

KIC 009353572

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})
009353572-01	OBS	No	366.497851	255.926698	406.0	32.551	18.9	19.4	2.16	7419	4.62	9.49
009353572-02	OBS	No	0.924703	132.012097	11.3	6.127	9.8	7.4	2.16	7419	0.77	27621.17
009353572-03	OBS	No	37.808486	134.269986	144.2	2.138	10.2	9.6	2.16	7419	2.71	196.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009353572-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
009353572-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
009353572-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_SATURATED—HALO_GHOST

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

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

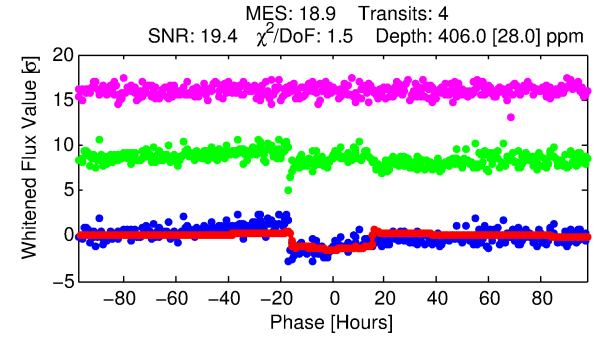
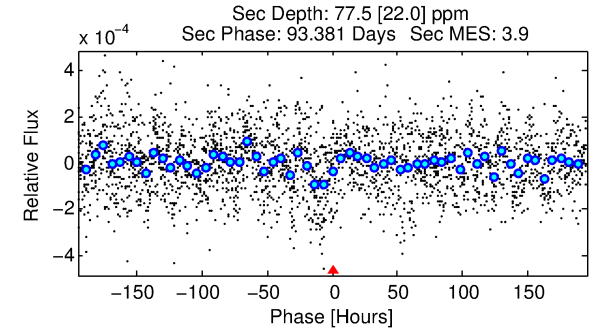
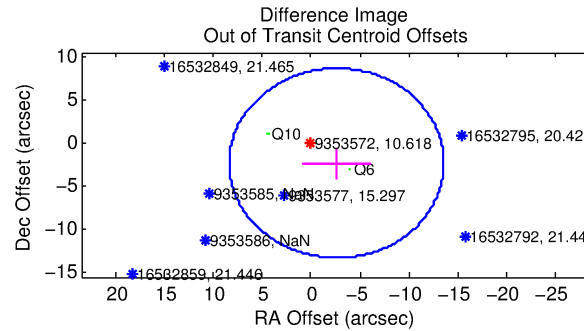
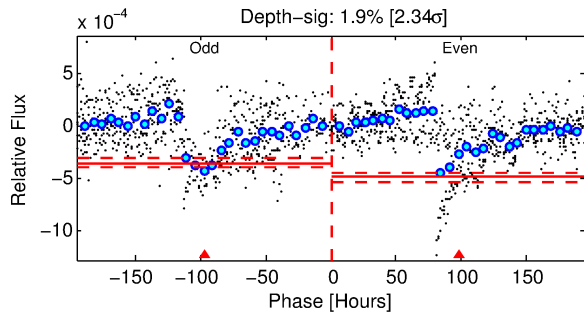
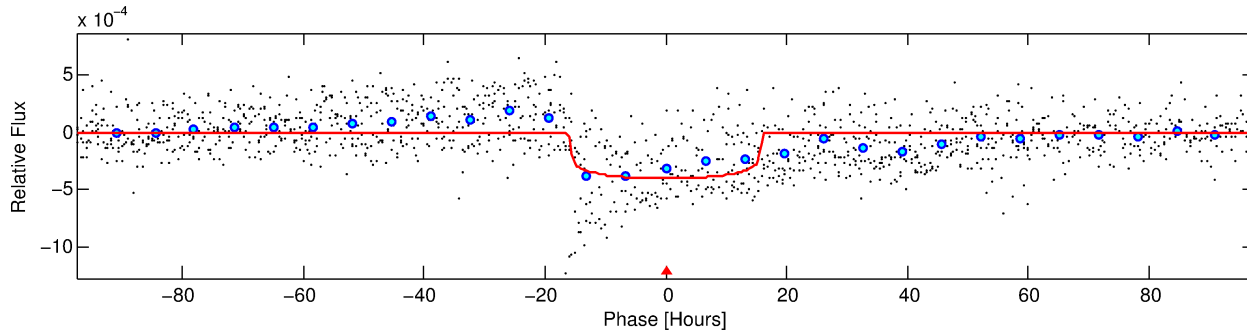
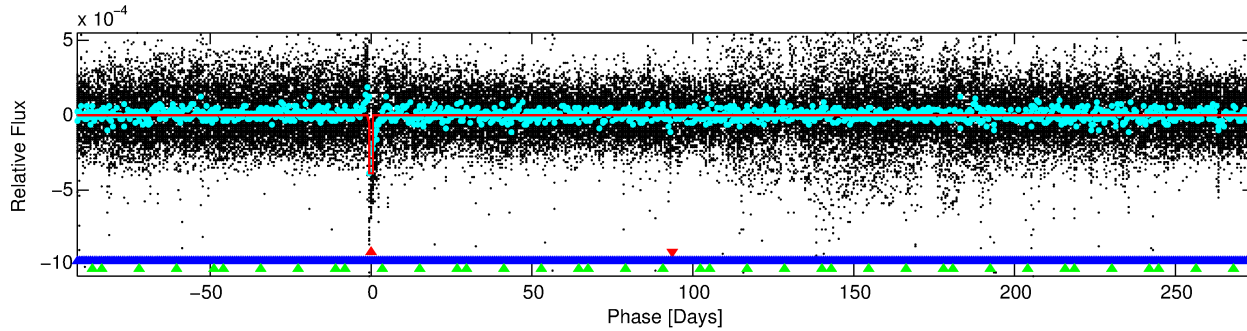
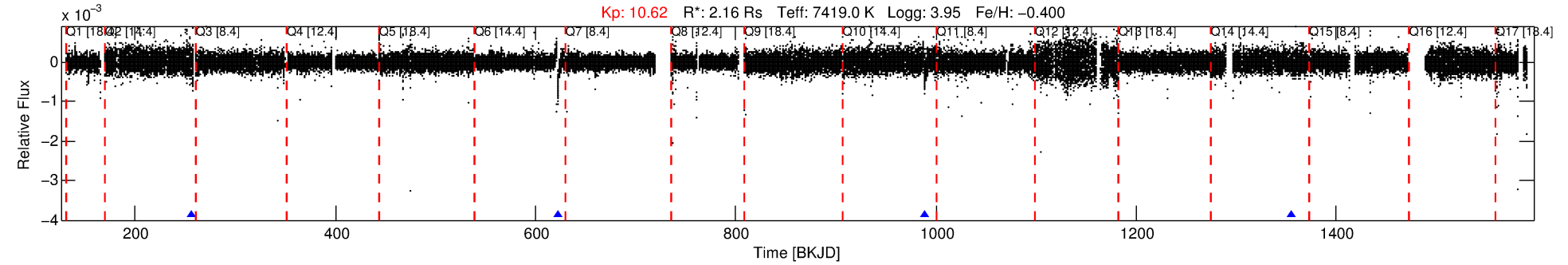
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009353572-01

No Significant Match Found

DV One-Page Summary

KIC: 9353572 Candidate: 1 of 3 Period: 366.498 d



DV Fit Results:

Period = 366.49785 [0.00858] d
Epoch = 255.9267 [0.0144] BKJD
Rp/R* = 0.0196 [0.0012]
a/R* = 66.69 [20.40]
b = 0.66 [0.26]
Seff = 9.49 [5.27]
Teq = 448 [62] K
Rp = 4.63 [1.68] Re
a = 1.1554 [0.3883] AU
Ag = 2660.66 [1633.73] [1.63 σ]
Teffp = 4969 [438] K [10.21 σ]

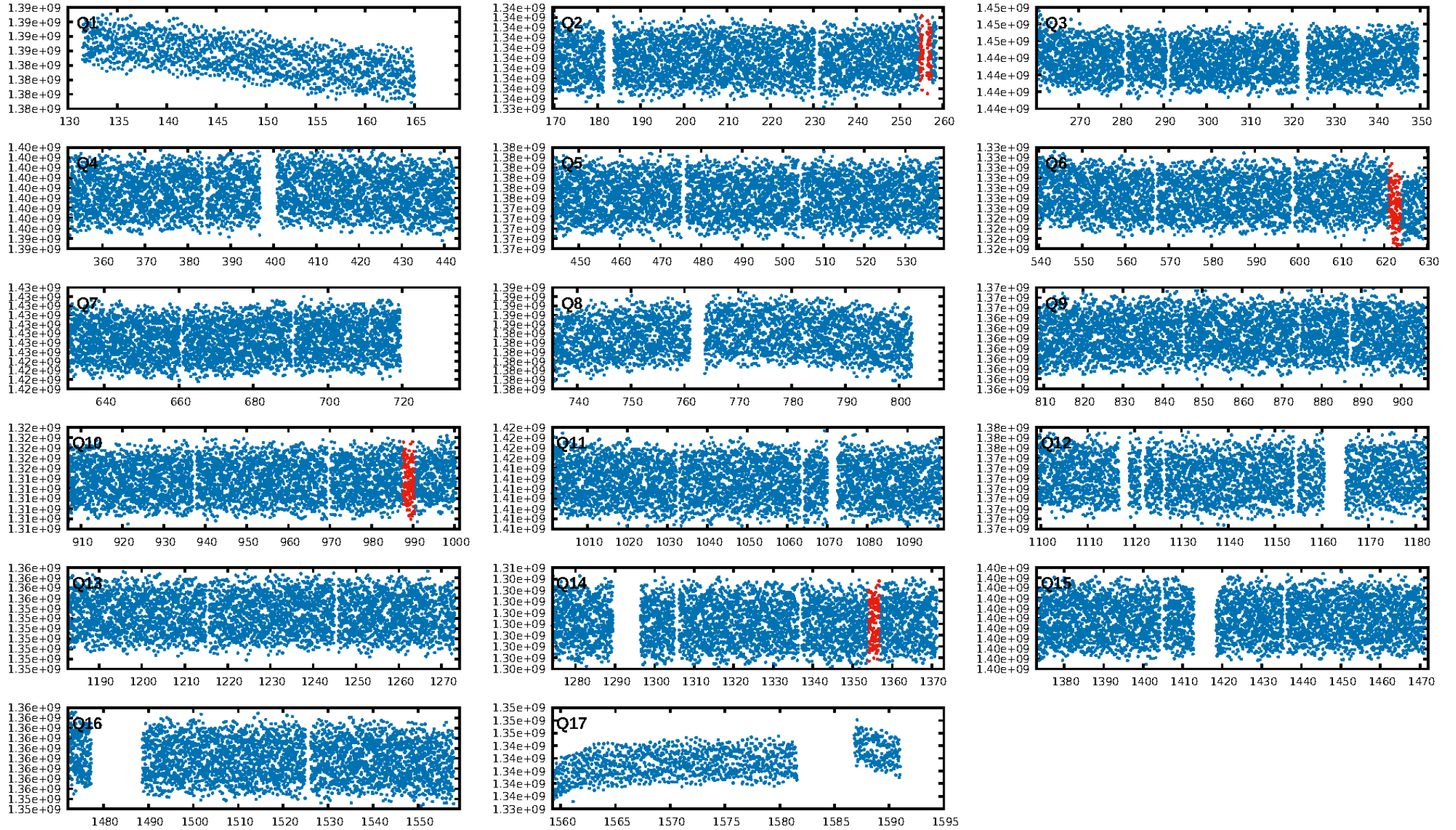
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [241.82 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 94.8%
Bootstrap-pfa: 2.63e-43
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -5.128
Centroid-sig: 0.1%
Centroid-so: 3.080 arcsec [2.85 σ]
OotOffset-rm: 3.484 arcsec [0.95 σ]
KicOffset-rm: 3.804 arcsec [1.26 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/3]

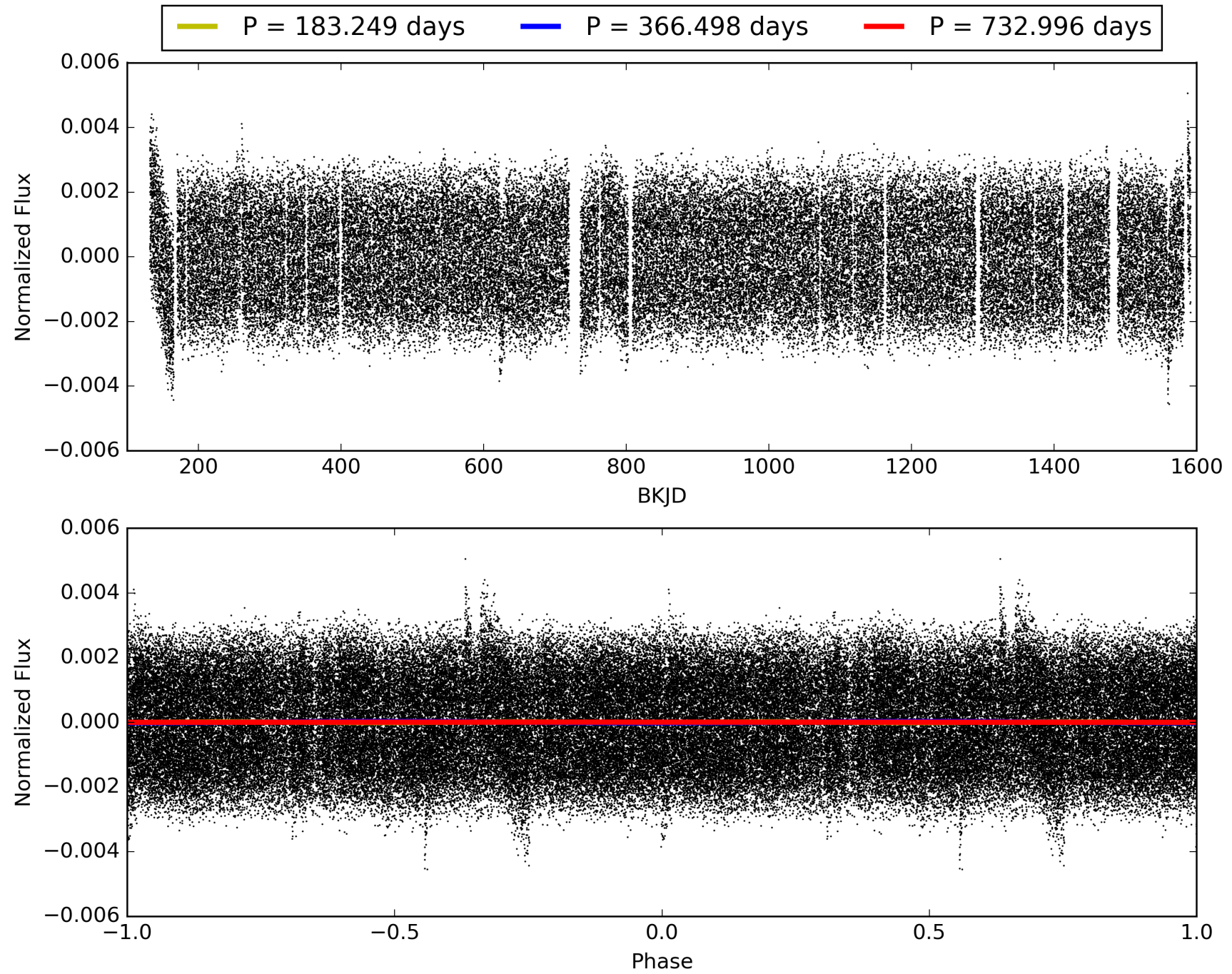
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 23:03:35 Z

