

KIC 006525946

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})
006525946-01	OBS	2093.01	6.783419	136.103787	485.8	3.783	28.8	30.9	8.77	5096	22.72	11302.66
006525946-02	OBS	2093.02	2.508130	133.982452	184.4	2.674	15.2	16.6	8.77	5096	14.15	0.00
006525946-03	OBS	2093.03	0.992144	132.282034	117.8	1.552	10.8	12.5	8.77	5096	11.06	0.00
006525946-04	OBS	No	0.992140	131.781383	125.3	1.447	11.2	13.1	8.77	5096	9.78	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006525946-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
006525946-02	OBS	PC	0.98	0	0	0	0	PLANET_IN_STAR—CENT_KIC_POS
006525946-03	OBS	PC	0.99	0	0	0	0	PLANET_IN_STAR—MOD_SEC_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE—CENT_KIC_POS
006525946-04	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

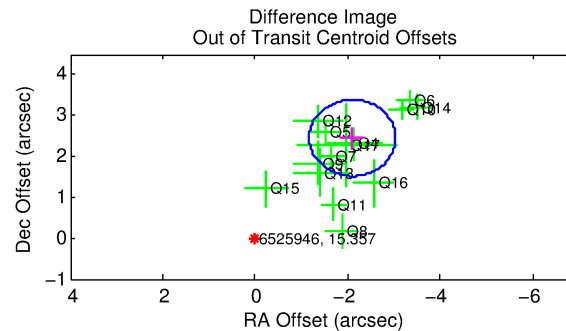
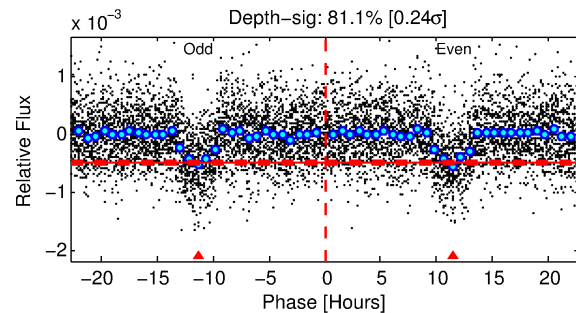
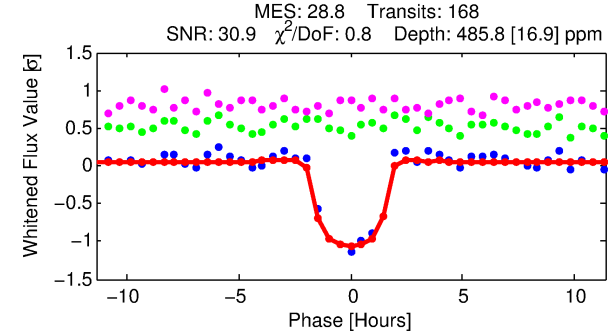
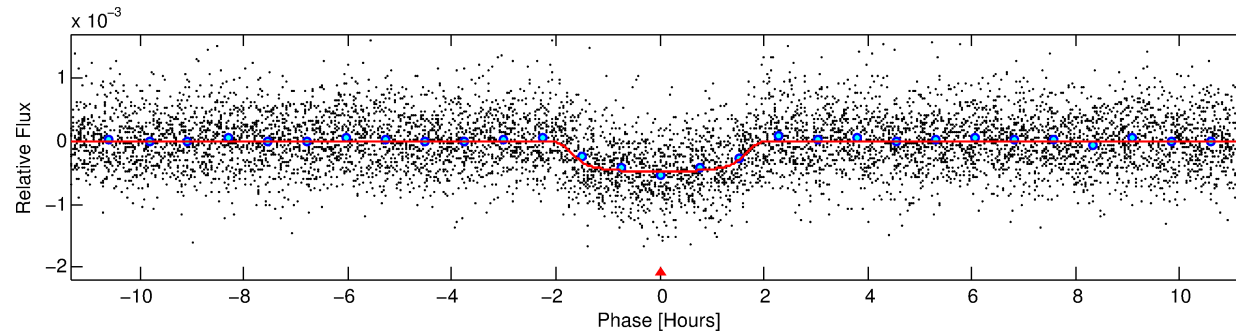
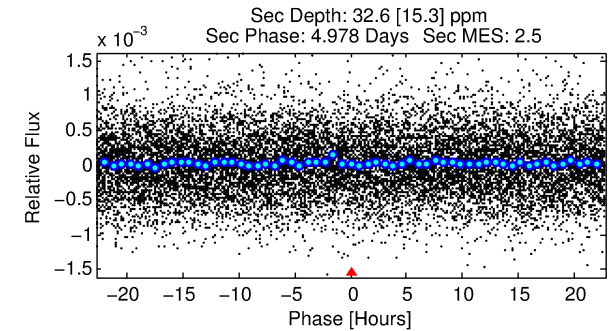
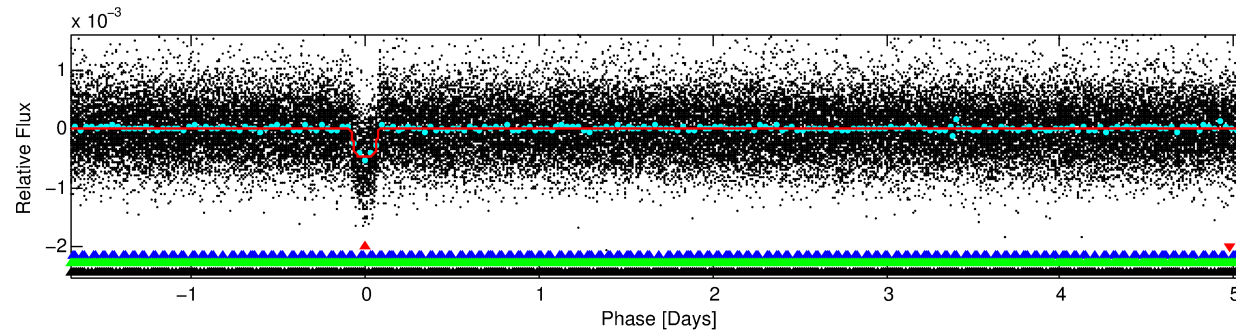
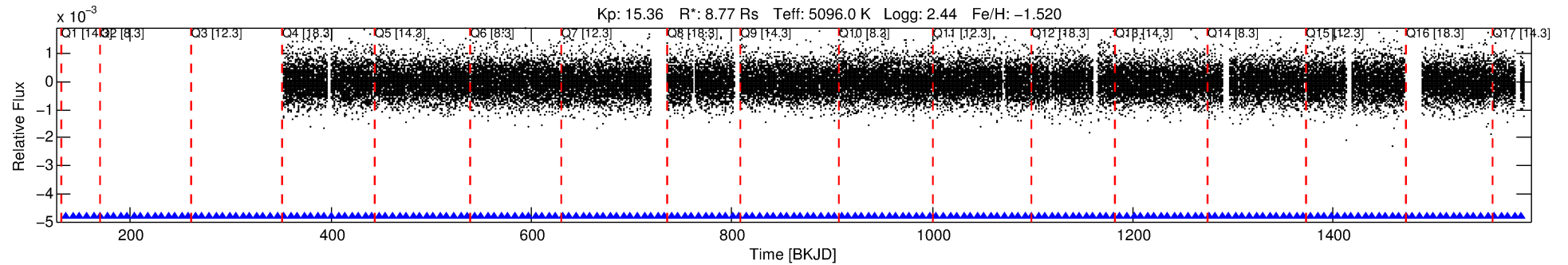
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006525946-01

No Significant Match Found

DV One-Page Summary

KIC: 6525946 Candidate: 1 of 4 Period: 6.783 d
KOI: K02093.01 Corr: 0.991



DV Fit Results:

Period = 6.78342 [0.00002] d
Epoch = 136.1038 [0.0027] BKJD
Rp/R* = 0.0237 [0.0023]
a/R* = 6.93 [3.13]
b = 0.89 [0.11]
Seff = 11302.66 [3841.38]
Teq = 2629 [223] K
Rp = 22.72 [8.87] Re
a = 0.0641 [0.0176] AU
Ag = 0.14 [0.09] [-9.87σ]
Teffp = 2500 [319] K [-0.33σ]

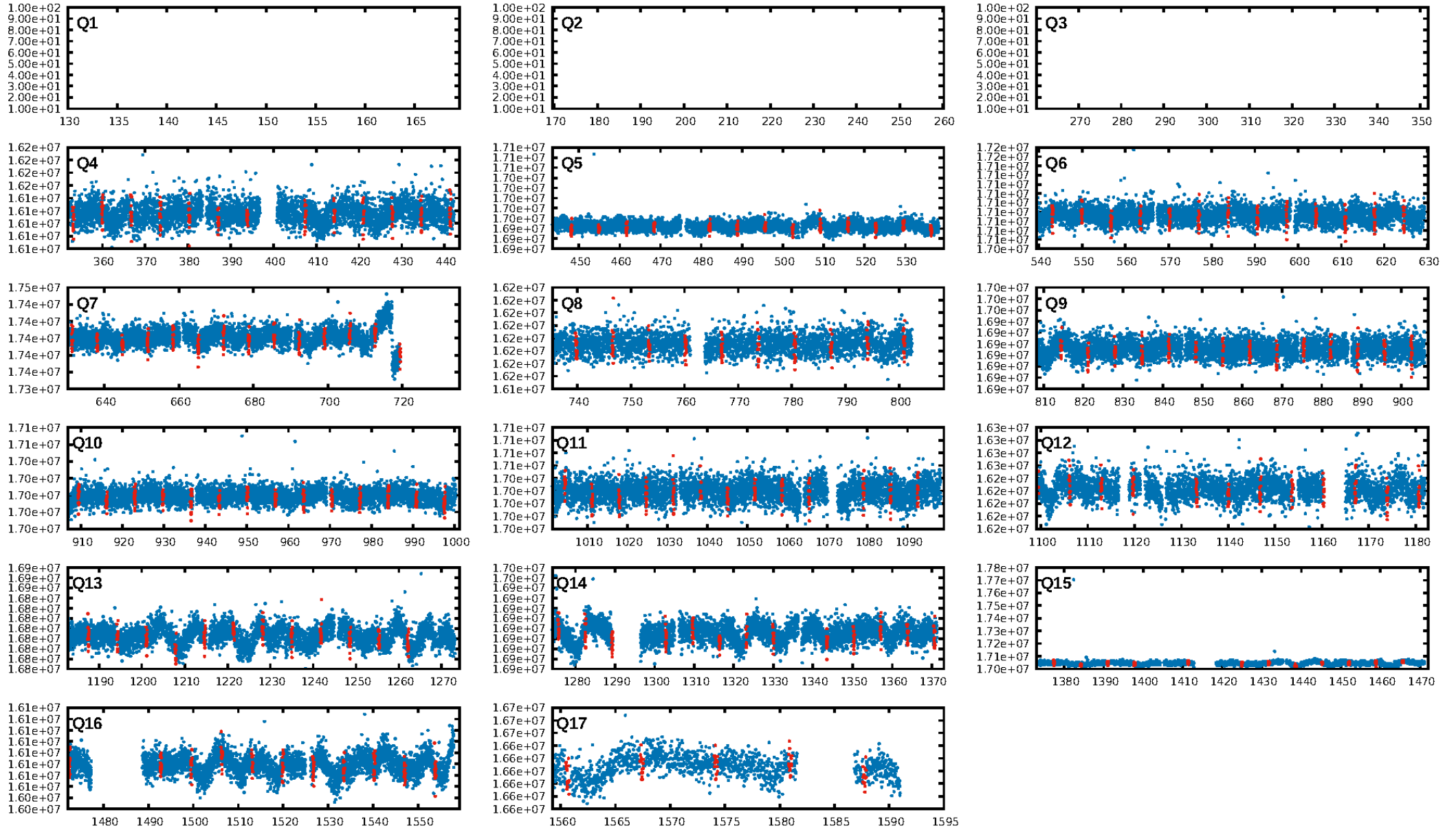
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [22.15σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.8%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 2.70e-177
RollingBand-fgt: 1.00 [163/163]
GhostDiagnostic-chr: 6.826
Centroid-sig: 0.0%
Centroid-so: 1.327 arcsec [4.70σ]
OotOffset-rm: 3.224 arcsec [10.35σ]
KicOffset-rm: 0.292 arcsec [1.98σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

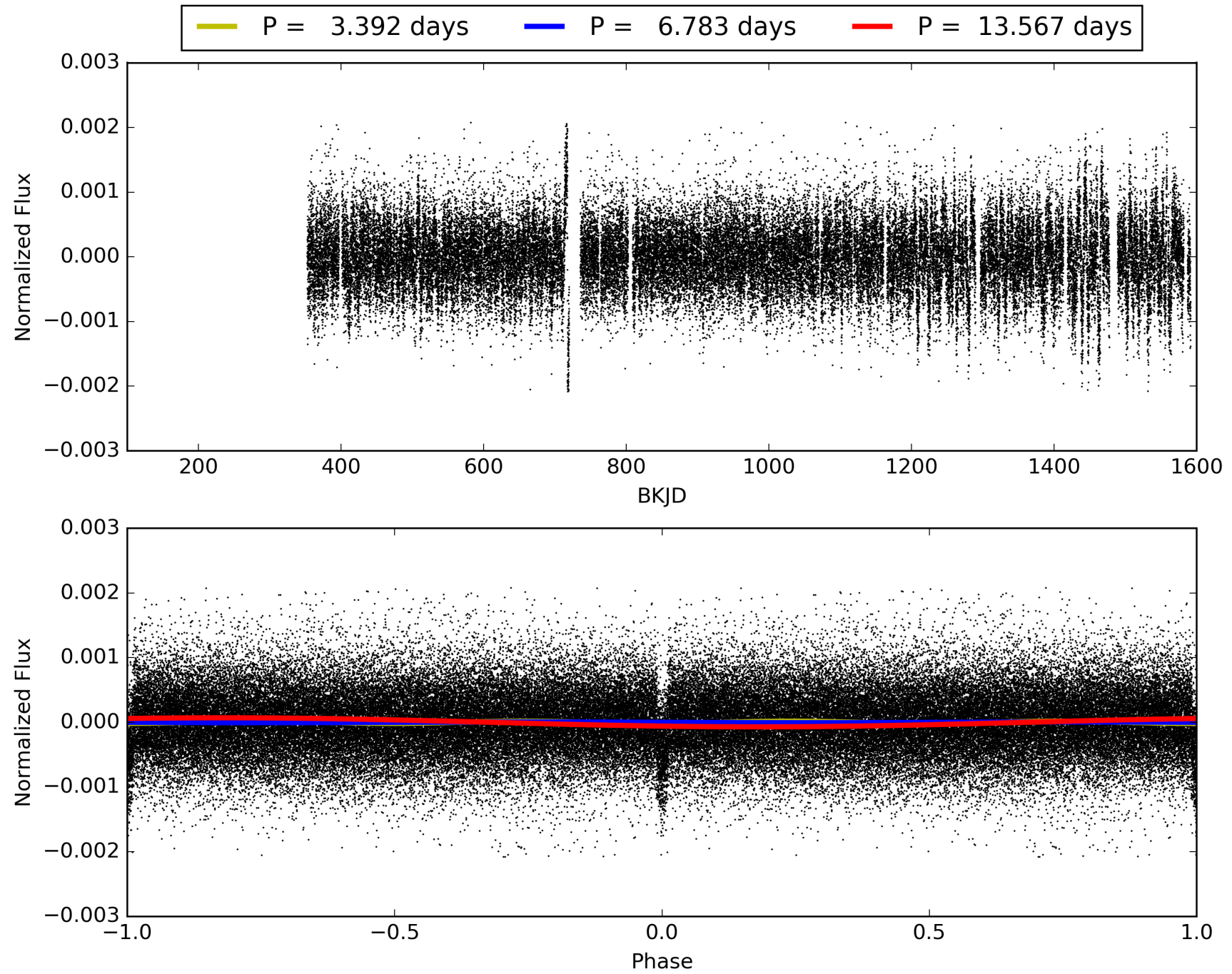
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006525946-01, PDC Light Curves

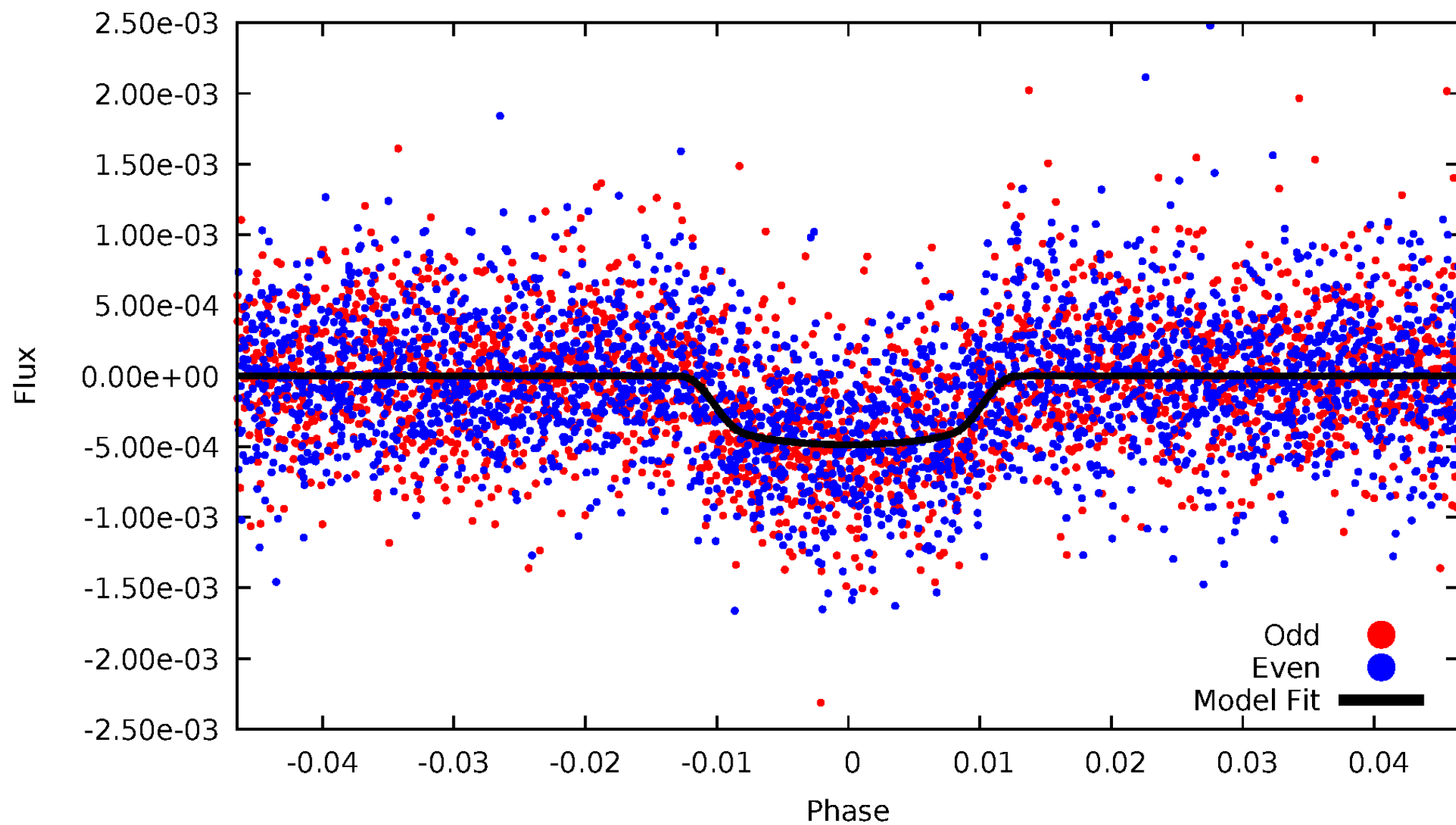


TCE 006525946-01



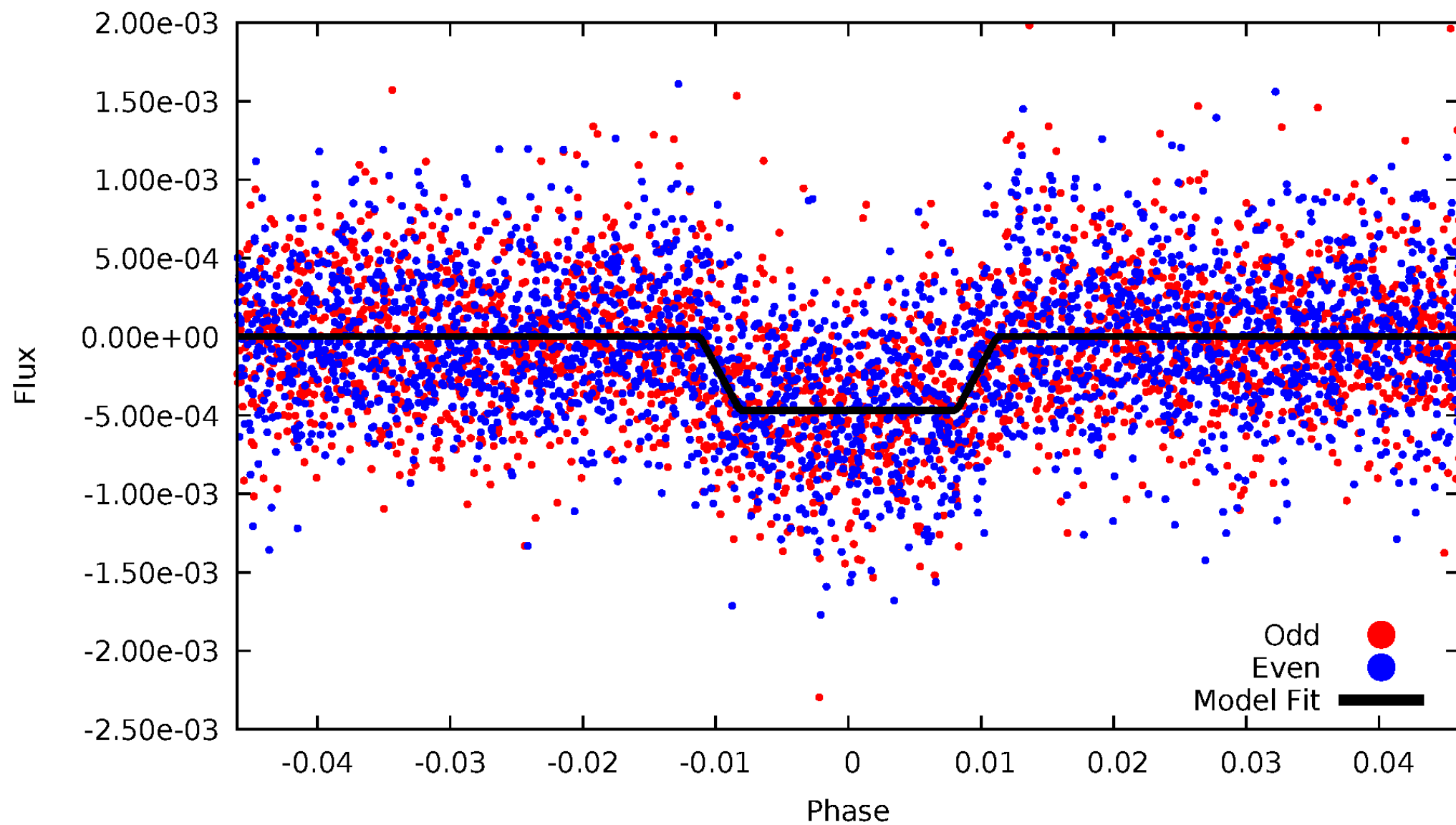
DV Odd/Even

TCE 006525946-01



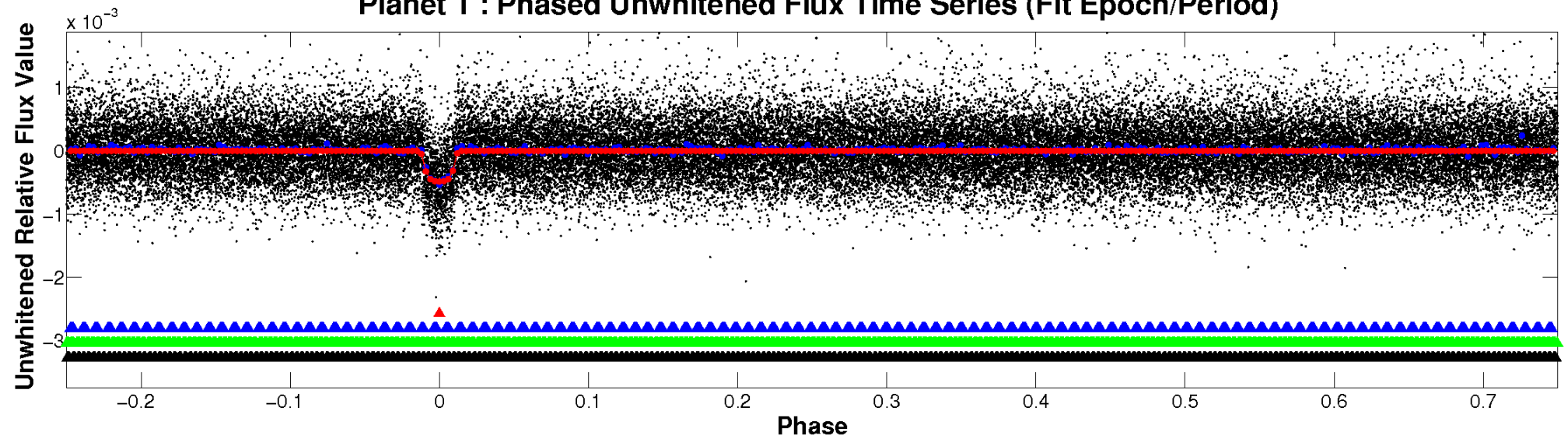
ALT Odd/Even

TCE 006525946-01

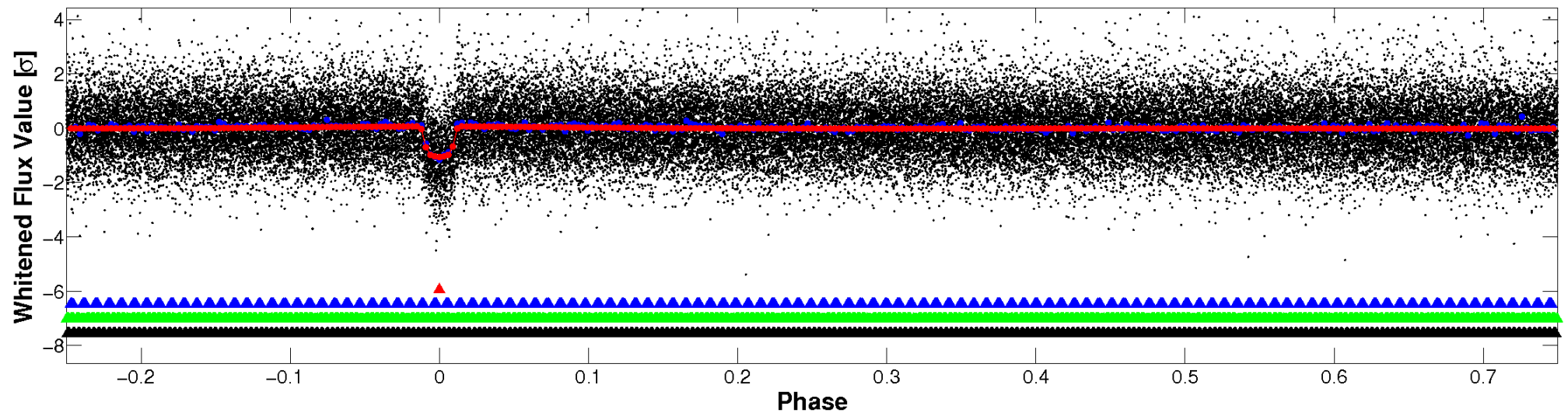


Non-Whitened Vs. Whitened Light Curve

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

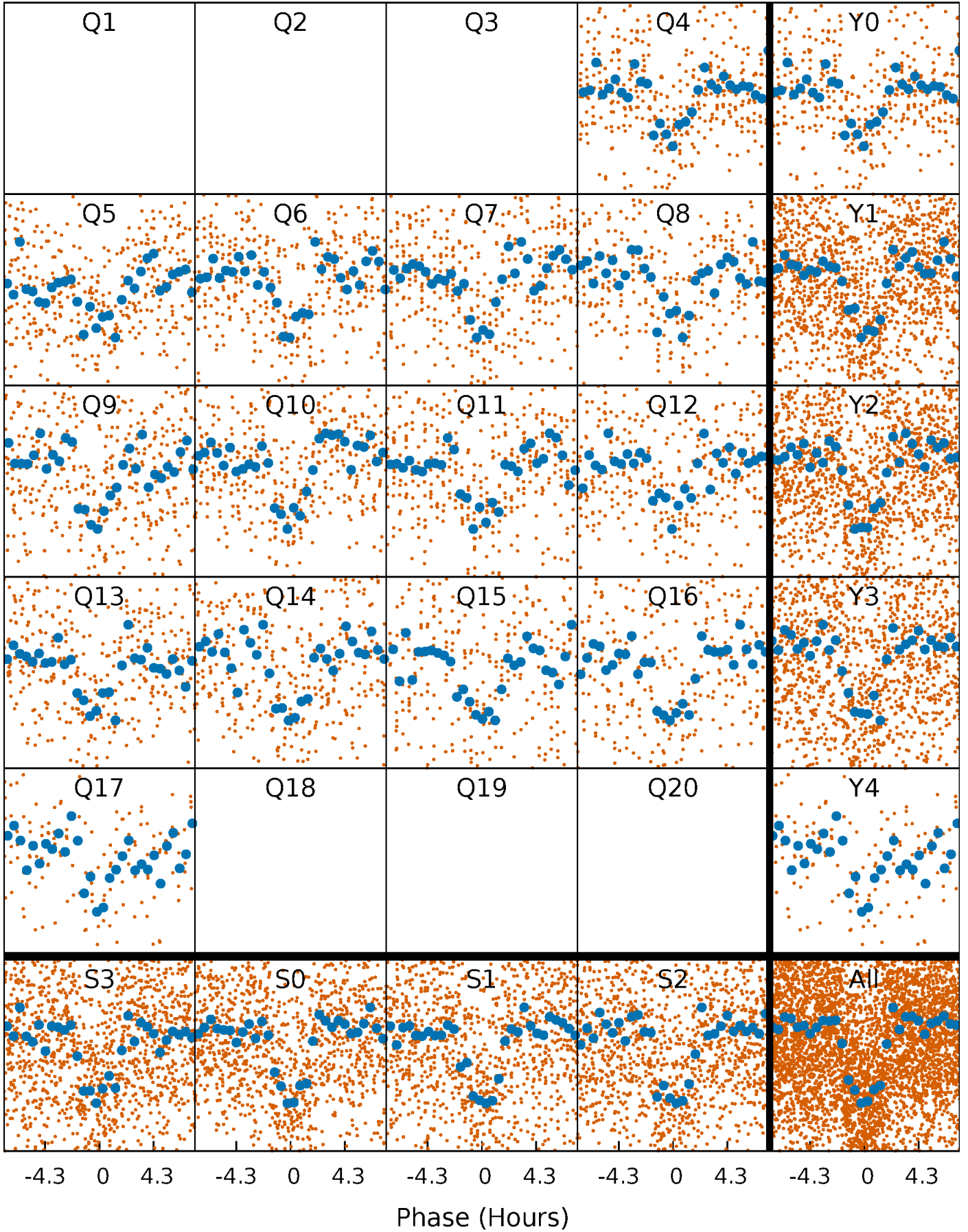


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



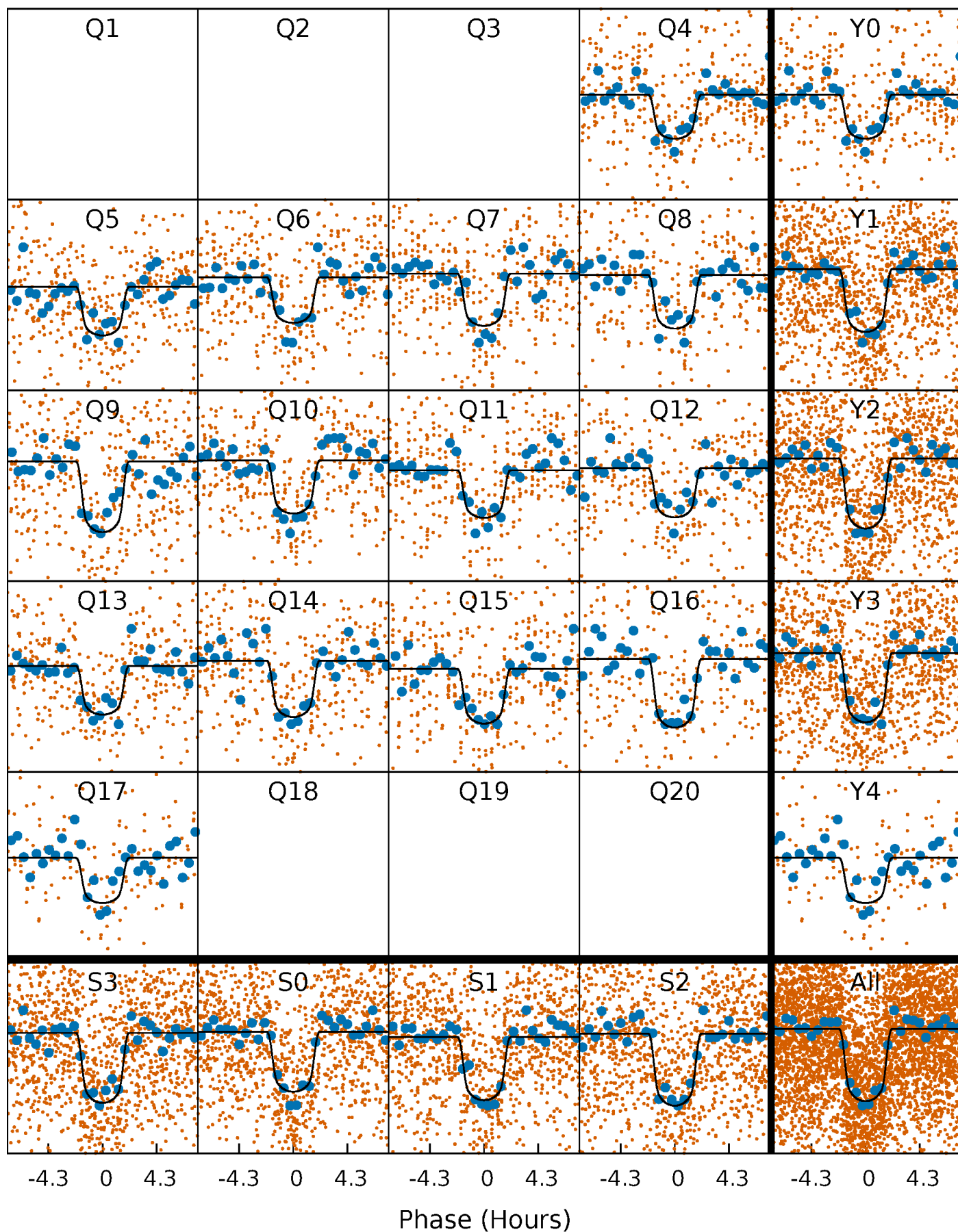
PDC Quarter-Phased Transit Curves

TCE 006525946-01 P= 6.783419 Days $T_0=136.103787$ (BKJD)



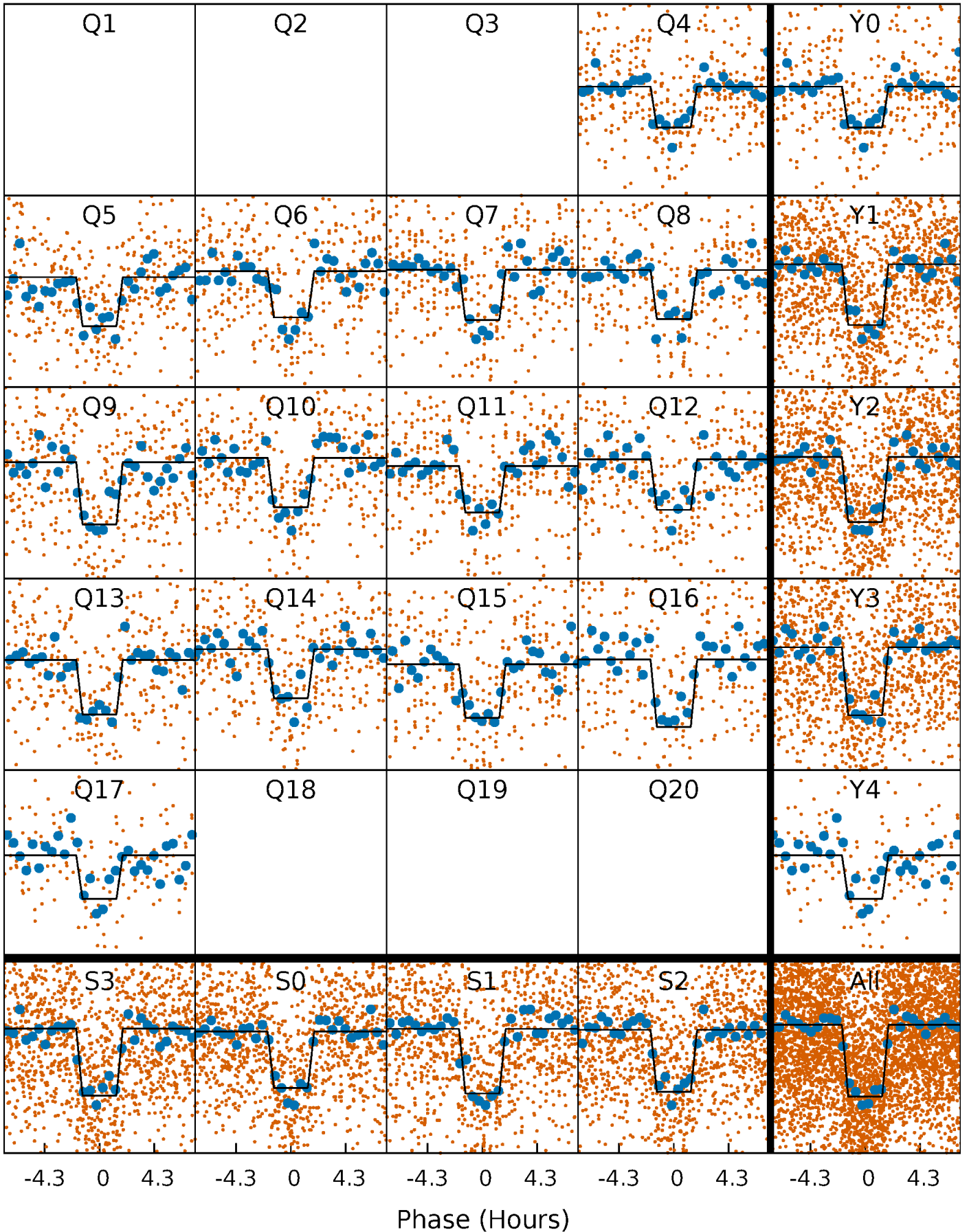
DV Quarter-Phased Transit Curves

TCE 006525946-01 P= 6.783419 Days $T_0=136.103787$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

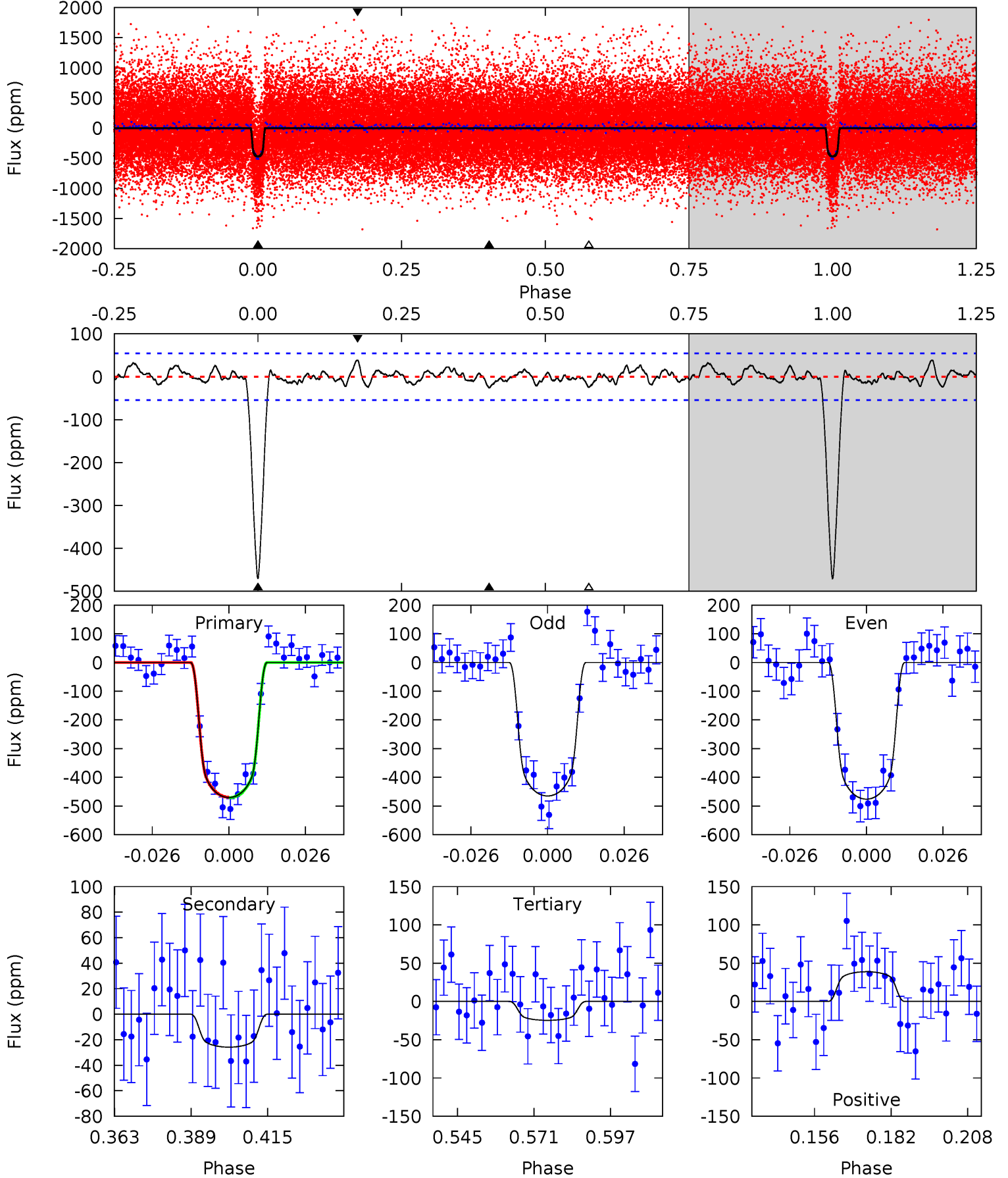
TCE 006525946-01 P= 6.783418 Days $T_0=136.104706$ (BKJD)



DV Model-Shift Uniqueness Test

006525946-01, P = 6.783419 Days, E = 136.103787 Days

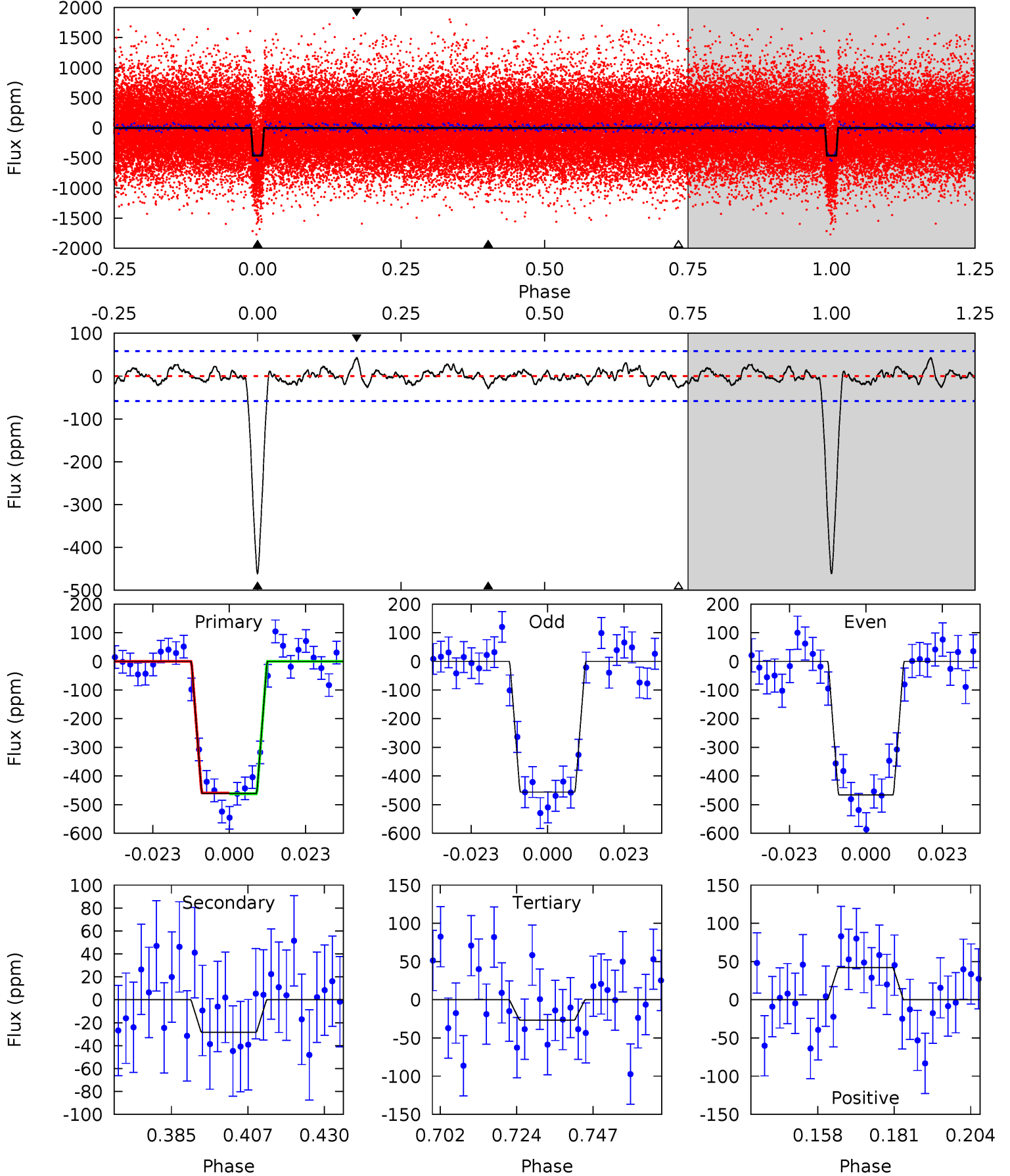
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.9	2.30	2.19	3.46	4.84	2.23	1.05	39.7	38.4	0.10	-1.16	0.49	1.02	0.08	0.09



