

KIC 005542466

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})
005542466-01	OBS	1590.01	12.890153	136.772938	576.5	3.723	18.7	20.2	0.81	4915	2.36	35.08
005542466-02	OBS	1590.02	2.355751	133.127193	255.2	1.848	13.4	15.4	0.81	4915	1.58	338.21
005542466-03	OBS	1590.03	4.746738	134.620288	281.2	2.006	9.6	11.9	0.81	4915	1.63	132.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005542466-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
005542466-02	OBS	PC	0.90	0	0	0	0	NO_COMMENT
005542466-03	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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.

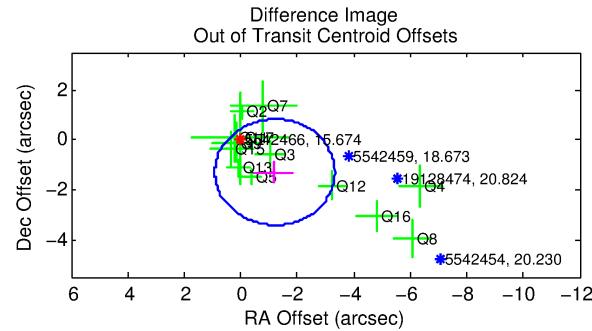
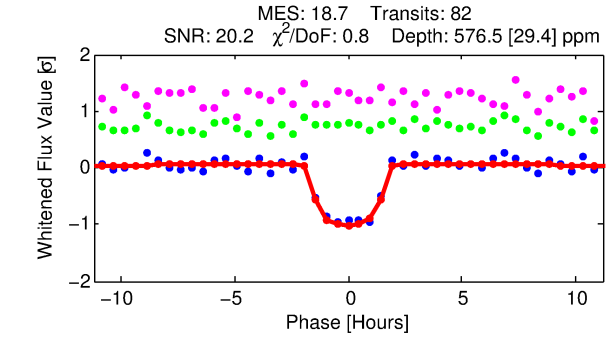
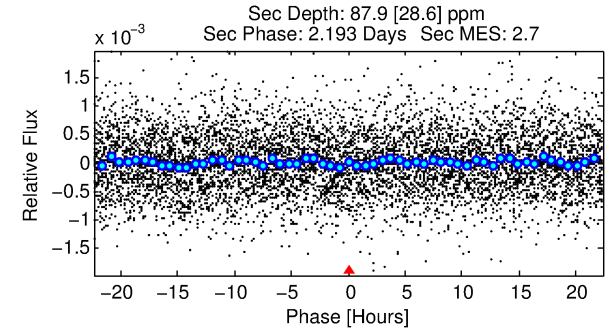
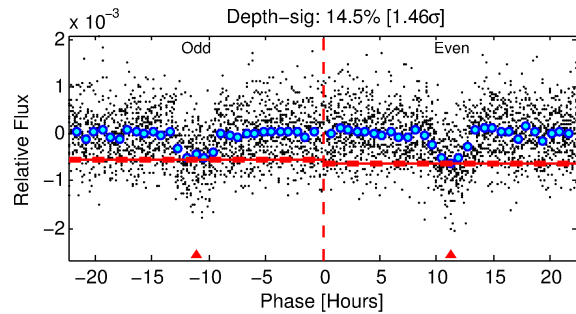
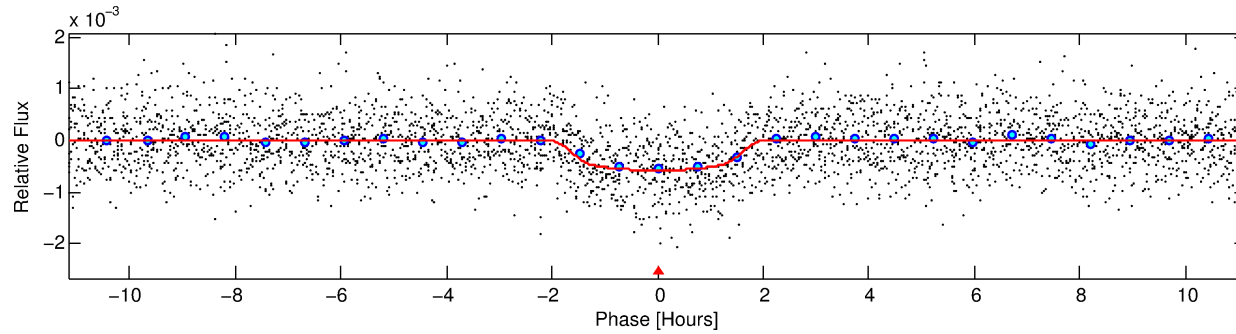
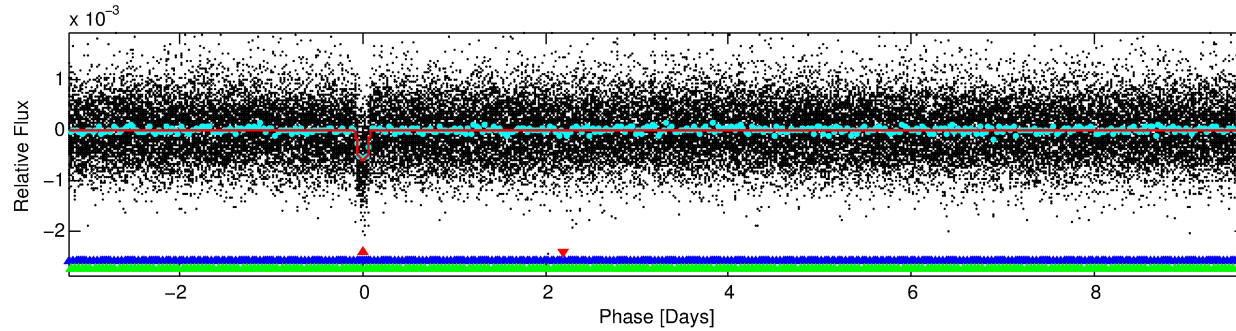
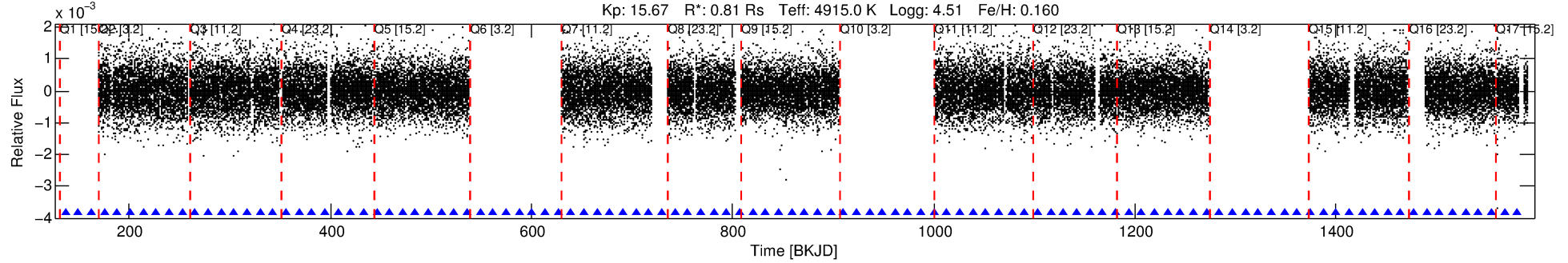
Ephemeris Match Information For 005542466-01

No Significant Match Found

DV One-Page Summary

KIC: 5542466 Candidate: 1 of 3 Period: 12.890 d
KOI: K01590.01 Corr: 0.956

Kp: 15.67 R*: 0.81 Rs Teff: 4915.0 K Logg: 4.51 Fe/H: 0.160



DV Fit Results:

Period = 12.89015 [0.00006] d
Epoch = 136.7729 [0.0040] BKJD
Rp/R* = 0.0266 [0.0046]
a/R* = 13.53 [8.65]
b = 0.89 [0.15]
Seff = 35.08 [4.91]
Teq = 621 [22] K
Rp = 2.36 [0.44] Re
a = 0.0991 [0.0072] AU
Ag = 85.28 [41.93] [2.01σ]
Teffp = 2916 [351] K [6.52σ]

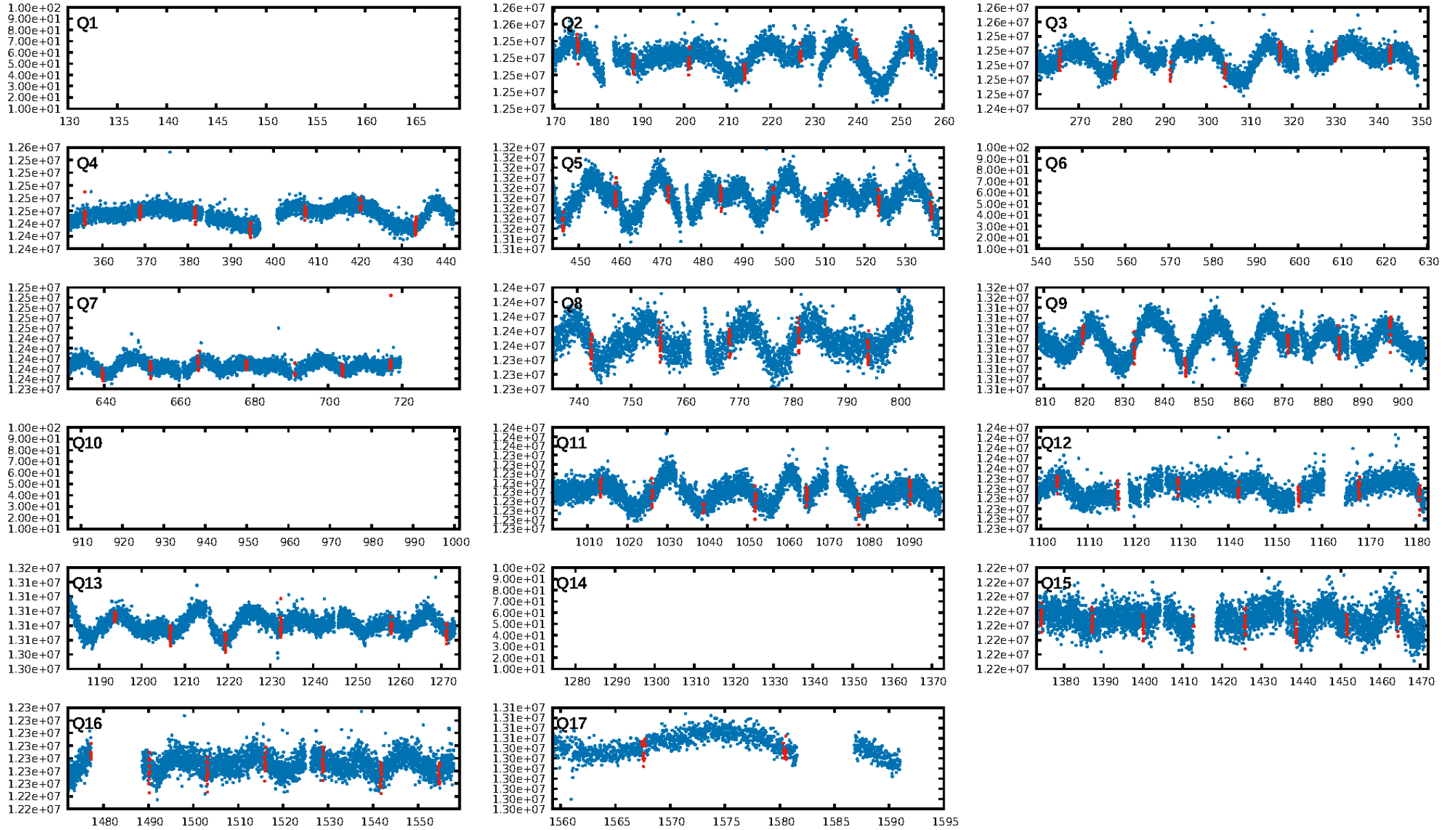
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [46.21σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 89.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.23e-75
RollingBand-fgt: 1.00 [80/80]
GhostDiagnostic-chr: 5.922
Centroid-sig: 90.4%
Centroid-so: 0.862 arcsec [1.42σ]
OotOffset-rm: 1.776 arcsec [2.51σ]
KicOffset-rm: 0.676 arcsec [2.49σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [13/13]

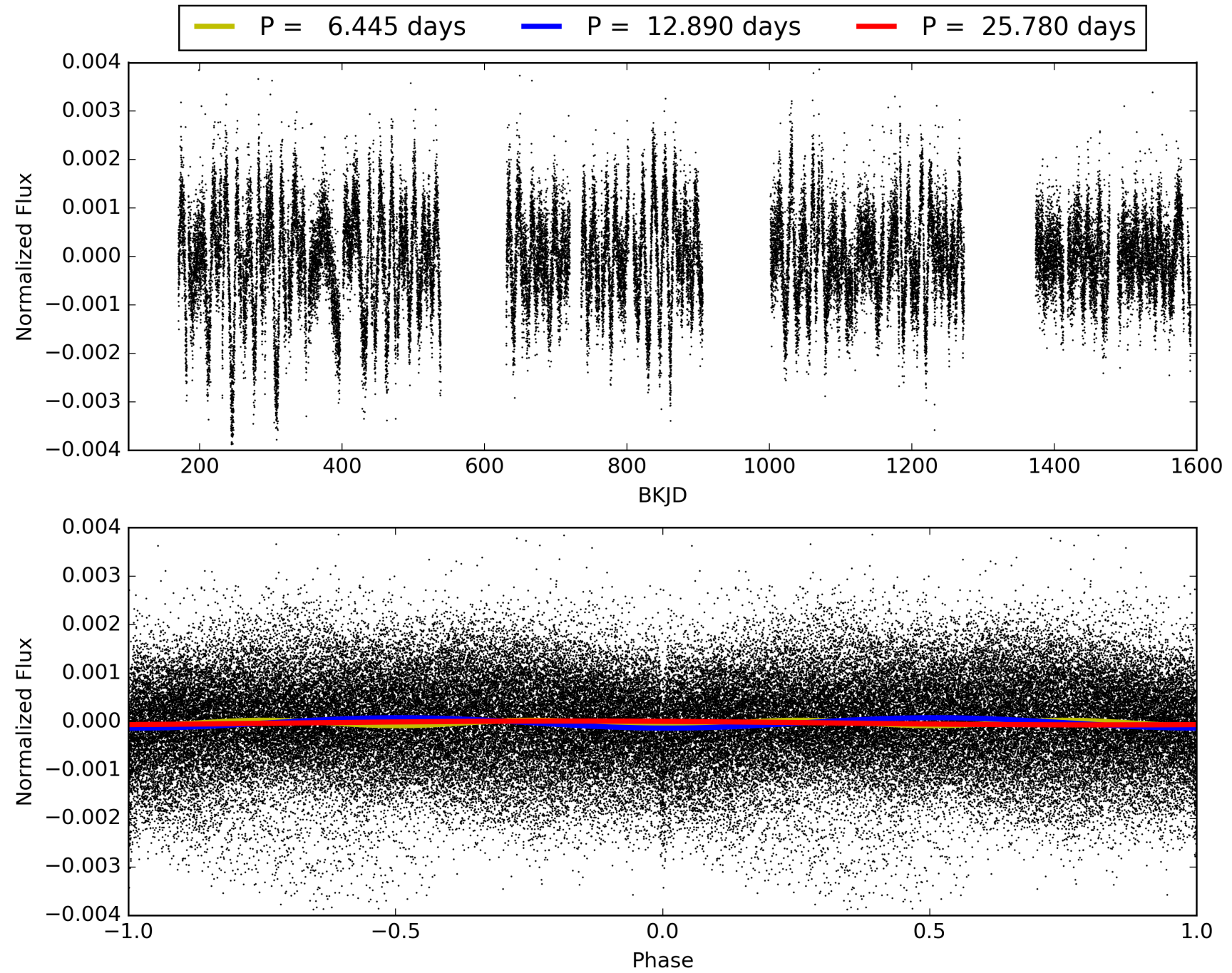
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:59:48 Z

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

TCE 005542466-01, PDC Light Curves

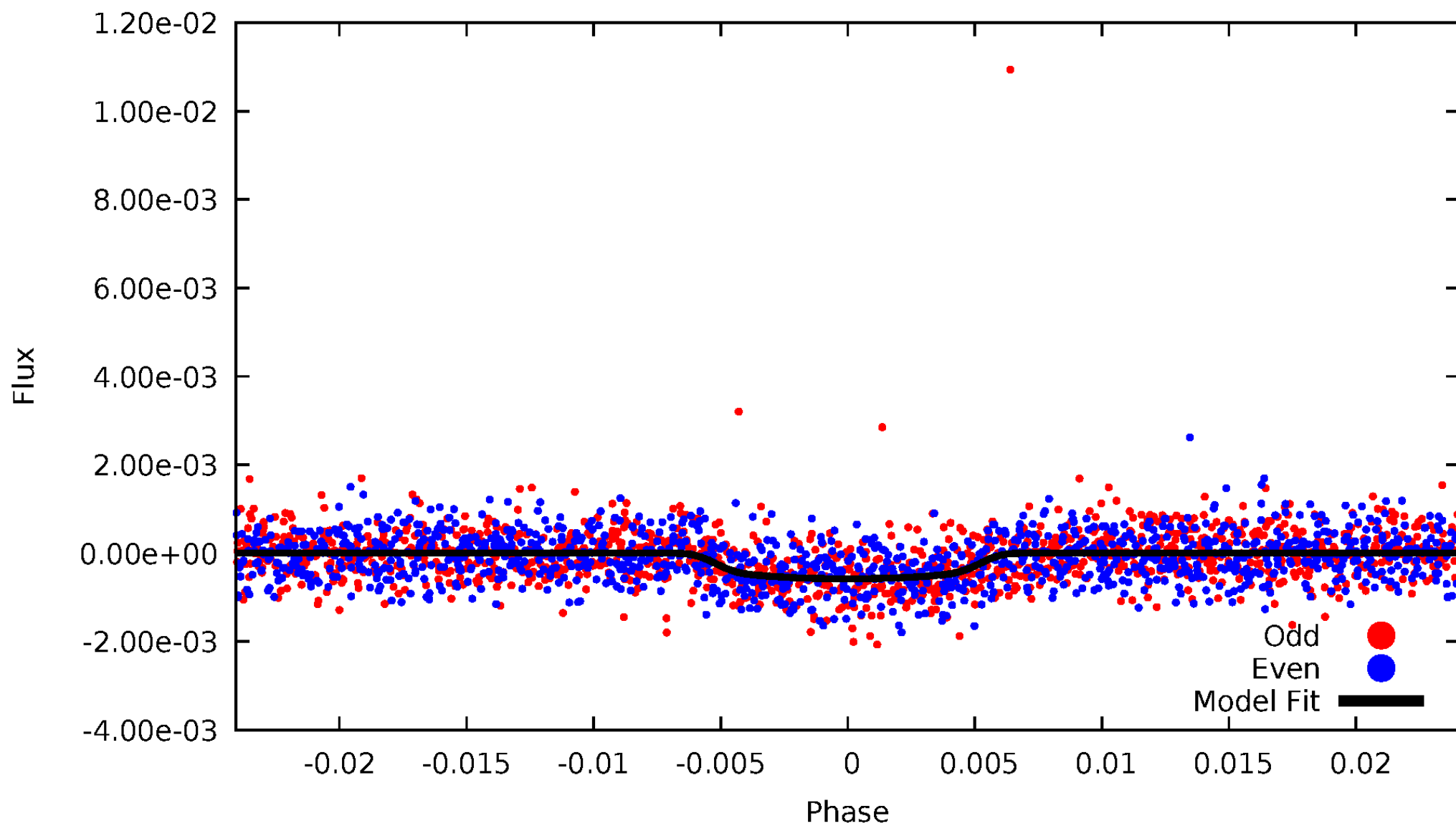


TCE 005542466-01



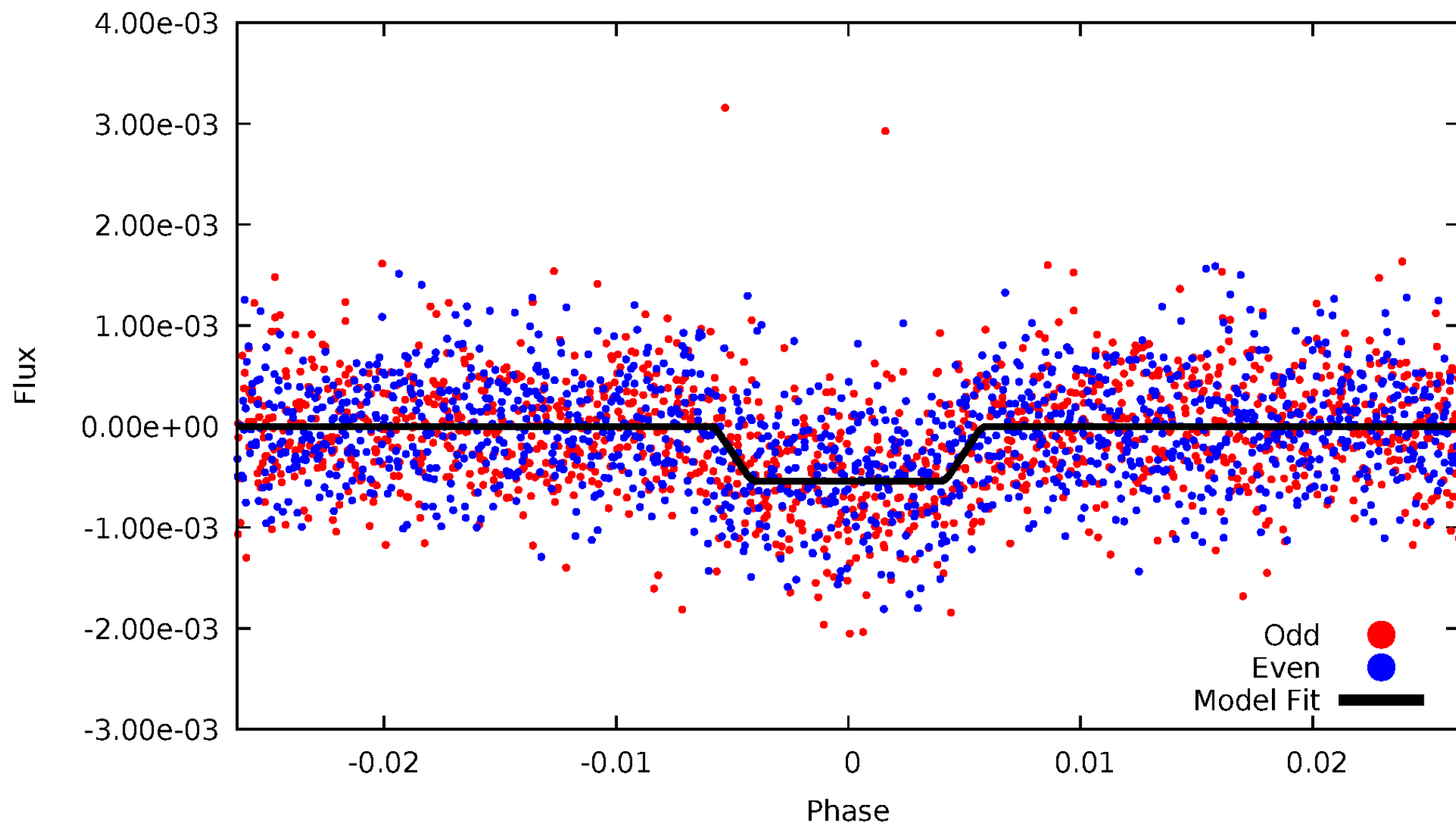
DV Odd/Even

TCE 005542466-01



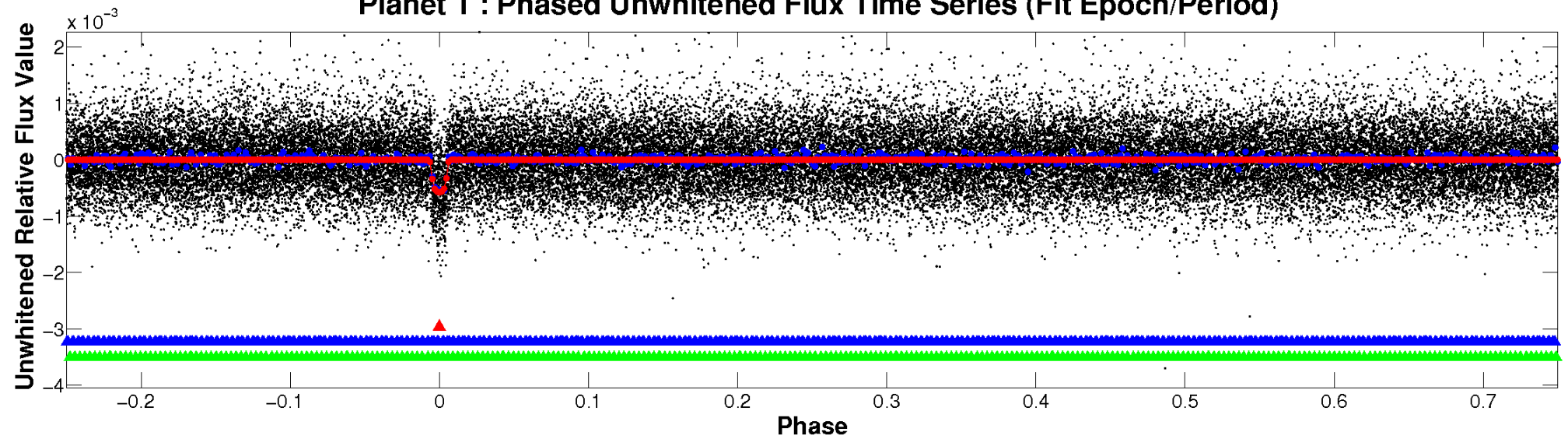
ALT Odd/Even

TCE 005542466-01

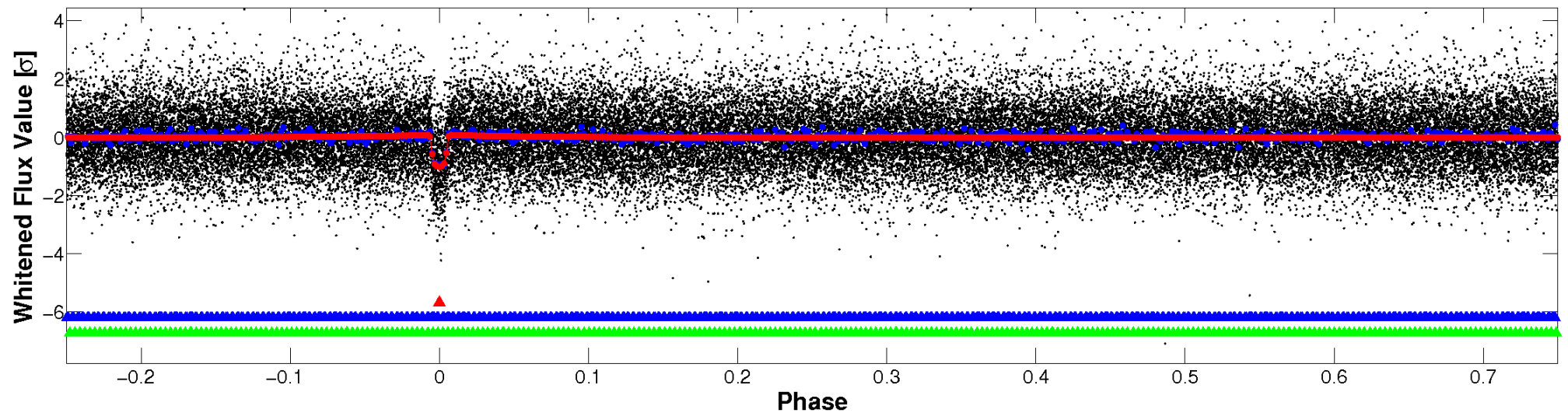


Non-Whitened Vs. Whitened Light Curve

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

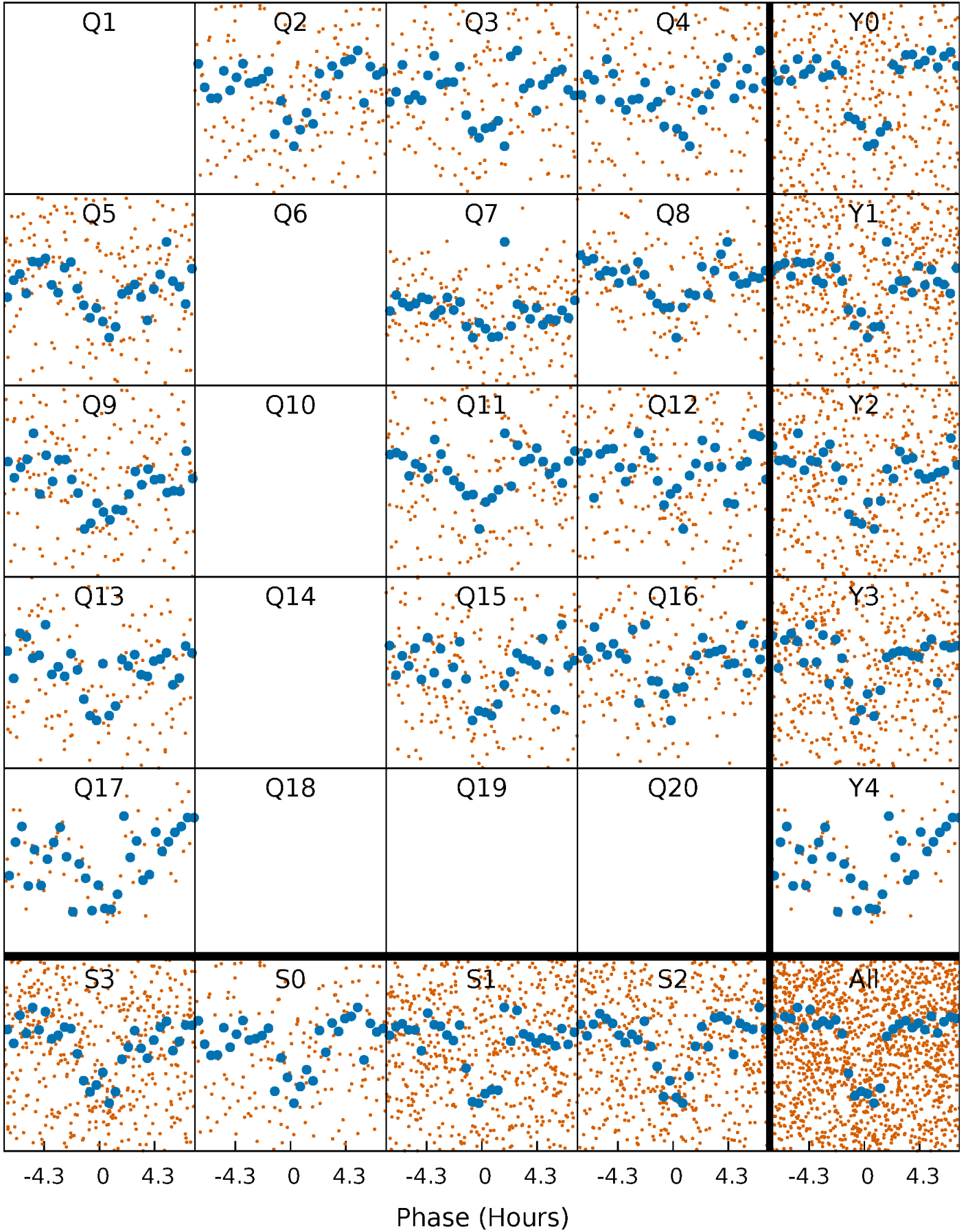


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



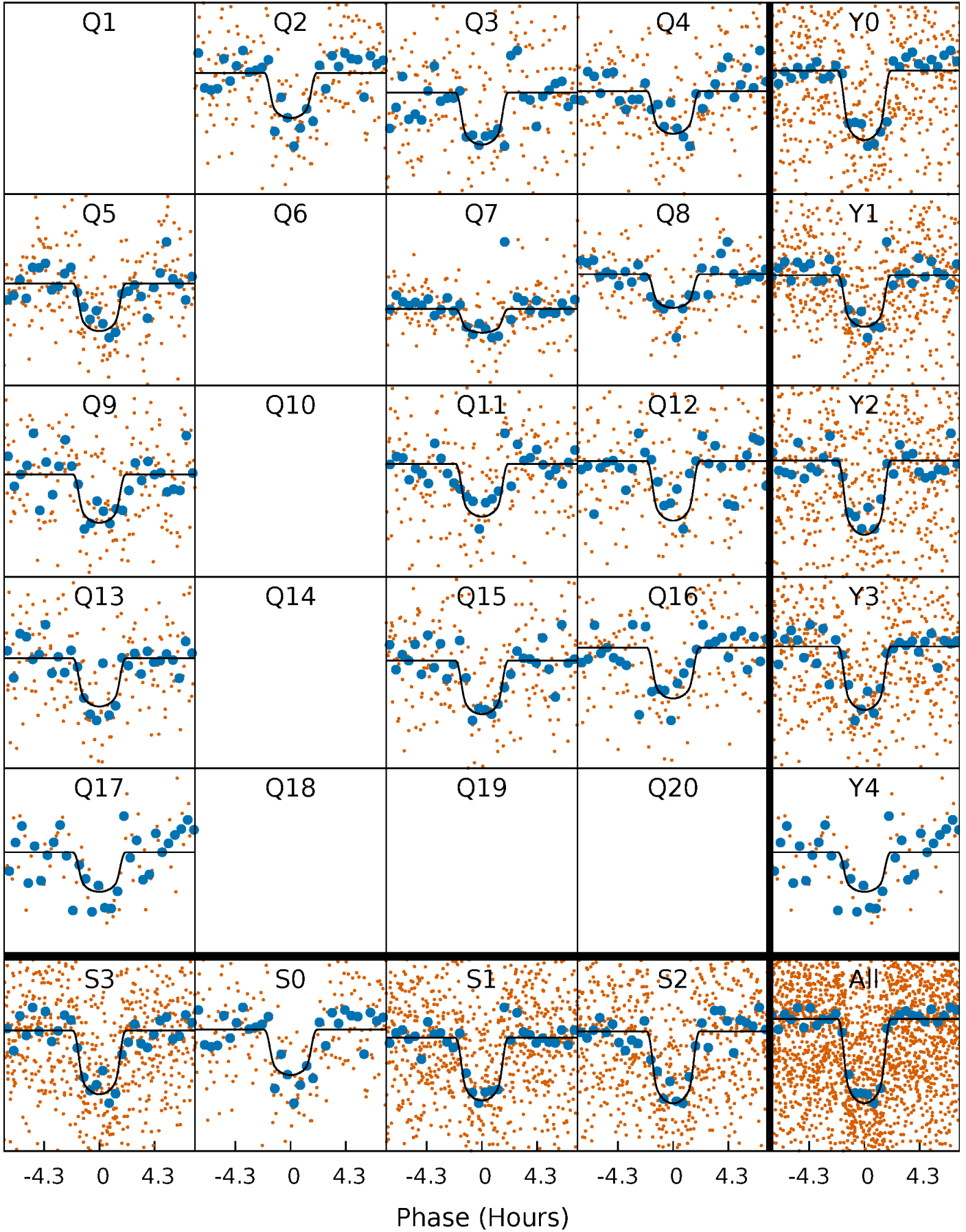
PDC Quarter-Phased Transit Curves

TCE 005542466-01 P= 12.890153 Days $T_0=136.772938$ (BKJD)



