

KIC 006612411

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})
006612411-01	OBS	5305.01	8.461797	133.773281	181.0	19.906	28.0	34.9	1.91	7663	4.98	1235.05
006612411-02	OBS	No	1.692498	132.681394	22.6	9.348	11.7	12.1	1.91	7663	0.92	10558.33
006612411-03	OBS	No	116.576114	216.875631	100.5	10.797	9.6	4.7	1.91	7663	2.14	37.40
006612411-04	OBS	No	78.992987	195.085354	124.1	6.192	7.9	7.3	1.91	7663	2.32	62.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006612411-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
006612411-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006612411-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV
006612411-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

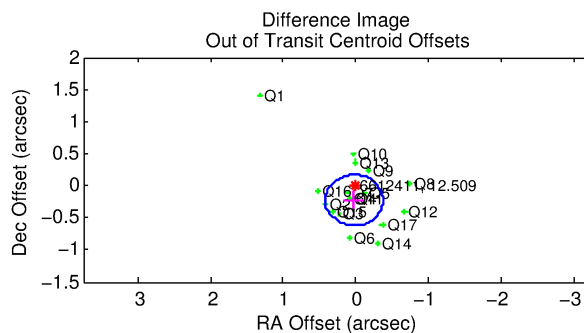
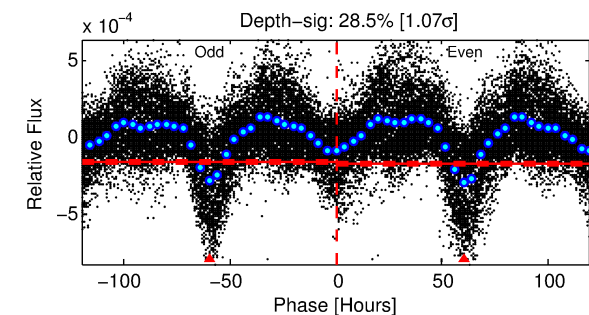
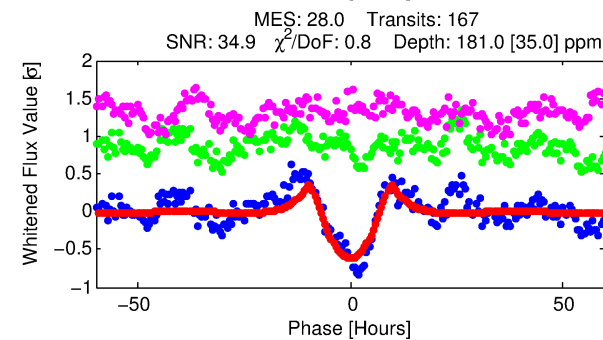
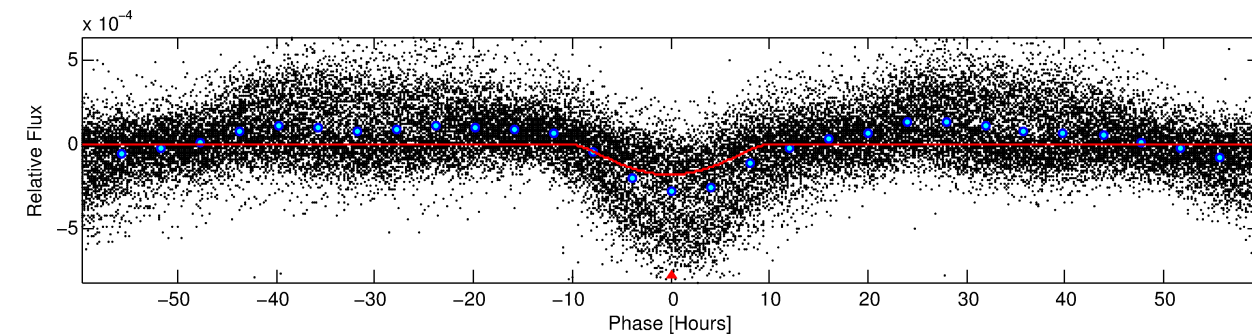
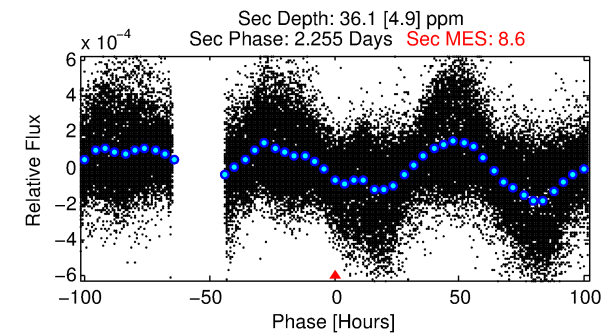
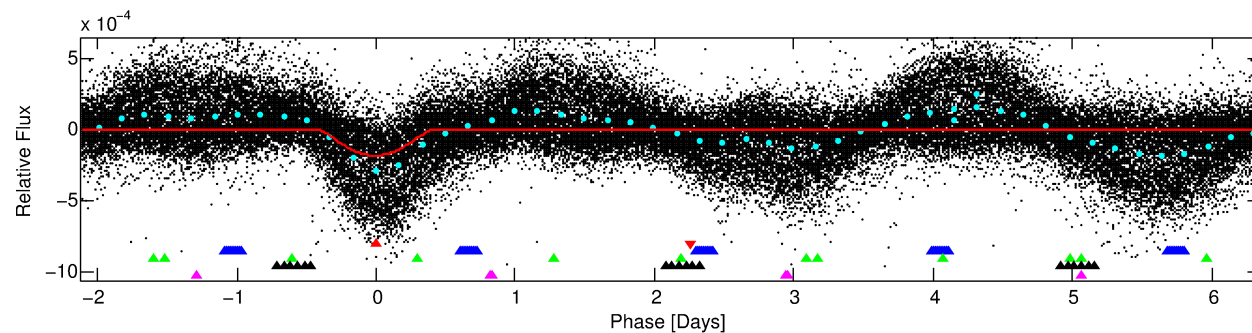
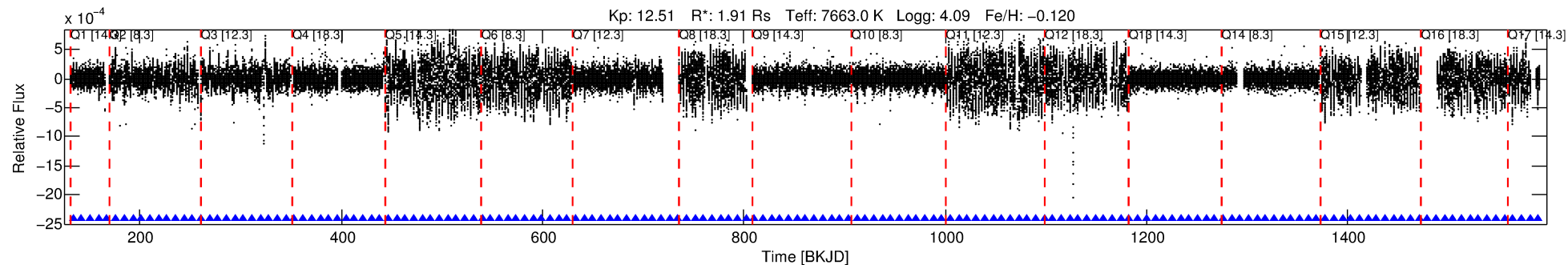
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006612411-01

No Significant Match Found

DV One-Page Summary

KIC: 6612411 Candidate: 1 of 5 Period: 8.462 d
KOI: K05305.01 Corr: 0.887



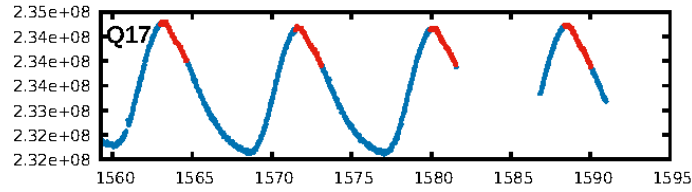
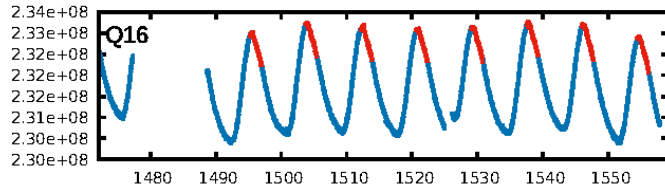
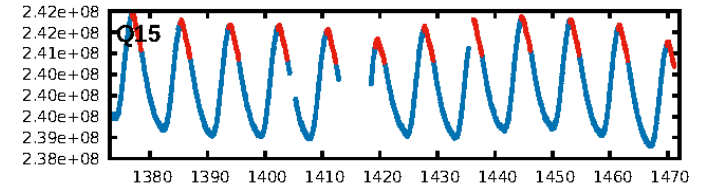
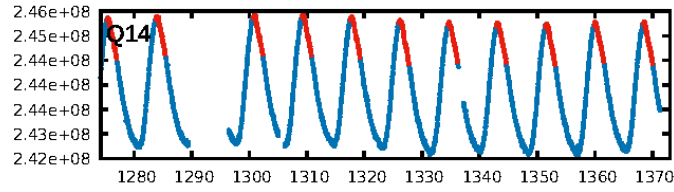
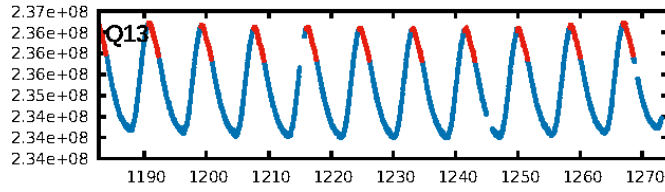
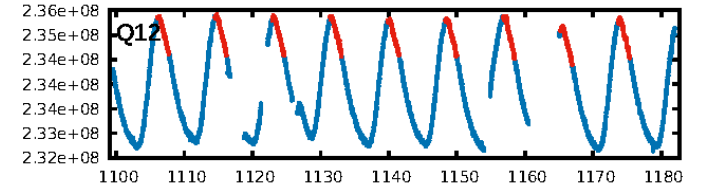
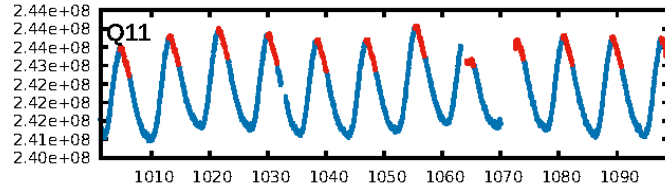
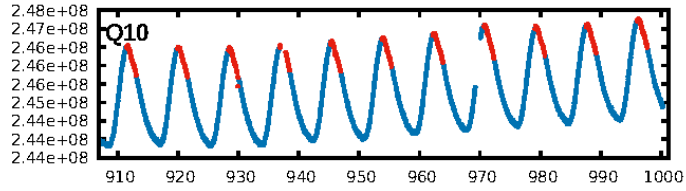
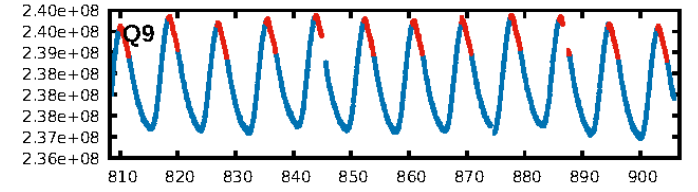
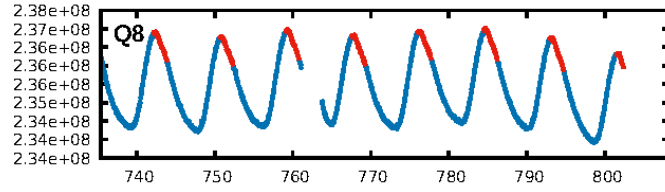
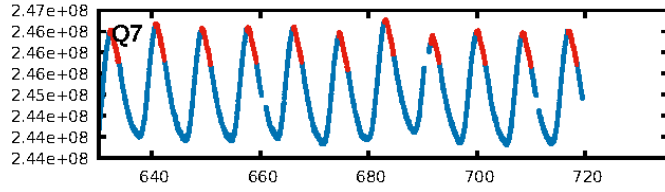
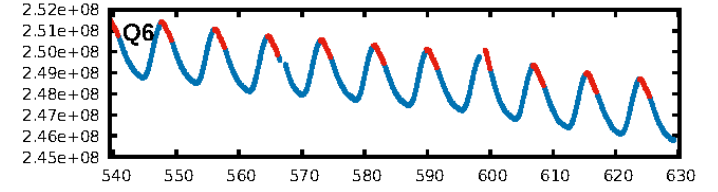
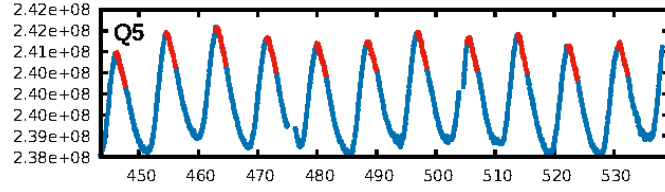
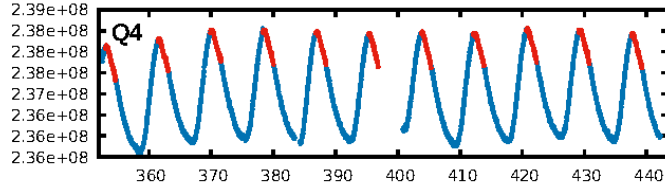
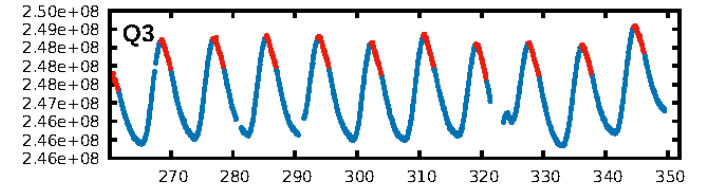
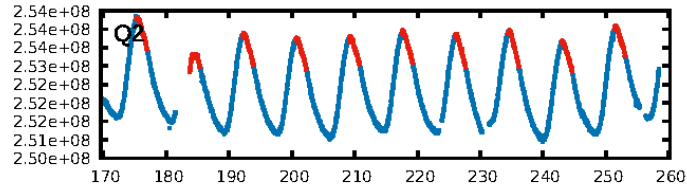
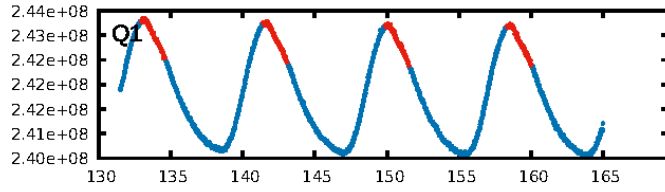
DV Fit Results:

Period = 8.46180 [0.00009] d
Epoch = 133.7733 [0.0087] BKJD
Rp/R* = 0.0239 [0.0091]
a/R* = 1.24 [0.03]
b = 1.00 [0.02]
Seff = 1235.05 [429.17]
Teq = 1512 [131] K
Rp = 4.98 [2.34] Re
a = 0.0957 [0.0210] AU
Ag = 7.32 [6.10] [1.04 σ]
Teffp = 3844 [761] K [3.02 σ]

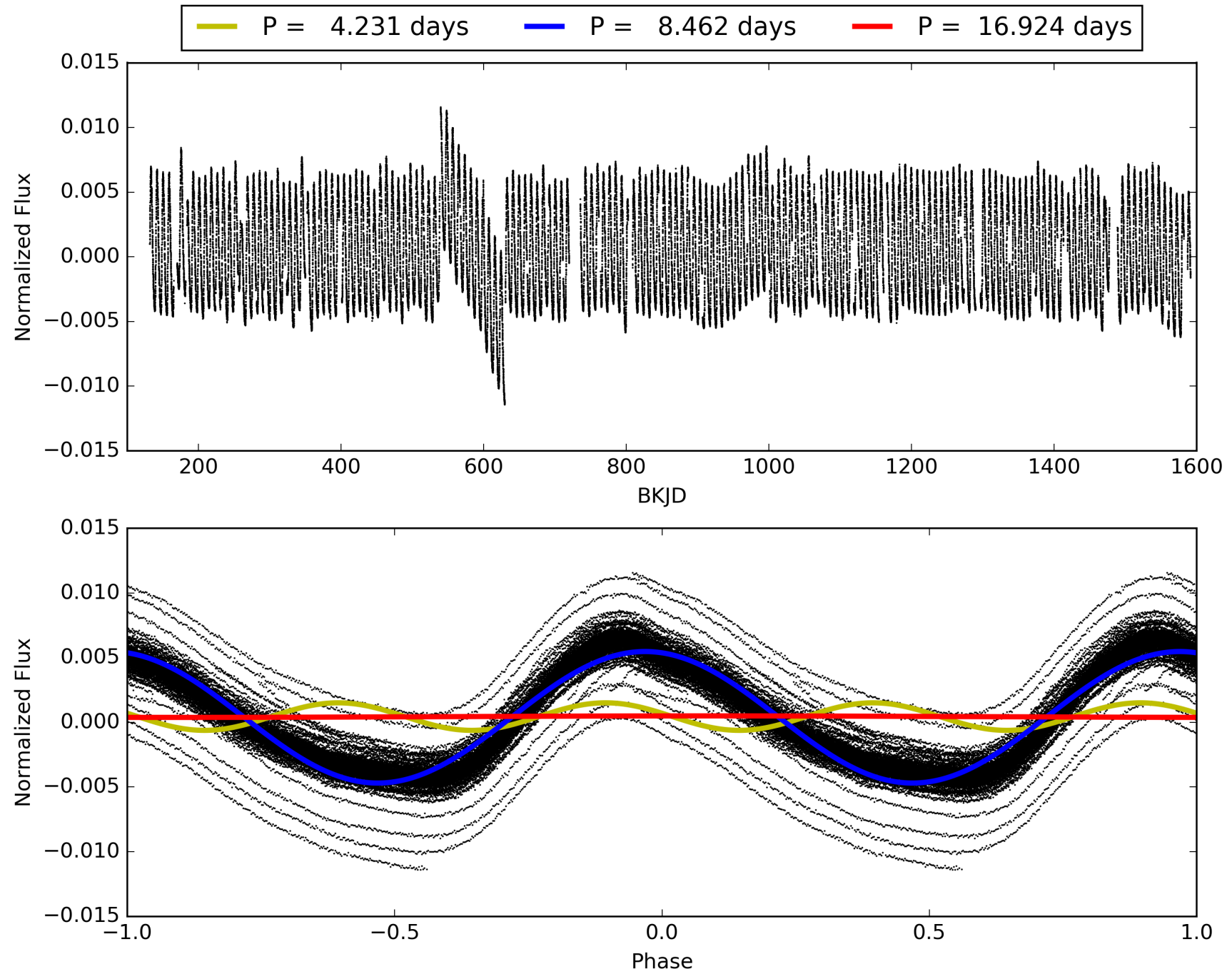
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.39 σ]
LongPeriod-sig: 100.0% [81.20 σ]
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.18e-100
RollingBand-fgt: 1.00 [159/159]
GhostDiagnostic-chr: 0.8745
Centroid-sig: 0.0%
Centroid-so: 0.317 arcsec [2.43 σ]
OotOffset-rm: 0.226 arcsec [1.72 σ]
KicOffset-rm: 0.240 arcsec [1.68 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 006612411-01, PDC Light Curves

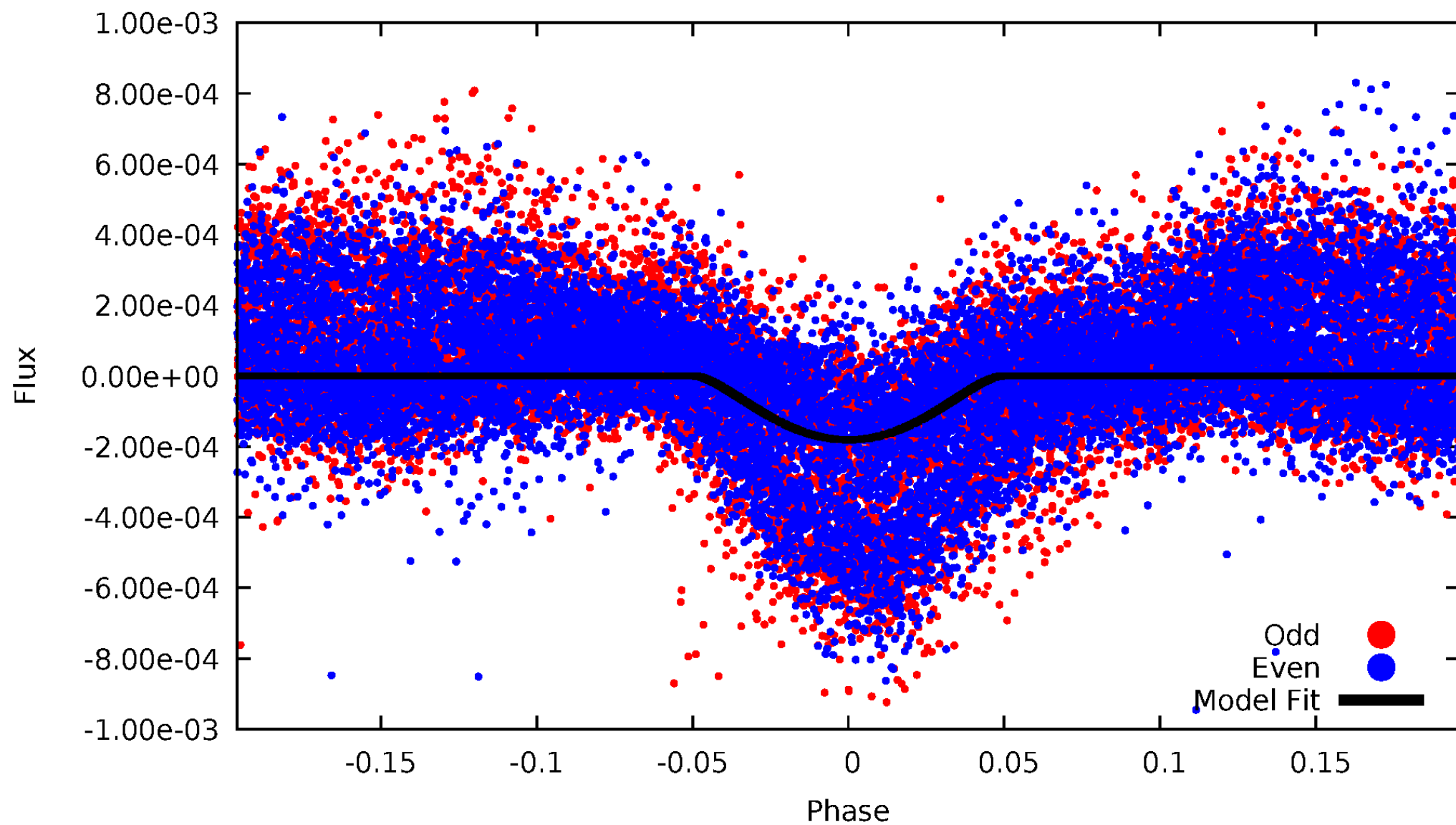


TCE 006612411-01



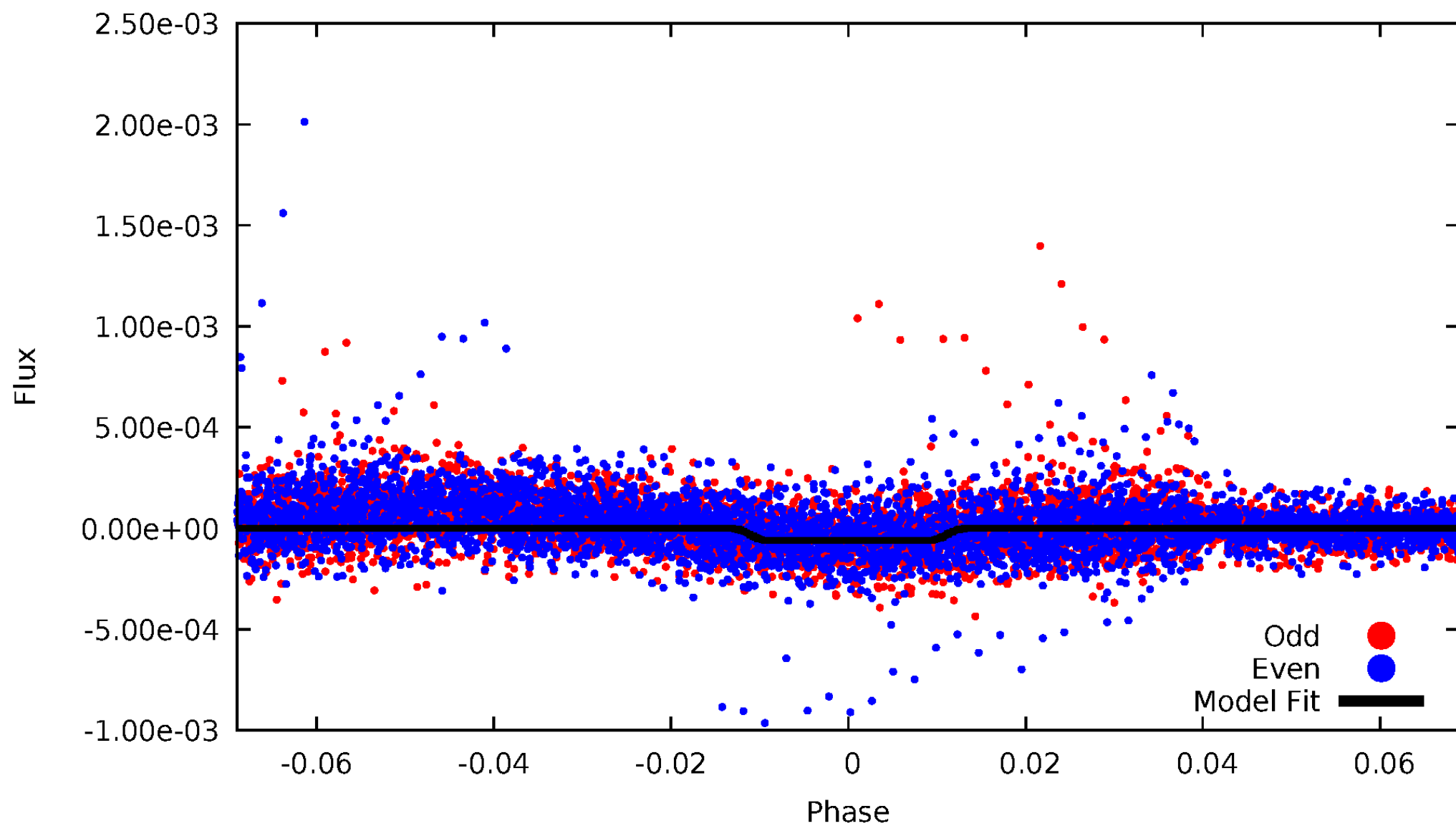
DV Odd/Even

TCE 006612411-01



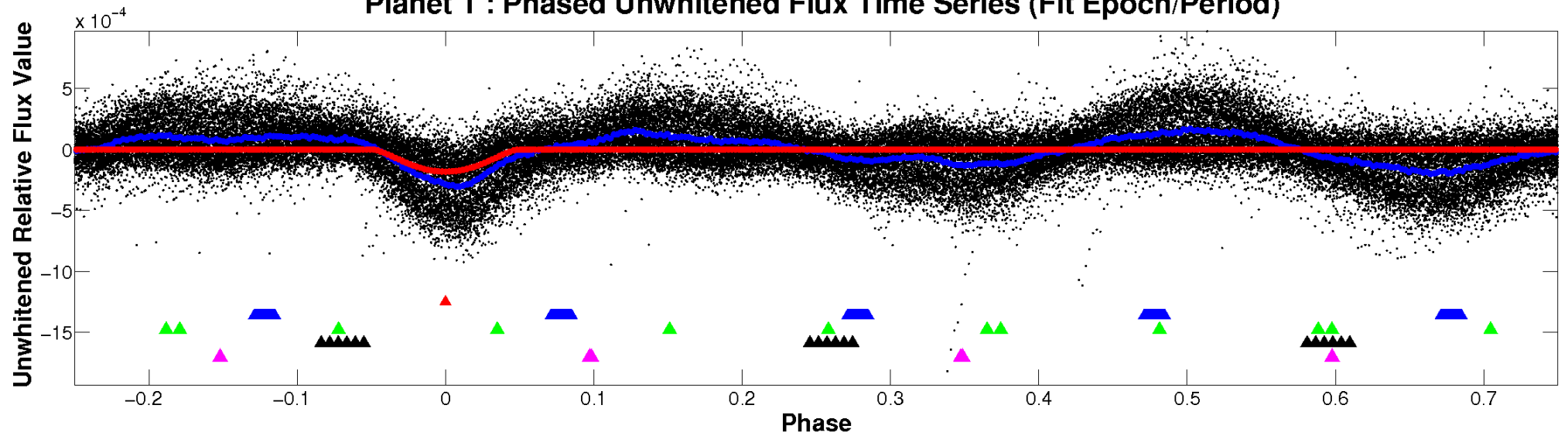
ALT Odd/Even

TCE 006612411-01

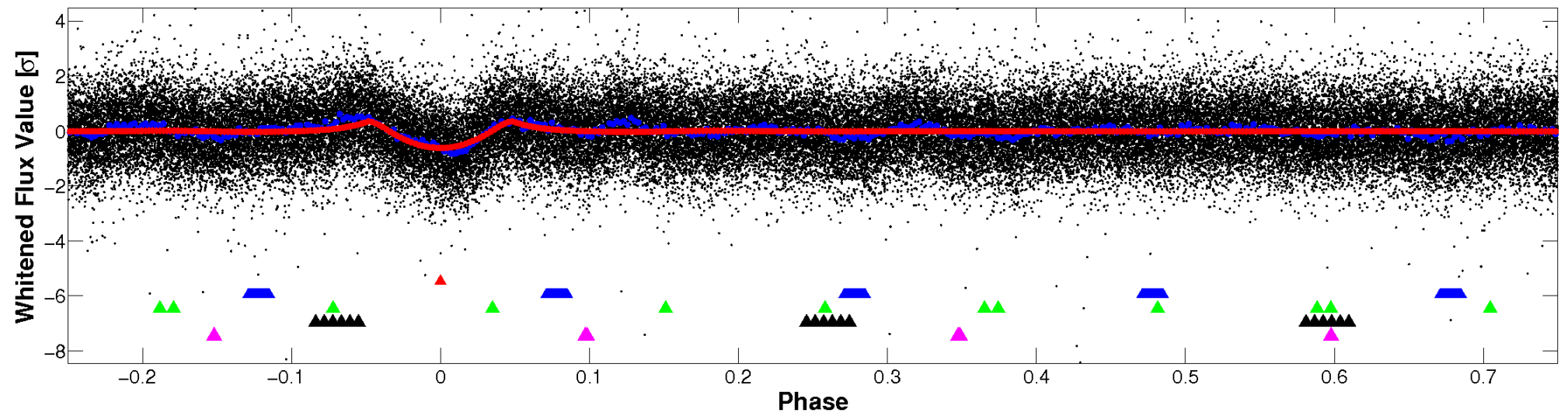


Non-Whitened Vs. Whitened Light Curve

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

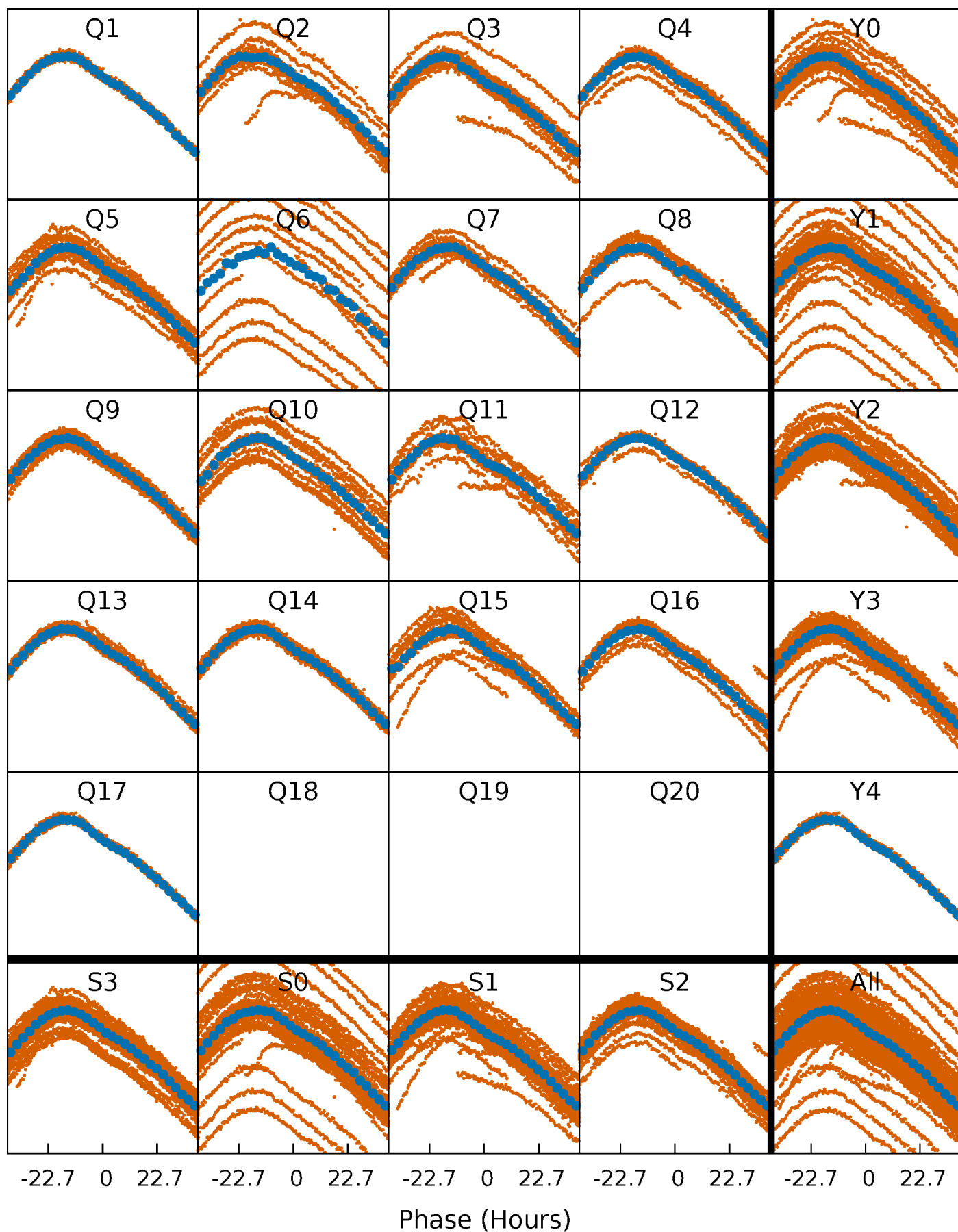


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



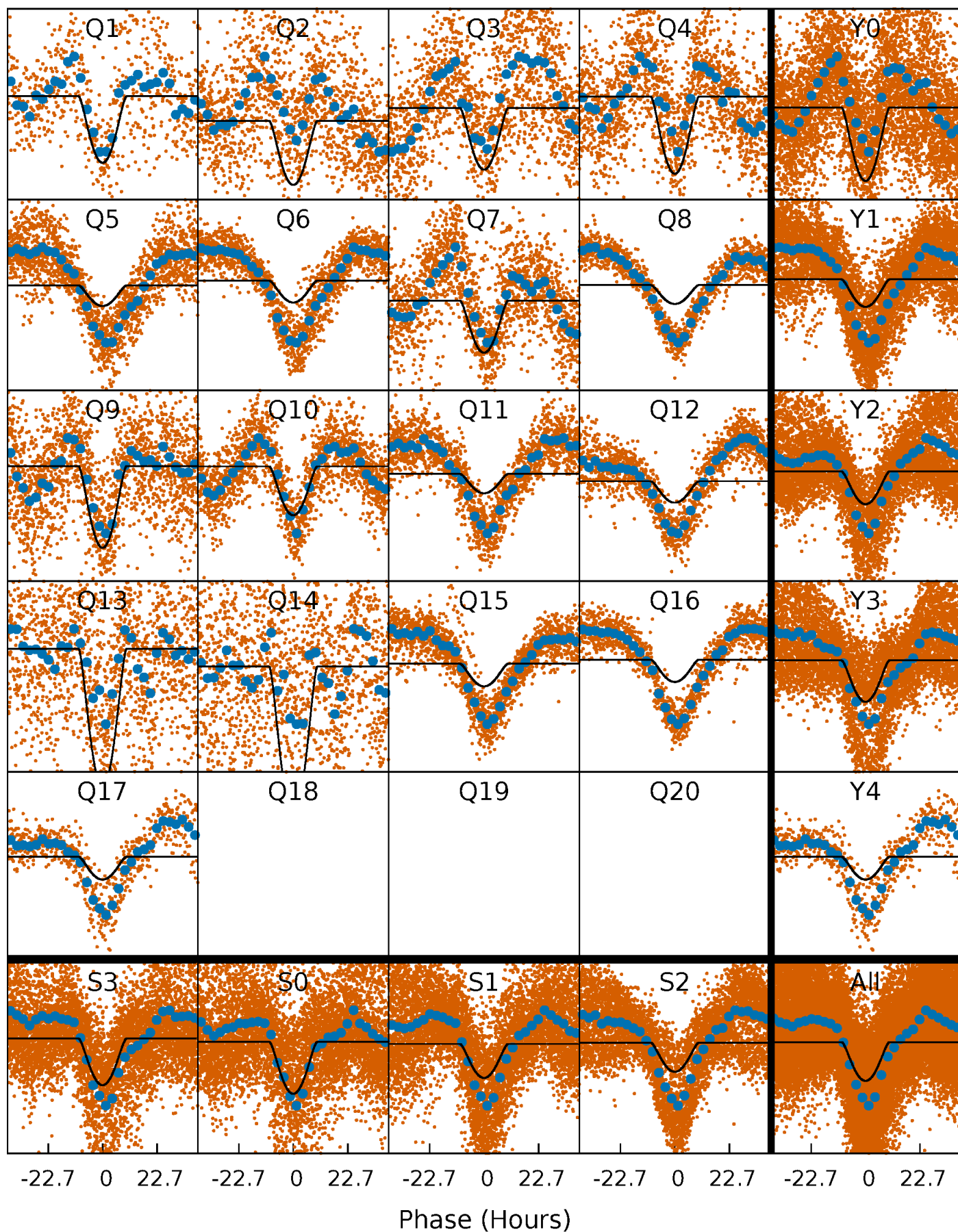
PDC Quarter-Phased Transit Curves

TCE 006612411-01 P= 8.461797 Days $T_0=133.773281$ (BKJD)



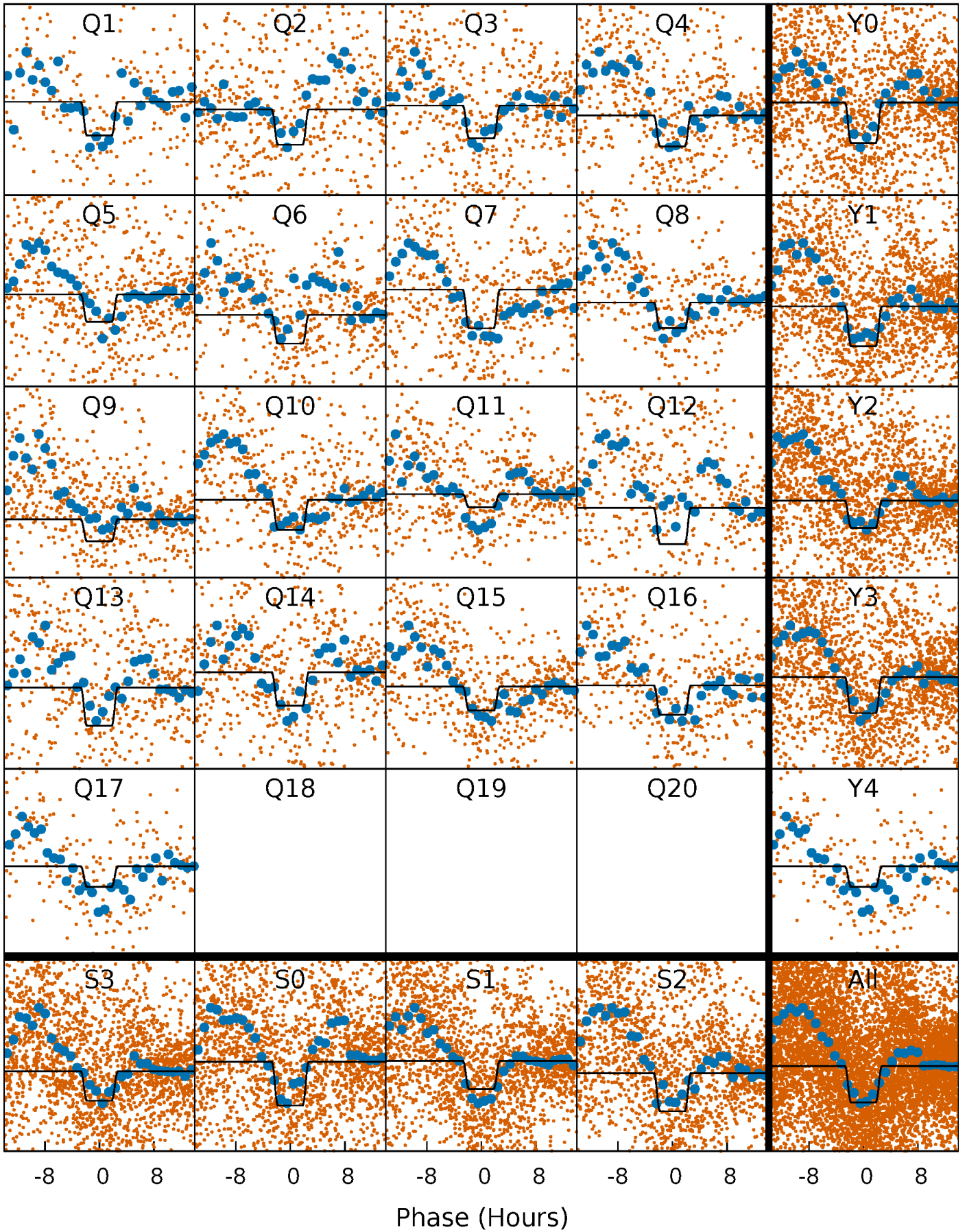
DV Quarter-Phased Transit Curves

TCE 006612411-01 P= 8.461797 Days $T_0=133.773281$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

