

KIC 007041512

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})
007041512-01	OBS	No	3.707948	132.650030	80.8	9.992	7.4	8.1	1.75	6463	1.86	2273.20
007041512-02	OBS	No	263.262499	303.886755	676.6	1.356	9.4	7.0	1.75	6463	4.88	7.73
007041512-03	OBS	No	133.485827	222.342476	272.4	4.152	8.5	5.3	1.75	6463	3.32	19.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007041512-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
007041512-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—CENT_FEW_DIFFS—HALO_GHOST
007041512-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—SAME_NTL_PERIOD

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

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

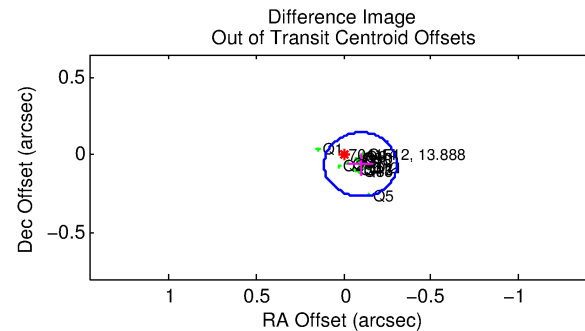
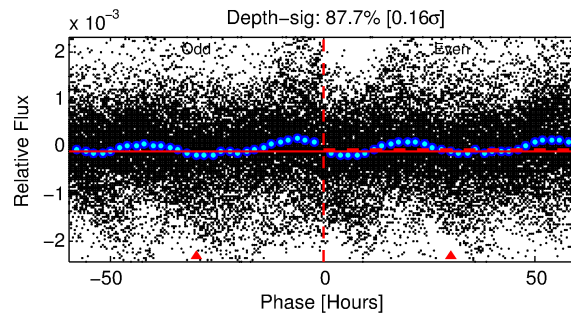
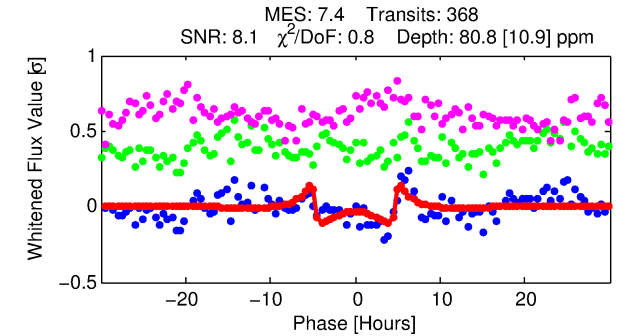
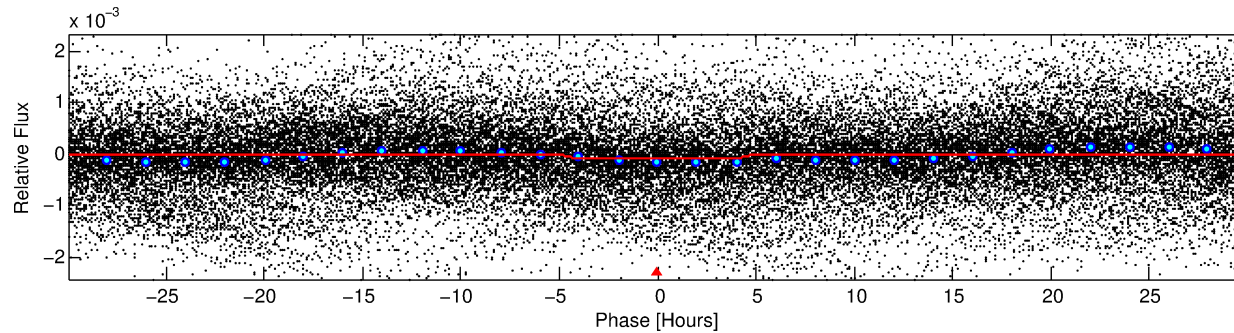
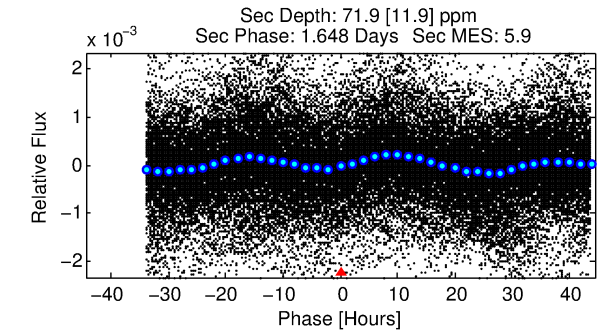
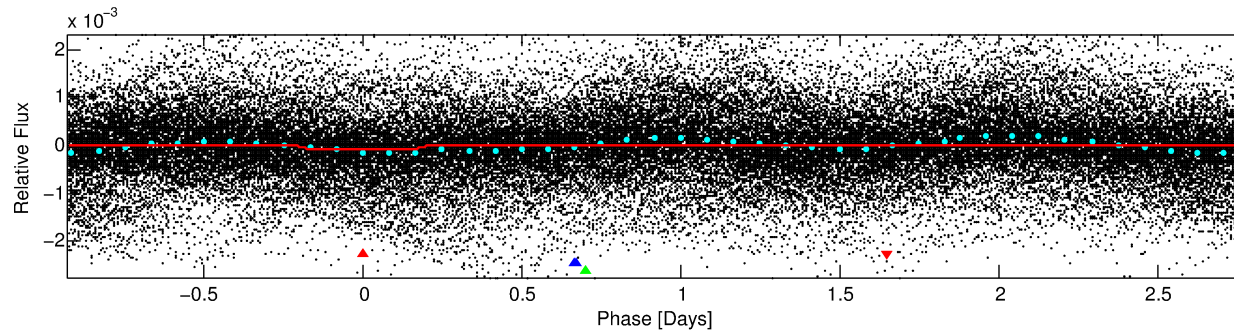
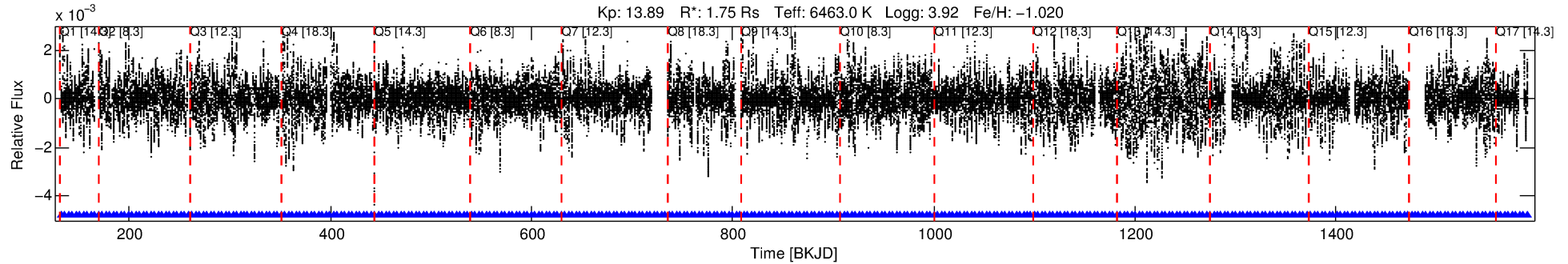
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007041512-01

No Significant Match Found

DV One-Page Summary

KIC: 7041512 Candidate: 1 of 3 Period: 3.708 d



DV Fit Results:

Period = 3.70795 [0.00003] d
Epoch = 132.6500 [0.0044] BKJD
Rp/R* = 0.0097 [0.0009]
a/R* = 1.53 [0.31]
b = 0.92 [0.06]
Seff = 2273.20 [1921.46]
Teq = 1761 [372] K
Rp = 1.86 [0.92] Re
a = 0.0460 [0.0231] AU
Ag = 24.11 [21.04] [1.10 σ]
Teffp = 6032 [433] K [7.49 σ]

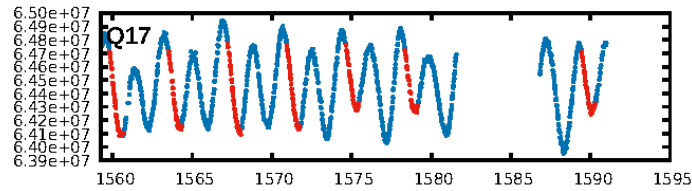
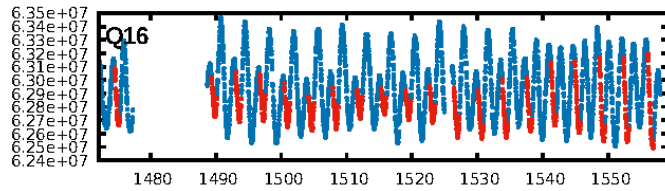
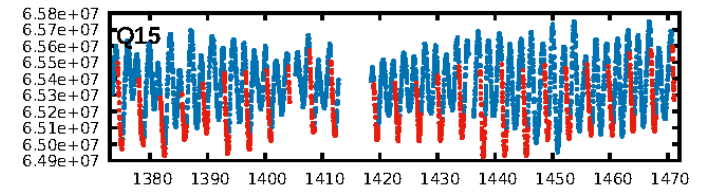
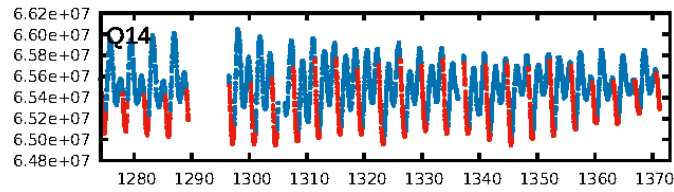
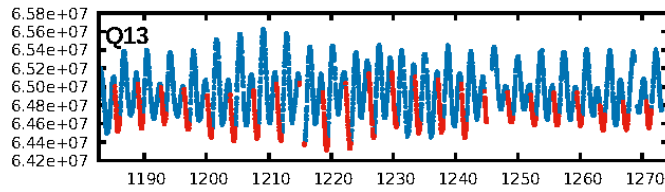
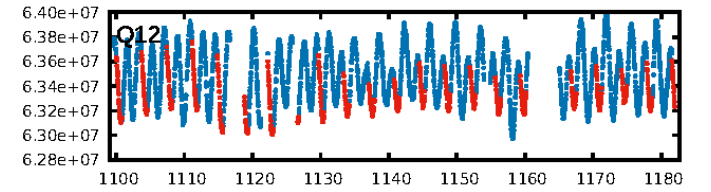
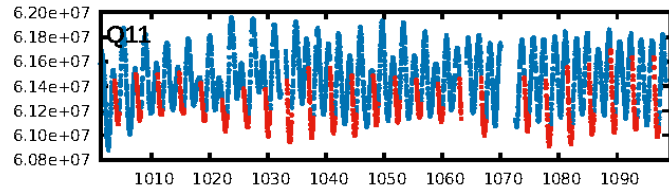
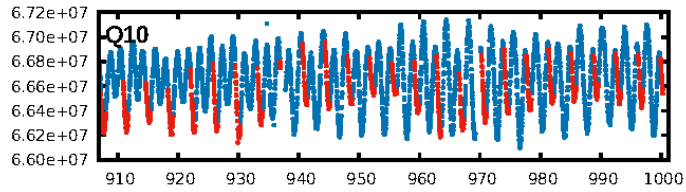
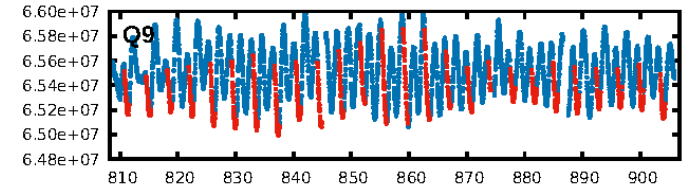
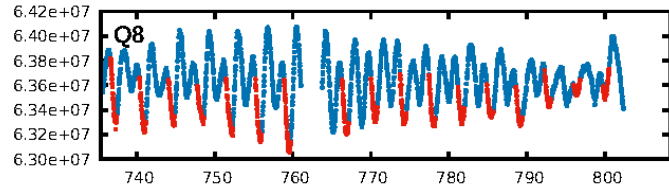
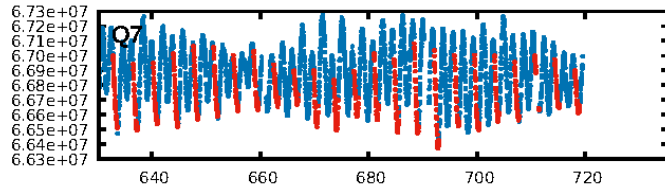
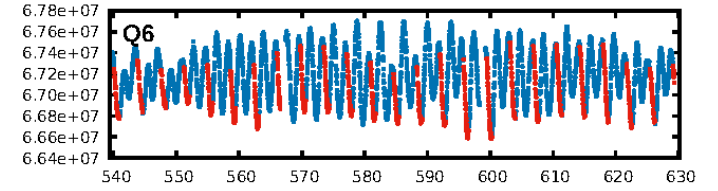
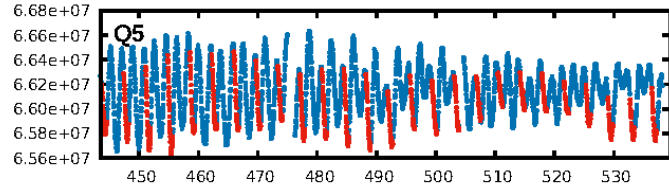
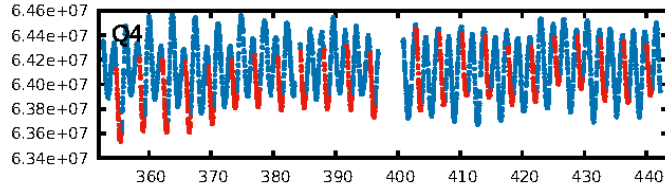
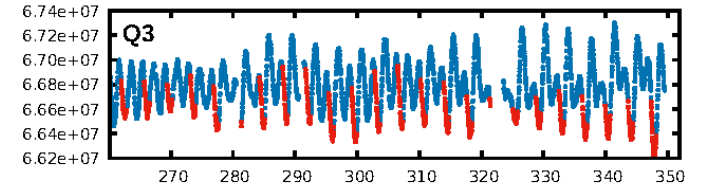
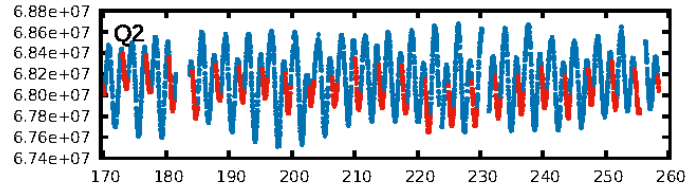
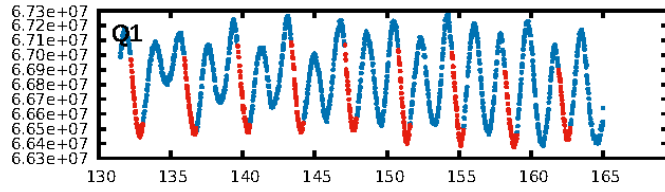
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [287.86 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.87e-10
RollingBand-fgt: 1.00 [352/352]
GhostDiagnostic-chr: 0.4776
Centroid-sig: 0.0%
Centroid-so: 1.237 arcsec [2.70 σ]
OotOffset-rm: 0.114 arcsec [1.65 σ]
KicOffset-rm: 0.020 arcsec [0.28 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

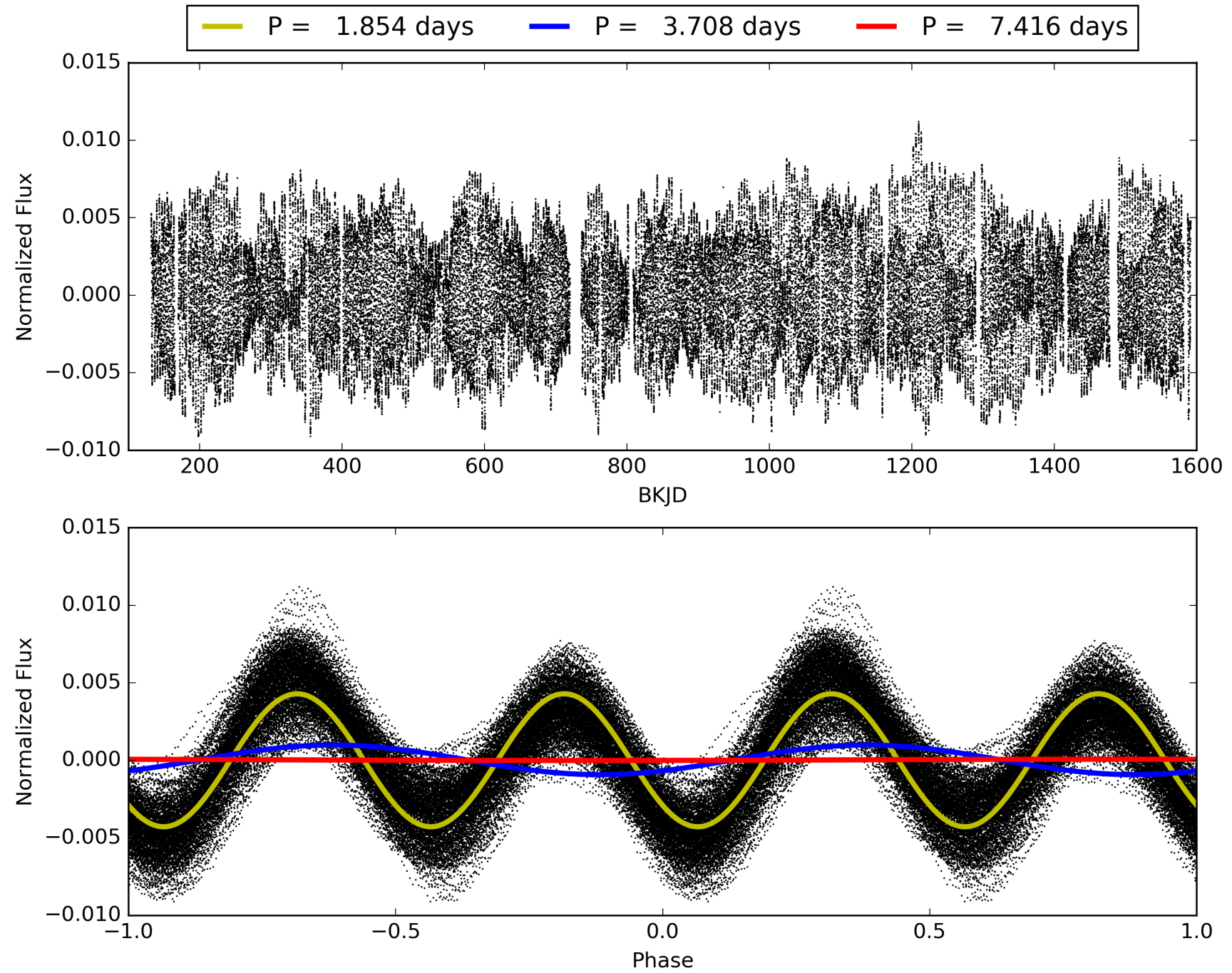
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007041512-01, PDC Light Curves