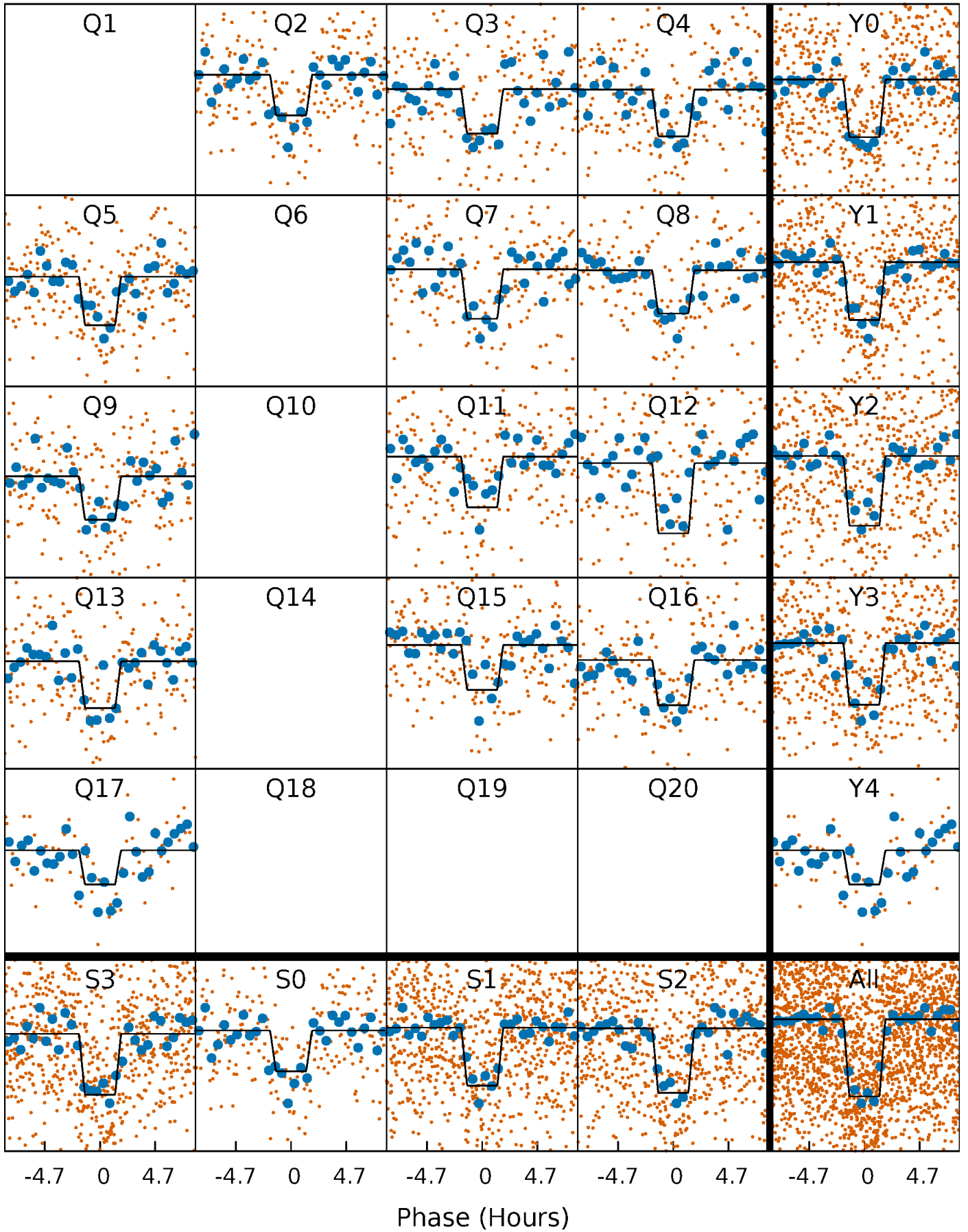
DV Quarter-Phased Transit Curves

TCE 005542466-01 P= 12.890153 Days $T_0=136.772938$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

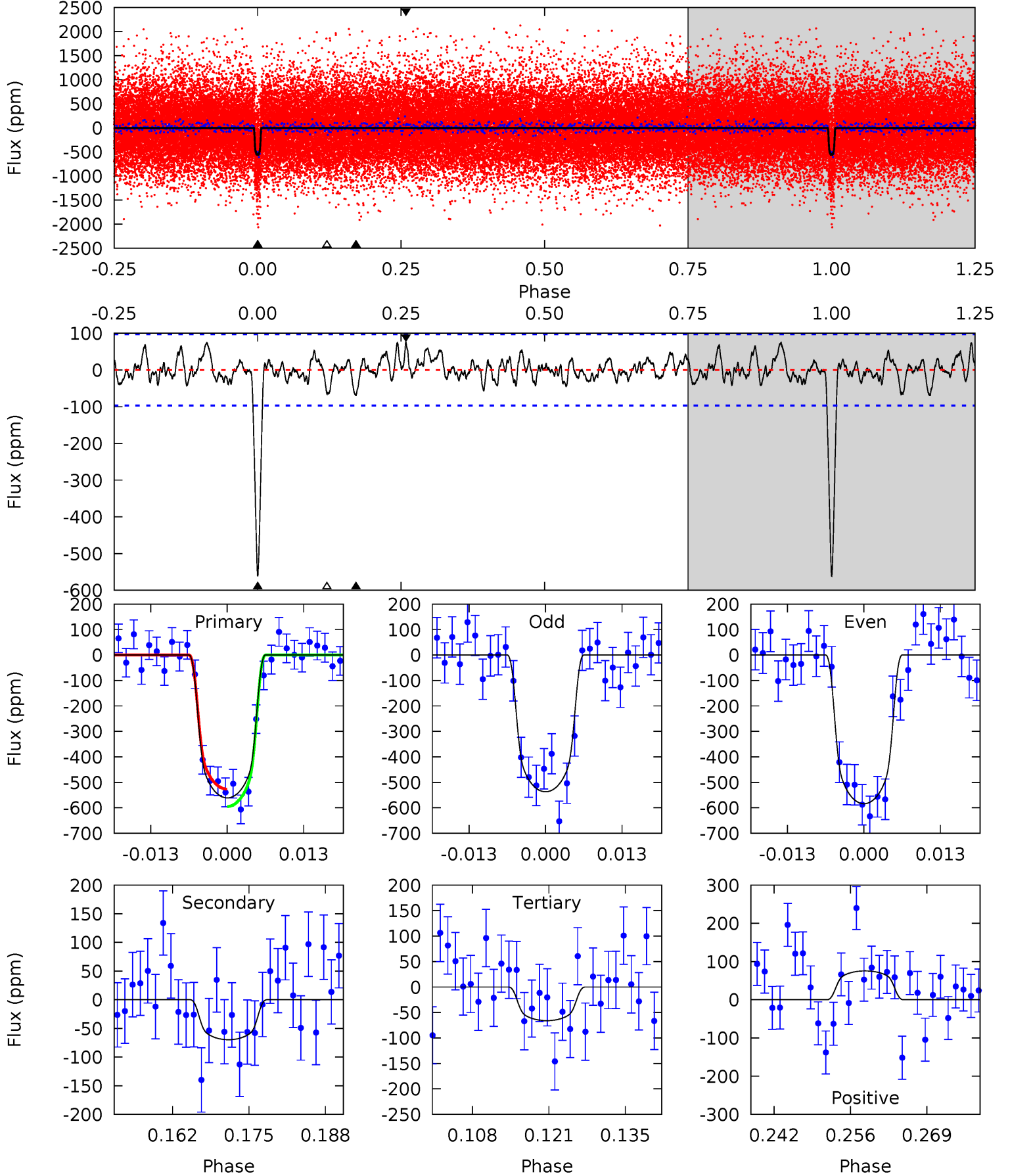
TCE 005542466-01 P= 12.889917 Days $T_0=136.790032$ (BKJD)



DV Model-Shift Uniqueness Test

005542466-01, P = 12.890153 Days, E = 136.772938 Days

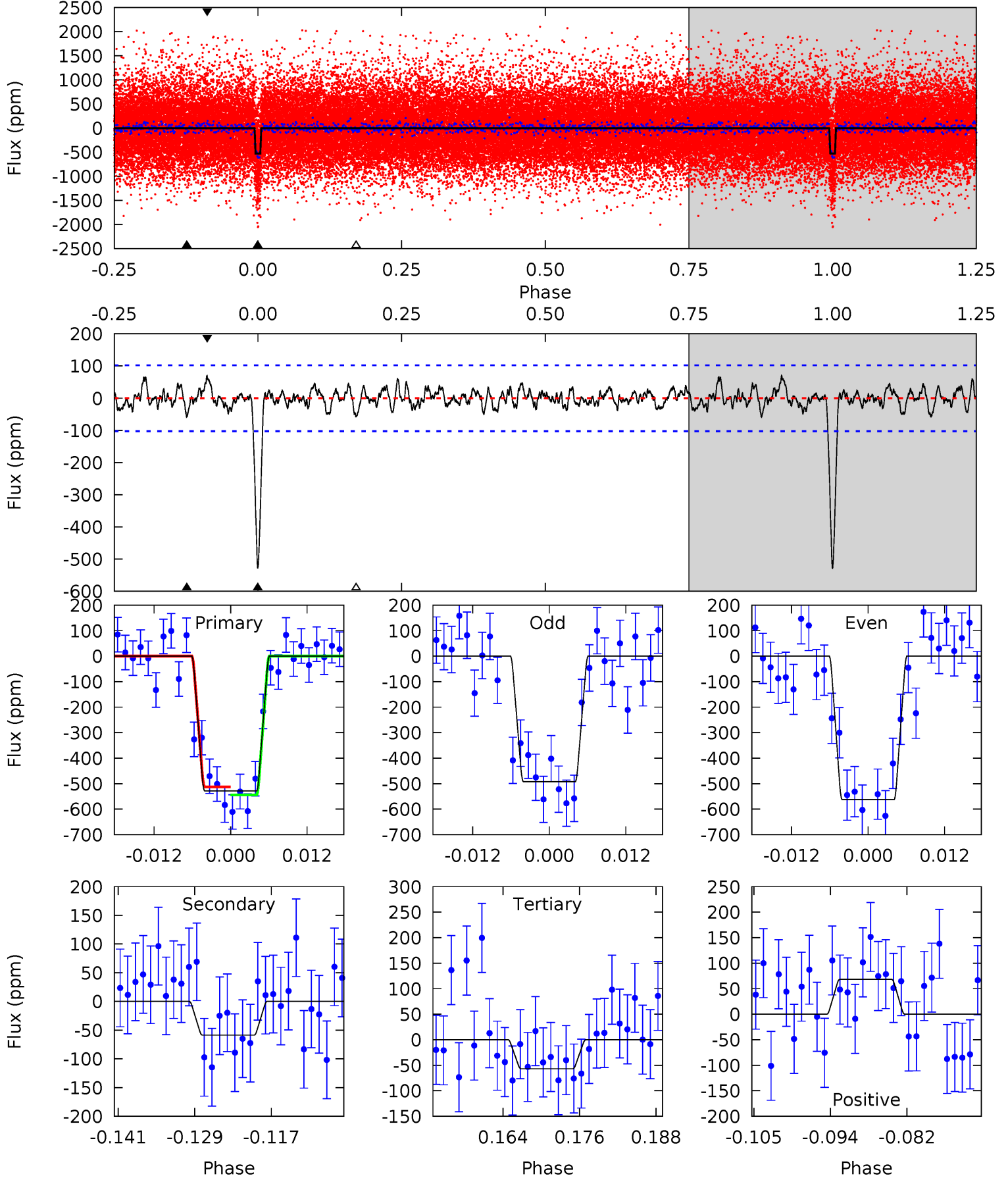
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.8	3.58	3.39	3.88	4.97	2.47	1.28	25.4	24.9	0.19	-0.30	1.21	0.92	0.12	1.75



Alt Model-Shift Uniqueness Test

005542466-01, P = 12.889917 Days, E = 136.790032 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.8	2.86	2.78	3.33	5.00	2.52	1.05	23.0	22.4	0.08	-0.47	1.73	0.94	0.12	0.77



Stellar Parameters For KIC 005542466

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4915^{+78}_{-88}	$4.512^{+0.072}_{-0.022}$	$0.160^{+0.150}_{-0.150}$	$0.812^{+0.027}_{-0.058}$	$0.781^{+0.051}_{-0.025}$	$2.055^{+0.521}_{-0.171}$
	+2%/-2%	+2%/-0%	+94%/-94%	+3%/-7%	+7%/-3%	+25%/-8%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005542466-01 / KOI 1590.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-70 ± 19	$2.35^{+0.39}_{-0.43}$	861^{+19}_{-23}	3256^{+249}_{-200}	70^{+41}_{-25}
Alt.	-59 ± 20	$2.06^{+0.41}_{-0.41}$	862^{+19}_{-23}	3296^{+272}_{-278}	76^{+49}_{-34}

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

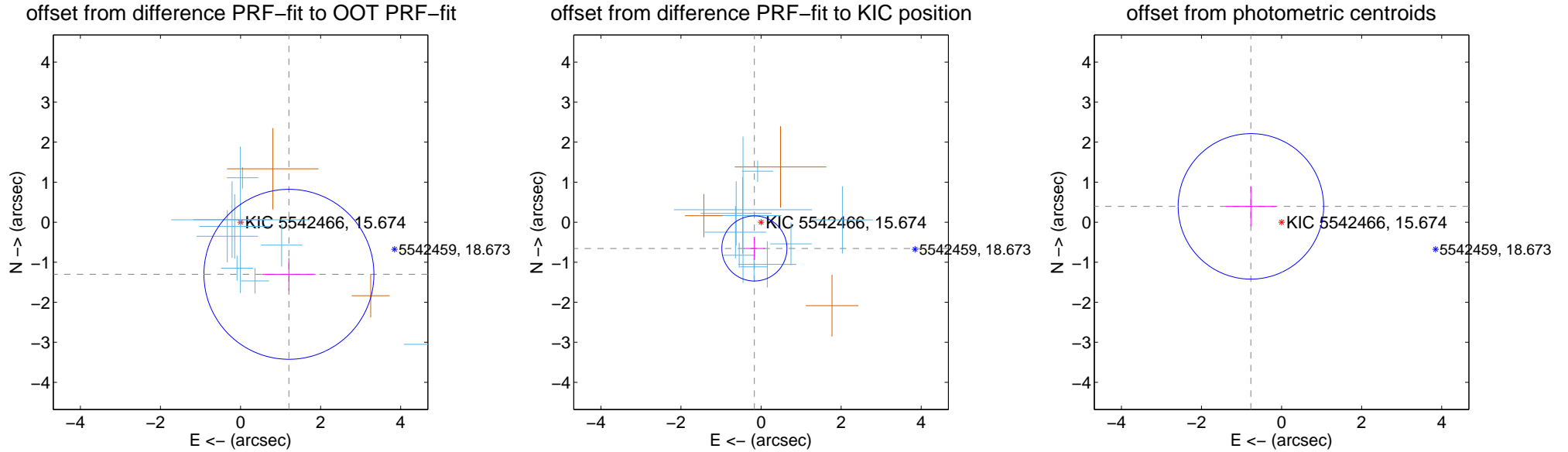
DV Centroid Data

Supplemental centroid analysis for 005542466-01. Kepler magnitude: 15.67. Transit SNR 20.16

There are 10 quarters with good PRF difference image offsets

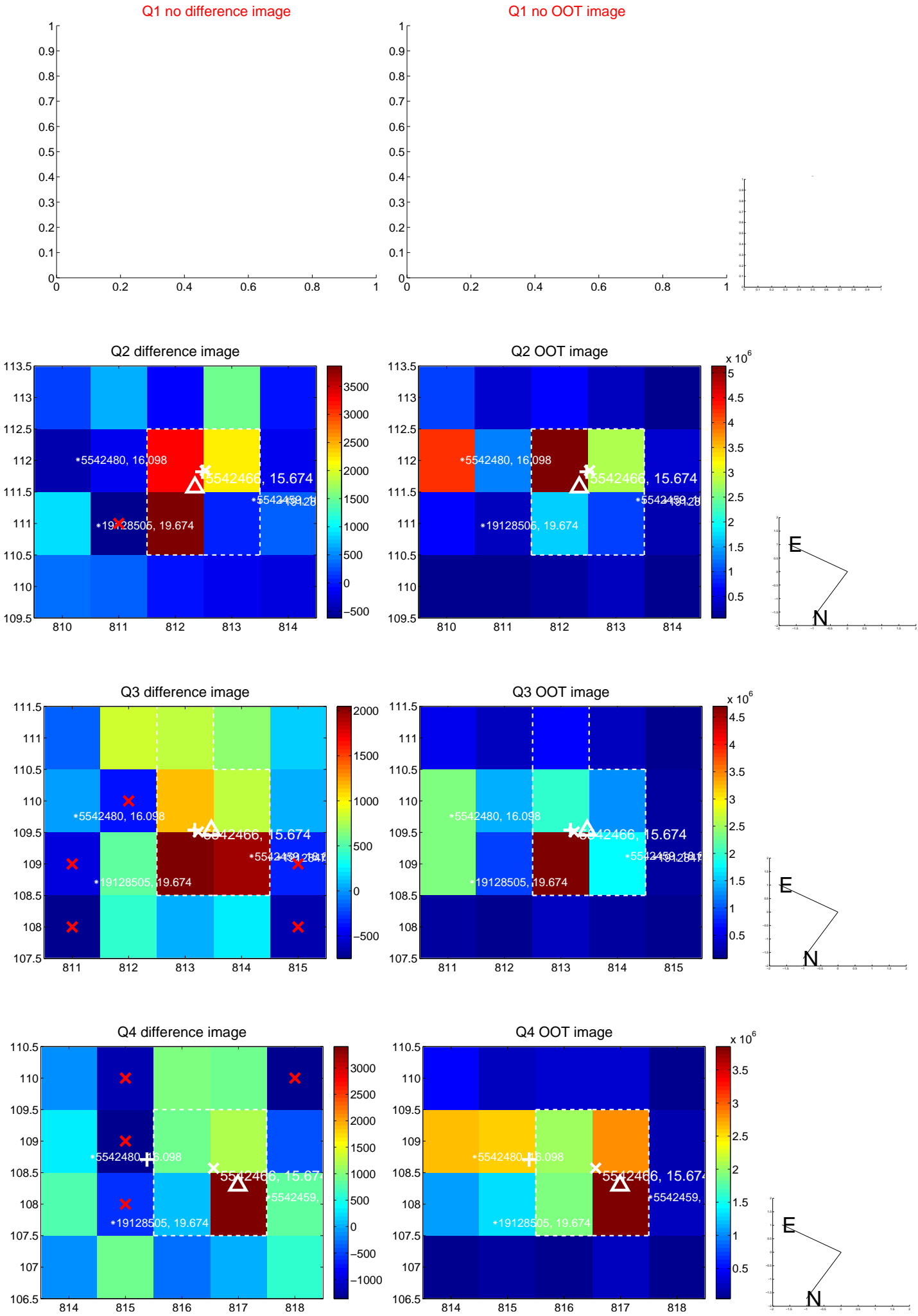
The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.776 ± 0.708	2.51	-1.209 ± 0.664	-1.301 ± 0.407
PRF-fit source offset from KIC position	0.676 ± 0.271	2.49	0.167 ± 0.265	-0.656 ± 0.291
photometric centroid source offset	0.86 ± 0.61	1.42	0.77 ± 0.63	0.40 ± 0.49

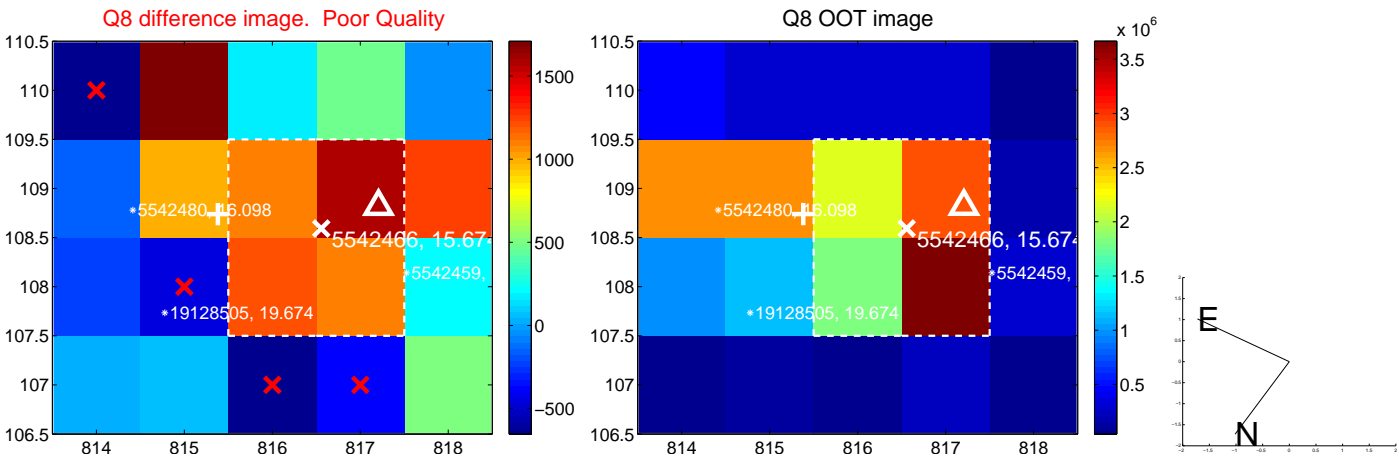
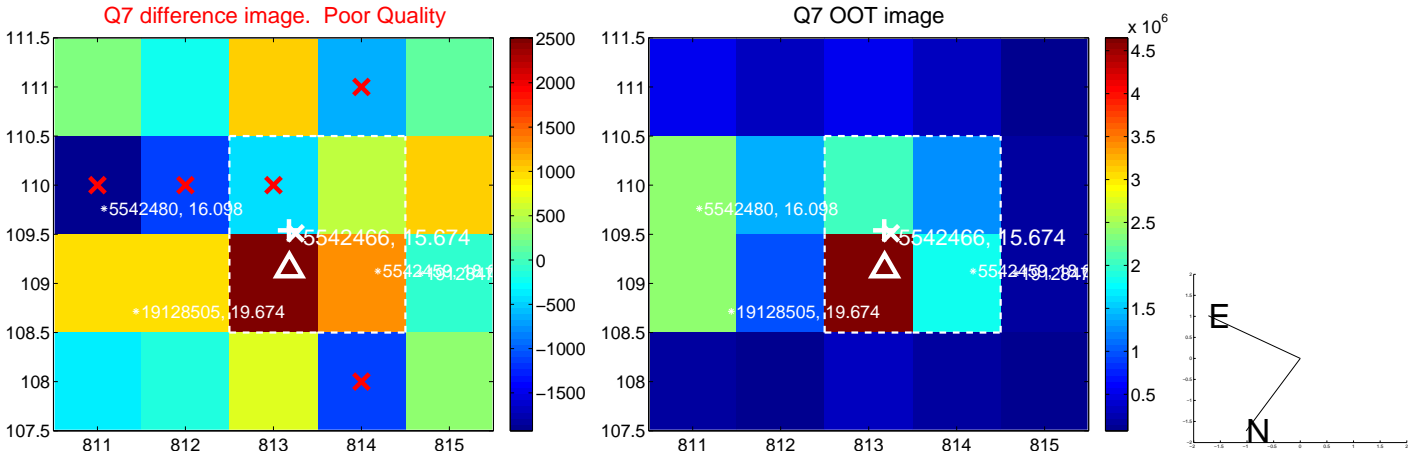
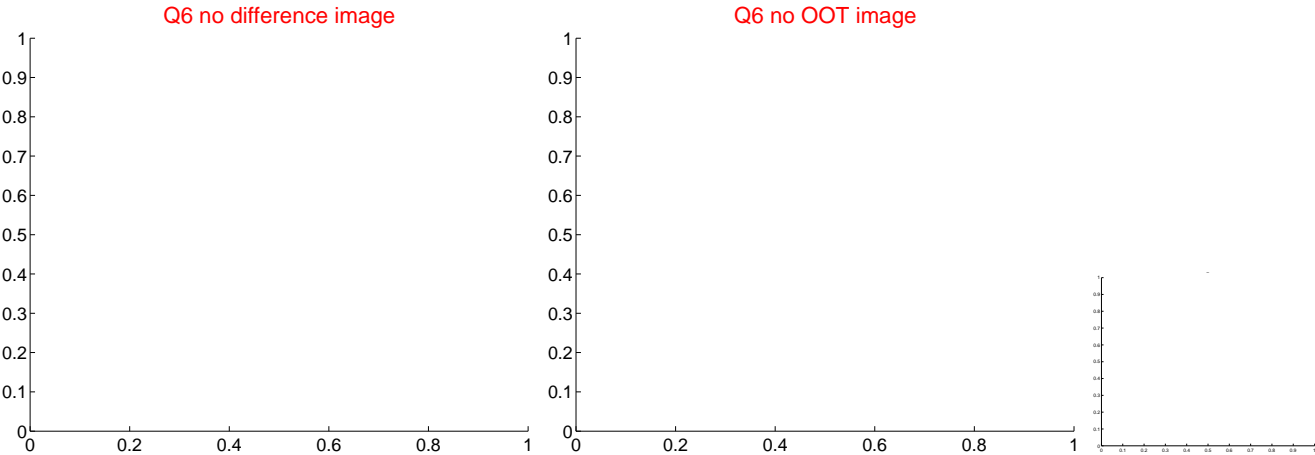
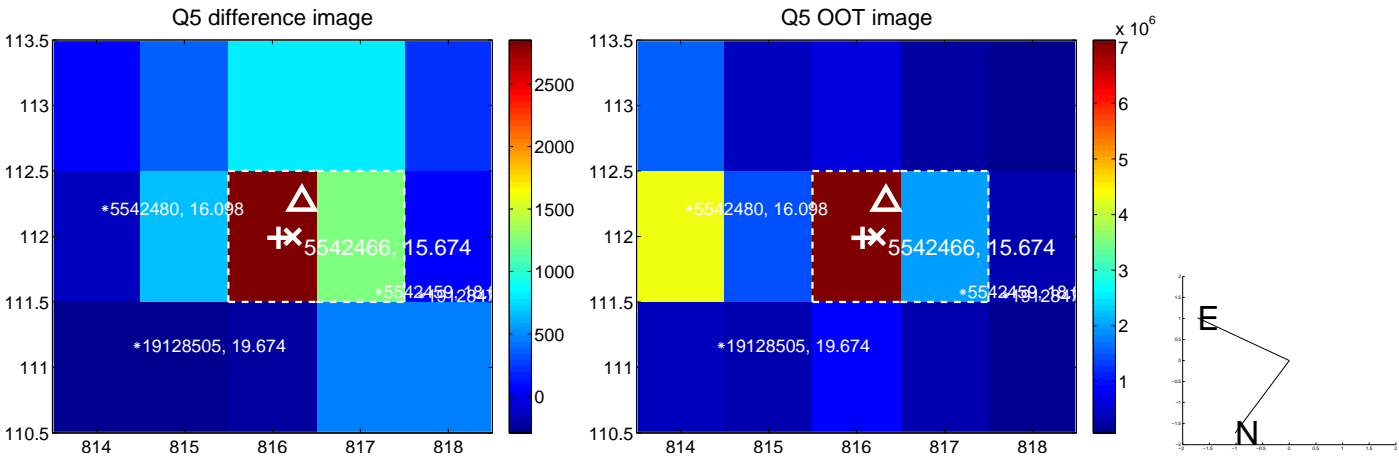


