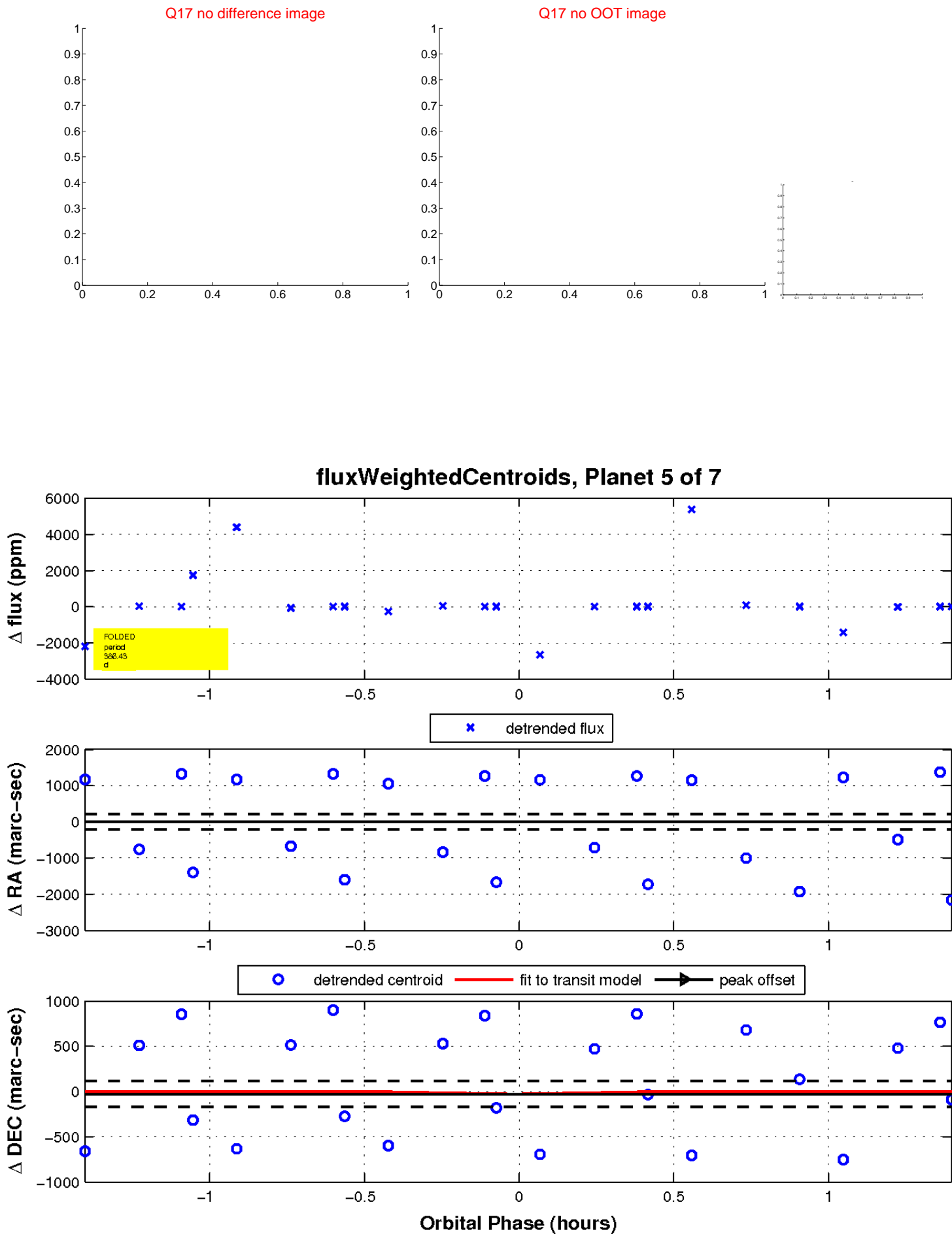
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

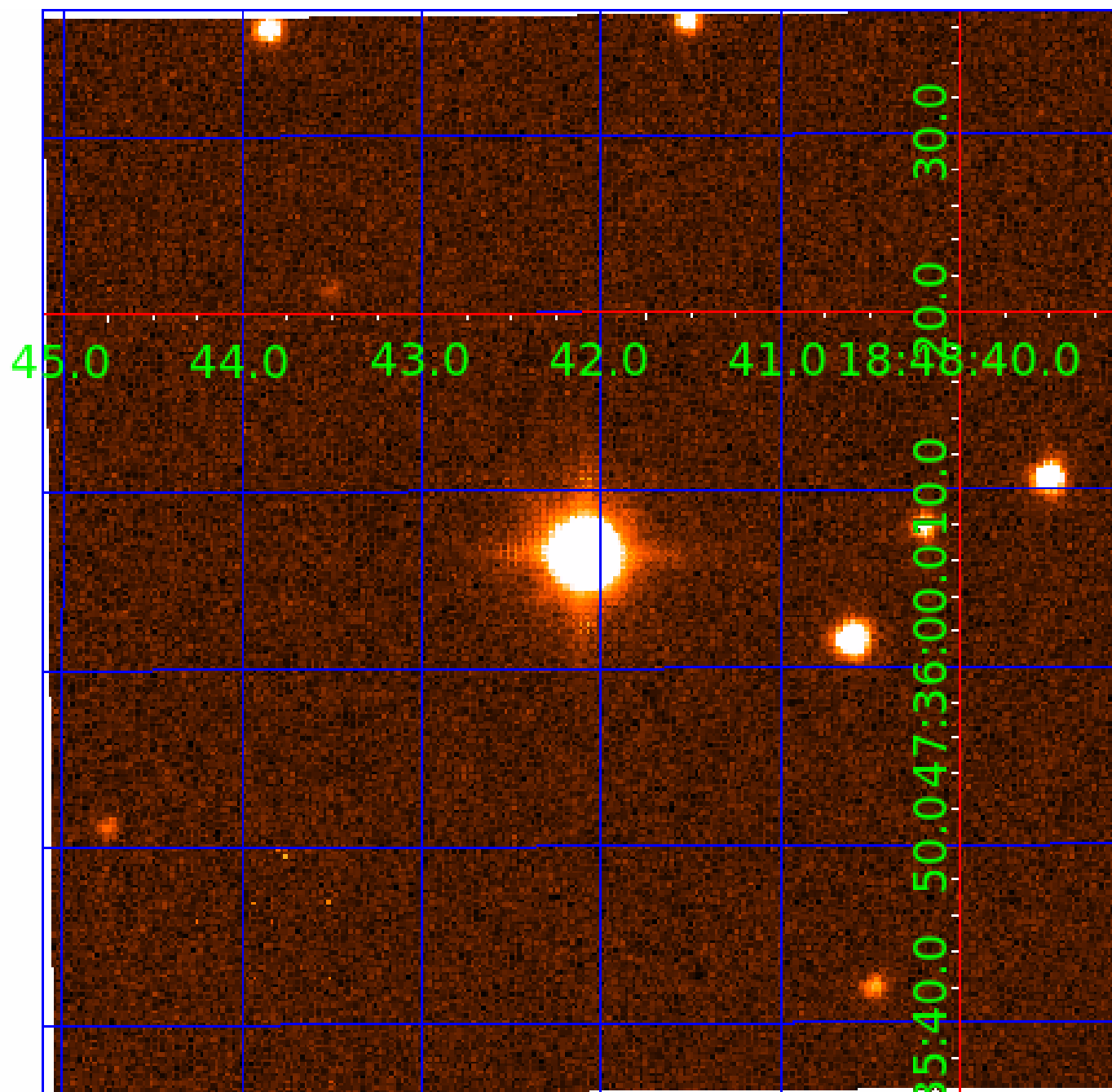


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010450536

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})
010450536-01	OBS	No	380.435511	224.411453	14628.5	10.639	488.1	388.5	2.50	6544	53.01	6.90
010450536-02	OBS	No	371.775002	249.324090	3397.3	10.500	250.9	-1.0	2.50	6544	14.65	7.11
010450536-05	OBS	No	386.432676	208.082354	2786.3	7.500	153.6	-1.0	2.50	6544	13.27	6.76
010450536-06	OBS	No	353.779009	247.377435	2989.1	3.777	170.1	47.8	2.50	6544	25.16	7.60
010450536-07	OBS	No	365.387311	250.632990	2478.1	20.480	173.7	99.2	2.50	6544	12.54	7.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010450536-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010450536-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010450536-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010450536-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—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_SATURATED
010450536-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

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.

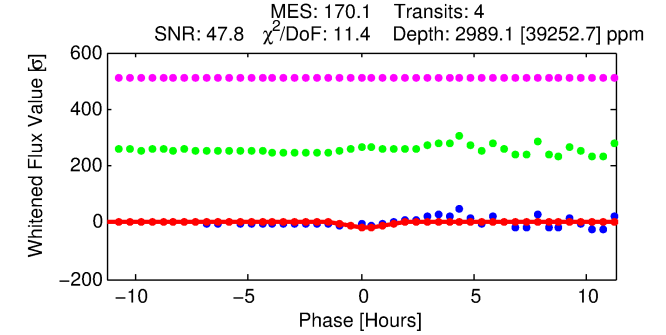
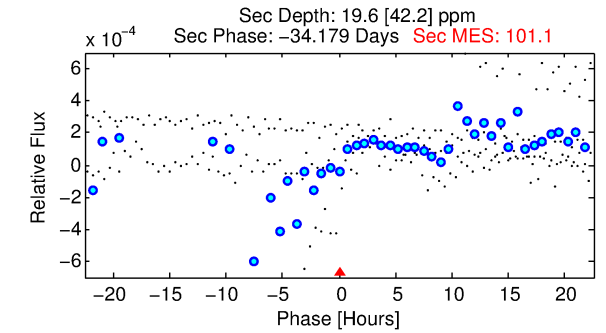
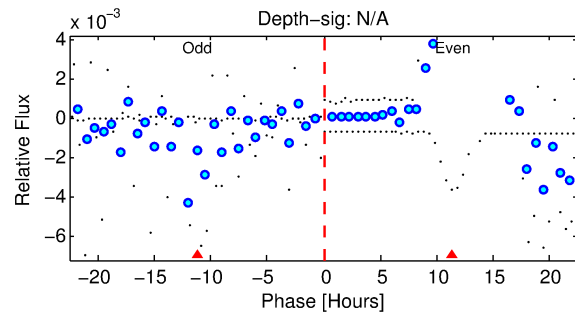
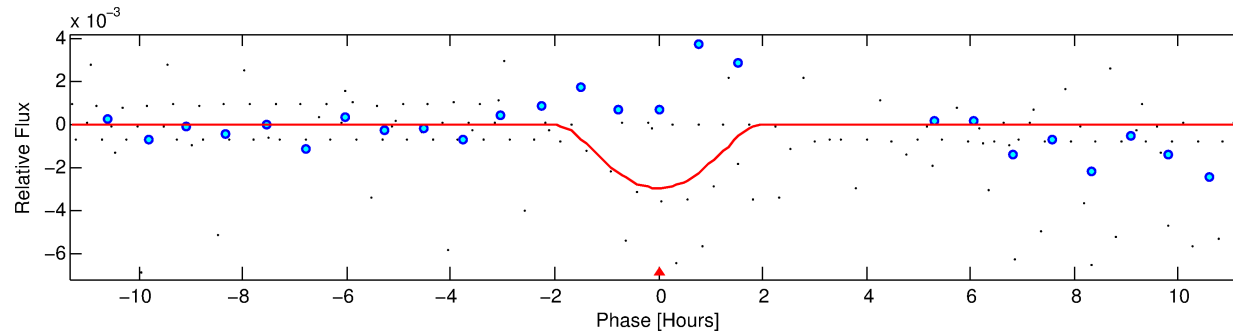
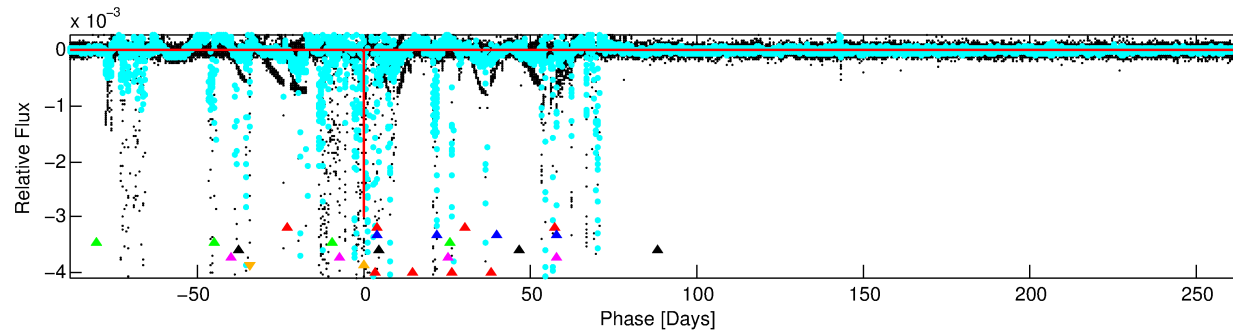
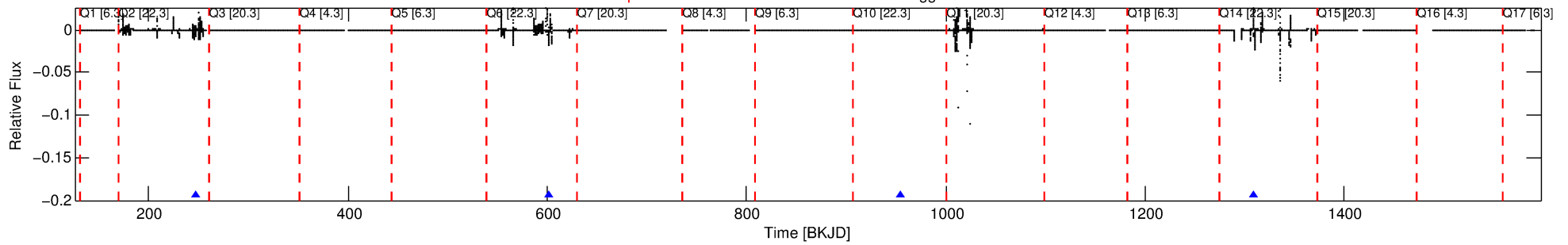
Ephemeris Match Information For 010450536-06

No Significant Match Found

DV One-Page Summary

KIC: 10450536 Candidate: 6 of 7 Period: 353.779 d

Kp: 11.49 R*: 2.50 Rs Teff: 6544.0 K Logg: 3.87 Fe/H: 0.210



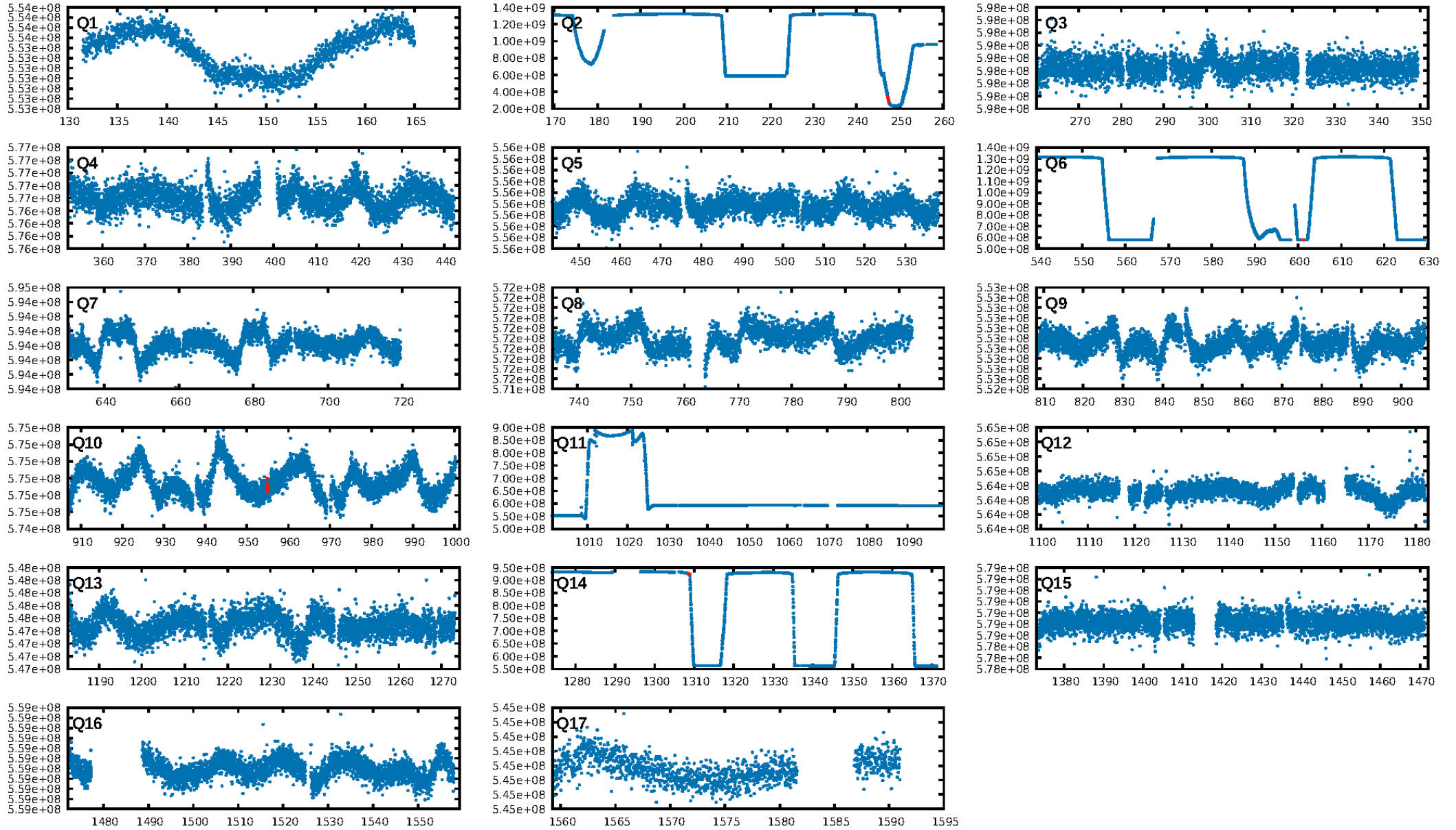
DV Fit Results:

Period = 353.77901 [0.00776] d
Epoch = 247.3774 [0.0201] BKJD
Rp/R* = 0.0921 [0.3759]
a/R* = 314.15 [265.90]
b = 1.00 [0.27]
Seff = 7.60 [2.52]
Teq = 423 [35] K
Rp = 25.16 [102.80] Re
a = 1.1633 [0.2507] AU
Ag = 23.03 [194.52] [0.11σ]
Teffp = 1434 [3026] K [0.33σ]

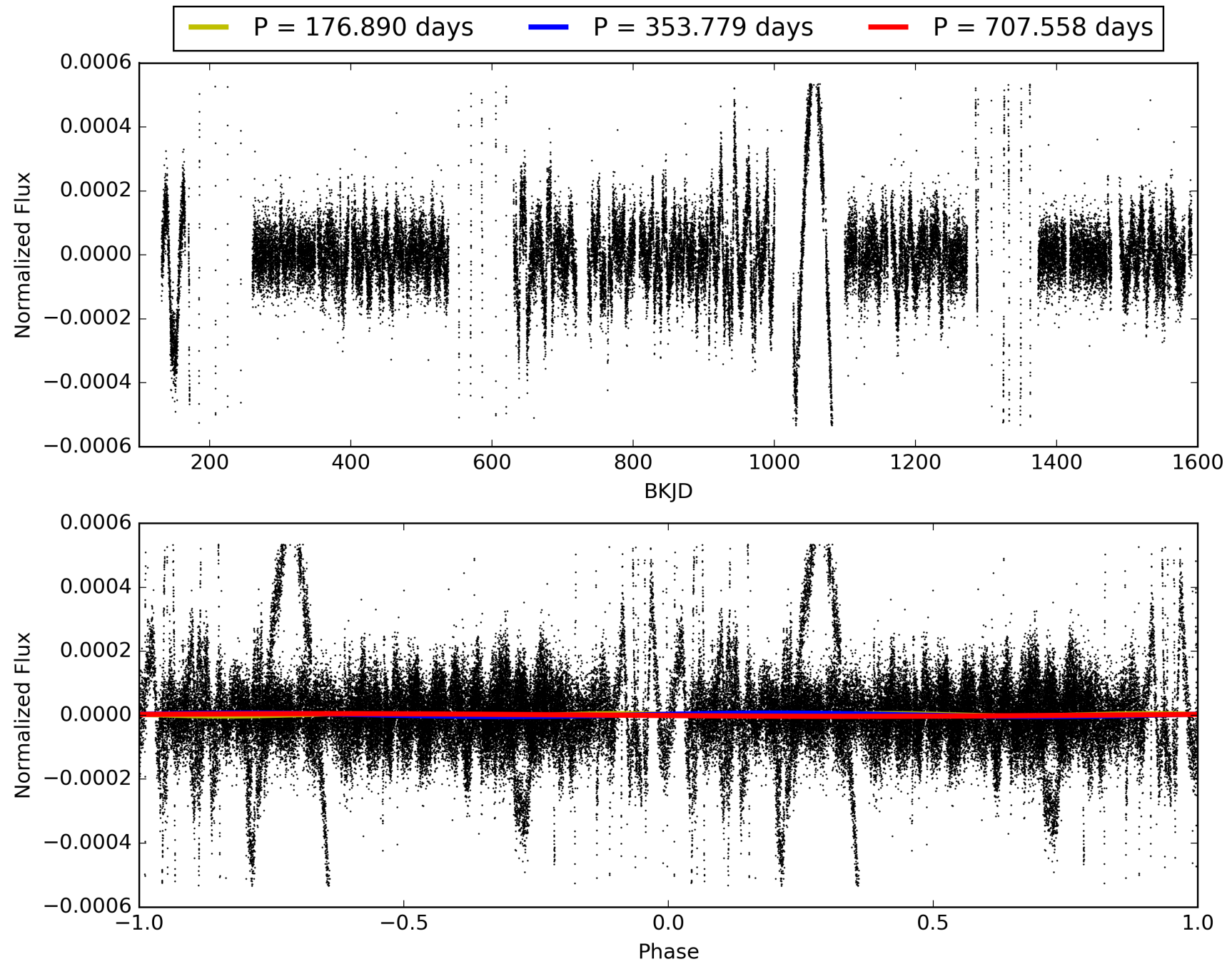
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [13.38σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.776
Centroid-sig: 38.9%
Centroid-so: 36.376 arcsec [0.78σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [4/4]

