

KIC 005940490

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})
005940490-01	OBS	No	2.435693	133.140112	47.2	10.332	9.9	10.2	1.60	6324	1.48	2640.47
005940490-02	OBS	No	4.871560	131.658854	74.3	10.124	12.9	14.2	1.60	6324	1.89	1047.82
005940490-03	OBS	No	2.435893	132.019831	44.7	11.706	12.9	12.4	1.60	6324	1.26	2640.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005940490-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
005940490-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED
005940490-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED

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

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

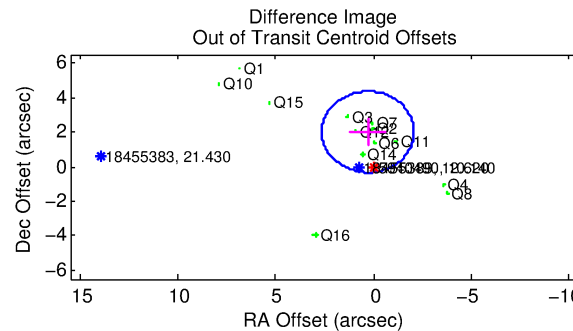
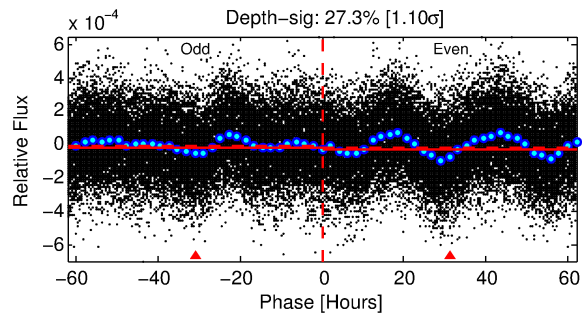
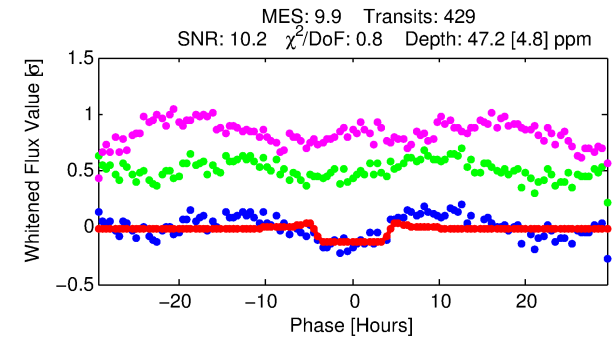
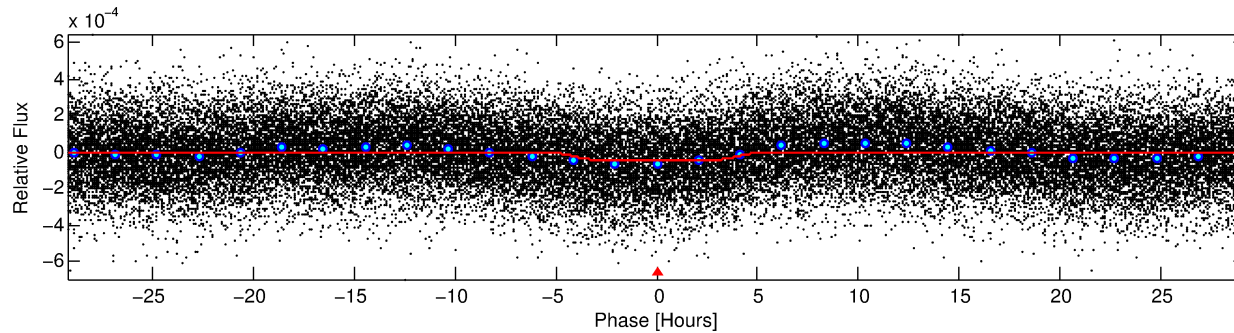
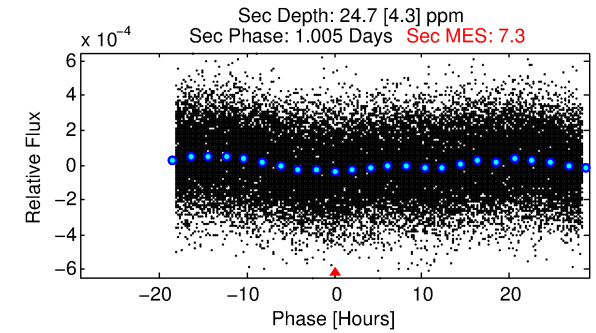
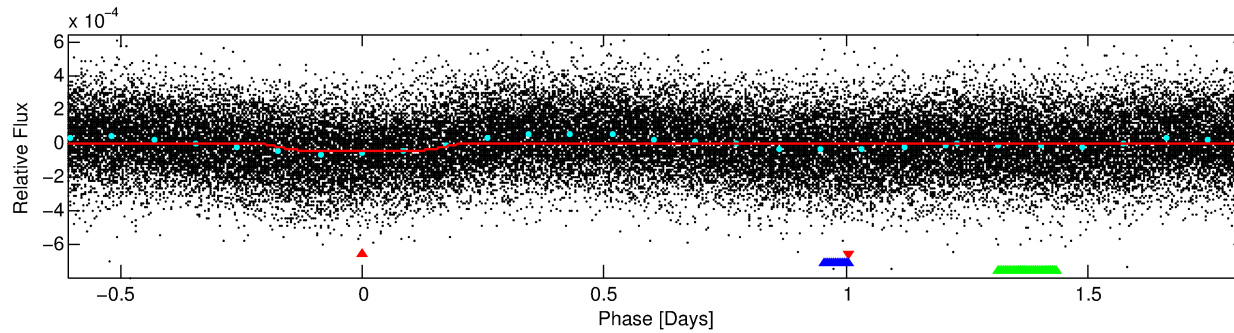
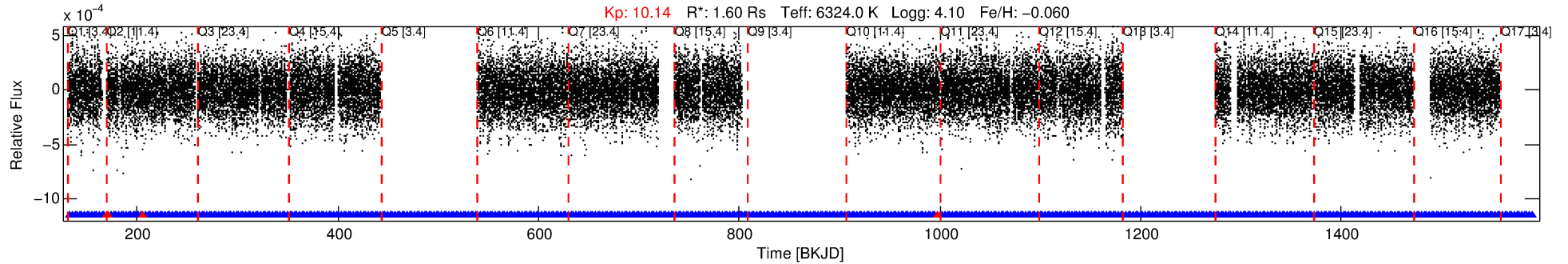
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005940490-01

No Significant Match Found

DV One-Page Summary

KIC: 5940490 Candidate: 1 of 3 Period: 2.436 d



DV Fit Results:

Period = 2.43569 [0.00004] d
Epoch = 133.1401 [0.0101] BKJD
Rp/R* = 0.0084 [0.0005]
a/R* = 1.08 [0.02]
b = 0.98 [0.01]
Seff = 2640.47 [1236.35]
Teq = 1828 [214] K
Rp = 1.48 [0.44] Re
a = 0.0374 [0.0104] AU
Ag = 8.71 [4.26] [1.81σ]
Teffp = 4855 [313] K [7.98σ]

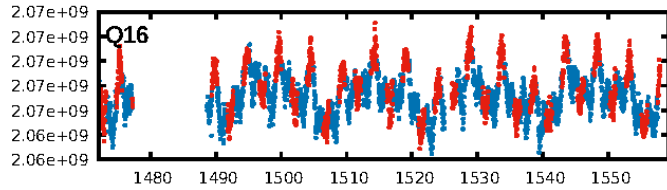
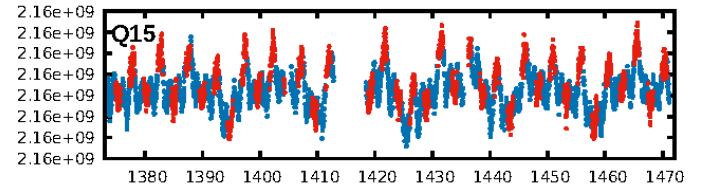
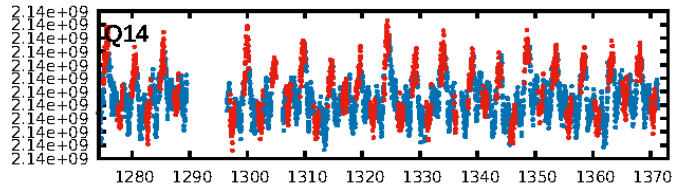
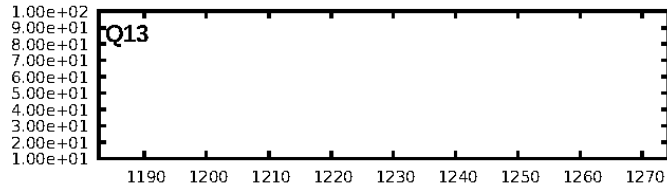
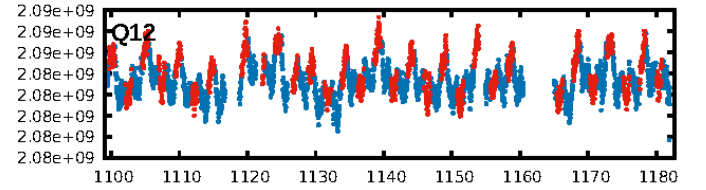
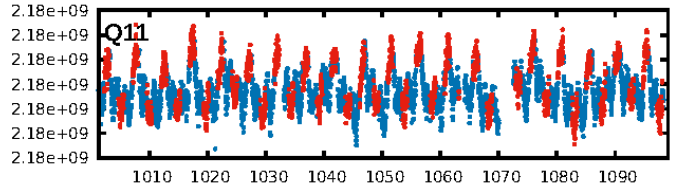
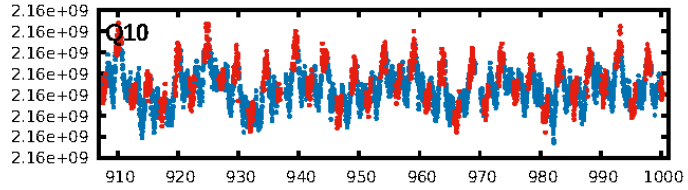
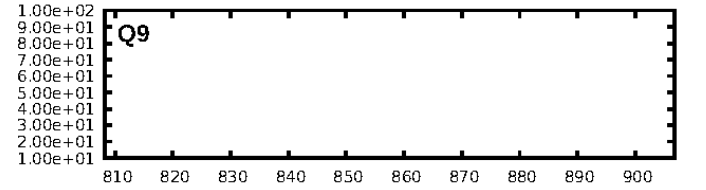
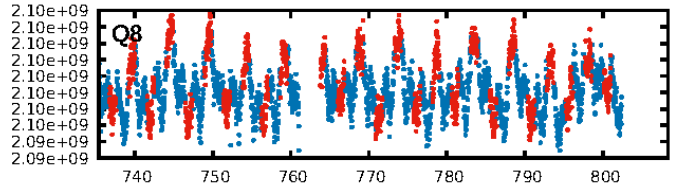
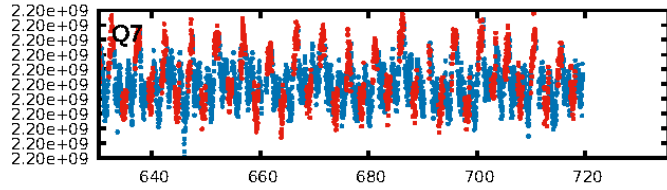
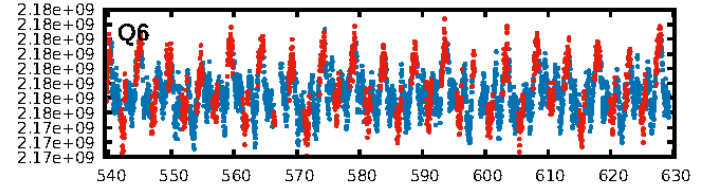
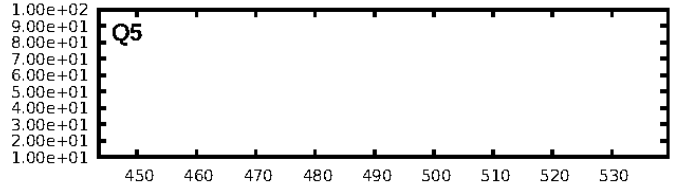
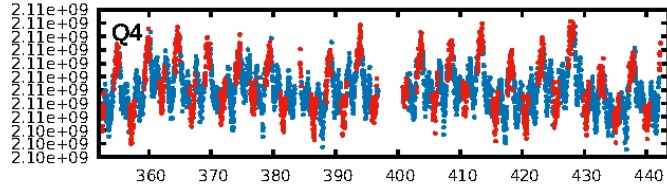
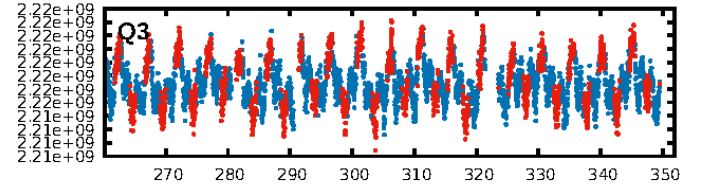
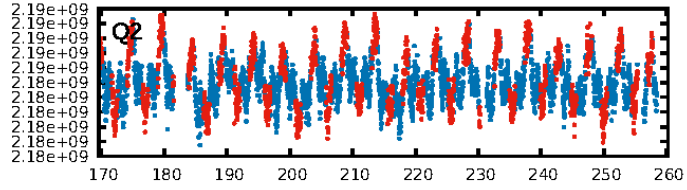
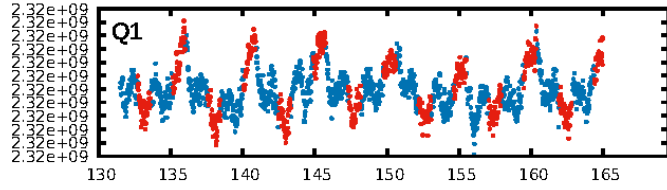
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [411/415]
GhostDiagnostic-chr: N/A
Centroid-sig: 38.7%
Centroid-so: 0.250 arcsec [0.74σ]
OotOffset-rm: 2.031 arcsec [2.59σ]
KicOffset-rm: 2.017 arcsec [3.73σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.08 [1/13]
DiffImageOverlap-fno: 0.92 [12/13]

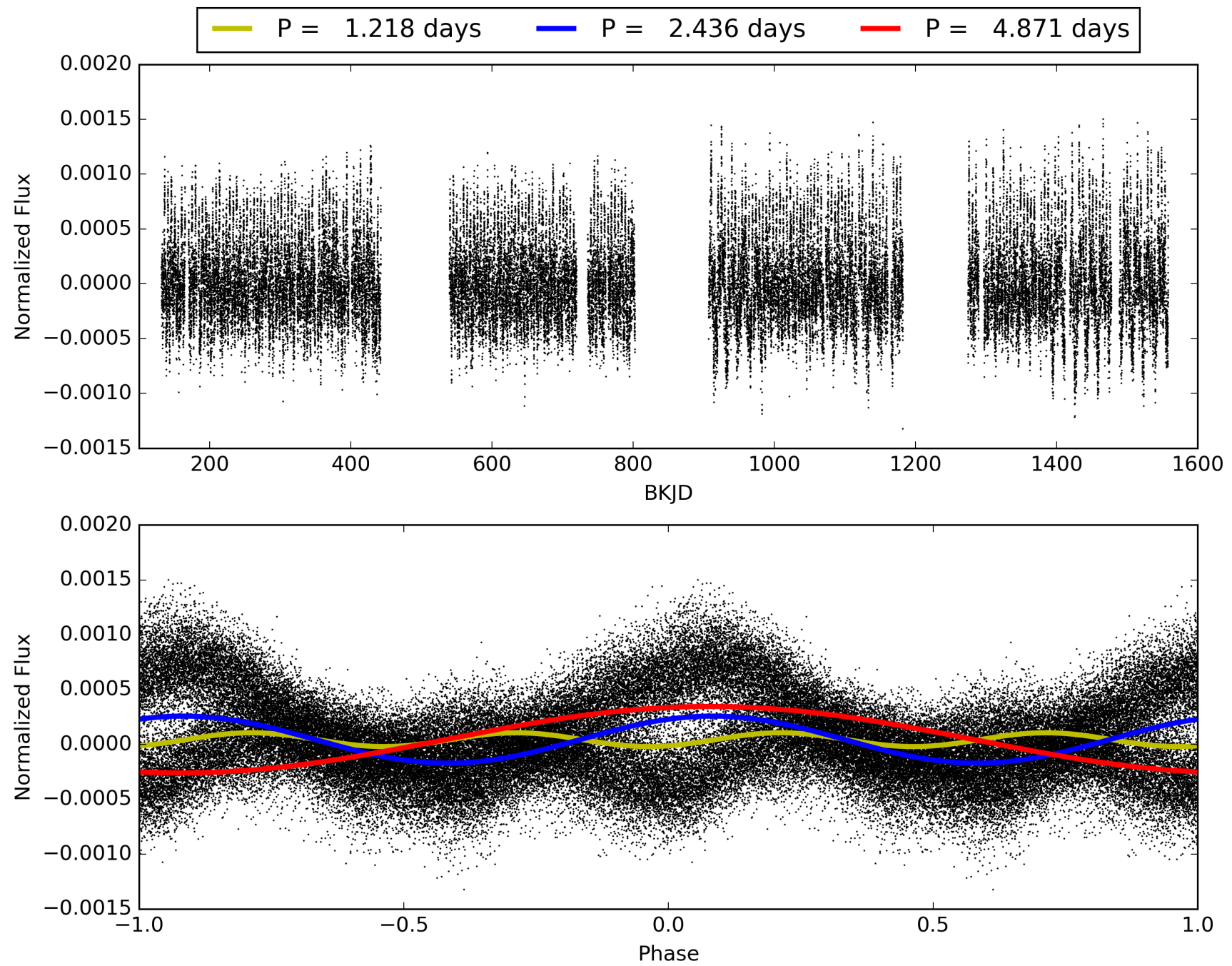
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:32:19 Z

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

TCE 005940490-01, PDC Light Curves

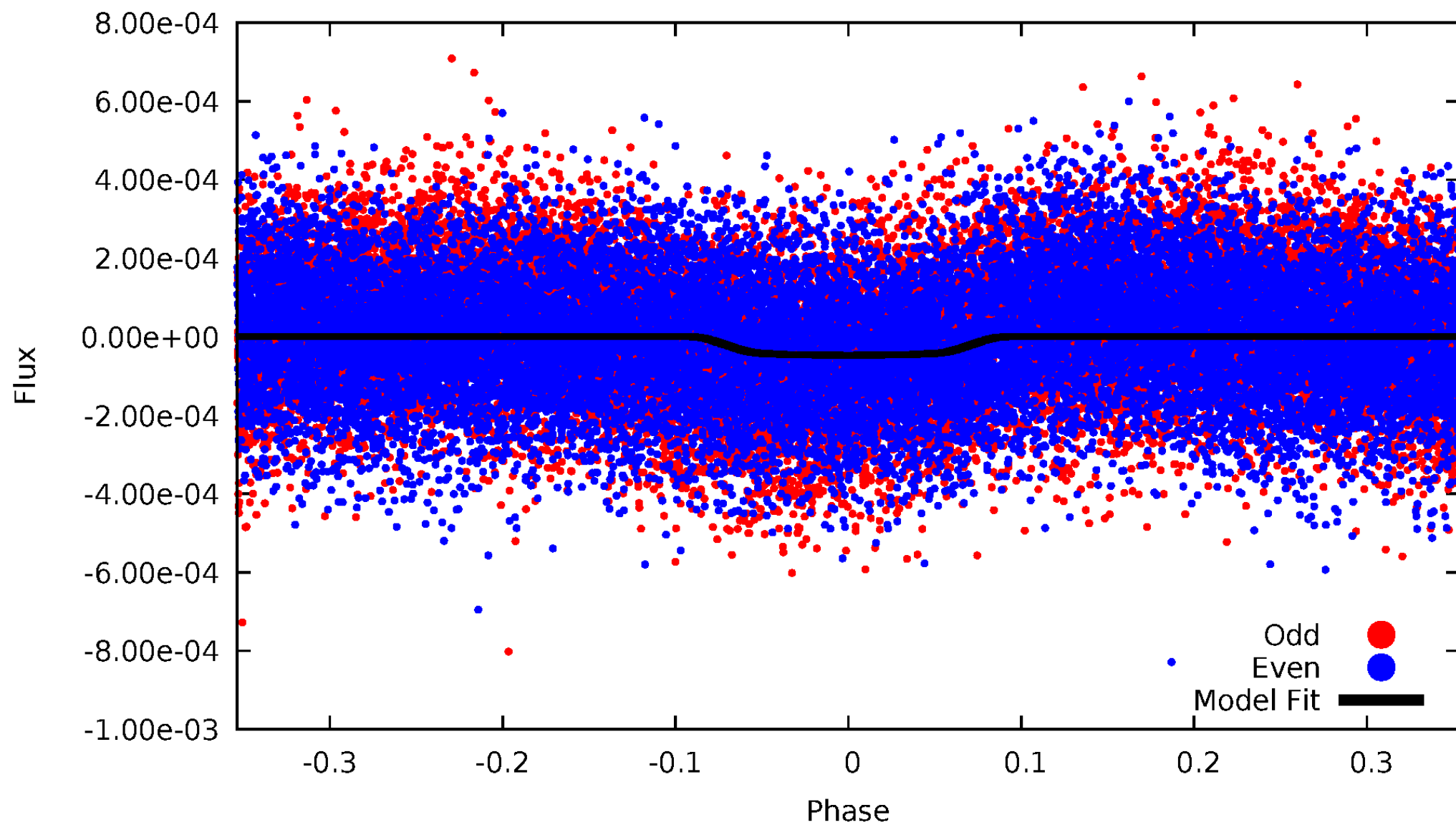


TCE 005940490-01



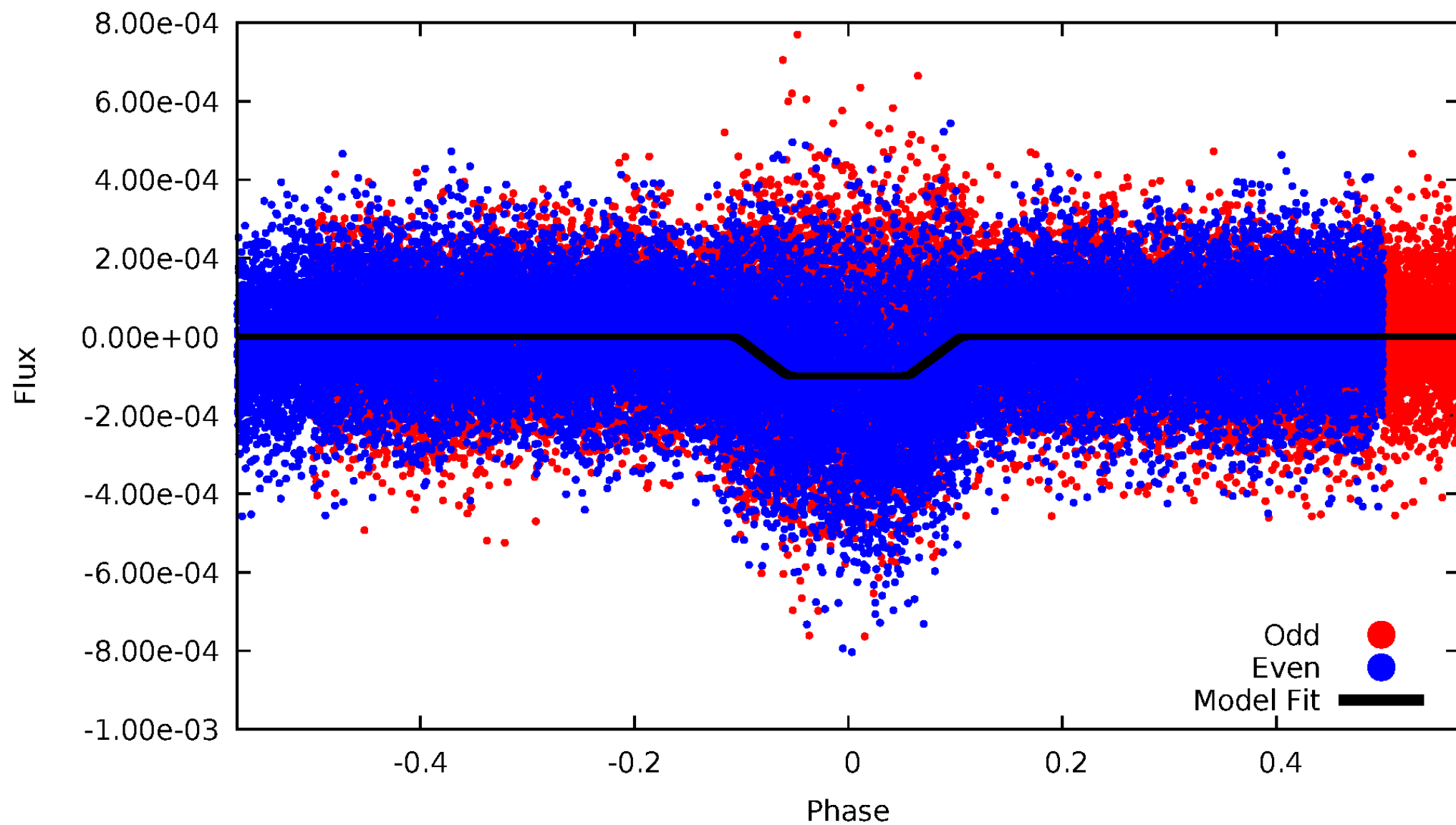
DV Odd/Even

TCE 005940490-01

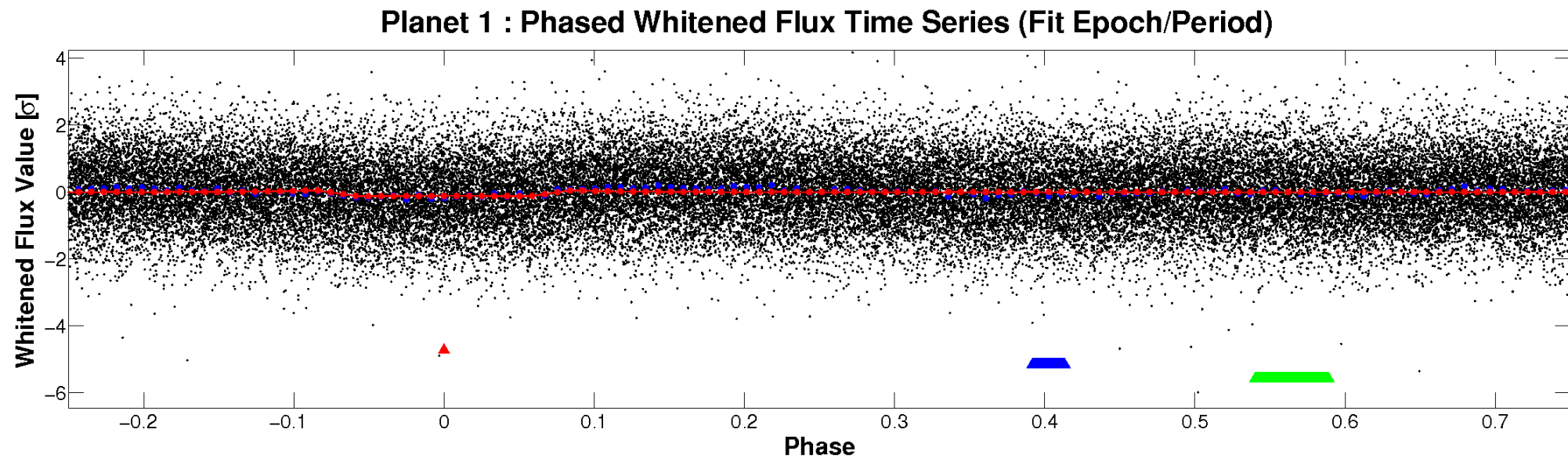
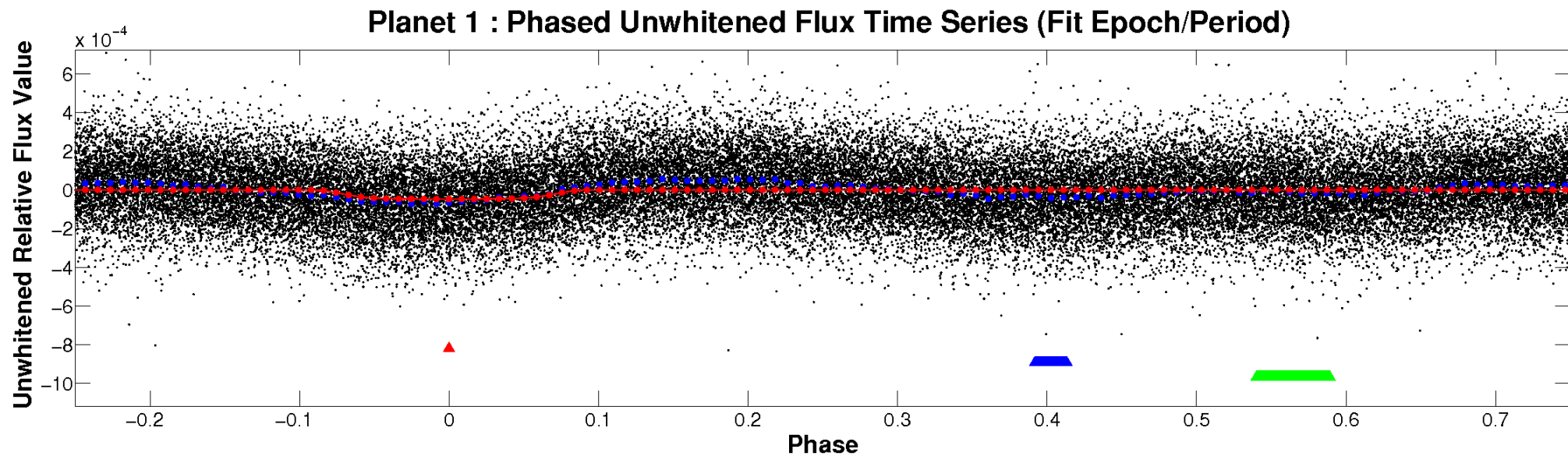


