

KIC 010552611

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})
010552611-01	OBS	0338.01	7.010620	132.513361	329.6	3.204	41.3	44.4	0.78	4908	1.73	70.41
010552611-02	OBS	0338.02	3.107749	132.615948	66.1	2.369	12.4	12.2	0.78	4908	0.78	208.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010552611-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010552611-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

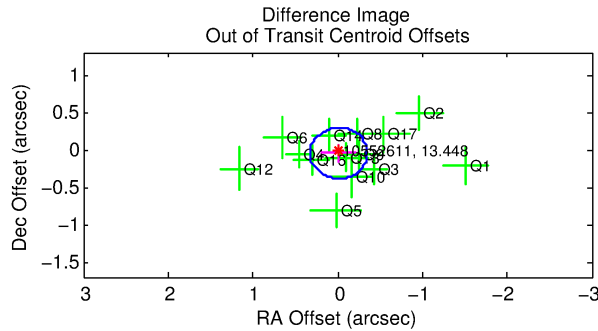
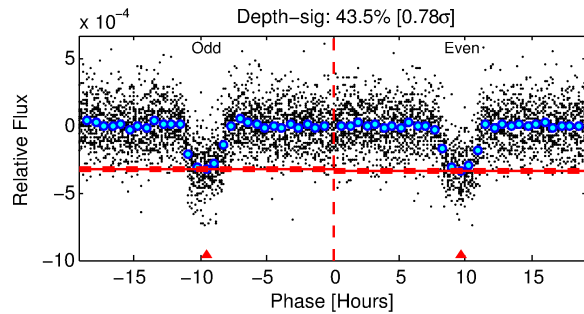
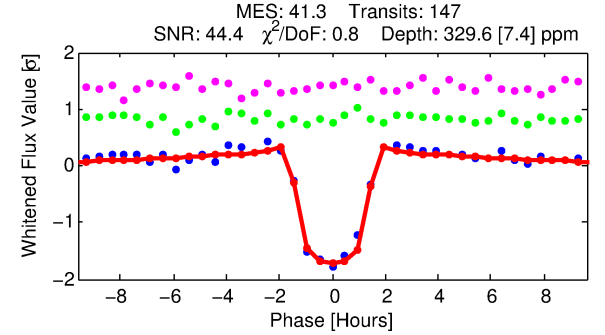
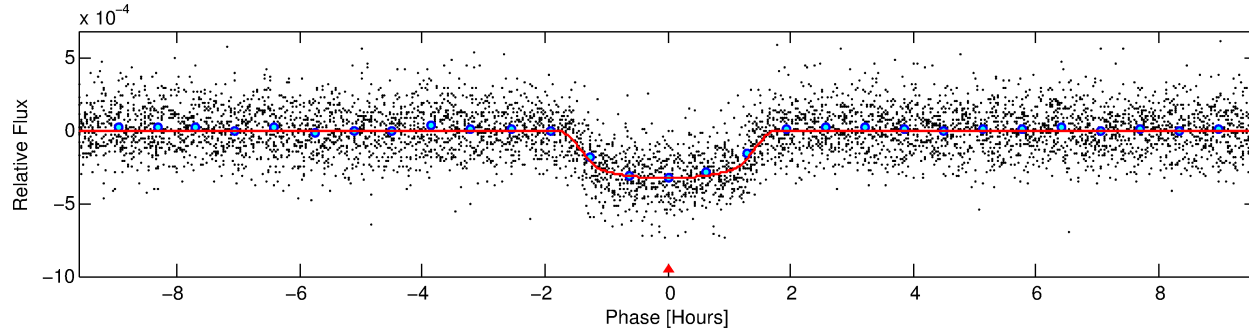
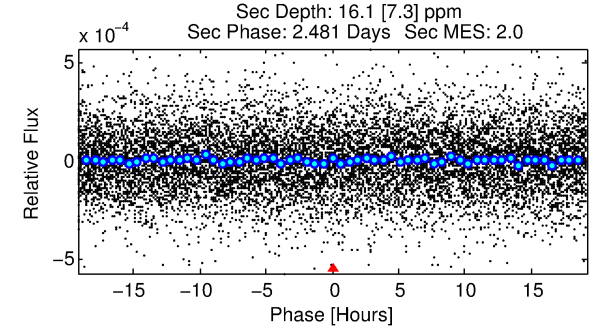
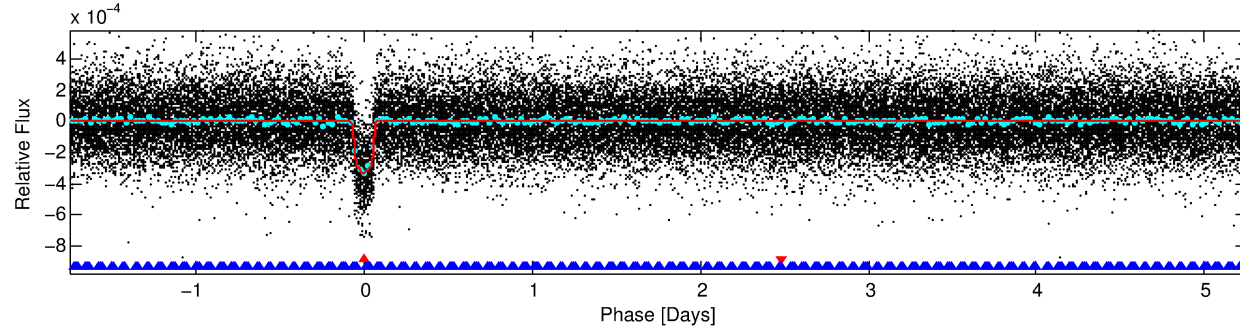
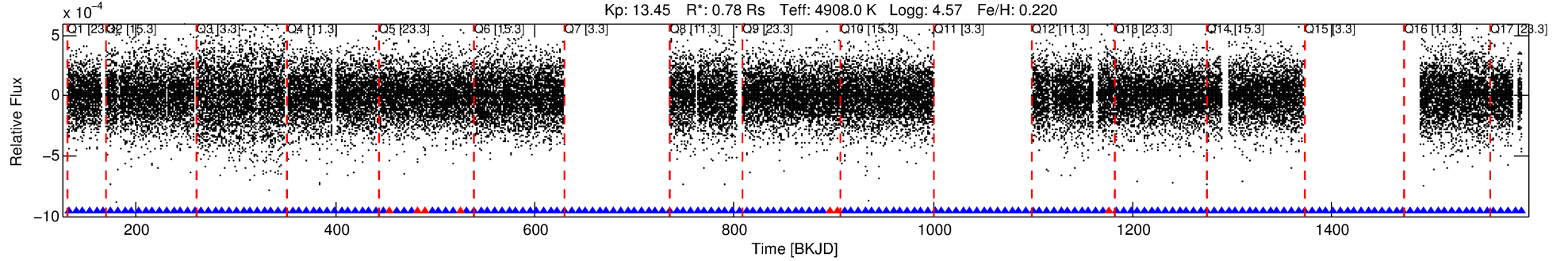
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010552611-01

No Significant Match Found

DV One-Page Summary

KIC: 10552611 Candidate: 1 of 2 Period: 7.011 d
KOI: K00338.01 Name: Kepler-141c Corr: 0.987



DV Fit Results:

Period = 7.01062 [0.00001] d
Epoch = 132.5134 [0.0012] BKJD
Rp/R* = 0.0203 [0.0023]
a/R* = 8.24 [3.52]
b = 0.89 [0.10]
Seff = 70.41 [7.87]
Teq = 739 [21] K
Rp = 1.73 [0.22] Re
a = 0.0672 [0.0034] AU
Ag = 13.38 [6.84] [1.81σ]
Teffp = 2184 [279] K [5.16σ]

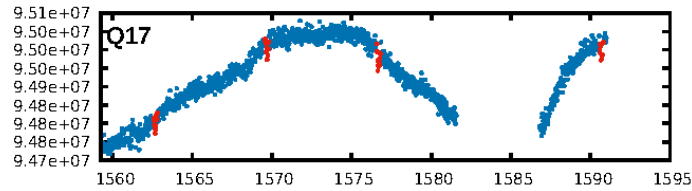
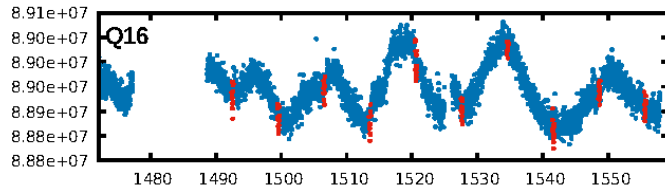
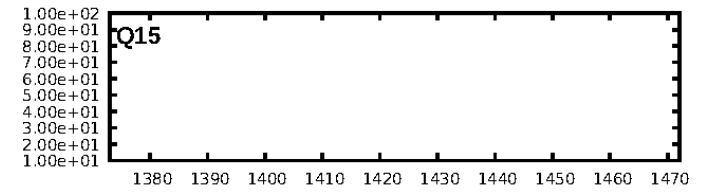
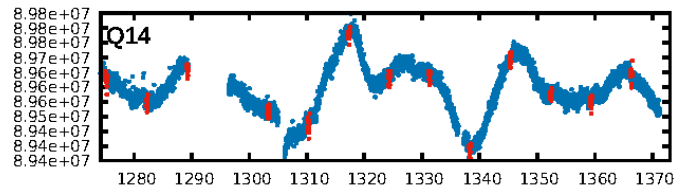
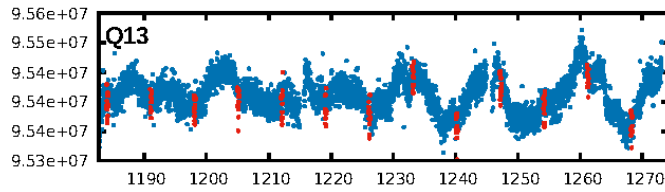
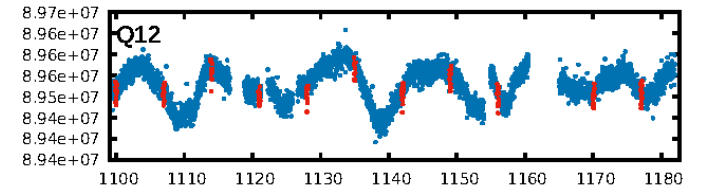
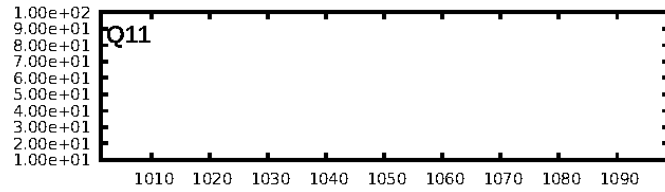
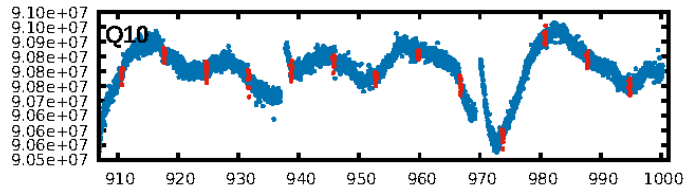
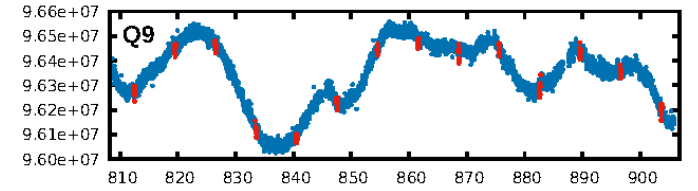
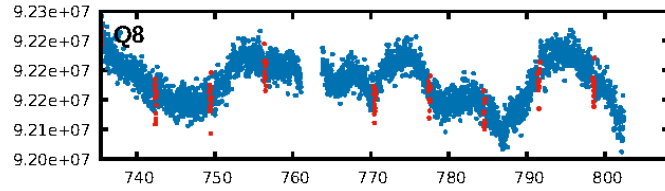
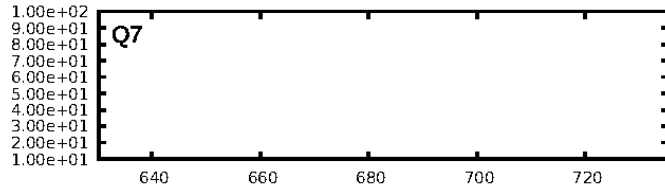
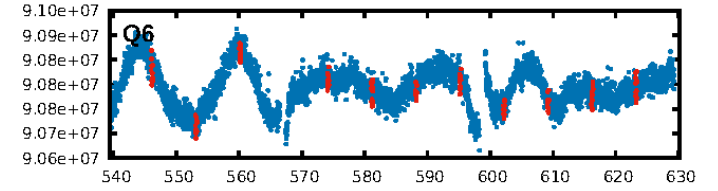
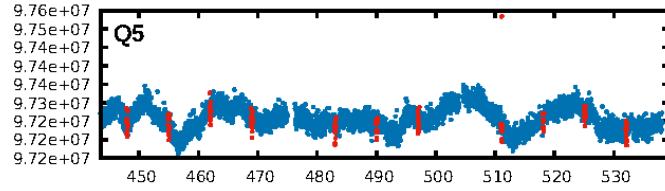
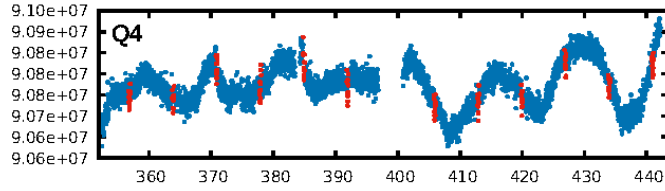
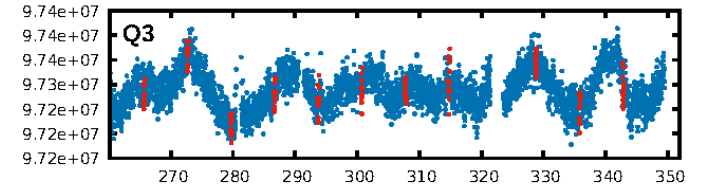
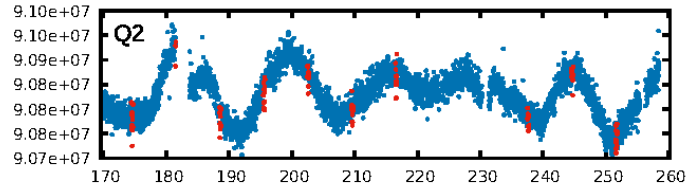
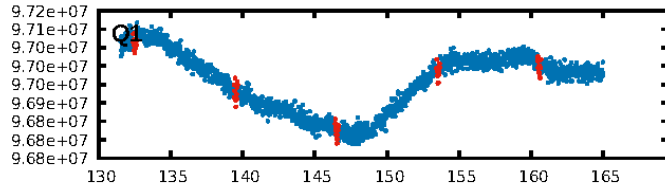
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [23.51σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.95 [131/138]
GhostDiagnostic-chr: 4.596
Centroid-sig: 0.4%
Centroid-so: 0.792 arcsec [2.98σ]
OotOffset-rm: 0.049 arcsec [0.44σ]
KicOffset-rm: 0.313 arcsec [1.95σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

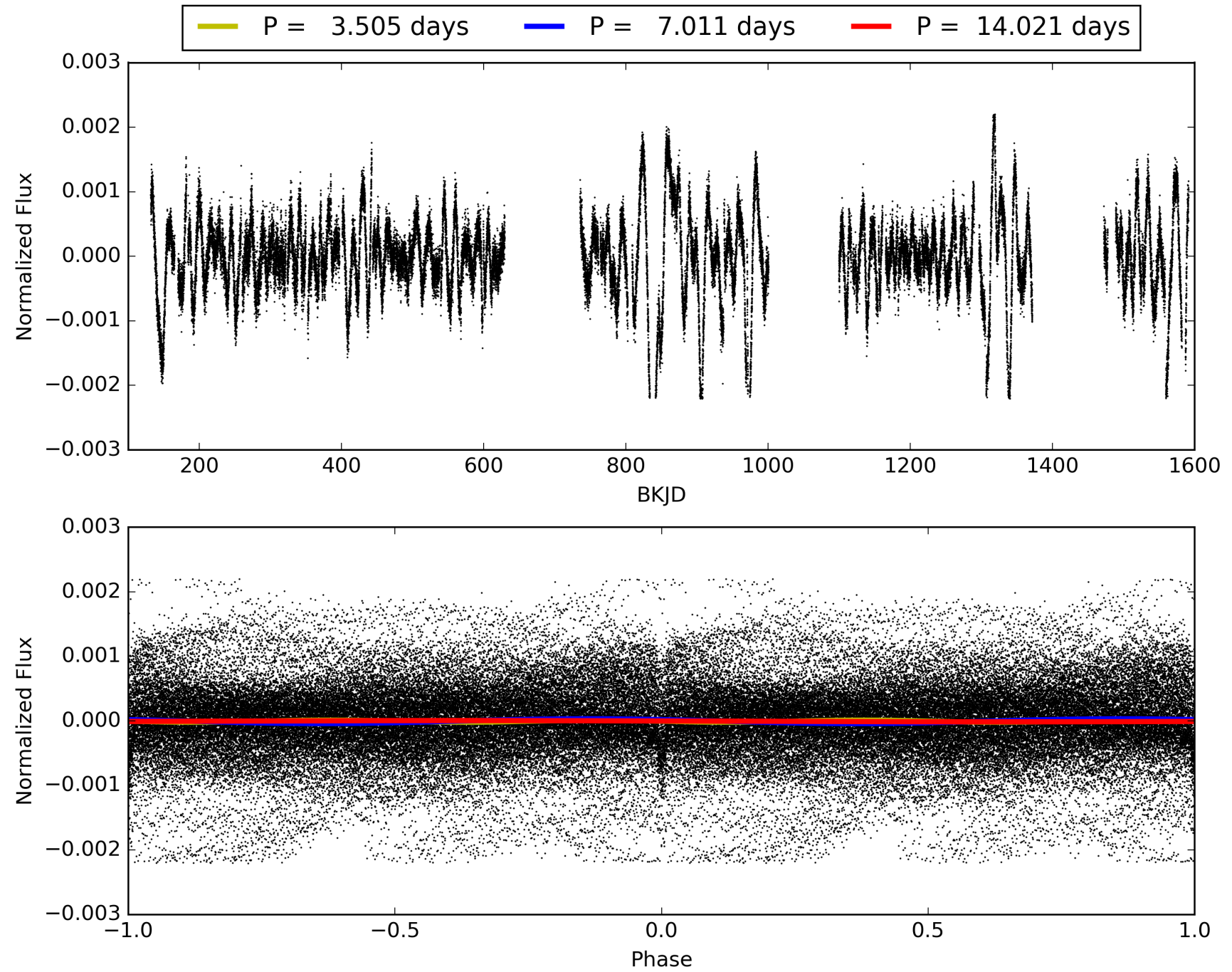
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:12:56 Z