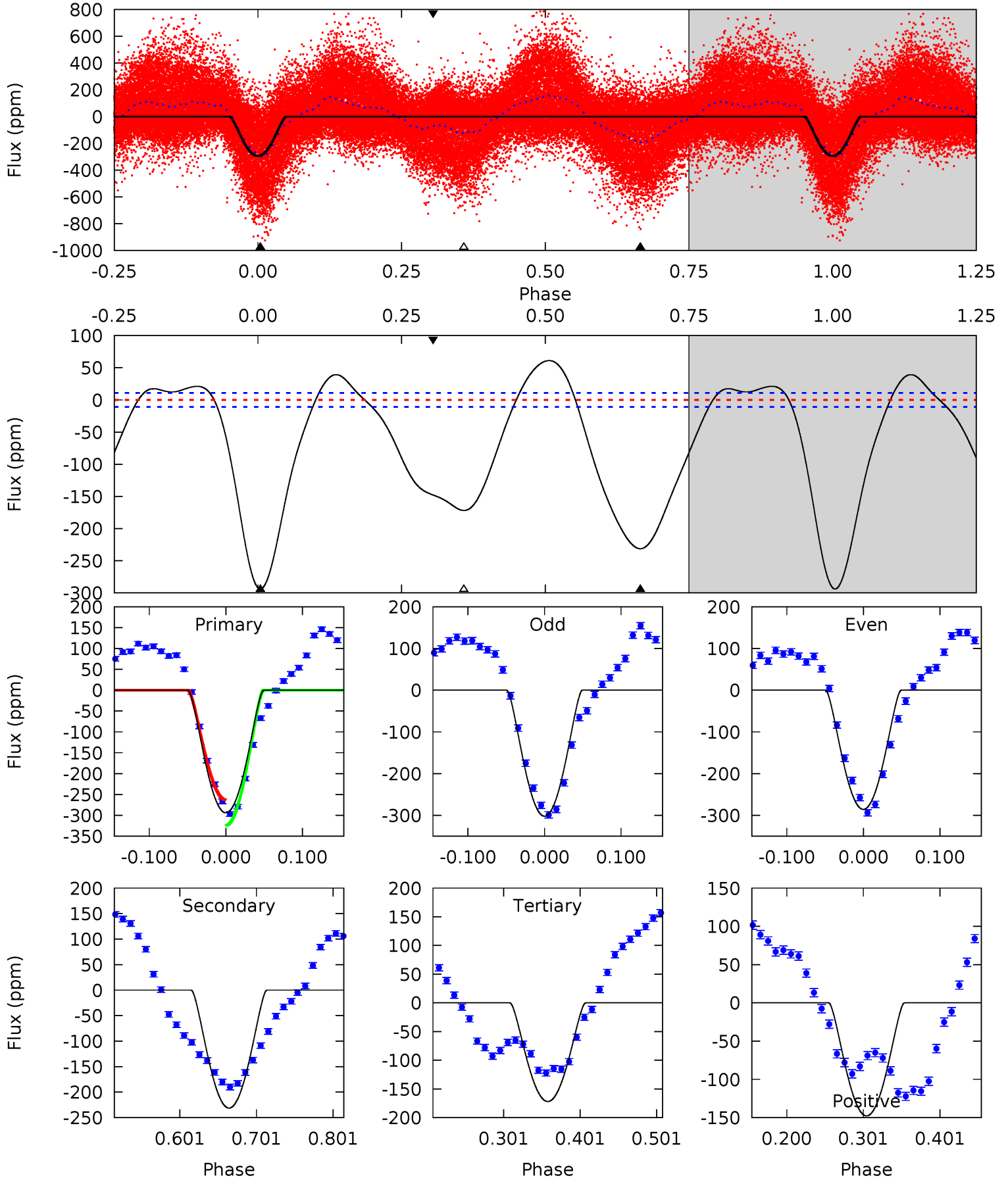
TCE 006612411-01 P= 8.461803 Days $T_0=133.872450$ (BKJD)



DV Model-Shift Uniqueness Test

006612411-01, P = 8.461797 Days, E = 125.311484 Days

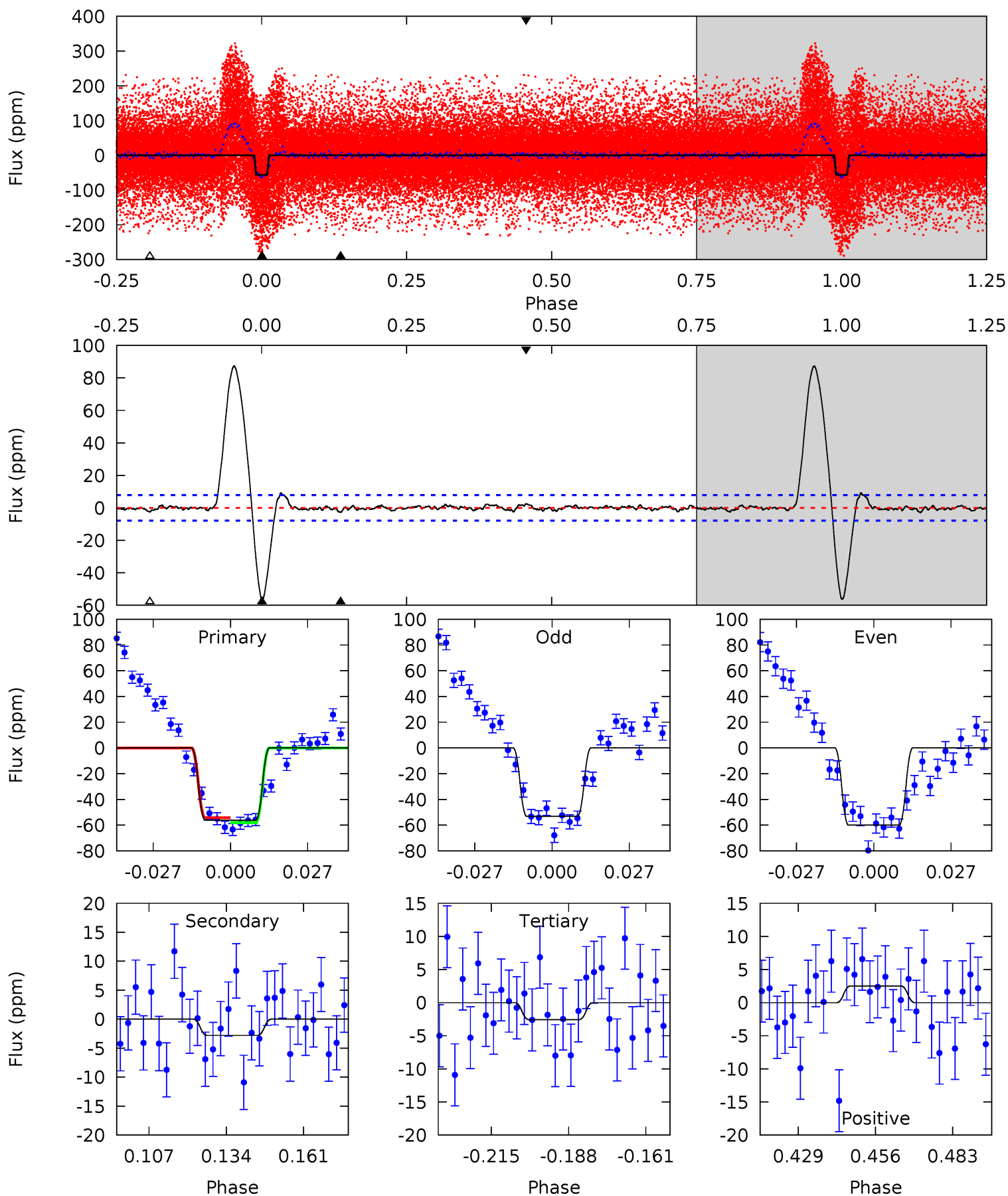
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
123.2	96.9	72.0	-61.9	4.56	1.64	30.9	51.1	185.1	24.9	158.9	3.46	1.34	0.17	12.6



Alt Model-Shift Uniqueness Test

006612411-01, P = 8.461803 Days, E = 125.410647 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.6	1.73	1.57	1.55	4.83	2.21	8.85	33.0	33.0	0.15	0.17	2.11	0.91	0.61	1.15



Stellar Parameters For KIC 006612411

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7663^{+237}_{-316}	$4.087^{+0.160}_{-0.160}$	$-0.120^{+0.200}_{-0.350}$	$1.913^{+0.523}_{-0.428}$	$1.630^{+0.197}_{-0.263}$	$0.328^{+0.269}_{-0.148}$
	+3%/-4%	+4%/-4%	+167%/-292%	+27%/-22%	+12%/-16%	+82%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006612411-01 / KOI 5305.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-231 ± 2	$5.02^{+2.06}_{-2.02}$	2114^{+161}_{-146}	5958^{+1738}_{-857}	46^{+78}_{-23}
Alt.	-3 ± 2	$2.15^{+1.69}_{-1.48}$	2106^{+152}_{-150}	3400^{+1704}_{-824}	$2.856^{+21.106}_{-2.227}$

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

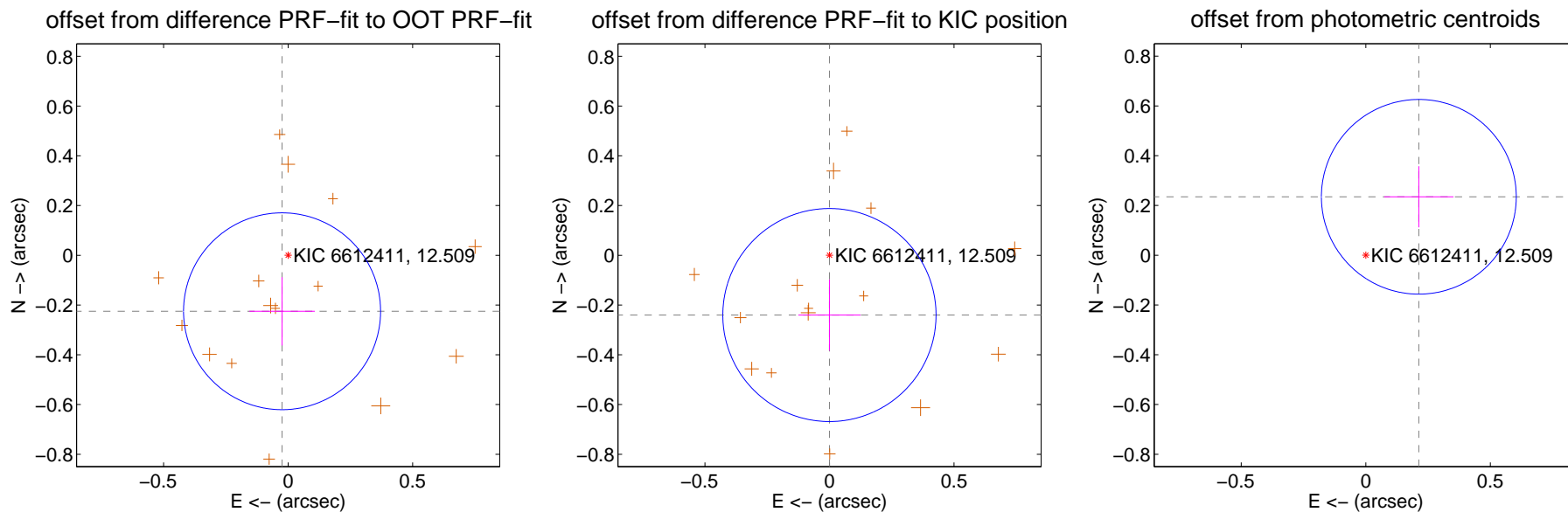
DV Centroid Data

Supplemental centroid analysis for 006612411-01. Kepler magnitude: 12.51. Transit SNR 34.94

There are 0 quarters with good PRF difference image offsets

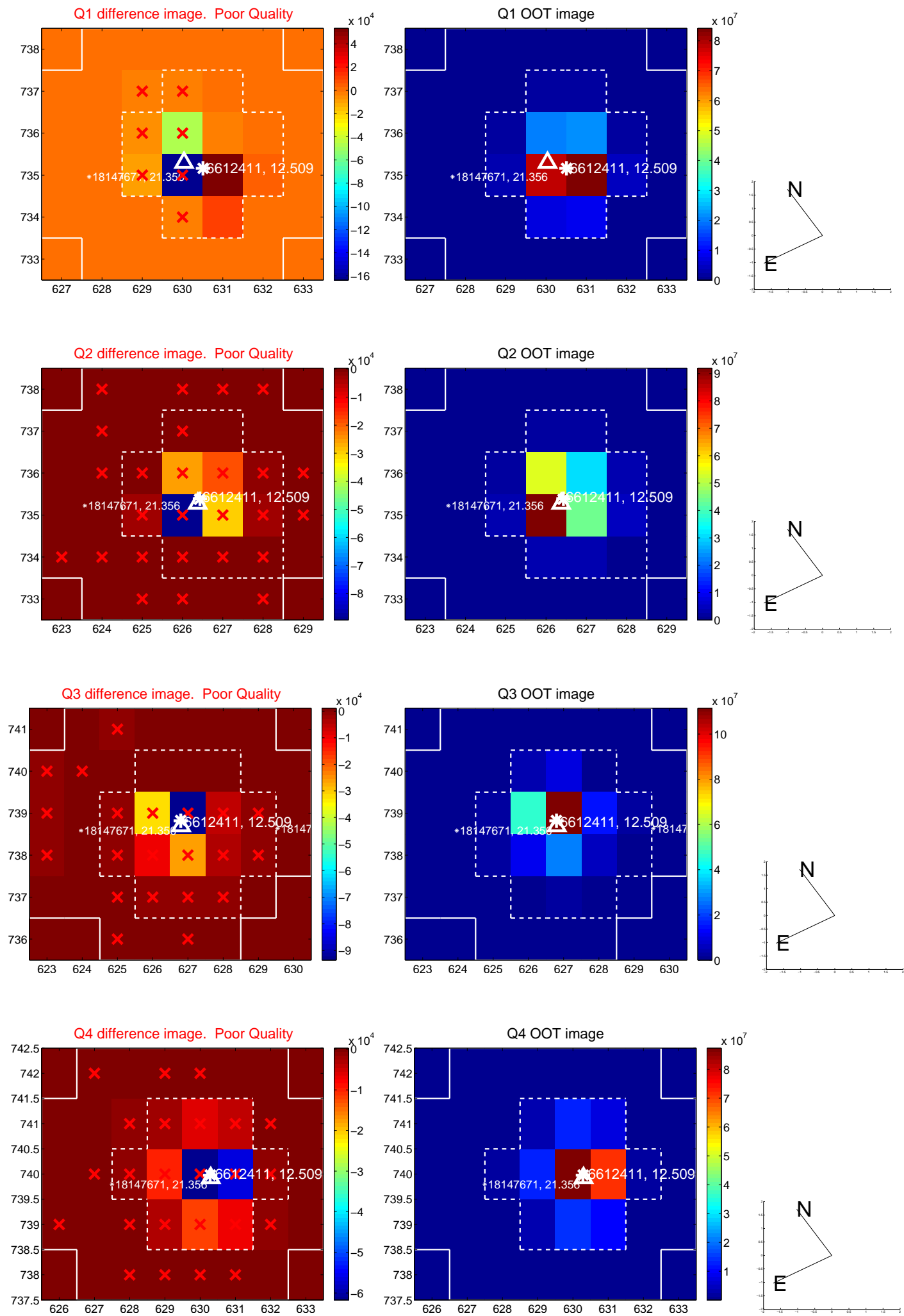
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.226 ± 0.132	1.72	0.024 ± 0.131	-0.225 ± 0.137
PRF-fit source offset from KIC position	0.240 ± 0.143	1.68	0.000 ± 0.125	-0.240 ± 0.143
photometric centroid source offset	0.32 ± 0.13	2.43	-0.21 ± 0.14	0.23 ± 0.12

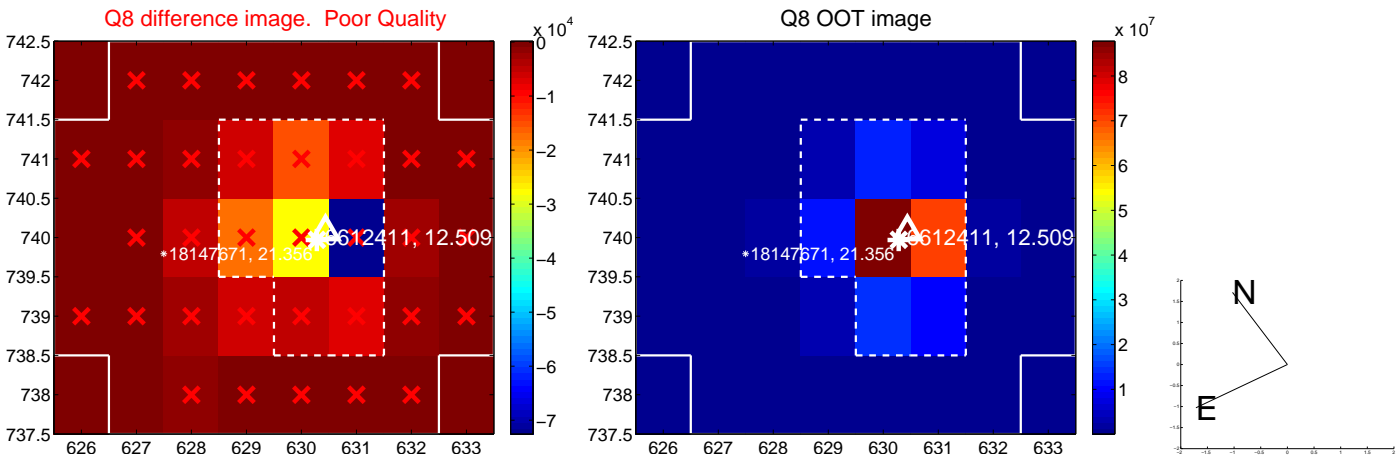
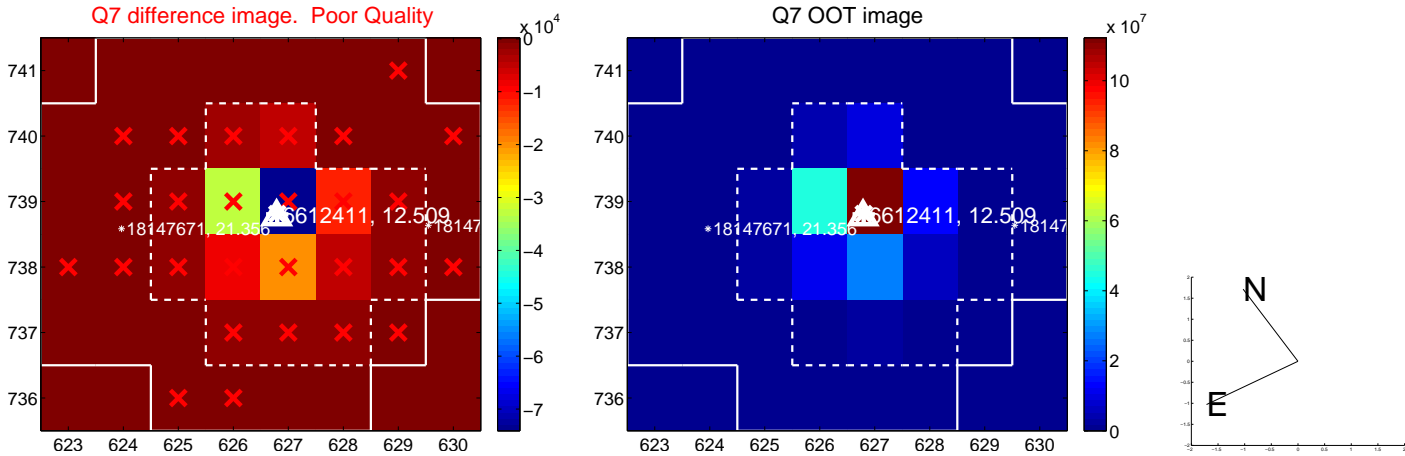
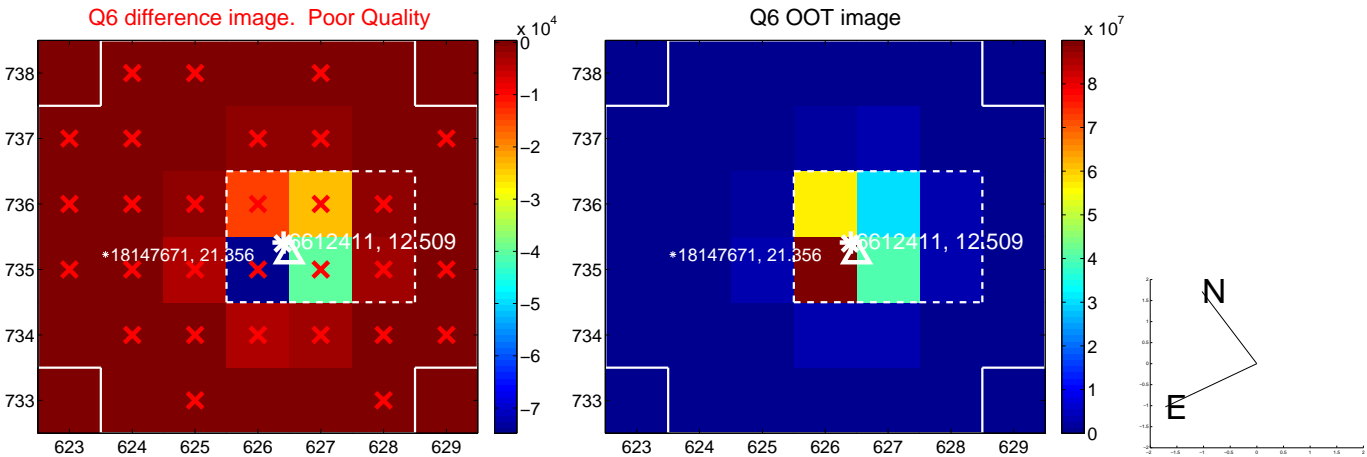
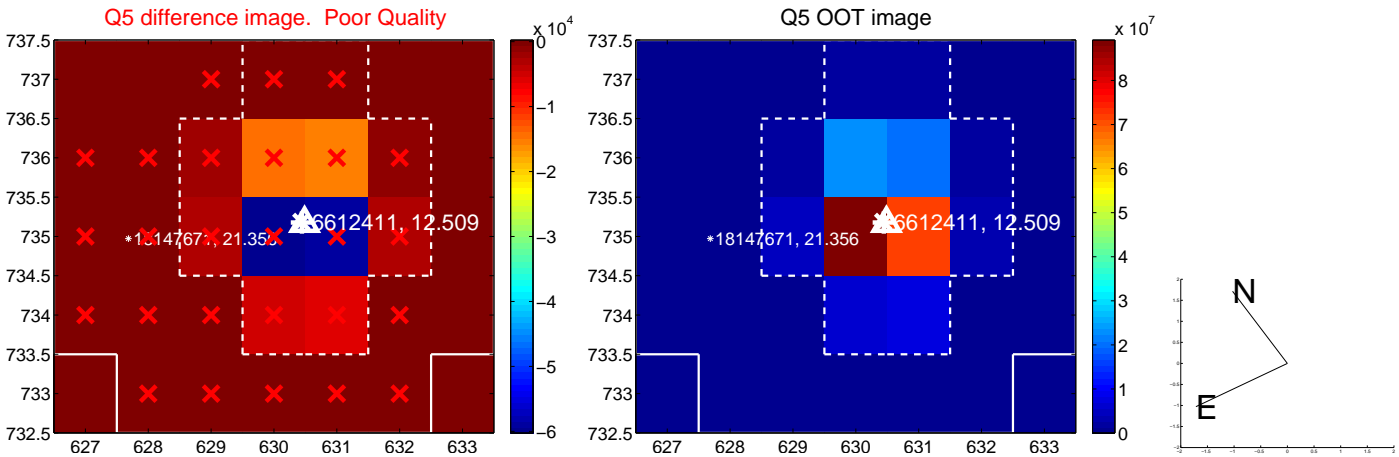


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

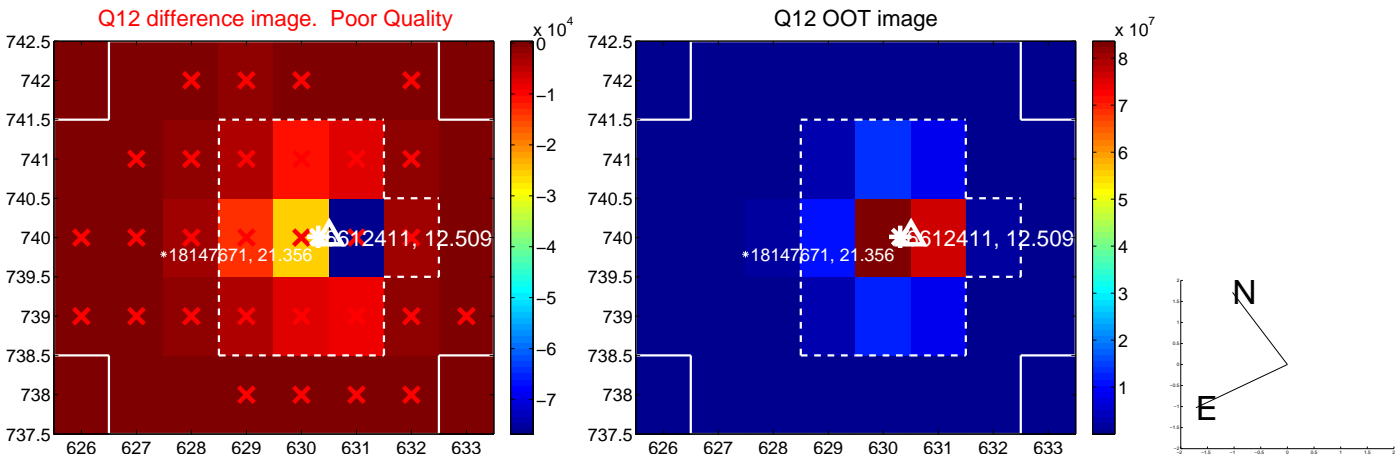
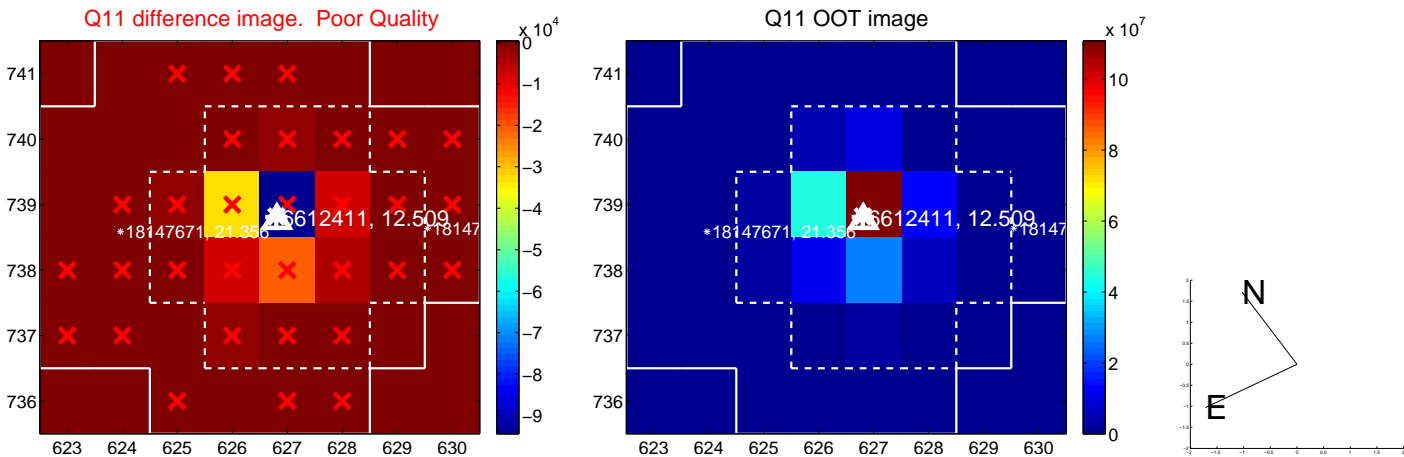
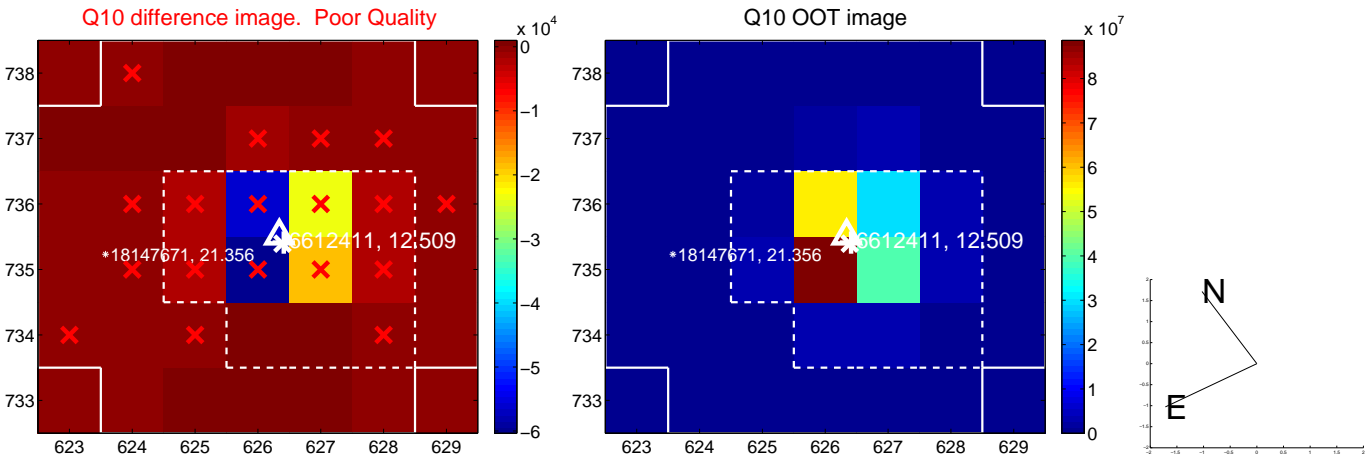
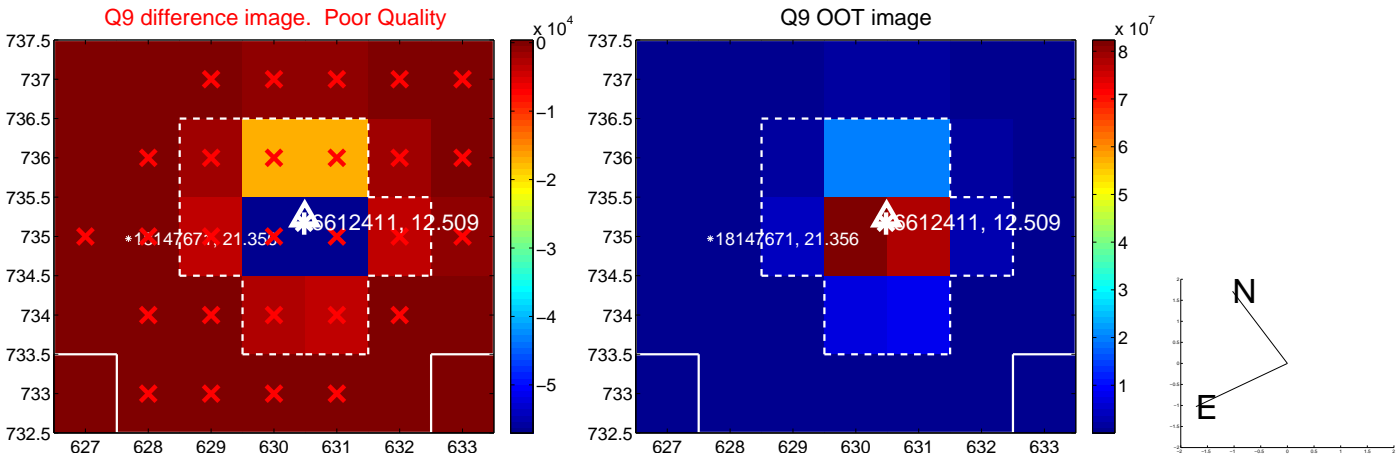
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



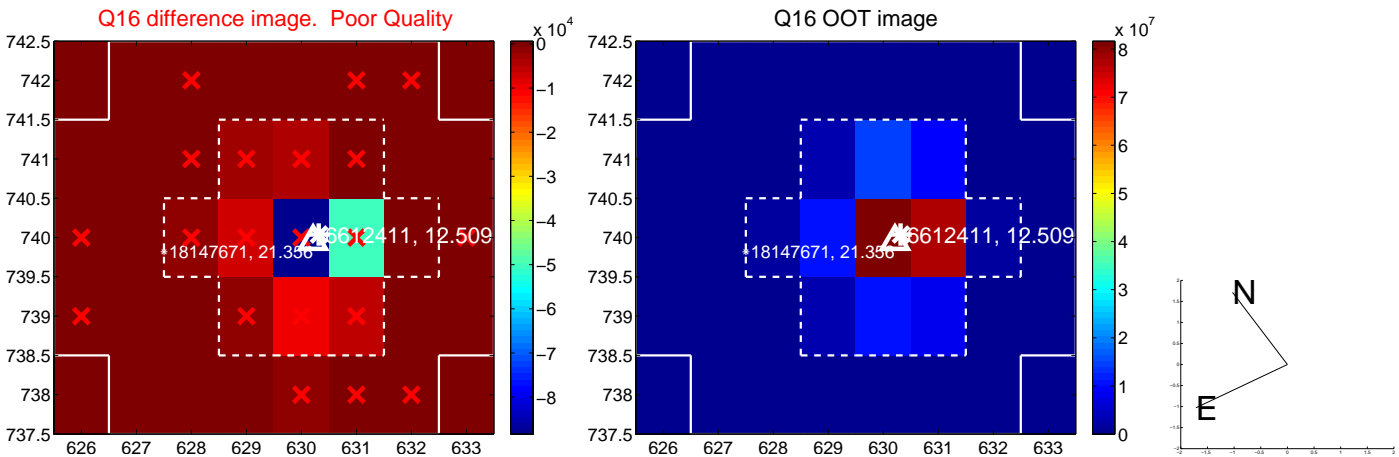
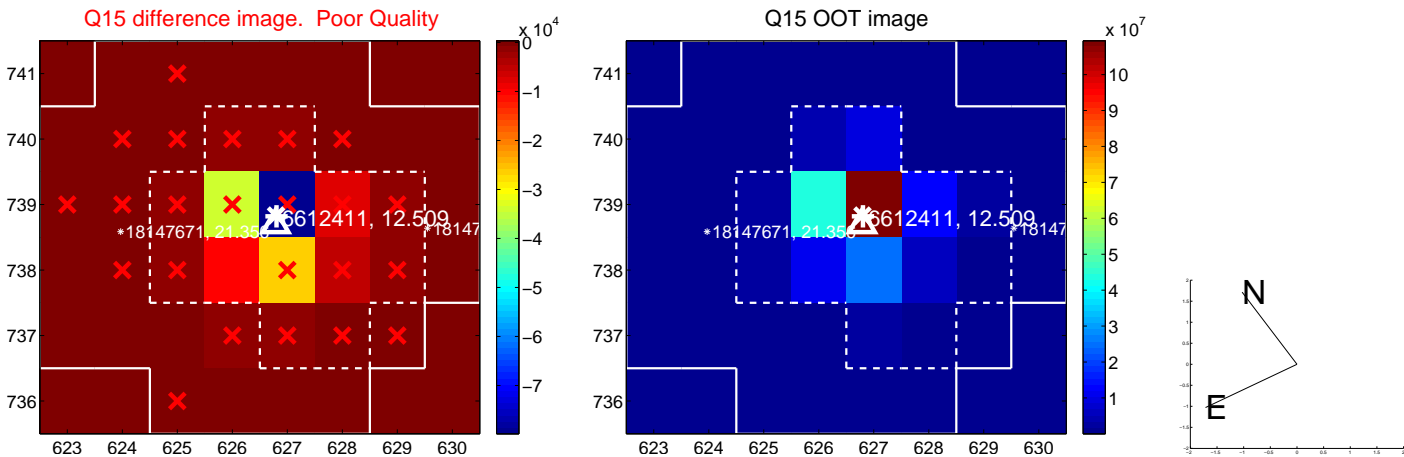
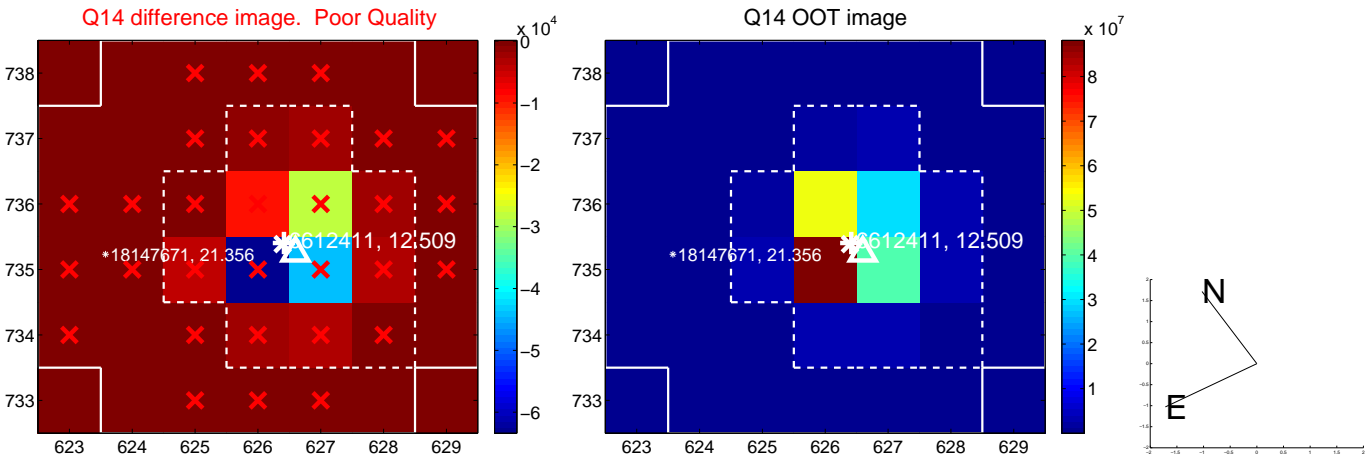
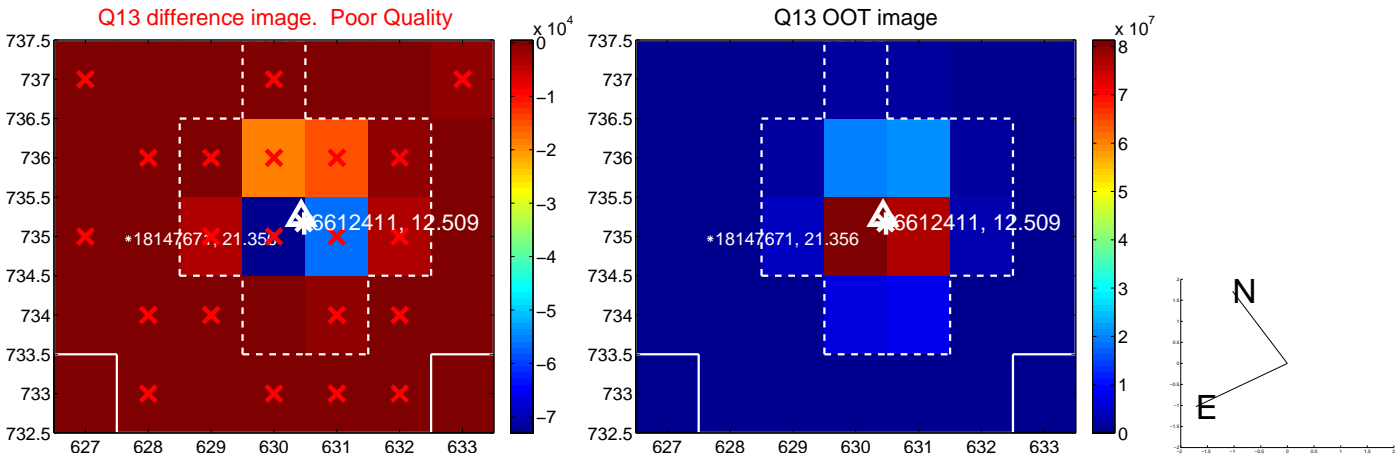
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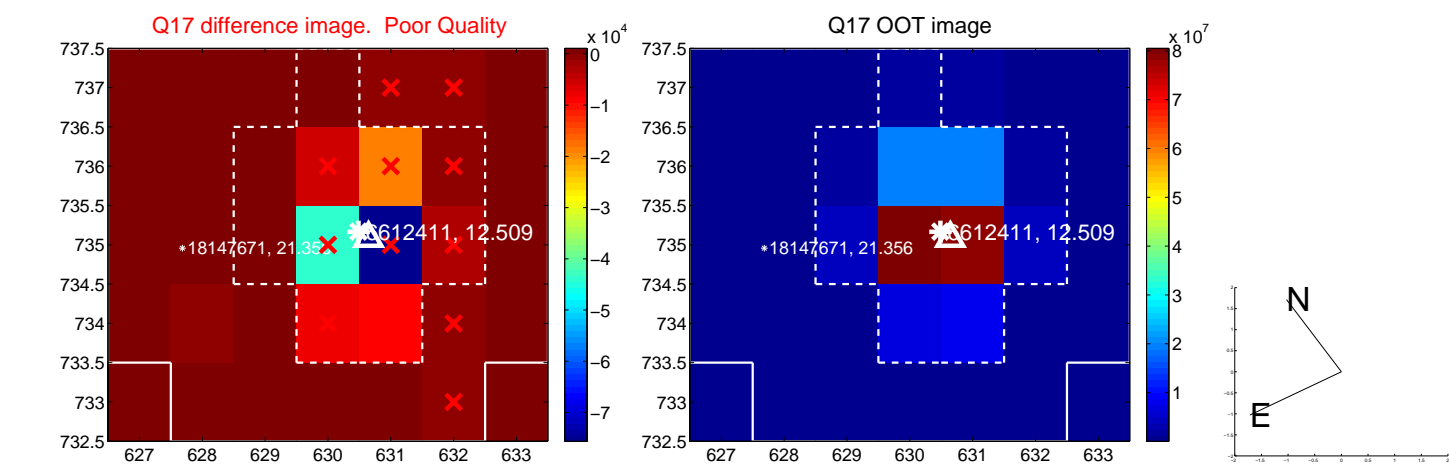
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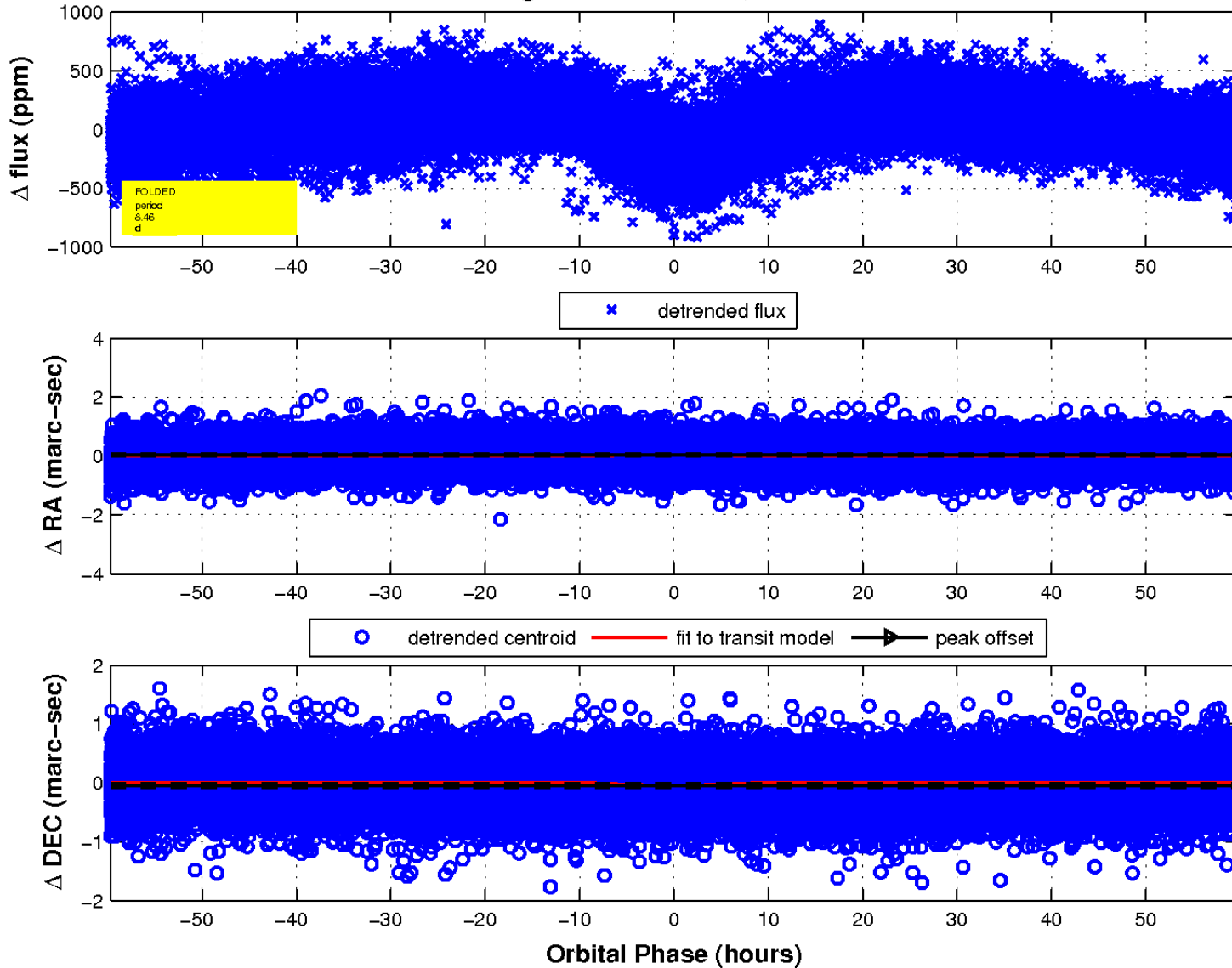
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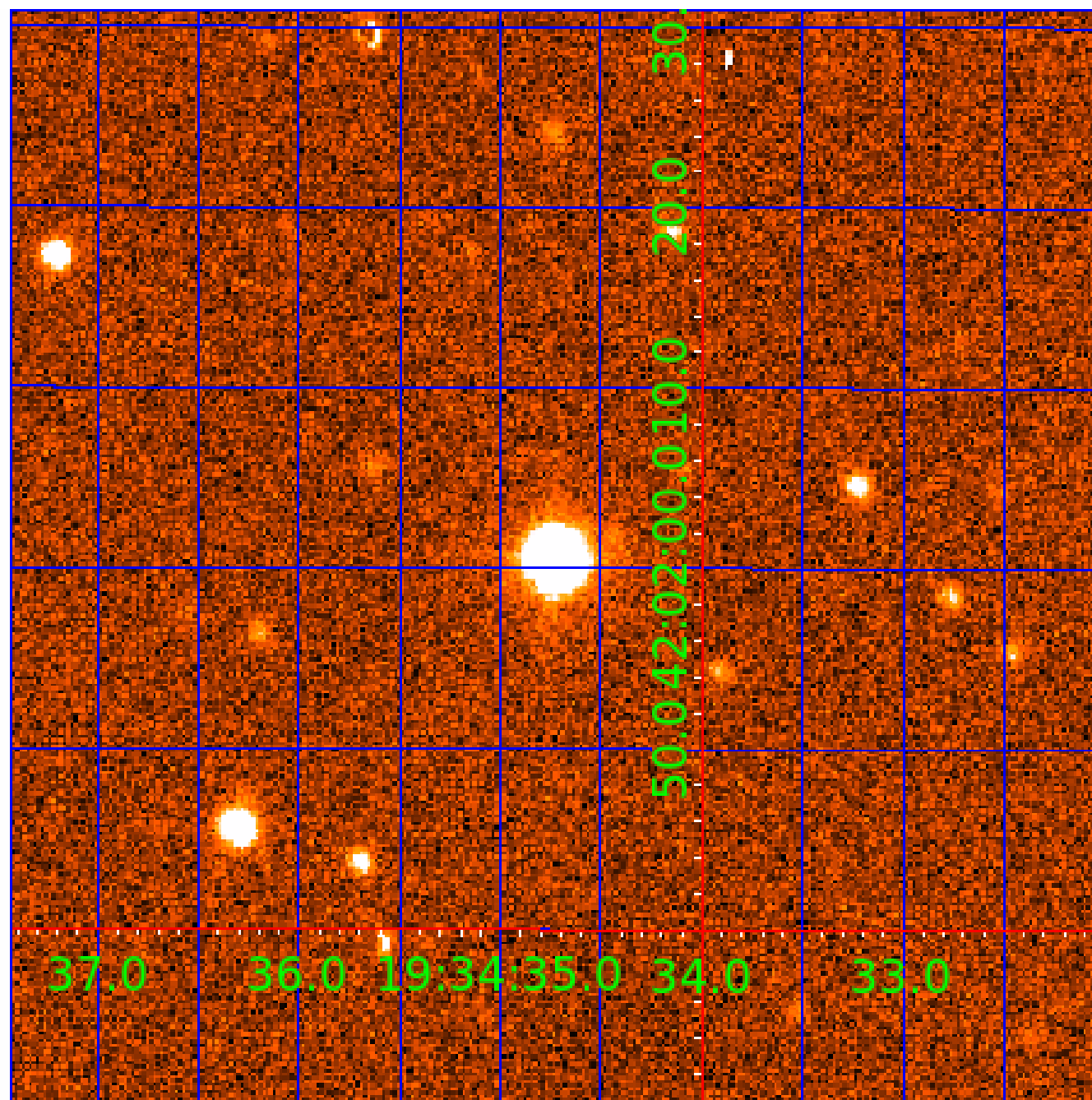


fluxWeightedCentroids, Planet 1 of 5



UKIRT Image

Declination



KIC 006612411

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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006612411-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006612411-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV
006612411-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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 006612411-02