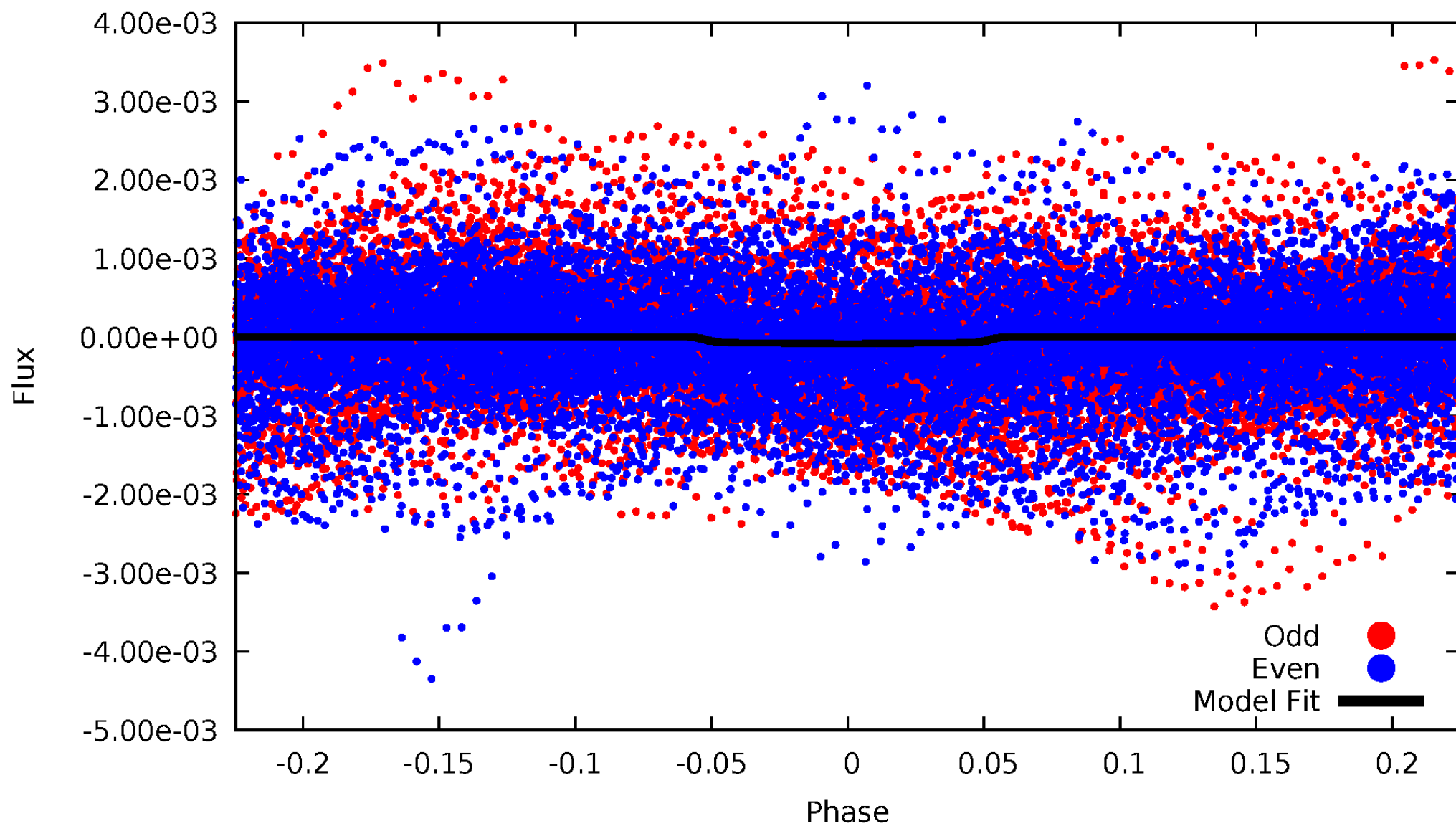


TCE 007041512-01



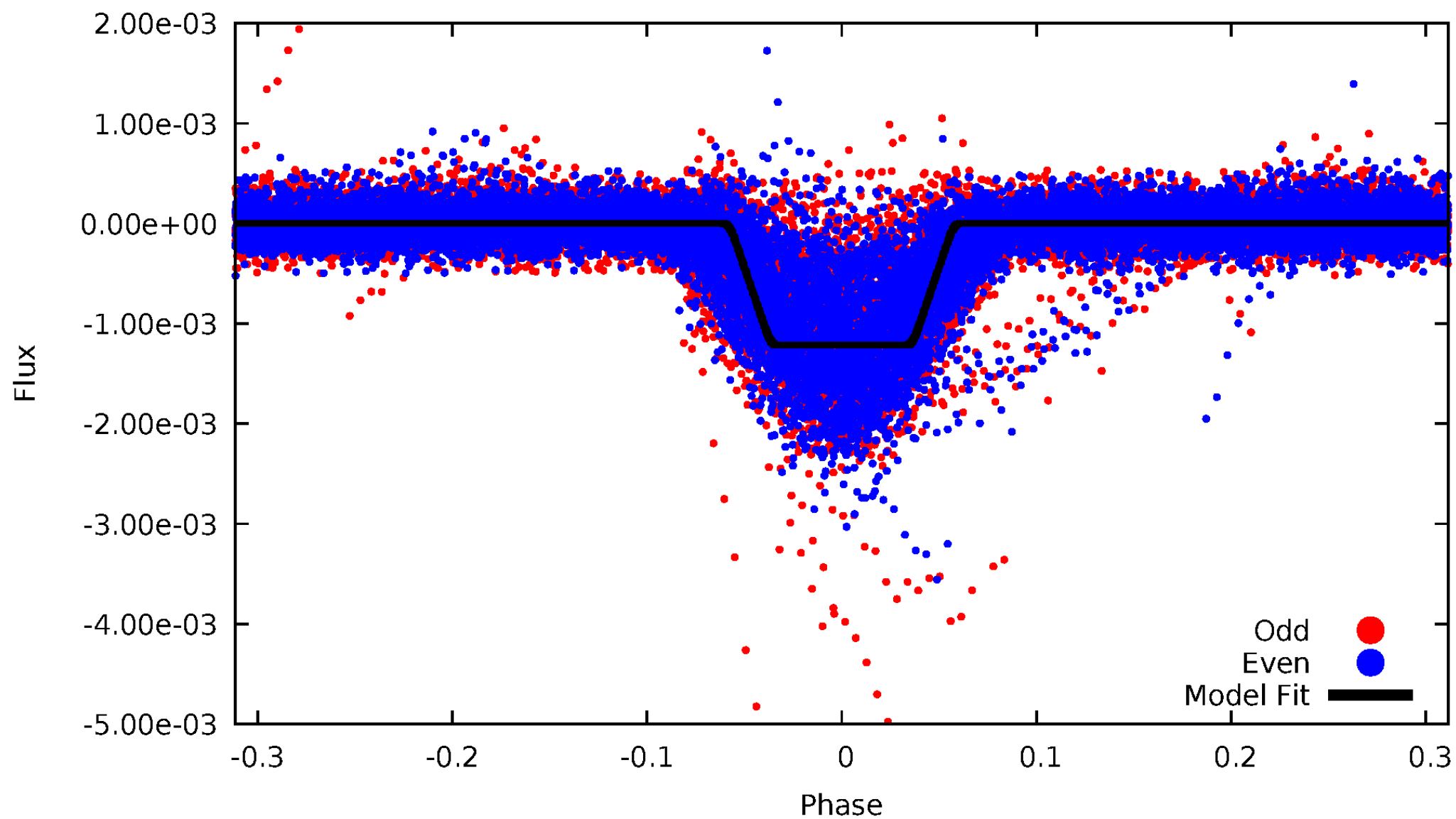
DV Odd/Even

TCE 007041512-01



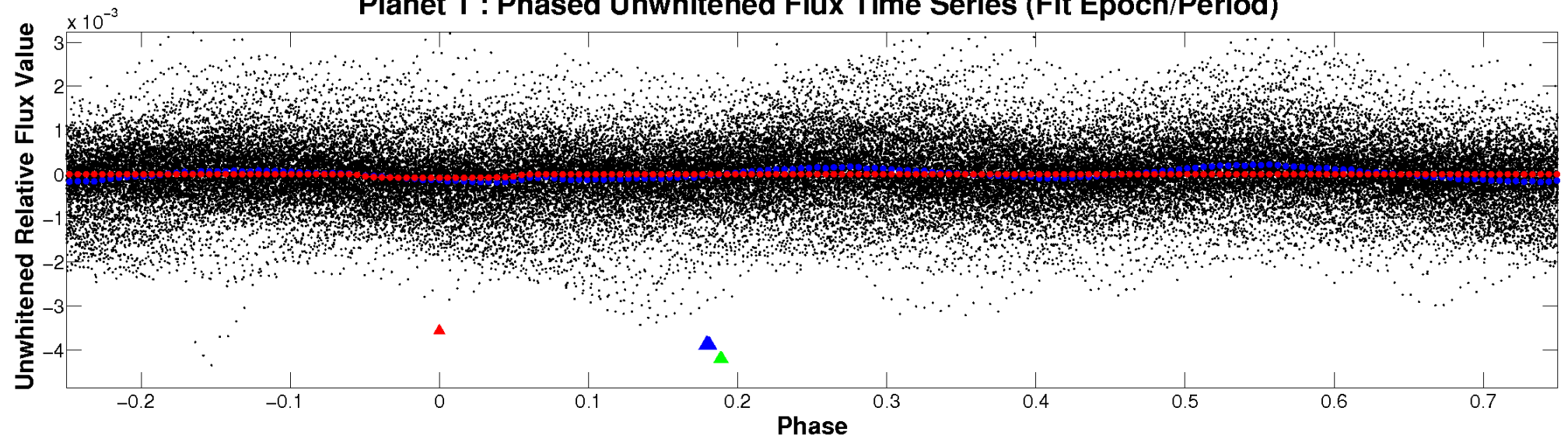
ALT Odd/Even

TCE 007041512-01

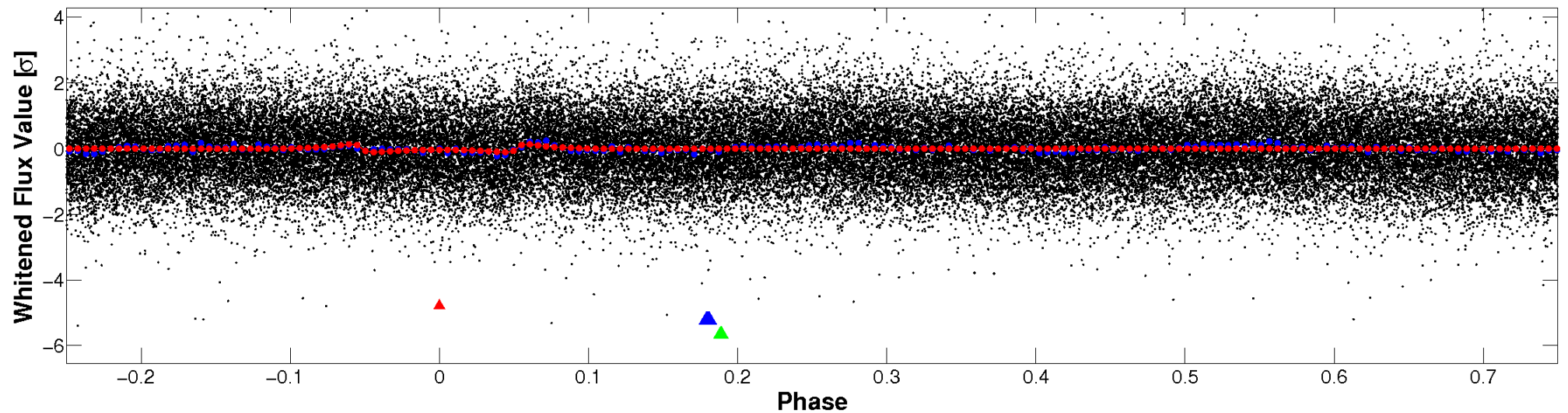


Non-Whitened Vs. Whitened Light Curve

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

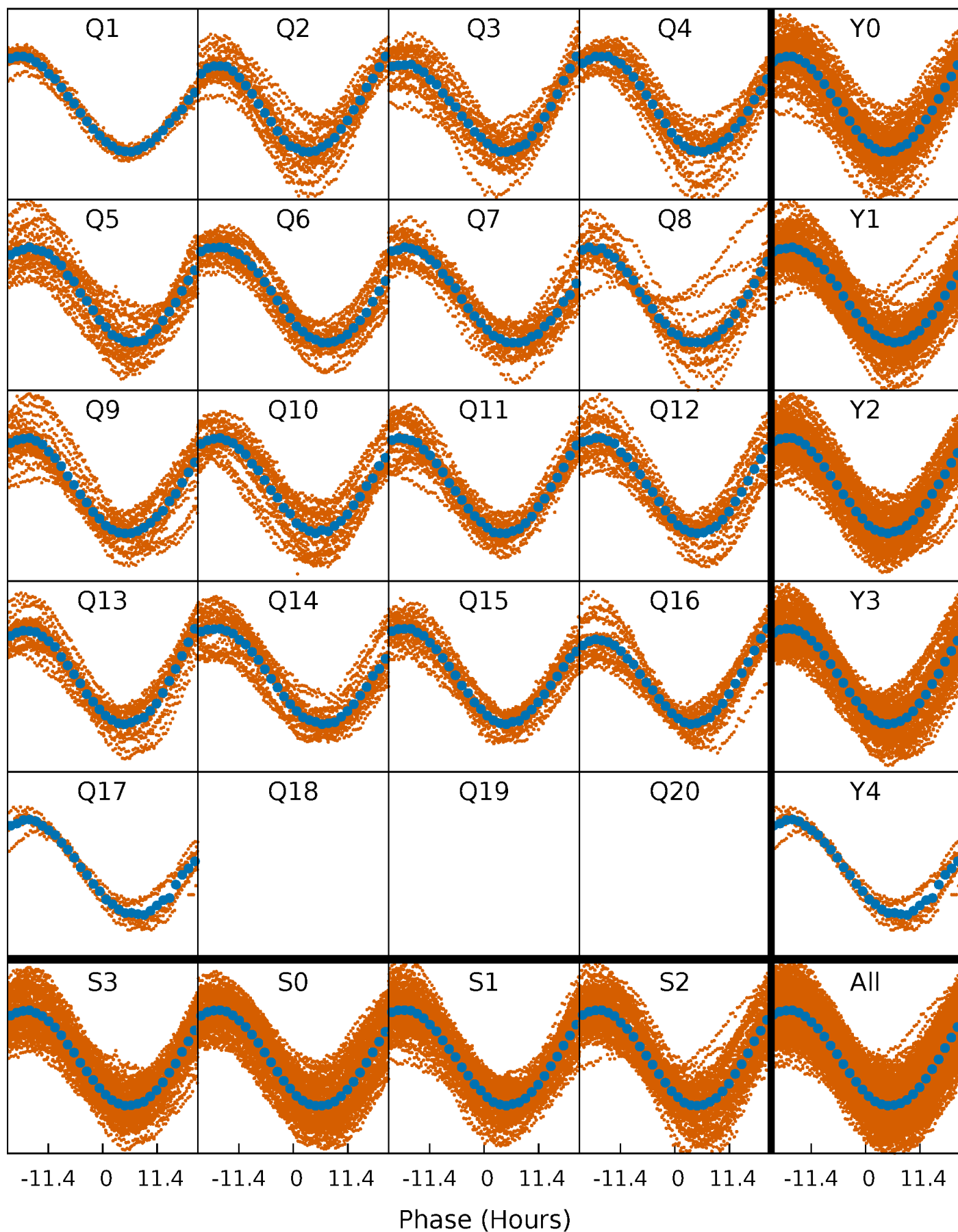


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



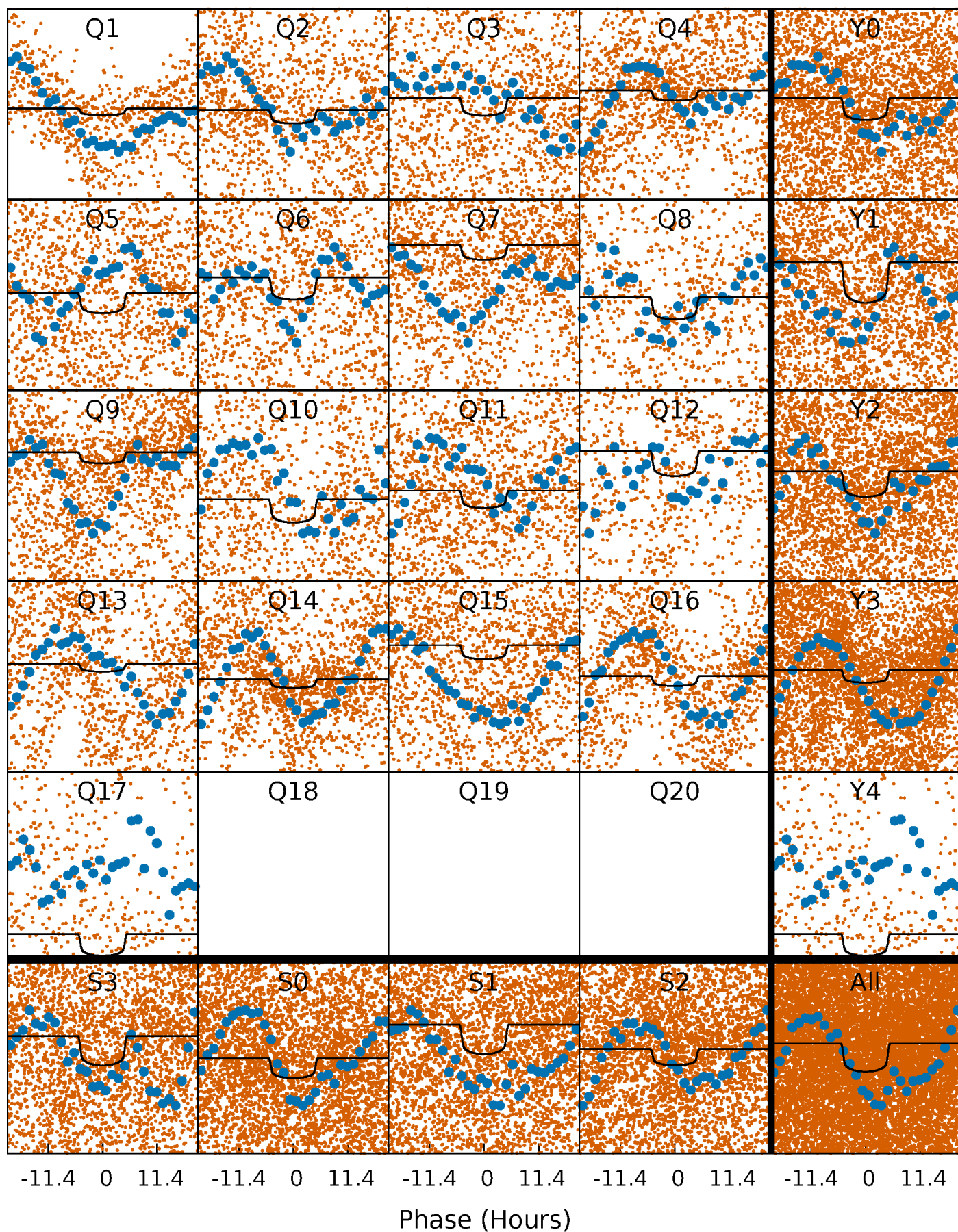
PDC Quarter-Phased Transit Curves

TCE 007041512-01 P= 3.707948 Days $T_0=132.650030$ (BKJD)



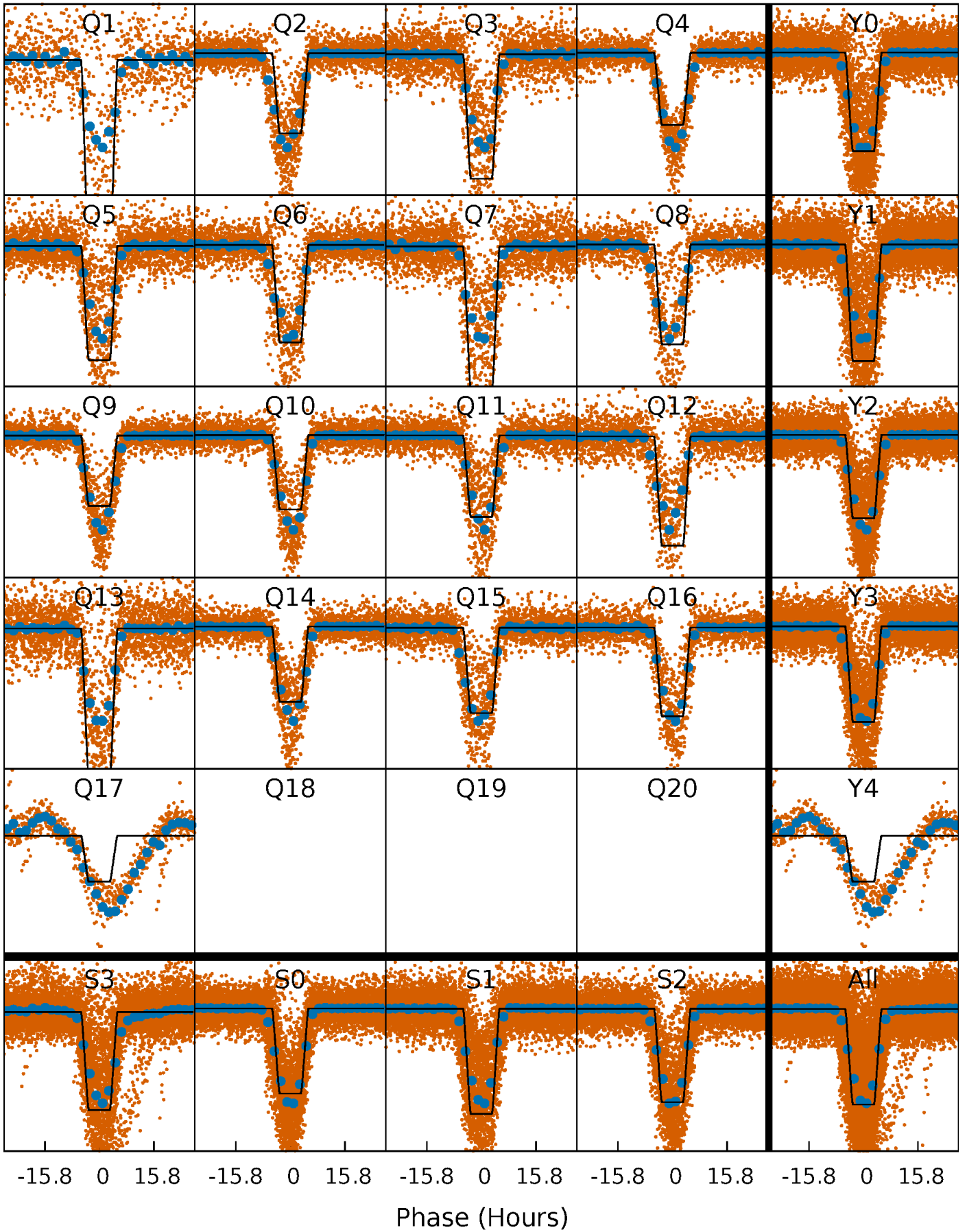
DV Quarter-Phased Transit Curves

TCE 007041512-01 P= 3.707948 Days $T_0=132.650030$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

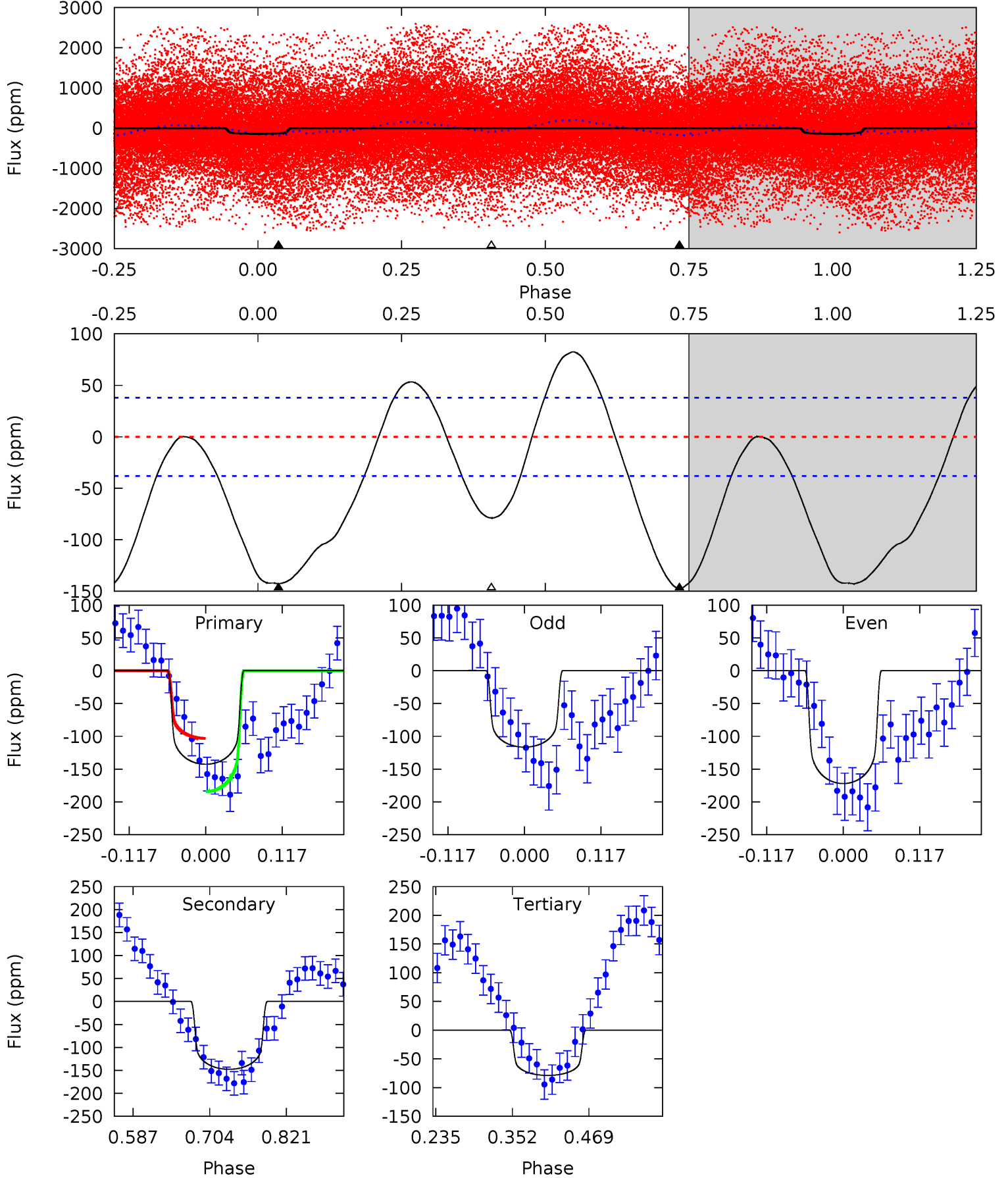
TCE 007041512-01 P= 3.707912 Days $T_0=132.677957$ (BKJD)



DV Model-Shift Uniqueness Test

007041512-01, P = 3.707948 Days, E = 128.942082 Days

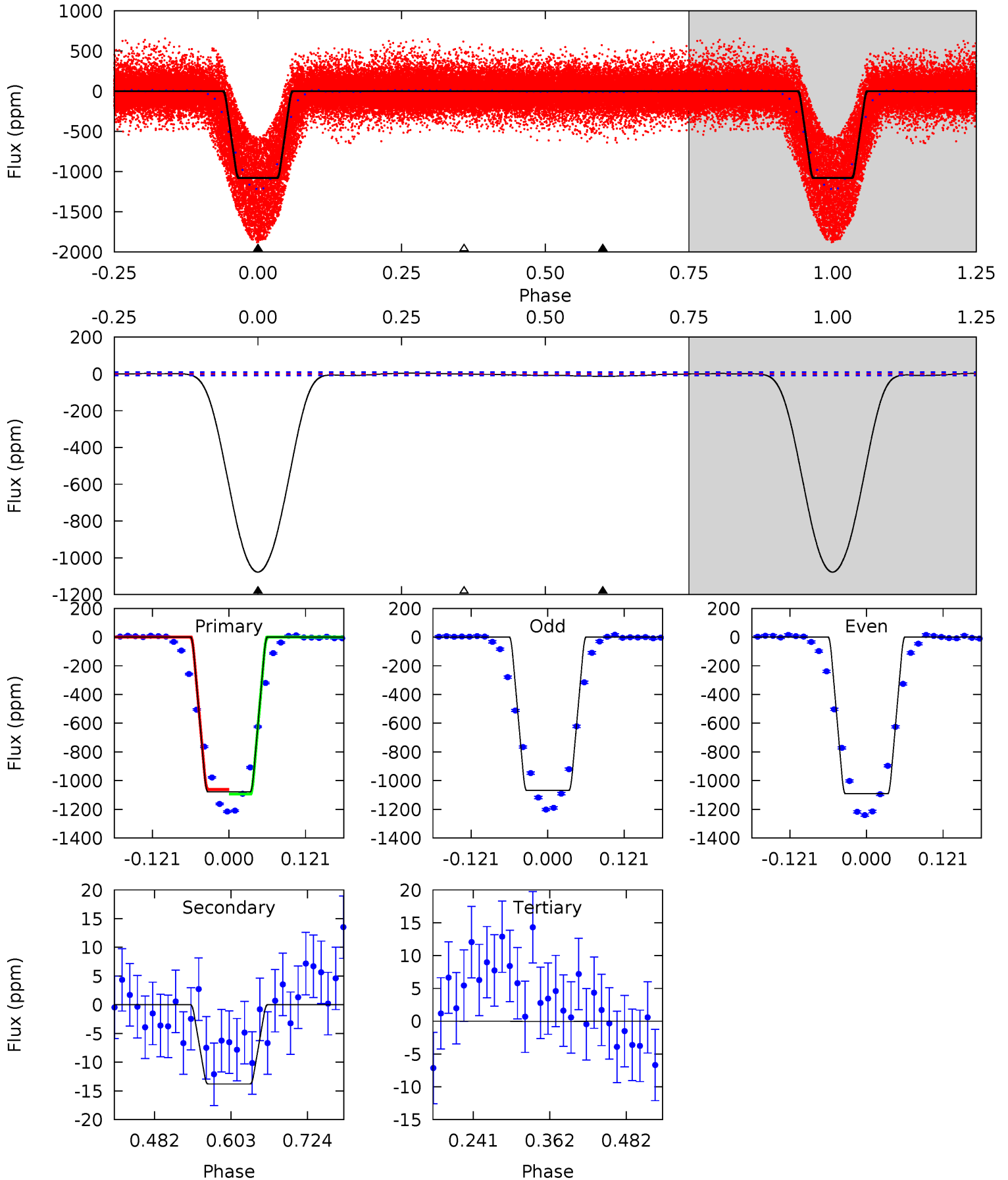
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.0	17.6	9.41	0	4.53	1.57	5.80	7.61	17.0	8.21	17.6	3.35	1.41	0.36	4.89



Alt Model-Shift Uniqueness Test

007041512-01, P = 3.707912 Days, E = 128.970045 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
578.0	7.39	0.03	0	4.53	1.55	1.96	578.0	578.0	7.37	7.39	6.25	1.02	0.00	8.32



Stellar Parameters For KIC 007041512

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6463^{+193}_{-213}	$3.925^{+0.502}_{-0.167}$	$-1.020^{+0.300}_{-0.250}$	$1.755^{+0.456}_{-0.846}$	$0.944^{+0.098}_{-0.134}$	$0.246^{+1.331}_{-0.118}$
	+3%/-3%	+13%/-4%	+29%/-25%	+26%/-48%	+10%/-14%	+541%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007041512-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-148 ± 8	$1.81^{+0.37}_{-0.52}$	2425^{+217}_{-325}	7266^{+566}_{-444}	52^{+49}_{-16}
Alt.	-14 ± 2	$6.51^{+1.01}_{-1.67}$	2413^{+212}_{-318}	2350^{+285}_{-4448}	$0.383^{+0.281}_{-0.105}$

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

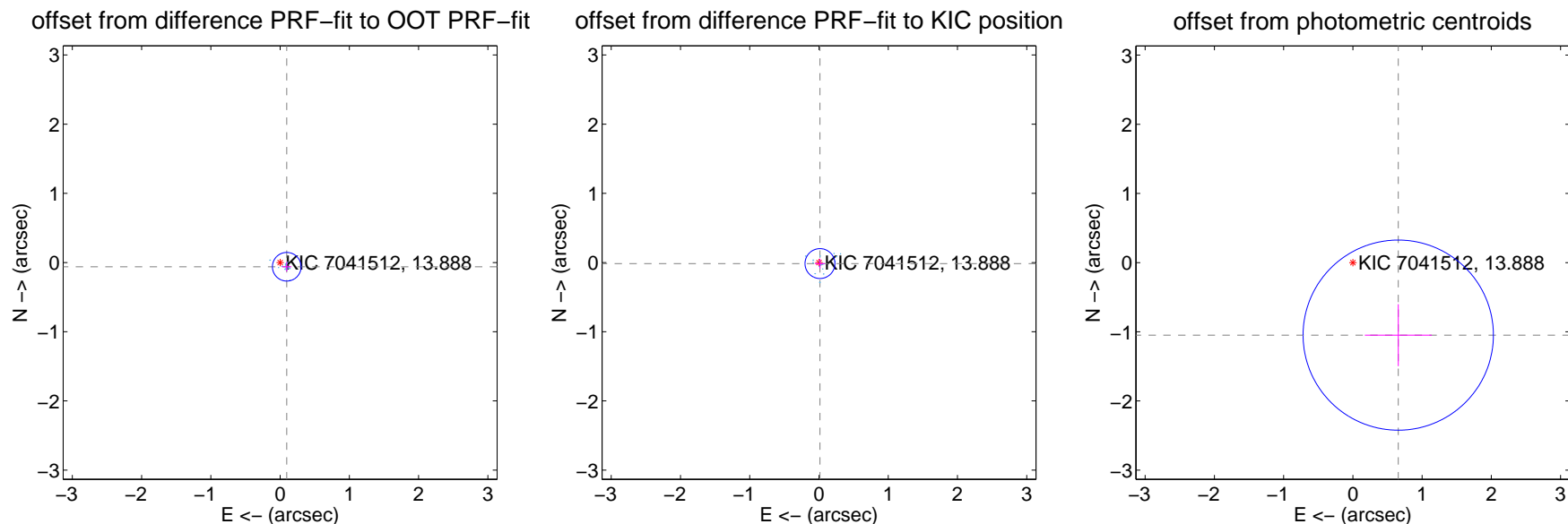
DV Centroid Data

Supplemental centroid analysis for 007041512-01. Kepler magnitude: 13.89. Transit SNR 8.07

There are 17 quarters with good PRF difference image offsets

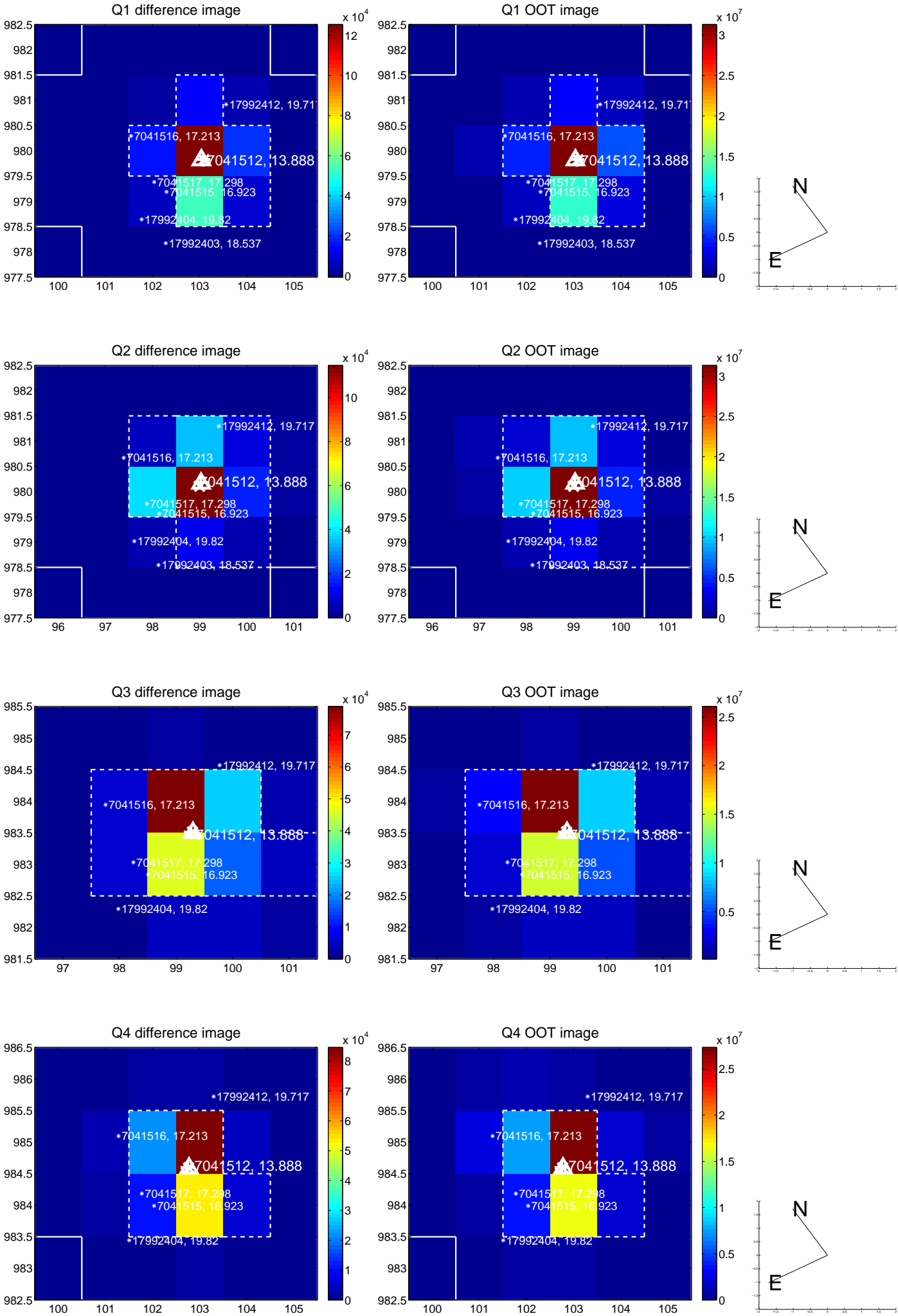
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.114 ± 0.069	1.65	-0.096 ± 0.068	-0.061 ± 0.068
PRF-fit source offset from KIC position	0.020 ± 0.072	0.28	-0.014 ± 0.071	-0.015 ± 0.072
photometric centroid source offset	1.24 ± 0.46	2.70	-0.66 ± 0.48	-1.05 ± 0.45