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

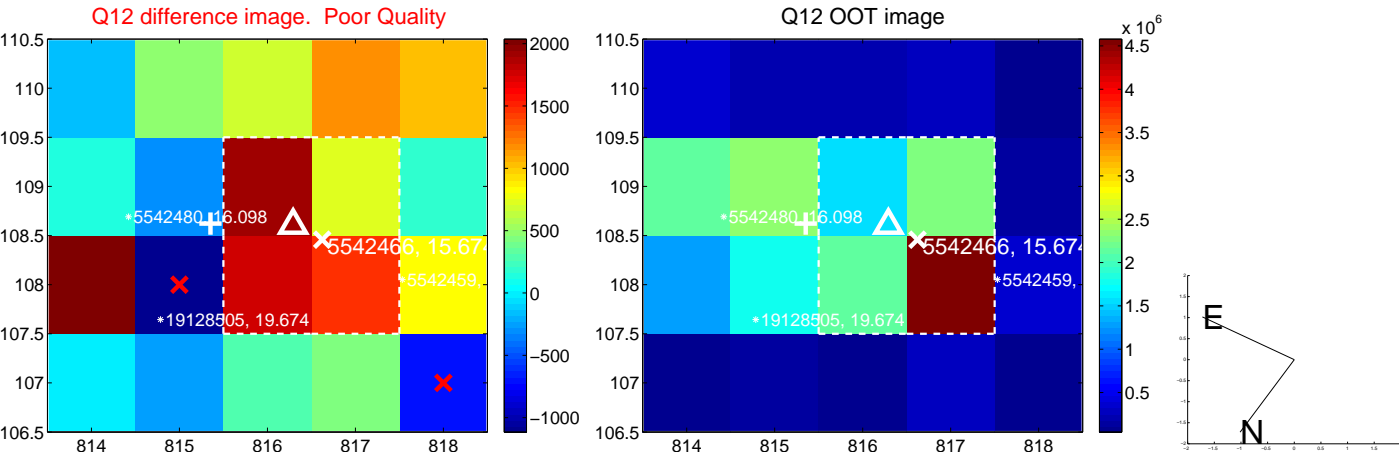
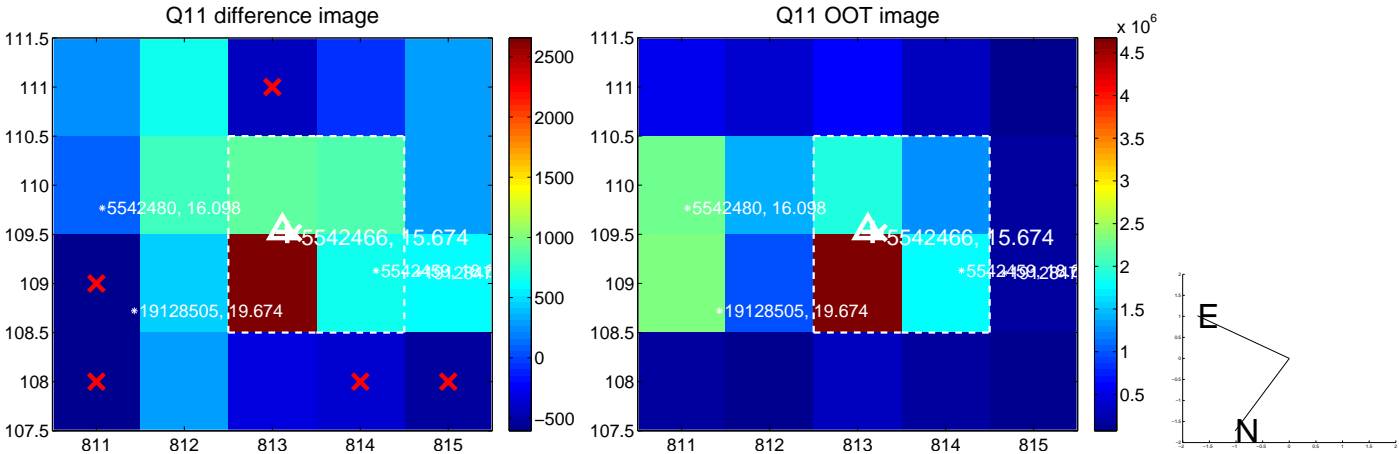
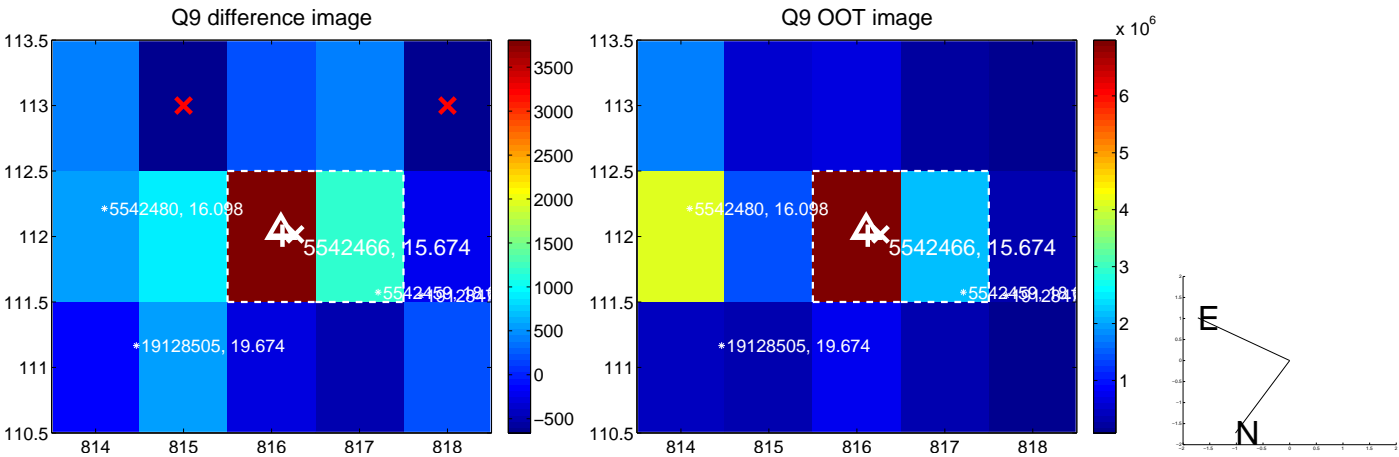
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



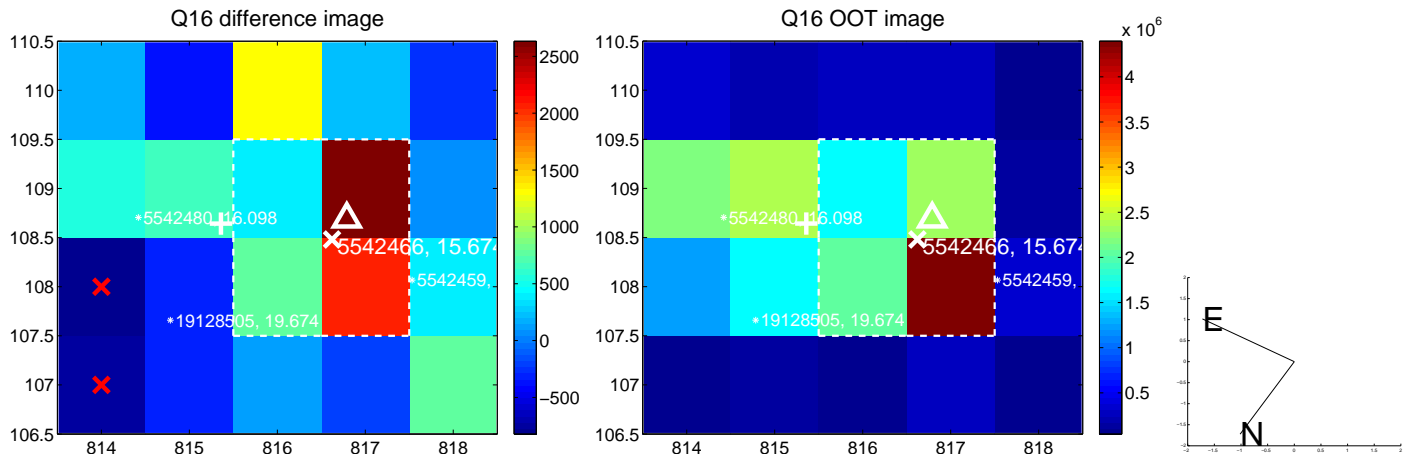
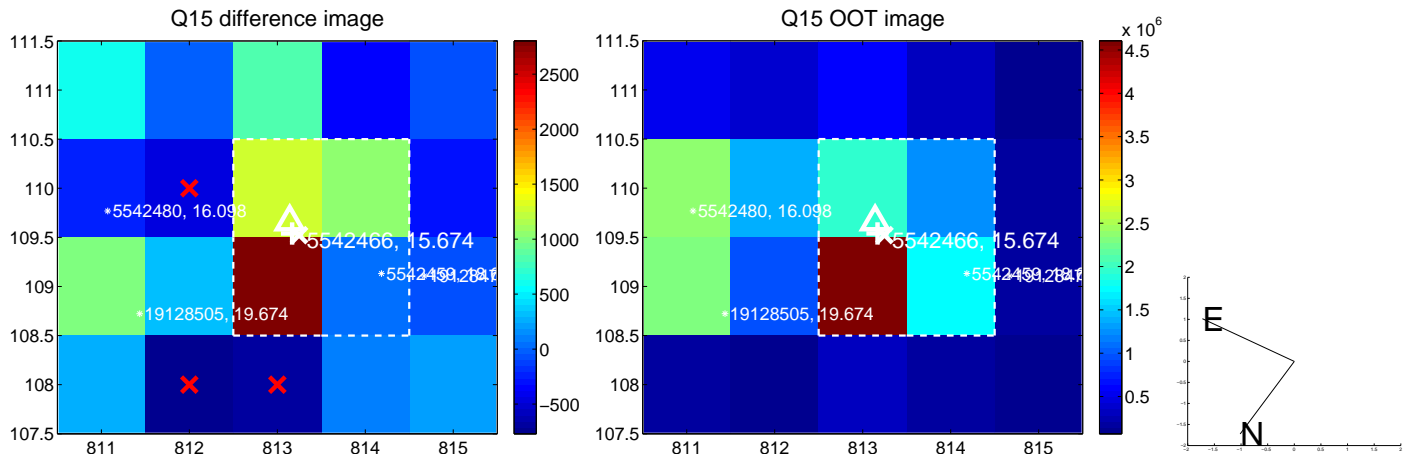
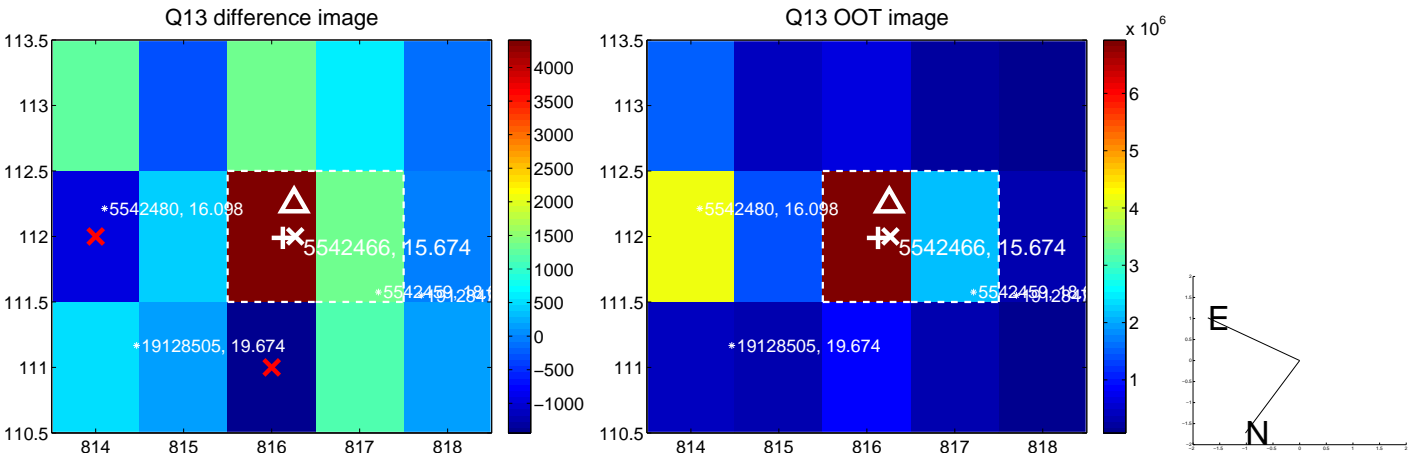
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



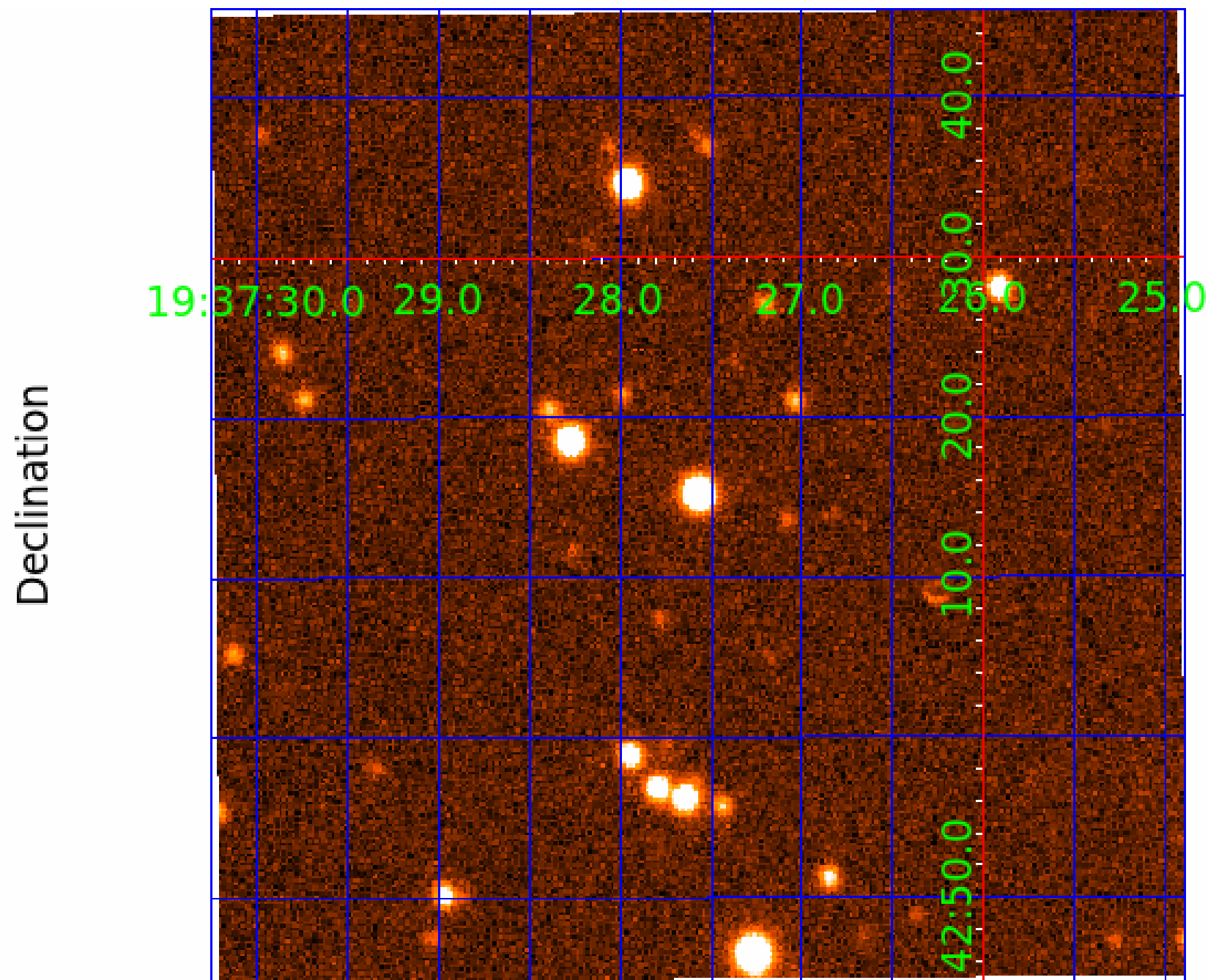
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005542466

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})
005542466-01	OBS	1590.01	12.890153	136.772938	576.5	3.723	18.7	20.2	0.81	4915	2.36	35.08
005542466-02	OBS	1590.02	2.355751	133.127193	255.2	1.848	13.4	15.4	0.81	4915	1.58	338.21
005542466-03	OBS	1590.03	4.746738	134.620288	281.2	2.006	9.6	11.9	0.81	4915	1.63	132.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005542466-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
005542466-02	OBS	PC	0.90	0	0	0	0	NO_COMMENT
005542466-03	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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.

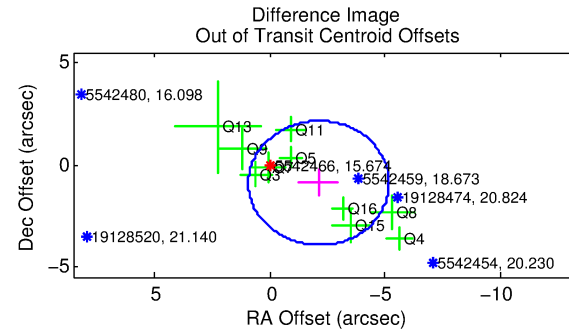
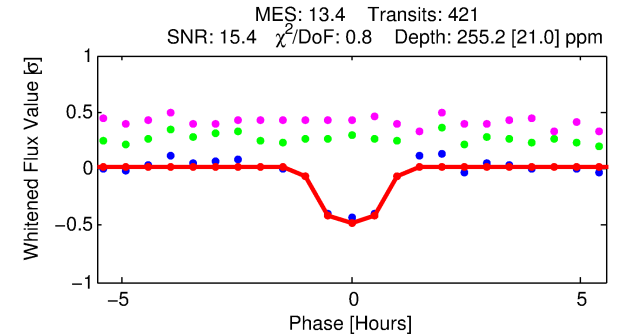
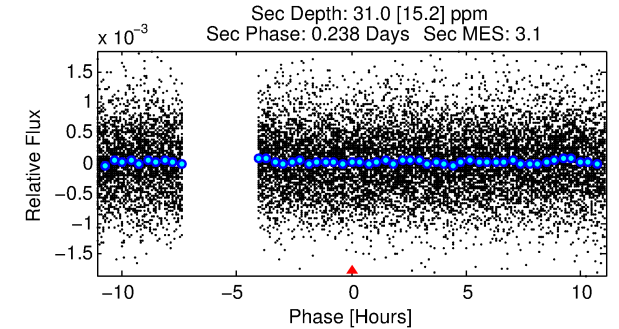
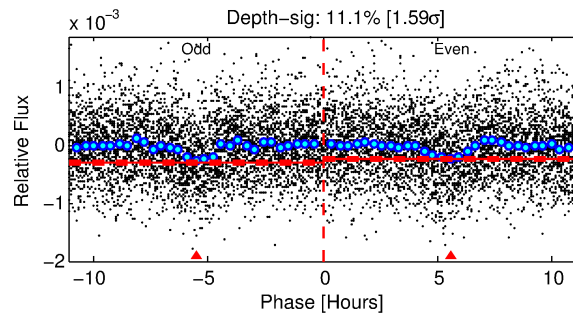
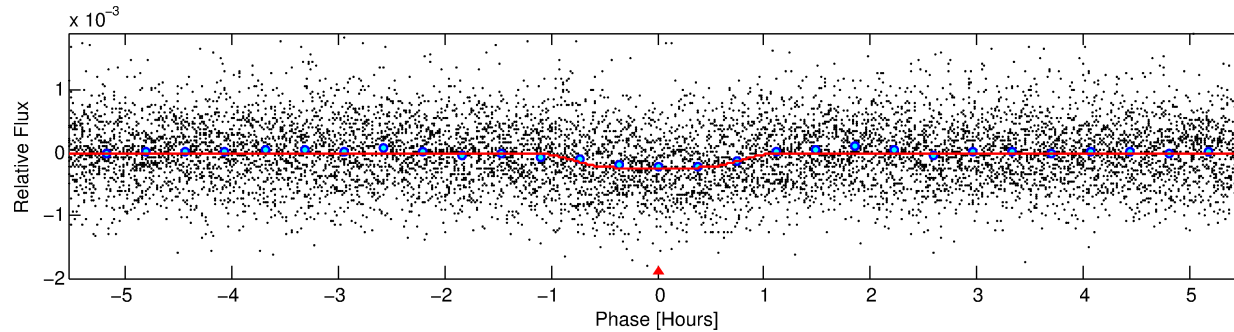
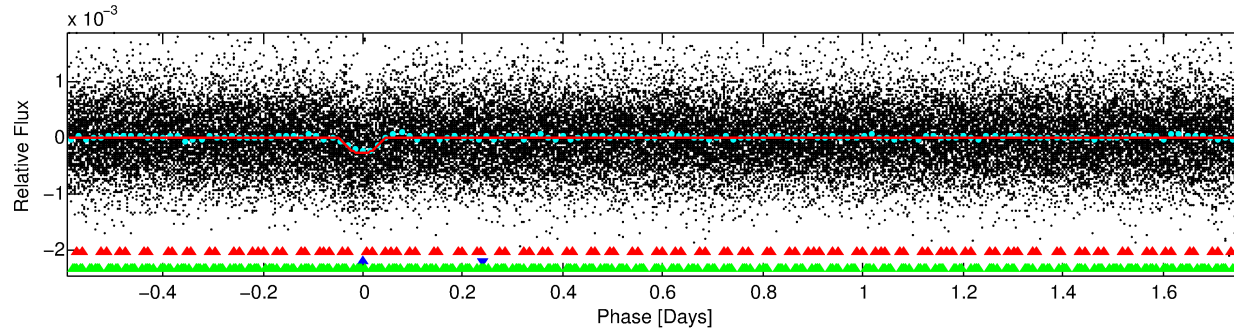
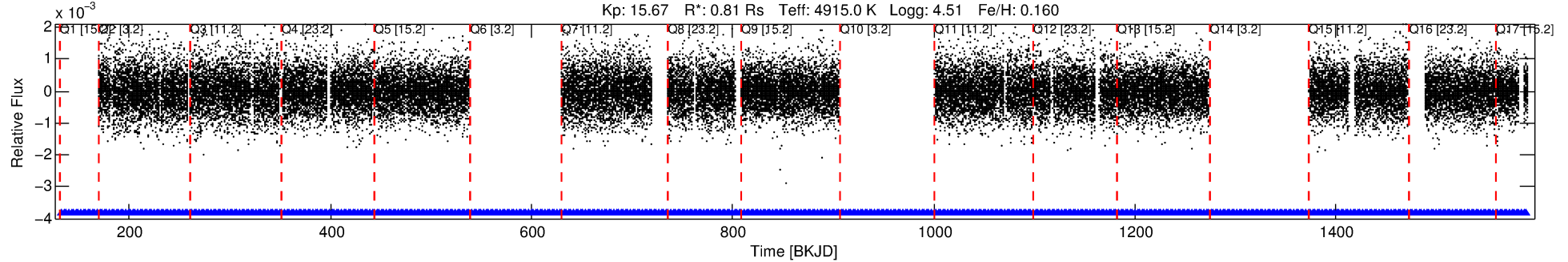
Ephemeris Match Information For 005542466-02

No Significant Match Found

DV One-Page Summary

KIC: 5542466 Candidate: 2 of 3 Period: 2.356 d
KOI: K01590.02 Corr: 0.969

Kp: 15.67 R*: 0.81 Rs Teff: 4915.0 K Logg: 4.51 Fe/H: 0.160



DV Fit Results:

Period = 2.35575 [0.00001] d
Epoch = 133.1272 [0.0020] BKJD
Rp/R* = 0.0179 [0.0117]
a/R* = 4.79 [11.53]
b = 0.90 [0.57]
Seff = 338.21 [47.36]
Teq = 1094 [38] K
Rp = 1.58 [1.04] Re
a = 0.0319 [0.0023] AU
Ag = 6.92 [9.71] [0.61σ]
Teffp = 2742 [959] K [1.72σ]

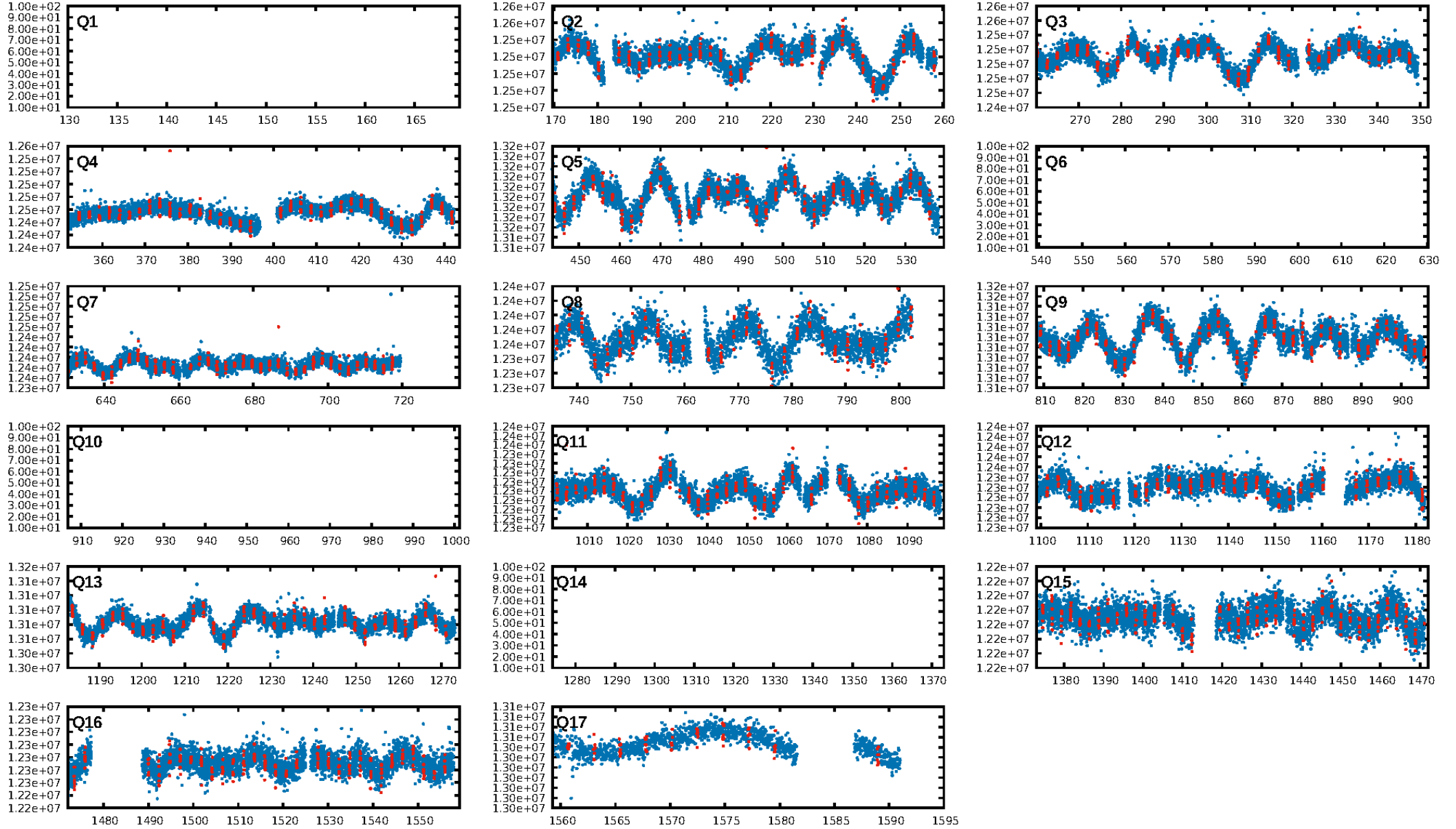
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [21.04σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.29e-41
RollingBand-fgt: 1.00 [412/412]
GhostDiagnostic-chr: 4.839
Centroid-sig: 41.9%
Centroid-so: 0.444 arcsec [0.52σ]
OotOffset-rm: 2.303 arcsec [2.27σ]
OotOffset-st: 0/4/3/3 [10]
KicOffset-rm: 0.131 arcsec [0.19σ]
KicOffset-st: 0/4/3/3 [10]
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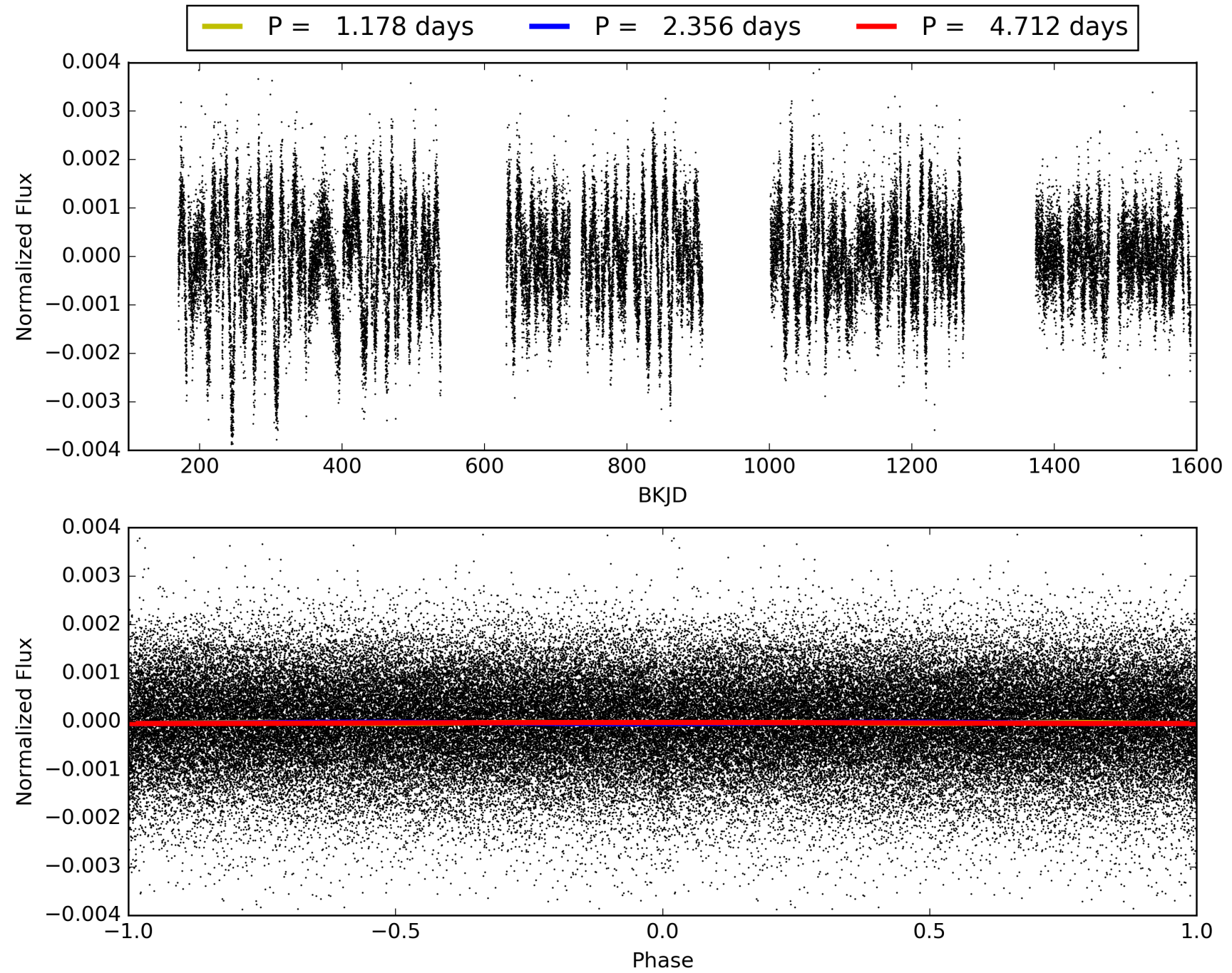
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:59:55 Z