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

TCE 009353572-01, PDC Light Curves

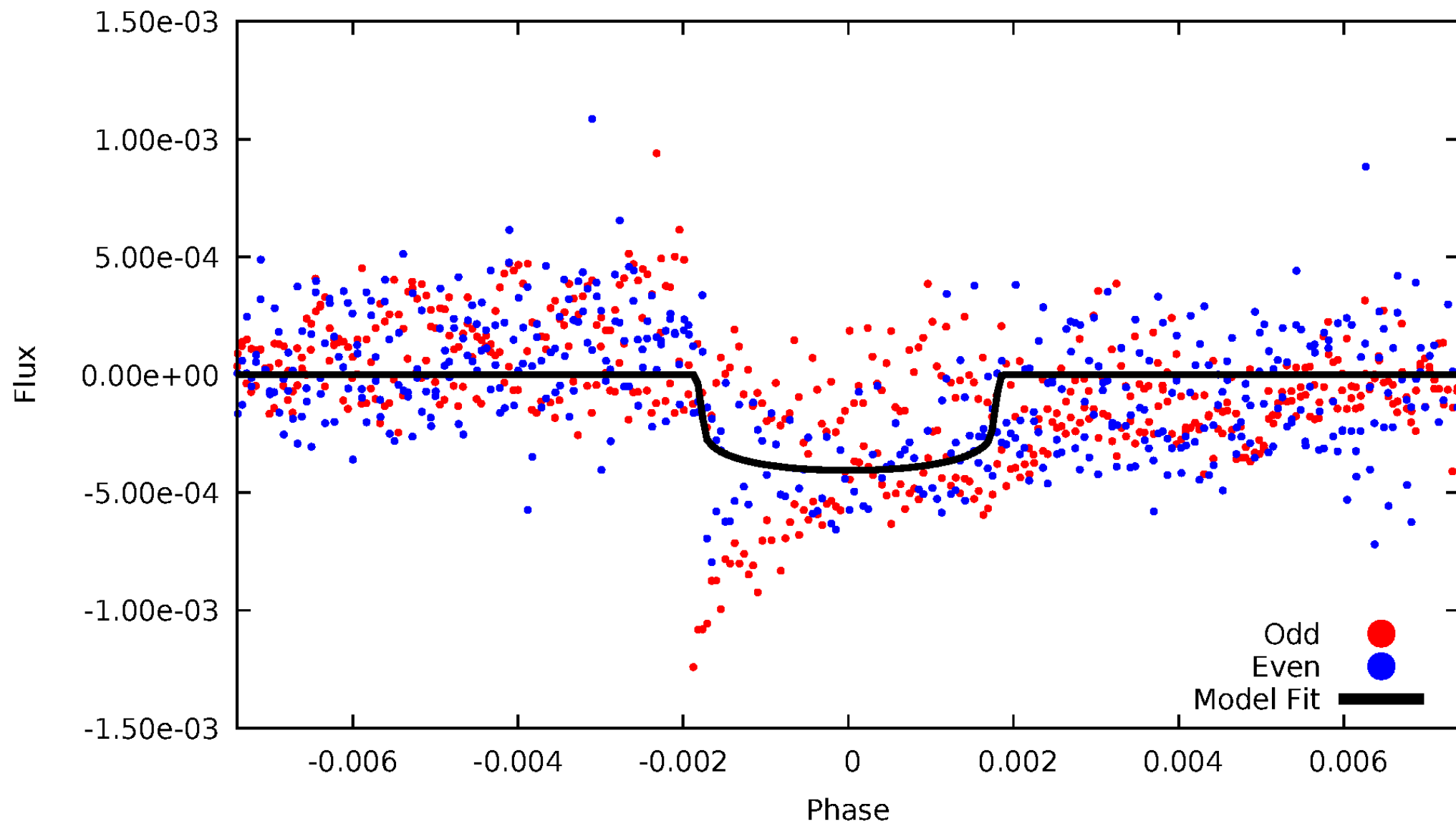


TCE 009353572-01



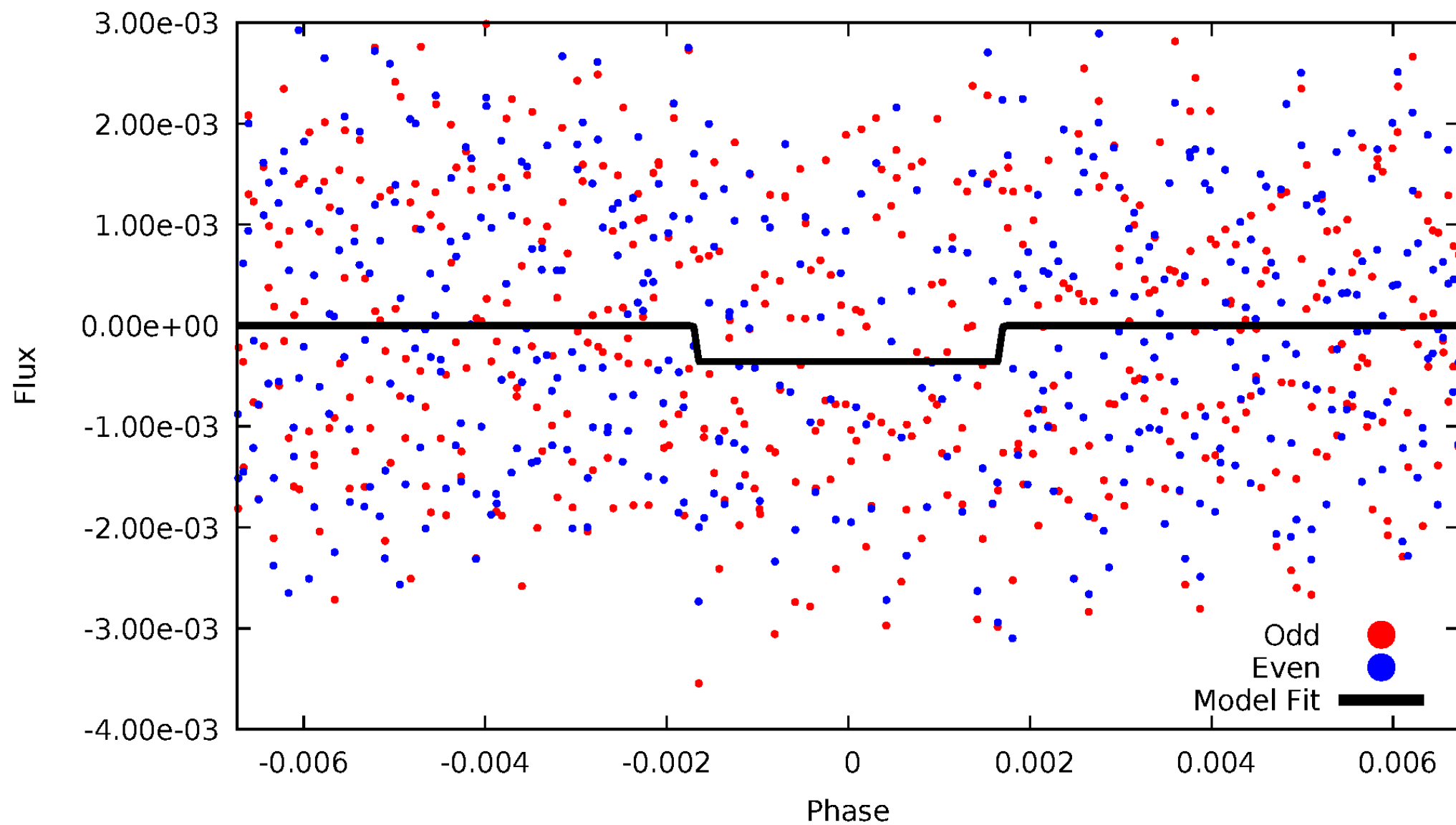
DV Odd/Even

TCE 009353572-01



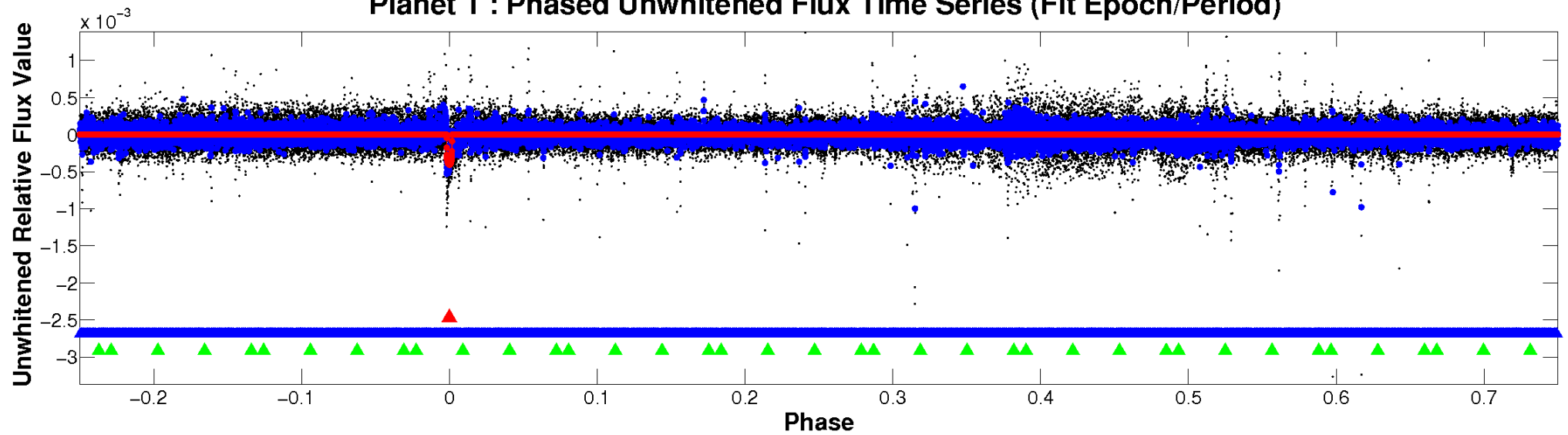
ALT Odd/Even

TCE 009353572-01

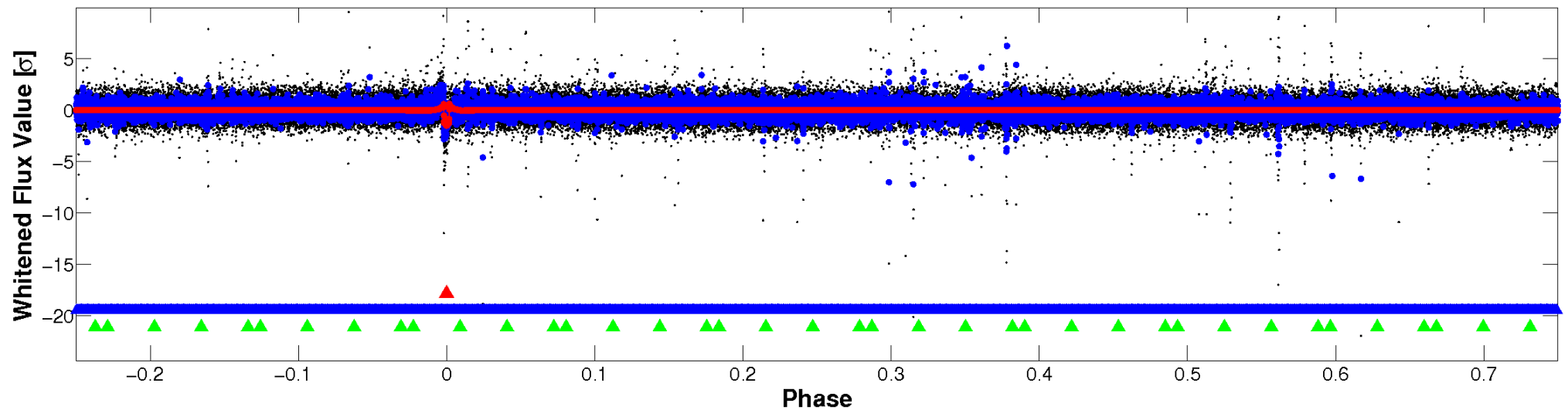


Non-Whitened Vs. Whitened Light Curve

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

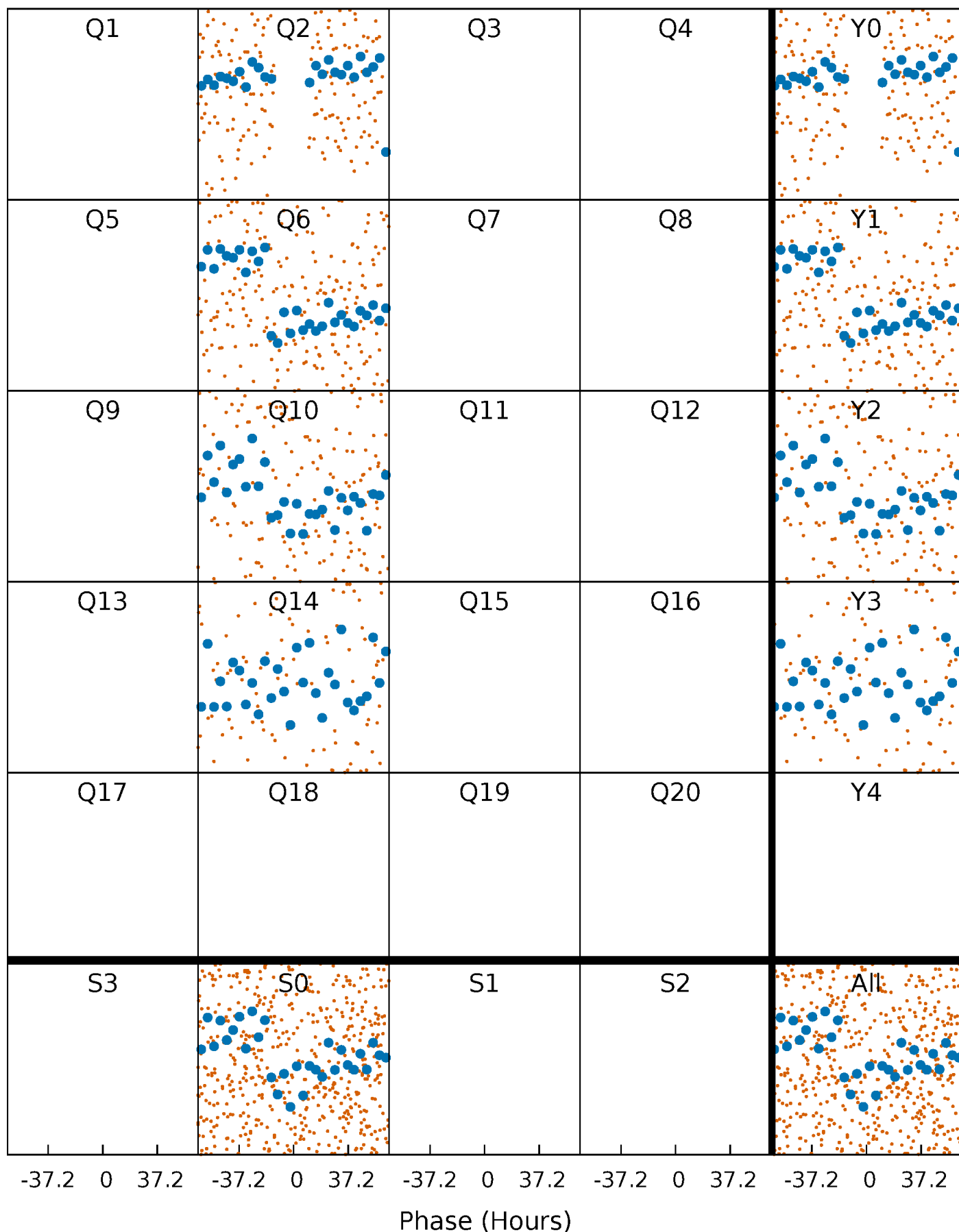


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



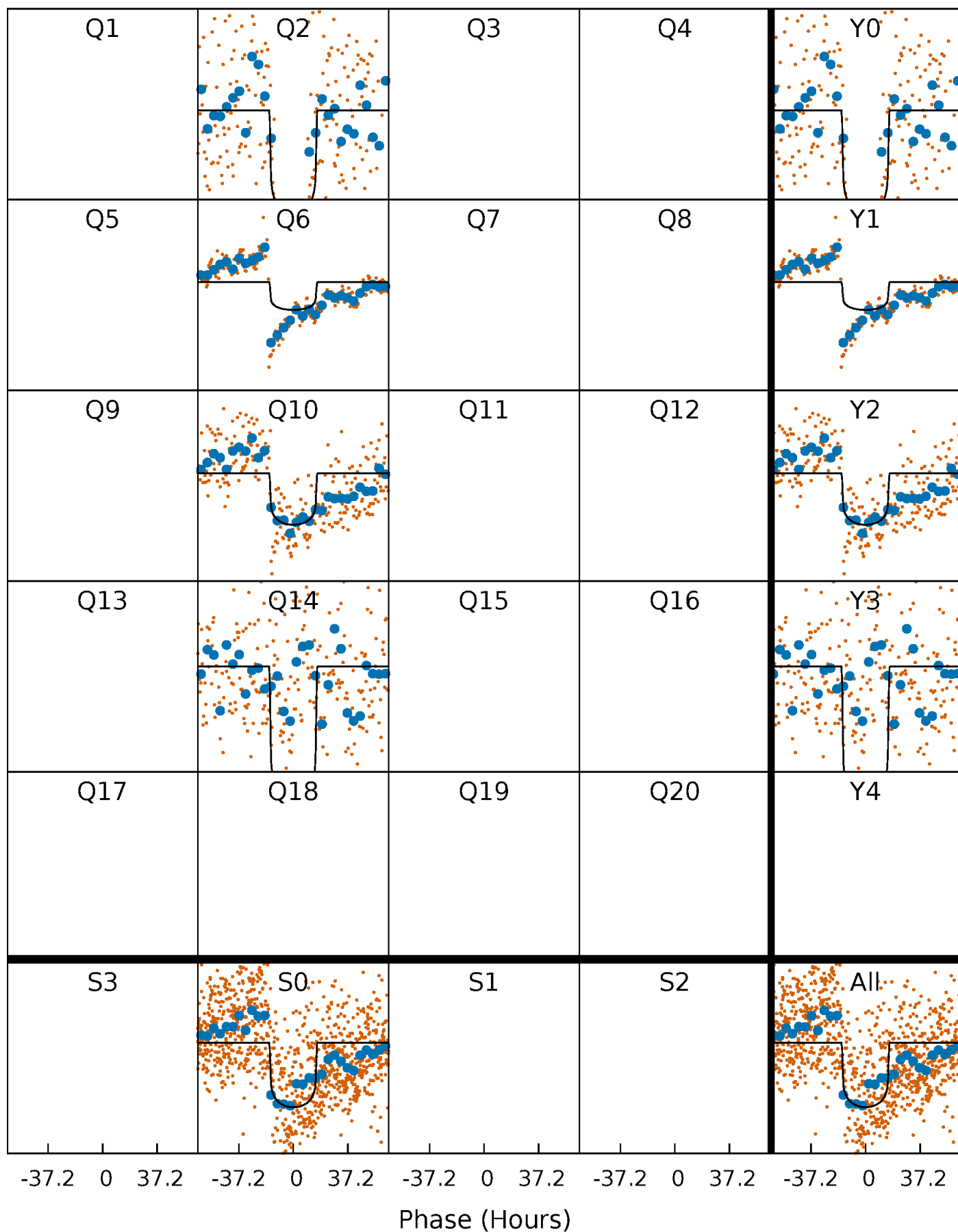
PDC Quarter-Phased Transit Curves

TCE 009353572-01 P=366.497851 Days $T_0=255.926698$ (BKJD)



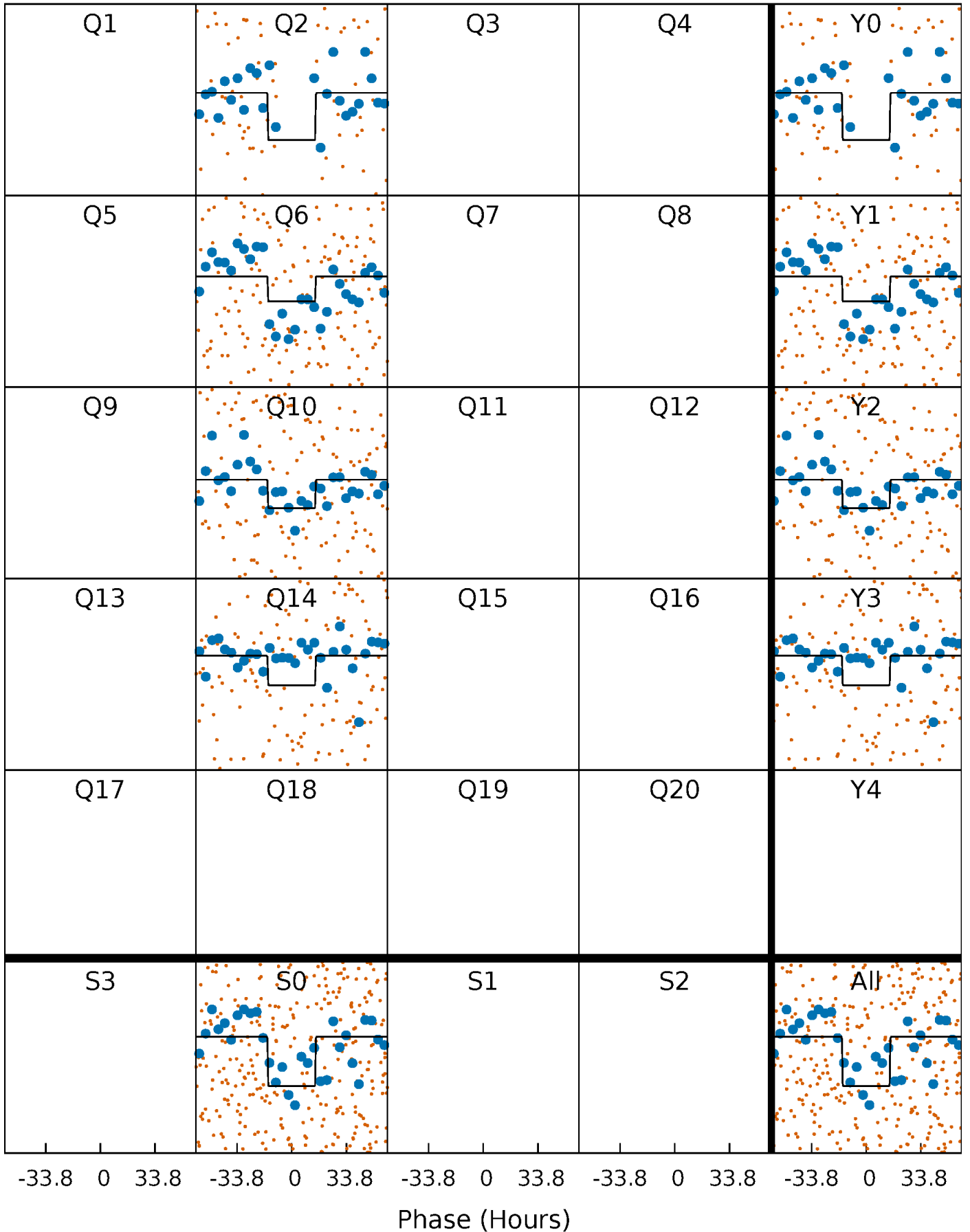
DV Quarter-Phased Transit Curves

TCE 009353572-01 P=366.497851 Days $T_0=255.926698$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

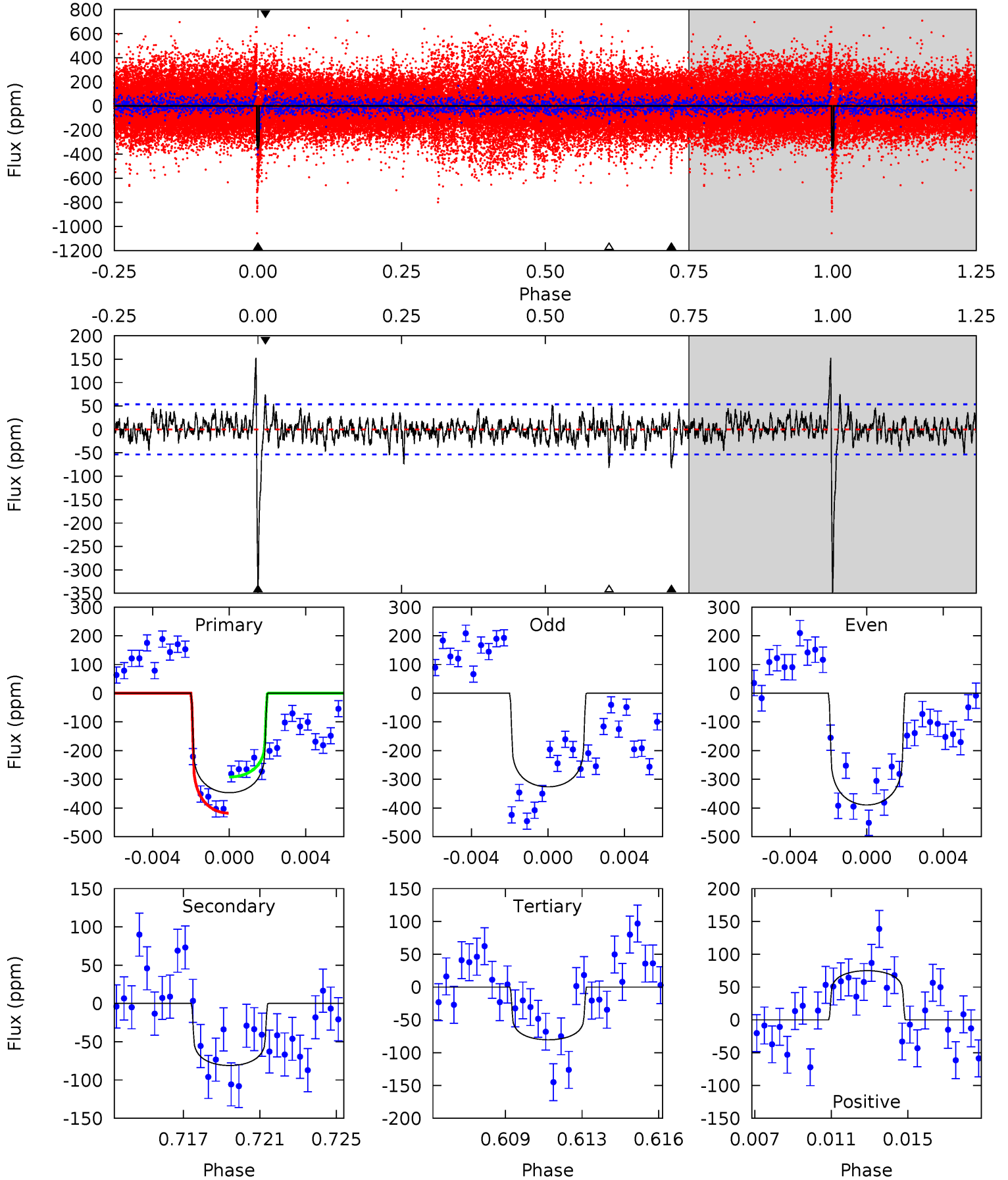
TCE 009353572-01 P=366.557633 Days $T_0=255.781995$ (BKJD)



DV Model-Shift Uniqueness Test

009353572-01, P = 366.497851 Days, E = 255.926698 Days

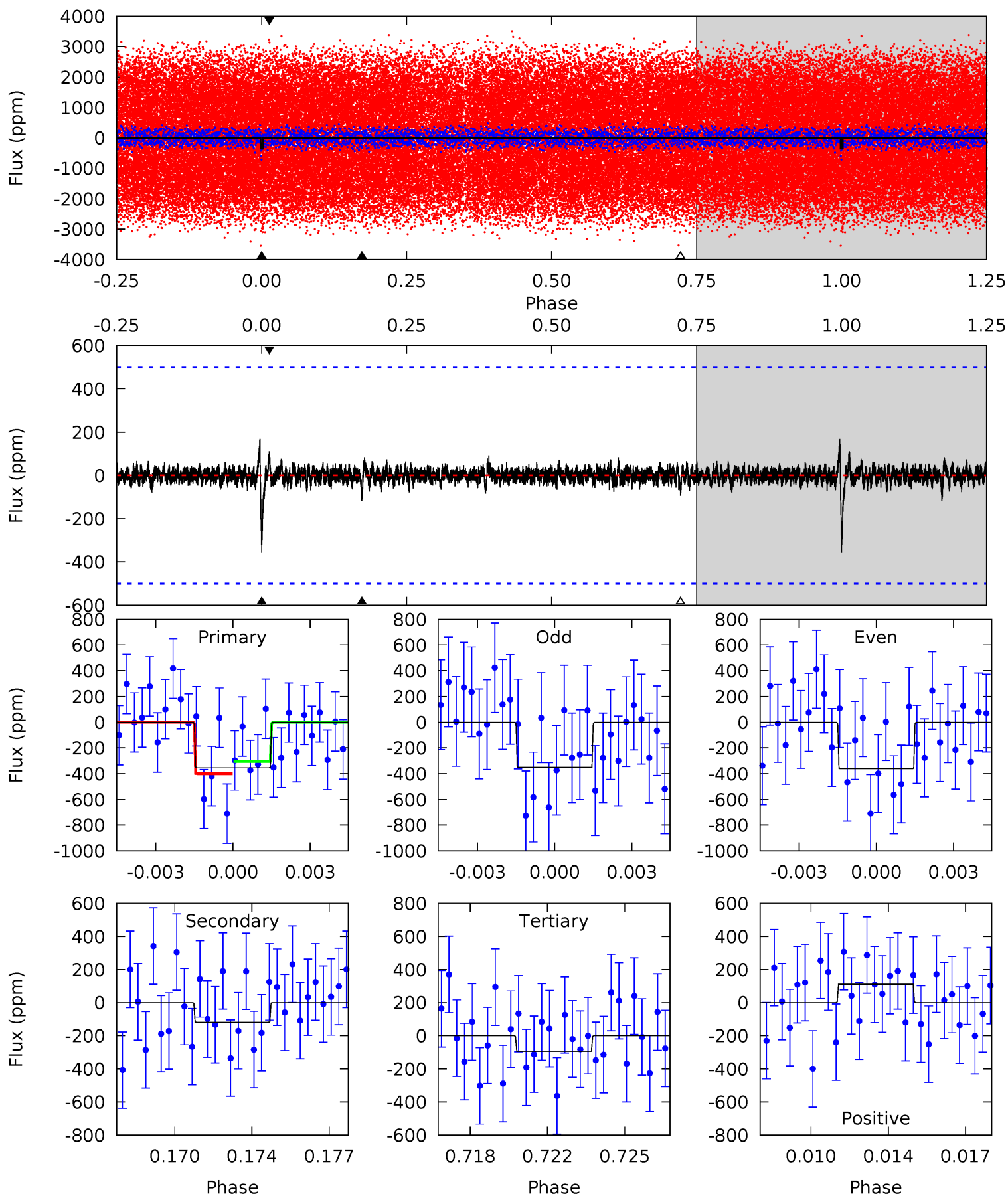
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.7	7.89	7.82	7.29	5.21	2.90	1.91	25.9	26.4	0.07	0.59	2.97	1.05	0.31	6.16



Alt Model-Shift Uniqueness Test

009353572-01, P = 366.557633 Days, E = 255.781995 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.70	1.23	0.98	1.16	5.23	2.93	0.24	2.72	2.54	0.26	0.07	0.05	1.05	0.32	0.49



Stellar Parameters For KIC 009353572

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7419^{+233}_{-311}	$3.954^{+0.308}_{-0.132}$	$-0.400^{+0.250}_{-0.350}$	$2.160^{+0.516}_{-0.774}$	$1.528^{+0.209}_{-0.313}$	$0.213^{+0.472}_{-0.083}$
	+3%/-4%	+8%/-3%	+62%/-87%	+24%/-36%	+14%/-20%	+221%/-39%
Source	KIC0	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 009353572-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-81 ± 10	$4.46^{+0.74}_{-0.87}$	609^{+50}_{-59}	5015^{+236}_{-223}	2989^{+1503}_{-816}
Alt.	-118 ± 96	$4.31^{+0.72}_{-0.85}$	615^{+47}_{-58}	5531^{+879}_{-1415}	4715^{+4792}_{-3760}

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

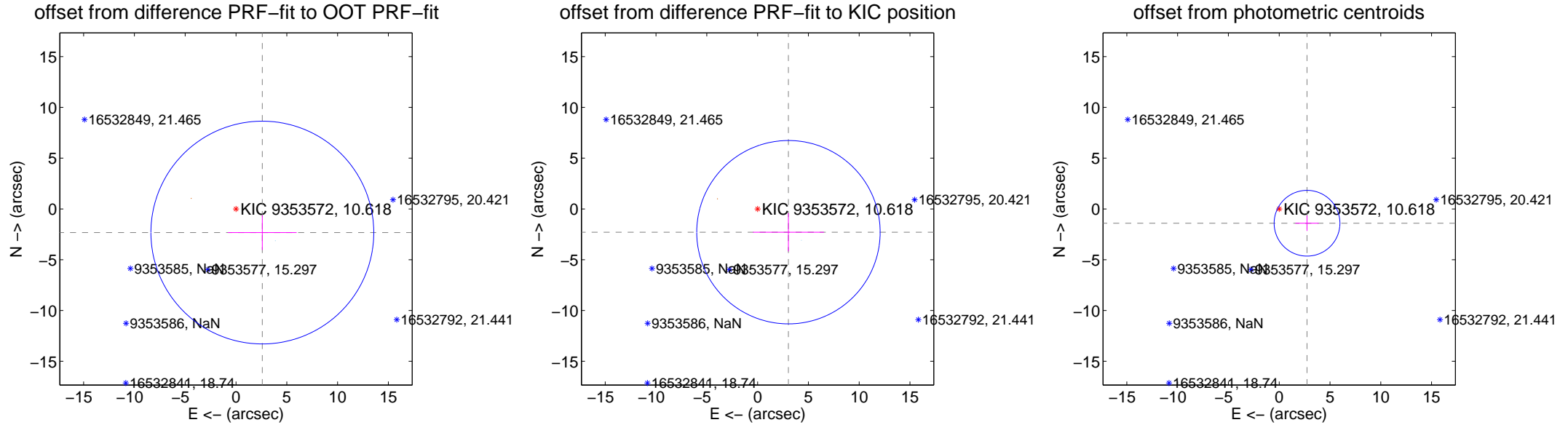
DV Centroid Data

Supplemental centroid analysis for 009353572-01. **Kepler magnitude: 10.62.** Transit SNR 19.37

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.484 ± 3.657	0.95	-2.593 ± 3.382	-2.327 ± 1.708
PRF-fit source offset from KIC position	3.804 ± 3.009	1.26	-3.037 ± 3.491	-2.291 ± 1.887
photometric centroid source offset	3.08 ± 1.08	2.85	-2.74 ± 1.15	-1.41 ± 0.76