TCE 010450536-06, PDC Light Curves

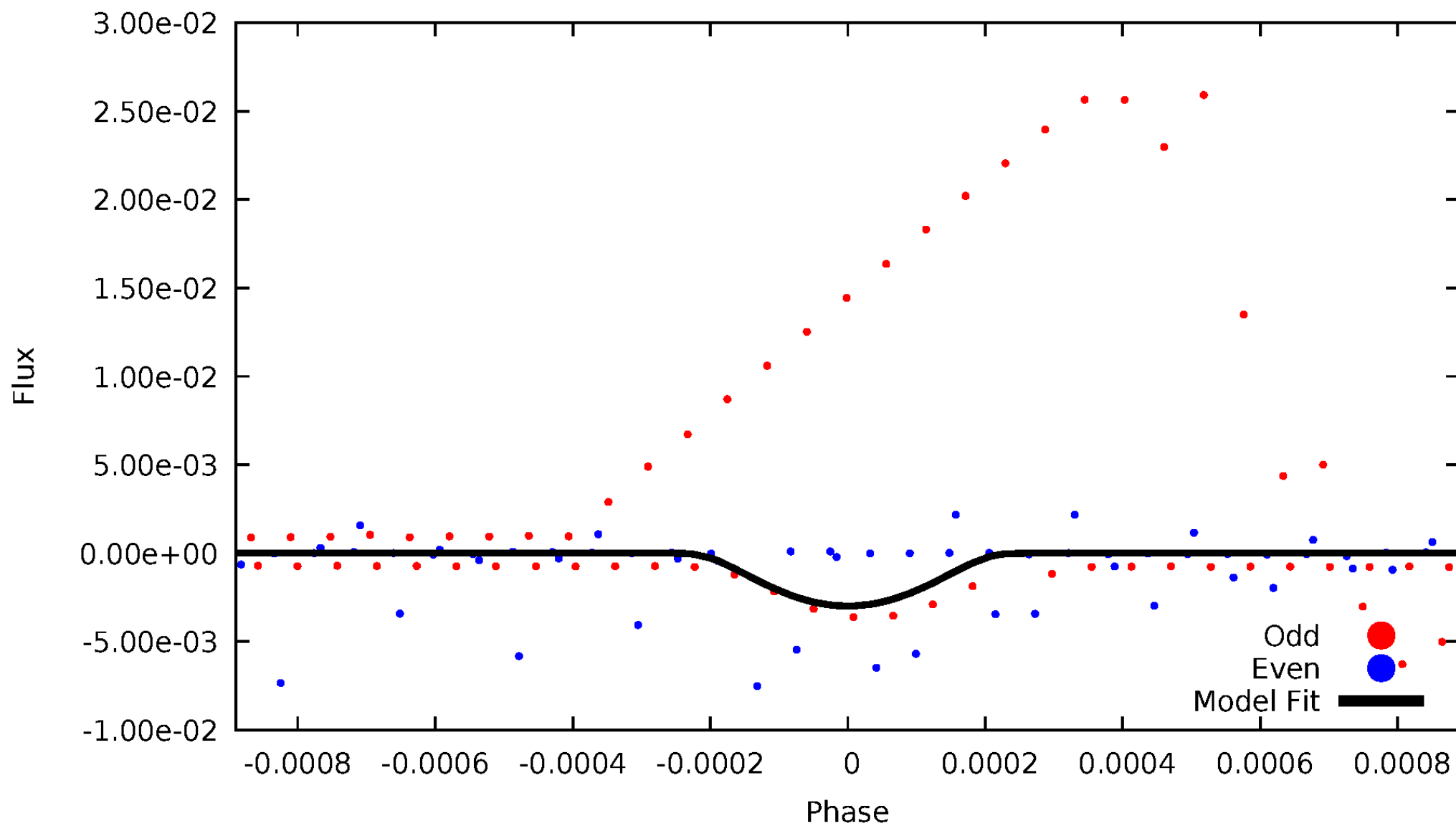


TCE 010450536-06



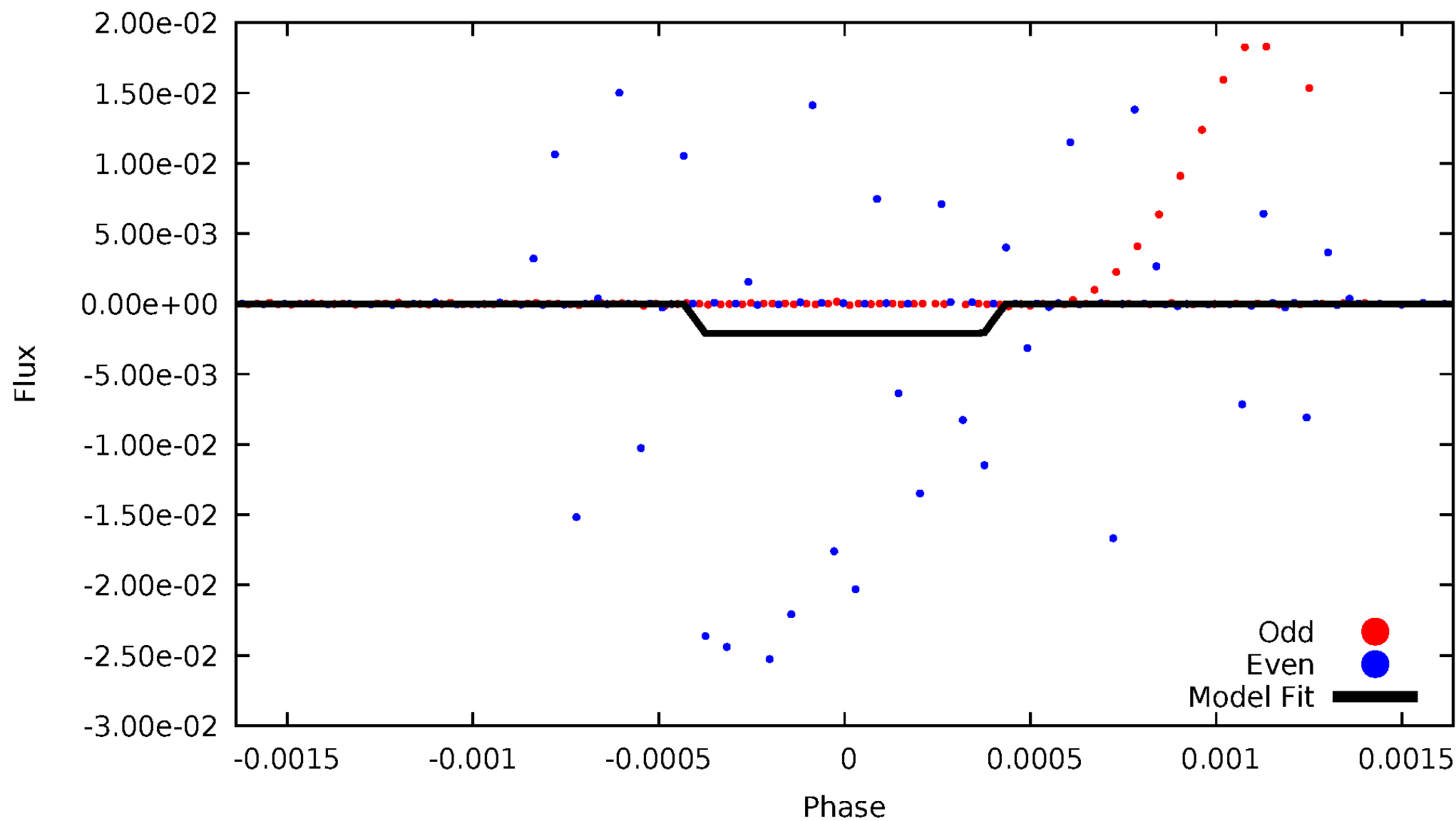
DV Odd/Even

TCE 010450536-06



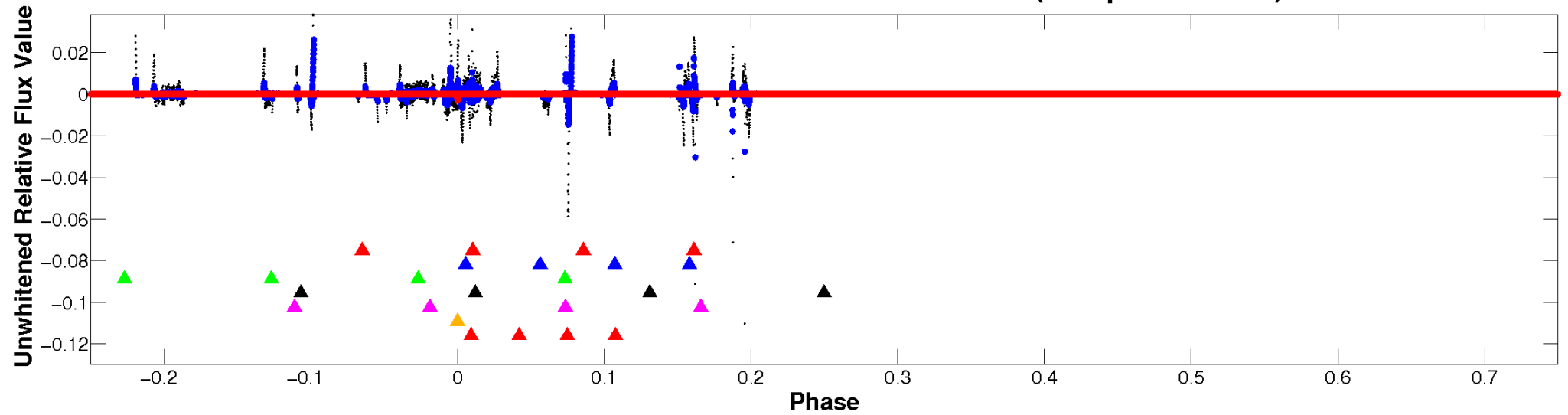
ALT Odd/Even

TCE 010450536-06

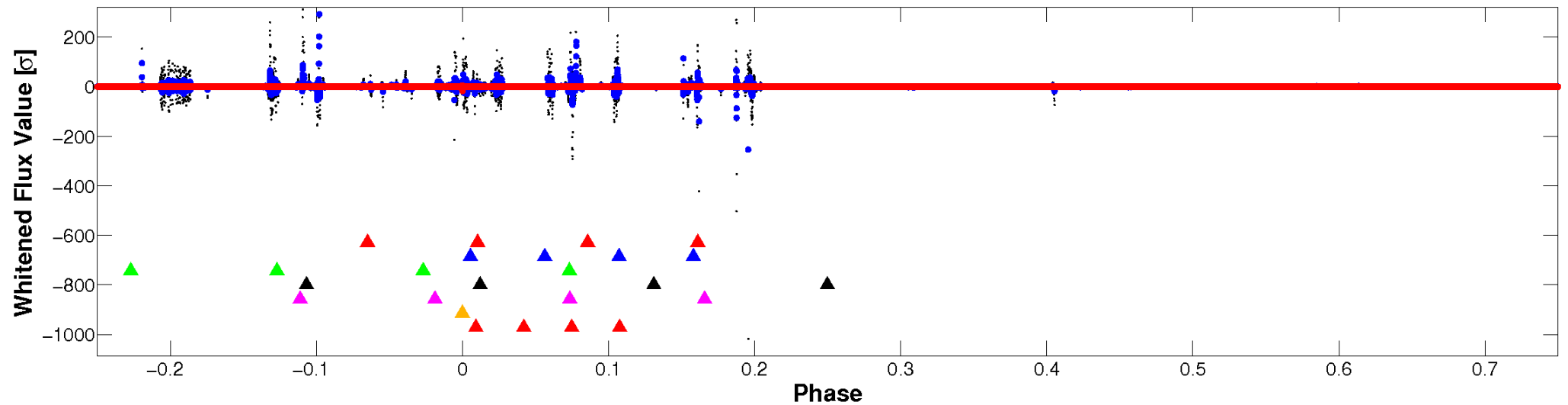


Non-Whitened Vs. Whitened Light Curve

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

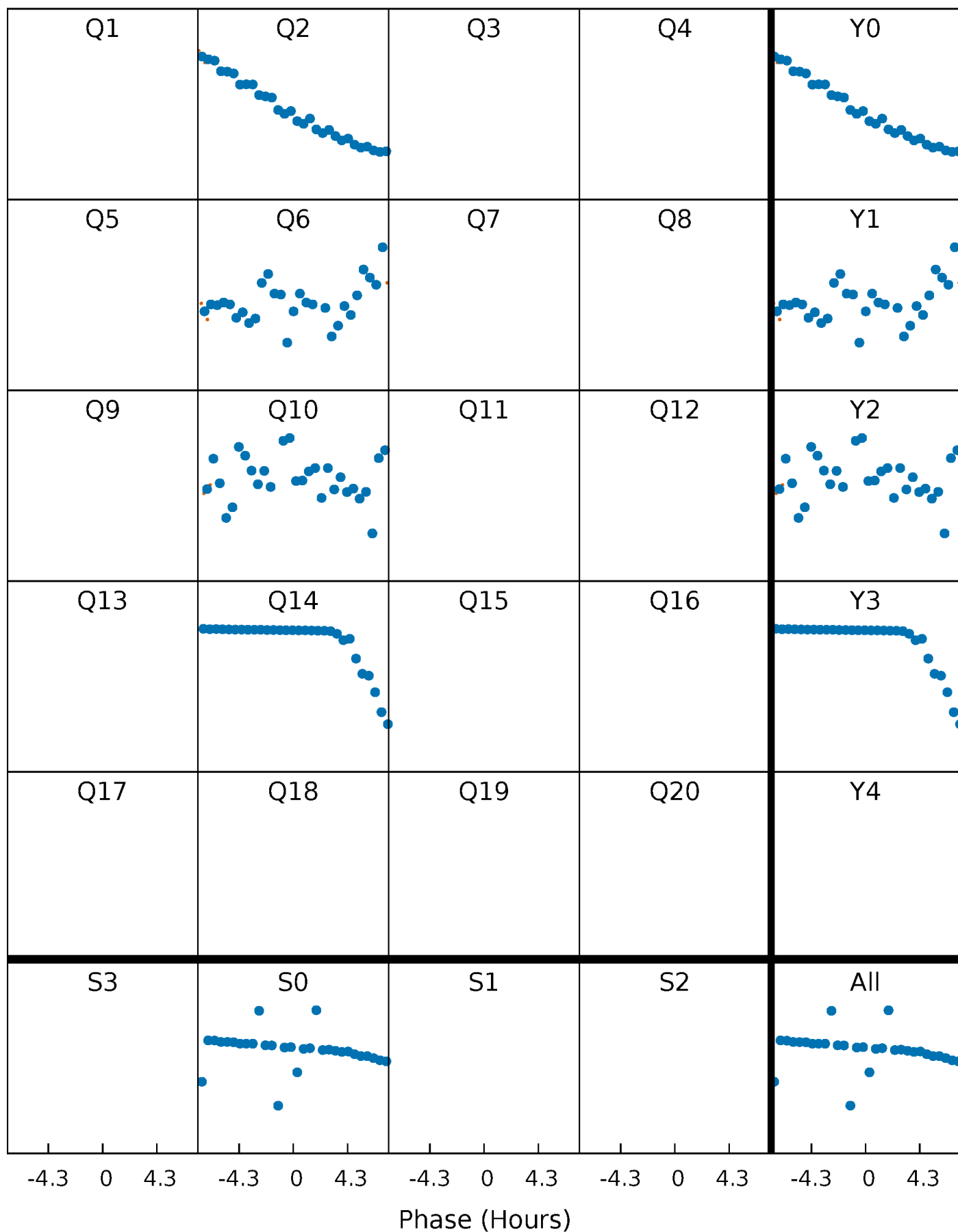


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



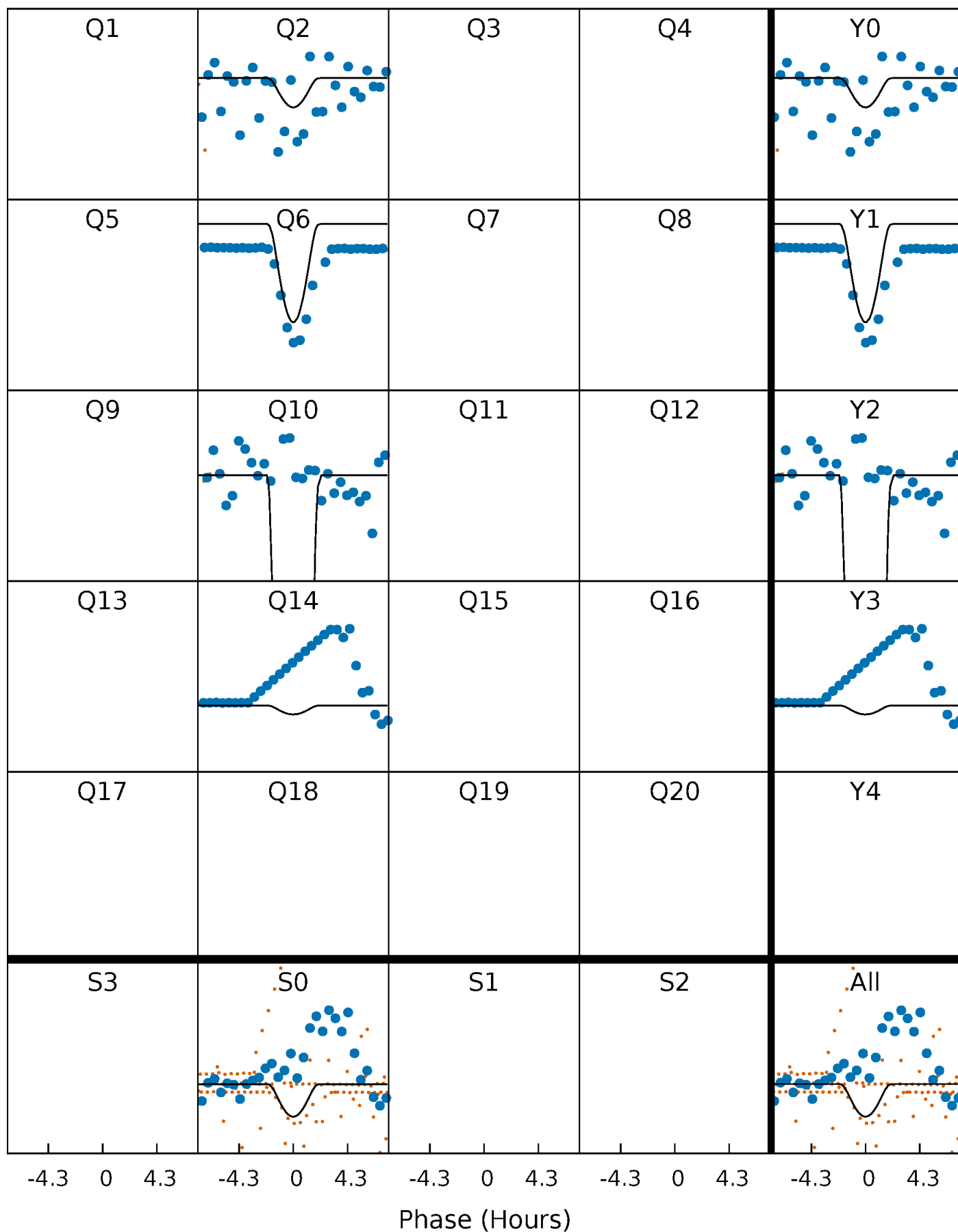
PDC Quarter-Phased Transit Curves

TCE 010450536-06 P=353.779009 Days $T_0=247.377435$ (BKJD)