Alt Model-Shift Uniqueness Test

006525946-01, P = 6.783418 Days, E = 136.104706 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.5	2.38	2.22	3.52	4.87	2.28	1.02	36.2	34.9	0.15	-1.14	0.39	1.04	0.08	0.09



Stellar Parameters For KIC 006525946

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5096^{+77}_{-46}	$2.435^{+0.117}_{-0.143}$	$-1.520^{+0.150}_{-0.150}$	$8.769^{+3.319}_{-1.106}$	$0.763^{+0.367}_{-0.015}$	$0.002^{+0.001}_{-0.001}$
	+2%/-1%	+5%/-6%	+10%/-10%	+38%/-13%	+48%/-2%	+45%/-50%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006525946-01 / KOI 2093.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 11	$23.27^{+5.10}_{-3.09}$	3674^{+252}_{-154}	-3238^{+239}_{-215}	$0.110^{+0.065}_{-0.051}$
Alt.	-28 ± 12	$21.22^{+4.25}_{-3.04}$	3663^{+248}_{-157}	-3141^{+433}_{-248}	$0.144^{+0.096}_{-0.068}$

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 $A_{obs} \gg 1.0$

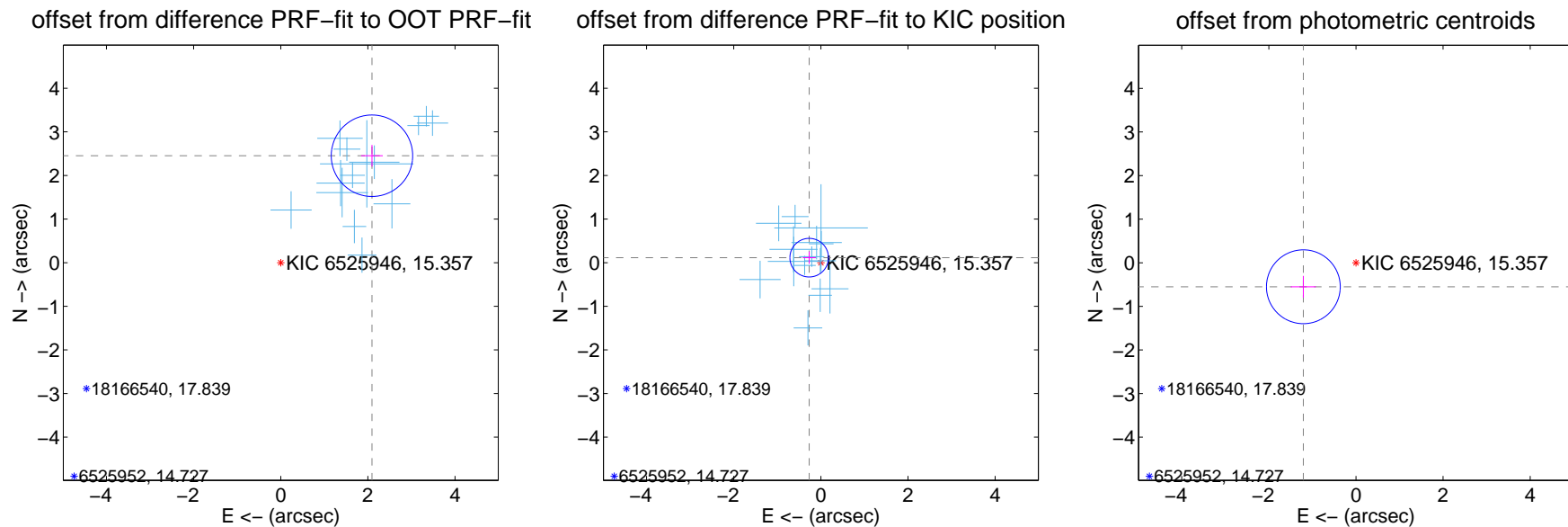
DV Centroid Data

Supplemental centroid analysis for 006525946-01. Kepler magnitude: 15.36. Transit SNR 30.92

There are 14 quarters with good PRF difference image offsets

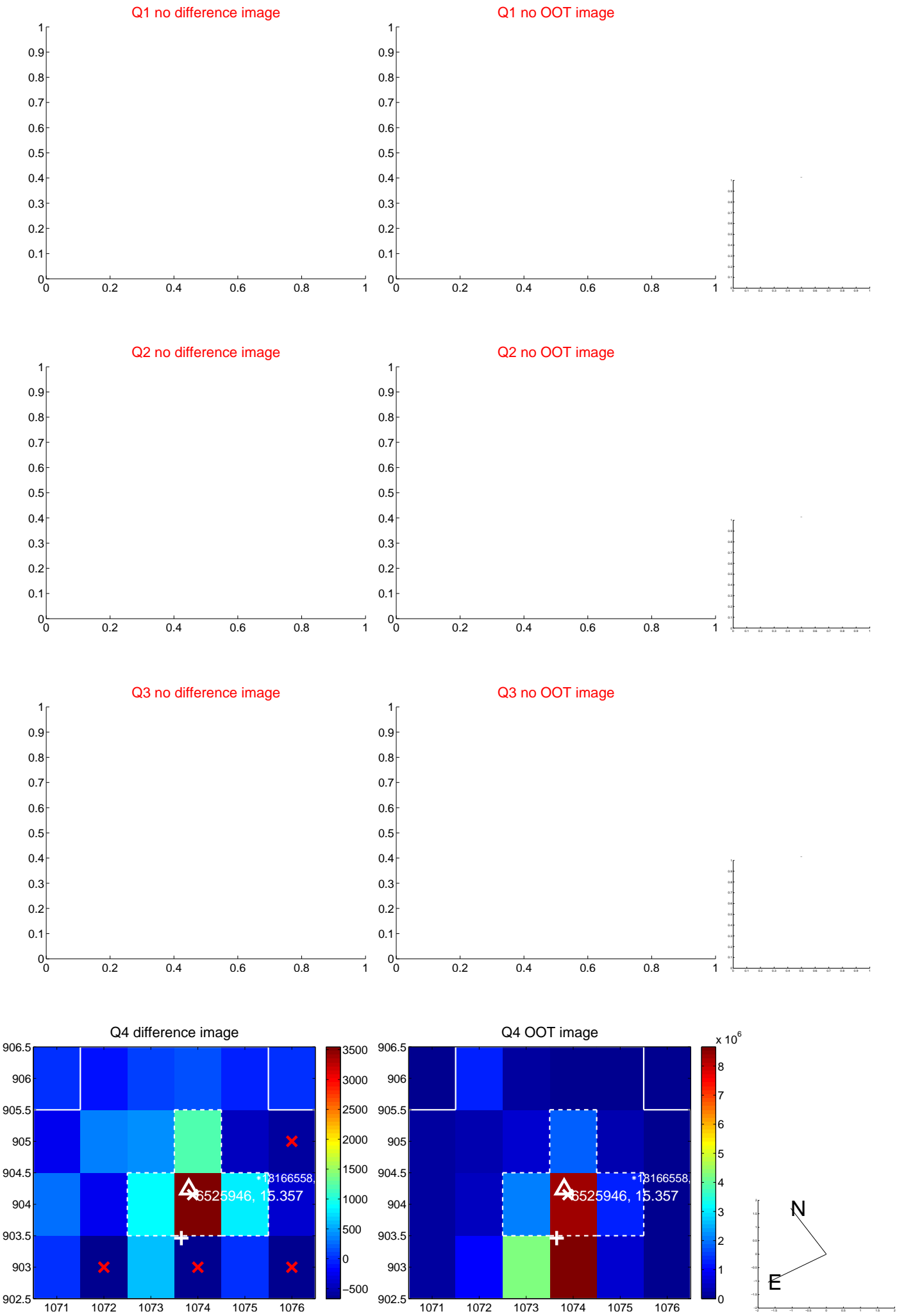
The OOT PRF centroid is offset from the target star catalog position by about 2.46 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.224 \pm 0.311	10.35	-2.093 \pm 0.247	2.453 \pm 0.248
PRF-fit source offset from KIC position	0.292 \pm 0.148	1.98	0.268 \pm 0.149	0.115 \pm 0.142
photometric centroid source offset	1.33 \pm 0.28	4.70	1.21 \pm 0.29	-0.55 \pm 0.25

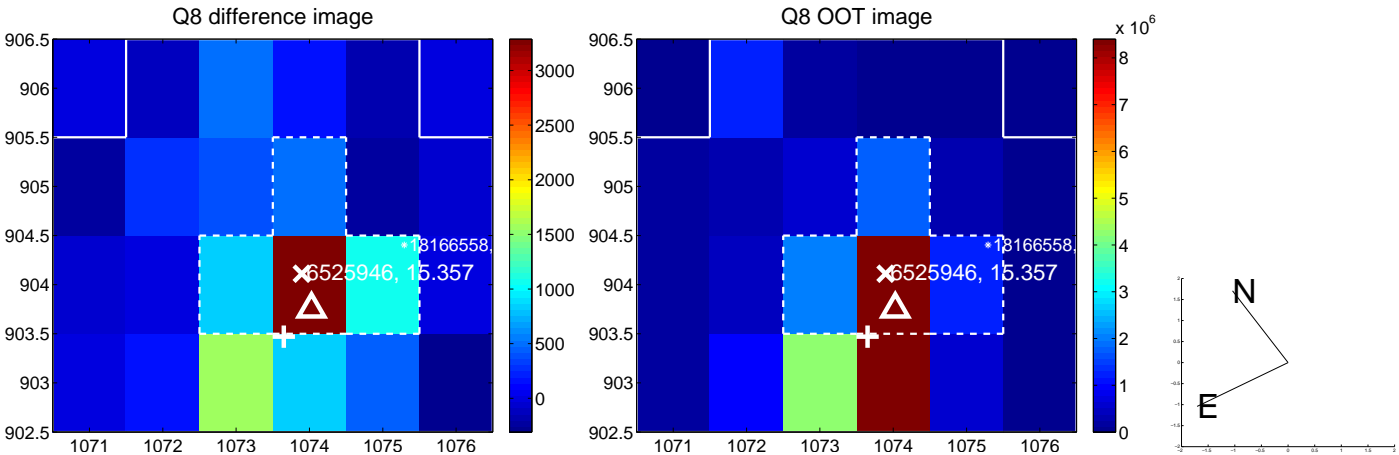
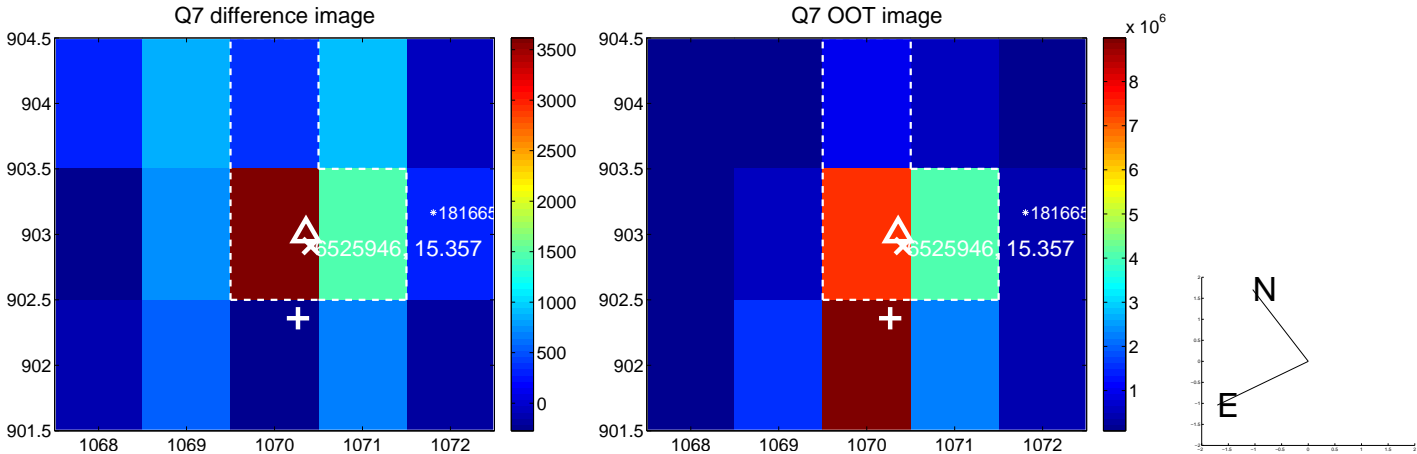
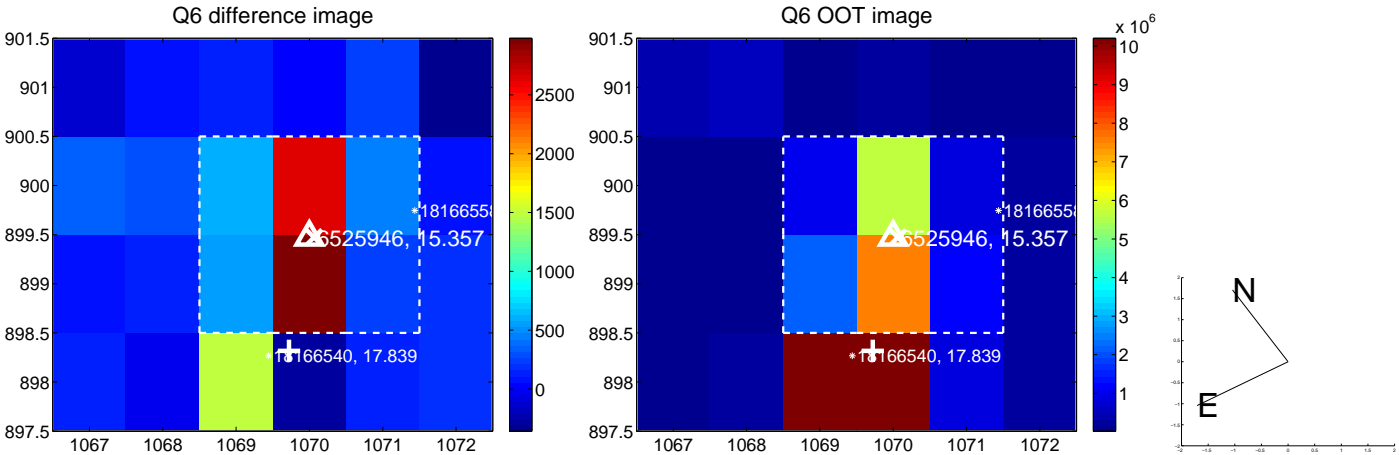
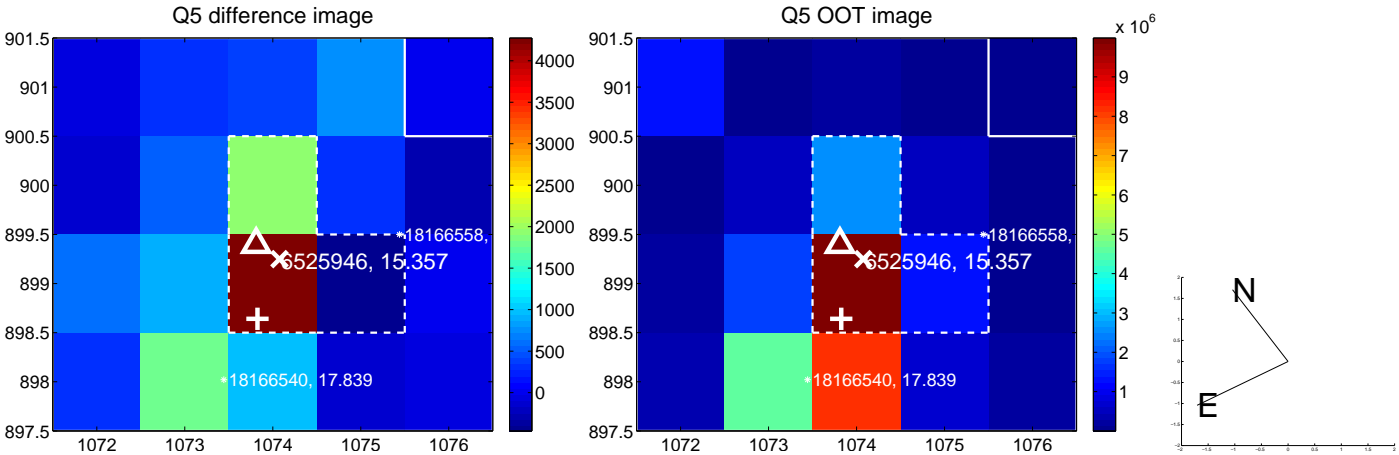


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

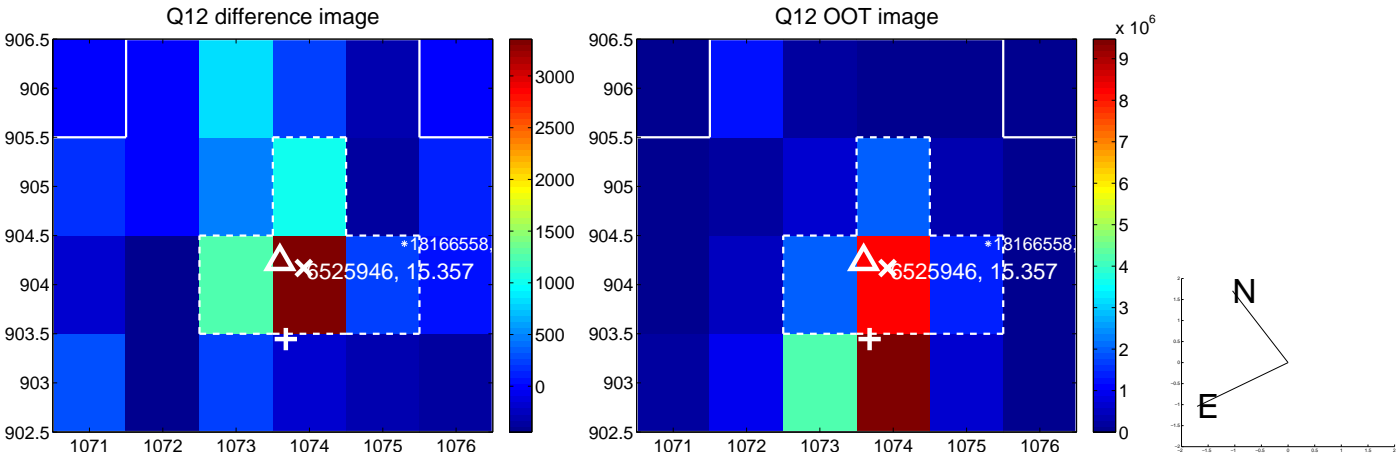
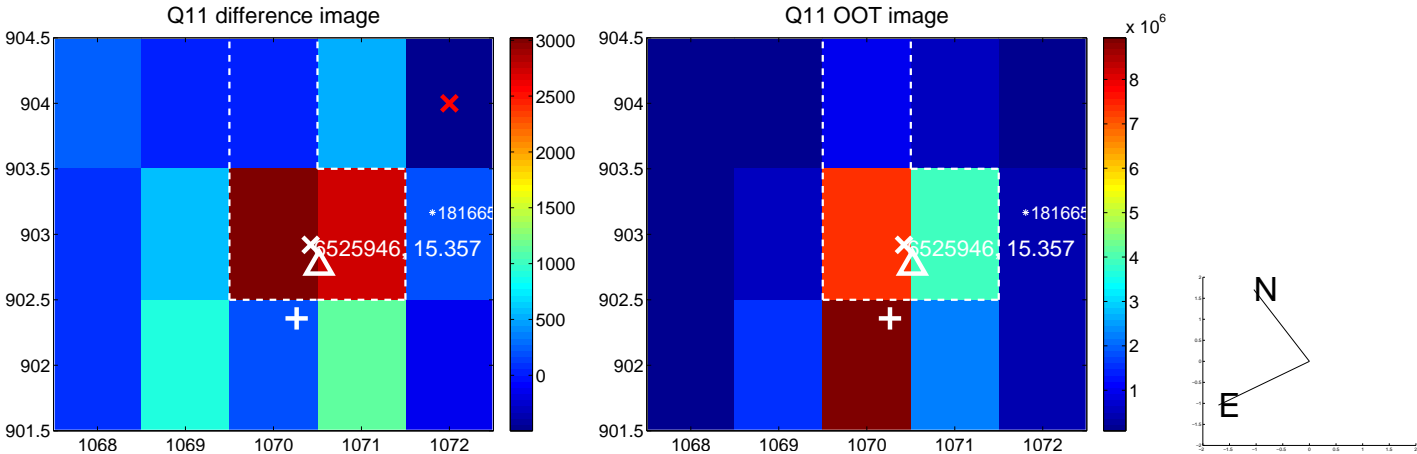
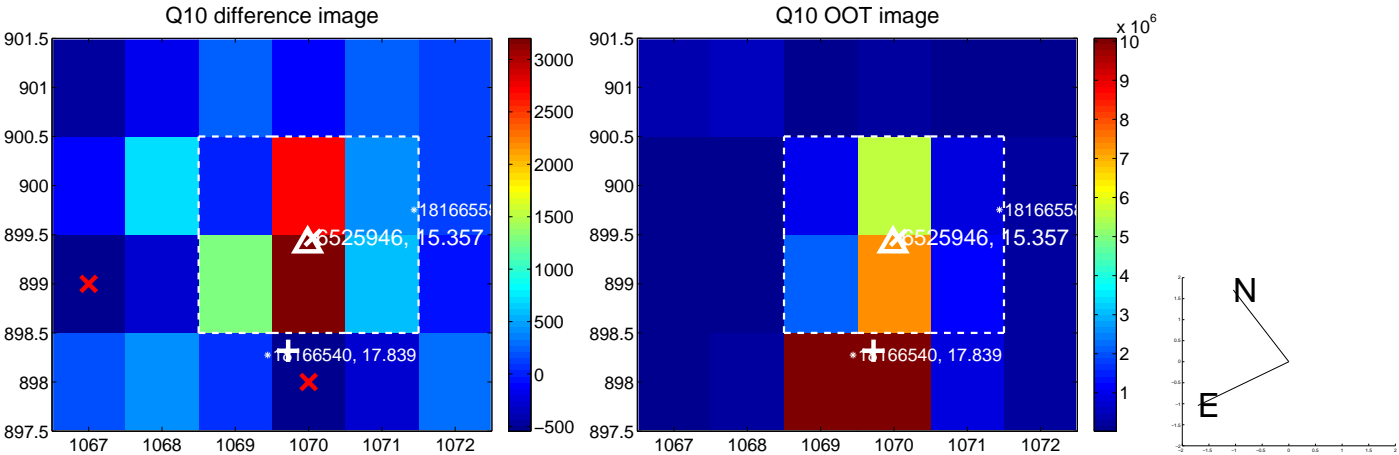
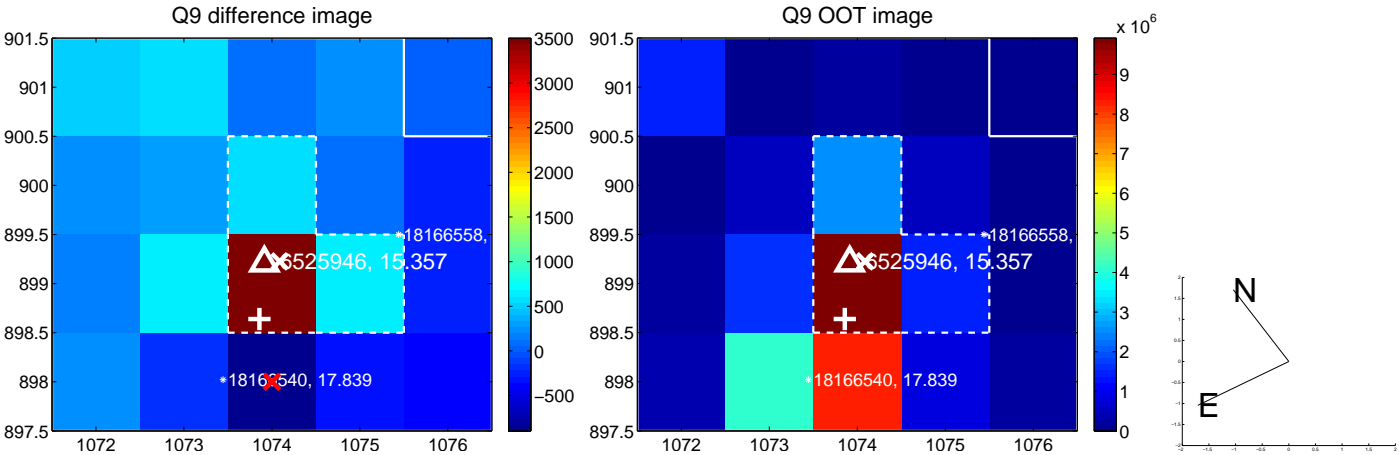
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



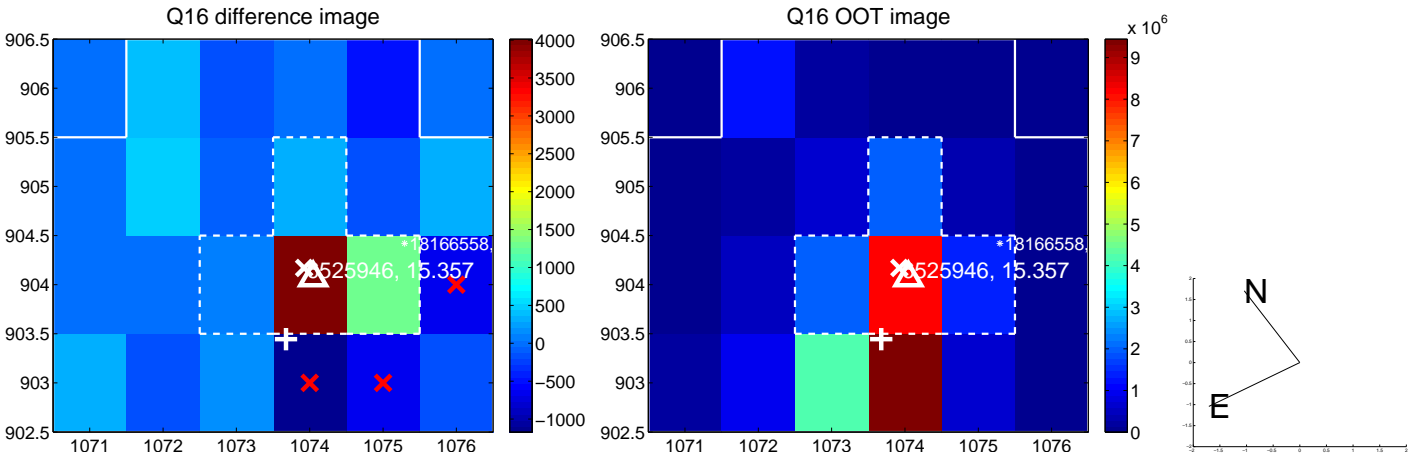
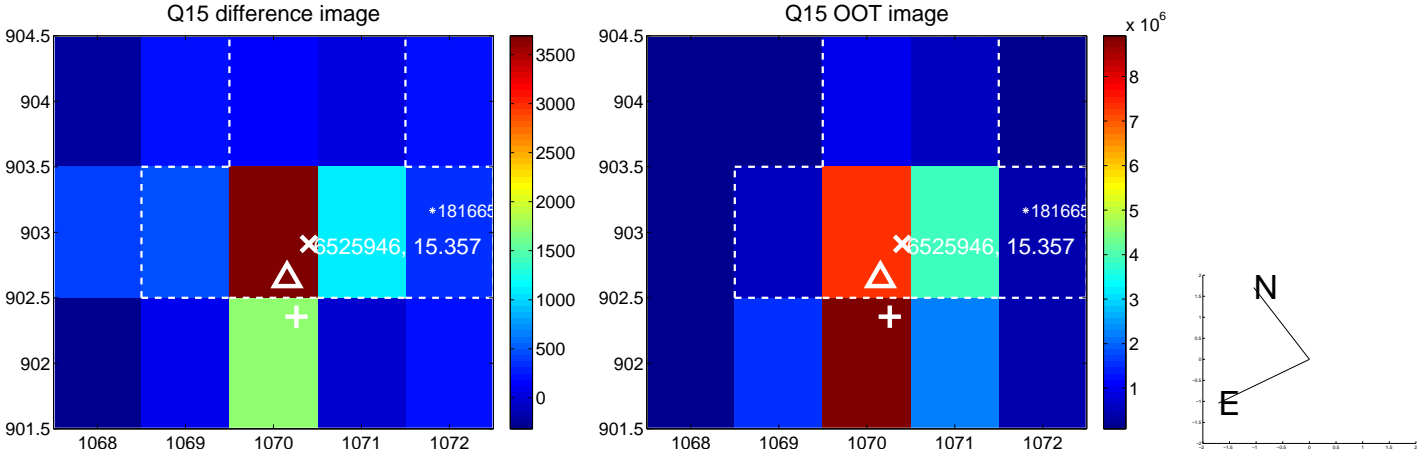
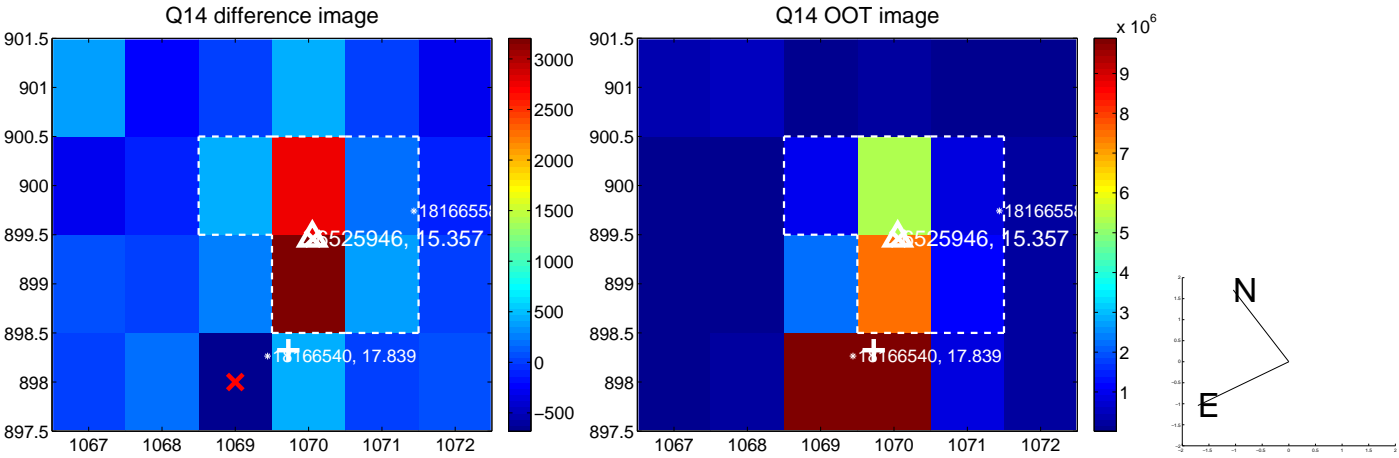
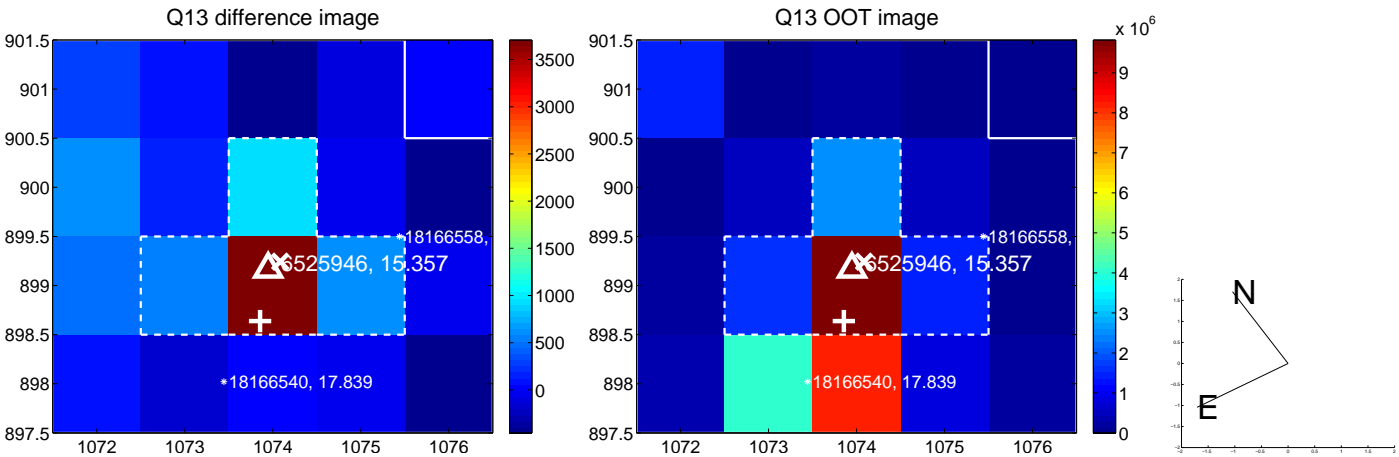
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



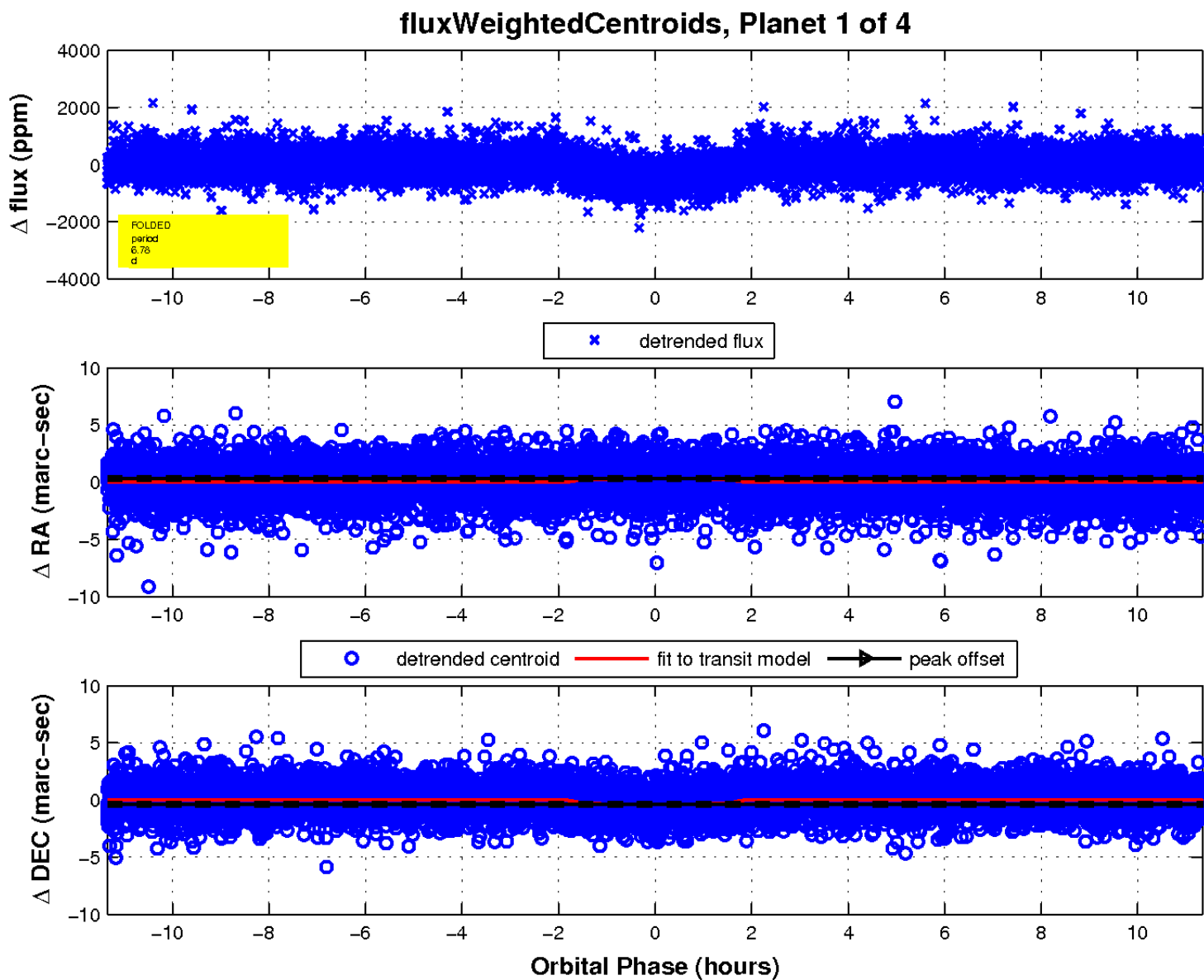
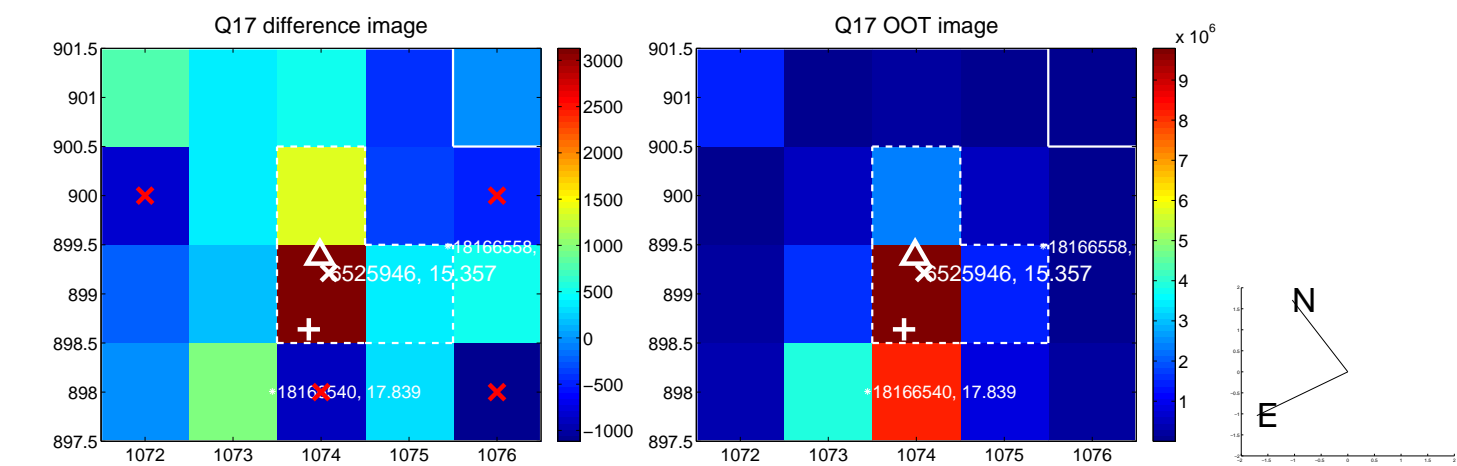
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

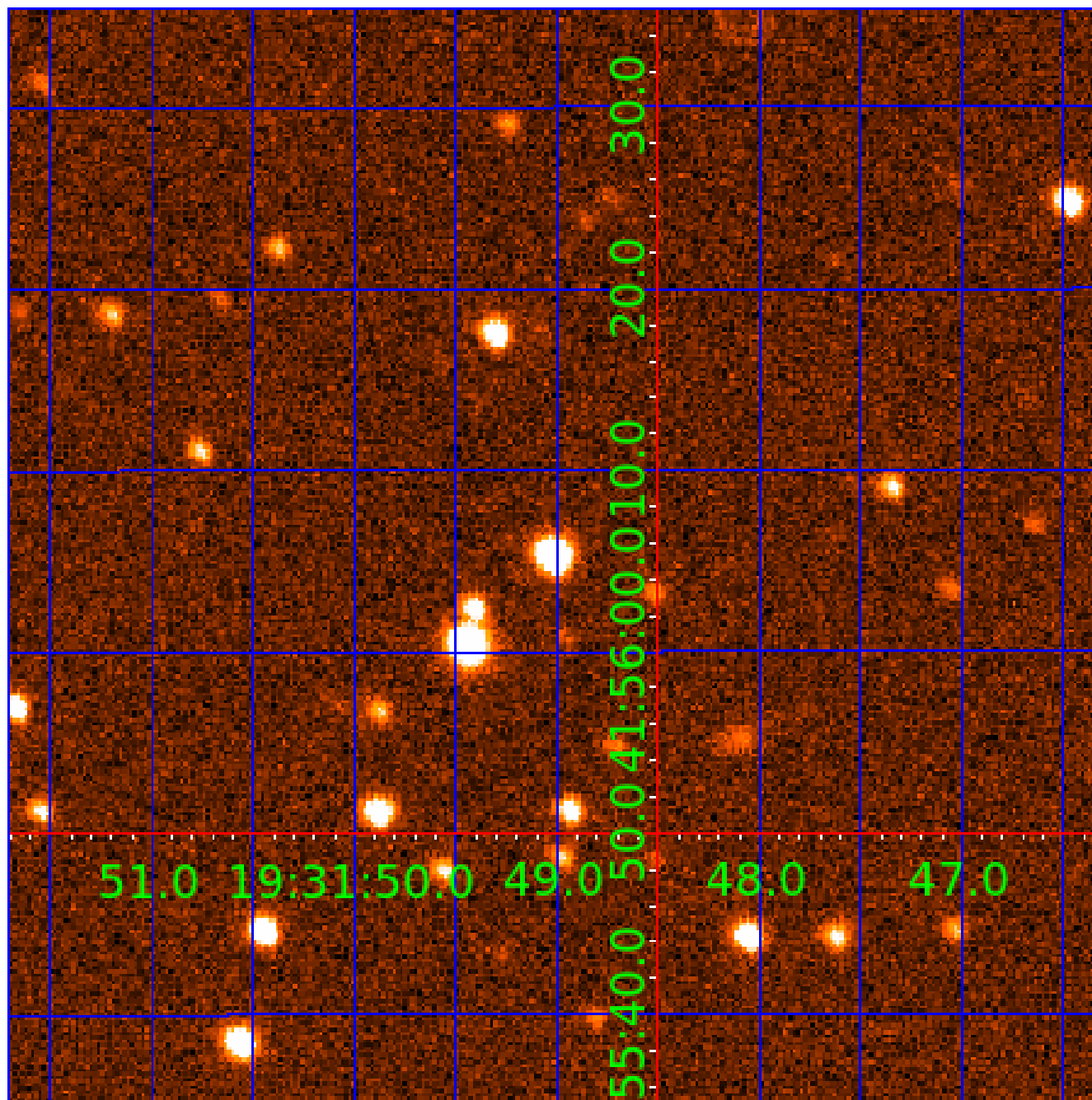


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006525946

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})
006525946-01	OBS	2093.01	6.783419	136.103787	485.8	3.783	28.8	30.9	8.77	5096	22.72	11302.66
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006525946-03	OBS	2093.03	0.992144	132.282034	117.8	1.552	10.8	12.5	8.77	5096	11.06	0.00
006525946-04	OBS	No	0.992140	131.781383	125.3	1.447	11.2	13.1	8.77	5096	9.78	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006525946-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
006525946-02	OBS	PC	0.98	0	0	0	0	PLANET_IN_STAR—CENT_KIC_POS
006525946-03	OBS	PC	0.99	0	0	0	0	PLANET_IN_STAR—MOD_SEC_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE—CENT_KIC_POS
006525946-04	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

