

KIC 008389838

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})
008389838-01	OBS	No	4.017437	133.555167	33.4	17.355	7.7	7.0	0.94	5725	0.62	379.24
008389838-02	OBS	No	425.783399	176.549524	432.2	8.659	11.4	7.9	0.94	5725	2.13	0.76
008389838-03	OBS	No	8.110201	135.866892	145.2	2.823	7.6	7.6	0.94	5725	1.24	148.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008389838-01	OBS	FP	0.00	1	0	1	0	LPP_DV—HALO_GHOST
008389838-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008389838-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT

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

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

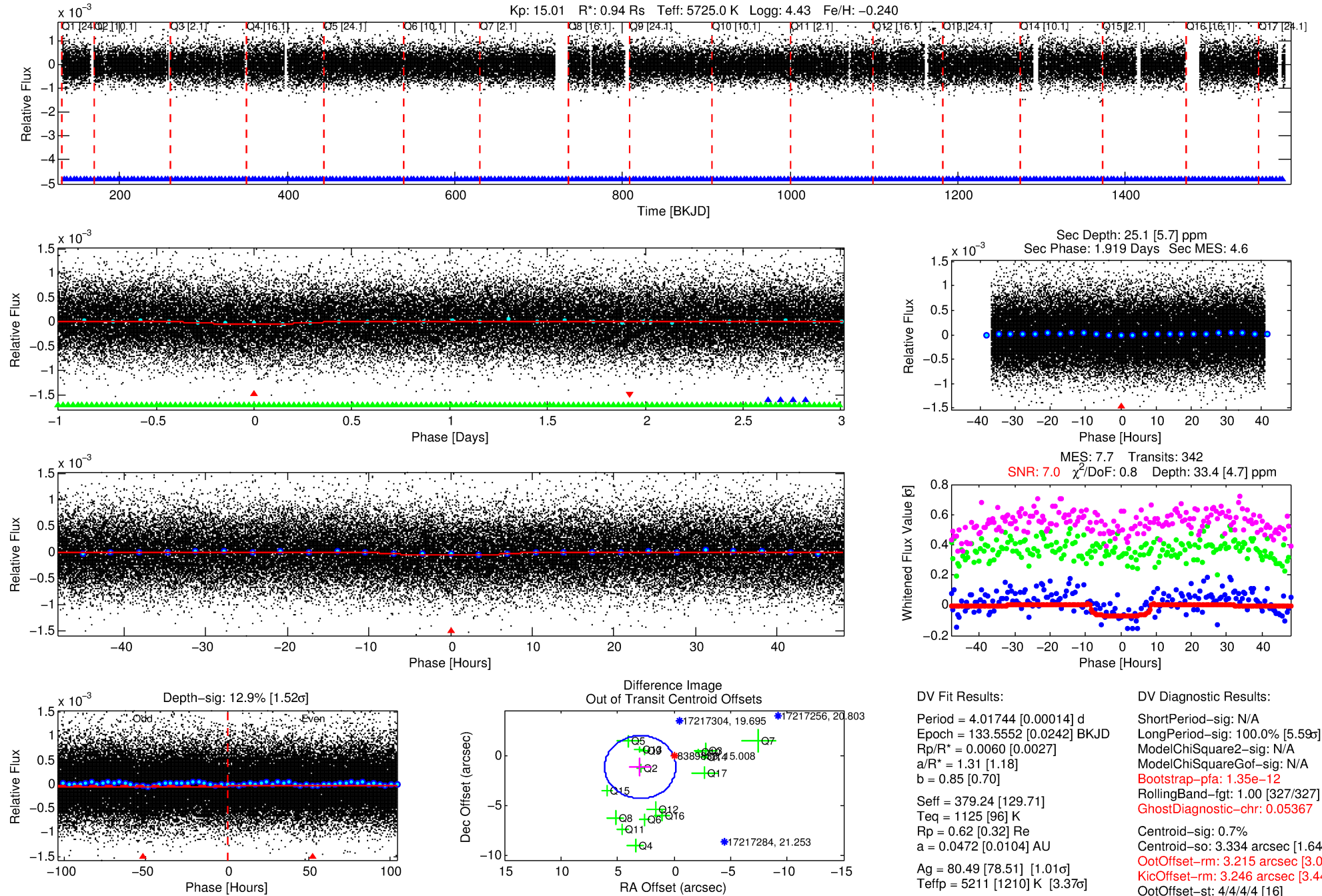
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008389838-01

No Significant Match Found

DV One-Page Summary

KIC: 8389838 Candidate: 1 of 3 Period: 4.017 d



DV Fit Results:

Period = 4.01744 [0.00014] d
Epoch = 133.5552 [0.0242] BKJD
Rp/R* = 0.0060 [0.0027]
a/R* = 1.31 [1.18]
b = 0.85 [0.70]
Seff = 379.24 [129.71]
Teff = 1125 [96] K
Rp = 0.62 [0.32] Re
a = 0.0472 [0.0104] AU
Ag = 80.49 [78.51] [1.01 σ]
Teffp = 5211 [1210] K [3.37 σ]

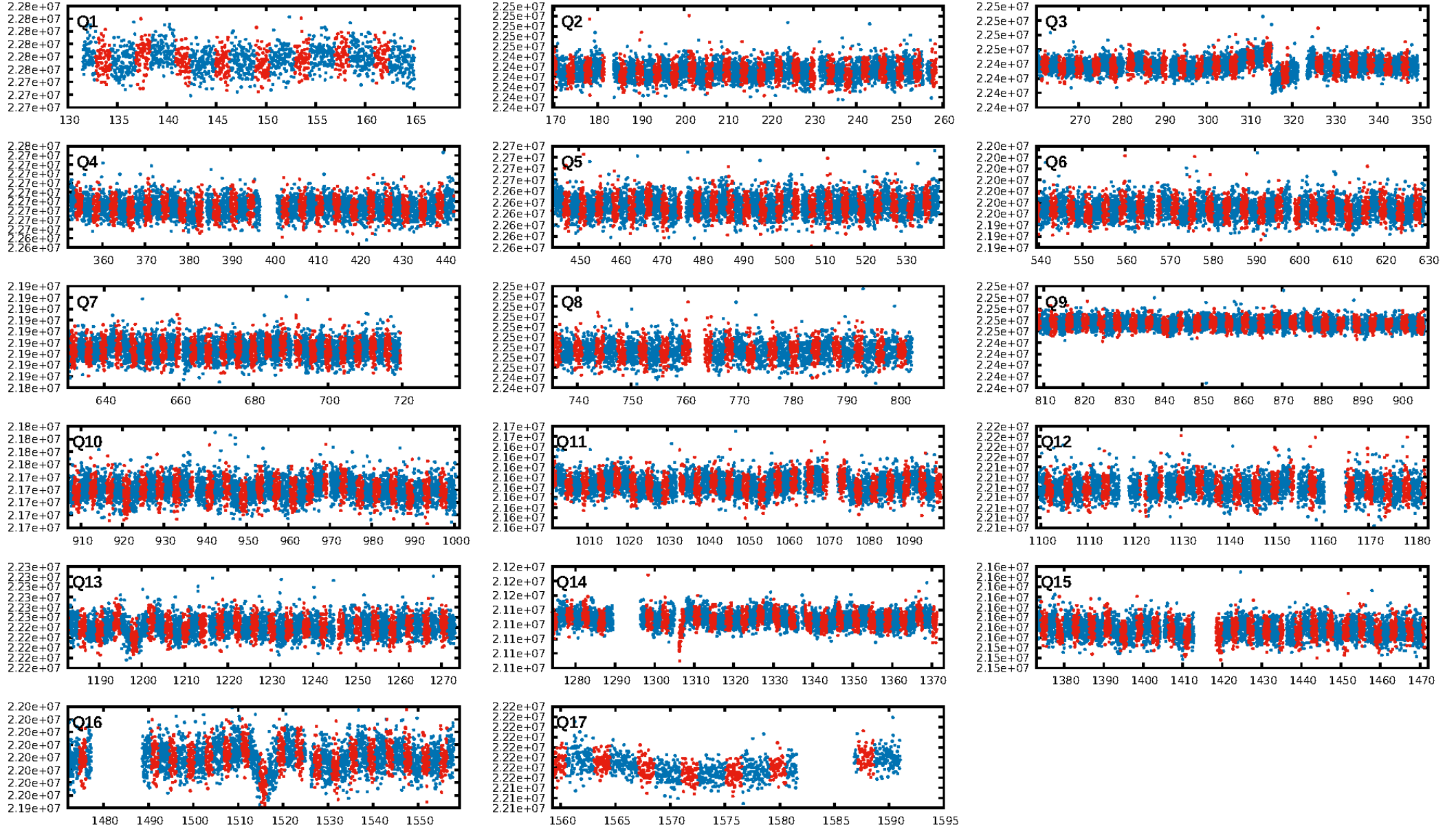
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.59 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.35e-12
RollingBand-fgt: 1.00 [327/327]
GhostDiagnostic-chr: 0.05367
Centroid-sig: 0.7%
Centroid-so: 3.334 arcsec [1.64 σ]
OotOffset-rm: 3.215 arcsec [3.07 σ]
KicOffset-rm: 3.246 arcsec [3.44 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.19 [3/16]
DiffImageOverlap-fno: 1.00 [17/17]

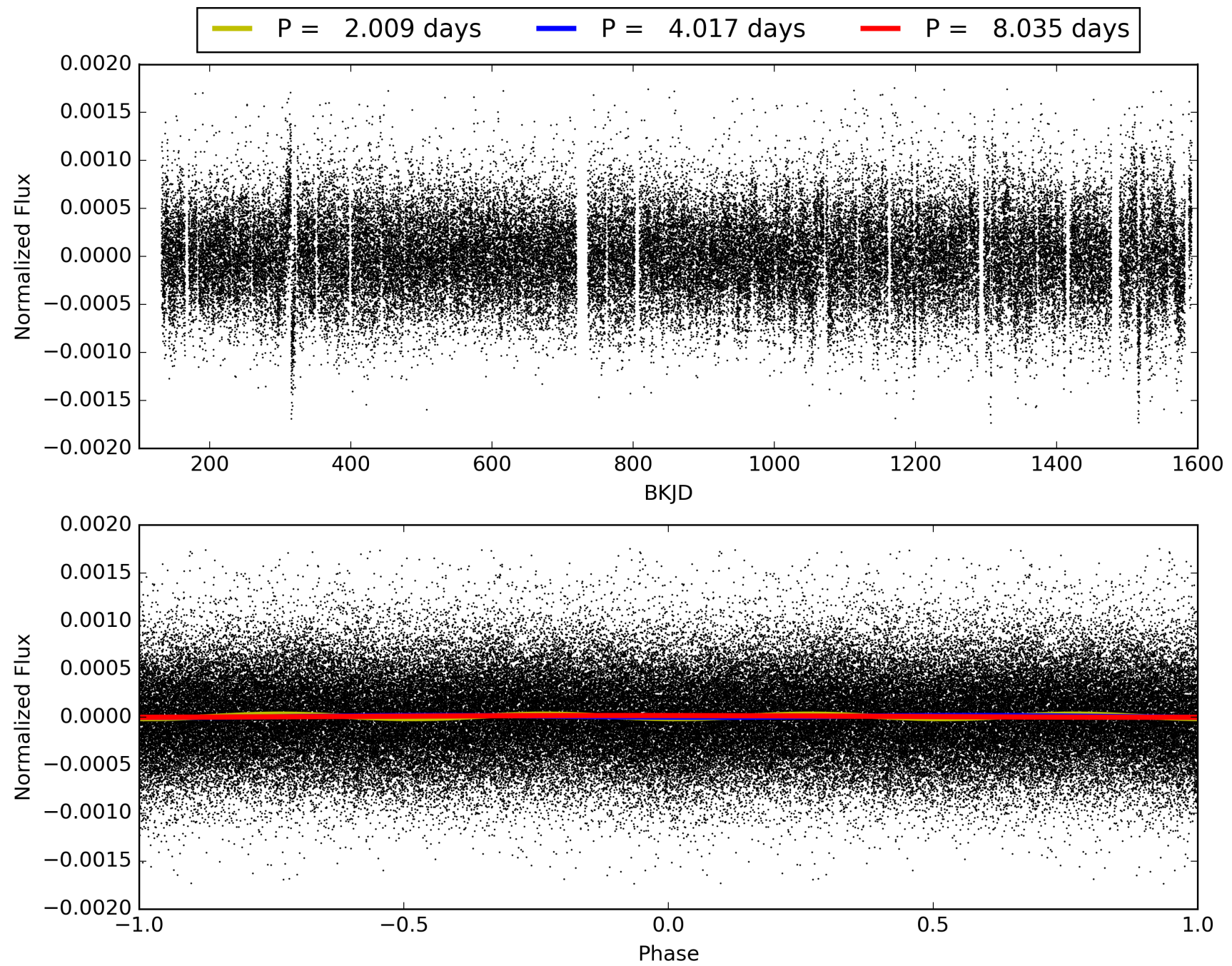
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:42:55 Z

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

TCE 008389838-01, PDC Light Curves

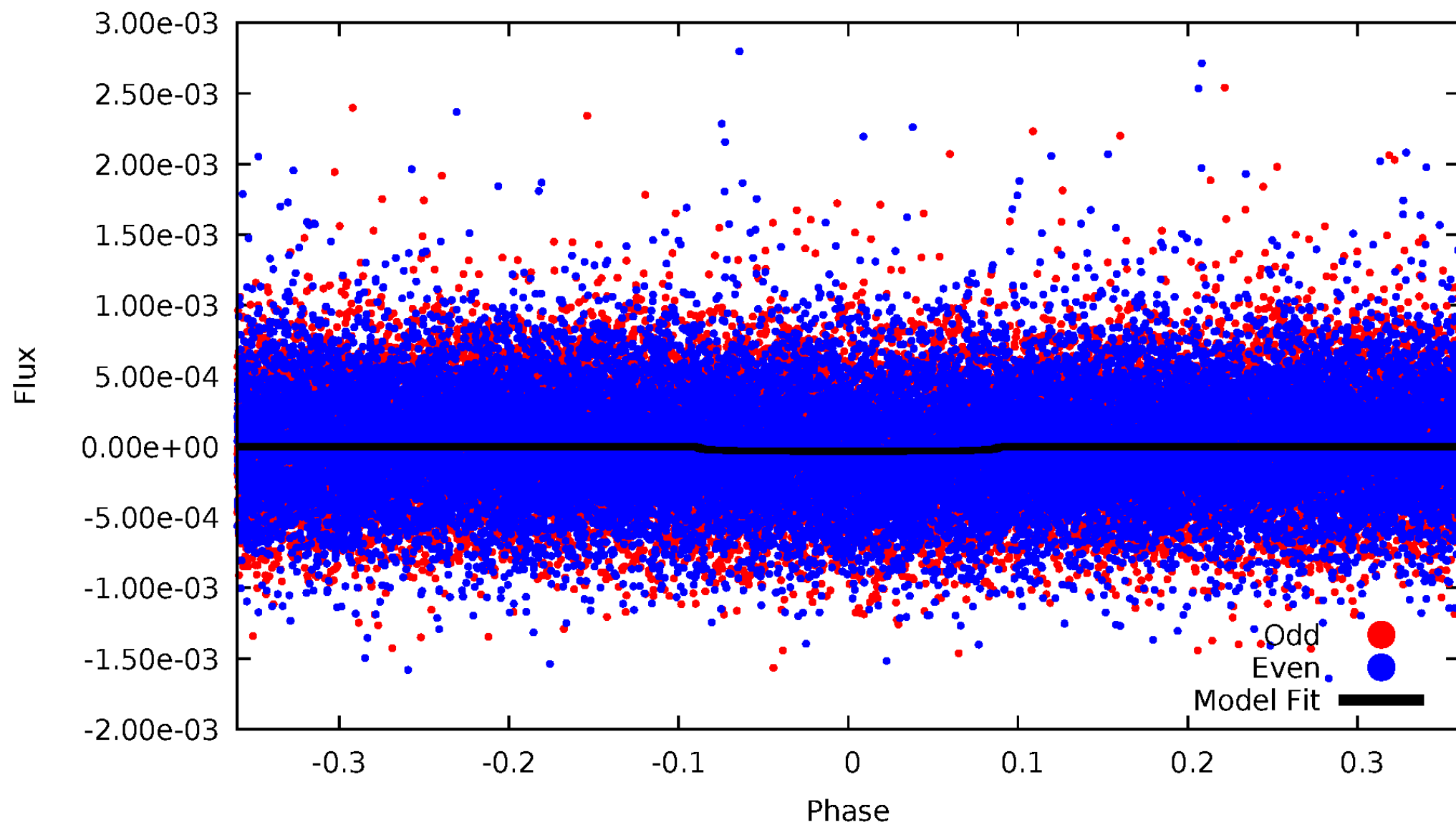


TCE 008389838-01



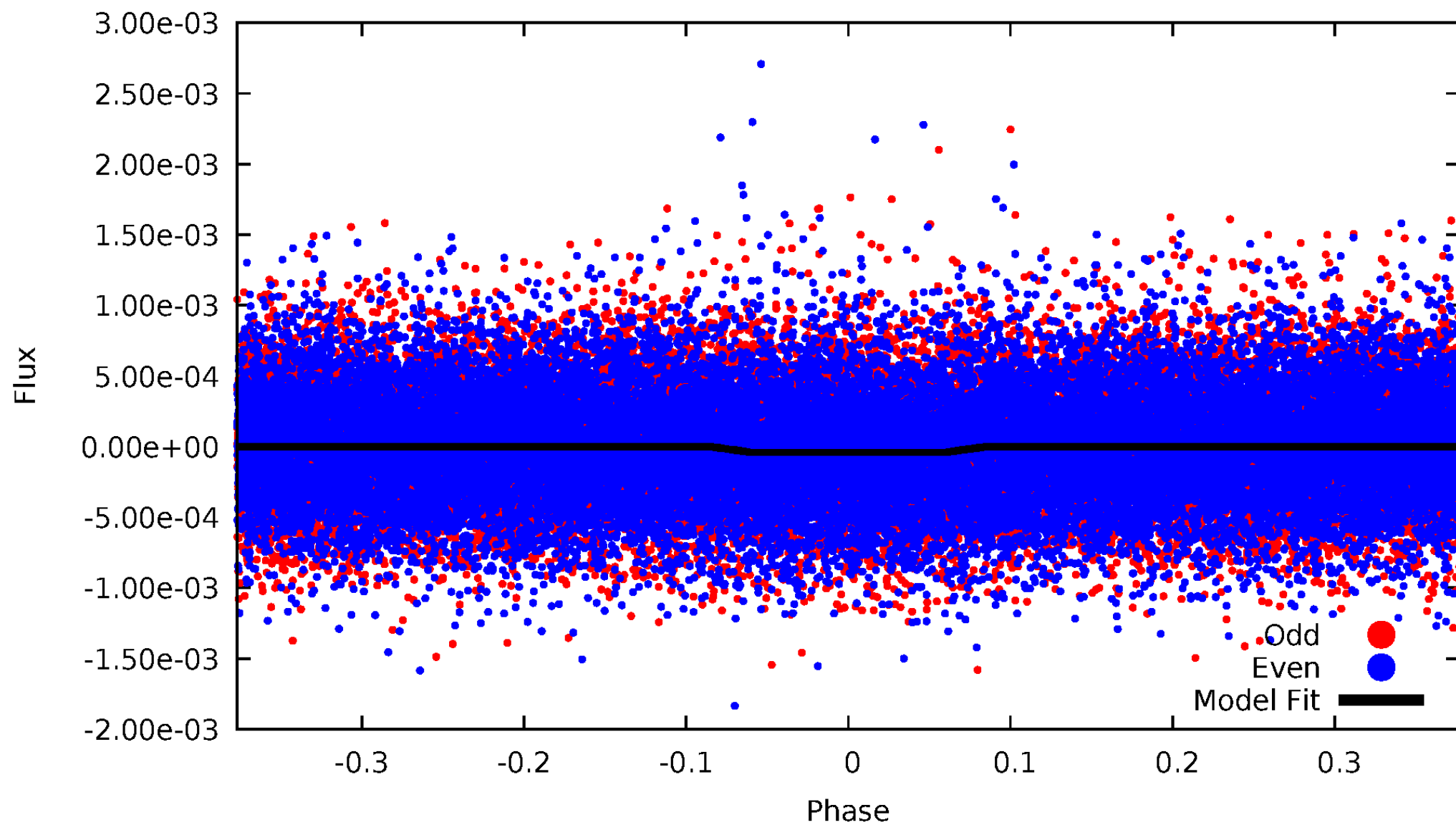
DV Odd/Even

TCE 008389838-01

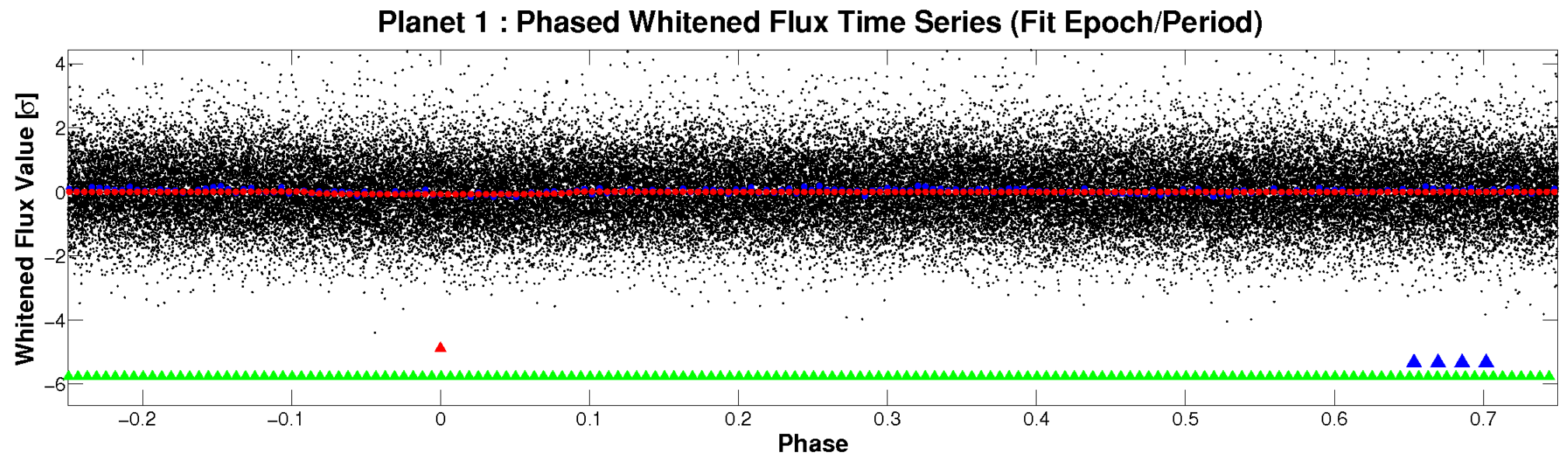
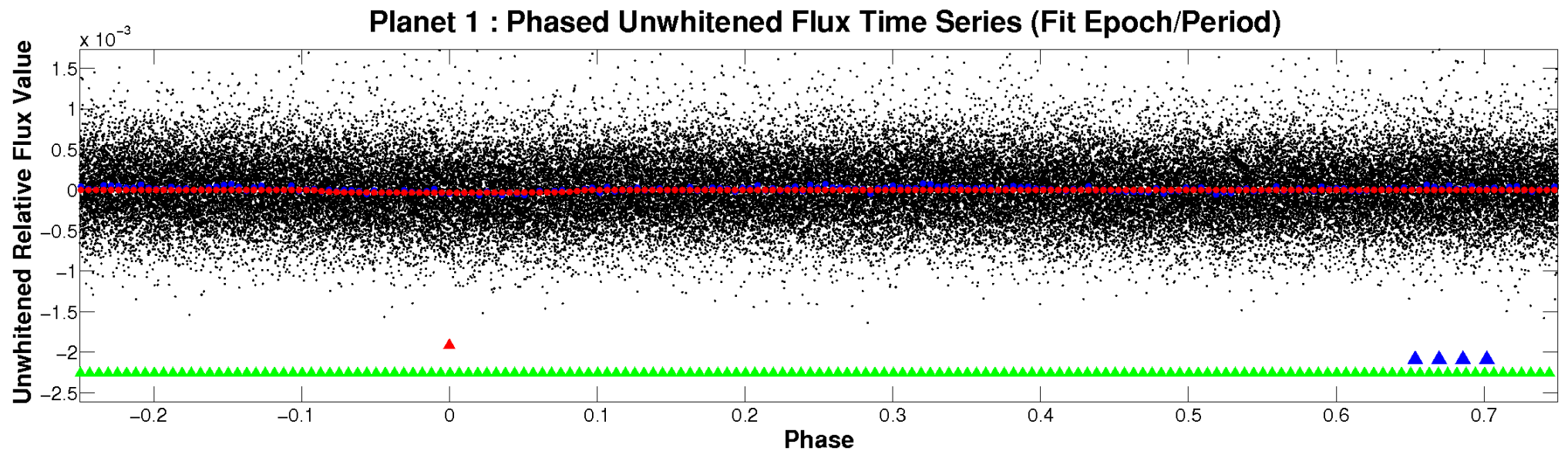


ALT Odd/Even

TCE 008389838-01

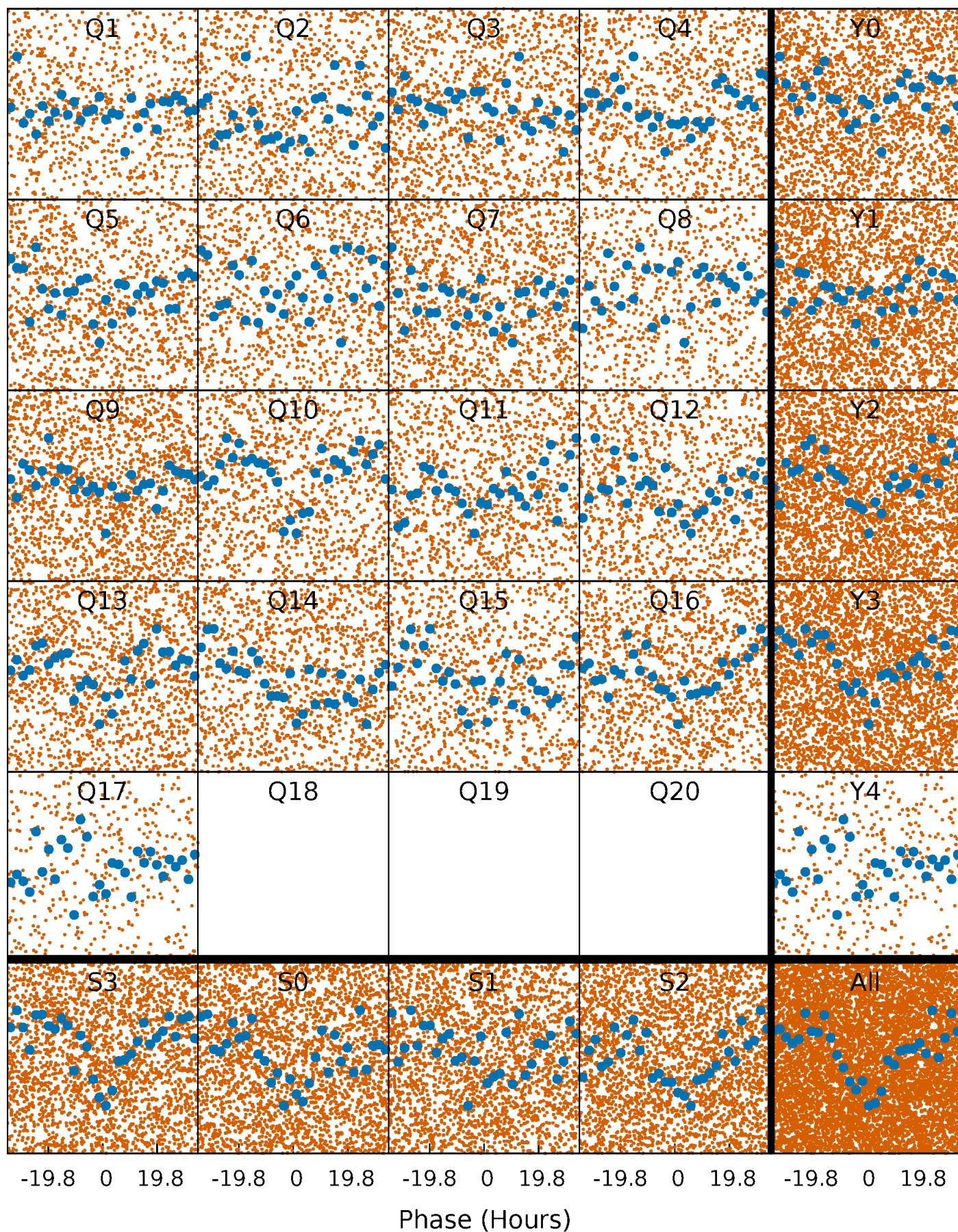


Non-Whitened Vs. Whitened Light Curve



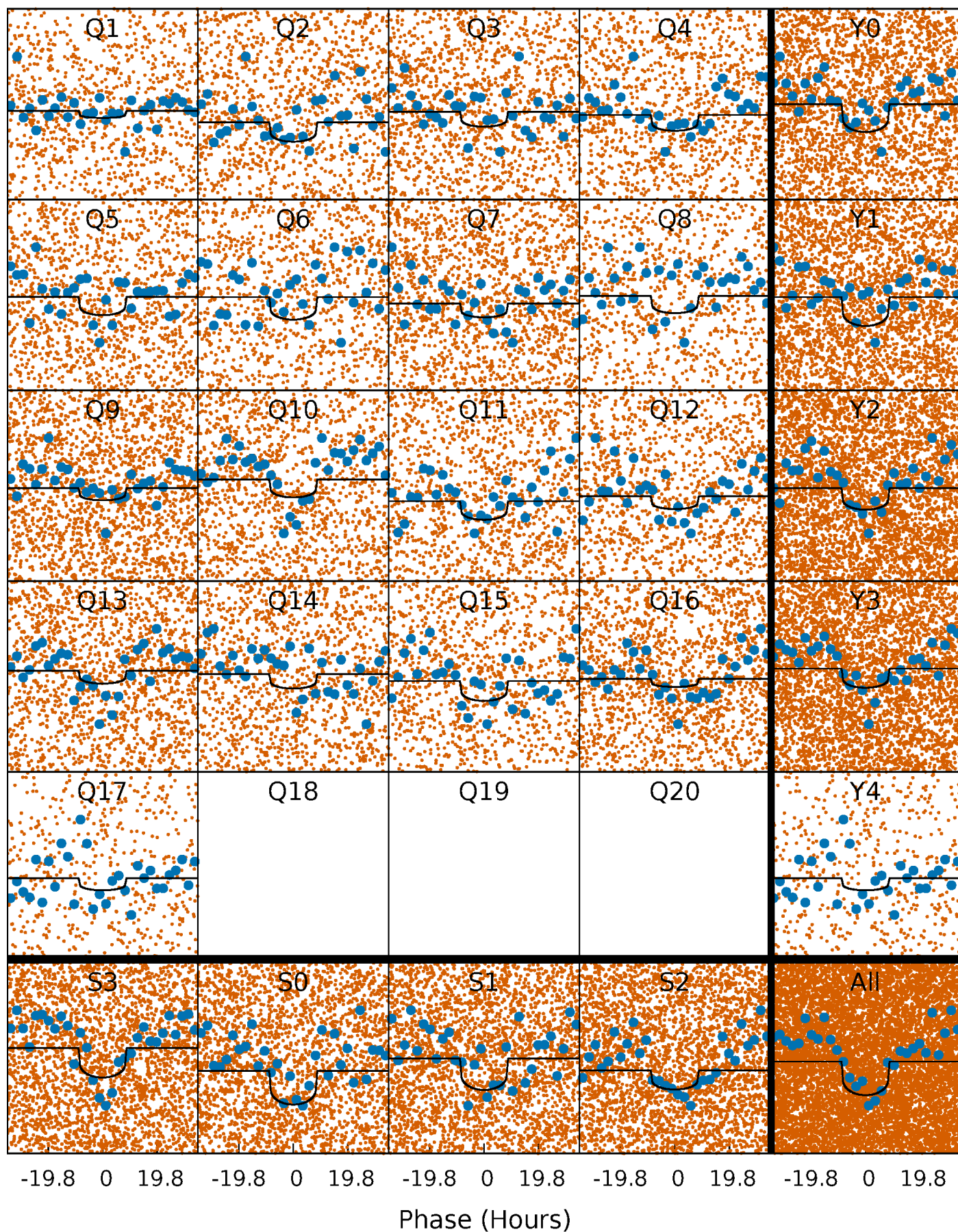
PDC Quarter-Phased Transit Curves

TCE 008389838-01 P= 4.017437 Days $T_0=133.555167$ (BKJD)