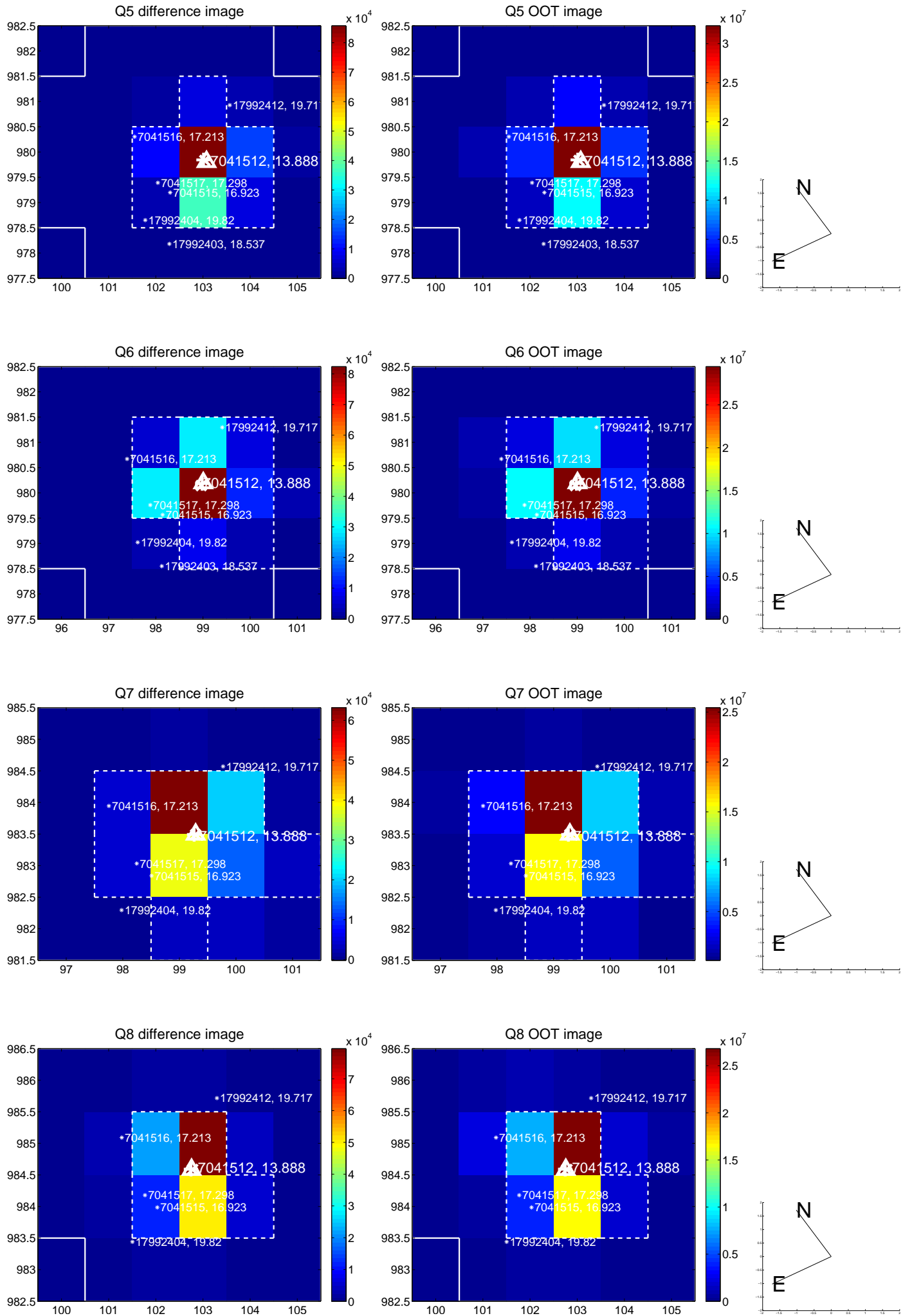


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

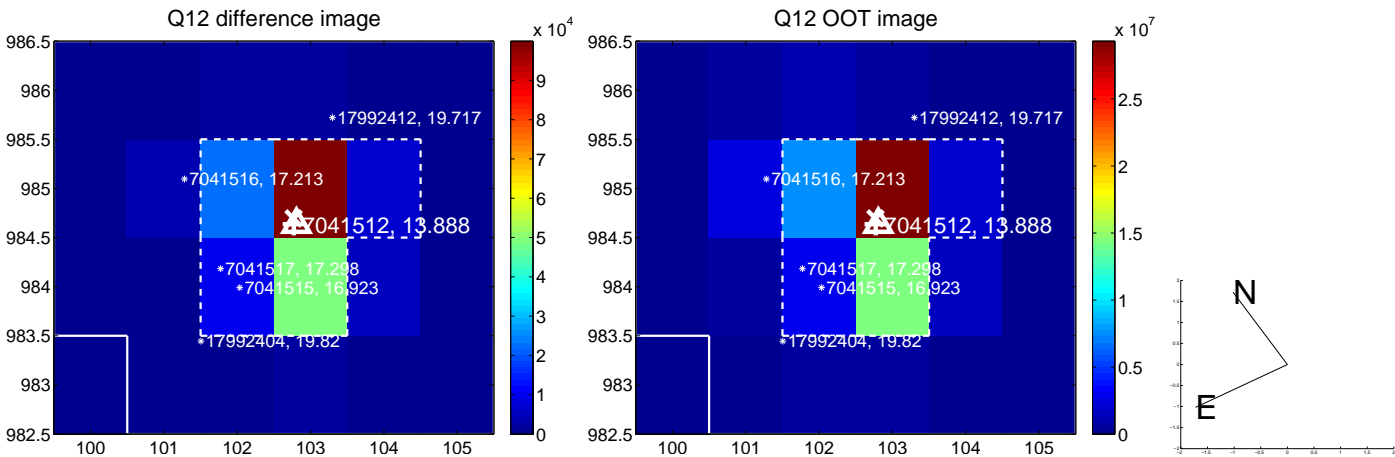
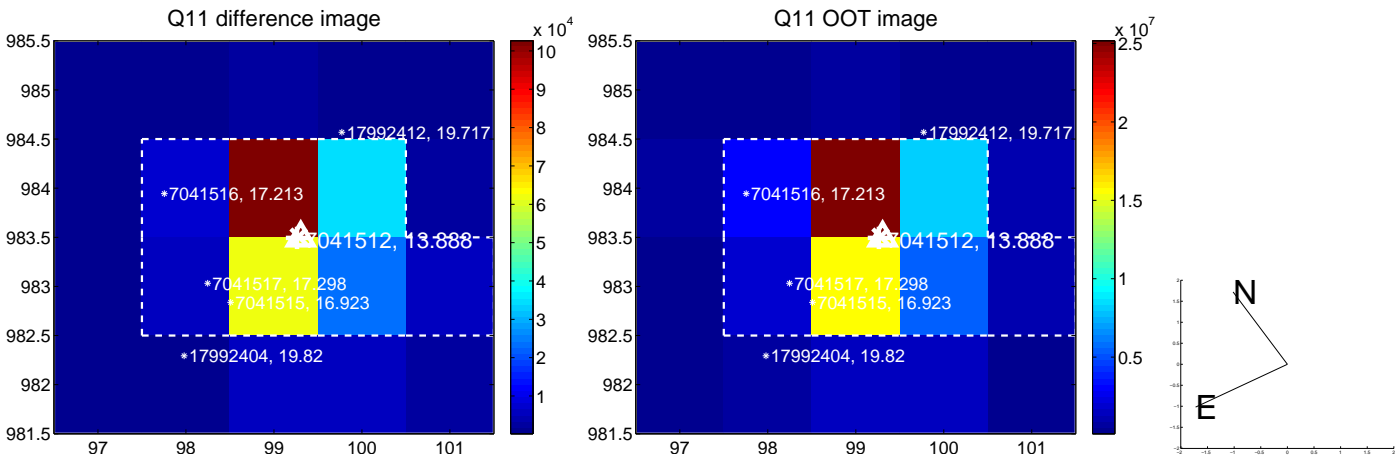
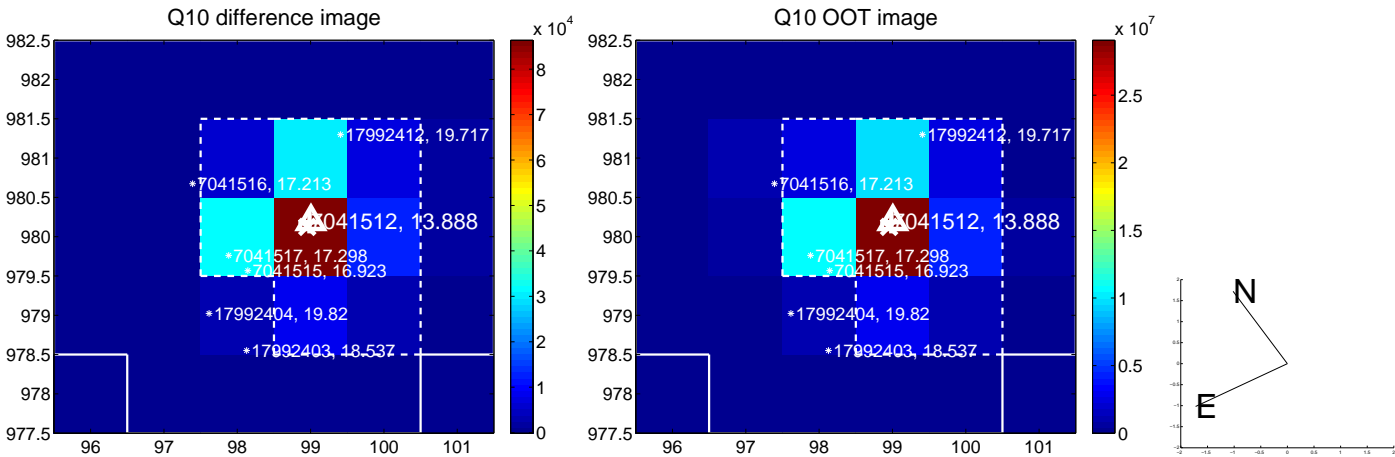
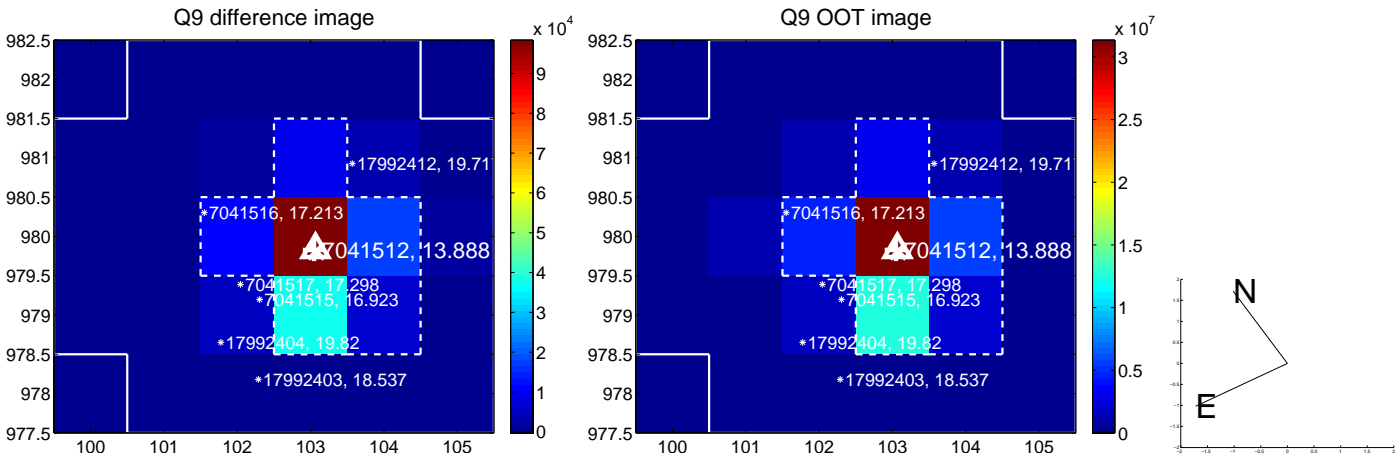
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



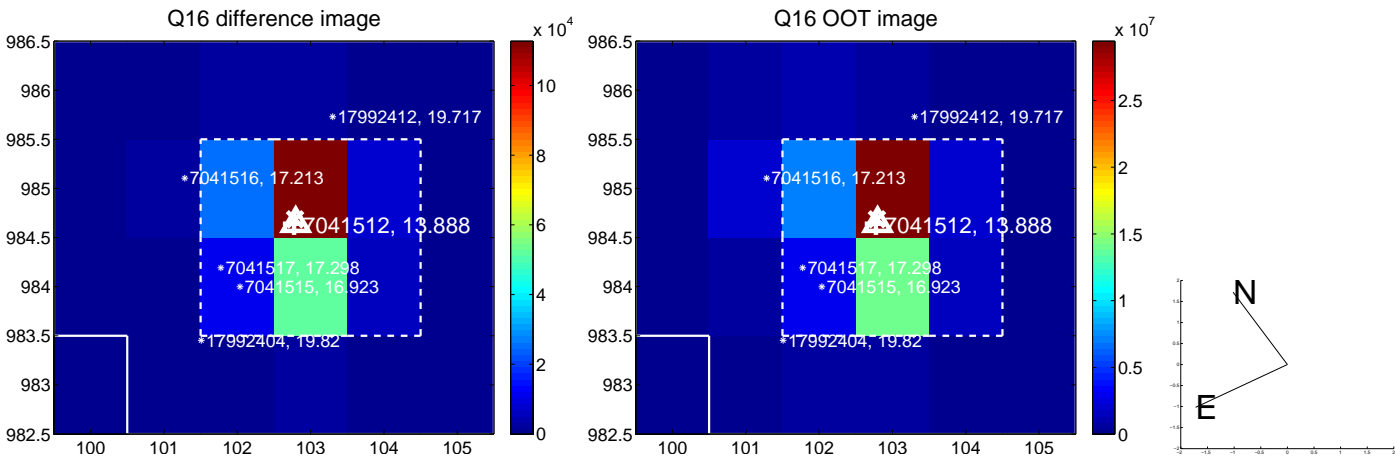
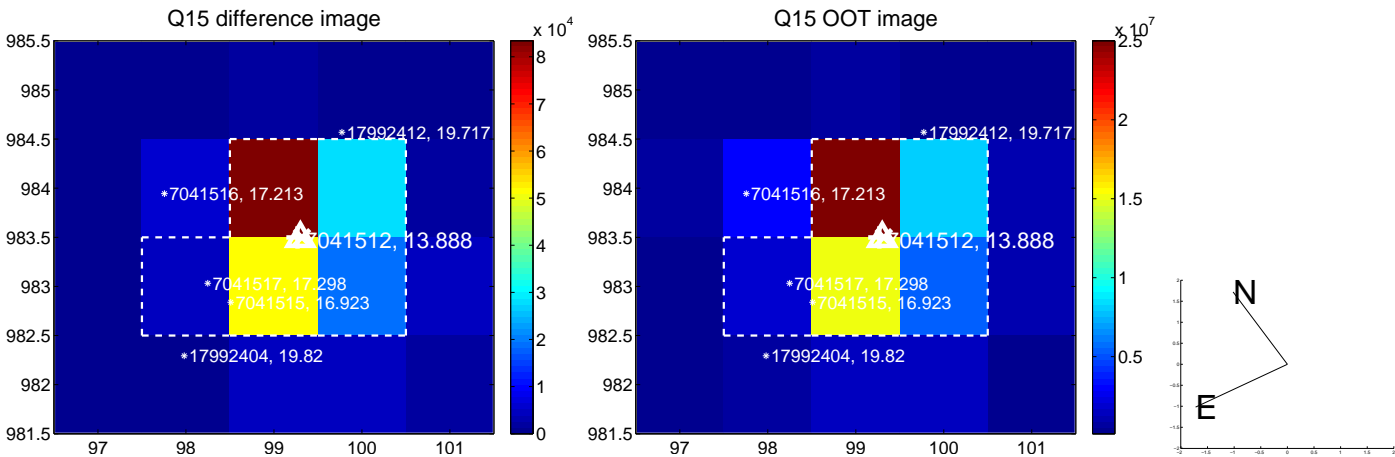
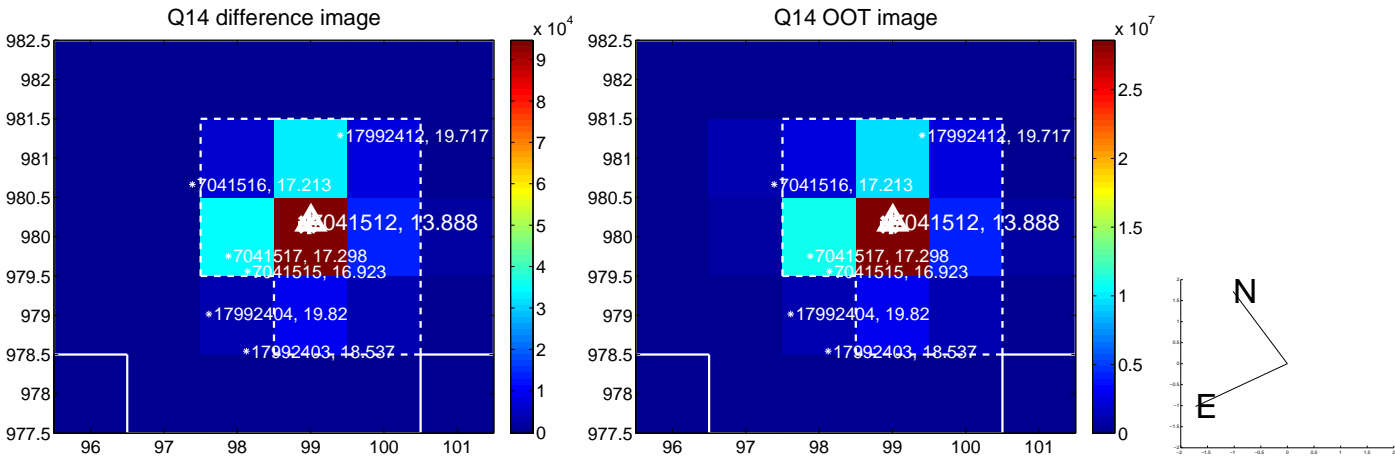
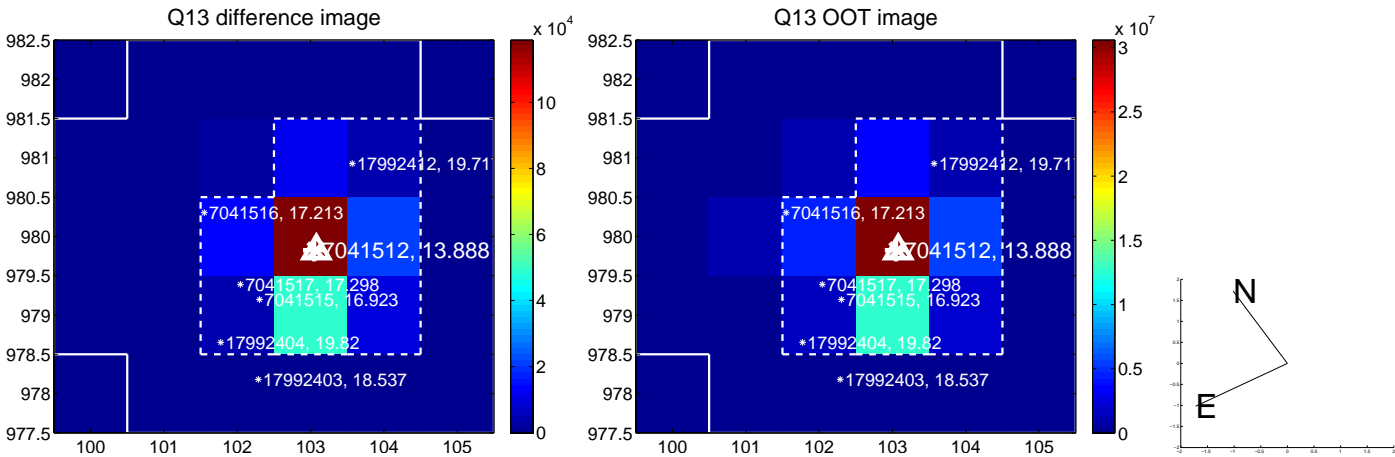
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



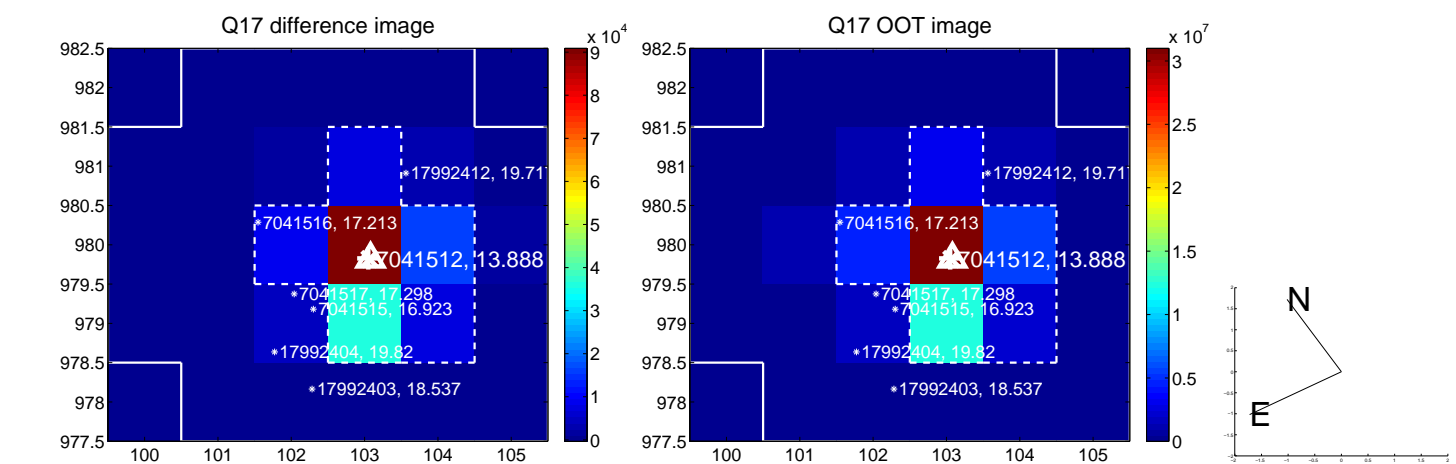
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



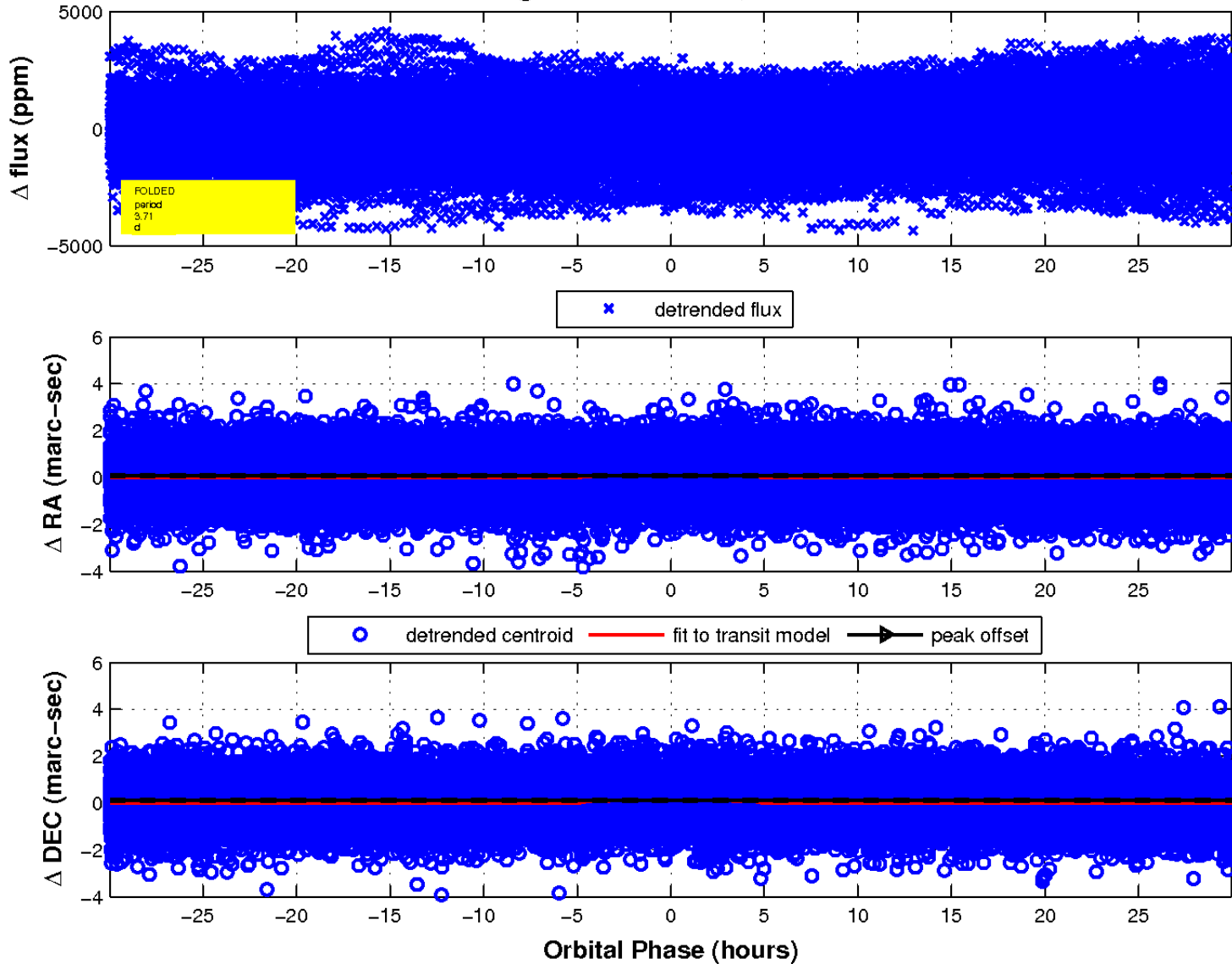
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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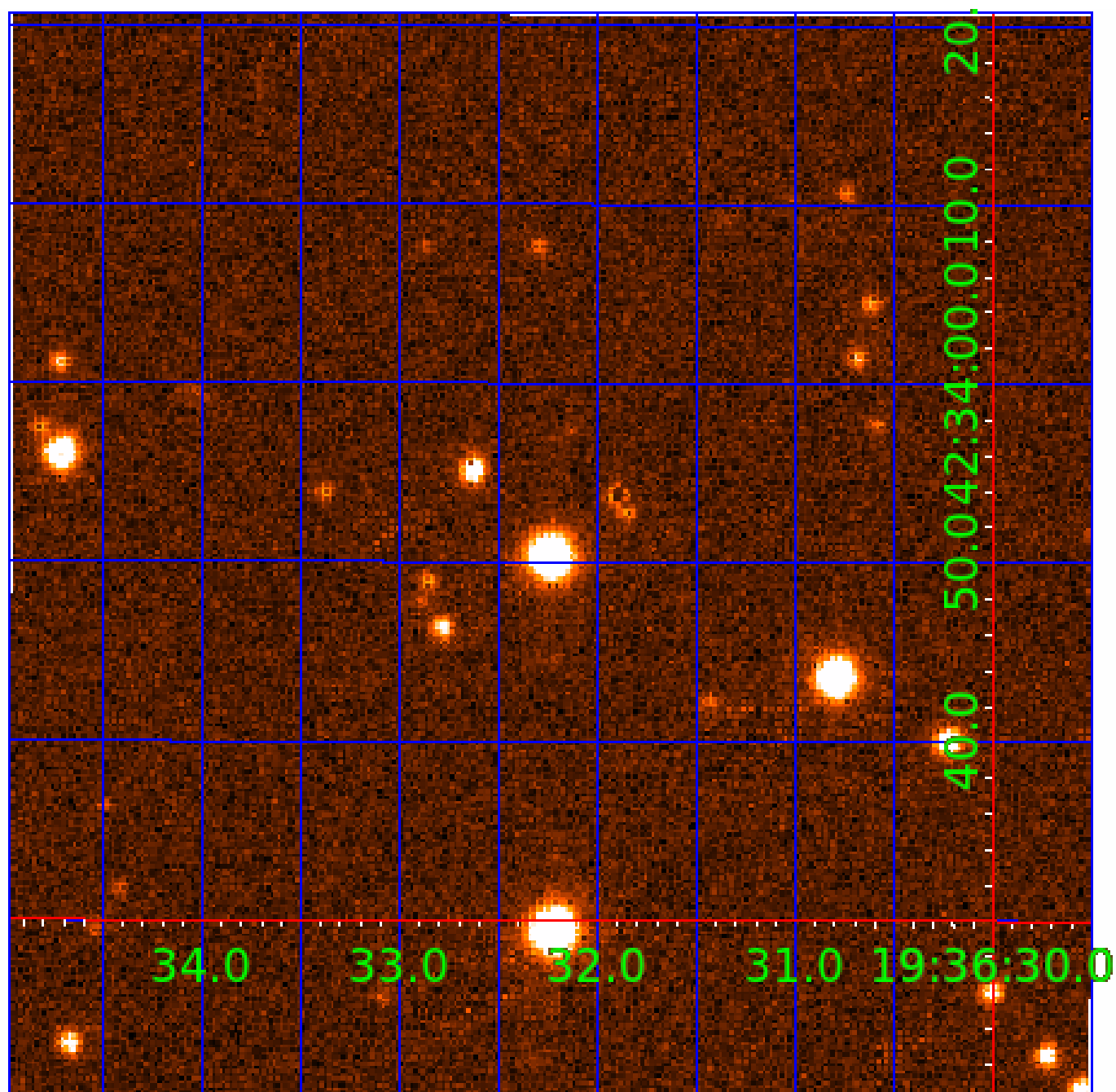


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 007041512

Q1-17 DR25 TCE Parameters

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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007041512-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
007041512-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—CENT_FEW_DIFFS—HALO_GHOST
007041512-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—SAME_NTL_PERIOD