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

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



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

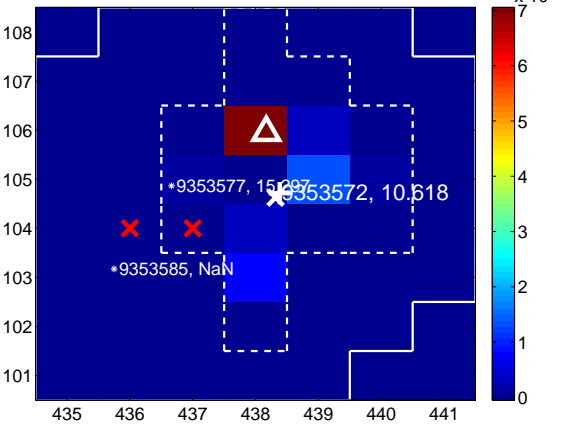
Q5 no difference image



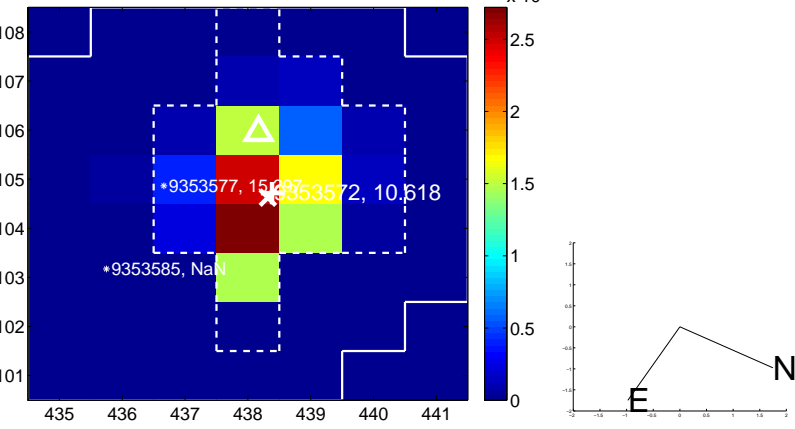
Q5 no OOT image



Q6 difference image



Q6 OOT image



Q7 no difference image



Q7 no OOT image



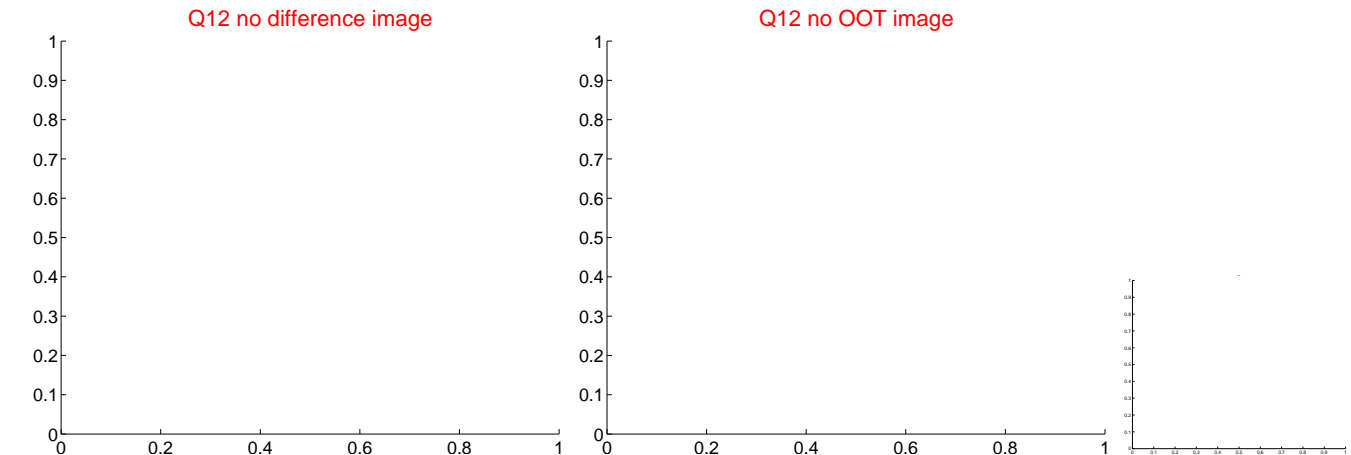
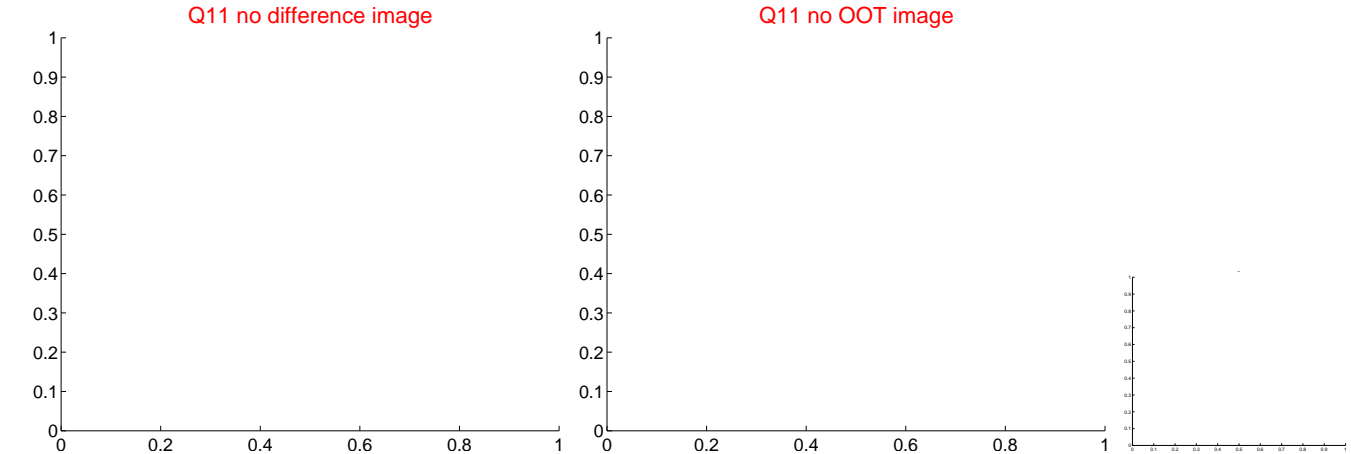
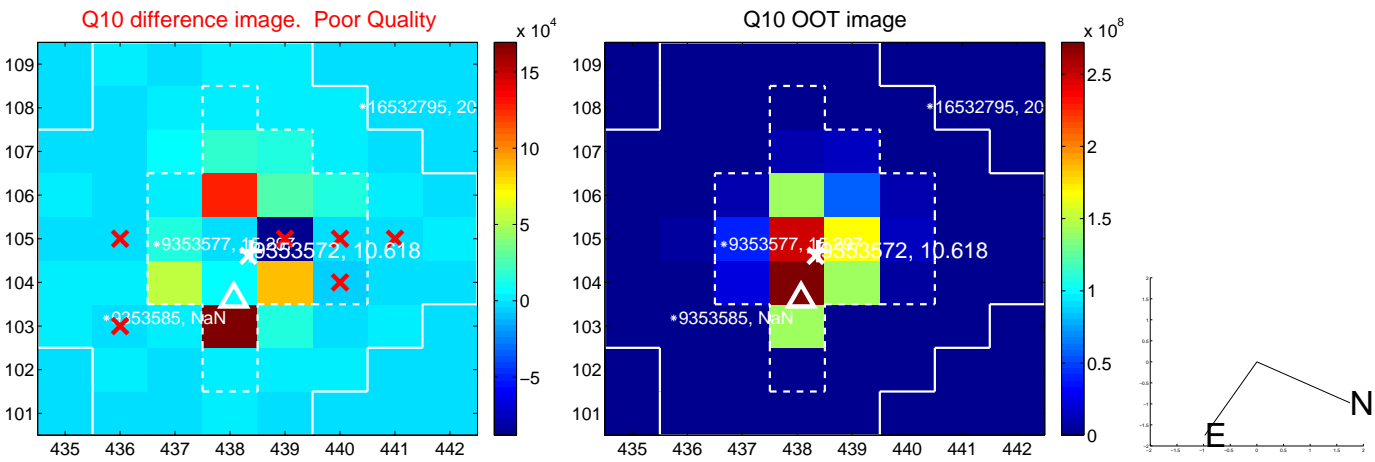
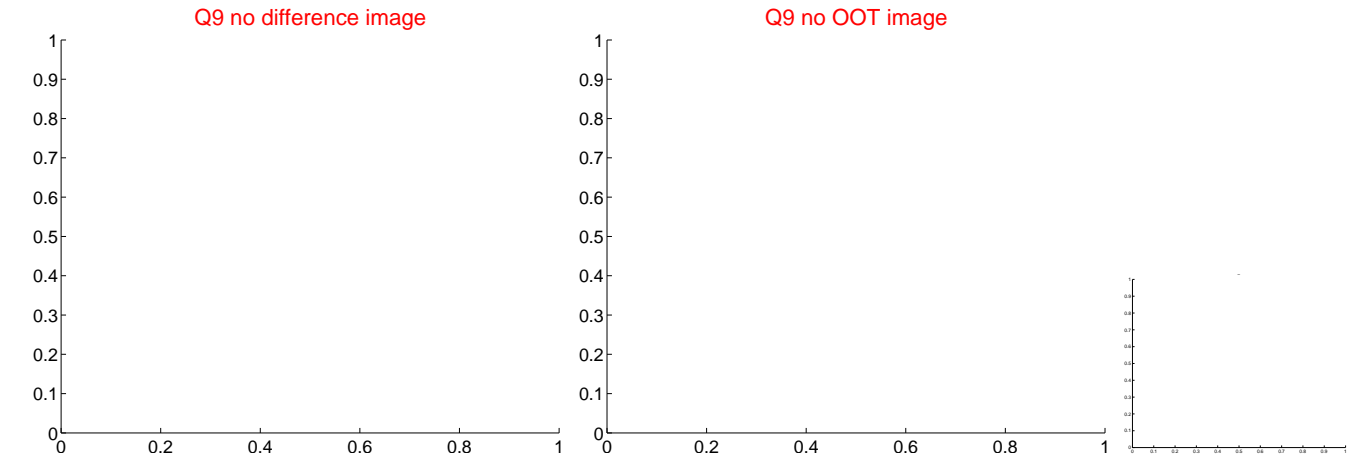
Q8 no difference image



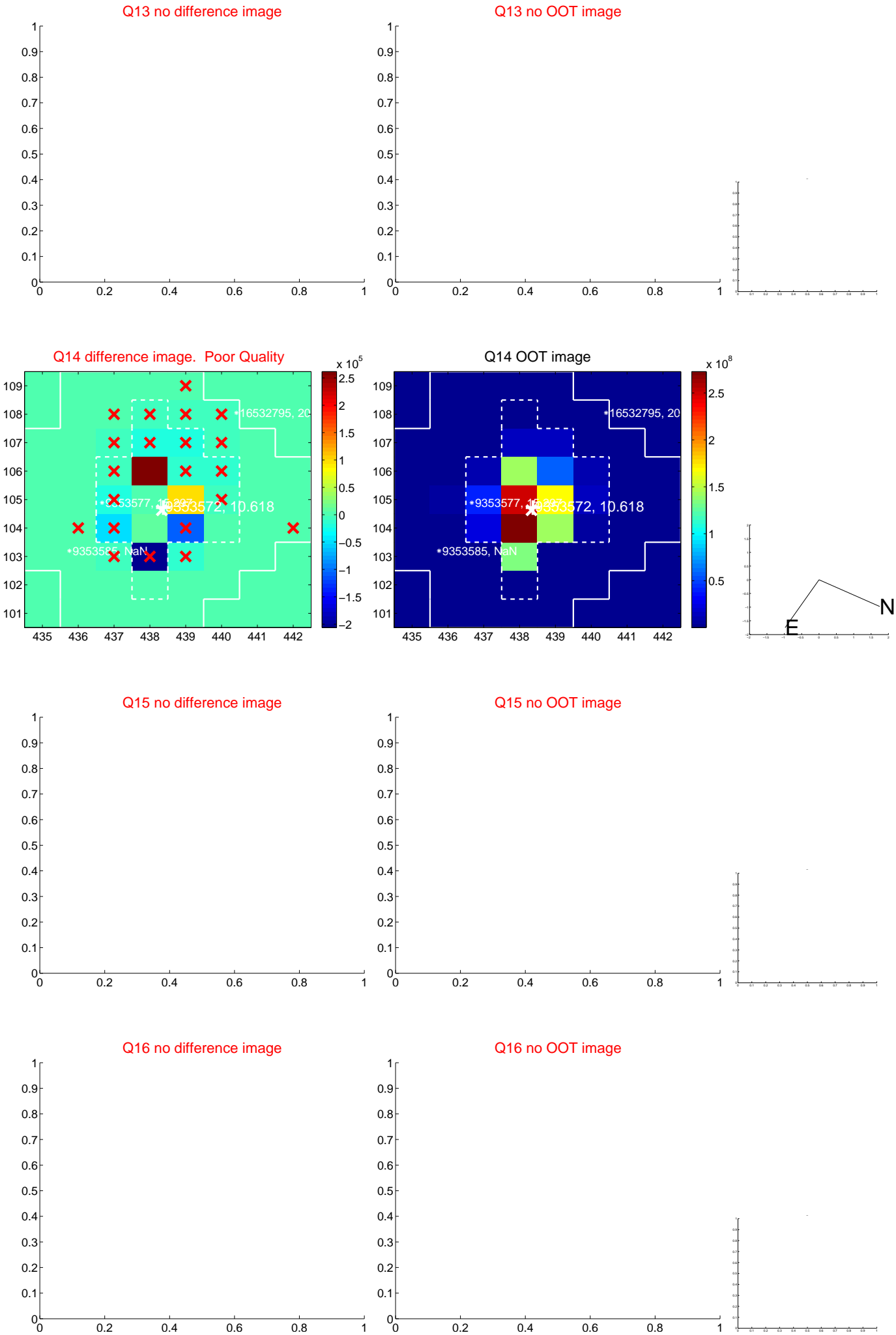
Q8 no OOT image



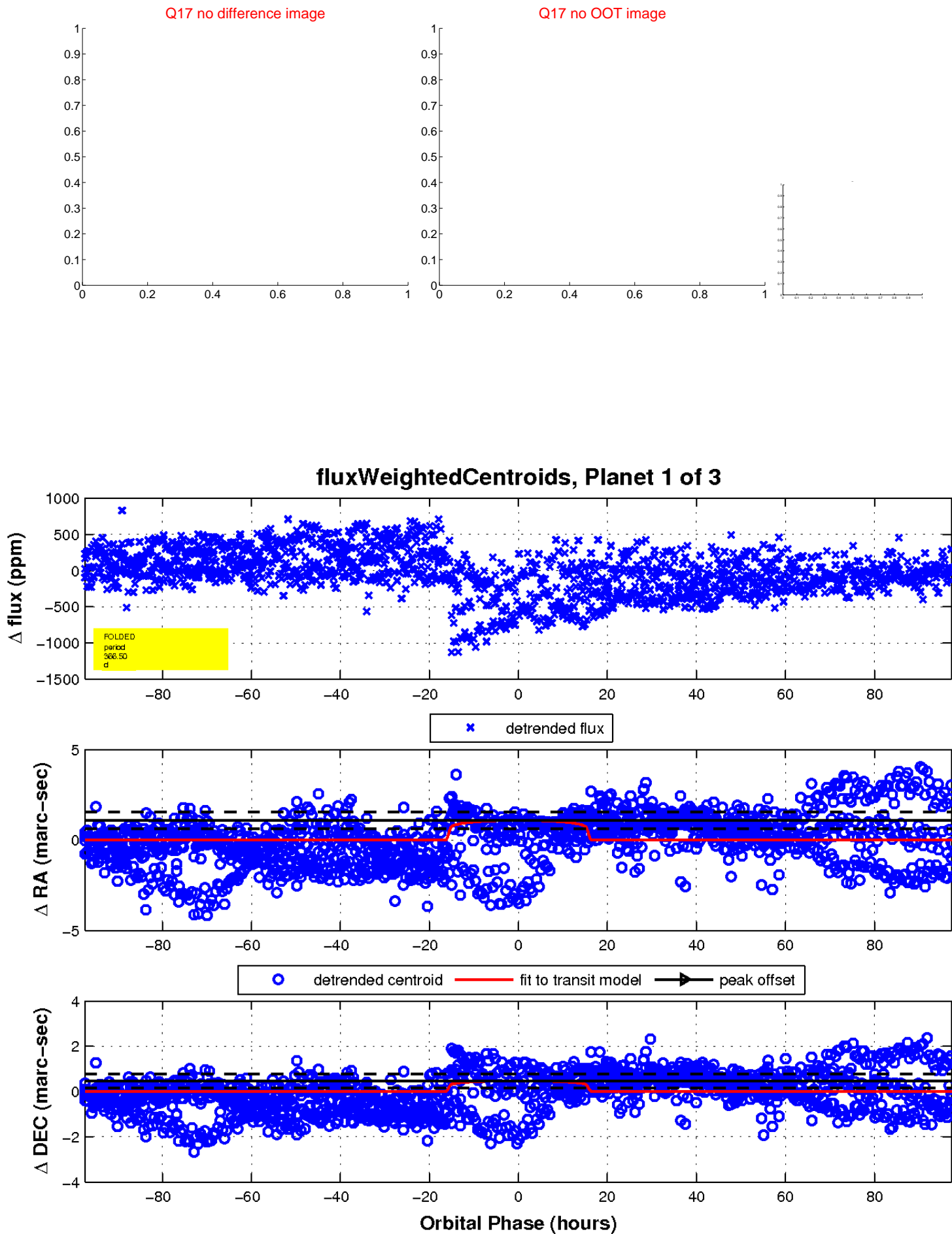
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



01.0 19:44:00.0 59.0 58.0 57.0 43:56.0

53:30.0 40.0 50.0 45:54:00.0 10.0 20.0

Declination

KIC 009353572

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})
009353572-01	OBS	No	366.497851	255.926698	406.0	32.551	18.9	19.4	2.16	7419	4.62	9.49
009353572-02	OBS	No	0.924703	132.012097	11.3	6.127	9.8	7.4	2.16	7419	0.77	27621.17
009353572-03	OBS	No	37.808486	134.269986	144.2	2.138	10.2	9.6	2.16	7419	2.71	196.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009353572-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
009353572-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
009353572-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_SATURATED—HALO_GHOST

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

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

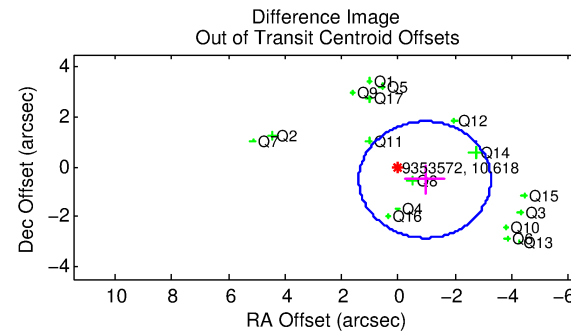
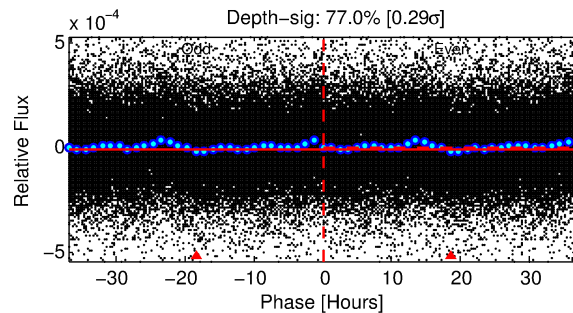
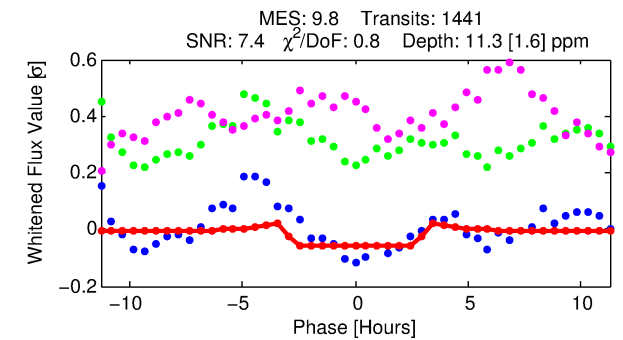
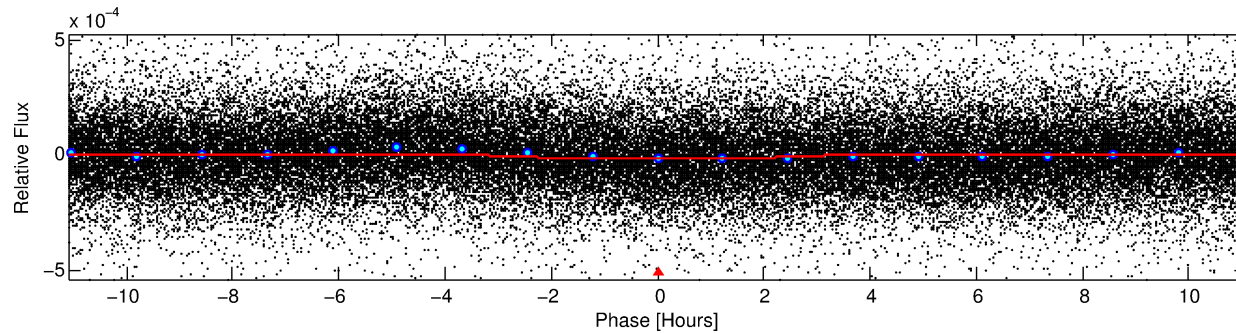
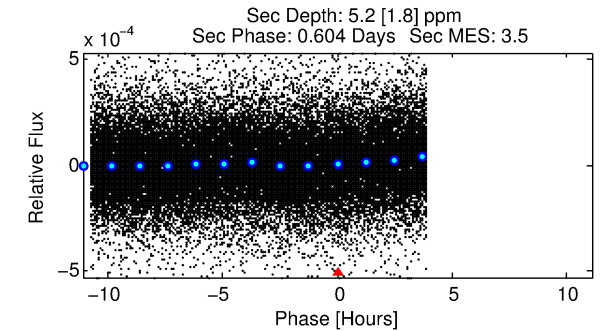
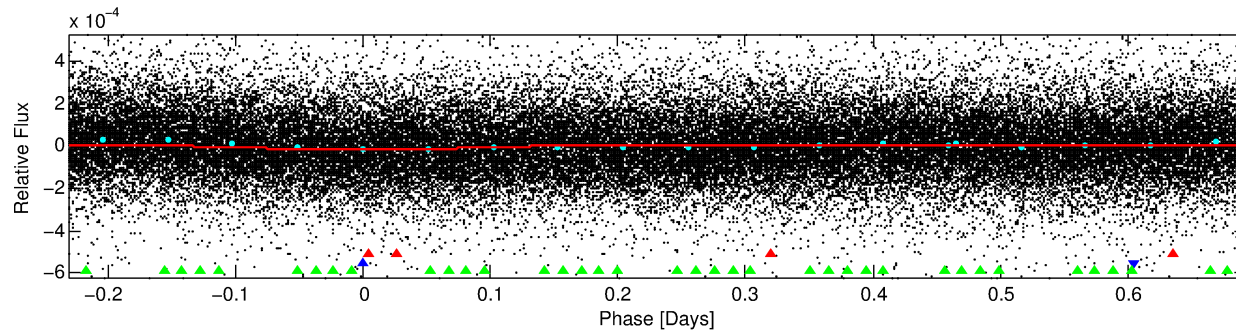
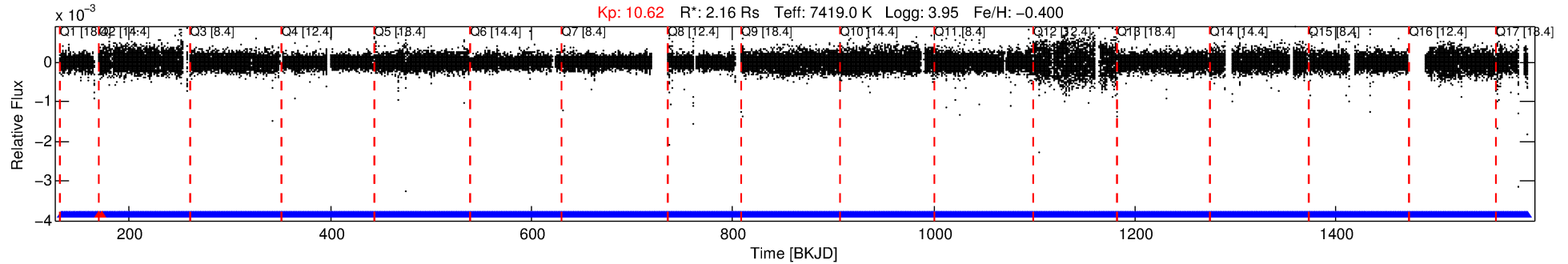
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009353572-02

No Significant Match Found

DV One-Page Summary

KIC: 9353572 Candidate: 2 of 3 Period: 0.925 d



DV Fit Results:

Period = 0.92470 [0.00002] d
Epoch = 132.0121 [0.0049] BKJD
Rp/R* = 0.0033 [0.0014]
a/R* = 1.19 [0.91]
b = 0.66 [2.22]
Seff = 27621.17 [15347.06]
Teq = 3287 [457] K
Rp = 0.77 [0.43] Re
a = 0.0214 [0.0072] AU
Ag = 2.21 [2.36] [0.51σ]
Teffp = 6196 [1459] K [1.90σ]

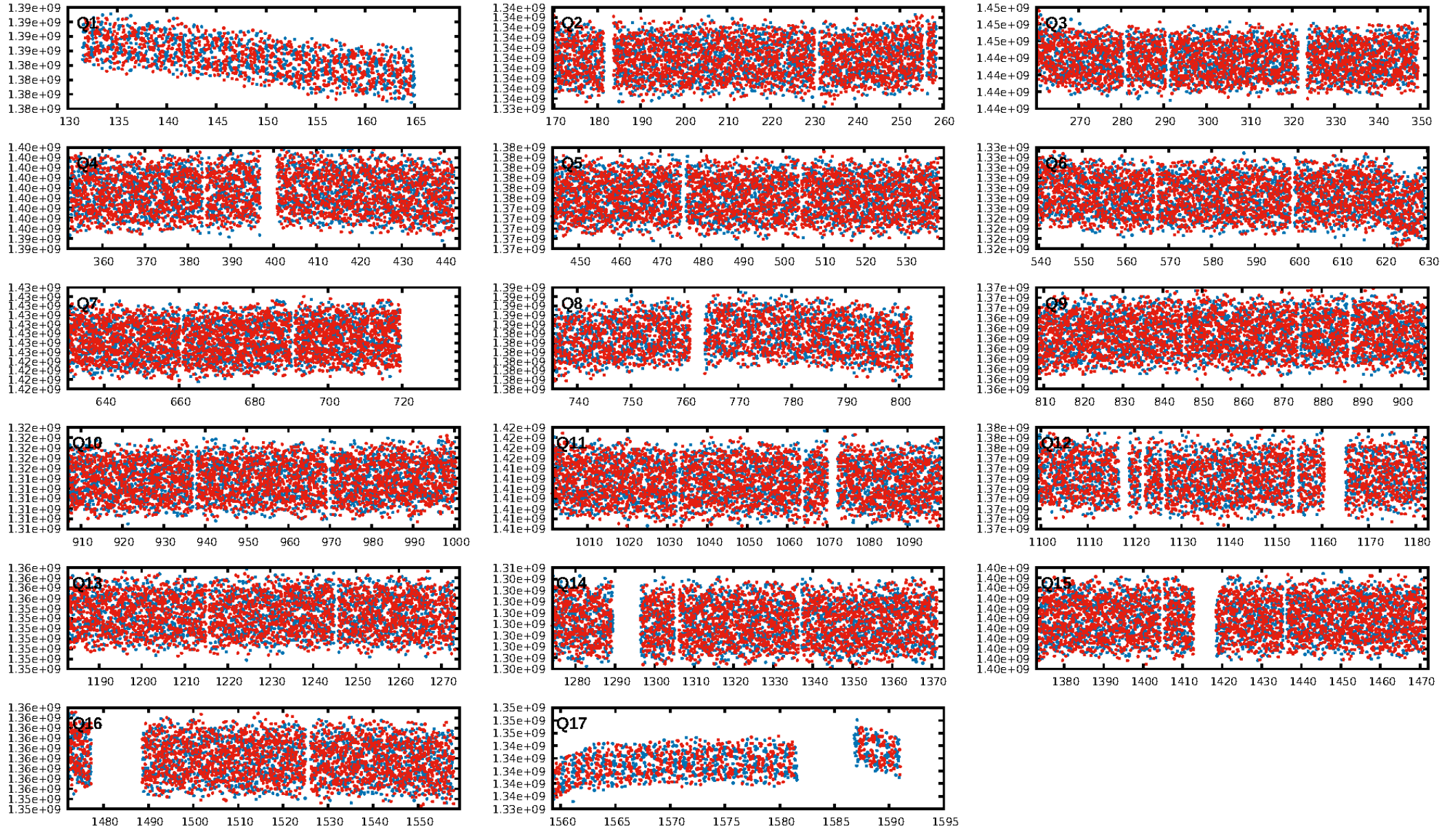
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [136.41σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.98e-12
RollingBand-fgt: 1.00 [1375/1377]
GhostDiagnostic-chr: 1.39
Centroid-sig: 30.3%
Centroid-so: 0.385 arcsec [0.54σ]
OotOffset-rm: 1.078 arcsec [1.39σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.431 arcsec [0.68σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.35 [6/17]
DiffImageOverlap-fno: 1.00 [17/17]

