

KIC 005878249

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})
005878249-01	OBS	No	2.212473	132.897916	15.3	11.498	7.9	5.4	1.03	5869	0.41	1193.78
005878249-02	OBS	No	132.940754	154.430319	194.1	19.119	14.2	5.5	1.03	5869	1.61	5.07
005878249-03	OBS	No	171.323253	183.959638	336.1	4.456	8.4	7.9	1.03	5869	2.15	3.62
005878249-04	OBS	No	100.305962	210.579295	359.4	2.257	7.6	7.3	1.03	5869	2.31	7.38
005878249-05	OBS	No	166.552356	173.712348	372.7	3.035	7.6	7.6	1.03	5869	2.19	3.76
005878249-06	OBS	No	152.276239	235.560248	314.7	5.483	7.1	6.6	1.03	5869	2.18	4.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005878249-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET
005878249-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005878249-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005878249-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
005878249-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005878249-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

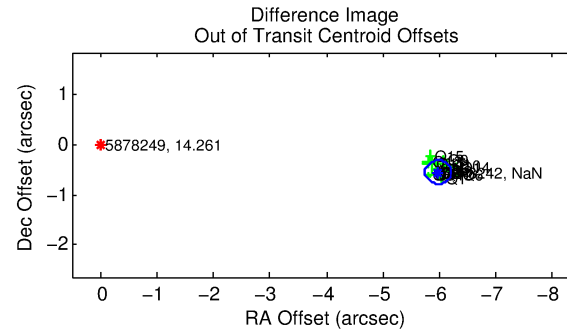
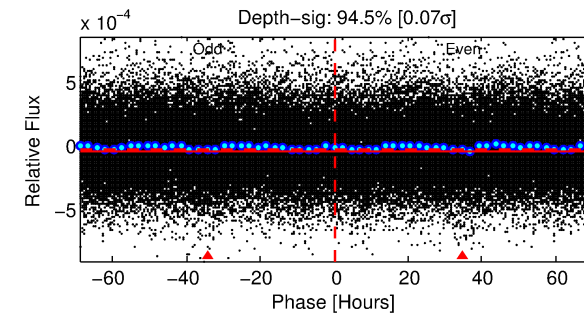
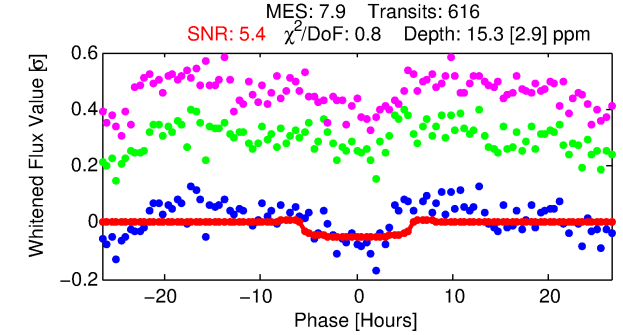
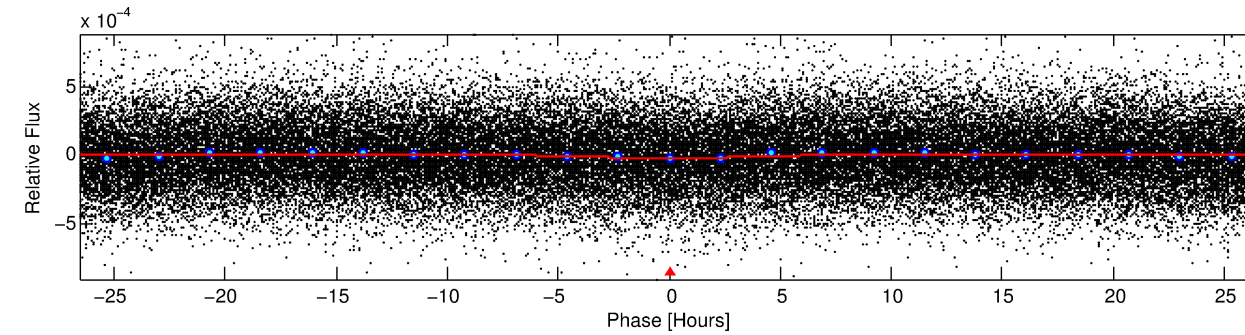
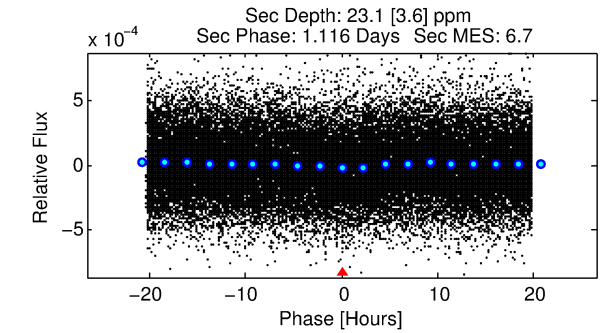
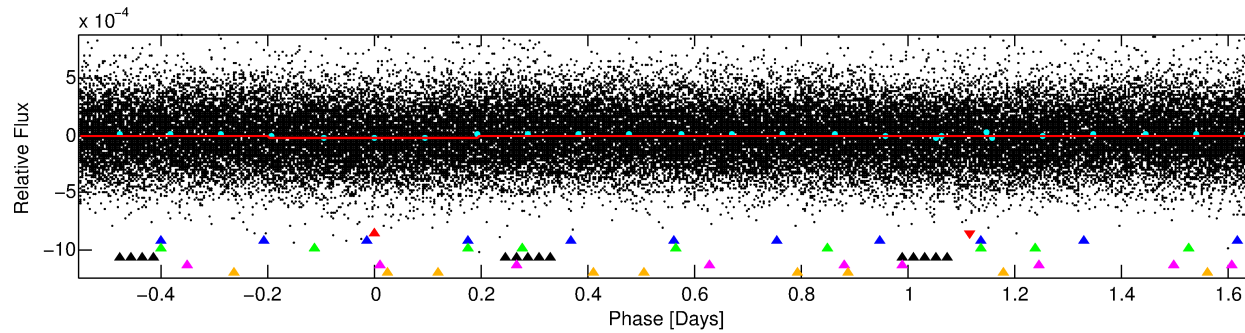
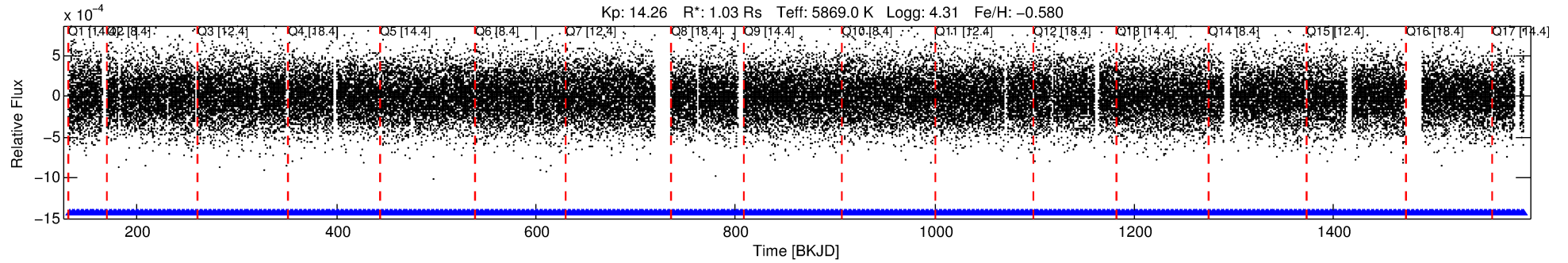
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005878249-01

No Significant Match Found

DV One-Page Summary

KIC: 5878249 Candidate: 1 of 6 Period: 2.212 d



DV Fit Results:

Period = 2.21247 [0.00007] d
Epoch = 132.8979 [0.0172] BKJD
Rp/R* = 0.0036 [0.0062]
a/R* = 1.55 [7.60]
b = 0.29 [26.24]
Seff = 1193.78 [483.55]
Teq = 1499 [152] K
Rp = 0.41 [0.70] Re
a = 0.0307 [0.0079] AU
Ag = 72.78 [250.29] [0.29σ]
Teffp = 6769 [5785] K [0.91σ]

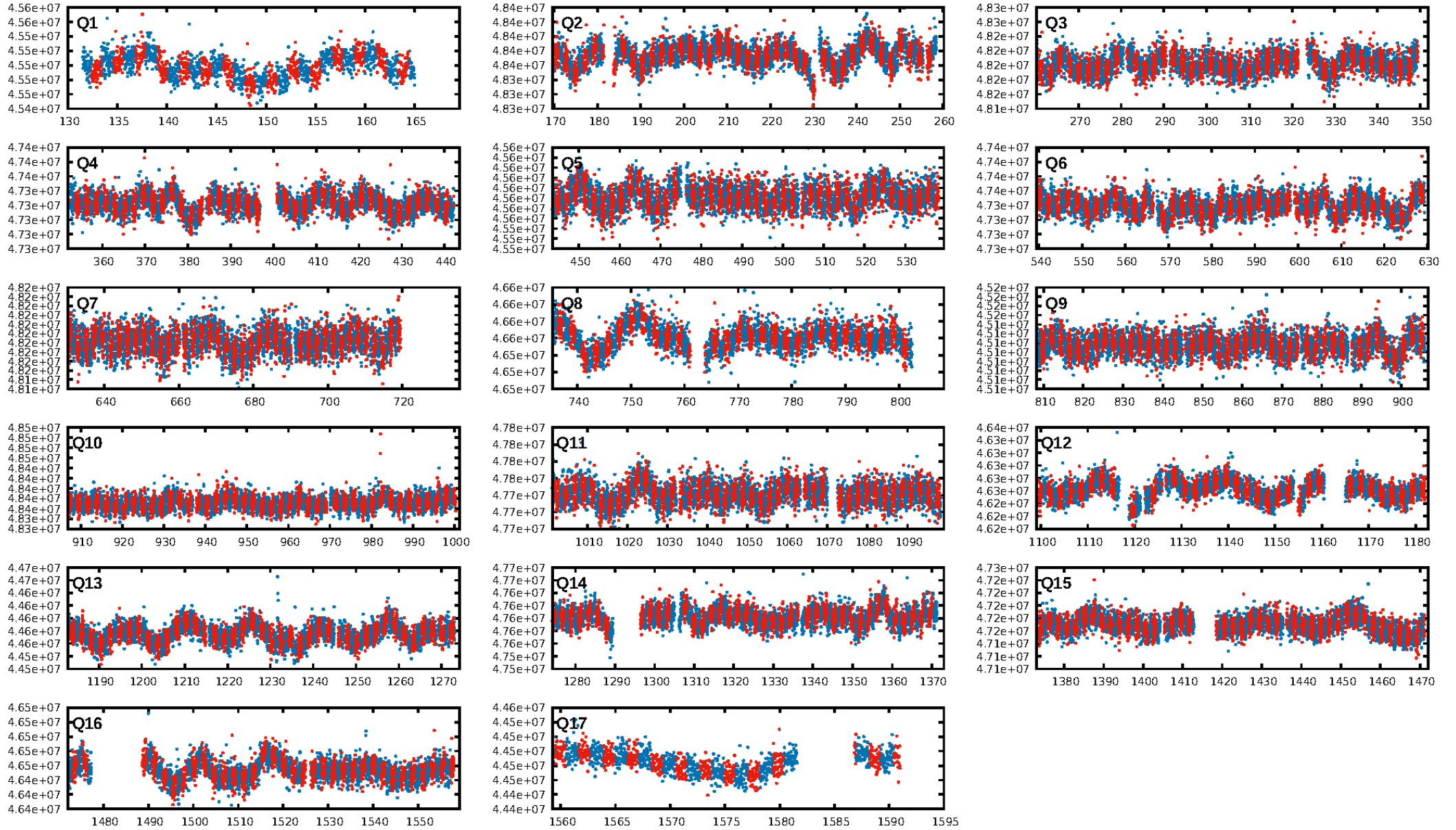
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [200.93σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.26e-10
RollingBand-fgt: 1.00 [589/589]
GhostDiagnostic-chr: -1.938
Centroid-sig: 4.7%
Centroid-so: 2.679 arcsec [1.45σ]
OotOffset-rm: 5.994 arcsec [77.89σ]
KicOffset-rm: 6.113 arcsec [84.36σ]
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]

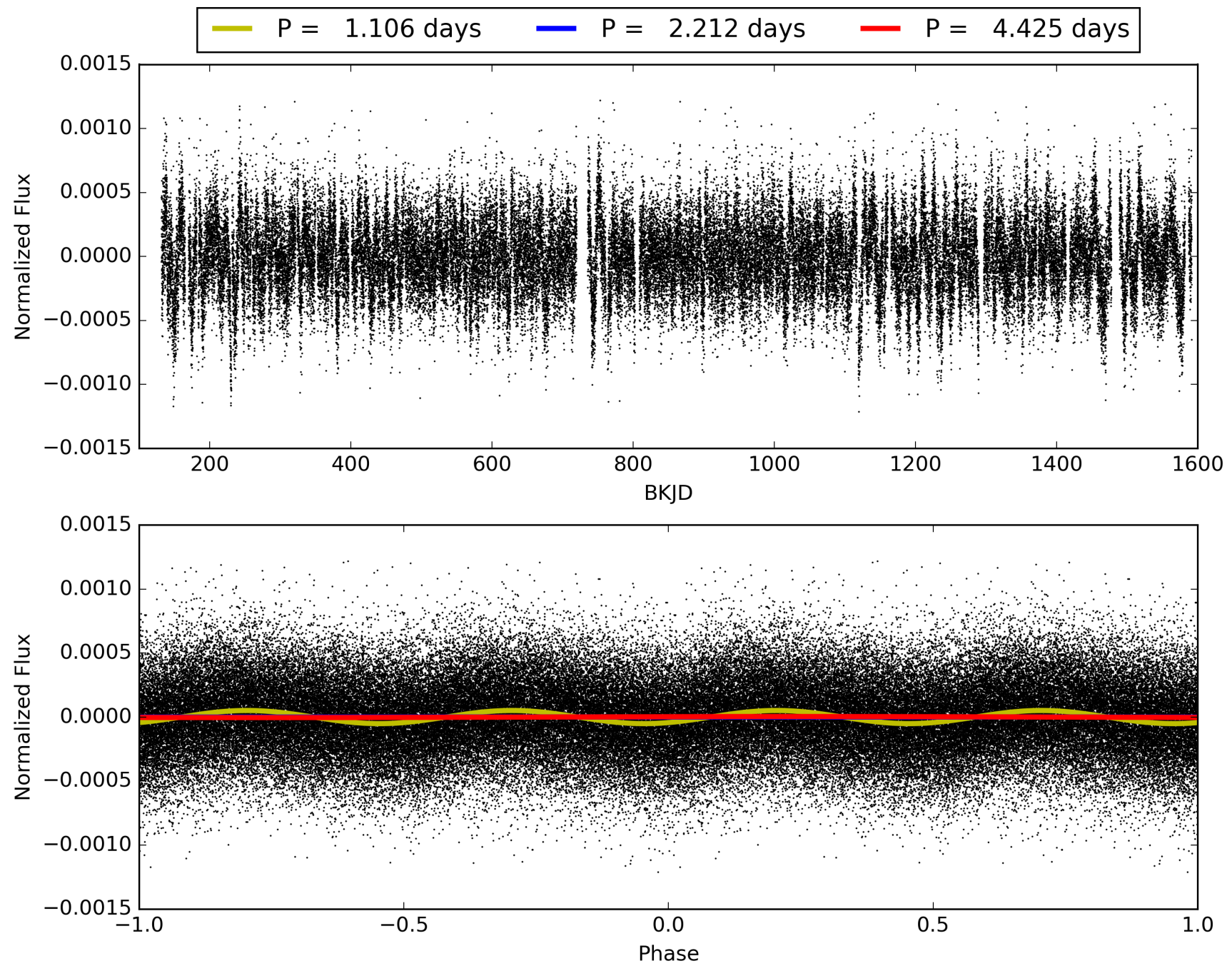
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:57:32 Z

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

TCE 005878249-01, PDC Light Curves

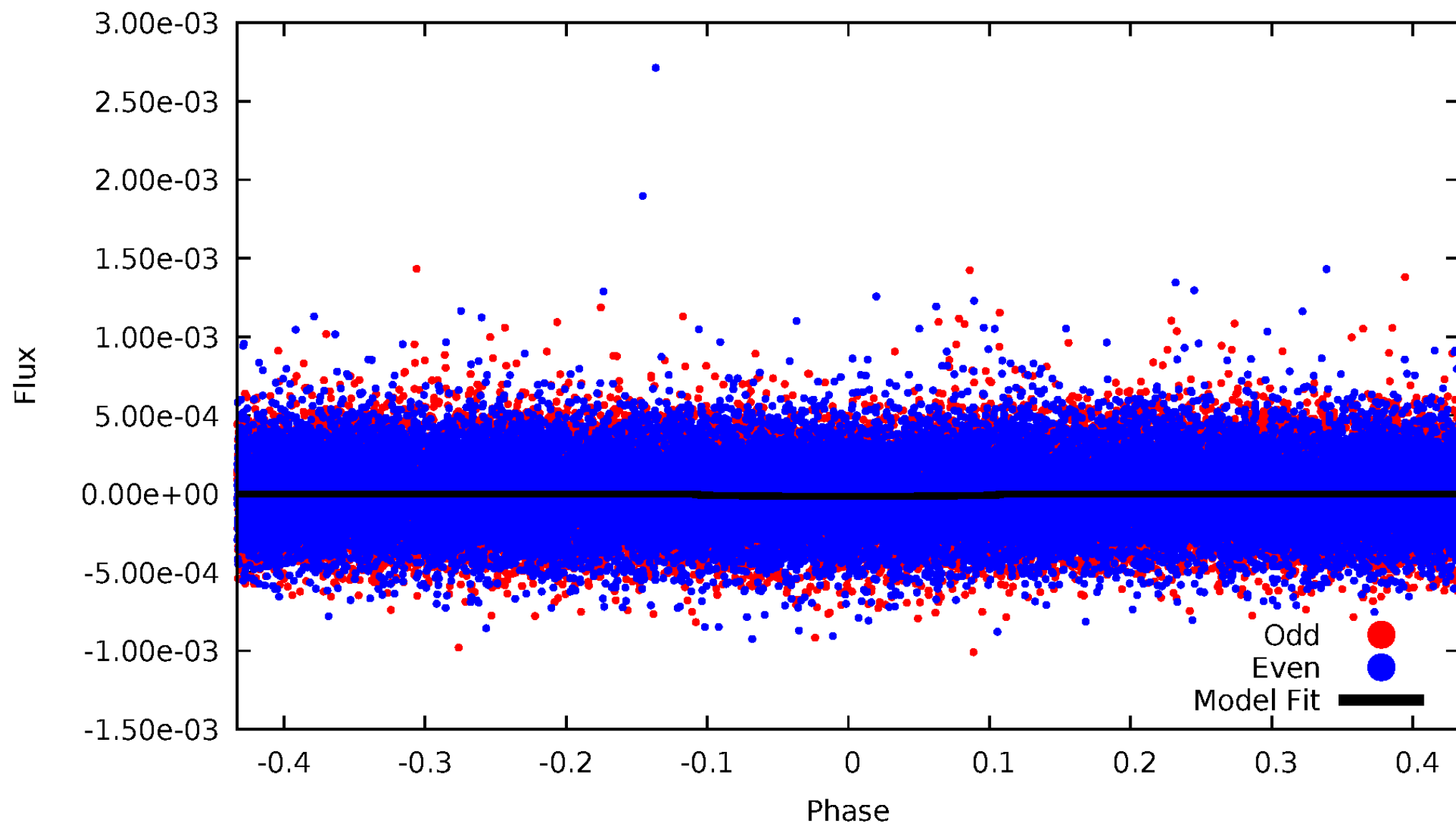


TCE 005878249-01



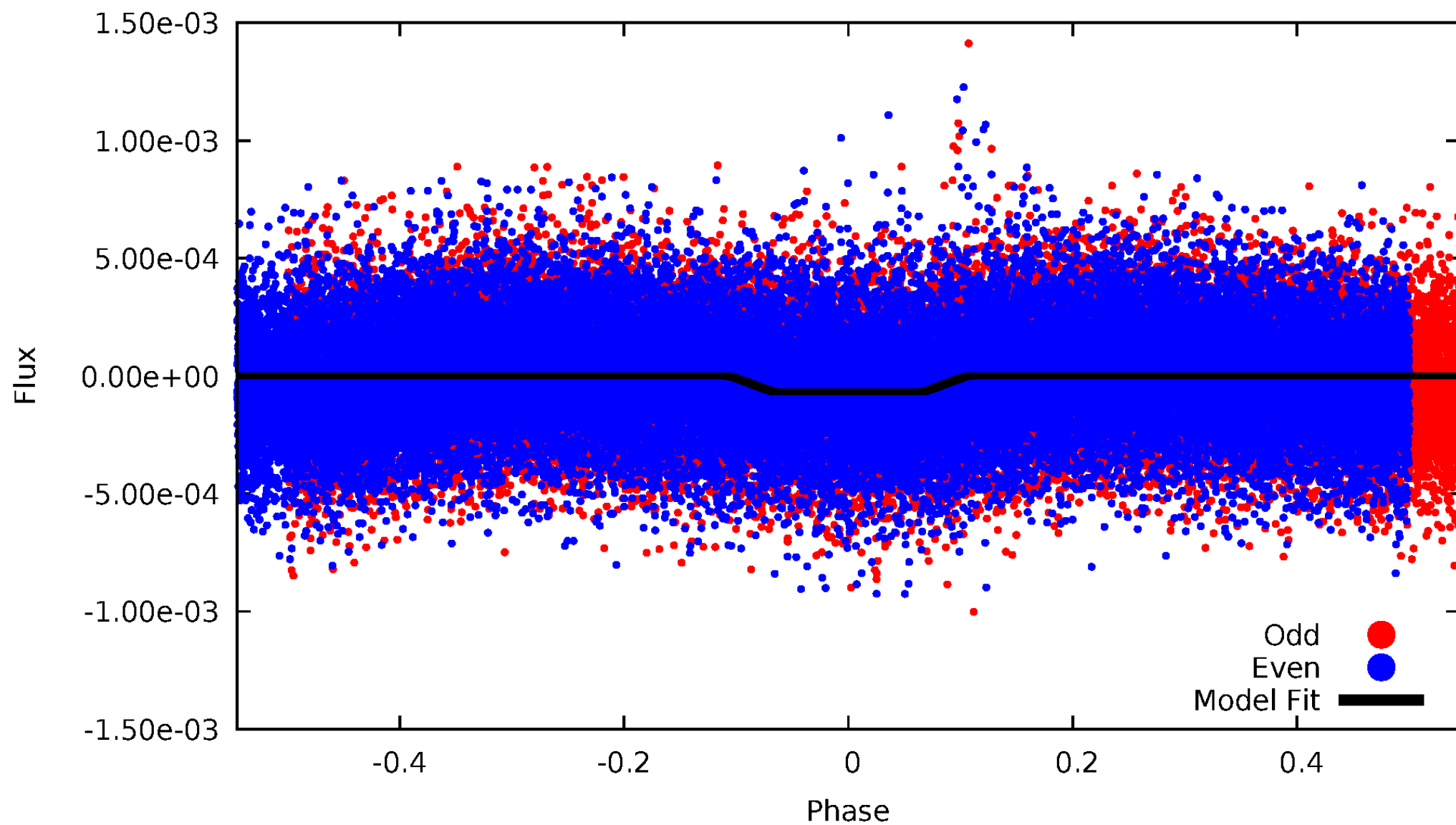
DV Odd/Even

TCE 005878249-01

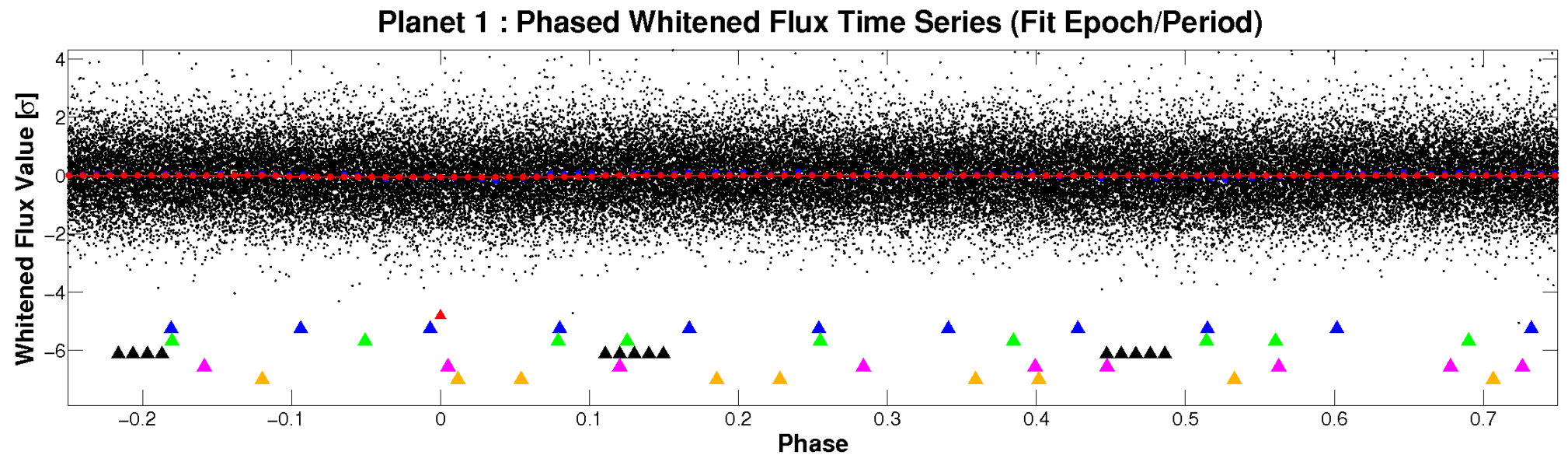
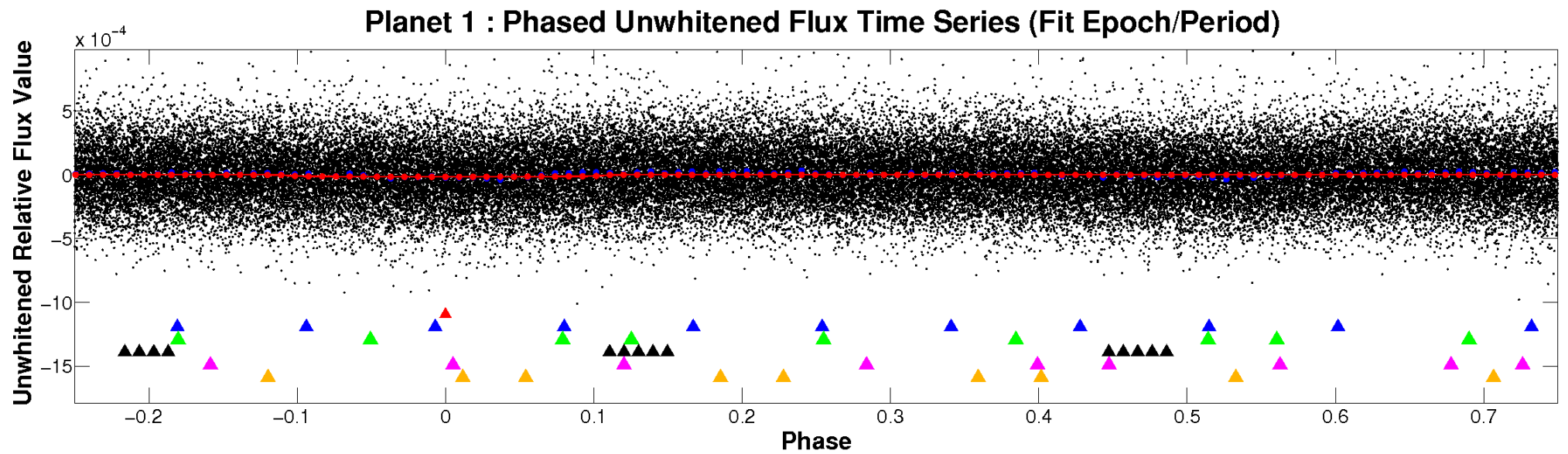


ALT Odd/Even

TCE 005878249-01

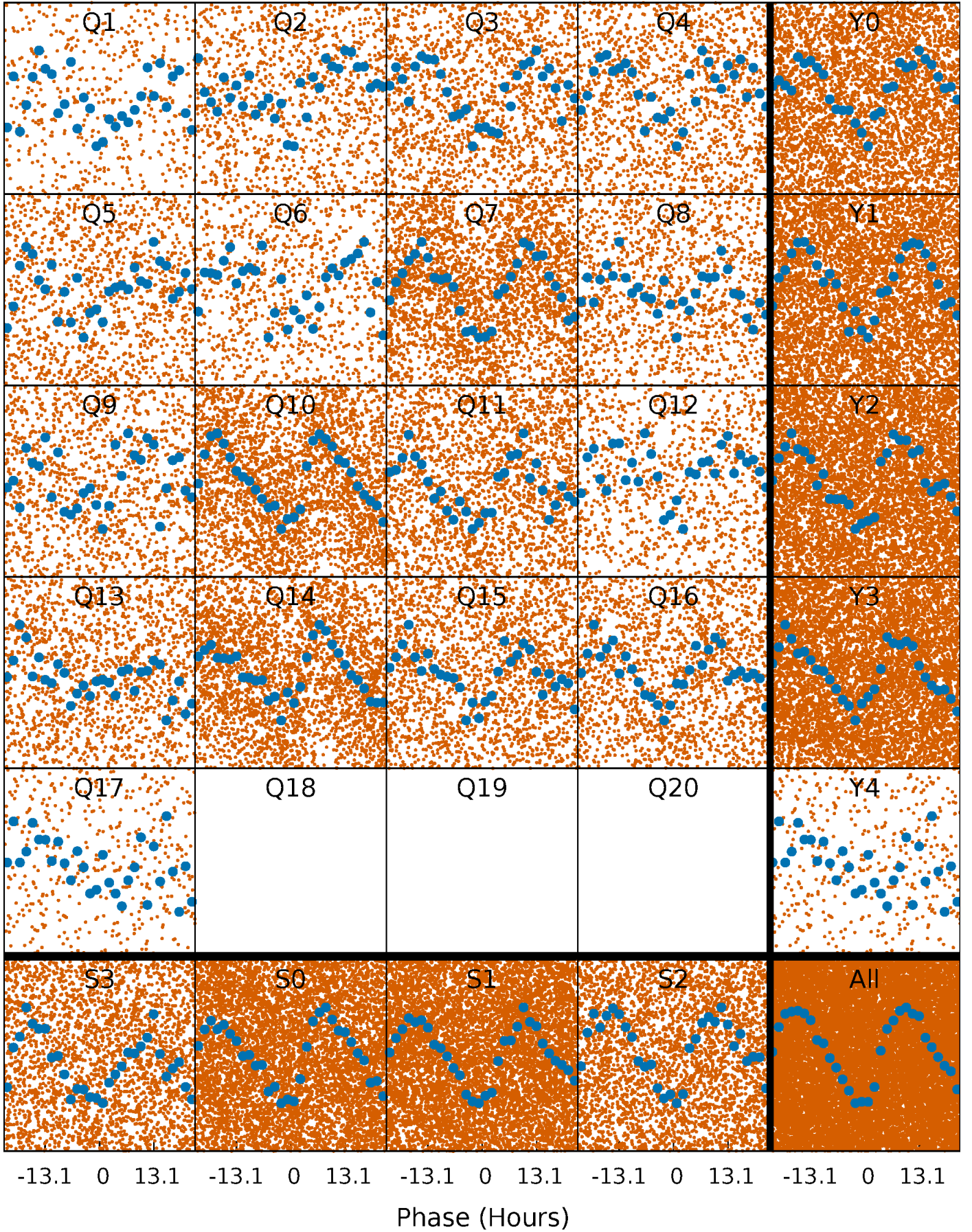


Non-Whitened Vs. Whitened Light Curve



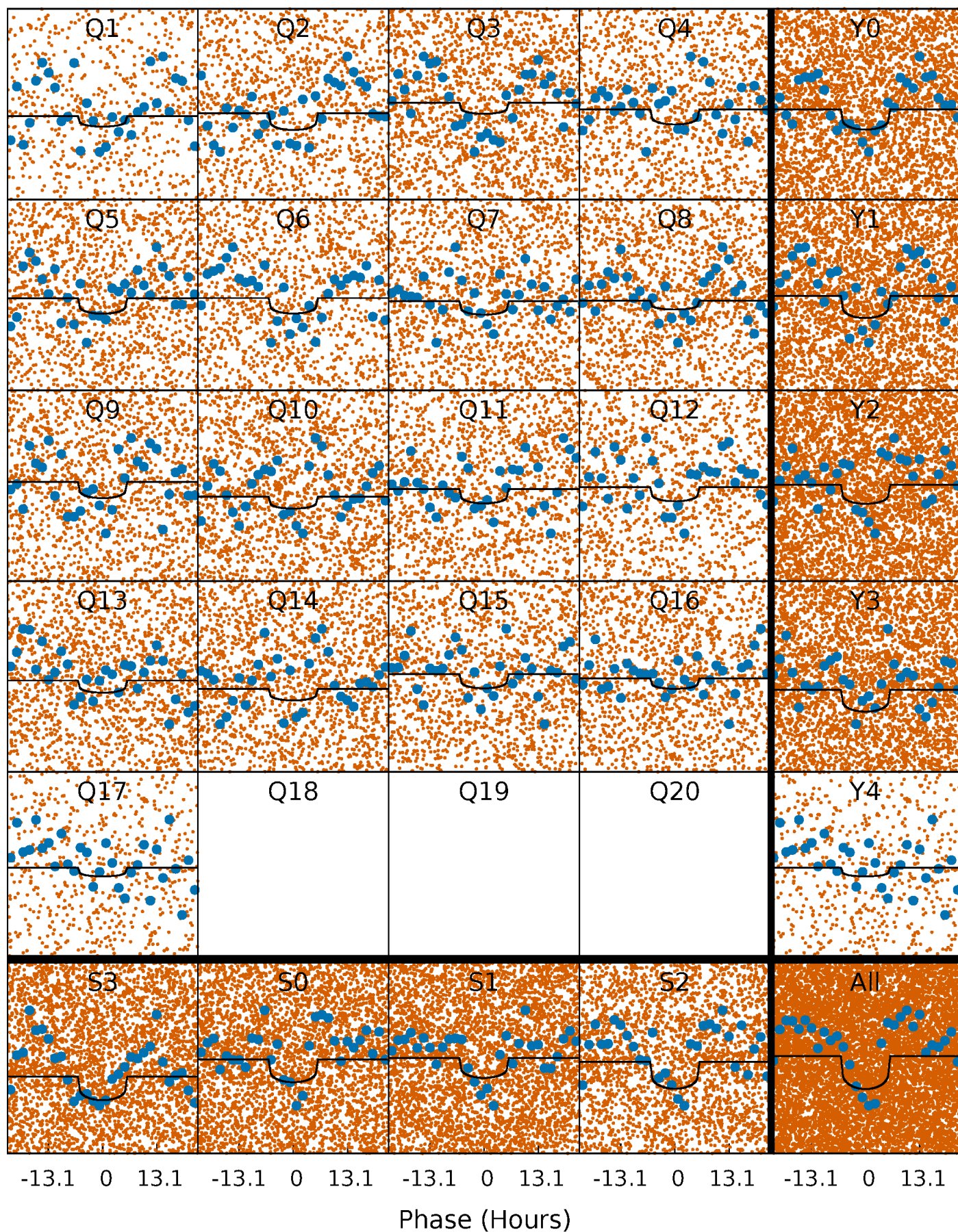
PDC Quarter-Phased Transit Curves

TCE 005878249-01 P= 2.212473 Days $T_0=132.897916$ (BKJD)



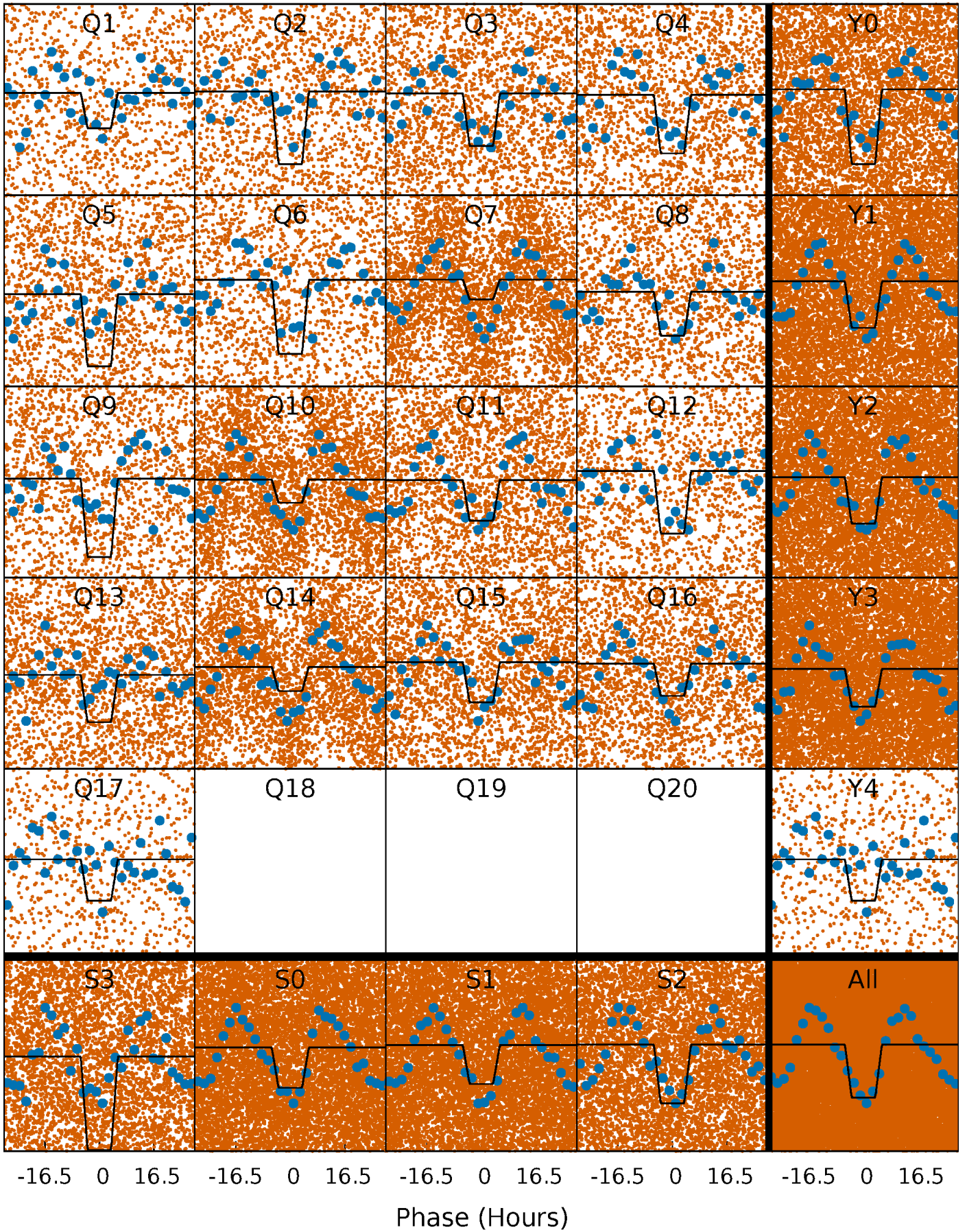
DV Quarter-Phased Transit Curves

TCE 005878249-01 P= 2.212473 Days $T_0=132.897916$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

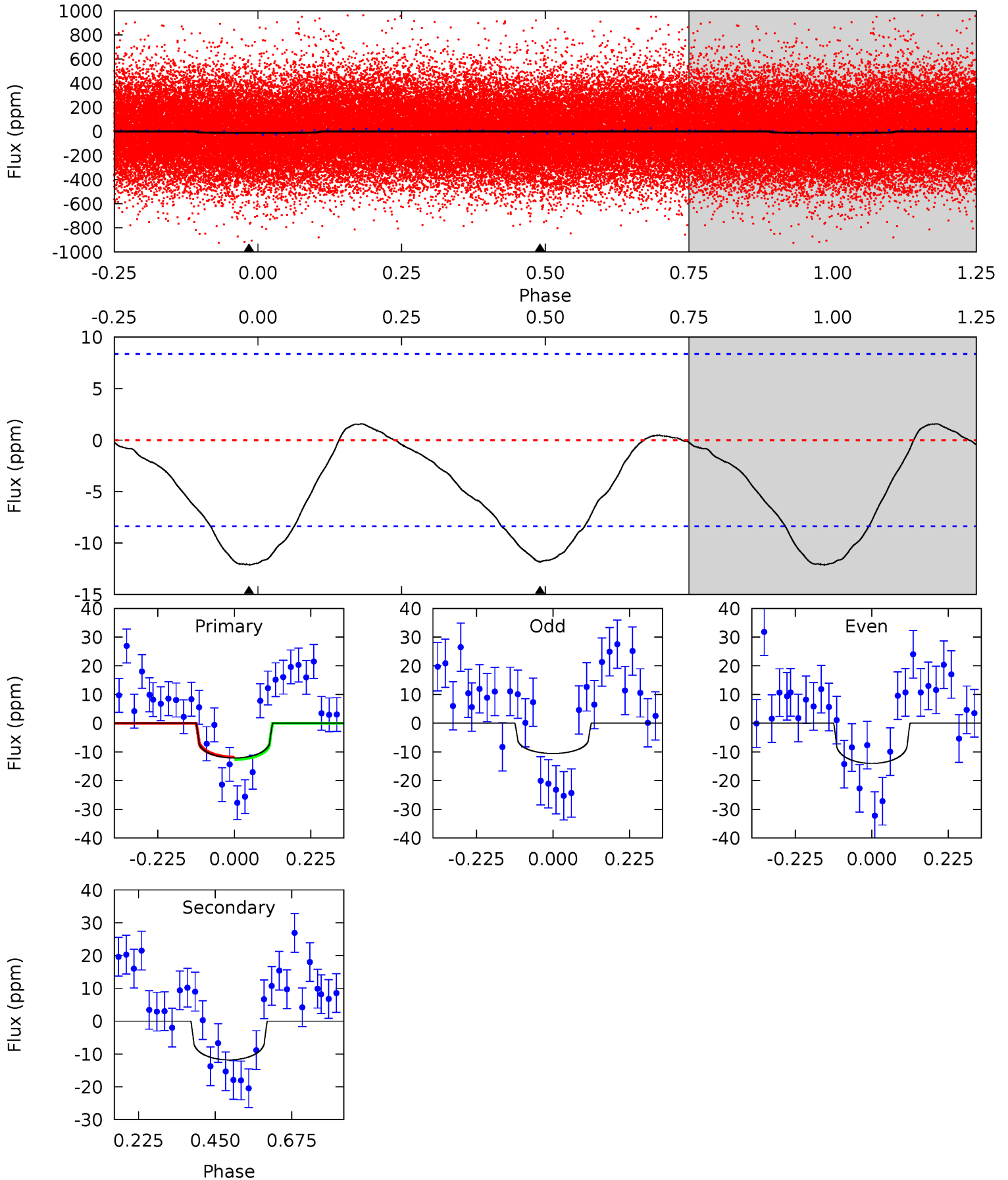
TCE 005878249-01 P= 2.212344 Days $T_0=132.868148$ (BKJD)



DV Model-Shift Uniqueness Test

005878249-01, P = 2.212473 Days, E = 130.685443 Days

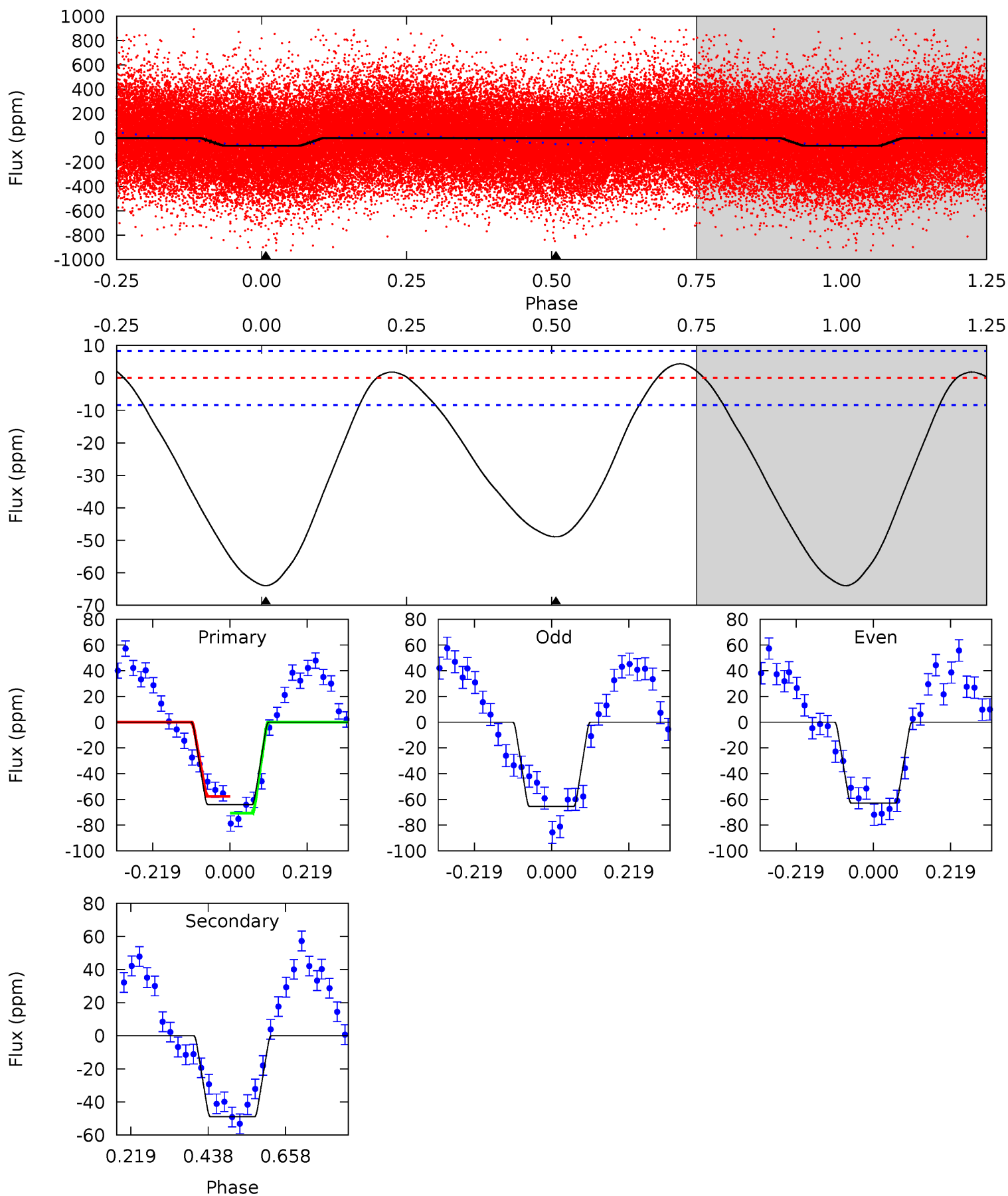
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.36	6.19	0	0	4.39	1.21	0.23	6.36	6.36	6.19	6.19	0.90	0.78	0.12	0.20



Alt Model-Shift Uniqueness Test

005878249-01, P = 2.212344 Days, E = 130.655804 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.8	25.8	0	0	4.40	1.23	1.51	33.8	33.8	25.8	25.8	0.68	1.09	0.06	3.44



Stellar Parameters For KIC 005878249

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+159}_{-159}	$4.310^{+0.220}_{-0.198}$	$-0.580^{+0.300}_{-0.300}$	$1.029^{+0.302}_{-0.247}$	$0.789^{+0.114}_{-0.053}$	$1.019^{+1.165}_{-0.551}$
	+3%/-3%	+5%/-5%	+52%/-52%	+29%/-24%	+14%/-7%	+114%/-54%
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 005878249-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-12 ± 2	$0.67^{+0.59}_{-0.45}$	2099^{+163}_{-154}	4528^{+3559}_{-858}	13^{+114}_{-9}
Alt.	-49 ± 2	$0.99^{+0.69}_{-0.57}$	2098^{+159}_{-161}	5231^{+2870}_{-996}	27^{+112}_{-18}

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

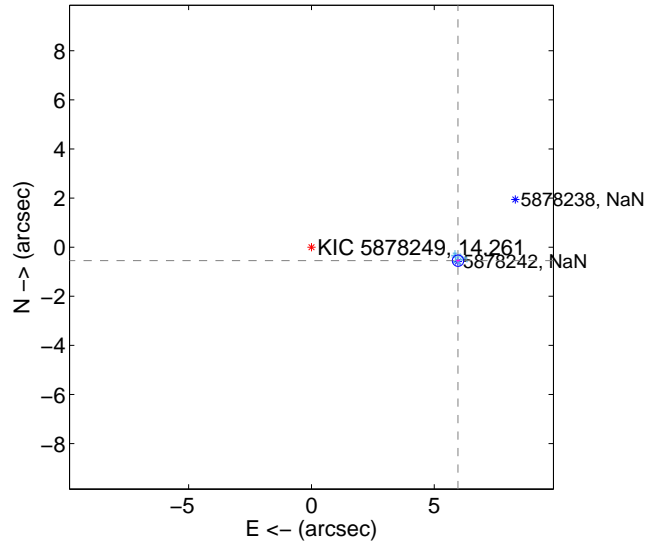
Supplemental centroid analysis for 005878249-01. Kepler magnitude: 14.26. Transit SNR 5.36

There are 17 quarters with good PRF difference image offsets

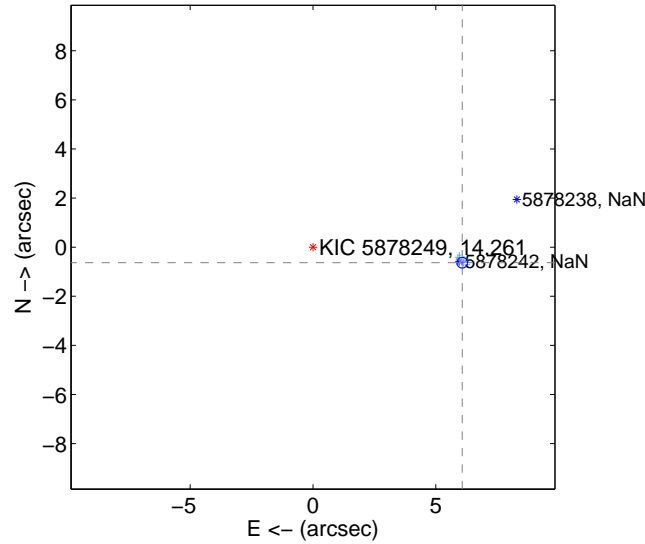
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.994 ± 0.077	77.89	-5.968 ± 0.077	-0.550 ± 0.072
PRF-fit source offset from KIC position	6.113 ± 0.072	84.36	-6.080 ± 0.072	-0.633 ± 0.072
photometric centroid source offset	2.68 ± 1.84	1.45	-1.03 ± 2.19	-2.47 ± 1.78

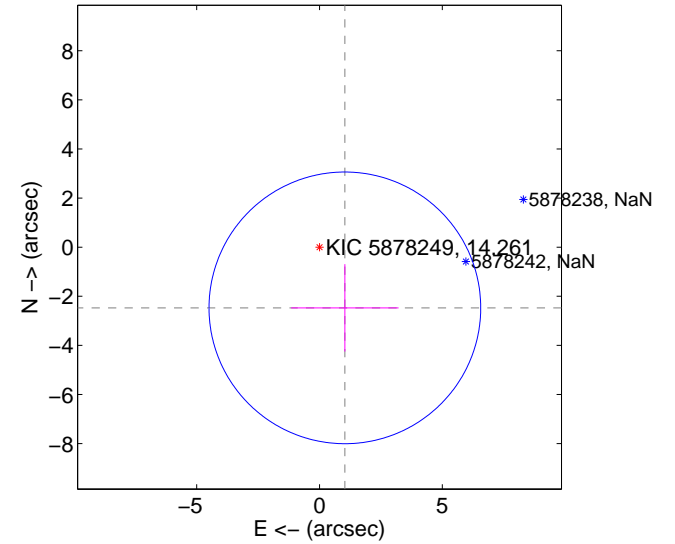
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

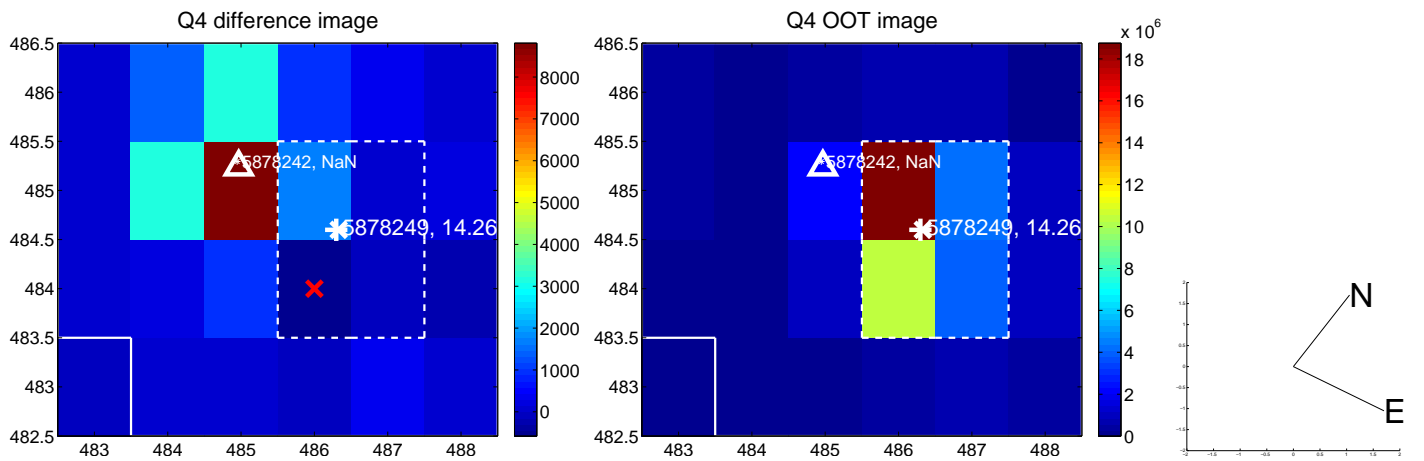
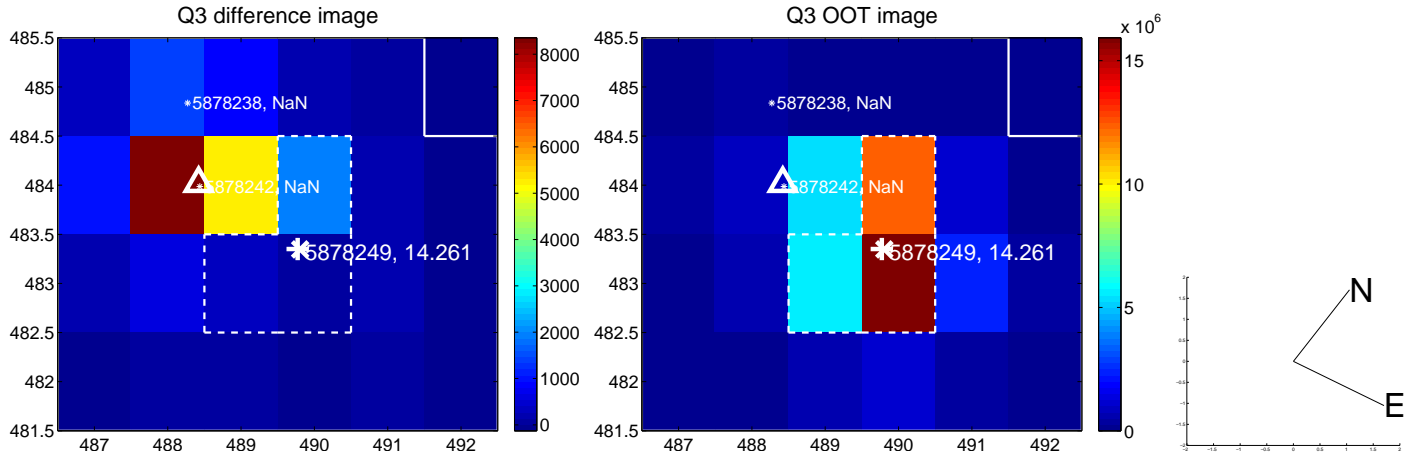
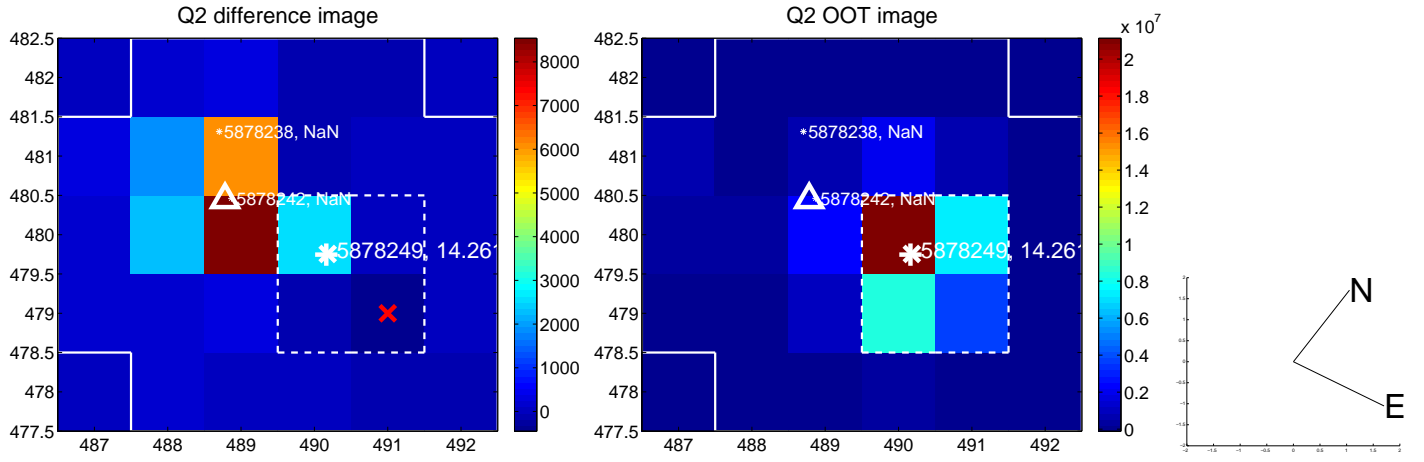
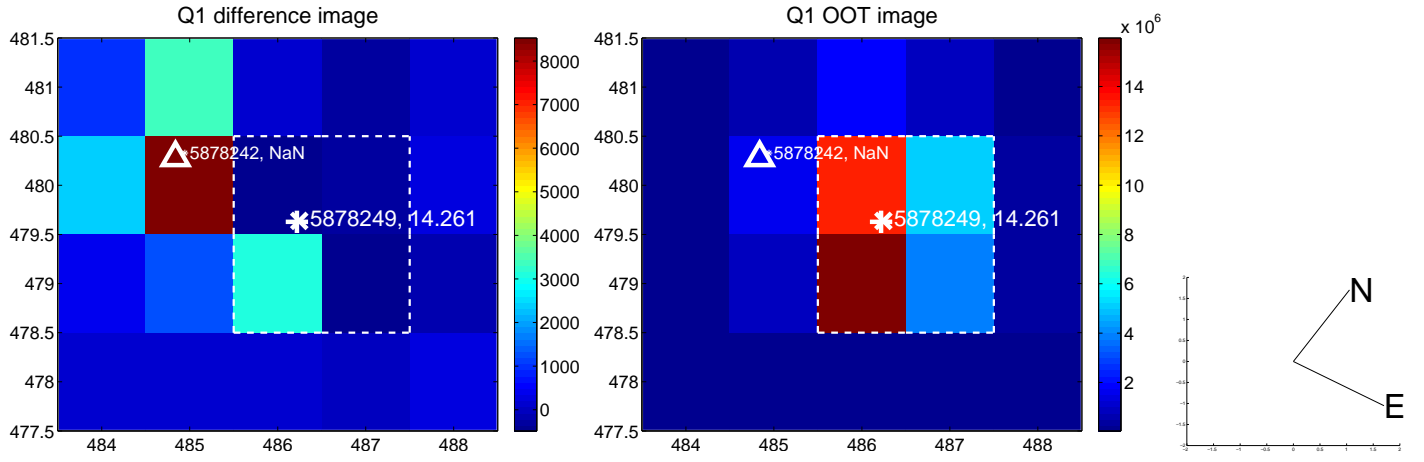


offset from photometric centroids

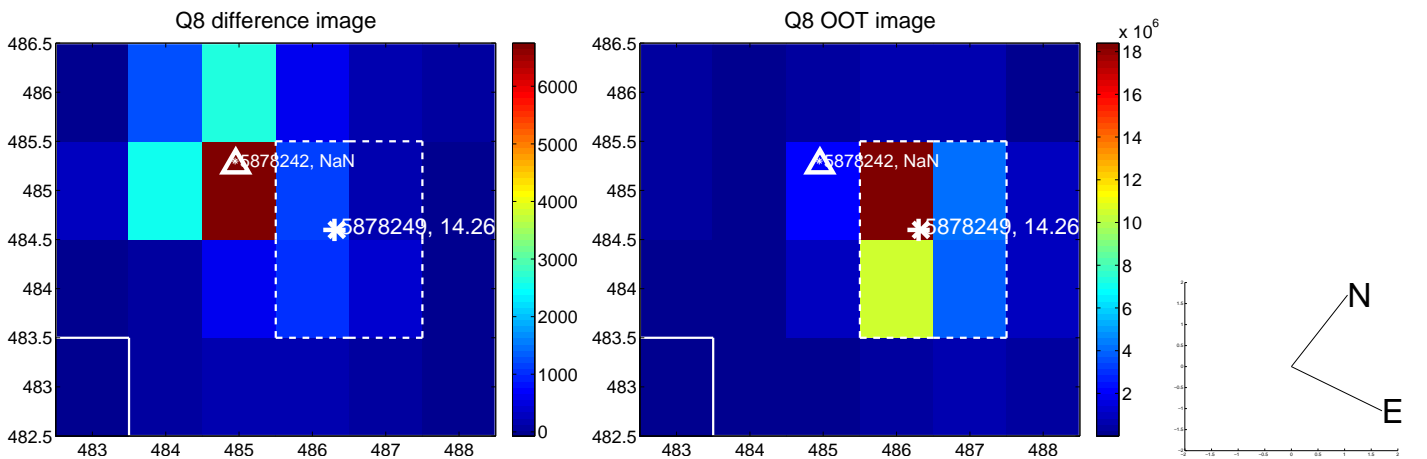
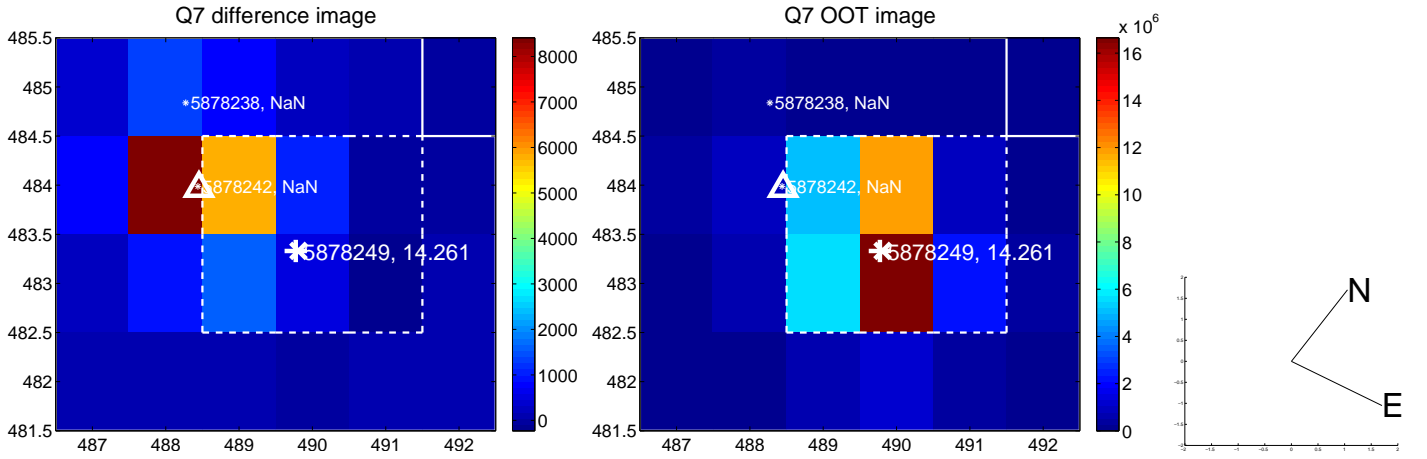
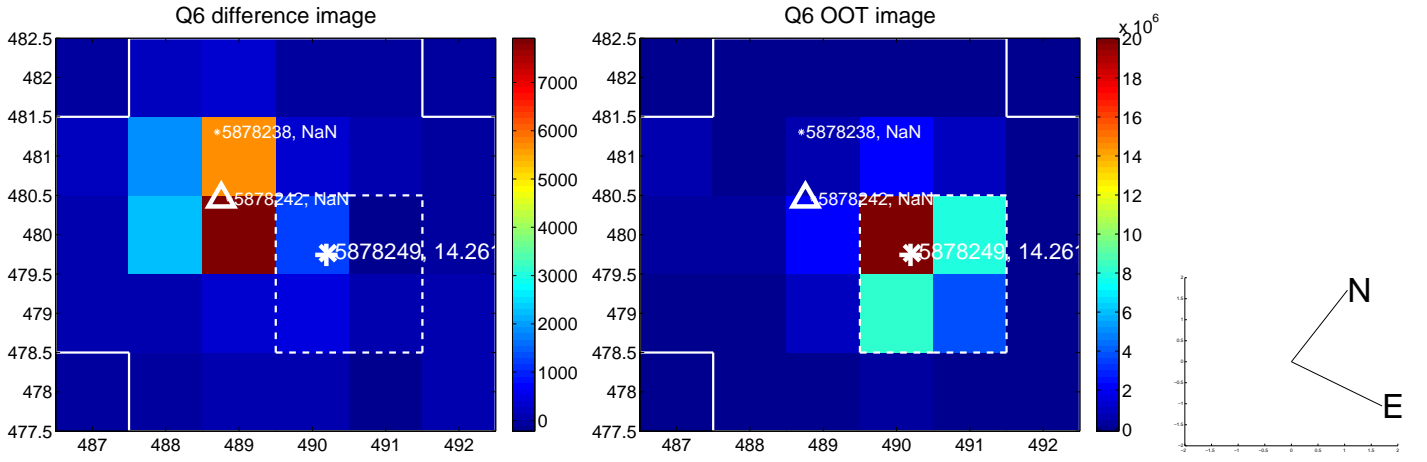
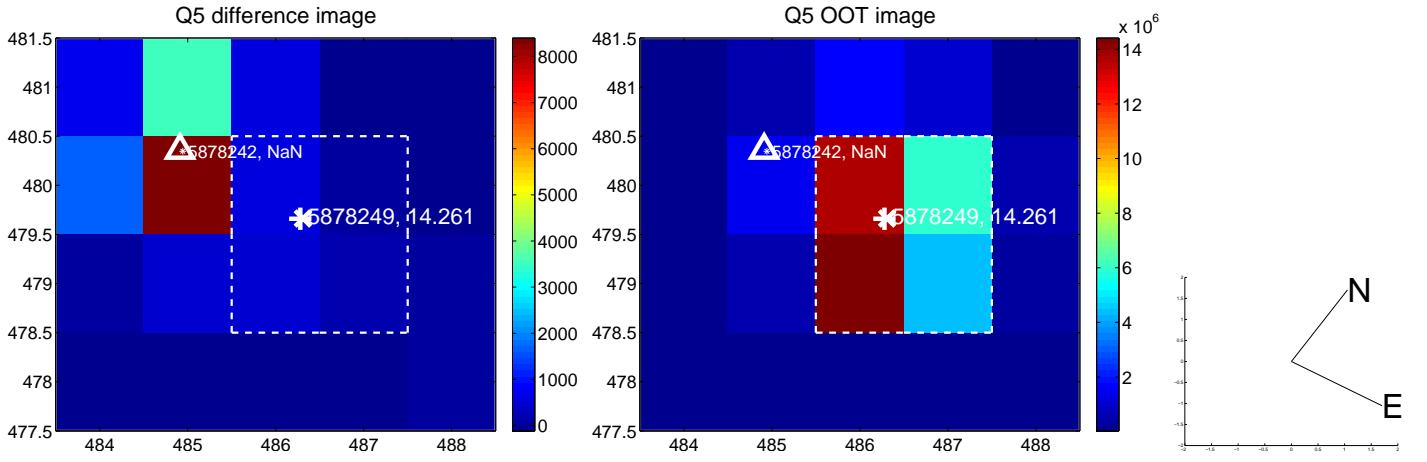