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

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

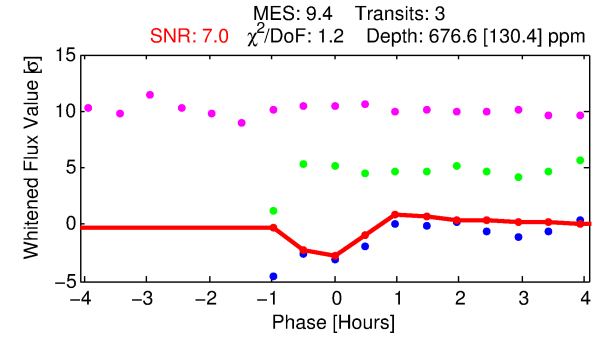
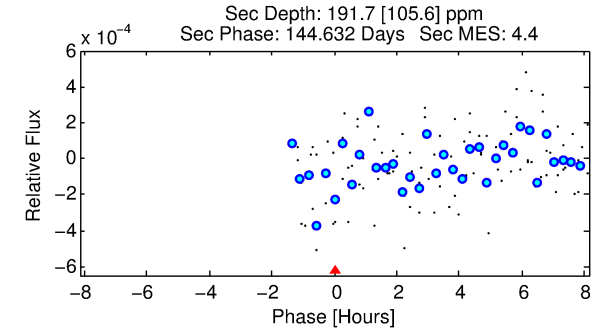
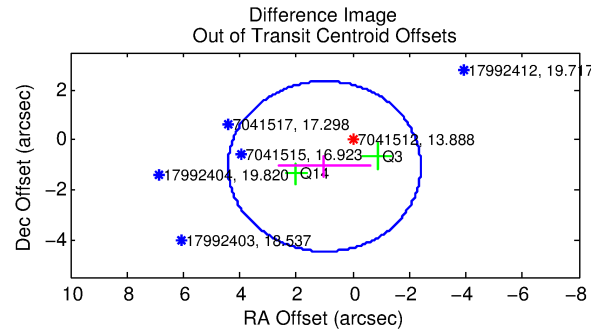
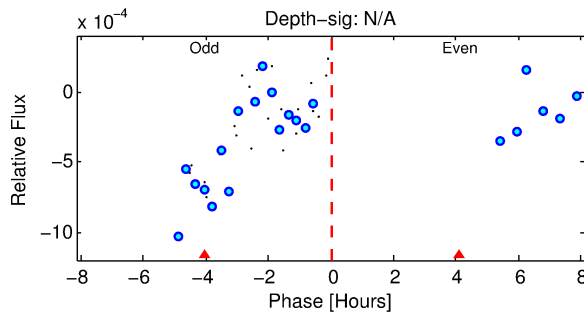
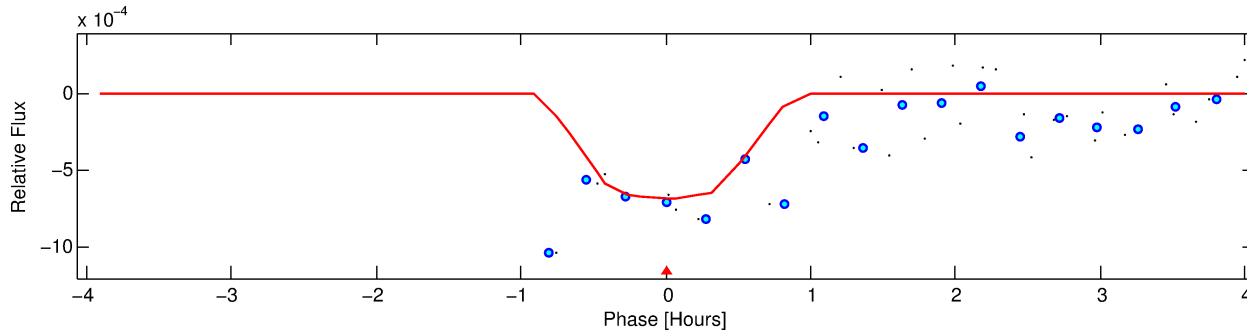
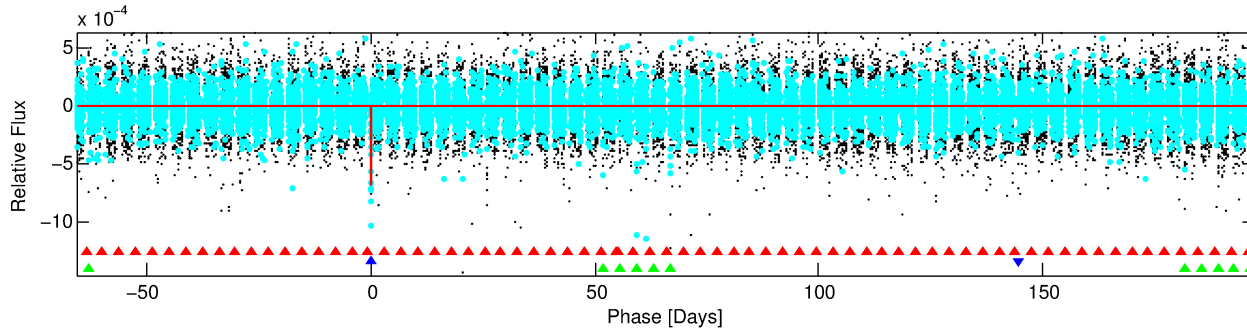
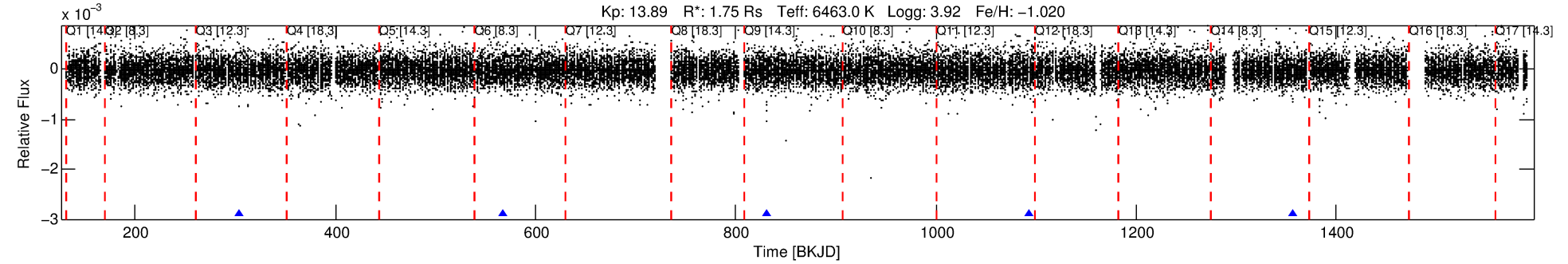
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007041512-02

No Significant Match Found

DV One-Page Summary

KIC: 7041512 Candidate: 2 of 3 Period: 263.262 d



DV Fit Results:

Period = 263.26250 [0.00489] d
Epoch = 303.8868 [0.0142] BKJD
Rp/R* = 0.0255 [0.1670]
a/R* = 1143.58 [41803.77]
b = 0.68 [29.63]
Seff = 7.73 [6.54]
Teq = 425 [90] K
Rp = 4.88 [32.07] Re
a = 0.7891 [0.3959] AU
Ag = 2754.91 [36205.06] [0.08σ]
Teffp = 4763 [15618] K [0.28σ]

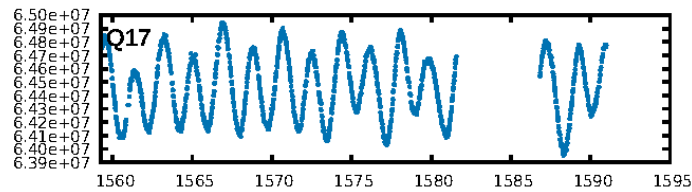
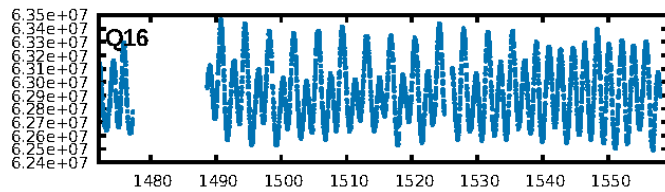
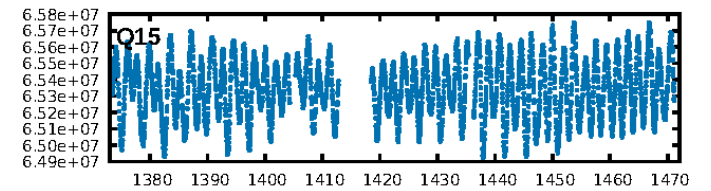
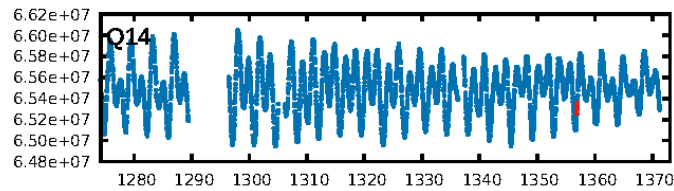
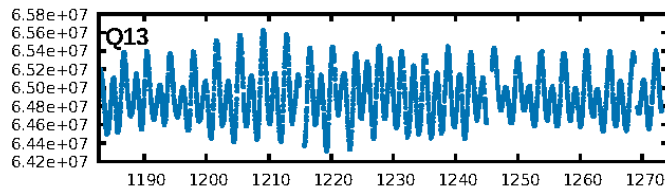
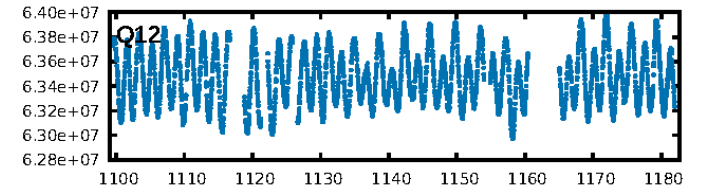
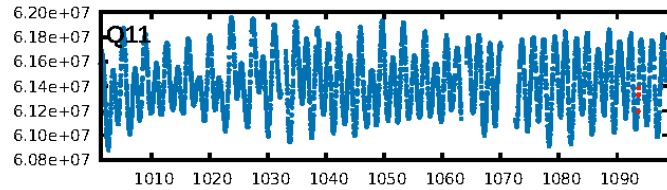
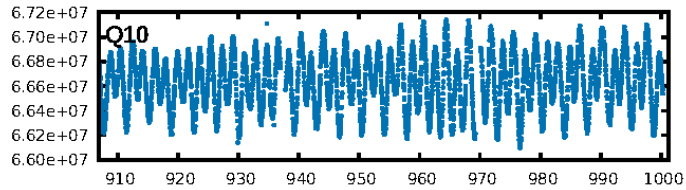
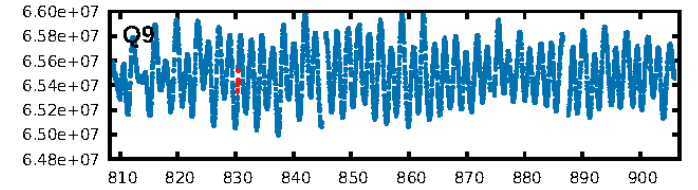
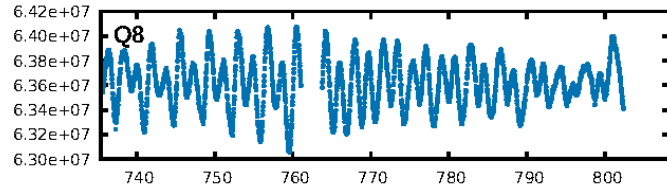
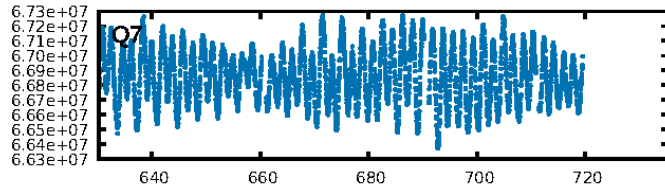
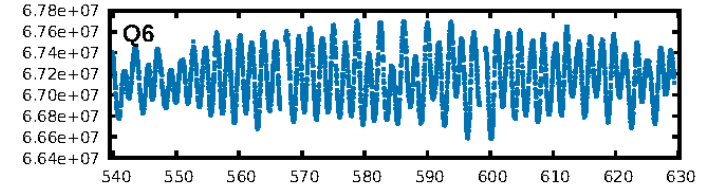
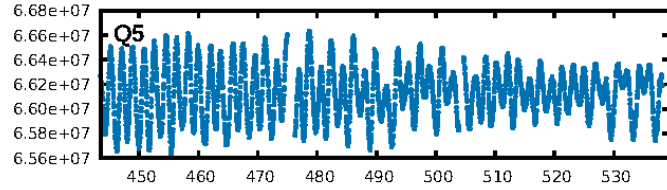
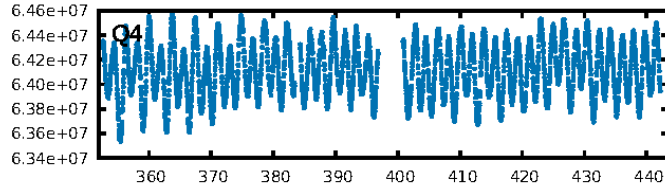
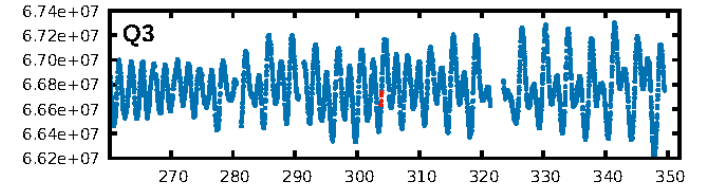
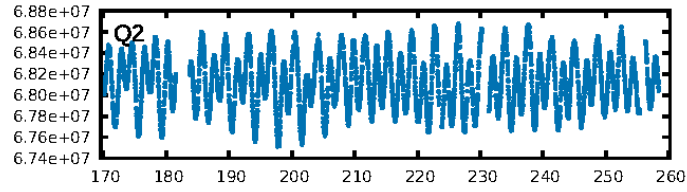
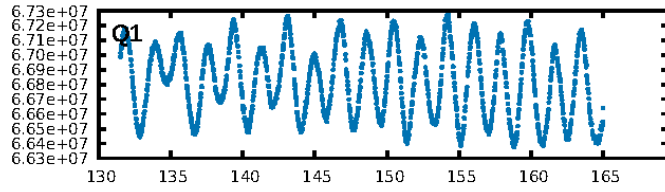
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [713.10σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 58.4%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 1.13e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.1871
Centroid-sig: 7.2%
Centroid-so: 0.983 arcsec [0.75σ]
OotOffset-rm: 1.467 arcsec [1.29σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 1.479 arcsec [1.23σ]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

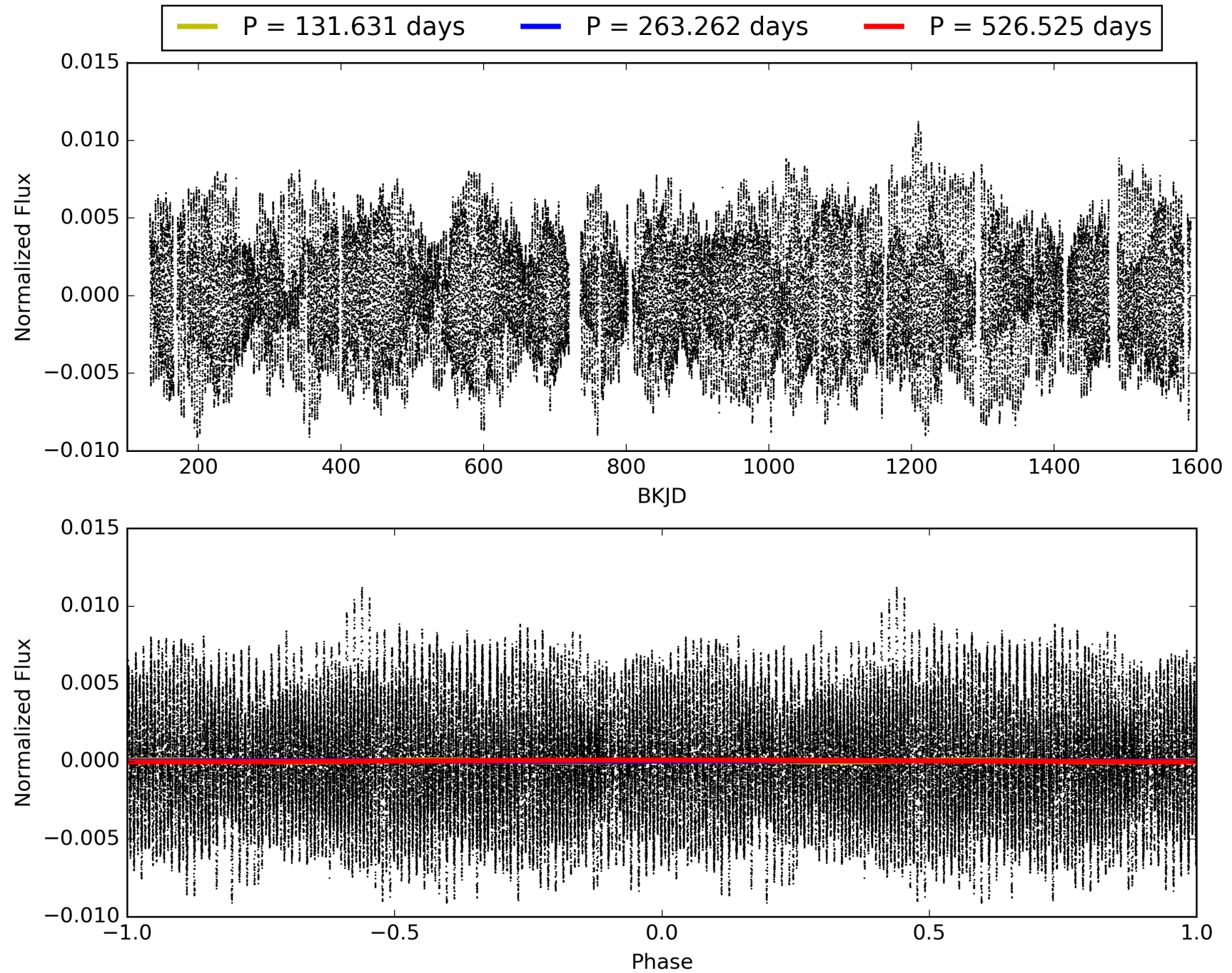
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:51:22 Z