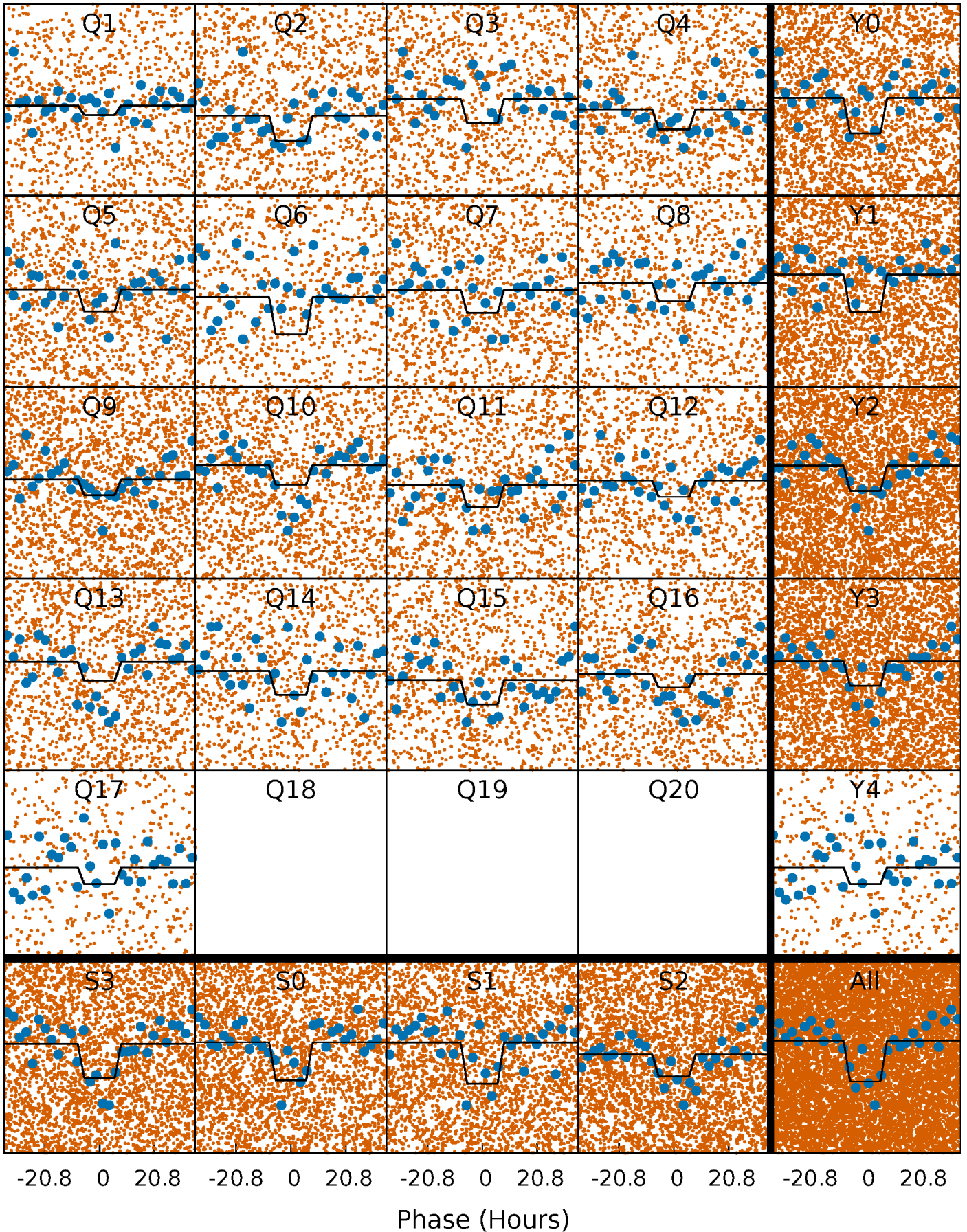
DV Quarter-Phased Transit Curves

TCE 008389838-01 P= 4.017437 Days $T_0=133.555167$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

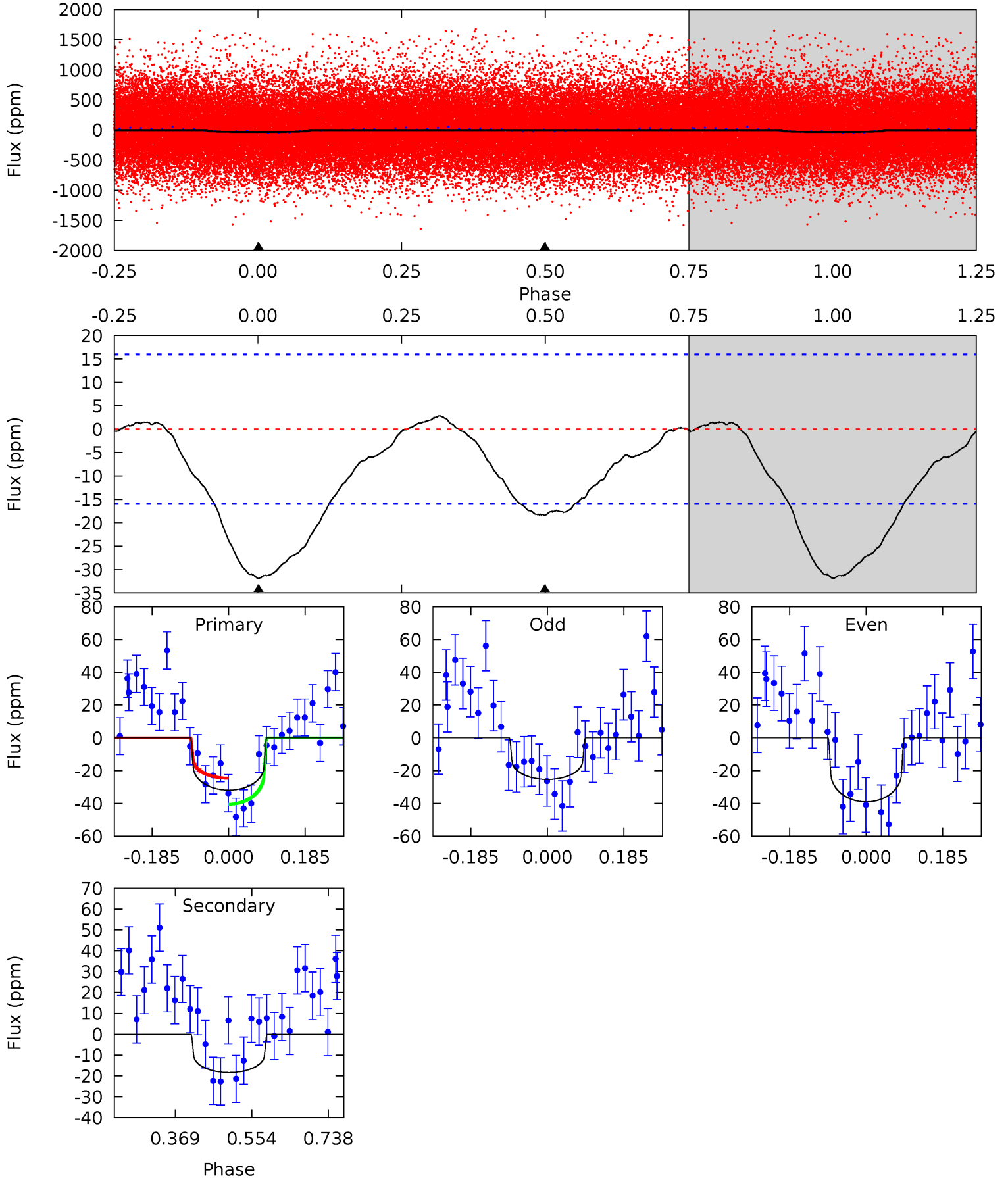
TCE 008389838-01 P= 4.017160 Days $T_0=133.593459$ (BKJD)



DV Model-Shift Uniqueness Test

008389838-01, P = 4.017437 Days, E = 129.537730 Days

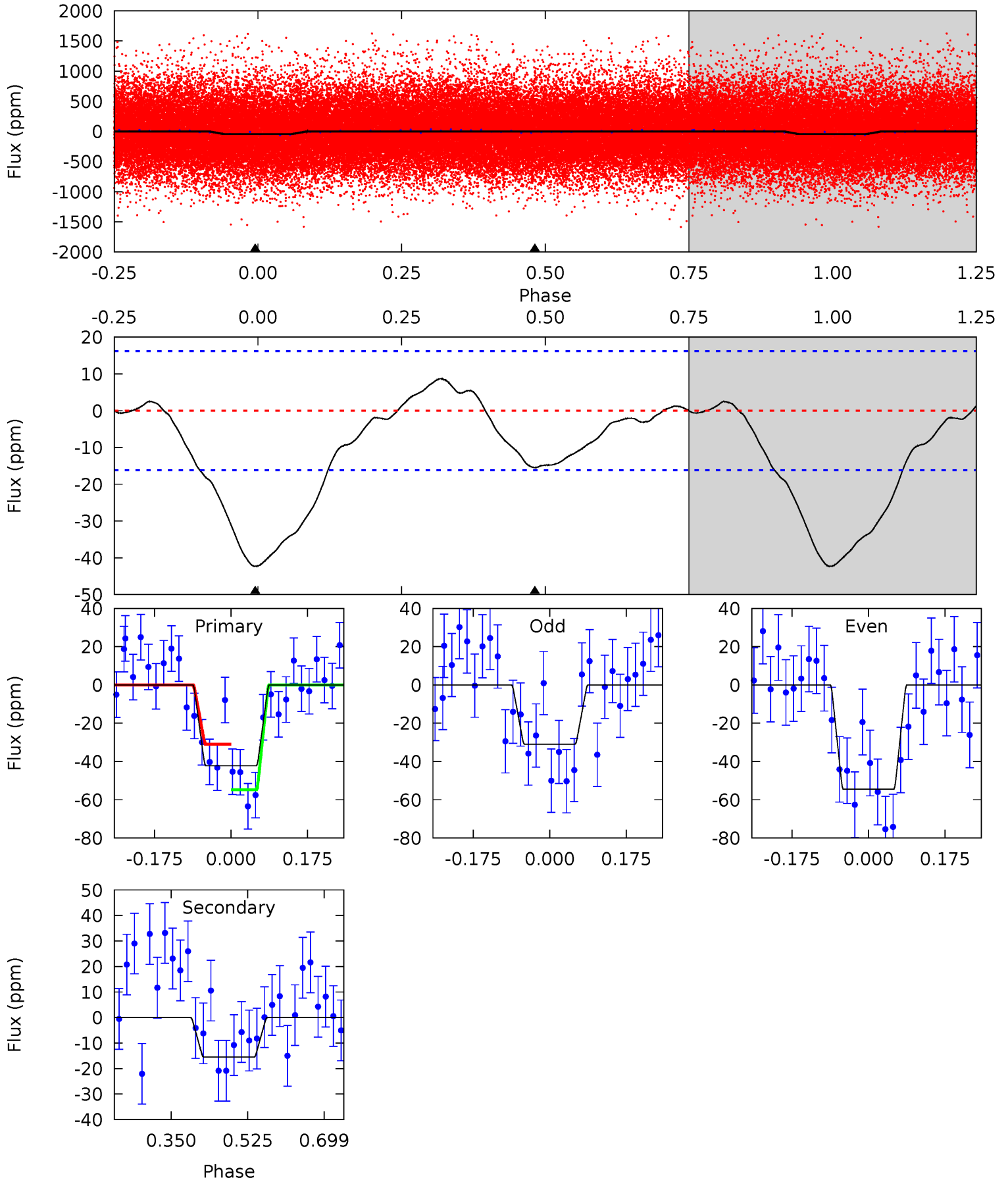
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.85	5.10	0	0	4.43	1.33	0.69	8.85	8.85	5.10	5.10	1.90	1.06	0.08	2.21



Alt Model-Shift Uniqueness Test

008389838-01, P = 4.017160 Days, E = 129.576299 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	4.26	0	0	4.45	1.36	0.85	11.6	11.6	4.26	4.26	3.23	0.89	0.17	3.27



Stellar Parameters For KIC 008389838

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5725^{+155}_{-172}	$4.433^{+0.116}_{-0.174}$	$-0.240^{+0.300}_{-0.300}$	$0.936^{+0.248}_{-0.134}$	$0.867^{+0.120}_{-0.080}$	$1.488^{+0.766}_{-0.683}$
	+3%/-3%	+3%/-4%	+125%/-125%	+26%/-14%	+14%/-9%	+51%/-46%
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 008389838-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 4	$0.64^{+0.29}_{-0.26}$	1574^{+110}_{-84}	4857^{+1348}_{-660}	55^{+108}_{-29}
Alt.	-16 ± 4	$0.66^{+0.28}_{-0.29}$	1575^{+97}_{-77}	4639^{+1334}_{-604}	44^{+100}_{-24}

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

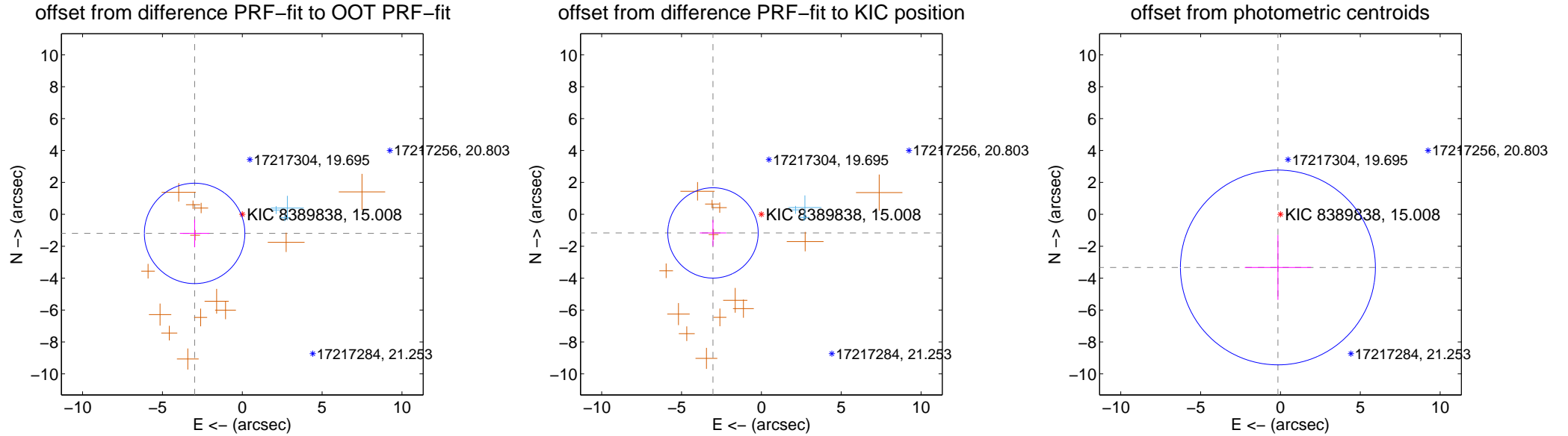
DV Centroid Data

Supplemental centroid analysis for 008389838-01. Kepler magnitude: 15.01. Transit SNR 6.99

There are 3 quarters with good PRF difference image offsets

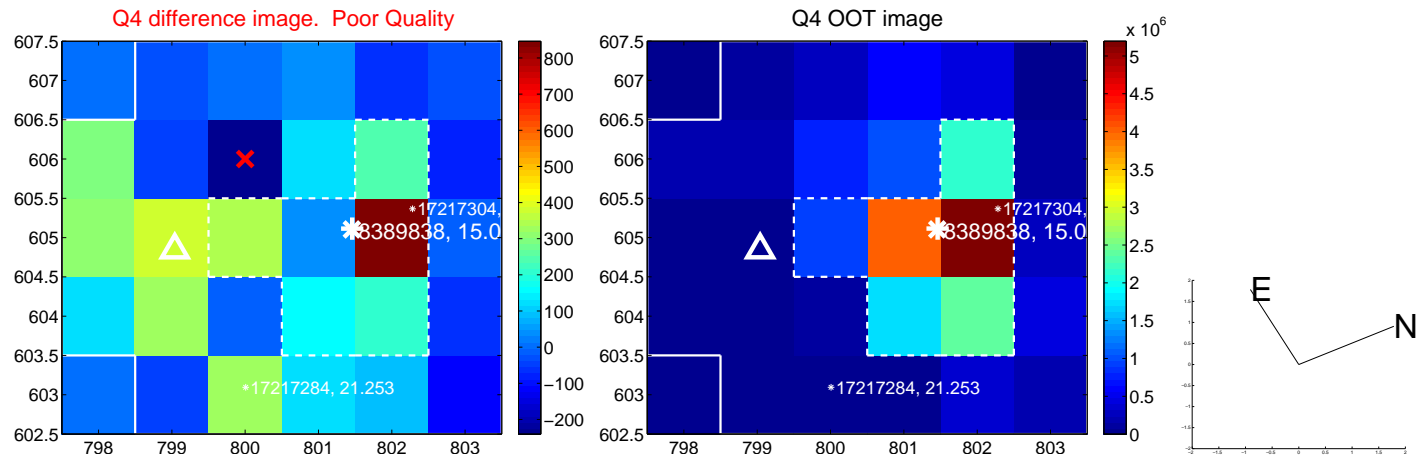
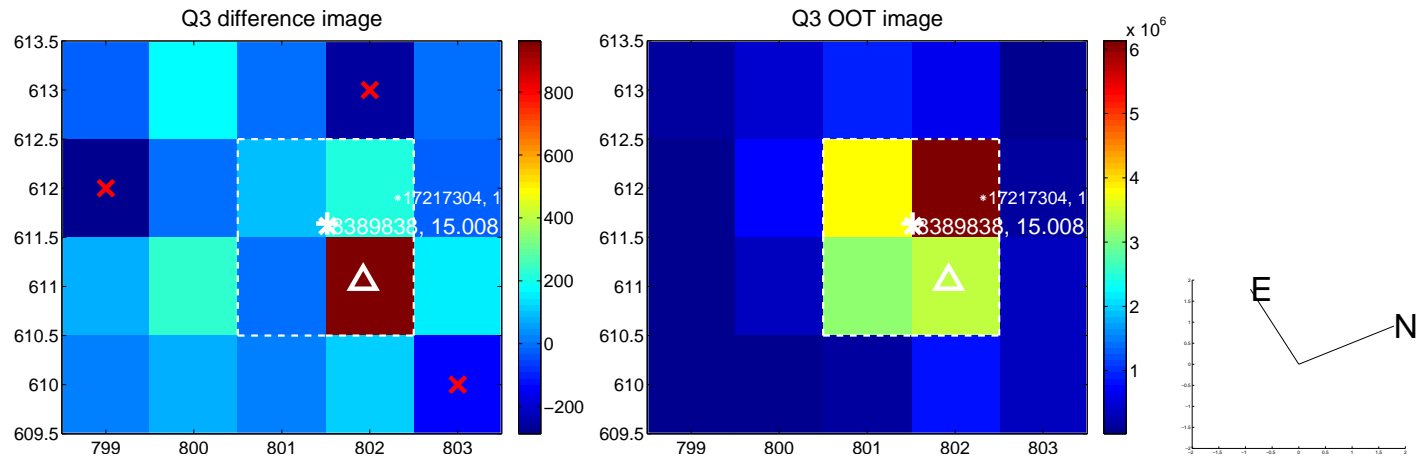
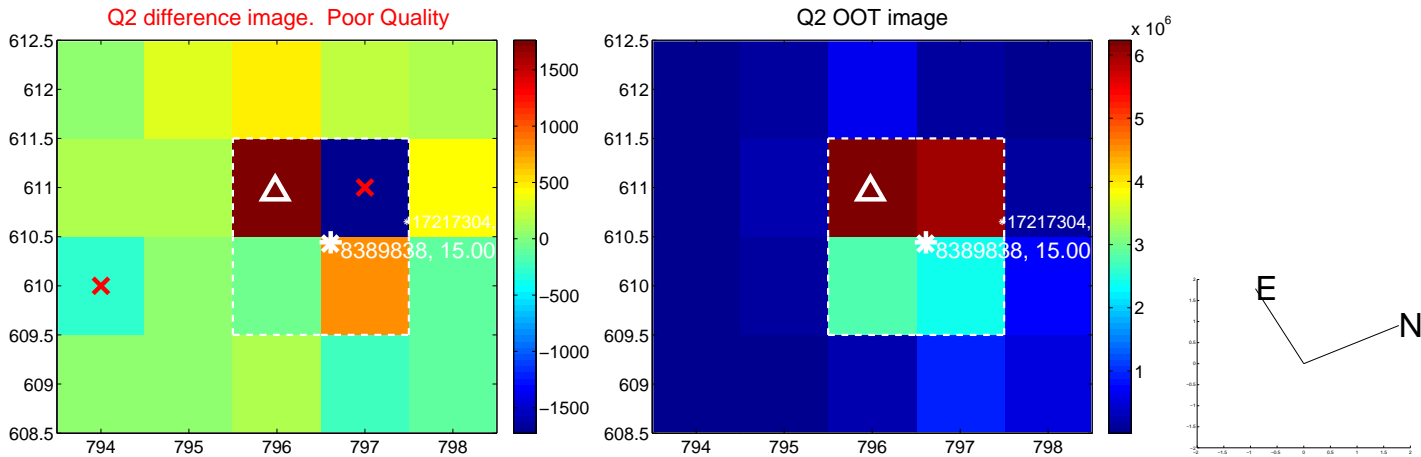
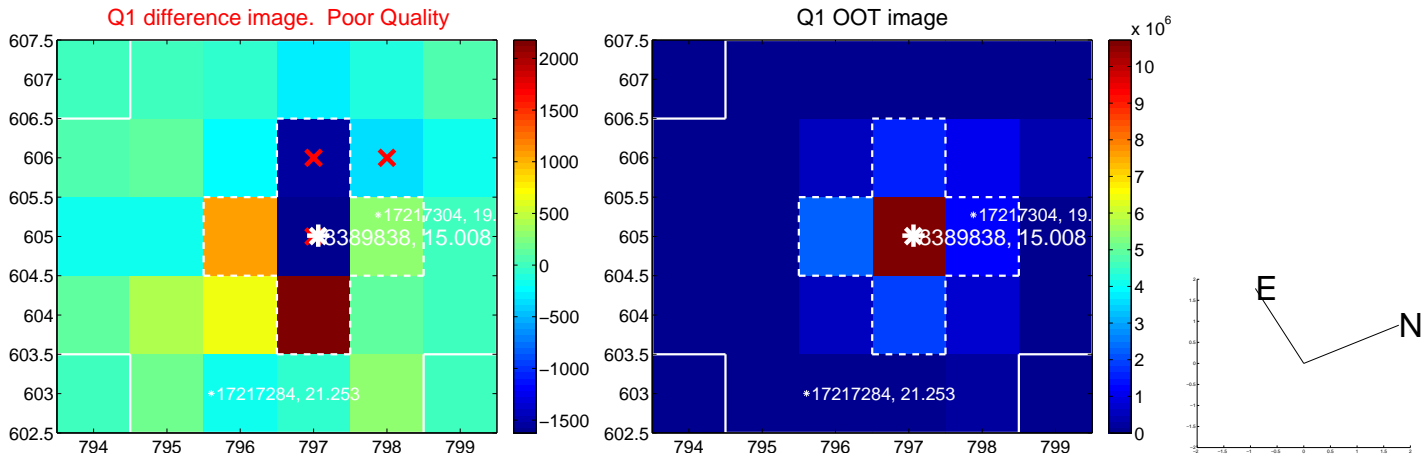
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.215 ± 1.049	3.07	2.985 ± 0.926	-1.195 ± 0.863
PRF-fit source offset from KIC position	3.246 ± 0.944	3.44	3.030 ± 0.827	-1.165 ± 0.821
photometric centroid source offset	3.33 ± 2.03	1.64	0.16 ± 2.07	-3.33 ± 2.03