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

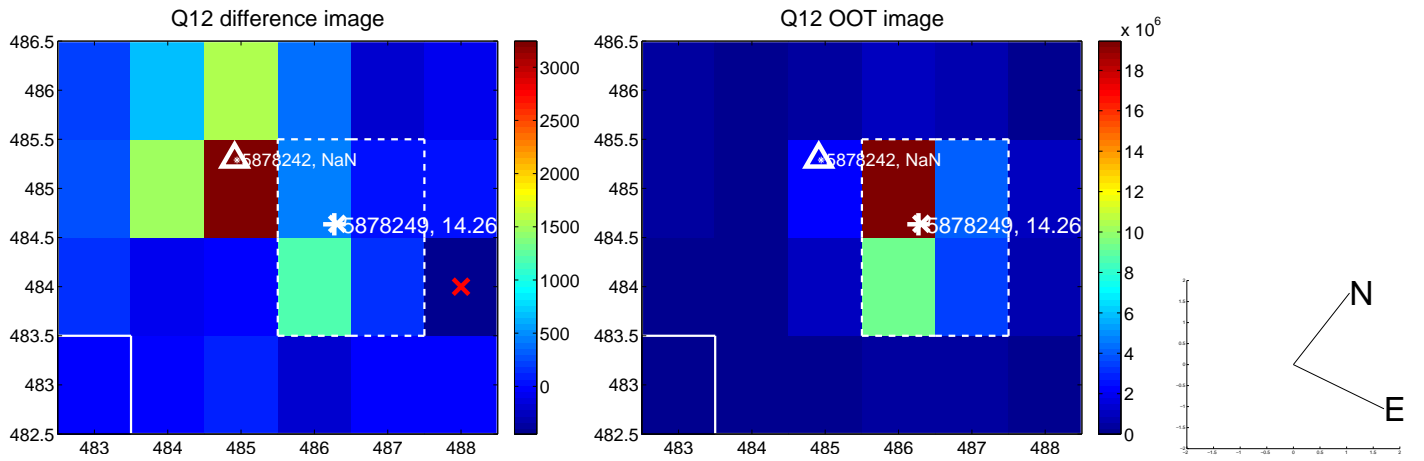
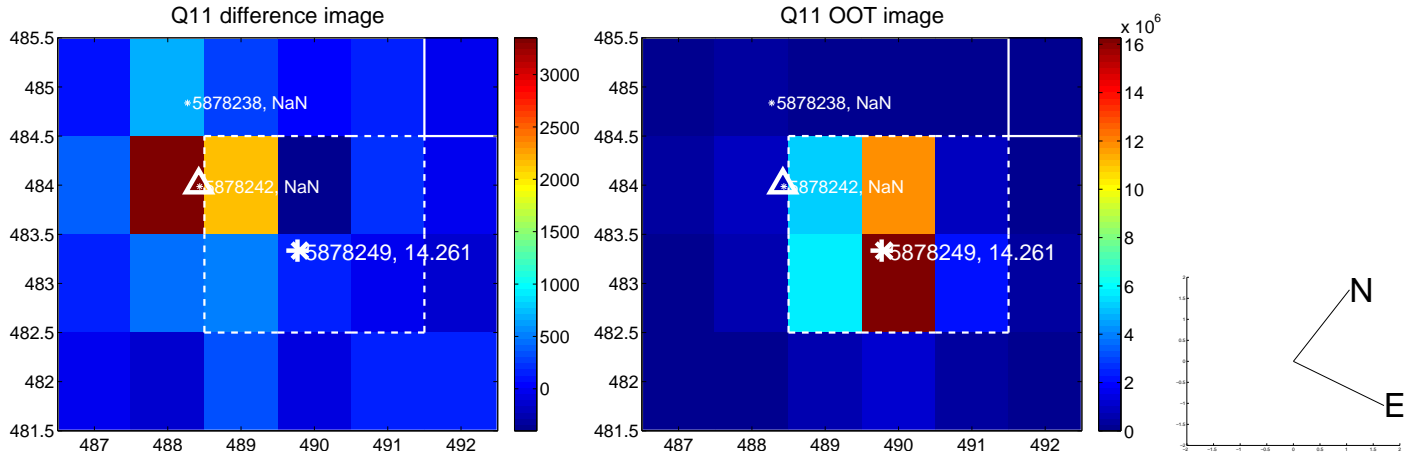
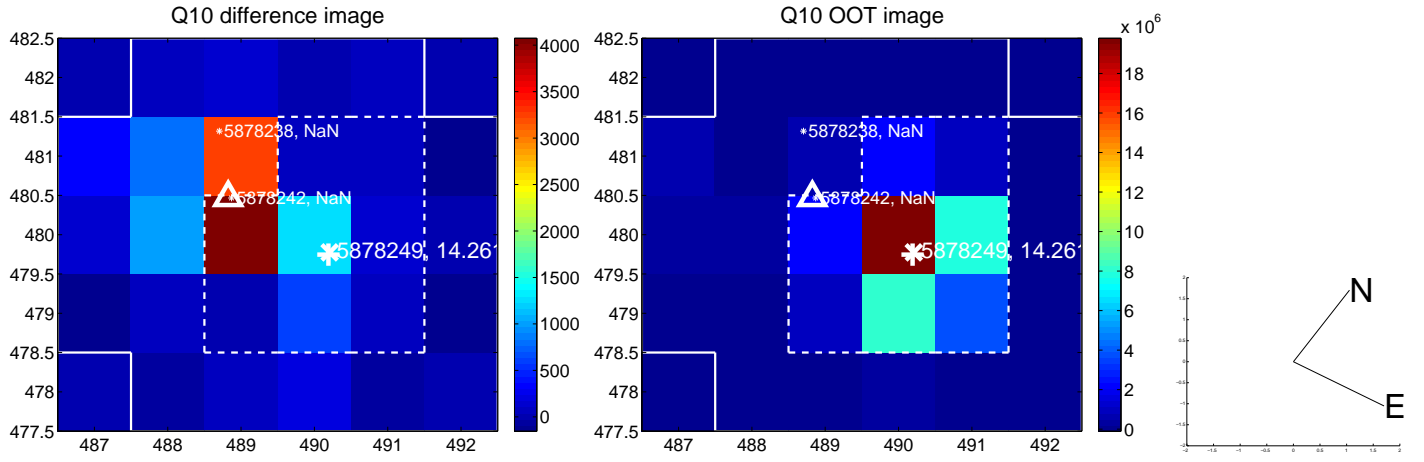
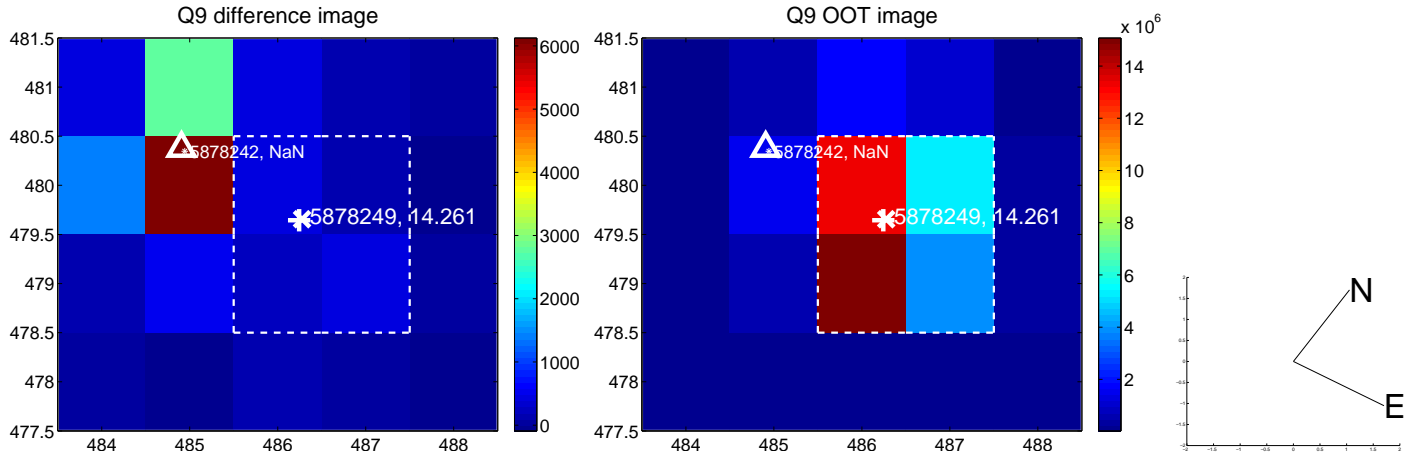
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



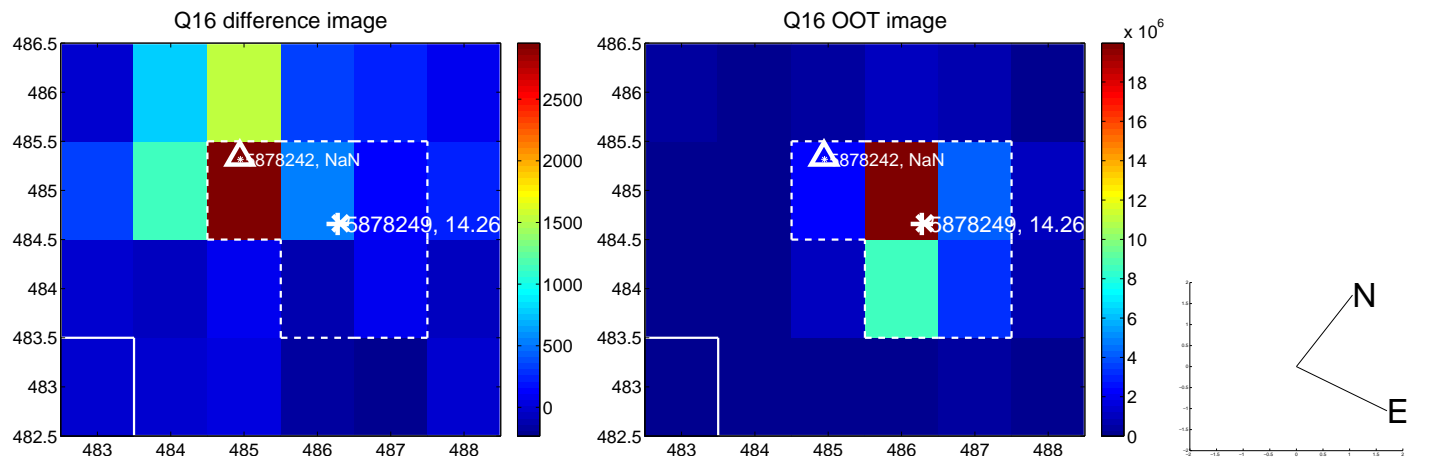
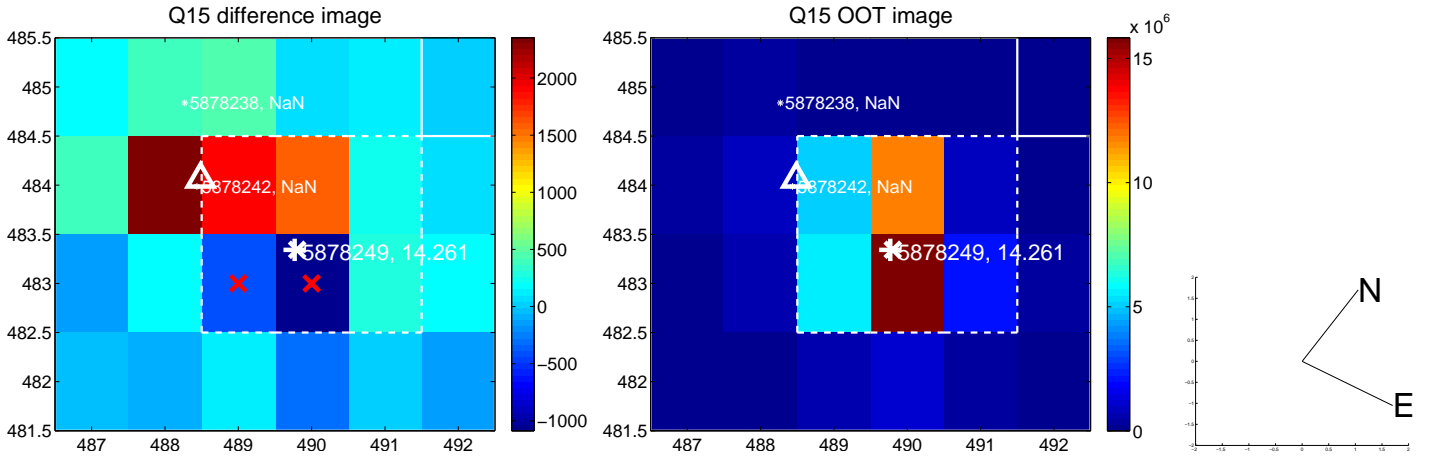
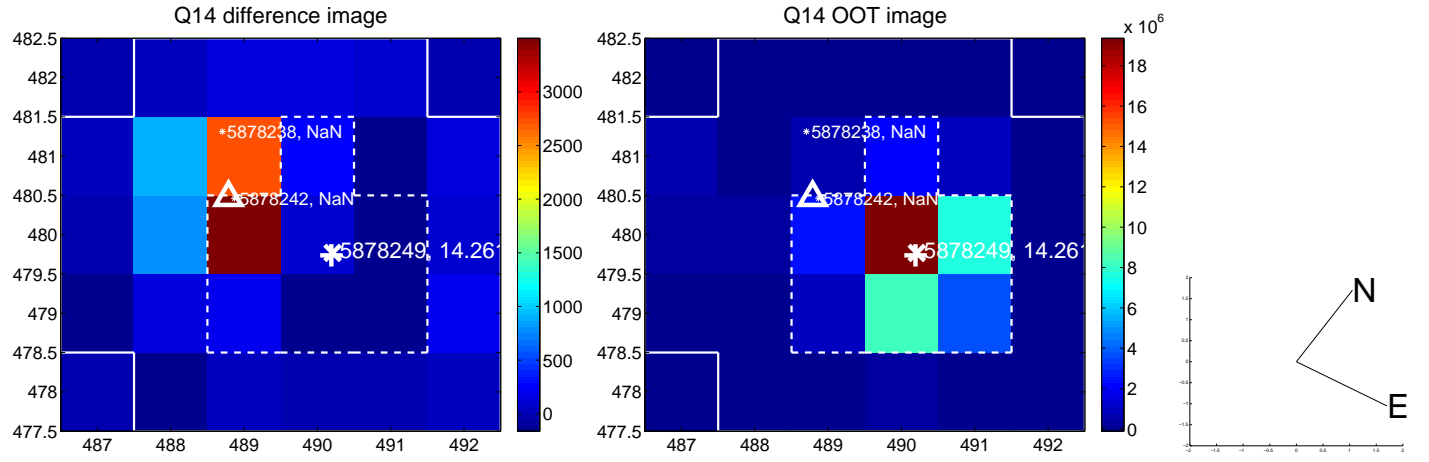
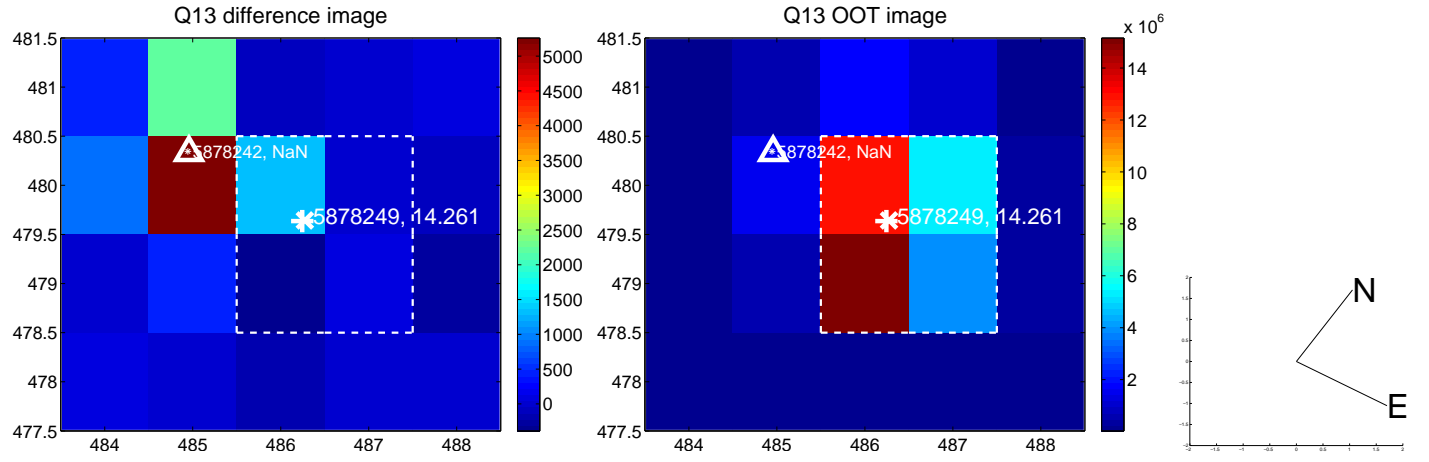
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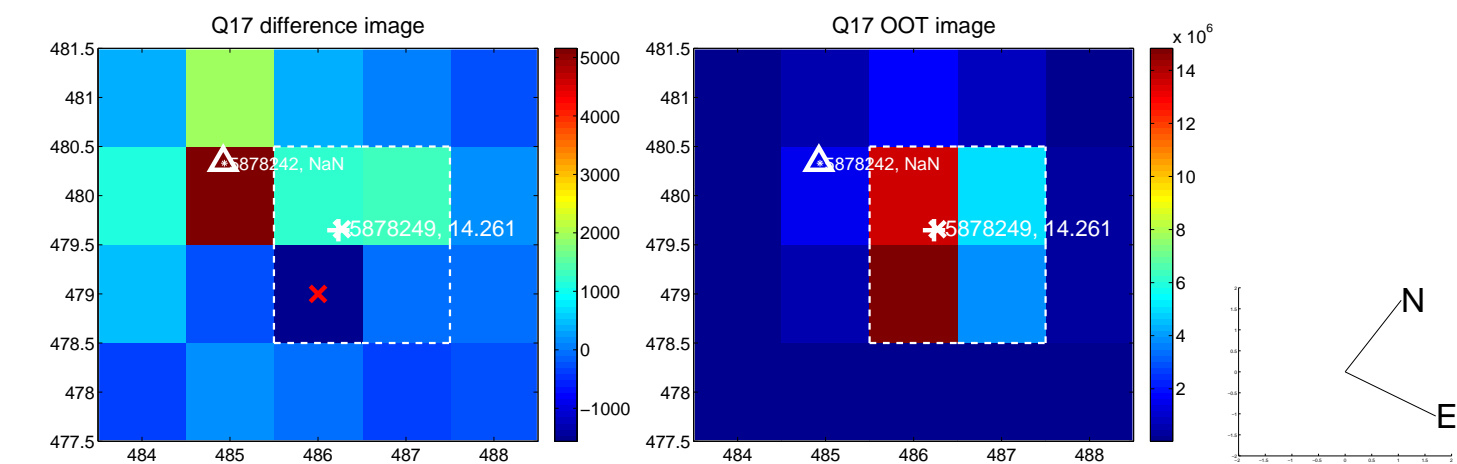
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



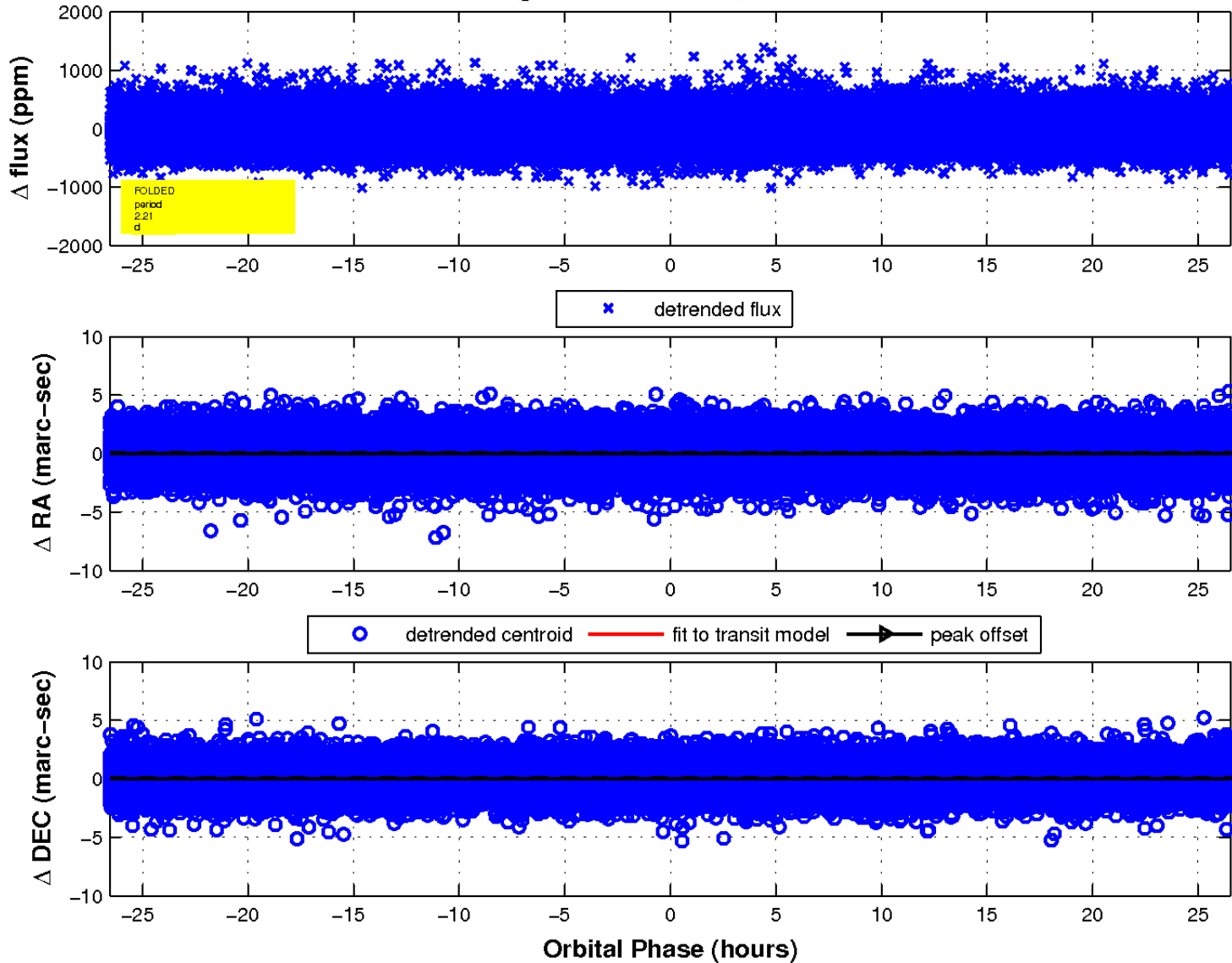
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

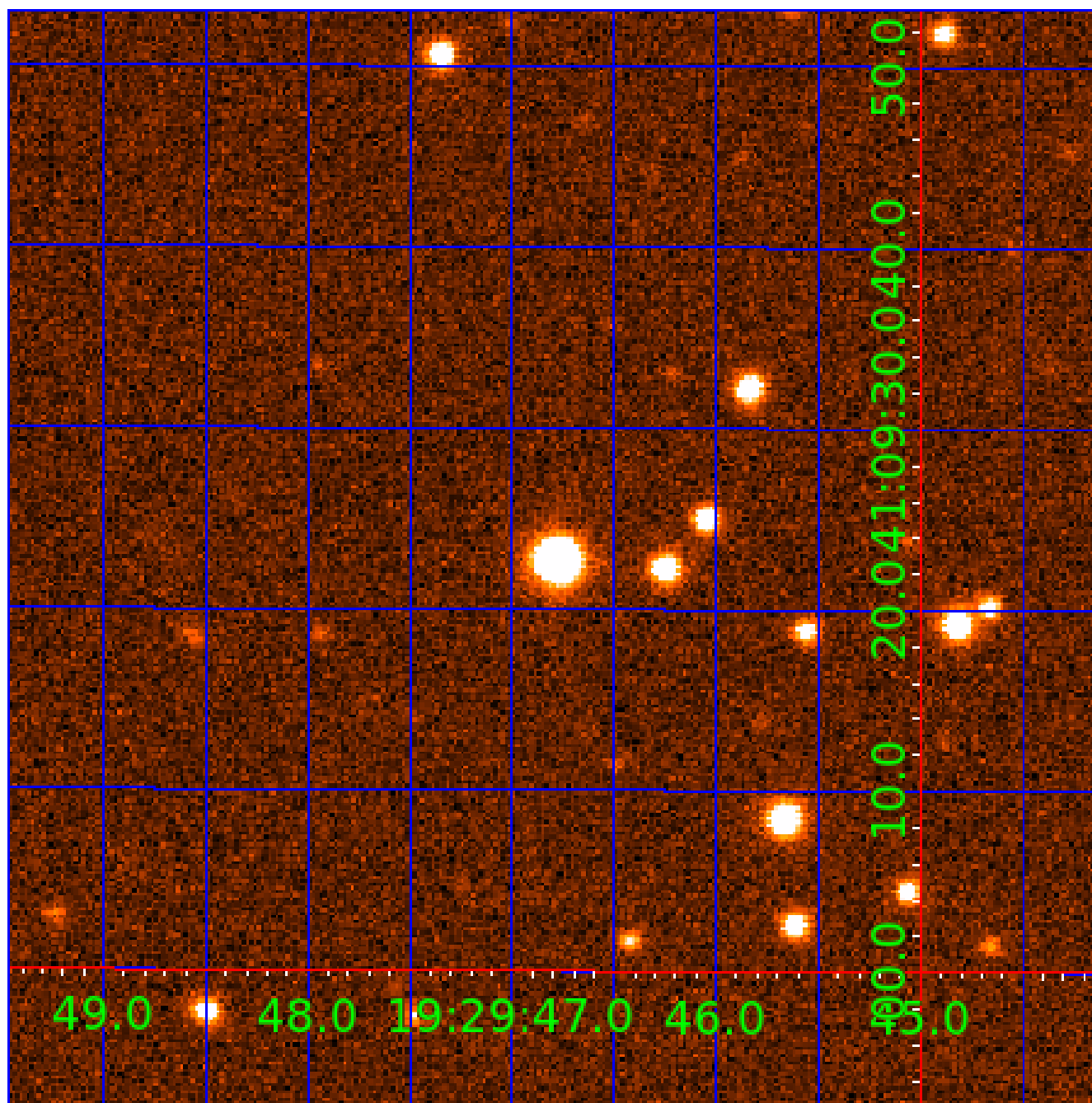


fluxWeightedCentroids, Planet 1 of 6



UKIRT Image

Declination



KIC 005878249

Q1-17 DR25 TCE Parameters

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005878249-06	OBS	No	152.276239	235.560248	314.7	5.483	7.1	6.6	1.03	5869	2.18	4.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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005878249-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005878249-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005878249-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
005878249-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005878249-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

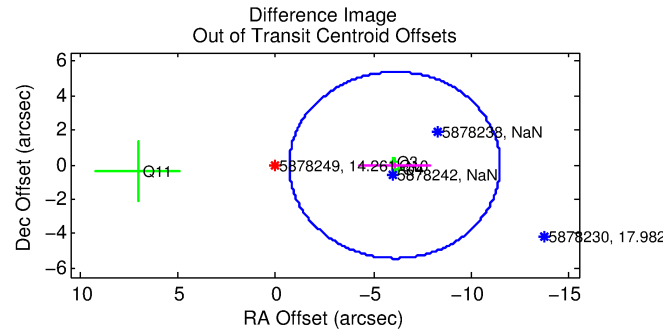
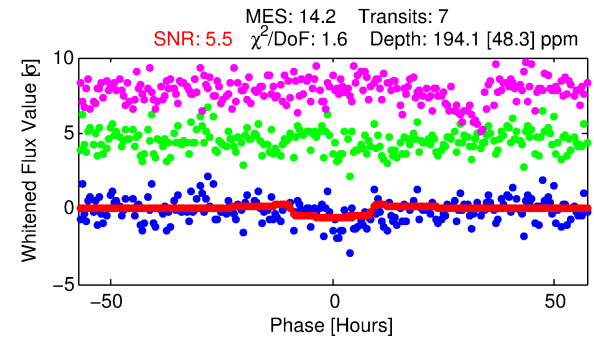
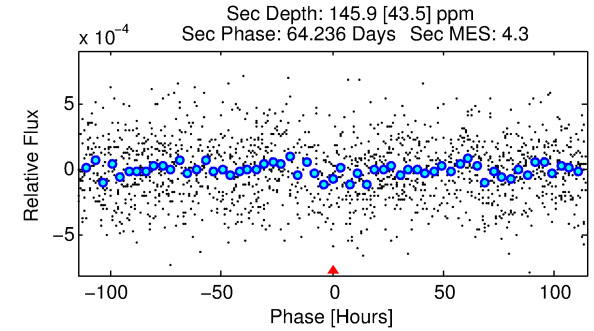
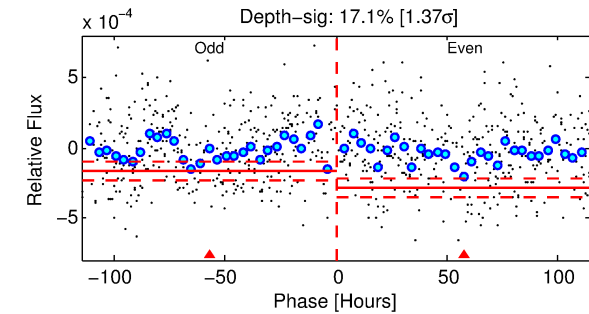
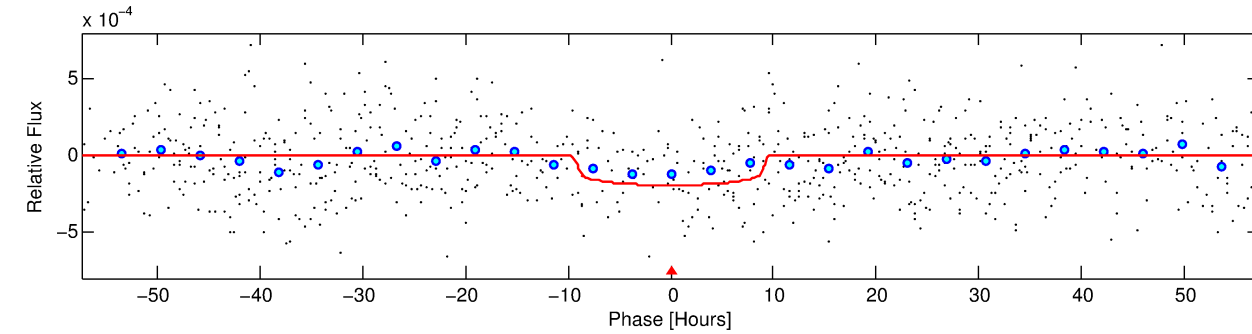
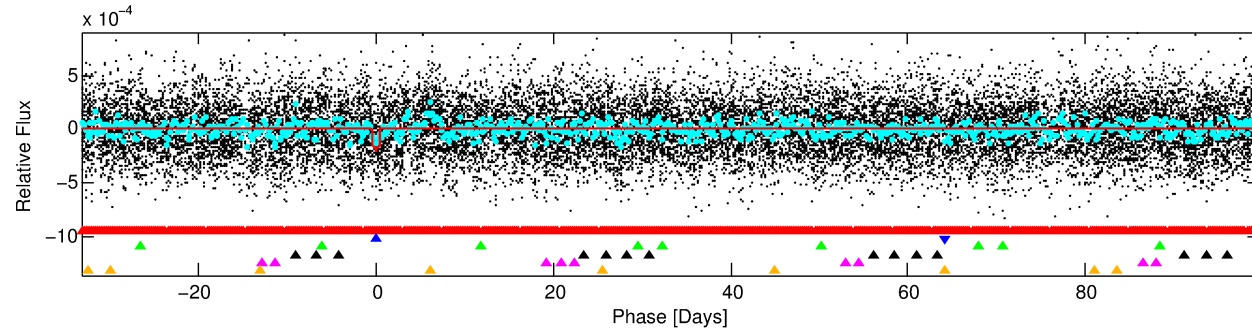
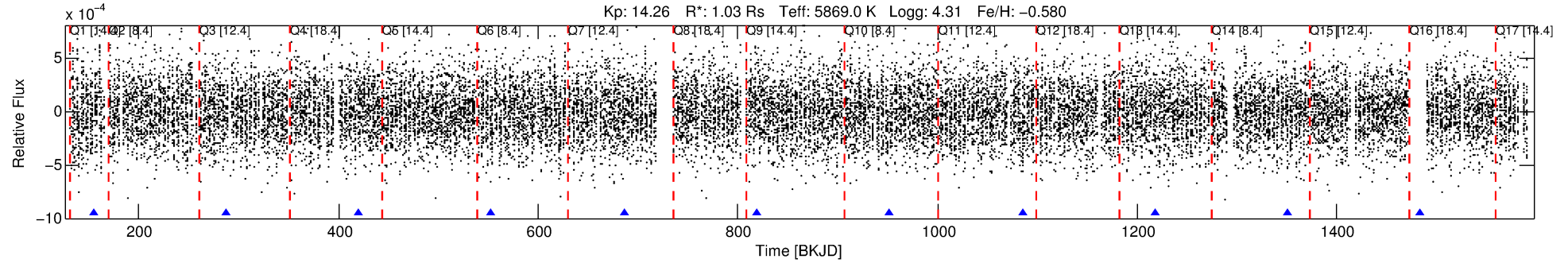
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005878249-02

No Significant Match Found

DV One-Page Summary

KIC: 5878249 Candidate: 2 of 6 Period: 132.941 d



DV Fit Results:

Period = 132.94075 [0.00761] d
Epoch = 154.4303 [0.0441] BKJD
Rp/R* = 0.0143 [0.0049]
a/R* = 31.24 [49.06]
b = 0.83 [0.60]
Seff = 5.07 [2.05]
Teq = 383 [39] K
Rp = 1.61 [0.72] Re
a = 0.4711 [0.1217] AU
Ag = 6905.36 [5796.34] [1.19 σ]
Teffp = 5393 [1013] K [4.94 σ]

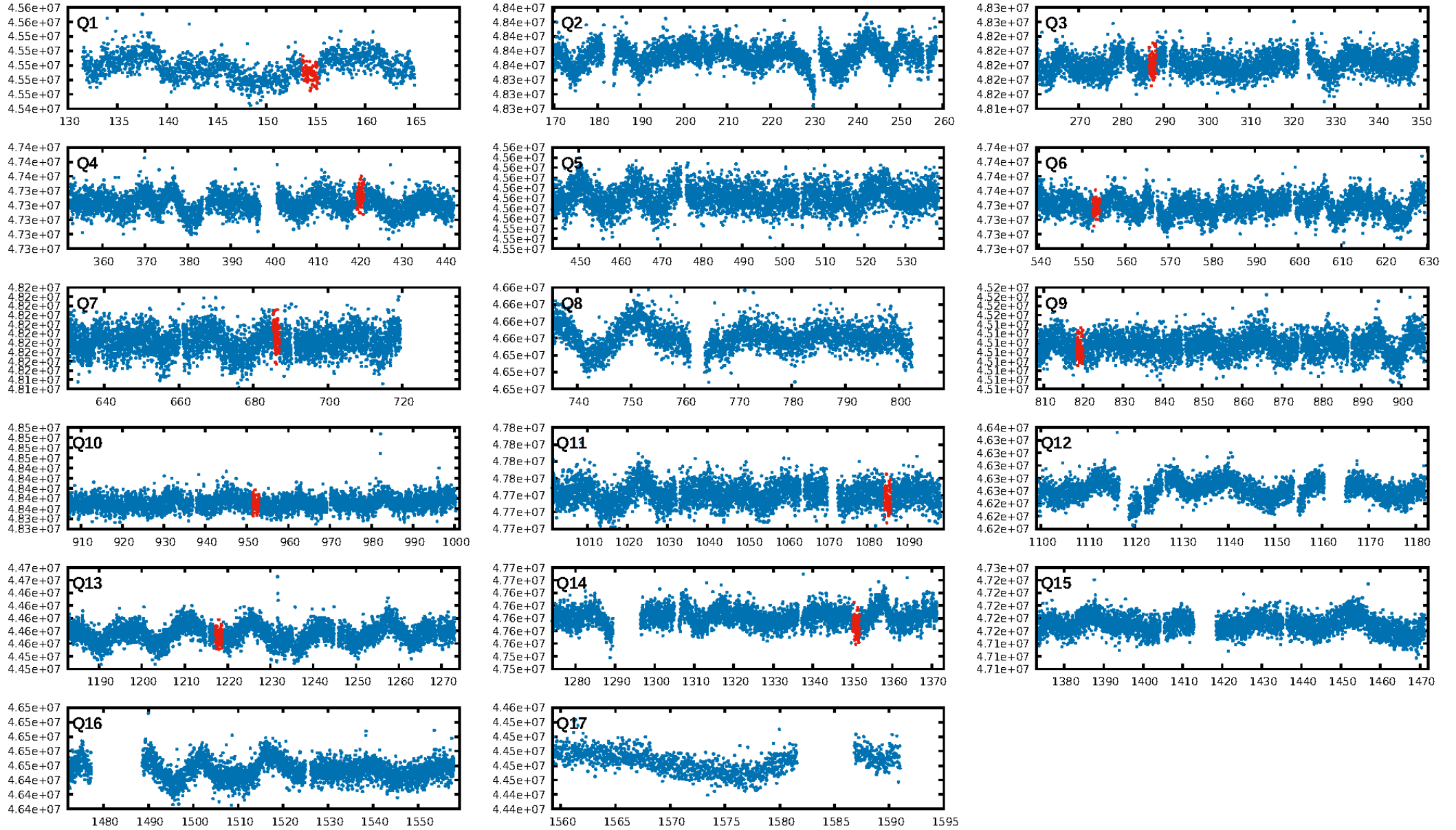
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [40.68 σ]
LongPeriod-sig: 100.0% [23.33 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.77e-26
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.902
Centroid-sig: 20.6%
Centroid-so: 1.129 arcsec [1.07 σ]
OotOffset-rm: 6.084 arcsec [3.38 σ]
KicOffset-rm: 6.186 arcsec [2.20 σ]
OotOffset-st: 1/2/1/0 [4]
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.00 [0/9]

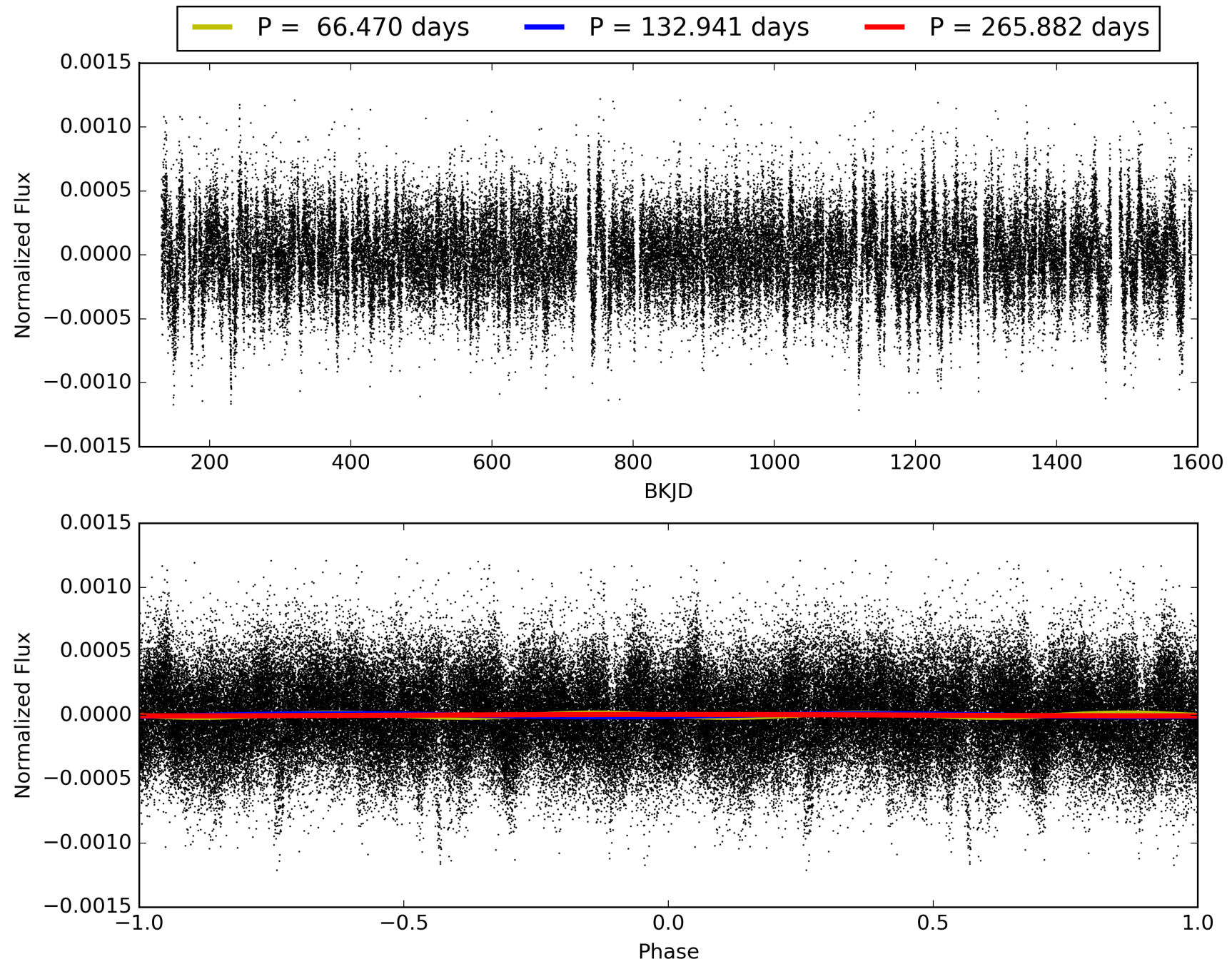
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:57:43 Z

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

TCE 005878249-02, PDC Light Curves

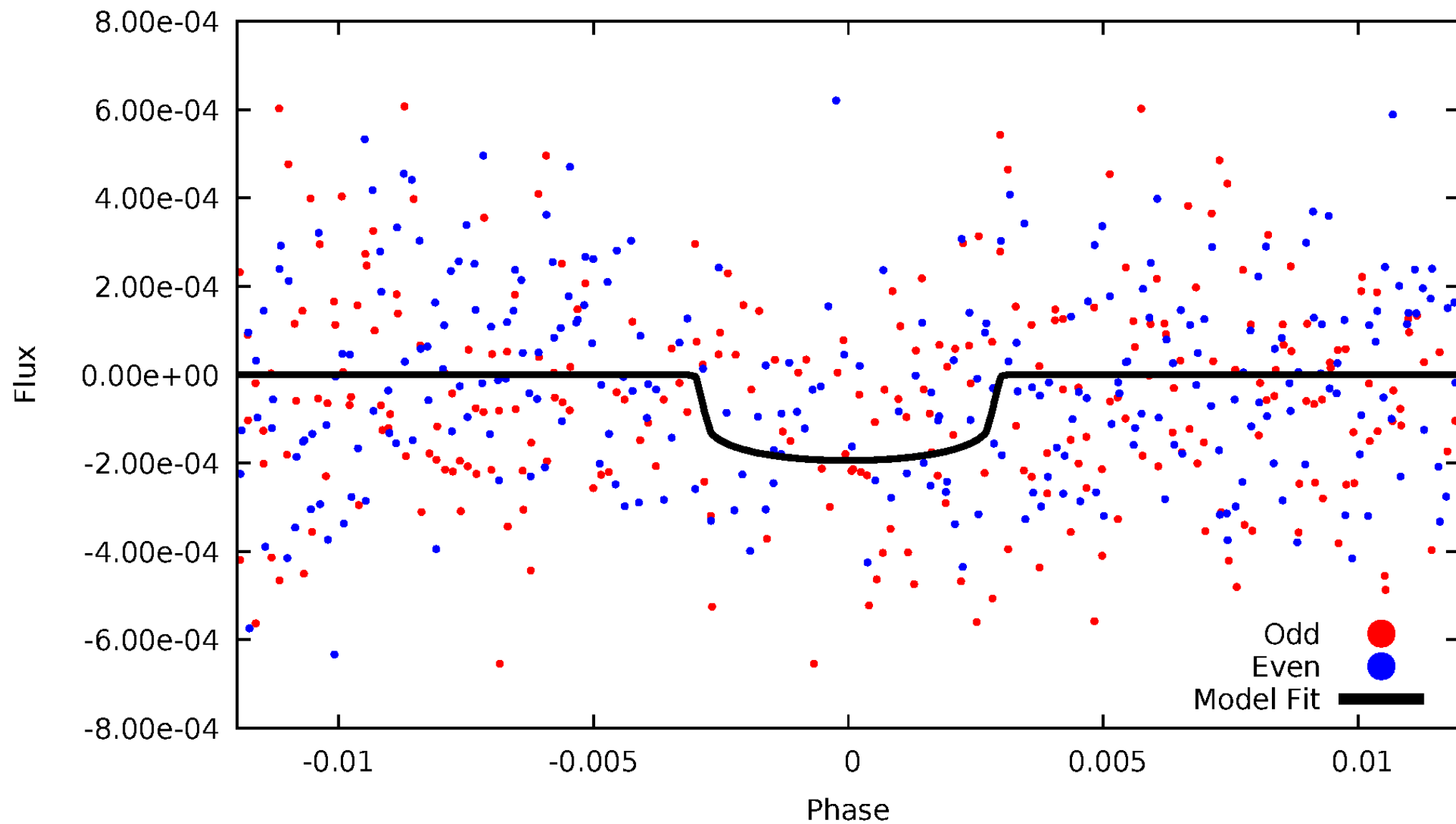


TCE 005878249-02



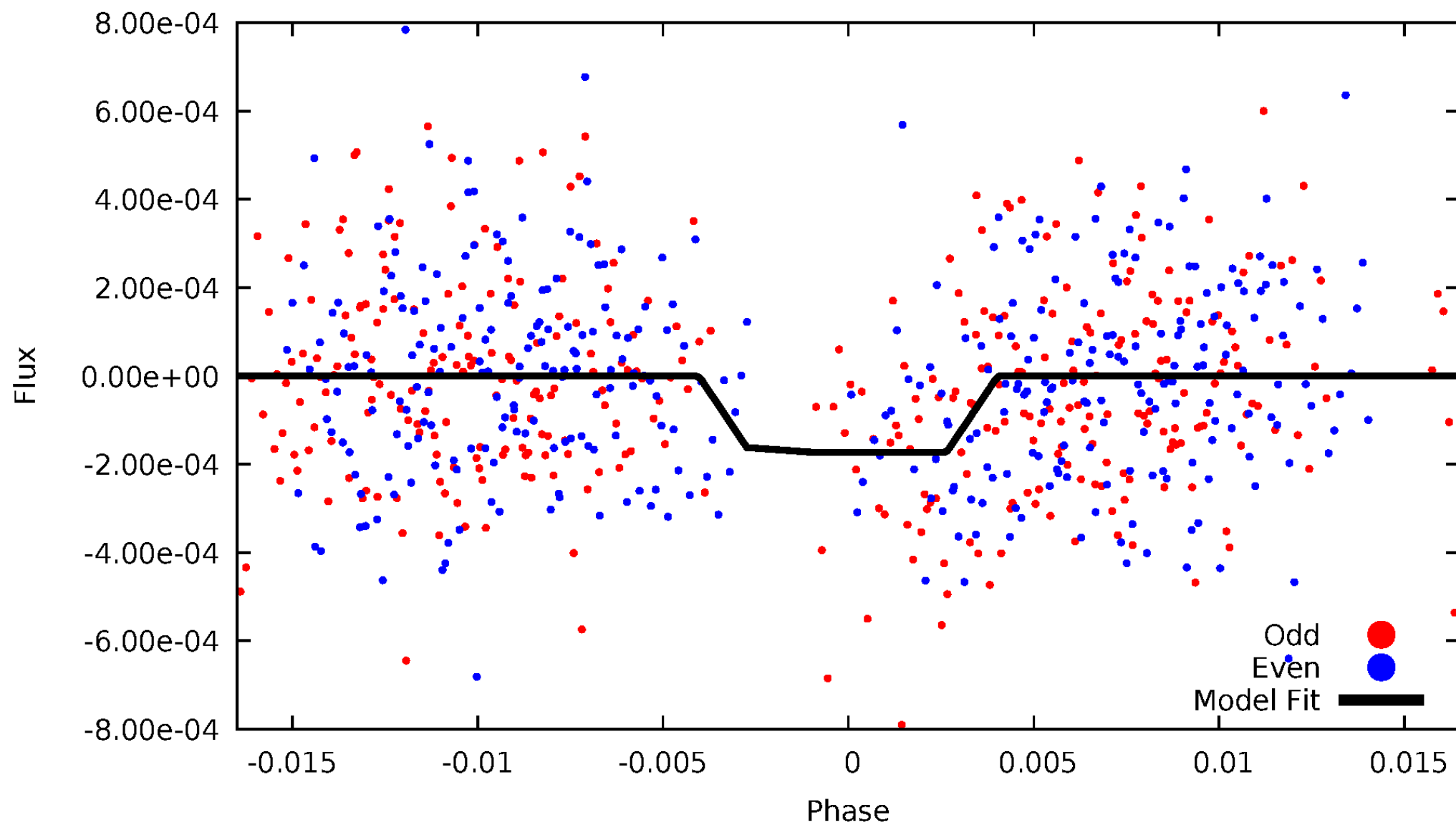
DV Odd/Even

TCE 005878249-02



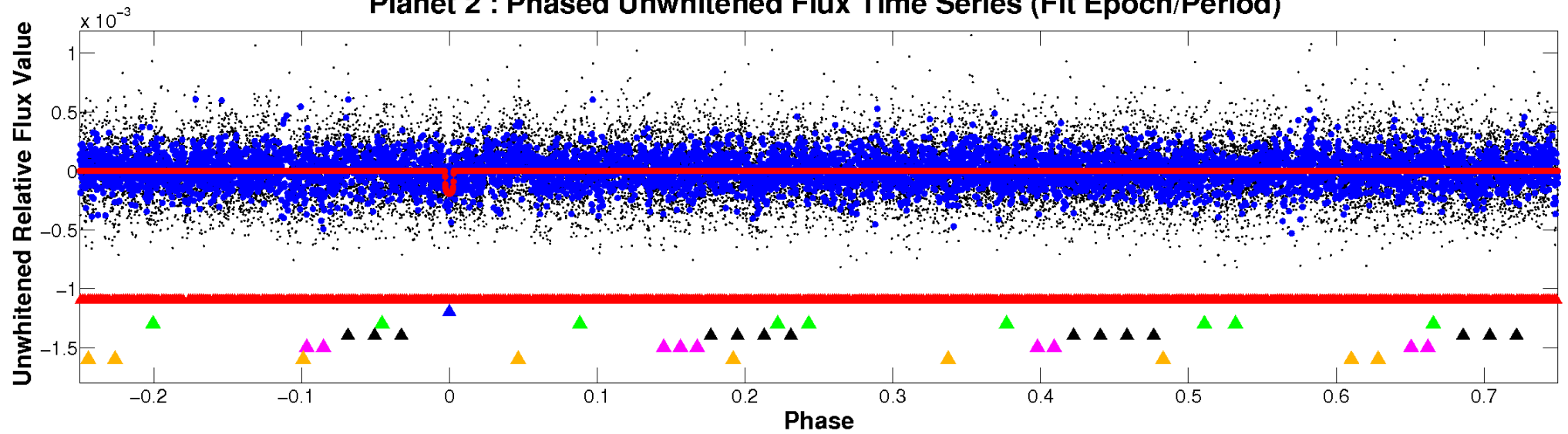
ALT Odd/Even

TCE 005878249-02

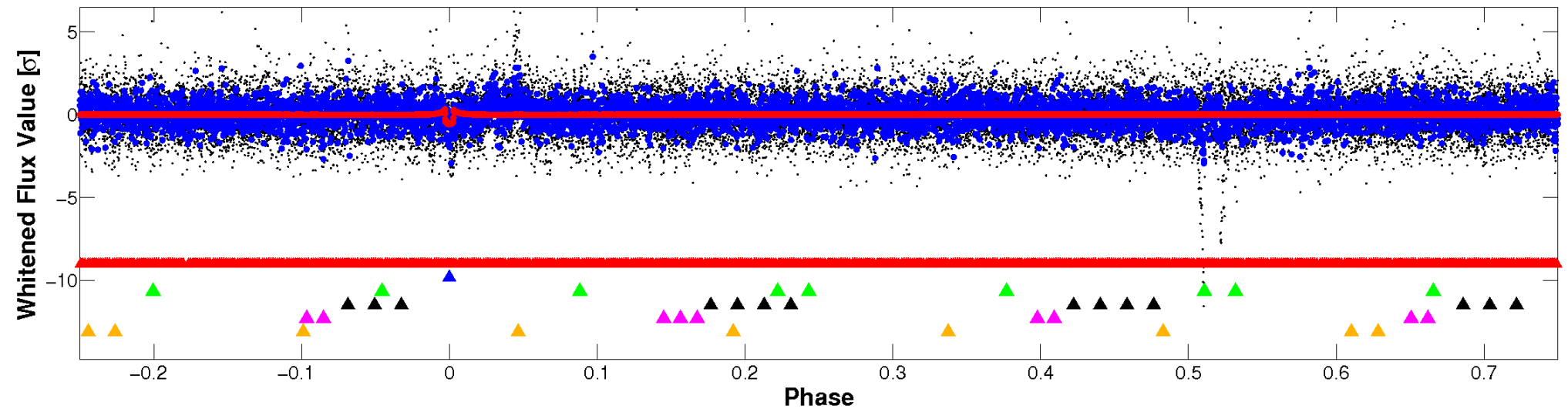


Non-Whitened Vs. Whitened Light Curve

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

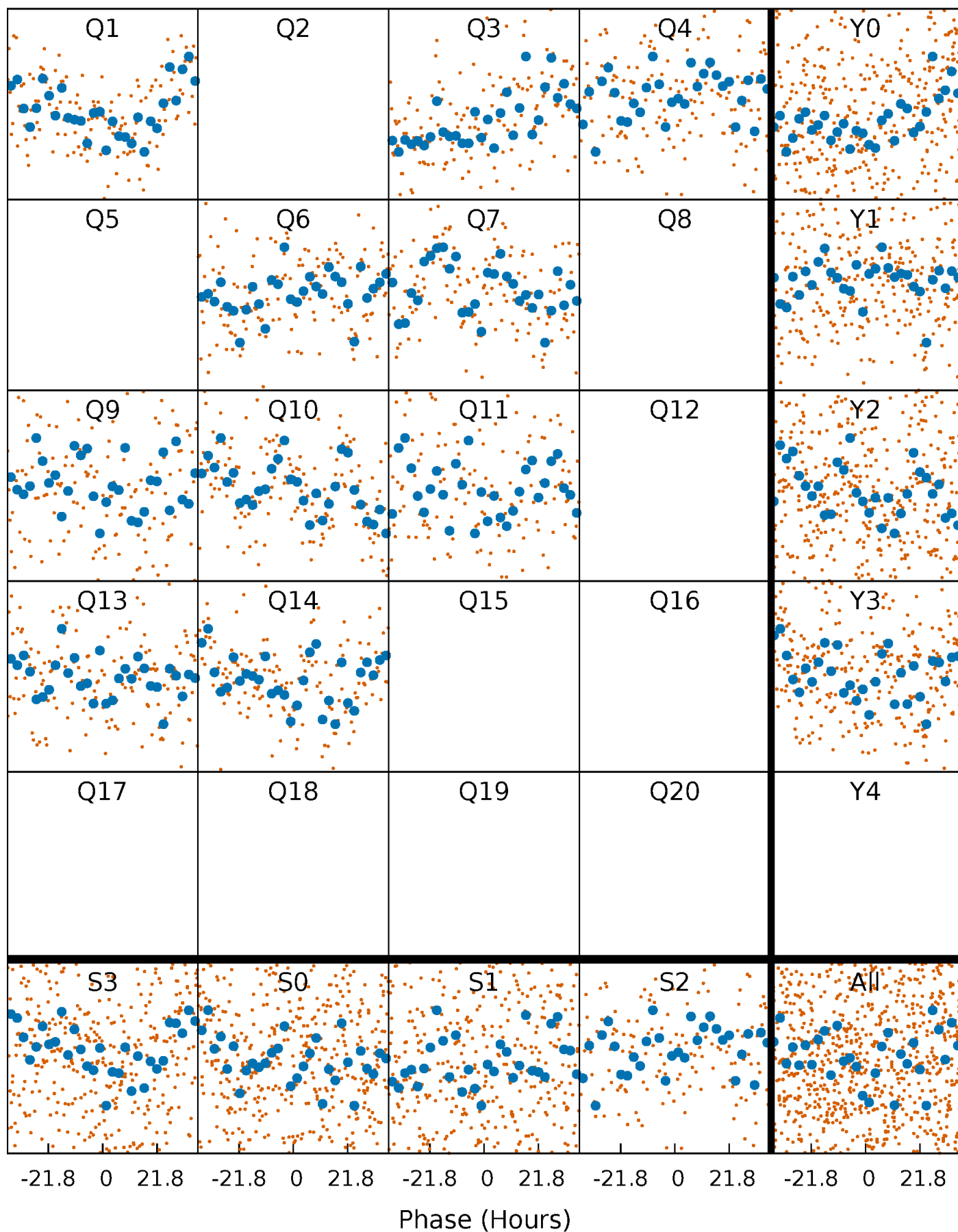


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



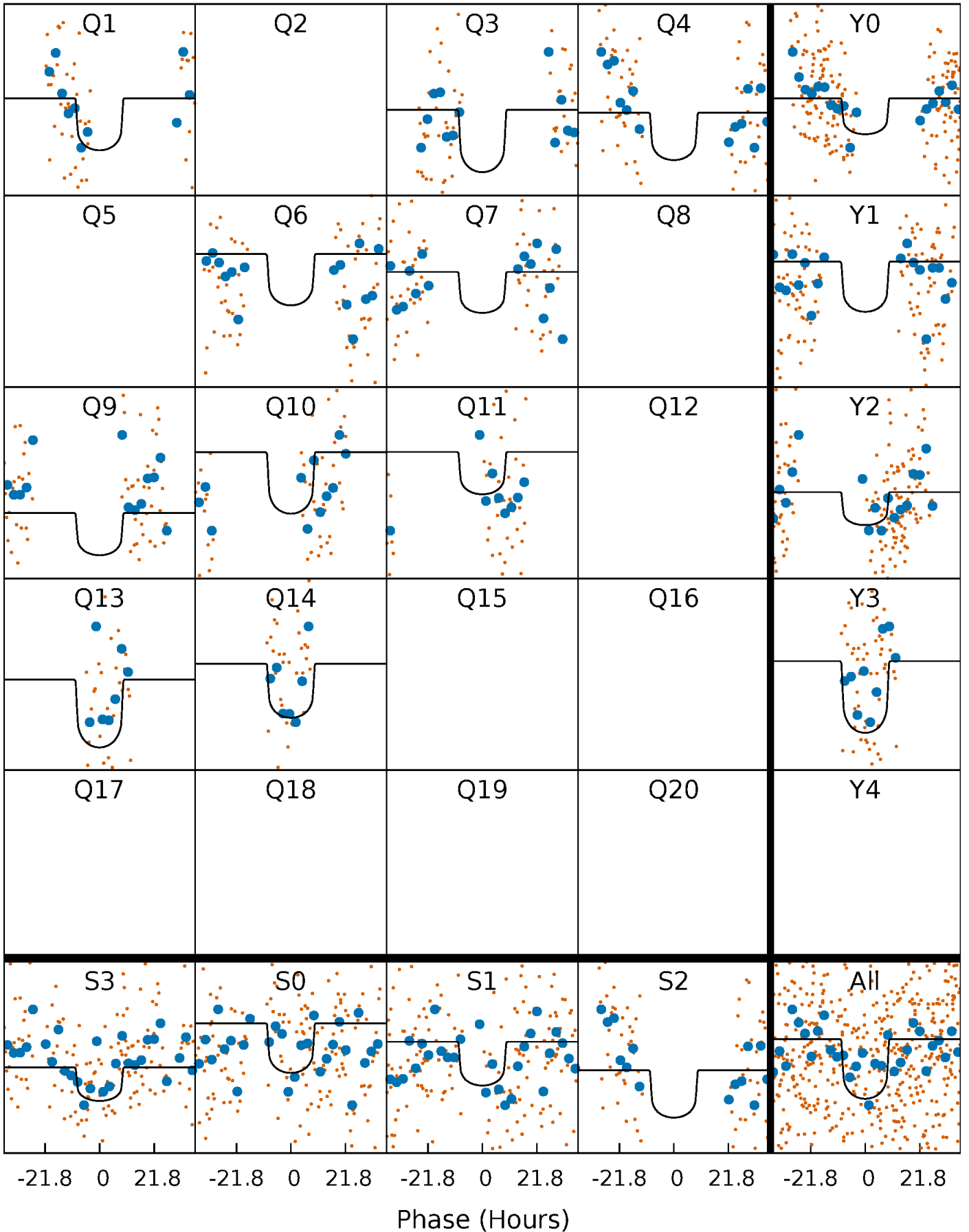
PDC Quarter-Phased Transit Curves

TCE 005878249-02 P=132.940754 Days $T_0=154.430318$ (BKJD)