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

TCE 010552611-01, PDC Light Curves

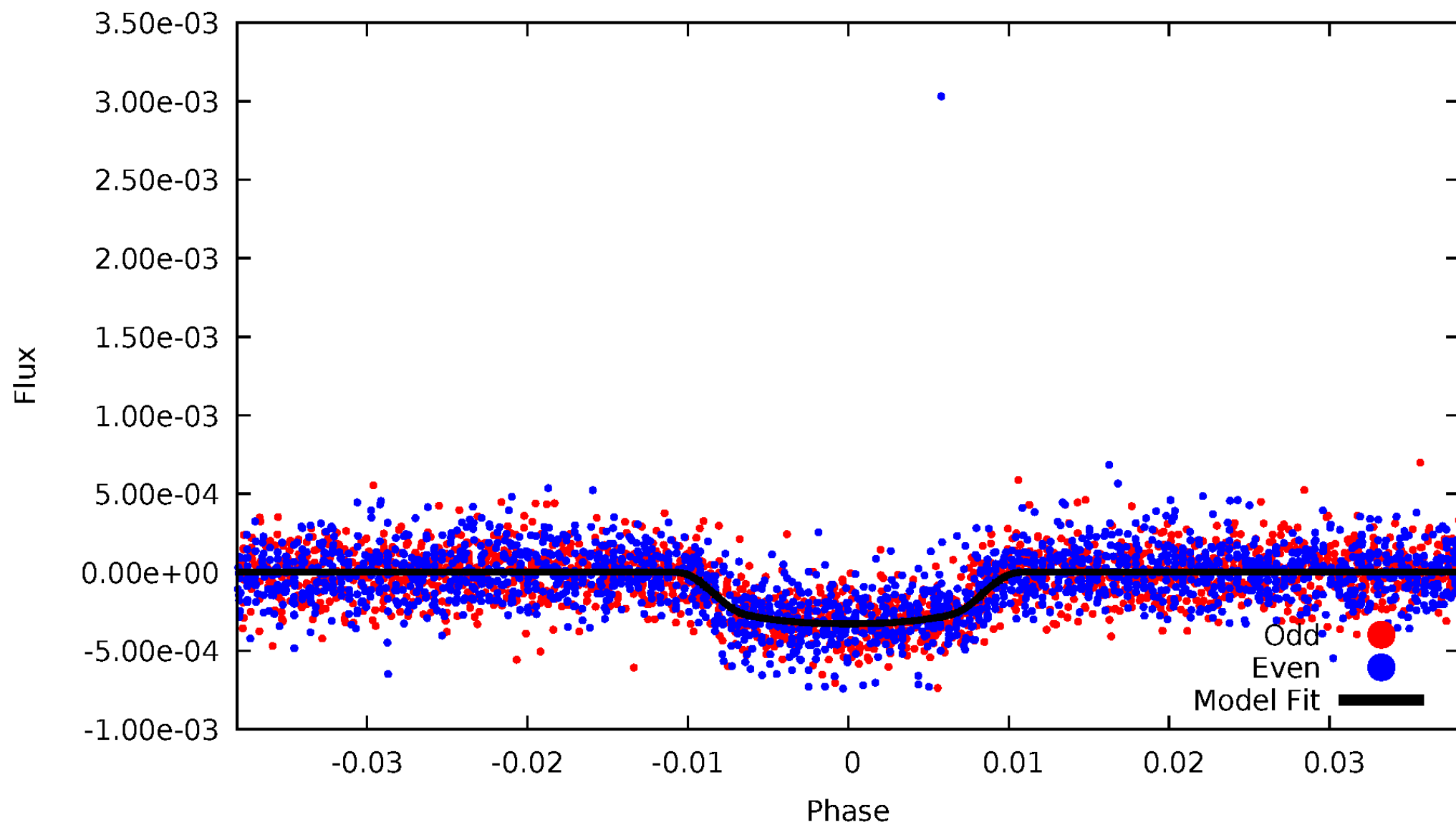


TCE 010552611-01



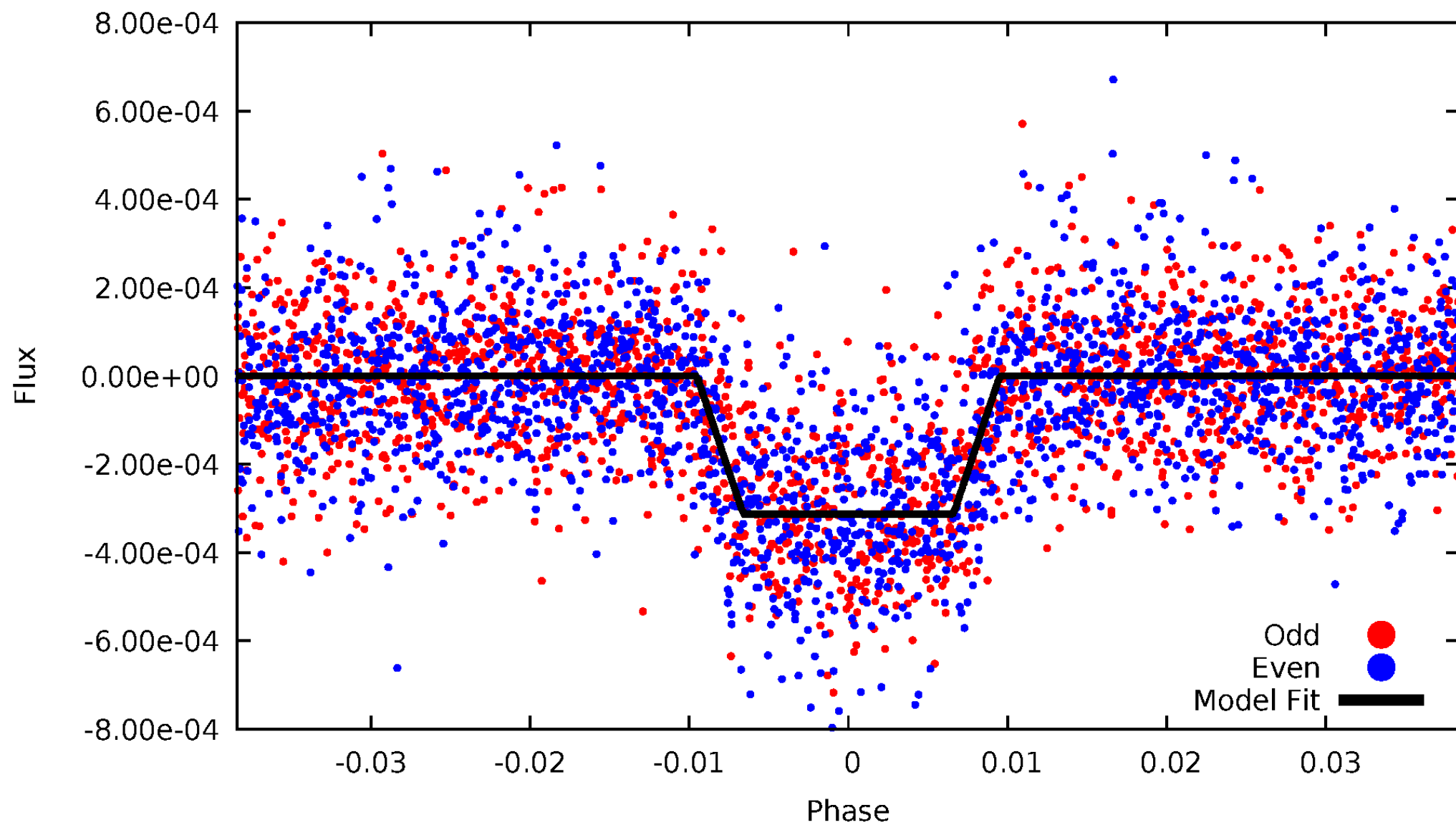
DV Odd/Even

TCE 010552611-01



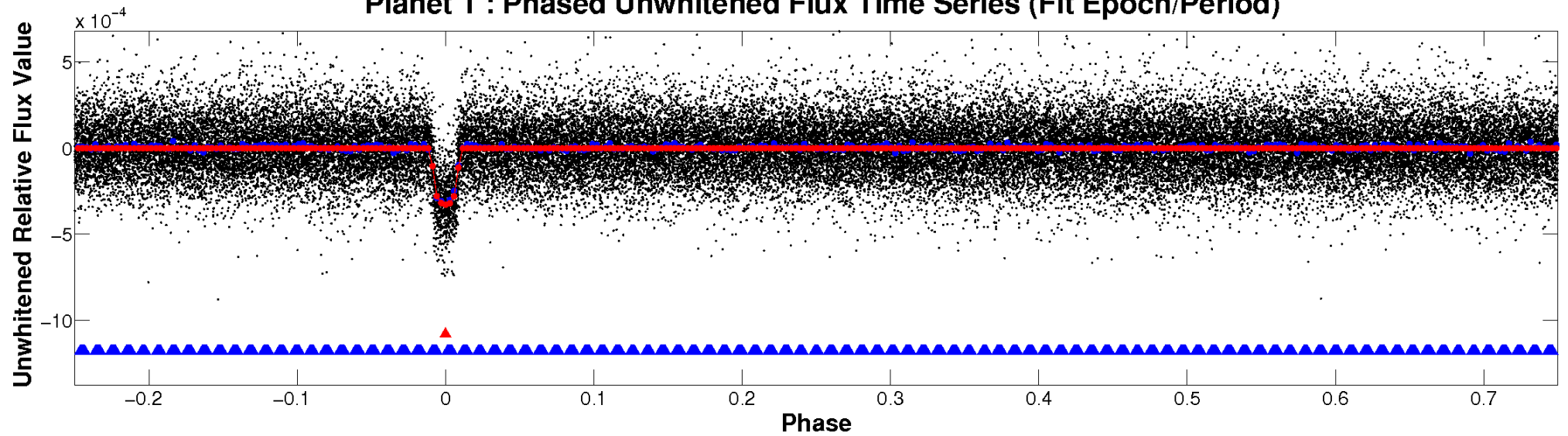
ALT Odd/Even

TCE 010552611-01

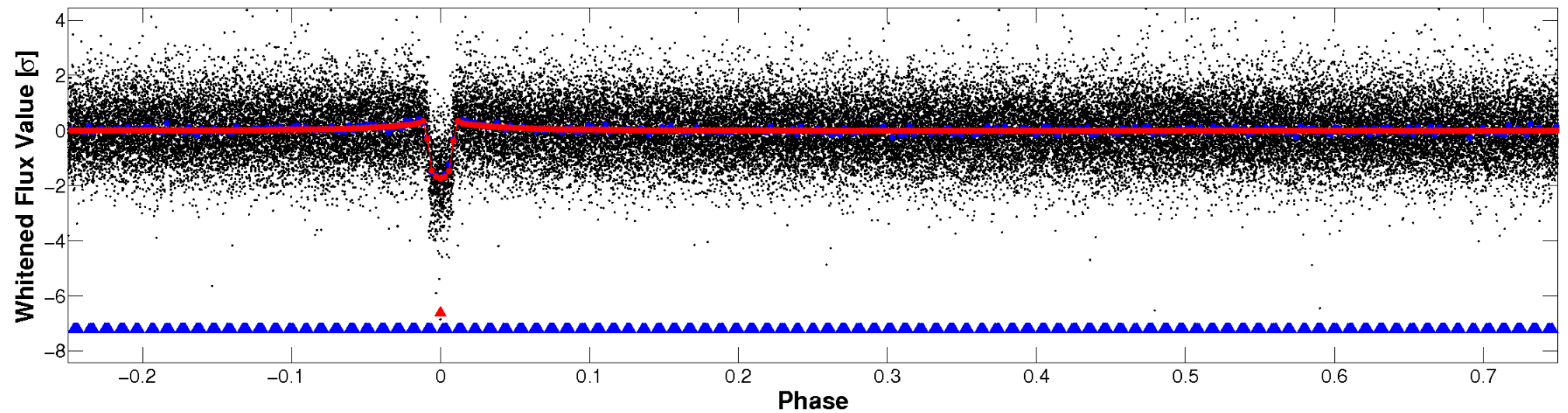


Non-Whitened Vs. Whitened Light Curve

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

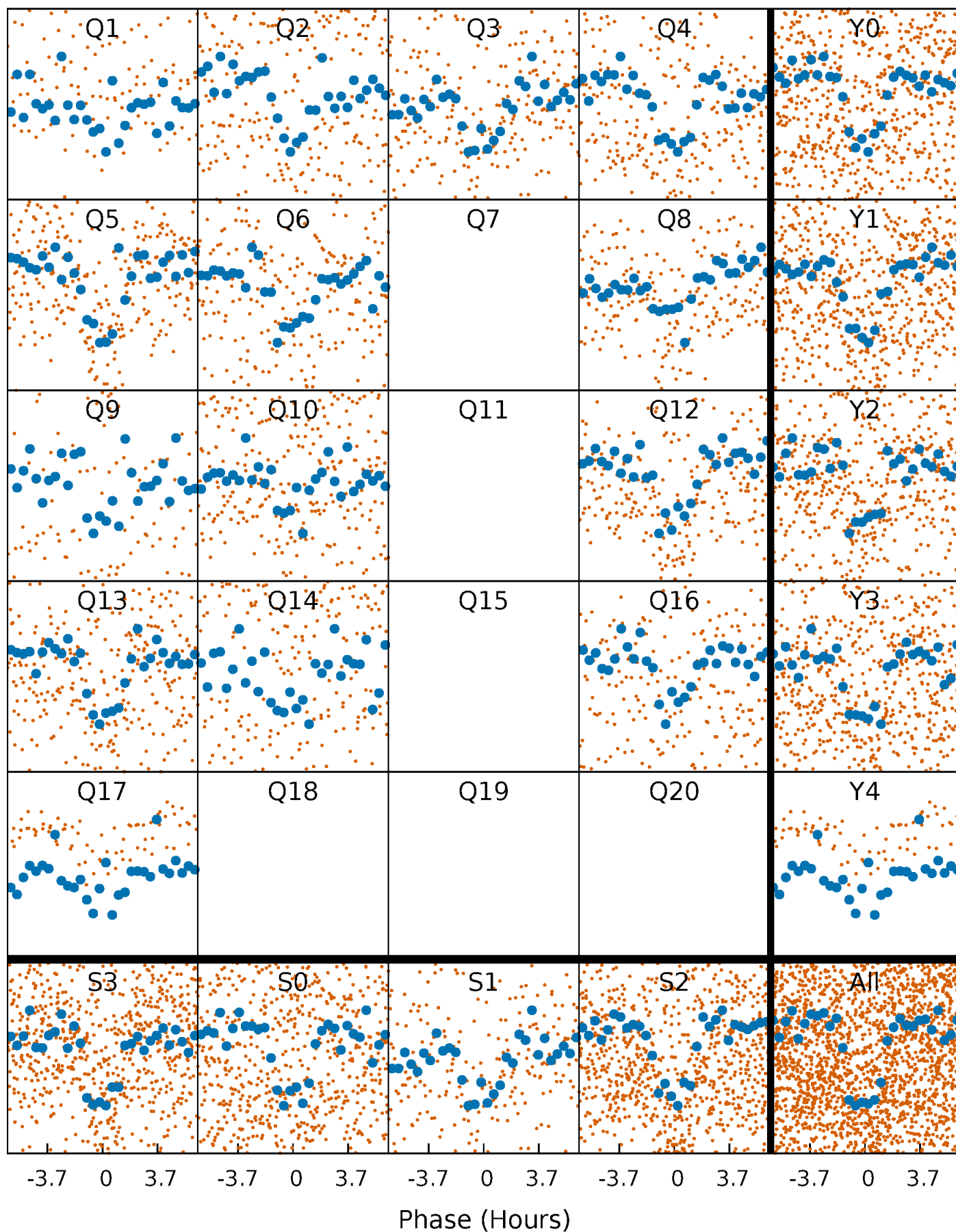


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



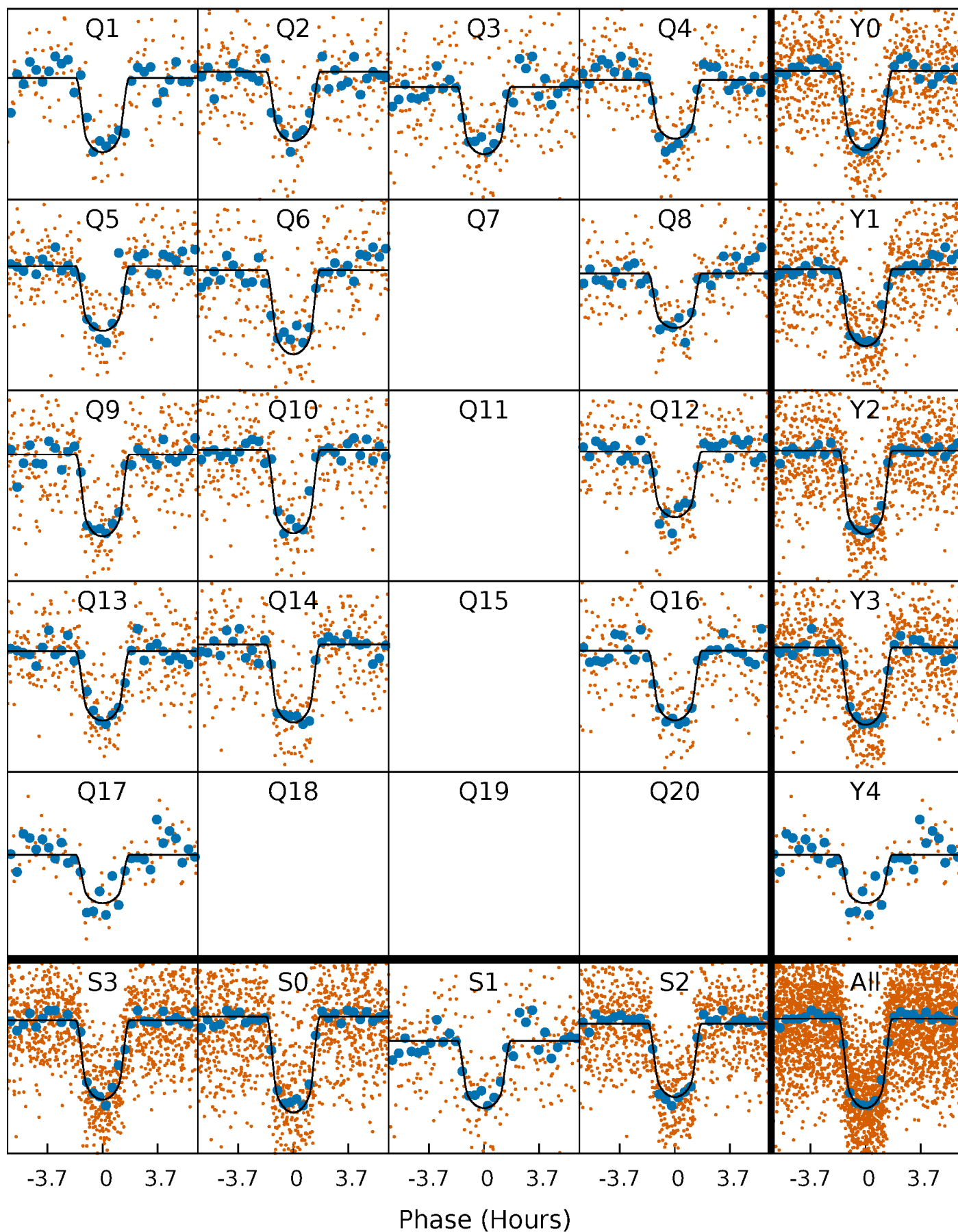
PDC Quarter-Phased Transit Curves

TCE 010552611-01 P= 7.010620 Days $T_0=132.513361$ (BKJD)



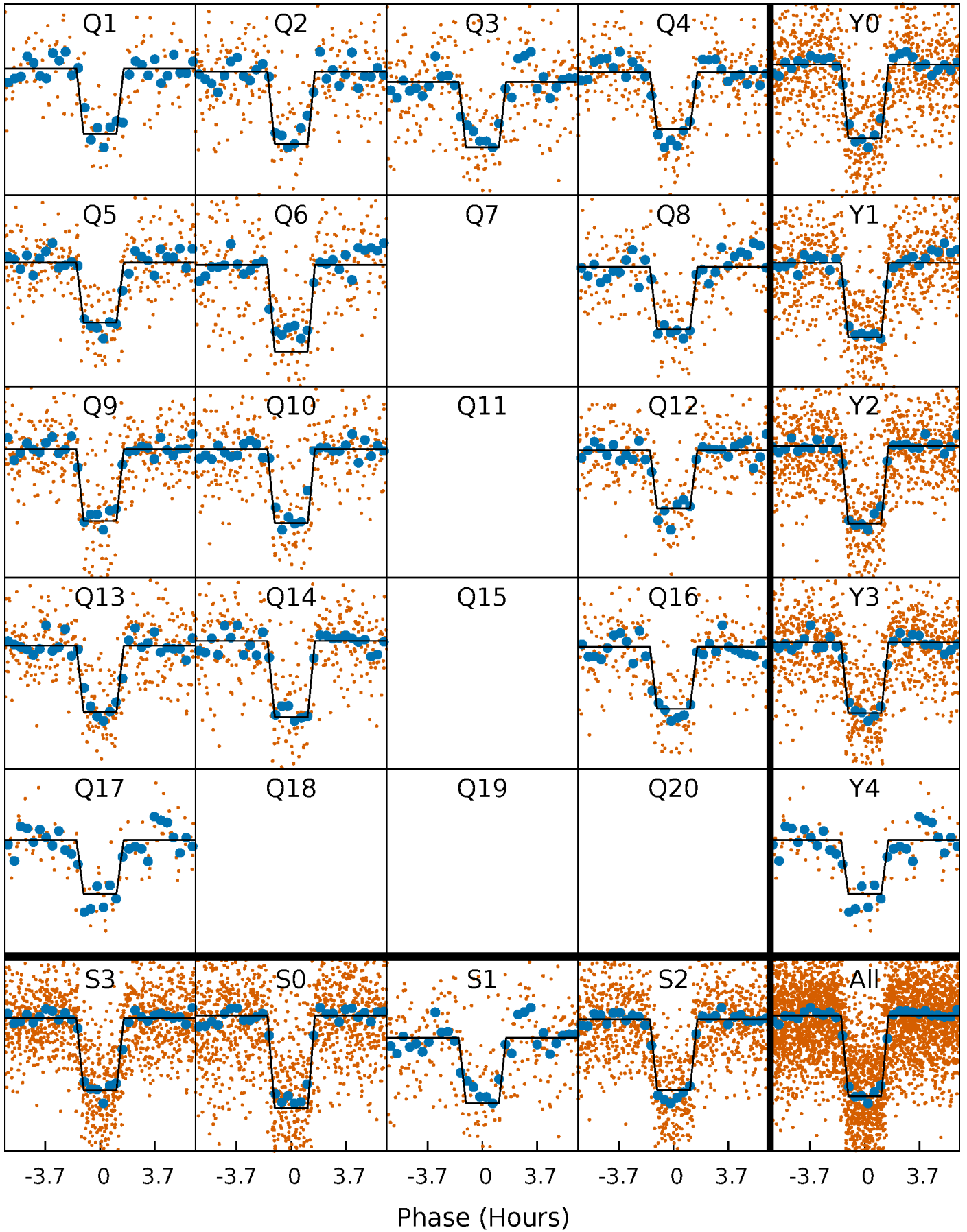
DV Quarter-Phased Transit Curves

TCE 010552611-01 P= 7.010620 Days $T_0=132.513361$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