ALT Odd/Even

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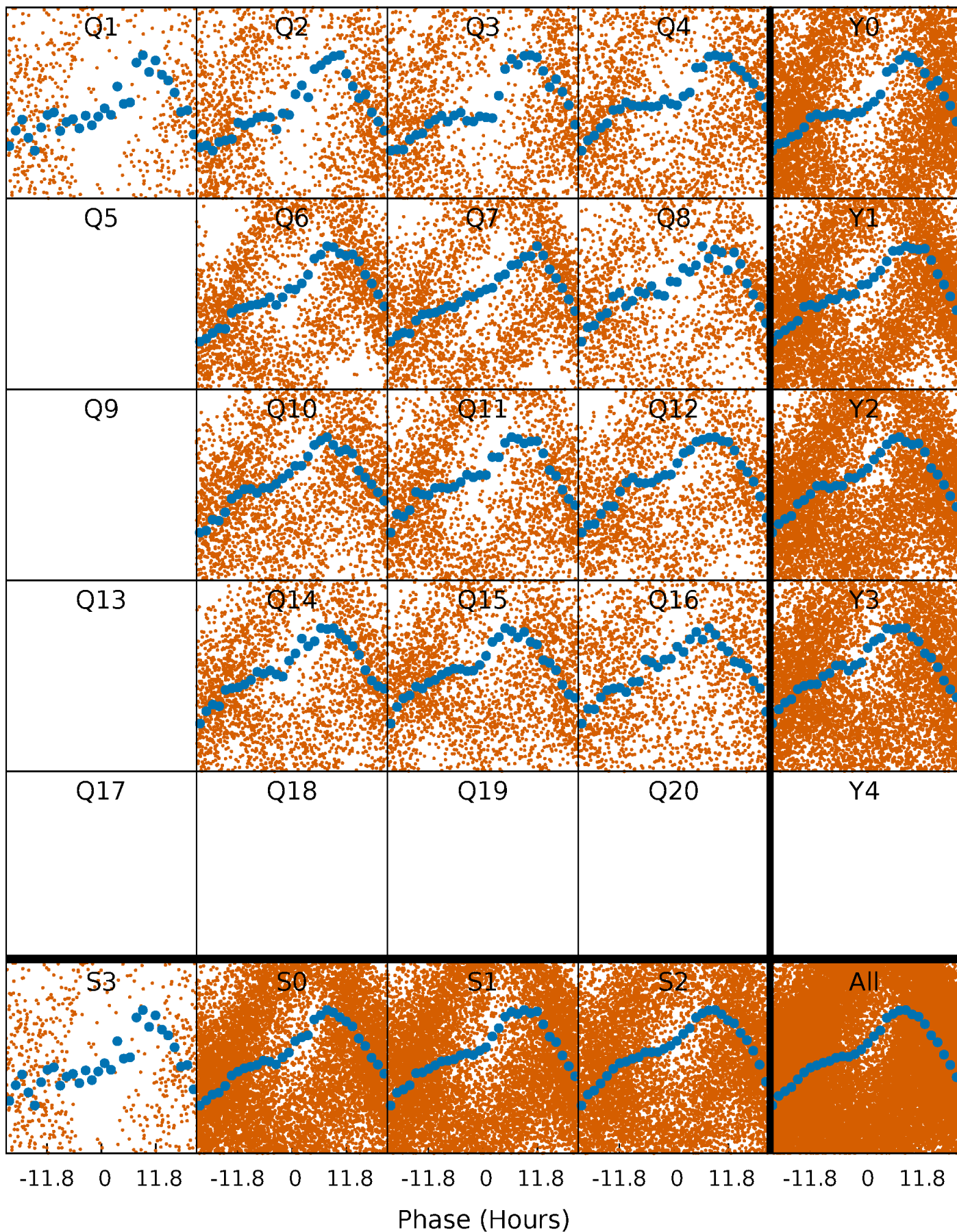


Non-Whitened Vs. Whitened Light Curve



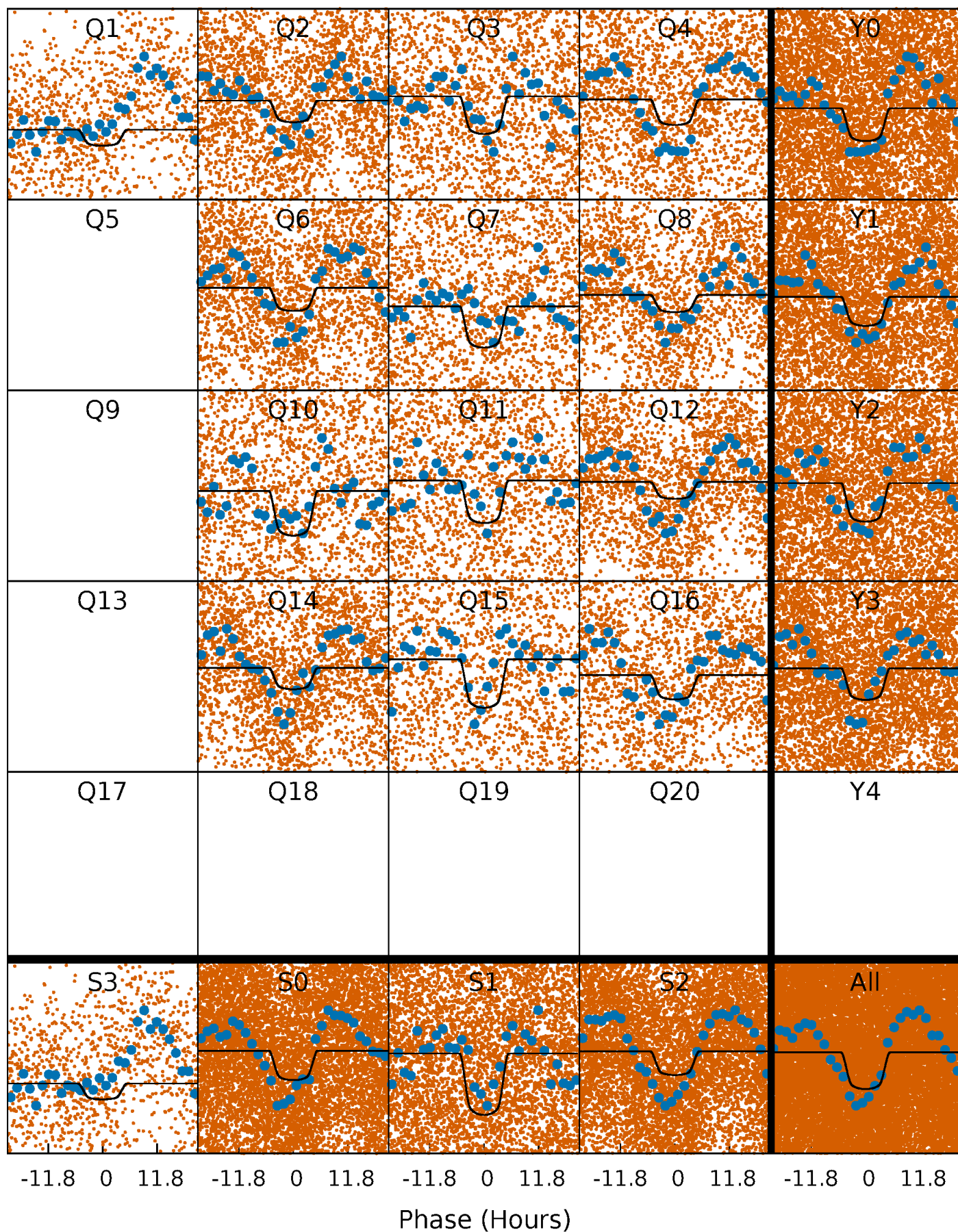
PDC Quarter-Phased Transit Curves

TCE 005940490-01 P= 2.435693 Days $T_0=133.140112$ (BKJD)



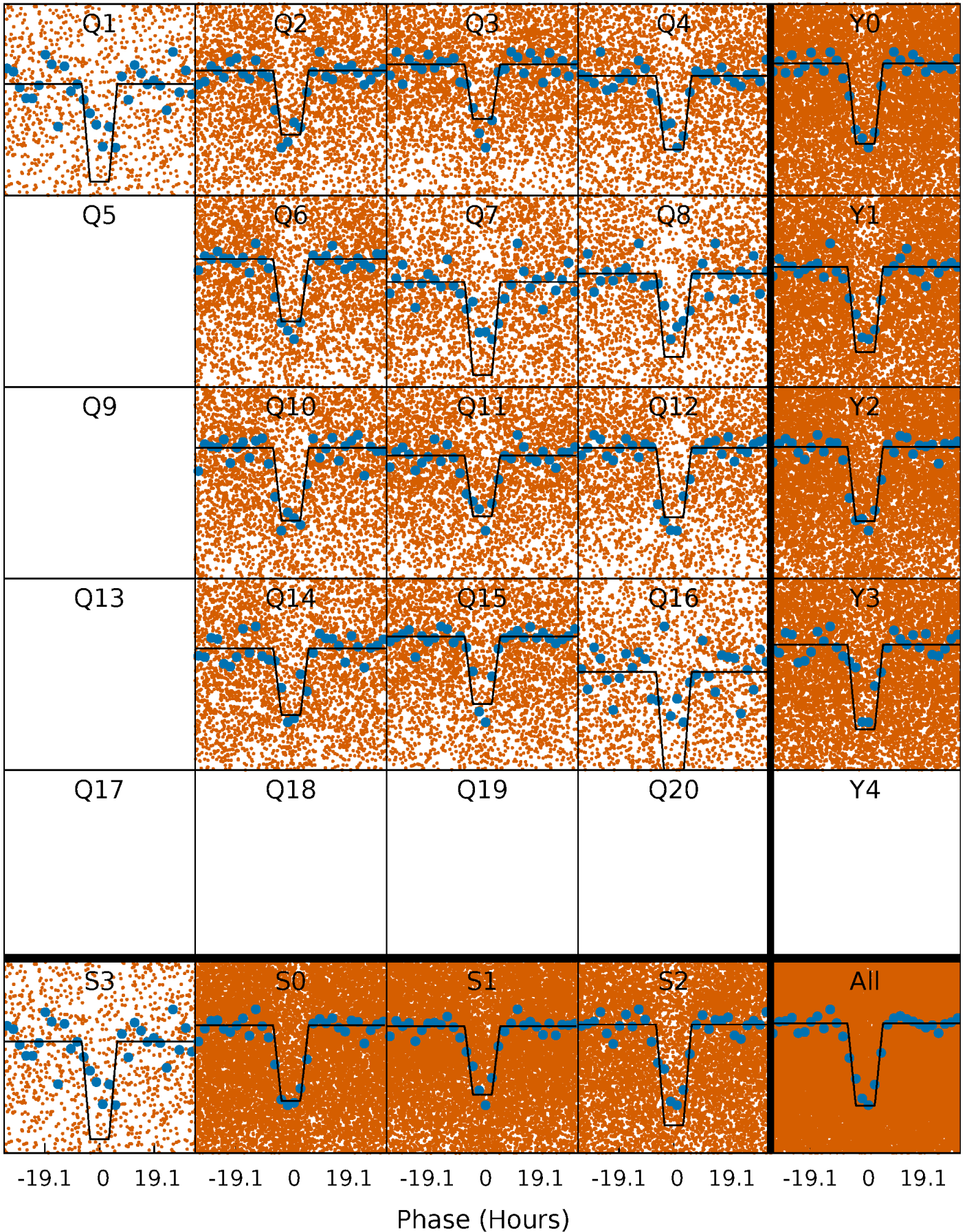
DV Quarter-Phased Transit Curves

TCE 005940490-01 P= 2.435693 Days $T_0=133.140112$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

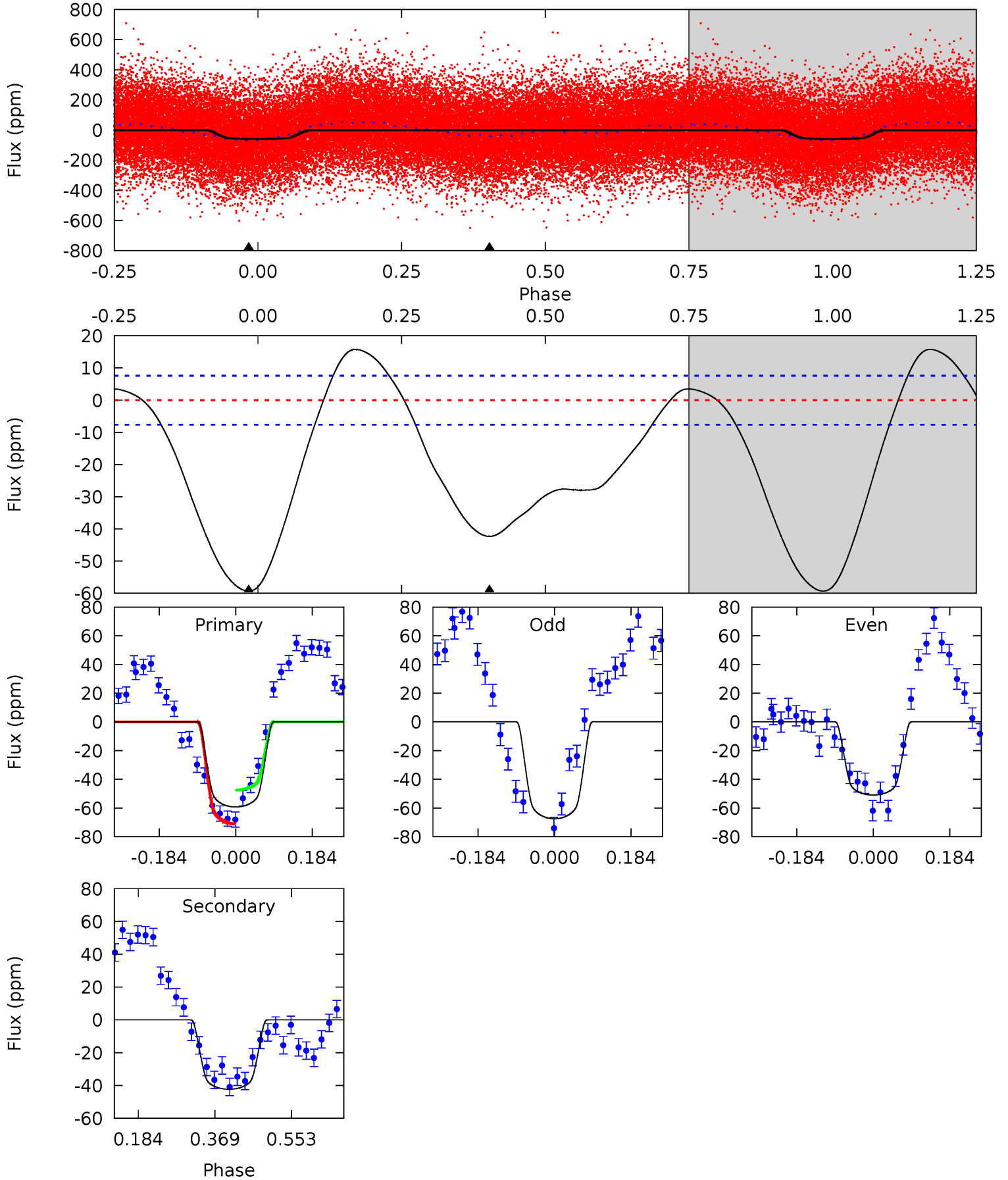
TCE 005940490-01 P= 2.435513 Days $T_0=133.157560$ (BKJD)



DV Model-Shift Uniqueness Test

005940490-01, P = 2.435693 Days, E = 130.704419 Days

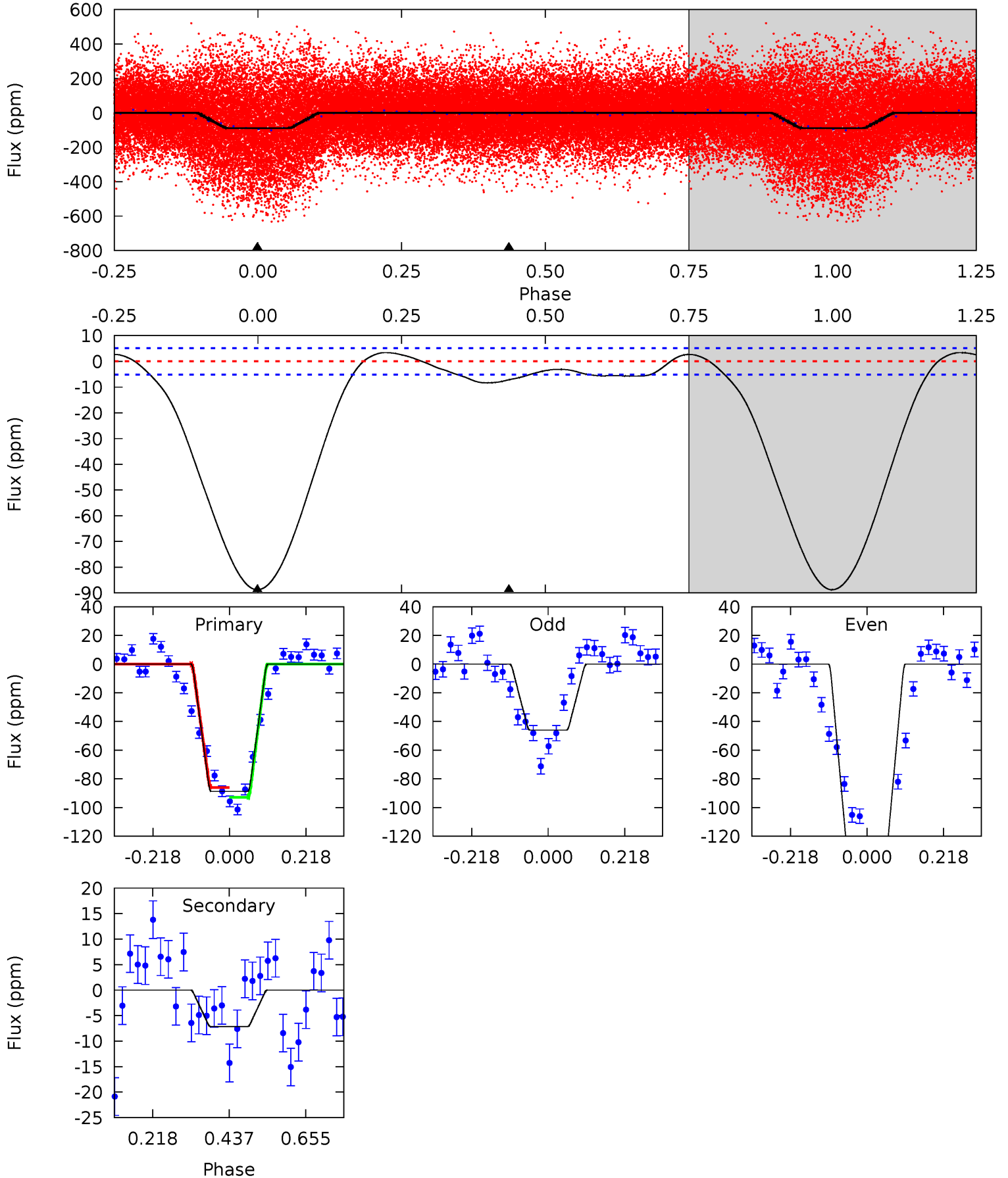
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.6	24.7	0	0	4.43	1.33	7.62	34.6	34.6	24.7	24.7	4.83	1.06	0.21	6.87



Alt Model-Shift Uniqueness Test

005940490-01, P = 2.435513 Days, E = 130.722047 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
75.9	6.12	0	0	4.40	1.23	2.80	75.9	75.9	6.12	6.12	36.3	1.06	0.04	2.90



Stellar Parameters For KIC 005940490

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6324^{+177}_{-243}	$4.097^{+0.258}_{-0.172}$	$-0.060^{+0.250}_{-0.300}$	$1.605^{+0.474}_{-0.474}$	$1.175^{+0.189}_{-0.170}$	$0.400^{+0.649}_{-0.192}$
	+3%/-4%	+6%/-4%	+417%/-500%	+30%/-30%	+16%/-14%	+162%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 005940490-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-42 ± 2	$1.45^{+0.26}_{-0.24}$	2522^{+213}_{-227}	5527^{+237}_{-226}	15^{+7}_{-4}
Alt.	-7 ± 1	$1.73^{+0.30}_{-0.29}$	2538^{+205}_{-229}	3580^{+152}_{-171}	$1.847^{+0.789}_{-0.569}$

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

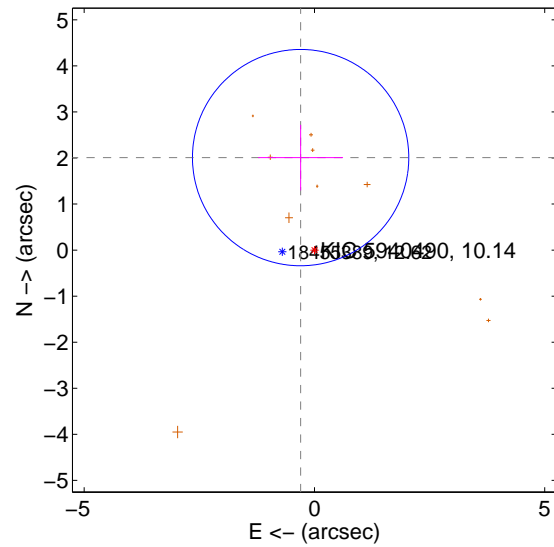
Supplemental centroid analysis for 005940490-01. **Kepler magnitude: 10.14.** Transit SNR 10.18

There are 1 quarters with good PRF difference image offsets

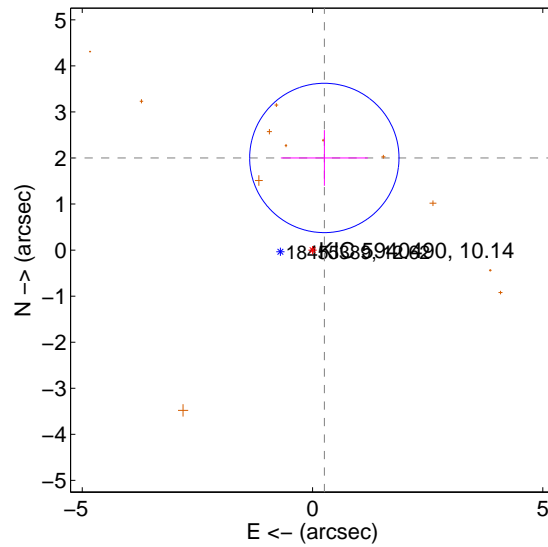
The direct PRF centroid is offset from the target star catalog position by about 0.50 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.031 ± 0.783	2.59	0.300 ± 0.922	2.008 ± 0.711
PRF-fit source offset from KIC position	2.017 ± 0.540	3.73	-0.256 ± 0.944	2.001 ± 0.603
photometric centroid source offset	0.25 ± 0.34	0.74	-0.09 ± 0.42	-0.23 ± 0.32

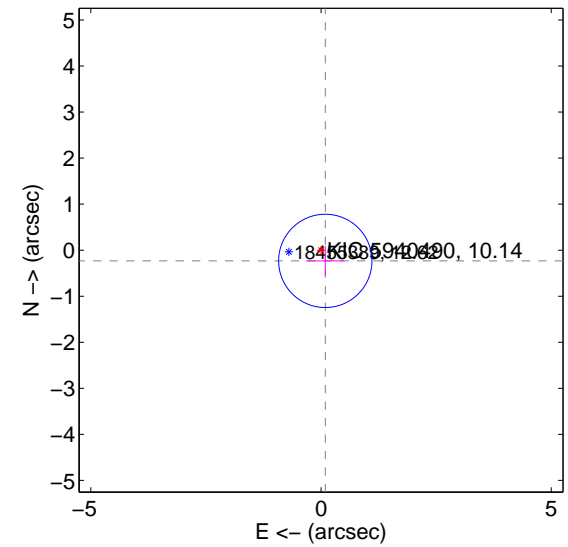
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

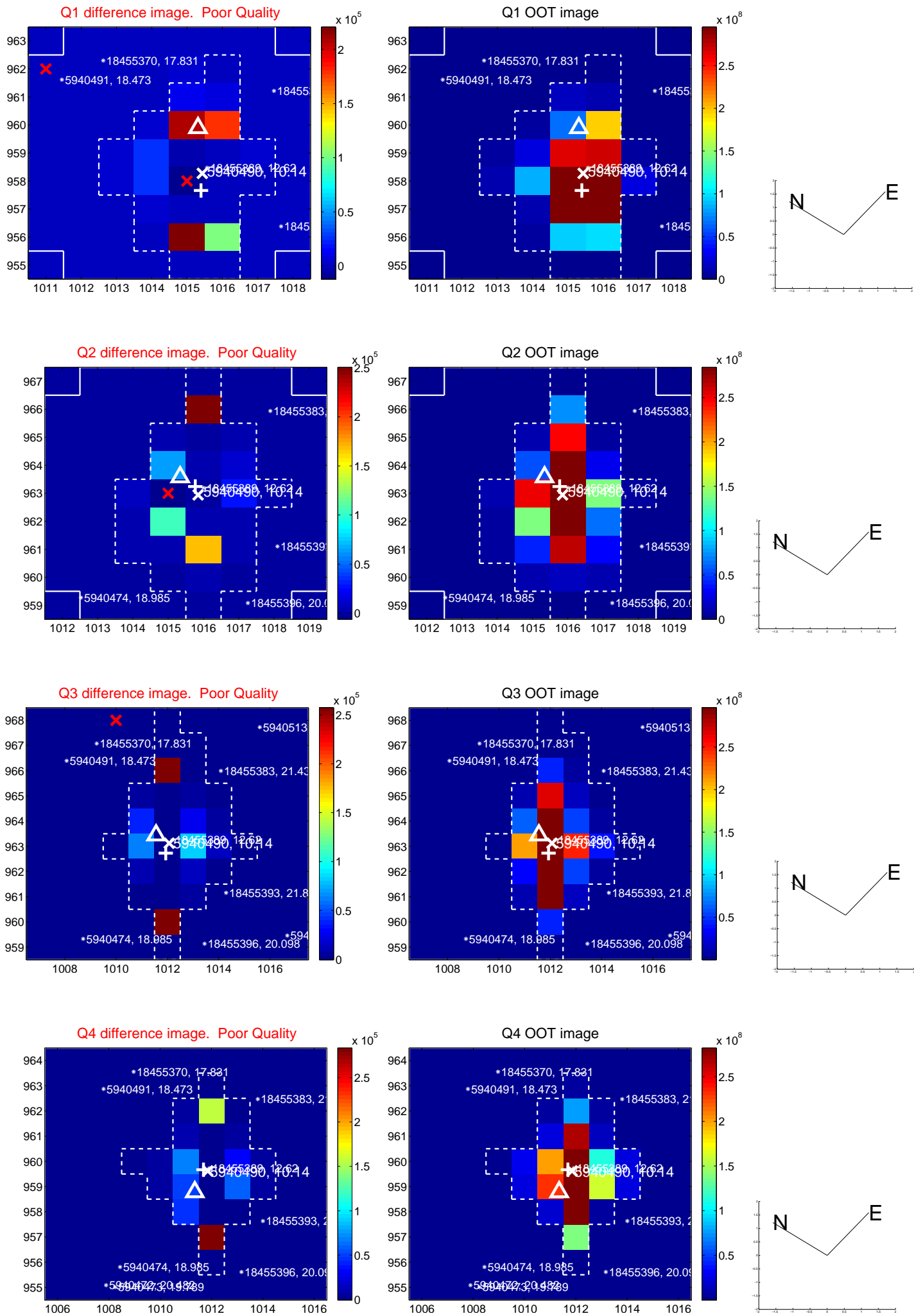


offset from photometric centroids



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.