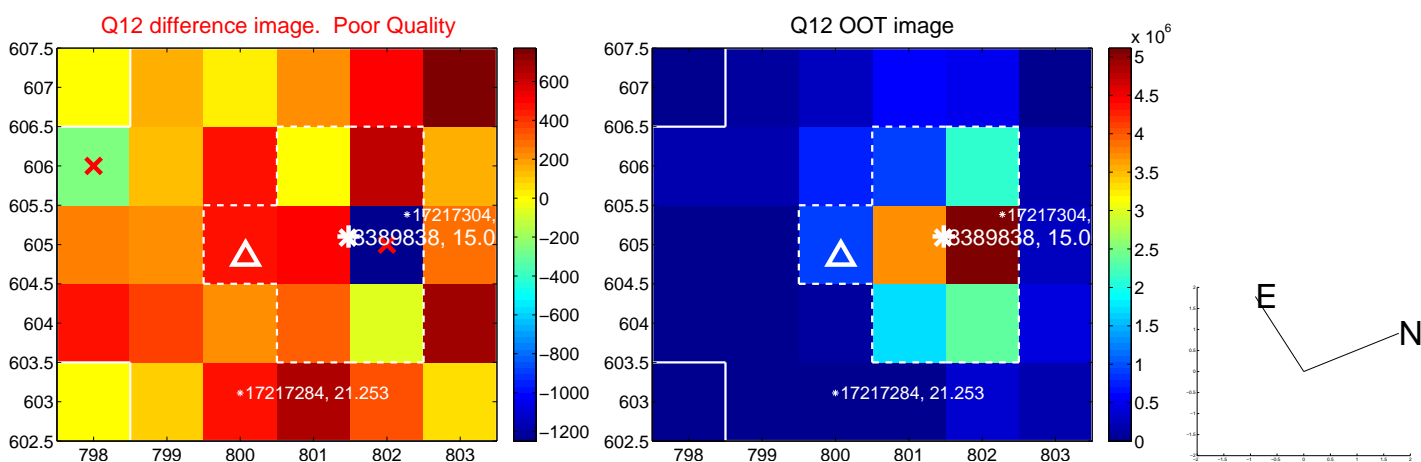
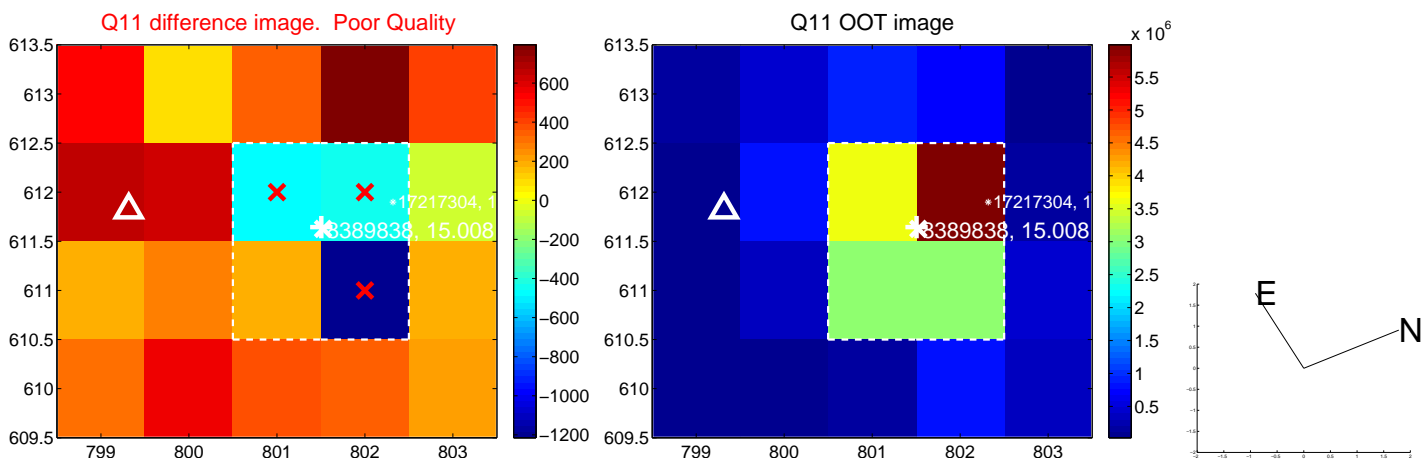
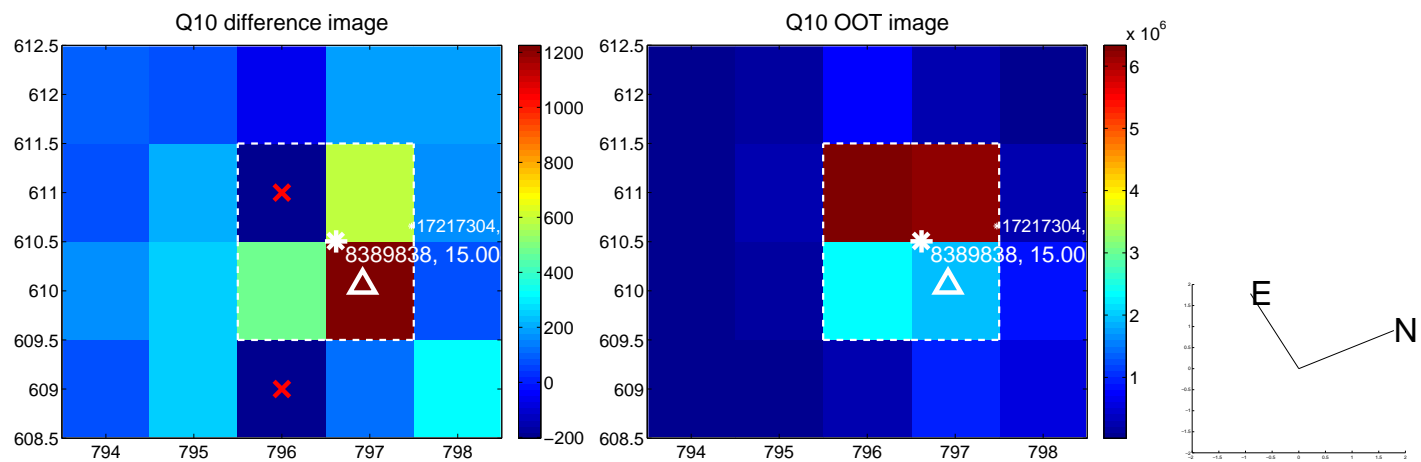
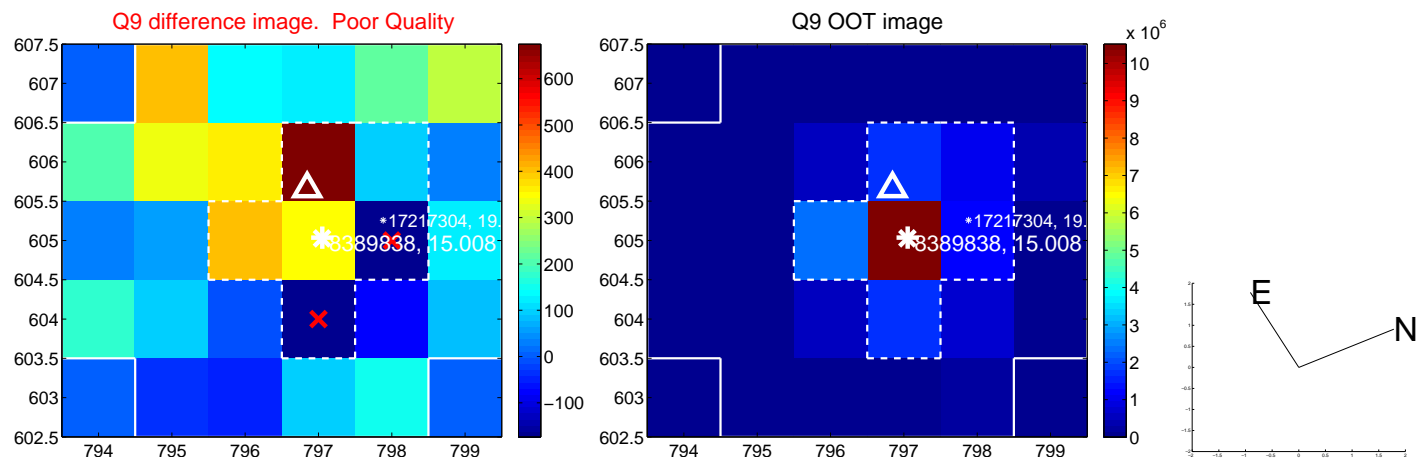


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

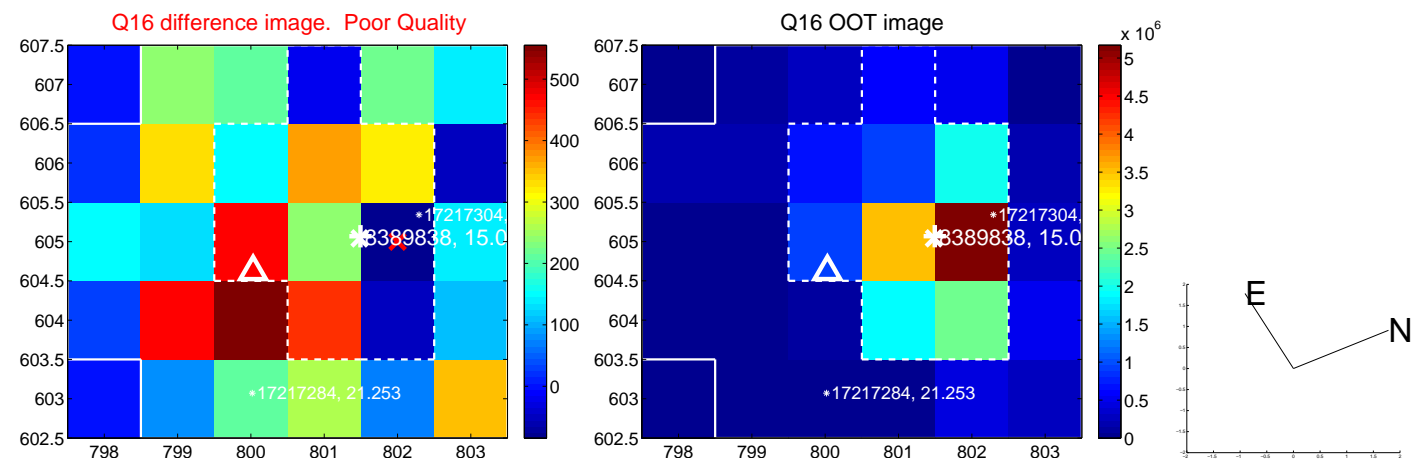
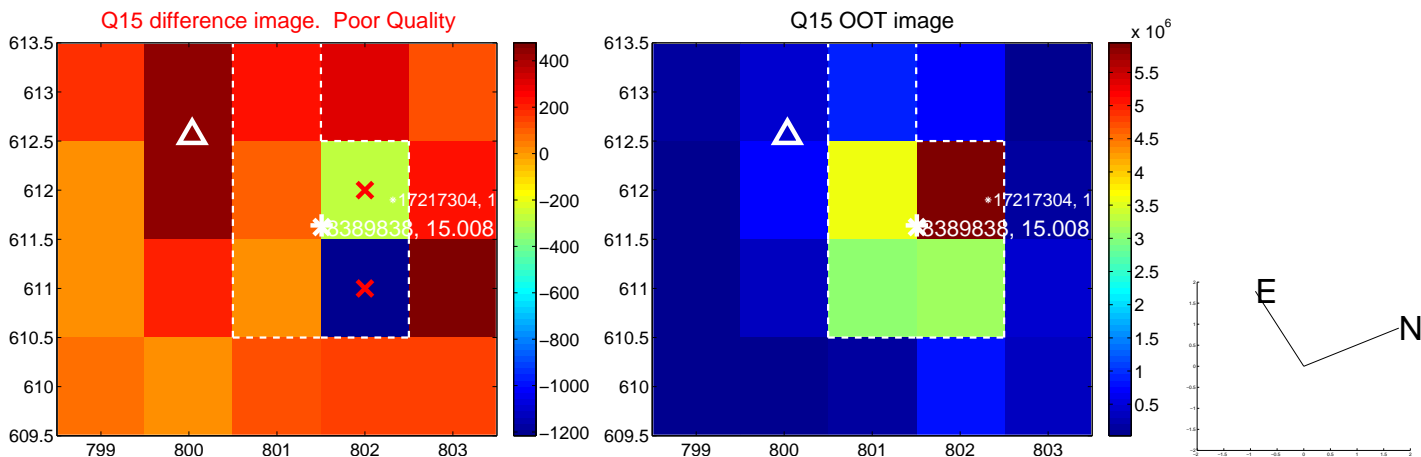
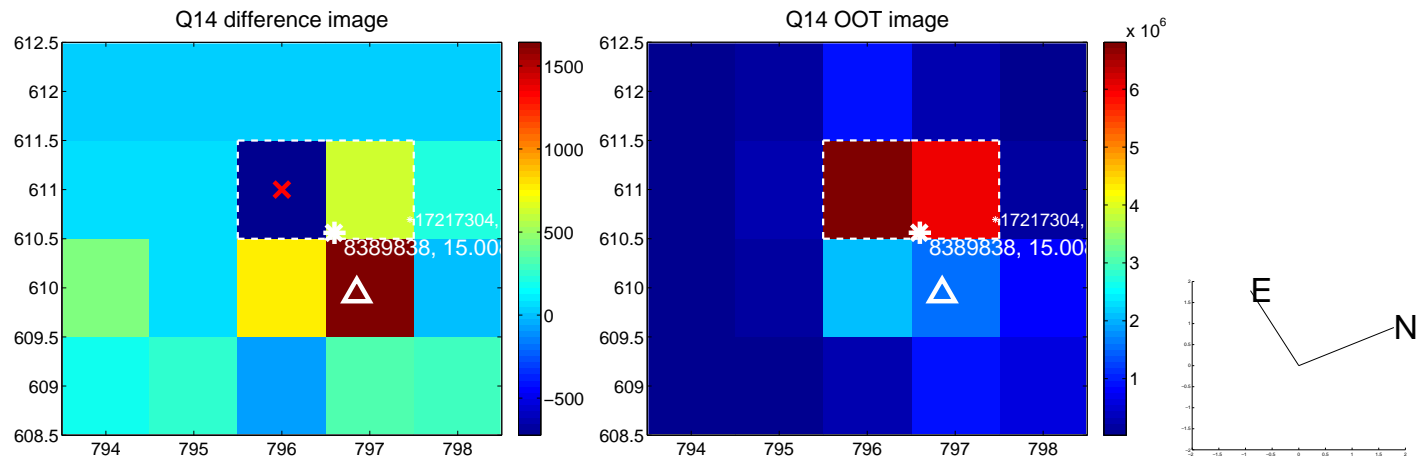
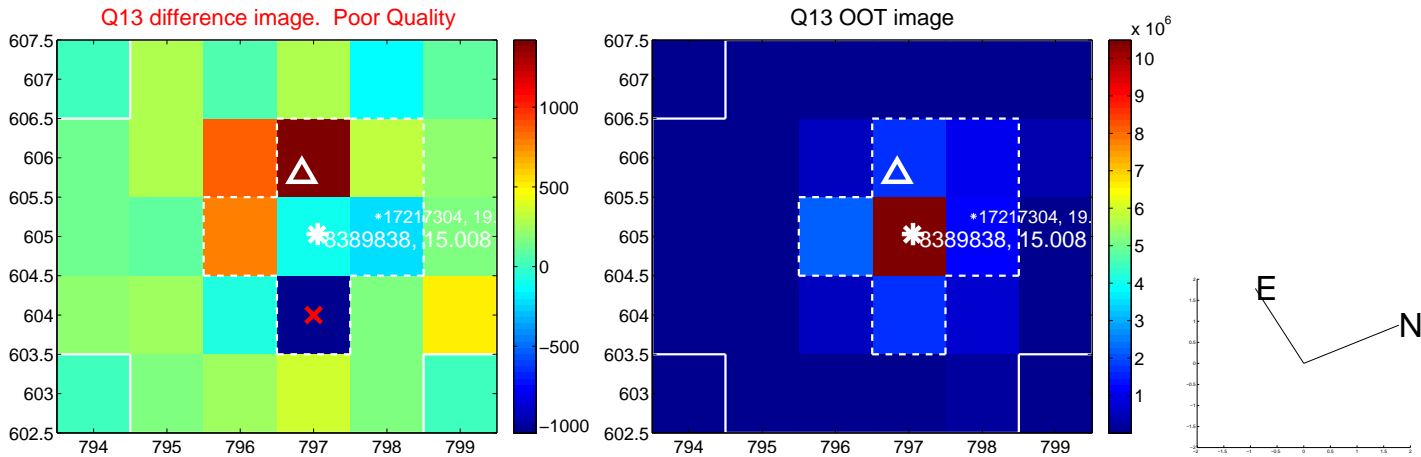
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



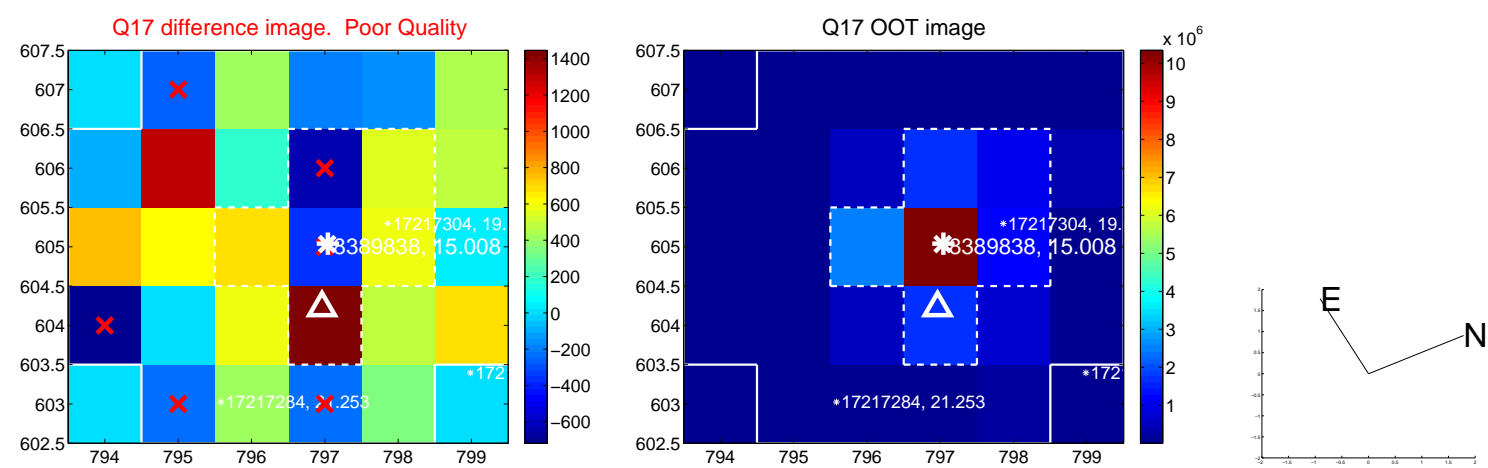
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



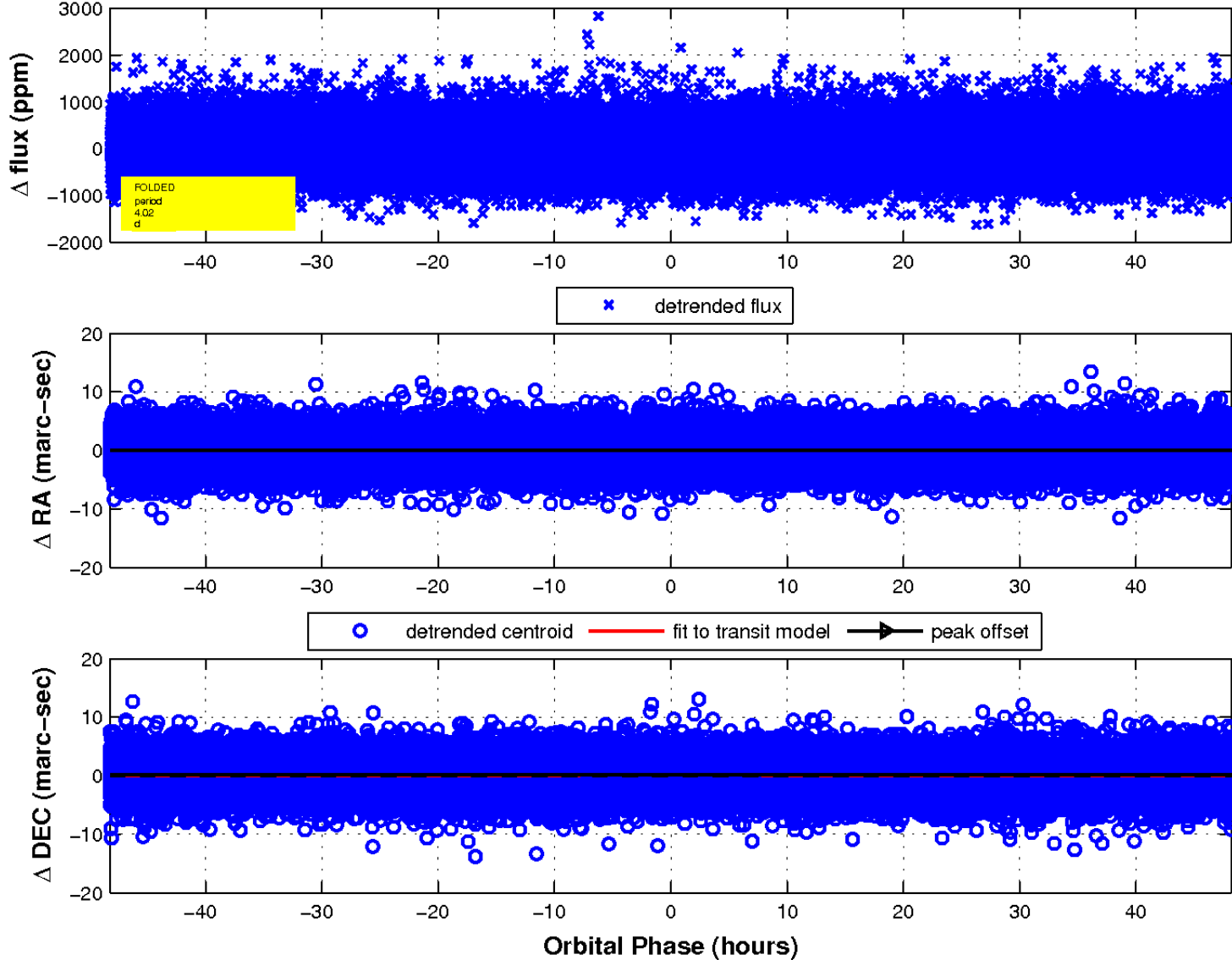
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

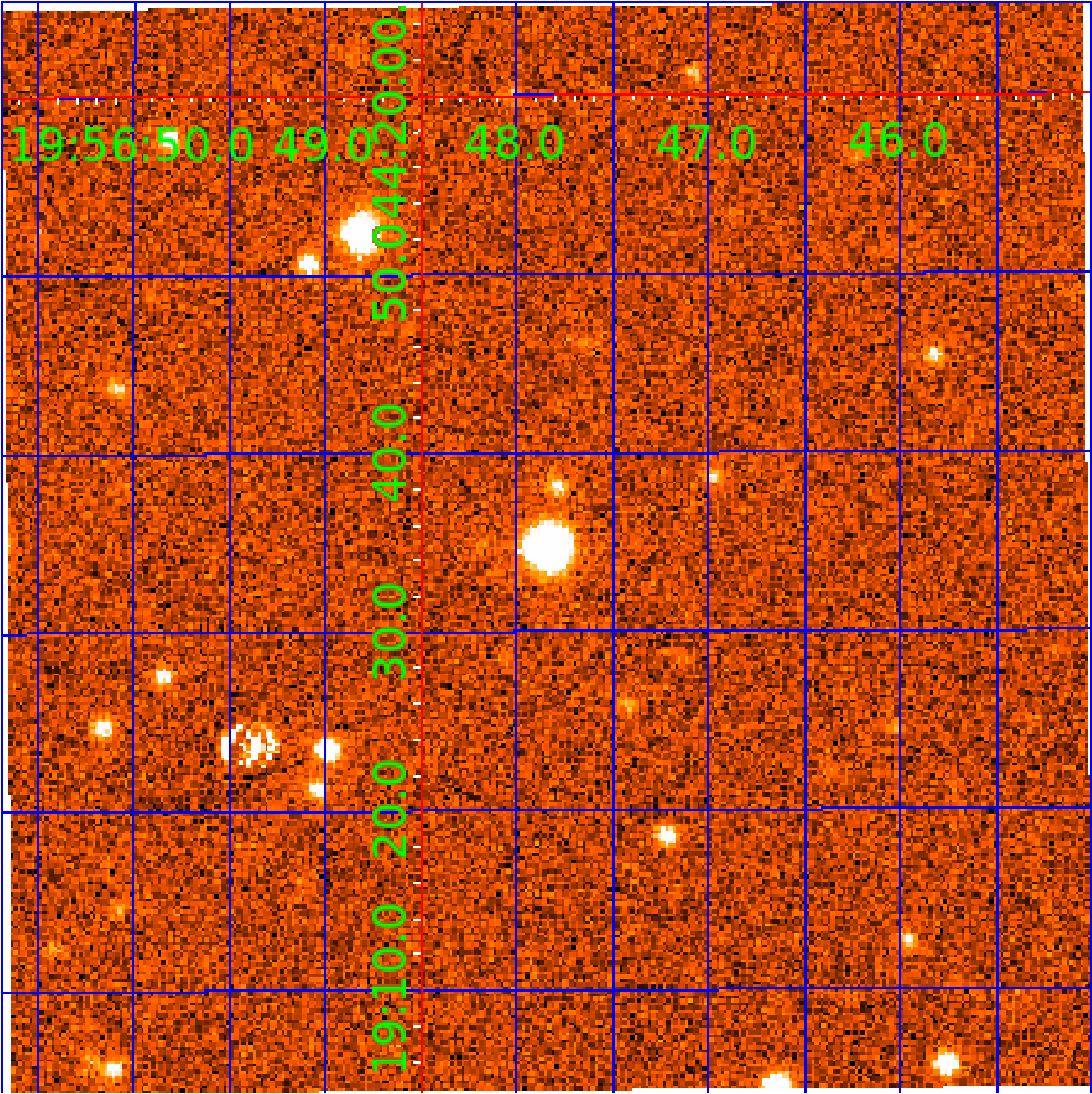


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 008389838

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})
008389838-01	OBS	No	4.017437	133.555167	33.4	17.355	7.7	7.0	0.94	5725	0.62	379.24
008389838-02	OBS	No	425.783399	176.549524	432.2	8.659	11.4	7.9	0.94	5725	2.13	0.76
008389838-03	OBS	No	8.110201	135.866892	145.2	2.823	7.6	7.6	0.94	5725	1.24	148.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008389838-01	OBS	FP	0.00	1	0	1	0	LPP_DV—HALO_GHOST
008389838-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008389838-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT

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

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

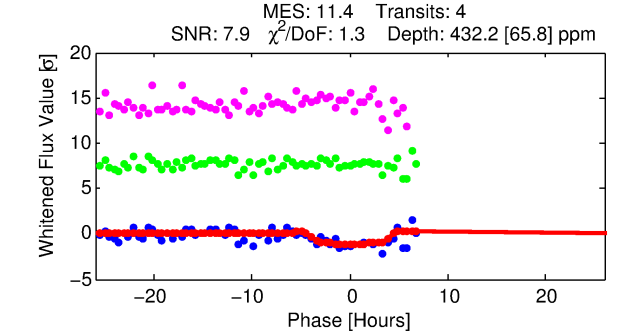
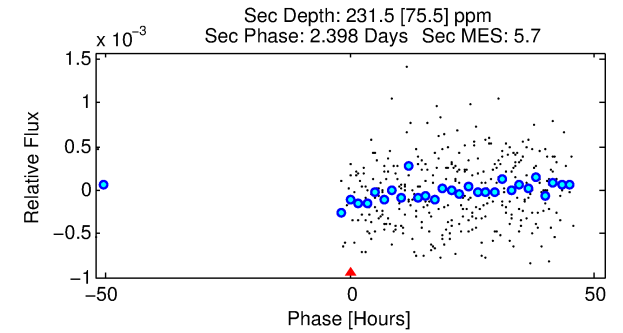
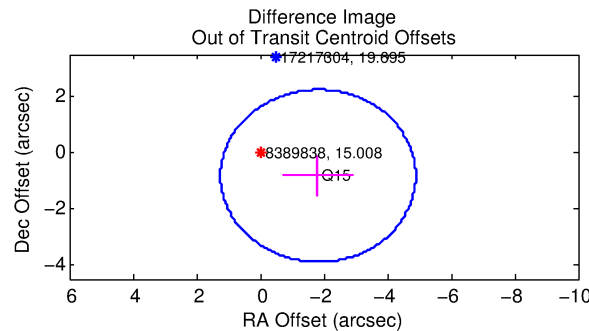
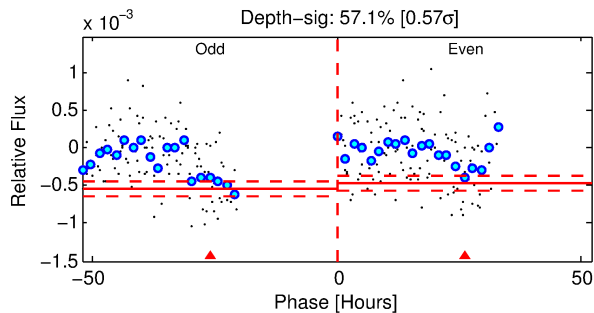
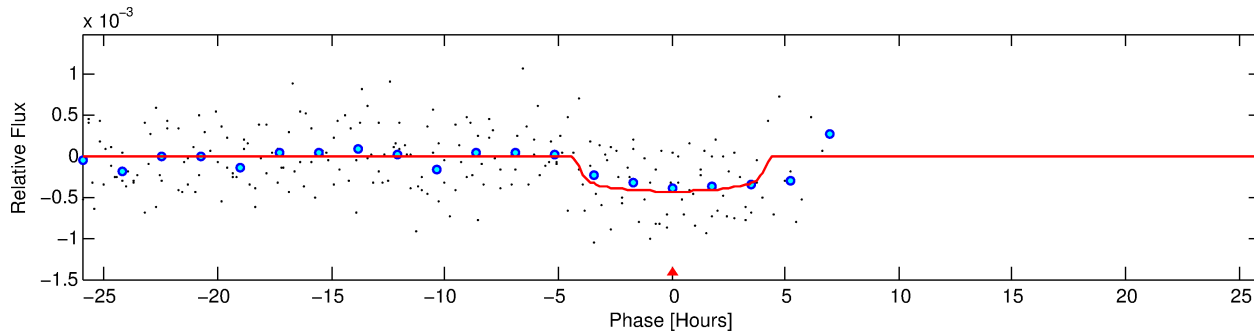
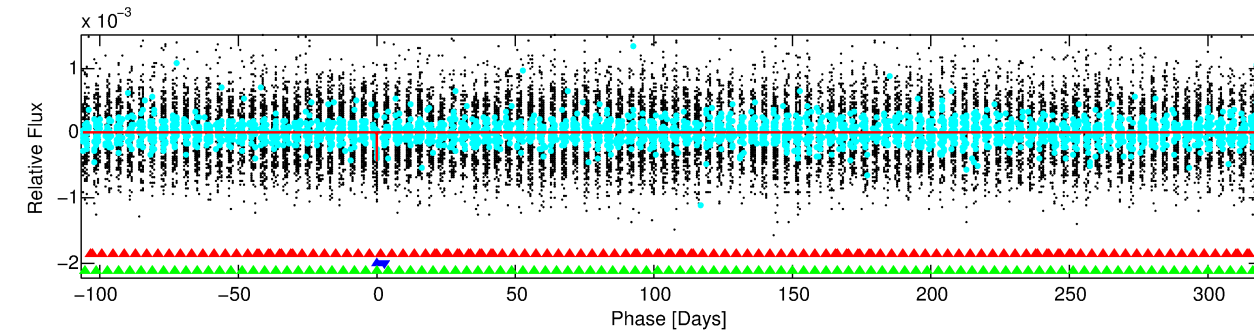
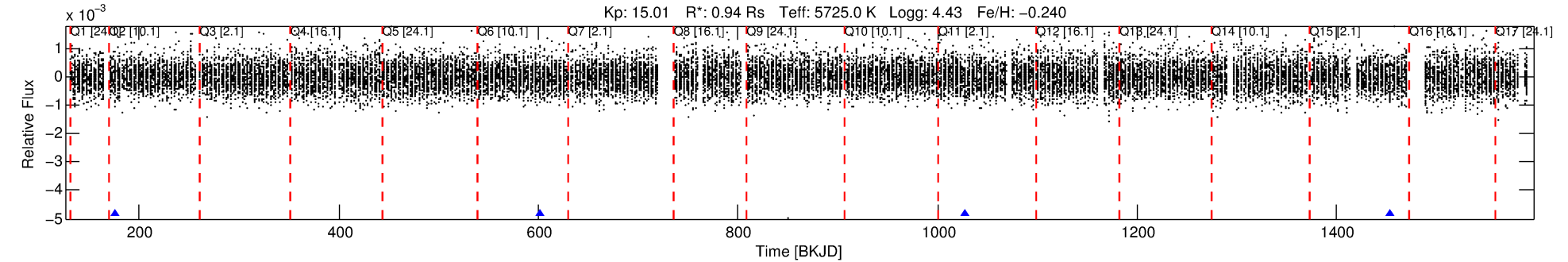
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008389838-02

No Significant Match Found

DV One-Page Summary

KIC: 8389838 Candidate: 2 of 3 Period: 425.783 d



DV Fit Results:

Period = 425.78340 [0.01218] d
Epoch = 176.5495 [0.0275] BKJD
Rp/R* = 0.0209 [0.0152]
a/R* = 251.64 [830.46]
b = 0.77 [1.76]
Seff = 0.76 [0.26]
Teq = 238 [20] K
Rp = 2.13 [1.65] Re
a = 1.0560 [0.2338] AU
Ag = 31307.44 [47774.68] [0.66σ]
Teffp = 4890 [1830] K [2.54σ]