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

TCE 005542466-02, PDC Light Curves

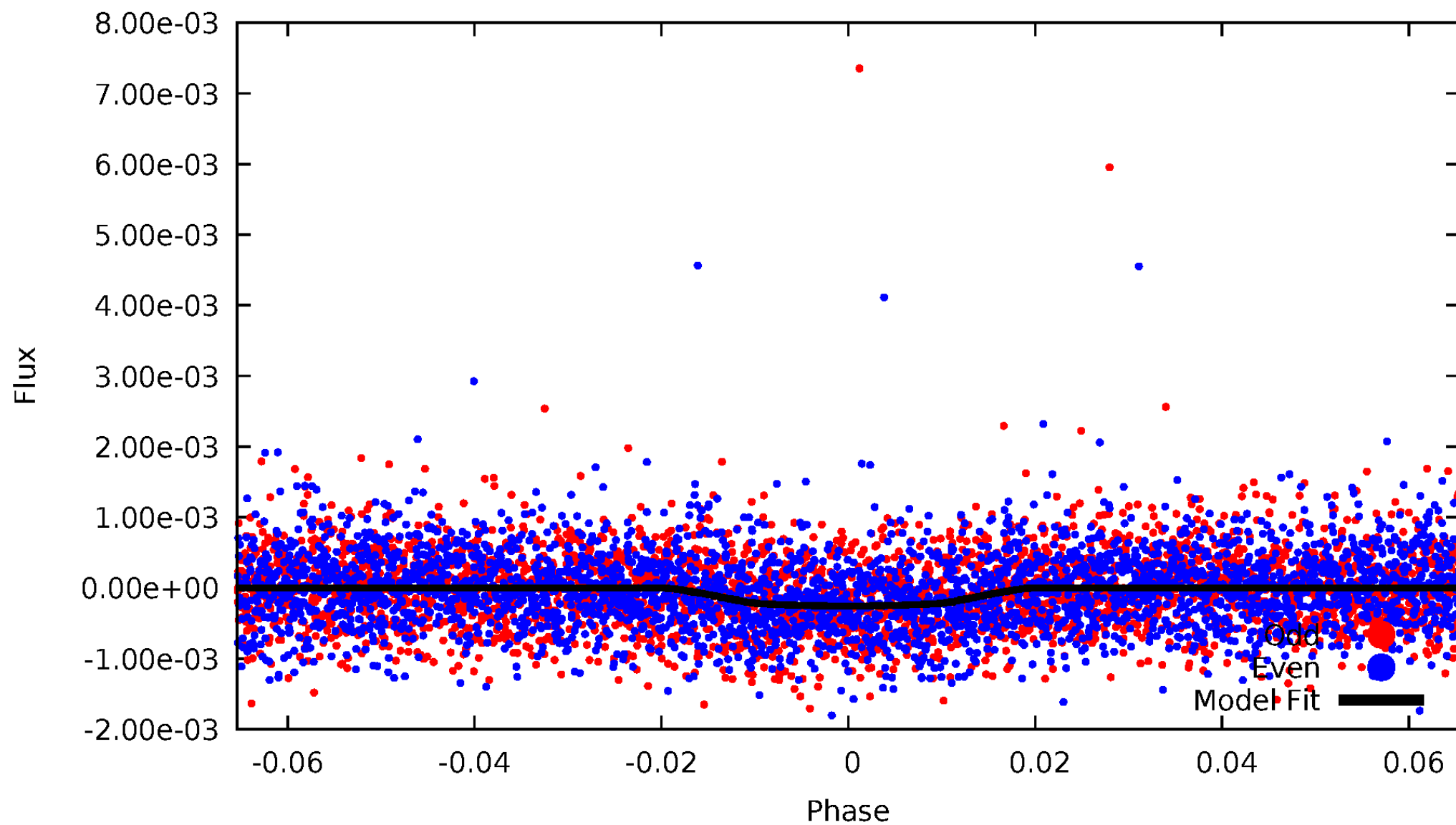


TCE 005542466-02



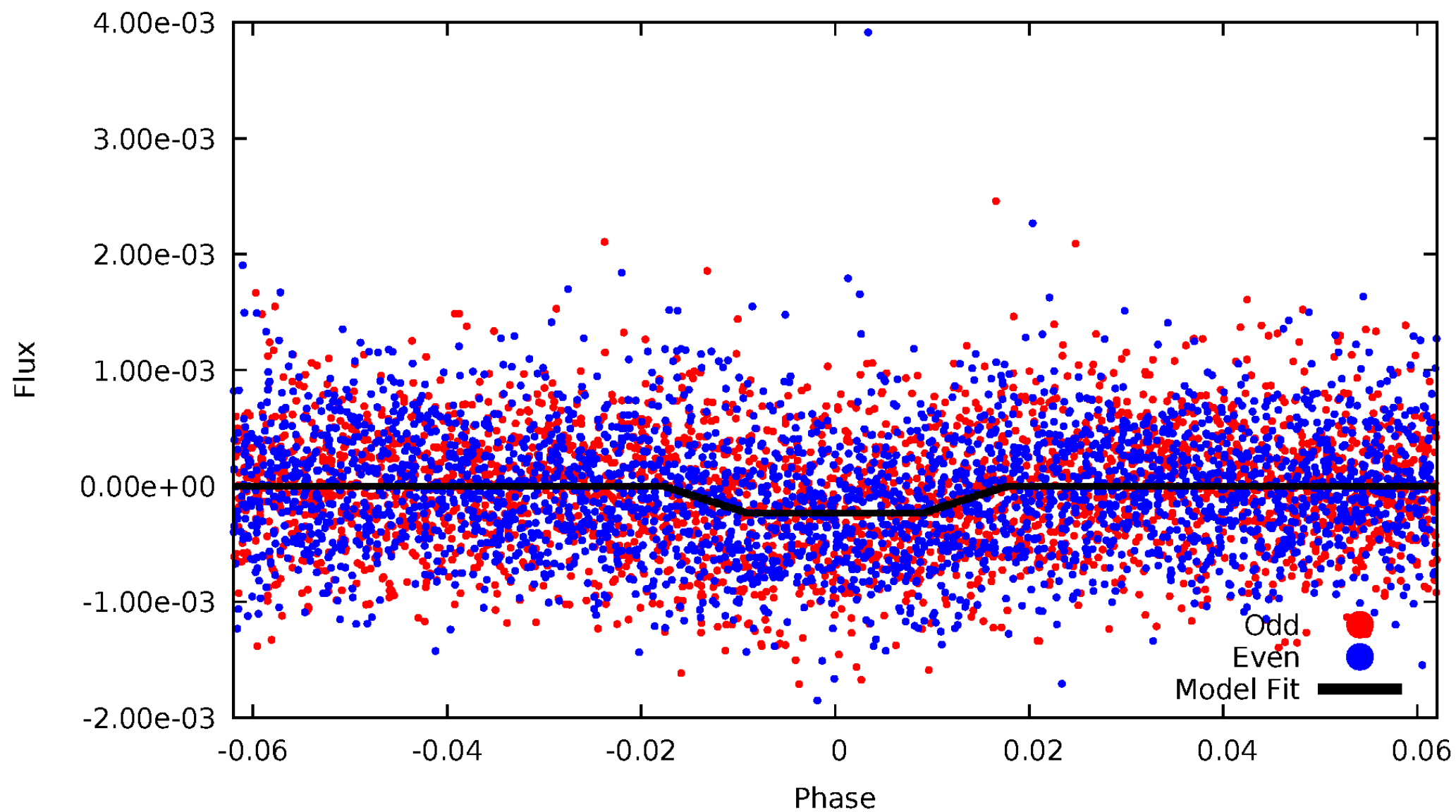
DV Odd/Even

TCE 005542466-02



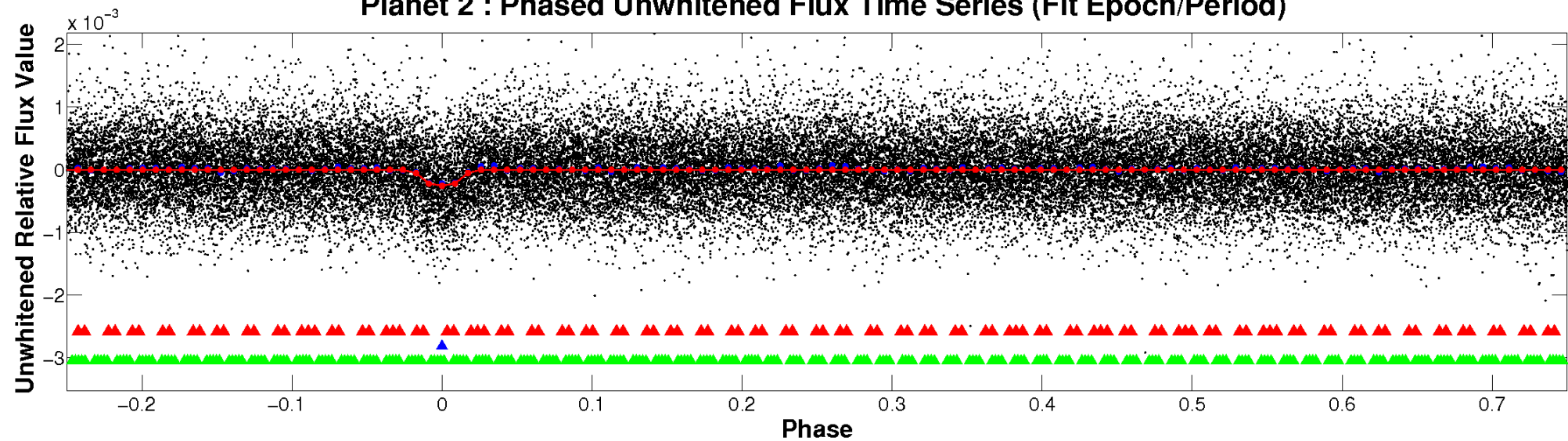
ALT Odd/Even

TCE 005542466-02

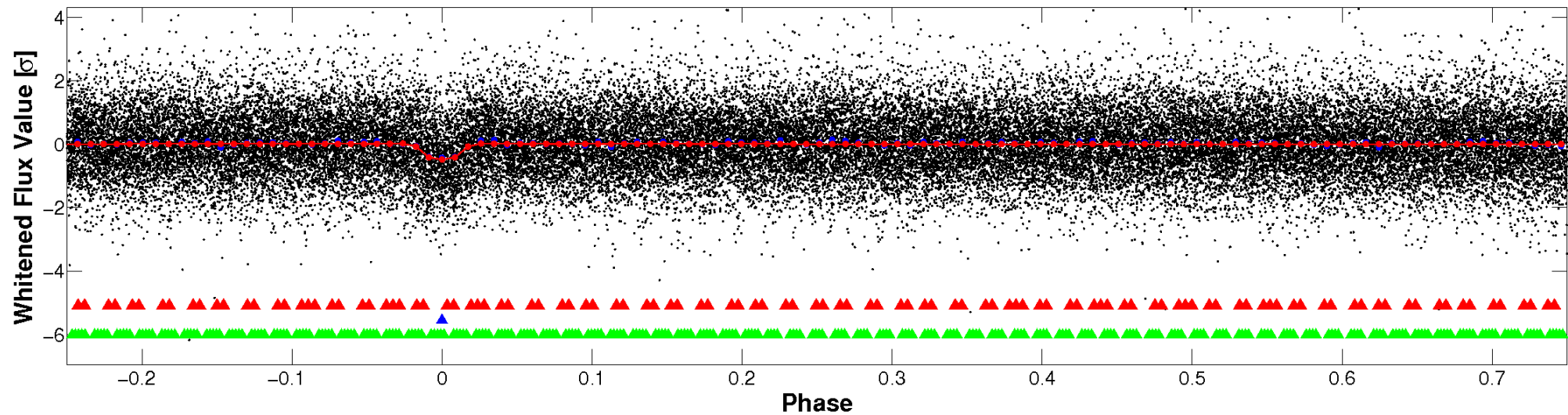


Non-Whitened Vs. Whitened Light Curve

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

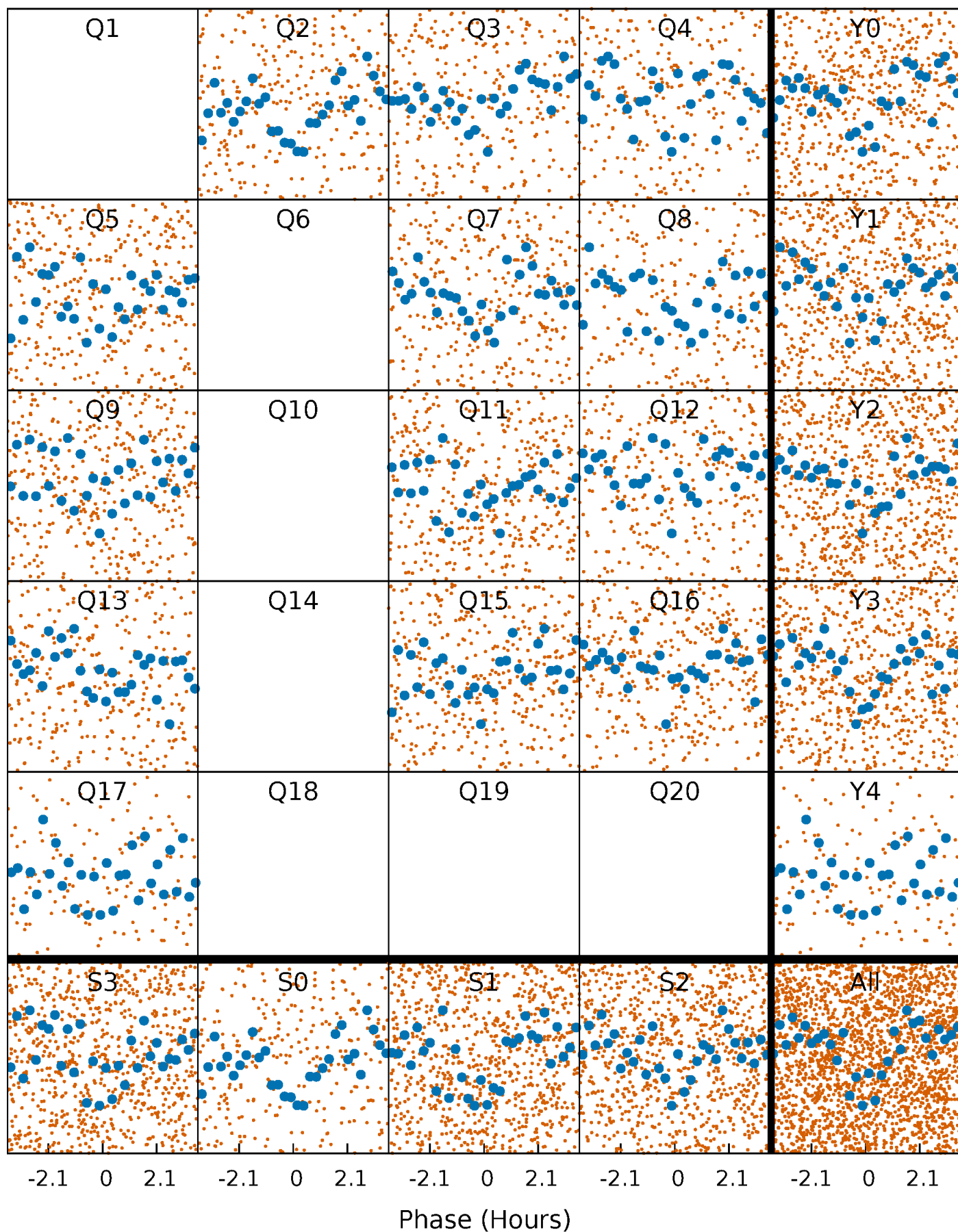


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



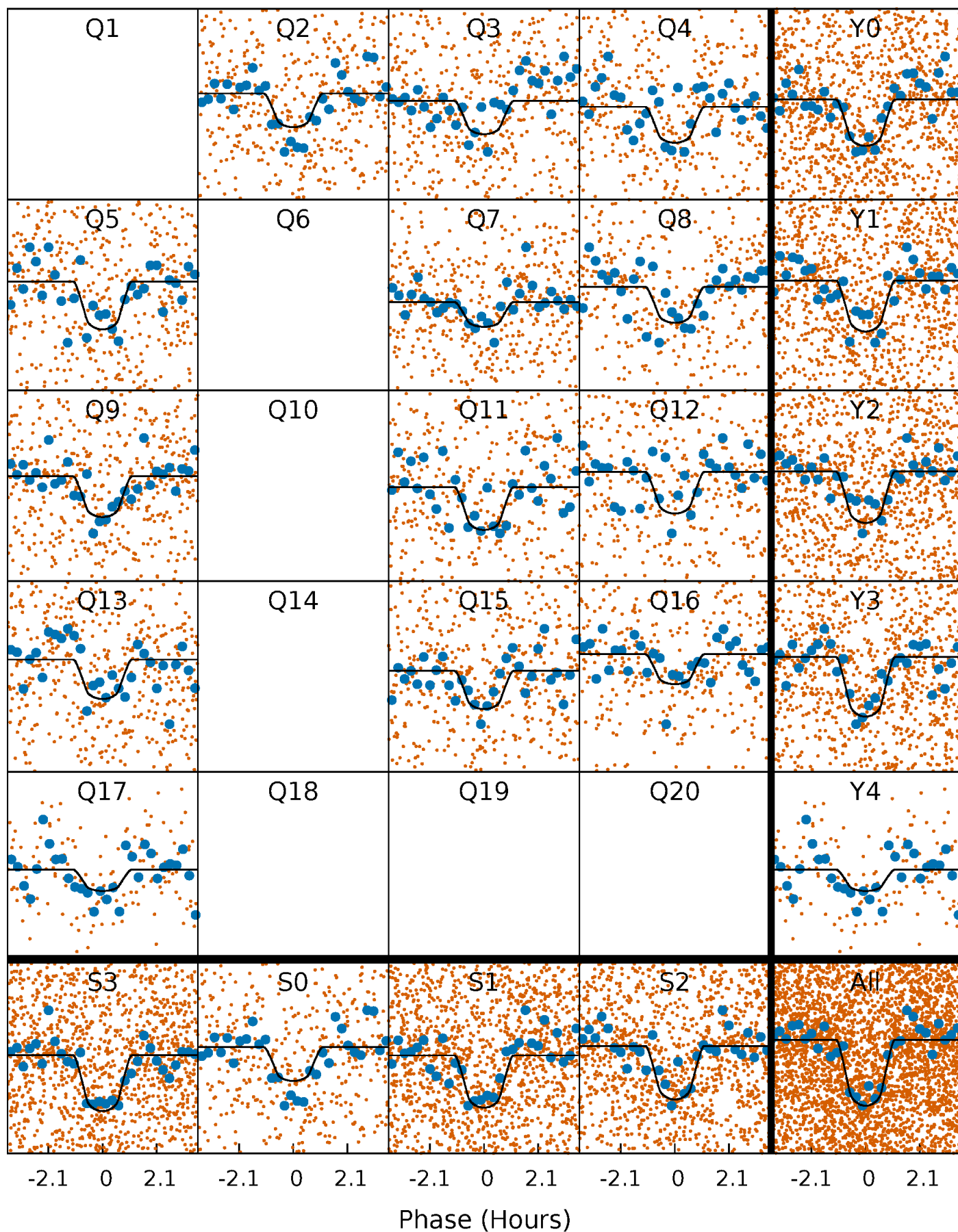
PDC Quarter-Phased Transit Curves

TCE 005542466-02 P= 2.355751 Days $T_0=133.127193$ (BKJD)



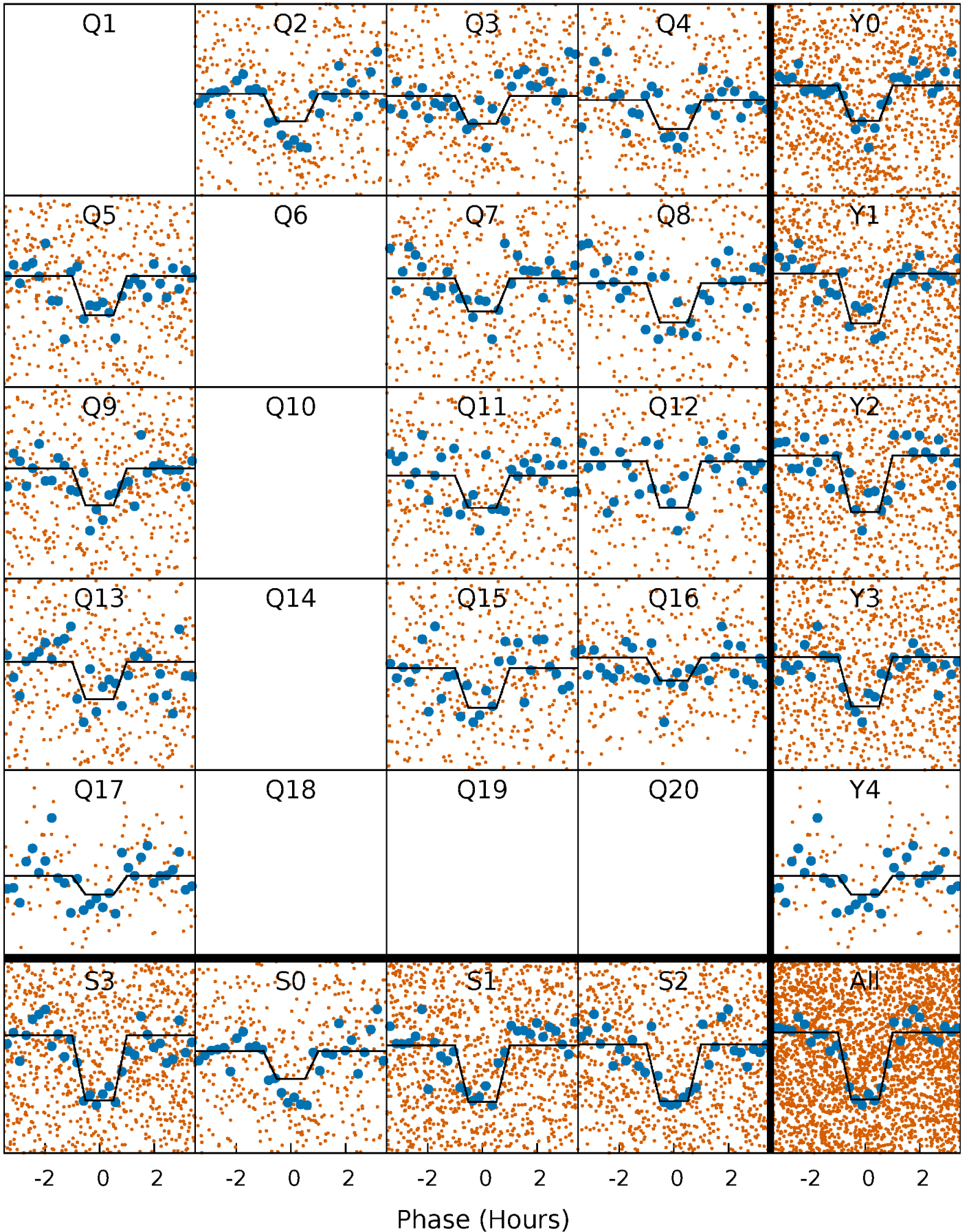
DV Quarter-Phased Transit Curves

TCE 005542466-02 P= 2.355751 Days $T_0=133.127193$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

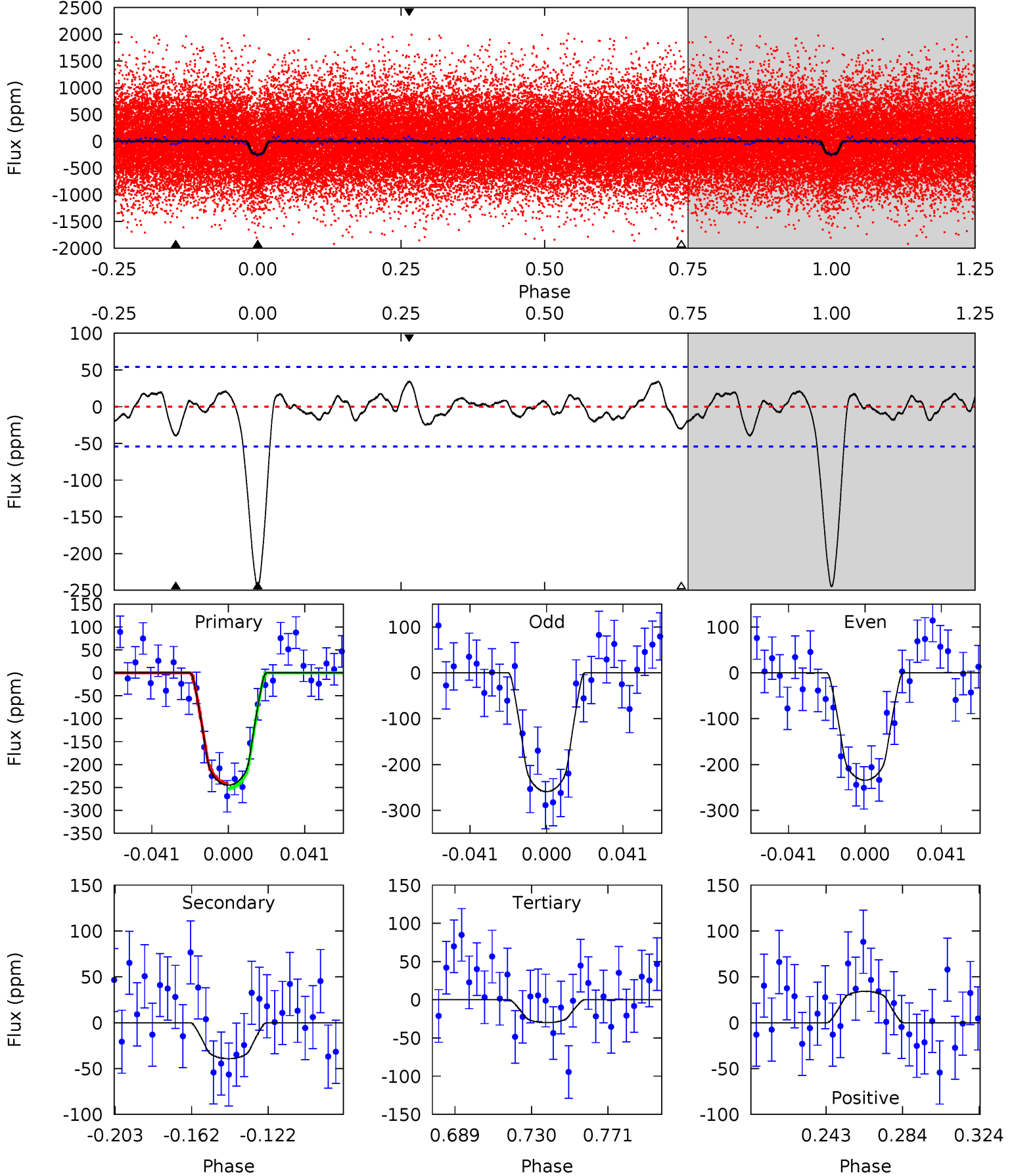
TCE 005542466-02 P= 2.355757 Days $T_0=133.126063$ (BKJD)



DV Model-Shift Uniqueness Test

005542466-02, P = 2.355751 Days, E = 133.127193 Days

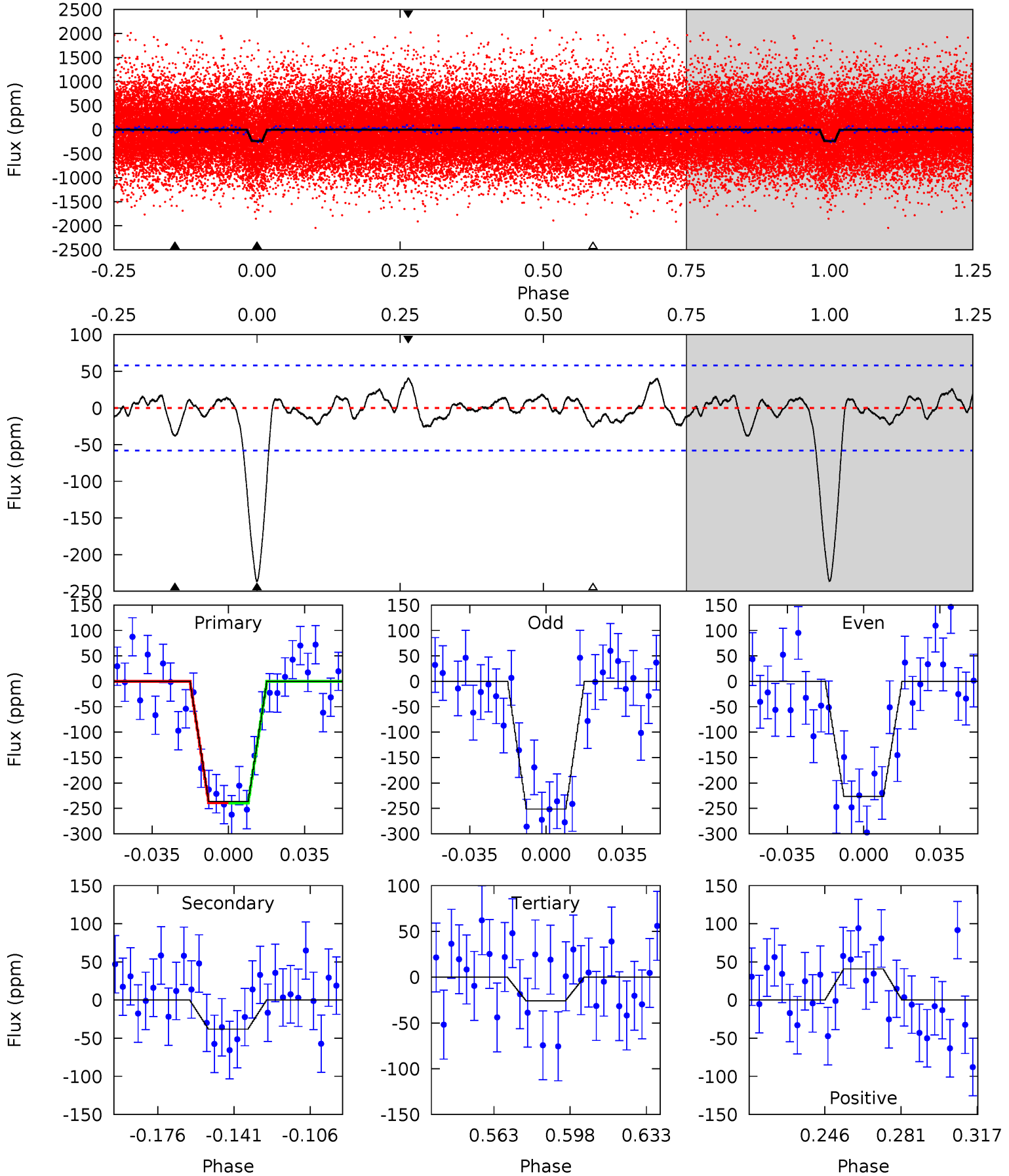
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	3.44	2.63	3.00	4.75	2.05	1.17	18.8	18.5	0.81	0.44	1.09	0.89	0.12	0.45