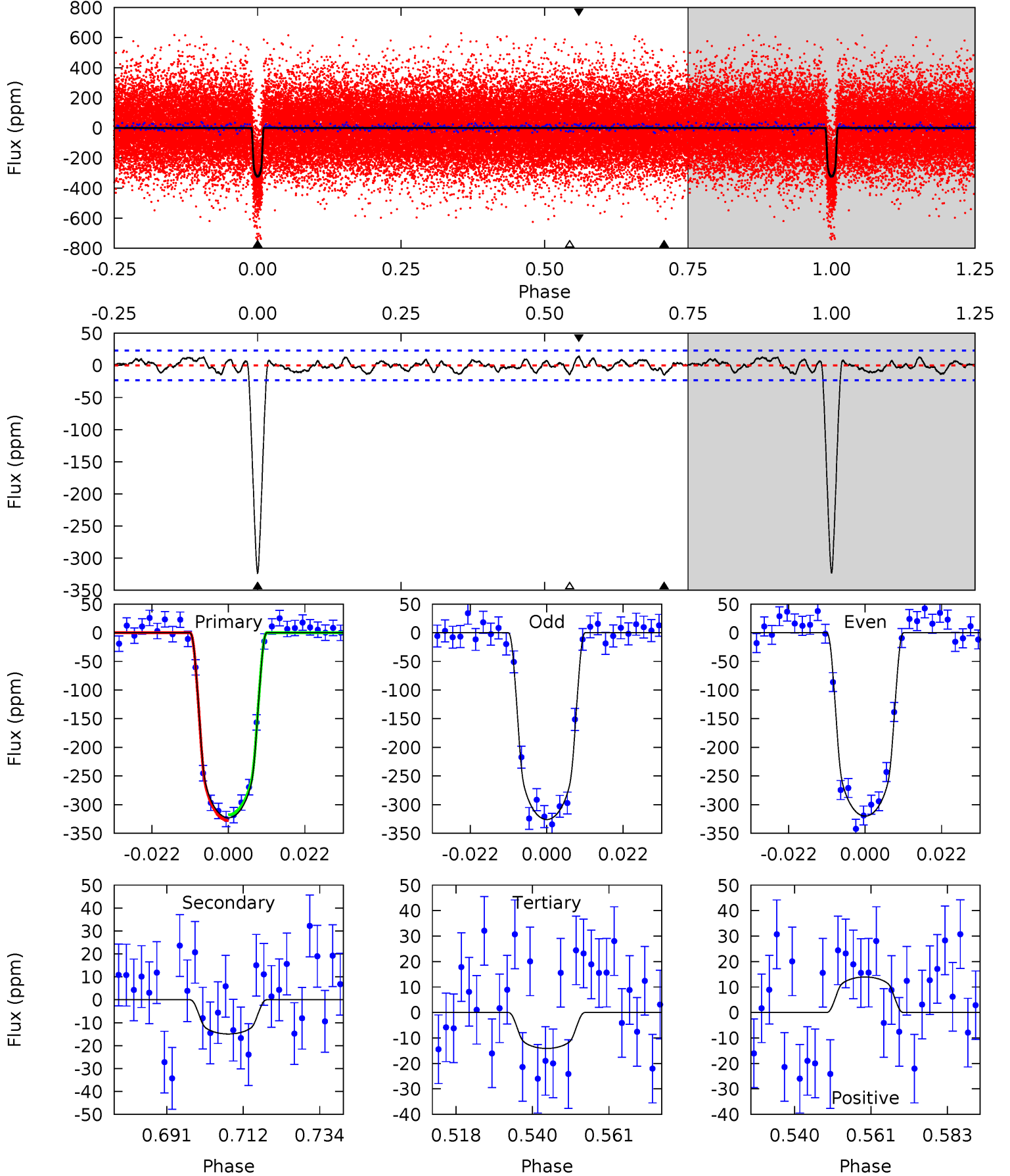
TCE 010552611-01 P= 7.010647 Days $T_0=132.510037$ (BKJD)



DV Model-Shift Uniqueness Test

010552611-01, P = 7.010620 Days, E = 125.502741 Days

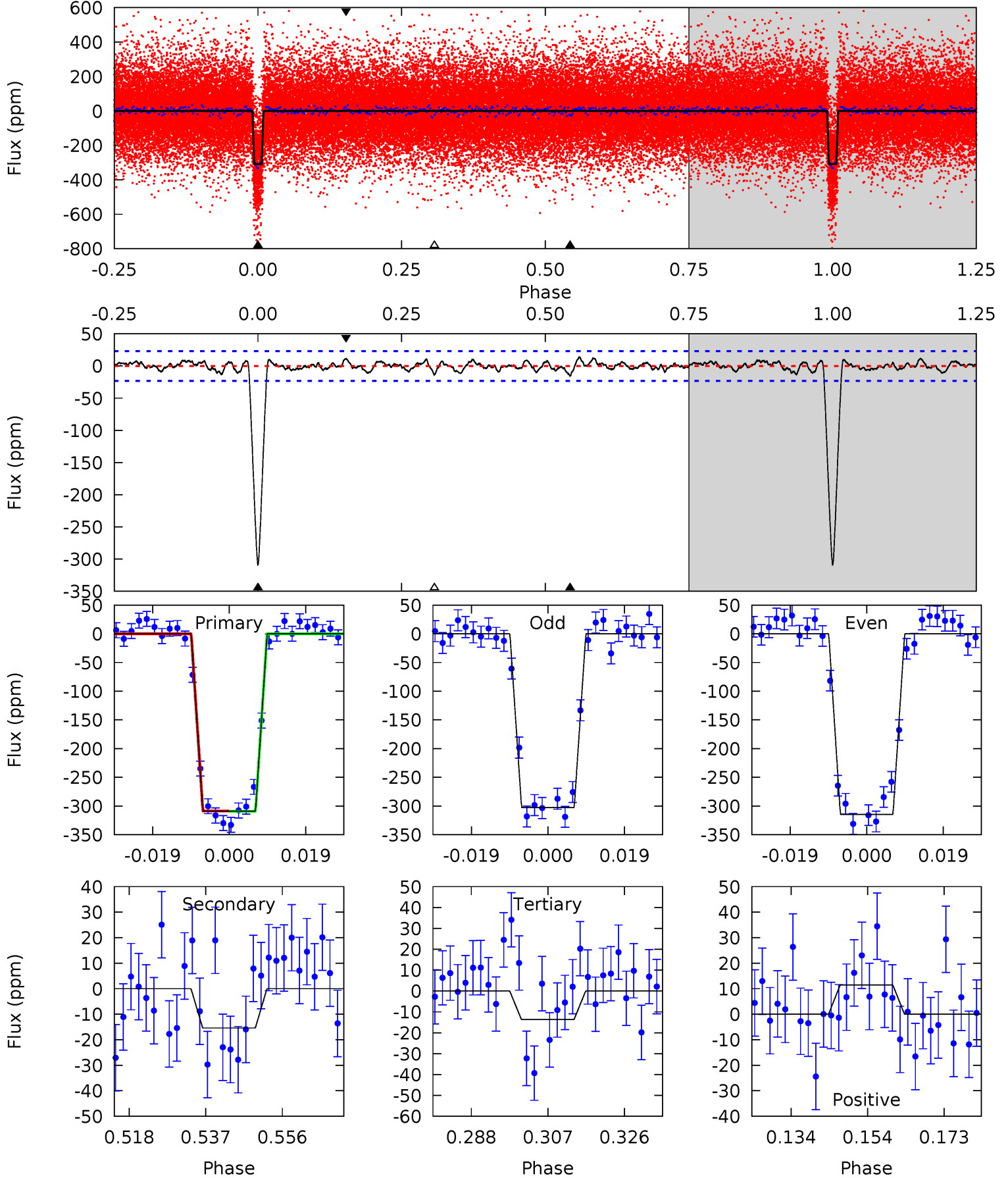
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
68.4	3.16	2.99	2.95	4.88	2.30	1.30	65.4	65.4	0.17	0.21	0.63	0.96	0.04	1.02



Alt Model-Shift Uniqueness Test

010552611-01, P = 7.010647 Days, E = 125.499390 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
65.5	3.27	2.90	2.43	4.90	2.34	1.04	62.7	63.1	0.37	0.83	1.23	0.94	0.04	0.03



Stellar Parameters For KIC 010552611

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4908^{+98}_{-98}	$4.567^{+0.028}_{-0.045}$	$0.220^{+0.150}_{-0.150}$	$0.782^{+0.043}_{-0.035}$	$0.824^{+0.034}_{-0.041}$	$2.423^{+0.259}_{-0.342}$
	+2%/-2%	+1%/-1%	+68%/-68%	+5%/-4%	+4%/-5%	+11%/-14%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 010552611-01 / KOI 0338.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-15 ± 5	$1.74^{+0.21}_{-0.18}$	1033^{+25}_{-24}	2821^{+156}_{-177}	12^{+6}_{-4}
Alt.	-15 ± 5	$1.52^{+0.22}_{-0.19}$	1033^{+26}_{-24}	2949^{+166}_{-190}	17^{+7}_{-6}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

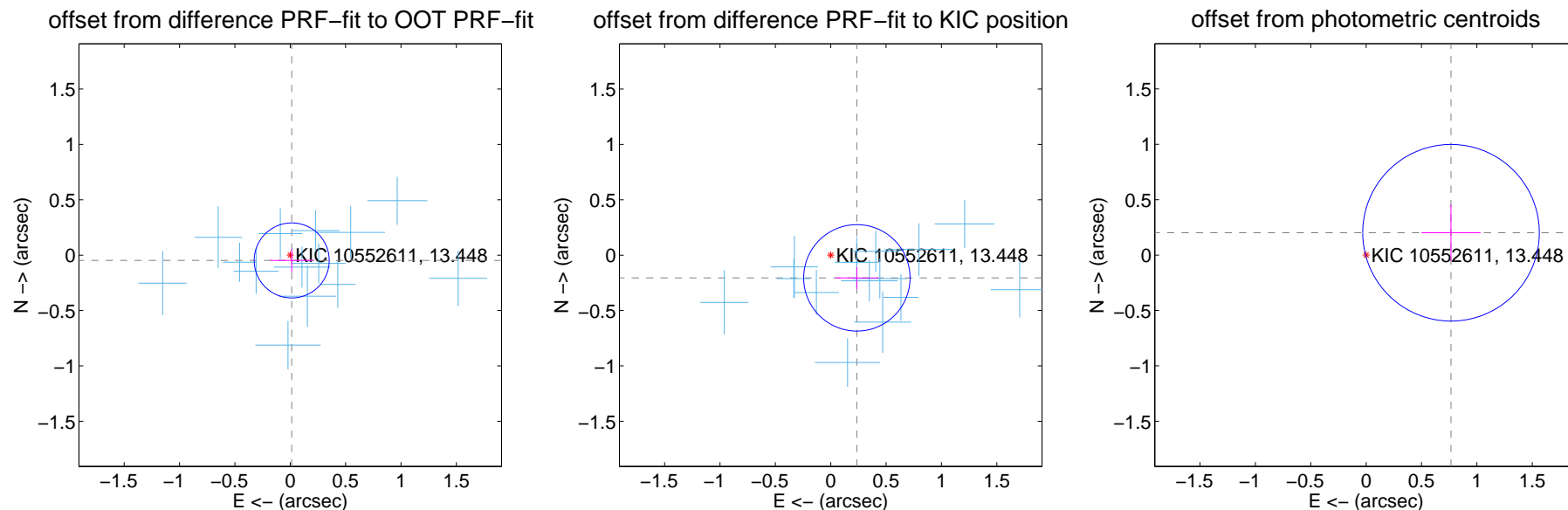
DV Centroid Data

Supplemental centroid analysis for 010552611-01. Kepler magnitude: 13.45. Transit SNR 44.44

There are 14 quarters with good PRF difference image offsets

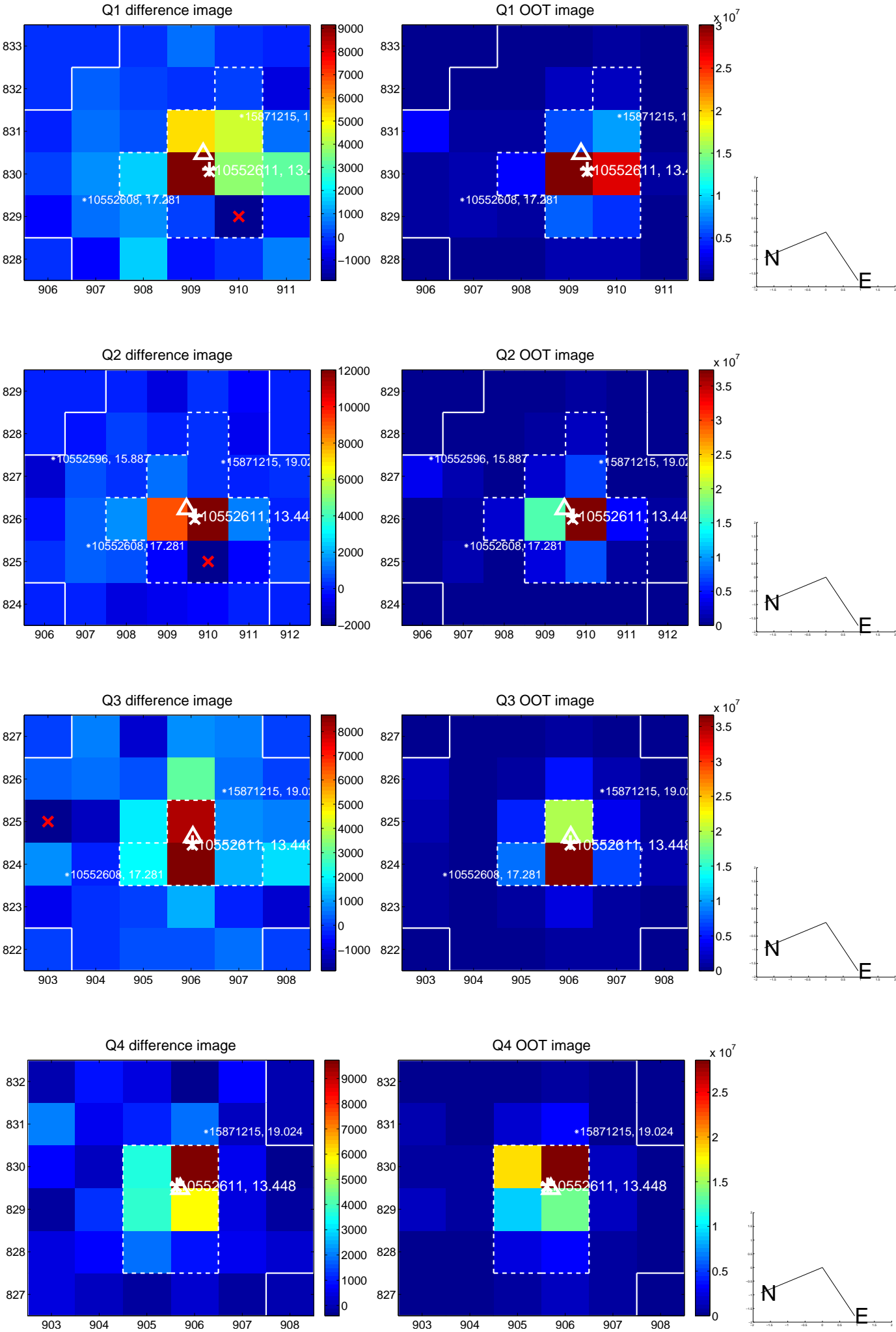
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.049 ± 0.113	0.44	-0.013 ± 0.194	-0.048 ± 0.104
PRF-fit source offset from KIC position	0.313 ± 0.160	1.95	-0.236 ± 0.194	-0.205 ± 0.098
photometric centroid source offset	0.79 ± 0.27	2.98	-0.77 ± 0.27	0.20 ± 0.25

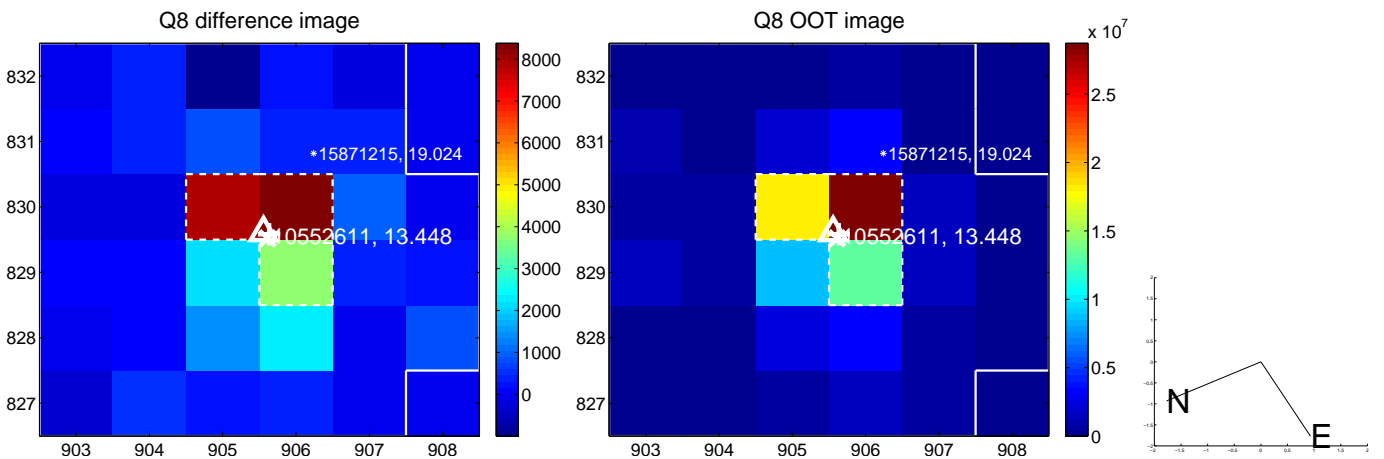
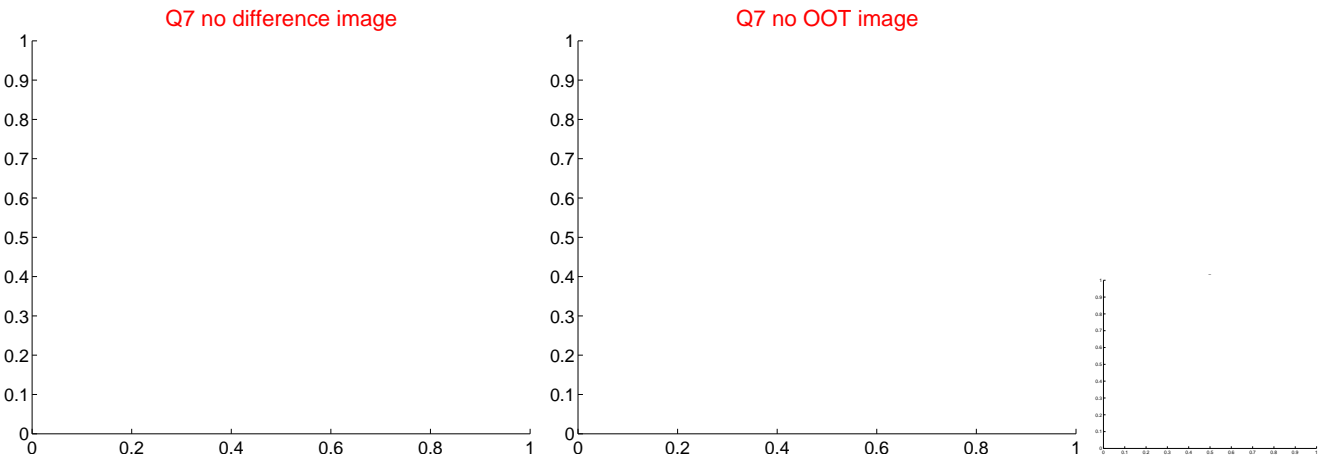
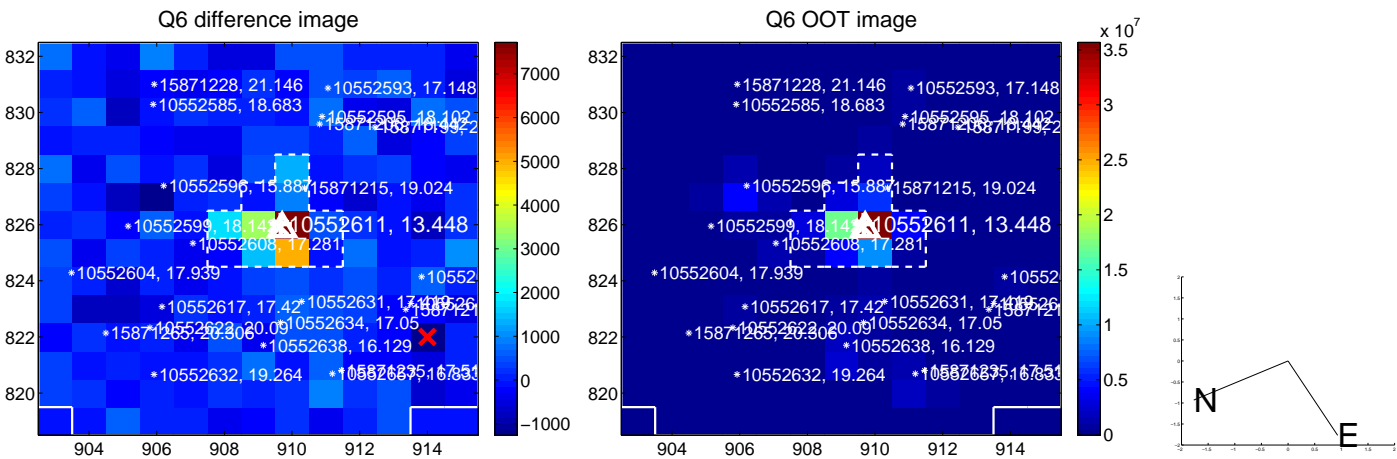
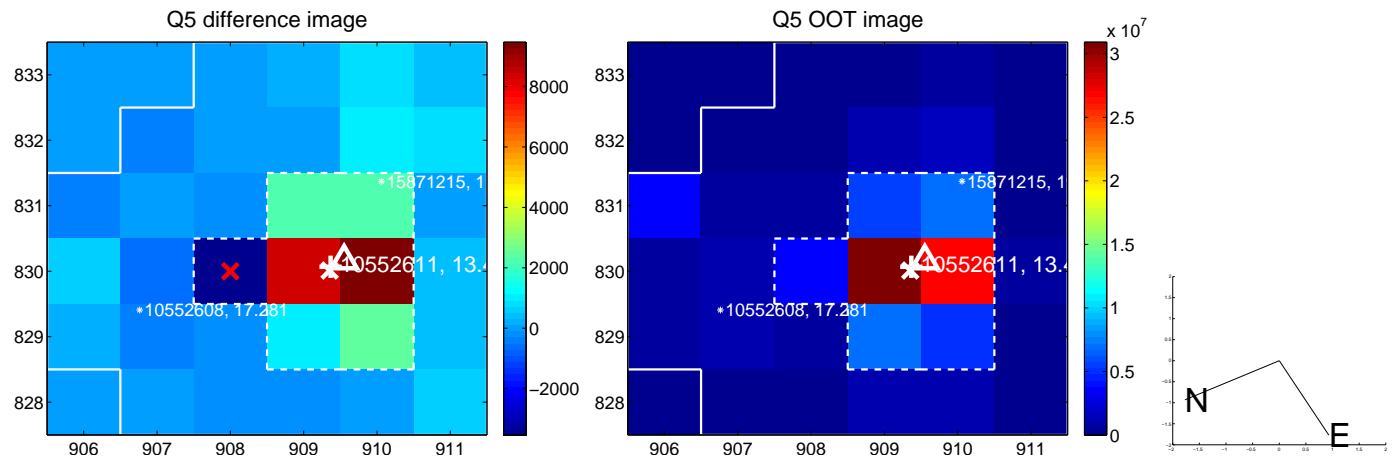