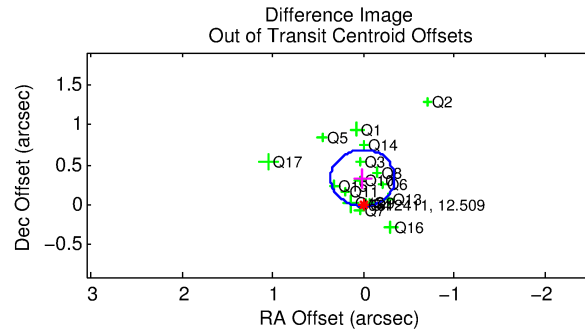
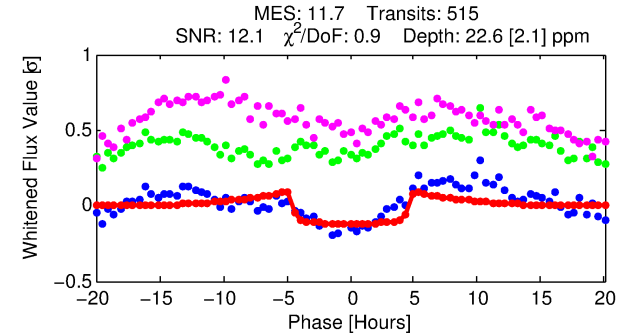
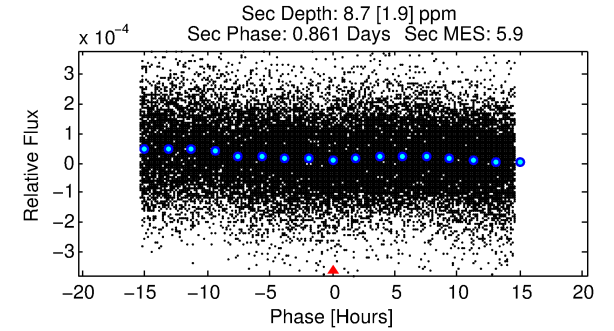
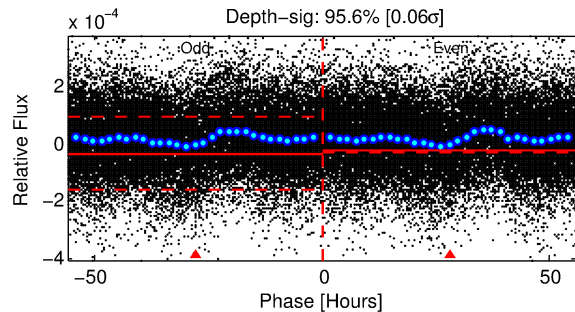
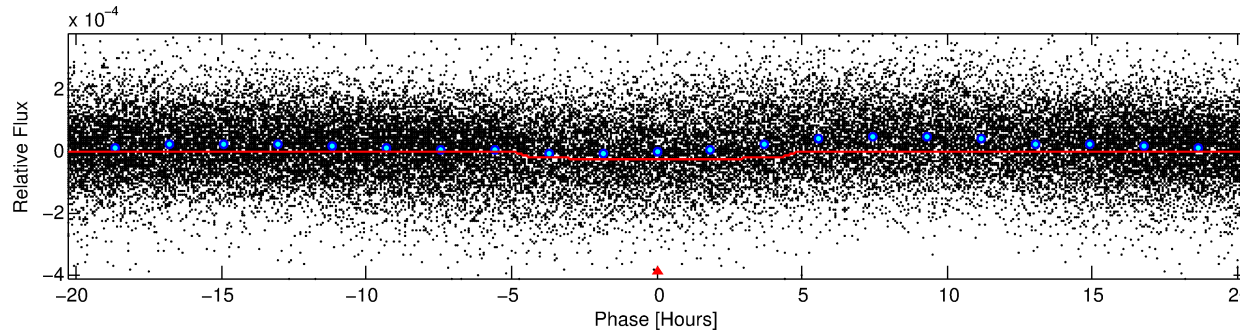
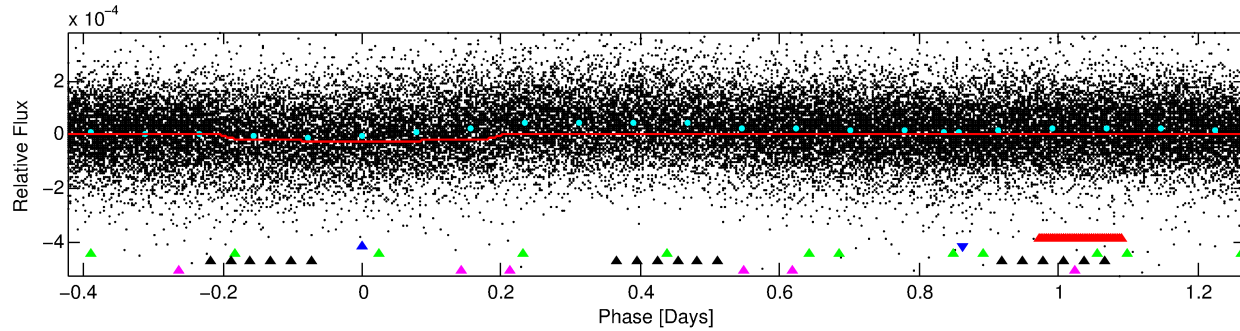
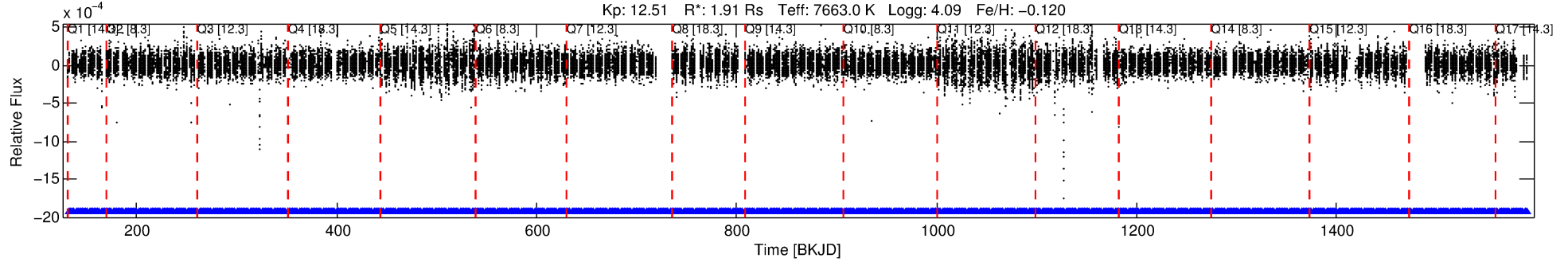
No Significant Match Found

DV One-Page Summary

KIC: 6612411 Candidate: 2 of 5 Period: 1.692 d

KOI: K05305 Corr: No Ephemeris Match

Kp: 12.51 R*: 1.91 Rs Teff: 7663.0 K Logg: 4.09 Fe/H: -0.120



DV Fit Results:

Period = 1.69250 [0.00002] d
Epoch = 132.6814 [0.0042] BKJD
Rp/R* = 0.0044 [0.0029]
a/R* = 1.52 [3.41]
b = 0.02 [233.71]
Seff = 10558.33 [3668.94]
Teq = 2585 [225] K
Rp = 0.92 [0.66] Re
a = 0.0327 [0.0072] AU
Ag = 6.06 [8.40] [0.60σ]
Teffp = 6271 [2133] K [1.72σ]

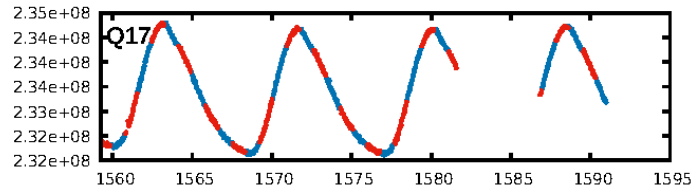
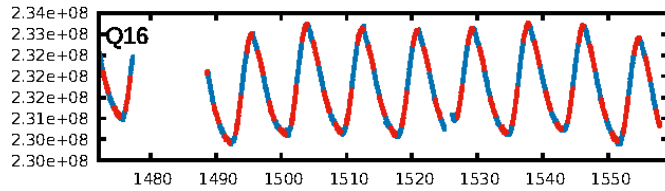
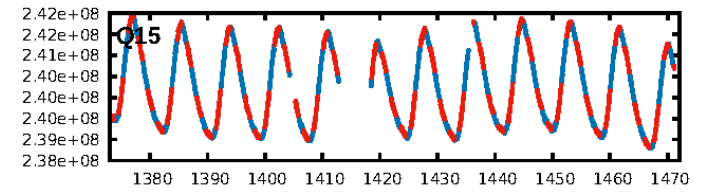
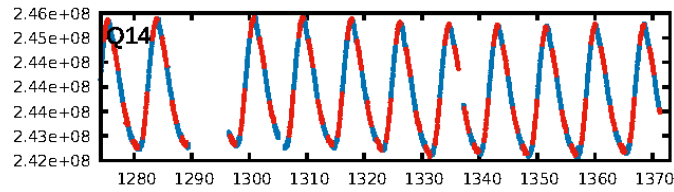
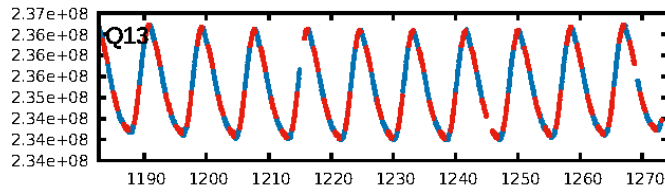
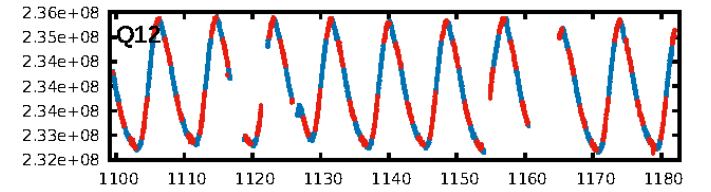
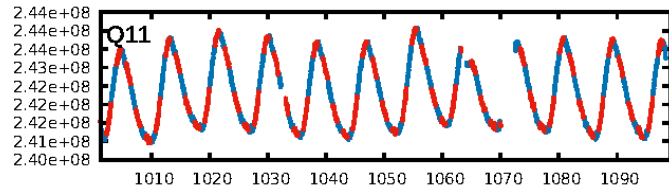
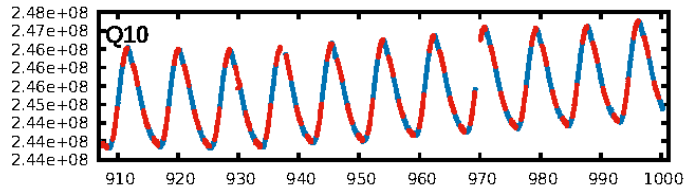
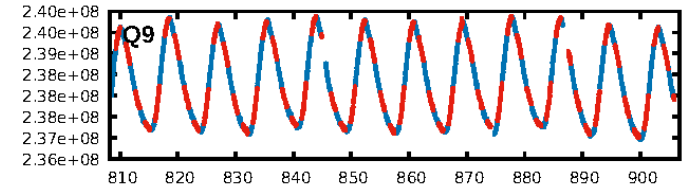
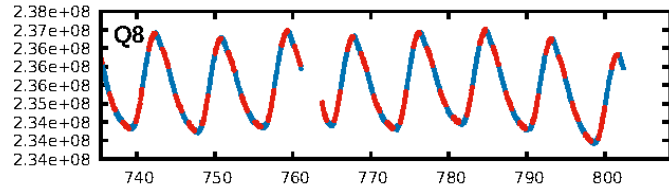
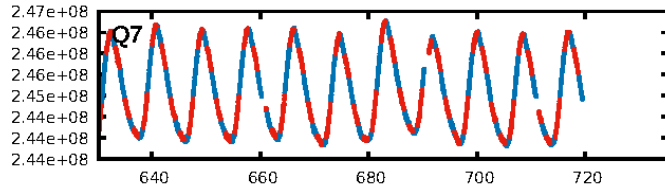
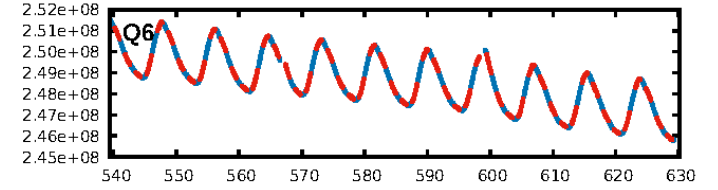
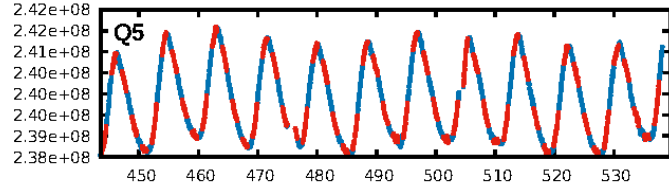
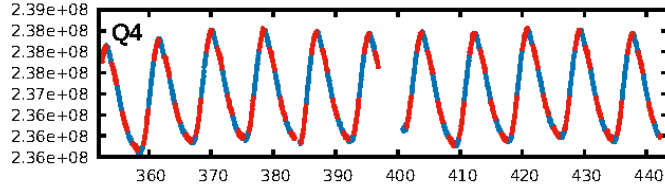
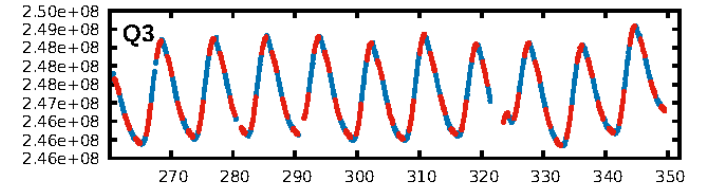
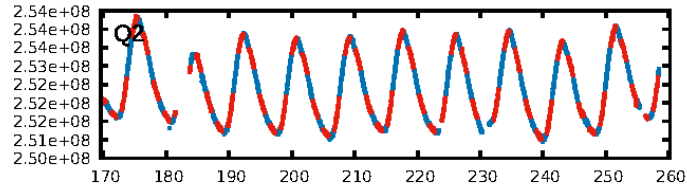
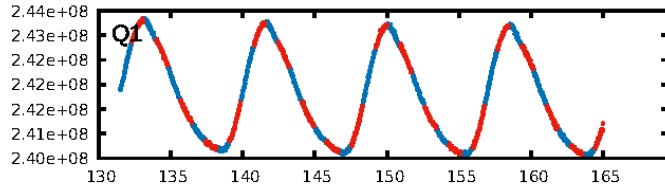
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [7.39σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.91e-17
RollingBand-fgt: 1.00 [491/491]
GhostDiagnostic-chr: 5.243
Centroid-sig: 11.5%
Centroid-so: 0.493 arcsec [1.14σ]
OotOffset-rm: 0.333 arcsec [2.82σ]
KicOffset-rm: 0.310 arcsec [2.62σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

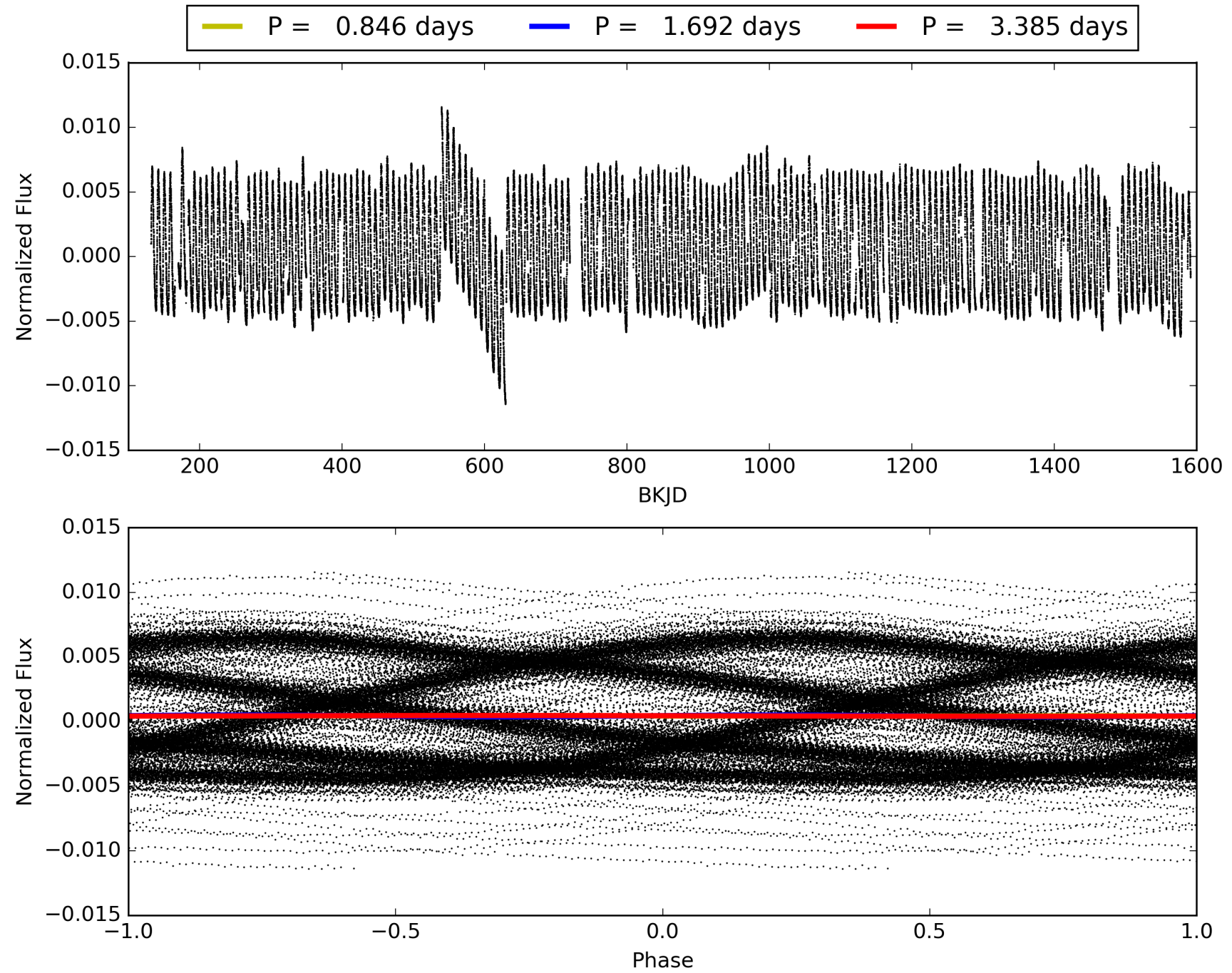
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:50:09 Z

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

TCE 006612411-02, PDC Light Curves

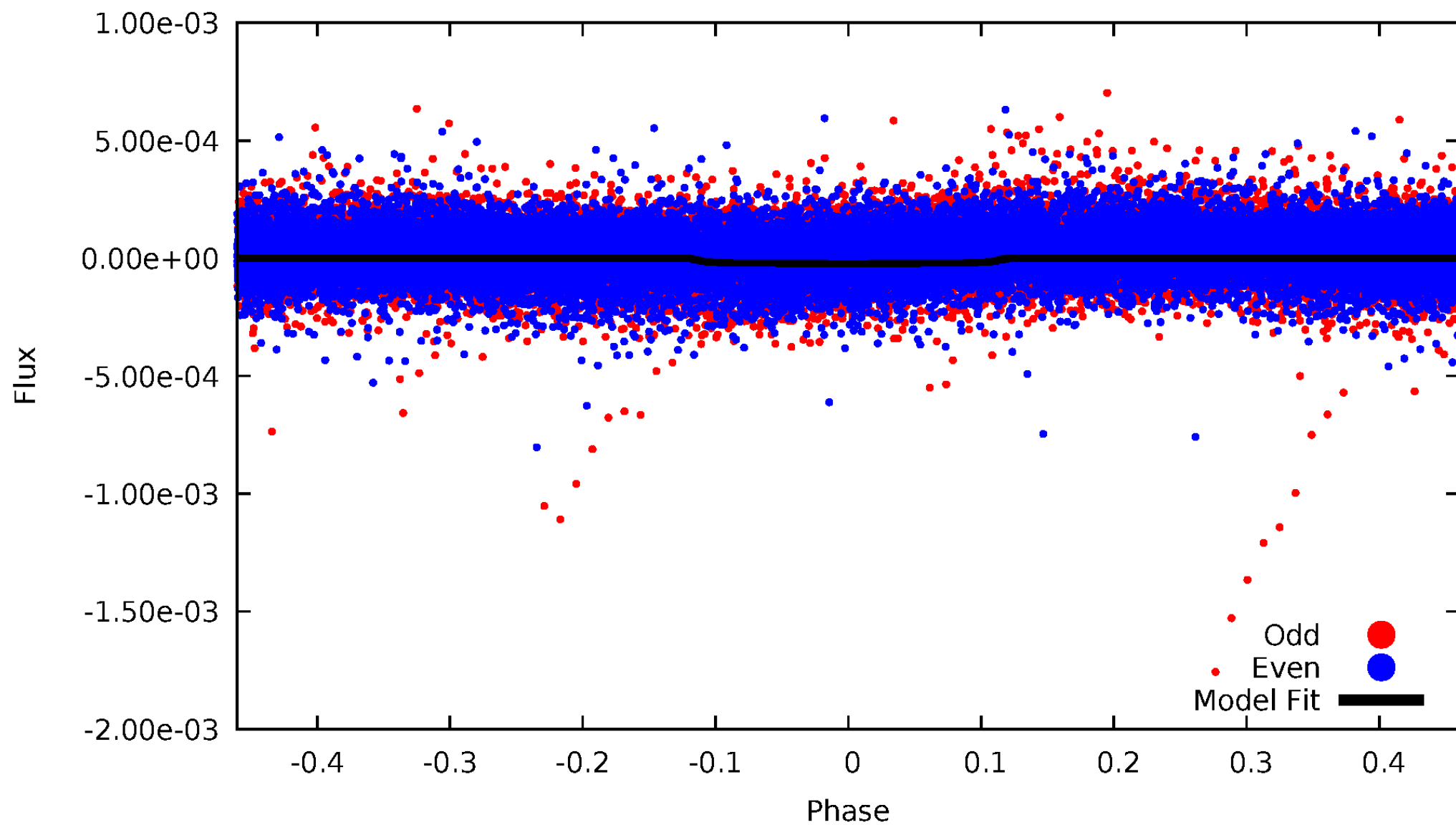


TCE 006612411-02



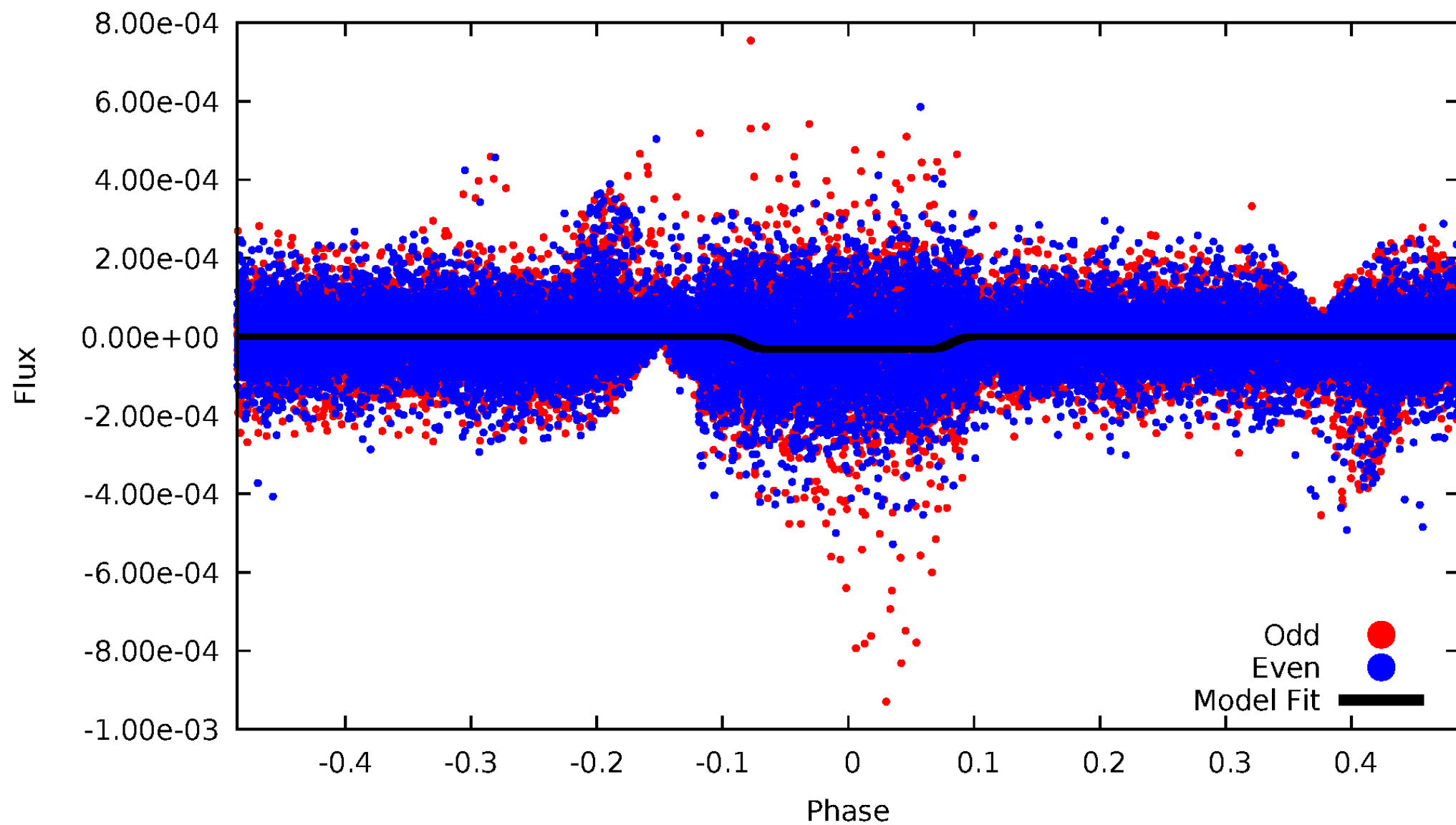
DV Odd/Even

TCE 006612411-02



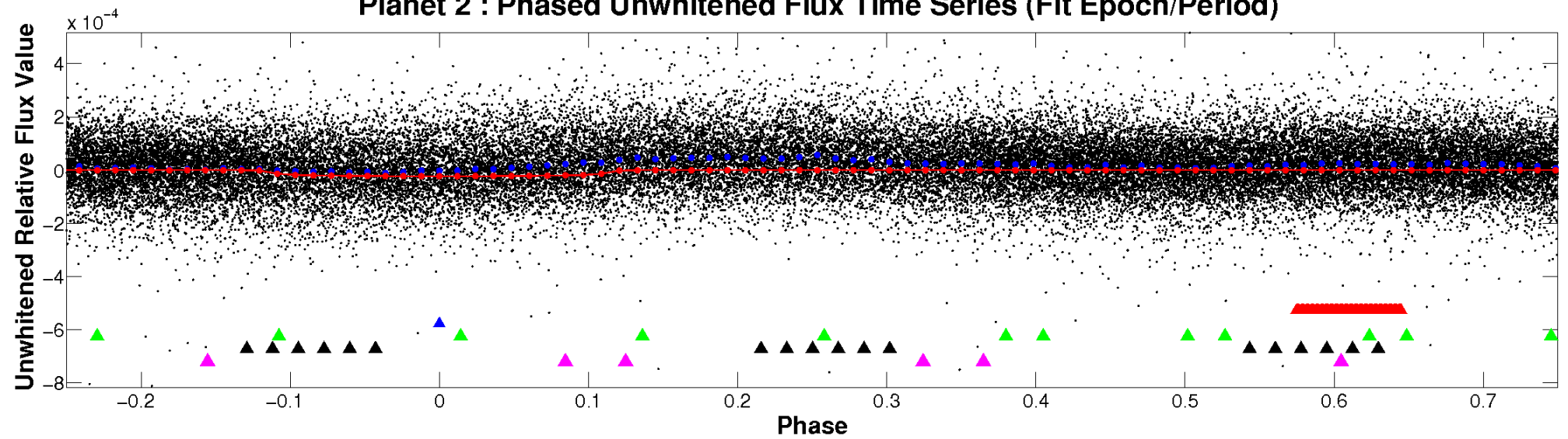
ALT Odd/Even

TCE 006612411-02

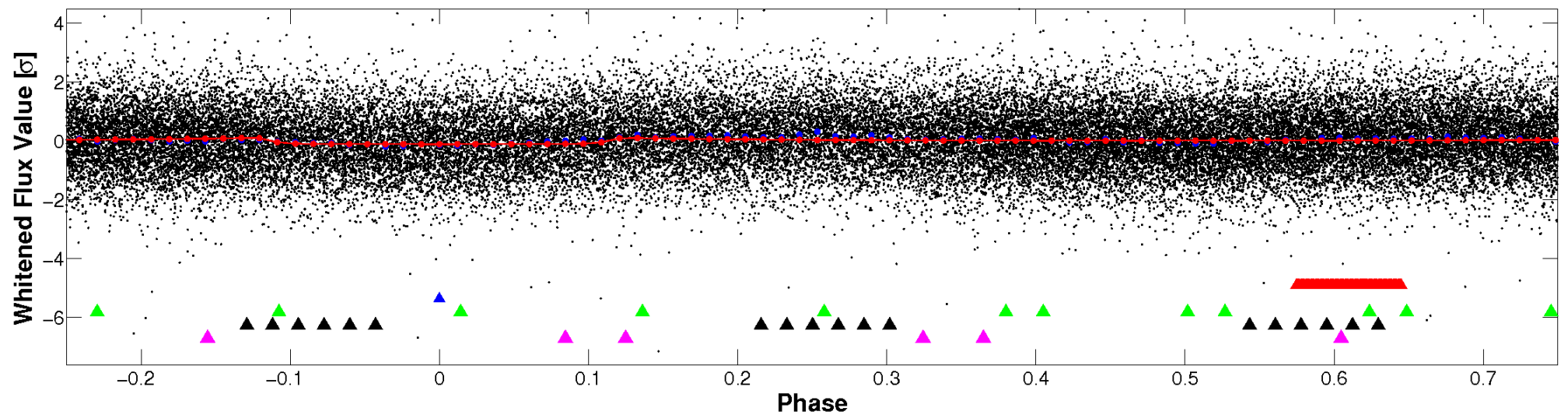


Non-Whitened Vs. Whitened Light Curve

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

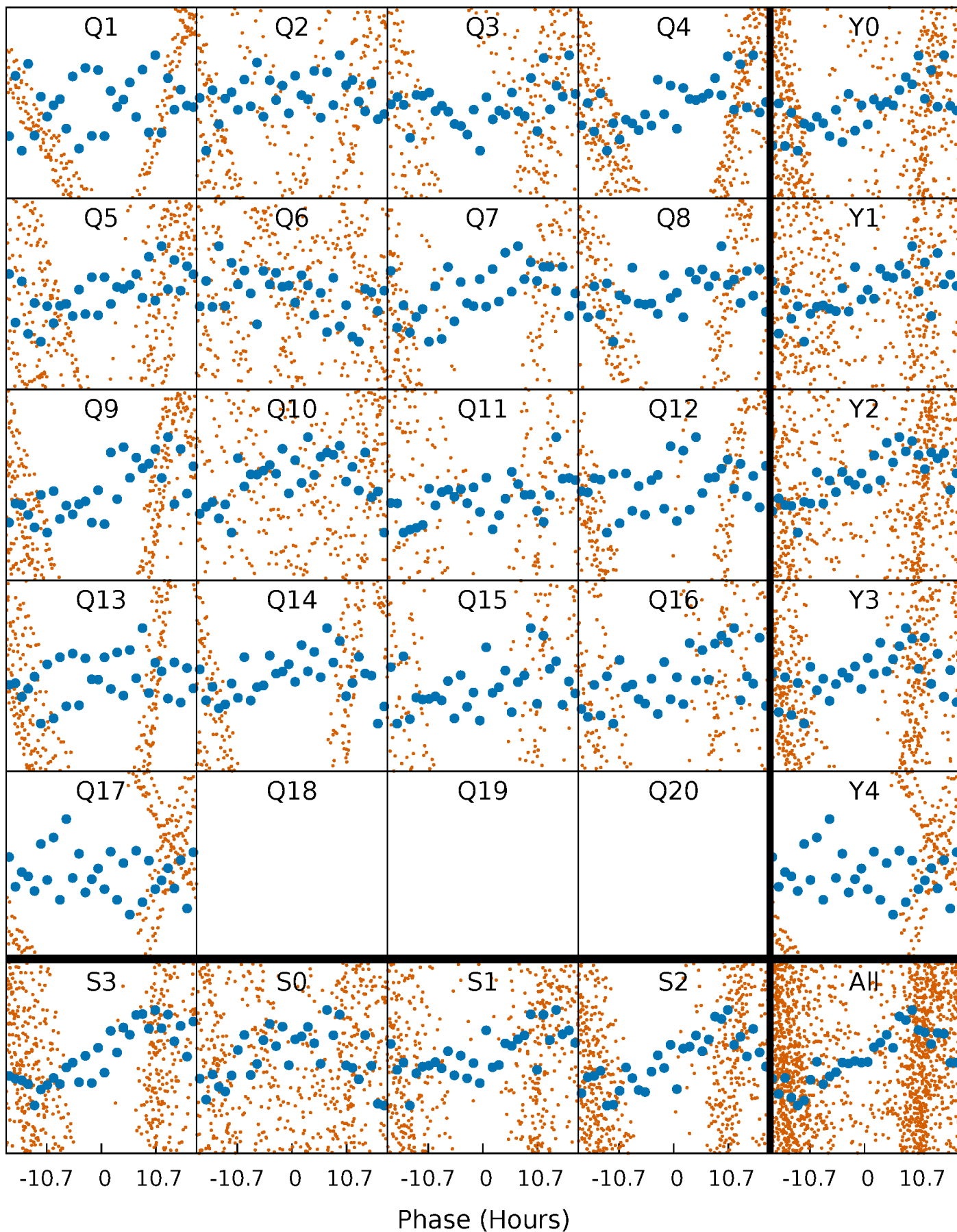


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



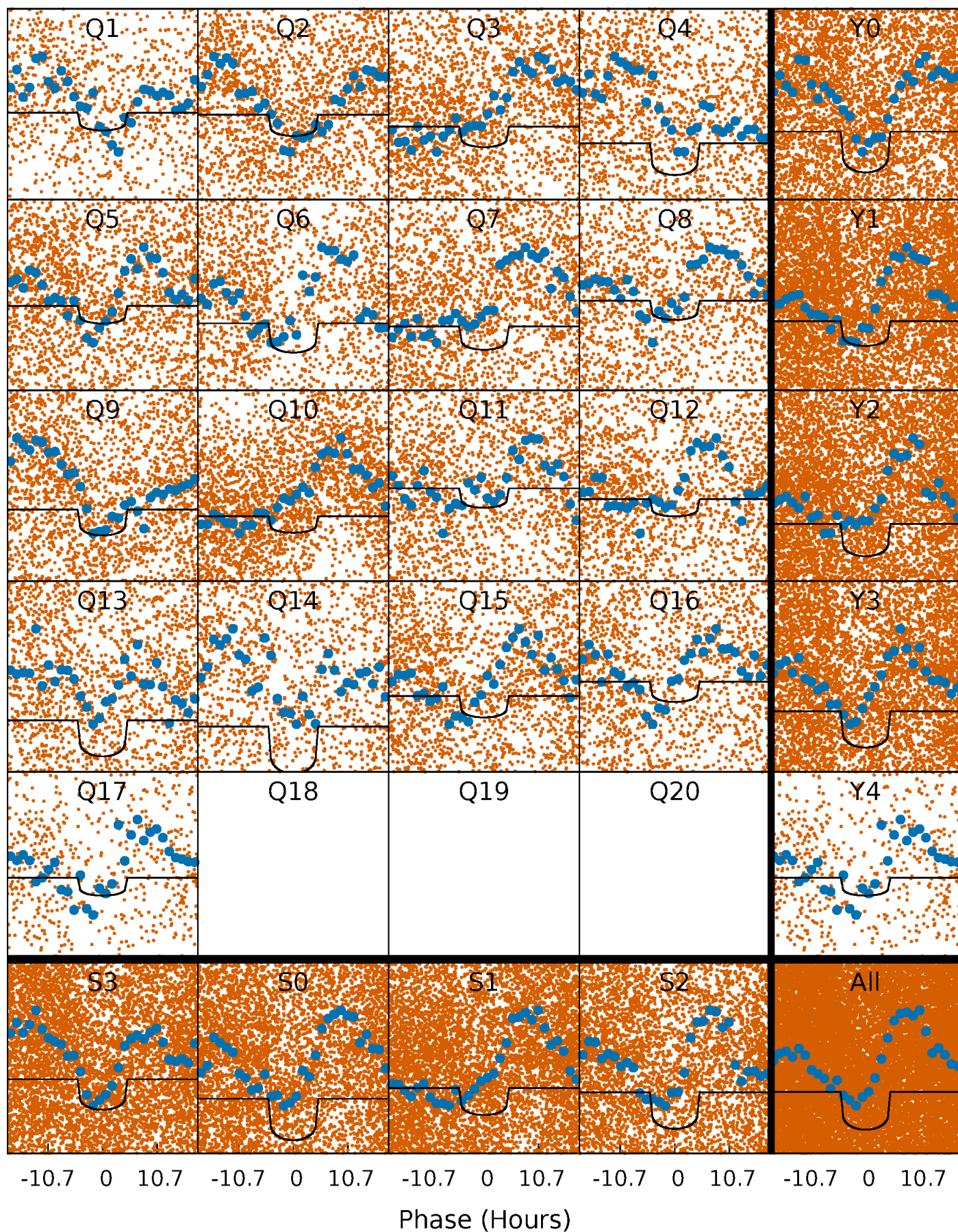
PDC Quarter-Phased Transit Curves

TCE 006612411-02 P= 1.692498 Days $T_0=132.681394$ (BKJD)