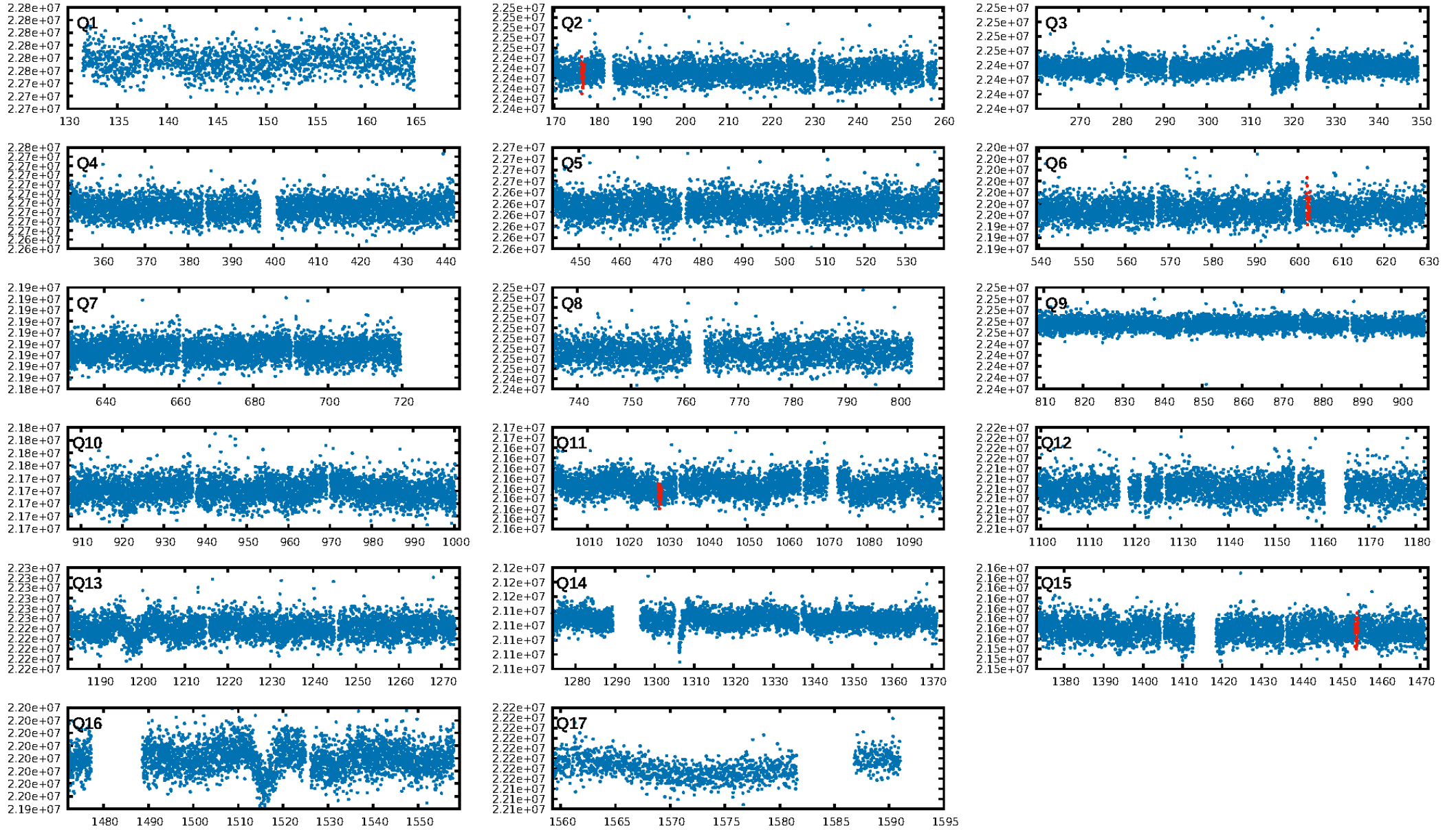
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1100.66σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 33.8%
ModelChiSquareGof-sig: 49.1%
Bootstrap-pfa: 2.01e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.006
Centroid-sig: 98.6%
Centroid-so: 0.131 arcsec [0.07σ]
OotOffset-rm: 2.003 arcsec [1.96σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-rm: 1.925 arcsec [1.88σ]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.50 [2/4]

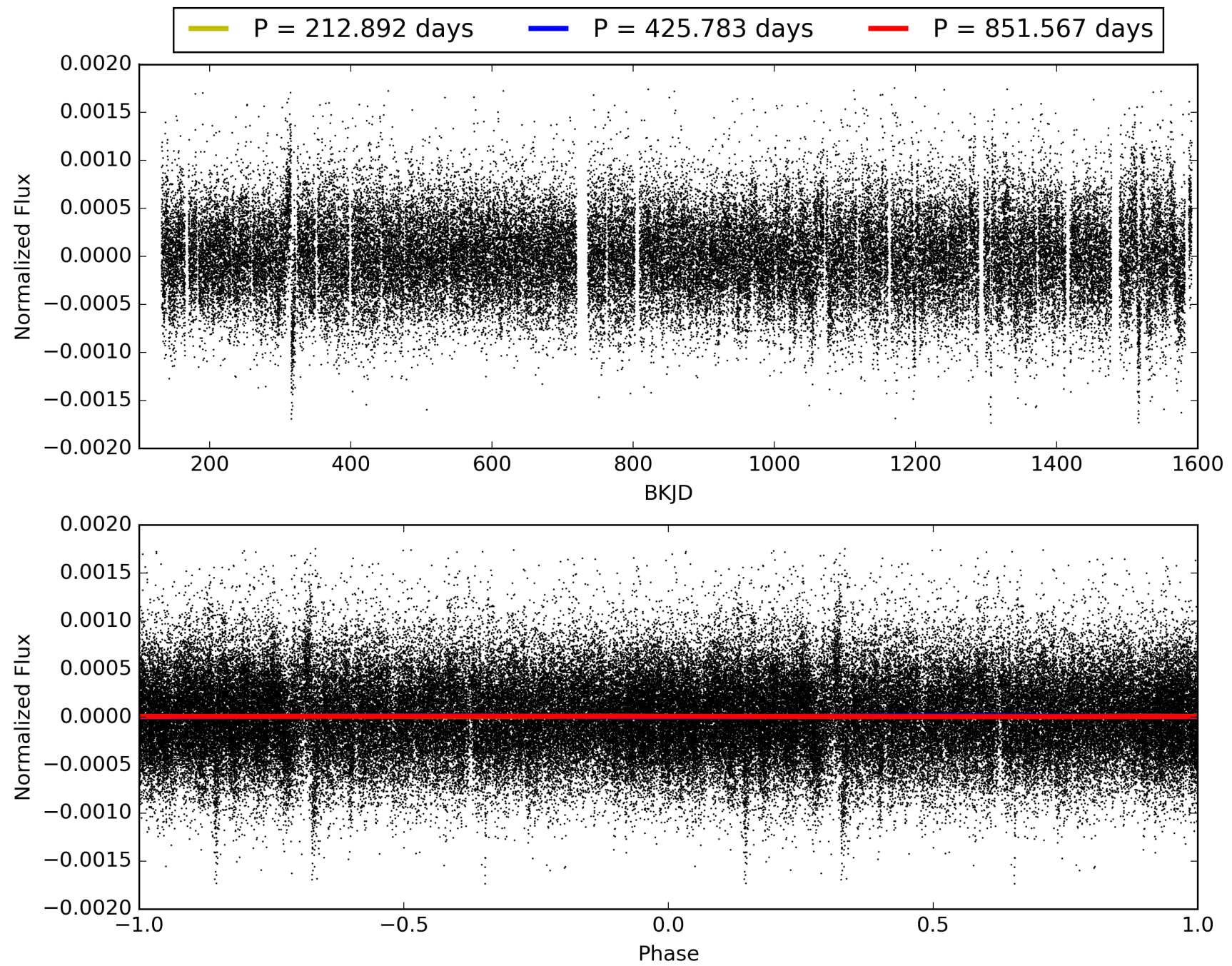
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:43:07 Z

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

TCE 008389838-02, PDC Light Curves

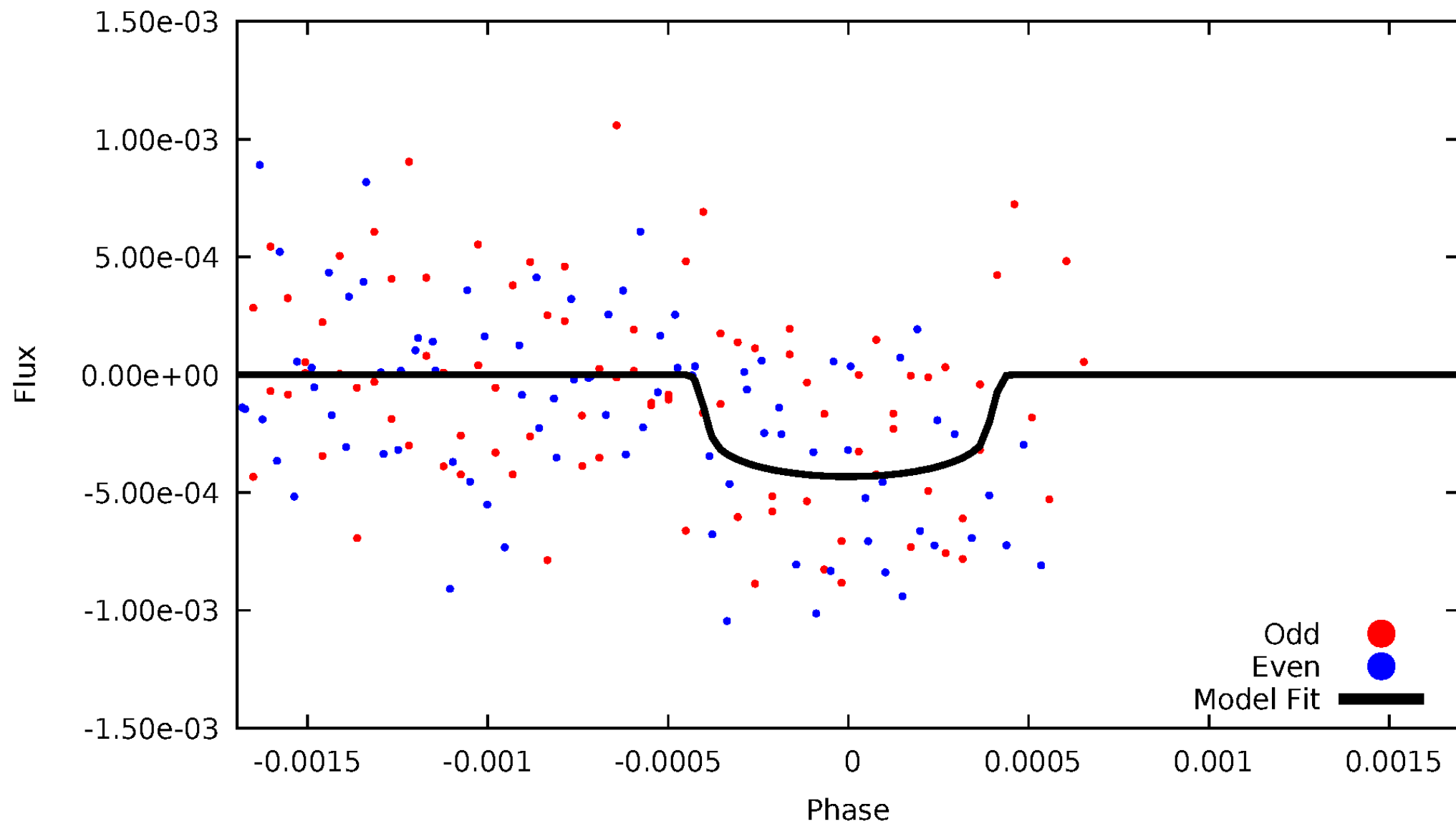


TCE 008389838-02



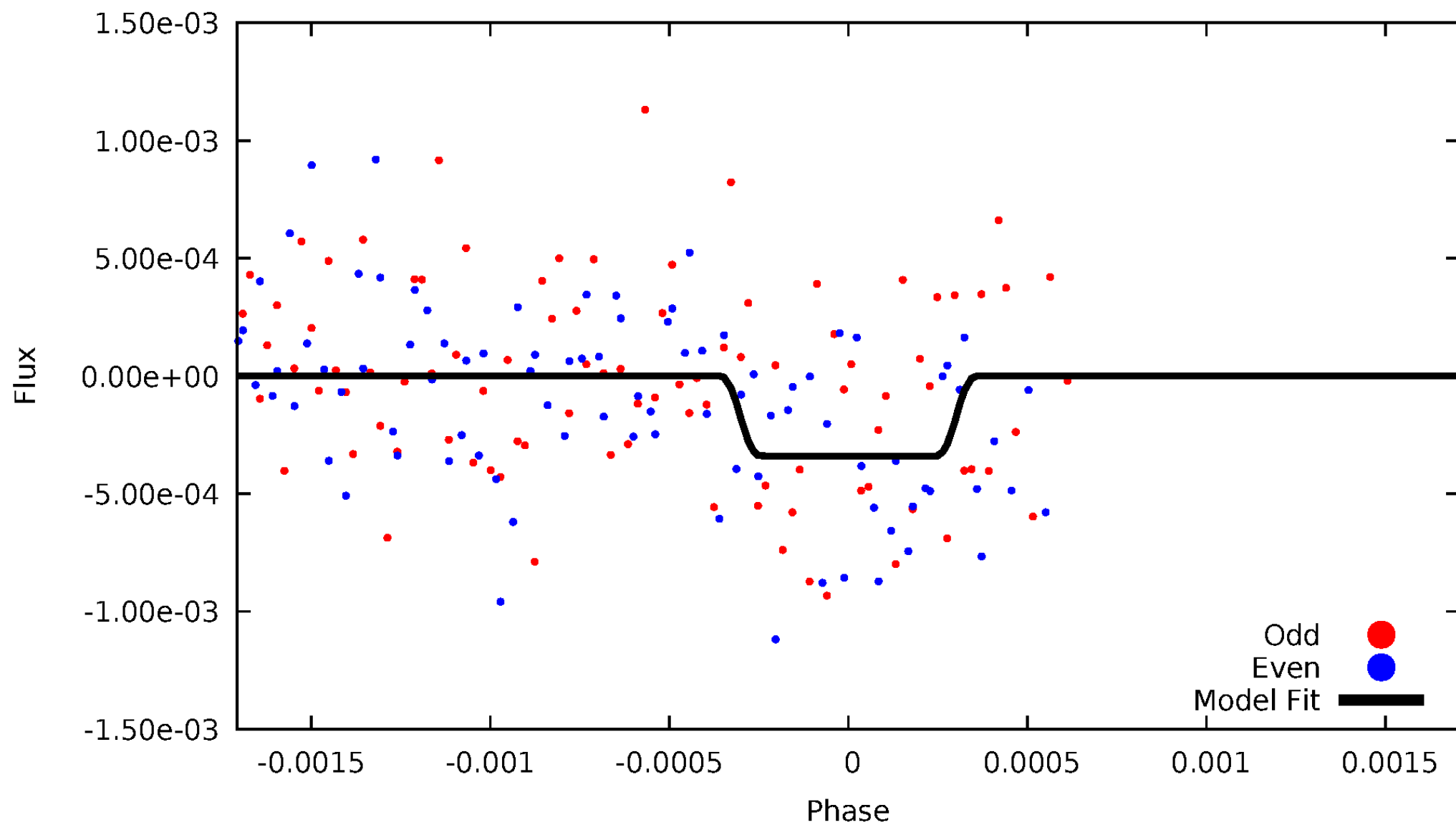
DV Odd/Even

TCE 008389838-02



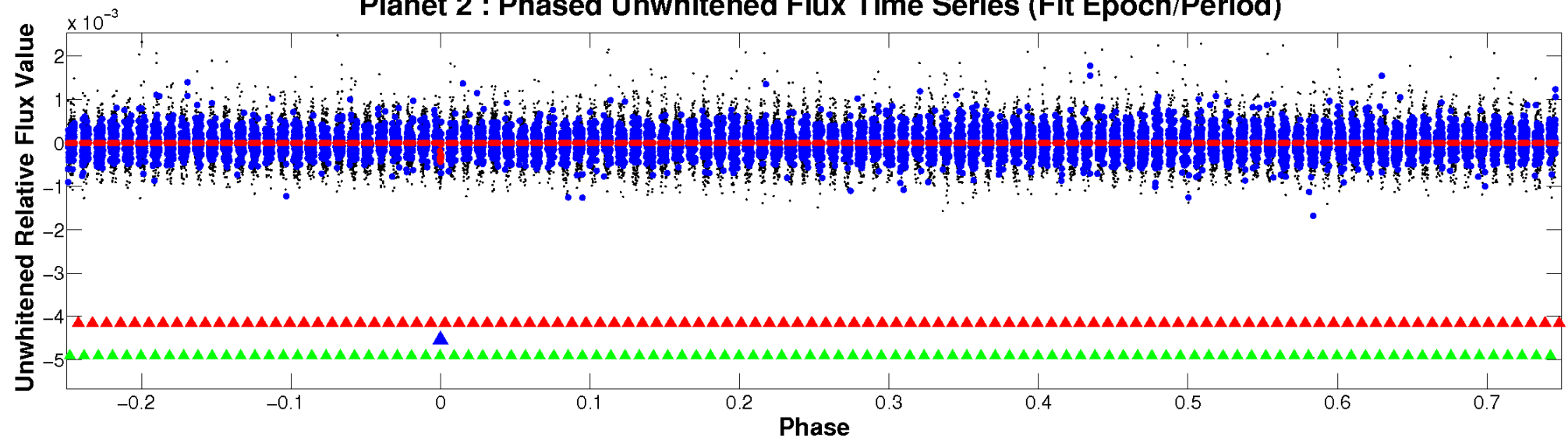
ALT Odd/Even

TCE 008389838-02

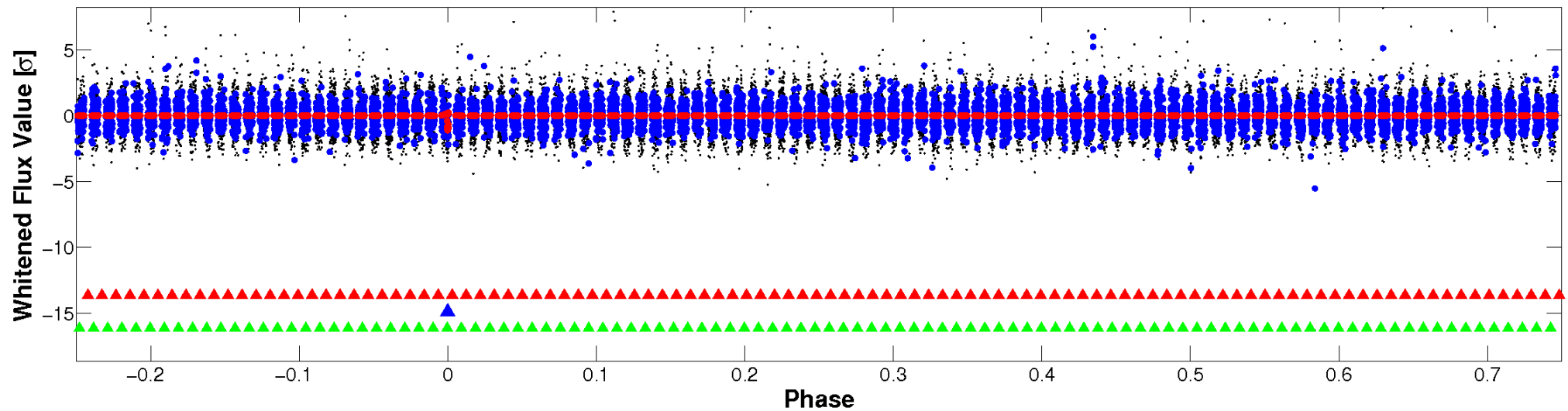


Non-Whitened Vs. Whitened Light Curve

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

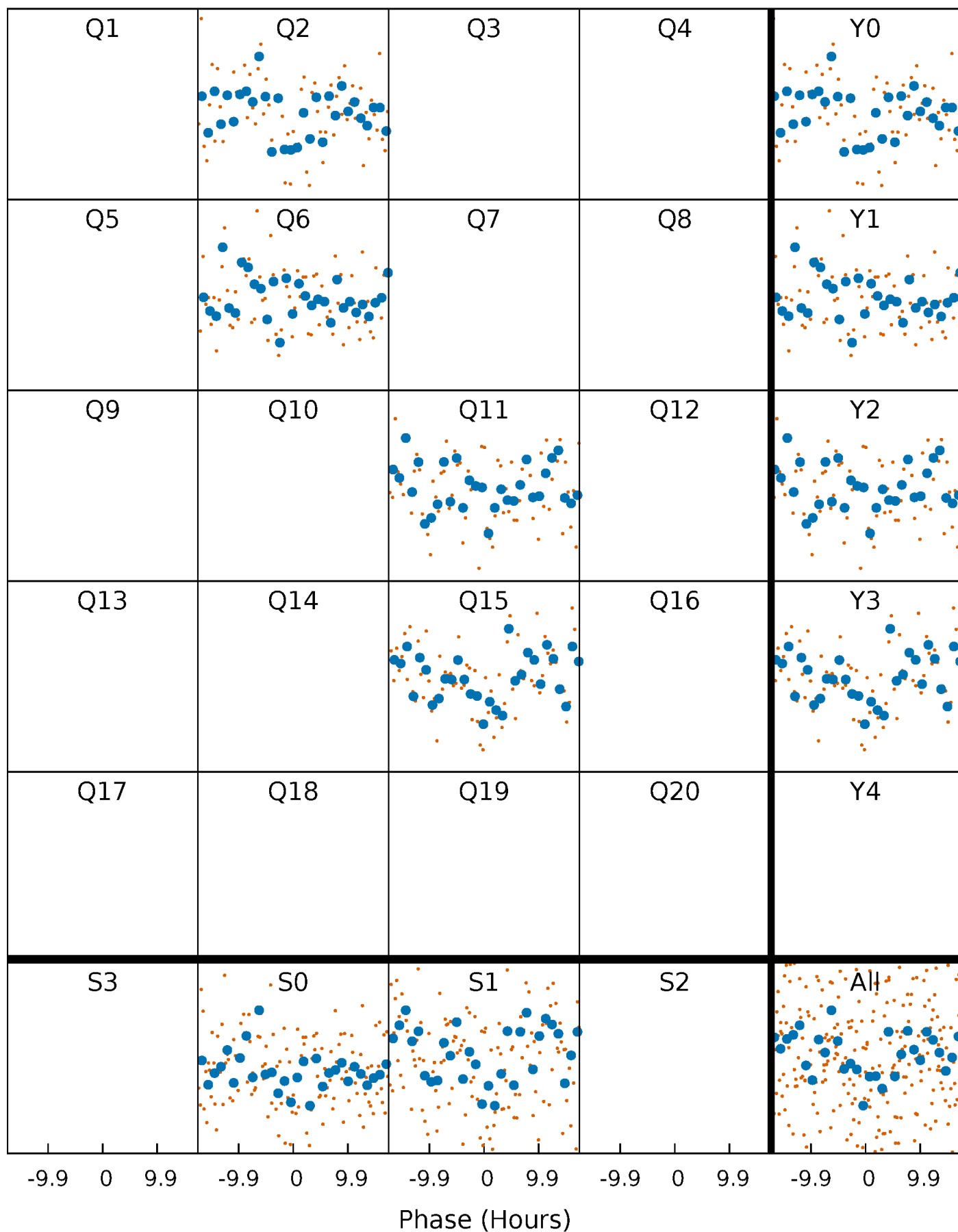


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008389838-02 P=425.783399 Days $T_0=176.549524$ (BKJD)



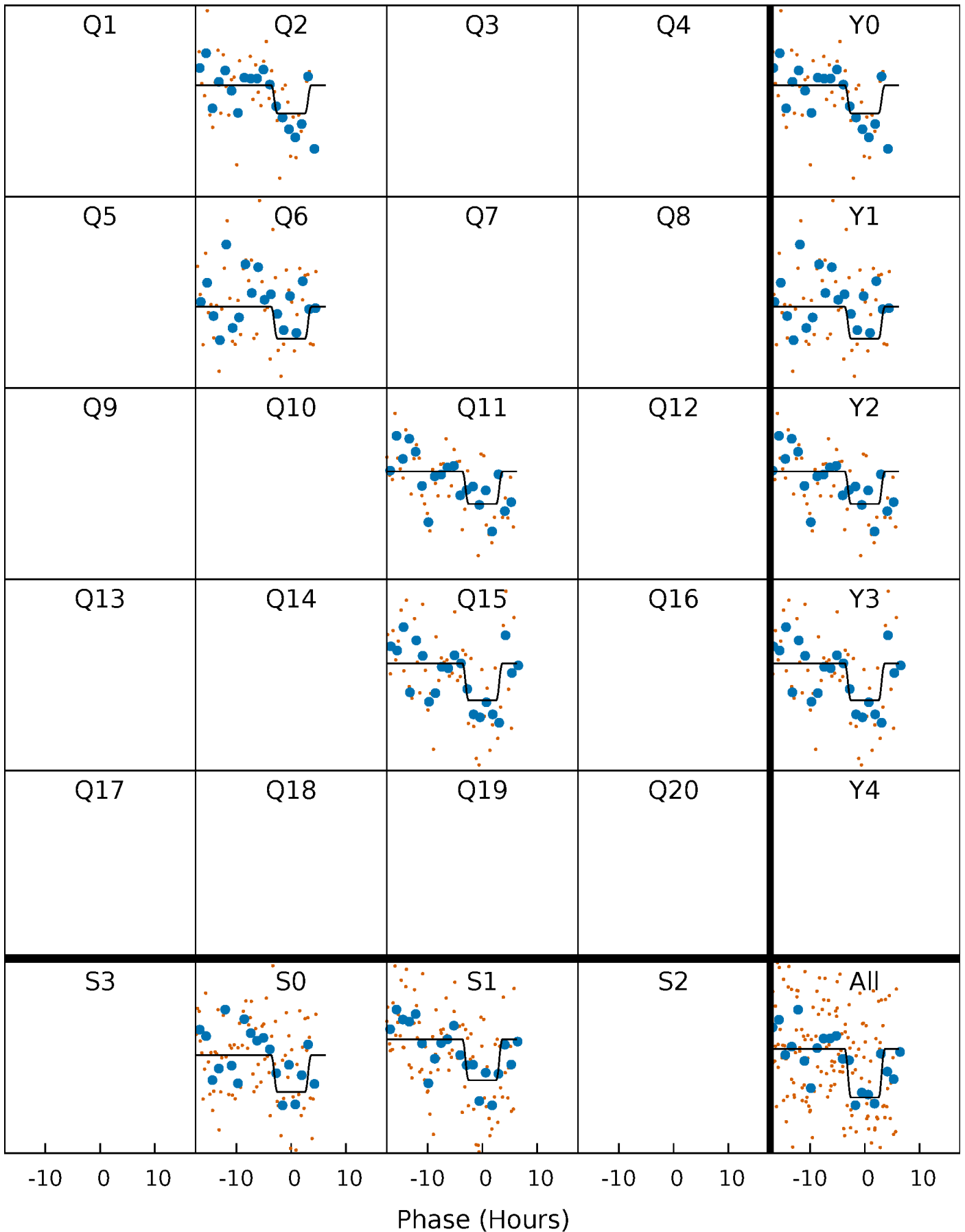
DV Quarter-Phased Transit Curves

TCE 008389838-02 P=425.783399 Days $T_0=176.549524$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

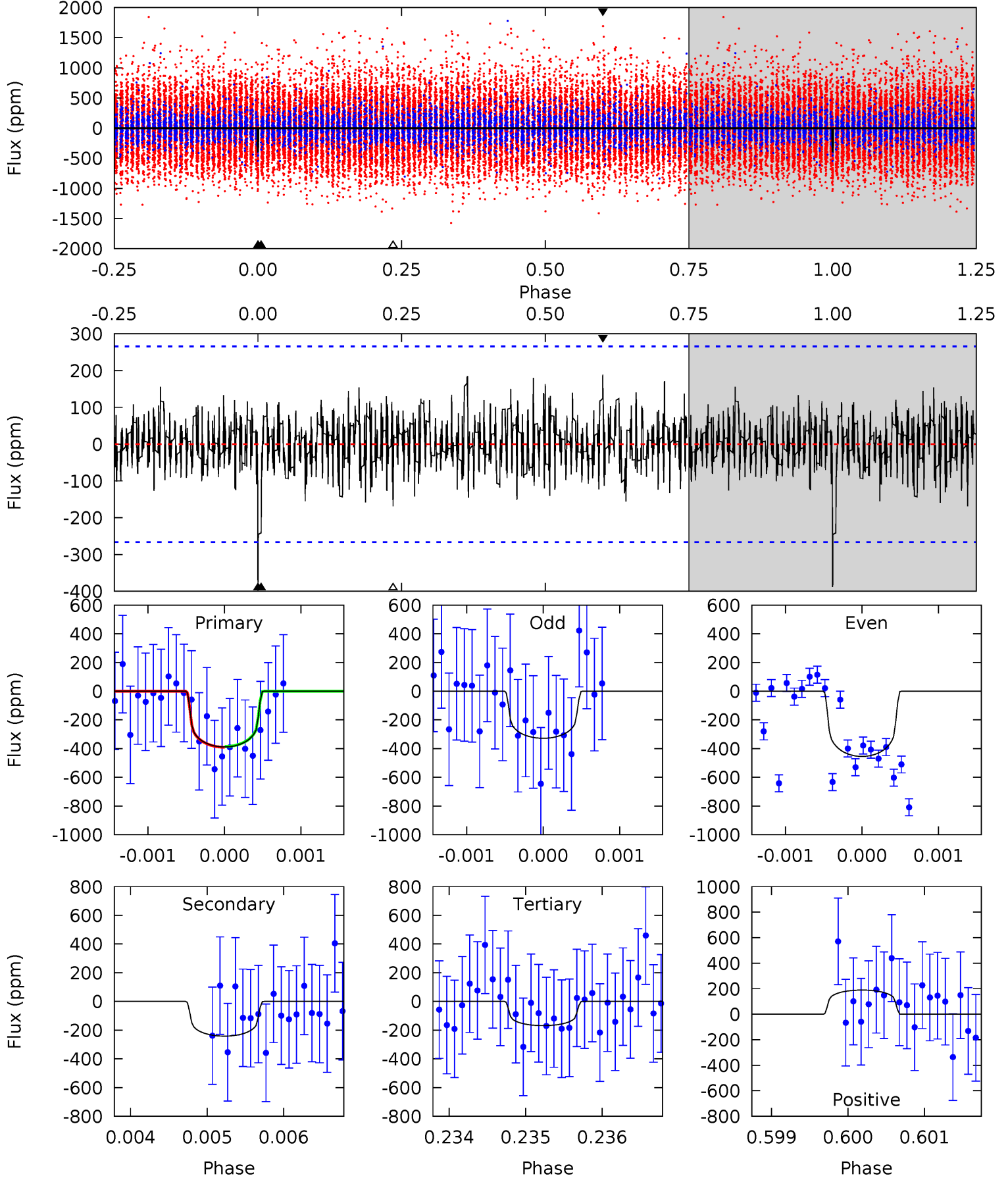
TCE 008389838-02 P=425.808146 Days $T_0=176.492799$ (BKJD)