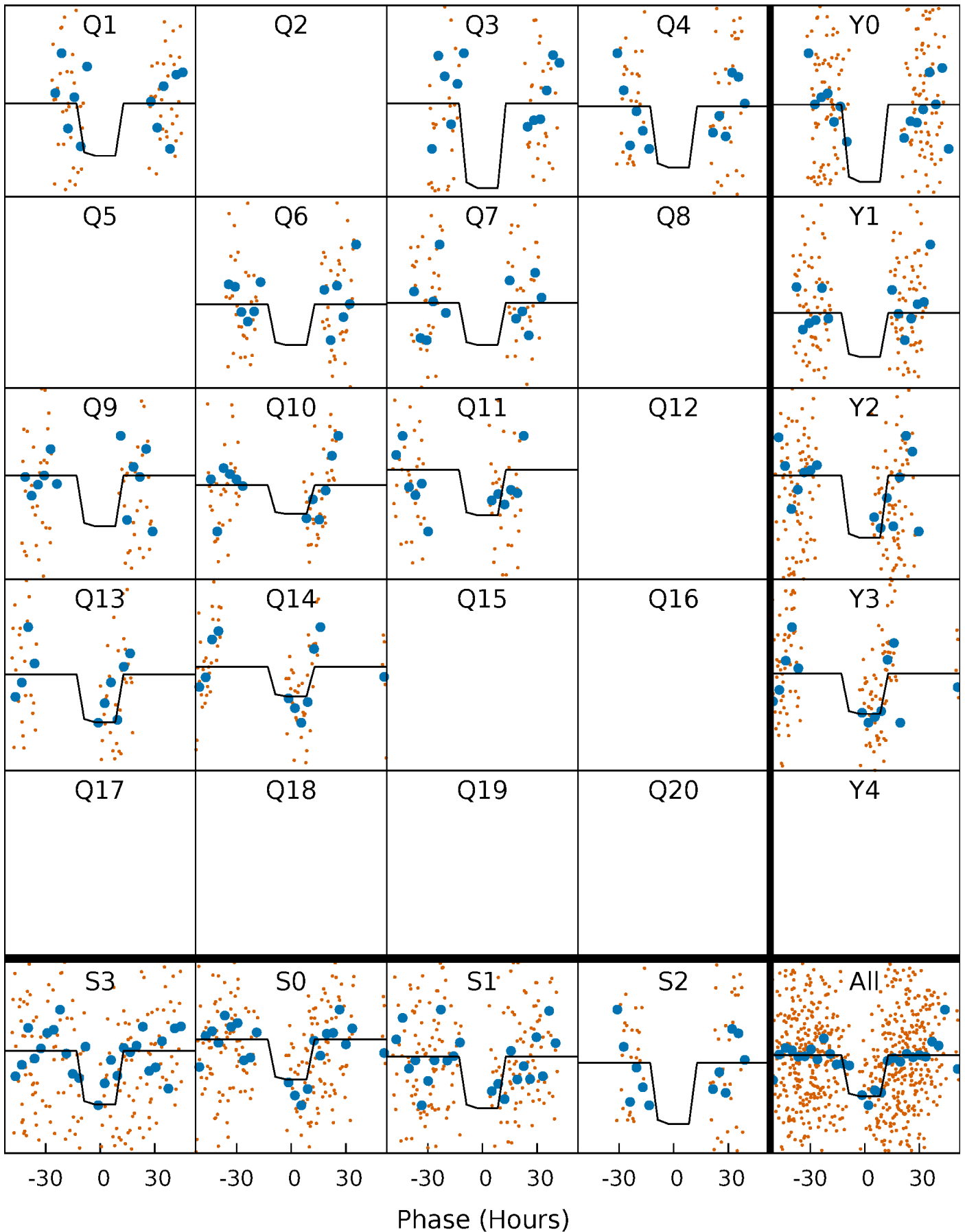
DV Quarter-Phased Transit Curves

TCE 005878249-02 $P=132.940754$ Days $T_0=154.430318$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

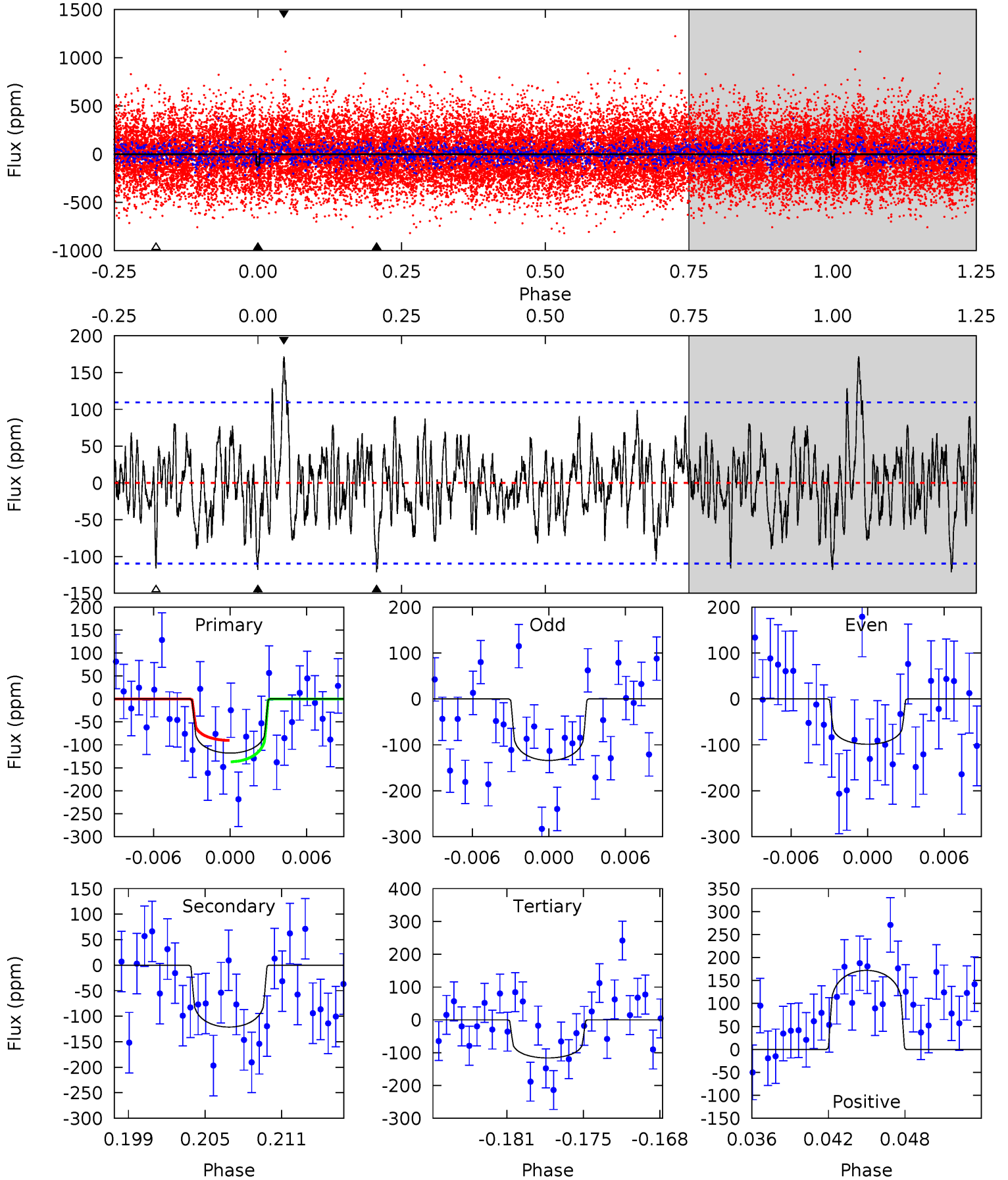
TCE 005878249-02 P=132.886252 Days $T_0=154.639935$ (BKJD)



DV Model-Shift Uniqueness Test

005878249-02, P = 132.940754 Days, E = 21.489564 Days

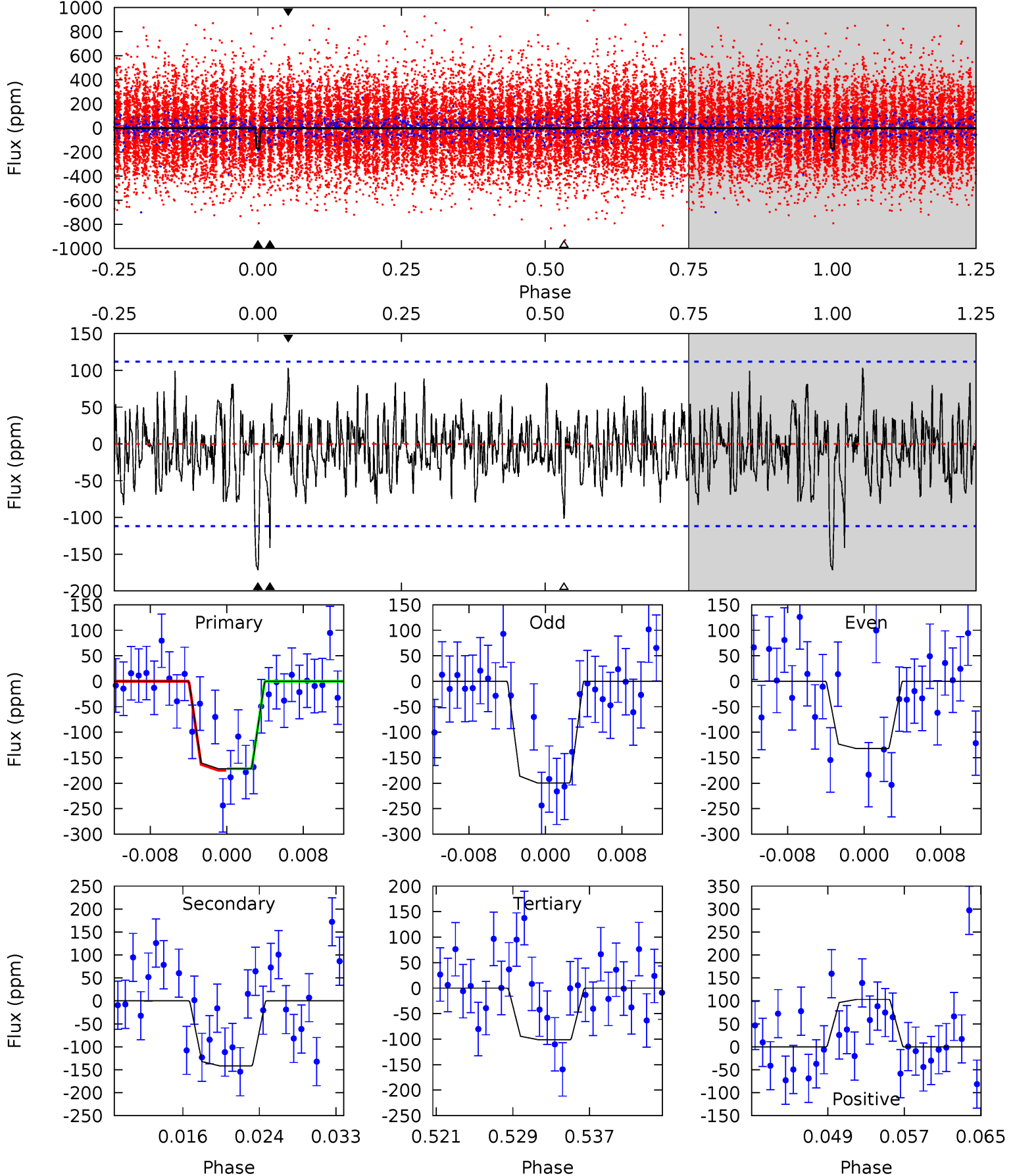
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.52	5.67	5.43	8.05	5.12	2.75	1.85	0.09	-2.53	0.24	-2.37	0.83	0.54	0.59	1.06



Alt Model-Shift Uniqueness Test

005878249-02, $P = 132.886252$ Days, $E = 21.753683$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.78	6.41	4.58	4.68	5.07	2.65	1.44	3.20	3.10	1.83	1.73	1.52	0.62	0.38	0.06



Stellar Parameters For KIC 005878249

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+159}_{-159}	$4.310^{+0.220}_{-0.198}$	$-0.580^{+0.300}_{-0.300}$	$1.029^{+0.302}_{-0.247}$	$0.789^{+0.114}_{-0.053}$	$1.019^{+1.165}_{-0.551}$
	+3%/-3%	+5%/-5%	+52%/-52%	+29%/-24%	+14%/-7%	+114%/-54%
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 005878249-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-121 ± 21	$1.67^{+0.65}_{-0.62}$	535^{+45}_{-39}	5148^{+1238}_{-651}	5448^{+9053}_{-2729}
Alt.	-141 ± 22	$1.46^{+0.68}_{-0.59}$	534^{+47}_{-37}	5628^{+1776}_{-800}	8181^{+14879}_{-4266}

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

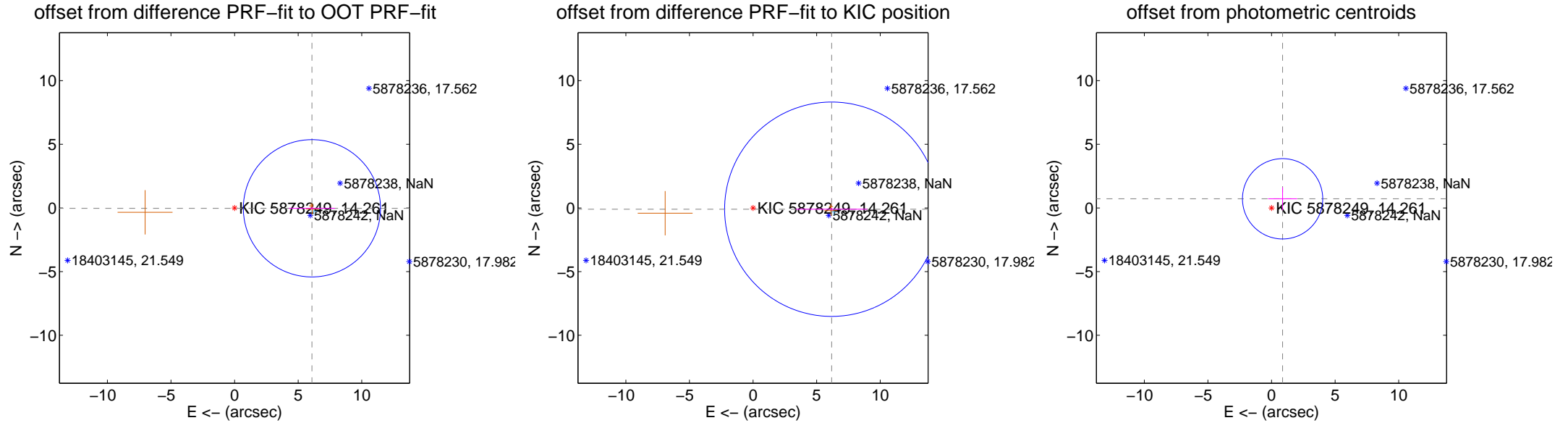
DV Centroid Data

Supplemental centroid analysis for 005878249-02. Kepler magnitude: 14.26. Transit SNR 5.49

There are 1 quarters with good PRF difference image offsets

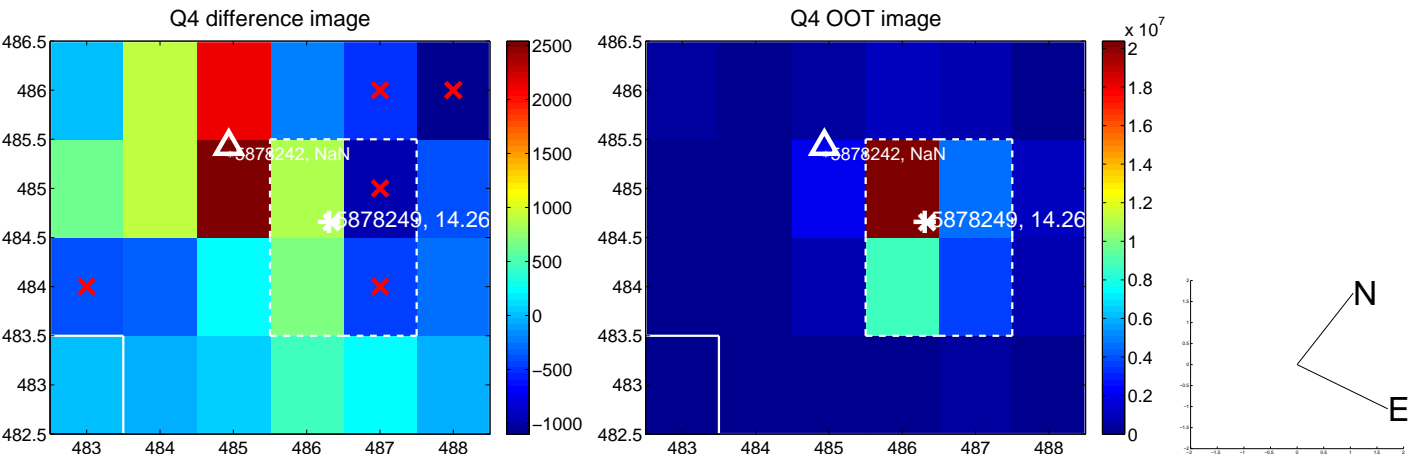
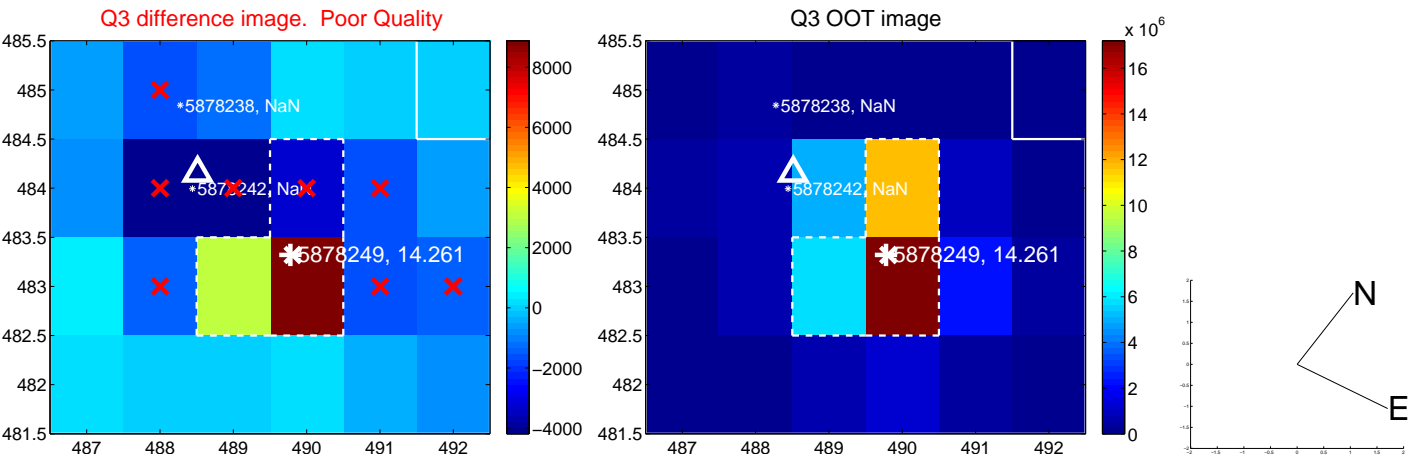
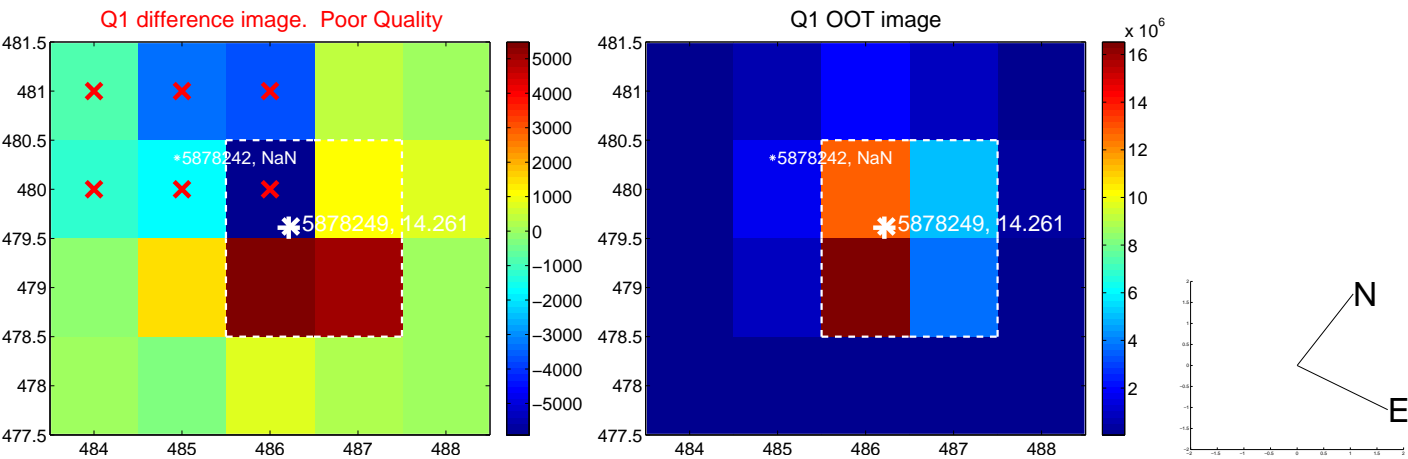
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.084 ± 1.798	3.38	-6.084 ± 1.798	-0.027 ± 0.113
PRF-fit source offset from KIC position	6.186 ± 2.807	2.20	-6.185 ± 2.809	-0.100 ± 0.107
photometric centroid source offset	1.13 ± 1.05	1.07	-0.87 ± 1.14	0.72 ± 0.90



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

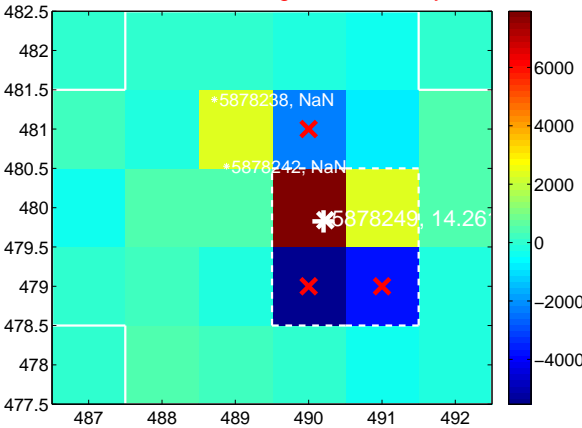
Q5 no difference image



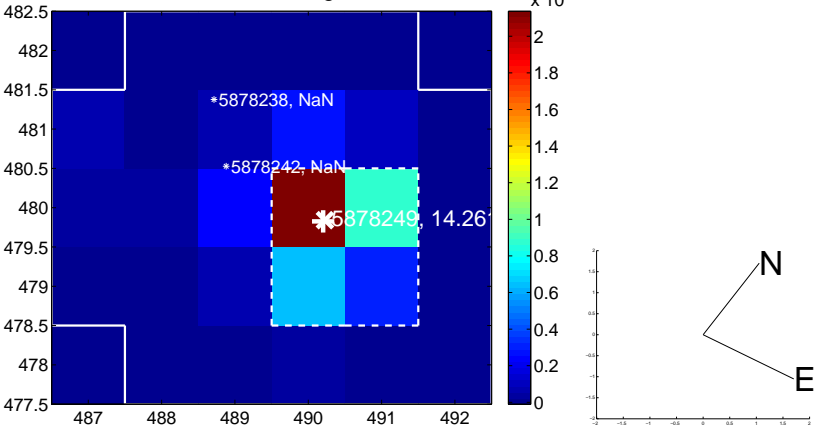
Q5 no OOT image



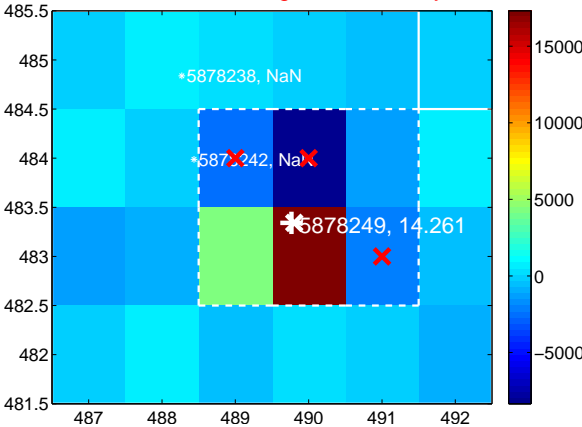
Q6 difference image. Poor Quality



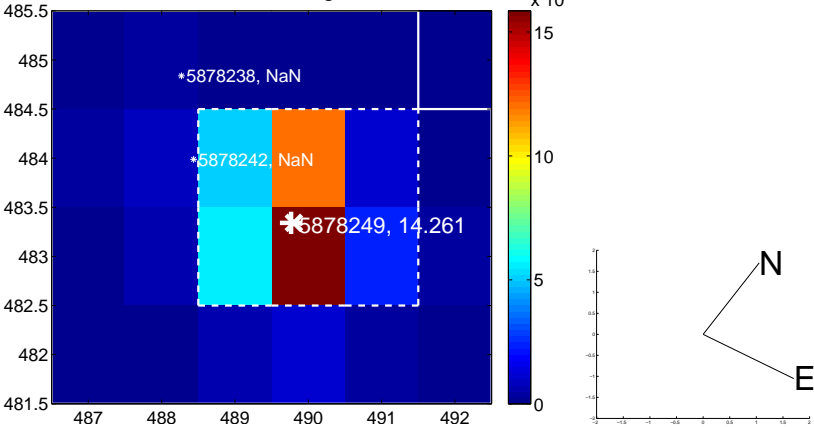
Q6 OOT image



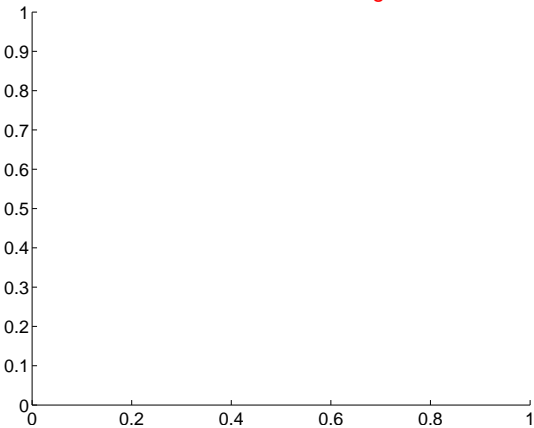
Q7 difference image. Poor Quality



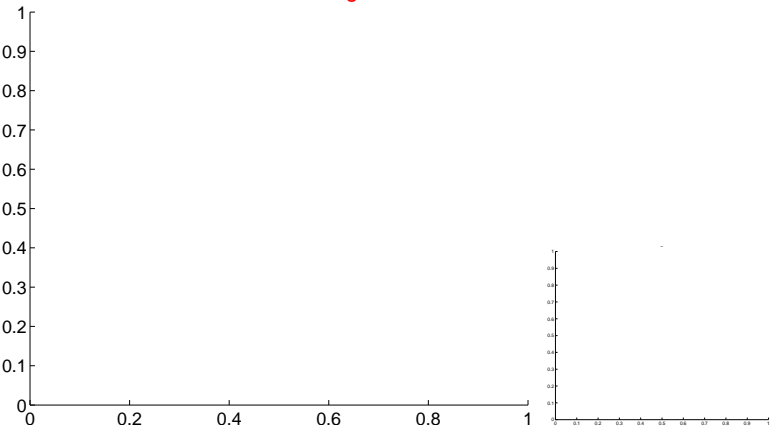
Q7 OOT image



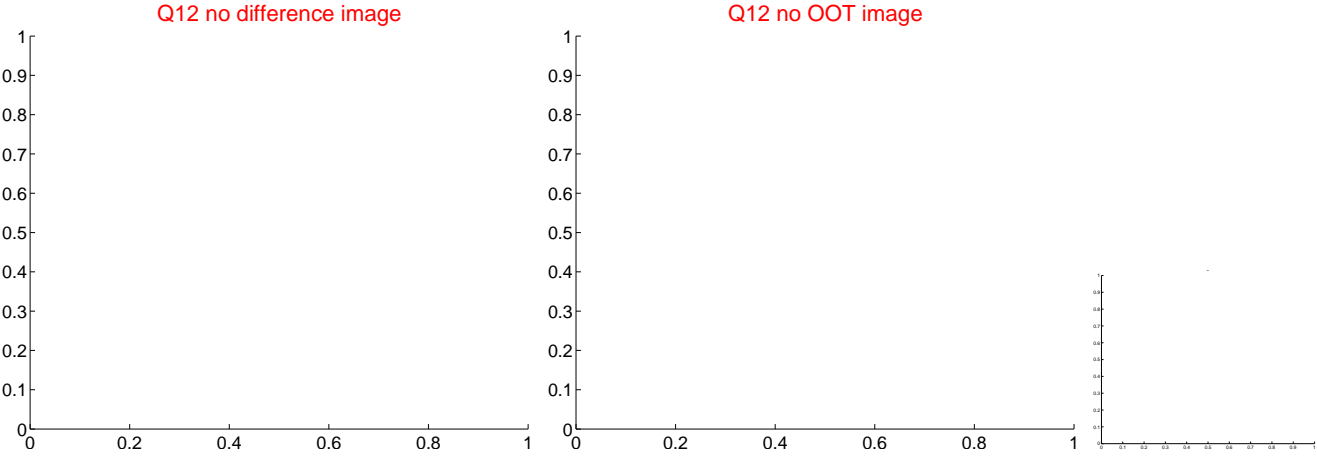
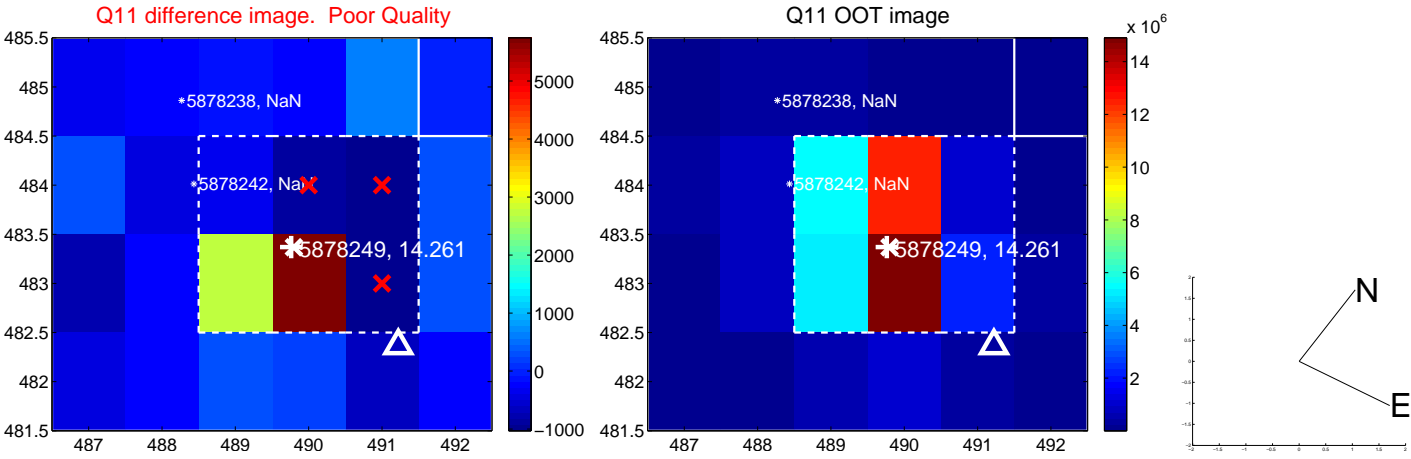
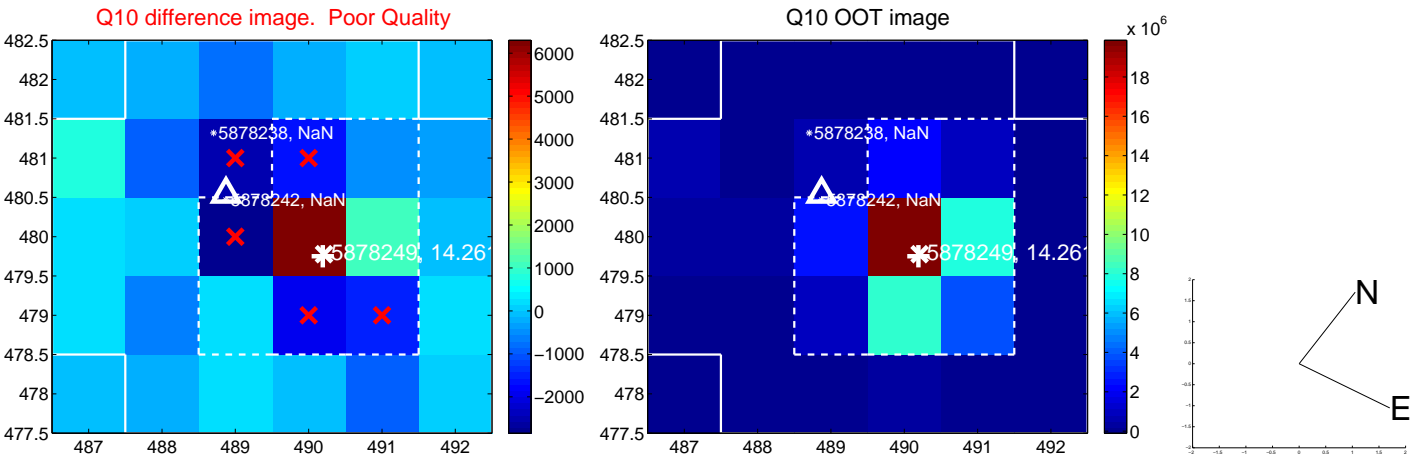
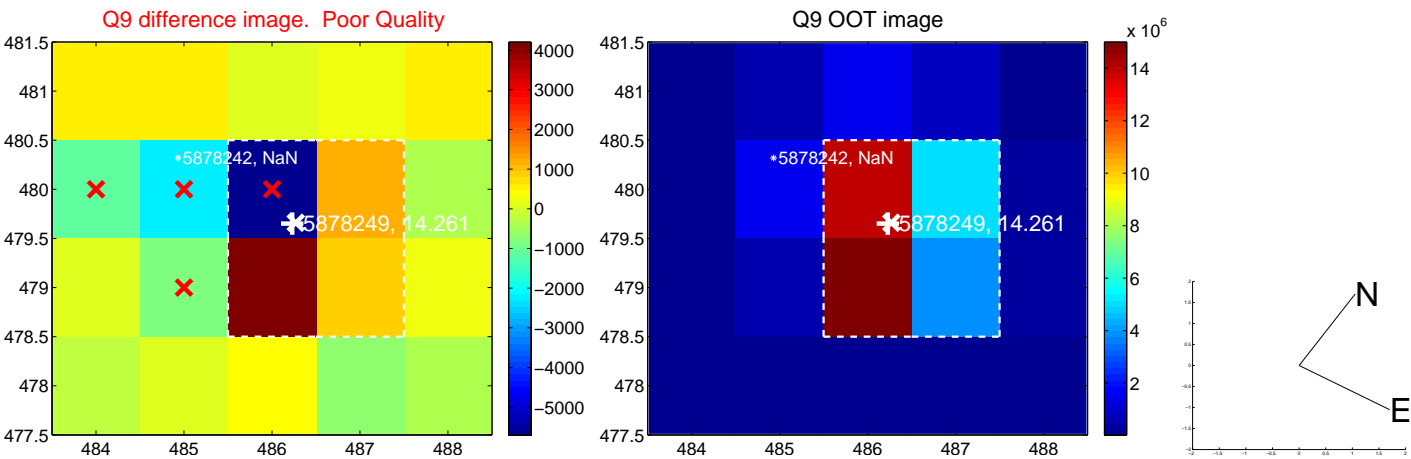
Q8 no difference image



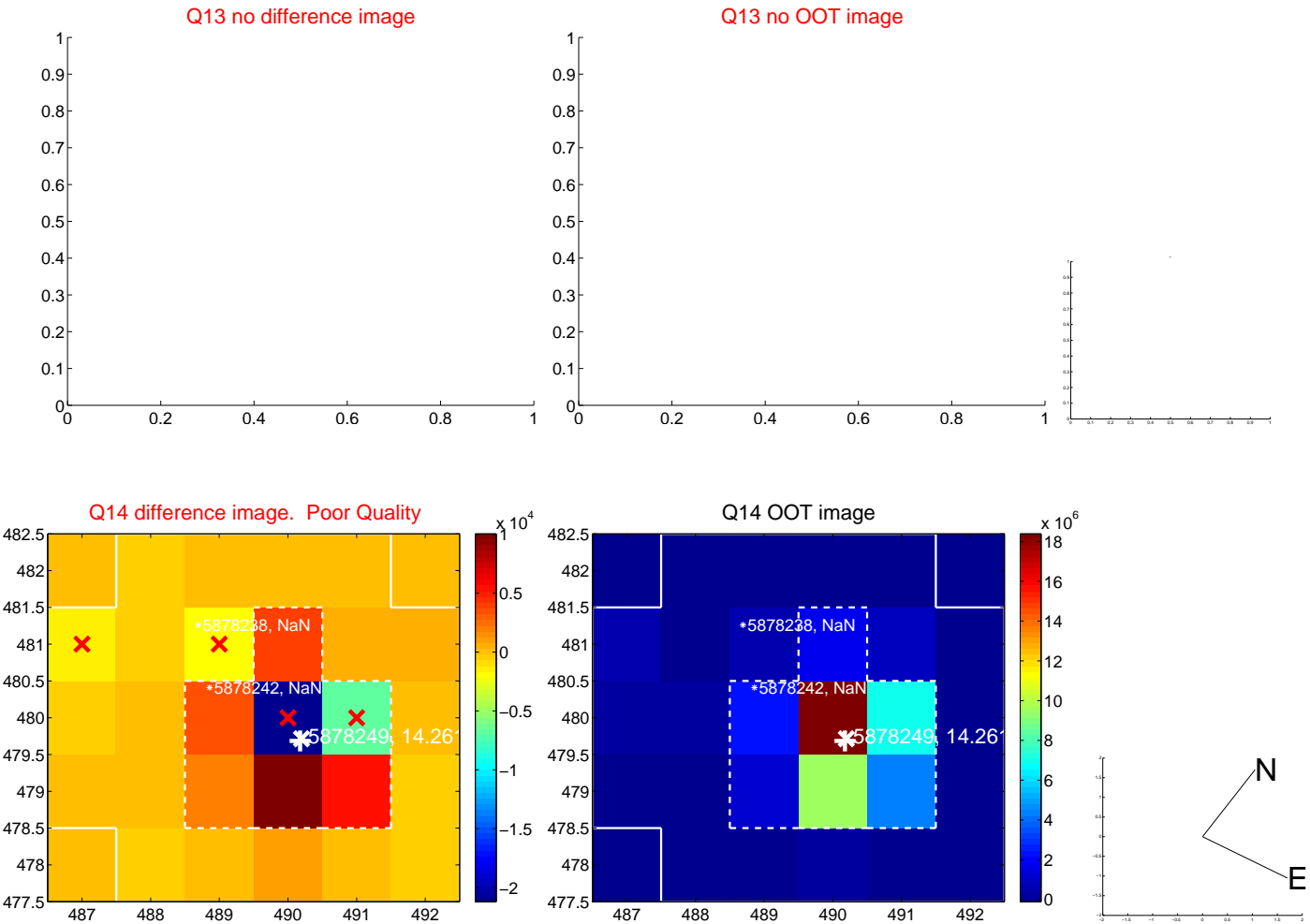
Q8 no OOT image



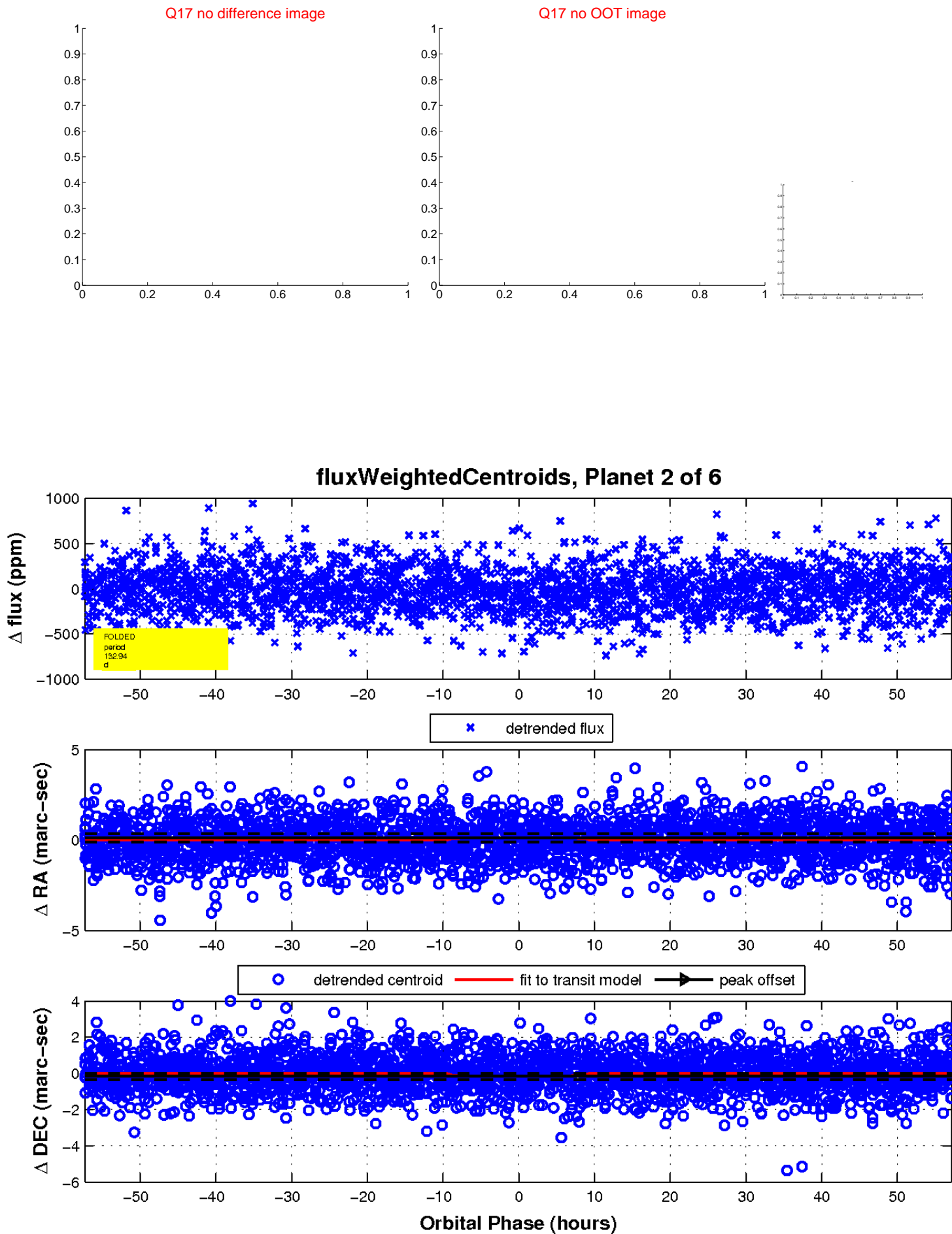
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

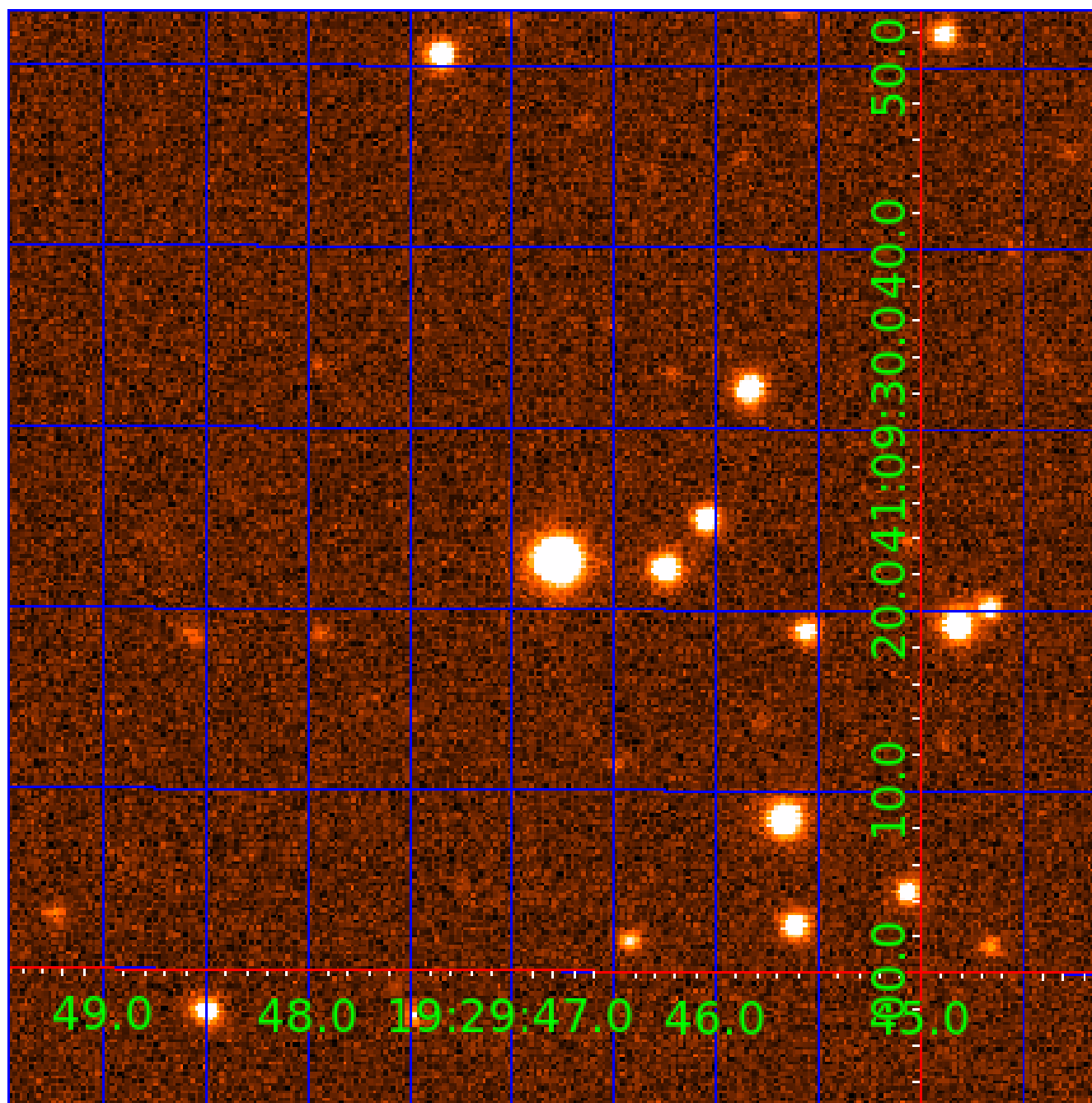


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005878249

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})
005878249-01	OBS	No	2.212473	132.897916	15.3	11.498	7.9	5.4	1.03	5869	0.41	1193.78
005878249-02	OBS	No	132.940754	154.430319	194.1	19.119	14.2	5.5	1.03	5869	1.61	5.07
005878249-03	OBS	No	171.323253	183.959638	336.1	4.456	8.4	7.9	1.03	5869	2.15	3.62
005878249-04	OBS	No	100.305962	210.579295	359.4	2.257	7.6	7.3	1.03	5869	2.31	7.38
005878249-05	OBS	No	166.552356	173.712348	372.7	3.035	7.6	7.6	1.03	5869	2.19	3.76
005878249-06	OBS	No	152.276239	235.560248	314.7	5.483	7.1	6.6	1.03	5869	2.18	4.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005878249-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET
005878249-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005878249-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005878249-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
005878249-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005878249-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

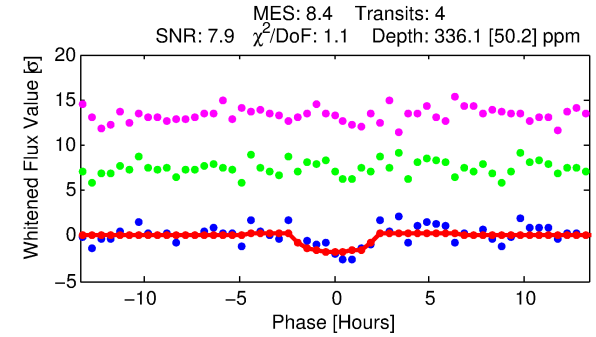
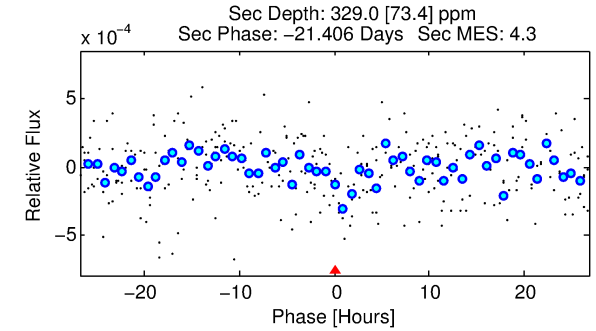
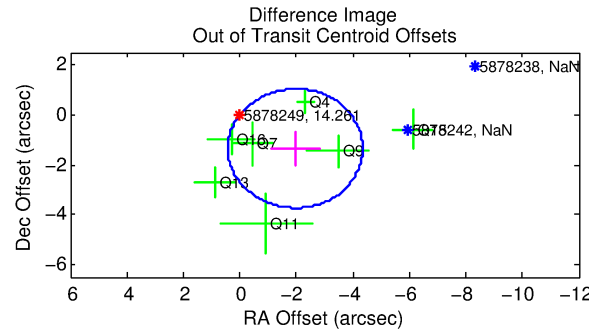
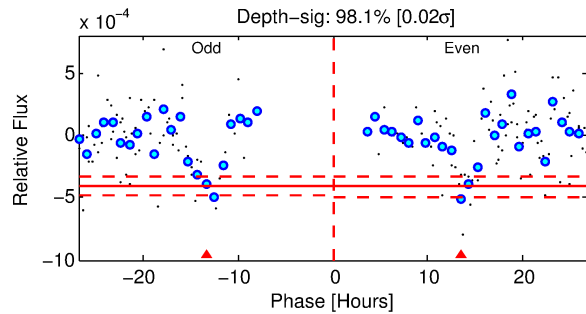
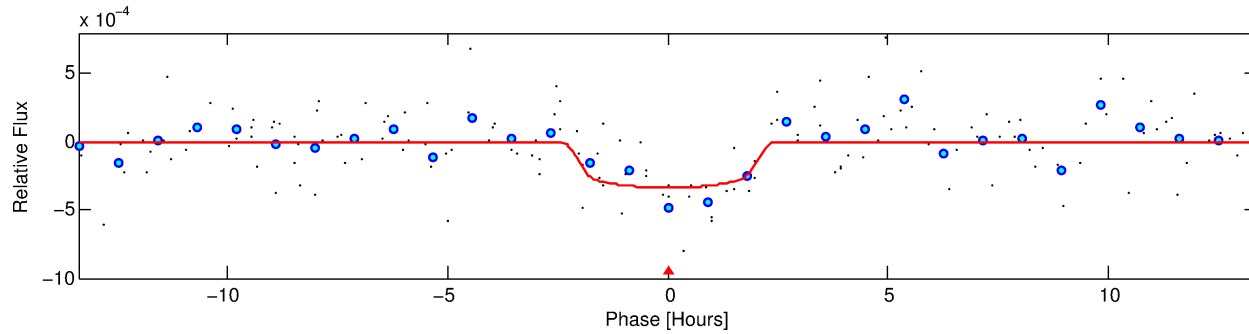
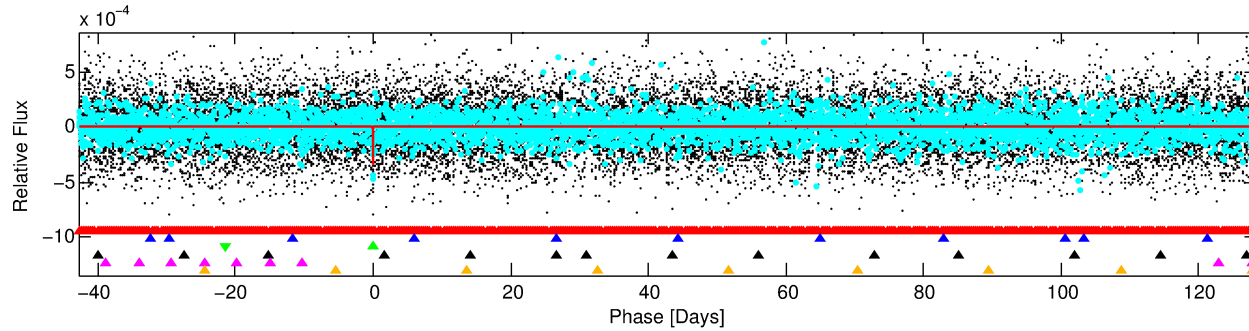
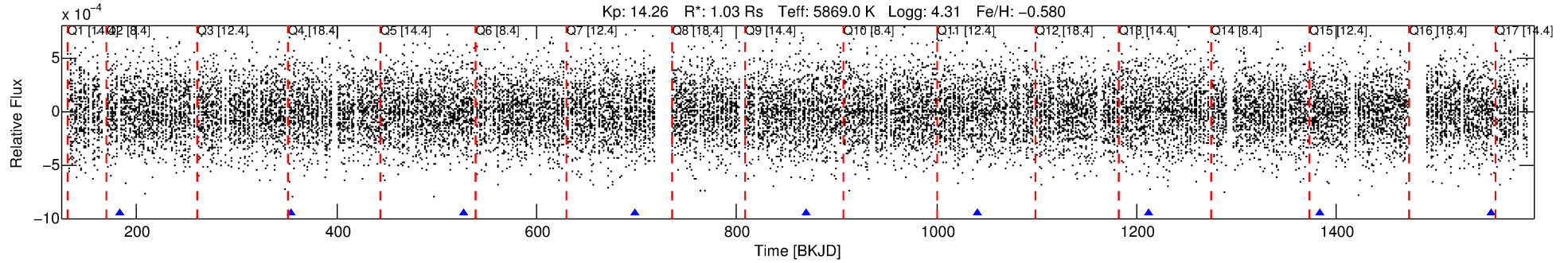
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005878249-03

No Significant Match Found

DV One-Page Summary

KIC: 5878249 Candidate: 3 of 6 Period: 171.323 d



DV Fit Results:

Period = 171.32325 [0.00196] d
Epoch = 183.9596 [0.0119] BKJD
Rp/R* = 0.0192 [0.0166]
a/R* = 161.24 [719.89]
b = 0.86 [1.38]
Seff = 3.62 [1.47]
Teff = 352 [36] K
Rp = 2.15 [1.97] Re
a = 0.5579 [0.1442] AU
Ag = 12151.23 [21764.49] [0.56σ]
Teffp = 5708 [2499] K [2.14σ]

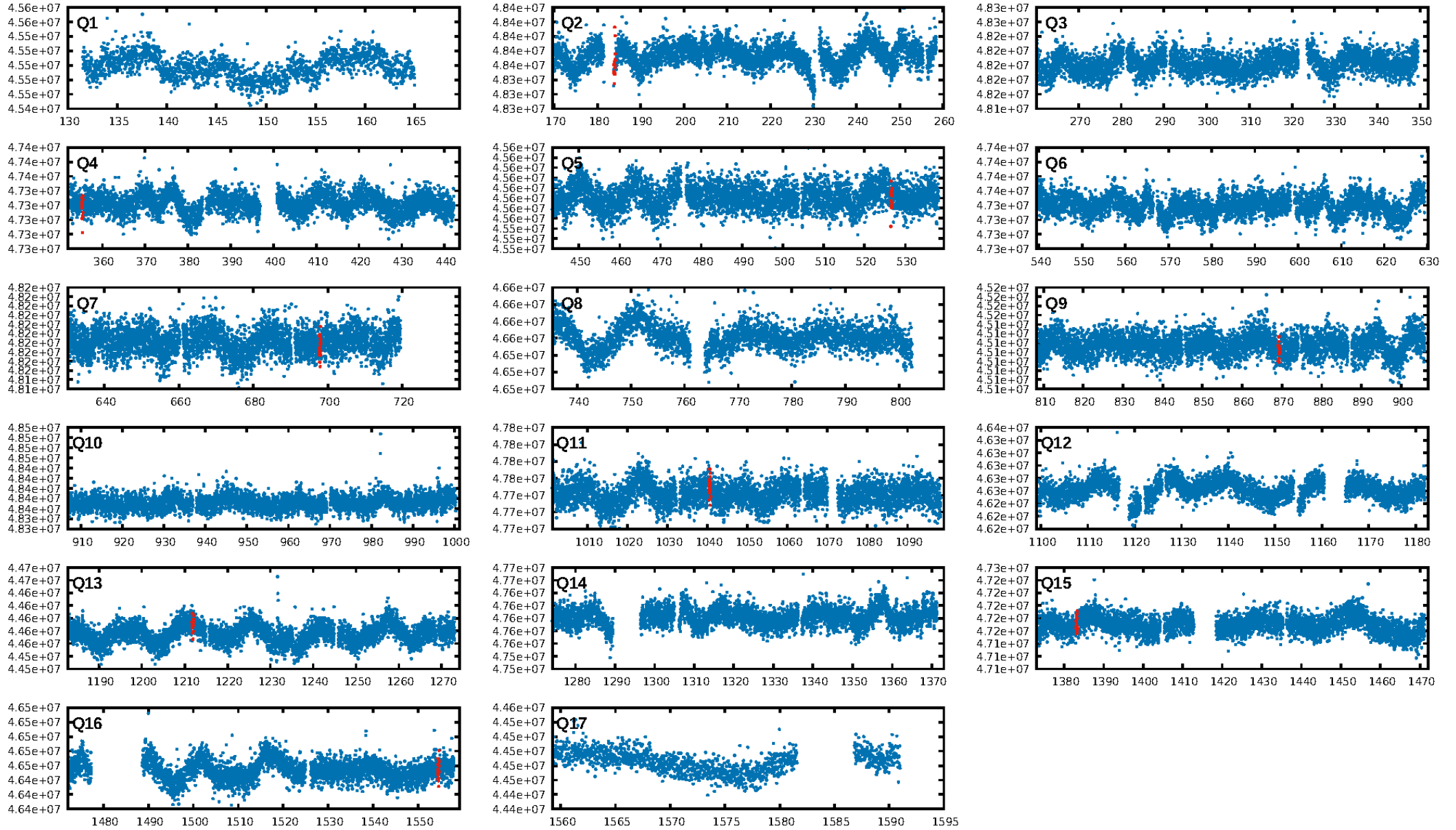
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [21.24σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 64.8%
ModelChiSquareGof-sig: 98.8%
Bootstrap-pfa: 3.96e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.2894
Centroid-sig: 59.4%
Centroid-so: 0.730 arcsec [0.58σ]
OotOffset-rm: 2.381 arcsec [3.00σ]
KicOffset-rm: 2.527 arcsec [3.19σ]
OotOffset-st: 0/3/2/2 [7]
KicOffset-st: 0/3/2/2 [7]
DiffImageQuality-fgm: 0.43 [3/7]
DiffImageOverlap-fno: 0.50 [4/8]

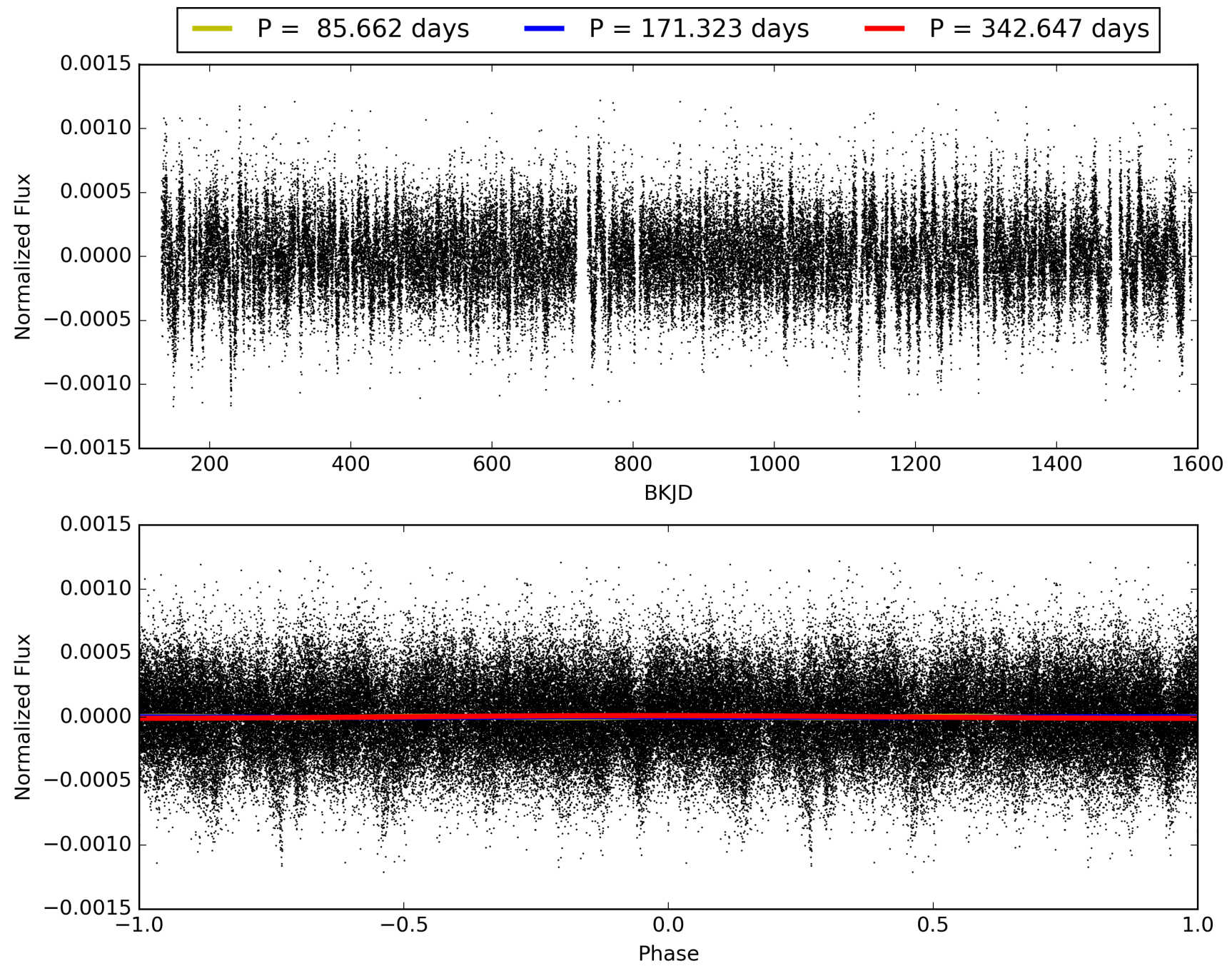
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:57:48 Z