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

TCE 007041512-02, PDC Light Curves

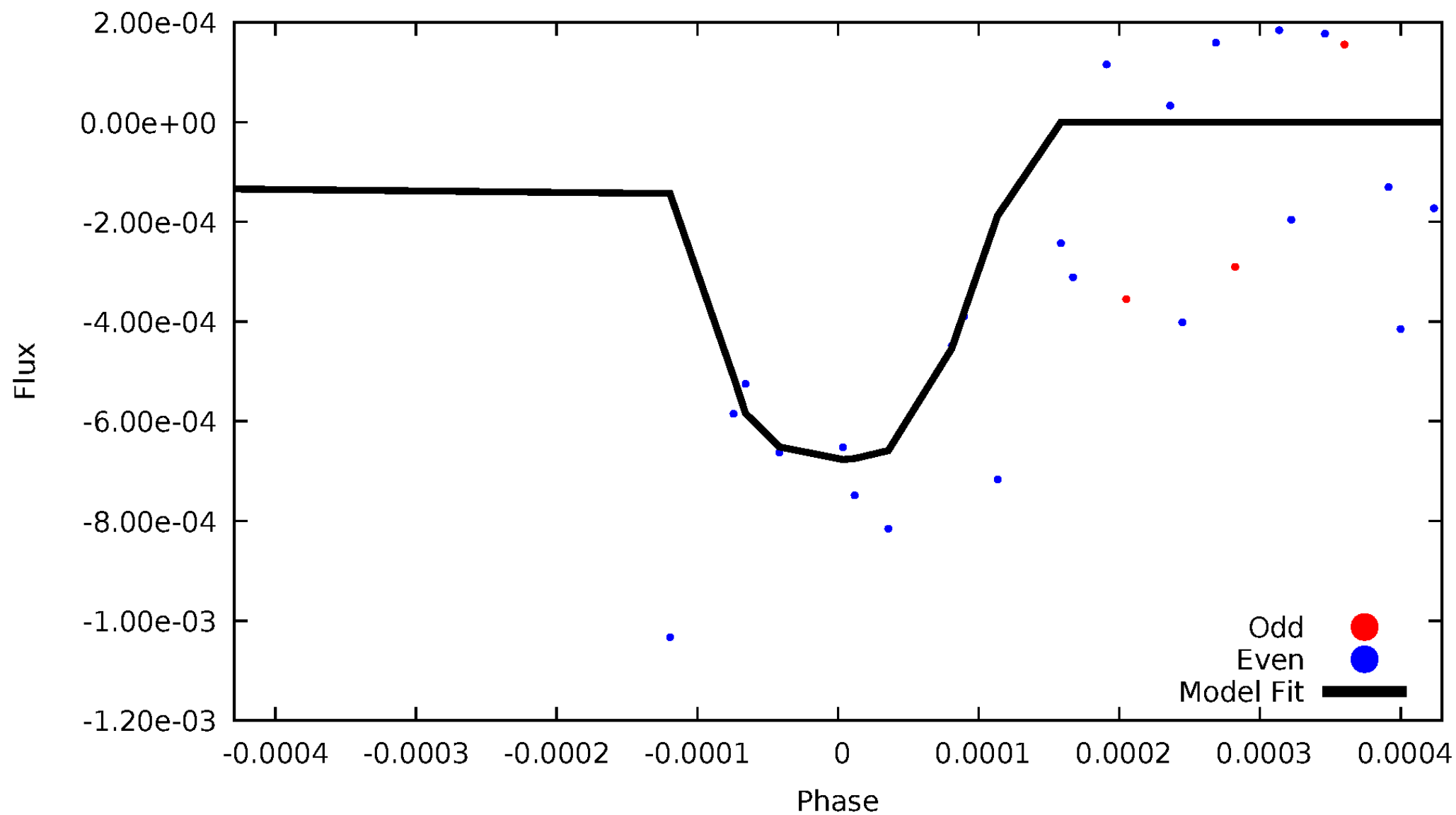


TCE 007041512-02



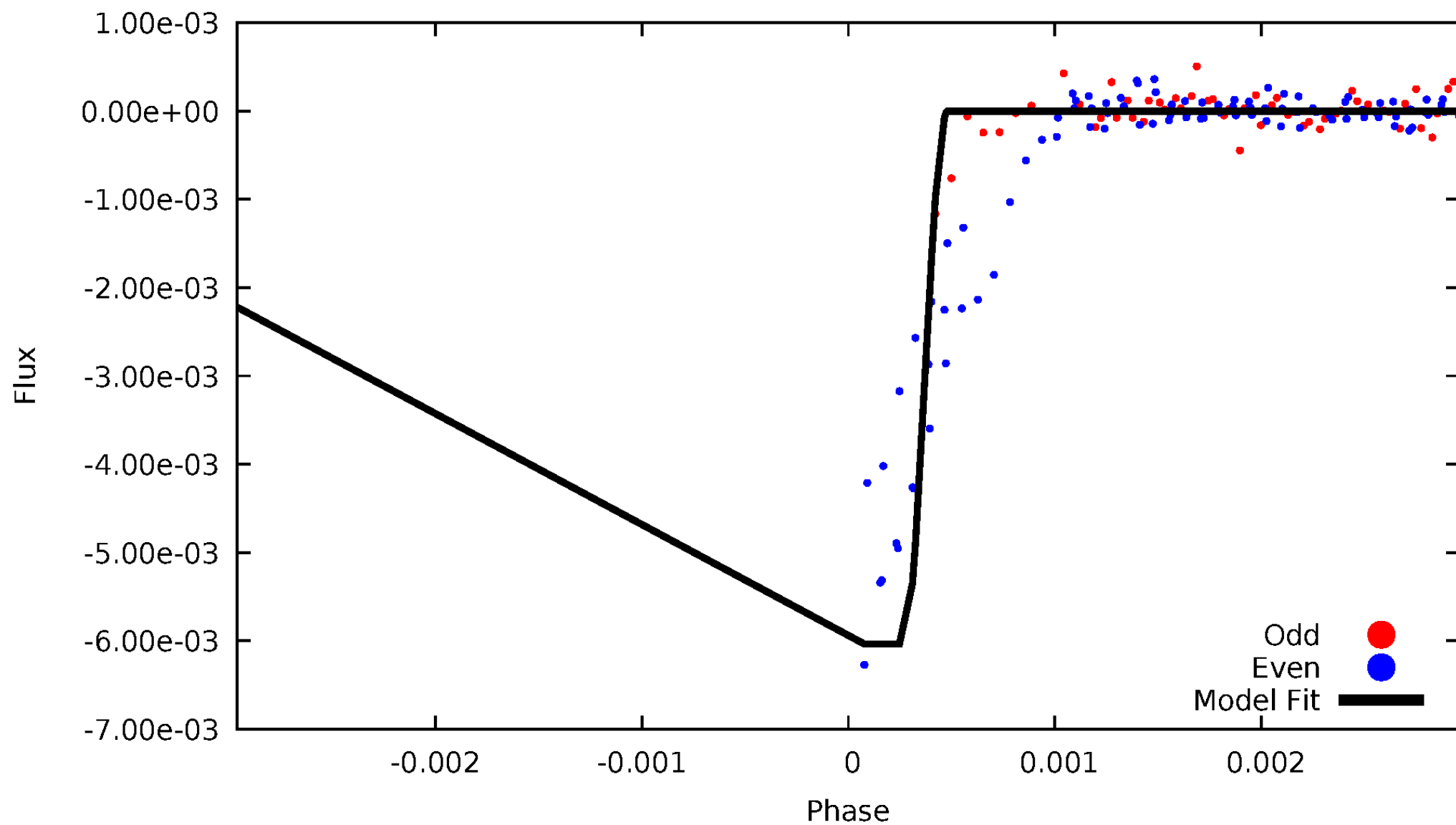
DV Odd/Even

TCE 007041512-02



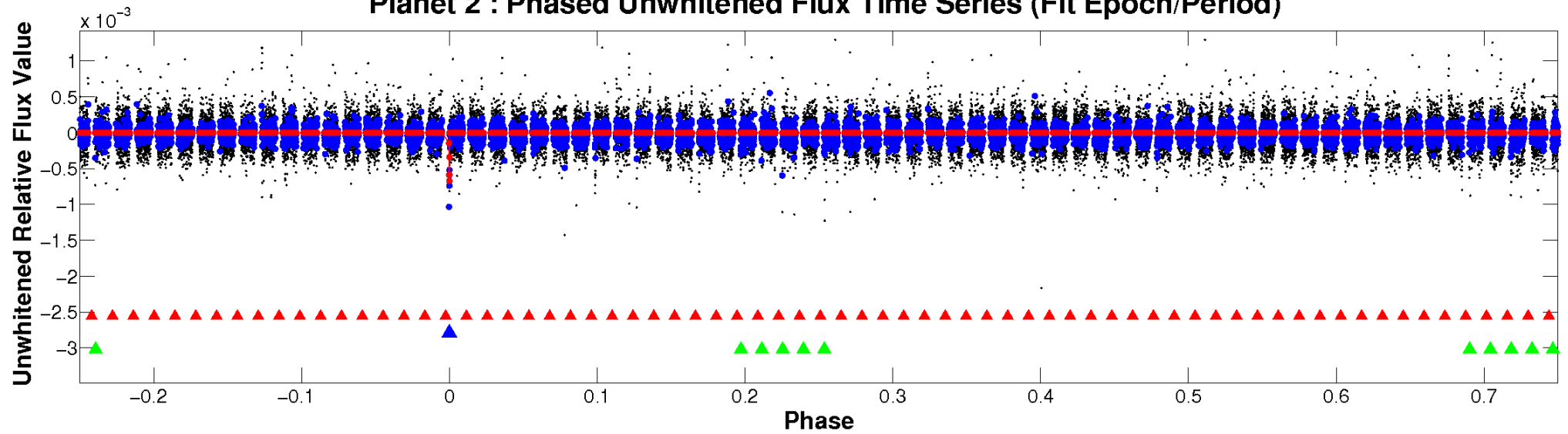
ALT Odd/Even

TCE 007041512-02

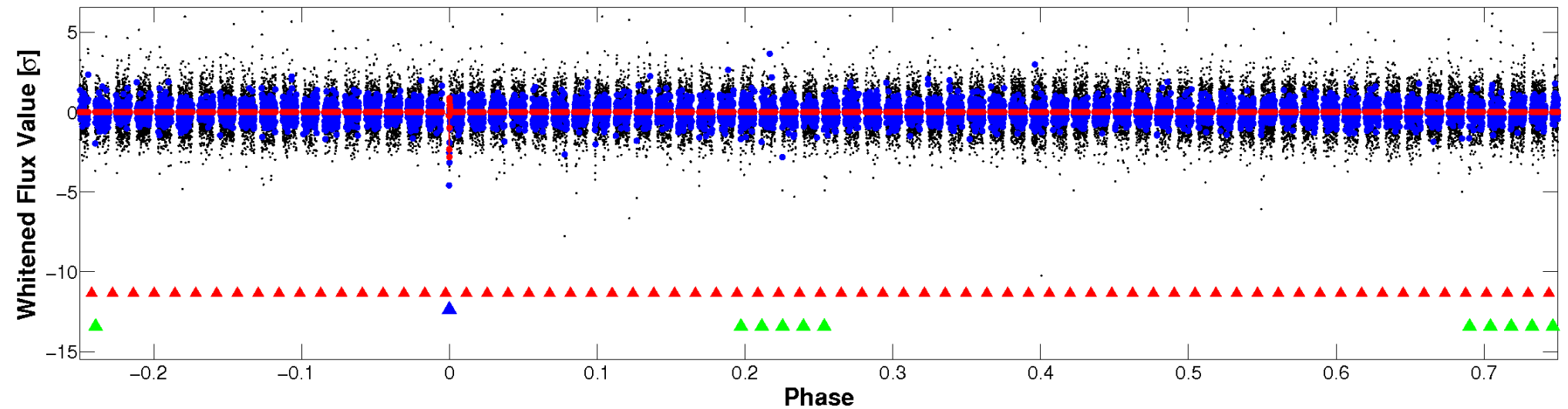


Non-Whitened Vs. Whitened Light Curve

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

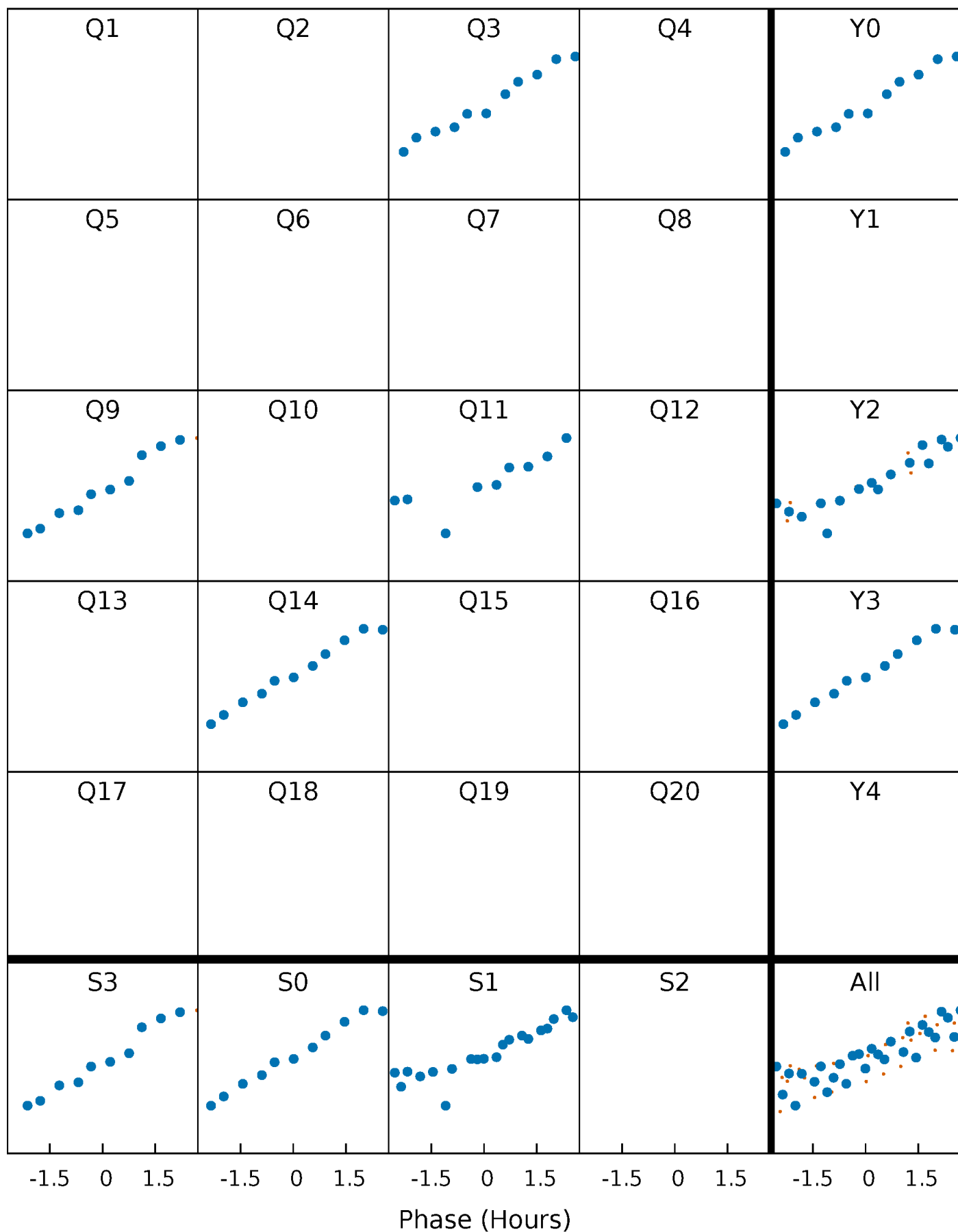


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



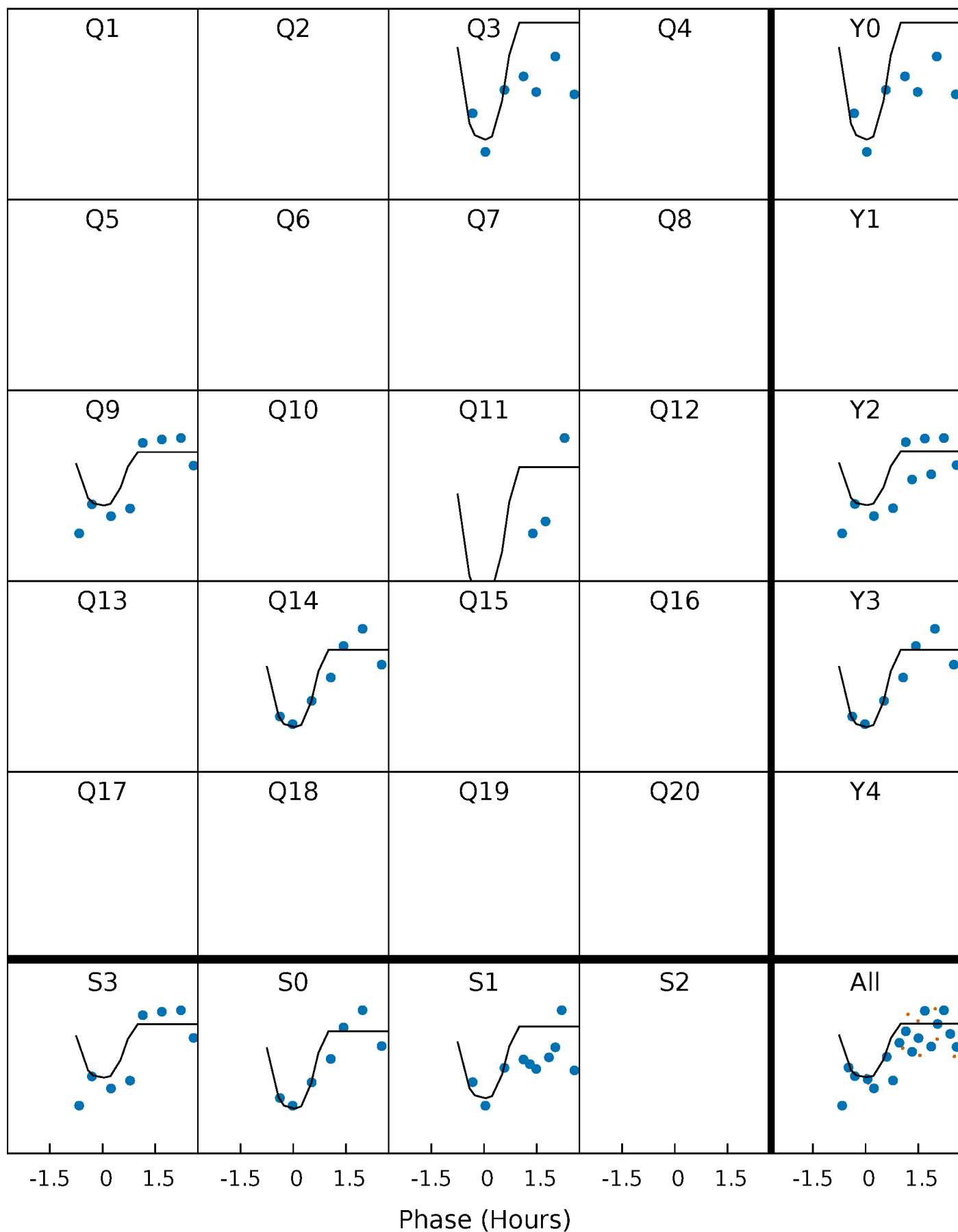
PDC Quarter-Phased Transit Curves

TCE 007041512-02 $P=263.262499$ Days $T_0=303.886755$ (BKJD)



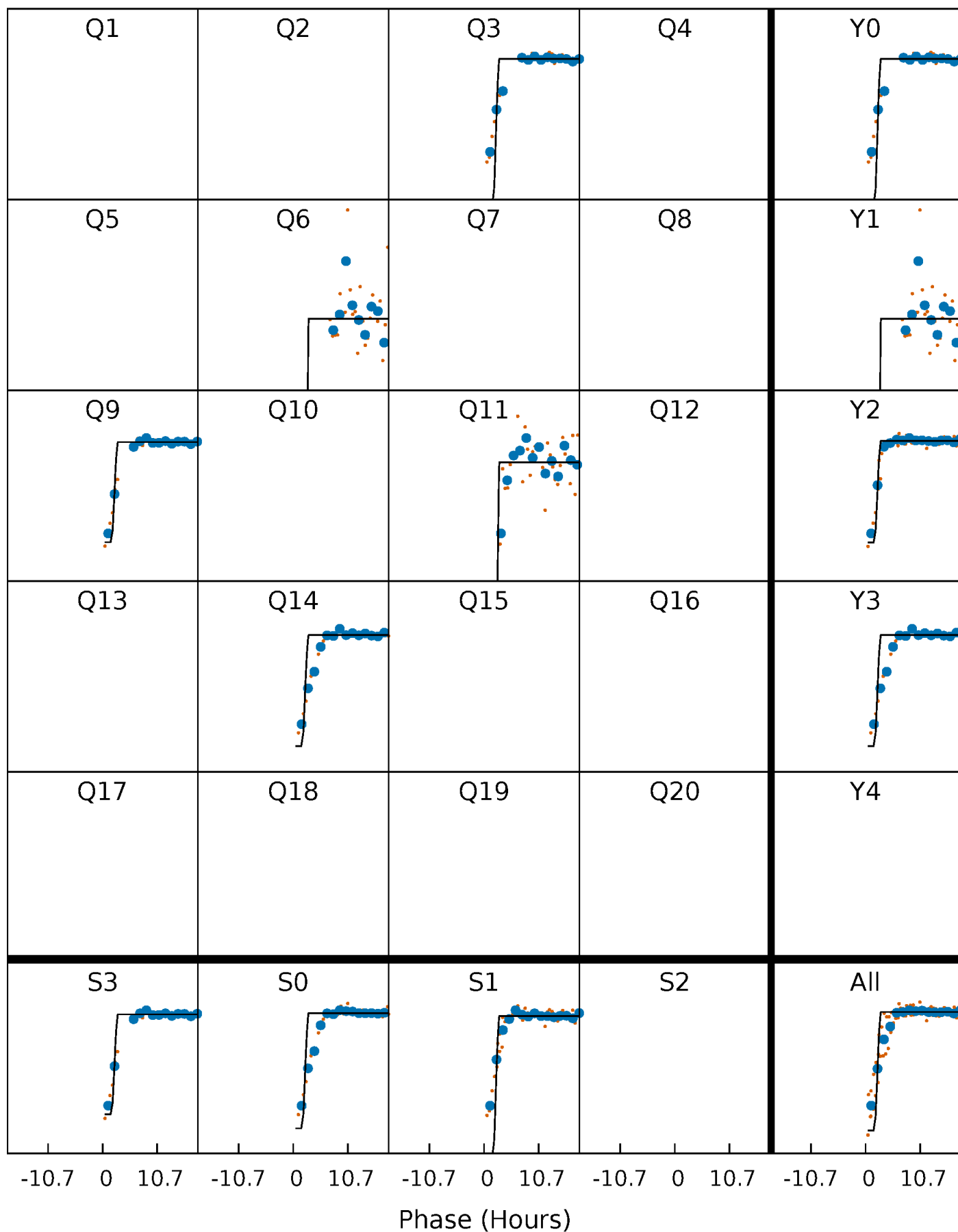
DV Quarter-Phased Transit Curves

TCE 007041512-02 P=263.262499 Days $T_0=303.886755$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

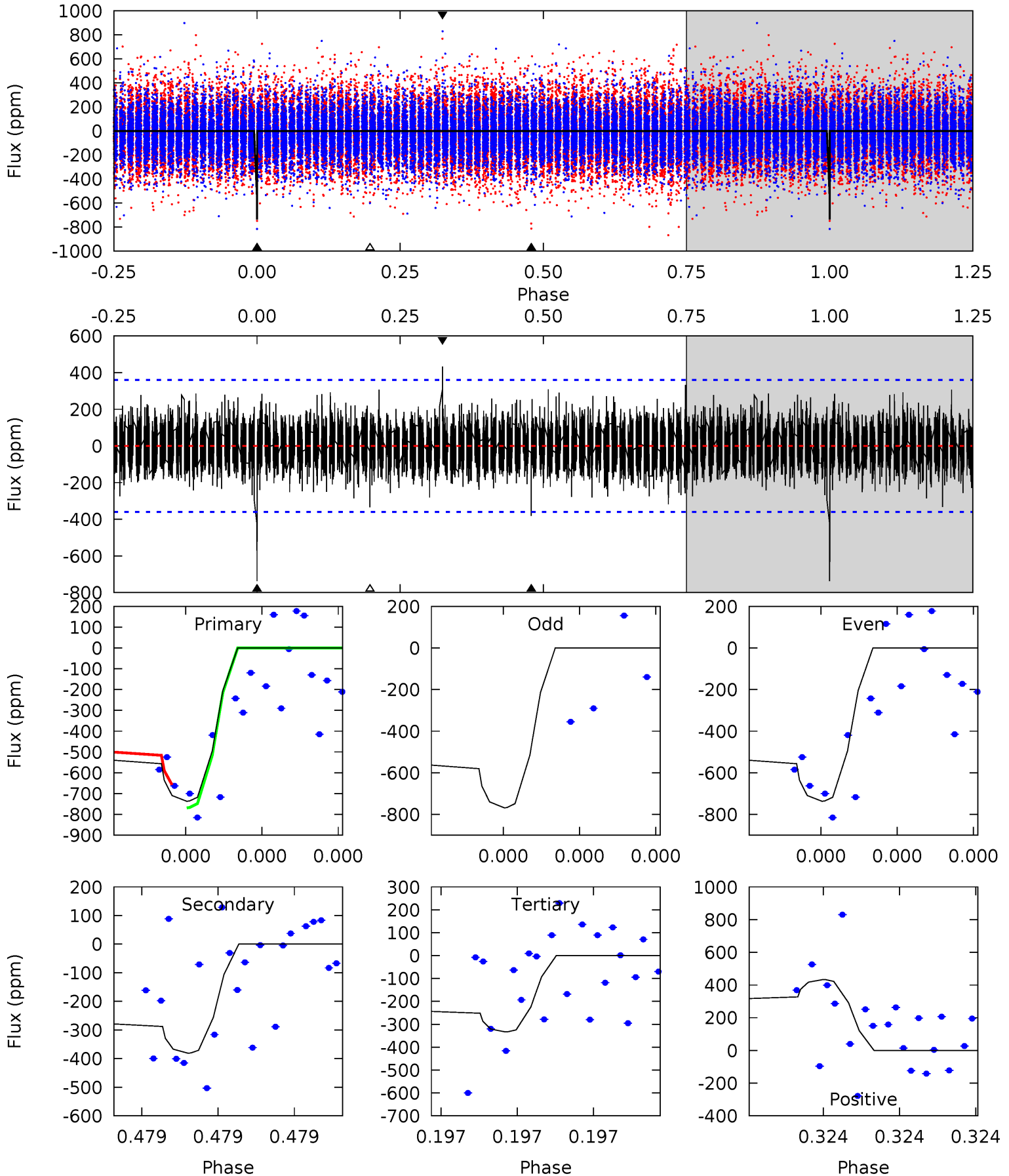
TCE 007041512-02 P=263.257329 Days $T_0=303.845281$ (BKJD)



DV Model-Shift Uniqueness Test

007041512-02, P = 263.262499 Days, E = 40.624256 Days

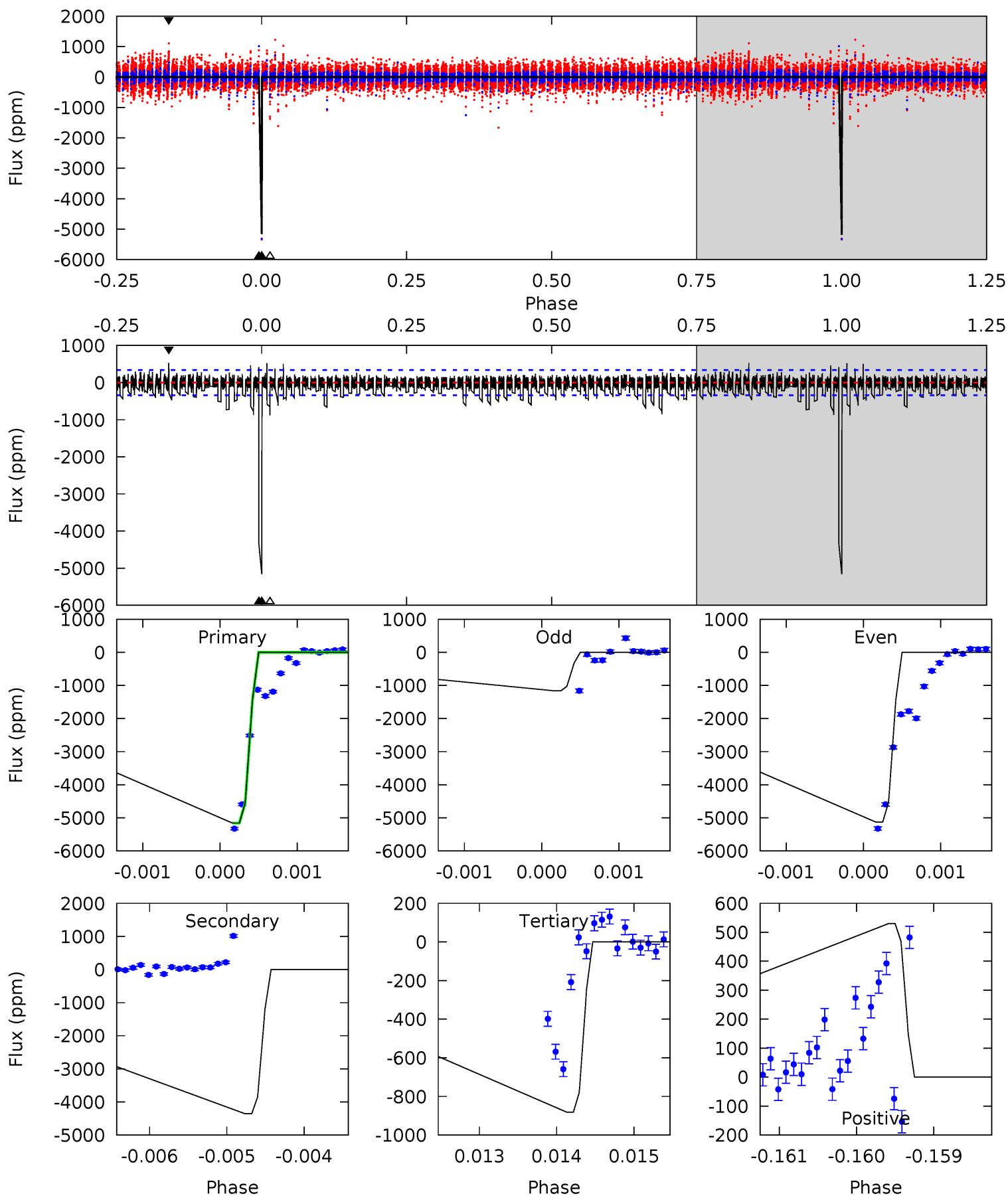
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	6.04	5.28	6.87	5.70	3.68	1.23	6.40	4.81	0.76	-0.83	0.33	1.11	0.37	0.76



Alt Model-Shift Uniqueness Test

007041512-02, P = 263.257329 Days, E = 40.587952 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
82.9	69.9	14.1	8.51	5.46	3.30	1.35	68.7	74.4	55.8	61.4	19.9	0.91	0.09	0



Stellar Parameters For KIC 007041512

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6463^{+193}_{-213}	$3.925^{+0.502}_{-0.167}$	$-1.020^{+0.300}_{-0.250}$	$1.755^{+0.456}_{-0.846}$	$0.944^{+0.098}_{-0.134}$	$0.246^{+1.331}_{-0.118}$
	+3%/-3%	+13%/-4%	+29%/-25%	+26%/-48%	+10%/-14%	+541%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007041512-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-381 ± 63	$21.05^{+24.10}_{-15.02}$	582^{+50}_{-69}	3207^{+1593}_{-593}	291^{+3431}_{-230}
Alt.	-4355 ± 62	$24.76^{+27.20}_{-16.39}$	585^{+50}_{-75}	4527^{+3405}_{-933}	2469^{+19777}_{-1912}

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 $A_{obs} \gg 1.0$

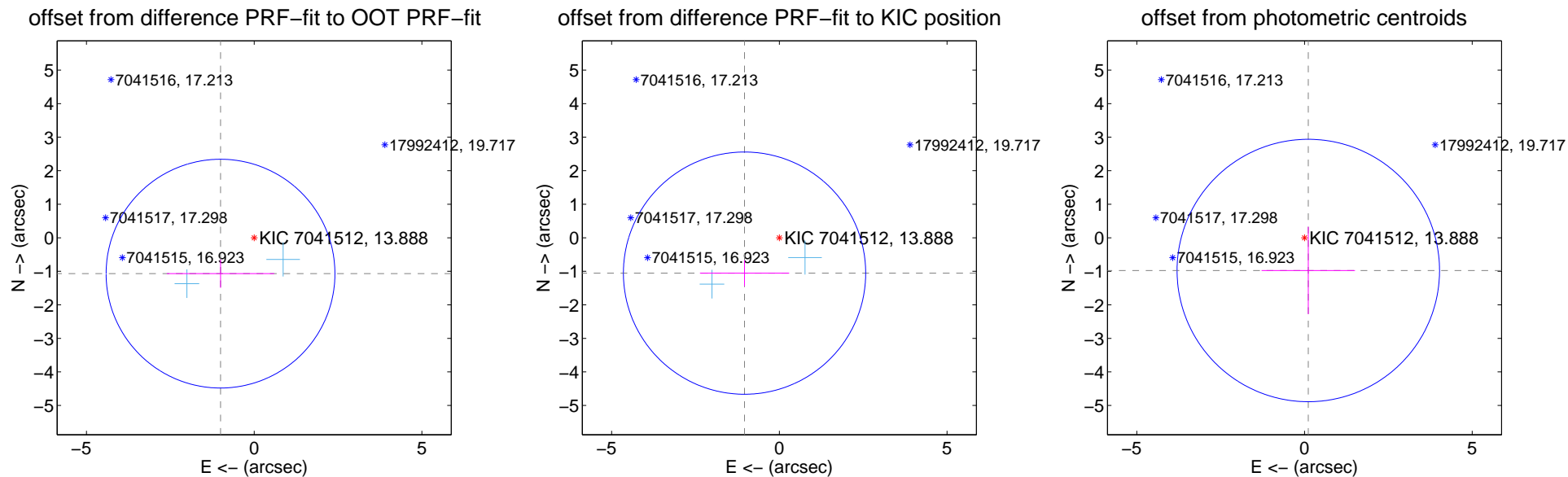
DV Centroid Data

Supplemental centroid analysis for 007041512-02. Kepler magnitude: 13.89. Transit SNR 6.99

There are 2 quarters with good PRF difference image offsets

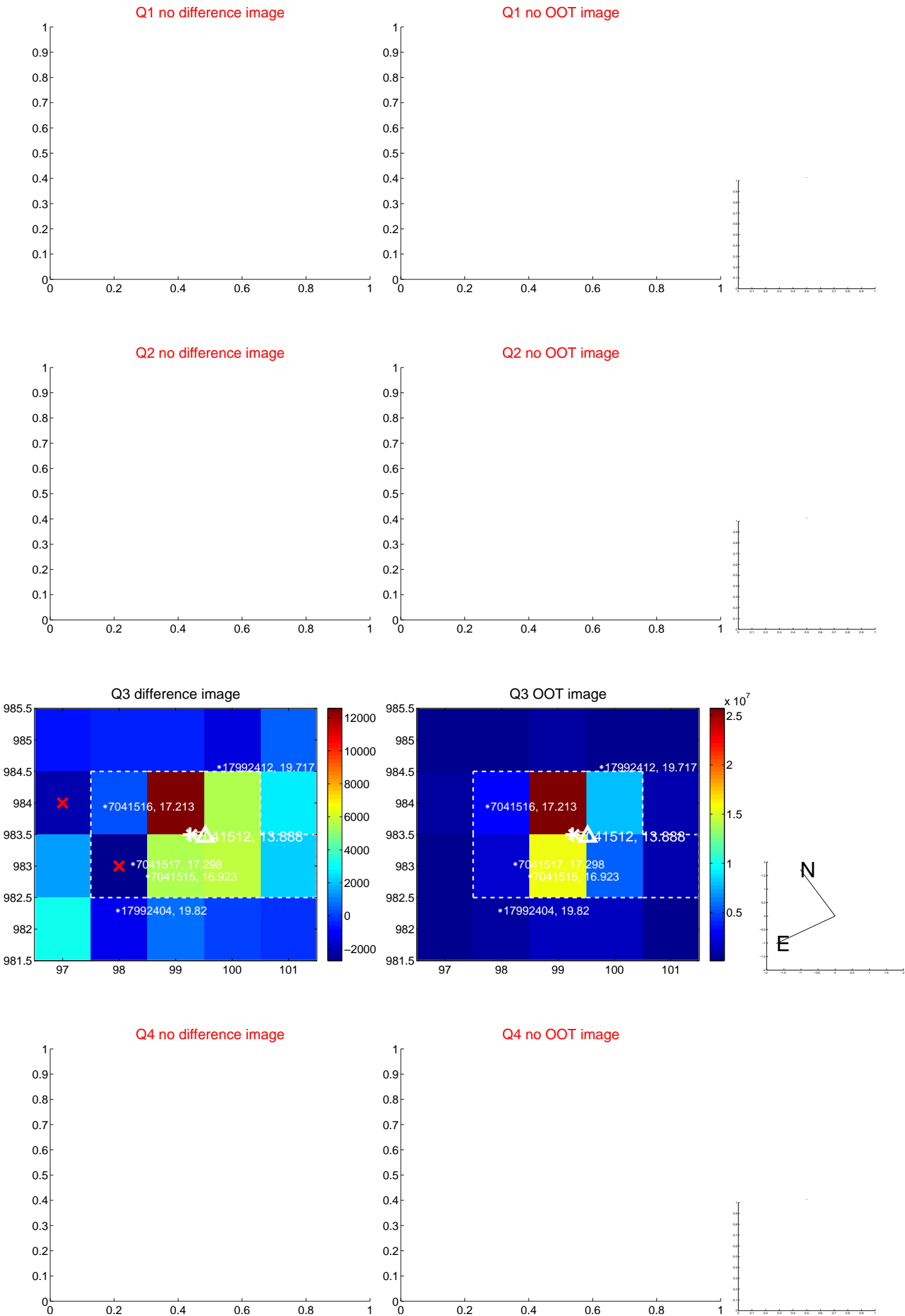
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.467 ± 1.137	1.29	1.003 ± 1.600	-1.070 ± 0.421
PRF-fit source offset from KIC position	1.479 ± 1.204	1.23	1.037 ± 1.330	-1.055 ± 0.385
photometric centroid source offset	0.98 ± 1.30	0.75	-0.11 ± 1.39	-0.98 ± 1.30



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.