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

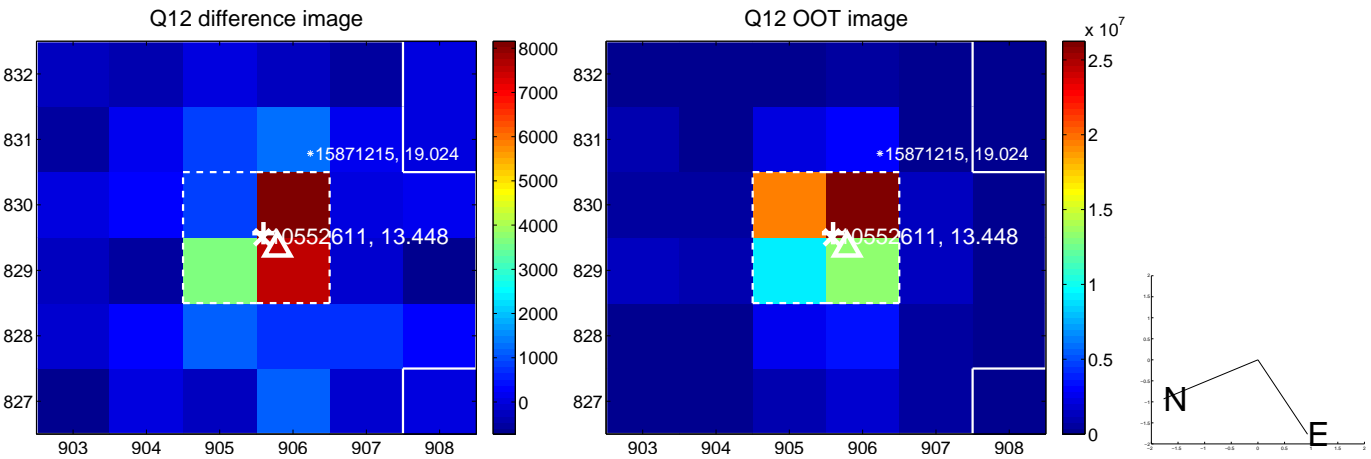
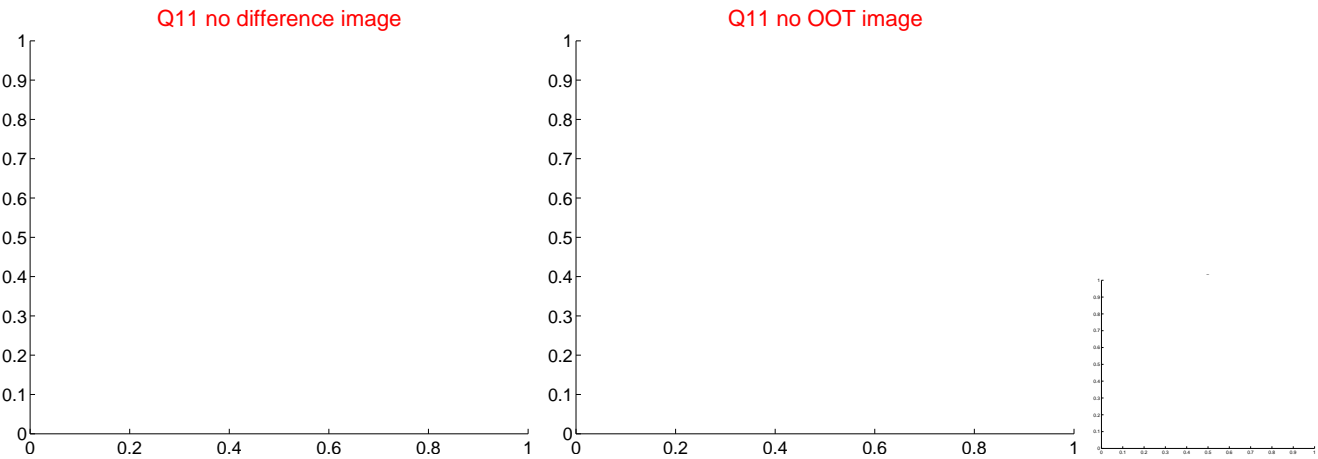
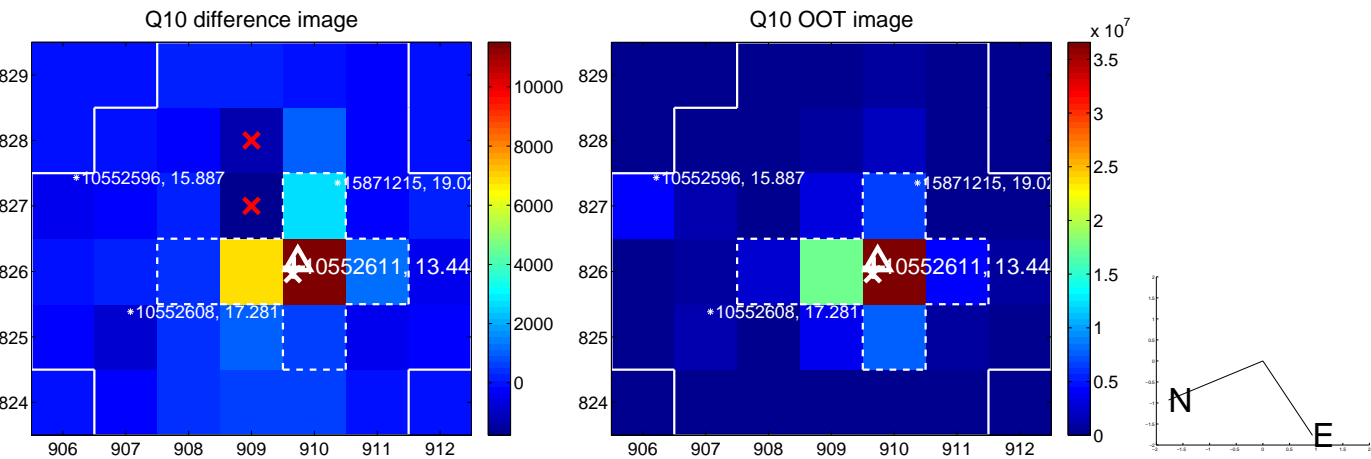
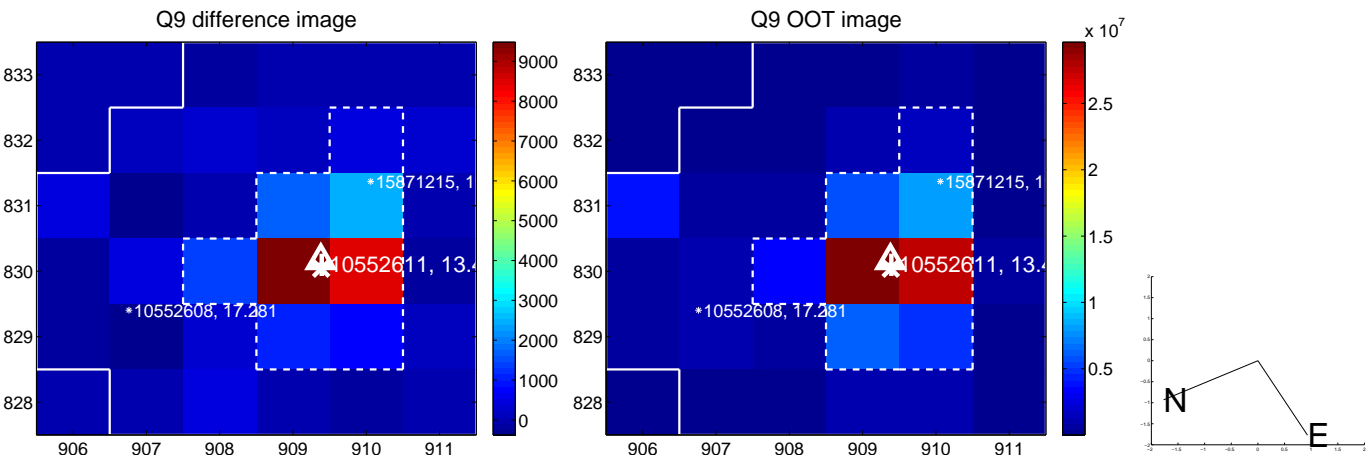
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



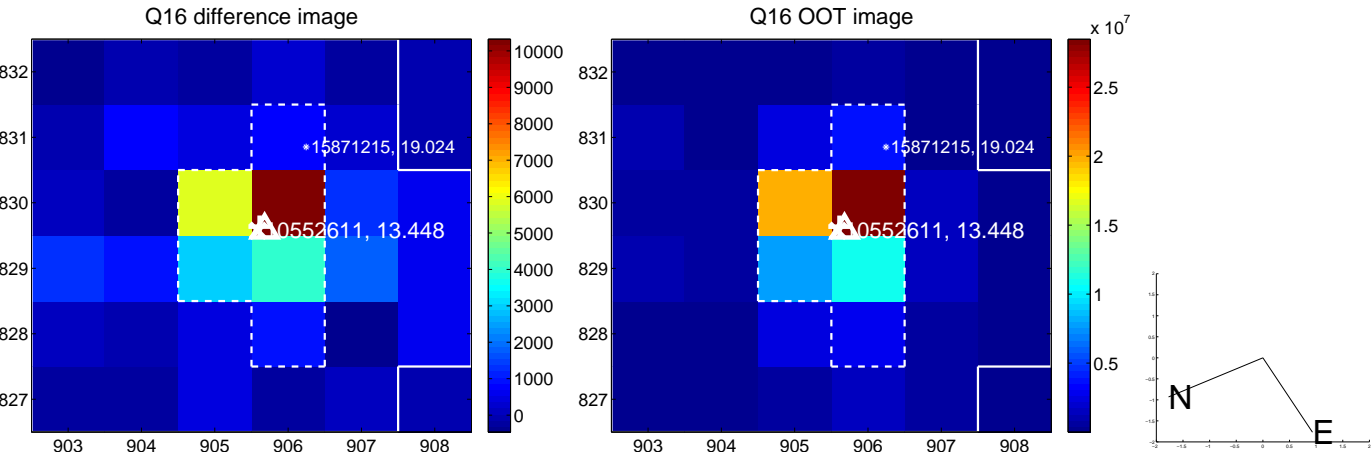
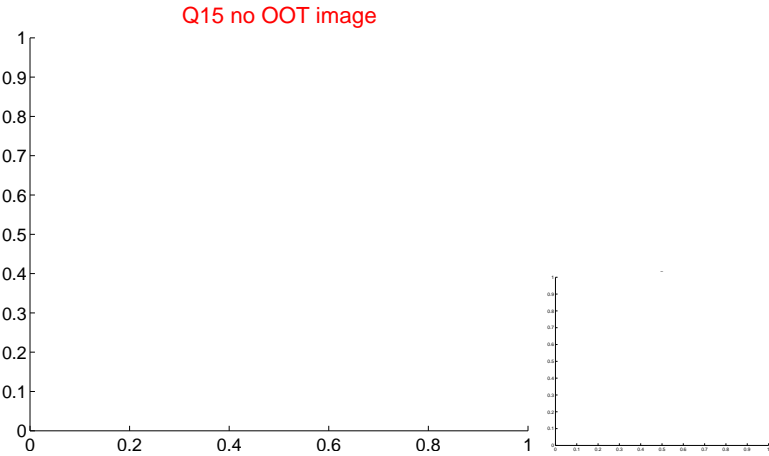
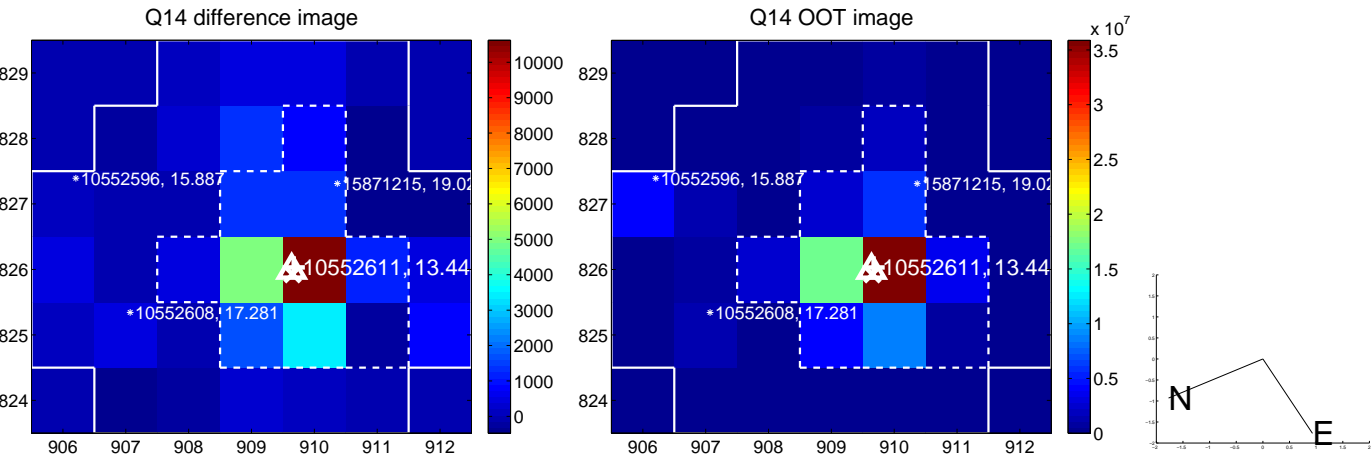
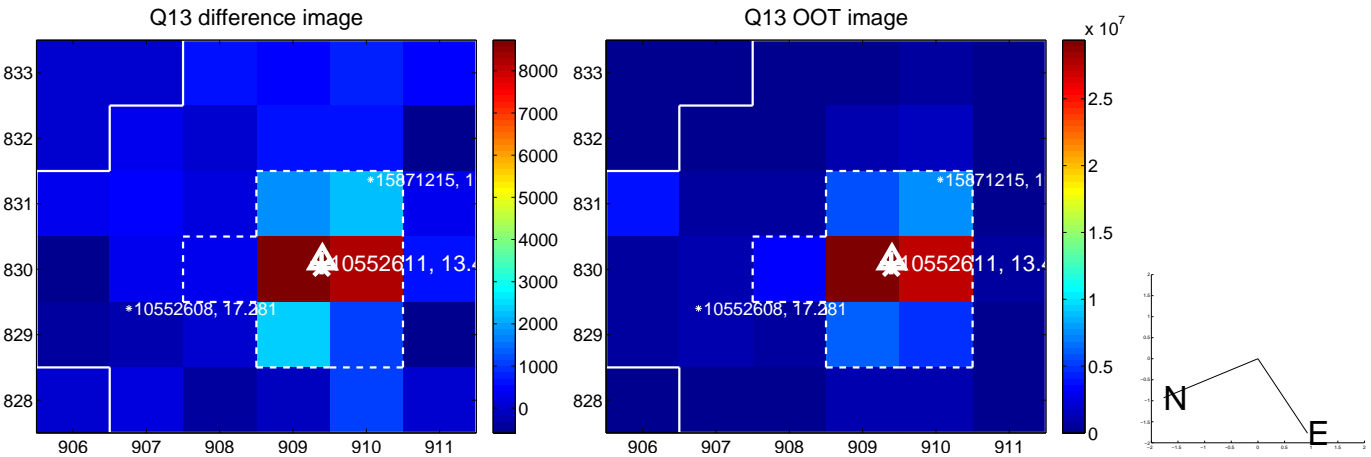
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



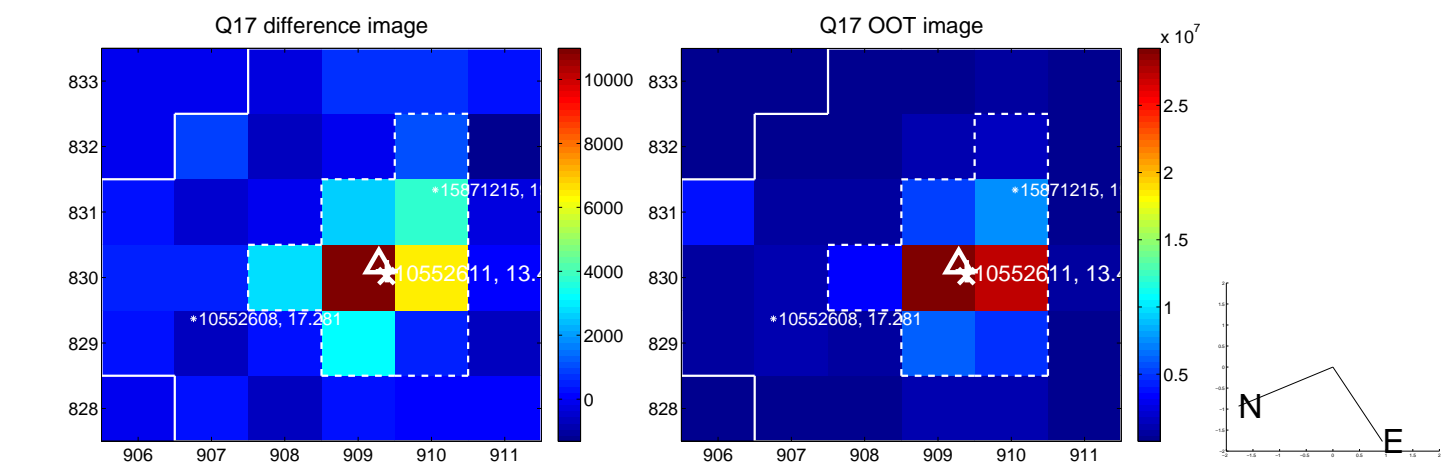
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



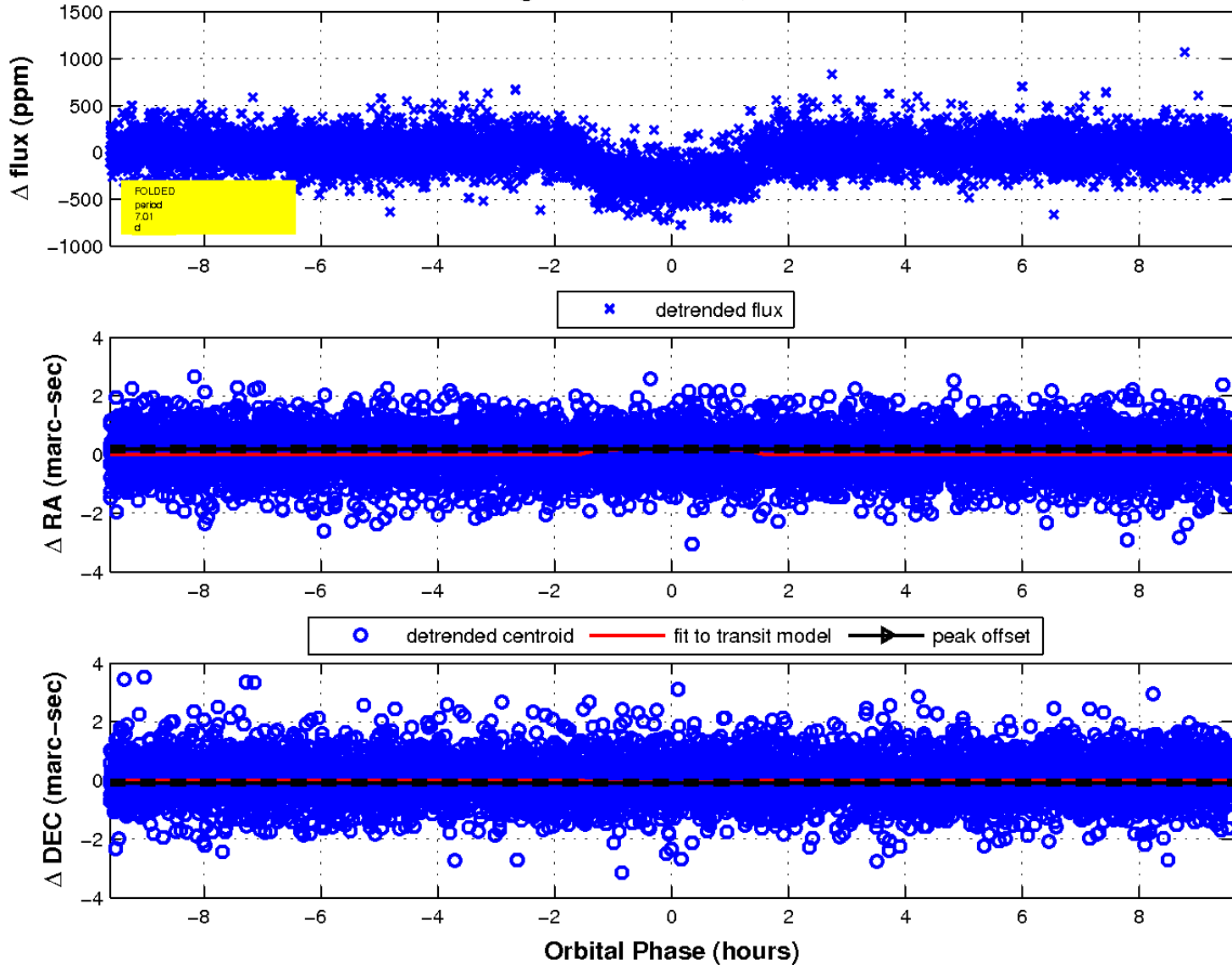
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