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

TCE 005878249-03, PDC Light Curves

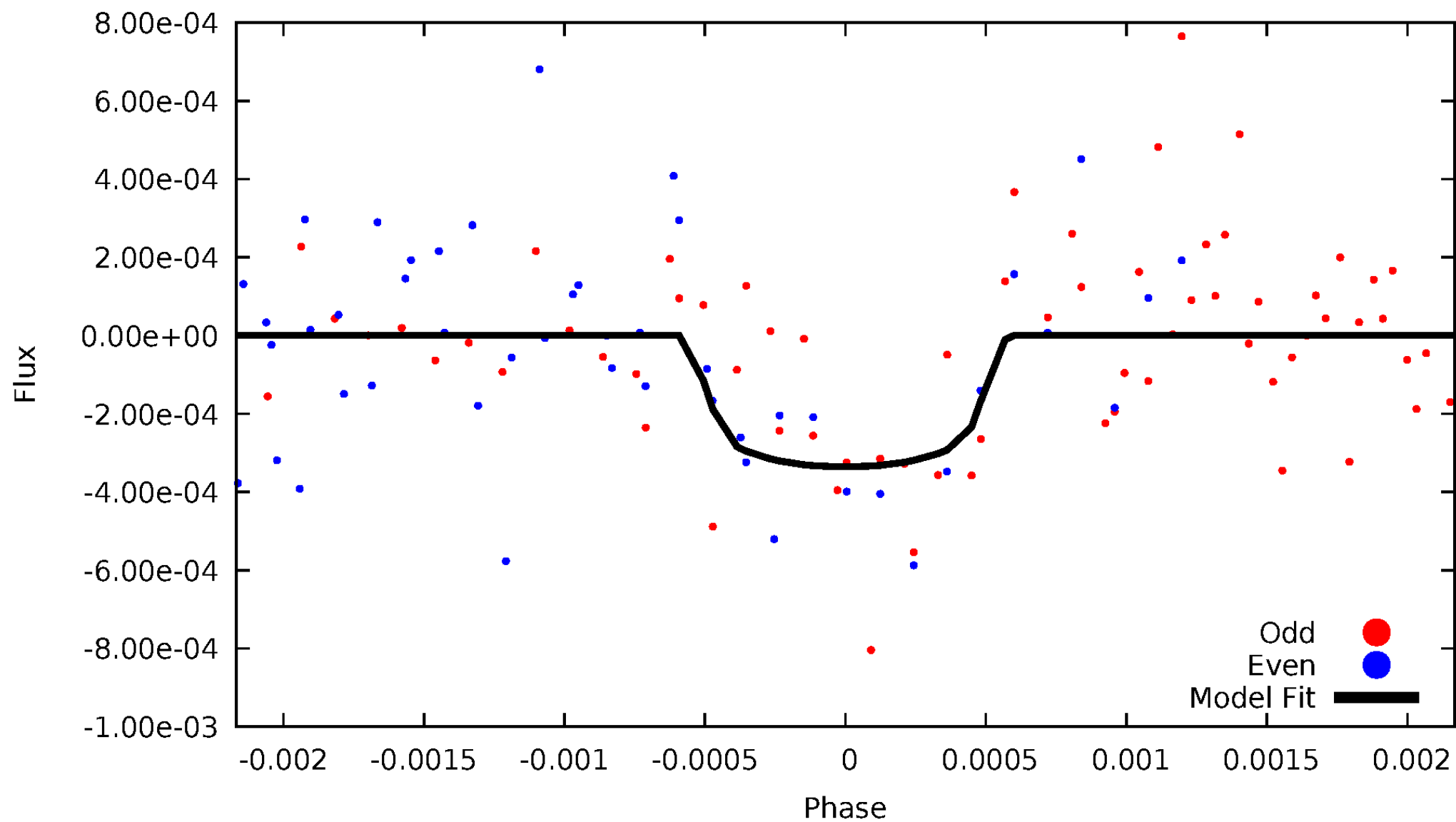


TCE 005878249-03



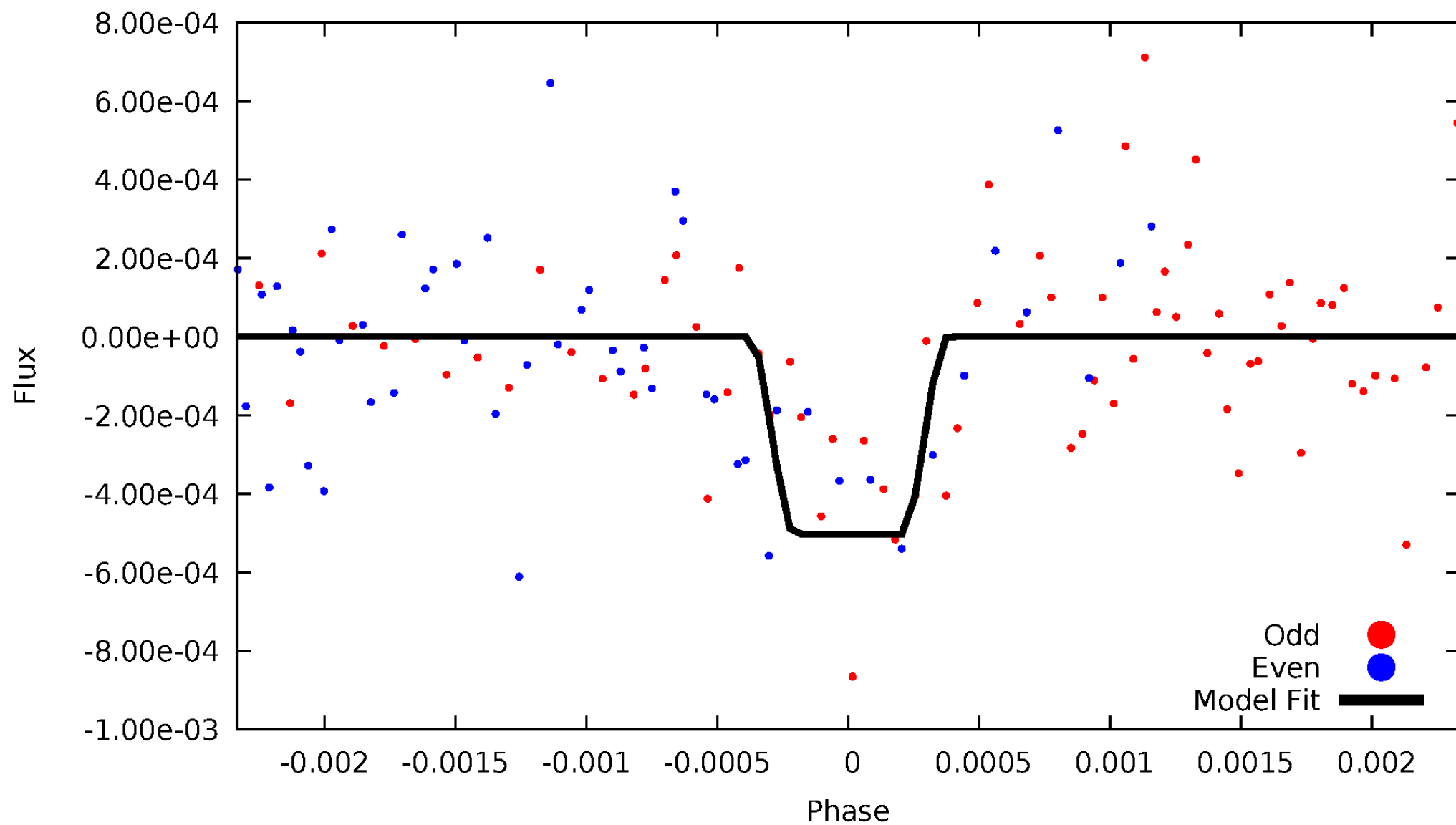
DV Odd/Even

TCE 005878249-03

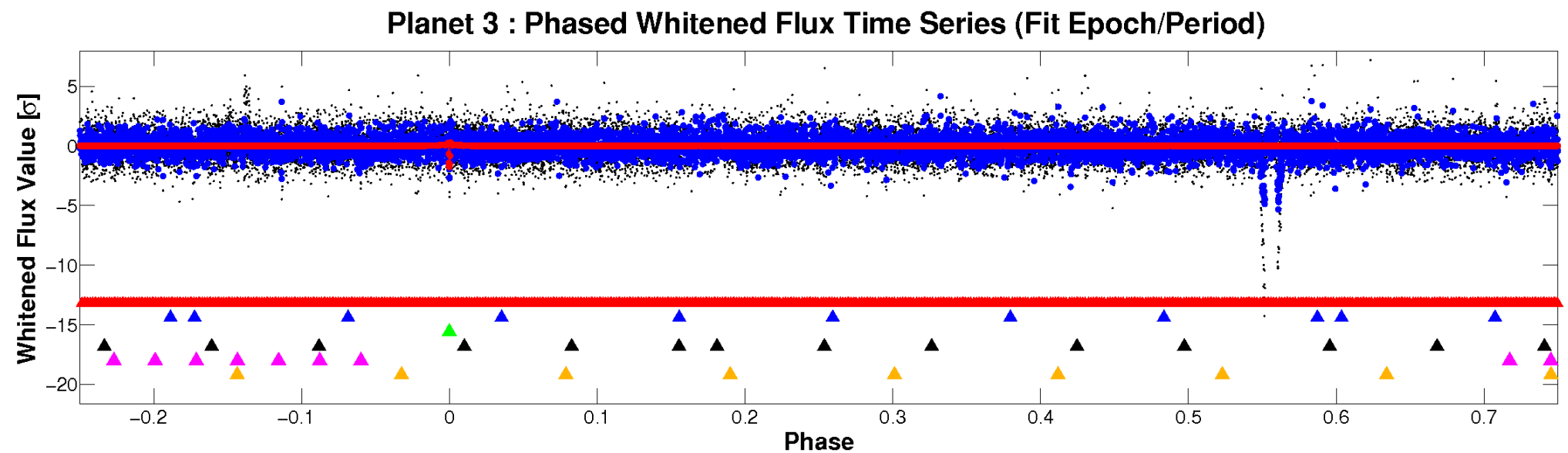
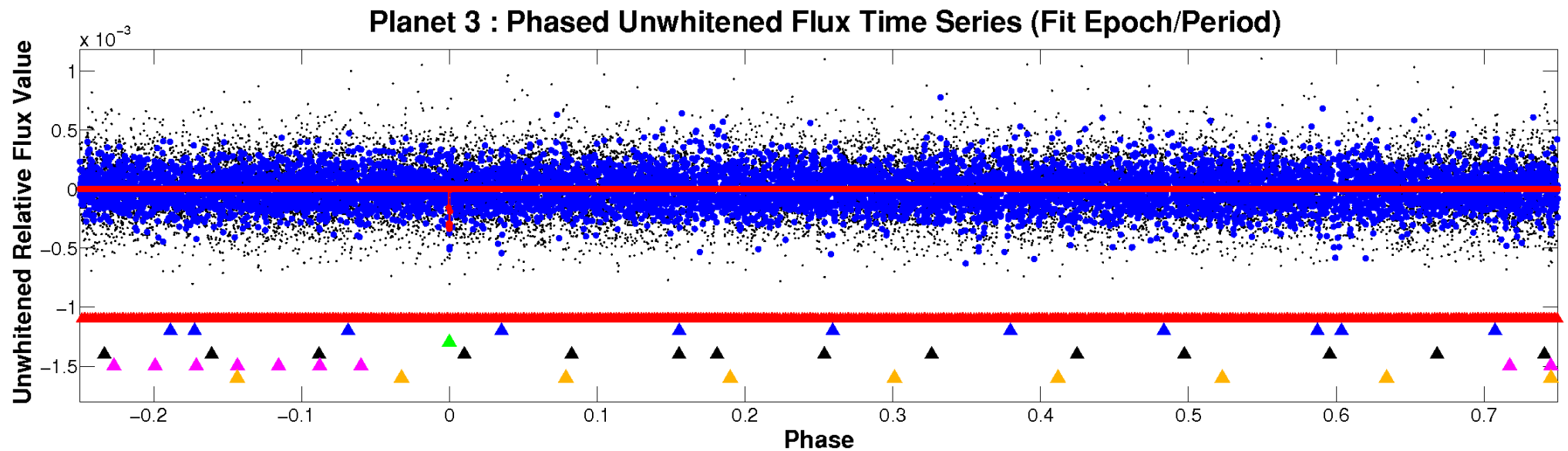


ALT Odd/Even

TCE 005878249-03

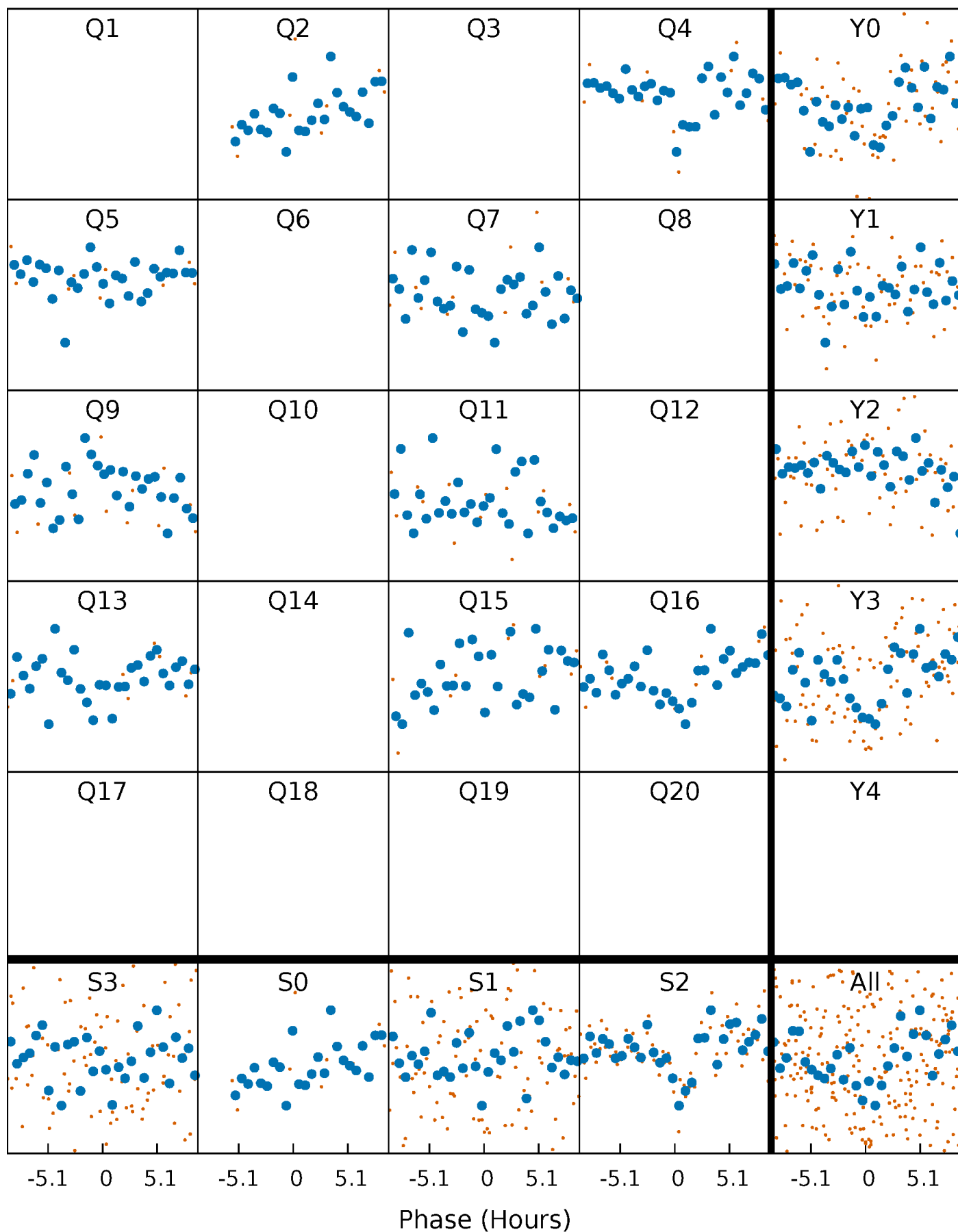


Non-Whitened Vs. Whitened Light Curve



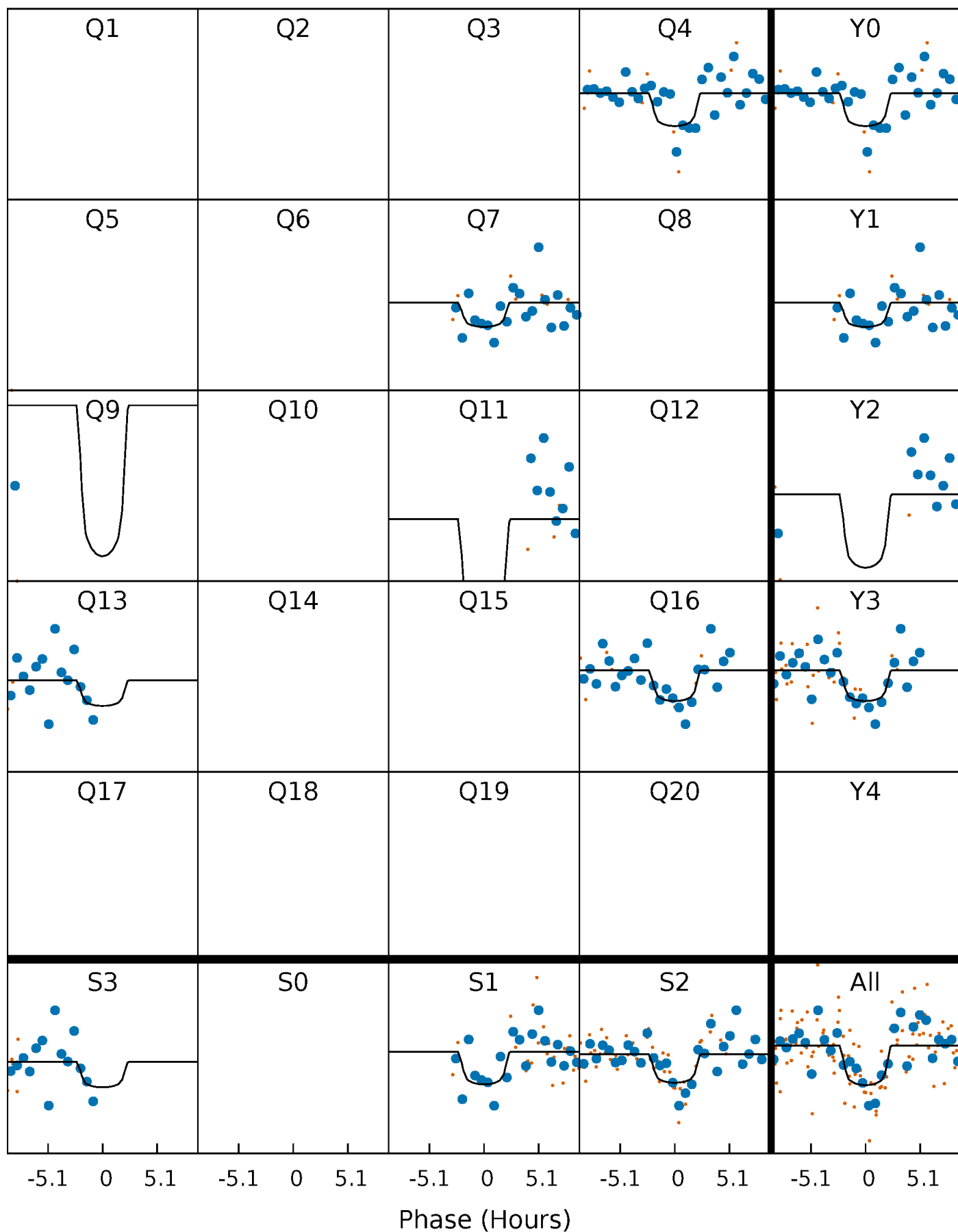
PDC Quarter-Phased Transit Curves

TCE 005878249-03 P=171.323253 Days $T_0=183.959638$ (BKJD)



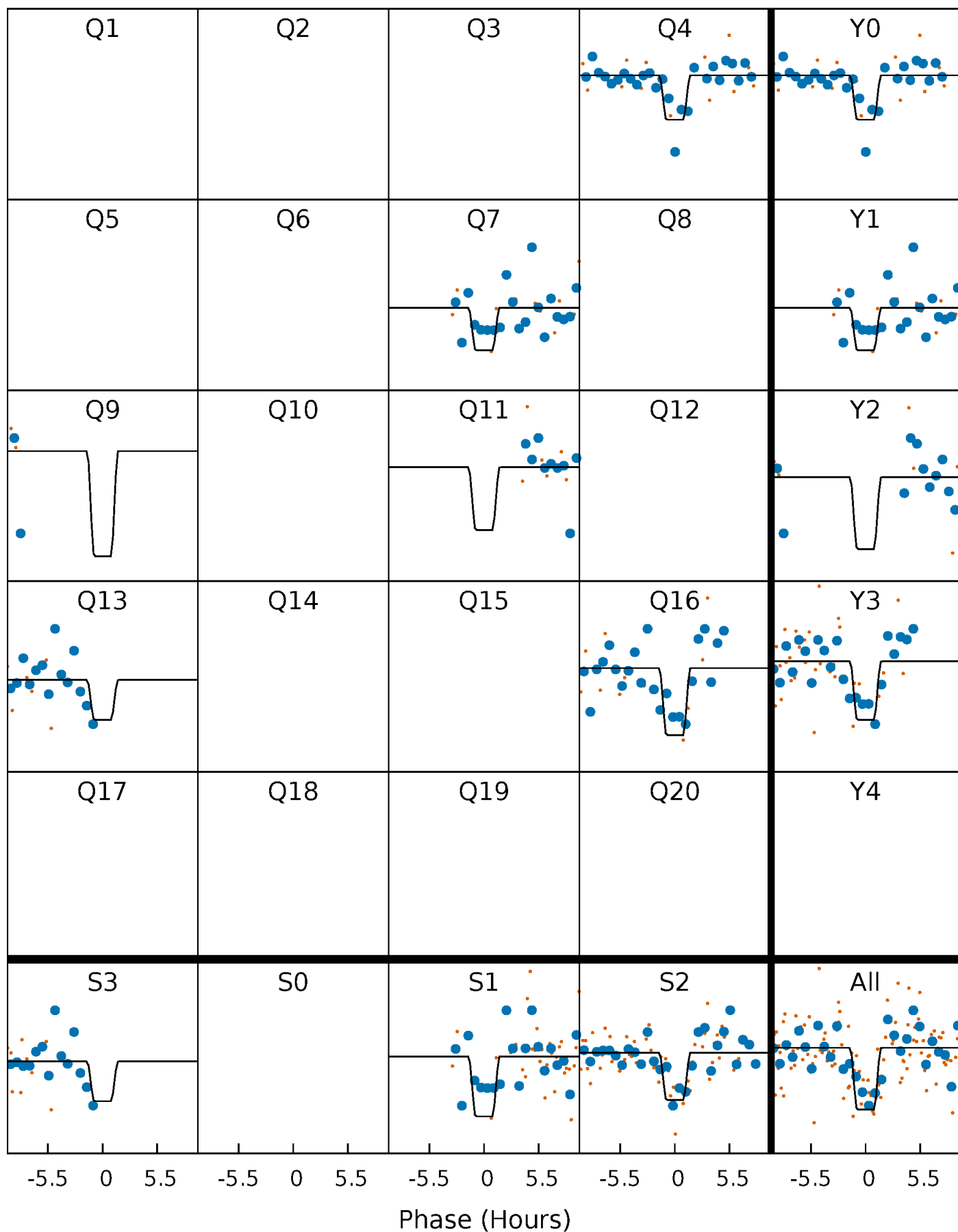
DV Quarter-Phased Transit Curves

TCE 005878249-03 P=171.323253 Days $T_0=183.959638$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

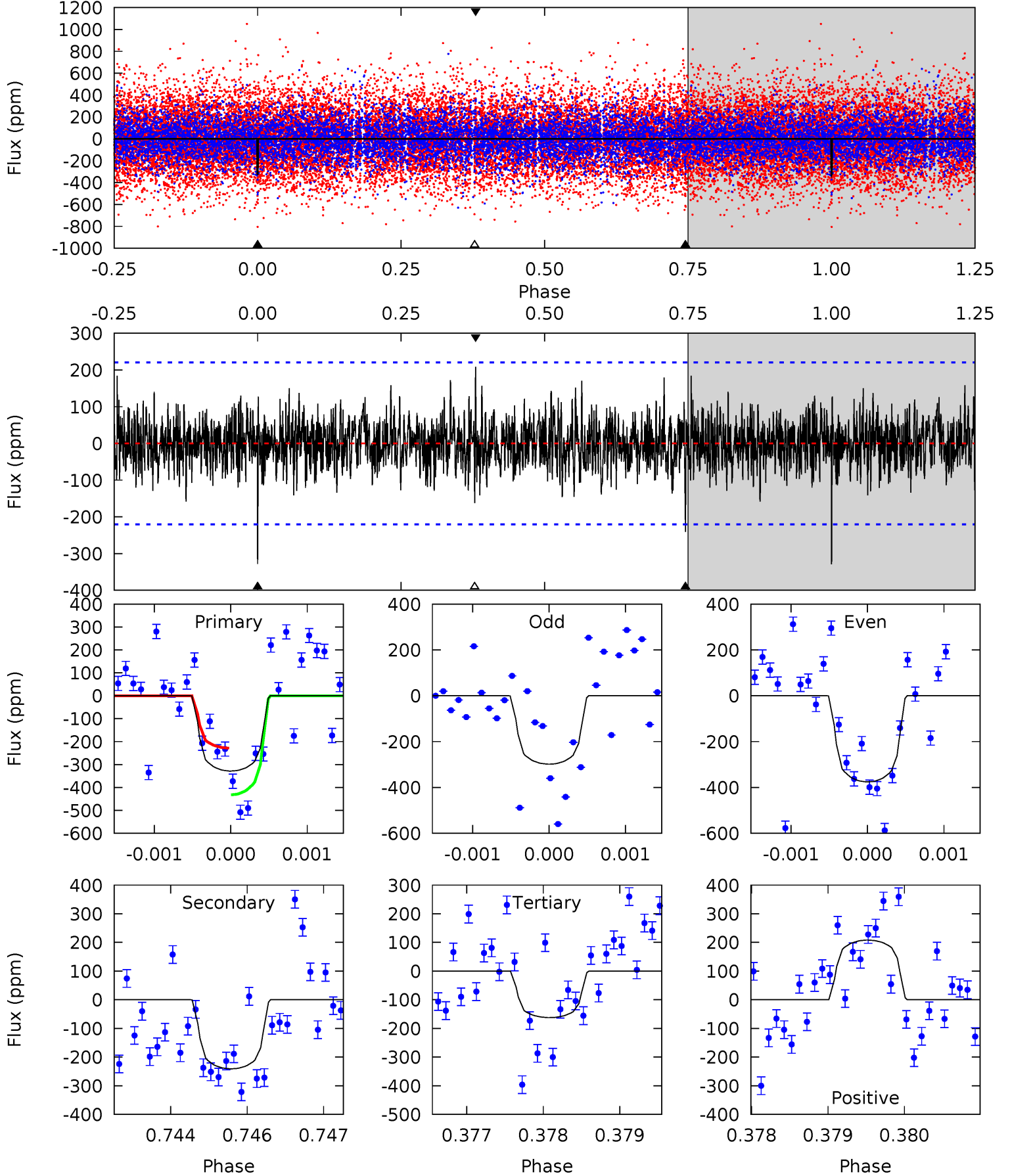
TCE 005878249-03 P=171.322367 Days $T_0=183.973409$ (BKJD)



DV Model-Shift Uniqueness Test

005878249-03, P = 171.323253 Days, E = 12.636385 Days

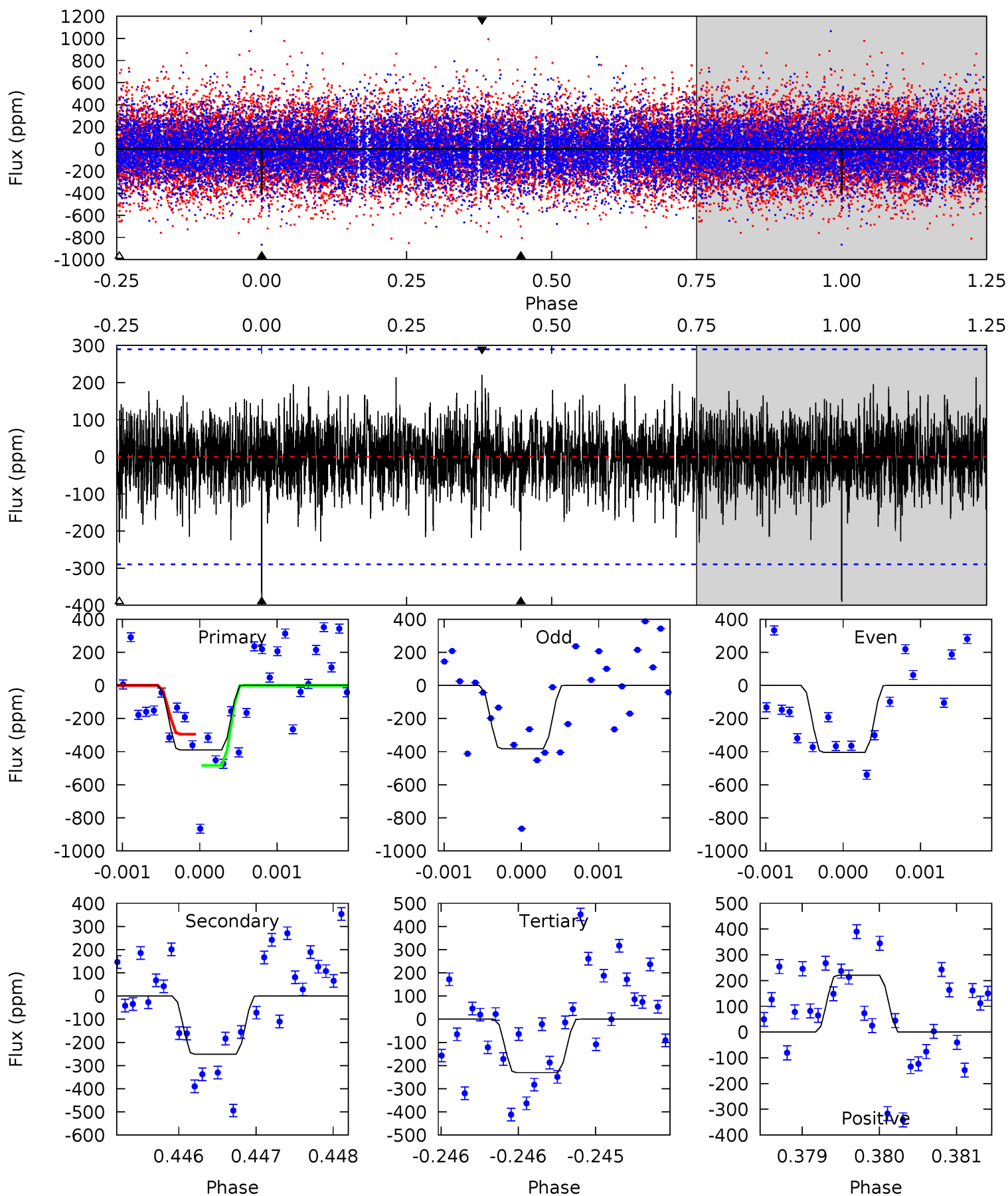
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.09	5.93	3.99	5.13	5.42	3.25	1.22	4.09	2.96	1.94	0.81	0.93	1.02	0.39	2.50



Alt Model-Shift Uniqueness Test

005878249-03, P = 171.322367 Days, E = 12.651042 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.42	4.78	4.39	4.19	5.51	3.38	1.17	3.03	3.22	0.40	0.59	0.20	1.02	0.36	1.79



Stellar Parameters For KIC 005878249

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+159}_{-159}	$4.310^{+0.220}_{-0.198}$	$-0.580^{+0.300}_{-0.300}$	$1.029^{+0.302}_{-0.247}$	$0.789^{+0.114}_{-0.053}$	$1.019^{+1.165}_{-0.551}$
	+3%/-3%	+5%/-5%	+52%/-52%	+29%/-24%	+14%/-7%	+114%/-54%
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 005878249-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-241 ± 41	$2.51^{+1.87}_{-1.48}$	494^{+40}_{-38}	5035^{+3056}_{-1010}	6769^{+37123}_{-4635}
Alt.	-252 ± 53	$2.70^{+1.81}_{-1.51}$	491^{+40}_{-37}	4867^{+2533}_{-860}	5970^{+27750}_{-3959}

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

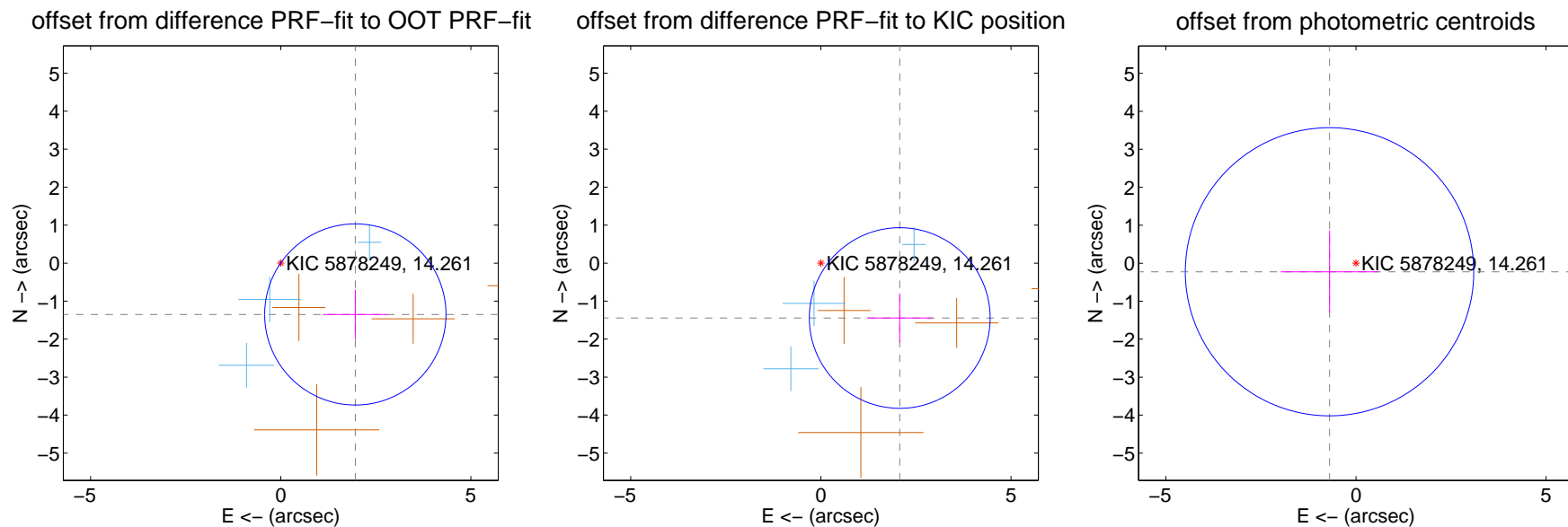
DV Centroid Data

Supplemental centroid analysis for 005878249-03. Kepler magnitude: 14.26. Transit SNR 7.91

There are 3 quarters with good PRF difference image offsets

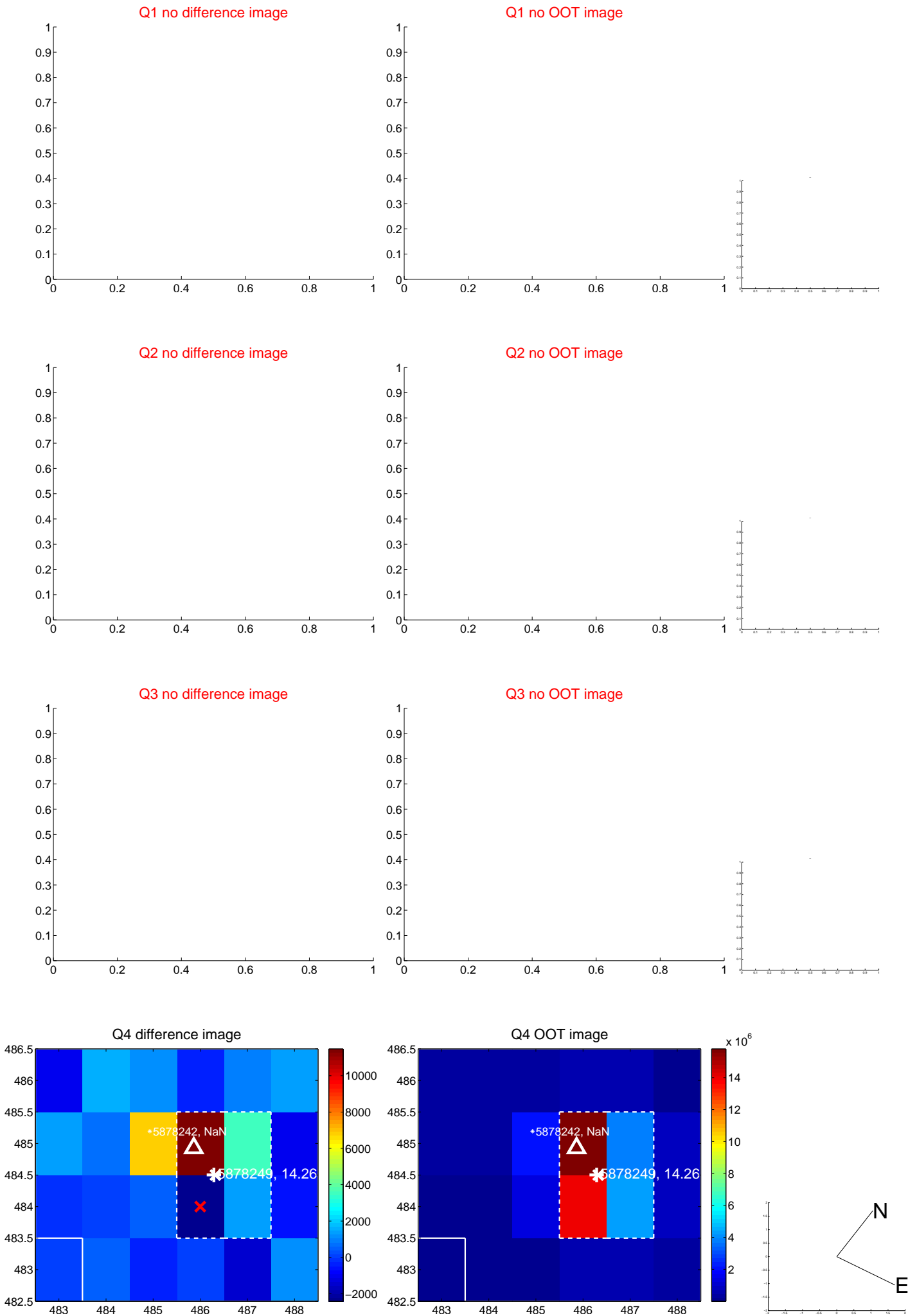
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.381 ± 0.795	3.00	-1.961 ± 0.853	-1.351 ± 0.654
PRF-fit source offset from KIC position	2.527 ± 0.792	3.19	-2.074 ± 0.854	-1.444 ± 0.647
photometric centroid source offset	0.73 ± 1.26	0.58	0.69 ± 1.28	-0.22 ± 1.08

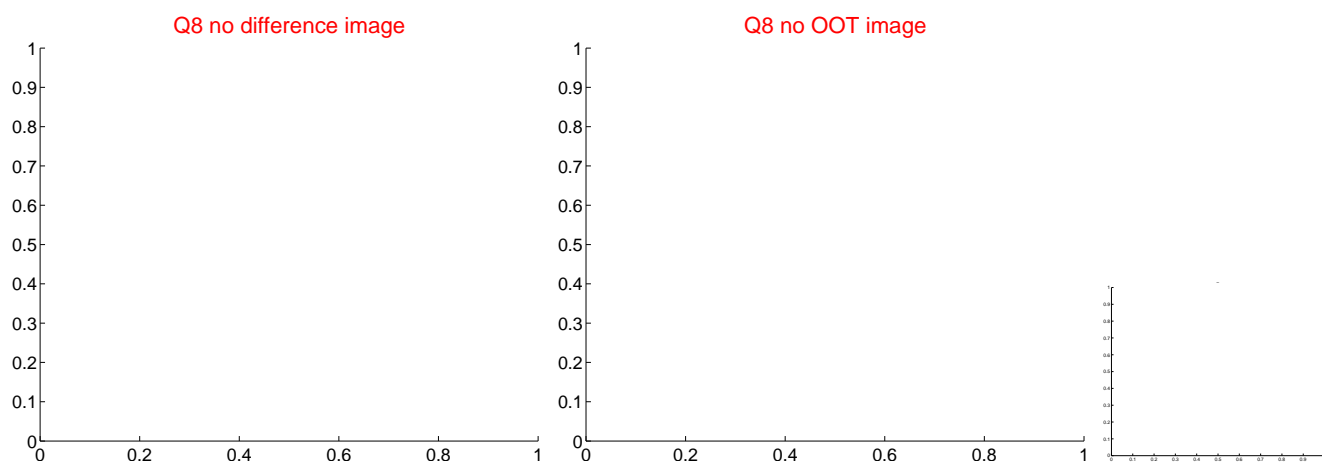
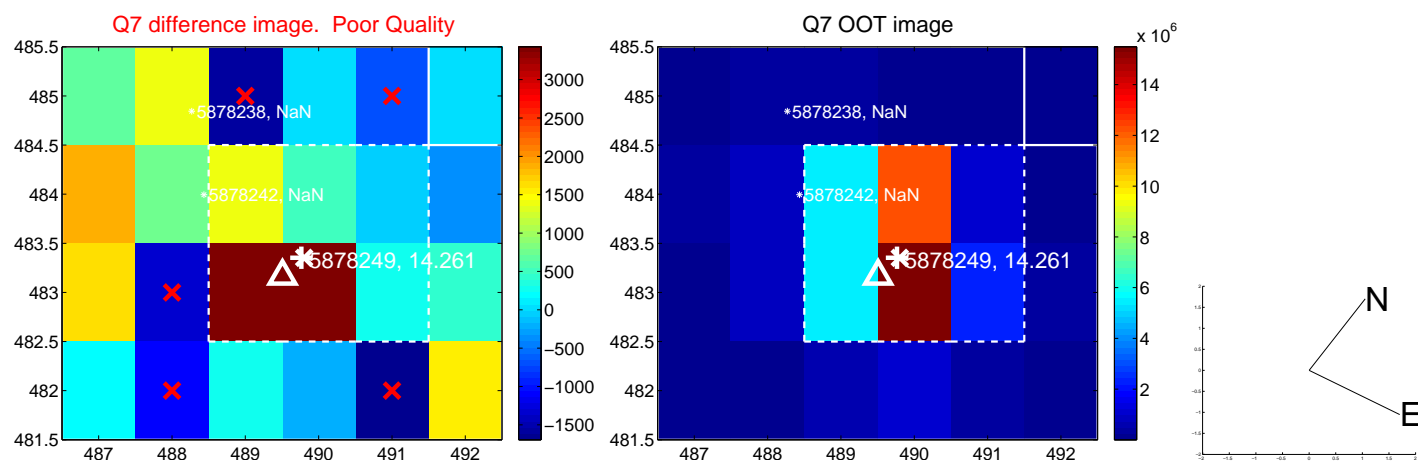
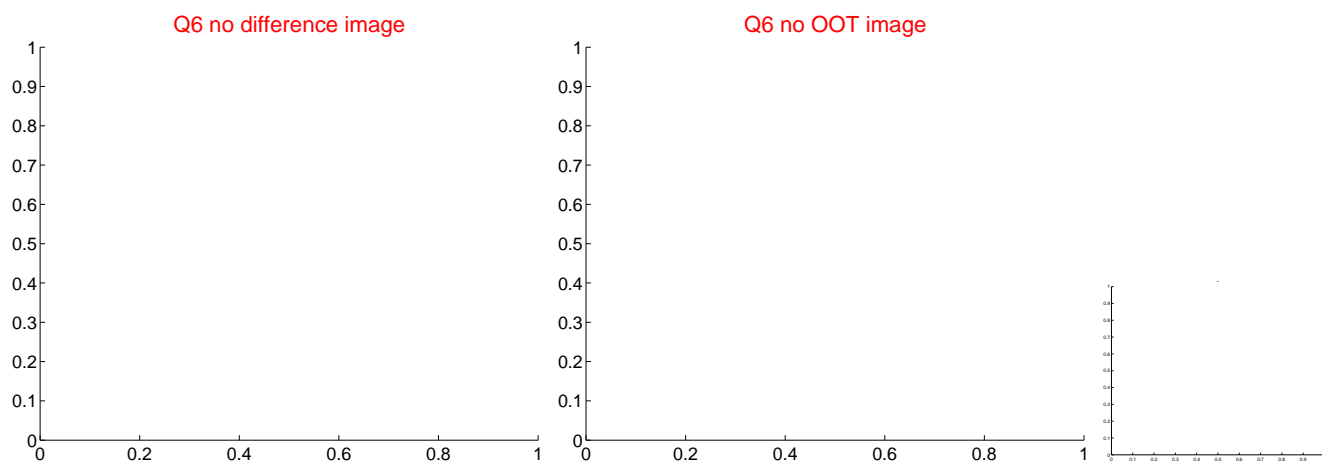
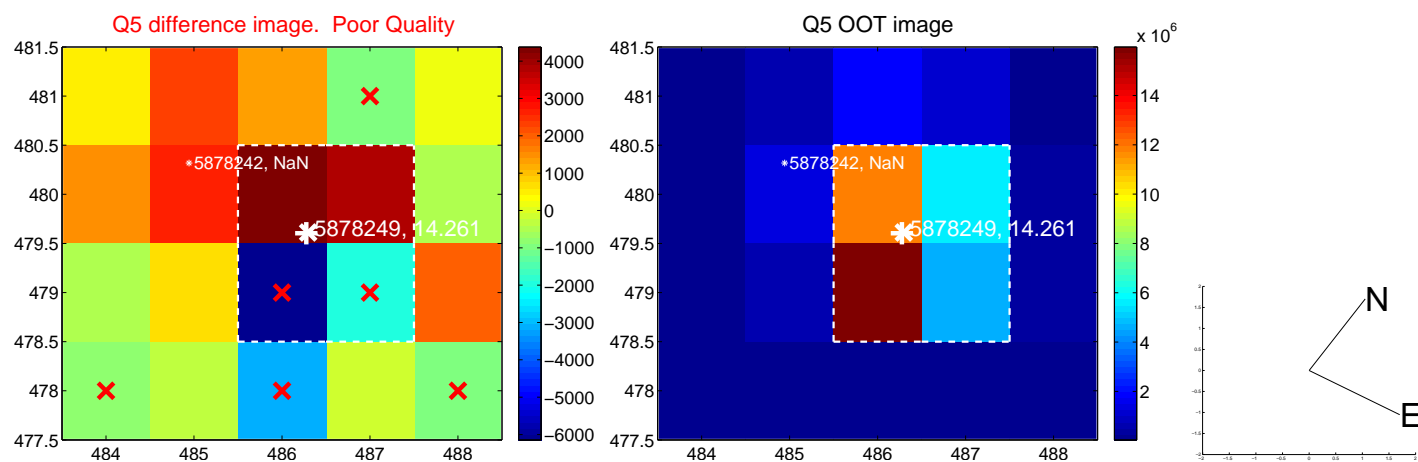


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

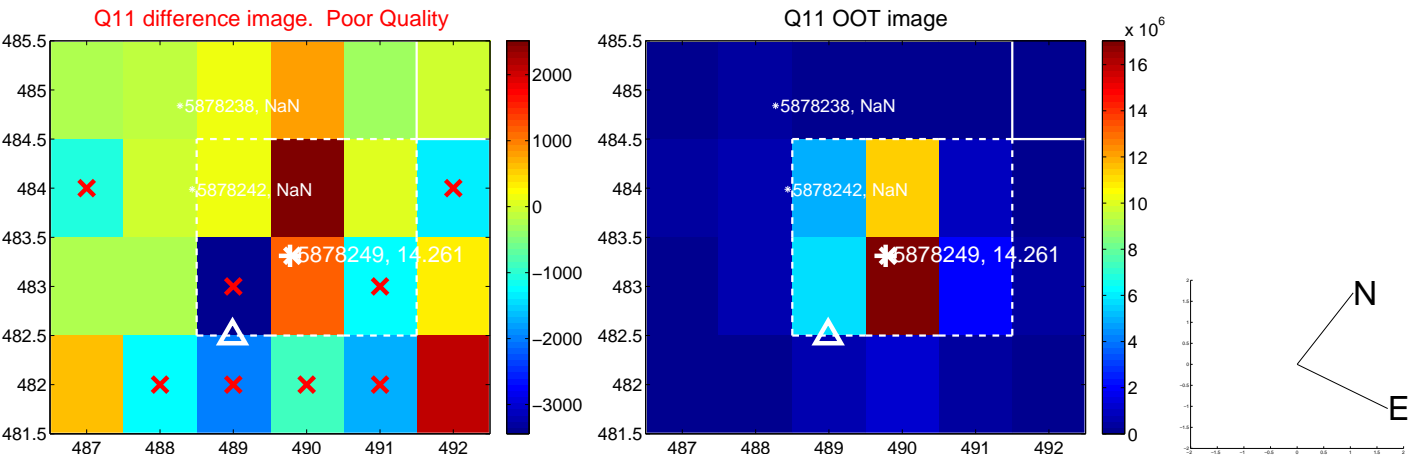
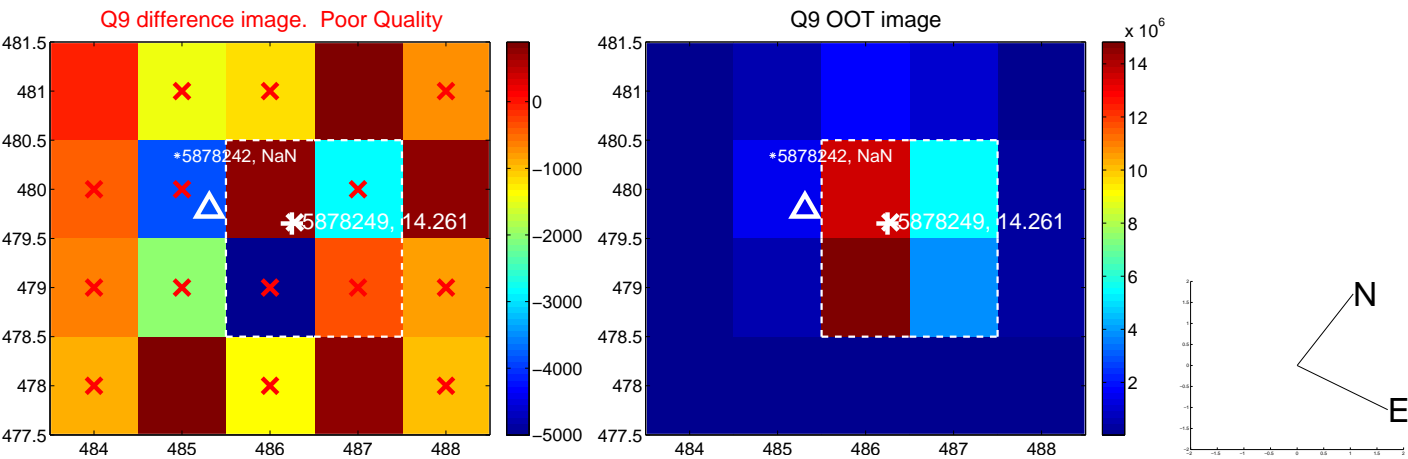
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



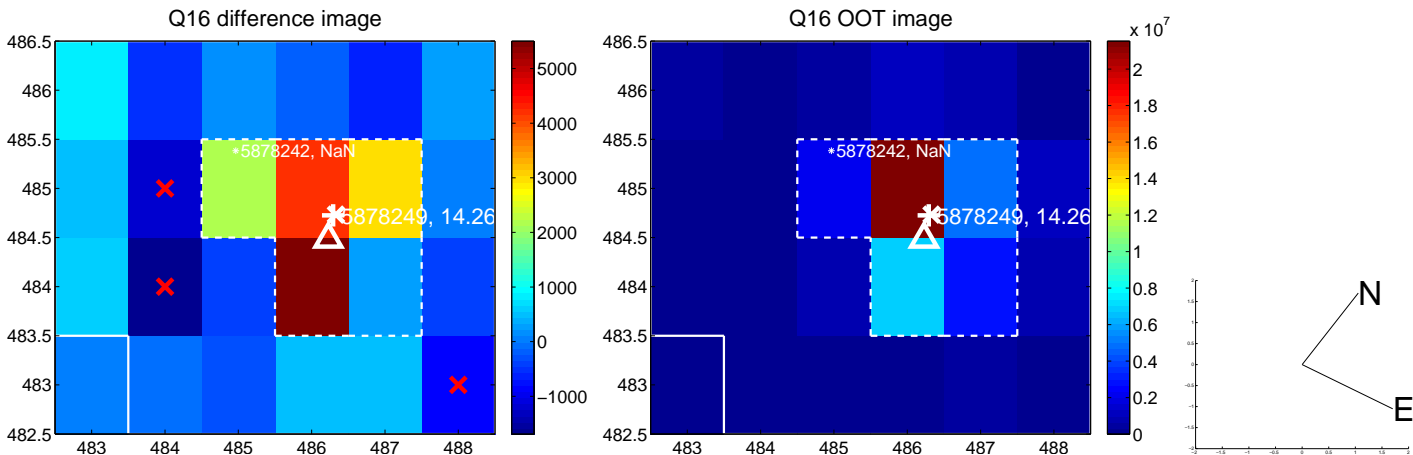
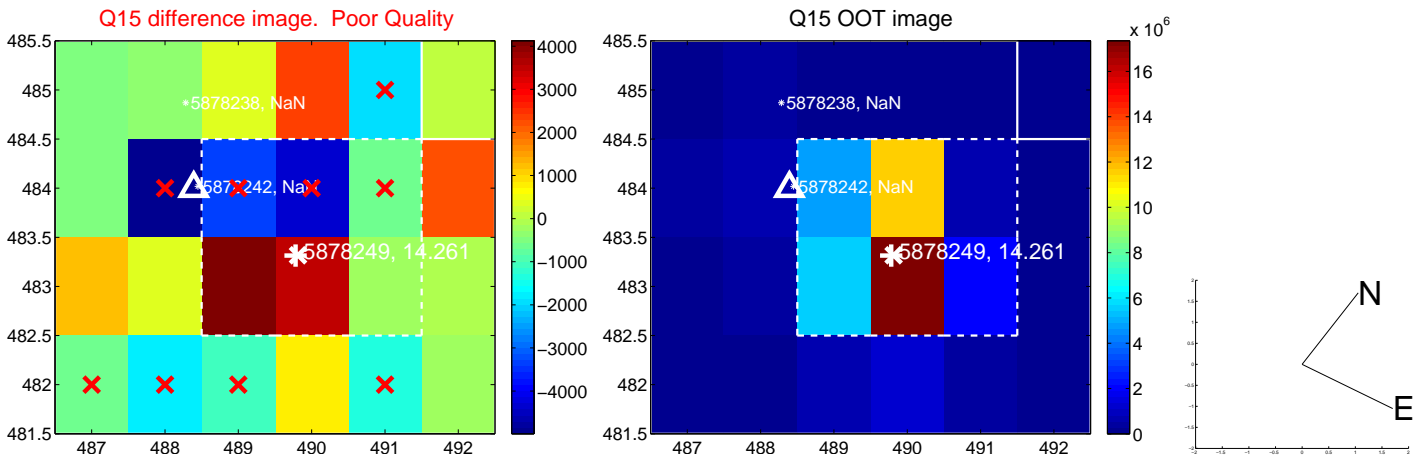
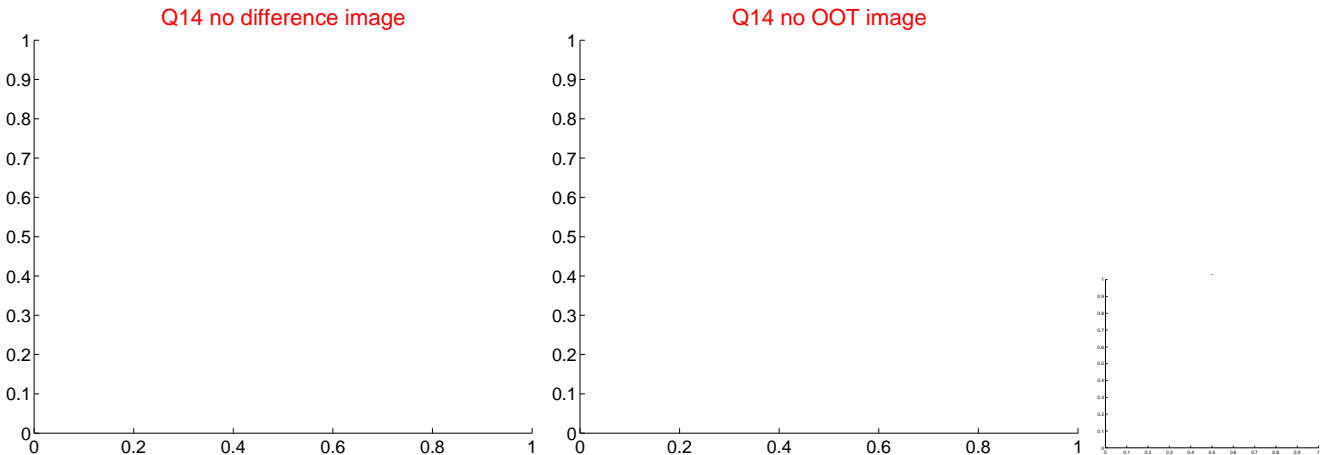
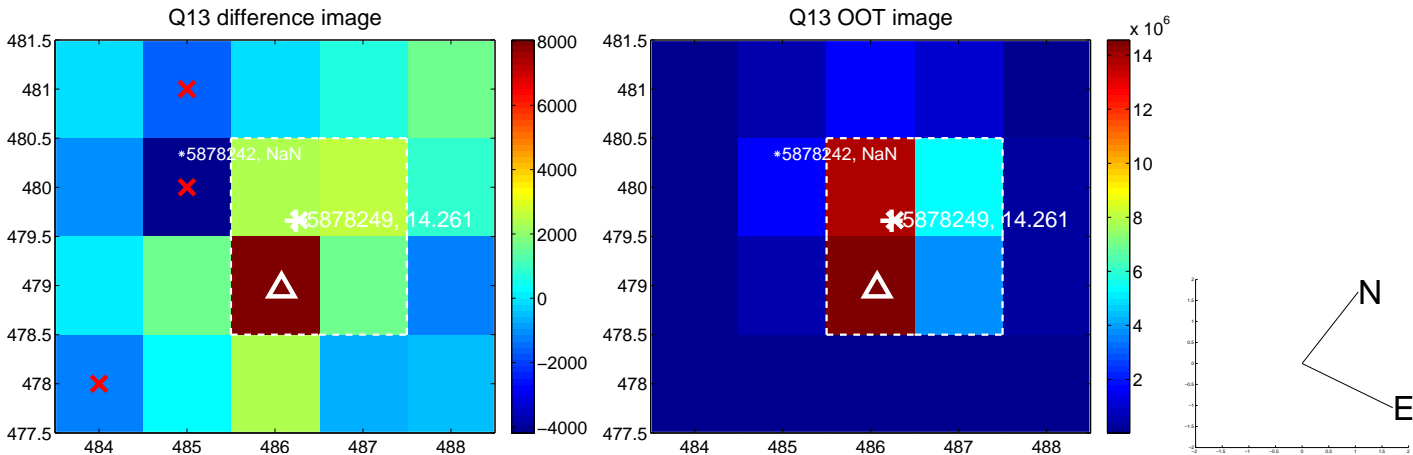
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



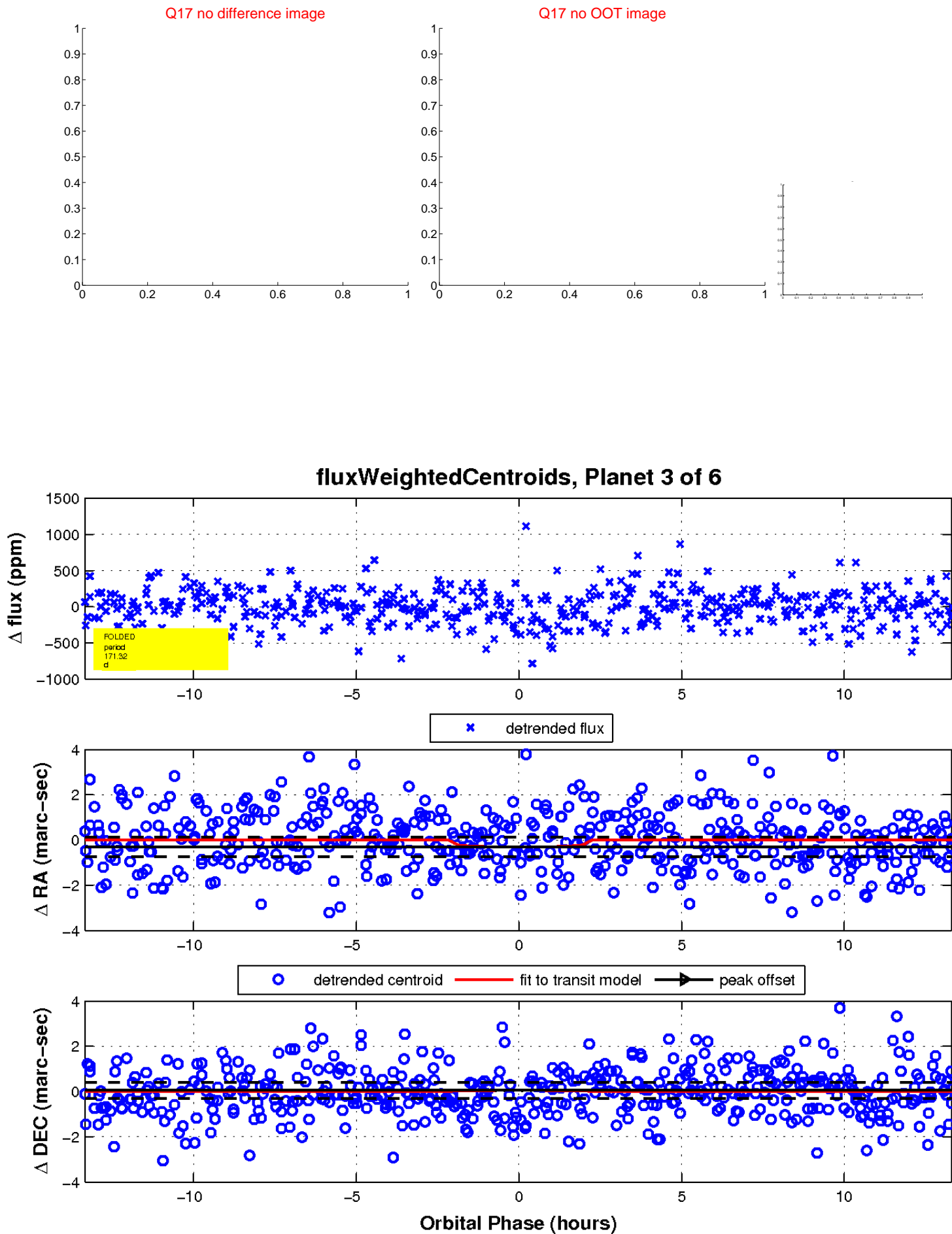
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