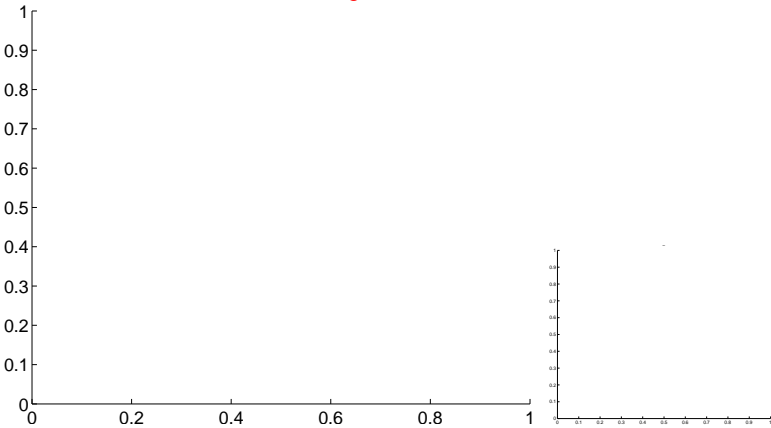


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

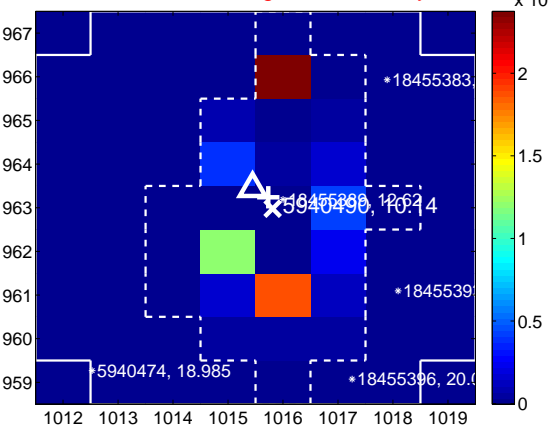
Q5 no difference image



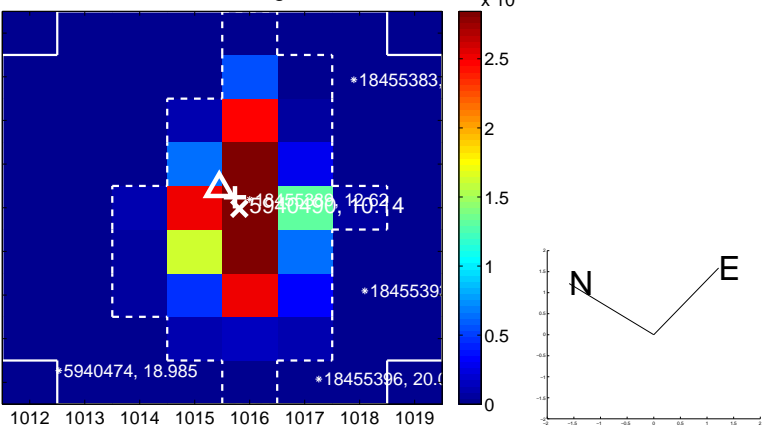
Q5 no OOT image



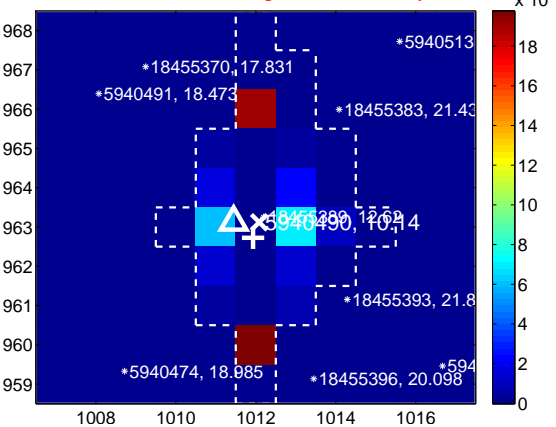
Q6 difference image. Poor Quality



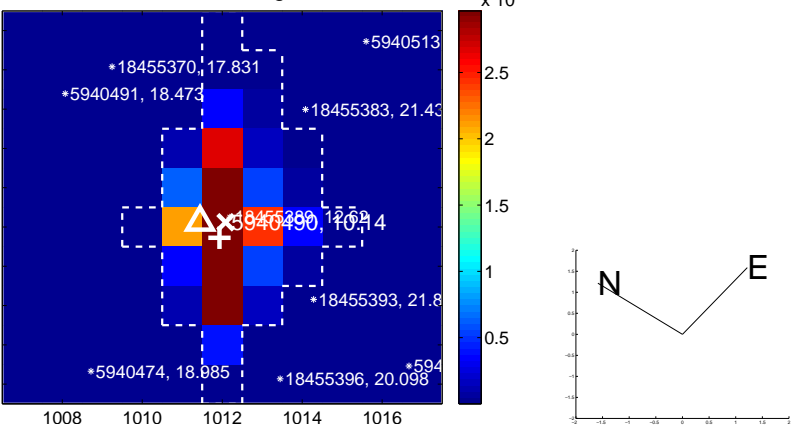
Q6 OOT image



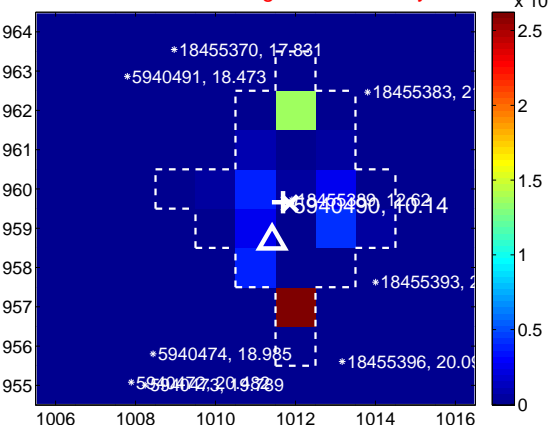
Q7 difference image. Poor Quality



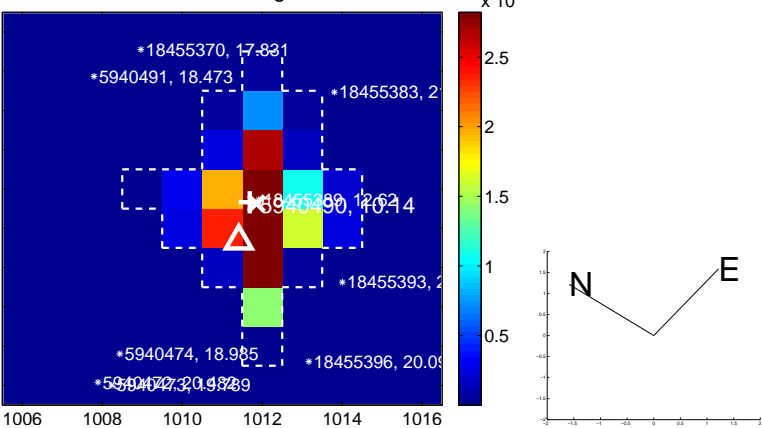
Q7 OOT image



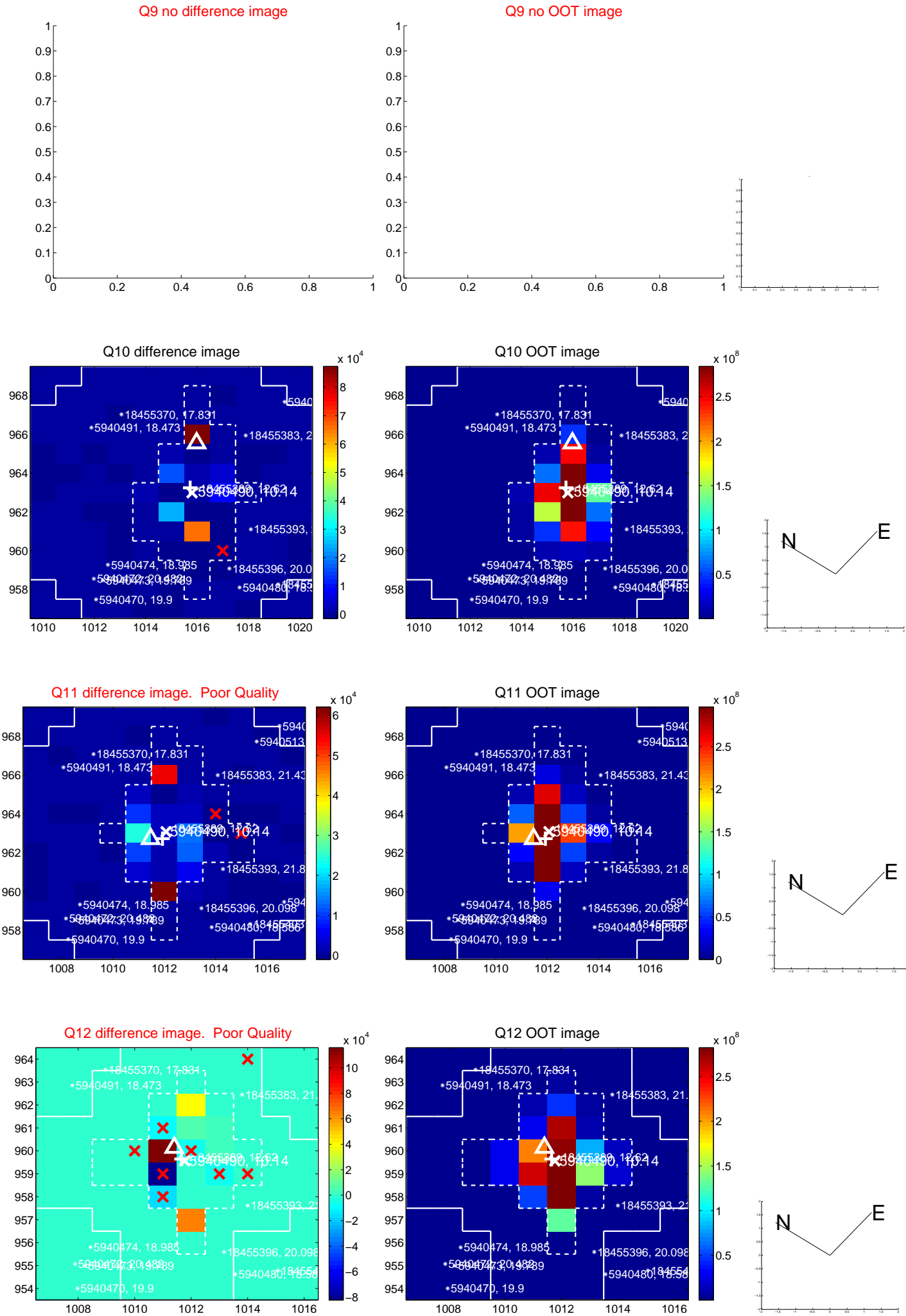
Q8 difference image. Poor Quality



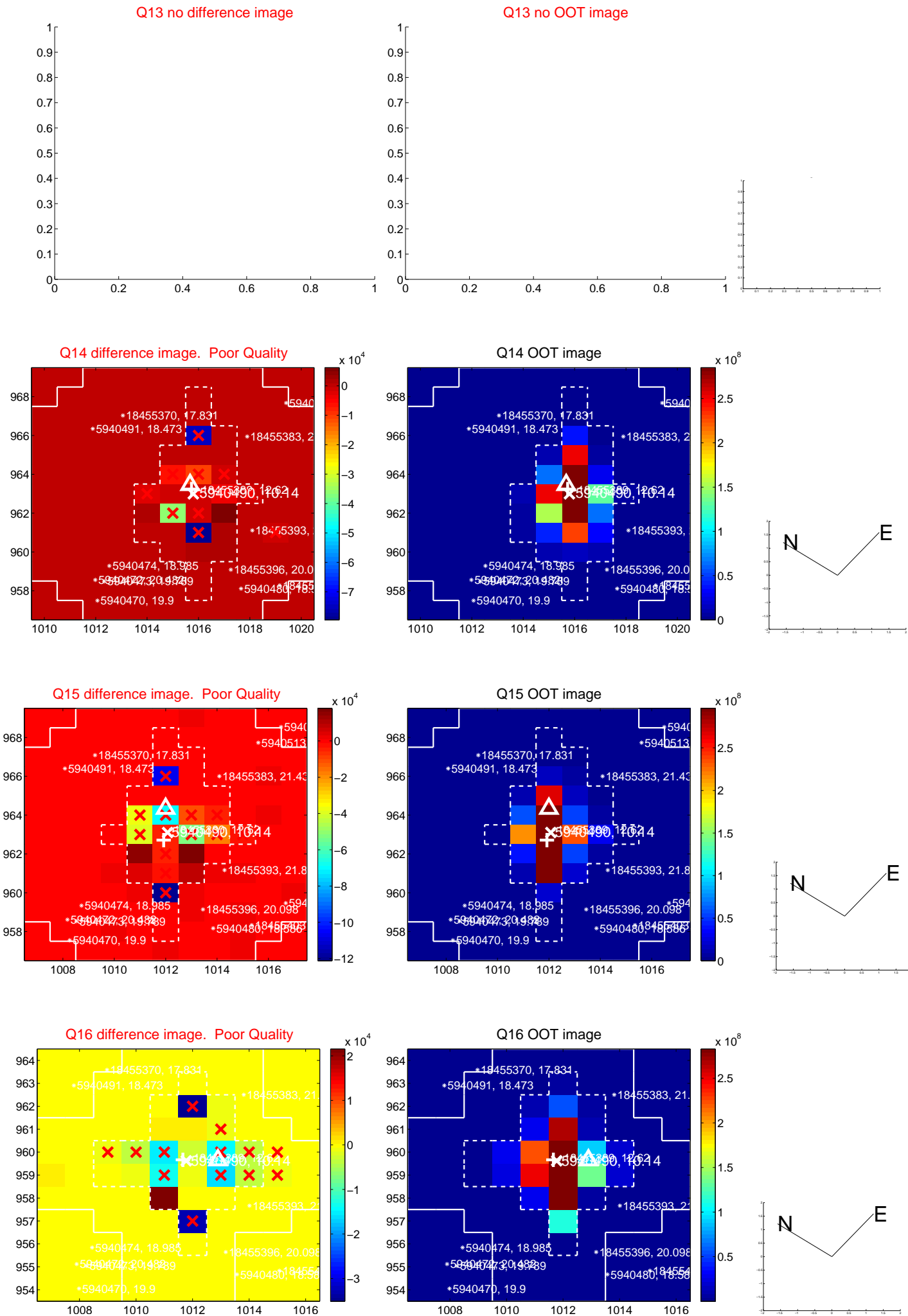
Q8 OOT image



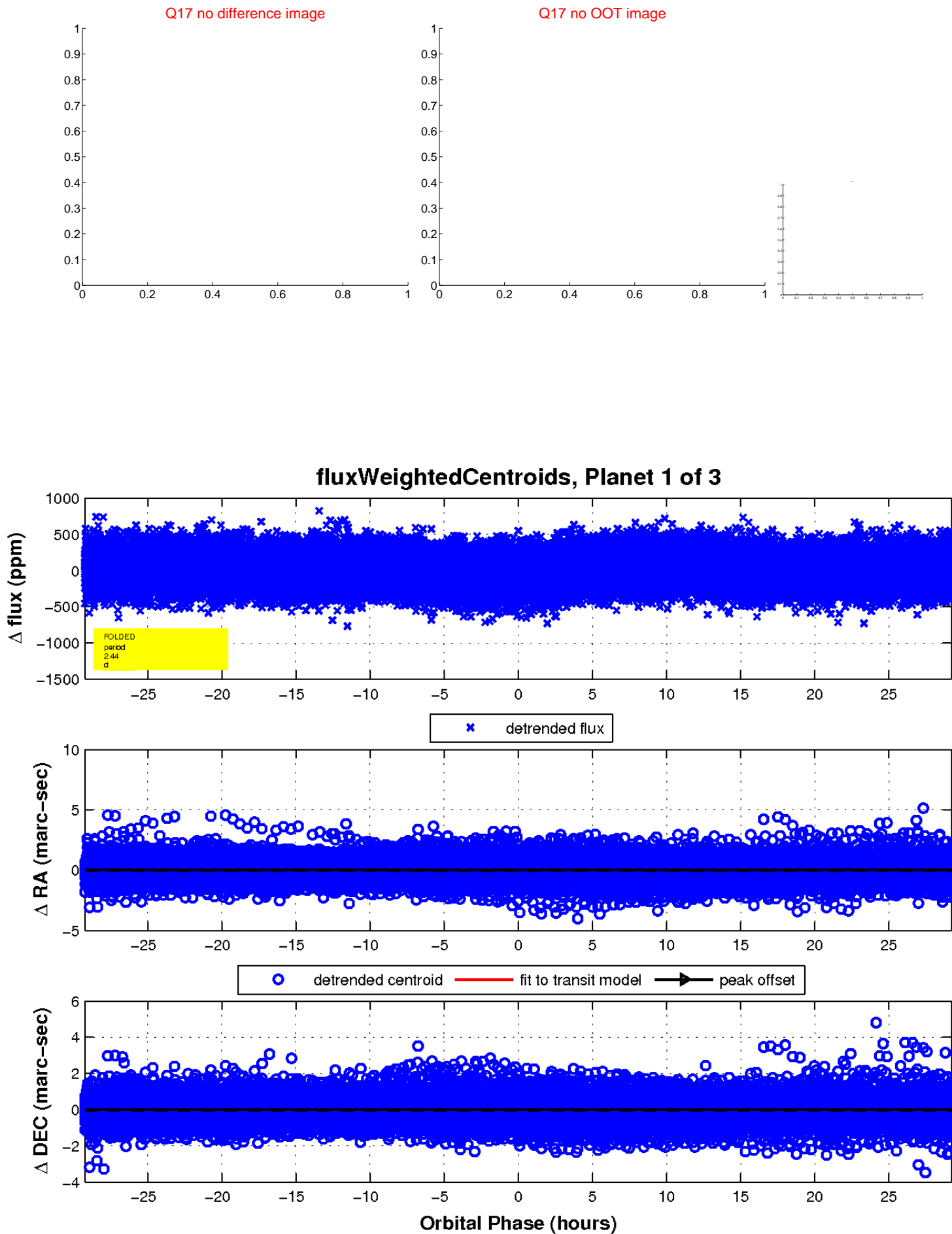
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



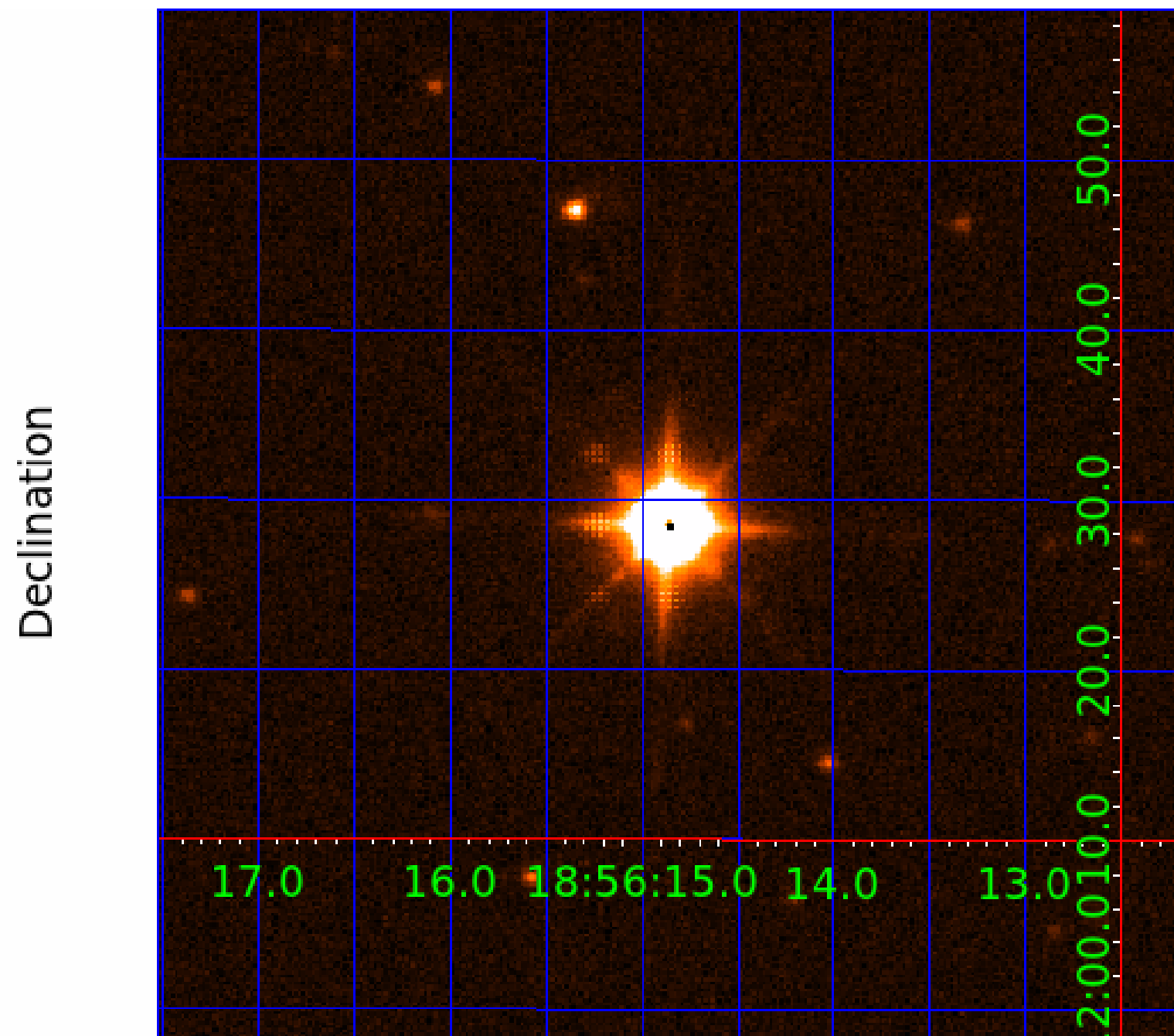
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005940490

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})
005940490-01	OBS	No	2.435693	133.140112	47.2	10.332	9.9	10.2	1.60	6324	1.48	2640.47
005940490-02	OBS	No	4.871560	131.658854	74.3	10.124	12.9	14.2	1.60	6324	1.89	1047.82
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005940490-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
005940490-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED
005940490-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED

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

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

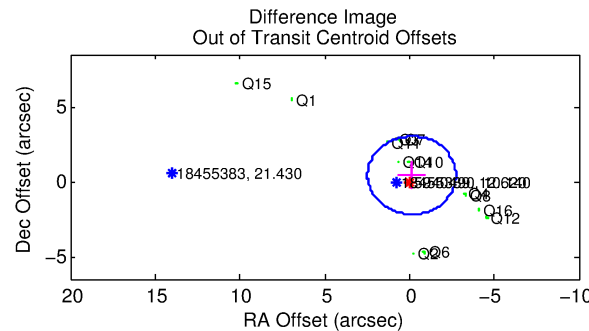
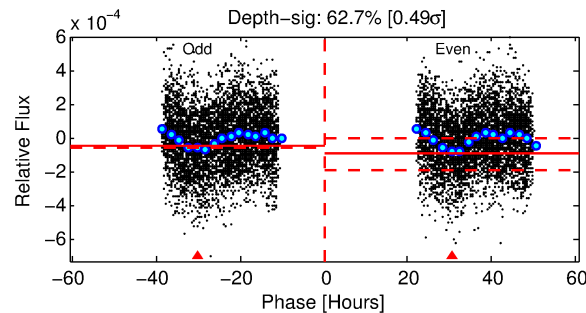
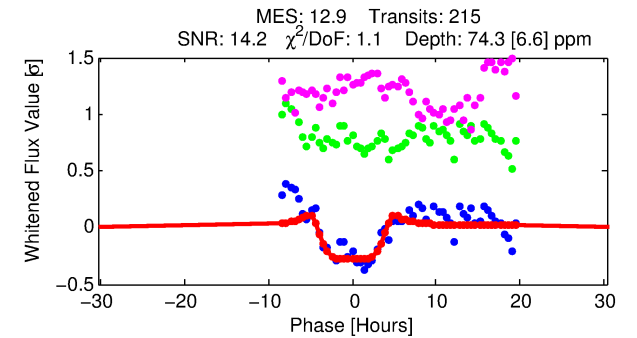
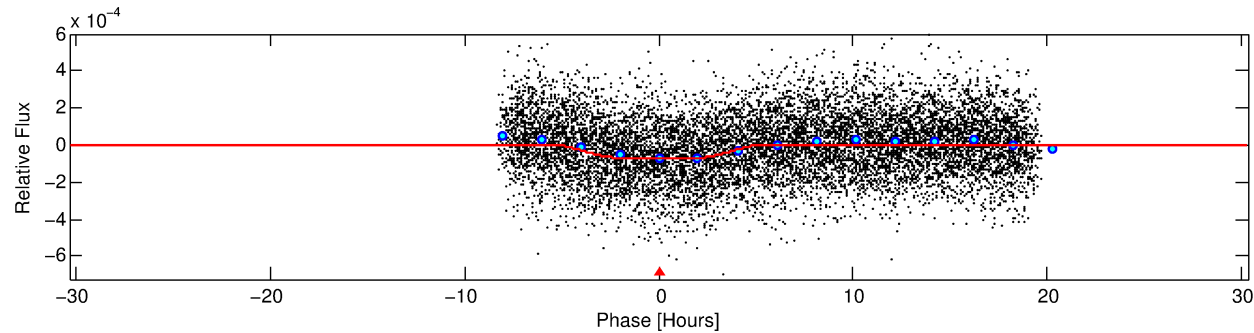
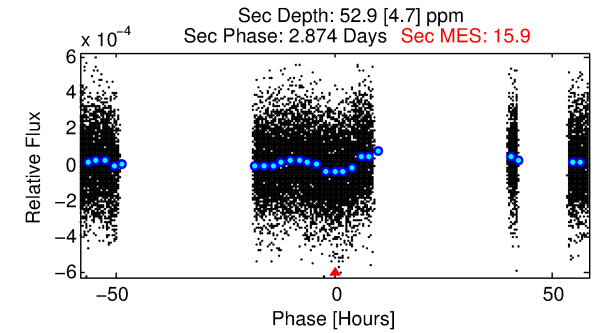
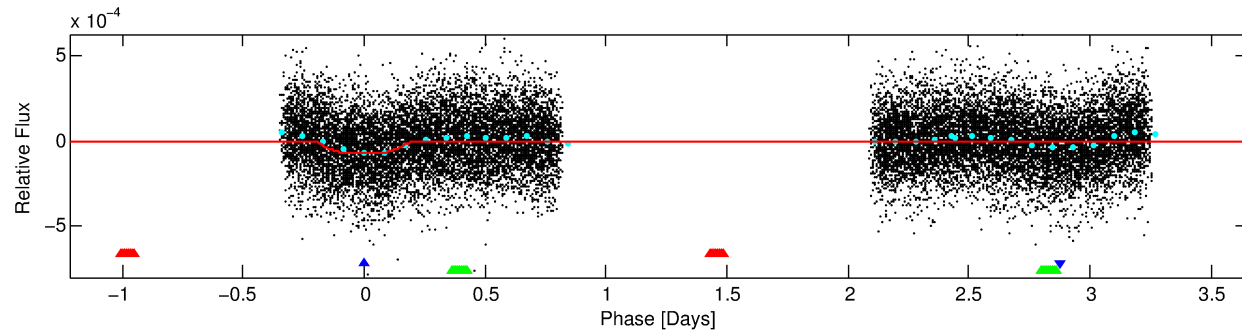
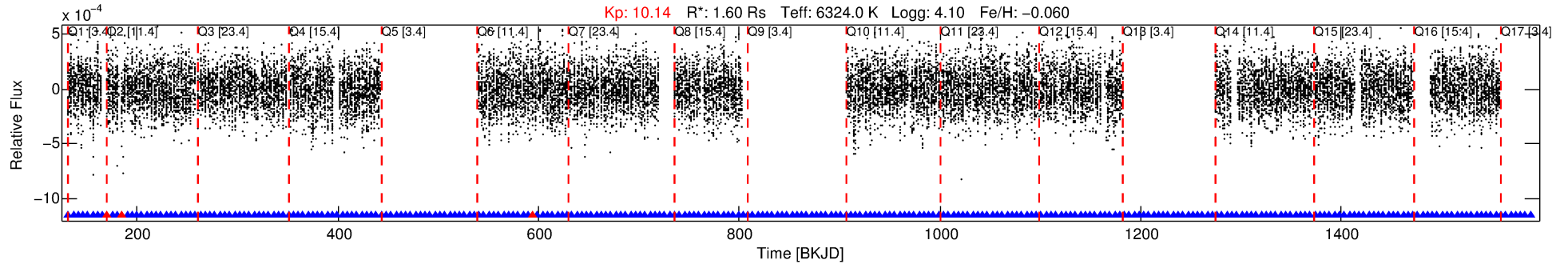
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005940490-02

No Significant Match Found

DV One-Page Summary

KIC: 5940490 Candidate: 2 of 3 Period: 4.872 d



DV Fit Results:

Period = 4.87156 [0.00007] d
Epoch = 131.6589 [0.0117] BKJD
Rp/R* = 0.0108 [0.0006]
a/R* = 1.30 [0.05]
b = 0.99 [0.00]
Seff = 1047.82 [490.62]
Teq = 1451 [170] K
Rp = 1.89 [0.57] Re
a = 0.0594 [0.0166] AU
Ag = 28.81 [13.33] [2.09σ]
Teffp = 5197 [267] K [11.85σ]