DV Model-Shift Uniqueness Test

008389838-02, P = 425.783399 Days, E = 176.549524 Days

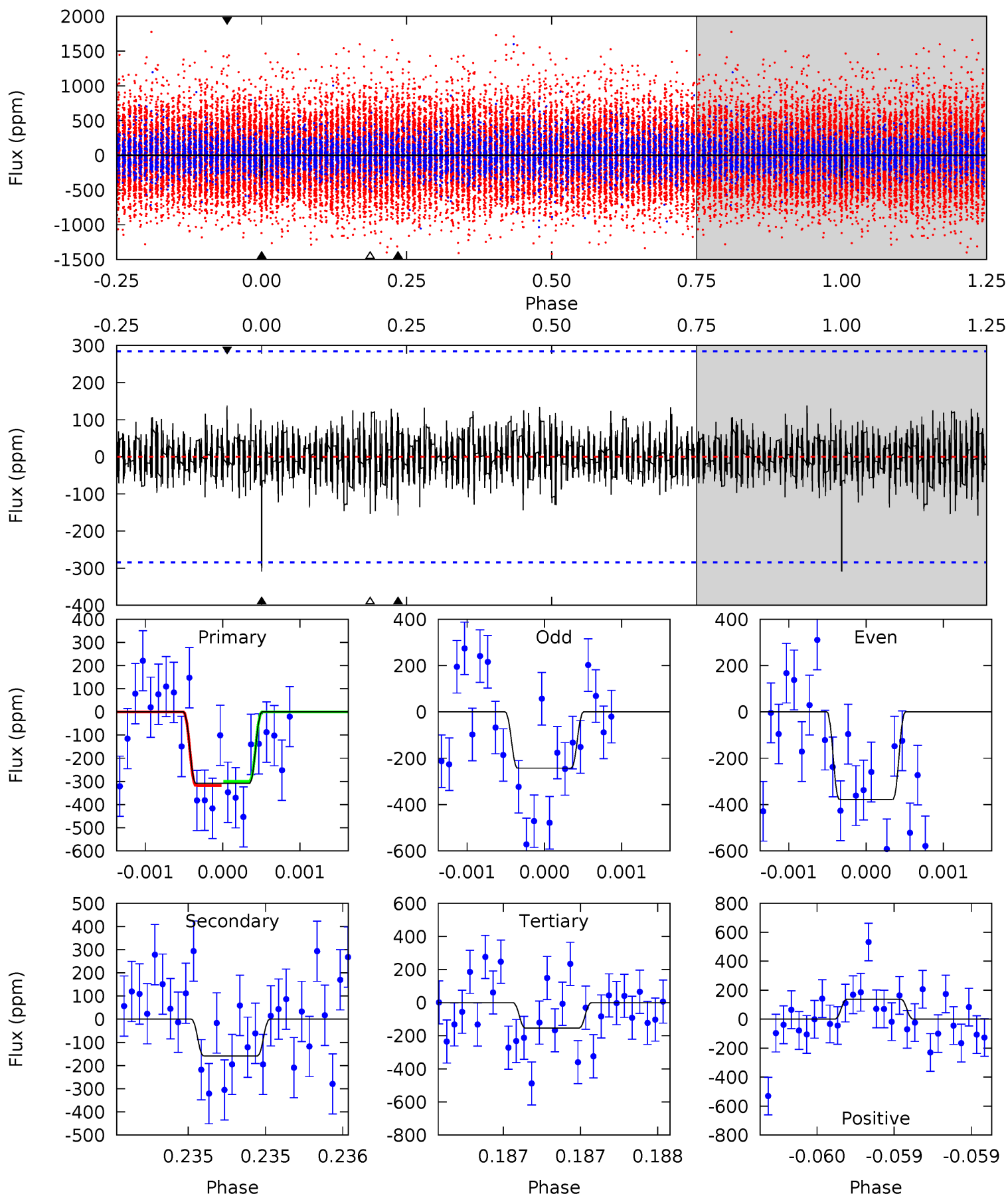
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.99	4.97	3.46	3.90	5.47	3.32	1.11	4.53	4.09	1.50	1.07	1.30	1.03	0.33	0.05



Alt Model-Shift Uniqueness Test

008389838-02, P = 425.808146 Days, E = 176.492799 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.98	3.07	2.98	2.68	5.51	3.39	0.82	3.00	3.31	0.10	0.40	1.32	0.82	0.31	0.17



Stellar Parameters For KIC 008389838

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5725^{+155}_{-172}	$4.433^{+0.116}_{-0.174}$	$-0.240^{+0.300}_{-0.300}$	$0.936^{+0.248}_{-0.134}$	$0.867^{+0.120}_{-0.080}$	$1.488^{+0.766}_{-0.683}$
	+3%/-3%	+3%/-4%	+125%/-125%	+26%/-14%	+14%/-9%	+51%/-46%
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 008389838-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-242 ± 49	$2.36^{+1.43}_{-1.42}$	333^{+23}_{-17}	4861^{+2720}_{-838}	$27030^{+136340}_{-17026}$
Alt.	-159 ± 52	$2.09^{+1.62}_{-1.24}$	334^{+21}_{-18}	4632^{+2369}_{-912}	$21236^{+100723}_{-14938}$

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

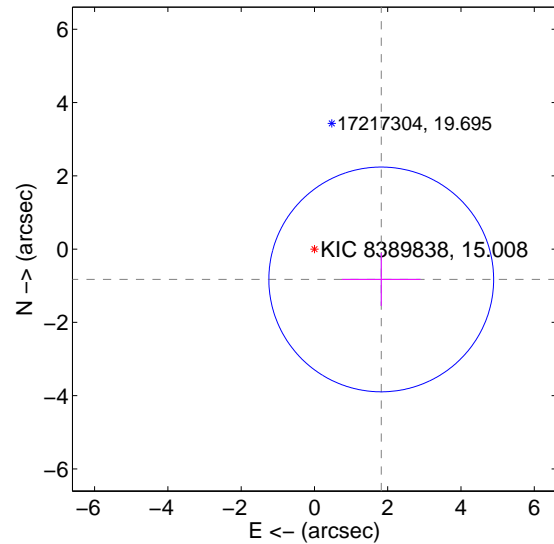
Supplemental centroid analysis for 008389838-02. Kepler magnitude: 15.01. Transit SNR 7.91

There are 1 quarters with good PRF difference image offsets

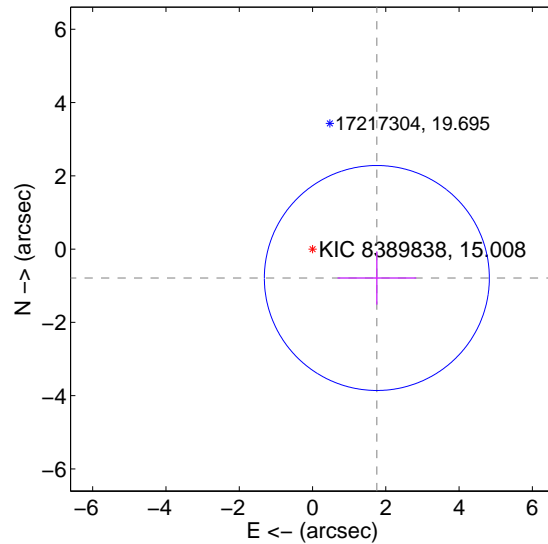
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.003 ± 1.023	1.96	-1.823 ± 1.074	-0.828 ± 0.725
PRF-fit source offset from KIC position	1.925 ± 1.023	1.88	-1.756 ± 1.074	-0.789 ± 0.725
photometric centroid source offset	0.13 ± 1.79	0.07	-0.03 ± 1.92	0.13 ± 1.78

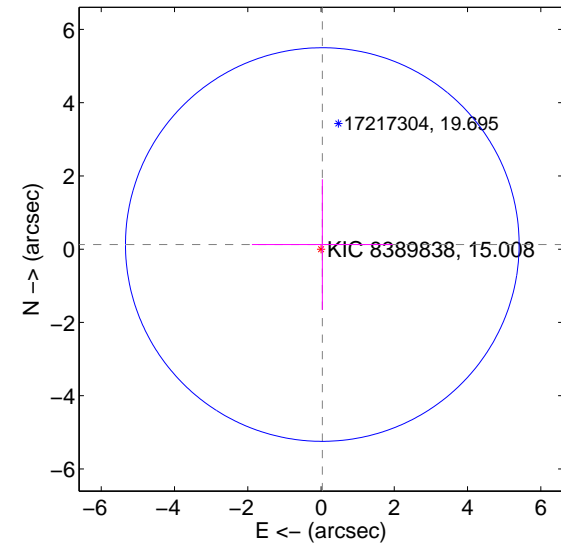
offset from difference PRF-fit to OOT PRF-fit



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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

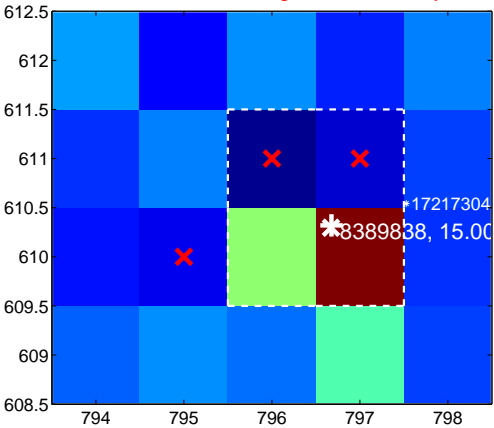
Q1 no difference image



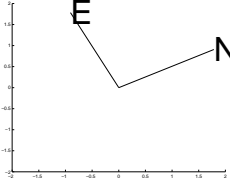
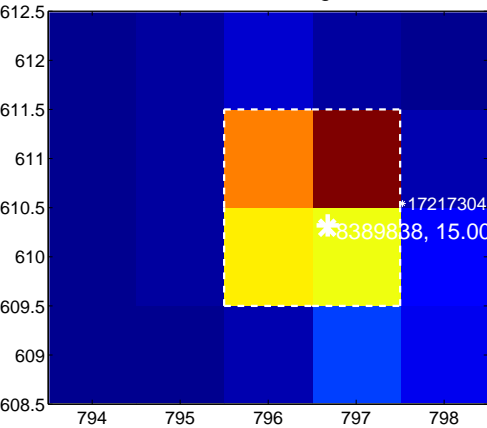
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



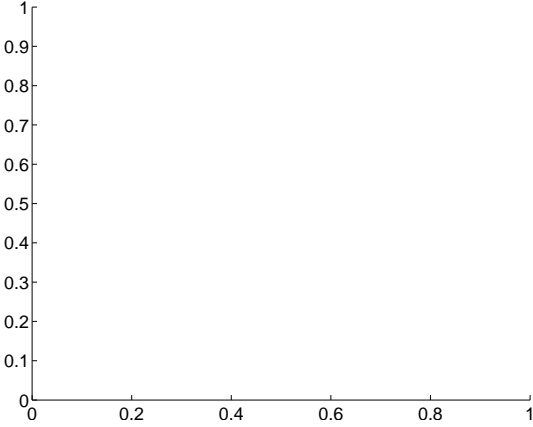
Q3 no difference image



Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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

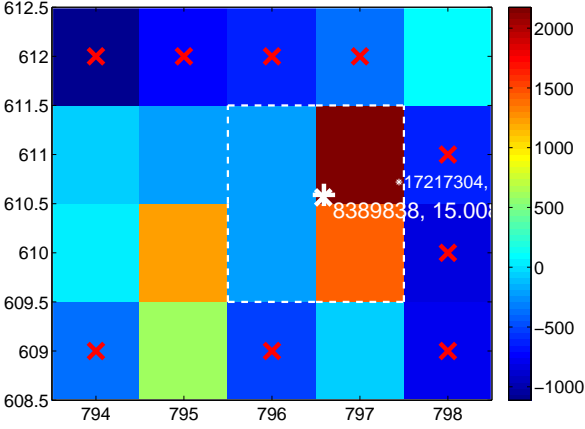
Q5 no difference image



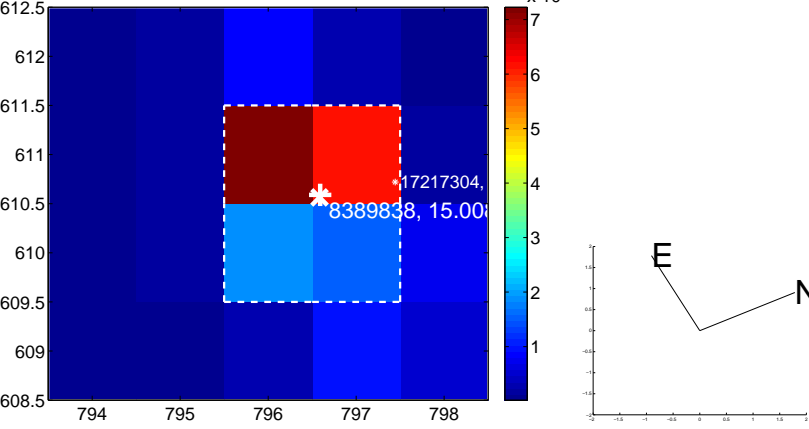
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



Q7 no OOT image



Q8 no difference image



Q8 no OOT image



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

Q9 no difference image



Q9 no OOT image



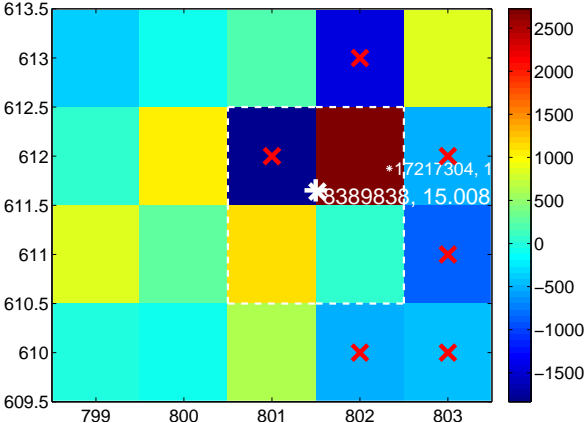
Q10 no difference image



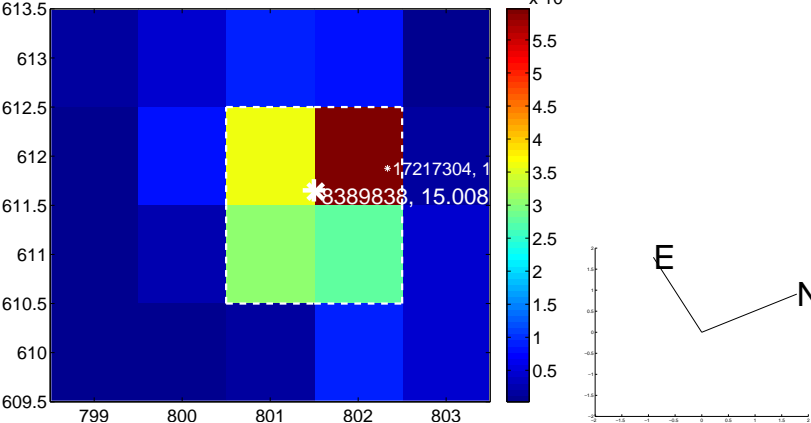
Q10 no OOT image



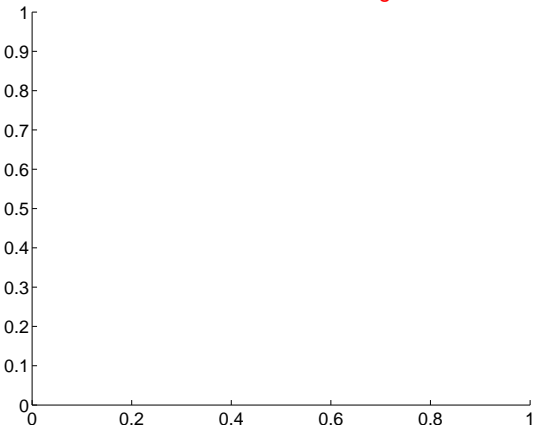
Q11 difference image. Poor Quality



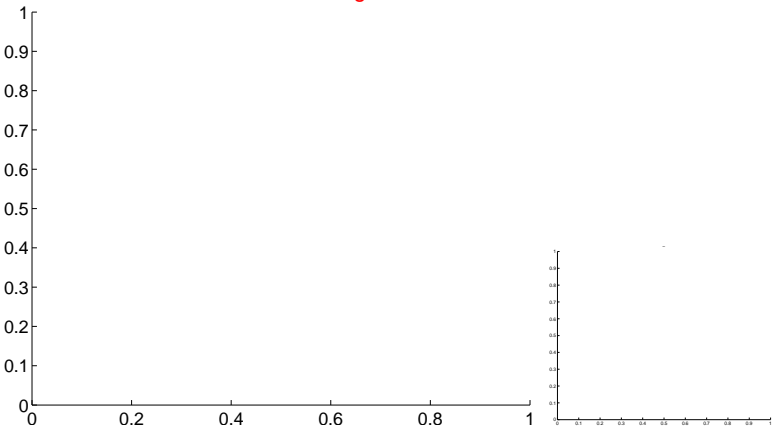
Q11 OOT image



Q12 no difference image



Q12 no OOT image



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

Q13 no difference image



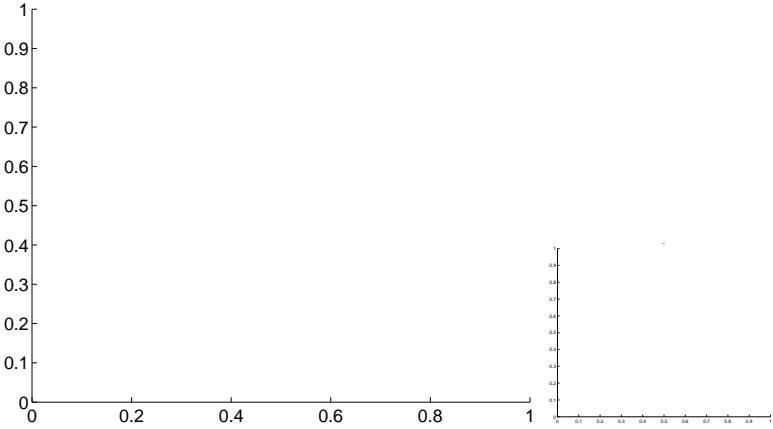
Q13 no OOT image



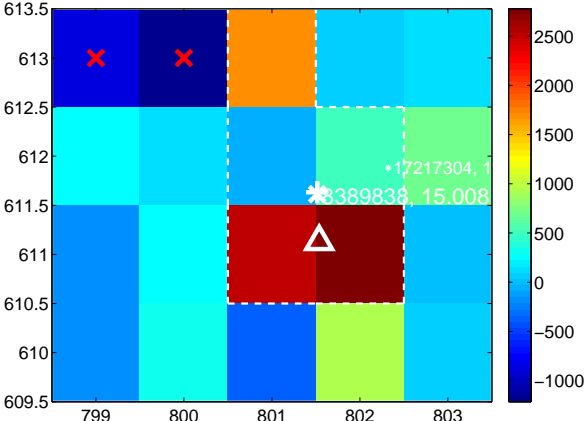
Q14 no difference image



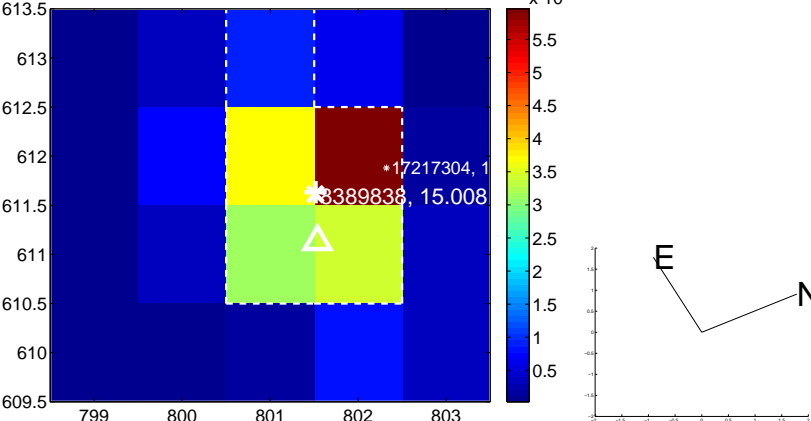
Q14 no OOT image



Q15 difference image



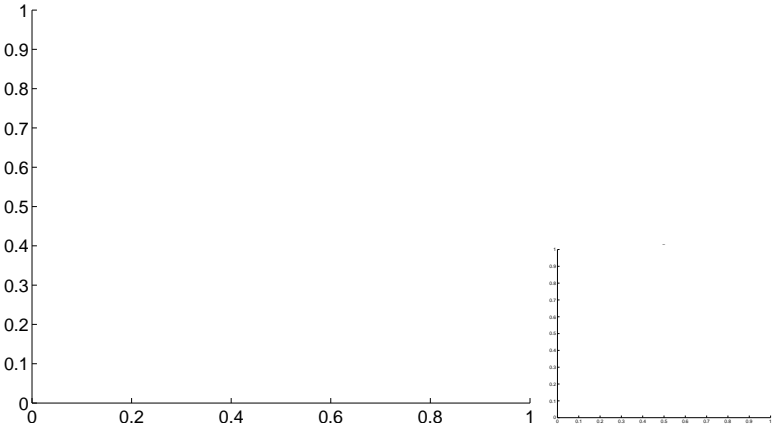
Q15 OOT image



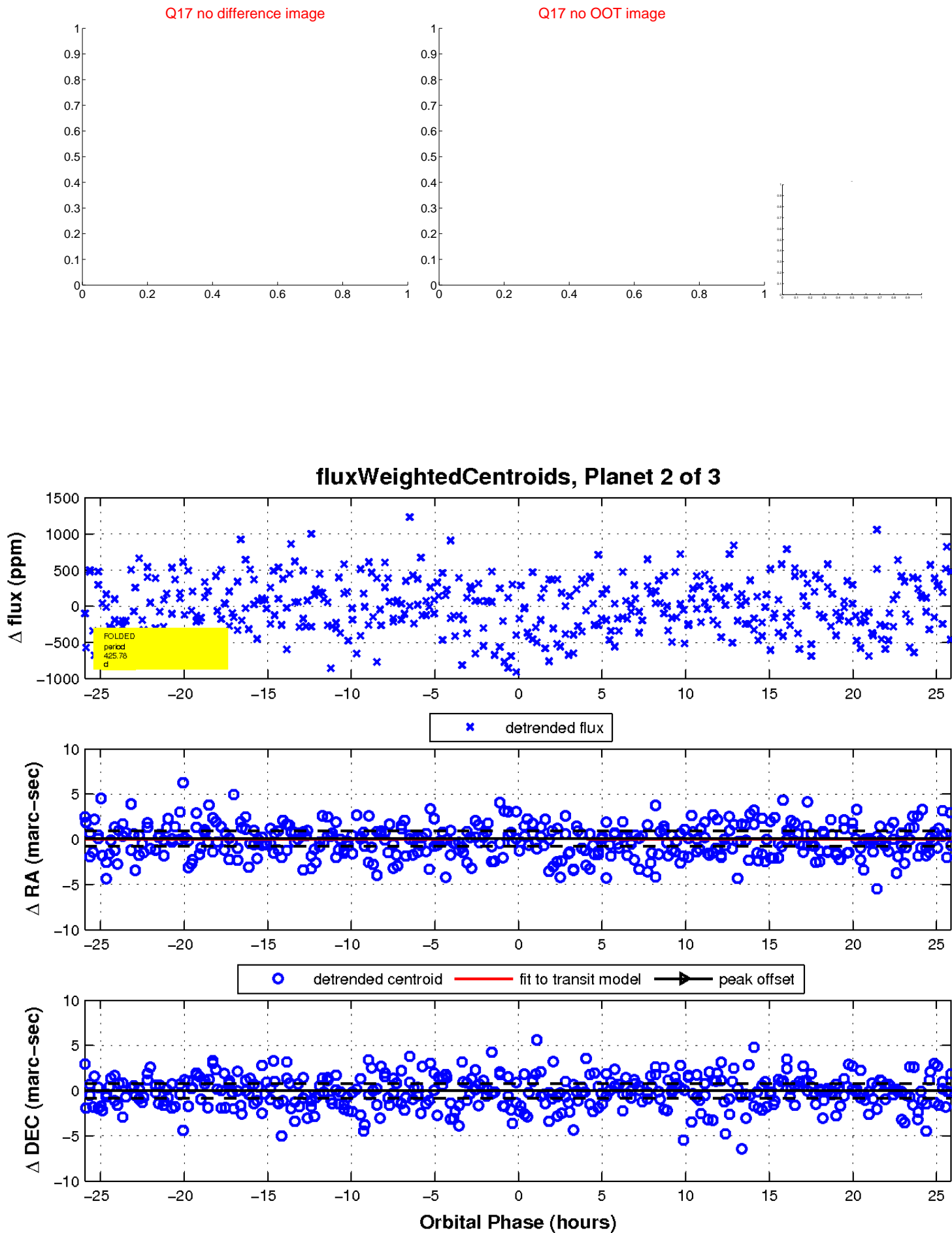
Q16 no difference image



Q16 no OOT image

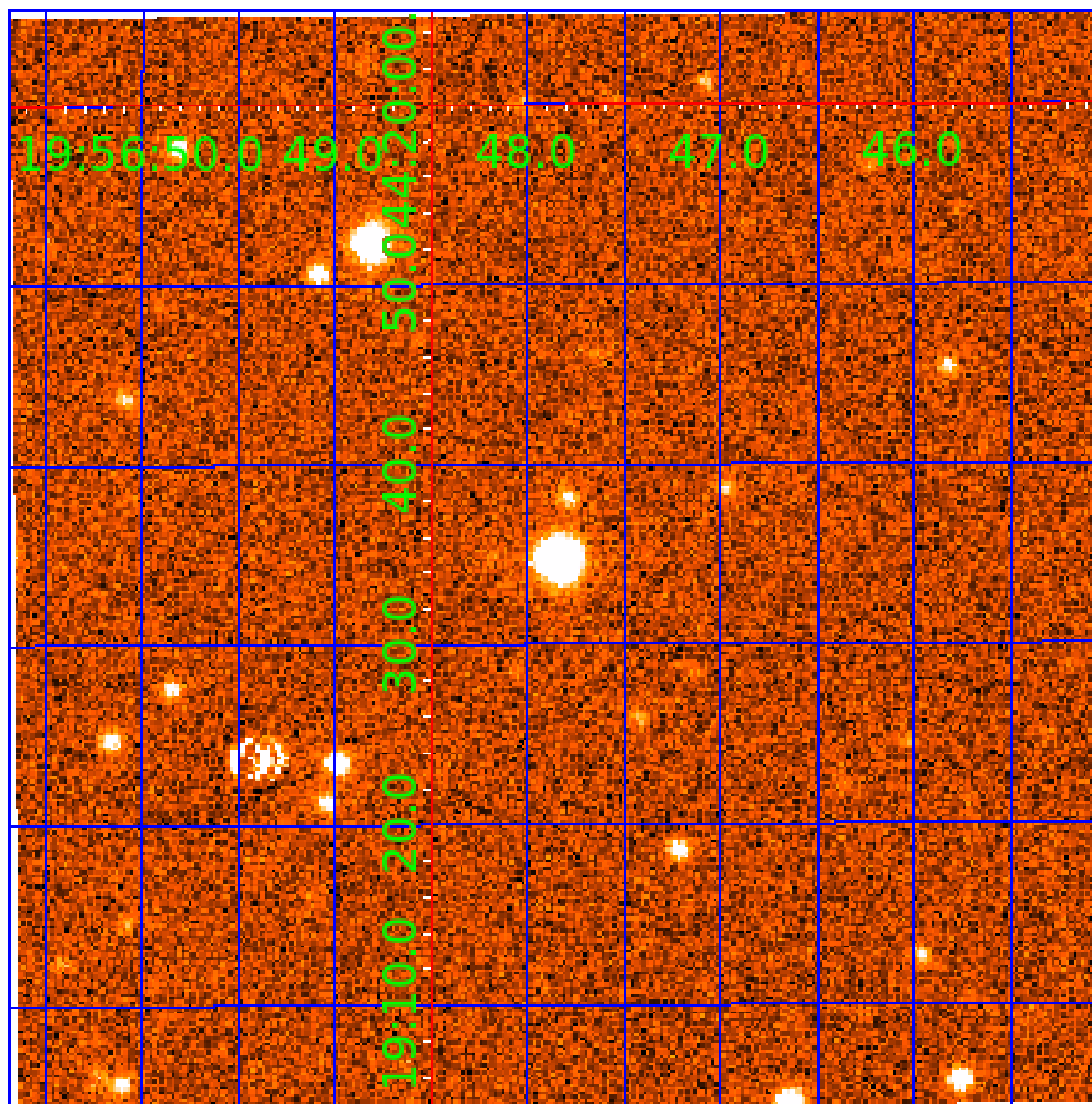


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008389838

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})
008389838-01	OBS	No	4.017437	133.555167	33.4	17.355	7.7	7.0	0.94	5725	0.62	379.24
008389838-02	OBS	No	425.783399	176.549524	432.2	8.659	11.4	7.9	0.94	5725	2.13	0.76
008389838-03	OBS	No	8.110201	135.866892	145.2	2.823	7.6	7.6	0.94	5725	1.24	148.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008389838-01	OBS	FP	0.00	1	0	1	0	LPP_DV—HALO_GHOST
008389838-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008389838-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT