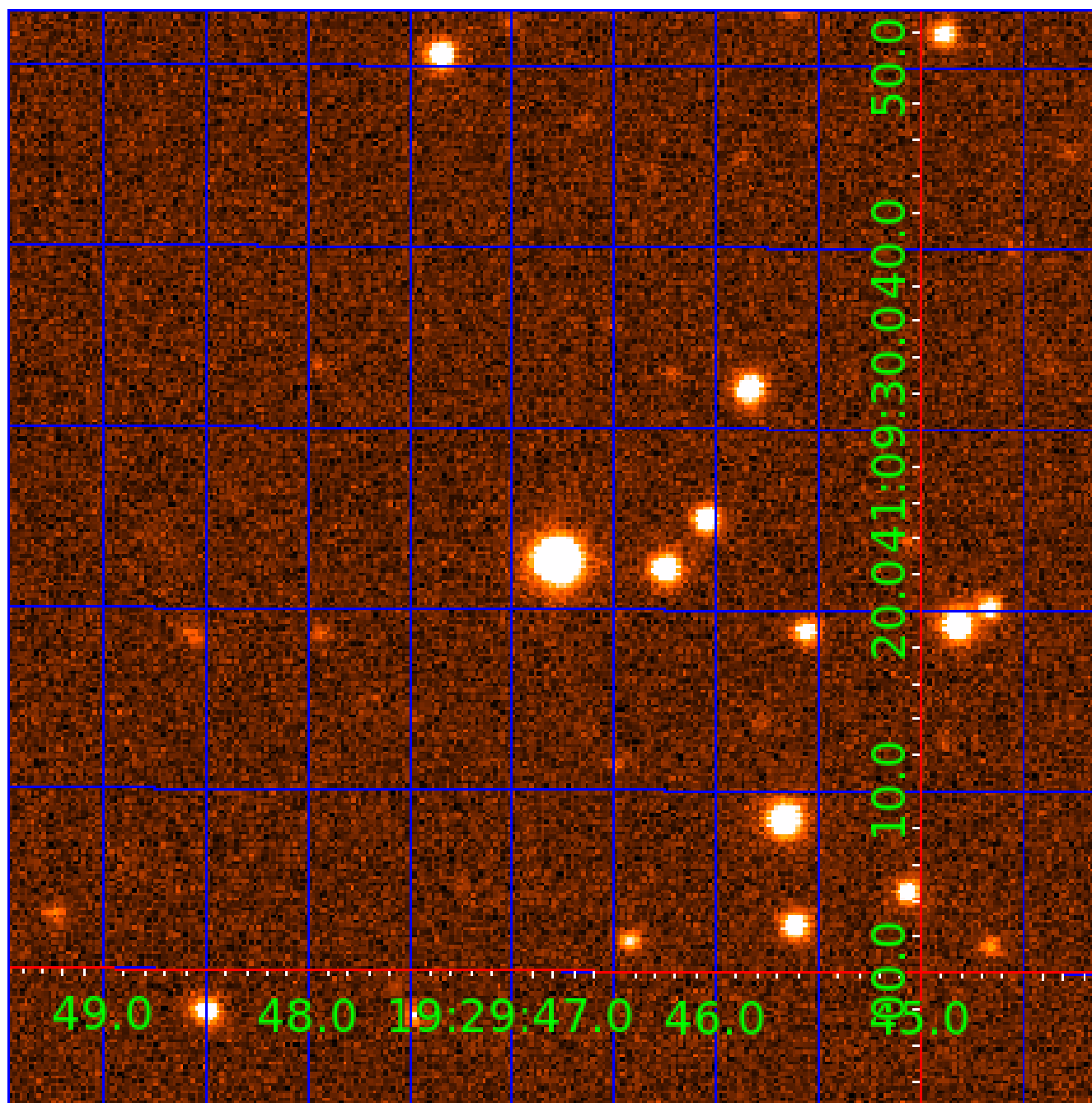


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005878249

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})
005878249-01	OBS	No	2.212473	132.897916	15.3	11.498	7.9	5.4	1.03	5869	0.41	1193.78
005878249-02	OBS	No	132.940754	154.430319	194.1	19.119	14.2	5.5	1.03	5869	1.61	5.07
005878249-03	OBS	No	171.323253	183.959638	336.1	4.456	8.4	7.9	1.03	5869	2.15	3.62
005878249-04	OBS	No	100.305962	210.579295	359.4	2.257	7.6	7.3	1.03	5869	2.31	7.38
005878249-05	OBS	No	166.552356	173.712348	372.7	3.035	7.6	7.6	1.03	5869	2.19	3.76
005878249-06	OBS	No	152.276239	235.560248	314.7	5.483	7.1	6.6	1.03	5869	2.18	4.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005878249-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET
005878249-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005878249-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005878249-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
005878249-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005878249-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

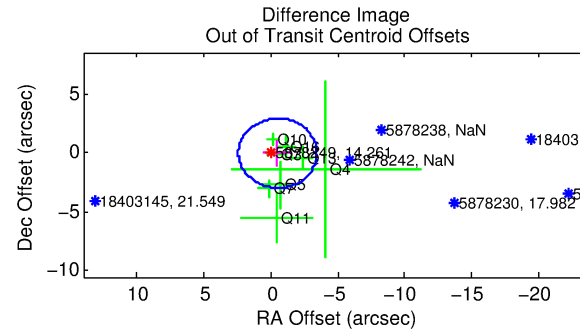
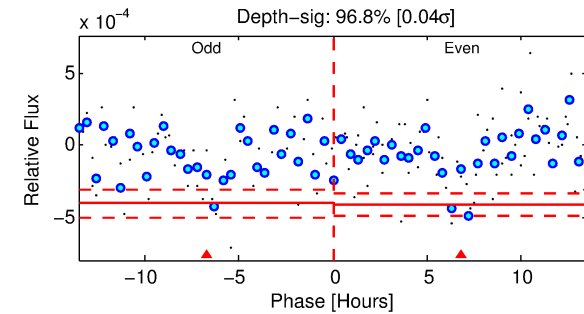
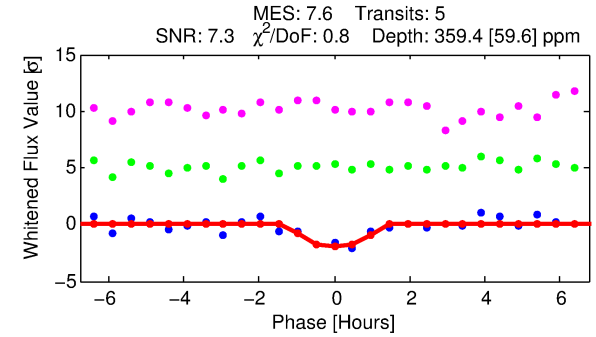
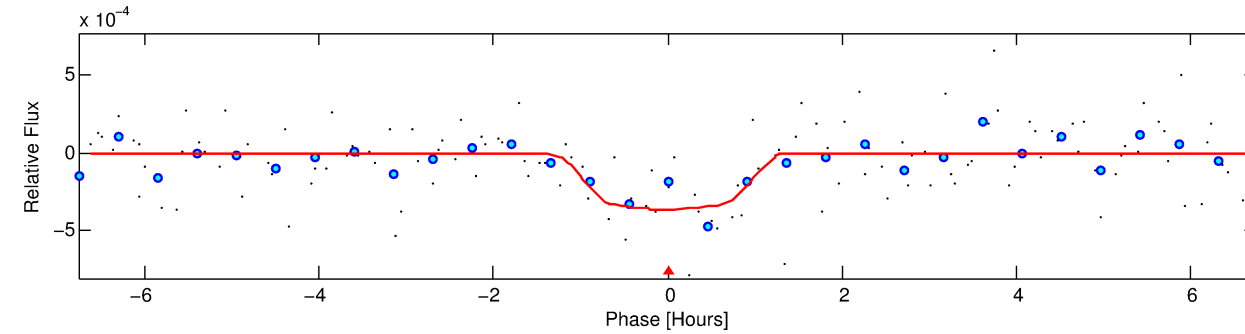
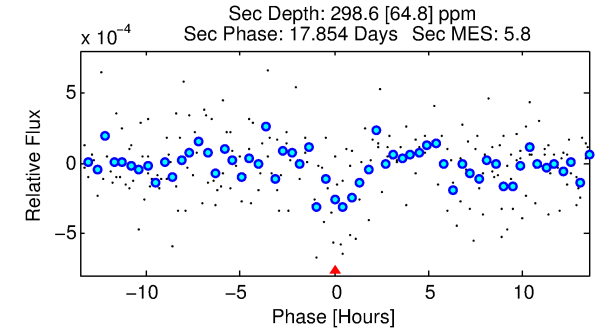
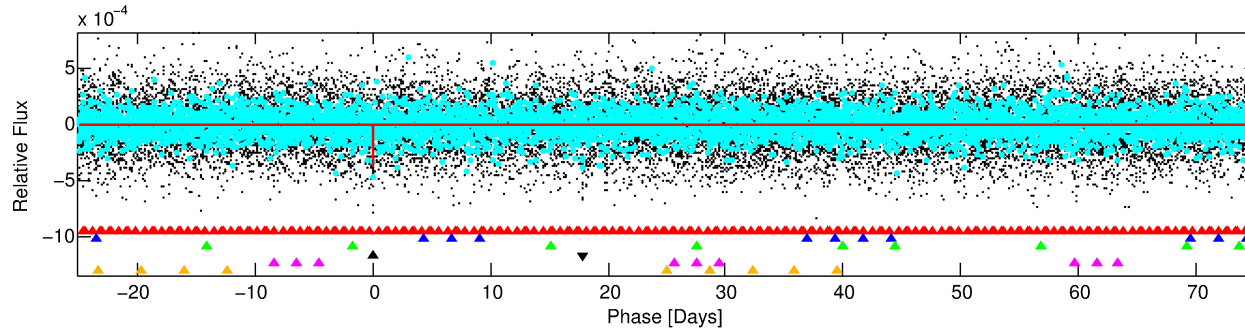
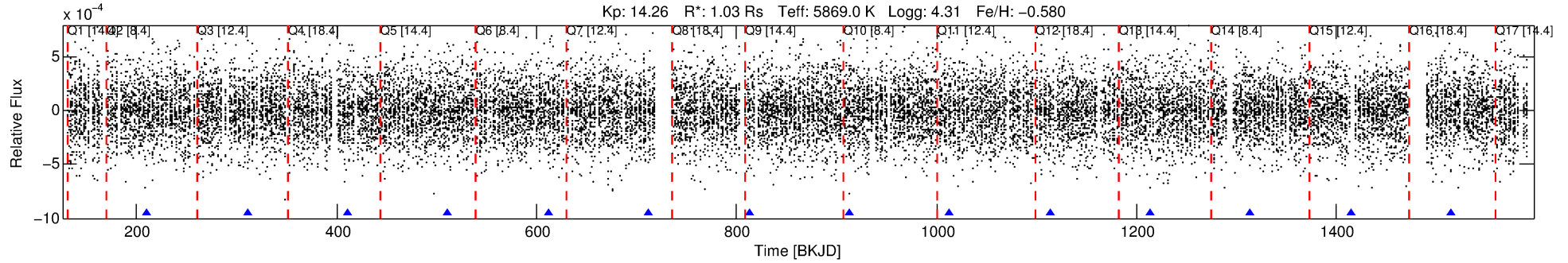
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005878249-04

No Significant Match Found

DV One-Page Summary

KIC: 5878249 Candidate: 4 of 6 Period: 100.306 d



DV Fit Results:

Period = 100.30596 [0.00104] d
Epoch = 210.5793 [0.0095] BKJD
Rp/R* = 0.0205 [0.0153]
a/R* = 161.37 [613.50]
b = 0.90 [0.79]
Teff = 7.38 [2.99]
Teq = 420 [43] K
Rp = 2.31 [1.85] Re
a = 0.3904 [0.1009] AU
Ag = 4710.06 [7322.49] [0.64σ]
Teffp = 5384 [2031] K [2.44σ]

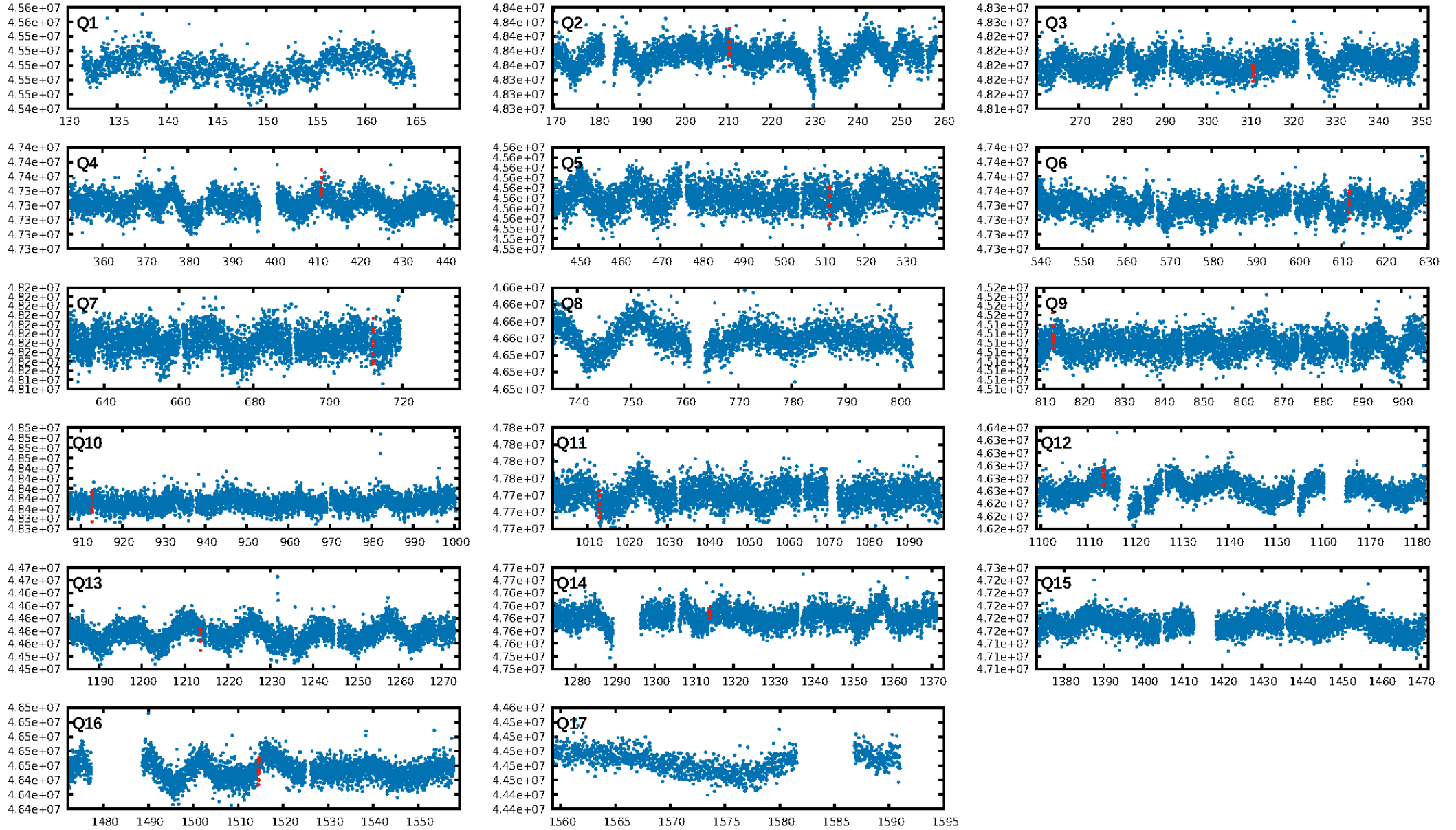
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [200.93σ]
LongPeriod-sig: 100.0% [40.68σ]
ModelChiSquare2-sig: 91.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.44e-09
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -3.834
Centroid-sig: 0.6%
Centroid-so: 2.093 arcsec [1.74σ]
OotOffset-rm: 0.521 arcsec [0.53σ]
KicOffset-rm: 0.612 arcsec [0.62σ]
OotOffset-st: 1/3/2/2 [8]
KicOffset-st: 1/3/2/2 [8]
DiffImageQuality-fgm: 0.25 [2/8]
DiffImageOverlap-fno: 0.42 [5/12]

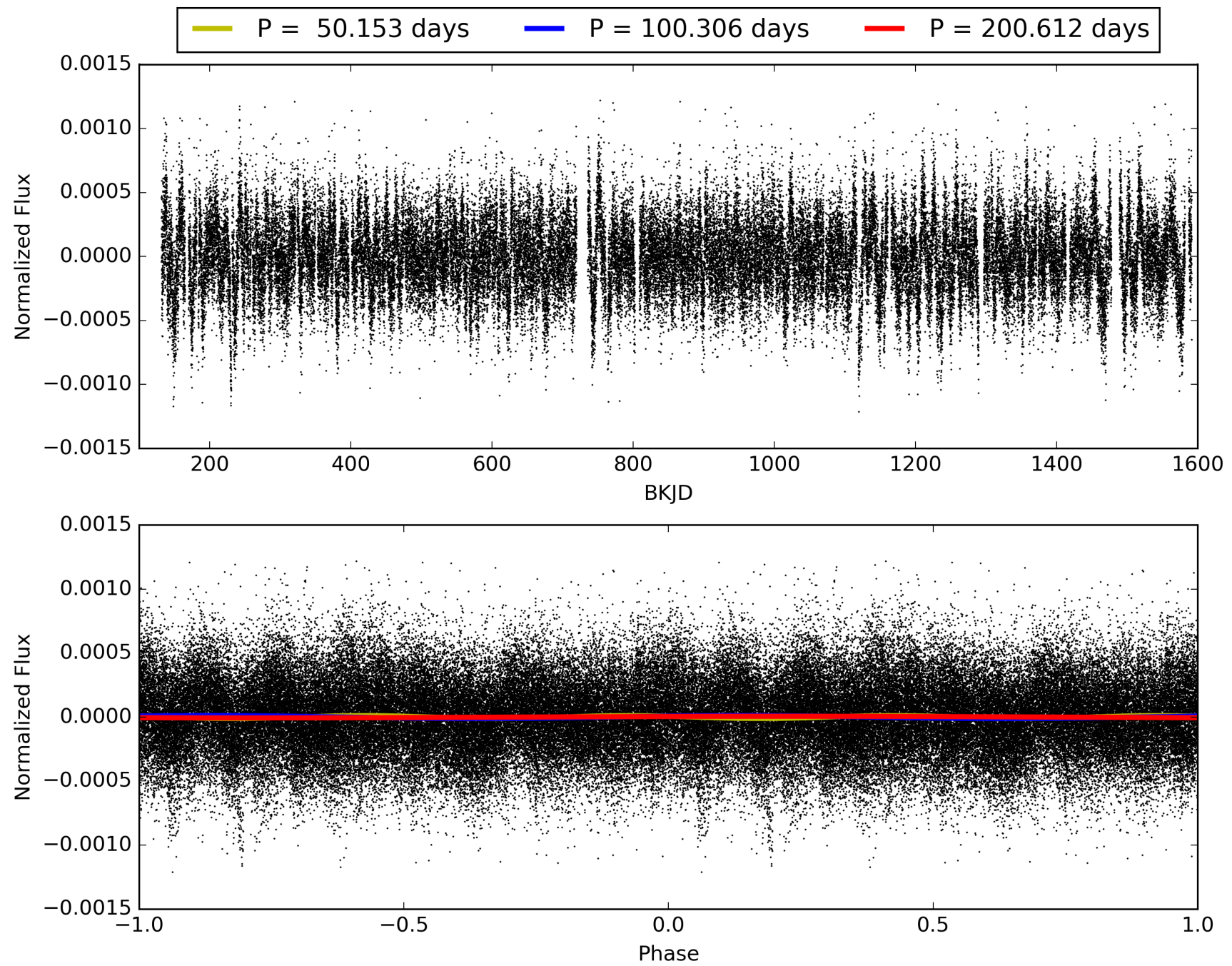
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:57:54 Z

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

TCE 005878249-04, PDC Light Curves

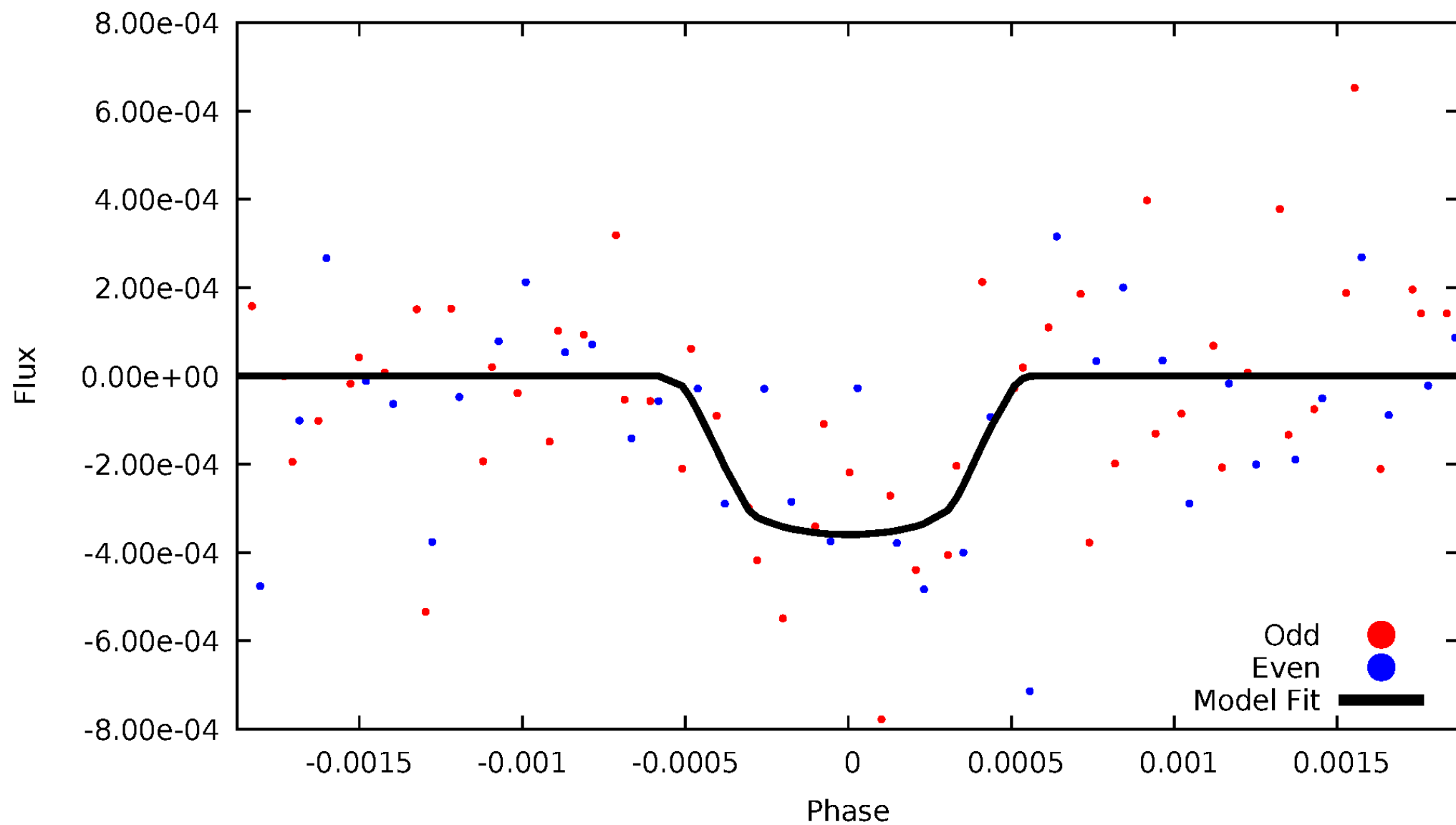


TCE 005878249-04



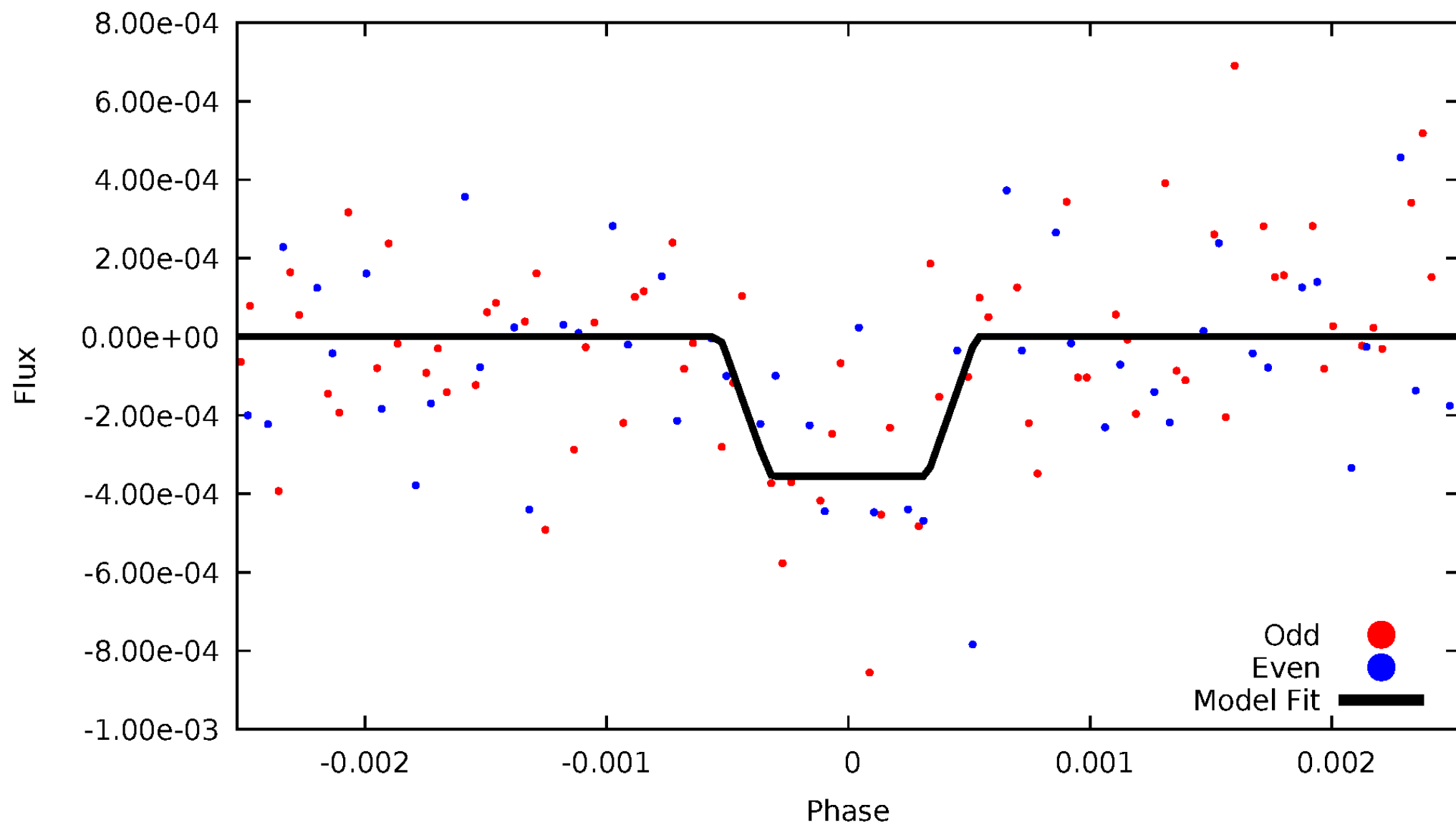
DV Odd/Even

TCE 005878249-04



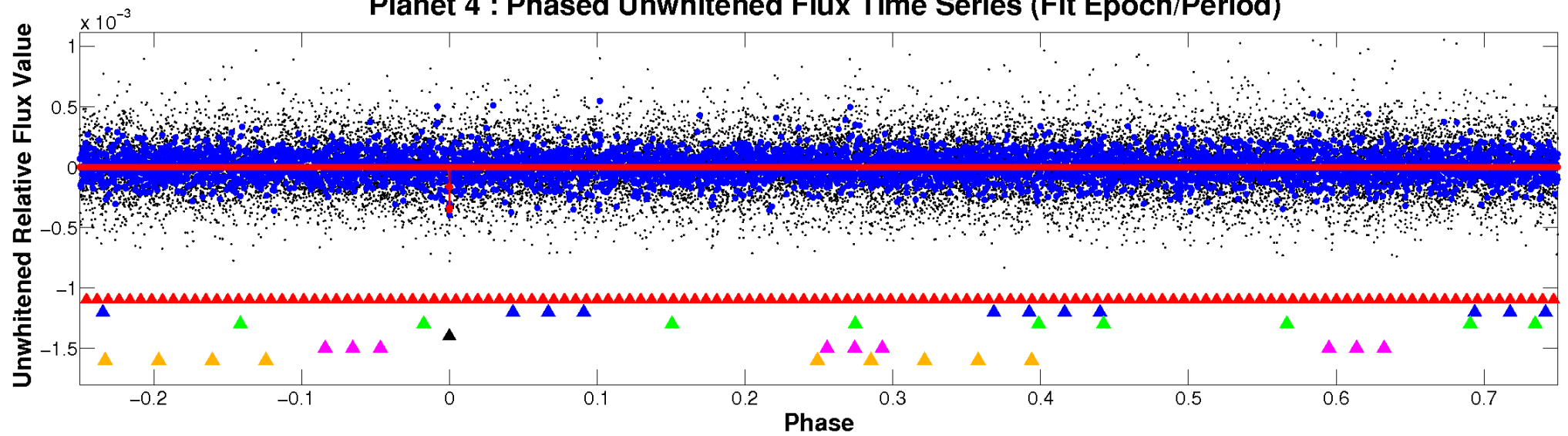
ALT Odd/Even

TCE 005878249-04

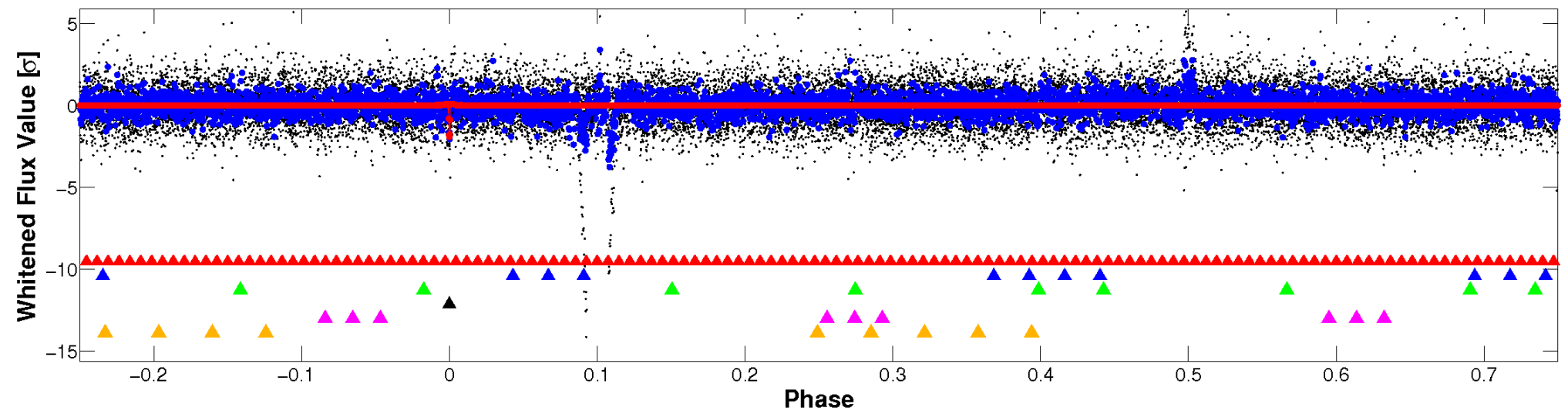


Non-Whitened Vs. Whitened Light Curve

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

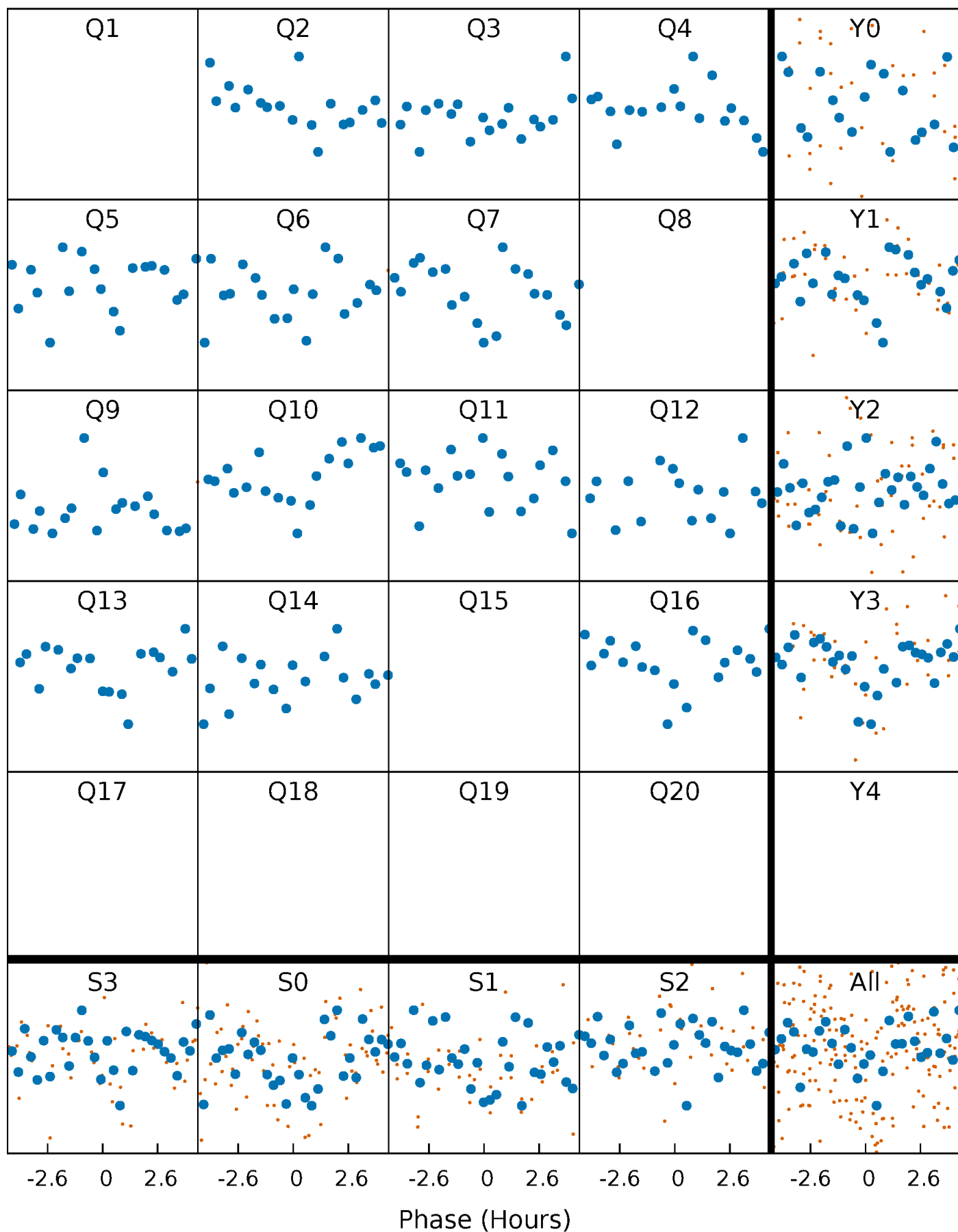


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



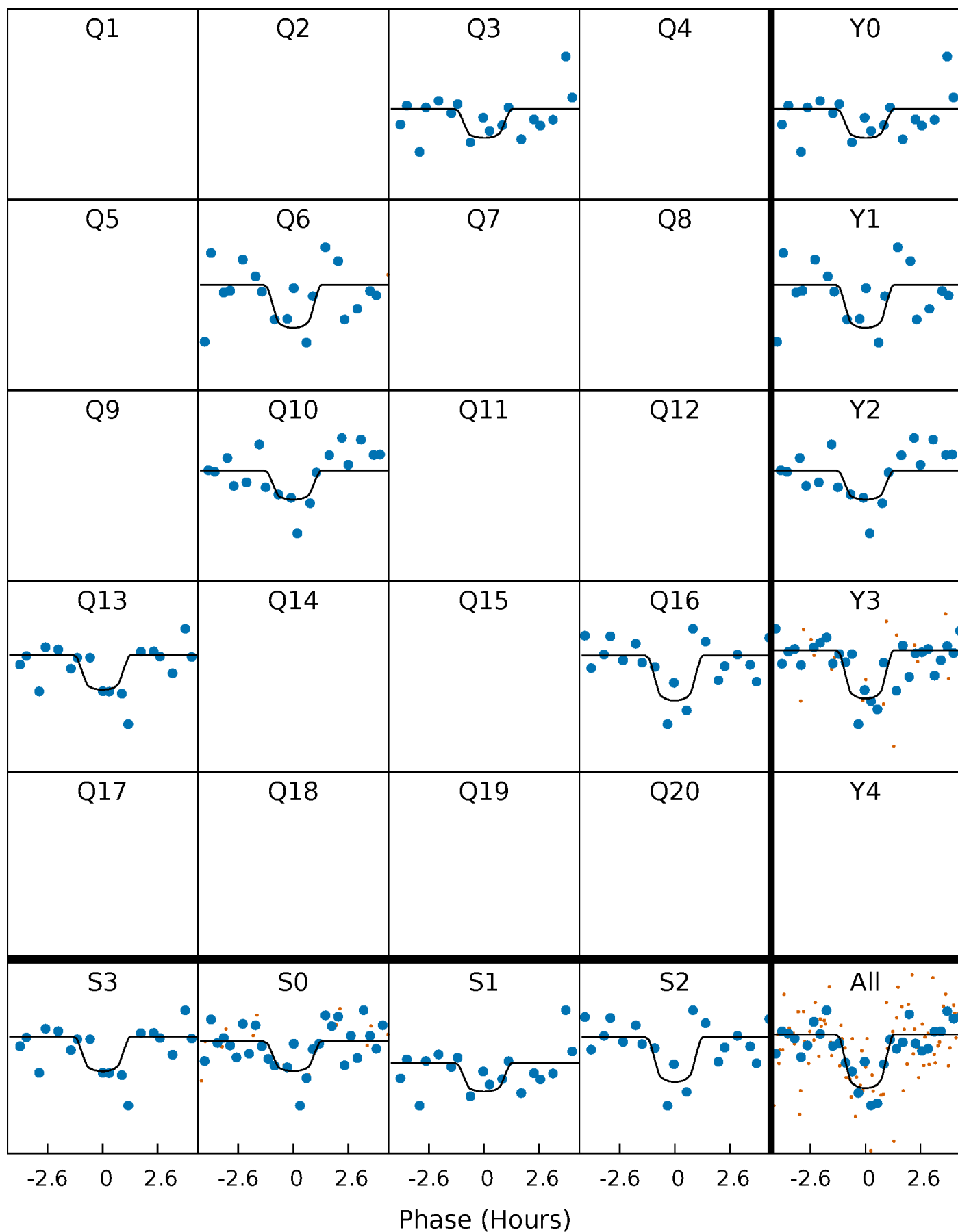
PDC Quarter-Phased Transit Curves

TCE 005878249-04 P=100.305962 Days $T_0=210.579295$ (BKJD)



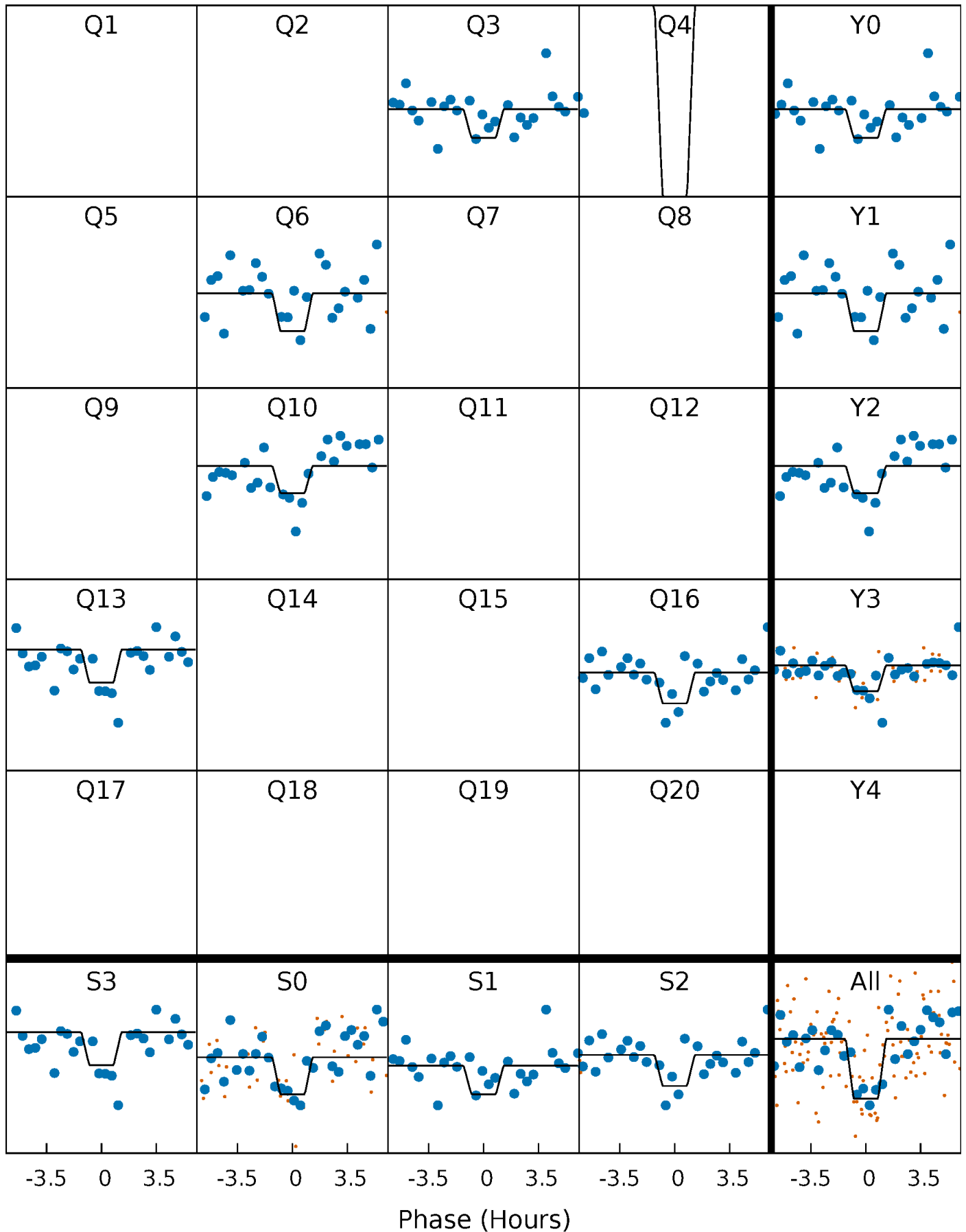
DV Quarter-Phased Transit Curves

TCE 005878249-04 P=100.305962 Days $T_0=210.579295$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

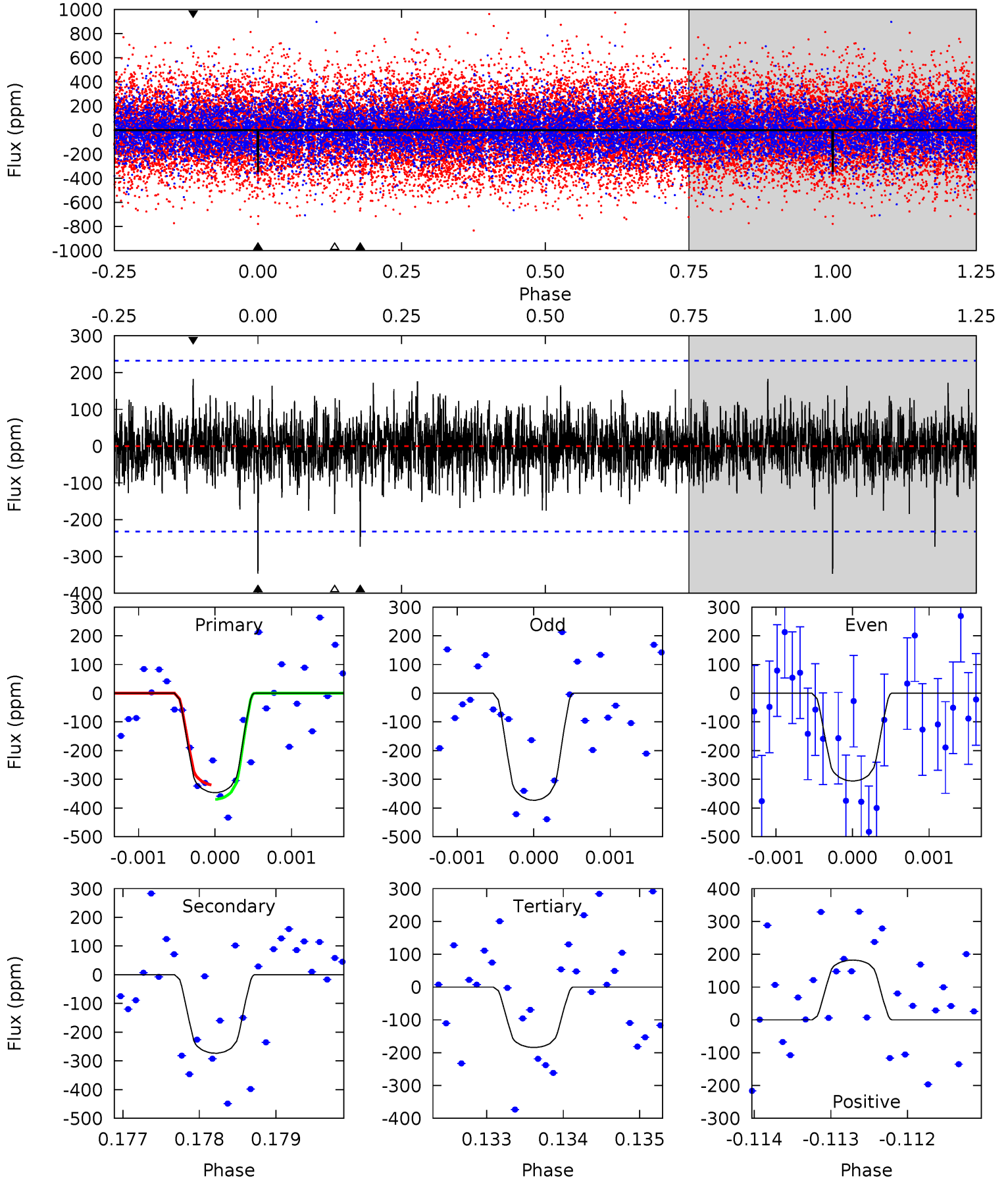
TCE 005878249-04 $P=100.306926$ Days $T_0=210.573943$ (BKJD)



DV Model-Shift Uniqueness Test

005878249-04, P = 100.305962 Days, E = 110.273333 Days

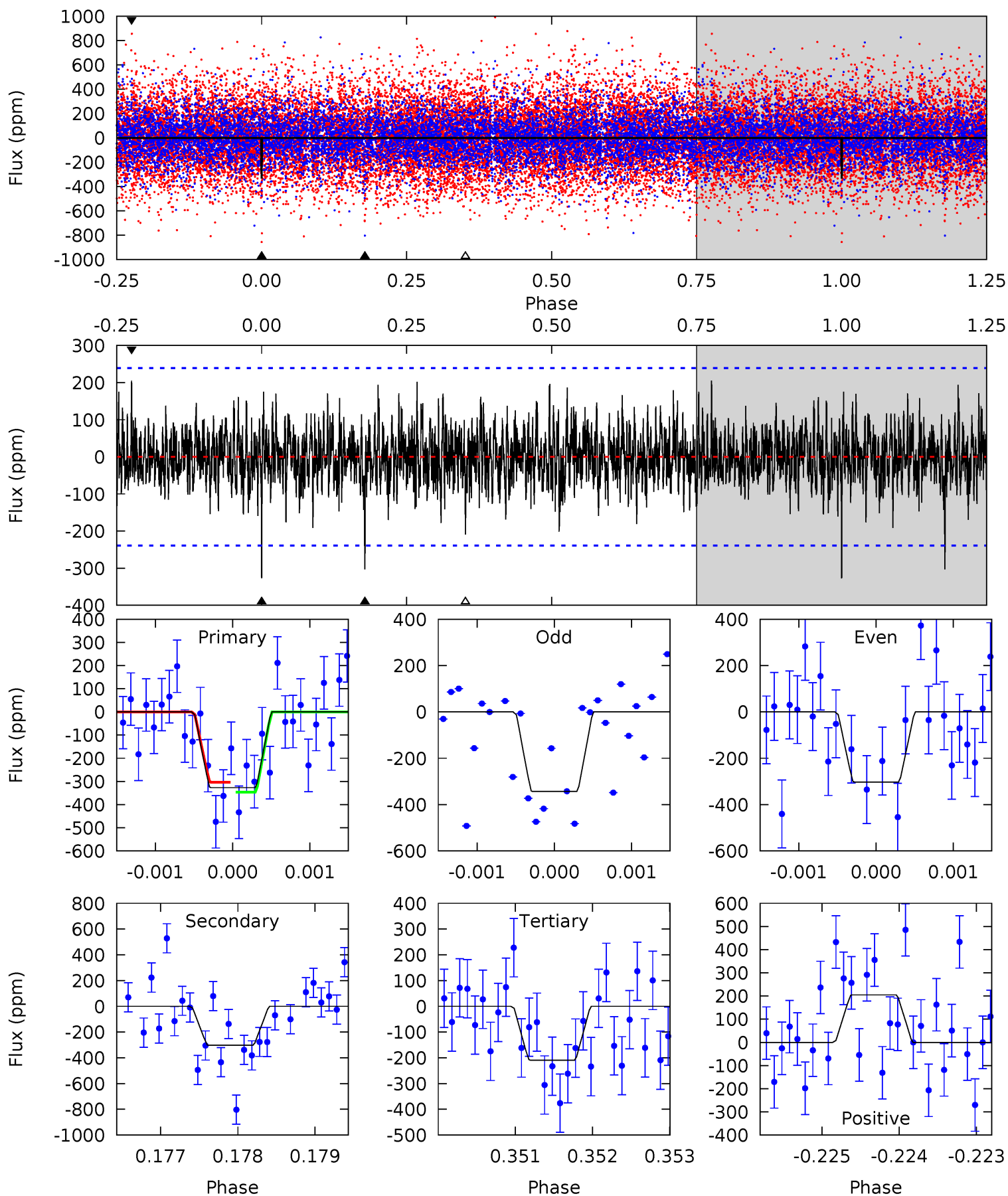
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.11	6.40	4.31	4.26	5.43	3.26	1.23	3.81	3.85	2.09	2.13	0.78	1.08	0.34	0.58



Alt Model-Shift Uniqueness Test

005878249-04, P = 100.306926 Days, E = 110.267017 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.44	6.89	4.76	4.66	5.44	3.27	1.35	2.69	2.78	2.14	2.23	0.46	1.13	0.39	0.48



Stellar Parameters For KIC 005878249

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+159}_{-159}	$4.310^{+0.220}_{-0.198}$	$-0.580^{+0.300}_{-0.300}$	$1.029^{+0.302}_{-0.247}$	$0.789^{+0.114}_{-0.053}$	$1.019^{+1.165}_{-0.551}$
	+3%/-3%	+5%/-5%	+52%/-52%	+29%/-24%	+14%/-7%	+114%/-54%
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 005878249-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-273 ± 43	$2.46^{+1.76}_{-1.40}$	589^{+46}_{-43}	5208^{+2614}_{-1039}	3891^{+16962}_{-2628}
Alt.	-303 ± 44	$2.43^{+1.61}_{-1.50}$	589^{+49}_{-45}	5332^{+3800}_{-1001}	4407^{+24768}_{-2886}

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

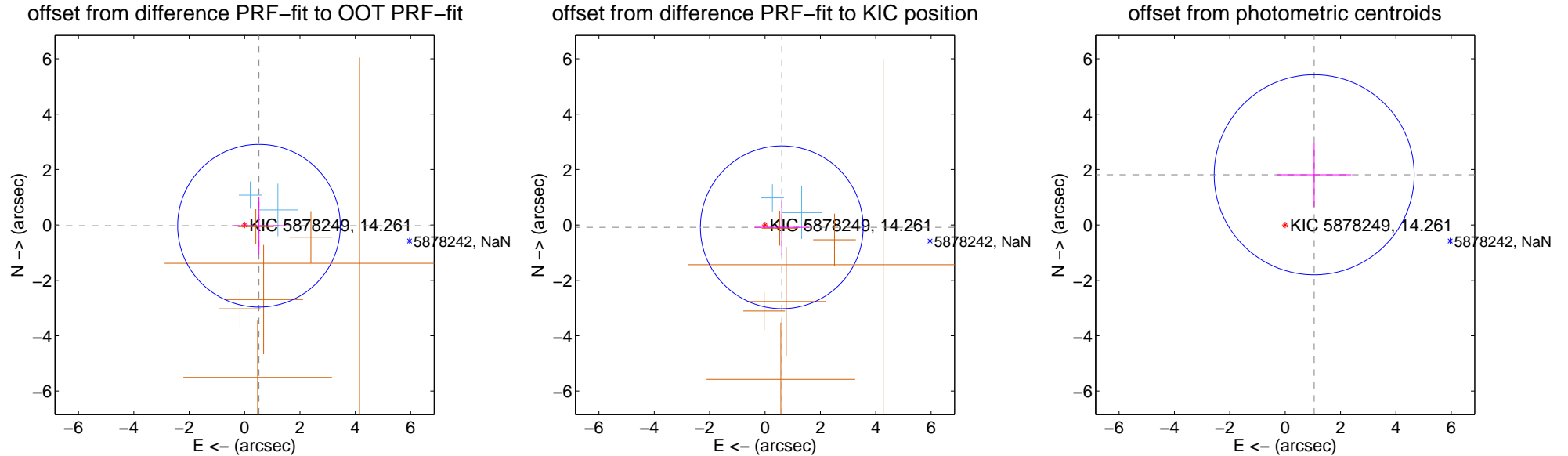
DV Centroid Data

Supplemental centroid analysis for 005878249-04. Kepler magnitude: 14.26. Transit SNR 7.35

There are 2 quarters with good PRF difference image offsets

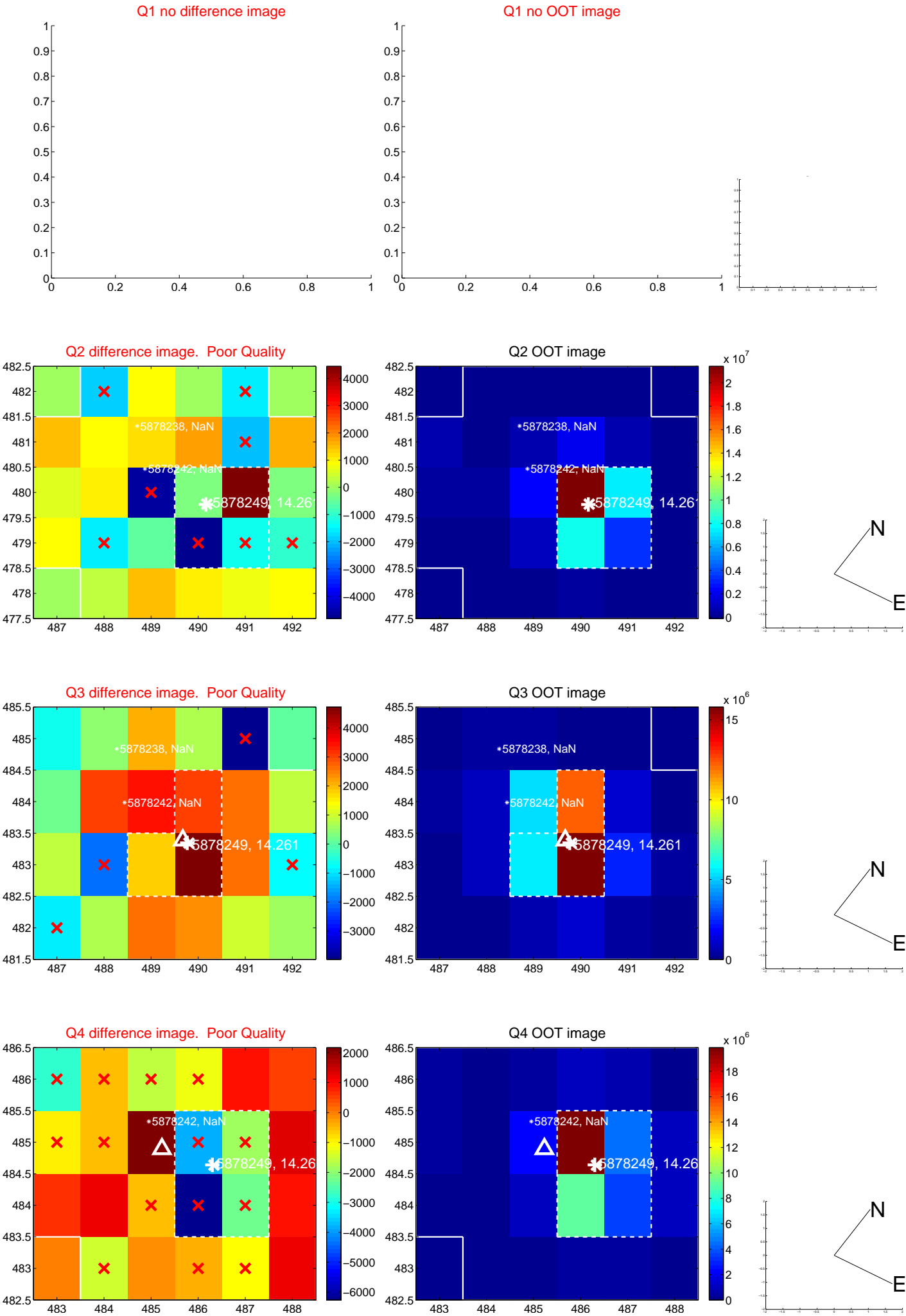
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.521 ± 0.979	0.53	-0.520 ± 0.979	-0.028 ± 1.019
PRF-fit source offset from KIC position	0.612 ± 0.980	0.62	-0.606 ± 0.979	-0.084 ± 1.019
photometric centroid source offset	2.09 ± 1.20	1.74	-1.05 ± 1.34	1.81 ± 1.15

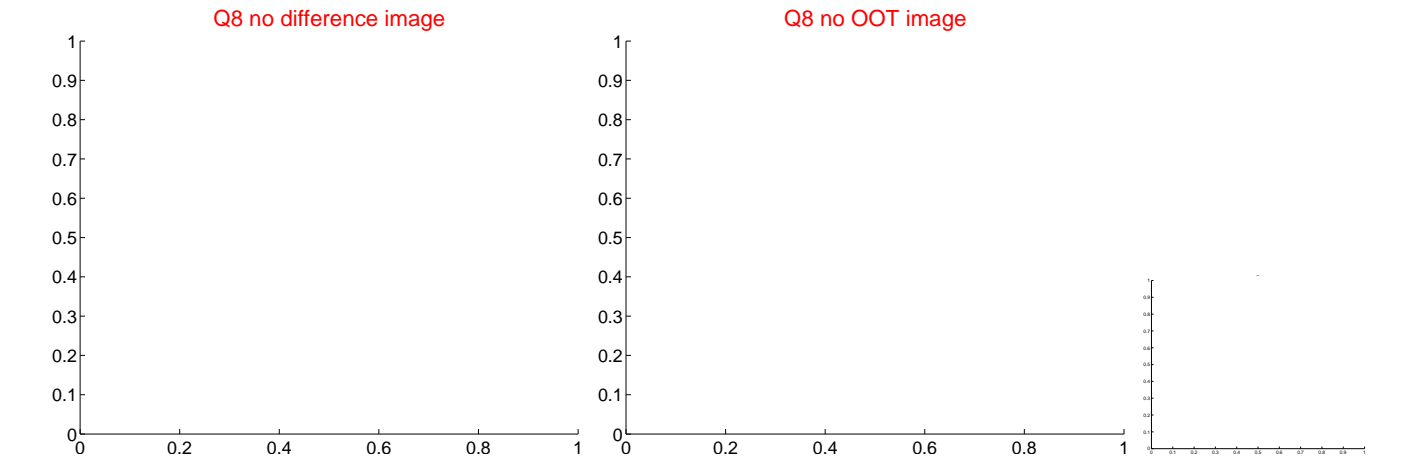
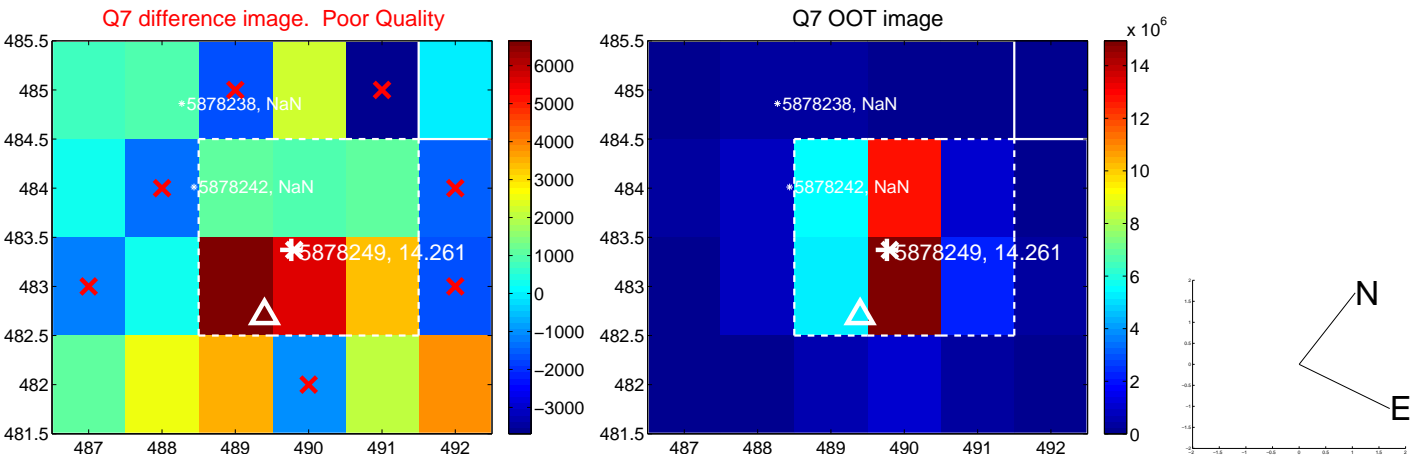
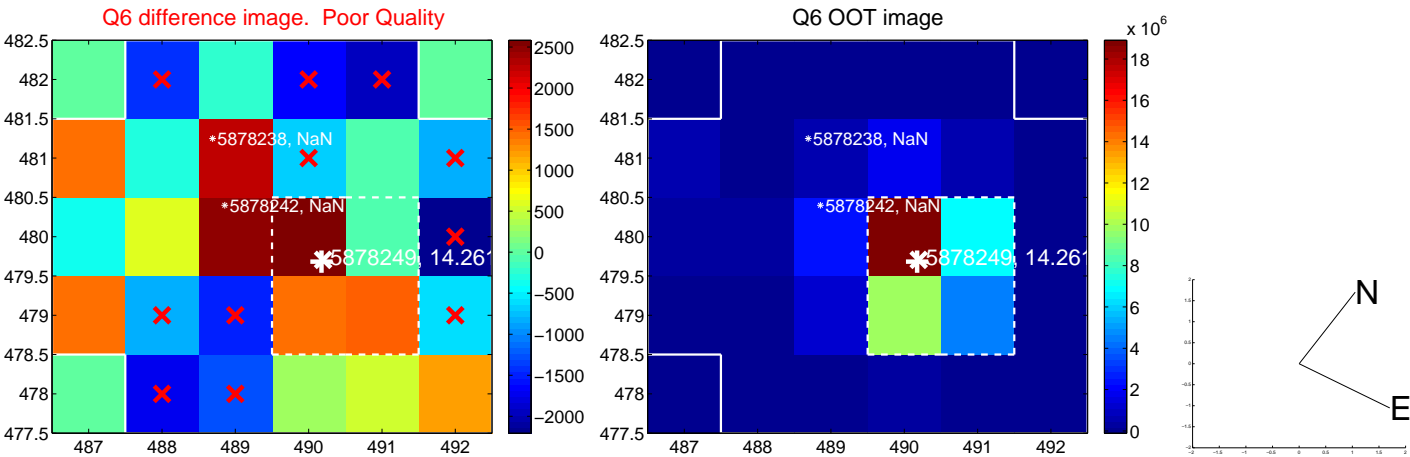
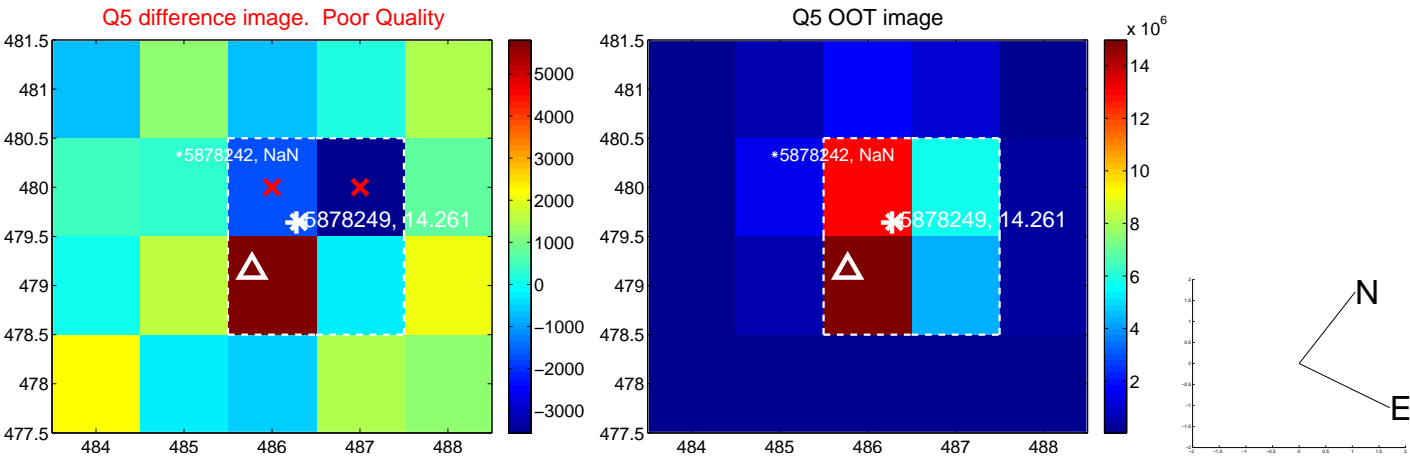