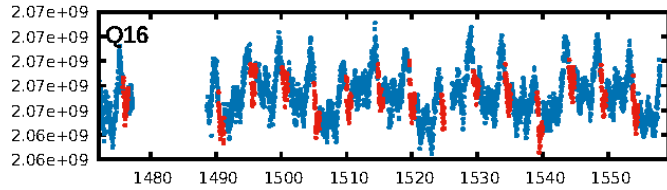
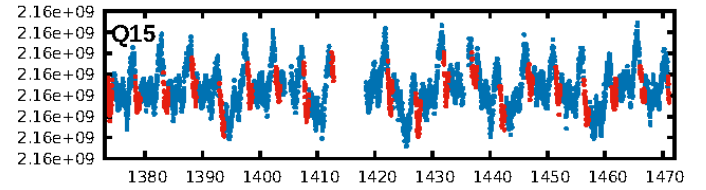
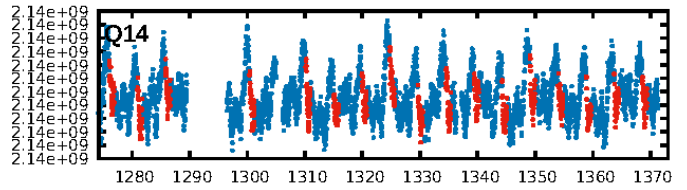
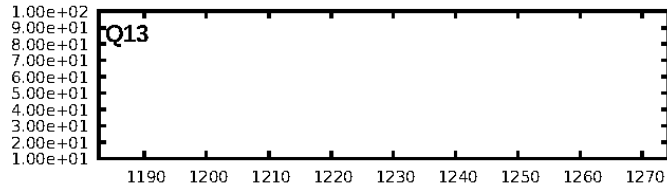
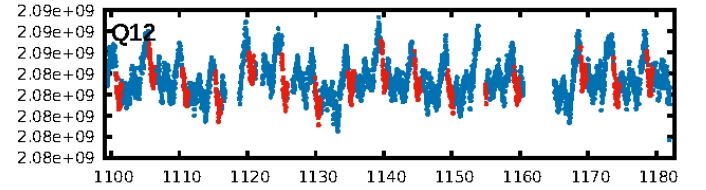
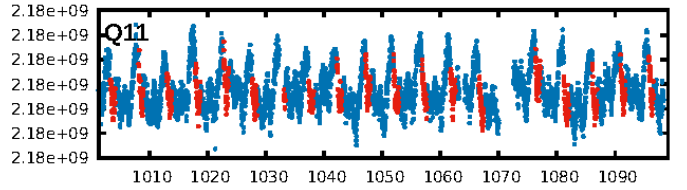
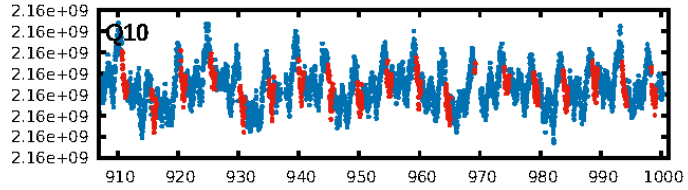
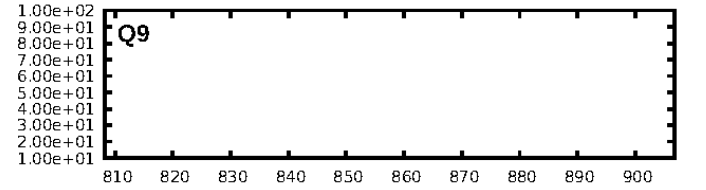
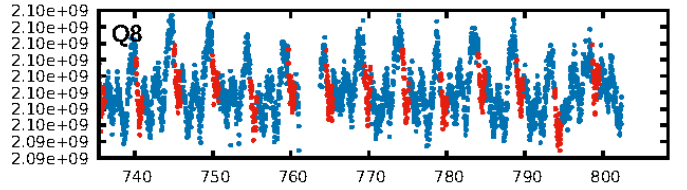
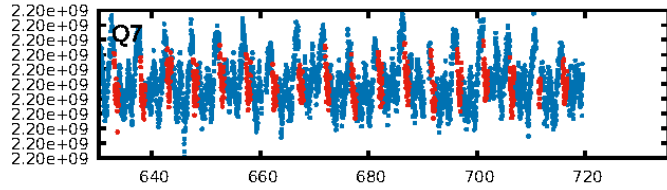
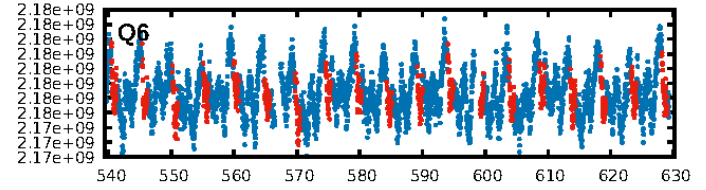
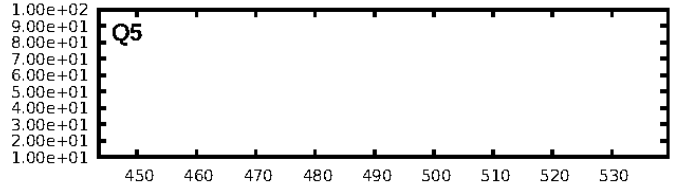
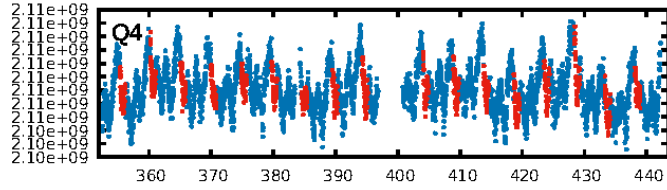
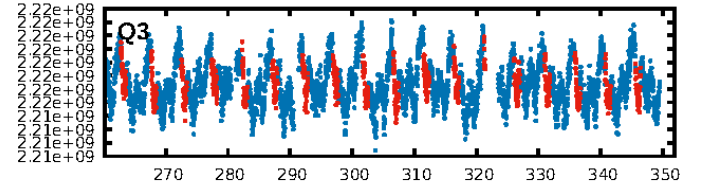
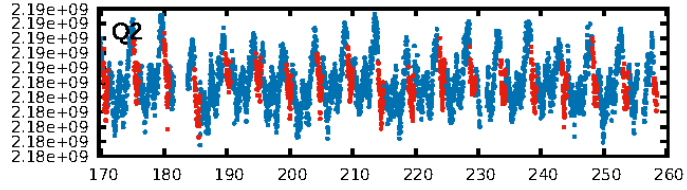
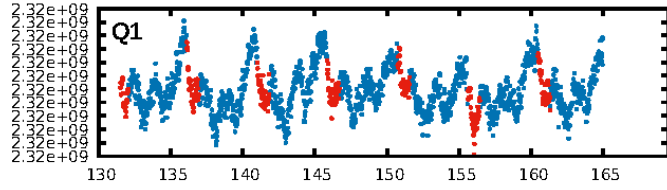
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.78σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [205/208]
GhostDiagnostic-chr: N/A
Centroid-sig: 6.2%
Centroid-so: 0.891 arcsec [2.57σ]
OotOffset-rm: 0.440 arcsec [0.51σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-rm: 0.785 arcsec [1.08σ]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.00 [0/13]
DiffImageOverlap-fno: 0.00 [0/13]

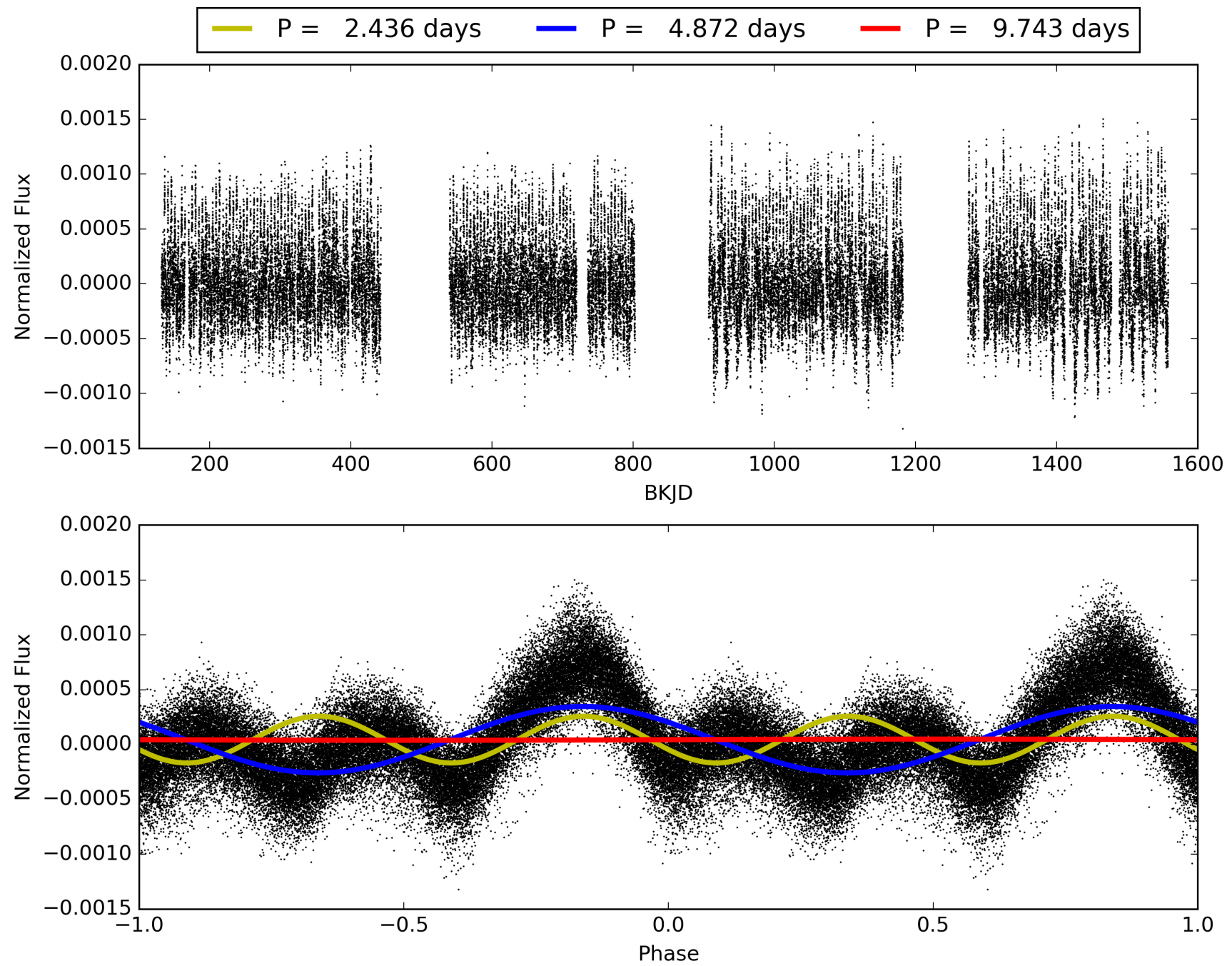
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:32:32 Z

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

TCE 005940490-02, PDC Light Curves

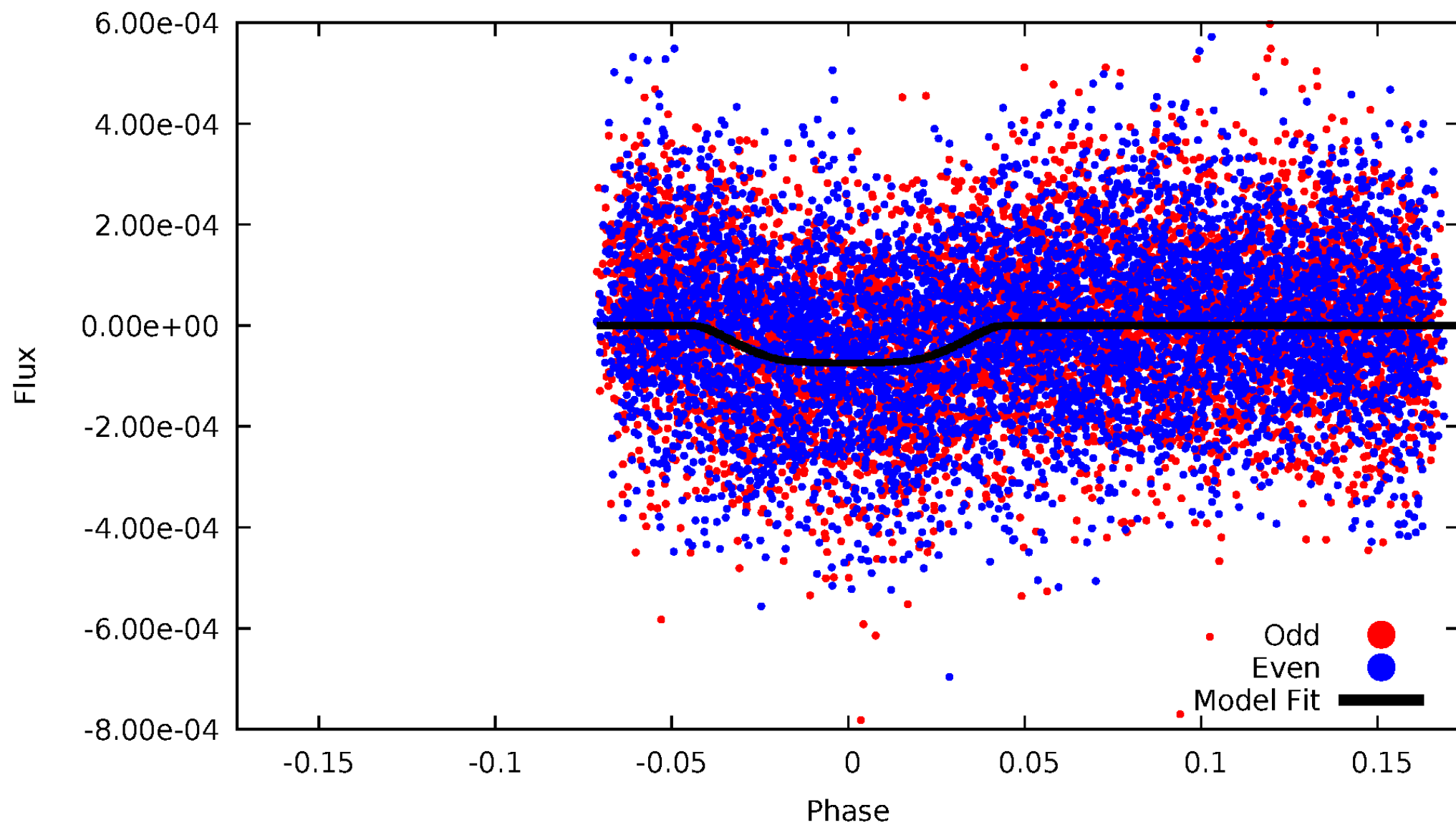


TCE 005940490-02



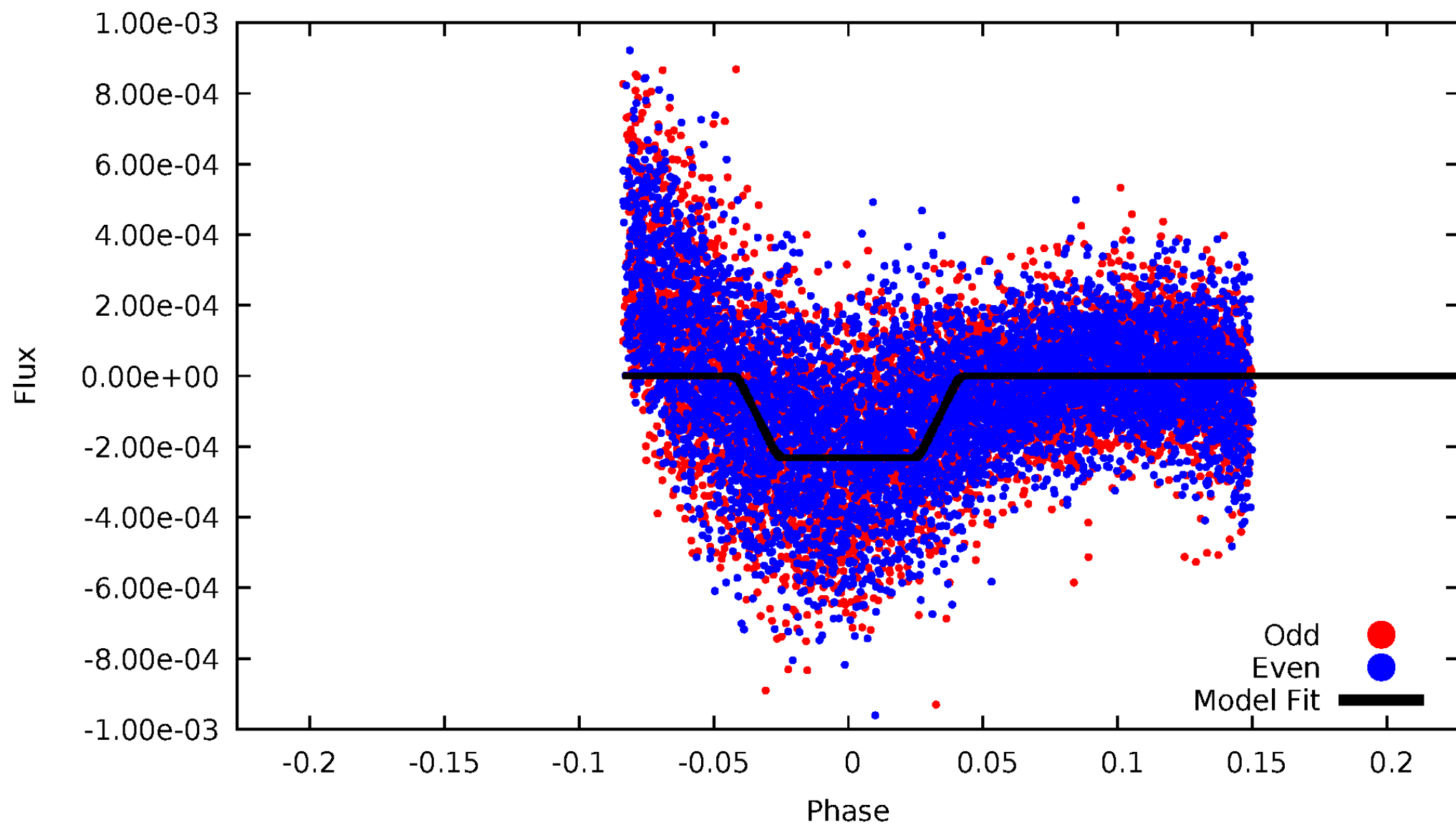
DV Odd/Even

TCE 005940490-02



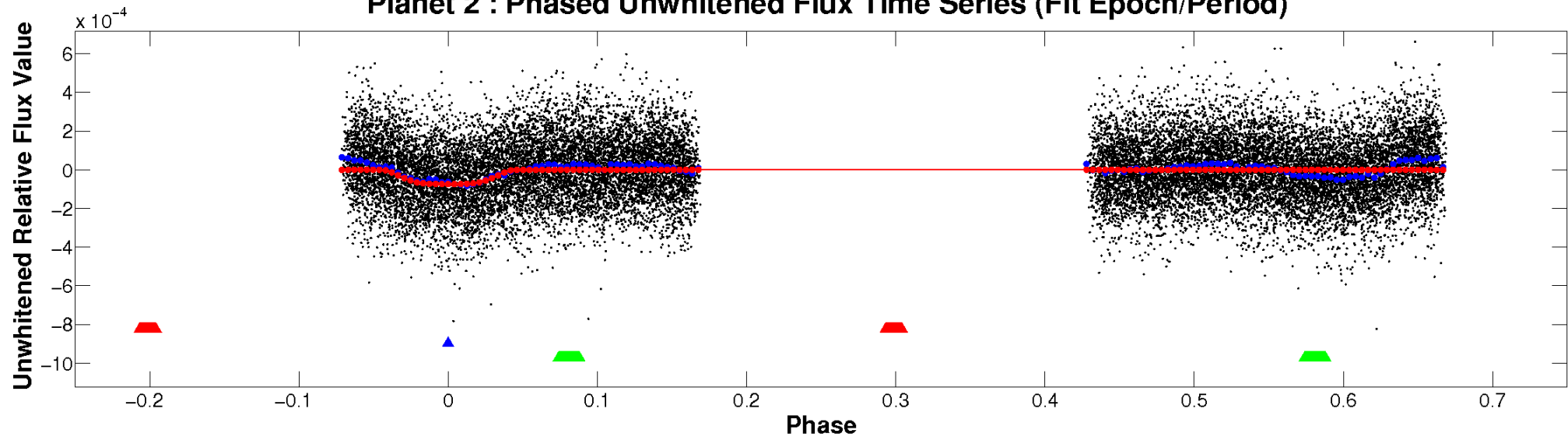
ALT Odd/Even

TCE 005940490-02

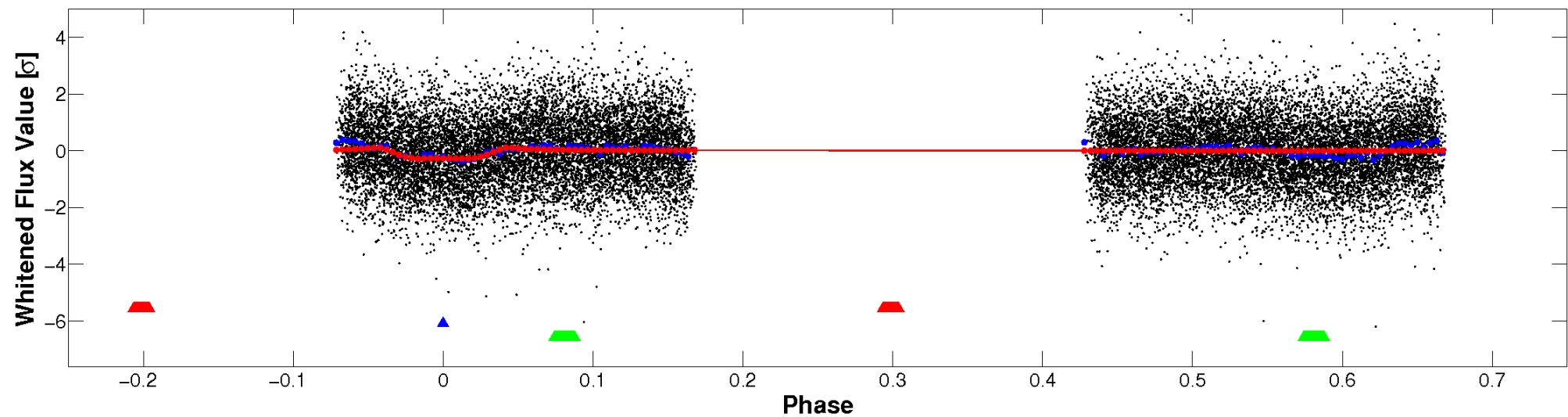


Non-Whitened Vs. Whitened Light Curve

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

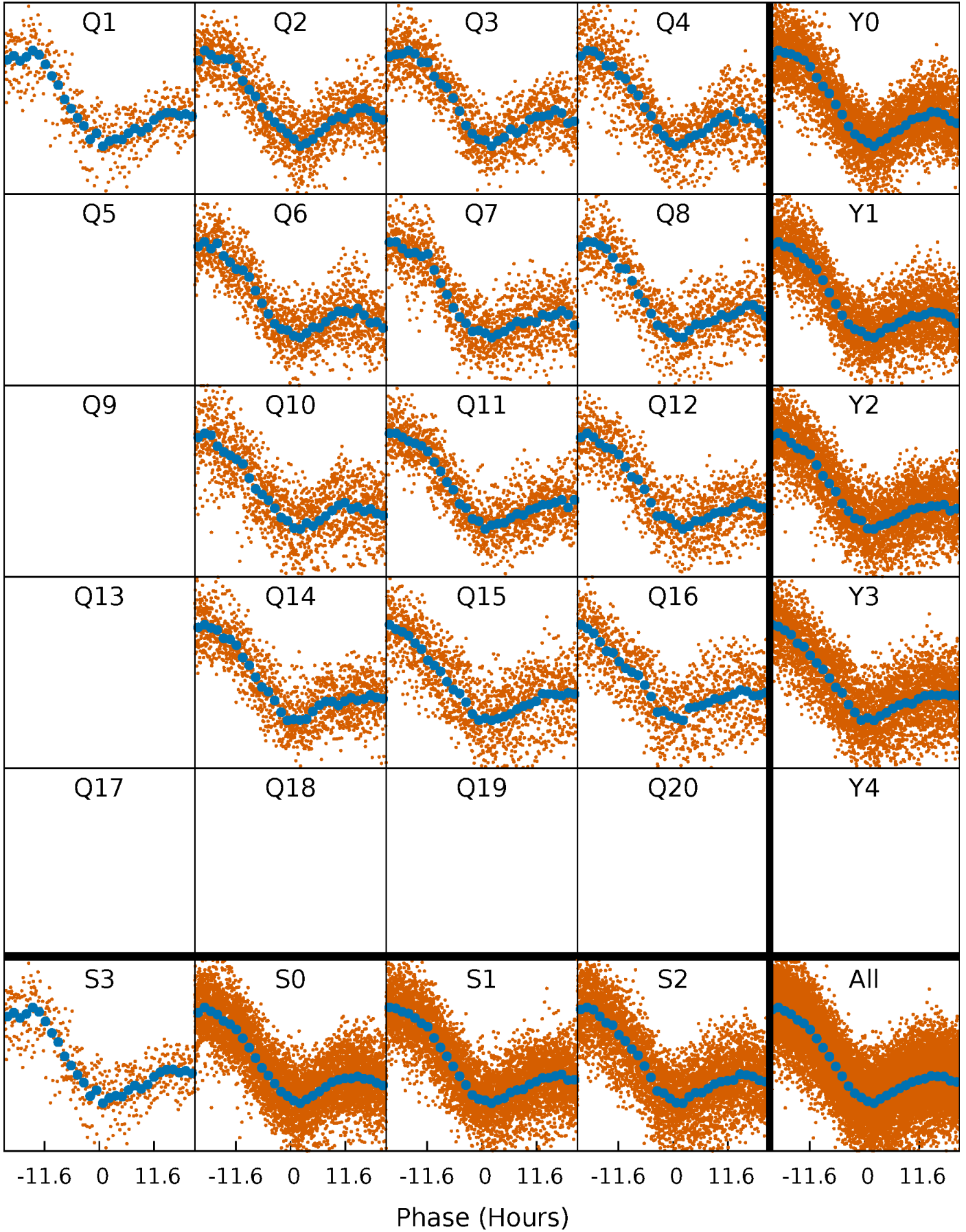


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



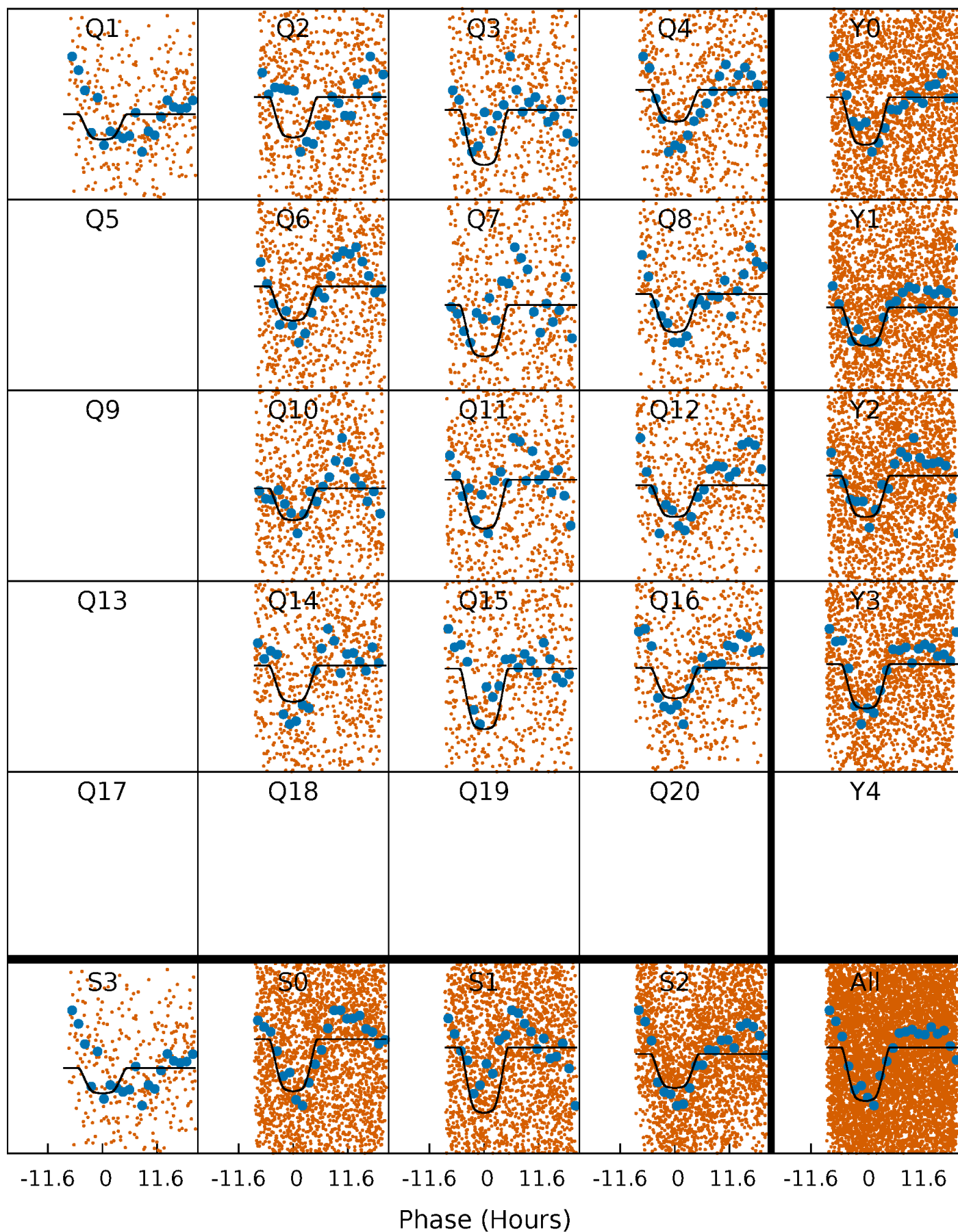
PDC Quarter-Phased Transit Curves

TCE 005940490-02 $P = 4.871560$ Days $T_0 = 131.658854$ (BKJD)