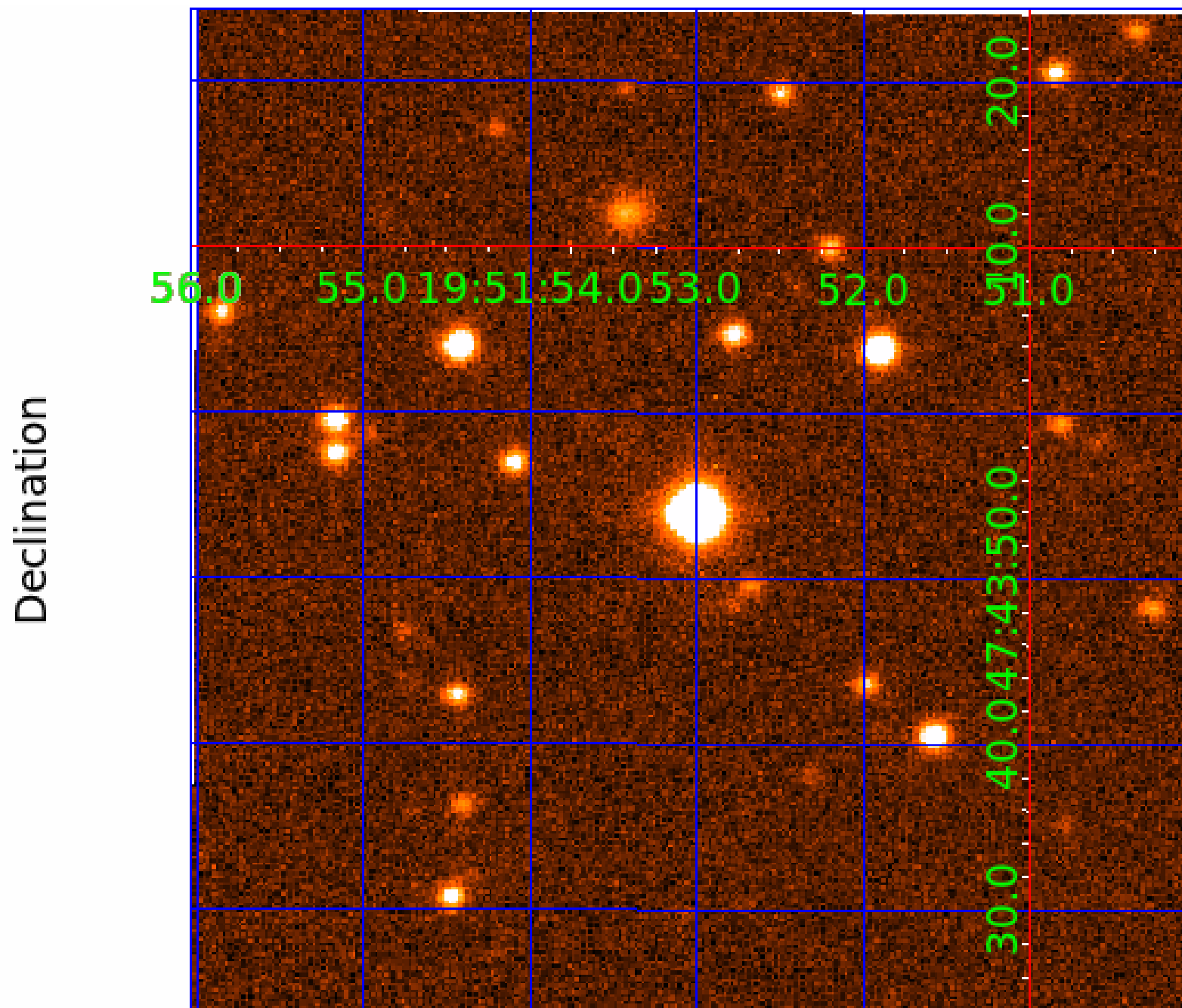
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 010552611

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})
010552611-01	OBS	0338.01	7.010620	132.513361	329.6	3.204	41.3	44.4	0.78	4908	1.73	70.41
010552611-02	OBS	0338.02	3.107749	132.615948	66.1	2.369	12.4	12.2	0.78	4908	0.78	208.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010552611-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010552611-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

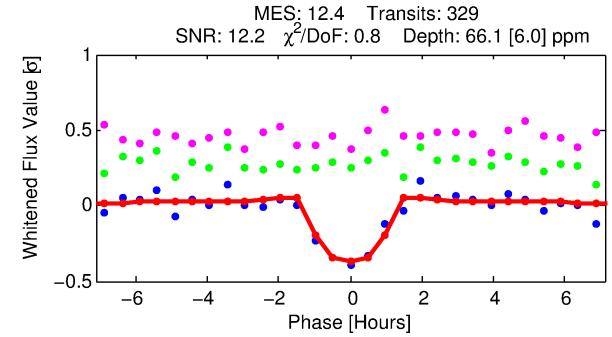
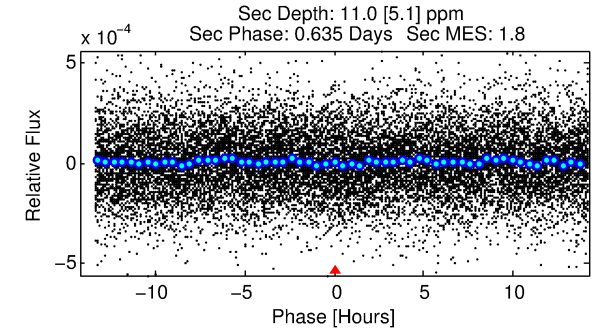
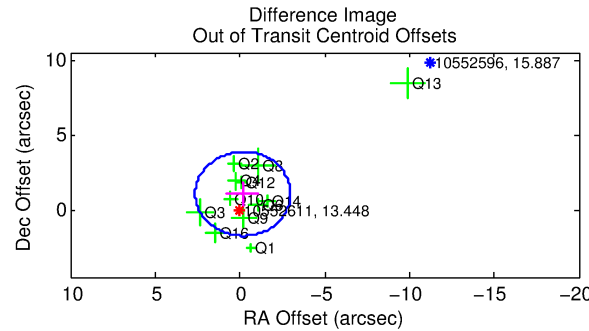
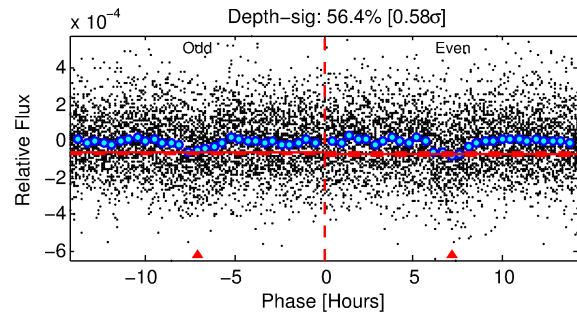
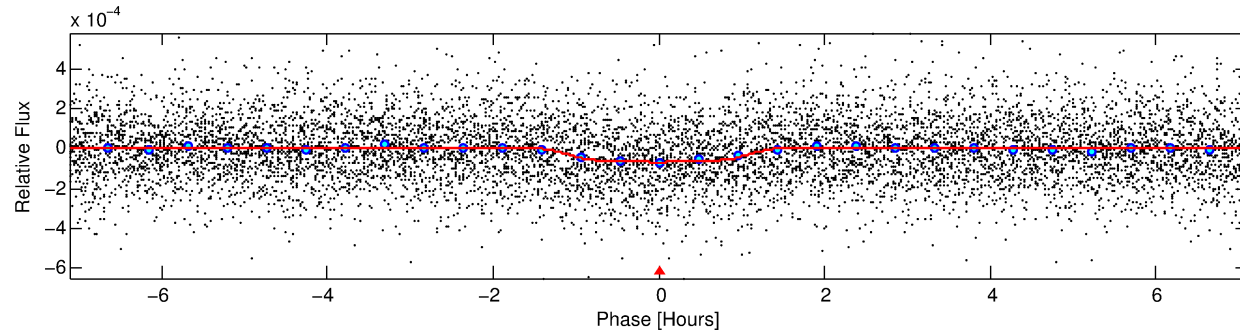
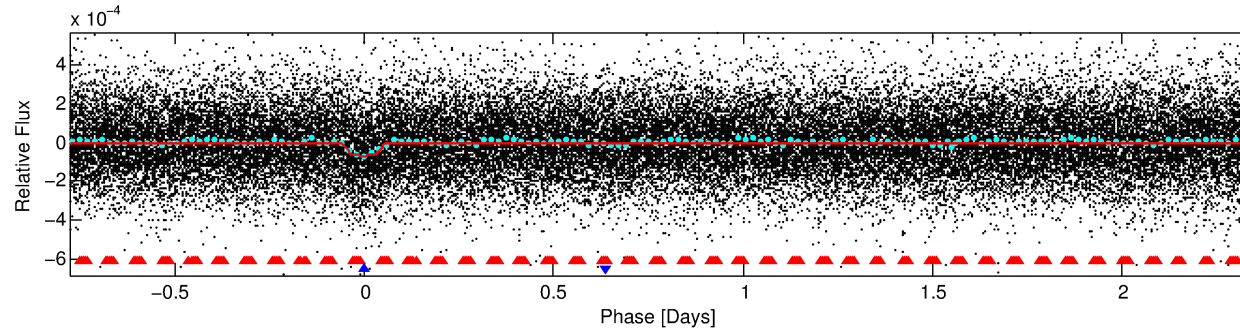
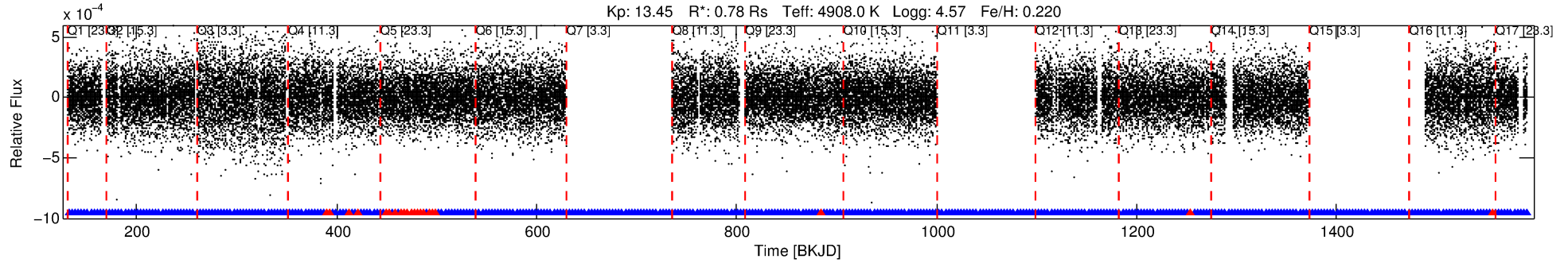
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010552611-02

No Significant Match Found

DV One-Page Summary

KIC: 10552611 Candidate: 2 of 2 Period: 3.108 d
KOI: K00338.02 Name: Kepler-141b Corr: 0.833



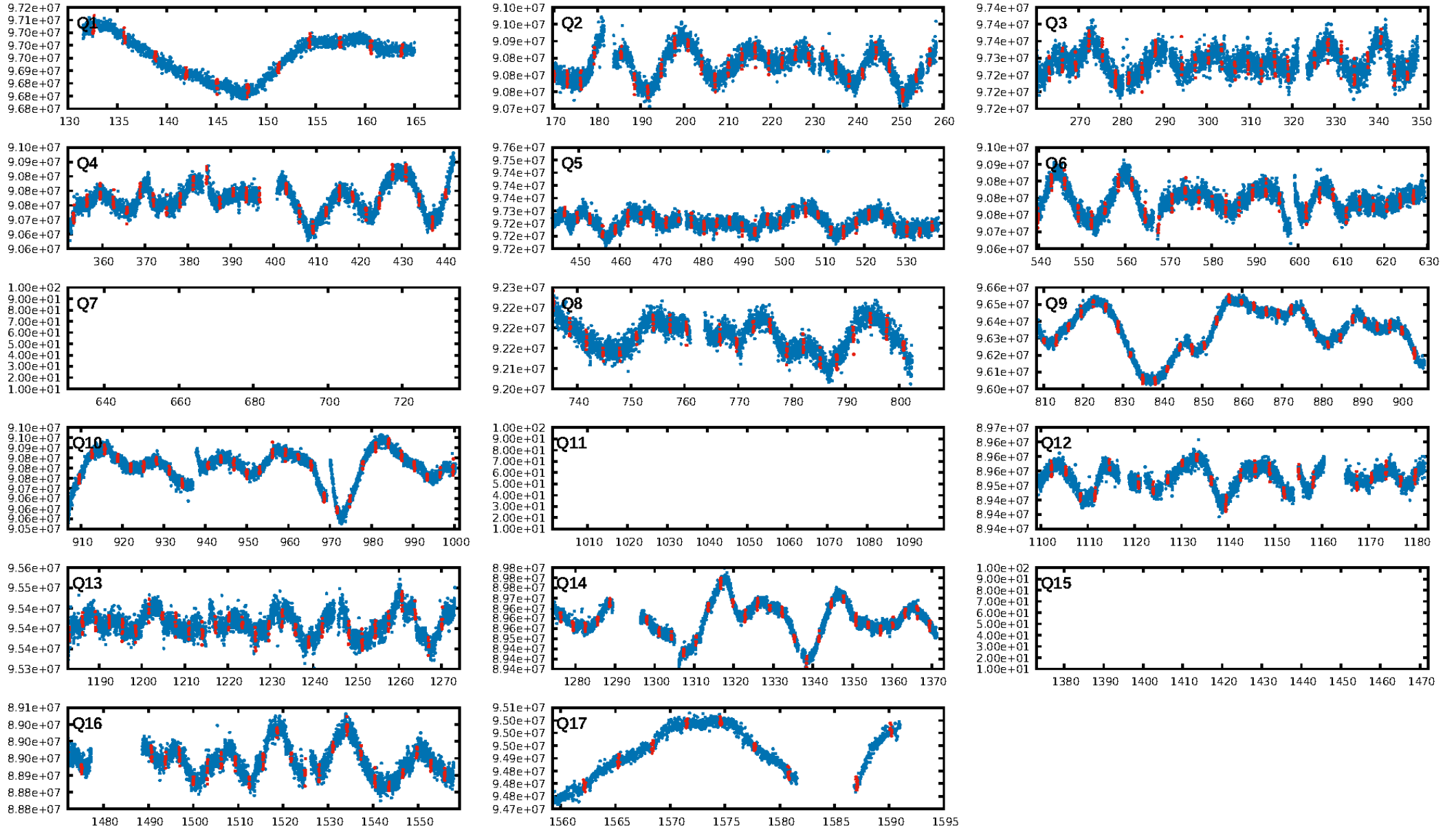
DV Fit Results:

Period = 3.10775 [0.00002] d
Epoch = 132.6159 [0.0030] BKJD
Rp/R* = 0.0091 [0.0058]
a/R* = 4.73 [11.20]
b = 0.90 [0.56]
Seff = 208.32 [23.29]
Teff = 969 [27] K
Rp = 0.78 [0.50] Re
a = 0.0391 [0.0020] AU
Ag = 15.39 [20.88] [0.69 σ]
Teffp = 2967 [1006] K [1.99 σ]

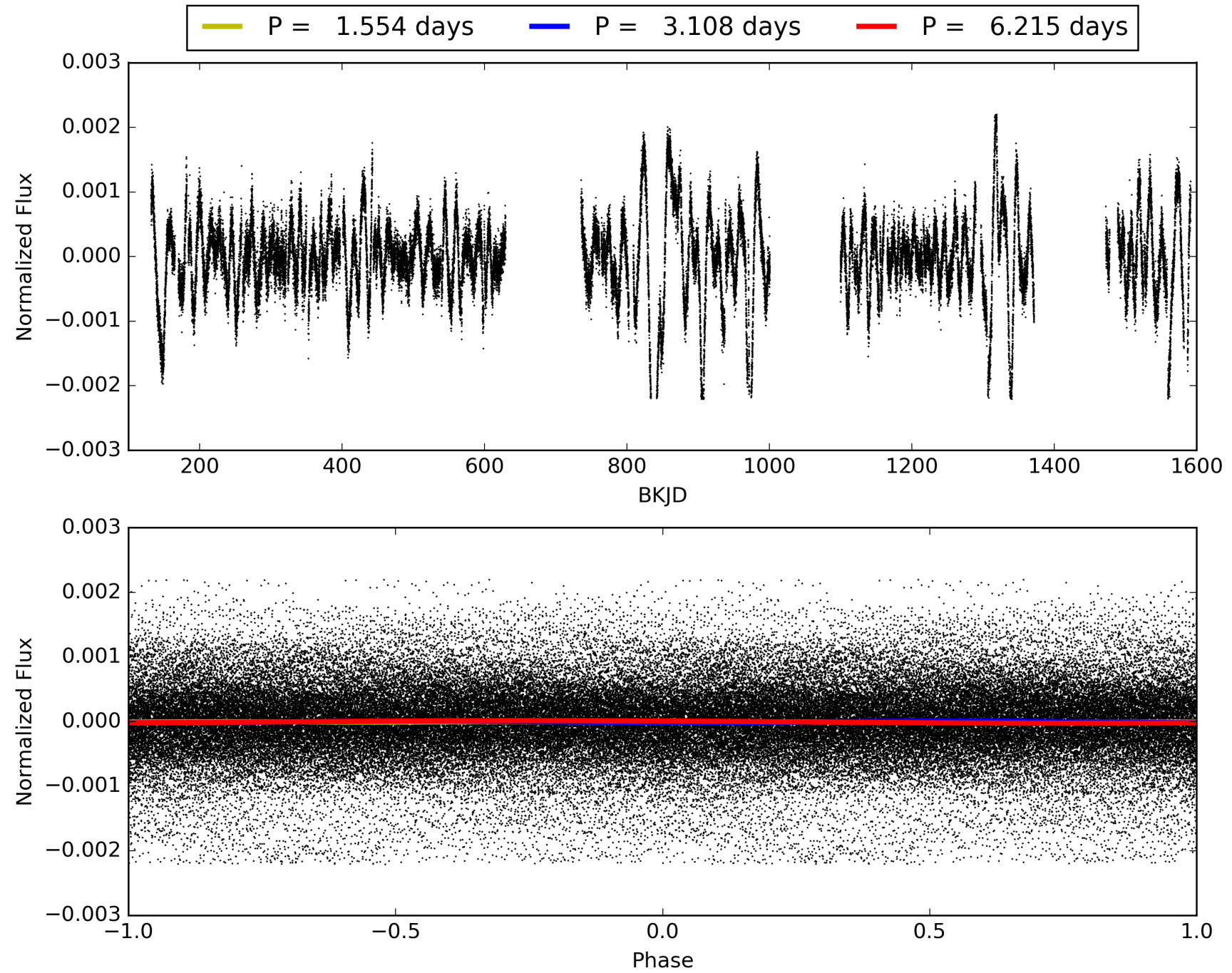
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [23.51 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.31e-33
RollingBand-fgt: 0.93 [290/311]
GhostDiagnostic-chr: 1.15
Centroid-sig: 16.1%
Centroid-so: 1.011 arcsec [1.09 σ]
OotOffset-rm: 1.068 arcsec [1.14 σ]
OotOffset-st: 4/1/4/3 [12]
KicOffset-rm: 0.939 arcsec [0.91 σ]
KicOffset-st: 4/1/4/3 [12]
DiffImageQuality-fgm: 0.75 [9/12]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010552611-02, PDC Light Curves