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

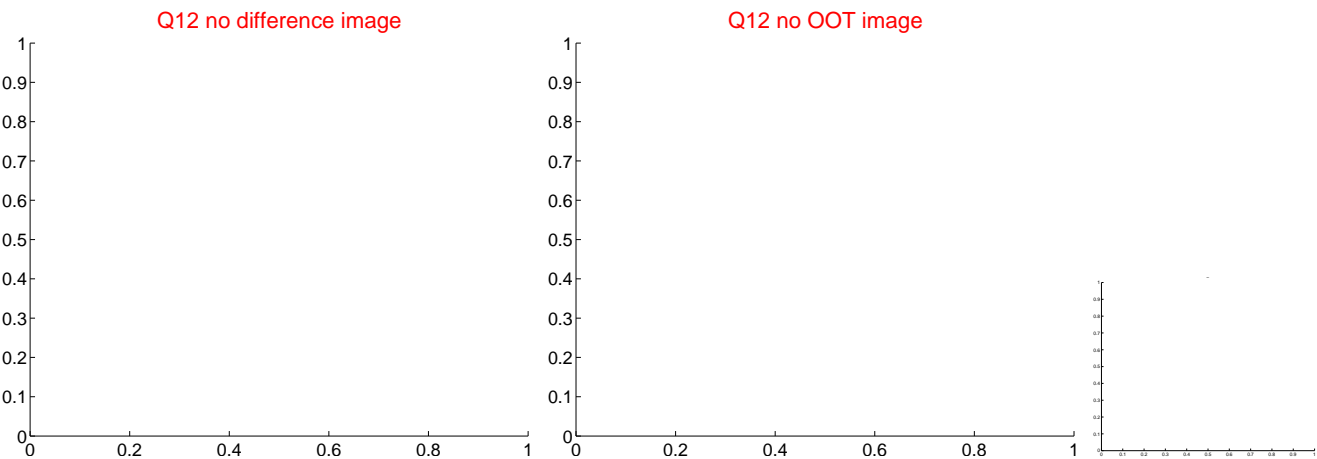
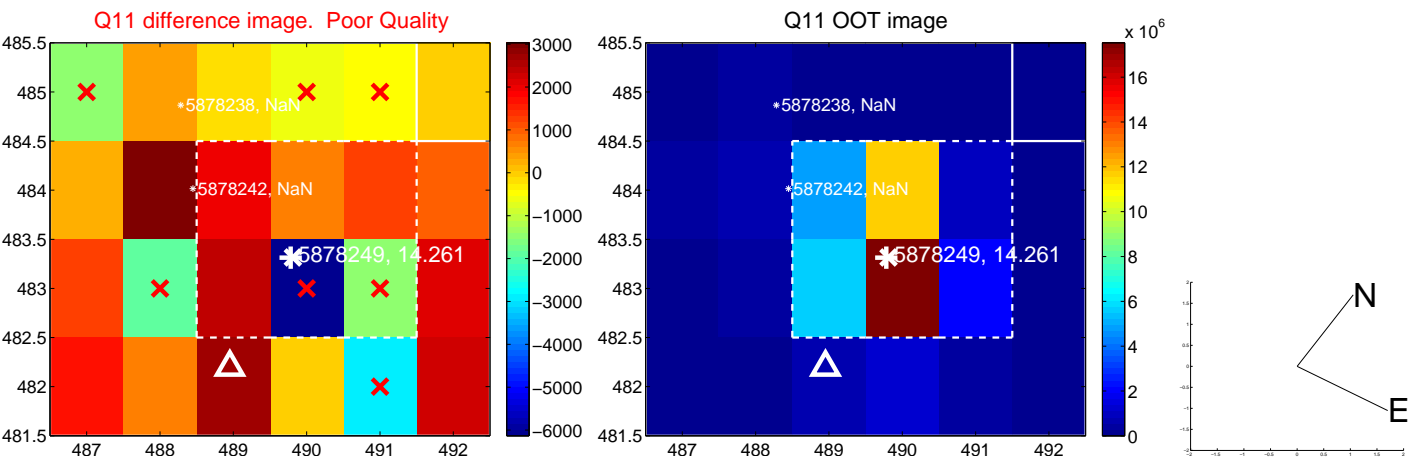
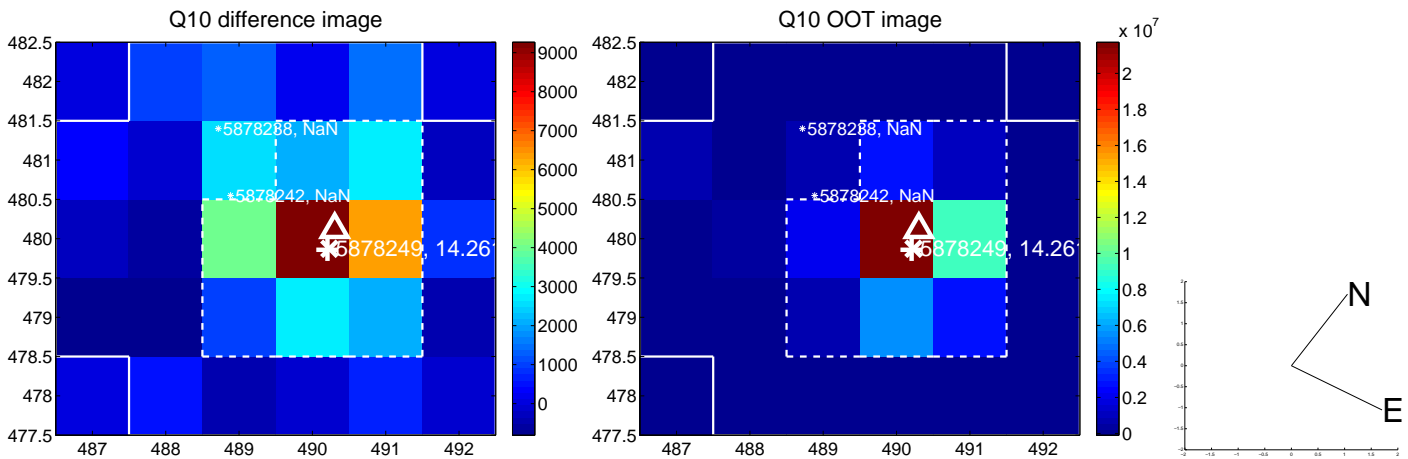
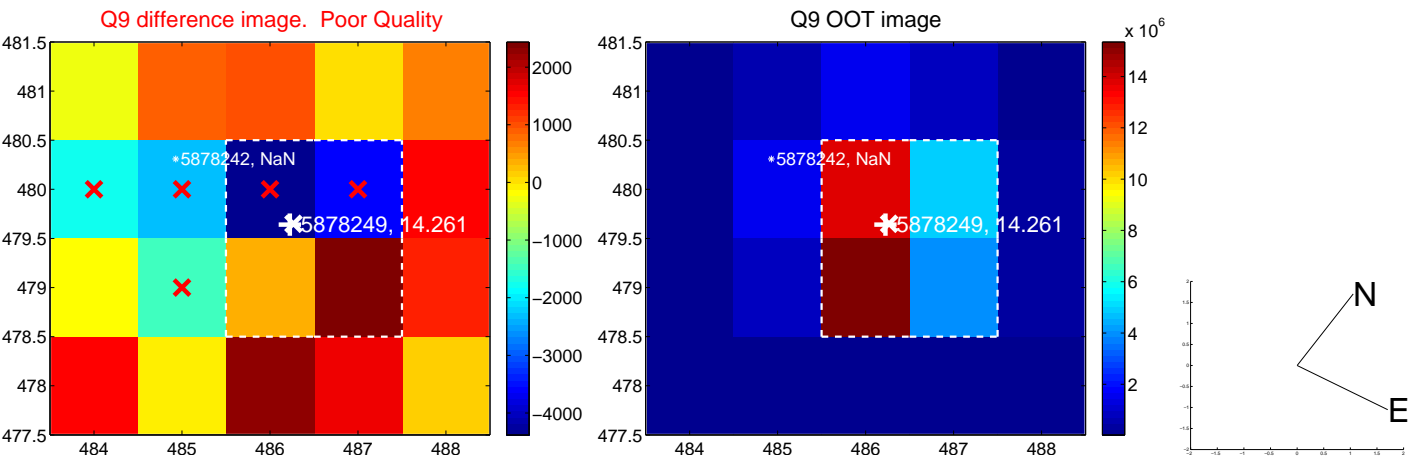
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



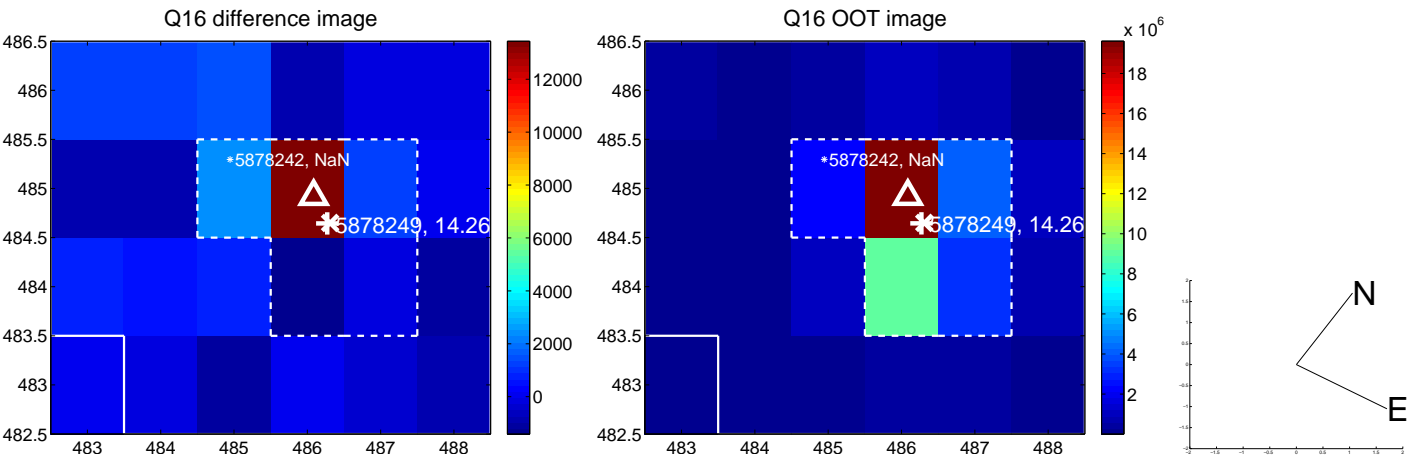
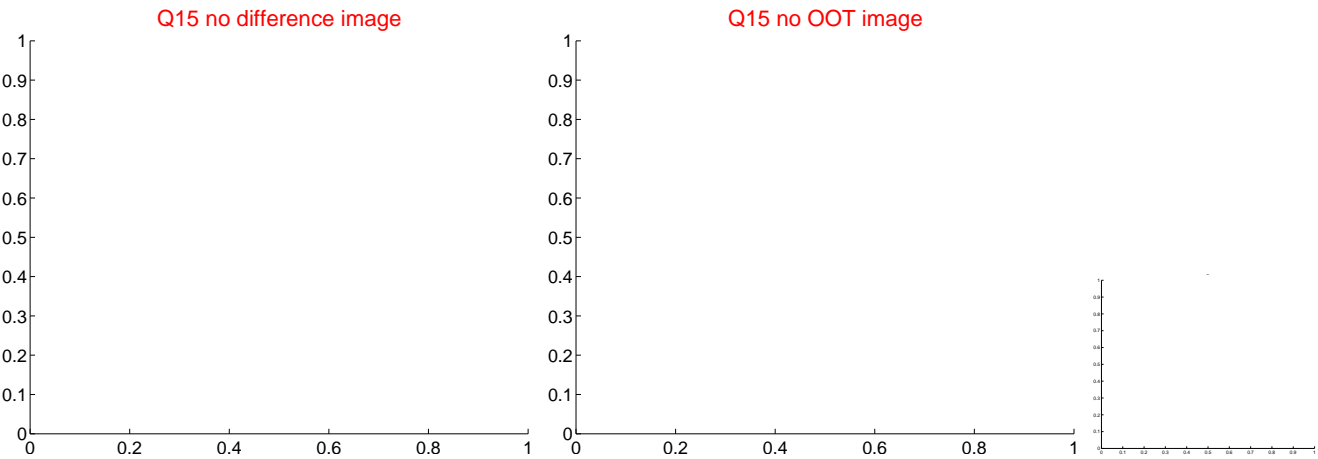
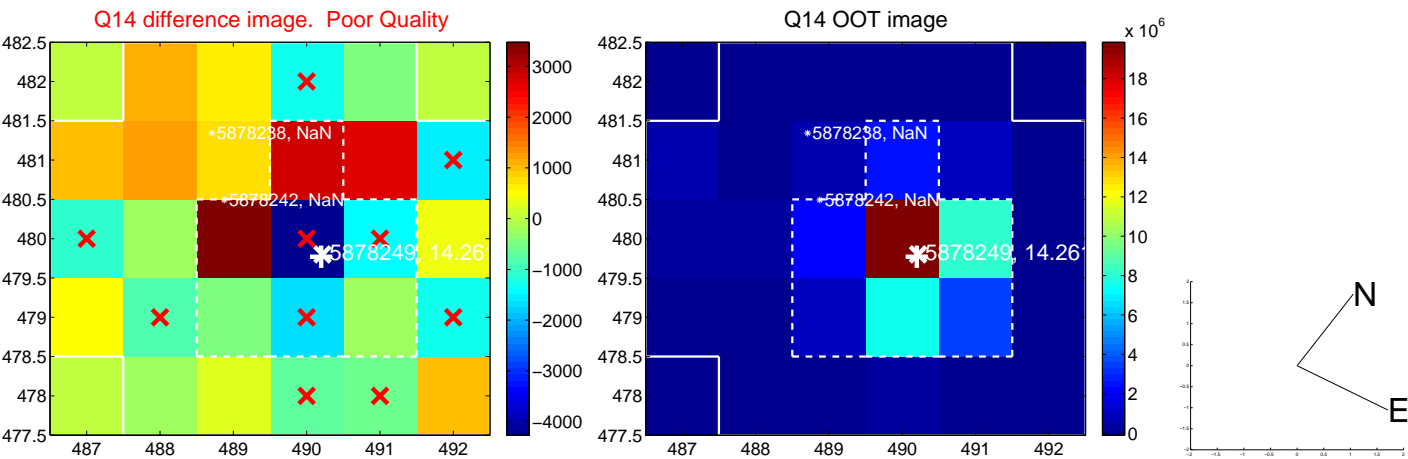
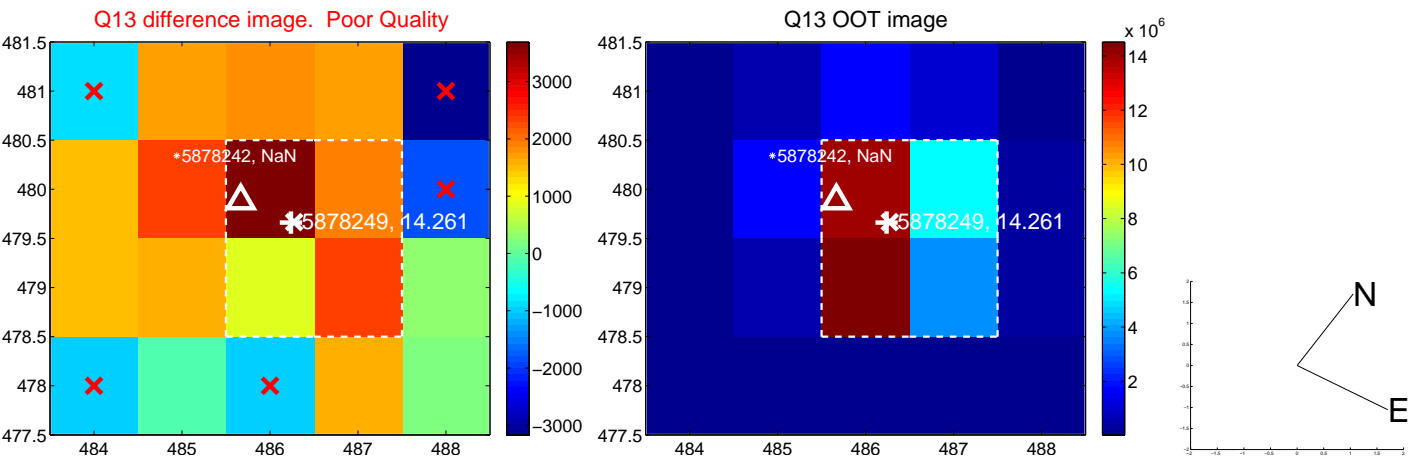
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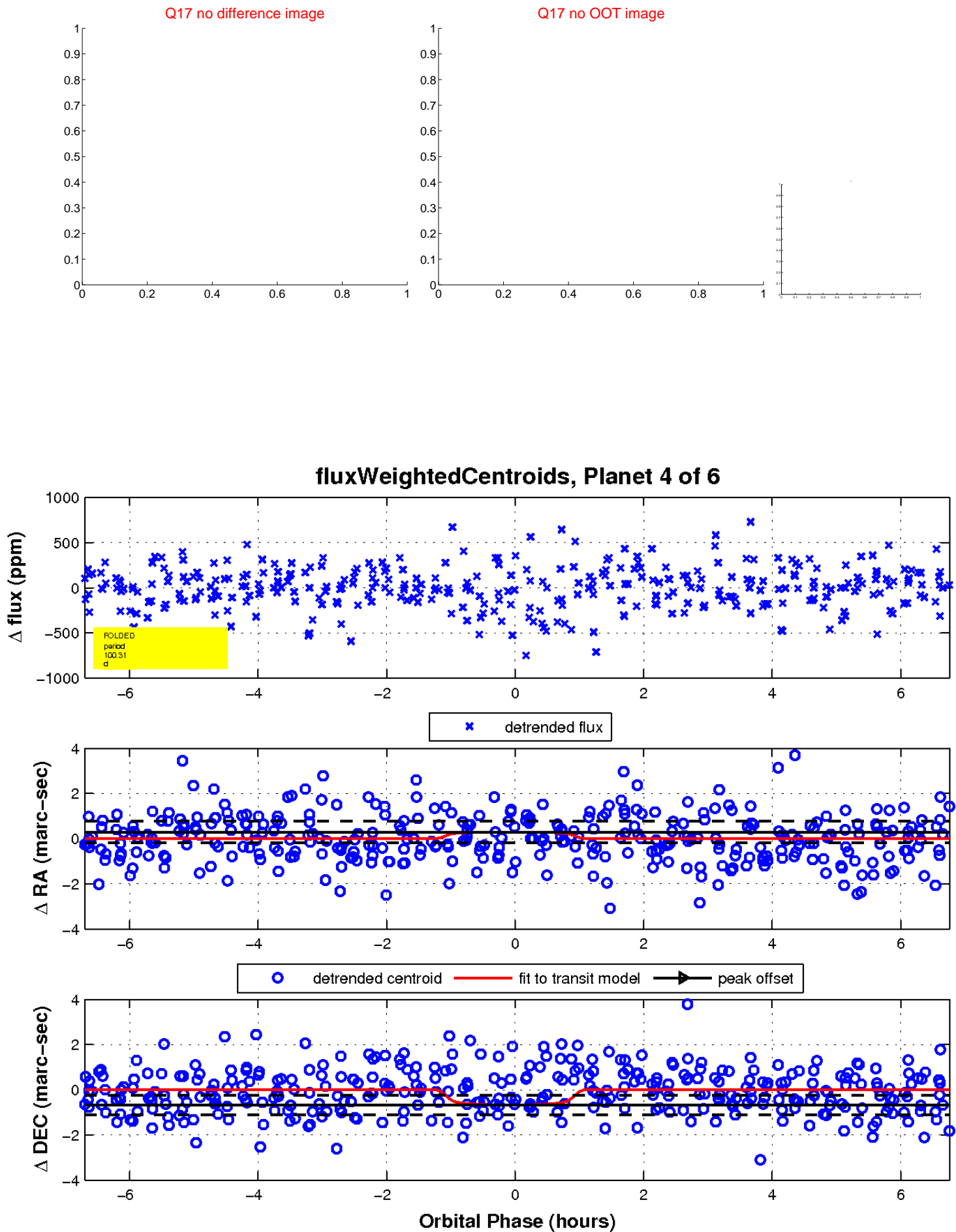
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

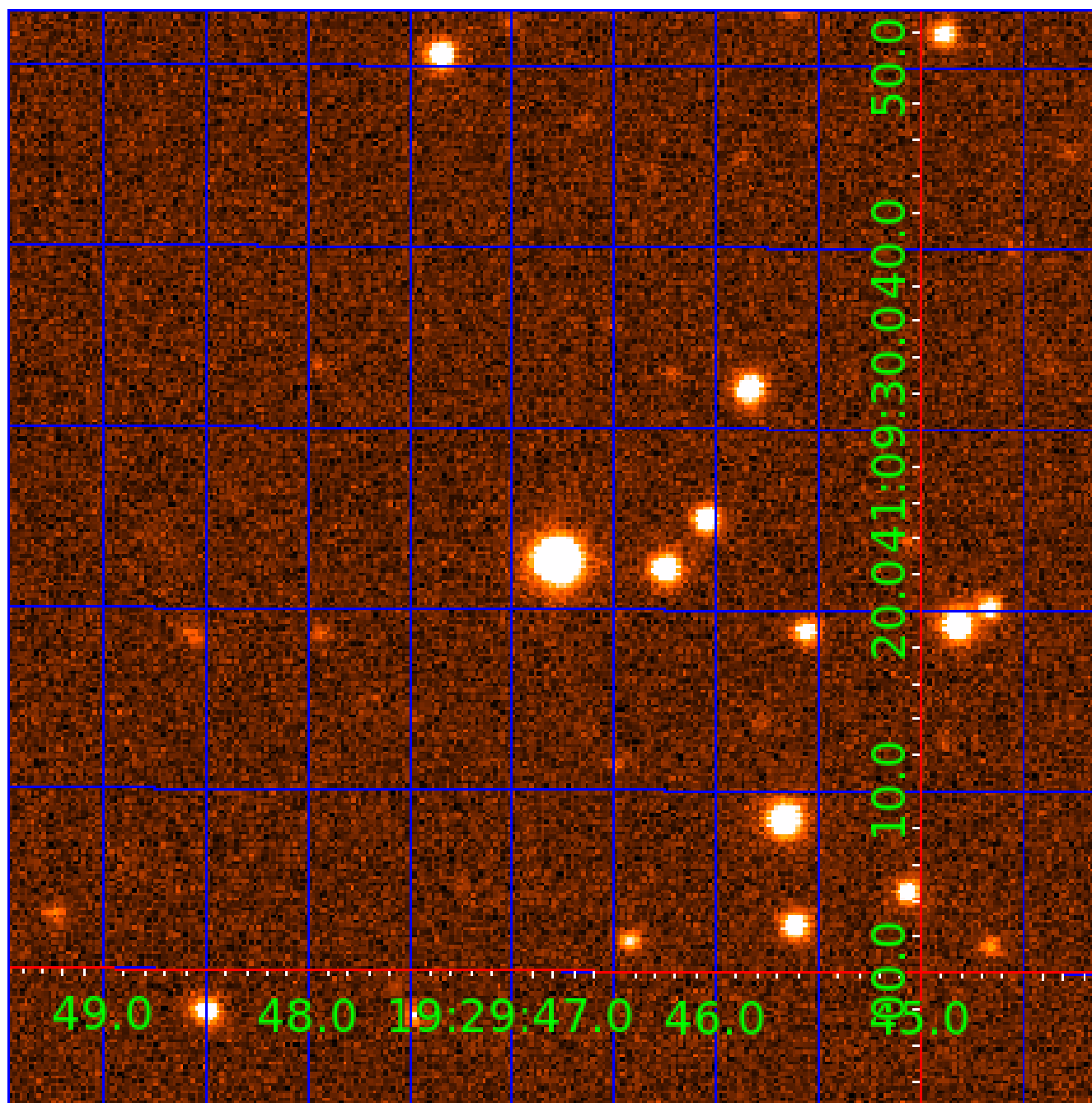


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005878249

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})
005878249-01	OBS	No	2.212473	132.897916	15.3	11.498	7.9	5.4	1.03	5869	0.41	1193.78
005878249-02	OBS	No	132.940754	154.430319	194.1	19.119	14.2	5.5	1.03	5869	1.61	5.07
005878249-03	OBS	No	171.323253	183.959638	336.1	4.456	8.4	7.9	1.03	5869	2.15	3.62
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005878249-06	OBS	No	152.276239	235.560248	314.7	5.483	7.1	6.6	1.03	5869	2.18	4.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005878249-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET
005878249-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005878249-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005878249-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
005878249-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005878249-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

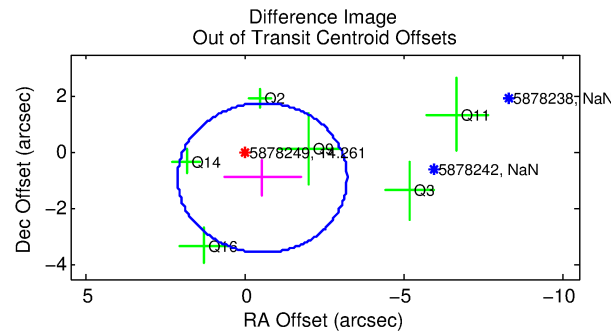
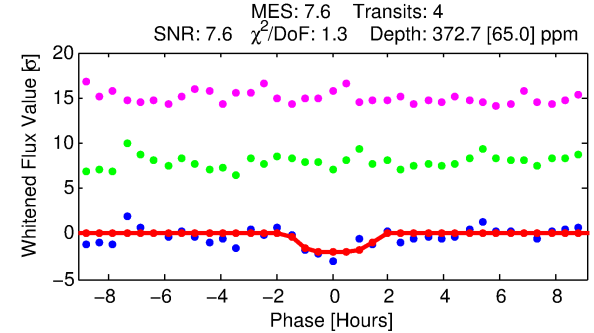
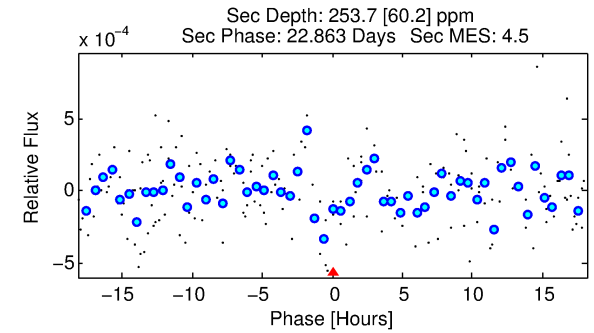
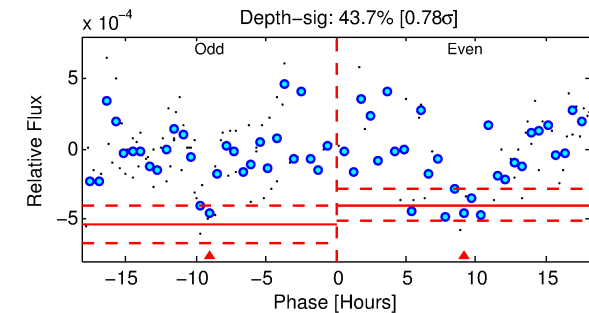
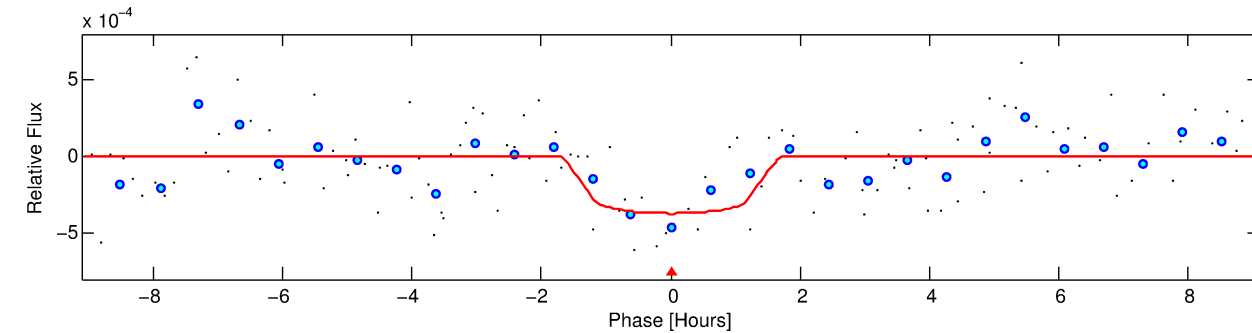
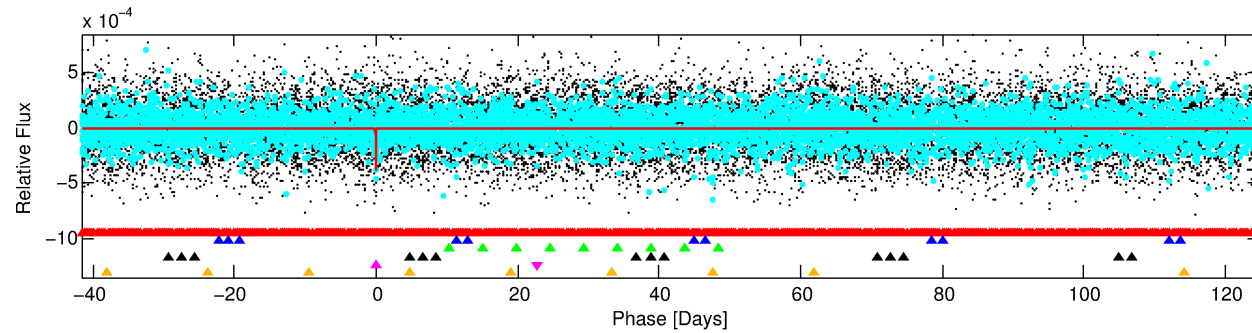
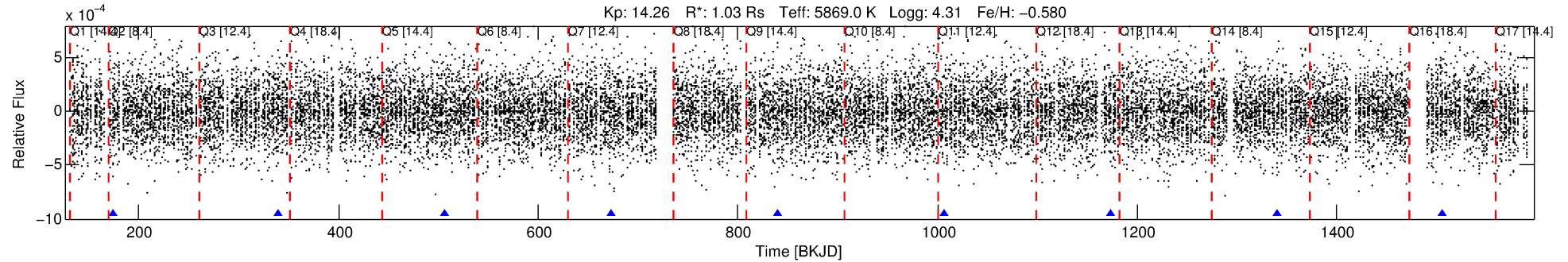
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005878249-05

No Significant Match Found

DV One-Page Summary

KIC: 5878249 Candidate: 5 of 6 Period: 166.552 d



DV Fit Results:

Period = 166.55236 [0.00198] d
Epoch = 173.7123 [0.0118] BKJD
Rp/R* = 0.0195 [0.0349]
a/R* = 268.07 [2439.27]
b = 0.79 [4.25]
Seff = 3.76 [1.52]
Teq = 355 [36] K
Rp = 2.19 [3.97] Re
a = 0.5474 [0.1415] AU
Ag = 8687.99 [31290.86] [0.28 σ]
Teffp = 5299 [4745] K [1.04 σ]

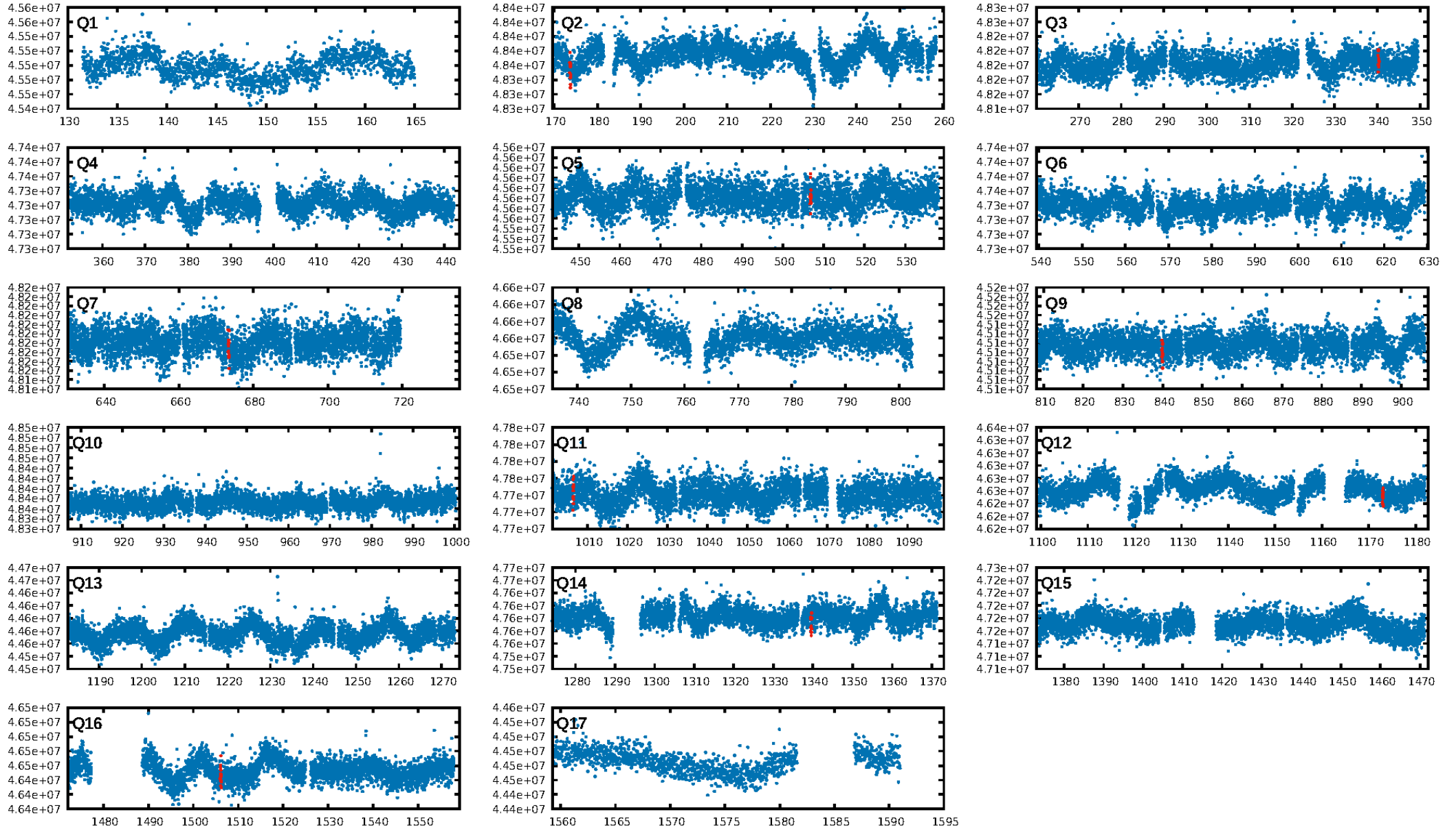
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [54.67 σ]
LongPeriod-sig: 100.0% [21.24 σ]
ModelChiSquare2-sig: 28.7%
ModelChiSquareGof-sig: 94.4%
Bootstrap-pfa: 2.42e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.84
Centroid-sig: 5.3%
Centroid-so: 1.714 arcsec [1.35 σ]
OotOffset-rm: 1.050 arcsec [1.18 σ]
OotOffset-st: 2/2/1/1 [6]
KicOffset-rm: 1.200 arcsec [1.40 σ]
KicOffset-st: 2/2/1/1 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 0.67 [6/9]

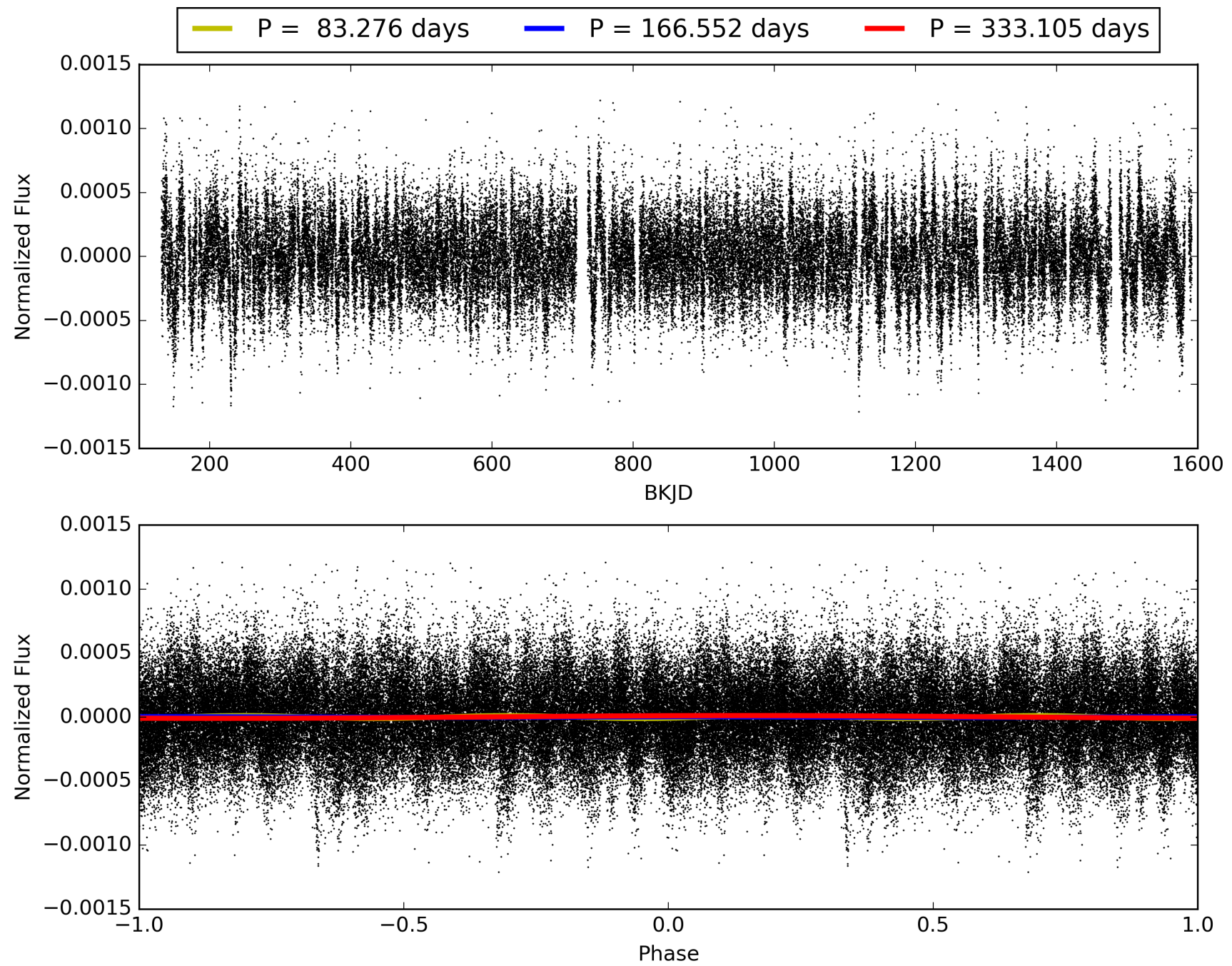
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:58:00 Z

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

TCE 005878249-05, PDC Light Curves

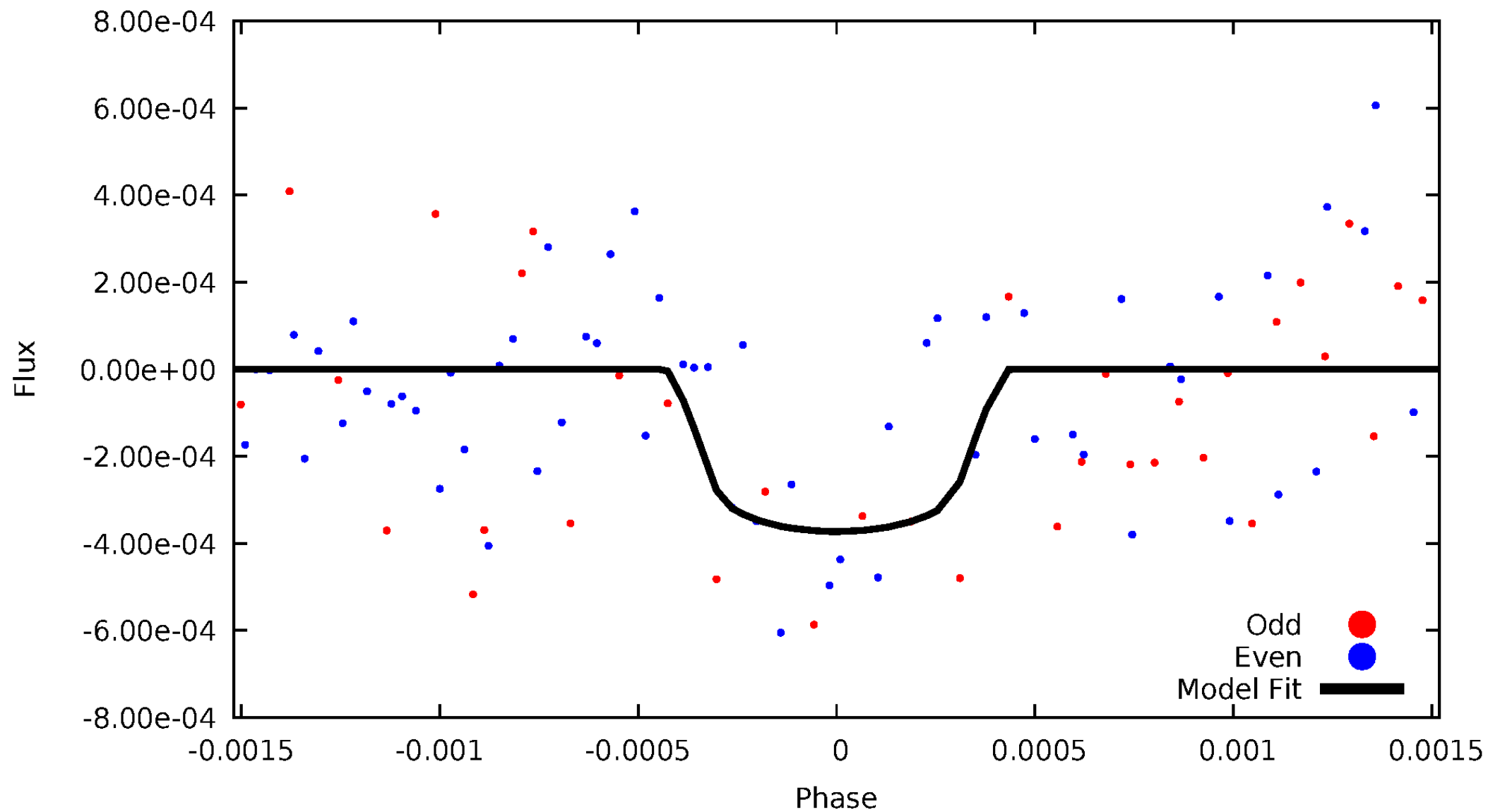


TCE 005878249-05



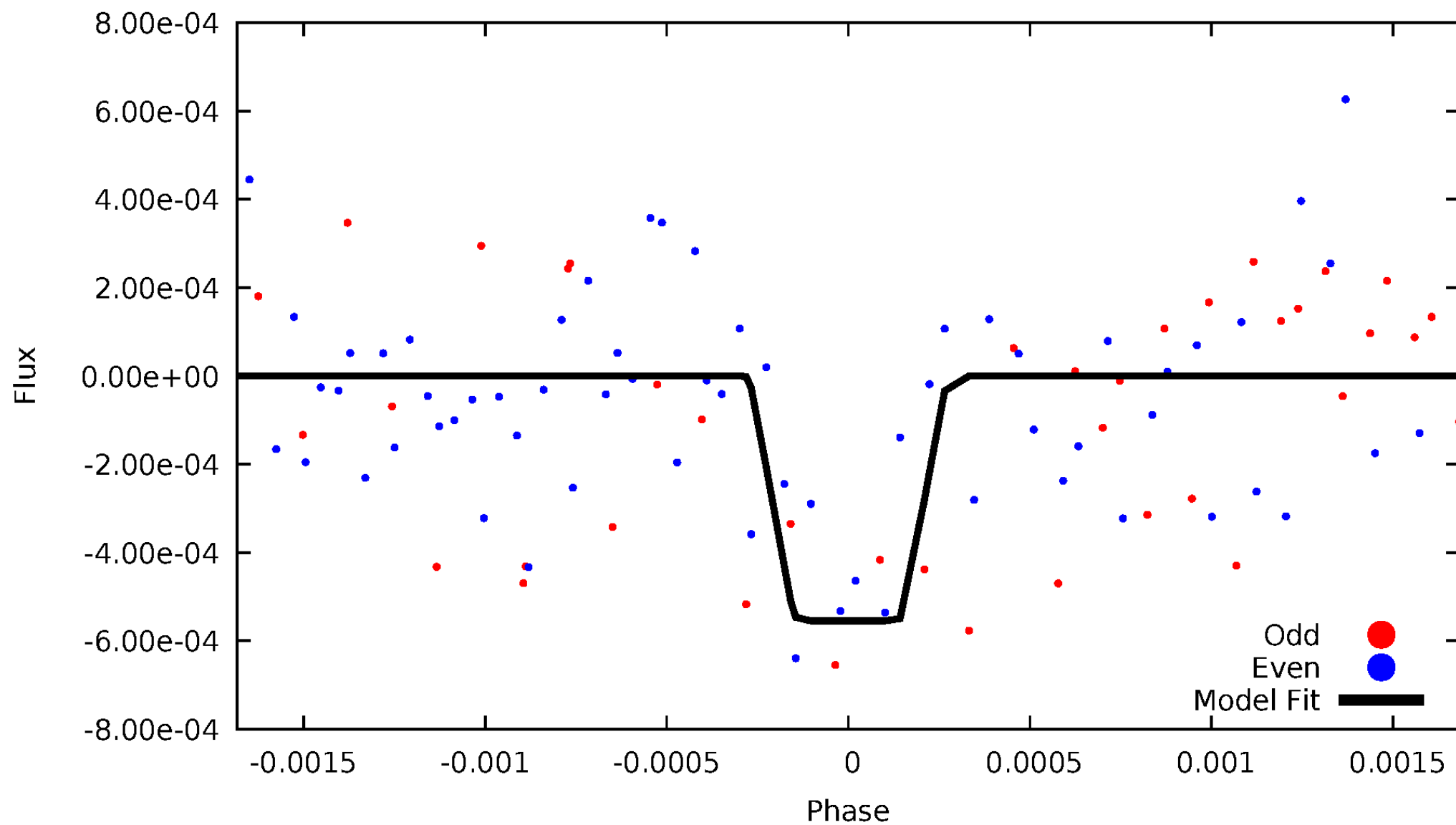
DV Odd/Even

TCE 005878249-05



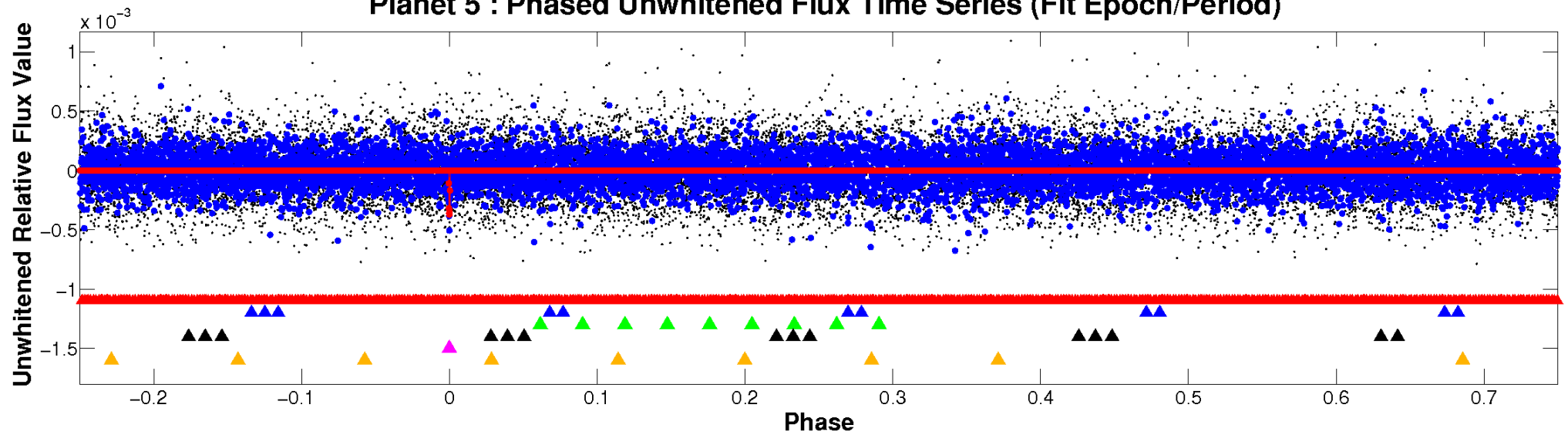
ALT Odd/Even

TCE 005878249-05

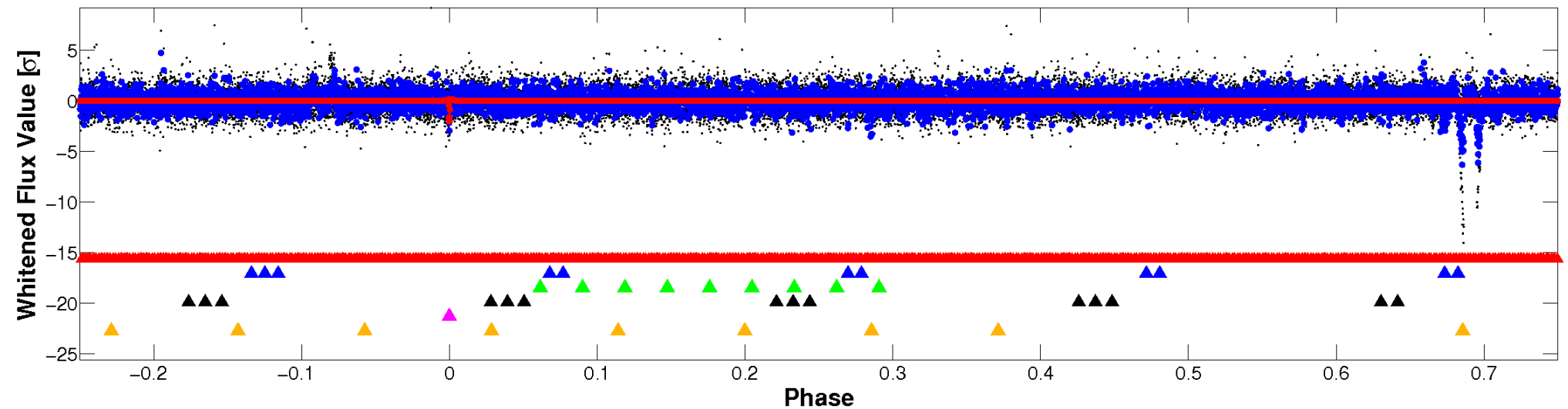


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

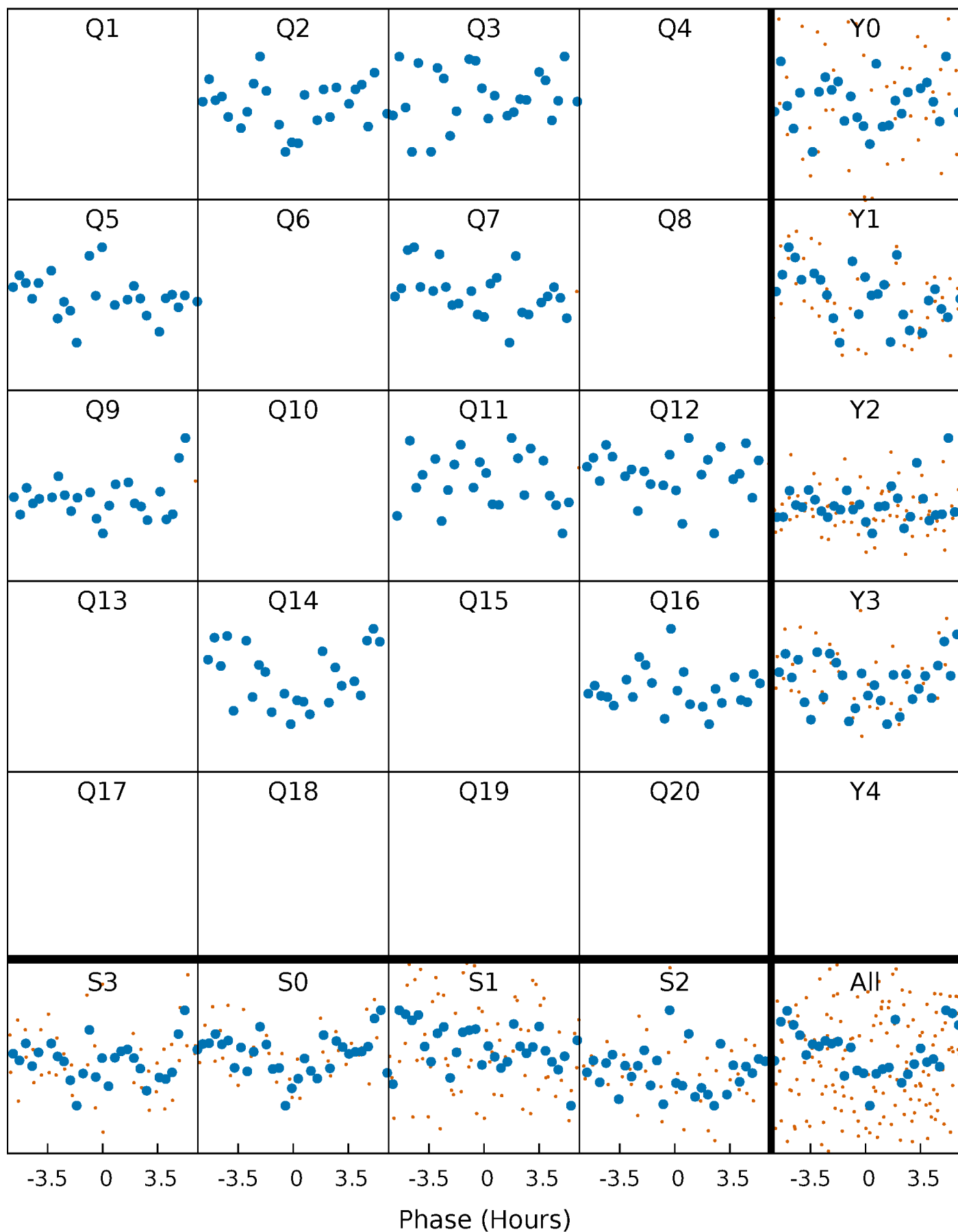


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



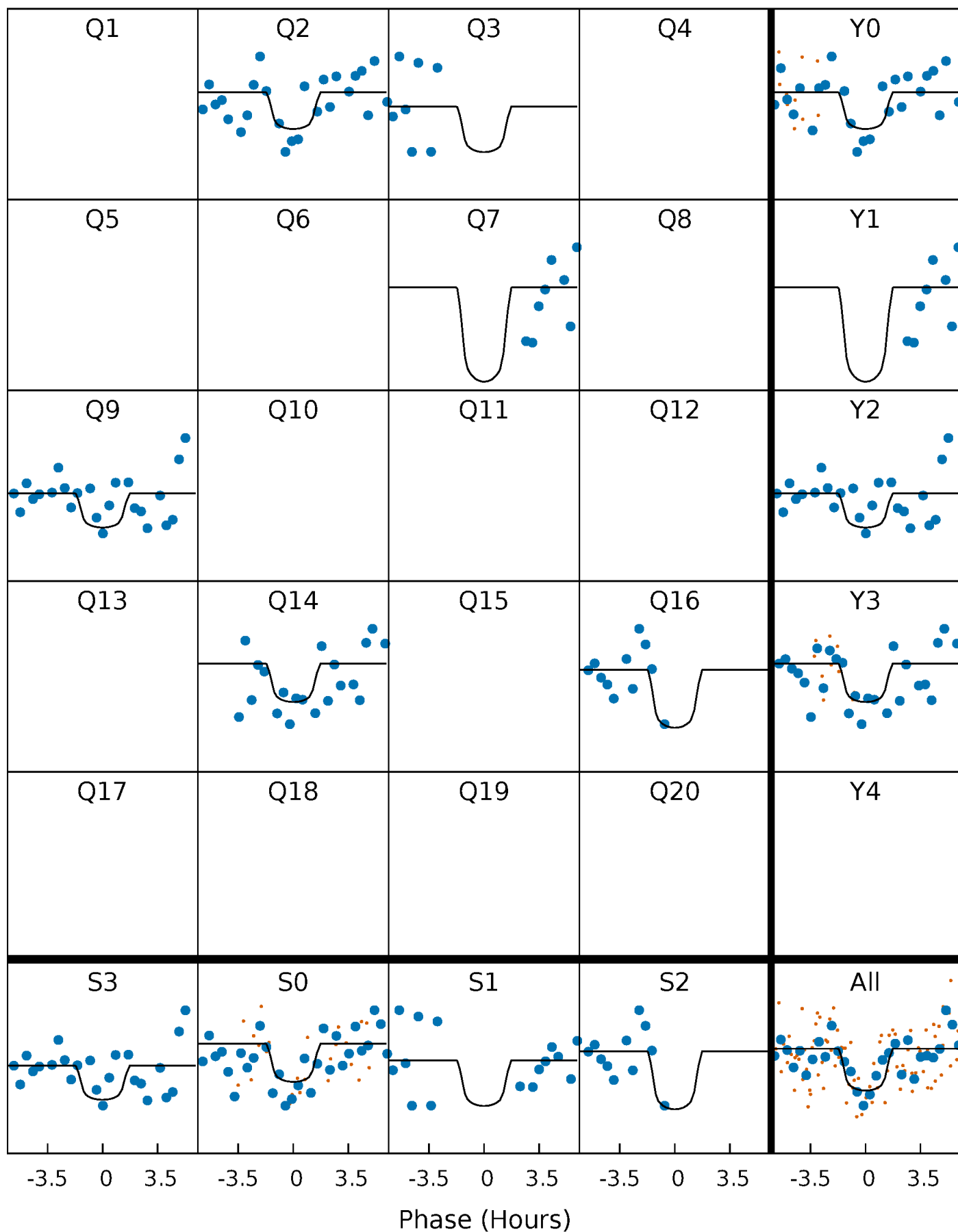
PDC Quarter-Phased Transit Curves

TCE 005878249-05 P=166.552356 Days $T_0=173.712348$ (BKJD)



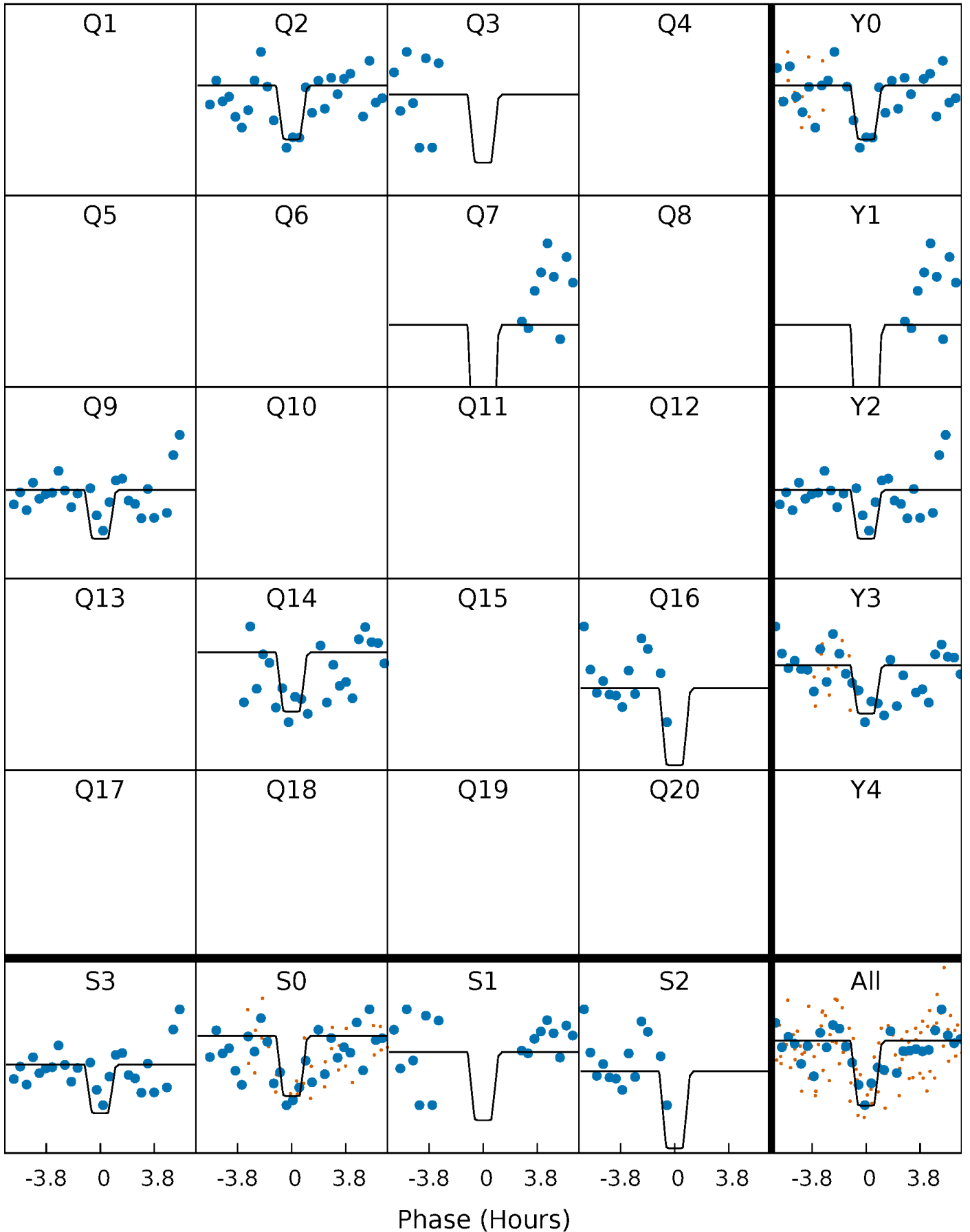
DV Quarter-Phased Transit Curves

TCE 005878249-05 $P=166.552356$ Days $T_0=173.712348$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