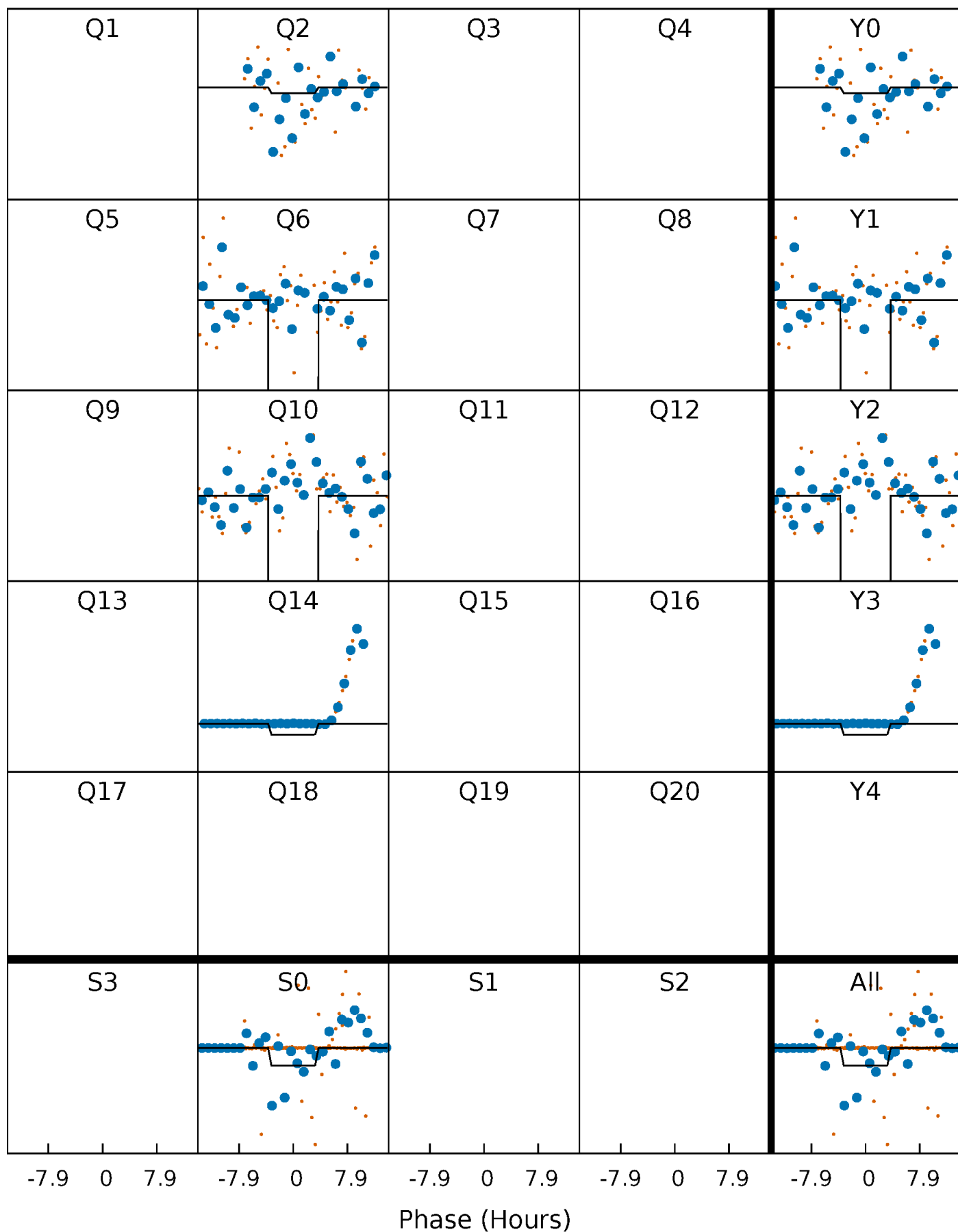
DV Quarter-Phased Transit Curves

TCE 010450536-06 $P=353.779009$ Days $T_0=247.377435$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

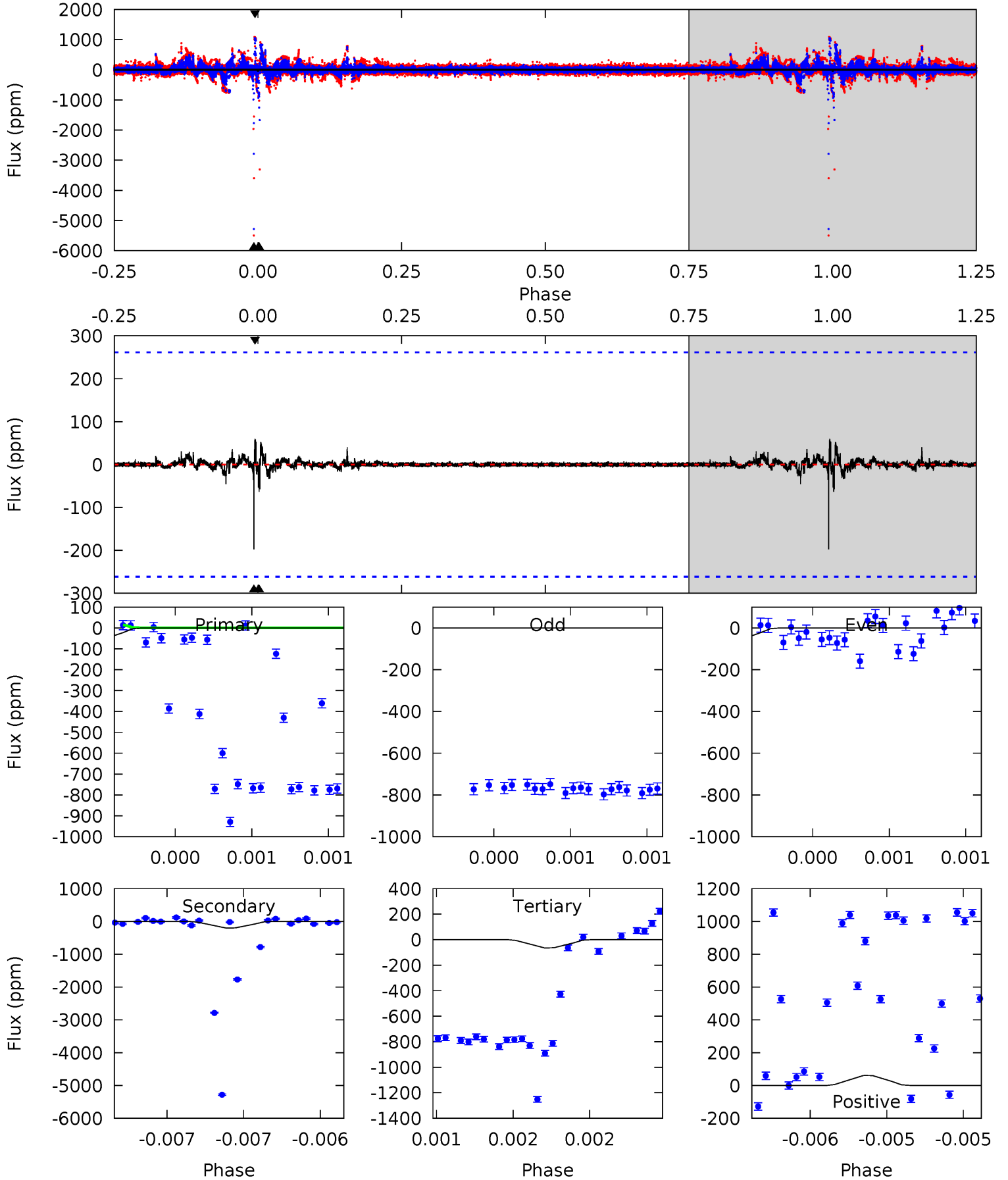
TCE 010450536-06 P=353.670868 Days $T_0=247.463389$ (BKJD)



DV Model-Shift Uniqueness Test

010450536-06, P = 353.779009 Days, E = 247.377435 Days

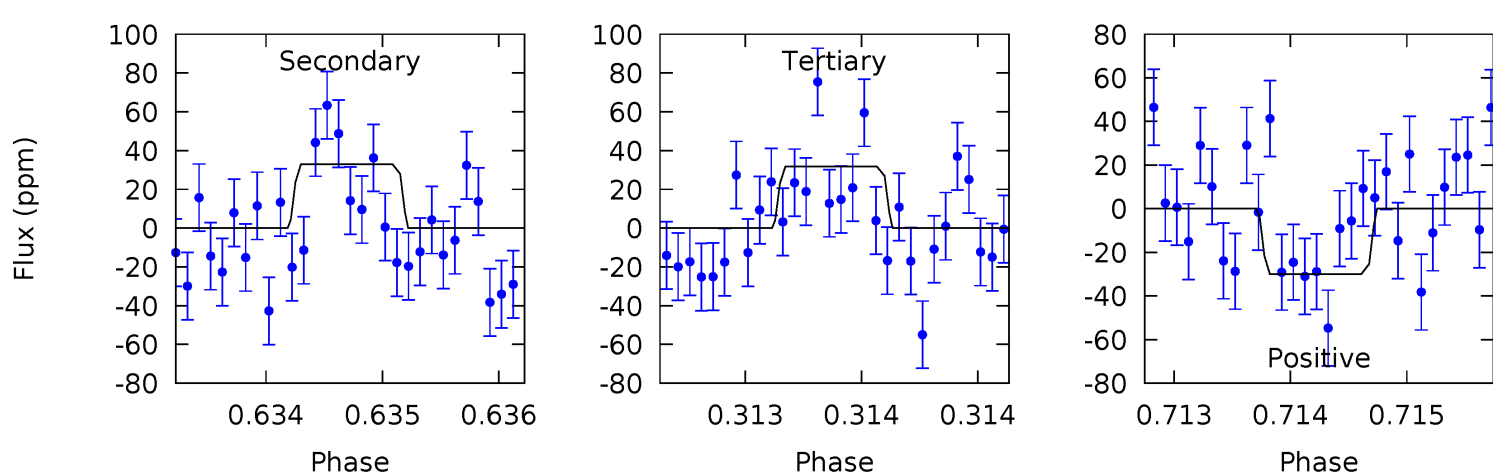
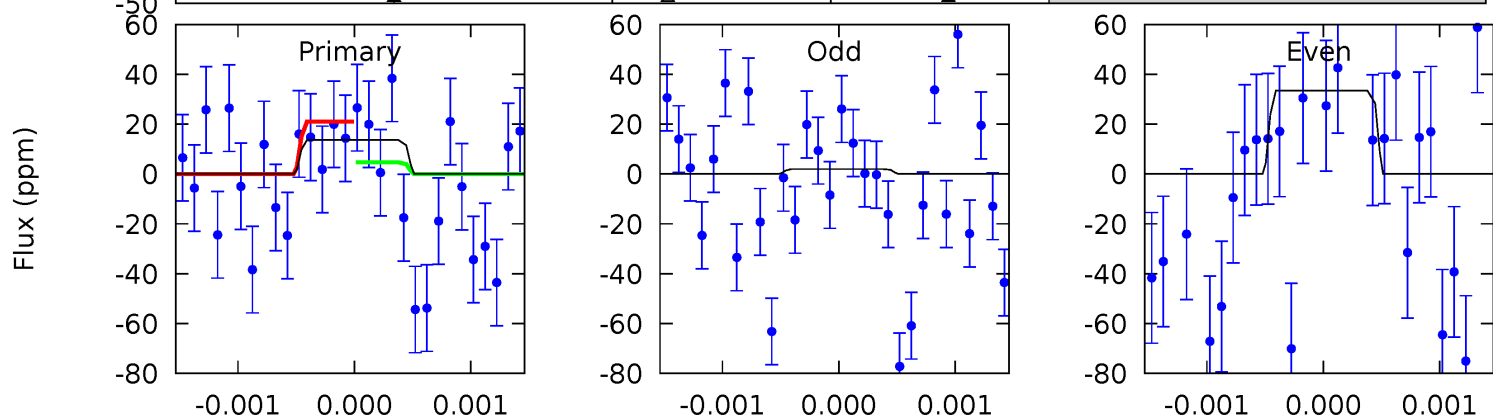
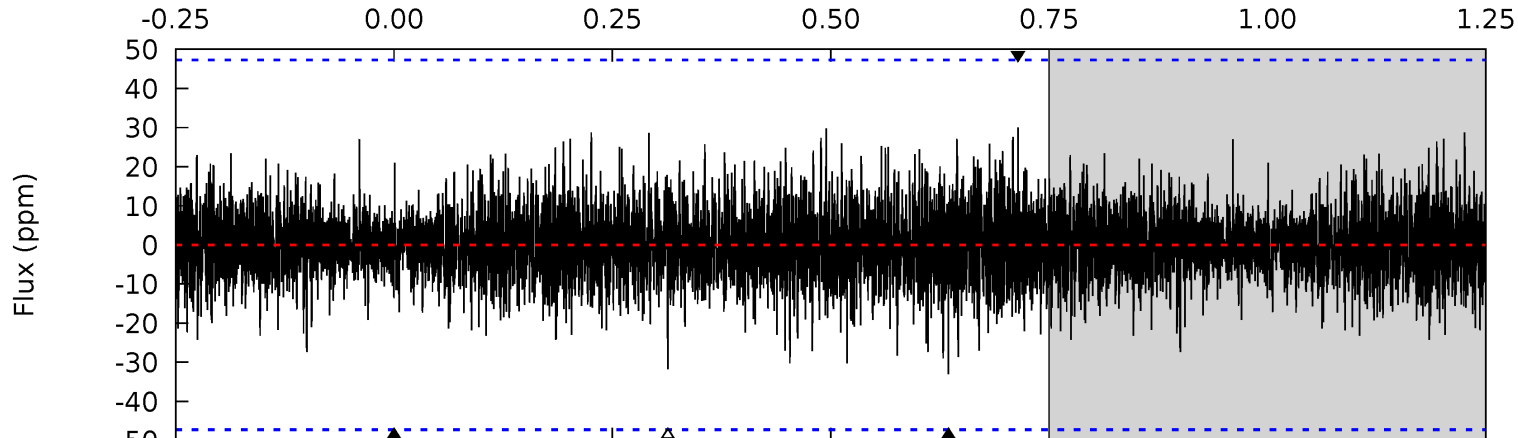
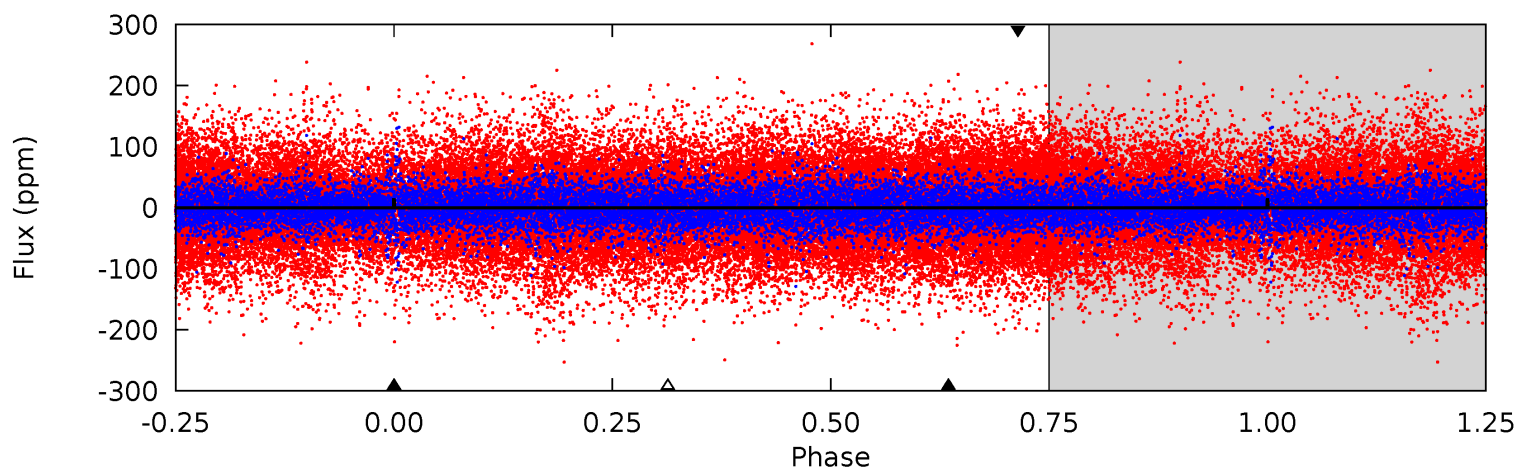
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.13	4.22	1.36	1.28	5.59	3.50	0.11	-0.22	-0.15	2.87	2.94	0	-1.29	0.23	0



Alt Model-Shift Uniqueness Test

010450536-06, P = 353.670868 Days, E = 247.463389 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.58	3.82	3.69	3.47	5.48	3.33	0.92	-2.10	-1.89	0.14	0.35	0.49	-1356	0.48	0.94



Stellar Parameters For KIC 010450536

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6544^{+78}_{-85}	$3.866^{+0.186}_{-0.124}$	$0.210^{+0.150}_{-0.150}$	$2.502^{+0.496}_{-0.606}$	$1.677^{+0.131}_{-0.196}$	$0.151^{+0.158}_{-0.058}$
	+1%/-1%	+5%/-3%	+71%/-71%	+20%/-24%	+8%/-12%	+104%/-38%
Source	SPE74	SPE74	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 010450536-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-198 ± 47	$77.99^{+86.20}_{-53.42}$	589^{+34}_{-36}	2331^{+789}_{-350}	24^{+218}_{-19}
Alt.	-33 ± 9	$73.84^{+76.28}_{-51.66}$	587^{+31}_{-36}	1929^{+591}_{-282}	$4.232^{+43.354}_{-3.202}$

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

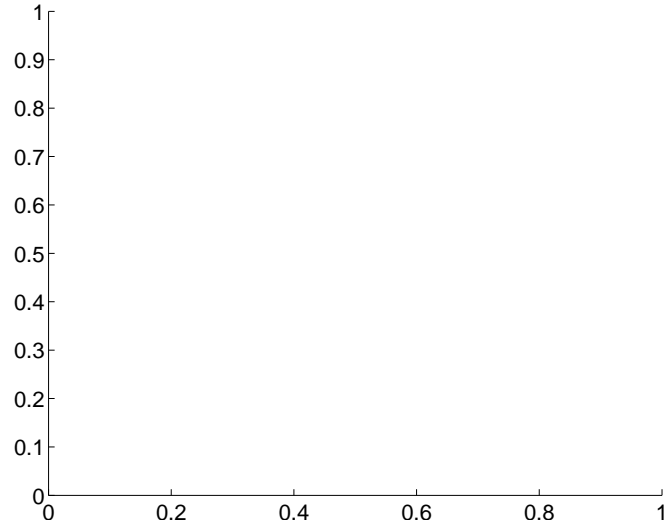
Supplemental centroid analysis for 010450536-06. **Kepler magnitude: 11.49.** Transit SNR 47.84

There are 0 quarters with good PRF difference image offsets

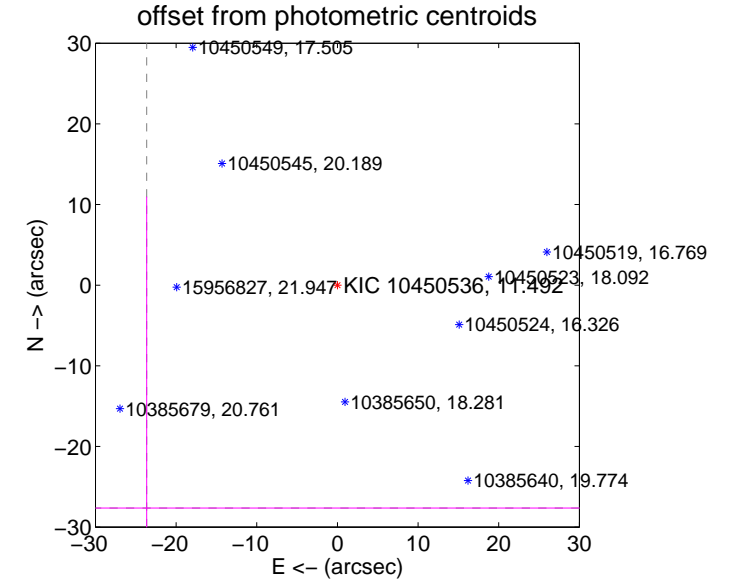
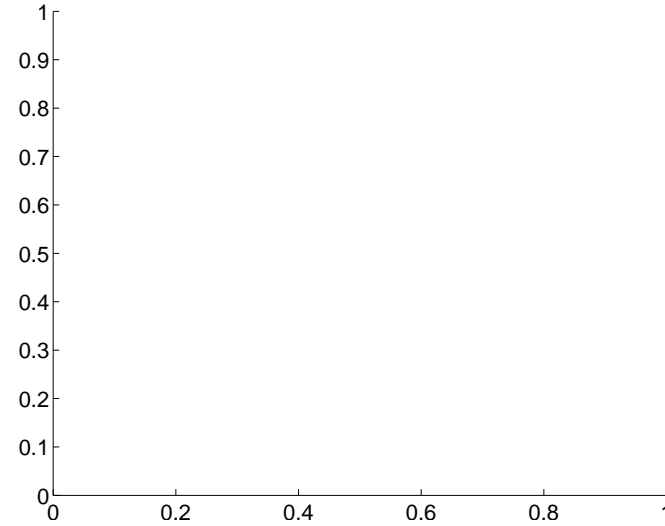
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	36.38 ± 46.76	0.78	23.65 ± 55.99	-27.64 ± 38.62