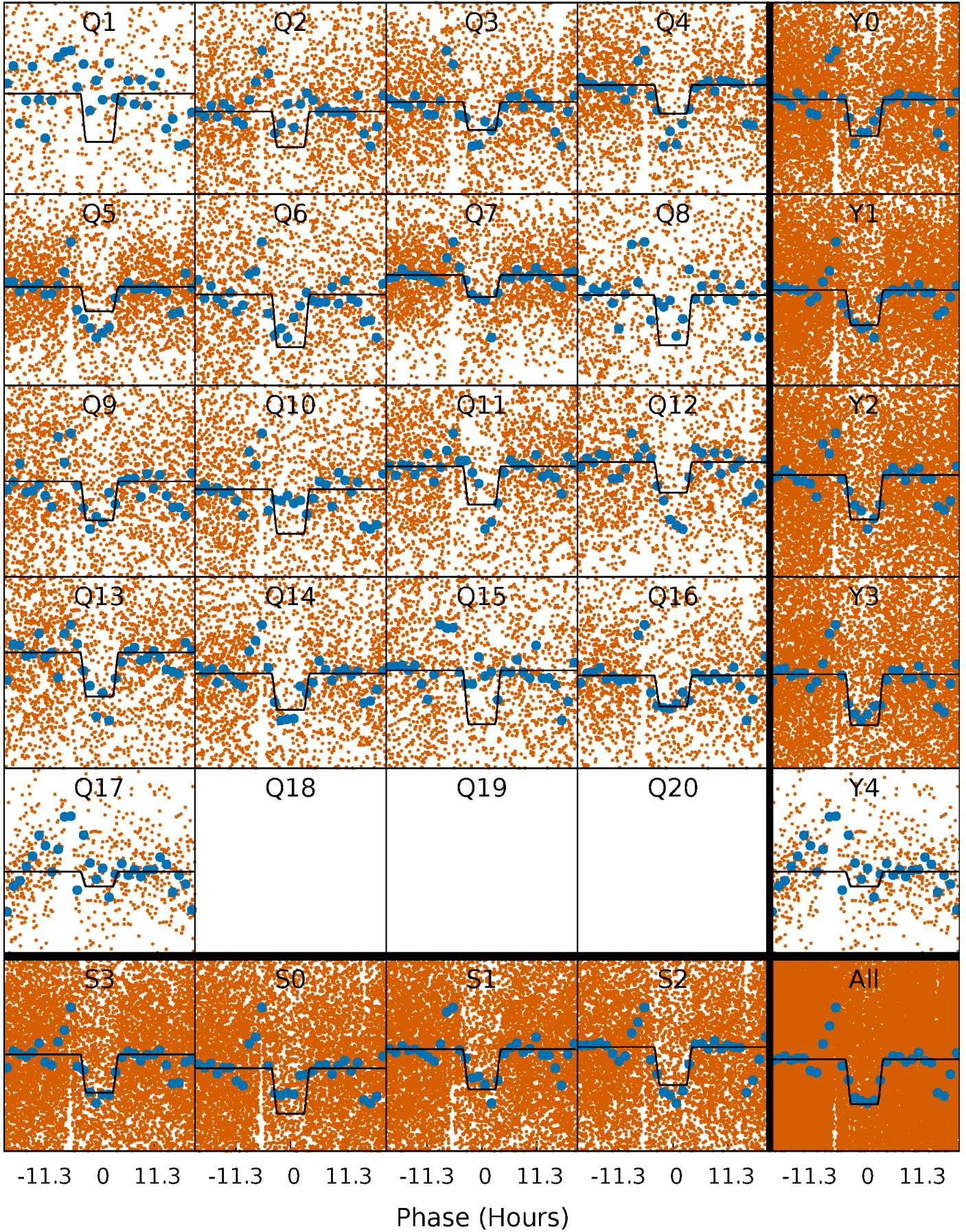
DV Quarter-Phased Transit Curves

TCE 006612411-02 P= 1.692498 Days $T_0=132.681394$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

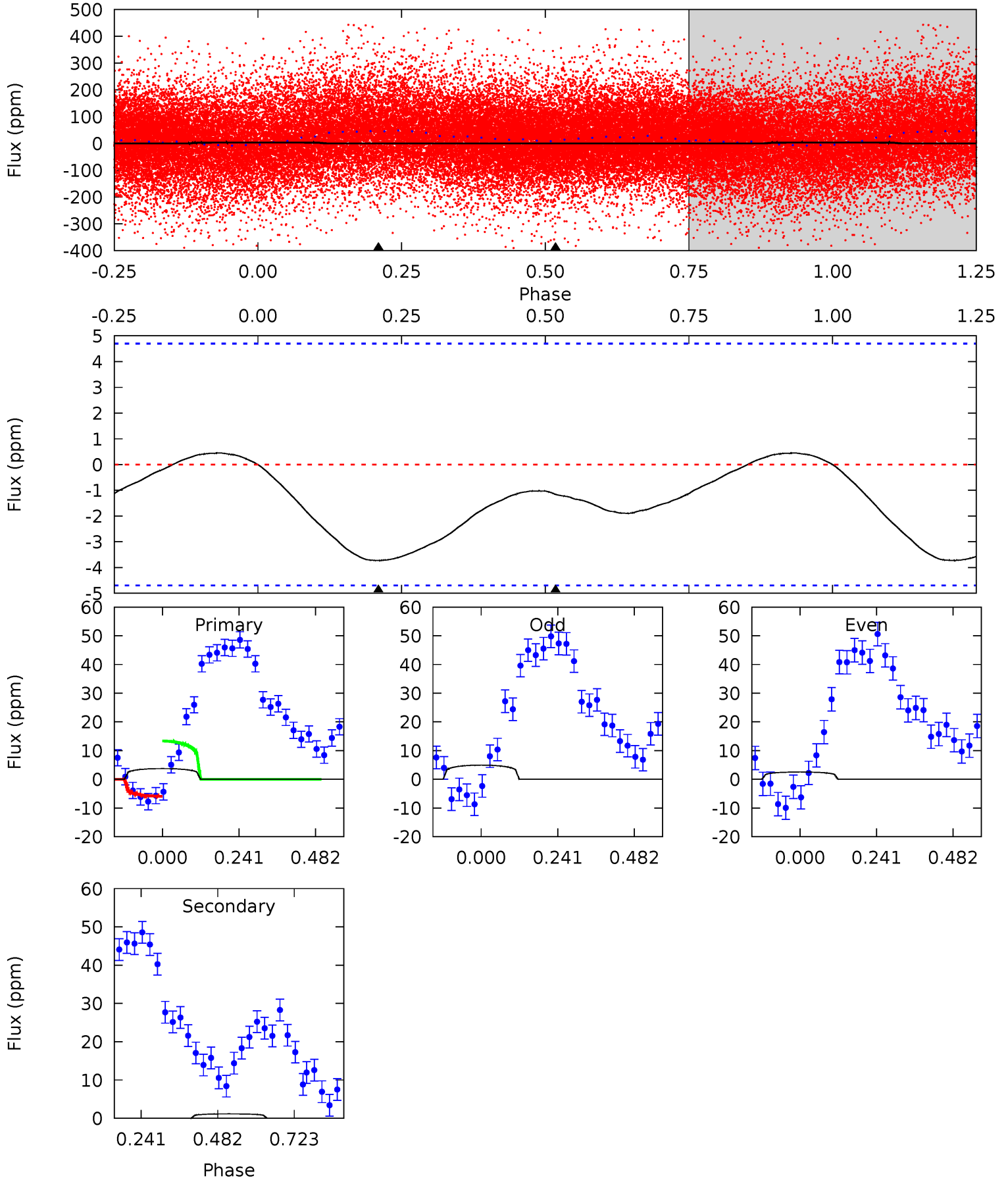
TCE 006612411-02 P= 1.692372 Days $T_0=132.731692$ (BKJD)



DV Model-Shift Uniqueness Test

006612411-02, P = 1.692498 Days, E = 130.988896 Days

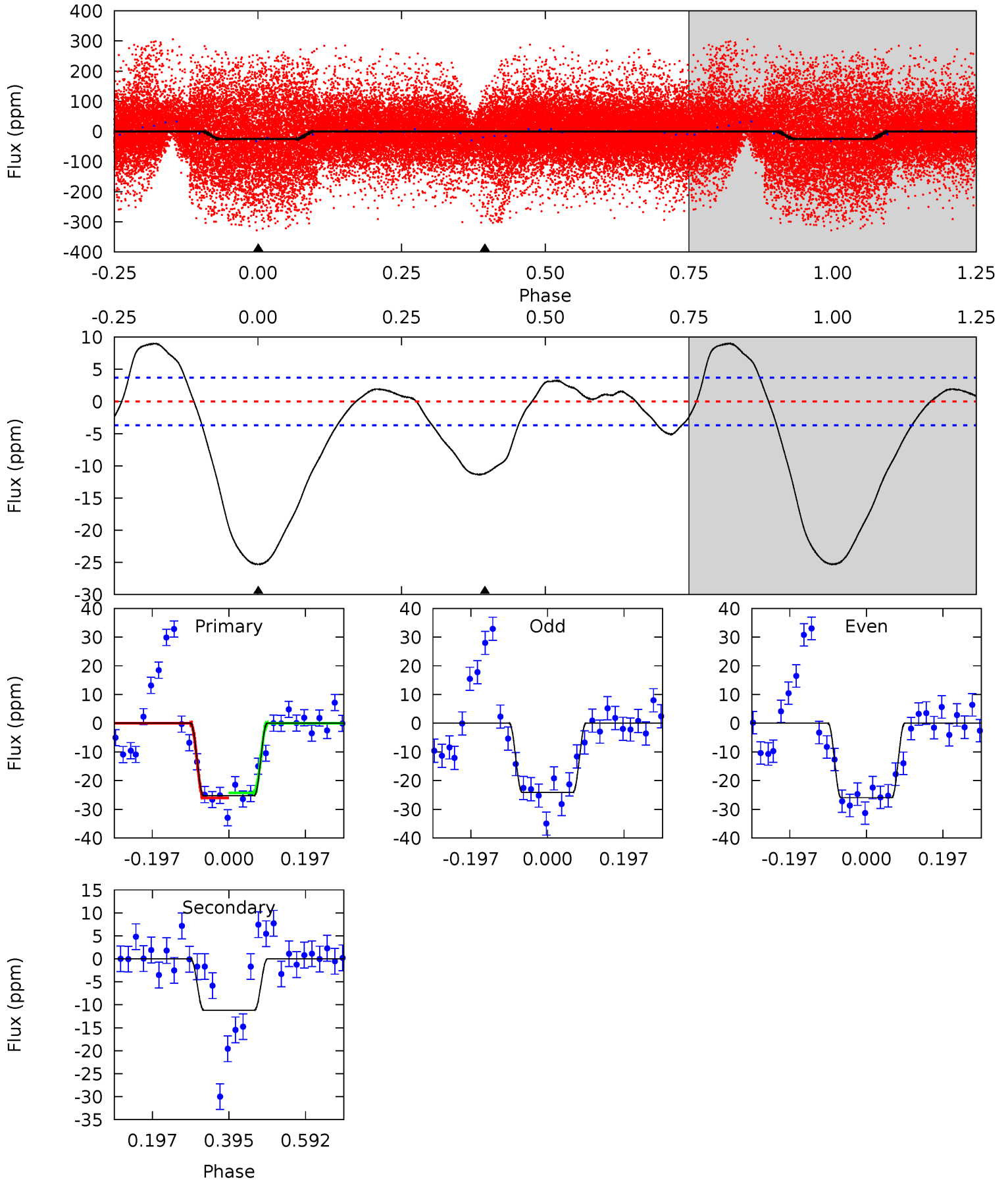
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.47	1.08	0	0	4.38	1.17	0.44	3.47	3.47	1.08	1.08	1.12	1.40	0.11	3.47



Alt Model-Shift Uniqueness Test

006612411-02, P = 1.692372 Days, E = 131.039320 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.2	13.4	0	0	4.42	1.29	4.36	30.2	30.2	13.4	13.4	1.10	1.16	0.26	1.05



Stellar Parameters For KIC 006612411

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7663^{+237}_{-316}	$4.087^{+0.160}_{-0.160}$	$-0.120^{+0.200}_{-0.350}$	$1.913^{+0.523}_{-0.428}$	$1.630^{+0.197}_{-0.263}$	$0.328^{+0.269}_{-0.148}$
	+3%/-4%	+4%/-4%	+167%/-292%	+27%/-22%	+12%/-16%	+82%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006612411-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1 ± 1	$0.94^{+0.61}_{-0.52}$	3612^{+246}_{-251}	3516^{+1902}_{-6787}	$0.657^{+3.276}_{-0.582}$
Alt.	-11 ± 1	$1.13^{+0.69}_{-0.54}$	3598^{+237}_{-256}	5767^{+2543}_{-1111}	$5.182^{+14.267}_{-3.145}$

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 $A_{obs} \gg 1.0$

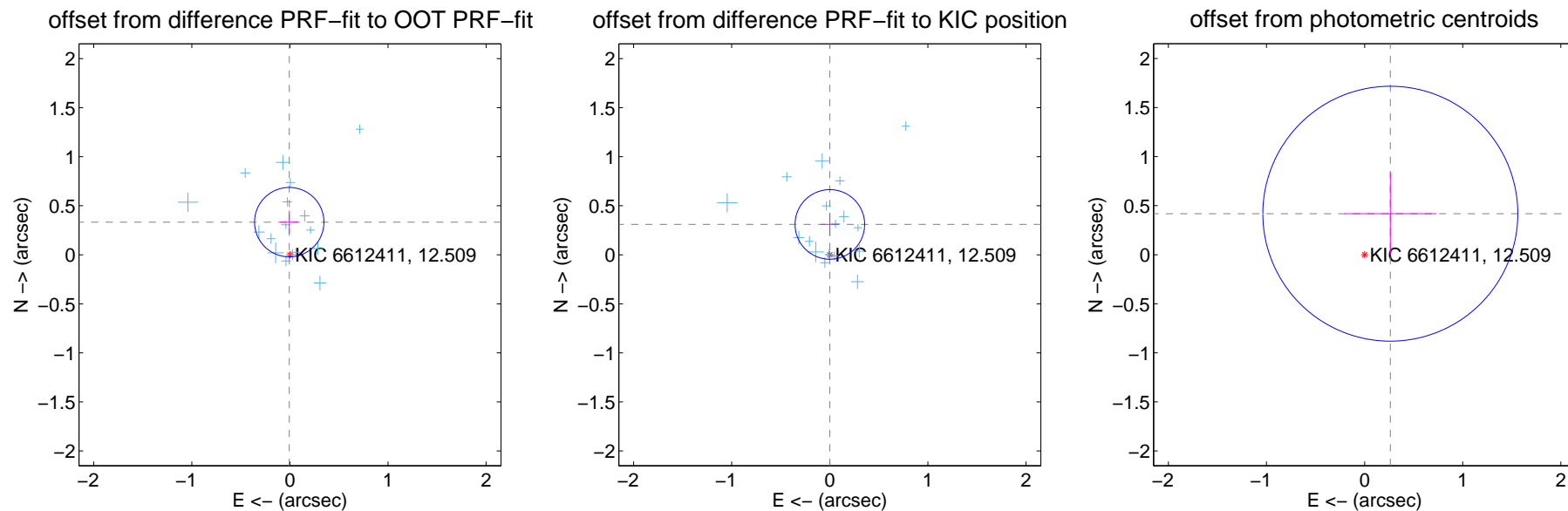
DV Centroid Data

Supplemental centroid analysis for 006612411-02. Kepler magnitude: 12.51. Transit SNR 12.12

There are 17 quarters with good PRF difference image offsets

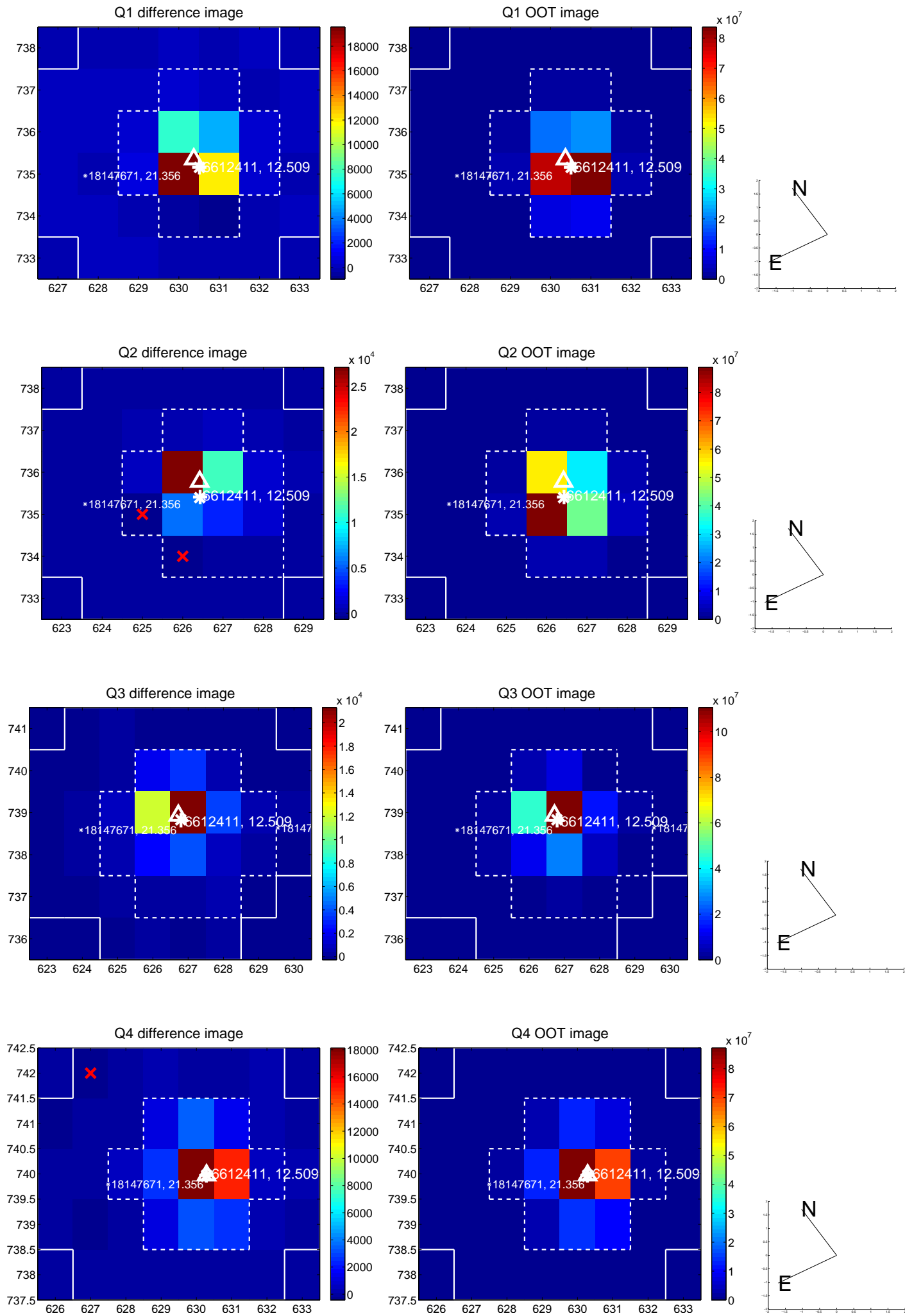
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.333 ± 0.118	2.82	0.007 ± 0.093	0.333 ± 0.118
PRF-fit source offset from KIC position	0.310 ± 0.118	2.62	-0.001 ± 0.094	0.310 ± 0.118
photometric centroid source offset	0.49 ± 0.43	1.14	-0.26 ± 0.47	0.42 ± 0.42

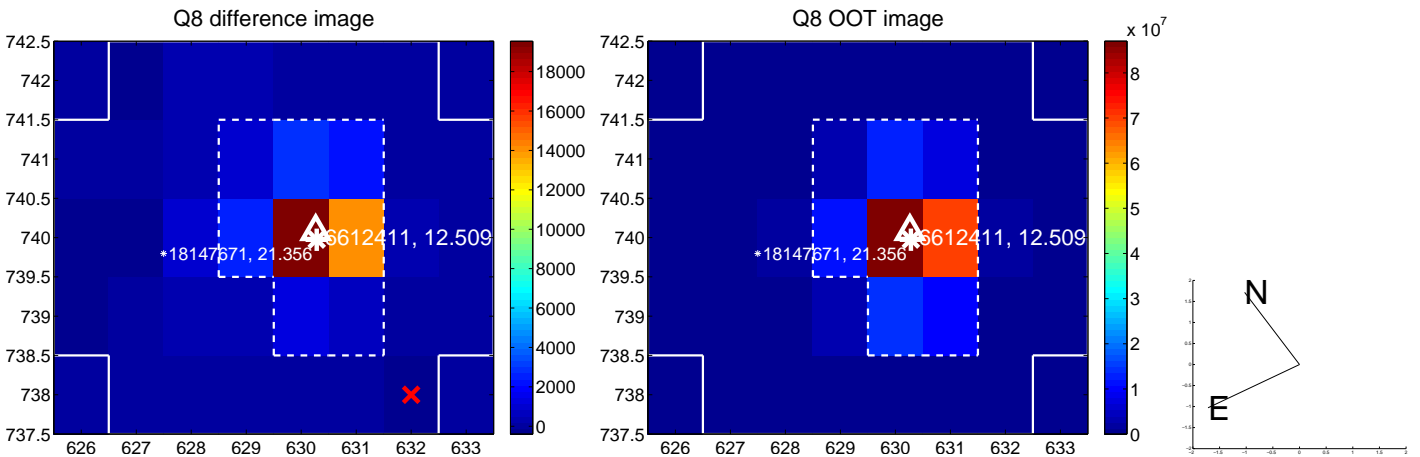
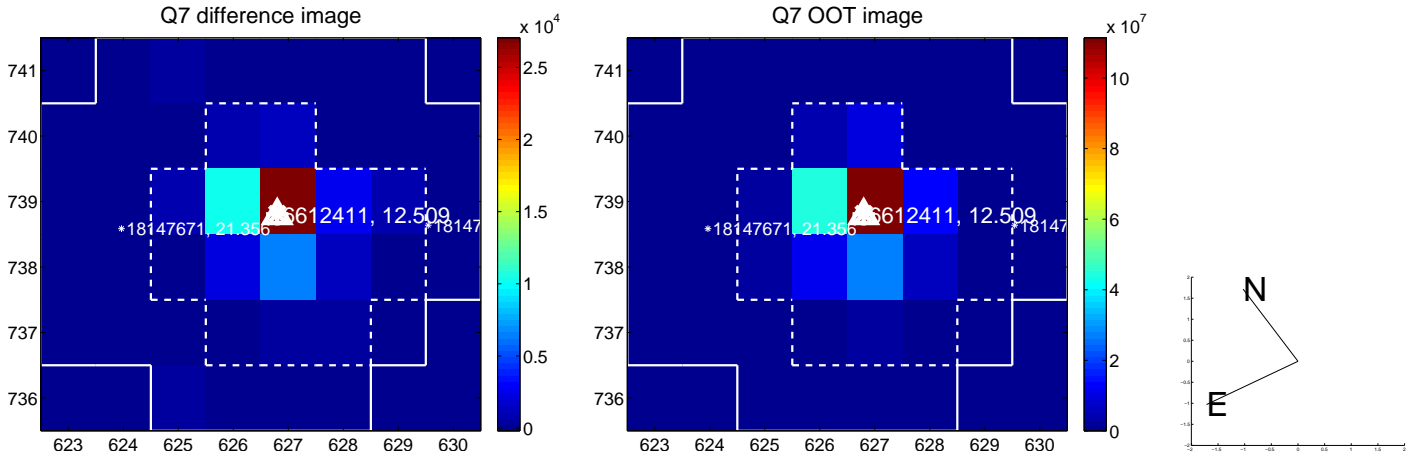
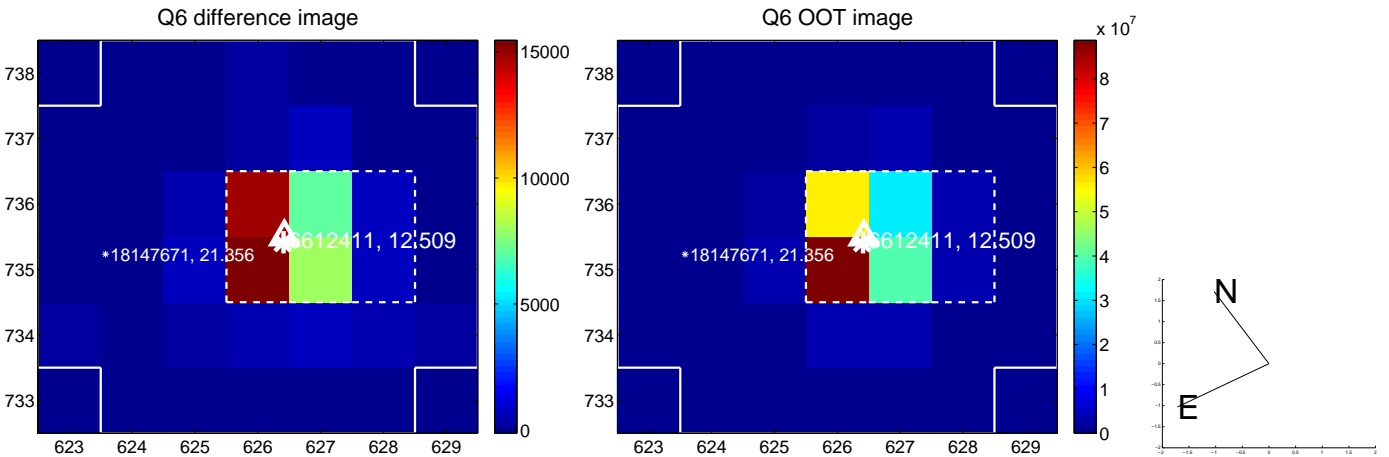
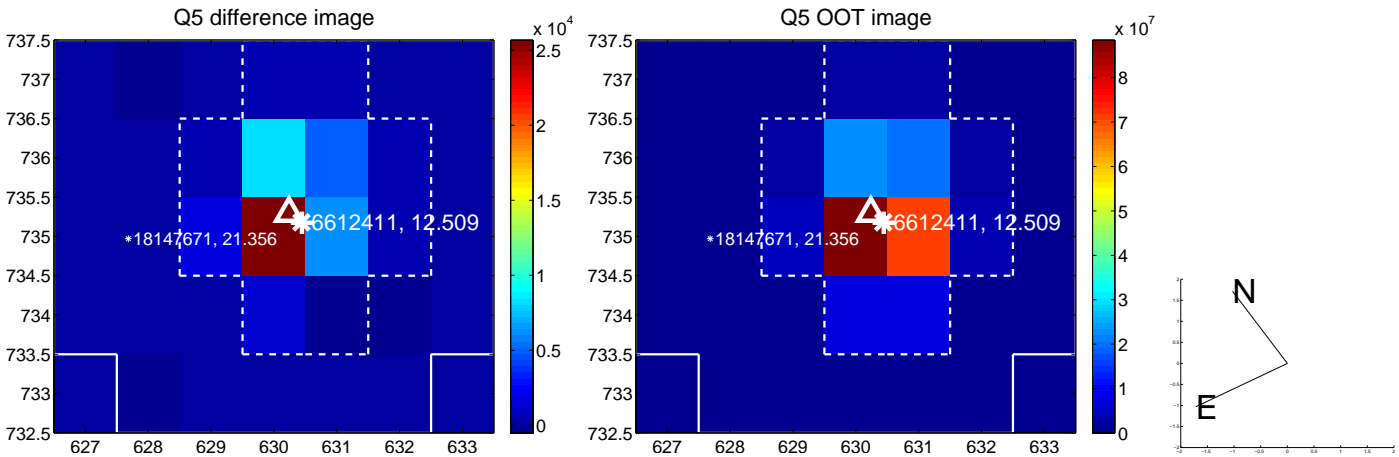


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

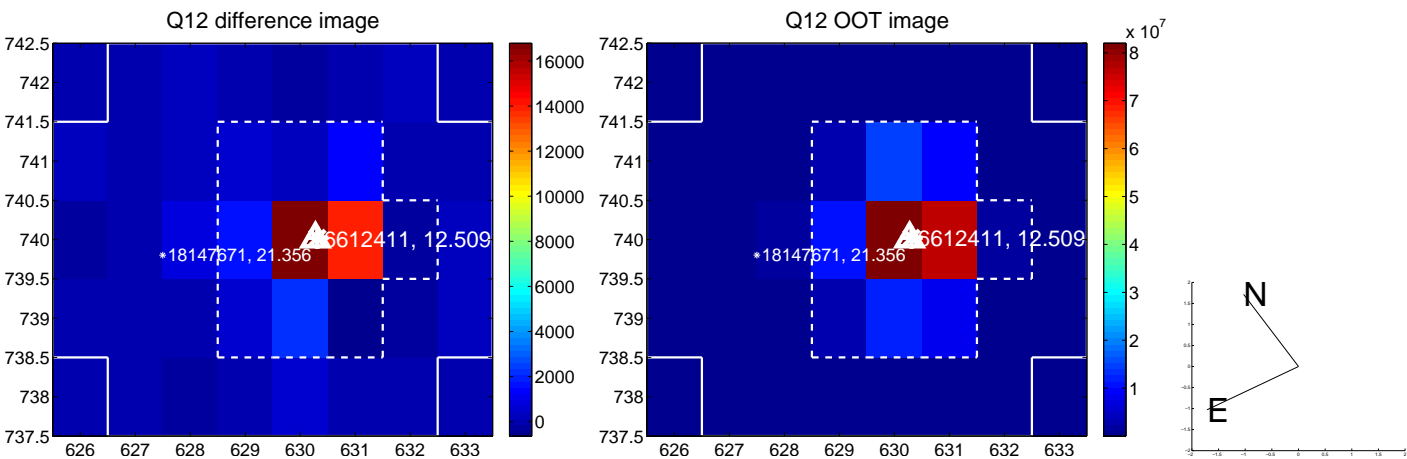
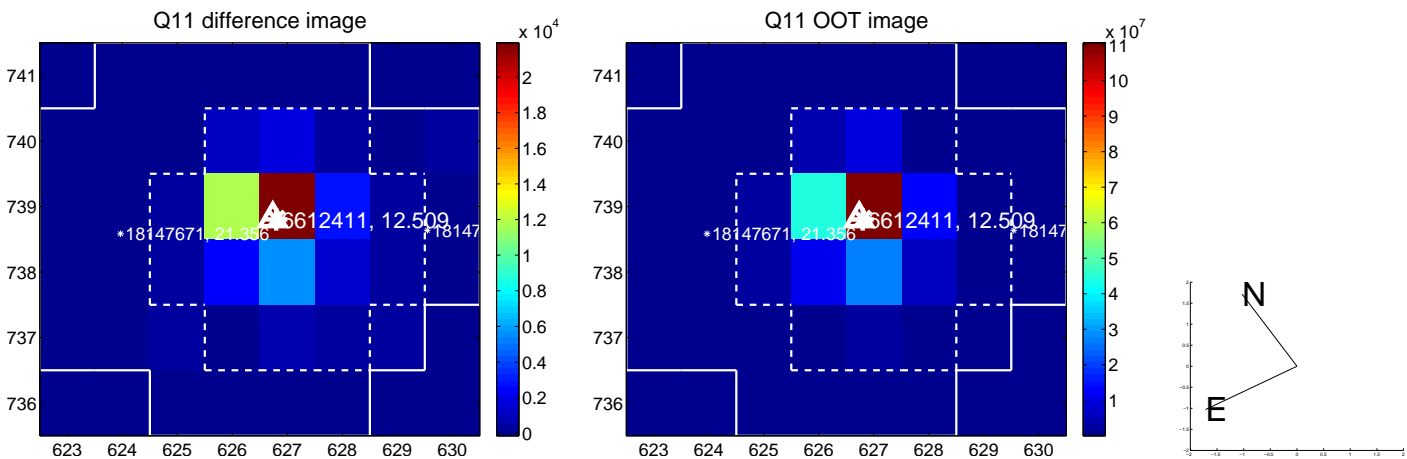
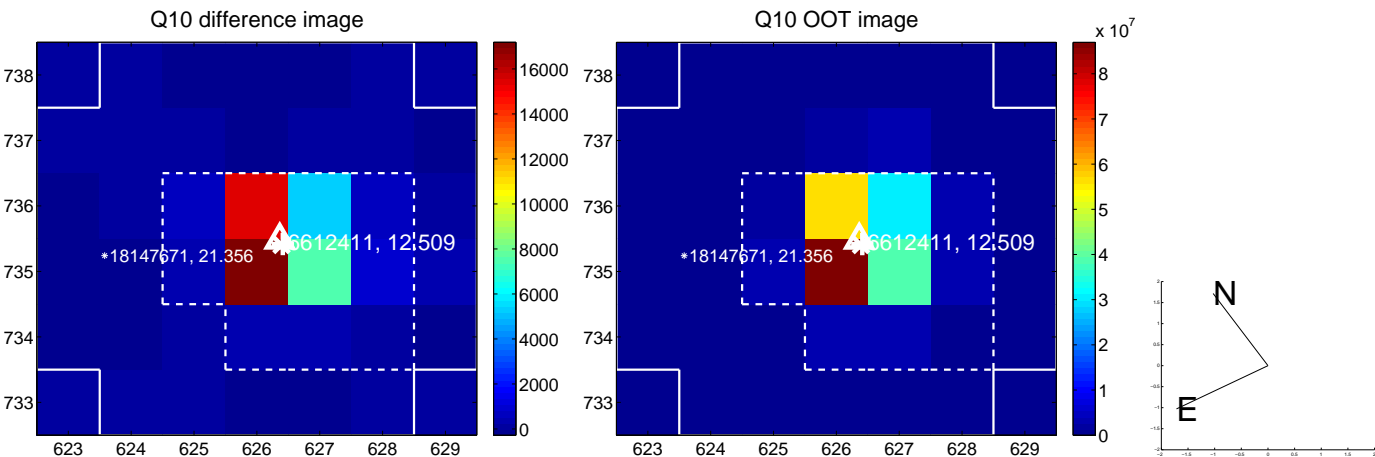
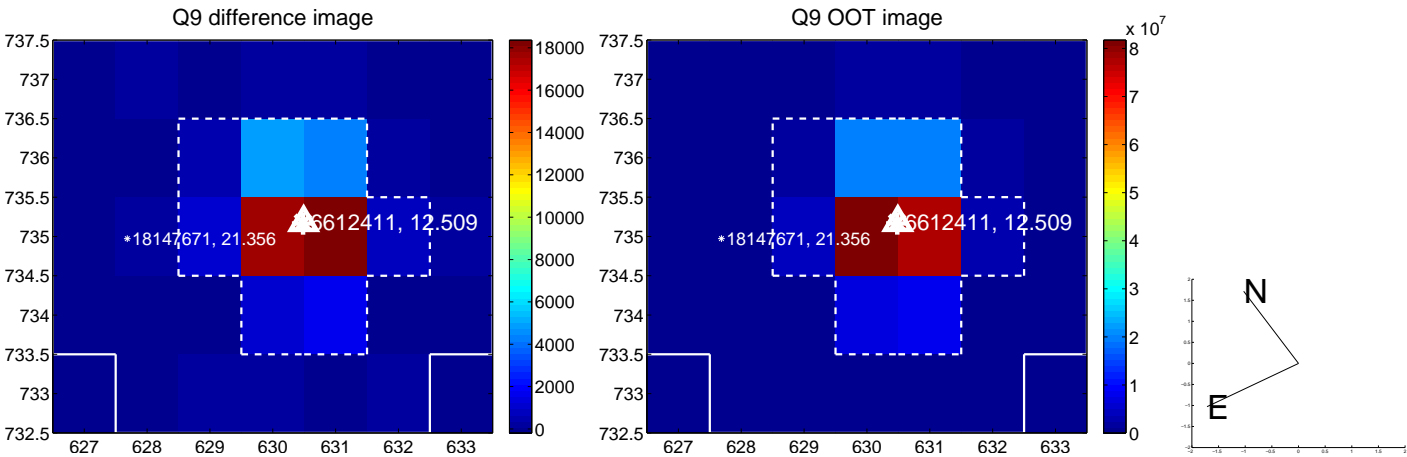
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



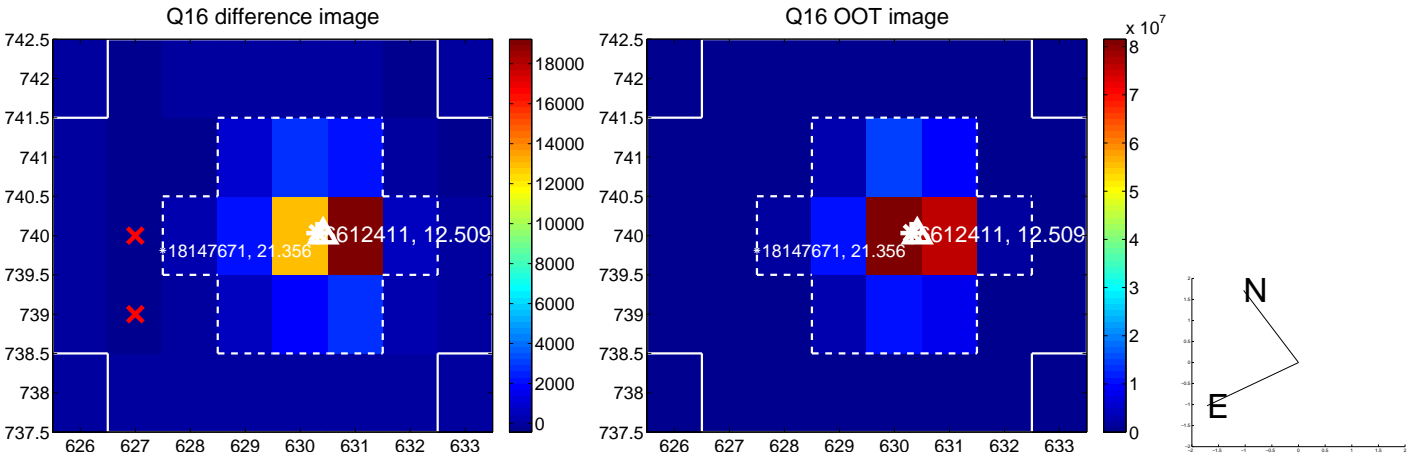
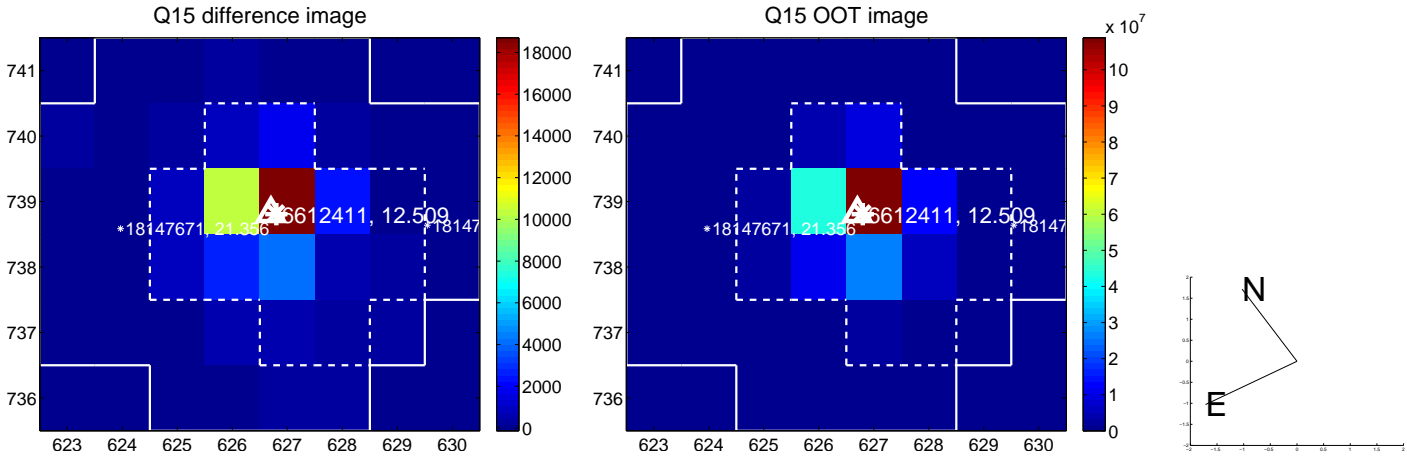
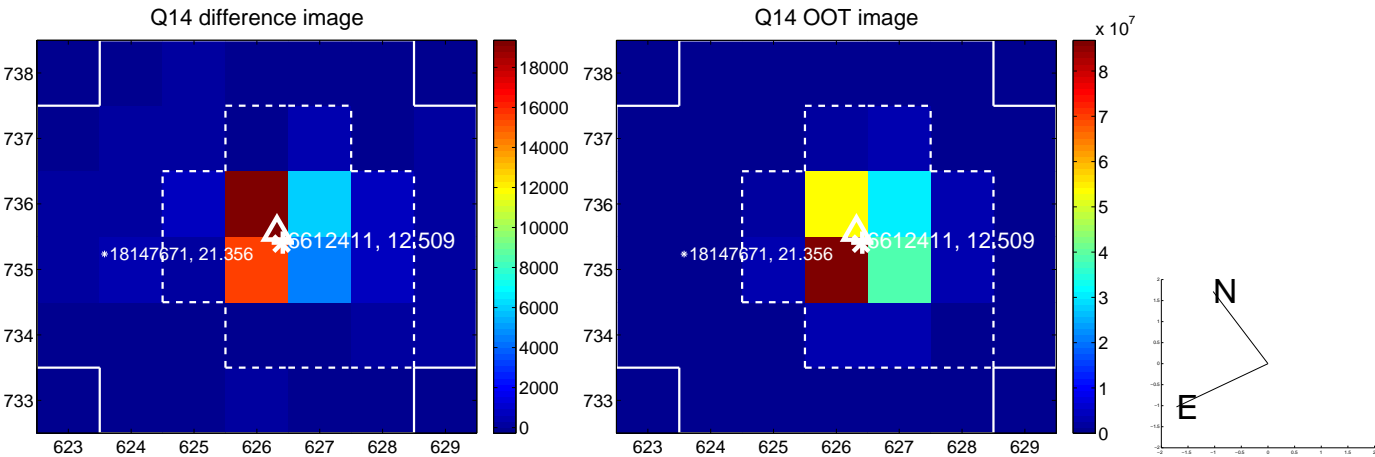
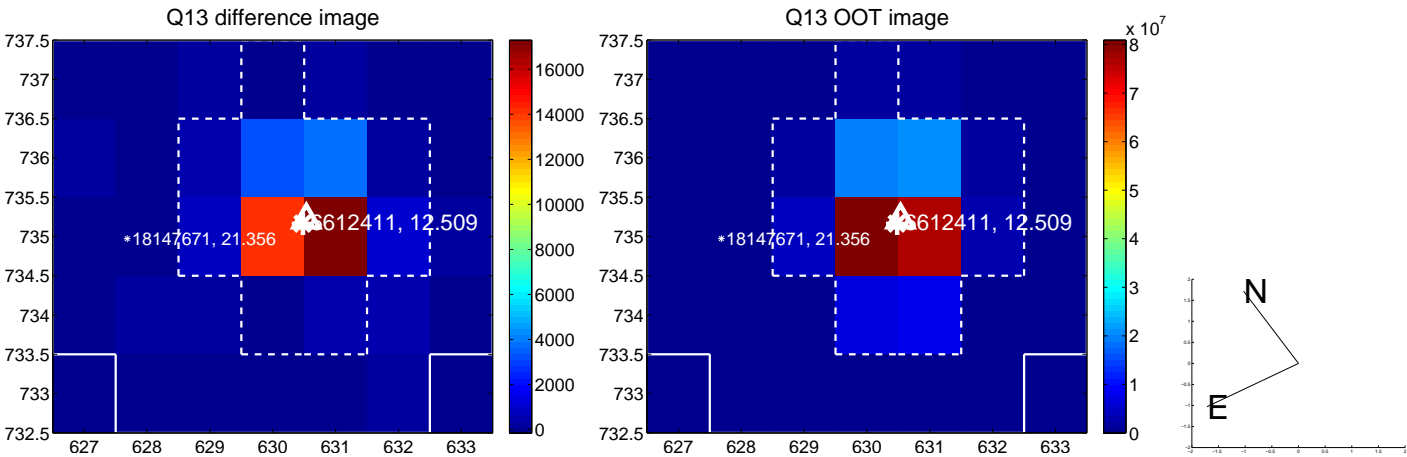
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