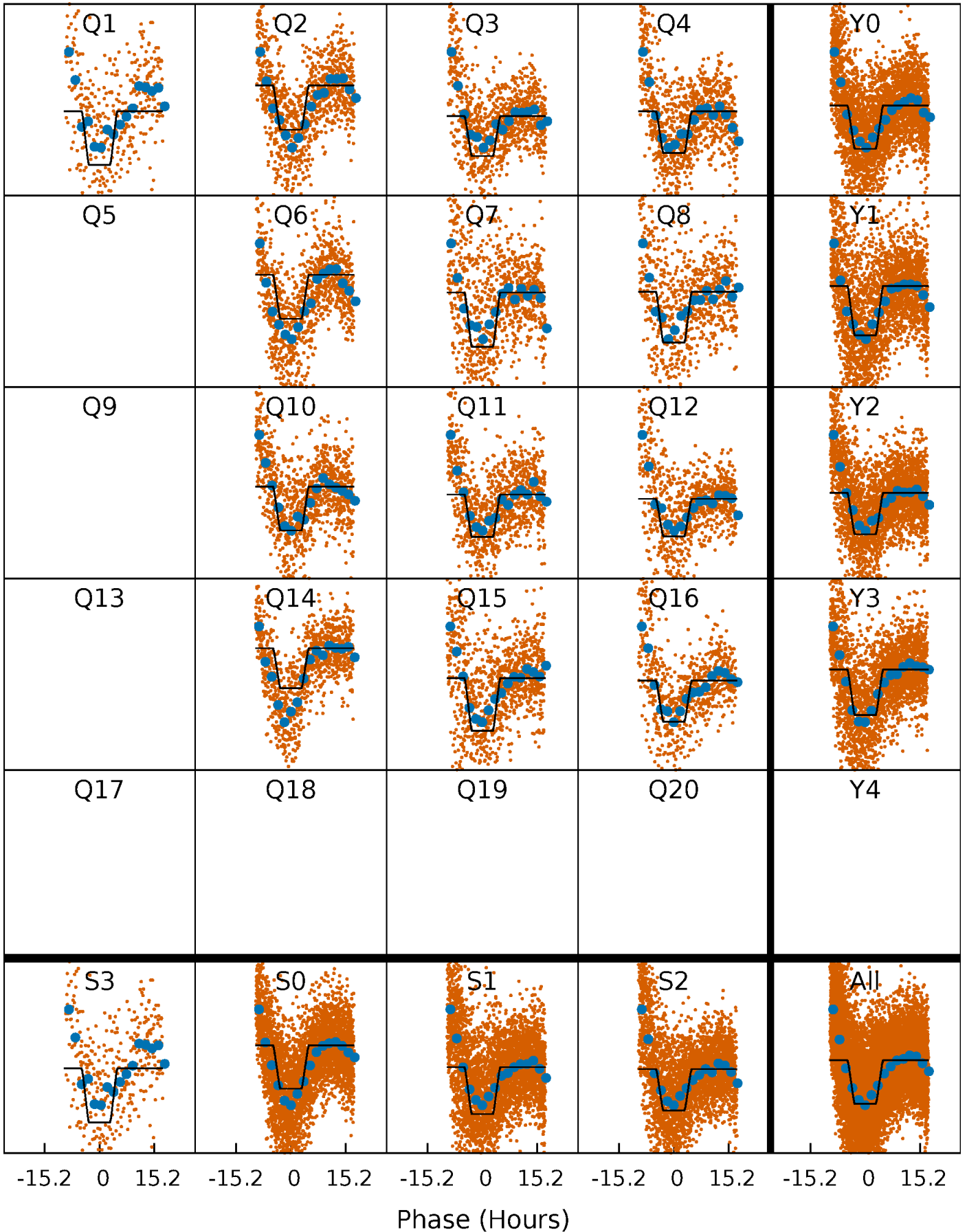
DV Quarter-Phased Transit Curves

TCE 005940490-02 $P = 4.871560$ Days $T_0 = 131.658854$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

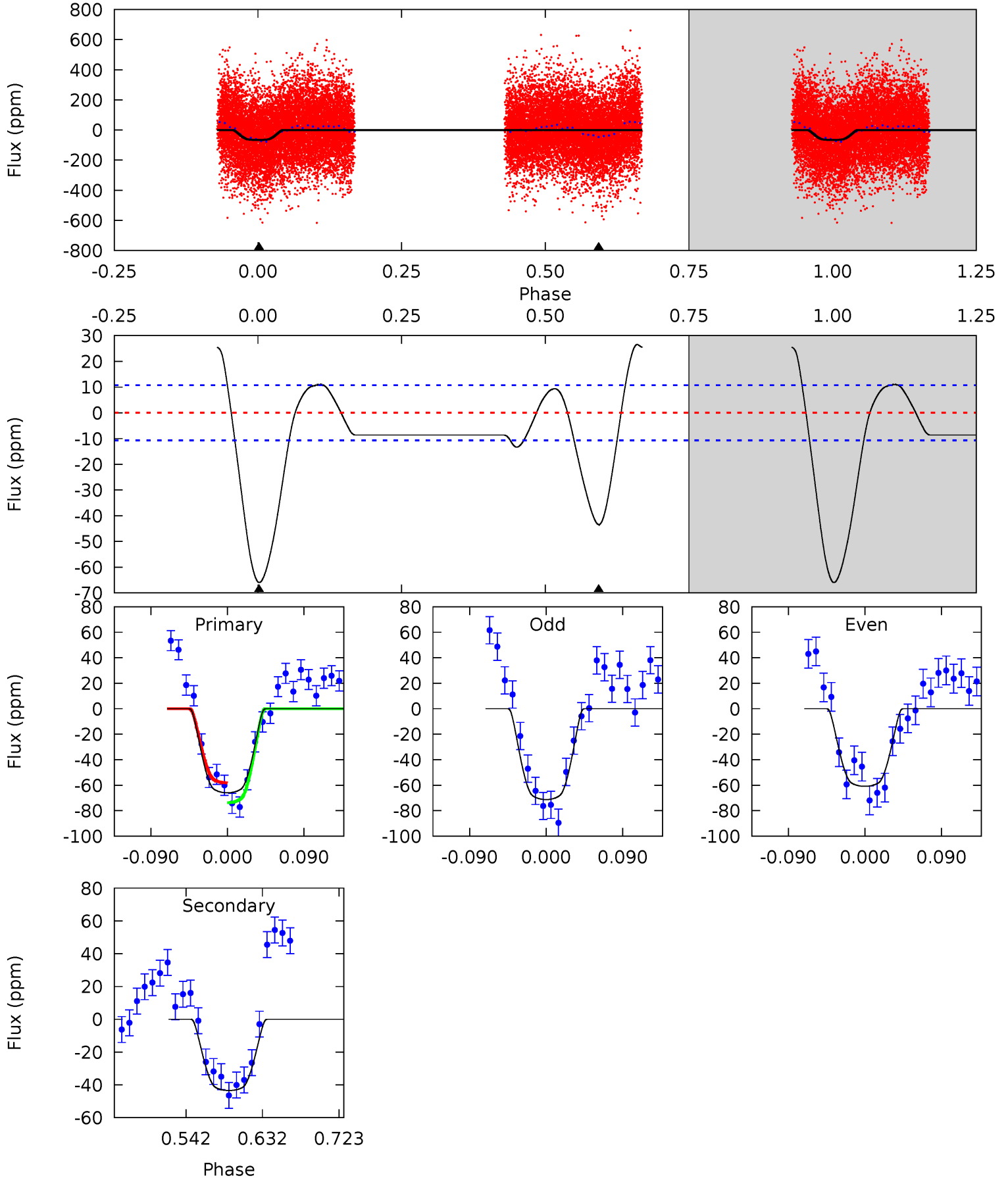
TCE 005940490-02 P= 4.871449 Days $T_0=131.750964$ (BKJD)



DV Model-Shift Uniqueness Test

005940490-02, P = 4.871560 Days, E = 126.787294 Days

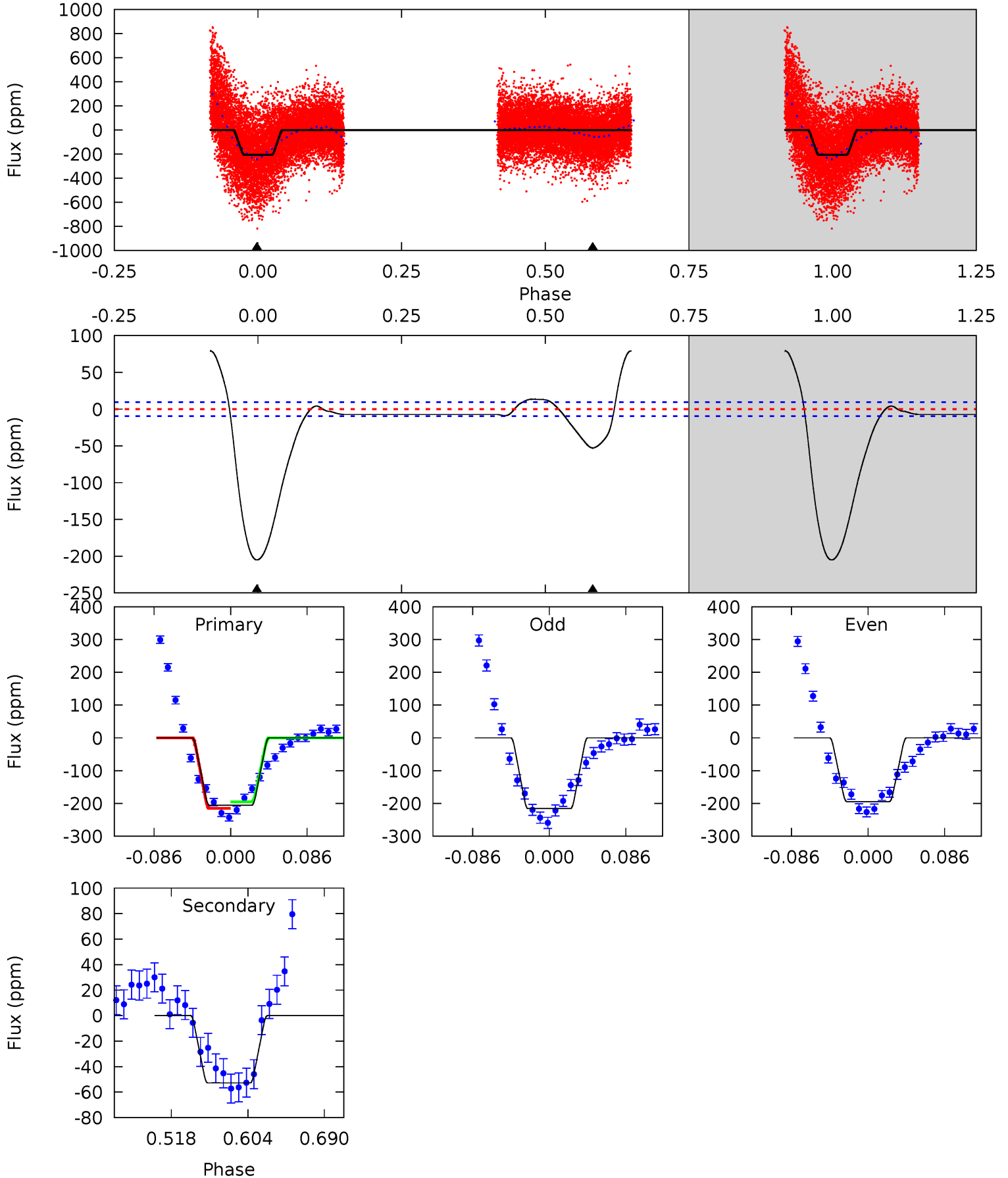
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.2	18.6	0	0	4.59	1.69	3.57	28.2	28.2	18.6	18.6	2.23	1.10	0.29	3.26



Alt Model-Shift Uniqueness Test

005940490-02, P = 4.871449 Days, E = 126.879515 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
99.0	25.5	0	0	4.60	1.72	3.76	99.0	99.0	25.5	25.5	5.17	0.90	0.28	4.83



Stellar Parameters For KIC 005940490

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6324^{+177}_{-243}	$4.097^{+0.258}_{-0.172}$	$-0.060^{+0.250}_{-0.300}$	$1.605^{+0.474}_{-0.474}$	$1.175^{+0.189}_{-0.170}$	$0.400^{+0.649}_{-0.192}$
	+3%/-4%	+6%/-4%	+417%/-500%	+30%/-30%	+16%/-14%	+162%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 005940490-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-43 ± 2	$1.85^{+0.32}_{-0.31}$	1998^{+169}_{-179}	5001^{+186}_{-193}	25^{+9}_{-7}
Alt.	-53 ± 2	$2.59^{+0.48}_{-0.42}$	2001^{+163}_{-182}	4515^{+131}_{-143}	15^{+6}_{-4}

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

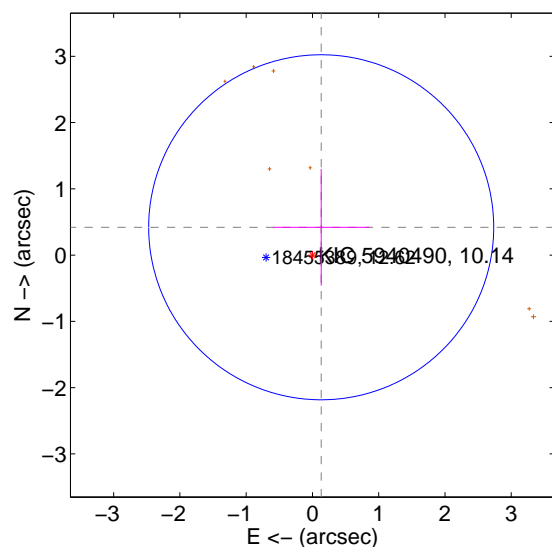
Supplemental centroid analysis for 005940490-02. **Kepler magnitude: 10.14.** Transit SNR 14.23

There are 0 quarters with good PRF difference image offsets

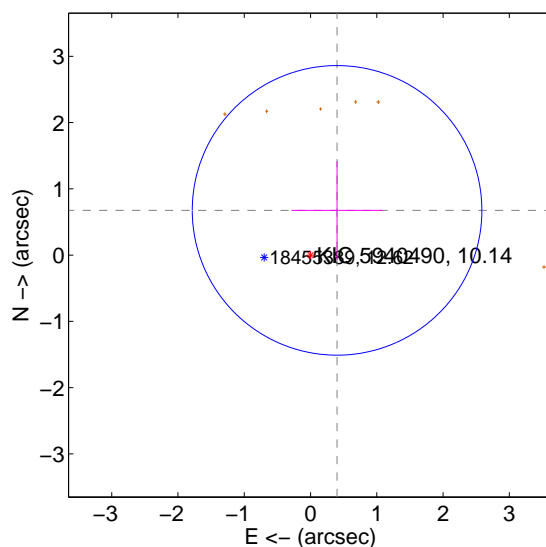
The direct PRF centroid is offset from the target star catalog position by about 0.50 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.440 ± 0.868	0.51	-0.132 ± 0.728	0.420 ± 0.880
PRF-fit source offset from KIC position	0.785 ± 0.728	1.08	-0.400 ± 0.689	0.675 ± 0.742
photometric centroid source offset	0.89 ± 0.35	2.57	-0.49 ± 0.41	-0.75 ± 0.32

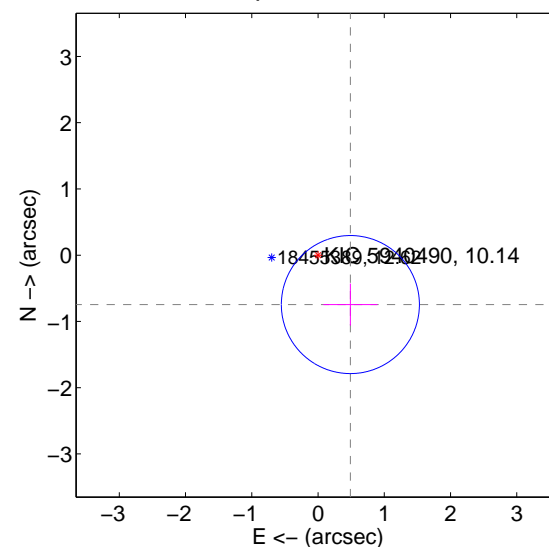
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

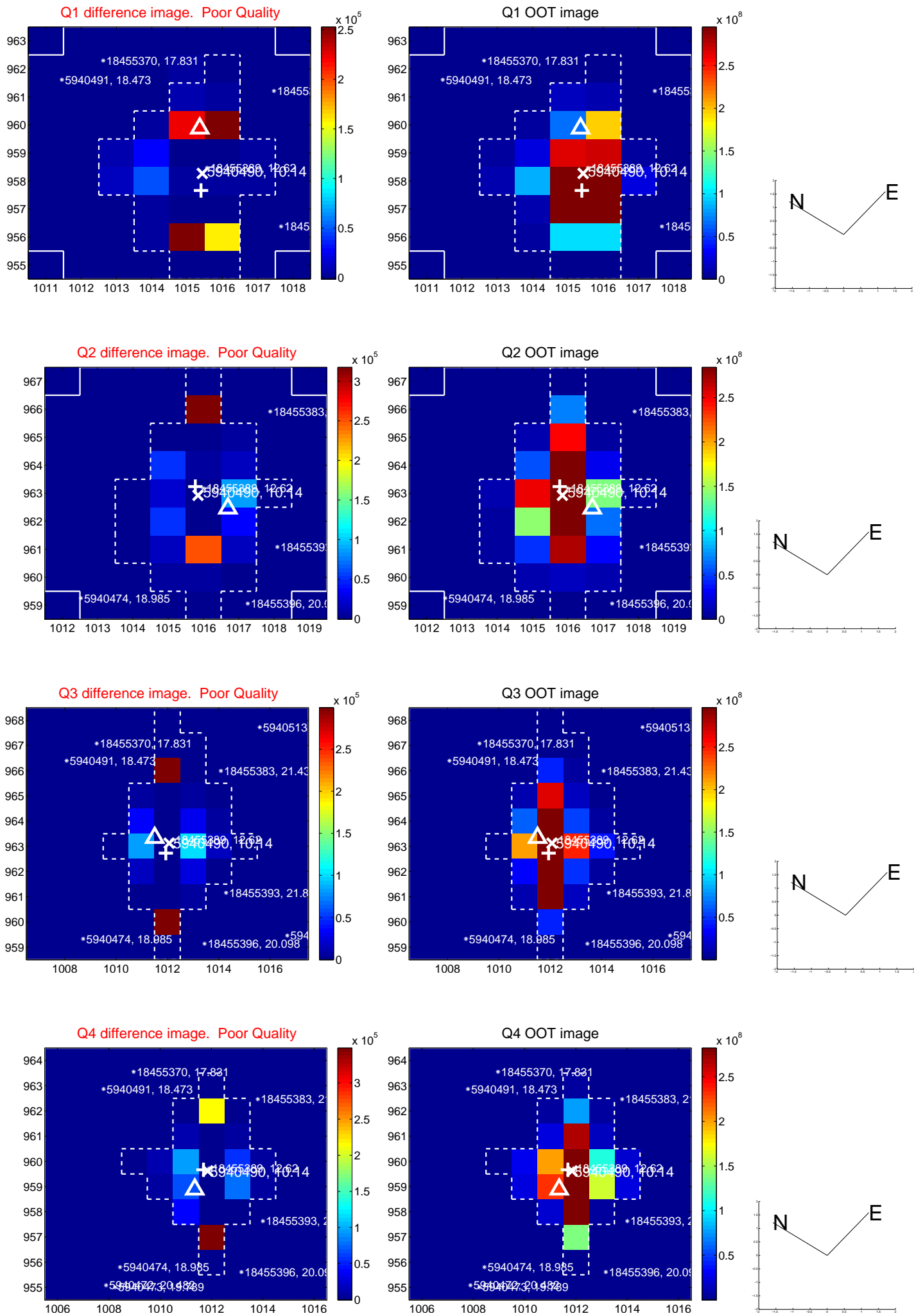


offset from photometric centroids



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.