There is no PRF-fit offset from OOT-fit

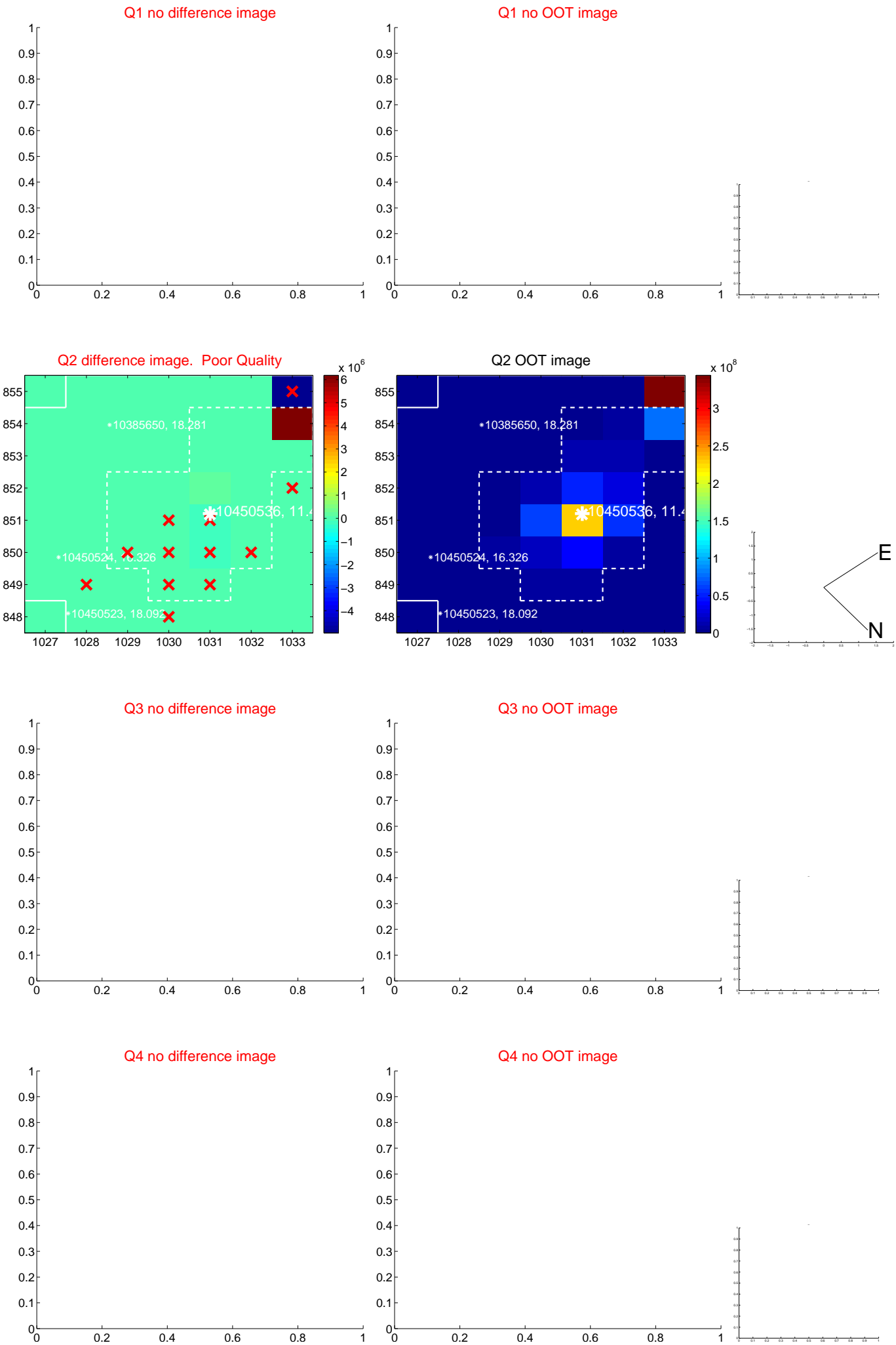


There is no PRF-fit offset from KIC

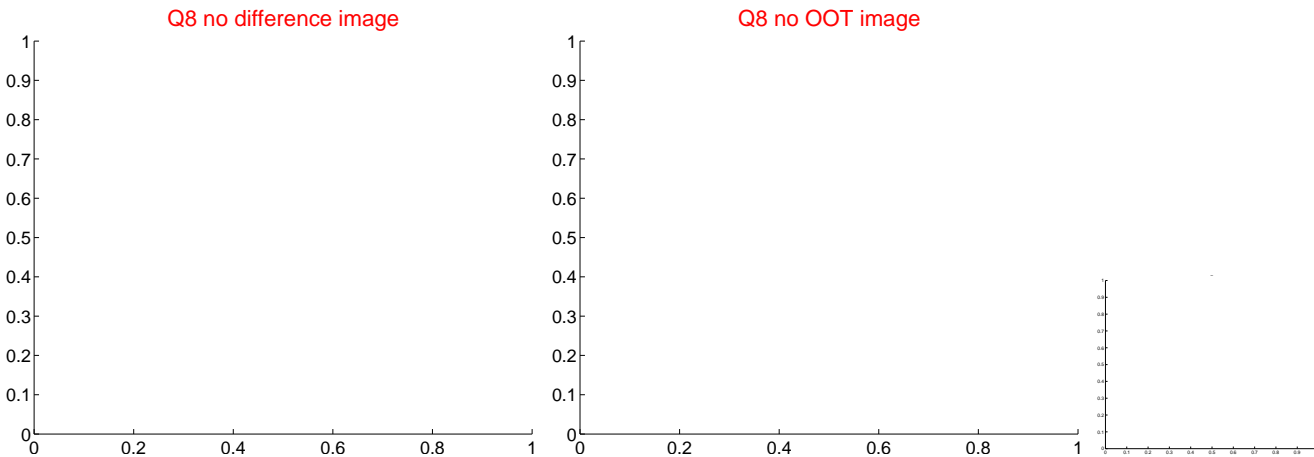
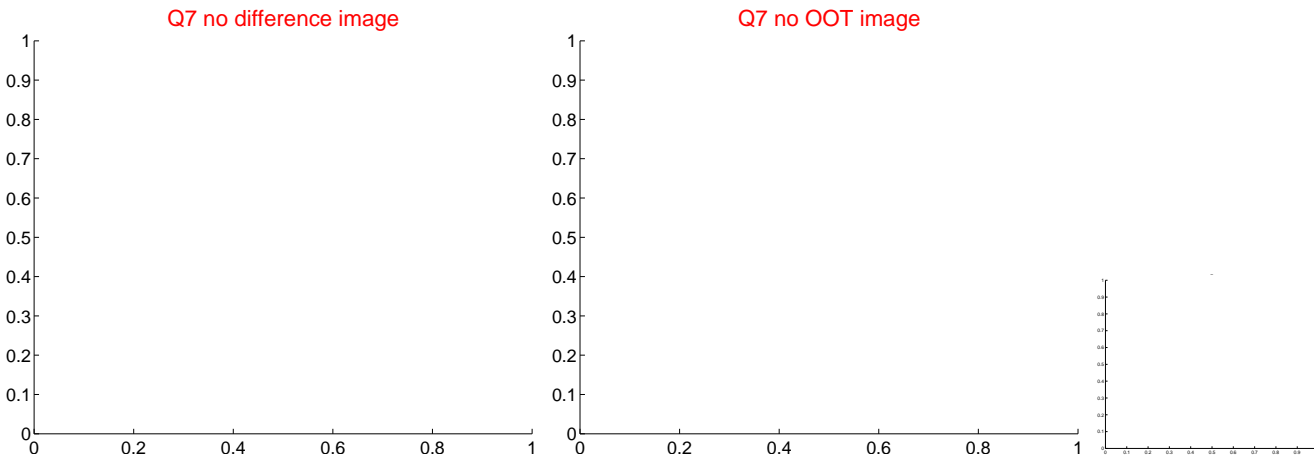
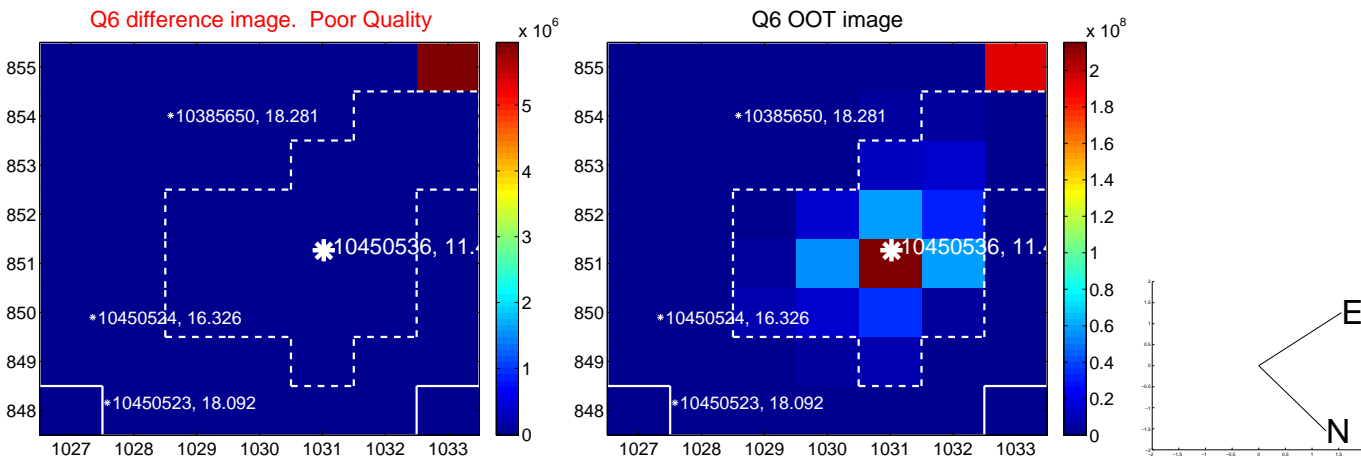
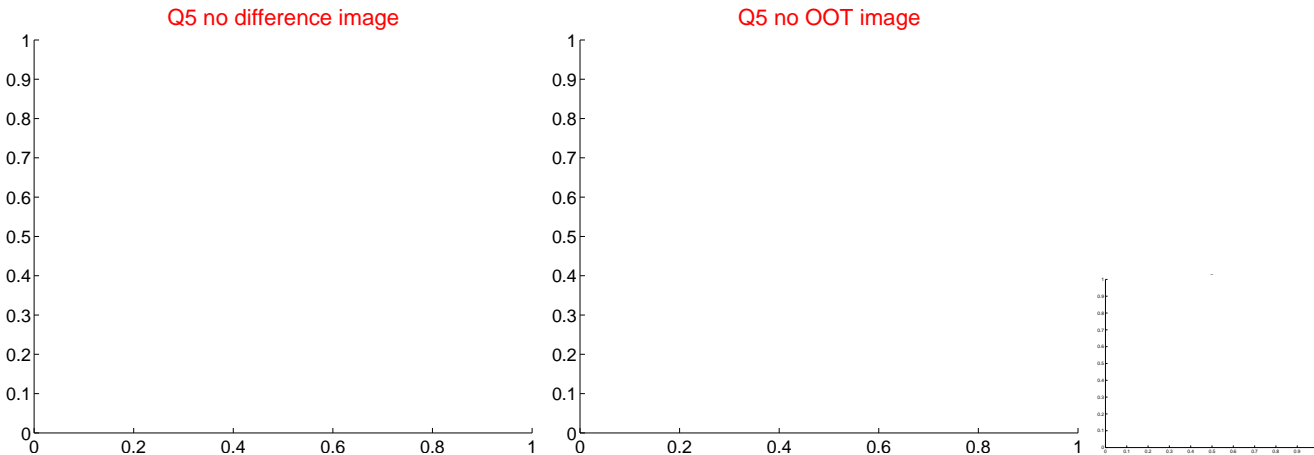


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

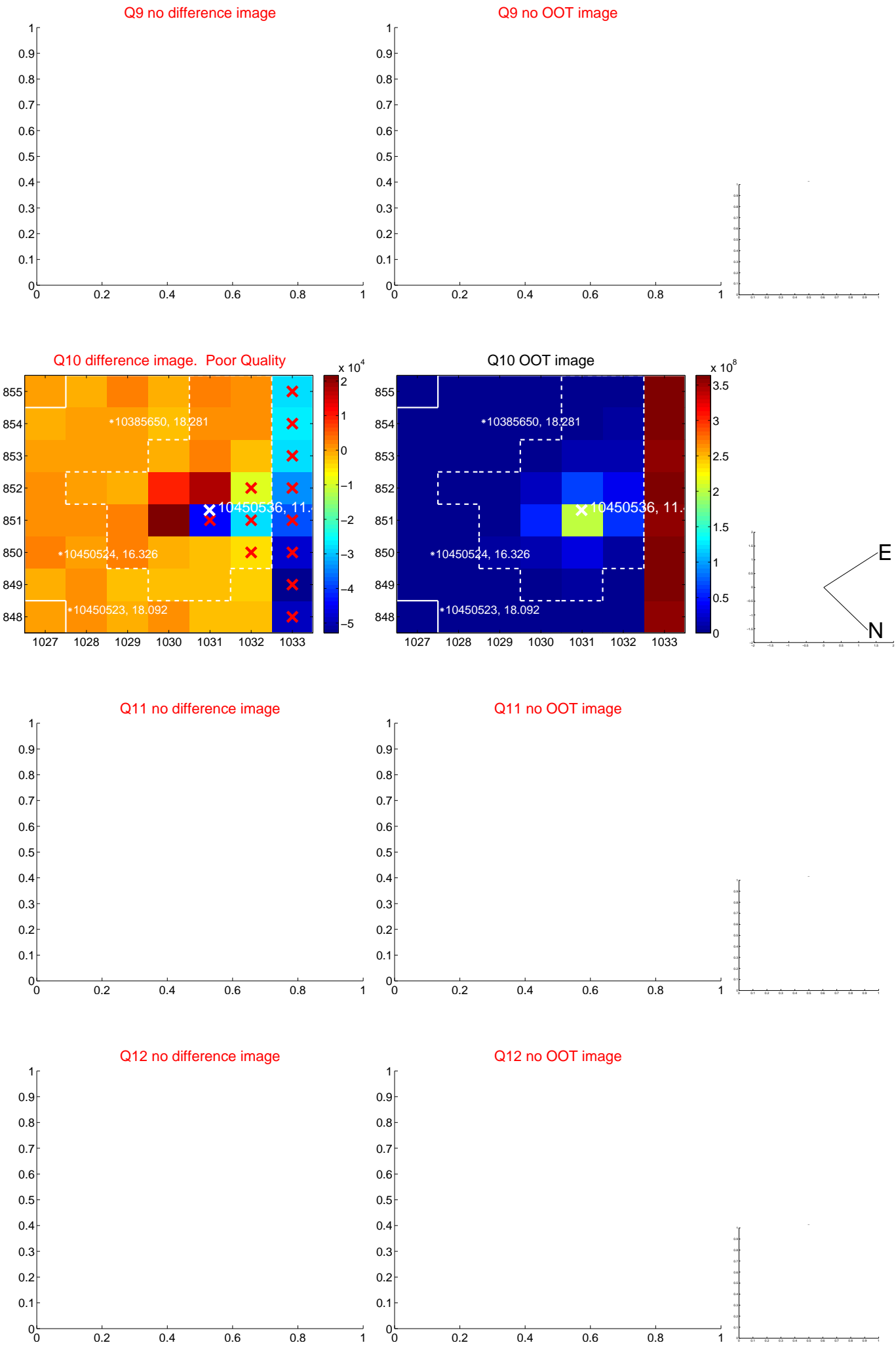
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



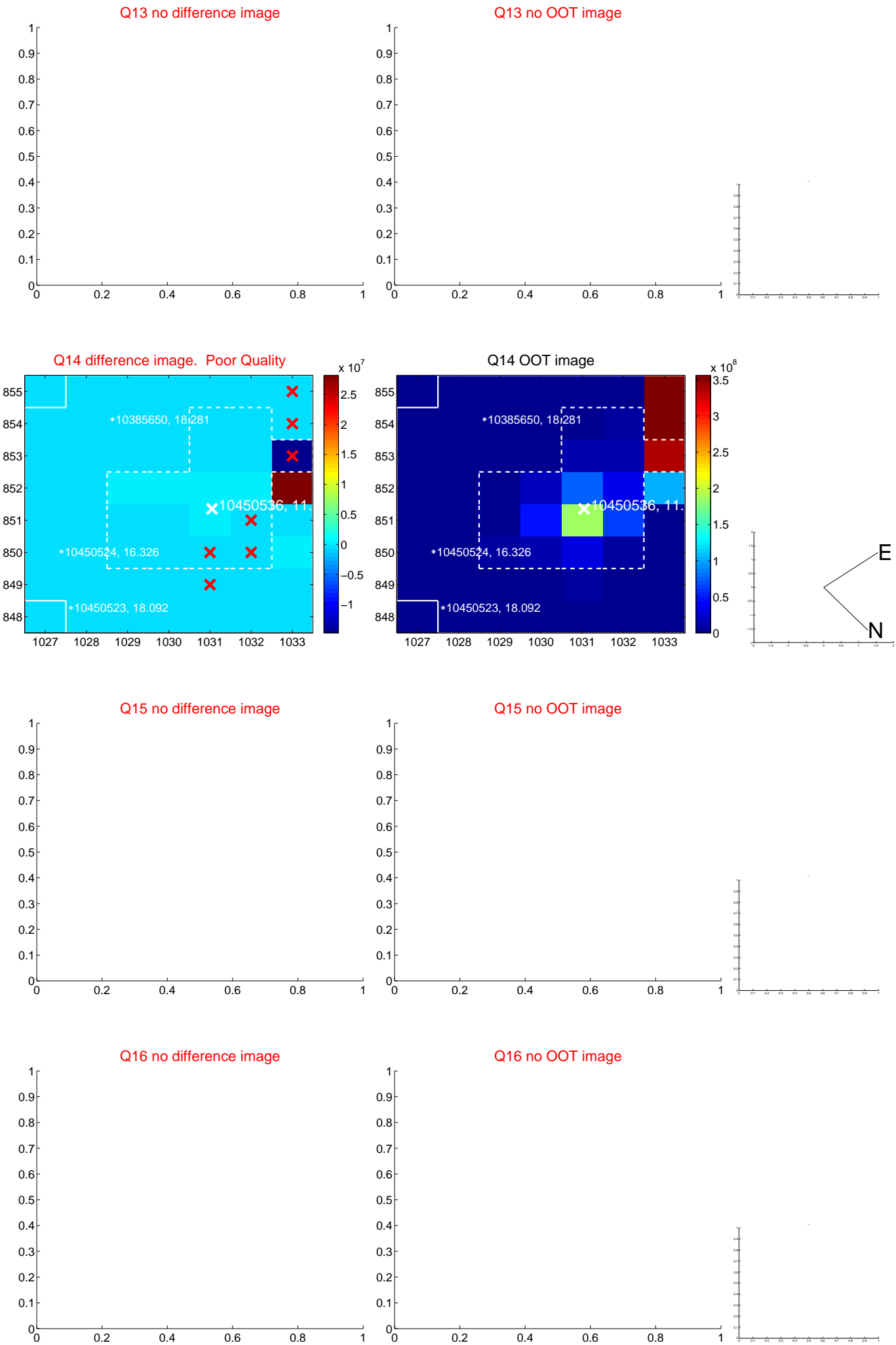
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