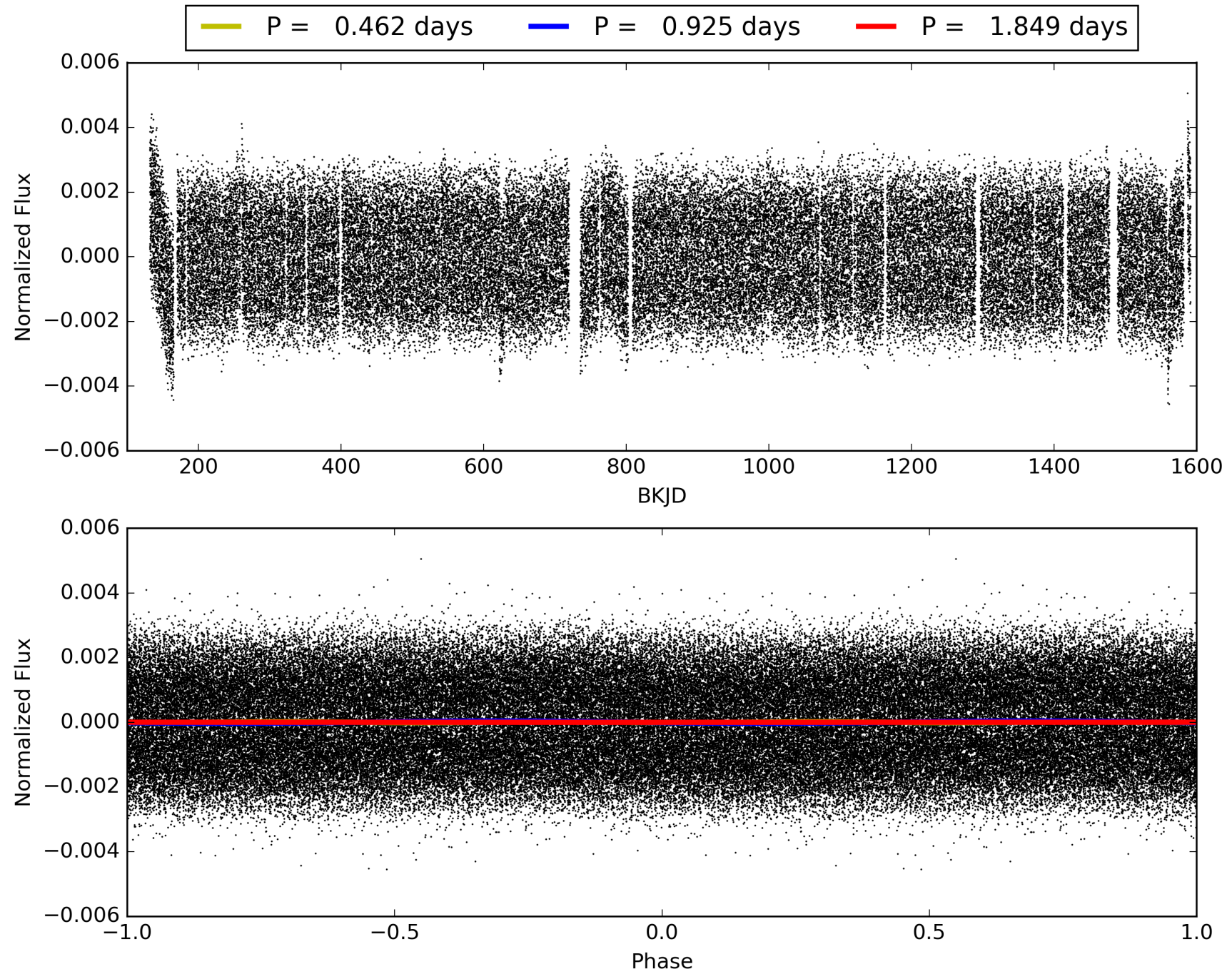
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 23:03:45 Z

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

TCE 009353572-02, PDC Light Curves

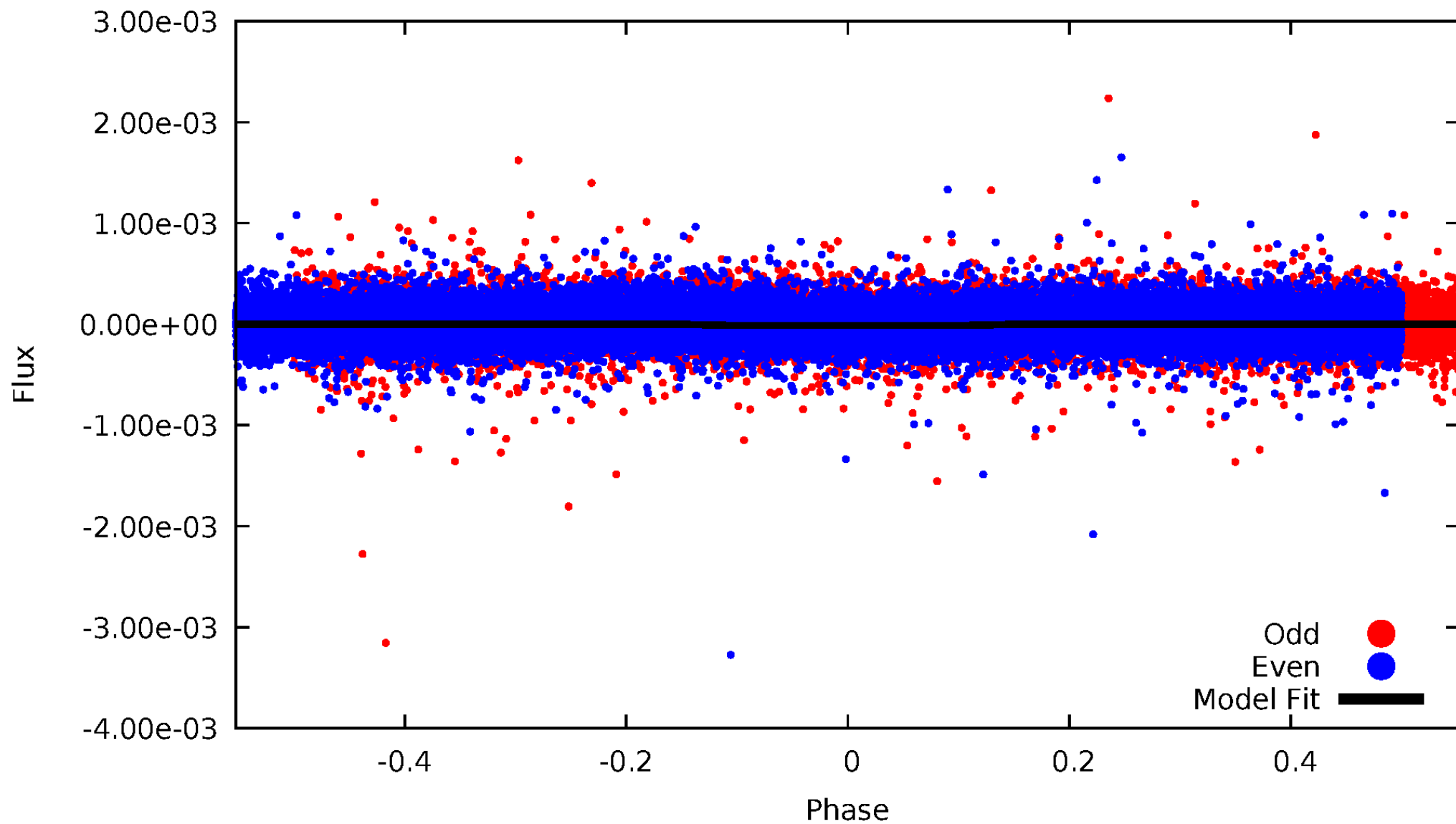


TCE 009353572-02



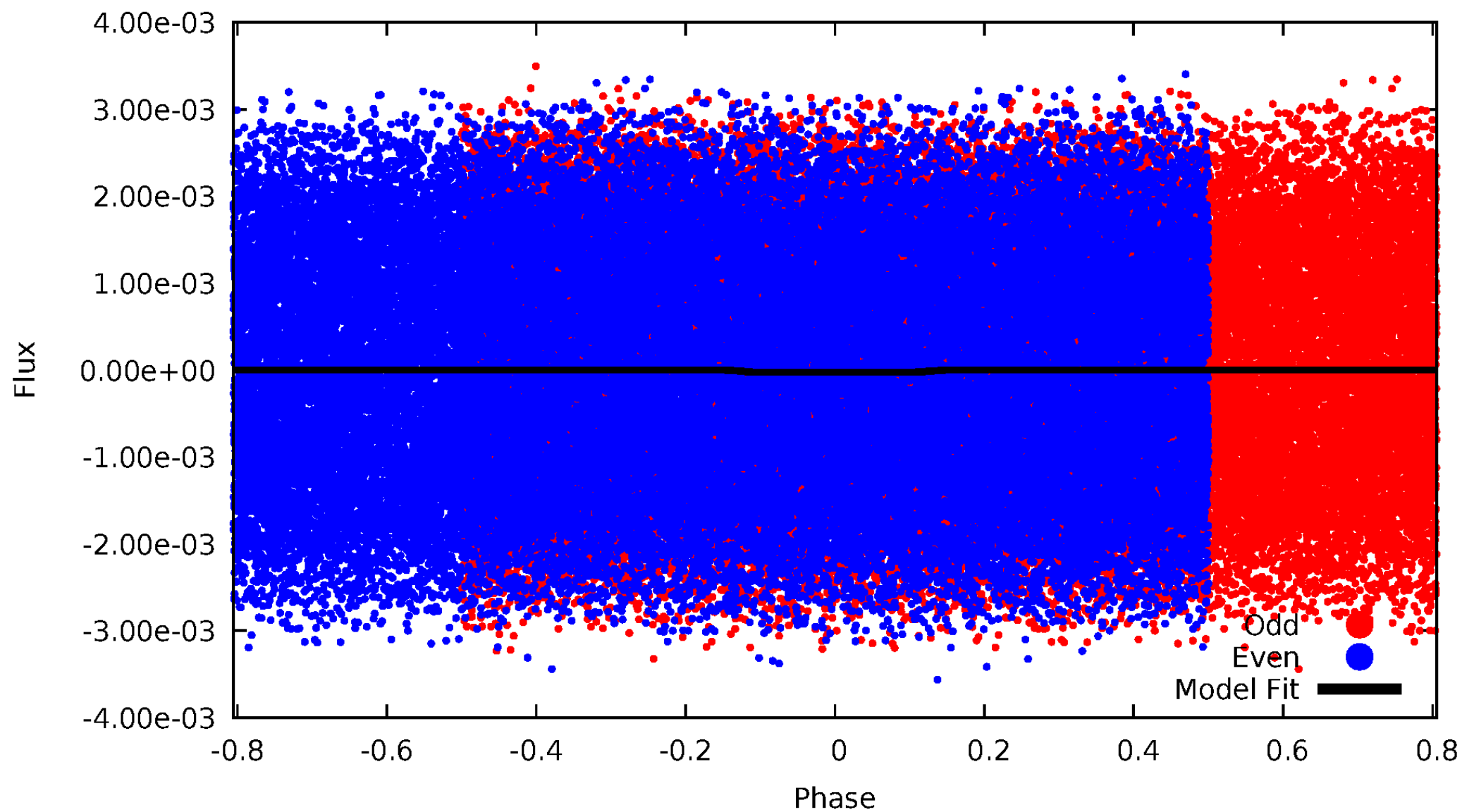
DV Odd/Even

TCE 009353572-02



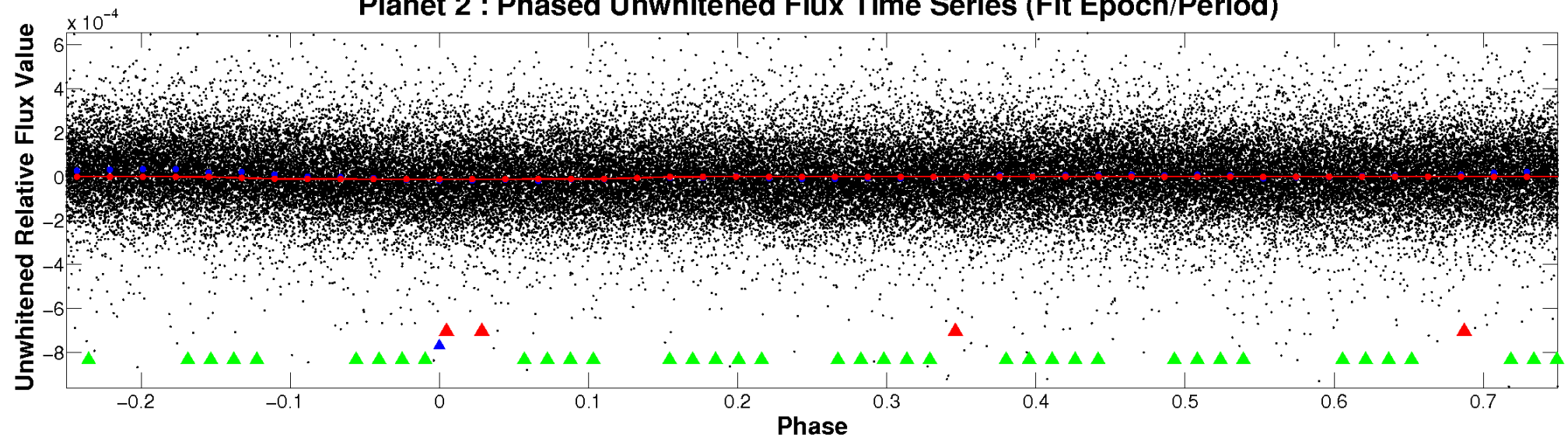
ALT Odd/Even

TCE 009353572-02

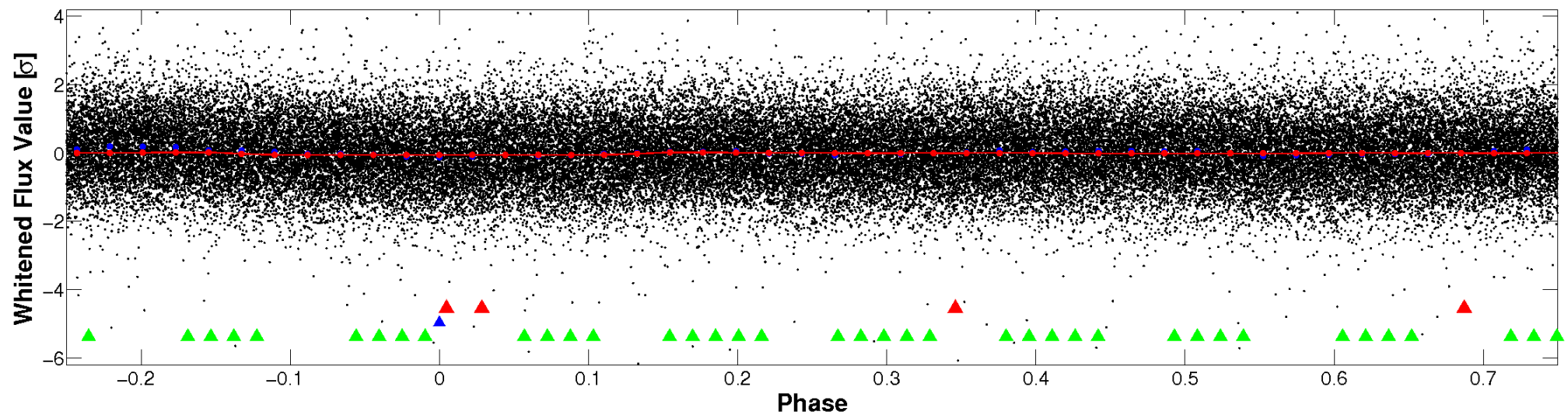


Non-Whitened Vs. Whitened Light Curve

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

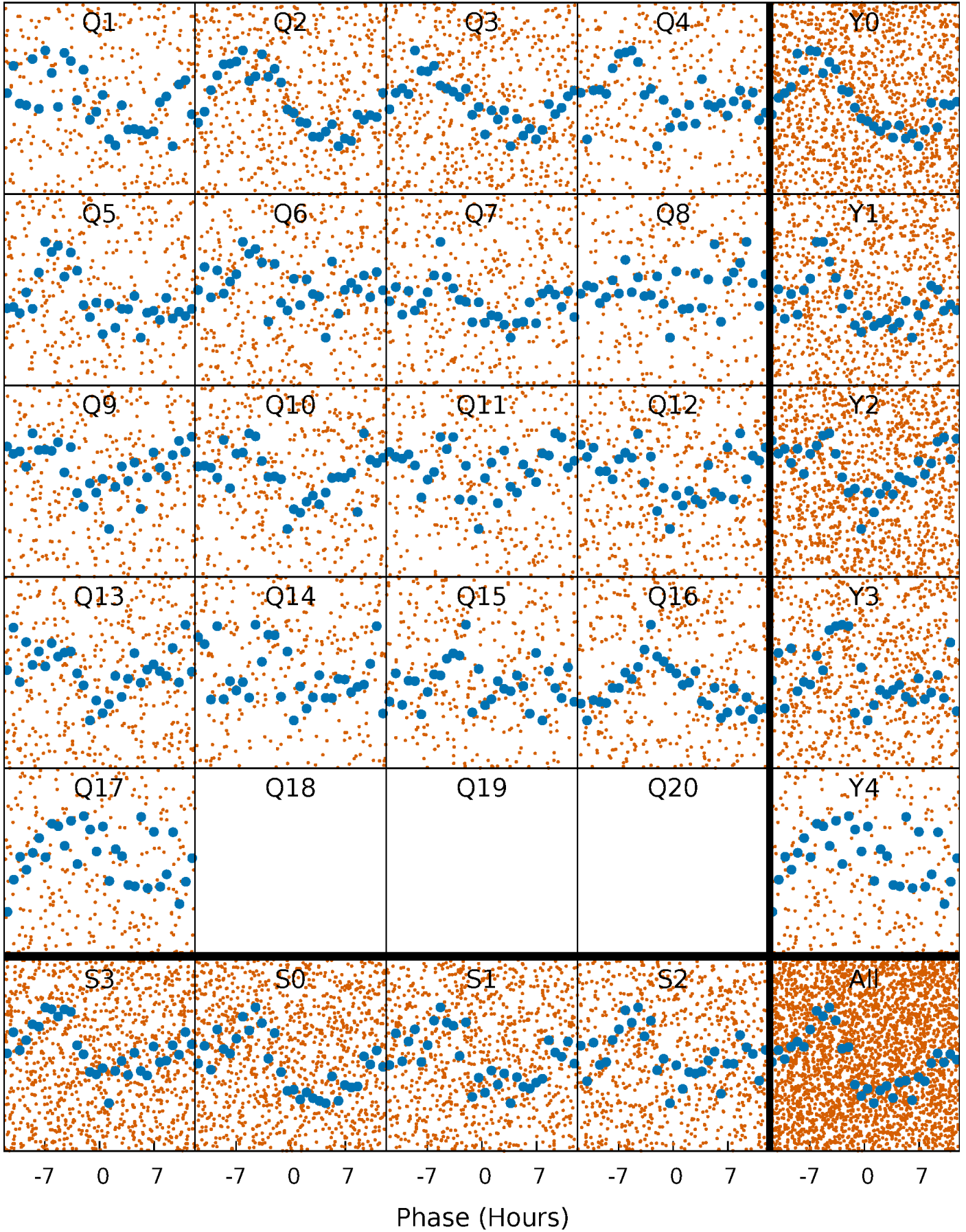


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



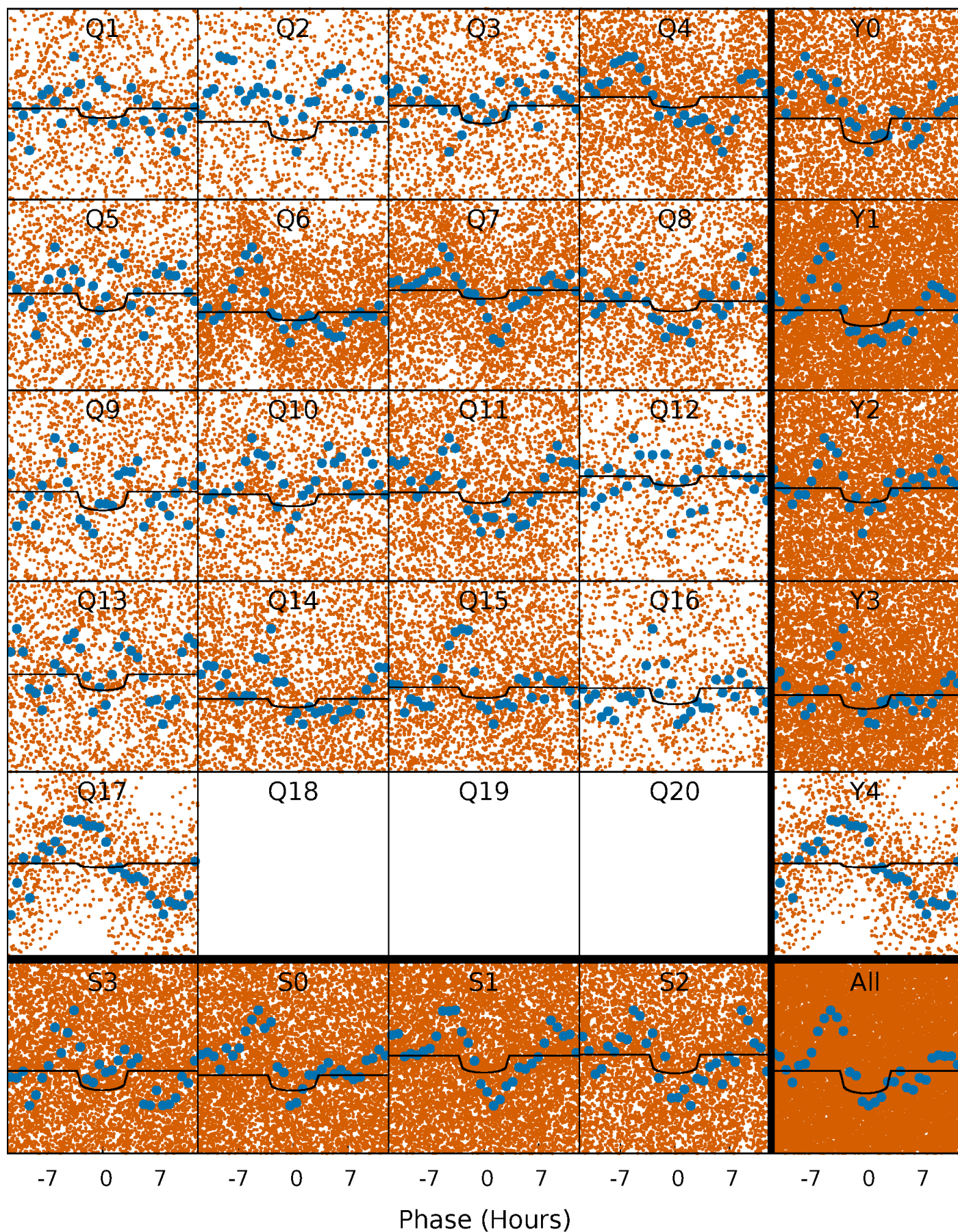
PDC Quarter-Phased Transit Curves

TCE 009353572-02 P= 0.924703 Days $T_0=132.012097$ (BKJD)



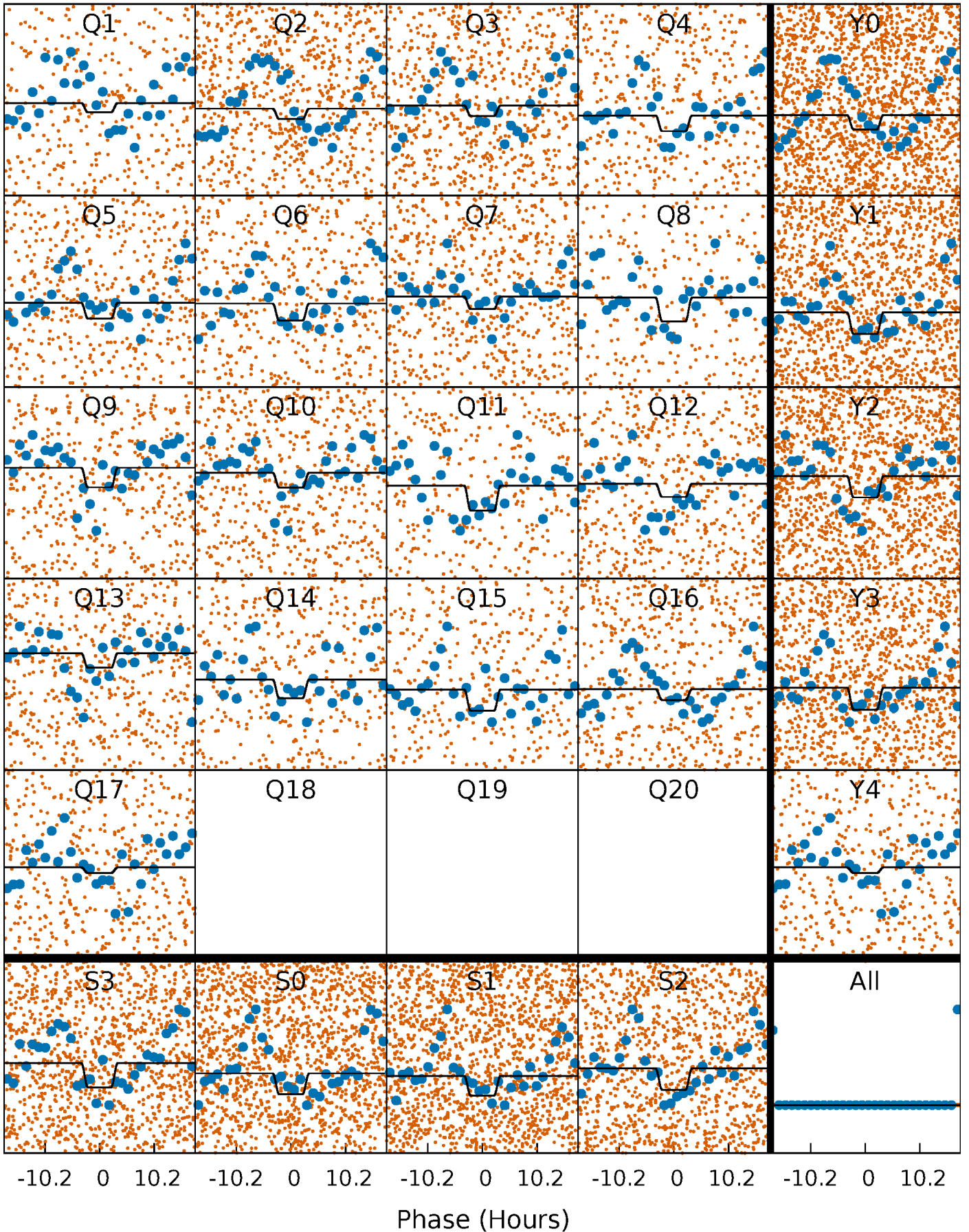
DV Quarter-Phased Transit Curves

TCE 009353572-02 P= 0.924703 Days $T_0=132.012097$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