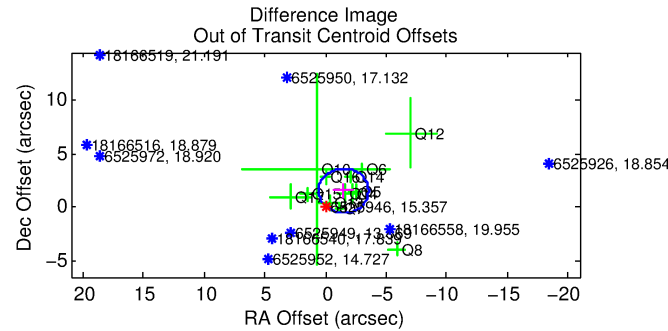
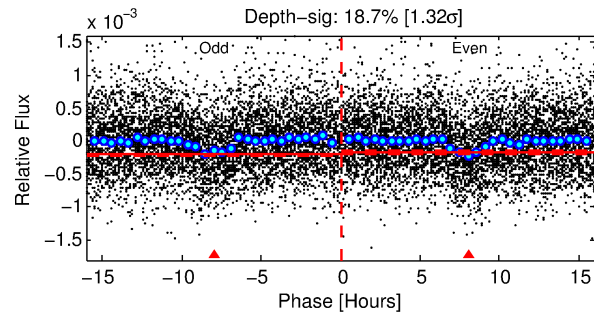
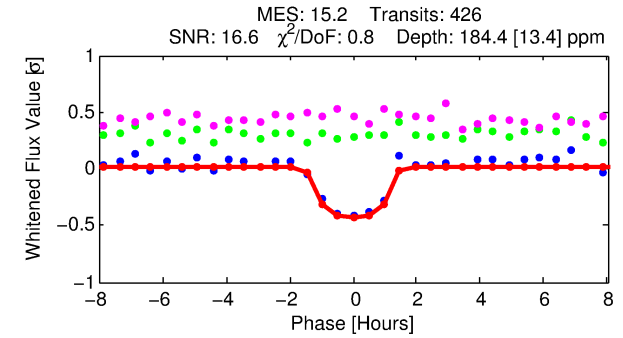
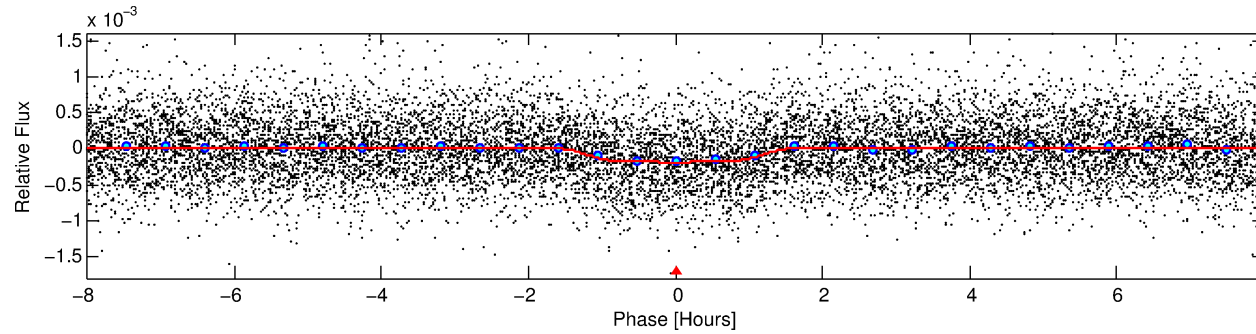
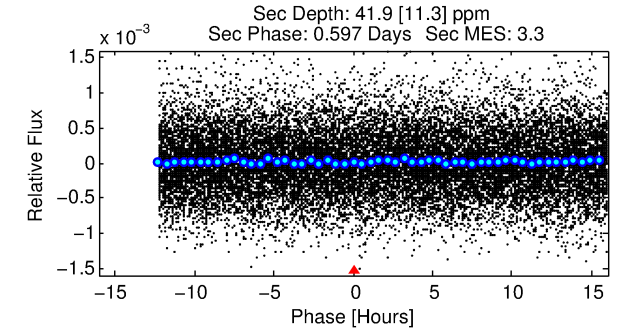
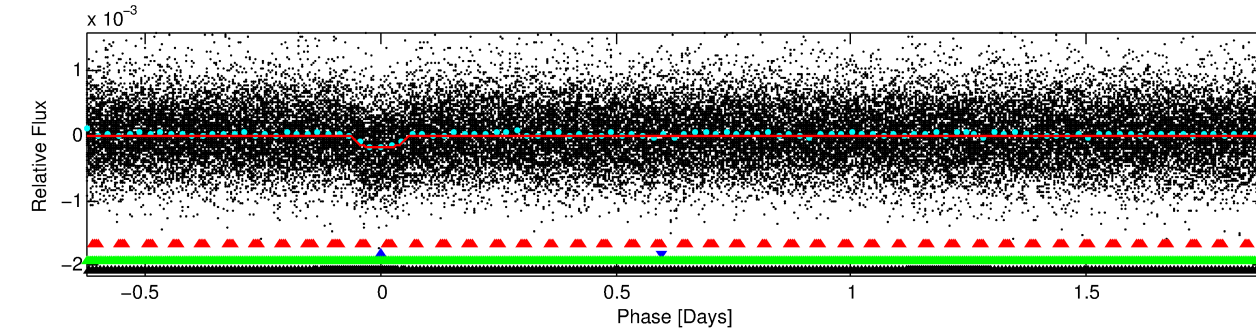
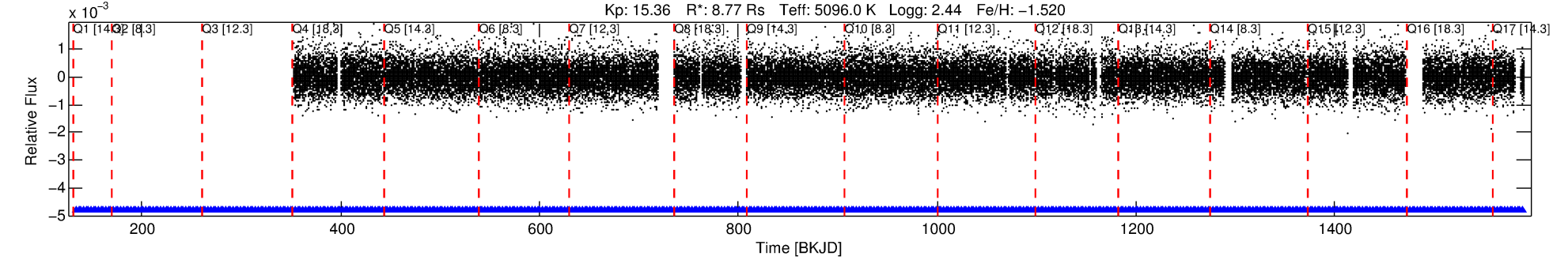
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006525946-02

No Significant Match Found

DV One-Page Summary

KIC: 6525946 Candidate: 2 of 4 Period: 2.508 d
KOI: K02093.02 Corr: 0.956



DV Fit Results:

Period = 2.50813 [0.00001] d
Epoch = 133.9825 [0.0025] BKJD
Rp/R* = 0.0148 [0.0049]
a/R* = 3.44 [5.23]
b = 0.90 [0.34]
Seff = N/A
Teq = N/A
Rp = 14.15 [7.14] Re
a = N/A
Ag = N/A
Teffp = N/A

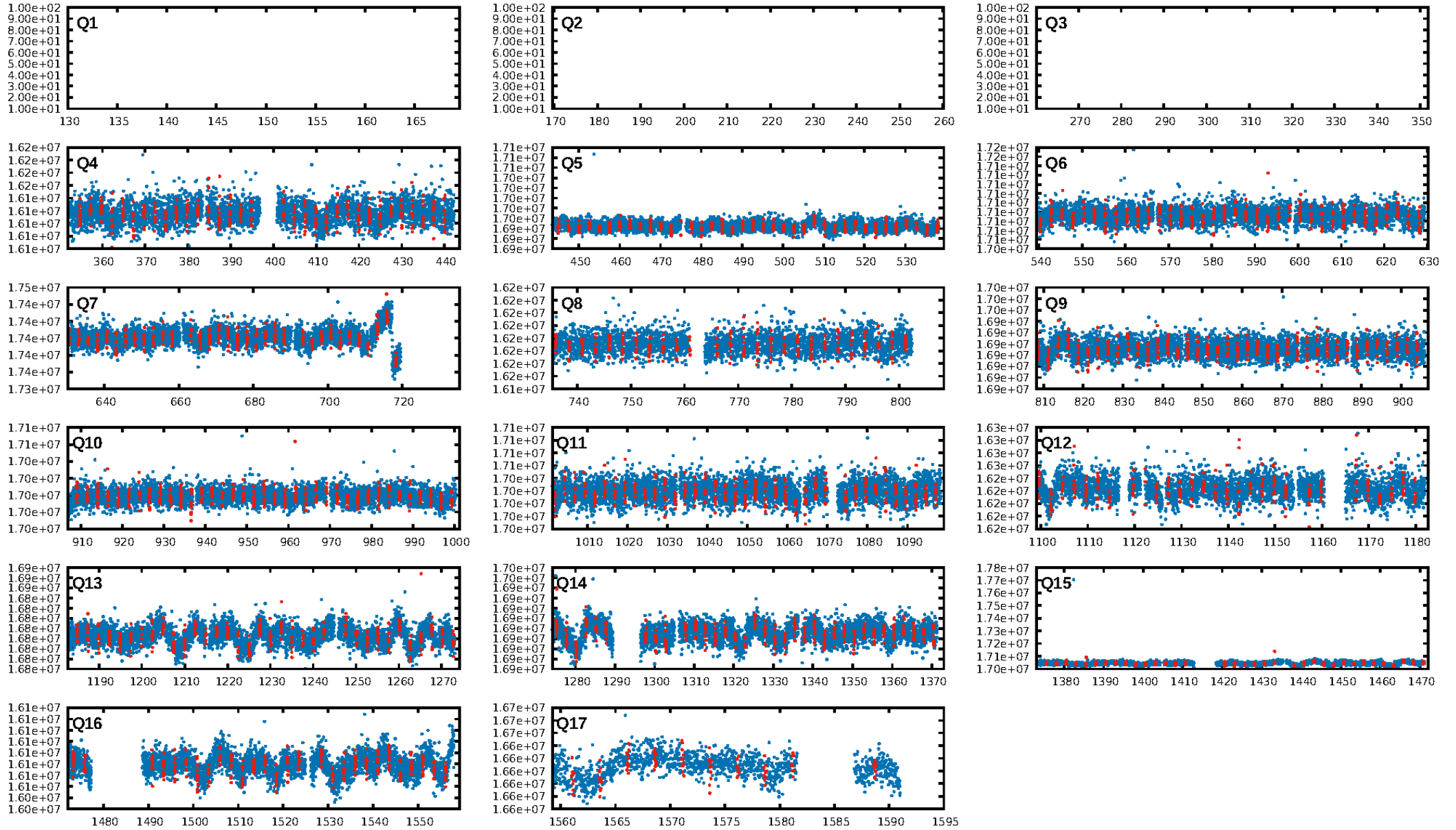
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.77σ]
LongPeriod-sig: 100.0% [22.15σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.32e-54
RollingBand-fgt: 1.00 [416/416]
GhostDiagnostic-chr: 3.255
Centroid-sig: 1.2%
Centroid-so: 2.075 arcsec [3.92σ]
OotOffset-rm: 2.158 arcsec [3.12σ]
KicOffset-rm: 0.795 arcsec [1.08σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 0.00 [0/14]

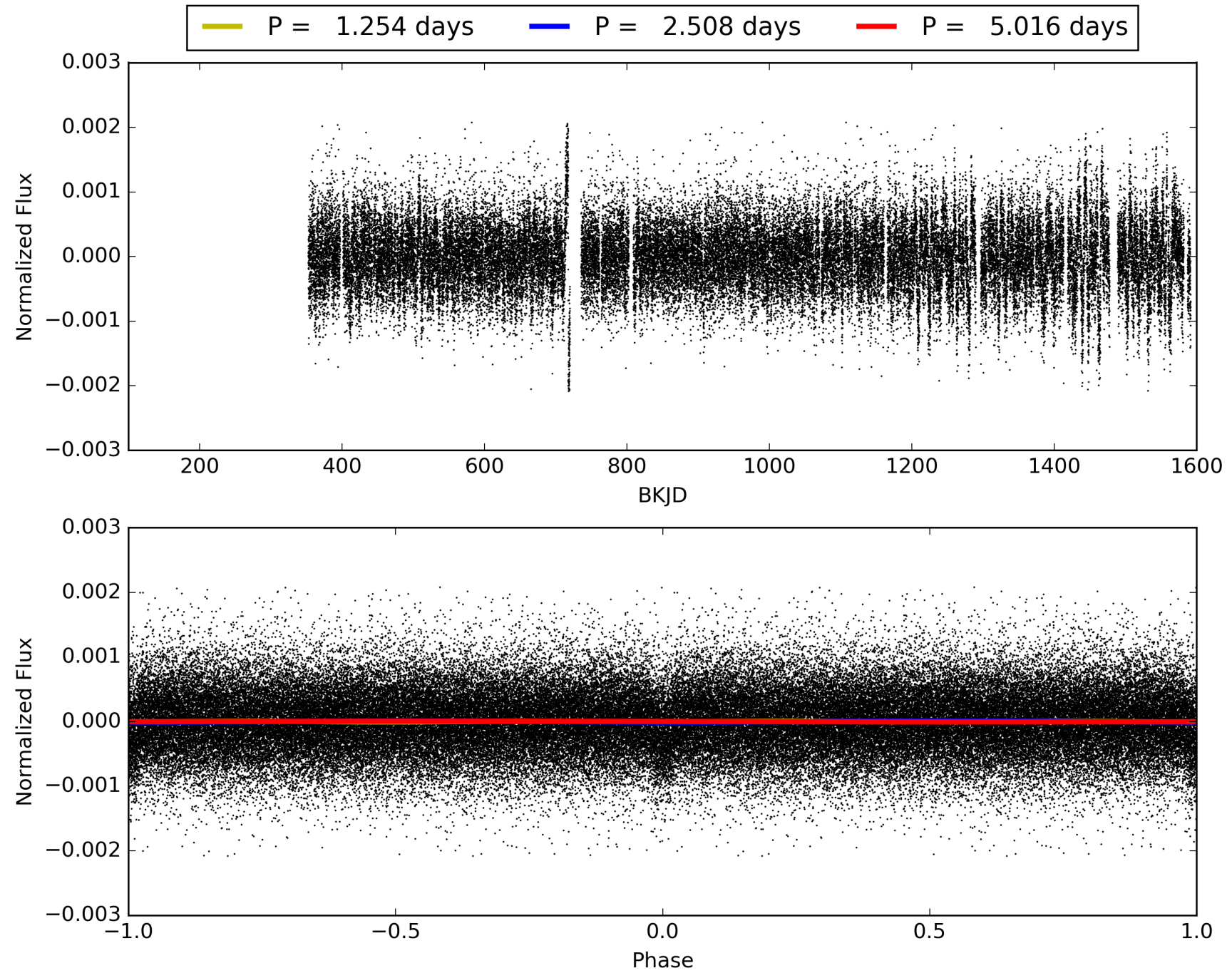
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:31:28 Z

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

TCE 006525946-02, PDC Light Curves

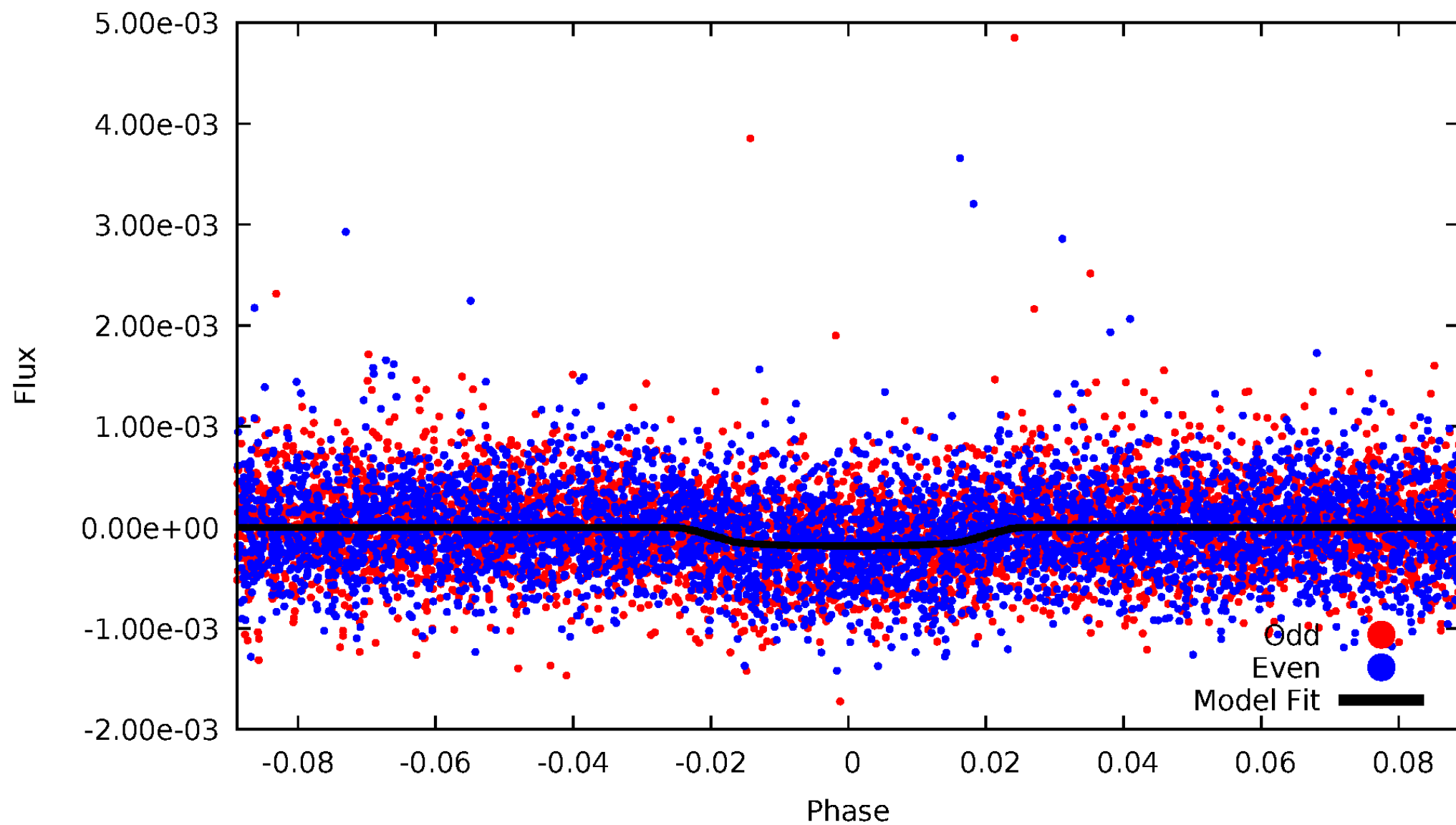


TCE 006525946-02



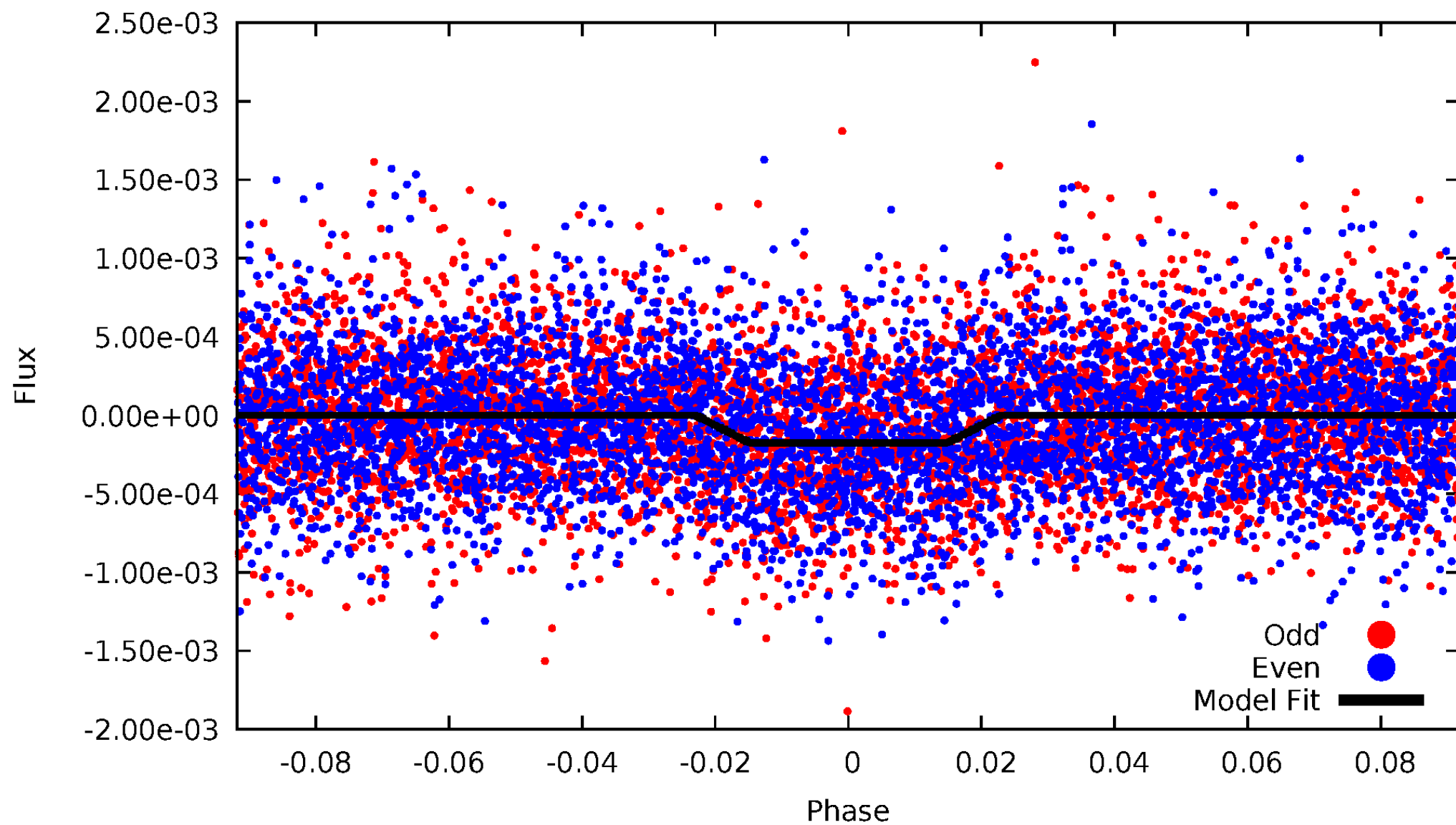
DV Odd/Even

TCE 006525946-02



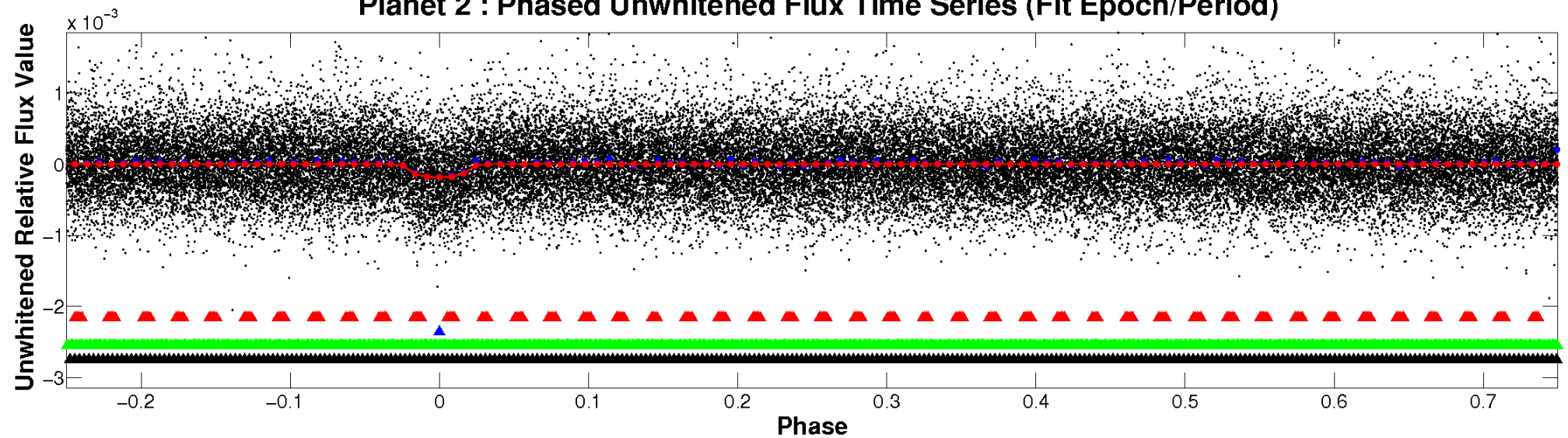
ALT Odd/Even

TCE 006525946-02

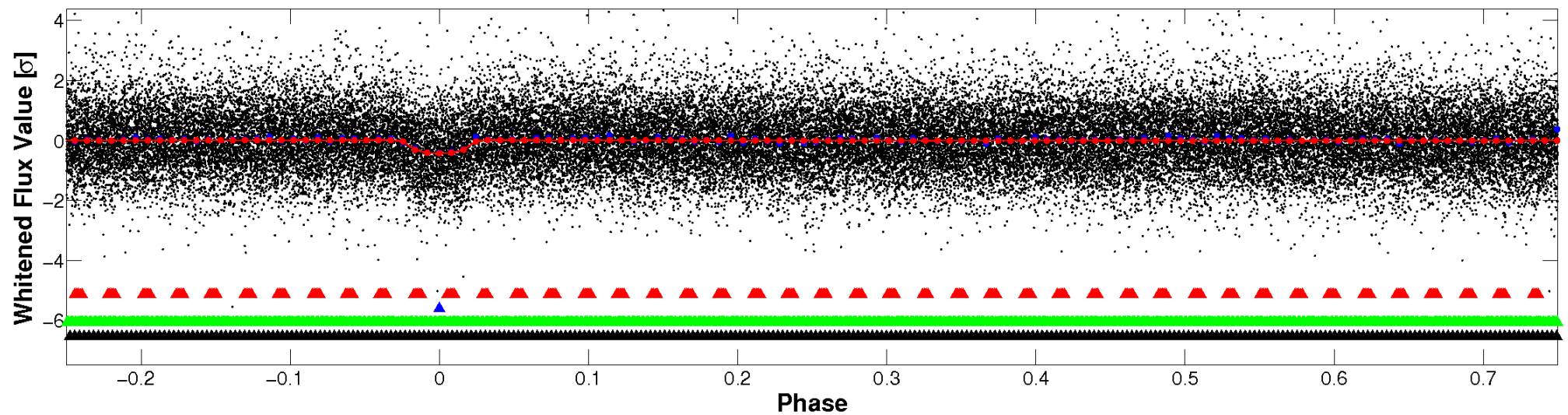


Non-Whitened Vs. Whitened Light Curve

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

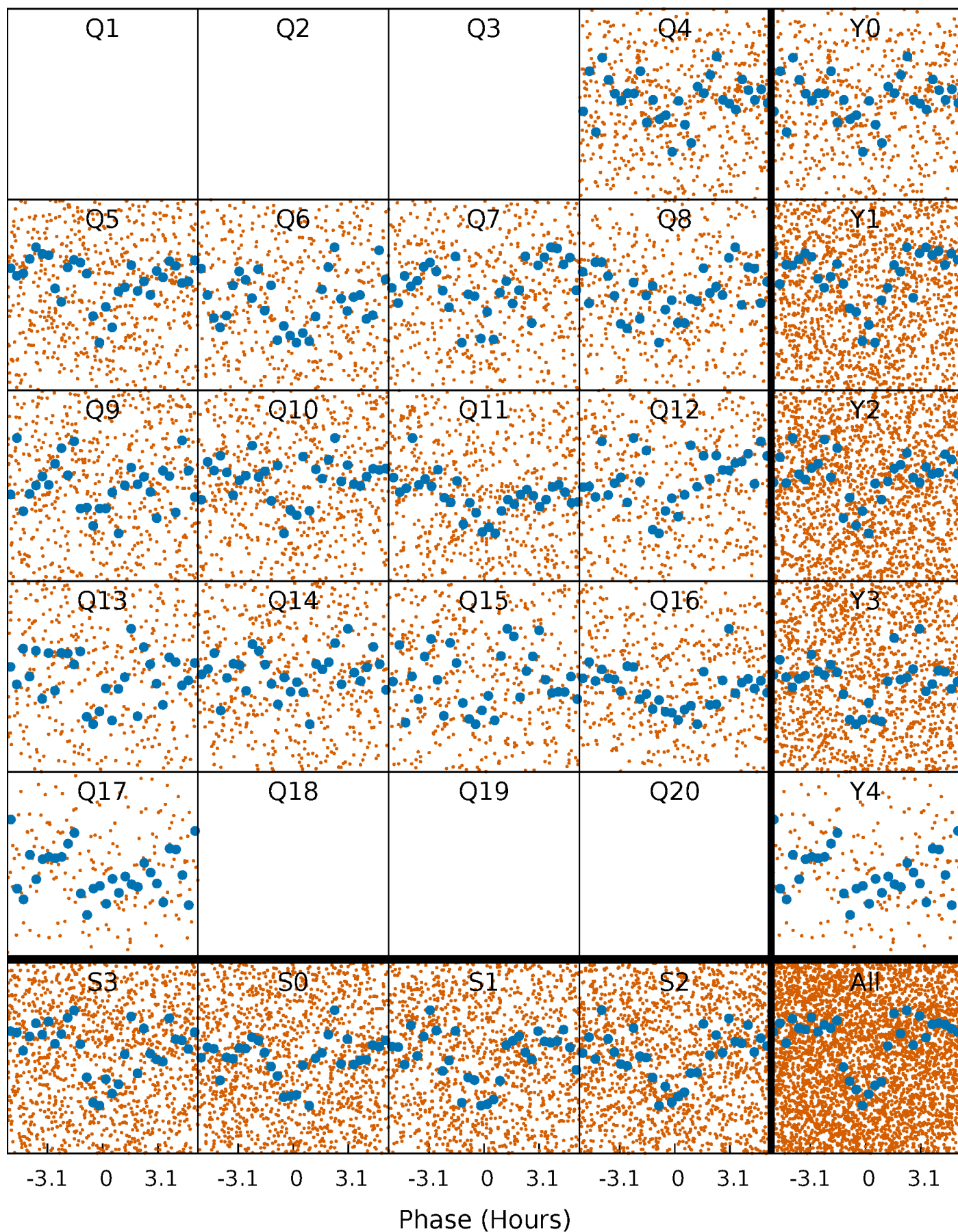


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



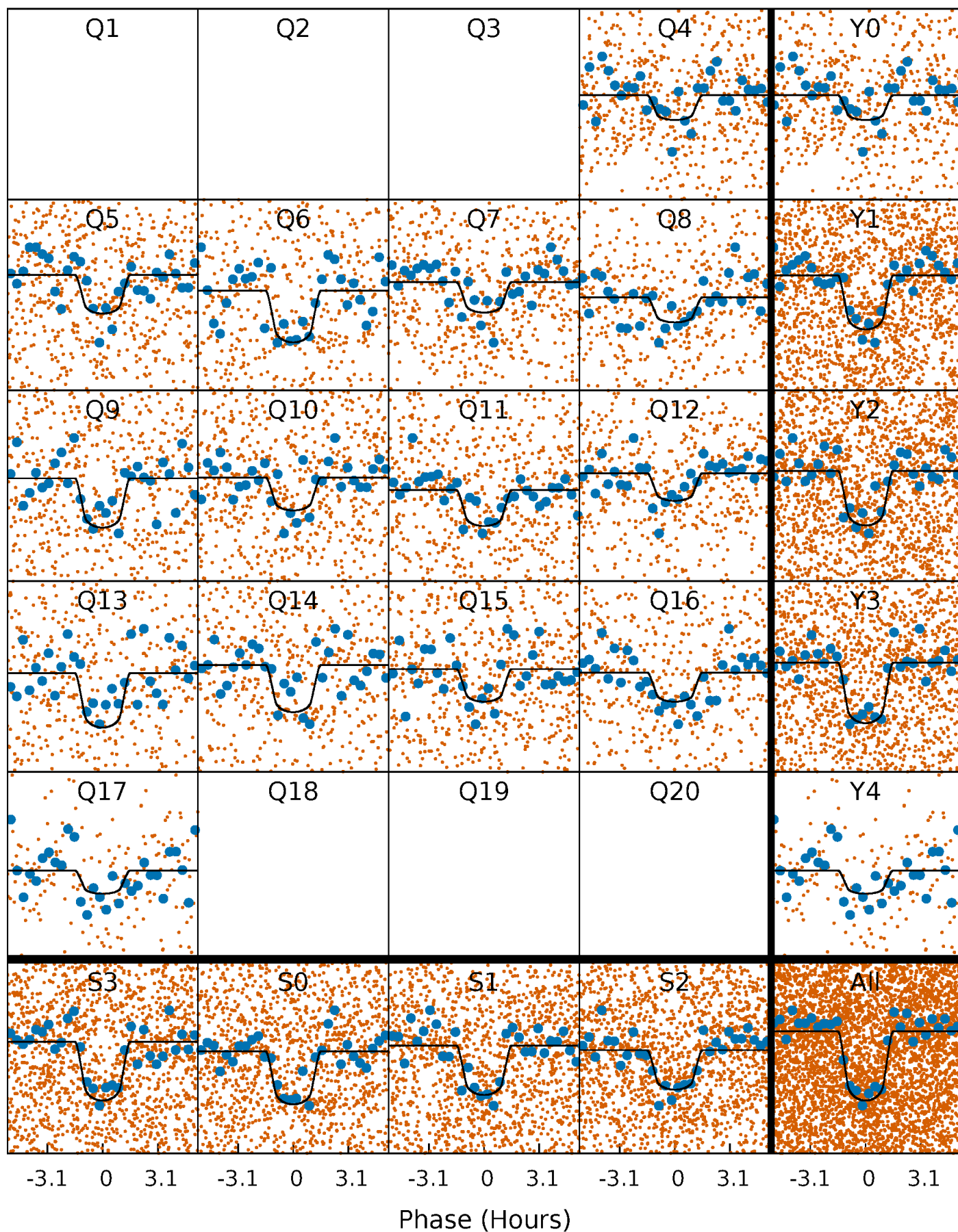
PDC Quarter-Phased Transit Curves

TCE 006525946-02 P= 2.508130 Days $T_0=133.982452$ (BKJD)



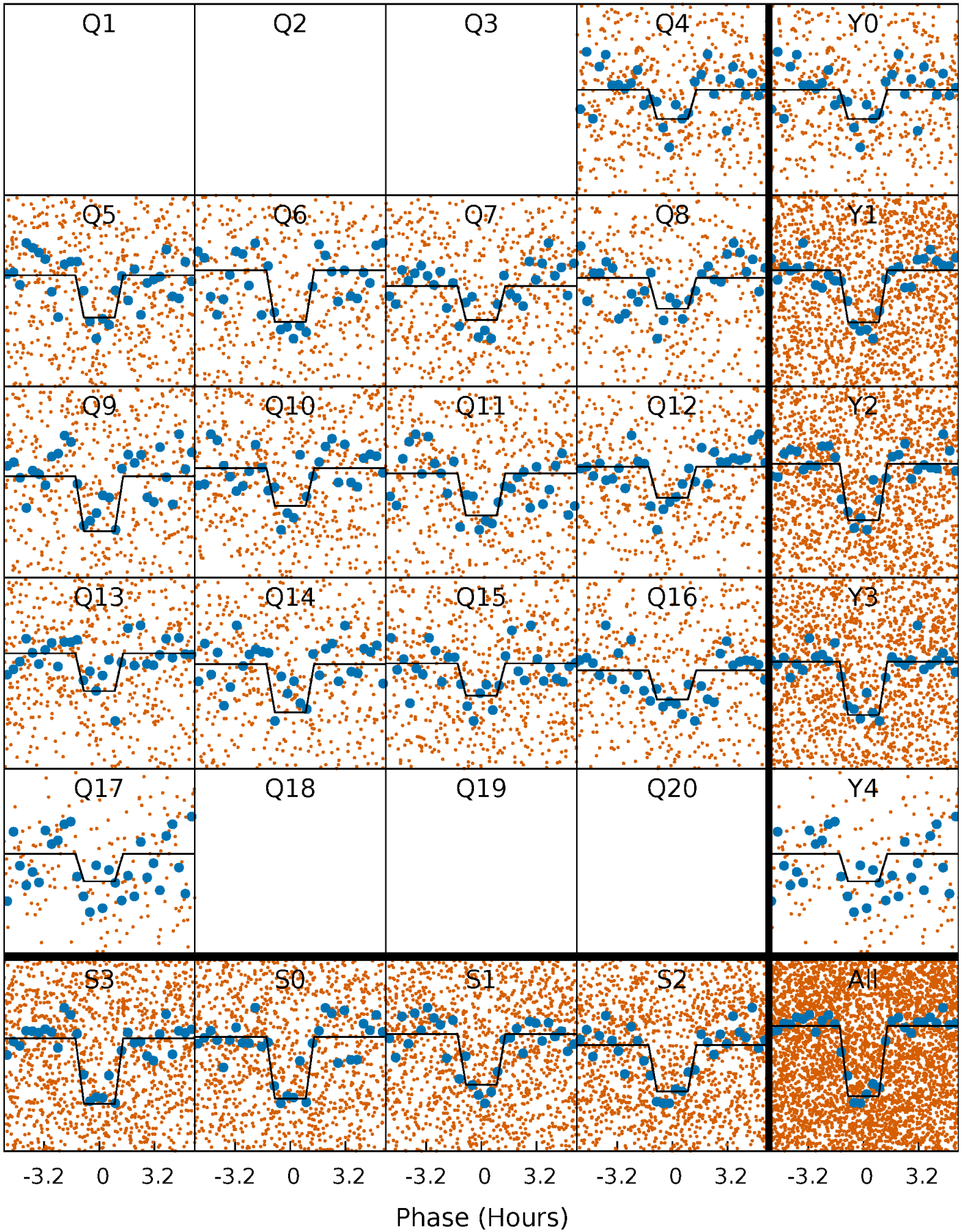
DV Quarter-Phased Transit Curves

TCE 006525946-02 P= 2.508130 Days $T_0=133.982452$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

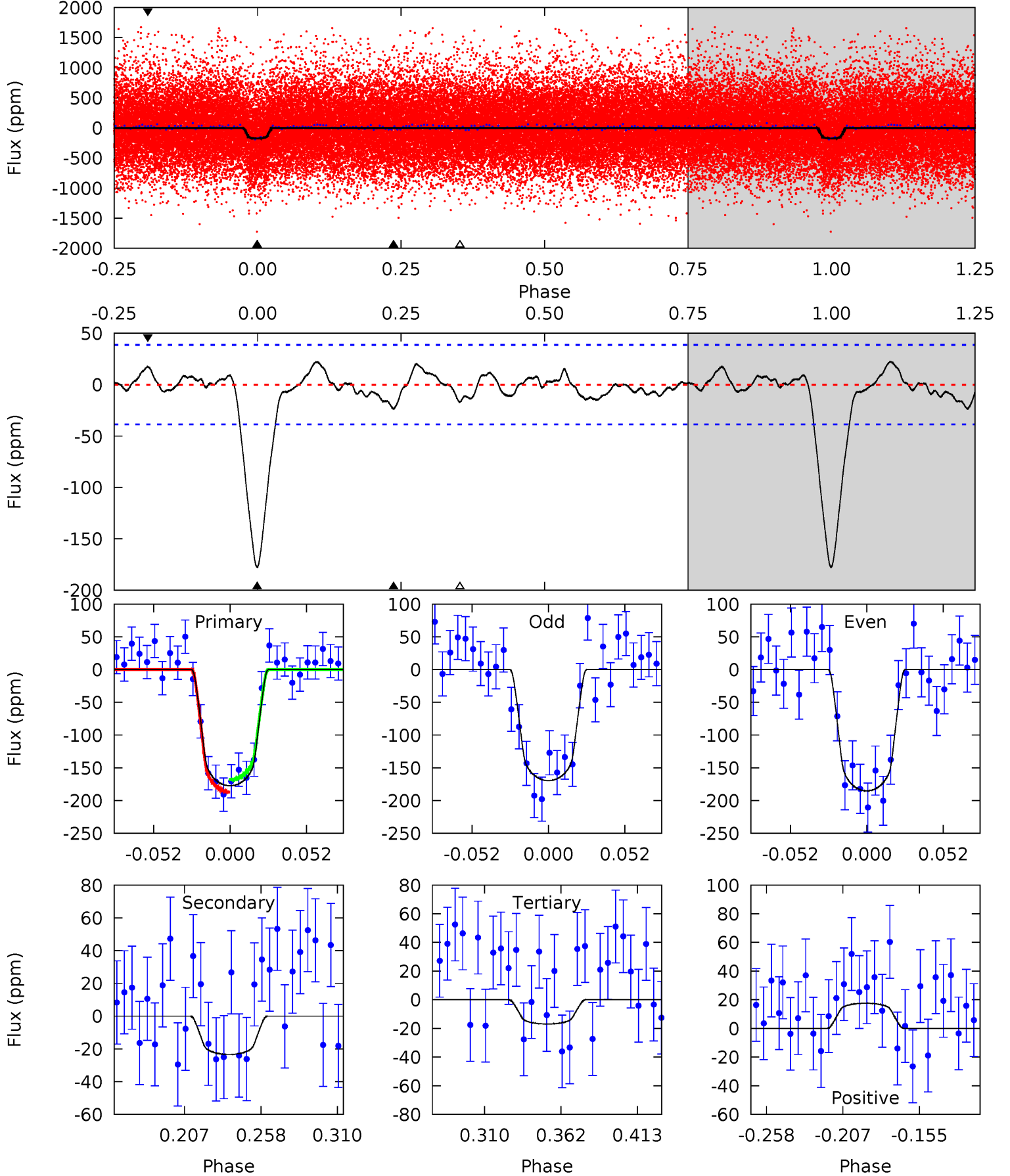
TCE 006525946-02 P= 2.508108 Days $T_0=133.988380$ (BKJD)



DV Model-Shift Uniqueness Test

006525946-02, P = 2.508130 Days, E = 133.982452 Days

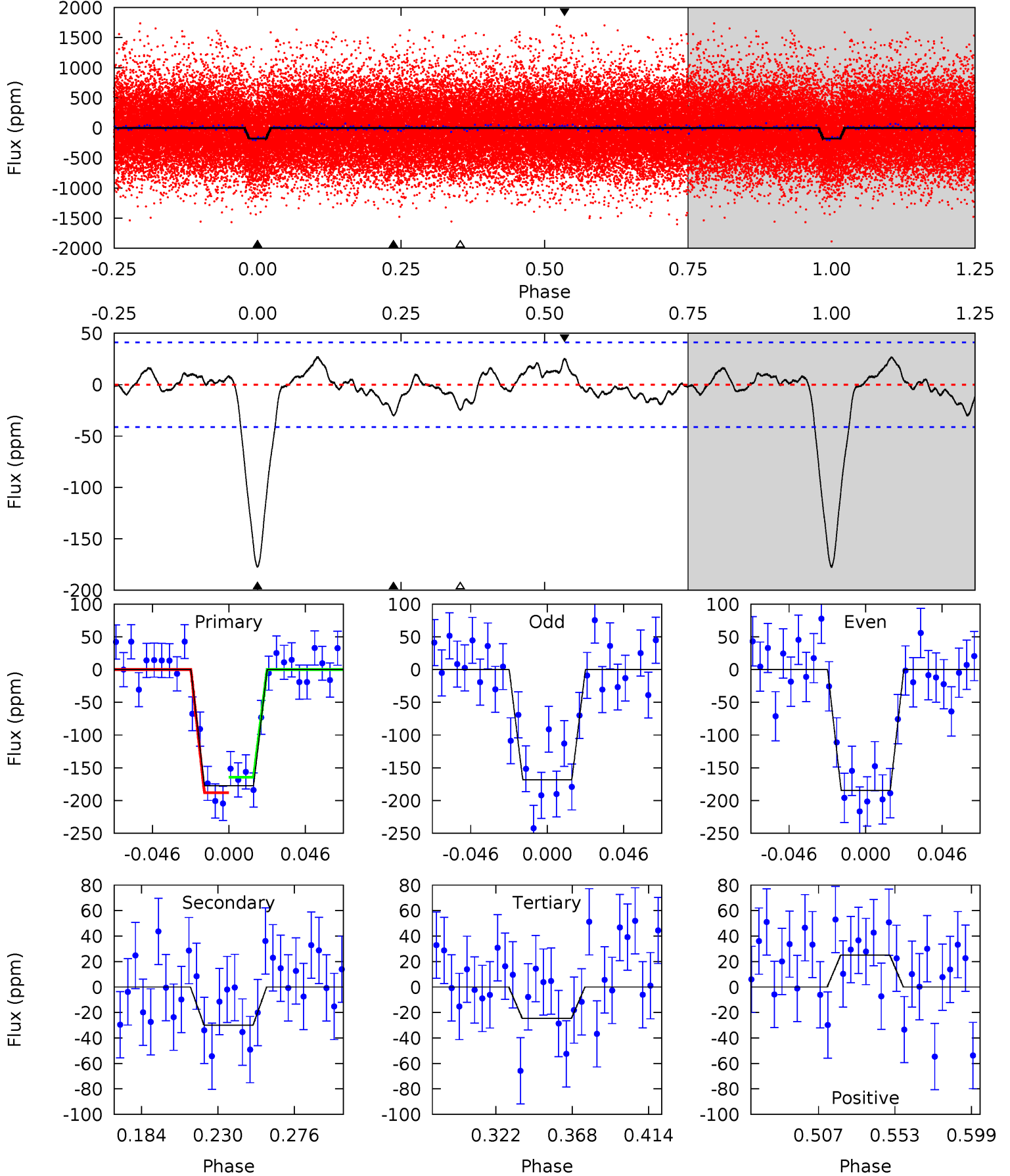
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	2.85	2.06	2.14	4.70	1.95	0.98	19.5	19.4	0.79	0.71	0.95	0.93	0.11	1.17