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

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

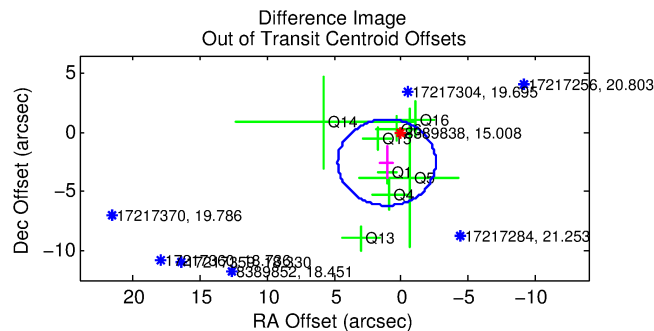
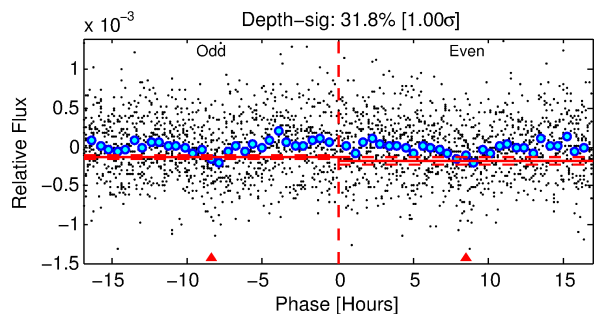
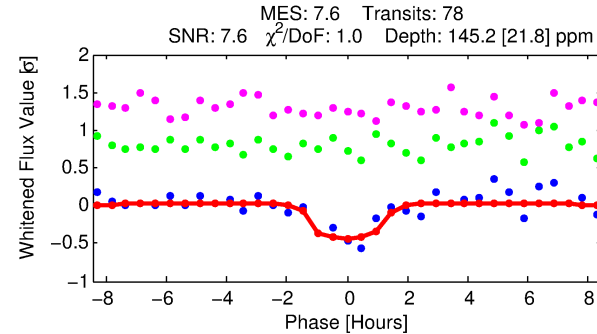
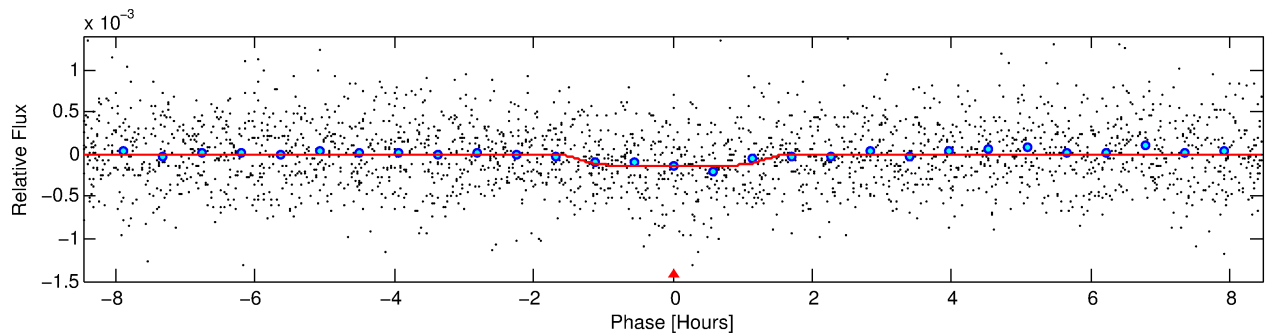
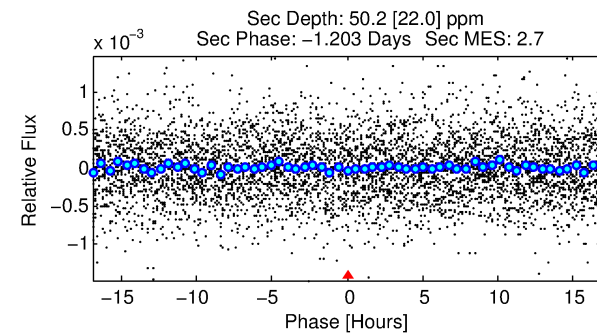
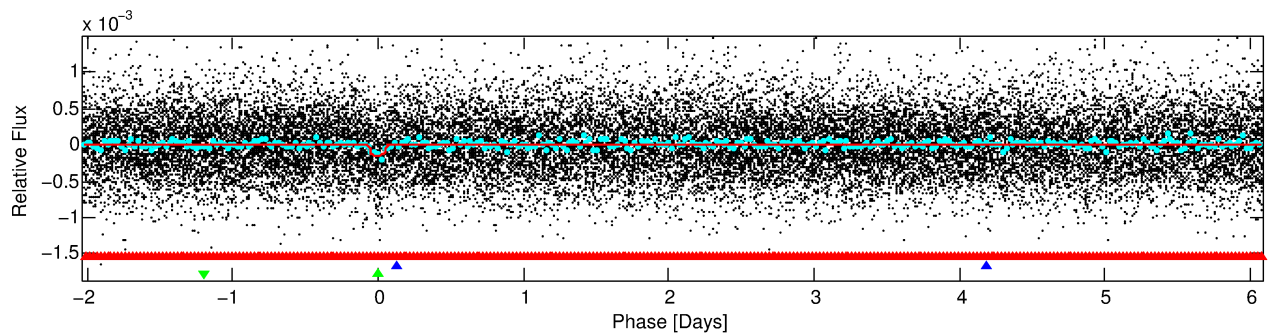
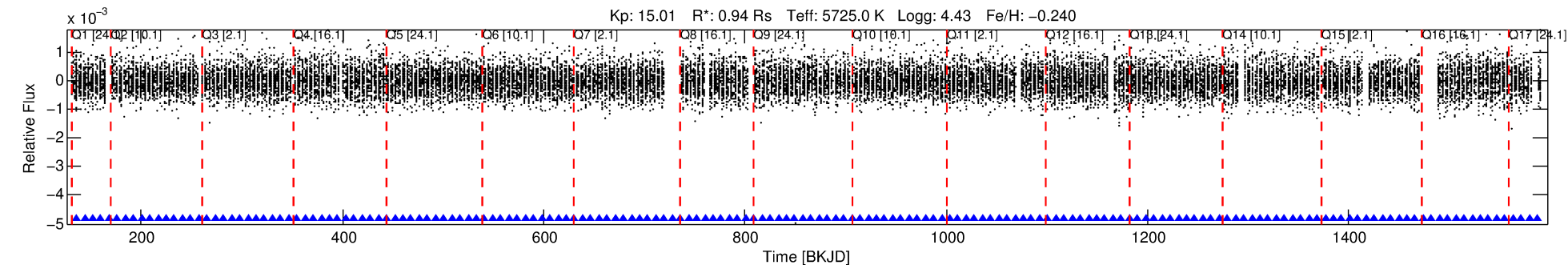
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008389838-03

No Significant Match Found

DV One-Page Summary

KIC: 8389838 Candidate: 3 of 3 Period: 8.110 d



DV Fit Results:

Period = 8.11020 [0.00010] d
Epoch = 135.8669 [0.0093] BKJD
Rp/R* = 0.0122 [0.0126]
a/R* = 14.04 [66.22]
b = 0.79 [2.35]
Seff = 148.64 [50.84]
Teq = 890 [76] K
Rp = 1.24 [1.33] Re
a = 0.0753 [0.0167] AU
Ag = 101.22 [216.65] [0.46σ]
Teffp = 4366 [2314] K [1.50σ]

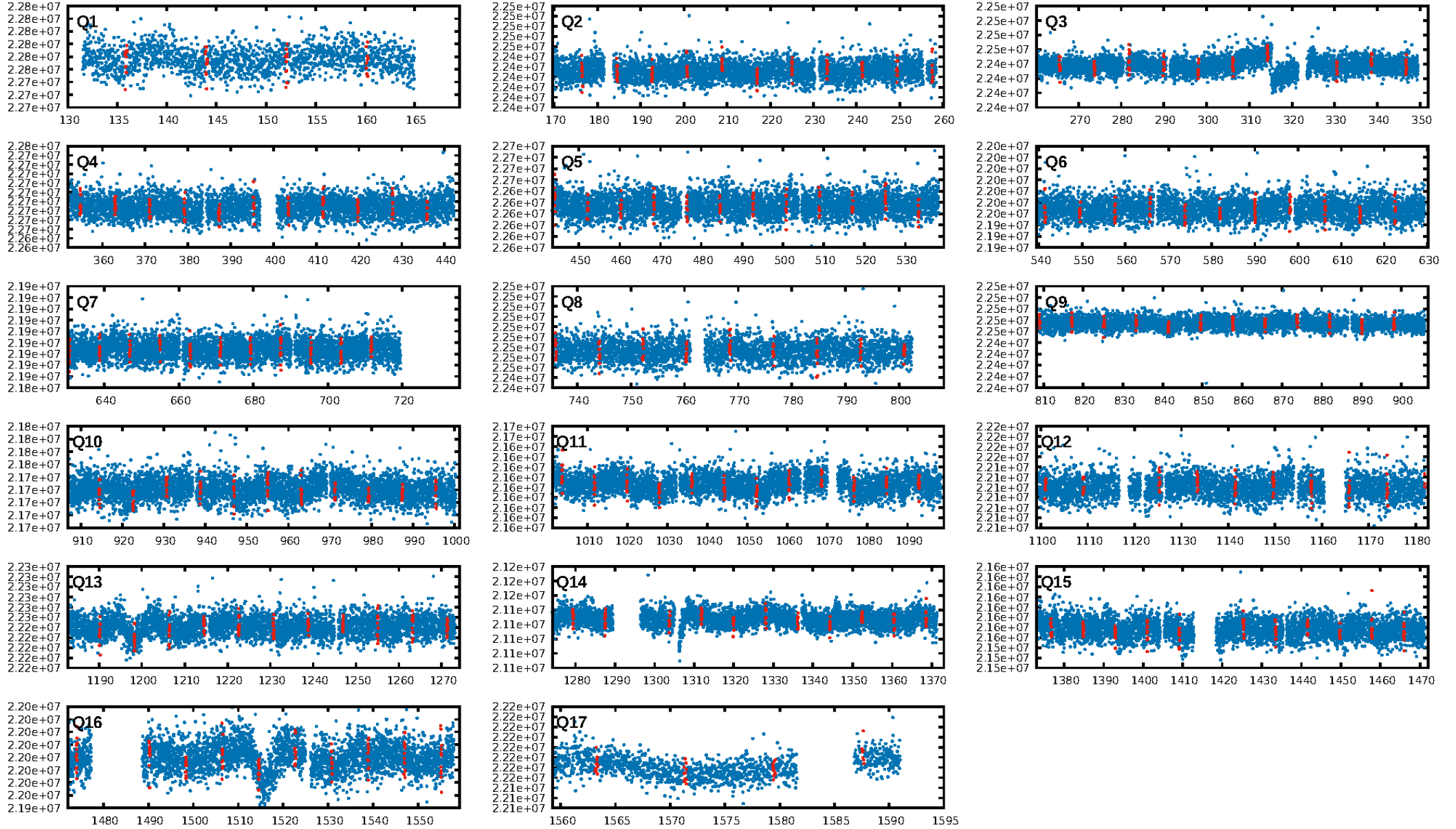
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.59σ]
LongPeriod-sig: 100.0% [1100.66σ]
ModelChiSquare2-sig: 94.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.02e-11
RollingBand-fgt: 1.00 [74/74]
GhostDiagnostic-chr: -0.6345
Centroid-sig: 18.2%
Centroid-so: 1.521 arcsec [0.96σ]
OotOffset-rm: 2.769 arcsec [2.27σ]
KicOffset-rm: 2.746 arcsec [2.27σ]
OotOffset-st: 2/1/2/3 [8]
KicOffset-st: 2/1/2/3 [8]
DiffImageQuality-fgm: 0.12 [1/8]
DiffImageOverlap-fno: 0.82 [14/17]

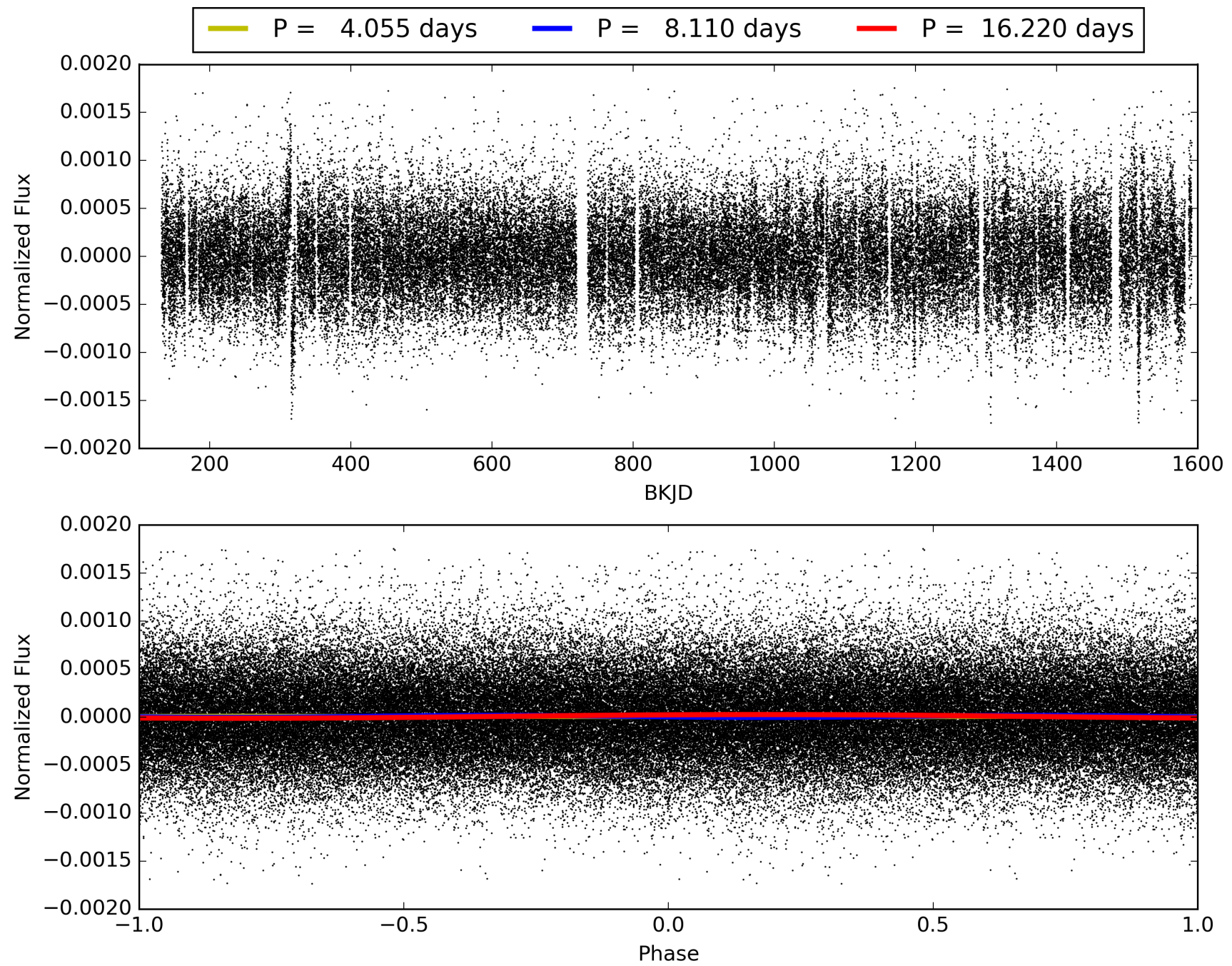
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:43:12 Z