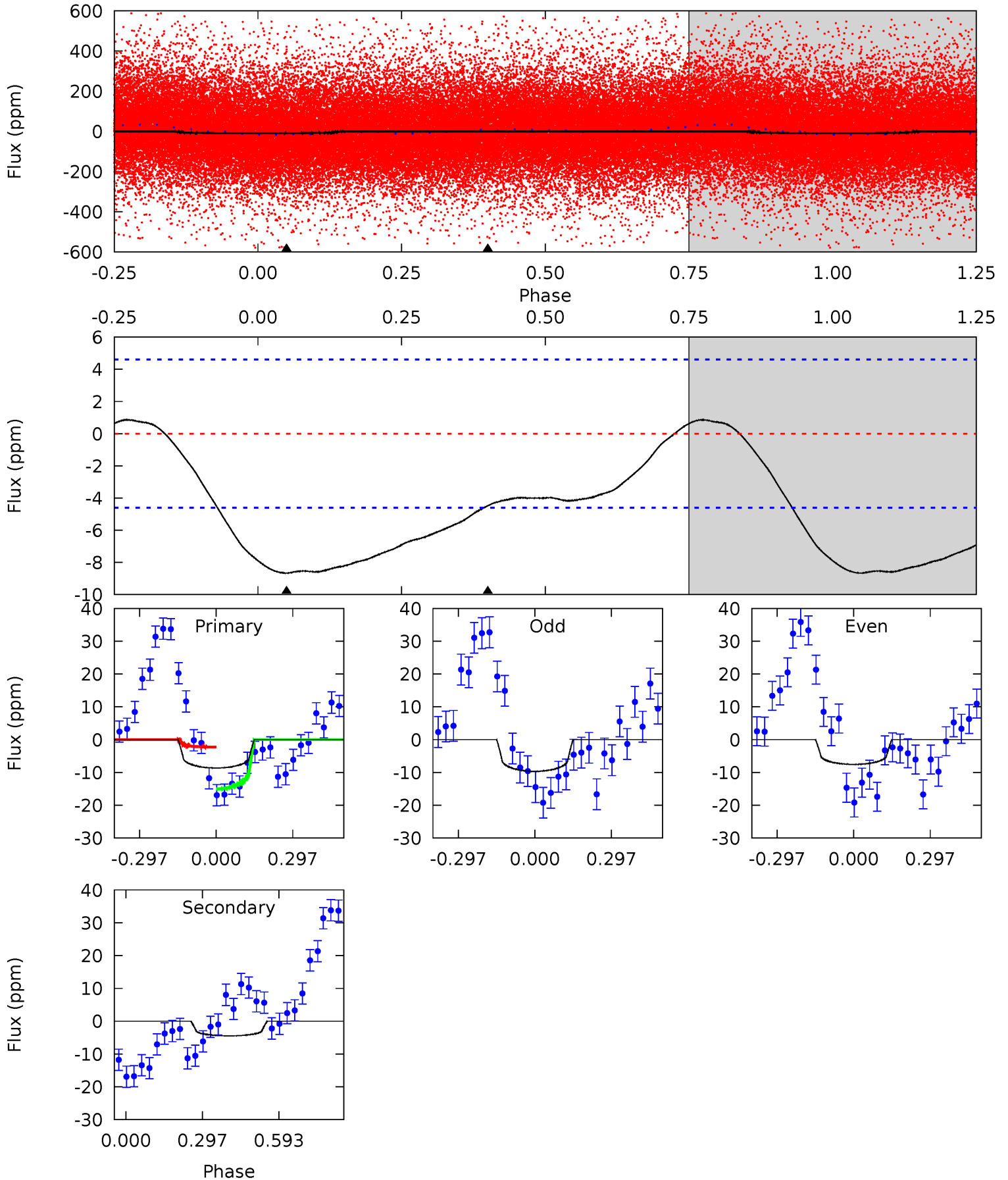
TCE 009353572-02 $P = 0.924869$ Days $T_0 = 131.964807$ (BKJD)



DV Model-Shift Uniqueness Test

009353572-02, P = 0.924703 Days, E = 131.087394 Days

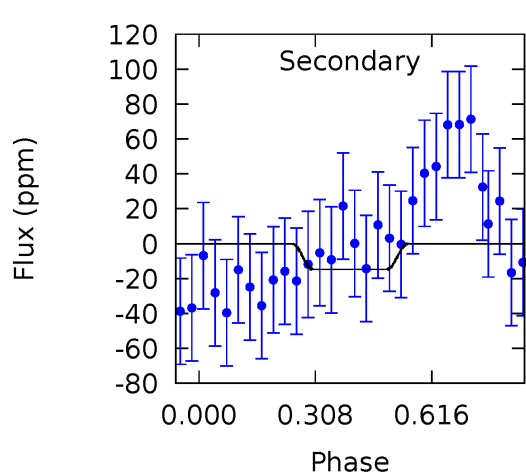
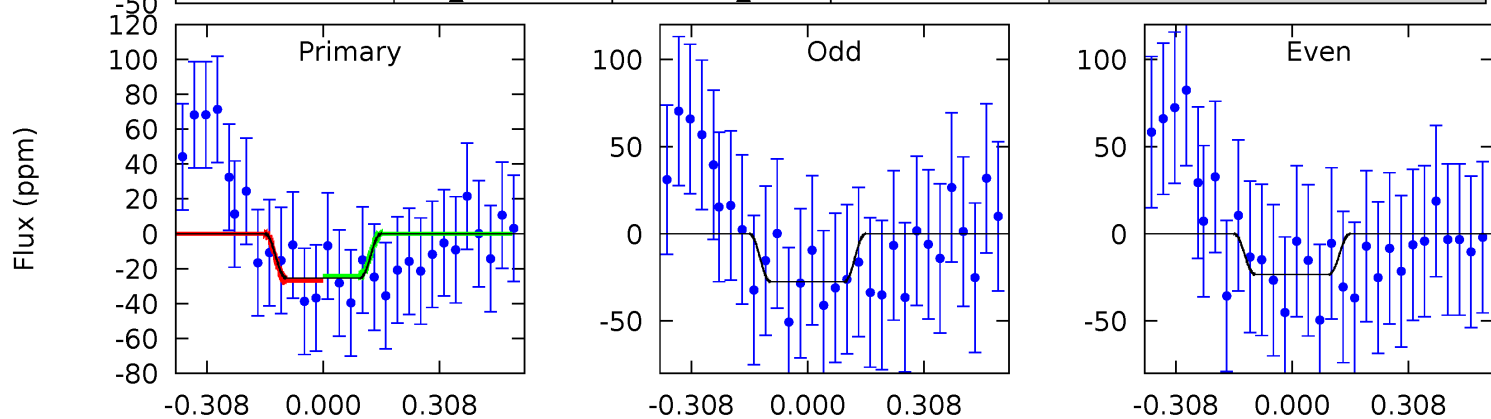
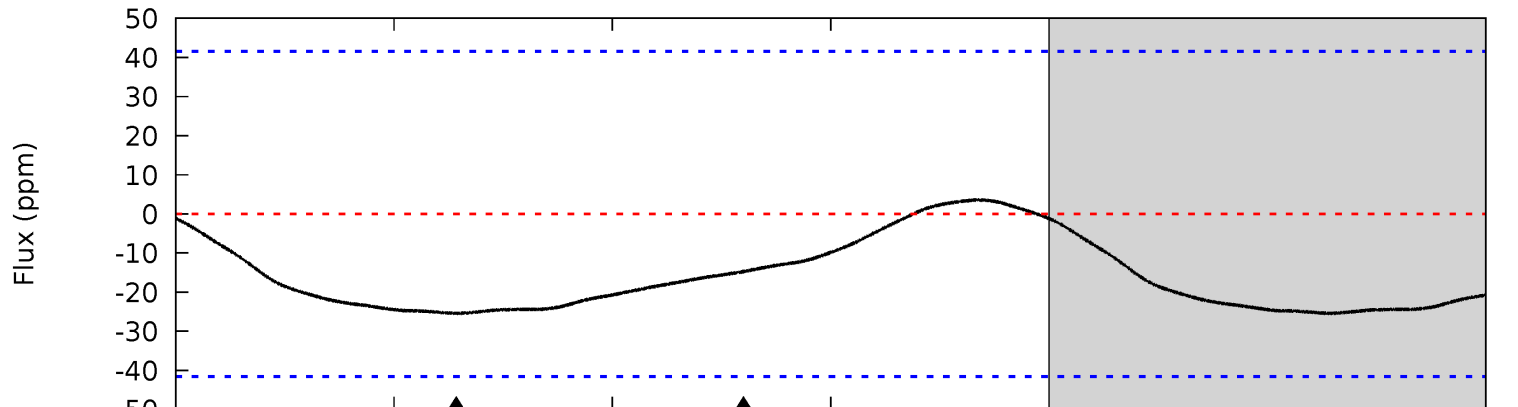
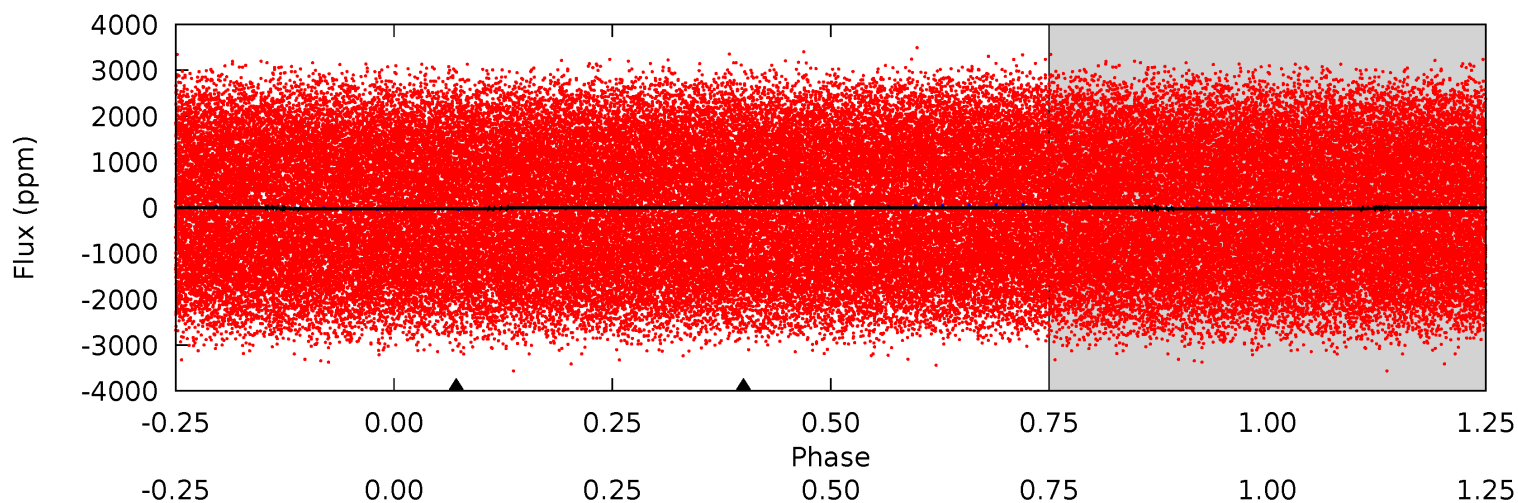
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.14	4.21	0	0	4.33	1.04	0.76	8.14	8.14	4.21	4.21	0.99	1.19	0.09	6.01



Alt Model-Shift Uniqueness Test

009353572-02, P = 0.924869 Days, E = 131.039938 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.65	1.54	0	0	4.32	1.02	0.27	2.65	2.65	1.54	1.54	0.22	0.99	0.12	0.15



Stellar Parameters For KIC 009353572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7419^{+233}_{-311}	$3.954^{+0.308}_{-0.132}$	$-0.400^{+0.250}_{-0.350}$	$2.160^{+0.516}_{-0.774}$	$1.528^{+0.209}_{-0.313}$	$0.213^{+0.472}_{-0.083}$
	+3%/-4%	+8%/-3%	+62%/-87%	+24%/-36%	+14%/-20%	+221%/-39%
Source	KIC0	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 009353572-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 1	$0.73^{+0.39}_{-0.30}$	4512^{+333}_{-412}	5576^{+2227}_{-1121}	$2.050^{+4.226}_{-1.184}$
Alt.	-15 ± 10	$1.13^{+0.40}_{-0.33}$	4492^{+346}_{-414}	6028^{+1694}_{-1740}	$2.599^{+3.879}_{-1.862}$

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 $A_{obs} \gg 1.0$

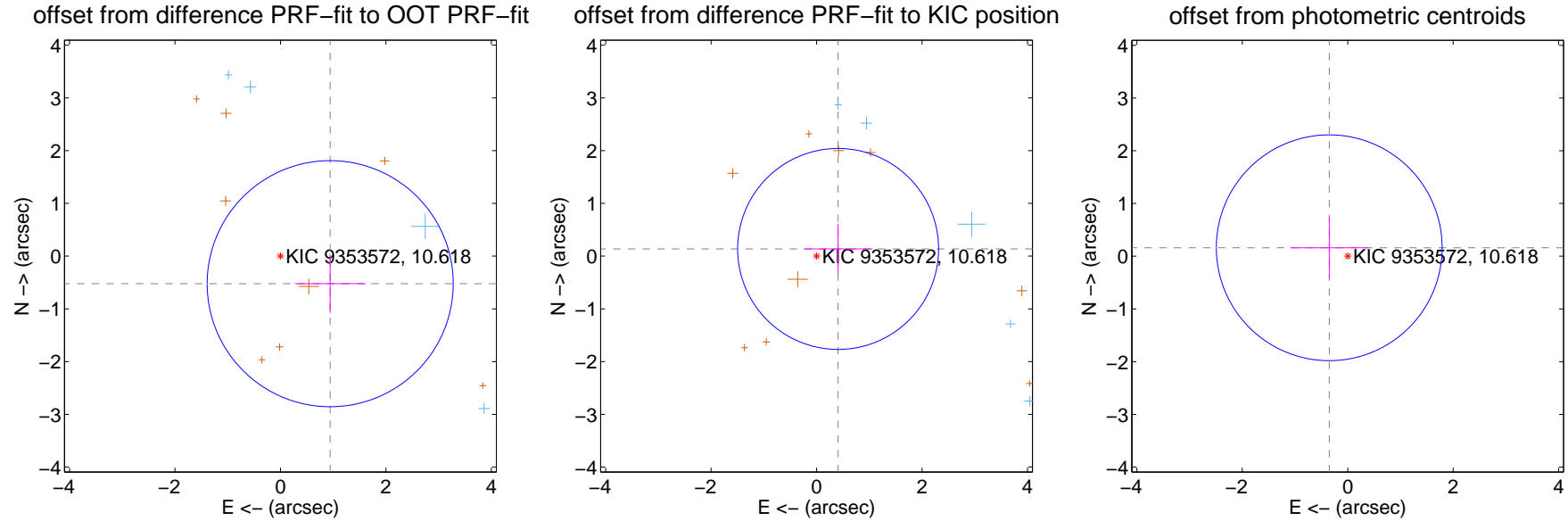
DV Centroid Data

Supplemental centroid analysis for 009353572-02. **Kepler magnitude: 10.62.** Transit SNR 7.36

There are 6 quarters with good PRF difference image offsets

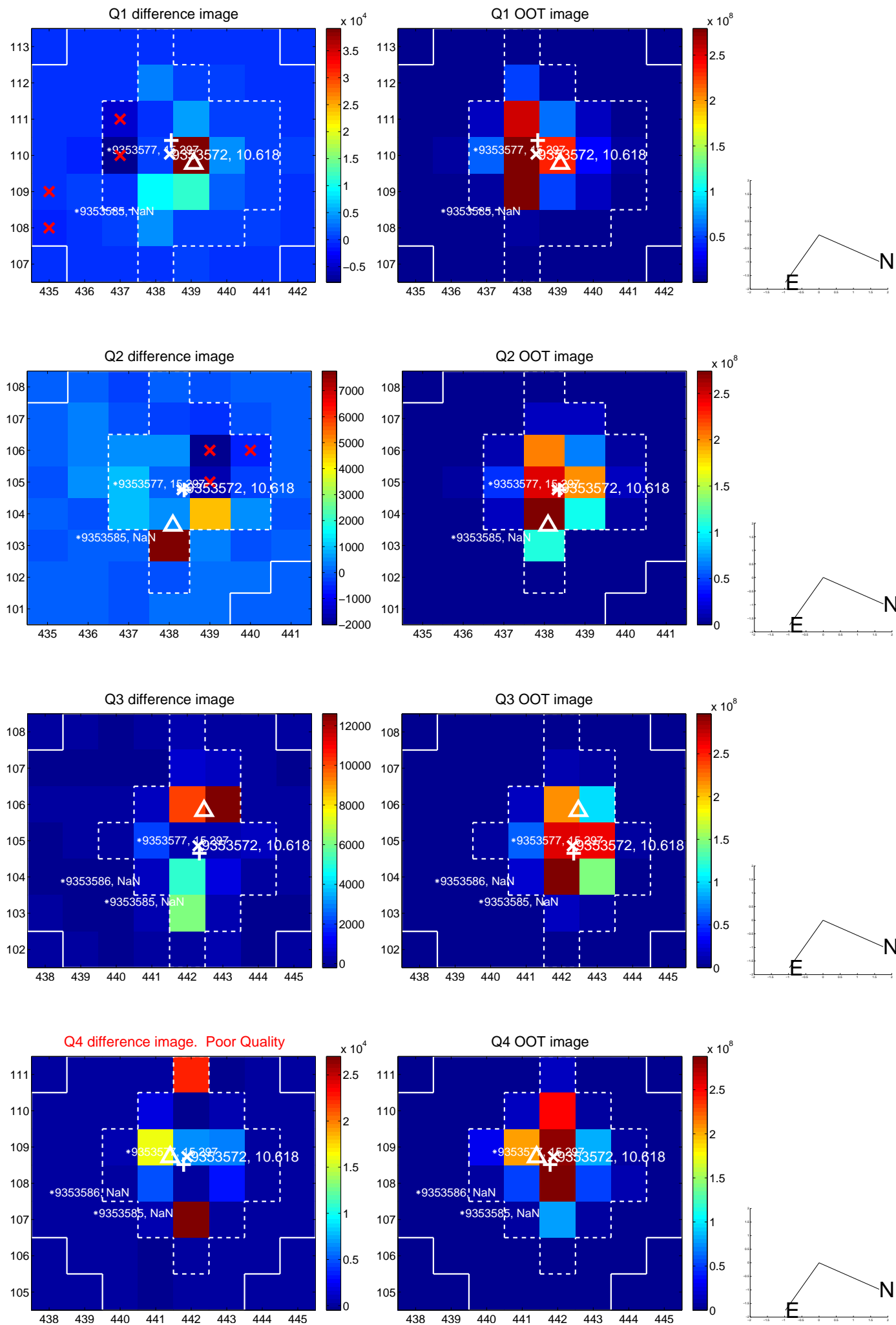
The direct PRF centroid is offset from the target star catalog position by about 1.61 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.078 ± 0.778	1.39	-0.943 ± 0.670	-0.523 ± 0.553
PRF-fit source offset from KIC position	0.431 ± 0.635	0.68	-0.409 ± 0.650	0.136 ± 0.477
photometric centroid source offset	0.39 ± 0.71	0.54	0.35 ± 0.74	0.16 ± 0.59

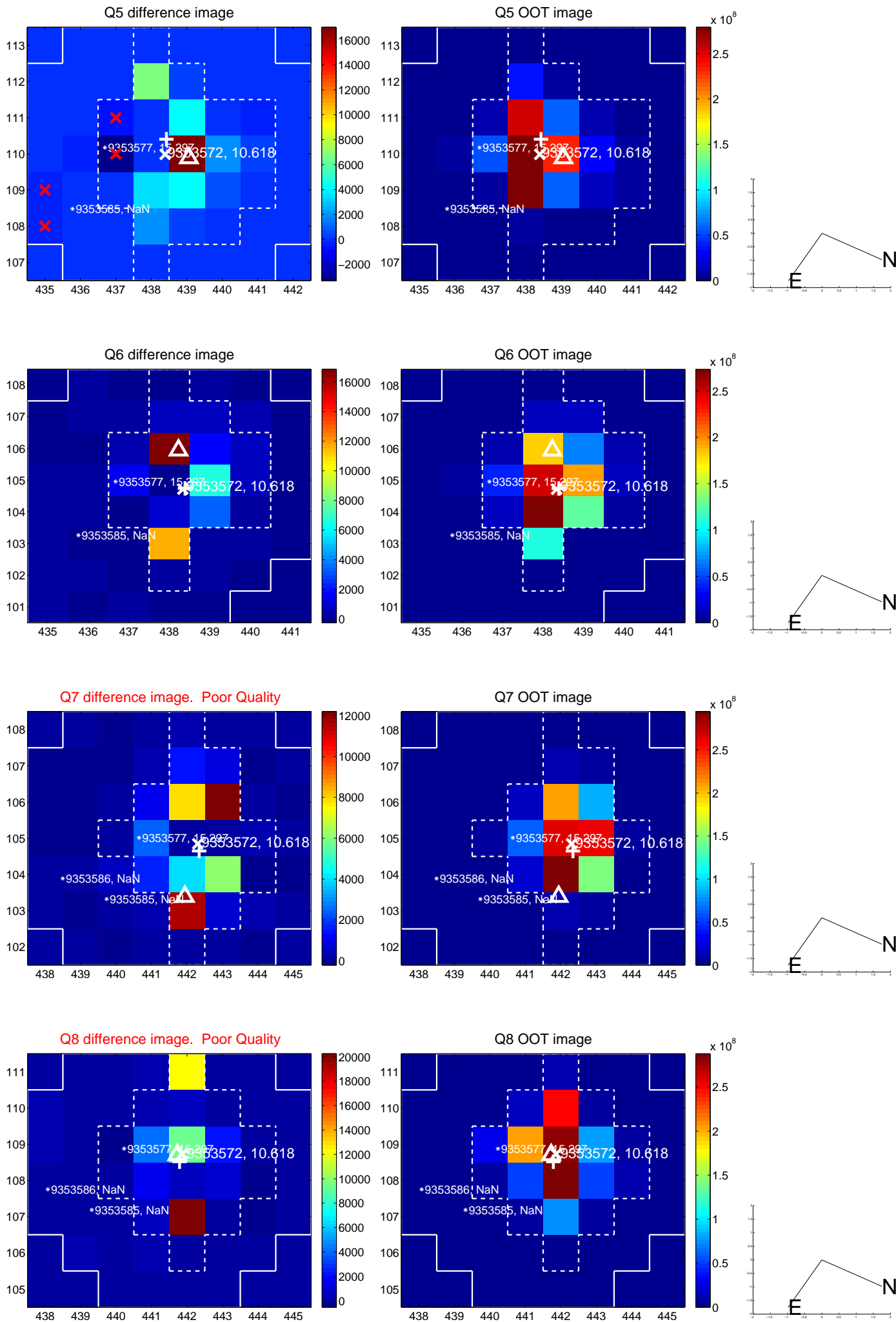


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

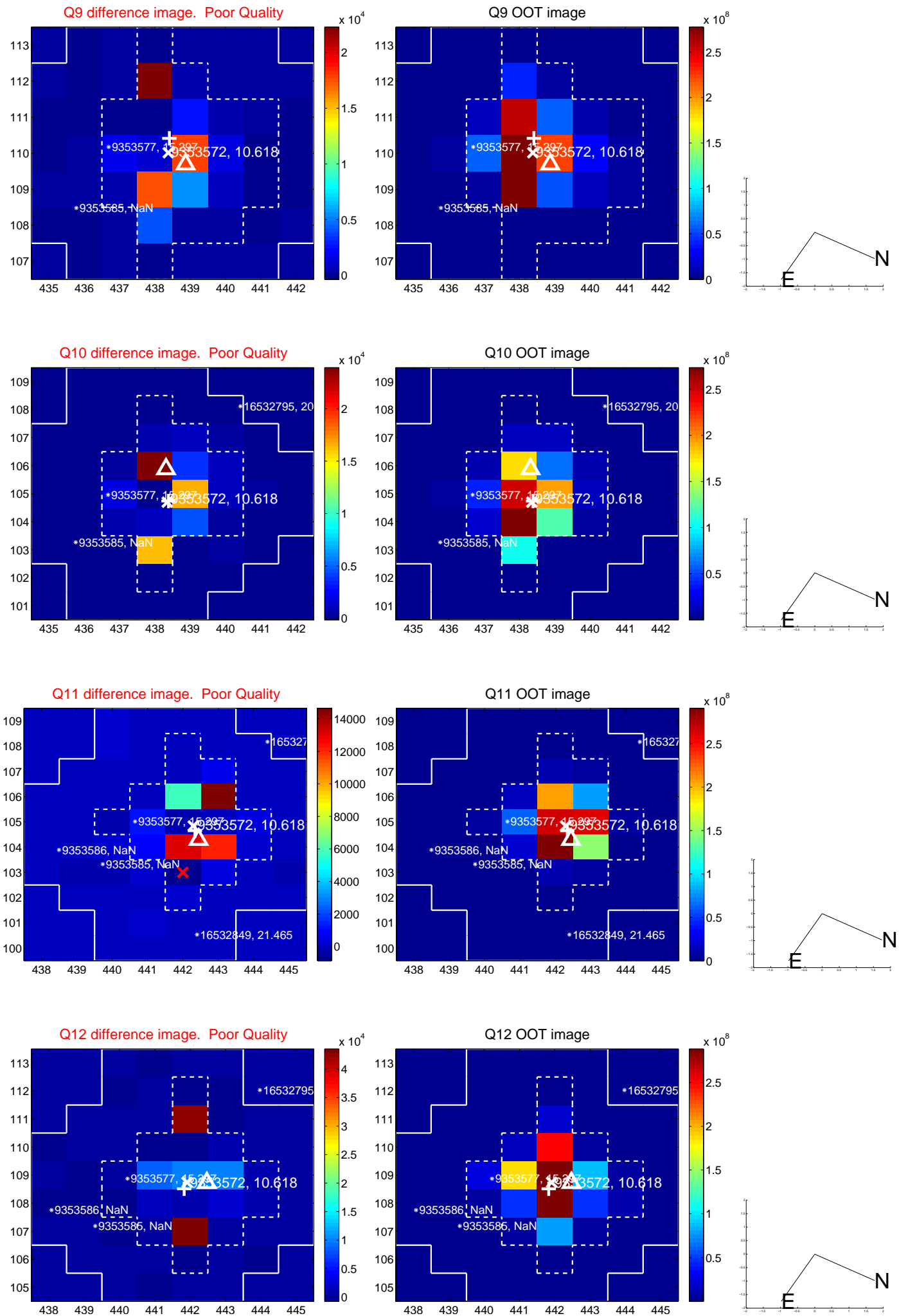
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