Alt Model-Shift Uniqueness Test

006525946-02, P = 2.508108 Days, E = 133.988380 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	3.43	2.83	2.87	4.72	1.99	1.18	17.5	17.5	0.60	0.56	0.93	0.97	0.13	1.35



Stellar Parameters For KIC 006525946

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5096^{+77}_{-46}	$2.435^{+0.117}_{-0.143}$	$-1.520^{+0.150}_{-0.150}$	$8.769^{+3.319}_{-1.106}$	$0.763^{+0.367}_{-0.015}$	$0.002^{+0.001}_{-0.001}$
	+2%/-1%	+5%/-6%	+10%/-10%	+38%/-13%	+48%/-2%	+45%/-50%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006525946-02 / KOI 2093.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-23 ± 8	$14.66^{+5.55}_{-5.30}$	5139^{+357}_{-236}	-4131^{+421}_{-291}	$0.066^{+0.107}_{-0.034}$
Alt.	-30 ± 9	$13.45^{+5.22}_{-5.35}$	5112^{+330}_{-206}	-4014^{+1394}_{-298}	$0.105^{+0.184}_{-0.052}$

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

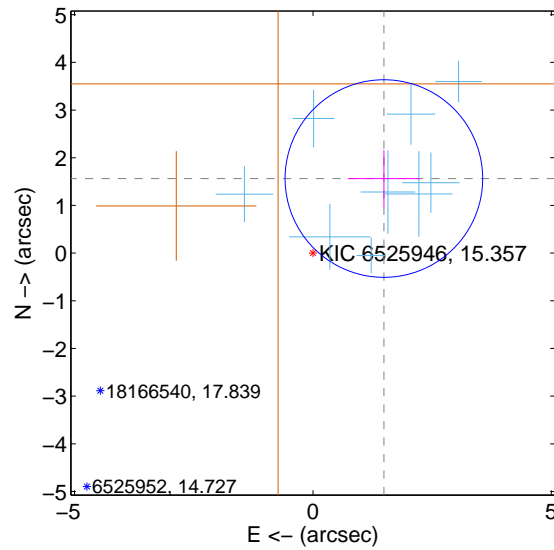
Supplemental centroid analysis for 006525946-02. Kepler magnitude: 15.36. Transit SNR 16.63

There are 9 quarters with good PRF difference image offsets

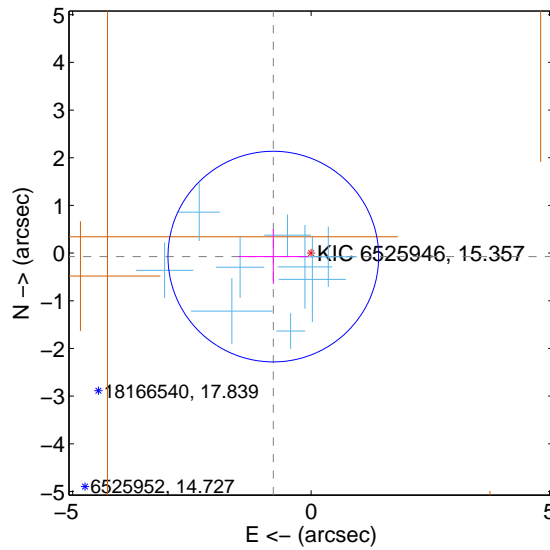
The OOT PRF centroid is offset from the target star catalog position by about 2.46 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.158 ± 0.691	3.12	-1.487 ± 0.756	1.564 ± 0.595
PRF-fit source offset from KIC position	0.795 ± 0.736	1.08	0.792 ± 0.734	-0.073 ± 0.575
photometric centroid source offset	2.08 ± 0.53	3.92	1.97 ± 0.54	-0.64 ± 0.46

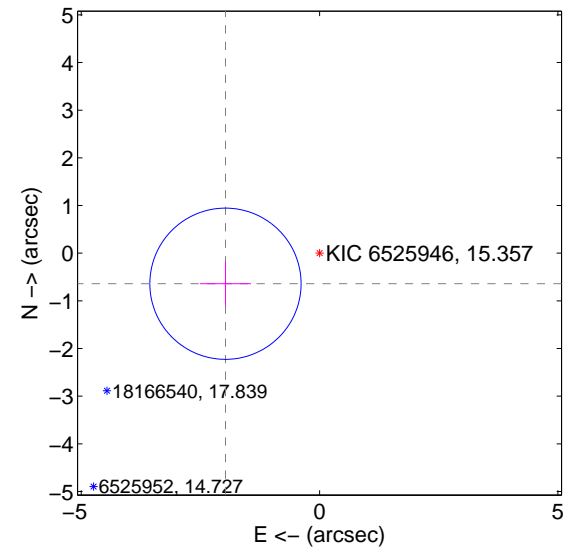
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

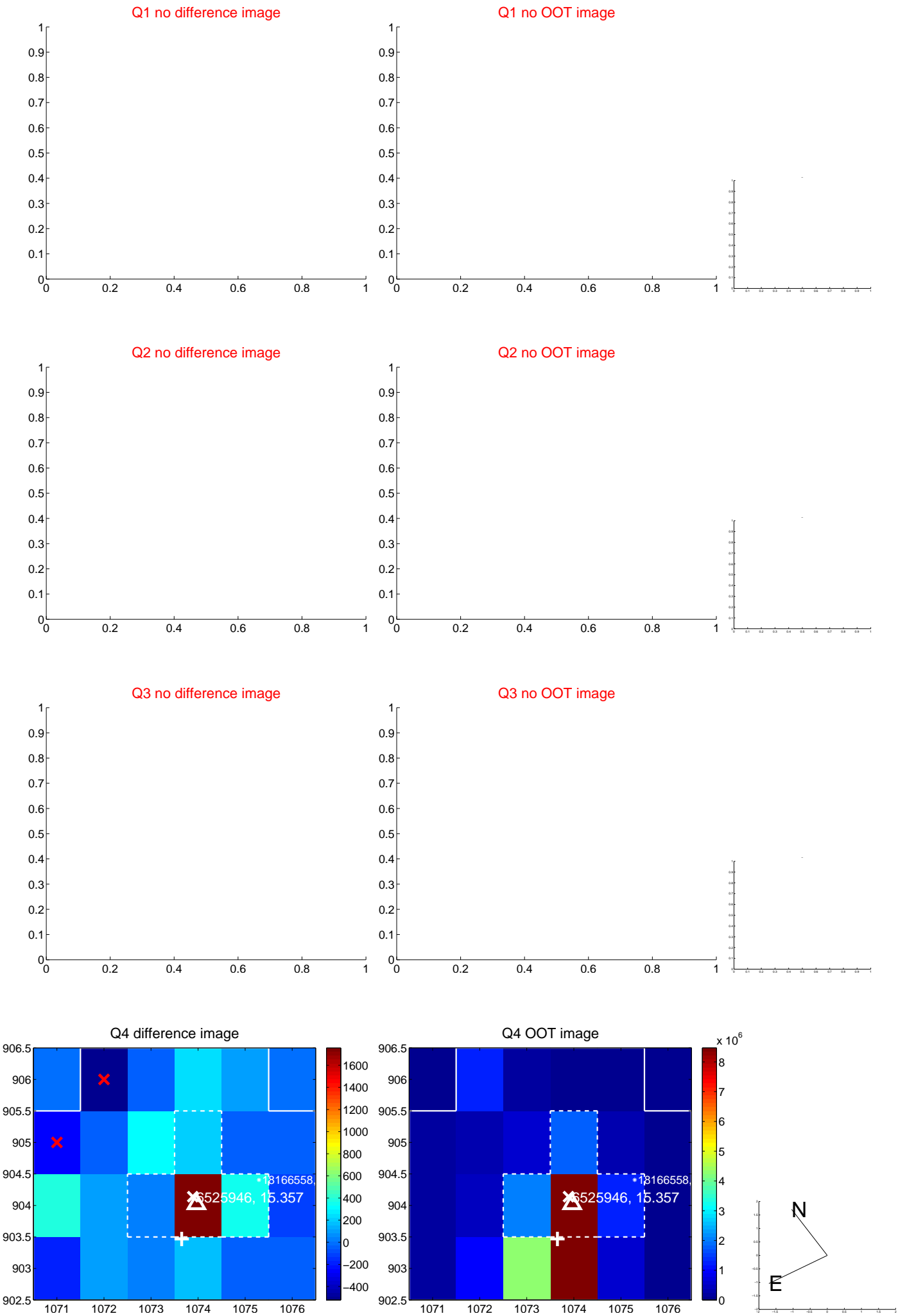


offset from photometric centroids

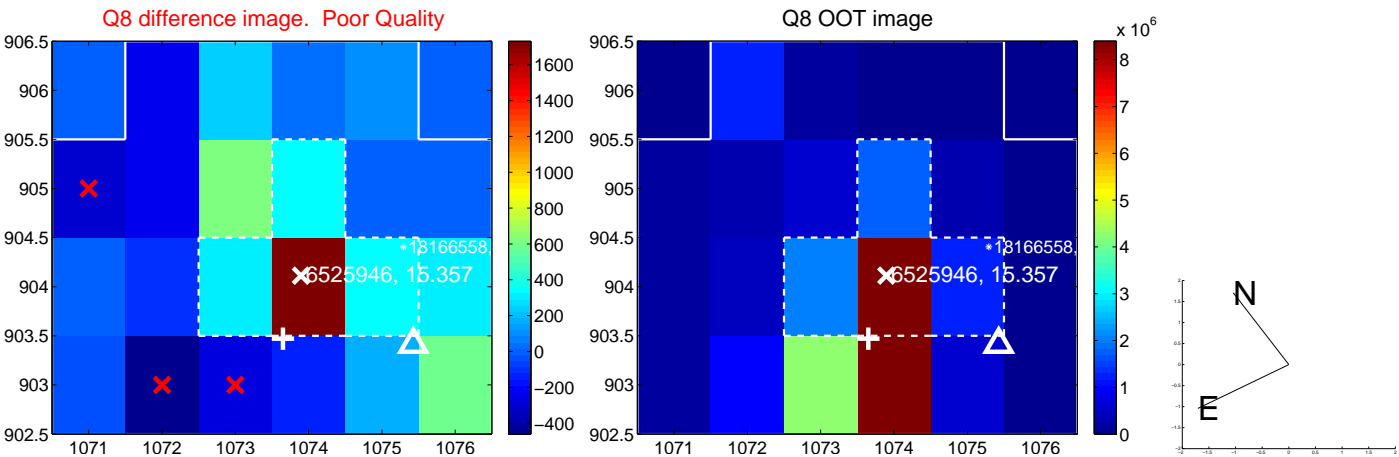
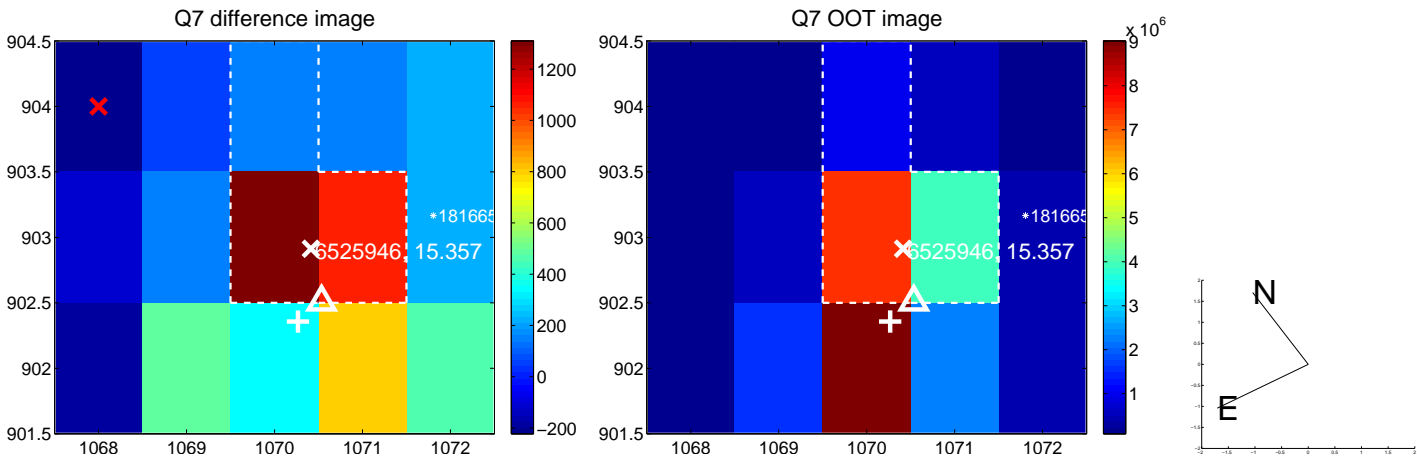
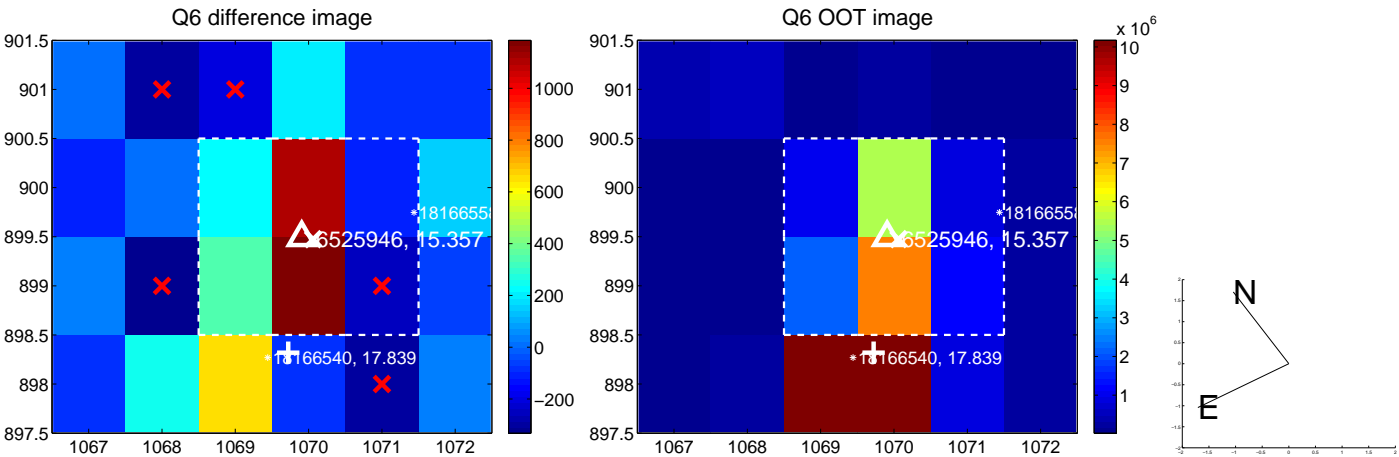
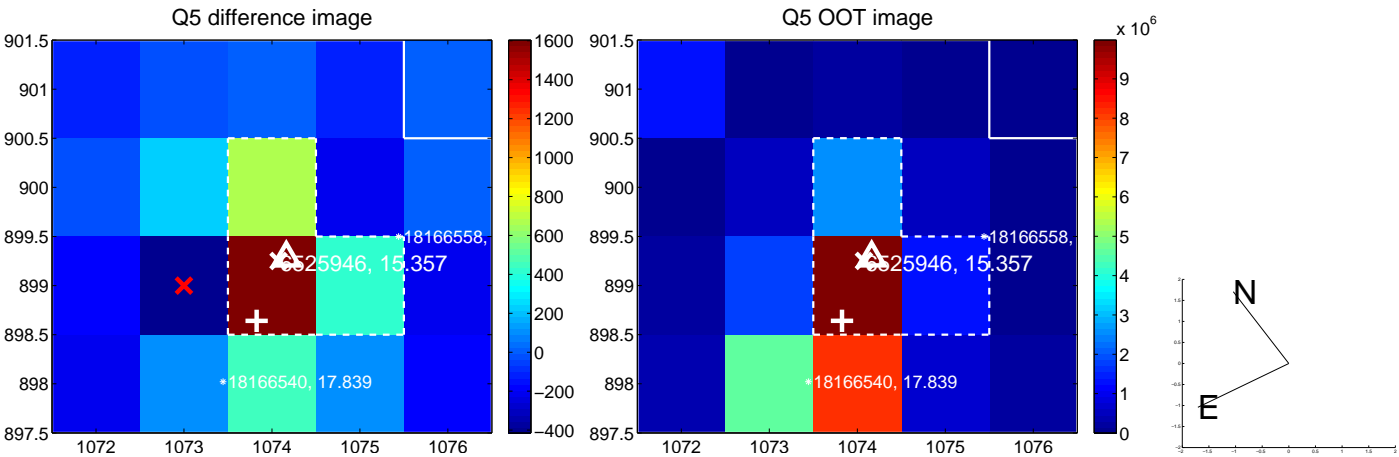


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

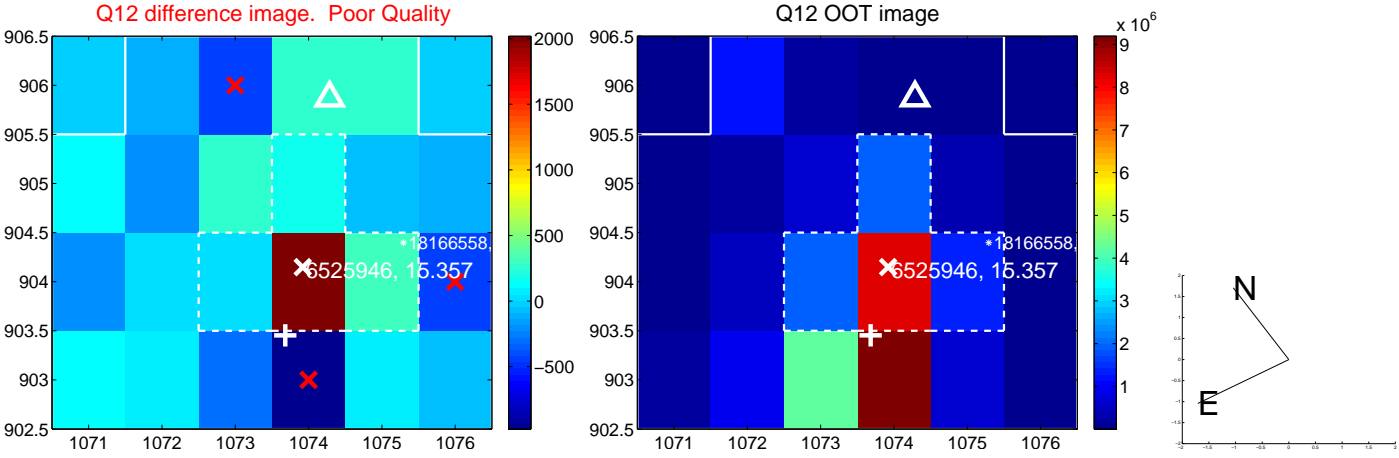
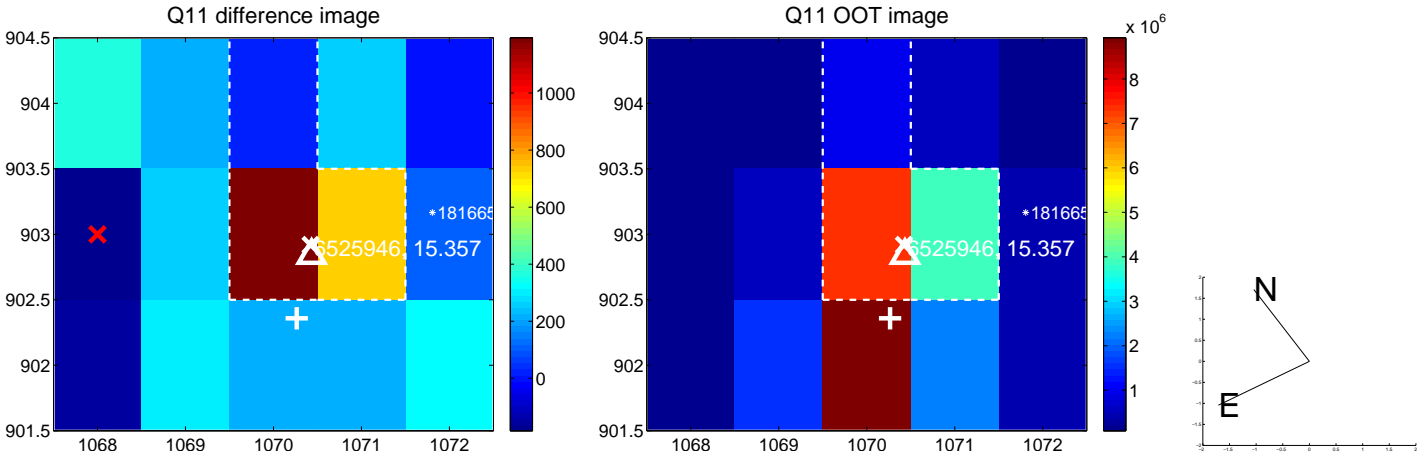
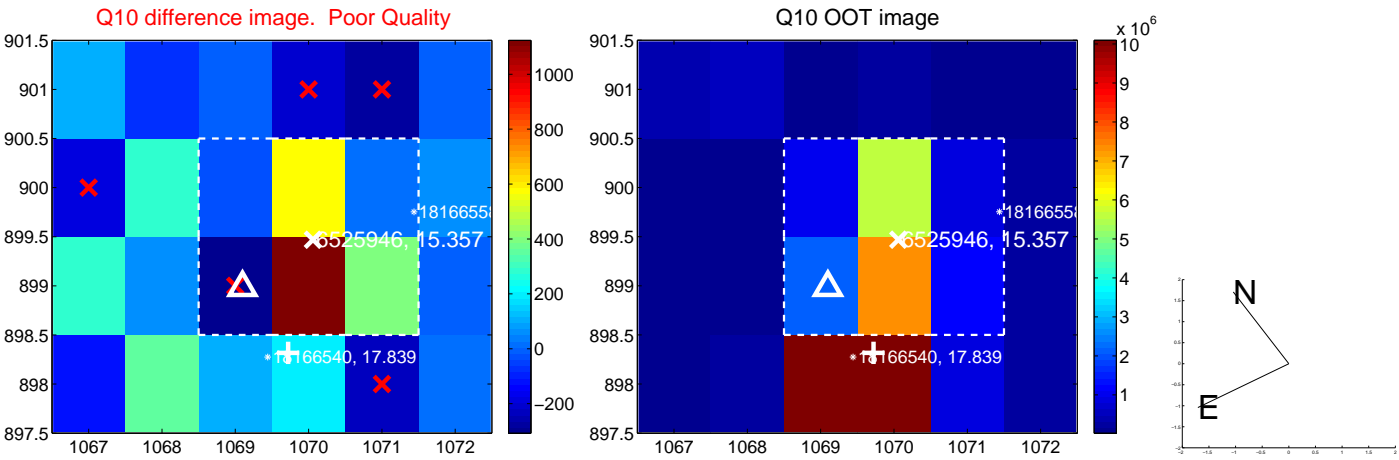
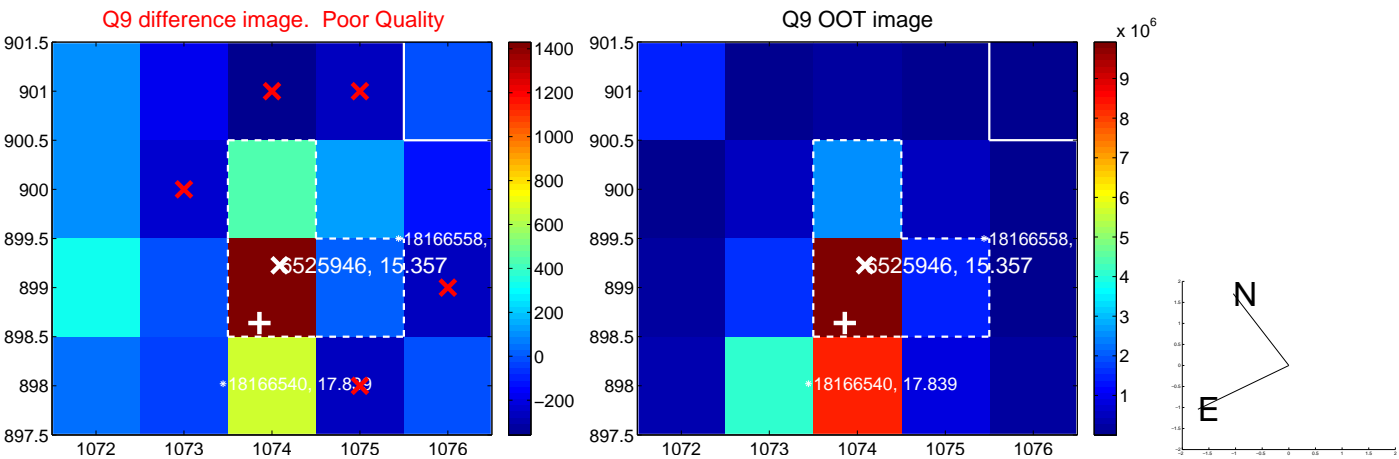
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



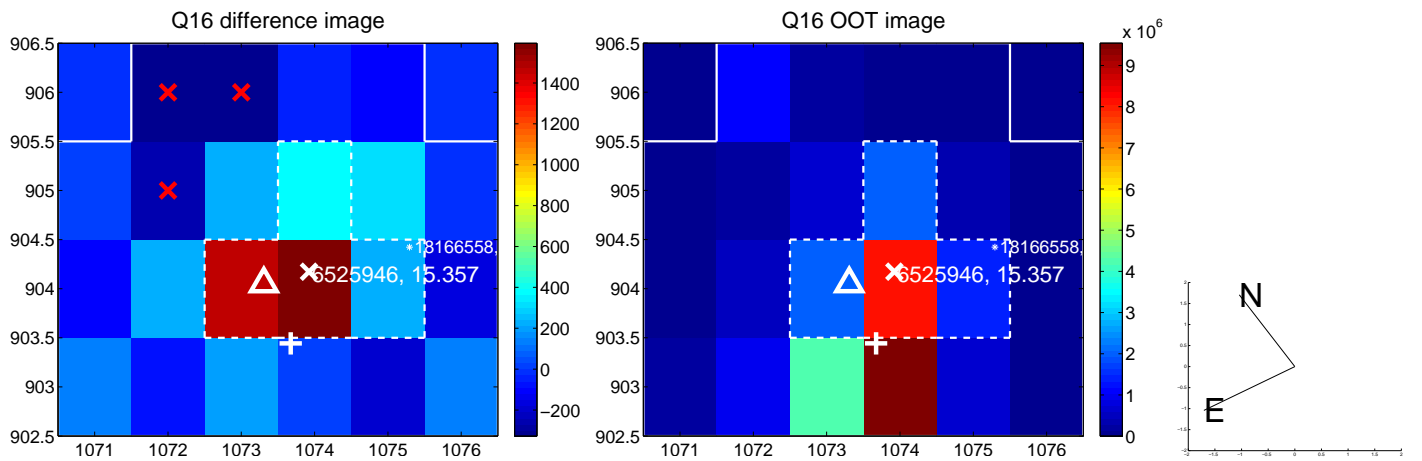
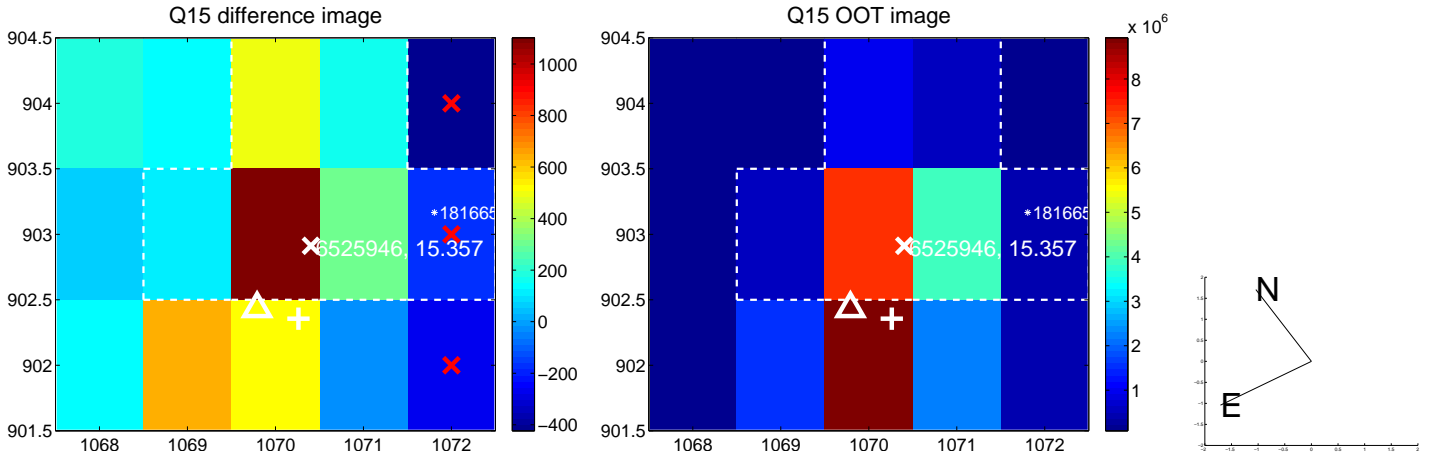
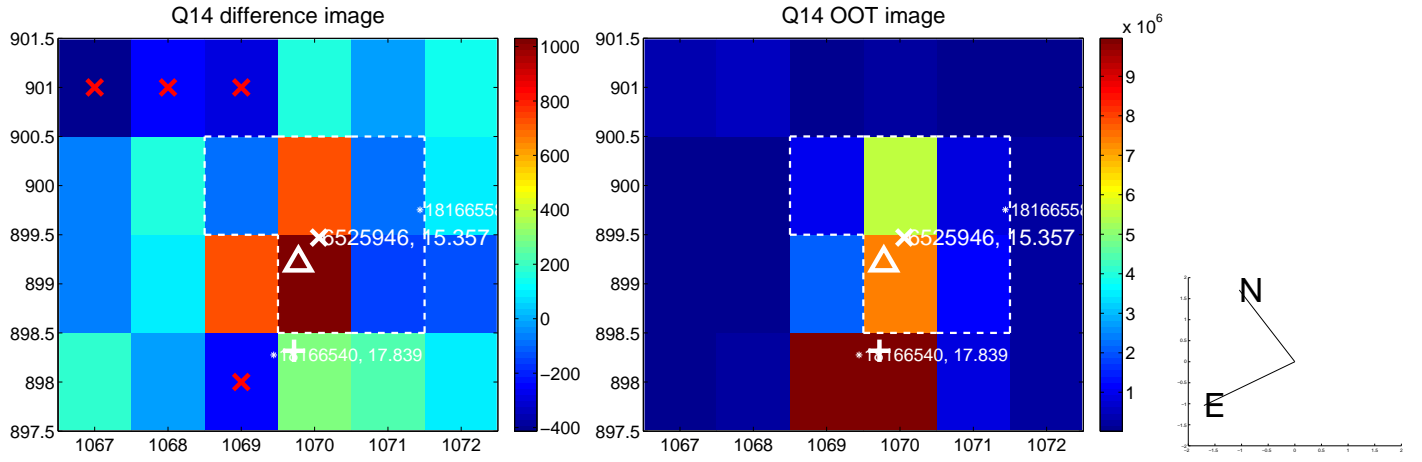
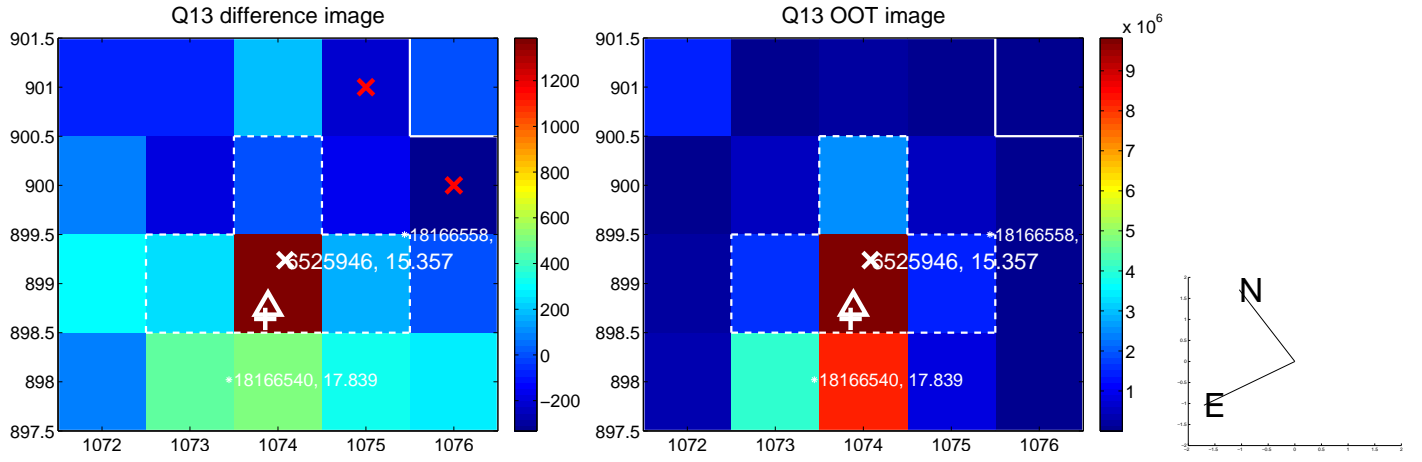
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



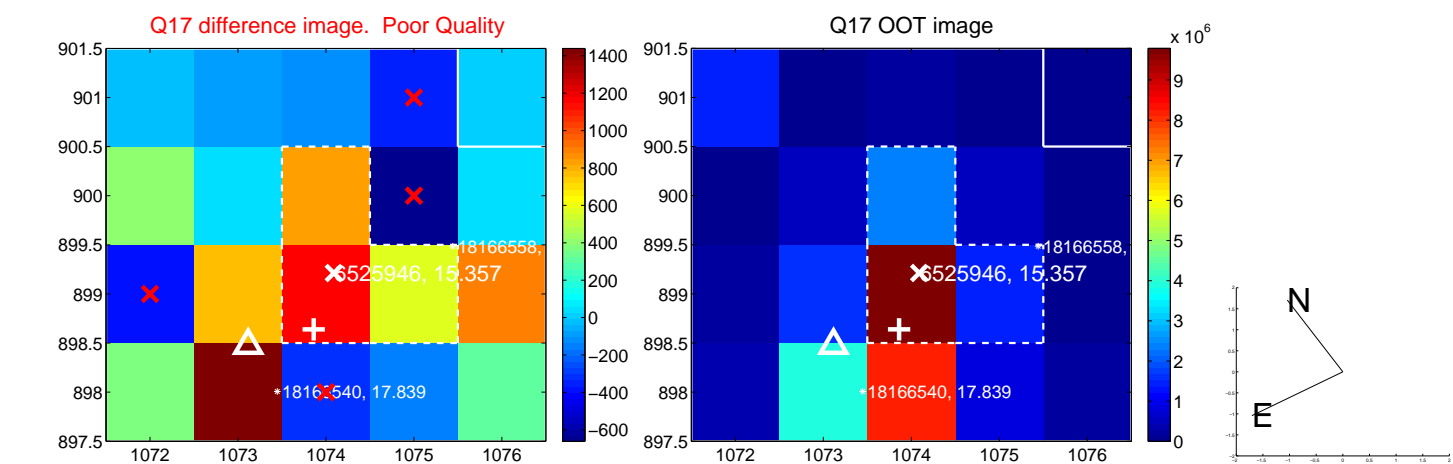
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



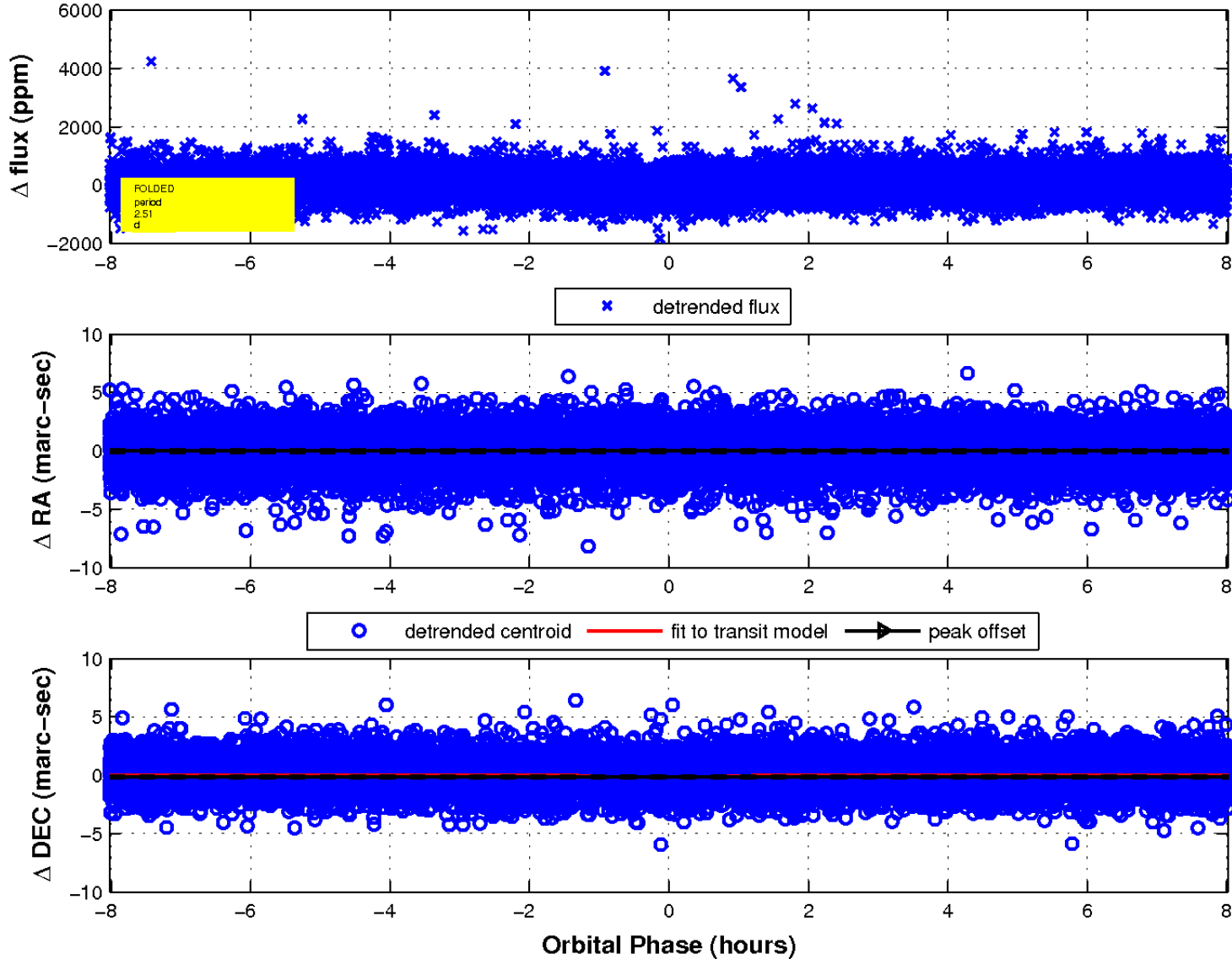
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

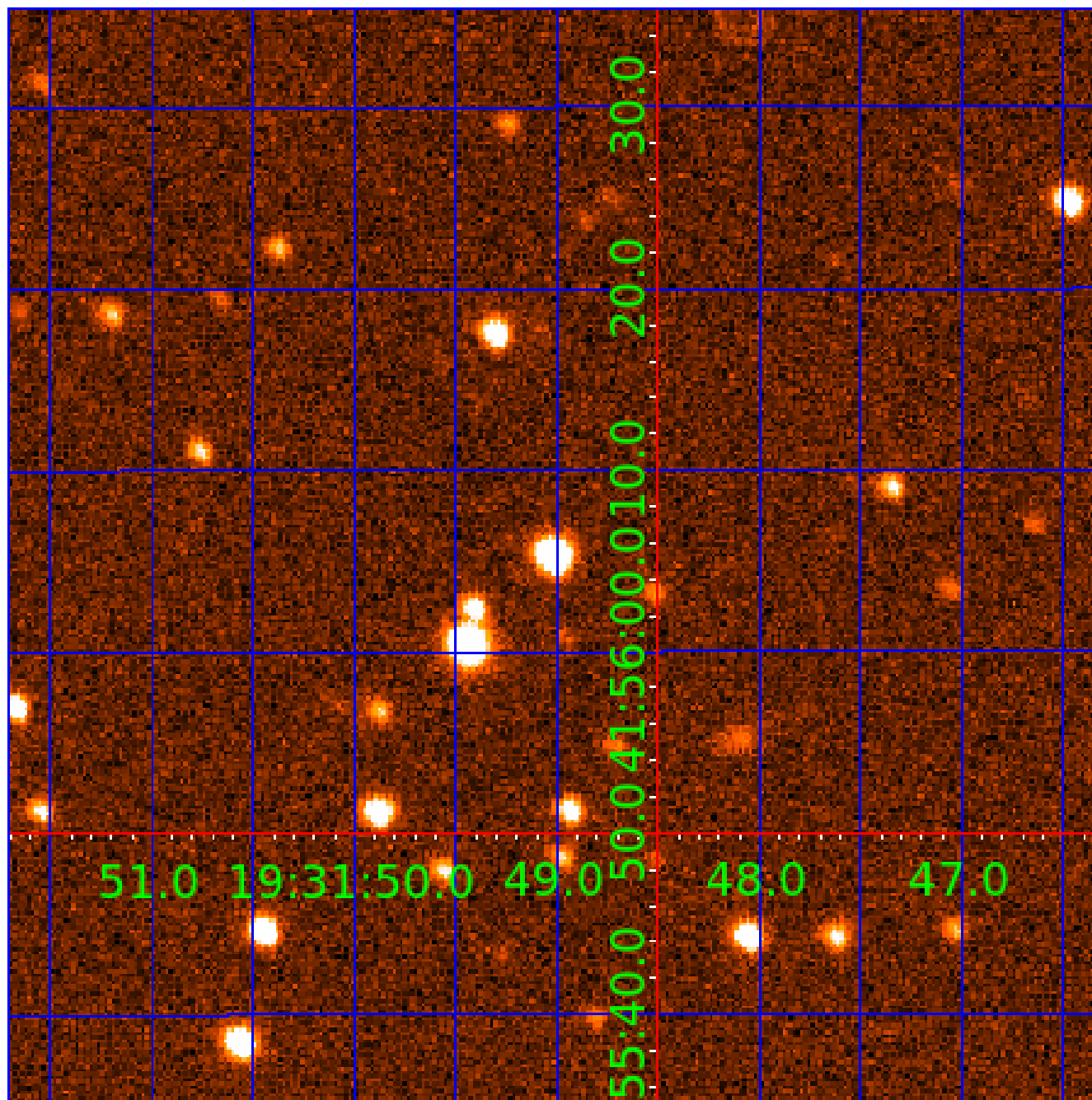


fluxWeightedCentroids, Planet 2 of 4



UKIRT Image

Declination



KIC 006525946

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})
006525946-01	OBS	2093.01	6.783419	136.103787	485.8	3.783	28.8	30.9	8.77	5096	22.72	11302.66
006525946-02	OBS	2093.02	2.508130	133.982452	184.4	2.674	15.2	16.6	8.77	5096	14.15	0.00
006525946-03	OBS	2093.03	0.992144	132.282034	117.8	1.552	10.8	12.5	8.77	5096	11.06	0.00
006525946-04	OBS	No	0.992140	131.781383	125.3	1.447	11.2	13.1	8.77	5096	9.78	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006525946-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
006525946-02	OBS	PC	0.98	0	0	0	0	PLANET_IN_STAR—CENT_KIC_POS
006525946-03	OBS	PC	0.99	0	0	0	0	PLANET_IN_STAR—MOD_SEC_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE—CENT_KIC_POS
006525946-04	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