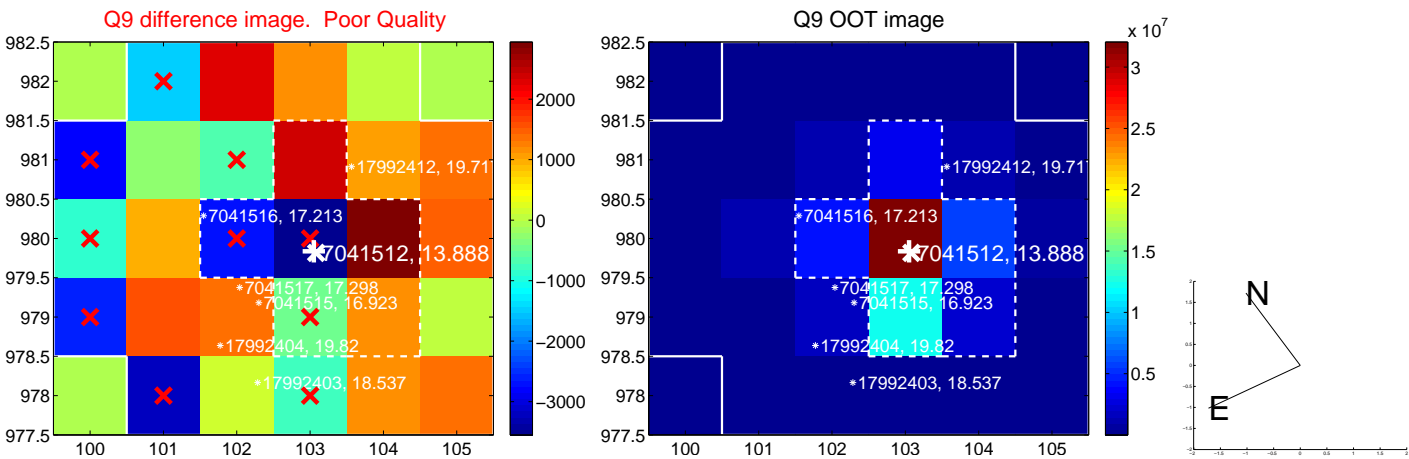
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



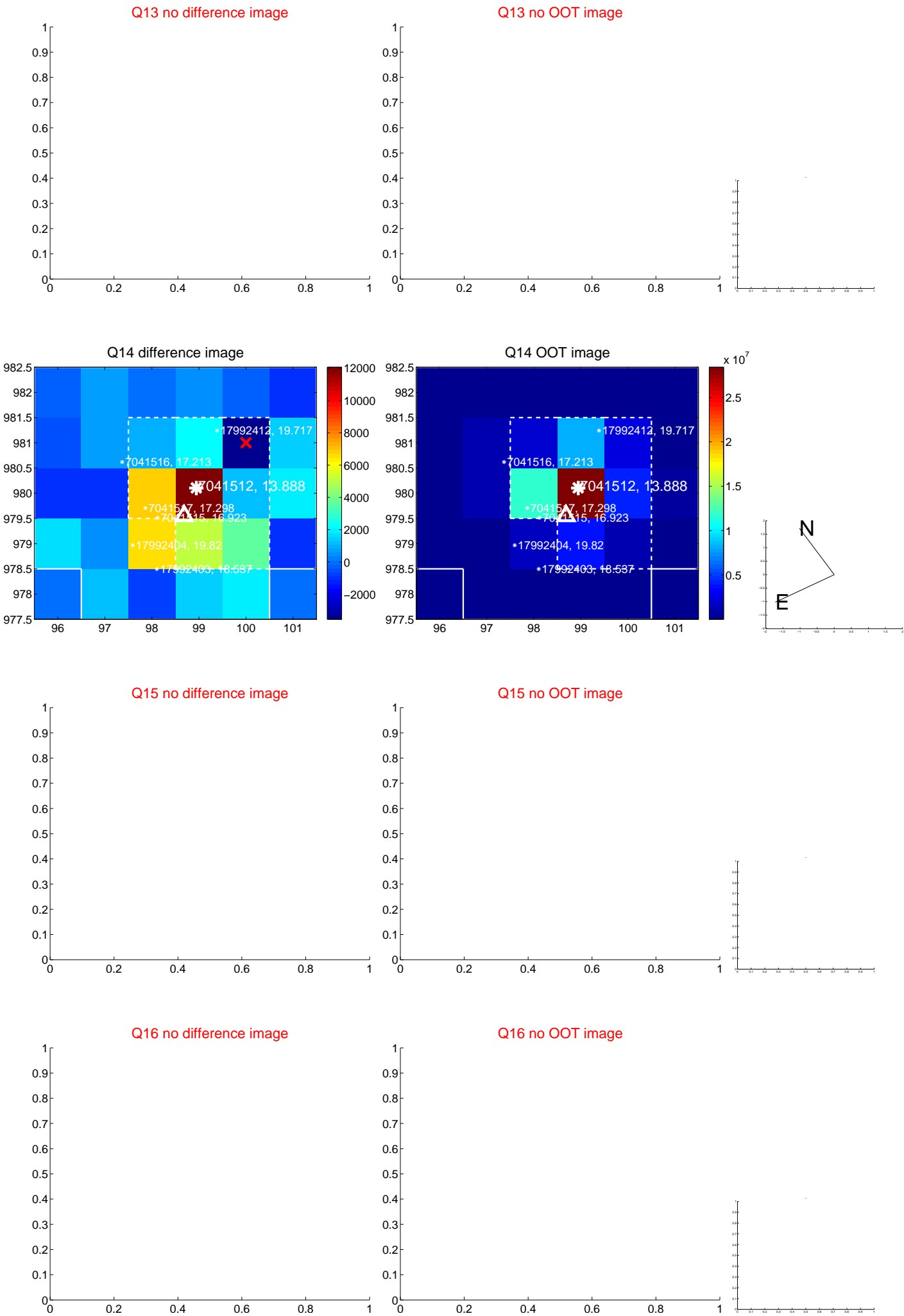
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



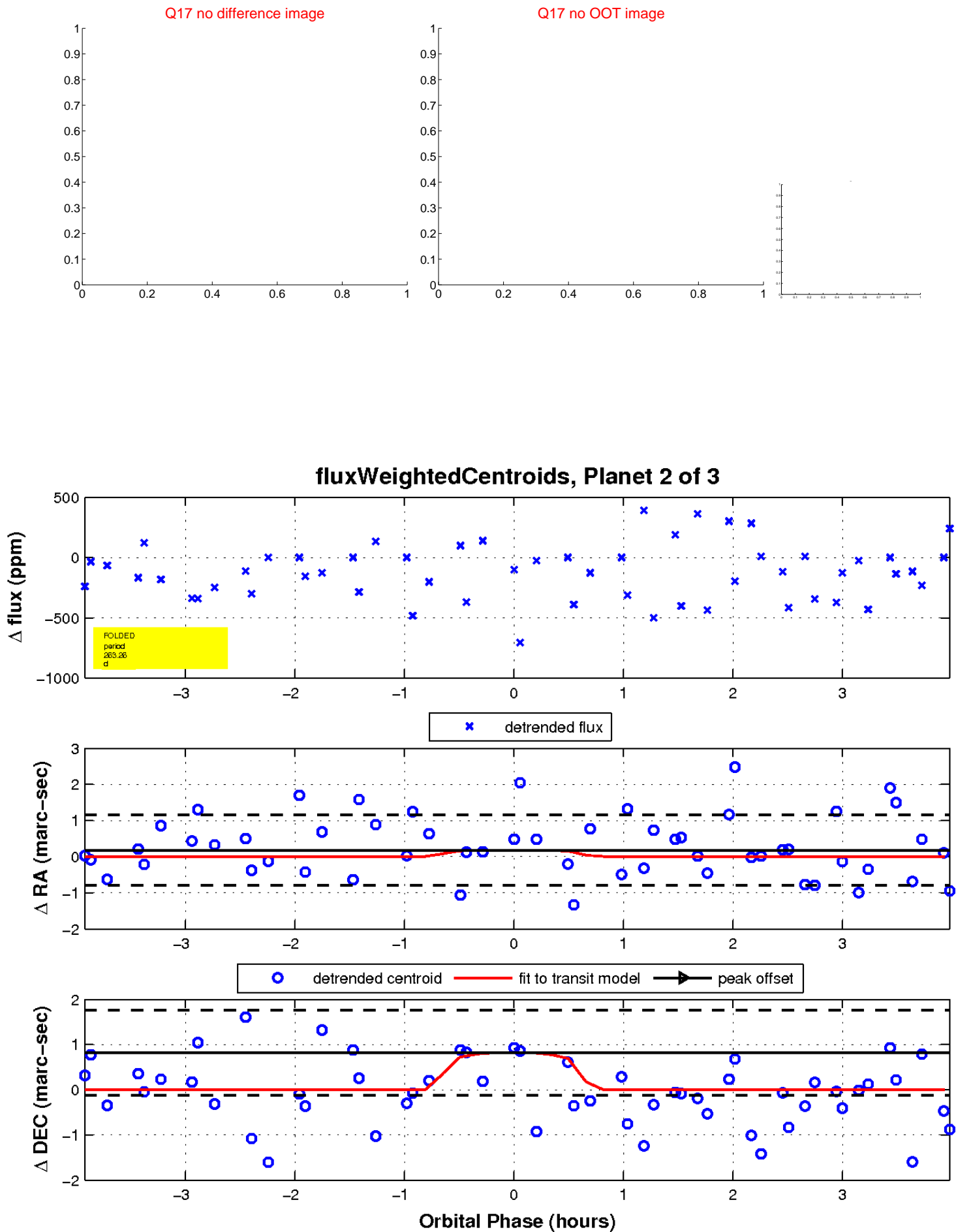
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

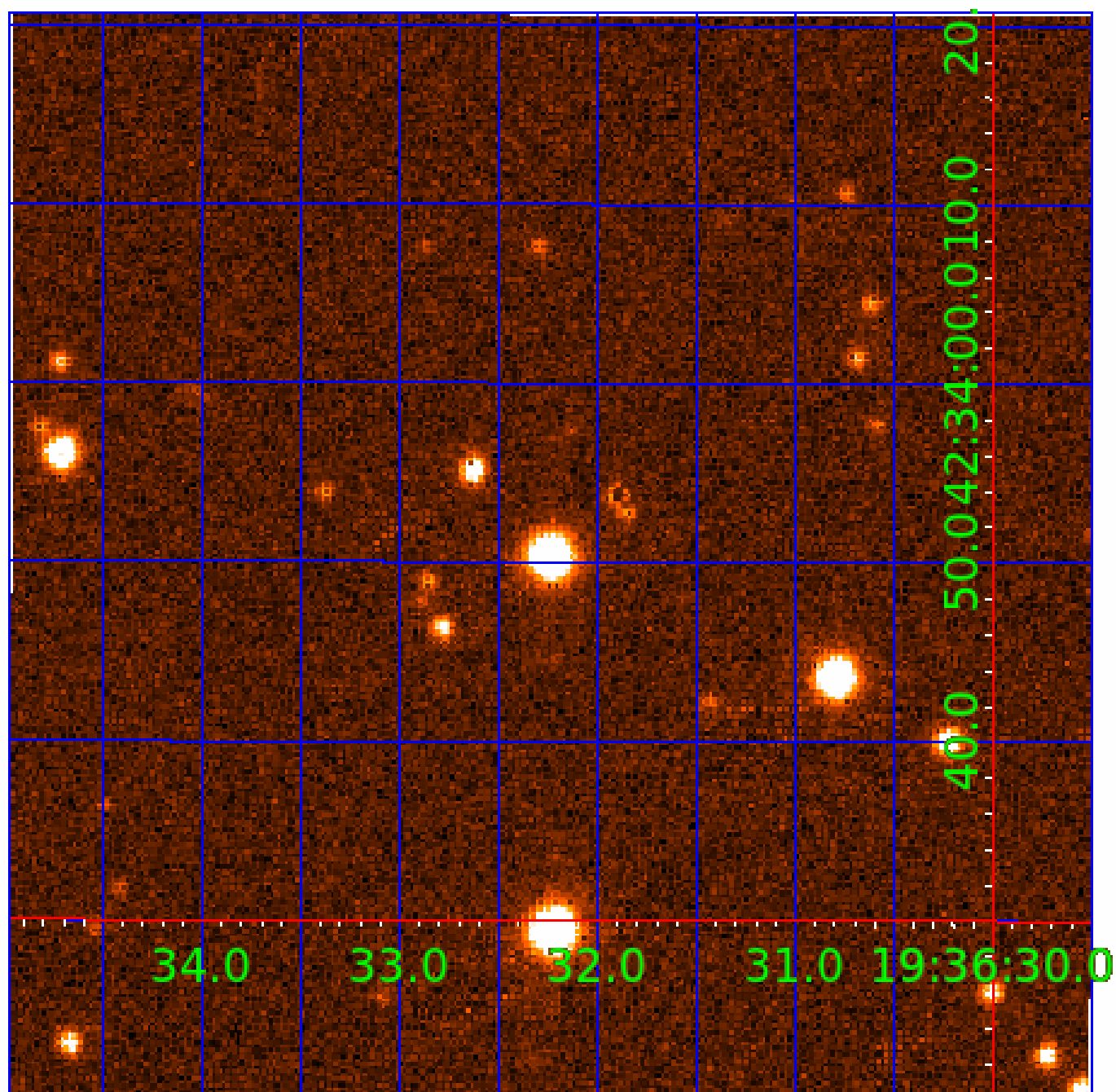


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007041512

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})
007041512-01	OBS	No	3.707948	132.650030	80.8	9.992	7.4	8.1	1.75	6463	1.86	2273.20
007041512-02	OBS	No	263.262499	303.886755	676.6	1.356	9.4	7.0	1.75	6463	4.88	7.73
007041512-03	OBS	No	133.485827	222.342476	272.4	4.152	8.5	5.3	1.75	6463	3.32	19.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007041512-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
007041512-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—CENT_FEW_DIFFS—HALO_GHOST
007041512-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—SAME_NTL_PERIOD

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

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

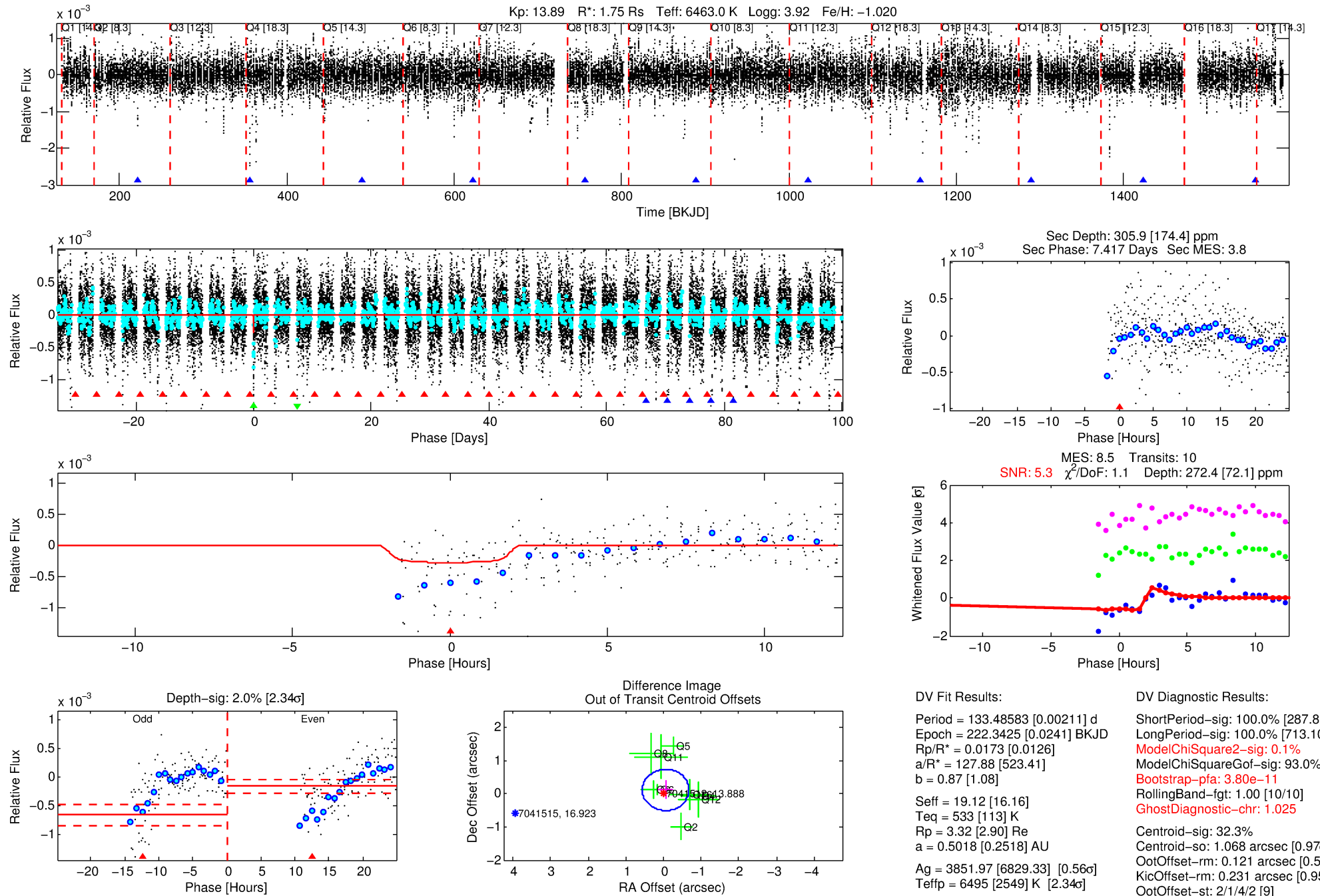
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007041512-03

No Significant Match Found

DV One-Page Summary

KIC: 7041512 Candidate: 3 of 3 Period: 133.486 d



DV Fit Results:

Period = 133.48583 [0.00211] d
Epoch = 222.3425 [0.0241] BKJD
Rp/R* = 0.0173 [0.0126]
a/R* = 127.88 [523.41]
b = 0.87 [1.08]
Seff = 19.12 [16.16]
Teff = 533 [113] K
Rp = 3.32 [2.90] Re
a = 0.5018 [0.2518] AU
Ag = 3851.97 [6829.33] [0.56 σ]
Teffp = 6495 [2549] K [2.34 σ]

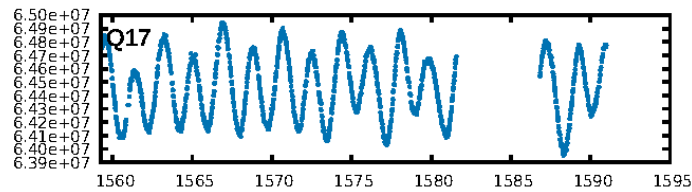
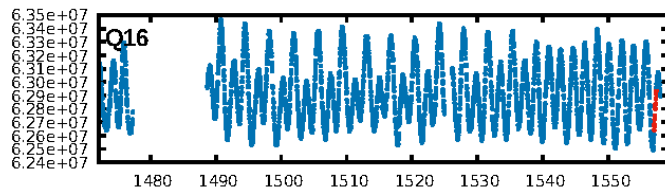
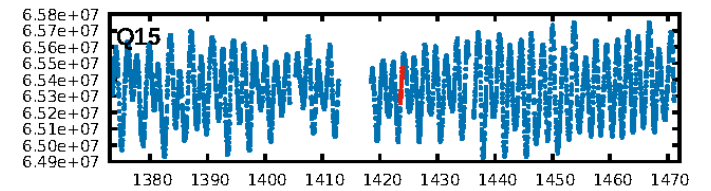
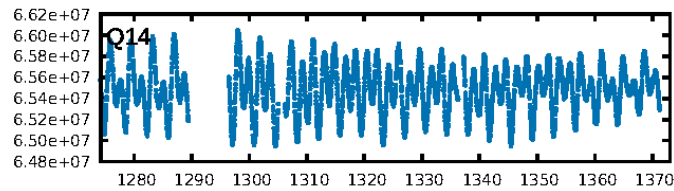
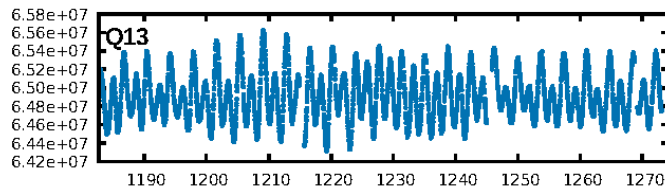
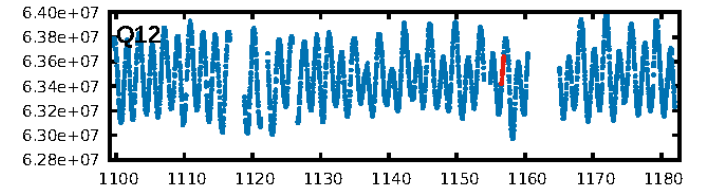
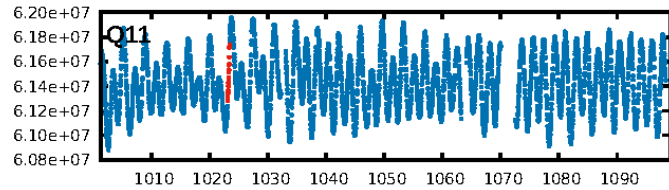
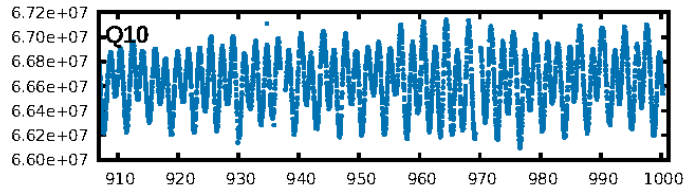
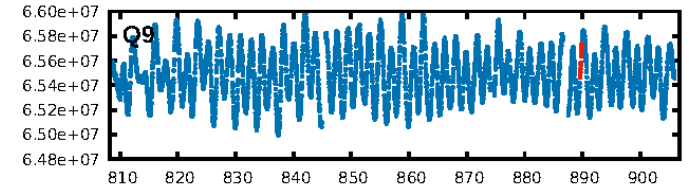
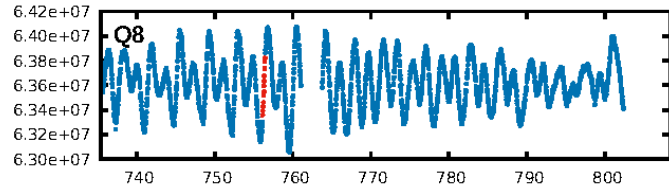
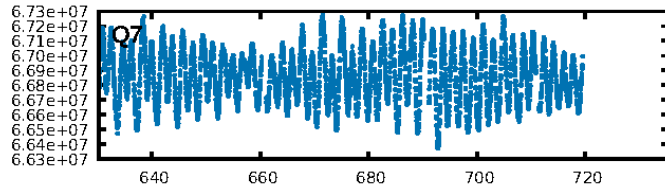
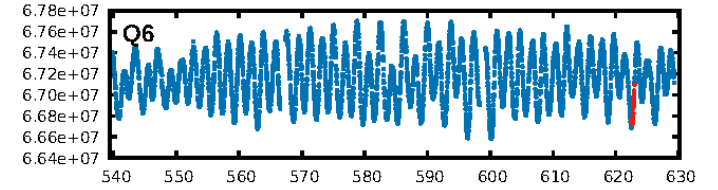
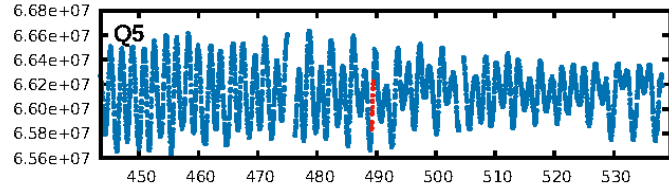
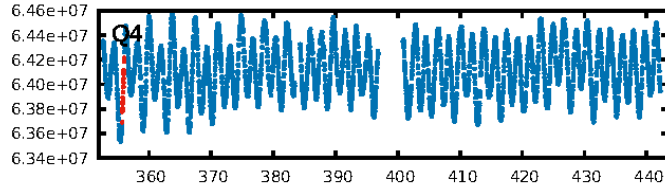
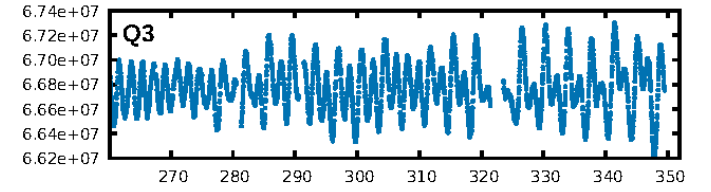
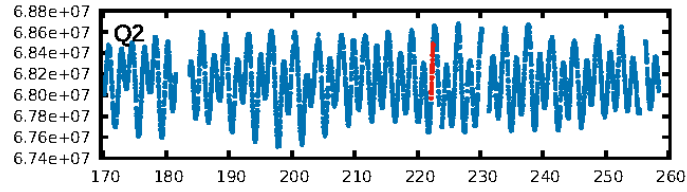
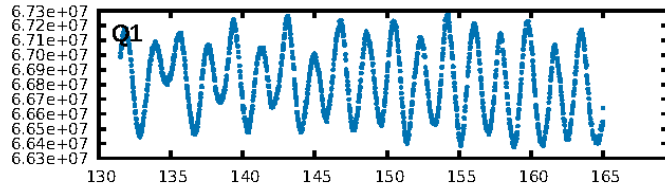
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [287.86 σ]
LongPeriod-sig: 100.0% [713.10 σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 93.0%
Bootstrap-pfa: 3.80e-11
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: 1.025
Centroid-sig: 32.3%
Centroid-so: 1.068 arcsec [0.97 σ]
OotOffset-rm: 0.121 arcsec [0.58 σ]
KicOffset-rm: 0.231 arcsec [0.95 σ]
OotOffset-st: 2/1/4/2 [9]
KicOffset-st: 2/1/4/2 [9]
DiffImageQuality-fgm: 0.56 [5/9]
DiffImageOverlap-fno: 1.00 [10/10]

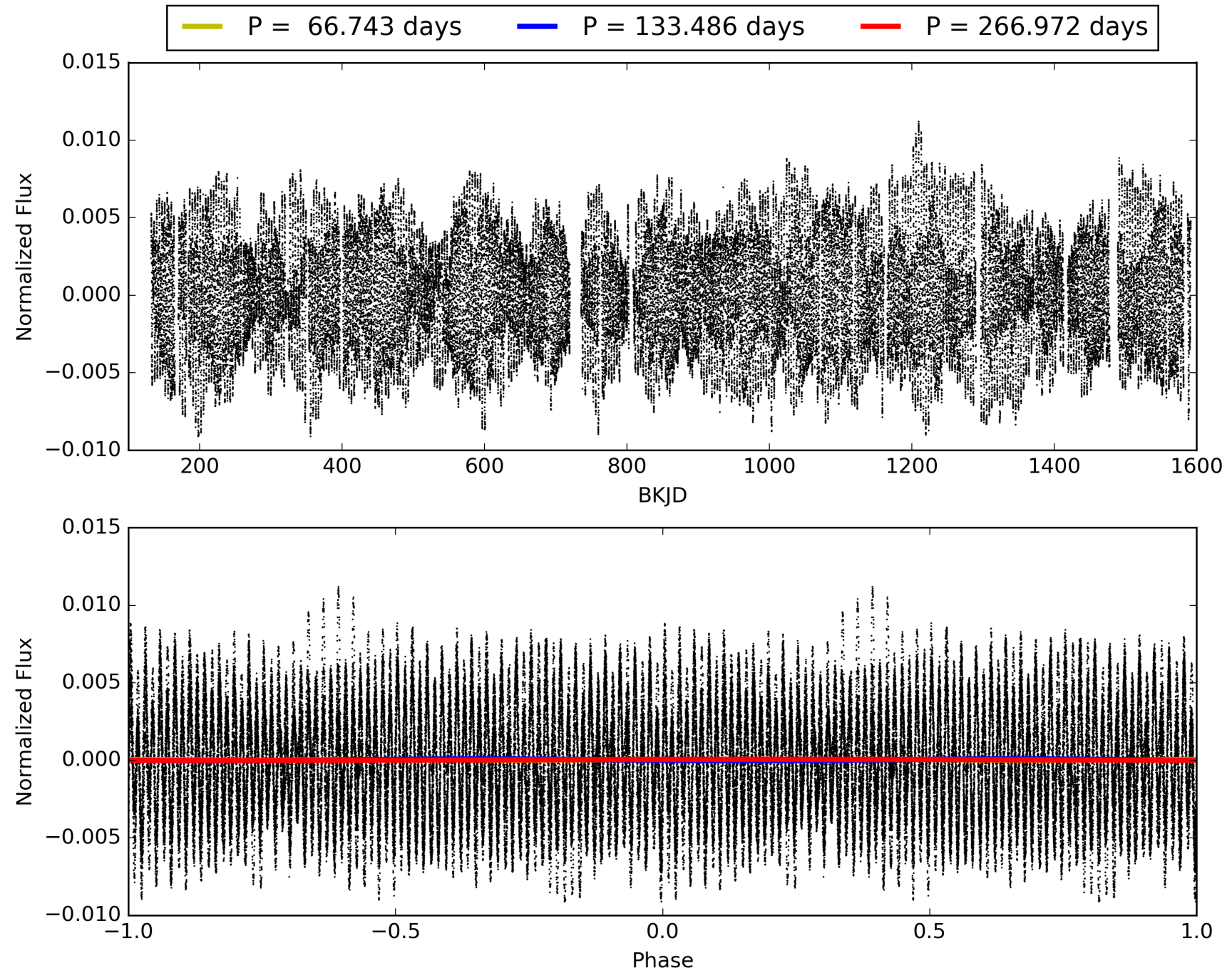
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:51:29 Z