Alt Model-Shift Uniqueness Test

005542466-02, P = 2.355757 Days, E = 133.126063 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	3.14	2.12	3.36	4.78	2.11	1.14	17.3	16.1	1.01	-0.22	1.02	0.89	0.15	0.02



Stellar Parameters For KIC 005542466

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4915^{+78}_{-88}	$4.512^{+0.072}_{-0.022}$	$0.160^{+0.150}_{-0.150}$	$0.812^{+0.027}_{-0.058}$	$0.781^{+0.051}_{-0.025}$	$2.055^{+0.521}_{-0.171}$
	+2%/-2%	+2%/-0%	+94%/-94%	+3%/-7%	+7%/-3%	+25%/-8%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005542466-02 / KOI 1590.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-39 ± 11	$1.61^{+1.04}_{-0.87}$	1516^{+34}_{-35}	3314^{+1078}_{-485}	$8.190^{+34.915}_{-5.274}$
Alt.	-38 ± 12	$1.49^{+0.97}_{-0.83}$	1517^{+32}_{-39}	3384^{+1172}_{-525}	$9.659^{+41.544}_{-6.441}$

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

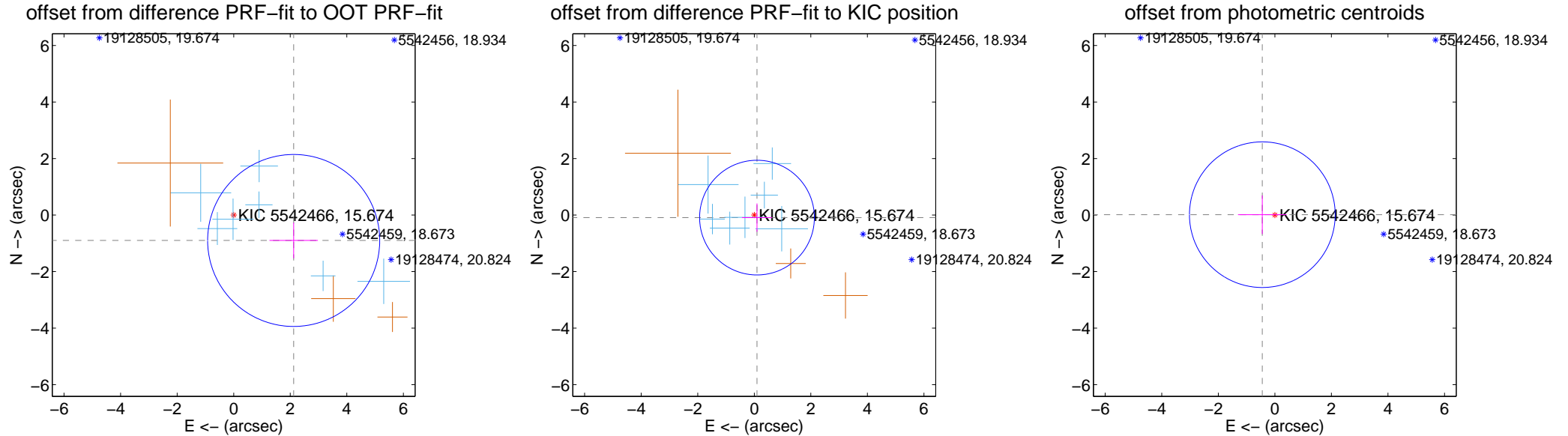
DV Centroid Data

Supplemental centroid analysis for 005542466-02. Kepler magnitude: 15.67. Transit SNR 15.42

There are 7 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 5.06 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.303 ± 1.014	2.27	-2.120 ± 0.856	-0.898 ± 0.631
PRF-fit source offset from KIC position	0.131 ± 0.676	0.19	-0.096 ± 0.531	-0.089 ± 0.500
photometric centroid source offset	0.44 ± 0.86	0.52	0.44 ± 0.86	0.01 ± 0.68



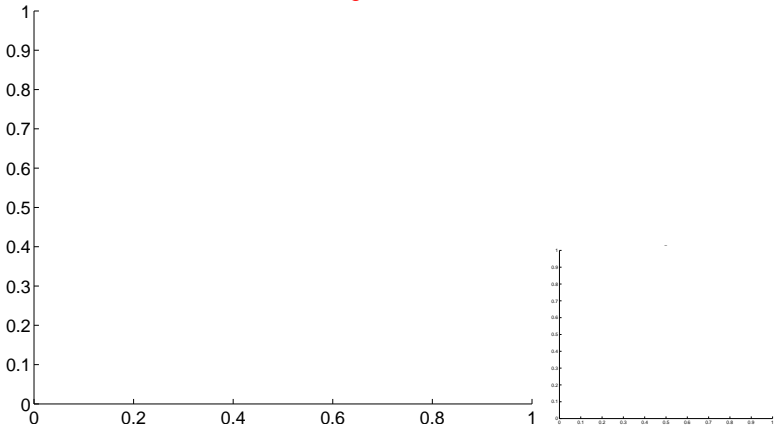
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

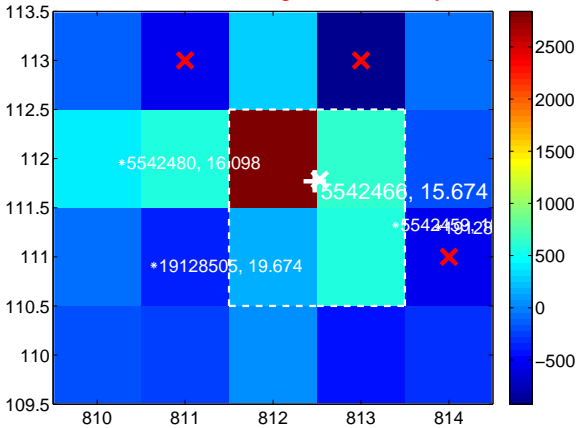
Q1 no difference image



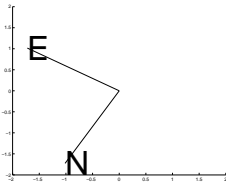
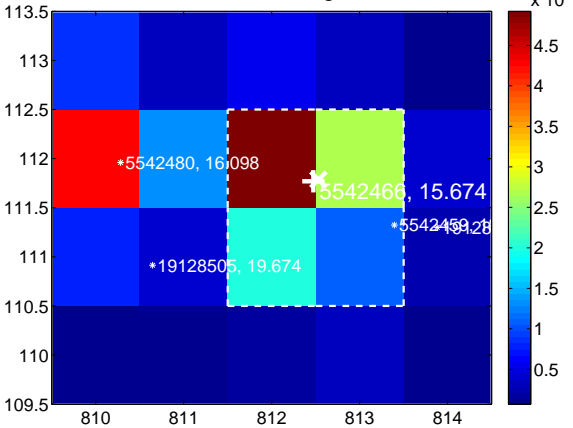
Q1 no OOT image



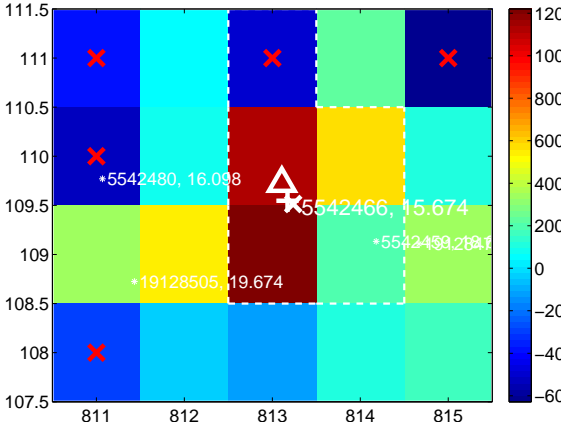
Q2 difference image. Poor Quality



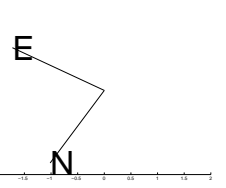
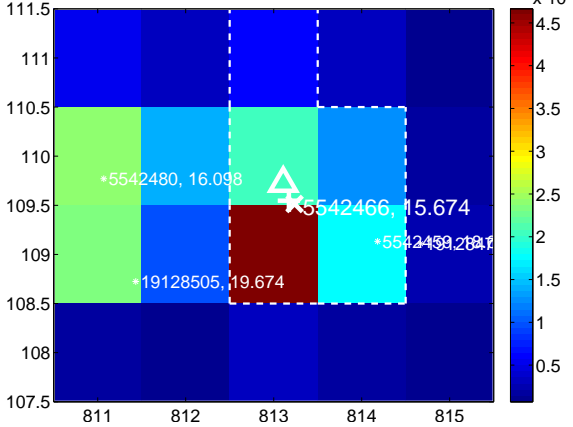
Q2 OOT image



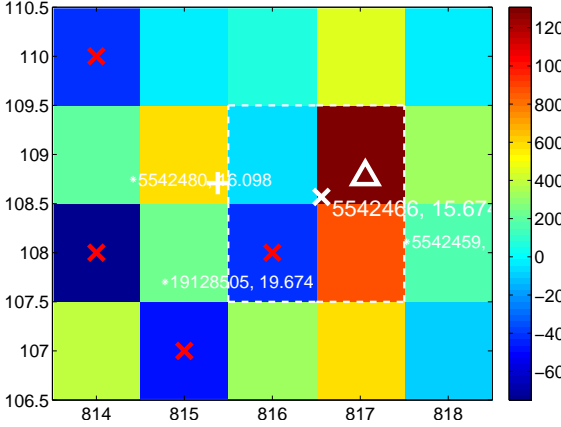
Q3 difference image



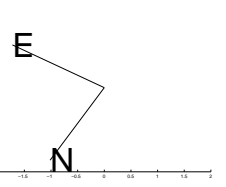
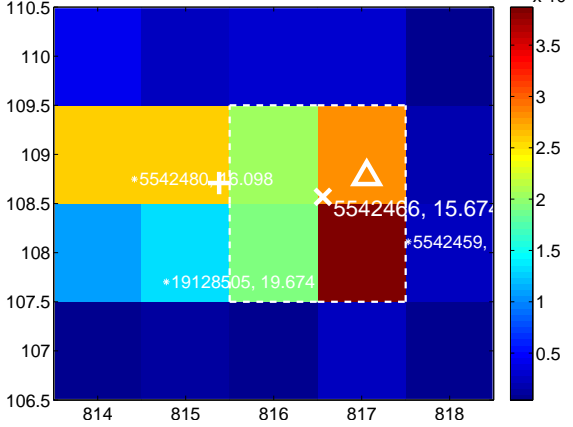
Q3 OOT image



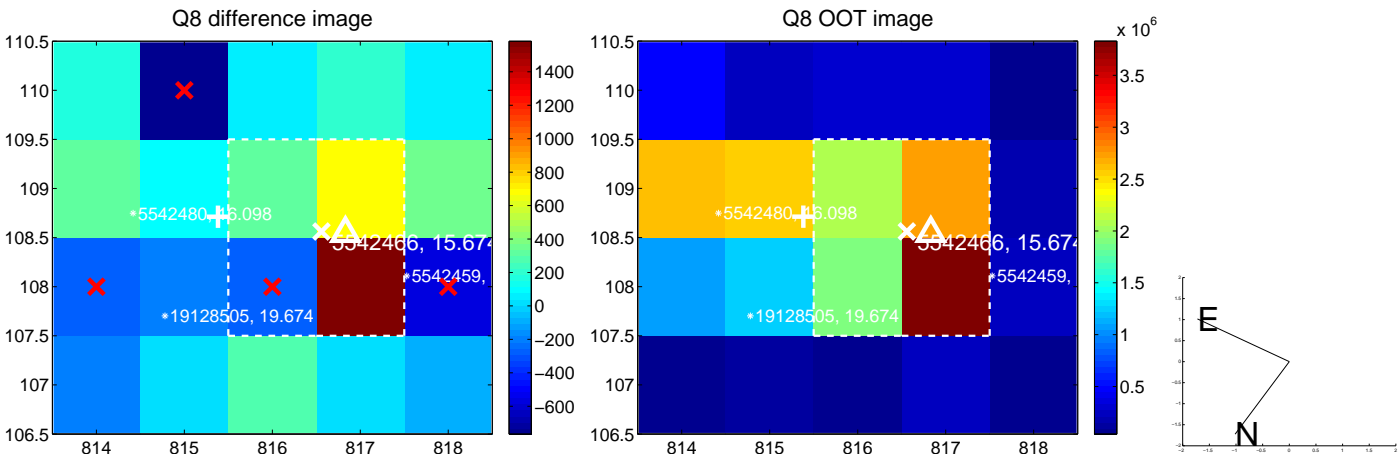
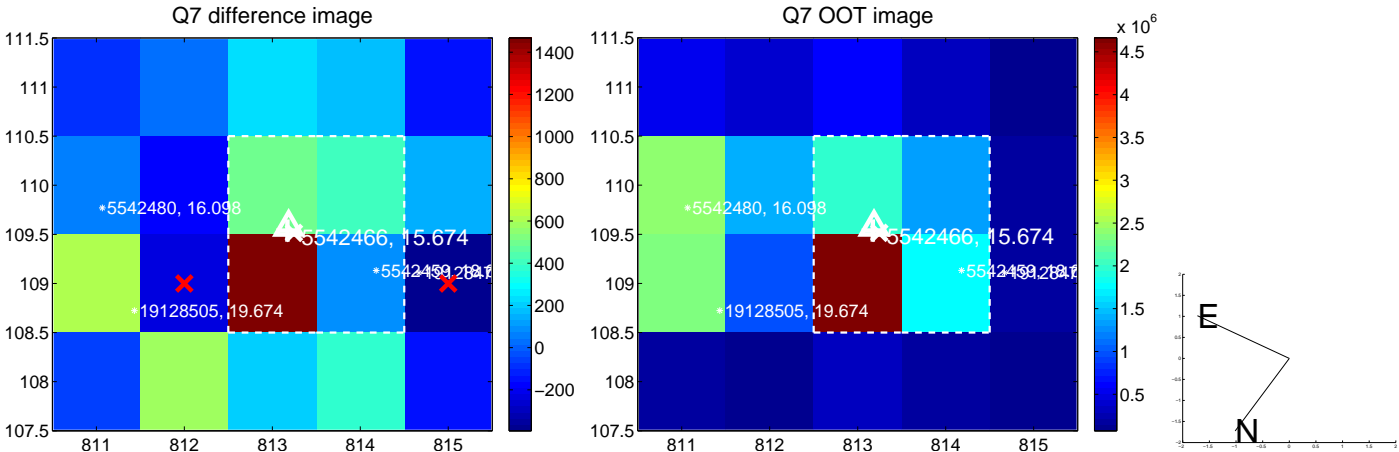
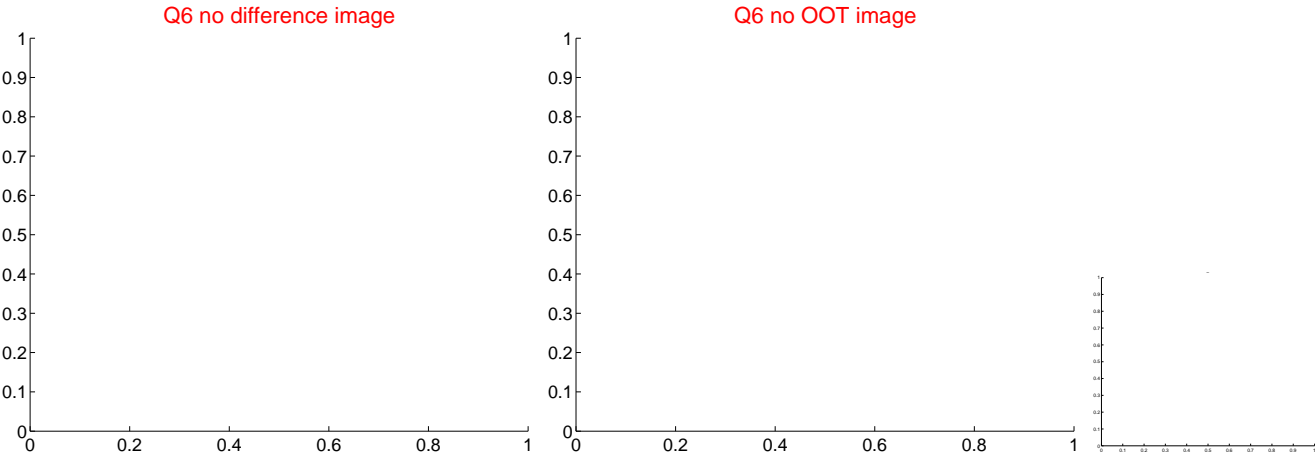
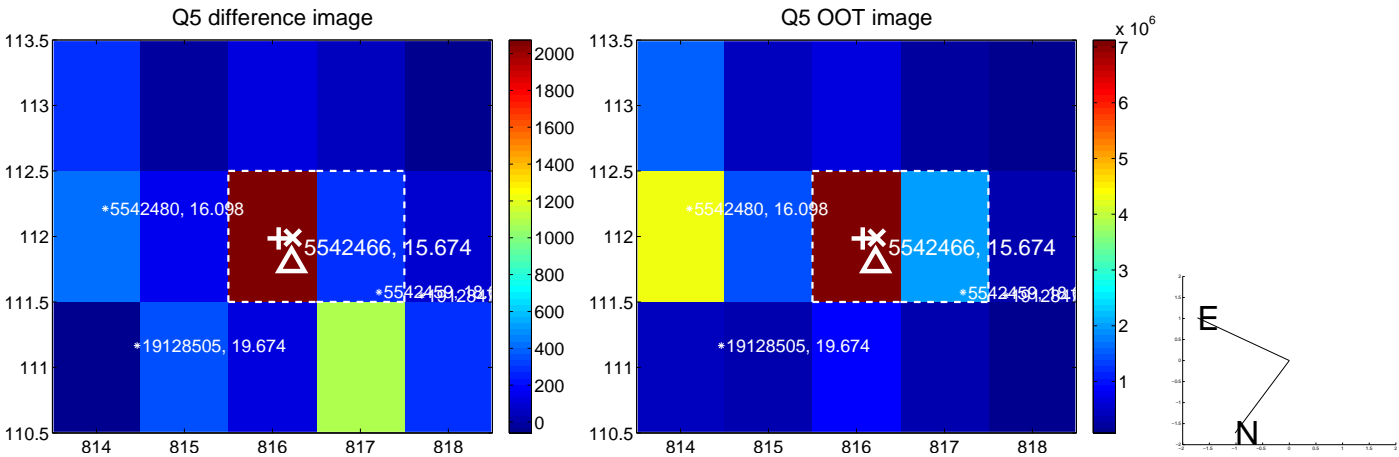
Q4 difference image. Poor Quality



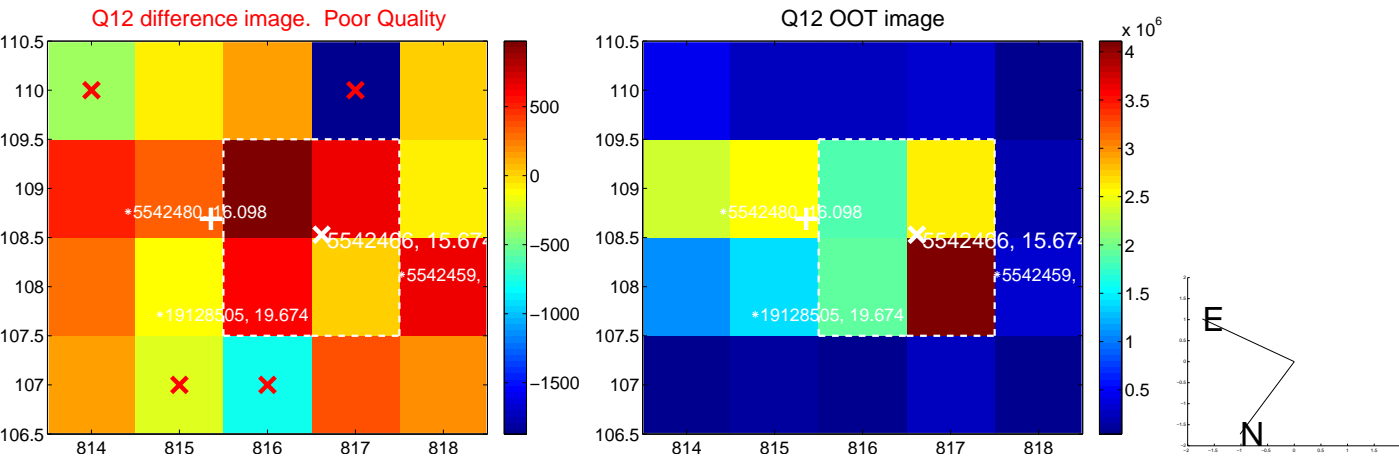
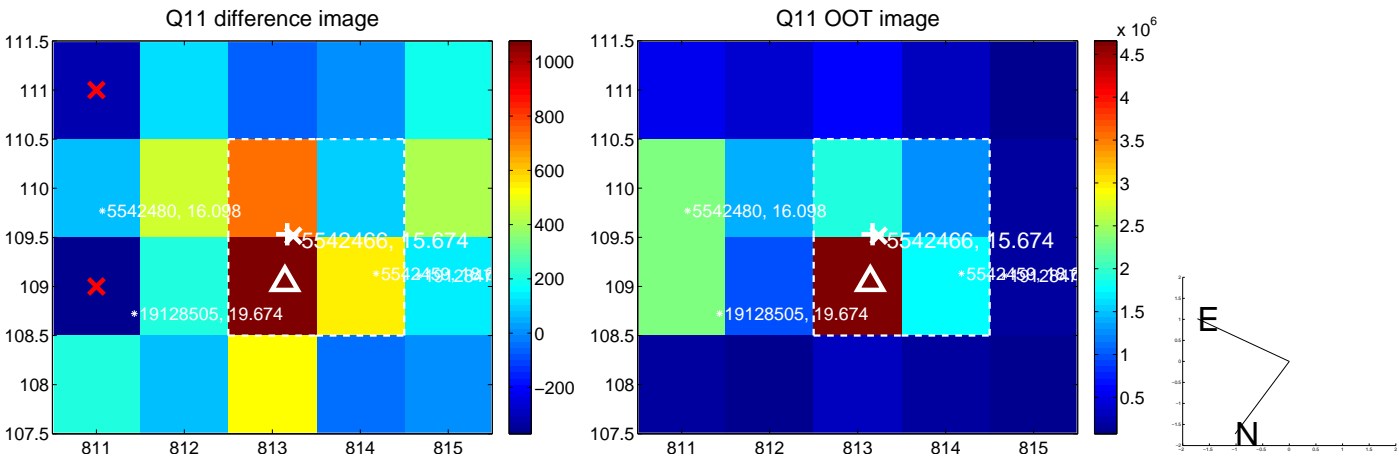
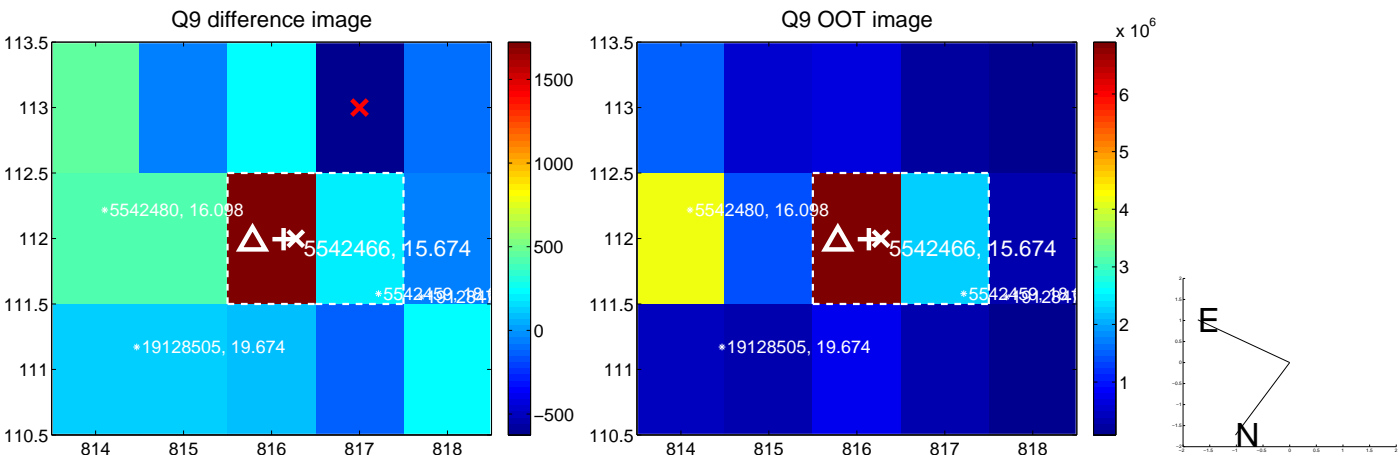
Q4 OOT image



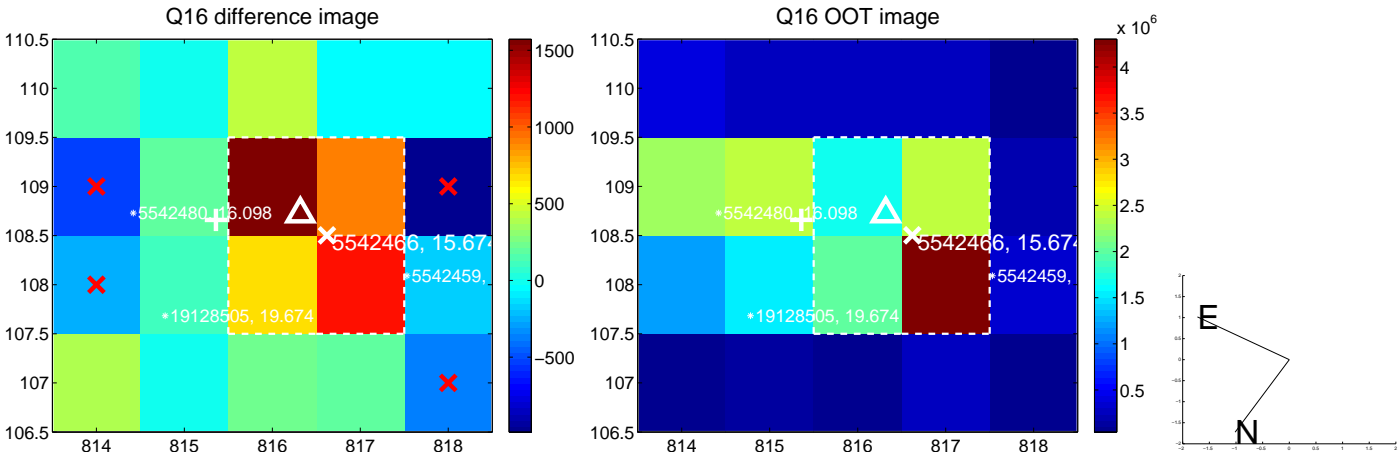
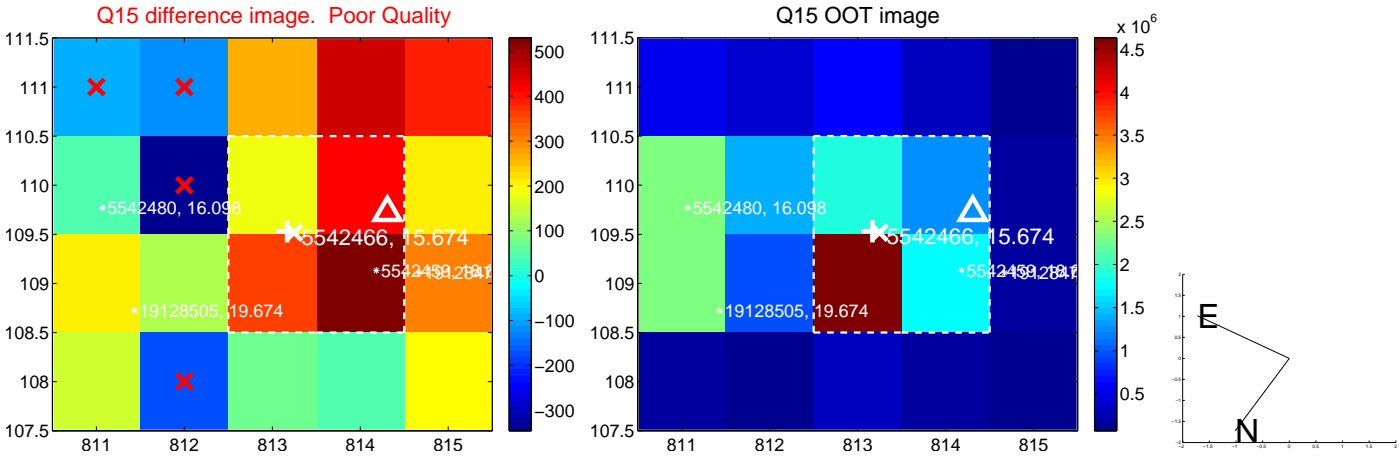
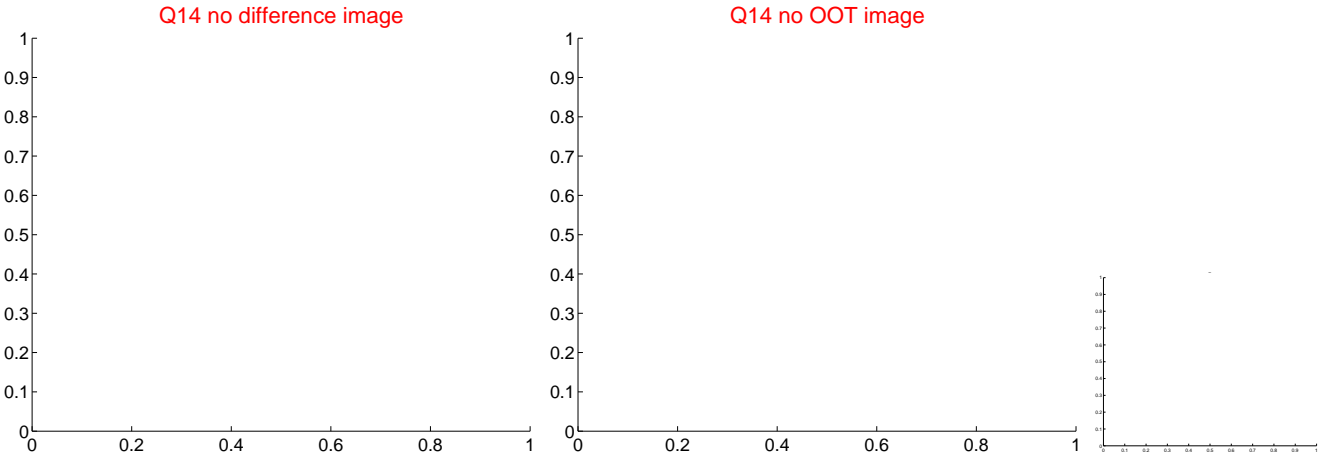
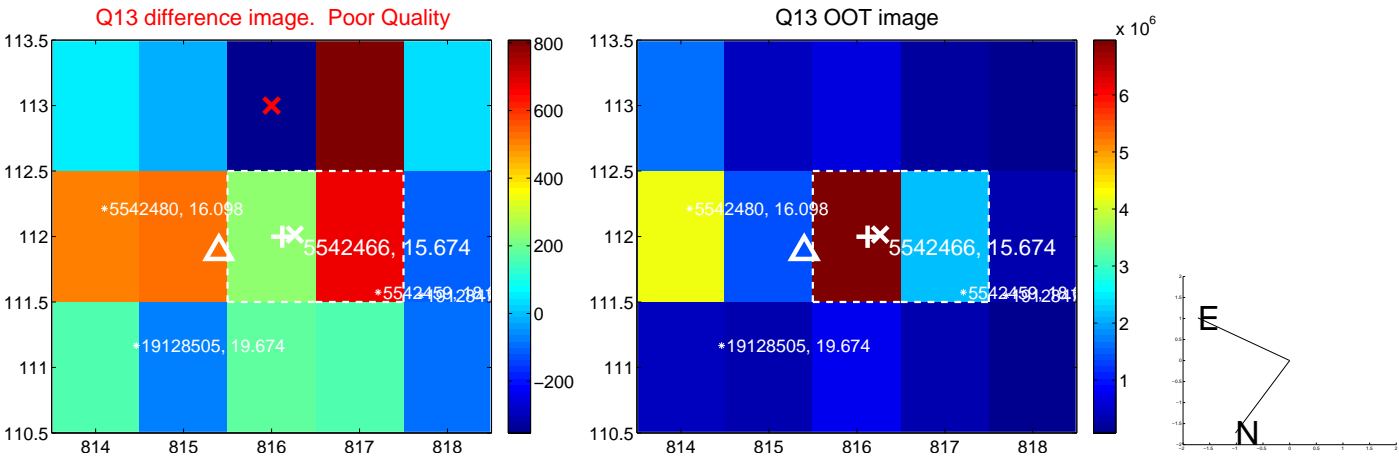
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