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

TCE 008389838-03, PDC Light Curves

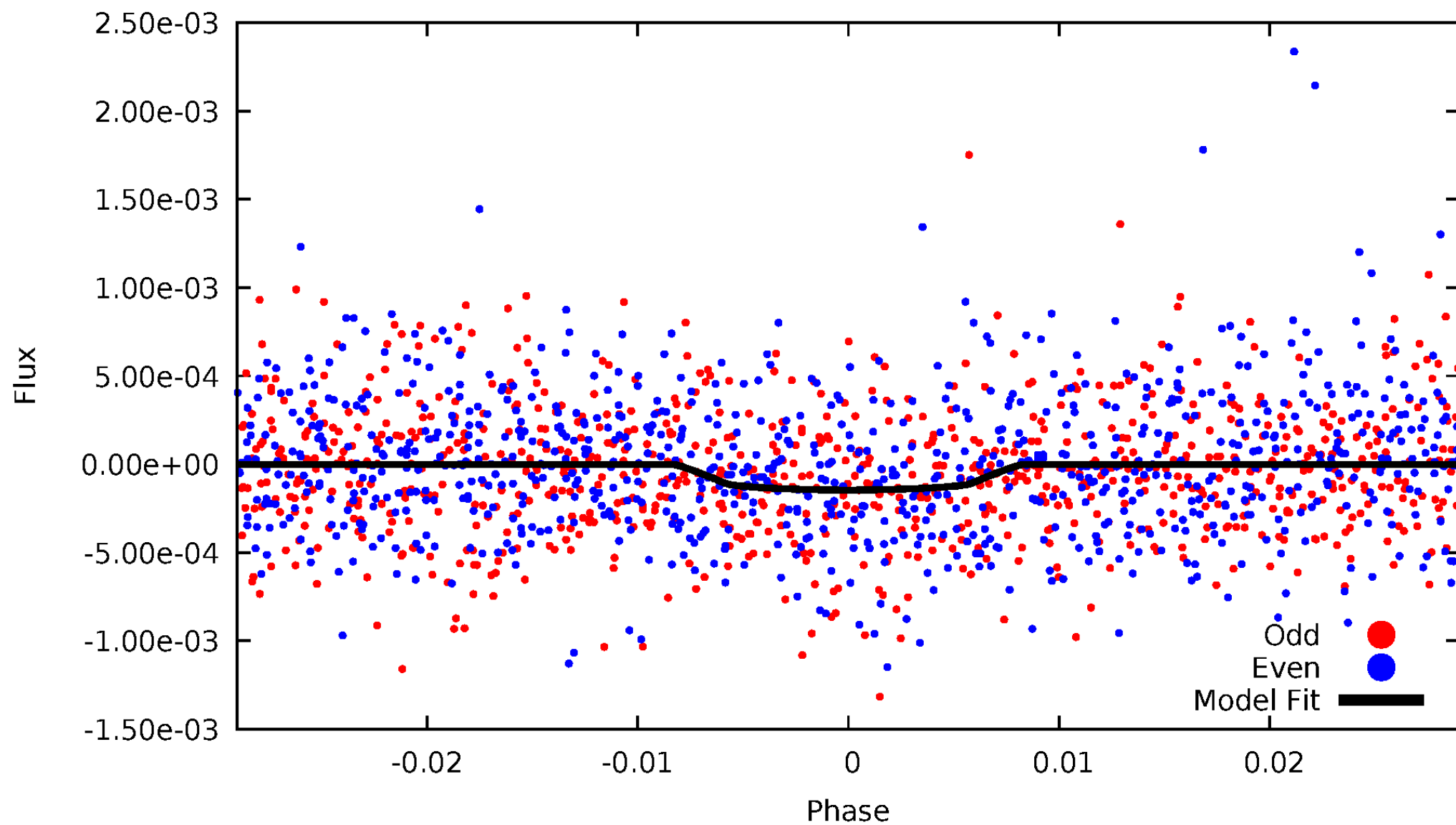


TCE 008389838-03



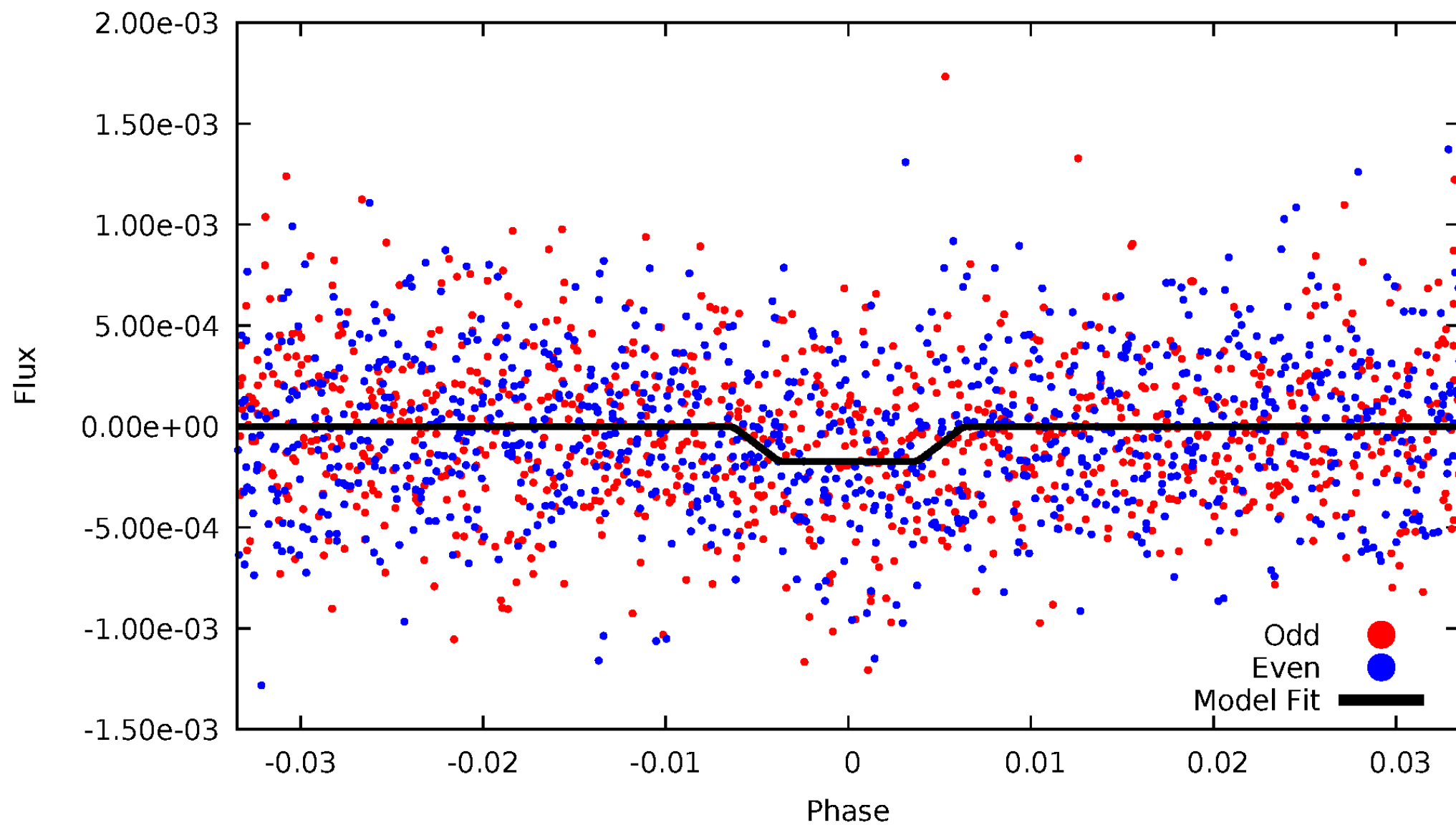
DV Odd/Even

TCE 008389838-03



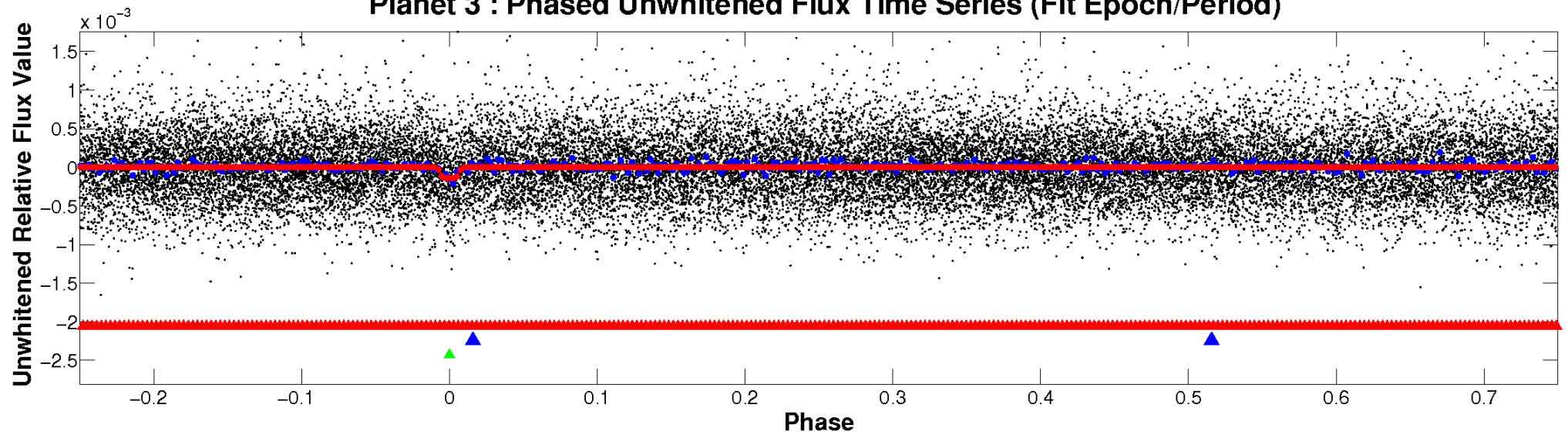
ALT Odd/Even

TCE 008389838-03

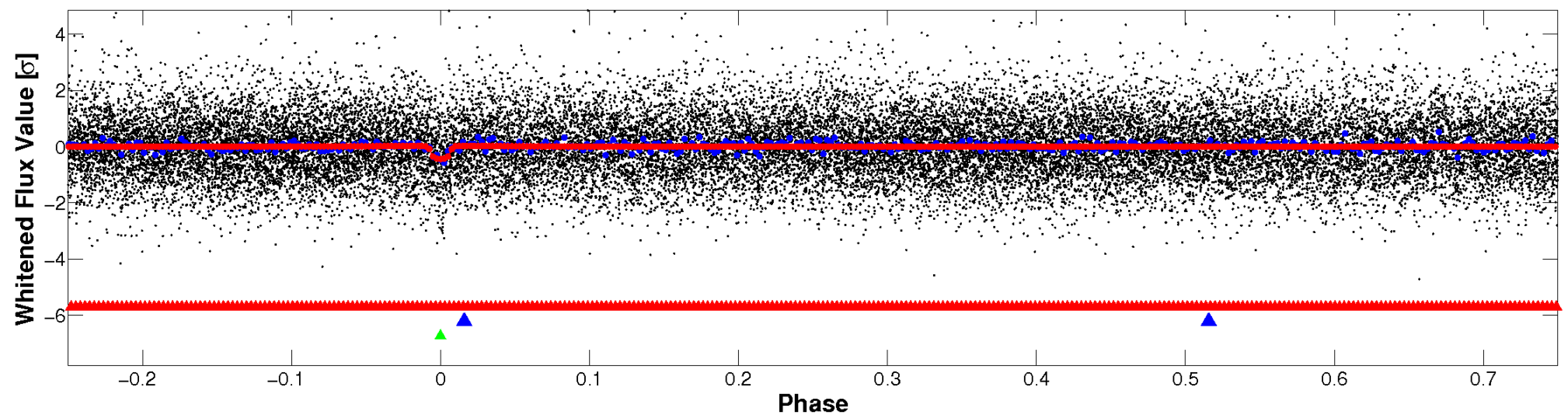


Non-Whitened Vs. Whitened Light Curve

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

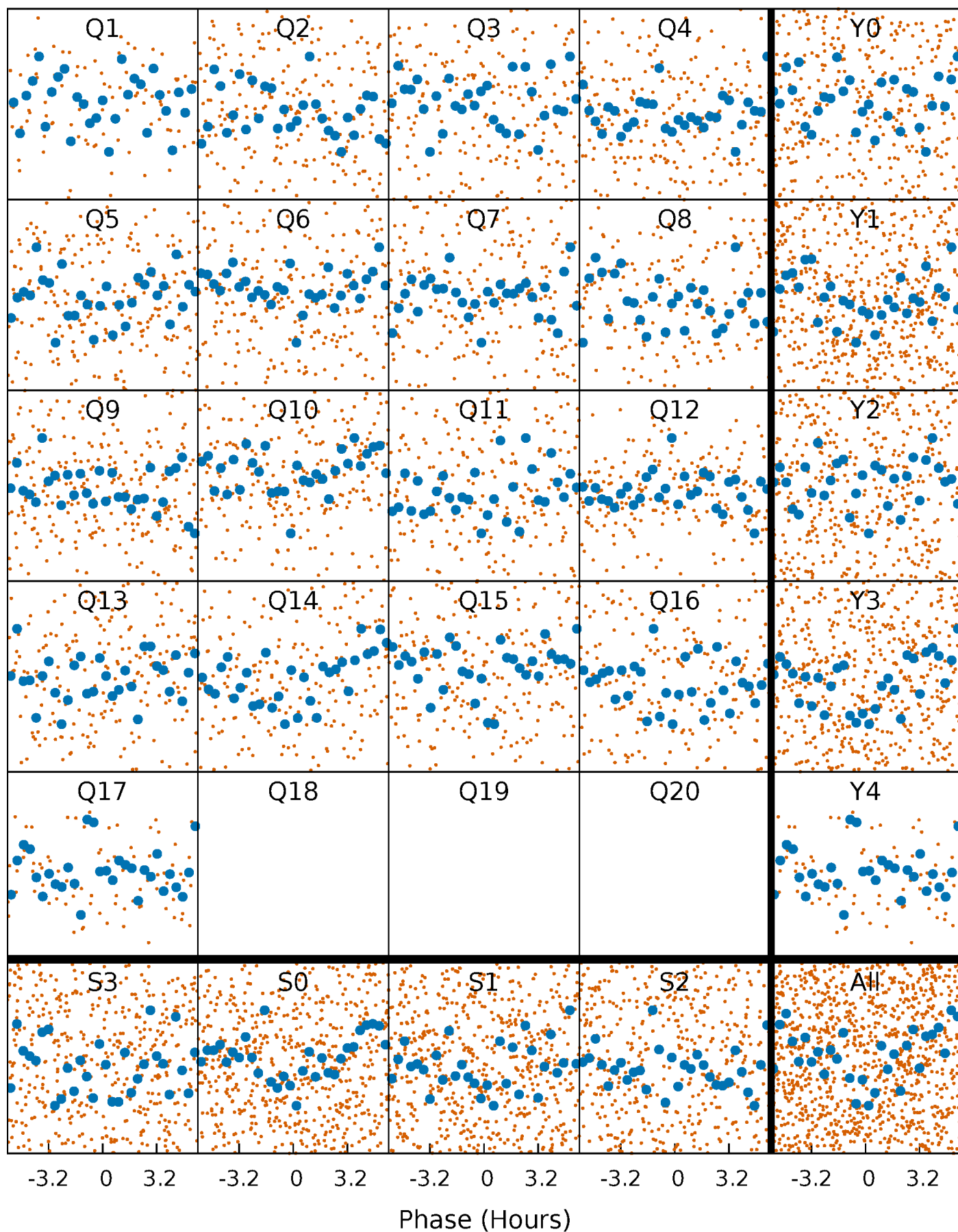


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



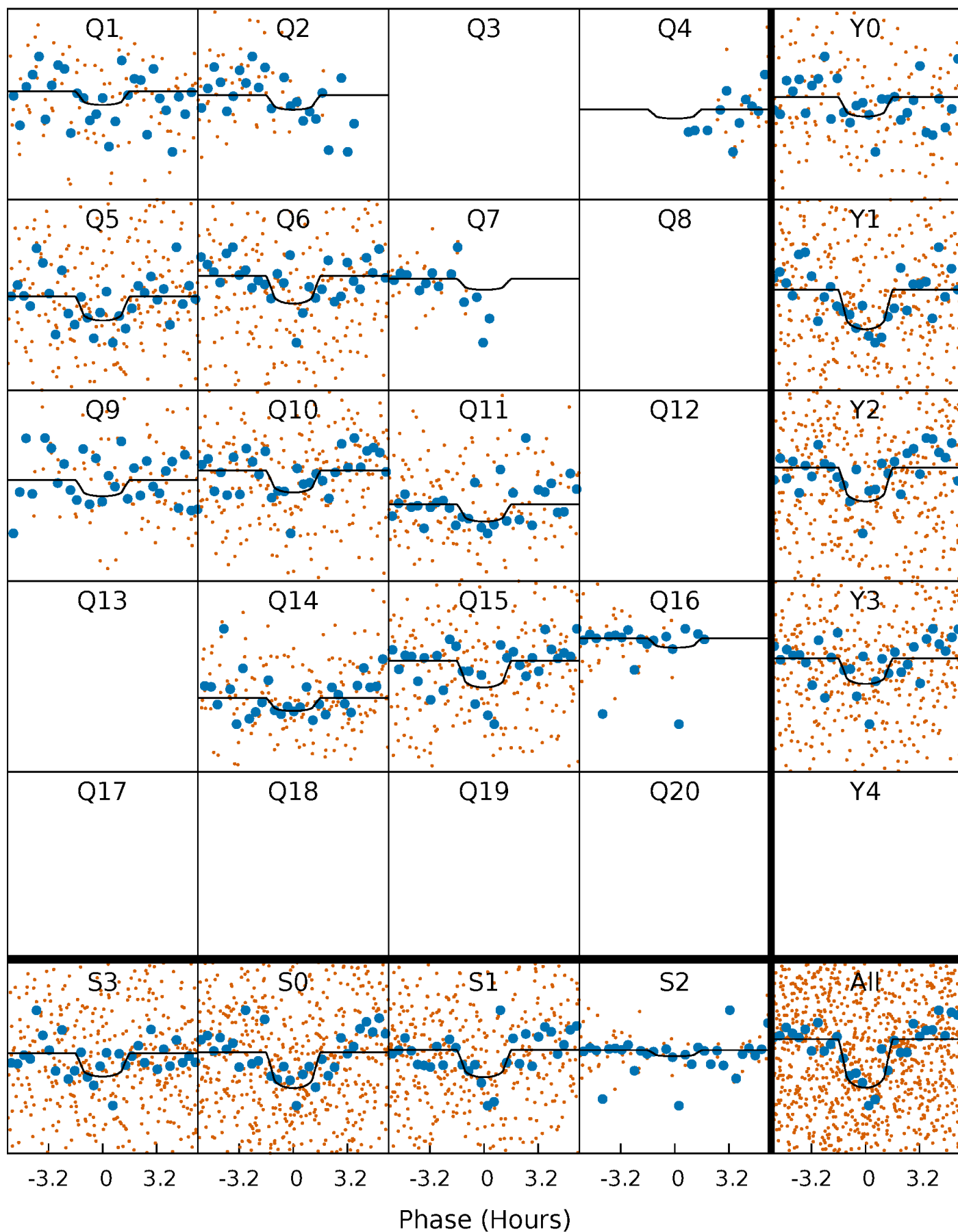
PDC Quarter-Phased Transit Curves

TCE 008389838-03 P= 8.110201 Days $T_0=135.866892$ (BKJD)



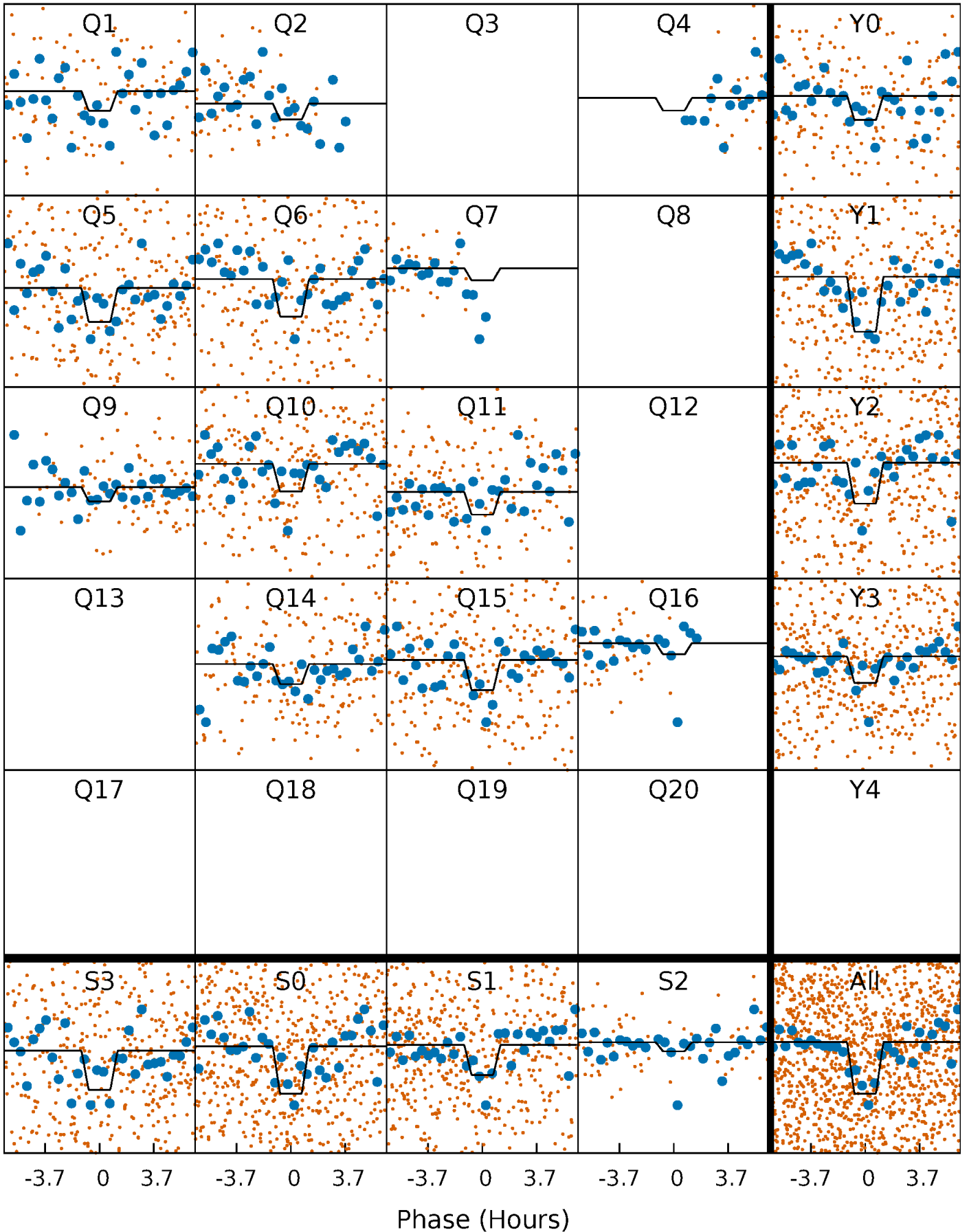
DV Quarter-Phased Transit Curves

TCE 008389838-03 P= 8.110201 Days $T_0=135.866892$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

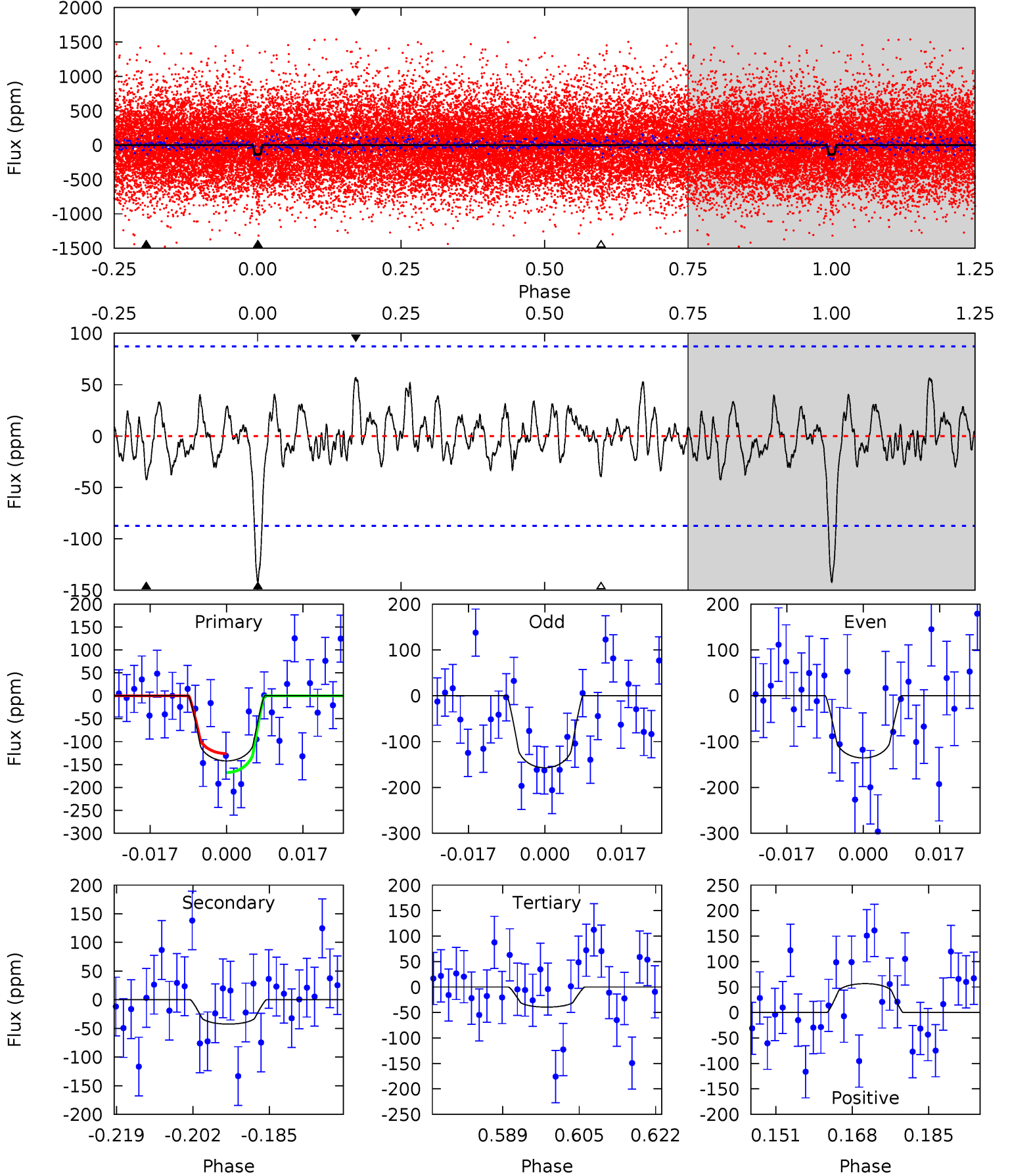
TCE 008389838-03 P= 8.110215 Days $T_0=135.867970$ (BKJD)



DV Model-Shift Uniqueness Test

008389838-03, P = 8.110201 Days, E = 127.756691 Days

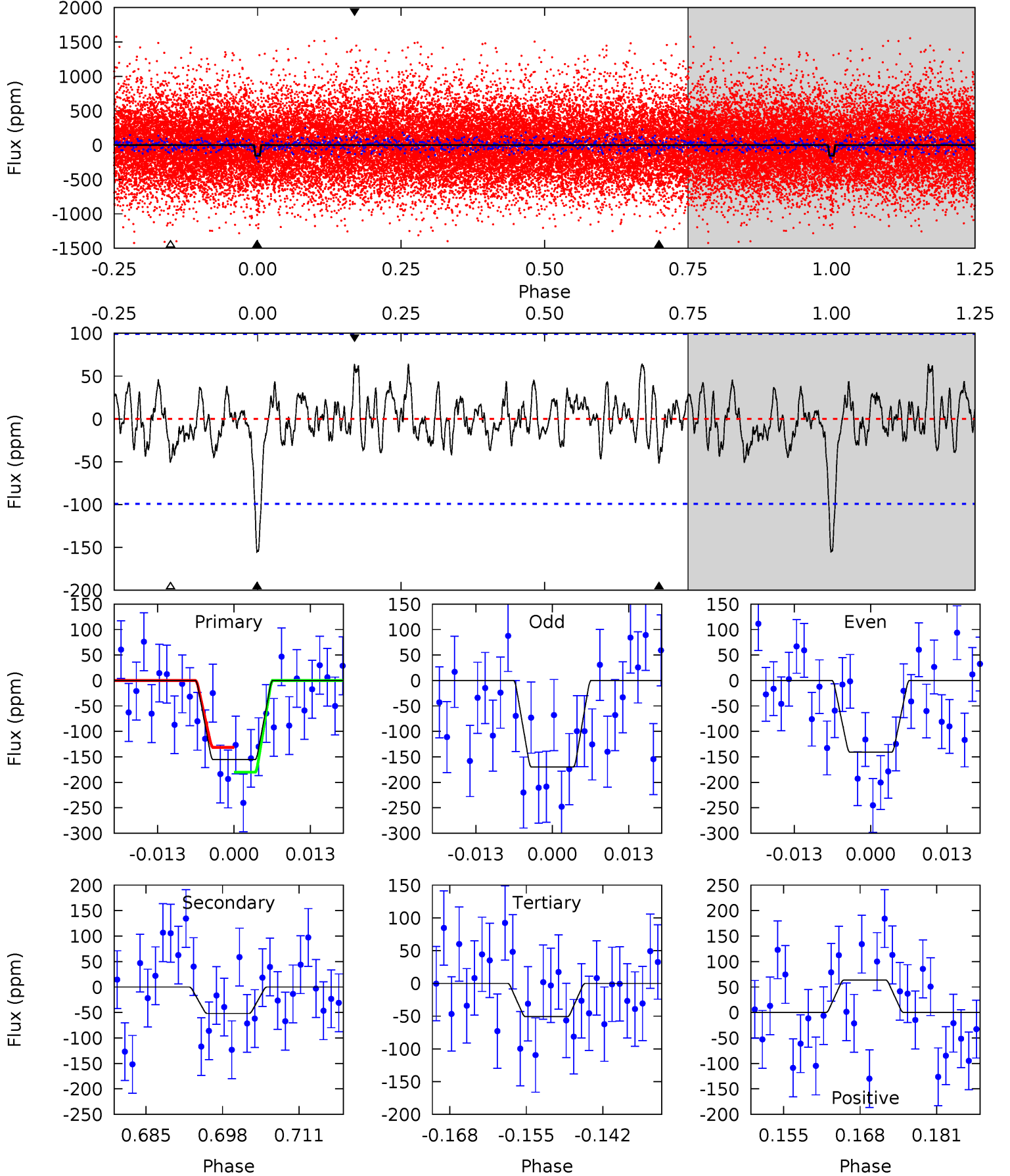
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.02	2.40	2.23	3.19	4.93	2.39	1.00	5.79	4.83	0.17	-0.80	0.61	0.95	0.28	1.17



Alt Model-Shift Uniqueness Test

008389838-03, P = 8.110215 Days, E = 127.757755 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.80	2.60	2.55	3.19	4.98	2.49	1.07	5.25	4.61	0.05	-0.59	0.74	1.04	0.29	1.23



Stellar Parameters For KIC 008389838

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5725^{+155}_{-172}	$4.433^{+0.116}_{-0.174}$	$-0.240^{+0.300}_{-0.300}$	$0.936^{+0.248}_{-0.134}$	$0.867^{+0.120}_{-0.080}$	$1.488^{+0.766}_{-0.683}$
	+3%/-3%	+3%/-4%	+125%/-125%	+26%/-14%	+14%/-9%	+51%/-46%
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 008389838-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-42 ± 18	$1.52^{+1.28}_{-0.94}$	1252^{+81}_{-71}	4004^{+2222}_{-723}	52^{+373}_{-38}
Alt.	-52 ± 20	$1.63^{+1.20}_{-1.01}$	1248^{+84}_{-64}	4119^{+2035}_{-751}	60^{+345}_{-43}

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 $A_{obs} \gg 1.0$

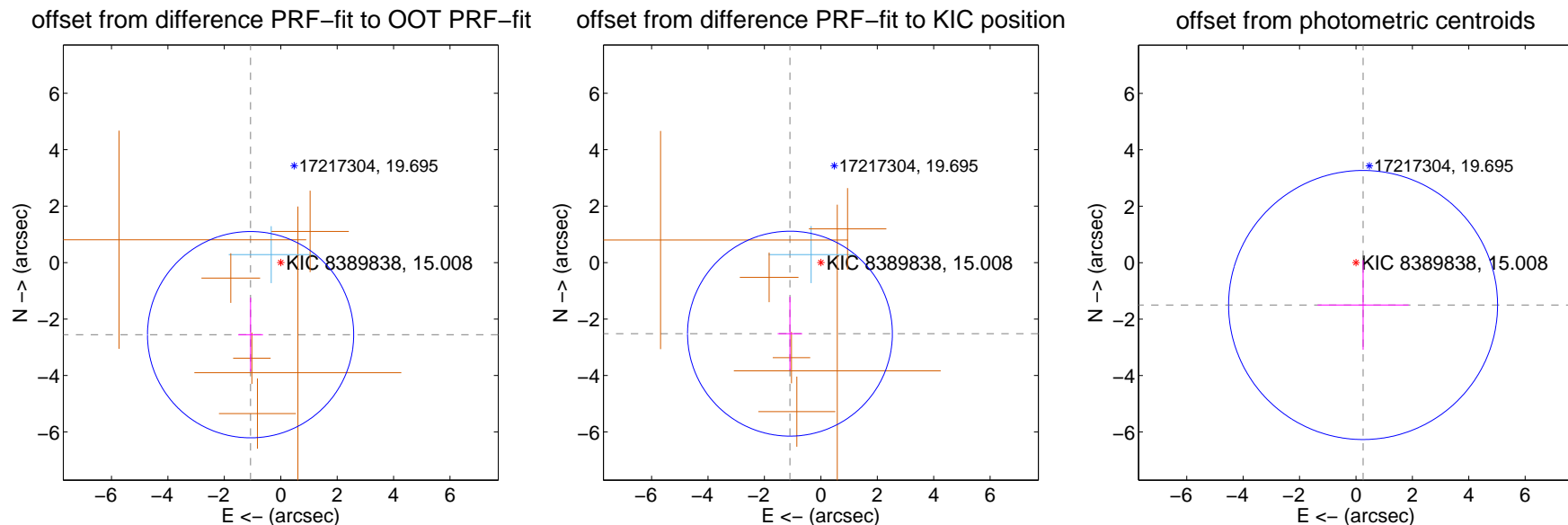
DV Centroid Data

Supplemental centroid analysis for 008389838-03. Kepler magnitude: 15.01. Transit SNR 7.60

There are 1 quarters with good PRF difference image offsets

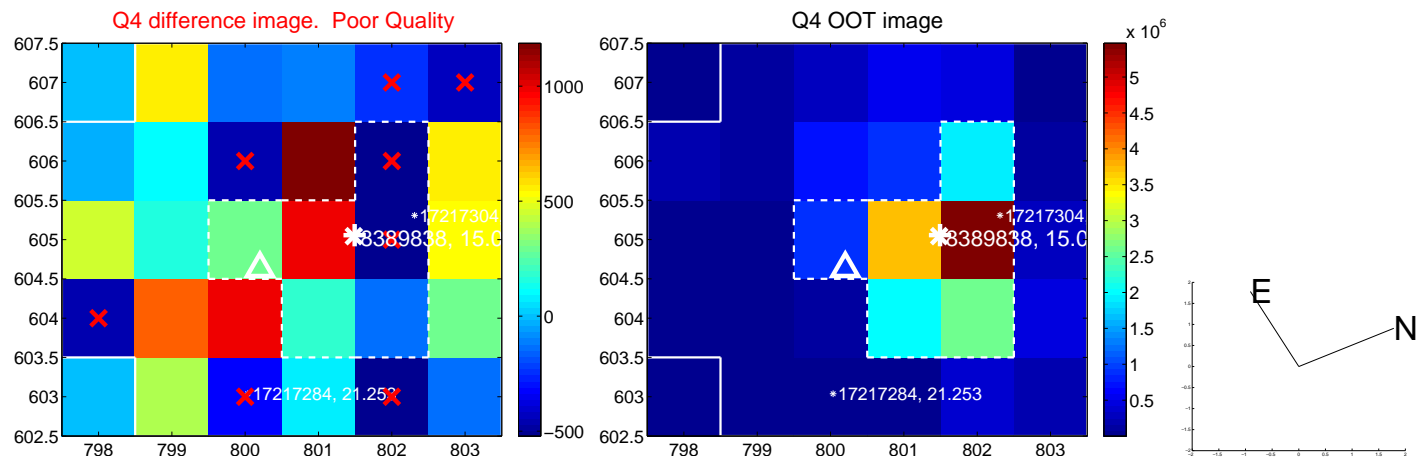
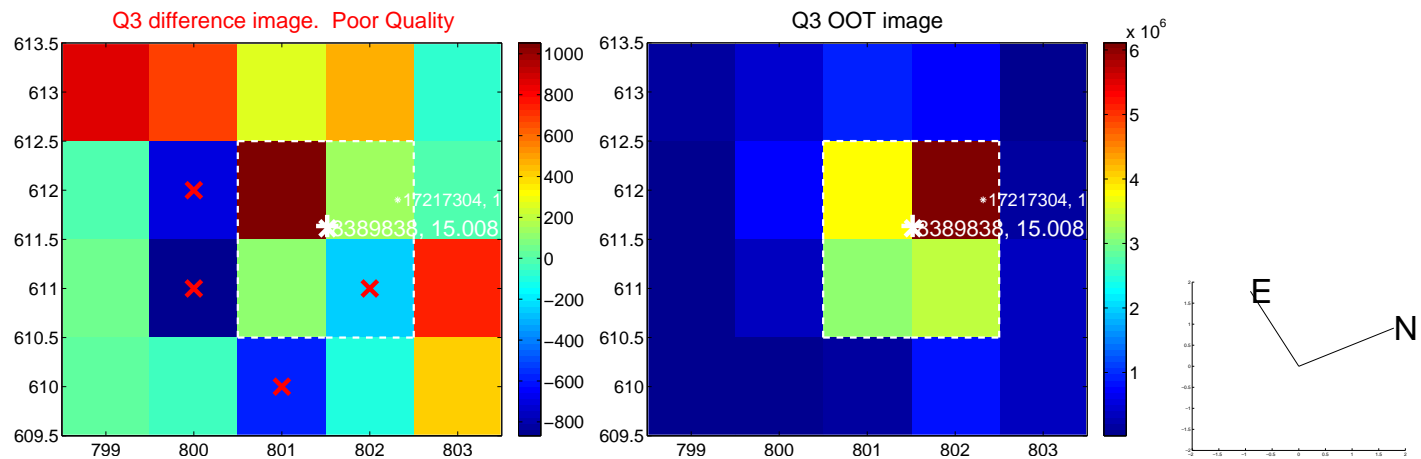
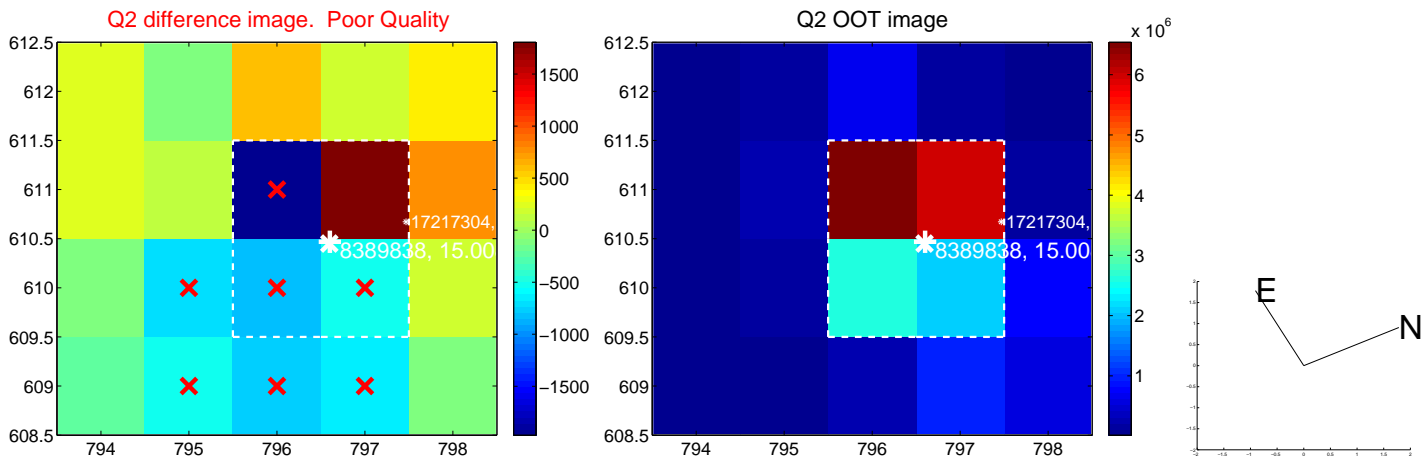
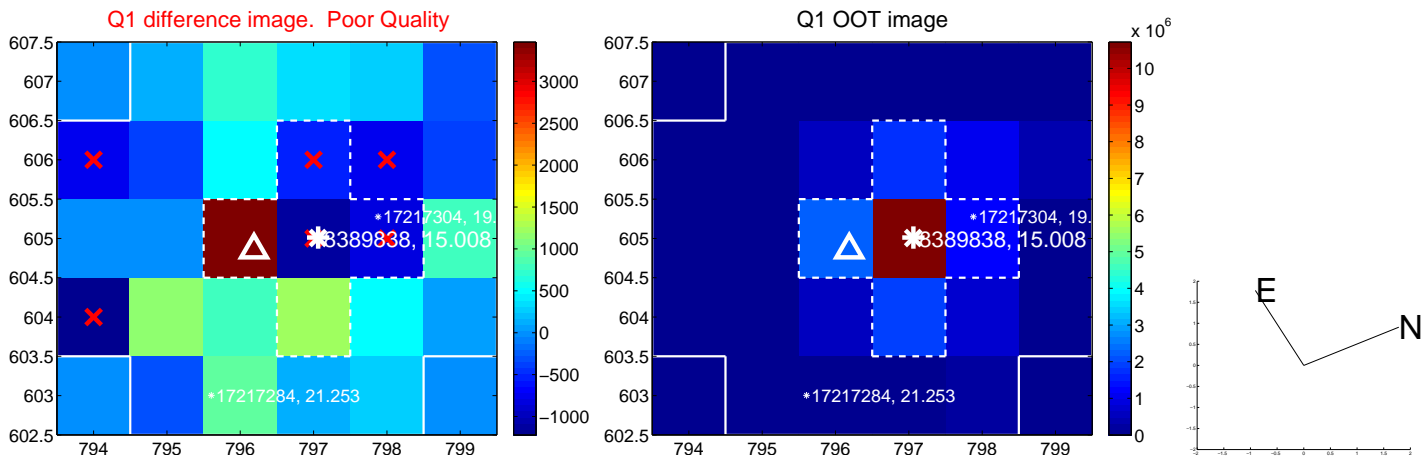
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.769 ± 1.218	2.27	1.069 ± 0.439	-2.554 ± 1.308
PRF-fit source offset from KIC position	2.746 ± 1.210	2.27	1.095 ± 0.434	-2.518 ± 1.306
photometric centroid source offset	1.52 ± 1.59	0.96	-0.25 ± 1.61	-1.50 ± 1.59