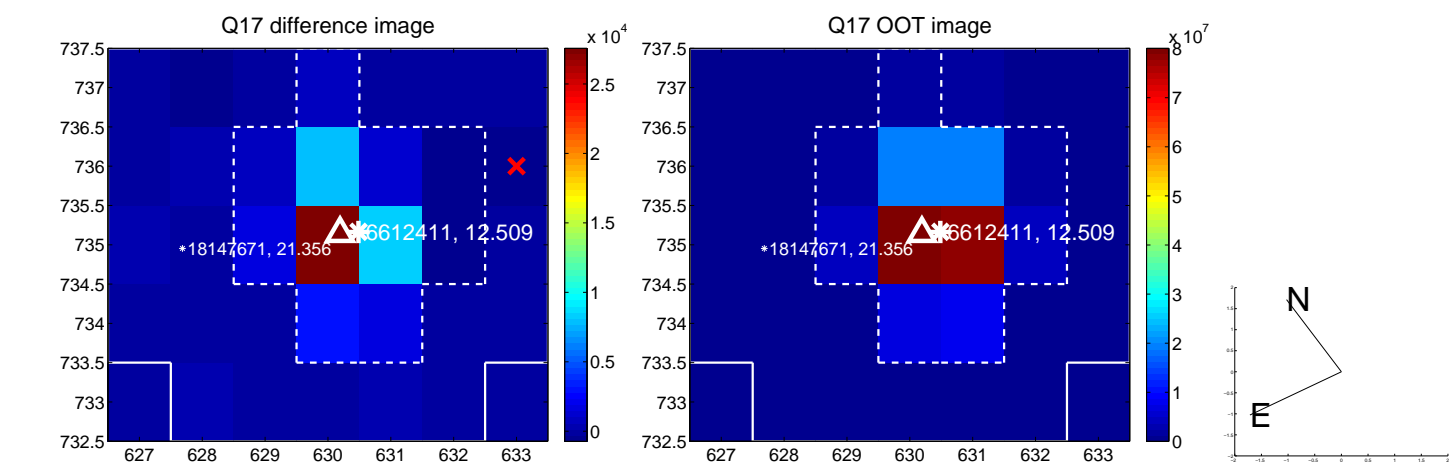
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



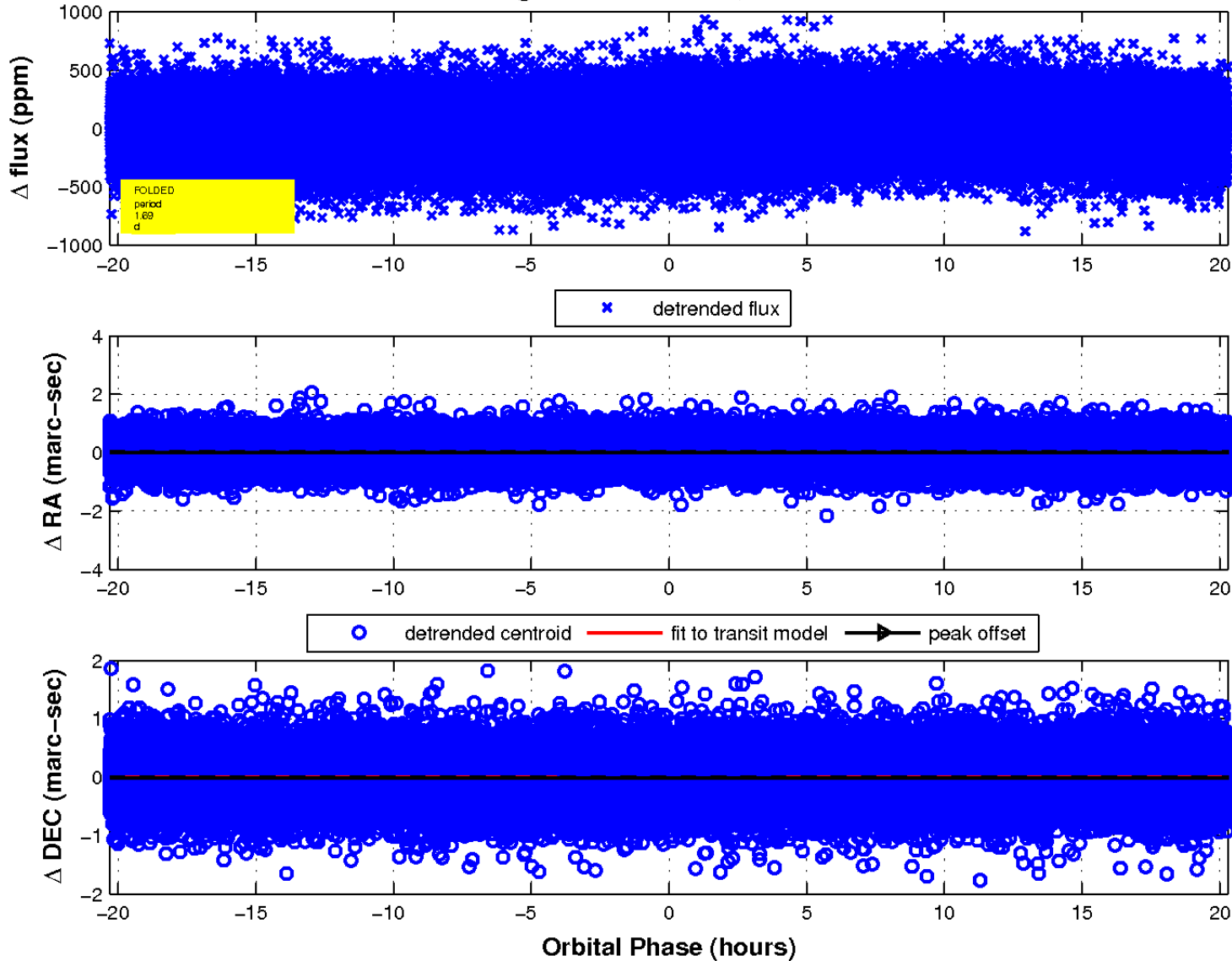
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

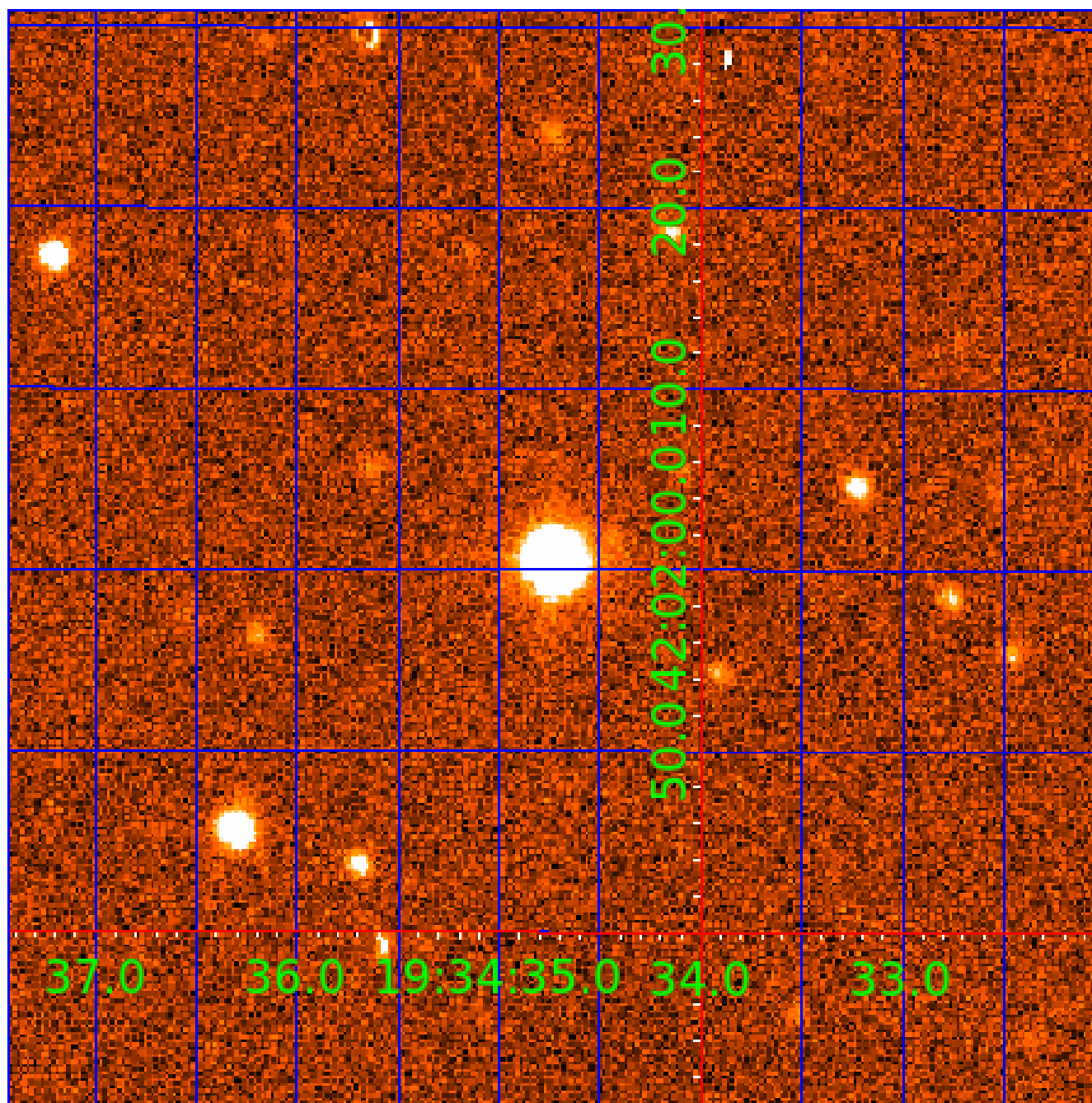


fluxWeightedCentroids, Planet 2 of 5



UKIRT Image

Declination



KIC 006612411

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})
006612411-01	OBS	5305.01	8.461797	133.773281	181.0	19.906	28.0	34.9	1.91	7663	4.98	1235.05
006612411-02	OBS	No	1.692498	132.681394	22.6	9.348	11.7	12.1	1.91	7663	0.92	10558.33
006612411-03	OBS	No	116.576114	216.875631	100.5	10.797	9.6	4.7	1.91	7663	2.14	37.40
006612411-04	OBS	No	78.992987	195.085354	124.1	6.192	7.9	7.3	1.91	7663	2.32	62.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006612411-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
006612411-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006612411-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV
006612411-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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.

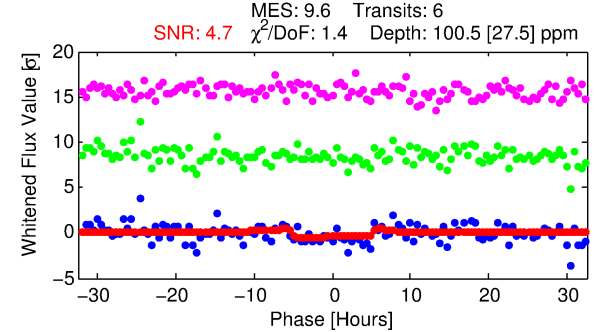
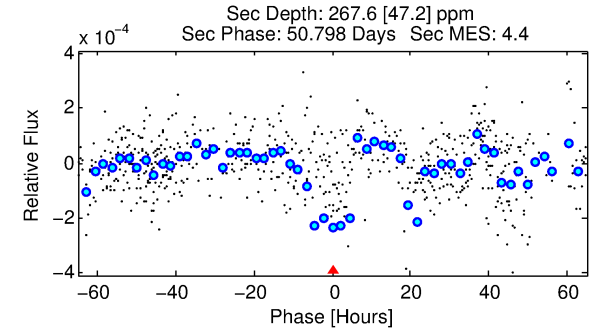
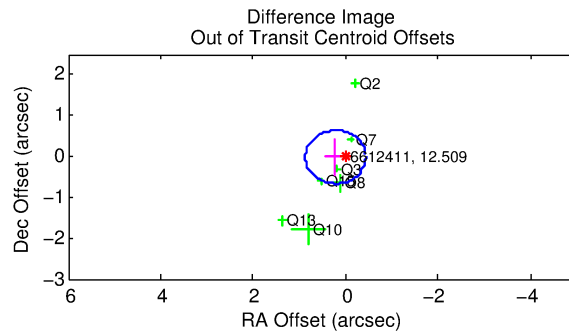
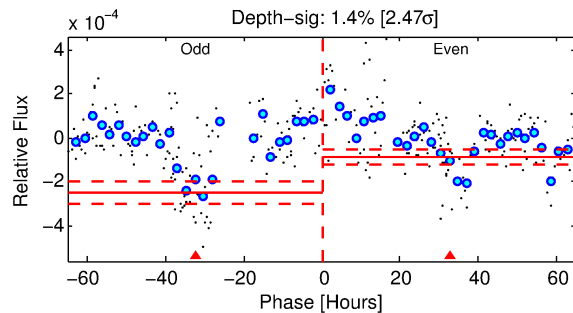
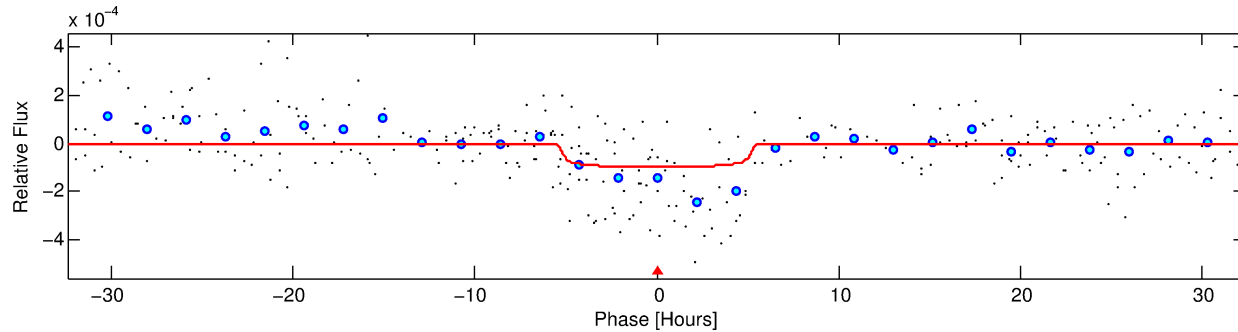
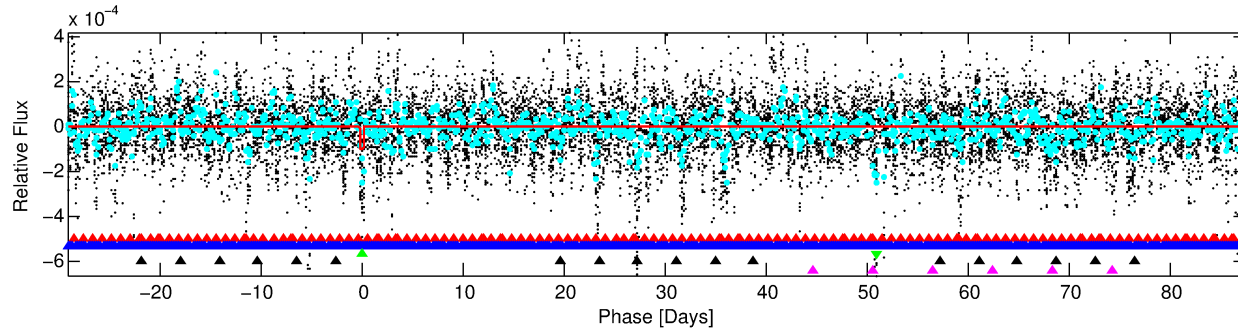
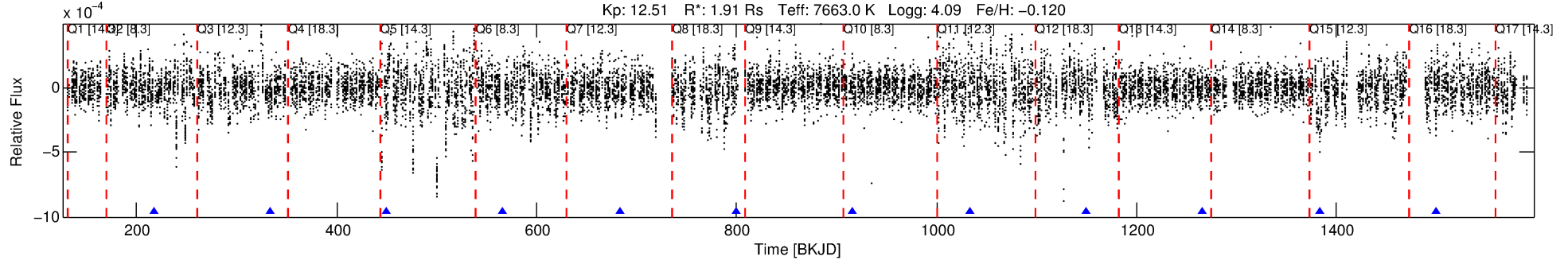
Ephemeris Match Information For 006612411-03

No Significant Match Found

DV One-Page Summary

KIC: 6612411 Candidate: 3 of 5 Period: 116.576 d
KOI: K05305 Corr: No Ephemeris Match

Kp: 12.51 R*: 1.91 Rs Teff: 7663.0 K Logg: 4.09 Fe/H: -0.120



DV Fit Results:

Period = 116.57611 [0.00285] d
Epoch = 216.8756 [0.0238] BKJD
Rp/R* = 0.0103 [0.0055]
a/R* = 46.92 [149.72]
b = 0.84 [1.18]
Seff = 37.40 [12.99]
Teq = 631 [55] K
Rp = 2.14 [1.30] Re
a = 0.5499 [0.1208] AU
Ag = 9689.40 [11004.57] [0.88σ]
Teffp = 9673 [2675] K [3.38σ]

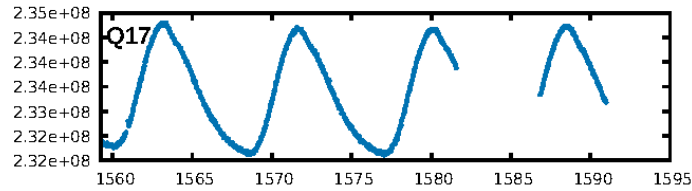
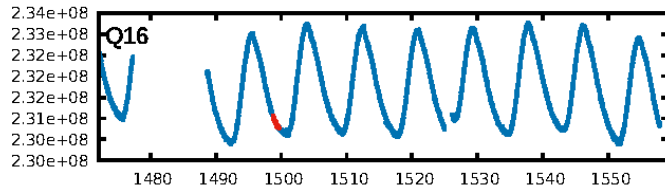
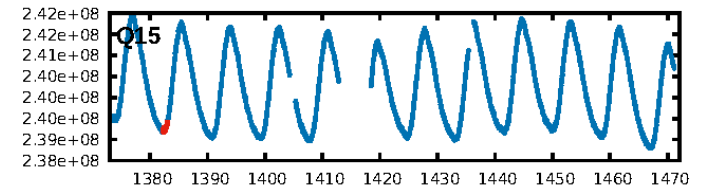
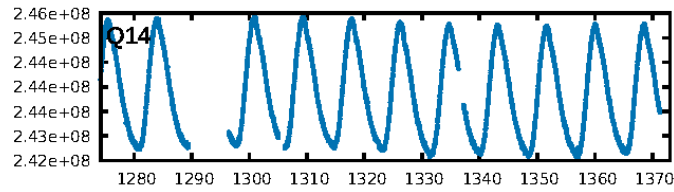
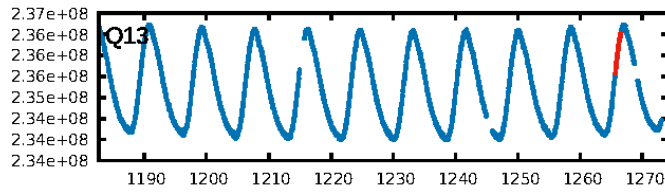
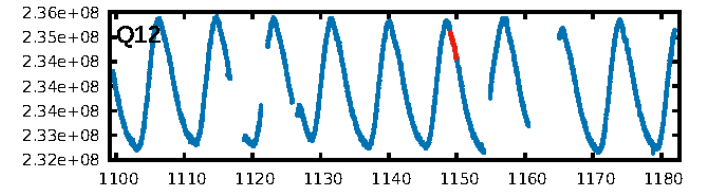
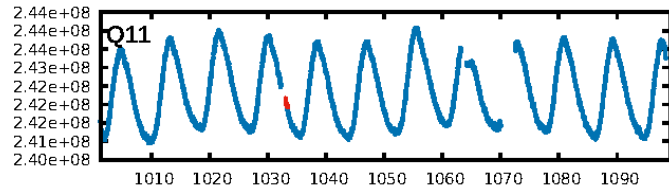
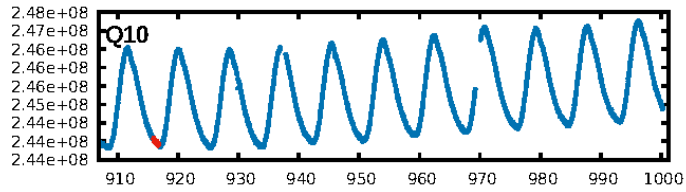
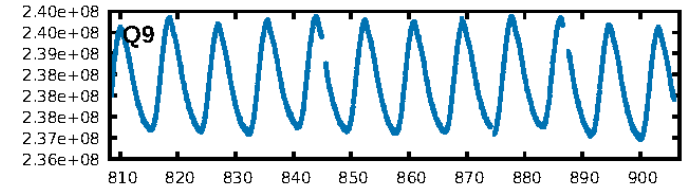
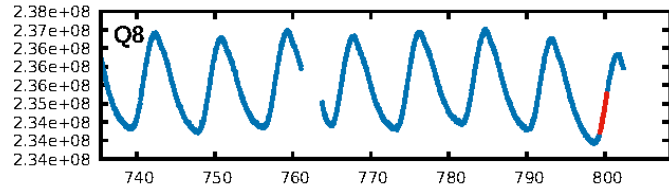
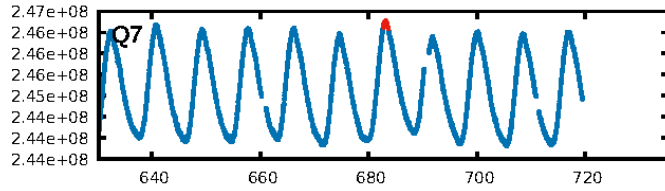
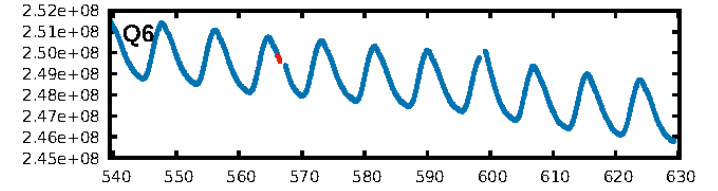
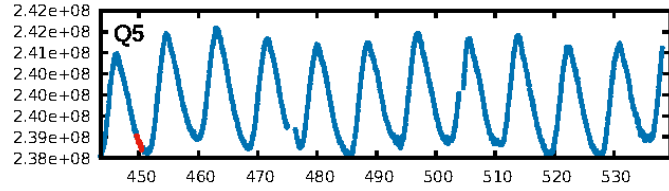
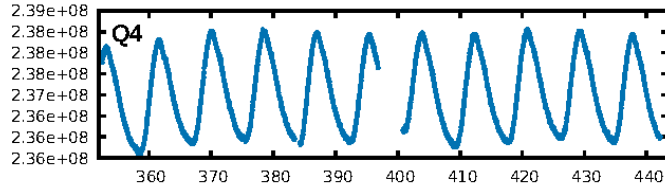
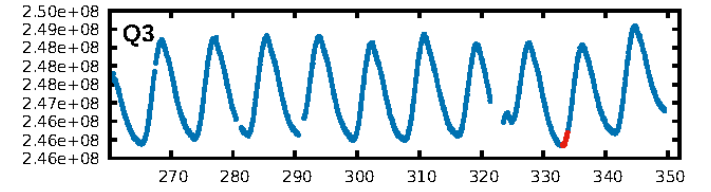
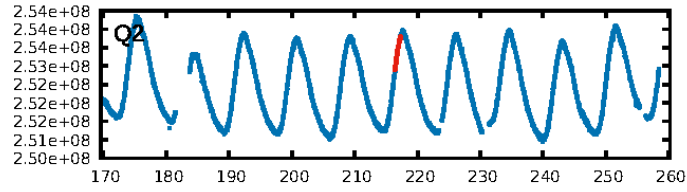
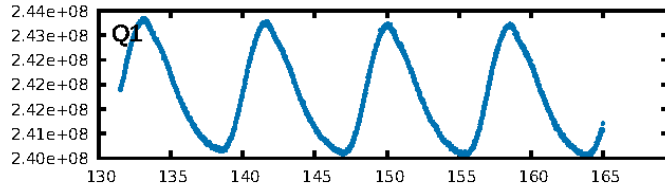
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [72.47σ]
LongPeriod-sig: 100.0% [227.48σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 3.57e-10
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.7153
Centroid-sig: 0.6%
Centroid-so: 2.091 arcsec [2.15σ]
OotOffset-rm: 0.219 arcsec [1.01σ]
KicOffset-rm: 0.218 arcsec [0.92σ]
OotOffset-st: 2/3/1/1 [7]
KicOffset-st: 2/3/1/1 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 0.00 [0/9]

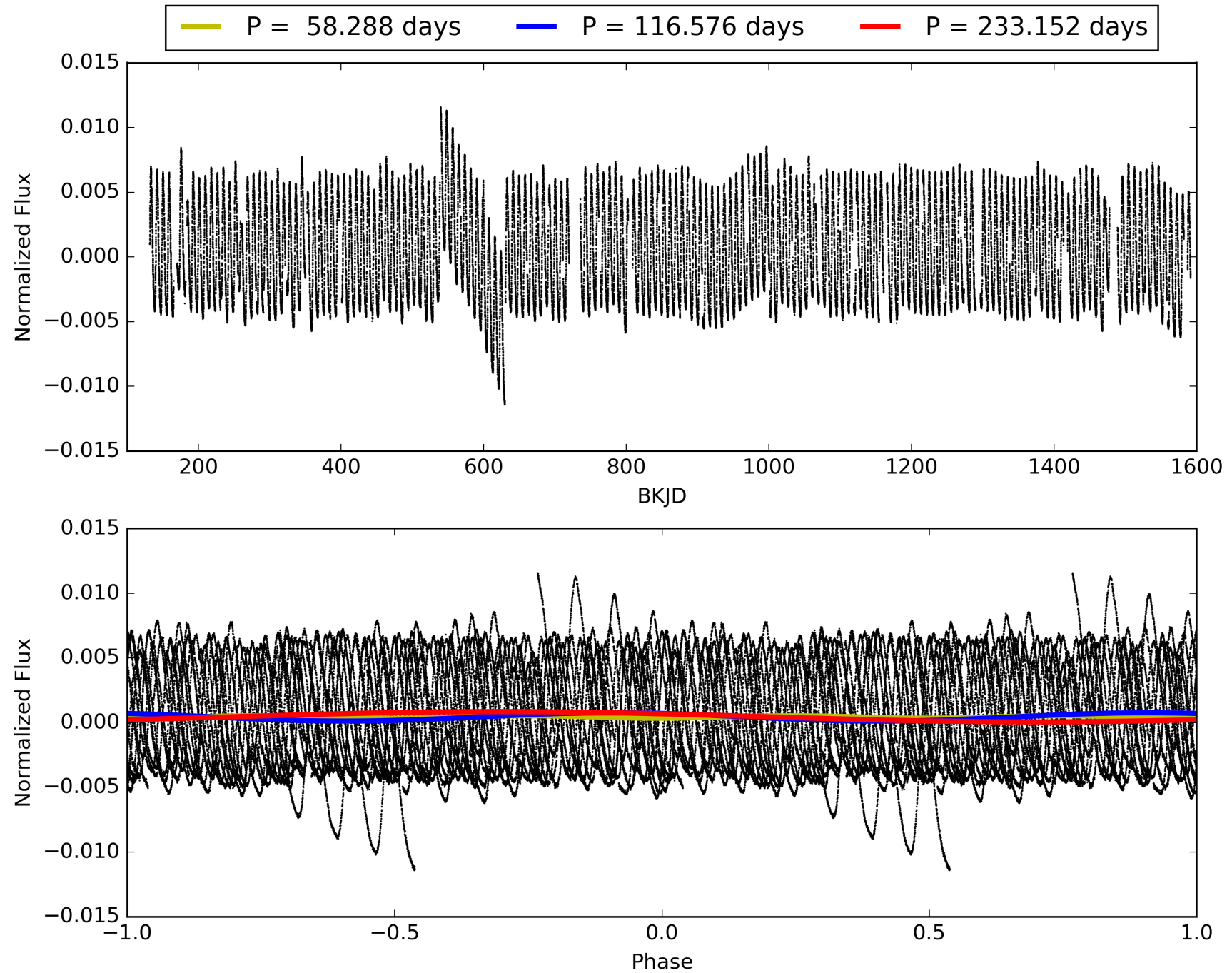
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:50:19 Z

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

TCE 006612411-03, PDC Light Curves

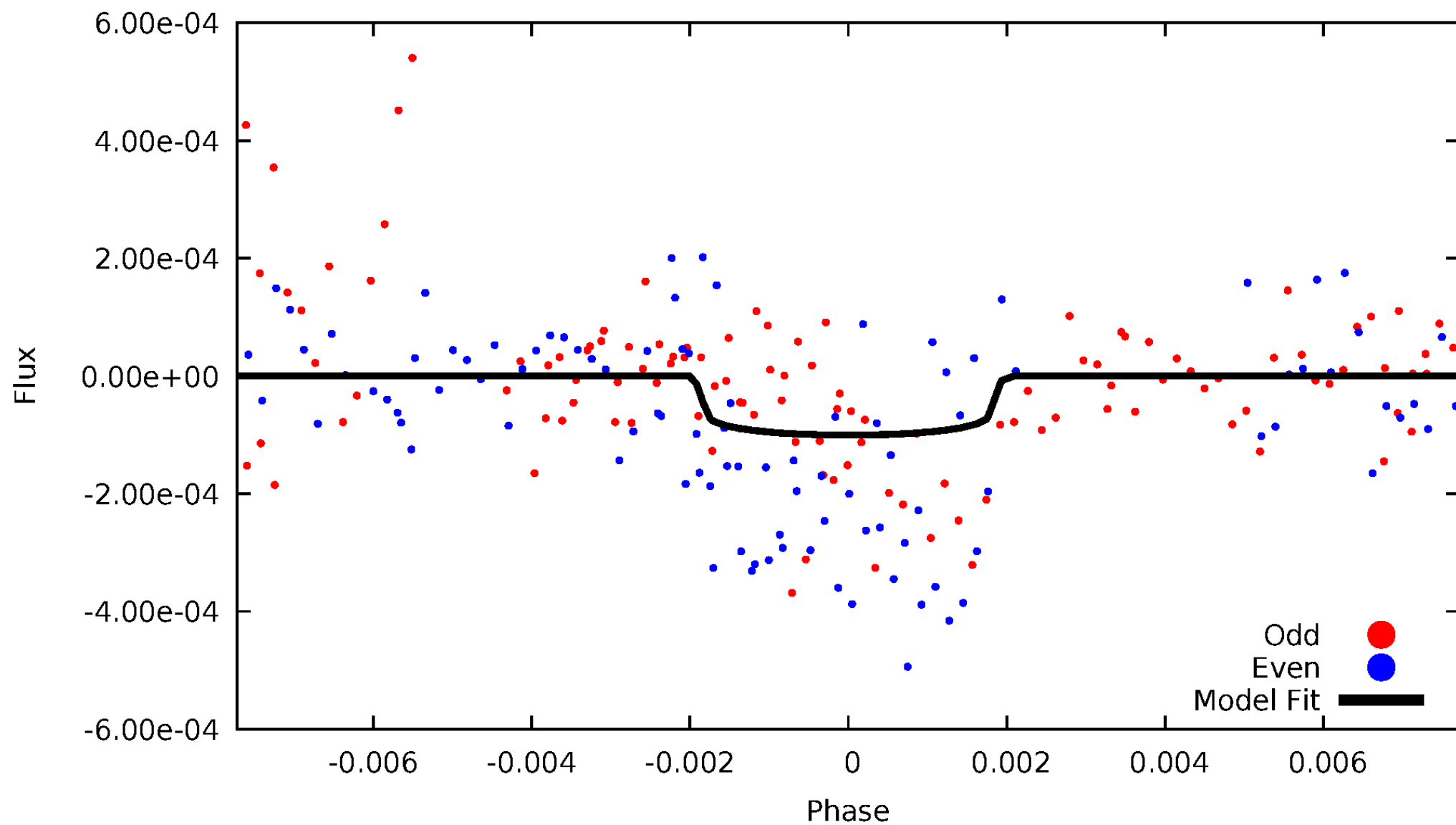


TCE 006612411-03



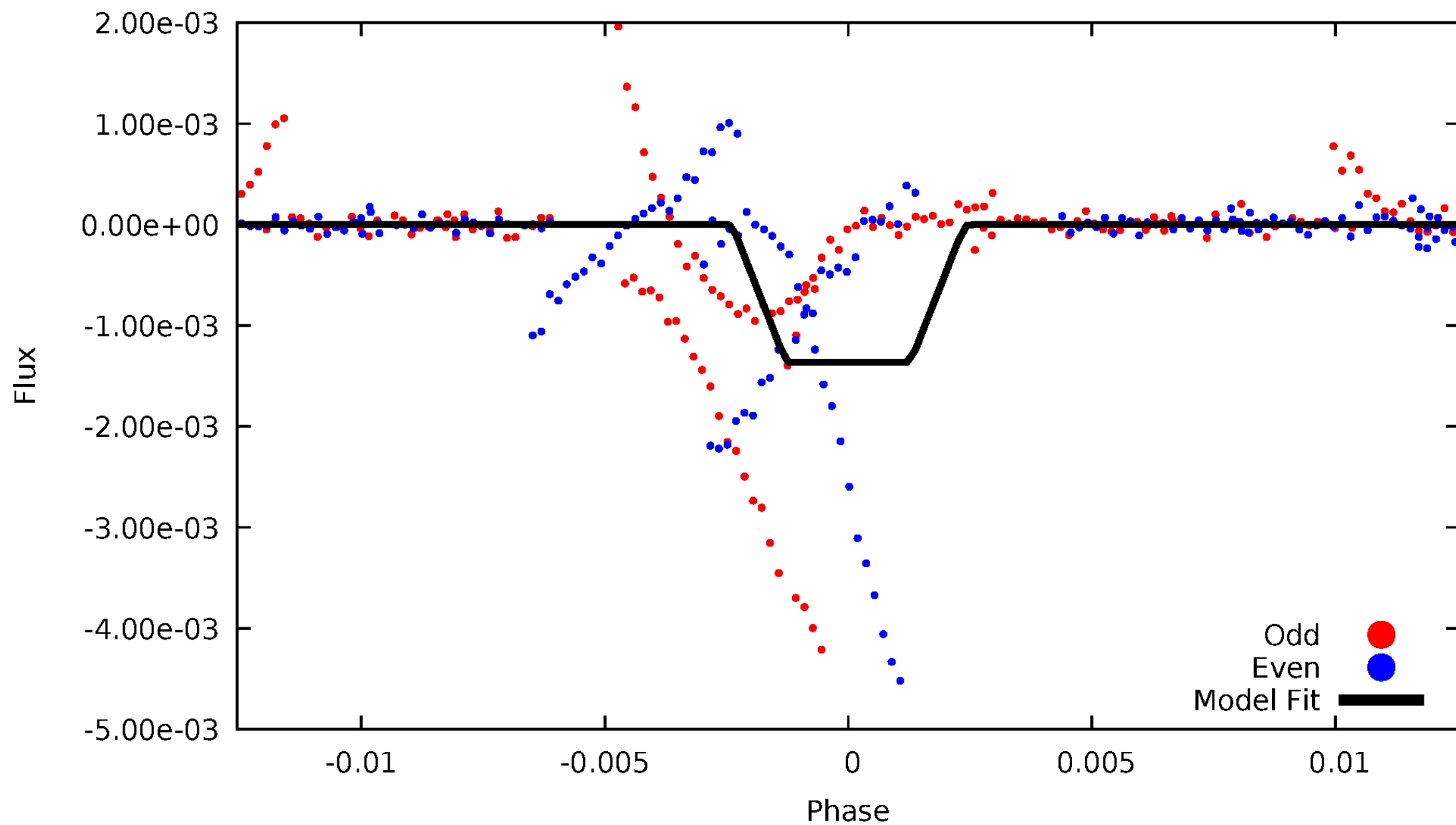
DV Odd/Even

TCE 006612411-03



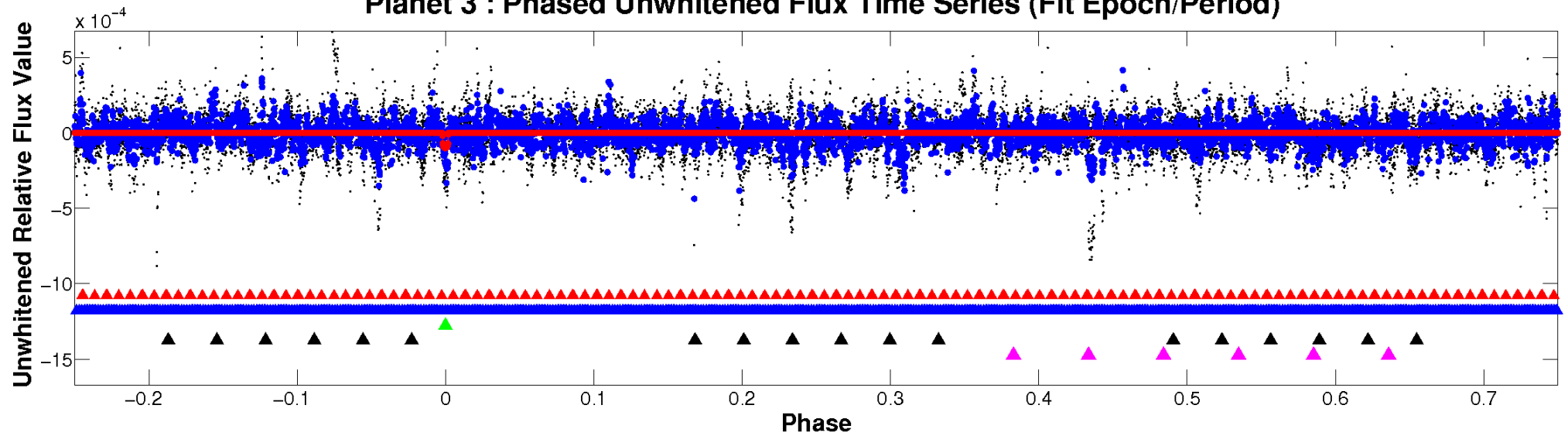
ALT Odd/Even

TCE 006612411-03

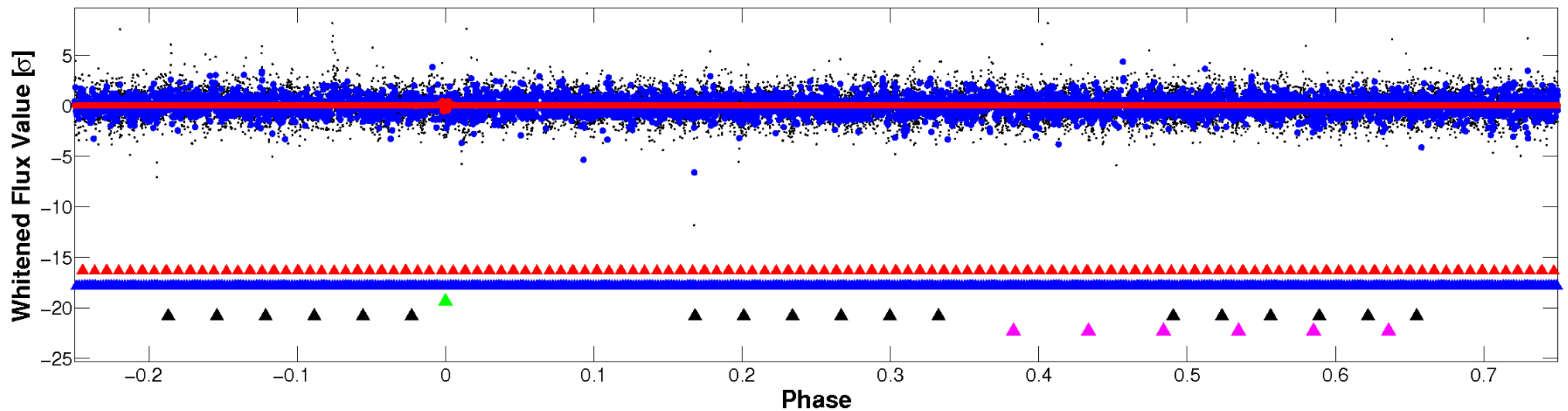


Non-Whitened Vs. Whitened Light Curve

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

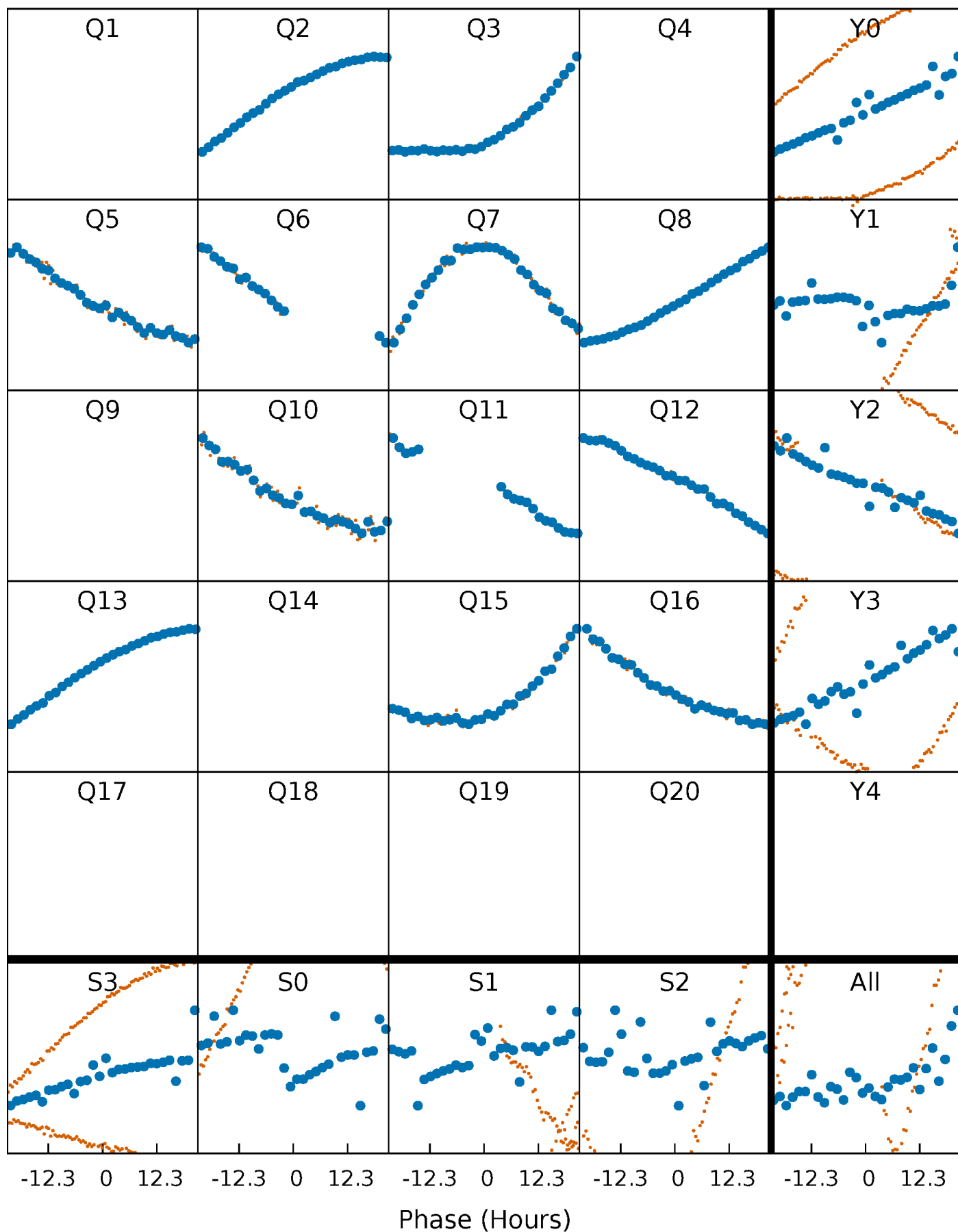


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



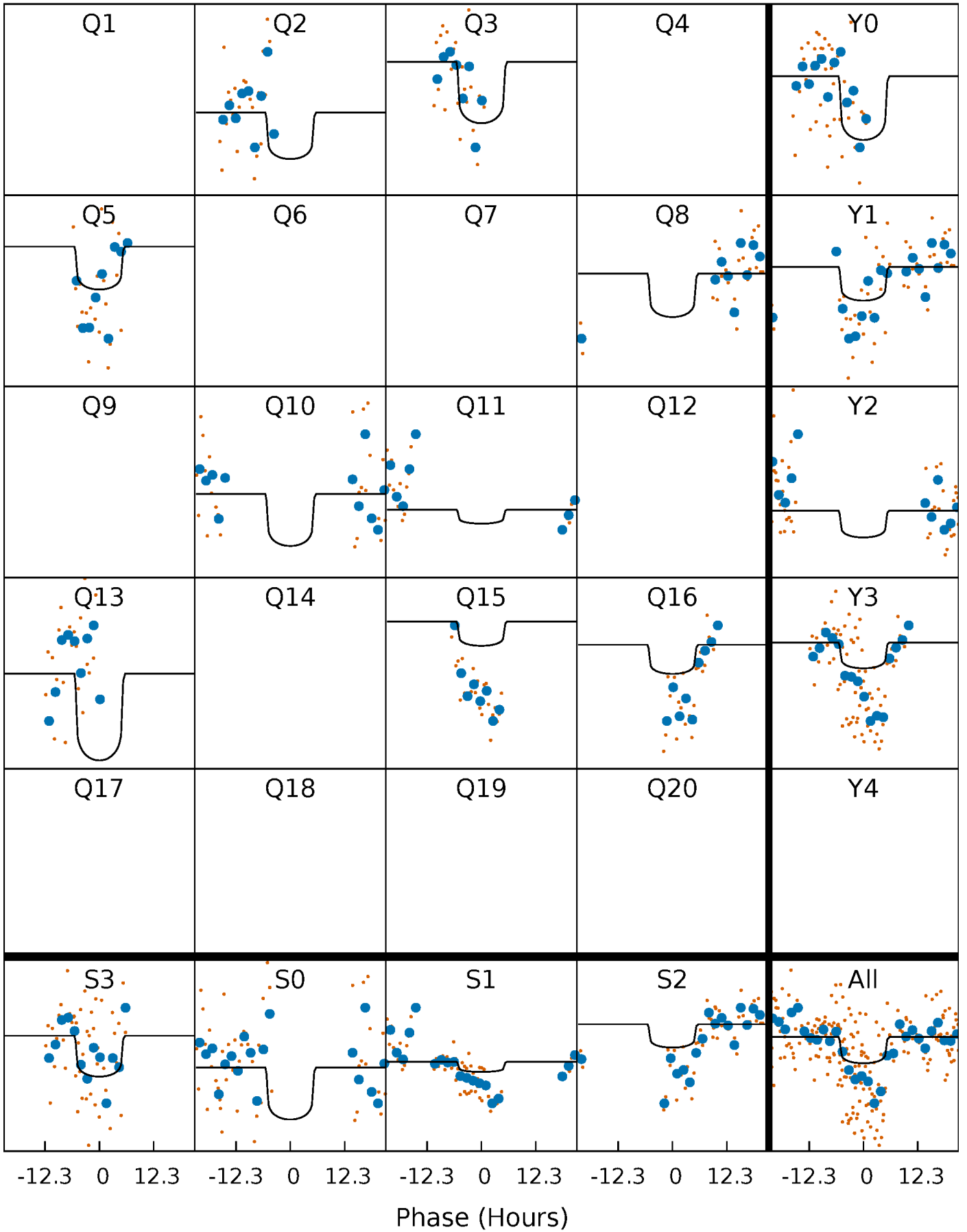
PDC Quarter-Phased Transit Curves

TCE 006612411-03 P=116.576114 Days $T_0=216.875631$ (BKJD)