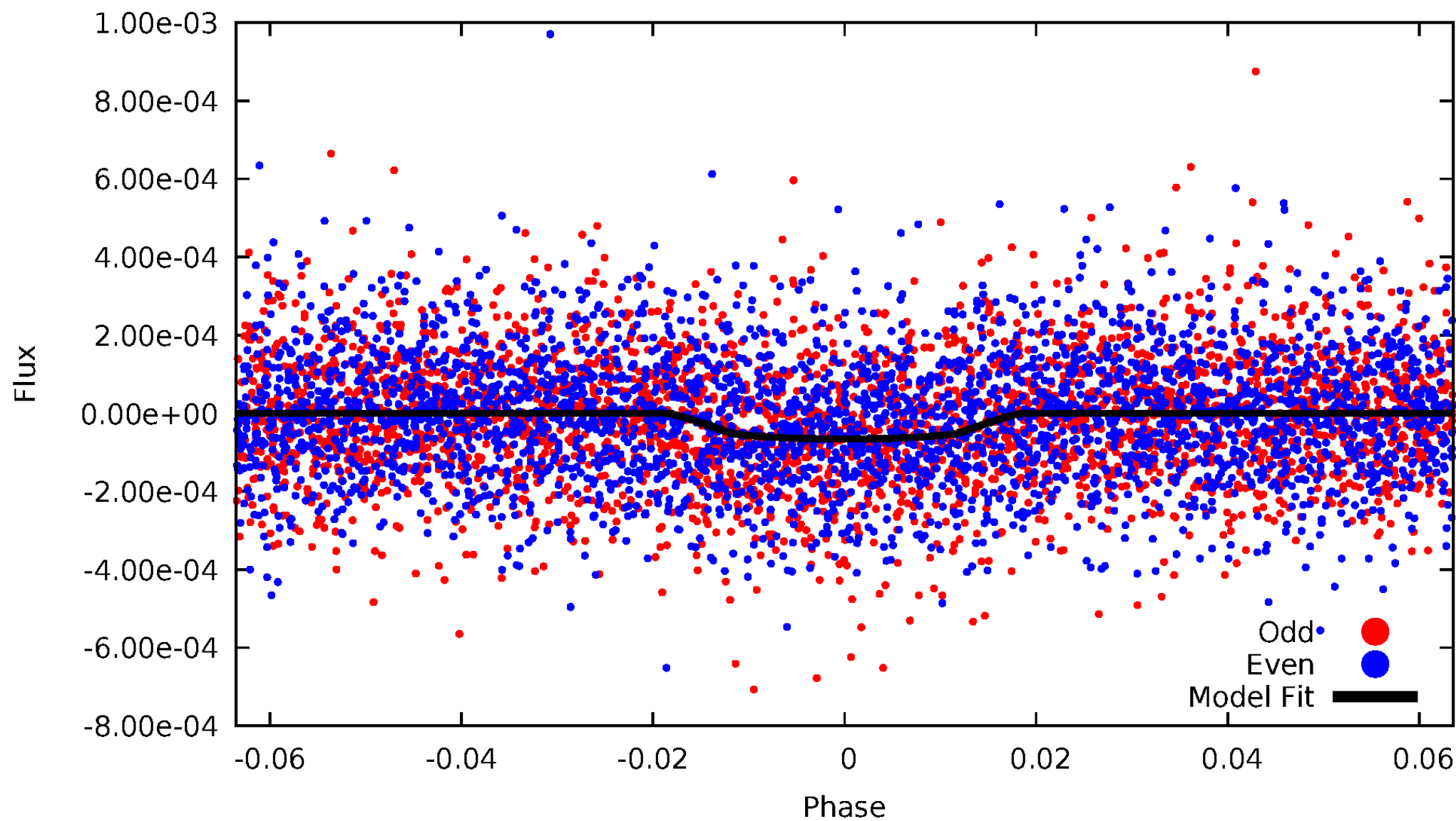


TCE 010552611-02



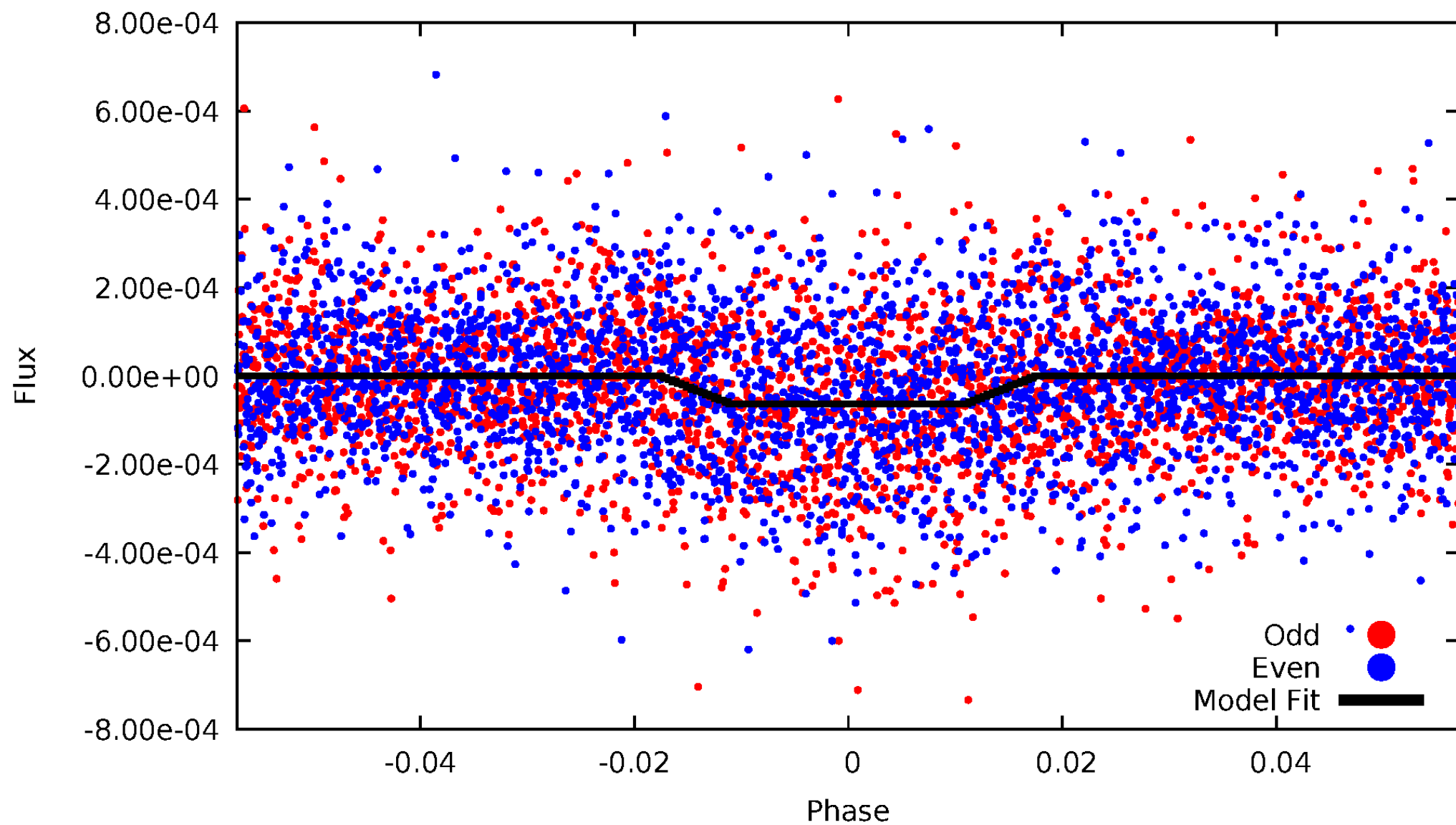
DV Odd/Even

TCE 010552611-02



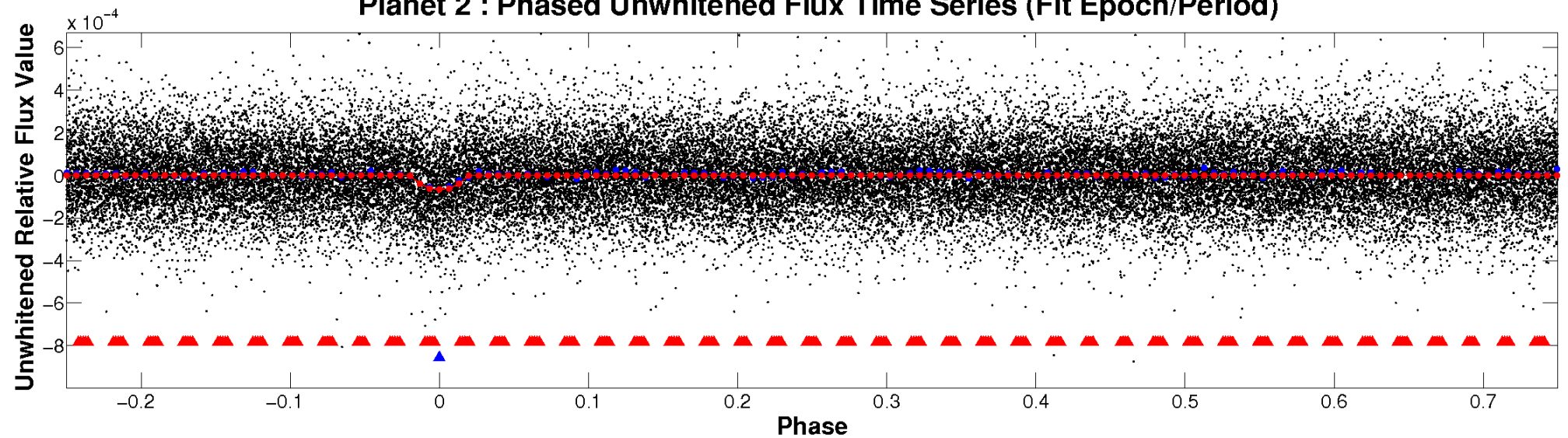
ALT Odd/Even

TCE 010552611-02

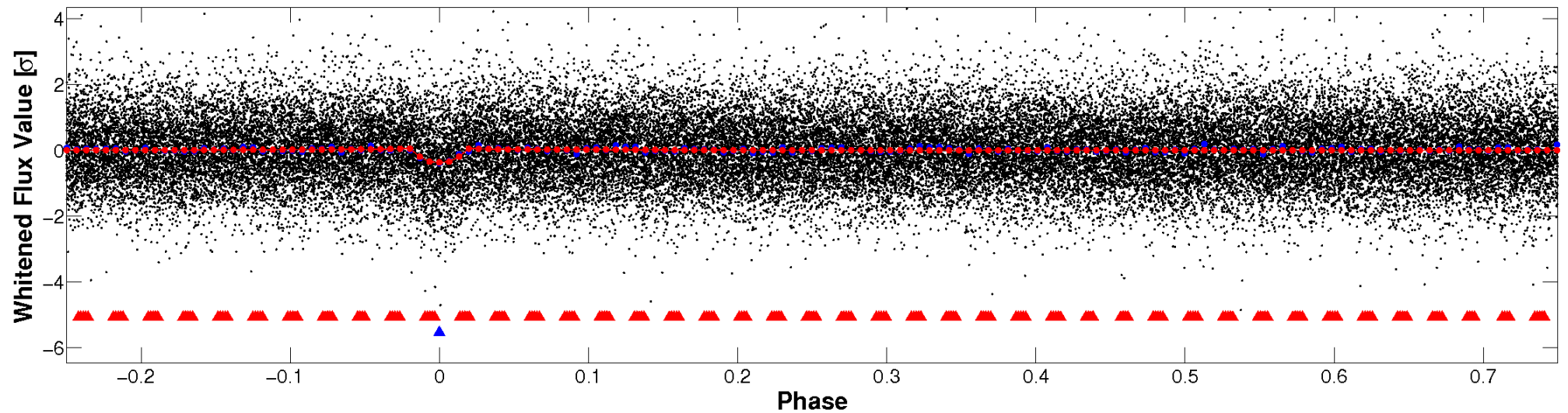


Non-Whitened Vs. Whitened Light Curve

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

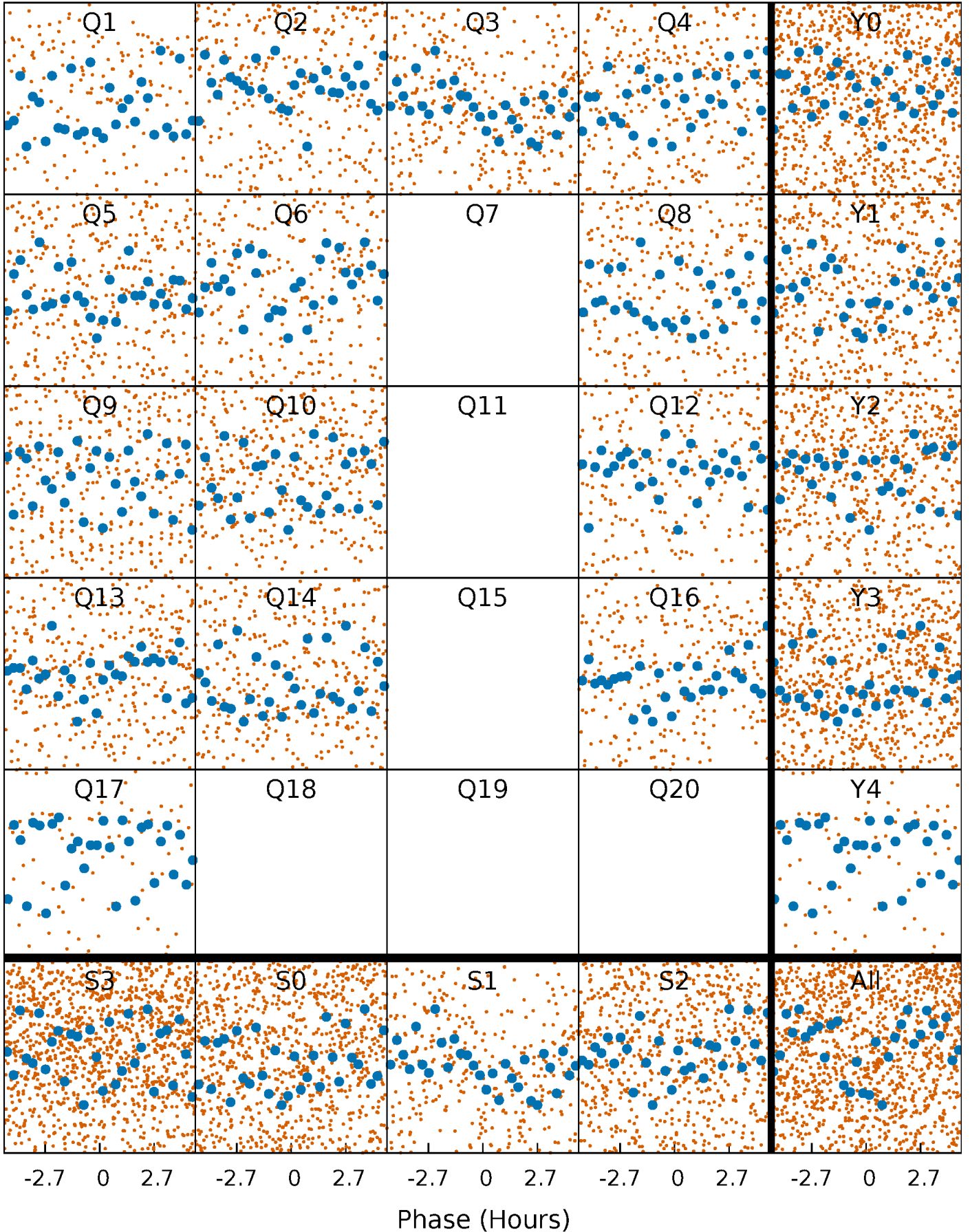


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



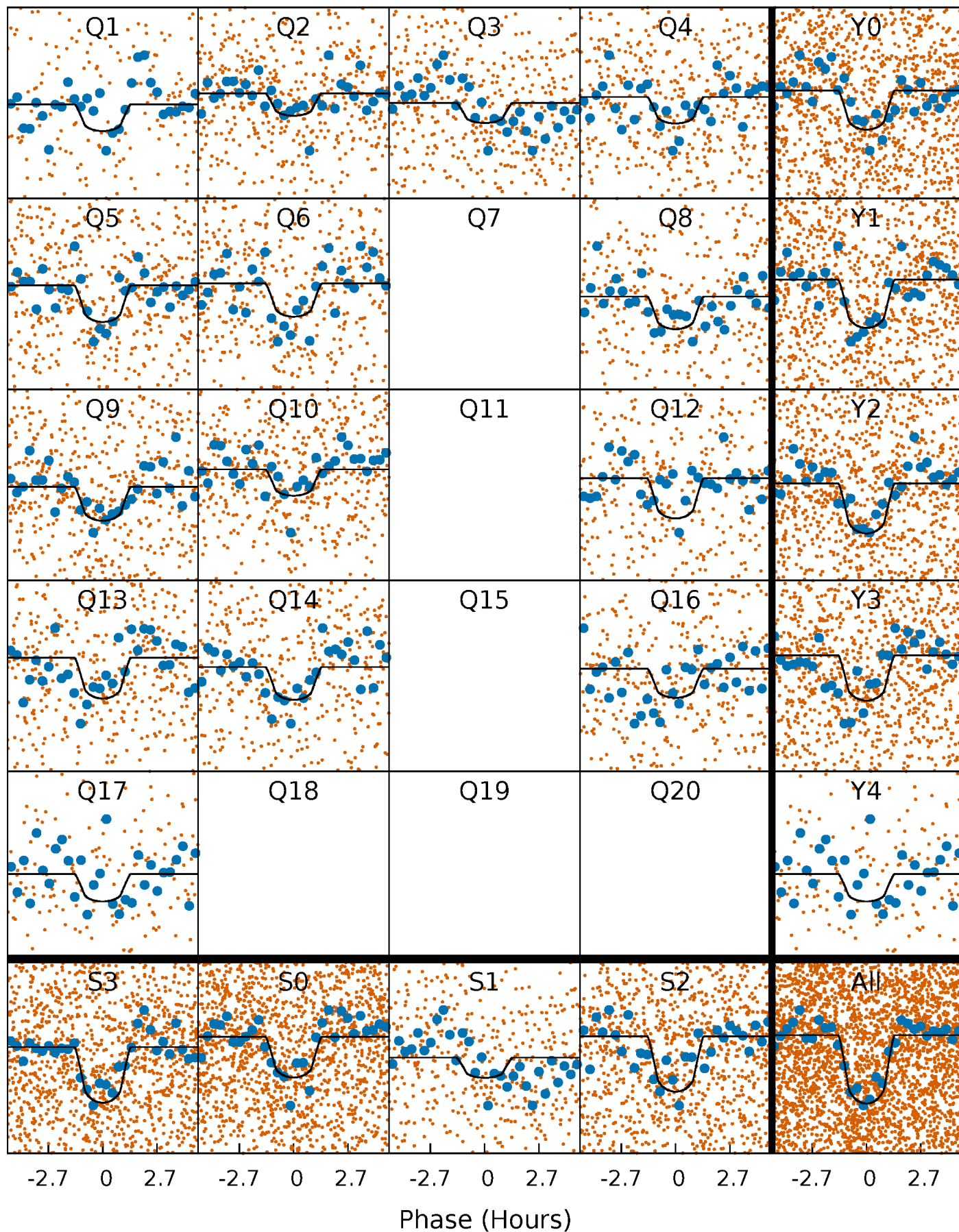
PDC Quarter-Phased Transit Curves

TCE 010552611-02 P= 3.107749 Days $T_0=132.615948$ (BKJD)



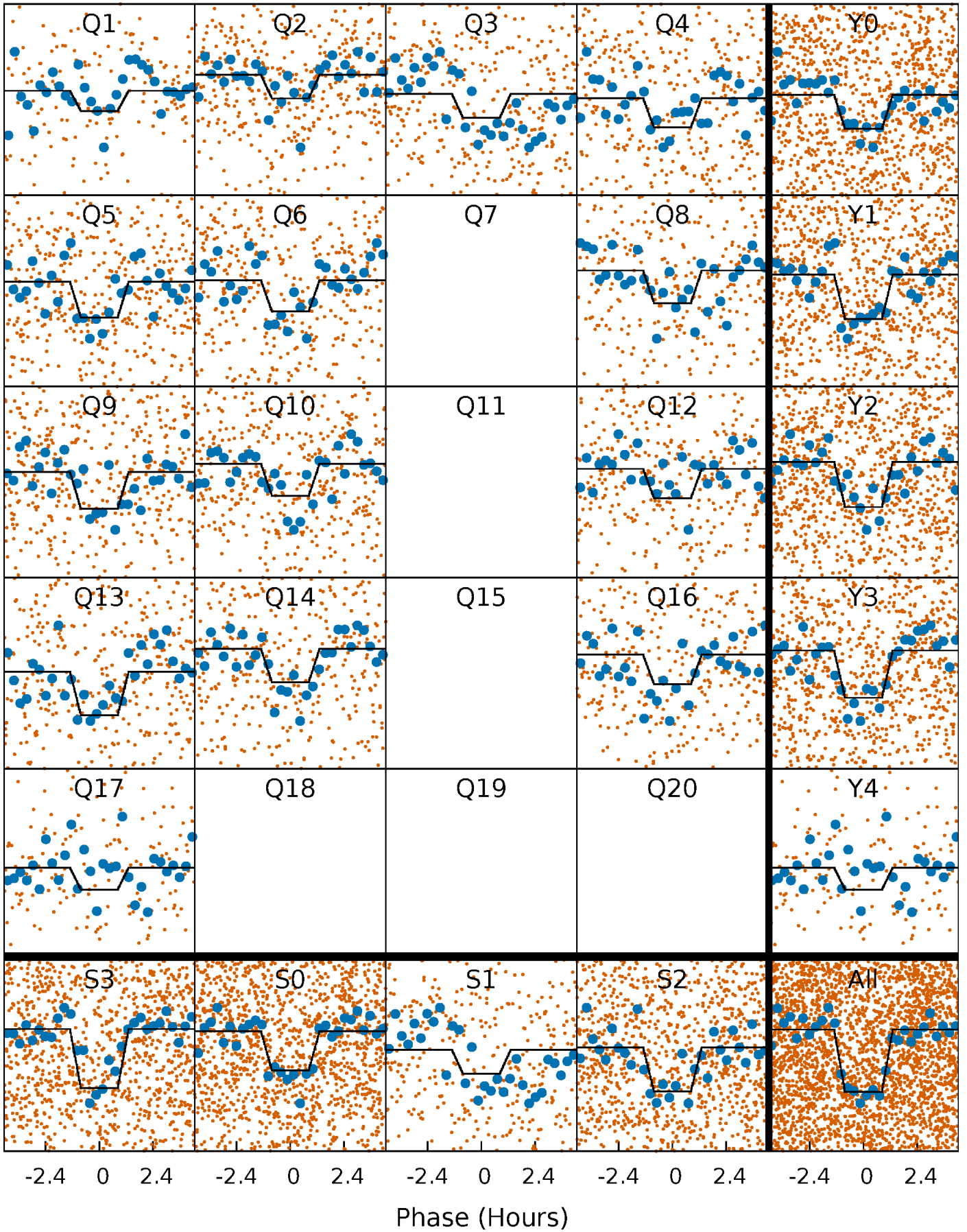
DV Quarter-Phased Transit Curves

TCE 010552611-02 $P = 3.107749$ Days $T_0 = 132.615948$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