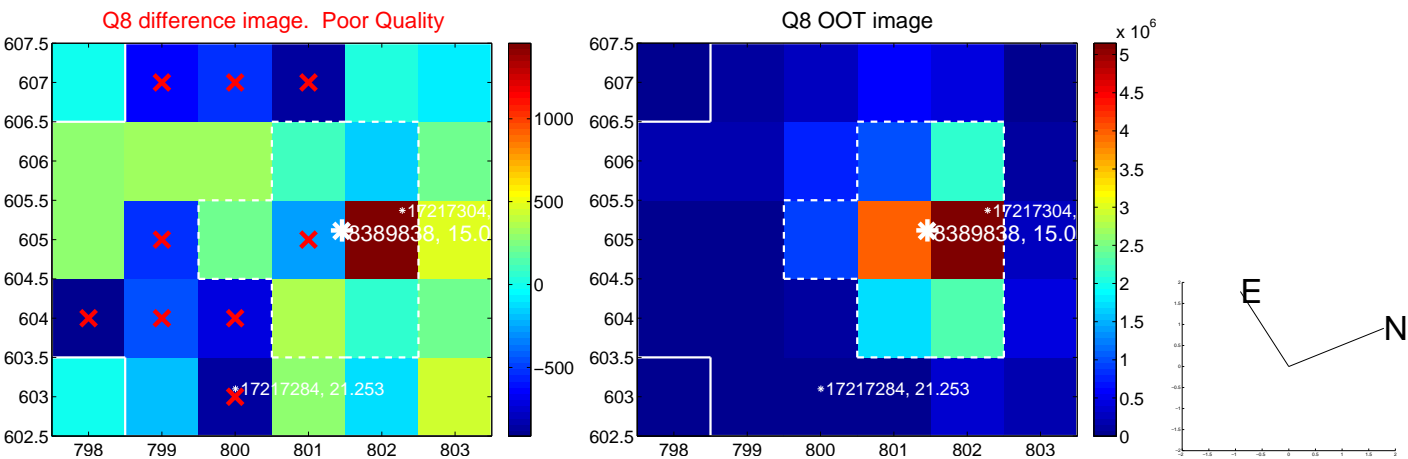
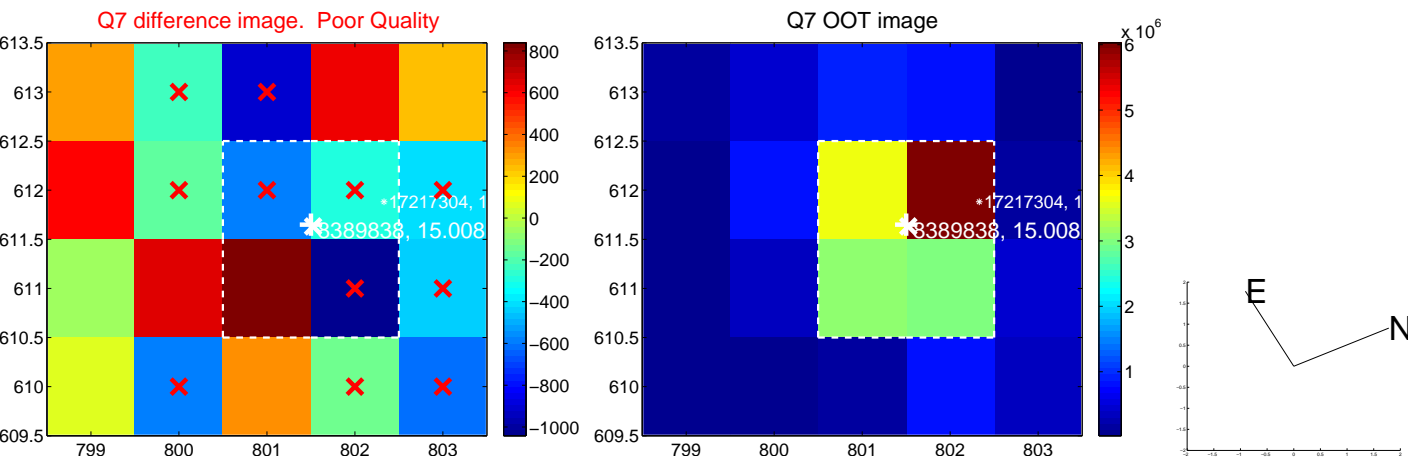
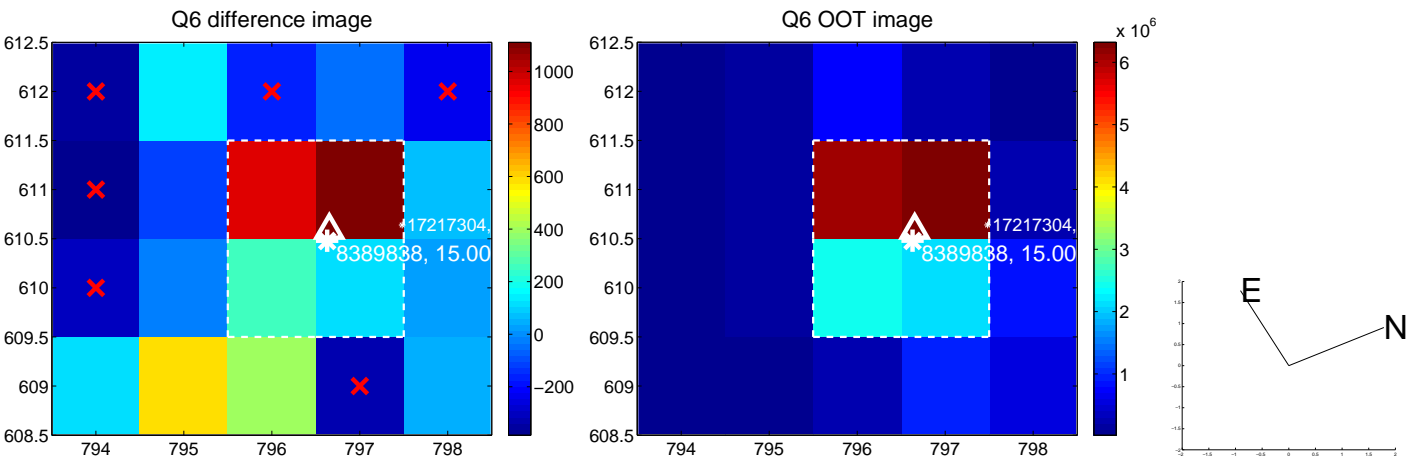
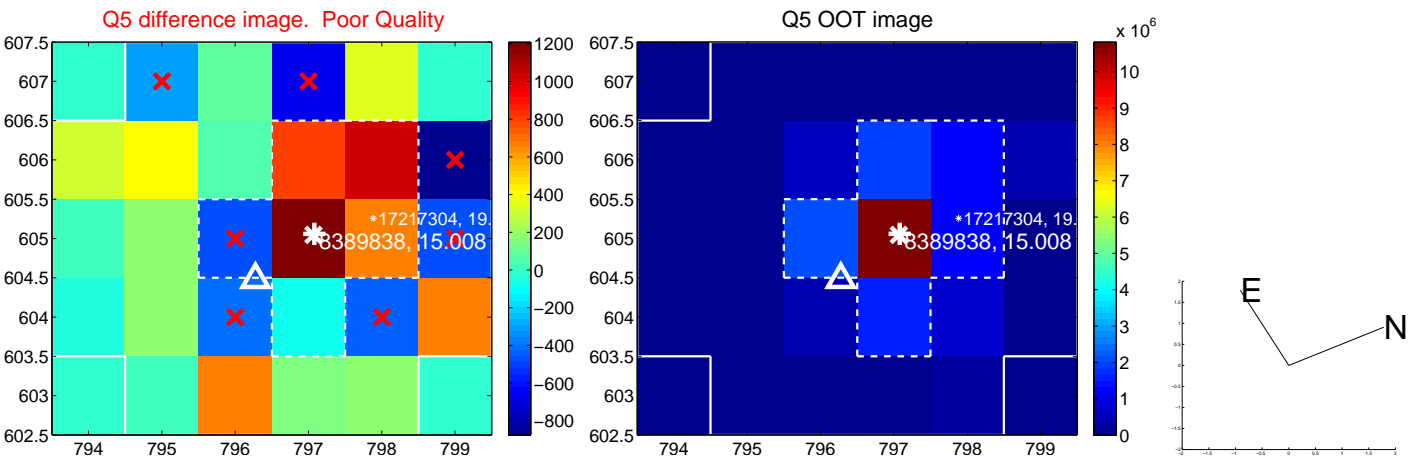


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

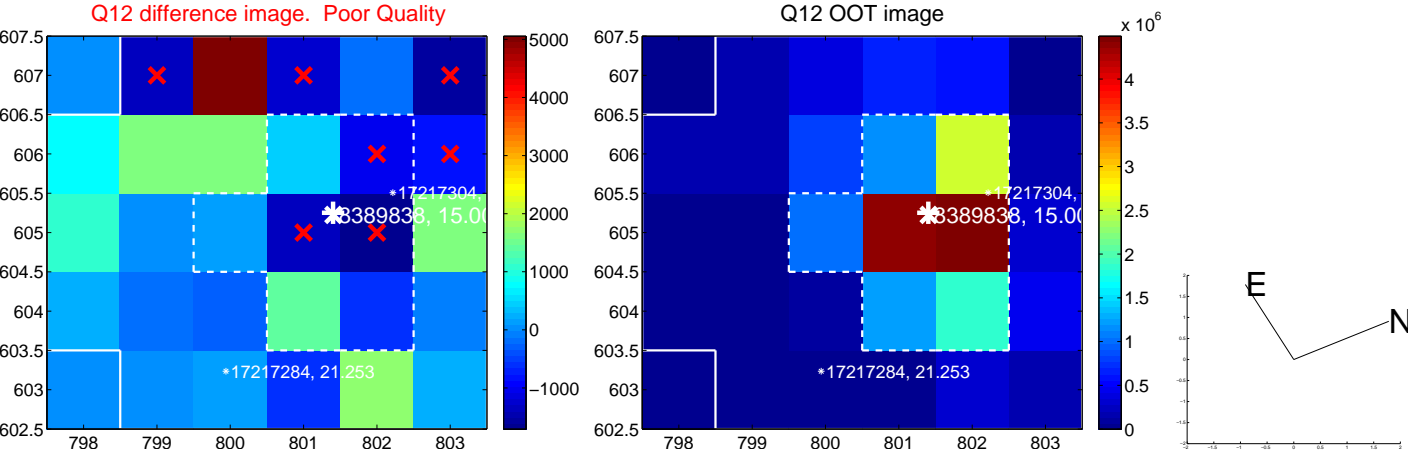
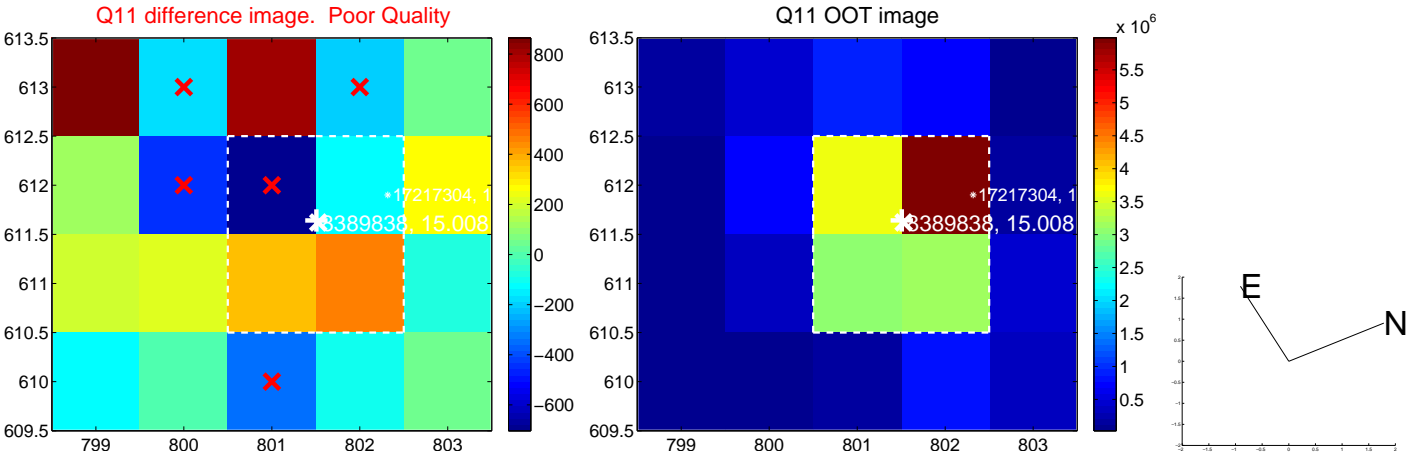
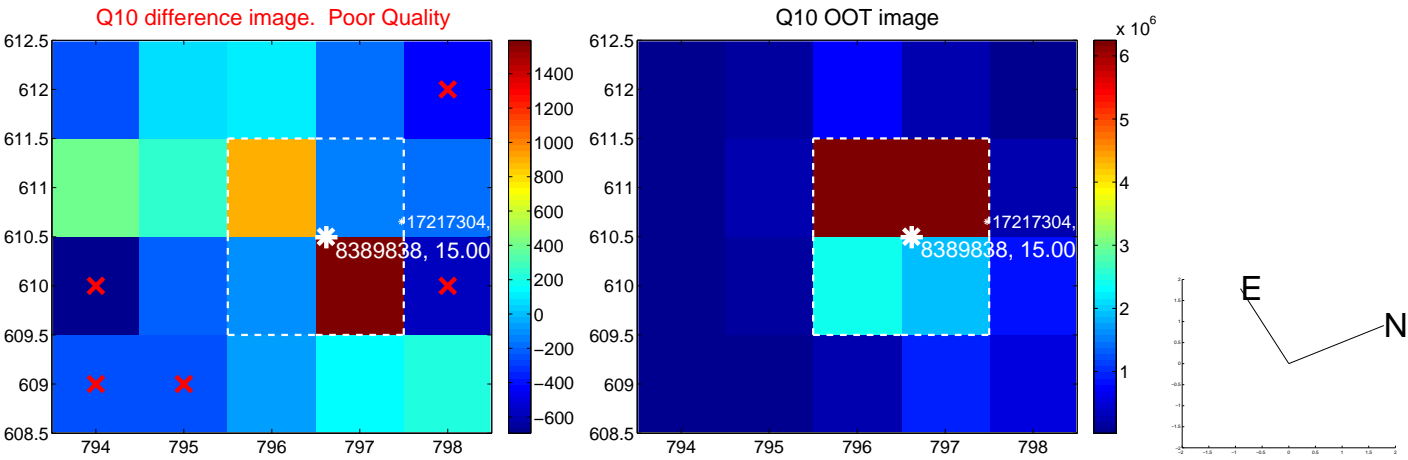
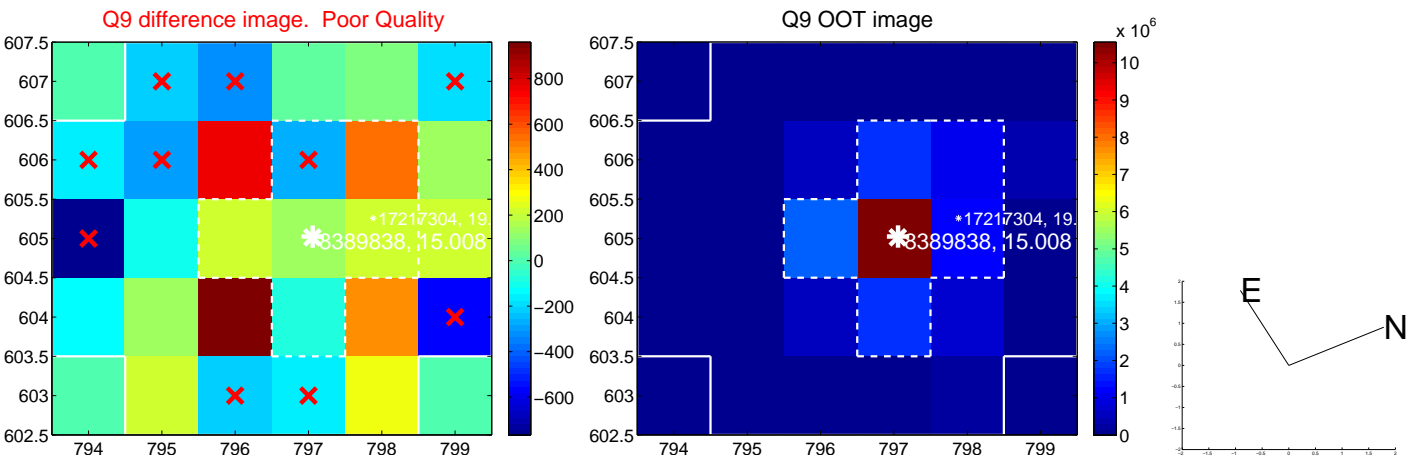
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



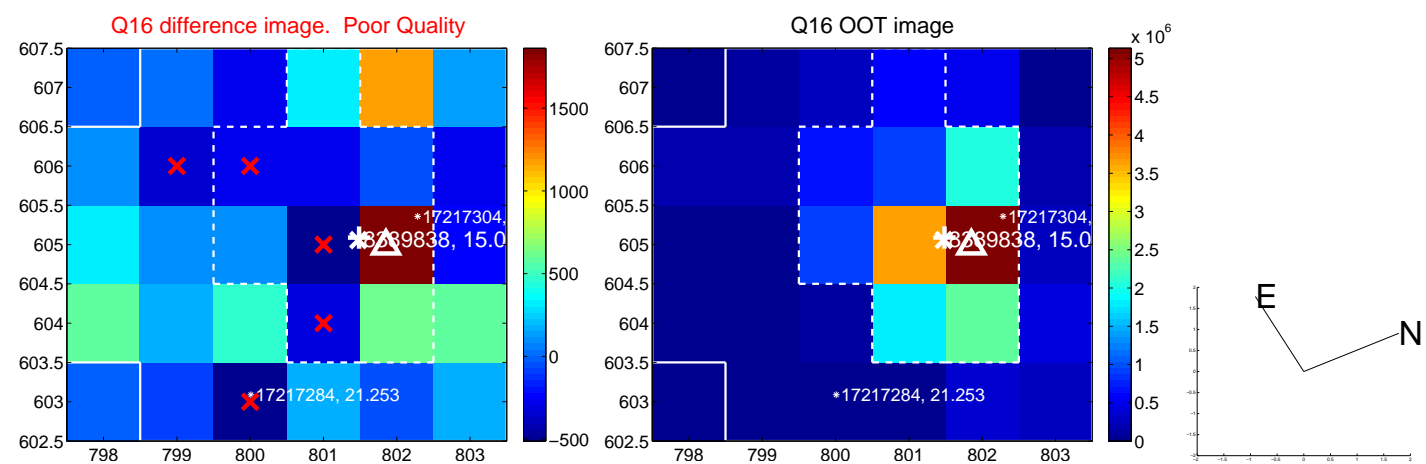
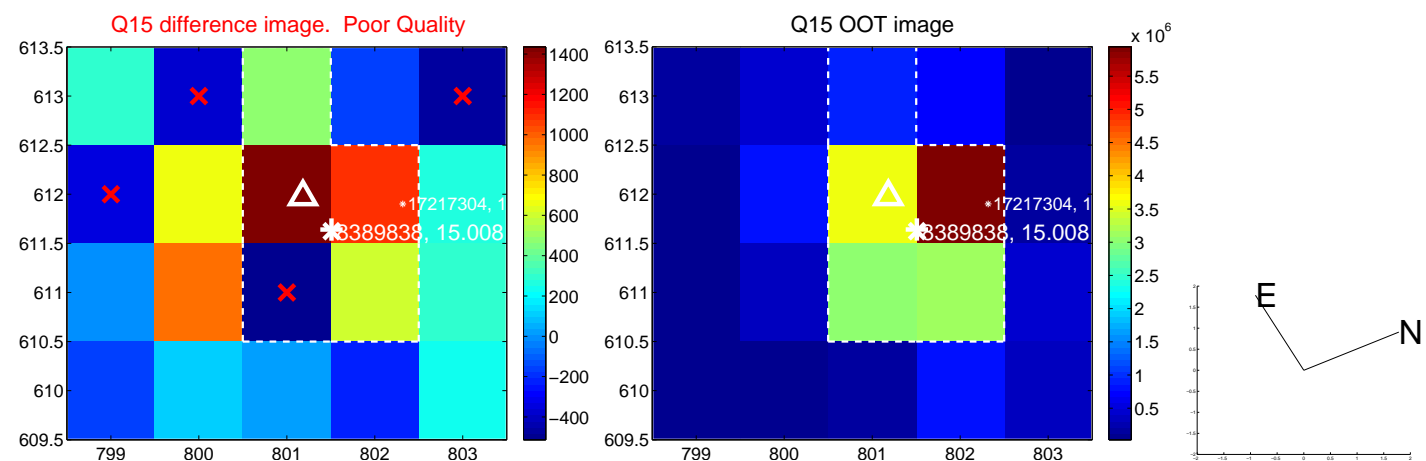
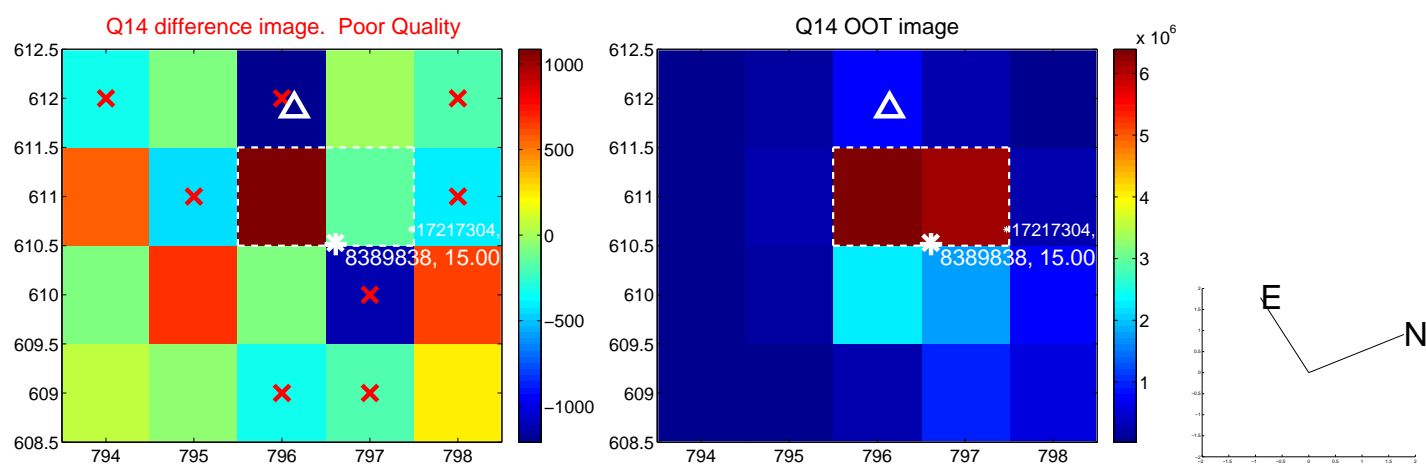
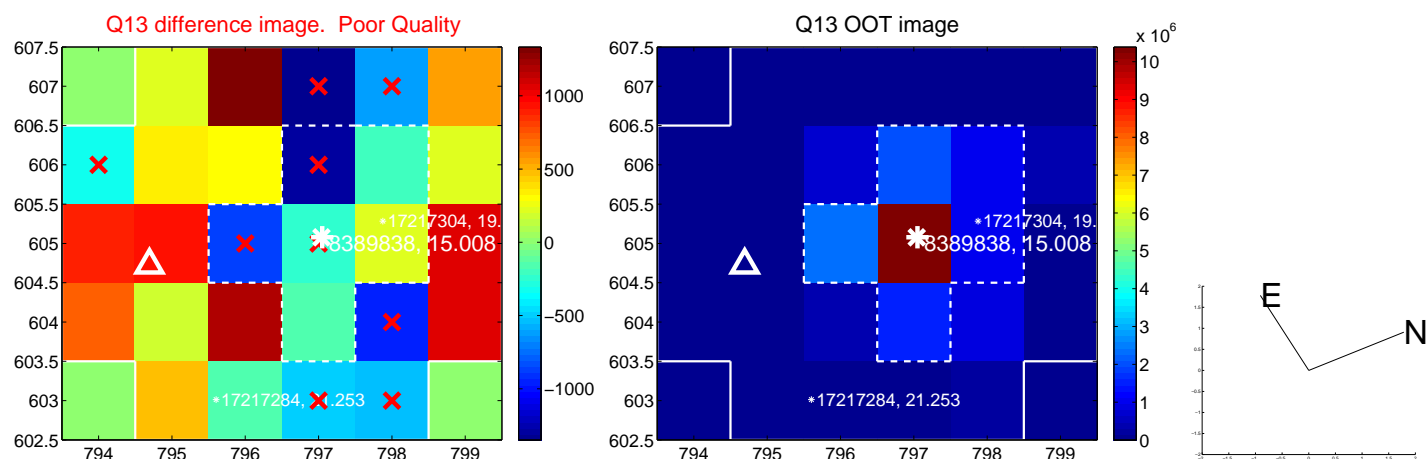
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



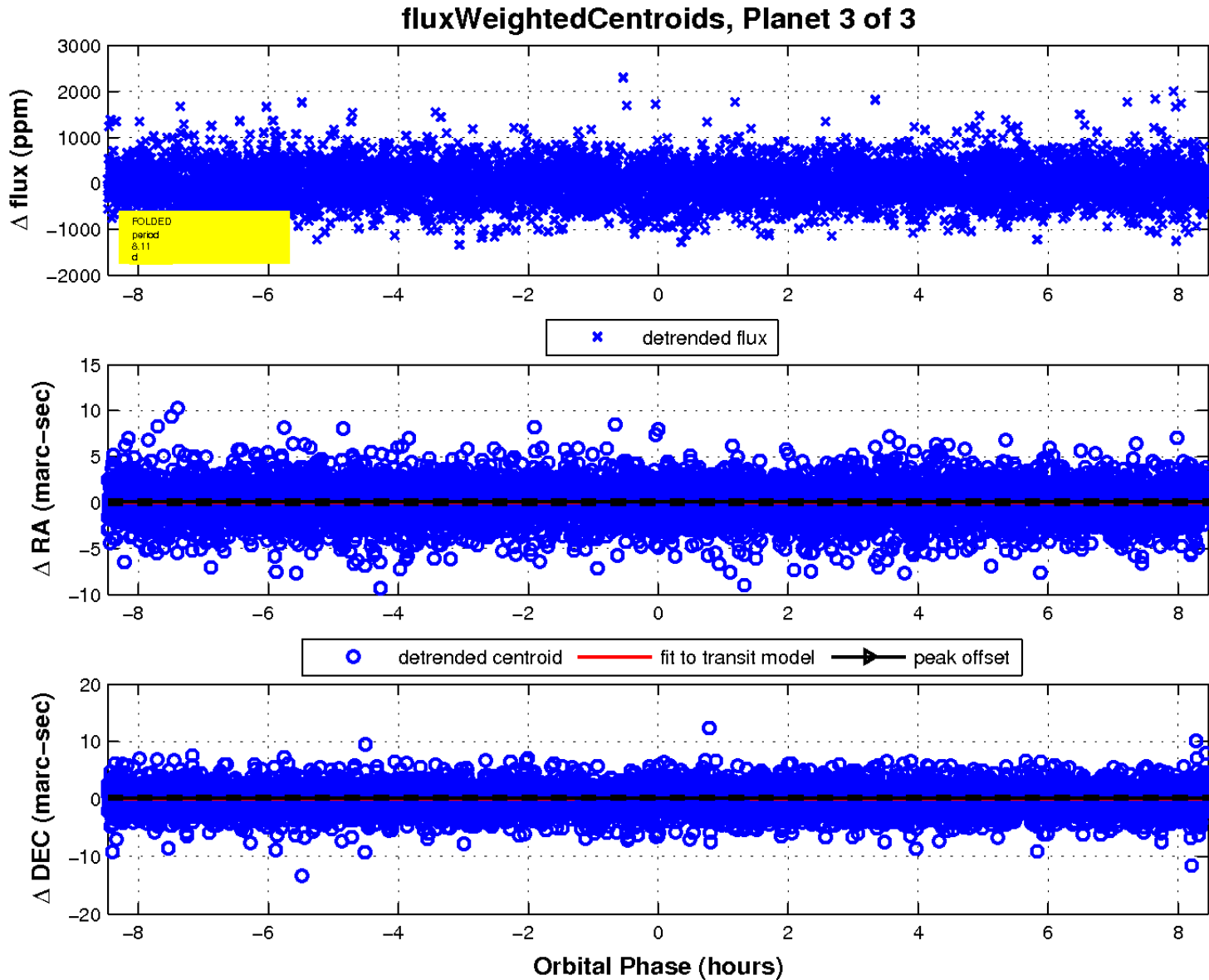
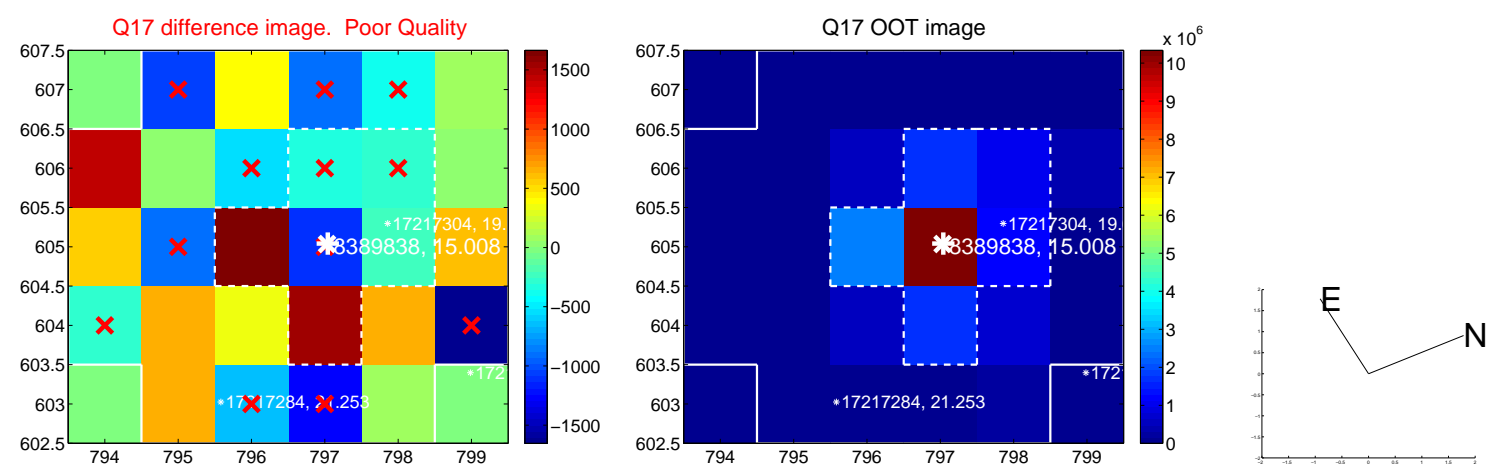
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