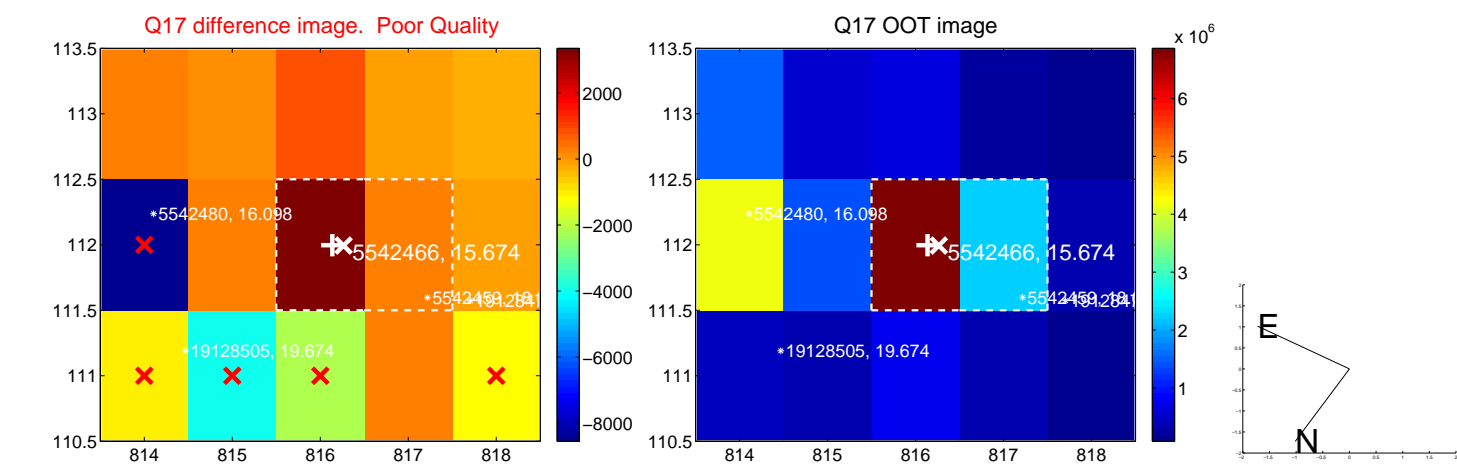
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



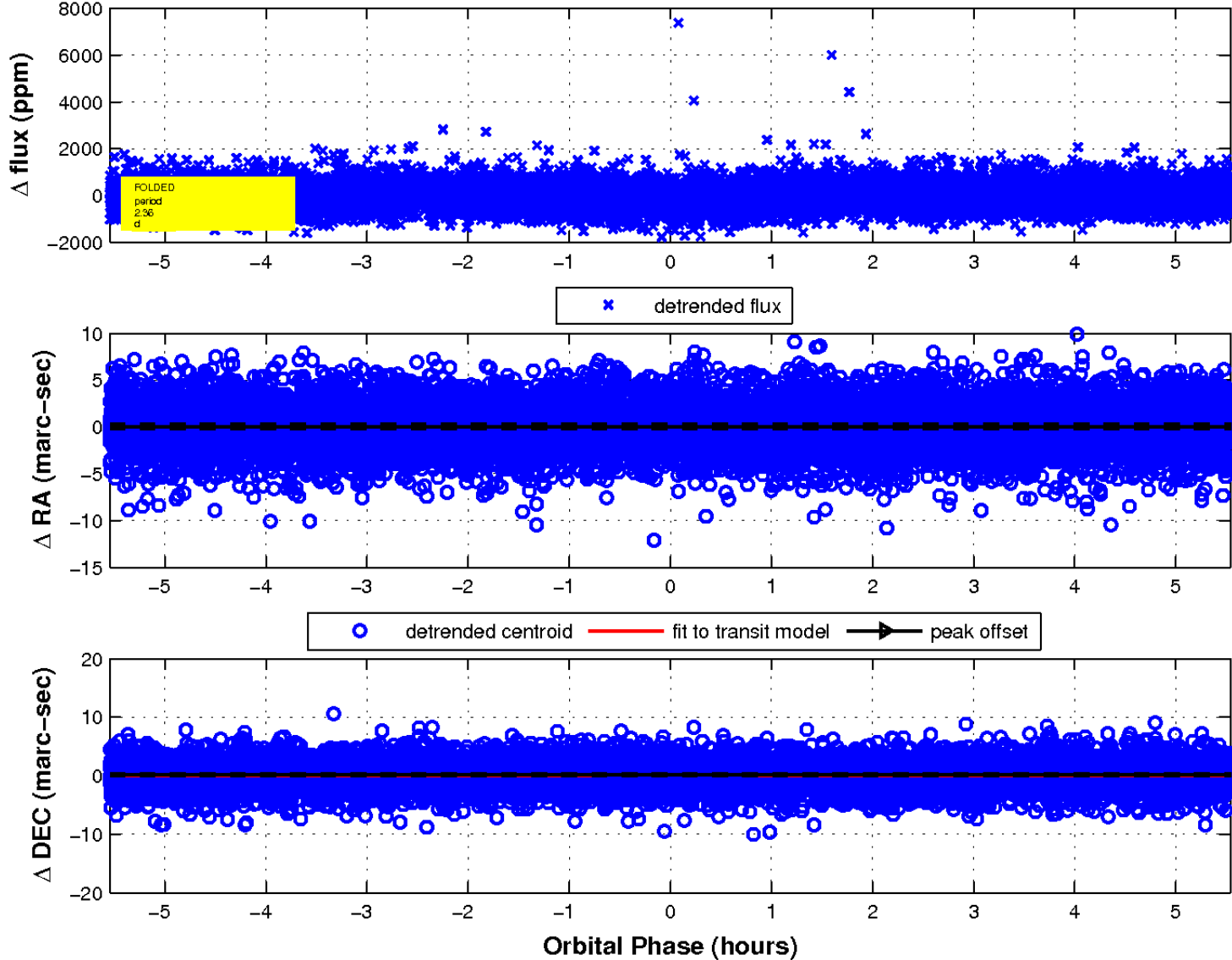
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



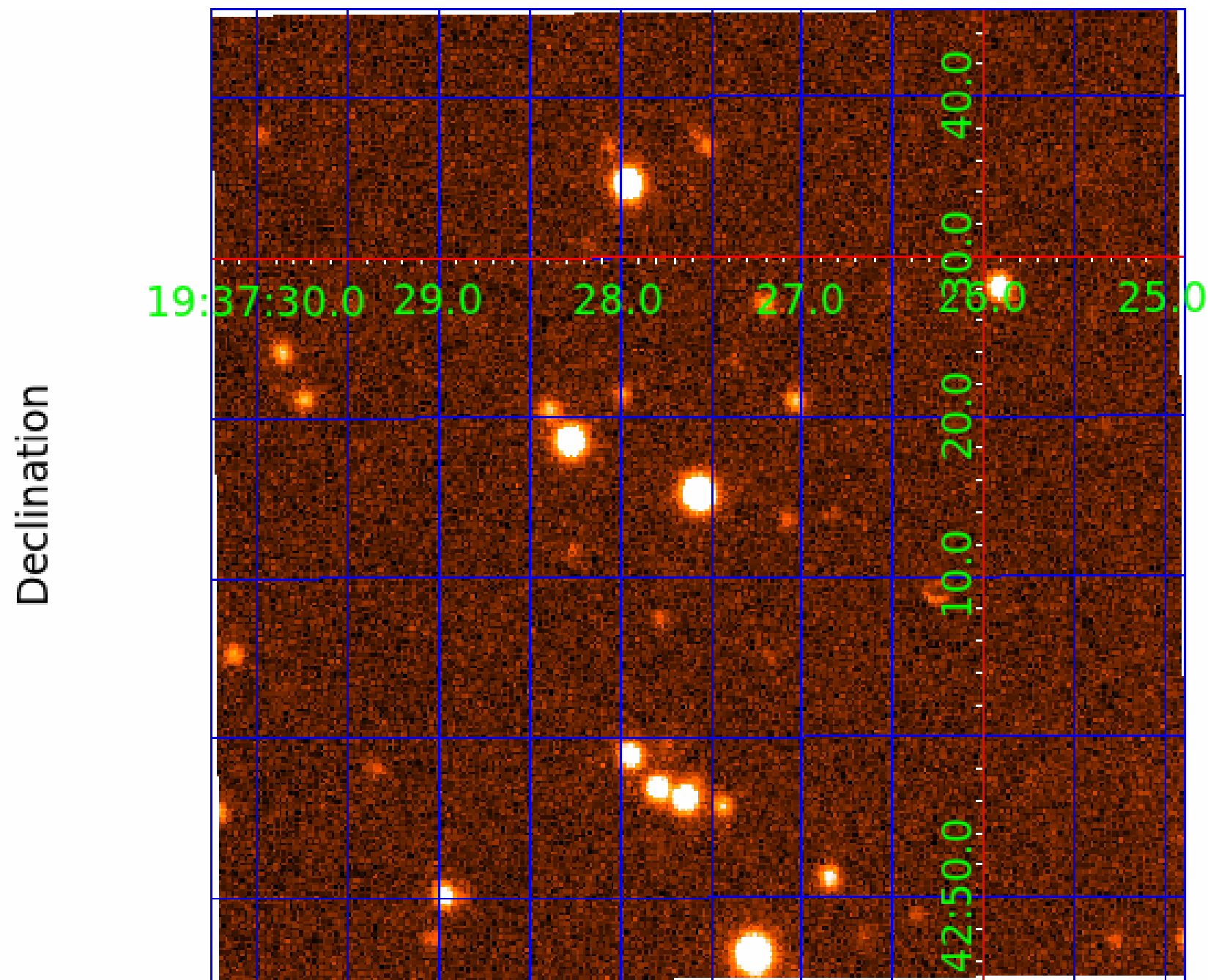
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 3



UKIRT Image



KIC 005542466

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})
005542466-01	OBS	1590.01	12.890153	136.772938	576.5	3.723	18.7	20.2	0.81	4915	2.36	35.08
005542466-02	OBS	1590.02	2.355751	133.127193	255.2	1.848	13.4	15.4	0.81	4915	1.58	338.21
005542466-03	OBS	1590.03	4.746738	134.620288	281.2	2.006	9.6	11.9	0.81	4915	1.63	132.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005542466-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
005542466-02	OBS	PC	0.90	0	0	0	0	NO_COMMENT
005542466-03	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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 005542466-03

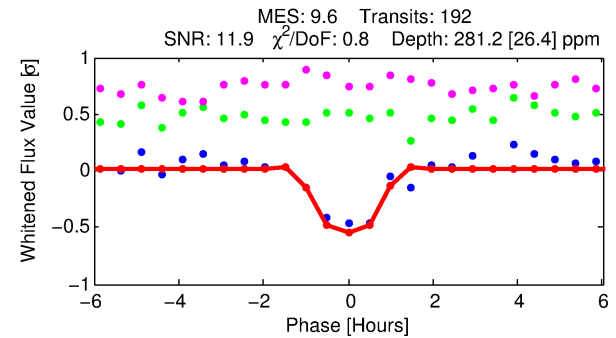
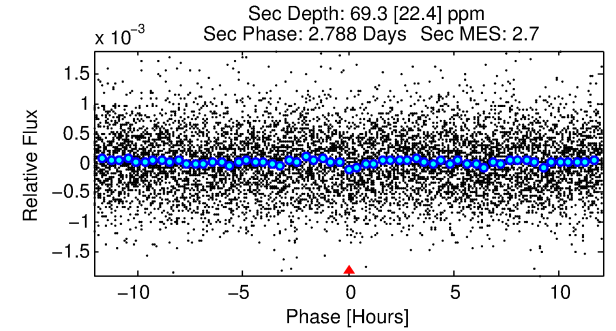
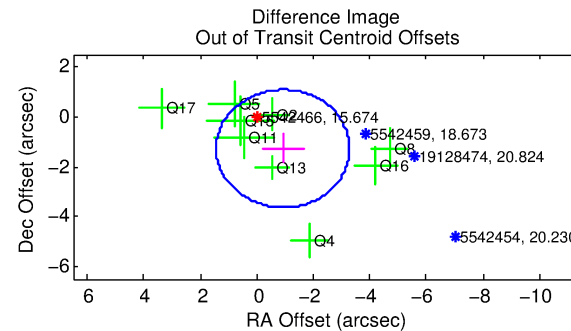
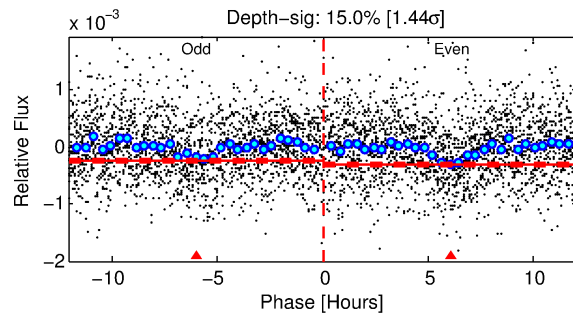
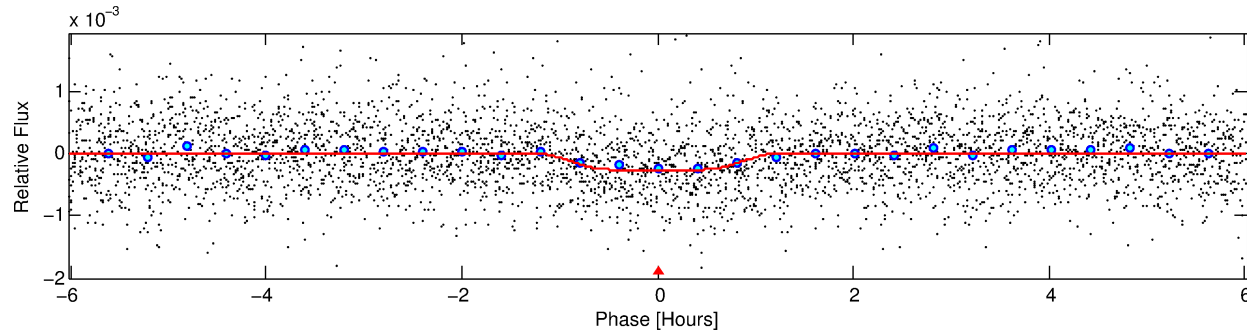
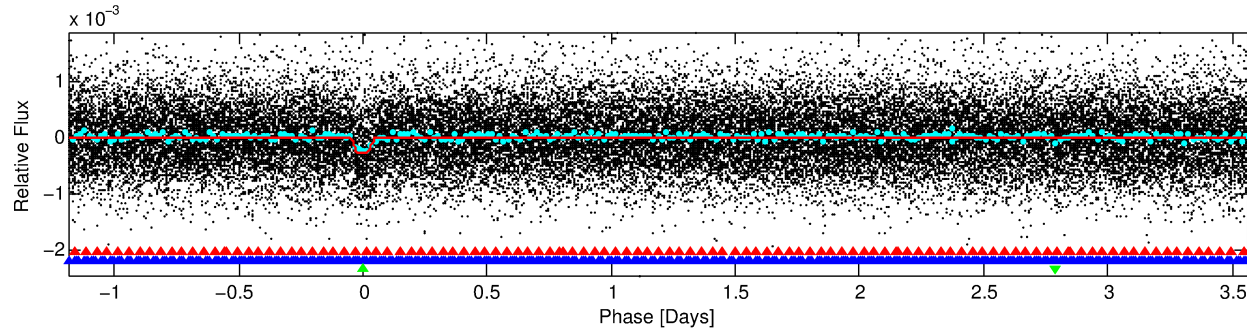
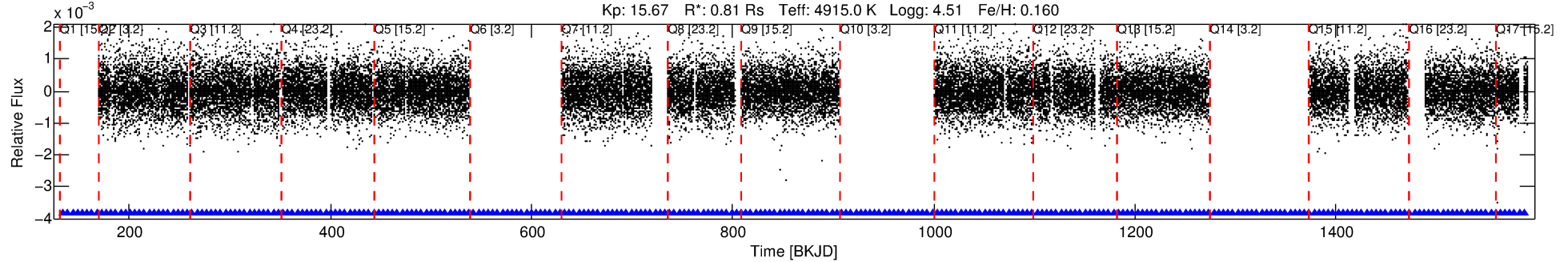
No Significant Match Found

DV One-Page Summary

KIC: 5542466 Candidate: 3 of 3 Period: 4.747 d

KOI: K01590.03 Corr: 0.882

Kp: 15.67 R*: 0.81 Rs Teff: 4915.0 K Logg: 4.51 Fe/H: 0.160



DV Fit Results:

Period = 4.74674 [0.00002] d
Epoch = 134.6203 [0.0034] BKJD
Rp/R* = 0.0184 [0.0166]
a/R* = 9.30 [31.04]
b = 0.88 [0.89]
Seff = 132.89 [18.61]
Teq = 866 [30] K
Rp = 1.63 [1.48] Re
a = 0.0509 [0.0037] AU
Ag = 37.04 [67.89] [0.53σ]
Teff = 3302 [1511] K [1.61σ]

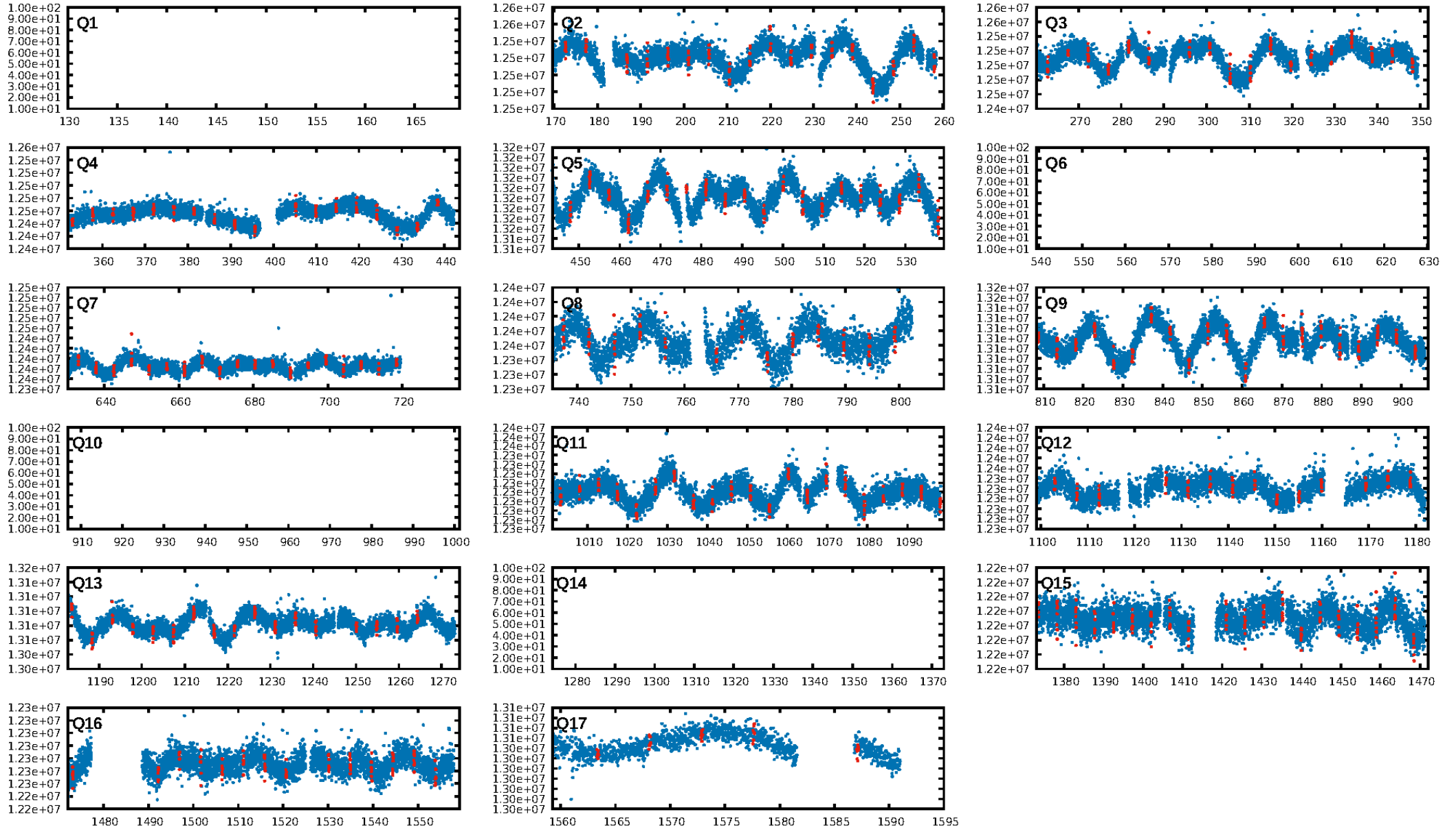
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [21.04σ]
LongPeriod-sig: 100.0% [46.21σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.65e-22
RollingBand-fgt: 1.00 [187/187]
GhostDiagnostic-chr: 3.868
Centroid-sig: 10.0%
Centroid-so: 0.595 arcsec [0.56σ]
OotOffset-rm: 1.575 arcsec [2.00σ]
KicOffset-rm: 0.914 arcsec [1.85σ]
OotOffset-st: 1/2/3/3 [9]
KicOffset-st: 1/2/3/3 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 0.92 [12/13]

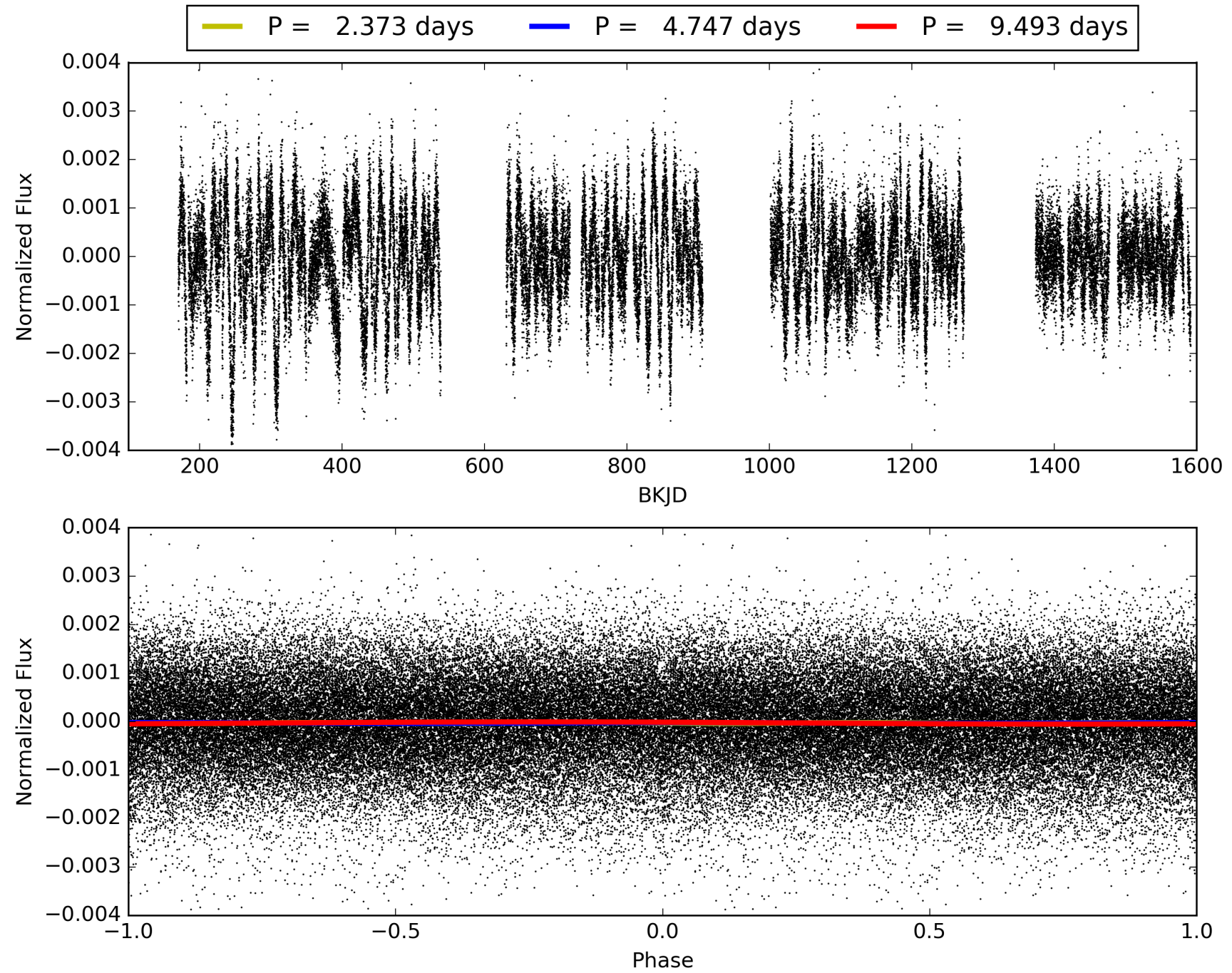
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:00:01 Z