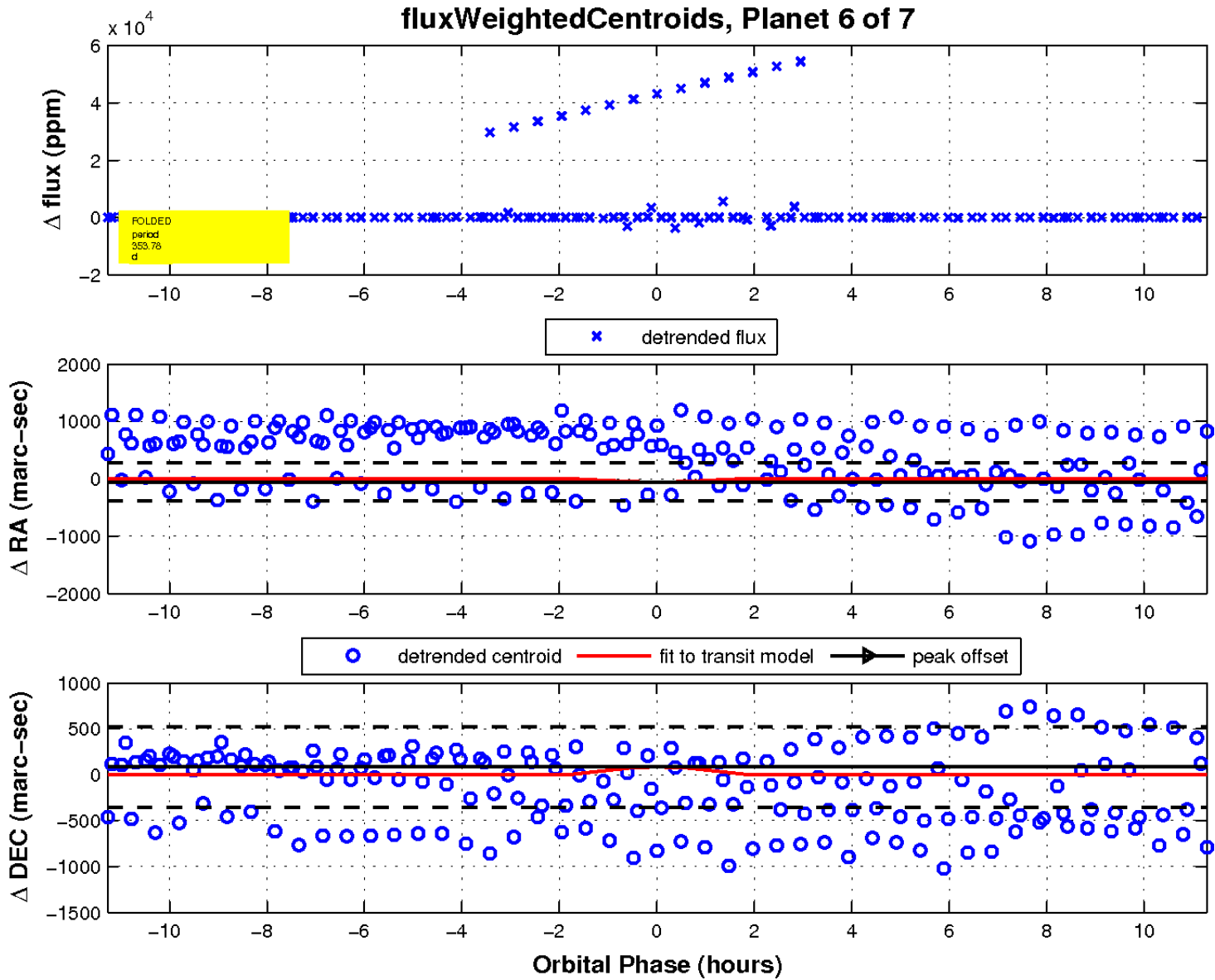
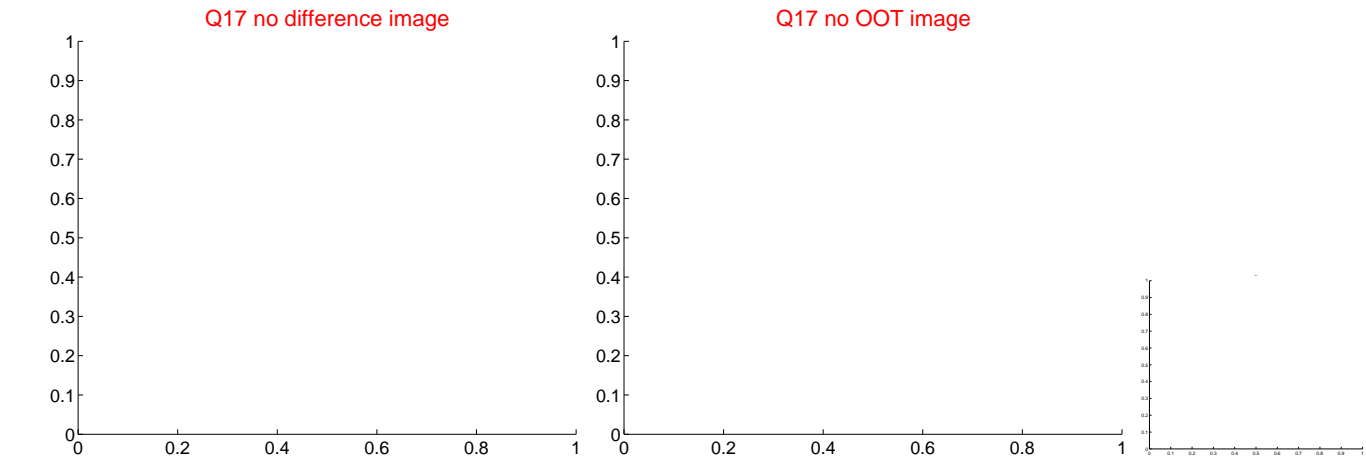
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

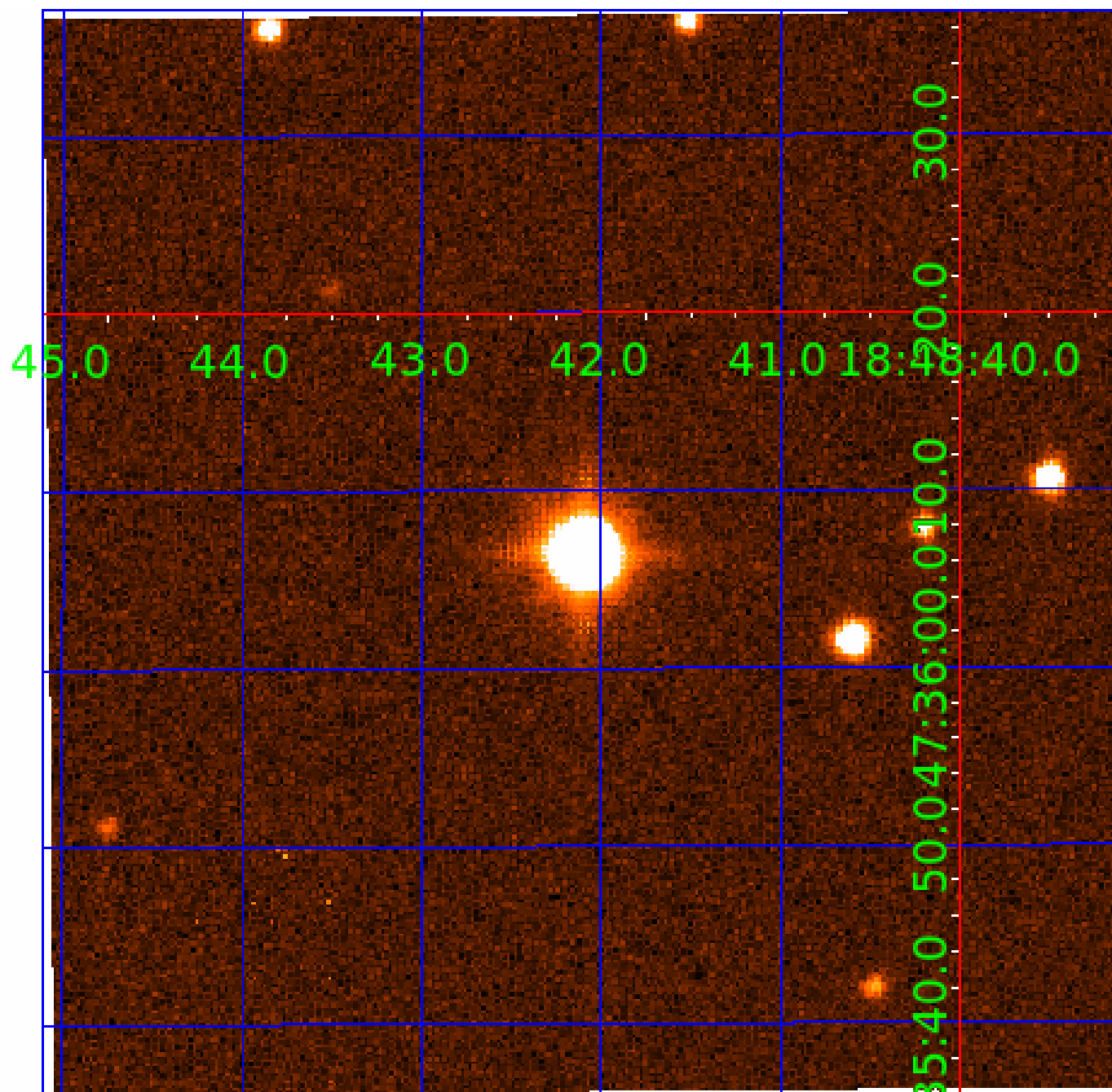


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010450536

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})
010450536-01	OBS	No	380.435511	224.411453	14628.5	10.639	488.1	388.5	2.50	6544	53.01	6.90
010450536-02	OBS	No	371.775002	249.324090	3397.3	10.500	250.9	-1.0	2.50	6544	14.65	7.11
010450536-05	OBS	No	386.432676	208.082354	2786.3	7.500	153.6	-1.0	2.50	6544	13.27	6.76
010450536-06	OBS	No	353.779009	247.377435	2989.1	3.777	170.1	47.8	2.50	6544	25.16	7.60
010450536-07	OBS	No	365.387311	250.632990	2478.1	20.480	173.7	99.2	2.50	6544	12.54	7.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010450536-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010450536-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010450536-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010450536-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—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_SATURATED
010450536-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

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.

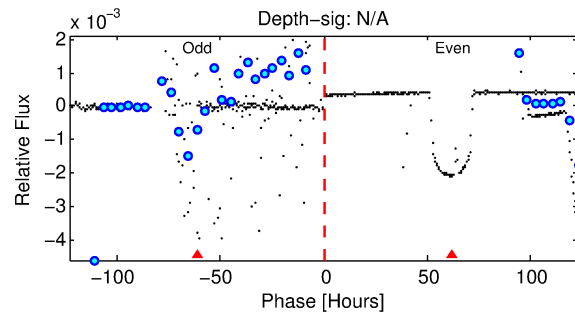
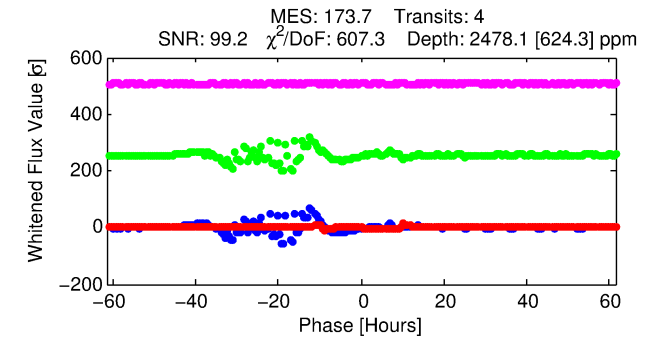
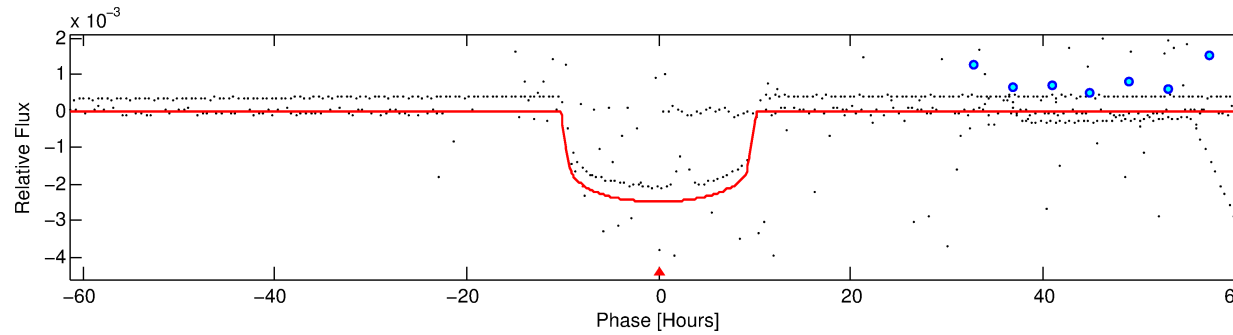
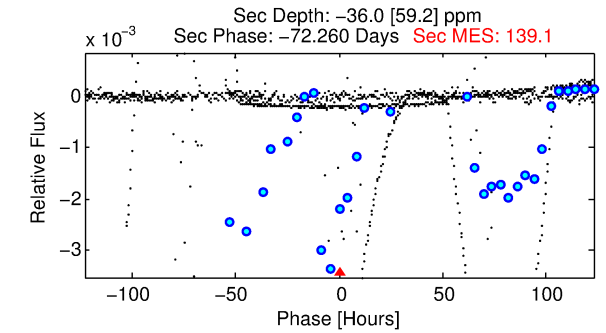
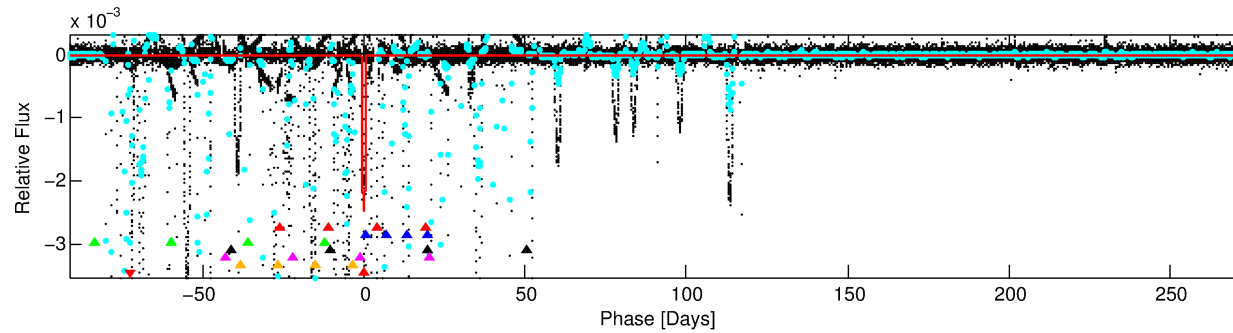
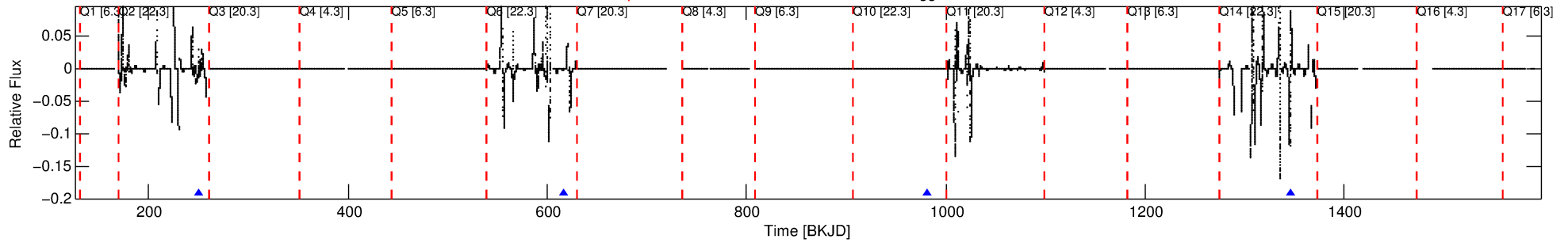
Ephemeris Match Information For 010450536-07

No Significant Match Found

DV One-Page Summary

KIC: 10450536 Candidate: 7 of 7 Period: 365.387 d

Kp: 11.49 R*: 2.50 Rs Teff: 6544.0 K Logg: 3.87 Fe/H: 0.210



DV Fit Results:

Period = 365.38731 [0.01158] d
Epoch = 250.6330 [0.0199] BKJD
Rp/R* = 0.0459 [0.0089]
a/R* = 140.18 [86.56]
b = 0.19 [3.62]
Seff = 7.28 [2.42]
Teq = 419 [35] K
Rp = 12.54 [3.88] Re
a = 1.1887 [0.2562] AU
Ag = N/A
Teffp = N/A

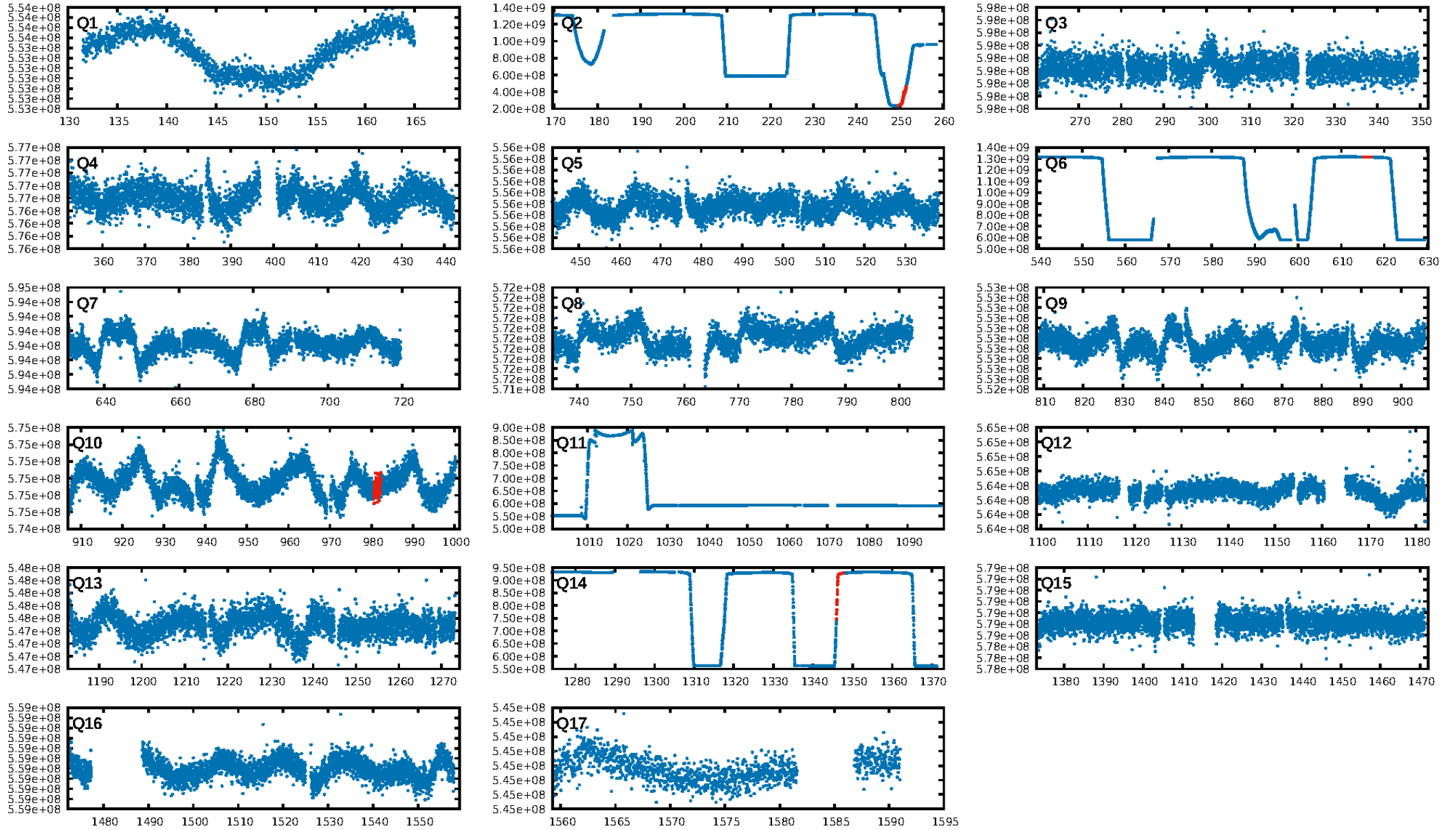
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.38σ]
LongPeriod-sig: 100.0% [6.66σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 5.155
Centroid-sig: 42.3%
Centroid-so: 56.570 arcsec [0.79σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.50 [2/4]