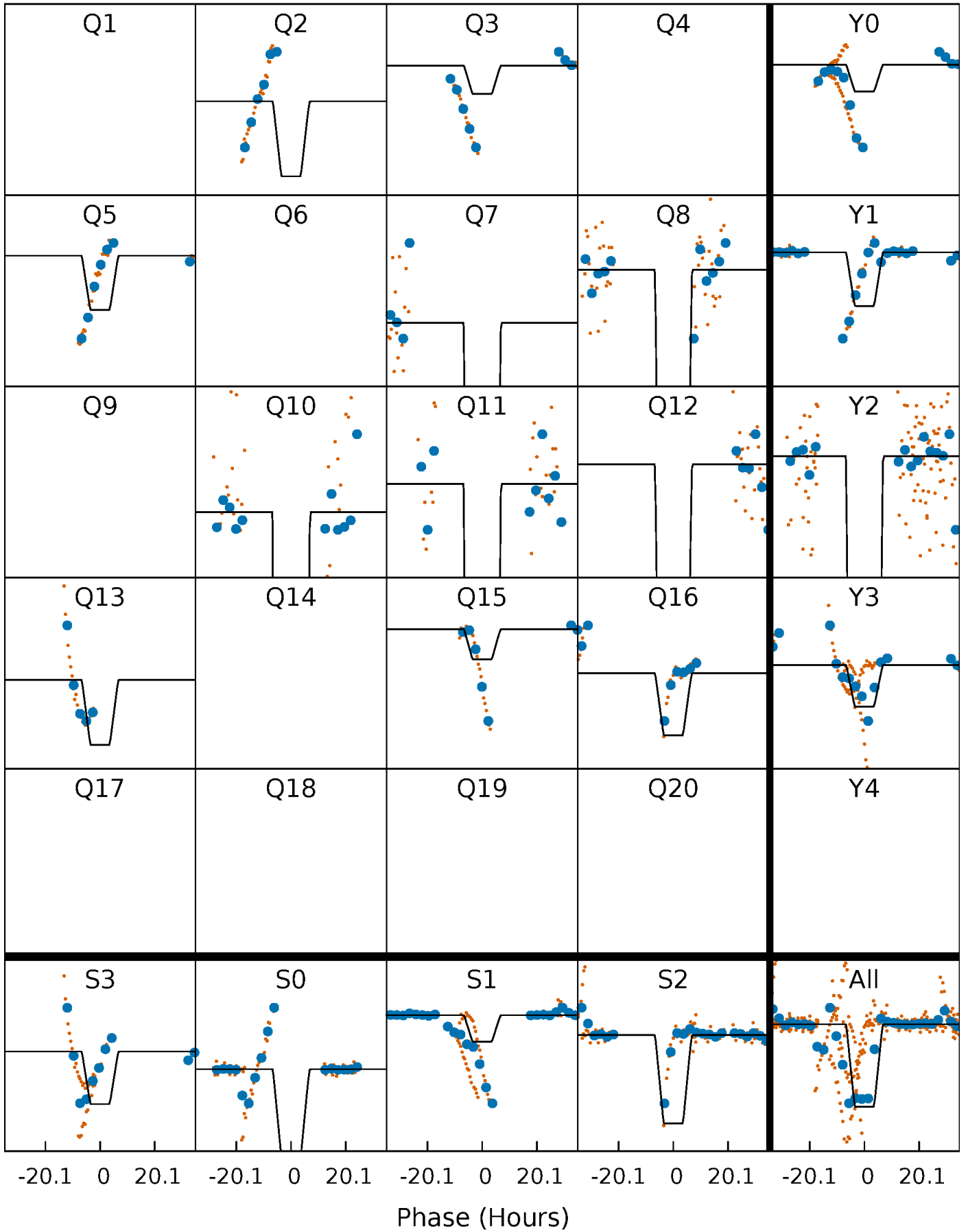
DV Quarter-Phased Transit Curves

TCE 006612411-03 $P=116.576114$ Days $T_0=216.875631$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

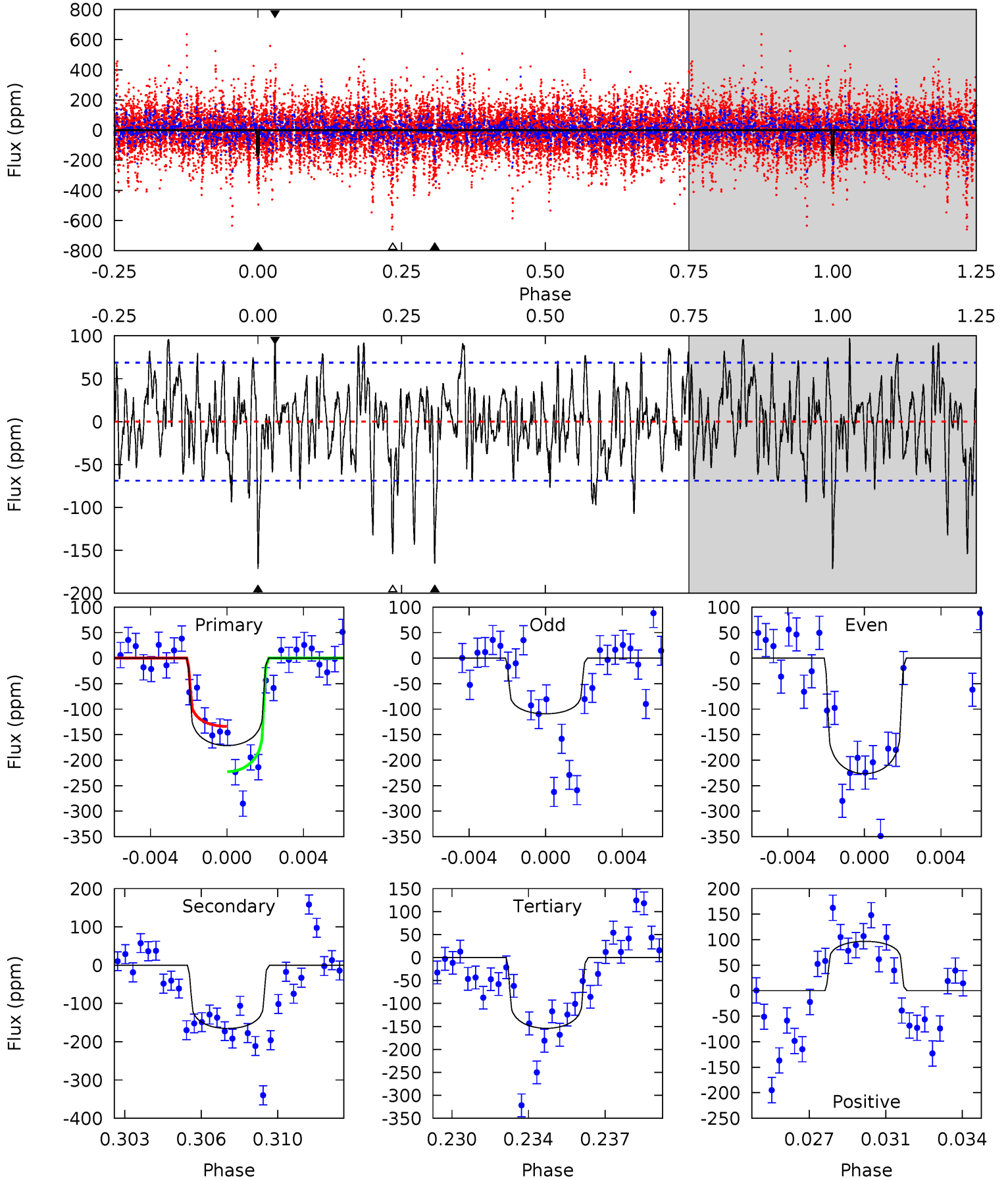
TCE 006612411-03 P=116.573460 Days $T_0=216.967316$ (BKJD)



DV Model-Shift Uniqueness Test

006612411-03, P = 116.576114 Days, E = 100.299517 Days

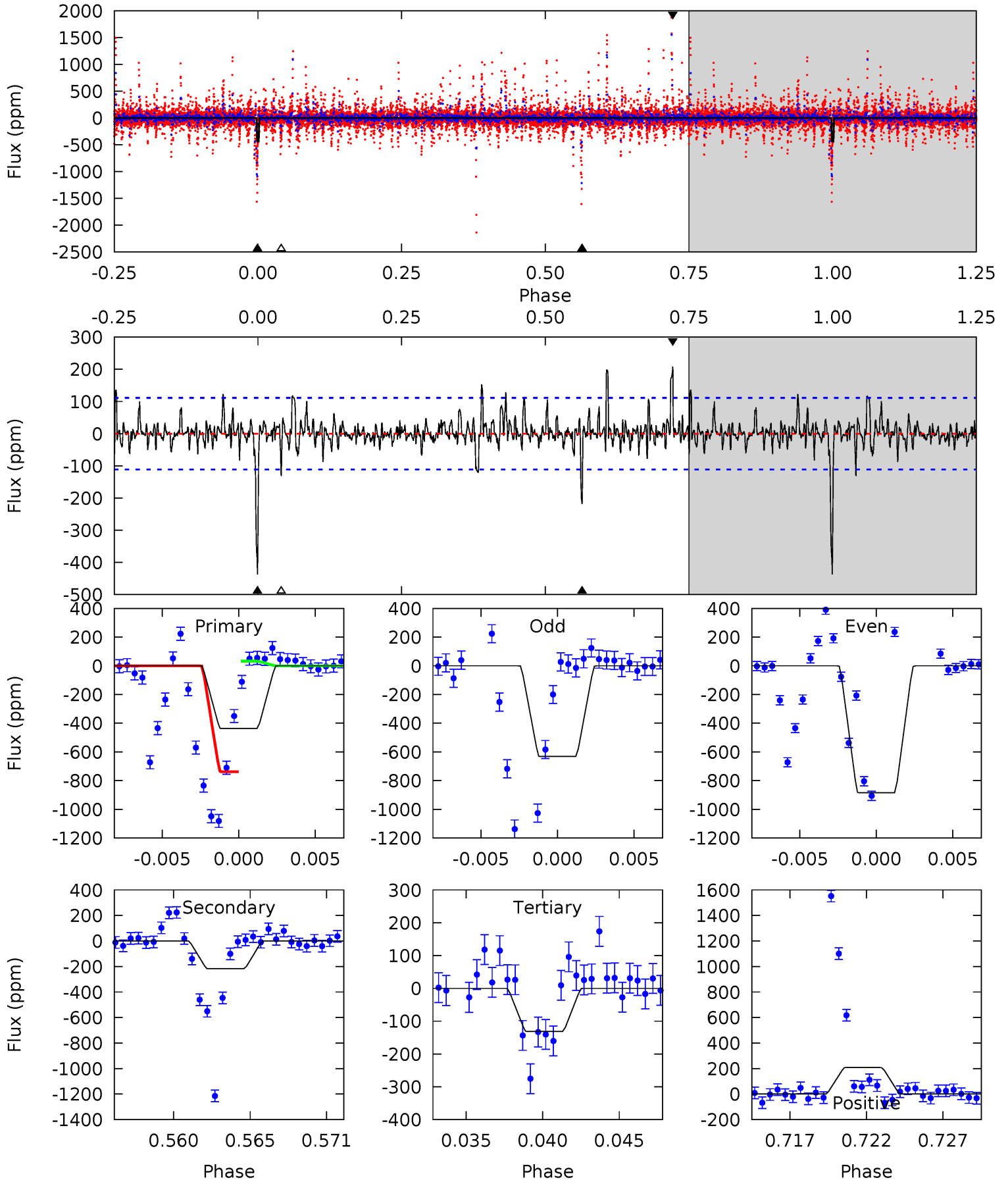
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	12.5	11.7	7.32	5.21	2.89	2.92	1.31	5.67	0.85	5.20	4.33	1.04	0.36	3.30



Alt Model-Shift Uniqueness Test

006612411-03, P = 116.573460 Days, E = 100.393856 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	10.1	6.08	9.63	5.16	2.80	1.53	14.2	10.6	4.00	0.45	4.07	-0.19	0.32	16.3



Stellar Parameters For KIC 006612411

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7663^{+237}_{-316}	$4.087^{+0.160}_{-0.160}$	$-0.120^{+0.200}_{-0.350}$	$1.913^{+0.523}_{-0.428}$	$1.630^{+0.197}_{-0.263}$	$0.328^{+0.269}_{-0.148}$
	+3%/-4%	+4%/-4%	+167%/-292%	+27%/-22%	+12%/-16%	+82%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006612411-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-165 ± 13	$2.18^{+1.18}_{-1.13}$	879^{+62}_{-58}	8705^{+6164}_{-1936}	5714^{+18617}_{-3346}
Alt.	-218 ± 22	$7.60^{+1.69}_{-1.43}$	880^{+65}_{-58}	4859^{+401}_{-301}	617^{+310}_{-205}

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

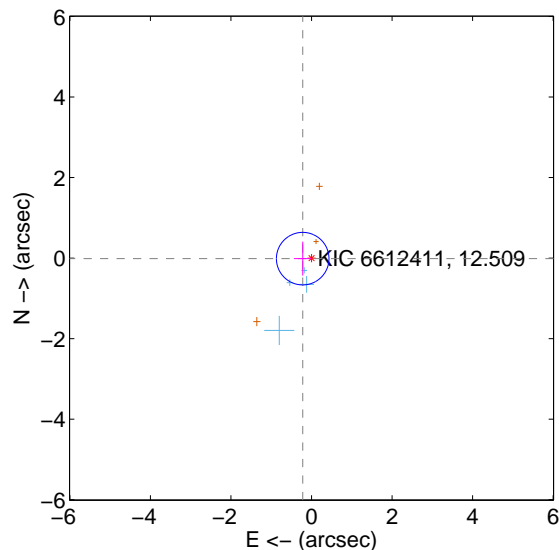
Supplemental centroid analysis for 006612411-03. Kepler magnitude: 12.51. Transit SNR 4.70

There are 4 quarters with good PRF difference image offsets

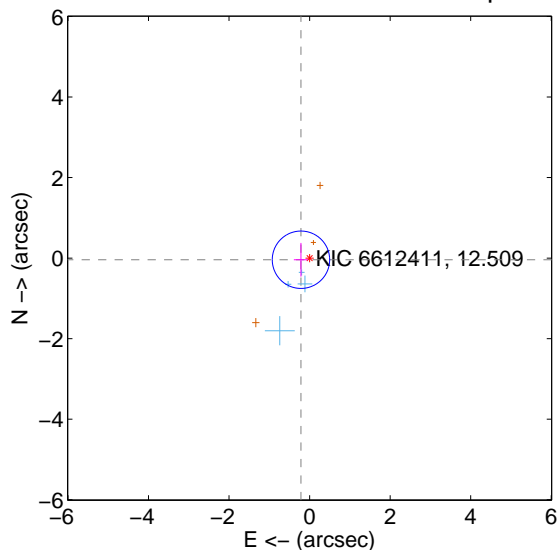
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.219 ± 0.218	1.01	0.219 ± 0.216	-0.014 ± 0.421
PRF-fit source offset from KIC position	0.218 ± 0.238	0.92	0.214 ± 0.177	-0.041 ± 0.418
photometric centroid source offset	2.09 ± 0.97	2.15	1.98 ± 0.99	0.68 ± 0.84

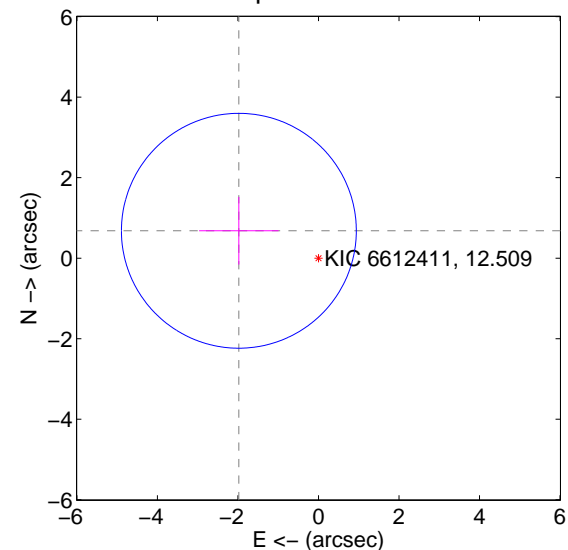
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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

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

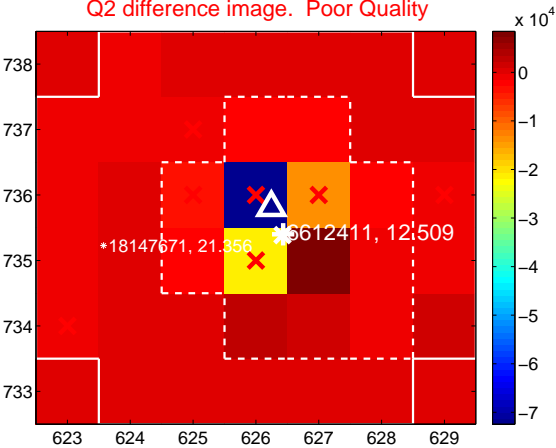
Q1 no difference image



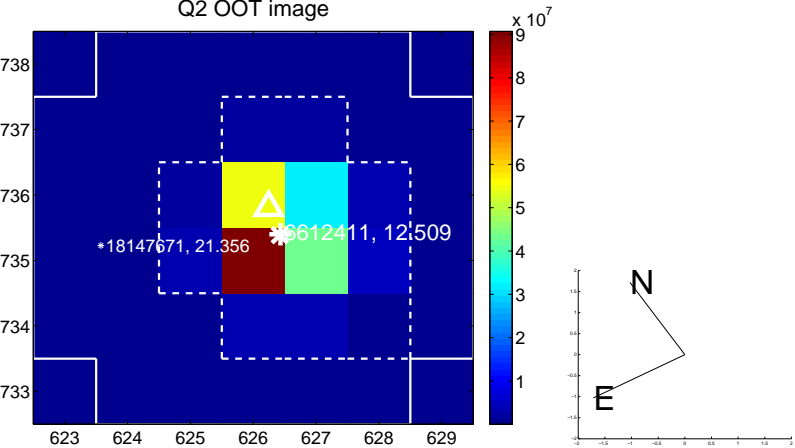
Q1 no OOT image



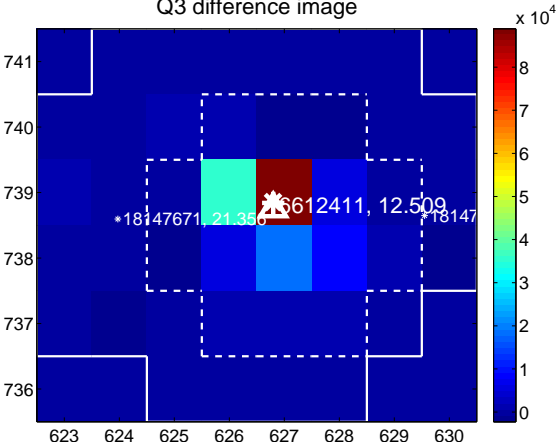
Q2 difference image. Poor Quality



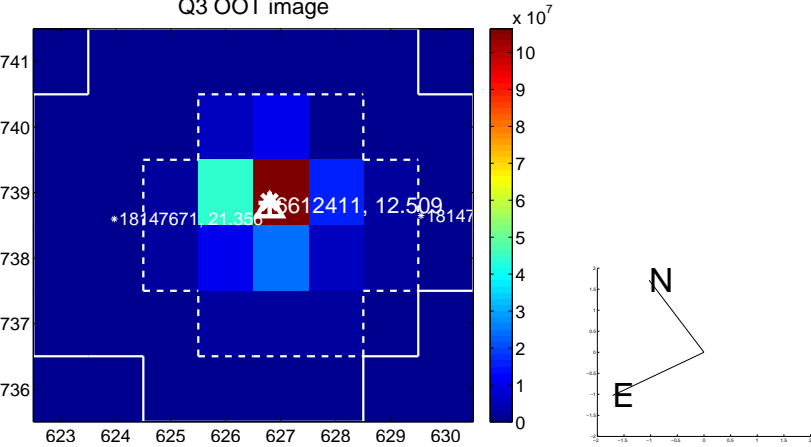
Q2 OOT image



Q3 difference image



Q3 OOT image



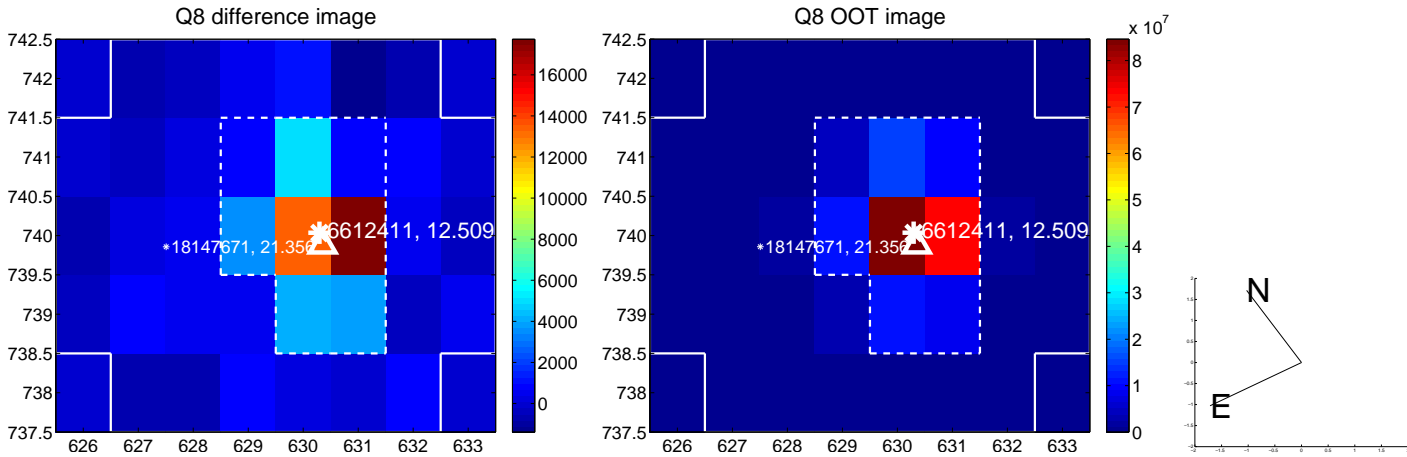
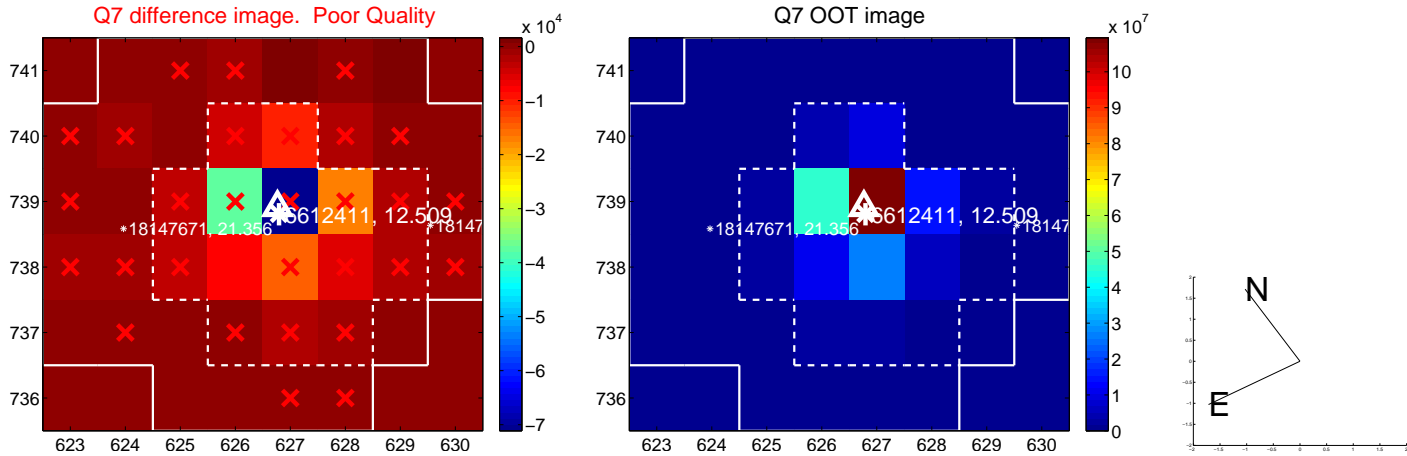
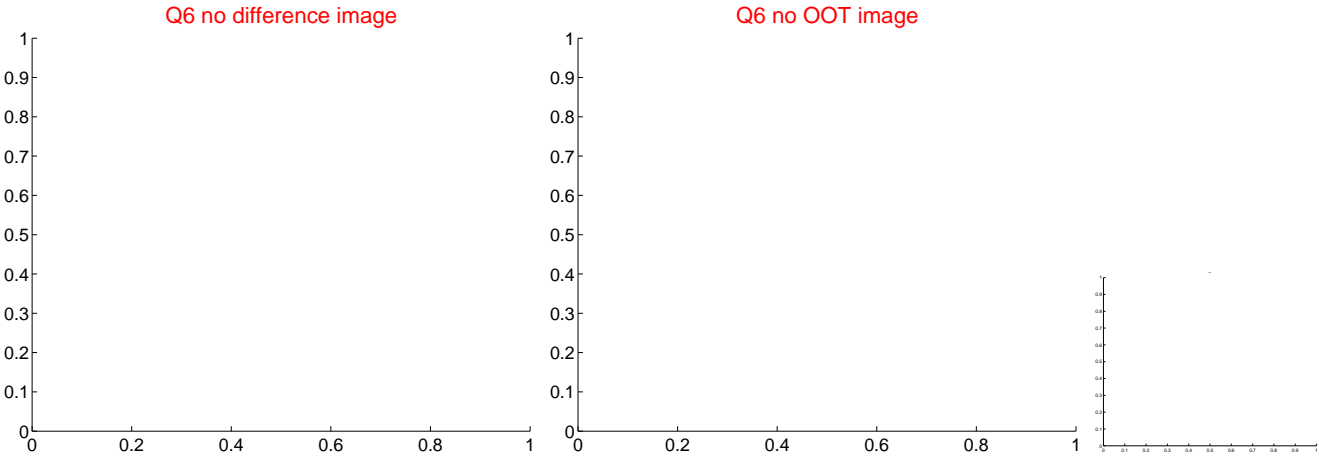
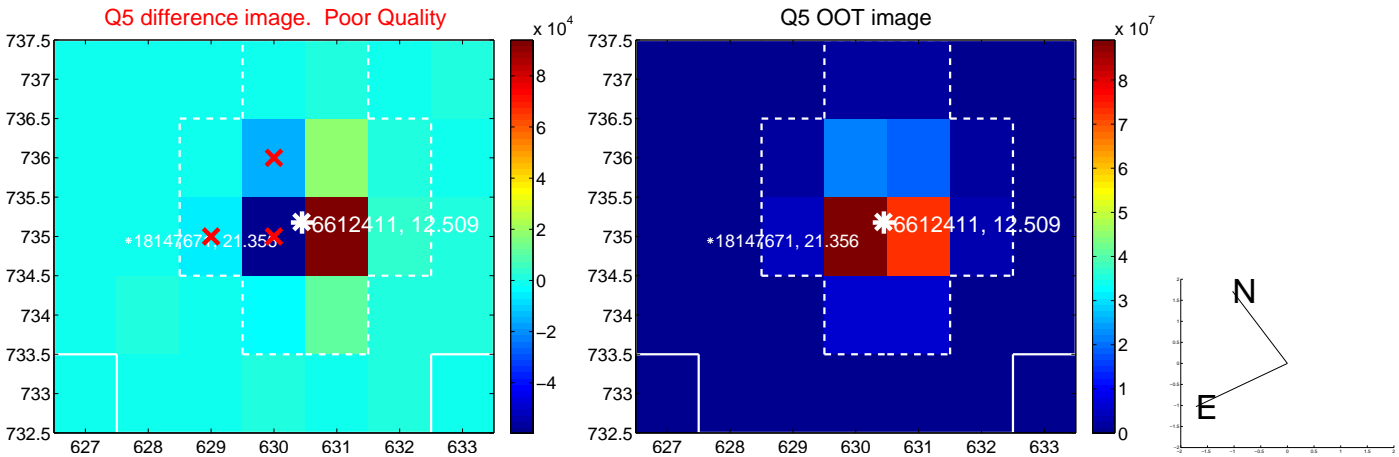
Q4 no difference image



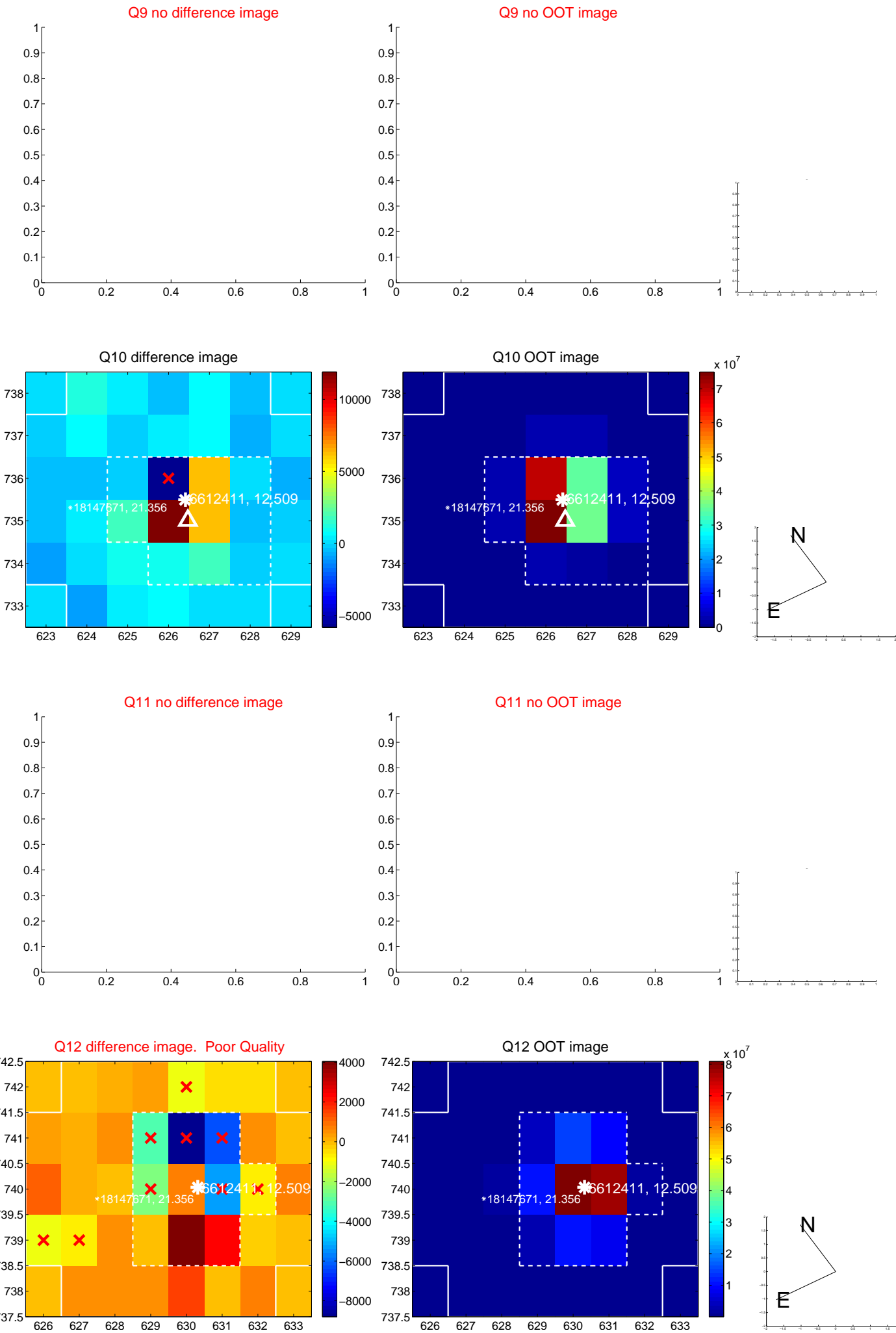
Q4 no OOT image



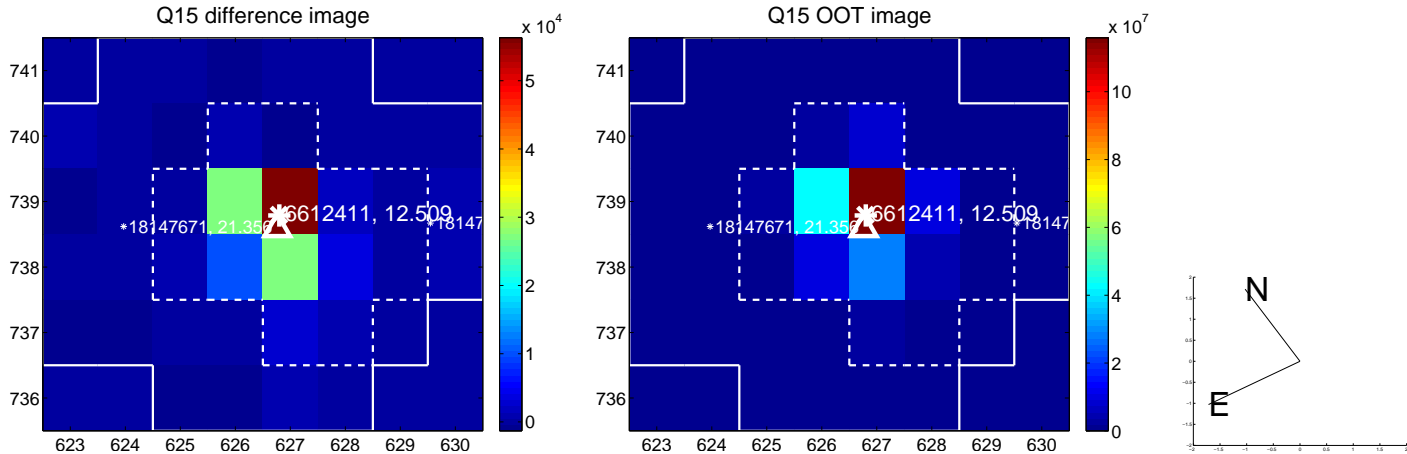
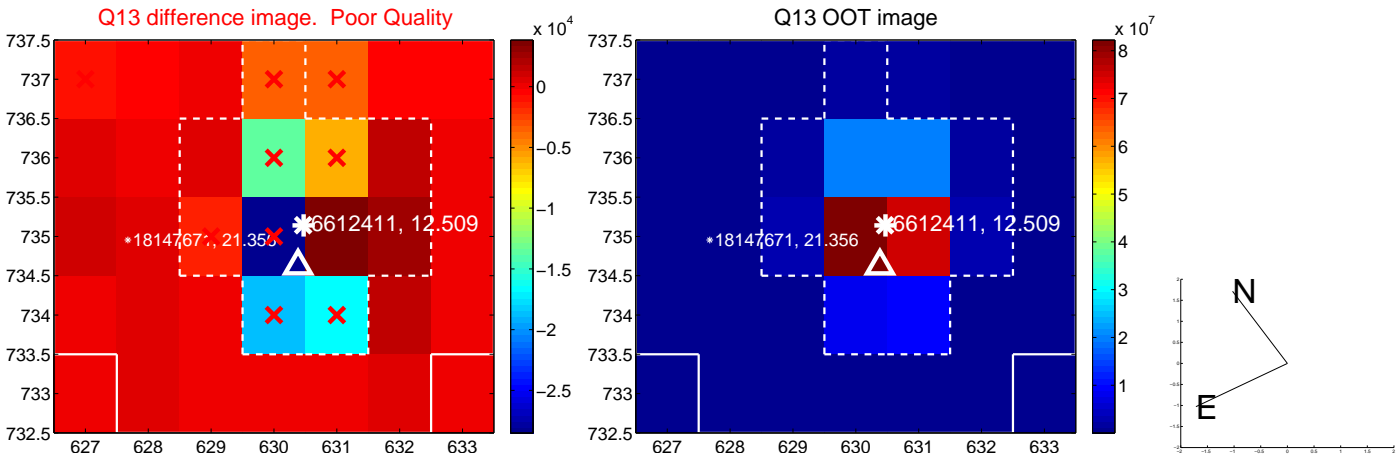
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



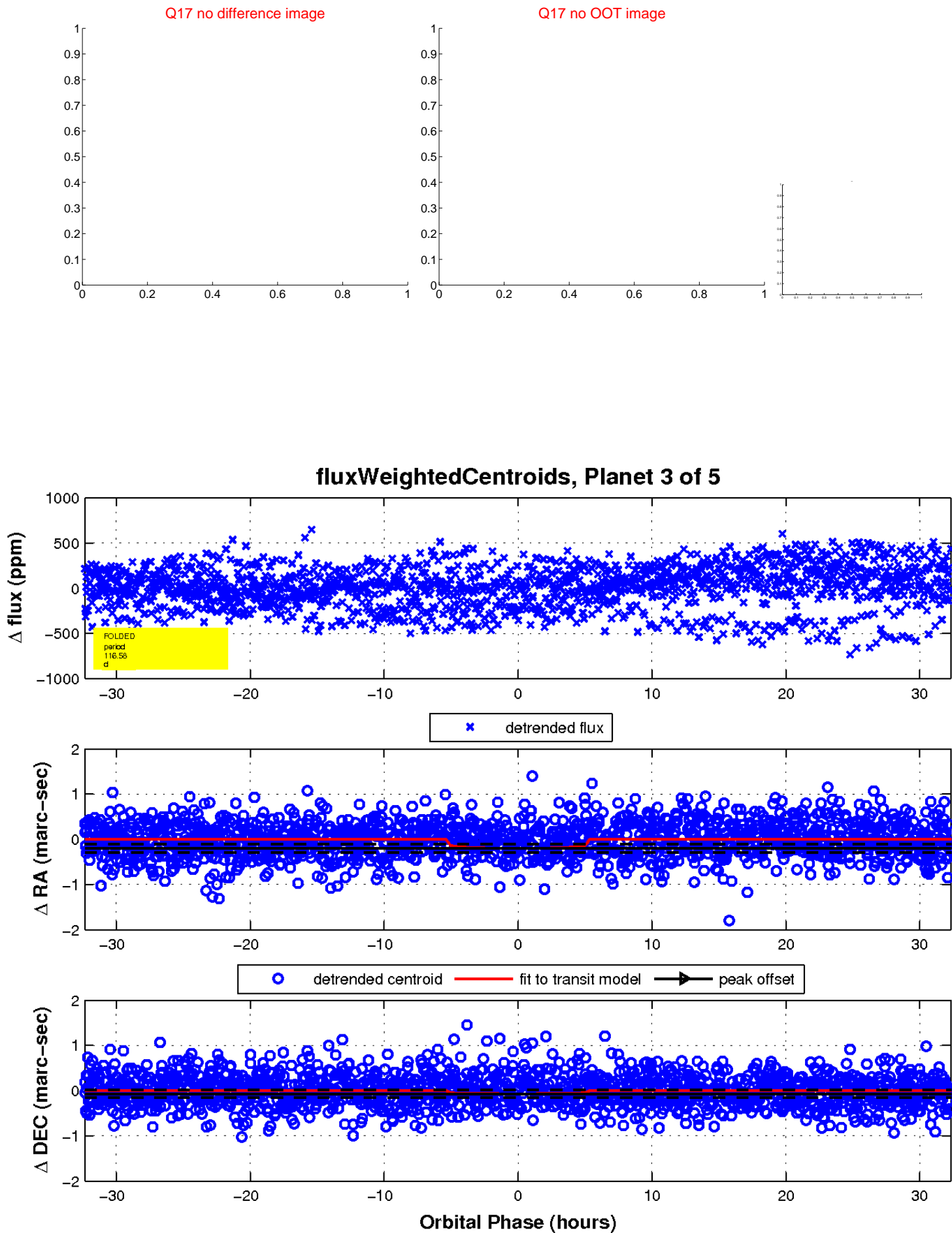
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