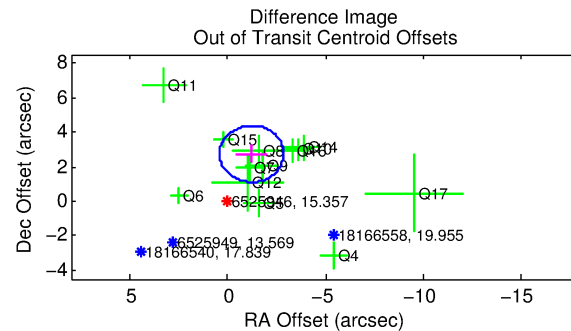
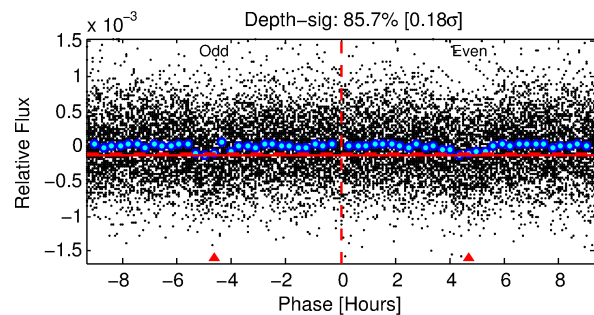
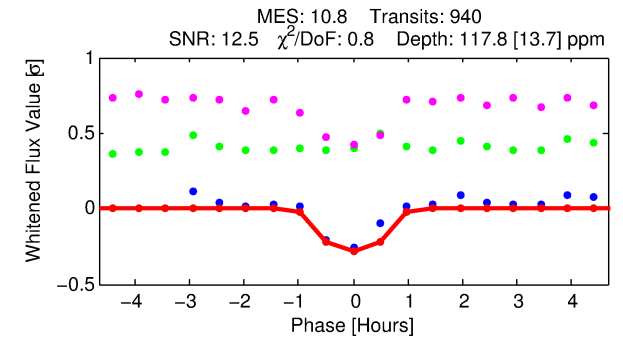
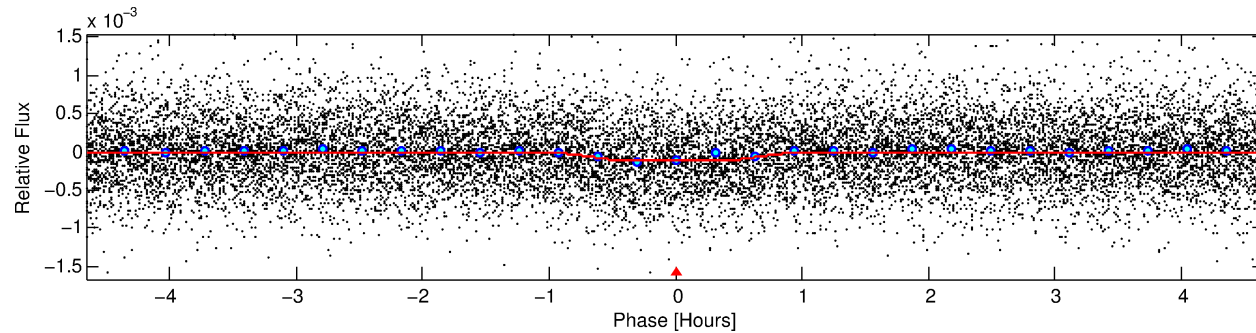
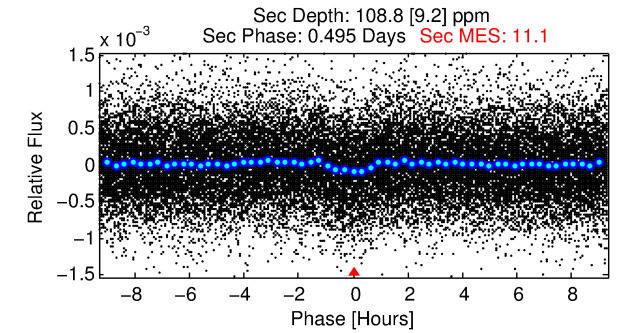
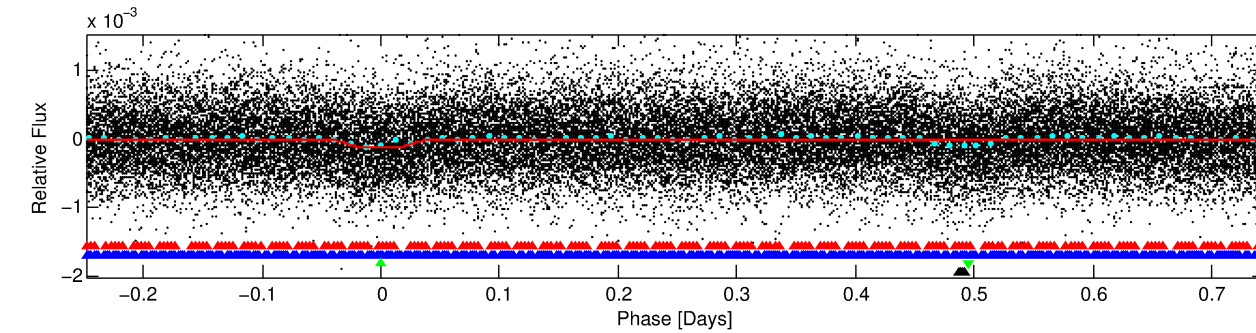
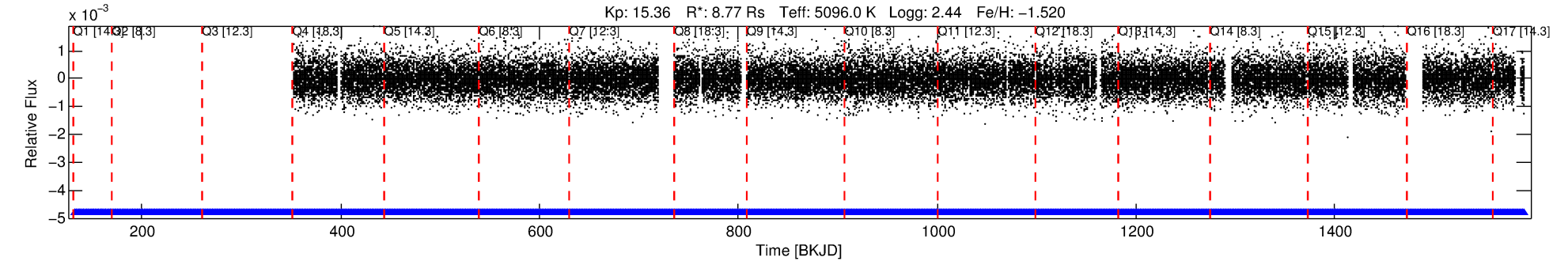
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006525946-03

No Significant Match Found

DV One-Page Summary

KIC: 6525946 Candidate: 3 of 4 Period: 0.992 d
KOI: K02093.03 Corr: 0.976



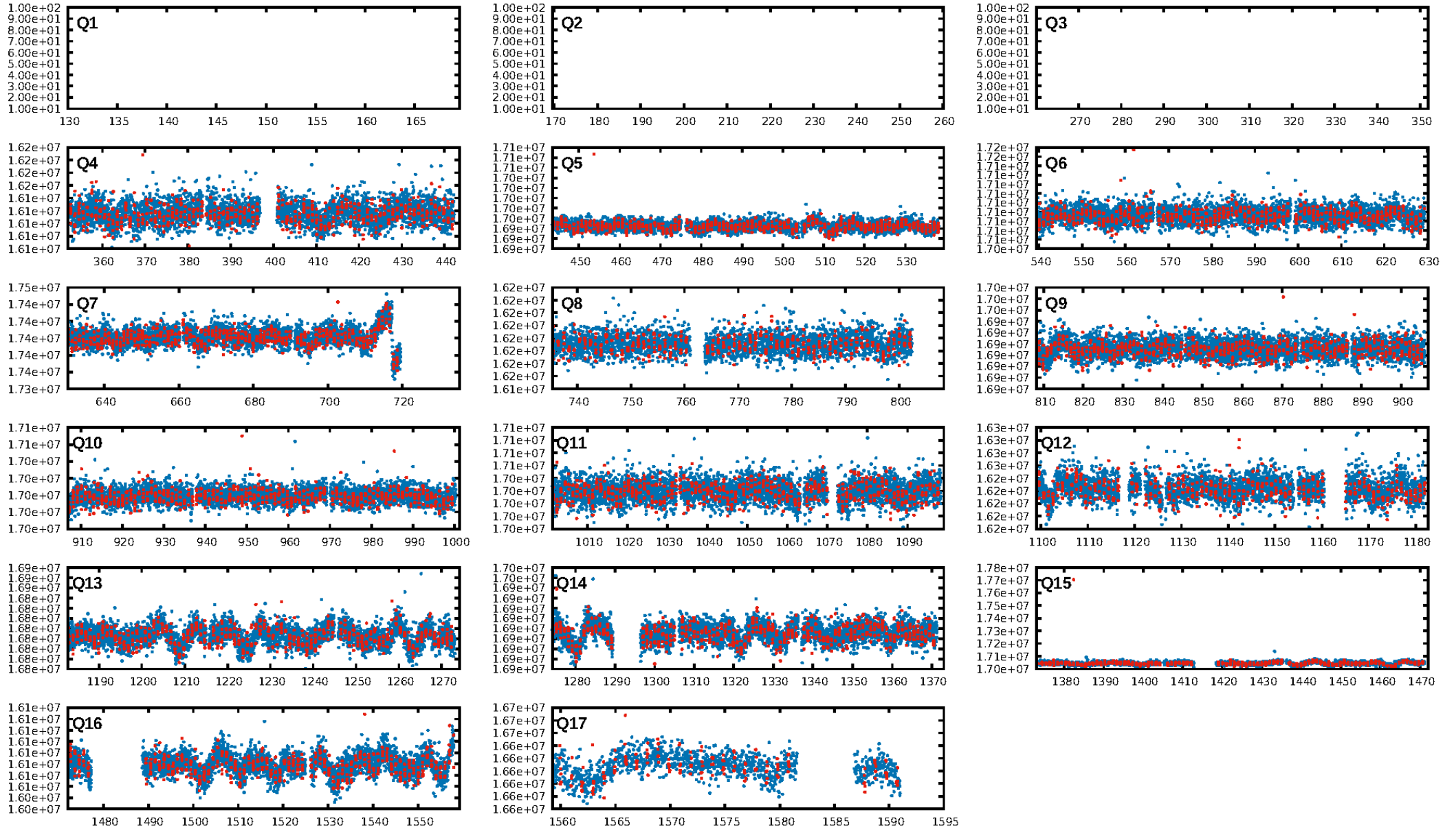
DV Fit Results:

Period = 0.99214 [0.00001] d
Epoch = 132.2820 [0.0019] BKJD
Rp/R* = 0.0116 [0.0075]
a/R* = 2.65 [7.29]
b = 0.87 [0.88]
Seff = N/A
Teq = N/A
Rp = 11.06 [8.33] Re
a = N/A
Ag = N/A
Teffp = N/A

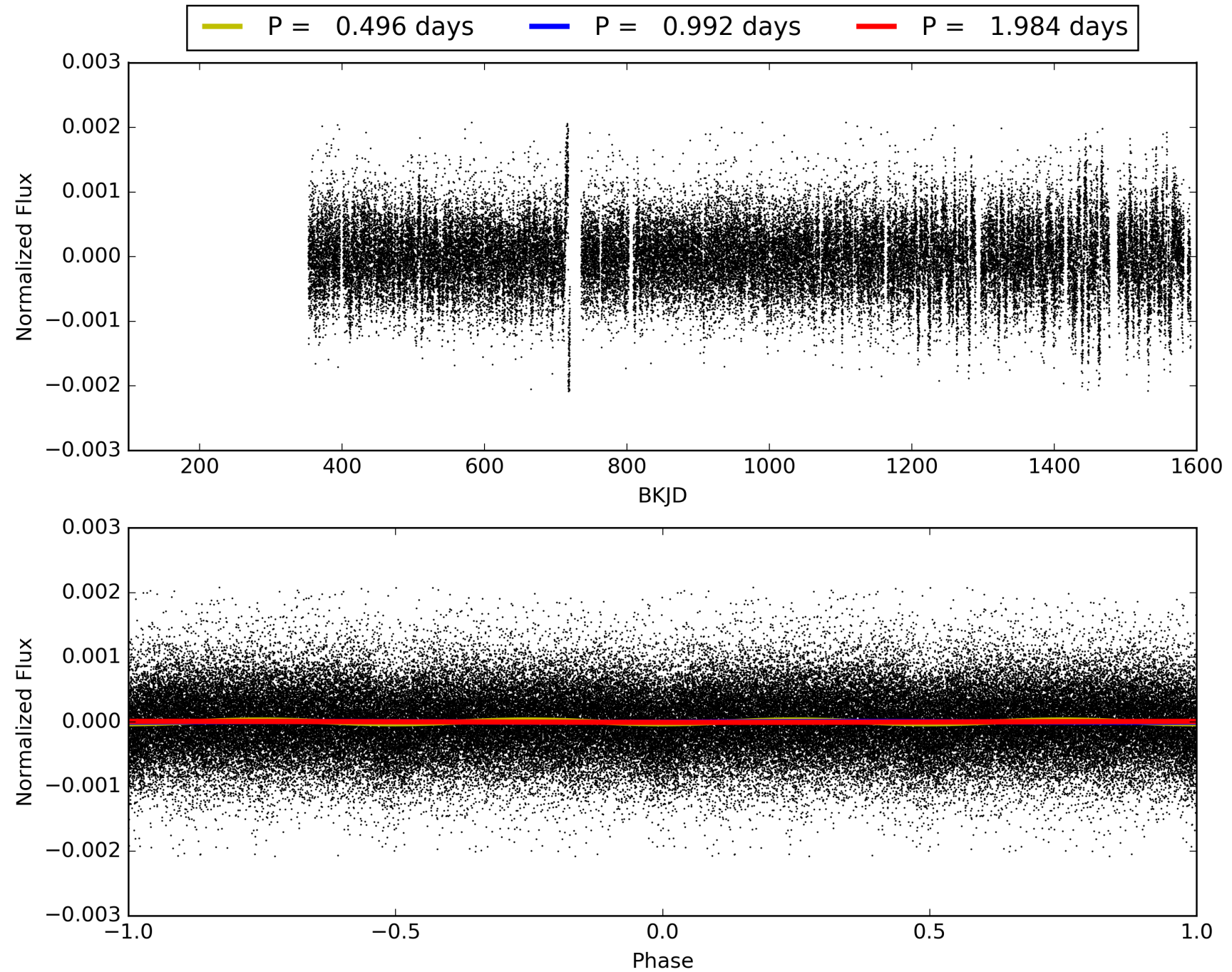
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [11.77σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.20e-30
RollingBand-fgt: 1.00 [918/918]
GhostDiagnostic-chr: 2.764
Centroid-sig: 18.3%
Centroid-so: 1.558 arcsec [2.52σ]
OOTOffset-rm: 3.000 arcsec [5.51σ]
KicOffset-rm: 0.473 arcsec [0.67σ]
OOTOffset-st: 3/3/4/3 [13]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.62 [8/13]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 006525946-03, PDC Light Curves

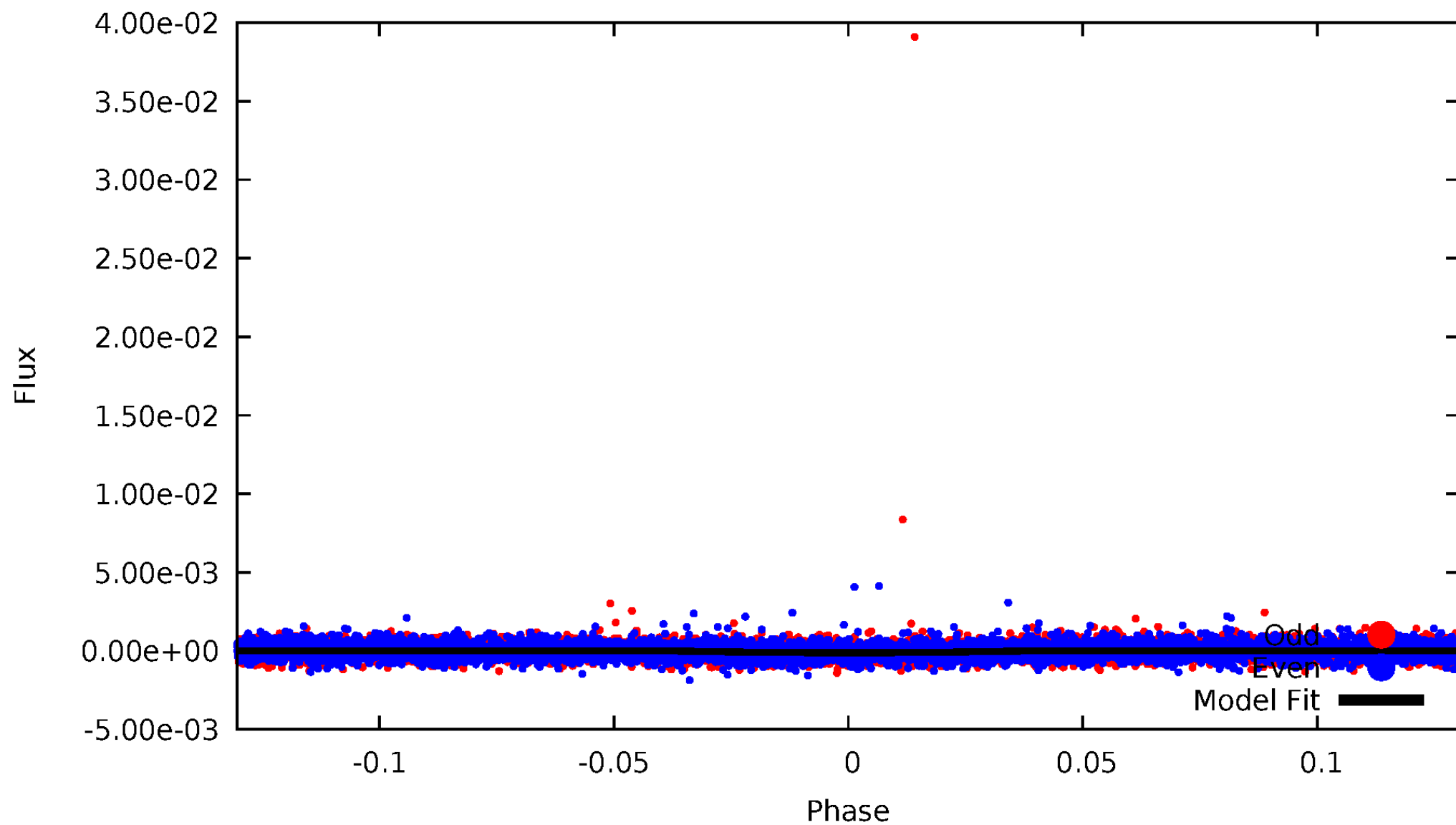


TCE 006525946-03



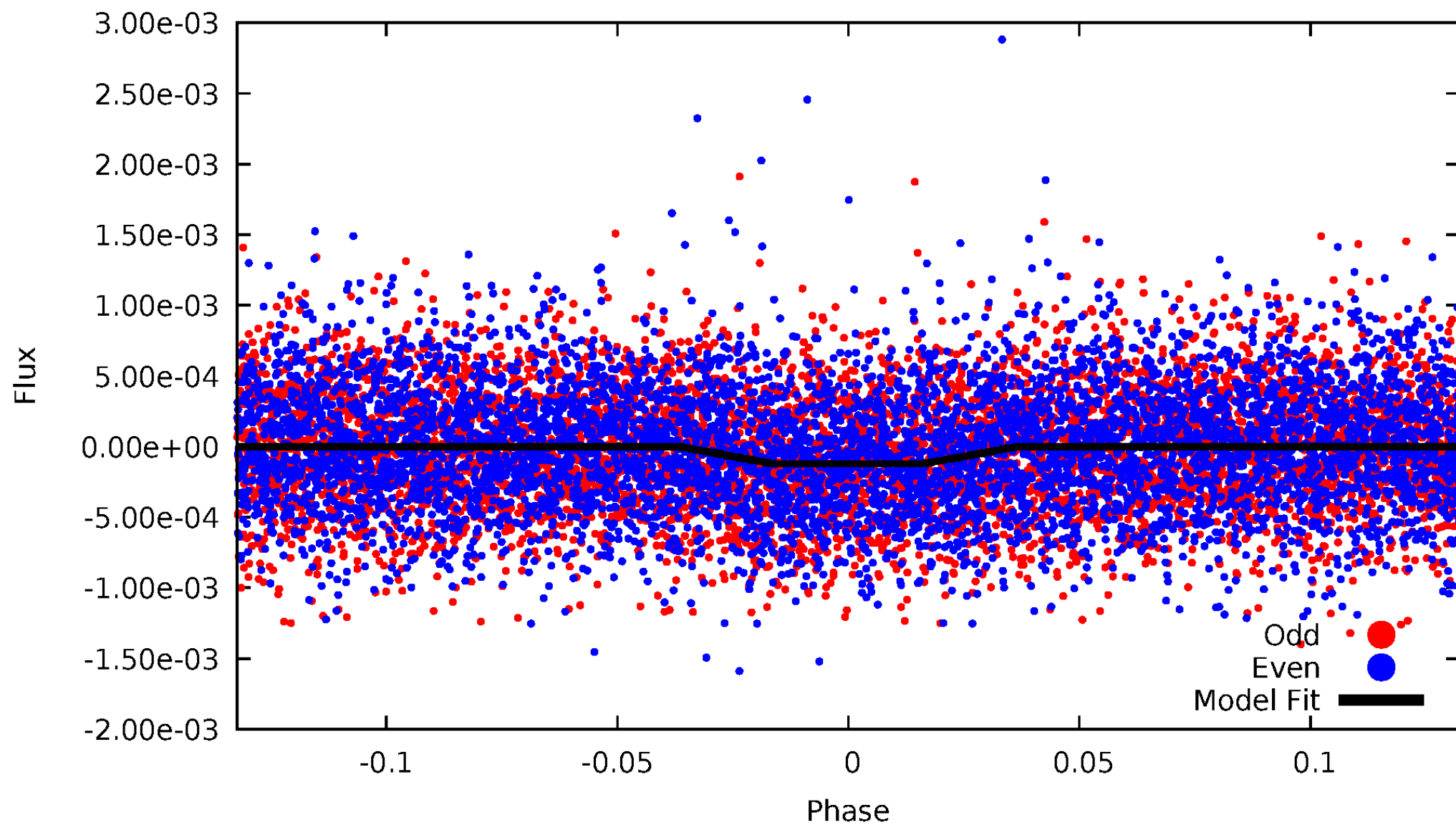
DV Odd/Even

TCE 006525946-03

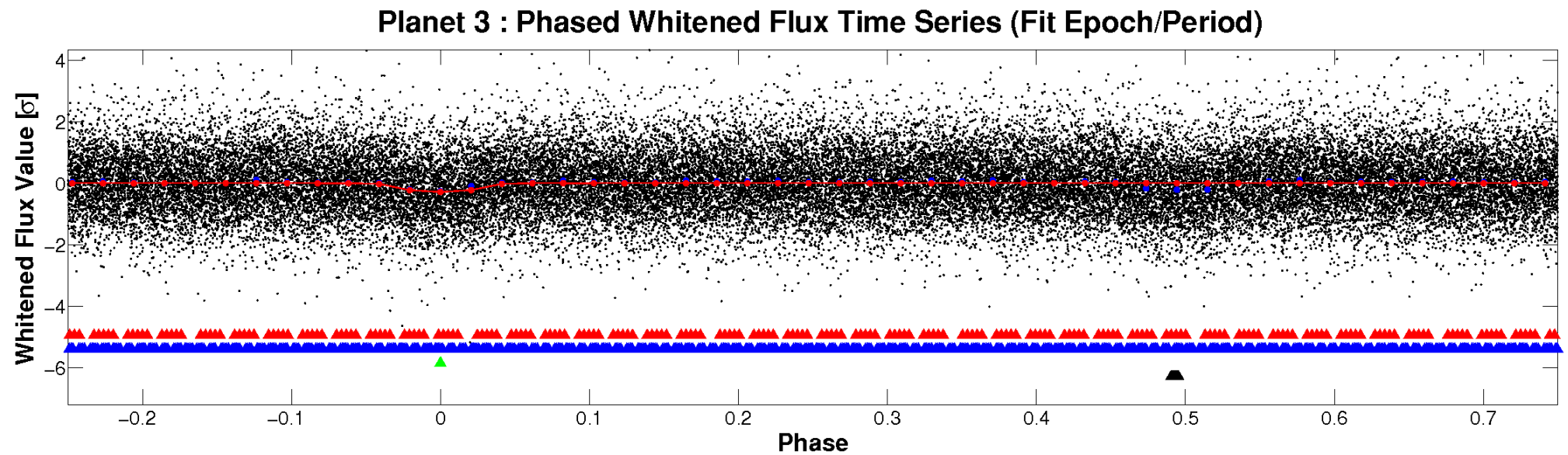
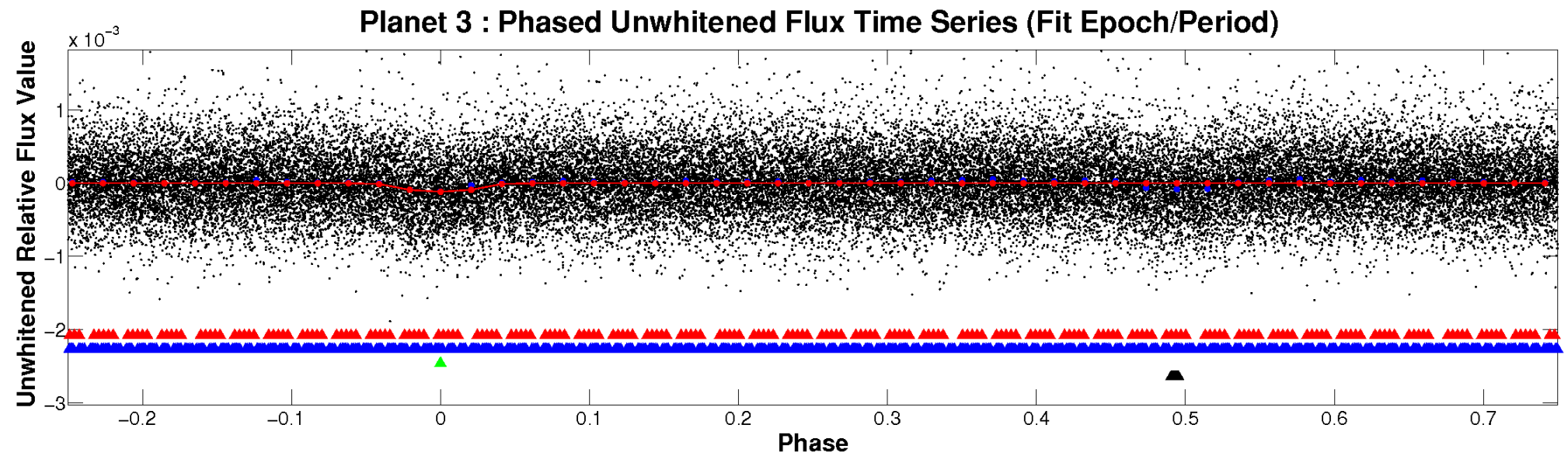


ALT Odd/Even

TCE 006525946-03

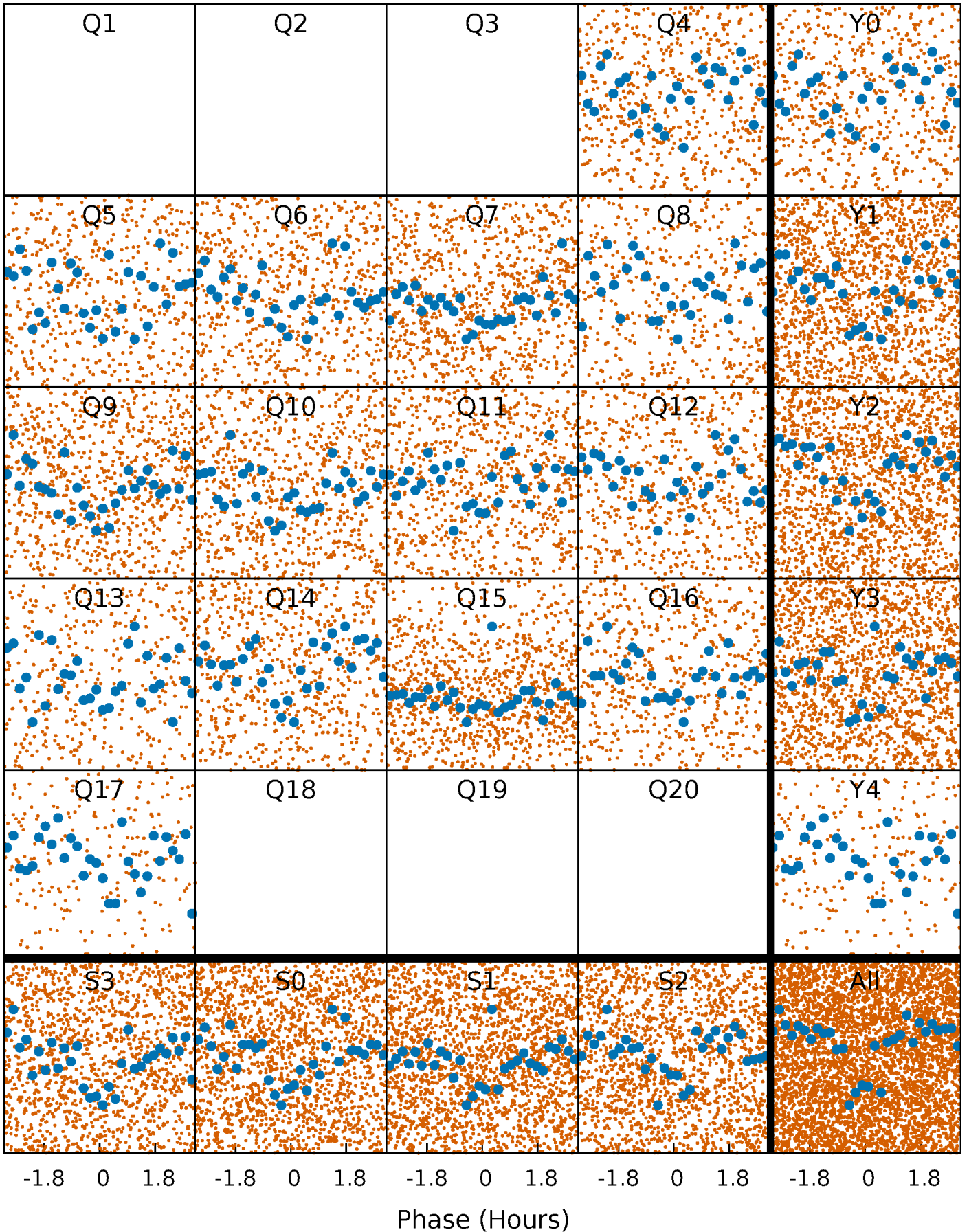


Non-Whitened Vs. Whitened Light Curve



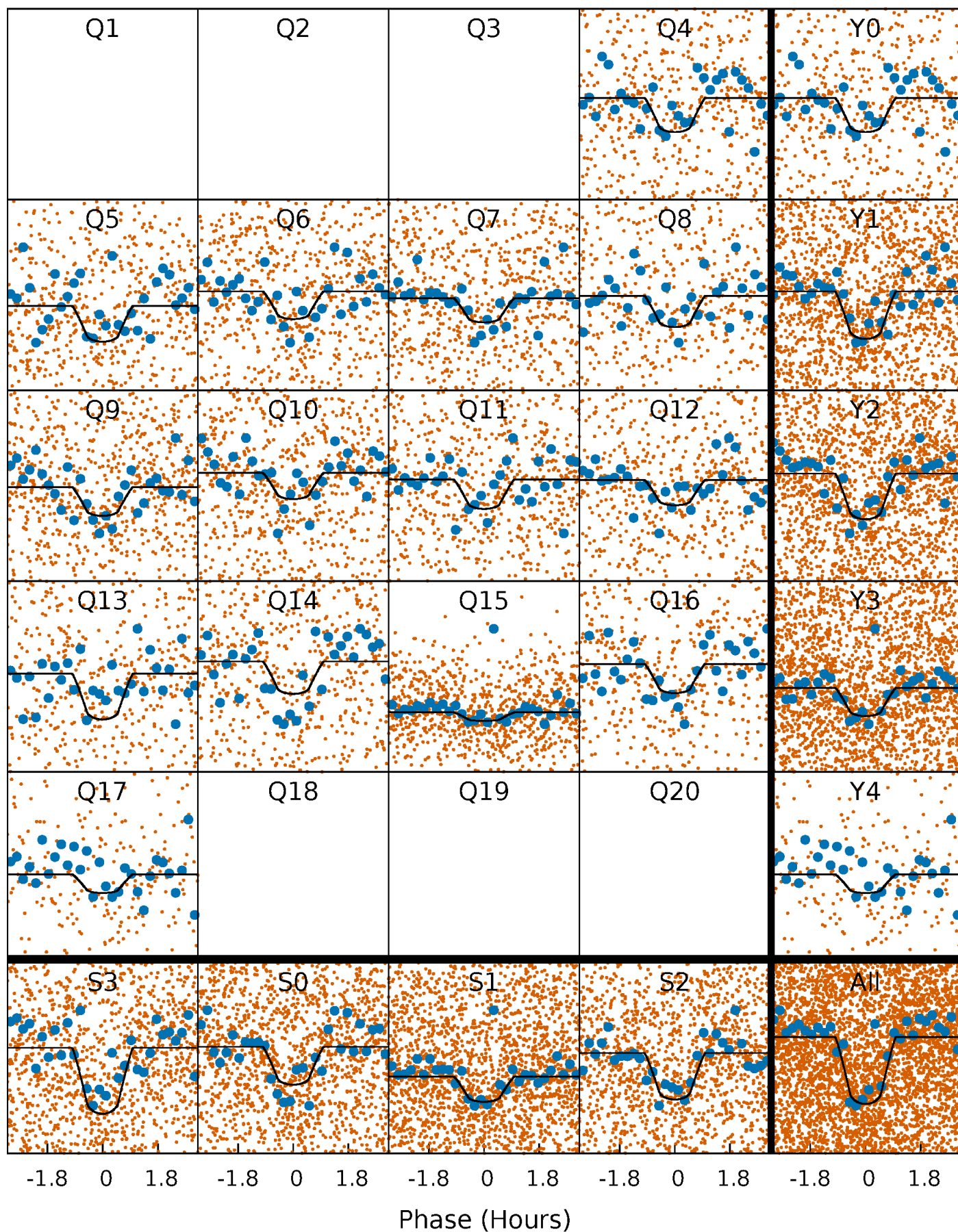
PDC Quarter-Phased Transit Curves

TCE 006525946-03 P= 0.992144 Days $T_0=132.282034$ (BKJD)



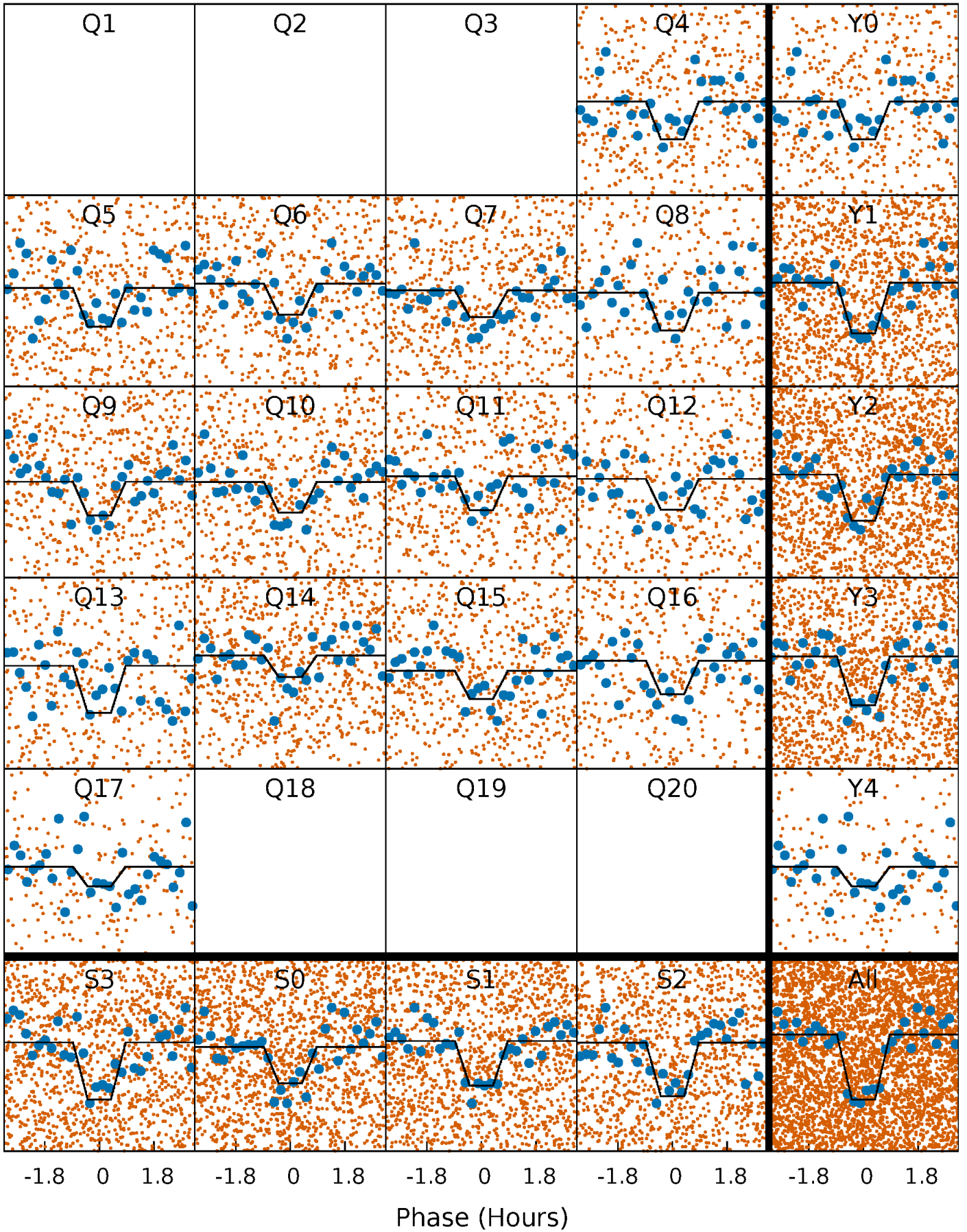
DV Quarter-Phased Transit Curves

TCE 006525946-03 $P = 0.992144$ Days $T_0 = 132.282034$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

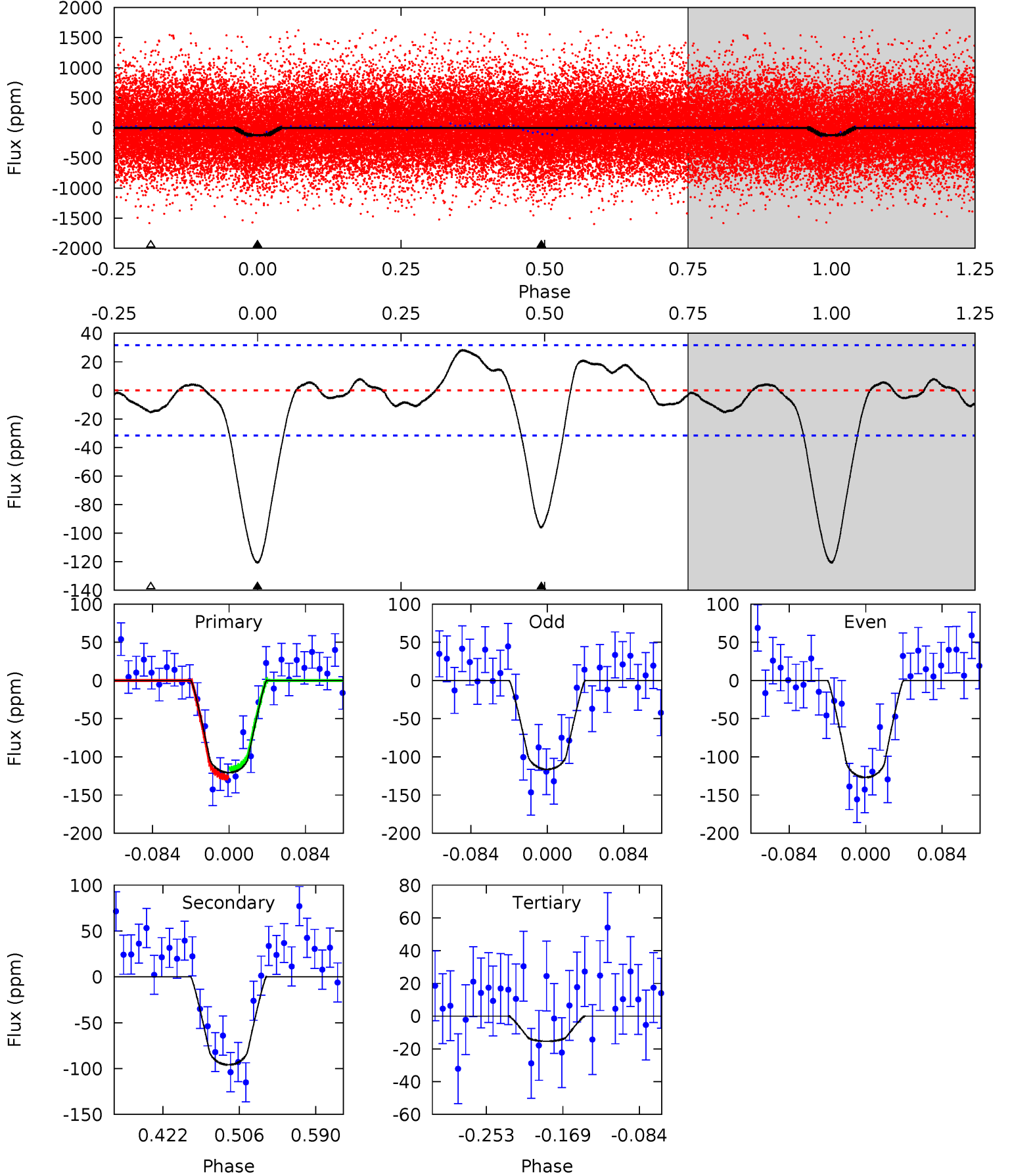
TCE 006525946-03 P= 0.992140 Days $T_0=132.283636$ (BKJD)



DV Model-Shift Uniqueness Test

006525946-03, P = 0.992144 Days, E = 132.282034 Days

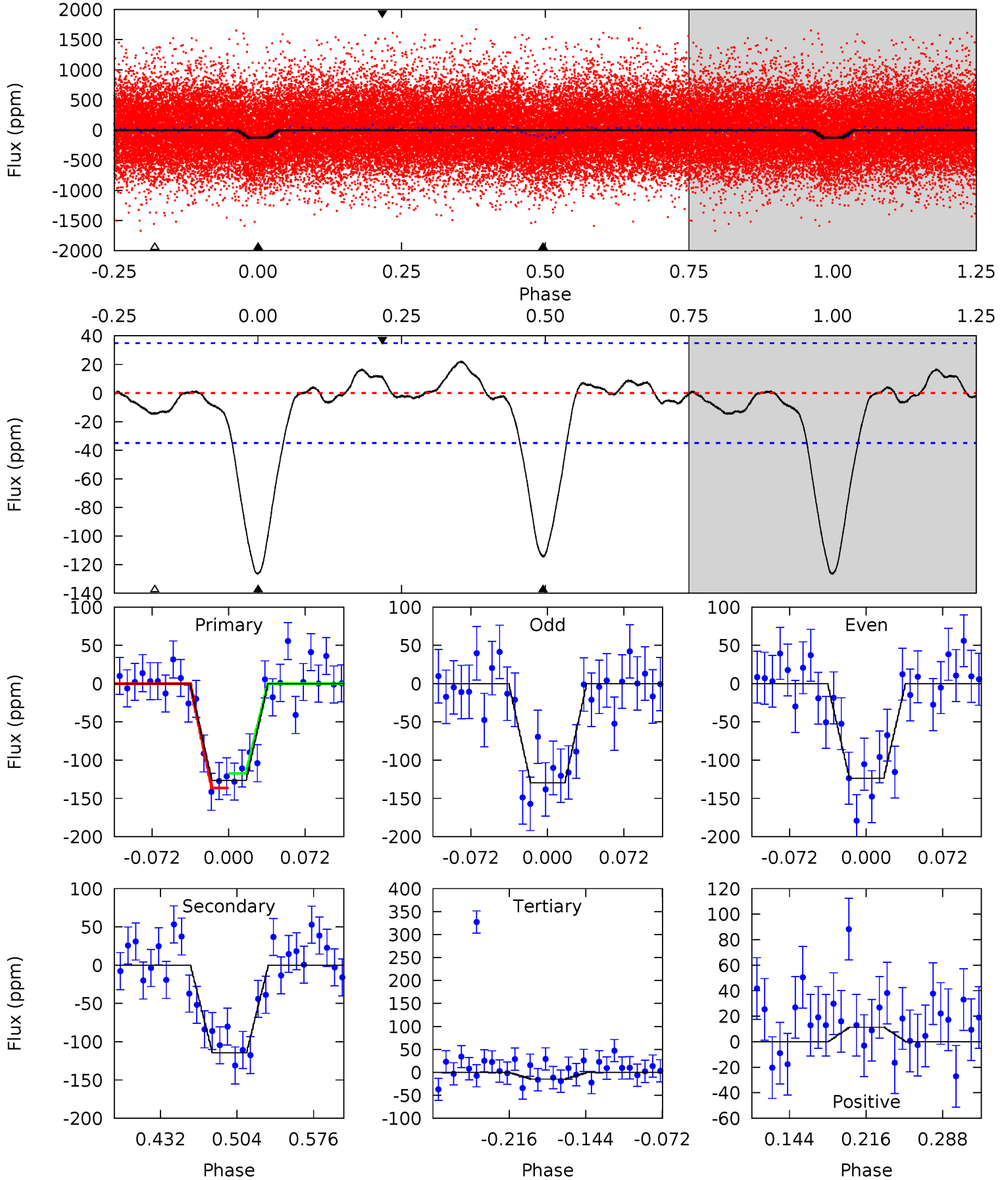
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	13.9	2.23	0	4.60	1.73	1.65	15.3	17.5	11.7	13.9	0.76	0.79	0.19	0.80