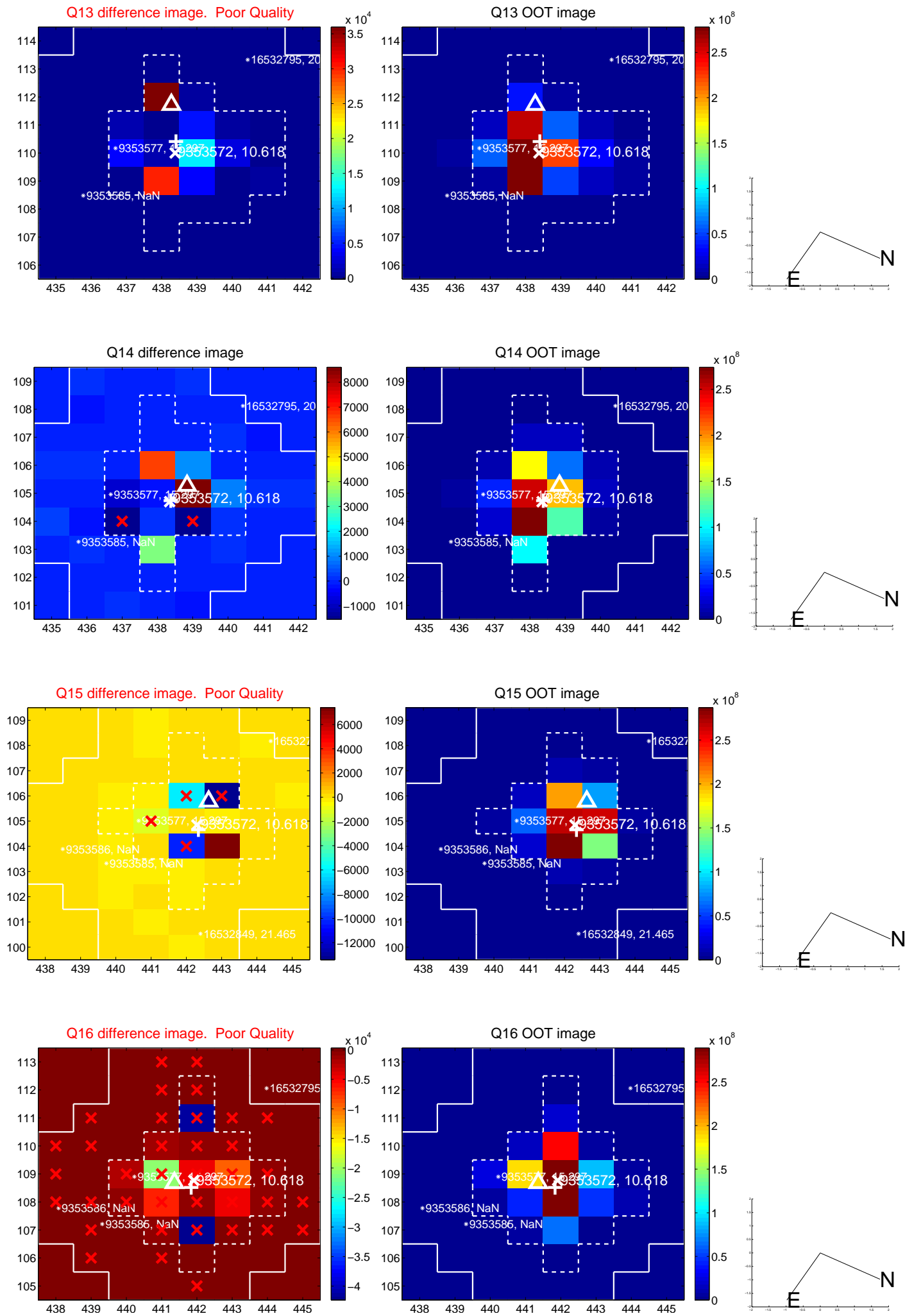
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

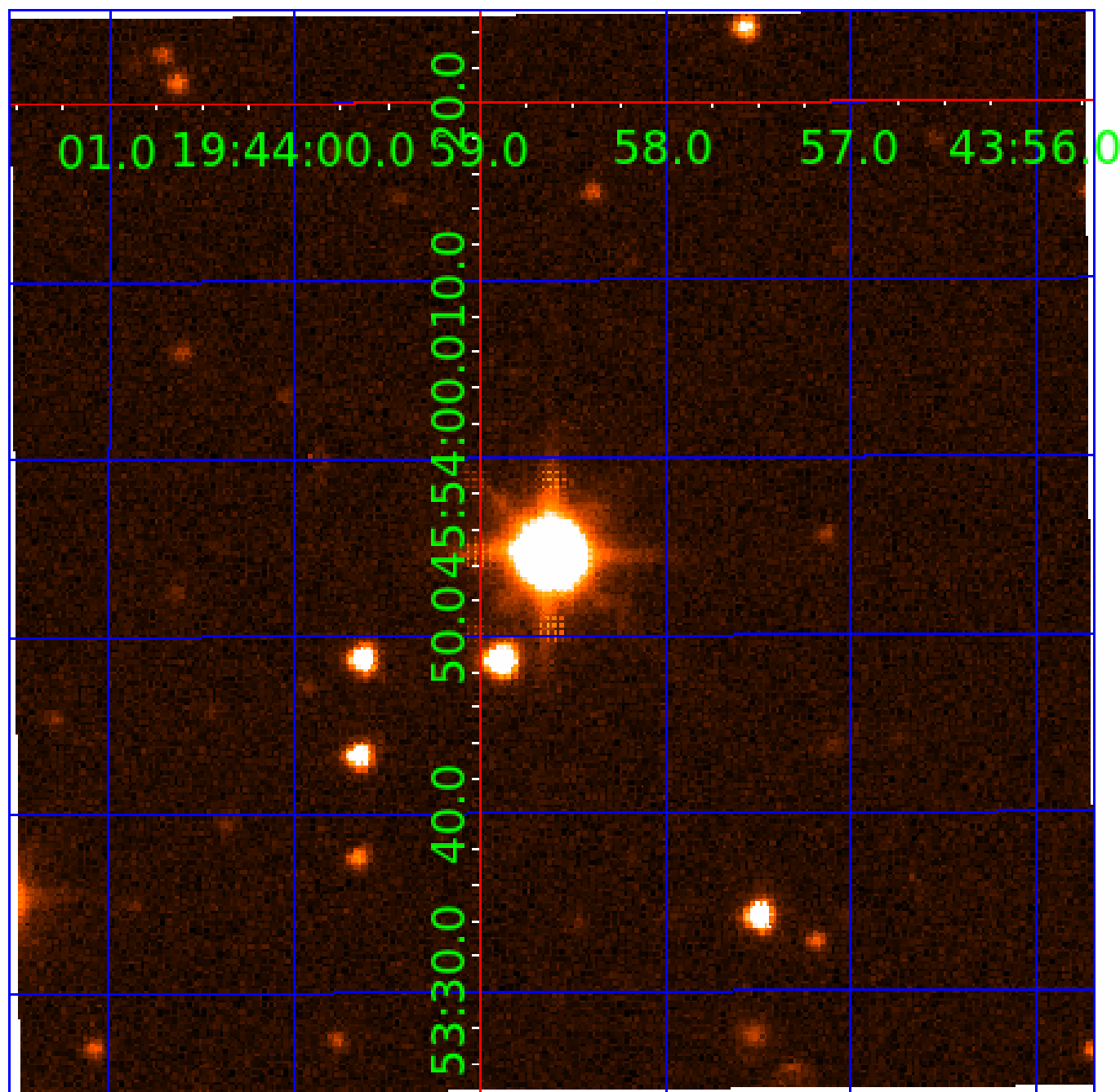


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009353572

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})
009353572-01	OBS	No	366.497851	255.926698	406.0	32.551	18.9	19.4	2.16	7419	4.62	9.49
009353572-02	OBS	No	0.924703	132.012097	11.3	6.127	9.8	7.4	2.16	7419	0.77	27621.17
009353572-03	OBS	No	37.808486	134.269986	144.2	2.138	10.2	9.6	2.16	7419	2.71	196.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009353572-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
009353572-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
009353572-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_SATURATED—HALO_GHOST

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

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

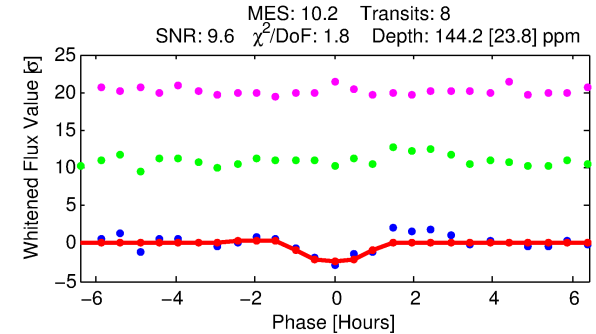
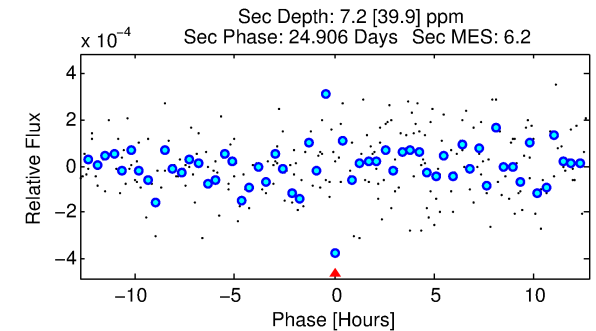
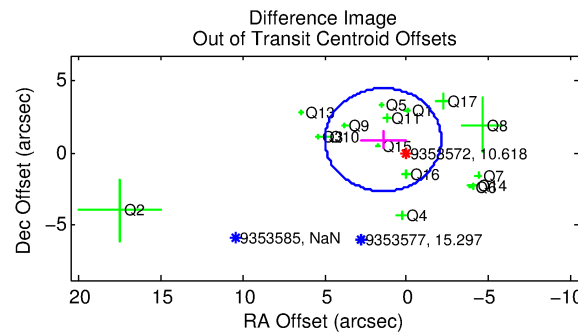
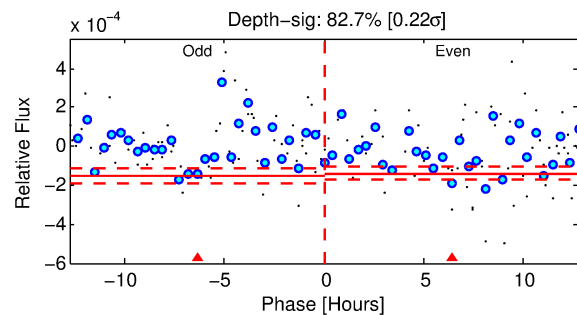
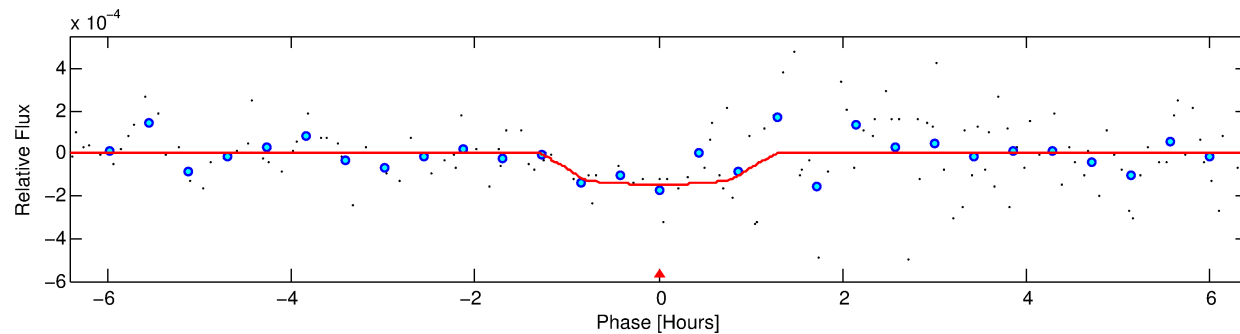
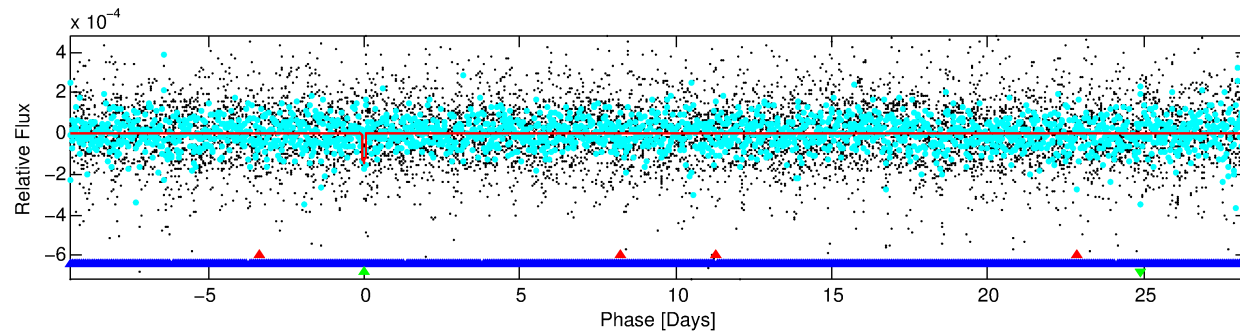
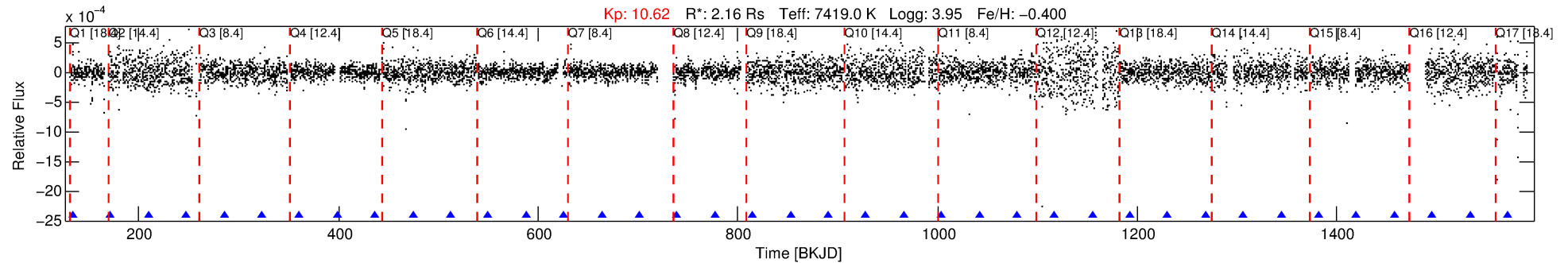
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009353572-03

No Significant Match Found

DV One-Page Summary

KIC: 9353572 Candidate: 3 of 3 Period: 37.808 d



DV Fit Results:

Period = 37.80849 [0.00043] d
Epoch = 134.2700 [0.0084] BKJD
Rp/R* = 0.0115 [0.0083]
a/R* = 115.74 [516.78]
b = 0.54 [5.85]
Seff = 196.09 [108.95]
Teq = 954 [133] K
Rp = 2.71 [2.18] Re
a = 0.2541 [0.0854] AU
Ag = 35.03 [200.59] [0.17 σ]
Teffp = 3589 [5119] K [0.51 σ]

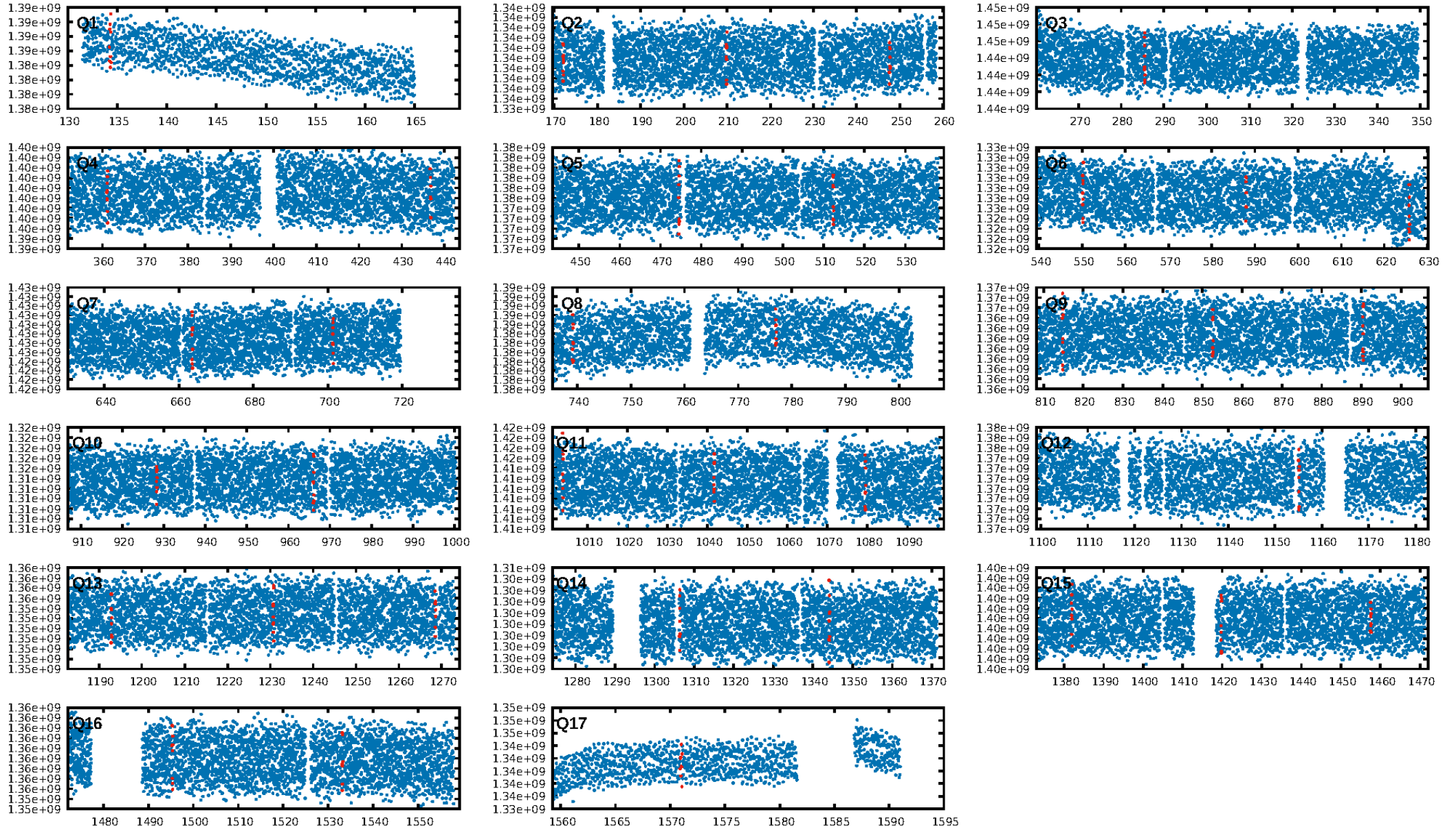
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [136.41 σ]
LongPeriod-sig: 100.0% [241.82 σ]
ModelChiSquare2-sig: 26.4%
ModelChiSquareGof-sig: 95.0%
Bootstrap-pfa: 1.07e-09
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -0.1539
Centroid-sig: 3.4%
Centroid-so: 0.632 arcsec [1.21 σ]
OotOffset-rm: 1.718 arcsec [1.45 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-rm: 1.432 arcsec [1.63 σ]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.38 [6/16]
DiffImageOverlap-fno: 0.25 [4/16]

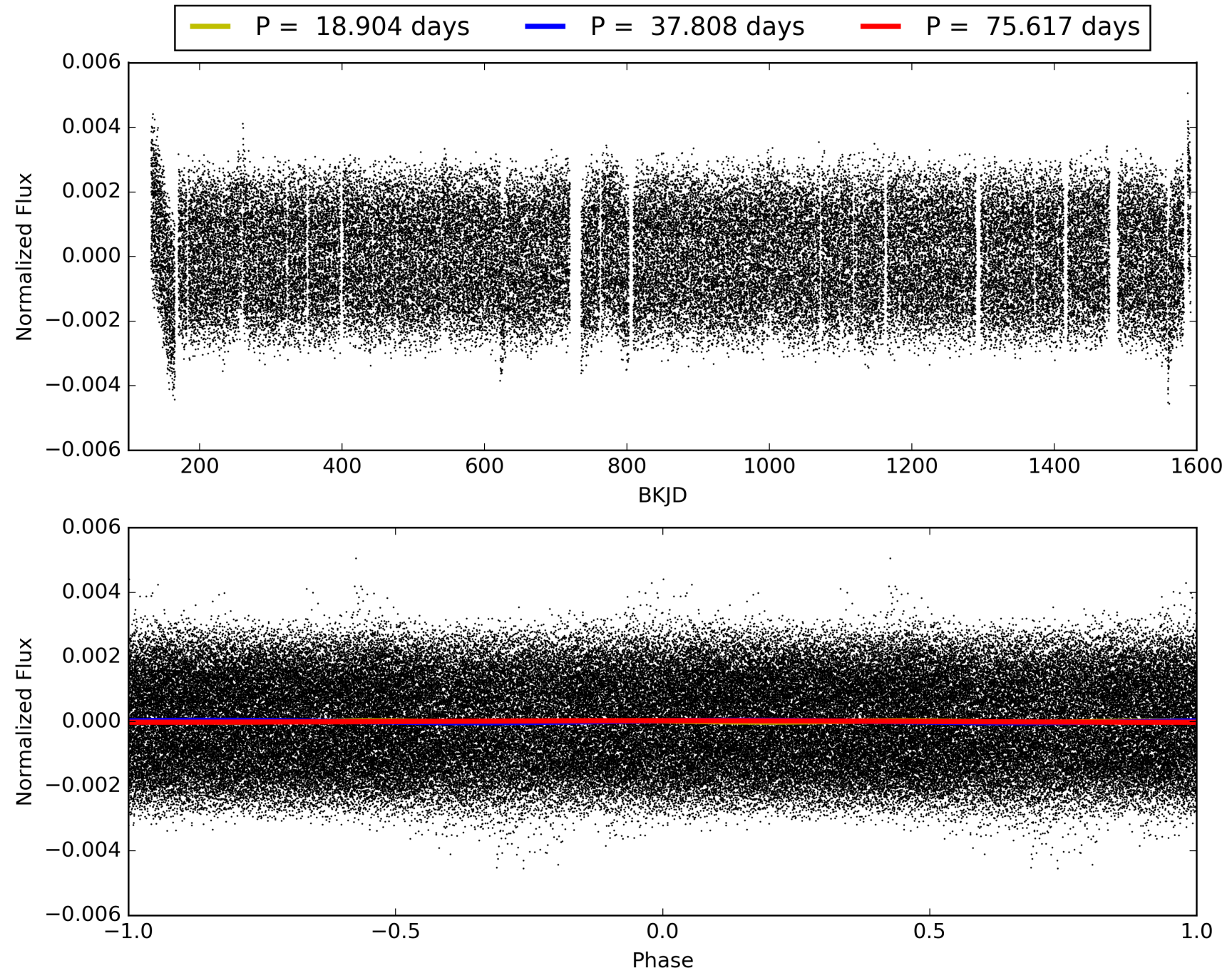
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 23:03:56 Z