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

TCE 005542466-03, PDC Light Curves

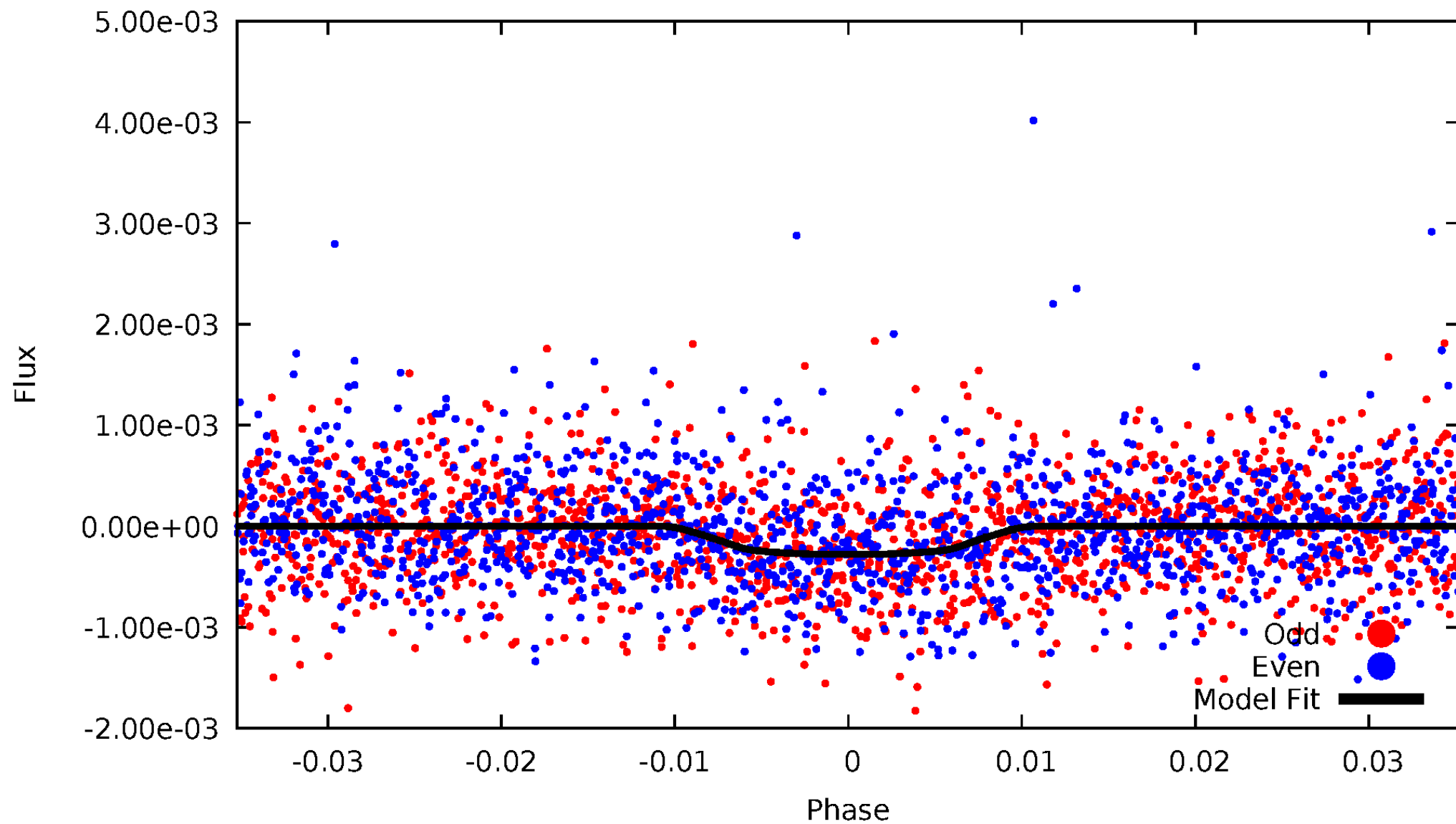


TCE 005542466-03



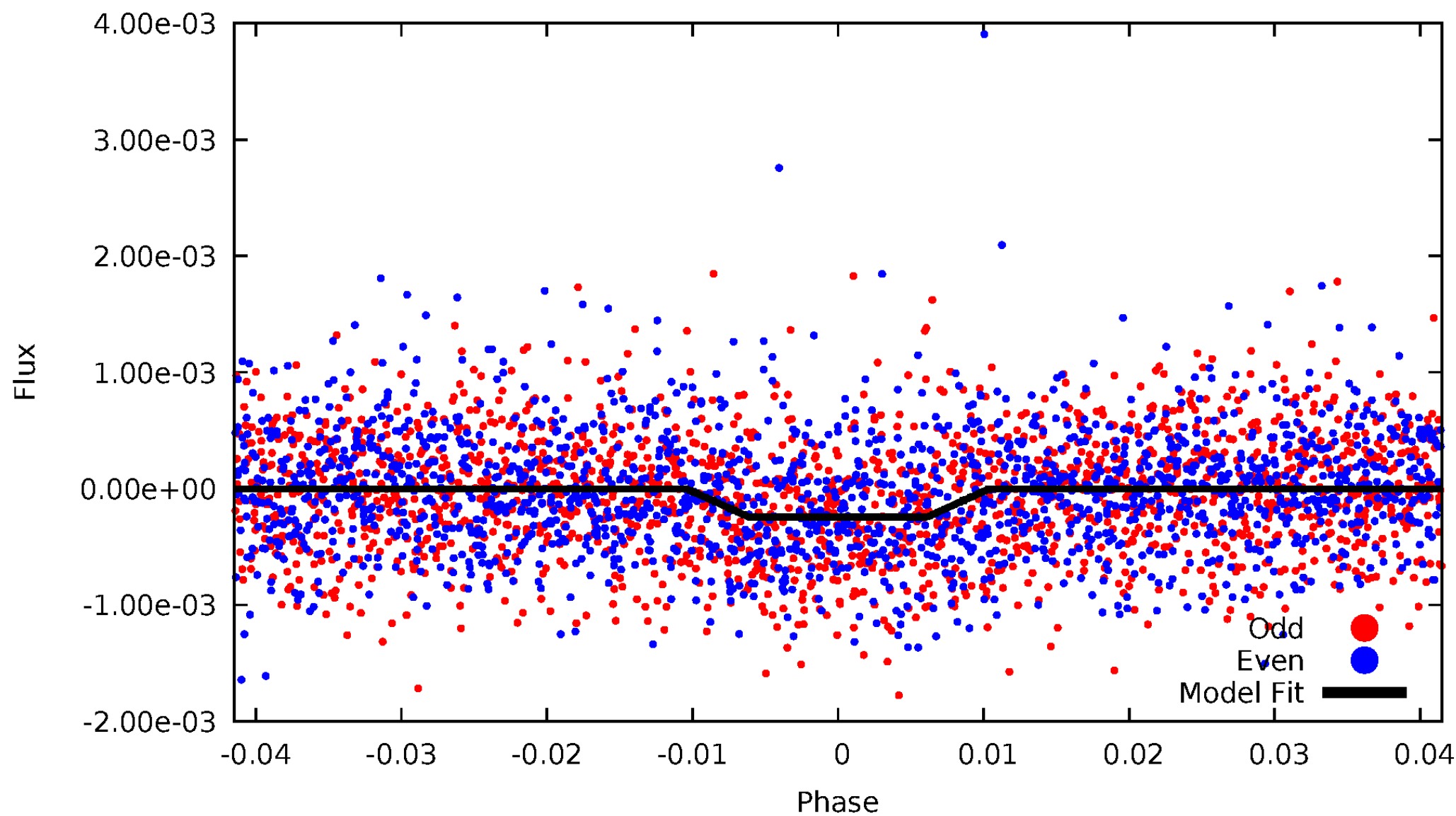
DV Odd/Even

TCE 005542466-03



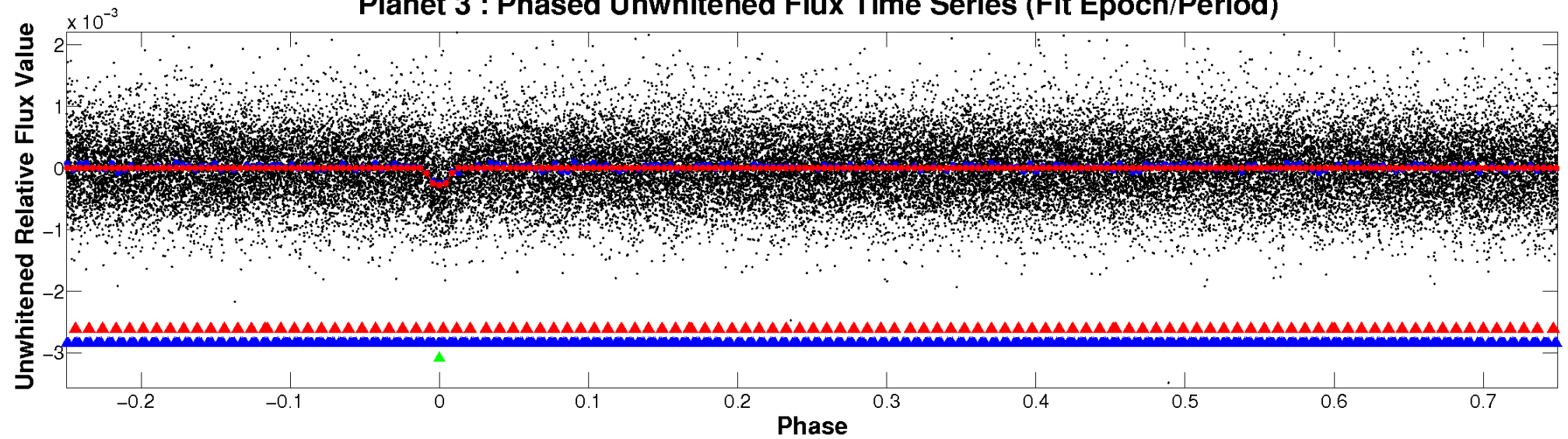
ALT Odd/Even

TCE 005542466-03

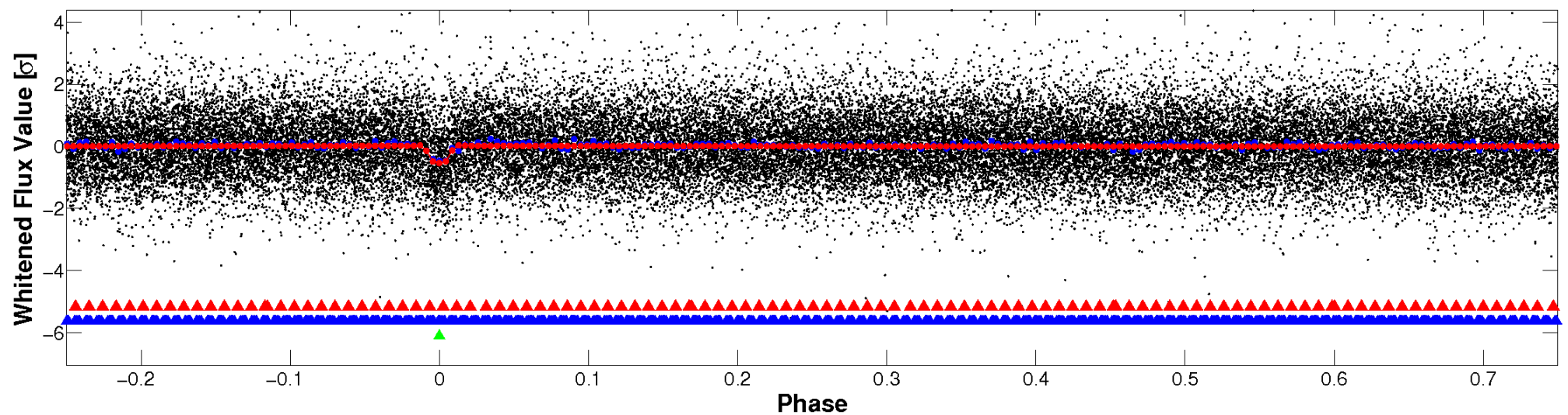


Non-Whitened Vs. Whitened Light Curve

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

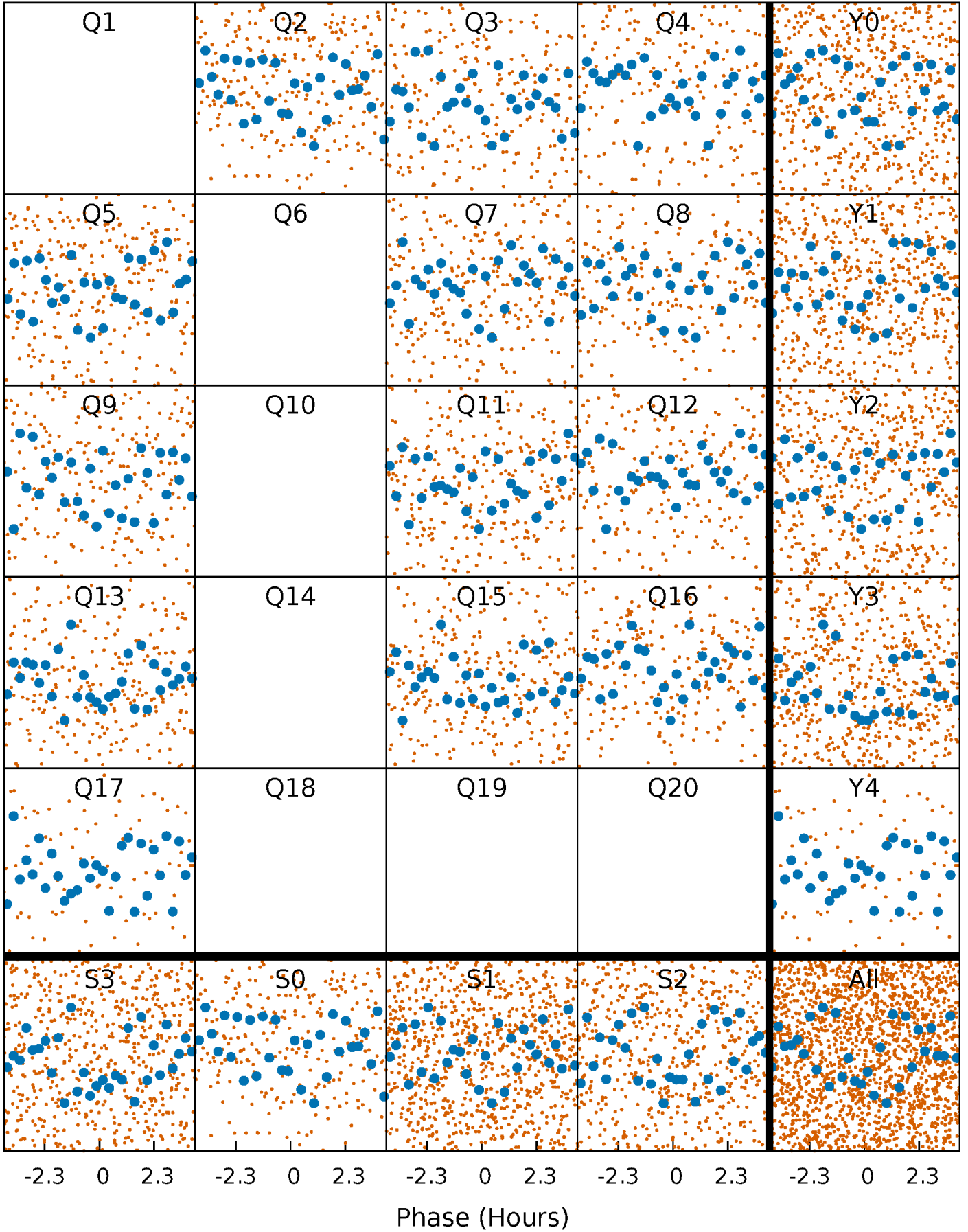


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



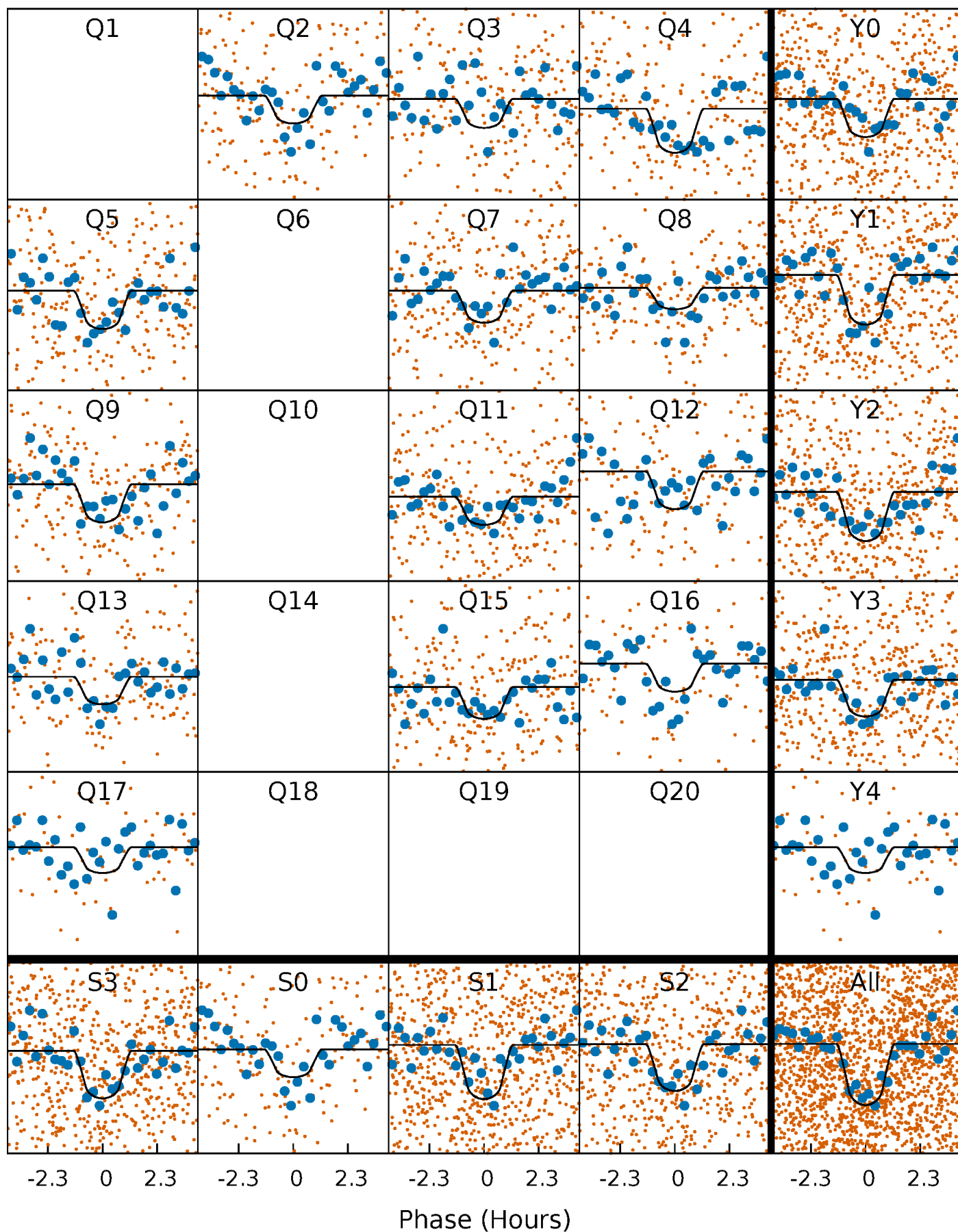
PDC Quarter-Phased Transit Curves

TCE 005542466-03 P= 4.746738 Days $T_0=134.620288$ (BKJD)



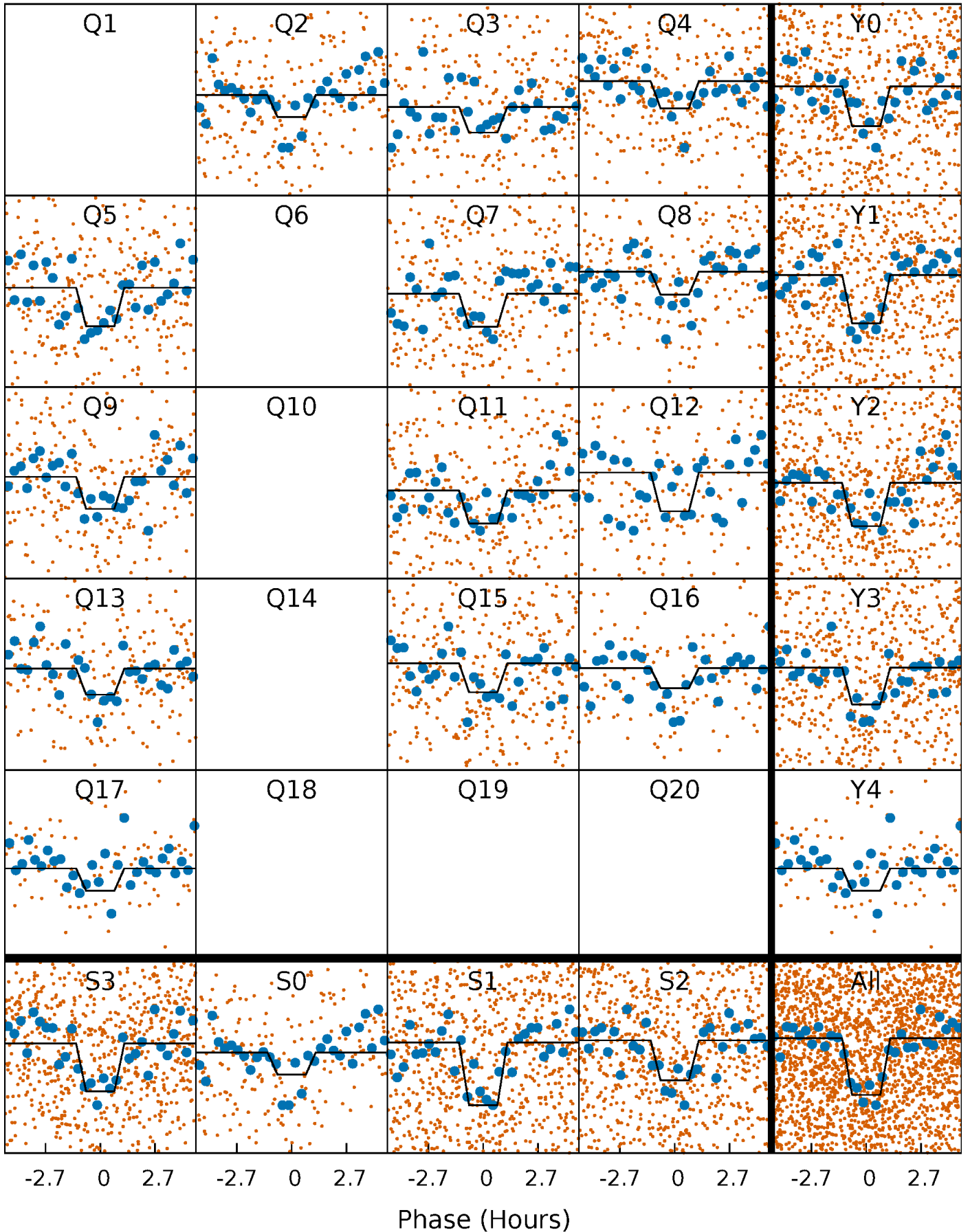
DV Quarter-Phased Transit Curves

TCE 005542466-03 P= 4.746738 Days $T_0=134.620288$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

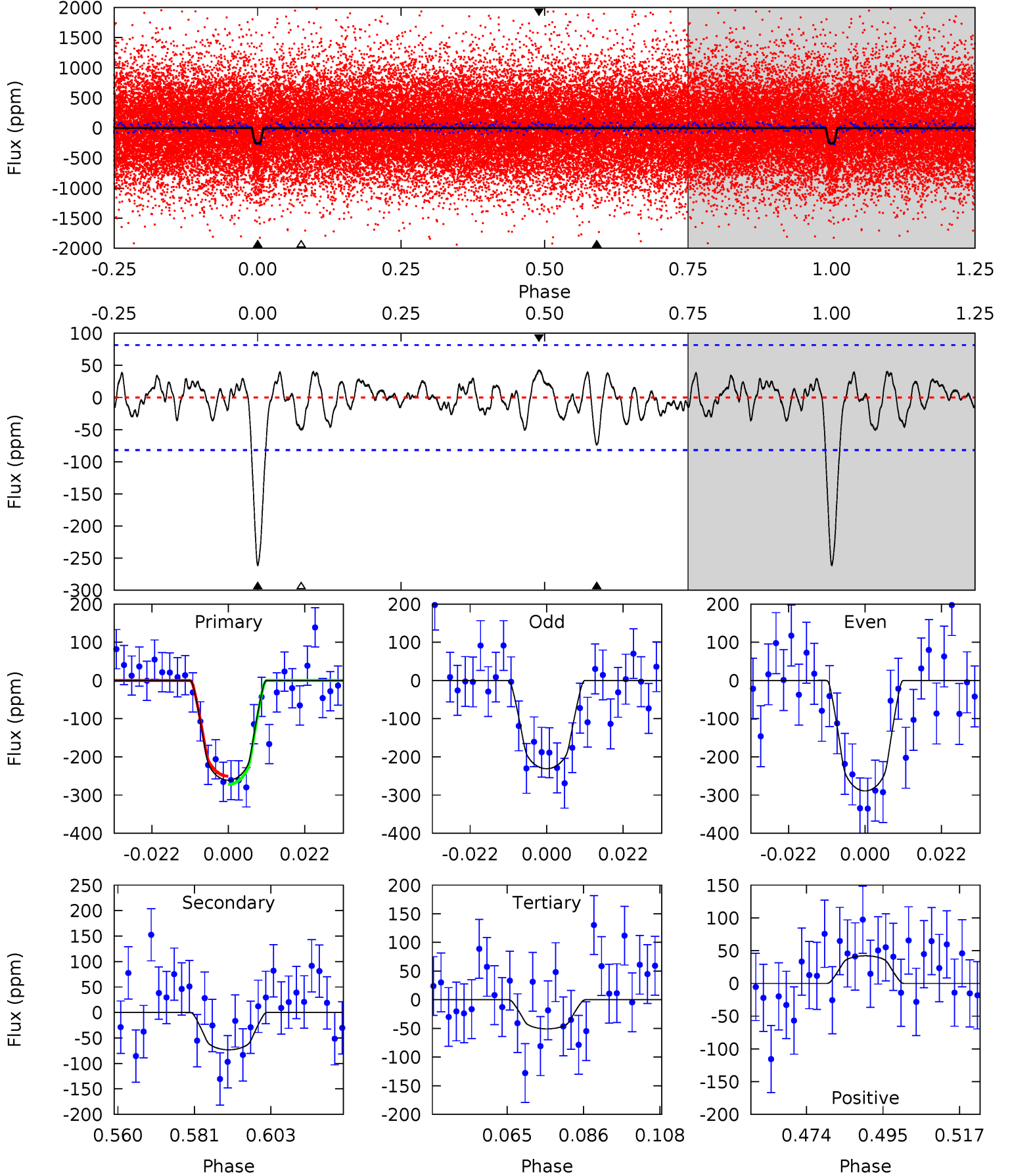
TCE 005542466-03 P= 4.746710 Days $T_0=134.626257$ (BKJD)



DV Model-Shift Uniqueness Test

005542466-03, P = 4.746738 Days, E = 134.620288 Days

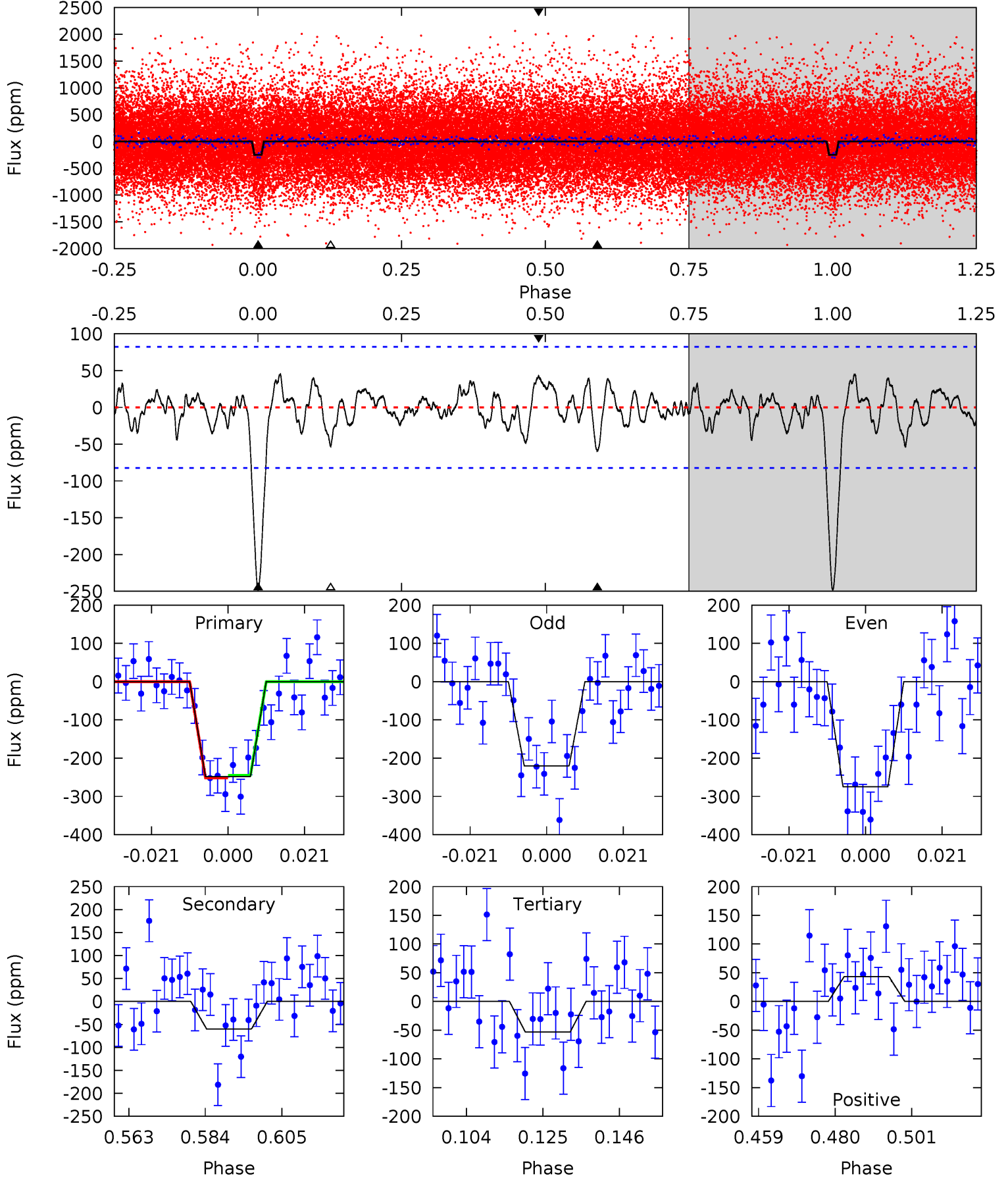
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	4.37	3.03	2.51	4.88	2.30	1.16	12.6	13.1	1.34	1.86	1.74	0.85	0.14	0.65



Alt Model-Shift Uniqueness Test

005542466-03, P = 4.746710 Days, E = 134.626257 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	3.54	3.15	2.55	4.88	2.31	1.09	11.6	12.2	0.39	0.99	1.62	0.93	0.15	0.20



Stellar Parameters For KIC 005542466

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4915^{+78}_{-88}	$4.512^{+0.072}_{-0.022}$	$0.160^{+0.150}_{-0.150}$	$0.812^{+0.027}_{-0.058}$	$0.781^{+0.051}_{-0.025}$	$2.055^{+0.521}_{-0.171}$
	+2%/-2%	+2%/-0%	+94%/-94%	+3%/-7%	+7%/-3%	+25%/-8%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005542466-03 / KOI 1590.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-73 ± 17	$1.84^{+1.37}_{-1.22}$	1201^{+25}_{-30}	3516^{+1731}_{-566}	30^{+223}_{-20}
Alt.	-60 ± 17	$1.67^{+1.40}_{-1.09}$	1199^{+27}_{-30}	3496^{+1704}_{-582}	30^{+211}_{-22}

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

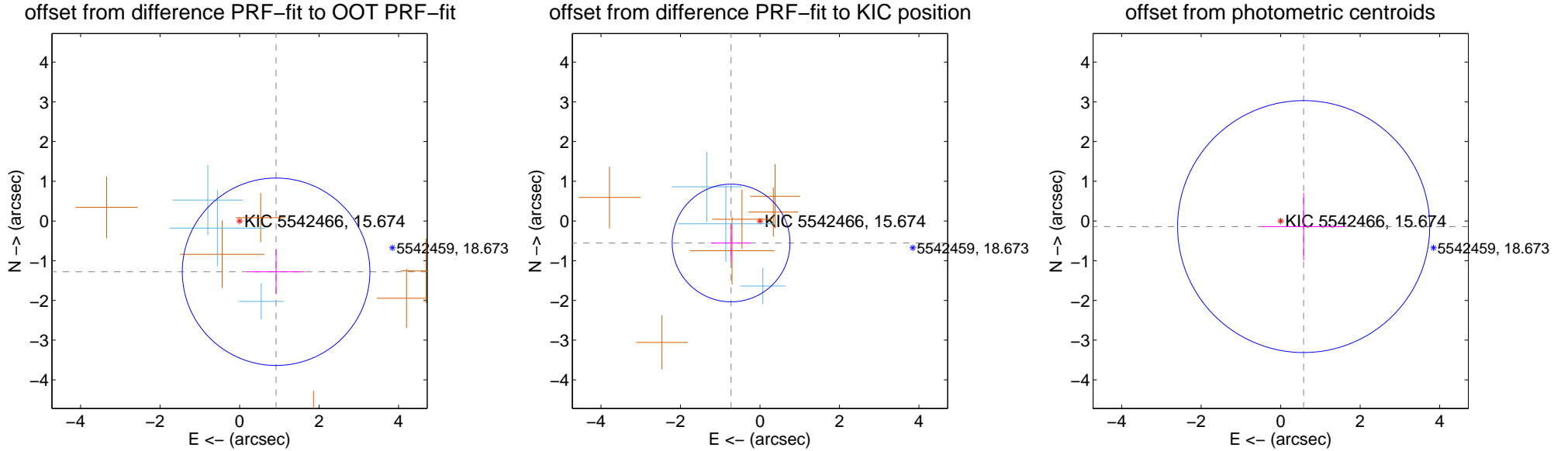
DV Centroid Data

Supplemental centroid analysis for 005542466-03. Kepler magnitude: 15.67. Transit SNR 11.90

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.575 ± 0.787	2.00	-0.919 ± 0.723	-1.279 ± 0.564
PRF-fit source offset from KIC position	0.914 ± 0.494	1.85	0.727 ± 0.505	-0.554 ± 0.474
photometric centroid source offset	0.60 ± 1.06	0.56	-0.58 ± 1.07	-0.14 ± 0.85



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.