Alt Model-Shift Uniqueness Test

006525946-03, P = 0.992140 Days, E = 132.283636 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	15.2	1.94	1.51	4.63	1.80	1.06	14.8	15.3	13.2	13.7	0.38	1.01	0.15	1.27



Stellar Parameters For KIC 006525946

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5096^{+77}_{-46}	$2.435^{+0.117}_{-0.143}$	$-1.520^{+0.150}_{-0.150}$	$8.769^{+3.319}_{-1.106}$	$0.763^{+0.367}_{-0.015}$	$0.002^{+0.001}_{-0.001}$
	+2%/-1%	+5%/-6%	+10%/-10%	+38%/-13%	+48%/-2%	+45%/-50%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006525946-03 / KOI 2093.03

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-96 ± 7	$11.84^{+7.77}_{-6.45}$	6998^{+445}_{-315}	-4969^{+10585}_{-595}	$0.124^{+0.487}_{-0.078}$
Alt.	-114 ± 8	$11.70^{+7.57}_{-6.48}$	6967^{+473}_{-295}	-4759^{+11122}_{-725}	$0.159^{+0.651}_{-0.101}$

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

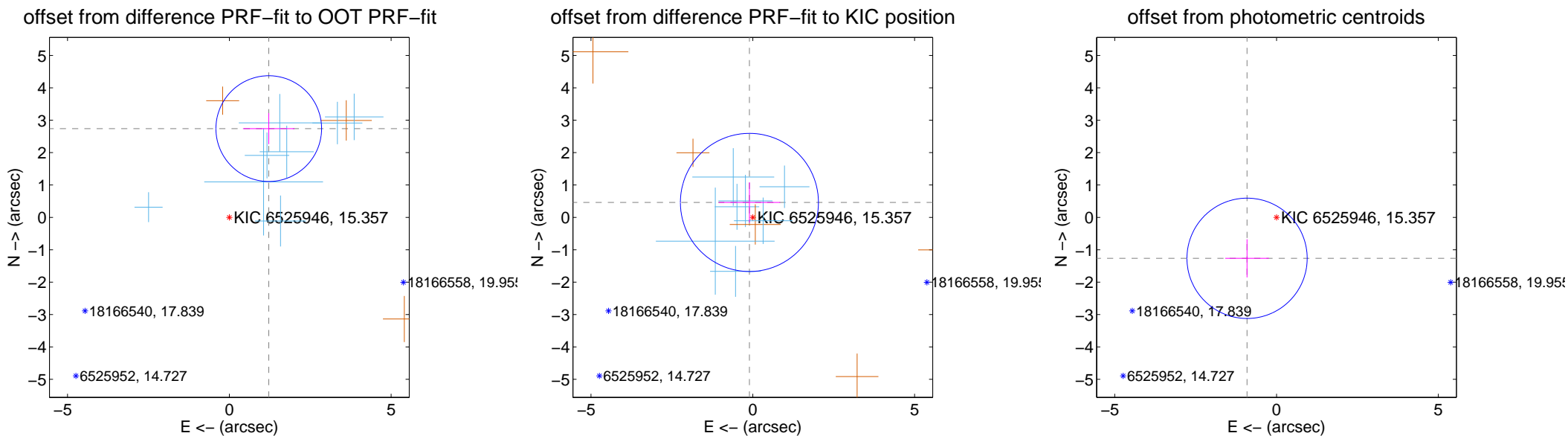
DV Centroid Data

Supplemental centroid analysis for 006525946-03. Kepler magnitude: 15.36. Transit SNR 12.51

There are 8 quarters with good PRF difference image offsets

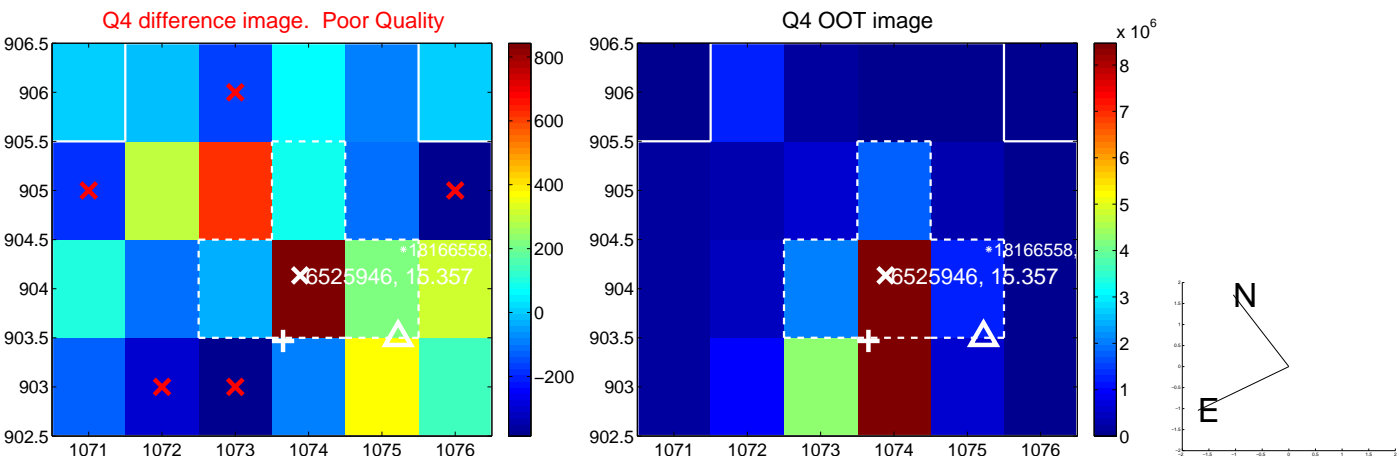
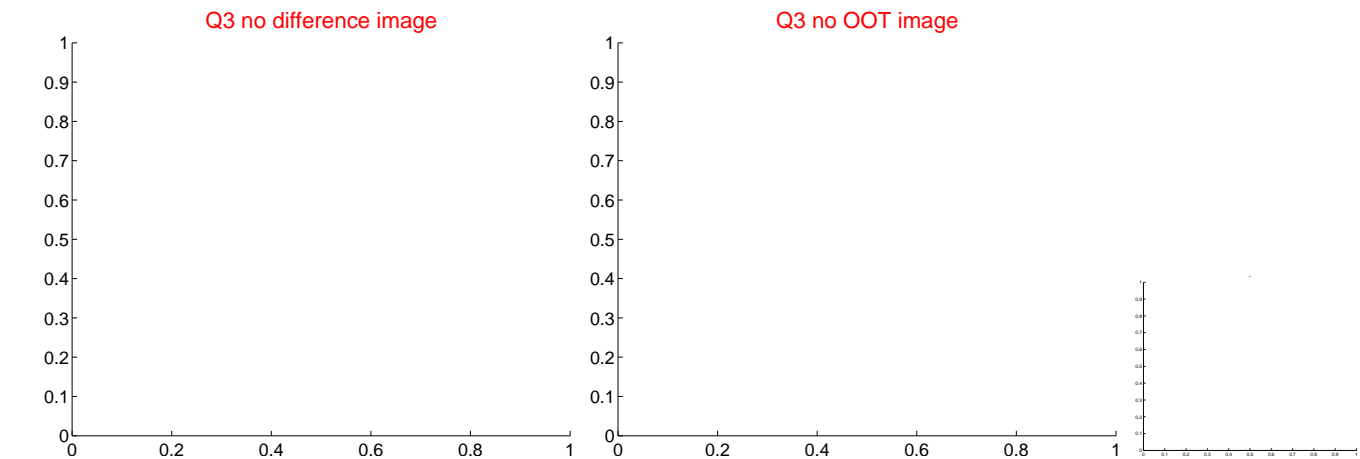
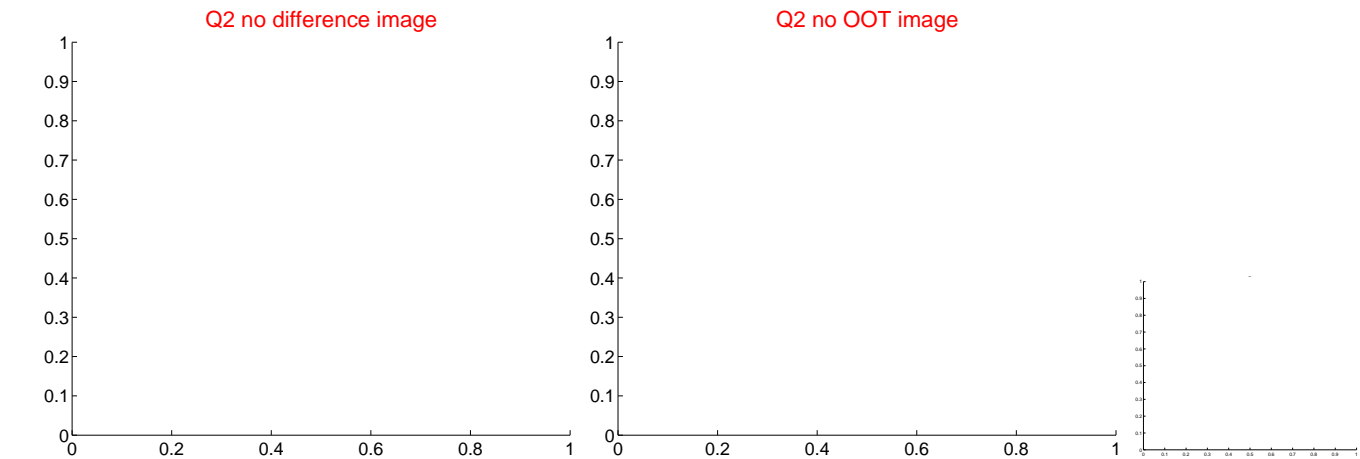
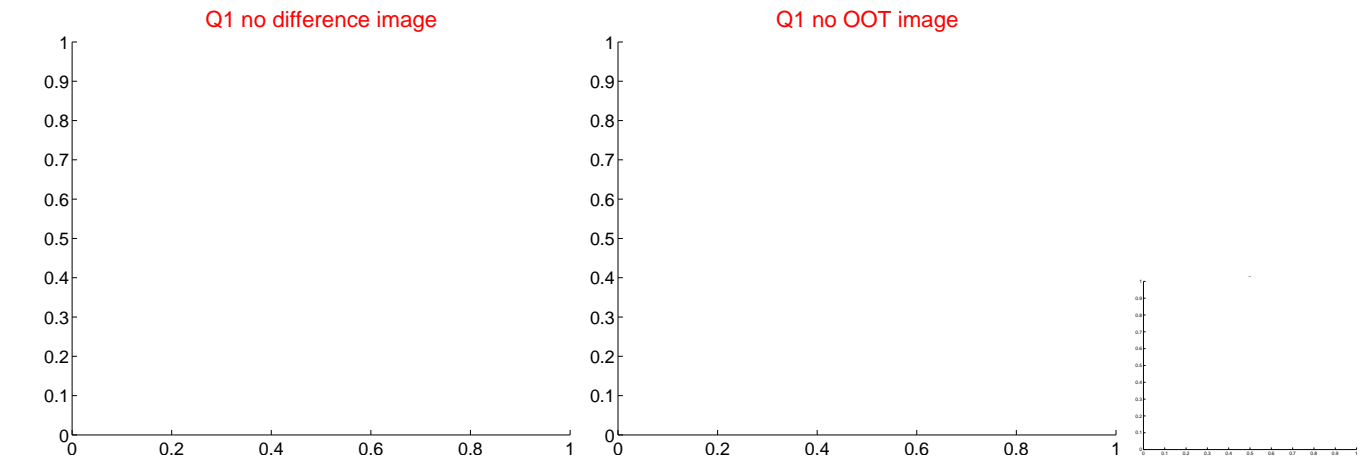
The OOT PRF centroid is offset from the target star catalog position by about 2.45 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.000 ± 0.544	5.51	-1.219 ± 0.796	2.742 ± 0.479
PRF-fit source offset from KIC position	0.473 ± 0.711	0.67	0.104 ± 0.950	0.462 ± 0.622
photometric centroid source offset	1.56 ± 0.62	2.52	0.91 ± 0.68	-1.26 ± 0.59

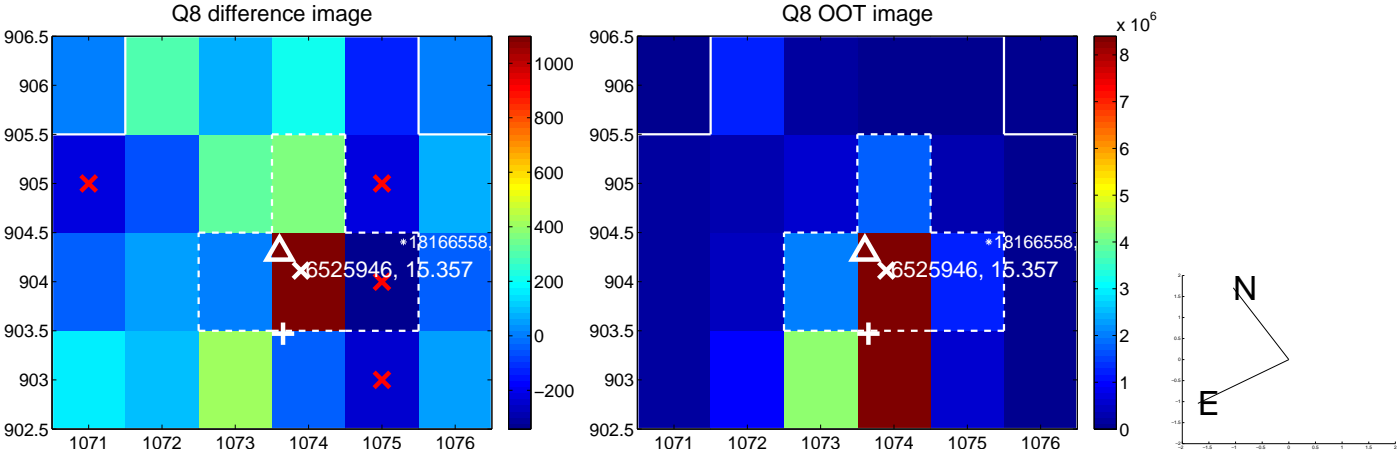
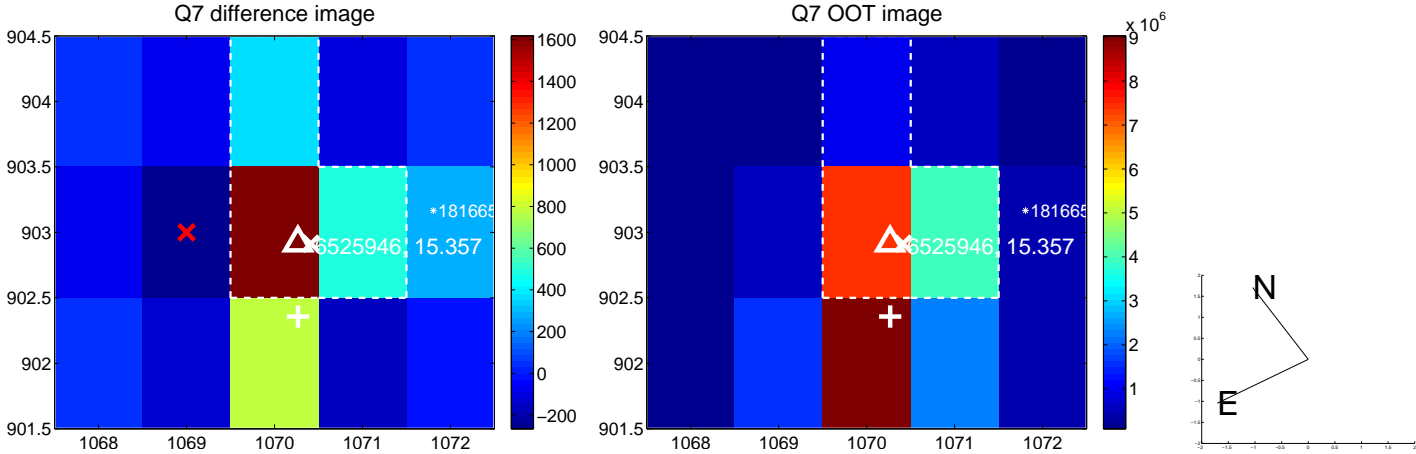
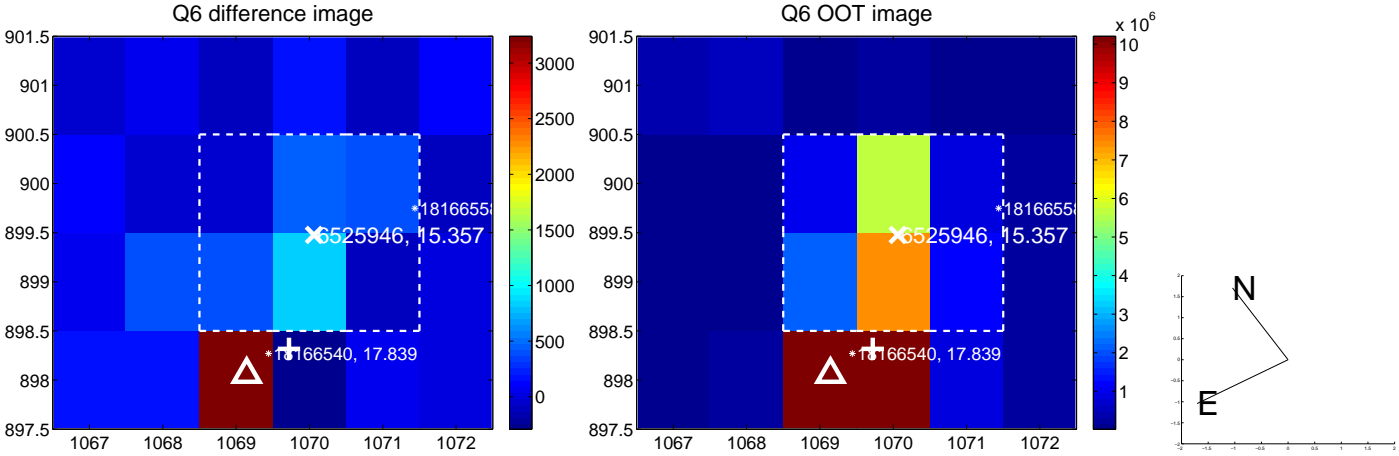
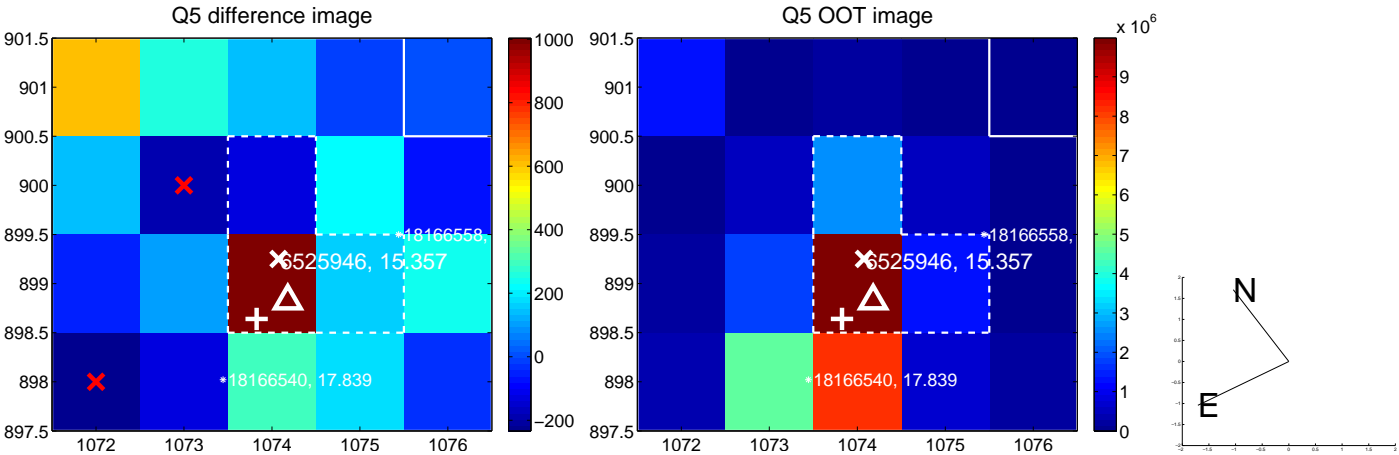


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

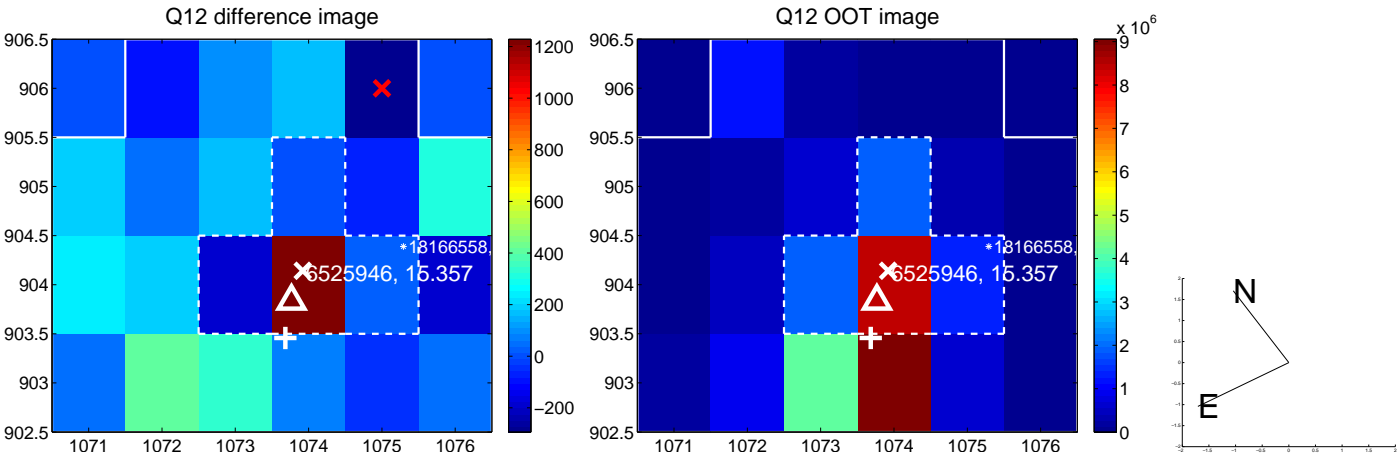
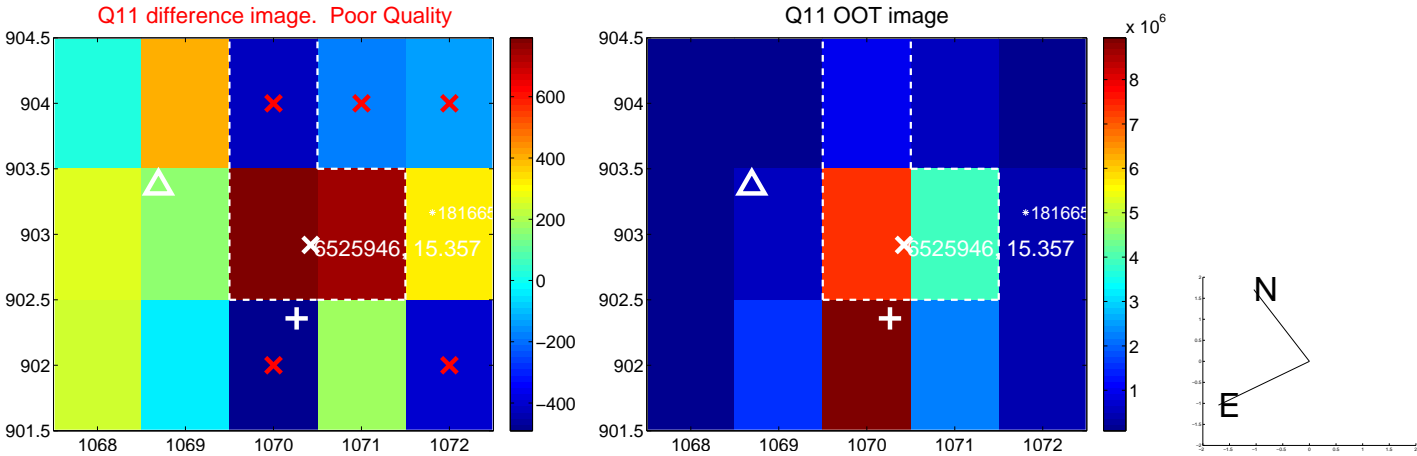
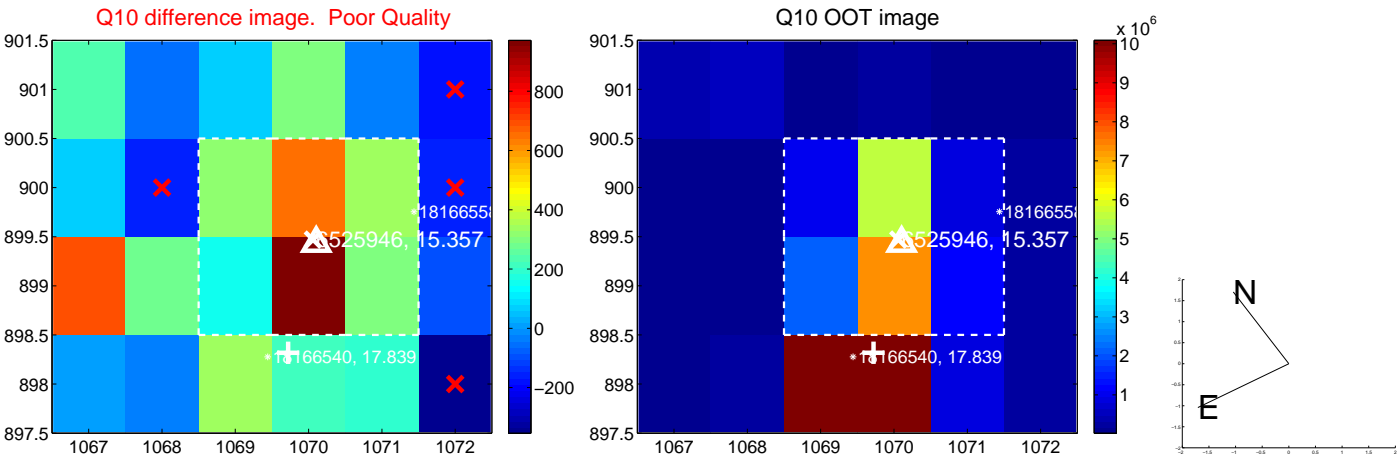
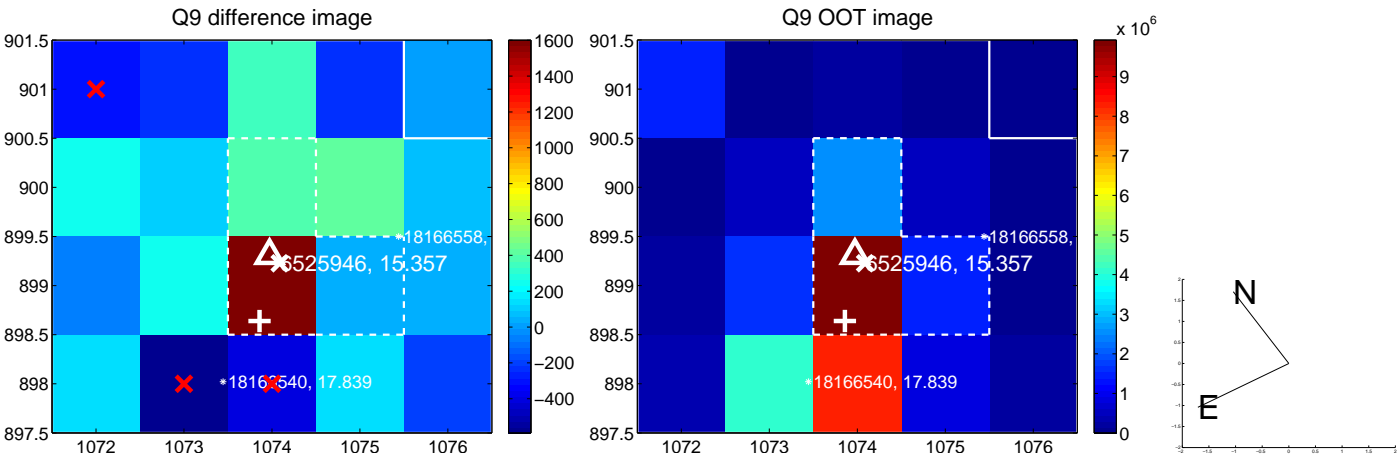
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



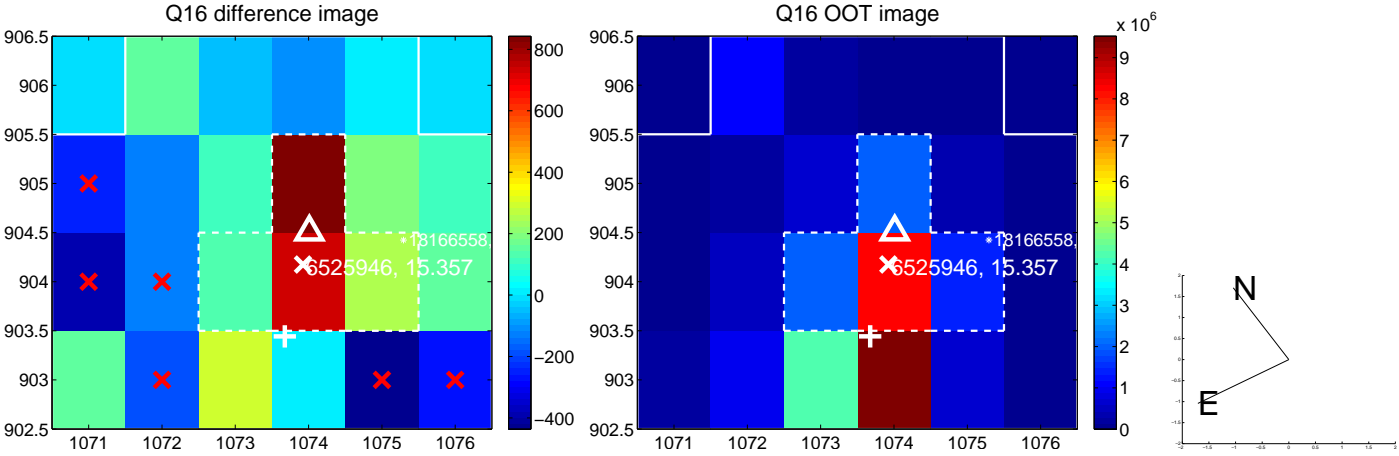
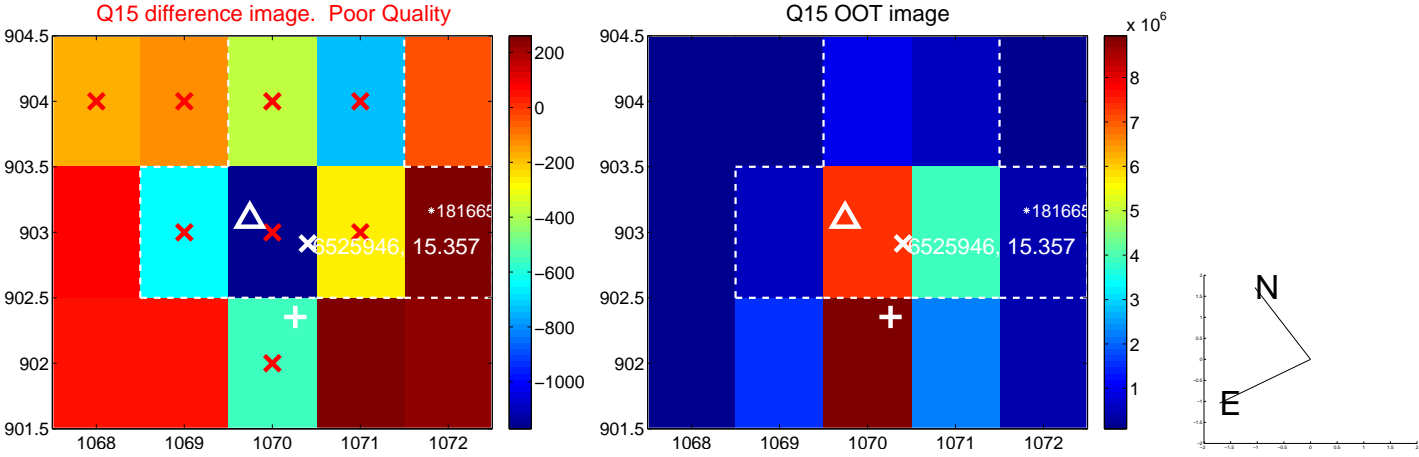
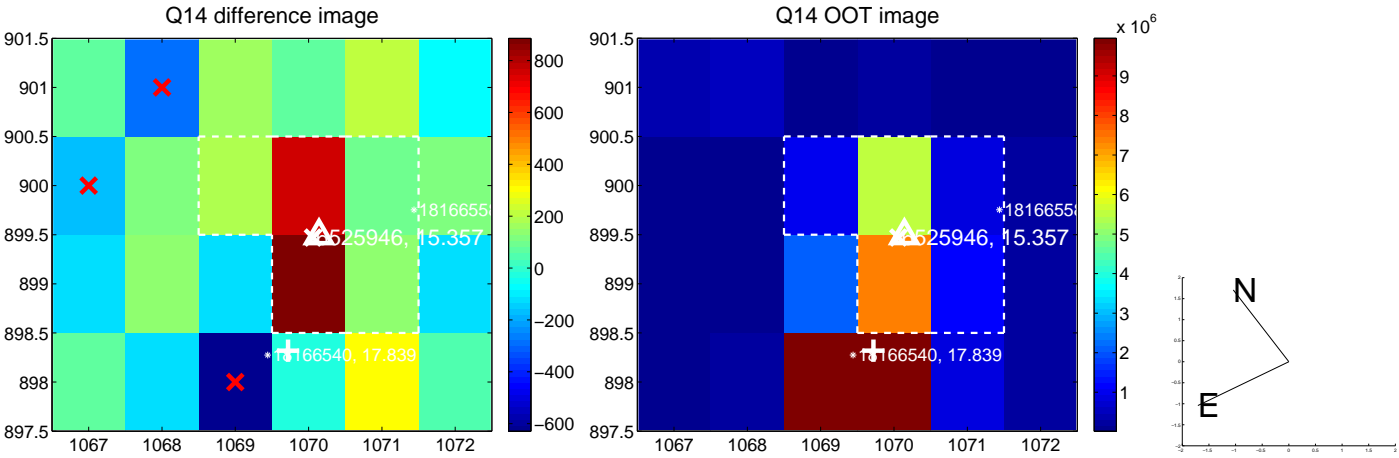
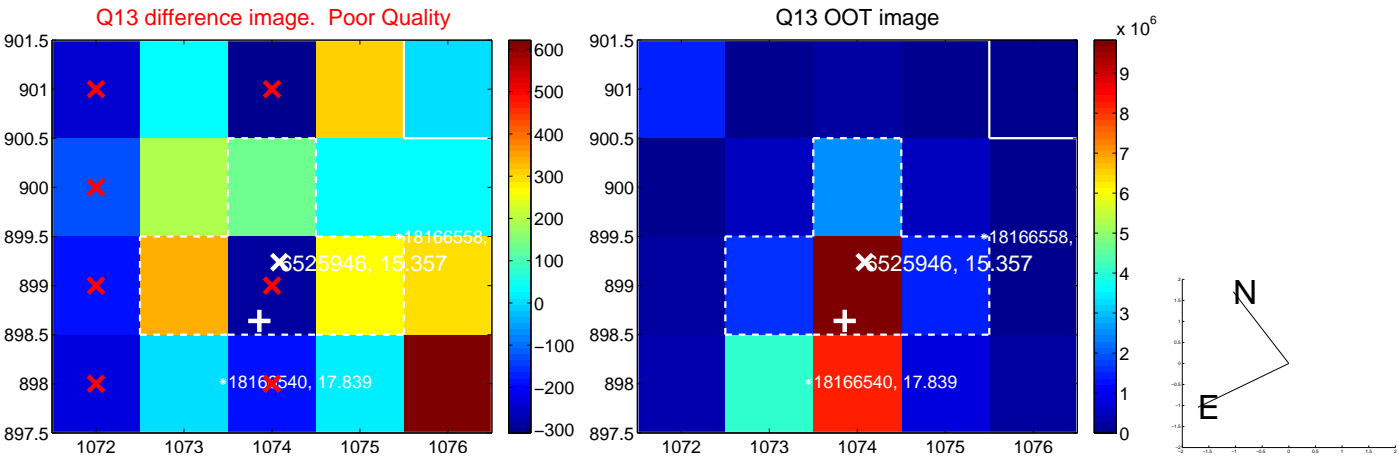
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



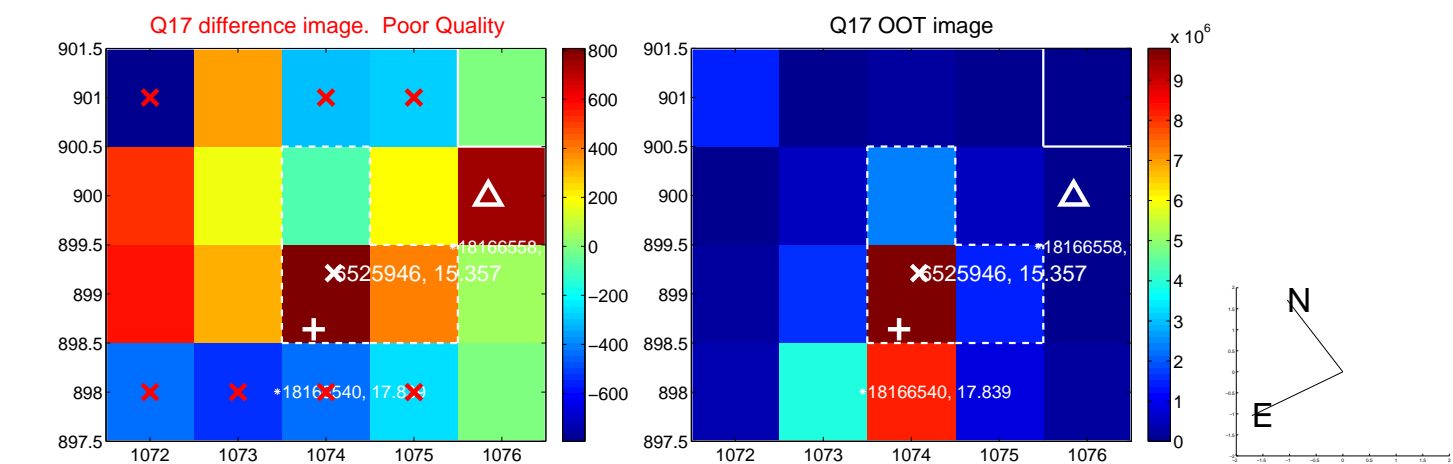
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



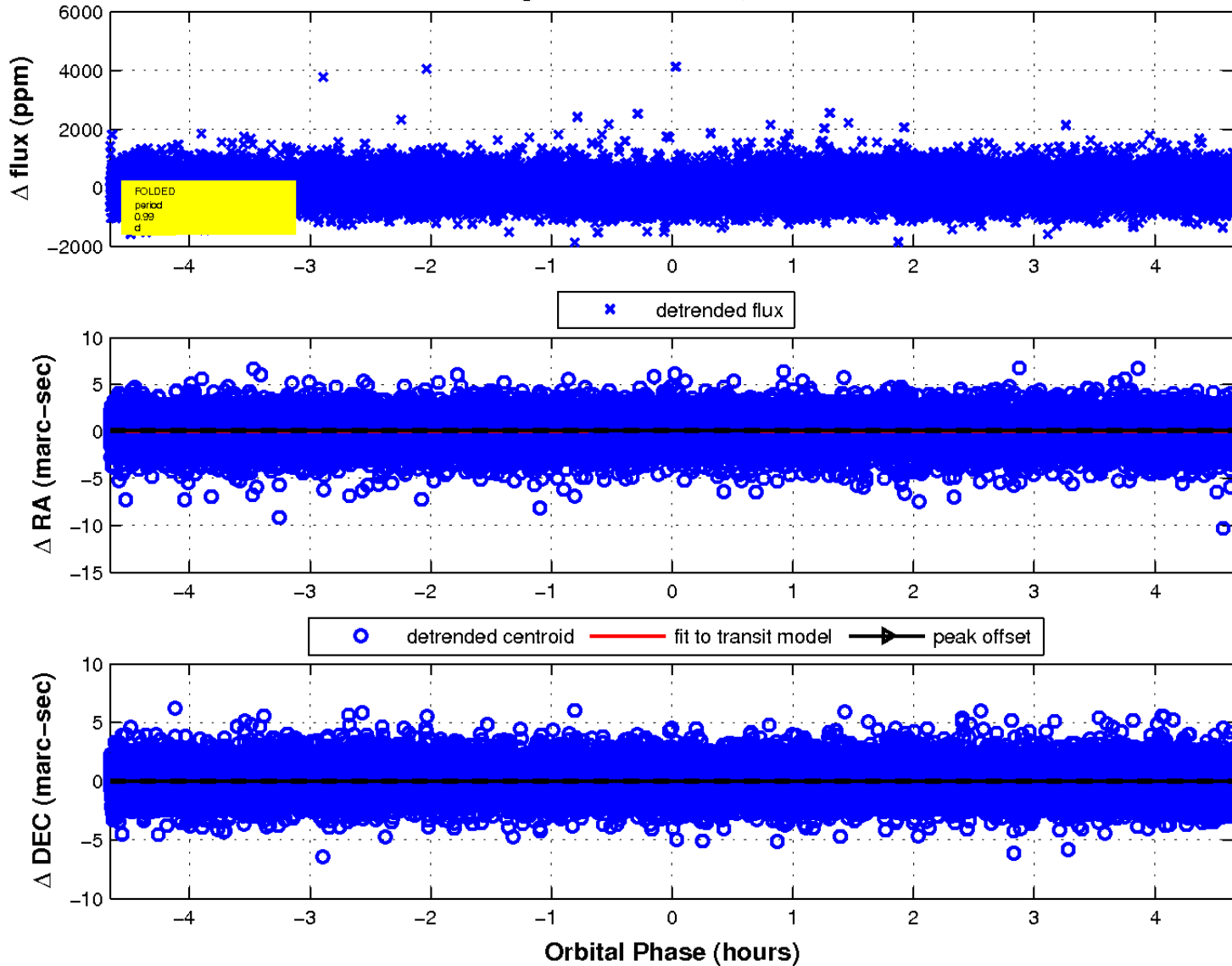
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

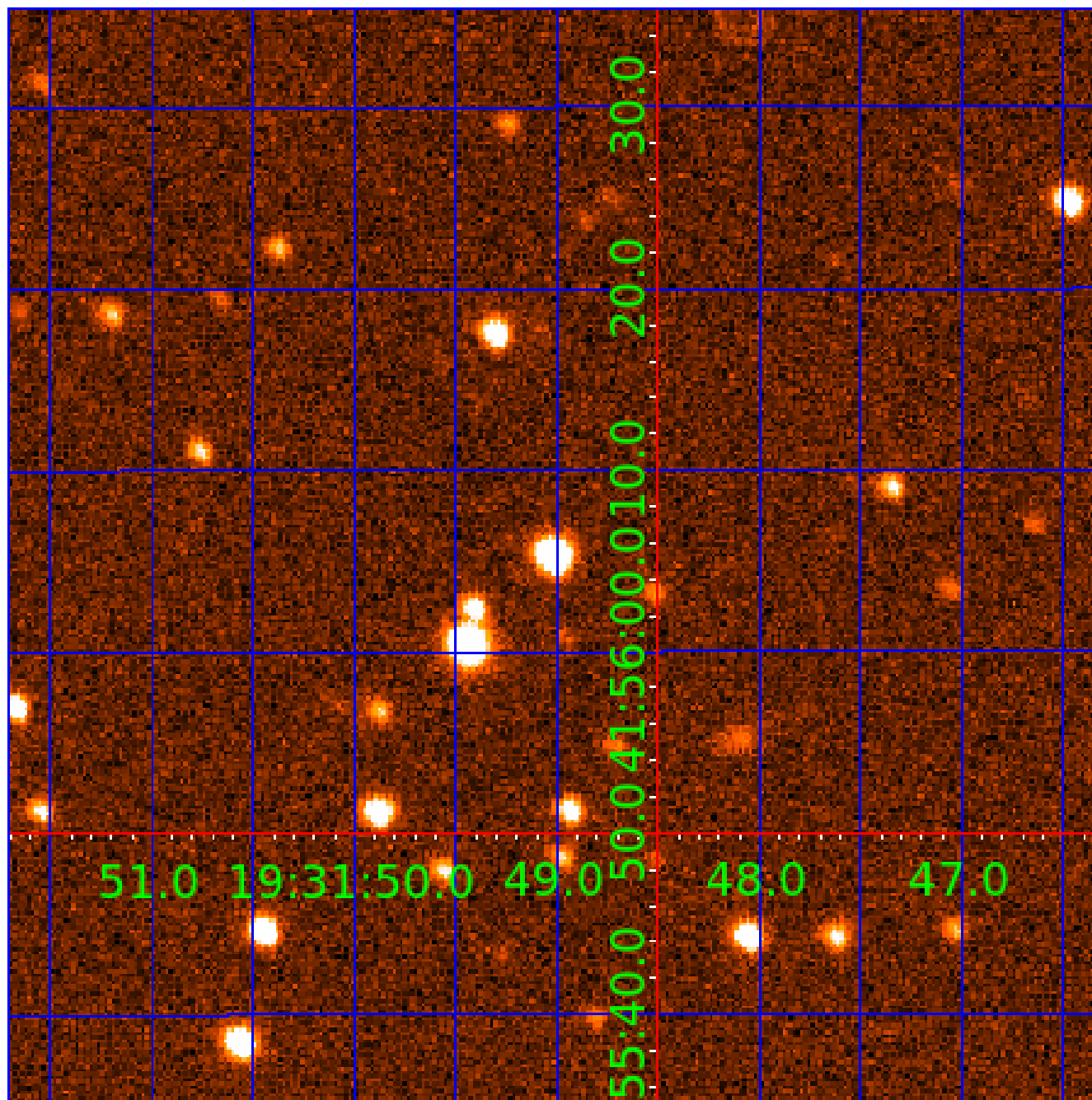


fluxWeightedCentroids, Planet 3 of 4



UKIRT Image

Declination



KIC 006525946

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})
006525946-01	OBS	2093.01	6.783419	136.103787	485.8	3.783	28.8	30.9	8.77	5096	22.72	11302.66
006525946-02	OBS	2093.02	2.508130	133.982452	184.4	2.674	15.2	16.6	8.77	5096	14.15	0.00
006525946-03	OBS	2093.03	0.992144	132.282034	117.8	1.552	10.8	12.5	8.77	5096	11.06	0.00
006525946-04	OBS	No	0.992140	131.781383	125.3	1.447	11.2	13.1	8.77	5096	9.78	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006525946-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
006525946-02	OBS	PC	0.98	0	0	0	0	PLANET_IN_STAR—CENT_KIC_POS
006525946-03	OBS	PC	0.99	0	0	0	0	PLANET_IN_STAR—MOD_SEC_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE—CENT_KIC_POS
006525946-04	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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 006525946-04