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

TCE 007041512-03, PDC Light Curves

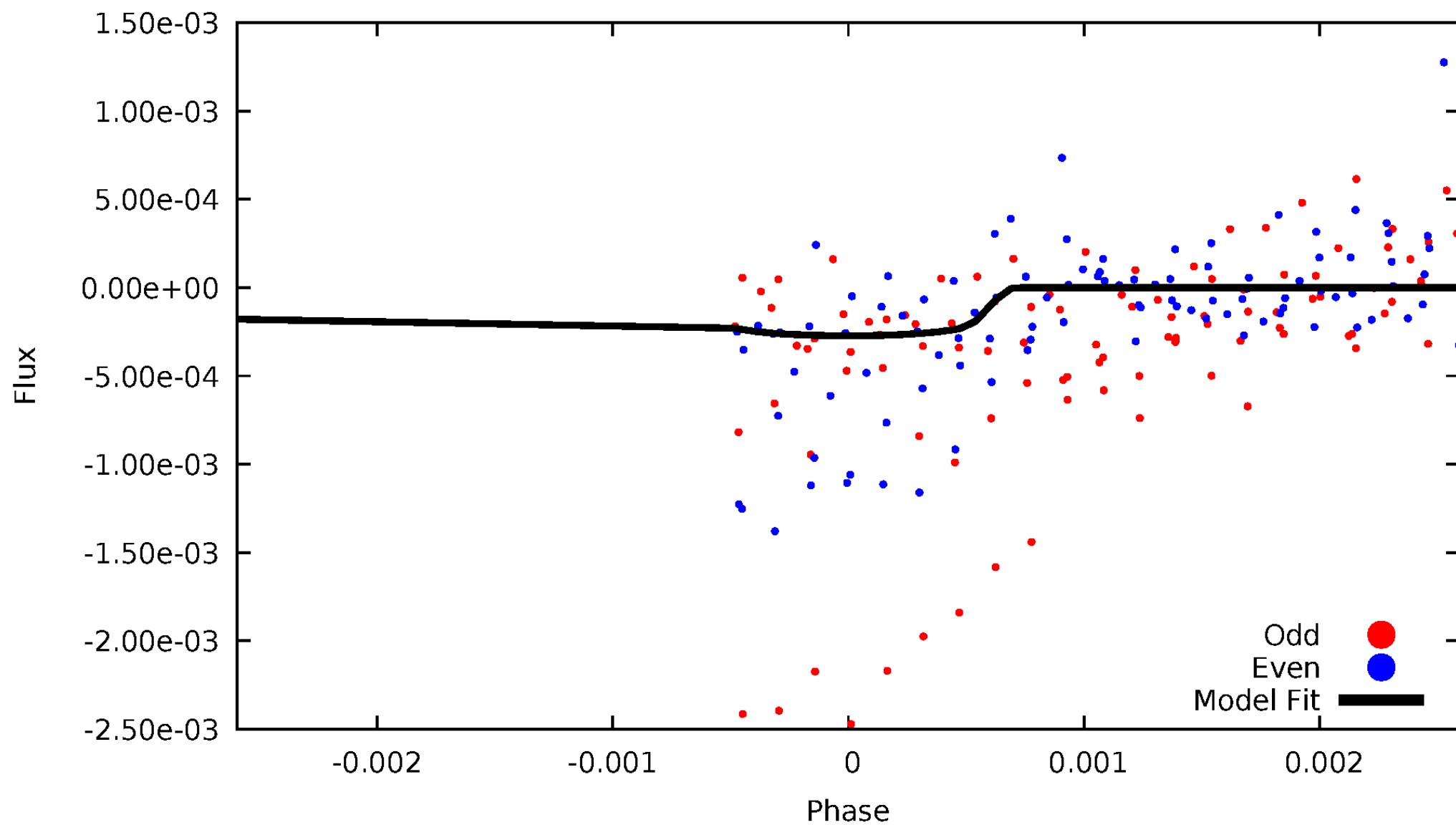


TCE 007041512-03



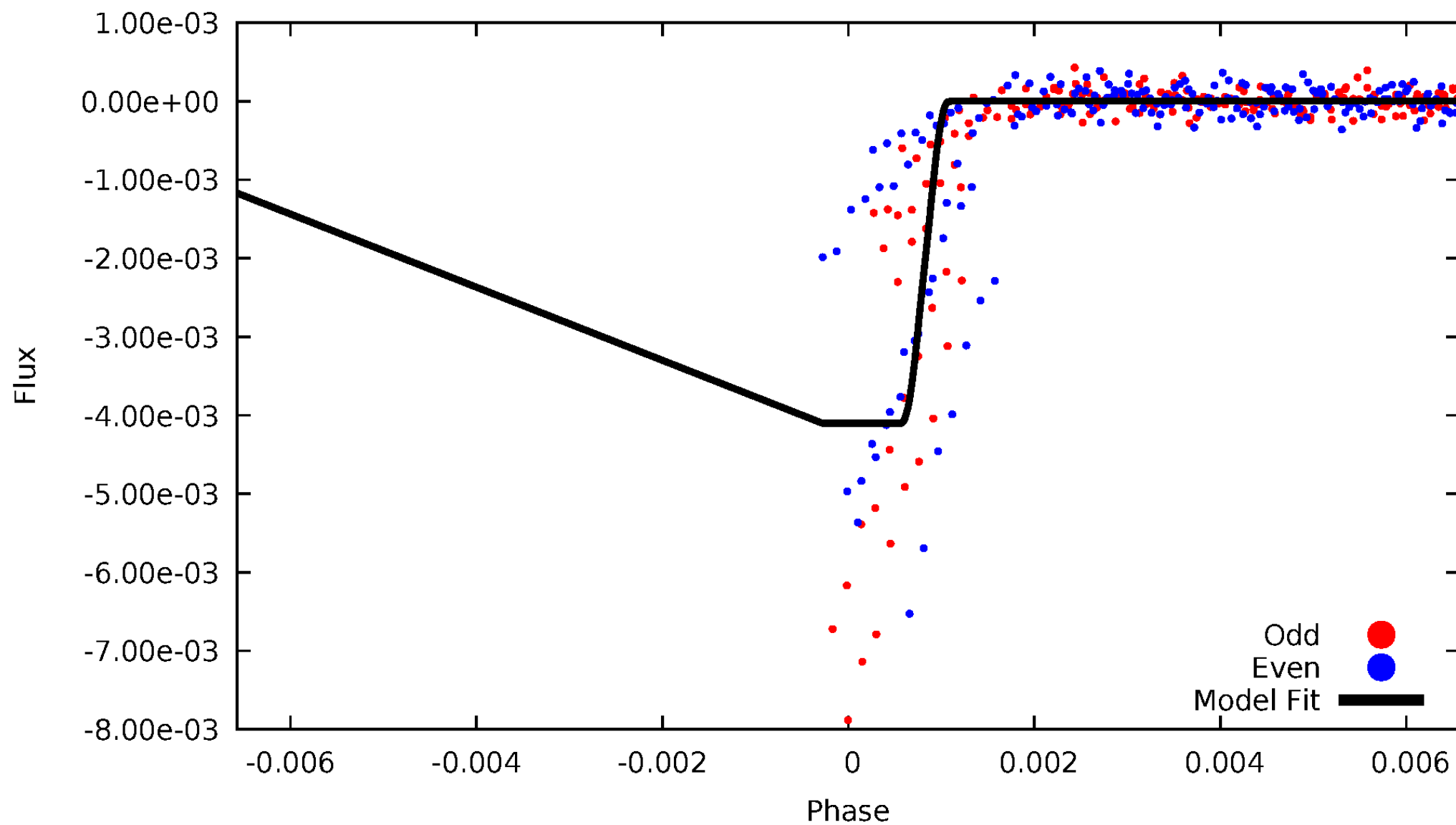
DV Odd/Even

TCE 007041512-03



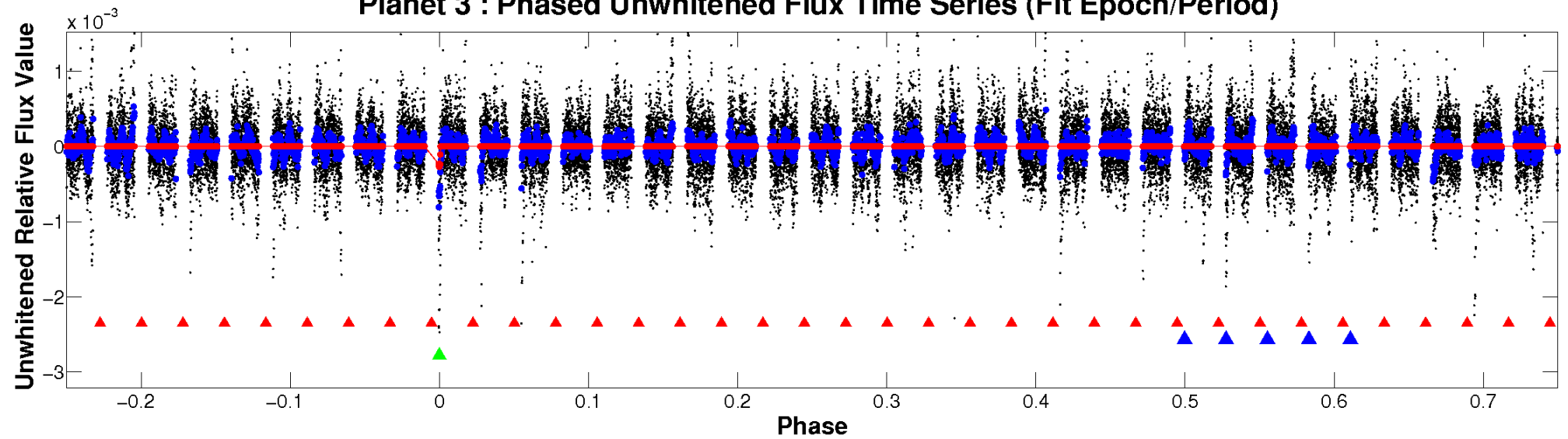
ALT Odd/Even

TCE 007041512-03

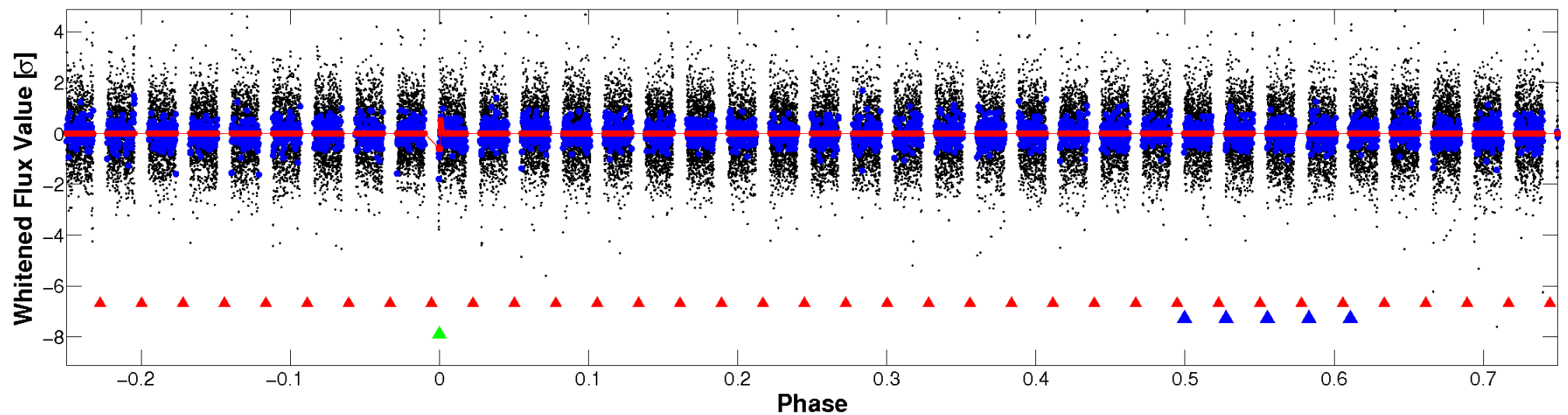


Non-Whitened Vs. Whitened Light Curve

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

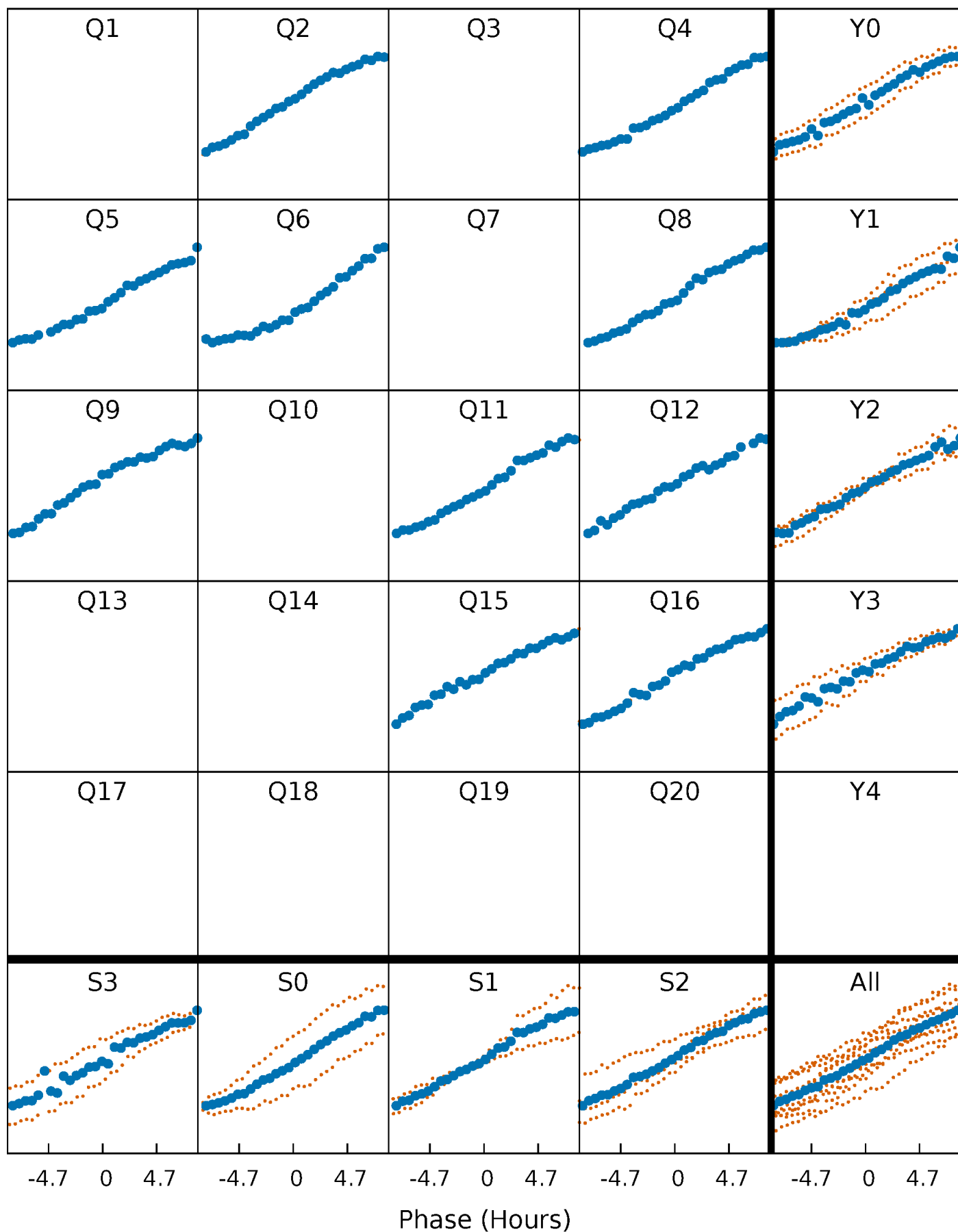


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



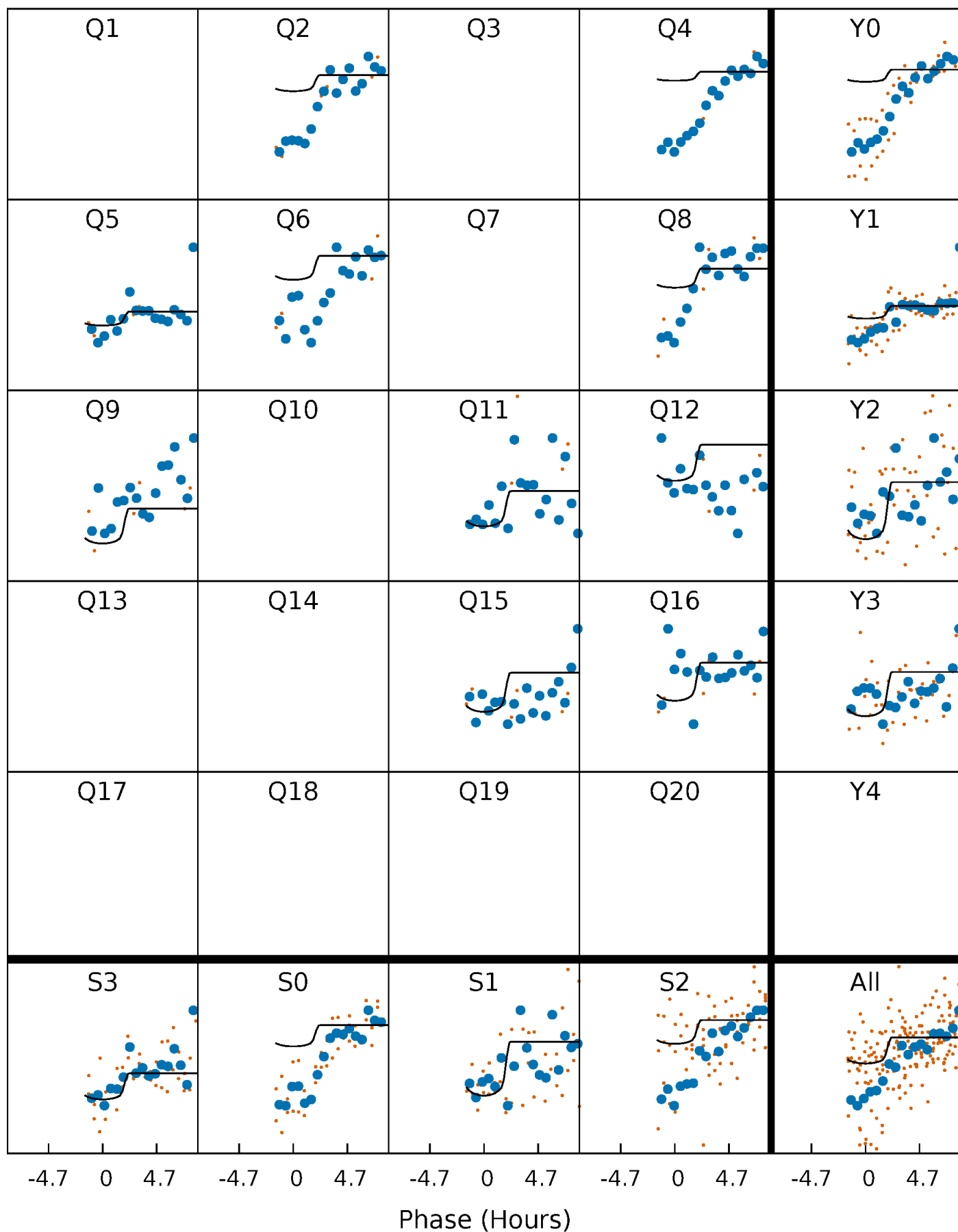
PDC Quarter-Phased Transit Curves

TCE 007041512-03 P=133.485827 Days $T_0=222.342476$ (BKJD)



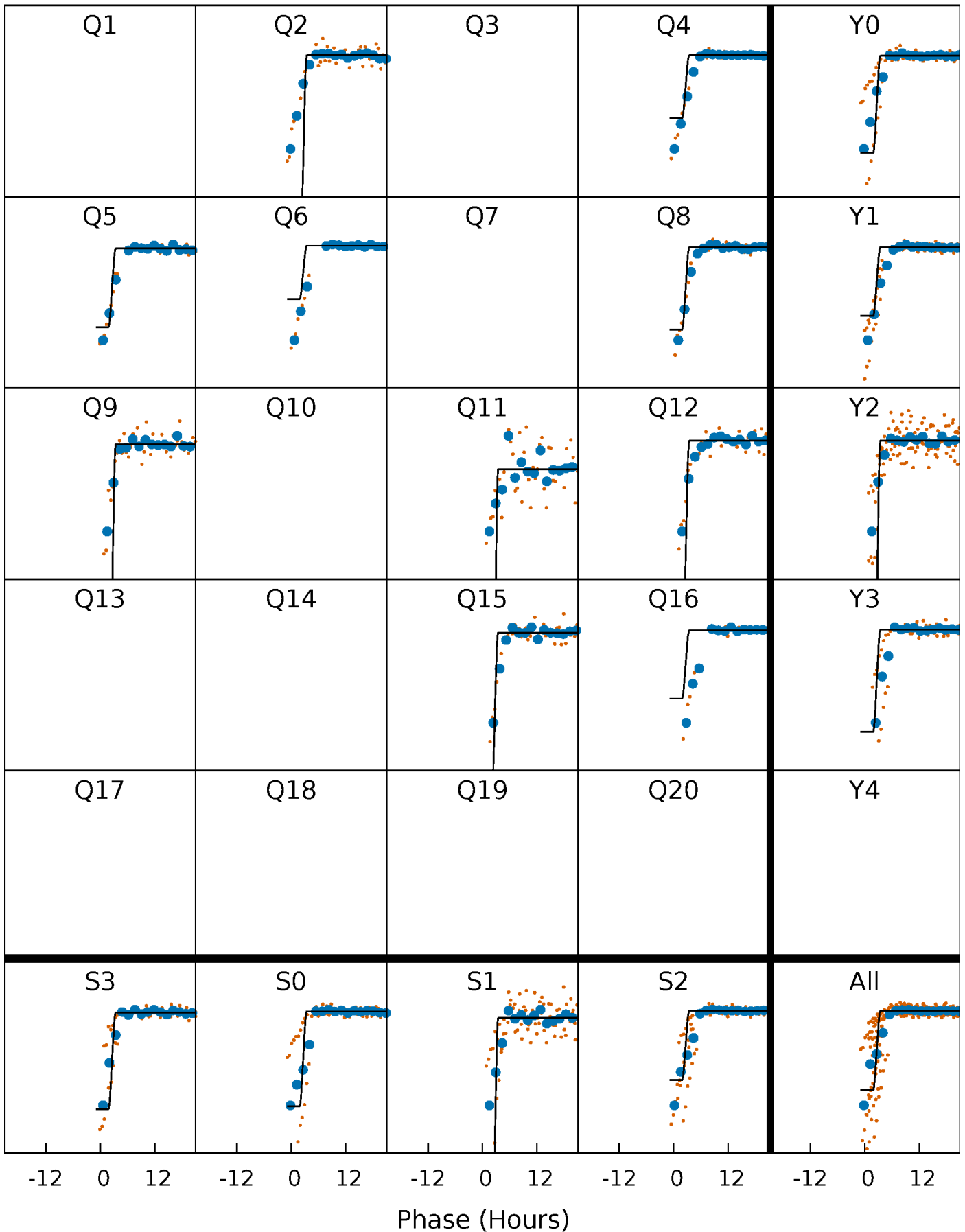
DV Quarter-Phased Transit Curves

TCE 007041512-03 P=133.485827 Days $T_0=222.342476$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

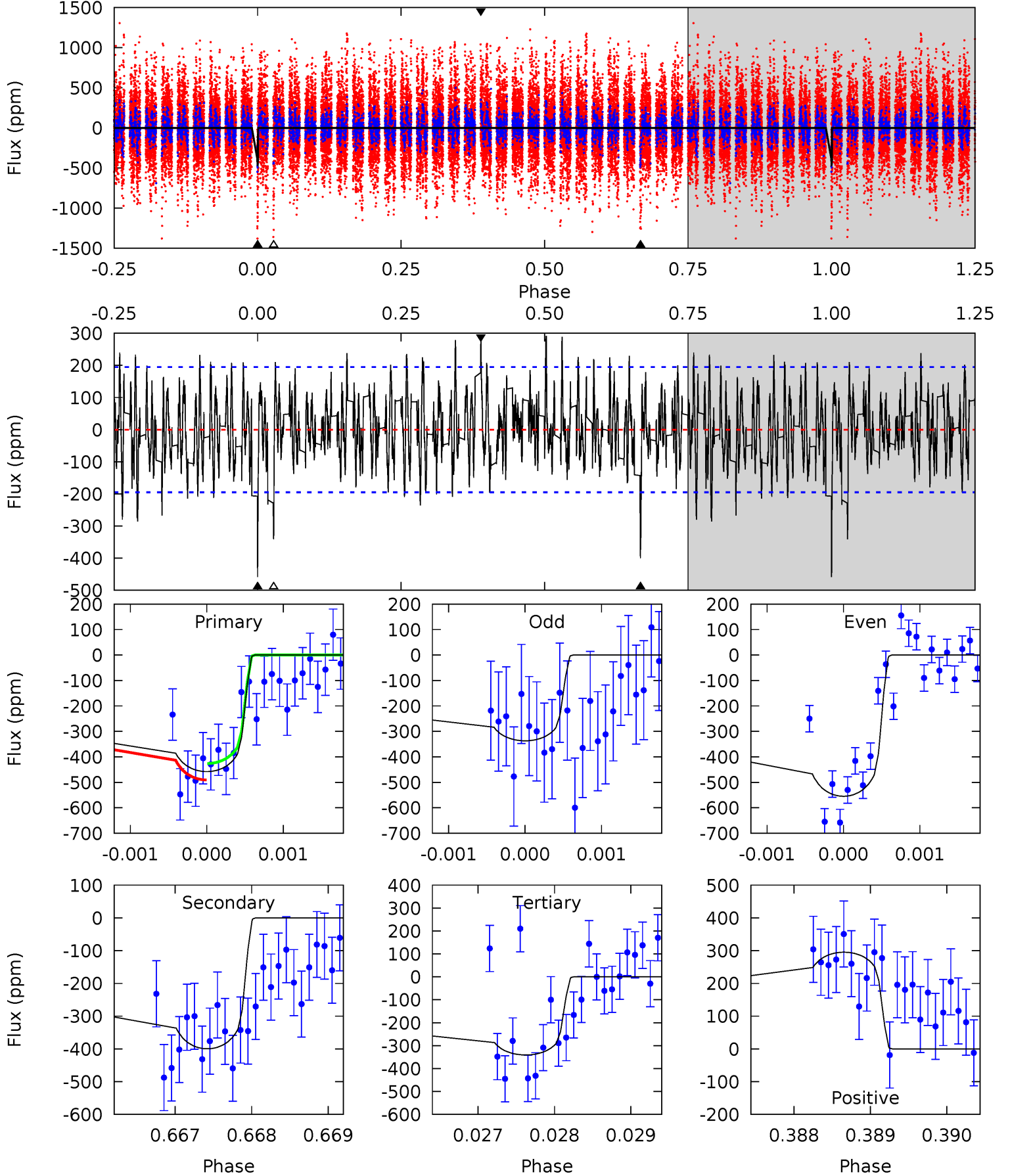
TCE 007041512-03 P=133.473626 Days $T_0=222.317478$ (BKJD)



DV Model-Shift Uniqueness Test

007041512-03, P = 133.485827 Days, E = 88.856649 Days

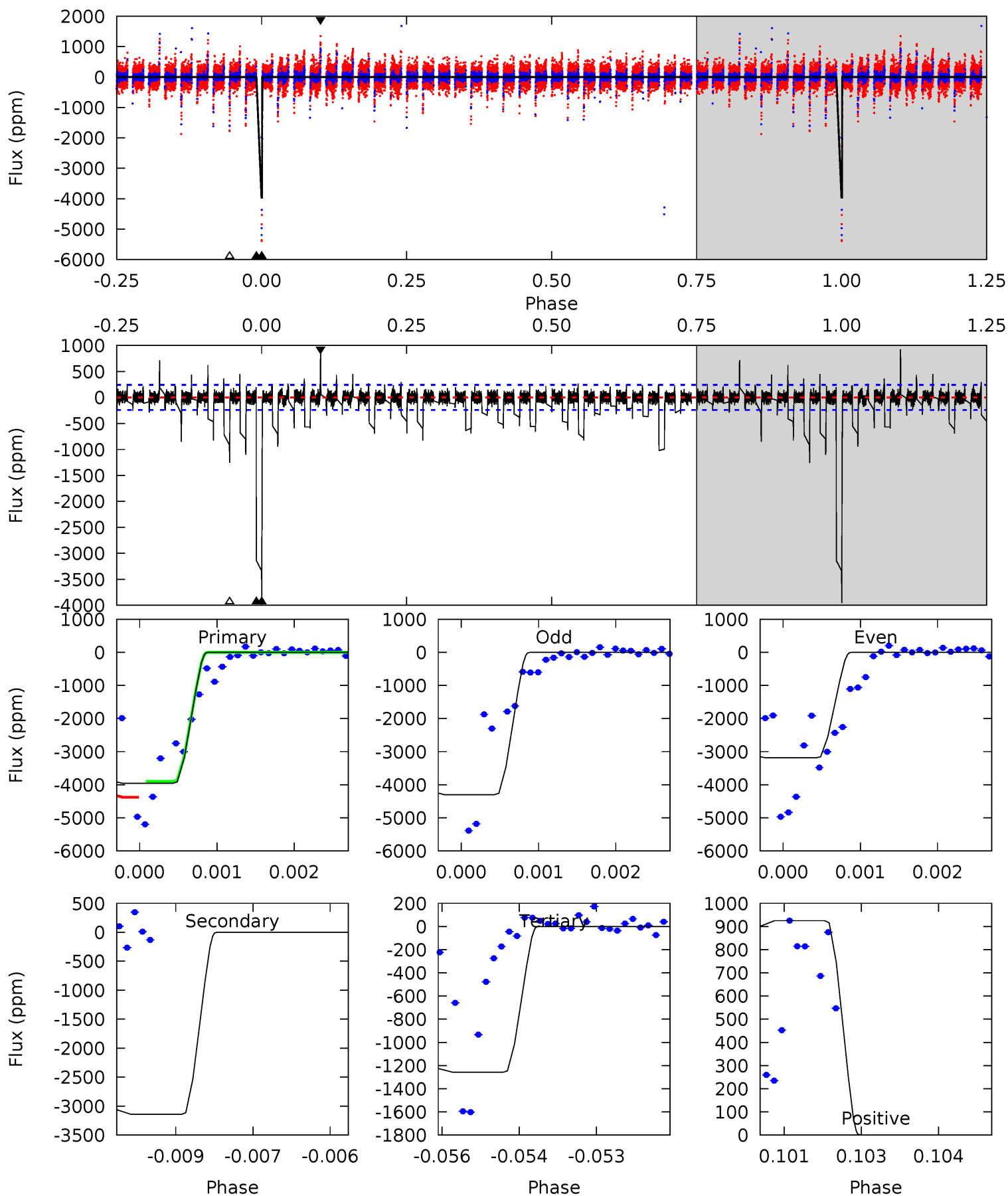
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	11.1	9.48	8.22	5.42	3.24	2.59	3.26	4.53	1.64	2.91	2.98	2.05	0.39	0.89



Alt Model-Shift Uniqueness Test

007041512-03, P = 133.473626 Days, E = 88.843852 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
89.0	70.7	28.3	20.8	5.41	3.23	1.94	60.7	68.2	42.4	49.9	14.2	1.07	0.19	0



Stellar Parameters For KIC 007041512

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6463^{+193}_{-213}	$3.925^{+0.502}_{-0.167}$	$-1.020^{+0.300}_{-0.250}$	$1.755^{+0.456}_{-0.846}$	$0.944^{+0.098}_{-0.134}$	$0.246^{+1.331}_{-0.118}$
	+3%/-3%	+13%/-4%	+29%/-25%	+26%/-48%	+10%/-14%	+541%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007041512-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-400 ± 36	$3.28^{+2.67}_{-2.10}$	736^{+65}_{-100}	6660^{+5930}_{-1511}	5294^{+31582}_{-3734}
Alt.	-3143 ± 44	$11.69^{+3.45}_{-3.55}$	734^{+62}_{-97}	6029^{+737}_{-535}	3190^{+3420}_{-1274}

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

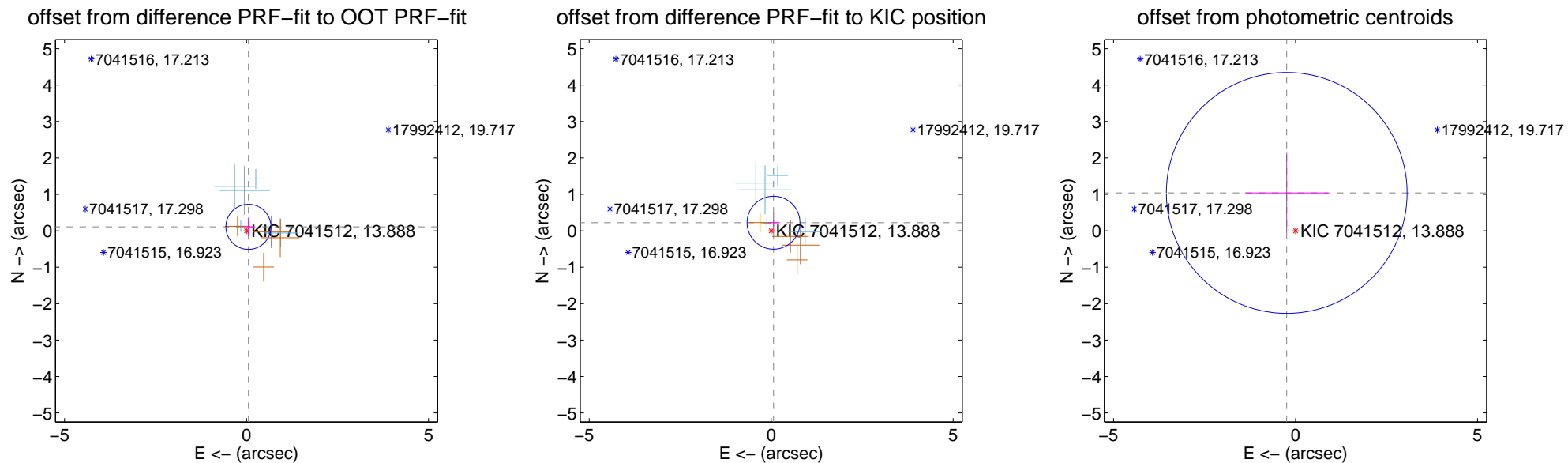
DV Centroid Data

Supplemental centroid analysis for 007041512-03. Kepler magnitude: 13.89. Transit SNR 5.30

There are 5 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.121 ± 0.206	0.58	-0.053 ± 0.171	0.109 ± 0.256
PRF-fit source offset from KIC position	0.231 ± 0.242	0.95	-0.065 ± 0.156	0.222 ± 0.280
photometric centroid source offset	1.07 ± 1.10	0.97	0.24 ± 1.14	1.04 ± 1.10



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.