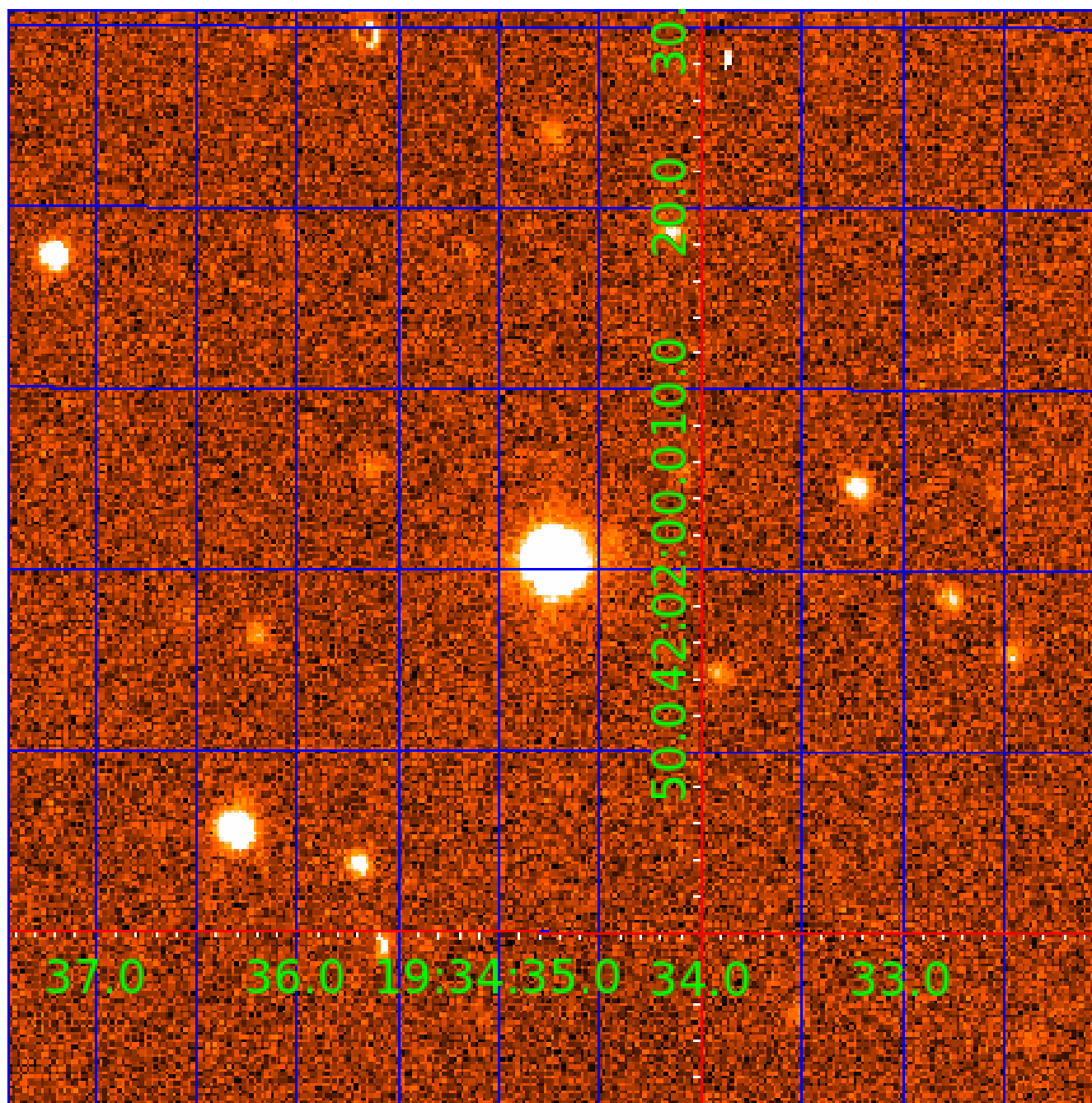


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006612411

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})
006612411-01	OBS	5305.01	8.461797	133.773281	181.0	19.906	28.0	34.9	1.91	7663	4.98	1235.05
006612411-02	OBS	No	1.692498	132.681394	22.6	9.348	11.7	12.1	1.91	7663	0.92	10558.33
006612411-03	OBS	No	116.576114	216.875631	100.5	10.797	9.6	4.7	1.91	7663	2.14	37.40
006612411-04	OBS	No	78.992987	195.085354	124.1	6.192	7.9	7.3	1.91	7663	2.32	62.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006612411-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
006612411-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006612411-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV
006612411-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

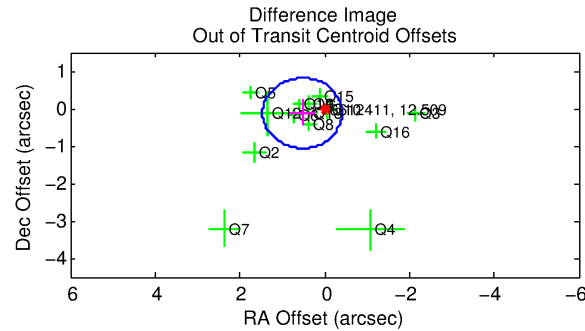
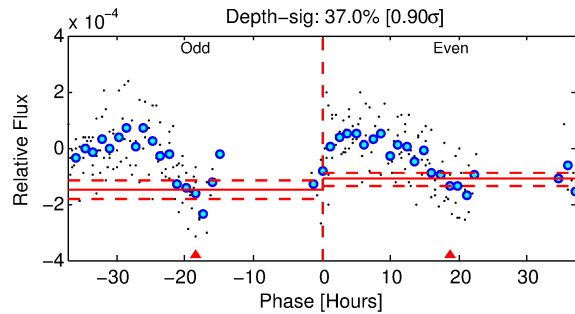
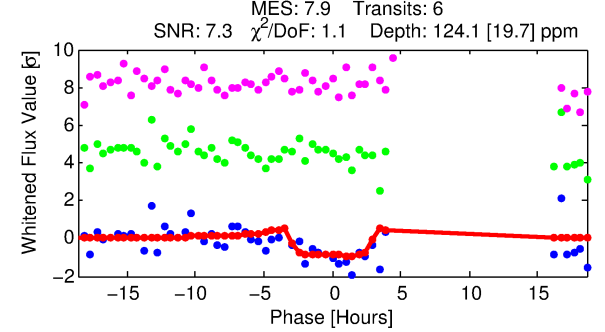
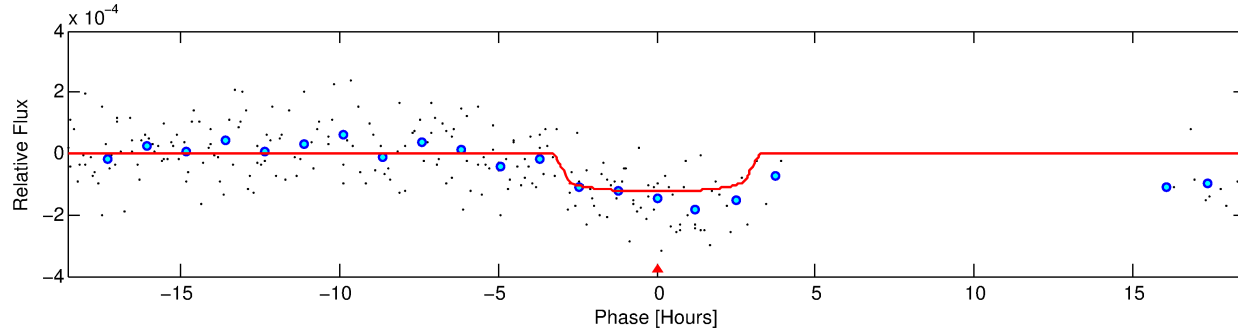
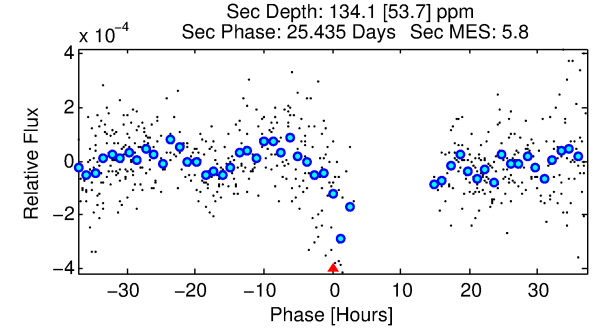
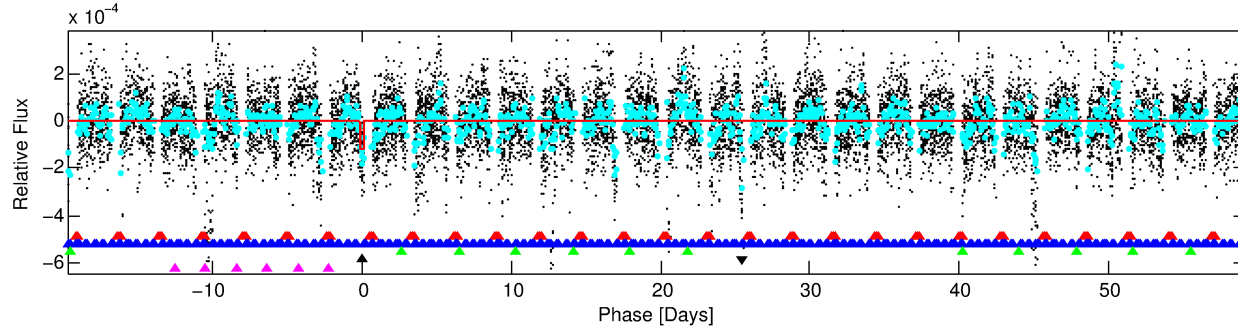
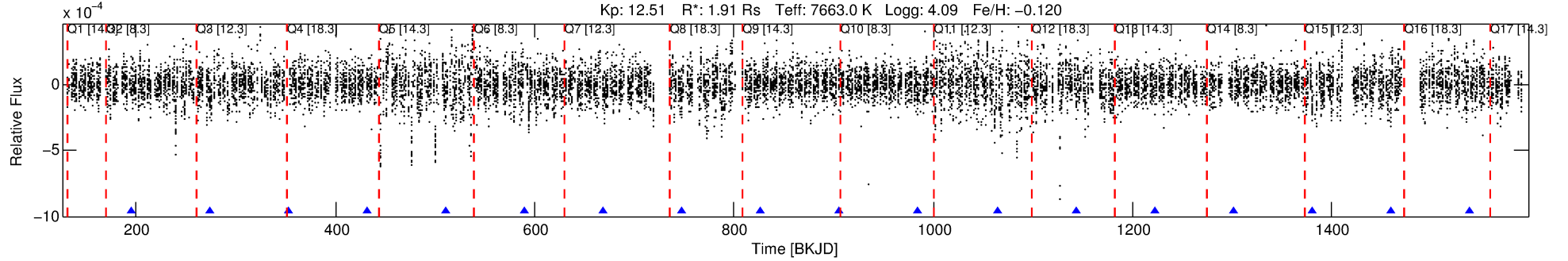
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006612411-04

No Significant Match Found

DV One-Page Summary

KIC: 6612411 Candidate: 4 of 5 Period: 78.993 d
KOI: K05305 Corr: No Ephemeris Match



DV Fit Results:

Period = 78.99299 [0.00147] d
Epoch = 195.0854 [0.0127] BKJD
Rp/R* = 0.0111 [0.0069]
a/R* = 64.57 [244.84]
b = 0.76 [2.08]
Seff = 62.83 [21.83]
Teq = 718 [62] K
Rp = 2.32 [1.58] Re
a = 0.4242 [0.0932] AU
Ag = 2462.98 [3318.92] [0.74σ]
Teffp = 7819 [2586] K [2.75σ]

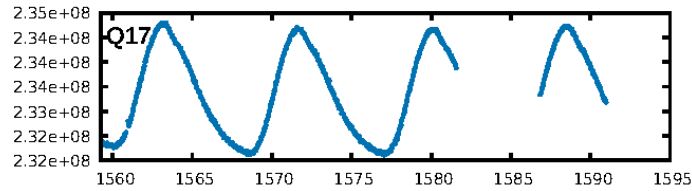
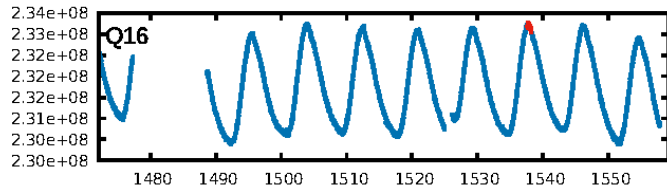
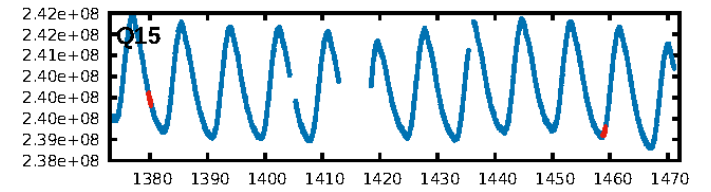
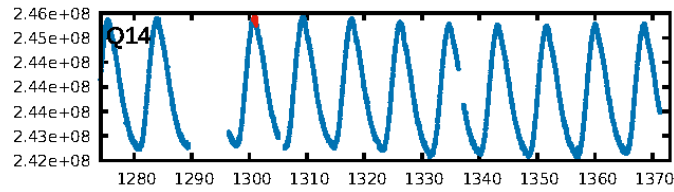
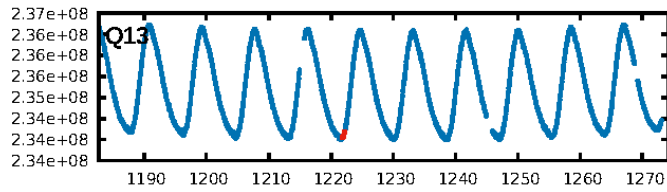
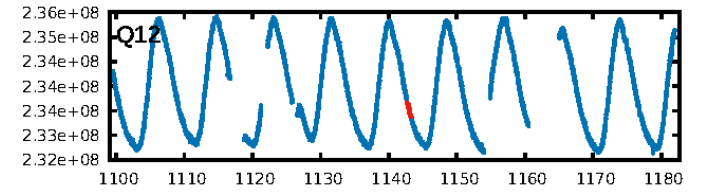
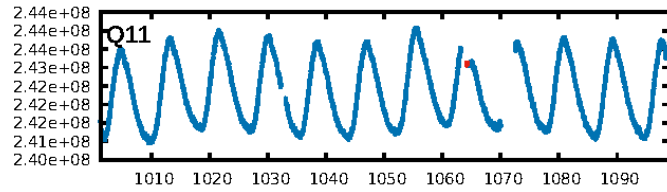
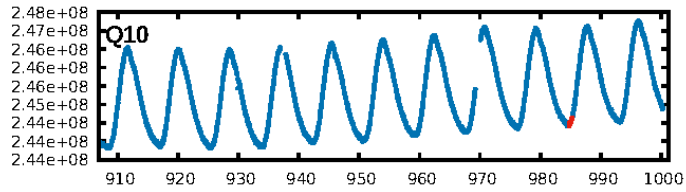
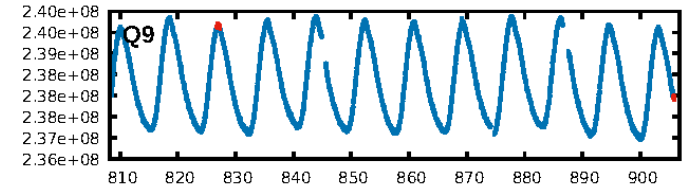
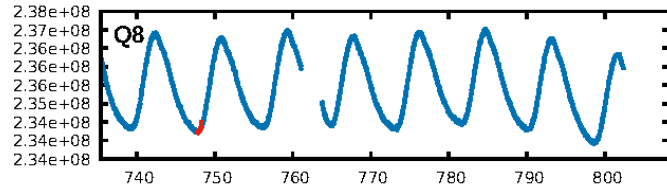
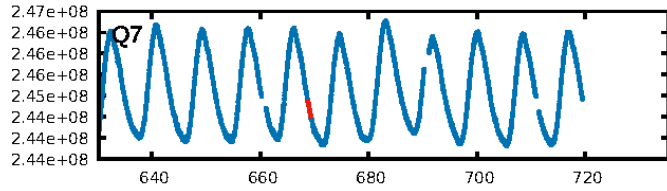
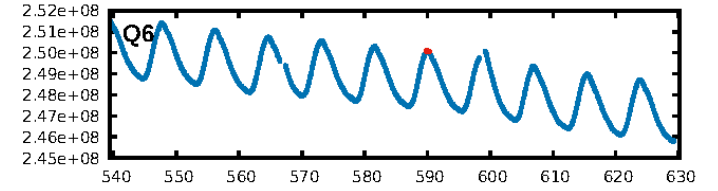
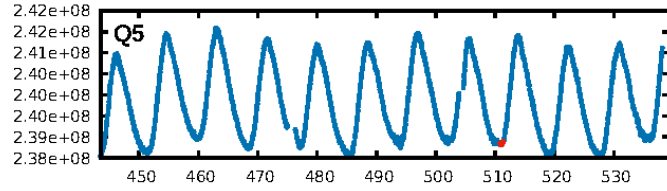
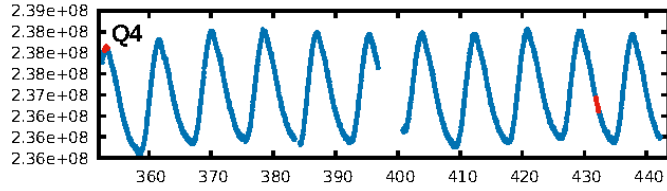
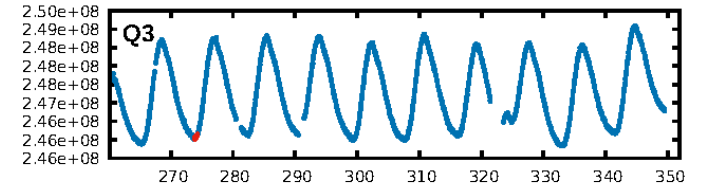
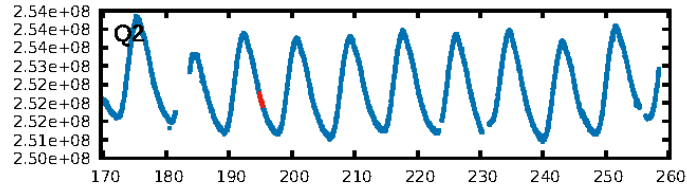
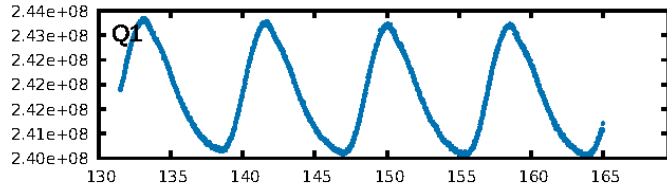
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [81.20σ]
LongPeriod-sig: 100.0% [72.47σ]
ModelChiSquare2-sig: 48.3%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 2.04e-08
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.4242
Centroid-sig: 38.8%
Centroid-so: 0.500 arcsec [0.73σ]
OotOffset-rm: 0.542 arcsec [1.73σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-rm: 0.511 arcsec [1.51σ]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 0.21 [3/14]

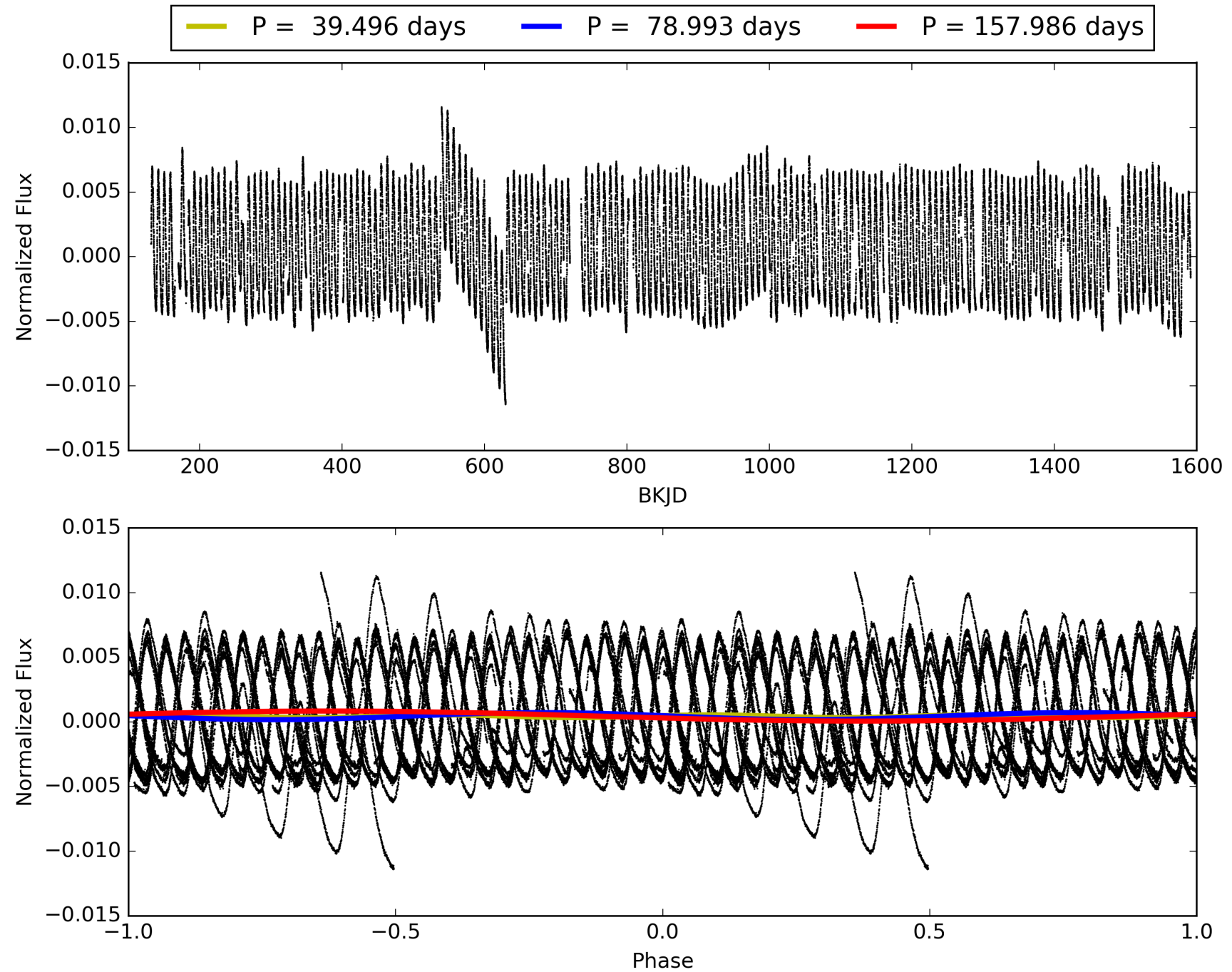
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:50:22 Z

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

TCE 006612411-04, PDC Light Curves

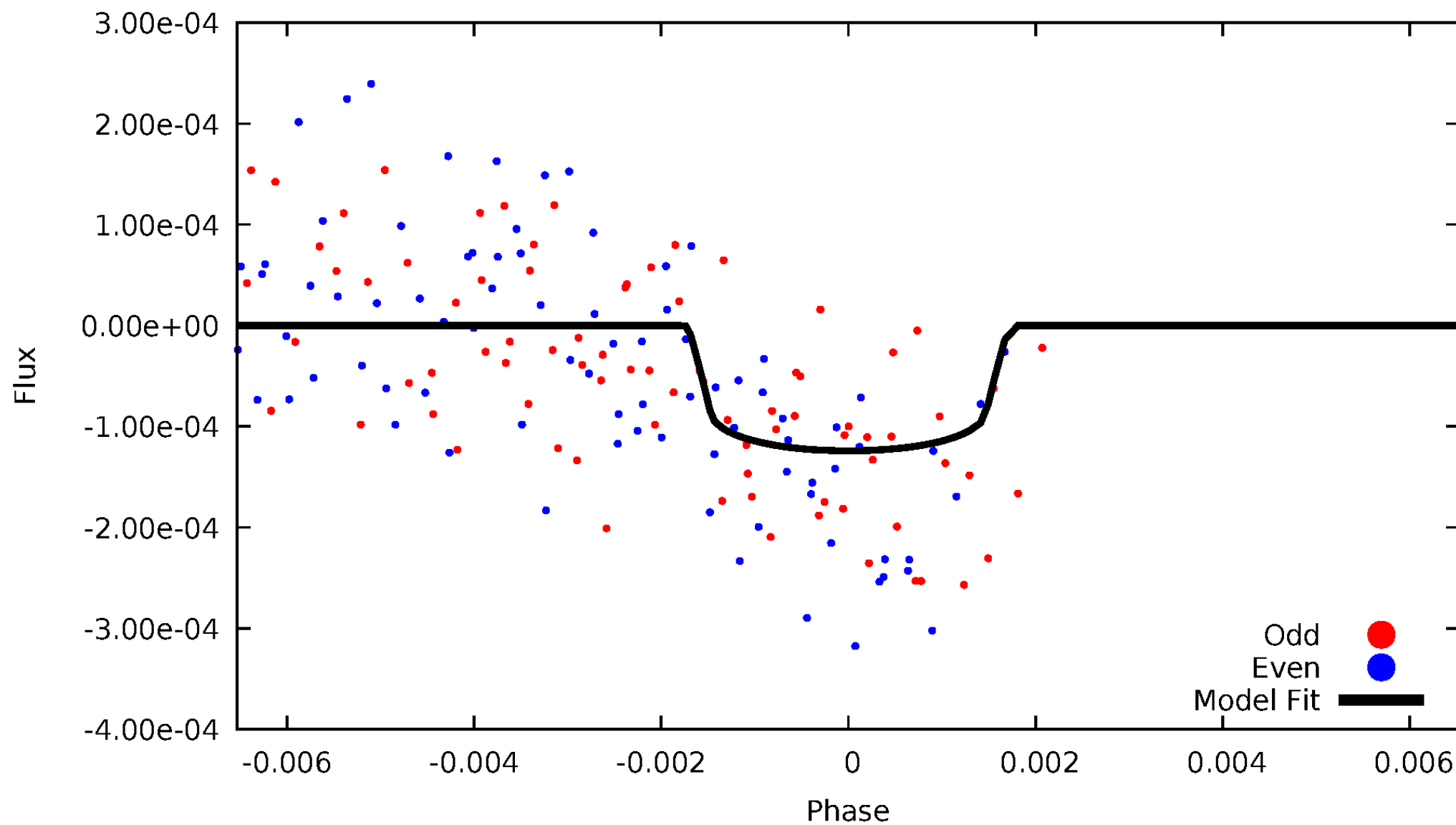


TCE 006612411-04



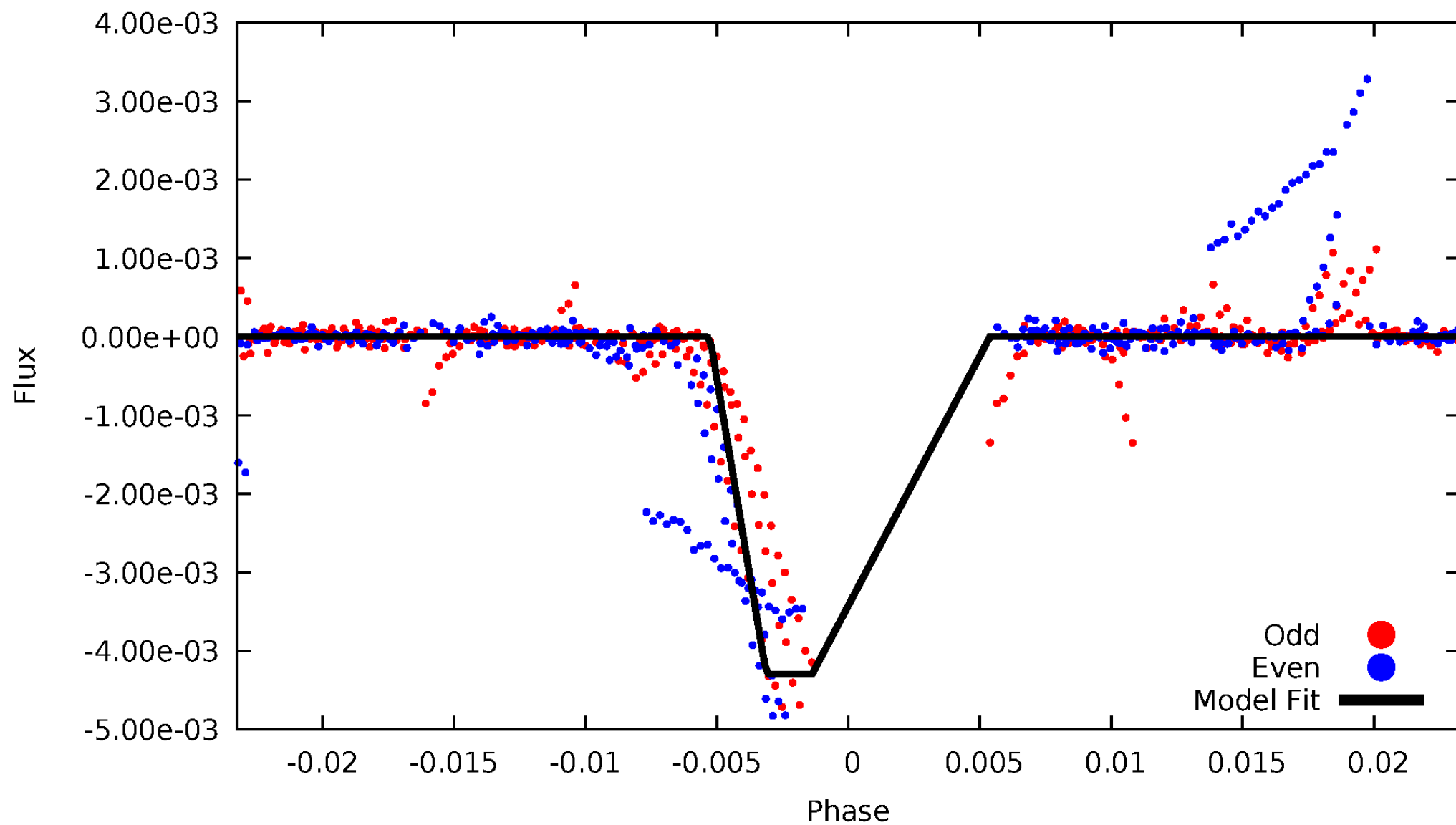
DV Odd/Even

TCE 006612411-04



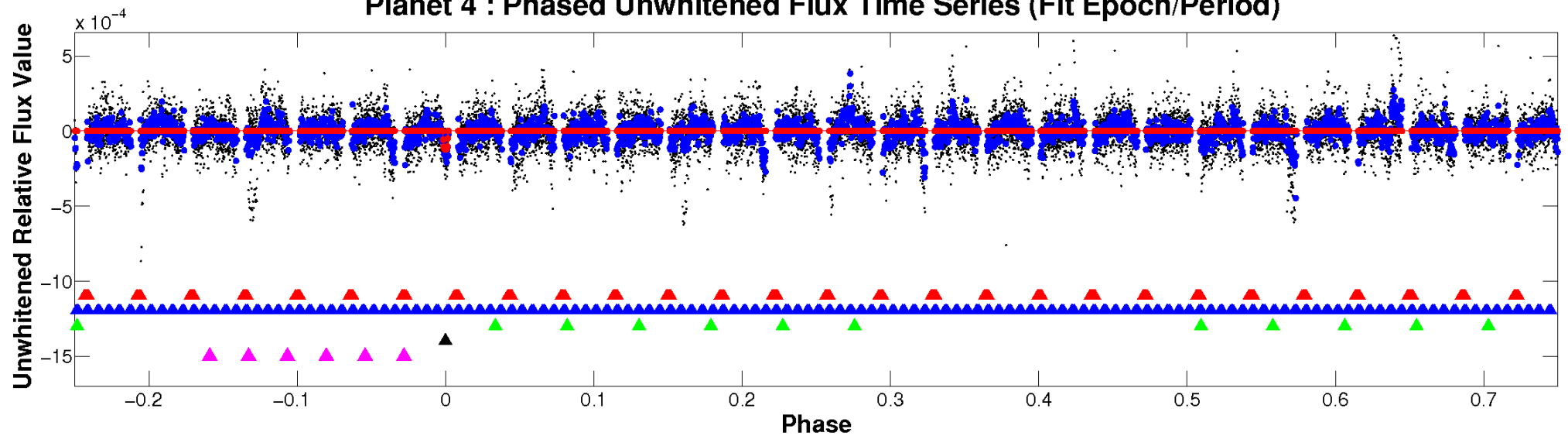
ALT Odd/Even

TCE 006612411-04

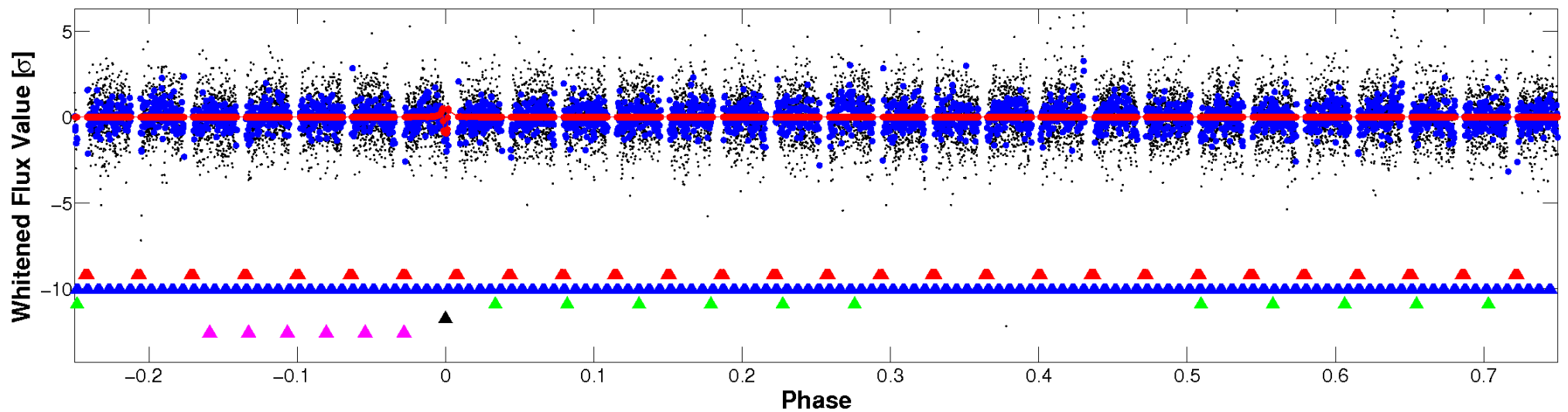


Non-Whitened Vs. Whitened Light Curve

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

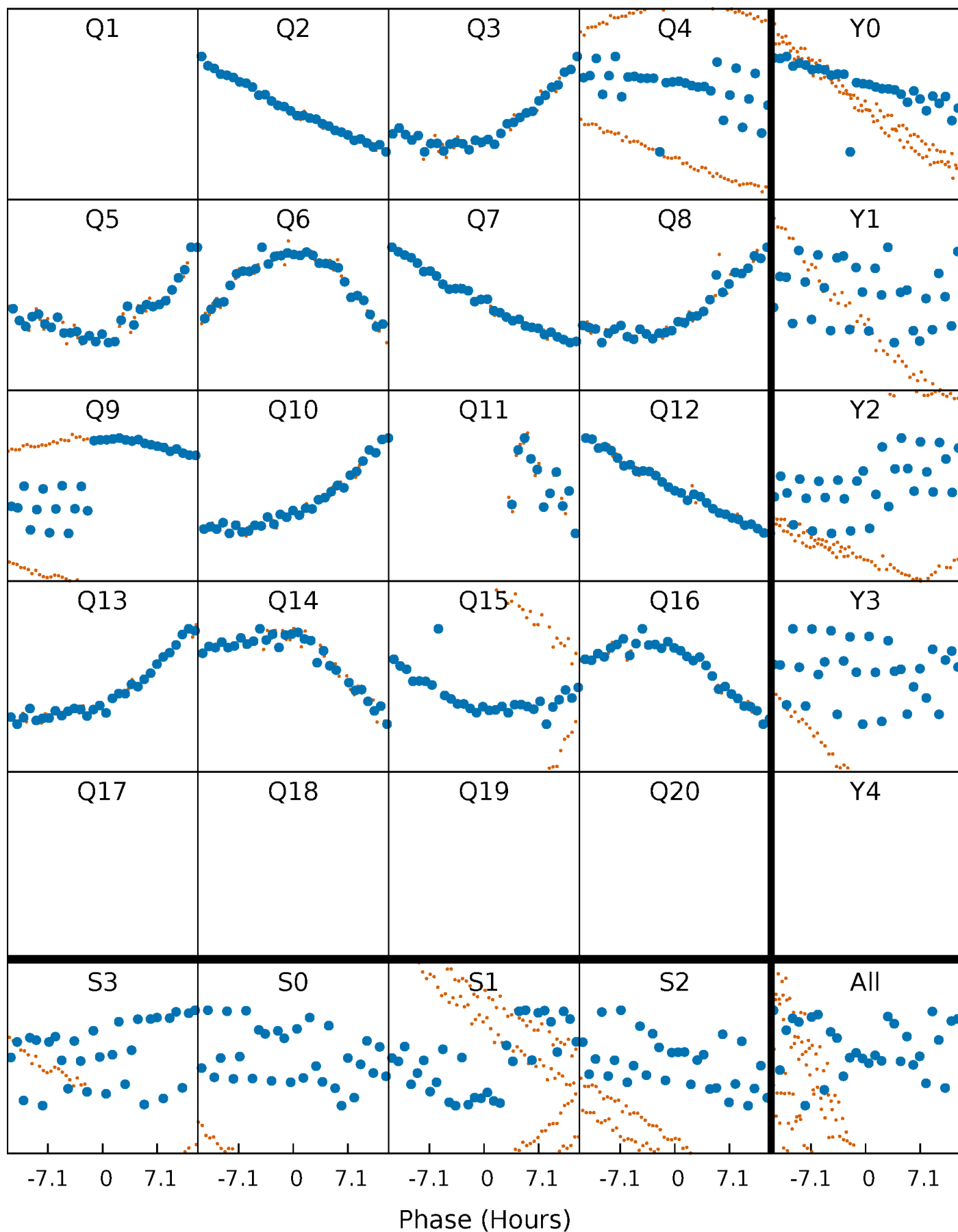


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



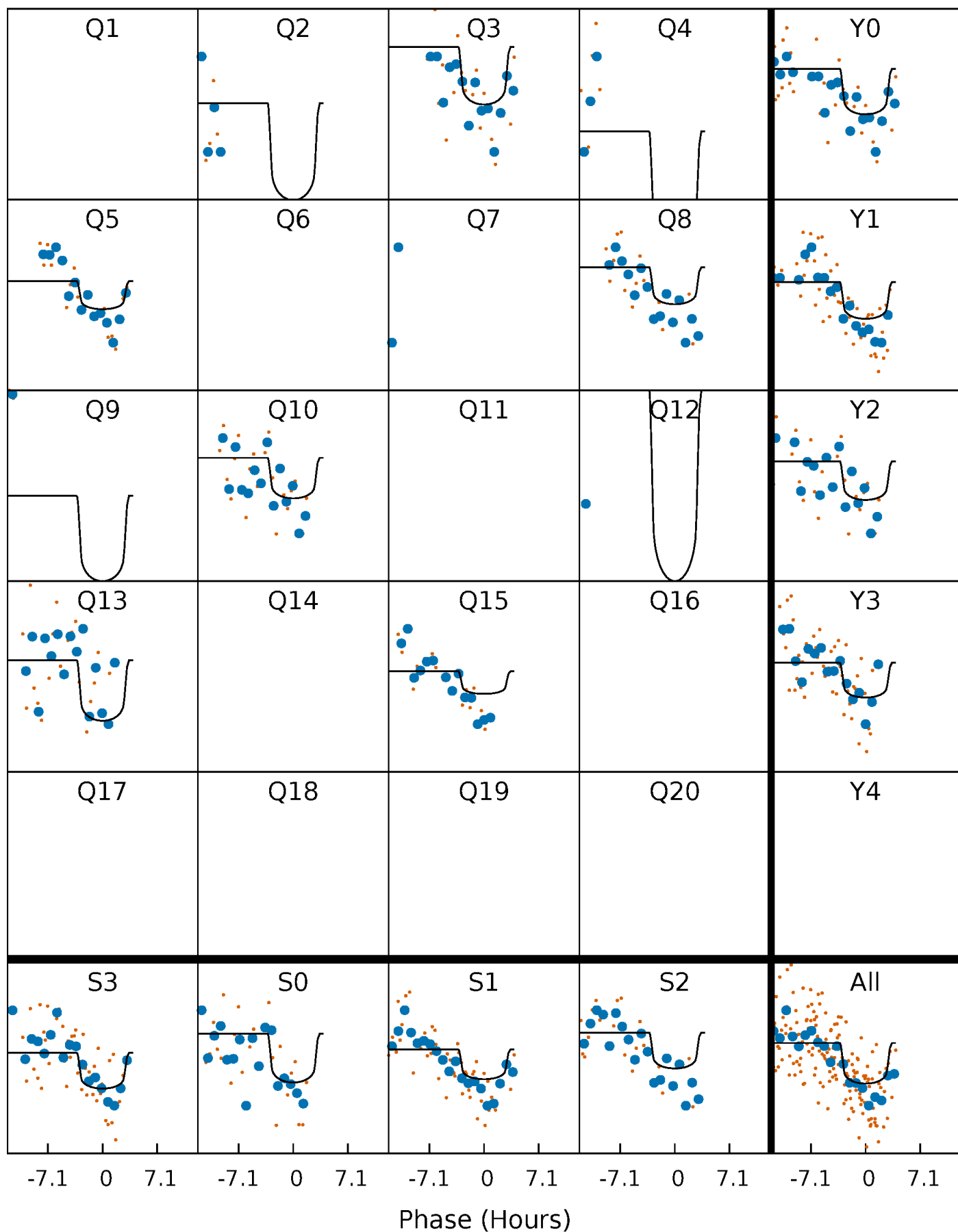
PDC Quarter-Phased Transit Curves

TCE 006612411-04 P= 78.992987 Days $T_0=195.085354$ (BKJD)



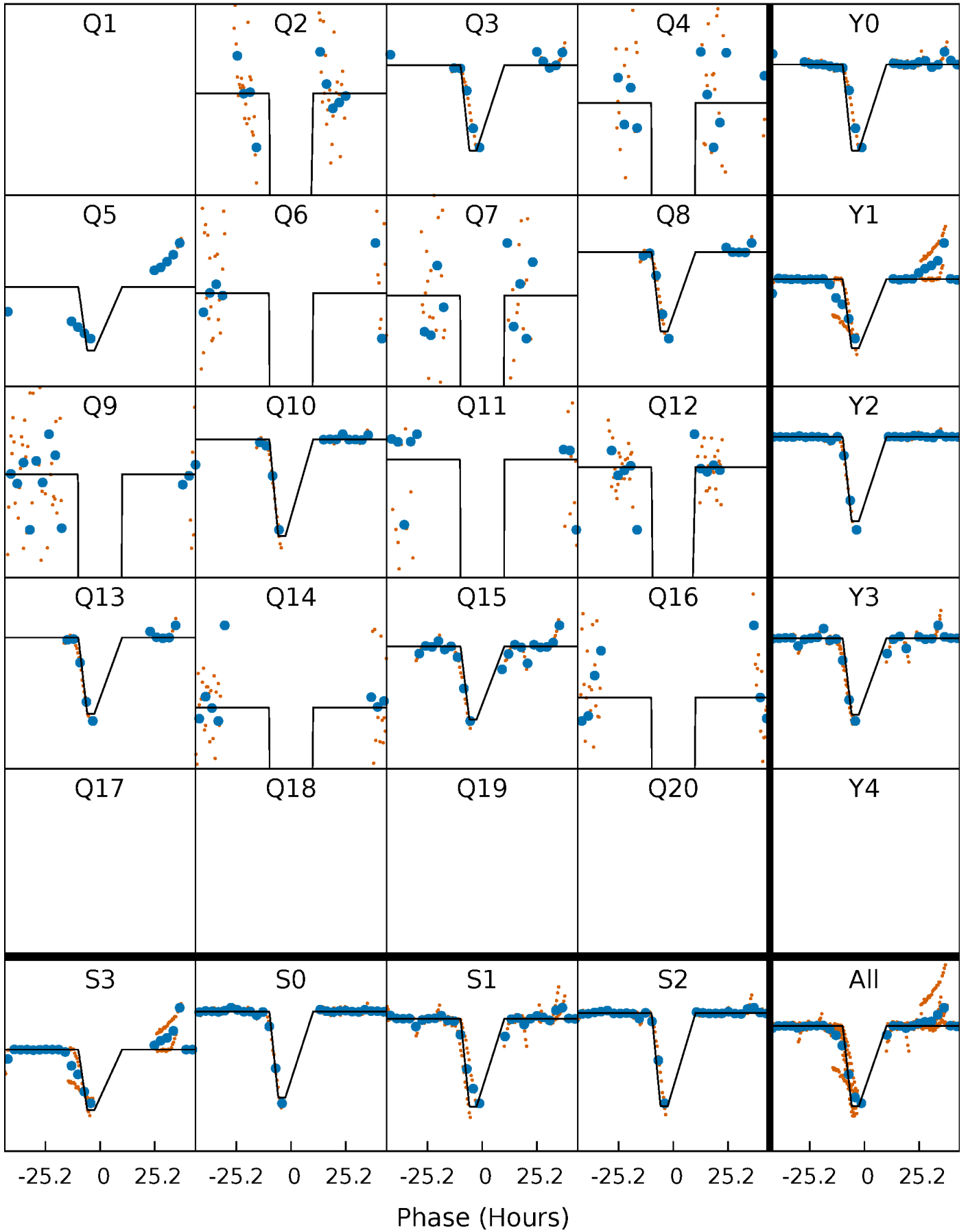
DV Quarter-Phased Transit Curves

TCE 006612411-04 P= 78.992987 Days $T_0=195.085354$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