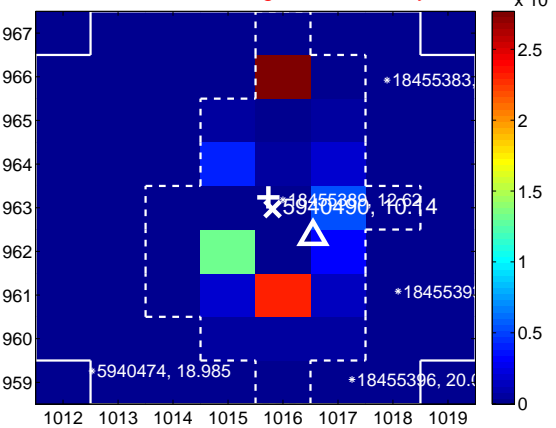
Q5 no difference image



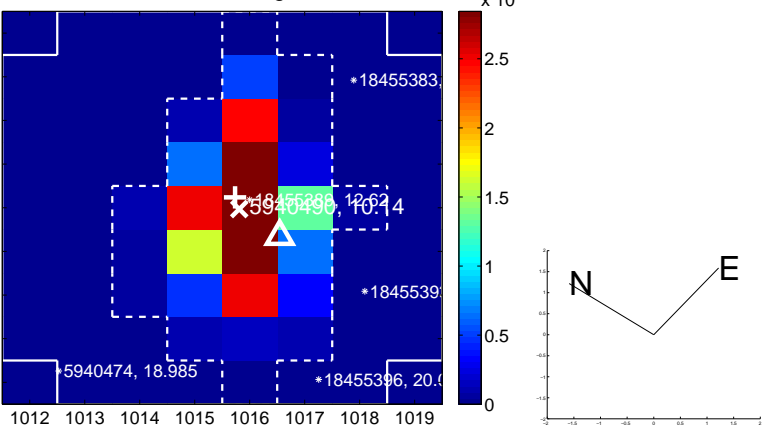
Q5 no OOT image



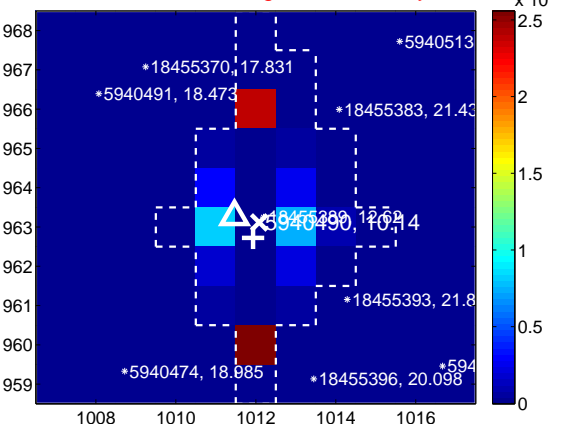
Q6 difference image. Poor Quality



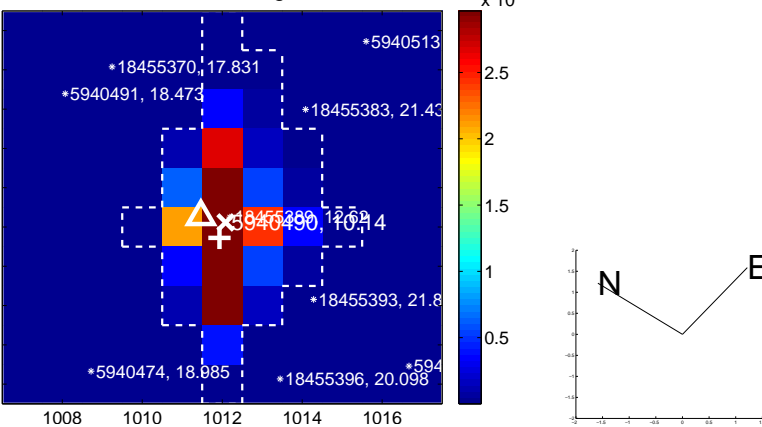
Q6 OOT image



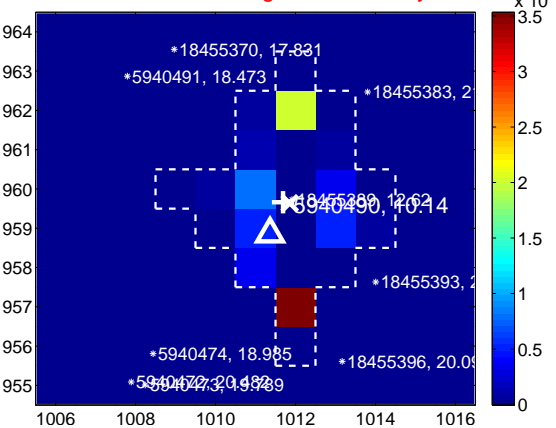
Q7 difference image. Poor Quality



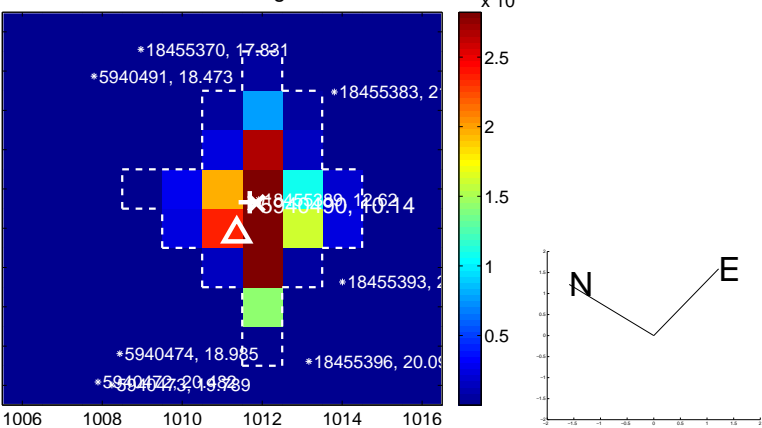
Q7 OOT image



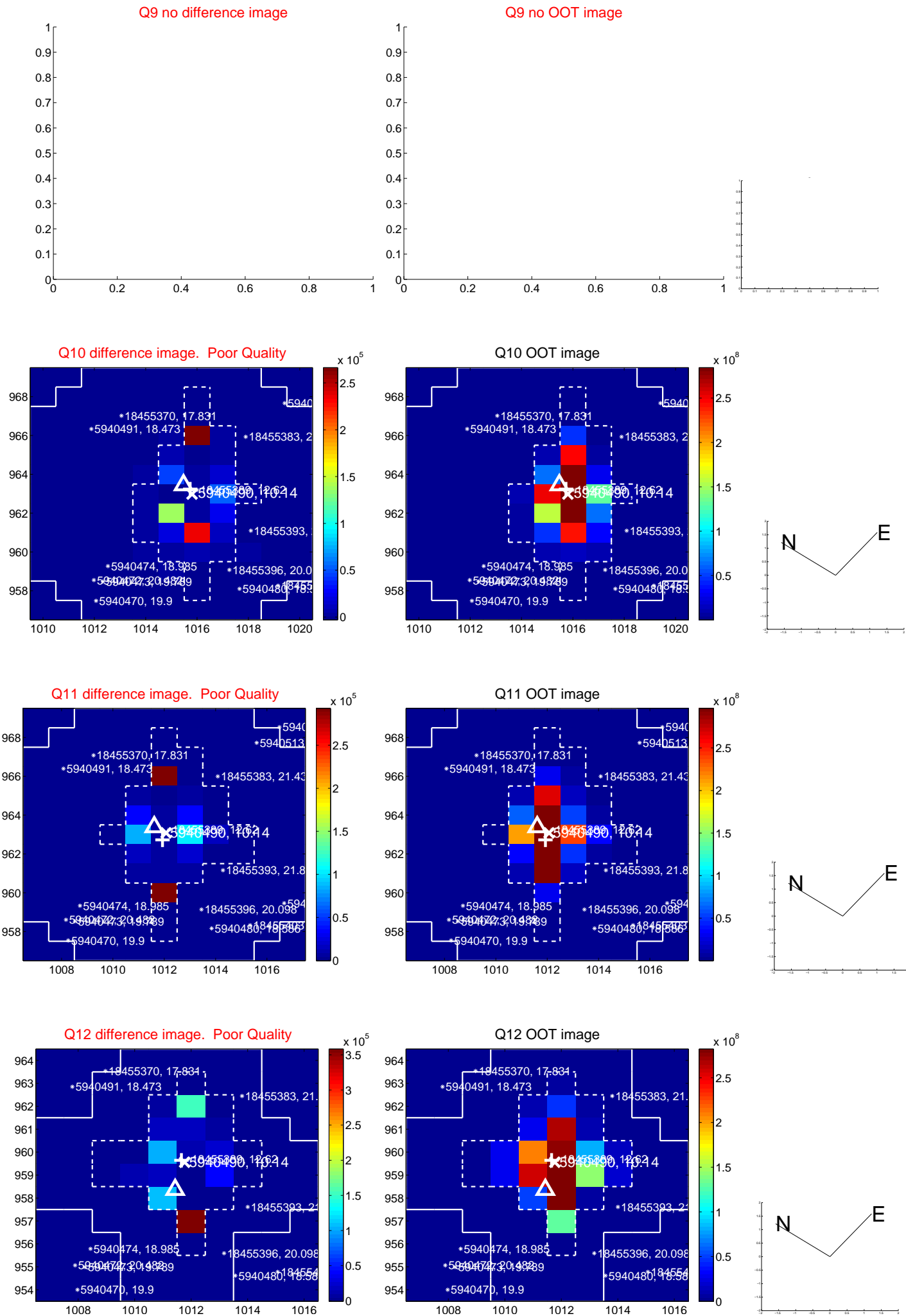
Q8 difference image. Poor Quality



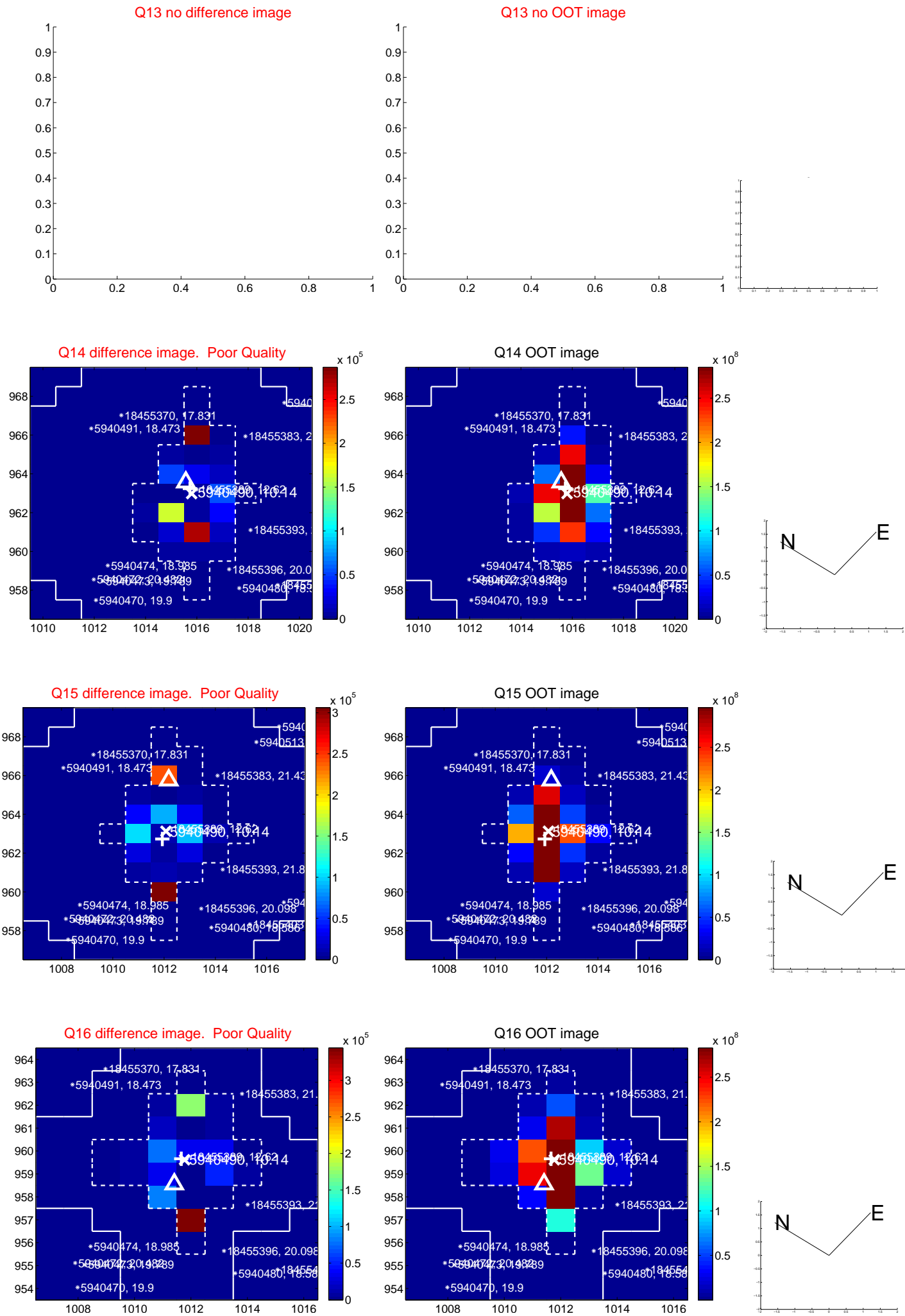
Q8 OOT image



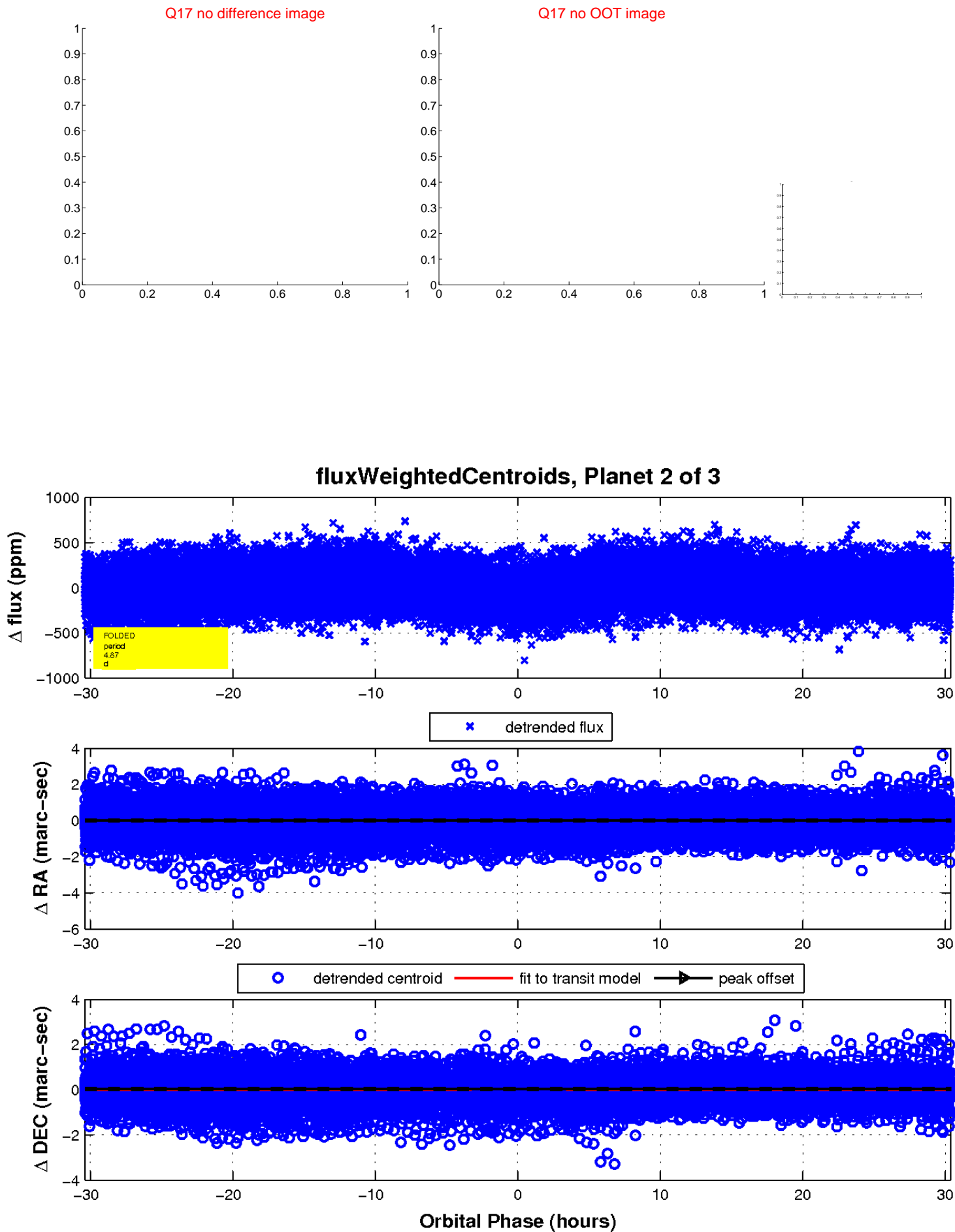
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



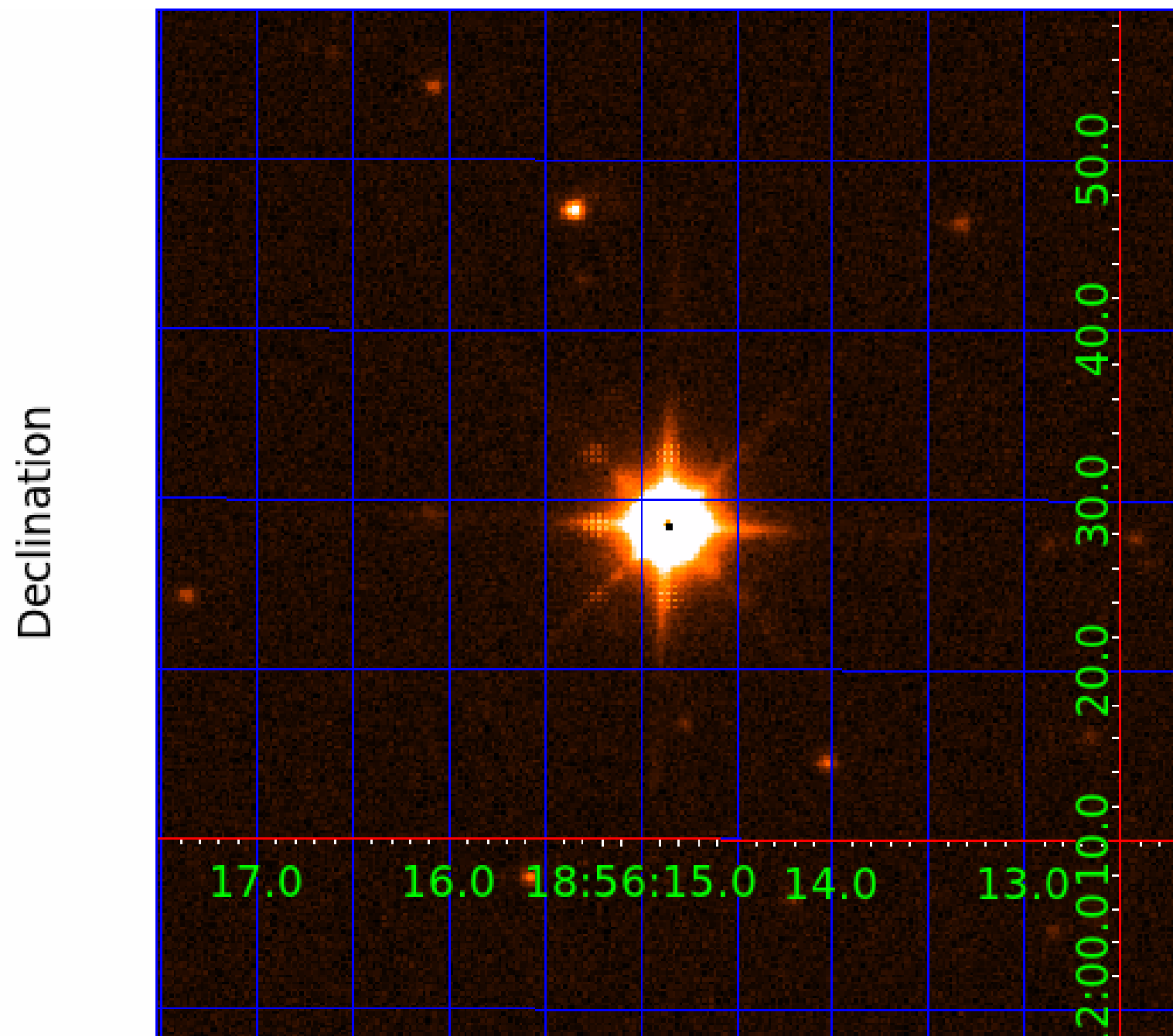
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005940490

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})
005940490-01	OBS	No	2.435693	133.140112	47.2	10.332	9.9	10.2	1.60	6324	1.48	2640.47
005940490-02	OBS	No	4.871560	131.658854	74.3	10.124	12.9	14.2	1.60	6324	1.89	1047.82
005940490-03	OBS	No	2.435893	132.019831	44.7	11.706	12.9	12.4	1.60	6324	1.26	2640.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005940490-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
005940490-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED
005940490-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED

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

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

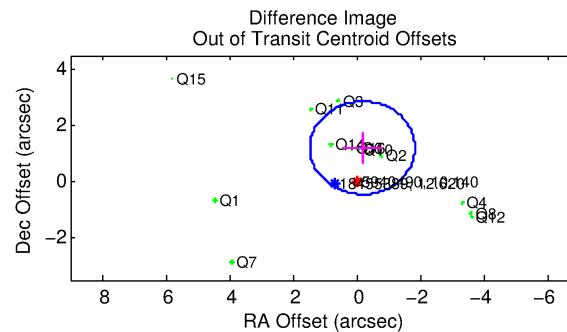
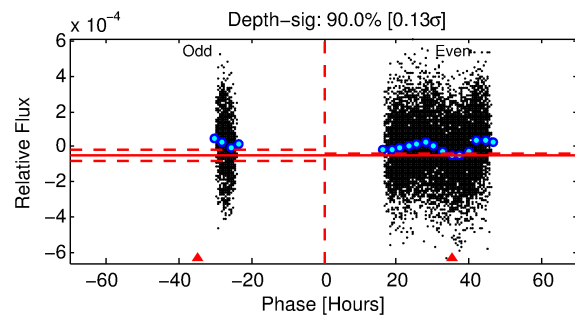
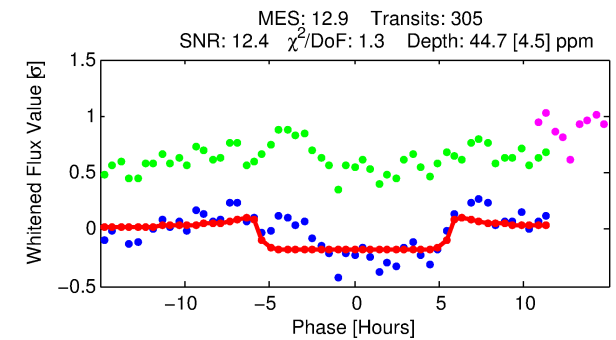
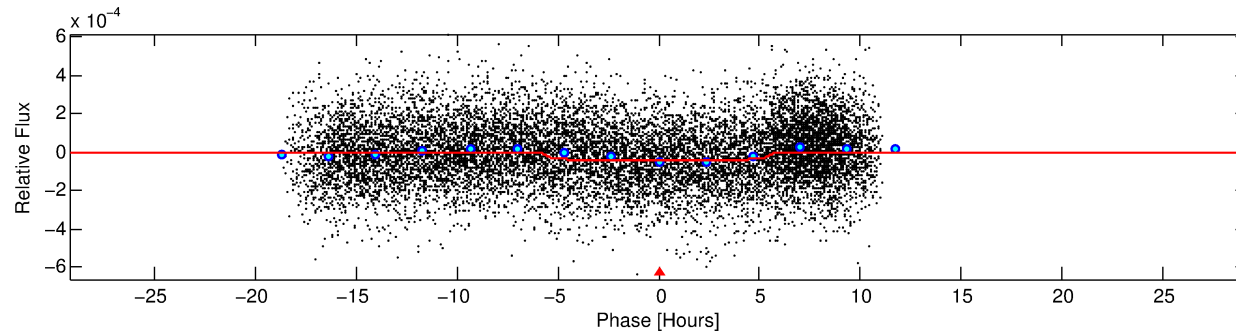
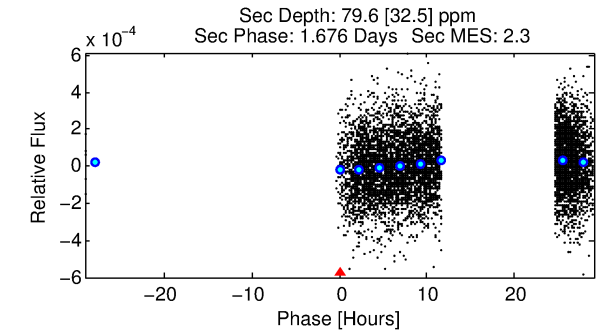
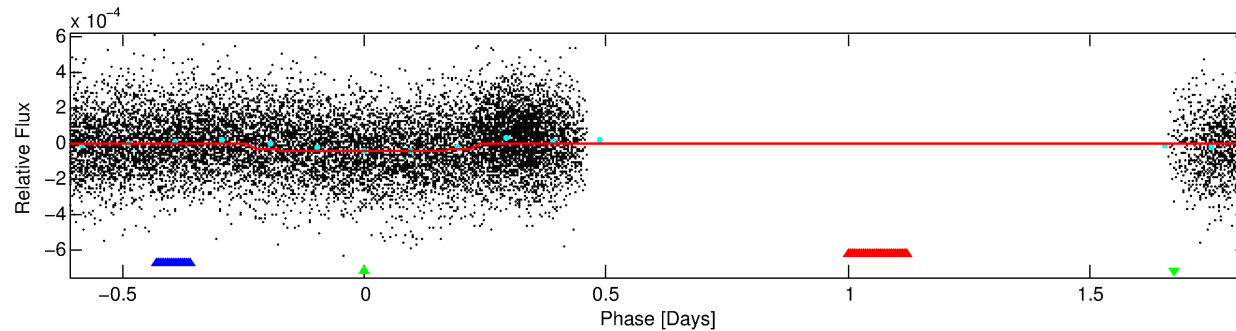
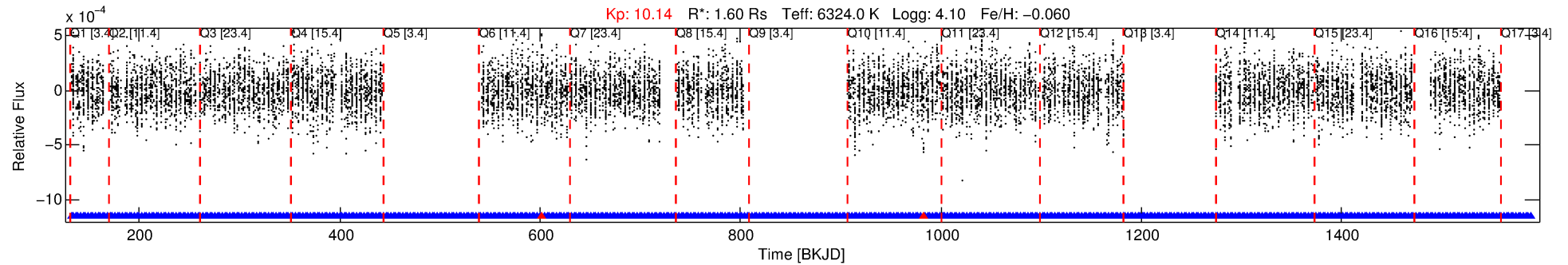
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005940490-03

No Significant Match Found

DV One-Page Summary

KIC: 5940490 Candidate: 3 of 3 Period: 2.436 d



DV Fit Results:

Period = 2.43589 [0.00002] d
Epoch = 132.0198 [0.0056] BKJD
 $R_p/R^* = 0.0072$ [0.0009]
 $a/R^* = 1.18$ [0.22]
 $b = 0.90$ [0.14]
 $S_{\text{eff}} = 2640.18$ [1236.21]
 $T_{\text{eq}} = 1828$ [214] K
 $R_p = 1.26$ [0.41] R_e
 $a = 0.0374$ [0.0104] AU
 $A_g = 38.73$ [25.40] [1.49σ]
 $T_{\text{eff}} = 7050$ [895] K [5.67σ]

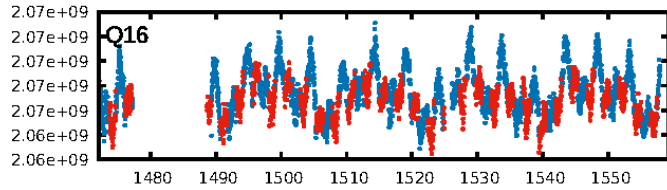
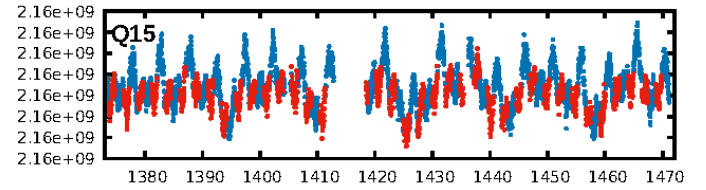
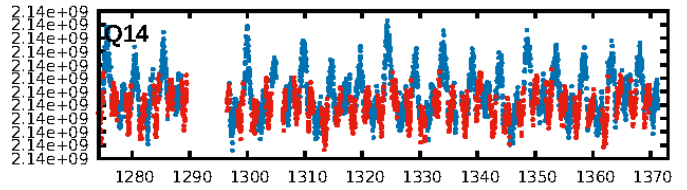
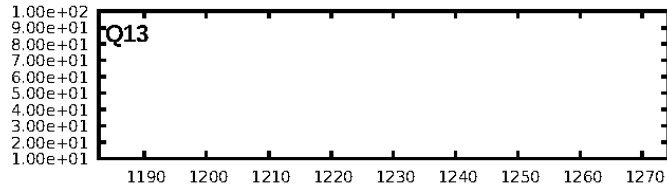
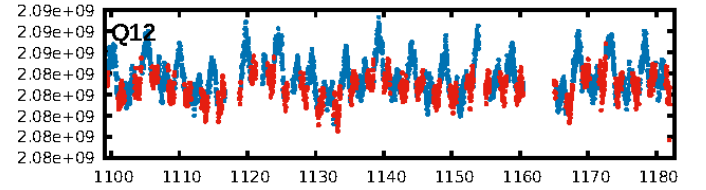
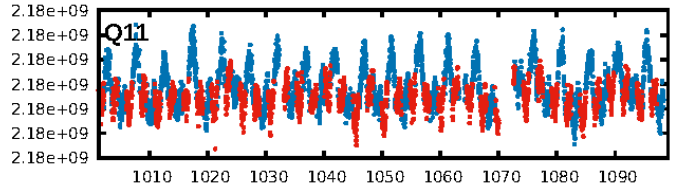
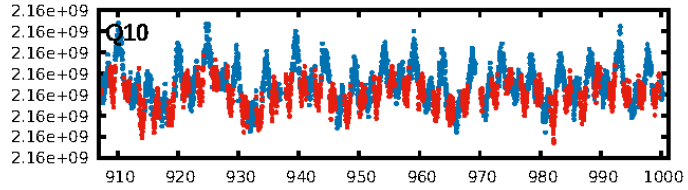
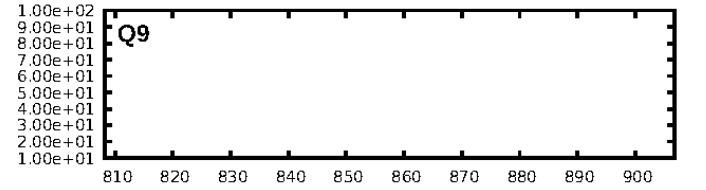
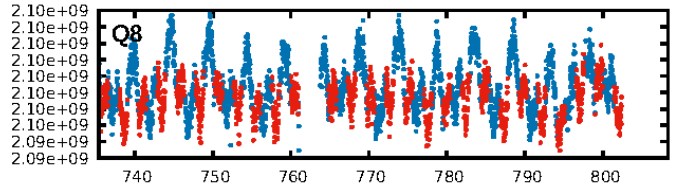
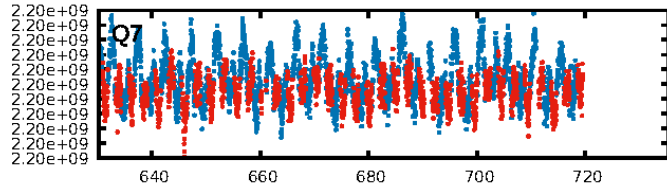
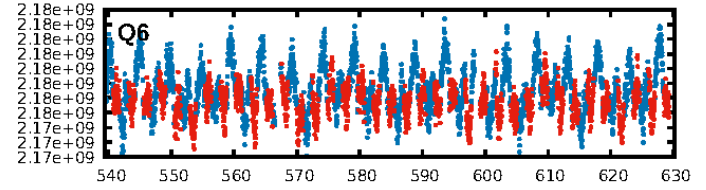
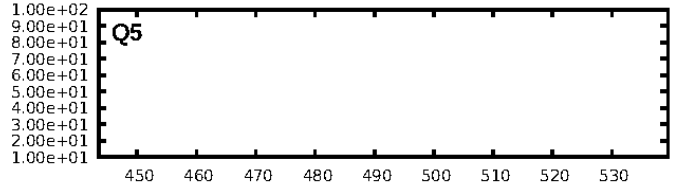
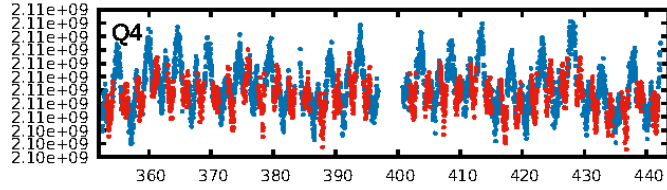
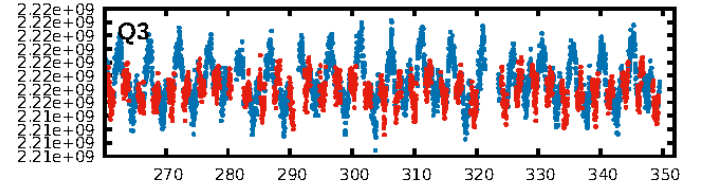
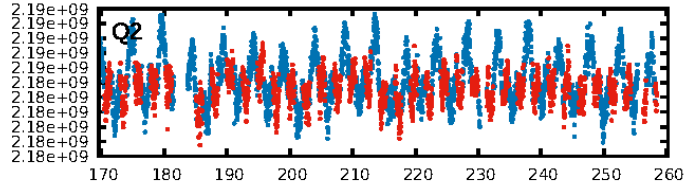
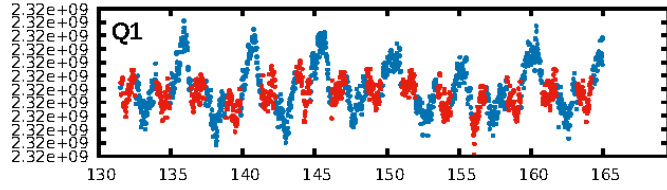
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [3.78σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [296/298]
GhostDiagnostic-chr: N/A
Centroid-sig: 20.5%
Centroid-so: 0.834 arcsec [2.26σ]
OotOffset-rm: 1.218 arcsec [2.21σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-rm: 1.461 arcsec [2.68σ]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.00 [0/13]
DiffImageOverlap-fno: 0.46 [6/13]