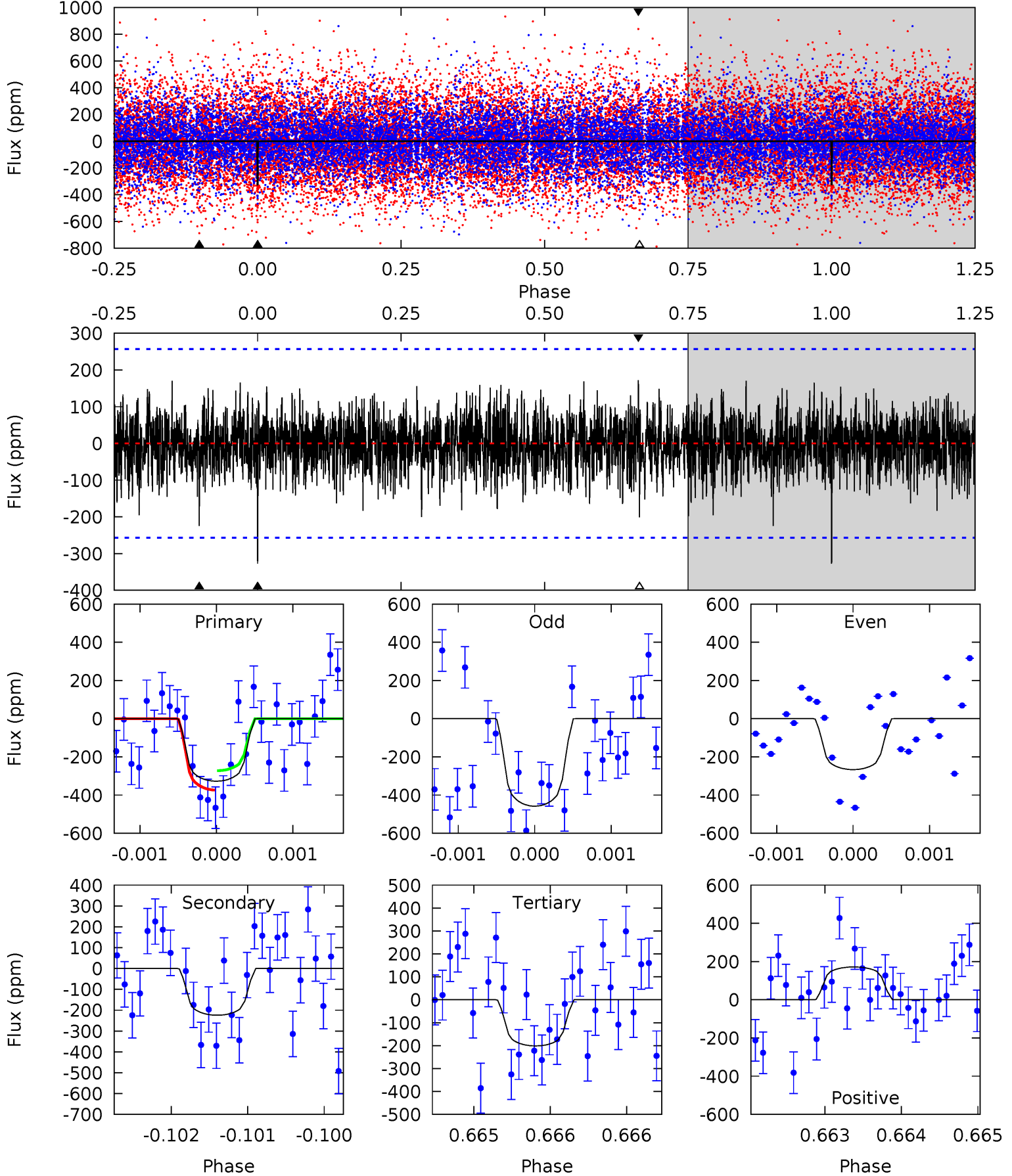
TCE 005878249-05 P=166.551751 Days $T_0=173.713024$ (BKJD)



DV Model-Shift Uniqueness Test

005878249-05, P = 166.552356 Days, E = 7.159992 Days

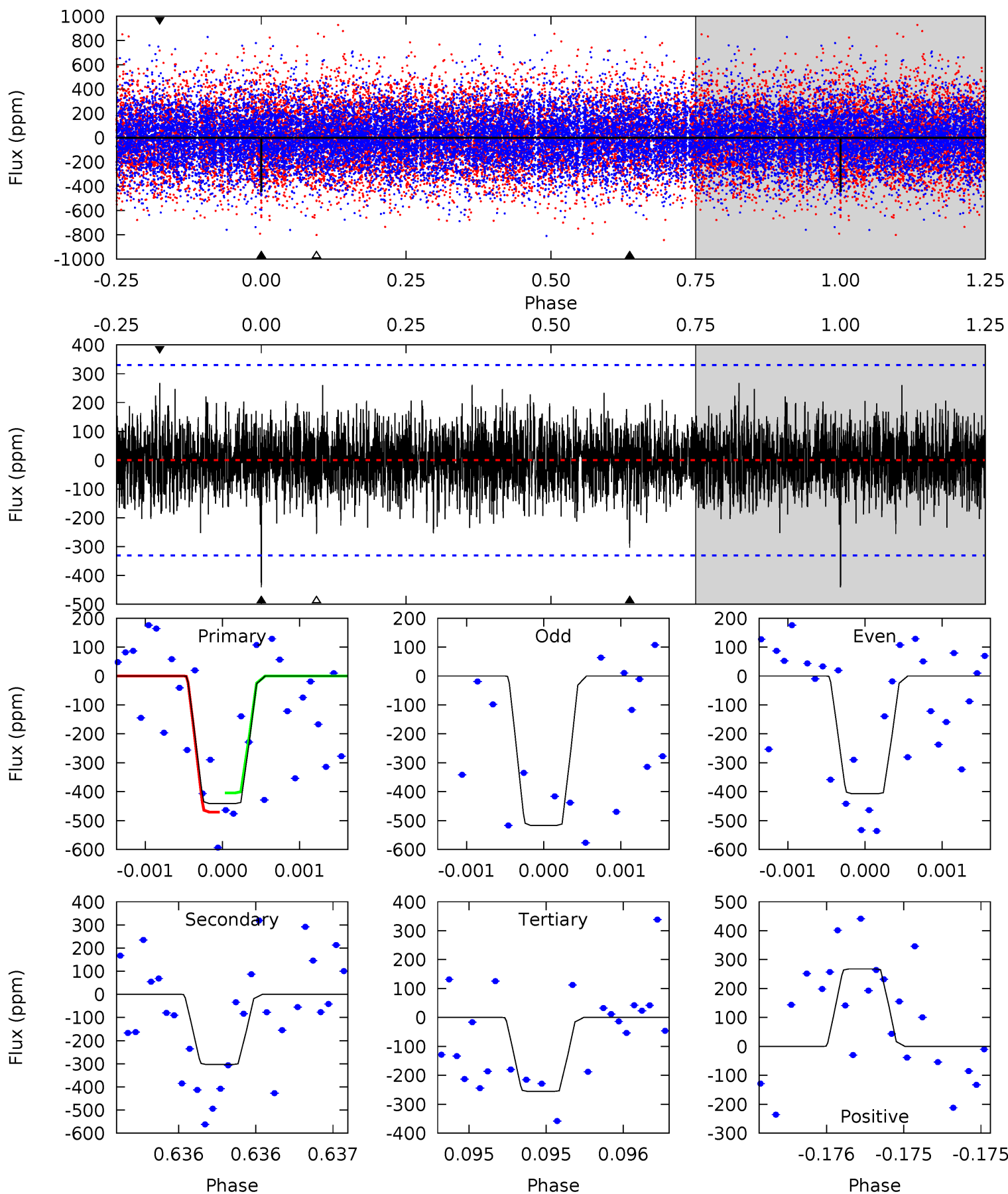
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.98	4.78	4.30	3.66	5.48	3.33	1.23	2.69	3.32	0.49	1.12	1.91	0.95	0.34	1.08



Alt Model-Shift Uniqueness Test

005878249-05, P = 166.551751 Days, E = 7.161273 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.40	5.09	4.29	4.50	5.54	3.43	1.24	3.11	2.91	0.80	0.59	0.84	0.87	0.38	0.56



Stellar Parameters For KIC 005878249

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+159}_{-159}	$4.310^{+0.220}_{-0.198}$	$-0.580^{+0.300}_{-0.300}$	$1.029^{+0.302}_{-0.247}$	$0.789^{+0.114}_{-0.053}$	$1.019^{+1.165}_{-0.551}$
	+3%/-3%	+5%/-5%	+52%/-52%	+29%/-24%	+14%/-7%	+114%/-54%
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 005878249-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-224 ± 47	$3.79^{+3.19}_{-2.66}$	496^{+43}_{-37}	4188^{+2898}_{-839}	2571^{+25034}_{-1849}
Alt.	-303 ± 60	$3.77^{+3.44}_{-2.46}$	494^{+38}_{-36}	4422^{+2760}_{-894}	3618^{+26763}_{-2647}

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

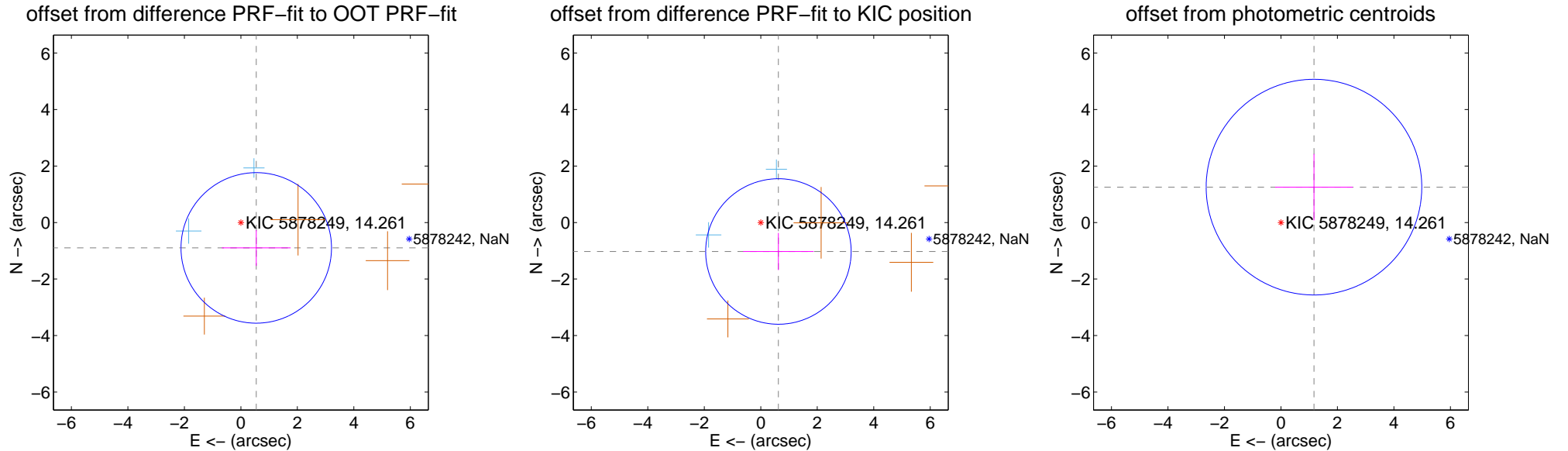
DV Centroid Data

Supplemental centroid analysis for 005878249-05. Kepler magnitude: 14.26. Transit SNR 7.63

There are 2 quarters with good PRF difference image offsets

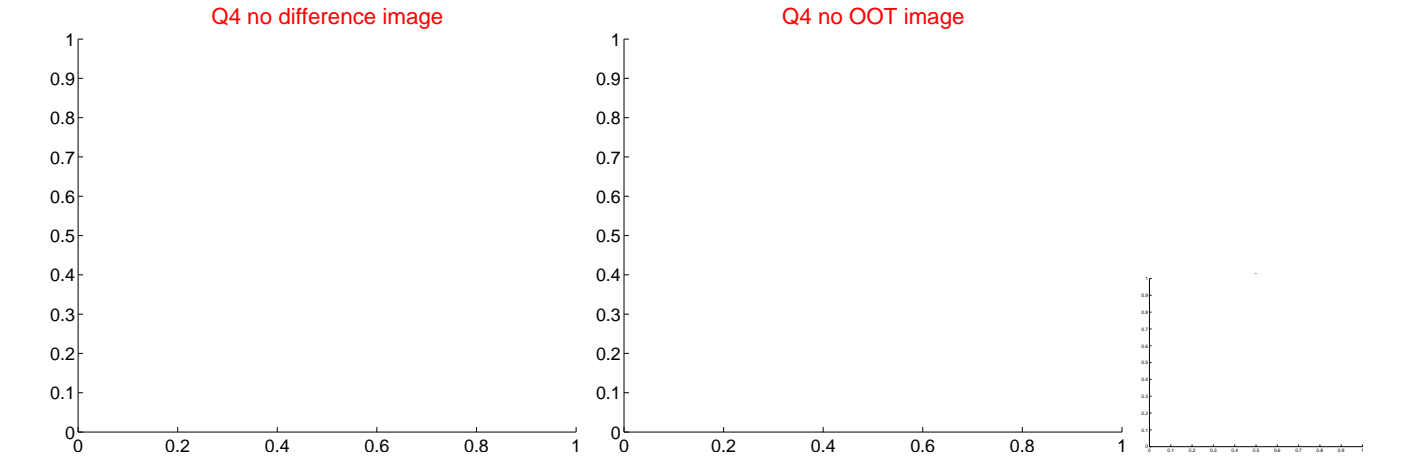
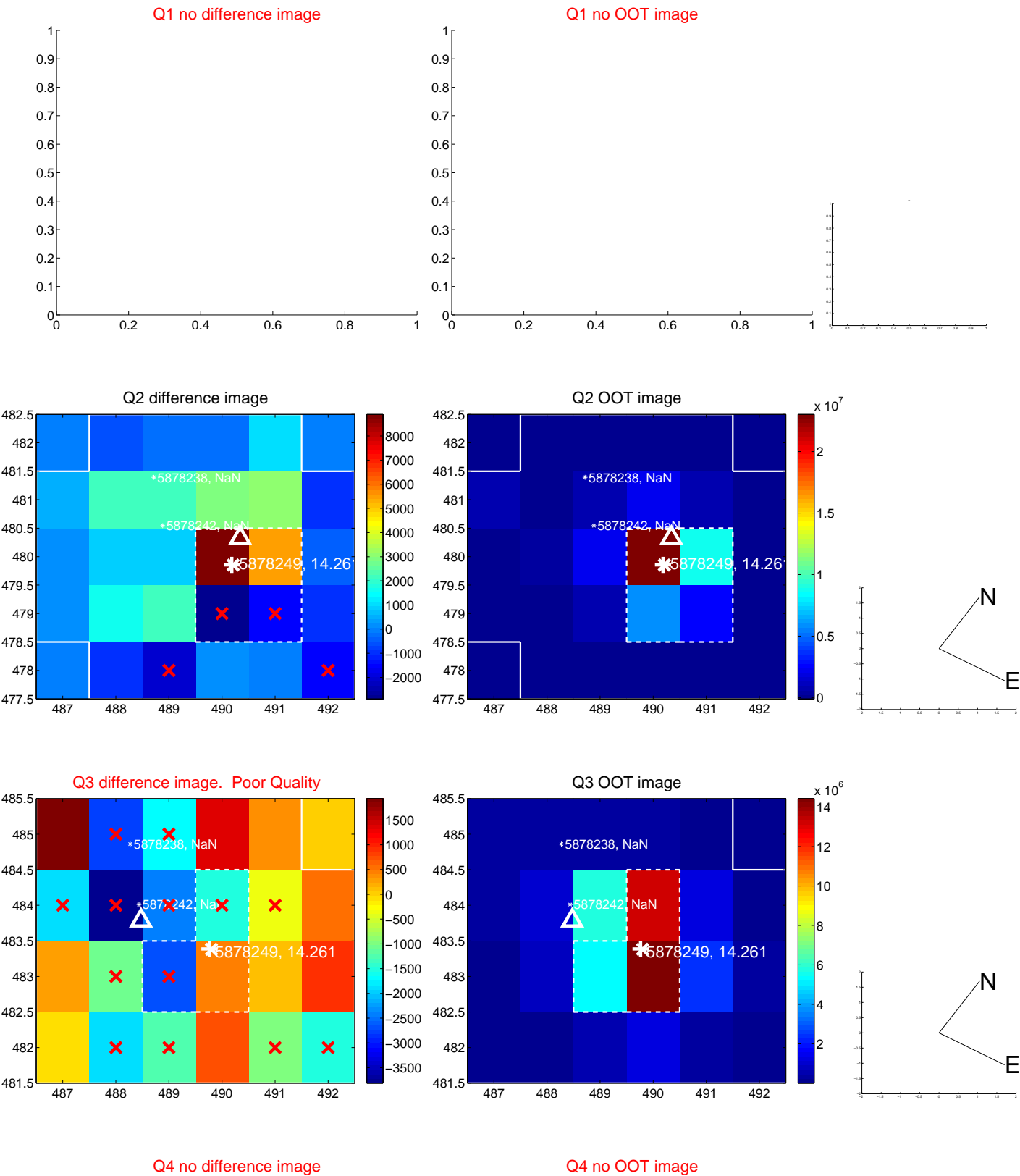
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.050 ± 0.888	1.18	-0.544 ± 1.219	-0.898 ± 0.632
PRF-fit source offset from KIC position	1.200 ± 0.858	1.40	-0.625 ± 1.248	-1.025 ± 0.657
photometric centroid source offset	1.71 ± 1.27	1.35	-1.17 ± 1.37	1.25 ± 1.18

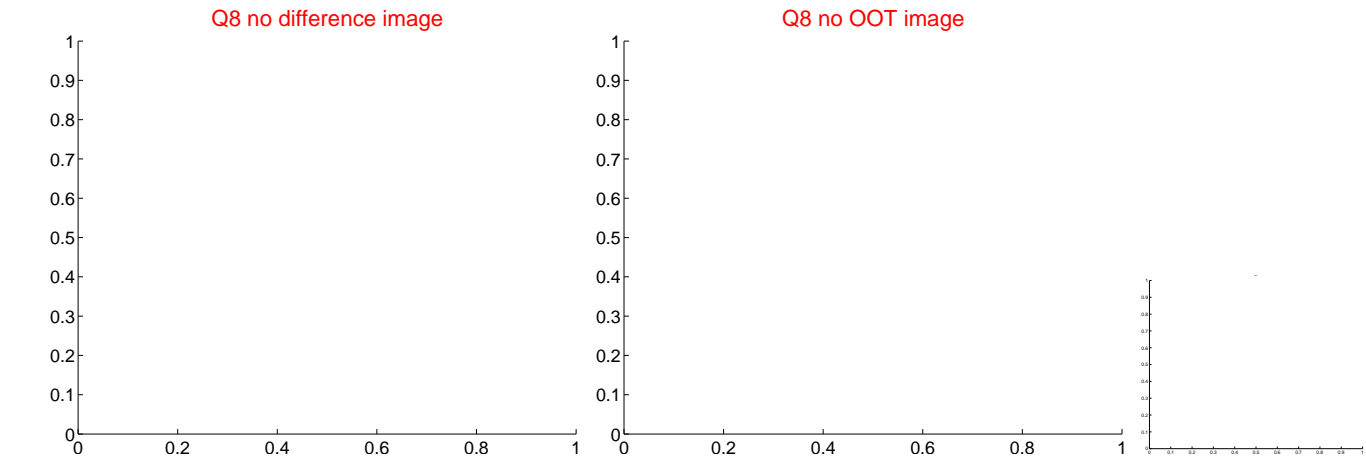
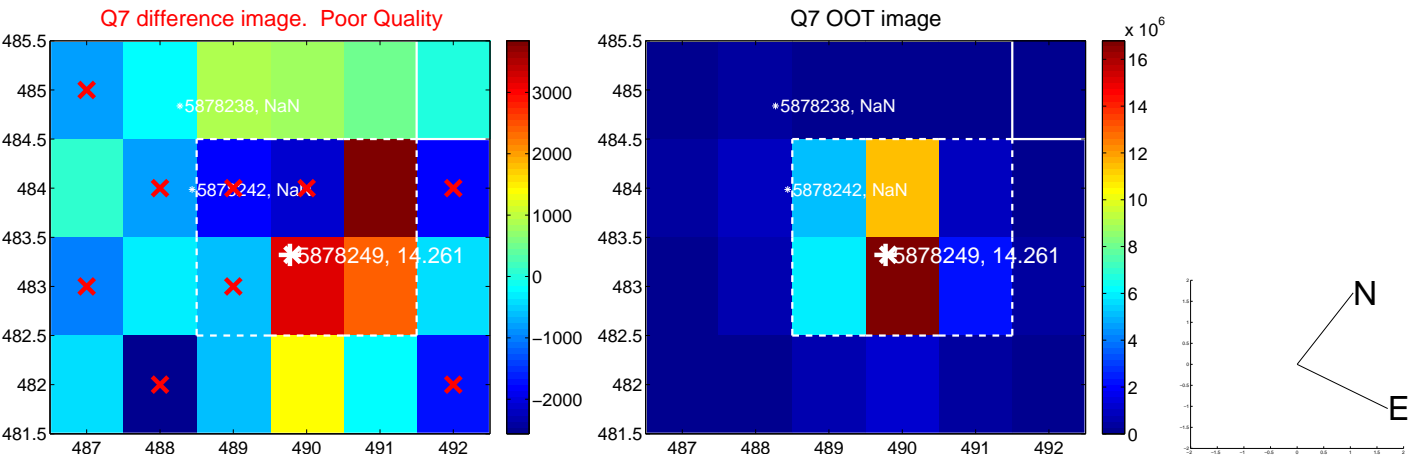
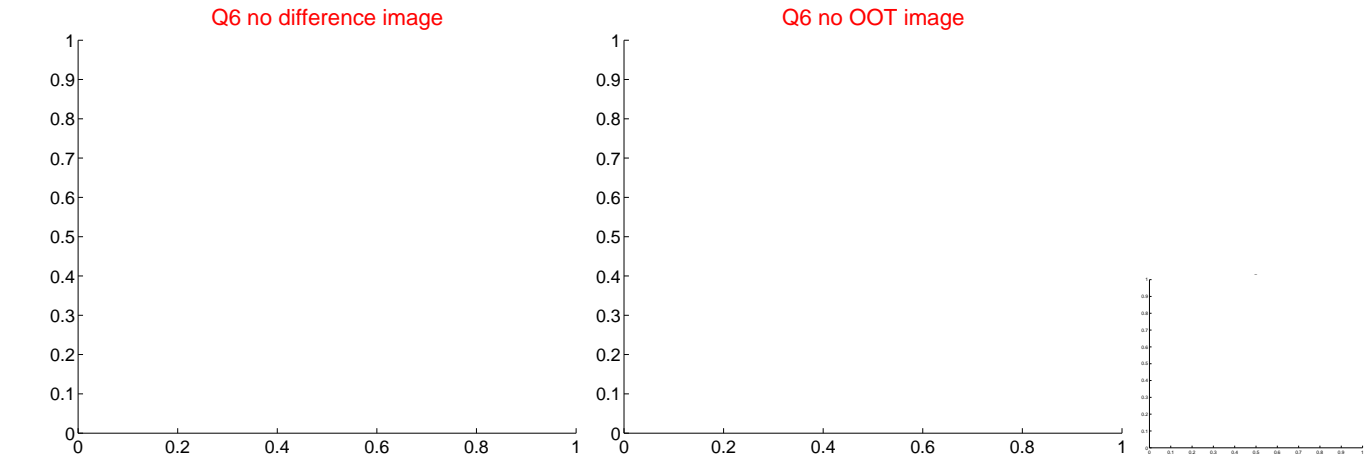
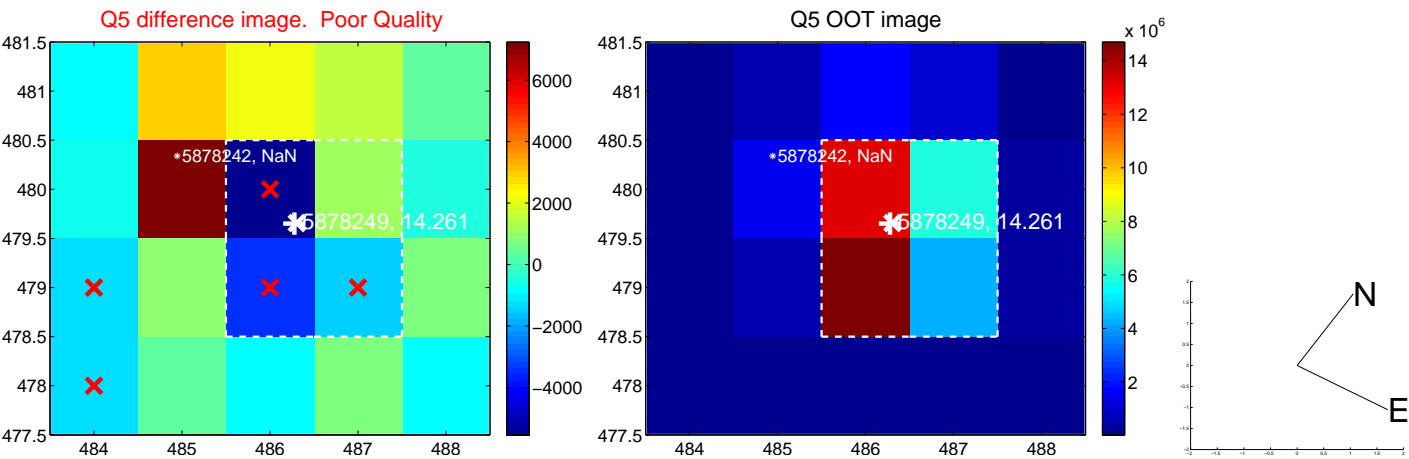


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

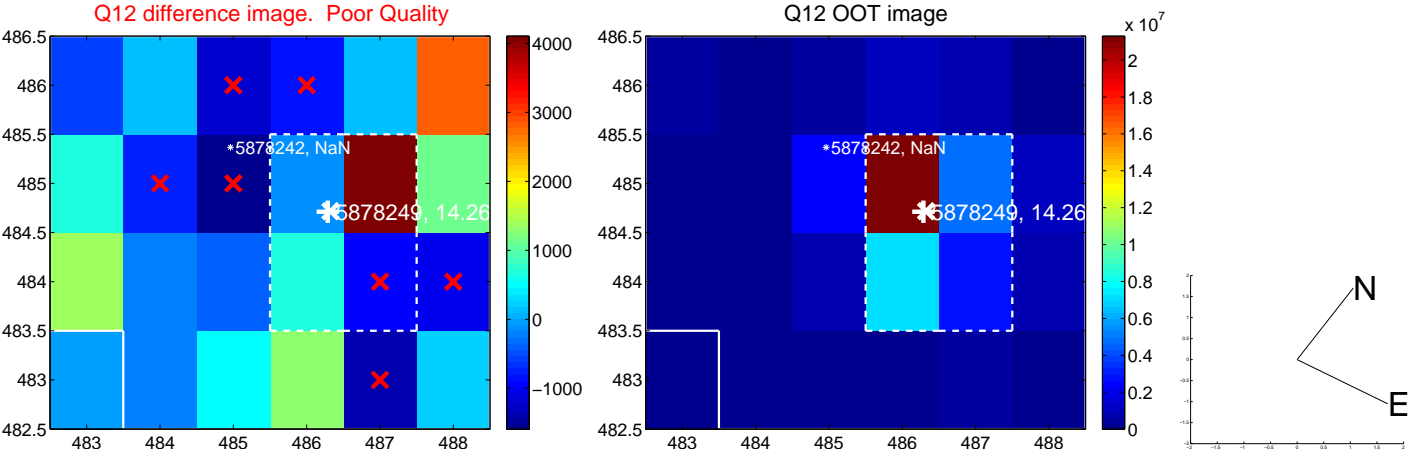
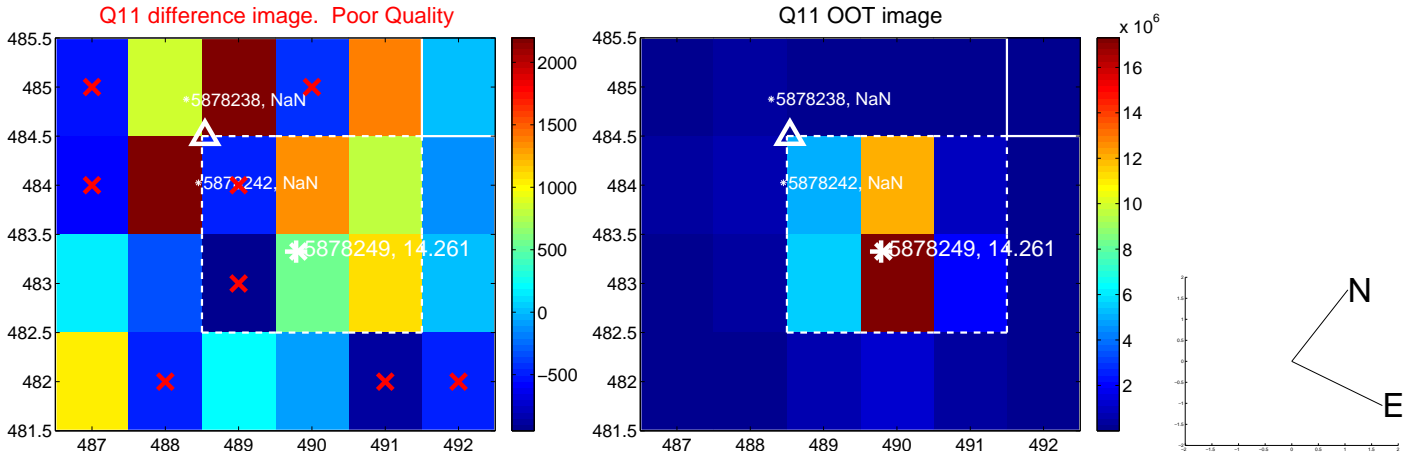
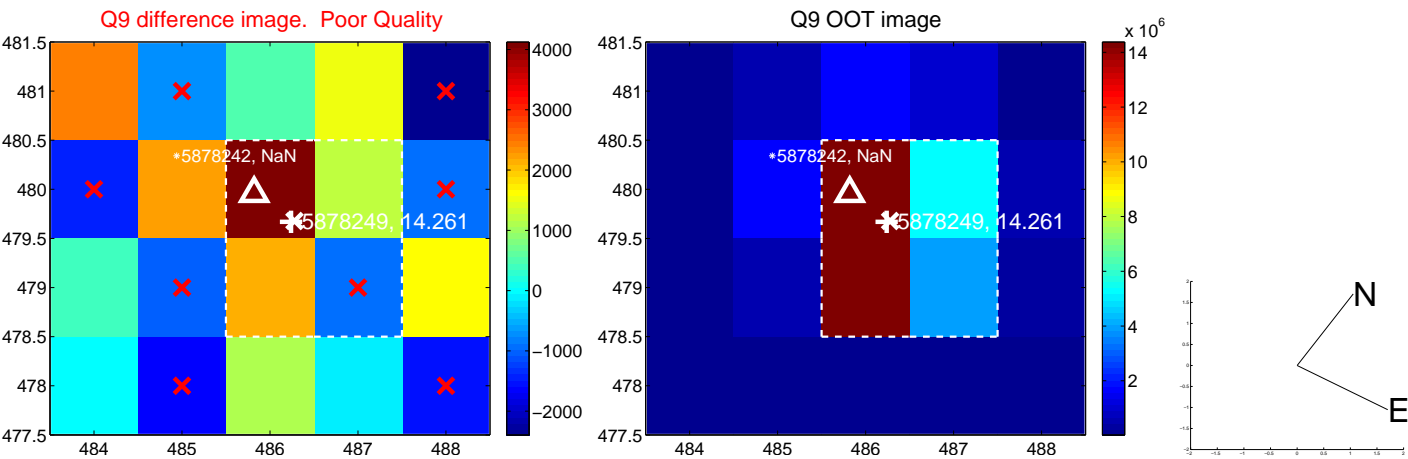
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

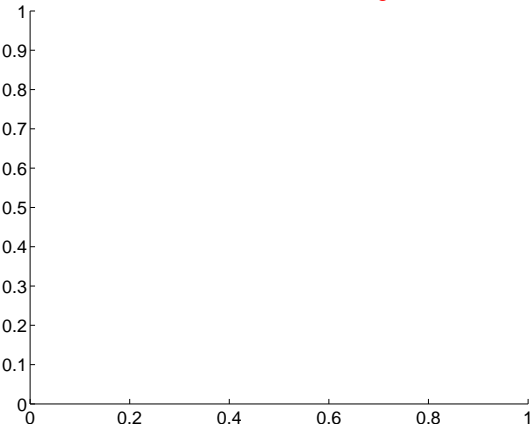


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

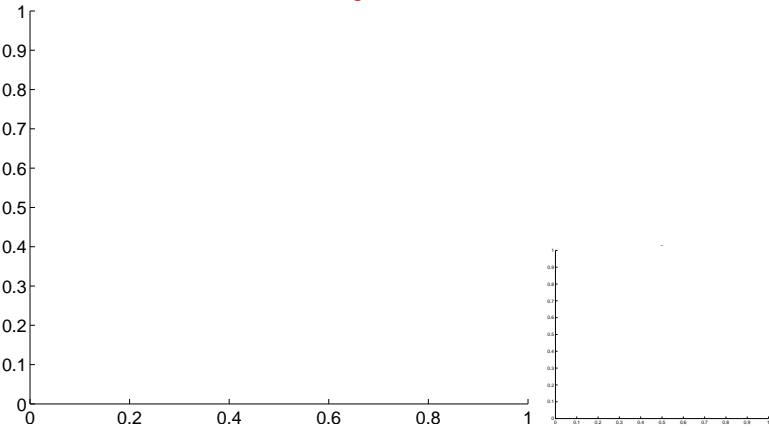


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

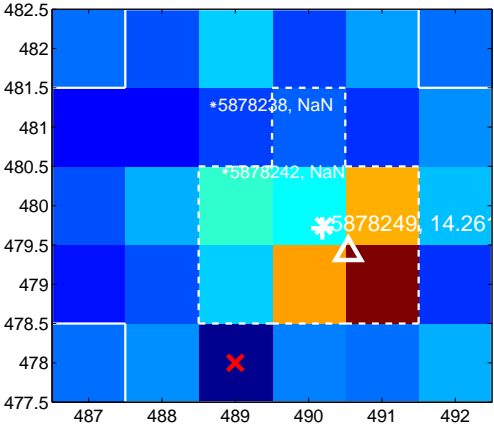
Q13 no difference image



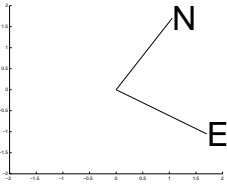
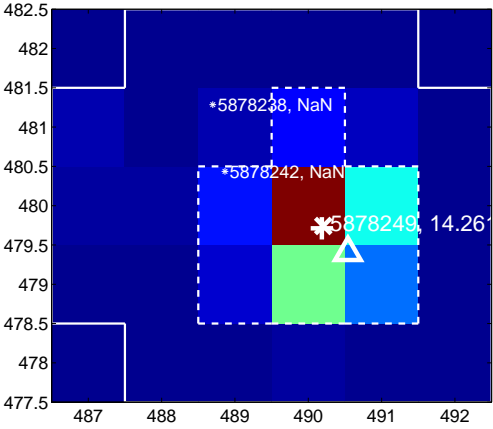
Q13 no OOT image



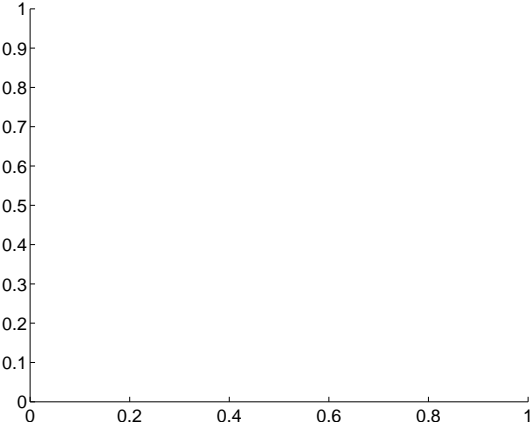
Q14 difference image



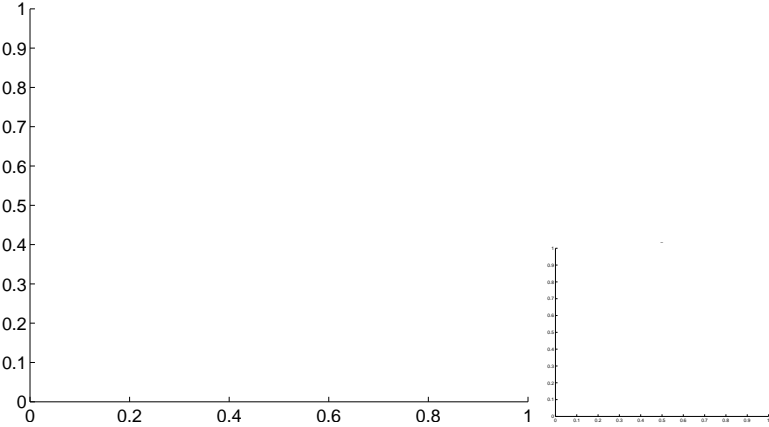
Q14 OOT image



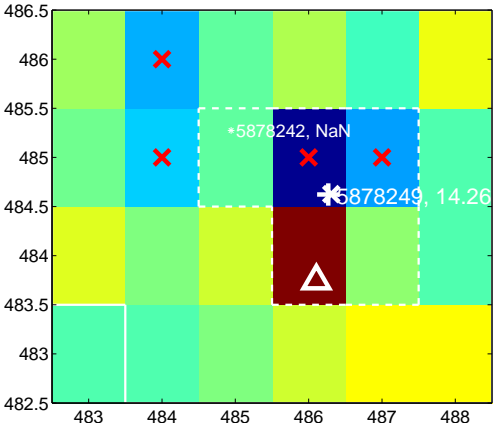
Q15 no difference image



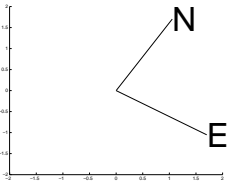
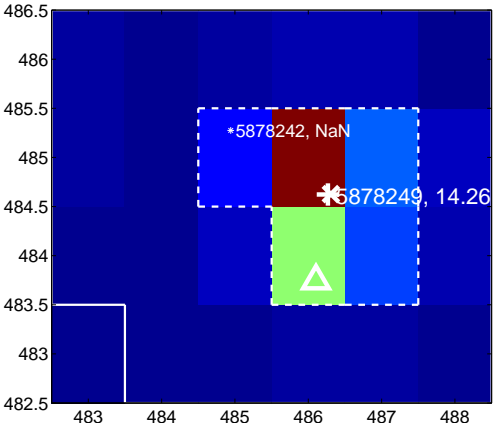
Q15 no OOT image



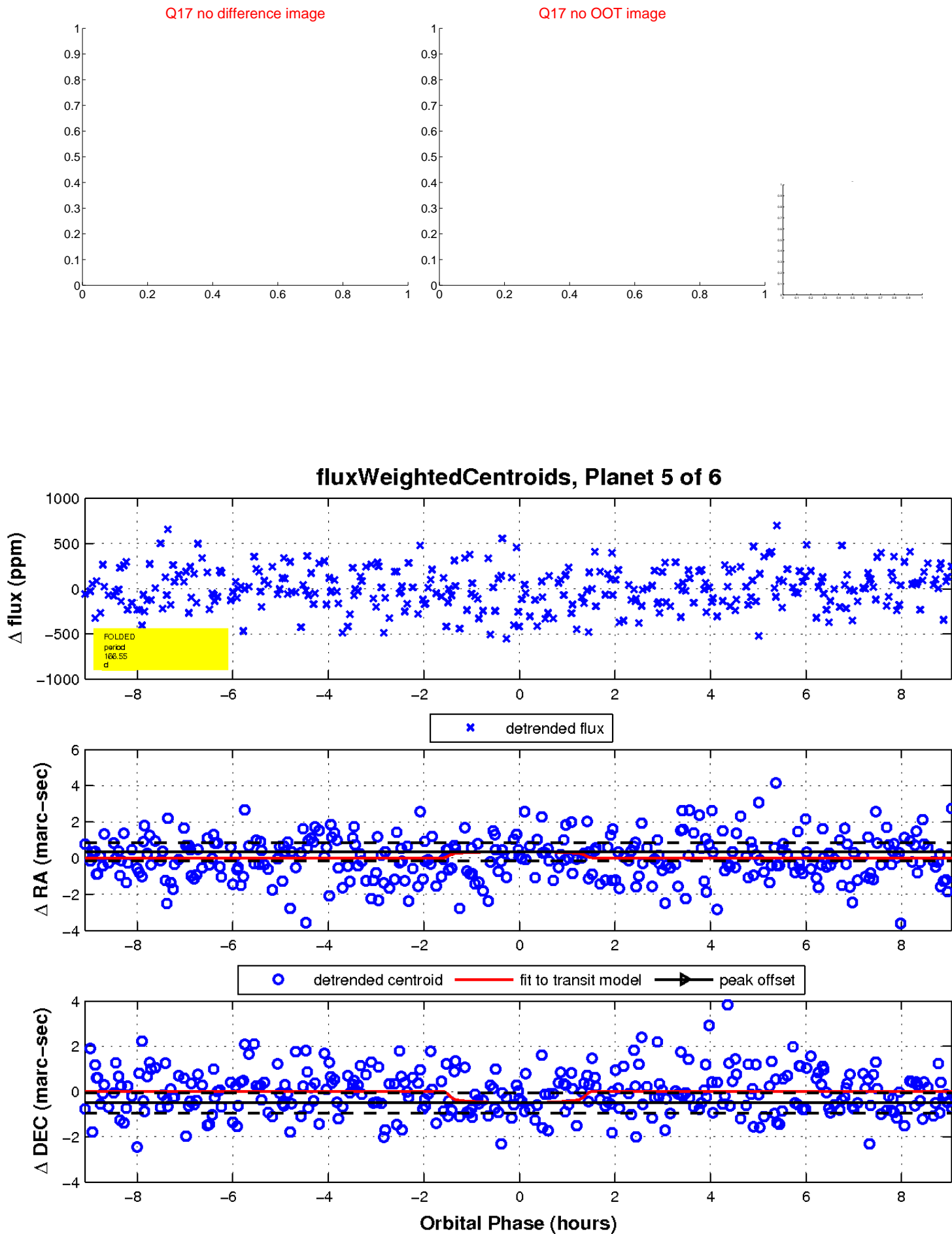
Q16 difference image. Poor Quality



Q16 OOT image

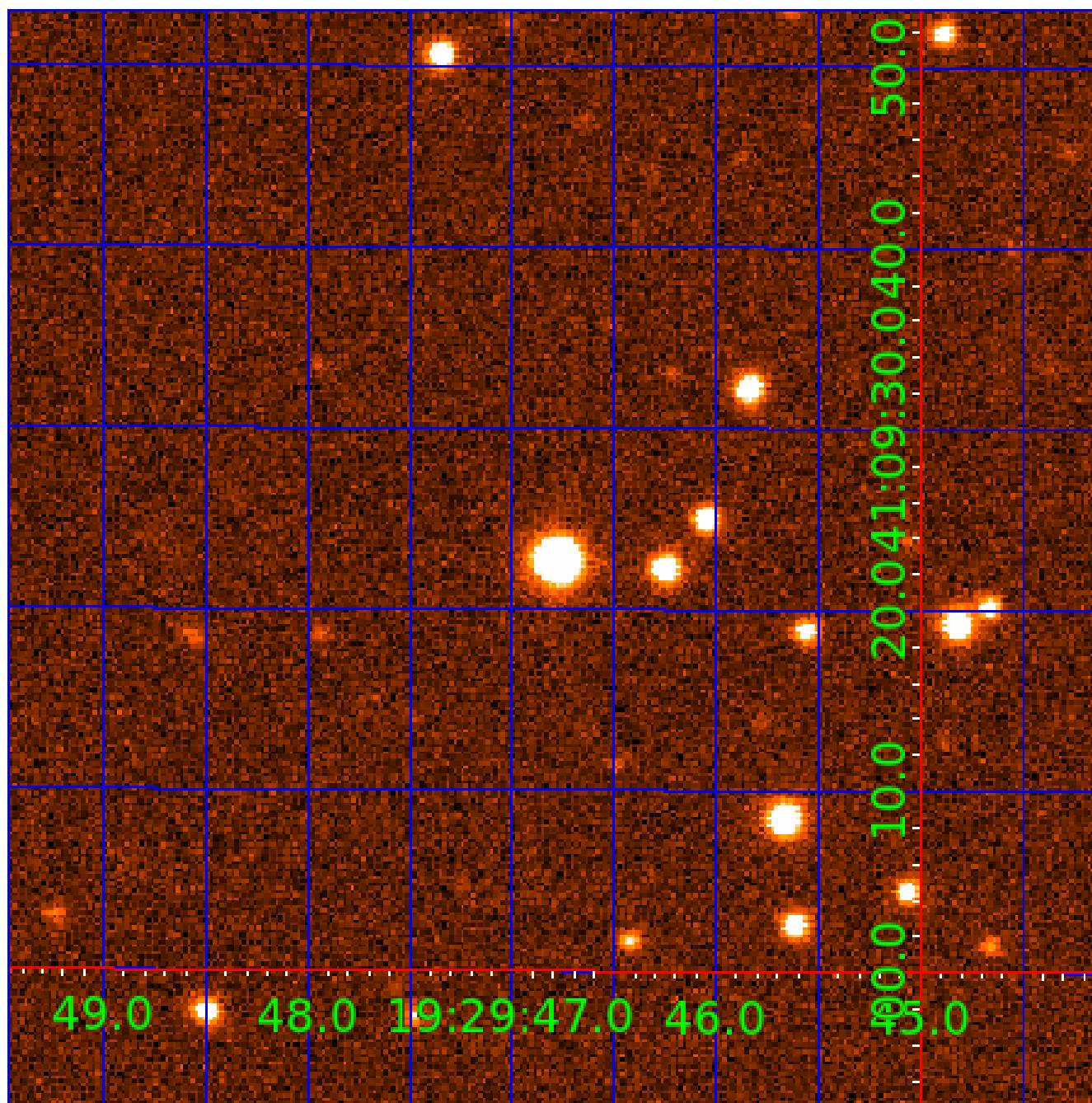


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005878249

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})
005878249-01	OBS	No	2.212473	132.897916	15.3	11.498	7.9	5.4	1.03	5869	0.41	1193.78
005878249-02	OBS	No	132.940754	154.430319	194.1	19.119	14.2	5.5	1.03	5869	1.61	5.07
005878249-03	OBS	No	171.323253	183.959638	336.1	4.456	8.4	7.9	1.03	5869	2.15	3.62
005878249-04	OBS	No	100.305962	210.579295	359.4	2.257	7.6	7.3	1.03	5869	2.31	7.38
005878249-05	OBS	No	166.552356	173.712348	372.7	3.035	7.6	7.6	1.03	5869	2.19	3.76
005878249-06	OBS	No	152.276239	235.560248	314.7	5.483	7.1	6.6	1.03	5869	2.18	4.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005878249-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET
005878249-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005878249-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005878249-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
005878249-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005878249-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

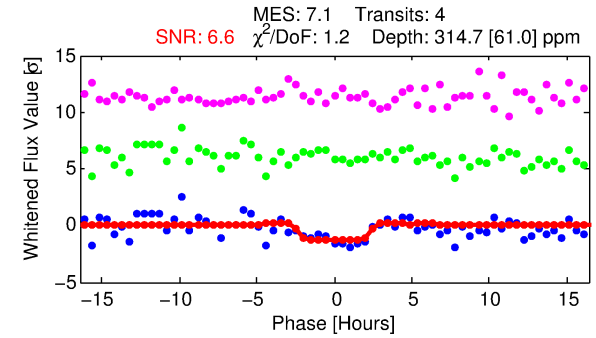
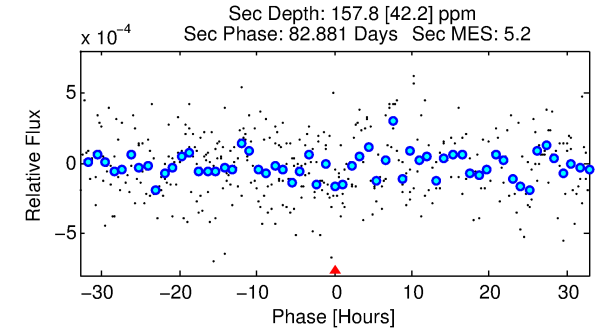
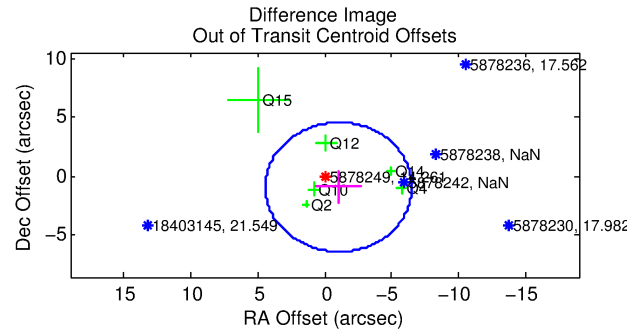
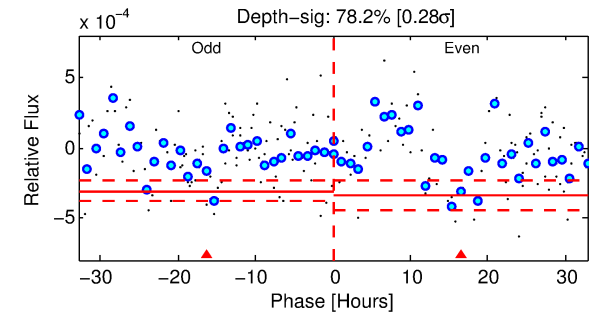
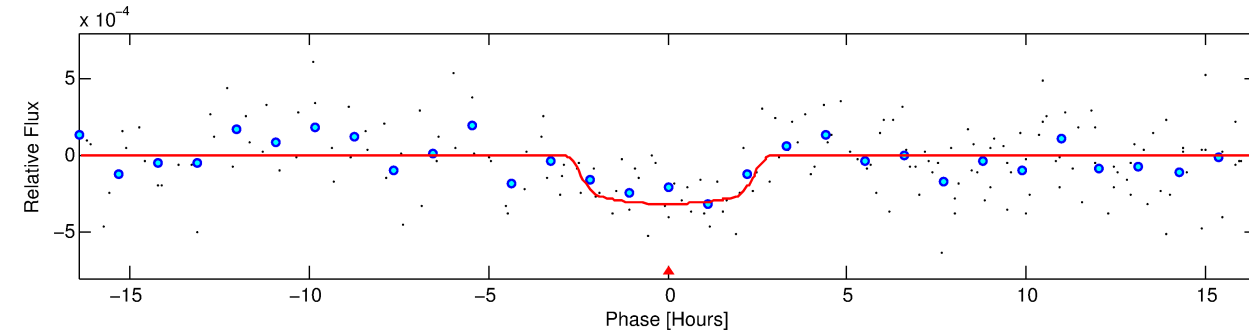
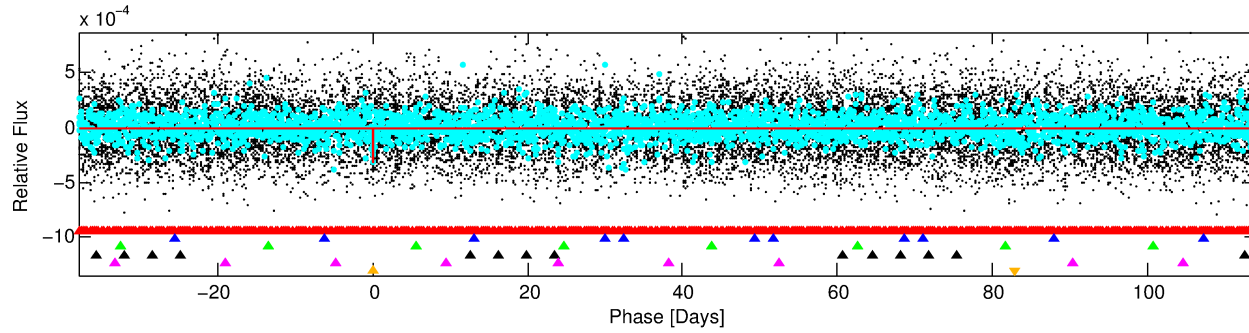
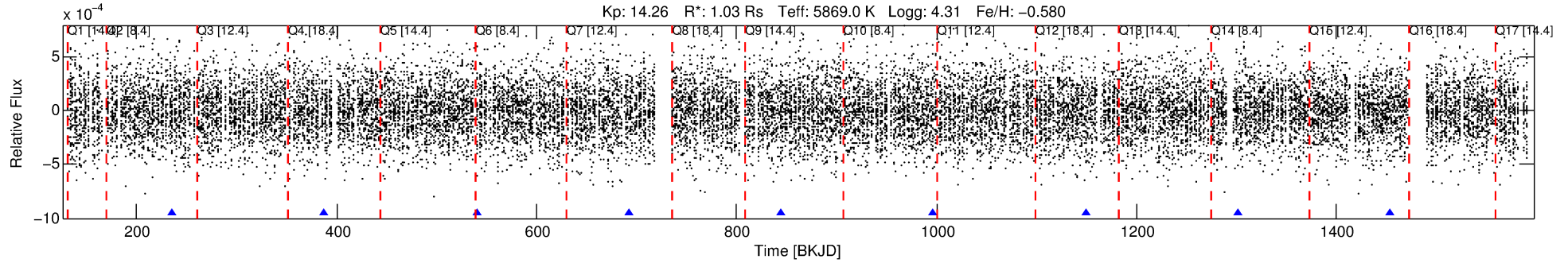
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005878249-06

No Significant Match Found

DV One-Page Summary

KIC: 5878249 Candidate: 6 of 6 Period: 152.276 d



DV Fit Results:

Period = 152.27624 [0.00371] d
Epoch = 235.5602 [0.0136] BKJD
Rp/R* = 0.0194 [0.0076]
a/R* = 94.82 [181.36]
b = 0.92 [0.34]
Seff = 4.23 [1.71]
Teq = 366 [37] K
Rp = 2.18 [1.07] Re
a = 0.5157 [0.1333] AU
Ag = 4847.09 [4435.03] [1.09 σ]
Teffp = 4718 [985] K [4.42 σ]

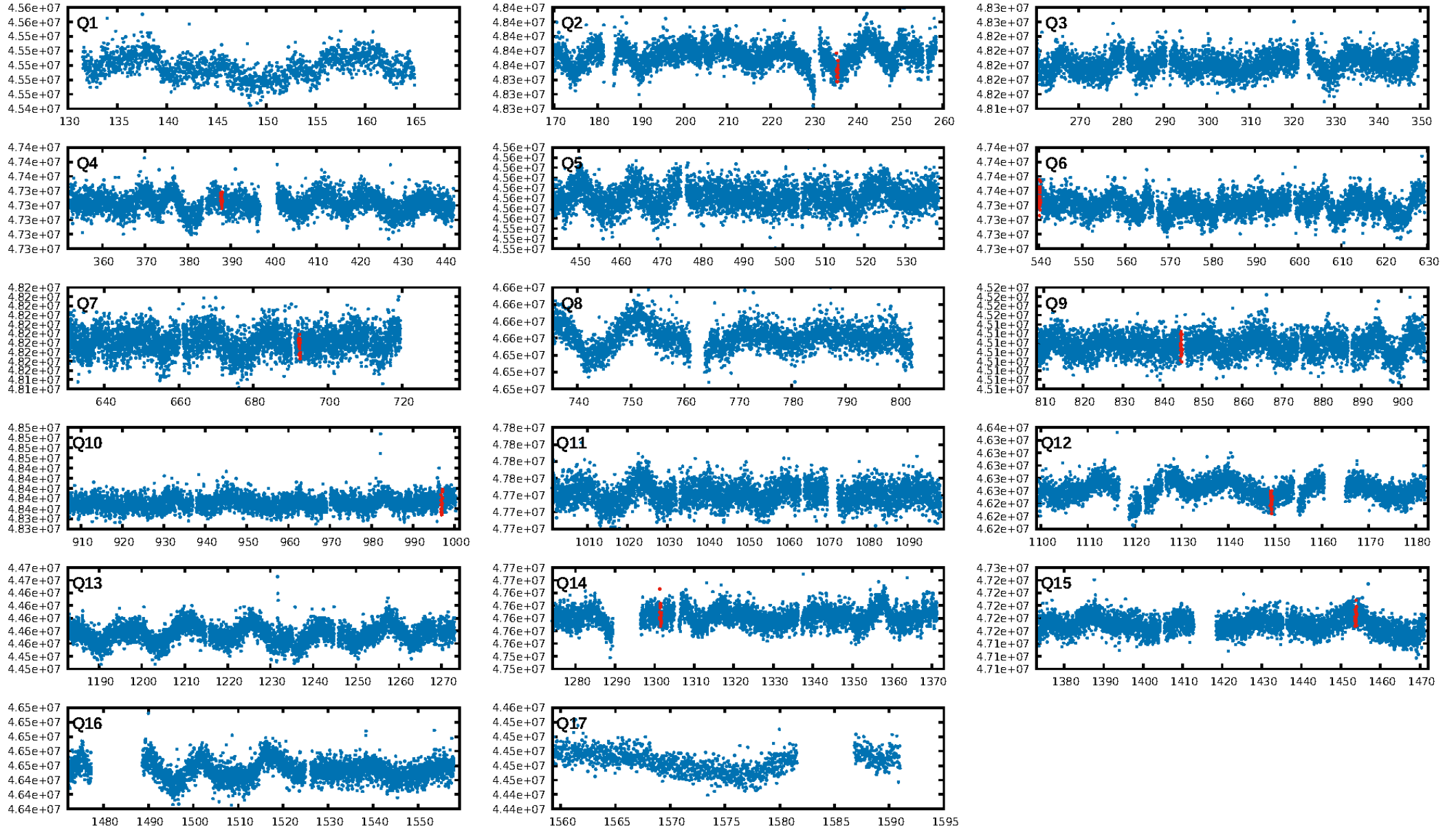
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [23.33 σ]
LongPeriod-sig: 100.0% [54.67 σ]
ModelChiSquare2-sig: 98.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.27e-08
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 54.13
Centroid-sig: 17.8%
Centroid-so: 1.149 arcsec [1.11 σ]
OotOffset-rm: 1.375 arcsec [0.75 σ]
KicOffset-rm: 1.475 arcsec [0.88 σ]
OotOffset-st: 3/1/2/0 [6]
KicOffset-st: 3/1/2/0 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 0.50 [3/6]

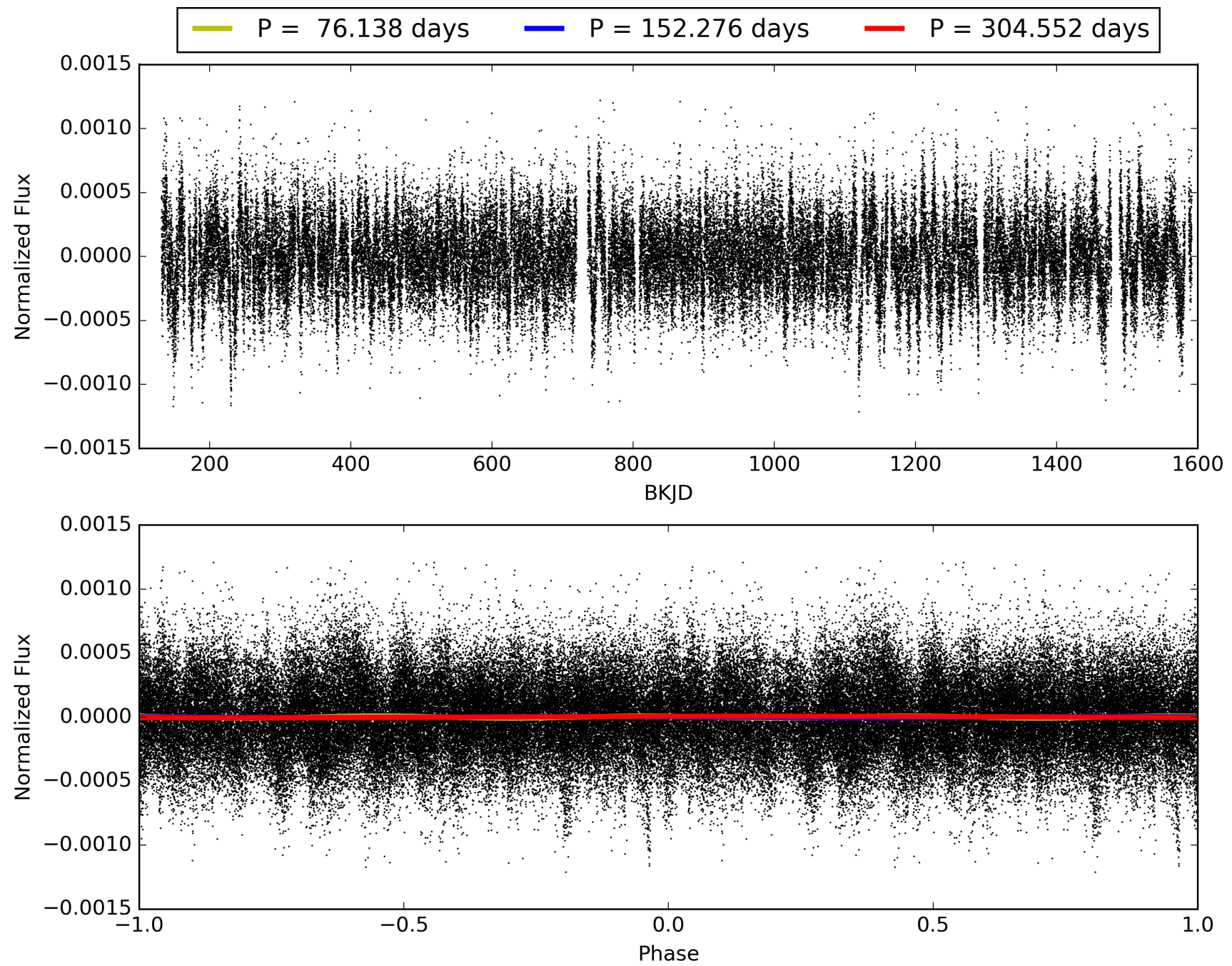
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:58:05 Z