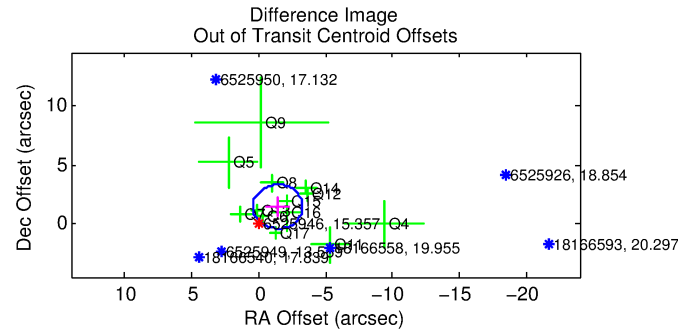
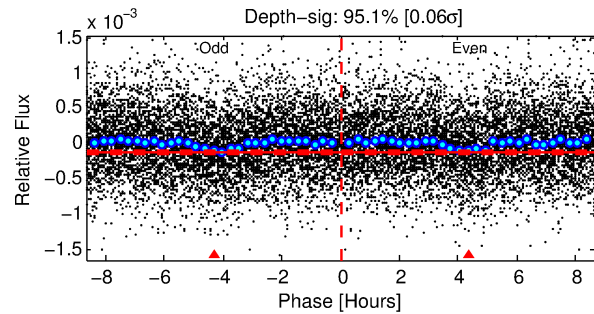
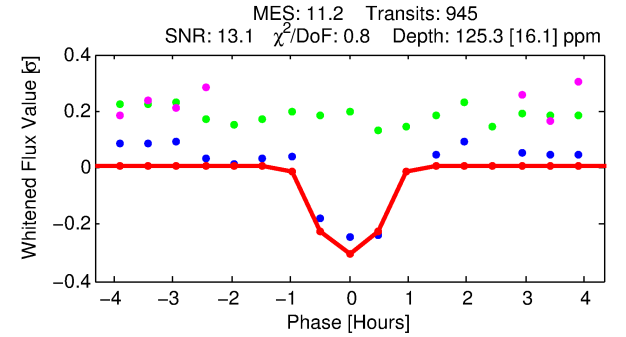
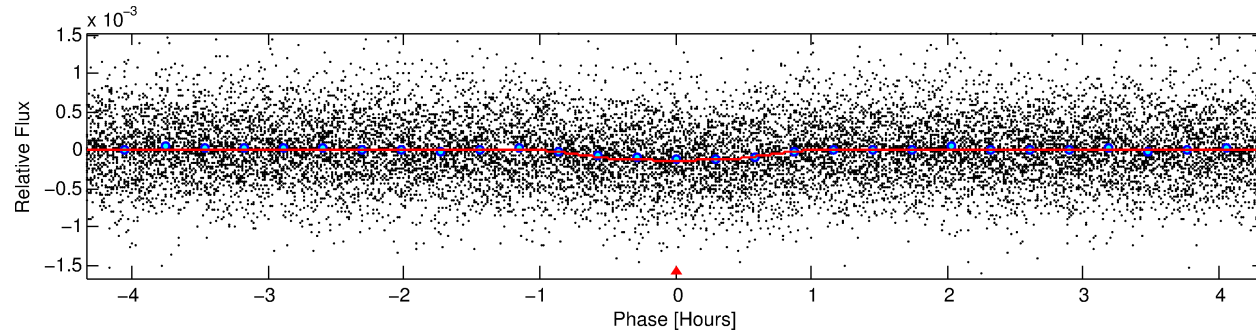
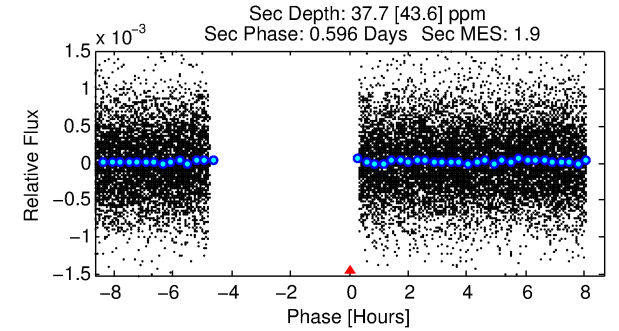
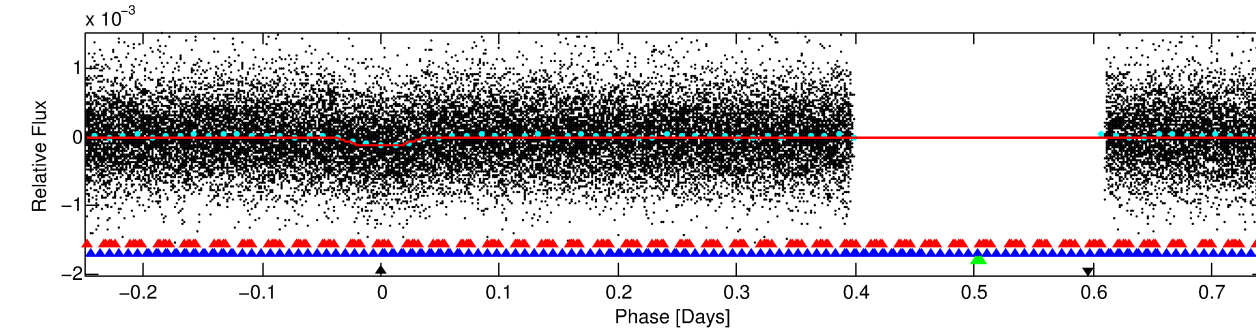
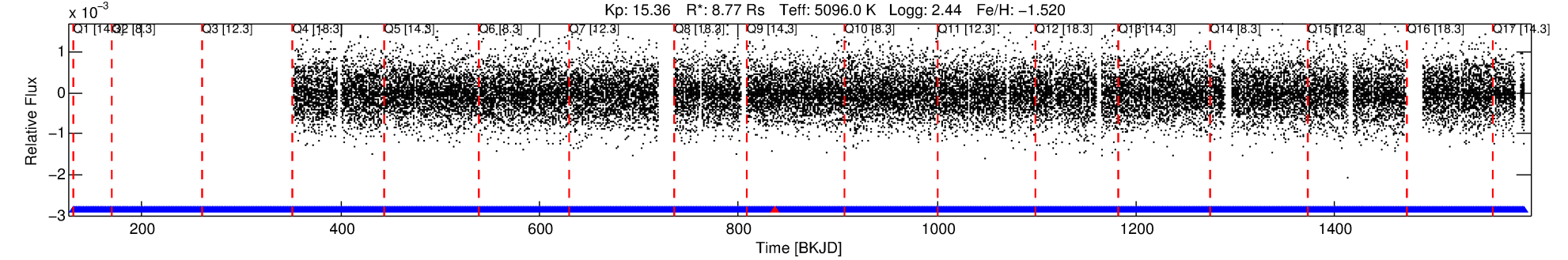
No Significant Match Found

DV One-Page Summary

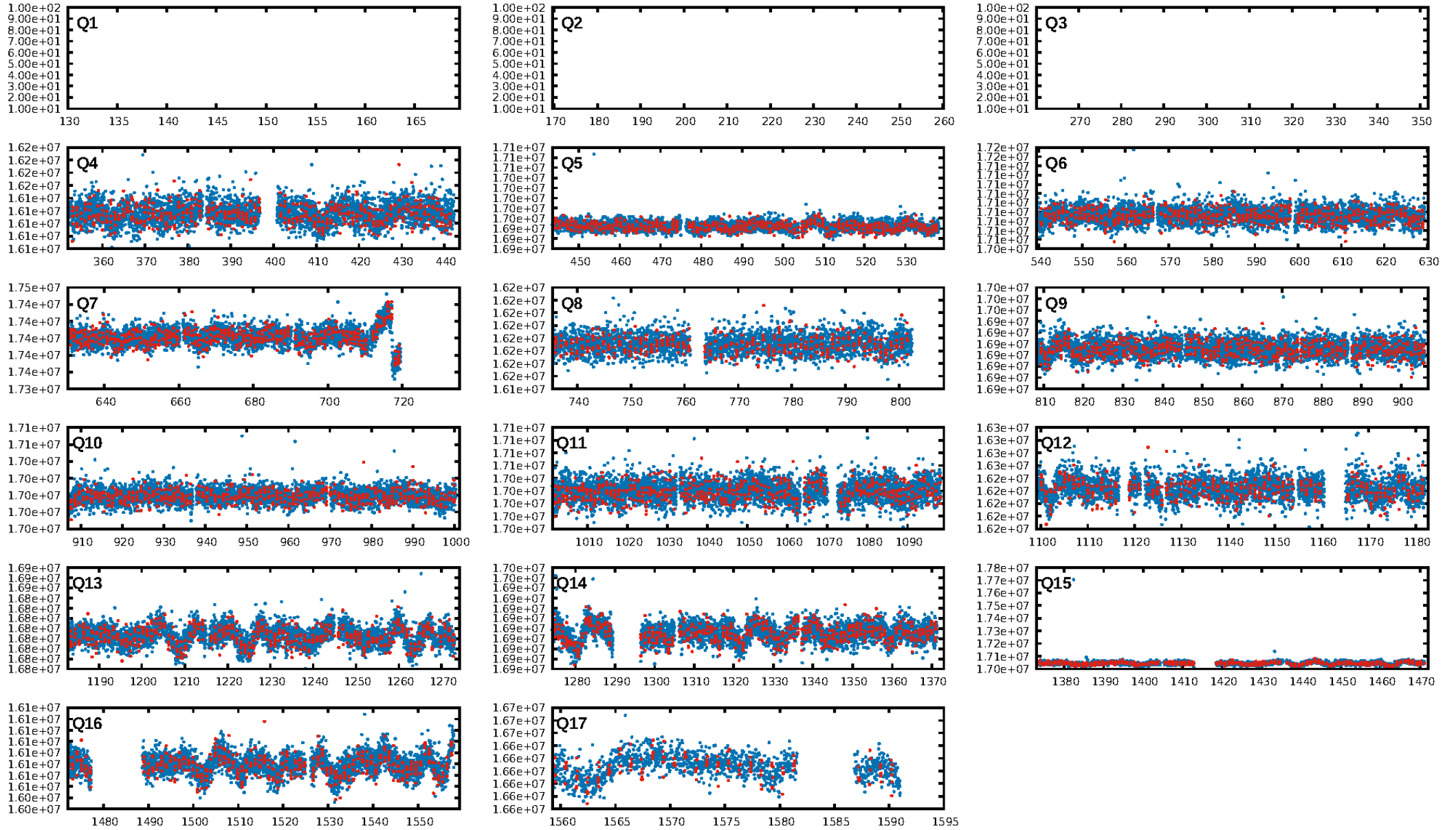
KIC: 6525946 Candidate: 4 of 4 Period: 0.992 d

KOI: K02093 Corr: No Ephemeris Match

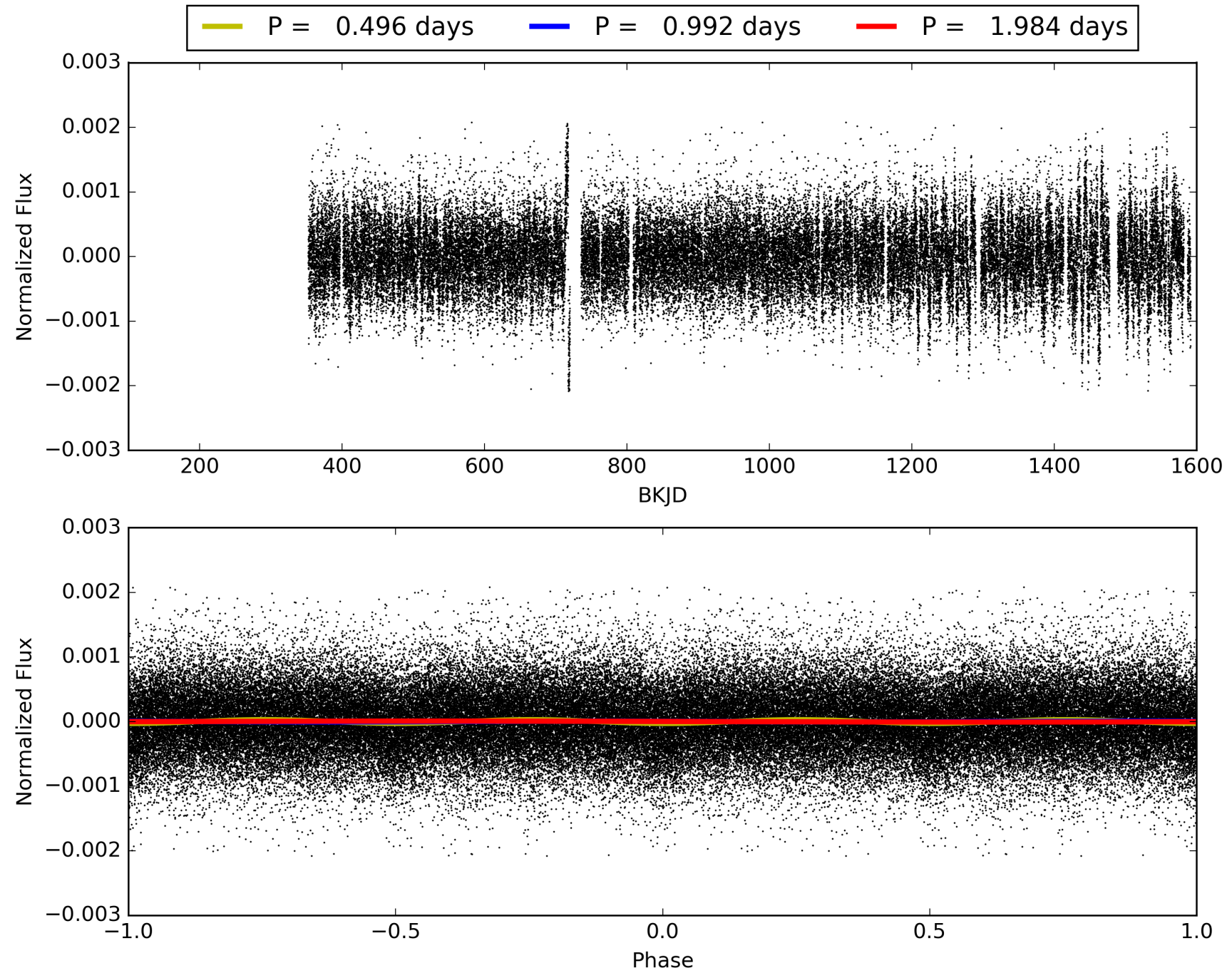
Kp: 15.36 R*: 8.77 Rs Teff: 5096.0 K Logg: 2.44 Fe/H: -1.520



TCE 006525946-04, PDC Light Curves

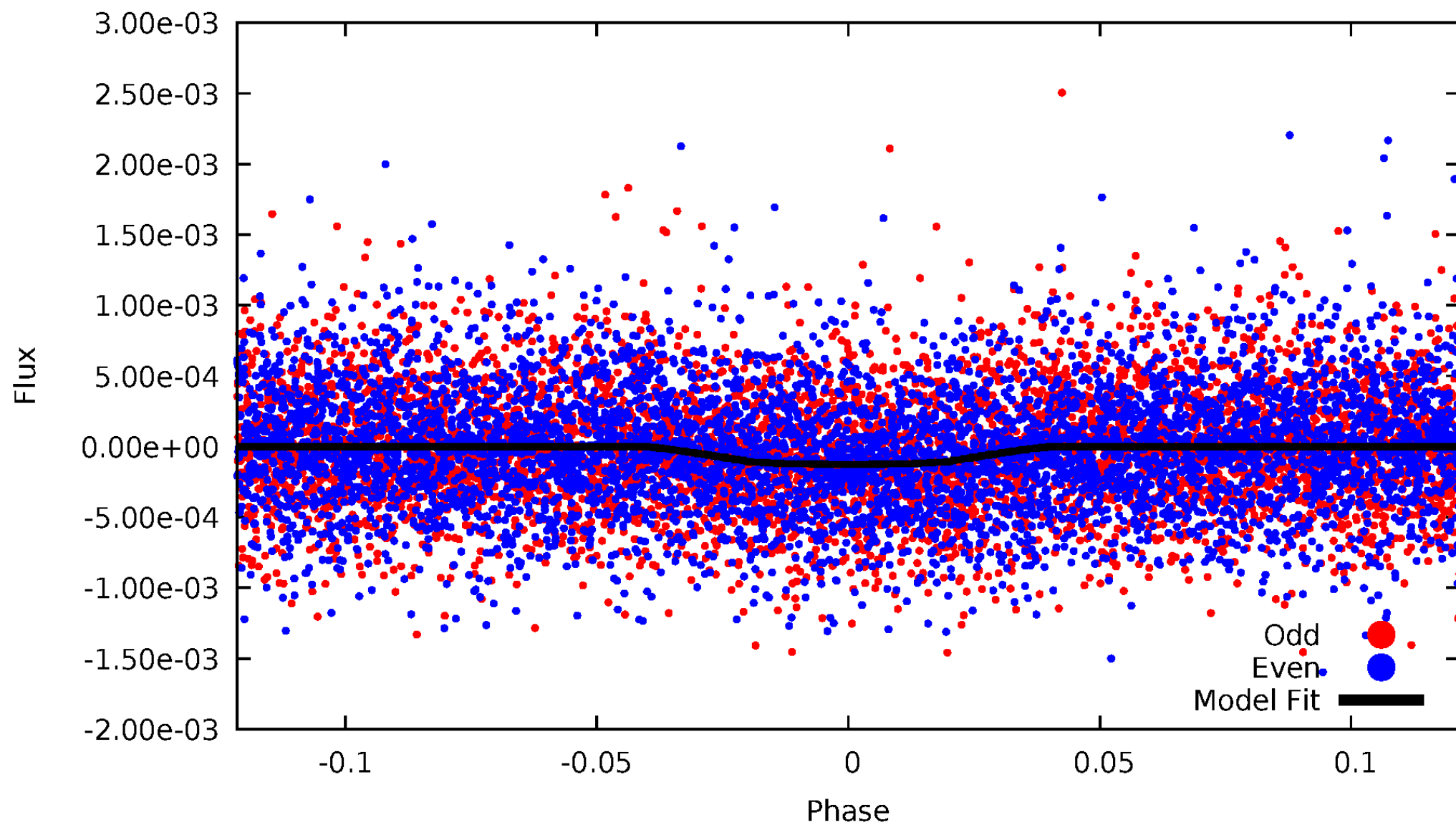


TCE 006525946-04



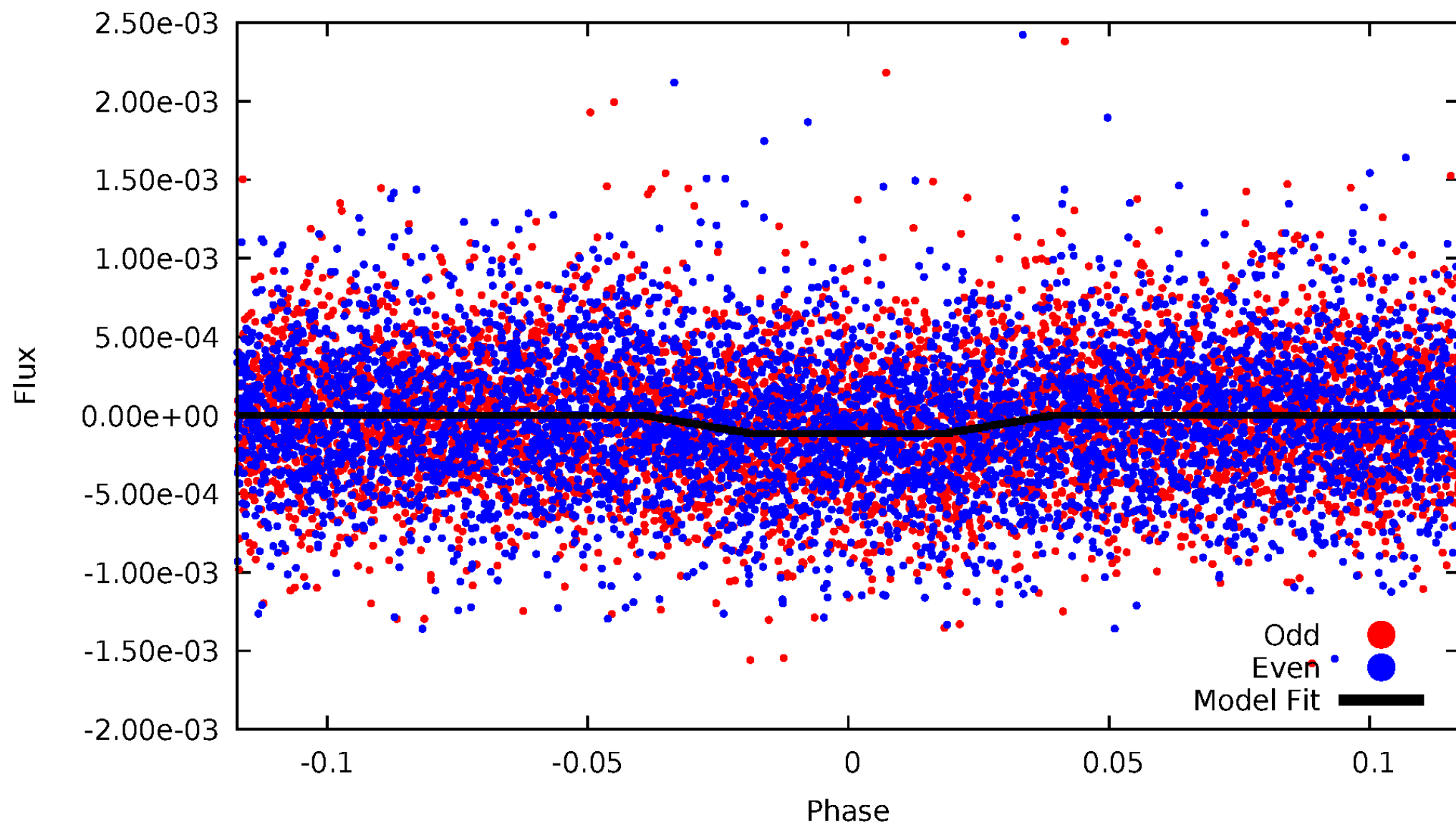
DV Odd/Even

TCE 006525946-04



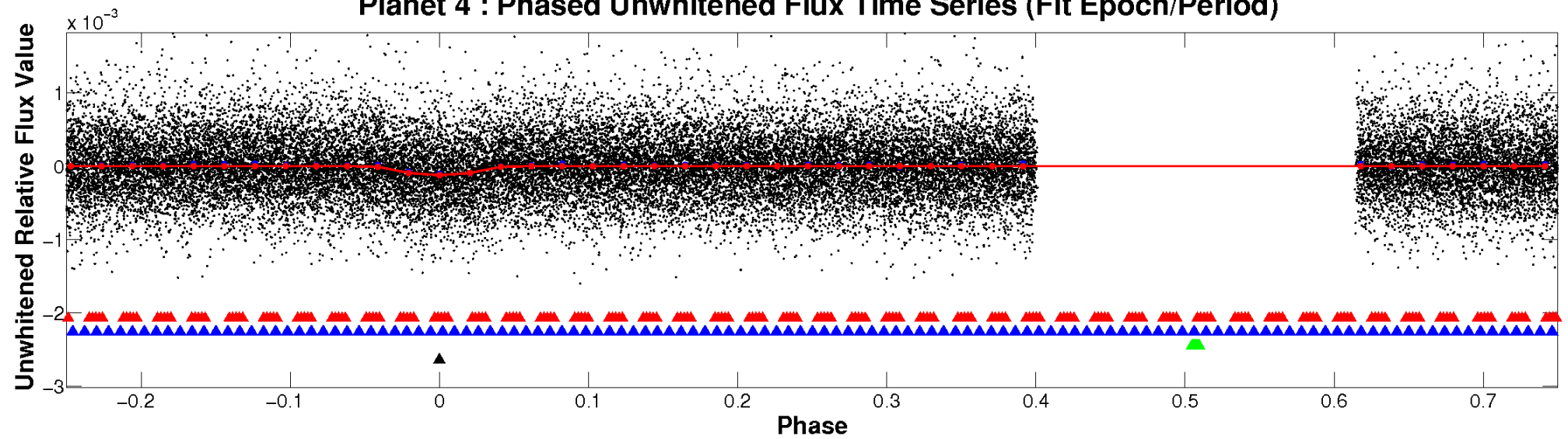
ALT Odd/Even

TCE 006525946-04

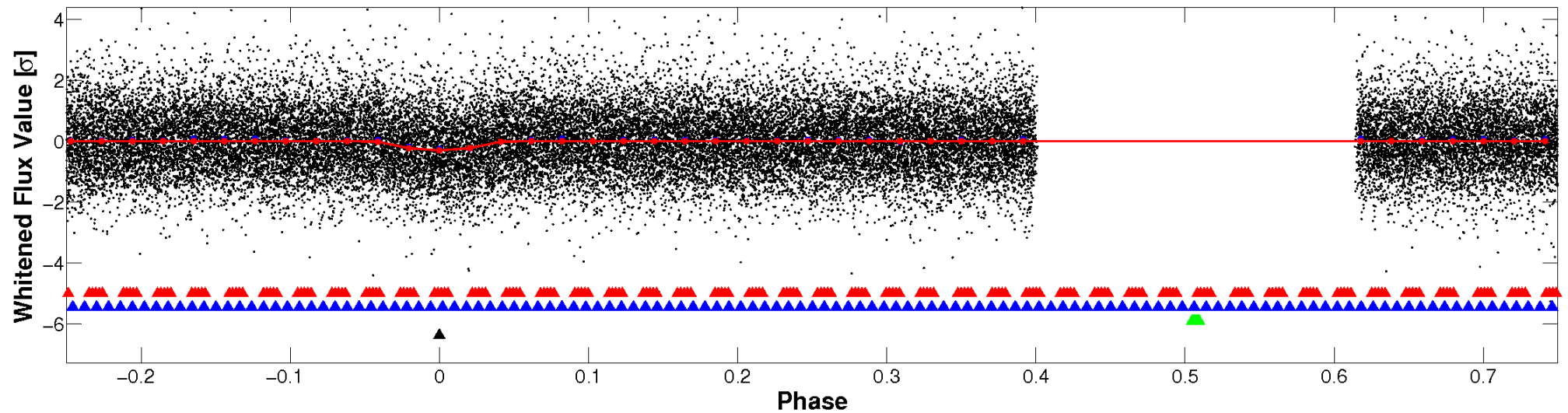


Non-Whitened Vs. Whitened Light Curve

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

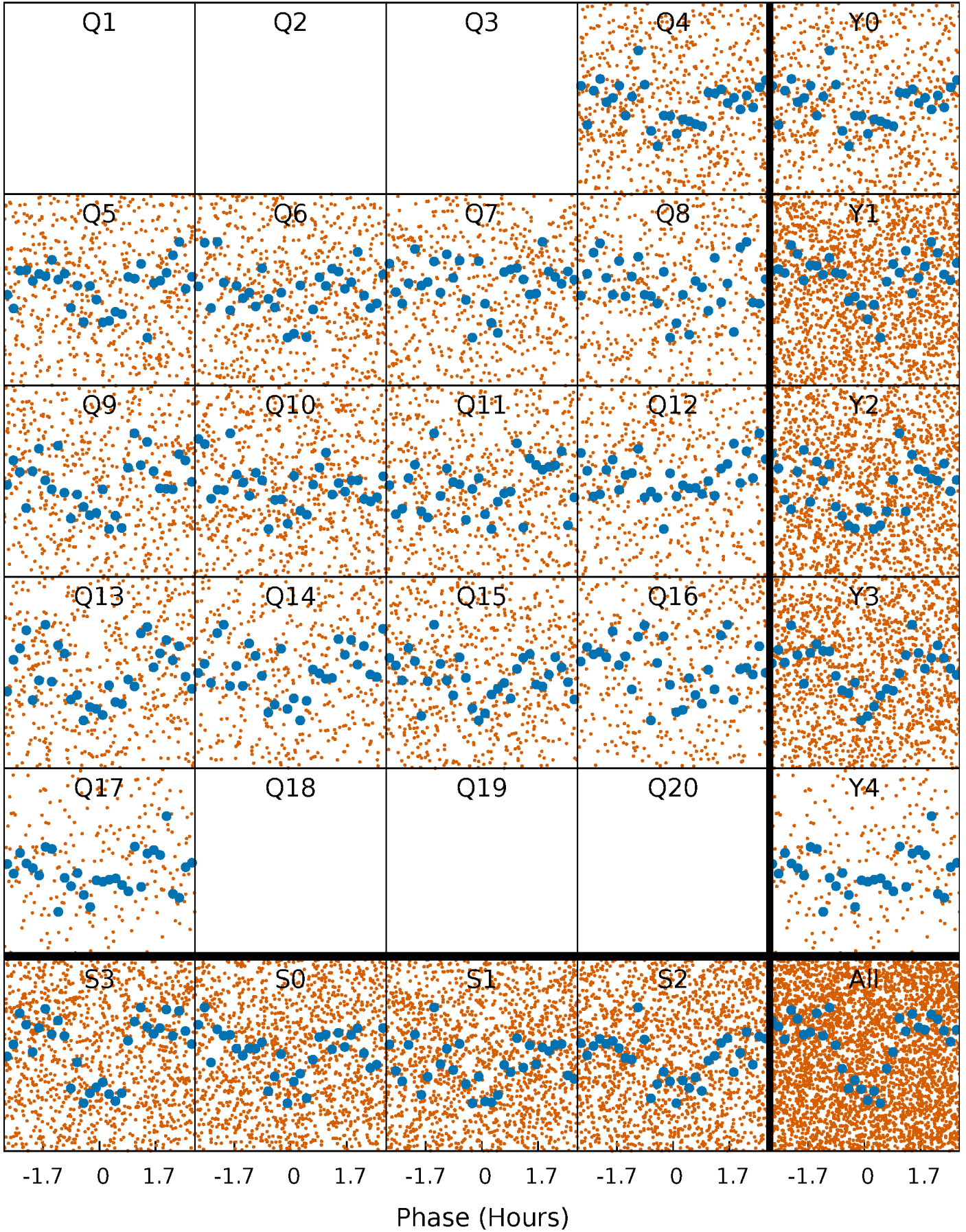


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



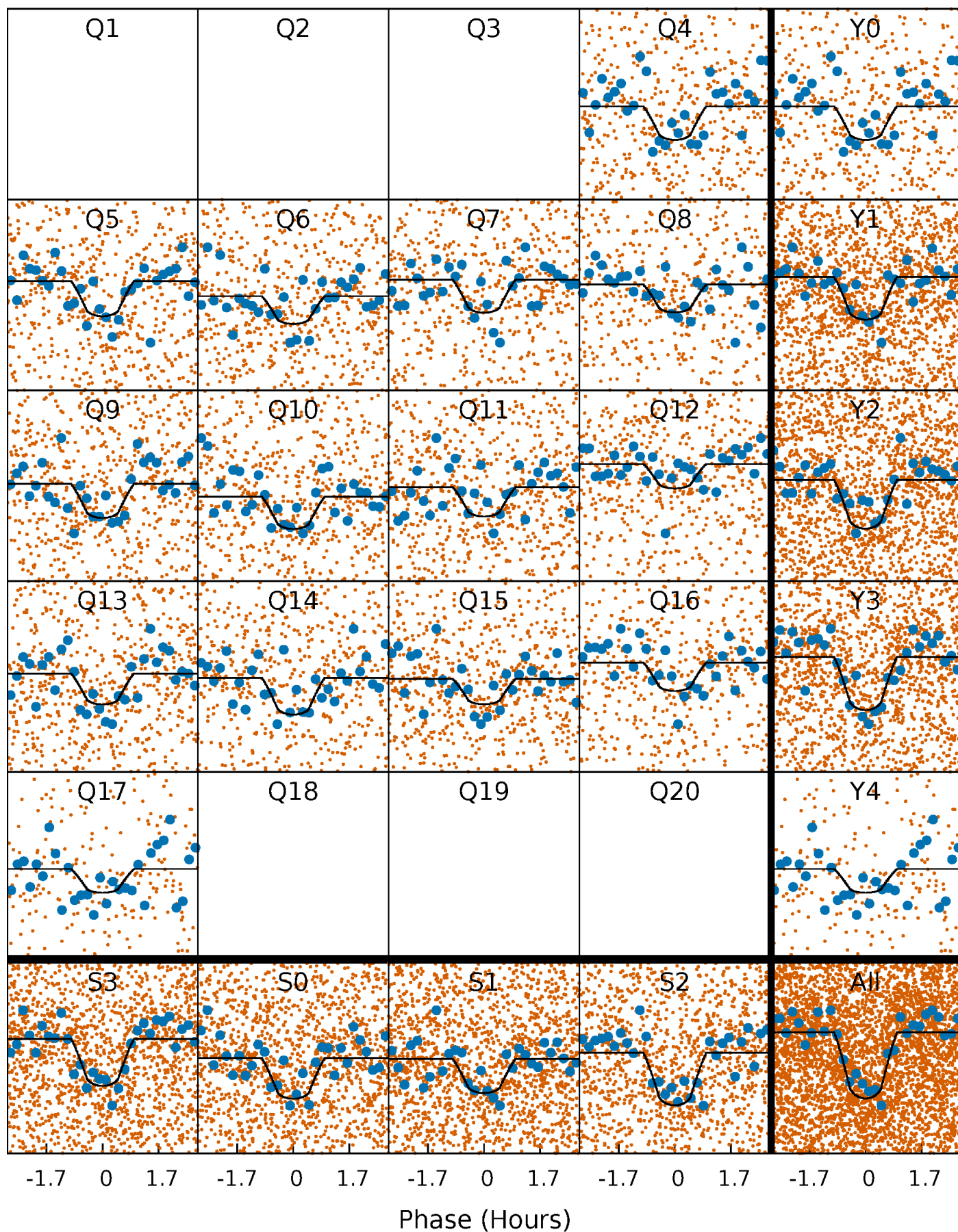
PDC Quarter-Phased Transit Curves

TCE 006525946-04 P= 0.992140 Days $T_0=131.781383$ (BKJD)



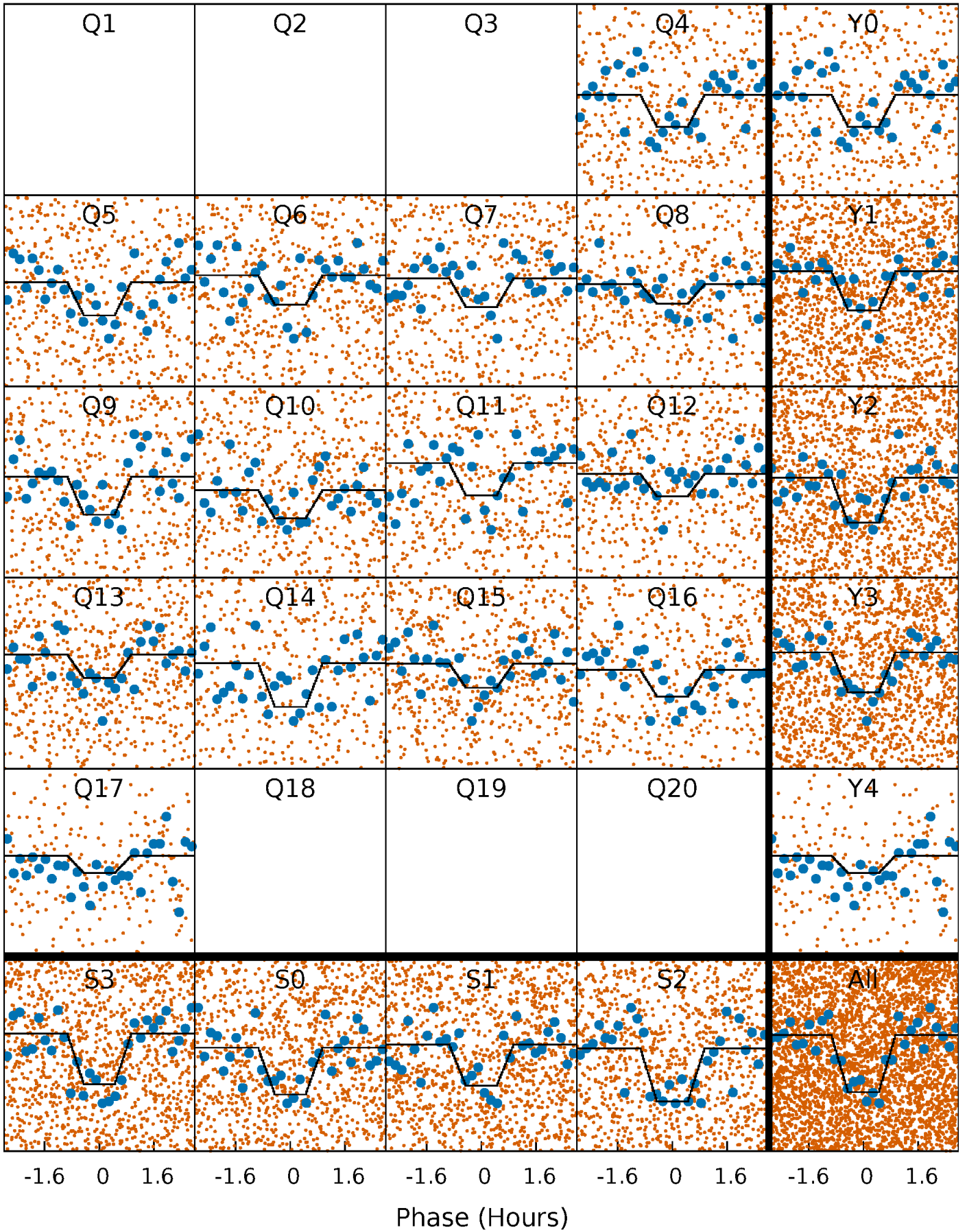
DV Quarter-Phased Transit Curves

TCE 006525946-04 $P = 0.992140$ Days $T_0 = 131.781383$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

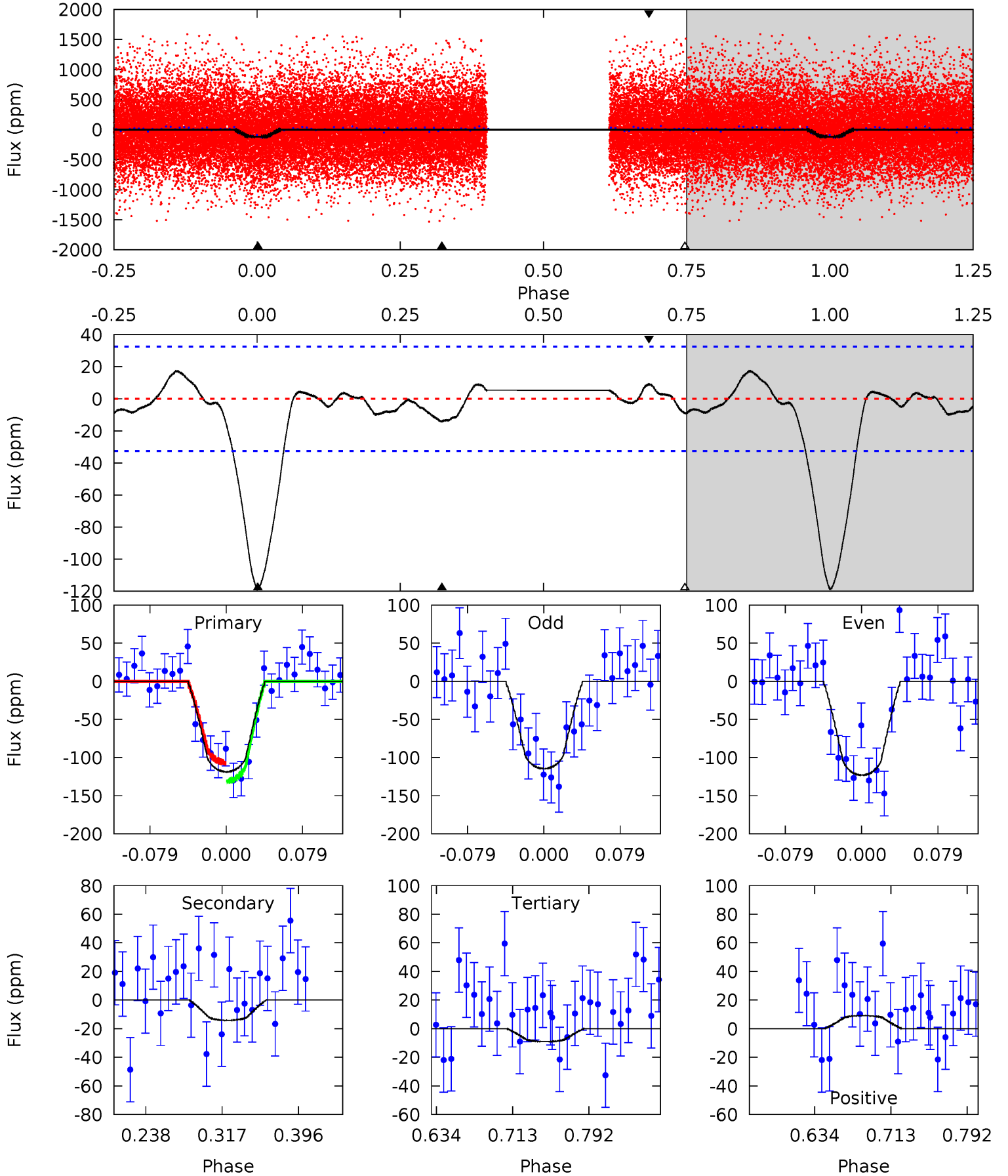
TCE 006525946-04 P= 0.992142 Days $T_0=131.781112$ (BKJD)