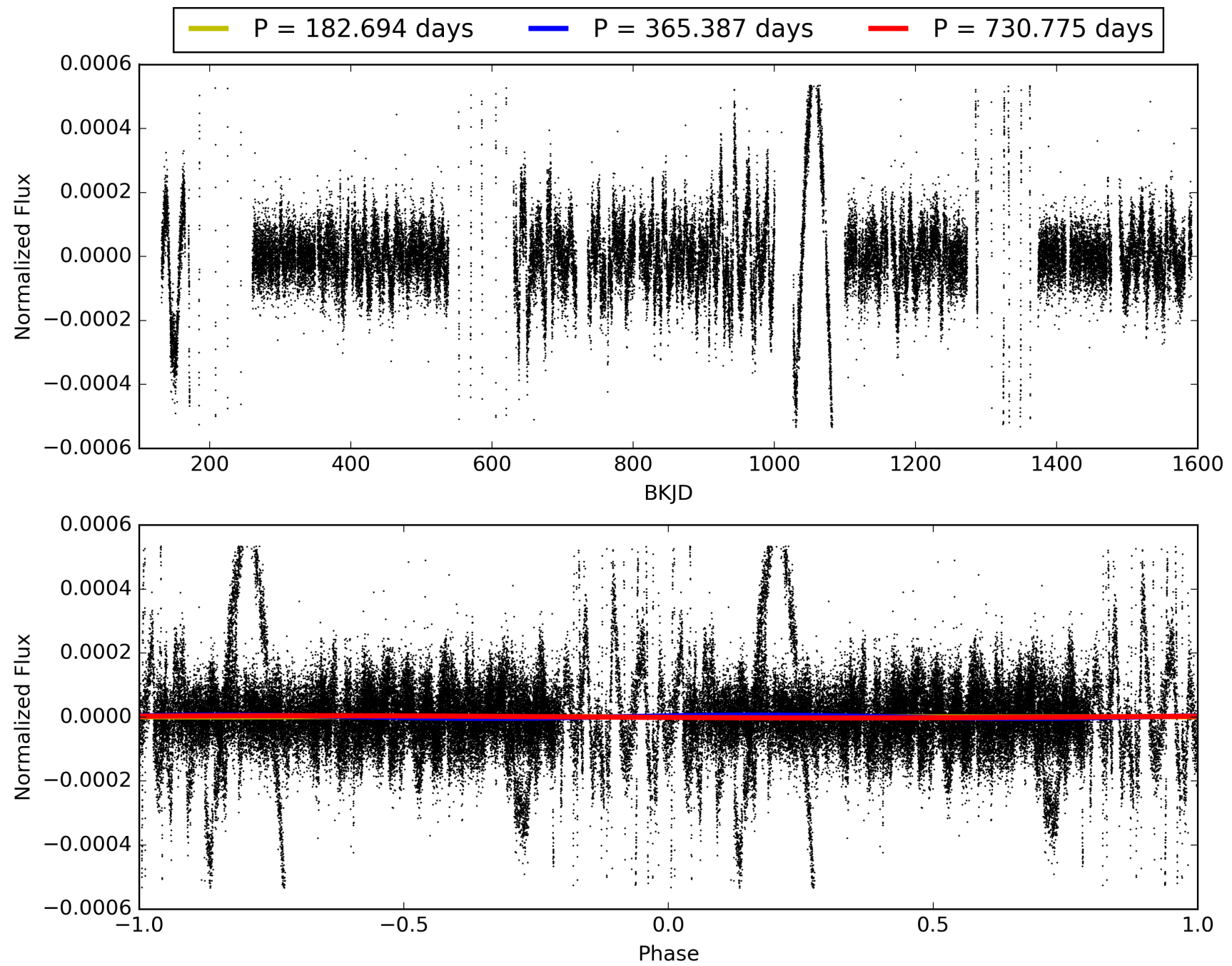
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:40:19 Z

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

TCE 010450536-07, PDC Light Curves

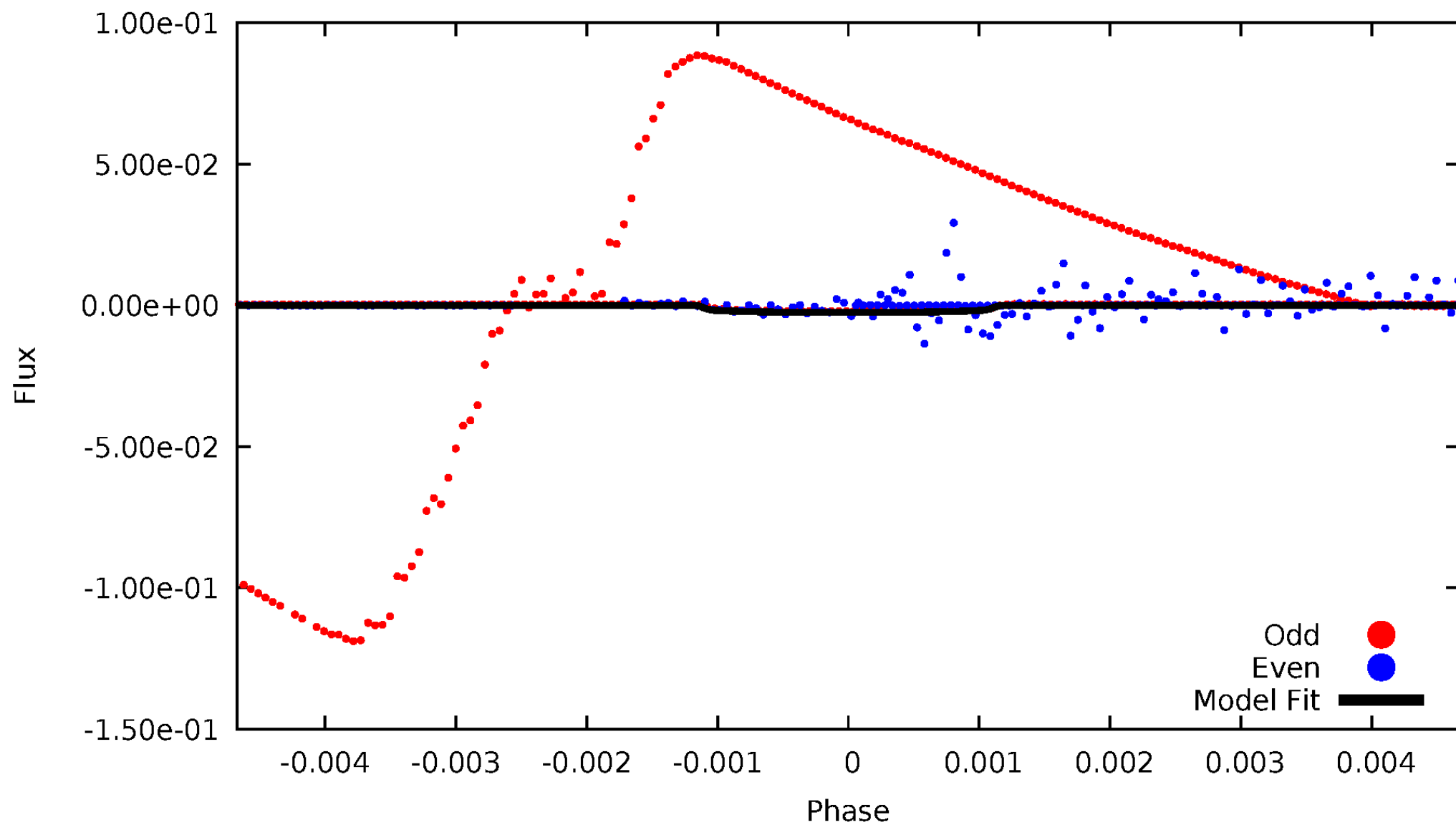


TCE 010450536-07



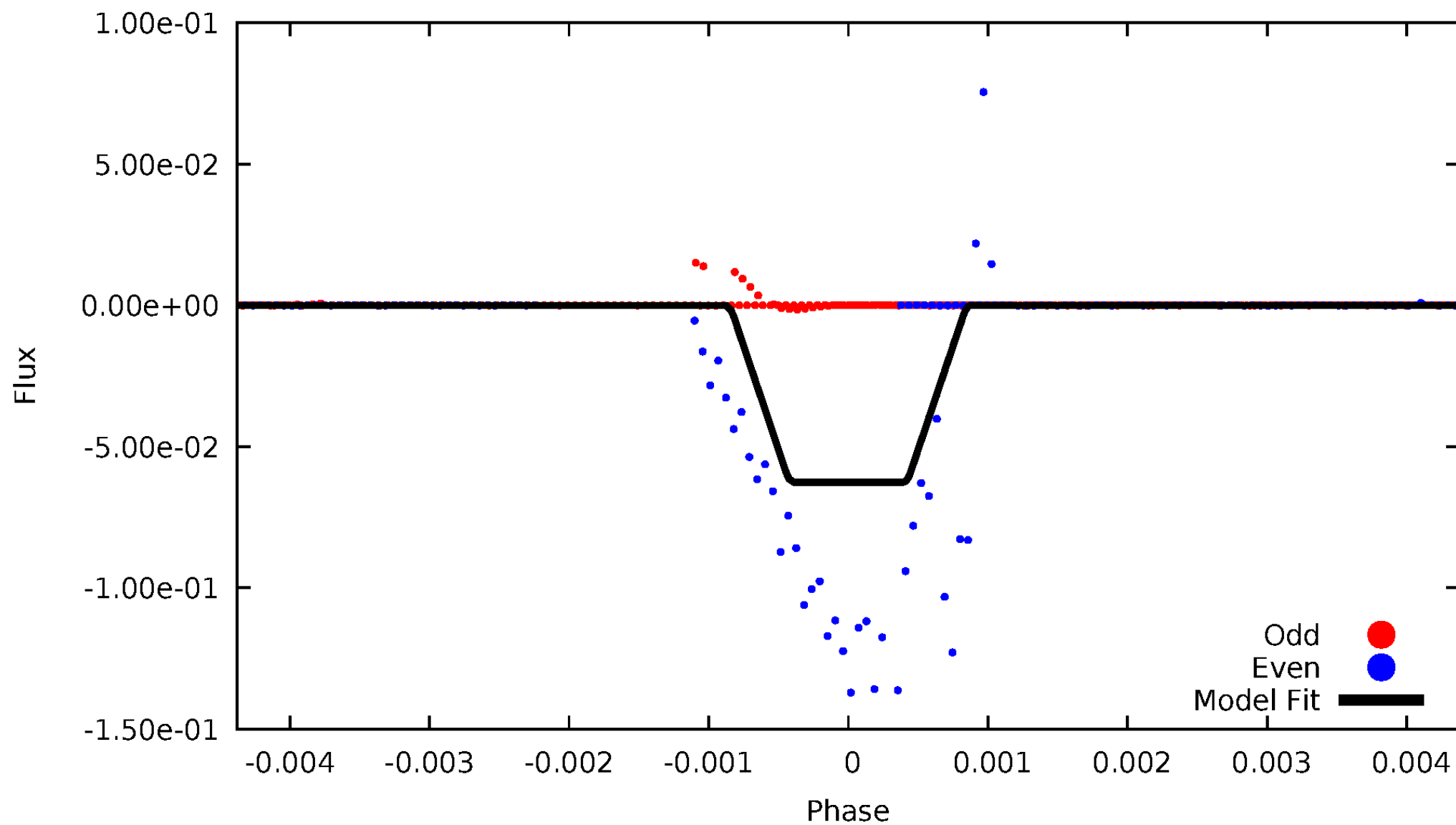
DV Odd/Even

TCE 010450536-07



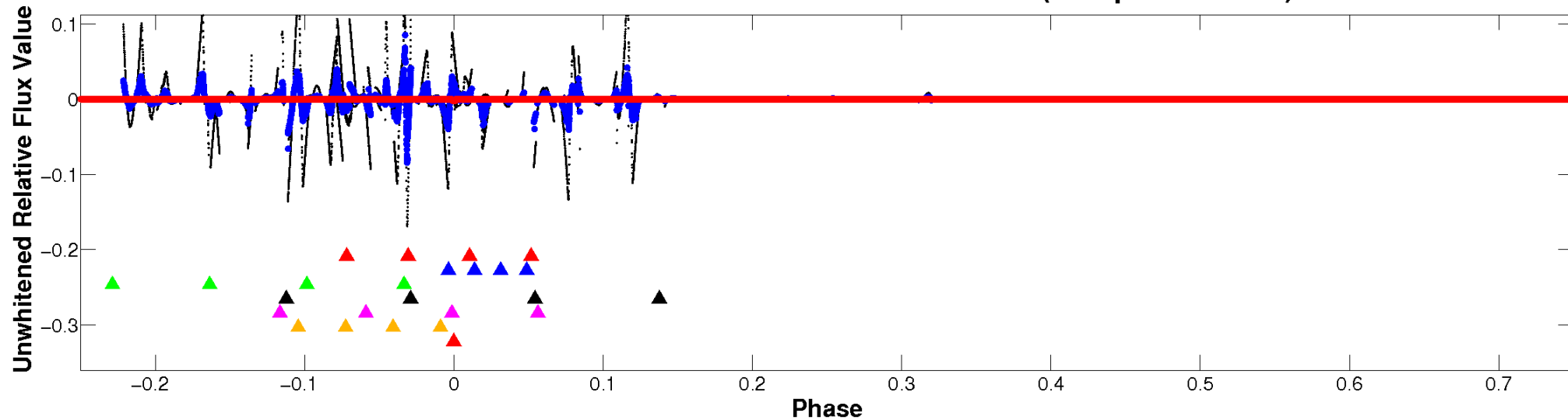
ALT Odd/Even

TCE 010450536-07

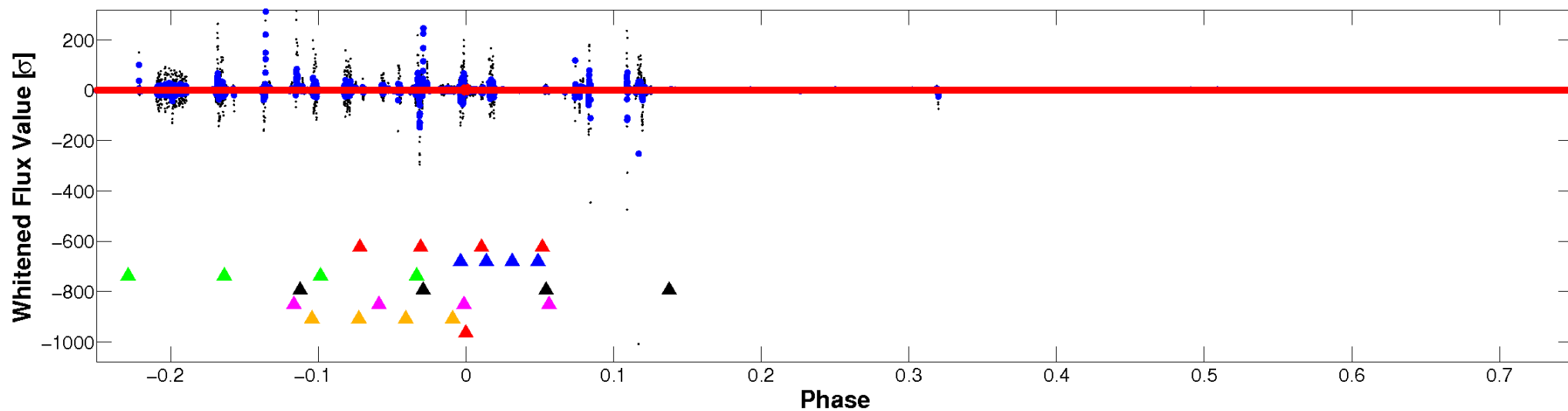


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

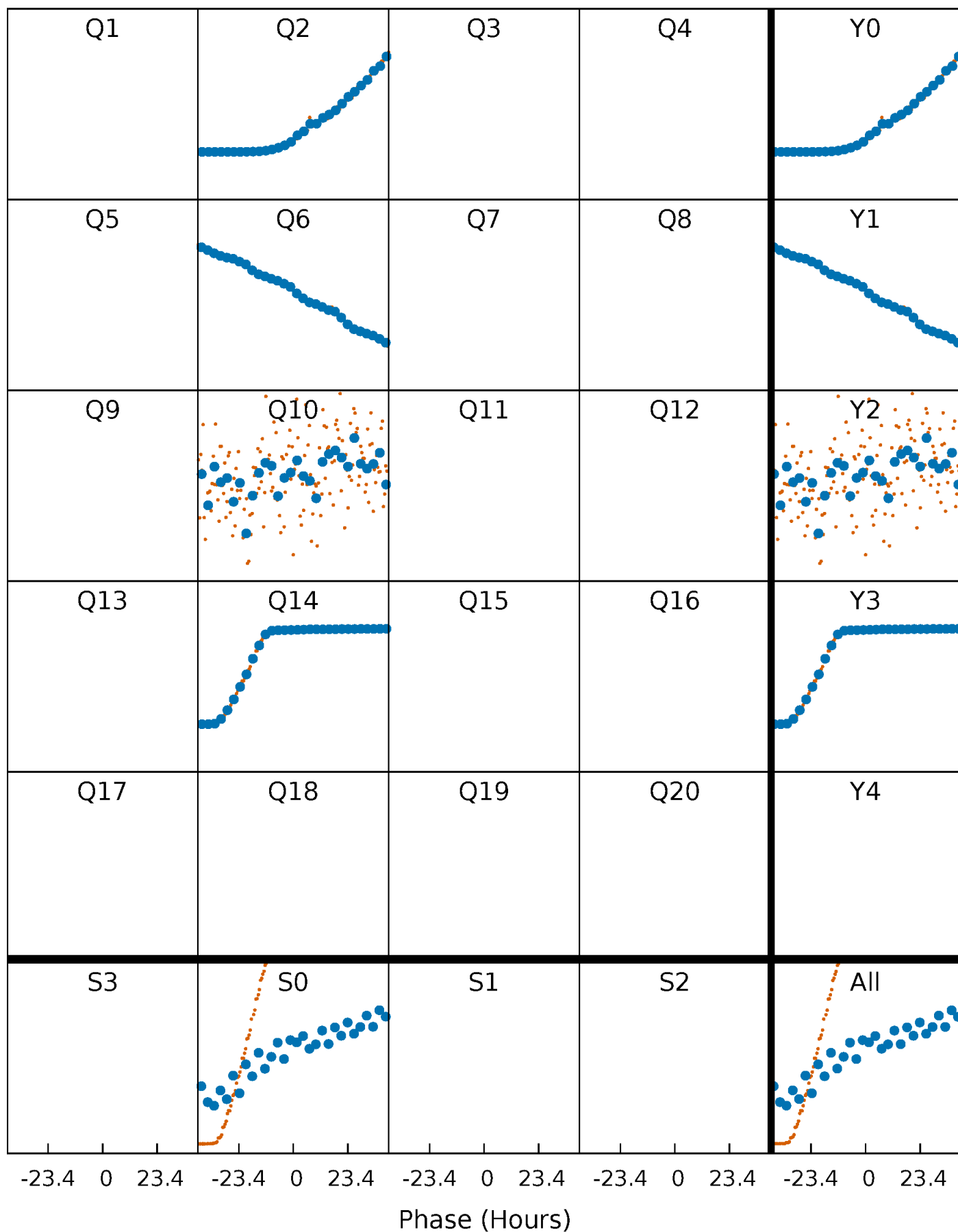


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



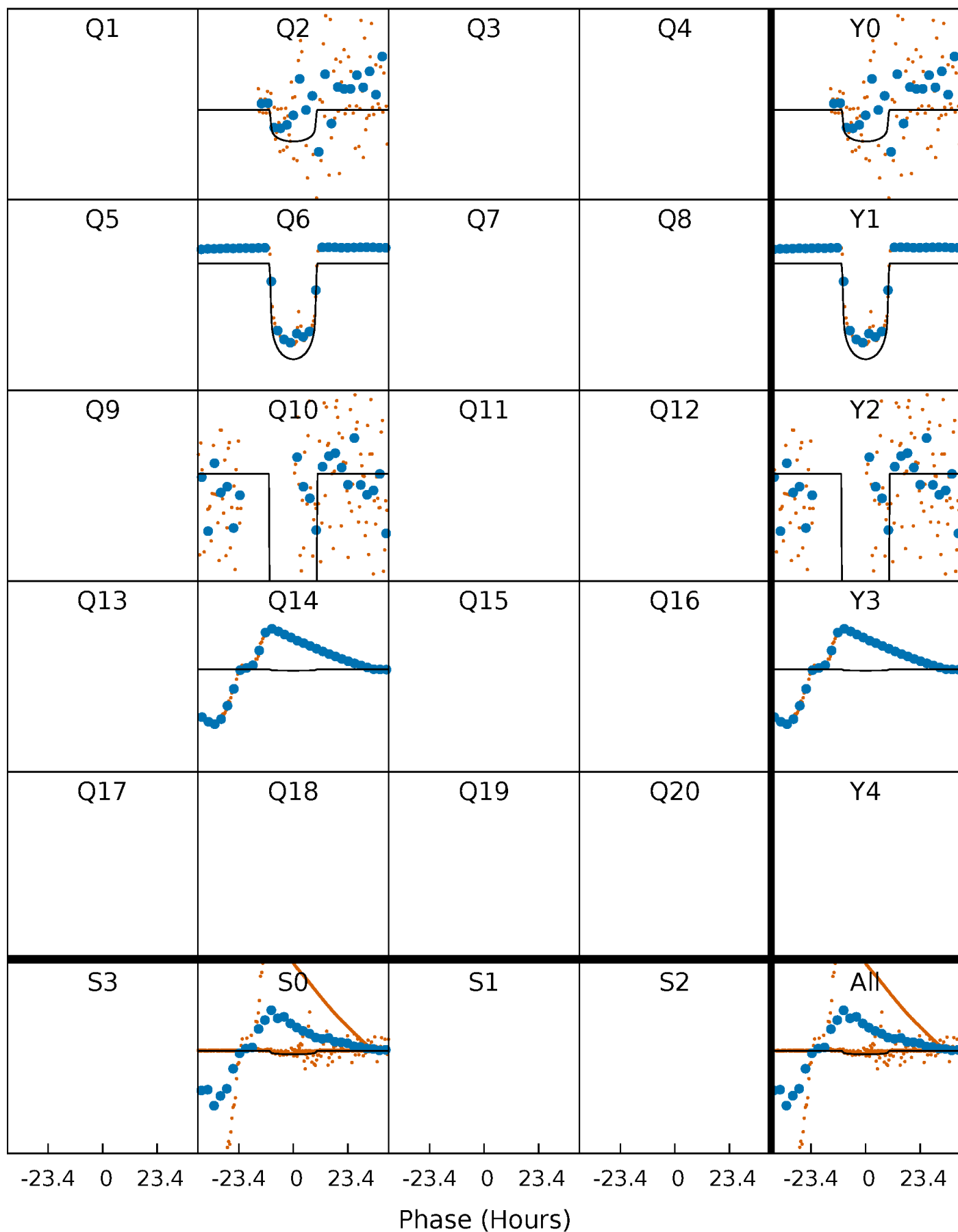
PDC Quarter-Phased Transit Curves

TCE 010450536-07 $P=365.387311$ Days $T_0=250.632990$ (BKJD)