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

TCE 009353572-03, PDC Light Curves

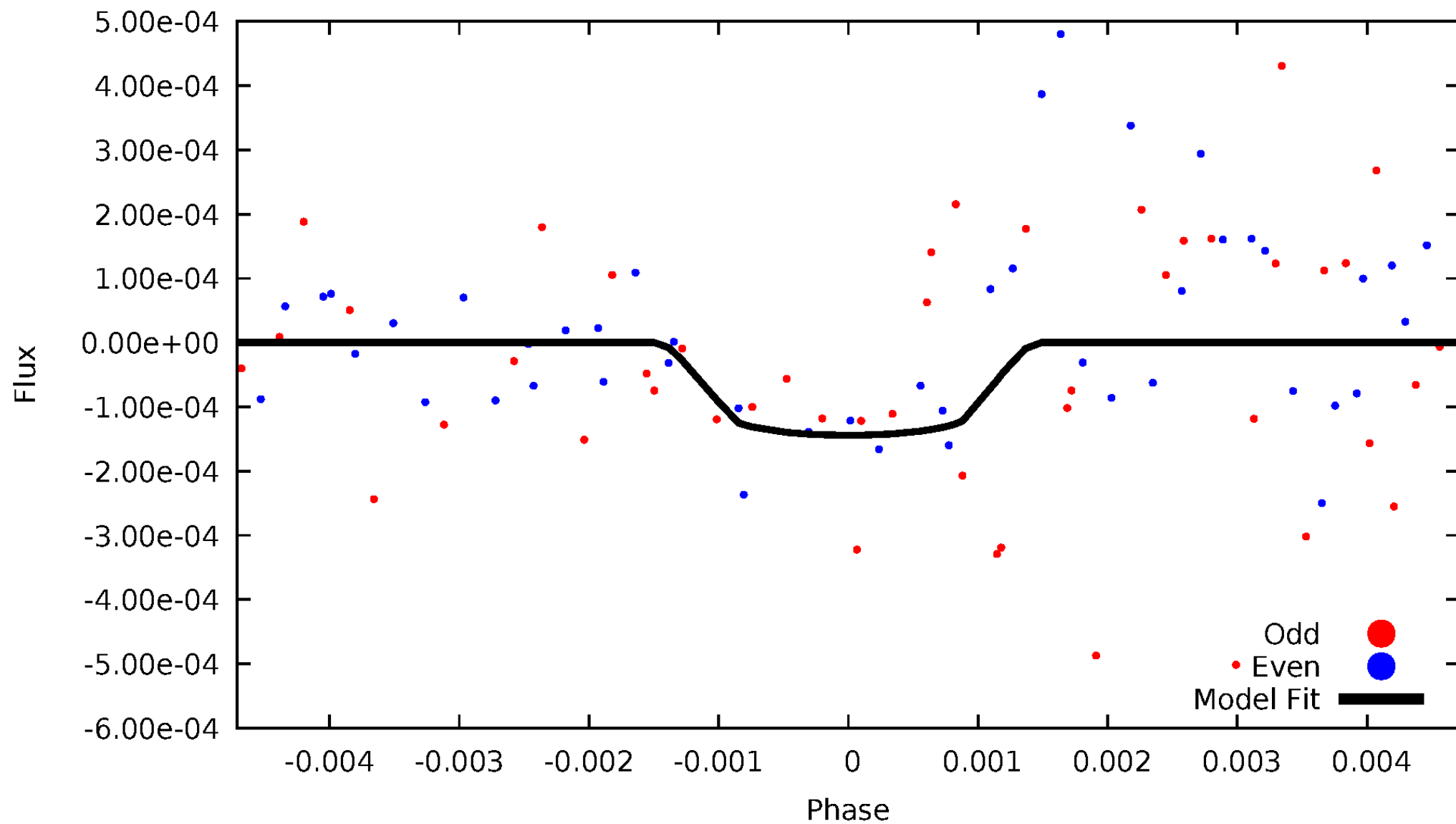


TCE 009353572-03



DV Odd/Even

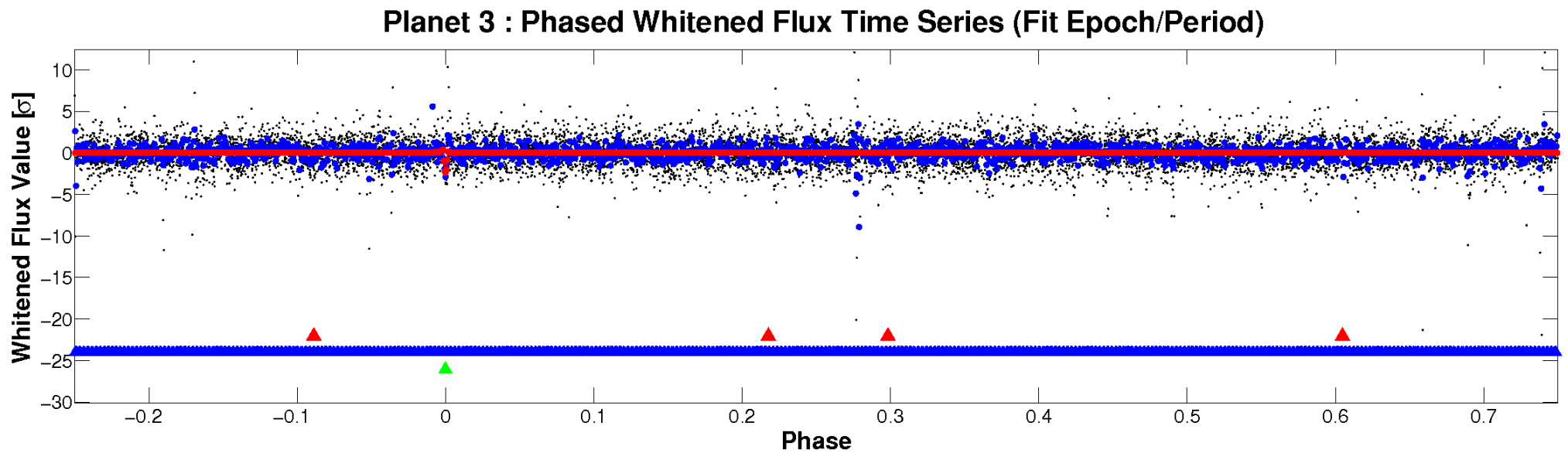
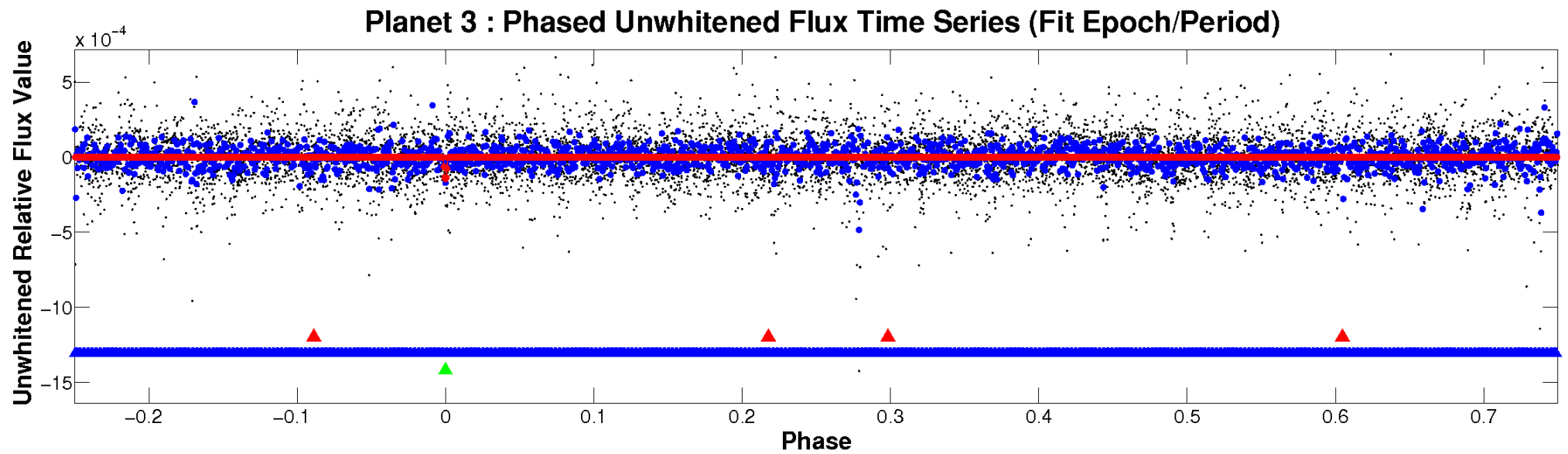
TCE 009353572-03



ALT Odd/Even

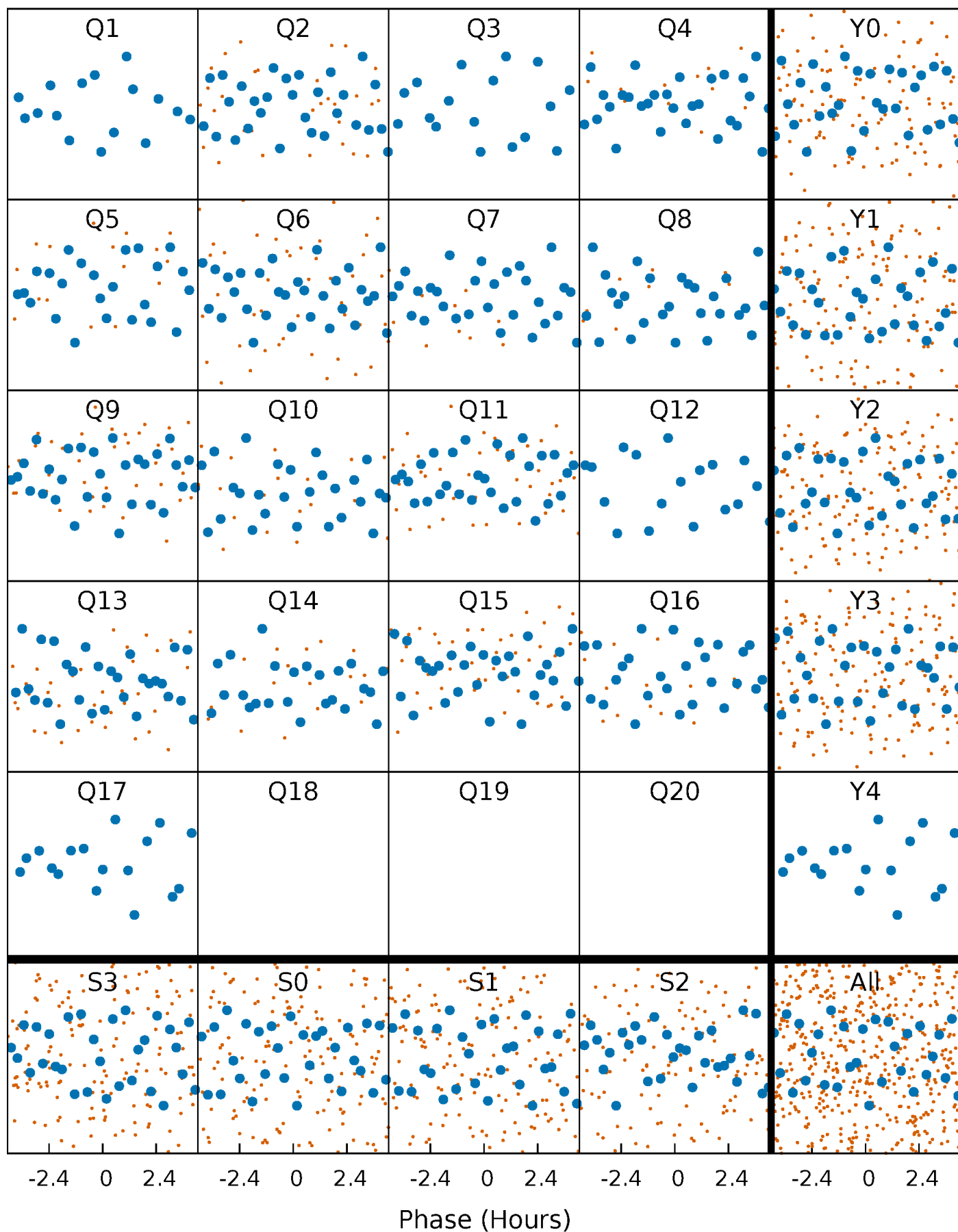
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve



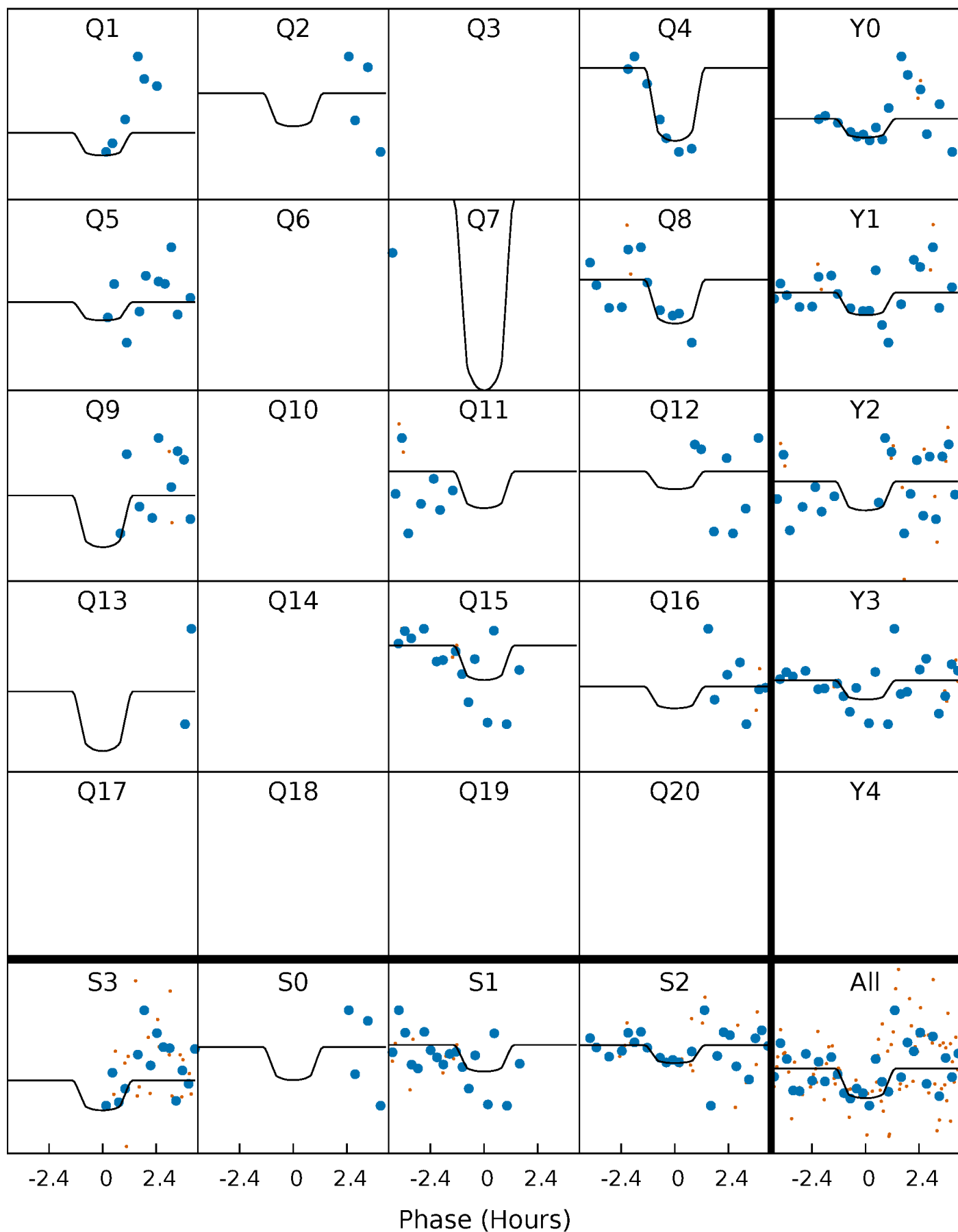
PDC Quarter-Phased Transit Curves

TCE 009353572-03 P= 37.808486 Days $T_0=134.269986$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009353572-03 P= 37.808486 Days $T_0=134.269986$ (BKJD)

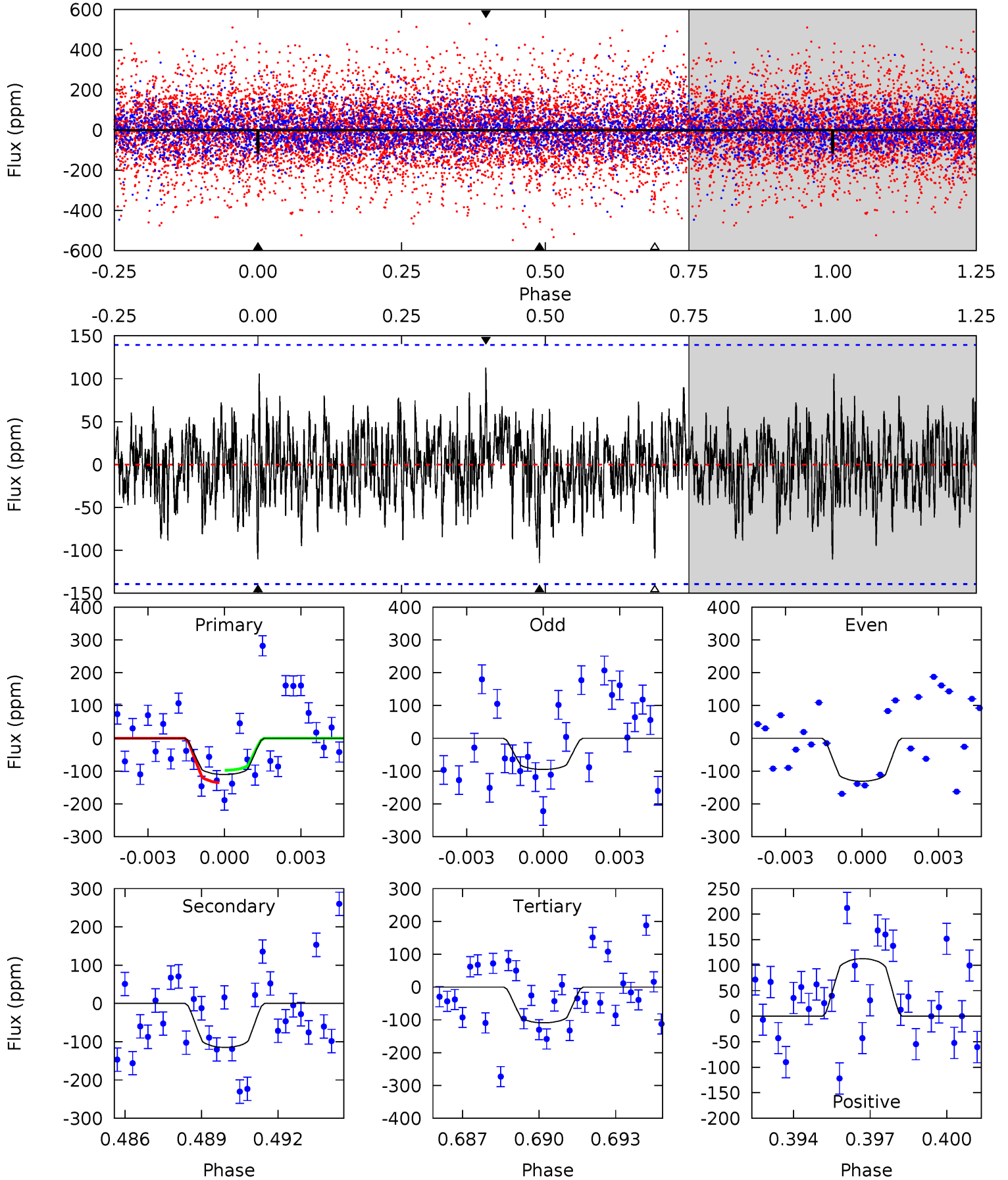


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009353572-03, P = 37.808486 Days, E = 96.461500 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.17	4.33	4.11	4.26	5.26	2.98	1.21	0.06	-0.09	0.22	0.08	0.68	0.73	0.50	0.69



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 009353572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7419^{+233}_{-311}	$3.954^{+0.308}_{-0.132}$	$-0.400^{+0.250}_{-0.350}$	$2.160^{+0.516}_{-0.774}$	$1.528^{+0.209}_{-0.313}$	$0.213^{+0.472}_{-0.083}$
	+3%/-4%	+8%/-3%	+62%/-87%	+24%/-36%	+14%/-20%	+221%/-39%
Source	KIC0	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 009353572-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-115 ± 26	$2.69^{+1.94}_{-1.56}$	1309^{+106}_{-133}	6845^{+5149}_{-1579}	560^{+2477}_{-385}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

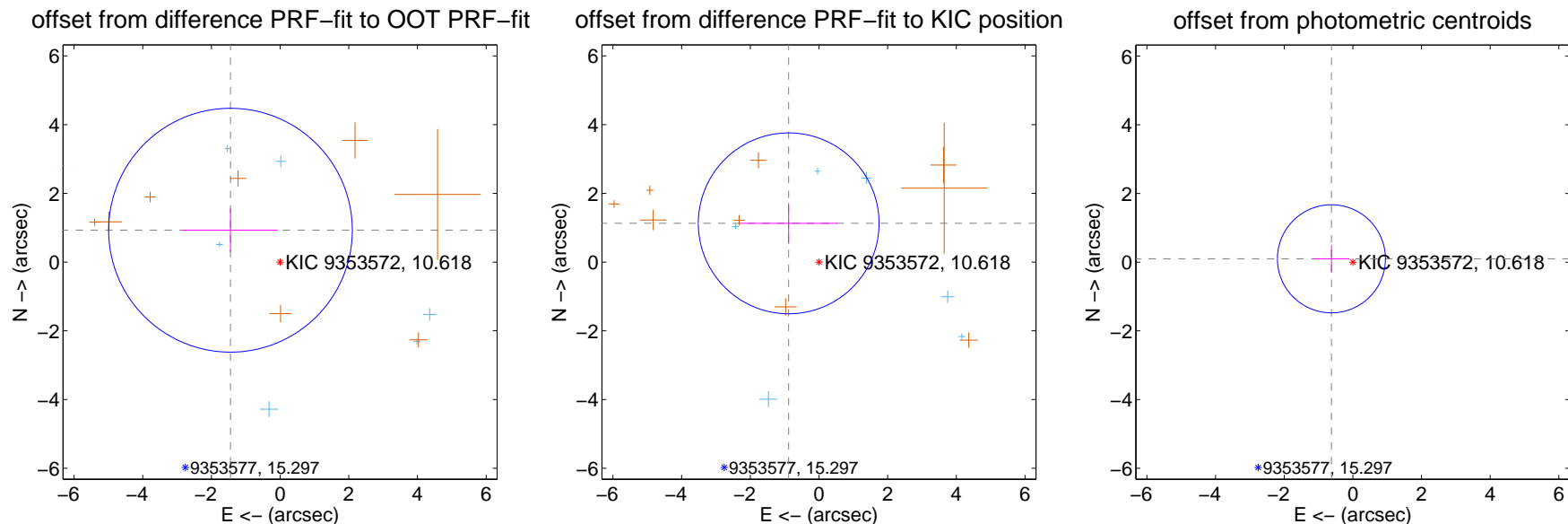
DV Centroid Data

Supplemental centroid analysis for 009353572-03. **Kepler magnitude: 10.62.** Transit SNR 9.57

There are 6 quarters with good PRF difference image offsets

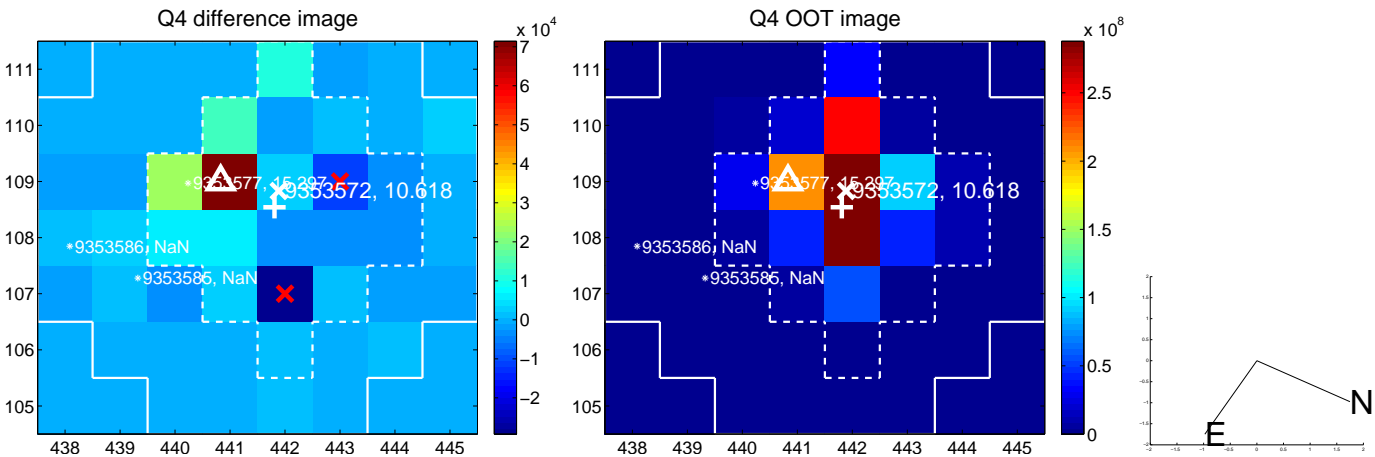
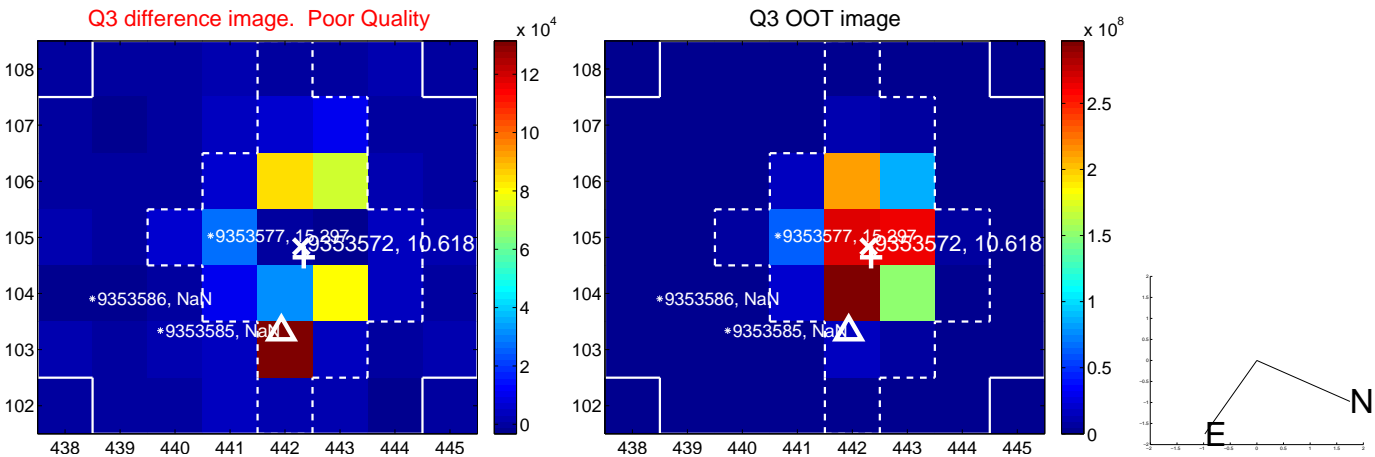
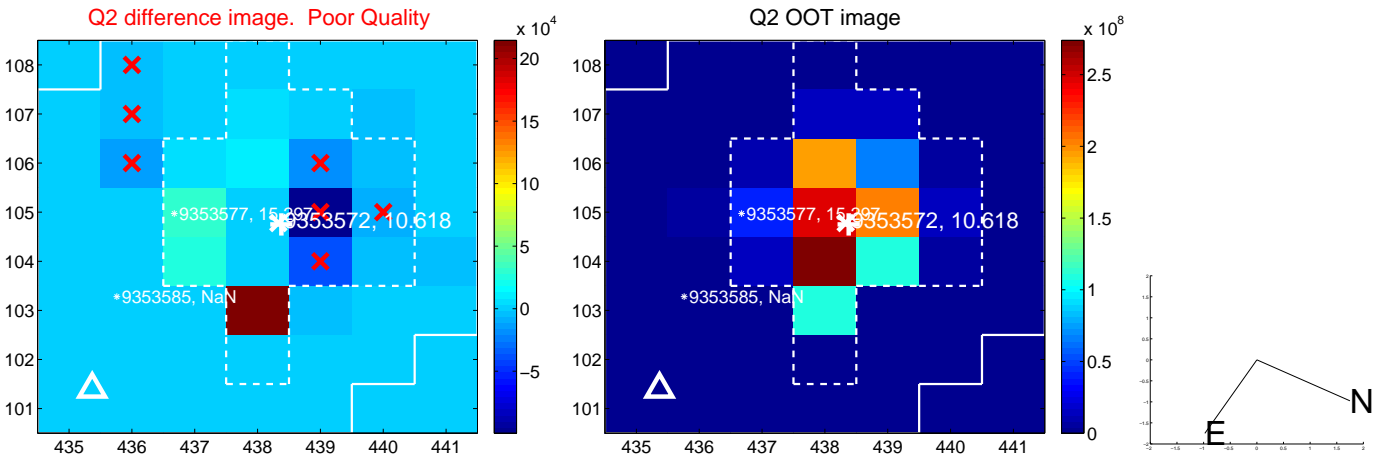
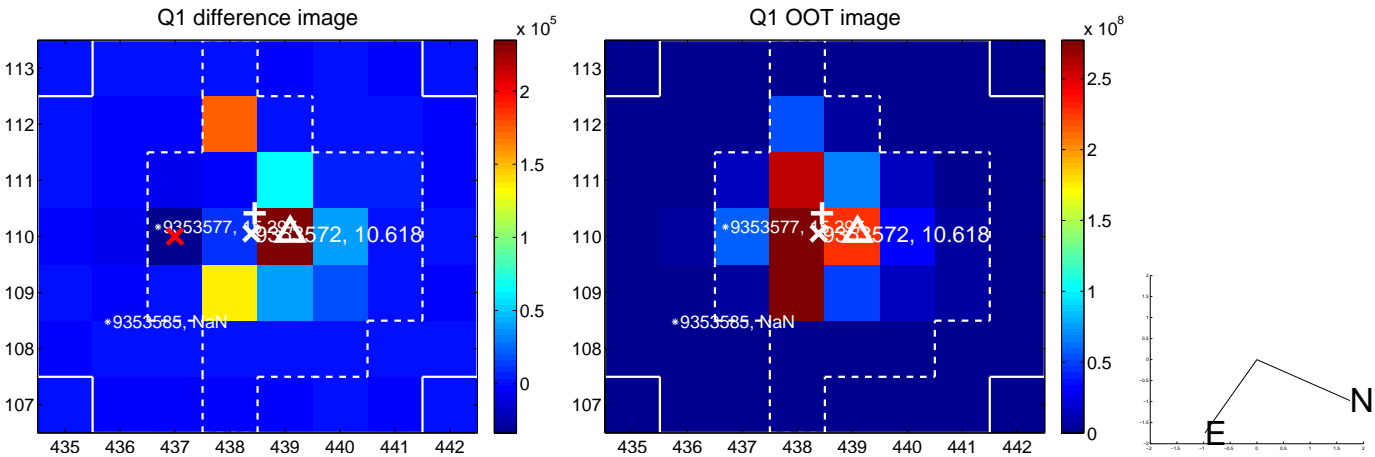
The direct PRF centroid is offset from the target star catalog position by about 1.62 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.718 ± 1.183	1.45	1.445 ± 1.385	0.928 ± 0.632
PRF-fit source offset from KIC position	1.432 ± 0.877	1.63	0.882 ± 1.418	1.127 ± 0.593
photometric centroid source offset	0.63 ± 0.52	1.21	0.62 ± 0.53	0.10 ± 0.40