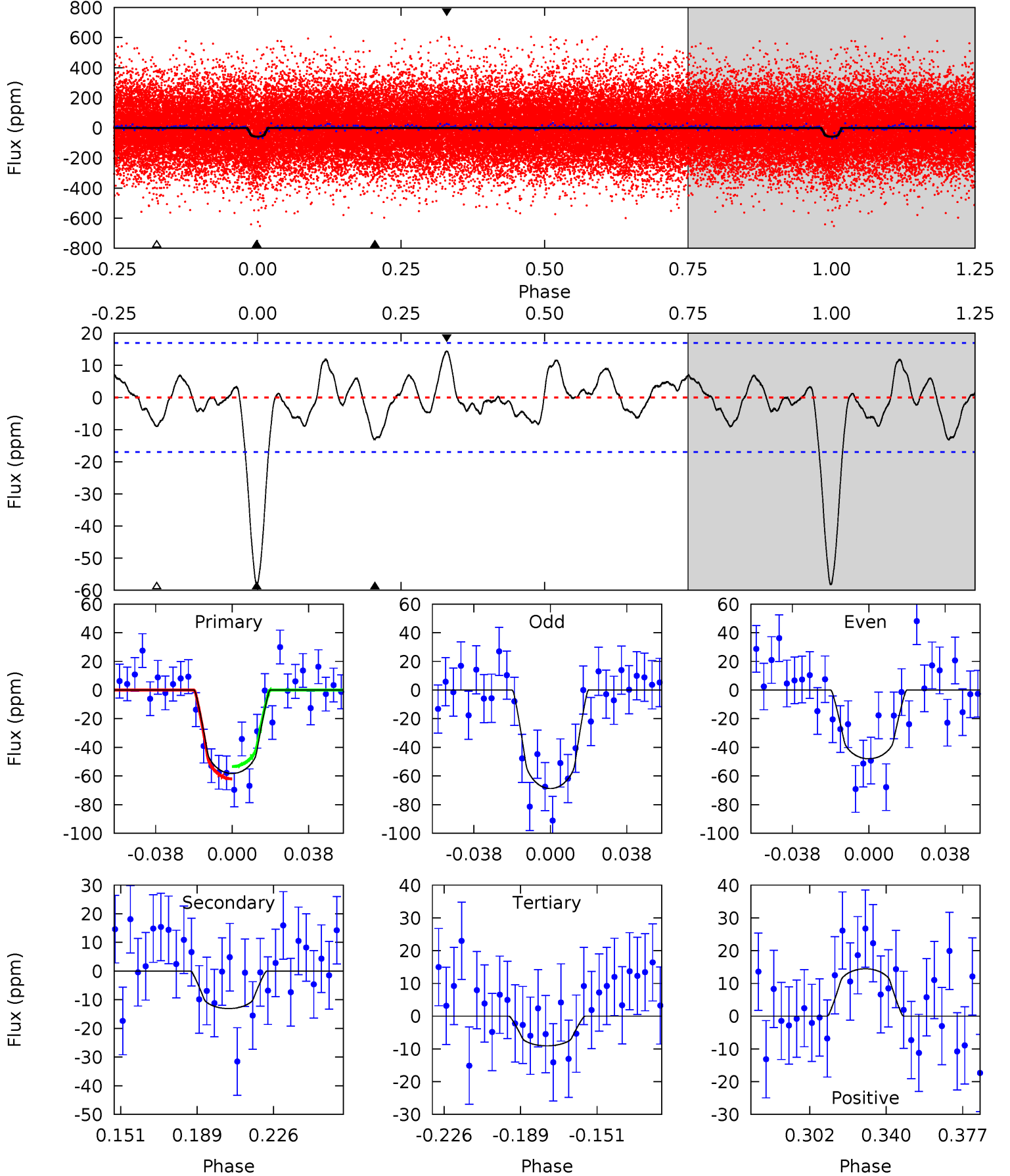
TCE 010552611-02 $P = 3.107641$ Days $T_0 = 132.630993$ (BKJD)



DV Model-Shift Uniqueness Test

010552611-02, P = 3.107749 Days, E = 129.508199 Days

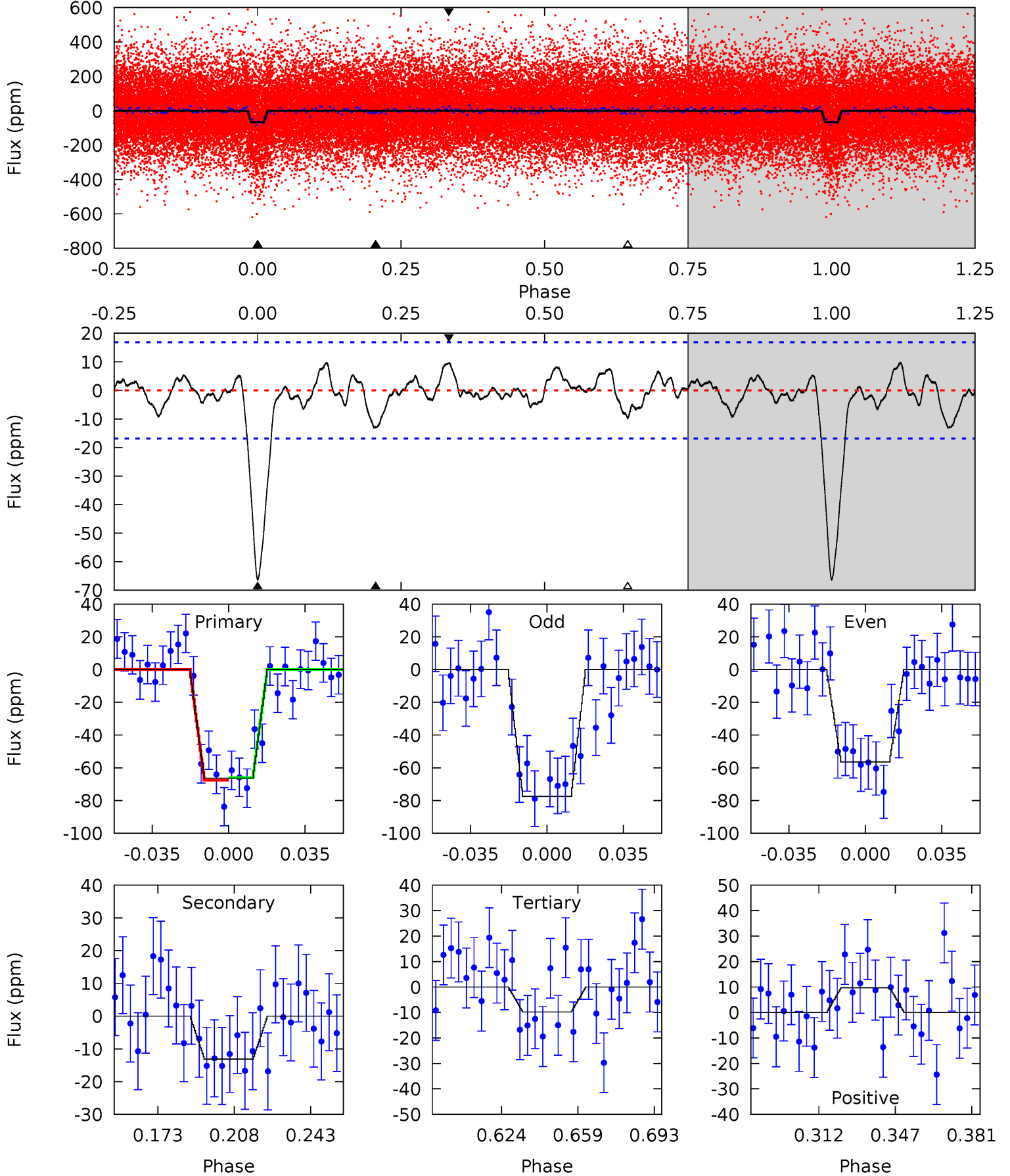
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	3.67	2.55	4.06	4.77	2.08	1.42	13.8	12.3	1.13	-0.39	2.93	0.95	0.20	1.21



Alt Model-Shift Uniqueness Test

010552611-02, P = 3.107641 Days, E = 129.523352 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	3.73	2.78	2.76	4.78	2.11	1.10	16.1	16.1	0.95	0.97	2.99	1.05	0.13	0.22



Stellar Parameters For KIC 010552611

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4908^{+98}_{-98}	$4.567^{+0.028}_{-0.045}$	$0.220^{+0.150}_{-0.150}$	$0.782^{+0.043}_{-0.035}$	$0.824^{+0.034}_{-0.041}$	$2.423^{+0.259}_{-0.342}$
	+2%/-2%	+1%/-1%	+68%/-68%	+5%/-4%	+4%/-5%	+11%/-14%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 010552611-02 / KOI 0338.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 4	$0.83^{+0.51}_{-0.46}$	1358^{+32}_{-34}	3430^{+1088}_{-475}	16^{+62}_{-10}
Alt.	-13 ± 4	$0.74^{+0.45}_{-0.41}$	1356^{+33}_{-29}	3569^{+1199}_{-520}	20^{+79}_{-12}

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 $A_{obs} \gg 1.0$

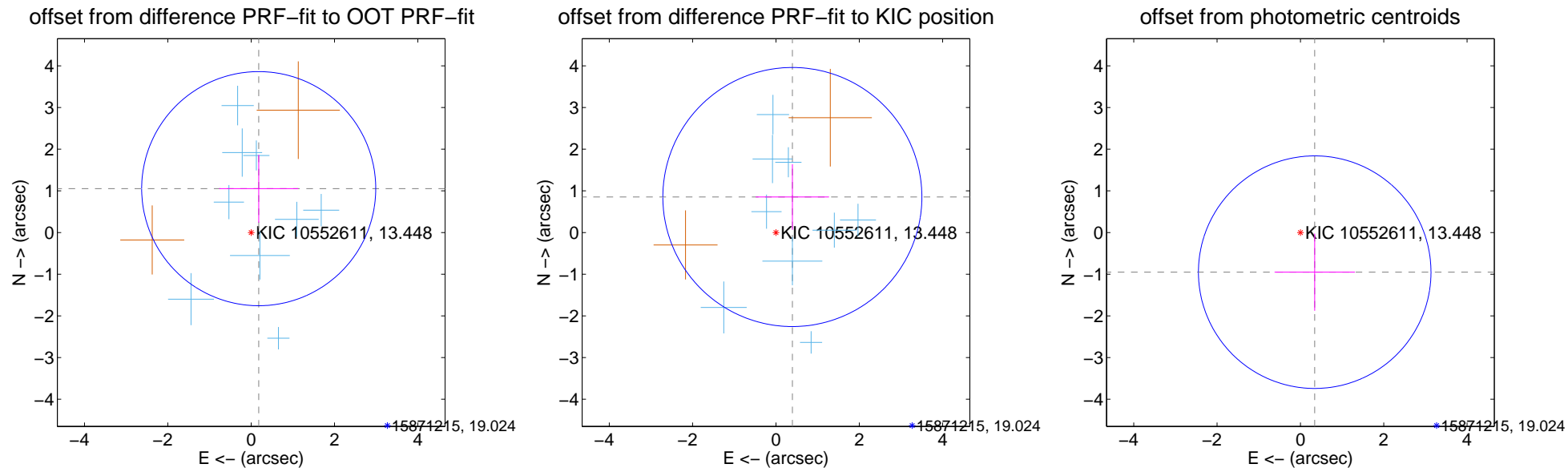
DV Centroid Data

Supplemental centroid analysis for 010552611-02. Kepler magnitude: 13.45. Transit SNR 12.20

There are 9 quarters with good PRF difference image offsets

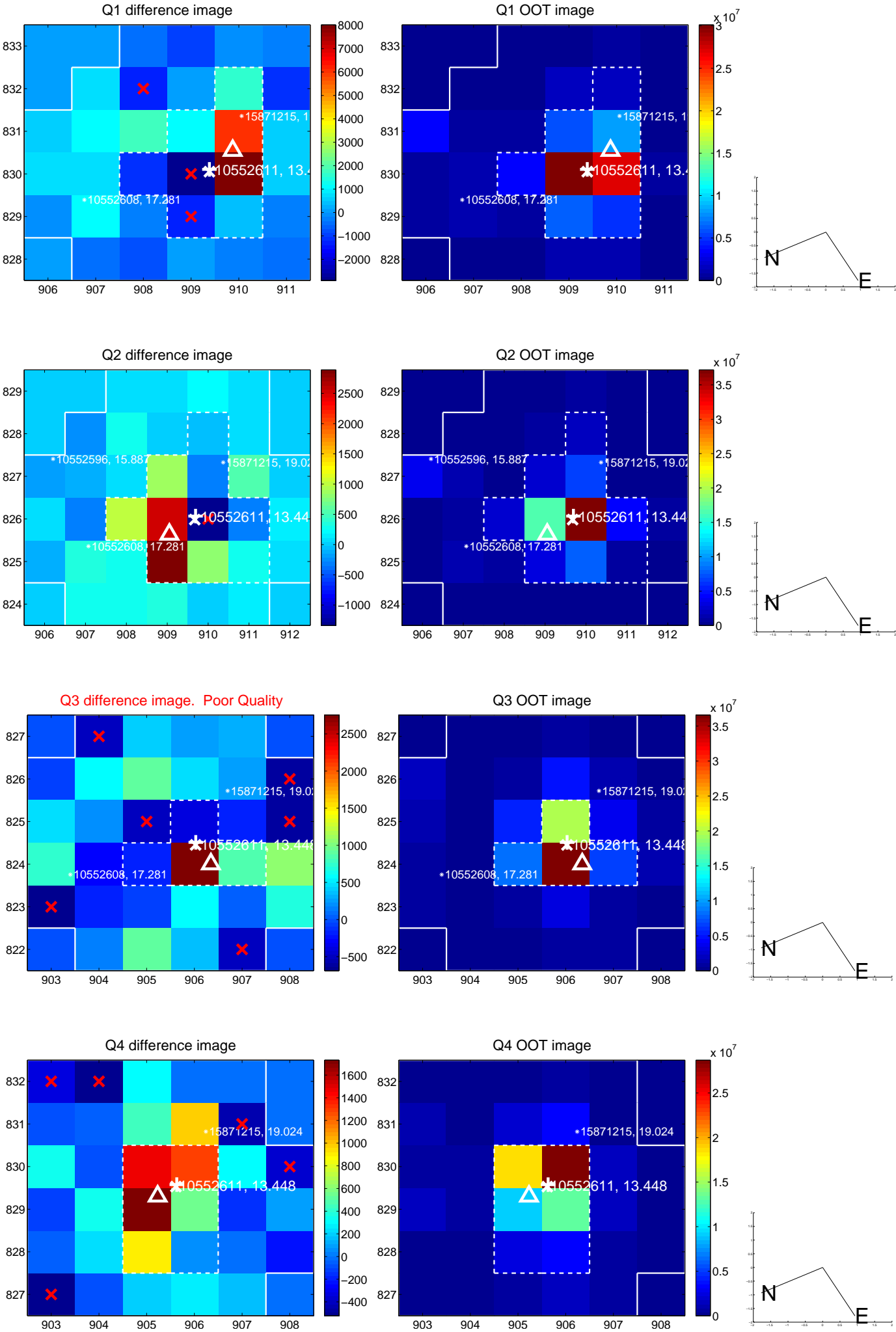
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.068 ± 0.936	1.14	-0.181 ± 0.949	1.053 ± 0.816
PRF-fit source offset from KIC position	0.939 ± 1.036	0.91	-0.394 ± 0.880	0.852 ± 0.788
photometric centroid source offset	1.01 ± 0.93	1.09	-0.34 ± 0.96	-0.95 ± 0.93

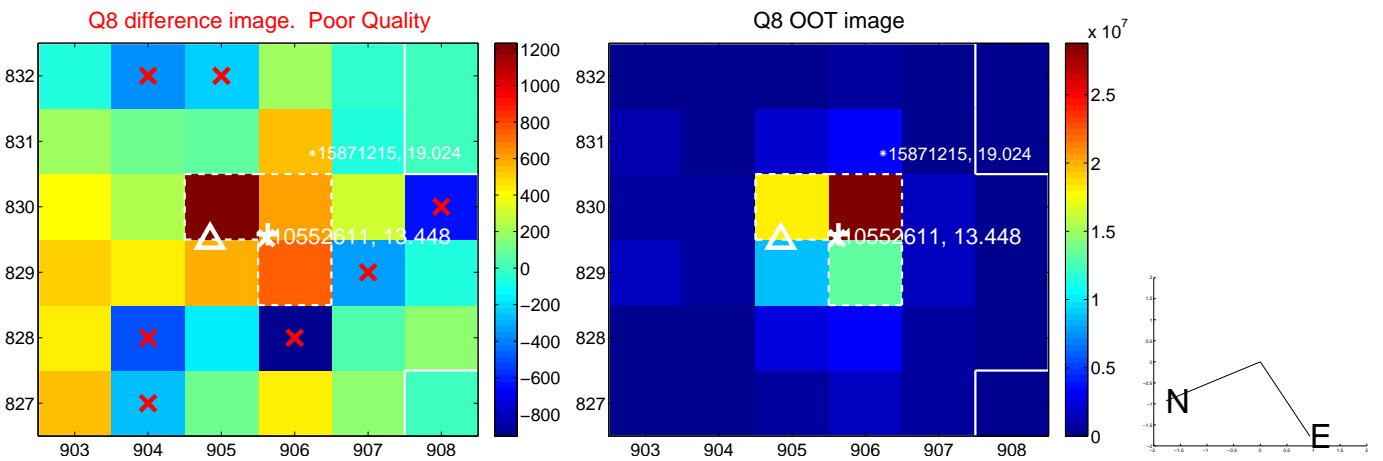
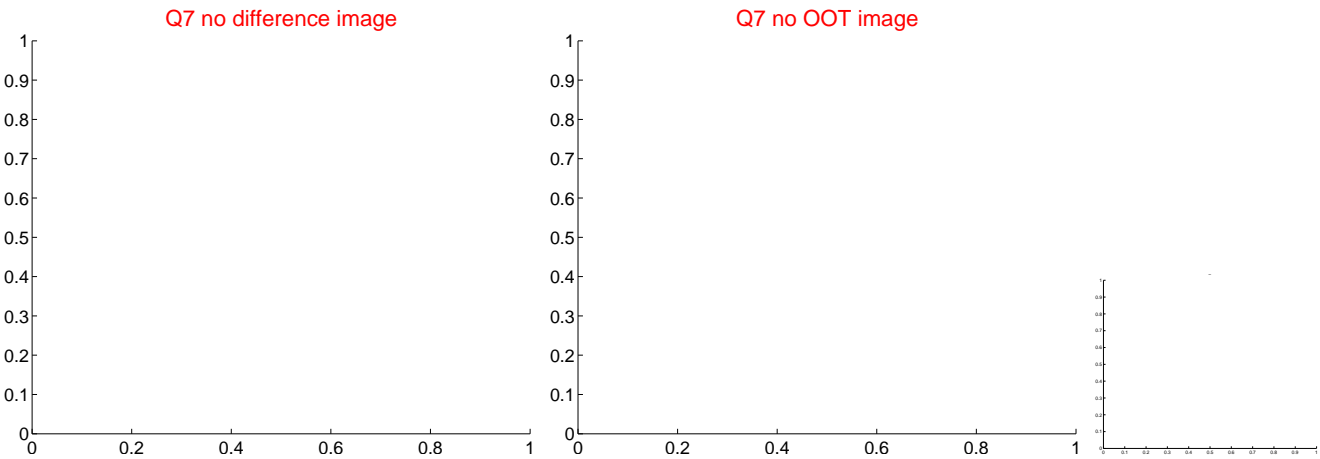
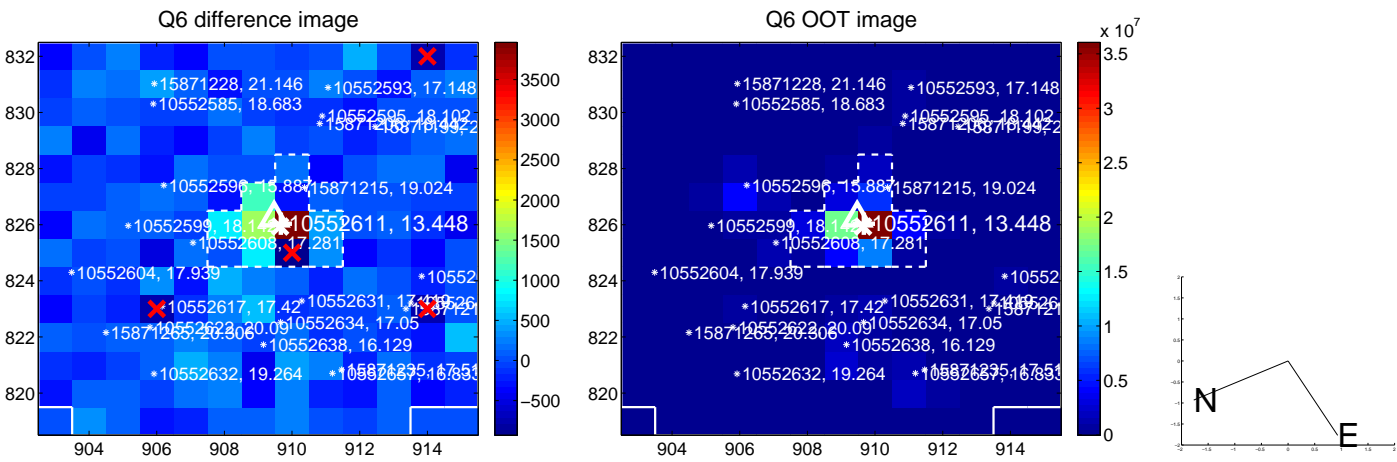
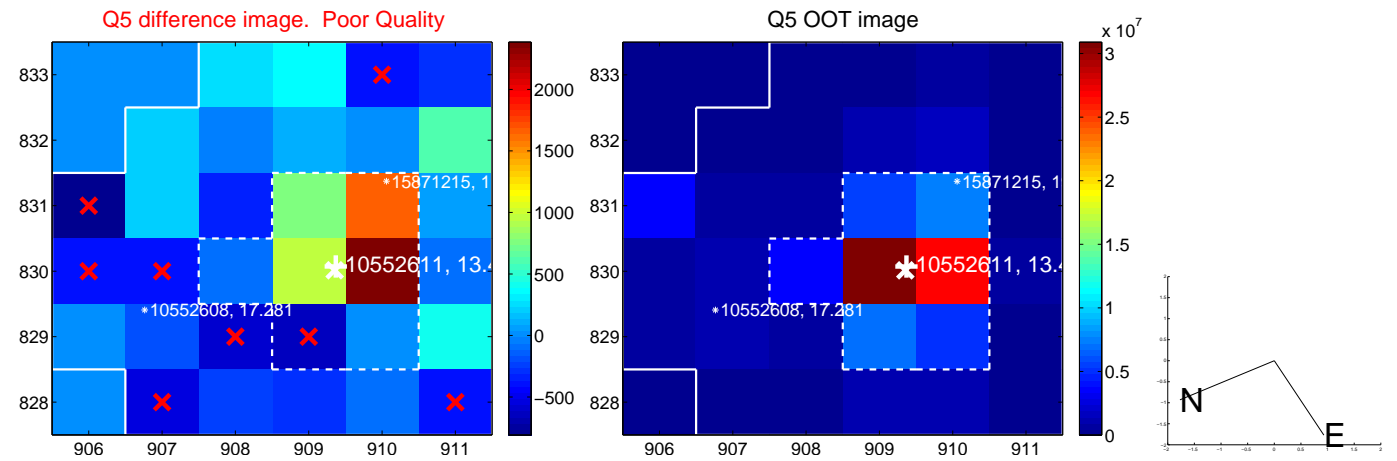