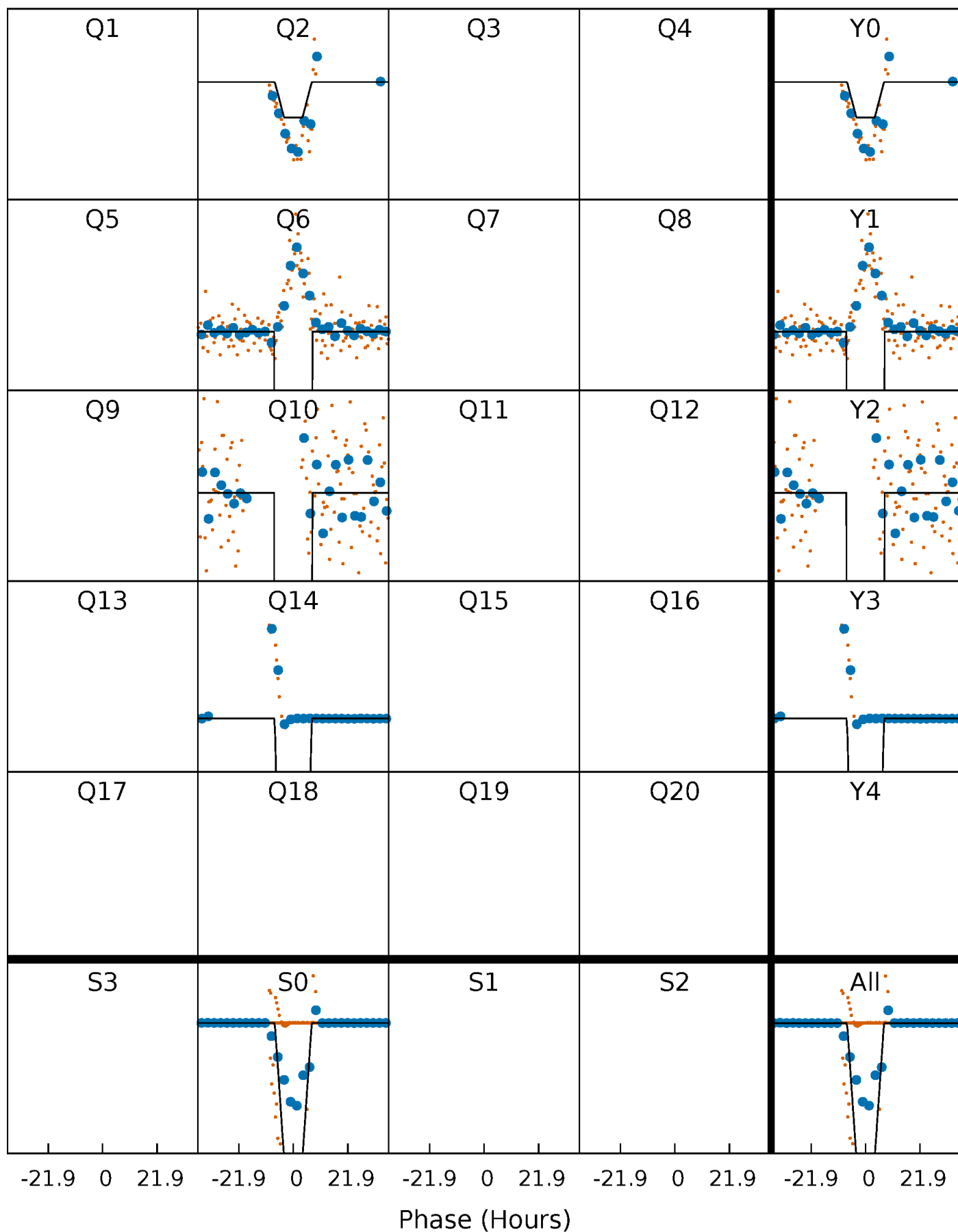
DV Quarter-Phased Transit Curves

TCE 010450536-07 P=365.387311 Days $T_0=250.632990$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

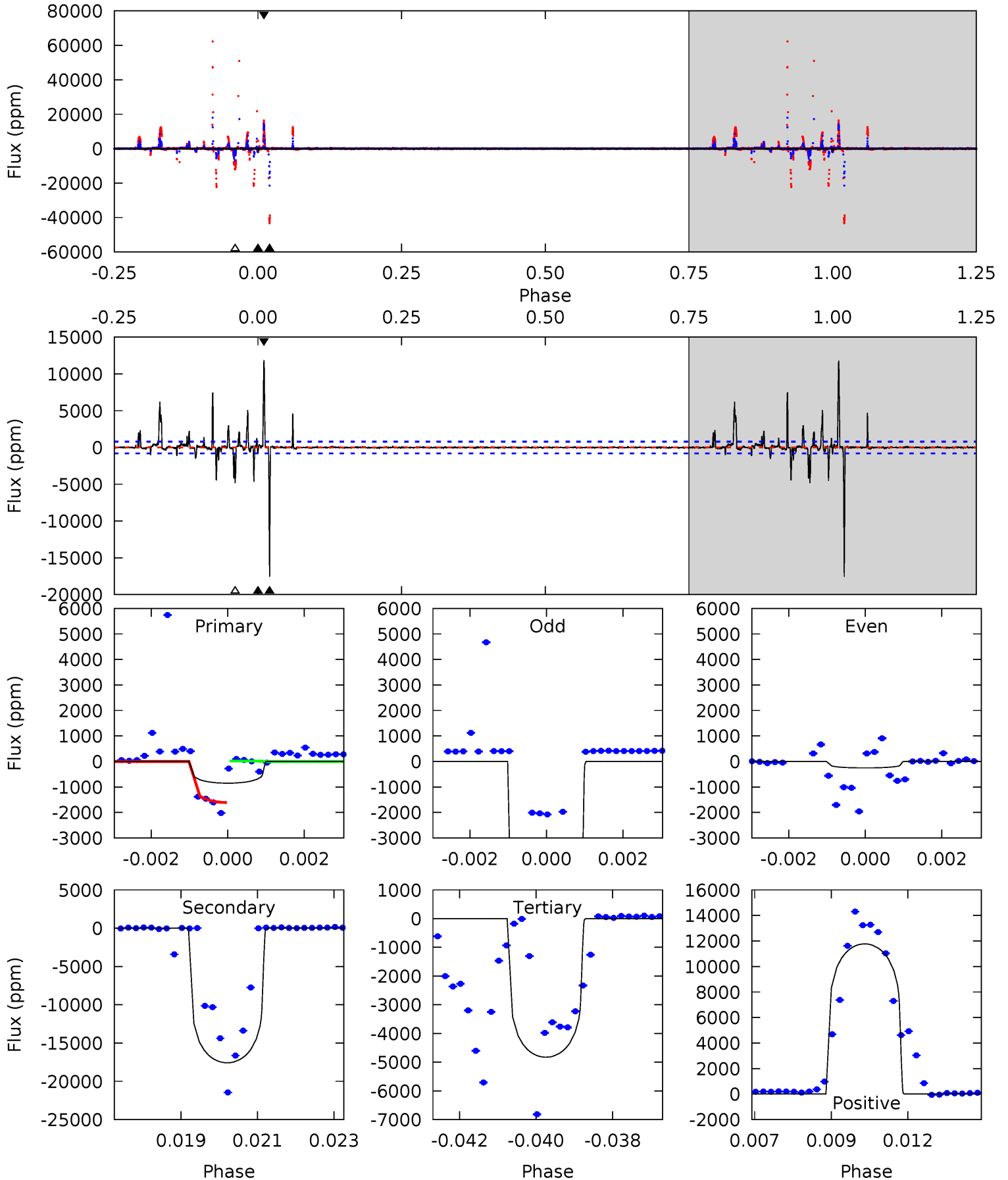
TCE 010450536-07 P=365.358864 Days $T_0=250.573035$ (BKJD)



DV Model-Shift Uniqueness Test

010450536-07, P = 365.387311 Days, E = 250.632990 Days

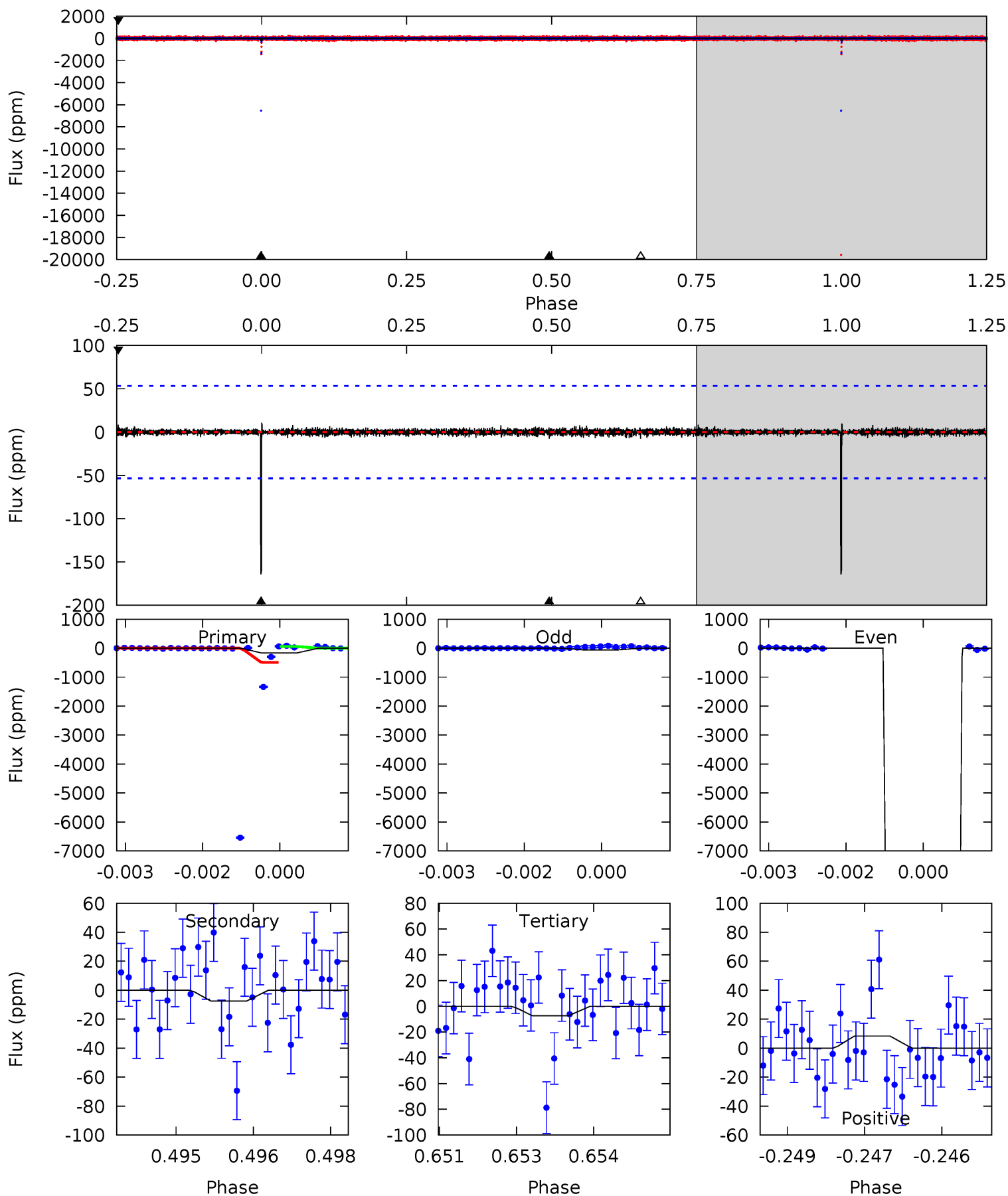
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.65	116.7	32.0	78.1	5.30	3.04	3.55	-26.4	-72.5	84.6	38.5	10.2	1795	0.40	0



Alt Model-Shift Uniqueness Test

010450536-07, P = 365.358864 Days, E = 250.573035 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	0.75	0.74	0.84	5.35	3.14	0.18	15.8	15.7	0.01	-0.09	5242	-443.3	0.06	21.7



Stellar Parameters For KIC 010450536

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6544^{+78}_{-85}	$3.866^{+0.186}_{-0.124}$	$0.210^{+0.150}_{-0.150}$	$2.502^{+0.496}_{-0.606}$	$1.677^{+0.131}_{-0.196}$	$0.151^{+0.158}_{-0.058}$
	+1%/-1%	+5%/-3%	+71%/-71%	+20%/-24%	+8%/-12%	+104%/-38%
Source	SPE74	SPE74	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 010450536-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-17581 ± 151	$11.96^{+2.85}_{-2.50}$	582^{+31}_{-35}	13864^{+2831}_{-1916}	96662^{+56741}_{-32395}
Alt.	-8 ± 10	$67.76^{+7.93}_{-9.11}$	585^{+31}_{-37}	1687^{+164}_{-3337}	$1.237^{+1.774}_{-1.670}$

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

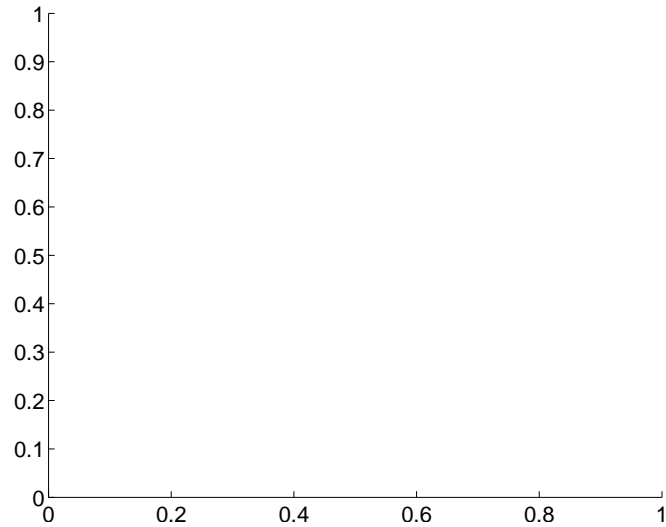
Supplemental centroid analysis for 010450536-07. **Kepler magnitude: 11.49.** Transit SNR 99.22

There are 0 quarters with good PRF difference image offsets

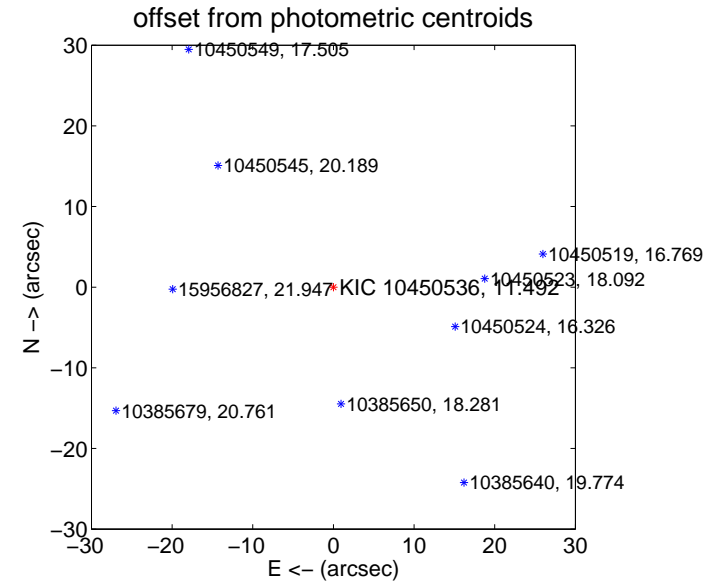
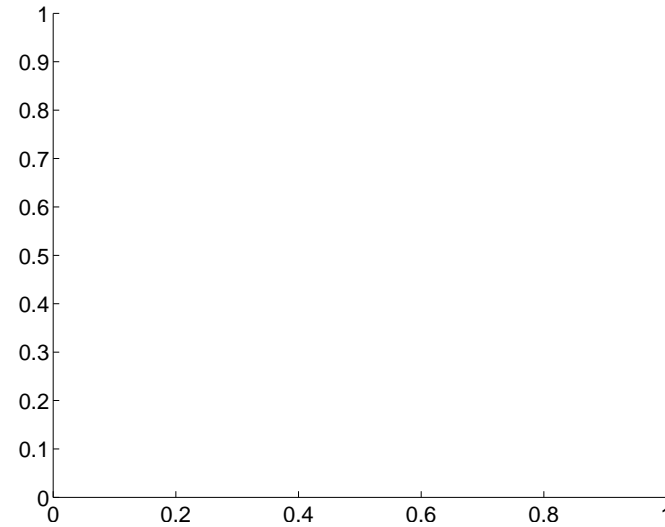
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	56.58 ± 71.43	0.79	43.56 ± 79.85	-36.10 ± 57.00