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

TCE 005878249-06, PDC Light Curves

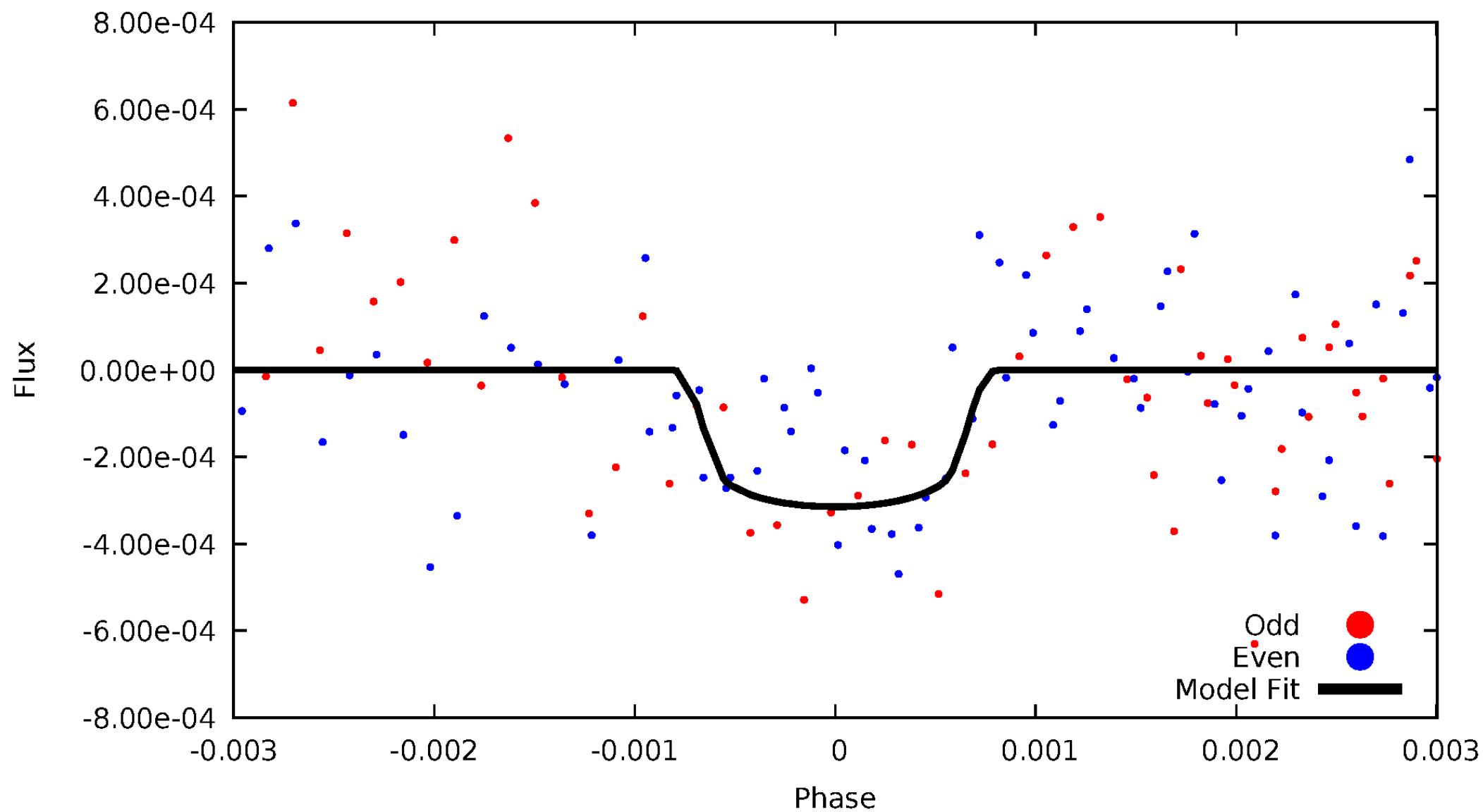


TCE 005878249-06



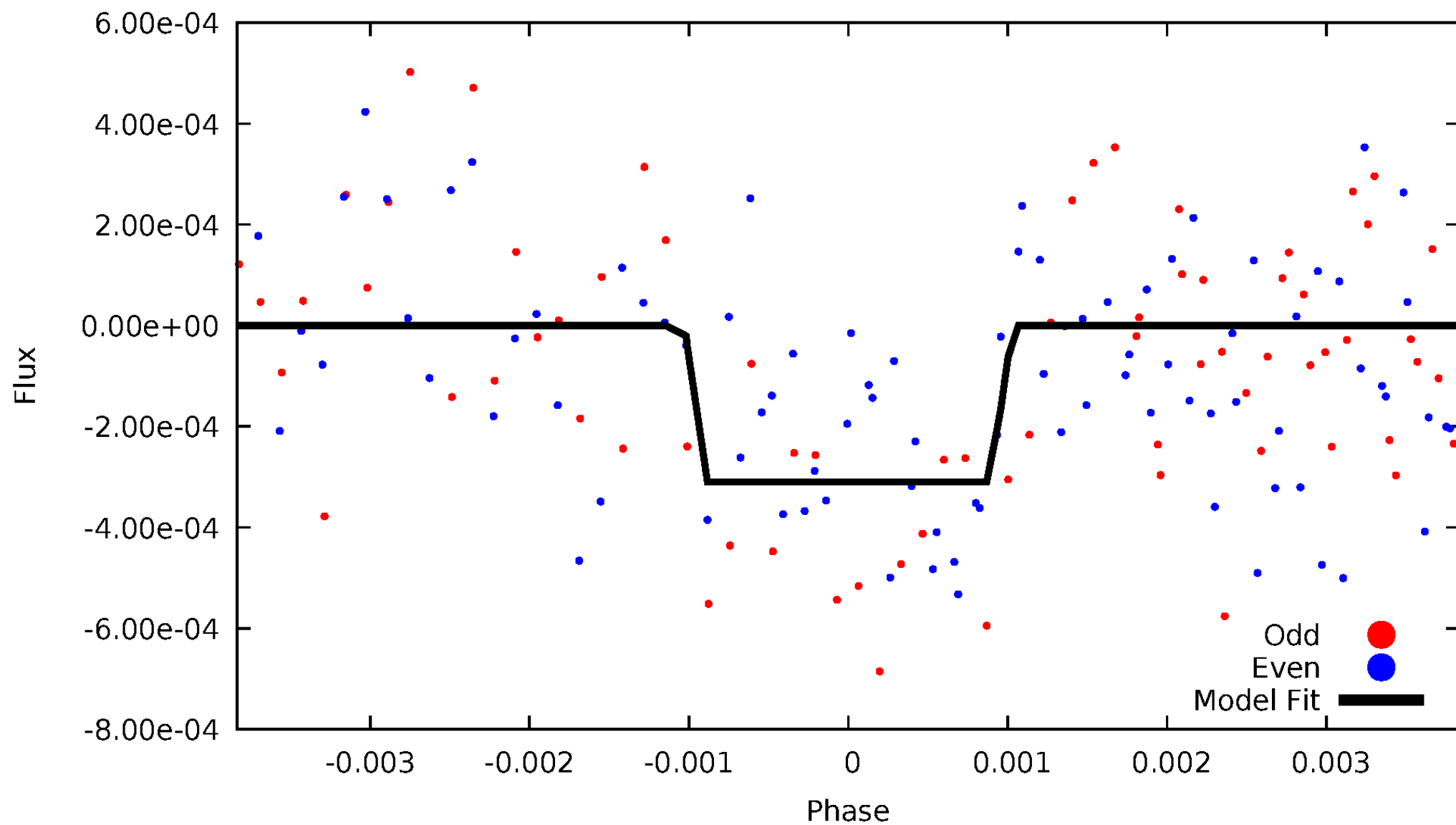
DV Odd/Even

TCE 005878249-06



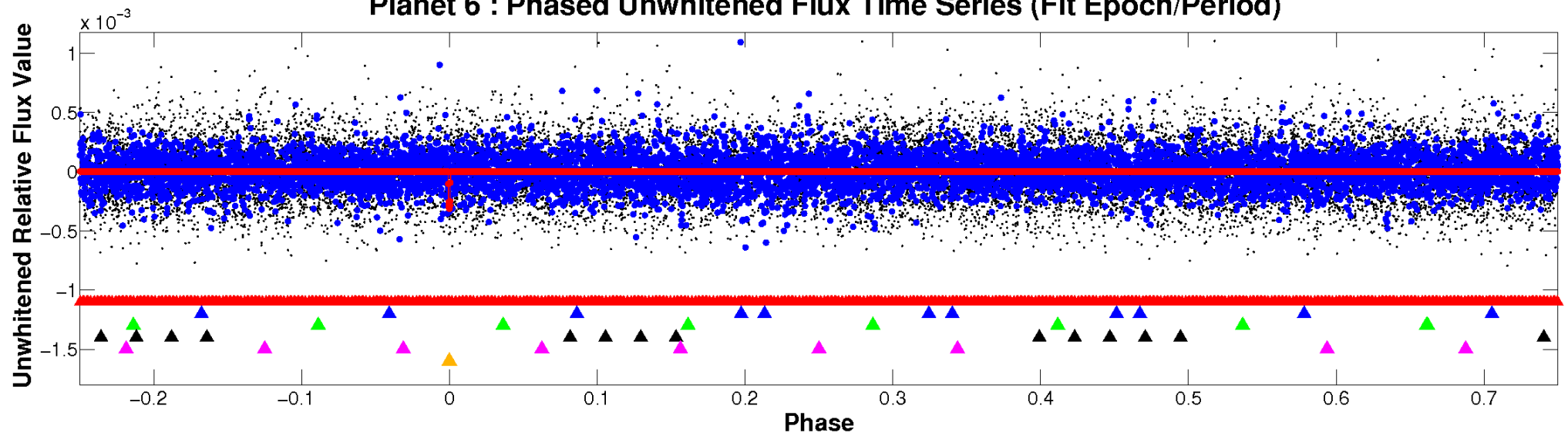
ALT Odd/Even

TCE 005878249-06

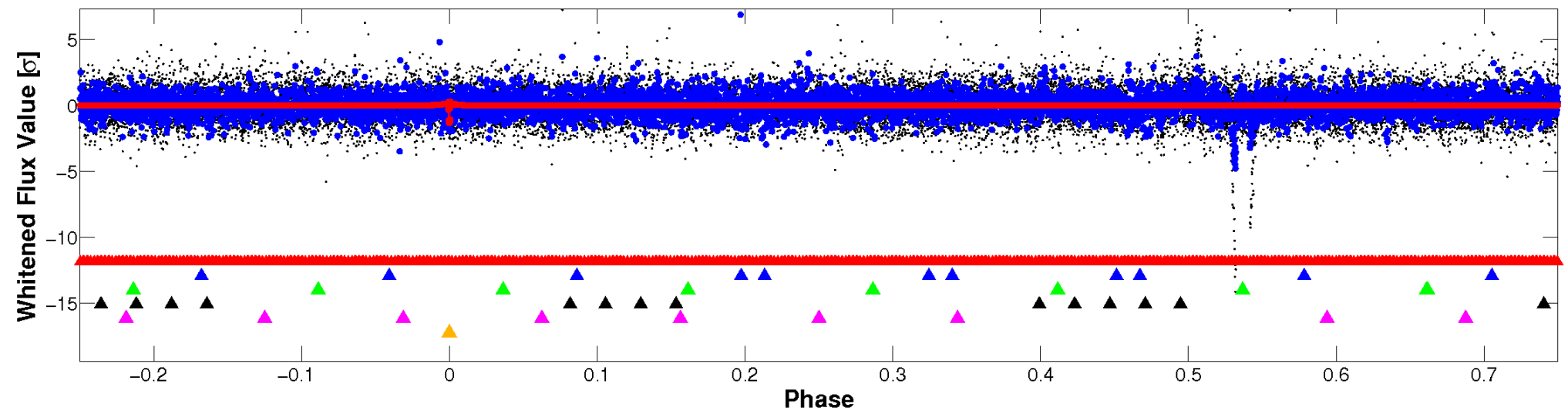


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

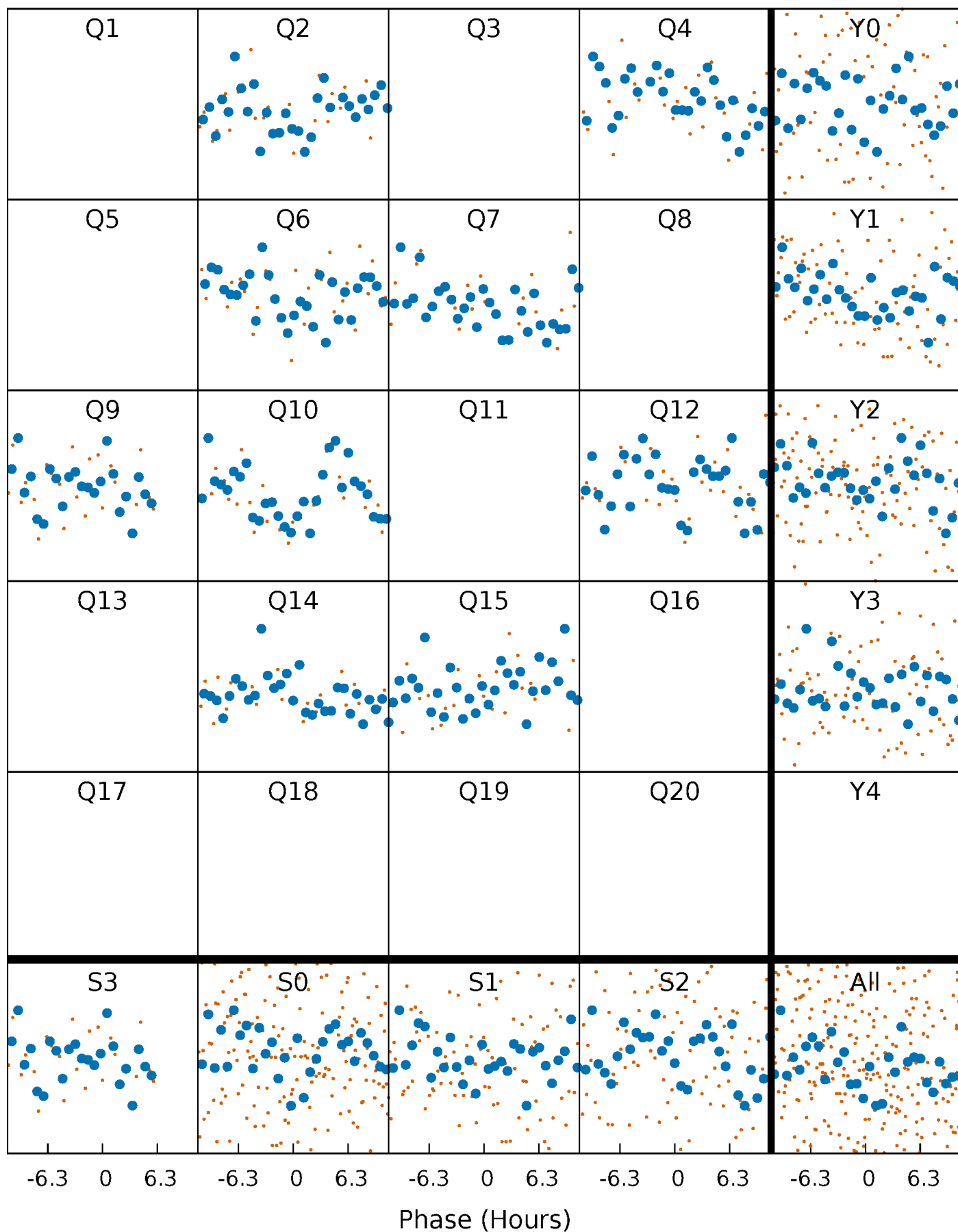


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



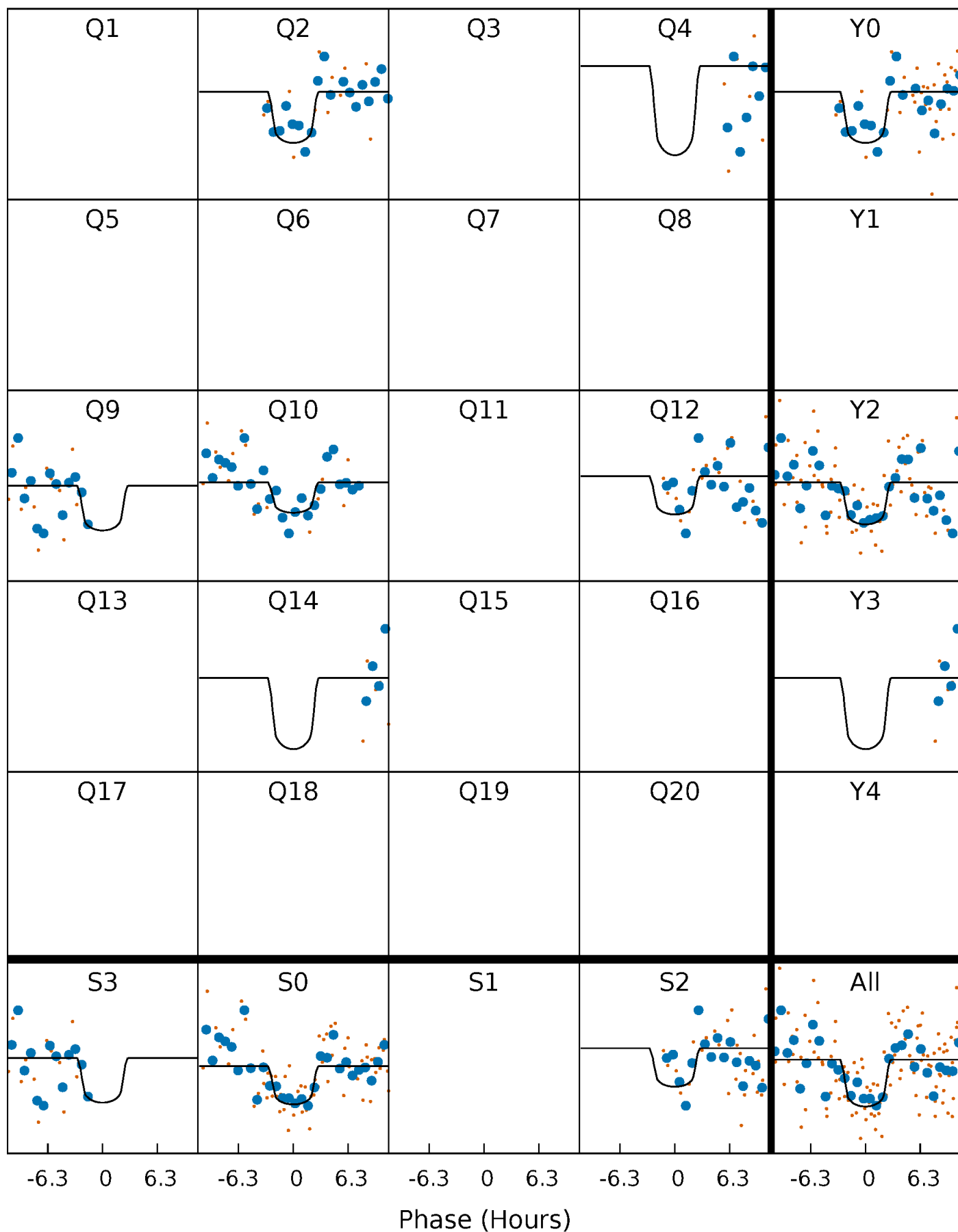
PDC Quarter-Phased Transit Curves

TCE 005878249-06 P=152.276239 Days $T_0=235.560248$ (BKJD)



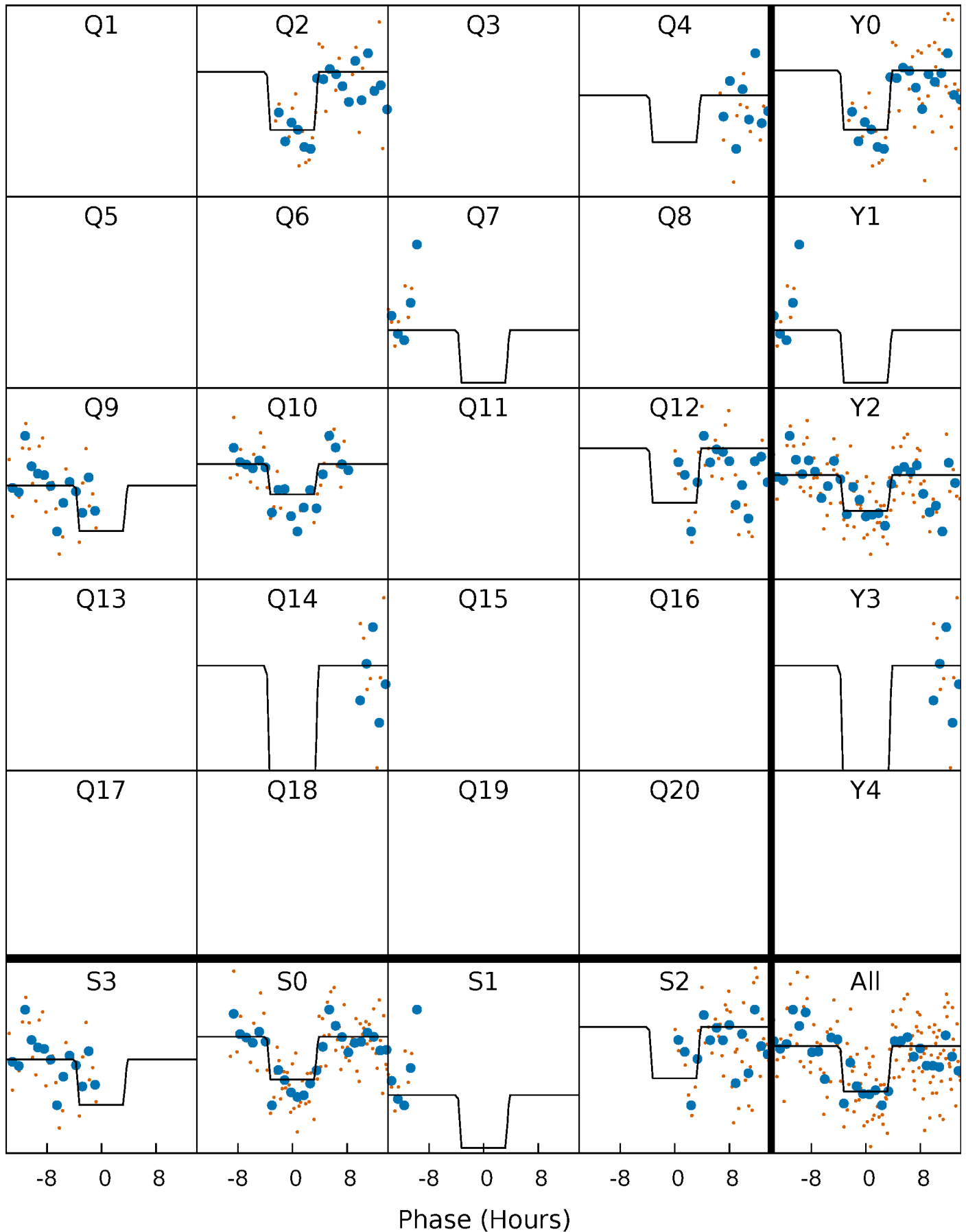
DV Quarter-Phased Transit Curves

TCE 005878249-06 P=152.276239 Days $T_0=235.560248$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

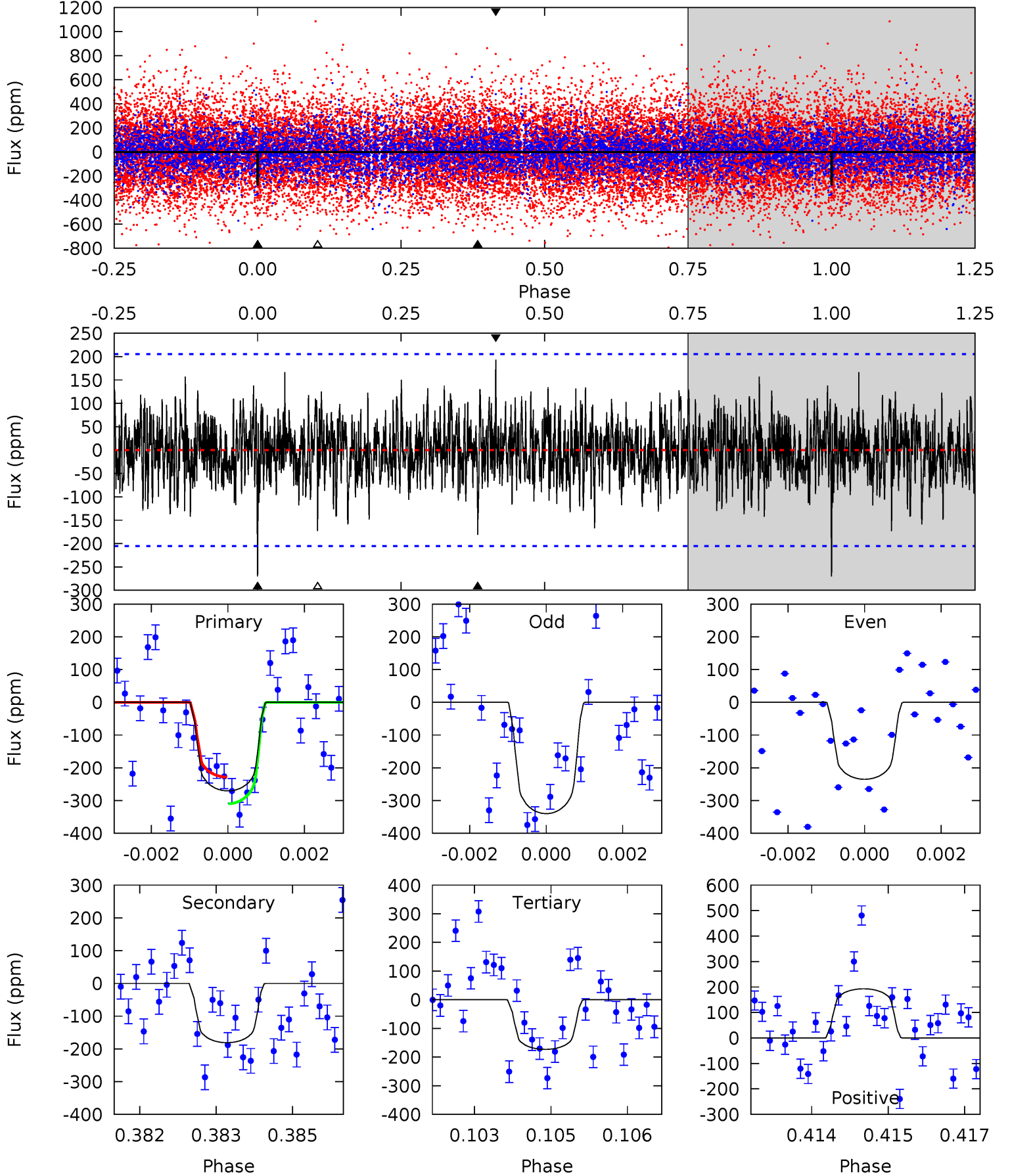
TCE 005878249-06 P=152.273088 Days $T_0=235.522350$ (BKJD)



DV Model-Shift Uniqueness Test

005878249-06, $P = 152.276239$ Days, $E = 83.284009$ Days

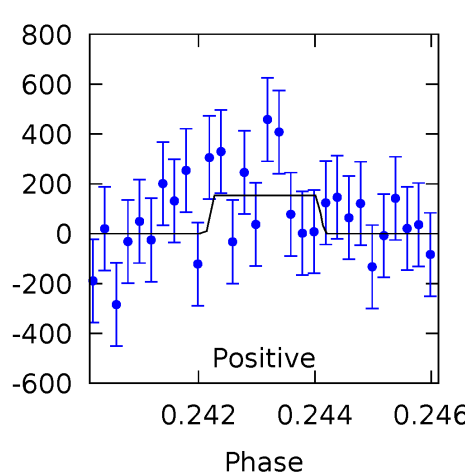
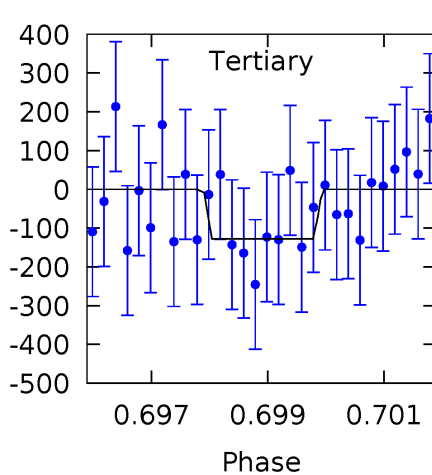
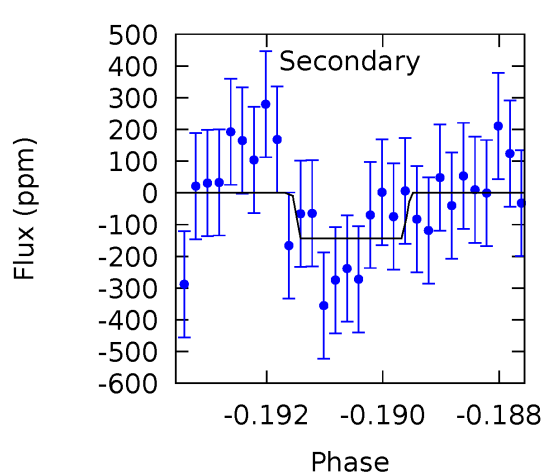
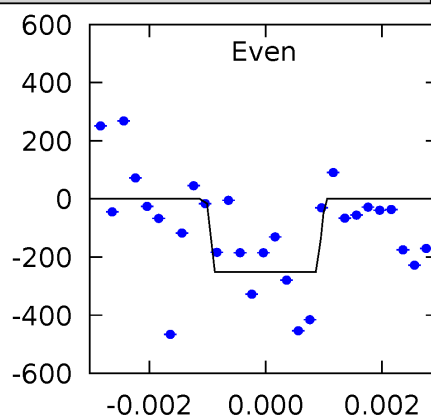
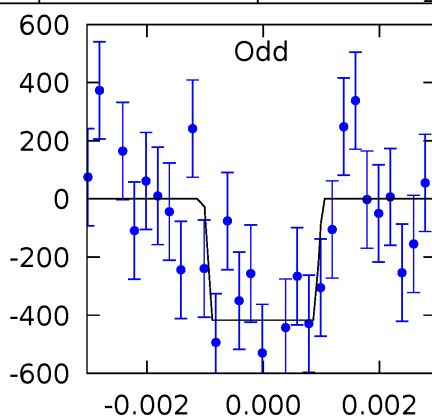
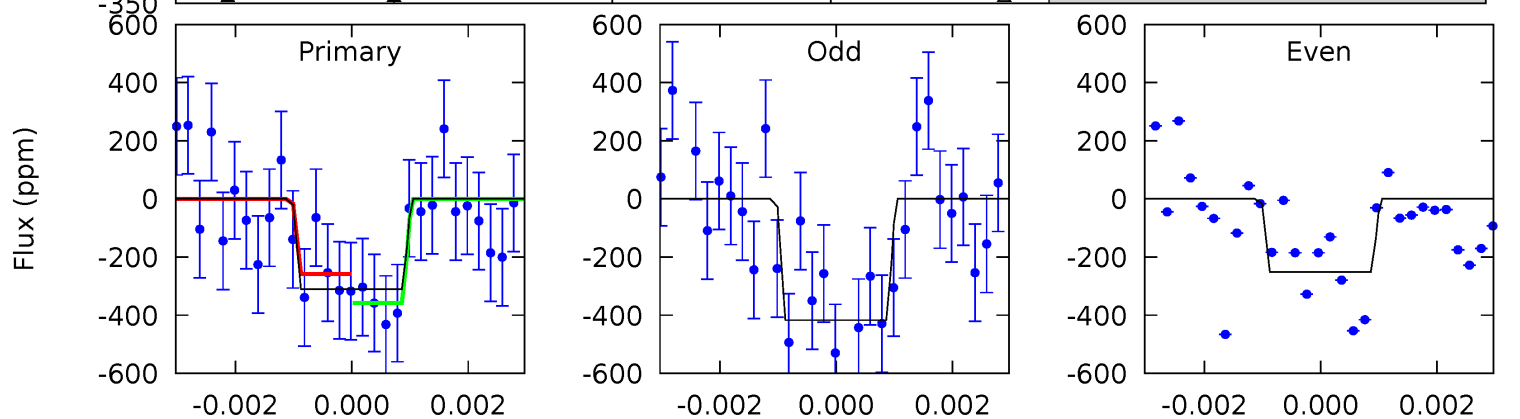
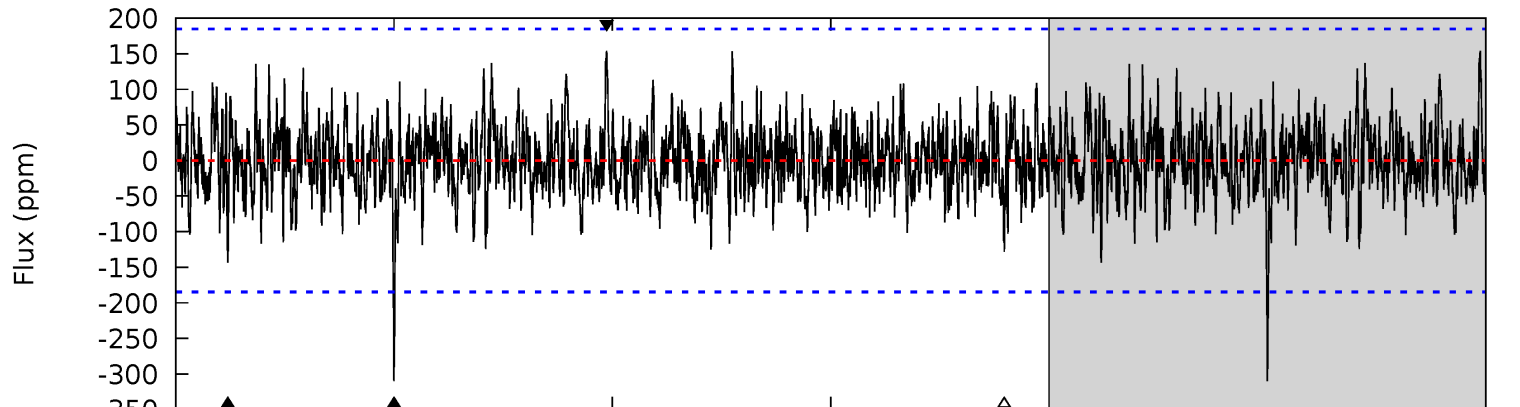
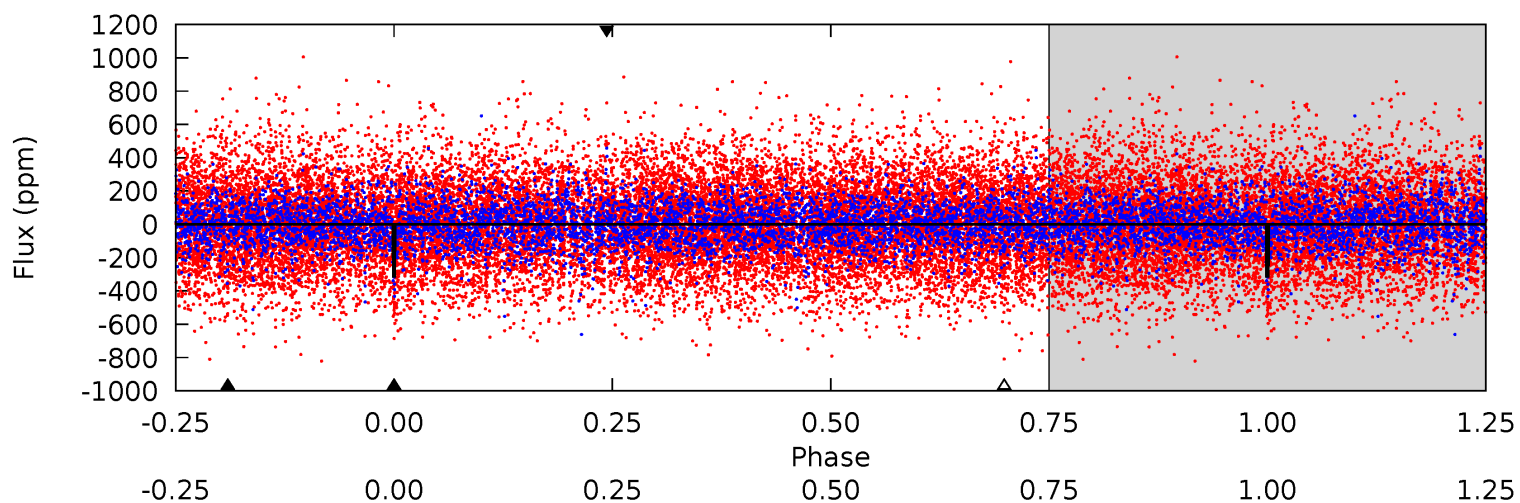
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.07	4.73	4.53	5.05	5.37	3.15	1.31	2.54	2.03	0.20	-0.31	1.32	0.97	0.42	1.06



Alt Model-Shift Uniqueness Test

005878249-06, P = 152.273088 Days, E = 83.249262 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.93	4.13	3.69	4.44	5.32	3.09	1.19	5.24	4.49	0.44	-0.31	2.30	0.95	0.33	1.43



Stellar Parameters For KIC 005878249

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+159}_{-159}	$4.310^{+0.220}_{-0.198}$	$-0.580^{+0.300}_{-0.300}$	$1.029^{+0.302}_{-0.247}$	$0.789^{+0.114}_{-0.053}$	$1.019^{+1.165}_{-0.551}$
	+3%/-3%	+5%/-5%	+52%/-52%	+29%/-24%	+14%/-7%	+114%/-54%
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 005878249-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-181 ± 38	$2.22^{+0.96}_{-0.88}$	509^{+41}_{-36}	4962^{+1258}_{-637}	5508^{+9621}_{-2928}
Alt.	-143 ± 35	$2.01^{+0.94}_{-0.85}$	513^{+38}_{-39}	4882^{+1416}_{-658}	5233^{+10920}_{-2961}

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

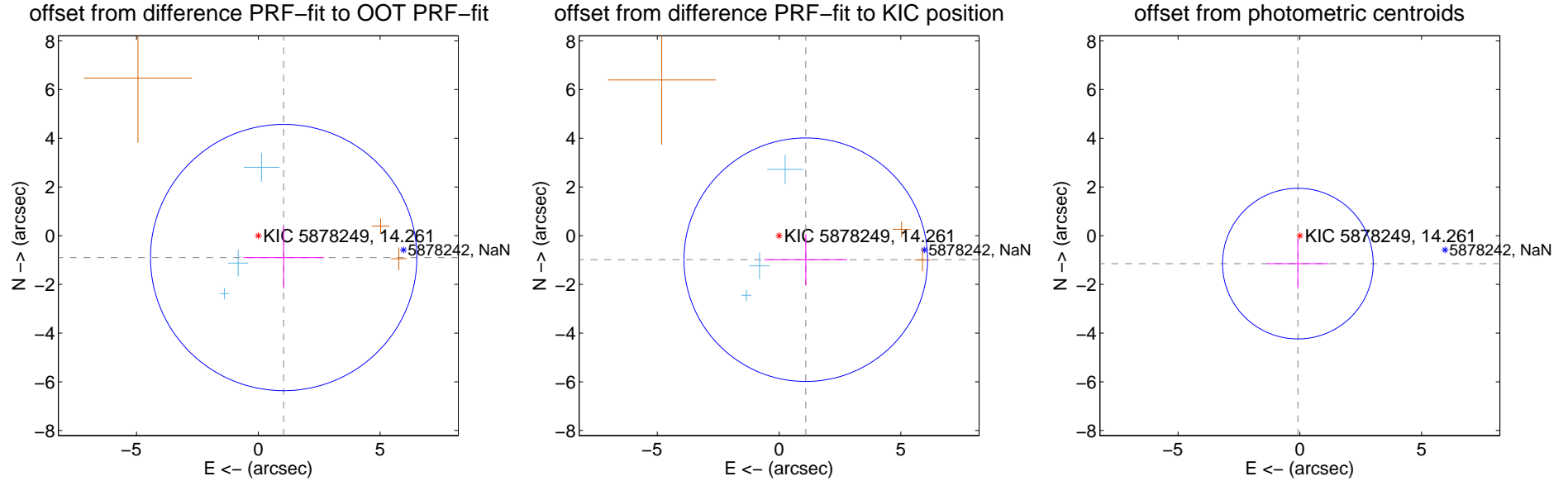
DV Centroid Data

Supplemental centroid analysis for 005878249-06. Kepler magnitude: 14.26. Transit SNR 6.63

There are 3 quarters with good PRF difference image offsets

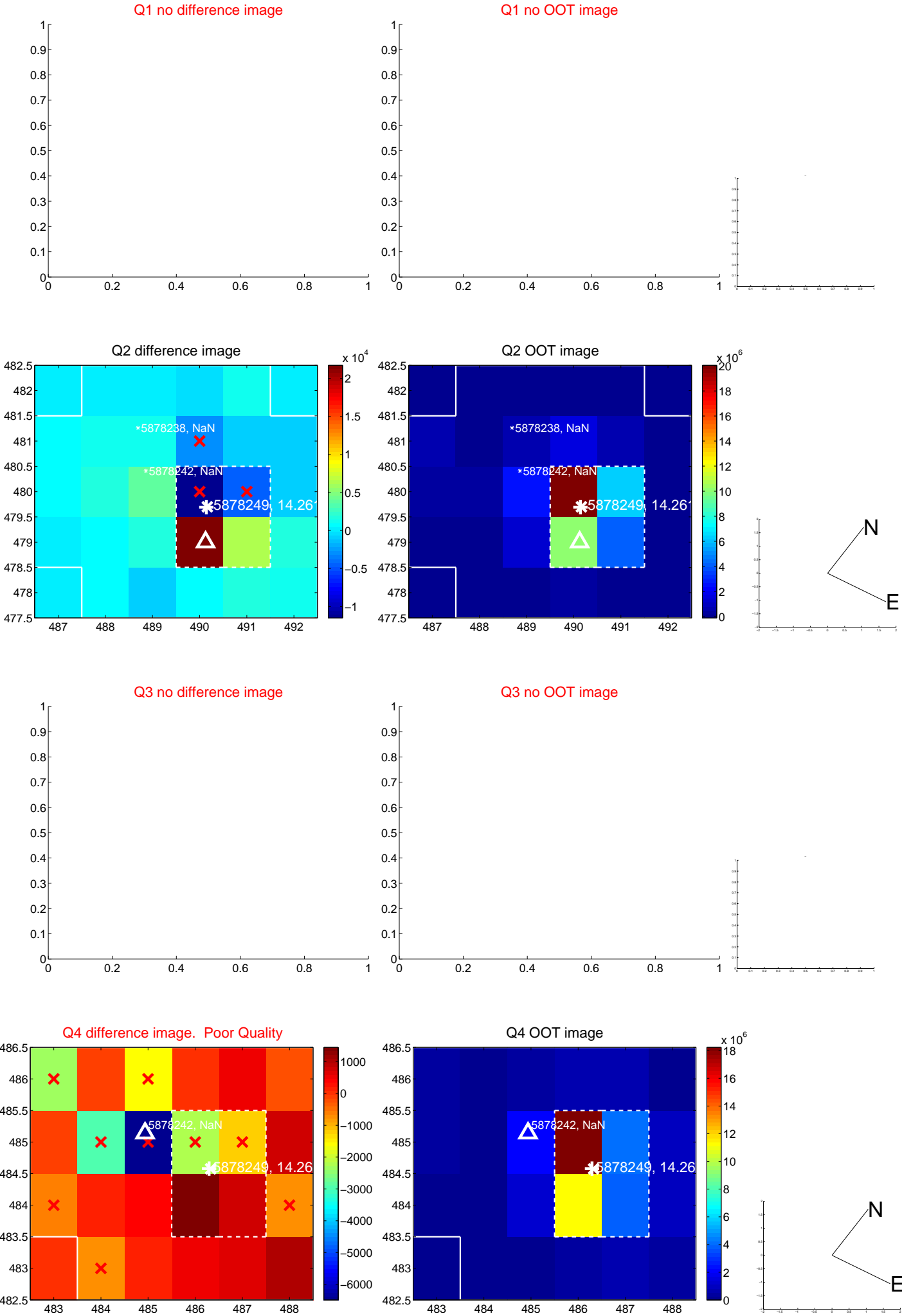
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.375 ± 1.822	0.75	-1.041 ± 1.656	-0.898 ± 1.275
PRF-fit source offset from KIC position	1.475 ± 1.667	0.88	-1.096 ± 1.701	-0.986 ± 1.045
photometric centroid source offset	1.15 ± 1.03	1.11	0.08 ± 1.27	-1.15 ± 1.03

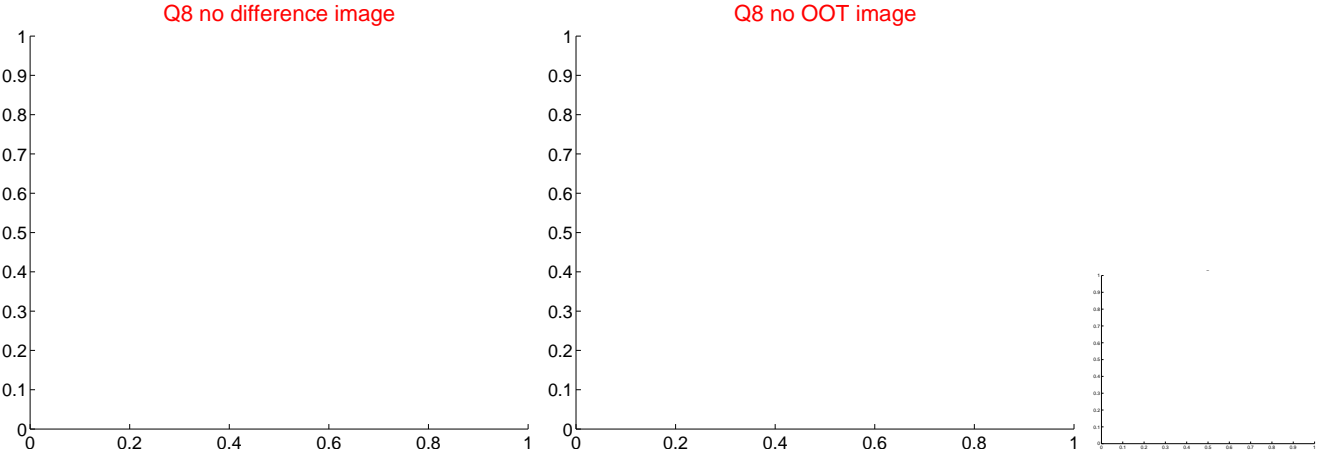
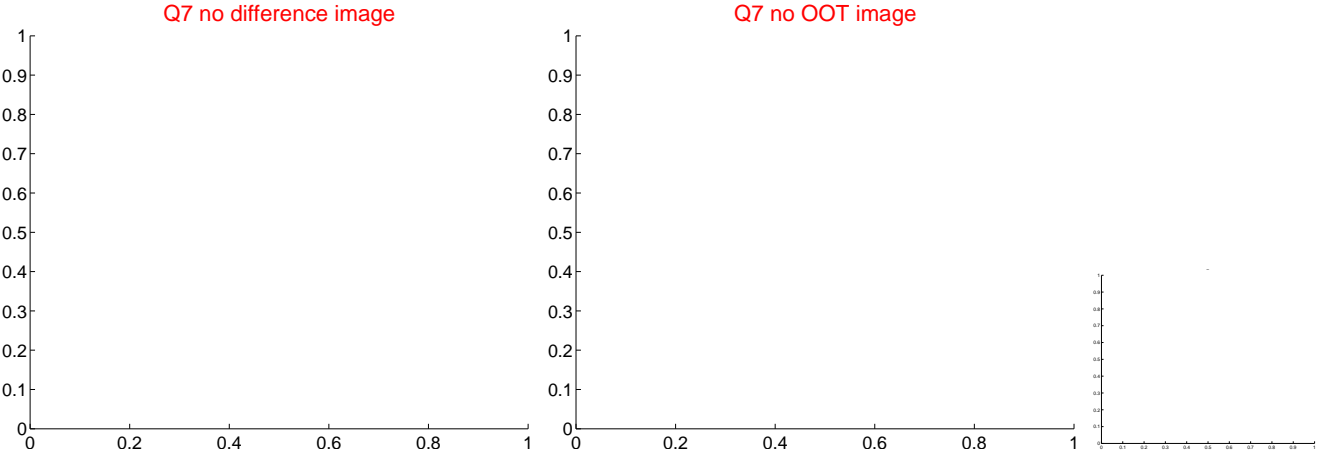
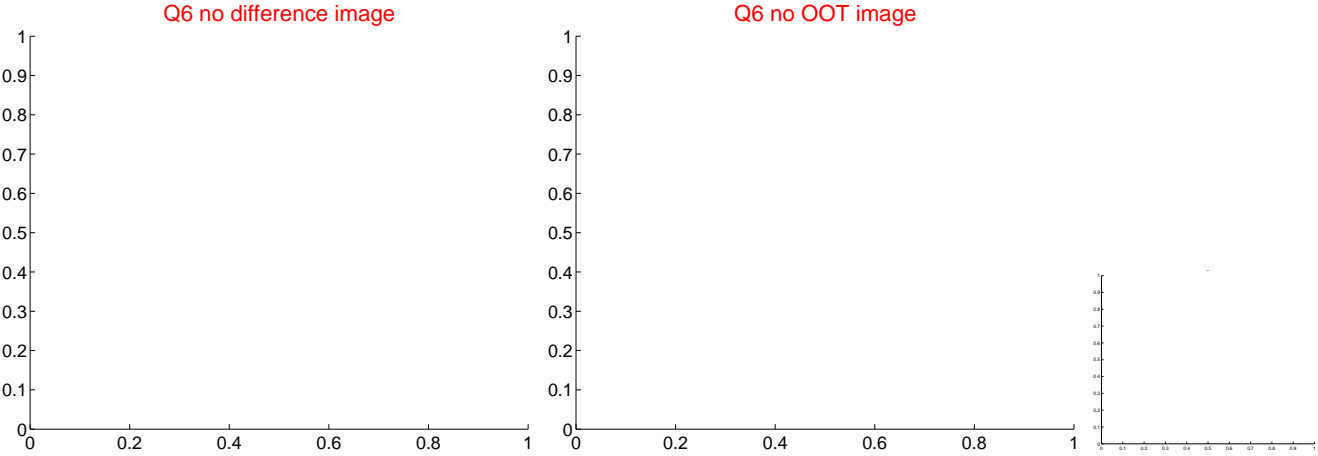
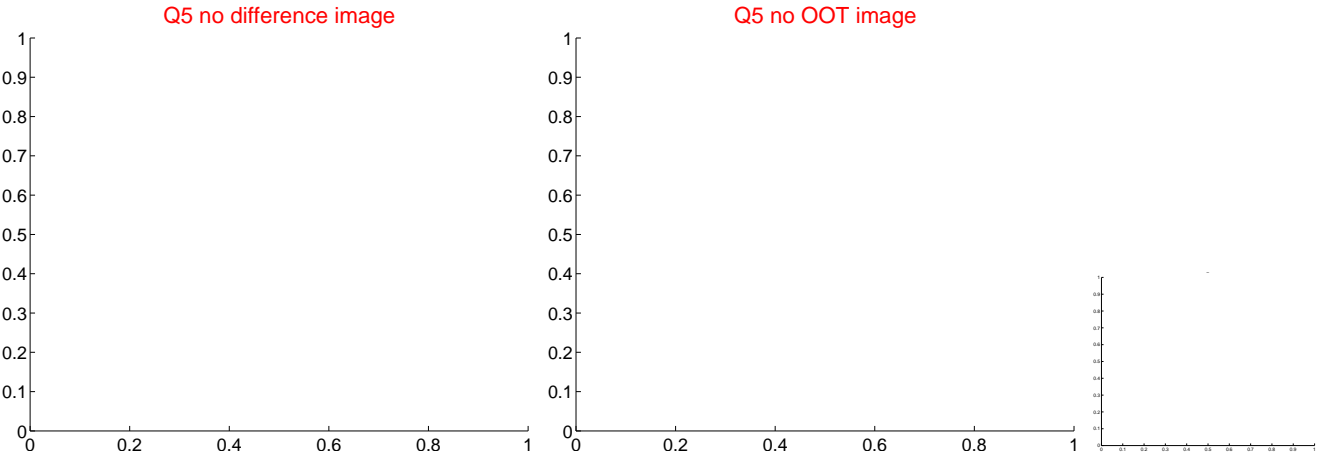


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

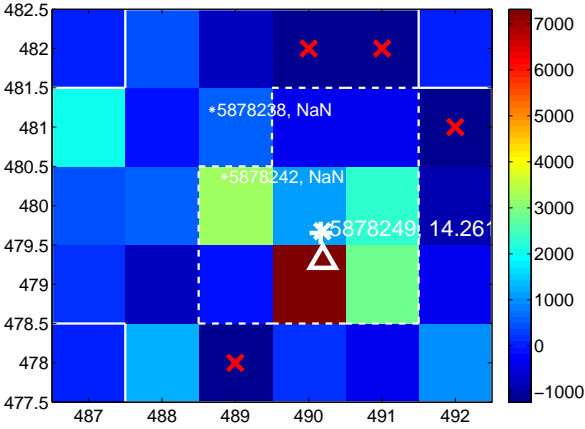
Q9 no difference image



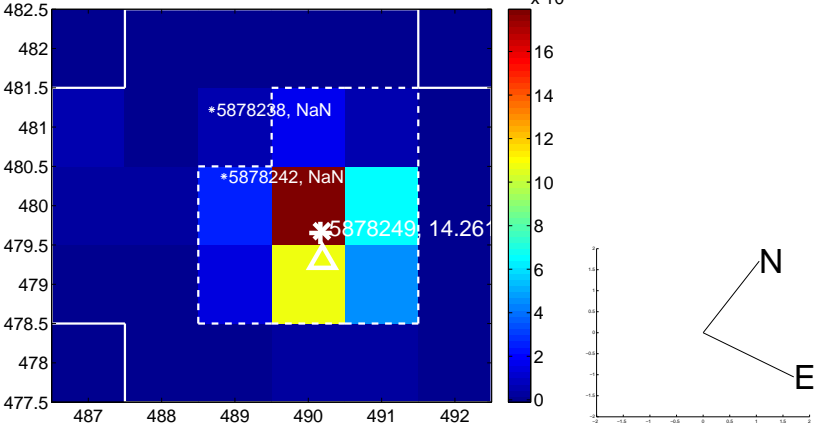
Q9 no OOT image



Q10 difference image



Q10 OOT image



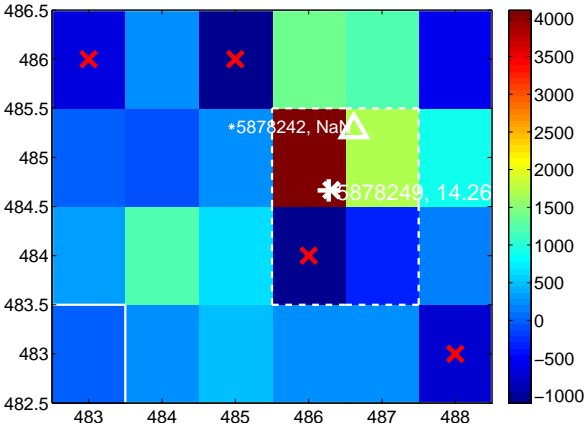
Q11 no difference image



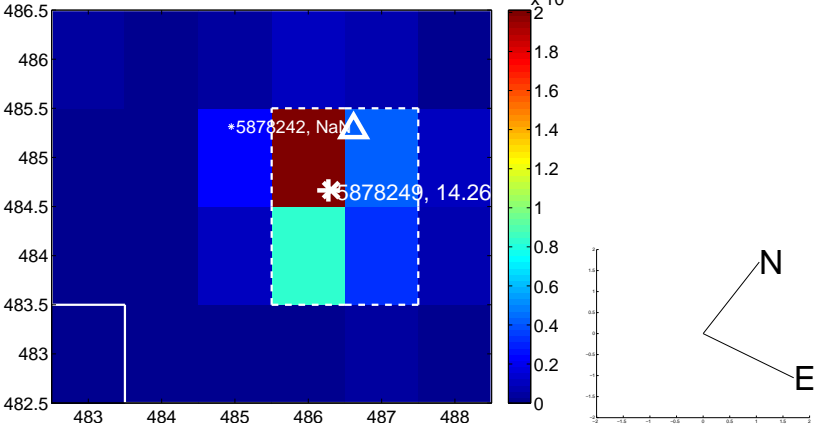
Q11 no OOT image



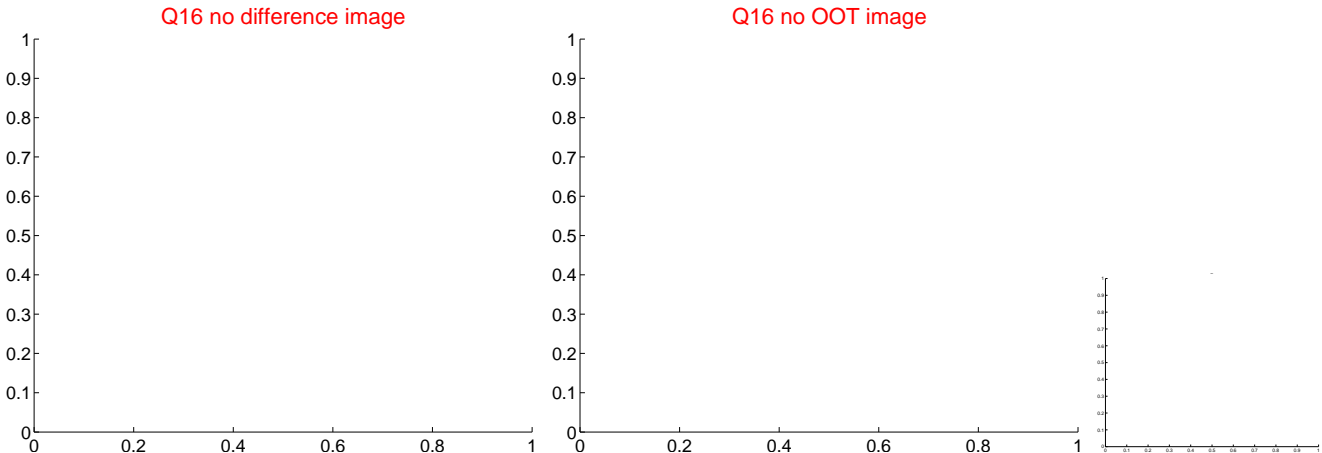
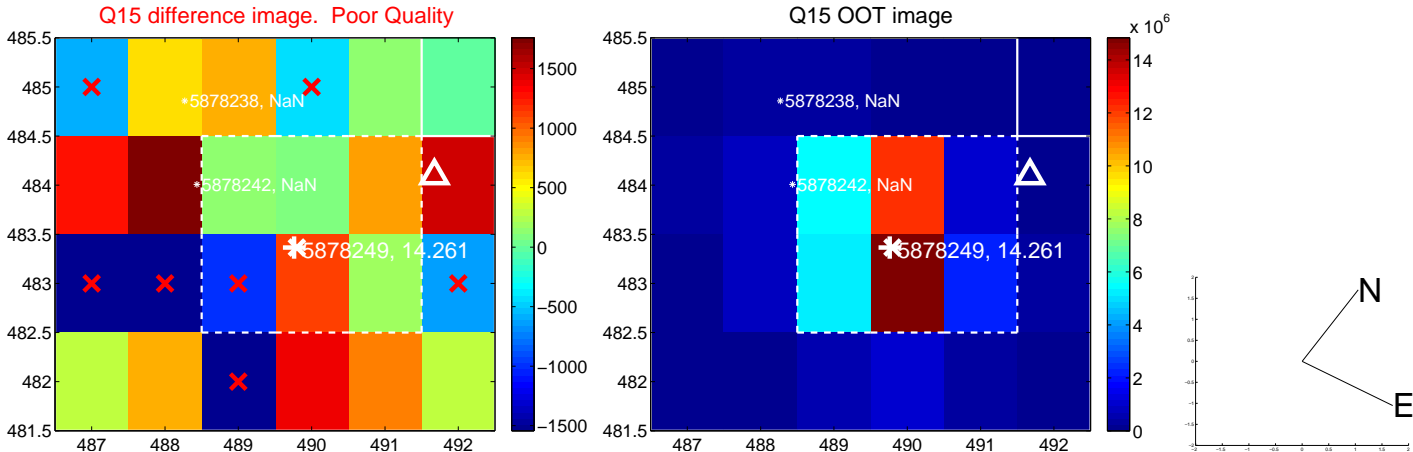
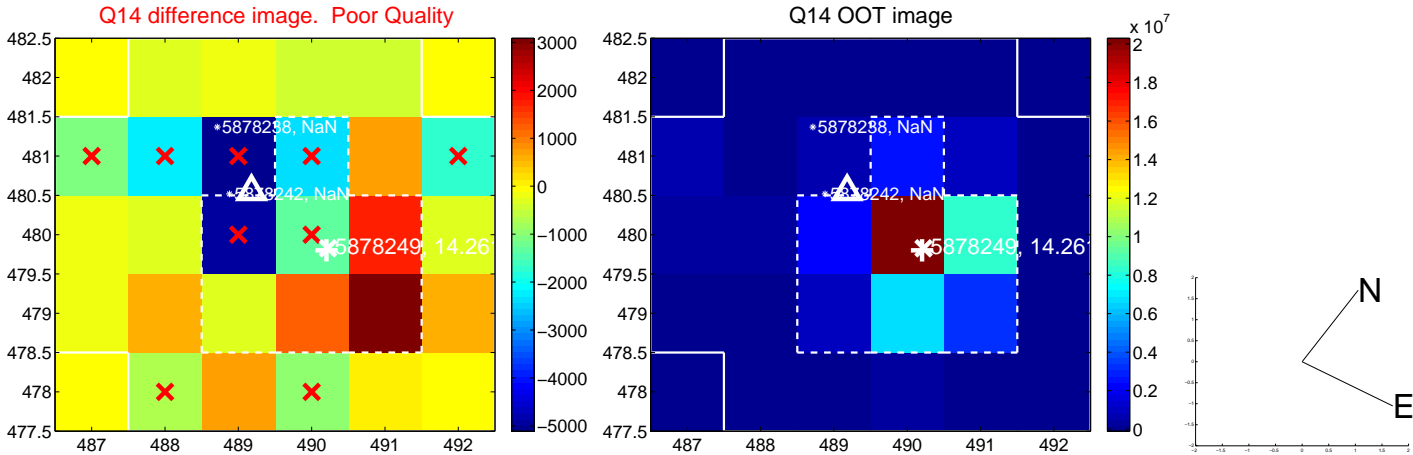
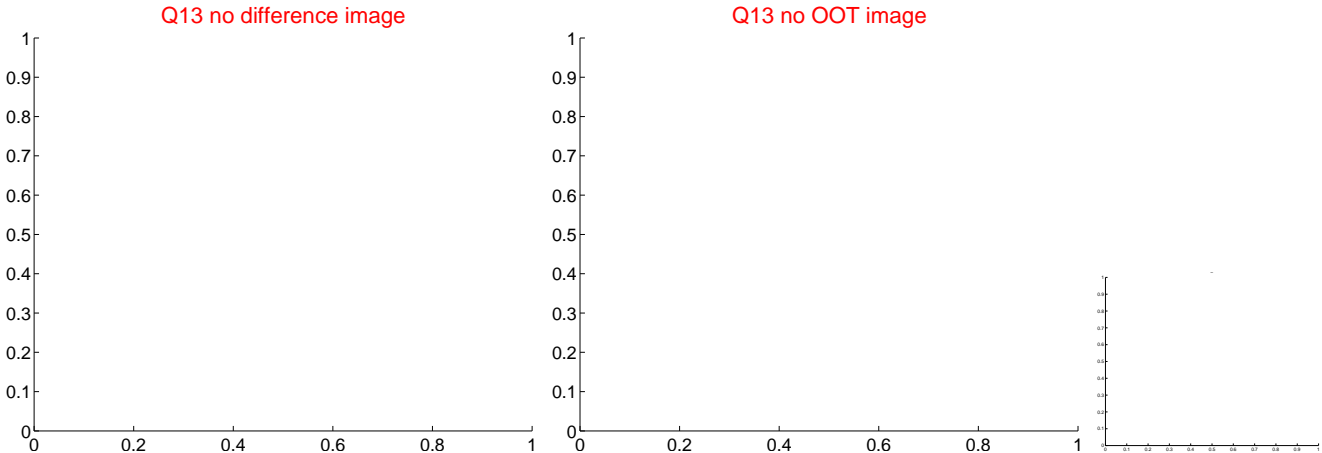
Q12 difference image



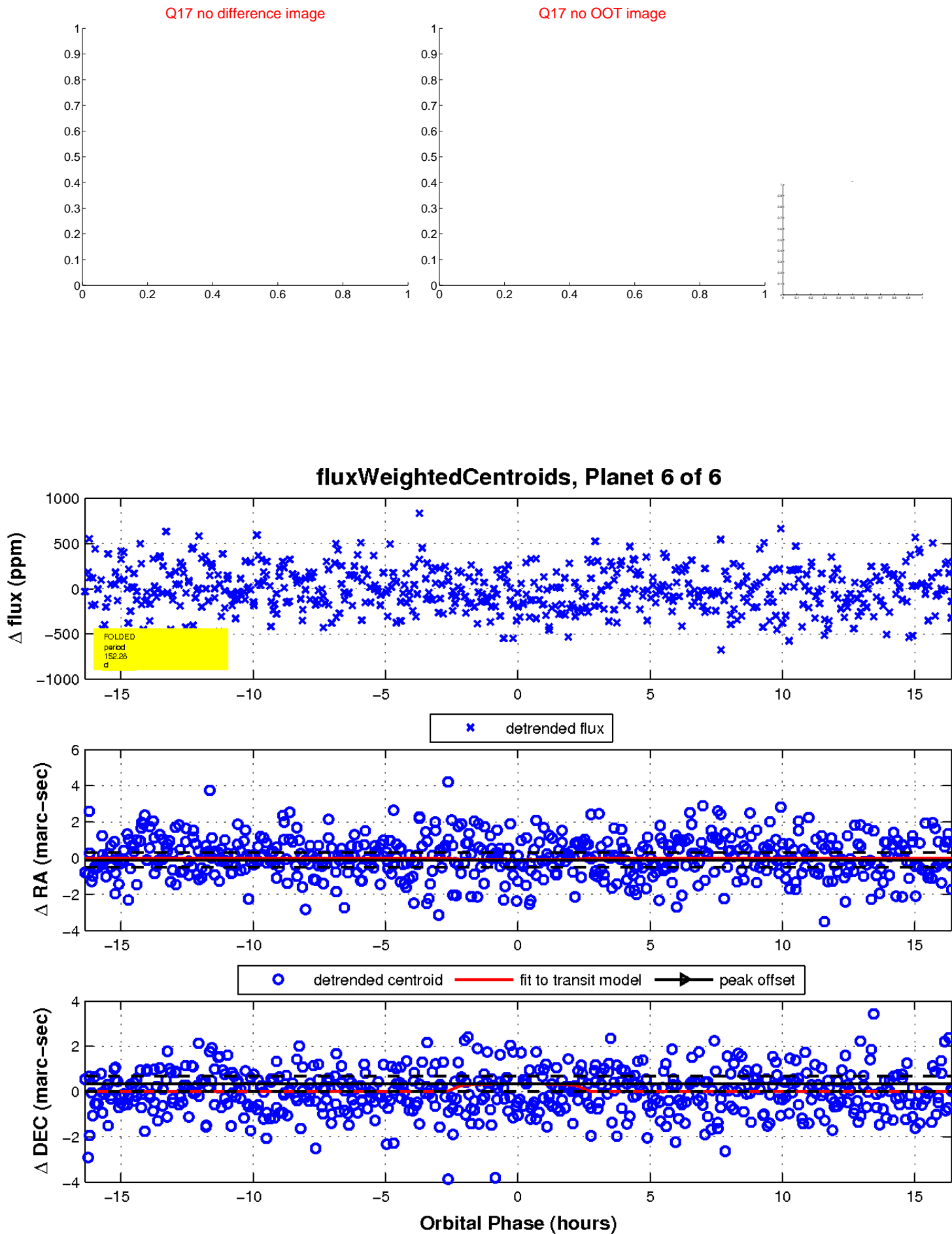
Q12 OOT image



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.



UKIRT Image

Declination