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

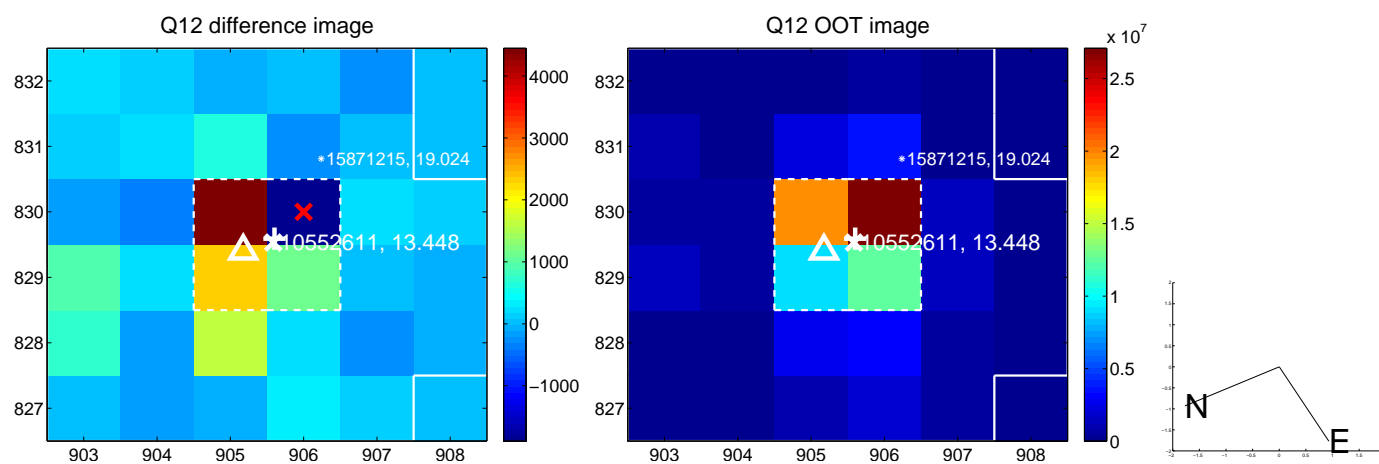
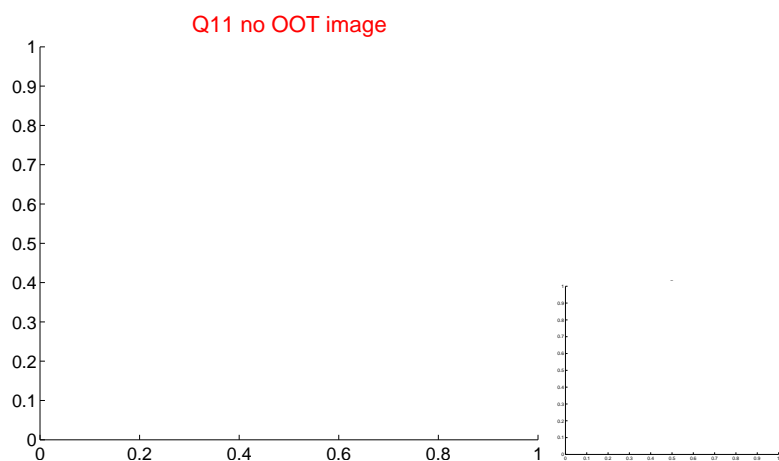
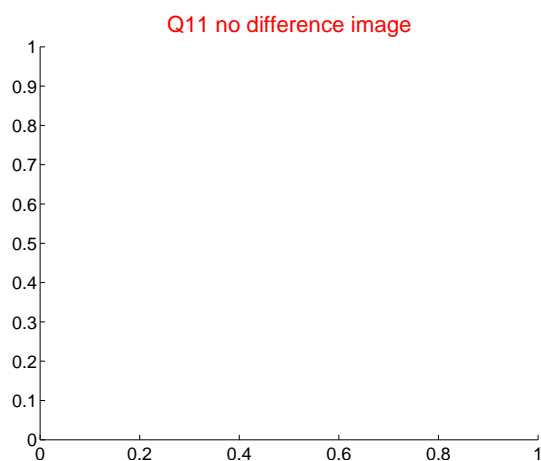
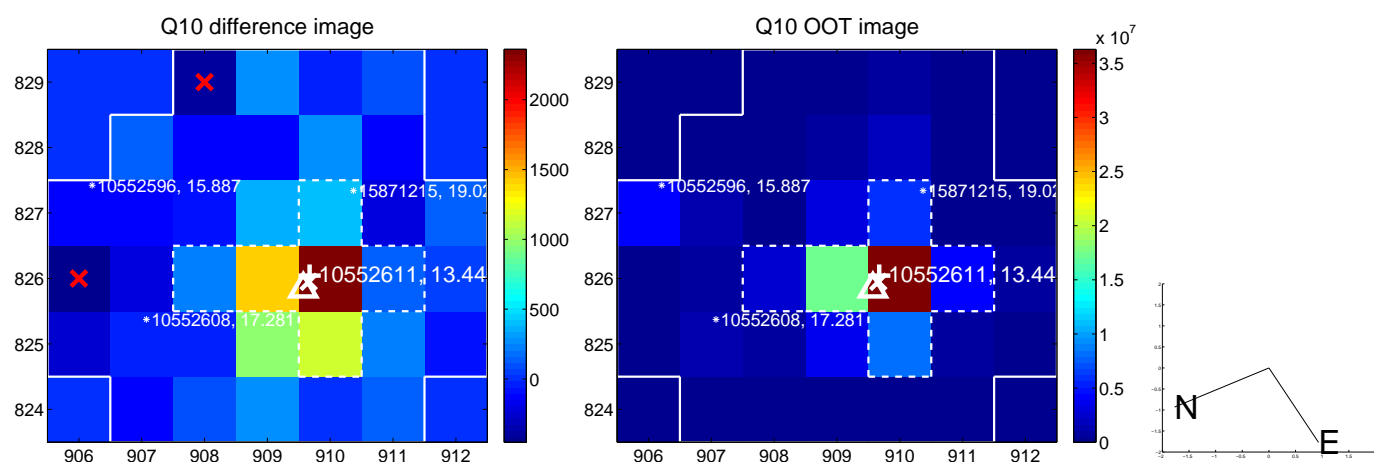
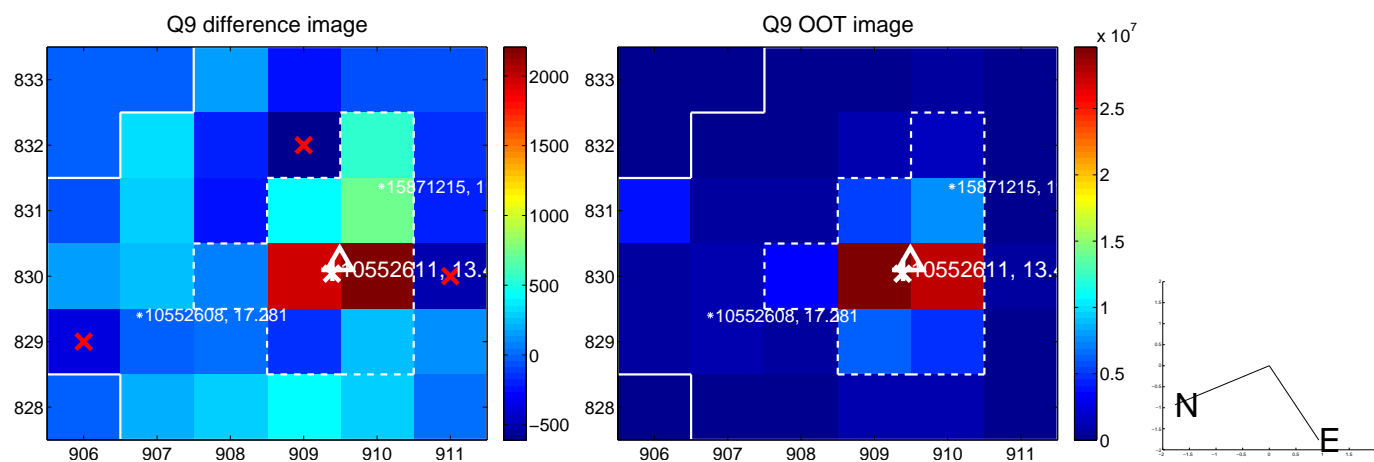
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



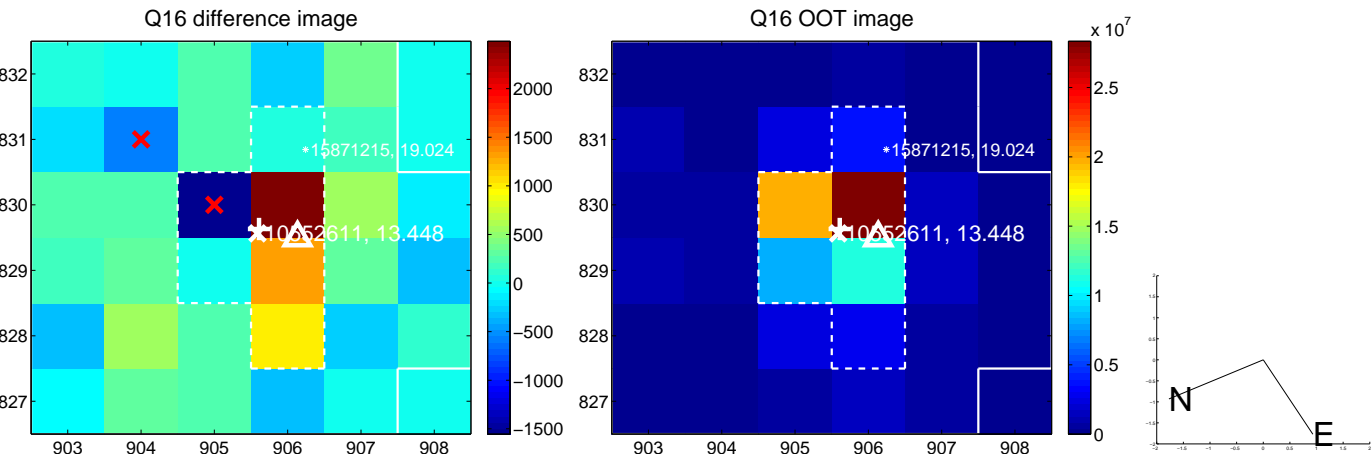
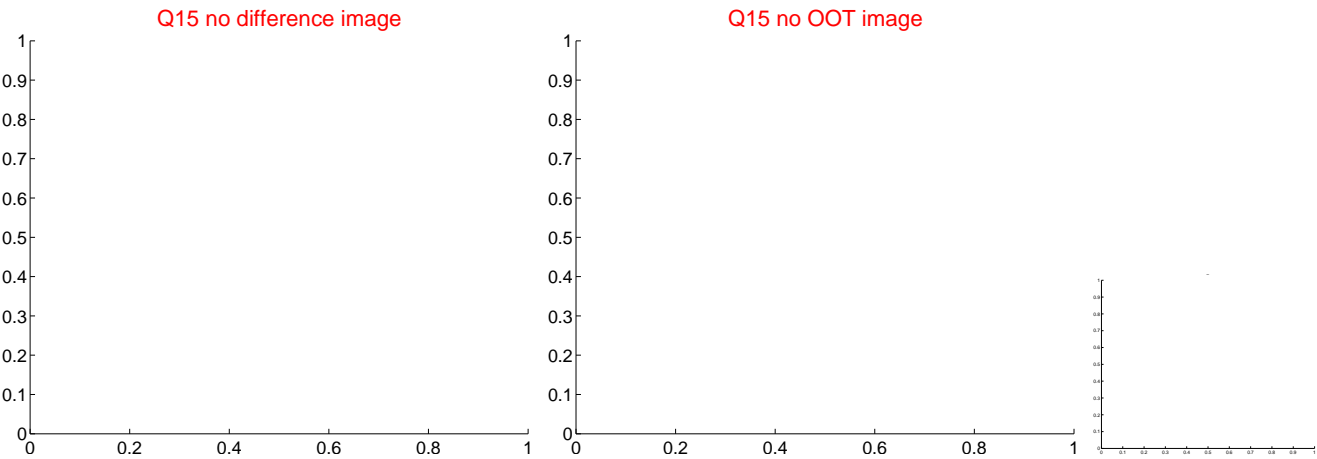
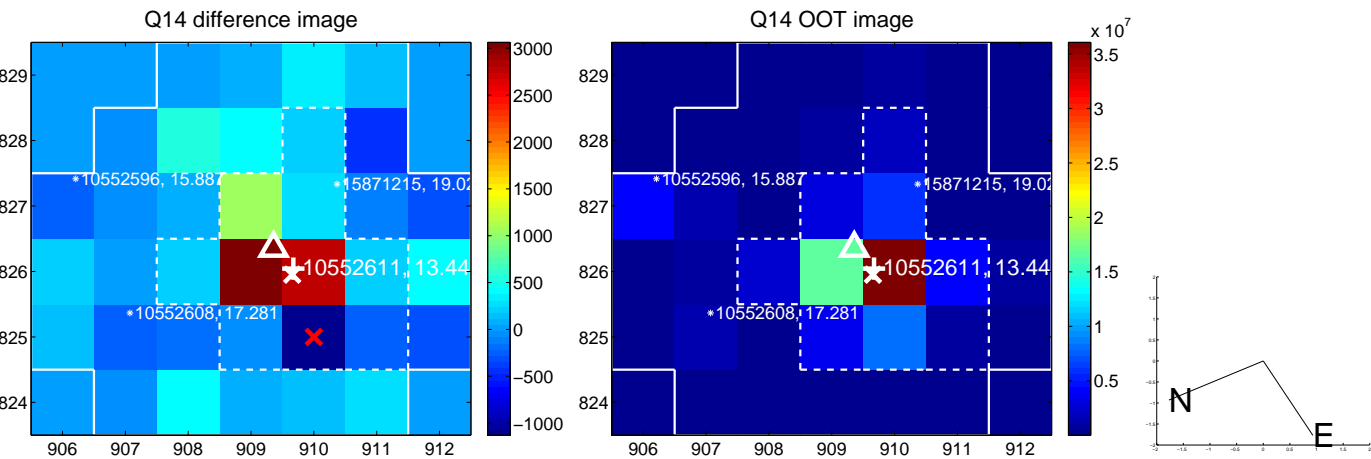
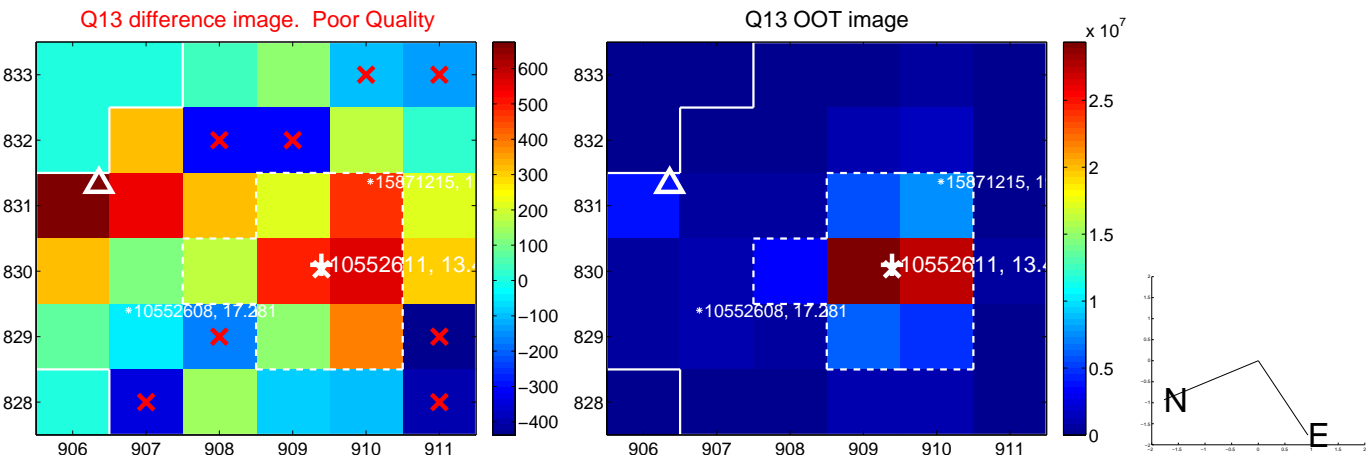
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



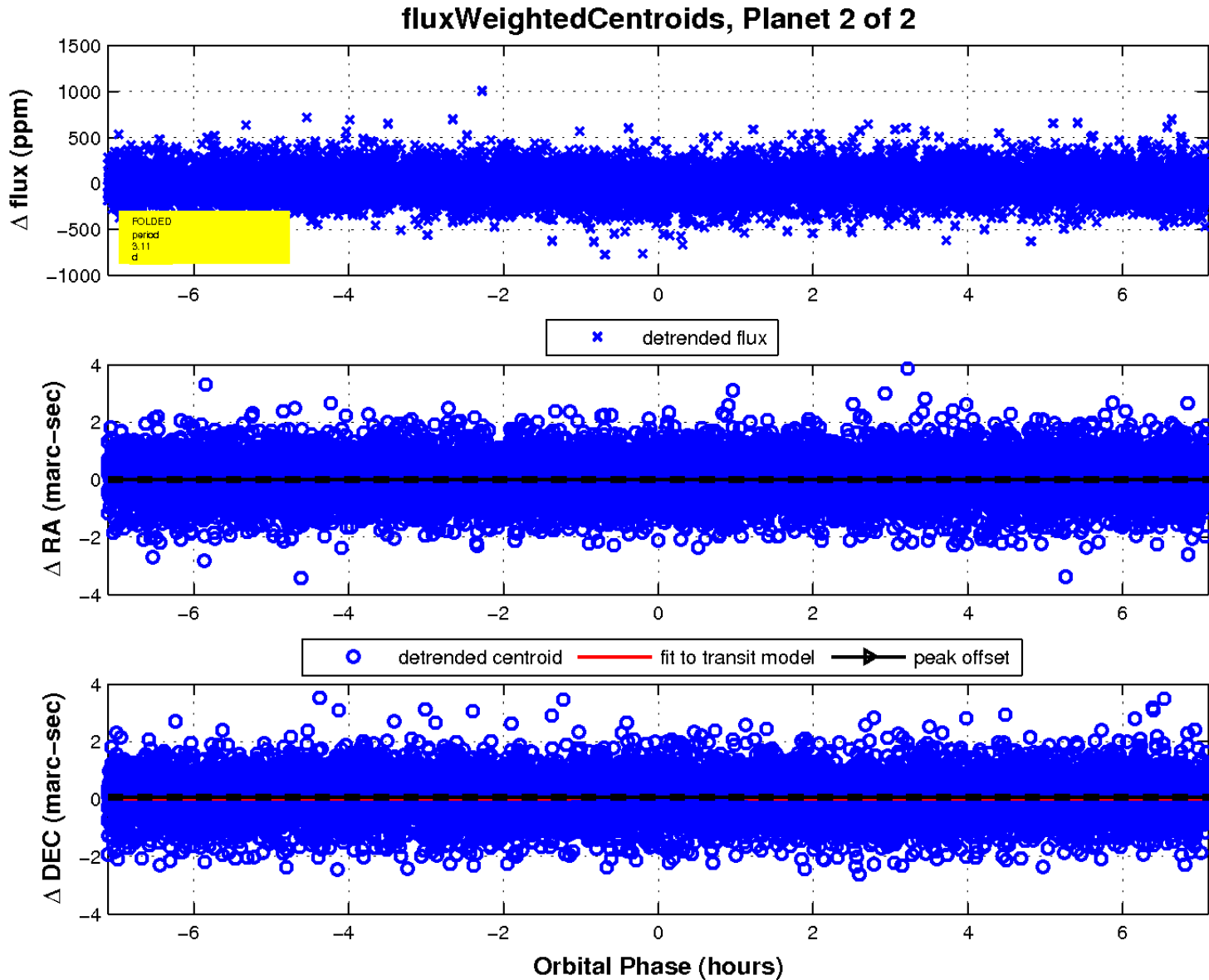
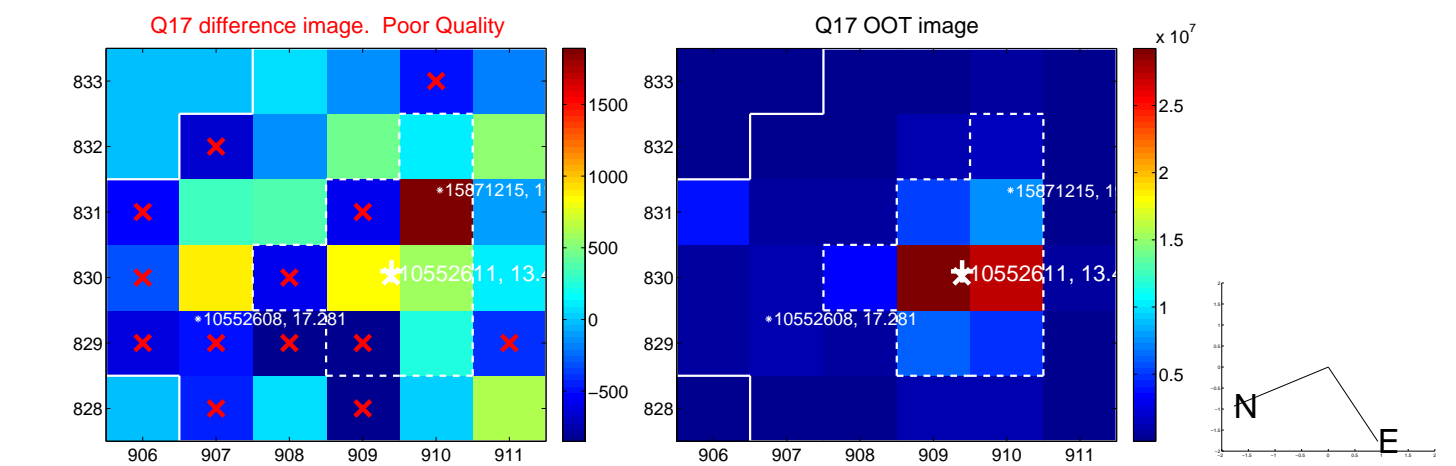
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