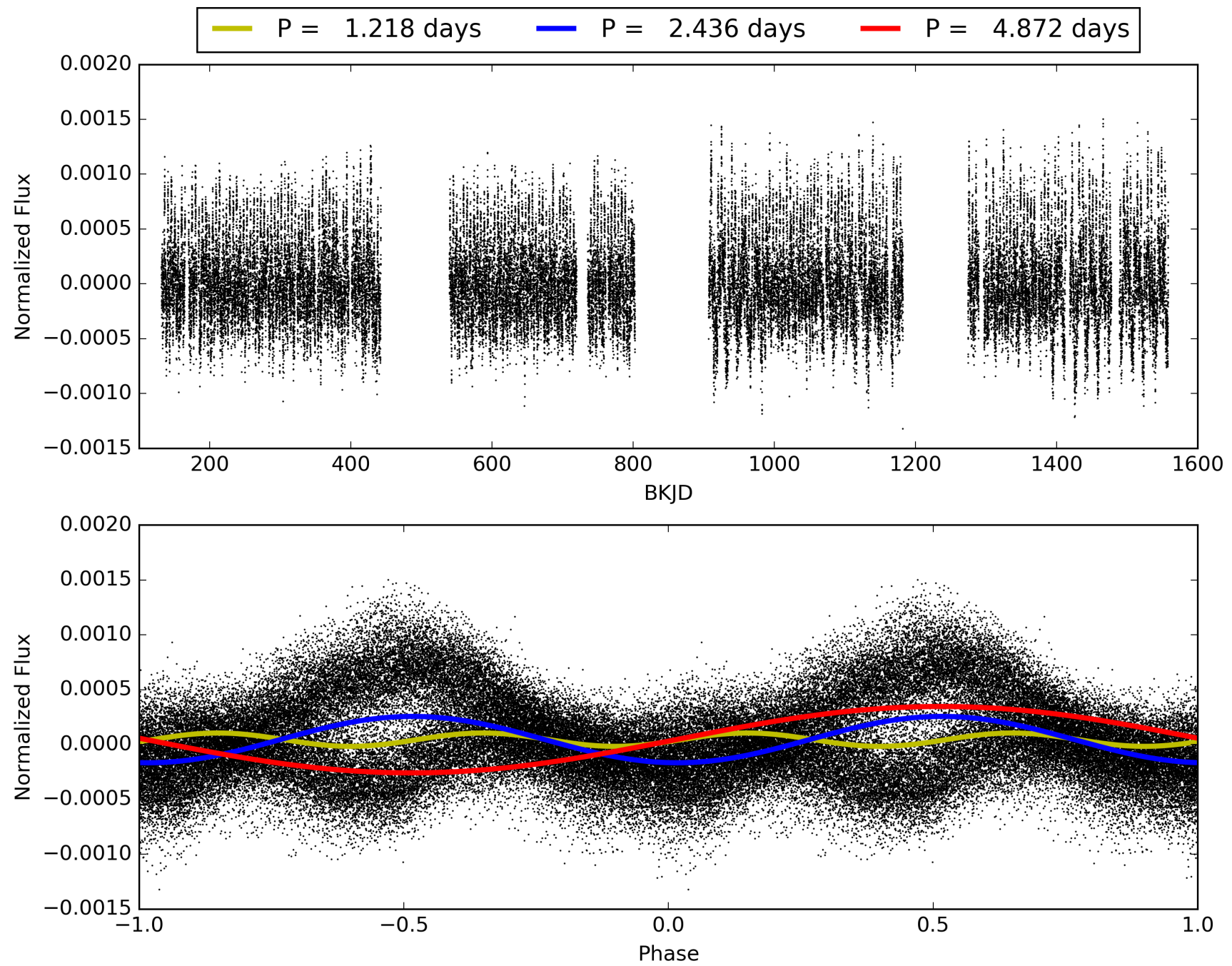
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005940490-03, PDC Light Curves

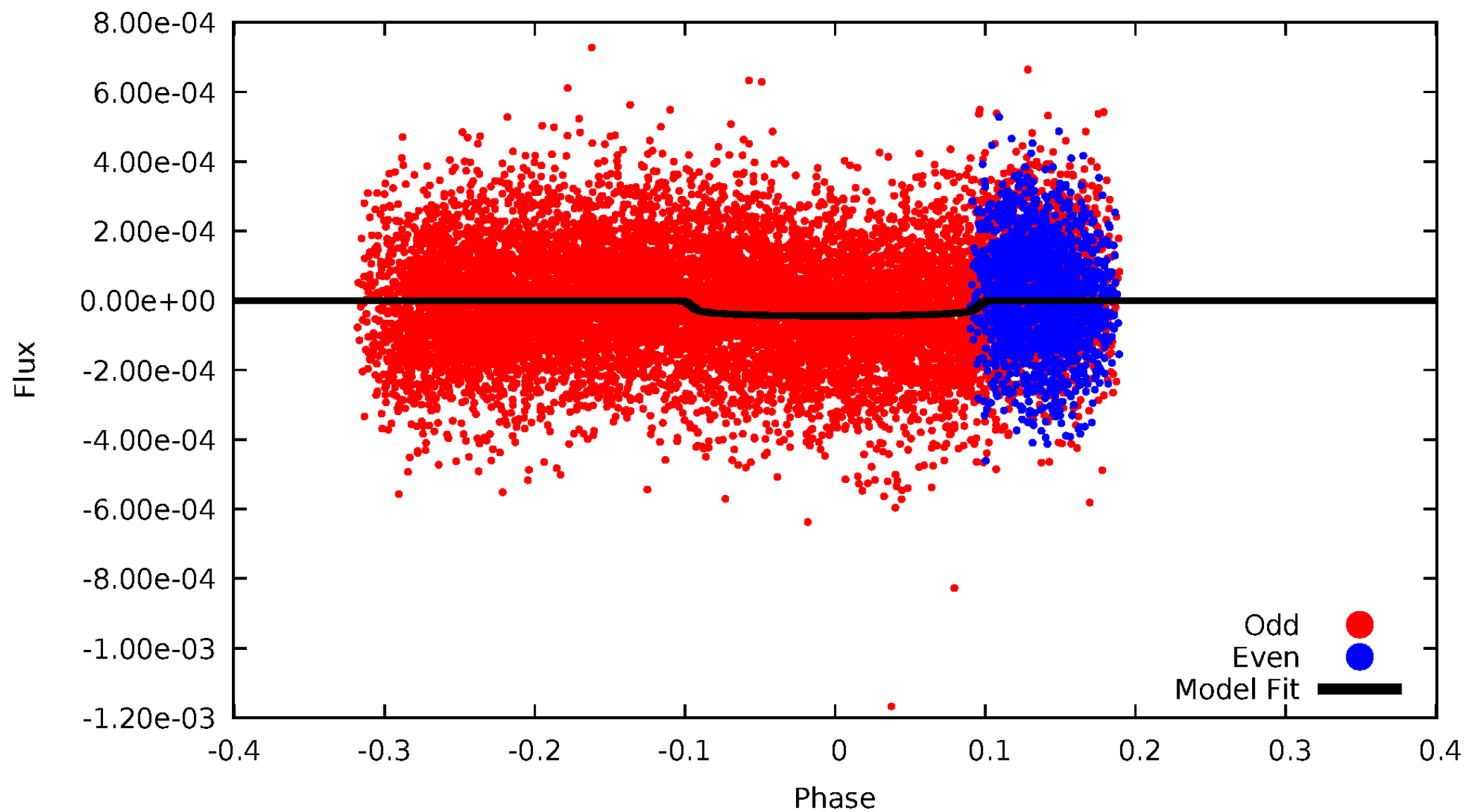


TCE 005940490-03



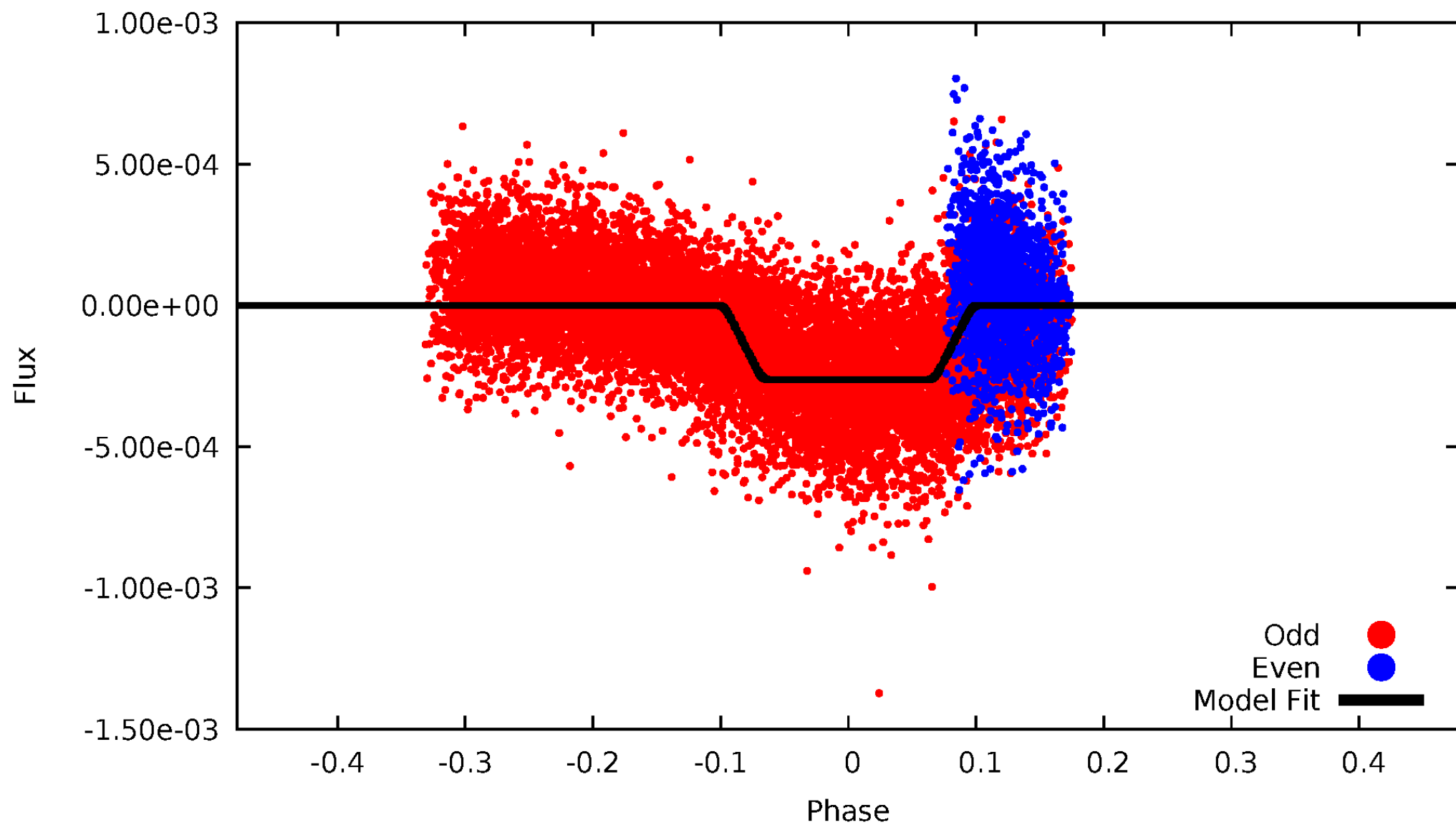
DV Odd/Even

TCE 005940490-03



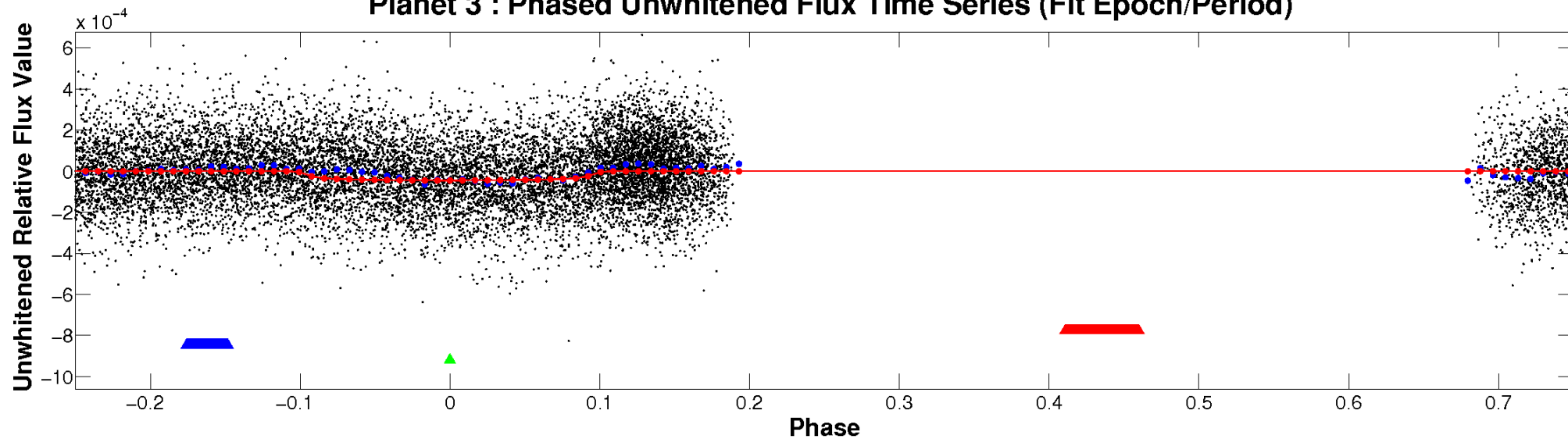
ALT Odd/Even

TCE 005940490-03

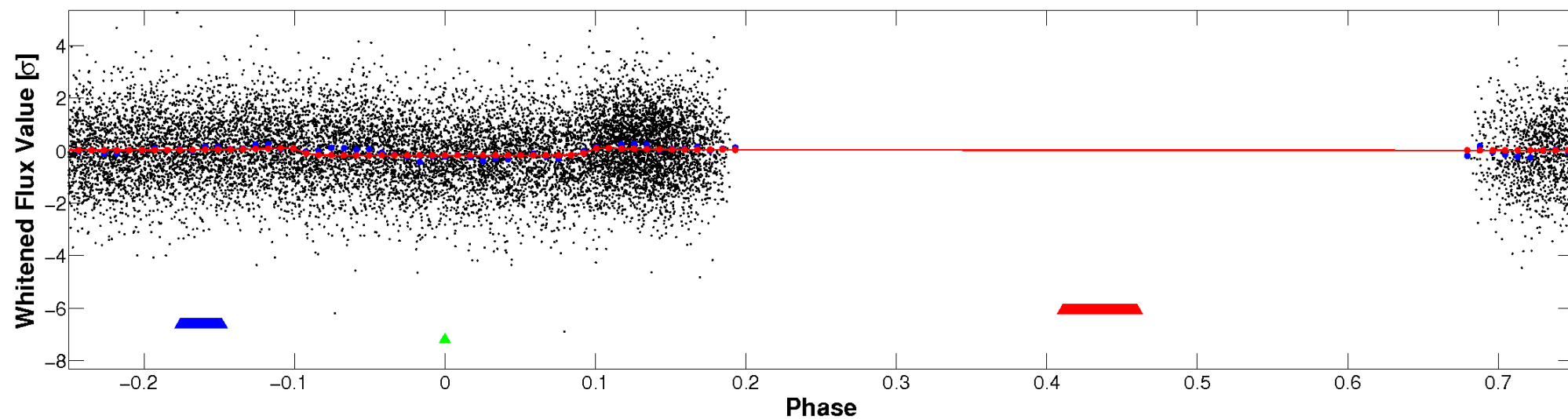


Non-Whitened Vs. Whitened Light Curve

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

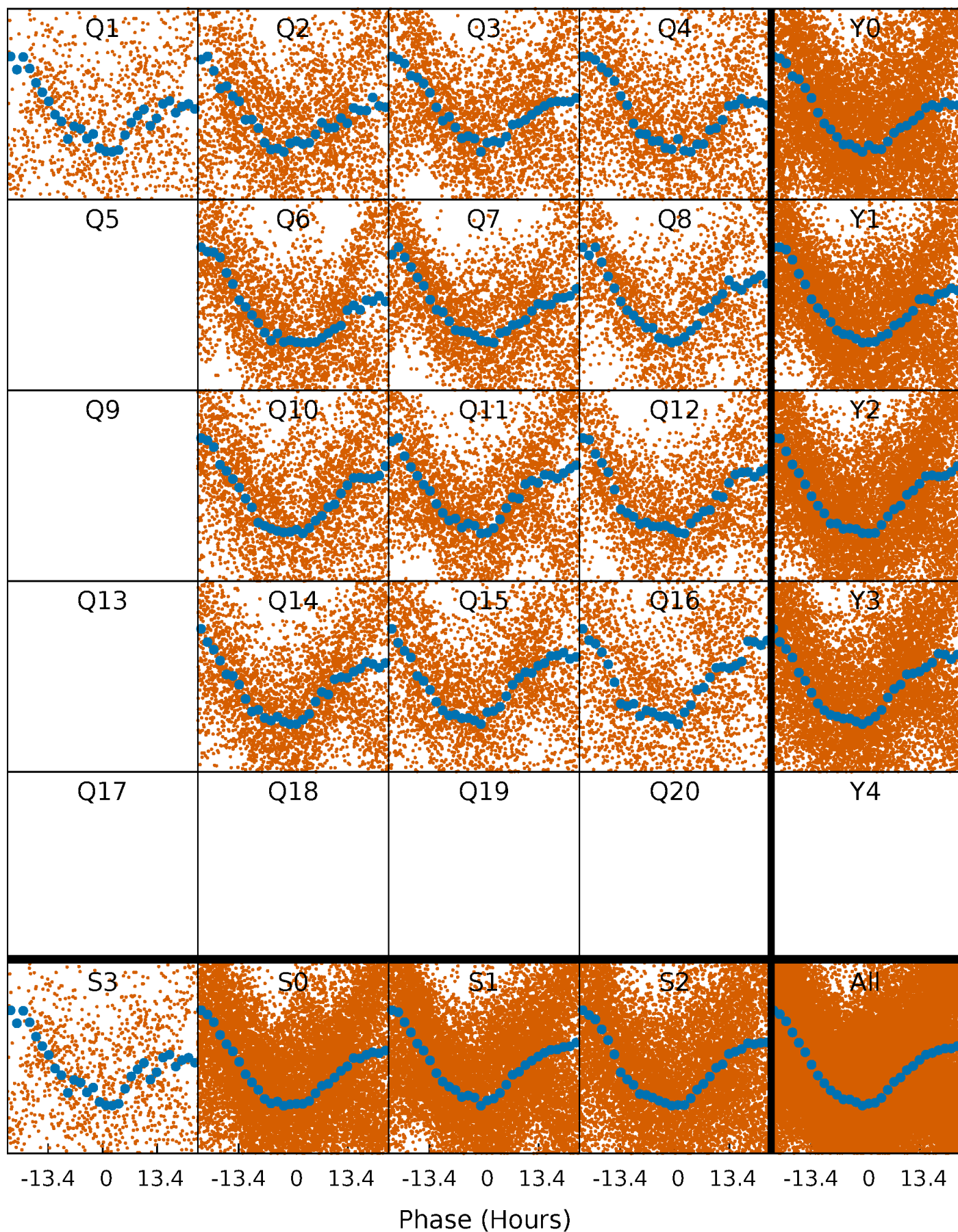


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



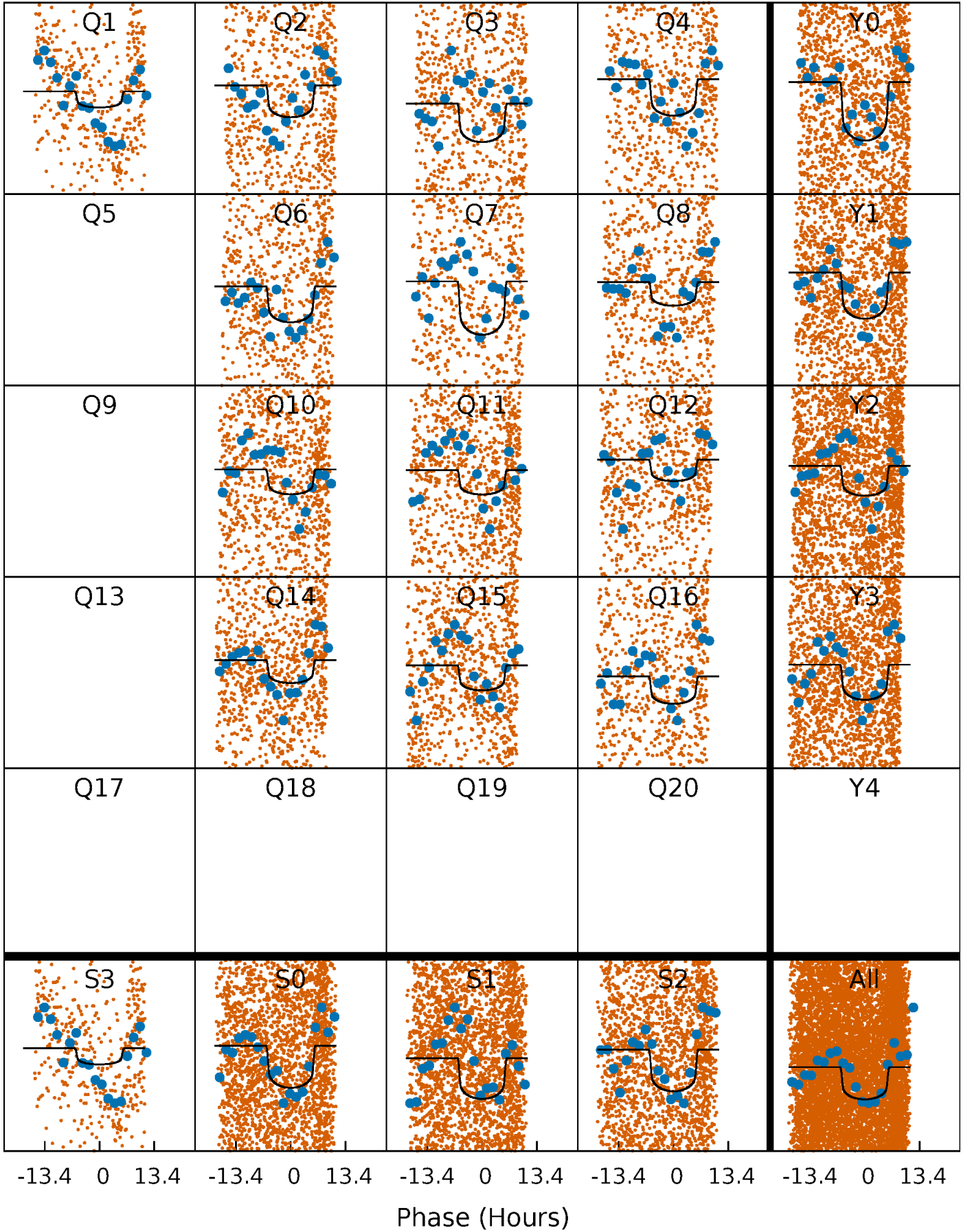
PDC Quarter-Phased Transit Curves

TCE 005940490-03 P= 2.435893 Days $T_0=132.019832$ (BKJD)



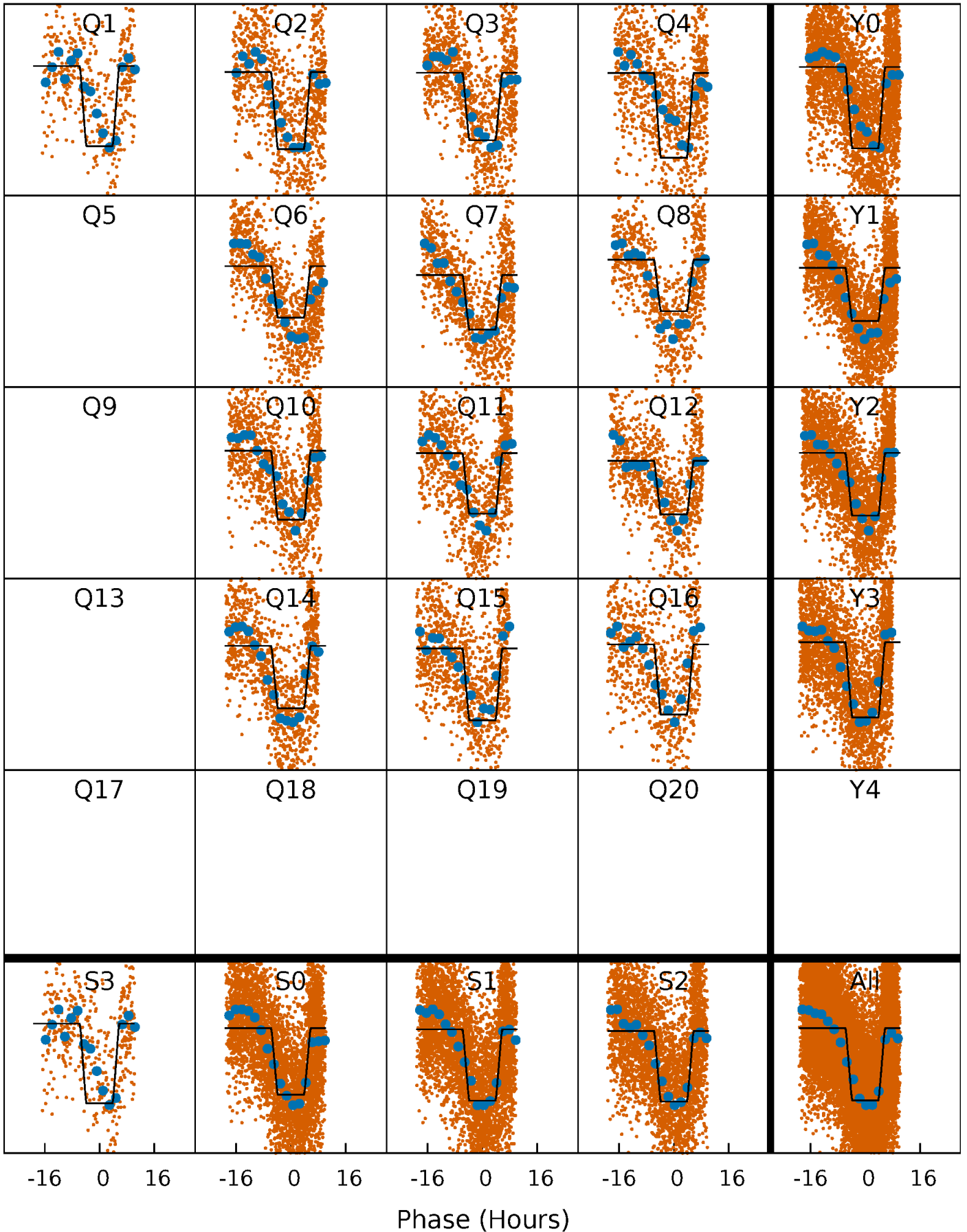
DV Quarter-Phased Transit Curves

TCE 005940490-03 $P = 2.435893$ Days $T_0 = 132.019832$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

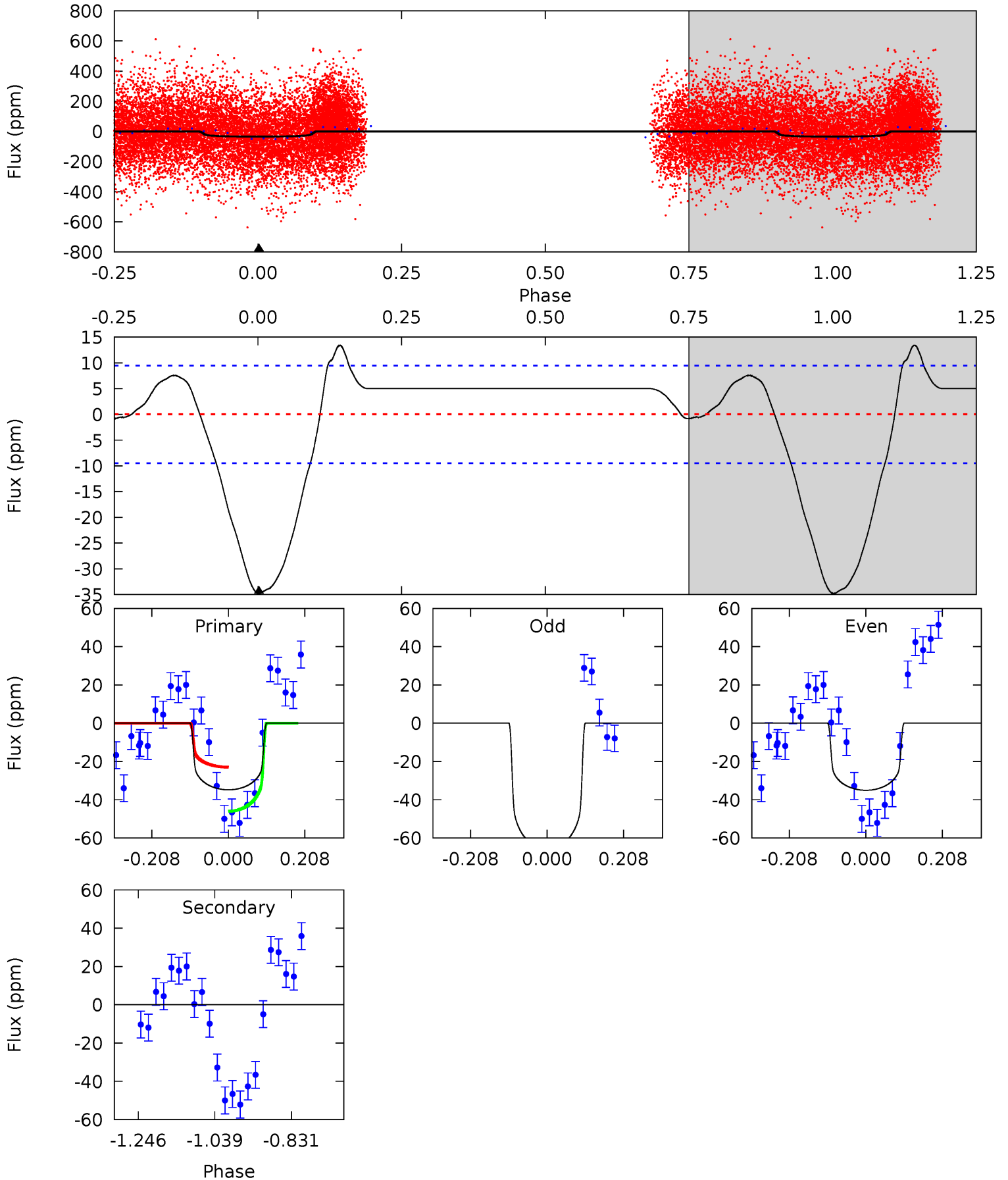
TCE 005940490-03 P= 2.435887 Days $T_0=132.055368$ (BKJD)