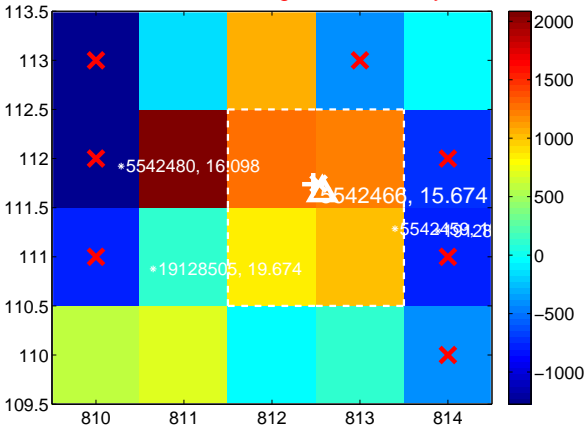
Q1 no difference image



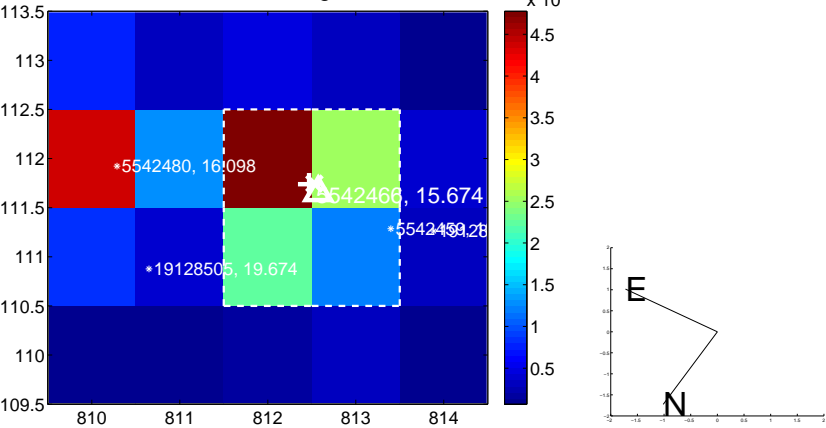
Q1 no OOT image



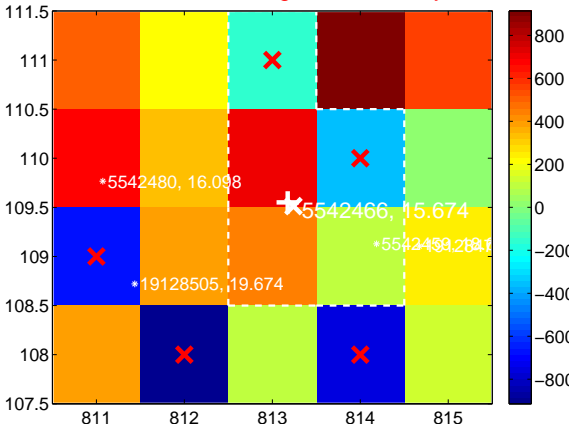
Q2 difference image. Poor Quality



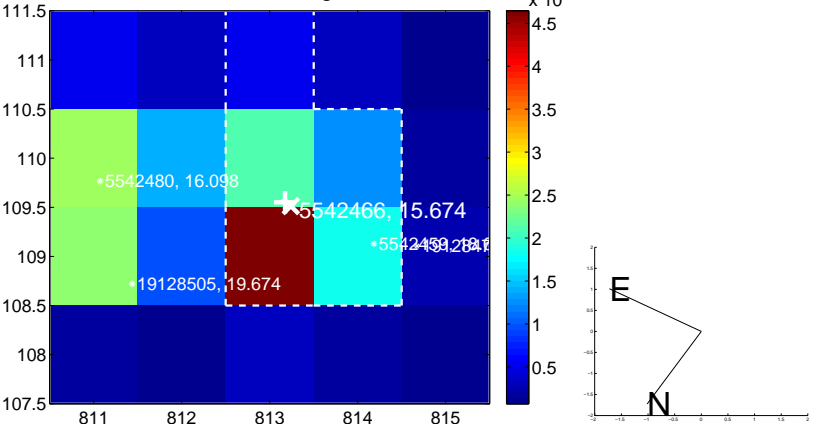
Q2 OOT image



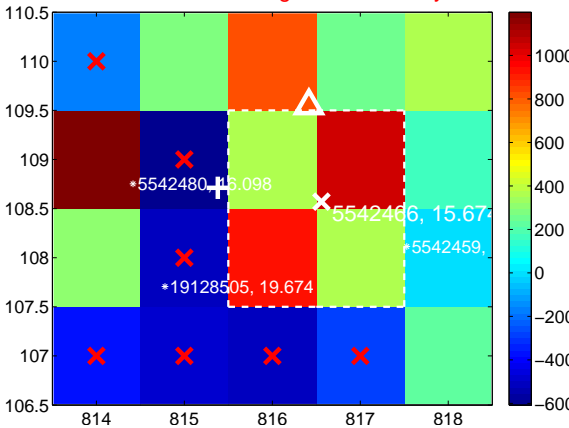
Q3 difference image. Poor Quality



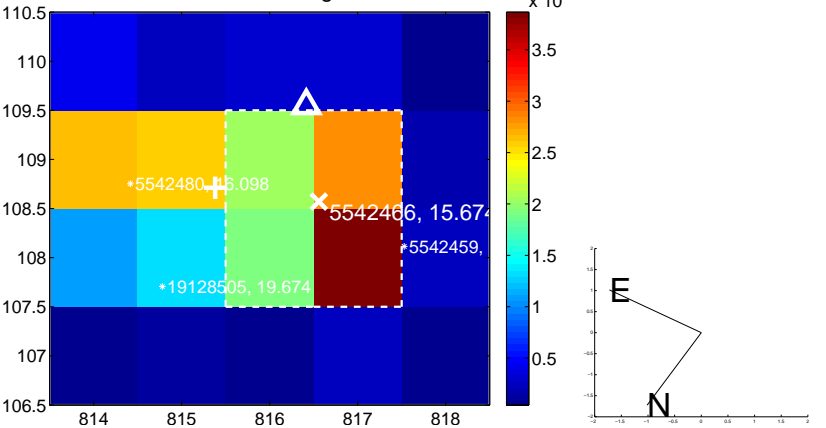
Q3 OOT image



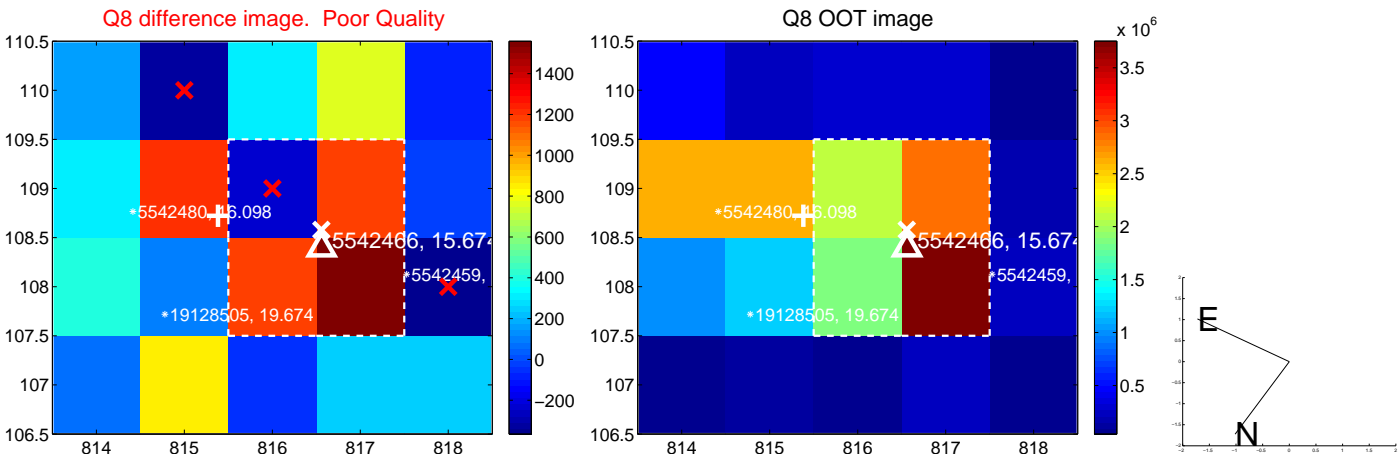
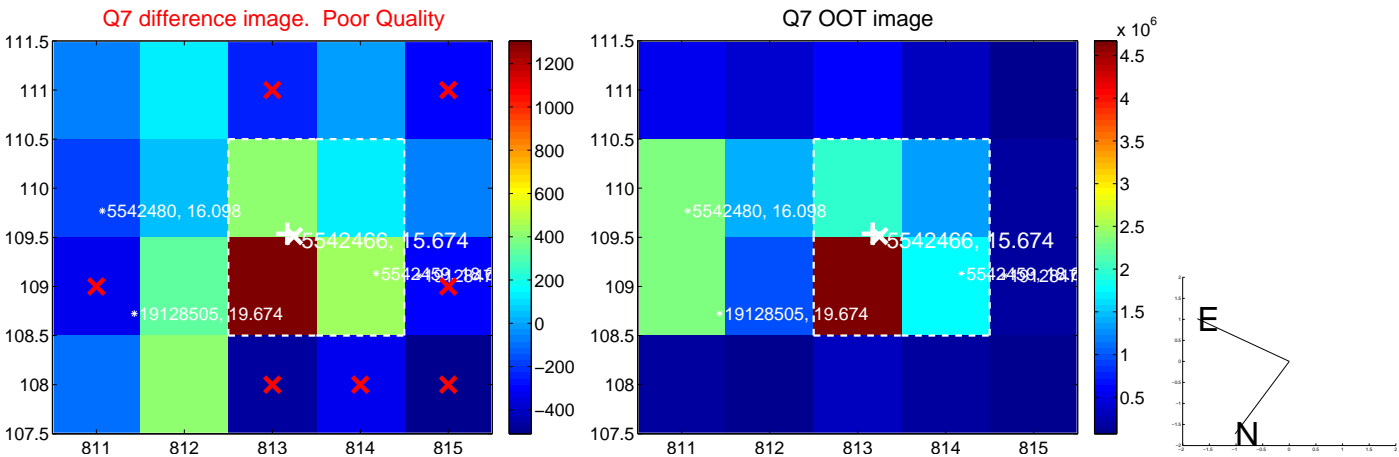
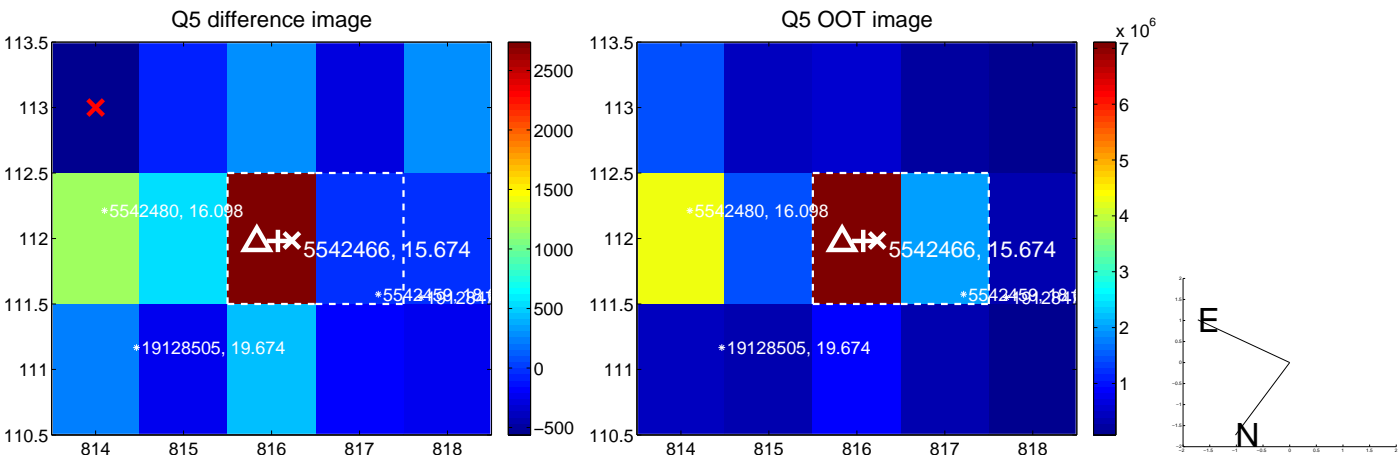
Q4 difference image. Poor Quality



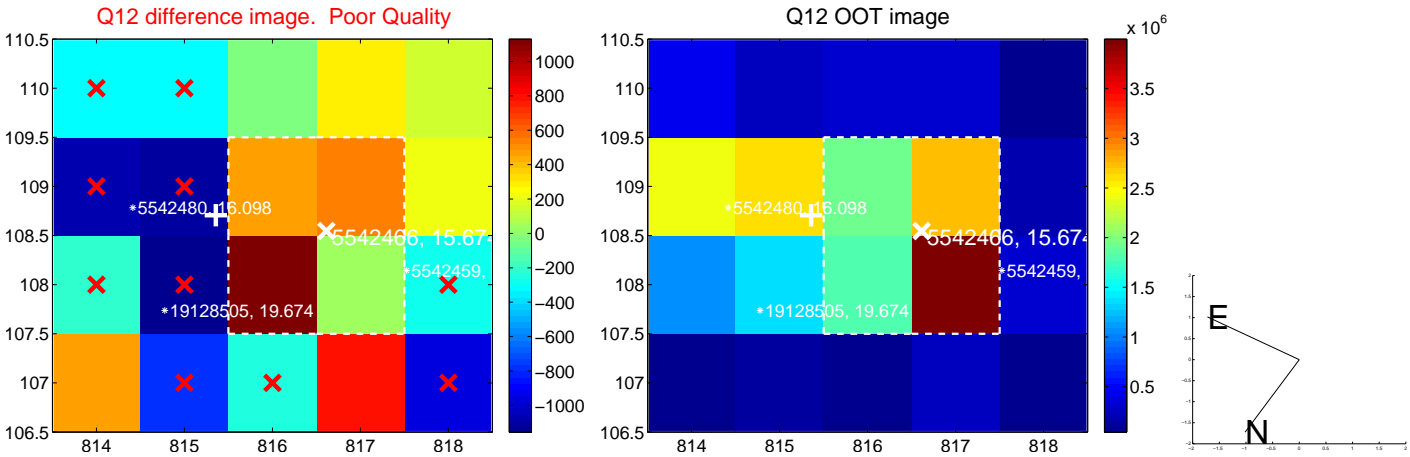
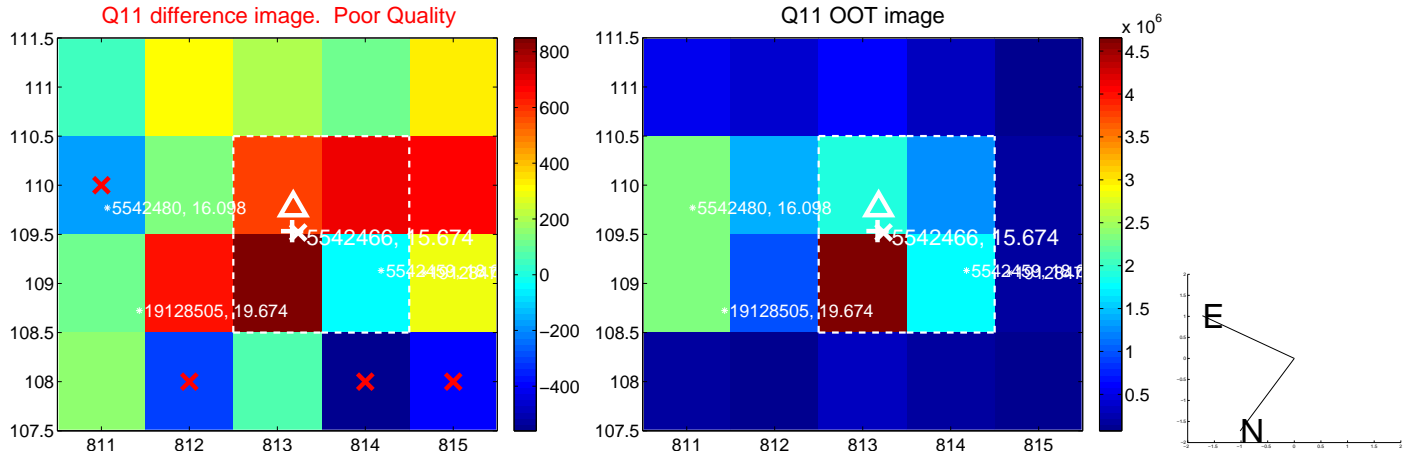
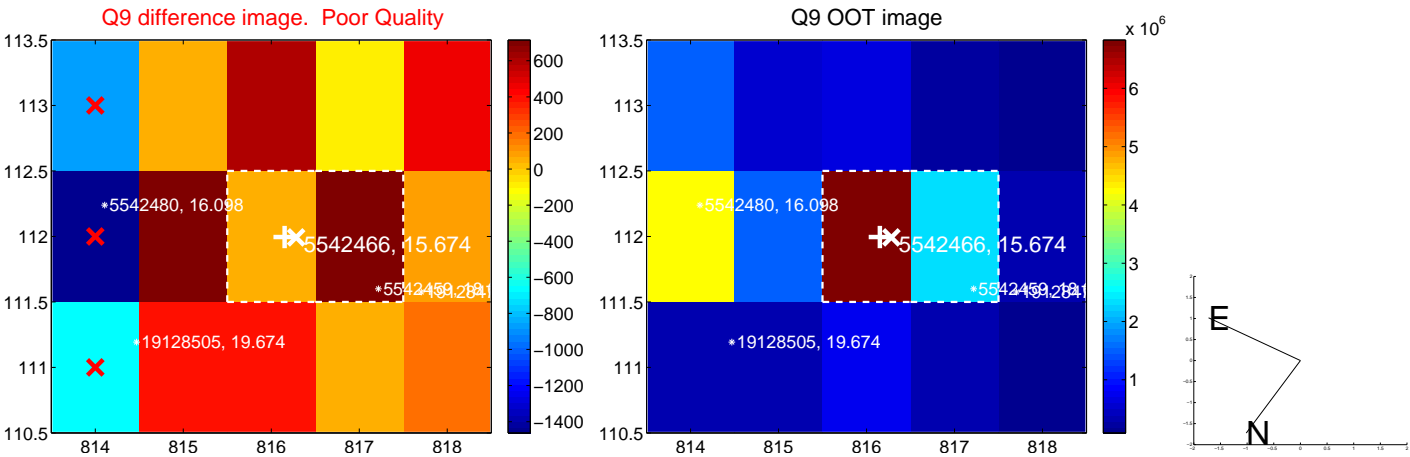
Q4 OOT image



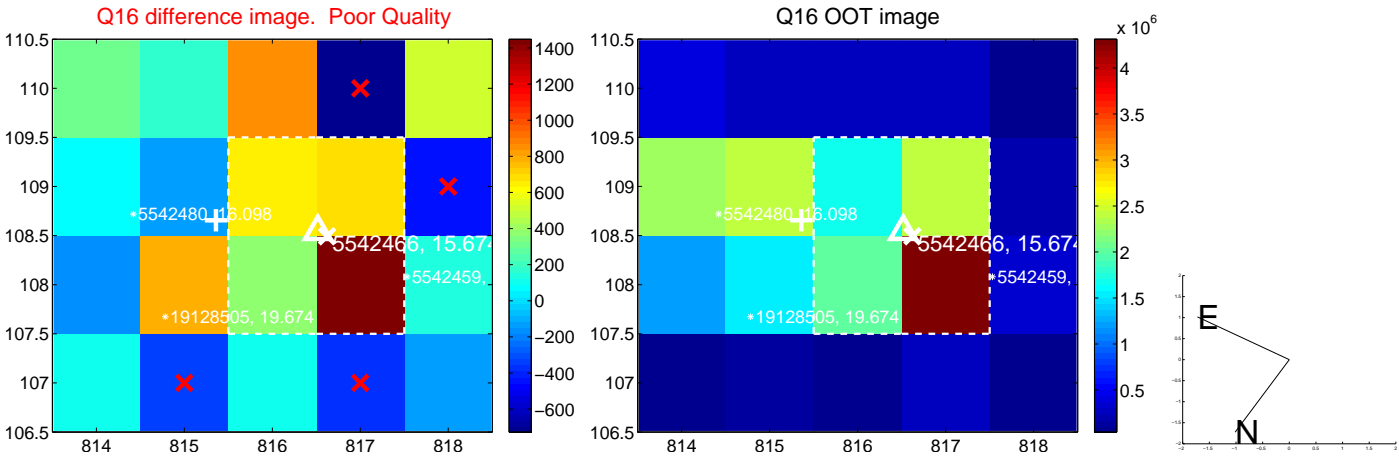
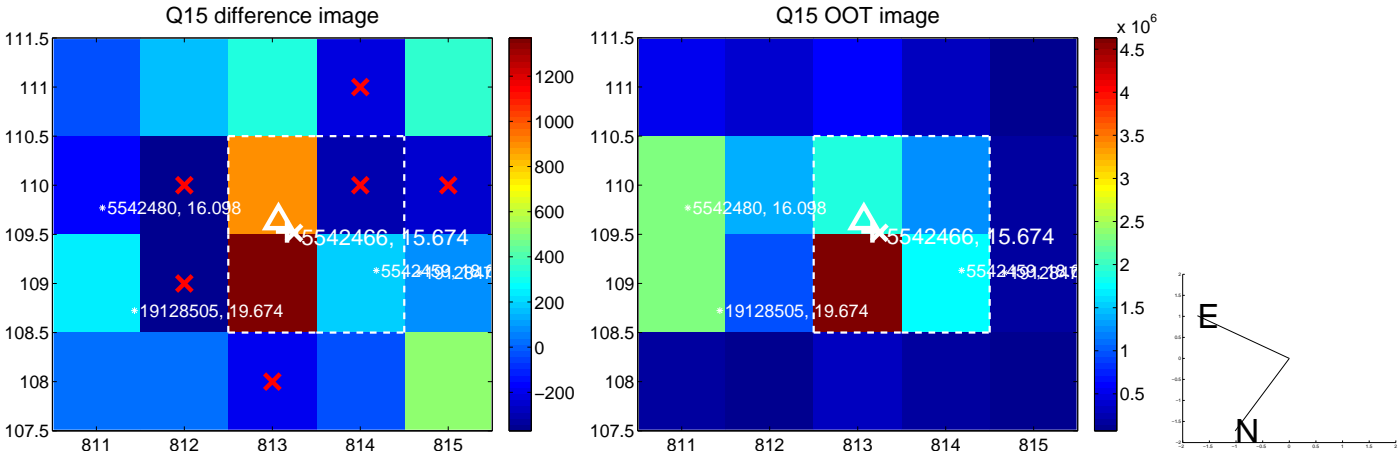
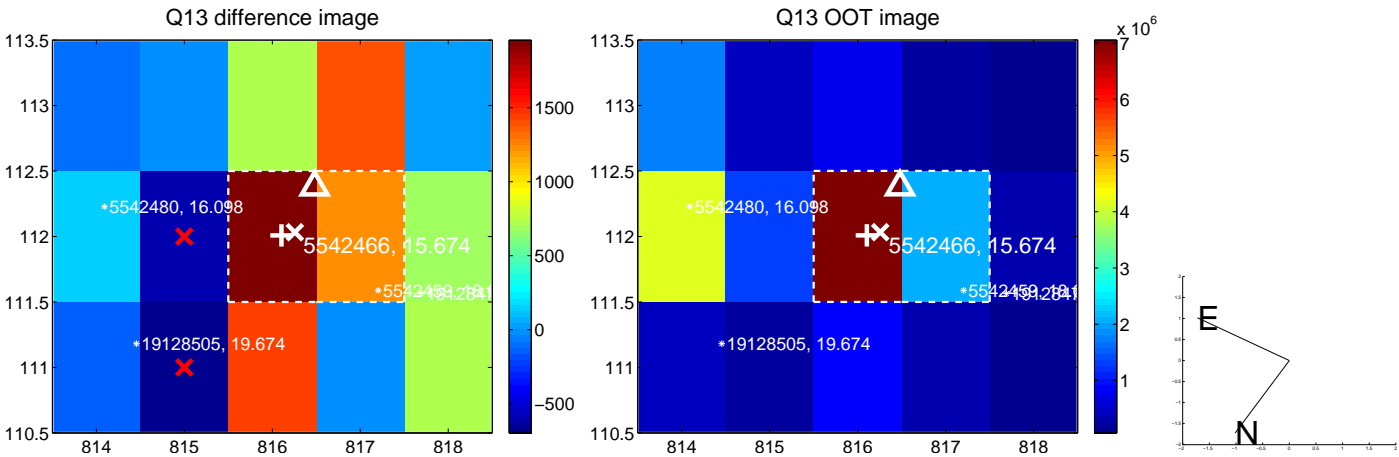
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



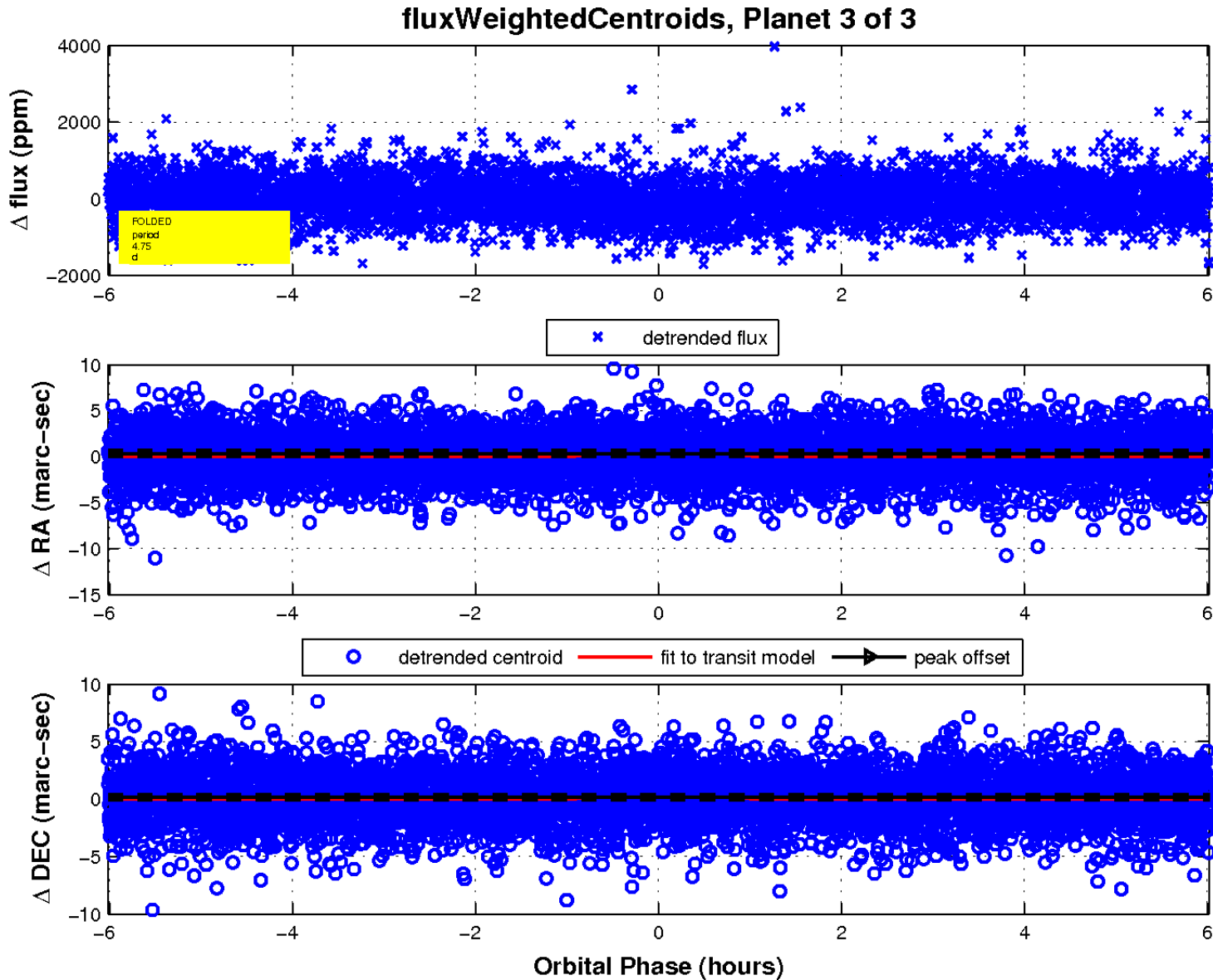
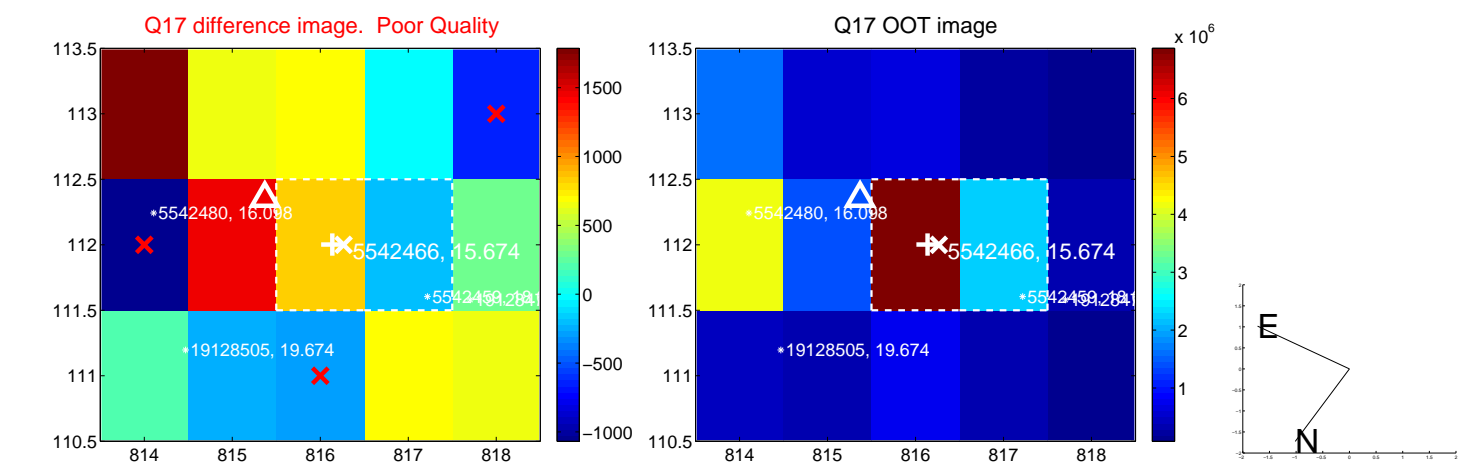
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