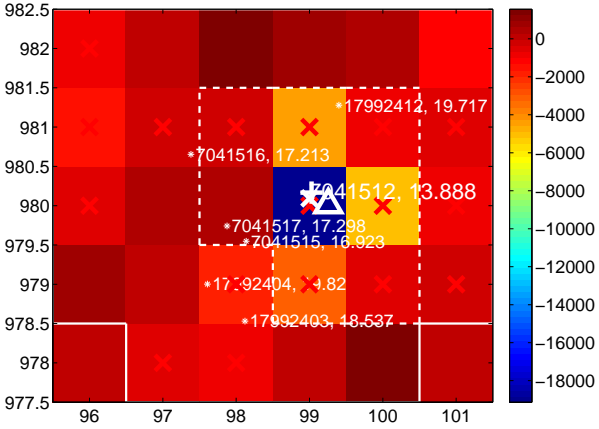
Q1 no difference image



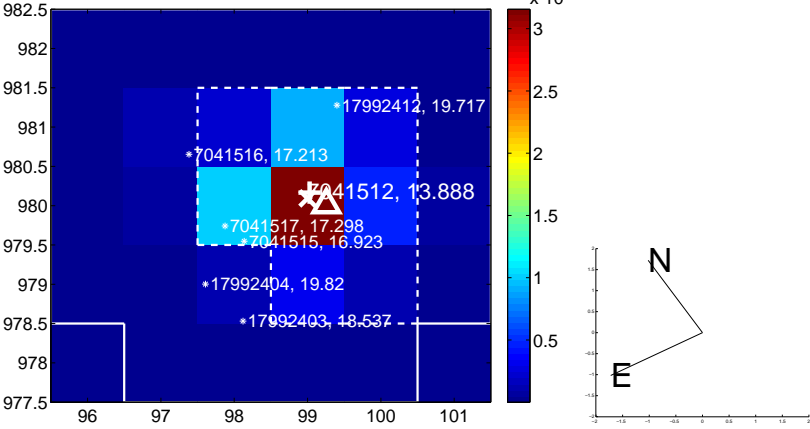
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



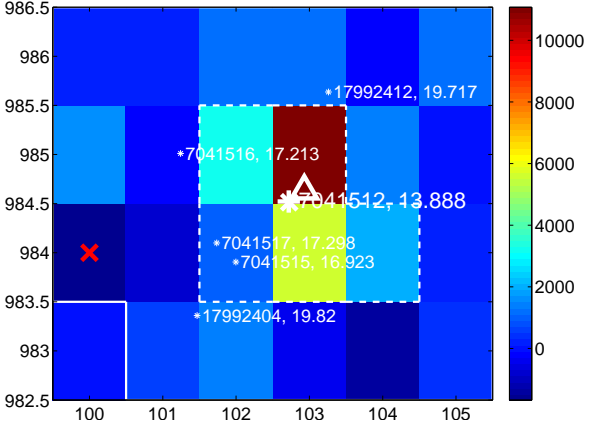
Q3 no difference image



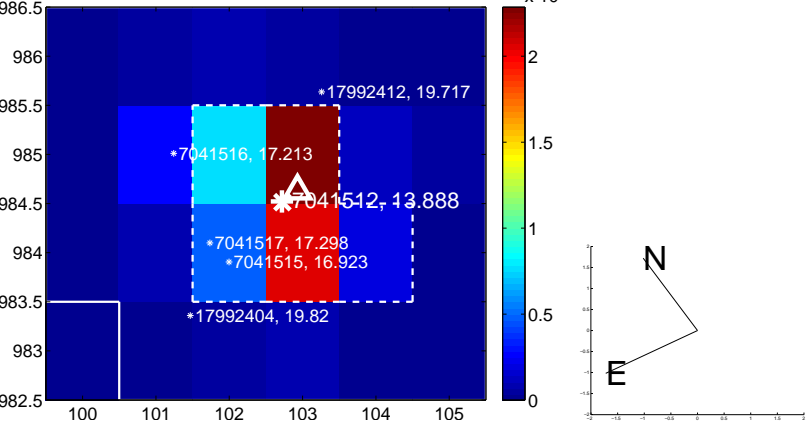
Q3 no OOT image



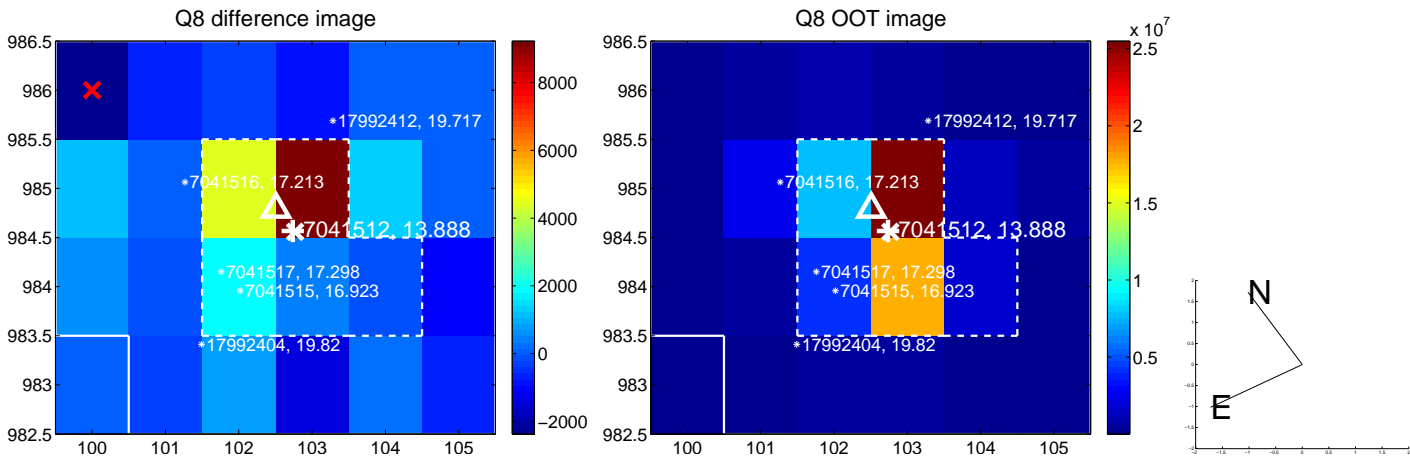
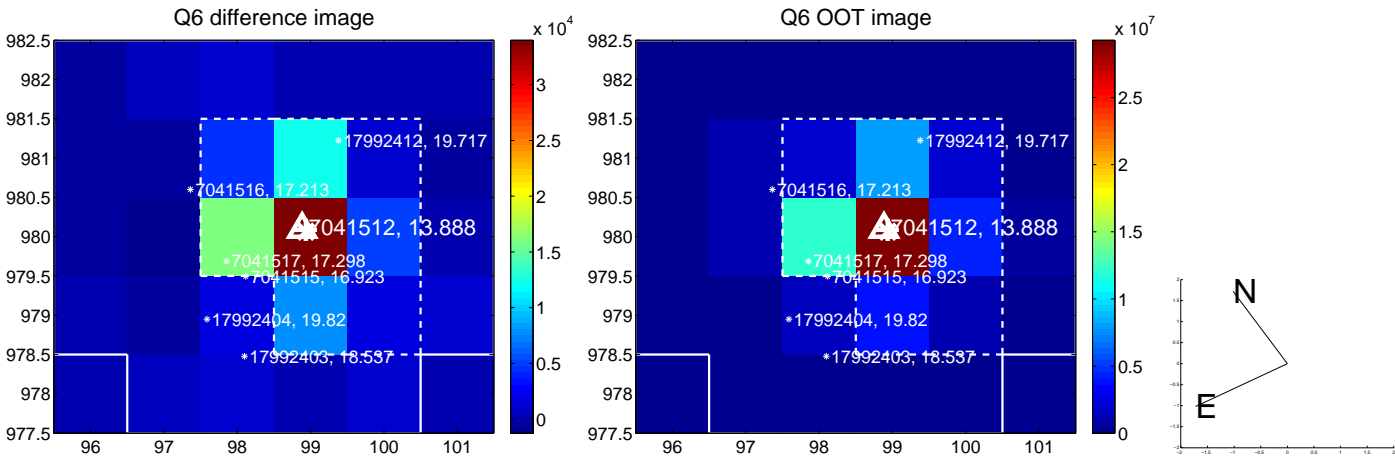
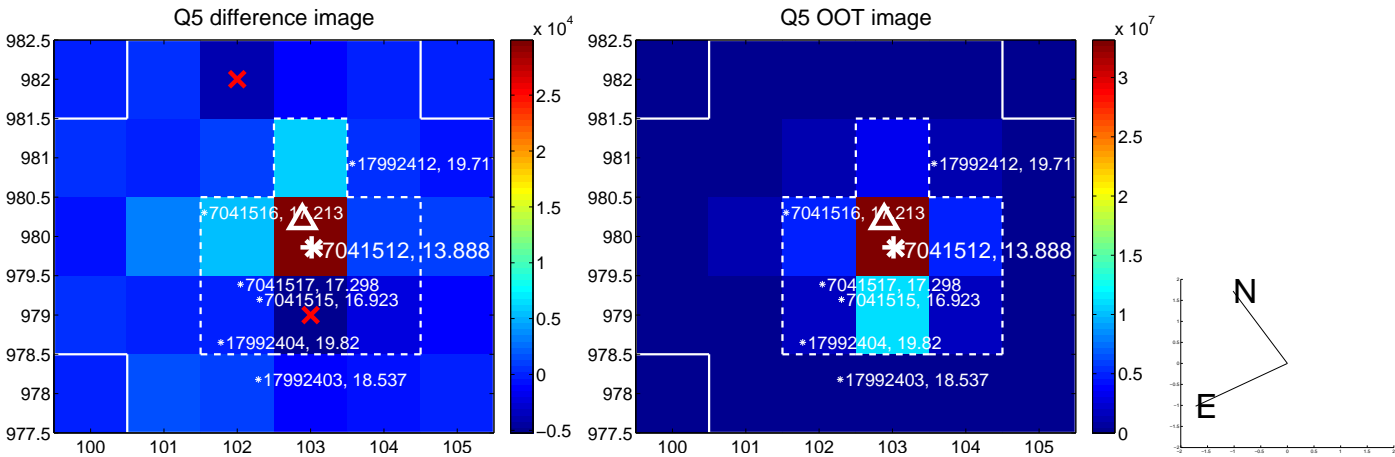
Q4 difference image



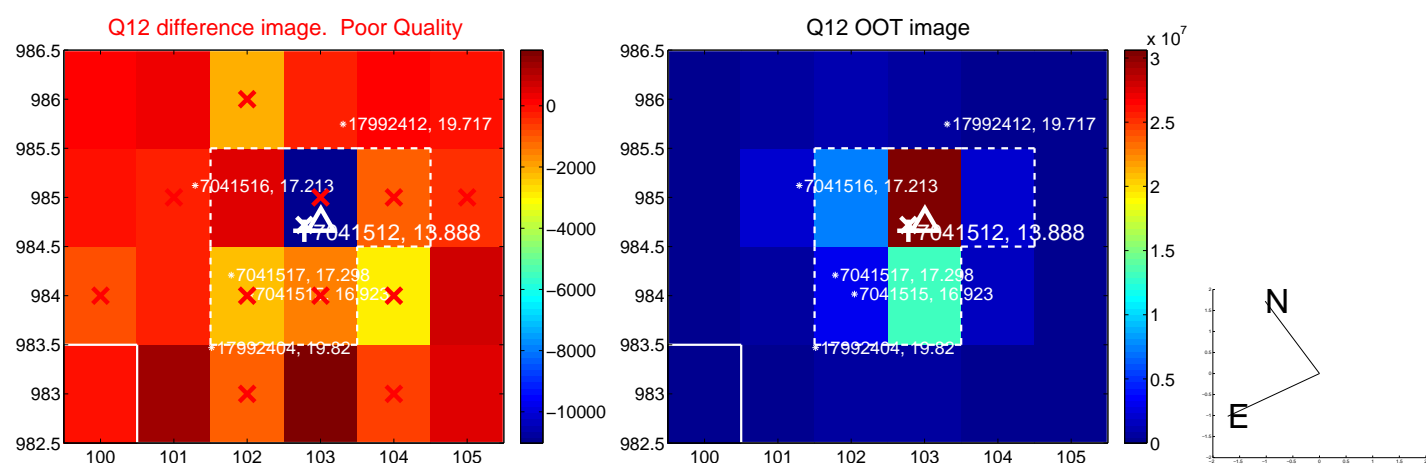
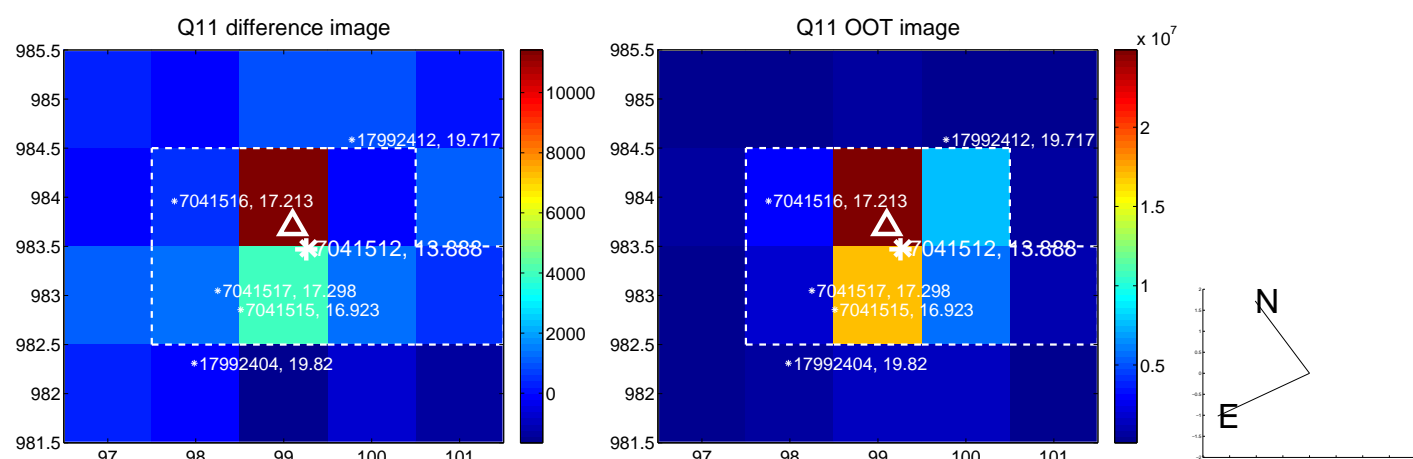
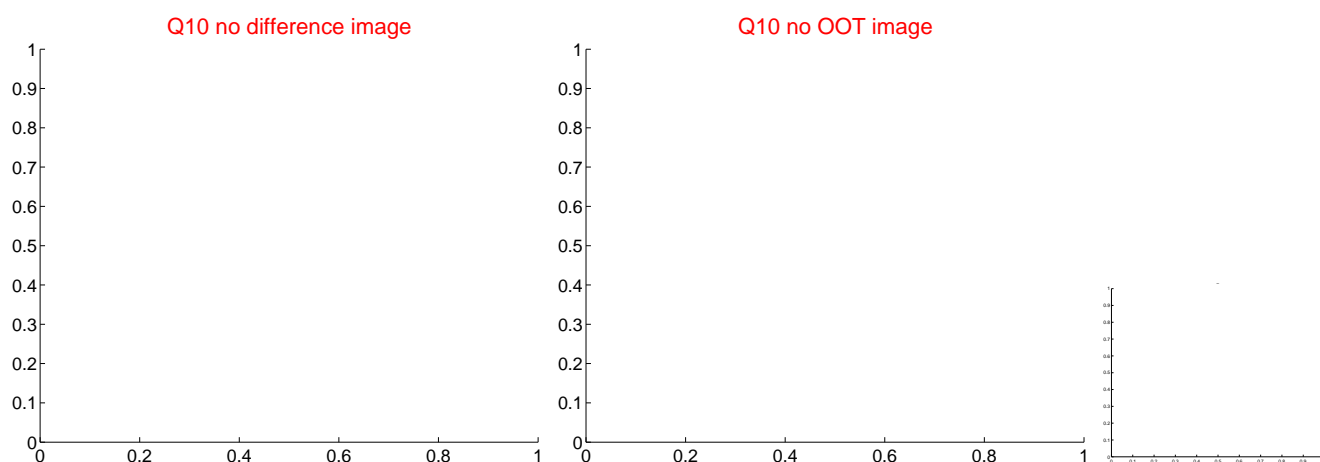
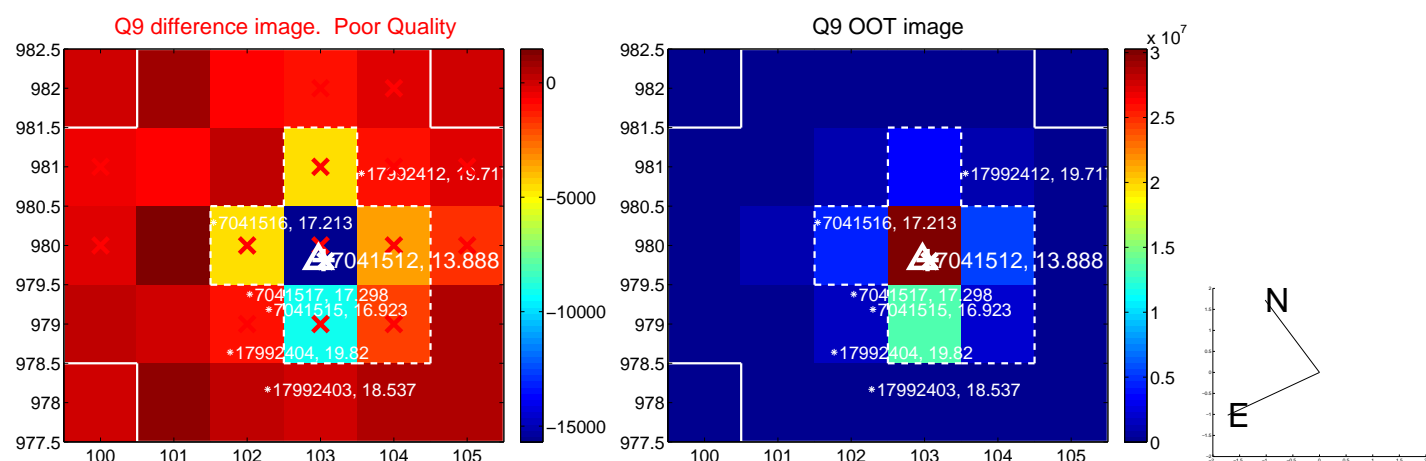
Q4 OOT image



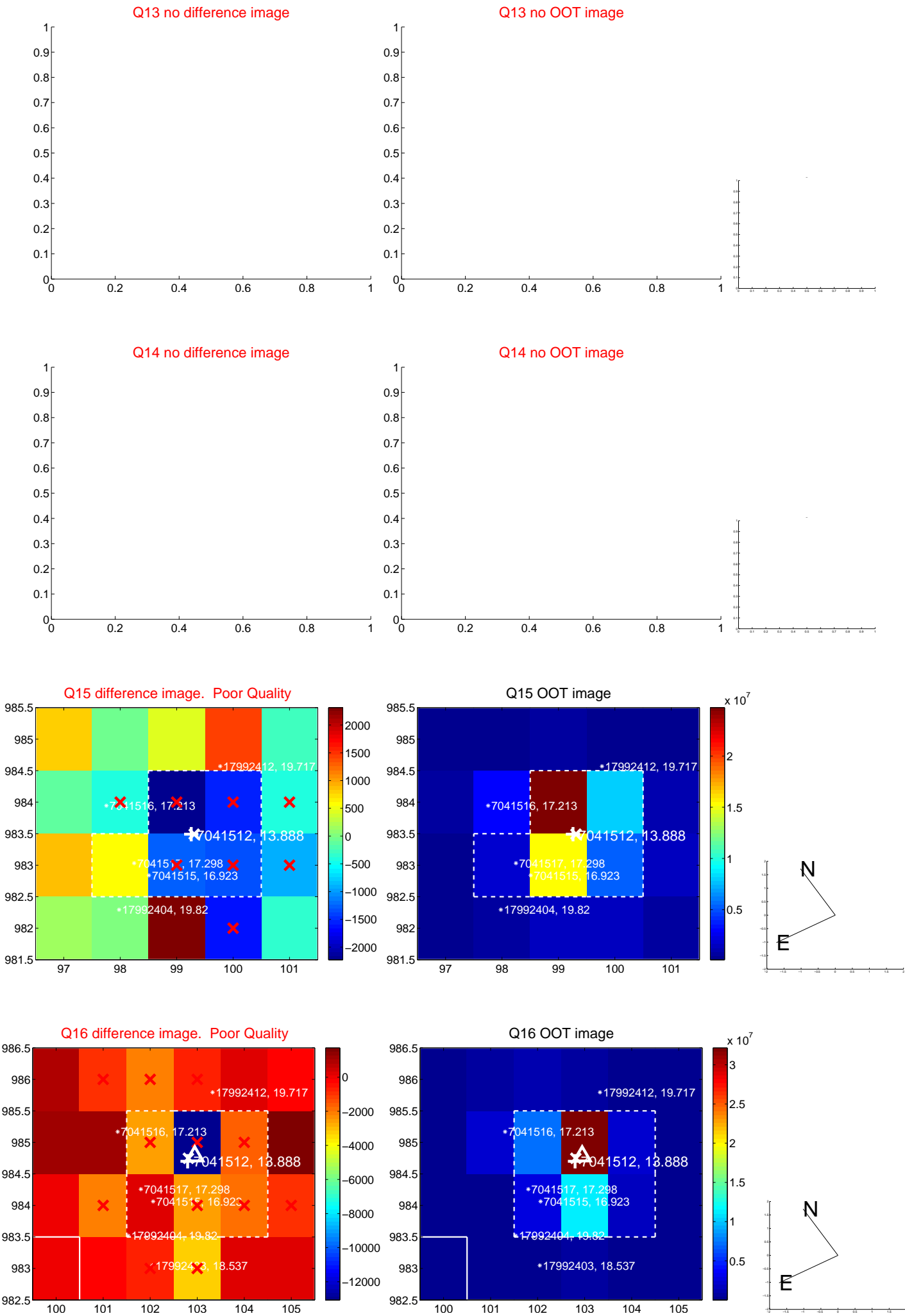
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



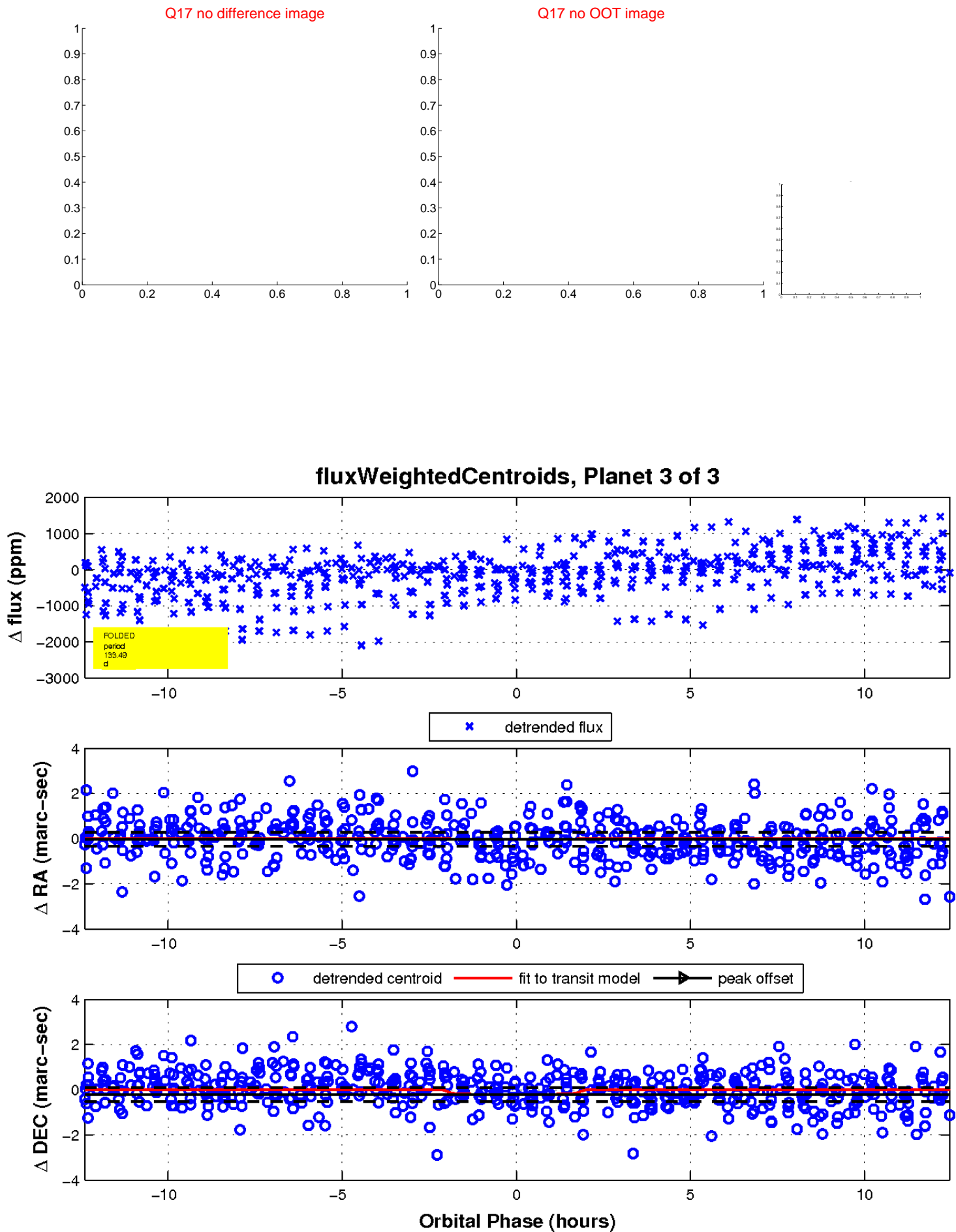
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Declination