There is no PRF-fit offset from OOT-fit

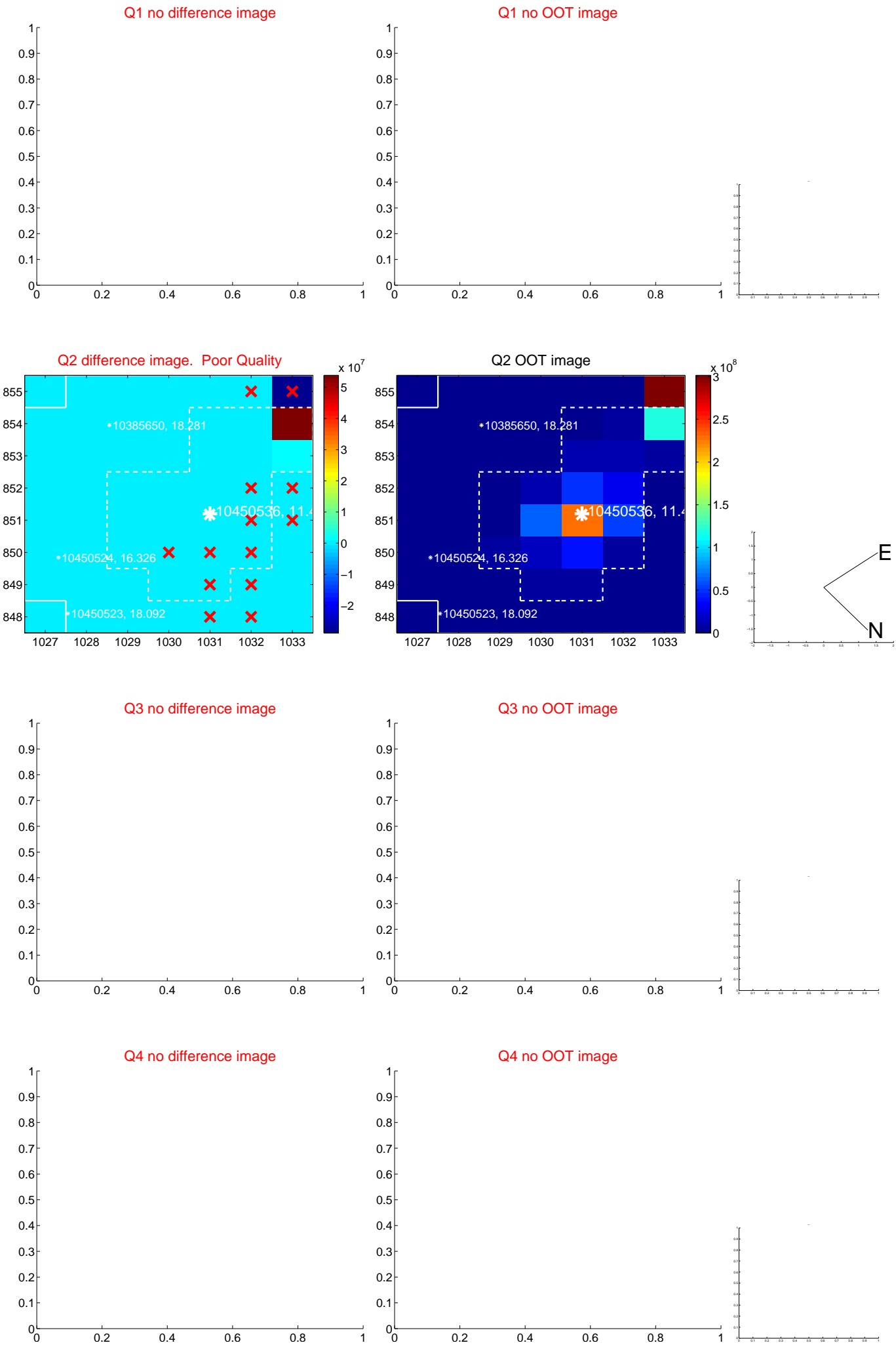


There is no PRF-fit offset from KIC

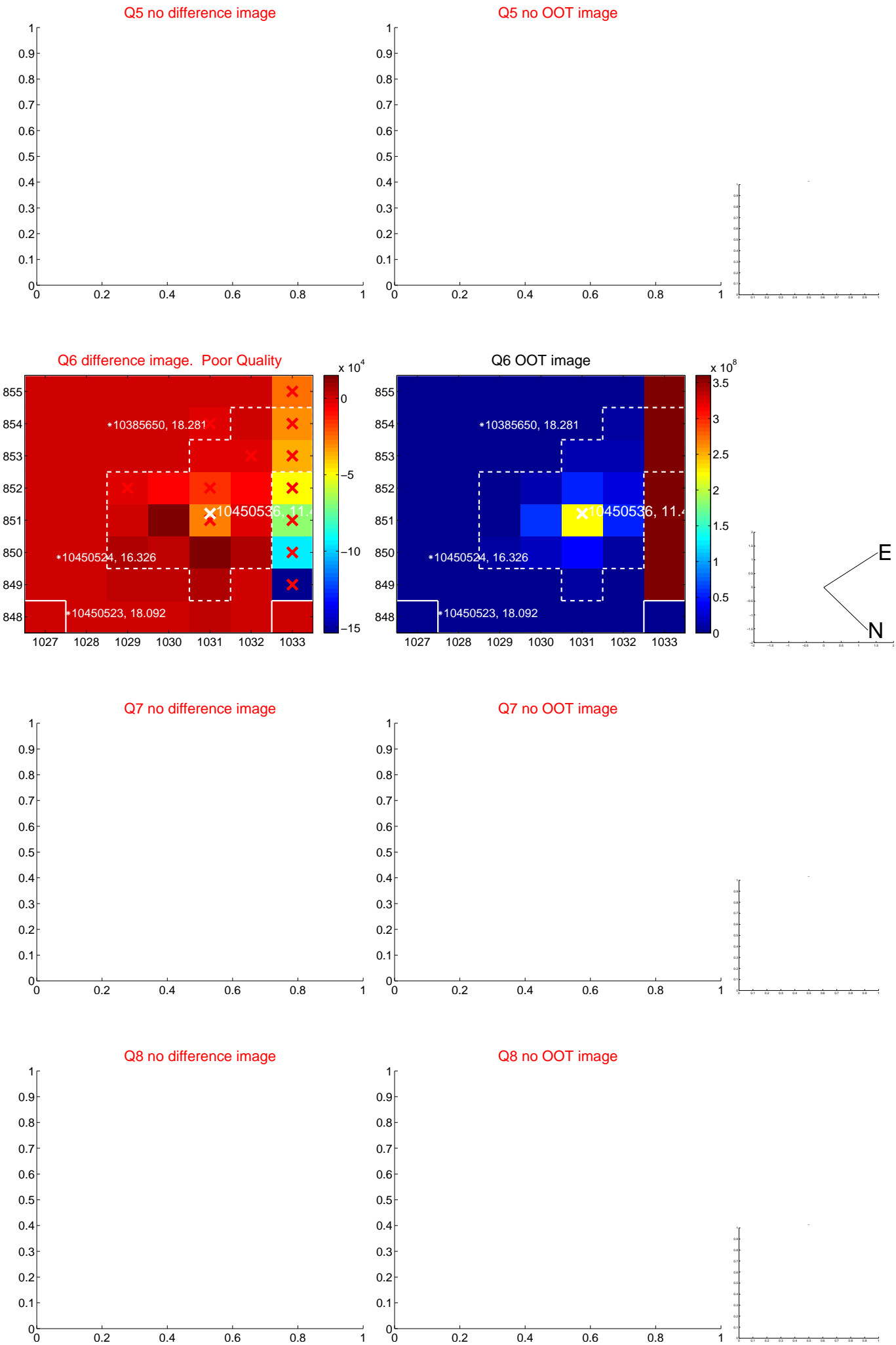


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

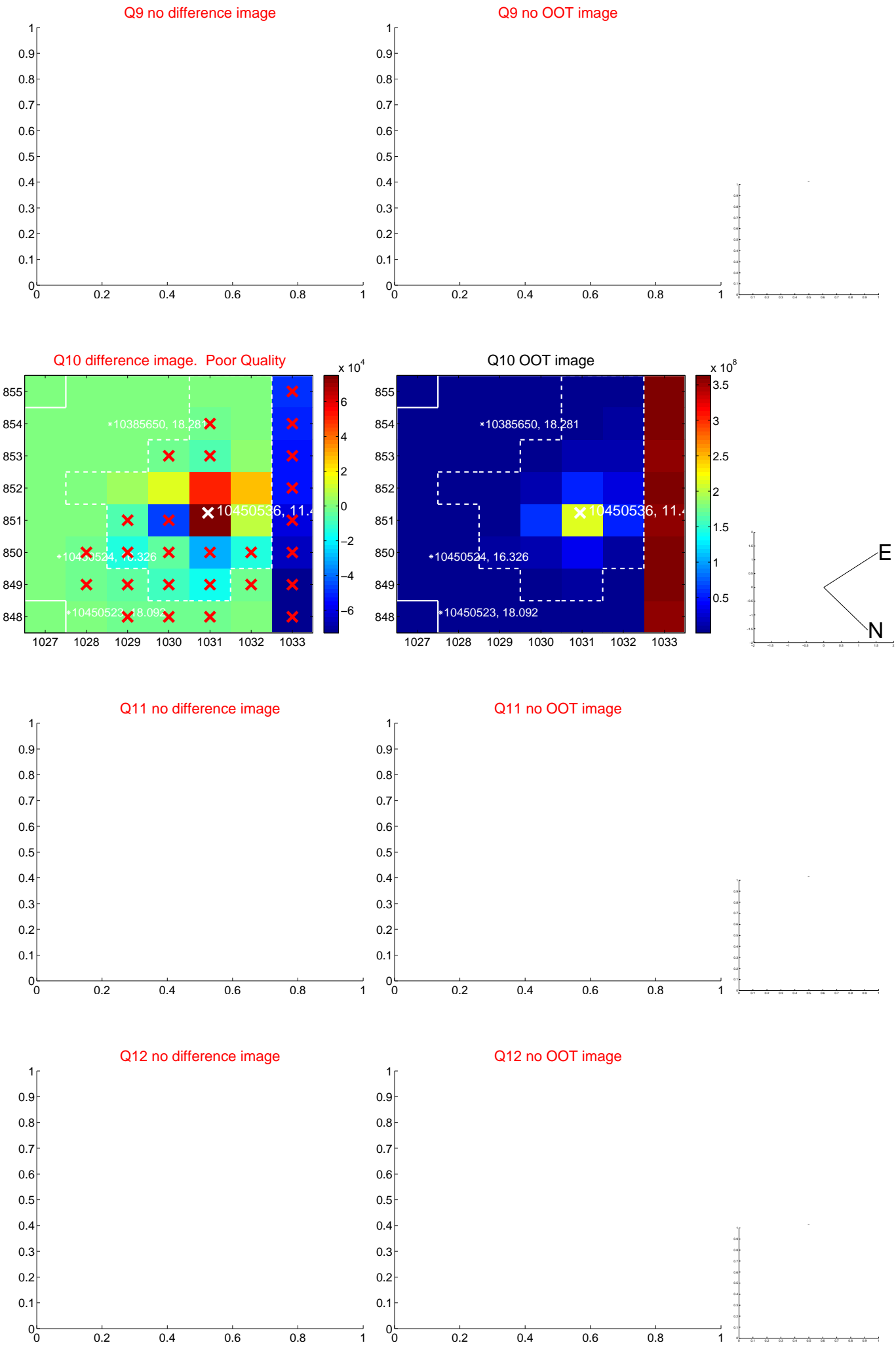
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



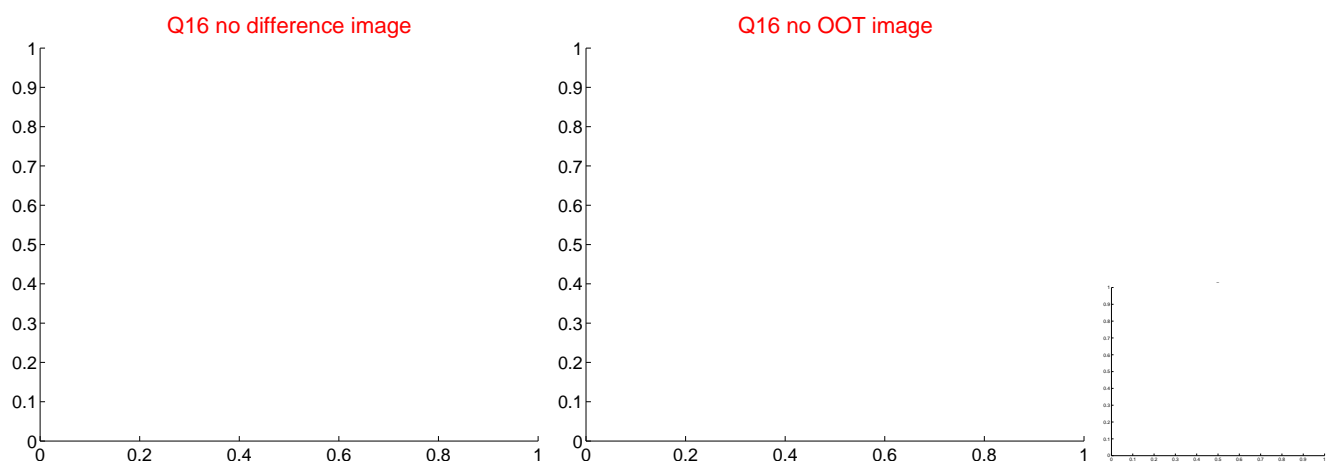
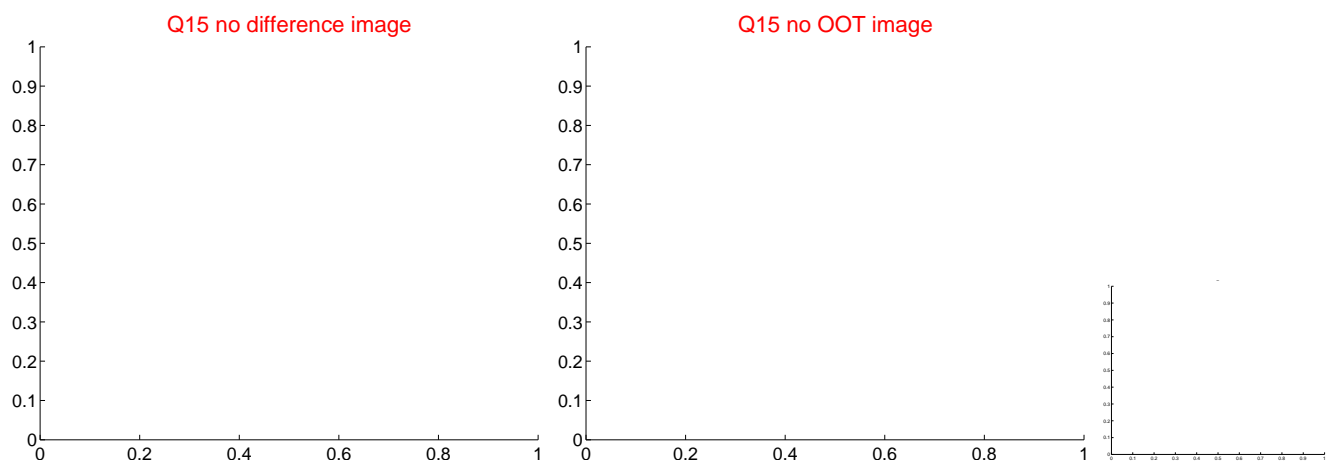
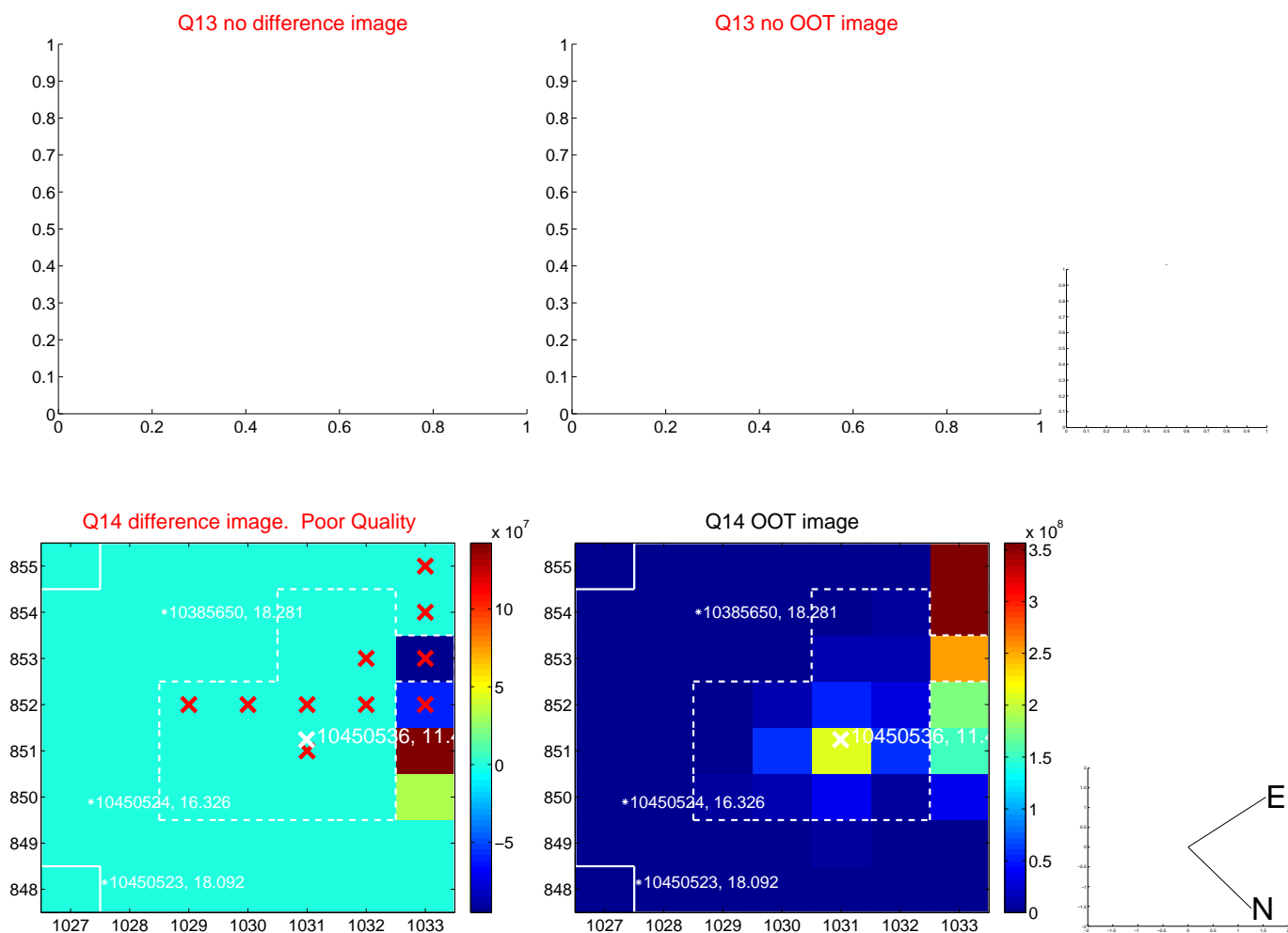
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



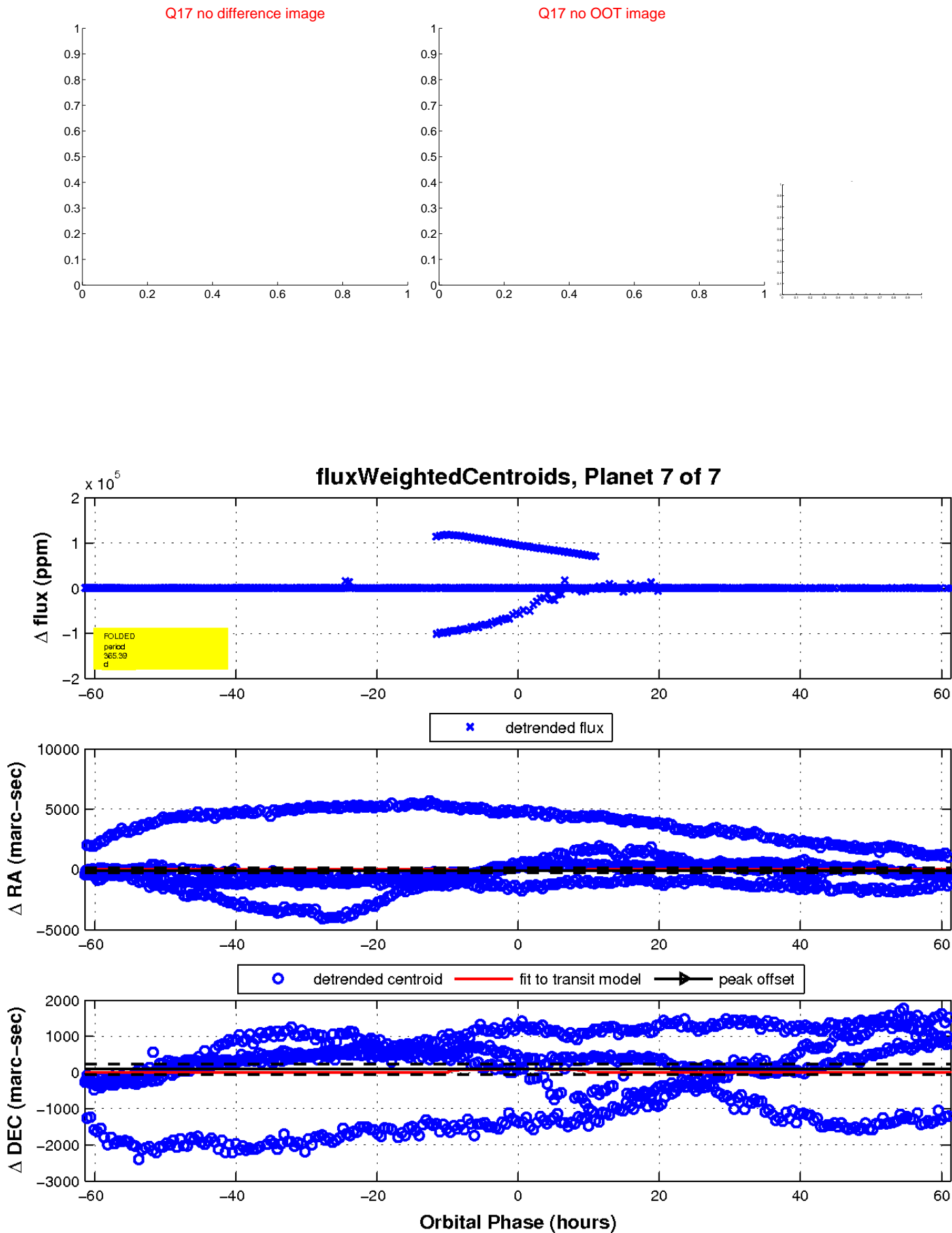
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