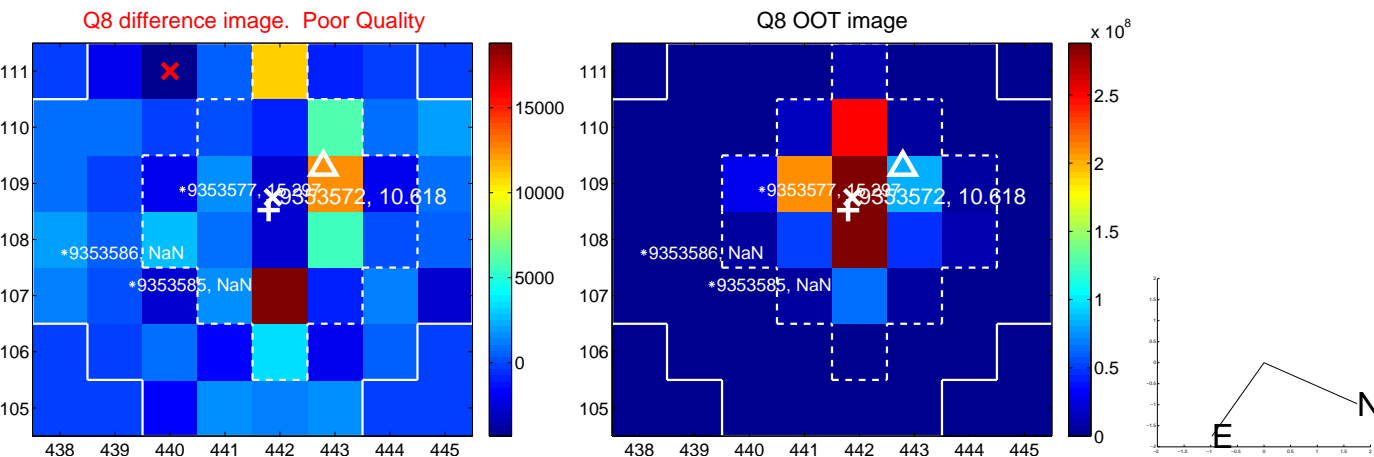
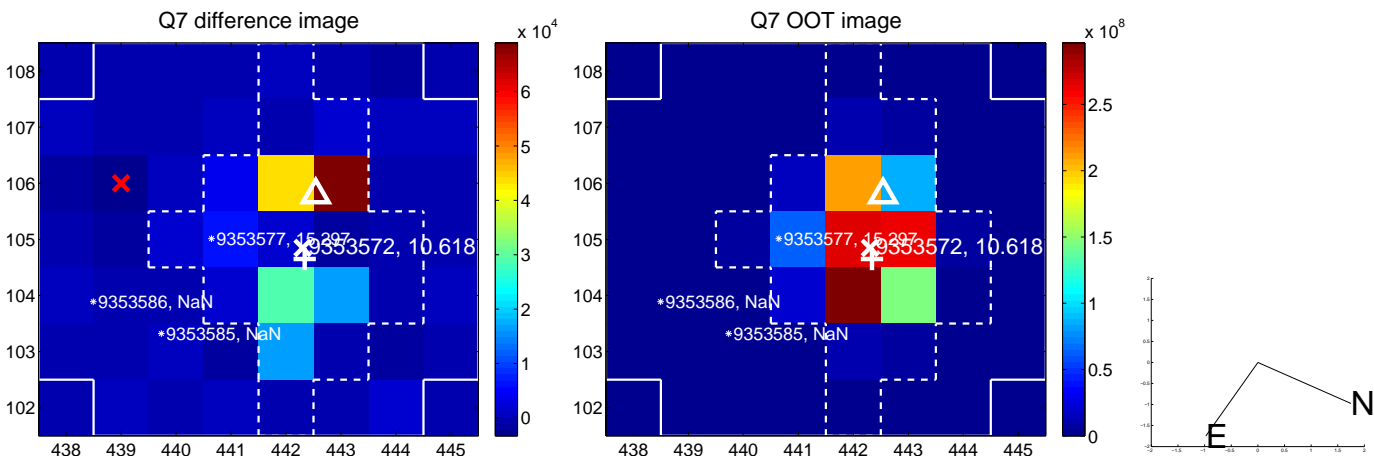
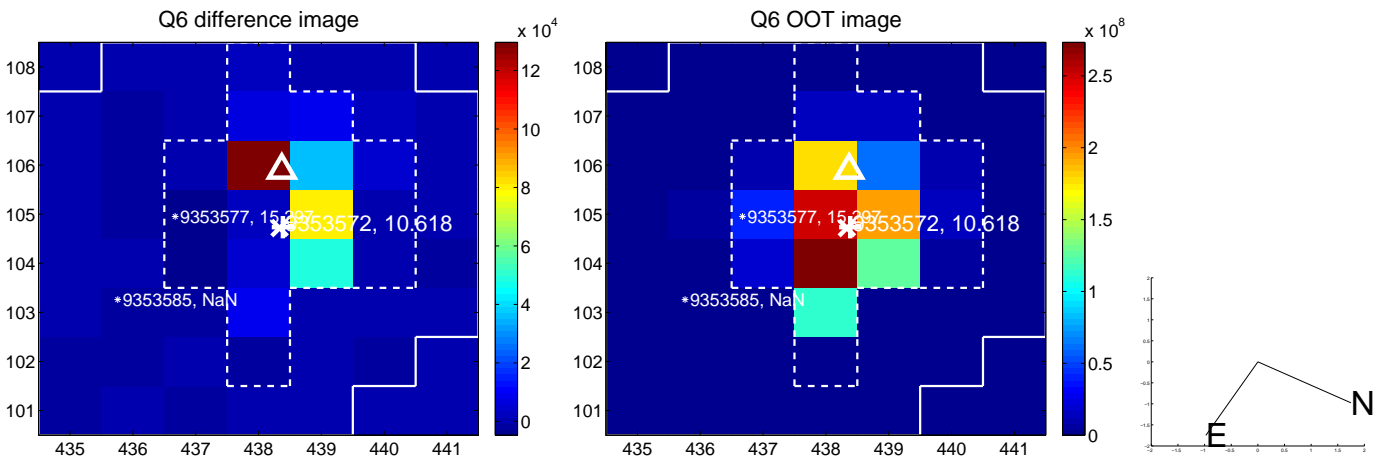
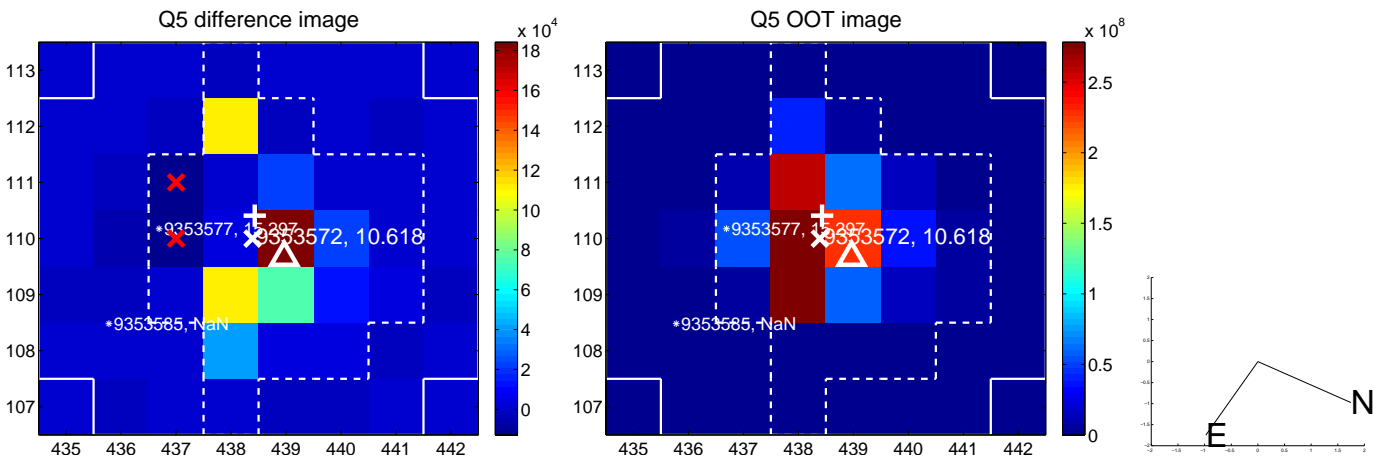


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

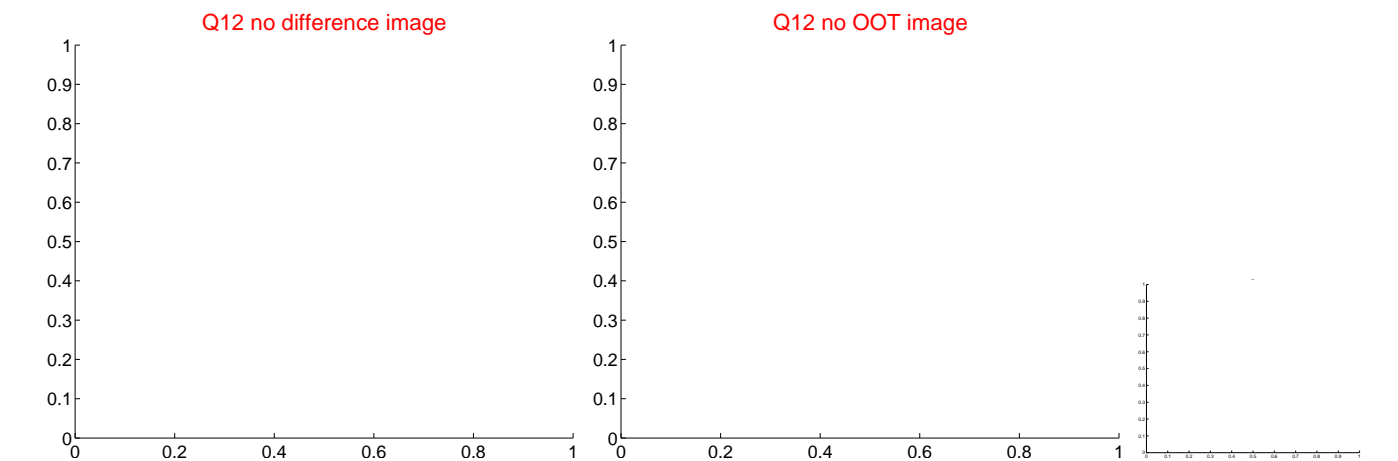
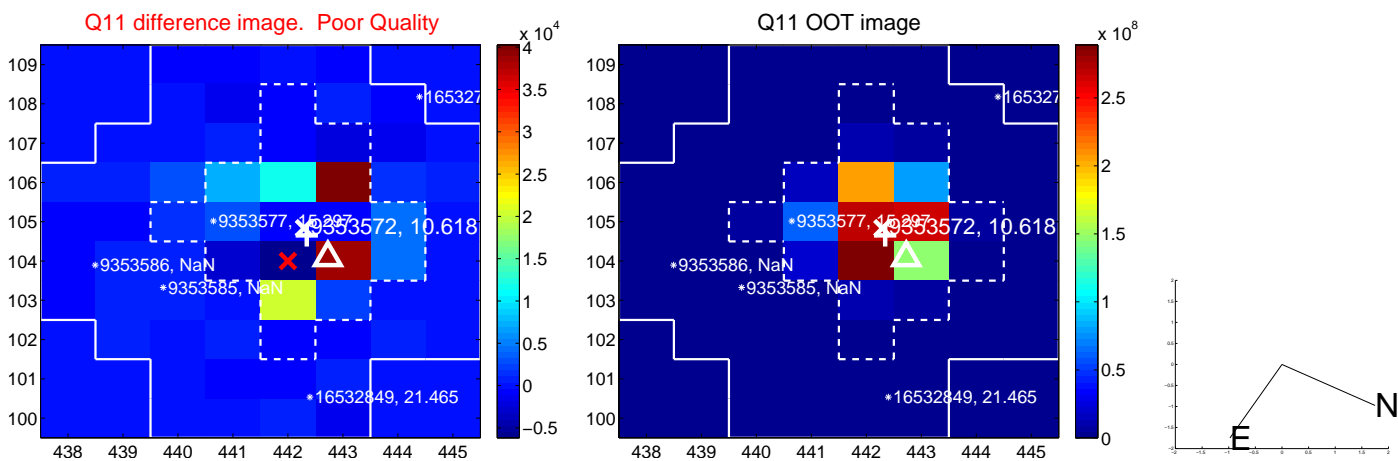
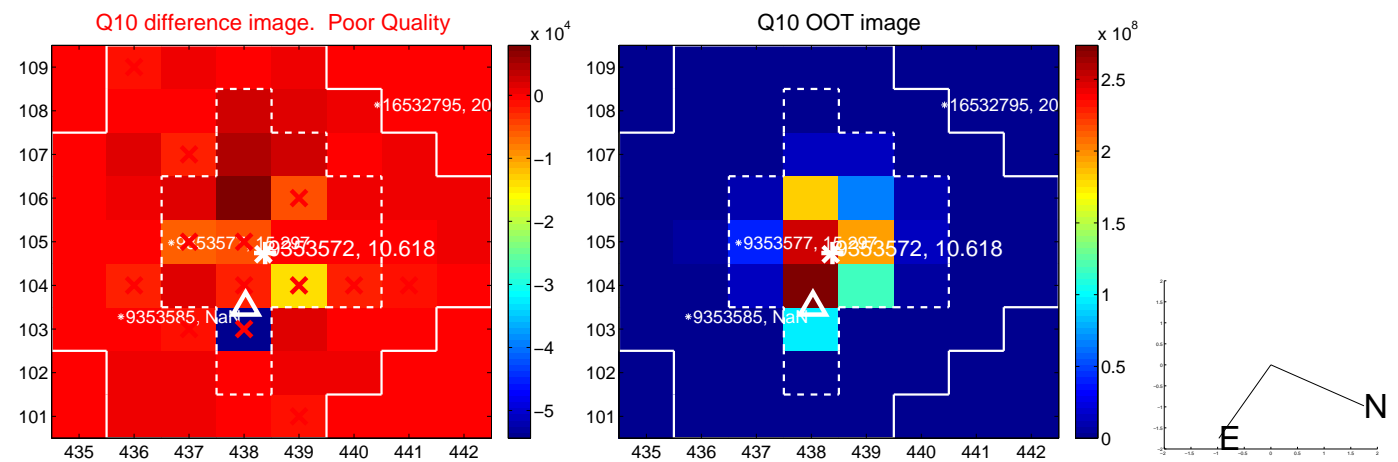
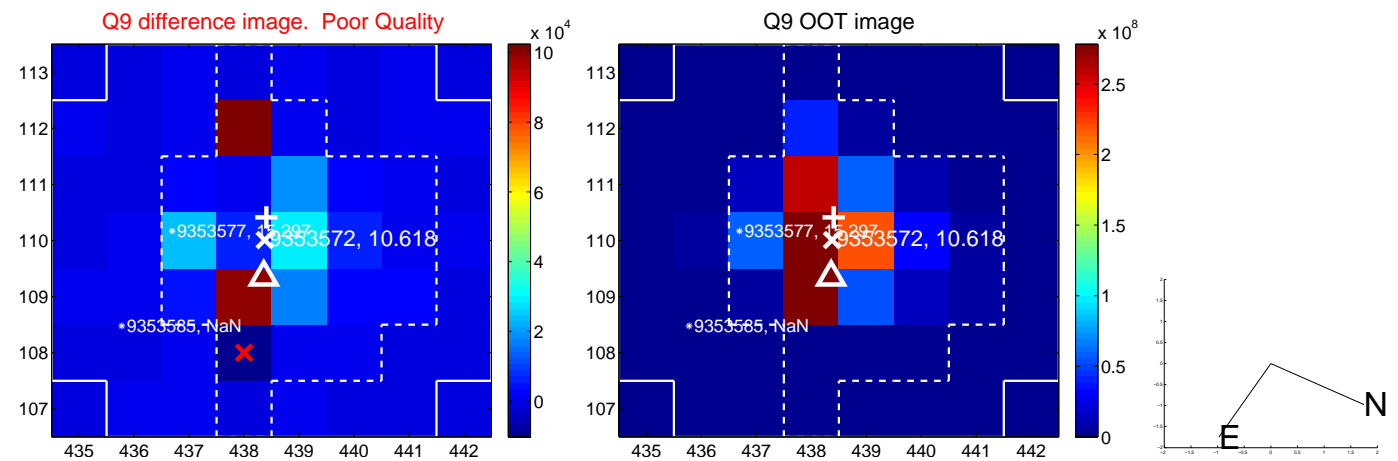
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



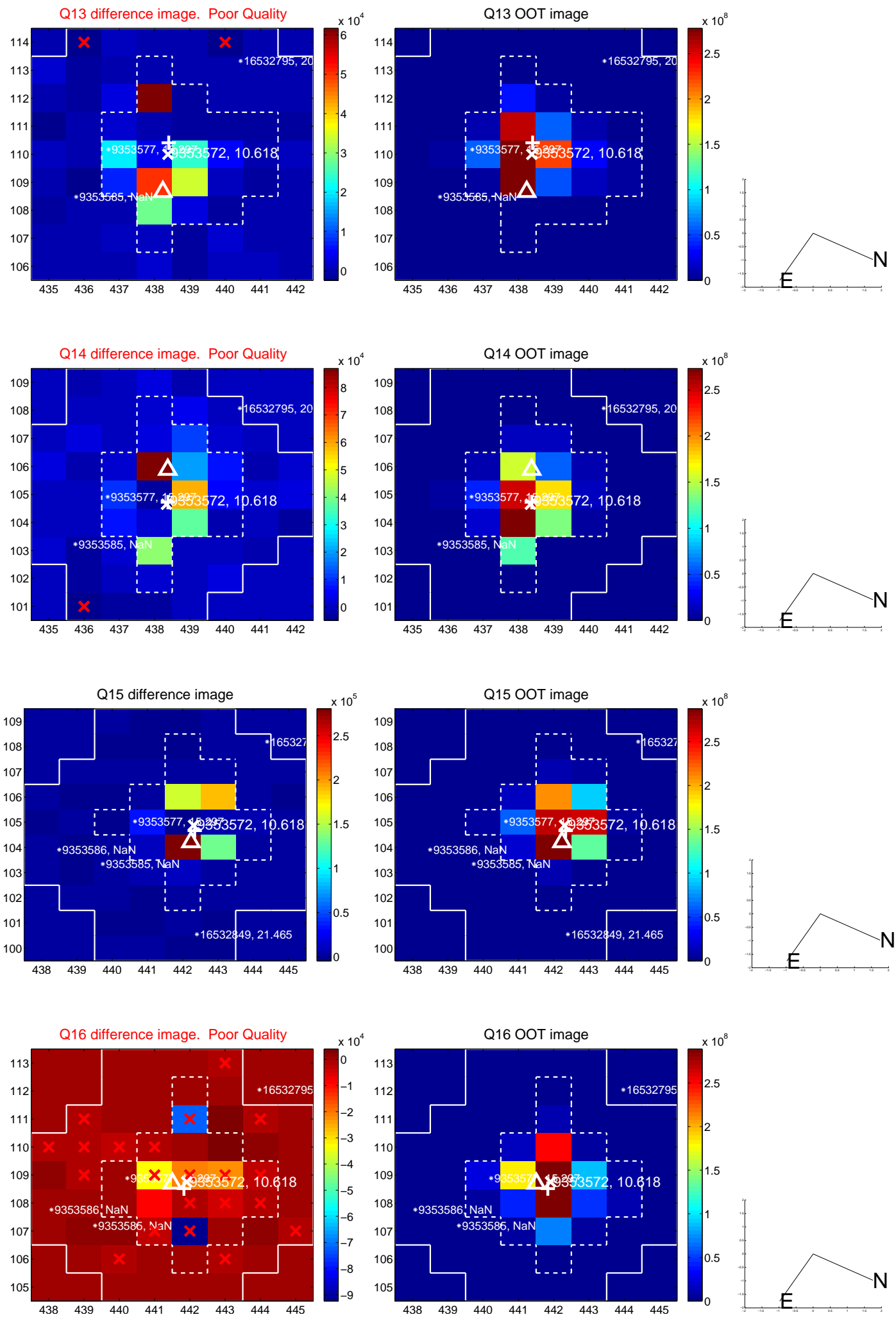
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



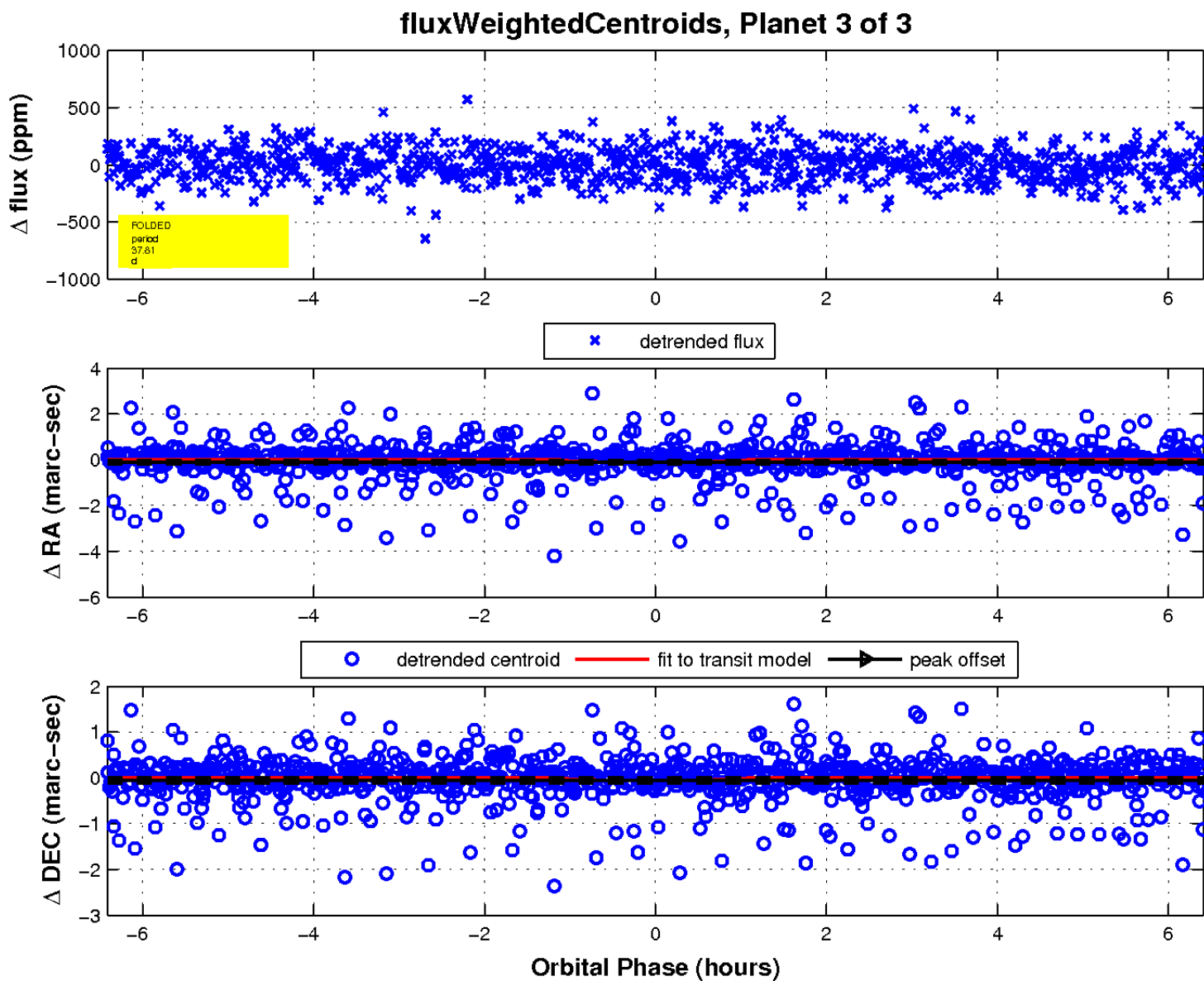
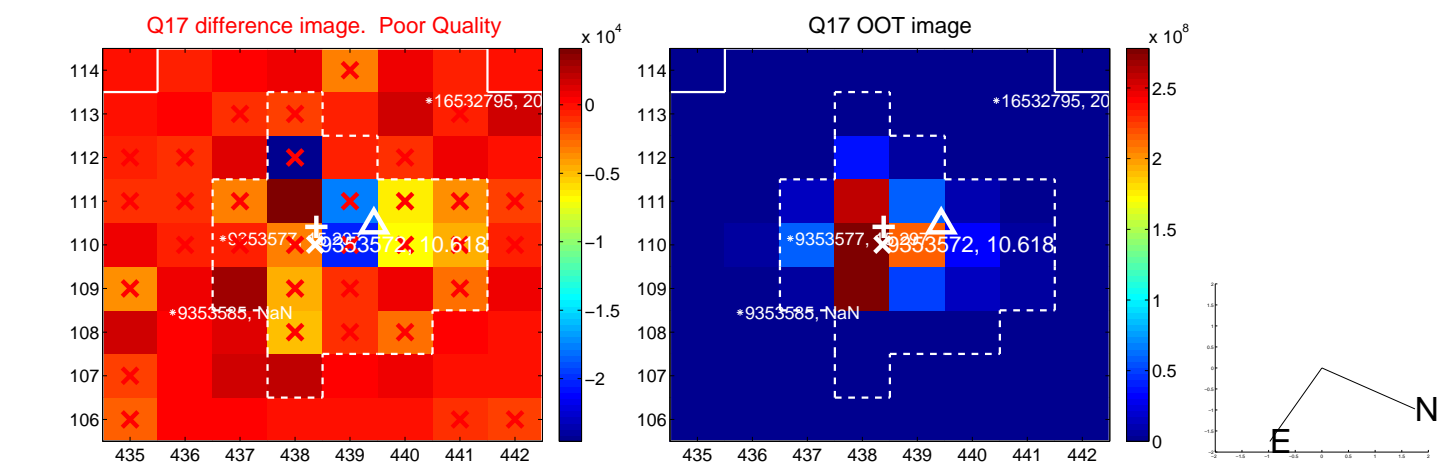
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