DV Model-Shift Uniqueness Test

005940490-03, P = 2.435893 Days, E = 132.019832 Days

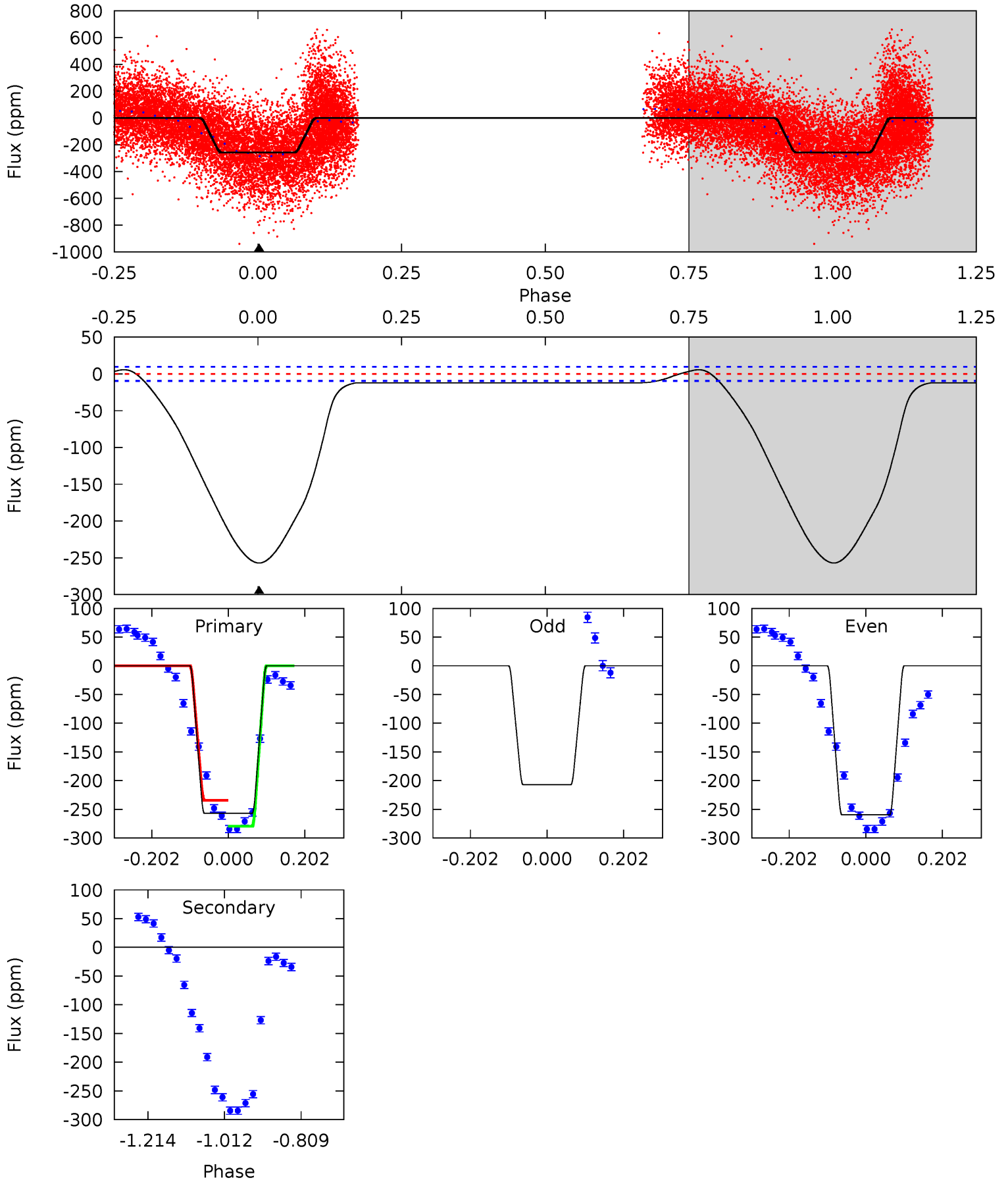
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	0	0	0	4.41	1.26	0.75	16.2	16.2	0	0	2.36	0.85	0.28	5.47



Alt Model-Shift Uniqueness Test

005940490-03, P = 2.435887 Days, E = 132.055368 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
118.0	0	0	0	4.41	1.27	2.37	118.0	118.0	0	0	5.27	0.35	0.02	9.76



Stellar Parameters For KIC 005940490

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6324^{+177}_{-243}	$4.097^{+0.258}_{-0.172}$	$-0.060^{+0.250}_{-0.300}$	$1.605^{+0.474}_{-0.474}$	$1.175^{+0.189}_{-0.170}$	$0.400^{+0.649}_{-0.192}$
	+3%/-4%	+6%/-4%	+417%/-500%	+30%/-30%	+16%/-14%	+162%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 005940490-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 2	$1.23^{+0.28}_{-0.23}$	2528^{+205}_{-221}	-2813^{+6042}_{-731}	$-0.003^{+1.106}_{-1.199}$
Alt.	0 ± 2	$2.81^{+0.45}_{-0.48}$	2535^{+200}_{-219}	-2791^{+494}_{-262}	$0.019^{+0.222}_{-0.229}$

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 $A_{obs} \gg 1.0$

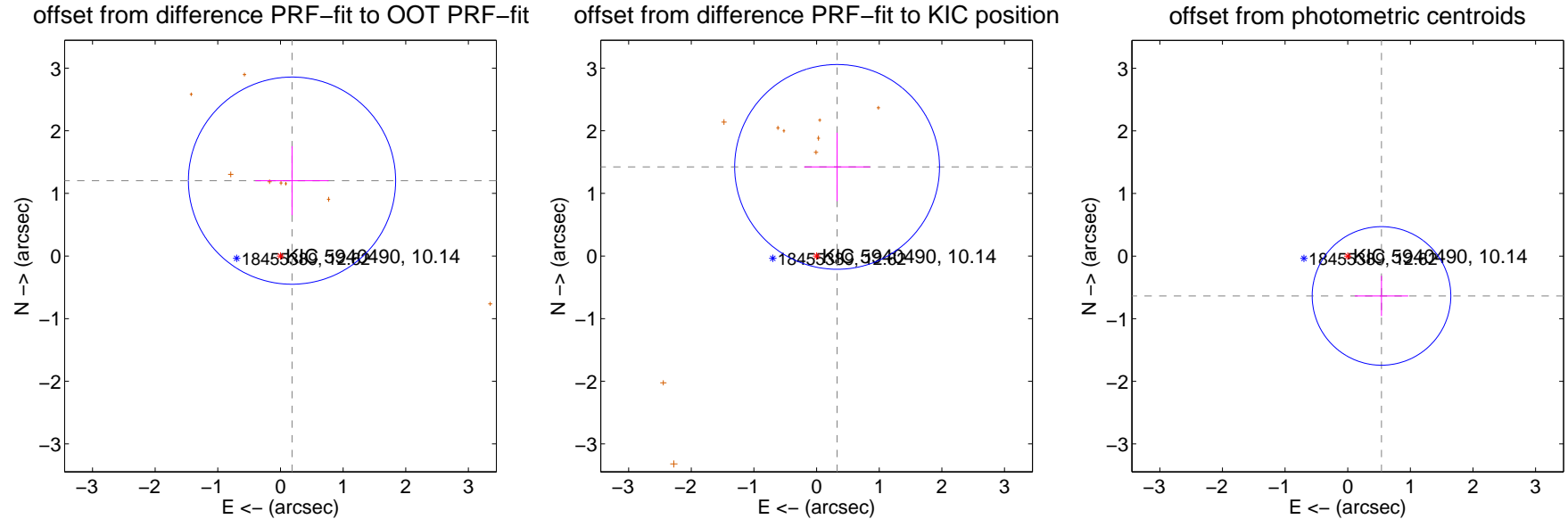
DV Centroid Data

Supplemental centroid analysis for 005940490-03. **Kepler magnitude: 10.14.** Transit SNR 12.43

There are 0 quarters with good PRF difference image offsets

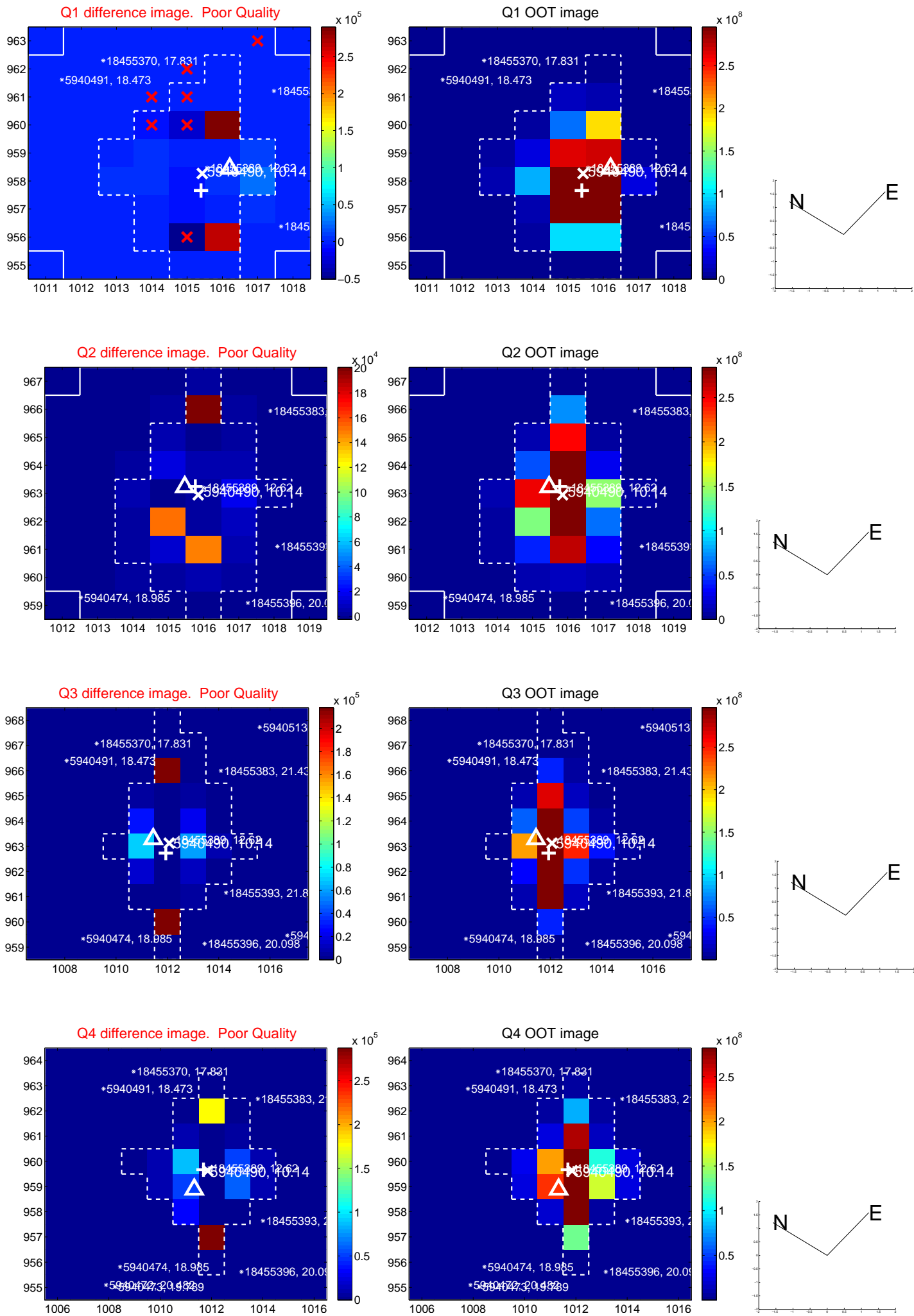
The direct PRF centroid is offset from the target star catalog position by about 0.50 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.218 ± 0.552	2.21	-0.185 ± 0.585	1.204 ± 0.551
PRF-fit source offset from KIC position	1.461 ± 0.545	2.68	-0.328 ± 0.527	1.424 ± 0.546
photometric centroid source offset	0.83 ± 0.37	2.26	-0.54 ± 0.43	-0.64 ± 0.32



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

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



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

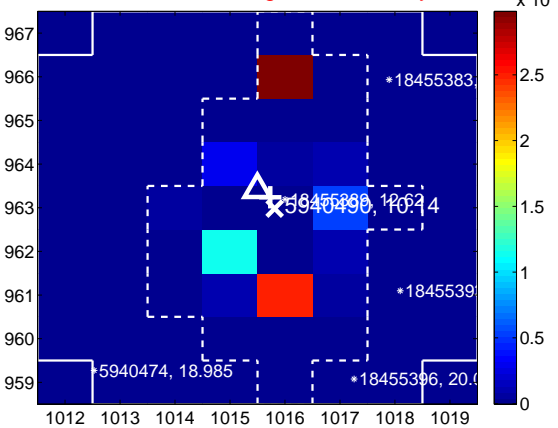
Q5 no difference image



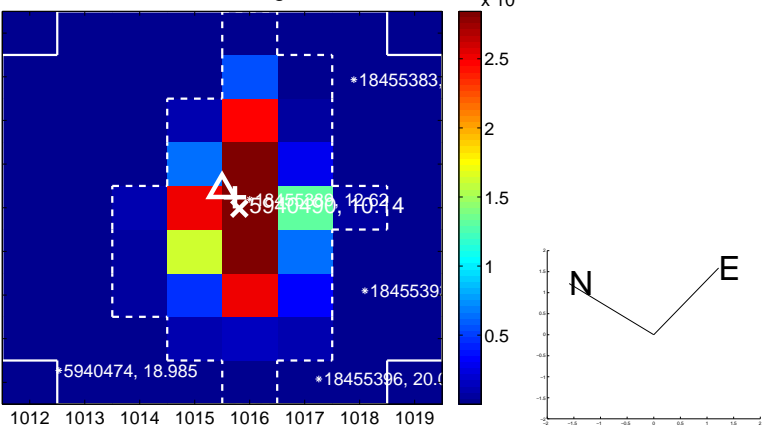
Q5 no OOT image



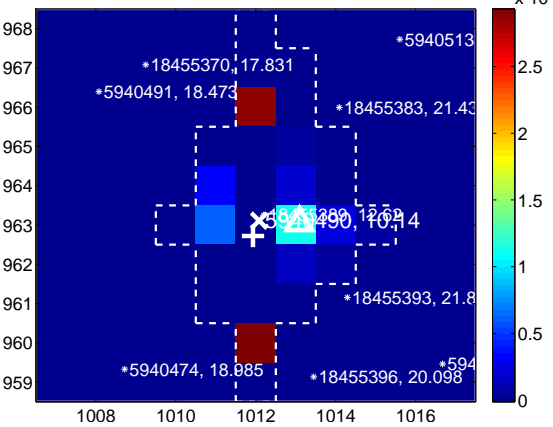
Q6 difference image. Poor Quality



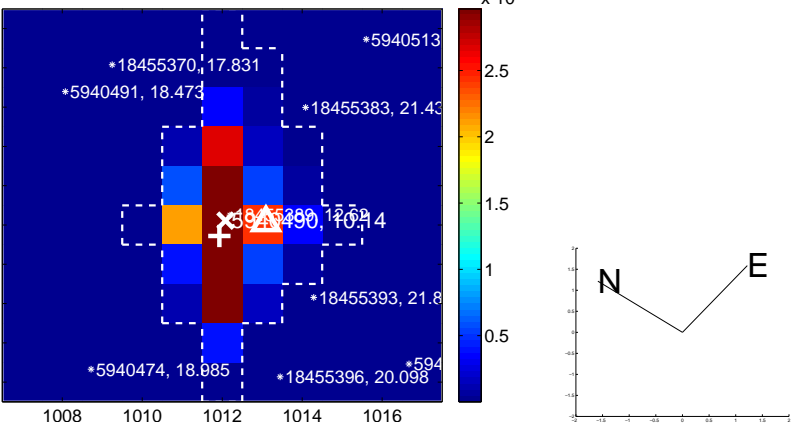
Q6 OOT image



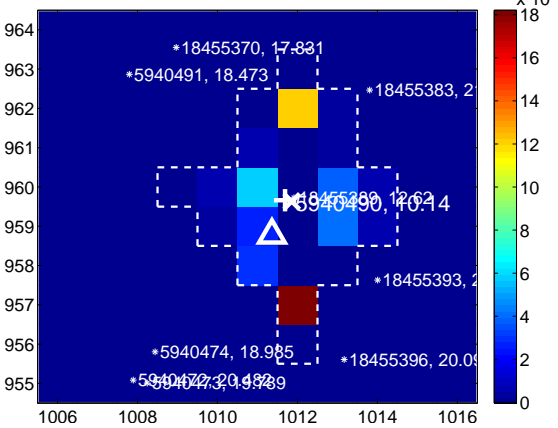
Q7 difference image. Poor Quality



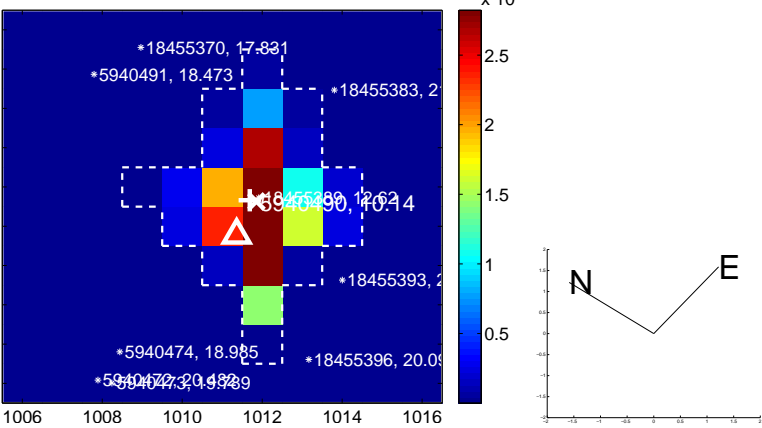
Q7 OOT image



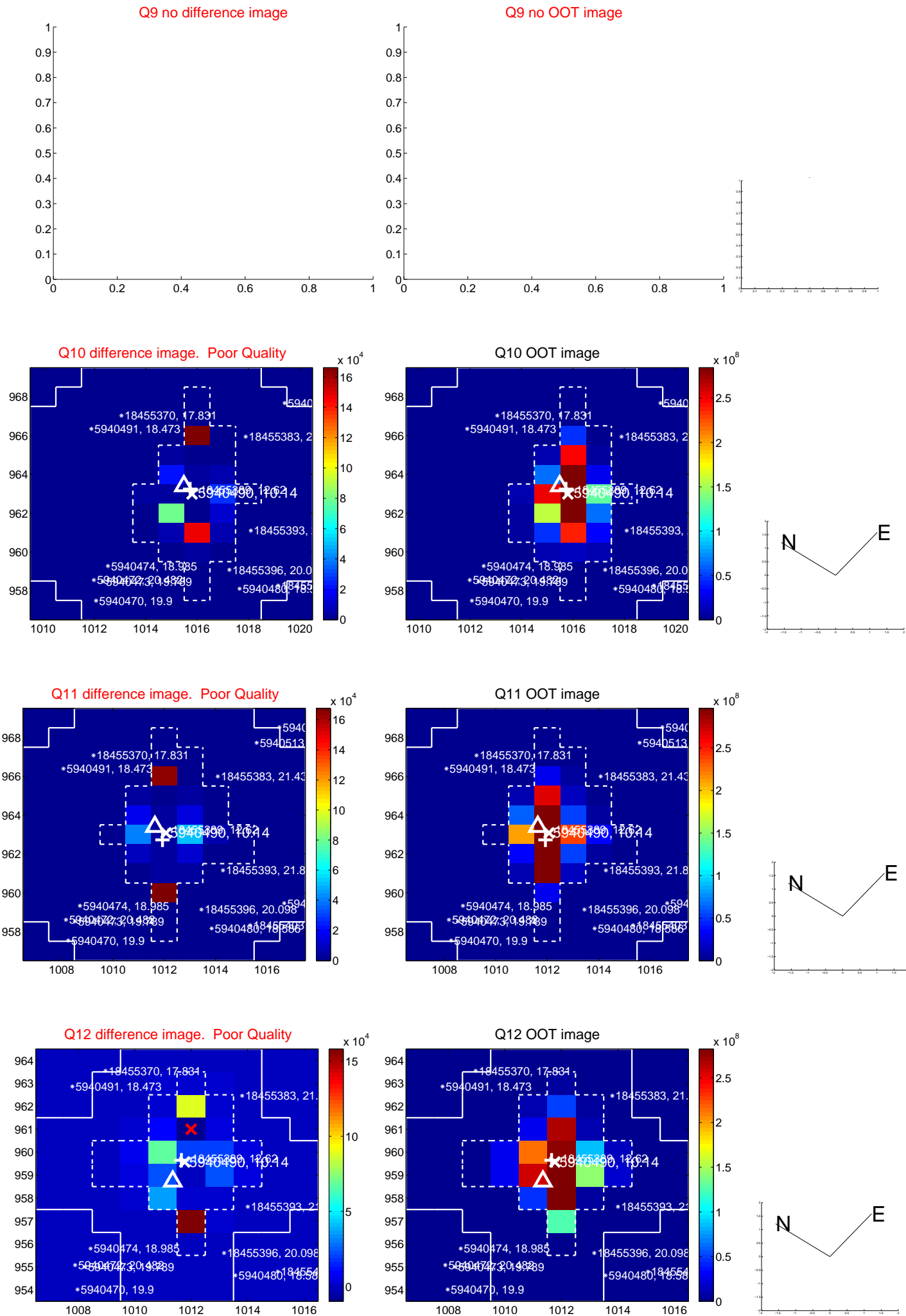
Q8 difference image. Poor Quality



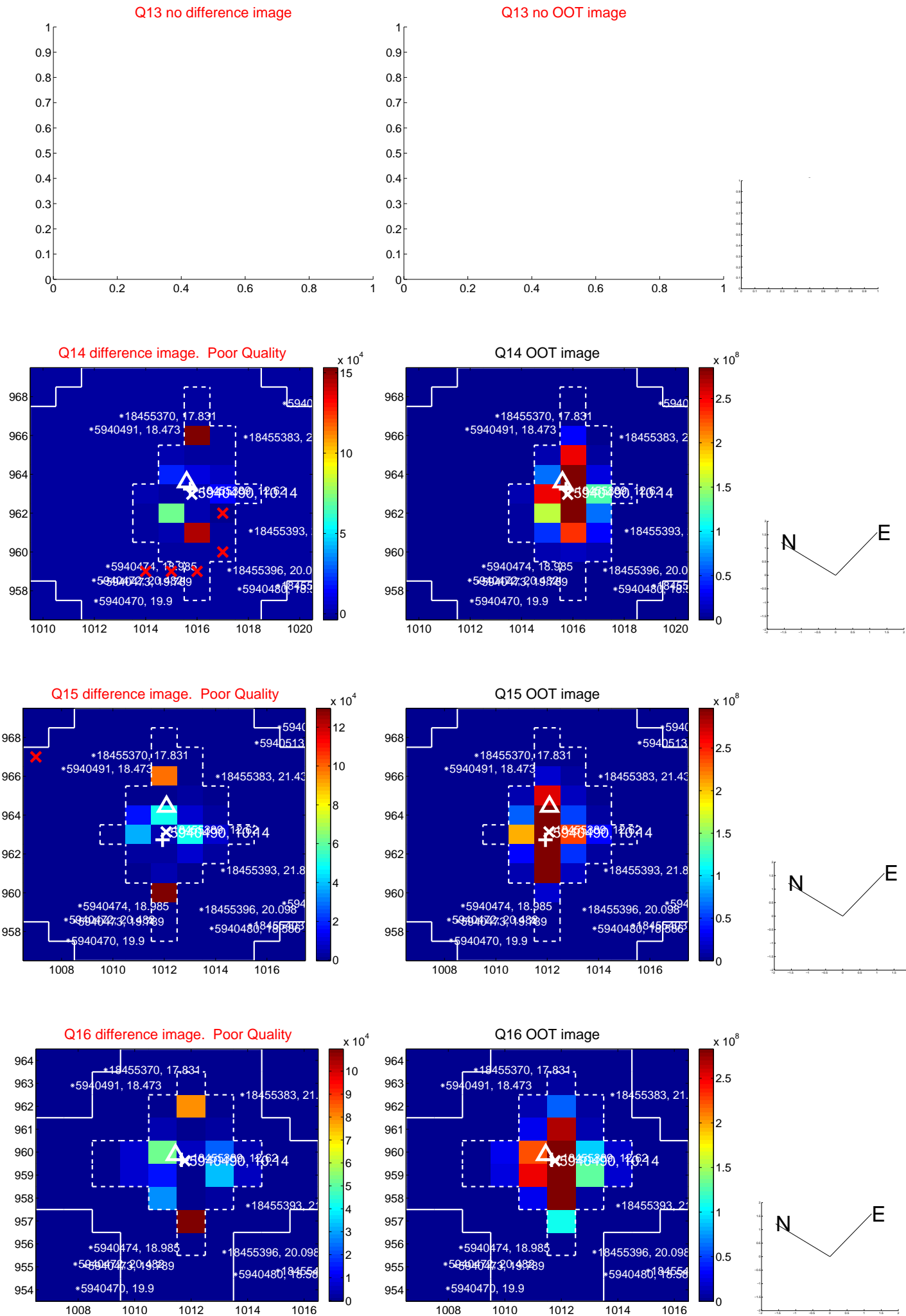
Q8 OOT image



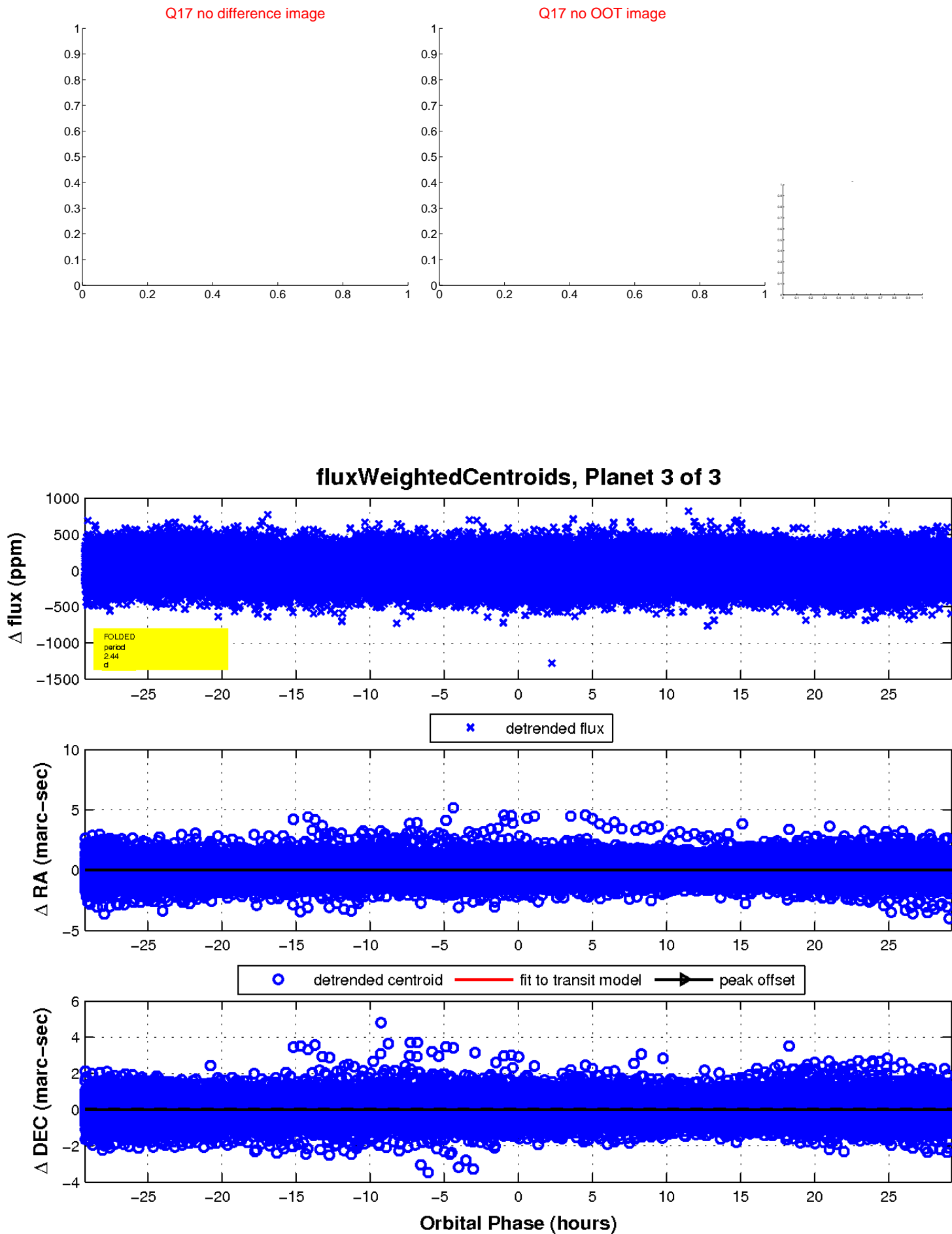
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