DV Model-Shift Uniqueness Test

006525946-04, P = 0.992140 Days, E = 131.781383 Days

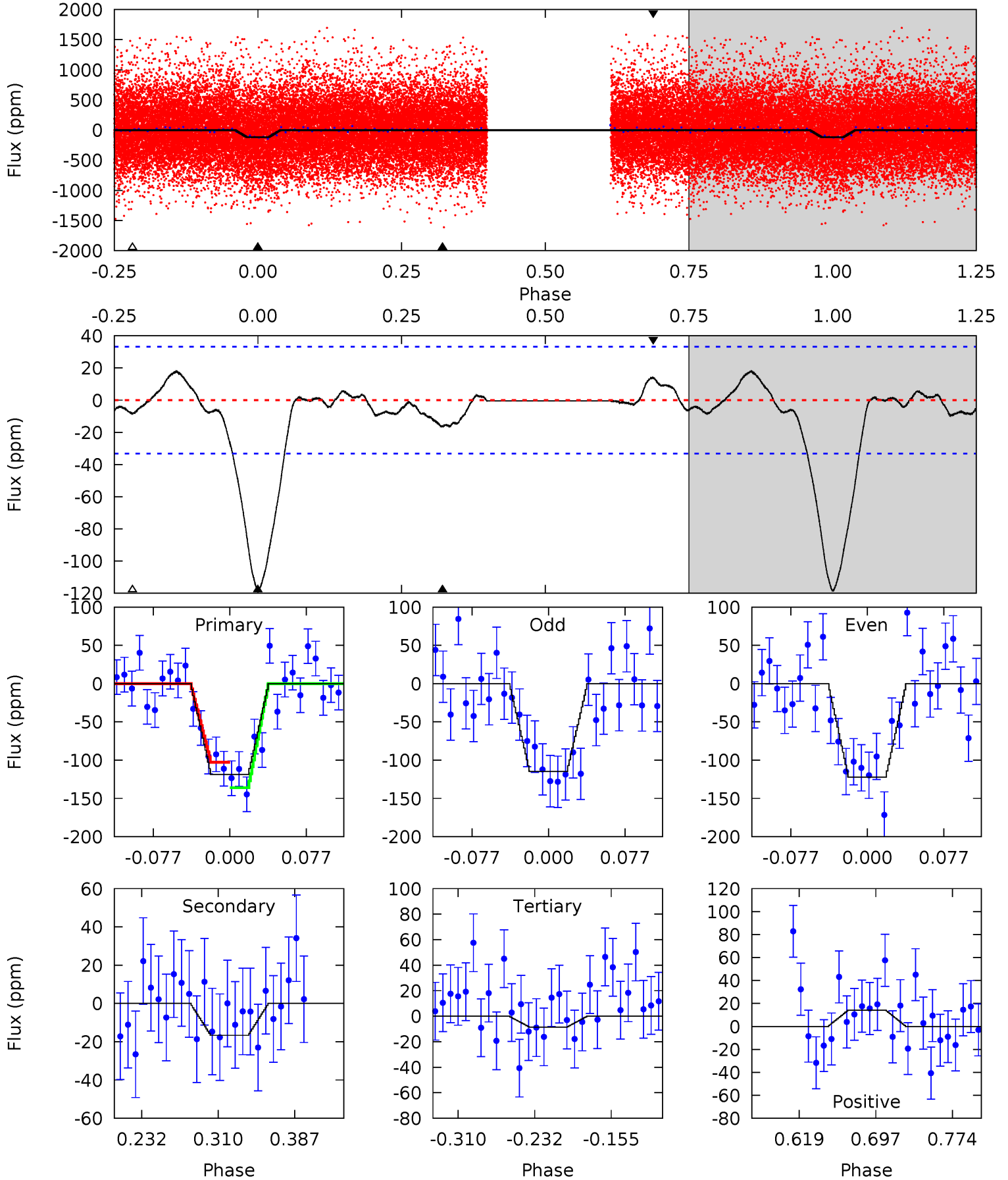
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	2.01	1.28	1.29	4.61	1.76	0.94	15.5	15.5	0.73	0.72	0.60	0.97	0.13	1.73



Alt Model-Shift Uniqueness Test

006525946-04, P = 0.992142 Days, E = 131.781112 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	2.32	1.19	1.97	4.62	1.77	0.97	15.3	14.5	1.13	0.35	0.52	0.95	0.13	2.32



Stellar Parameters For KIC 006525946

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5096^{+77}_{-46}	$2.435^{+0.117}_{-0.143}$	$-1.520^{+0.150}_{-0.150}$	$8.769^{+3.319}_{-1.106}$	$0.763^{+0.367}_{-0.015}$	$0.002^{+0.001}_{-0.001}$
	+2%/-1%	+5%/-6%	+10%/-10%	+38%/-13%	+48%/-2%	+45%/-50%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006525946-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-14 ± 7	$12.14^{+8.69}_{-7.01}$	6983^{+467}_{-292}	-5510^{+464}_{-385}	$0.016^{+0.088}_{-0.012}$
Alt.	-17 ± 7	$12.06^{+10.06}_{-7.30}$	6998^{+431}_{-302}	-5489^{+615}_{-379}	$0.021^{+0.112}_{-0.015}$

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 $A_{obs} \gg 1.0$

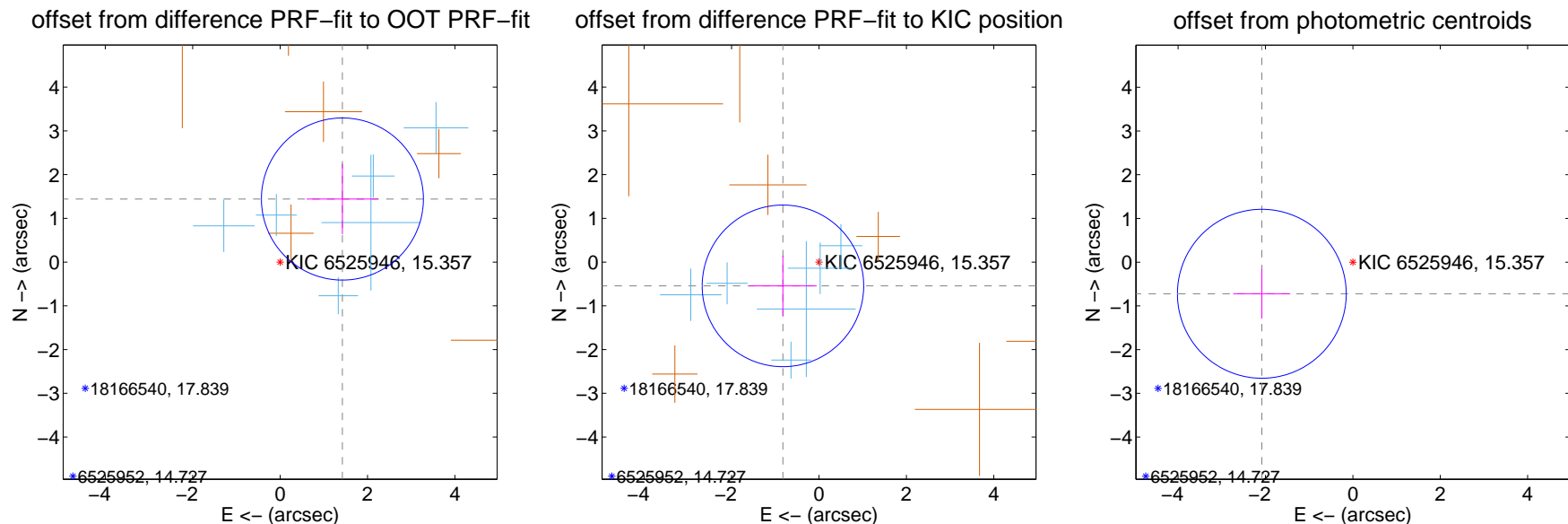
DV Centroid Data

Supplemental centroid analysis for 006525946-04. Kepler magnitude: 15.36. Transit SNR 13.05

There are 6 quarters with good PRF difference image offsets

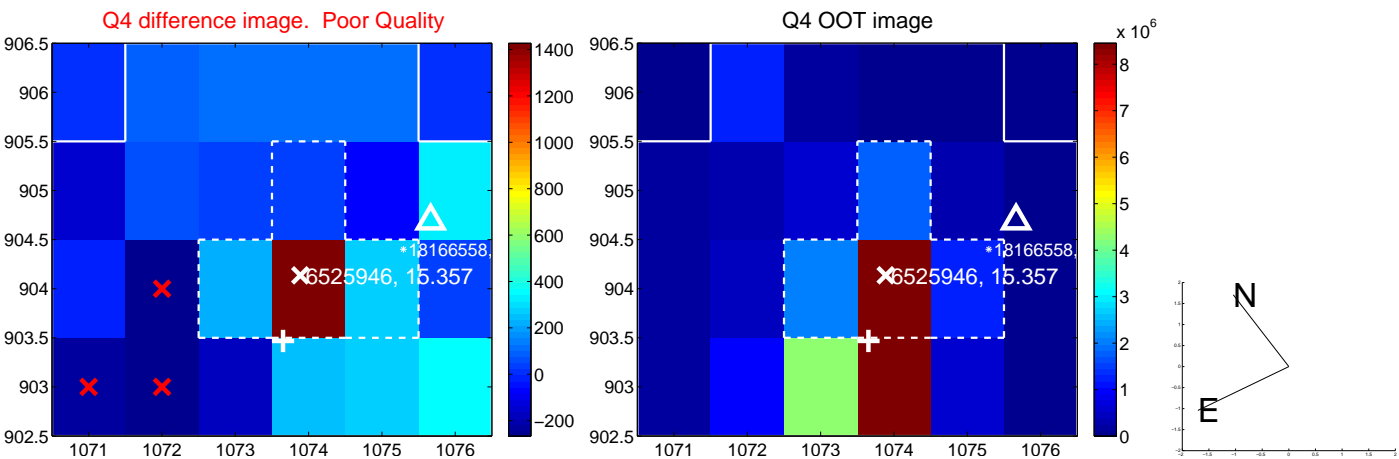
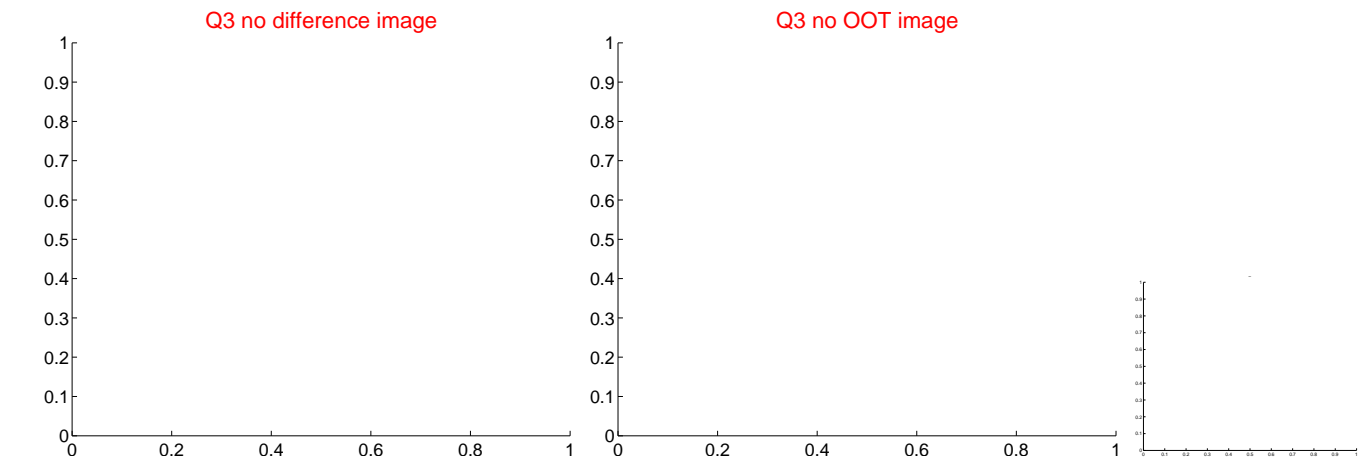
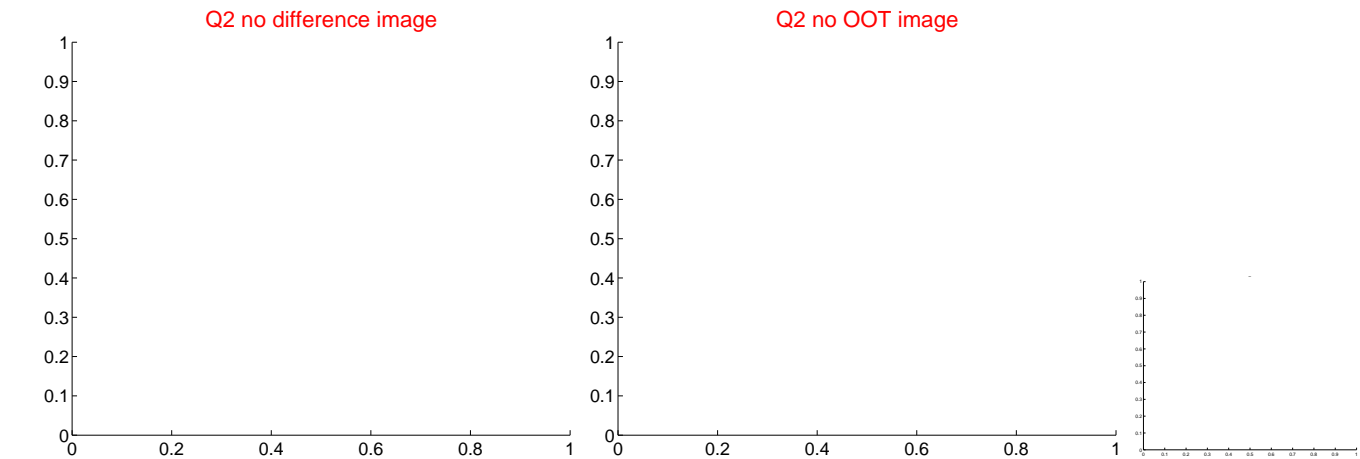
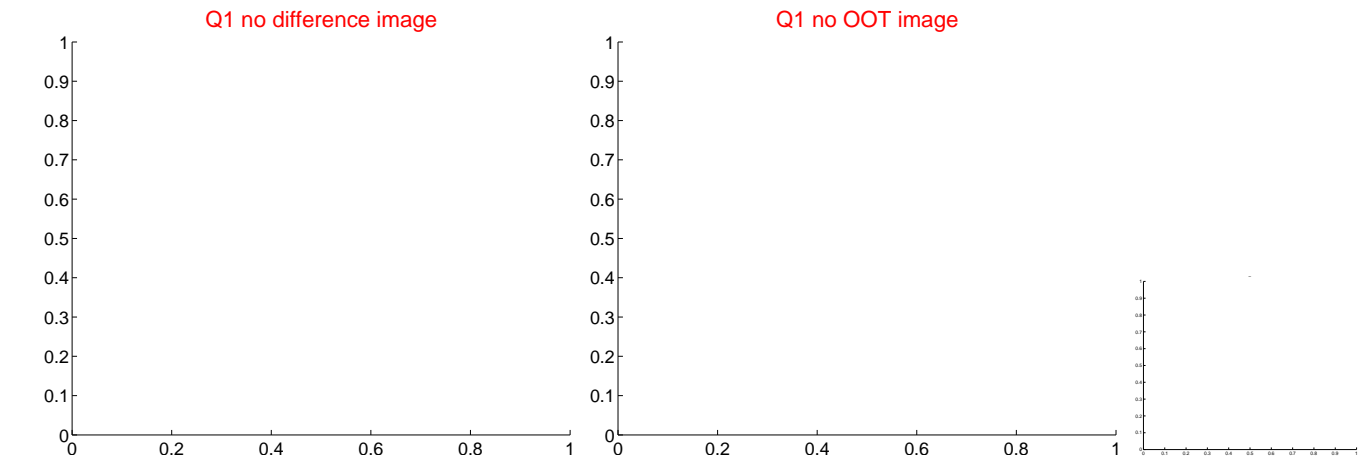
The OOT PRF centroid is offset from the target star catalog position by about 2.46 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.028 ± 0.618	3.28	-1.426 ± 0.820	1.442 ± 0.801
PRF-fit source offset from KIC position	0.988 ± 0.616	1.60	0.825 ± 0.771	-0.544 ± 0.693
photometric centroid source offset	2.21 ± 0.64	3.43	2.08 ± 0.65	-0.72 ± 0.57

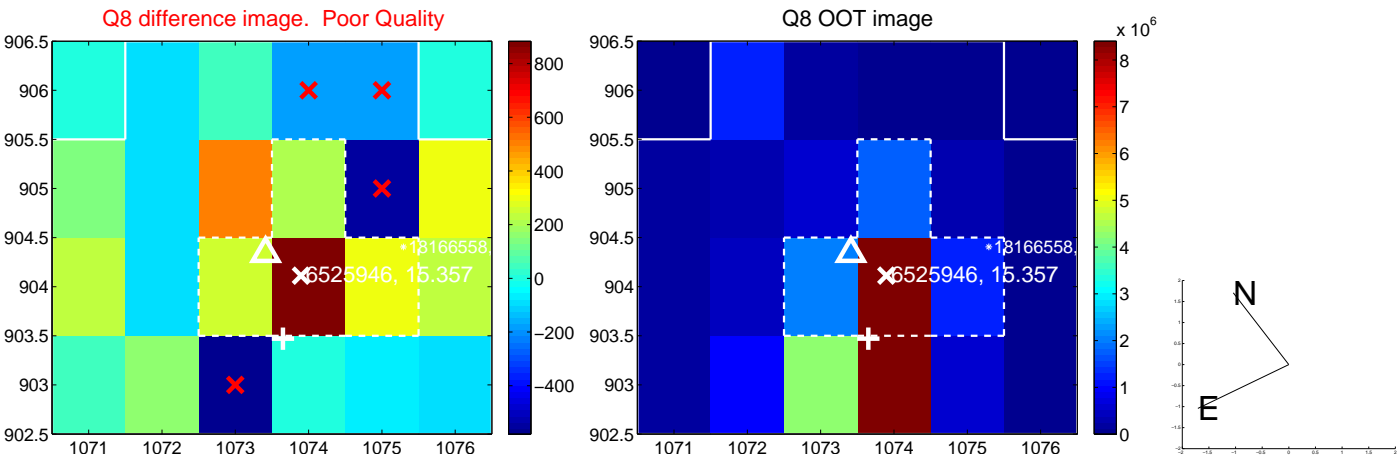
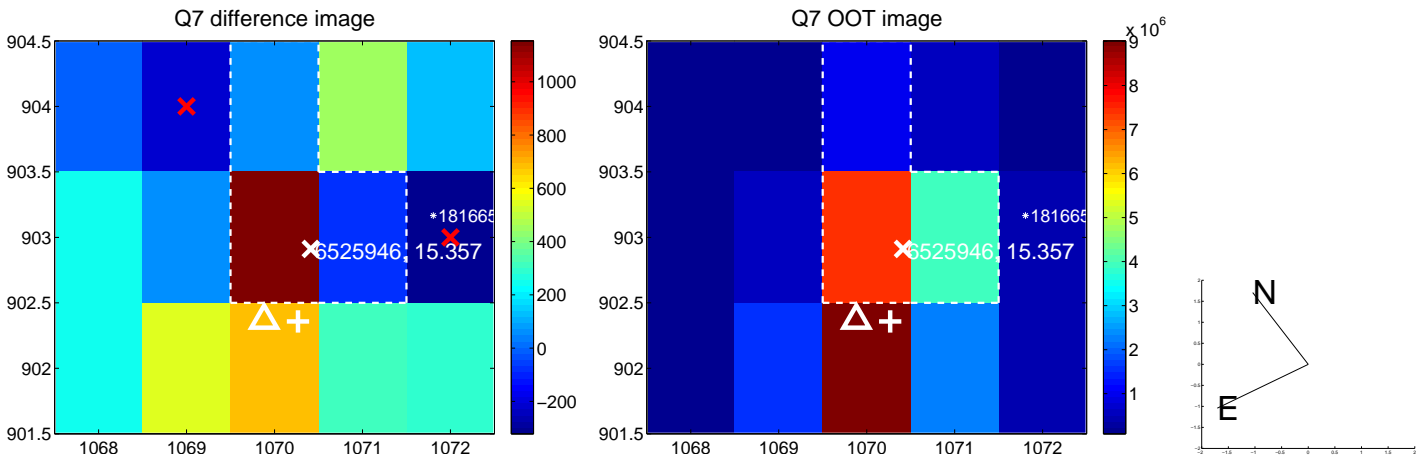
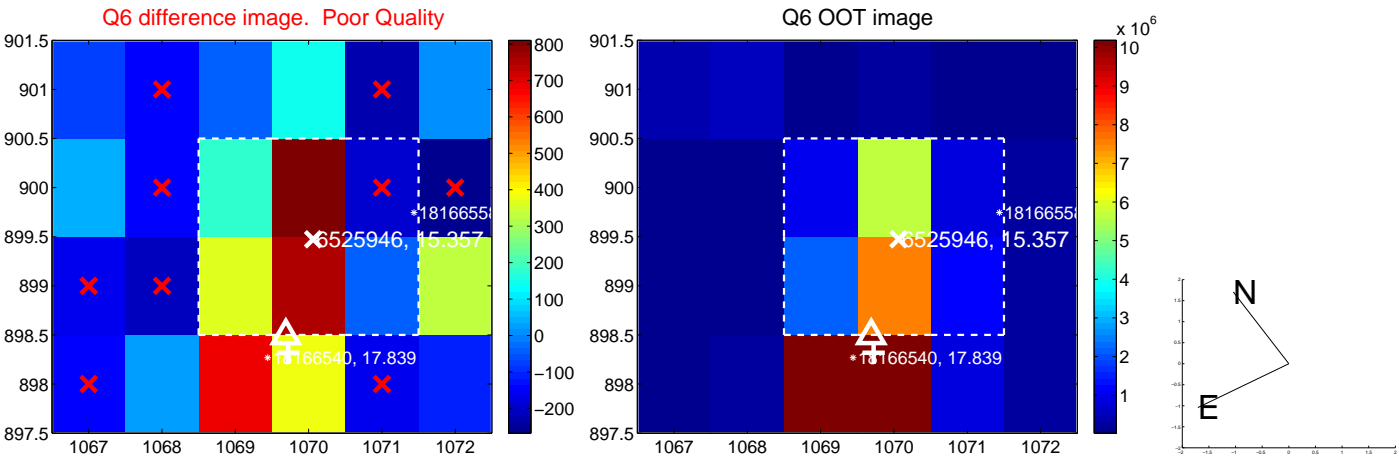
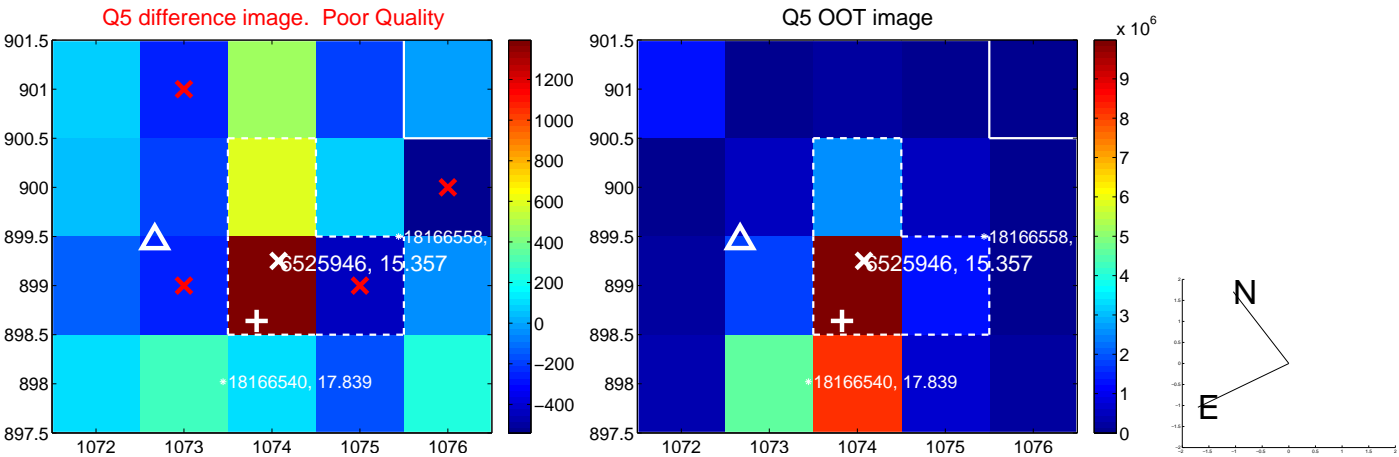


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

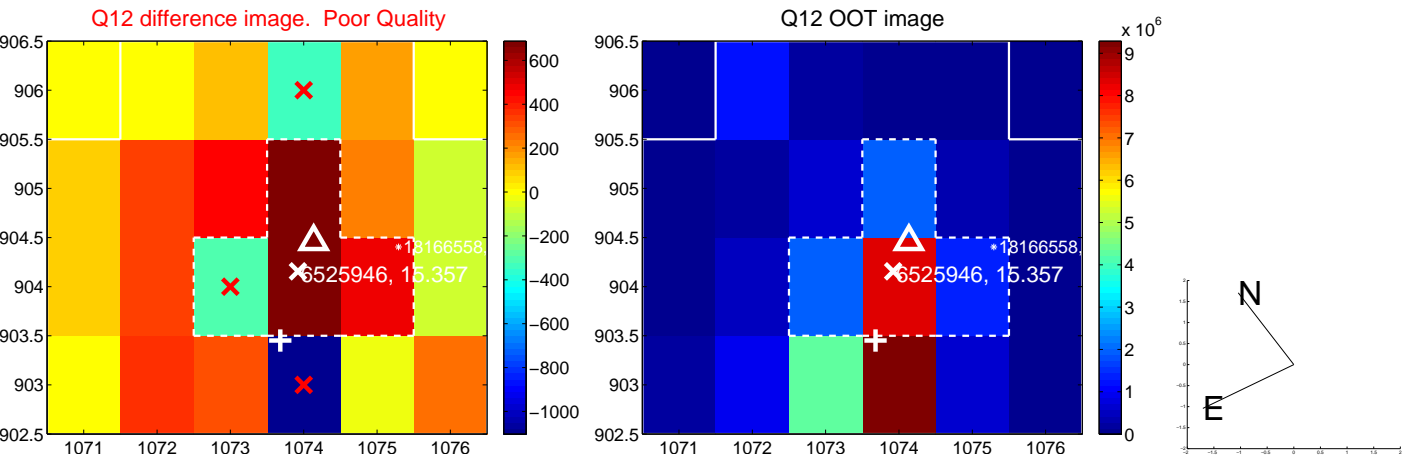
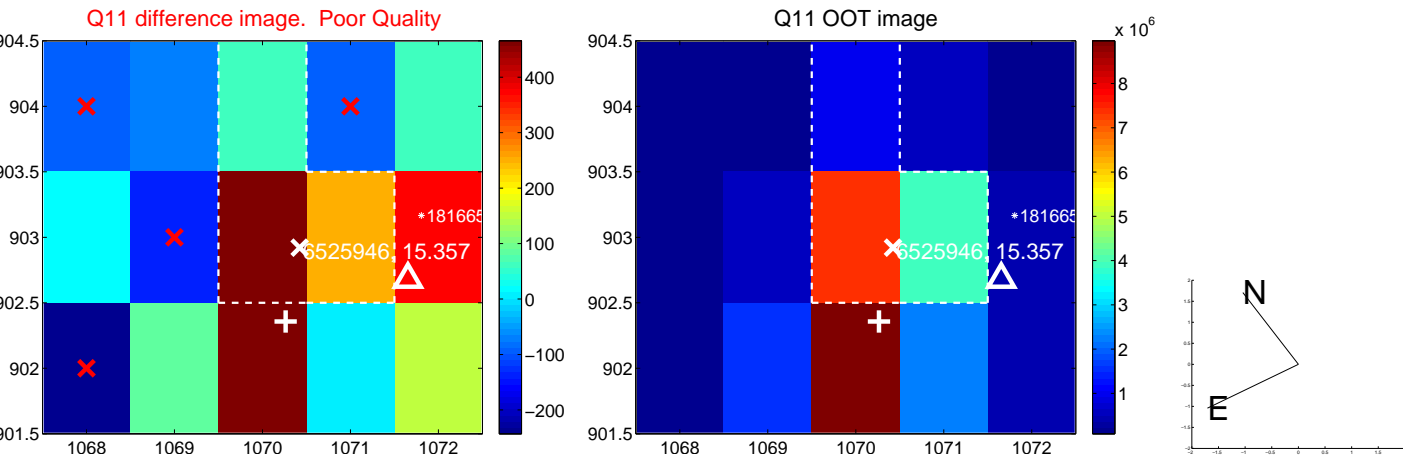
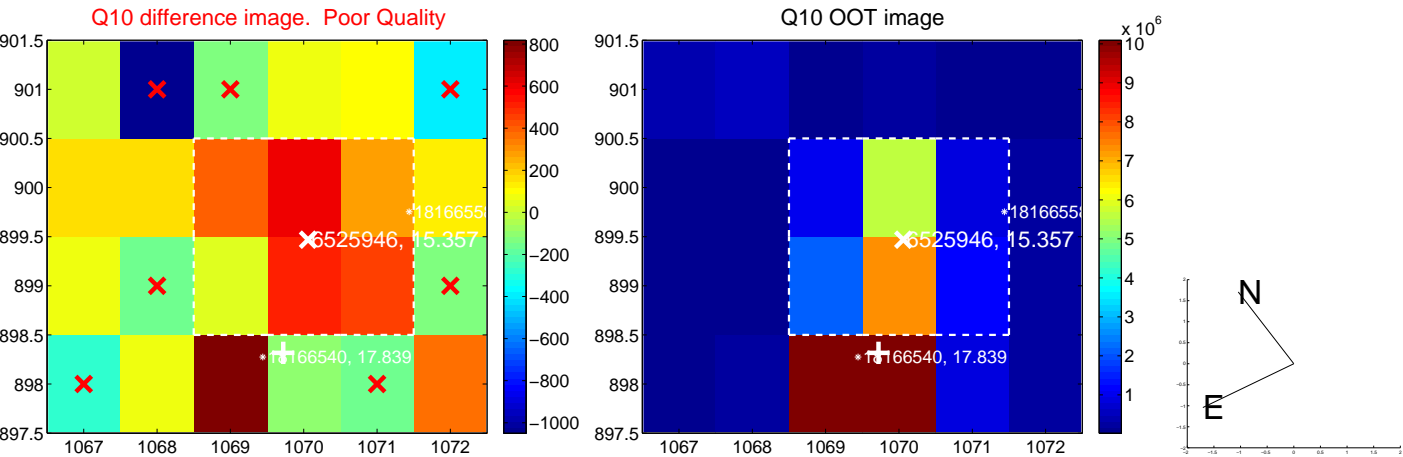
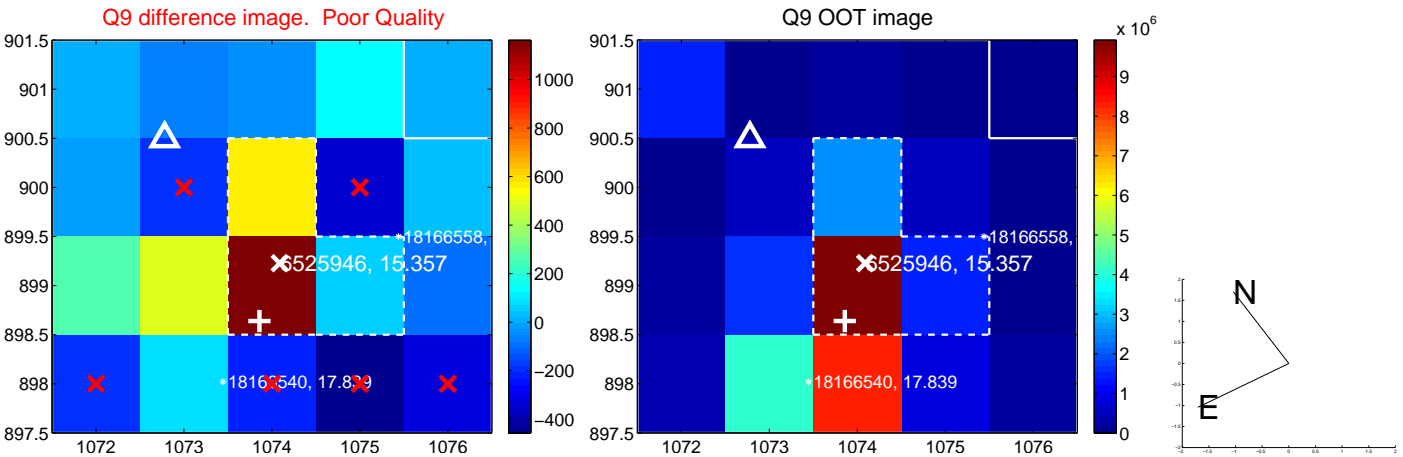
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



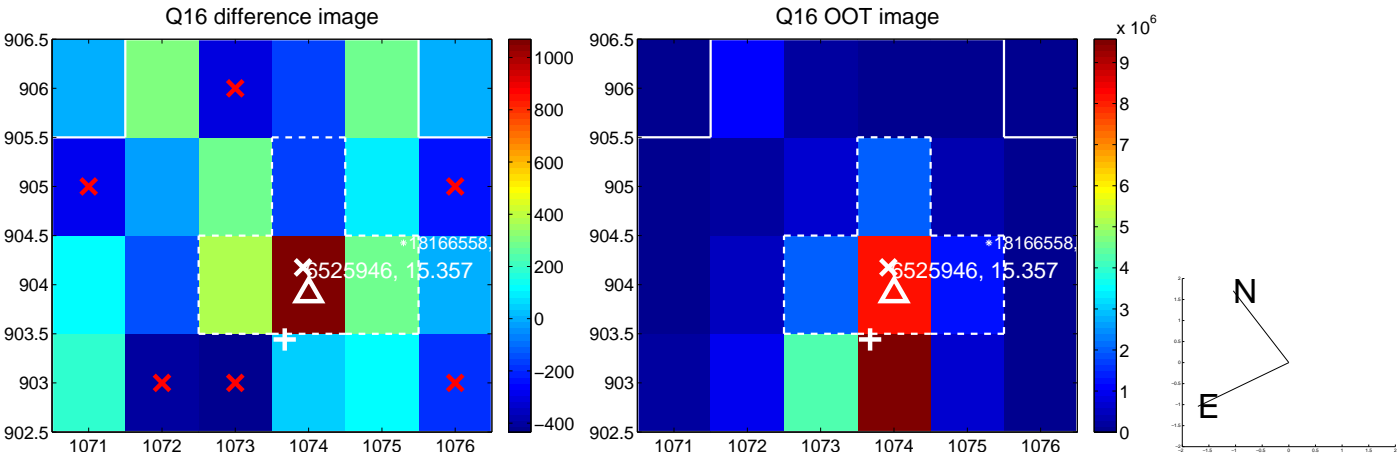
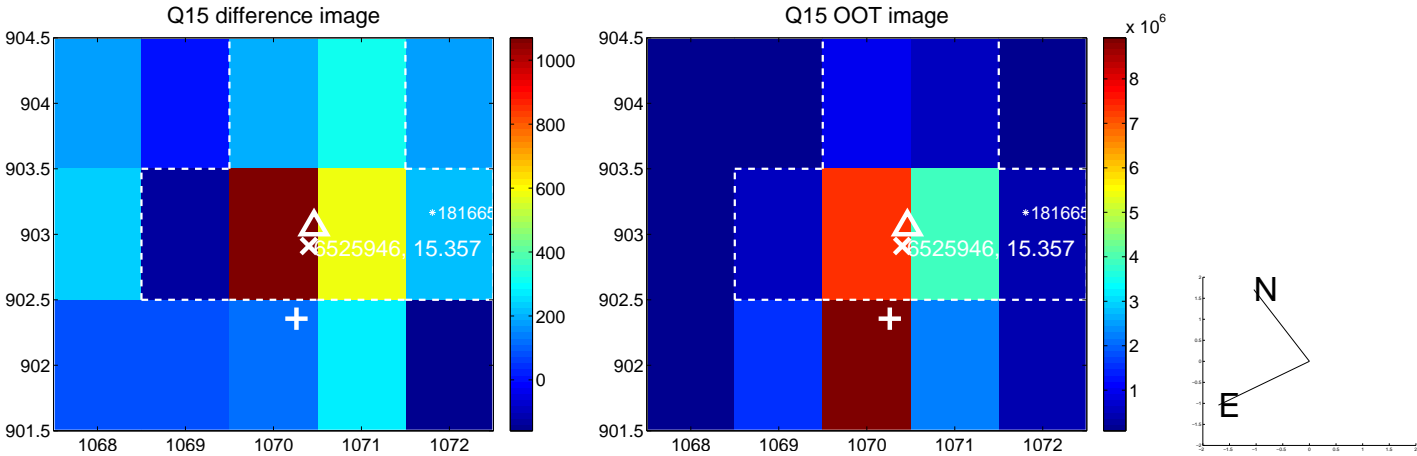
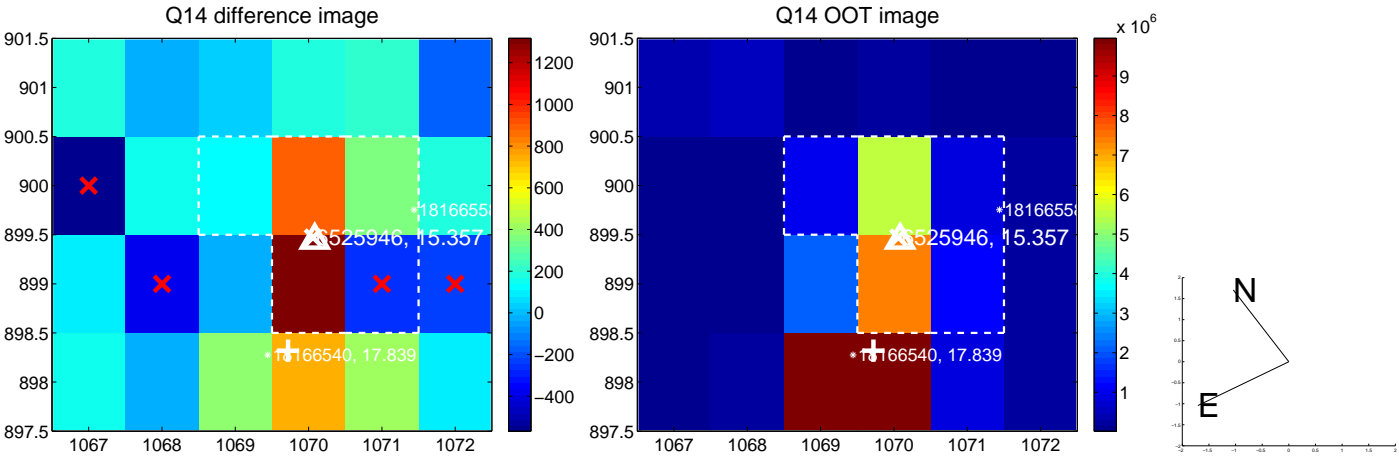
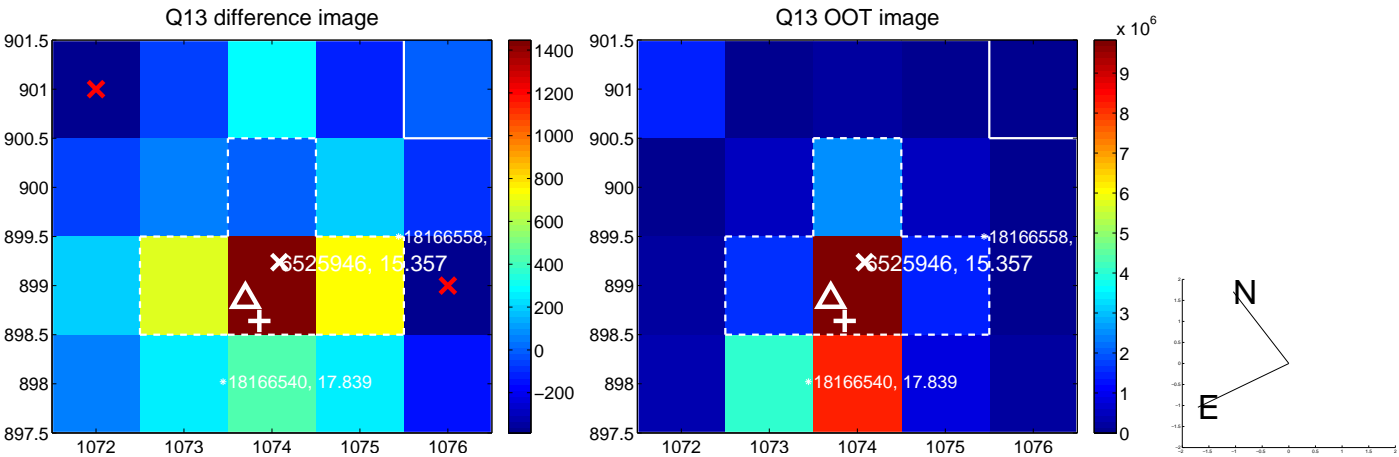
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



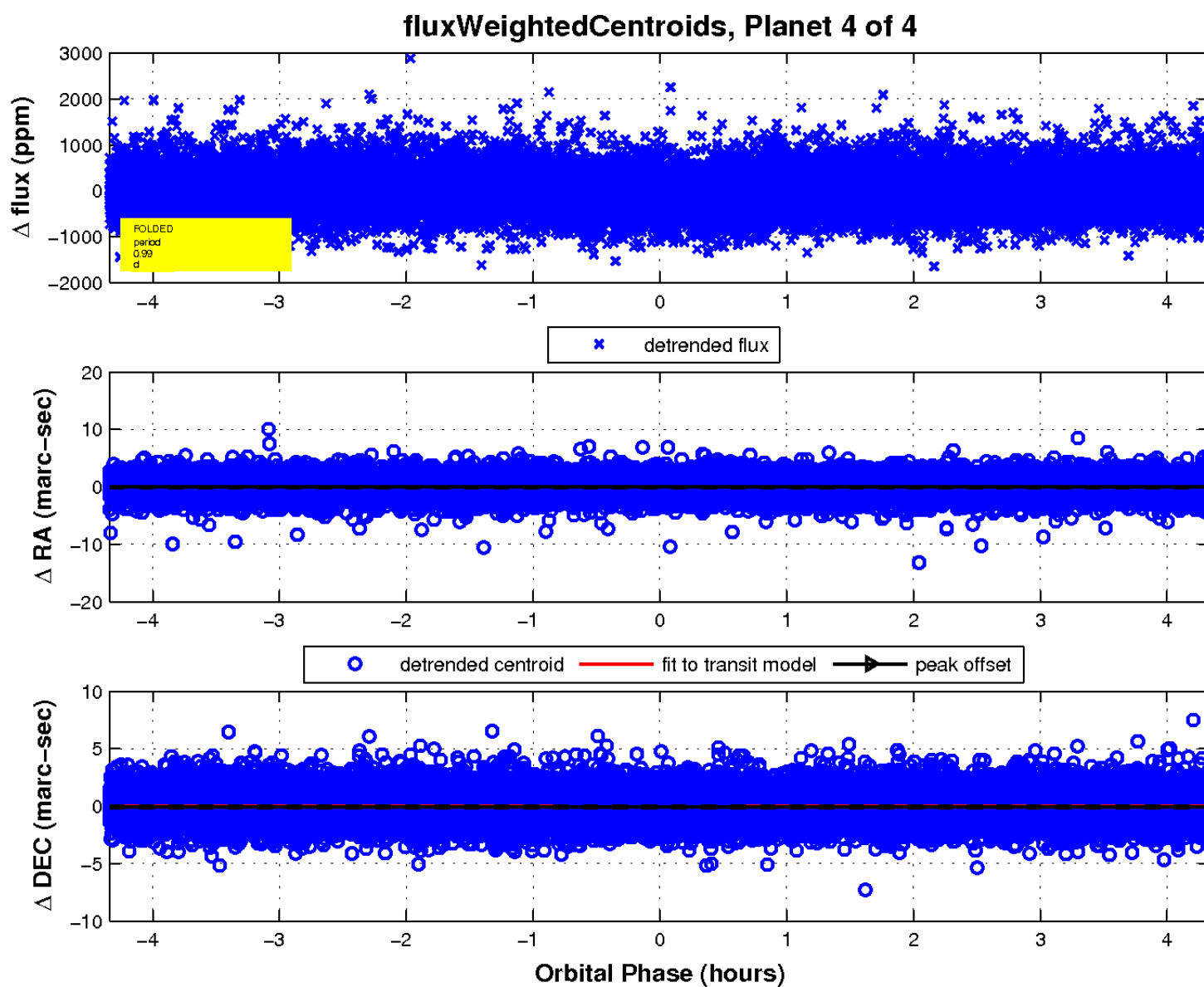
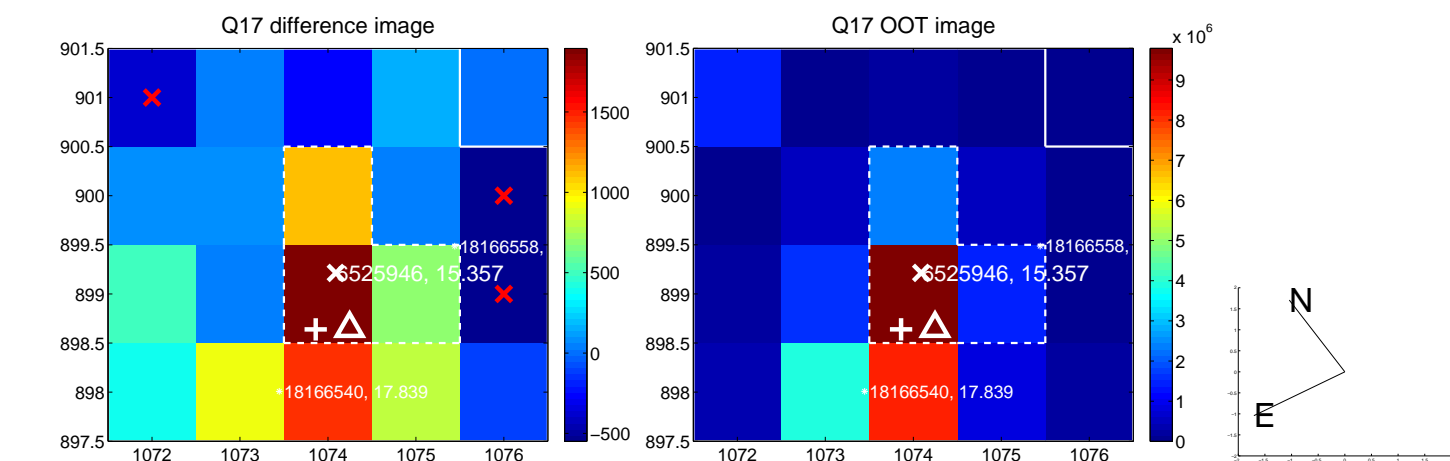
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