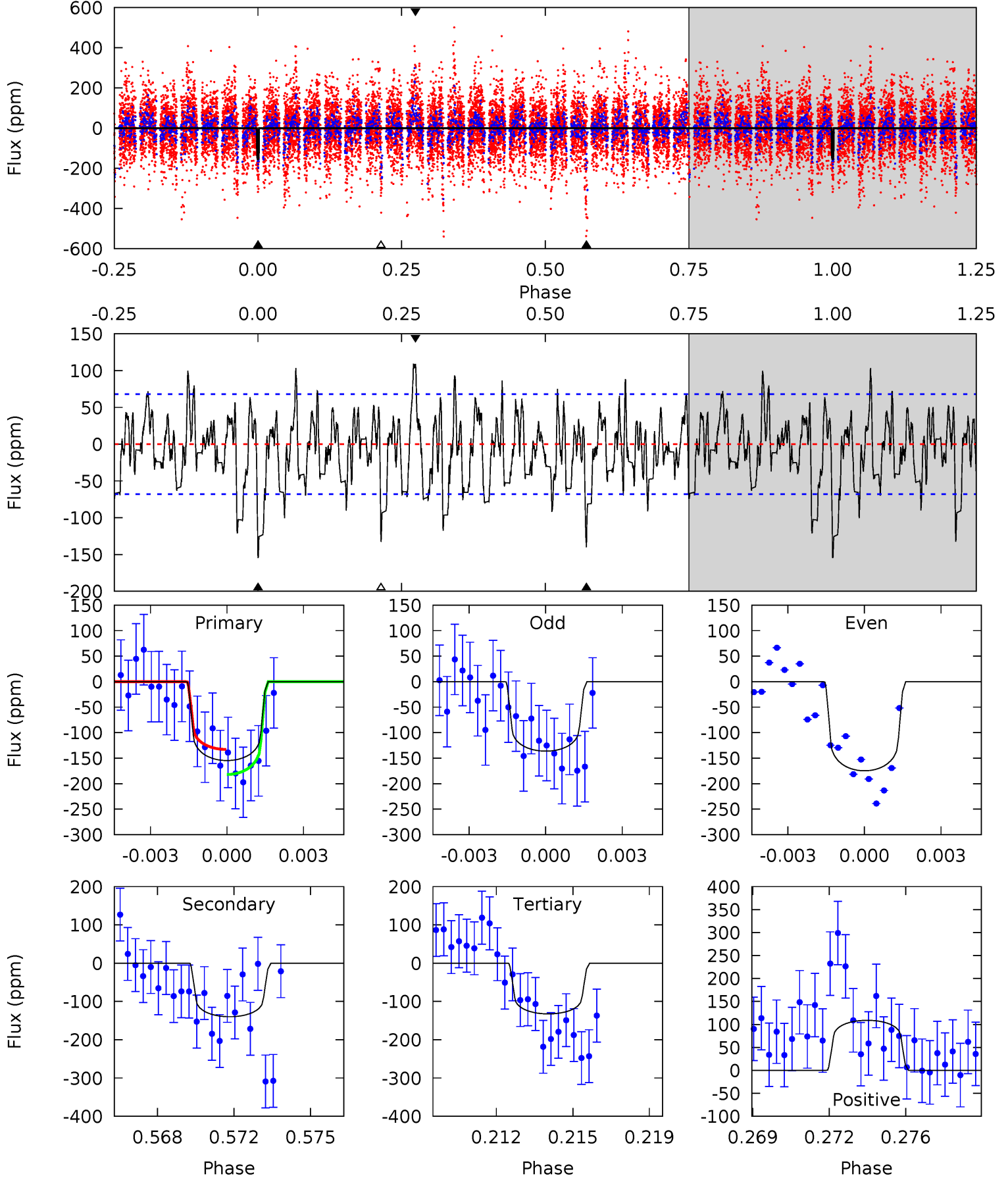
TCE 006612411-04 P= 78.991683 Days $T_0=195.359481$ (BKJD)



DV Model-Shift Uniqueness Test

006612411-04, P = 78.992987 Days, E = 116.092367 Days

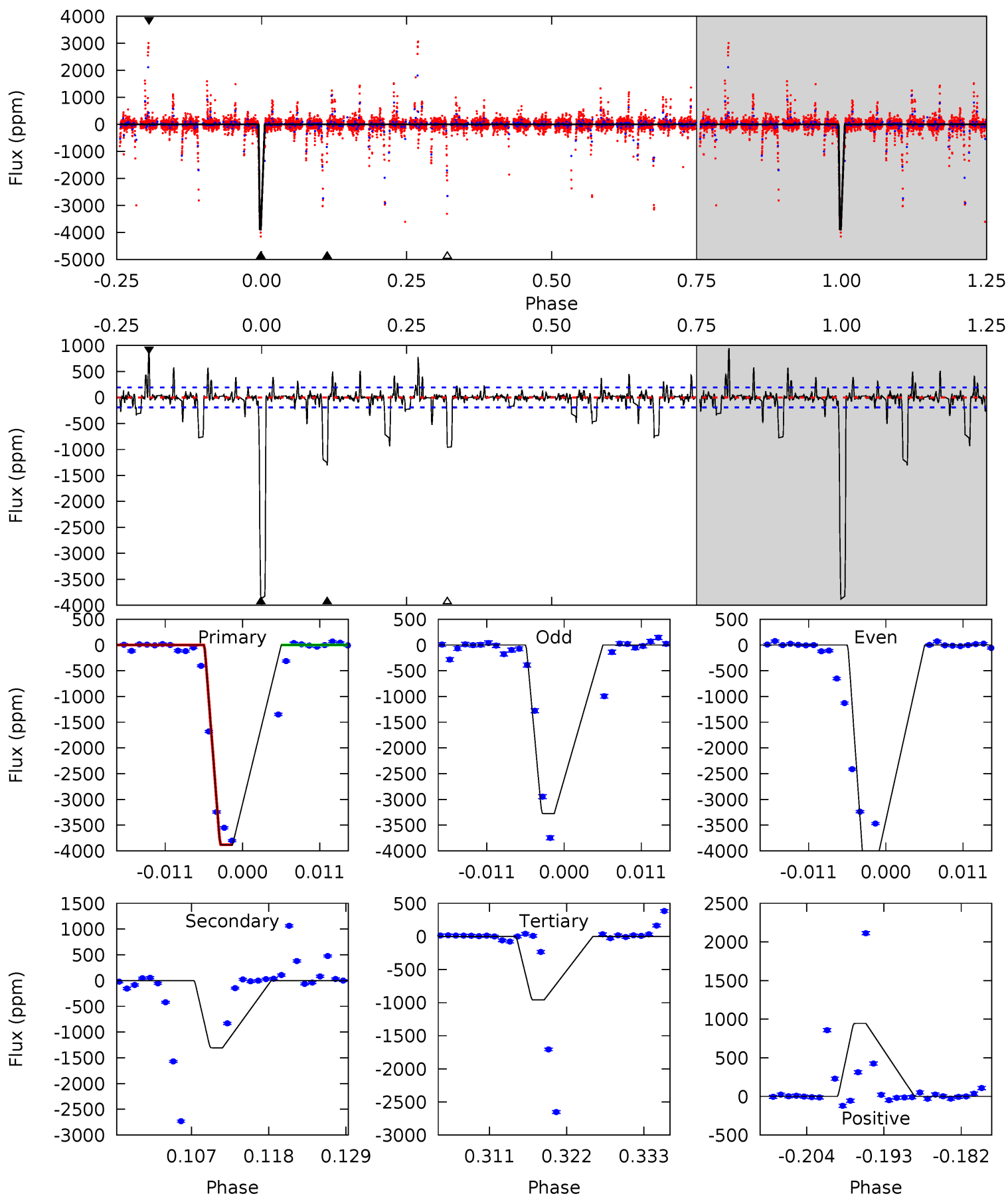
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	10.8	10.2	8.39	5.23	2.93	2.81	1.70	3.52	0.56	2.38	1.45	0.97	0.41	1.88



Alt Model-Shift Uniqueness Test

006612411-04, P = 78.991683 Days, E = 116.367798 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
101.6	34.2	25.0	24.7	5.01	2.55	3.11	76.5	76.9	9.11	9.43	7.49	0	0.20	0



Stellar Parameters For KIC 006612411

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7663^{+237}_{-316}	$4.087^{+0.160}_{-0.160}$	$-0.120^{+0.200}_{-0.350}$	$1.913^{+0.523}_{-0.428}$	$1.630^{+0.197}_{-0.263}$	$0.328^{+0.269}_{-0.148}$
	+3%/-4%	+4%/-4%	+167%/-292%	+27%/-22%	+12%/-16%	+82%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006612411-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-140 ± 13	$2.34^{+1.52}_{-1.25}$	999^{+76}_{-68}	7796^{+6032}_{-1805}	2453^{+9512}_{-1509}
Alt.	-1305 ± 38	$13.73^{+2.38}_{-2.15}$	1002^{+66}_{-63}	5585^{+345}_{-276}	683^{+276}_{-179}

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

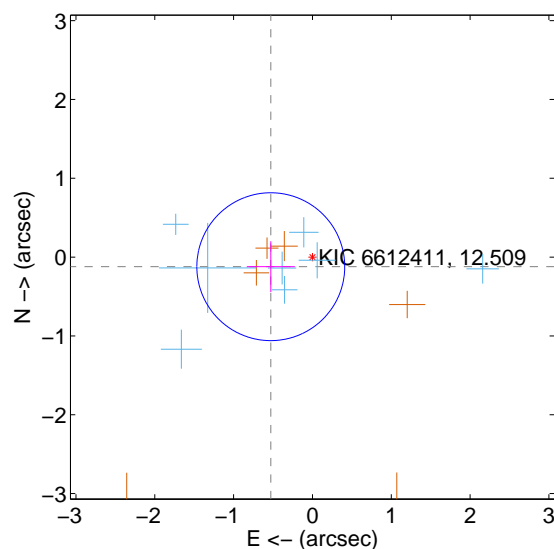
Supplemental centroid analysis for 006612411-04. Kepler magnitude: 12.51. Transit SNR 7.28

There are 8 quarters with good PRF difference image offsets

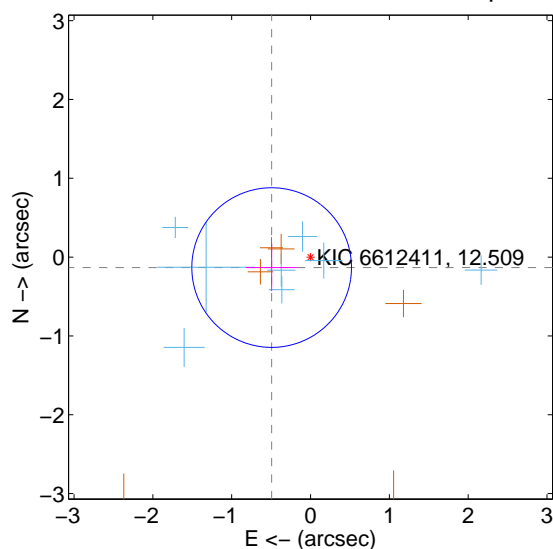
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.542 ± 0.313	1.73	0.529 ± 0.305	-0.122 ± 0.323
PRF-fit source offset from KIC position	0.511 ± 0.338	1.51	0.493 ± 0.328	-0.133 ± 0.297
photometric centroid source offset	0.50 ± 0.69	0.73	-0.19 ± 0.75	0.46 ± 0.67

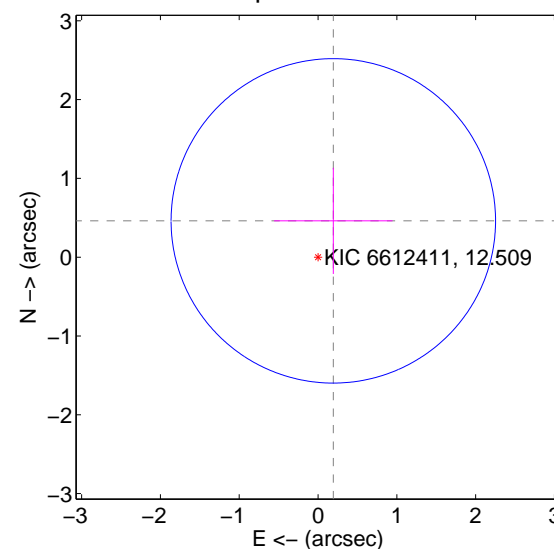
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

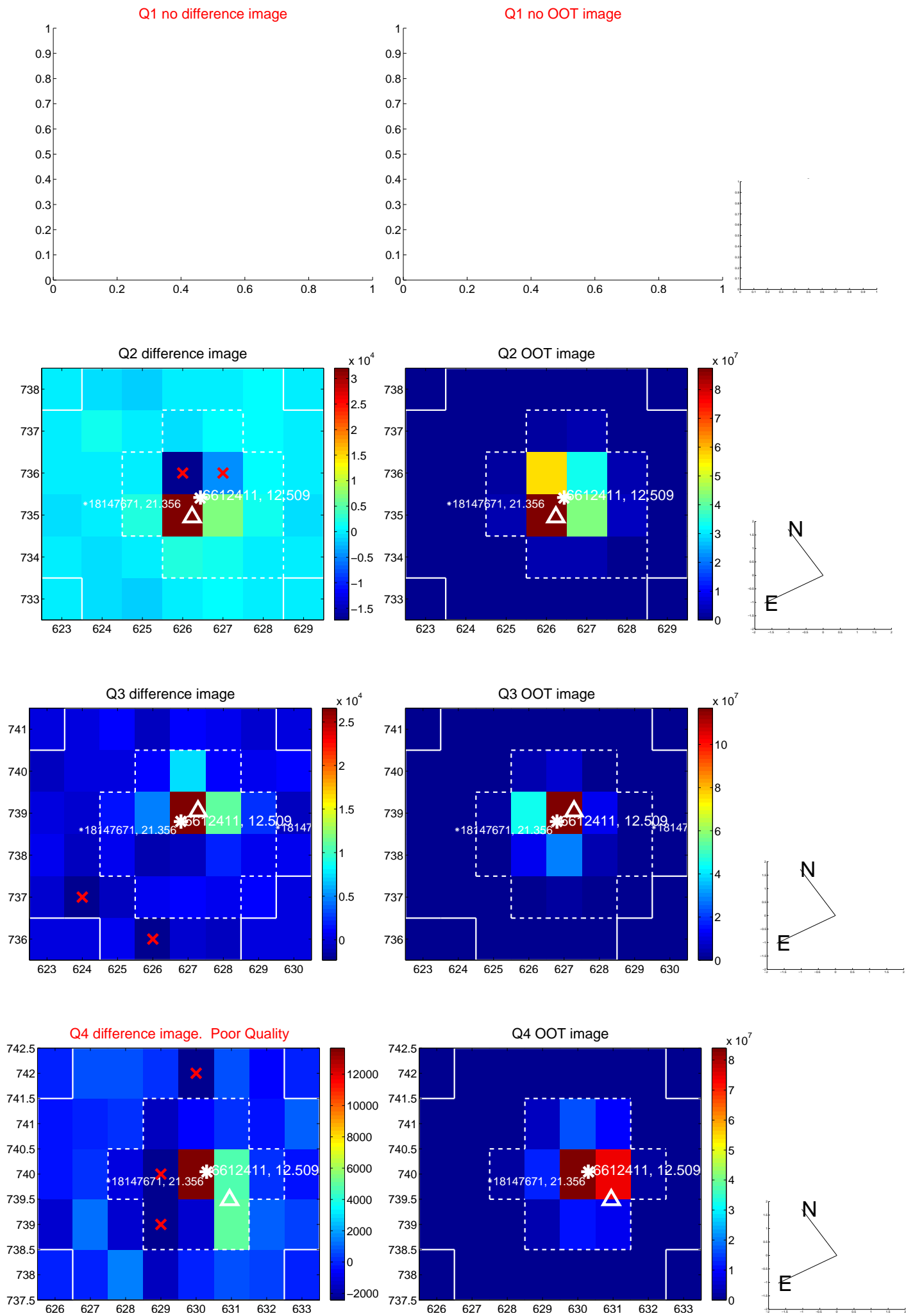


offset from photometric centroids

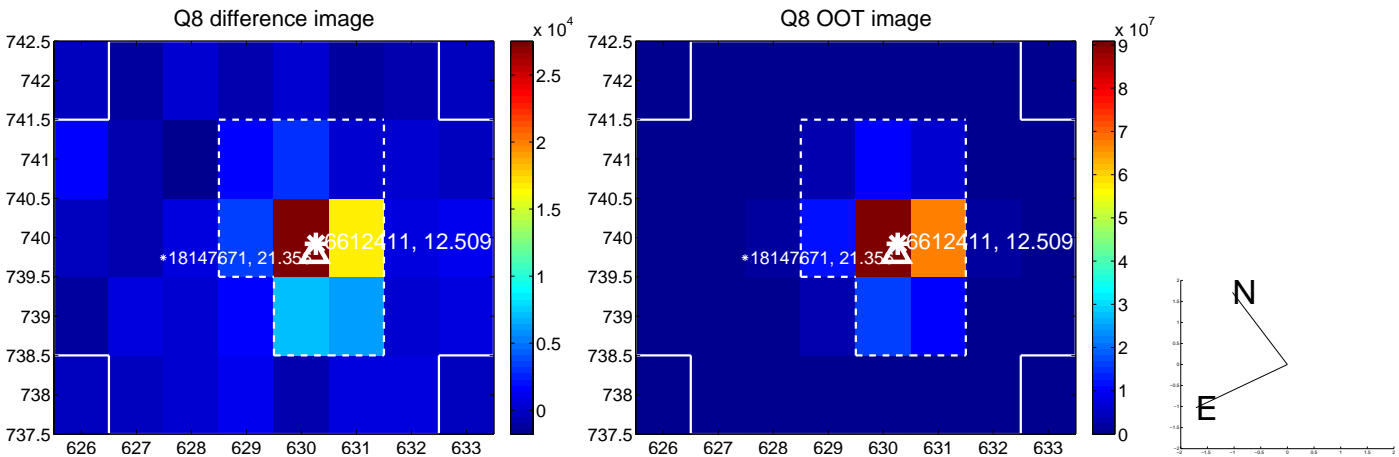
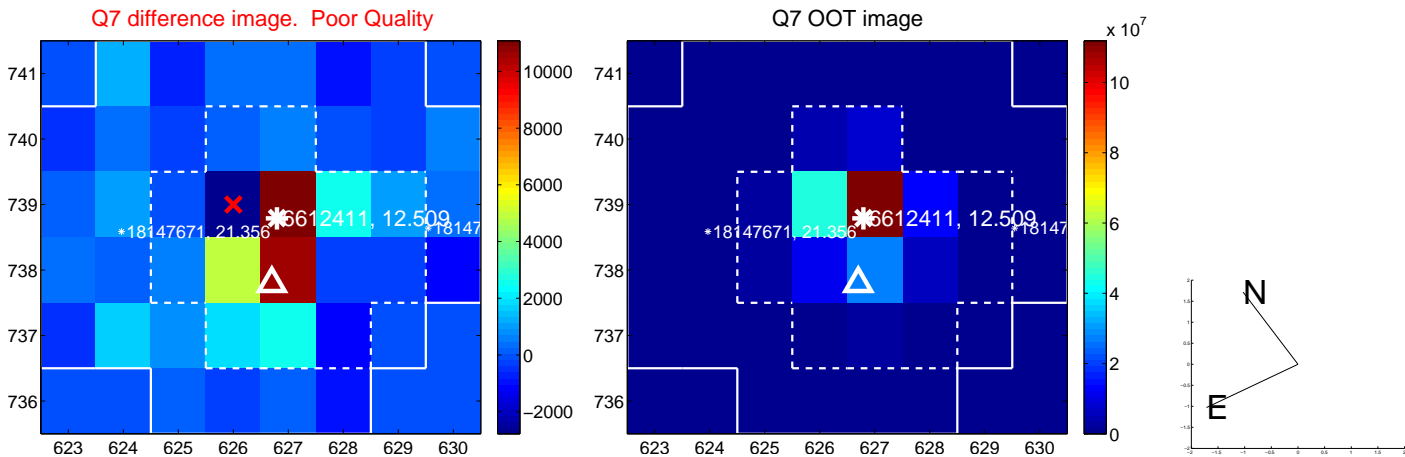
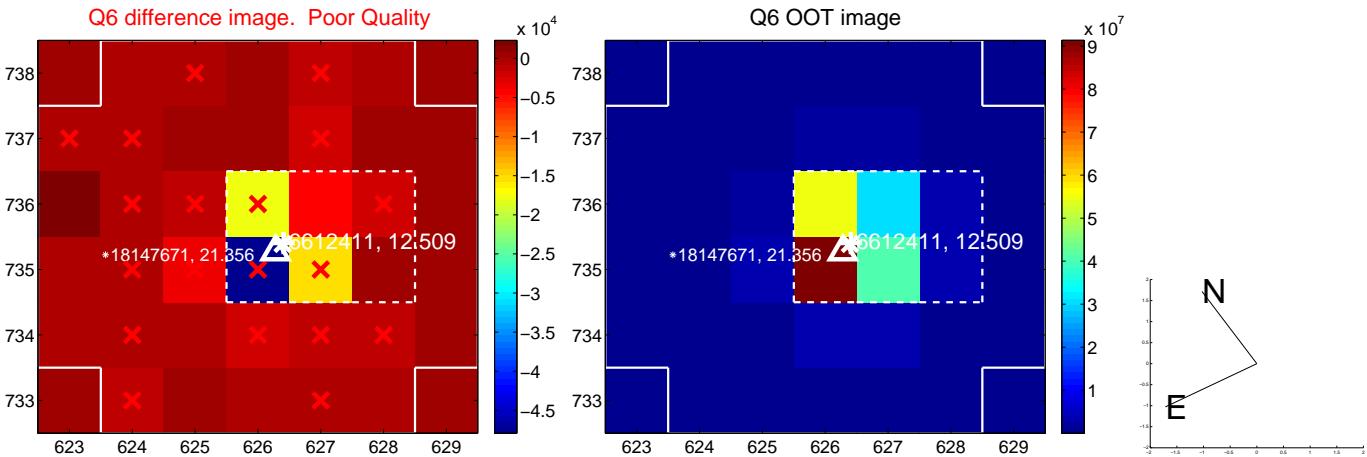
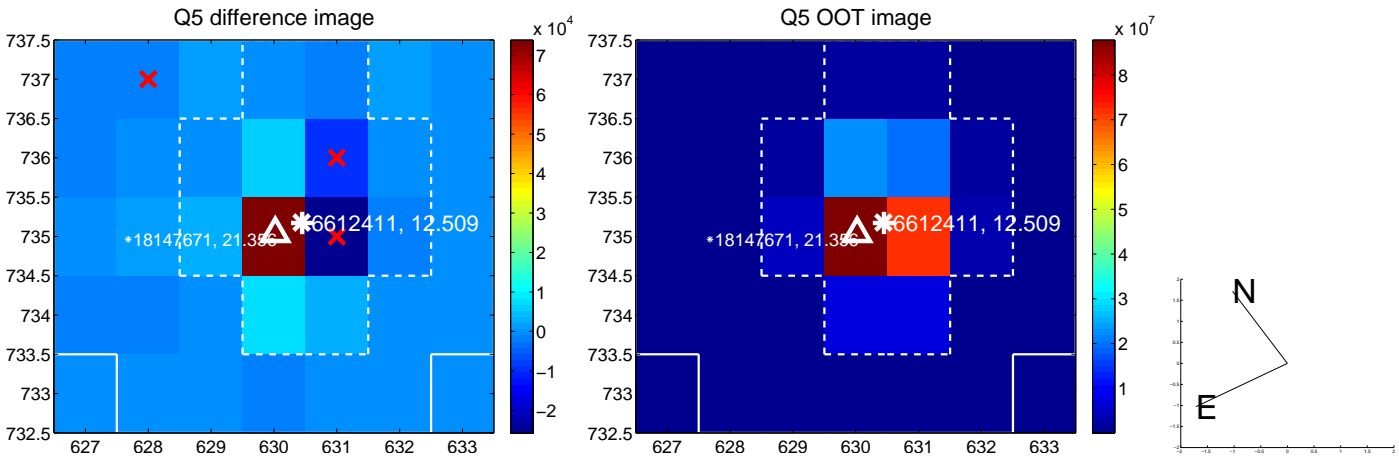


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

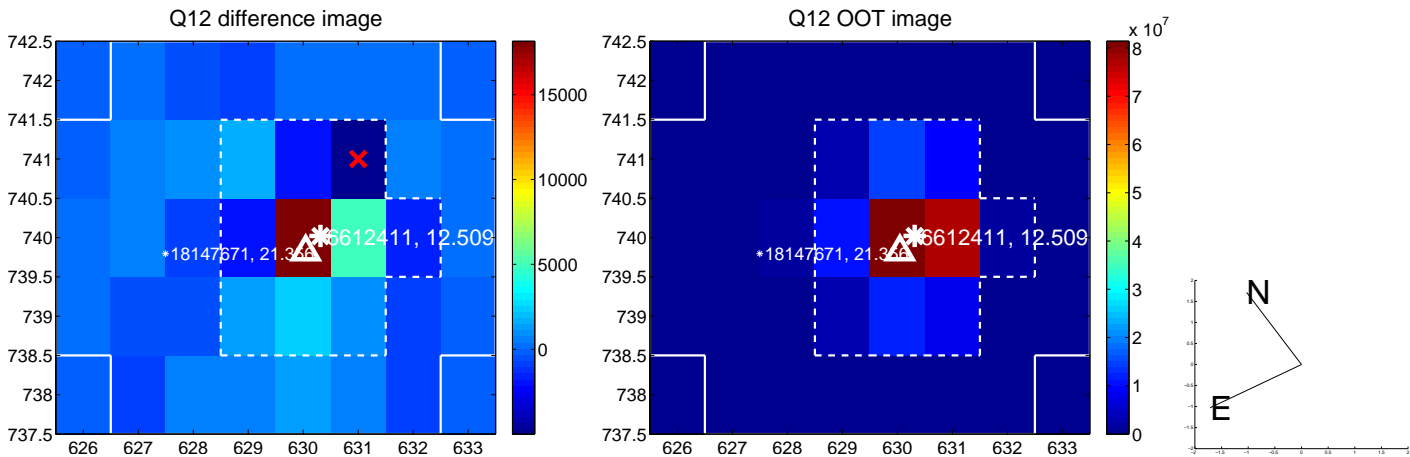
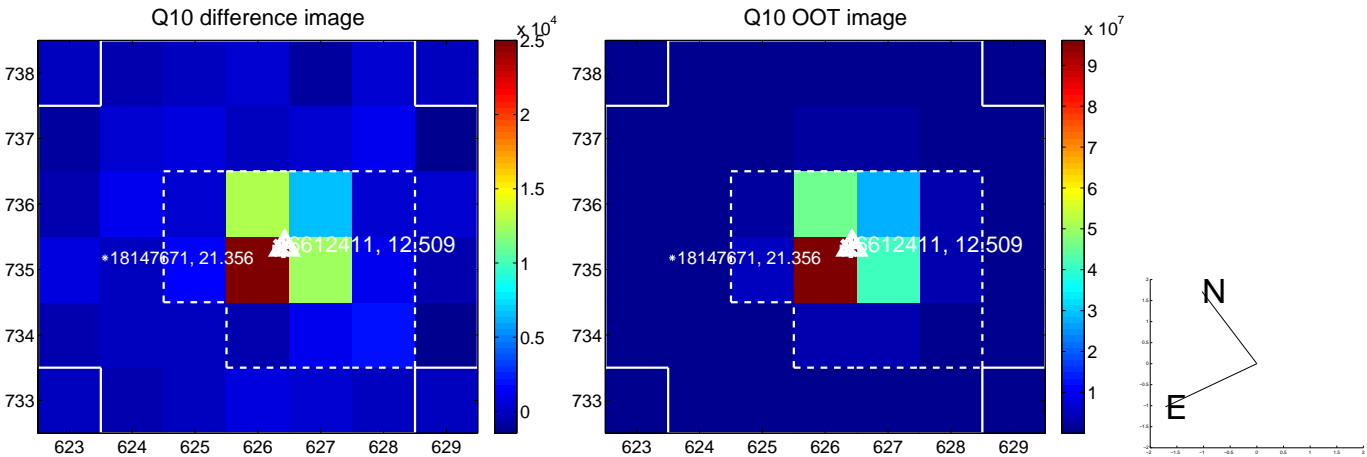
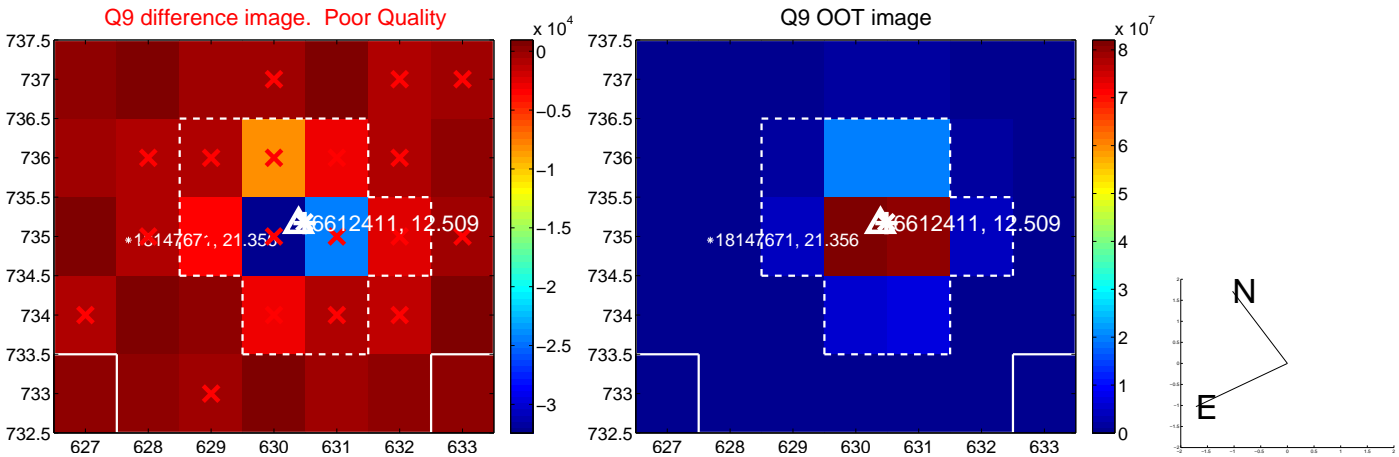
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



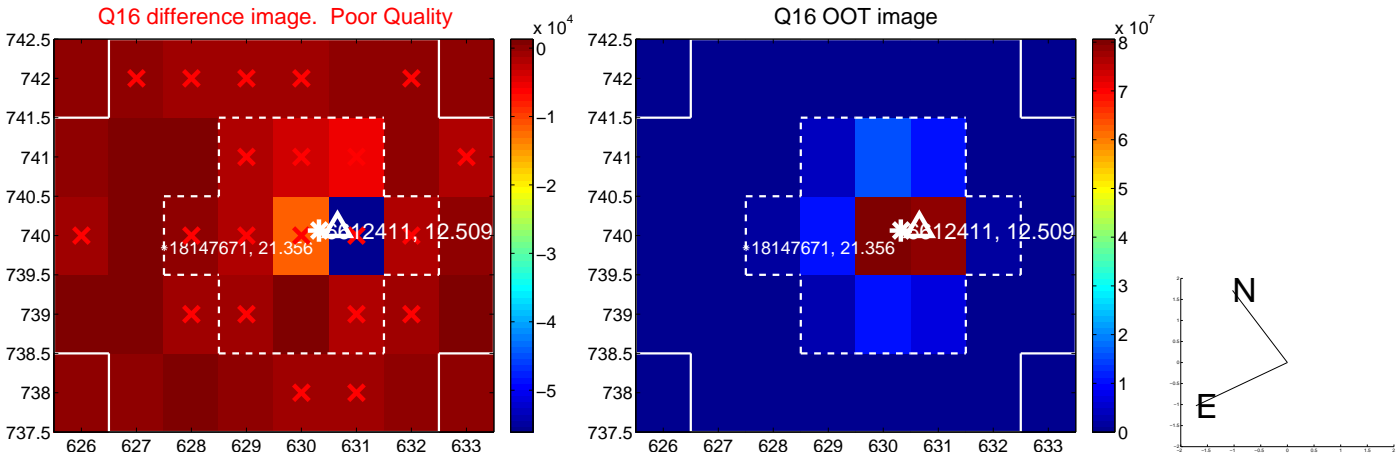
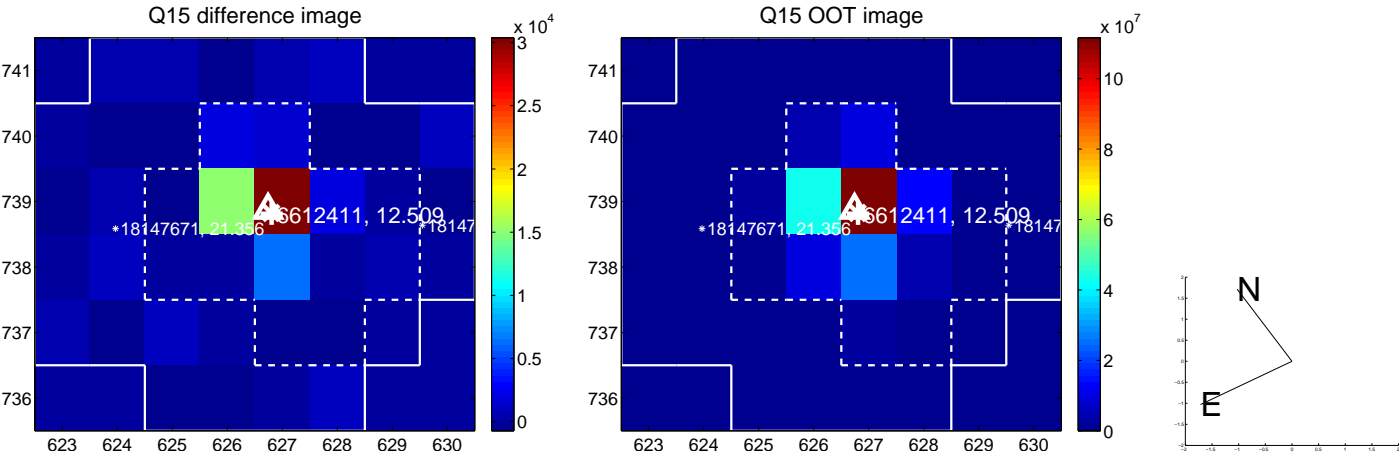
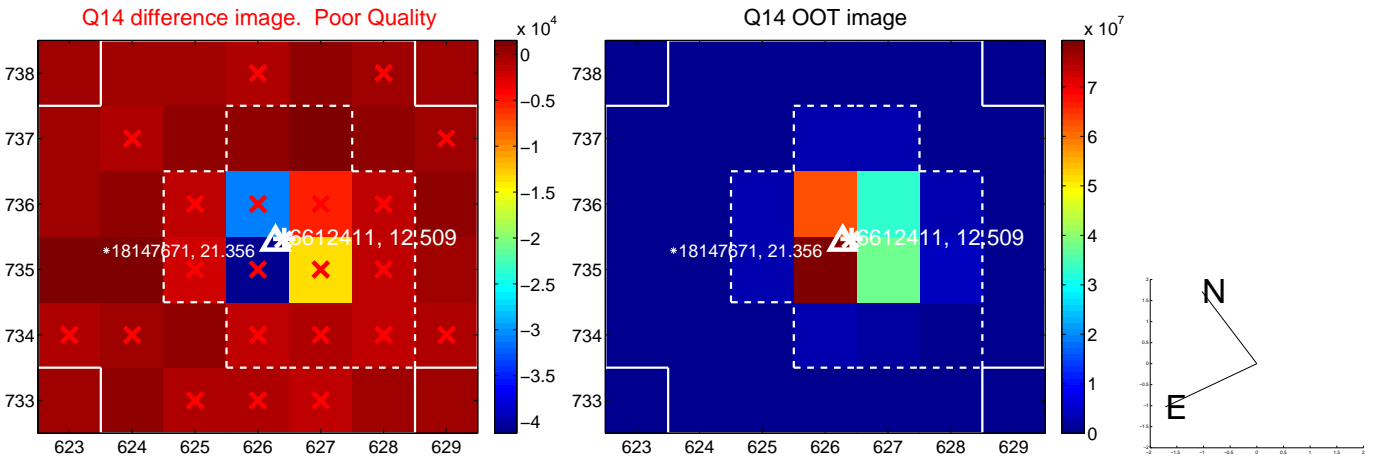
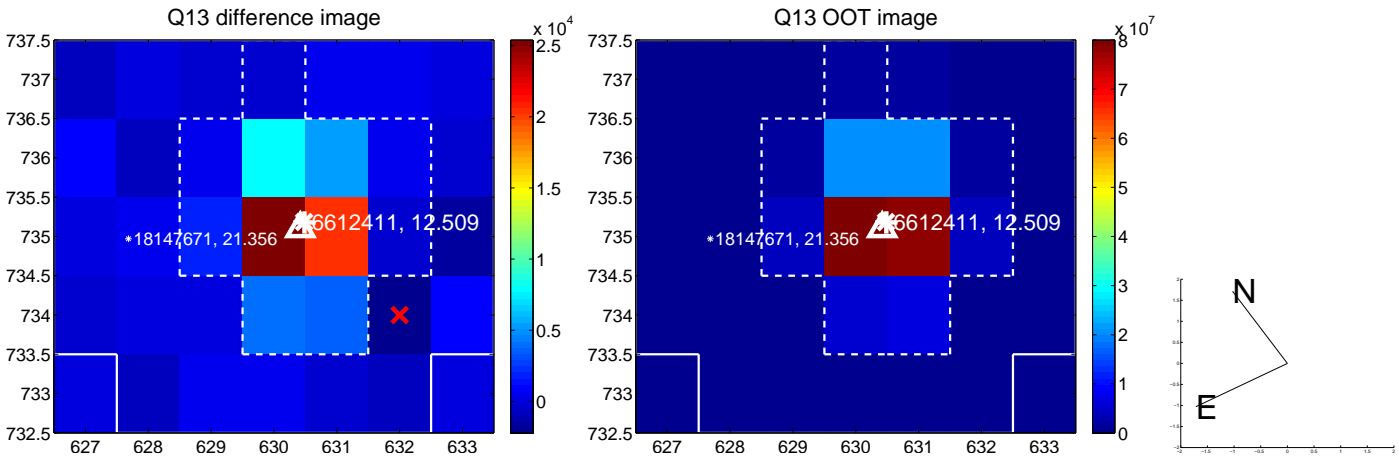
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



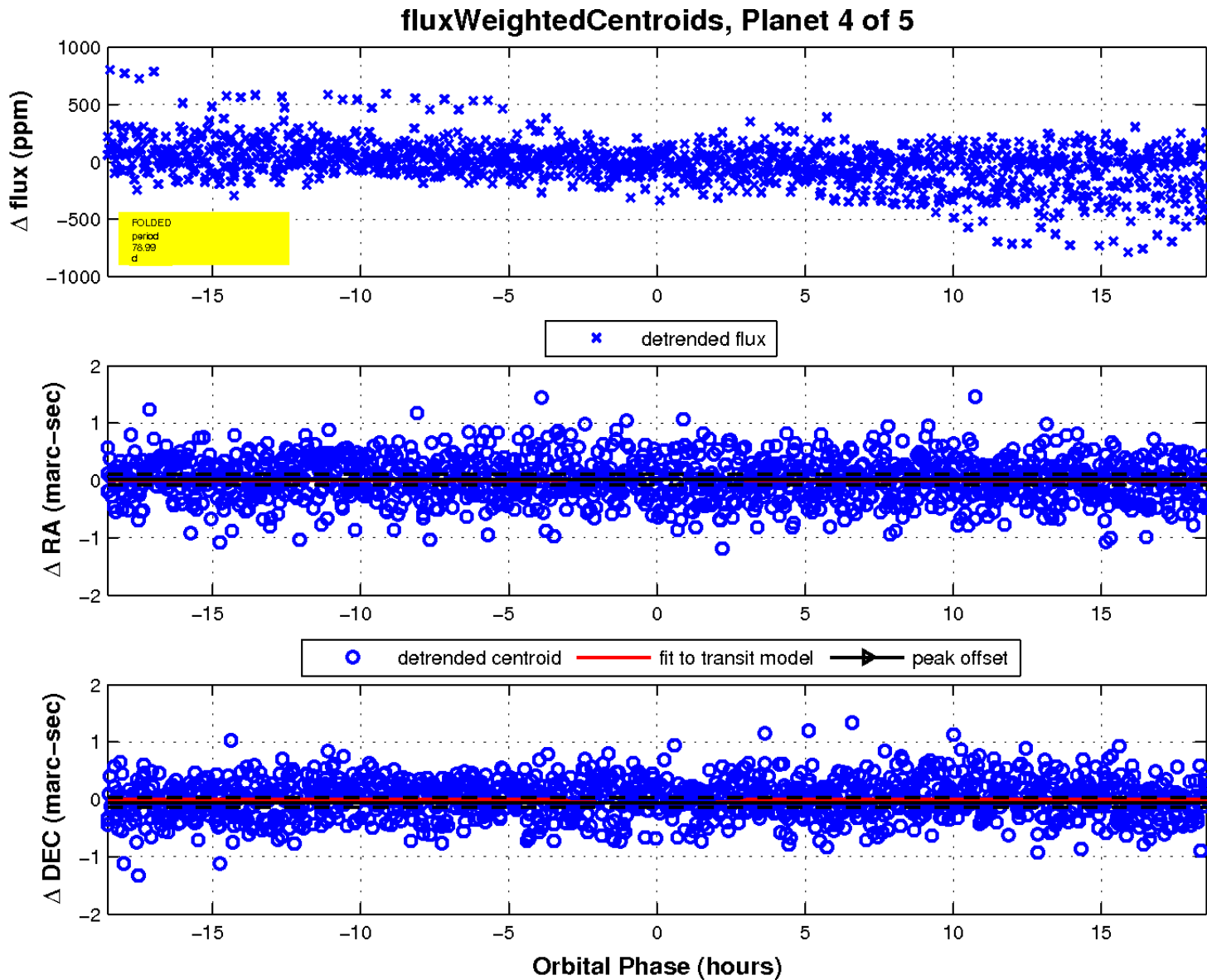
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

